

From root Mon Dec 13 16:31:02 1993

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35187; Mon, 13 Dec 1993 16:31:01 -0500

Received: from okra.astr.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)  
id AA08346; Mon, 13 Dec 93 16:31:01 EST

Received: from hera.astr.ua.edu by okra.astr.ua.edu with SMTP;  
Mon, 13 Dec 1993 15:33:29 CST

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA24926; Mon, 13 Dec 93 15:28:28 CST

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA10005; Mon, 13 Dec 93 15:35:59 CST

Message-Id: <9312132135.AA10005@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@NRAO.EDU

Subject: workshop

Date: Mon, 13 Dec 93 15:35:59 CST

Alan,

I have an agreement with the conference center that I need to sign by the end of this week to reserve the conference center and rooms at the Sheraton for the workshop. The only dates that were available before December are September 18, 1995 - September 24, 1995. This includes 60 rooms at the Sheraton Mon 18th till Sat 23 and 50 rooms reserved for Sat night. The assumption being that some will choose to spend the extra money on air fare and not stay over the Sat. evening. How are these dates for you. This is late enough in Sept. that it should cool off at night but will be in the mid 80's in the daytime.

A good workshop title is "Energy Transport in Radio Galaxies and Quasars" - a bit shorter than what we discussed but ties in with the GreenBank workshop nicely.

Phil

From abridle Mon Dec 13 17:27:04 1993

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["267" "Mon" "13" "December" "1993" "17:23:58" "-0500" "Alan Bridle" "abridle"  
" nil "11" "Re: workshop" nil nil nil "12" nil nil (number " " mark " Alan  
Bridle Dec 13 11/267 " thread-indent "\"Re: workshop\""\n") nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32852; Mon, 13 Dec 1993 17:23:58 -0500

Message-Id: <9312132223.AA32852@polaris.cv.nrao.edu>

References: <9312132135.AA10005@venus.astr.ua.edu.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: workshop

Date: Mon, 13 Dec 1993 17:23:58 -0500

Hi Phil,

Dates sound o.k. (my own schedule for Sept 1995 is remarkably uncluttered at the moment!). I checked the AAS Newsletter meeting list and there's nothing scheduled there that will conflict (it stops at Aug 1995).

Title sounds fine to me also.

Cheers, A.

From abridle Tue Jan 25 11:58:36 1994

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["871" "Tue" "25" "January" "1994" "11:57:49" "-0500" "Alan Bridle" "abridle"  
" nil "27" "Re: workshop" nil nil nil "1" nil nil (number " " mark " Alan  
Bridle Jan 25 27/871 " thread-indent "\"Re: workshop\""\n") nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25714; Tue, 25 Jan 1994 11:57:49 -0500

Message-Id: <9401251657.AA25714@polaris.cv.nrao.edu>  
References: <9312132135.AA10005@venus.astr.ua.edu.ua.edu>

From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Tue, 25 Jan 1994 11:57:49 -0500

Hi Phil,

I have asked Peter Scheuer about coming onto the Organizing Committee for the workshop, and he is indeed interested in doing so but is not sure he will be able to attend the meeting at that time.

He did mention that Wolfgang Kundt is trying to organize a NATO-funded symposium on jets galactic and extragalactic to be held in Erice that September. We have FAXed Wolfgang today to try to ascertain the status of that (Peter was pretty sure that he does not yet have the NATO money in hand). We should at least try to ensure that the two meetings do not coincide, though the existence of a meeting at Erice with some topic overlap at a similar time may reduce possible European participation in ours in any case.

If the Erice meeting goes ahead, it may increase the need to let some people know of our plans earlier, rather than later.

Cheers, A.

From root Tue Jan 25 16:43:18 1994

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["488" "Tue" "25" "January" "94" "15:40:12" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " "<9401252140.AA00323@venus.astr.ua.edu.ua.edu>" "12"  
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25 12/488 " thread-indent "\"Re: workshop\""\n") nil]  
nil)

Received: from risc.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA16236; Tue, 25 Jan 1994 16:43:09 -0500

Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu  
(8.6.4/8.6.4) with SMTP id PAA11463 for <abridle@polaris.cv.nrao.edu>;  
Tue, 25 Jan 1994 15:41:21 -0600

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA23333; Tue, 25 Jan 94 15:40:30 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA00323; Tue, 25 Jan 94 15:40:12 CST  
Message-Id: <9401252140.AA00323@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Tue, 25 Jan 94 15:40:12 CST

Alan,

I do not have any leeway on the dates here so Wolfgang would need to avoid our dates. I agree that we might need to notify people earlier. I note that Konigl was present at the original jets meeting and not Begelman. Might Konigl be a better choice for the committee? Finally, do you think that Zensus is the one for VLBI? I would like to extend invites to the final two or three if Peter cannot come within the next few weeks.

Phil

Recall that the dates were Sept 18 - 24.

From abridle Tue Jan 25 16:50:04 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
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Message-Id: <9401252149.AA25592@polaris.cv.nrao.edu>  
References: <9401252140.AA00323@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Tue, 25 Jan 1994 16:49:31 -0500

Sorry, I should have made myself clearer. The whole purpose of FAXing Wolfgang was to find out the status of his workshop and if there is a conflict to start trying to get him to change his target dates. I quite understand that we are fixed at Sep 18-24.

A.

From abridle Tue Jan 25 16:52:43 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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" nil "10" "Re: workshop" nil nil nil "1" nil nil (number " " mark " Alan  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35795; Tue, 25 Jan 1994 16:52:02 -0500  
Message-Id: <9401252152.AA35795@polaris.cv.nrao.edu>  
References:  
<9401252140.AA00323@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop

Date: Tue, 25 Jan 1994 16:52:02 -0500

Re others on committee, I think ArieH Konigl would be a good person to have, might get more real work out of him than Mitch perhaps. Advantage of having Toni Zensus on committee down the road would be that he and I can keep in touch particularly easily and that he has run several meetings himself. I would like to have at least one European however, and maybe if not Peter how about Robert Laing?

A.

From root Mon Jan 31 10:15:41 1994

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["301" "Mon" "31" "January" "94" "09:12:54" "CST" "Hardee"

"hardee@venus.astr.ua.edu " "<9401311512.AA00888@venus.astr.ua.edu.ua.edu>" "8"

"Re: workshop" nil nil nil "1" nil nil (number " " mark " R Hardee Jan

31 8/301 " thread-indent "\"Re: workshop\""\n") nil]

nil)

Received: from risc.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA13456; Mon, 31 Jan 1994 10:15:39 -0500

Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu

(8.6.4/8.6.4) with SMTP id JAA12314 for <abridle@polaris.cv.nrao.edu>;

Mon, 31 Jan 1994 09:14:06 -0600

Received: from venus.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA02451; Mon, 31 Jan 94 09:13:07 CST

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)

id AA00888; Mon, 31 Jan 94 09:12:54 CST

Message-Id: <9401311512.AA00888@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop

Date: Mon, 31 Jan 94 09:12:54 CST

Alan,

Everyone liked the idea of Konigl on the SOC and I will invite him. Is Zensus in Charlottesville yet? If so do you wish to speak to him about being on the SOC or should I send him e-mail? Finally, there seems to be no objection to having Robert Laing on the SOC if Peter cannot serve.

Phil

From abridle Mon Jan 31 12:01:16 1994

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

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Bridle Jan 31 12/365 " thread-indent "\"Re: workshop\""\n") nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA16592; Mon, 31 Jan 1994 12:01:04 -0500

Message-Id: <9401311701.AA16592@polaris.cv.nrao.edu>

References: <9401311512.AA00888@venus.astr.ua.edu.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: workshop

Date: Mon, 31 Jan 1994 12:01:04 -0500

Hi phil,

Toni moves to CV some time in March, he's at the AOC  
til then.

It seems that Wolfgang Kundt has got the money for his  
NATO symposium and has fixed the dates at the week of Sept 28.  
So they will be back-to-back. I'll ask peter if this means  
he will only be able to go to the second one (I gather he  
had promised W.K. something about that already).

A.

```
From root Tue Feb 1 11:15:58 1994
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["1593" "Tue" "1" "February" "94" "10:13:08" "CST" "Hardee"
"hardee@venus.astr.ua.edu " "<9402011613.AA00999@venus.astr.ua.edu.ua.edu>" "38"
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1 38/1593 " thread-indent "\"Re: workshop\""\n") nil]
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  id AA41873; Tue, 1 Feb 1994 11:15:49 -0500
Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu
  (8.6.4/8.6.4) with SMTP id KAA15877 for <abridle@polaris.cv.nrao.edu>;
Tue, 1 Feb 1994 10:14:09 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA03813; Tue, 1 Feb 94 10:13:14 CST
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
  id AA00999; Tue, 1 Feb 94 10:13:08 CST
Message-Id: <9402011613.AA00999@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop
Date: Tue, 1 Feb 94 10:13:08 CST
```

Alan,

I include a reply from ArieH who is not certain that he would be suitable for  
the SOC on this workshop. He would be if we wanted to include some jet forma-  
tion at the smallest scales. What do you think? Does this broaden the  
workshop too much. Note that he suggests Bicknell.

Phil

```
>From arieH@jets.uchicago.edu Mon Jan 31 19:54:25 1994
Date: Mon, 31 Jan 94 19:54:36 -0600
From: arieH@jets.uchicago.edu (ArieH Konigl)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: a decade after GreenBank
Cc: arieH@jets.uchicago.edu
Content-Length: 1031
```

Hi Phil, I'm glad to hear from you. Your idea of organizing a followup  
workshop to the '84 GreenBank meeting sounds like a good one. I have fond  
recollections of the previous workshop and agree that enough progress has  
been made in the intervening decade (plus the expected VLBA results) to

warrant a new workshop. At the moment I don't yet have plans for Sep. '95, so I would in principle have no objections to serving on the SOC. My only reservation is that my own focus of work in the last few years has been on the jet formation mechanisms (centrifugally driven outflows from magnetized accretion disks, radiative deceleration of ultrarelativistic beams near the central black hole) rather than on the energy transport along the jets, so perhaps other people would be in a better position to contribute to the organization of the workshop. I am currently visiting at the ANU at Canberra (escape from the Chicago winter...), so Geoff Bicknell comes immediately to mind. Please let me know what you think.

Best regards,

Arieh

```
From root Wed Feb  2 13:17:41 1994
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
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"hardee@venus.astr.ua.edu " nil "37" "Re: workshop" nil nil nil "2" nil nil (number
" " mark "      Hardee          Feb  2   37/1634  " thread-indent "\"Re:
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  nil)
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  id AA37386; Wed, 2 Feb 1994 13:17:35 -0500
Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu
  (8.6.4/8.6.4) with SMTP id MAA18268 for <abridle@polaris.cv.nrao.edu>;
Wed, 2 Feb 1994 12:16:05 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA06011; Wed, 2 Feb 94 12:15:10 CST
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
  id AA01257; Wed, 2 Feb 94 12:15:05 CST
Message-Id: <9402021815.AA01257@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop
Date: Wed, 2 Feb 94 12:15:05 CST
```

Alan,

In case you did not get my message yesterday - I have a suggestion from Arieh that Jeff Bicknell might be more appropriate. Arieh's interests are more in the jet production and acceleration area. This would be appropriate if this was incorporated into the workshop. What do you think? I include the message from Arieh.

Phil

```
>From arieh@jets.uchicago.edu Mon Jan 31 19:54:25 1994
Date: Mon, 31 Jan 94 19:54:36 -0600
From: arieh@jets.uchicago.edu (Arieh Konigl)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re:  a decade after GreenBank
Cc: arieh@jets.uchicago.edu
Content-Length: 1031
```

Hi Phil, I'm glad to hear from you. Your idea of organizing a followup

workshop to the '84 GreenBank meeting sounds like a good one. I have fond recollections of the previous workshop and agree that enough progress has been made in the intervening decade (plus the expected VLBA results) to warrant a new workshop. At the moment I don't yet have plans for Sep. '95, so I would in principle have no objections to serving on the SOC. My only reservation is that my own focus of work in the last few years has been on the jet formation mechanisms (centrifugally driven outflows from magnetized accretion disks, radiative deceleration of ultrarelativistic beams near the central black hole) rather than on the energy transport along the jets, so perhaps other people would be in a better position to contribute to the organization of the workshop. I am currently visiting at the ANU at Canberra (escape from the Chicago winter...), so Geoff Bicknell comes immediately to mind. Please let me know what you think.

Best regards,

Arieh

From abridle Thu Feb 3 08:56:48 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["56" "Thu" "3" "February" "1994" "08:56:41" "-0500" "Alan Bridle" "abridle "  
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id AA22344; Thu, 3 Feb 1994 08:56:41 -0500  
Message-Id: <9402031356.AA22344@polaris.cv.nrao.edu>  
References: <9402011613.AA00999@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Thu, 3 Feb 1994 08:56:41 -0500

I agree that geoff B. is a good person for the SOC.

A.

From root Sun Feb 27 11:57:35 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil]  
["1442" "Sun" "27" "February" "94" "10:55:40" "CST" "Hardee"  
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1994 10:57:21 -0600  
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id AA12553; Sun, 27 Feb  
94 10:55:04 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA05836; Sun, 27 Feb 94 10:55:40 CST  
Message-Id: <9402271655.AA05836@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop  
Date: Sun, 27 Feb 94 10:55:40 CST

Alan,

Toni Zensus has agreed to serve on the SOC for the workshop. He suggested that Alan Marscher be included as a theoretical representative relative to small scale structure and I would be agreeable to this. What do you think?

At this time I have still not asked geoff B.. I was only going to do this if Peter S. was a definite no. Is this the case, and have you approached Robert L. yet?

Tentatively, I imagine a final committee makeup of:

Observers	Theoreticians
Toni Z. (small scales)	Alan M. (small scales)
Alan B. (intermediate scales)	Philip H. (a bit of every scale)
Jack B. (larger scales)	Michael N. (numerical works well with Jack)
Robert L. (international)	Geoff B. (international)

As you can see I have been giving some thought as to how to structure the workshop. I would like to see discussion from the smallest VLBI superluminals, through the intermediate VLA scales and then up to the largest scalesizes (still VLA) but with a cluster component in the sense of environmental effects and the use of source morphology as a probe of the cluster environment. I believe that Jack B. is particularly interested in this aspect at the present time. Perhaps you can discuss this with him - I believe he is visiting you next week just before he comes here to visit us.

Phil

PS. Toni indicated a willingness to help with the proceedings.

From abridle Mon Feb 28 08:21:40 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["501" "Mon" "28" "February" "1994" "08:21:29" "-0500" "Alan Bridle" "abridle"  
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id AA41297; Mon, 28 Feb 1994 08:21:29 -0500  
Message-Id: <9402281321.AA41297@polaris.cv.nrao.edu>  
References: <9402271655.AA05836@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Mon, 28 Feb 1994 08:21:29 -0500

All in your message seems fine with me. I have not approached Robert re the SOC yet, as I thought you were actually contacting the folks. Will give him an E-buzz today if you would like me to. Peter was not a definite no but is very unlikely to come due to the scheduling almost-conflict (he is committed to helping Wolfgang Kundt with the Erice meeting and has a long history of attending the NATO efforts).

Glad to hear Toni is so interested, he will be a strong asset



at proceedings-time.

A.

```
From root Tue Mar 1 06:52:56 1994
X-VM-v5-Data: ([nil nil nil nil nil t nil nil]
  ["185" "Tue" "1" "March" "94" "11:52" "GMT" "Robert Laing"
"rl@mail.ast.cam.ac.uk " nil "5" "Re: Jet Workshop, Sep 18-24 1995" nil nil nil
"3" nil nil (number " " mark " Z Robert Laing Mar 1 5/185 " thread-
indent "\"Re: Jet Workshop, Sep 18-24 1995\""\n") nil]
  nil)
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  id AA21269; Tue, 1 Mar 1994 06:52:36 -0500
Received: by cast0.ast.cam.ac.uk (UK-Smail 3.1.25.1/2)
  id <m0pbT04-0001LgC@cast0.ast.cam.ac.uk>; Tue, 1 Mar 94 11:52 GMT
Message-Id: <m0pbT04-0001LgC@cast0.ast.cam.ac.uk>
From: rl@mail.ast.cam.ac.uk (Robert Laing)
To: abridle@polaris.cv.nrao.edu
Subject: Re: Jet Workshop, Sep 18-24 1995
Date: Tue, 1 Mar 94 11:52 GMT
```

Dear Alan,

Sounds just the sort of meeting I like (I hate these diffuse everything-to-do-with AGN conferences). I'd be happy to serve on the SOC.

Cheers, Robert

```
From abridle Mon Feb 28 14:51:21 1994
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
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  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA38174; Mon, 28 Feb 1994 14:48:57 -0500
Message-Id: <9402281948.AA38174@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: rl@rgosc.ast.cam.ac.uk
Subject: Jet Workshop, Sep 18-24 1995
Date: Mon, 28 Feb 1994 14:48:57 -0500
```

Hi Robert,

Phil Hardee has got an N.S.F. grant to put on a workshop on extragalactic jets from Sept 18 to 24 1995, in Tuscaloosa. He is aiming at a relatively small (50-60 attendees) meeting aimed at hard-core jet observers and theorists rather than the standard AGN gang, with special emphasis on jet propagation and stability problems (rather than black-hole-plus modeling of the central engine), and on connections between parsec, kiloparsec and multi-kiloparsec scales. This may be a good time to plan such a meeting, as I suspect that there will be particularly interesting results from relativistic jet modeling/testing and from 3-d modeling round about then.

He's trying to set up a Scientific Organizing Committee, with the incentive that SOC members will have their travel to the meeting paid out of the conference budget, and possibly other expenses also.

I've agreed to serve on the SOC and help edit the Proceedings. Phil asked me to invite you to join as U.K. representative on SOC.

Are you interested? (P.S. Alabama is normally inhabitable that late in the summer!)

Cheers, A.

From root Wed May 11 17:20:29 1994

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(8.6.5/8.6.4) with SMTP id QAA30281 for <abridle@polaris.cv.nrao.edu>; Wed, 11 May

1994 16:20:30 -0500

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA23084; Wed, 11 May 94 16:17:51 CDT

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)

id AA10307; Wed, 11 May 94 16:20:31 CDT

Message-Id: <9405112120.AA10307@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop

Date: Wed, 11 May 94 16:20:31 CDT

Alan,

I have been working on the workshop with the aim of trying to structure the sessions and session topics so that I can send out a general schedule to the SOC and solicit names of invitees as well as names to begin sessions with a longer invited talk and the critical final review talks. I thought at least for now to do nothing innovative so everyone could see what the maximum number of presentations could be (14/day x 4 + 4 review and discussion on Sat. morning) This accommodates 60 speakers. Of necessity I have imagined specific people and indicate to you some possibilities, including a review and discussion presentation for yourself (possible names were only what occurred to me). At this point I could use your assistance, both in the ordering and naming of sessions and in suggestions for lead in speakers and reviewers - we can have more than just the SOC members.

Included below are (1) a statement of the workshops purpose, (2) a working document with possible topics, sessions and key speakers, and (3) a schedule for the workshop. I would plan to send (1) and (3) to all SOC members with the daily schedule including the main session topics and then each SOC member could make suggestions as to how to fill the sessions.

Phil

P.S. I will be advertising a postdoc position next month under my direct control (NSF grant). I am interested in observers or theorists doing extragalactic or protostellar outflow work. I would like to fill the position by November at the latest. I will pull Mark Swains file from the group postdoc



- (2a) Jet Dynamics, Confinement and Stability - Philip Hardee
- (2b) Jet Sidedness, Velocity - ???
- (3a) Unification - Meg Urry or ???
- (3b) Effects of the Environment - Jack Burns
- (4a) Particle Accel., Shocks, Entrainment, and Turbulence - Geoff Bicknell
- (4b) Special Sources - John Biretta
- (5a) Conference Summaries and Future Goals
  - Parsec-Scales (VLBA) - Toni Readhead or Toni Zensus
  - Kiloparsec Scales (VLA, X-ray) - Alan Bridle
  - Numerical Simulations - Michael Norman
  - General Theory - Alan Marscher

=====

Potential Invitees (PETERS, Parsec-scale radio jets, Ringberg, Astr.Jets STScI  
Beams & Jets in Astrophys. but by no means inclusive):

- Stefan Appl
- Dinshaw Balsara
- Peter Barthel
- Gene Bassett
- Mitch Begelman
- Geoffrey Bicknell
- John Biretta
- Mark Birkinshaw
- Roger Blandford
- Alan Bridle
- Ian Browne
- Jack Burns
- Max Camenzind
- Chris Carrelli
- T. Cawthorne
- David Clarke
- Marshall Cohen
- John Conway
- Jean Eilek
- Ronald Ekers
- Sam Falle
- Patrick Leahy
- Chris Loken
- Andrew Lubanov
- David de Young
- Philip Hardee
- Philip Hughes



coffee, tea, sodas provided all day (Tues. - Sat.)  
Buffet lunch (Tues. - Sat.)  
Catered Reception Tuesday at Natural History Museum  
Buffet dinner (Wed., Thurs., Fri.)

Saturday dinner not included - vans provided to area establishments

Transportation: By air to Tuscaloosa (served by American Eagle from Nashville  
and by GP Express from Atlanta - Sheraton  
van pickup at Tuscaloosa airport)

By train to Tuscaloosa (Southern Crescent - arrives southbound  
and departs northbound in early afternoon daily  
pickup can be arranged)

By air to Birmingham (all major airlines - car rental necessary  
one hour drive to Tuscaloosa)

Proceedings: possibly ASP but to be arranged

Registration fee: to cover all meals and break expenses (est. \$175)

=====

Schedule Tuesday

8:15 - 9:00 Continental fare at workshop

9:00 - 9:50 Invited Presentation

9:50 - 10:10 Contribution

10:10 - 10:30 Contribution

Break

11:00 - 11:20 Contribution

11:20 - 11:40 Contribution

11:40 - 12:00 Contribution

12:00 - 12:20 Contribution

Lunch - 12:30pm

2:00 - 2:50 Invited Presentation

2:50 - 3:10 Contribution

3:10 - 3:30 Contribution

Break

4:00 - 4:20 Contribution

4:20 - 4:40 Contribution

4:40 - 5:00 Contribution

5:00 - 5:20 Contribution

Reception @ Natural History Museum - 7:00pm

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3:10 - 3:30 Contribution

Break

4:00 - 4:20 Contribution

4:20 - 4:40 Contribution

4:40 - 5:00 Contribution

5:00 - 5:20 Contribution

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Schedule Thursday

8:15 - 9:00 Continental fare at workshop

9:00 - 9:50 Invited Presentation

9:50 - 10:10 Contribution

10:10 - 10:30 Contribution

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11:00 - 11:20 Contribution

11:20 - 11:40 Contribution

11:40 - 12:00 Contribution

12:00 - 12:20 Contribution

Lunch - 12:30pm



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2:50 - 3:10 Contribution

3:10 - 3:30 Contribution

Break

4:00 - 4:20 Contribution

4:20 - 4:40 Contribution

4:40 - 5:00 Contribution

5:00 - 5:20 Contribution

Dinner @ Sheraton or barbeque at Moundville - 7:00pm

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Schedule Friday

8:15 - 9:00 Continental fare at workshop

9:00 - 9:50 Invited Presentation

9:50 - 10:10 Contribution

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Break

4:00 - 4:20 Contribution

4:20 - 4:40 Contribution

4:40 - 5:00 Contribution

5:00 - 5:20 Contribution

Dinner @ Sheraton - 7:00pm

---

### Saturday Schedule

8:15 - 9:00 Continental fare at workshop

9:00 - 9:45 Conference Review

9:45 - 10:30 Conference Review

Break

11:00 - 11:45 Conference Review

11:45 - 12:30 Conference Reveiw

Lunch - 1:00pm

2:30 - Small working groups

Tennis, Golf, Swimming

7:30 - vans to eating establishments

From root Tue Jun 7 16:44:39 1994

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Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
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Message-Id: <9406072044.AA02715@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: geoff@merlin.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.b, norman@ncsa.uiuc.edu, azensus@aoc.nrao.edu

Subject: test mailing to all SOC members

Date: Tue, 7 Jun 94 15:44:44 CDT

To: SOC members Energy Transport Workshop

From: Phil Hardee

Re: e-mail test, speakers, and participants

Please reply at least briefly to verify that you have received this e-mail message.

To those of you who have not yet made suggestions for topic areas, invited speakers and other suggested participants for the workshop in Fall 1995, I ask that you give the matter some thought now that the spring semester and the summer AAS meeting is over. Any and all suggestions are welcome. Please give some indication as to your own preference for a workshop presentation if at all possible.

Below I include a preliminary version of the announcement to be sent to invitees and a potential daily schedule.

=====  
WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

Scientific Organizing Committee:

Geoff Bicknell ( geoff@mso.anu.edu.au )

Alan Bridle ( abridle@polaris.cv.nrao.edu )

Jack Burns ( jburns@NMSU.Edu )

Philip Hardee ( hardee@venus.astr.ua.edu )

Robert Laing ( rl@mail.ast.cam.ac.uk )

Alan Marscher ( marscher@buast0.bu.edu )

Michael Norman ( norman@ncsa.uiuc.edu )

Toni Zensus ( azensus@aoc.nrao.edu )

Workshop Schedule: Arrive Monday evening September 18, 1995

Sessions Tuesday, Wednesday, Thursday, Friday, Sat. morning  
Depart Saturday afternoon September 23, 1995  
or Sunday September 24, 1995

Workshop Location: Capstone Sheraton and adjacent conference center on  
The University of Alabama campus, Tuscaloosa , Alabama, USA

Rooms: 60 reserved at the Capstone Sheraton (est. \$80/night inclusive)

Meals: Continental fare at conference center each morning (Tues. - Sat.)  
coffee, tea, sodas provided all day (Tues. - Sat.)  
Buffet lunch (Tues. - Sat.)  
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Buffet dinner (Wed., Thurs., Fri.)

Saturday dinner not included - vans provided to area establishments

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11:00 - 11:20 Contribution

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12:00 - 12:20 Contribution

Lunch - 12:30pm

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From root Tue Jun 7 17:16:15 1994

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Message-Id: <9406072115.AA02811@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: geoff@merlin.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@aoc.nrao.edu,  
rl@mail.ast.cam.ac.uk

Subject: 2nd test mailing

Date: Tue, 7 Jun 94 16:15:50 CDT

To: SOC members Energy Transport Workshop

From: Phil Hardee

Re: e-mail test, speakers, and participants

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Jack Burns ( jburns@NMSU.Edu )  
Philip Hardee ( hardee@venus.astr.ua.edu )  
Robert Laing ( rl@mail.ast.cam.ac.uk )  
Alan Marscher ( marscher@buast0.bu.edu )  
Michael Norman ( norman@ncsa.uiuc.edu )  
Toni Zensus ( azensus@aoc.nrao.edu )

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2:30 - Small working groups

Tennis, Golf, Swimming

7:30 - vans to eating establishments

From root Mon Jun 20 07:28:49 1994

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Mon, 20 Jun 1994 12:26:46 +0100

Message-Id: <A974C5DC140ED680@UK.AC.CAMBRIDGE.PHOENIX>

In-Reply-To: <9405251625.AA21771@polaris.cv.nrao.edu>

From: PAGS@phx.cam.ac.uk

To: (Alan Bridle) abridle <abridle@polaris.cv.nrao.edu>

Subject: Re: [VLA Observing Logs?]

Date: Mon, 20 Jun 94 12:27:04 BST

Dear Alan,

I think it was you who told me about Philip Hardee's proposed workshop in September 1995; I said at the time that I was committed to a possible summer school at the same time. The summer school isn't going to happen after all, so I'd very much like to participate in Hardee's workshop if it is not too late to join in, and I am writing this to you partly because I don't have Hardee's email address (also because I know you much better, of course).

Could you pass on the message, if that is appropriate? Thanks.

Best wishes

Peter

From root Mon Jun 20 15:27:05 1994

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Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1) id AA03750; Mon, 20 Jun 94 14:28:28 CDT

Message-Id: <9406201928.AA03750@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: forwarded message from PAGS@phx.cam.ac.uk

Date: Mon, 20 Jun 94 14:28:28 CDT

Alan,

I very much want Peter to participate in the workshop. He could either be another SOC member or an invited speaker whose costs would be covered by the workshop budget. He would, of course, bring an excellent perspective to the workshop and perhaps he would be willing to give one of the final reviews.

Does this message mean that the potential Italian meeting is off and that we will have a good chance of attracting the European community?

Phil

From abridle Mon Jun 20 17:20:21 1994

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["620" "Mon" "20" "June" "1994" "17:20:08" "-0400" "Alan Bridle" "abridle "

nil "18" "Re: forwarded message from PAGS@phx.cam.ac.uk" nil nil nil "6" nil nil (number " " mark " Alan Bridle Jun 20 18/620 " thread-indent "\"Re: forwarded message from PAGS@phx.cam.ac.uk\""\n") nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)



id AA33273; Mon, 20 Jun 1994 17:20:08 -0400  
Message-Id: <9406202120.AA33273@polaris.cv.nrao.edu>  
References: <9406201928.AA03750@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: forwarded message from PAGS@phx.cam.ac.uk  
Date: Mon, 20 Jun 1994 17:20:08 -0400

I suggest we add him to the SOC if he is willing (he almost certainly will be, now there is no conflict). He might also be a much-better-than-average choice for an initial review.

Yes, I take this to mean that somehow the bottom has dropped out of Wolfgang's plans -- strange as he (Wolfgang) was perfectly definite that he had the NATO funds for the other meeting when Peter and I got in touch with him this January.

I don't know what the explanation is but if it sticks it's all for the good as it removes any hint of conflict with our plans.

A.

Will you contact Peter directly to invite him onto the SOC now?

From root Tue Jun 21 11:34:18 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["157" "Tue" "21" "June" "94" "10:35:25" "CDT" "Hardee"  
"hardee@venus.astr.ua.edu" nil "7" "Re: forwarded message from PAGS@phx.cam.ac.uk"  
nil nil nil "6" nil nil (number " " mark " Hardee Jun 21 7/157  
" thread-indent "\"Re: forwarded message from PAGS@phx.cam.ac.uk\""\n") nil]  
nil)  
Received: from risc.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA45603; Tue, 21 Jun 1994 11:34:10 -0400  
Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu  
(8.6.5/8.6.4) with SMTP id KAA19760 for <abridle@polaris.cv.nrao.edu>; Tue, 21 Jun  
1994 10:34:38 -0500  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA00279; Tue, 21 Jun 94 10:31:39 CDT  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA03852; Tue, 21 Jun 94 10:35:25 CDT  
Message-Id: <9406211535.AA03852@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: forwarded message from PAGS@phx.cam.ac.uk  
Date: Tue, 21 Jun 94 10:35:25 CDT

Alan,

I will contact Peter directly via e-mail and invite him onto the SOC. Along with Robert Laing they will be an excellent European connection.

Phil

From root Tue Jun 7 22:08:11 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["727" "Wed" "8" "June" "94" "12:07:21" "EST" "Geoff Bicknell"  
"geoff@mso.anu.edu.au " nil "16" "Re: test mailing to all SOC members" nil nil nil  
"6" nil nil (number " " mark " Geoff Bicknell Jun 8 16/727 " thread-  
indent "\"Re: test mailing to all SOC members\""\n") nil]  
nil)

Received: from merlin.anu.edu.au by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40273; Tue, 7 Jun 1994 22:08:07 -0400

Received: from mozart (mozart.anu.edu.au) by merlin.anu.edu.au (4.1/MSO-1.0)  
id AA06565; Wed, 8 Jun 94 12:07:21 EST

Message-Id: <9406080207.AA06565@merlin.anu.edu.au>

From: geoff@mso.anu.edu.au (Geoff Bicknell)

To: hardee@venus.astr.ua.edu

Cc: abridle@polaris.cv.nrao.edu, jburns@nmsu.edu, marscher@buast0.b,  
norman@ncsa.uiuc.edu, azensus.nrao.edu

Subject: Re: test mailing to all SOC members

Date: Wed, 8 Jun 94 12:07:21 EST

Phil,

Received your announcement.

A comment on the proposed daily schedule: When we ran the 1st Stromlo Symposium we scheduled discussion time into the program so that, for example, an invited talk of 40 minutes was followed by scheduled discussion of about 20 minutes. The consensus was that was a great way to run a meeting - the discussion was uniformly excellent and having discussion programmed in meant that all of the invited speakers kept to time. We broke up the talks into  
Thematic talks: 40 mins + 20 minutes scheduled discussion  
Supplementary Talks: 20 mins + 10 mins scheduled discussion .  
You need not do it exactly this way but I think that soimething along these lines is well worth it.

Regards,  
Geoff

From root Wed Sep 28 11:33:30 1994

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil])

["2865" "Wed" "28" "September" "94" "10:37:28" "CDT" "Hardee"

"hardee@venus.astr.ua.edu " "<9409281537.AA08975@venus.astr.ua.edu.ua.edu>" "59"

"Re: Workshop" nil nil nil "9" nil nil (number " " mark " R Hardee Sep  
28 59/2865 " thread-indent "\"Re: Workshop\""\n")

nil]

nil)

Received: from risc.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
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Received: from hera.astr.ua.edu (hera.astr.ua.edu [130.160.100.15]) by risc.ua.edu  
(8.6.5/8.6.4) with SMTP id KAA05684 for <abridle@polaris.cv.nrao.edu>; Wed, 28 Sep  
1994 10:30:11 -0500

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA03498; Wed, 28 Sep 94 10:31:05 CDT

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)

id AA08975; Wed, 28 Sep 94 10:37:28 CDT

Message-Id: <9409281537.AA08975@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: Workshop

Date: Wed, 28 Sep 94 10:37:28 CDT

Alan,

I have finally begun thinking about the workshop again. Now that the summer is over, most SOC members are back at their primary institutions and answer their e-mail.

I had been thinking along the lines of Tuesday and Wednesday morning and afternoon sessions for observers with Tuesday to be larger scales and Wednesday to be VLBI scales. Your suggestion of having Peter Scheuer provide the introductory talk is excellent. I had also thought that Robert Laing and Anton Zensus along with yourself might structure these sessions and decide who to invite.

I had also thought that Thursday morning, and all of Friday would be theory with possibly all of Thursday afternoon off (at least half of Thursday afternoon off) At least one of these sessions would largely be devoted to simulations. These three half days could be moderated by Mike Norman, Geoff Bicknell and Alan Marscher and they could also give review talks themselves. I am assuming that I will be too busy making things run to do other than give a presentation on some results.

Finally, I had thought that Saturday could take more theory if necessary but in particular I had hoped that Jack Burns would put together a session on radio source interaction with the environment. This could also include unified models etc.. This might end with a conference summary perhaps by yourself(?) and by some theoretician.

While this may still be a good plan I just got e-mail from Peter Scheuer telling me that the Bologna group are going to run an IAU symposium in October. He suggests that we try to divide the territory somehow. I include his message below.

Would it be convenient for me to call you some time tomorrow (Thursday) and discuss this issue.

Phil

=====

Dear Philip,  
my apologies for the very long gap in communication about your workshop. Since our last `conversation' you have probably made a good deal of progress, but also another conference has appeared over the horizon which looks like competing with yours in many ways, and therefore it seems important to make the programs as distinct as reasonably possible to avoid a silly result. The Bologna group are going to run an IAU symposium on extragalactic radio sources in October 1995; this is planned as a fairly comprehensive review of the whole field. It seems crazy to have two such gatherings a month apart, so I would hope that we can find a way to divide the territory in a sensible way; given your interests and theirs, I would propose that your relatively small and invitation-only gathering might concentrate on theory and simulations, and if that is agreeable to you I would try to persuade the Bologna SOC to concentrate on new observations. What do you feel about that?

Best regards

Peter Scheuer

From root Mon Oct 3 17:46:14 1994

X-VM-v5-Data: ([nil nil nil t t nil nil nil nil]  
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Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13053; Mon, 3 Oct 1994 16:39:34 -0500

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA19083; Mon, 3 Oct 94 16:43:45 CDT

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA09730; Mon, 3 Oct 94 16:50:16 CDT

Message-Id: <9410032150.AA09730@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop

Date: Mon, 3 Oct 94 16:50:16 CDT

Alan,

Here is a list of names containing only observers including a few that were on my previous list but not discussed. Clearly the maximum amount of time for observers is Tuesday, Wednesday and Saturday morning. It would be good if Saturday morning were allowed to be a mix of theory and observation, thus giving about equal time to theory if needed. As it is now theory has Thursday morning, only the first part of Thursday afternoon and all of Friday.

If you could get a list back to me particularly with additional or correct information on what each persons likely subject would be that would be a great help to me. Remove and add names as you see fit.

I will contact Zensus to see what his plans are and I will convey our plans to Peter Scheuer.

Phil

=====  
Potential Observers Tuesday & Wednesday (topic):

Ian Browne (?)  
Chris Carrelli (?)  
Ronald Ekers ( generate some controversy?)  
Patrick Leahy (?)  
Steffi Baum (optical properties of radio sources ?)

Robert Laing (core-sheath jet morphology)

FR I type radio sources:

Rick Perley ( 3C 449)  
Joan Wroble (M 84)  
John Biretta (M 87 - proper motion)  
Chris O'Dea (narrow angle tails?)

FR II type radio sources:

Might want one on filaments ,e.g., 3C353 or Cygnus A as David Clarke is

making filaments in simulations.

High z radio sources:

Colin Lonsdale (?)  
Peter Barthel (?)

VLB radio sources:

Tim Pearson (?)  
John Wardle (VLB polarization)  
Craig Walker ( 3C 120)  
Peter Wilkinson ( 3C 120)  
Tom Muxlow ( 3C 120)  
Anton Zensus (3C 345 curved trajectories and superluminal motion)

Environment or large samples (Saturday morning or worked into Tues. & Wed.)

Jack Burns (cluster environment - wide angle tails)  
Diane Worrall (NGC 6251 and combined radio and x-ray data)  
Frazer Owen (FRI & FR II - radio source HR diagram)  
David Hough (VLB sample - 3C sample of 12 sources)  
Meg Urry (unified models ?)

Observers doing workshop reviews (Saturday afternoon)

Alan Bridle - large scale structure  
Toni Readhead - small scale structure

```
=====
From abridle Tue Oct 4 12:08:28 1994
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
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Bridle Oct 4 79/2870 " thread-indent "\"Re: workshop\""\n") nil]
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  id AA36364; Tue, 4 Oct 1994 12:08:18 -0400
Message-Id: <9410041608.AA36364@polaris.cv.nrao.edu>
References: <9410032150.AA09730@venus.astr.ua.edu.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: workshop
Date: Tue, 4 Oct 1994 12:08:18 -0400
```

Here's a first pass back across your list. This is already too many but better that way than not enough at this stage?

=====

Potential Observers (topics):

1. General intro reviews:

Peter Scheuer (grand overview, big questions, etc.)  
- might be worth getting Peter's notions about the big questions

soon to see if it would affect our choice of priorities for observational reviews

2 of Ian Browne, Peter Barthel, Meg Urry (unification, tests)  
Stefi Baum (optical properties of nearby radio sources ?)  
Robert Laing (evidence for core-sheath relativistic jet models, unification of the unifiers)  
Ron Ekers ( generate some controversy?)

## 2. FR I type radio sources:

How much relativity, how many asymmetries, are they entraining?

Rick Perley (3C 449, 3C31, tests for Laing model in FRI's)  
Joan Wrobel (complete samples of E galaxies, M84 if ready)  
John Biretta (M 87 - searches for proper motion)

## 3. FR II type radio sources:

How much relativity, how many asymmetries, how do jets terminate, properties of jet cocoons.

Chris Carilli (Cyg A at all wavebands)  
Hot spots (radio - Perley, Lonsdale?)  
(optical - Meisenheimer, Roser?)  
???? - Filaments, e.g., 3C353, Fornax A, Cygnus A Swain if available, Ed Fomalont?  
Patrick Leahy (large-scale features, plumes, trails, backflows, cocoons)  
Asymmetries (Morphology, spectra, depolarization etc.  
Larry Rudnick might be a good person to review this?)  
Restarting jets? (3C219, 3C288, 3C33.1 -- AHB, Leahy?)

## 4. High z sources:

How do they differ from low-z, evidence of interactions?

Colin Lonsdale (QSRs, statistics)  
George Miley (RG's, interactions at hi-z)

## 5. VLB radio sources:

velocities, kinematics, orientations, evolution

Marshall Cohen (summary, but he tends to cosmology rather than physics?)  
Chris O'Dea (compact symmetric sources?)  
Tim Pearson/Dave Hough (VLB complete surveys, symmetries, statistics)  
John Wardle/Dave Roberts (VLB polarization)  
Craig Walker (3C 120, 3C84 close-to-engine)  
Peter Wilkinson (review MERLIN latest or Paddy Leady if not Peter)  
Anton Zensus, John Conway (3C 345 curved trajectories and superluminal motion)

## 6. Environment (Saturday morning or worked into Tues. & Wed.)

Jack Burns (cluster environment - wide angle tails)  
Diana Worrall (combined radio and x-ray data re confinement)  
(Dan Harris if not?)

Frazer

Owen (FRI & FR II - radio source HR diagram)  
Andrew Wilson (mergers, FRI/FR II differences, Seyfert environs)  
Greg Taylor (Colossal RMs, dense media, if not covered by Rick, Carilli)

- plus -

Observers doing workshop summary reviews (Saturday afternoon)

Alan Bridle - large scale structure  
Tony Readhead - small scale structure

=====

From root Sun Oct 9 17:48:13 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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id AA18620; Sun, 9 Oct 1994 17:48:12 -0400  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA10257; Sun, 9 Oct 1994 16:41:16 -0500  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA01540; Sun, 9 Oct 94 16:45:52 CDT  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA11658; Sun, 9 Oct 94 16:52:33 CDT  
Message-Id: <9410092152.AA11658@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Sun, 9 Oct 94 16:52:33 CDT

Alan,

Just to add to your list here are some suggestions from Geoff Bicknell as of last spring:

Suggestions for Invited Speakers:

- a. Allan Roy (ATNF?) (Seyfert Galaxies & Radio Emission) [aroy@atnf.csiro.au]
- b. Steve Tingay (MSSSO) (Centaurus A) [tingay@mso.anu.edu.au] - student
- c. Paola Parma / Robert Laing (FRI's and Relativity)
- d. Judith Perry (Outflows from AGN)
- e. Jauncey (Souther Hemisphere VLBI)
- f. Ben Lloyd (NGC5090) - student

Below is what Geoff indicated he would like to talk about as of last spring:

I would also like to give an invited talk, either on the FRI/II classification or the relationship between X-Ray and Radio BL-Lacs (I could possibly combine these in one talk) or interactions between jets and clouds and extranuclear emission.

=====

I have not yet contacted theoreticians but plan on trying to get Norman and Marscher by phone in the next week. Here however is a potential theory list with possible topics. Note I had hoped that Geoff would be willing to talk about mass entrainment which would be his FRI/II classification I think.

I also have a large list but it should serve as a useful starting place.

In the time we have available it may not be possible to have more than 40 people talk. However, we have rooms and space for 60. A possibility is to find the 40 that we wish to speak and put up posters if we end up with more than 40. What do you think? Of course everyone may just go to Bologna.

I have not yet heard back from Peter Scheuer after I conveyed to him the substance of our conversation.

Philip

=====  
Potential Theoreticians (topics)

Topics roughly in order of appearance beginning Wed. morning to at most 3 Wed afternoon and then Thursday and Friday

Radiation from jets (radiation models)

Mitch Begelman (beaming and Compton scattering)  
Roger Blandford (if Begelman not available?)  
Alan Marscher (review comparison of obs. & theory)  
John Travis (radio, x-ray & gamma ray from jets)

Jet Acceleration & Collimation (dynamical models & simulation)

Richard Lovelace (models with Russians)  
Arieh Konigl (past extragalactic now more pjet)  
Jim Stone (maybe is he has done some pjet with Hawley - i will check)  
Dinshaw Balsara (some work with Krolik)

Relativistic Jets (dynamical models & simulation)

John Conway (90 deg bending)  
Philip Hughes (relativistic simulation with G. Comer Duncan)  
Wolfgang Steffen (bending models & 3C345)  
Dinshaw Balsara (relativistic work with M. Norman?)  
Jose Maia Marti (relativistic jets)  
Jose Luis Gomez (simulations of bent jets)

Jet Dynamics (models & simulation)

Mark Birkinshaw (stability theory review talk)  
Geoff Bicknell (low power jet entrainment and turbulence review talk)  
Philip Hardee (3D simulations of stability)  
David Clarke (3D propagating jet simulations, filaments in lobes, shock accel.)  
Guidetta Toricelli-Ciamponi or Paola Pietrini (MHD jet models)  
Massimo Villata (MHD equilibrium jet models)

Gene Bassett (P. Woodward's former student - very high res. numerical work - now in meteorology)  
David DeYoung (jet simulations?)  
Sam Falle (jet simulations?)  
Vincent Icke (general jet dynamics of dense jets?)

Microphysics (particle acceleration)

Jean Eilek



Max Camenzind  
John Kirk (?)  
Alan Heavens

The following would be on Saturday

Environment (Saturday morning)

student of Paul Wiita working on jet propagation through different environments  
Chris Loken (jet propagation through interface into moving medium)  
Dinshaw Balsara (jet propagation through interface with M. Norman)

Theoretical Reviews on Saturday afternoon

Mike Norman (for review of simulations and dynamics)  
Paul Wiita (for general review on acceleration, small scales and environment)

```
=====  
From root Tue Oct 11 11:39:39 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
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Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
  id AA09813; Tue, 11 Oct 1994 10:32:25 -0500  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
  id AA07051; Tue, 11 Oct 94 10:37:15 CDT  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
  id AA12230; Tue, 11 Oct 94 10:43:58 CDT  
Message-Id: <9410111543.AA12230@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Tue, 11 Oct 94 10:43:58 CDT
```

Alan,

A potential way out of our difficulty is to move my workshop. I have already checked with the conference center and hotel and find that it would be possible to have the workshop from Tuesday June 13 to Saturday June 17, 1995. This does conflict with the summer AAS meeting in Pittsburgh but most do not go to the summer AAS. What do you think of this move?

Phil

```
From abridle Tue Oct 11 11:53:50 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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  nil)  
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Message-Id: <9410111553.AA43891@polaris.cv.nrao.edu>  
References: <9410111543.AA12230@venus.astr.ua.edu.ua.edu>
```

From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Tue, 11 Oct 1994 11:53:47 -0400

I'm not very keen on it. Holding a meeting during an AAS is not a move that would endear us to the US community and wouldn't mid-June be about as hot as Hades in Tuscaloosa? It also only barely resolves the conflict in any case as part of the problem people will have is travel \$\$ for two jet meetings in same year. To the extent that you are able to buy the people you really want with travel \$\$ you can hold fast.

A.

From root Thu Oct 13 15:48:09 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
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nil)  
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Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA04769; Thu, 13 Oct 1994 14:40:45 -0500  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13106; Thu, 13 Oct 94 14:45:47 CDT  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA13580; Thu, 13 Oct 94 14:52:34 CDT  
Message-Id: <9410131952.AA13580@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Thu, 13 Oct 94 14:52:34 CDT

Alan,

I have now heard from nearly everyone on the SOC (no word from Scheuer or Zensus) and believe that the consensus is to leave the date as is in September. The opinion seems to be that moving to August would only affect a very few people's ability to attend Bologna and our workshop.

I have spoken with Paul Wiita and with Mike Norman and both would be happy to provide theoretical reviews. Do you want to contact Toni Readhead about attending and providing a review or do you prefer that I contact him (i know him but not well). In any event we need someone from his group, Tim Pearson comes to mind, who might be a reasonable substitute if Readhead cannot come and probably should be invited even if Readhead does come.

Phil

From abridle Fri Oct 14 15:54:32 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["370" "Fri" "14" "October" "1994" "15:54:26" "-0400" "Alan Bridle" "abridle"  
" nil "12" "Re: workshop" nil nil nil "10" nil nil (number " " mark " Alan  
Bridle Oct 14 12/370 " thread-indent "\"Re: workshop\""\n")

nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40159; Fri, 14 Oct 1994 15:54:26 -0400  
Message-Id: <9410141954.AA40159@polaris.cv.nrao.edu>  
References: <9410131952.AA13580@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Fri, 14 Oct 1994 15:54:26 -0400

August? I though you had mentioned June, but I agree with the  
conclusion anyway!

I'd be happy for you to call Tony Readhead so you can describe the  
situation in your own terms but will give him a call if you think  
it would help twist his arm to have it done by another observer!

I'll be out of the office from now until some time Monday p.m. by  
the way.

Cheers, A.

From root Sun Oct 30 13:02:06 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["9465" "Sun" "30" "October" "94" "12:06:54" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " "<9410301806.AA01862@venus.astr.ua.edu.ua.edu>" "445"  
"Re: workshop" nil nil nil "10" nil nil (number " " mark " R Hardee  
Oct 30 445/9465 " thread-indent "\"Re: workshop\""\n") nil]  
nil)  
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA39858; Sun, 30 Oct 1994 13:02:01 -0500  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08339; Sun, 30 Oct 1994 11:53:59 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13574; Sun, 30 Oct 94 11:59:40 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA01862; Sun, 30 Oct 94 12:06:54 CST  
Message-Id: <9410301806.AA01862@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Sun, 30 Oct 94 12:06:54 CST

Alan,

I still have not been able to get in touch with Anton Zensus and have not been  
able to finalize the parsec-scale observer review talk. Perhaps you could  
help here? I include for your perusal the lists of observers and theorists  
that I will send out to the SOC. We can ask SOC members to fill in e-mail or  
postal addresses that we do not know or cannot obtain (I have a master list  
of e-mail addresses from Cambridge but it still doesn't have everyone).

Phil

PS. Can you compose a talk title for me to dangle in front of the publisher?

=====  
Potential Observers (topics)

1. Unification

Ian Browne (unification, tests)  
e-mail: iwb@star.jb.man.ac.uk

Peter Barthel (unification, tests)  
e-mail: pdb@kapteyn.astro.rug.nl

Meg Urry (unification, tests)  
e-mail: cmu@stsci.edu

\*Robert Laing (evidence for core sheath relativistic models - unification)  
e-mail: rl@mail.ast.cam.ac.uk

Stefi Baum (optical properties of nearby radio sources)  
e-mail: sbaum@stsci.edu

Ron Eckers (???????????)  
e-mail: rekers@atnf.csiro.edu

2. FR I type radio sources:

How much relativity, how many asymmetries, are they entraining?

Rick Perley (3C 449, 3C31, tests for Laing model in FRI's)  
e-mail: rperley@nrao.edu

Joan Wrobel (complete samples of E galaxies, M84 if ready)  
e-mail: jwrobel@nrao.edu

John Biretta (M 87 - searches for proper motion)  
e-mail: jb@cfa.harvard.edu

Steve Tingay (Cen A)  
e-mail: ??????????????????????

3. FR II type radio sources:

How much relativity, how many asymmetries, how do jets terminate, properties of jet cocoons.

Chris Carilli (Cyg A at all wavebands)  
e-mail: carilli@ijssel.strw.leidenuniv.nl

Klaus Meisenheimer (optical)  
e-mail: meise@mpia-hd.mpg.de

Ed Fomalont (Filaments, e.g., 3C353, Fornax A, Cygnus A)  
e-mail: efomalon@nrao.edu

Patrick Leahy (large-scale features, plumes, trails, backflows, cocoons)  
e-mail: jpl@star.jb.man.ac.uk

Larry Rudnick (asymmetries, morphology, spectra, depolarization etc.)  
e-mail: larry@ast1.spa.umn.edu

\*Alan Bridle (3C219, 3C288, 3C33.1, restarting jets, closing summary)  
e-mail: abridle@nrao.edu

Wil van Breugel (emission filaments)  
e-mail: wil@sunlight.llnl.gov

#### 4. High z sources:

How do they differ from low-z, evidence of interactions?

Colin Lonsdale (QSRs, statistics)  
e-mail: cjl@wells.haystack.edu

George Miley (RG's, interactions at hi-z)  
e-mail: miley@strw.leidenuniv.nl

#### 5. VLB radio sources:

velocities, kinematics, orientations, evolution

Chris O'Dea (compact symmetric sources?)  
e-mail: codea@stsci.edu

Tim Pearson (VLB complete surveys, symmetries, statistics)  
e-mail: tjp@deimos.caltech.edu

Dave Hough (VLB complete surveys, symmetries, statistics)  
e-mail: dhough@physics.trinity.edu

John Wardle (VLB polarization)  
e-mail: wardle1@binah.cc.brandeis.edu

Craig Walker (3C 120, 3C84 close-to-engine)  
e-mail: cwalker@nrao.edu

Peter Wilkinson (review MERLIN latest)  
e-mail: pnw@star.jb.man.ac.uk

\*Anton Zensus (3C 345 curved trajectories and superluminal motion, review)  
e-mail: azensus@nrao.edu

John Conway (90 degree bends)  
e-mail: jconway@nrao.edu

D. Jauncey (Southern Hemisphere VLB)  
e-mail: djauncey@atnf.csiro.au

Toni Readhead (possible review?)  
e-mail: acr@deimos.caltech.edu

## 6. Environment

\*Jack Burns (cluster environment - wide angle tails)  
e-mail: jburns@nmsu.edu

Diana Worrall (combined radio and x-ray data re confinement)  
e-mail: dmw@cfa.harvard.edu

Dan Harris (radio and x-ray data re confinement)  
e-mail: harris@cfa.harvard.edu

Frazer Owen (FRI & FR II - radio source HR diagram)  
e-mail: fowen@nrao.edu

Greg Taylor (Colossal RMs, dense media)  
e-mail: gbt@phobos.caltech.edu

Mike Ledlow (optical of RGs in clusters)  
e-mail: ?????????????????????????????????????

Possible additional topic & observers

## 7. Seyferts

Andrew Wilson	wilson@astro.umd.edu
Gerald Cecil	cecil@wrath.physics.unc.edu
Mark Whittle	dmw8f@virginia.edu
Alan Roy	aroy@atnf.csiro.au

---

### Potential Theoreticians (topics)

\*Peter Scheuer (introduction - important questions and existing answers)  
e-mail: PAGES@phx.cam.ac.uk

## 1. Radiation from jets (radiation models)

Mitchell C. Begelman (beaming and Compton scattering parsec-scale jets)  
U. of Colorado  
JILA  
Box 440  
Boulder, CO 80309  
USA  
phone: 303-492-7856  
fax: 303-492-5235  
e-mail: mitch@jila.colorado.edu

\*Alan P. Marscher (comparison of obs. & theory parsec-scale jets)  
Boston U.  
Dept. of Astr.  
725 Commonwealth Ave.  
Boston, MA 02215  
USA  
phone: 617-353-5029  
fax: 617-353-5704  
e-mail: marshcer@buast0.bu.edu

\*John Travis (radio, x-ray & gamma ray from parsec-scale jets)  
U. of Alabama  
Dept. of Phys. & Astr.  
Tuscaloosa, AL 35487  
USA  
phone: 205-348-5050  
fax: 205-348-5051  
e-mail:

Timothy V. Cawthorne (parsec-scale jets)  
Univ. of Central Lancashire  
Dept. of Phys. & Astr.  
PR1 2HE Preston, Lancashire  
UK  
phone: 44-772-893-565  
e-mail: tvc@starlink.uclan.ac.uk

## 2. Jet Acceleration & Collimation (dynamical models & simulation)

\*Richard Lovelace (jet production and collimation, theory & simulation)  
Cornell Univ.  
Dept. of Applied Physics  
Ithaca, NY 14853  
USA  
phone: 607-255-3968  
fax:  
e-mail: RVL1@cornell.edu

Arieh Konigl (jet production and collimation)  
U. Chicago  
Astr. & Astrophys. Ctr.  
Chicago. IL 60637  
USA  
phone: 312-702-7968  
fax:  
e-mail: arieh@oddjob.uchicago.edu

Max Camenzind (jet production, collimation, stability)  
Landessternwarte  
Konigstuhl  
D6900 Heidelberg 1  
Germany  
phone:  
fax:  
e-mail:

J. Contopoulos (magnetically driven jets and winds)  
NASA/GSFC  
Lab for High Energy Astrophysics  
Greenbelt, MD 20771  
USA  
phone: ??????????????????  
fax: ??????????????????  
e-mail: ???????????????????

### 3. Relativistic Jets (dynamical models & simulation)

Philip Hughes (relativistic jet simulation with G. C. Duncan)  
U. Michigan  
Dept. of Astr.  
Ann Arbor, MI 48109  
USA  
phone: 313-764-3430  
fax:  
e-mail: usergb5g@umichub.bitnet

G. Comer Duncan (relativistic jet simulation with P. Hughes)  
Bowling Green State University  
Dept. of Phys. & Astr.  
Bowling Green, OH 43403  
phone:  
fax:  
e-mail: gcd@riemann.bgsu.edu

Jose Maia Marti (relativistic jets)  
e-mail: ???????????????????

Ken Nishikawa (PIC codes just starting to look at rel jets)  
U. Iowa  
e-mail: ???????????????????

Shinji Koide (zeus3-d jet through oblique magnetic field)  
JAPAN  
e-mail: ???????????????????

Wolfgang Steffen (bending models & 3C345)  
e-mail: p644wos@mpifr-bonn.mpg.de

### 4. Jet Dynamics (models & simulation)

Mark Birkinshaw (stability theory, jet confinement)  
CfA  
60 Garden St.  
Cambridge, MA 02138  
USA  
phone: 617-495-7146  
fax: 617-495-7356  
e-mail: mbl@cfa.harvard.edu

\*Geoff Bicknell (relationship between parsec & Kpc scales)



e-mail: bicknell@shapley.Colorado.EDU  
e-mail: geoff@mso.anu.edu.au

\*Philip Hardee (3D simulations of stability)  
U. of Alabama  
Dept. of Phys. & Astr.  
Tuscaloosa, AL 35487  
USA  
phone: 205-348-5050  
fax: 205-348-5051  
e-mail: hardee@venus.astr.ua.edu

David Clarke (3D propagating jet simulations, filaments in lobes, shock accel.)  
St. Mary's Univ.  
Dept. of Astr. & Phys.  
Halifax, Nova Scotia, B3H 3C3  
Canada  
phone: 902-420-5830  
fax: 902-420-5141  
e-mail: dclarke@olympu.stmarys.ca

Jose Luis Gomez (simulations of bent jets)  
Instituto de Astrofisica  
De Andalucia  
Apdo 3004  
Granada, 18080  
SPAIN  
e-mail: jlg@iaa.es

Guidetta Toricelli-Ciamponi (MHD jet models equilibrium and stability)  
Arcetri  
Italy  
e-mail: gtorricelli@arcetri.astro.it

Paola Pietrini (MHD jet models equilibrium and stability)  
Arcetri  
Italy  
e-mail: ppietrini@arcetri.astro.it

A.G. Williams (numerical simulations of radio jets)  
e-mail: ????????????????????

Massimo Villata (MHD equilibrium jet models)  
Istituto di Fisica Generale dell'Universita  
Via Pietro Giuria 1  
I-10125 Torino  
Italy  
e-mail: ????????????????????

David DeYoung  
NOAO  
Box 26732  
Tucson, AZ 85726  
USA  
phone: 602-325-9324  
e-mail: ddeyoung@noao.edu

Sam Falle

e-mail: ???????????????

Vincent Icke (general jet dynamics)  
Leiden  
e-mail: icke@strw.leidenuniv.nl

## 5. Microphysics

Jean  
Eilek (dynamos, particle acceleration)  
New Mexico Tech  
Dept. of Phys.  
Socorro, NM 87801  
USA  
phone: 505-835-5238  
fax: 505-835-5707  
e-mail: jeilek@nrao.edu

T. W. Jones (particle acceleration at shocks)  
U. of Minnesota  
School of Phys. & Astr.  
116 Church St., S.E.  
Minneapolis, MN 55455  
USA  
phone: 612-624-8546  
e-mail: twj@astl.spa.umn.edu

John Kirk (particle acceleration)  
Max Plank Institute  
Heidelberg  
Germany  
e-mail: ?????????????????

Alan Heavens (?????????)  
ROE  
UK  
e-mail: afh@star.roe.ac.uk

## 6. Environment

Chris Loken (jet propagation through interface into moving medium)  
NMSU  
Dept. of Astr.  
Box 30001 Dept. 4500  
Las Cruces, NM 88003  
USA  
phone: 505-646-4438  
fax: 505-646-1602  
e-mail: cloken@nmsu.edu

Dinshaw Balsara (parsec-scale environment)  
NCSA  
Beckman Institute

e-mail: ?????????????????

Theoreticians doing workshop summary reviews (Saturday afternoon)

\*Mike Norman (for simulations)

Univ. of Illinois  
Dept. of Astronomy  
1002 W. Green  
Urbana, IL 61801  
phone: 217-333-9239  
fax: 217-244-2909  
e-mail: norman@ncsa.uiuc.edu

\*Paul Wiita (for general on acceleration, dynamics and environment)  
Georgia State Univ.  
Dept. of Phys. & Astr.  
University Plaza  
Atlanta, GA 30303  
phone: 404-651-2932  
e-mail: wiita@chara.gsu.edu

=====  
From abridle Mon Oct 31 09:59:25 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["537" "Mon" "31" "October" "1994" "09:59:21" "-0500" "Alan Bridle" "abridle"  
" nil "19" "Re: workshop" nil nil nil "10" nil nil (number " " mark " Alan  
Bridle Oct 31 19/537 " thread-indent "\"Re: workshop\""\n") nil]  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44036; Mon, 31 Oct 1994 09:59:21 -0500  
Message-Id: <9410311459.AA44036@polaris.cv.nrao.edu>  
References: <9410301806.AA01862@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Mon, 31 Oct 1994 09:59:21 -0500

Hi Phil,

Sorry, I must be particularly slow on the draw this morning.

Which parsec-scale review were you thinking of -- early  
in meeting, or end-of? If end-of and not Tony  
Readhead, maybe Marshall Cohen or Ken Kellermann?

And which talk title did you want from me? If end-of  
review probably "Jets on Many-Kiloparsec Scales". If  
in-meeting topic then "Born-Again Jets".

Some things re your list:

Ron Ekers is mis-spelled.  
Tony Readhead's first name ends in a y.  
Tony Williams is out of astronomy to the best of my knowledge.

A.

From root Mon Oct 31 11:05:39 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["405" "Mon" "31" "October" "94" "10:10:22" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " "<9410311610.AA01954@venus.astr.ua.edu.ua.edu>" "12"

"Re: workshop" nil nil nil "10" nil nil (number " " mark " R Hardee  
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id AA23214; Mon, 31 Oct 1994 11:05:29 -0500  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08828; Mon, 31 Oct 1994 09:57:26 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14851; Mon, 31 Oct 94 10:03:07 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA01954; Mon, 31 Oct 94 10:10:22 CST  
Message-Id: <9410311610.AA01954@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Mon, 31 Oct 94 10:10:22 CST

Alan,

Thanks for the spelling corrections.

I was thinking of the end of meeting review as Tony did not seem keen on it and has not gotten back to me about it. Tony Readhead suggested Anton Zensus for the end of meeting review. Hence my concern about contacting Anton. However, since I have not asked Anton it could be anyone. Maybe I should give you a call this afternoon about 2:30 EST?

Phil

From root Fri Nov 4 09:22:47 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["1844" "Fri" "4" "November" "94" "08:27:41" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " "<9411041427.AA02439@venus.astr.ua.edu.ua.edu>" "50"  
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id AA08434; Fri, 4 Nov 1994 08:14:42 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA04930; Fri, 4 Nov 94 08:20:20 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA02439; Fri, 4 Nov 94 08:27:41 CST  
Message-Id: <9411041427.AA02439@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Fri, 4 Nov 94 08:27:41 CST

Alan,

Tony Readhead would prefer not to give a final review but wants to talk about some of his latest results. I suggest we impose on Anton when he appears. He did not contact me from the VLA so I assume he was very busy but now is on his way to Charlottesville. I think that I will need to send out the lists to all the SOC members this weekend unless you can think of a reason for

delay.

I recently received e-mail from Carla Fanti to which I must reply, probably this weekend. I include it below for your perusal and possible comments.

Phil

=====  
>From CFANTI@astbol.bo.cnr.it Wed Nov 2 06:26:08 1994  
Date: Wed, 2 Nov 1994 13:19:26 +0200 (MET)  
From: CFANTI@astbol.bo.cnr.it  
Subject: IAU175 and your workshop  
To: hardee@okra.astr.ua.edu  
X-Vmsmail-To: @HARD.IND  
Content-Length: 991

Dear Phil,  
you may be aware by now that IAU Symposium n.175 on Extragalactic Radio Sources will be organized in the week 10-14 of October 1995 in Bologna.  
I learned from Peter Scheuer, who is in the SOC (of which I am co-chair together with Ron Ekers), that you are organizing a workshop on a similar subject in a date (when exactly?) not far from the one we chose. In order to avoid too much overlap, Peter suggested that we keep in touch and exchange information on the content of the two meetings. He also suggests that we give ours a more observational content, and you give yours a more theoretical one.

We would appreciate very much receiving your list of topics, if already available, to have an idea of the content of your workshop. The SOC of IAU175 is finalizing the preliminary scientific program in these days, and I'll send it to you when ready (hopefully in a couple of weeks).

Thank you very much

Best wishes

Carla Fanti

From abridle Fri Nov 4 10:07:59 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["939" "Fri" "4" "November" "1994" "10:07:40" "-0500" "Alan Bridle" "abridle  
" nil "21" "Re: workshop" nil nil nil "11" nil nil (number " " mark " Alan  
Bridle Nov 4 21/939 " thread-indent "\"Re: workshop\""\n") nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA45760; Fri, 4 Nov 1994 10:07:40 -0500  
Message-Id: <9411041507.AA45760@polaris.cv.nrao.edu>  
References: <9411041427.AA02439@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Fri, 4 Nov 1994 10:07:40 -0500

Anton is on his way east, expected to arrive here Monday. I presume he'll be busy getting settled in.

I may not see him for a while as Mary is going into the hospital Tuesday afternoon and her operation is on Wednesday. I will be spending almost all my time in the hospital until her condition is stable again.

Go ahead with the mail to the SOC! Why not include Carla in that mailing? Are we inviting anyone from Bologna? I think we were assuming they would not want to come but it will may help relations between the meetings if they are on an early invitation list to ours. Paola Parma and Hans de Ruiten have been working on FRI jets and asymmetries, the Fantis (Carla and Roberto) on CSS sources. CSS sources should have a presentation of their own as they are almost certainly strong examples of interactions with the inner ISM, with a small admixture of foreshortened large-scale FRII's and FRI's for good measure .....

A.

From root Sun Nov 6 12:02:08 1994

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["9983" "Sun" "6" "November" "94" "11:05:47" "CST" "Hardee"

"hardee@venus.astr.ua.edu " "<9411061705.AA00254@venus.astr.ua.edu.ua.edu>" "451"

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Nov 6 451/9983 " thread-indent "\"workshop invitations\""\n") nil]

nil)

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id AA51603; Sun, 6 Nov 1994 12:02:07 -0500

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA04897; Sun, 6 Nov 1994 10:51:53 -0600

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA00184; Sun, 6 Nov 94 10:58:23 CST

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)

id AA00254; Sun, 6 Nov 94 11:05:47 CST

Message-Id: <9411061705.AA00254@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@aoc.nrao.edu,  
rl@mail.ast.cam.ac.uk

Subject: workshop invitations

Date: Sun, 6 Nov 94 11:05:47 CST

To: All SOC members

Re: Workshop invitations

I have attached a list of observers and a list of theorists with (topics) where I know them and e-mail addresses (postal also) where I know them. The lists also include all SOC members and others who have already been contacted

about review talks etc., and these persons are indicated by an \*.

We now need to make a selection of an additional 15 observers and 15 theorists to receive the first invites. Note that if all accepted this would bring the workshop to about 40 persons. 40 persons are about the maximum number who could make oral presentations in the available time. The workshop ultimately can accept 60 but not for oral presentations. Please consider these lists

carefully and return them to me with your suggestions.

Now is also the time to add any additional person who you think should be on the list and considered. Please provide an e-mail address. Note that I do not have e-mail addresses for everyone on the present list. Since invites will be by e-mail where possible please assist me if you know an e-mail or as a backup a postal address.

Thank you,

Philip Hardee

=====  
Potential Observers (topics)

1. Unification

Ian Browne (unification, tests)  
e-mail: iwb@star.jb.man.ac.uk

Peter Barthel (unification, tests)  
e-mail: pdb@kapteyn.astro.rug.nl

Meg Urry (unification, tests)  
e-mail: cmu@stsci.edu

\*Robert Laing (evidence for core sheath relativistic models - unification)  
e-mail: rl@mail.ast.cam.ac.uk

Stefi Baum (optical properties of nearby radio sources)  
e-mail: sbaum@stsci.edu

Ron Ekers (???????????)  
e-mail: rekers@atnf.csiro.edu

2. FR I type radio sources:

How much relativity, how many asymmetries, are they entraining?

Rick Perley (3C 449, 3C31, tests for Laing model in FRI's)  
e-mail: rperley@nrao.edu

Joan Wrobel (complete samples of E galaxies, M84 if ready)  
e-mail: jwrobel@nrao.edu

John Biretta (M 87 - searches for proper motion)  
e-mail: jb@cfa.harvard.edu

Steve Tingay (Cen A)  
e-mail: ??????????????????????

3. FR II type radio sources:

How much relativity, how many asymmetries, how do jets terminate, properties of jet cocoons.

Chris Carilli (Cyg A at all wavebands)  
e-mail: carilli@ijssel.strw.leidenuniv.nl

Klaus Meisenheimer (optical)  
e-mail: meise@mpia-hd.mpg.de

Ed Fomalont (Filaments, e.g., 3C353, Fornax A, Cygnus A)  
e-mail: efomalon@nrao.edu

Patrick Leahy (large-scale features, plumes, trails, backflows, cocoons)  
e-mail: jpl@star.jb.man.ac.uk

Larry Rudnick (asymmetries, morphology, spectra, depolarization etc.)  
e-mail: larry@ast1.spa.umn.edu

\*Alan Bridle (3C219, 3C288, 3C33.1, restarting jets, closing summary)  
e-mail: abridle@nrao.edu

Wil van Breugel (emission filaments)  
e-mail: wil@sunlight.llnl.gov

#### 4. High z sources:

How do they differ from low-z, evidence of interactions?

Colin Lonsdale (QSRs, statistics)  
e-mail: cjl@wells.haystack.edu

George Miley (RG's, interactions at hi-z)  
e-mail: miley@strw.leidenuniv.nl

#### 5. VLB radio sources:

velocities, kinematics, orientations, evolution

Chris O'Dea (compact symmetric sources?)  
e-mail: codea@stsci.edu

Tim Pearson (VLB complete surveys, symmetries, statistics)  
e-mail: tjp@deimos.caltech.edu

Dave Hough (VLB complete surveys, symmetries, statistics)  
e-mail: dhough@physics.trinity.edu

John Wardle (VLB polarization)  
e-mail: wardle1@binah.cc.brandeis.edu

Craig Walker (3C 120, 3C84 close-to-engine)  
e-mail: cwalker@nrao.edu

Peter Wilkinson (review MERLIN latest)  
e-mail: pnw@star.jb.man.ac.uk



\*Anton Zensus (3C 345 curved trajectories and superluminal motion, review)  
e-mail: azensus@nrao.edu

John Conway (90 degree bends)  
e-mail: jconway@nrao.edu

D. Jauncey (Southern Hemisphere VLB)  
e-mail: djauncey@atnf.csiro.au

\*Tony Readhead (latest observations of small scale structure)  
e-mail: acr@deimos.caltech.edu

## 6. Environment

\*Jack Burns (cluster environment - wide angle tails)  
e-mail: jburns@nmsu.edu

Diana Worrall (combined radio and x-ray data re confinement)  
e-mail: dmw@cfa.harvard.edu

Dan Harris (radio and x-ray data re confinement)  
e-mail: harris@cfa.harvard.edu

Frazer Owen (FRI & FR II - radio source HR diagram)  
e-mail: fowen@nrao.edu

Greg Taylor (Colossal RMs, dense media)  
e-mail: gbt@phobos.caltech.edu

Mike Ledlow (optical of RGs in clusters)  
e-mail: ?????????????????????????????????????????

Possible additional topic & observers

## 7. Seyferts

Andrew Wilson	wilson@astro.umd.edu
Gerald Cecil	cecil@wrath.physics.unc.edu
Mark Whittle	dmw8f@virginia.edu
Alan Roy	aroy@atnf.csiro.au

=====  
Potential Theoreticians (topics)

\*Peter Scheuer (introduction - important questions and existing answers)  
e-mail: PAGS@phx.cam.ac.uk

## 1. Radiation from jets (radiation models)

Mitchell C. Begelman (beaming and Compton scattering parsec-scale jets)  
U. of Colorado

JILA  
Box 440  
Boulder, CO 80309  
USA  
phone: 303-492-7856  
fax: 303-492-5235  
e-mail: mitch@jila.colorado.edu

\*Alan P. Marscher (comparison of obs. & theory parsec-scale jets)  
Boston U.  
Dept. of Astr.  
725 Commonwealth Ave.  
Boston, MA 02215  
USA  
phone: 617-353-5029  
fax: 617-353-5704  
e-mail: marshcer@buast0.bu.edu

\*John Travis (radio, x-ray & gamma ray from parsec-scale jets)  
U. of Alabama  
Dept. of Phys. & Astr.  
Tuscaloosa, AL 35487  
USA  
phone: 205-348-5050  
fax: 205-348-5051  
e-mail:

Timothy V. Cawthorne (parsec-scale jets)  
Univ. of Central Lancashire  
Dept. of Phys. & Astr.  
PR1 2HE Preston, Lancashire  
UK  
phone: 44-772-893-565  
e-mail: tvc@starlink.uclan.ac.uk

## 2. Jet Acceleration & Collimation (dynamical models & simulation)

\*Richard Lovelace (jet production and collimation, theory & simulation)  
Cornell Univ.  
Dept. of Applied Physics  
Ithaca, NY 14853  
USA  
phone: 607-255-3968  
fax:  
e-mail: RVL1@cornell.edu

Arieh Konigl (jet production and collimation)  
U. Chicago  
Astr. & Astrophys. Ctr.  
Chicago. IL 60637  
USA  
phone: 312-702-7968  
fax:  
e-mail: arieh@oddjob.uchicago.edu

Max Camenzind (jet production, collimation, stability)  
Landessternwarte

Konigstuhl  
D6900 Heidelberg 1  
Germany  
phone:  
fax:  
e-mail:

J. Contopoulos (magnetically driven jets and winds)  
NASA/GSFC  
Lab for High Energy Astrophysics  
Greenbelt, MD 20771  
USA  
phone:  
fax:  
e-mail:

### 3. Relativistic Jets (dynamical models & simulation)

Philip Hughes (relativistic jet simulation with G. C. Duncan)  
U. Michigan  
Dept. of Astr.  
Ann Arbor, MI 48109  
USA  
phone: 313-764-3430  
fax:  
e-mail: usergb5g@umichub.bitnet

G. Comer Duncan (relativistic jet simulation with P. Hughes)  
e-mail: gcd@riemann.bgsu.edu

Jose Maia Marti (relativistic jets)  
e-mail: ??????????????????????

Ken Nishikawa (PIC codes just starting to look at rel jets)  
U. Iowa  
e-mail: ??????????????????????

Shinji Koide (zeus3-d jet through oblique magnetic field)  
JAPAN  
e-mail: ??????????????????????

Wolfgang Steffen (bending models & 3C345)  
e-mail: p644wos@mpifr-bonn.mpg.de

### 4. Jet Dynamics (models & simulation)

Mark Birkinshaw (stability theory, jet confinement)  
CfA  
60 Garden St.  
Cambridge, MA 02138  
USA  
phone: 617-495-7146  
fax: 617-495-7356  
e-mail: mbl@cfa.harvard.edu

\*Geoff Bicknell (relationship between parsec & Kpc scales)  
e-mail: bicknell@shapley.Colorado.EDU  
e-mail: geoff@mso.anu.edu.au

\*Philip Hardee (3D simulations of stability)  
U. of Alabama  
Dept. of Phys. & Astr.  
Tuscaloosa, AL 35487  
USA  
phone: 205-348-5050  
fax: 205-348-5051  
e-mail: hardee@venus.astr.ua.edu

David Clarke (3D propagating jet simulations, filaments in lobes, shock accel.)  
St. Mary's Univ.  
Dept. of Astr. & Phys.  
Halifax, Nova Scotia, B3H 3C3  
Canada  
phone: 902-420-5830  
fax: 902-420-5141  
e-mail: dclarke@olympu.stmarys.ca

Jose Luis Gomez (simulations of bent jets)  
Instituto de Astrofisica  
De Andalucia  
Apdo 3004  
Granada, 18080  
SPAIN  
e-mail: jlg@iaa.es

Guidetta Toricelli-Ciamponi (MHD jet models equilibrium and stability)  
Arcetri  
Italy  
e-mail: gtorricelli@arcetri.astro.it

Paola Pietrini (MHD jet models equilibrium and stability)  
Arcetri  
Italy  
e-mail: ppietrini@arcetri.astro.it

Massimo Villata (MHD equilibrium jet models)  
Istituto di Fisica Generale dell'Universita  
Via Pietro Giuria 1  
I-10125 Torino  
Italy  
e-mail: ????????????????

Gianluigi Bodo (stability and numerical simulation)  
Osservatorio Astronomico di Torino  
I-10025 Pino Torinese  
Italy  
e-mail: bodo@astto2.infn.it

David DeYoung  
NOAO  
Box 26732  
Tucson, AZ 85726  
USA

phone: 602-325-9324  
e-mail: ddeyoung@noao.edu

Sam Falle  
e-mail: ????????????????

Vincent Icke (general jet dynamics)  
Leiden  
e-mail: icke@strw.leidenuniv.nl

#### 5. Microphysics

Jean Eilek (dynamos, particle acceleration)  
New Mexico Tech  
Dept. of Phys.  
Socorro, NM 87801  
USA  
phone: 505-835-5238  
fax: 505-835-5707  
e-mail: jeilek@nrao.edu

T. W. Jones (particle acceleration at shocks)  
U. of Minnesota  
School of Phys. & Astr.  
116 Church St., S.E.  
Minneapolis, MN 55455  
USA  
phone: 612-624-8546  
e-mail: twj@ast1.spa.umn.edu

John Kirk  
Max Plank Institute  
Heidelberg  
Germany  
e-mail: ????????????????

Alan Heavens  
ROE  
UK  
e-mail: afh@star.roe.ac.uk

#### 6. Environment

Chris Loken (jet propagation through interface into moving medium)  
NMSU  
Dept. of Astr.  
Box 30001 Dept. 4500  
Las Cruces, NM 88003  
USA  
phone: 505-646-4438  
fax: 505-646-1602  
e-mail: cloken@nmsu.edu

Dinshaw Balsara (parsec-scale environment)  
NCSA  
Beckman Institute  
e-mail: ????????????????

Theoreticians doing workshop summary reviews (Saturday afternoon)

\*Mike Norman (for simulations)  
Univ. of Illinois  
Dept. of Astronomy  
1002 W. Green  
Urbana, IL 61801  
phone: 217-333-9239  
fax: 217-244-2909  
e-mail: norman@ncsa.uiuc.edu

\*Paul Wiita (for general on acceleration, dynamics and environment)  
Georgia State Univ.  
Dept. of Phys. & Astr.  
University Plaza  
Atlanta, GA 30303  
phone: 404-651-2932  
e-mail: wiita@chara.gsu.edu

=====

From root Tue Nov 8 11:57:21 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["677" "Tue" "8" "November" "94" "11:02:18" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " nil "22" "Re: workshop"  
nil nil nil "11" nil nil (number " " mark " Hardee Nov 8 22/677  
" thread-indent "\"Re: workshop\""\n") nil]  
nil)  
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46026; Tue, 8 Nov 1994 11:57:15 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07603; Tue, 8 Nov 1994 10:57:08 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA04968; Tue, 8 Nov 94 10:54:50 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA00998; Tue, 8 Nov 94 11:02:18 CST  
Message-Id: <9411081702.AA00998@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Tue, 8 Nov 94 11:02:18 CST

Alan,

I may have garbled my message sufficiently about workshop invitations to lead to some confusion, at least Peter Scheuer was confused so I sent clarification. I will send a clarification to everyone.

He did suggest two other potential speakers and I include them below. Are you familiar with Mirabel? I am not.

Phil

Just a couple of specific suggestions:

1. Mirabel or one of his colleagues to talk about 'Extragalactic radio sources inside the Galaxy' or sim.
2. We seem to have nothing on host galaxies, specifically nothing on host galaxies of high-z sources. Possibly Hutchings (Dominion Obs., Victoria B.C.).

Best wishes

Peter

From root Tue Nov 8 12:03:28 1994

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["1052" "Tue" "8" "November" "94" "11:07:21" "CST" "Hardee"

"hardee@venus.astr.ua.edu " nil "25" "lists" nil nil nil "11" nil nil (number " " mark " Hardee Nov 8 25/1052 " thread-indent "\"lists\""\n") nil] nil)

Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA40700; Tue, 8 Nov 1994 12:03:27 -0500

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03) id AA06855; Tue, 8 Nov 1994 11:02:12 -0600

Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1) id AA04976; Tue, 8 Nov 94 10:59:53 CST

Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1) id AA01003; Tue, 8 Nov 94 11:07:21 CST

Message-Id: <9411081707.AA01003@venus.astr.ua.edu.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu, marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu, rl@mail.ast.cam.ac.uk, PAGS@phx.cam.ac.uk

Subject: lists

Date: Tue, 8 Nov 94 11:07:21 CST

To: SOC

Re: lists

It is likely that my initial message with the list of potential speakers was not clear. What I and Alan Bridle wish is that you pick 15 observers and 15 theorists from the observer and theorist lists, respectively, that you think should be invited to make oral contributions. These 30 plus the SOC will then be about 40 persons. After all the SOC members have made their suggestions, Alan and I will identify the 30 to whom invitations will be sent. If all 30 accepted then we would have about 40 persons. We assume that some will not accept. At that point we will go back to our original list to issue additional invitations for oral contributions. This will require getting back in touch with all SOC members with a list of acceptances and topics, and we will try to fill in gaps. Once we have 40 for oral contributions we can then send invitations to others on the list soliciting poster contributions to bring our number up to but not exceeding 60 total.

I hope this clarifies the original message.

Philip Hardee

From root Tue Nov 22 09:38:51 1994  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["4423" "Tue" "22" "November" "94" "08:43:44" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " "<9411221443.AA03435@venus.astr.ua.edu.ua.edu>" "173"  
"Re: workshop" nil nil nil "11" nil nil (number " " mark " R Hardee  
Nov 22 173/4423 " thread-indent "\"Re: workshop\""\n") nil]  
nil)

Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50828; Tue, 22 Nov 1994 09:38:50 -0500  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA06913; Tue, 22 Nov 1994 08:37:34 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA20185; Tue, 22 Nov 94 08:35:55 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA03435; Tue, 22 Nov 94 08:43:44 CST  
Message-Id: <9411221443.AA03435@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop  
Date: Tue, 22 Nov 94 08:43:44 CST

Alan,

I have received suggestions so far from Jack Burns, Alan Marscher and Peter Scheuer and attach their list of names below.

I hope to hear from you soon and trust that all is well.

Phil

=====  
>From jburns@NMSU.Edu Wed Nov 16 15:03:09 1994  
From: jburns@NMSU.Edu  
Date: Wed, 16 Nov 1994 13:57:22 -0700  
To: hardee@venus.astr.ua.edu  
Subject: Names  
Content-Length: 509  
Status: RO  
X-Lines: 41

Phil:

Please forgive my tardy reply to your last E-mail. Things have been wild around here the last few weeks.

Here are my suggestions for speakers at the conference. First the observers:

Barthel  
Laing  
Baum  
Perley  
Biretta  
Meisenheimer  
Leahy  
Rudnick  
Bridle  
Lonsdale  
Hough  
Zensus  
Burns



Owen  
Ledlow  
Ian Browne  
George Miley  
Chris O'Dea  
Peter Wilkinson

Second, the theorists:

Begelman  
Marscher  
Lovelace  
Konigl  
Hughes  
Nishikawa  
Bicknell  
Hardee  
Clarke  
De Young  
Eilek  
Jones  
Loken  
Norman  
Wiita  
Timothy Cawthorne  
Max Camenzind  
Mark Birkinshaw  
Vincent Icke  
Dinshaw Balsara

Is this what you needed?

Cheers,  
Jack

=====  
>From marscher@buast0.bu.edu Mon Nov 14 09:46:47 1994  
Date: Mon, 14 Nov 94 10:41:33 -0500  
From: marscher@buast0.bu.edu (Alan Marscher)  
To: hardee@venus.astr.ua.edu  
Subject: Workshop invitations  
Content-Length: 419  
X-Lines: 15  
Status: RO

Phil -

All of the potential speakers look fine to me. My choices  
for the most compelling (non-asterisked) 15 observers are:

Browne, Perley, Biretta, Carilli, Leahy, Rudnick, Wrobel, O'Dea,  
Pearson, Wardle, Walker, Wilkinson, Conway, Owen, and Wilson

For theorists:

Begelman, Konigl, Contopoulos, Hughes, Marti, Birkinshaw, Clarke,  
Gomez, DeYoung, Icke, Eilek, Jones, Kirk, Loken, and one of  
the 4 from Arcetri

A1

=====  
>From pags@mrao.cam.ac.uk Thu Nov 17 05:16:43 1994  
From: pags@mrao.cam.ac.uk (Peter Scheuer)  
Subject: Re: workshop  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Thu, 17 Nov 1994 11:10:28 +0000 (GMT)  
Cc: pags@mrao.cam.ac.uk  
X-Mailer: ELM [version 2.4 PL20]  
Content-Type: text  
Content-Length: 2084  
X-Lines: 60  
Status: RO

Dear Philip,

apologies for my misunderstanding of your message on invitations. I have worked through the list and append a list of names for the 'observer' and 'theorist' categories; in choosing these, inevitably one tends to go for people one knows or at least knows of, which is not a good thing as it introduces a bias against the younger people who are not yet so well known outside their own universities etc. At the same time I have put in some bias against some excellent people who appear at almost every conference on the subject but who do not seem essential for this one in particular, and also against inviting two or more people from the same stable working on the same topic.

'Observers'

Ron Ekers because he generally has something provocative to say  
Rick Perley  
John Biretta  
? Steve Tingay You don't have his address and I don't know him. Does he have a different view of Cen A to contribute, or is he an associate of Geoff Bicknell's? If the former, I'd favour asking him; if Bicknell could cover the same ground, then not.  
Chris Carilli  
Klaus Meisenheimer we have very few optical observers, and he's one of the most incisive.  
Ed Fomalont because I'd like someone to talk about filaments  
Wil van Breugel  
Craig Walker esp. for his work on NGC1275  
John Conway to make another attempt to explain his theory!  
George Miley  
Dan Harris  
Greg Taylor  
Andrew Wilson both as an observer of Seyferts and to expound his theory on why radio sources form in ellipticals  
Mirabel - I've already 'written' to you about him.

'theorists'

Mitch Begelman  
Tim Cawthorne  
Max Camenzind  
Contopoulos  
Koide sounds ann intersting topic, and we don't seem to hear so much

of the Japanese work on simulations in this field  
Steffen  
Gomez he'd be our only Spaniard, I think  
either Torricelli or Pietrini from Arcetri  
Jean Eilek  
Tom Jones  
either John Kirk or Alan Heavens  
Loken  
Balsara

This is my first list; there are obviously other people who would be  
of great benefit to us and I may send you a second list.

Best regards Peter

=====

From root Tue Nov 22 09:48:26 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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(number " " mark " Hardee Nov 22 18/752 " thread-indent "\"names  
to invite\""\n") nil]  
nil)  
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id AA63758; Tue, 22 Nov 1994 09:48:25 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA05188; Tue, 22 Nov 1994 08:47:24 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA20204; Tue, 22 Nov 94 08:45:45 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA03447; Tue, 22 Nov 94 08:53:33 CST  
Message-Id: <9411221453.AA03447@venus.astr.ua.edu.ua.edu>  
From:  
hardee@venus.astr.ua.edu (Hardee)  
To: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu,  
rl@mail.ast.cam.ac.uk, PAGES@phx.cam.ac.uk  
Subject: names to invite  
Date: Tue, 22 Nov 94 08:53:33 CST

To: all socmembers

From: P. Hardee

Re: names from the list to invite

I would like to thank those who have already responded to my request for  
suggestions as to which 15 observers and which 15 theorists should be invited  
to the workshop in addition to the asterisked names on the list  
who are already invited. About ten including yourselves are already invited.

To those of you who have not yet responded, I again ask for your input. Neither  
I nor Alan Bridle wish to make unilateral decisions on this matter.

Please note that we will be able to make additional invitations and this is only  
the first round. However, time constraints allow only about 40 people to make

oral contributions and we are attempting to identify the core 40 people.

```
From root Tue Nov 22 09:53:32 1994
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"hardee@venus.astr.ua.edu " nil "8" "Re: workshop" nil nil nil "11" nil nil (number
" " mark " Hardee Nov 22 8/234 " thread-indent "\"Re:
workshop\""\n") nil]
  nil)
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA54647; Tue, 22 Nov 1994 09:53:31 -0500
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA07017; Tue, 22 Nov 1994 08:52:50 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA20210; Tue, 22 Nov 94 08:51:11 CST
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
  id AA03455; Tue, 22 Nov 94 08:59:01 CST
Message-Id: <9411221459.AA03455@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop
Date: Tue, 22 Nov 94 08:59:01 CST
```

Alan,

Glad to hear that Mary is recovering. I don't think you need to rush. I would like to get more input from everyone else. Perhaps Anton will be available after the holiday and we will be able to proceed rapidly then.

Phil

```
From root Mon Nov 28 17:13:05 1994
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
  ["1300" "Mon" "28" "November" "94" "16:18:41" "CST" "Hardee"
"hardee@venus.astr.ua.edu " "<9411282218.AA04260@venus.astr.ua.edu.ua.edu>" "24"
"Re: workshop" nil nil nil "11" nil nil (number " " mark " R Hardee
Nov 28 24/1300 " thread-indent "\"Re: workshop\""\n") nil]
  nil)
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
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Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA07121; Mon, 28 Nov 1994 16:14:12 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA15994; Mon, 28 Nov 94 16:10:40 CST
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
  id AA04260; Mon, 28 Nov 94 16:18:41 CST
Message-Id: <9411282218.AA04260@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop
Date: Mon, 28 Nov 94 16:18:41 CST
```

Alan,

I hope that your life is beginning to return to normal. I have now had responses or promised responses to our request for a top group of names from all theory SOC members (waiting for Geoff's who was away for 2 weeks and got suggested

theory people from Norman over the phone). I should be able to generate a top 15 theory people by the end of this week.

I have not yet had responses from Robert Laing or from Anton Zensus. I was wondering if you would be willing to contact Anton locally as soon as he surfaces, both about names and about a conference ending review. Possibly you might also prod Robert if you think you need his input. I was hoping that you and Anton could formulate the top 15 observers to whom I should send invites.

If at all possible I would like to begin e-mail invitations next week. If you think this is not necessary then tell me to hold off - I sometimes get more compulsive about these things than necessary. I would rest easier however if I had a preliminary list of acceptances before the Christmas break (I will probably be leaving here on the 21st). I will be in Baltimore after Christmas and if necessary could come through Charlottesville on my way back to Alabama about the 30th of December. I will be driving with Betty and Jennifer.

Phil

```
From root Tue Nov 29 09:59:46 1994
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
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workshop\""\n") nil]
nil)
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA53084; Tue, 29 Nov 1994 09:59:45 -0500
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
id AA08141; Tue, 29 Nov 1994 09:00:58 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
id AA17177; Tue, 29 Nov 94 08:57:25 CST
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
id AA04305; Tue, 29 Nov 94 09:05:26 CST
Message-Id: <9411291505.AA04305@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop
Date: Tue, 29 Nov 94 09:05:26 CST
```

Alan,

Thank you for getting in touch with Robert and with Anton. I will be preparing a proposal shortly for the proceedings to Cambridge and have already communicated with Adam Black about their procedures. I like their macro package and the appearance of their proceedings. At the moment I am assuming that the editors will be Bridle, Hardee, Zensus. Can you confirm that Zensus will edit?

Sorry to hear that Mary will have to undergo chemotherapy as I know that the side effects can be severe. Pass on to her my concern and my best wishes.

Phil

```
From root Mon Dec 5 11:18:46 1994
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["1105" "Mon" "5" "December" "1994" "11:18:42" "+0500" "Anton Zensus"
"azensus@NRAO.EDU " nil "63" "workshop list" nil nil nil "12" nil nil (number " "
```

mark " Anton Zensus Dec 5 63/1105 " thread-indent "\"workshop  
list\"\\n") nil]  
nil)  
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id AA27996; Mon, 5 Dec 1994 11:18:45 -0500  
Received: by vagabond.cv.nrao.edu (5.0/S2.3/NRAO-CV/2.0)  
id AA14496; Mon, 5 Dec 1994 11:18:42 +0500  
Message-Id: <9412051618.AA14496@vagabond.cv.nrao.edu>  
X-Sun-Charset: US-ASCII  
Content-Length: 1105  
From: azensus@NRAO.EDU (Anton Zensus)  
To: hardee@venus.astr.ua.edu, abridle@vagabond  
Cc: azensus@nrao.edu  
Subject: workshop list  
Date: Mon, 5 Dec 1994 11:18:42 +0500

Phil,

Finally, here are my list of observers & theorists, I'd like to hear at the mtg.

Urry

Celotti or Maraschi or Ghisellini (but only one of them): unification, mag fields  
in compact sources

Barthel

Ekers (nothing specific, but he is charming to have around!!)

Perley

Biretta

Carilli

Rudnick

O'Dea

Pearson

Hough

Wardle

Walker

Conway

Readhead

Owen

Taylor

Wrobel

Kellermann

Valtaoja

Additional:

Witzel and Krichbaum (Bonn): Jet observations in 1803+78 and alike

Aller & Aller (Michigan), i.e not on your list:

Lobanov (NRAO), Rabaca should definitely attend

Richard Davis (Jodrell) 3c273

Alberdi (Spain) 4c39.25, jet model

Leahy (Jodrell) review of Merlin (I think he is better than Wilkinson on this!)

Theorists:

Begelman  
Cawthorne  
Konigl  
Camenzind  
Contopoulos  
Hughes  
Steffen  
Gomez  
Kirk  
Konigl  
Eilek  
Falle

DEFINITELY INVITE: Jacques Roland (Paris), possibly Pelletier (Grenoble)  
2-fluid model

and also Qian, S. (Beijing) Geometric jet modes for curved jets, and IDV

how about Blandford, Phinney  
Diana Worrall: X-rays

From root Mon Dec 5 11:27:10 1994

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1146" "Mon" "5" "December" "1994" "11:27:06" "+0500" "Anton Zensus"  
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Anton Zensus Dec 5 24/1146 " thread-indent "\"workshop\""\n") nil]  
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Received: by vagabond.cv.nrao.edu (5.0/S2.3/NRAO-CV/2.0)  
id AA14505; Mon, 5 Dec 1994 11:27:06 +0500

Message-Id: <9412051627.AA14505@vagabond.cv.nrao.edu>

X-Sun-Charset: US-ASCII

Content-Length: 1145

From: azensus@NRAO.EDU (Anton Zensus)

To: hardee@venus.astr.ua.edu, abridle@vagabond

Cc: azensus@nrao.edu

Subject: workshop

Date: Mon, 5 Dec 1994 11:27:06 +0500

Gentlemen,

I apologize for being so late with my reply. Only just now do I seem to fet a cut  
at all those  
things I put off, while in transit.

A couple of general comments on the meeting:

>From an observer's point of view, there will inevitably be some overlap between  
this meeting, and the IAU symposium in Bologna. We should perhaps consider to  
attempt that  
we do not duplicate major reviews given at the other meeting.

I forgot if this was discussed in the e-mail exchanges or not, but I'd like to put  
in my 3 cents on the proceedings: My experience from the last workshop in Socorro  
is that our  
efforts to provide the proceedings literally as the participants left the meeting  
was extremely

well received and (I believe) very useful indeed. Are you considering something similar?  
Incidentally, this does of course not preclude work on a second widely-distributed (or properly published) version asap after the meeting.

Looking forward to hearing from you.

Also: I think I was supposed to make suggestions for Conference Summary Speaker?

Not Ekers (had him many times, although admittedly he is good at it...)  
Rudnick?  
Blandford?

From root Mon Dec 5 14:58:16 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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list\""\n") nil]  
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id AA36510; Mon, 5 Dec 1994 14:58:15 -0500  
Received: by vagabond.cv.nrao.edu (5.0/S2.3/NRAO-CV/2.0)  
id AA14608; Mon, 5 Dec 1994 14:58:14 +0500  
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X-Sun-Charset: US-ASCII  
Content-Length: 2055  
From: azensus@NRAO.EDU (Anton Zensus)  
To: abridle@vagabond  
Subject: Re: workshop list  
Date: Mon, 5 Dec 1994 14:58:14 +0500

----- Begin Included Message -----

>From hardee@venus.astr.ua.edu Mon Dec 5 11:53 EST 1994  
Return-Path: <hardee@venus.astr.ua.edu>  
Date: Mon, 5 Dec 94 10:59:47 CST  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@NRAO.EDU  
Subject: Re: workshop list  
Content-Type: text  
Content-Length: 1701  
X-Lines: 32  
Status: RO

Anton,

Thanks for sending your suggestions on to me. I hope that you are nearly settled in to Charlottesville. I have decided to go with Cambridge as a publisher of the proceedings (I like their macro package) and am in the process of preparing a proposal. I am listing the editors as Bridle, Hardee, Zensus if this is OK with you. I had not planned on providing an instantaneous proceedings.

The basic plan on conference summary speakers is to have 2 theorists - M. Norman



and P. Wiita review the theory and to have 2 observers review the observations. At this point Alan B. has agreed to review the larger scales and I am looking for someone to review the smaller scales. I asked Tony Readhead and he suggested that you might be a good choice. Would you be willing to provide a review? The four reviews would be scheduled for Saturday after lunch on the final day of the workshop and the workshop would end by 3pm after the reviews. This would not necessarily preclude presentation of observational work on your part earlier in the meeting although it might have to be in poster format.

Finally, can you work directly with Alan on putting together the must invite observer list? It is very difficult for me to judge the relative merits of the observers. Realize that the names we are choosing first are those we would like to speak and there is only time for about 40 speakers total. We can have 60 attend however and there can be posters which could also be published as articles in the conference proceedings.

For those names not on the list I sent you that you just now suggested, can you provide e-mail and/or postal addresses? Particularly, Roland, Pelletier and Qian.

Phil

----- End Included Message -----

From abridle Mon Dec 5 17:49:05 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
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" nil "91" "Re: workshop invitations" "^From:" nil nil "12" nil nil (number " "  
mark " Z Alan Bridle Dec 5 91/3263 " thread-indent "\"Re: workshop  
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nil)  
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id AA51195; Mon, 5 Dec 1994 17:49:01 -0500  
Message-Id: <9412052249.AA51195@polaris.cv.nrao.edu>  
References: <9411061705.AA00254@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee), azensus  
Subject: Re: workshop invitations  
Date: Mon, 5 Dec 1994 17:49:01 -0500

Hi Phil,

Toni (Anton) and I have just spent some time collating all of the SOC members' lists of potential observer invitees. Here is a list of all names seriously mentioned, with our priority for inviting (automatic 5 for the SOC members!). We are considering Peter Scheuer to be a theorist by the way, so he is not mentioned here.

We believe that all 5, 4 and 3 should be invited immediately. It would also be desirable to invite the 2's immediately. But if you are too worried about busting the numbers early, you could invite the 2's in a soon-to-be-done second wave (once you have the appropriate number of no-shows.)

The 1's and 0's are for "later", i.e. only if possible after no-shows from higher in the list.

They include some students. We both feel there should be some students, but the process by which students have been mentioned so far is way too random. Maybe we need some procedure for getting people to recommend students more broadly?

Cheers, A.

=====start=====

Observers to invite to Alabama Workshop, w priority

Surname	Prio
Biretta	5
Bridle	5
Burns	5
Laing	5
Perley	5
Zensus	5
Carilli	4
Conway, J.	4
Leahy	4
O'Dea	4
Owen	4
Rudnick	4
Walker	4
Barthel	3
Baum	3
Browne	3
Ekers	3
Hough	3
Lonsdale	3
Meisenheimer	3
Miley	3
Pearson	3
Taylor	3
Urry	3
Wardle	3
Wilkinson	3
Wilson	3
Worrall	3
Wrobel	3
Fomalont	2
Parma	2
Readhead	2
Roberts, D.	2
van Breugel	2
Venturi	2
Alberdi	1
Aller	1
Davis	1
Fantis, C./R.	1
Giovannini	1
Harris	1
Kellermann	1
Krichbaum	1
Ledlow	1



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WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

Sponsored by: National Science Foundation through an EPSCoR Grant

Location: Bryant Conference Center, University of Alabama, Tuscaloosa, AL

Dates: 19 September - 23 September, 1995

Purpose:

It has been over ten years since the Green Bank workshop on "Physics of Energy Transport in Extragalactic Radio Sources" was held to address the questions raised by detailed imaging of jets in active galaxies and quasars. In that workshop the focusing topics were (a) Jet Correlations and Observational Constraints, (b) Jet Sidedness, Velocity and Unification, (c) Confinement and Stability, and (d) Particle Acceleration, Entrainment, and Turbulence.

Considerable work has occurred in the intervening decade. Much improved data at all wavelengths from radio to gamma-rays are now available for these objects, and new families of unified models have been proposed to link classes of object whose relationships were less clear a decade ago. The VLBA is coming on line and the latest supercomputers make it possible to perform three dimensional numerical experiments. Thus it seems an auspicious time to review the progress made in the past decade, to evaluate the research being conducted in this area at the present time, and to address the issue of how best to utilize existing observational and computational resources to answer the questions that still remain concerning the highly collimated outflows associated with Radio Galaxies and Quasars.

Program Topics:

Jet Acceleration and Collimation	Radiation from Relativistic Jets
VLB radio sources	Dynamics of Relativistic Jets
FRI type radio source	FR II type radio sources
Jet dynamics, stability, morphology	Unification
Microphysics	Environment

Workshop Format: The workshop will revolve around oral reviews and contributions. Time will be scheduled for discussion. Space and time will be provided for poster presentations if there is sufficient demand.

Scientific Organizing Committee:

Geoff Bicknell (Australia), Alan Bridle (USA), Jack Burns (USA)  
Robert Laing (UK), Alan Marscher (USA), Michael Norman (USA),  
Peter Scheuer (UK), Anton Zensus (USA), Philip Hardee (SOC Chairman)

Local Organizing Committee: P. Hardee, J. Travis  
Department of Physics & Astronomy  
Box 870324  
The University of Alabama  
Tuscaloosa, AL 35487-0324

Internet: hardee@venus.astr.ua.edu  
phone: (205) 348-5050  
fax: (205) 348-5051

=====

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

=====

Scientific Organizing Committee:

Geoff Bicknell ( geoff@mso.anu.edu.au )  
Alan Bridle ( abridle@polaris.cv.nrao.edu )  
Jack Burns ( jburns@NMSU.Edu )  
Philip Hardee ( hardee@venus.astr.ua.edu )  
Robert Laing ( rl@mail.ast.cam.ac.uk )  
Alan Marscher ( marscher@buast0.bu.edu )  
Michael Norman ( norman@ncsa.uiuc.edu )  
Peter Scheuer ( PAGES@phx.cam.ac.uk )  
Anton Zensus ( azensus@aoc.nrao.edu )

Workshop Schedule: Arrive Monday evening September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday afternoon September 23, 1995  
or Sunday September 24, 1995

Workshop Location: Capstone Sheraton and adjacent conference center on  
The University of Alabama campus, Tuscaloosa , Alabama, USA

Rooms: The Capstone Sheraton (est. \$80/night US)

Registration fee: To cover board and conference proceedings ( \$200 US )

Meals: Continental fare at conference center each morning (Tues. - Sat.)  
coffee, tea, sodas provided all day (Tues. - Sat.)  
Buffet lunch (Tues. - Sat.)  
Catered Reception Tuesday at Natural History Museum  
Buffet dinner (Wed., Thurs., Fri.)

Saturday dinner not included - vans provided to area establishments

Transportation: By air to Tuscaloosa (served by American Eagle from Nashville)  
(Sheraton van pickup at Tuscaloosa airport)

By train to Tuscaloosa (Southern Crescent - arrives southbound  
and departs northbound in early afternoon daily  
pickup can be arranged)

By air to Birmingham (all major airlines - car rental necessary  
one hour drive to Tuscaloosa)

Travel Support: Some limited travel support is available.

Proceedings: ASP or Cambridge ( to be decided )

=====

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

=====

Preliminary Registration Form

Name:

Institution:

Address:

e-mail address:

phone number:

fax number:

Please answer each of the following:

I will definitely \_\_\_\_\_  
possibly \_\_\_\_\_ attend the workshop.  
not \_\_\_\_\_

Please do \_\_\_\_\_ send further information.  
do not \_\_\_\_\_

Do you have a grant with travel support \_\_\_\_\_?

Do you require some travel support \_\_\_\_\_?

Are you a graduate student \_\_\_\_\_?

Are you a postdoc \_\_\_\_\_?

I would like to make a presentation on the following topic:

A tentative title for my presentation is:

Please return the completed form (e-mail if possible) by December 1, 1994 to:

P. Hardee  
Department of Physics & Astronomy  
Box 870324  
The University of Alabama  
Tuscaloosa, AL 35487-0324, USA

Internet: hardee@venus.astr.ua.edu  
phone: (205) 348-5050  
fax: (205) 348-5051

=====  
From abridle Wed Oct 26 11:34:27 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1500" "Wed" "26" "October" "1994" "11:34:24" "-0400" "Alan Bridle" "abridle  
" nil "47" "Re: workshop" nil nil nil "10" nil nil (number " " mark " Alan  
Bridle Oct 26 47/1500 " thread-indent "\"Re: workshop\""\n") nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA23343; Wed, 26 Oct 1994 11:34:24 -0400  
Message-Id: <9410261534.AA23343@polaris.cv.nrao.edu>  
References: <9410252128.AA00923@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop  
Date: Wed, 26 Oct 1994 11:34:24 -0400

Phil, here's what I have come up with as E-mail addresses  
for observers on the provisional list. They are in the  
order of your listing:

browne	iwb@star.jb.man.ac.uk
barthel	pdb@kapteyn.astro.rug.nl
urry	cmu@stsci.edu
laing	rl@mail.ast.cam.ac.uk
baum	sbaum@stsci.edu
perley	rperley@nrao.edu
wrobel	jwrobel@nrao.edu
biretta	jb@cfa.harvard.edu
tingay	
carilli	carilli@ijssel.strw.leidenuniv.nl
lonsdale	cjl@wells.haystack.edu
meisenheimer	meise@mpia-hd.mpg.de
fomalont	efomalon@nrao.edu
leahy	jpl@star.jb.man.ac.uk
rudnick	larry@ast1.spa.umn.edu
bridle	abridle@nrao.edu
vanbreugel	wil@sunlight.llnl.gov
miley	miley@strw.leidenuniv.nl
odea	codea@stsci.edu
pearson	tjp@deimos.caltech.edu
hough	dhough@physics.trinity.edu
wardle	wardle1@binah.cc.brandeis.edu
walker	cwalker@nrao.edu
wilkinson	pnw@star.jb.man.ac.uk
zensus	azensus@nrao.edu
conway	jconway@nrao.edu
jauncey	djauncey@atnf.csiro.au
burns	jburns@nmsu.edu
worrall	dmw@cfa.harvard.edu
harris	harris@cfa.harvard.edu
owen	fowen@nrao.edu
taylor	gbt@phobos.caltech.edu
ledlow	
readhead	acr@deimos.caltech.edu

wilson wilson@astro.umd.edu  
cecil cecil@wrath.physics.unc.edu  
whittle dnmw8f@virginia.edu  
roy aroy@atnf.csiro.au  
ekers rekers@atnf.csiro.edu

From root Wed Dec 7 15:25:57 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["407" "Wed" "7" "December" "94" "14:31:45" "CST" "Hardee"  
"hardee@venus.astr.ua.edu " nil "13" "Re: workshop invitations" "^From:" nil nil  
"12" nil nil (number " " mark " Hardee Dec 7 13/407 " thread-  
indent "\"Re: workshop invitations\""\n") nil]  
nil)  
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA16860; Wed, 7 Dec 1994 15:25:56 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA04664; Wed, 7 Dec 1994 14:26:26 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA08314; Wed, 7 Dec 94 14:23:30 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA05650; Wed, 7 Dec 94 14:31:45 CST  
Message-Id: <9412072031.AA05650@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop invitations  
Date: Wed, 7 Dec 94 14:31:45 CST

Alan,

D. Jauncey did not appear on your ranked observer list. Should he have?

I assume that we will sort out who will make oral and who will make poster presentations later but I am assuming that posters will be necessary.

We still do not have anyone to review the small scale structure from an observers viewpoint. I e-mailed Anton about this and other things but he has not yet replied to me.

Phil

From root Tue Dec 6 18:02:53 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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"12" nil nil (number " " mark " Hardee Dec 6 140/4632 " thread-  
indent "\"Re: workshop invitations\""\n") nil]  
nil)  
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26532; Tue, 6 Dec 1994 18:02:18 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA06825; Tue, 6 Dec 1994 17:02:49 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA06102; Tue, 6 Dec 94 16:59:52 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA05580; Tue, 6 Dec 94 17:08:05 CST



Message-Id: <9412062308.AA05580@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop invitations  
Date: Tue, 6  
Dec 94 17:08:05 CST

Alan,

Excellent work on the observer list. I am worried enough about busting the numbers that I do not wish to go below 3 on the first go round with the exception of Readhead. Recall I have already spoken to him about the workshop and so feel he must be included.

I include both a theory list with subdivisions into 1,2,3 ranking and have attached your list as well with a similar breakdown. While I feel that all in rank 1 & 2 in theory should be invited the numbers make me nervous so I would tend just to do rank 1 first. This would be 30 + 23 invitations. I have no feel for the likely percentage of acceptances.

It occurs to me that one way to get students recommended is to ask for recommendations from those we invite and I could ask for information on the e-mailed form if you think this is a good idea.

Phil

=====

Theoreticians:

First list (23)

Peter Scheuer: PAGES@phx.cam.ac.uk  
Mitchell C. Begelman: mitch@jila.colorado.edu  
Alan P. Marscher: marshcer@buast0.bu.edu  
John Travis: postdoc at Alabama in fall, student of Marscher now  
Timothy V. Cawthorne: tvc@starlink,uclan.ac.uk  
Jose Luis Gomez: jlg@iaa.es  
Richard Lovelace: RVL1@cornell.edu  
Arieh Konigl: arieh@oddjob.uchicago.edu  
Max Camenzind:  
Philip Hughes : usergb5g@umichub.bitnet  
Jose Maia Marti: martij@evalvx.ific.uv.es or martij@ibm-1.mpa-garching.mpg.de  
Shinji Koide: koidesin@ecs.toyama-u.ac.jp  
Mark Birkinshaw : mbl@cfa.harvard.edu  
Geoff Bicknell: bicknell@shapley.Colorado.EDU or geoff@mso.anu.edu.au  
Philip Hardee: hardee@venus.astr.ua.edu  
David Clarke: dclarke@olympu.stmarys.ca  
David DeYoung: ddeyoung@noao.edu  
Jean Eilek: jeilek@nrao.edu  
Tom Jones: twj@astl.spa.umn.edu  
John Kirk : kirk@kirk0.mpi-hd.mpg.de  
Chris Loken: cloken@nmsu.edu  
Mike Norman: norman@ncsa.uiuc.edu  
Paul Wiita: wiita@chara.gsu.edu

Second list

Wolfgang Steffen: p644wos@mpifr-bonn.mpg.de  
S. Qian:

Dinshaw Balsara: u10956@ncsa.uiuc.edu  
Jacques Roland:  
G. Comer Duncan: gcd@riemann.bgsu.edu  
Gianluigi Bodo: bodo@astto2.infn.it  
Ken Nishikawa: nishikawa@iowa.physics.uiowa.edu  
Alan Heavens: afh@star.roe.ac.uk

Third list

Vincent Icke: icke@strw.leidenuniv.nl  
Guidetta Torricelli-Ciamponi: gtorricelli@arcetri.astro.it  
Paola Pietrini: ppietrini@arcetri.astro.it  
Massimo Villata:  
J. Contopoulos:

=====  
Observers:

First list (30)

Biretta	5
Bridle	5
Burns	5
Laing	5
Perley	5
Zensus	5
Carilli	4
Conway, J.	4
Leahy	4
O'Dea	4
Owen	4
Rudnick	4
Walker	4
Barthel	3
Baum	3
Browne	3
Ekers	3
Hough	3
Lonsdale	3
Meisenheimer	3
Miley	3
Pearson	3
Taylor	3
Urry	3
Wardle	3
Wilkinson	3
Wilson	3
Worrall	3
Wrobel	3
Readhead	2

Second list

Fomalont	2
Parma	2
Roberts, D.	2
van Breugel	2
Venturi	2

Alberdi 1  
Aller 1  
Ledlow 1 (student)  
Lobanov 1 (student)

Third list

Davis 1  
Fantis, C./R. 1  
Giovannini 1  
Harris 1  
Kellermann 1  
Krichbaum 1  
Mirabel 1  
Unwin 1  
Valtaoja 1  
Celotti/Maraschi/Ghisellini 0  
Cohen 0  
Tingay 0

=====  
=====end=====

From root Sat Dec 17 17:35:32 1994  
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id AA47367; Sat, 17 Dec 1994 17:35:31 -0500  
Received: from nsl.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)  
id AA08671; Sat, 17 Dec 94 17:35:24 EST  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08145; Sat, 17 Dec 1994 16:32:05 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA06708; Sat, 17 Dec 94 16:29:52 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA07005; Sat, 17 Dec 94 16:38:22 CST  
Message-Id: <9412172238.AA07005@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: jet workshop  
Date: Sat, 17 Dec 94 16:38:22 CST

ANNOUNCEMENT AND INVITATION TO PARTICIPATE

The attached announcement is an invitation to participate in a workshop on the observational properties and theory of highly collimated outflows in radio galaxies and Quasars. Since the workshop will be relatively small (about 60) there will be no general call for contributions.

Please respond to this invitation by returning the attached preliminary registration form, preferably by e-mail, before January 31, 1995.

If you have any specific questions contact:

Philip E. Hardee  
Department of Physics & Astronomy  
Box 870324  
The University of Alabama  
Tuscaloosa, AL 35487-0324  
Internet: hardee@venus.astr.ua.edu  
phone: (205) 348-5050  
fax: (205) 348-5051

=====

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

Sponsored by: National Science Foundation through an EPSCoR Grant  
Location: Bryant Conference Center, University of Alabama, Tuscaloosa, AL  
Dates: 19 September - 23 September, 1995

Purpose:

It has been over ten years since the Green Bank workshop on "Physics of Energy Transport in Extragalactic Radio Sources" was held to address the questions raised by detailed imaging of jets in active galaxies and quasars. In that workshop the focusing topics were (a) Jet Correlations and Observational Constraints, (b) Jet Sidedness, Velocity and Unification, (c) Confinement and Stability, and (d) Particle Acceleration, Entrainment, and Turbulence.

Considerable work has occurred in the intervening decade. Much improved data at all wavelengths from radio to gamma-rays are now available for these objects, and new families of unified models have been proposed to link classes of object whose relationships were less clear a decade ago. The VLBA is coming on line and the latest supercomputers make it possible to perform three dimensional numerical experiments. Thus it seems an auspicious time to review the progress made in the past decade, to evaluate the research being conducted in this area at the present time, and to address the issue of how best to utilize existing observational and computational resources to answer the questions that still remain concerning the highly collimated outflows associated with Radio Galaxies and Quasars.

Program Topics:

Jet Acceleration and Collimation	Radiation from Relativistic Jets
VLB radio sources	Dynamics of Relativistic Jets
FRI type radio source	FR II type radio sources
Jet dynamics, stability, morphology	Unification
Microphysics	Environment

Workshop Format: The workshop will consist of oral reviews and both oral and poster contributions. Time will be scheduled for discussion.

Scientific Organizing Committee:

Geoff Bicknell (Australia), Alan Bridle (USA), Jack Burns (USA)  
Robert Laing (UK), Alan Marscher (USA), Michael Norman (USA),  
Peter Scheuer (UK), Anton Zensus (USA), Philip Hardee (SOC Chairman)



A tentative title for my presentation is:

Please return the completed form (e-mail if possible) by January 31, 1995 to:

P. Hardee  
Department of Physics & Astronomy  
Box 870324  
The University of Alabama  
Tuscaloosa, AL 35487-0324, USA

Internet: hardee@venus.astr.ua.edu  
phone: (205) 348-5050  
fax: (205) 348-5051

```
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From root Sat Dec 17 18:21:51 1994
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Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
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Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA07049; Sat, 17 Dec 1994 17:21:18 -0600
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
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Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)
  id AA07059; Sat, 17 Dec 94 17:27:38 CST
Message-Id: <9412172327.AA07059@venus.astr.ua.edu.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,
  marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu,
  rl@mail.ast.cam.ac.uk, PAGES@phx.cam.ac.uk, pages@mrao.cam.ac.uk
Subject: workshop mailing & announcement
Date: Sat, 17 Dec 94 17:27:38 CST
```

Please confirm that my initial e-mail announcement has been successful by returning a completed preregistration form as soon as is convenient. Please take this opportunity to indicate the type of travel expenses that you might require, i.e., airfare, room, other transportation. I hope that all SOC members will be willing and able to pay the conference registration fee which covers meals and the conference proceedings.

I have no e-mail address for

Max Camenzind

e-mail was returned as user unknown for

Gianluigi Bodo: bodo@astto2.infn.it

The announcement, invitation and preregistration was successfully sent to the

following:

---

Peter Scheuer: PAGES@phx.cam.ac.uk  
Mitchell C. Begelman: mitch@jila.colorado.edu  
Alan P. Marscher: marscher@buast0.bu.edu  
John Travis: travis@qjet.bu.edu  
Timothy V. Cawthorne: tvc@star.uclan.ac.uk  
Jose Luis Gomez: jlg@iaa.es  
Richard Lovelace: RVL1@cornell.edu  
Arieh Konigl: arieh@oddjob.uchicago.edu  
Philip Hughes : usergb5g@umichub.bitnet  
Jose Maia Marti: martij@evalvx.ific.uv.es , martij@ibm-1.mpa-garching.mpg.de  
Shinji Koide: koidesin@ecs.toyama-u.ac.jp  
Mark Birkinshaw : mbl@cfa.harvard.edu  
Geoff Bicknell: bicknell@shapley.Colorado.EDU , geoff@mso.anu.edu.au  
David Clarke: dclarke@olympus.stmarys.ca  
David DeYoung: ddeyoung@noao.edu  
Jean Eilek: jeilek@nrao.edu  
Tom Jones: twj@ast1.spa.umn.edu  
John Kirk : kirk@kirk0.mpi-hd.mpg.de  
Chris Loken: cloken@nmsu.edu  
Mike Norman: norman@ncsa.uiuc.edu  
Paul Wiita: wiita@chara.gsu.edu  
Wolfgang Steffen: p644wos@mpifr-bonn.mpg.de  
Dinshaw Balsara: u10956@ncsa.uiuc.edu

Biretta: biretta@stsci.edu , jb@cfa.harvard.edu  
Bridle: abridle@nrao.edu  
Burns: jburns@nmsu.edu  
Laing: rl@mail.ast.cam.ac.uk  
Perley: rperley@nrao.edu  
Zensus: azensus@nrao.edu  
Carilli: carilli@ijssel.strw.leidenuniv.nl  
Conway: jconway@nrao.edu  
Leahy: jpl@star.jb.man.ac.uk  
O'Dea: odea@stsci.edu  
Owen: fowen@nrao.edu  
Rudnick: larry@ast1.spa.umn.edu  
Walker: cwalker@nrao.edu  
Barthel: pdb@kapteyn.astro.rug.nl  
Baum: sbaum@stsci.edu  
Browne: iwb@star.jb.man.ac.uk  
Ekers: rekera@atnf.csiro.au  
Hough: dthough@physics.trinity.edu  
Lonsdale: cjl@wells.haystack.edu  
Meisenheimer: meise@mpia-hd.mpg.de  
Miley: miley@strw.leidenuniv.nl  
Pearson: tjp@deimos.caltech.edu  
Taylor: gbt@phobos.caltech.edu  
Urry: cmu@stsci.edu  
Wardle: wardle1@binah.cc.brandeis.edu  
Wilkinson: pnw@star.jb.man.ac.uk  
Wilson: wilson@astro.umd.edu  
Worrall: dmw@cfa.harvard.edu  
Wrobel: jwrobel@nrao.edu  
Readhead: acr@deimos.caltech.edu

---

From root Thu Dec 29 17:46:37 1994  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["14359" "Thu" "29" "December" "1994" "15:40:55" "-0700" "Bicknell Geoffrey  
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(5.65a+/IDA-1.5 for abridle@polaris.cv.nrao.edu); Thu, 29 Dec 94 15:40:56 -0700  
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Mime-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII  
From: Bicknell Geoffrey V <bicknell@shapley.Colorado.EDU>  
To: Hardee <hardee@venus.astr.ua.edu>  
Cc: geoff@merlin.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@aoc.nrao.edu,  
rl@mail.ast.cam.ac.uk  
Subject: Re: workshop invitations  
Date: Thu, 29 Dec 1994 15:40:55 -0700 (MST)

My apologies for being so late with this. I will not make any excuses but  
you may find my comments on the potential invitees useful.

On Sun, 6 Nov 1994, Hardee wrote:

> To: All SOC members  
>  
> Re: Workshop invitations  
>  
> I have attached a list of observers and a list of theorists with (topics)  
> where I know them and e-mail addresses (postal also) where I know them.  
> The lists also include all SOC members and others who have already been  
> contacted about review talks etc., and these persons are indicated by an \*.  
>  
> We now need to make a selection of an additional 15 observers and 15 theorists  
> to receive the first invites. Note that if all accepted this would bring the  
> workshop to about 40 persons. 40 persons are about the maximum number who  
> could make oral presentations in the available time. The workshop ultimately  
> can accept 60 but not for oral presentations. Please consider these lists  
> carefully and return them to me with your suggestions.  
>  
> Now is also the time to add any additional person who you think should be on  
> the list and considered. Please provide an e-mail address. Note that I do not  
> have e-mail addresses for everyone on the present list. Since invites will be  
> by e-mail where possible please assist me if you know an e-mail or as a backup  
> a postal address.  
>  
> Thank you,  
>  
> Philip Hardee



>  
> =====  
> Potential Observers (topics)  
>  
> 1. Unification  
>  
>  
> Ian Browne (unification, tests)  
> e-mail: iwb@star.jb.man.ac.uk  
>  
> Peter Barthel (unification, tests)  
> e-mail: pdb@kapteyn.astro.rug.nl  
>

Either of these people are good speakers on Unified Schemes. I have a slight preference for Barthel since he is a bit livelier. I think that one speaker would be sufficient.

Jo Baker, now at the Cavendish (JCB@mail.ast.cam.ac.uk) has just finished an excellent thesis on unification including the differences between radio quiet and radio loud galaxies.

> Meg Urry  
(unification, tests) > e-mail: cmu@stsci.edu  
>  
> \*Robert Laing (evidence for core sheath relativistic models - unification)  
> e-mail: rl@mail.ast.cam.ac.uk  
>  
> Stefi Baum (optical properties of nearby radio sources)  
> e-mail: sbaum@stsci.edu  
>

All of the above are a must. I would also like to mention for possible inclusion, my student Anton Koekemoer. He is finishing an excellent thesis on excitation of emission lines in radio galaxies. Many regions it appears are shock excited.

> Ron Ekers (?????????)  
> e-mail: rekers@atnf.csiro.edu  
>  
>  
> 2. FR I type radio sources:  
>  
> How much relativity, how many asymmetries, are they entraining?  
>  
>  
> Rick Perley (3C 449, 3C31, tests for Laing model in FRI's)  
> e-mail: rperley@nrao.edu  
>  
> Joan Wrobel (complete samples of E galaxies, M84 if ready)  
> e-mail: jwrobel@nrao.edu  
>  
> John Biretta (M 87 - searches for proper motion)  
> e-mail: jb@cfa.harvard.edu  
>

A must - this is some of the most exciting observational work to be done in recent times. Mitch Begelman and I have also just writing up a theoretical paper on the M87 jet and the structure of the inner radio source. You might like to consider

a talk from one of us back to back with John's presentation.

> Steve Tingay (Cen A)  
> e-mail: ??????????????????????  
>

Since Cen A is the nearest active galaxy (and therefore highly resolved) and since the data (combined SHEVE and VLBA) are good quality then I think that a 15-20 minute contribution from either Steve Tingay (preferable since he is the student doing a lot of the work) or Dave Jauncey (supervisor) should be included.

> > 3. FR II type radio sources: >  
> How much relativity, how many asymmetries, how do jets terminate, properties of  
> jet cocoons.

>  
>  
> Chris Carilli (Cyg A at all wavebands)  
> e-mail: carilli@ijssel.strw.leidenuniv.nl  
>  
> Klaus Meisenheimer (optical)  
> e-mail: meise@mpia-hd.mpg.de  
>  
> Ed Fomalont (Filaments, e.g., 3C353, Fornax A, Cygnus A)  
> e-mail: efomalon@nrao.edu  
>  
> Patrick Leahy (large-scale features, plumes, trails, backflows, cocoons)  
> e-mail: jpl@star.jb.man.ac.uk  
>  
> Larry Rudnick (asymmetries, morphology, spectra, depolarization etc.)  
> e-mail: larry@ast1.spa.umn.edu  
>  
> \*Alan Bridle (3C219, 3C288, 3C33.1, restarting jets, closing summary)  
> e-mail: abridle@nrao.edu  
>  
> Wil van Breugel (emission filaments)  
> e-mail: wil@sunlight.llnl.gov  
>

All of the above would give good talks. If there is a time problem, I defer to Alan on whom to ask

>  
> 4. High z sources:  
>  
> How do they differ from low-z, evidence of interactions?  
>  
>

> Colin Lonsdale (QSRs, statistics)  
> e-mail: cjl@wells.haystack.edu  
>  
> George Miley (RG's, interactions at hi-z)  
> e-mail: miley@strw.leidenuniv.nl  
>

If Klaus were not to talk on FR II's he would give an excellent talk on high z. Gave a superb presentation at 1st Stromlo

>  
> 5. VLB radio sources:

>  
> velocities, kinematics, orientations, evolution  
>  
>  
> Chris O'Dea (compact symmetric sources?)  
> e-mail: codea@stsci.edu  
>

Certainly

> Tim Pearson (VLB complete surveys, symmetries, statistics)  
> e-mail: tjp@deimos.caltech.edu  
>  
> Dave Hough (VLB complete surveys, symmetries, statistics)  
> e-mail: dhough@physics.trinity.edu  
>

Could we get them to give complementary talks of about 15-20 minutes each. I have no way of deciding whom to ask

> John Wardle (VLB polarization)  
> e-mail: wardle1@binah.cc.brandeis.edu  
>

A must

> Craig Walker (3C 120, 3C84 close-to-engine)  
> e-mail: cwalker@nrao.edu  
>

The (free-free?) absorption detected in 3C84 is an important result and they will have more to present on this by the time of the meeting.

> Peter Wilkinson (review MERLIN latest) > e-mail: pnw@star.jb.man.ac.uk  
>  
> \*Anton Zensus (3C 345 curved trajectories and superluminal motion, review)  
> e-mail: azensus@nrao.edu  
>  
> John Conway (90 degree bends)  
> e-mail: jconway@nrao.edu  
>

Suggest either Wilkinson or Conway to review both MERLIN and 90 deg bends.

> D. Jauncey (Southern Hemisphere VLB)  
> e-mail: djauncey@atnf.csiro.au  
>

I would like to see Dave included in the program. He has been a pioneer in VLBI esp. in Australia.

> \*Tony Readhead (latest observations of small scale structure)  
> e-mail: acr@deimos.caltech.edu  
>

> 6. Environment  
>

> \*Jack Burns (cluster environment - wide angle tails)  
> e-mail: jburns@nmsu.edu  
>

A must

> Diana Worrall (combined radio and x-ray data re confinement)

> e-mail: dmw@cfa.harvard.edu

>

> Dan Harris (radio and x-ray data re confinement)

> e-mail: harris@cfa.harvard.edu

>

Either Worrall or Harris - inclined towards Worrall since she and Birkinshaw have been using ROSAT data on a fairly large number of sources.

>

Frazer Owen (FRI & FR II - radio source HR diagram) > e-mail: fowen@nrao.edu

>

One of the most important recent results. If Frazer cannot make it then Michael Ledlow

> Greg Taylor (Colossal RMs, dense media)

> e-mail: gbt@phobos.caltech.edu

>

Sure

> Mike Ledlow (optical of RGs in clusters)

> e-mail: ?????????????????????????????????????

>

Very solid. I am sure that he would have something v. useful to say.

>

> Possible additional topic & observers

>

>

> 7. Seyferts

>

> Andrew Wilson wilson@astro.umd.edu

> Gerald Cecil cecil@wrath.physics.unc.edu

> Mark Whittle dmw8f@virginia.edu

> Alan Roy aroy@atnf.csiro.au

>

Seyfert radio properties are becoming more and more important. My inclinations are to Whittle for a review, to Roy for a 15-20 presentation on the differences between 1s and 2s and to Cecil for a 15-20 on specific objects.

> >

> =====

> Potential Theoreticians (topics)

>

> \*Peter Scheuer (introduction - important questions and existing answers)

> e-mail: PAGS@phx.cam.ac.uk

>

Possibly better as a summary

>

> 1. Radiation from jets (radiation models)

>

>

> Mitchell C. Begelman (beaming and Compton scattering parsec-scale jets)

> U. of Colorado

> JILA

> Box 440

> Boulder, CO 80309

> USA

> phone: 303-492-7856

> fax: 303-492-5235

> e-mail: mitch@jila.colorado.edu  
>

A must

> \*Alan P. Marscher (comparison of obs. & theory parsec-scale jets)  
> Boston U.  
> Dept. of Astr.  
> 725 Commonwealth Ave.  
> Boston, MA 02215  
> USA  
> phone: 617-353-5029  
> fax: 617-353-5704  
> e-mail: marshcer@buast0.bu.edu  
>

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> phone: 44-772-893-565  
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>  
>

I think that an extra speaker is not warranted

> 2. Jet Acceleration & Collimation (dynamical models & simulation)  
>  
>

> \*Richard Lovelace (jet production and collimation, theory & simulation)  
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>

> ArieH Konigl (jet production and collimation)  
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> Chicago. IL 60637  
> USA  
> phone: 312-702-7968  
> fax:  
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>

> Max Camenzind (jet production, collimation, stability)  
> Landessternwarte

> Konigstuhl  
> D6900 Heidelberg 1  
> Germany  
> phone:  
> fax:  
> e-mail:  
>

> J. Contopoulos (magnetically driven jets and winds)  
> NASA/GSFC  
> Lab for High Energy Astrophysics  
> Greenbelt, MD 20771  
> USA  
> phone:  
> fax:  
> e-mail:  
>  
>

Camenzinds models are somewhat controversial. I am not familiar with Contopoulos's work

> 3. Relativistic Jets (dynamical models & simulation)  
>  
>  
> Philip Hughes (relativistic jet simulation with G. C. Duncan)  
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> USA  
> phone: 313-764-3430  
> fax:  
> e-mail: usergb5g@umichub.bitnet  
>  
> G. Comer Duncan (relativistic jet simulation with P. Hughes)  
> e-mail: gcd@riemann.bgsu.edu  
>

Should be either Hughes or Duncan but not both - inclined towards Hughes since I know him and he gives good talks.

> Jose Maia Marti (relativistic jets)  
> e-mail: ??????????????????????  
>  
>

> Ken Nishikawa (PIC codes just starting to look at rel jets)  
> U. Iowa  
> e-mail: ??????????????????????  
>

> Shinji Koide (zeus3-d jet through oblique magnetic field)  
> JAPAN  
> e-mail: ??????????????????????  
>

> Wolfgang Steffen (bending models & 3C345)  
> e-mail: p644wos@mpifr-bonn.mpg.de  
>  
>

Don't know any of the last 4

> 4. Jet Dynamics (models & simulation)

>  
>  
> Mark Birkinshaw (stability theory, jet confinement)  
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OK

> \*Geoff Bicknell (relationship between parsec & Kpc scales)  
> e-mail: bicknell@shapley.Colorado.EDU  
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>

> \*Philip Hardee (3D simulations of stability)  
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> David Clarke (3D propagating jet simulations, filaments in lobes, shock accel.)  
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> Canada  
> phone: 902-420-5830  
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>

> Jose Luis Gomez (simulations of bent jets)  
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> De Andalucia  
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> SPAIN  
> e-mail: jlg@iaa.es  
>

Since there will be so many presentations of simulations, then I suggest that a number of the talks could be confined to about 20 minutes, but that adequate video facilities be made available so that people can look at simulations during coffee breaks etc.

> Guidetta Toricelli-Ciamponi (MHD jet models equilibrium and stability)  
> Arcetri  
> Italy  
> e-mail: gtorricelli@arcetri.astro.it  
>

> Paola Pietrini (MHD jet models equilibrium and stability)  
> Arcetri  
> Italy  
> e-mail: ppietrini@arcetri.astro.it  
>

I find the work of the above 2 people rather strange.

> Massimo Villata (MHD equilibrium jet models)  
> Istituto di Fisica Generale dell'Universita  
> Via Pietro Giuria 1  
> I-10125 Torino  
> Italy  
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>  
> Gianluigi Bodo (stability and numerical simulation)  
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>

Don't know either Villata or Bodo

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> Sam Falle  
> e-mail: ??????????????????  
>  
> Vincent Icke (general jet dynamics)  
> Leiden  
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>

Prefer Falle of the above 3

> 5. Microphysics  
>  
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>  
> T. W. Jones (particle acceleration at shocks)  
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> John Kirk  
> Max Plank Institute



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> Germany  
> e-mail: ???????????????  
>

> Alan Heavens  
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>

Prefer Kirk and Jones of the above 4

> 6. Environment  
>  
> Chris Loken (jet propagation through interface into moving medium)  
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>

OK

> Dinshaw Balsara (parsec-scale environment)  
> NCSA  
> Beckman Institute  
>  
> e-mail: ???????????????  
>

If he is doing work continuing the Krolik Balsara models then that would be interesting.

> Theoreticians doing workshop summary reviews (Saturday  
afternoon) >  
> \*Mike Norman (for simulations)  
> Univ. of Illinois  
> Dept. of Astronomy  
> 1002 W. Green  
> Urbana, IL 61801  
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>  
>  
> =====

>  
>  
>  
>  
>

From root Sun Feb 12 17:28:04 1995  
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id AA05935; Sun, 12 Feb 95 17:28:01 EST  
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id AA06499; Sun, 12 Feb 1995 16:24:00 -0600  
Received: from venus.astr.ua.edu.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA03982; Sun, 12 Feb 95 16:25:40 CST  
Received: by venus.astr.ua.edu.ua.edu (4.1/SMI-4.1)  
id AA11913; Sun, 12 Feb 95 16:35:43 CST  
Message-Id: <9502122235.AA11913@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@NRAO.EDU  
Subject: workshop  
Date: Sun, 12 Feb 95 16:35:43 CST

Alan,

I have attached a list of all who have been invited to the meeting. An \* means that they have expressed interest in attending, a ? means that they have not responded, a u means that they are uncertain but probably will not be able to come, and an x means that they will not come.

I have not actually heard from Robert Laing but assume that he will speak on his core-sheath jet model. I will prompt him with this list shortly. Are there particular observers who have not yet responded who should receive special prompting or should I assume that they cannot come and go further down the list?

Philip

=====  
Observers (topics)

\*Ian W. A. Browne (flat spectrum radio galaxies, BL Lacs and unification)  
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?Tim Pearson (VLB complete surveys, symmetries, statistics)  
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?John Conway (90 degree bends)  
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xPatrick Leahy (cannot come sent Duncan Law-Green in his place)  
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\*Paul Wiita (general review on acceleration, dynamics and environment)  
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?John Kirk (particle acceleration at relativistic shocks)  
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?Gianluigi Bodo (stability and numerical simulation)  
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>From hardee Sun Feb 12 16:24:42 1995  
To: azensus@nrao.edu  
Subject: workshop  
Content-Length: 10193  
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Anton,

I have attached a list of all who have been invited to the meeting. An \* means that they have expressed interest in attending, a ? means that they have not responded, a u means that they are uncertain but probably will not be able to come, and an x means that they will not come.

I note that Tim Pearson has not yet responded. If I can make a suggestion - perhaps you or I should contact him personally and ask him if he would be willing to give a conference review. This would let you present your own

work. If not Tim do you have any suggestions?

I will invite Lobanov in the second round of invitations.

Philip

=====  
Observers (topics)

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Osservatorio Astronomico di Torino  
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Italy



From abridle Mon Feb 27 14:18:14 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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Message-Id: <9502271917.AA18759@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: rl@mail.ast.cam.ac.uk  
Subject: Workshop  
Date: Mon, 27 Feb 1995 14:17:49 -0500

Hi Robert,

Phil H. was just on the phone to me and mentioned that he had not actually heard from you re coming to the Alabama workshop.

Is it safe to presume that you will be there, and will you need \$ assistance?

Hope your mother is doing ok., Mary is recovering quite well from her second operation in January and may go back to work part-time next week.

A.

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From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@NRAO.EDU  
Date: Tue, 11 Apr 95 18:39:13 CDT

Alan,

I would like to get together with you, Robert Laing, Anton Zensus and Mike Norman during the Cyg A workshop at GreenBank to come up with a preliminary scientific program for the september workshop. I do not know which evening would be best.

Phil

From root Mon Apr 17 15:19:59 1995  
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Message-Id: <9504171916.AA04035@venus.astr.ua.edu.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: September Workshop  
Date: Mon, 17 Apr 95 14:16:49 CDT

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

=====

At the present time 54 people have indicated an interest in attending the workshop. A list of names along with a potential title or topic as indicated on the preliminary registration form is included below. Please forgive me if the the meaning has been changed by shortening the titles or topics to fit one line. There are about 5 additional spaces available.

Formal registration will begin in late May or early June with a mid-July deadline. At that time it will be necessary to provide an abstract of your presentation, whether you would prefer oral or poster, and a check for the registration fee.

It appears that the workshop will be able to provide some level of travel support for those who have indicated a need for support. I would ask that all those who have asked for support contact P. Hardee to arrange the level of support required. Registration fee (\$200), Hotel (\$500), and an estimate of roundtrip airfare is required if support for airfare is needed. Air travel can be to Birmingham, Alabama which is a 1 hour drive from Tuscaloosa and is served by all major domestic airlines. Tuscaloosa is served by a commuter airline linked to American Airlines through Nashville, Tennessee.

=====

Scientific Organizing Committee:

Geoff Bicknell ( geoff@mso.anu.edu.au )  
Alan Bridle ( abridle@nrao.edu )  
Jack Burns ( jburns@nmsu.edu )  
Philip Hardee ( hardee@venus.astr.ua.edu )

Robert Laing ( rl@mail.ast.cam.ac.uk )  
Alan Marscher ( marscher@buast0.bu.edu )  
Michael Norman ( norman@ncsa.uiuc.edu )  
Peter Scheuer ( pags@mrao.cam.ac.uk )  
Anton Zensus ( azensus@nrao.edu )

Workshop Schedule: Arrive Monday September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday afternoon September 23, 1995  
or Sunday September 24, 1995

Workshop Location: Capstone Sheraton and adjacent conference center on  
The University of Alabama campus, Tuscaloosa , Alabama, USA

Rooms: The Capstone Sheraton (est. \$85/night US)

Registration fee: To cover board and conference proceedings ( \$200 US )

Meals: Continental fare at conference center each morning (Tues. - Sat.)  
coffee, tea, sodas provided all day (Tues. - Sat.)  
Buffet lunch (Tues. - Sat.)  
Catered Reception Tuesday at Natural History Museum  
Buffet dinner (Wed., Thurs., Fri.)  
Saturday dinner not included

Transportation: By air to Tuscaloosa (served by American Eagle from Nashville)  
(Sheraton van pickup at Tuscaloosa airport)

By air to Birmingham (all major airlines - car rental necessary  
one hour drive to Tuscaloosa)

=====  
Participant List and Topic  
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Appl, Stefan - Misalignments in Radio Sources or MHD Jet Models  
Baum, Steffi - Understanding the FRI - FR II Dichotomy  
Bicknell, Geoff - Jet Deceleration, BL Lacs & the FR Classification  
Biretta, John - The Velocity Field of the M87 Jet  
Birkinshaw, Mark - SPH Simulations of Propagating Jets in  
Stratified Atmospheres  
Bodo, Gianluigi - Jet dynamics, Stability & Morphology: High Mach # Entrainment  
Bridle, Alan - Review of Observational Developments at Kpc Scales  
Browne, Ian - Flat Spectrum RGs, BL Lacs & Unification  
Burns, Jack - An Environmental Impact Statement for Radio Galaxies  
Carilli, Chris - Jets in Cygnus A from Parsec to Kiloparsec Scales  
Cawthorne, Tim - Polarization & Curvature in Parsec Scale Jets  
Clarke, David - 3D Propagating Jets: Examining the "Standard Model"  
Contopoulos, John - Magnetohydrodynamic Jet Acceleration & Collimation  
DeYoung, David - Boundary Layer Physics & Large Scale Entrainment  
Duncan, Comer - Simulations of Relativistic Jets: A Variable Equation of State  
Duffy, Peter - Particle transport & Acceleration in Braided Magnetic Fields  
Eilek, Jean - The Physics of Type I Sources  
Gomez, Jose - Synchrotron Radiation from Relativistic Jets  
Hardee, Philip - Entrainment, Deceleration and Structure in MHD Jets  
Hooda, Jagbir - Numerical Simulations of Jets  
Hough, David - Relativistic Motion in Lobe Dominated Quasars  
Hughes, Philip - Relativistic Simulations of Extragalactic Jets  
Jones, Paul - FRI jets using the ATCA & Bicknell's Models  
Koide, Shinji - 3D Propagating Jet Simulation across a Magnetic Field & BL Lacs

Laing, Robert - Decelerating Jets  
Law-Green, J. Duncan - MERLIN Imaging of Radio Sources at  $z > 1.8$   
Ledlow, Michael - Optical Properties of RGs & the FRI - FR II Division  
Lloyd, Ben - Observations of Large Scale Jets in Southern Radio Galaxies  
Lobanov, Andrew - Physics of the Parsec-Scale Regions in 3C345  
Loken, Chris - Jet Transition from Laminar to Turbulent Flow  
Lovell, Dick - VLBI Jet Formation & Gamma Ray Emission from AGNs  
Marscher, Alan - The Inner Jet of Quasars & BL Lacs  
Marti, Jose - Morphology & Dynamics of Relativistic Jets  
Norman, Mike - Review Numerical Developments: Jet Dynamics  
O'Dea, Chris - Compact Steep Spectrum Radio Sources  
Owen, Frazer - Radio Source Interaction with the Cluster Environment  
Parma, Paola - FRI Radio Sources  
Perley, Rick - Polarization of Cygnus A  
Pearson, Tim - Review of Observational Developments at Parsec Scales  
Qian, S. - Evolution of Superluminal Knots & Blazar Radio to Optical Outbursts  
Readhead, Tony - Hot Spot Advance Speeds in Small Jet Sources  
Rudnick, Lawrence - Re-thinking the Spectral Analysis of Radio Sources  
de Ruiter, Hans - FRI Radio Galaxies  
Scheuer, Peter - Introduction: Past Progress & Future Directions  
Steffen, Wolfgang - Shocks & Associated Radio & Optical Emission in Seyferts  
Taylor, Greg - Twin-Sided pc-Scale Jets in Compact Symmetric Objects  
Urry, Meg - Unification of Radio-Loud AGN  
Vermeulen, Rene - Superluminal Sources: Have We Found Them All?  
Walker, Craig - VLBA Observations of 3C84 and 3C120  
Wardle, John - Magnetic Fields, Shocks & Faraday Rotation on MAS Scales  
Wilson, Andrew - Galaxy Mergers & the Origin of Radio Galaxies  
Wiita, Paul - Review Theoretical Developments: Collimation, Dynamics, Emission  
Worrall, Diana - X-ray Emission & Thermal Environment of Nearby RGs  
Zensus, Anton - TBD

=====

From abridle Fri May 5 15:48:43 1995

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References: <9504171916.AA04035@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: September Workshop  
Date: Fri, 5 May 1995 15:48:40 -0400

Hi Phil,

I had a chat with Mark Swain again today and I think it is much more likely (than before) that he could come to our workshop. But if he does he will not be in a position to have his expenses covered. (In fact, I think he may still be working on writing up his thesis then, but his NRAO stipend ends in June and he will be running on funds from Rochester). He could give a paper (oral or poster) on the structures and collimation of the jet in 3C353 (well resolved, FR 1.5+) and on the filaments (spectra, polarimetry, filling factor etc). He might prefer a poster, in fact. I could bring him by car but he

would need full hotel support (and/or a real cheap hotel). What would the chances be to pay him from the conference pot? I will definitely not need any travel support myself, I checked my budget and I'll be fine with no \$\$ from you. But i can't divert any of that budget to Mark.

I've also been thinking a bit more about what we said about my doing an "early" review at the meeting rather than an "ending" one. I'm not too worried about having two theoretical reviewers for the final day. Paul Wiita did a good job of relating to the data when he reviewed the Green Bank jets meeting, and Roger's review at the end of the Cyg A meeting was also a good example of how a theorist can summarize a lot of different observations quite elegantly. Whereas I think the observers are generally not so good at summarising the theoretical side -- there is an asymmetry here!

Anyway you can think it over, I'm willing to do either sort of review provided we decide by mid-summer which sort it will be. (I'd need some time to prepare the "early" one!).

Was good to see you again in GB. Toni is suitably apologetic for standing us up.

Cheers, A.

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From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: September Workshop
Date: Tue, 9 May 95 15:16:25 CDT
```

Alan,

I have sent out new invitations to Blandford (for his student), Roeser, Krickbaum, and Christiansen. I also resent invitations to Meisenheimer and Roland. Mark Swain should e-mail me with a potential contribution and a request for funds. I may know more about the state of the travel fund by the end of this week. I would hope to be able to support him. Perhaps he could share a room with another student.

Roger's review at the end of the Cyg A meeting was superb but we have no Roger for this one. I do not have a strong opinion as to how the reviews are done. My original thinking had been to arrange it so a reviewer would not have to

cover everything - although Paul Wiita could probably do a pretty good job. I guess we just need to keep thinking about this. Mike Norman can only do a good job on the numerical simulations and I had thought that he might review plus address the issue of the proper role of numerical simulations in the context of jet collimation, acceleration, radiation and dynamics.

I have now received a response from Adam Black from Cambridge. He will recommend our proposal to the board on May 19 and I will probably get a formal yes shortly thereafter. It seems that threatening them with ASP has had the desired result. I should hear from ASP within 2 weeks. We are likely to have a choice as to publisher and can discuss the best choice the last week in May. I include the message from Adam Black for you reading pleasure.

Finally, do you have a date for your passage through T'town on the way back to C'ville? I need to put this on my calendar.

Phil

=====  
From ablack@cup.cam.ac.uk Thu May 4 12:27:35 1995  
Date: Thu, 4 May 95 17:47:07 +0000  
From: ablack <ablack@cup.cam.ac.uk>  
To: hardee@venus.astr.ua.edu  
Subject: reports at last...  
Content-Type: TEXT/plain; charset=US-ASCII  
Content-Length: 6884

Dear Phil

I have been chasing the referees and series editors by 'phone, fax and email for their reports in order to come back to you with news. I am delighted to say that the referees are very supportive of your book and the series editors warmly endorse it for the Cambridge Contemporary Astrophysics series. I thought you may like to see these reports, and so I am copying them to you after this message.

This means that I am in a position to make a recommendation of publication to my board of governors, at their next meeting on May 19. Given the endorsement of the series editors and the support of the referees reports, I would expect them to offer a contract.

Do let me know that you receive this message and that the above is satisfactory.

Best regards, Adam.

Dr Adam R. S. Black  
Editor (Physical Sciences), CAMBRIDGE UNIVERSITY PRESS  
The Edinburgh Bldg, Shaftesbury Rd, Cambridge CB2 2RU, UK  
Tel. (direct): +44 (0)1223 325766 Fax: +44 (0)1223 315052  
Internet: ablack@cup.cam.ac.uk

\*\*\*reports\*\*\*

Referee A:  
eml in: Tue, 21 Mar 95 12:11:39 GMT

Dear Adam,

The workshop the proceedings of which are proposed for publication will take

place in September 1995. Therefore this assessment is based on the proposed contributions, the scientific importance of the participants and my knowledge of the editors in charge.

As an organizer (and proceedings editor) of a similar but smaller workshop in 1991 (Jets in Extragalactic Radio Sources) I strongly support the view of the workshop organizers that time is ripe to collect and critically examine the progress of the last four years. During this period three major observing facilities became fully operational which have jets among their main targets: The X-ray satellite ROSAT, the Hubble Space Telescope, and the Very Large Baseline Array (VLBA) in the US. So there are plenty of new observations. Unexpectedly, the Compton Gamma Ray Observatory has detected many of the Quasars with compact jets, adding a new -- yet not fully understood -- flavour to the subject. From the provisional list of speakers it is clear that many of these new observations will be presented at the workshop.

More importantly, however, the workshop is aimed at a better astrophysical understanding of the processes which drive the jets. A good fraction of the pundits in this field have already agreed to come and I expect more to follow the lead.

There will be three other workshops/conferences on related subjects in 1995: A workshop on Cygnus A (NRAO Greenbank, May), a workshop on jets (Bad Honnef, July), and the IAU symposium on "extragalactic radio sources" (Bologna, October). This again proves the timeliness of the workshop. I think that both the relative late date and the selection of speakers make it likely that the most important astrophysical discussions will be held in Tuscaloosa. Thus the proceedings will provide the best reference for the astrophysics of jets, as in 1995.

Last not least, I regard it as guaranteed that the workshop proceedings of "Energy Transport in Radio Galaxies and Quasars" will find an audience well beyond insiders and libraries because two of the editors (Alan Bridle and Tony Zensus) have previously demonstrated how to turn mere workshop proceedings into proper books which I happily give to undergraduates. The proceedings of "Superluminal Radio Sources" (eds. Zensus & Pearson) to me still stands as the best proceedings book I ever came across.

Referee B

eml in: Mon, 1 May 1995 22:08:01 +0100 (BST)

Dear Adam

It is, as the authors state, over 10 years since the last conference explicitly addressing this topic of jets in extragalactic radio sources. The proceedings were published 'in house' by NRAO. After a rather fallow period in the late 1980's and early 1990's it seems to me that the subject is coming alive again. This renaissance is based on a broad range of new observational results from radio interferometers to satellites (especially the Compton GRO---it is now clear that there is a very strong correlation between powerful gamma ray emission and superluminal motion, suggesting that the gamma rays are associated with a relativistically beamed jet). In addition there are now a plethora of more realistic numerical simulations made possible by faster computers. I therefore agree with the 'statement' in the proceeding proposal that the meeting is timely.

The organising committee comprises leading workers in the field, of high standing in the astronomical community. They have, in turn, identified virtually all of the leading specialist observers and theorists and assuming

that the majority accept the invitation to contribute, it should be an important conference for the radioastronomical community in particular and the astrophysical community in general. Energy transport in jets is certainly an umbrella under which many astrophysical phenomena can be gathered -- as witness the list of topics for talks.

I have no doubt of the named editors ability to produce a successful proceedings. I am sure that all astronomical libraries will purchase copies and quite a few private copies will be bought as well. This book is likely to be the definitive one on the topic for probably 5 years i.e. into the next century.

I recommend that CUP publishes these proceedings.

Yours sincerely

Reports from relevant series editors

Series editor 1

eml in: Thu, 4 May 1995 10:06:45 +0100 (BST)

Hi Adam,

I have had a quick look at the Hardee proposal. I am very favourably impressed. The subject is ripe for another review, the listed speakers are the authorities in the field, and both referees expect healthy sales. Following on from our conversation yesterday, this IS a meeting where the non-review topics and speakers are of sufficient quality for CCAS. It is important that this excellence is not diluted. The current 38 speakers identified in the proposal are our limit I think: we should resist any proposal to publish the poster papers for example. Provided we stick to the current list of speakers, I am extremely happy with the proposal.

Best wishes, YYY

Series editor 2

eml in: Thu, 4 May 95 10:32:20 CST

Dear Adam,

I got the proposal and referees' reports for "Energy Transport in Radio Galaxies and QSOs" by fax. Thanks.

My reaction is very positive. This proposal has a well focused aim: a critical review of the work done on the last years. The speakers are leading experts on their fields, and there is a fair balance among observationally and theoretically oriented talks.

Thus, the topic, the aim, the balance, the speakers, and the timing are within the guidelines defined for the CCA series, and I certainly endorse the proposal.

Best wishes, XXX

PS Another positive point is that the editors are fully aware that they are responsible for maintaining high standards and the quality of the volume.

\*\*\*end of reports\*\*\*



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marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu,  
rl@mail.ast.cam.ac.uk, PAGES@phx.cam.ac.uk, pags@mrao.cam.ac.uk  
Subject: choice of conference proceedings publisher  
Date: Wed, 24 May 95 15:46:05 CDT

MEMORANDUM

May 24, 1995

To all SOC members:

Re: September workshop proceedings publisher

From: Philip Hardee

Both the ASP and Cambridge would like to publish the proceedings from our workshop and there are significant differences in length, content and cost between the two publishers. ASP will publish all contributions if that is our desire and gives us full control over the content. I might imagine 8 - 10 pages for a review presentation and 4 - 6 pages for an oral or a poster presentation and a volume of up to 400 pages if 60 attended the workshop with all attendees providing a contribution to the proceedings if they so desired. The cost for ASP is \$36/vol + shipping (\$4.50 US; \$15.00 elsewhere). This might come to a cost of  $< 60 \times \$45 < \$2700$  which would be covered in part by registration fees and in part by the conference budget. Cambridge does not wish to publish all contributions but would prefer 35 or so articles of longer length for a volume of about 350 pages. This would require a choice as to whose presentation would be in the proceedings and not all attendees would be able to contribute if more than 40 attend (very likely). Adam Black at Cambridge stressed that they did not want short contributions (poster papers he called them). The cost for Cambridge is a minimum of  $100 \text{ volumes} \times \$39 = \$3900$  and a larger part would have to be covered by the conference budget reducing the travel support budget. The cost of the proceedings to non-attendees would be \$60/vol.

There are two issues here one scientific and one financial. I would be very interested in your comments on the choice of publisher.

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References: <9505242046.AA11372@venus.astr.ua.edu.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: choice of conference proceedings publisher  
Date: Sun, 4 Jun 1995 10:55:15 -0400

Hi Phil,

I think you know my vote already but just to recall it's ASP.

I am now in Socorro, will check my E-mail regularly. I am  
"floating" re offices this week, but that will not make much  
difference re contacting me as I will be at the Summer School  
each day essentially all day. I'll have a "permanent" office  
the following week, but don't know which one it will be yet;  
will send you phone number once I know.

Cheers, A.

From root Fri Jun 9 15:05:51 1995  
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From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: september workshop registration  
Date: Fri, 9 Jun 95 14:00:01 CDT

REGISTRATION FOR ENERGY TRANSPORT IN RADIO GALAXIES & QUASARS

It is now time to begin formal registration for the September workshop on Energy Transport in Radio Sources & Quasars. Included with this e-mailing are two documents. The first contains all necessary information and forms for registration and abstract (tex). The second postscript document is the hotel registration form. It is preferred that the abstract form be returned electronically. I suggest returning the registration form with the hotel form by regular mail as I have been experiencing some e-mail difficulties in the past several weeks. Do not send the hotel form to the hotel.

Please adhere to the July 10 deadline in order to hold your place. There is a waiting list and a place for you will not be held past July 11.

This e-mailing will be followed by a regular postal mailing of all required forms on Monday June 12.

Philip Hardee

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Information, Registration Form and Abstract Form cut here  
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\centerline{Sponsored by: The National Science  
Foundation through an EPSCoR Grant}
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\centerline{\medium Location: Bryant Conference Center, University of Alabama,  
Tuscaloosa, Alabama}
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\centerline{\medium Dates: September 19 - September 23, 1995}
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This workshop is intended to be a forum for discussing the status of our understanding of highly collimated outflows. The workshop will focus on the most recent observational and theoretical work on the collimation, dynamics and emission from the jets in radio galaxies and quasars, and on the relationship between activity, morphology, and the environment. The workshop should provide an excellent opportunity for theorists and observers to get together to discuss progress and set new directions for research on active extragalactic objects.

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{\bf Topics Include:}
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Jet Acceleration and Collimation &
Radiation from Relativistic Jets &
Relativistic Jet Dynamics \cr
Jet Stability and Morphology &
Jet Microphysics &
Unification and Environment \cr
VLB Radio Sources &
FRI Type Radio Sources &
FRII Type Radio Sources \cr
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{\bf Location:} Tuscaloosa is a city of 80,000 people in western
Alabama. The city stands on a bluff on the Black Warrior River, is named after an
Indian chief, and has been the home of
the University of Alabama since 1831. Separate campuses have been established at
Birmingham and Huntsville in addition to the traditional residential liberal arts
campus located in Tuscaloosa. About 20,000 students are enrolled at the Tuscaloosa
campus.
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{\bf Workshop Format:} The workshop will consist of various invited
longer reviews, shorter talks and posters. The first
presentations will be made on Tuesday morning, September 19.
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{\bf Preliminary List of Confirmed Participants:} S. Baum, G. Bicknell, J. Biretta,
A. Bridle, J. Burns, T. Cawthorne, D. Clarke, J. Contopoulos, C. Duncan, M.
Georganopoulos, J. Gomez, P. Hardee, J. Hooda, P. Hughes, P. Jones, R. Laing, S.
Koide, S. Komissarov, M. Ledlow, B. Lloyd, C. Loken, R. Lovelace, A. Marscher, J.
Marti, M. Norman, C. O'Dea, P. Parma, T. Pearson, S. Qian, T. Readhead, H. de
Ruiter, L. Rudnick, P. Scheuer, W. Steffen, M. Swain, G. Taylor, S. Tingay, R.
Vermeulen, J. Wardle, P. Wiita, A. Wilson, A. Zensus.
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\medskip
{\bf Scientific Organizing Committee:} G. Bicknell (MSSSO, Australia), A. Bridle
(NRAO, USA), J. Burns (NMSU, USA), R. Laing (RGO, UK), A. Marscher (Boston U.,
USA), M. Norman (U. Illinois, USA), P. Scheuer (MRAO, UK), A. Zensus (NRAO, USA),
P. Hardee (U. Alabama, USA and SOC Chairman).
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\medskip
{\bf Local Organizing Committee:} P. Hardee, A. Rosen.
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\medskip
{\bf Contact address for further information:} P. Hardee, Department of
Physics and Astronomy, Box 870324, University of Alabama, Tuscaloosa,
AL 35487-0324, USA;
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Internet address: hardee@venus.astr.ua.edu;
Phone: +1 (205) 348-5050;
Fax: +1 (205) 348-5051
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\medskip  
{\bf Meeting Proceedings:} The proceedings will be edited by P. Hardee, A. Bridle, and A. Zensus and will be published in the ASP conference series.

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{\bf Registration \& Lodging Information:} A block of rooms has been reserved at a special rate for program attendees at the Sheraton Capstone Inn, adjacent to the Bryant Conference Center. The group rate is \ \$US 75 for a single or a double room. The lodging tax will add \ \$US 7.50 to this rate. {\bf Rooms should be reserved using the hotel reservation form which should be returned to Jet Workshop c/o Amy Aitken, Department of Physics \& Astronomy, University of Alabama, Box 870324, Tuscaloosa, AL 35487-0324, USA along with your registration and abstract forms by July 10, 1995. After July 10 your place will be released to those on the waiting list.}

\medskip  
{\bf Registration Fee:} The registration fee for the meeting will be \ \$US 200 and must be received by August 15, 1995. We regret that we are unable to accept credit cards, so we request the participants to send checks or money orders (in \ \$US dollars, payable to the University of Alabama). Included in the registration fee are the cost of morning continental breakfasts, all lunches, Tue, Wed, Thu, Fri dinners, and the conference proceedings.

\medskip  
{\bf Special Events:} There will be a reception that will also serve as the evening meal on Tuesday, September 19 (the first formal meeting day), for meeting attendees and guests. It will be held in the Exhibit Hall of the Alabama Museum of Natural History, located in historic Smith Hall on the University of Alabama campus. An outdoor barbeque at Moundville Archeological Park will be held on Thursday, September 21. Moundville is an archeological site and museum which chronicles a prehistoric Indian civilization that once lived on the site. It is located 12 miles from Tuscaloosa.

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{\bf Weather:} Mid-September is still summer in Alabama with typical daytime temperatures of 80-86F (26-30C).

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{\bf Travel to Tuscaloosa:}

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{\bf By Car:} Tuscaloosa can be reached by car via Interstate 20/59 from the west or east, or via Interstate 65 onto 20/59 from the north or south. If you are driving from the direction of Atlanta, take the bypass, Interstate 459, south of Birmingham, and then connect to 20/59 after driving some 20 miles. Stay on 20/59 south until you reach Exit 73 (main MacFarland Blvd exit). Turn right off the exit ramp onto MacFarland Blvd. Stay on this road approximately 3 miles until you reach the University Blvd exit. Take this exit and turn right on University Blvd and immediately move to the left lane. The second stoplight is where Paul Bryant Drive will fork to the left off of University Blvd. Go left onto Bryant Drive for about 1/2 mile. The Sheraton Capstone Inn will be on the right, one block before the corner of Bryant Drive and Hackberry Lane (the next stoplight).

\medskip

{\bf By Air:} Although Tuscaloosa has an airport, it is currently being served only twice daily by 20-passenger American Eagle commuter propjets from the American Airlines Nashville hub. American Airlines is in the process of reducing flights to its Nashville hub, and there is a strong possibility that service to Tuscaloosa will be discontinued before the workshop in September.

It is recommended that you book your flights into Birmingham, whose airport is 62 miles (\$\approx\$ 1 hour's drive) to the northeast of Tuscaloosa. Birmingham is serviced by American, Delta, Northwest, USAir, United, Southwest, TWA, American Eagle, and Commair. Another option is to fly into Atlanta. However, the Atlanta airport is about 200 miles from Tuscaloosa and a rental car would be essential for the 3.5 hour drive.

\medskip

{\bf Car Rental:} Birmingham Airport offers a wide selection of car rentals. Rates vary depending on days of rental and car size. Car rental reservations may be made through All Seasons Travel at 1-800-343-5384. To get to the Sheraton Capstone Inn from the Birmingham Airport by car, leave the airport area and continue about 1 mile. Take the Tuscaloosa exit onto Interstate 20/59 and stay on this interstate until you reach exit 73. Then follow instructions as above.

\medskip

{\bf Conference Shuttle:} The Sheraton Capstone Inn operates a shuttle service from the Tuscaloosa airport to the Inn. However, there is no regularly-scheduled commercial shuttle service from Birmingham to Tuscaloosa. If there is sufficient demand the workshop will consider arranging a Conference Shuttle that will transport attendees who fly into Birmingham. It is imperative that attendees indicate their interest in a Conference Shuttle, and provide their arrival and departure times on the registration form.

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\centerline{Sponsored by: The National Science  
Foundation through an EPSCoR Grant}

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\centerline{Bryant Conference Center, University of Alabama,  
Tuscaloosa, Alabama, USA}

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\centerline{19 September - 23 September, 1995}

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\centerline{\medium REGISTRATION FORM}

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\centerline{\medium Deadline July 10, 1995}

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LAST NAME:

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FIRST NAME AND MIDDLE INITIAL:

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INSTITUTE:

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ADDRESS:

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E-MAIL ADDRESS:

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PHONE NUMBER:

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FAX:

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Please check one of the following (Note that there will not be sufficient time for oral contributions by all attendees. Oral contributions other than review talks will be of  $\approx$  20 minutes duration. If too few volunteer for poster presentations, poster presentations will be assigned by the SOC):

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\$\bigcirc\$ -- I wish an oral presentation  
\$\bigcirc\$ -- I wish a poster presentation  
\$\bigcirc\$ -- Either an oral or poster presentation is acceptable

\bigskip  
Registration Fee: \US 200 before August 15, 1995 \dotfill

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\$\bigcirc\$ -- enclosed with this form  
\$\bigcirc\$ -- to be sent later

\medskip  
Payment must be made in the form of check or money order (in US dollars, payable to the University of Alabama), and sent to Jet Workshop, c/o Amy Aitken, Department of Physics and Astronomy, University of Alabama, Box 870324, Tuscaloosa, AL, 35487.

\bigskip  
It is possible to arrange an extra night at the hotel to get reasonable overseas airfare. Will you need to stay the night of Sunday September 17 (yes/no) or Sunday September 24 (yes/no).

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Will you use a conference shuttle from Birmingham, if available? \dotfill yes/no  
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Please specify flight information, arrival time and date  
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Please type here a title, authors, affiliation, and abstract of your presentation, or send the abstract separately by e-mail (preferred), fax, or regular mail by {\bf July 10, 1995}:

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TITLE:

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\noindent

AUTHORS AND AFFILIATIONS:

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ABSTRACT:

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If using regular mail, please return the completed forms to:

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Jet Workshop

c/o Amy Aitken

Department of Physics and Astronomy

Box 870324

University of Alabama

Tuscaloosa, AL 35487-0324, USA

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If using e-mail or fax, return the forms to P. Hardee at

\medskip

\halign{#\hfill & #\hfill \cr

Internet address: & hardee@venus.astr.ua.edu \cr

Fax: & +1 (205) 348-5051 \cr

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\bye

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Postscript Hotel Form cut here  
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%%Creator: fig2dev

%%CreationDate: Thu Jan 19 14:37:29 1995

%%For: crock@kudzu (Deborah A. Crocker)

%%Modified: Tue Jun 6 1995 by P. Hardee

%%BoundingBox: 107 62 505 730

%%Pages: 1



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/m {moveto} bind def
/s {stroke} bind def
/n {newpath} bind def
/gs {gsave} bind def
/gr {grestore} bind def
/clp {closepath} bind def
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4 -2 roll mul setrgbcolor} bind def
/col-1 {} def
/col0 {0 0 0 setrgbcolor} bind def
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/col5 {1 0 1 setrgbcolor} bind def
/col6 {1 1 0 setrgbcolor} bind def
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% Polyline
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n 484 259 m 704 259 l gs col-1 s gr
% Polyline
n 699 259 m 689 259 l gs col-1 s gr
% Polyline
n 489 279 m 699 279 l gs col-1 s gr
% Polyline
n 399 299 m 699 299 l gs col-1 s gr
% Polyline
n 379 179 m 379 319 l gs col-1 s gr

```

```

% Polyline
n 759 179 m 759 319 l gs col-1 s gr
% Polyline
n 139 99 m 719 99 l gs col-1 s gr
% Polyline
n 419 379 m 719 379 l gs col-1 s gr
% Interpolated spline
n 714 179 m
    721.500 179.000 724.000 179.000 724 179 curveto
    724.000 179.000 714.000 179.000 714 179 curveto
    714.000 179.000 725.250 179.000 759 179 curveto
gs col-1 s gr
% Interpolated spline
n 379 319 m
    599.074 319.000 694.074 319.000 759 319 curveto
    759.000 319.000 759.000 319.000 759 319 curveto
gs col-1 s gr
% Interpolated spline
n 379 184 m
    377.969 181.281 377.969 180.031 379 179 curveto
    379.000 179.000 379.000 179.000 379 179 curveto
gs col-1 s gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 214 m
gs 1 -1 scale (Name:) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
99 214 m
gs 1 -1 scale (Last) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
219 214 m
gs 1 -1 scale (First) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
319 214 m
gs 1 -1 scale (M.I.) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 254 m
gs 1 -1 scale (ADDRESS:) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
179 254 m
gs 1 -1 scale (Street) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 294 m
gs 1 -1 scale (City) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
219 294 m
gs 1 -1 scale (State) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
299 294 m
gs 1 -1 scale (Zip) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 334 m
gs 1 -1 scale (TELEPHONE NUMBER) col-1 show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
239 139 m
gs 1 -1 scale (RESERVATION REQUEST) dup stringwidth pop 2 div neg 0 rmoveto col-1
show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
239 159 m
gs 1 -1 scale (\(205\) 348-5052) dup stringwidth pop 2 div neg 0 rmoveto col-1

```

```
show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 374 m
gs 1 -1 scale (ARRIVAL DATE) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
359 374 m
gs 1 -1 scale (DEPARTURE DATE) dup stringwidth pop neg 0 rmoveto col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
359 414 m
gs 1 -1 scale (EXP. DATE) dup stringwidth pop neg 0 rmoveto col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 414 m
gs 1 -1 scale (CREDIT CARD NO.) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 439 m
gs 1 -1 scale (RESERVATIONS) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
39 457 m
gs 1 -1 scale (MUST BE RECEIVED BY: July 10, 1995) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
379 119 m
gs 1 -1 scale (To guarantee the room for late arrival \ (after 4:00 pm\)) col-1 show
gr
/Helvetica-Bold findfont 12.00 scalefont setfont
379 139 m
gs 1 -1 scale (please supply the requested credit card information or you) col-1
show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
379 157 m
gs 1 -1 scale (may guarantee by payment of 1st night's rate) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
399 219 m
gs 1 -1 scale (Single:) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
399 239 m
gs 1 -1 scale (Double \ (2 persons\)) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
399 259 m
gs 1 -1 scale (Sharing with:) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
709 259 m
gs 1 -1 scale (\ (name\)) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
399 279 m
gs 1 -1 scale (Add'l Persons:) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
709 279 m
gs 1 -1 scale (\ (name\)) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
709 299 m
gs 1 -1 scale (\ (name\)) col-1 show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
129 84 m
gs 1 -1 scale (GROUP) dup stringwidth pop neg 0 rmoveto col-1 show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
129 104 m
gs 1 -1 scale (NAME:) dup stringwidth pop neg 0 rmoveto col-1 show gr
/Helvetica-Bold findfont 16.00 scalefont setfont
179 94 m
```

```

gs 1 -1 scale (ENERGY TRANSPORT IN RADIO GALAXIES & QUASARS) col-1 show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
549 214 m
gs 1 -1 scale ($75.00) col-1 show gr
/Helvetica-Bold findfont 14.00 scalefont setfont
554 234 m
gs 1 -1 scale ($75.00) col-1 show gr
/Helvetica-Bold findfont 12.00 scalefont setfont
559 349 m
gs 1 -1 scale (SPECIAL REQUESTS:) dup stringwidth pop 2 div neg 0 rmoveto col-1
show gr
/Helvetica-BoldOblique findfont 12.00 scalefont setfont
379 175 m
gs
  1 -1 scale (Check-In Time: 3:00 pm - Check-Out Time: 12:00 pm) col-1 show gr
/Helvetica-Bold findfont 10.00 scalefont setfont
399 454 m
gs 1 -1 scale (and under the same management.) col-1 show gr
/Helvetica-Bold findfont 10.00 scalefont setfont
399 439 m
gs 1 -1 scale (The Sheraton Capstone Inn is adjacent to the Bryant Conference
Center) col-1 show gr
/Helvetica-BoldOblique findfont 10.00 scalefont setfont
559 419 m
gs 1 -1 scale (All Rates Subject to Lodging Tax) dup stringwidth pop 2 div neg 0
rmoveto col-1 show gr
/Helvetica-Bold findfont 20.00 scalefont setfont
359 39 m
gs 1 -1 scale (The Sheraton Capstone Inn and Bryant Conference Center) dup
stringwidth pop 2 div neg 0 rmoveto col-1 show gr
/Helvetica-Bold findfont 11.00 scalefont setfont
359 54 m
gs 1 -1 scale (320 Paul Bryant Drive : Tuscaloosa, AL 35401 : \ (205\ ) 752-3200 : \
(800\ ) 477-2262 : FAX \ (205\ ) 759-9314) dup stringwidth pop 2 div neg 0 rmoveto
col-1 show gr
showpage
$F2psEnd

```

```

From abridle Tue Jun 13 14:51:49 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]
  ["277" "Tue" "13" "June" "1995" "14:51:47" "-0400" "Alan Bridle" "abridle"
nil "10" "Re: september workshop registration" "^From:" nil nil "6" nil nil nil
nil]
  nil)

```

```

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
      id AA59687; Tue, 13 Jun 1995 14:51:47 -0400
Message-Id: <9506131851.AA59687@polaris.cv.nrao.edu>
In-Reply-To: <9506091900.AA01576@venus.astr.ua.edu.astr.ua.edu>
References: <9506091900.AA01576@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: september workshop registration
Date: Tue, 13 Jun 1995 14:51:47 -0400

```

Hi Phil,

I tried several times to reply to this message but the mail was rejected saying "service not available" This is just an

attempt to get through again and to wonder if you knew there was some problem with your gateway.

My office phone in AOC is now 505-835-7244.

A.

```
From root Fri Jun 16 10:09:58 1995
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["873" "Fri" "16" "June" "1995" "09:21:07" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>"
"21" "workshop cancellations etc." "^From:" nil nil "6" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA50198; Fri, 16 Jun 1995 10:09:57 -0400
Received: from nsl.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)
  id AA18739; Fri, 16 Jun 95 10:09:56 EDT
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA11062; Fri, 16 Jun 1995 08:58:19 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA08437; Fri, 16 Jun 95 09:07:39 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA04154; Fri, 16 Jun 95 09:21:07 CDT
Message-Id: <9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@NRAO.EDU
Subject: workshop cancellations etc.
Date: Fri, 16 Jun 95 09:21:07 CDT
```

Alan,

Andrew Wilson will only be able to attend the first two days of the workshop and asks if that will be OK. He wishes to make a presentation - What turns radio galaxies on. I assume that we can schedule him appropriately?

I have sent Ruth Daly at Princeton an invitation and appropriate forms for the workshop. She heard about the workshop at GB and I see no reason not to invite her as we will have sufficient space. I am still uncertain about her students. Any comments?

Paula Parma and Hans de Ruiten will not be coming to the workshop.

Did you ever contact Colin Lonsdale to find why we never heard from him?

You might talk to Rick Perley and see if he will come as he seemed iffy when I talked to him last.

Finally, Jack Burns thinks that Frazer Owen may not come but doesn't really know. What are the chances that Jean Eilek will also not come?

Phil

```
From abridle Fri Jun 16 14:06:28 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["380" "Fri" "16" "June" "1995" "14:06:26" "-0400" "Alan Bridle" "abridle"
nil "15" "Re: workshop cancellations etc." "^From:" nil nil "6" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA63786; Fri, 16 Jun 1995 14:06:26 -0400
```

Message-Id: <9506161806.AA63786@polaris.cv.nrao.edu>  
In-Reply-To: <9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>  
References: <9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop cancellations etc.  
Date: Fri, 16 Jun 1995 14:06:26 -0400

Hi Phil,

Frazer just told me he has not made up his mind yet about whether to come. I will check with Rick a.s.a.p. he was indeed iffy when last asked.

I would say invite Ruth and say we are not sure yet whether there is space for all her students, but they are on the list of possible invitees if there is indeed room.

It's worth having Andrew part-time, in my view.

A.

From root Mon Jun 19 11:35:41 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["542" "Mon" "19" "June" "1995" "16:24:45" "+0100" "Robert Laing"  
"rl@ast.cam.ac.uk" nil "12" "Re: choice of conference proceedings publisher"  
"^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: from cass41.ast.cam.ac.uk by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA51430; Mon, 19 Jun 1995 11:35:27 -0400  
Received: from rgosc.ast.cam.ac.uk by cass41 with smtp  
(Smail3.1.29.1 #9) id m0sNigz-00006IC; Mon, 19 Jun 95 16:24 BST  
Received: by rgosc.ast.cam.ac.uk (Smail3.1.29.1 #9)  
id m0sNigw-0002DyC; Mon, 19 Jun 95 16:24 BST  
X-Sender: rl@rgosc  
In-Reply-To: <9505242046.AA11372@venus.astr.ua.edu.ua.edu>  
Message-Id: <Pine.SOL.3.91.950619161937.29292B-100000@rgosc>  
Mime-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII  
From: Robert Laing <rl@ast.cam.ac.uk>  
To: Hardee <hardee@venus.astr.ua.edu>  
Cc: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu,  
PAGS@phx.cam.ac.uk, pags@mrao.cam.ac.uk  
Subject: Re: choice of conference proceedings publisher  
Date: Mon, 19 Jun 1995 16:24:45 +0100 (BST)

Dear Phil,

I think that the CUP format works best for meetings (like the STSci Symposia) where there is a relatively small number of long review talks, and contributed papers are short. In the past, STSci has distributed short contributions as a collection of preprints. I don't think that this model is particularly appropriate for our meeting, since there will be a larger ratio of contributed:review papers and more of a spread in lengths.

I'd vote for ASP, which worked well for the Stromlo Symposium.

Regards, Robert

From abridle Fri Jun 23 09:39:28 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["392" "Fri" "23" "June" "1995" "09:39:18" "-0400" "Alan Bridle" "abridle"  
nil "15" "ASP Agreement" "^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35274; Fri, 23 Jun 1995 09:39:18 -0400  
Message-Id: <9506231339.AA35274@polaris.cv.nrao.edu>  
In-Reply-To: <9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>  
References: <9506161421.AA04154@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: ASP Agreement  
Date: Fri, 23 Jun 1995 09:39:18 -0400

Hi Phil,

I'm back in C'ville and found the ASP agreement awaiting me when I got here. I notice that under item 6. we seem to be agreeing both to collect \$40.50 from every participant for the proceedings and to pay \$2700 in lieu of doing so.

Should not one of these be crossed out before we send the signed copy on?

Do you want me to send it pon directly, or to send it back to you?

A.

From root Fri Jun 23 11:19:49 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["478" "Fri" "23" "June" "1995" "10:18:21" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>"  
"12" "Re: ASP Agreement" "^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA49265; Fri, 23 Jun 1995 11:19:48 -0400  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08505; Fri, 23 Jun 1995 10:08:16 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA01352; Fri, 23 Jun 95 10:19:46 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA15980; Fri, 23 Jun 95 10:18:21 CDT  
Message-Id: <9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: ASP Agreement  
Date: Fri, 23 Jun 95 10:18:21 CDT

Alan,

Please send the agreement back to me after you have signed. I will cross out the \$2700 number when I send the agreement back and include a cover letter with details. In fact the cost will be \$36/volume + \$4.50 (domestic) or

\$15.00 (foreign) for shipping. The exact total amount then will depend on the mix of attendees and can only be determined after the fact.

I now have a message from Rick Perley saying he will not be able to attend as a result of Bologna.

Phil

From abridle Fri Jun 23 11:50:50 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["460" "Fri" "23" "June" "1995" "11:50:47" "-0400" "Alan Bridle" "abridle"  
nil "13" "Re: ASP Agreement" "^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44363; Fri, 23 Jun 1995 11:50:47 -0400  
Message-Id: <9506231550.AA44363@polaris.cv.nrao.edu>  
In-Reply-To: <9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>  
References: <9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: ASP Agreement  
Date: Fri, 23 Jun 1995 11:50:47 -0400

Hi

Phil,

I'm still confused. Are "we" purchasing the copies with the \$2700 (or whatever) or are we raising the money from the participants? Right now the agreement says both.

Also, the agreement says that the "editor's host institution" is going to be responsible for this. The NRAO will want us to be clear that it is not the above-obligated institution in this case. Could you let me know just what is being said in your cover letter?

Thanks, A.

From abridle Fri Jun 23 11:52:43 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["247" "Fri" "23" "June" "1995" "11:52:40" "-0400" "Alan Bridle" "abridle"  
nil "12" "Re: ASP Agreement" "^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA63584; Fri, 23 Jun 1995 11:52:40 -0400  
Message-Id: <9506231552.AA63584@polaris.cv.nrao.edu>  
In-Reply-To: <9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>  
References: <9506231518.AA15980@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: ASP Agreement  
Date: Fri, 23 Jun 1995 11:52:40 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> I now have a message from Rick Perley saying he will not be able to attend as  
> a result of Bologna.  
>



> Phil

That's a pity but I had encouraged him to let you know his decision  
a.s.a.p.

A.

```
From root Fri Jun 23 12:13:02 1995
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["672" "Fri" "23" "June" "1995" "11:11:34" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9506231611.AA16003@venus.astr.ua.edu.astr.ua.edu>"
"14" "Re: ASP Agreement" "^From:" nil nil "6" nil nil nil nil]
  nil)
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA51860; Fri, 23 Jun 1995 12:13:01 -0400
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA12544; Fri, 23 Jun 1995 11:01:29 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA01571; Fri, 23 Jun 95 11:12:59 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA16003; Fri, 23 Jun 95 11:11:34 CDT
Message-Id: <9506231611.AA16003@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: ASP Agreement
Date: Fri, 23 Jun 95 11:11:34 CDT
```

Alan,

I will make it clear that the University of Alabama will be responsible for the cost. The cost comes from the workshop account into which registration fees are placed and the ASP will bill the University directly. Thus we are raising the money from the participants and then being billed by the ASP. I will remove the \$2700 as I indicated in the previous message or you can delete it before you return the signed form.

If there is a particular wording that the NRAO would like in a cover letter to make it clear that they are not responsible I will use that wording. I have not yet written the cover letter. Sorry for the error and resulting confusion.

Phil

```
From abridle Fri Jun 23 12:40:31 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]
  ["1202" "Fri" "23" "June" "1995" "12:40:25" "-0400" "Alan Bridle" "abridle"
nil "28" "Re: ASP Agreement" "^From:" nil nil "6" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA57347; Fri, 23 Jun 1995 12:40:25 -0400
Message-Id: <9506231640.AA57347@polaris.cv.nrao.edu>
In-Reply-To: <9506231611.AA16003@venus.astr.ua.edu.astr.ua.edu>
References: <9506231611.AA16003@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: ASP Agreement
Date: Fri, 23 Jun 1995 12:40:25 -0400
```

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I will make it clear that the University of Alabama will be responsible for the  
> cost. The cost comes from the workshop account into which registration fees  
> are placed and the ASP will bill the University directly. Thus we are raising  
> the money from the participants and then being billed by the ASP. I will  
removethe \$2700 as I indicated in the previous message or you can delete it before  
youreturn the signed form.  
>  
> If there is a  
> particular wording that the NRAO would like in a cover letter to make it clear  
> that they are not responsible I will use that wording. I have not yet written  
> the cover letter. Sorry for the error and resulting confusion.  
>

It should be straightforward if it is made clear that the "Editor's  
host institution" in the agreement means "University of Alabama".  
I'll make that change on the agreement and your cover letter  
can deal with whatever is left. If the cover letter says that the  
University of Alabama is responsible for the entire cost in  
item 6, there should be no problem. I just want to make sure that  
the ambiguity was not about to fall through the cracks!

Cheers, A.

From root Wed Jun 28 09:26:33 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["544" "Wed" "28" "June" "1995" "08:25:13" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9506281325.AA17713@venus.astr.ua.edu.astr.ua.edu>" "9"  
"" "^From:" nil nil "6" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60378; Wed, 28 Jun 1995 09:26:33 -0400  
Received: from nsl.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)  
id AA15727; Wed, 28 Jun 95 09:26:32 EDT  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA11644; Wed, 28 Jun 1995 08:15:04 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14069; Wed, 28 Jun 95 08:26:30 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA17713; Wed, 28 Jun 95 08:25:13 CDT  
Message-Id: <9506281325.AA17713@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@NRAO.EDU  
Date: Wed, 28 Jun 95 08:25:13 CDT

I talked to Andrew Wilson Monday and would like to have him give the second  
oral presentation following Peter Scheuer. I would like to give him 35 min  
with 10 min discussion scheduled in. This would mean that Peter & Andrew  
would lead off and between the two of them would take at least 1 hr 15 min to  
1.5 hr and take us up to the first break. After that we would begin shorter  
talks for the remainder of the morning. In your opinion would this provide  
a good lead in for the workshop? Andrew's title is What turns radio galaxies On

Phil

From abridle Wed Jun 28 09:32:47 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["381" "Wed" "28" "June" "1995" "09:32:39" "-0400" "Alan Bridle" "abridle"  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA67974; Wed, 28 Jun 1995 09:32:39 -0400  
Message-Id: <9506281332.AA67974@polaris.cv.nrao.edu>  
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References: <9506281325.AA17713@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Wed, 28 Jun 1995 09:32:39 -0400

It may be a little controversial as Andrew's contribution will be considered speculative by some, but it may not hurt to have something that could start a few arguments early on. At least we would not be accused of the standard "didn't talk about how the jets get started" blindness at a jets meeting!

Why this approach rather than having Andrew later the same day however?

A.

From root Wed Jun 28 09:47:00 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["430" "Wed" "28" "June" "1995" "08:45:41" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9506281345.AA17721@venus.astr.ua.edu.astr.ua.edu>"  
"11" "" "^From:" nil nil "6" nil nil nil nil]  
nil)  
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id AA49307; Wed, 28 Jun 1995 09:46:59 -0400  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08856; Wed, 28 Jun 1995 08:35:32 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14082; Wed, 28 Jun 95 08:46:58 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA17721; Wed, 28 Jun 95 08:45:41 CDT  
Message-Id: <9506281345.AA17721@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Wed, 28 Jun 95 08:45:41 CDT

Alan,

He could of course be later if ultimately that fits better. However, I had thought that a discussion, controversial or speculative as it might be, of what turns these objects on is a legitimate beginning before we descend into details of the behavior at small scales. I primarily wanted to verify that you saw nothing wrong with giving Andrew 35 min instead of the 20 min we plan for typical oral presentations.

Phil

From abridle Wed Jun 28 10:03:41 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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id AA49209; Wed, 28 Jun 1995 10:03:39 -0400  
Message-Id: <9506281403.AA49209@polaris.cv.nrao.edu>  
In-Reply-To: <9506281345.AA17721@venus.astr.ua.edu.astr.ua.edu>  
References: <9506281345.AA17721@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Wed, 28 Jun 1995 10:03:39 -0400

No I'm happy with giving him the longer time. I heard him talk on  
this topic here in C'ville earlier in the year and it was a good  
presentation. Will get people thinking,

A.

From root Mon Jul 31 19:25:57 1995  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
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"hardee@venus.astr.ua.edu" "<9507312325.AA00836@venus.astr.ua.edu.astr.ua.edu>"  
"268" "workshop schedule" "^From:"  
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id AA34018; Mon, 31 Jul 1995 19:25:56 -0400  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA09253; Mon, 31 Jul 1995 18:11:17 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA00623; Mon, 31 Jul 95 18:25:50 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA00836; Mon, 31 Jul 95 18:25:27 CDT  
Message-Id: <9507312325.AA00836@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: workshop schedule  
Date: Mon, 31 Jul 95 18:25:27 CDT

Alan,

Here is a first cut at a possible schedule for the workshop. I note that there  
are two vacant slots; Pearson, Bicknell, Scheuer are scheduled for 2 talks;  
while I have included T. Readhead he has not yet registered and I have been  
unable to reach him. Zensus is also not registered but is he back in C'ville  
yet? I have a few additional invites that I have not heard from yet and the  
final-final deadline is August 15. At the moment all presentations are oral.  
Your comments and adjustments are welcome.

Phil

=====  
=====  
Workshop Schedule: Arrive Monday September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday September 23, 1995  
or Sunday September 24, 1995  
=====

Tuesday September 19, 1995

8:20 - 8:50 Continental fare at workshop

8:55 - 9:10 Welcome & Orientation ..... P. Hardee

9:10 - 9:40 Overview ..... P. Scheuer

9:50 - 10:20 What Turns Radio Galaxies On? ..... A. Wilson

Break (10:30 - 10:50)

10:50 - 11:10 Outflows from Accretion Disks ..... R. Lovelace

11:20 - 11:50 Observations of Parsec Scale Jets ..... T. Pearson

12:00 - 12:20 Identifying Cores, Jets & Hot Spots ..... G. Taylor

Buffet Lunch @ Sheraton (12:30 - 1:45)

2:00 - 2:35 The Inner Jets of Blazars ..... A. Marscher

2:45 - 3:05 Superluminal Knot Evolution & Blazar Outbursts .... S. Qian

3:15 - 3:35 Synchrotron Emission from BL Lacs ..... M. Georganopoulos

Break (3:40 - 4:10)

4:10 - 4:30 Hot Spot Advance Speeds in Small Jet Sources ..... T. Readhead

4:40 - 5:00 GHz Peaked Sources ..... C. O'Dea

5:10 - 5:30 Sub-pc structure of the Cen A Jet ..... S. Tingay

Reception @ Natural History Museum (7:00pm)

=====  
=====

Wednesday September 20, 1995

8:20 - 8:50 Continental fare @ workshop  
9:00 - 9:30 Parsec Scale Structure in Core Dominated Sources .. A. Zensus  
9:40 - 10:00 Parsec Scale Regions in 3C345 ..... A. Lobanov  
10:10 - 10:30 Misalignments between pc & Kpc scales ..... T. Pearson

Break (10:40 - 11:00)

11:00 - 11:20 Structure & Stability of Relativistic Jets ..... S. Appl  
11:30 - 11:50 Polarization & Magnetic Structure in 4C71.07 ..... T. Cawthorne  
12:00 - 12:20 A Helical Model for the jet in 1803+784 ..... W. Steffan

Buffet Lunch @ Sheraton (12:30 - 1:45)

2:00 - 2:20 Relativistic Simulations & VLBI Maps ..... P. Hughes  
2:30 - 2:50 Relativistic Jets: A Variable Equation of State ... C. Duncan  
3:00 - 3:20 Morphology & Dynamics of Relativistic Jets ..... J. Marti

Break (3:30 - 4:00)

4:00 - 4:20 Synchrotron Radiation from Relativistic Jets ..... J. Gomez  
4:30 - 4:50 Numerical Simulations of Relativistic Jets ..... S. Komissarov  
5:00 - 5:20 A Few MHD Numerical Simulations of Rel Jets ..... R. Krasnopolsky

Buffet Dinner @ Sheraton - 7:00pm

=====  
=====

Thursday September 21, 1995

8:20 - 8:50 Continental fare at workshop  
9:00 - 9:20 Superluminals: Have we seen them all? ..... R. Vermeulen  
9:30 - 9:50 How fast are the Large Scale Quasar Jets ..... J. Wardle  
10:00 - 10:20 Doppler factors for Radio Sources ..... R. Daly

Break (10:30 - 10:50)

10:50 - 11:20 The Kinematics & Evolution of the M87 Jet ..... J. Biretta  
11:30 - 12:00 Relativistic Jets & M87 ..... G. Bicknell  
12:10 - 12:30 Motions in the Hot ISM of M87 ..... W. Keel

Buffet Lunch @ Sheraton (12:30 - 1:45)

2:00 - 2:20 Studies of FRI Jets with the MOST & ATCA ..... P. Jones  
2:30 - 2:50 Uncovering Buried Jet Treasures ..... L. Rudnick  
3:00 - 3:20 Contribution

Barbecue @ Moundville (leave at 4:20pm from Sheraton)

=====  
=====

Friday September 22, 1995

8:20 - 8:50 Continental fare at workshop  
9:00 - 9:30 Decelerating Relativistic Jets ..... R. Laing  
9:40 - 10:00 Relativistic Jets and the FR Classification ..... G. Bicknell  
10:10 - 10:30 Boundary Layer Development ..... D. DeYoung

Break (10:40 - 11:00)

11:00 - 11:20 Turbulent Jets & the FRI - FRII Transition ..... C. Loken  
11:30 - 11:50 Entrainment & Structure of MHD Jets ..... P. Hardee  
12:00 - 12:20 How Radio Sources Stay Young ..... J. Eilek

Lunch - 12:30pm

2:00 - 2:30 The Jets in Cygnus A from pc to Kpc scales ..... C. Carilli  
2:40 - 3:00 Large Scale Jets in Southern RGs ..... B. Lloyd  
3:10 - 3:30 The Jet in 3C353 ..... M. Swain

Break (3:40 - 4:00)

4:00 - 4:20 Evidence of Motion in Lobes ..... P. Scheuer  
4:30 - 4:50 3D Propagating Jets: The Standard Model ..... D. Clarke  
5:00 - 5:20 Contribution

Dinner @ Sheraton - 7:00pm

=====  
=====

### Saturday Schedule

8:20 - 8:50 Continental fare at workshop  
9:00 - 9:30 Environmental Impact on Cluster RGs ..... J. Burns  
9:40 - 10:00 The Environment of Cluster RGs ..... F. Owen  
10:10 - 10:30 Optical Properties of RGs & Environment ..... M. Ledlow

Break (10:40 - 11:00)

11:00 - 11:20 Radio Jets & X-ray atmospheres ..... M. Birkinshaw



11:30 - 11:50 Simulation of Bent Jets ..... S. Koide  
12:00 - 12:20 3D Simulations of Jets Crossing Angled Interfaces ... J. Hooda  
Buffet Lunch @ Sheraton (12:30 - 1:45)  
  
2:00 - Conference Review Alan Bridle  
2:40 - Conference Review Paul Wiita  
3:20 - Conference Review Michael Norman

From abridle Tue Aug 1 10:05:41 1995  
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id AA36624; Tue, 1 Aug 1995 10:05:32 -0400  
Message-Id: <9508011405.AA36624@polaris.cv.nrao.edu>  
In-Reply-To: <9507312325.AA00836@venus.astr.ua.edu.astr.ua.edu>  
References: <9507312325.AA00836@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop schedule  
Date: Tue, 1 Aug 1995 10:05:32 -0400

Hi Phil,

I've had a first look at the schedule. My only question from the observational side is about Greg Taylor's talk, which is timed fine if it's a VLBI talk but might be rather out of place if it's large-scale. Do you know any details to help locate it?

Tony Z. is not back until August 15th. I'm not sure whether he is in E-contact via Bonn, but will forward your message to him.

A.

From root Tue Aug 1 11:10:32 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["1878" "Tue" "1" "August" "1995" "10:10:07" "CDT" "hardee@venus.astr.ua.edu"  
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Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA02119; Tue, 1 Aug 95 10:10:29 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA00883; Tue, 1 Aug 95 10:10:07 CDT  
Message-Id: <9508011510.AA00883@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop schedule  
Date: Tue, 1 Aug 95 10:10:07 CDT

Alan,

Here is Taylor's abstract - it is relatively compact < kpc structure.

If we have a few unfilled talk slots on August 15 - do you wish a talk slot in addition to the conference review slot?

=====

>From gbt@astro.caltech.edu Mon Jul 10 18:21:07 1995  
From: gbt@astro.caltech.edu (Greg Taylor)  
Date: Mon, 10 Jul 95 16:24:18 PDT  
To: hardee@venus.astr.ua.edu  
Subject: registration info  
Cc: gbt@phobos.caltech.edu  
Content-Length: 4617  
X-Lines: 152  
Status: RO

TITLE: Identifying the Cores, Jets, and Hot Spots of Compact Symmetric Objects

\vskip 1.0truecm  
\noindent  
AUTHORS AND AFFILIATIONS: G.B. Taylor (Caltech/?)

\vskip 1.5truecm  
\noindent  
ABSTRACT:

The flux-limited VLBI survey of Pearson & Readhead (1988, ApJ 328, 114), along with the First Caltech--Jodrell Bank Survey (Polatidis et al 1995, ApJS 98, 1) and Second Caltech--Jodrell Bank Survey (Taylor et al 1994, ApJS 95, 345) have yielded 34 objects of size  $\lesssim 1$  kpc with emission on both sides of the central engine. These Compact Symmetric Objects (CSOs) thus comprise 5-10% of all high luminosity AGN. To be certain of the CSO classification requires the correct identification of the center of activity between high-luminosity radio emissions. I will review the current status of multi-frequency, multi-epoch VLBI observations of the CSO candidates. Based on spectral indices, component motions and source morphologies the core, jets and in some cases hot-spots are identified. The relative positions of the cores and hot spots are crucially important for understanding the interaction of the jets with the surrounding environment and their evolution in time. Furthermore, observations of bi-directional jet motions can be used to place restrictions on the distance to the radio source, and thereby constrain  $H_0$ .

From abridle Tue Aug 1 11:24:11 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
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References: <9508011510.AA00883@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop schedule  
Date: Tue, 1 Aug 1995 11:24:08 -0400

OK, Greg's fine where he is then.

I don't want to bag another talk slot at this point.  
Let's see what the score is on the deadline.

A.

From root Sun Aug 6 17:42:26 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
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"hardee@venus.astr.ua.edu" "<9508062142.AA02587@venus.astr.ua.edu.astr.ua.edu>"  
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id AA03060; Sun, 6 Aug 1995 16:27:54 -0500  
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id AA00450; Sun, 6 Aug 95 16:42:23 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02587; Sun, 6 Aug 95 16:42:10 CDT  
Message-Id: <9508062142.AA02587@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: workshop schedule  
Date: Sun, 6 Aug 95 16:42:10 CDT

Alan,

You have not yet made a hotel reservation. At this point you should call the hotel directly at 205-752-3200 to reserve a room on your credit card. Tell them that it is for the workshop "Energy Transport in Radio Galaxies & Quasars".

Can you provide me with a few line abstract for your conference review.

Greg Taylor will not be able to attend as he will be moving to Socorro. He may send a poster and I encouraged him to do so.

Steffi Baum will send a poster.

Phil

From abridle Mon Aug 7 08:34:55 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35608; Mon, 7 Aug 1995 08:34:53 -0400  
Message-Id: <9508071234.AA35608@polaris.cv.nrao.edu>  
In-Reply-To: <9508062142.AA02587@venus.astr.ua.edu.astr.ua.edu>  
References: <9508062142.AA02587@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop schedule  
Date: Mon, 7 Aug 1995 08:34:53 -0400

hardee@venus.astr.ua.edu writes:

> Can you provide me with a few line abstract for your conference review.  
>

I don't think it makes a lot of sense to do this for an end-of- meeting  
review. I'm intending to pick up points from the meeting, rather than  
to conduct my own diatribe!

A.

From root Fri Aug 11 16:44:53 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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Message-Id: <9508112044.AA03691@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: geoff@mso.anu.edu.au, abridle@polaris.cv.nrao.edu, jburns@NMSU.Edu,  
marscher@buast0.bu.edu, norman@ncsa.uiuc.edu, azensus@nrao.edu,  
rl@mail.ast.cam.ac.uk, pags@mrao.cam.ac.uk  
Subject: workshop schedule  
Date: Fri, 11 Aug 95 15:44:24 CDT

To all SOC members:

I have attached a preliminary workshop schedule for your perusal and comments.

I have scheduled each of you to chair one session.

We will run two vans between the Birmingham airport and the hotel in Tuscaloosa  
on Monday the 18th and at present I have reserved one van from Sunday the 17th

through Sunday the 24th. I have reserved a 2nd van for Saturday the 23rd & Sunday the 24th as well to get people back to the airport.

Philip Hardee

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

=====  
=====  
Workshop Schedule: Arrive Monday September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday September 23, 1995  
or Sunday September 24, 1995  
=====

=====  
=====  
Tuesday September 19, 1995

8:20 - 8:50 Continental fare at workshop

8:55 - 9:10 Welcome & Orientation ..... P. Hardee

Session Chair: Geoffery Bicknell

9:10 - 9:40 Overview ..... P. Scheuer

9:50 - 10:20 What Turns Radio Galaxies On? ..... A. Wilson

Break (10:30 - 10:50)

10:50 - 11:10 Outflows from Accretion Disks ..... R. Lovelace

11:20 - 11:40 Transport by Magnetorotational Instabilities ... D. Christodoulou

11:50 - 12:20 Observations of Parsec Scale Jets ..... T. Pearson

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Anton Zensus

2:00 - 2:30 The Inner Jets of Blazars ..... A. Marscher

2:40 - 3:00 Superluminal Knot Evolution & Blazar Outbursts .... S. Qian

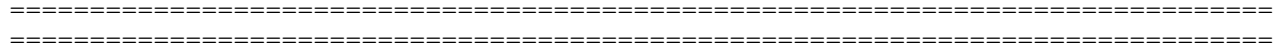
3:10 - 3:30 Synchrotron Emission from BL Lacs ..... M. Georganopoulos

Break (3:40 - 4:10)

4:10 - 4:30 Doppler factors for Radio Sources ..... R. Daly

- 4:40 - 5:00 Hot Spot Advance Speeds in Small Jet Sources ..... T. Readhead
- 5:10 - 5:30 GHz Peaked Sources ..... C. O'Dea

Reception @ Natural History Museum (7:00pm)



Wednesday September 20, 1995

8:20 - 8:50 Continental fare @ workshop

Session Chair: Alan Marscher

- 9:00 - 9:30 Parsec Scale Structure in Core Dominated Sources .. A. Zensus
- 9:40 - 10:00 Parsec Scale Regions in 3C345 ..... A. Lobanov
- 10:10 - 10:30 Misalignments between pc & Kpc scales ..... T. Pearson

Break (10:40 - 11:00)

- 11:00 - 11:20 Structure & Stability of Relativistic Jets ..... S. Appl
- 11:30 - 11:50 Polarization & Magnetic Structure in 4C71.07 ..... T. Cawthorne
- 12:00 - 12:20 Contribution

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Michael Norman

- 2:00 - 2:20 Relativistic Simulations & VLBI Maps ..... P. Hughes
- 2:30 - 2:50 Relativistic Jets: A Variable Equation of State ... C. Duncan
- 3:00 - 3:20 Morphology & Dynamics of Relativistic Jets ..... J. Marti

Break (3:30 - 4:00)

- 4:00 - 4:20 Synchrotron Radiation from Relativistic Jets ..... J. Gomez
- 4:30 - 4:50 Numerical Simulations of Relativistic Jets ..... S. Komissarov
- 5:00 - 5:20 A Few MHD Numerical Simulations of Rel Jets ..... R. Krasnopolsky

Buffet Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussions

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Thursday September 21, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Jack Burns

9:00 - 9:20 Superluminals: Have we seen them all? ..... R. Vermeulen

9:30 - 9:50 How fast are the Large Scale Quasar Jets ..... J. Wardle

10:00 - 10:20 Sub-pc structure of the Cen A Jet ..... S. Tingay

Break (10:30 - 10:50)

10:50 - 11:20 The Kinematics & Evolution of the M87 Jet ..... J. Biretta

11:30 - 12:00 Relativistic Jets & M87 ..... G. Bicknell

12:10 - 12:30 Motions in the Hot ISM of M87 ..... W. Keel

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Philip Hardee

2:00 - 2:20 Studies of FRI Jets with the MOST & ATCA ..... P. Jones

2:30 - 2:50 Uncovering Buried Jet Treasures ..... L. Rudnick

3:00 - 3:20 Contribution

Barbecue @ Moundville (leave at 4:20pm from Sheraton)

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Friday September 22, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Alan Bridle

9:00 - 9:30 Decelerating Relativistic Jets ..... R. Laing  
9:40 - 10:00 Relativistic Jets and the FR Classification ..... G. Bicknell  
10:10 - 10:30 Boundary Layer Development ..... D. DeYoung

Break (10:40 - 11:00)

11:00 - 11:20 Turbulent Jets & the FRI - FRII Transition ..... C. Loken  
11:30 - 11:50 Entrainment & Structure of MHD Jets ..... P. Hardee  
12:00 - 12:20 How Radio Sources Stay Young ..... J. Eilek

Lunch - 12:30pm

Session Chair: Robert Laing

2:00 - 2:30 The Jets in Cygnus A from pc to Kpc scales ..... C. Carilli  
2:40 - 3:00 The Jet in 3C353 ..... M. Swain  
3:10 - 3:30 3D Propagating Jets: The Standard Model ..... D. Clarke

Break (3:40 - 4:00)

4:00 - 4:20 3D Simulation of the Propagating Jet ..... M. Norman  
4:30 - 4:50 Evidence of Motion in Lobes ..... P. Scheuer  
5:00 - 5:20 Radio Jets & X-ray atmospheres ..... M. Birkinshaw

Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussions

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#### Saturday Schedule

8:20 - 8:50 Continental fare at workshop

Session Chair: Peter Scheuer

9:00 - 9:30 Environmental Impact on Cluster RGs ..... J. Burns



9:40 - 10:00 The Environment of Cluster RGs ..... F. Owen  
10:10 - 10:30 Optical Properties of RGs & Environment ..... M. Ledlow

Break (10:40 - 11:00)

11:00 - 11:20 IRAS 0421+0400: A Jet Crossing an ISM/IGM Interface . W. Steffan  
11:30 - 11:50 Simulation of Magnetically Bent Jets ..... S. Koide  
12:00 - 12:20 3D Simulations of Jets Crossing Angled Interfaces ... J. Hooda

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Philip Hardee

2:00 - Conference Review of Numerical Simulations ..... Michael Norman  
2:30 - General Conference Review of Theory ..... Paul Wiita  
3:00 - General Conference Review of Observations ..... Alan Bridle

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Poster Presentations

Misalignment & Curvature Effects in Radio Sources ..... S. Appl  
The FRI/FRII Dichotomy ..... S. Baum  
Large Scale Jets in Southern RGs ..... B. Lloyd  
Identifying Cores, Jets and Hot Spots ..... G. Taylor  
Beam Power of Powerful FRII Sources ..... L. Wan

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From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: september workshop schedules  
Date: Thu, 17 Aug 95 14:45:35 CDT

September Workshop Participants,

We have attached below a preliminary schedule for the September workshop on Energy Transport in Radio Galaxies & Quasars, and information regarding transportation between the Birmingham airport and the Sheraton hotel in Tuscaloosa. Note that all presentations other than those requested specifically as posters are oral with 20 or 30 min duration + 10 min of discussion.

Philip Hardee  
Alexander Rosen

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Birmingham Airport to Tuscaloosa Sheraton transportation

The workshop will run two vans between the Birmingham airport and the Sheraton on Monday September 18 and again on Sunday September 24. In addition, one van will be available on Sunday September 17 and late Saturday September 23 for transportation between the Sheraton and the Birmingham airport.

The van schedule will be determined based on arrival & departure times of those requesting van transportation, will be scheduled as soon as possible and the schedule will be e-mailed to all participants. If you plan to use the vans please send arrival & departure dates and times (even if previously sent) to:

Alex Rosen  
fax: 205-348-5051  
e-mail: rosen@eclipse.astr.ua.edu

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Preliminary Workshop Schedule

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

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Workshop Schedule: Arrive Monday September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday September 23, 1995  
or Sunday September 24, 1995

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Tuesday September 19, 1995

8:20 - 8:50 Continental fare at workshop  
8:55 - 9:10 Welcome & Orientation ..... P. Hardee

Session Chair: Geoffrey Bicknell

9:10 - 9:40 Overview ..... P. Scheuer

9:50 - 10:20 What Turns Radio Galaxies On? ..... A. Wilson

Break (10:30 - 10:50)

10:50 - 11:10 Outflows from Accretion Disks ..... R. Lovelace

11:20 - 11:40 Transport by Magnetorotational Instabilities ... D. Christodoulou

11:50 - 12:20 Observations of Parsec Scale Jets ..... T. Pearson

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Anton Zensus

2:00 - 2:30 The Inner Jets of Blazars ..... A. Marscher

2:40 - 3:00 Superluminal Knot Evolution & Blazar Outbursts .... S. Qian

3:10 - 3:30 Synchrotron Emission from BL Lacs ..... M. Georganopoulos

Break (3:40 - 4:10)

4:10 - 4:30 Doppler factors for Radio Sources ..... R. Daly

4:40 - 5:00 Hot Spot Advance Speeds in Small Jet Sources ..... T. Readhead

5:10 - 5:30 GHz Peaked Sources ..... C. O'Dea

Reception @ Natural History Museum (7:00pm)

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Wednesday September 20, 1995

8:20 - 8:50 Continental fare @ workshop

Session Chair: Alan Marscher

9:00 - 9:30 Parsec Scale Structure in Core Dominated Sources .. A. Zensus

9:40 - 10:00 Parsec Scale Regions in 3C 345 ..... A. Lobanov

10:10 - 10:30 Misalignments between pc & Kpc scales ..... T. Pearson

Break (10:40 - 11:00)

11:00 - 11:20 Polarization & Magnetic Structure in 4C 71.07 ..... T. Cawthorne

11:30 - 11:50 Superluminals: Have we seen them all? ..... R. Vermeulen

12:00 - 12:20 How fast are the Large Scale Quasar Jets ..... J. Wardle

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Michael Norman

2:00 - 2:20 Structure & Stability of Relativistic Jets ..... S. Appl

2:30 - 2:50 Relativistic Simulations & VLBI Maps ..... P. Hughes

3:00 - 3:20 Relativistic Jets: A Variable Equation of State ... C. Duncan

Break (3:30 - 4:00)

4:00 - 4:20 Morphology & Dynamics of Relativistic Jets ..... J. Marti

4:30 - 4:50 Synchrotron Radiation from Relativistic Jets ..... J. Gomez

5:00 - 5:20 Numerical Simulations of Relativistic Jets ..... S. Komissarov

Buffet

Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussions

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Thursday September 21, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Jack Burns

- 9:00 - 9:30 The Kinematics & Evolution of the M87 Jet ..... J. Biretta
- 9:40 - 10:10 The M87 Jet & Implications for AGN Physics ..... G. Bicknell
- 10:20 - 10:40 Motions in the Hot ISM of M87 ..... W. Keel

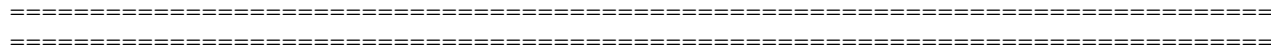
Break (10:50 - 11:10)

- 11:10 - 11:30 Sub-pc structure of the Cen A Jet ..... S. Tingay
- 11:40 - 12:00 Studies of FRI Jets with the MOST & ATCA ..... P. Jones
- 12:10 - 12:30 Uncovering Buried Jet Treasures ..... L. Rudnick

Buffet Lunch @ Sheraton (12:45 - 2:00)

- 2:00 - 3:30 Discussion & Review of Poster Presentations

Barbecue @ Moundville (leave at 4:20pm from Sheraton)



Friday September 22, 1995

- 8:20 - 8:50 Continental fare at workshop

Session Chair: Alan Bridle

- 9:00 - 9:30 Decelerating Relativistic Jets ..... R. Laing

9:40 - 10:00 Relativistic Jets and the FR Classification ..... G. Bicknell

10:10 - 10:30 Boundary Layer Development ..... D. DeYoung

Break (10:40 - 11:00)

11:00 - 11:20 Turbulent Jets & the FRI - FRII Transition ..... C. Loken

11:30 - 11:50 Entrainment & Structure of MHD Jets ..... P. Hardee

12:00 - 12:20 How Radio Sources Stay Young ..... J. Eilek

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Robert Laing

2:00 - 2:30 The Jets in Cygnus A from pc to Kpc scales ..... C. Carilli

2:40 - 3:00 The Jet in 3C 353 ..... M. Swain

3:10 - 3:30 3D Propagating Jets: The Standard Model ..... D. Clarke

Break (3:40 - 4:00)

4:00 - 4:20 3D Simulation of the Propagating Jet ..... M. Norman

4:30 - 4:50 Evidence of Motion in Lobes ..... P. Scheuer

5:00 - 5:20 Radio Jets & X-ray atmospheres ..... M. Birkinshaw

Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussions

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Saturday Schedule

8:20 - 8:50 Continental fare at workshop

Session Chair: Peter Scheuer

9:00 - 9:30 Environmental Impact on Cluster RGs ..... J. Burns

9:40 - 10:00 The Environment of Cluster RGs ..... F. Owen  
10:10 - 10:30 Optical Properties of RGs & Environment ..... M. Ledlow

Break (10:40 - 11:00)

11:00 - 11:20 IRAS 0421+0400: A Jet Crossing an ISM/IGM Interface . W. Steffan  
11:30 - 11:50 Simulation of Magnetically Bent Jets ..... S. Koide  
12:00 - 12:20 3D Simulations of Jets Crossing Angled Interfaces ... J. Hooda

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Philip Hardee

2:00 - Conference Review of Numerical Simulations ..... Michael Norman  
2:30 - General Conference Review of Theory ..... Paul Wiita  
3:00 - General Conference Review of Observations ..... Alan Bridle

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Poster Presentations

Misalignment & Curvature Effects in Radio Sources ..... S. Appl  
The FRI-FRII Dichotomy ..... S. Baum  
MHD Numerical Simulations of Relativistic Jets ..... R. Krasnopolsky  
Large Scale Jets in Southern RGs ..... B. Lloyd  
Identifying Cores, Jets and Hot Spots ..... G. Taylor  
Beam Power of Powerful FRII Sources ..... L. Wan

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Subject: workshop  
Date: Fri, 18 Aug 1995 09:45:14 -0400

Dear Phil, Alan,

I just returned from Germany, which explains my long silence (I was on email, but tried to concentrate on working on a paper).

Unfortunately, and with profound regrets, I have to bow out of attending the workshop. There have been developments in Germany that will affect my career in a major way, and I had no choice other than to finally accept an invitation to deliver a review at the meeting on the German Astronomische Gesellschaft in Bonn, which happens exactly during the time of the jet workshop, September 22.

There is no scientific value or interest for me in that meeting, and the invitation came long after I had made my plans to come to Alabama. Still, I realize that I need to attend purely based on political and career motives, which is something I hate with a passion. I keep the above deliberately vague, as there is actually no tangible (and official) prospect for that career development I mentioned, and of course, it may all go up in smoke.

The workshop program has shaped up to become more and more interesting, and I am convinced it will be a great success. I would like to send my contribution as a poster, which Lobanov will bring to the meeting.

Concerning the proceedings, I am of course prepared to honor my commitment to the editorial work, unless the two of you find that this is not appropriate. We can discuss that issue over the phone and in person.

Regards,

Anton Zensus

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From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: september workshop schedules  
Date: Mon, 21 Aug 1995 12:22:10 -0400

Hi Phil,



Were you able to get hold of Tim Pearson to reorganize his talks?

I noticed that between end-of-July and mid-August versions of the schedule you moved my review from beginning of last afternoon to end of last afternoon. I'm wondering if that's good strategy, as it may be best to review the observational developments again before going to the two reviews of "what it all means for physics"? I liked the original plan better and if there is another draft of the schedule in the offing I'd suggest reverting to it.

I talked with Tony Zensus on Friday, and several matters came up re the Proceedings editing:

He would like to participate still, though he would understand if we gave up on him and said we'd prefer to go it alone. He had some good suggestions based on other volumes he's done in the last few years:

1. send the macros we want to use out to people beforehand, with a realistic sample paper. I'll tinker with the ASP things myself this afternoon to see what I think of them.
2. offer some internal refereeing of the papers, e.g. by SOC members, or another designated author. This would be non-binding but some contributors might feel it is helpful? Tony thinks it always improves the final product.
3. Plan to accept .PS figures or stuck-in glossies. The latter are still much easier for complicated cases. If .PS is used encourage people to use the \psfig macros as .PS that will display with them is usually easier to work with generally. (He has lots of details in mind here, I'll not go into them now!)
4. Plan to generate an index automatically but then to tweak it manually. Have authors suggest indexing keywords for their papers, we can easily add more ourselves later.

A.

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hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: september workshop schedules  
Date: Mon, 21 Aug 95 12:06:26 CDT

Alan,

I contacted Tim and he is agreeable to putting his two talks together and being the lead off speaker on Wednesday with a 50 min presentation.

I will reorder the final conference summaries as you suggest, i.e., Bridle, Norman, Wiita (or should it be Wiita followed by Norman).

Would you be willing to review the posters on Thursday afternoon. I note that only one of them is theory. I did ask Peter but have not yet heard back from him. Note that he is already involved in two presentations.

I am quite willing to use Anton's help and suggestions:

1. We can certainly send the macros ahead of time, provided we know which macrosto send, i.e., ASP's or Anton's. However, I don't know whether it is necessary to send them ahead of time - I have never looked at macros until after a conference. I would certainly plan to send them within one week of the workshop.
2. What is your suggestion concerning internal refereeing. From my perspective the only difficulty lies in arranging the refereeing and getting the proceedingsout on time (end of March) with deadline for submittal mid December.
3. Yes we need to be able to use stuck in glosses as well as .ps figures. I have been using special for .ps figures in my last few proceedings and would prefer .ps figures if at all possible.
4. I have not inspected the ASP macros myself but was going to see how well they worked by working with Ron Buta who is putting together a volume now on his Barred Galaxies Meeting. Should I look at them and see about indexing?

Phil

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Alan,

Peter Scheuer does not believe a review of the posters to be necessary and likes the idea of Thursday afternoon being relatively free to provide a break after 2.5 hard days. Unless you wish to review the posters Thursday after lunch, I think we should leave Thursday afternoon open with the room available for informal discussion or special session organized by the participants.

I had a long conversation with Anton about proceedings preparation in which he volunteered to speak with you and then send appropriate macros and instructions to me to make available to the workshop participants. Has he found time to discuss this issue with you?

I also told him that refereeing was a good idea in principle, but that I did not have the time to try to arrange for refereeing, that it would probably delay the proceedings significantly, and that it might remove desired speculation from the proceedings.

I have now had the time to look through the ASP package. It seems to do a perfectly satisfactory job on individual contributions. On the other hand, there appeared to be no instructions to the editors as to how to put the volume together. My inexperience with Latex means that I would need extensive help in this aspect of the proceedings preparation. Anton suggested that he might be able to do this at NRAO?

With the exception of details such as the Thursday afternoon schedule, the van schedule for the airport, and proceedings instructions, everything is pretty much set.

Phil

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From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: september workshop  
Date: Tue, 29 Aug 1995 13:34:00 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>

> Peter Scheuer does not believe a review of the posters to be necessary and likes  
> the idea of Thursday afternoon being relatively free to provide a break after  
> 2.5 hard days. Unless you wish to review the posters Thursday after lunch, I  
> think we should leave Thursday afternoon open with the room available for  
> informal discussion or special session organized by the participants.

Peter's proposal is o.k. by me.

>  
> I had a long conversation with Anton about proceedings preparation in which he  
> volunteered to speak with you and then send appropriate macros and instructions  
> to me to make available to the workshop participants. Has he found time to  
> discuss this issue with you?

Yes, we had a useful meeting and came up with several ideas that we should  
try on a test paper before finalizing, but which sound promising.

>  
> I also told him that refereeing was a good idea in principle, but that I did not  
> have the time to try to arrange for refereeing, that it would probably delay  
> the proceedings significantly, and that it might remove desired speculation from  
> the proceedings.  
>

I agree with these points, it is a tradeoff and after quite a long discussion  
with Anton I think he feels the same way. So let us not plan refereeing.

> I have now had the time to look through the ASP package. It seems to do a  
> perfectly satisfactory job on individual contributions. On the other hand,  
there  
> appeared to be no instructions to the editors as to how to put the volume  
> together. My inexperience with Latex means that I would need extensive help in  
> this aspect of the proceedings preparation. Anton suggested that he might be  
> able to do this at NRAO?

I think there will come a point where having the master copy at NRAO will be  
a good idea. Not only can he and I work intensively on it together for a  
while, but we can run TeX and dvips on some very fast machines here, which  
is a great help in the late stages when you are putting together 100's of  
pages.

>  
> With the exception of details such as the Thursday afternoon schedule,  
> the van schedule for the airport, and proceedings instructions, everything is  
> pretty much set.  
>

Sounds good.

I discussed the issue of the contribution deadline with Anton and we both  
were inclined towards November 1 rather than first suggestion of December  
1st. I think we should plan on using the Christmas break for our own  
E-working on the project and final, final harassment of authors, rather  
than encouraging them to use it for their own not-too-delinquent catch-up?

A.

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id AA47843; Sun, 3 Sep 1995 13:21:35 -0400  
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id AA07868; Sun, 3 Sep 95 13:21:28 EDT  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA09660; Sun, 3 Sep 1995 12:02:06 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13119; Sun, 3 Sep 95 12:16:10 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA06815; Sun, 3 Sep 95 12:16:34 CDT  
Message-Id: <9509031716.AA06815@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: final september workshop schedules  
Date: Sun, 3 Sep 95 12:16:34 CDT

Workshop Participants,

We have attached below the final schedule for the September workshop on Energy Transport in Radio Galaxies & Quasars, and the Van schedule for transportation between the Birmingham airport and the Sheraton hotel in Tuscaloosa.

The conference center is adjacent to the hotel. The workshop will be held in the Birmingham room which is on the second floor of the conference center.

Details for preparation of proceedings articles will be given out at the workshop.

There is considerable extra Van capacity as only 11 participants have requested Van transportation. If, based on the schedule below, you now plan to use the Vans please contact Alex Rosen via fax (205-348-5051) or e-mail (rosen@eclipse.astr.ua.edu) so that our drivers (graduate students Guy Purcell and Victor Anderson) know how many to expect. The times for transportation back to the Birmingham airport on Sunday September 24 can be modified and an extra trip added if necessary.

For anyone flying into Birmingham Sunday afternoon or early evening and spending Sunday night September 17 in the Tuscaloosa Sheraton, pickup can be arranged by contacting A. Rosen or P. Hardee (hardee@venus.astr.ua.edu).

For those flying into Birmingham late Sunday night September 17 and staying at airport hotels, there will be Van pickup at the hotels (Holiday Inn & Ramada) at 11:00 am Monday morning September 18. Contact A. Rosen as to which hotel.

If you are flying into Tuscaloosa directly you can call the Sheraton at 752-3200 and they will send a Van to the airport to pick you up. The Tuscaloosa airport is about 15 minutes from the Sheraton.

In case of transportation problems contact the Physics & Astronomy Department at

205-348-5050 between the hours of 8:00 am and 4:30 pm on Monday the 18th. At other times P. Hardee (205-556-7271), A. Rosen (205-556-3334), or if all else fails call the Sheraton (205-752-3200) and leave a message for Hardee or Rosen.

Philip Hardee  
Alexander Rosen

=====  
Van Schedule between the Birmingham airport and the Tuscaloosa Sheraton  
=====

Those using the Van should meet the driver at the Information desk which is to one side of the baggage area on the ground floor of the Terminal.

Times indicate when the Van will arrive & leave the airport in Birmingham.

Monday Morning September 18:

11:30 - 12:00 (will also pick up at airport hotels @ 11:00 am)

Monday Afternoon & Evening September 18:

3:30 - 4:00

5:30 - 6:00

7:00 - 7:30

8:45 - 9:15

10:15 - 10:45 (only if needed by late or delayed arrivals)

=====  
Van Schedule between the Tuscaloosa Sheraton and the Birmingham Airport  
=====

Times indicate when the Van will leave the Sheraton. Times can be modified slightly if necessary.

Saturday Afternoon & Evening September 23:

2:00 pm (immediately after lunch Saturday)

4:30 - 5:00 (following the Saturday afternoon session)

Sunday Morning & Afternoon September 24:

8:30 am

10:30 am

12:00 noon

2:30 pm  
=====  
=====

WORKSHOP ON ENERGY TRANSPORT IN RADIO GALAXIES AND QUASARS

=====  
=====  
Workshop Schedule: Arrive Monday September 18, 1995  
Sessions Tuesday, Wednesday, Thursday, Friday, Saturday  
Depart late Saturday September 23, 1995  
or Sunday September 24, 1995  
=====

=====  
=====  
Tuesday September 19, 1995

8:20 - 8:50 Continental fare at workshop

9:00 - 9:15 Welcome & Orientation ..... Dean S. Jones, P. Hardee

Session Chair: Geoffrey Bicknell

9:15 - 9:50 Overview ..... P. Scheuer

10:00 - 10:35 The Nature of Radio Galaxies ..... A. Wilson

Break (10:45 - 11:05)

11:05 - 11:35 Outflows from Accretion Disks ..... R. Lovelace

11:45 - 12:05 Transport by Magnetorotational Instabilities ... D. Christodoulou

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: John Wardle

2:00 - 2:30 The Inner Jets of Blazars ..... A. Marscher

2:40 - 3:00 Intraday Variations in the Spectrum of QSO 0917+624 .... S. Qian

3:10 - 3:30 Synchrotron Emission from BL Lacs ..... M. Georganopoulos

Break (3:40 - 4:10)

4:10 - 4:30 Equipartition Doppler factors for Radio Sources .... R. Daly

4:40 - 5:00 Hot Spot Advance Speeds in Small Jet Sources ..... T. Readhead

5:10 - 5:30 X-ray & Optical Observation of GHz Peaked Sources .. C. O'Dea

Reception @ Natural History Museum (7:00pm)

=====  
=====  
Wednesday September 20, 1995

8:20 - 8:50 Continental fare @ workshop

Session Chair: Alan Marscher

9:00 - 9:50 Observations of Parsec Scale Jets ..... T. Pearson

10:00 - 10:20 Parsec Scale Regions in 3C 345 ..... A. Lobanov

Break (10:30 - 10:50)

10:50 - 11:10 Polarization & Magnetic Structure in 4C 71.07 ..... T. Cawthorne

11:20 - 11:40 Superluminals: Have we seen them all? ..... R. Vermeulen

11:50 - 12:10 How fast are the Large Scale Quasar Jets? ..... J. Wardle

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Michael Norman

2:00 - 2:20 Structure & Stability of Relativistic Jets ..... S. Appl

2:30 - 2:50 Relativistic Simulations & Simulated VLBI Maps ..... P. Hughes

3:00 - 3:20 Relativistic Jets: A Variable Equation of State ... C. Duncan

Break (3:30 - 4:00)

4:00 - 4:20 Morphology & Dynamics of Relativistic Jets ..... J. Marti

4:30 - 4:50 Synchrotron Radiation from Relativistic Jets ..... J. Gomez

5:00 - 5:20 Numerical Simulations of Relativistic Jets ..... S. Komissarov

Buffet Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussion & poster viewing



=====  
=====  
  
Thursday September 21, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Jack Burns

9:00 - 9:30 The Kinematics & Evolution of the M87 Jet ..... J. Biretta

9:40 - 10:10 The M87 Jet & Implications for AGN Physics ..... G. Bicknell

10:20 - 10:40 Motions in the Hot ISM of M87 ..... W. Keel

Break (10:50 - 11:10)

11:10 - 11:30 Sub-pc structure of the Cen A Jet ..... S. Tingay

11:40 - 12:00 Studies of FRI Jets with the MOST & ATCA ..... P. Jones

12:10 - 12:30 Uncovering Buried Jet Treasures ..... L. Rudnick

Buffet Lunch @ Sheraton (12:45 - 2:00)

2:00 - 4:00 Conference room open for informal discussion & poster viewing

Barbecue @ Moundville (leave at 4:20pm from Sheraton)

=====  
=====  
Friday September 22, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Alan Bridle

9:00 - 9:30 Structure of Decelerating Relativistic Jets ..... R. Laing

9:40 - 10:00 Relativistic Jets and the FR Classification ..... G. Bicknell

10:10 - 10:30 Boundary Layer Development ..... D. DeYoung

Break (10:40 - 11:00)

11:00 - 11:20 Turbulent Jets & the FRI - FRII Transition ..... C. Loken

11:30 - 11:50 Entrainment & Structure of MHD Jets ..... P. Hardee

12:00 - 12:20 How Radio Sources Stay Young ..... J. Eilek

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Robert Laing

2:00 - 2:30 The Jets in Cygnus A from pc to Kpc scales ..... C. Carilli

2:40 - 3:00 The Jets in 3C 353 ..... M. Swain

3:10 - 3:30 3D Propagating Jets: The Standard Model ..... D. Clarke

Break (3:40 - 4:00)

4:00 - 4:20 Disruption of the 3D Propagating Jet ..... M. Norman

4:30 - 4:50 Evidence of Motion in Lobes ..... P. Scheuer

5:00 - 5:20 Radio Jets & X-ray atmospheres ..... M. Birkinshaw

Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussion & poster viewing

=====  
=====

### Saturday Schedule

8:20 - 8:50 Continental fare at workshop

Session Chair: Peter Scheuer

9:00 - 9:30 Environmental Impact Assessment of Cluster RGs ..... J. Burns

9:40 - 10:00 The Environment of Radio Galaxies ..... F. Owen

10:10 - 10:30 Optical Properties of RGs & Environment ..... M. Ledlow

Break (10:40 - 11:00)

11:00 - 11:20 IRAS 0421+0400: A Jet Crossing an ISM/IGM Interface . W. Steffan

11:30 - 11:50 Simulation of Magnetically Bent Jets ..... S. Koide

12:00 - 12:20 3D Simulations of Jets Crossing Angled Interfaces ... J. Hooda

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Philip Hardee

2:00 - General Conference Review of Observations ..... Alan Bridle

2:30 - General Conference Review of Theory ..... Paul Wiita

3:00 - Conference Review of Numerical Simulations ..... Michael Norman

=====  
=====

### Poster Presentations

Misalignment & Curvature Effects in Radio Sources ..... S. Appl

The FRI-FRII Dichotomy ..... S. Baum

MHD Numerical Simulations of Relativistic Jets ..... R. Krasnopolsky

Large Scale Jets in Southern RGs ..... B. Lloyd  
Cores, Jets and Hot Spots of CSOs ..... G. Taylor  
Beam Power of Powerful FR II Sources ..... L. Wan  
Parsec Scale Structure in Core Dominated Sources ..... A. Zensus

From root Fri Sep 1 14:16:16 1995

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Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA06347; Fri, 1 Sep 95 13:16:28 CDT

Message-Id: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop proceedings

Date: Fri, 1 Sep 95 13:16:28 CDT

Alan,

How about a proceedings due date of Friday November 17. I really think that people (particularly those who are teaching during the fall semester) need two months time to prepare a proceedings article. I know that I would not be able to make an earlier deadline this fall, although I assume the editors can be somewhat tardy.

I am assuming that you and Anton will send me a macro package, examples and instructions to place on my anonymous ftp server. Of course, if the present ASP macro package is acceptable then all that needs to be sent are special examples and instructions, e.g., indexing and running heads etc.. As soon as I have the materials I can e-mail their availability to all participants even before the workshop. I would anticipate receiving all articles here at Alabama and then forwarding the appropriate ones (to be decided) to you and Anton for further editing.

How does this sound to you?

Phil

From root Wed Sep 6 16:26:42 1995

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id AA13299; Wed, 6 Sep 1995 15:12:01 -0500  
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id AA20645; Wed, 6 Sep 95 15:26:02 CDT  
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Message-Id: <9509062026.AA08686@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: session chairs  
Date: Wed, 6 Sep 95 15:26:30 CDT

To all session chairs:

Below is the schedule for chairing the various sessions. It is essential that we stick to the timeline, particularly in the morning as lunch is at a set time. I would not anticipate any difficulties as there is 10 min of question and discussion time set between each oral presentation. Clearly if there are questions and discussion during the presentation, the presentation can stretch into the scheduled question and discussion time. I am looking forward to seeing all of you in 11 days, and I thank you in advance for serving in this capacity at the workshop.

Philip Hardee

#### Session Chair Schedule

Geoffery Bicknell: Tuesday morning Sept. 19

John Wardle: Tuesday afternoon Sept. 19

Alan Marscher: Wednesday morning Sept. 20

Michael Norman: Wednesday afternoon Sept. 20

Jack Burns: Thursday morning Sept. 21

Alan Bridle: Friday morning Sept. 22

Robert Laing: Friday afternoon Sept. 22

Peter Scheuer: Saturday morning Sept. 23

Philip Hardee: Saturday afternoon Sept. 23

From abridle Tue Sep 5 10:41:18 1995

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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA61564; Tue, 5 Sep 1995 10:41:15 -0400

Message-Id: <9509051441.AA61564@polaris.cv.nrao.edu>

In-Reply-To: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>  
References: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Tue, 5 Sep 1995 10:41:15 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> How about a proceedings due date of Friday November 17. I really think that  
> people (particularly those who are teaching during the fall semester) need two  
> months time to prepare a proceedings article. I know that I would not be able  
> to make an earlier deadline this fall, although I assume the editors can be  
> somewhat tardy.  
>

This seems like a reasonable compromise to me.

> I am assuming that you and Anton will send me a macro package, examples and  
> instructions to place on my anonymous ftp server. Of course, if the present ASP  
> macro package is acceptable then all that needs to be sent are special  
> examples and instructions, e.g., indexing and running heads etc.. As soon as  
> I have the materials I can e-mail their availability to all participants even  
> before the workshop. I would anticipate receiving all articles here at Alabama  
> and then forwarding the appropriate ones (to be decided) to you and Anton for  
> further editing.  
>  
> How does this sound to you?

OK, I will try to get together with Anton re macros later today

A.

From abridle Mon Sep 11 16:50:31 1995  
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References: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Mon, 11 Sep 1995 16:50:28 -0400

Hi Phil,

Just to let you know that Tony will have a draft of the  
extra statement about macro package probably tomorrow.  
We thought the simplest thing to do is to go with ASP  
macros as-is but just ask people to flag their own

suggestions for indexing keywords when they send their papers in. Then we can substitute a distinctive font for the \index{} item while we proofread and add other keywords ourselves (this will help us to view the index keys easily while editing the doc on paper) but leave them in place as-is when we run makeindex. Minimum fuss for the authors and it should do the job o.k. for us.

So the instructions will be pretty simple in the end.

Sound o.k.?

A.

```
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  id AA02952; Tue, 12 Sep 95 09:09:56 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
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Message-Id: <9509121410.AA10360@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop proceedings
Date: Tue, 12 Sep 95 09:10:33 CDT
```

Alan,

Glad to hear from you. I was just about to call about the macro package. Sounds good to me. What do you think about a 6 page limit for 20min oral contributions and posters and a 10 page limit for 30 min oral presentations? This will give a volume of about 400 pages with 50 - 55 articles.

Phil

```
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References: <9509121410.AA10360@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: workshop proceedings
```

Date: Wed, 13 Sep 1995 13:10:53 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Glad to hear from you. I was just about to call about the macro package.  
> Sounds good to me. What do you think about a 6 page limit for 20min oral  
> contributions and posters and a 10 page limit for 30 min oral presentations?  
> This will give a volume of about 400 pages with 50 - 55 articles.  
>

Phil, did this 400-page estimate include front and back matter?  
They could easily be 20 pages. (We will have a subject index,  
remember, and both Tony and I are in favor of a cumulative  
bibliography as well). Also, how exact is ASP in their 400-page  
target. Would they have a fit if we sent them 440, for example?

A.

From root Wed Sep 13 13:18:50 1995

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Message-Id: <9509131719.AA10993@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop proceedings

Date: Wed, 13 Sep 95 12:19:25 CDT

Alan,

I anticipate no problem if the volume goes to 450 pages but I will contact them  
to make sure.

Phil

From abridle Wed Sep 13 13:30:45 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Wed, 13 Sep 1995 13:30:43 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I anticipate no problem if the volume goes to 450 pages but I will contact them  
> to make sure.  
>

OK, if they are relaxed about it (I think they were for our Imaging Workshops) then your page targets sound just fine.

A.

From abridle Wed Sep 13 13:37:22 1995  
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Message-Id: <9509131737.AA89169@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hvanderl  
Subject: Alabama meeting Agenda  
Date: Wed, 13 Sep 1995 13:37:21 -0400

Tuesday September 19, 1995

8:20 - 8:50 Continental fare at workshop

9:00 - 9:15 Welcome & Orientation ..... Dean S. Jones, P. Hardee

Session Chair: Geoffrey Bicknell

9:15 - 9:50 Overview ..... P. Scheuer

10:00 - 10:35 The Nature of Radio Galaxies ..... A. Wilson

Break (10:45 - 11:05)

11:05 - 11:35 Outflows from Accretion Disks ..... R. Lovelace

11:45 - 12:05 Transport by Magnetorotational Instabilities ... D. Christodoulou

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: John Wardle

- 2:00 - 2:30 The Inner Jets of Blazars ..... A. Marscher
- 2:40 - 3:00 Intraday Variations in the Spectrum of QSO 0917+624 .... S. Qian
- 3:10 - 3:30 Synchrotron Emission from BL Lacs ..... M. Georganopoulos

Break (3:40 - 4:10)

- 4:10 - 4:30 Equipartition Doppler factors for Radio Sources .... R. Daly
- 4:40 - 5:00 Hot Spot Advance Speeds in Small Jet Sources ..... T. Readhead
- 5:10 - 5:30 X-ray & Optical Observation of GHz Peaked Sources .. C. O'Dea

Reception @ Natural History Museum (7:00pm)

=====

Wednesday September 20, 1995

- 8:20 - 8:50 Continental fare @ workshop

Session Chair: Alan Marscher

- 9:00 - 9:50 Observations of Parsec Scale Jets ..... T. Pearson
- 10:00 - 10:20 Parsec Scale Regions in 3C 345 ..... A. Lobanov

Break (10:30 - 10:50)

- 10:50 - 11:10 Polarization & Magnetic Structure in 4C 71.07 ..... T. Cawthorne
- 11:20 - 11:40 Superluminals: Have we seen them all? ..... R. Vermeulen
- 11:50 - 12:10 How fast are the Large Scale Quasar Jets? ..... J. Wardle

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Michael Norman

- 2:00 - 2:20 Structure & Stability of Relativistic Jets ..... S. Appl
- 2:30 - 2:50 Relativistic Simulations & Simulated VLBI Maps .... P. Hughes

3:00 - 3:20 Relativistic Jets: A Variable Equation of State ... C. Duncan

Break (3:30 - 4:00)

4:00 - 4:20 Morphology & Dynamics of Relativistic Jets ..... J. Marti

4:30 - 4:50 Synchrotron Radiation from Relativistic Jets ..... J. Gomez

5:00 - 5:20 Numerical Simulations of Relativistic Jets ..... S. Komissarov

Buffet Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussion & poster viewing

=====  
=====

Thursday September 21, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Jack Burns

9:00 - 9:30 The Kinematics & Evolution of the M87 Jet ..... J. Biretta

9:40 - 10:10 The M87 Jet & Implications for AGN Physics ..... G. Bicknell

10:20 - 10:40 Motions in the Hot ISM of M87 ..... W. Keel

Break (10:50 - 11:10)

11:10 - 11:30 Sub-pc structure of the Cen A Jet ..... S. Tingay

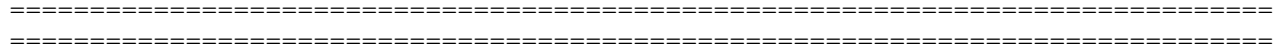
11:40 - 12:00 Studies of FRI Jets with the MOST & ATCA ..... P. Jones

12:10 - 12:30 Uncovering Buried Jet Treasures ..... L. Rudnick

Buffet Lunch @ Sheraton (12:45 - 2:00)

2:00 - 4:00 Conference room open for informal discussion & poster viewing

Barbecue @ Moundville (leave at 4:20pm from Sheraton)



Friday September 22, 1995

8:20 - 8:50 Continental fare at workshop

Session Chair: Alan Bridle

9:00 - 9:30 Structure of Decelerating Relativistic Jets ..... R. Laing

9:40 - 10:00 Relativistic Jets and the FR Classification ..... G. Bicknell

10:10 - 10:30 Boundary Layer Development ..... D. DeYoung

Break (10:40 - 11:00)

11:00 - 11:20 Turbulent Jets & the FRI - FRII Transition ..... C. Loken

11:30 - 11:50 Entrainment & Structure of MHD Jets ..... P. Hardee

12:00 - 12:20 How Radio Sources Stay Young ..... J. Eilek

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Robert Laing

2:00 - 2:30 The Jets in Cygnus A from pc to Kpc scales ..... C. Carilli

2:40 - 3:00 The Jets in 3C 353 ..... M. Swain

3:10 - 3:30 3D Propagating Jets: The Standard Model ..... D. Clarke

Break (3:40 - 4:00)

4:00 - 4:20 Disruption of the 3D Propagating Jet ..... M. Norman

4:30 - 4:50 Evidence of Motion in Lobes ..... P. Scheuer

5:00 - 5:20 Radio Jets & X-ray atmospheres ..... M. Birkinshaw

Dinner @ Sheraton - 7:00pm

8:30 - 10:00 Conference room open for informal discussion & poster viewing

=====  
=====

### Saturday Schedule

8:20 - 8:50 Continental fare at workshop

Session Chair: Peter Scheuer

9:00 - 9:30 Environmental Impact Assessment of Cluster RGs ..... J. Burns

9:40 - 10:00 The Environment of Radio Galaxies ..... F. Owen

10:10 - 10:30 Optical Properties of RGs & Environment ..... M. Ledlow

Break (10:40 - 11:00)

11:00 - 11:20 IRAS 0421+0400: A Jet Crossing an ISM/IGM Interface . W. Steffan

11:30 - 11:50 Simulation of Magnetically Bent Jets ..... S. Koide

12:00 - 12:20 3D Simulations of Jets Crossing Angled Interfaces ... J. Hooda

Buffet Lunch @ Sheraton (12:30 - 1:45)

Session Chair: Philip Hardee

2:00 - General Conference Review of Observations ..... Alan Bridle

2:30 - General Conference Review of Theory ..... Paul Wiita

3:00 - Conference Review of Numerical Simulations ..... Michael Norman

=====  
=====

Poster Presentations

Misalignment & Curvature Effects in Radio Sources ..... S. Appl

The FRI-FRII Dichotomy ..... S. Baum

MHD Numerical Simulations of Relativistic Jets ..... R. Krasnopolsky

Large Scale Jets in Southern RGs ..... B. Lloyd

Cores, Jets and Hot Spots of CSOs ..... G. Taylor

Beam Power of Powerful FRII Sources ..... L. Wan

Parsec Scale Structure in Core Dominated Sources ..... A. Zensus

----- end -----

From root Thu Sep 14 09:55:31 1995

X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]

["2761" "Thu" "14" "September" "1995" "08:56:07" "CDT"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "96" "Re: workshop  
proceedings" "^From:" nil nil "9" nil nil nil nil]  
nil)

Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA86407; Thu, 14 Sep 1995 09:55:30 -0400

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id

AA19359; Thu, 14 Sep 1995 08:41:32 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA09683; Thu, 14 Sep 95 08:55:28 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA11196; Thu, 14 Sep 95 08:56:07 CDT

Message-Id: <9509141356.AA11196@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop proceedings

Date: Thu, 14 Sep 95 08:56:07 CDT

Alan,

When can I expect to receive instructions and a sample file for indexing with  
key words, or are we just going to do this ourselves in the editing process.

I have a preliminary set of instructions at the present time and i include the  
tex file below for your consideration.

When do you expect to arrive with Mark Swain?

Phil

```
=====
\nopagenumbers \font\headf=cmcsc10 scaled \magstep1 \font\large=cmbx10
scaled \magstep2 \font\medium=cmbx10 scaled \magstephalf
```

```
\def\br{\hfill\break}
```

```
\def\eogal{\raise.45mm\hbox{\mid\kern-2.3mm\bullet$}}
```

```
\headline{\vbox{\line{\hfill
```

```
\headf $\Theta\ \theta\ $\eogal\quad Proceedings Preparation \quad\eogal$\
\theta\ \Theta$\hfill}
```

```
\bigskip
```

```
\line{\hfill\large Energy Transport in Radio Galaxies \& Quasars \hfill}}}
```

```
\null
```

```
\bigskip
```

```
\centerline{Revised 12 September 1995}
```

```
\vskip 5truemm
```

```
\noindent
```

The proceedings of the workshop will be published in the ASP conference series. All participants will receive a copy as part of their registration. The editors will be P. Hardee, A. Bridle and A. Zensus. A macro for the contributions can be obtained from the meeting anonymous ftp:

```
\vskip 2truemm
```

```
\noindent
```

```
ftp crux.astr.ua.edu\br
```

```
login: anonymous\br
```

```
pwd: your email address\br
```

```
$>$cd astro-stuff/meetings/jets\br
```

```
$>$get paspman.tex\br
```

```
$>$get psample1.tex\br
```

```
$>$get psample2.tex\br
```

```
$>$get paspconf.sty\br
```

```
$>$get paspconf.doc\br
```

```
$>$quit
```

```
\vskip 2truemm
```

```
\noindent
```

If you absolutely cannot use anonymous ftp, let me know and I will e-mail the files.

```
\vskip 2truemm
```

```
\noindent
```

{\it Page limits}: The page limits (i.e., maximum length) for each contribution are as follows:

```
\vskip 2truemm
```

```
\noindent
```

```
30 min talk: 10 pages\br
```

```
\noindent
```

20 min talk: 6 pages  
\noindent  
poster: 6 pages

\vskip 2truemm  
\noindent  
{\it Please adhere to these limits}

\vskip 2truemm  
\noindent  
{\it Manuscripts}: Send manuscripts to A. Rosen, Dept. of Physics and Astronomy, University of Alabama, Box 870324, Tuscaloosa, AL 35487 or (preferentially) ftp them to crux.astr.ua.edu. Go to pub/incoming/jets, make a subdirectory in your name, and transmit all associated files into it.

It is advisable to send by mail one hard copy of the manuscript and figures so the editors know how it should appear.

\vskip 2truemm  
\noindent  
{\it Figures}: You are encouraged to send figures as encapsulated postscript. Please send the figures as files separate from the tex text file so the editors can manipulate their size and position within the document if necessary. For figures submitted as hardcopy please leave the appropriate space in the tex text file.

\vskip 2truemm  
\noindent  
{\it Deadline for receipt of manuscripts}: {\bf November 17, 1995}

\vfill\eject\end

From abridle Thu Sep 14 14:28:39 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["945" "Thu" "14" "September" "1995" "14:27:13" "-0400" "Alan Bridle"  
"abridle" nil "24" "Macro instructions" "^From:" nil nil "9" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA107613; Thu, 14 Sep 1995 14:27:13 -0400  
Message-Id: <9509141827.AA107613@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Macro instructions  
Date: Thu, 14 Sep 1995 14:27:13 -0400

Tony, Phil

Here's the draft I made after Tony and I discussed this before lunch. Phil, is this o.k. by you? We need to add the page limits, deadline and E-mail and mailing addresses. I think these may best be put on a separate page?

I think we should aim (a) to give the attendees a printed version before they leave Tuscaloosa (b) to E-mail them a copy as well, (c) to open a WWW page



on the NRAO server under which people can not only read the instructions again if they lose them, but also preview the Postscript of the manuscript if they wish as we accumulate it (i.e. "preprints" for the attendees). The latter might need permission from ASP as it would allow others to read the material before it is published. (They have given such permission in other cases, I think).

To facilitate the above, I will convert the instructions to an HTML page while you are reviewing them, and we can make their final PostScript file from that.

A.

```
From abridle Thu Sep 14 15:22:18 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["4811" "Thu" "14" "September" "1995" "15:20:58" "-0400" "Alan Bridle"
  "abridle" nil "127" "The draft" "^From:" nil nil "9" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA94910; Thu, 14 Sep 1995 15:20:58 -0400
Message-Id: <9509141920.AA94910@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: azensus, hardee@venus.astr.ua.edu
Subject: The draft
Date: Thu, 14 Sep 1995 15:20:58 -0400
```

Additional instructions for authors of manuscripts for

``Energy Transport In Radio Galaxies and Quasars''

## 1. General

### A. ASP Macro package

The proceedings of this conference will be published in the ASP Conference series. They will be typeset using LaTeX and the ASP macro package. Please use this macro package when preparing your manuscript, and follow the detailed instructions given it (plus the additional instructions below).

The ASP macro package, including their instructions and sample pages, are available by anonymous ftp or the WWW from <ftp://ftp.noao.edu/tex/pasp>.

You can also get the package using the WWW, starting from the home page of Anton Zensus: <http://www.cv.nrao.edu/~azensus/>

If you have any problems using the package, or have no access to LaTeX, please contact the editors as soon as possible, and we will try to accommodate you. However, we expect that most authors will use the standard package without trouble.

### B. What to send us.:

To produce the proceedings, we will need from you:

1. The .tex file of your (LaTeX) manuscript
2. Either Postscript files or high-quality black-and-white paper copies, of all Figures. We prefer that you send us Postscript files for line drawings but photographs for images. Any Figures you send us as paper copies must already be sized to fit the space you allocated for them in the printout produced by the ASP macro package. (Note that the ASP publication process will reduce the entire page, figures and graphics by a further 10%).
3. A printed (paper) version of your complete typeset paper, with Figures, as you want it to appear in the proceedings. (Note that the proceedings will be generated by using LaTeX again, to make tables of contents, page numbering and indices; your hard copy will be used only to check against the final version.)

## 2. Special instructions

We plan to include subject and author indices in these proceedings, and a cumulative bibliography with titles. To achieve this we ask for your help as follows

### A. REFERENCES

1. We ask you to follow these rules which go slightly beyond those in the ASP instructions:
  - all citations in the text should correspond to an entry in your reference list.
  - please check your references against the original publication, or inform the editors of any reference that you are unable to check. We will try to help with finding the original source if possible.
  - please provide a complete list of authors (do not use et al.)
  - please include the complete title (in mixed case) of the paper, the title of proceedings or books (where applicable), and the names of all editors (where applicable).
  - please include starting and ending page numbers
2. Use aliases to cross-reference journals and proceedings, etc. The ASP instructions define aliases for many of the standard journals, e.g. \apj for the Astrophysical Journal, etc. If you refer to proceedings papers, we ask that you define additional aliases right before your reference list, e.g.

```
\renewcommand{\iaui58}{In W. Tango & J. Robertson (eds.), IAU Symp. 158,  
Very High Angular Resolution Imaging (Dordrecht: Kluwer)}
```

A reference to a paper in this book will then look like this:

Marcaide, J. M., Guirado, J.C., \& Doe, J. 1993. ``High precision differential astrometry'', \iaul58, 444--449

and a reference to a journal would look like

Marcaide, J. M., Guirado, J.C., \& Doe, J. 1999. ``High precision differential astrometry'', \apj, 999, 444--449

## B. INDEXING KEYWORDS

To help us generate a topic index, please identify appropriate keywords for index in your .tex file, using the standard LaTeX \index{} macro as follows:

For any item that you think should appear in the index, put the \index{} immediately after its occurrence in the text. Multiple occurrences will be correctly dealt with in the index. You can distinguish main and sub-entries. (These entries are ignored by LaTeX unless \makeindex is added to the preamble, so you need not worry about creating or printing any index items beyond including those terms that you would like us to use). We will generate the final index by reviewing and augmenting all the individual authors' suggestions, aiming for one that is both simple and comprehensive!

The following is an example of a simple index entry (MHD models) followed by a suggestion for a sub-entry:

MHD models \index{MHD models} for the properties of extragalactic jets abound, and offer sometimes useful insight into these baffling and enormously complex phenomena.

Interferometric measurements of jet width \index{observations!jet width} may help to obtain a clearer picture of what is going on...

From abridle Thu Sep 14 17:46:37 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["421" "Thu" "14" "September" "1995" "17:46:33" "-0400" "Alan Bridle" "abridle" nil "20" "Next draft of instructions" "^From:" nil nil "9" nil nil nil nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA91192; Thu, 14 Sep 1995 17:46:33 -0400

Message-Id: <9509142146.AA91192@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus, hardee@venus.astr.ua.edu

Subject: Next draft of instructions

Date: Thu, 14 Sep 1995 17:46:33 -0400

Tony, Phil,

At Tony's suggestion the next draft is an HTML version.

It merges Phil's draft with the one that I e-mailed this afternoon, and responds to the points that Phil and I talked about in our phone

conversation.

It's now at <http://www.cv.nrao.edu/~abridle/instruct.htm>

note the .htm, not .html! (PC user).

If you're both o.k. with that I'll turn it into Postscript and ASCII and E-mail both to Phil.

A.

From abridle Fri Sep 15 13:09:46 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["981" "Fri" "15" "September" "1995" "13:09:40" "-0400" "Alan Bridle"  
"abridle" nil "29" "Re: Next draft of instructions" "^From:" nil nil "9" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA103960; Fri, 15 Sep 1995 13:09:40 -0400  
Message-Id: <9509151709.AA103960@polaris.cv.nrao.edu>  
In-Reply-To: <9509142325.AA11469@venus.astr.ua.edu.astr.ua.edu>  
References: <9509142325.AA11469@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Next draft of instructions  
Date: Fri, 15 Sep 1995 13:09:40 -0400

I think the main differences are now:

1. The HTML version specifically refers to the 8.5 by 11-in page. (In fact, it might be best to refer to the actual height and width of the print area which is 8.3 in by 5.25 in).
2. Because the term "manuscript" is now a bit ambiguous ("digiscript"?) the HTML version gave November 17 as the deadline for receipt of the electronic version, allowing that the paper copies might arrive later.
3. The TeX copy gives explicit instructions for copying each file in the ASP package.
4. I adjusted the third-from-last para in the Keywords section to clarify which terms were the keywords, and I used a different font for the examples and the text, hoping to make that clearer also.
5. The TeX version has Phil's standard banner and fits nicely on two pages.

Phil, I suggest you make changes 1,2 and 4 in the TeX file and use that as the handout to the participants, I will make change 3 in the HTML file for use on the Web page.

A.

From root Fri Sep 15 14:06:04 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil]  
["611" "Fri" "15" "September" "1995" "14:07:19" "-0400" "Anton Zensus"  
"azensus@nrao.edu" "<9509151806.AA02196@vagabond.cv.nrao.edu>" "19" "Proceedings  
instructions" "^From:" nil nil "9" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA108088; Fri, 15 Sep 1995 14:06:04 -0400  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.3)  
id AA02196; Fri, 15 Sep 1995 14:06:03 -0400  
Message-Id: <9509151806.AA02196@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.1.2  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu  
Subject: Proceedings instructions  
Date: Fri, 15 Sep 1995 14:07:19 -0400

So far, we have only discussed the typesetting aspects and logistics of the proceedings manuscript. We should, however, also consider if we would like the authors to adhere to certain conventions concerning the content of the manuscripts. Examples are:

using SI units (??)

using a certain value for the Hubble constant, and  $q_0$

using a certain convention for definition of spectral index

and alike.

It may be worthwhile to bring this issue up during the discussion of the proceedings at the workshop. After any conventions have been agreed upon, we could write them up and e-mail them to the authors.

az

From abridle Fri Sep 15 15:21:42 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1364" "Fri" "15" "September" "1995" "15:21:34" "-0400" "Alan Bridle"  
"abridle" nil "36" "Re: Proceedings instructions" "^From:" nil nil "9" nil nil nil  
nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA103009; Fri, 15 Sep 1995 15:21:34 -0400  
Message-Id: <9509151921.AA103009@polaris.cv.nrao.edu>  
In-Reply-To: <9509151806.AA02196@vagabond.cv.nrao.edu>  
References: <9509151806.AA02196@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Re: Proceedings instructions  
Date: Fri, 15 Sep 1995 15:21:34 -0400

Anton Zensus writes:

> So far, we have only discussed the typesetting aspects and logistics of the  
> proceedings manuscript. We should, however, also consider if we would like  
> the authors to adhere to certain conventions concerning the content of the  
> manuscripts. Examples are:  
>  
> using SI units (??)  
>  
> using a certain value for the Hubble constant, and  $q_0$   
>  
> using a certain convention for definition of spectral index  
>  
> and alike.  
>

I think we should insist on people specifying their  $H_0$  and  $q_0$ ,  
but not what value they should specify. We can encourage them  
to give the  $h$ -dependency of any derived quantities also.

I think the spectral index convention is a lost cause. We could encourage  
people to use  $\nu^{-\alpha}$  (as at least two of the editors share that  
standard) but even if we did we would have to declare the convention  
in every paper (you can never be sure that people read more than  
just one paper when using a proceedings). So the safe thing to do  
is to declare the convention in every paper, i.e. insist that people  
specify the convention they have used.

SI units are another painful area where I do not think we have the  
time to wage the good fight in a proceedings (I might try for a  
lecture series). People want their microGauss and  
radians per square meter too much. I'd like to stay off that one!

A.

```
From root Fri Sep 15 15:33:40 1995
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
  ["800" "Fri" "15" "September" "1995" "14:34:13" "CDT"
  "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"
  "<9509151934.AA11715@venus.astr.ua.edu.astr.ua.edu>" "18" "Re: final draft of
  instructions" "^From:" nil nil "9" nil nil nil nil]
  nil)
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA38047; Fri, 15 Sep 1995 15:33:39 -0400
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA09768; Fri, 15 Sep 1995 14:19:38 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA15594; Fri, 15 Sep 95 14:33:33 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA11715; Fri, 15 Sep 95 14:34:13 CDT
Message-Id: <9509151934.AA11715@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: final draft of instructions
Date: Fri, 15 Sep 95 14:34:13 CDT
```

Alan,

I have made the changes in my tex version of the instructions and will include the instructions with the abstract book etc. that everyone will receive as they check in to the hotel. I have changed the page limit on the 30min talks to 9 pages. This gives us some cushion if a few articles are over the limits. Your WWW version looks good but you will need to make this change as well.

Its too late to incorporate Anton's suggestions in the instructions as they are already produced and are being put in the envelops. We can ask at the workshop that specific conventions be followed. I think it essential for H and q to be specified along with h-dependency. I would like everyone to use the same spectral index convention. I am less concerned about the units.

Off to seminar.

Phil

From abridle Fri Sep 15 16:04:26 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["741" "Fri" "15" "September" "1995" "16:04:10" "-0400" "Alan Bridle"  
"abridle" nil "20" "Re: final draft of instructions" "^From:" nil nil "9" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA95668; Fri, 15 Sep 1995 16:04:10 -0400  
Message-Id: <9509152004.AA95668@polaris.cv.nrao.edu>  
In-Reply-To: <9509151934.AA11715@venus.astr.ua.edu.astr.ua.edu>  
References: <9509151934.AA11715@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: final draft of instructions  
Date: Fri, 15 Sep 1995 16:04:10 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I have made the changes in my tex version of the instructions and will include  
> the instructions with the abstract book etc. that everyone will receive as they  
check in  
> to the hotel. I have changed the page limit on the 30min talks to 9 pages.  
> This gives us some cushion if a few articles are over the limits.

I don't think changing the limit to 10 pages for the 30min talks accomplishes anything as the articles will all start on odd-numbered pages. Thus if we insist on 9 rather than 10 pages all we would be doing is legislating a white page at the end of each 30-min talk? (I thought that was probably why you had chosen 6 and 10, should have said so earlier).

A.

From root Fri Sep 15 16:07:41 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["104" "Fri" "15" "September" "1995" "15:08:13" "CDT"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"]

"<9509152008.AA11742@venus.astr.ua.edu.astr.ua.edu>" "7" "Re: final draft of instructions"  
 "^From:" nil nil "9" nil nil nil nil]  
 nil)  
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
 id AA76407; Fri, 15 Sep 1995 16:07:40 -0400  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
 id AA10609; Fri, 15 Sep 1995 14:53:38 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
 id AA15816; Fri, 15 Sep 95 15:07:33 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
 id AA11742; Fri, 15 Sep 95 15:08:13 CDT  
Message-Id: <9509152008.AA11742@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: final draft of instructions  
Date: Fri, 15 Sep 95 15:08:13 CDT

Alan,

Leave yours at 10 pages then. I had not realized that we would end up with a blank page.

Phil

From abridle Fri Sep 15 17:13:36 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
 ["157" "Fri" "15" "September" "1995" "17:13:33" "-0400" "Alan Bridle"  
 "abridle" nil "8" "Re: final draft of instructions" "^From:" nil nil "9" nil nil  
 nil nil]  
 nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
 id AA104854; Fri, 15 Sep 1995 17:13:33 -0400  
Message-Id: <9509152113.AA104854@polaris.cv.nrao.edu>  
In-Reply-To: <9509152008.AA11742@venus.astr.ua.edu.astr.ua.edu>  
References: <9509152008.AA11742@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: final draft of instructions  
Date: Fri, 15 Sep 1995 17:13:33 -0400

Hi Phil,

The HTML version is now in what i hope is final form, off Tony's home page, or directly:

<http://www.cv.nrao.edu/~azensus/jetwks/instruct.html>

A.

From root Mon Sep 25 14:09:28 1995  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
 ["512" "Mon" "25" "September" "1995" "13:10:14" "CDT"  
 "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
 "<9509251810.AA12721@venus.astr.ua.edu.astr.ua.edu>" "12" "Re: Proceedings  
 instructions" "^From:" nil nil "9" nil nil nil nil]  
 nil)  
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)



id AA100579; Mon, 25 Sep 1995 14:09:26 -0400  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA15289; Mon, 25 Sep 1995 12:51:25 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA07826; Mon, 25 Sep 95 13:09:20 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA12721; Mon, 25 Sep 95 13:10:14 CDT  
Message-Id: <9509251810.AA12721@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Proceedings instructions  
Date: Mon, 25 Sep 95 13:10:14 CDT

Alan,

I trust you arrived back safely and not too exhausted. I spoke to a number of participants about the indexing via keywords and everyone said that it would help to have a suggested list of keywords. Perhaps Anton has a list from his previous conference proceedings that I could e-mail to all the participants in about a week with any additions that might occur to yourself or to me.

I cannot thank you enough for all your encouragement and assistance in organizing and planning for the workshop.

Phil

From abridle Mon Sep 25 15:34:16 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2317" "Mon" "25" "September" "1995" "15:34:07" "-0400" "Alan Bridle"  
"abridle" nil "53" "Re: Proceedings instructions" "^From:" nil nil "9" nil nil nil  
nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA110505; Mon, 25 Sep 1995 15:34:07 -0400  
Message-Id: <9509251934.AA110505@polaris.cv.nrao.edu>  
In-Reply-To: <9509251810.AA12721@venus.astr.ua.edu.astr.ua.edu>  
References: <9509251810.AA12721@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Proceedings instructions  
Date: Mon, 25 Sep 1995 15:34:07 -0400

hardee@venus.astr.ua.edu writes:

>  
> I trust you arrived back safely and not too exhausted.

Certainly safely (677 miles in 11.5 hrs by the way) and am feeling just a little tired today but that's mainly because I got a few ideas for VLA/VLBA observing proposals from the meeting and they decided to surface at about 3 a.m.! The drive itself was quite pleasant though the weather was kinda grey and we did get some rain.

> I spoke to a number of  
> participants about the indexing via keywords and everyone said that it would  
> help to have a suggested list of keywords. Perhaps Anton has a list from his  
> previous conference proceedings that I could e-mail to all the participants in  
> about a week with any additions that might occur to yourself or to me.

I'll look into that with him. One default might be to use the keywords I had from the GB workshop, plus an additional layer relevant to the greater role of 3-d s(t)imulations, which I'm sure you could provide!

>  
> I cannot thank you enough for all your encouragement and assistance in  
> organizing and planning for the workshop.

Well, thanks, but my share was only light lifting compared with yours. Everyone I heard from thought it was an exceptionally well-run affair and Mark told me the only real complaint he heard from anybody was about the lack of variety in the food at the hotel -- they should be glad we didn't have this second meeting also in GB! I think scientifically it was a big success and I certainly hope it achieves the second aim of getting Alabama into the collective consciousness of the community.

By the way, I don't believe I ever mentioned to you that I think the T-shirt was great. A very classy rendition and of course a superb choice for the object to be depicted!

I'm going to work fairly soon on the text for my review. The piece that really fell over the edge when I decided to slip in the pieces of evidence for smaller scales in jets was a summary of the evidence for interesting transition scales along the jets. I would have commented on the evidence for the scales of collimation, acceleration and deceleration from VLB and VLA data. Fortunately Paul W. covered some of that also. But I'll try to get a draft to you before you head to Bologna in case it will help you.

Cheers, A.

```
From root Wed Oct 18 15:49:29 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
 ["8770" "Wed" "18" "October" "1995" "14:39:48" "CDT"
 "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "267" "alabama workshop"
 "^From:" nil nil "10" nil nil nil nil]
 nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
 id AA155252; Wed, 18 Oct 1995 15:49:29 -0400
Received: from ns1.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)
 id AA09857; Wed, 18 Oct 95 15:49:00 EDT
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
 id AA15565; Wed, 18 Oct 1995 14:20:16 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
 id AA18008; Wed, 18 Oct 95 14:38:26 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
 id AA16370; Wed, 18 Oct 95 14:39:48 CDT
Message-Id: <9510181939.AA16370@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: participants@venus.astr.ua.edu
Subject: alabama workshop
Date: Wed, 18 Oct 95 14:39:48 CDT
```



\noindent  
{\it Deadline for receipt of electronic manuscripts:} {\bf November 17, 1995}  
\vskip 1truemm  
\noindent  
{\it Deadline for receipt of print manuscripts:} {\bf November 24, 1995}

\vskip 2truemm  
\noindent  
{\bf 1. General Instructions}

\vskip 2truemm  
\noindent  
{\bf A. The ASP Macro package:}

\vskip 2truemm  
\noindent  
The proceedings of this conference will be typeset using LaTeX and the ASP macro package. Please use this macro package when preparing your manuscript, and follow the detailed instructions given in it ({\it plus the additional special instructions on the reverse side of this sheet}). The ASP macro package, including instructions and sample pages, is available by anonymous ftp from:

\vskip 1truemm  
\noindent  
ftp crux.astr.ua.edu  
login: anonymous  
pwd: your email address  
\$>\$cd astro-stuff/meetings/jets  
\$>\$get paspman.tex  
\$>\$get psample1.tex  
\$>\$get psample2.tex  
\$>\$get paspconf.sty  
\$>\$get paspconf.doc  
\$>\$get copyright.ps  
\$>\$quit

\vskip 1truemm  
\noindent  
The ASP macro package, including instructions and sample pages, and copyright form is also available by anonymous ftp or the WWW from:

\vskip 1truemm  
\noindent  
ftp://ftp.noao.edu/tex/pasp

\vskip 1truemm  
\noindent  
You can also get the package using the WWW, starting from the home page of Anton Zensus:

\vskip 1truemm  
\noindent  
<http://www.cv.nrao.edu/~azensus/>

\vskip 1truemm  
\noindent  
If you have any problems using the package, or have no access to LaTeX, please contact the editors as soon as possible, and we will try to accommodate you. However, we expect that most authors will use the standard package without trouble.

\vskip 2truemm  
\noindent  
{\bf B. What to send us and where:}  
\vskip 2truemm  
\noindent

To produce the proceedings, we will need from you:

\vskip 1truemm  
\noindent

1. The .tex file of your (LaTeX) manuscript, using the ASP macro package.

\vskip 1truemm  
\noindent

2. Either Postscript files or high-quality black-and-white paper copies, of all Figures. We prefer that you send us Postscript files for line drawings but photographs for images. Any Figures you send us as paper copies must already be sized to fit the space you allocated for them in the 5.25 by 8.3-inch print area produced by the ASP macro package. (Note that the ASP publication process will reduce the entire page, figures and graphics by a further 10\%).

\vskip 1truemm  
\noindent

3. A printed (paper) version of your complete typeset paper, with Figures, as you want it to appear in the proceedings. (Note that the proceedings will be generated by using LaTeX again, to make tables of contents, page numbering and indices; your hard copy will be used only to check against the final version.)

\vskip 1truemm  
\noindent

4. FTP electronic manuscripts to crux.astr.ua.edu. Go to pub/incoming/jets, make a subdirectory in your name, and transmit all associated files into it. Send printed manuscripts to Dr. Alex Rosen, Dept. of Physics and Astronomy, University of Alabama, Box 870324, Tuscaloosa, AL 35487.

\vfill\eject  
\null

\vskip 0.5truecm  
\noindent

{\bf 2. Special instructions}

\vskip 2truemm  
\noindent

We plan to include subject and author indices in these proceedings, and a cumulative bibliography with titles. To achieve this we ask for your help as follows

\vskip 2truemm  
\noindent  
{\bf A. References}

\vskip 2truemm  
\noindent

{\bf 1.} We ask you to follow these rules which go slightly beyond those in the ASP instructions:

\vskip 1truemm

\noindent

- all citations in the text should correspond to an entry in your reference list.

\vskip 1truemm

\noindent

- please check your references against the original publication, or inform the editors of any reference that you are unable to check. We will try to help with finding the original source if possible.

\vskip 1truemm

\noindent

- please provide a complete list of authors (do not use et al.)

\vskip 1truemm

\noindent

- please include the complete title (in mixed case) of the paper, the title of proceedings or books (where applicable), and the names of all editors (where applicable).

\vskip 1truemm

\noindent

- please include starting and ending page numbers

\vskip 2truemm

\noindent

{\bf 2.} Use aliases to cross-reference journals and proceedings, etc. The ASP instructions define aliases for many of the standard journals, e.g., `\backslash$apj` for *Astrophys. Journal*, etc. If you refer to proceedings papers, we ask that you define additional aliases right before your reference list, e.g.,

\vskip 1truemm

\noindent

`\backslash$renewcommand{\backslash$iau158}$ $In W. Tango \& J. Robertson (eds.), IAU Symp. 158, Very High Angular Resolution Imaging (Dordrecht: Kluwer)$\}$`

\vskip 2truemm

\noindent

A reference to a paper in this book will then look like this:

\vskip 2truemm

\noindent

Marcaide, J. M., Guirado, J.C., \& Doe, J. 1993. ``High precision differential astrometry'', `\backslash$iau158`, 444--449

\vskip 2truemm

\noindent

and a reference to a journal would look like:

\vskip 2truemm

\noindent

Marcaide, J. M., Guirado, J.C., \& Doe, J. 1999. ``High precision differential astrometry'', `\backslash$apj`, 999, 444--449

\vskip 2truemm

\noindent

{\bf B. Indexing Keywords}

```
\vskip 2truemm
\noindent
To help us generate a topic index, please identify appropriate
keywords for index in your .tex file, using the standard LaTeX
 $\backslash$index$\{\sim\}$  macro as follows:
```

```
\vskip 2truemm
\noindent
For any item that you think should appear in the index, put the
 $\backslash$index$\{\sim\}$  immediately after its occurrence in the text. Multiple
occurrences will be correctly dealt with in the index. You can
distinguish main and sub-entries. (These entries are ignored by LaTeX
unless  $\backslash$makeindex$  is added to the preamble, so you need not worry
about creating or printing any index items beyond including those
terms that you would like us to use). We will generate the final
index by reviewing and augmenting all the individual authors'
suggestions, aiming for one that is both simple and comprehensive!
```

```
\vskip 2truemm
\noindent
The following is an example of a simple index entry (MHD models)
followed by a suggestion for a sub-entry (observations, jet width):
```

```
\vskip 2truemm
\noindent
MHD models  $\backslash$index$\{\$MHD models$\}$  for the properties of extragalactic
jets
abound, and sometimes offer useful insight into these baffling and
enormously complex phenomena.
```

```
\vskip 2truemm
\noindent
Interferometric measurements of jet width  $\backslash$index$\{\$observations!jet
width$\}$  may help to obtain a clearer picture of what is going on.
```

```
\vfill\eject\end
```

```
From root Wed Nov 1 10:18:28 1995
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
["907" "Wed" "1" "November" "1995" "09:20:07" "CST"
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"
"<9511011520.AA01106@venus.astr.ua.edu.astr.ua.edu>" "21" "Re: proceedings"
"^From:" nil nil "11" nil nil nil nil]
nil)
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA137563; Wed, 1 Nov 1995 10:18:26 -0500
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
id AA14597; Wed, 1 Nov 1995 08:58:42 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
id AA16739; Wed, 1 Nov 95 09:18:24 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
id AA01106; Wed, 1 Nov 95 09:20:07 CST
Message-Id: <9511011520.AA01106@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: proceedings
Date: Wed, 1 Nov 95 09:20:07 CST
```

Alan,

Are the paper titles to be used only in the comprehensive bibliography or are they also going to be used in the individual article reference lists. This tends to make the article reference lists exceedingly long, e.g., Jack Burns has two pages of references in this format and apparantly his contribution is now 12 pages long.

Jack has also noted that the macro is printing page numbers on the bottom of the page and he thinks this is a problem. I assume that we will take care of pagination in the final editing and I can tell him we will worry about pagination and the reference lists in the final editing process. Yes?

We already have several manuscripts. Would you prefer that we send the observational ones to you as they come in or wait until we have all of the electronic versions. We will send the hard copy to you all at once probably a week or so after the hard copy deadline.

Phil

```
From abridle Wed Nov 1 11:32:01 1995
X-VM-v5-Data: ([nil nil nil nil nil t nil nil]
["1935" "Wed" "1" "November" "1995" "11:31:58" "-0500" "Alan Bridle"
"abridle" nil "47" "Re: proceedings" "^From:" nil nil "11" nil nil nil nil]
nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA103265; Wed, 1 Nov 1995 11:31:58 -0500
Message-Id: <9511011631.AA103265@polaris.cv.nrao.edu>
In-Reply-To: <9511011520.AA01106@venus.astr.ua.edu.astr.ua.edu>
References: <9511011520.AA01106@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: proceedings
Date: Wed, 1 Nov 1995 11:31:58 -0500
```

hardee@venus.astr.ua.edu writes:

```
>
> Alan,
>
> Are the paper titles to be used only in the comprehensive bibliography
> or are they also going to be used in the individual article reference
> lists. This tends to make the article reference lists exceedingly
> long, e.g., Jack Burns has two pages of references in this format and
> apparantly his contribution is now 12 pages long.
>
```

That would be an option, though it was not what Tony and I had in mind. If it turns out that we would change the pagination enormously by changing the policy then it would obviously be possible to put the full titles only in the bibliography. I'd sooner do that than not harvest the titles in the first place.

Is Jack saying that his contribution would be only 10 pages without the titles, but is 12 full pages with them? Or is it 10 without and 10.5 with, hence 12 because of the right-page starting rule? There are bound to be a few cases of the latter, and as ASP was not too worried about the actual page count I'd like to stay with the



announced scheme until we can see for ourselves just how much overhead it really involves.

> Jack has also noted that the macro is printing page numbers on the  
> bottom of the page and  
he thinks this is a problem. I assume that we  
> will take care of pagination in the final editing and I can tell him we  
> will worry about pagination and the reference lists in the final  
> editing process. Yes?  
>

Yes. Tell him not to worry about that, it will all come out right when we run the entire proceedings through together.

> We already have several manuscripts. Would you prefer that we send the  
> observational ones to you as they come in or wait until we have all of  
> the electronic versions. We will send the hard copy to you all at once  
> probably a week or so after the hard copy deadline.  
>

I think we might as well let them accumulate at your end for a while.

A.

```
From root Wed Nov 1 12:06:00 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["451" "Wed" "1" "November" "1995" "11:07:29" "CST"
  "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "11" "Re: proceedings"
  "^From:" nil nil "11" nil nil nil nil]
  nil)
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA117000; Wed, 1 Nov 1995 12:05:58 -0500
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA13189; Wed, 1 Nov 1995 10:46:05 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA16987; Wed, 1 Nov 95 11:05:47 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA01127; Wed, 1 Nov 95 11:07:29 CST
Message-Id: <9511011707.AA01127@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: proceedings
Date: Wed, 1 Nov 95 11:07:29 CST
```

Alan,

Without titles Jack Burns contribution is still 10.5 pages and thus would take 12 pages in the proceedings. Clearly removing titles in his case would only help if an additional .5 page could be edited out of the text. I am inclined not to worry about this as the ASP does not have firm page limits and Jack writes a good review article. I will tell him all is OK.

We will hold on to all manuscripts until sometime after the deadline.

Phil

```
From root Mon Nov 6 15:19:05 1995
```

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["13073" "Mon" "6" "November" "1995" "13:48:02" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "787" "jets workshop  
copyright agreement & figures" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA66318; Mon, 6 Nov 1995 15:19:04 -0500  
Received: from nsl.ua.edu by cv3.cv.nrao.edu (4.1/DDN-DLB/1.13)  
id AA16953; Mon, 6 Nov 95 15:18:11 EST  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA12448; Mon, 6 Nov 1995 13:26:38 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA29692; Mon, 6 Nov 95 13:46:14 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01641; Mon, 6 Nov 95 13:48:02 CST  
Message-Id: <9511061948.AA01641@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: participants@venus.astr.ua.edu  
Subject: jets workshop copyright agreement & figures  
Date: Mon, 6 Nov 95 13:48:02 CST

To: Energy transport workshop participants

From: Philip Hardee

Please be sure to mail along with your manuscript an appropriately filled out ASP copyright agreement. I include a postscript file of the copyright agreement below.

Also I suggest that you mail one loose copy of your figures at appropriate size. These will be afixed by the editors to the final edited version of your manuscript.

=====

```
%!PS-Adobe-1.0
%%Creator: devps (Pipeline Associates, Inc.)
%%CreationDate: Mon Sep 11 06:47:12 1995
%%Pages: (atend)
%%DocumentFonts: (atend)

/X{exch}def
/r{rmoveto}def
/m{moveto}def
/l{lineto}def
/rl{rlineto}def
/lc{yc X xc X l st}def
/mc{yc X xc X m}def
/el{gs /a X def a div 1 X scale cp np a xc 2 div 0 360 arc st gr}def
/ar{cp 7 2 roll np xc 5 1 roll atan 3 1 roll atan X arc st}def
/sp{yc X xc X 6 2 roll yc X xc X 6 2 roll yc X xc X 6 2 roll ct}def
/st{stroke}def
/gsave{gsave}def
/grestore{grestore}def
/currentpoint{currentpoint}def
/newpath{newpath}def
/curveto{curveto}def
/m0{0 0 moveto}def
/BP{/devps-save save def m0}def
```

```

/EP{
clear devps-save restore
showpage}def
/res 10.000000 def
/V{res neg div 792 add
currentpoint pop X
m}def
/H{res div
currentpoint X pop
moveto}def
/h{res div 0 r}def
/v{res neg div 0 X r}def
/xc{res div}def
/yc{res neg div 792 add}def
/S{X H show}def
/psize 10 def
/height 1 def
/slant 0 def
/FF{findfont X dup 12 div setlinewidth /psize X def
[psize 0 psize height mul slant sin slant cos div mul psize height mul 0 0]
makefont setfont}def
/shade{gs
/dy X def
/dx X def
np m
setgray
0 dy rl
dx 0 rl
0 dy neg rl
dx neg 0 rl
closepath
fill
gr}def
1 setlinecap
/R{/Times-Roman FF}def
/B{/Times-Bold FF}def
/I{/Times-Italic FF}def
%% Troff special characters not on Symbol font
%% Copyright (C) 1986 by Pipeline Associates, Inc.
%% Version 1.1
/altRTD 20 dict def
altRTD begin
/s{setcachedevice}def
/C{1000 1000 scale}def
/m{moveto}def
/c{curveto}def
/S{stroke}def
/l{lineto}def
/a{arcto}def
/p{pop}def
/sl{setlinewidth}def
end
/F_Troff 17 dict def F_Troff begin
systemdict /currentpacking known
{/SavePacking currentpacking def true setpacking}if
/PaintType 0 def
/FontType 3 def
/StrokeWidth 0 def
/UniqueID 8277003 def

```

```

/FontMatrix [.001000 0 0 .001000 0 0] def
/FontBBox [-12 -105 942 855 ] def
/Encoding 256 array def
/CD 256 1 add dict def
/FontInfo 3 dict def FontInfo begin
/UnderlinePosition -133 def /UnderlineThickness 20 def end
/FontName (Troff) def
0 1 256 1 sub{Encoding exch /.notdef put}for
CD /.notdef{500 0 setcharwidth{}}put
Encoding (1) 0 get /br put
%% bold vertical rule used by tbl
CD /br{
C
0 0 -.5 -.5 1 1 s
np
.05 sl
0 -.1 m
0 .9 l
{S}
}put
Encoding (2) 0 get /ul put
%% underline used by tbl
CD /ul{
C
.5 0 -.5 -.5 1 1 s
np
.05 sl
0 -.1 m
.5 -.1 l
{S}
}put
Encoding (3) 0 get /ru put
%% baseline rule
CD /ru{
C
.5 0 -.5 -.5 1 1 s
np
.05 sl
m0
.5 0 l
{S}
}put
Encoding (4) 0 get /vr put
%% vertical rule
CD /vr{
C
0 0 -.5 -.5 1 1 s
np
.05 sl
m0
0 1 l
{S}
}put
Encoding (5) 0 get /sq put
%% square
CD /sq{
C
.5 0 -.5 -.5 1 1 s
np

```

```

.05 sl
0 .25 m
0 .5 rl
.5 0 rl
0 -.5 rl
-.5 0 rl
closepath
{S}
}put
Encoding (6) 0 get /bx put
%% solid box
CD /bx{
C
.5 0 -.5 -.5 1 1 s
np
0 .25 m
0 .5 rl
.5 0 rl
0 -.5 rl
-.5 0 rl
closepath
{fill}
}put
Encoding (7) 0 get /rn put
%% radical extender
CD /rn{
C
.5 0 -.5 -.5 1 1 s
np
.03 sl
-.03 .9 m
.5 0 rl
{S}
}put
Encoding (8) 0 get /GR put
%% gray mask
CD /GR{
C
.5 0 setcharwidth
.5 setgray
np
0 -.1 m
0 1 rl
.5 0 rl
0 -1 rl
-.5 0 rl
closepath
{fill}
}put
Encoding 97 /a put
CD /a{1000 0 0 66 942 421 s 430 415
m 578 406 678 349 662 319 c 655 306 614 287 583
296 c 570 300 466 340 438 332 c 365 309 335 213
270 209 c 0 310 m 108 310 l 108 114 l 0
114 l 0 310 l 42 161 m 42 134 l 66 134 l 66
161 l 42 161 l 47 155 m 47 140 l 62 140 l 62
155 l 47 155 l 110 133 m 226 113 300 66 410
80 c 497 91 550 69 634 76 c 645 76 663 92 669
107 c 677 125 673 141 668 160 c 725 334 m 758

```

```

332 734 253 701 250 c 501 325 m 475 316 476 309
473 302 c 465 282 482 263 499 257 c 552 236 615
253 689 253 c 701 253 713 236 713 218 c 712 194
702 168 678 161 c 671 159 663 160 655 160 c 591
158 516 156 479 168 c 461 173 453 191 453 210 c 453
224 456 235 466 244 c 476 253 490 252 503 255 c 459
84 m 447 96 435 106 435 123 c 435 136 440 145 447
155 c 453 163 462 168 469 173 c 110 293 m 173
318 300 421 435 415 c 609 407 852 416 885 411 c 898
409 924 411 930 380 c 942 316 828 339 742 334 c 731
334 730 335 725 335 c 701 336 685 336 660 336 c{S}}put
Encoding 98 /b put
CD /b{1000 0 -12 66 930 421 s 500
415 m 352 406 252 349 268 319 c 275 306 316 287
347 296 c 360 300 464 340 492 332 c 565 309 595
213 660 209 c 930 310 m 822 310 l 822 114 l 930
114 l 930 310 l 888 161 m 888 134 l 864 134
l 864 161 l 888 161 l 883 155 m 883 140 l 868
140 l 868 155 l 883 155 l 820 133 m 704 113
630 66 520 80 c 433 91 380 69 296 76 c 285 76
267 92 261 107 c 253 125 257 141 262 160 c 205
334 m 172 332 196 253 229 250 c 429 325 m 455
316 454 309 457 302 c 465 282 448 263 431 257 c 378
236 315 253 241 253 c 229 253 217 236 217 218 c 218
194 228 168 252 161 c 259 159 267 160 275 160 c 339
158 414 156 451 168 c 469 173 477 191 477 210 c 477
224 474 235 464 244 c 454 253 440 252 427 255 c 471
84 m 483 96 495 106 495 123 c 495 136 490 145 483
155 c 477 163 468 168 461 173 c 820 293 m 757
318 630 421 495 415 c 321 407 78 416 45 411 c 32
409 6 411 0 380 c -12 316 102 339 188 334 c 199
334 200 335 205 335 c 229 336 245 336 270 336 c{S}}put
Encoding 99 /c put
CD /c{1000 0 184 0 827 627 s 185 315
m 186 488 332 627 505 625 c 682 623 827 467 815
290 c 804 124 666 0 500 0 c 327 0 184 142 185
315 c{S}}put
Encoding 100 /d put
CD /d{590 0 134 158 477 500 s 300
160 m 208 162 134 238 135 330 c 136 423 212 500
305 500 c 397 500 473 427 475 335 c 477 239 396
158 300 160 c{fill}}put
Encoding 101 /e put % Bell Symbol
CD /e{1010 0 -100 -210 1010 1010 s 100 sl 0 setlinecap
420 300 450 0 360 arc
420 650 m 420 575 l S
newpath 120 125 m 720 125 l 75 sl S
420 125 m 420 25 l S
220 400 m 220 175 120 175 100 a p p p p
220 400 m 220 550 420 550 80 a p p p p
620 400 m 620 175 720 175 100 a p p p p
620 400 m 620 550 420 550 80 a p p p p
295 550 m 545 550 l{S}}put
/BuildChar{altRTD /BuildChar get exec}def end
altRTD begin /BuildChar{altRTD begin
/char exch def /fontdict exch def save
/charname fontdict /Encoding get char get def
fontdict /StrokeWidth get sl
fontdict /CD get dup charname known

```

```
{charname}{/.notdef}ifelse get newpath exec
fontdict /PaintType get 0 eq{exec}{p S}ifelse
restore end}def end
systemdict /currentpacking known{F_Troff /SavePacking get setpacking}if
/Troff F_Troff definefont pop
/Y1{/Troff FF}def
%%EndProlog
%%Page: 1 1
BP
/slant 0 def
/height 1.000000 def
10 R
10 R
840 V
10
B
1908 (Astronomical) S
2515 (Society) S
2850 (of) S
2963 (the) S
3126 (Paci\256c) S
3439 (Conference) S
3956 (Series) S
1080 V
12 B
1271 (PUBLICATION) S
2152 (AGREEMENT) S
2973 (AND) S
3267 (COPYRIGHT) S
4043 (ASSIGNMENT) S
1320 V
10 R
2748 (Editorial) S
3128 (O) S
3200 H
      (f) show 10 -.5 mul h (\256) show
10 R
3284 (ce) S
1440 V
2757 (PO) S
2915 (Box) S
3112 (24463) S
1560 V
2508 (Brigham) S
2888 (Young) S
3190 (University) S
1680 V
2559 (Provo,) S
2853 (Utah) S
3077 (84602-4463) S
1800 V
2922 (U.S.A.) S
2160 V
1250 (Date) S
2436 V
900 (With) S
1130 (regard) S
1414 (to) S
1522 (the) S
```

1674 (original) S  
2015 (and) S  
2189 (previously) S  
2641 (unpublished) S  
3160 (paper) S  
3411 (entitled) S  
3741 (" ) S  
3820 ( \_\_\_\_\_ ) S  
2676 V  
904 ( \_\_\_\_\_ " ) S  
3275 (by) S  
3420 ( \_\_\_\_\_ ) S  
2916 V  
904 ( \_\_\_\_\_ , ) S  
3278 (which) S  
3571 (has) S  
3753 (been) S  
3990 (accepted) S  
4387 (for) S  
4553 (inclusion) S  
4970 (in) S  
5098 (the) S  
3180 V  
900 (proceedings) S  
1412 (of) S  
1570 ( \_\_\_\_\_ ) S  
3360 V  
900 (the) S  
1054 (following) S  
1475 (terms) S  
1729 (are) S  
1882 (submitted) S  
2309 (for) S  
2457 (your) S  
2672 (consideration.) S  
3297 (If) S  
3395 (these) S  
3632 (term) S  
3847 (are) S  
4001 (satisfactory) S  
4494 (please) S  
4776 (sign) S  
4976 (below) S  
3480 V  
900 (and) S  
1085 (return) S  
1364 (this) S  
1550 (agreement) S  
2006 (to) S  
2125 (the) S  
2288 (editor) S  
2562 (of) S  
2686 (the) S  
2849 (volume) S  
3190 (in) S  
3309 (which) S  
3594 (your) S  
3818 (paper) S  
4080 (will) S



4277 (appear.) S  
4638 (It) S  
4740 (will) S  
4937 (be) S  
5071 (for-) S  
3600 V  
900 (warded) S  
1223 (to) S  
1331 (us) S  
1450 (by) S  
1580 (the) S  
1732 (editor) S  
1995 (with) S  
2203 (the) S  
2355 (manuscript.) S  
2884 (We) S  
3052 (will) S  
3238 (not) S  
3396 (publish) S  
3721 (your) S  
3934 (paper) S  
4185 (without) S  
4521 (this) S  
4696 (approval.) S  
3756 V  
10 I  
1150 (Copyright) S  
1599 (Assignment:) S  
10 R  
2136 (Because) S  
2511 (the) S  
2676 (Astronomical) S  
3263 (Society) S  
3607 (of) S  
3734 (the) S  
3900 (Paci\256c) S  
4216 (\ (ASP\)) S  
4510 (is) S  
4621 (undertaking) S  
5142 (to) S  
3876 V  
900 (publish) S  
1227 (this) S  
1404 (book,) S  
1661 (and) S  
1837 (because) S  
2184 (you) S  
2366 (desire) S  
2636 (to) S  
2746 (have) S  
2966 (this) S  
3143 (paper) S  
3396 (so) S  
3517 (published,) S  
3963 (you) S  
4145 (grant) S  
4382 (and) S  
4558 (assign) S  
4840 (the) S

4993 (entire) S  
3996 V  
900 (copyright) S  
1315 (for) S  
1463 (this) S  
1640 (paper) S  
1894 (exclusively) S  
2382 (to) S  
2493 (the) S  
2648 (ASP.) S  
2920 (The) S  
3108 (copyright) S  
3524 (consists) S  
3874 (of) S  
3990 (all) S  
4123 (rights) S  
4384 (protected) S  
4788 (by) S  
4921 (the) S  
5076 (ori-) S  
4116 V  
900 (ginal) S  
1133 (copyright) S  
1549 (laws) S  
1765 (of) S  
1881 (the) S  
2036 (United) S  
2341 (States) S  
2613 (and) S  
2790 (of) S  
2906 (all) S  
3039 (foreign) S  
3360 (countries,) S  
3784 (in) S  
3895 (all) S  
4028 (languages) S  
4459 (and) S  
4635 (forms) S  
4900 (of) S  
5015 (com-) S  
4236 V  
900 (munication.) S  
4392 V  
1150 (The) S  
1337 (ASP,) S  
1578 (in) S  
1688 (return,) S  
1983 (grants) S  
2259 (to) S  
2369 (you) S  
2551 (the) S  
2705 (nonexclusive) S  
3264 (right) S  
3486 (of) S  
3602 (publication,) S  
4110 (subject) S  
4426 (only) S  
4637 (to) S  
4748 (your) S

4964 (giving) S  
4512 V  
900 (appropriate) S  
1386 (credit) S  
1645 (to) S  
1755 (the) S  
10 I  
1909 (ASP) S  
2113 (Conference) S  
2605 (Series) S  
10 R  
2849 (.) S  
2935 (To) S  
3077 (protect) S  
3385 (the) S  
3538 (copyright) S  
3952 (of) S  
4066 (this) S  
4242 (book,) S  
4498 (the) S  
4651 (original) S  
4993 (copy-) S  
4632 V  
900 (right) S  
1119 (notice) S  
1393 (as) S  
1506 (it) S  
1592 (appears) S  
1926 (in) S  
2034 (the) S  
10 I  
2186 (ASP) S  
2388 (Conference) S  
2878 (Series) S  
10 R  
3152 (should) S  
3449 (be) S  
3573 (included) S  
3947 (in) S  
4055 (the) S  
4207 (credit.) S  
4788 V  
10 I  
1150 (Compensation) S  
1762 (and) S  
1947 (Subsidiary) S  
2410 (Rights:) S  
10 R  
2764 (It) S  
2860 (is) S  
2962 (understood) S  
3441 (that) S  
3626 (you) S  
3811 (will) S  
4002 (receive) S  
4324 (no) S  
4459 (monetary) S  
4871 (compen-) S  
4908 V

900 (sation) S  
1173 (from) S  
1401 (the) S  
1557 (ASP) S  
1775 (for) S  
1924 (the) S  
2079 (assignment) S  
2562 (of) S  
2678 (copyright) S  
3094 (and) S  
3271 (publication) S  
3754 (of) S  
3870 (the) S  
4025 (paper.) S  
4334 (Please) S  
4622 (note,) S  
4852 (however,) S  
5028 V  
900 (that) S  
1082 (you) S  
1264 (may) S  
1468 (grant) S  
1705 (or) S  
1820 (deny) S  
2046 (requests) S  
2406 (to) S  
2517 (reprint) S  
2816 (this) S  
2994 (paper) S  
3248 (in) S  
3359 (books) S  
3631 (or) S  
3747 (journals) S  
4102 (and) S  
4279 (you) S  
4462 (may) S  
4667 (retain) S  
4927 (all) S  
5060 (fees) S  
5148 V  
900 (from) S  
1124 (such) S  
1337 (reprinting.) S  
1816 (We) S  
1984 (will) S  
2170 (forward) S  
2515 (such) S  
2728 (requests) S  
3085 (to) S  
3193 (you.) S  
5304 V  
10 I  
1150 (Who) S  
1372 (Should) S  
1689 (Sign:) S  
10 R  
1969 (The) S  
2163 (agreement) S  
2617 (should) S

2923 (be) S  
3056 (signed) S  
3356 (by) S  
3495 (a) S  
3578 (least) S  
3800 (one) S  
3984 (of) S  
4107 (the) S  
4269 (authors) S  
4603 (\ (who) S  
4848 (agrees) S  
5142 (to) S  
5424 V  
900 (inform) S  
1202 (the) S  
1354 (others,) S  
1653 (if) S  
1744 (any\)) S  
1951 (or,) S  
2089 (in) S  
2197 (the) S  
2349 (case) S  
2550 (of) S  
2663 (a) S  
2737 ("work) S  
3013 (made) S  
3259 (for) S  
3405 (hire," ) S  
3656 (by) S  
3786 (the) S  
3938 (employer.) S  
5580 V  
1150 (An) S  
1303 (author) S  
1589 (who) S  
1792 (is) S  
1890 (a) S  
1965 (U.S.) S  
2174 (Government) S  
2704 (o) S  
2754 H  
    (f) show 10 -.5 mul h (\256) show  
10 R  
2838 (cer) S  
2990 (or) S  
3104 (employee) S  
3523 (and) S  
3698 (who) S  
3901 (prepared) S  
4280 (the) S  
4433 (paper) S  
4686 (as) S  
4801 (part) S  
4988 (of) S  
5103 (his) S  
5700 V  
900 (or) S  
1032 (her) S  
1208 (o) S

1258 H  
    (f) show 10 -.5 mul h (\256) show  
10 R  
1342 (cial) S  
1535 (duties) S  
1823 (does) S  
2054 (not) S  
2230 (own) S  
2450 (any) S  
2642 (copyright) S  
3073 (in) S  
3199 (it.) S  
3358 (If) S  
3472 (at) S  
3592 (least) S  
3823 (one) S  
4015 (of) S  
4146 (the) S  
4316 (authors) S  
4658 (is) S  
4773 (not) S  
4949 (in) S  
5075 (this) S  
5820 V  
900 (category,) S  
1313 (that) S  
1508 (author) S  
1808 (should) S  
2120 (sign) S  
2332 (below.) S  
2676 (If) S  
2787 (all) S  
2932 (the) S  
3099 (authors) S  
3438 (are) S  
3604 (in) S  
3727 (this) S  
3917 (category,) S  
4330 (please) S  
4624 (check) S  
4902 (the) S  
5070 (box) S  
5940 V  
900 (below) S  
1174 (and) S  
1348 (return) S  
1616 (the) S  
1768 (form) S  
1992 (unsigned.) S  
6180 V  
12 B  
900 (ACCEPTED) S  
1593 (AND) S  
1887 (APPROVED) S  
2587 (FOR) S  
2876 (THE) S  
3166 (AUTHOR\ (S\ :) S  
6456 V  
10 R

900 (Author's) S  
1285 (signature:) S  
1699 ( \_\_\_\_\_ Date) S  
4420 ( \_\_\_\_\_ ) S  
6804 V  
10 Y1  
1150 (5) S  
10 R  
1400 (All) S  
1561 (authors) S  
1888 (are) S  
2042 (U.S.) S  
2253 (Government) S  
2785 (o) S  
2835 H

(f) show 10 -.5 mul h (\256) show

10 R  
2919 (cials) S  
3135 (or) S  
3251 (employees) S  
3711 (and) S  
3888 (prepared) S  
4269 (the) S  
4425 (submitted) S  
4854 (article) S  
5137 (as) S  
6924 V  
1400 (part) S  
1585 (of) S  
1698 (their) S  
1911 (o) S  
1961 H

(f) show 10 -.5 mul h (\256) show

10 R  
2045 (cial) S  
2219 (duties.) S  
7920 V

EP

%%Trailer

%%DocumentFonts: Times-Roman Times-Bold Times-Italic Troff

%%Pages: 1

#

From abridle Thu Nov 16 15:04:33 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1433" "Thu" "16" "November" "1995" "15:04:24" "-0500" "Alan Bridle"  
"abridle" nil "29" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil  
nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA104778; Thu, 16 Nov 1995 15:04:24 -0500

Message-Id: <9511162004.AA104778@polaris.cv.nrao.edu>

In-Reply-To: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>

References: <9509011816.AA06347@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: workshop proceedings

Date: Thu, 16 Nov 1995 15:04:24 -0500

Hi Phil,

I have just transmitted to the anon-ftp area on crux the .tex and .ps files for the paper by Swain, Bridle and Baum. The .ps file of the 353 image (Figure 1) that has been provided for this submission will be replaced by a glossy print for the final version. This print is not available at the moment due to a problem with the photoprocessing, and if the final version is going to be produced here in CV anyway I would prefer simply to keep it here for insertion into the final version. I'll send you a personal copy of it as soon as we have it. The printout of the version with the .ps figure will be in the paper mail to Alex this afternoon.

Because I will be submitting two papers, one for 3c353 and the other for my review, I made a directory /abridle/3c353 for this paper and will make a second /abridle/review for the review.

I have a draft of the review but I realized as I was doing it that it will make good sense for me to check the actual submissions from many of the workshop papers to make sure they are including the things that I am referring to! I'd therefore like to put off trying to finalize it until I have had a chance to look through the actual papers that have been submitted, if that is o.k. by you. I will need the full 10-page allotment, that is clear.

I suggest that I pull all the files that have been submitted across to CV sometime on Monday, if that suits you and Alex.

Best wishes, A.

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X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
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  "<9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>" "38" "Re: workshop
  proceedings" "^From:" nil nil "11" nil nil nil nil]
  nil)
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA54619; Thu, 16 Nov 1995 15:38:30 -0500
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA17720; Thu, 16 Nov 1995 14:18:58 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA27852; Thu, 16 Nov 95 14:38:26 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA04515; Thu, 16 Nov 95 14:40:31 CST
Message-Id: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: workshop proceedings
Date: Thu, 16 Nov 95 14:40:31 CST
```

Alan,

You probably did not need to send your papers down here if the final volume is going to be produced in C'ville unless you want me to proof them here. It does seem to me like a good idea for you to finalize after you have seen the contributions.



I suggest that you make sure you can ftp out of the anonymous ftp area by trying it with one contribution. We will have to restore some of the earlier submissions as the anonymous ftp area is wiped after one week or so, e.g., Andrew Wilson's area is now empty. We have been saving all files elsewhere in more permanent storage.

I suggest that we proceed by splitting contributions into observation and theory. I can keep all the theory contributions here and edit them and only send them on to you when the job is complete. I was not anticipating looking at the observational contributions at this point and am assuming that you will take care of all problems with the observational contributions? I do anticipate badgering the theoreticians and have already had to ask Koide to get me decent figures.

There are already some problems with figures, references, lengths, etc. I did tell Jack Burns that he could go over the limit by 2 pages and Rene Vermuelen that he could go over by a half page - Rene's is at the 6 page limit if the titles are removed. On the other hand, Andrew Wilson sent a 15 page contribution and Chris Carilli left all his references numbered and without titles, no doubt identical to his Cygnus A conference proceedings paper, and his postscript figures are not printing out properly.

How does this split of responsibility sound to you?

Phil

```
From abridle Thu Nov 16 15:46:11 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["2489" "Thu" "16" "November" "1995" "15:45:59" "-0500" "Alan Bridle"
  "abridle" nil "65" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil
  nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA171157; Thu, 16 Nov 1995 15:45:59 -0500
Message-Id: <9511162045.AA171157@polaris.cv.nrao.edu>
In-Reply-To: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>
References: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: workshop proceedings
Date: Thu, 16 Nov 1995 15:45:59 -0500
```

hardee@venus.astr.ua.edu writes:

```
>
> Alan,
>
> You probably did not need to send your papers down here if the final
> volume is going to be produced in C'ville unless you want me to proof
> them here. It does seem to me like a good idea for you to finalize after
> you have seen the contributions.
>
```

Well, I thought completeness might be a good thing to aim for, both in your collection and in ours. Also to show some willingness to meet our own deadlines!

> I suggest that you make sure you can ftp out of the anonymous ftp area  
> by trying it with one contribution. We will have to restore some of  
> the earlier submissions as the anonymous ftp area is wiped after one  
> week or so, e.g., Andrew Wilson's area is now empty. We have been saving all  
> files elsewhere in more permanent storage.

Would it then be less work for all of us if you were to send a tar tape of the "elsewhere" by mail rather than ftp-ing them all separately and having you need to restore some of them?

>  
> I suggest that we proceed by splitting contributions into observation  
> and theory. I can keep all the theory contributions here and edit them  
> and only send them on to you when the job is complete. I was not  
> anticipating looking at the observational contributions at this point  
> and am assuming that you will take care of all problems with the  
> observational contributions? I do anticipate badgering the  
> theoreticians and have already had to ask Koide to get me decent  
> figures.  
>

That seems a fair split to me.

> There are already some problems with figures, references, lengths,  
> etc. I did tell Jack Burns that he could go over the limit by 2 pages  
> and Rene Vermuelen that he could go over by a half page - Rene's is at  
> the 6 page limit if the titles are removed. On the other hand, Andrew  
> Wilson sent a 15 page contribution and Chris Carilli left all his  
> references numbered and without titles, no doubt identical to his  
> Cygnus A conference proceedings paper, and his postscript figures are not  
> printing out properly.  
>

If he's sending an identical contribution there may be some copyright problems in the offing.

Postscript problems can be of all sorts. Half the time I could not not print our paper on one of our printers, it was interacting with how the previous job on the printer had handled memory management. We'll have to try them individually on the final devices to be sure what's going on, I fear.

A.

From abridle Thu Nov 16 16:06:55 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["598" "Thu" "16" "November" "1995" "16:06:43" "-0500" "Alan Bridle"  
"abridle" nil "17" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil

nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA104757; Thu, 16 Nov 1995 16:06:43 -0500  
Message-Id: <9511162106.AA104757@polaris.cv.nrao.edu>  
In-Reply-To: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
References: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Thu, 16 Nov 1995 16:06:43 -0500

hardee@venus.astr.ua.edu writes:

>

> I suggest that you make sure you can ftp out of the anonymous ftp area  
> by trying it with one contribution. We will have to restore some of  
> the earlier submissions as the anonymous ftp area is wiped after one  
> week or so, e.g., Andrew Wilson's area is now empty. We have been saving all  
> files elsewhere in more permanent storage.  
>

I am currently grabbing all of the observational stuff that is in there at the moment. I notice that there aren't sirectories for burns or carilli, I presume they are already backed up somewhere else.

A.

From abridle Thu Nov 16 16:44:06 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["823" "Thu" "16" "November" "1995" "16:43:58" "-0500" "Alan Bridle"  
"abridle" nil "25" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil  
nil])

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA172695; Thu, 16 Nov 1995 16:43:58 -0500  
Message-Id: <9511162143.AA172695@polaris.cv.nrao.edu>  
In-Reply-To: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
References: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Thu, 16 Nov 1995 16:43:58 -0500

hardee@venus.astr.ua.edu writes:

>

> Alan,  
>  
> There are already some problems with figures, references, lengths,  
> etc. I did tell Jack Burns that he could go over the limit by 2 pages  
> and Rene Vermuelen that he could go over by a half page - Rene's is at  
> the 6 page limit if the titles are removed. On the other hand, Andrew  
> Wilson sent a 15 page contribution and Chris Carilli left all his  
> references numbered and without titles, no doubt identical to his  
> Cygnus A conference proceedings paper, and his postscript figures are not  
> printing out properly.

Larry Rudnick's paper is also 7, i.e. 8, pages.

I guess we need to see how we total out before deciding how aggressively to go after anyone for pruning?

I'm inclined to be very lenient with anyone who got their paper in on time.

A.

From abridle Fri Nov 17 09:53:30 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["813" "Fri" "17" "November" "1995" "09:53:22" "-0500" "Alan Bridle"  
"abridle" nil "21" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil  
nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA155688; Fri, 17 Nov 1995 09:53:22 -0500  
Message-Id: <9511171453.AA155688@polaris.cv.nrao.edu>  
In-Reply-To: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
References: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Fri, 17 Nov 1995 09:53:22 -0500

Hi Phil,

I have copied over and printed out the contributions from Scheuer(2), O'Dea(1), Rudnick(1), Vermeulen(1), Lloyd(1) and Jones(1), which were all the observational ones (other than my own) that I could find in the anon-ftp area. If there are some others that could be restored from backup, I'd like to look at them over the weekend if possible, including Burns, Wilson and Carilli. There was a directory for Qian but no contents, I presume he has also been backed up. Are there others like that?

Only Peter Scheuer and Paul Jones had kept to the page limits, one case (Peter on hot spots) being well below them. I can probably squeeze Lloyd into them as he has not formatted one of the Figures ideally.

Very few of the over-runs can be attributed entirely to our request for article titles.

A.

From root Fri Nov 17 11:05:22 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2102" "Fri" "17" "November" "1995" "11:05:17" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "63" "Re: forwarded message from hardee@venus.astr.ua.edu"  
"^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA163166; Fri, 17 Nov 1995 11:05:20 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA11580; Fri, 17 Nov 1995 11:05:19 -0500

Message-Id: <9511171605.AA11580@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.1.2

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu, hardee@venus.astr.ua.edu

Cc: azensus@polaris.cv.nrao.edu

Subject: Re: forwarded message from hardee@venus.astr.ua.edu

Date: Fri, 17 Nov 1995 11:05:17 -0500

At 09:53 AM 11/17/95 -0500, Alan Bridle wrote:

>Alan,

>I suggest that we proceed by splitting contributions into observation  
>and theory. I can keep all the theory contributions here and edit them  
>and only send them on to you when the job is complete. I was  
not  
>anticipating looking at the observational contributions at this point  
>and am assuming that you will take care of all problems with the  
>observational contributions?

I think that the split you suggest for copy-editing is ok. However, to achieve a uniform appearance of articles, we need to be looking (at least casually) at all contributions. I found that you often make decisions regarding layout/style/conventions working on one paper that can affect others.

>I do anticipate badgering the  
>theoreticians and have already had to ask Koide to get me decent  
>figures.

good. I also suggest that you insist authors provide missing items like page numbers and titles, etc., even if they are not included in original versions. If you are on top of your category, you might consider editing first, and returning a marked-up version that points out all the things that are missing. That way you have to deal with a smaller number of revisions per paper (hopefully).

>There are already some problems with figures, references, lengths,  
>etc. I did tell Jack Burns that he could go over the limit by 2 pages  
>and Rene Vermuelen that he could go over by a half page - Rene's is at  
>the 6 page limit if the titles are removed.

If he goes over one half, he should go over 2 it seems to me.

>On the other hand, Andrew  
>Wilson sent a 15 page contribution

too long, I'd say, unless it's really seminal.

>and Chris Carilli left all his

>references numbered and without titles,

go after him.

> no doubt identical to his

>Cygnus A conference proceedings paper

if you are saying the contribution is identical to the GB paper that should be discouraged, certainly for copyright considerations (GB -> CUP??)

>and his postscript figures are not

>printing out properly.

That can perhaps be fixed on a case-by-case basis.

>

Anton

From root Fri Nov 17 14:43:15 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil]

["223" "Fri" "17" "November" "1995" "13:45:04" "CST"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"

"<9511171945.AA00409@venus.astr.ua.edu.astr.ua.edu>" "8" "Re: workshop proceedings"

"^From:" nil nil "11" nil nil nil nil]

nil)

Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA131474; Fri, 17 Nov 1995 14:43:09 -0500

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA08537; Fri, 17 Nov 1995 13:21:36 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA01255; Fri, 17 Nov 95 13:42:58 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA00409; Fri, 17 Nov 95 13:45:04 CST

Message-Id: <9511171945.AA00409@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: workshop proceedings

Date: Fri, 17 Nov 95 13:45:04 CST

Alan,

You will now find contributions from Burns, Carilli, Wilson, Owen, Daly in addition to those you copied over earlier. Burns, Carilli & Wilson were the only ones we had to restore. Owen & Daly just came in.

Phil

From abridle Fri Nov 17 15:12:08 1995

X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]

["2163" "Fri" "17" "November" "1995" "15:12:06" "-0500" "Alan Bridle"

"abridle" nil "59" "File naming" "^From:" nil nil "11" nil nil nil nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA100239; Fri, 17 Nov 1995 15:12:06 -0500

Message-Id: <9511172012.AA100239@polaris.cv.nrao.edu>

References: <9511162040.AA04515@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)  
To: azensus  
Subject: File naming  
Date: Fri, 17 Nov 1995 15:12:06 -0500

Here's a proposal for organizing the workshop files as we edit them, based on a discussion with Tony this a.m.

We keep the originals in a directory structure mirroring that in the original anon-ftp area on crux.astr.ua.edu. (As I harvest the files from there, I am placing them on my SPARC station in directories /redbud\_2/abridle/alabama/authorname exactly as in the original area and with the original filenames).

All edited files for the final version will however end up in the master directory, in my case /redbud\_2/abridle/alabama. These will include:

- o the style files, e.g. paspconf.sty, article.sty
- o our master file which will make further macro and layout definitions and "include" statements pointing to all of the individual paper .tex files.
- o all edited .tex and .eps files from the individual papers. The edited versions will get a systematic naming convention:

For .tex files,

First5 letters are first 5 of author's surname  
a digit to distinguish multiple papers if necessary  
a letter 't' if the file is a separate table file  
a digit to distinguish multiple tables if necessary

For Postscript files,

the above, except that the letter 'f' is used if the file is a figure

file extension .eps if the file is an encapsulated PostScript file (i.e. specifies a bounding box), otherwise file extension for PostScript should be .ps

Thus we might have	scheu1.tex	Tex file for Scheuer Paper 1
	scheu1f1.eps	EPS file for Fig.1, Scheuer Paper 1
	scheu2f2.eps	EPS file for Fig 2, Scheuer Paper 2

When the master is run it can then grab all edited files and styles from the same directory, but we can move papers around en bloc as needed using a 5 or 6-item minimum match. The ordering of the includes in the master file keeps track of the paper ordering for the whole proceedings, but we can diagnose authorship from the filenames themselves, and we can read them to and from DOS disks legibly (both Tony and I have a preference for keeping that option alive).

Will this be o.k.?

A.

From abridle Fri Nov 17 15:21:35 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1181" "Fri" "17" "November" "1995" "15:18:30" "-0500" "Alan Bridle"  
"abridle" nil "34" "Re: workshop proceedings" "^From:" nil nil "11" nil nil nil  
nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA121042; Fri, 17 Nov 1995 15:18:30 -0500  
Message-Id: <9511172018.AA121042@polaris.cv.nrao.edu>  
In-Reply-To: <9511171945.AA00409@venus.astr.ua.edu.astr.ua.edu>  
References: <9511171945.AA00409@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: workshop proceedings  
Date: Fri, 17 Nov 1995 15:18:30 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> You will now find contributions from Burns, Carilli, Wilson, Owen, Daly in  
> addition to those you copied over earlier. Burns, Carilli & Wilson were the  
> only ones we had to restore. Owen & Daly just came in.  
>  
> Phil

Hi Phil, I got Burns, Carilli and Wilson o.k.

I'm now pulling the others.

I've given some copies to Tony so he can write down some ideas about standardization. We went through Peter Scheuer's paper together and discovered that we were on pretty much the same wavelength re the editing we would try to do, though not in every fine detail. We also discussed some organizational possibilities, directory structures and file names, which I will write down and send on to you as suggestions of how we might proceed.

We both felt that we should get onto people whose contributions are way too long very soon, but a wait a while and do some editing before getting back to other people re small changes and formatting details.

We'll also need to have a strategy for harassing slowpokes.

Do you know from your last E-mailing how complete and up-to-date the E-mail list is? I.e. did any bounce?

A.

From root Fri Nov 17 15:32:04 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]



["142" "Fri" "17" "November" "1995" "14:33:57" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "10" "Re: e-mail changes"  
"^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA196242; Fri, 17 Nov 1995 15:32:03 -0500  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07398; Fri, 17 Nov 1995 14:10:29 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA01630; Fri, 17 Nov 95 14:31:51 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA00452; Fri, 17 Nov 95 14:33:57 CST  
Message-Id: <9511172033.AA00452@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: e-mail changes  
Date: Fri, 17 Nov 95 14:33:57 CST

Alan,

There are two e-mail addresses that have changed. New ones below:

Birkinshaw: mbl@siva.bris.ac.uk

Qian: rqsj@bao01.bao.ac.cn

Phil

From abridle Mon Nov 20 16:38:43 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2189" "Mon" "20" "November" "1995" "16:38:19" "-0500" "Alan Bridle"  
"abridle" nil "61" "File naming" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61121; Mon, 20 Nov 1995 16:38:19 -0500  
Message-Id: <9511202138.AA61121@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: File naming  
Date: Mon, 20 Nov 1995 16:38:19 -0500

Phil,

Here's a proposal for organizing the workshop files as we edit them,  
based on a discussion with Tony this a.m.

We keep the originals in a directory structure mirroring that in  
the original anon-ftp area on crux.astr.ua.edu. (As I harvest the  
files from there, I am placing them on my SPARC station in directories  
/redbud\_2/abridle/alabama/authurname exactly as in the original area  
and with the original filenames).

All edited files for the final version will however end up in the  
master directory, in my case /redbud\_2/abridle/alabama. These will  
include:

- o the style files, e.g. paspconf.sty, article.sty

o our master  
file which will make further macro and layout  
definitions and "include" statements pointing to all of the  
individual paper .tex files.

o all edited .tex and .eps files from the individual papers.  
The edited versions will get a systematic naming convention:

For .tex files,

First5 letters are first 5 of author's surname  
a digit to distinguish multiple papers if necessary  
a letter 't' if the file is a separate table file  
a digit to distinguish multiple tables if necessary

For Postscript files,

the above, except that the letter 'f' is used if the file is  
a figure

file extension .eps if the file is an encapsulated PostScript  
file (i.e. specifies a bounding box), otherwise file extension  
for PostScript should be .ps

Thus we might have       scheul.tex       Tex file for Scheuer Paper 1  
                          scheulf1.eps    EPS file for Fig.1, Scheuer Paper 1  
                          scheu2f2.eps    EPS file for Fig 2, Scheuer Paper 2

When the master is run it can then grab all edited files and styles  
from the same directory, but we can move papers around en bloc as  
needed using a 5 or 6-item minimum match. The ordering of the  
includes in the master file keeps track of the paper ordering for the  
whole proceedings, but we can diagnose authorship from the filenames  
themselves, and we can read them to and from DOS disks legibly (both  
Tony and I have a preference for keeping that option alive).

Will this be o.k.?

A.

----- end -----

From root Mon Nov 20 17:12:37 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
  ["1020" "Mon" "20" "November" "1995" "16:14:06" "CST"  
  "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
  "<9511202214.AA00989@venus.astr.ua.edu.astr.ua.edu>" "23" "Re: File naming"  
  "^From:" nil nil "11" nil nil nil nil]  
  nil)  
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
  id AA33934; Mon, 20 Nov 1995 17:12:14 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
  id AA12328; Mon, 20 Nov 1995 15:50:36 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
  id AA07814; Mon, 20 Nov 95 16:11:56 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA00989; Mon, 20 Nov 95 16:14:06 CST  
Message-Id: <9511202214.AA00989@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: File naming  
Date: Mon, 20 Nov 95 16:14:06 CST

Alan,

This looks like a good file naming convention to me. I will see that all theory papers have this convention as I edit them here. Presumably when I am done I can place all the files in our ftp area so that you can move them to C'ville. Do you have any date in mind for finishing the editing of individual contributions? I expect at least another week before the majority are in and we have already received some text revisions of previously sent versions. For this reason I had not planned to begin any serious work until next week.

Is there other material that we would like to put in the proceedings such as attendee's addresses, e-mail addresses. I can supply this material as an ascii file.

Shall we put the group picture in the volume. I have the proofs.

Shall we use a line drawing for the cover. I note that these reproduce better than images on ASP covers. Do I want to get my local graphic artist to do a cover design - could use a modified t-shirt design. Any suggestions are welcome.

Phil

From abridle Mon Nov 20 17:40:33 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2461" "Mon" "20" "November" "1995" "17:37:16" "-0500" "Alan Bridle"  
"abridle" nil "61" "Re: File naming" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA170613; Mon, 20 Nov 1995 17:37:16 -0500  
Message-Id: <9511202237.AA170613@polaris.cv.nrao.edu>  
In-Reply-To: <9511202214.AA00989@venus.astr.ua.edu.astr.ua.edu>  
References: <9511202214.AA00989@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: File naming  
Date: Mon, 20 Nov 1995 17:37:16 -0500

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> This looks like a good file naming convention to me. I will see that  
> all theory papers have this convention as I edit them here. Presumably  
> when I am done I can place all the files in our ftp area so that you  
> can move them to C'ville. Do you have any date in mind for finishing  
> the editing of individual contributions?

Not a hard date. I intend to start in on it this week and get some idea of the total time it may take from there. I will have to have a big

hiatus in it anyway from Nov 30 - Dec 13 as Robert Laing is coming here to work with me on the 3C31 decelerating jet data analysis and modeling.

Tony is editing my paper to provoke a description of his "standard". I think it will be worth waiting for that either of us goes too far with editing.

I think we need a form letter with which to harass people who have not included paper titles and first/last page info. We can rescue a fair bit of this ourselves but there are enough of them delinquent that I would like to try one round of trying to get them to do what we asked.

When do you feel like beginning to harass the latecomers?

- > Is there other material that we would like to put in the proceedings
- > such as attendee's addresses, e-mail addresses. I can supply this
- > material as an ascii file.

That would be useful

- >
- > Shall we put the group picture in the volume. I have the proofs.
- >

If we do that, we will need to generate a "key" telling the readers who is who. Can we identify everybody reliably enough? (I have tended to keep these conference group pix a private thing for the participants, myself, but I do not have strong feelings about it either way.)

- > Shall we use a line drawing for the cover. I note that these reproduce
- > better than images on ASP covers. Do I want to get my local graphic
- > artist to do a cover design - could use a modified t-shirt design. Any
- > suggestions are welcome.
- >

The T-shirt itself may have too much detail to reproduce well on the ASP size cover. I agree that the Stromlo symposium's images did not reproduce well by the time they were in the final copy (that's the only one I have handy in my office), while the Synthesis Imaging one did well using a clear line drawing (we matched the resolution of that one to what the ASP could do easily). Maybe we should see whether any particularly nice line drawings come in with the contributions?

A.

From root Tue Nov 21 17:14:14 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1564" "Tue" "21" "November" "1995" "17:14:11" "-0500" "Anton Zensus" "azensus@nrao.edu" nil "40" "Book layout" "^From:" nil nil "11" nil nil nil nil] nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA135821; Tue, 21 Nov 1995 17:14:14 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA19243; Tue, 21 Nov 1995 17:14:13 -0500  
Message-Id: <2.2b7.32.19951121221411.006becb4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b7 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: Book layout  
Date: Tue, 21 Nov 1995 17:14:11 -0500

I have manipulated the pasp style files to produce a more sensible layout for our proceedings:

1. There are three new style files that you should include in the preamble:

```
\documentstyle[11pt,paspcnf,jetpage,jetdef,psfig]{article}
```

jetpage.sty contains modifications for the page setup

jetdef.sty contains useful definitions, and will be the file where new defs. and abbreviations can be added as we go along.

psfig.sty is a package to deal with eps figures that I find very useful in dealing with encapsulated postscript.

2. You will find that the files as they come from the authors will still run ok under LaTeX with these additions, but that the layout is somewhat different.

3. Alan and I have been debating various style conventions, and I have written up a list of things I could think of so far. This will need completion and I will send it for comments in the next message.

4. jetdef.sty contains many useful abbreviations and declarations for special symbols. If you have additional def you wish to be included send them to me so

I can update the master. The same for new definitions of journals.

5. The files can be copied with ftp from our anonymous area:

```
ftp ftp.cv.nrao.edu  
cd /home/ftp/NRAO-staff/azensus
```

6. There are also verme.ps which is the postscript file of Vermeulen's paper, processed as described above. And there is jetbook.ps which is the same paper, but processed from a master control file which I am constructing to run off the whole book. please look at both, so that we can discuss/agree on additional style changes.

az

From root Tue Nov 21 17:23:04 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2508" "Tue" "21" "November" "1995" "17:23:01" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "76" "style conventions (to be expanded, discussed)"  
"^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA135902; Tue, 21 Nov 1995 17:23:04 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA19253; Tue, 21 Nov 1995 17:23:03 -0500  
Message-Id: <2.2b7.32.19951121222301.006b5fb0@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b7 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From:  
Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: style conventions (to be expanded, discussed)  
Date: Tue, 21 Nov 1995 17:23:01 -0500

Overall, we should follow the guide lines as given in ``The Chicago Manual of Style'', 13. edition

#### Punctuation

never a space between a word and a period (full stop),  
exclamation or question mark

#### Formulas

use displayed math if in-line math looks clumsy  
use proper punctuation  
check indentation of subsequent paragraph: if there is a comma after the equation, or the sentence continues, the foll. par. should not be indented.

#### Naming conventions

3C names, etc. should be typeset as, e.g., 3C\,345, BL\,Lac, 4C\,39.25 and so on

#### Units

Units are connected to numbers by ``~''. e.g. 5~GHz, 15~cm, 10~yr  
if part of a sentence without a specific value, units should be spelled out.  
use negative exponents (like km sec<sup>{-1}</sup> Mpc<sup>{-1}</sup>), and not fractions (like m/s)

#### Hyphenation

never use ``--'' to hyphenate words  
use em-dash "--", without leading or trailing spaces, in ranges (e.g., pages, values of a parameter, etc.)  
use ellipsis "---" without leading/trailing spaces

#### Capitalize

all words in section titles of ALL levels (title, section, sub, sub-sub, etc), except minor words  
passing references to parts of the book (or paper) like the Bibliography  
Table, Figure, Equation, Chapter, Section, etc.  
this Book, these Proceedings, this Conference, this Work, etc.

#### Do NOT capitalize:

passing reference to foreword, preface, introduction, contents, appendix, glossary, bibliography, index, of OTHER works

#### Abbreviations

use "\eg," or "\ie", or "\cf\", consistently and replace for author constructs (like \eg \eacp for e.g.,)  
in parenthetical reference (chap.~3, fig.~3, tab.~3, eq.~3, sec.~3, etc.)

#### Citations in text

no comma before the year: (e.g. Dowe, Cheatem, and How 1995)

#### Numbers

in text, numbers less than 17 should be spelled out.

#### Spelling

Spelling should be american

Exc.: Queen's English or Monthly Notices Style should not be changed to American

#### References

titles should be mixed case (not all upper case), regardless of the original print

use proper connection in source names (e.g., 3C\,345)

proceedings should be keyed in by using/creating a proper abbreviation

no references to these proceedings in the reference list

initials of authors should be separated by a space, or connected by ``~'' (e.g., A.~H. Bridle or A. H. Bridle, but NOT A.H. Bridle)

use ``in press'', and not ``in the press''

``in preparation'' should not be used in ref list, only in text.

``submitted'' is ok.

From root Tue Nov 21 18:24:40 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["1744" "Tue" "21" "November" "1995" "17:26:34" "CST"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"

"<9511212326.AA01669@venus.astr.ua.edu.astr.ua.edu>" "52" "Re: letters" "^From:"

nil nil "11" nil nil nil nil]

nil)

Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA22641; Tue, 21 Nov 1995 18:24:38 -0500

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA10368; Tue, 21 Nov 1995 17:03:05 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA10733; Tue, 21 Nov 95 17:24:24 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA01669; Tue, 21 Nov 95 17:26:34 CST

Message-Id: <9511212326.AA01669@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: letters

Date: Tue, 21 Nov 95 17:26:34 CST

Alan,

The letters look fine to me. Can I be Philip Hardee in our letters instead of Phil Hardee? Phil sounds so informal and unimposing. Not

likely to frighten a recalcitrant contributor.

I suggest the first week in December as to when these letters go out. This will give next week to look through the submissions. Am I to send them out to everyone or only to the theoretical contributors? This is what I would prefer but it would entail a theory & observation list so no one gets lost.

I assume that you will attempt to extract a submission from Robert Laing as I will attempt to extract a submission from Mike Norman.

Phil

=====  
Mark Birkinshaw has noted the following problem:

```
>From mbl@siva.bris.ac.uk Tue Nov 21 13:05:30 1995
Date: Tue, 21 Nov 1995 19:02:26 GMT
From: Mark Birkinshaw <mbl@siva.bris.ac.uk>
To: hardee@venus.astr.ua.edu
Cc: mbl@siva.bris.ac.uk
Subject: Tuscaloosa proceedings
Content-Length: 739
```

Dear Philip,

I'm pleased to say that the 6-page article is about finished: there's some cosmetic work to be done on one of the figures, and there's some debugging of the macro package needed, but I should have it in the mail to you tomorrow.

The macro problem, incidentally, is related to the instruction about how to reference proceedings. Using `\renewcommand{\sxot}{...}` to create a reference to a proceedings volume that I want to abbreviate as `\sxot` doesn't work (it fails with an error message about `\sxot` being a non-existent command). Using `\def\sxot{...}` works perfectly. So I'm trying to investigate what's going wrong with the `\renewcommand` syntax that you recommend.

More (everything!) tomorrow,

Best regards,

Mark

```
From abridle Wed Nov 22 09:57:39 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["2001" "Wed" "22" "November" "1995" "09:57:35" "-0500" "Alan Bridle"
"abridle" nil "65" "Re: letters" "^From:" nil nil "11" nil nil nil nil]
nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA200717; Wed, 22 Nov 1995 09:57:35 -0500
Message-Id: <9511221457.AA200717@polaris.cv.nrao.edu>
In-Reply-To: <9511212326.AA01669@venus.astr.ua.edu.astr.ua.edu>
References: <9511212326.AA01669@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
```



To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: letters  
Date: Wed, 22 Nov 1995 09:57:35 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> The letters look fine to me. Can I be Philip Hardee in our letters  
> instead of Phil Hardee? Phil sounds so informal and unimposing. Not  
> likely to frighten a recalcitrant contributor.  
>

Will do.

> I suggest the first week in December as to when these letters go out.

I was proposing to go ahead with "mine" right away.

We do need an explicit list of which contributions are to be edited by which editor, then we could each go ahead at our own pace without fear of duplication.

> I assume that you will attempt to extract a submission from Robert  
> Laing as I will attempt to extract a submission from Mike Norman.  
>

Robert is visiting me for 2 weeks starting next Wednesday. This will put a pause in my work on the proceedings but will likely give me a chance to strong-arm him if needed.

>  
> Mark Birkinshaw has noted the following problem:  
>  
> >From mbl@siva.bris.ac.uk Tue Nov 21 13:05:30 1995  
> Date: Tue, 21 Nov 1995 19:02:26 GMT  
> From: Mark Birkinshaw <mbl@siva.bris.ac.uk>  
> To: hardee@venus.astr.ua.edu  
> Cc: mbl@siva.bris.ac.uk  
> Subject: Tuscaloosa proceedings  
> Content-Length: 739  
>  
> Dear Philip,  
>  
> I'm pleased to say that the 6-page article is about finished: there's  
> some cosmetic work to be done on one of the figures, and there's some  
> debugging of the macro package needed, but I should have it in the  
> mail to you tomorrow.  
>  
> The macro problem, incidentally, is related to the instruction about  
> how to reference proceedings. Using  
> \renewcommand{\sxot}{...}  
> to create a reference to a proceedings volume that I want to abbreviate  
> as \sxot doesn't work (it fails with an error message about \sxot being  
> a non-existent command). Using  
> \def\sxot{...}  
> works perfectly. So I'm trying to investigate what's going wrong with the

> \renewcommand syntax that you recommend.  
>  
> More (everything!) tomorrow,  
>

I think this is a typo for \newcommand

A.

From abridle Wed Nov 22 11:50:34 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["4767" "Wed" "22" "November" "1995" "11:50:24" "-0500" "Alan Bridle"  
"abridle" nil "81" "Editing division" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61014; Wed, 22 Nov 1995 11:50:24 -0500  
Message-Id: <9511221650.AA61014@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Editing division  
Date: Wed, 22 Nov 1995 11:50:24 -0500

Here's a suggested division of the editing tasks,  
based on the authors and titles as listed in the  
proceedings. The load would be Phil-20, Alan-20  
(in both cases including our own contributions)  
Tony-15 (including his own poster which may or may not  
exist?). Komissarov also produced 2 unexpected posters,  
which were not in the original list. They would  
be worth capturing, but possibly he could roll his  
whole presentation into one?

This is just dumped from a REFLEX database I am  
creating to track the editing process at Tony's  
suggestion. Excuse the control-M's if you see them,  
and the title fields are incomplete and truncated.  
I just entered enough to resolve some ambiguities,  
Author is the author as given for the presentation  
at the workshop.

Would this be suitable to you?

=====

Author	Title	Editor
Scheuer	Overview	Bridle
Wilson		Bridle
Lovelace		Hardee
Christodoulou		Hardee
Marscher		
Zensus		
Qian		Zensus
Georganopoulos		Zensus
Daly		Zensus

Readhead		Zensus
O'Dea	X-ray and Optical Observations of GHz Pe	Zensus
Pearson		Zensus
Lobanov		Zensus
Cawthorne		Zensus
Vermeulen		Zensus
Wardle		Bridle
Appl	Structure and Stability of Relativistic	Hardee
Hughes		Hardee
Duncan		Hardee
Marti		Hardee
Gomez		Hardee
Komissarov	Numerical Simulations of Relativistic Fl	Hardee
Biretta		Zensus
Bicknell	The M87 Jet and its Implications	Bridle
Keel		Bridle
Tingay		Zensus
Jones		Bridle
Rudnick		Bridle
Laing		Bridle
Bicknell	Relativistic jets and the FRI/II Transit	Hardee
DeYoung		Hardee
Loken		Hardee
Hardee		Hardee
Eilek		Hardee
Carilli		Bridle
Swain		Bridle
Clarke		Hardee
Norman	Deceleration and Disruption of the 3-D P	Hardee
Scheuer	Hot Spot Advance Speeds	Bridle
Birkinshaw		Bridle
Burns		Bridle
Owen		Bridle
Ledlow		Bridle
Steffen		Bridle
Koide		Hardee
Hooda		Hardee
Bridle	Review	Bridle
Wiita	Review	Hardee
Norman	Review	Hardee
Appl	Misalignment and Curvature	Zensus
Baum	FRI/II dichotomy	Bridle
Lloyd		Bridle
Krasnopolsky	A Few MHD Numerical Simulations of Relat	Hardee
Taylor		Zensus
Wan		Bridle
Zensus		Zensus

From root Wed Nov 22 12:12:04 1995

X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil])

["18749" "Wed" "22" "November" "1995" "11:13:57" "CST"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "365" "Re: Editing & new  
owen contribution" "^From:" nil nil "11" nil nil nil nil])  
nil)

Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA200837; Wed, 22 Nov 1995 12:12:02 -0500

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA11106; Wed, 22 Nov 1995 10:50:27 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA12378; Wed, 22 Nov 95 11:11:46 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01792; Wed, 22 Nov 95 11:13:57 CST  
Message-Id: <9511221713.AA01792@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Editing & new owen contribution  
Date: Wed, 22 Nov 95 11:13:57 CST

Alan,

Thanks for providing the list for the editing division, on first glance it looks just fine.

Below I include the latest submission from F. Owen. While it does not yet contain the reference list in appropriate form I have already communicated with him about the list so you might wish to hold off any admonishments in his case.

Frazer is the only one of the observers who I have communicated to on this issue. He was unhappy enough with the request that I said I would do it if he did not have the time.

Phil

```
=====  
\documentstyle[11pt,pasconf]{article}  
  
\markboth{Owen et al}{Radio Galaxy Environments}  
\setcounter{page}{1}  
  
% There is no more markup in the "preamble" for pasconf papers. You should  
% not define any "personal" LaTeX commands, in the preamble or anyplace else,  
% for that matter. Use only standard LaTeX commands or the additional ones  
% provided as part of the pasconf package.  
%  
% Now start with the real material for the paper, which is indicated with  
% \begin{document}. Following the \begin{document} command is the "front  
% matter" for the paper, viz., the title, author and address data, the  
% abstract, etc.  
  
\begin{document}  
  
\title{Radio Galaxies and Environment}  
  
\author{Frazer N. Owen\altaffilmark{1,2}}  
\affil{National Radio Astronomy Observatory, P.O. Box O, Socorro, NM 87801}  
  
\author{K. S. Dwarakanath}  
\affil{Raman Research Institute, C.V. Raman Avenue, Sadashivanagar P. O.,  
Bangalore 560 080 INDIA}  
  
\author{Clay C. Smith}  
\affil{Department of Physics, New Mexico Tech, Socorro, NM 87801}  
  
\author{Michael J. Ledlow\altaffilmark{1}}  
\affil{Department of Astronomy, New Mexico State University, Box 30001/Dept.  
4500, Las Cruces, NM 88003-0001}
```

```

\author{William C. Keel\altaffilmark{1}}
\affil{Department of Physics and Astronomy, University of Alabama,
      Box 870324, Tuscaloosa, AL 35487}

\author{Glenn E. Morrison\altaffilmark{1,2}}
\affil{Department of Physics & Astronomy, University of New Mexico,
      Albuquerque, NM 87131 and National Radio Astronomy Observatory, P.O.
      Box O, Socorro, NM 87801}

\author{ Wolfgang V\"oges}
\affil{Max-Planck-Institute f\"ur Extraterrestrische Physik, D-8046
      Garching, GERMANY}

\author{Jack O. Burns}
\affil{Department of Astronomy, New Mexico State University, Box 30001/Dept.
      4500, Las Cruces, NM 88003-0001}

% Notice that some of these authors have alternate affiliations, which
% are identified by the \altaffilmark after each name.  The actual alternate
% affiliation information is typeset in footnotes at the bottom of the
% first page, and the text itself is specified in \altaffiltext commands.
% There is a separate \altaffiltext for each alternate affiliation
% indicated above.

\altaffiltext{1}{Visiting Astronomer, Kitt Peak National Observatory,
operated by AURA Inc., under cooperative agreement with the National
Science Foundation.}
\altaffiltext{2}{The National Radio Astronomy Observatory is operated by
Associated Universities, Inc., under cooperative agreement with the National
Science Foundation.}

% The abstract is entered in a LaTeX "environment", designated with paired
% \begin{abstract} -- \end{abstract} commands.  Other environments are
% identified by the name in the curly braces.

% Poster authors ONLY may omit the abstract in order to gain a little
% more page space for the text of the poster.

\begin{abstract}
The properties of radio galaxies inside and outside rich clusters
are surprisingly similar. The radio morphologies are similar and the bivariate
radio luminosity function appears to be identical. Also based on RASS data,
nearby, bright radio galaxies, not in Abell clusters are found almost always
found embedded in x-ray halos which are consistent with clusters only slightly
poorer than Abell's richness class 0. Thus almost all radio galaxies may live
in a cluster-like environment. However, we are beginning to see that not all
cluster
environments may be equally likely to produce radio galaxies. At least one
cluster with a large Butcher-Oemler blue fraction seems to have a large excess
of radio galaxies over similar clusters at lower redshifts or with lower blue
fractions at the same redshift.

\end{abstract}

% Keywords should be included, but they are not printed in the hardcopy.

```

\keywords{clusters of galaxies, radio sources, x-ray sources, environments}

% That's it for the front matter. On to the main body of the paper.  
% We'll only put in tutorial remarks at the beginning of each section  
% so you can see entire sections together.

\section{Introduction}

Since the Green Bank Workshop on the physics of energy transport in 1984, the most significant observational change in our understanding of extragalactic radio sources has come from our ability to see the external medium in which the radio jets propagate, as seen in x-ray emission. In 1984, the theories required such a medium to be present. However, from our ability to see its complexities we reassure ourselves that our basic understanding of the processes are correct. And as Jack Burns (1996) has shown in his review in this volume, we also can use the x-ray images and the correlations between it and the radio emission to jog our feeble brains into new ideas about the processes responsible for what we see. I will discuss two examples of where this interaction is important: one to explain the properties of nearby radio sources and a second which begins to point us toward an understanding of why radio sources evolve with epoch.

\section{Statistics of Radio Sources in Clusters of Galaxies}

For many years, radio astronomers have studied the dependence of radio source detections on cluster properties. One curious result, reported by Fanti (1984) based on a fairly small sample, was that the luminosity function of cluster radio galaxies seemed to be about the same as for all radio galaxies. Now, from x-ray observations, clusters are known to contain a relatively dense intergalactic medium. Virtually all theories of radio galaxies depend on such an external medium to confine the radio emitting plasma. Thus one would expect radio sources outside clusters to have significantly different distributions of luminosity and lifetimes which should affect the luminosity function.

Recently, as part of his Phd thesis, Michael Ledlow has studied a much larger sample of cluster radio galaxies and also obtained optical magnitudes and redshifts for all the candidate galaxies (Ledlow 1994; Ledlow & Owen 1995, 1996; Owen, Ledlow & Keel 1995). His results confirm the Fanti result. Furthermore, he finds that the probability of radio emission from a cluster galaxy does not depend on cluster richness, Bautz-Morgan class, or Rood-Sastry class, only on optical absolute magnitude. Since the brightest elliptical galaxies tend to live near the centers of rich clusters and individually have a higher probability of radio emission, there is a high surface density of cluster radio galaxies near the cluster center. But statistically, that is the only special thing about rich clusters and this property can be understood based on the distribution of the brighter cluster galaxies about the cluster center.

How could this be ? Are all the radio models fundamentally wrong ? One way to explain this result would be if all radio galaxies actually lived in cluster-like environments. We see no change in properties of radio galaxies down to the bottom of Abell's catalog. We also know that

that cluster-like tailed radio galaxies live in some poorer clusters (e.g. Venkatesan et al 1994). So could it be that all radio galaxies live in cluster-like environments ?

To test this idea, we assembled a sample of 25 radio galaxies with redshifts less than 0.05 and not cataloged to be in rich clusters from the all-sky bright source list of Wall and Peacock (1985) and/or from the 3CR. We then looked for extended x-ray emission in the ROSAT All Sky Survey (RASS) around these sources, which supposedly would be due to a hot, cluster-like environment. In 22 out of 25 cases, we detected an extended x-ray source greater than or on the order of the size of the radio source. 18 of the 25 sources were FR I's; however, we also detected six out of 7 FR II's with extended halos. We also calculated the x-ray luminosity within 500 kpc of the radio galaxy. From the RASS we have found that the median x-ray luminosity (also in a 500 kpc circle) of Abell richness classes is proportional to the square of the number of galaxies Abell counted. If we substitute the median x-ray luminosity of the non-cluster sample into this relation, we get an Abell  $N \sim 20$  or about 50% below the bottom of Abell's richness class 0.

So from these results, it seems that the vast majority of radio galaxies live in a cluster-like environment. It has just been Abell's definition, which was based on practical considerations about the number of foreground and background objects, which has been confusing us. The poor clusters, at least those in which most radio galaxies live, are just a continuation of the same clustering phenomena which Abell cataloged. This makes it easier to understand how the radio luminosity functions and other properties could be so similar. This subject needs more study but these initial results should encourage us that the environments we have been assuming in our models are generally correct.

#### \section{Radio Sources and the Butcher-Oemler Effect}

As was discussed by Burns (1996) in this volume, x-ray, optical and radio evidence is accumulating that clusters of galaxies are much more disturbed system than we previously thought. The process of the growth of large scale structure in the universe seems to be one of the most fundamental processes. It seems likely that the gravitational instability responsible for this phenomena also stimulates physical processes on smaller scales such as the bending of WAT radio tails.

Another piece of evidence pointing in this direction is the Butcher-Oemler (BO) effect (e.g. Butcher & Oemler 1978, Butcher and Oemler 1984). The BO effect is that clusters of galaxies tend to have more blue galaxies as redshift increases. The blue population defined by Butcher and Oemler is only characteristic of stars  $10^9$  years old, not the very blue systems we associate with starburst galaxies. However, it suggests that star formation in these galaxies did go on in the relatively recent past by cosmological standards. Furthermore, in  $10^9$  years the blue galaxies have had time to scramble their positions in the cluster relative to where they were when the star formation occurred. It may be that the star formation was simply shut off by the galaxies falling into the cluster or it may be that some process in the cluster actually stimulated the star formation activity. One possibility is the interaction at the boundary between the ISM and the IGM as gas is stripped out of the galaxy as it

encounters the dense cluster gas. Another is enhanced galaxy-galaxy interactions and mergers during the cluster-cluster merger.

What is needed is a signpost to pick out the signature of active star formation closer to the original burst before the galaxies have had time to mix with the crowd. The optical sky is very crowded making this difficult, especially away from the central concentration of the cluster. The radio band offers another way to find such systems, by looking for radio galaxies below  $10^{23}$  W Hz<sup>-1</sup> at 20cm in the continuum. The VLA can reach  $\sim 10^{22}$  W Hz<sup>-1</sup> at a redshift of about 0.4 in a 24 hour integration and at 20cm has a field of view of about 30 arcmin or about 6 Mpc at  $z \sim 0.25$ , assuming  $H_0 = 75$  km s<sup>-1</sup> Mpc<sup>-1</sup>.

We have begun to look for these radio galaxies with the VLA. The first results we have are reported by Dwarakanath & Owen (1996) for two clusters: A2125 ( $z=0.25$ ,  $R=4$ , blue fraction = 0.19) and A2645 ( $z=0.25$ ,  $R=4$ , blue fraction = 0.03). Thus we hoped to detect radio emission from more star forming galaxies in the bluer, A2125 and that is what we found. Many more candidate IDs with galaxies brighter than about  $R=19$  were found in the A2125 field, about 40 versus 20 in the A2645 field. In June we had time on the Kitt Peak 4m during which we measured redshifts for as many of the candidates as we could. In A2125 we found 20 radio galaxies were cluster members and about another dozen candidates still remain to be checked. In A2645, we measured all but one of the candidates and detected only four cluster members. Thus it appears that there is a large excess of detections in A2125 over A2645. Also the number of detections in A2125 exceeds any known nearby cluster.

Another interesting part of the result is that the radio galaxies in A2125 are distributed in a band running from NE to SW and extend over about 6 Mpc, the diameter where the VLA primary beam starts to cut off. Thus it seems that whatever is going on occurs on a supercluster scale. This area is much larger than the central cluster region traditionally investigated by Butcher, Oemler and others. Furthermore the x-ray brightness distribution, taken from the RASS runs along this same axis with a similar scale.

However, it is far from clear all the activity is due to star formation. About half of the galaxies are redder than one would expect for starbursts. Some of the red galaxies have colors blue enough to qualify for Butcher and Oelmer's blue population but just barely. All these red galaxies have a optical spectrum like an old population elliptical and no emission lines. These spectra resemble those of most FR I's found in rich clusters (Owen, Ledlow & Keel 1995).

A few of them are extended enough in VLA A-array images to be sure they are FR I's but most are not clearly resolved. The blue galaxies do seem to have spectra consistent with star formation. Thus unless our blue galaxies are really AGNs or our red galaxies are hiding their star forming regions behind dust, it seems that we have an excess of both FR I-like activity and star formation.

Furthermore, the distribution on the sky of the red and blue galaxies in A2125 is interesting. The red galaxies tend to be concentrated to the center of the cluster, although there are some outliers. The blue galaxies have their biggest concentration in a clump about 2 Mpc SW of the central optical peak in the cluster. Our CCD imaging with the 0.9m at KPNO shows that many of the galaxies in this region are blue and many, including the



radio galaxies, appear to be strongly interacting in pairs or triples.

These results should still be viewed as preliminary since we are still accumulating optical spectra for A2125 and, more important, because we have only studied two clusters so far. We have a much larger set of radio observations for high redshift clusters extending out to  $z=0.4$  to check and extend these results. Glenn Morrison's Phd thesis will also be on this general subject.

However, these results hint at some interesting possibilities. It seems possible that growth of clusters of galaxies could be responsible for stimulating both starburst and blackhole driven AGN activity. If in the process of a merger between two smaller clusters, conditions are created which encourage galaxy-galaxy

interactions and mergers, an increase in star formation activity could occur. If some of these system merge into ellipticals, perhaps at some later time (possibly through merger of pre-existing black holes in the two merging galaxies) activity may be stimulated in the merged galaxy's nucleus. This might account for the slightly blue colors of our lineless galaxies.

Another interesting question is how the creation of large scale structure affects the radio galaxy population in general. If the trend suggested by our analysis of A2125 and A2645 turns out to apply to clusters and cluster formation in general, then whatever the detailed explanation of our results, these processes could have an important effect on radio source evolution. In fact, since clusters should evolve strongly on the lookback timescale to  $z=2$ , it seems possible that cluster formation rather than some hard-to-define process involving the evolution of black holes could be responsible for the increase in density of radio sources at earlier epochs.

\section{Conclusions}

\hspace{20pt} 1) Almost all FR I, and possibly FR II radio galaxies as well, live in some sort of cluster-like environment.

2) The formation of large scale structure in the universe may stimulate both star formation and black hole related radio emission and could be responsible for the well-known increase in radio source density at earlier cosmological epochs.

\acknowledgments

This work was partly funded by NASA (NAGW-3152).

% Now comes the reference list. Since we typed out the citations ourselves,  
% the reference list is enclosed in a "references" environment. Each  
% new reference begins with a \reference command which sets up the proper  
% indentation. Typography that may be required in the reference list by  
% the editorial staff must be included by the author.

%

% Observe the "standard" order for bibliographic material: author name(s),  
% publication year, journal name, volume, and page number for articles.

% Some journal names are available as macros; see the WGAS markup  
% instructions for a listing of which ones have been "macro-ized".

% Note the use of curly braces to delimit the font changes: it is essential  
% that this be done to limit the scope of the font declaration.

% \astap, apj, apjlett, aj,mnras,pasp,apjsupp

% There is no need to engage in any other typographic manipulation.

```

\begin{references}
\reference Burns, J.O. 1996 in Energy Transport in Radio Galaxies \&
Quasars, ASP Conference Series, ed Hardee, Bridle \& Zensus, in press
\reference Butcher, H.R. \& Oemler, A. 1978, \apj, {\bf 219}, 18
\reference Butcher, H.R. \& Oelmer, A. 1984, \apj, {\bf 285}, 426
\reference Dwarakanath, K.S. \& Owen, F.N. 1996 in Westerbork Synthesis Radio
Telescope 25th Anniversary Workshop, Cold Gas at High Redshift, in press
\reference Fanti, R. 1984, in Clusters and Groups of Galaxies Reidel,
Dordrecht p. 185-201
\reference Ledlow, M.J. 1994, Phd thesis, University of New Mexico
\reference Ledlow, M.J. \& Owen, F.N. 1995, \aj, {\bf 109}, 853
\reference Ledlow, M.J. \& Owen, F.N. 1996, submitted
\reference Owen, F.N., Ledlow, M.J., \& Keel, W.C. 1995, \aj, {\bf 109}, 14
\reference Venkatesan, T.C.A., Batuski, D.J., Hanisch, R.J., \& Burns,
J.O. 1994, \apj, {\bf 436}, 67
\reference Wall, J.V. \& Peacock, J.A. 1985 \mnras, {\bf 216}, 173
\end{references}

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\end{document}

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From abridle Wed Nov 22 12:24:09 1995

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"abridle" nil "59" "List w E-mail and proposed editors" "^From:" nil nil "11" nil
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nil)

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id AA34005; Wed, 22 Nov 1995 12:24:02 -0500

Message-Id: <9511221724.AA34005@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus, hardee@venus.astr.ua.edu

Subject: List w E-mail and proposed editors

Date: Wed, 22 Nov 1995 12:24:02 -0500

Author	Email	Title	Editor
Baum	sbaum@stsci.edu	FRI/II dichotomy	Bridle
Bicknell	geoff@mso.anu.edu.au	The M87 Jet and	Bridle
Birkinshaw	mbl@siva.bris.ac.uk		Bridle
Bridle	abridle@nrao.edu	Review	Bridle
Burns	jburns@nmsu.edu		Bridle
Carilli	ccarilli@head-cfa.harvard.edu		Bridle
Jones	p.jones@st.nepean.uws.esu.au		Bridle
Keel	keel@bildad.astr.ua.edu		Bridle
Laing	rl@ast.cam.ac.uk		Bridle
Ledlow	mledlow@nmsu.edu		Bridle
Lloyd	blloyd@atnf.csiro.au		Bridle
Owen	fowen@nrao.edu		Bridle
Rudnick	larry@mazel.spa.umn.edu		Bridle
Scheuer	pags@mrao.cam.ac.uk	Overview	Bridle
Scheuer	pags@mrao.cam.ac.uk	Hot Spot Advance	Bridle
Steffen	wsteffen@ast.man.ac.uk		Bridle
Swain	mswain@nrao.edu		Bridle

Wan	linwan@phoenix.princeton.edu		Bridle
Wardle	wardle1@binah.cc.brandeis.edu		Bridle
Wilson	wilson@astro.umd.edu		Bridle
Appl	appl@cdsxb9.u-strasbg.fr	Structure and St	Hardee
Bicknell	geoff@mso.anu.edu.au	Relativistic jet	Hardee
Christodou	dchristo@rouge.phys.lsu.edu		Hardee
Clarke	dclarke@ap.stmarys.ca		Hardee
DeYoung	deyoung@noao.edu		Hardee
Duncan	gcd@chandra.bcsu.edu		Hardee
Eilek	jeilek@nrao.edu		Hardee
Gomez	jlgomez@rjet.bu.edu		Hardee
Hardee	hardee@venus.astr.ua.edu		Hardee
Hooda	hooda@chara.gsu.edu		Hardee
Hughes	hughes@astro.lsa.umich.edu		Hardee
Koide	koidesin@ecs.toyama-u.ac.jp		Hardee
Komissarov	serguei@amsta.leeds.ac.uk	Numerical Simula	Hardee
Krasnopols	ruben@tapir.caltech.edu	A Few MHD Numeri	Hardee
Loken	cloken@nmsu.edu		Hardee
Lovelace	rv11@cornell.edu		Hardee
Marti	martij@kerr.ific.uv.es		Hardee
Norman	norman@ncsa.uiuc.edu	Deceleration and	Hardee
Norman	norman@ncsa.uiuc.edu	Review	Hardee
Wiita	wiita@chara.gsu.edu	Review	Hardee
Appl	appl@cdsxb9.u-strasbg.fr	Misalignment and	Zensus
Biretta	biretta@stsci.edu		Zensus
Cawthorne	tvc@gal.star.uclan.ac.uk		Zensus
Daly	daly@puppgg.princeton.edu		Zensus
Georganopo	markos@qjet.bu.edu		Zensus
Lobanov	alobanov@nrao.edu		Zensus
Marscher	marscher@buast0.bu.edu		Zensus
O'Dea	odea@stsci.edu	X-ray and Optica	Zensus
Pearson	tjp@deimos.caltech.edu		Zensus
Qian	rqsj@bao01.bao.ac.cn		Zensus
Readhead	acr@deimos.caltech.edu		Zensus
Taylor	gtaylor@nrao.edu		Zensus
Tingay	tingay@mso.anu.edu.au		Zensus
Vermeulen	rcv@astro.caltech.edu		Zensus
Zensus	azensus@nrao.edu		Zensus

From root Mon Nov 27 10:45:18 1995

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 "^From:" nil nil "11" nil nil nil nil]  
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Message-Id: <2.2b7.32.19951127154327.006bbac4@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2b7 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: azensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu (Hardee)

Cc: abridle@nrao.edu

Subject: Re: style conventions (to be expanded, discussed)

Date: Mon, 27 Nov 1995 10:43:27 -0500

At 09:05 AM 11/27/95 CST, you wrote:

>

>Anton,

>

>Do you want volume numbers in the reference list in boldface and do you want  
>a period at the end of each reference in the reference list?

>

yes to both

---

Dr. Anton Zensus | Ph: (804) 296-0231  
Scientist | Fx: (804) 296-0278  
National Radio Astronomy Observatory |  
520 Edgemont Road | Email: azensus@nrao.edu  
Charlottesville, VA 22902 USA | WWW: <http://www.cv.nrao.edu/~azensus>

From root Mon Nov 27 14:39:17 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil]

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"^From:" nil nil "11" nil nil nil nil]

nil)

Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

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Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)

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Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA22976; Mon, 27 Nov 95 13:39:13 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA01131; Mon, 27 Nov 95 13:41:31 CST

Message-Id: <9511271941.AA01131@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: Editing

Date: Mon, 27 Nov 95 13:41:31 CST

>From larry@astro.spa.umn.edu Mon Nov 27 13:38:39 1995

Date: Mon, 27 Nov 1995 13:26:27 -0600 (CST)

From: Larry Rudnick <larry@astro.spa.umn.edu>

To: hardee@venus.astr.ua.edu, rosen@eclipse.astr.ua.edu

Subject: correction

Content-Length: 243

in the abstract of my paper, i have index{magnetic fields}  
which should be \index{magnetic fields}

uncorrected, it will print out something strange, so if you  
can catch this, please do. thanks and sorry for trouble.

lr

From abridle Tue Nov 28 12:20:16 1995

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id AA199987; Tue, 28 Nov 1995 12:19:39 -0500  
Message-Id: <9511281719.AA199987@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: geoff@mso.anu.edu.au  
Subject: Your papers for Alabama workshop  
Date: Tue, 28 Nov 1995 12:19:39 -0500

Dear Geoff,

We are looking forward to receiving your contributions to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". We are now beginning to edit the many contributions that were received by the deadline.

We hope we will hear from you soon.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:22:00 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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Message-Id: <9511281721.AA99389@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: keel@bildad.astr.ua.edu  
Subject: Workshop contribution  
Date: Tue, 28 Nov 1995 12:21:29 -0500

Dear Bill,

We are looking forward to receiving your contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". We are now beginning to edit the many contributions that were received by the deadline.

We hope we will hear from you soon.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:24:49 1995  
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From: abridle (Alan Bridle)  
To: sbaum@stsci.edu  
Subject: Your poster at Alabama workshop  
Date: Tue, 28 Nov 1995 12:24:47 -0500

Dear Stefi

We are looking forward to receiving your contribution (The FRI/FRII Dichotomy) to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". We are now beginning to edit the many contributions that were received by the deadline.

We hope we will hear from you soon.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:25:35 1995  
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Message-Id: <9511281722.AA57926@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: rl@ast.cam.ac.uk  
Subject: Paper for Alabama workshop  
Date: Tue, 28 Nov 1995 12:22:41 -0500

Dear Robert,

We are looking forward to receiving your contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". We are now beginning to edit the many contributions that were received by the deadline.

We hope we will hear from you soon.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:33:53 1995  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA153199; Tue, 28 Nov 1995 12:32:06 -0500

Message-Id: <9511281732.AA153199@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: pags@mrao.cam.ac.uk

Subject: Papers for Alabama workshop

Date: Tue, 28 Nov 1995 12:32:06 -0500

Dear Peter,

Thank you for your timely contributions to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as your Overview that have provided all of the reference information needed for us to compile the bibliography.

It would also help us if you could provide the titles for the references in your paper on "Hot Spot Advance Speeds", but most particularly the title of Scheuer 1995, MNRAS, in press, as we have no other way to find this.

Philip Hardee

Alan Bridle

Anton Zensus

From root Tue Nov 28 12:40:28 1995

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"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"

"<9511281742.AA01595@venus.astr.ua.edu.astr.ua.edu>" "34" "Re: Editing " "^From:"

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Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA26051; Tue, 28 Nov 95 11:40:24 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA01595; Tue, 28 Nov 95 11:42:43 CST

Message-Id: <9511281742.AA01595@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: Editing

Date: Tue, 28 Nov 95 11:42:43 CST

Alan,

Below is a list of the papers that you are to edit that we have received. Tell me which of these you do not yet have so I can have them placed in our anonymous ftp area.

Birkinshaw

Burns

Carilli  
Jones  
Keel  
Ledlow  
Lloyd  
Owen

Rudnick - in the abstract of my paper, i have `index{magnetic fields}`  
which should be `\index{magnetic fields}`

Scheuer1  
Scheuer2  
Steffen  
Swain  
Wan  
Wardle  
Wilson

Contributions not yet received:

Baum - ??  
Bicknell - e-mailed me asking for extension. is working on both papers now.  
Laing - ??

Phil

From abridle Tue Nov 28 12:44:08 1995  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57962; Tue, 28 Nov 1995 12:44:07 -0500

Message-Id: <9511281744.AA57962@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: wilson@astro.md.edu

Subject: Paper for Alabama workshop

Date: Tue, 28 Nov 1995 12:44:07 -0500

Dear Andrew,

Thank you for your timely contribution to the proceedings of the  
Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a  
great help to have so many contributions in on time, and we are now  
beginning the editing process.

We do however need some further help from you because your references  
were not in the format that we asked for. We realise that this makes  
extra work for you (but please remember that we are now working on  
about 55 papers altogether, so it is very helpful when authors provide  
all the information needed to complete their own papers).

Could you please send us, as soon as possible:

- o Full titles for each paper referenced, \*\* especially for  
papers that are not yet in print, as we have no way to obtain



these except from you \*\*

Because the paper is somewhat longer than we were expecting, we may need to come back to you to discuss some "squeezing" to meet the A.S.P.'s overall page limit. We will, however, defer this until we have all of the other contributions in hand, and have seen what can be achieved simply by minor adjustments to format.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:46:05 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["438" "Tue" "28" "November" "1995" "12:45:59" "-0500" "Alan Bridle"  
"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA200053; Tue, 28 Nov 1995 12:45:59 -0500  
Message-Id: <9511281745.AA200053@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: wardle1@binah.cc.brandeis.edu  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 12:45:59 -0500

Dear John,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as yours that have provided all of the reference information needed for us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:48:00 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["438" "Tue" "28" "November" "1995" "12:47:58" "-0500" "Alan Bridle"  
"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA159608; Tue, 28 Nov 1995 12:47:58 -0500  
Message-Id: <9511281747.AA159608@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: p.jones@st.nepean.uws.esu.au

Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 12:47:58 -0500

Dear Paul,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as yours that have provided all of the reference information needed for us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:50:23 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["437" "Tue" "28" "November" "1995" "12:49:47" "-0500" "Alan Bridle"  
"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA145533; Tue, 28 Nov 1995 12:49:47 -0500  
Message-Id: <9511281749.AA145533@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: blloyd@atnf.csiro.au  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 12:49:47 -0500

Dear Ben,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as yours that have provided all of the reference information needed for us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 12:56:20 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1101" "Tue" "28" "November" "1995" "12:56:17" "-0500" "Alan Bridle"  
"abridle" nil "28" "Re: Editing " "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53409; Tue, 28 Nov 1995 12:56:17 -0500  
Message-Id: <9511281756.AA53409@polaris.cv.nrao.edu>  
In-Reply-To: <9511281742.AA01595@venus.astr.ua.edu.astr.ua.edu>  
References: <9511281742.AA01595@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Editing  
Date: Tue, 28 Nov 1995 12:56:17 -0500

Hi Phil,

I did not have Keel, and had just sent him the "tickler" message. You may therefore need to square that with him, as well as putting his paper in the anon-ftp area.

I had also sent Geoff Bicknell the tickler message before getting yours re his having asked for an extension.

Robert Laing is visiting me in C'ville, starting tomorrow evening. He'll be here for 2 weeks and I will at least have a good idea what the state of his preparation is, if not the actual paper in hand by the time he leaves. The down side of this is that I will not be working on the proceedings much myself while he is here (we are making a big push on the 3C31 dataset as it is the best test of his model).

I have mentioned to Andrew Wilson that we might need to do a little trimming on his paper but will defer any details on that until we have seen how the overall total squares with A.S.P. I'm inclined not to trim him unless we end up over a limit that A.S.P. would be unhappy with.

I am asking the people whose reference lists were lacking in titles and final pages to provide this info if possible.

A.

From abridle Tue Nov 28 13:00:03 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1193" "Tue" "28" "November" "1995" "12:59:53" "-0500" "Alan Bridle"  
"abridle" nil "32" "Paper for Alabama workshop" "^From:" nil nil "11" nil nil nil  
nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26806; Tue, 28 Nov 1995 12:59:53 -0500  
Message-Id: <9511281759.AA26806@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: wilson@astro.umd.edu  
Subject: Paper for Alabama workshop  
Date: Tue, 28 Nov 1995 12:59:53 -0500

Dear Andrew,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on

about 55 papers altogether, so it is very helpful when authors provide all the information needed to complete their own papers).

Could you please send us, as soon as possible:

- o Full titles for each paper referenced, \*\* especially for papers that are not yet in print, as we have no way to obtain these except from you \*\*

Because the paper is somewhat longer than we were expecting, we may need to come back to you to discuss some "squeezing" to meet the A.S.P.'s overall page limit. We will, however, defer this until we have all of the other contributions in hand, and have seen what can be achieved simply by minor adjustments to format.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:03:31 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["452" "Tue" "28" "November" "1995" "13:02:16" "-0500" "Alan Bridle"  
"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33985; Tue, 28 Nov 1995 13:02:16 -0500  
Message-Id: <9511281802.AA33985@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: p.jones@st.nepean.uws.edu.au  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:02:16 -0500

Dear Paul,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as yours that have provided all of the reference information needed for us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:04:59 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["731" "Tue" "28" "November" "1995" "13:04:52" "-0500" "Alan Bridle"  
"abridle" nil "27" "" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26828; Tue, 28 Nov 1995 13:04:52 -0500

Message-Id: <9511281804.AA26828@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: larry@mazel.spa.umn.edu  
Date: Tue, 28 Nov 1995 13:04:52 -0500

Dear Larry,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not quite in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on about 55 papers altogether, so it is very helpful when authors provide all the information needed to complete their own papers).

Could you please send us, as soon as possible

o Last page numbers for each paper.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:08:15 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["942" "Tue" "28" "November" "1995" "13:08:06" "-0500" "Alan Bridle"  
"abridle" nil "34" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33925; Tue, 28 Nov 1995 13:08:06 -0500  
Message-Id: <9511281808.AA33925@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: ccarilli@head-cfa.harvard.edu  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:08:06 -0500

Dear Chris,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on about 55 papers altogether,

so it is very helpful when authors provide all the information needed to complete their own papers).

Could you please send us, as soon as possible

- o Full titles for each paper referenced, \*\* especially for papers that are not yet in print, as we have no way to obtain these except from you \*\*
- o Last page numbers for each paper.
- o References in Author (year) style and in alphabetical order

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:09:08 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["438" "Tue" "28" "November" "1995" "13:09:08" "-0500" "Alan Bridle"  
"abridle" nil "15" "Paper for Alabama proceedings" "^From:" nil nil "11" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA155021; Tue, 28 Nov 1995 13:09:08 -0500  
Message-Id: <9511281809.AA155021@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: mswain  
Subject:  
Paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:09:08 -0500

Dear Mark,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process. We are particularly grateful for papers such as yours that have provided all of the reference information needed for us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From root Tue Nov 28 13:10:46 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["588" "Tue" "28" "November" "1995" "12:13:01" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
"<9511281813.AA01614@venus.astr.ua.edu.astr.ua.edu>" "14" "Re: Editing" "^From:"

nil nil "11" nil nil nil nil]  
nil)

Received: from nsl.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA85909; Tue, 28 Nov 1995 13:10:45 -0500  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA15354; Tue, 28 Nov 1995 11:49:28 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26177; Tue, 28 Nov 95 12:10:42 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01614; Tue, 28 Nov 95 12:13:01 CST  
Message-Id: <9511281813.AA01614@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Editing  
Date: Tue, 28 Nov 95 12:13:01 CST

Alan,

You should be able to get Keel's contribution shortly from our anonymous ftp. Sorry I was not a bit quicker in getting to you on what we had here. I have sent a similar list to Anton.

I have three papers from Komissarov. I think you had suggested that we wanted no more than two. I have now looked at the papers and think he could combine two of them with a length of 10 pages. Should I make this request to him and suggest how to combine the two - Large Scale Structure in Relativistic Jets and Hot Spots in Relativistic Jets - or should we just take all three as is?

Phil

From abridle Tue Nov 28 13:11:41 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["881" "Tue" "28" "November" "1995" "13:11:12" "-0500" "Alan Bridle"  
"abridle" nil "32" "Paper for Alabama workshop proceedings" "^From:" nil nil "11"  
nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA106648; Tue, 28 Nov 1995 13:11:12 -0500  
Message-Id: <9511281811.AA106648@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: linwan@phoenix.princeton.edu  
Subject: Paper for Alabama workshop proceedings  
Date: Tue, 28 Nov 1995 13:11:12 -0500

Dear Ms. Wan,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on about 55 papers altogether, so it is very helpful when authors provide all the information

needed to complete their own papers).

Could you please send us, as soon as possible

o Full titles for each paper referenced, \*\* especially for papers that are not yet in print, as we have no way to obtain these except from you \*\*

o Last page numbers for each paper.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From root Tue Nov 28 13:13:07 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["403" "Tue" "28" "November" "1995" "12:11:33" "CST" "Larry Rudnick"  
"larry@mazel.spa.umn.edu" "<9511281811.AA01544@mazel.spa.umn.edu>" "14" "" "^From:"  
nil nil "11" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31914; Tue, 28 Nov 1995 13:13:06 -0500  
Received: from mail.cs.umn.edu (mail.cs.umn.edu [128.101.149.1]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id NAA16574 for <abridle@polaris.cv.nrao.edu>; Tue,  
28 Nov 1995 13:13:05 -0500 (EST)  
Received: from mazel.spa.umn.edu (mazel.spa.umn.edu [128.101.221.6]) by  
mail.cs.umn.edu (8.6.12/8.6.12) with SMTP id MAA28054 for  
<abridle@polaris.cv.nrao.edu>; Tue, 28 Nov 1995 12:09:21 -0600  
Received: by mazel.spa.umn.edu (4.1/SMI-4.1)  
id AA01544; Tue, 28 Nov 95 12:11:33 CST  
Message-Id: <9511281811.AA01544@mazel.spa.umn.edu>  
From: larry@mazel.spa.umn.edu (Larry Rudnick)  
To: abridle@polaris.cv.nrao.edu  
Date: Tue, 28 Nov 95 12:11:33 CST

dear alan - ok, so i was hoping you wouldn't notice the lack of final page numbers! i am leaving town and won't be able to hit this until monday when i return. hope that's ok.

is sent another editing request to phil, re:  
changing index{magnetic fields} to  
\index{magnetic fields} in the  
abstract.

thanks for all your work on this. i will get to it immediately upon return.  
lr

From root Tue Nov 28 13:13:25 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["415" "Tue" "28" "November" "1995" "13:13:20" "-0500" "wilson@astro.umd.edu"  
"wilson@astro.umd.edu" "<199511281813.NAA13623@vela.astro.umd.edu>" "15" "Re: Paper



for Alabama workshop" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from vela.astro.umd.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA166318; Tue, 28 Nov 1995 13:13:24 -0500  
Received: (wilson@localhost)  
by vela.astro.umd.edu (8.7.1/8.6.6sWLS)  
id NAA13623 for abridle@polaris.cv.nrao.edu; Tue, 28 Nov 1995 13:13:20 -0500  
(EST)  
Message-Id: <199511281813.NAA13623@vela.astro.umd.edu>  
In-Reply-To: Mail from 'abridle@polaris.cv.nrao.edu (Alan Bridle)'  
dated: Tue, 28 Nov 1995 12:59:53 -0500  
From: wilson@astro.umd.edu  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Paper for Alabama workshop  
Date: Tue, 28 Nov 1995 13:13:20 -0500 (EST)

Dear Alan,

Uuuuurgh. I am leaving for Sweden today and unable to do anything for  
a couple of weeks. I must say that I think that  
adding both final page numbers and titles is a completely pointless  
exercise and a waste of everyone's time. The refs are there solely so the  
reader can find  
the paper - all that is needed is the journal and page number!!

If you insist, I'll do it when I get back.

Cheers  
Andrew

From abridle Tue Nov 28 13:14:55 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["944" "Tue" "28" "November" "1995" "13:14:41" "-0500" "Alan Bridle"  
"abridle" nil "23" "Re: Editing" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31944; Tue, 28 Nov 1995 13:14:41 -0500  
Message-Id: <9511281814.AA31944@polaris.cv.nrao.edu>  
In-Reply-To: <9511281813.AA01614@venus.astr.ua.edu.astr.ua.edu>  
References: <9511281813.AA01614@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Editing  
Date: Tue, 28 Nov 1995 13:14:41 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> You should be able to get Keel's contribution shortly from our anonymous ftp.  
> Sorry I was not a bit quicker in getting to you on what we had here. I have  
> sent a similar list to Anton.  
>  
> I have three papers from Komissarov. I think you had suggested that we wanted  
> no more than two. I have now looked at the papers and think he could combine  
> two of them with a length of 10 pages. Should I make this request to him and

> suggest how to combine the two - Large Scale Structure in Relativistic Jets and  
> Hot Spots in Relativistic Jets - or should we just take all three as is?  
>

If rolling the two into one would make real sense from the point of subject matter it might be worth it. How many extra pages is it if we don't? I'm actually delighted to have all 3 from him, and if we're not exceeding a real A.S.P. limit at the end I'm inclined to let things be.

A.

From abridle Tue Nov 28 13:21:39 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["732" "Tue" "28" "November" "1995" "13:21:13" "-0500" "Alan Bridle"  
"abridle" nil "29" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA101398; Tue, 28 Nov 1995 13:21:13 -0500  
Message-Id: <9511281821.AA101398@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: jburns@nmsu.edu  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:21:13 -0500

Dear Jack,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not quite in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on about 55 papers altogether, so it is very helpful when authors provide all the information needed to complete their own papers).

Could you please send us, as soon as possible

o Last page numbers for each paper.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:22:19 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["440" "Tue" "28" "November" "1995" "13:22:04" "-0500" "Alan Bridle"

"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA100121; Tue, 28 Nov 1995 13:22:04 -0500  
Message-Id: <9511281822.AA100121@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: fowen  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:22:04 -0500

Dear Frazer,

Thank you for your timely contribution to the proceedings  
of the Workshop on "Energy Transport in Radio Galaxies and  
Quasars".

It is a great help to have so many contributions  
in on time, and we are now beginning the editing process.  
We are particularly grateful for papers such as yours that  
have provided all of the reference information needed for  
us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:24:16 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["438" "Tue" "28" "November" "1995" "13:18:36" "-0500" "Alan Bridle"  
"abridle" nil "15" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26879; Tue, 28 Nov 1995 13:18:36 -0500  
Message-Id: <9511281818.AA26879@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: mbl@siva.bris.ac.uk  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:18:36 -0500

Dear Mark,

Thank you for your timely contribution to the proceedings  
of the Workshop on "Energy Transport in Radio Galaxies and  
Quasars". It is a great help to have so many contributions  
in on time, and we are now beginning the editing process.  
We are particularly grateful for papers such as yours that  
have provided all of the reference information needed for  
us to compile the bibliography.

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:24:26 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["193" "Tue" "28" "November" "1995" "13:24:14" "-0500" "Alan Bridle"  
"abridle" nil "13" "Re: Paper for Alabama workshop" "^From:" nil nil "11" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA170547; Tue, 28 Nov 1995 13:24:14 -0500  
Message-Id: <9511281824.AA170547@polaris.cv.nrao.edu>  
In-Reply-To: <199511281813.NAA13623@vela.astro.umd.edu>  
References: <199511281813.NAA13623@vela.astro.umd.edu>  
From: abridle (Alan Bridle)  
To: wilson@astro.umd.edu  
Subject: Re: Paper for Alabama workshop  
Date: Tue, 28 Nov 1995 13:24:14 -0500

wilson@astro.umd.edu writes:

>  
> Dear Alan,  
>  
> If you insist, I'll do it when I get back.

That will still be very helpful, and we would appreciate  
it if you can do that.

Thanks, A.

From abridle Tue Nov 28 13:26:00 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["730" "Tue" "28" "November" "1995" "13:25:41" "-0500" "Alan Bridle"  
"abridle" nil "27" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA145480; Tue, 28 Nov 1995 13:25:41 -0500  
Message-Id: <9511281825.AA145480@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: mledlow@nmsu.edu  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:25:41 -0500

Dear Mike,

Thank you for your timely contribution to the proceedings  
of the Workshop on "Energy Transport in Radio Galaxies and  
Quasars". It is a great help to have so many contributions  
in on time, and we are now beginning the editing process.

We do however need some further help from you because your  
references were not quite in the format that we asked for. We  
realise that this makes extra work for you (but please  
remember that we are now working on about 55 papers altogether,  
so it is very helpful when authors provide all the information  
needed to complete their own papers).

Could you please send us, as soon as possible

o Last page numbers for each paper.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From abridle Tue Nov 28 13:31:03 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["884" "Tue" "28" "November" "1995" "13:27:44" "-0500" "Alan Bridle"  
"abridle" nil "31" "Your paper for Alabama proceedings" "^From:" nil nil "11" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA45914; Tue, 28 Nov 1995 13:27:44 -0500  
Message-Id: <9511281827.AA45914@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: wsteffen@ast.man.ac.uk  
Subject: Your paper for Alabama proceedings  
Date: Tue, 28 Nov 1995 13:27:44 -0500

Dear Dr. Steffen,

Thank you for your timely contribution to the proceedings of the Workshop on "Energy Transport in Radio Galaxies and Quasars". It is a great help to have so many contributions in on time, and we are now beginning the editing process.

We do however need some further help from you because your references were not in the format that we asked for. We realise that this makes extra work for you (but please remember that we are now working on about 55 papers altogether, so it is very helpful when authors provide all the information needed to complete their own papers).

Could you please send us, as soon as possible

- o Full titles for each paper referenced, \*\* especially for papers that are not yet in print, as we have no way to obtain these except from you \*\*
- o Last page numbers for each paper.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

From root Tue Nov 28 13:39:13 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["218" "Tue" "28" "November" "1995" "12:41:27" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "8" "Re: Editing"  
"^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from ns1.ua.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA189560; Tue, 28 Nov 1995 13:39:10 -0500  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA18188; Tue, 28 Nov 1995 12:17:53 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26262; Tue, 28 Nov 95 12:39:08 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01636; Tue, 28 Nov 95 12:41:27 CST  
Message-Id: <9511281841.AA01636@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Editing  
Date: Tue, 28 Nov 95 12:41:27 CST

Alan,

Since at best I could only save 2 pages by combining two of the papers  
from Komissarov (each will fall at the 6 page limit) there seems little  
reason to combine them and I will edit the three separately.

Phil

From abridle Tue Nov 28 14:02:02 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["473" "Tue" "28" "November" "1995" "14:01:58" "-0500" "Alan Bridle"  
"abridle" nil "22" "" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA189499; Tue, 28 Nov 1995 14:01:58 -0500  
Message-Id: <9511281901.AA189499@polaris.cv.nrao.edu>  
In-Reply-To: <9511281811.AA01544@mazel.spa.umn.edu>  
References: <9511281811.AA01544@mazel.spa.umn.edu>  
From: abridle (Alan Bridle)  
To: larry@mazel.spa.umn.edu (Larry Rudnick)  
Date: Tue, 28 Nov 1995 14:01:58 -0500

Larry Rudnick writes:

>  
> dear alan - ok, so i was hoping you wouldn't  
> notice the lack of final page numbers! i  
> am leaving town and won't be able to hit  
> this until monday when i return. hope that's  
> ok.

That's just fine, thanks for the extra help.

> is sent another editing request to phil, re:  
> changing index{magnetic fields} to  
> \index{magnetic fields} in the  
> abstract.  
>

Yes, that had found its way to me from Phil.

A.

From abridle Tue Nov 28 14:07:32 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["423" "Tue" "28" "November" "1995" "14:07:31" "-0500" "Alan Bridle"  
"abridle" nil "15" "Reflex database" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA189649; Tue, 28 Nov 1995 14:07:31 -0500  
Message-Id: <9511281907.AA189649@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: Reflex database  
Date: Tue, 28 Nov 1995 14:07:31 -0500

Tony,

I am continuing to update the workshop database on /redbud\_2/abridle/alabama/alabama.r2d. I've recently added fields to help track the order of the papers, and track the status of receipt of papers, acknowledgements and "ticklers" sent by me, and pagination targets.

I'll not be doing anything to it once Robert Laing is here (Nov 30-Dec.13). My big push on the proceedings will come right after he leaves.

A.

From root Tue Nov 28 15:14:18 1995  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["1329" "Tue" "28" "November" "1995" "13:14:00" "-0700" "jburns@nmsu.edu"  
"jburns@nmsu.edu" "<199511282014.NAA04525@NMSU.Edu>" "29" "Alabama proceedings"  
"^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from bubba.NMSU.Edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA192188; Tue, 28 Nov 1995 15:14:11 -0500  
Received: from NMSU.Edu (dns1.NMSU.Edu) by bubba.NMSU.Edu (5.x/NMSU)  
id AA14042; Tue, 28 Nov 1995 13:15:19 -0700  
Received: from zeus by NMSU.Edu (8.6.10/NMSU-1.18)  
id NAA04525; Tue, 28 Nov 1995 13:14:00 -0700  
Message-Id: <199511282014.NAA04525@NMSU.Edu>  
Received: by zeus (5.x/NMSU)  
id AA15019; Tue, 28 Nov 1995 13:13:32 -0700  
X-Sun-Charset: US-ASCII  
From: jburns@NMSU.Edu ()  
To: abridle@polaris.cv.nrao.edu  
Cc: hardee@venus.astr.ua.edu  
Subject: Alabama proceedings  
Date: Tue, 28 Nov 1995 13:14:00 -0700

Alan:

I have a BIG problem with doing what you request regarding the references. In fact, I talked with Phil about this earlier & compromised the best I could. I used the on-line ADS to hunt down the titles of all the papers as you guys requested. However, this listing has only the starting page numbers & not the final ones. Thus, I don't know of any easy way to get these final page numbers other than go to the library & look up each article individually. Since I have over 2 pages of references, this is totally impossible for me to do. My schedule through the end of the year is extremely hectic.

So, I would need to have some suggestion from you on how to acquire these end pages using some easy on-line system. Otherwise, I simply cannot comply with your request -- it's not because I don't want to but because I don't have the time.

I don't understand how you all decided to do the references this way in the first place. This is highly nonstandard for astronomical references although other fields do this. Also, I've not seen any other PASP conference proceedings use this format. I understand having the titles because they are useful, but the end pages are not.

I guess I'm asking you to waive this requirement of end page numbers. I know that others are having the same problem.

Cheers,  
Jack

```
From root Tue Nov 28 15:47:00 1995
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
 ["238" "Tue" "28" "November" "1995" "15:46:53" "-0500" "wilson@astro.umd.edu"
 "wilson@astro.umd.edu" "<199511282046.PAA02839@astro.astro.umd.edu>" "7" "Re: Paper
 for Alabama workshop" "^From:" nil nil "11" nil nil nil nil]
 nil)
Received: from astro.astro.umd.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
 id AA64383; Tue, 28 Nov 1995 15:46:55 -0500
Received: (wilson@localhost)
 by astro.astro.umd.edu (8.7.1/8.6.6sWLS)
 id PAA02839 for abridle@polaris.cv.nrao.edu; Tue, 28 Nov 1995 15:46:53 -0500
(EST)
Message-Id: <199511282046.PAA02839@astro.astro.umd.edu>
From: wilson@astro.umd.edu
To: abridle@polaris.cv.nrao.edu
Subject: Re: Paper for Alabama workshop
Date: Tue, 28 Nov 1995 15:46:53 -0500 (EST)
```

Alan,

Sorry for the blood pressure spike. Do you need a printed out hard copy with the reference titles included, or will the fixed tex file do? (Figure locations etc will be unchanged)? Do I send it to you or Alex Roosen?

Andrew

```
From abridle Tue Nov 28 15:59:42 1995
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]
 ["1295" "Tue" "28" "November" "1995" "15:59:14" "-0500" "Alan Bridle"
 "abridle" nil "27" "Re: Alabama proceedings" "^From:" nil nil "11" nil nil nil nil]
```



nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA169688; Tue, 28 Nov 1995 15:59:14 -0500  
Message-Id: <9511282059.AA169688@polaris.cv.nrao.edu>  
In-Reply-To: <199511282014.NAA04525@NMSU.Edu>  
References: <199511282014.NAA04525@NMSU.Edu>  
From: abridle (Alan Bridle)  
To: jburns@NMSU.Edu ()  
Subject: Re: Alabama proceedings  
Date: Tue, 28 Nov 1995 15:59:14 -0500

jburns@nmsu.edu writes:

> Alan:  
>  
> I have a BIG problem with doing what you request regarding the  
> references. In fact, I talked with Phil about this earlier & compromised  
> the best I could. I used the on-line ADS to hunt down the titles of all  
> the papers as you guys requested. However, this listing has only the  
> starting page numbers & not the final ones. Thus, I don't know of any  
> easy way to get these final page numbers other than go to the library  
> & look up each article individually.

This is, in fact, the point. We are trying to make the reference list and bibliography particularly robust by flushing out all the references that have not been looked up in recent memory. The point is that some references propagate through the literature incorrectly because they once appeared wrong in a review paper, and nobody ever checks them ever again.

If you absolutely cannot do this, or have a student help you with it, I will do it for you, as designated editor of your paper. But we are making an attempt not to have to do it for all 55 papers in the proceedings! About 2/3 of the authors so far have in fact provided what we asked for, without fuss. If the end product is a particularly trustworthy bibliography, you may eventually thank us for it!

A.

From abridle Tue Nov 28 16:06:22 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1163" "Tue" "28" "November" "1995" "16:06:19" "-0500" "Alan Bridle"  
"abridle" nil "31" "Re: Paper for Alabama workshop" "^From:" nil nil "11" nil nil  
nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA143875; Tue, 28 Nov 1995 16:06:19 -0500  
Message-Id: <9511282106.AA143875@polaris.cv.nrao.edu>  
In-Reply-To: <199511282046.PAA02839@astro.astro.umd.edu>  
References: <199511282046.PAA02839@astro.astro.umd.edu>  
From: abridle (Alan Bridle)  
To: wilson@astro.umd.edu  
Subject: Re: Paper for Alabama workshop  
Date: Tue, 28 Nov 1995 16:06:19 -0500

wilson@astro.umd.edu writes:

> Alan,  
> Sorry for the blood pressure spike. Do you need a printed out hard copy

> with the reference titles included, or will the fixed tex file do? (Figure  
> locations etc will be unchanged)? Do I send it to you or Alex Roosen?  
>  
> Andrew  
>

Understood! It's an unusual requirement but the purpose is to try to construct a particularly robust bibliography in which the references have in fact all been checked, rather than propagating mis-references and typos that accumulate in the literature. Having the authors do this on the submissions is a means to distribute the load a little, we could probably not do it ourselves for the entire proceedings without introducing a big delay.

If you could just send me directly by E-mail the bit of the .tex file that contains the references, or the whole file if that's more convenient, I will take it from there. I am your designated editor, and the final paper copy to go to A.S.P. will be prepared by Tony and me here in C'ville. We'll pass anything on to Phil/Alex if they also need further copies there at any point.

Thanks again, and enjoy your trip!

A.

From abridle Tue Nov 28 16:37:36 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["341" "Tue" "28" "November" "1995" "16:36:50" "-0500" "Alan Bridle"  
"abridle" nil "8" "Your paper for the Jet Workshop" "^From:" nil nil "11" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31876; Tue, 28 Nov 1995 16:36:50 -0500  
Message-Id: <9511282136.AA31876@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: keel@bildad.astr.ua.edu  
Subject: Your paper for the Jet Workshop  
Date: Tue, 28 Nov 1995 16:36:50 -0500

has now been copied to the anon-ftp area by Phil and I have the files for editing here. Thanks very much, and I'm sorry if the slight phase shift between Phil's processing and mine caused any confusion. We are particularly grateful to everyone who gave us their paper "on time" and with the full bibliographic references, as you did.

A.

From abridle Tue Nov 28 16:41:09 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["286" "Tue" "28" "November" "1995" "16:40:55" "-0500" "Alan Bridle"  
"abridle" nil "10" "Follow-up re Alabama workshop" "^From:" nil nil "11" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64310; Tue, 28 Nov 1995 16:40:55 -0500

Message-Id: <9511282140.AA64310@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: geoff@mso.anu.edu.au  
Subject: Follow-up re Alabama workshop  
Date: Tue, 28 Nov 1995 16:40:55 -0500

Hi Geoff,

Phil told me after I had sent out the "form letter" that you had already been in touch with him re an extension of the deadline. Just to let you know that this fact has now propagated to all of us, and that we are indeed still looking forward to getting your material!

A.

From root Tue Nov 28 17:28:32 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["52" "Wed" "29" "November" "1995" "09:28:16" "+1100" "Geoff Bicknell"  
"geoff@merlin.anu.edu.au" "<9511282228.AA17172@mozart.mso.anu>" "5" "Re: Follow-up  
re Alabama workshop" "^From:" nil nil "11" nil nil (number " " mark " R Geoff  
Bicknell Nov 29 5/52 " thread-indent "\"Re: Follow-up re Alabama  
workshop\""\n") nil]  
nil)  
Received: from anugpo.anu.edu.au by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA85828; Tue, 28 Nov 1995 17:28:28 -0500  
Received: from merlin (merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au  
(8.6.12/8.6.12) with SMTP id JAA03391 for <abridle@polaris.cv.nrao.edu>; Wed, 29  
Nov 1995 09:28:23 +1100  
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)  
id AA26518; Wed, 29 Nov 1995 09:28:18 +1100  
Received: by mozart.mso.anu (5.x/SMI-SVR4)  
id AA17172; Wed, 29 Nov 1995 09:28:17 +1100  
Message-Id: <9511282228.AA17172@mozart.mso.anu>  
In-Reply-To: <9511282140.AA64310@polaris.cv.nrao.edu> from "Alan Bridle" at Nov 28,  
95 04:40:55 pm  
X-Mailer: ELM [version 2.4 PL23]  
Content-Type: text  
From: geoff@merlin.anu.edu.au (Geoff Bicknell)  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Follow-up re Alabama workshop  
Date: Wed, 29 Nov 1995 09:28:16 +1100 (EST)

Thanks Alan,

Paper will soon be on its way.

Geoff

From root Tue Nov 28 20:59:02 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1315" "Tue" "28" "November" "1995" "20:57:12" "-0500" "azensus@nrao.edu"  
"azensus@nrao.edu" nil "30" "Re: My response to Jack B, FYI" "^From:" nil nil "11"  
nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA195819; Tue, 28 Nov 1995 20:59:02 -0500  
Received: from carlo.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA25431; Tue, 28 Nov 1995 20:58:59 -0500  
Message-Id: <2.2b7.32.19951129015712.006d4328@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b7 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: azensus <azensus@nrao.edu>  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: My response to Jack B, FYI  
Date: Tue, 28 Nov 1995 20:57:12 -0500

At 04:10 PM 11/28/95 -0500, you wrote:

>If you absolutely cannot do this, or have a student help you with it,  
>I will do it for you, as designated editor of your paper. But we are  
>making an attempt not to have to do it for all 55 papers in the  
>proceedings! About 2/3 of the authors so far have in fact provided  
>what we asked for, without fuss. If the end product is a particularly  
>trustworthy bibliography, you may eventually thank us for it!  
>

On Burns's paper: I completely agree with Alan on this. Waiving the  
last-page requirement for this paper only is out of the question.

I propose that we push all authors as hard as we can. The remainder we will  
do ourselves,

in a joint library session. With two people checking, we will  
be quite a bit faster. I don't know why he needs 200 refs, but I doubt it  
will take us a day to find the missing ones.

I'll be out of office through Thursday.

Thanks, Phil for your list; I will follow up the ones not received yet directly.

az

---

Dr. Anton Zensus | Ph: (804) 296-0231  
Scientist | Fx: (804) 296-0278  
National Radio Astronomy Observatory |  
520 Edgemont Road | Email: azensus@nrao.edu  
Charlottesville, VA 22902 USA | WWW: <http://www.cv.nrao.edu/~azensus>

From root Wed Nov 29 05:50:44 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["325" "Wed" "29" "November" "1995" "10:50:38" "+0000" "Peter Scheuer"  
"pags@mrao.cam.ac.uk" nil "9" "Re: Papers for Alabama workshop" "^From:" nil nil  
"11" nil nil nil nil]  
nil)

Received: from mraos.ra.phy.cam.ac.uk by polaris.cv.nrao.edu (AIX 3.2/UCB  
5.64/4.03)

id AA168056; Wed, 29 Nov 1995 05:50:43 -0500

Received: by mraos.ra.phy.cam.ac.uk (Smail3.1.29.0 #2)

id m0tKk62-0005cpC; Wed, 29 Nov 95 10:50 GMT

Message-Id: <m0tKk62-0005cpC@mraos.ra.phy.cam.ac.uk>

In-Reply-To: <9511281732.AA153199@polaris.cv.nrao.edu> from "Alan Bridle" at Nov  
28, 95 12:32:06 pm

X-Mailer: ELM [version 2.4 PL24]

Content-Type: text

Content-Length: 325  
From: pags@mrao.cam.ac.uk (Peter Scheuer)  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Papers for Alabama workshop  
Date: Wed, 29 Nov 1995 10:50:38 +0000 (GMT)

Dear Philip Alan and Anton,

thanks for your very very tactful (one might almost say politically correct!) note reminding me to give you the title of my recent paper. It is

PAGS 'Lobe asymmetry and the expansion speeds of radio sources', MNRAS, 277, 331-340

Cheers

Peter

From root Wed Nov 29 08:16:19 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["790" "Wed" "29" "November" "1995" "08:14:12" "-0500" "azensus@nrao.edu"  
"azensus@nrao.edu" nil "25" "Re: Alabama Proceedings" "^From:" nil nil "11" nil nil  
nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA96357; Wed, 29 Nov 1995 08:16:18 -0500  
Received: from carlo.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA25506; Wed, 29 Nov 1995 08:16:01 -0500  
Message-Id: <2.2b7.32.19951129131412.006a82f4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b7 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: azensus <azensus@nrao.edu>  
To: tingay@merlin.anu.edu.au (Steven Tingay)  
Cc: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: Re: Alabama Proceedings  
Date: Wed, 29 Nov 1995 08:14:12 -0500

At 01:54 PM 11/29/95 +1100, you wrote:

We need your manuscript as soon as possible, but no later than December 4. as we are pushing everybody and ourselves hard to make these Proceedings quickly, which is in everybody's interest. Please send the manuscript asap, complete with references (especially titles, page numbers).

Anton Zensus

>Dear Anton,  
>  
>I will need a couple of extra weeks to submit my proceedings contribution.  
>  
>Regards, Steven Tingay  
>  
>  
>

---

Dr. Anton Zensus | Ph: (804) 296-0231  
Scientist | Fx: (804) 296-0278  
National Radio Astronomy Observatory |

520 Edgemont Road  
Charlottesville, VA 22902 USA

| Email: azensus@nrao.edu  
| WWW: http://www.cv.nrao.edu/~azensus

From root Wed Nov 29 18:14:39 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["476" "Wed" "29" "November" "1995" "11:58:06" "CST" "Alex Rosen"  
"rosen@eclipse.astr.ua.edu" "<9511291758.AA03443@eclipse.astr.ua.edu>" "18"  
"revision in ftp site" "^From:" nil nil "11" nil nil (number " " mark " R Alex  
Rosen Nov 29 18/476 " thread-indent "\"revision in ftp site\""\n") nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61849; Wed, 29 Nov 1995 18:14:38 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id SAA02016 for <abridle@nrao.edu>; Wed, 29 Nov 1995  
18:14:36 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA16015; Wed, 29 Nov 1995 11:36:57 -0600

Received: from eclipse.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA29809; Wed, 29 Nov 95 11:58:11 CST

Received: by eclipse.astr.ua.edu (4.1/SMI-4.1)  
id AA03443; Wed, 29 Nov 95 11:58:06 CST

Message-Id: <9511291758.AA03443@eclipse.astr.ua.edu>

From: rosen@eclipse.astr.ua.edu (Alex Rosen)

To: abridle@nrao.edu

Subject: revision in ftp site

Date: Wed, 29 Nov 95 11:58:06 CST

Dr. Bridle,

Phil Hardee asked me to let you know Wolfgang Steffen (one of  
the people whose papers are assigned to you for editing) has added  
some revisions to our ftp site. The three new files (in the  
pub/incoming/jets/steffen subdirectory) are:

README.nov29  
eddies.sch.rot.eps  
steffen.nov29.tex

Also, I have anon-ftp'd Bill Keel's paper to the keel subdirectory,  
if Phil has not told you this already.

Alex Rosen

From root Thu Nov 30 16:55:53 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["360" "Thu" "30" "November" "1995" "16:08:05" "-0500" "Lin Wan"  
"linwan@phoenix.princeton.edu" "<199511302108.QAA03023@phoenix.Princeton.EDU>" "11"  
"Re: Paper for Alabama workshop proceedings" "^From:" nil nil "11" nil nil nil  
nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19890; Thu, 30 Nov 1995 16:55:52 -0500

Received: from Princeton.EDU (root@Princeton.EDU [128.112.128.1]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id QAA17860 for  
<abridle@polaris.cv.nrao.edu>; Thu, 30 Nov 1995 16:55:50 -0500 (EST)

Received: from ponyexpress.Princeton.EDU by Princeton.EDU (5.65b/2.122/princeton) id AA21458; Thu, 30 Nov 95 16:09:16 -0500  
Received: from phoenix.Princeton.EDU (linwan@phoenix.Princeton.EDU [128.112.128.43]) by ponyexpress.Princeton.EDU (8.6.12/8.6.12) with ESMTTP id QAA18331 for <abridle@polaris.cv.nrao.edu>; Thu, 30 Nov 1995 16:09:07 -0500  
Received: (linwan@localhost) by phoenix.Princeton.EDU (8.6.12/8.6.12) id QAA03023 for abridle@polaris.cv.nrao.edu; Thu, 30 Nov 1995 16:08:05 -0500  
Message-Id: <199511302108.QAA03023@phoenix.Princeton.EDU>  
From: Lin Wan <linwan@phoenix.Princeton.EDU>  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Paper for Alabama workshop proceedings  
Date: Thu, 30 Nov 1995 16:08:05 -0500

Dear Dr. Bridle,

Thank you for you letter dated Nov. 28, in which you informed me about the necessary changes that I need to make on my paper. I'm currently working on the reference section and would complete the revision shortly. Should I send the revised tex file to ftp site of the conference or should I send it directly to you?

Thank you.

Lin Wan

From root Thu Nov 30 17:24:36 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["437" "Thu" "30" "November" "1995" "15:20:39" "-0700" "mledlow@nmsu.edu"  
"mledlow@nmsu.edu" "<199511302220.PAA03704@NMSU.Edu>" "15" "Re: Your paper for  
Alabama proceedings" "^From:" nil nil "11" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA31082; Thu, 30 Nov 1995 17:24:35 -0500  
Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id RAA18319 for <abridle@polaris.cv.nrao.edu>; Thu, 30 Nov 1995 17:24:33 -0500 (EST)  
Received: from NMSU.Edu (dns1.NMSU.Edu) by bubba.NMSU.Edu (5.x/NMSU) id AA19816; Thu, 30 Nov 1995 15:21:57 -0700  
Received: from ocotillo by NMSU.Edu (8.6.10/NMSU-1.18) id PAA03704; Thu, 30 Nov 1995 15:20:39 -0700  
Message-Id: <199511302220.PAA03704@NMSU.Edu>  
Received: by ocotillo (5.x/NMSU) id AA19472; Thu, 30 Nov 1995 15:23:09 -0700  
X-Sun-Charset: US-ASCII  
From: mledlow@NMSU.Edu ()  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Your paper for Alabama proceedings  
Date: Thu, 30 Nov 1995 15:20:39 -0700

Hi Alan,

I fixed the conference paper to include ending page numbers for the references. On one more proofread I also fixed another typo concerning the \index markups. A new copy of the paper is on the FTP site in the /ledlow directory and is called ledlow.tex and ledlow.ps. The figures are also there (fig1.eps, fig2.eps).

I've mailed the paper copy along with the copyright form today.

Sorry that is late.

Thanks,

Michael

From root Fri Dec 1 10:38:51 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["243" "Fri" "1" "December" "1995" "09:38:17" "CST" "Alex Rosen"

"rosen@eclipse.astr.ua.edu" "<9512011538.AA04053@eclipse.astr.ua.edu>" "8" "more revisions" "^From:" nil nil "12" nil nil nil nil]

nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA28937; Fri, 1 Dec 1995 10:38:50 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu

(8.7.1/8.7.1/CV-2.1) with SMTP id KAA06365 for <abridle@nrao.edu>; Fri, 1 Dec 1995 10:38:42 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA16460; Fri, 1 Dec 1995 09:17:12 -0600

Received: from eclipse.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA00496; Fri, 1 Dec 95 09:38:24 CST

Received: by eclipse.astr.ua.edu (4.1/SMI-4.1)

id AA04053; Fri, 1 Dec 95 09:38:17 CST

Message-Id: <9512011538.AA04053@eclipse.astr.ua.edu>

From: rosen@eclipse.astr.ua.edu (Alex Rosen)

To: abridle@nrao.edu

Subject: more revisions

Date: Fri, 1 Dec 95 09:38:17 CST

Dr. Bridle,

Mike Ledlow has put a revised version of his proceedings paper in the ftp directory here. The main difference appears to be end page numbers on a handful of references.

Alex Rosen

From abridle Fri Dec 1 11:02:14 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["397" "Fri" "1" "December" "1995" "11:00:47" "-0500" "Alan Bridle" "abridle"

nil "13" "Re: Your paper for Alabama proceedings" "^From:" nil nil "12" nil nil nil nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA27923; Fri, 1 Dec 1995 11:00:47 -0500

Message-Id: <9512011600.AA27923@polaris.cv.nrao.edu>

In-Reply-To: <199511302220.PAA03704@NMSU.Edu>

References: <199511302220.PAA03704@NMSU.Edu>

From: abridle (Alan Bridle)

To: mledlow@NMSU.Edu ()

Subject: Re: Your paper for Alabama proceedings

Date: Fri, 1 Dec 1995 11:00:47 -0500

mledlow@nmsu.edu writes:

>

> Hi Alan,



>  
> I fixed the conference paper to include ending page numbers for the  
> references. On one more proofread I also fixed another typo concerning  
> the \index markups. A new copy of the paper is on the FTP site  
> in the /ledlow directory and is called ledlow.tex and ledlow.ps.  
> The figures are also there (fig1.eps, fig2.eps).  
>

Thanks, A.

From abridle Fri Dec 1 11:04:02 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["408" "Fri" "1" "December" "1995" "11:00:12" "-0500" "Alan Bridle" "abridle"  
nil "16" "Re: Paper for Alabama workshop proceedings" "^From:" nil nil "12" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30736; Fri, 1 Dec 1995 11:00:12 -0500  
Message-Id: <9512011600.AA30736@polaris.cv.nrao.edu>  
In-Reply-To: <199511302108.QAA03023@phoenix.Princeton.EDU>  
References: <199511302108.QAA03023@phoenix.Princeton.EDU>  
From: abridle (Alan Bridle)  
To: Lin Wan <linwan@phoenix.Princeton.EDU>  
Subject: Re: Paper for Alabama workshop proceedings  
Date: Fri, 1 Dec 1995 11:00:12 -0500

Lin Wan writes:

>  
> Thank you for you letter dated Nov. 28, in which you informed me about  
> the necessary changes that I need to make on my paper. I'm currently working  
> on the reference section and would complete the revision shortly. Should  
> I send the revised tex file to ftp site of the conference or should I send it  
> directly to you?  
>

Directly to me will be fine,

thanks,

Alan B.

From abridle Fri Dec 1 11:04:43 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["538" "Fri" "1" "December" "1995" "11:03:27" "-0500" "Alan Bridle" "abridle"  
nil "19" "Re: more revisions" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32077; Fri, 1 Dec 1995 11:03:27 -0500  
Message-Id: <9512011603.AA32077@polaris.cv.nrao.edu>  
In-Reply-To: <9512011538.AA04053@eclipse.astr.ua.edu>  
References: <9512011538.AA04053@eclipse.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: rosen@eclipse.astr.ua.edu (Alex Rosen)  
Subject: Re: more revisions  
Date: Fri, 1 Dec 1995 11:03:27 -0500

Alex Rosen writes:

```
>
> Dr. Bridle,
>
> Mike Ledlow has put a revised version of his proceedings paper
> in the ftp directory here. The main difference appears to be
> end page numbers on a handful of references.
>
>
> Alex Rosen
```

Thanks for the updates, Alex.

I can't get at them for a few days as we have had to pull ourselves off the net due to an attack by a hacker. I'll get them across as soon as possible, and will let you and Phil know as soon as I have done this.

A.

```
From abridle Fri Dec 1 11:20:33 1995
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["1032" "Fri" "1" "December" "1995" "11:20:32" "-0500" "Alan Bridle"
"abridle" nil "31" "forwarded message from Alan Bridle" "^From:" nil nil "12" nil
nil nil nil]
nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA32158; Fri, 1 Dec 1995 11:20:32 -0500
Message-Id: <9512011620.AA32158@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: rosen@eclipse.astr.ua.edu@nrao.edu
Subject: forwarded message from Alan Bridle
Date: Fri, 1 Dec 1995 11:20:32 -0500
```

```
----- start of forwarded message (RFC 934 encapsulation) -----
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA32077; Fri, 1 Dec 1995 11:03:27 -0500
Message-Id: <9512011603.AA32077@polaris.cv.nrao.edu>
In-Reply-To: <9512011538.AA04053@eclipse.astr.ua.edu>
References: <9512011538.AA04053@eclipse.astr.ua.edu>
From: abridle (Alan Bridle)
To: rosen@eclipse.astr.ua.edu (Alex Rosen)
Subject: Re: more revisions
Date: Fri, 1 Dec 1995 11:03:27 -0500
```

Alex Rosen writes:

```
>
> Dr. Bridle,
>
> Mike Ledlow has put a revised version of his proceedings paper
> in the ftp directory here. The main difference appears to be
> end page numbers on a handful of references.
>
>
> Alex Rosen
```

Thanks for the updates, Alex.

I can't get at them for a few days as we have had to pull ourselves off the net due to an attack by a hacker. I'll get them across as soon

as possible, and will let you and Phil know as soon as I have done this.

A.

----- end -----

From root Fri Dec 1 11:24:29 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["35" "Fri" "1" "December" "1995" "11:24:12" "-0500" "Christopher Carilli"  
"ccarilli@head-cfa.harvard.edu" "<9512011624.AA17095@ranger>" "2" "references"  
"^From:" nil nil "12" nil nil (number " " mark " R Christopher Caril Dec 1  
2/35 " thread-indent "\"references\""\n") nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34276; Fri, 1 Dec 1995 11:24:28 -0500

Received: from head-cfa.harvard.edu (head-cfa.harvard.edu [128.103.42.3]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id LAA07921 for <abridle@nrao.edu>;  
Fri, 1 Dec 1995 11:24:26 -0500 (EST)

Received: from ranger (ranger.harvard.edu) by head-cfa.harvard.edu (4.1/SMI-4.0)  
id AA18349; Fri, 1 Dec 95 11:24:13 EST

Received: by ranger (5.0/SMI-SVR4)  
id AA17095; Fri, 1 Dec 1995 11:24:12 -0500

Message-Id: <9512011624.AA17095@ranger>

From: ccarilli@head-cfa.harvard.edu (Christopher Carilli)

To: abridle@nrao.edu

Subject: references

Date: Fri, 1 Dec 1995 11:24:12 -0500

i will fix references next week

cc

From root Fri Dec 1 12:54:50 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["1516" "Fri" "1" "December" "1995" "12:54:48" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "44" "Author's affil" "^From:" nil nil "12" nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA37979; Fri, 1 Dec 1995 12:54:50 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)

id AA26270; Fri, 1 Dec 1995 12:54:46 -0500

Message-Id: <2.2b7.32.19951201175448.0070a604@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2b7 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu

Subject: Author's affil

Date: Fri, 01 Dec 1995 12:54:48 -0500

Do you have an opinion on the affiliation? I would prefer to pu them in the way  
ASP planned for and not on the bottom of the page.

On names: they should be like the author give them.

>Date: Fri, 1 Dec 95 11:46:00 CST

>From: hardee@venus.astr.ua.edu (Hardee)

>To: azensus@nrao.edu

>Subject: Re: Alabama Proceedings  
>  
>  
>Anton,  
>  
>I would like to suggest that author's addresses be done in a uniform way at  
>the bottom of the first page of each article such as in the example below:  
>  
>  
>\begin{document}  
>  
>\title{Azimuthal Flux Transport by Magnetorotational and Magnetoconvective  
>Instabilities in Accretion Disks}  
>  
>\author{D. M. Christodoulou,\altaffilmark{1} J. Contopoulos,\altaffilmark{2}  
>and D. Kazanas\altaffilmark{3}}  
>  
>\altaffiltext{1}{Department of Physics \& Astronomy, Louisiana State  
>University, Baton Rouge, LA 70803 USA}  
>\altaffiltext{2}{Department of Astronomy \& Astrophysics,  
>The University of Chicago, 5640 S.~Ellis Avenue, Chicago, IL 60637 USA}  
>\altaffiltext{3}{NASA Goddard Space Flight Center, Code 665, Greenbelt, MD  
>20771 USA}  
>  
>This saves considerable space on multiauthor papers as the addresses  
>are printed in small type at the page bottom. With this convention the  
>above paper come in just under the 6 page limit. Is this OK?  
>  
>Can we also decide a uniform convention for author's names. I have no strong  
>feelings here. It seems the two choices are initials plus last name or full  
>first and last names with a middle initial. What would you suggest?  
>  
>Phil  
>  
>

From root Mon Dec 4 09:01:40 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["318" "Mon" "4" "December" "1995" "13:57:43" "+0000" "Peter Scheuer"  
"pags@mrao.cam.ac.uk" "<m0tMbOp-0005crC@mraos.ra.phy.cam.ac.uk>" "8" "Re: Papers  
for Alabama workshop" "^From:" nil nil "12" nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50650; Mon, 4 Dec 1995 09:01:39 -0500

Received: from mraos.ra.phy.cam.ac.uk (root@mraos.ra.phy.cam.ac.uk [131.111.48.8])  
by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id JAA01866 for  
<abridle@polaris.cv.nrao.edu>; Mon, 4 Dec 1995 09:01:34 -0500 (EST)

Received: by mraos.ra.phy.cam.ac.uk (Smail3.1.29.0 #2)  
id m0tMbOp-0005crC; Mon, 4 Dec 95 13:57 GMT

Message-Id: <m0tMbOp-0005crC@mraos.ra.phy.cam.ac.uk>

In-Reply-To: <9511281732.AA153199@polaris.cv.nrao.edu> from "Alan Bridle" at Nov  
28, 95 12:32:06 pm

X-Mailer: ELM [version 2.4 PL24]

Content-Type: text

From: pags@mrao.cam.ac.uk (Peter Scheuer)  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Papers for Alabama workshop  
Date: Mon, 4 Dec 1995 13:57:43 +0000 (GMT)

Dear Philip/Alan/Alex,

I have just ftped (?) and mailed a version of 'advance speeds of hotspots' to include an acknowledgement for permission to reproduce my diagram. Will try to look up titles of references and ftp the re-revised version; may I be

excused mailing yet another hard-copy version?

Peter Scheuer

From abridle Mon Dec 4 09:39:32 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["405" "Mon" "4" "December" "1995" "09:36:43" "-0500" "Alan Bridle" "abridle"  
nil "13" "Re: Papers for Alabama workshop" "^From:" nil nil "12" nil nil nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA51981; Mon, 4 Dec 1995 09:36:43 -0500

Message-Id: <9512041436.AA51981@polaris.cv.nrao.edu>  
In-Reply-To: <m0tMbOp-0005crC@mraos.ra.phy.cam.ac.uk>  
References: <9511281732.AA153199@polaris.cv.nrao.edu>  
<m0tMbOp-0005crC@mraos.ra.phy.cam.ac.uk>

From: abridle (Alan Bridle)  
To: pags@mrao.cam.ac.uk (Peter Scheuer)  
Subject: Re: Papers for Alabama workshop  
Date: Mon, 4 Dec 1995 09:36:43 -0500

Peter Scheuer writes:

> Dear Philip/Alan/Alex,  
> I have just ftped (?) and mailed a version of 'advance speeds of hotspots'  
> to include an acknowledgement for permission to reproduce my diagram. Will  
> try to look up titles of references and ftp the re-revised version; may I  
> be excused mailing yet another hard-copy version?  
>

There's no need for another hard-copy version, thanks,

A.

From root Mon Dec 4 11:14:11 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["275" "Mon" "4" "December" "1995" "10:12:40" "CST" "Alex Rosen"  
"rosen@eclipse.astr.ua.edu" "<9512041612.AA05311@eclipse.astr.ua.edu>" "9" "Re:  
more revisions" "^From:" nil nil "12" nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55254; Mon, 4 Dec 1995 11:14:11 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id LAA05391 for <abridle@polaris.cv.nrao.edu>; Mon,  
4 Dec 1995 11:14:06 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA16264; Mon, 4 Dec 1995 09:51:39 -0600

Received: from eclipse.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA04087; Mon, 4 Dec 95 10:12:48 CST

Received: by eclipse.astr.ua.edu (4.1/SMI-4.1)  
id AA05311; Mon, 4 Dec 95 10:12:40 CST

Message-Id: <9512041612.AA05311@eclipse.astr.ua.edu>

From: rosen@eclipse.astr.ua.edu (Alex Rosen)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: more revisions  
Date: Mon, 4 Dec 95 10:12:40 CST

Dr. Bridle,

All of the people submitting slightly revised versions at this late data seem to be under your editorial jurisdiction. The latest is the Hotspot Advance article (the 2-pager) from Dr. Scheuer.

Alex Rosen

From abridle Mon Dec 4 16:17:27 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["544" "Mon" "4" "December" "1995" "16:17:04" "-0500" "Alan Bridle" "abridle"  
nil "22" "Re: more revisions" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA54870; Mon, 4 Dec 1995 16:17:04 -0500  
Message-Id: <9512042117.AA54870@polaris.cv.nrao.edu>  
In-Reply-To: <9512041612.AA05311@eclipse.astr.ua.edu>  
References: <9512041612.AA05311@eclipse.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: rosen@eclipse.astr.ua.edu (Alex Rosen)  
Subject: Re: more revisions  
Date: Mon, 4 Dec 1995 16:17:04 -0500

Alex Rosen writes:

>  
> Dr. Bridle,  
>  
> All of the people submitting slightly revised versions  
> at this late data seem to be under your editorial jurisdiction.  
> The latest is the Hotspot Advance article (the 2-pager) from  
> Dr. Scheuer.  
>  
> Alex Rosen

I think this is because I have been harassing people to get their reference titles, final page numbers, etc. Now we are back on the net following the hacker attack, I'll pull the new items across a.s.a.p.

Thanks,

A.

From root Mon Dec 4 16:28:11 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["632" "Mon" "4" "December" "1995" "16:27:38" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "17" "alabama manuscript, copyright" "^From:" nil nil "12"  
nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53970; Mon, 4 Dec 1995 16:28:11 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)  
id AA27777; Mon, 4 Dec 1995 16:27:34 -0500  
Message-Id: <2.2b8.32.19951204212738.0070f800@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: rcv@astro.caltech.edu  
Cc: hardee@venus.astr.ua.edu, abridle@nrao.edu  
Subject: alabama manuscript, copyright  
Date: Mon, 04 Dec 1995 16:27:38 -0500

Rene,

I have completed the first round of editing on your Alabama paper. It looks very good. We are concerned, however, that there may be considerable overlap/duplication between this, your Irvine, and Bologna papers. Therefore, we must ask that you don't duplicate verbatim, and that you observe the copyright regulations. In particular, this refers to the figures. You should get the appropriate permissions and forward a copy to Phil Hardee, and you should be aware that previously unpublished figures will be copyrighted to the ASP.

Please let me know which (if any) of the figures need a copyright statement.

Thanks.

az

From root Mon Dec 4 17:13:44 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["767" "Mon" "4" "December" "1995" "17:13:26" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "40" "Re: editing" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA43955; Mon, 4 Dec 1995 17:13:44 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)  
id AA27869; Mon, 4 Dec 1995 17:13:22 -0500  
Message-Id: <2.2b8.32.19951204221326.0213927c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu (Hardee)  
Cc: abridle@nrao.edu  
Subject: Re: editing  
Date: Mon, 04 Dec 1995 17:13:26 -0500

At 11:56 AM 11/28/95 CST, you wrote:

>Anton,

>

> I have asked Ruth to send me a new tex file with the reference and will  
e-mail  
> it to you.

Can you send Daly's new file, please if you have it. Shed had no titles in  
refs, and I asked her to provide those also.

>Papers not yet received:  
>  
>Appl2 - misalignments etc.  
I wrote him, no reply

>Biretta  
no reply

>Cawthorne  
no reply

>Pearson  
replied, will send this week

>Readhead  
replied, will send this week

>Tingay  
sent his last week by e-mail

>You will need to push on these recalcitrants.  
Could you please, with the authority as organizer and probably bank roller  
for some of these send a strong worded message to Biretta, Cawthorne, and Appl?

Thanks, Anton

I believe we are back on e-mail, both ways.

From root Tue Dec 5 11:17:16 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1120" "Tue" "5" "December" "1995" "11:16:01" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "22" "Alabama paper" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30945; Tue, 5 Dec 1995 11:17:16 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)  
id AA28832; Tue, 5 Dec 1995 11:15:49 -0500  
Message-Id: <2.2b8.32.19951205161601.007688dc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: tingay@merlin.anu.edu.au (Steven Tingay), djauncey@thor.cbr.cossa.csiro.au  
Cc: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: Alabama paper  
Date: Tue, 05 Dec 1995 11:16:01 -0500

I have done the initial editing of your manuscript.



We did ask that you provide a complete list of references, including names of ALL authors of a paper, and the full titles. many names and all tiles are missing from your references. Please send the complete information to me asap.

We are also concerned about duplication between this paper, any Bologna contribution of your group, and a journal publication of this material. We must ask that you observe copyright regulations, if appropriate, especially for the figure. If the figure has been published before, you must secure copyright permission and send us a copy (e-mail is ok) of that, and we must include a copyright notice in the figure caption. If it has not been previously published, please note that the ASP will own the copyright on that figure and republication will require their consent (which, of course, should be no problem).

Please let me know if I should include such a notice in the caption.

Please respond quickly and send a revised reference section by email. Don't revise the body text as we have begun to apply style changes already.

az

```
From root Tue Dec 5 11:51:26 1995
X-VM-v5-Data: ([nil nil nil t t nil nil nil nil]
  ["2588" "Tue" "5" "December" "1995" "10:54:51" "CST" "Larry Rudnick"
  "larry@mazel.spa.umn.edu" "<9512051654.AA01155@mazel.spa.umn.edu>" "53"
  "references" "^From:" nil nil "12" nil nil (number " " mark " FR Larry Rudnick
  Dec 5 53/2588 " thread-indent "\"references\"\\n") nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA52888; Tue, 5 Dec 1995 11:51:26 -0500
Received: from mail.cs.umn.edu (mail.cs.umn.edu [128.101.149.1]) by cv3.cv.nrao.edu
  (8.7.1/8.7.1/CV-2.1) with SMTP id LAA28926 for <abridle@nrao.edu>; Tue, 5 Dec 1995
  11:51:18 -0500 (EST)
Received: from mazel.spa.umn.edu (mazel.spa.umn.edu [128.101.221.6]) by
  mail.cs.umn.edu (8.6.12/8.6.12) with SMTP id
  KAA26628 for <abridle@nrao.edu>; Tue, 5 Dec 1995 10:52:38 -0600
Received: by mazel.spa.umn.edu (4.1/SMI-4.1)
  id AA01155; Tue, 5 Dec 95 10:54:51 CST
Message-Id: <9512051654.AA01155@mazel.spa.umn.edu>
From: larry@mazel.spa.umn.edu (Larry Rudnick)
To: abridle@nrao.edu
Subject: references
Date: Tue, 5 Dec 95 10:54:51 CST
```

```
%ALAN - HERE ARE THE REVISED REFERENCES FOR THE RUDNICK/KATZ-STONE
%CONTRIBUTION, WITH BEGINNING AND ENDING PAGES. IF YOU NEED ANYTHING
%ELSE, PLEASE LET ME KNOW. THIS SECTION SHOULD SIMPLY REPLACE
%THE REFERENCES SECTION ALREADY IN THE TEXT. THANKS. LR
```

```
\begin{references}
\reference
  Anderson, M.C., Jones, T.W., Rudnick, L., Tregillis, I.L. \& Kang,
  H., 1994. "The Dynamical and Radiative Evolution of Clumpy Supernova
  Ejecta," \apj, 421L, 31-34.
\reference
  Bicknell, G.V., 1994. "A Model for Dissipative Turbulent Jets
  in FRI Radio Sources," in The First Stromlo Symposium: The Physics of Active
  Galaxies, ed.
```

G.V. Bicknell, M. A. Dopita & P.J. Quinn, San Francisco: ASP, 357-358.

\reference  
 Blandford R.D, 1994. "Holes, Disks, Stars & Jets in Active Galactic Nuclei," in The First Stromlo Symposium: The Physics of Active Galaxies, ed. G.V. Bicknell, M. A. Dopita & P.J. Quinn, San Francisco: ASP, 23-32.

\reference  
 Carilli, C.L., Perley, R.A., Dreher, J.W., & Leahy, J.P., 1991. "Multifrequency Radio Observations of Cygnus~A - Spectral Aging in Powerful Radio Galaxies," \apj, 383, 554-573.

\reference  
 Katz-Stone, D.M., 1995. "The Evolution of the Relativistic Particles and the Structure of the Magnetic Field in Extragalactic Radio Sources," Ph.D. Thesis, University of Minnesota.

\reference  
 Katz-Stone, D.M. & Rudnick, L., 1994. "Isolating the Physical Parameters of Synchrotron Sources," \apj, 426, 116-122.

\reference  
 Katz-Stone, D.M., Rudnick, L. and Anderson, M.C. 1993. "Determining the Shape of Spectra in Extended Radio Sources," \apj, 407, 549-555.

\reference  
 O'Dea, C.P. & Owen, F.N., 1986. "Multifrequency VLA observations of the prototypical narrow-angle tail radio source NGC 1265," \apj, 301, 841-859.

\reference  
 O'Donoghue, A. A., Owen, F.N. & Eilek, J. A., 1993. "Flow Dynamics and Bending of Wide-Angle Tailed Radio Sources," \apj, 408, 428-445.

\reference  
 Rudnick, L. & Katz-Stone, D.M., 1996, "Powerful Diagnostics of Cygnus~A's Relativistic Electrons," in Proceedings of the Workshop on Cygnus~A, C. Carilli & D.E. Harris, Cambridge University Press: Cambridge, 58-67. (RKS)

\reference  
 Rudnick, L., Katz-Stone, D.M. & Anderson, M.C., 1994. "Do Relativistic Electrons Either Gain or Lose Energy Outside of an Active Nucleus?," \apjs, 90, 955-958.

\reference  
 Sol, H., Pelletier, G., & Asseo, E., 1989. "Two-flow model for extragalactic radio jets," \mnras, 237, 411-429.

\reference  
 Tribble, P.C., 1993. "Radio Spectral Ageing in a Random Magnetic Field," \mnras, 261, 57-62.

\end{references}

From root Tue Dec 5 14:26:52 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["981" "Tue" "5" "December" "1995" "14:26:47" "-0500" "Anton Zensus" "azensus@nrao.edu" nil "31" "Re: recalctrants" "^From:" nil nil "12" nil nil nil nil]

nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA62624; Tue, 5 Dec 1995 14:26:52 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA29121; Tue, 5 Dec 1995 14:26:43 -0500

Message-Id: <2.2b8.32.19951205192647.006c9a78@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2b8 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu  
Subject: Re: recalitrants  
Date: Tue, 05 Dec 1995 14:26:47 -0500

>Date: Tue, 5 Dec 95 13:24:51 CST  
>From: hardee@venus.astr.ua.edu (Hardee)  
>To: azensus@nrao.edu  
>Subject: Re: recalitrants

>  
>

>Anton,

>

>I have sent messages today to Appl, Biretta and Cawthorne. This is the  
>2nd message from me to Appl with no reply to the first message I sent  
>last week. I do know that at the last minute Appl cancelled Bolgna so  
>there may be a problem of which we are unaware. I don't know what  
>Cawthorne's excuse is.

>

>The only other person that I have not heard from is Norman. I will try  
>to contact Biretta and Norman by phone next week if I still have not  
>heard from them.

>

>I should have completed one pass through all of the contributions I now  
>have (still waiting on promised contributions from Bicknell and Clarke,  
>and of course Appl#1 and Norman) by the end of this week.

>

>How do you want reference to other contributions in the  
>Proceedings refereed to in both the text and reference lists?

>

>Phil

>

>PS. relay this on to Alan

>

>

From root Tue Dec 5 14:46:13 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1812" "Tue" "5" "December" "1995" "14:46:08" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "51" "cross references" "^From:" nil nil "12" nil nil nil  
nil]

nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA58709; Tue, 5 Dec 1995 14:46:13 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)

id AA29134; Tue, 5 Dec 1995 14:46:04 -0500

Message-Id: <2.2b8.32.19951205194608.006e6be8@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2b8 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu, hardee@venus.astr.ua.edu

Cc: azensus@nrao.edu

Subject: cross references

Date: Tue, 05 Dec 1995 14:46:08 -0500

I propose that we deal with cross references to other papers in these

proceedings as follows:

0. Labels. Several items can be crossreferenced. In all cases, this requires a label statement at the appropriate position, following our naming convention (harde for Hardee's paper, hardef1 for his picture, hardet1, hardes1 for his first section, etc)

whole paper: put \label{5 character paper name} right after \title statement,  
e.g., \title{...}  
\label{harde}

section: put \label{hardes1} after the section statement

tables or figures: put \label{hardet1} WITHIN \caption statement

The labels are used in \ref (to chapter, section, figure, or table number) and \pageref (to actual page numbers) calls from other papers, and in the final run of the book Latex will resolve these to actual numbers. Meanwhile, when you run Latex this will cause non-fatal complaint for unresolved reference(s), and there will be a double question marks where you expect numbers. That's ok, as long as we remember to put in all required labels in the end.

1. Simple references to other paper looks like this

...(see also Hardee, \tp, \page \pageref{harde})  
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

Hardee, these proceedings, Page~??

2. Ref to a particular section could be like this:

...(Hardee, on \page \pageref{hardes2} or even like

...(Hardee, in Section~\ref{hardes2}, on \page \pageref{hardes2}

3. Ref to a figure would be like:

Bridle's beautiful self-portrait (see \page \pageref{bridlef1})

and so on. Got it?

Let me know if you have a particular case and I'll help you to resolve it.

Meanwhile, I am putting labels after all titles of papers I am editing. Please do the same, as the simple references to a whole paper will probably be the majority.

az

From abridle Tue Dec 5 13:29:56 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["341" "Tue" "5" "December" "1995" "13:29:40" "-0500" "Alan Bridle" "abridle"  
nil "10" "Re: references" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50903; Tue, 5 Dec 1995 13:29:40 -0500  
Message-Id: <9512051829.AA50903@polaris.cv.nrao.edu>

In-Reply-To: <9512051654.AA01155@mazel.spa.umn.edu>  
References: <9512051654.AA01155@mazel.spa.umn.edu>  
From: abridle (Alan Bridle)  
To: larry@mazel.spa.umn.edu (Larry Rudnick)  
Subject: Re: references  
Date: Tue, 5 Dec 1995 13:29:40 -0500

Larry Rudnick writes:

> %ALAN - HERE ARE THE REVISED REFERENCES FOR THE RUDNICK/KATZ-STONE  
> %CONTRIBUTION, WITH BEGINNING AND ENDING PAGES. IF YOU NEED ANYTHING  
> %ELSE, PLEASE LET ME KNOW. THIS SECTION SHOULD SIMPLY REPLACE  
> %THE REFERENCES SECTION ALREADY IN THE TEXT. THANKS. LR  
>

Thanks very much Larry, much appreciated

A.

From abridle Wed Dec 6 14:28:22 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["244" "Wed" "6" "December" "1995" "14:27:49" "-0500" "Alan Bridle" "abridle"  
nil "11" "Re: revision in ftp site" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64548; Wed, 6 Dec 1995 14:27:49 -0500  
Message-Id: <9512061927.AA64548@polaris.cv.nrao.edu>  
In-Reply-To: <9511291758.AA03443@eclipse.astr.ua.edu>  
References: <9511291758.AA03443@eclipse.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: rosen@eclipse.astr.ua.edu, hardee@venus.astr.ua.edu  
Subject: Re: revision in ftp site  
Date: Wed, 6 Dec 1995 14:27:49 -0500

Hi Phil and Alex,

I have obtained the revisions by Scheuer, Ledlow and Steffen  
from the ftp area now.

Our internet connections are fully restored following a  
major hacker attack, but we may disappear again if there  
is any recurrence.

A.

From root Wed Dec 6 15:22:49 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["82" "Wed" "6" "December" "1995" "15:19:20" "-0500" "wilson@astro.umd.edu"  
"wilson@astro.umd.edu" "<199512062019.PAA25095@vela.astro.umd.edu>" "6" "Tuscaloosa  
paper" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA66322; Wed, 6 Dec 1995 15:22:48 -0500  
Received: from vela.astro.umd.edu (wilson@vela.astro.umd.edu [129.2.162.225]) by  
cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with ESMTTP id PAA25715 for <abridle@polaris.cv.nrao.edu>;  
Wed, 6 Dec 1995 15:22:46 -0500 (EST)  
Received: (wilson@localhost)  
by vela.astro.umd.edu (8.7.1/8.6.6sWLS)

id PAA25095 for abridle@polaris.cv.nrao.edu; Wed, 6 Dec 1995 15:19:20 -0500 (EST)  
Message-Id: <199512062019.PAA25095@vela.astro.umd.edu>  
From: wilson@astro.umd.edu  
To: abridle@polaris.cv.nrao.edu  
Subject: Tuscaloosa paper  
Date: Wed, 6 Dec 1995 15:19:20 -0500 (EST)

Alan,

The latex file of my Tuscaloosa paper (with titles!) follows.

andrew

From abridle Wed Dec 6 15:35:05 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["29" "Wed" "6" "December" "1995" "15:34:48" "-0500" "Alan Bridle" "abridle"  
nil "3" "Re: Tuscaloosa paper" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52885; Wed, 6 Dec 1995 15:34:48 -0500  
Message-Id: <9512062034.AA52885@polaris.cv.nrao.edu>  
In-Reply-To: <199512062019.PAA25095@vela.astro.umd.edu>  
References: <199512062019.PAA25095@vela.astro.umd.edu>  
From: abridle (Alan Bridle)  
To: wilson@astro.umd.edu  
Subject: Re: Tuscaloosa paper  
Date: Wed, 6 Dec 1995 15:34:48 -0500

Thanks very much, Andrew

A.

From root Wed Dec 6 16:10:55 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1307" "Wed" "6" "December" "1995" "16:10:53" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "29" "table exampl" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64760; Wed, 6 Dec 1995 16:10:54 -0500  
Received: by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA00585; Wed, 6 Dec 1995 16:10:54 -0500  
Message-Id: <9512062110.AA00585@vagabond.cv.nrao.edu>  
X-Mailer: ELM [version 2.4 PL23]  
Mime-Version: 1.0  
Content-Type: text/plain; charset=US-ASCII  
Content-Transfer-Encoding: 7bit  
From: azensus@NRAO.EDU (Anton Zensus)  
To: phardee@vagabond.cv.nrao.edu, abridle@vagabond.cv.nrao.edu (Alan Bridle)  
Subject: table exampl  
Date: Wed, 6 Dec 1995 16:10:53 -0500 (EST)

this is an example how I typeset tables. note that the whole TABLE COMES  
OUT IN SMALL PRINT (FOOTNOTESIZE).

```
\begin{table}[t]
\caption{Kinematic and emission properties of the main jet
features in 3C\,345. \label{prop}}
```

```

\footnotesize
\begin{center}
\begin{tabular}{lcccccc} \hline\hline
& (1)& (2)& (3)& (4)& (5)& (6)& (7) \\ \hline
Comp.&  $t_0$ &  $\beta_{\text{app}}$ &  $\gamma_{\text{min}}$ &  $S_{22\text{GHz}}$ &  $S_{11\text{GHz}}$ &  $S_{5\text{GHz}}$ &  $S_{\text{int}}$  \\
& [c]& [Jy]& [Jy]& [Jy]&  $10^{-14}$ &  $\text{erg s}^{-1} \text{cm}^{-2}$  \\ \hline
C1& 1960.0& 7.2--10.3& 10.3& & & 0.6 & \\
C2& 1968.0& 7.7--10.7& 10.7& & 1.2& 1.3& 10.7--16.7 \\
C3& 1976.0& 5.8--23.3& 23.9& & 2.0& 2.6& 3.1--36.2 \\
C3a& 1977.5& 3.1--22.8& 19.4& 0.3& 1.4& 1.0 & \\
C4& 1979.0& 3.7--16.5& 17.0& 5.2& 8.1& 3.6 & 6.7--162.7 \\
C5& 1980.0& 1.9--6.3& 6.4& 3.0& 5.9& 4.3 & 5.5--98.1 \\
C6& 1987.5& 1.1--5.3& 5.5& 0.3& 2.2& 2.0 & \\
C7& 1988.0& 0.5--9.4& 11.2& 6.2& 2.5& 2.2 & \\
D& & & & & 9.8& 7.8& 8.0 & 29.7--195.6 \\ \hline\hline
\end{tabular}
\end{center}

```

Notes: 1:~estimated epoch of origin; 2:~apparent speed; 3:~minimum Lorentz factor for a constant speed jet; 4,~5,~6:~maximum observed flux densities; 7:~integrated 4--25~GHz flux.

```

From root Wed Dec 6 18:28:06 1995
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X-Mailer: Windows Eudora Pro Version 2.2b8 (32)
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
From: Anton Zensus <azensus@nrao.edu>
To: abridle@nrao.edu, hardee@venus.astr.ua.edu
Subject: reference style change
Date: Wed, 06 Dec 1995 18:27:57 -0500

```

Seems that most authors, in the refs, put a comma after the year, not a period, as our instructions say. I propose we go with the flow and change to that.

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Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: styles  
Date: Thu, 07 Dec 1995 12:23:53 -0500

Phil nad I have been discussing the reference styles in some detail, and have agreed on some conventions which differ from waht we said in the instructions, or were not very clear. Rather than listing all changes, the format can be described very simply:

All refs look like those in slrs and pcsrj (Parsec-Scale Radio Jets, eds. Zensus & Pearson) which both of you have, with these exceptions:

1. period after year
2. beginning and ending page number (like this 15--90)
3. no p.~ before page range in books and conf proceedings.

az

From root Thu Dec 7 12:26:20 1995  
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X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: styles (corrected)  
Date: Thu, 07 Dec 1995 12:26:17 -0500

Phil and I have been discussing the reference styles in some detail, and have agreed on some conventions which differ from what we said in the instructions, or were not very clear. Rather than listing all changes, the format can be described very simply:

All refs look like those in slrs and pcsrj (Parsec-Scale Radio Jets, eds. Zensus & Pearson) which both of you have, with these exceptions:

1. period after year
2. beginning and ending page number (like this 15--90)
3. no p.~ before page range in books and conf proceedings.



The changes are reflected in the definitions in my jetdef.sty. Alan, you might update your copy of that file at some time, or make a symlink to it.

az

From root Mon Dec 11 17:03:48 1995

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Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03) id AA27267; Mon, 11 Dec 1995 15:41:00 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1) id AA07983; Mon, 11 Dec 95 16:02:02 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1) id AA01441; Mon, 11 Dec 95 16:04:39 CST

Message-Id: <9512112204.AA01441@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: carilli manuscript

Date: Mon, 11 Dec 95 16:04:39 CST

Alan,

Here is a revised version of Carilli's contribution. Hope Robert's visit was productive.

Phil

```
=====
>From ccarilli@head-cfa.harvard.edu Mon Dec 11 07:57:32 1995
Date: Mon, 11 Dec 1995 08:54:51 -0500
From: ccarilli@head-cfa.harvard.edu (Christopher Carilli)
To: hardee@venus.astr.ua.edu
Subject: text
Content-Length: 29067
X-Lines: 633
Status: RO
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% PSAMPLE2.TEX -- PASP Conference Proceedings macro package tutorial paper.

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\begin{document}
```

```
\title{The Jets in Cygnus A}
```

```

\author{C.L. Carilli }
\affil{SAO, 60 Garden St., Cambridge, MA, 02138}

\author{R.A. Perley\altaffilmark{1}}
\affil{NRAO, P.O. Box 0, Socorro, NM, 87801}

\author{N. Bartel and B. Sorathia }
\affil{Dept. of Physics and Astronomy, York University, ON, Canada}

% Notice that some of these authors have alternate affiliations, which
% are identified by the \altaffilmark after each name. The actual alternate
% affiliation information is typeset in footnotes at the bottom of the
% first page, and the text itself is specified in \altaffiltext commands.
% There is a separate \altaffiltext
% for each alternate affiliation
% indicated above.

\altaffiltext{1}{NRAO is operated by Associated Universities Inc.\
under cooperative agreement with the National Science Foundation}

% The abstract is entered in a LaTeX "environment", designated with paired
% \begin{abstract} -- \end{abstract} commands. Other environments are
% identified by the name in the curly braces.

\begin{abstract}

Observations of the jets in Cygnus A on pc- and kpc-scales are summarized,
including: internal structure, bends and opening angle, the jet to
counterjet flux density ratio, proper motions, and
magnetic field structure. A simple model is discussed in which the jet is
external pressure confined on pc- and kpc-scales, with a free
expansion zone in between.

\end{abstract}

\section{Introduction}

The observation of hot spots at the extremities of the lobes in Cygnus
A led to the hypothesis of jets in Cygnus A by
Hargrave and Ryle (1974). The point was simply that the synchrotron radiative
loss timescale in the hot spots
is shorter than the light travel time from nucleus
to hot spot, thereby requiring continuous supply of energy to the
hot spots. First evidence for a jet in Cygnus A was found
in a three-baseline VLBI experiment by Kellermann {\sl et~al} (1975).
%Kellermann {\sl et~al.} found evidence for extension of the nucleus
%at 8 GHz, with a size of about 2mas, and
%a major-axis position angle similar to that of the kpc-scale lobes.
The jet was finally revealed in detail on kpc scales by Perley,
Dreher, and Cowan (1984), and on pc-scales by Linfield (1984).
Detailed imaging and analysis of the pc-scale
structure of the jets in Cygnus A can be found
in Linfield (1984), Carilli etal. (1994), Krichbaum etal. (1993, 1996),
Sorathia etal. 1996, Bartel etal. 1995,
while results for the kpc-scale jet can be found
in Perley etal (1984) and Carilli etal (1996).

\section{The pc-scale Jets in Cygnus A}

```

Figure 1 shows the jets on scales of  $1h^{-1}$  pc to  $45h^{-1}$  kpc. A jet (to the northwest of the nucleus), and fainter counterjet (towards the southeast) can be seen on both pc- and kpc-scales. The position angle of the jet is  $284^\circ \pm 2^\circ$  on both pc- and kpc-scales.

```

%
\begin{figure}
  \vspace{40pc}
  \caption{Images of the Jets in Cygnus A from pc- to kpc-scales.
  Images A and B are at 5 GHz,  $0.5''$  resolution.
  The contours are a geometric progression in  $2^{1/2}$ , and the
  first level is 1 mJy/beam. Image C is at 3mas resolution (Sorathia etal.
  1996), and the first contour level is 1.5 mJy/beam.
  }
\end{figure}
%
```

The proximity of Cygnus A allows for about 10x the physical resolution at a fixed angular resolution than for the next closest of the ultra-luminous radio galaxies (3C295). VLBI observations at  $\leq 1$ mas resolution probe sub-pc scales in Cygnus A. While this is still considerably larger than the fundamental scale set by the Schwarzschild radius ( $r_s = 3 \times 10^{14} (M_{BH}/10^9 M_\odot) \text{ cm}$ ), VLBI observations of Cygnus A probe scales comparable to those expected for broad line regions in quasars, and perhaps that of the nozzle or funnel for initial jet formation and collimation (Rees 1986, Begelman, Blandford, and Rees 1984).

Figure 2 shows results from two epochs of VLBI observations of Cygnus A at 5 GHz (Carilli etal 1994). The structure is similar at the two epochs, and the total flux density and peak surface brightness change by less than 10% between epochs, although individual knots vary by up to 40%. The jet is resolved in width, with a constant deconvolved FWHM = 2.2 mas along its length. The core is also spatially resolved at 5 GHz, with a deconvolved FWHM = 1.6 mas. An interesting comparison is with the 43 GHz images (Krichbaum etal 1996). First, the core is unresolved at 43 GHz, with FWHM  $< 0.6$  mas. Hence, the finite width of the core at 5 GHz most likely results from Galactic interstellar scattering (not unexpected, given that  $b = 6^\circ$  for Cygnus A). And second, the core flux density is higher at 43 GHz than at 5 GHz, implying the core has an inverted spectrum of index  $\alpha \geq +0.9$ . The inverted spectrum of the core could result from synchrotron self-absorption (SSA), with a peak at about 25 GHz. An internally-consistent model can be made in which pressures derived using minimum energy assumptions  $\approx$  pressures derived from the SSA equations  $\approx 10^{-3}$  dyn  $\text{cm}^{-2}$ , with the implied field strength of 0.16 G and a core size  $\approx 0.15$  mas. The alternative is free-free absorption by the hypothetical obscuring torus as predicted by Krolik and Lepp (1989). In this case the fact that only the core is inverted spectrum (and not the jet, for which the spectral

index is  $\leq 0$ ), implies an upper limit to the width of the torus of  $\approx 1$  pc.

```
\begin{figure}
  \vspace{18pc}
  \caption{CLEAN images of the core and jet in Cygnus A at 5 GHz
at epochs 1986.89 and 1991.44 at a resolution of 1.1 mas.
The contours are a geometric progression in
 $2^{1/2}$ . The first level is 1.3 mJy/beam (Carilli et al 1994).
}
\end{figure}
%
```

Sorathia et al. (1996) and Bartel et al. (1995) use three epochs of observations to determine the apparent velocity,  $\beta_A$  (in units of  $c$ ), of the outermost jet component (J4). They find:  $\beta_A = 0.55 \pm 0.15$   $h^{-1}$ , and they find a value for the ratio of the integrated flux density in the jet to that in the counterjet,  $R$ , of:  $R = 5 \pm 2$  at 5 GHz. Using these two parameters ( $\beta_A$  and  $R$ ), they apply the equations for the symmetric twin relativistic jet model to constrain the jet angle relative to our line of sight,  $\theta$ , and to constrain the true jet velocity,  $\beta$ .

$$\beta_A = \beta \sin \theta / (1 - \beta \cos \theta)$$
$$R = ((1 + \beta \cos \theta) / (1 - \beta \cos \theta))^{2-\alpha}$$

For  $h = 1/2$  they find  $1.0 \geq \beta \geq 0.6$  and  $85^\circ \geq \theta \geq 50^\circ$ .  
For  $h = 1$  they find  $0.6 \geq \beta \geq 0.4$  and  $70^\circ \geq \theta \geq 40^\circ$ .

Hence, the jet in Cygnus A must be at an intermediate angle relative to our line of sight, and moving at a mildly relativistic velocity. In the context of quasar-powerful radio galaxy unification schemes, the above analysis argues for a low value of  $H_0$ , in order to avoid placing Cygnus A near the quasar-radio galaxy transition angle of  $44.4^\circ$  (Barthel 1989).

The higher resolution observations of Krichbaum et al. (1996) present a somewhat more complicated picture. The complexity and temporal variability of the sub-pc-scale structure makes core identification difficult. Making a nominal core identification with the most inverted spectrum component, Krichbaum et al. find evidence that the inner jet components may have a range in apparent velocities ( $\beta_A$  between 0.2 and 0.8  $h^{-1}$ ). This would be similar to the well studied case of the jet in M87 for which knot velocities ranging from being sub- to superluminal have been observed (Biretta et al. 1995). Such an observation suggests that the apparent velocities represent a pattern speed, eg. of surface waves on the jet, and not the true jet fluid velocity, potentially invalidating the above analysis.

```
\section{The kpc-scale Jets in Cygnus A}
\subsection{Jet-Cloud Interactions}
```

One of the more interesting observational results concerning the jet in Cygnus A comes from the optical imaging of the inner 5'' of the galaxy with HST by Jackson et al. (1994) and Cabrera-Guerra et al. (1996). They find that the jet passes through a 'channel' in the line emitting gas about 1'' from the nucleus. These authors do not find evidence for

increased reddening at the position of the gap, and hence argue that the gap is not simply a fortuitous projection of a dust filament at the position of the radio jet. They suggest that the jet has 'blasted' a path through the emission line clouds. The shocked clouds cool quickly, and are subsequently photo-ionized by radiation from the (hidden) active nucleus. This morphology implies that the radio source has not completely evacuated its environments, at least within a few arcseconds of the nucleus. This is consistent with the simulations of Williams (1991) of a jet propagating through an atmosphere of decreasing density, in which case the inner part of the lobe gets 'squeezed' by the high pressures in the central regions, leaving a 'naked jet' in the inner regions, in direct contact with the external medium. The pressure in the line emitting gas is comparable to the minimum energy pressure in the jet in Cygnus A, allowing for pressure confinement of this naked jet. Potential problems with this idea include the issue of instabilities of a light, pressure confined jet (Birkinshaw 1991), and the requirement of a rather contrived geometry for the line emitting gas (a linear filament of gas that gets 'cut' by the jet) in order to observe a gap due to the jet in the projected line emission.

%However, there are a number of problems with the above model. First is %the general problem of stability of a light, pressure confined jet [24]. %Second, if the line clouds are moving at  $\sim$  few %hundred km sec<sup>-1</sup> they will cross the jet on a time-scale of order %10<sup>6</sup> yrs, thereby further complicating the issue of jet stability. %And third, the gas distribution must have a rather contrived %geometry. A flattened, or disk-like, geometry for the line emitting gas %is precluded since the expected deficit due to a small hole in a large %disk, as seen in projection, would be small. The observed gap requires %the gas be in a linear filament which happens to get 'cut' by the jet.

\subsection{Bends, Knots, and Opening Angle}

Figure 3 shows the Cygnus A jet and counterjet at 5 GHz, 0.4'' resolution. The integrated flux density in the jet between 1.2'' and 12'' from the core is 140 mJy

at 5 GHz, after subtraction of the mean background level. The integrated flux density ratio for the kpc-scale jet and counterjet is:  $R = 2.6 \pm 1$ , with the uncertainty arising in the background subtraction process. An important feature to notice is that the jet and counterjet are not exactly 180° off-set in position angle, but are misaligned by about 4°.

```
\begin{figure}
% \vspace{24pc}
\psfig{figure=CYGC.PS,height=15pc,angle=-90}
\caption{ The jet and counterjet in Cygnus A at 5 GHz, . 0.4''
resolution. The contour levels are a geometric progression in
 $2^{1/2}$ . The first level is 1.3 mJy/beam.
}
\end{figure}
```

```
\begin{figure}
\vspace{9cm}
\caption{ The counterjet in Cygnus A in the southeast lobe at 8 GHz, 0.25''
resolution. }
\end{figure}
```

Figure 4 shows the counterjet in the southern lobe at 8 GHz, 0.4'' resolution. The counterjet is straight to a distance of about 20'' from the core, after which it bends gradually by about 20° towards the south, eventually terminating at the primary hot spot. We speculate that this gradual bend reflects a change in ejection axis for the central engine.

Figure 5 shows a high-pass filtered image of the jet at 5 GHz, 0.4'' resolution. The jet is straight to a distance of about 35'' from the core, after which it curves towards the south, and then back to the north. We speculate that the curvature in this case is caused by the ram pressure of (hypothetical) back-flowing material in the radio lobe.

The jet is comprised of a series of regularly spaced knots appearing as oblique 'ridges' along the jet. The knots are spaced by  $\approx 7''$ , and the ridges are oriented at  $\approx 7^\circ$  relative to the jet axis. At a distance of about 30'' from the core the jet appears to 'bifurcate', showing clearly edge-brightened structure. The regularity of the jet ridges, both in terms of spacing and angle, argues against models in which jet knots are due to either collisions with ambient clouds, or reflect epochs of enhanced ejecta from the central engine, and argues for a (magneto) hydrodynamic origin for the knots.

Possible models include:

oblique shocks arising from surface instabilities (Hardee 1996, Hardee and Clarke 1995),

or structures arising in MHD jets with a force-free magnetic field configuration (Konigl and Choudhuri 1985).

An important constraint on jet physics is the opening angle. For a free jet, the opening angle,  $\theta$  will equal  $2\phi$ , where  $\phi$ , is the Mach angle defined by:  $\tan(\phi) = (\gamma M_j)^{-1}$ , where  $M_j$  = jet Mach number, and  $\gamma$  = jet Lorentz factor (Leahy 1991).

Any oblique

shock in the jet due to a disturbance at the surface will also have the Mach angle relative to the jet axis. Likewise, turbulent boundary layers grow at the Mach angle, unless prohibited e.g. by internal magnetic fields. Hence, a high Mach jet has an effective 'rigidity' due to the fact that edge-effects are limited to propagate into the jet at the Mach angle (Deyoung 1991).

The opening angle of the jet in Cygnus A

can be determined either from the

evolution of the FWHM of the knots in the jet out to 20'', or from the edges defined by the low surface brightness inter-knot emission in the high pass filtered image. In both

cases the opening angle derived is  $\approx 1.6^\circ$ .

For a free, non-relativistic jet, the implied Mach number is 72.

For a free, relativistic jet filled with relativistic fluid, the internal sound speed =  $c/3^{1/2}$ , hence  $M_j = 3^{1/2}$  and for

Cygnus A the implied Lorentz factor is:  $\gamma = 40$ . This is well above the range measured for superluminal quasars (Kellerman and Pauliny-Toth 1981).

Perhaps the most reasonable conclusion is that the Cygnus

A jet is confined. Perley et al. (1984) point out that the Cygnus A

jet morphology is consistent with regions of larger

opening angle ( $\approx 5^\circ$ ), and a constant width jet in between (FWHM  $\approx 0.7''$  from 2'' to 20'' from the core),

implying a confined jet. Even for a confined jet, oblique ridges may tell something of the Mach number of the flow, if they arise due to disturbances at the jet wall. The Cygnus~A jet knots are oriented at roughly  $75^\circ$  to the jet axis, which, if taken as the Mach angle, implies:  $M_j = 8$ . Lastly, there is the simple fact that the jet must widen from pc- to kpc-scales. Using the first resolved jet knot as an indicator of opening angle from the core leads to:  $M_j \leq 13$ .

```
\begin{figure}
% \vspace{24pc}
\psfig{figure=CYGHPPF.GR1,height=13pc,angle=-90}
\caption{
A high pass filtered image of the jet in Cygnus A
at 5 GHz, 0.4'' resolution.
}
\end{figure}
```

```
\begin{figure}
\vspace{18pc}
\caption{
Contours are of total intensity at 15 GHz, 0.4'' resolution, levels =
6, 9, 12, 15, and 18 mJy/beam.
The line-segments show the projected magnetic field distribution (after
correction for Faraday rotation).
}
\end{figure}
```

### \subsection{Polarization, Spectral Index, Etc...}

Polarized emission is detected from the brightest jet knot (situated  $\approx 20''$  from the nucleus). The radio emission from the jet is highly polarized, with fractional polarizations between 0.5 and 0.8 at 15 GHz, 0.4'' resolution, and possibly edge-brightened in fractional polarization. Figure 6 shows the magnetic field orientation in these regions. The field projects parallel to the jet, following along the gentle curve to the south, and back north at about  $35''$  from the nucleus. Such a field morphology is consistent with field shear by a radial velocity gradient across the jet (Begelman et al. 1984).

The spectral indices of the knots in the jet are consistent with a constant value of  $-0.7 \pm 0.2$  from  $2''$  to  $20''$  from the nucleus. The inter-knot jet emission is too faint to determine spectral index values reliably. Also, the knots all have roughly equal peak surface brightnesses of  $\approx 6$  mJy/beam, and the interknot emission is also of roughly constant surface brightness  $\approx 2$  mJy/beam, out to a distance of  $20''$  from the nucleus, after background subtraction.

### \section{Confinement}

The simplest means of jet confinement is external pressure. On pc-scales the jet is resolved transversely, with a constant (deconvolved) FWHM = 2.2 mas from 4 mas to 20mas, suggesting a confined jet. The minimum pressure in jet knots at radii

of a few pc are of order  $10^{-6}$  dyn  $\text{cm}^{-2}$ . There are no direct measures of external pressures in these regions. As a point of comparison, pressures in broad line regions of quasars are thought to be  $\geq 10^{-2}$  dynes  $\text{cm}^{-2}$ . Hence, pressure confinement is plausible for the pc-scale jet, although the possibility of magnetic focusing remains attractive in order to explain such a well collimated outflow (Rees et al. 1982). Also, the pc-scale jet is most-likely under-dense relative to its environs, and hence stability becomes a concern for a pressure-confined jet. A number of authors have suggested confinement of current carrying jets via the 'plasma-pinch' mechanism due to toroidal fields surrounding the radio jet (Benford 1985, Chan and Henriksen 1980). This mechanism is notoriously unstable, although it might be stabilized by longitudinal fields in the jet, or by a hyper-Alfvénic jet velocity.

Table 1 shows representative pressures in various gaseous constituents in Cygnus A on kpc-scales at various distances from the core. The pressures in the radio emitting regions were derived using standard minimum energy assumptions. The pressures in the cluster gas were derived from X-ray observations, and the pressure in the optical line-emitting gas was derived from emission line-ratios. We see that the pressure in the X-ray gas is about the same as that in the optical line gas (at radii  $\leq 15$  kpc or so), and also about equal to minimum energy pressures in the jet, suggesting that external pressure confinement is plausible. The difficulty is that standard jet theory implies that the jet is not in direct contact with the thermal gas, at least beyond a few arcseconds from the core. The jet creates its own low density environment (i.e. the radio lobe) within which it is essentially ballistic. Minimum pressures in the radio lobes are considerably below those in the jet. Hence, external pressure confinement requires the lobes be over-pressured relative to their minimum values by a factor of about seven. Such a departure from minimum pressure in the lobes has the added advantage of bringing the tails of the radio lobes into pressure equilibrium with the external thermal gas. Another favorable aspect to this idea is that the kpc-scale jet is then supersonic, pressure matched, and over-dense (i.e. ballistic) with respect to the medium within which it propagates, which is, in general, a very stable situation (Icke 1991, Birkinshaw 1991).

Overall, it remains plausible that the jets in Cygnus A are external pressure confined on pc- and kpc-scales, with a free-expansion zone in between.

```

%          ****THIS IS HOW TO DO A TABLE***
\begin{table}
  \begin{center}
    \begin{tabular}{ccc}
Component & Core Distance & Pressure \\
~ & & \\
Hot Spots & 45 & 30 \\
Lobe Head & 45 & 2 \\
Lobe Tail & 15 & 0.7 \\
Jet & 2 - 35 & 3
\end{tabular}
\end{center}
\end{table}

```



```

Hot Cluster Gas & 15 & 5 \\
Hot Cluster Gas & 45 & 1 \\
Optical Line Gas & 1 - 10 & 8 \\
\end{tabular}
% \caption{}
\end{center}
\end{table}

```

\section{Velocity}

An estimate of the jet velocity on kpc-scales can be obtained by considering the rate of bulk kinetic energy supplied by the jet,  $L_j$ , and the jet thrust,  $T_j$ . In the classic case the jet velocity is given by:  $v_j \approx L_j/T_j$  for high Mach jets (see Dreher 1985, Bridle and Perley 1984 for the relativistic generalization).

The standard

assumption is that  $L_j = L_R/\epsilon$  where  $L_R =$  lobe radio luminosity  $= 4.4 \times 10^{44}$  ergs  $\text{sec}^{-1}$ , and  $\epsilon$  is an efficiency factor for converting bulk kinetic energy into radio luminosity. The thrust can be estimated from:  $T_j = P_{HS} A_{HS} = 4 \times 10^{35}$  ergs  $\text{cm}^{-1}$ , where  $P_{HS} =$  hot spot pressure  $= 3 \times 10^{-9}$  dyn  $\text{cm}^{-2}$ ,  $A_{HS} =$  hot spot area  $= 1 \times 10^{44}$   $\text{cm}^2$ , leading to:  $v_j = 0.04c/\epsilon$ .

Estimating  $\epsilon$  is difficult. It has been suggested that jet shocks are very efficient at converting bulk kinetic energy into relativistic particles (Axford et al. 1982, Bell 1978).

At the minimum the jet must also do work to expand the ambient medium: work  $\approx P_L V_L \approx 10^{59}$  ergs, where  $P_L =$  lobe pressure  $= 8 \times 10^{-11}$  dyn  $\text{cm}^{-2}$ , and  $V_L = 7 \times 10^{68}$   $\text{cm}^3$ .

Dividing this by the source lifetime,  $t_s \approx 6 \times 10^6$  yrs (Carilli et al 1991) yields  $5 \times 10^{44}$  ergs  $\text{sec}^{-1}$ , thereby setting a very rough upper limit to  $\epsilon$  of  $\approx 0.4$ . In reality,  $\epsilon$  is likely to be considerably less than this (Dreher 1985, Leahy 1991), in particular if the lobe pressures are substantially different than dictated by minimum energy.

One can also consider the total mass flux in the jet, and the upper limit to the mass in the radio lobes,  $M_L$ , to derive a jet velocity:

$v_j = t_s P_{HS} A_{HS} / M_L$ . Using a lobe density of  $n_e < 2 \times 10^{-4}$   $\text{cm}^{-3}$  derived from the lack of internal Faraday dispersion yields  $M_L < 2.4 \times 10^{41}$  gm. The lower limit to the jet velocity is then 0.01c.

Both of the above calculations are invalid in the case of departure from minimum energy conditions, or a time-variable energy (or mass) supply in the jet. The mass estimate also depends on the highly uncertain assumption of magnetic field morphology inherent in the internal Faraday depolarization calculation.

Williams (1991) developed a simple hydrodynamic model relating observable parameters such as the ratio of jet width to lobe width, and the ratio of hot spot pressure to lobe pressure, to physical parameters such as the jet Mach number and ambient-to-jet density contrast. Applying this model to Cygnus A, he finds  $M_j \approx 8$ , and  $\eta =$  ratio of jet density to external

(ICM) density  $\approx 2 \times 10^{-4}$  for a Newtonian ideal fluid (a factor of 4 higher for a relativistic fluid). Using the external ICM thermal electron density (at the hot spot radius) of  $0.008 \text{ cm}^{-3}$  derived from X-ray observations yields a jet density of  $1.6 \times 10^{-6} \text{ cm}^{-3}$ . He then balances jet ram pressure against minimum pressures in the hot spots and finds a required jet velocity somewhat greater than  $c$ . Williams uses this result to argue that the jet must be relativistic on kpc-scales, and must be composed primarily of a relativistic (pair) plasma. However, his calculations apply to axisymmetric flows in a constant density medium. Including jets which vary direction on short timescales, and density gradients in the ambient medium, would widen the lobes over the axisymmetric case, and invalidate the above arguments.

Hardee and Clarke (1995) present a 3D magnetohydrodynamical (MHD) simulation of a dense, supermagnetosonic jet. They find that the jet can maintain both a helical twist and an elliptical distortion of large amplitude over a distance  $\geq 60$  jet radii without disrupting. The predicted jet radio morphology includes a series of oblique filaments crossing the jet at regular intervals, much like that seen for the Cygnus A jet. A detailed comparison between this simulation and the observed structures of the Cygnus A jet (Hardee 1996) yields:  $\gamma_{\text{j}} \approx 10$  and  $\gamma^2 \eta_{\text{j}} \approx 6$ , where  $\gamma_{\text{j}}$  is the jet Lorentz factor,  $\eta_{\text{j}}$  is the density ratio between the jet and the radio lobe, and  $M_{\text{j}}$  is the jet magneto-sonic Mach number.

Lastly, Muxlow, Pelletier, and Roland (1988) and Carilli et al. (1991) have used the observed spectra of the Cygnus-A radio hot spots to constrain various physical parameters of the jet. The basic conclusion is that the various 'features' in the hot spot spectra are consistent with a model involving particle acceleration at a strong shock in a Newtonian fluid with a mildly relativistic jet velocity ( $\approx 0.4c$ ).

Thus far, there are no data which necessitate a hyper-relativistic jet on kpc-scales, or a jet consisting of only pair plasma in Cygnus-A. On the other hand, neither of these is currently precluded, emphasizing our general ignorance of jet physical parameters.

%  
%  
\small

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id AA01546; Tue, 12 Dec 95 10:30:20 CST  
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To: abridle@nrao.edu  
Subject: bicknell&carilli  
Date: Tue, 12 Dec 95 10:30:20 CST

Alan,

I have received the M87 paper from Bicknell. You can find it in our anonymous ftp area. You need to go to pub/incoming/bicknell/m87 to find the files. Note this is not in pub/incoming/jets. Unfortunately, Geoff

failed to include titles and inclusive page numbers and I have already sent him e-mail about this lack.

I also include below a revised version of carilli's paper with titles and inclusive page numbers.

Phil

----- Begin Included Message -----

>From ccarilli@head-cfa.harvard.edu Tue Dec 12 09:53:05 1995  
Date: Tue, 12 Dec 1995 10:50:22 -0500  
From: ccarilli@head-cfa.harvard.edu (Christopher Carilli)  
To: hardee@venus.astr.ua.edu  
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% PSAMPLE2.TEX -- PASP Conference Proceedings macro package tutorial paper.

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\title{The Jets in Cygnus A}
```

```
\author{C.L. Carilli }
\affil{SAO, 60 Garden St., Cambridge, MA, 02138}
```

```
\author{R.A. Perley\altaffilmark{1}}
\affil{NRAO, P.O. Box 0, Socorro, NM, 87801}
```

```
\author{N. Bartel and B. Sorathia }
\affil{Dept. of Physics and Astronomy, York University, ON, Canada}
```

```
% Notice that some of these authors have alternate affiliations, which
% are identified by the \altaffilmark after each name. The actual alternate
% affiliation information is typeset in footnotes at the bottom of the
% first page, and the text itself is specified in \altaffiltext commands.
% There is a separate \altaffiltext for each alternate affiliation
% indicated above.
```

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\altaffiltext{1}{NRAO is operated by Associated Universities Inc.\
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% The abstract is entered in a LaTeX "environment", designated with paired
% \begin{abstract} -- \end{abstract} commands. Other environments are
% identified by the name in the curly braces.
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\begin{abstract}
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Observations of the jets in Cygnus A on pc- and kpc-scales are summarized, including: internal structure, bends and opening angle, the jet to counterjet flux density ratio, proper motions, and magnetic field structure. A simple model is discussed in which the jet is external pressure confined on pc- and kpc-scales, with a free expansion zone in between.

```
\end{abstract}
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```
\section{Introduction}
```

The observation of hot spots at the extremities of the lobes in Cygnus A led to the hypothesis of jets in Cygnus A by Hargrave and Ryle (1974). The point was simply that the synchrotron radiative loss timescale in the hot spots is shorter than the light travel time from nucleus to hot spot, thereby requiring continuous supply of energy to the hot spots. First evidence for a jet in Cygnus A was found in a three-baseline VLB I experiment by Kellermann *et al.* (1975). Kellermann *et al.* found evidence for extension of the nucleus at 8 GHz, with a size of about 2mas, and a major-axis position angle similar to that of the kpc-scale lobes. The jet was finally revealed in detail on kpc scales by Perley, Dreher, and Cowan (1984), and on pc-scales by Linfield (1984). Detailed imaging and analysis of the pc-scale structure of the jets in Cygnus A can be found in Linfield (1985), Carilli *et al.* (1994), Krichbaum *et al.* (1993, 1996), Sorathia *et al.* 1996, Bartel *et al.* 1995, while results for the kpc-scale jet can be found in Perley *et al.* (1984) and Carilli *et al.* (1996).

```
\section{The pc-scale Jets in Cygnus A}
```

Figure 1 shows the jets on scales of  $1h^{-1}$  pc to  $45h^{-1}$  kpc. A jet (to the northwest of the nucleus), and fainter counterjet (towards the southeast) can be seen on both pc- and kpc-scales. The position angle of the jet is  $284^{\circ} \pm 2^{\circ}$  on both pc- and kpc-scales.

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\begin{figure}
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\vspace{40pc}
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\caption{Images of the Jets in Cygnus A from pc- to kpc-scales.
```

```
Images A and B are at 5 GHz,  $0.5''$  resolution.
```

```
The contours are a geometric progression in  $2^{1/2}$ , and the first level is 1 mJy/beam. Image C is at 3mas resolution (Sorathia et al. 1996), and the first contour level is 1.5 mJy/beam.
```

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}
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```
\end{figure}
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The proximity of Cygnus A allows for about 10x the physical resolution at a fixed angular resolution than for the next closest of the ultra-luminous radio galaxies (3C295). VLBI observations at  $\leq 1$  mas resolution probe sub-pc scales in Cygnus A. While this is still considerably larger than the fundamental scale set by the Schwarzschild radius ( $r_s = 3 \times 10^{14} (M_{\text{BH}}/10^9 M_\odot) \text{ cm}$ ), VLBI observations of Cygnus A probe scales comparable to those expected for broad line regions in quasars, and perhaps that of the nozzle or funnel for initial jet formation and collimation (Rees 1986, Begelman, Blandford, and Rees 1984).

Figure 2 shows results from two epochs of VLBI observations of Cygnus A at 5 GHz (Carilli et al 1994). The structure is similar at the two epochs, and the total flux density and peak surface brightness change by less than 10% between epochs, although individual knots vary by up to 40%. The jet is resolved in width, with a constant deconvolved FWHM = 2.2 mas along its length. The core is also spatially resolved at 5 GHz, with a deconvolved FWHM = 1.6 mas. An interesting comparison is with the 43 GHz images (Krichbaum et al 1996). First, the core is unresolved at 43 GHz, with FWHM  $< 0.6$  mas. Hence, the finite width of the core at 5 GHz most likely results from Galactic interstellar scattering (not unexpected, given that  $b = 6^\circ$  for Cygnus A). And second, the core flux density is higher at 43 GHz than at 5 GHz, implying the core has an inverted spectrum of index  $\alpha \geq +0.9$ . The inverted spectrum of the core could result from synchrotron self-absorption (SSA), with a peak at about 25 GHz. An internally-consistent model can be made in which pressures derived using minimum energy assumptions  $\approx$  pressures derived from the SSA equations  $\approx 10^{-3}$  dyn cm $^{-2}$ , with the implied field strength of 0.16 G and a core size  $\approx 0.15$  mas. The alternative is free-free absorption by the hypothetical obscuring torus as predicted by Krolik and Lepp (1989). In this case the fact that only the core is inverted spectrum (and not the jet, for which the spectral index is  $\leq 0$ ), implies an upper limit to the width of the torus of  $\approx 1$  pc.

```

\begin{figure}
  \vspace{18pc}
  \caption{CLEAN images of the core and jet in Cygnus A at 5 GHz
at epochs 1986.89 and 1991.44 at a resolution of 1.1 mas.
The contours are a geometric progression in
 $2^{1/2}$ . The first level is 1.3 mJy/beam (Carilli et al 1994).
}
\end{figure}
%
```

Sorathia et al. (1996) and Bartel et al. (1995) use three epochs of observations to determine the apparent velocity,  $\beta_A$  (in units of  $c$ ), of the outermost jet component (J4). They find:  $\beta_A = 0.55 \pm 0.15 \text{ h}^{-1}$ , and they find a value for the ratio of the integrated flux density in

the jet to that in the counterjet,  $R$ , of:  $R = \beta^2$  at 5-GHz. Using these two parameters ( $\beta_A$  and  $R$ ), they apply the equations for the symmetric twin relativistic jet model to constrain the jet angle relative to our line of sight,  $\theta$ , and to constrain the true jet velocity,  $\beta$ .

$$\beta_A = \beta \sin\theta / (1 - \beta \cos\theta) \quad \text{and}$$

$$R = ((1 + \beta \cos\theta) / (1 - \beta \cos\theta))^{2-\alpha}$$

For  $h = 1/2$  they find  $1.0 \geq \beta \geq 0.6$  and  $85^\circ \geq \theta \geq 50^\circ$ .

For  $h = 1$  they find  $0.6 \geq \beta \geq 0.4$  and  $70^\circ \geq \theta \geq 40^\circ$ .

Hence, the jet in Cygnus A must be at an intermediate angle relative to our line of sight, and moving at a mildly relativistic velocity. In the context of quasar-powerful radio galaxy unification schemes, the above analysis argues for a low value of  $H_0$ , in order to avoid placing Cygnus A near the quasar-radio galaxy transition angle of  $44.4^\circ$  (Barthel 1989).

The higher resolution observations of Krichbaum et al. (1996) present a somewhat more complicated picture. The complexity and temporal variability of the sub-pc-scale structure makes core identification difficult. Making a nominal core identification with the most inverted spectrum component, Krichbaum et al. find evidence that the inner jet components may have a range in apparent velocities ( $\beta_A$  between 0.2 and  $0.8 h^{-1}$ ). This would be similar to the well studied case of the jet in M87 for which knot velocities ranging from being sub- to superluminal have been observed (Biretta et al. 1995). Such an observation suggests that the apparent velocities represent a pattern speed, eg. of surface waves on the jet, and not the true jet fluid velocity, potentially invalidating the above analysis.

## \section{The kpc-scale Jets in Cygnus A}

### \subsection{Jet-Cloud Interactions}

One of the more interesting observational results concerning the jet in Cygnus A comes from the optical imaging of the inner 5'' of the galaxy with HST by Jackson et al. (1994) and Cabrera-Guerra et al. (1996). They find that the jet passes through a 'channel' in the line emitting gas about 1'' from the nucleus. These authors do not find evidence for increased reddening at the position of the gap, and hence argue that the gap is not simply a fortuitous projection of a dust filament at the position of the radio jet. They suggest that the jet has 'blasted' a path through the emission line clouds. The shocked clouds cool quickly, and are subsequently photo-ionized by radiation from the (hidden) active nucleus. This morphology implies that the radio source has not completely evacuated its environments, at least within a few arcseconds of the nucleus. This is consistent with the simulations of Williams (1991) of a jet propagating through an atmosphere of decreasing density, in which case the inner part of the lobe gets 'squeezed' by the high pressures in the central regions, leaving a 'naked jet' in the inner regions, in direct contact with the external medium. The pressure in the line emitting gas is comparable to the minimum energy pressure in the jet in Cygnus

A, allowing for pressure confinement of this naked jet.

Potential problems with this idea include the issue of instabilities of a light, pressure confined jet (Birkinshaw 1991), and



the requirement of a rather contrived geometry for the line emitting gas (a linear filament of gas that gets 'cut' by the jet) in order to observe a gap due to the jet in the projected line emission.

%However, there are a number of problems with the above model. First is %the general problem of stability of a light, pressure confined jet [24]. %Second, if the line clouds are moving at  $\geq$  few %hundred km sec<sup>-1</sup> they will cross the jet on a time-scale of order %10<sup>6</sup> yrs, thereby further complicating the issue of jet stability. %And third, the gas distribution must have a rather contrived %geometry. A flattened, or disk-like, geometry for the line emitting gas %is precluded since the expected deficit due to a small hole in a large %disk, as seen in projection, would be small. The observed gap requires %the gas be in a linear filament which happens to get 'cut' by the jet.

### \subsection{Bends, Knots, and Opening Angle}

Figure 3 shows the Cygnus A jet and counterjet at 5 GHz, 0.4'' resolution. The integrated flux density in the jet between 1.2'' and 12'' from the core is 140 mJy at 5 GHz, after subtraction of the mean background level. The integrated flux density ratio for the kpc-scale jet and counterjet is:  $R = 2.6 \pm 1$ , with the uncertainty arising in the background subtraction process. An important feature to notice is that the jet and counterjet are not exactly 180° off-set in position angle, but are misaligned by about 4°.

```
\begin{figure}
% \vspace{24pc}
\psfig{figure=CYGC.PS,height=15pc,angle=-90}
\caption{ The jet and counterjet in Cygnus A at 5 GHz, . 0.4''
resolution. The contour levels are a geometric progression in
 $2^{1/2}$ . The first level is 1.3 mJy/beam.
}
\end{figure}
```

```
\begin{figure}
\vspace{9cm}
\caption{ The counterjet in Cygnus A in the southeast lobe at 8 GHz, 0.25''
resolution. }
\end{figure}
```

Figure 4 shows the counterjet in the southern lobe at 8 GHz, 0.4'' resolution. The counterjet is straight to a distance of about 20'' from the core, after which it bends gradually by about 20° towards the south, eventually terminating at the primary hot spot. We speculate that this gradual bend reflects a change in ejection axis for the central engine.

Figure 5 shows a high-pass filtered image of the jet at 5 GHz, 0.4'' resolution. The jet is straight to a distance of about 35'' from the core, after which it curves towards the south, and then back to the north. We speculate that the curvature in this case is caused by the ram pressure of (hypothetical) back-flowing material in the radio lobe.

The jet is comprised of a series of regularly spaced knots appearing as oblique 'ridges' along the jet. The knots are spaced by  $\approx$

7°', and the ridges are oriented at  $\approx 7^\circ$  relative to the jet axis. At a distance of about 30'' from the core the jet appears to 'bifurcate', showing clearly edge-brightened structure. The regularity of the jet ridges, both in terms of spacing and angle, argues against models in which jet knots are due to either collisions with ambient clouds, or reflect epochs of enhanced ejection from the central engine, and argues for a (magneto) hydrodynamic origin for the knots.

Possible models include:

oblique shocks arising from surface instabilities (Hardee 1996, Hardee and Clarke 1995),

or structures arising in MHD jets with a force-free magnetic field configuration (Konigl and Choudhuri 1985).

An important constraint on jet physics is the opening angle. For a free jet, the opening angle,  $\theta$  will equal  $2\phi$ , where  $\phi$ , is the Mach angle defined by:  $\tan(\phi) = (\gamma M_j)^{-1}$ , where  $M_j$  = jet Mach number, and  $\gamma$  = jet Lorentz factor (Leahy 1991).

Any oblique

shock in the jet due to a disturbance at the surface will also have the Mach angle relative to the jet axis. Likewise, turbulent boundary layers grow at the Mach angle, unless prohibited e.g. by internal magnetic fields. Hence, a high Mach jet has an effective 'rigidity' due to the fact that edge-effects are limited to propagate into the jet at the Mach angle (Deyoung 1991).

The opening angle of the jet in Cygnus A

can be determined either from the evolution of the FWHM of the knots in the jet out to 20'', or from the edges defined by the low surface brightness inter-knot emission in the high pass filtered image. In both cases the opening angle derived is  $\approx 1.6^\circ$ .

For a free, non-relativistic jet, the implied Mach number is 72.

For a free, relativistic jet filled with relativistic fluid, the internal sound speed =  $c/3^{1/2}$ , hence  $M_j = 3^{1/2}$  and for Cygnus A the implied Lorentz factor is:  $\gamma = 40$ . This is well above the range measured for superluminal quasars (Kellerman and Pauliny-Toth 1981).

Perhaps the most reasonable conclusion is that the Cygnus

A jet is confined. Perley et al. (1984) point out that the Cygnus A

jet morphology is consistent with regions of larger opening angle ( $\approx 5^\circ$ ), and a constant width jet in between (FWHM  $\approx 0.7''$  from 2'' to 20'' from the core), implying a confined jet.

Even for a confined jet, oblique ridges may tell something of the Mach number of the flow, if they arise due to disturbances at the jet wall. The Cygnus A jet knots are oriented at roughly  $7^\circ$  to the jet axis, which,

if taken as the Mach angle, implies:  $M_j = 8$ . Lastly, there is the simple fact that the jet must widen from pc- to kpc-scales. Using the first resolved jet knot as an indicator of opening angle from the core leads to:  $M_j \leq 13$ .

```

\begin{figure}
% \vspace{24pc}
\psfig{figure=CYGHPF.GR1,height=13pc,angle=-90}
\caption{
A high pass filtered image of the jet in Cygnus A
at 5 GHz, 0.4'' resolution.
}
\end{figure}

```

```

\begin{figure}
  \vspace{18pc}
  \caption{
Contours are of total intensity at 15 GHz, 0.4'' resolution, levels =
6, 9, 12, 15, and 18 mJy/beam.
The line-segments show the projected magnetic field distribution (after
correction for Faraday rotation).
}
\end{figure}

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\subsection{Polarization, Spectral Index, Etc...}

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Polarized emission is detected from the brightest jet knot (situated  $\approx 20''$  from the nucleus). The radio emission from the jet is highly polarized, with fractional polarizations between 0.5 and 0.8 at 15 GHz, 0.4'' resolution, and possibly edge-brightened in fractional polarization. Figure 6 shows the magnetic field orientation in these regions. The field projects parallel to the jet, following along the gentle curve to the south, and back north at about 35'' from the nucleus. Such a field morphology is consistent with field shear by a radial velocity gradient across the jet (Begelman et al. 1984).

The spectral indices of the knots in the jet are consistent with a constant value of  $-0.7 \pm 0.2$  from 2'' to 20'' from the nucleus. The inter-knot jet emission is too faint to determine spectral index values reliably. Also, the knots all have roughly equal peak surface brightnesses of  $\approx 6$  mJy/beam, and the interknot emission is also of roughly constant surface brightness  $\approx 2$  mJy/beam, out to a distance of 20'' from the nucleus, after background subtraction.

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\section{Confinement}

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The simplest means of jet confinement is external pressure. On pc-scales the jet is resolved transversely, with a constant (deconvolved) FWHM = 2.2 mas from 4 mas to 20mas, suggesting a confined jet. The minimum pressure in jet knots at radii of a few pc are of order  $10^{-6}$  dyn cm $^{-2}$ . There are no direct measures of external pressures in these regions. As a point of comparison, pressures in broad line regions of quasars are thought to be  $\geq 10^{-2}$  dynes cm $^{-2}$ . Hence, pressure confinement is plausible for the pc-scale jet, although the possibility of magnetic focusing remains attractive in order to explain such a well collimated outflow (Rees et al. 1982). Also, the pc-scale jet is most-likely under-dense relative to its environs, and hence stability becomes a concern for a pressure-confined jet. A number of authors have suggested confinement of current carrying jets via the 'plasma-pinch' mechanism due to toroidal fields surrounding the radio jet (Benford 1985, Chan and Henriksen 1980). This mechanism is notoriously unstable, although it might be stabilized by longitudinal fields in the jet, or by a hyper-Alfvenic jet velocity.

Table 1 shows representative pressures in various gaseous constituents

in Cygnus A on kpc-scales at various distances from the core. The pressures in the radio emitting regions were derived using standard minimum energy assumptions. The pressures in the cluster gas were derived from X-ray observations, and the pressure in the optical line-emitting gas was derived from emission line-ratios. We see that the pressure in the X-ray gas is about the same as that in the optical line gas (at radii  $\leq 15$  kpc or so), and also about equal to minimum energy pressures in the jet, suggesting that external pressure confinement is plausible. The difficulty is that standard jet theory implies that the jet is not in direct contact with the thermal gas, at least beyond a few arcseconds from the core. The jet creates its own low density environment (i.e. the radio lobe) within which it is essentially ballistic. Minimum pressures in the radio lobes are considerably below those in the jet. Hence, external pressure confinement requires the lobes be over-pressured relative to their minimum values by a factor of about seven. Such a departure from minimum pressure in the lobes has the added advantage of bringing the tails of the radio lobes into pressure equilibrium with the external thermal gas.

Another favorable aspect to this idea is that the kpc-scale jet is then supersonic, pressure matched, and over-dense (i.e. ballistic) with respect to the medium within which it propagates, which is, in general, a very stable situation (Icke 1991, Birkinshaw 1991).

Overall, it remains plausible that the jets in Cygnus A are external pressure confined on pc- and kpc-scales, with a free-expansion zone in between.

```

%          ****THIS IS HOW TO DO A TABLE****
\begin{table}
  \begin{center}
    \begin{tabular}{ccc}
Component & Core Distance & Pressure \\
~ & h^{-1} kpc & x10^{-10} dyne cm^{-2} \\
Hot Spots & 45 & 30 \\
Lobe Head & 45 & 2 \\
Lobe Tail & 15 & 0.7 \\
Jet & 2 - 35 & 3 \\
Hot Cluster Gas & 15 & 5 \\
Hot Cluster Gas & 45 & 1 \\
Optical Line Gas & 1 - 10 & 8 \\
    \end{tabular}
  \end{center}
% \caption{}
\end{table}

```

\section{Velocity}

An estimate of the jet velocity on kpc-scales can be obtained by considering the rate of bulk kinetic energy supplied by the jet,  $L_j$ , and the jet thrust,  $T_j$ . In the classic case the jet velocity is given by:  $v_j \approx L_j/T_j$  for high Mach jets (see Dreher 1985, Bridle and Perley 1984 for the relativistic generalization). The standard assumption is that  $L_j = L_R/\epsilon$  where  $L_R =$  lobe radio luminosity  $= 4.4 \times 10^{44}$  ergs sec<sup>-1</sup>,

and  $\epsilon$  is an efficiency factor for converting bulk kinetic energy into radio luminosity. The thrust can be estimated from:  
 $T_j = P_{HS} A_{HS} = 4 \times 10^{35} \text{ ergs cm}^{-1}$ ,  
 where  $P_{HS}$  = hot spot pressure =  $3 \times 10^{-9} \text{ dyn cm}^{-2}$ ,  
 $A_{HS}$  = hot spot area =  $1 \times 10^{44} \text{ cm}^2$ ,  
 leading to:  $v_j = 0.04c/\epsilon$ .

Estimating  $\epsilon$  is difficult. It has been suggested that jet shocks are very efficient at converting bulk kinetic energy into relativistic particles (Axford et al. 1982, Bell 1978).

At the minimum the jet must also do work to expand the ambient medium:  
 work  $\approx P_L V_L \approx 10^{59} \text{ ergs}$ ,  
 where  $P_L$  = lobe pressure =  $8 \times 10^{-11} \text{ dyn cm}^{-2}$ , and  
 and  $V_L = 7 \times 10^{68} \text{ cm}^3$ .

Dividing this by the source lifetime,  $t_s \approx 6 \times 10^6 \text{ yrs}$  (Carilli et al 1991) yields  
 $5 \times 10^{44} \text{ ergs sec}^{-1}$ , thereby setting a very rough upper limit to  $\epsilon$  of  $\approx 0.4$ . In reality,  $\epsilon$  is likely to be considerably less than this (Dreher 1985, Leahy 1991), in particular if the lobe pressures are substantially different than dictated by minimum energy.

One can also consider the total mass flux in the jet, and the upper limit to the mass in the radio lobes,  $M_L$ , to derive a jet velocity:

$v_j = t_s P_{HS} A_{HS} / M_L$ .  
 Using a lobe density of  $n_e < 2 \times 10^{-4} \text{ cm}^{-3}$  derived from the lack of internal Faraday dispersion yields  
 $M_L < 2.4 \times 10^{41} \text{ gm}$ . The lower limit to the jet velocity is then  $0.01c$ .

Both of the above calculations are invalid in the case of departure from minimum energy conditions, or a time-variable energy (or mass) supply in the jet. The mass estimate also depends on the highly uncertain assumption of magnetic field morphology inherent in the internal Faraday depolarization calculation.

Williams (1991) developed a simple hydrodynamic model relating observable parameters such as the ratio of jet width to lobe width, and the ratio of hot spot pressure to lobe pressure, to physical parameters such as the jet Mach number and ambient-to-jet density contrast. Applying this model to Cygnus A, he finds  $M_j \approx 8$ , and  $\eta$  = ratio of jet density to external (ICM) density  $\approx 2 \times 10^{-4}$  for a Newtonian ideal fluid (a factor of 4 higher for a relativistic fluid). Using the external ICM thermal electron density (at the hot spot radius) of  $0.008 \text{ cm}^{-3}$  derived from X-ray observations yields a jet density of  $1.6 \times 10^{-6} \text{ cm}^{-3}$ .

He then balances jet ram pressure against minimum pressures in the hot spots and finds a required jet velocity somewhat greater than  $c$ . Williams uses this result to argue that the jet must be relativistic on kpc-scales, and must be composed primarily of a relativistic (pair) plasma. However, his calculations apply to axisymmetric flows in a constant density medium.

Including jets which vary direction on short timescales, and density gradients in the ambient medium, would widen the lobes over the axisymmetric case, and invalidate the above arguments.

Hardee and Clarke (1995) present a 3D

magnetohydrodynamical (MHD) simulation of a dense, supermagnetosonic jet. They find that the jet can maintain both a helical twist and an elliptical distortion of large amplitude over a distance  $\geq 60$  jet radii without disrupting. The predicted jet radio morphology includes a series of oblique filaments crossing the jet at regular intervals, much like that seen for the Cygnus A jet. A detailed comparison between this simulation and the observed structures of the Cygnus A jet (Hardee 1996) yields:  $\gamma M_j \approx 10$  and  $\gamma^2 \eta_j \approx 6$ , where  $\gamma_j$  is the jet Lorentz factor,  $\eta_j$  is the density ratio between the jet and the radio lobe, and  $M_j$  is the jet magneto-sonic Mach number.

Lastly, Muxlow, Pelletier, and Roland (1988) and Carilli et al. (1991) have used the observed spectra of the Cygnus-A radio hot spots to constrain various physical parameters of the jet. The basic conclusion is that the various 'features' in the hot spot spectra are consistent with a model involving particle acceleration at a strong shock in a Newtonian fluid with a mildly relativistic jet velocity ( $\approx 0.4c$ ).

Thus far, there are no data which necessitate a hyper-relativistic jet on kpc-scales, or a jet consisting of only pair plasma in Cygnus-A. On the other hand, neither of these is currently precluded, emphasizing our general ignorance of jet physical parameters.

%  
%  
\small

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To: abridle@polaris.cv.nrao.edu  
Subject: Alabama proceedings  
Date: Thu, 14 Dec 1995 12:12:17 +0000 (GMT)

Dear Alan Bridle,

I just discovered that the BoundingBox of the first figure  
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of my paper for the proceedings of the Alabama-Workshop may be incorrect.

Would you be so kind to replace epsfbox[0 0 430 376]  
by epsfbox[40 130 310 350], if necessary.

I'm sorry for this possible mistake.

Wolfgang Steffen

Wolfgang Steffen	
Dept. of Physics and Astronomy	
University of Manchester	---- email: wsteffen@ast.man.ac.uk
Manchester M13 9PL	WWW: <a href="http://axp2.ast.man.ac.uk:8000/~wsteffen">http://axp2.ast.man.ac.uk:8000/~wsteffen</a>

From abridle Thu Dec 14 08:40:49 1995

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From: abridle (Alan Bridle)  
To: Wolfgang Steffen <wsteffen@ast.man.ac.uk>

Subject: Re: Alabama proceedings  
Date: Thu, 14 Dec 1995 08:36:54 -0500

Wolfgang Steffen writes:

>  
>  
> I just discovered that the BoundingBox of the first figure  
> (eddies.sch.rot.eps) in the latex-file  
> of my paper for the proceedings of the Alabama-Workshop may be incorrect.  
>  
> Would you be so kind to replace epsfbox[0 0 430 376]  
> by epsfbox[40 130 310 350], if necessary.  
>

Thank you for sending the correction, we had observed that the  
Figure was misaligned and it was on my list of adjustments  
to be made.

With best wishes,

Alan Bridle

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From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: bicknell&carilli  
Date: Mon, 18 Dec 1995 22:34:29 -0500

Hi Phil,

I have copied across the bicknell paper and have your E-mail  
with the carilli corrections. I also have an almost-complete  
draft of the Laing paper from the Laing, just missing a couple of  
references that he is still looking for,

Cheers, A.

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269 2869 m
() 0 0 25 c
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() 0 0 -225 c
269 1830 m
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1309 790 m
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v 456 1824 v 460 1834 v 464 1831 v 468 1813 v 472 1782 v  
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Content-Type: TEXT/PLAIN; charset=US-ASCII

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To: Alan Bridle <abridle@polaris.cv.nrao.edu>

Subject: Diagrams

Date: Tue, 19 Dec 1995 18:52:34 +0000 (GMT)

Dear Alan,

It occurs to me that Figure 4(b) of my paper might be almost illegible.  
Would you like me to expand it?

Robert

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From: Robert Laing <rl@ast.cam.ac.uk>

To: Alan Bridle <abridle@polaris.cv.nrao.edu>

Subject: Paper with all references tidied up

Date: Tue, 19 Dec 1995 18:50:46 +0000 (GMT)

\documentstyle[11pt,paspsconf,epsf]{article}

\begin{document}

\title{Brightness and Polarization Structure of Decelerating Relativistic Jets}

\author{R.A. Laing}

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United Kingdom}

\begin{abstract}

The hypothesis that FRI radio jets are decelerating relativistic flows  
is introduced.

Models of relativistic jets in which a fast spine with a transverse magnetic  
field is surrounded by a slower, shear layer are described.

Their predictions are presented and applied  
to observations of FRI radio galaxies, including new maps of 3C 31.

\end{abstract}

\keywords{jets, relativistic flow, FRI sources, polarization}

\section{Introduction}

\label{Intro}

The idea that {\em all} jets in radio galaxies and quasars are  
relativistic, at least on small scales, is supported by a number of lines of

evidence:

\begin{enumerate}

\item Unified Models (Urry \& Padovani 1995 and references therein) require that relativistic motion at a small angle to the line of sight occurs in all core-dominated sources, a hypothesis for which there is ample evidence from VLBI and variability observations. A much larger parent population of misaligned objects must therefore exist, plausibly identified with sources having weaker cores, but similar extended radio luminosities. These must also have relativistic flow on small scales.

\item Superluminal motion is detected directly in the kpc-scale jet of M 87 (Biretta, these proceedings), as well as in the nuclei of extended quasars (Hough 1994).

\item Jets are one-sided in the same sense on pc and kpc scales.

At all luminosities, the radio emission tends to become more symmetrical on larger scales, as expected if

an initially relativistic flow decelerates (Bridle \& Perley 1984; Bridle {\it et al.} 1994; Parma {\it et al.} 1994).

\item Depolarization asymmetry occurs in both low (Parma, de Ruiter \& Fanti 1996) and high (Laing 1988; Garrington {\it et al.} 1988) sources.

In both classes, the lobe containing the weaker jet shows more depolarization: the implication is that it is seen through more of the surrounding magneto-ionic medium, and is therefore on the far side of the source, as expected if the asymmetry results from Doppler beaming.

\end{enumerate}

This paper is concerned specifically with weak radio galaxies (Fanaroff \& Riley 1974's Class I or FRI) and with the idea that these, in contrast to their more powerful counterparts, decelerate smoothly from relativistic to non-relativistic speeds on kpc scales. Begelman (1992) was the first to suggest a mechanism by which an entraining

relativistic jet could decelerate smoothly, but Scheuer (1983) pointed out that the amount of kinetic energy dissipated in this process was so large that a powerful jet would disrupt completely (see also Icke 1991).

Phinney (1983) showed that a sufficiently weak jet could be recollimated by an external pressure gradient after decelerating, and speculated that the maximum jet luminosity for which this process could occur corresponded to the FRI/FRII division. He also suggested that mass loading from stellar mass loss and entrainment of the surrounding medium might both contribute to jet deceleration. Komissarov (1988, 1990) suggested that the ``gaps'' (emission minima) observed close to the bases of FRI jets might correspond to regions of Doppler dimming, and that the appearance of the jet might be determined by its transverse velocity profile, a slower boundary layer on the outside of the jet being relatively more prominent than faster-moving material. The connection to polarization structure was made by Laing (1993), who postulated that a fast, transverse-field spine was surrounded by a slower-moving, longitudinal-field shear layer, and this model is explored in more detail below. Calculations of the dynamics of decelerating relativistic jets (covering entrainment and mass loading) have recently been made by Bicknell

(1994), Komissarov (1994) and Bowman, Leahy \& Komissarov (1995).

Finally, Bicknell (1995) returned to the suggestion that the FRI/FRII division is connected to a jet's ability to decelerate slowly, and derived the slope of the division in a plot of radio power against



absolute magnitude (Owen 1993).

Models for the brightness and polarization structure of decelerating jets and their observational consequences are outlined in Section~\ref{Models} Preliminary results from a more detailed study of a single source -- 3C 31 -- are given in Section~\ref{3C31} and Section~\ref{Conclusions} summarises the main conclusions.

Throughout this paper,  $\theta$  denotes the angle between a radio jet and the line of sight,  $\beta = v/c$ , where  $v$  is the flow velocity, and the suffices J and CJ refer to the main and counter-jets, respectively.

\section{Models and Statistical Results}

\label{Models}

\subsection{Models}

The models considered here are those of Laing (1993), with modifications suggested by recent observations. We suppose that jets in FRI sources consist of a fast {\em spine} surrounded by a slower {\em shear layer}. The spine has velocity  $\beta_c$ , decreasing away from the nucleus but no transverse velocity gradient. It has a pure transverse magnetic field of the type described by Laing (1980), with no component along the jet axis. The shear layer has velocity  $\beta_s$  which, at constant distance from the nucleus, decreases outwards from a maximum of  $\beta_c$  to 0. The field in the shear layer is either: (a) longitudinal or (b) two-dimensional, with no component perpendicular to the surface of the jet.

The predictions of the decelerating jet model are best divided into those where the line of sight is outside the beaming cone of the spine for plausible values of  $\beta_c$  ( $\theta > 15^\circ$ ) and those which are closer to end-on.

\newpage

\subsection{Sources at a moderate angle ( $>15^\circ$ ) to the line of sight}

\begin{enumerate}

\item Gaps

\begin{enumerate}

\item Minima of emission are expected to occur close to the central component, since faster material has emission suppressed by Doppler beaming. These correspond to the ``gaps'' observed in many FRI jets (Bridle & Perley 1984; Parma {\it et al.} 1987).

\item The gap is larger in the counter-jet, which always suffers more from Doppler dimming than the main jet. This effect is evident in the B2 sample (Parma {\it et al.} 1987).

\end{enumerate}

\item{Jet base sidedness}

\begin{enumerate}

\item Jet bases are one-sided, as observed, unless  $\theta \approx 90^\circ$ .

Note that the simple formula for jet/counter-jet intensity ratio:

$$\left[ \frac{I_J}{I_{CJ}} \right] = \left[ \frac{(1 + \beta \cos \theta)}{(1 - \beta \cos \theta)} \right]^{2 + \alpha}$$

may be significantly in error in some regions, since the postulated field configurations do not emit isotropically in the rest frame. In the extreme case of a pure longitudinal field, the exponent becomes  $3 + 2\alpha$  (Begelman 1993).

- \item The sidedness ratio decreases smoothly with distance from the nucleus as the jet decelerates.

\end{enumerate}

- \item Jet Collimation

\begin{enumerate}

- \item The main jet is more centrally peaked. If the jet width is determined by fitting a single Gaussian profile, then the main jet will appear narrower (the small sample analysed by De Ruiter *et al.* 1991 shows this effect).

- \item The outer isophotes of the main and counterjets are the same, at least if the velocity at the edge of the jet is very small. This prediction has not been tested in detail, but is correct for some well-studied sources such as NGC 315 (Venturi *et al.* 1993) and 0326+396 (Bridle *et al.* 1991).

\end{enumerate}

- \item Apparent magnetic field for a purely longitudinal field in the shear layer.

\begin{enumerate}

- \item Both jets have  $B_{\parallel}$  at their bases and  $B_{\perp}$  further out. This is well documented for main jets (Bridle 1984), but few measurements exist for counter-jets.

In a few cases (*e.g.* 1333-3333; Killeen, Bicknell & Ekers 1986), longitudinal-field regions are detected in both jet bases, but such sources are very symmetrical on all scales, and may be nearly in the plane of the sky.

- \item The apparent field transition from  $B_{\parallel}$  to  $B_{\perp}$  occurs closer to the nucleus in the *main* jet.

- \item In the main jet, the  $B_{\perp}$  polarization rises to a maximum (corresponding to edge-on emission in the rest frame) as the jet decelerates.

- \item In the counterjet, the  $B_{\perp}$  polarization rises monotonically to the same asymptotic (rest-frame) value found in the main jet.

\end{enumerate}

- \item Apparent magnetic field for a two-dimensional shear layer field.

\begin{enumerate}

- \item In this case, the emission integrated across the jet also has  $B_{\parallel}$  close to the nucleus, since the edges of the shear layer dominate the emission.

- \item The apparent field along the ridge line, always has  $B_{\perp}$ , however.

- \item The transition from longitudinal to transverse apparent field occurs closer to the nucleus in the *counter-jet*.

- \item A maximum of perpendicular-field polarization still occurs in the main jet.

\end{enumerate}

- \item Field structure and collimation

\begin{enumerate}

- \item  $B_{\perp}$  regions are centre-brightened, since the emission is dominated by the jet spine or, for a 2D shear-layer field, by shear layer

emission projected onto the ridge line of the jet. This is nearly

always observed.

\item Conversely, {\bf B\$\_{\parallel}\$} regions are limb-brightened, or at least less centrally peaked, since emission comes primarily from the edges of the shear layer. Since these regions are not well resolved in most observations, few data are available, but the jet in M 87 is clearly limb-brightened in places (Owen, Hardee \& Cornwell 1989).

\end{enumerate}

\item Correlations with core prominence

\begin{enumerate}

\item The ratio of gap lengths (defined as the distance from the central component to the point where the surface-brightness begins to increase outwards) for the jet and counter-jet should be anticorrelated with core prominence. This is observed in the B2 sample (Parma, private communication: see Laing 1995).

\item Similarly, the ratio of jet to counterjet intensities at a given distance from the central component should be correlated with core prominence, as shown (again for the B2 sample) by Parma {\it et al.} (1994).

\item The ratio of FWHM in the jet and counterjet in the one-sided region should be anticorrelated with core prominence. De Ruiter {\it et al.} (1989) show that there is an anticorrelation with  $I_J/I_{CJ}$ , which (given (b) above) is effectively the same result.

\end{enumerate}

\item External indicators

\begin{enumerate}

\item Depolarization (or rotation-measure variance) should be stronger on the counterjet side, which is seen through less of the (magnetised) galaxy halo. This effect has been observed in two samples of FRI sources (Parma, De Ruiter \& Fanti 1996; Saikia \& Garrington 1996) and is also evident from a heterogeneous set of observations collected from the literature (Laing 1995).

\item Dust and gas disks (if perpendicular to the radio jets) should appear to be tilted in the appropriate sense. The status of this test is much less clear, and it may be that the dynamics of nuclear gas are too complicated for it to be useful, except perhaps on very small spatial scales.

\end{enumerate}

\item Correlations with extended luminosity

\begin{description}

\item \hspace\*{0.222in} More powerful jets remain relativistic to larger distances and therefore show asymmetry at larger distances from the nucleus. This is also observed (Bridle 1984; Parma {\it et al.} 1987).

\end{description}

\end{enumerate}

\subsection{End-on Sources ( $\theta < 15^\circ$ )}

The predicted properties of end-on sources differ significantly from those of their side-on counterparts, since the spine of the main jet is Doppler boosted and tends to dominate the emission. The main changes are as follows:

\begin{enumerate}

\item For small  $\theta$ , gaps on the main jet side are short, and may vanish entirely if the line of sight is within the beaming cone of the fastest emission at any velocity or distance from the nucleus.

\item If the fractional flux density in the shear layer is small, then the jets are very one-sided, but have {\bf B\$\_{\perp}\$}. This is observed on pc scales in BL Lac objects, which are thought to be the

end-on equivalents of FRI radio galaxies (Gabuzda 1995).  
 \item If, on the other hand, the shear layer flux is large, then the field flips from  $\mathbf{B}_{\parallel}$   $\rightarrow$   $\mathbf{B}_{\perp}$   $\rightarrow$   $\mathbf{B}_{\parallel}$  in the main jet as it decelerates. This may have some relevance to polarization variability in core-dominated sources.

\section{Observations of 3C 31}  
 \label{3C31}

This section gives a preliminary account of new VLA observations of the nearby ( $z = 0.0167$ ) radio galaxy 3C 31 by Bridle, Perley, Feretti, Giovannini, Parma and the present author. 3C 31 was chosen to test the ideas discussed in the previous section since earlier observations showed both a pronounced one-sided jet base (Fomalont *et al.* 1980) and a depolarization asymmetry (Burch 1979; Strom *et al.* 1983).

\begin{figure}  
 \plotone{3C31.I}  
 \caption{The inner jets of 3C 31 at 8.4-GHz (resolution 0.7-arcsec FWHM). The lowest contour level is 35  $\mu$ Jy.\label{3C31I}}  
 \end{figure}

\begin{figure}  
 \plotone{3C31.VECT}  
 \caption{The inner jets of 3C 31 at 8.4-GHz (resolution 0.7-arcsec FWHM). The lowest contour level is 35  $\mu$ Jy. Vector lengths are proportional to the degree of polarization, and 1-arcsec corresponds to 50%. The vector directions are those of the polarization  $\mathbf{E}$ -vector. Faraday rotation is negligible at this frequency, and the apparent magnetic field is accurately orthogonal to the vectors.\label{3C31POL}}  
 \end{figure}

\begin{figure}  
 \plotfiddle{3C31.SIDE}{15cm}{0}{60}{60}{-200}{0}  
 \caption{A grey-scale image of jet sidedness in 3C 31 at 8.4 GHz, constructed by rotating the image by  $180^\circ$  about the nucleus and dividing by itself. The division gives  $I_{\text{J}}/I_{\text{CJ}}$ . Values above 5 are saturated in the display. The nucleus is at (0,0).\label{3C31SIDE}}  
 \end{figure}

\begin{figure}  
 \plottwo{3C31.RIDGE}{3C31.VEL}  
 \caption{(a) A Longitudinal profile through the jet sidedness image of 3C 31, derived from the sidedness map shown in Figure~3. Distances are measured from the nucleus. (b) The profile of spine velocity derived from the sidedness map using the model described in the text.  
 \label{Prof-vel}}  
 \end{figure}

\begin{figure}  
 \plotfiddle{3C31.TRANS}{8cm}{0}{45}{45}{-150}{-60}  
 \caption{A transverse profile of the jet sidedness image. The ratios  $I_{\text{J}}/I_{\text{CJ}}$  have been averaged along radii from the nucleus, between 10 and 20 arcsec distance (over which range the jet has a constant opening angle). The mean values are plotted against

position angle defined at the nucleus.\label{Trans}}

\end{figure}

The initial results are derived from B, C and D-configuration observations at 8.4 GHz, and have a resolution of 0.7 arcsec FWHM. The total intensity and linear polarization of the jet base region are shown in Figures~\ref{3C31I} and \ref{3C31POL}. Both jets are detected all the way in to the nucleus, showing that emission is continuous through the gap region. By rotating the map through  $180^\circ$  about the nucleus, and dividing it by itself, we can derive a {\em sidedness map} (Figure~\ref{3C31SIDE}). Longitudinal and transverse profiles derived from this image are shown in Figures~\ref{Prof-vel}(a) and \ref{Trans}. The ratio  $I_J/I_{CJ}$  varies between 15:1 and 25:1 in the inner 0 -- 5 arcsec, and there are irregular fluctuations in this region (both the jet and counter-jet are knotty). The ratio then falls monotonically with distance from the nucleus along the jet ridge line, reaching 1 at a distance of 30 arcsec from the nucleus. The \clearpage \noindent transverse profile shows that

$I_J/I_{CJ}$  is greatest on the ridge line, as expected for the spine/shear-layer model, although it does not fall to 1 at the edges of the jet, indicating an absence of zero-velocity material (at least at current sensitivity levels). If  $\theta \approx 50^\circ$ , then the derived spine velocity profile is as shown in Figure~\ref{Prof-vel}(b). It falls from  $\beta \approx 0.8$  at 2 arcsec (500 pc) to  $< 0.1$  at 30 arcsec (7 kpc; distances assume that  $H_0 = 100 \text{ km s}^{-1} \text{ Mpc}^{-1}$ ). An upper limit to  $\theta$  is given by the maximum observed sidedness ratio; the polarization data are difficult to fit with the models described above if it is much less than  $50^\circ$ .

There is {\bf  $B_{\parallel}$ } emission at the jet edges at all distances from the nucleus, indicating a prominent shear layer, and the {\bf  $B_{\perp}$ } -- {\bf  $B_{\parallel}$ } transition occurs closer to the nucleus in the counter-jet. This result, and the very high degree of perpendicular-field polarization in the counter-jet, both indicate that the field in the shear layer is likely to be two-dimensional. It may be that the shear-layer emission is produced by averaging over a number of randomly-orientated filaments, each with individually longitudinal fields ({\it c.f.} M 87; Owen, Hardee \& Cornwell 1989).

\section{Conclusions}

\label{Conclusions}

The statistical results presented in this paper, together with the detailed observations of 3C 31, suggest that the spine/shear-layer model gives a good qualitative description of the total intensity and polarization systematics of jet bases in low-luminosity radio sources, and that the assumption that FRI sources are decelerating relativistic flows is basically correct.

The next step is to derive a detailed kinematic model for comparison with theoretical predictions.

\newcommand{\iaubologna}{In Fanti, C. \& Ekers, R.D. (eds.), Extragalactic Radio Sources, IAU Symp. 175, (Dordrecht: Kluwer)}

\newcommand{\JEGRS}{In R\"oser, H.J. \& Meisenheimer, K. (eds.), Lecture Notes in Physics 421, Jets in

Extragalactic Radio Sources (Berlin: Springer)}

\newcommand{\EAG}{In Meurs, E.J.A. \& Fosbury, R.A.E. (eds.),

Extranuclear Activity in Galaxies, (Munich: ESO)}  
\newcommand{\CERS}{In Zensus, J.A. \& Kellermann, K.I. (eds.), Compact  
Extragalactic Radio Sources (Socorro: NRAO)}  
\newcommand{\BJA}{In Hughes, P.A. (ed.), Beams and Jets in Astrophysics,  
(Cambridge: Cambridge University Press)}  
\newcommand{\ApJet}{In Burgarella, D., Livio, M. \& O'Dea, C.P. (eds.),  
Space Telescope Science Institute Symposium Series 6, Astrophysical Jets  
(Cambridge: Cambridge University Press)}  
\newcommand{\PAG}{In Bicknell, G.V., Dopita, M.A. \& Quinn, P.J. (eds.),  
ASP Conference Series 54,  
The First Stromlo Symposium: The Physics of Active Galaxies, (San  
Francisco: ASP)}  
\newcommand{\iau}{In Heeschen, D.S. \& Wade, C.M. (eds.), IAU Symp. 97,  
Extragalactic Radio Sources (Dordrecht: Kluwer)}

\begin{references}

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Large-Scale Jets'', \JEGRS, 145 -- 156  
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\end{references}

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From abridle Tue Dec 19 14:05:39 1995

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References: <Pine.SOL.3.91.951218182122.3399A-100000@rgosf>  
From: abridle (Alan Bridle)  
To: Robert Laing <rl@ast.cam.ac.uk>  
Subject: Re: Corrected refs  
Date: Tue, 19 Dec 1995 14:05:35 -0500

Robert Laing writes:

> Herewith a copy of the paper with all references done except for Irvine  
> talks.  
>  
> R.

Thanks very much, Robert. I have the titles and page numbers for those from Ken's copy.

A.

From abridle Tue Dec 19 14:06:52 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil] ["238" "Tue" "19" "December" "1995" "14:06:29" "-0500" "Alan Bridle" "abridle" nil "12" "Re: Diagrams" "^From:" nil nil "12" nil nil nil nil] nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
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References: <Pine.SOL.3.91.951219185137.5665D-100000@rgosf>  
From: abridle (Alan Bridle)  
To: Robert Laing <rl@ast.cam.ac.uk>  
Subject: Re: Diagrams  
Date: Tue, 19 Dec 1995 14:06:29 -0500

Robert Laing writes:

> Dear Alan,  
>  
> It occurs to me that Figure 4(b) of my paper might be almost illegible.  
> Would you like me to expand it?  
>  
> Robert

Yes, please, I was coming to that conclusion just a few minutes ago!

A.

From abridle Tue Dec 19 14:10:46 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil] ["274" "Tue" "19" "December" "1995" "14:10:40" "-0500" "Alan Bridle" "abridle" nil "8" "Re: Paper with all references tidied up" "^From:" nil nil "12" nil nil nil nil] nil)  
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References: <Pine.SOL.3.91.951219185018.5665B-100000@rgosf>  
From: abridle (Alan Bridle)  
To: Robert Laing <rl@ast.cam.ac.uk>  
Subject: Re: Paper with all references tidied up  
Date: Tue, 19 Dec 1995 14:10:40 -0500

Had you made any changes other than the Irvine refs from the previous version? (I had already done the tidying to Zensus standard on the previous version, and added the Irvine titles and page numbers, so will stay with that copy unless you had some further changes).

A.

From root Tue Dec 19 14:17:55 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil]  
["591" "Tue" "19" "December" "1995" "19:14:06" "+0000" "Robert Laing"  
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19 Dec 1995 14:17:50 -0500 (EST)  
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(Smail3.1.29.1 #9) id m0tS7UG-000CM1C; Tue, 19 Dec 95 19:14 GMT  
Received: by rgosf.ast.cam.ac.uk (Smail3.1.29.1 #9)  
id m0tS7UF-0000cHC; Tue, 19 Dec 95 19:14 GMT  
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Mime-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII  
From: Robert Laing <rl@ast.cam.ac.uk>  
To: Alan Bridle <abridle@polaris.cv.nrao.edu>  
Subject: Re: Paper with all references tidied up  
Date: Tue, 19 Dec 1995 19:14:06 +0000 (GMT)

On Tue, 19 Dec 1995, Alan Bridle wrote:

>  
> Had you made any changes other than the Irvine refs from the previous  
> version? (I had already done the tidying to Zensus standard on the  
> previous version, and added the Irvine titles and page numbers, so  
> will stay with that copy unless you had some further changes).  
>

> A.

>  
>

Um, er .... I don't think so, but am not absolutely sure, since I made a few trivial corrections this afternoon, and can't recall exactly at what

stage I sent you a copy. I will extract the appropriate versions from my sent-mail folder and check.

R.

From root Tue Dec 19 14:34:18 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["3029" "Tue" "19" "December" "1995" "19:30:26" "+0000" "Robert Laing"  
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"^From:" nil nil "12" nil nil nil nil]  
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19 Dec 1995 14:34:09 -0500 (EST)

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Message-Id: <Pine.SOL.3.91.951219192958.5747A-100000@rgosf>

Mime-Version: 1.0

Content-Type: TEXT/PLAIN; charset=US-ASCII

From: Robert Laing <rl@ast.cam.ac.uk>

To: Alan Bridle <abridle@polaris.cv.nrao.edu>

Subject: Changes

Date: Tue, 19 Dec 1995 19:30:26 +0000 (GMT)

Alan,

Here are the (small) changes. It might be quickest to attach the revised main text to the references you have altered, since you will have caught the 2 Irvine refs and the missing \reference. I've indexed by line number, with the old version first.

R.

17 to observations or FRI radio galaxies, including new maps of 3C 31.  
17 to observations of FRI radio galaxies, including new maps of 3C 31.

95 the line of sight,  $\beta = v/c$ , where  $v$  is the flow  
velocity,  $\gamma =$   
96  $(1-\beta^2)^{-1/2}$  is the Lorentz factor and the suffices J and  
CJ refer

95 the line of sight,  $\beta = v/c$ , where  $v$  is the flow velocity,  
96 and the suffices J and CJ refer

119 those where the line of sight is outside the beaming cone of the core  
119 those where the line of sight is outside the beaming cone of the spine

193 occurs closer to the nucleus in the counter-jet.  
193 occurs closer to the nucleus in the {\em counter-jet}.

240 \begin{enumerate}  
241 \item More powerful jets remain relativistic to larger distances and  
242 therefore show asymmetry at larger distances from the nucleus. This  
243 is also observed (Bridle 1984; Parma {\it et al.} 1987).  
244 \end{enumerate}  
240 \begin{description}

241 \item \hspace\*{0.222in} More powerful jets remain relativistic  
to larger  
242 distances and therefore show asymmetry at larger distances from  
the nucleus.  
243 This is also observed (Bridle 1984; Parma {\it et al.} 1987).  
244 \end{description}

301 display. The nucleus is at (0,0) in this display. \label{3C31SIDE}}  
301 display. The nucleus  
is at (0,0). \label{3C31SIDE}}

307 of 3C 31. (b) The profile of spine velocity  
308 derived from the sidedness map using the model described in the text.  
307 of 3C 31, derived from the sidedness map shown in Figure~3.  
Distances are  
308 measured from the nucleus. (b) The profile of spine velocity  
309 derived from the sidedness map using the model described in the text.

371 \newcommand{\iaubologna}{In Fanti, C. (ed.), Extragalactic Radio  
Sources,  
372 IAU Symp. 175, (Dordrecht: Kluwer)}  
372 \newcommand{\iaubologna}{In Fanti, C. \& Ekers, R.D. (eds.),  
Extragalactic  
373 Radio Sources, IAU Symp. 175, (Dordrecht: Kluwer)}

428 \reference Gabuzda, D.C. 1995. ``\tbd'', Proc. Natl. Acad. Sci.,  
92, in press  
429 \reference Gabuzda, D.C. 1995. ``Possible links between BL Lacertae  
430 objects and quasars from very long baseline interferometry radio data'',  
431 Proc. Natl. Acad. Sci., 92, 11393 -- 11398

434 Icke, V. 1991. ``From nucleus to hotspot: nine powers of ten'',  
\BJA, 232  
435 -- 277  
437 \reference Icke, V. 1991. ``From nucleus to hotspot: nine powers  
of ten'',  
438 \BJA, 232 -- 277

451 Structure'', Proc. Natl. Acad. Sci., 92, in press  
454 Structure'', Proc. Natl. Acad. Sci., 92, 11413 -- 11416

From abridle Tue Dec 19 14:39:29 1995

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References: <9512191910.AA69125@polaris.cv.nrao.edu>

<Pine.SOL.3.91.951219191148.5725A-100000@rgosf>

From: abridle (Alan Bridle)

To: Robert Laing <rl@ast.cam.ac.uk>

Subject: Re: Paper with all references tidied up

Date: Tue, 19 Dec 1995 14:39:13 -0500

Robert Laing writes:

>  
>  
> On Tue, 19 Dec 1995, Alan Bridle wrote:  
>  
> >  
> Um, er .... I don't think so, but am not absolutely sure, since I made a  
> few trivial corrections this afternoon, and can't recall exactly at what  
> stage I sent you a copy. I will extract the appropriate versions from my  
> sent-mail folder and check.  
>  
> R.

OK, I have been working on the version that you sent me with the message "Herewith a copy of the paper with all references done except for Irvine talks", dated 18 Dec 18:22:51.

I have included your redraft of Figure 4a in the current copy that we are editing here. It looks fine, but it would be nice to have Figure 4b the same frame size and both lettering and symbols a bit larger. Remember that there is another 10% reduction to occur in the ASP's process.

Cheers, A.

From abridle Tue Dec 19 14:58:47 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
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References: <Pine.SOL.3.91.951219192958.5747A-100000@rgosf>  
From: abridle (Alan Bridle)  
To: Robert Laing <rl@ast.cam.ac.uk>  
Subject: Re: Changes  
Date: Tue, 19 Dec 1995 14:58:41 -0500

Robert Laing writes:

> Alan,  
> Here are the (small) changes. It might be quickest to attach the  
> revised main text to the references you have altered, since you will  
> have caught the 2 Irvine refs and the missing \reference. I've indexed by line  
> number, with the old version first.  
>

All done. We are, by the way, standardizing on counterjet rather than counter-jet. I take it you don't have any objection (as you used both, heh heh.)

Thanks for the updates,

A.

From root Tue Dec 19 17:00:17 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
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X-Mailer: Windows Eudora Pro Version 2.2b8 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: biretta@stsci.edu, tv@gal.star.uclan.ac.uk, t.v.cawthorne@uclan.ac.uk

Cc: hardee@venus.astr.ua.edu, abridle@nrao.edu

Subject: Alabama proceedings

Date: Tue, 19 Dec 1995 16:59:49 -0500

We have not had any word from you concerning your contribution to the Alabama proceedings! Please have the courtesy to let us know if you are planning on sending them at all! We still would like to include your papers in the book, but that requires that you send us something asap. Your's are the last two missing manuscripts. Given Christmas, etc., we ask that you send us something by January 1.

Please confirm that this message reaches you.

Anton Zensus

From root Tue Dec 19 17:02:00 1995  
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nil)

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cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id RAA07651 for <abridle@nrao.edu>;  
Tue, 19 Dec 1995 17:01:59 -0500 (EST)

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
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id AA05473; Tue, 19 Dec 1995 17:01:42 -0500

Message-Id: <2.2b8.32.19951219220146.006e7934@vagabond.cv.nrao.edu>

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X-Mailer: Windows Eudora Pro Version 2.2b8 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@NRAO.EDU>

To: t.v.cawthorne@uclan.ac.uk

Cc: hardee@venus.astr.ua.edu, abridle@nrao.edu

Subject: Alabama proceedings

Date: Tue, 19 Dec 1995 17:01:46 -0500

We have not had any word from you concerning your contribution to the Alabama proceedings! Please have the courtesy to let us know if you are planning on sending them at all! We still would like to include your papers in the book, but that requires that you send us something asap. Your's are the last two missing manuscripts. Given Christmas, etc., we ask that you send us something by January 1.

Please confirm that this message reaches you.

Anton Zensus

From abridle Tue Dec 19 11:07:23 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["827" "Tue" "19" "December" "1995" "11:07:19" "-0500" "Alan Bridle"  
"abridle" nil "26" "Re: bicknell&carilli" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26716; Tue, 19 Dec 1995 11:07:19 -0500  
Message-Id: <9512191607.AA26716@polaris.cv.nrao.edu>  
In-Reply-To: <9512191504.AA04468@venus.astr.ua.edu.astr.ua.edu>  
References: <9512191504.AA04468@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: bicknell&carilli  
Date: Tue, 19 Dec 1995 11:07:19 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Sounds good. I have heard from everyone except Cawthorne and Biretta  
> whose contributions are going to be edited by Anton. Both of us have  
> sent e-mail and I have tried to contact Biretta by telephone to no  
> avail. Otherwise all my papers are promised, if not yet received. I  
> expect to have everything by mid January.

I think this is par for the course, especially Biretta.

>  
> I am off on holiday Thursday and will not return to the office until  
> Jan. 2. All my best to you and Mary for the holidays,  
>

Hope you have a great holiday yourself. Mary has the week off between Christmas and New Year so I will take it at home, but I may also get some more editing done that week, especially if we have any rainy or snowy days.

Merry Christmas!

A.

From VM Tue Dec 19 11:02:21 1995

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["459" "Tue" "19" "December" "1995" "09:04:18" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
"<9512191504.AA04468@venus.astr.ua.edu.astr.ua.edu>" "14" "Re: bicknell&carilli"  
"^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36019; Tue, 19 Dec 1995 10:02:50 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id KAA00862 for <abridle@polaris.cv.nrao.edu>; Tue,  
19 Dec 1995 10:02:49 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27343; Tue, 19 Dec 1995 08:40:35 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA17107; Tue, 19 Dec 95 09:01:31 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA04468; Tue, 19 Dec 95 09:04:18 CST  
Message-Id: <9512191504.AA04468@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: bicknell&carilli  
Date: Tue, 19 Dec 95 09:04:18 CST

Alan,

Sounds good. I have heard from everyone except Cawthorne and Biretta whose contributions are going to be edited by Anton. Both of us have sent

e-mail and I have tried to contact Biretta by telephone to no avail. Otherwise all my papers are promised, if not yet received. I expect to have everything by mid January.

I am off on holiday Thursday and will not return to the office until Jan. 2. All my best to you and Mary for the holidays,

Phil

From abridle Tue Dec 19 17:21:58 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["659" "Tue" "19" "December" "1995" "17:21:44" "-0500" "Alan Bridle"  
"abridle" nil "19" "Re: Follow-up re Alabama workshop" "^From:" nil nil "12" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA18097; Tue, 19 Dec 1995 17:21:44 -0500  
Message-Id: <9512192221.AA18097@polaris.cv.nrao.edu>  
In-Reply-To: <9511282228.AA17172@mozart.mso.anu>  
References: <9511282140.AA64310@polaris.cv.nrao.edu>  
<9511282228.AA17172@mozart.mso.anu>  
From: abridle (Alan Bridle)  
To: geoff@merlin.anu.edu.au (Geoff Bicknell)  
Subject: Re: Follow-up re Alabama workshop  
Date: Tue, 19 Dec 1995 17:21:44 -0500

Hi Geoff,

Thank you for sending the M87 paper, on which I am now doing the remaining minor editing. I gather from Phil that he already reminded you of our request for titles and last page numbers. Sorry to ask you for the extra work, but the consolidated bibliographies are much more useful when they have this information, and we have, as expected, caught several mis-quoted references propagating through the literature from famous review articles as the Alabama authors acquire these extra data!

Could you simply send me the reference section of this paper directly by E-mail once you have the extra information?

Thanks, and Merry Christmas !

Alan

From abridle Wed Dec 20 10:51:43 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["436" "Wed" "20" "December" "1995" "10:51:32" "-0500" "Alan Bridle"  
"abridle" nil "14" "Steffen's manuscript" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50750; Wed, 20 Dec 1995 10:51:32 -0500  
Message-Id: <9512201551.AA50750@polaris.cv.nrao.edu>  
In-Reply-To: <9512011538.AA04053@eclipse.astr.ua.edu>  
References: <9512011538.AA04053@eclipse.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: rosen@eclipse.astr.ua.edu, hardee@venus.astr.ua.edu  
Subject: Steffen's manuscript  
Date: Wed, 20 Dec 1995 10:51:32 -0500

Hi Alex, Phil

Do we have the paper copy of Steffen's manuscript as he intended it to appear? He has sent some Postscript revisions for his Figure 1, but they are exploding when run with our dvips. I would like to see his paper as he intended it to look, to see how to make the adjustments.

If you could FAX a copy of his page 2 from the paper version to me at 804-296-0278, I'd be most grateful.

Thanks, and Merry Christmas,

A.

From abridle Wed Dec 20 11:11:50 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1130" "Wed" "20" "December" "1995" "11:10:29" "-0500" "Alan Bridle"  
"abridle" nil "36" "Re: Alabama proceedings" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59829; Wed, 20 Dec 1995 11:10:29 -0500  
Message-Id: <9512201610.AA59829@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.3.87.9512141217.A10847-0100000@ast.man.ac.uk>  
References: <Pine.3.87.9512141217.A10847-0100000@ast.man.ac.uk>  
From: abridle (Alan Bridle)  
To: Wolfgang Steffen <wsteffen@ast.man.ac.uk>



Subject: Re: Alabama proceedings  
Date: Wed, 20 Dec 1995 11:10:29 -0500

Wolfgang Steffen writes:

>  
> Dear Alan Bridle,  
>  
> I just discovered that the BoundingBox of the first figure  
> (eddies.sch.rot.eps) in the latex-file  
> of my paper for the proceedings of the Alabama-Workshop may be incorrect.  
>  
> Would you be so kind to replace epsfbox[0 0 430 376]  
> by epsfbox[40 130 310 350], if necessary.  
>  
> I'm sorry for this possible mistake.  
>  
> Wolfgang Steffen

Dear Dr. Steffen,

I am afraid that making this change produced an output that is improperly scaled, and over-wrote the caption. Is it your intention to include only the lower half of your original Postscript figure (I presume so, from the Figure caption and from the appearance of the output from your initial draft)? If so, we may need to do some more editing in your Postscript file to achieve this, or perhaps you could substitute it with a file that contains only the material that is to be included in this paper?

I have also asked Alex Rosen to FAX me the second page from the paper version of your manuscript, which I have not seen yet. Possibly this also answers my question.

Thanks,

Alan Bridle

From root Wed Dec 20 11:58:14 1995  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["1297" "Wed" "20" "December" "1995" "16:45:44" "+0000" "Wolfgang Steffen"  
"wsteffen@ast.man.ac.uk" "<Pine.3.87.9512201644.B19132-0100000@ast.man.ac.uk>" "30"  
"Re: Alabama proceedings" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29275; Wed, 20 Dec 1995 11:58:13 -0500  
Received: from curlew.cs.man.ac.uk (curlew.cs.man.ac.uk [130.88.13.7]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with ESMTP id LAA19435 for  
<abridle@polaris.cv.nrao.edu>; Wed, 20 Dec 1995 11:58:09 -0500 (EST)  
Received: from ast.man.ac.uk (actually axp0.ast.man.ac.uk)  
by curlew.cs.man.ac.uk with SMTP (PP);  
Wed, 20 Dec 1995 16:51:54 +0000  
Received: by ast.man.ac.uk; (5.65v3.2/1.1.8.2/19Sep94-0351PM) id AA07834;  
Wed, 20 Dec 1995 16:50:56 GMT  
In-Reply-To: <9512201610.AA59829@polaris.cv.nrao.edu>  
Message-Id: <Pine.3.87.9512201644.B19132-0100000@ast.man.ac.uk>  
Mime-Version: 1.0



> of figures (which allows to specify the BoundingBox, therewith part of the  
> figure to be used).  
>

Thanks, I think I have the problem solved now, with a little experimenting.

I will send a proof of the final version early in the New Year.

Happy holidays,

Alan Bridle

From abridle Wed Dec 20 16:24:40 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["635" "Wed" "20" "December" "1995" "16:22:37" "-0500" "Alan Bridle"  
"abridle" nil "18" "Re: Alabama proceedings" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA11335; Wed, 20 Dec 1995 16:22:37 -0500  
Message-Id: <9512202122.AA11335@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.3.87.9512201644.B19132-0100000@ast.man.ac.uk>  
References: <9512201610.AA59829@polaris.cv.nrao.edu>  
<Pine.3.87.9512201644.B19132-0100000@ast.man.ac.uk>  
From: abridle (Alan Bridle)  
To: Wolfgang Steffen <wsteffen@ast.man.ac.uk>  
Subject: Re: Alabama proceedings  
Date: Wed, 20 Dec 1995 16:22:37 -0500

I have just noticed that the quantity labeled  $r_0$  in your Figure 1 is referred to as  $r_i$  in the caption. One of these should be changed, for consistency; it would be quite easy to change either - do you have a preference?

Also, to make the  $r$  label itself visible in Fig.1 at the further 10% reduction of the final book, it may be necessary to enlarge Figure 1 on the page. I would suggest an enlargement that does not break the set of equations, i.e. one that moves the equation set to page 2. Do you agree?

Finally, could you provide the value of  $H_0$  that was used when quoting the lobe size as 25 kpc?

Thanks again,

Alan B.

From  
abridle Wed Dec 20 17:02:09 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["824" "Wed" "20" "December" "1995" "17:02:03" "-0500" "Alan Bridle"  
"abridle" nil "21" "Re: Figure layout modified a bit" "^From:" nil nil "12" nil nil  
nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA37688; Wed, 20 Dec 1995 17:02:03 -0500  
Message-Id: <9512202202.AA37688@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.SOL.3.91.951220194257.7418B-100000@rgosf>

References: <Pine.SOL.3.91.951220194257.7418B-100000@rgosf>  
From: abridle (Alan Bridle)  
To: Robert Laing <rl@ast.cam.ac.uk>  
Subject: Re: Figure layout modified a bit  
Date: Wed, 20 Dec 1995 17:02:03 -0500

Robert Laing writes:

> Dear Alan,  
>  
> This version has a modified figure layout which might work a bit better  
> if you have enough space: see what you think. The only mods are to three  
> of the captions (ridge line, velocity profile and transverse profile) and  
> to references in the text (were {Prof-vel}; now {Prof} and {vel}).  
>

I'll try the changed layout. I couldn't find a change in the transverse profile caption however. I have got the revised .eps file also.

As the edited version now has a number of detailed differences from yours (we need a standard notation for .eps files and are using a number of new definitions as well) it isn't worth the bandwidth of sending me the whole file any more. If you would like to make any more changes, just send me those so I can paste them in.

Cheers, A.

From root Thu Dec 21 06:02:45 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1068" "Thu" "21" "December" "1995" "10:49:39" "+0000" "Wolfgang Steffen"  
"wsteffen@ast.man.ac.uk" nil "34" "Re: Alabama proceedings" "^From:" nil nil "12"  
nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30378; Thu, 21 Dec 1995 06:02:37 -0500

Received: from curlew.cs.man.ac.uk (curlew.cs.man.ac.uk [130.88.13.7]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with ESMTMP id GAA03437 for  
<abridle@polaris.cv.nrao.edu>; Thu, 21 Dec 1995 06:02:29 -0500 (EST)

Received: from ast.man.ac.uk (actually axp0.ast.man.ac.uk)  
by curlew.cs.man.ac.uk with SMTP (PP);  
Thu, 21 Dec 1995 11:03:44 +0000

Received: by ast.man.ac.uk; (5.65v3.2/1.1.8.2/19Sep94-0351PM) id AA24764;  
Thu, 21 Dec 1995 11:02:44 GMT

In-Reply-To: <9512202122.AA11335@polaris.cv.nrao.edu>

Message-Id: <Pine.3.87.9512211039.A637-0100000@ast.man.ac.uk>

Mime-Version: 1.0

Content-Type: TEXT/PLAIN; charset=US-ASCII

From: Wolfgang Steffen <wsteffen@ast.man.ac.uk>

To: Alan Bridle <abridle@polaris.cv.nrao.edu>

Subject: Re: Alabama proceedings

Date: Thu, 21 Dec 1995 10:49:39 +0000 (GMT)

>  
> I have just noticed that the quantity labeled  $r_0$  in your Figure 1 is  
> referred to as  $r_i$  in the caption. One of these should be changed,  
> for consistency; it would be quite easy to change either - do you have  
> a preference?

Please change  $r_i$  in the caption to  $r_0$ , since this is what I use throughout the paper.

>  
> Also, to make the  $r$  label itself visible in Fig.1 at the further 10%  
> reduction of the final book, it may be necessary to enlarge Figure 1  
> on the page. I would suggest an enlargement that does not break the  
> set of equations, i.e. one that moves the equation set to page 2. Do  
> you agree?

I agree, but it's probably easier to change the font size in the PS-file of the figure (I tried it). Changing the number in front of "scalefont" in lines 450 and 457 in the file (eddie.sch.rot.eps) will do. I suggest values of 180 and 220 respectively.

>  
> Finally, could you provide the value of  $H_0$  that was used when  
> quoting the lobe size as 25 kpc?

We used  $H_0 = 75 \dots$

>  
> Thanks again,  
>  
> Alan B.  
>

Thanks to you,

Wolfgang

From root Thu Dec 21 08:27:56 1995

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["427" "Thu" "21" "December" "1995" "08:27:52" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "19" "Re: cawthorne" "^From:" nil nil "12" nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA54300; Thu, 21 Dec 1995 08:27:55 -0500

Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)

id AA07529; Thu, 21 Dec 1995 08:27:44 -0500

Message-Id: <2.2b8.32.19951221132752.006ddb1c@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2b8 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu, hardee@venus.astr.ua.edu

Subject: Re: cawthorne

Date: Thu, 21 Dec 1995 08:27:52 -0500

>Date: Thu, 21 Dec 1995 12:33:09 +0000 (GMT)  
>From: Tim Cawthorne <t.v.cawthorne@uclan.ac.uk>  
>To: Anton Zensus <azensus@nrao.edu>  
>Subject: Re: Alabama proceedings

>  
>  
>Dear Dr. Zensus

>  
>I am sorry not to have replied before but I have been off work due to  
>illness for some time. I am sorry that I am not in a position to be

>able to forward a contribution by the deadline you mention.  
>  
>Apologies  
>  
>Tim Cawthorne.  
>  
>  
>  
>

From root Thu Dec 21 08:30:57 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["600" "Thu" "21" "December" "1995" "08:30:32" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "17" "Re: Alabama proceedings" "^From:" nil nil "12" nil nil  
nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64391; Thu, 21 Dec 1995 08:30:56 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)  
id AA07532; Thu, 21 Dec 1995 08:30:35 -0500  
Message-Id: <2.2b8.32.19951221133032.006ac950@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: Tim Cawthorne <t.v.cawthorne@uclan.ac.uk>  
Cc: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: Re: Alabama proceedings  
Date: Thu, 21 Dec 1995 08:30:32 -0500

At 12:33 PM 12/21/95 +0000, you wrote:

>  
>Dear Dr. Zensus  
>  
>I am sorry not to have replied before but I have been off work due to  
>illness for some time. I am sorry that I am not in a position to be  
>able to forward a contribution by the deadline you mention.  
>

I am sorry to hear that you have been ill and wish you a good recovery.  
Since we would definitely like to include any contribution of your's, please  
let me know if you are interested at all in producing one, and how much time  
you would need.  
We are prepared to accommodate your needs if you let us know how we can help.

Anton Zensus

From abridle Thu Dec 21 13:19:48 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["271" "Thu" "21" "December" "1995" "13:19:38" "-0500" "Alan Bridle"  
"abridle" nil "11" "H\_0: Alabama paper" "^From:" nil nil "12" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36026; Thu, 21 Dec 1995 13:19:38 -0500  
Message-Id: <9512211819.AA36026@polaris.cv.nrao.edu>  
In-Reply-To: <9512011624.AA17095@ranger>

References: <9512011624.AA17095@ranger>  
From: abridle (Alan Bridle)  
To: ccarilli@head-cfa.harvard.edu (Christopher Carilli)  
Subject: H\_0: Alabama paper  
Date: Thu, 21 Dec 1995 13:19:38 -0500

Chris, so far as I can tell, you never state the value of  $H_0 = ??h$  in your paper for the Alabama proceedings, which I am editing right now. Please supply the ??, and I will insert the definition where you first use  $h$  in Section 2.

Thanks, and Merry Christmas,

Alan

From root Thu Dec 21 13:27:18 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["62" "Thu" "21" "December" "1995" "13:25:57" "-0500" "Christopher Carilli"  
"ccarilli@head-cfa.harvard.edu" nil "4" "Re: H\_0: Alabama paper" "^From:" nil nil  
"12" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA51923; Thu, 21 Dec 1995 13:27:18 -0500  
Received: from head-cfa.harvard.edu (head-cfa.harvard.edu [128.103.42.3]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id NAA09275 for  
<abridle@polaris.cv.nrao.edu>; Thu, 21 Dec 1995 13:27:16 -0500 (EST)  
Received: from ranger (ranger.harvard.edu) by head-cfa.harvard.edu (4.1/SMI-4.0)  
id AA10977; Thu, 21 Dec 95 13:25:58 EST  
Received: by ranger (5.0/SMI-SVR4)  
id AA00411; Thu, 21 Dec 1995 13:25:57 -0500  
Message-Id: <9512211825.AA00411@ranger>  
From: ccarilli@head-cfa.harvard.edu (Christopher Carilli)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: H\_0: Alabama paper  
Date: Thu, 21 Dec 1995 13:25:57 -0500

we use  $h = H_0/100$  and  $q_0 = 0.5$

sorry for the omission.  
cc

From root Mon Jan 1 23:35:02 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["806" "Tue" "2" "January" "1996" "15:30:15" "+1100" "Geoff Bicknell"  
"geoff@merlin.anu.edu.au" nil "27" "Re: Follow-up re Alabama workshop" "^From:" nil  
nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA39097; Mon, 1 Jan 1996 23:35:02 -0500  
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id XAA05458 for  
<abridle@polaris.cv.nrao.edu>; Mon, 1 Jan 1996 23:34:58 -0500 (EST)  
Received: from merlin (root@merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au  
(8.6.12/8.6.12) with SMTP id PAA11205 for <abridle@polaris.cv.nrao.edu>; Tue, 2 Jan  
1996 15:30:26 +1100  
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)

id AA04477; Tue, 2 Jan 1996 15:30:18 +1100  
Received: by mozart.mso.anu (5.x/SMI-SVR4)  
id AA11092; Tue, 2 Jan 1996 15:30:16 +1100  
Message-Id: <9601020430.AA11092@mozart.mso.anu>  
In-Reply-To: <9512192221.AA18097@polaris.cv.nrao.edu> from "Alan Bridle" at Dec 19,  
95 05:21:44 pm  
X-Mailer: ELM [version 2.4 PL25]  
Content-Type: text  
From: geoff@merlin.anu.edu.au (Geoff Bicknell)  
To: abridle@polaris.cv.nrao.edu  
(Alan Bridle)  
Subject: Re: Follow-up re Alabama workshop  
Date: Tue, 2 Jan 1996 15:30:15 +1100 (EST)

>  
>  
>Hi Geoff,  
>  
>Thank you for sending the M87 paper, on which I am now doing the  
>remaining minor editing. I gather from Phil that he already reminded  
>you of our request for titles and last page numbers. Sorry to ask you  
>for the extra work, but the consolidated bibliographies are much more  
>useful when they have this information, and we have, as expected,  
>caught several mis-quoted references propagating through the  
>literature from famous review articles as the Alabama authors acquire  
>these extra data!  
>  
>Could you simply send me the reference section of this paper directly  
>by E-mail once you have the extra information?  
>  
>Thanks, and Merry Christmas !  
>  
>Alan  
>  
>

Alan,  
Thanks for the reminder. Will do this either today or tomorrow, for both  
papers.  
Cheers,  
Geoff

From root Fri Dec 22 11:29:24 1995  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["379" "Fri" "22" "December" "1995" "11:29:15" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "16" "Re: Alabama proceedings" "^From:" nil nil "12" nil nil  
nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA37882; Fri, 22 Dec 1995 11:29:23 -0500  
Received: from kalaf (kalaf.cv.nrao.edu) by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-  
CV/2.4)  
id AA08974; Fri, 22 Dec 1995 11:29:17 -0500  
Message-Id: <2.2b8.32.19951222162915.006d8298@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2b8 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>



To: Tim Cawthorne <t.v.cawthorne@uclan.ac.uk>  
Cc: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: Re: Alabama proceedings  
Date: Fri, 22 Dec 1995 11:29:15 -0500

At 03:17 PM 12/22/95 +0000, you wrote:

>

>Dear Dr. Zensus,

>

>Thanks for your message about the above proceedings. As I am terribly  
>behind with all my work at present, I think it best that you go ahead  
>and publish without my contribution.

>

Thanks for the reply. We will reproduce your abstract for the proceedings,  
in lieu of your full manuscript.

Regards,

Anton Zensus

From root Tue Jan 2 11:29:02 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]

["1160" "Tue" "2" "January" "1996" "10:31:53" "CST"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "37" "Re: Alabama  
proceedings" "^From:" nil nil "1" nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA37150; Tue, 2 Jan 1996 11:29:01 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id LAA15549; Tue, 2 Jan 1996 11:29:00 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA04831; Tue, 2 Jan 1996 10:08:03 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13516; Tue, 2 Jan 96 10:28:49 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA05727; Tue, 2 Jan 96 10:31:53 CST

Message-Id: <9601021631.AA05727@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: biretta@stsci.edu, azensus@nrao.edu, abridle@nrao.edu

Subject: Re: Alabama proceedings

Date: Tue, 2 Jan 96 10:31:53 CST

John,

I can handle everything electronically. However, if you have gray  
scale images it would be best to send your best possible hardcopy, sized  
to fit the space in your contribution, as you may be able to generate a  
better image than I can produce here from your postscript image files.  
This ensures that we put the best possible images in the  
proceedings.

Please remember to send the copyright document when you mail your hardcopy, and  
don't forget titles and inclusive page numbers on papers in the reference list.

Phil

----- Begin Included Message -----

>From biretta@stsci.edu Tue Jan 2 09:06:03 1996  
>Date: Tue, 2 Jan 96 10:02:51 EST  
>From: John A. Biretta <biretta@stsci.edu>  
>To: azensus@nrao.edu, hardee@venus.astr.ua.edu  
>Subject: Re: Alabama proceedings  
>Cc: biretta@stsci.edu  
>Content-Length: 309

Hi. I received your messages about the proceedings article. I will send it (latex + postscript figs) later today; probably in the evening. I presume you can handle electronic only transmission, but let me know if you need hard copy figs (e.g. there are two photos). Sorry for lateness. - John Biretta

----- End Included Message -----

From root Wed Jan 3 09:56:05 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1315" "Wed" "3" "January" "1996" "09:55:58" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "39" "Re: Alabama proceedings" "^From:" nil nil "1" nil nil  
nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34587; Wed, 3 Jan 1996 09:56:04 -0500  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA04509; Wed, 3 Jan 1996 09:55:59 -0500  
Message-Id: <2.2.32.19960103145558.006e82f0@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu (Hardee)  
Cc: abridle@nrao.edu  
Subject: Re: Alabama proceedings  
Date: Wed, 03 Jan 1996 09:55:58 -0500

At 11:01 AM 1/2/96 CST, you wrote:

>

>Anton,

>

>I was sorry to hear about Tim Cawthorne's illness and that he will be  
>unable to send a contribution. At least all other contributions are  
>promised if not yet received. I am still waiting on Clarke, Norman and  
>Appl but hope to see something later this week. I have plenty of  
>editing to do in the meantime. I also note that I do not have Readhead  
>or Pearson here. Have they sent their stuff directly to you?

no yet, but they promised to get with it.

>

>I have a considerable number of papers without any indexing but can

>easily index them in the editing process.

Please do so.

>I could use a few guidelines

>on the best way to get relatively uniform indexing of keywords.

>example, should keywords such as radio source designations be indexed

>everytime they appear or only the first time.

If a paper is on a particular source, there could be index range entries:

```
\index{3C\,273|{}
```

and

```
\index{3C\,273|}}
```

at the beginning and end of paper or section. Otherwise, if a source is mentioned a few times in a paper but on (mostly) separate pages, I would index it each time.

>I assume that you plan

>to index like you did for Superluminal Radio Sources and will use this

>volume as a guideline.

to first order, I think that should be a good start.

From root Wed Jan 3 21:04:21 1996

X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]

["11846" "Thu" "4" "January" "1996" "12:59:49" "EST" "Ben Lloyd"

"blloyd@venice.rp.csiro.au" nil "297" "" "^From:" nil nil "1" nil nil (number " " mark " F Ben Lloyd Jan 4 297/11846 " thread-indent "\""\n") nil] nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA25153; Wed, 3 Jan 1996 21:04:20 -0500

Received: from crux.rp.CSIRO.AU (crux.rp.CSIRO.AU [130.155.194.32]) by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id VAA15766 for <abridle@polaris.cv.nrao.edu>; Wed, 3 Jan 1996 21:04:05 -0500 (EST)

Received: from venice.rp.CSIRO.AU (venice.rp.CSIRO.AU [130.155.194.99]) by crux.rp.CSIRO.AU (8.6.10/8.6.10) with SMTP id MAA07497 for <abridle@polaris.cv.nrao.edu>; Thu, 4 Jan 1996 12:59:51 +1100

Received: by venice.rp.CSIRO.AU (4.1/SMI-4.1/RPAT-1.02a) id AA08611; Thu, 4 Jan 96 12:59:49 EST

Message-Id: <9601040159.AA08611@venice.rp.CSIRO.AU>

From: blloyd@venice.rp.CSIRO.AU (Ben Lloyd)

To: abridle@polaris.cv.nrao.edu

Date: Thu, 4 Jan 96 12:59:49 EST

Alan,

Regarding my paper for the Workshop on "Energy Transport in Radio Galaxies and Quasars", there are some minor typographical errors in the previous version which I have corrected (if it's not too late in the editing process to change now). The new version of the paper is attached below. All references, tables, figures etc. remain the same.

Thanks

Ben Lloyd

---

```

\documentstyle[11pt,paspcnf,epsf]{article}

\def\epsfclipstring{ clip}

\begin{document}

\title{Observations of Southern FR1 Radio Galaxies}

\author{Ben Lloyd}
\affil{Physics Department, University of Western Sydney Nepean, \
P.O. Box 10, Kingswood 2747, NSW, Australia.}

\begin{abstract}
Results from observations of four southern FR1 radio galaxies
of large angular size are presented. Following some analysis,
the Mach number and velocity are estimated. A turbulent dissipative
jet model is used, with the jet data, to gain further
insight into the conditions and dynamics of FR1 jets.
\end{abstract}

\section{Introduction}

\index{observations!Fanaroff--Riley class 1}

This paper presents results from observations of four radio galaxies
with the Australia Telescope Compact Array.
All these sources have FR1 radio jet morphology, are south of
declination  $-43^\circ$  degrees, and are 15--25 arcmin in total angular extent.

These radio sources, B1234-1723, B1318-1434, B1452-1517
and B2148-1555, have been observed at 6 cm and 3 cm using the
dual frequency continuum mode of the Australia Telescope Compact Array (ATCA).
High dynamic range images of the total intensity and projected magnetic field
structure in the kilo-parsec scale jets are presented.
Each source has been observed with at least one 1.5 km array and in
the case of B1318-1434 and B1452-1517 with a 6.0 km array providing
full aperture synthesis observations with 15--45 baselines.
To cover the full extent of emission, images from a number of
pointing centres, using the mosaic facility,
were combined together.

\section{Source Properties}

\index{observations!polarization}

Some properties of these sources are shown in table \ref{source_properties}.
The total luminosity was calculated using a total spectral index
calculated from at least three frequencies and assuming the
synchrotron continuum extends from 10 MHz to 100 GHz. The galaxy
magnitudes and redshifts are taken from Jones & McAdam (1992).
ATCA 16'' resolution images of these sources at 6 cm are
shown in figures \ref{i16} and \ref{ib16}.
Contour levels range 0.2--50 percent (except for B1234-1723
which ranges 0.1--50 percent) of the peak core flux of
250, 530, 105 and 60 mJy per beam for
B1234-1723, B1318-1434, B1452-1517 and B2148-1555 respectively.
Projected magnetic field vectors are shown in the images of

```

B\$1234\!-\!723\$ and B\$2148\!-\!555\$, the length of the vectors are proportional to the fractional polarization. A more complete account of B\$1318\!-\!434\$ can be found in Lloyd, Jones & Haynes (1996).

```

\begin{table}[tbhp]
\centering
\caption{ {Source properties. We use a Hubble constant of
          H$_{0}$=100 h km s$^{-1}$ Mpc$^{-1}$} }
\begin{tabular}{lcccc}
\hline
Source      & Redshift & Angular & Galaxy      & Total \\
            &          & scale   & magnitude  & luminosity \\
            &          & (h$^{-1}$ pc arcsec$^{-1}$) & & (b$_{j}$) & (h$^{-2}$ W) \\
\hline
B$1234\!-\!723$ & 0.023   & 340    & 15.5       & $1.4 \times 10^{34}$ \\
B$1318\!-\!434$ & 0.011   & 164    & 12.6       & $1.4 \times 10^{34}$ \\
B$1452\!-\!517$ & 0.016   & 233    & 16.5       & $7.3 \times 10^{33}$ \\
B$2148\!-\!555$ & 0.035   & 509    & 14.5       & $3.8 \times 10^{34}$ \\
\hline
\end{tabular}
\label{source_properties}
\end{table}

```

```

\begin{figure}[tbhp]
\plottwo{1318i16.vps}{1452i16.vps}
\caption{$16''$ resolution total intensity images of
  B$1318\!-\!434$ (left) and B$1452\!-\!517$ (right) at 6cm.}
\label{i16}
%\end{figure}

```

```

%\begin{figure}[tbhp]
\plottwo{1234ib16.vps}{2148ib16.vps}
\caption{$16''$ resolution total intensity images of
  B$1234\!-\!723$ (left) and B$2148\!-\!555$ (right) at 6cm with projected
  magnetic field vectors.}
\label{ib16}
%\end{figure}

```

\section{Mach Number and Velocity Estimation}

\index{models!Mach number estimation}

\subsection{Mach Number Knot Spacings}

The Mach number can be estimated from the knot spacings along a train of shocks, seen at the base of many FR1 jets, via the Prandlt formula

$$\lambda_{\text{knot}} \approx \frac{2.61}{\sqrt{M^2 - 1}}$$

provided the shocks are not too strong. Using higher resolution images, Mach numbers at the bases of the jets from the sample are 1--2.

\subsection{Mach Number from the Kelvin--Helmholtz Instability}

In a study of the spatial stability of jets Hardee (1987) has calculated the resonant wavelengths of fundamental instability modes. For the helical mode, the fastest growing wavelength of oscillation is

$$\lambda_{\text{helical}} \approx \frac{5.2M}{0.66 + \eta^{1/2}}$$

Large sinusoidal oscillations are seen in B1318-434, if these can be attributed to the resonant wavelength of the Kelvin-Helmholtz instability then for a light jet ( $\eta \rightarrow 0$ ), Mach numbers of 1.5--3 are implied. In the highly entrained limit ( $\eta \rightarrow 1$ ) Mach numbers of 5--7 are required.

`\subsection{Velocity from Source Energetics}`

`\index{models!velocity estimation}`

The jet velocity can be estimated from the lobe luminosity,  $L_{\text{lobe}}$  (see Bicknell 1986). For a hot, light jet with a top hat profile of width  $\Phi$  and using the equipartition pressure,  $P$ , and Mach number  $M$

$$v \approx \left( \frac{4\pi}{3} \Phi^2 P (1 + \frac{1}{6} M^2) \kappa \right)^{-1} L_{\text{lobe}}$$

A main source of uncertainty in this estimate is the determination of the lobe age as a fraction of its radiative lifetime,  $\kappa$ , which can be calculated from spectral gradients across the lobe. But these spectral indices are difficult to determine accurately and difficult to interpret without detailed knowledge of the geometry and mixing processes occurring there.

Figure \ref{1318ve} shows the velocity estimates along the jets of B1318-434 using values of  $M=2$  and  $\kappa=0.1$ . For other values of  $\kappa$ , scale by  $0.1/\kappa$ . An important feature to note is the rapid deceleration occurring just after the jet initially flares. At greater angular distances, jet velocities of 1,000--10,000 km s<sup>-1</sup> are typical of the expected velocity of jets on this scale.

```
\begin{figure}[tbhp]
\plotone{1318ve.vps}
\caption{Jet velocity estimation of B1318-434 from source energetics.
Positive angular distances represent the northern jet and negative
angular distances the southern jet.}
\label{1318ve}
\end{figure}
```

`\section{The Turbulent Dissipative Jet Model}`

`\index{models!semi-empirical}`

A turbulent dissipative jet model, developed by Bicknell (1994), has been applied to the jet data, allowing estimates of the variation in Mach number, velocity, density ratio and mass flux along the jets to be made.

This model is based on equations describing the mass flux, momentum flux and energy flux in a low Mach number turbulent jet. The model is semi-empirical, whereby the variation in surface brightness is derived from the spreading rate of the jet. Dissipation within the relativistically dominated plasma occurs in the form of particle re-acceleration.

As the jet travels through the inter-stellar/galactic environment it can decelerate as it entrains the surrounding material and accelerate due to the buoyancy force of a light jet under the influence of pressure gradients in the galactic atmosphere.

`\subsection{Application to the Jet Data}`

The required input parameters to the model are the mean jet spreading rate (approximated by a smooth spline fit to the jet width), the pressure variation, initial Mach number and initial jet density ratio. The model predicts the variation in surface brightness which can be compared to the observed surface brightness.

It is important to note that the jet equations model only the effect of turbulence on the mean flow, and cannot reproduce the smaller scale eddies and fluctuations seen in the jet width and surface brightness.

```
\begin{figure}[tbhp]
\plotone{1318stj.vps}
\caption{Dissipative turbulent jet model fit to the southern jet
of B$1318\!-\!\!434$.)
\label{1318stjfit}
\end{figure}
```

The most critical parameter is the pressure variation along the jet which, for turbulent low Mach number jets, is in equilibrium with the galactic pressure. The galactic pressure model used is of the following form

$$P(z)=\biggr(1+\frac{z^2}{r_{\rm c}^2}\biggr)^{-\beta}+P_{\infty}$$

where  $r_{\rm c}$  is the core radius,  $P_{\infty}$  the background pressure as a ratio of the core pressure and  $\beta$  the power law index determining the rate of pressure decline. The other parameters are the initial Mach number and jet density.

All these parameters are varied in a  $\chi^2$  fit to the observed surface brightness.

`\index{equipartition!pressure}`

```
\begin{figure}[tbhp]
\plottwo{1318nmp.vps}{1318smp.vps}
\caption{Minimum pressure fit to the jets of B$1318\!-\!\!434$.
The values used in the fit are
 $\beta=0.8$ ,  $P_{\infty}=1 \times 10^{-6}$  for both jets
and  $r_{\rm c}=10$  and  $r_{\rm c}=30$ 
for the northern jet (left) and
southern jet (right) respectively.
}
```

```
\label{1318mpfit}
\end{figure}
```

The results of the model, applied to the southern jet of B1318-434, are shown in figure \ref{1318stjfit} using values of  $\beta=0.85$ ,  $r_c=30''$ ,  $P_\infty=1 \times 10^{-5}$ ,  $M=2.0$  and  $\eta=0.01$ .

The points are observational data, the solid lines are the model predictions except for the spline curve fit to the jet width.

As high frequency observations of this source are more indicative of the energetic jet component and the spectral gradients across the jets are small (in comparison to the jet width), the deconvolved jet width and peak surface brightness, deduced from Gaussian fits of transverse profiles, are good estimators of the spreading rate and surface brightness here. In the lobe, the spline curve attempts to estimate the mean spreading rate of the jet through large plumes and eddies of jet material.

The galactic pressure profile obtained from the jet model can be compared to those parameters obtained by fitting the same galactic pressure model to the equipartition jet pressure. Figure \ref{1318mpfit} shows the results from a  $\chi^2$  fit to the equipartition pressure of the northern and southern jets of B1318-434. Values of  $\beta=0.8$ ,  $r_c=30''$  and  $P_\infty=1 \times 10^{-6}$  for the southern jet compare favorably with those determined from the turbulent jet model.

```
\begin{references}
```

```
\newcommand{\TFSS} {In G. V. Bicknell, M. A. Dopita and P. J. Quinn (eds.),
The first Stromolo symposium: The physics of active galaxies,
ASP conference series, 54}
```

```
\reference Bicknell G. V., 1994,
```

```
  ``A model for the dissipative turbulent jets in FRI radio sources'',
  \TFSS, 357-358
```

```
\reference Bicknell G. V., 1986,
```

```
  ``A model for the surface brightness of a turbulent, low Mach number jet.
  II The global energy budget and radiative losses'', \apj, 300, 591-604
```

```
\reference Hardee P. E., 1987,
```

```
  ``Spatial stability of jets: The nonaxisymmetric fundamental
  and reflection modes'', \apj, 313, 607-622
```

```
\reference Jones P. A. \& McAdam W. B., 1992,
```

```
  ``The structure of southern extragalactic radio sources'', \apjs, 80, 137-203
```

```
\reference Lloyd B. D., Jones P. A. \& Haynes R. F., 1996,
```

```
  ``Observations of the radio jets in NGC 5090 (PKS B1318-434)'', \mnras, in
  press
```

```
\end{references}
```

```
\end{document}
```

From abridle Thu Jan 4 10:33:16 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["2962" "Thu" "4" "January"

"1996" "10:31:29" "-0500" "Alan Bridle" "abridle" nil "66" "Alabama paper changes"

"^From:" nil nil "1" nil nil nil nil]

nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)



id AA45142; Thu, 4 Jan 1996 10:31:29 -0500  
Message-Id: <9601041531.AA45142@polaris.cv.nrao.edu>  
In-Reply-To: <9601040159.AA08611@venice.rp.CSIRO.AU>  
References: <9601040159.AA08611@venice.rp.CSIRO.AU>  
From: abridle (Alan Bridle)  
To: blloyd@venice.rp.CSIRO.AU (Ben Lloyd)  
Subject: Alabama paper changes  
Date: Thu, 4 Jan 1996 10:31:29 -0500

I had already passed your paper through the first phase of editing but I still had your original. Diff gave me these changes, which I will make in the final version. If there are any others, please let me know:

32,33c32,33  
< dual frequency continuum mode of the Australia Telescope Compact Array (ATCA).  
High dynamic  
< range images of the total intensity and projected magnetic field  
---  
> dual frequency continuum mode of the Australia Telescope Compact Array (ATCA).  
> High dynamic range images of the total intensity and projected magnetic field  
60c60  
< Lloyd, Jones \& Haynes (1995).  
---  
> Lloyd, Jones \& Haynes (1996).  
189c189  
< The required input parameters to the model is the mean jet spreading rate  
---  
> The required input parameters to the model are the mean jet spreading rate  
208,212c208,210  
< along the jet which, for low Mach number jets, is the same as  
< the variation in the galactic pressure.  
< The galactic pressure model used is of the following form ( $r_{\text{c}}$ ) is the  
core  
< radius,  $P_{\infty}$  the background pressure as a ratio of the core pressure  
< and  $\beta$  the power law index determining the rate of pressure decline)  
---  
> along the jet which, for turbulent low Mach number jets,  
> is in equilibrium with the galactic pressure.  
> The galactic pressure model used is of the following form  
214c212  
<  $P(z) = \text{biggr}(1 + \frac{z}{r_{\text{c}}}) \text{biggr}^{-\beta} + P_{\infty}$   
---  
>  $P(z) = \text{biggr}(1 + \frac{z^2}{r_{\text{c}}^2}) \text{biggr}^{-\beta} + P_{\infty}$   
215a214,216  
> where  $r_{\text{c}}$  is the core  
> radius,  $P_{\infty}$  the background pressure as a ratio of the core pressure  
> and  $\beta$  the power law index determining the rate of pressure decline.  
241,246d241  
< The absence of detectable spectral index gradients across of  
< the jets in this source indicates that the deconvolved jet width and  
< surface brightness, deduced from Gaussian fits from transverse profiles,  
< are good estimations of the true spreading rate and surface brightness here.  
< In the lobe, the spline curve attempts to interpolate the jet width  
< through large plumes and eddies of jet material.  
247a243,251  
> As high frequency observations of this source are more indicative of

> the energetic jet component and the spectral gradients across  
> the jets are small (in comparison to the jet width),  
> the deconvolved jet width and peak surface brightness,  
> deduced from Gaussian fits of transverse profiles,  
> are good estimators of the spreading rate and surface brightness here.  
> In the lobe, the spline curve attempts to estimate the mean  
> spreading rate of the jet through large plumes and eddies of jet material.  
>  
274,275c278,279  
< \reference Lloyd B. D., Jones P. A. \& Haynes R. F., 1995,  
< ``Observations of the jets in NGC 5090 (PKS B\$1318\!-\!\!434\$)', \mnras, in press  
---  
> \reference Lloyd B. D., Jones P. A. \& Haynes R. F., 1996,  
> ``Observations of the radio jets in NGC 5090 (PKS B\$1318\!-\!\!434\$)', \mnras, in  
press

A.

```
From root Fri Jan 5 13:37:02 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["609" "Fri" "5" "January" "1996" "13:32:10" "-0500" "Lin Wan"
"lin@puppsr12.princeton.edu" "<9601051832.AA23889@puppsr12.princeton.edu>" "20"
"conference paper" "^From:" nil nil "1" nil nil (number " " mark " R Lin Wan
Jan 5 20/609 " thread-indent "\"conference paper\""\n") nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA38114; Fri, 5 Jan 1996 13:37:01 -0500
Received: from Princeton.EDU (root@Princeton.EDU [128.112.128.1]) by
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id NAA14622 for <abridle@nrao.edu>;
Fri, 5 Jan 1996 13:36:58 -0500 (EST)
Received: from puppsr12.Princeton.EDU by Princeton.EDU (5.65b/2.124/princeton)
  id AA03054; Fri, 5 Jan 96 13:35:58 -0500
Received: by puppsr12.princeton.edu (5.x/SMI-SVR4)
  id AA23889; Fri, 5 Jan 1996 13:32:10 -0500
Message-Id: <9601051832.AA23889@puppsr12.princeton.edu>
From: lin@puppsr12.Princeton.EDU (Lin Wan)
To: abridle@nrao.edu
Subject: conference paper
Date: Fri, 5 Jan 1996 13:32:10 -0500
```

Dear Dr. Bridle:

I'm sorry that it took me so long to send you the revised version of my conference contribution, with the correct format for the references.

I've put in all the information in the reference section. However, this makes the paper run over the 6 page limit. I'm sending you this 7-page version through email, including a tex file for the text and 6 ps files for the figures. If the paper needs to be within 6 page. I can shrink the figures in the paper a little.

I'm also sending you a printed version of the paper via regular mail.

Best wishes.

Sincerely

Lin Wan

From root Mon Jan 8 00:09:23 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["434" "Mon" "8" "January" "1996" "16:04:35" "+1100" "Geoff Bicknell"  
"geoff@merlin.anu.edu.au" "<9601080504.AA14901@mozart.mso.anu>" "12" "Re: Follow-up  
re Alabama workshop" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40339; Mon, 8 Jan 1996 00:09:22 -0500  
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id AAA17612 for  
<abridle@polaris.cv.nrao.edu>; Mon, 8 Jan 1996 00:09:12 -0500 (EST)  
Received: from merlin (root@merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au  
(8.6.12/8.6.12) with SMTP id QAA22821 for <abridle@polaris.cv.nrao.edu>; Mon, 8 Jan  
1996 16:04:44 +1100  
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)  
id AA21953; Mon, 8 Jan 1996 16:04:38 +1100  
Received: by mozart.mso.anu (5.x/SMI-SVR4)  
id AA14901; Mon, 8 Jan 1996 16:04:36 +1100  
Message-Id: <9601080504.AA14901@mozart.mso.anu>  
In-Reply-To: <9512192221.AA18097@polaris.cv.nrao.edu> from "Alan Bridle" at Dec 19,  
95 05:21:44 pm  
X-Mailer: ELM [version 2.4 PL25]  
Content-Type: text  
From: geoff@merlin.anu.edu.au (Geoff Bicknell)  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Follow-up re Alabama workshop  
Date: Mon, 8 Jan 1996 16:04:35 +1100 (EST)

Hi Alan,

I just thought that I would let you know that I have been through the reference  
lists of both of my papers and that I have fixed up most of the references.  
I will fix up the remainder tomorrow when I go to Mt Stromlo and consult the  
journals which we do not have down here on campus.

I hope that you had a nice break over Xmas and that Mary is recovering well  
from the effects of the chemotherapy.

With best regards,  
Geoff

From abridle Mon Jan 8 16:55:01 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["943" "Mon" "8" "January" "1996" "16:54:47" "-0500" "Alan Bridle" "abridle"  
nil "25" "Re: Follow-up re Alabama workshop" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA14877; Mon, 8 Jan 1996 16:54:47 -0500  
Message-Id: <9601082154.AA14877@polaris.cv.nrao.edu>  
In-Reply-To: <9601080504.AA14901@mozart.mso.anu>  
References: <9512192221.AA18097@polaris.cv.nrao.edu>  
<9601080504.AA14901@mozart.mso.anu>  
From: abridle (Alan Bridle)  
To: geoff@merlin.anu.edu.au (Geoff Bicknell)  
Subject: Re: Follow-up re Alabama workshop

Date: Mon, 8 Jan 1996 16:54:47 -0500

Geoff Bicknell writes:

>  
> I just thought that I would let you know that I have been through the reference  
> lists of both of my papers and that I have fixed up most of the references.  
> I will fix up the remainder tomorrow when I go to Mt Stromlo and consult the  
> journals which we do not have down here on campus.  
>

Thanks, this will be a big help.

> I hope that you had a nice break over Xmas and that Mary is recovering well  
> from the effects of the chemotherapy.

Yes, she's doing pretty well, getting more of her energy back and a few of the other symptoms subsiding though they say it will be several months yet before she really feels herself again. We just had a monster blizzard that dumped almost 2 feet of snow all over Virginia so we are currently stuck at home again. Fortunately M. is feeling well enough to help with the massive snow-shovelling job we are now facing!

Hope you enjoyed the holidays, too.

A.

From root Tue Jan 9 00:32:49 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["562" "Tue" "9" "January" "1996" "16:28:08" "+1100" "Geoff Bicknell"  
"geoff@merlin.anu.edu.au" nil "17" "Re: Follow-up re Alabama workshop" "^From:" nil  
nil "1" nil nil (number " " mark " Z Geoff Bicknell Jan 9 17/562 "  
thread-indent "\"Re: Follow-up re Alabama workshop\""\n") nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA24803; Tue, 9 Jan 1996 00:32:48 -0500  
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id AAA01691 for  
<abridle@polaris.cv.nrao.edu>; Tue, 9 Jan 1996 00:32:43 -0500 (EST)  
Received: from merlin (root@merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au  
(8.6.12/8.6.12) with SMTP id QAA14045; Tue, 9 Jan 1996 16:28:18 +1100  
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)  
id AA07615; Tue, 9 Jan 1996 16:28:12 +1100  
Received: by mozart.mso.anu (5.x/SMI-SVR4)  
id AA18328; Tue, 9 Jan 1996 16:28:10 +1100  
Message-Id: <9601090528.AA18328@mozart.mso.anu>  
In-Reply-To: <9601082154.AA14877@polaris.cv.nrao.edu> from "Alan Bridle" at Jan 8,  
96 04:54:47  
pm  
X-Mailer: ELM [version 2.4 PL25]  
Content-Type: text  
From: geoff@merlin.anu.edu.au (Geoff Bicknell)  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Cc: hardee@venus.astr.ua.edu  
Subject: Re: Follow-up re Alabama workshop  
Date: Tue, 9 Jan 1996 16:28:08 +1100 (EST)

Alan,

As I type the (final?) versions of my two papers are winging their way bit-wise over the Pacific to Tuscaloosa.

They are in the directories pub/incoming/bicknell/m87 and pub/incoming/bicknell/Fanaroff-Riley

As you requested I have extracted the references for both papers. They are in the files refs.tex in both directories. There was little changed in the body of each paper apart from the address, I think.

Feel free to change the style of the references. I think it is consistent with what you wanted but you had better check.

Best regards,  
Geoff

From root Wed Jan 10 11:22:01 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["855" "Wed" "10" "January" "1996" "11:21:50" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "22" "jetpage.sty" "^From:" nil nil "1" nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32915; Wed, 10 Jan 1996 11:22:00 -0500

Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA01171; Wed, 10 Jan 1996 11:21:51 -0500

Message-Id: <2.2.32.19960110162150.00681dfc@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu, abridle@nrao.edu

Subject: jetpage.sty

Date: Wed, 10 Jan 1996 11:21:50 -0500

I modified jetpage.sty so that it creates "DRAFT" watermarks for the postscript printout of manuscripts while we are in the process of modifying them. Any file we put in our ftp areas should be processed with this macro, to protect us from authors accusing us to disseminate their work in pre-final form.

you can copy jetpage.sty from my ftp area:

ftp://ftp.nrao.edu/NRAO-staff/azensus/private/jetbook

Anton

---

Dr. Anton Zensus	Ph: (804) 296-0231
Scientist	Fx: (804) 296-0278
National Radio Astronomy Observatory	Email: azensus@nrao.edu
520 Edgemont Road	WWW:
Charlottesville, VA 229903-2475, USA	<a href="http://www.cv.nrao.edu/~azensus/">http://www.cv.nrao.edu/~azensus/</a>

---

From root Thu Jan 11 11:27:03 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["476" "Thu" "11" "January" "1996" "11:26:58" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "20" "Re: manuscripts" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19000; Thu, 11 Jan 1996 11:27:02 -0500  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA01890; Thu, 11 Jan 1996 11:27:02 -0500  
Message-Id: <2.2.32.19960111162658.00692720@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu  
Subject: Re: manuscripts  
Date: Thu, 11 Jan 1996 11:26:58 -0500

>Date: Wed, 10 Jan 96 12:54:50 CST  
>From: hardee@venus.astr.ua.edu (Hardee)  
>To: azensus@nrao.edu  
>Subject: Re: manuscripts  
>  
>  
>Anton,  
>  
>I will place manuscripts that I am editing in an area that my web person  
>says can be accessed by pointer from your web page using  
>  
>ftp://www.astr.ua.edu/astro-stuff/meetings/jets/hardee  
>  
>At present I have no files in this area but do expect to be putting postscript  
>manuscript files in this area in the next few days.  
>  
>Phil  
>  
>

From abridle Thu Jan 11 13:39:14 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["711" "Thu" "11" "January" "1996" "13:39:09" "-0500" "Alan Bridle" "abridle"  
nil "20" "Re: Alabama proceedings" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35258; Thu, 11 Jan 1996 13:39:09 -0500  
Message-Id: <9601111839.AA35258@polaris.cv.nrao.edu>  
In-Reply-To: <199511282014.NAA04525@NMSU.Edu>  
References: <199511282014.NAA04525@NMSU.Edu>  
From: abridle (Alan Bridle)  
To: jburns@NMSU.Edu ()  
Subject: Re: Alabama proceedings  
Date: Thu, 11 Jan 1996 13:39:09 -0500

Hi Jack,

I decided that I would take a break from shoveling snow today by

hefting journals in the library in search of missing reference data. I have located last page numbers for all of yours except the Jing et al. MNRAS 276, 417-? if you could lay yopur hands on the ? I'd be grateful.

Also, we will move any references to "submitted" and "in preparation" into the main text. Only "in press" will appear in the main reference lists. Can any of your "in preparation", or "submitted" references be upgraded now?

Be glad (again) that you're in the South-West. I've moved 3000 cubic feet of snow off my driveway in the last three days and there's another foot of coverage coming by the sound of it..

A.

From root Fri Jan 12 15:07:40 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["506" "Fri" "12" "January" "1996" "13:04:09" "-0700" "jburns@nmsu.edu" "jburns@nmsu.edu" nil "16" "Re: Alabama proceedings" "^From:" nil nil "1" nil nil nil nil]

nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA28135; Fri, 12 Jan 1996 15:07:39 -0500

Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id PAA03977 for <abridle@polaris.cv.nrao.edu>; Fri, 12 Jan 1996 15:07:37 -0500 (EST)

Received: from NMSU.Edu by bubba.NMSU.Edu (8.6.10/NMSU) id NAA09446; Fri, 12 Jan 1996 13:05:45 -0700

Received: from zeus by NMSU.Edu (8.6.10/NMSU-1.18) id NAA09925; Fri, 12 Jan 1996 13:04:09 -0700

Message-Id: <199601122004.NAA09925@NMSU.Edu>

Received: by zeus (5.x/NMSU)

id AA08377; Fri, 12 Jan 1996 13:03:30 -0700

X-Sun-Charset: US-ASCII

From: jburns@NMSU.Edu ()

To: abridle@polaris.cv.nrao.edu

Subject: Re: Alabama proceedings

Date: Fri, 12 Jan 1996 13:04:09 -0700

Alan:

Thanks again for your library research on my paper. I really appreciate your effort on this. I owe you a beer (maybe a case?).

The Jing et al. reference has page numbers 417-431.

The status of the other papers really have not changed since I sent the paper to Phil several months ago.

Unlike your weather on the east coast, it's beautiful here. High temperature today is 70 F with beautiful blue New Mexico skies & lots of sunshine. Don't strain yourself on all that snow!

Cheers,

Jack

From root Fri Jan 12 18:14:56 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["945" "Fri" "12" "January" "1996" "17:18:04" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
"<9601122318.AA01063@venus.astr.ua.edu.astr.ua.edu>" "25" "Re: late papers"  
"^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA37435; Fri, 12 Jan 1996 18:14:56 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id SAA06881; Fri, 12 Jan 1996 18:14:54 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA18941; Fri, 12 Jan 1996 16:54:10 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA08676; Fri, 12 Jan 96 17:14:45 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01063; Fri, 12 Jan 96 17:18:04 CST  
Message-Id: <9601122318.AA01063@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@nrao.edu, abridle@nrao.edu  
Subject: Re: late papers  
Date: Fri, 12 Jan 96 17:18:04 CST

I sent the following message out on Wednesday the 10th:

We have still not received your contribution to the Alabama proceedings! Please let us know if you are planning on sending your contribution shortly! We still plan to include your paper(s) in the book, but that requires that you send us something asap. Your's are one of the last few missing manuscripts. We ask that you send us something by January 15.

Please confirm that this message reaches you.

Philip Hardee  
Alan Bridle  
Anton Zensus

I have received replies from Appl, Biretta, Clarke, Norman but not from Pearson and Readhead. All who replied anticipate getting their contributions to me by Monday the 15th except Norman's review will take another week (I told him OK as he needs to see Clarke's contribution and I have no trouble with this coming late.). Anton - you may have to contact Pearson and Readhead again. Alan - I assume all is OK with your contributor's?

Phil

From abridle Mon Jan 15 08:33:06 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["166" "Mon" "15" "January" "1996" "08:32:58" "-0500" "Alan Bridle" "abridle"  
nil "10" "Re: late papers" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31560; Mon, 15 Jan 1996 08:32:58 -0500  
Message-Id: <9601151332.AA31560@polaris.cv.nrao.edu>  
In-Reply-To: <9601122318.AA01063@venus.astr.ua.edu.astr.ua.edu>  
References: <9601122318.AA01063@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)



To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: late papers  
Date: Mon, 15 Jan 1996 08:32:58 -0500

hardee@venus.astr.ua.edu writes:  
>  
> Alan - I assume all is OK with  
> your contributor's?  
>

Yes, I'm down to details such as references with all of mine.

A.

From root Mon Jan 15 16:41:39 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["550" "Mon" "15" "January" "1996" "16:41:16" "EST" "John A. Biretta"  
"biretta@stsci.edu" nil "26" "jets paper" "^From:"  
nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA21858; Mon, 15 Jan 1996 16:41:38 -0500  
Received: from marvel.stsci.edu (marvel.stsci.edu [130.167.1.2]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id QAA28603; Mon, 15 Jan 1996 16:41:30 -0500 (EST)  
Received: from TIB.STSCI.EDU (bach.stsci.edu) by marvel.stsci.edu (5.x/SMI-SVR4-  
DNI-8.0)  
id AA18728; Mon, 15 Jan 1996 16:41:15 -0500  
Received: Mon, 15 Jan 96 16:41:16 EST by bach.stsci.edu (4.1)  
Message-Id: <9601152141.AA08966@TIB.STSCI.EDU>  
From: "John A. Biretta" <biretta@stsci.edu>  
To: azensus@nrao.edu, abridle@nrao.edu  
Cc: biretta@stsci.edu  
Subject: jets paper  
Date: Mon, 15 Jan 96 16:41:16 EST

copy for your info ...

----- Begin Included Message -----

>From biretta Mon Jan 15 16:37:00 1996  
To: hardee@venus.astr.ua.edu  
Subject: jets paper  
Cc: biretta  
Content-Length: 320  
X-Lines: 10

Phil,

The paper is enroute to the FTP site. The references are  
in a shambles, but at least you can look at the rest of it.  
I'll send clean references in an hour or two. The length is  
still around 12 pages; it was work to squeeze it this far.  
Maybe you can see where to cut more and suggest, if necessary.

- John B.

----- End Included Message -----

From root Mon Jan 15 20:01:31 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["187" "Mon" "15" "January" "1996" "20:01:23" "EST" "John A. Biretta"  
"biretta@stsci.edu" nil "8" "Re: jets paper" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32289; Mon, 15 Jan 1996 20:01:30 -0500  
Received: from marvel.stsci.edu (marvel.stsci.edu [130.167.1.2]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id UAA01384; Mon, 15 Jan 1996 20:01:27 -0500 (EST)  
Received: from TIB.STSCI.EDU (bach.stsci.edu) by marvel.stsci.edu (5.x/SMI-SVR4-  
DNI-8.0)  
id AA23867; Mon, 15 Jan 1996 20:01:24 -0500  
Received: Mon, 15 Jan 96 20:01:23 EST by bach.stsci.edu (4.1)  
Message-Id: <9601160101.AA09087@TIB.STSCI.EDU>  
From: "John A. Biretta" <biretta@stsci.edu>  
To: hardee@venus.astr.ua.edu  
Cc: azensus@nrao.edu, abridle@nrao.edu, biretta@stsci.edu  
Subject: Re: jets paper  
Date: Mon, 15 Jan 96 20:01:23 EST

I've place a new version of the paper on the FTP  
site. It has fixed-up references, indexing,  
and a few typos repaired throughout. It is called

p\_version\_2.tex

Cheers, - John Biretta

From root Tue Jan 16 00:41:16 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["162" "Tue" "16" "January" "1996" "00:41:05" "EST" "John A. Biretta"  
"biretta@stsci.edu" nil "6" "jets paper" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA47227; Tue, 16 Jan 1996 00:41:15 -0500  
Received: from marvel.stsci.edu (marvel.stsci.edu [130.167.1.2]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id AAA04113; Tue, 16 Jan 1996 00:41:13 -0500 (EST)  
Received: from TIB.STSCI.EDU (bach.stsci.edu) by marvel.stsci.edu (5.x/SMI-SVR4-  
DNI-8.0)  
id AA29703; Tue, 16 Jan 1996 00:41:07 -0500  
Received: Tue, 16 Jan 96 00:41:05 EST by bach.stsci.edu (4.1)  
Message-Id: <9601160541.AA09296@TIB.STSCI.EDU>  
From: "John A. Biretta" <biretta@stsci.edu>  
To: abridle@nrao.edu, azensus@nrao.edu, hardee@venus.astr.ua.edu  
Cc: biretta@stsci.edu  
Subject: jets paper  
Date: Tue, 16 Jan 96 00:41:05 EST

I've placed yet a third version of the paper on  
the FTP site. My editor here found some typos  
which are repaired. Version = p\_version\_3.tex.  
Cheers, John B.

From root Tue Jan 16 10:55:27 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["143" "Tue" "16" "January" "1996" "09:55:20" "-0600" "norman@ncsa.uiuc.edu"  
"norman@ncsa.uiuc.edu" "<199601161555.JAA13272@newton.ncsa.uiuc.edu>" "10" "AJ  
reference" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29781; Tue, 16 Jan 1996 10:55:27 -0500  
Received: from newton.ncsa.uiuc.edu (newton.ncsa.uiuc.edu [141.142.2.2]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id KAA10138 for <abridle@nrao.edu>;  
Tue, 16 Jan 1996 10:55:24 -0500 (EST)  
Received: from [141.142.222.93] (mac222-93.ncsa.uiuc.edu [141.142.222.93]) by  
newton.ncsa.uiuc.edu (8.6.11/8.6.12) with SMTP id JAA13272 for <abridle@nrao.edu>;  
Tue, 16 Jan 1996 09:55:20 -0600  
Message-Id: <199601161555.JAA13272@newton.ncsa.uiuc.edu>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: norman@ncsa.uiuc.edu  
To: abridle@nrao.edu  
Subject: AJ reference  
Date: Tue, 16 Jan 1996 09:55:20 -0600

Hi Alan!

what is the reference to your magnum opus on VLA  
imaging of 3C quasars (Bridle, Hough, Lonsdale, Burns,  
Laing, etc)

thanks, mike

From abridle Fri Jan 19 16:45:15 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["928" "Fri" "19" "January" "1996" "16:44:45" "-0500" "Alan Bridle" "abridle"  
nil "25" "Figure permissions" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA24999; Fri, 19 Jan 1996 16:44:45 -0500  
Message-Id: <9601192144.AA24999@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: p.jones@st.nepean.uws.edu.au  
Subject: Figure permissions  
Date: Fri, 19 Jan 1996 16:44:45 -0500

Dear Paul,

In order to comply with copyright regulations, this is to ask that you  
obtain permission to reproduce any Figures in your article for the  
Tuscaloosa proceedings that have been previously published. In your  
article, it seems that Figures 1a and 3 may need such permission, but  
if any others do, would you please obtain the permissions from the  
original journals? When you have done so, please send Phil Hardee  
a copy of the permission (E-mail will do if you obtain it that way)  
and we will add the appropriate copyright notice to your figure  
captions.

Please also note that the ASP will own the copyright to any Figures that are published here for the first time, so any future re-use of these Figures without alteration in a publication will require their permission. This is again, not a problem as the permission will be granted, but the copyright formalities do need to be observed.

Thank you,

Alan B.

```
From root Fri Jan 19 16:52:18 1996
X-VM-v5-Data: ([nil nil nil t t nil nil nil nil]
  ["4944" "Fri" "19" "January" "1996" "15:54:24" "CST"
  "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"
  "<9601192154.AA03423@venus.astr.ua.edu.astr.ua.edu>" "109" "Re: forwarded message
  from Geoff Bicknell" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA24985; Fri, 19 Jan 1996 16:52:16 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
  (8.7.1/8.7.1/CV-2.1) with SMTP id QAA07776 for <abridle@polaris.cv.nrao.edu>; Fri,
  19 Jan 1996 16:52:15 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA37751; Fri, 19 Jan 1996 15:30:27 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA17963; Fri, 19 Jan 96 15:50:57 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA03423; Fri, 19 Jan 96 15:54:24 CST
Message-Id: <9601192154.AA03423@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: forwarded message from Geoff Bicknell
Date: Fri, 19 Jan 96 15:54:24 CST
```

Alan,

Here is the refs.tex file for Geoff's m87 paper.

Phil

```
\begin{thebibliography}{}

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Bicknell, G.~V. \& Begelman, M.~C. 1996, ``Understanding the kpc-scale Structure of
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```

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\bibitem[\protect\citeauthoryear{Birkinshaw}{Birkinshaw}{1984}}{birkinshaw84}

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 Relativistic Particle Beams -  
 I. Stability Analyses in the Time and Space Domains for Vortex-Sheet Flows'',  
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 MNRAS,{ 274}, L67-L71

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Bolton, J.~G., Stanley, J.~G., \& Slee, O.~B. 1949,  
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 Modes'', ApJ,{ 313}, 607-622

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Hardee, P.~E. 1987b,  
 ``Spatial Instability of Relativistic Jets: Application to 3C345'',  
 ApJ,{ 318}, 78-92

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 et~al.}{1989}}{hines89}

Hines, D.~C., Owen, F.~N., \& Eilek, J.~A. 1989,  
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 Schl\{o\}telburg}{Meisenheimer et~al.}{1996}}{meisenheimer96}

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```

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Owen, F.~N., Eilek, J.~A., \& Keel, W.~C. 1990,
``Detection of Large Faraday Rotation in the
Inner 2 kpc of M87'', ApJ, { 362}, 449-454
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Owen, F.~N. \& White, R.~A. 1991,
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ApJ, { 335}, 688-702
\end{thebibliography}

```

From abridle Fri Jan 19 18:24:46 1996

```

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["136" "Fri" "19" "January" "1996" "18:24:43" "-0500" "Alan Bridle" "abridle"
  nil "12" "Re: forwarded message from Geoff Bicknell" "^From:" nil nil "1" nil nil
  nil nil]
  nil)

```

```

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA14856; Fri, 19 Jan 1996 18:24:43 -0500

```

```

Message-Id: <9601192324.AA14856@polaris.cv.nrao.edu>
In-Reply-To: <9601192154.AA03423@venus.astr.ua.edu.astr.ua.edu>
References: <9601192154.AA03423@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: forwarded message from Geoff Bicknell
Date: Fri, 19 Jan 1996 18:24:43 -0500

```

hardee@venus.astr.ua.edu writes:

```

>
> Alan,
>
> Here is the refs.tex file for Geoff's m87 paper.
>
> Phil
>

```

Thanks, Phil

A.

From abridle Mon Jan 22 14:05:14 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["566" "Mon" "22" "January" "1996" "14:05:00" "-0500" "Alan Bridle" "abridle"  
nil "19" "Re: Follow-up re Alabama workshop" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41029; Mon, 22 Jan 1996 14:05:00 -0500  
Message-Id: <9601221905.AA41029@polaris.cv.nrao.edu>  
In-Reply-To: <9601080504.AA14901@mozart.mso.anu>  
References: <9512192221.AA18097@polaris.cv.nrao.edu>  
<9601080504.AA14901@mozart.mso.anu>  
From: abridle (Alan Bridle)  
To: geoff@merlin.anu.edu.au (Geoff Bicknell)  
Subject: Re: Follow-up re Alabama workshop  
Date: Mon, 22 Jan 1996 14:05:00 -0500

Hi Geoff,

Your page number and title text has now been incorporated in your M87 paper. I now have just one further question.

You refer to a preprint by Meisenheimer, R\oser and Schl\otelburg (1996). In this Proceedings, the end-of-paper references will be restricted to "journal, in press"; "in preparation" and "preprint" references will be restricted to the body text. So if you can let me know the journal and whether the paper is now in press, I'll adjust that reference in-place; otherwise I'll adjust to being an in-text-only reference.

Cheers,

A.

From abridle Mon Jan 22 15:11:47 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["704" "Mon" "22" "January" "1996" "15:10:55" "-0500" "Alan Bridle" "abridle"  
nil "22" "ASP copyright " "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28283; Mon, 22 Jan 1996 15:10:55 -0500  
Message-Id: <9601222010.AA28283@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: ccarilli  
Subject: ASP copyright  
Date: Mon, 22 Jan 1996 15:10:55 -0500

Chris,

This is just to remind you that the C.U.P. will hold the copyright to any diagrams that were used in your article on the jets in Cyg A in the Cyg A workshop proceedings. If any of these diagrams were re-used in your submission for

the Alabama proceedings, you should obtain C.U.P.'s permission to reproduce them, and we should amend the figure captions accordingly.

If much of the text is also a straight duplication, there could be a more serious problem, and we may need permission to reprint the whole article, even though parts of it, especially the references, will have been reformatted.

Hope you are enjoying return to NM, certainly better weather out there at the moment!

Cheers, A.

```
From root Mon Jan 22 18:03:46 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["179" "Tue" "23" "January" "1996" "09:58:58" "+1100" "Geoff Bicknell"
"geoff@merlin.anu.edu.au" "<9601222259.AA08284@mozart.mso.anu>" "7" "Re: Follow-up
re Alabama workshop" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA18000; Mon, 22 Jan 1996 18:03:44 -0500
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id SAA19820 for
<abridle@polaris.cv.nrao.edu>; Mon, 22 Jan 1996 18:03:40 -0500 (EST)
Received: from merlin (root@merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au
(8.6.12/8.6.12) with SMTP id JAA23282 for <abridle@polaris.cv.nrao.edu>; Tue, 23
Jan 1996 09:59:07 +1100
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)
  id AA20190; Tue, 23 Jan 1996 09:59:01 +1100
Received: by mozart.mso.anu (5.x/SMI-SVR4)
  id AA08284; Tue, 23 Jan 1996 09:59:00 +1100
Message-Id: <9601222259.AA08284@mozart.mso.anu>
In-Reply-To: <9601221905.AA41029@polaris.cv.nrao.edu> from "Alan Bridle" at Jan 22,
96 02:05:00 pm
X-Mailer: ELM [version 2.4 PL25]
Content-Type: text
From: geoff@merlin.anu.edu.au (Geoff Bicknell)
To: abridle@polaris.cv.nrao.edu (Alan Bridle)
Subject: Re: Follow-up re Alabama workshop
Date: Tue, 23 Jan 1996 09:58:58 +1100 (EST)
```

Hi Alan,

I have just sent some mail to Klaus Meisenheimer asking him to clarify the status of his paper. Will get back to you as soon as I get a reply from Klaus.

Cheers,  
Geoff

```
From abridle Mon Jan 22 22:19:04 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["223" "Mon" "22" "January" "1996" "22:18:41" "-0500" "Alan Bridle" "abridle"
nil "10" "Re: Follow-up re Alabama workshop" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA49550; Mon, 22 Jan 1996 22:18:41 -0500
Message-Id: <9601230318.AA49550@polaris.cv.nrao.edu>
```



In-Reply-To: <9601222259.AA08284@mozart.mso.anu>  
References: <9601221905.AA41029@polaris.cv.nrao.edu>  
<9601222259.AA08284@mozart.mso.anu>  
From: abridle (Alan Bridle)  
To: geoff@merlin.anu.edu.au (Geoff Bicknell)  
Subject: Re: Follow-up re Alabama workshop  
Date: Mon, 22 Jan 1996 22:18:41 -0500

Geoff Bicknell writes:

> Hi Alan,  
>  
> I have just sent some mail to Klaus Meisenheimer asking him to clarify the  
> status of his paper. Will get back to you as soon as I get a reply from Klaus.  
>

Thanks, Geoff.

A.

From root Tue Jan 23 08:31:30 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["1658" "Tue" "23" "January" "1996" "06:30:09" "-0700" "Chris Carilli"  
"ccarilli@aoc.nrao.edu" "<199601231330.GAA03827@ramapo.aoc.nrao.edu>" "52"  
"copyright" "^From:" nil nil "1" nil nil (number " " mark " R Chris Carilli  
Jan 23 52/1658 " thread-indent "\"copyright\""\n") nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36464; Tue, 23 Jan 1996 08:31:30 -0500

Received: from arana.aoc.nrao.edu (arana.aoc.nrao.edu [146.88.1.7]) by  
cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id IAA28117 for  
<abridle@polaris.cv.nrao.edu>; Tue, 23 Jan 1996 08:31:28 -0500 (EST)

Received: from ramapo.aoc.nrao.edu (ramapo.aoc.nrao.edu [146.88.4.31]) by  
arana.aoc.nrao.edu (8.6.12/8.6.10) with ESMTMP id GAA14642 for <abridle@nrao.edu>;  
Tue, 23 Jan 1996 06:30:10 -0700

Received: (from ccarilli@localhost) by ramapo.aoc.nrao.edu (8.6.12/8.6.10) id  
GAA03827 for abridle@nrao.edu; Tue, 23 Jan 1996 06:30:09 -0700

Message-Id: <199601231330.GAA03827@ramapo.aoc.nrao.edu>

From: Chris Carilli <ccarilli@aoc.nrao.edu>

To: abridle@nrao.edu

Subject: copyright

Date: Tue, 23 Jan 1996 06:30:09 -0700

>From ablack@cup.cam.ac.uk Tue Jan 23 02:26:18 1996

Date: Tue, 23 Jan 96 09:19:48 +0000

From: ablack <ablack@cup.cam.ac.uk>

To: Chris Carilli <ccarilli@aoc.nrao.edu>

Subject: Re: move etc...

Content-Type: TEXT/plain; charset=US-ASCII

Content-Length: 1401

Dear Chris

Thanks for your message. I have noted  
your new address and circulated it to our  
various departments.

You have my permission to reproduce some of the material from your article in  
'Cygnus A - Study of a Radio Galaxy' in another proceedings volume - just cite  
the book and publisher in the usual way.

Had dinner with Rick here in Cambridge last week. Great to catch up with him after 4-5 (?) years.

Hope you're settling in well to Socorro with your family.

Best wishes, Adam.

Dr. Adam R. S. Black  
Commissioning Editor (Physical Sciences)  
CAMBRIDGE UNIVERSITY PRESS  
The Edinburgh Bldg, Shaftesbury Rd, Cambridge CB2 2RU, UK  
Tel. (direct): +44 (0)1223 325766 Fax: +44 (0)1223 315052  
Internet: ablack@cup.cam.ac.uk  
WWW home page: <http://www.cup.cam.ac.uk/> or <http://www.cup.org/>  
Gopher server: [gopher.cup.cam.ac.uk](http://gopher.cup.cam.ac.uk)

> Subject: move etc...  
> From: Chris Carilli <ccarilli@aoc.nrao.edu>  
> To: ablack@cup.cam.ac.uk  
> Date: Mon, 22 Jan 1996 16:21:21 -0700  
>  
> i have officially moved to socorro: NRAO, PO Box O,  
> Socorro, NM 87801 USA. phone: 505-835-7000 fax  
> 505-835-7027  
> email ccarilli@nrao.edu  
>  
> also, i have used some of the material from my article  
> in the Cygnus A workshop proceedings for another review  
> I gave at a meeting on jets. i was wondering how to get  
> copyright permission from CUP to reproduce this  
> material?  
> thanks  
> cc

From abridle Tue Jan 23 11:08:17 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1375" "Tue" "23" "January" "1996" "11:08:08" "-0500" "Alan Bridle"  
"abridle" nil "35" "Re: conference paper" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34719; Tue, 23 Jan 1996 11:08:08 -0500  
Message-Id: <9601231608.AA34719@polaris.cv.nrao.edu>  
In-Reply-To: <9601051832.AA23889@puppsr12.princeton.edu>  
References: <9601051832.AA23889@puppsr12.princeton.edu>  
From: abridle (Alan Bridle)  
To: lin@puppsr12.Princeton.EDU (Lin Wan)  
Subject: Re: conference paper  
Date: Tue, 23 Jan 1996 11:08:08 -0500

Lin Wan writes:

> I'm sorry that it took me so long to send you the revised version of my  
> conference contribution, with the correct format for the references.  
>  
> I've put in all the information in the reference section. However, this

> makes the paper run over the 6 page limit. I'm sending you this 7-page version  
> through email, including a tex file for the text and 6 ps files for the figures.  
> If the paper needs to be within 6 page. I can shrink the figures in the paper a  
> little.  
>

Thank you for sending me the titles and page numbers for the references. As I had already done some editing on the .tex file I have simply swapped your new reference text into my working version of the previous .tex file. If you had made any other changes in the text or Figures, please let me know so I can swap them in also.

I have also made some small adjustments so that the paper (just) fits onto 6 pages with the macro package that we intend to use for the final publication.

I do have one question about your references. I believe that either your reference to Daly (1995) has the wrong title, or it has the wrong ApJ volume number (454) and year. Whichever, I could not find it in the ApJ author/title index for 1995, so I suspect that it is incorrect as given. Could you check this and let me know any necessary correction?

Thanks,

Alan B.

```
From root Tue Jan 23 18:14:09 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["701" "Wed" "24" "January" "1996" "10:09:31" "+1100" "Geoff Bicknell"
  "geoff@merlin.anu.edu.au" "<9601232309.AA11130@mozart.mso.anu>" "28"
  "Meisenheimer's M87 paper" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA01555; Tue, 23 Jan 1996 18:14:08 -0500
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by
  cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id SAA08188 for
  <abridle@polaris.cv.nrao.edu>; Tue, 23 Jan 1996 18:13:59 -0500 (EST)
Received: from merlin (root@merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au
  (8.6.12/8.6.12) with SMTP id KAA24526 for <abridle@polaris.cv.nrao.edu>; Wed, 24
  Jan 1996 10:09:38 +1100
Received: from mozart.mso.anu by merlin (5.x/SMI-SVR4)
  id AA23718; Wed, 24 Jan 1996 10:09:33 +1100
Received: by mozart.mso.anu (5.x/SMI-SVR4)
  id AA11130; Wed, 24 Jan 1996 10:09:32 +1100
Message-Id: <9601232309.AA11130@mozart.mso.anu>
X-Mailer: ELM [version 2.4 PL25]
Content-Type: text
From: geoff@merlin.anu.edu.au (Geoff Bicknell)
To: abridle@polaris.cv.nrao.edu
Subject: Meisenheimer's M87 paper
Date: Wed, 24 Jan 1996 10:09:31 +1100 (EST)
```

Alan,  
I think this answers your query.  
Cheers,

Geoff

Forwarded message:

```
>From meise@mpia-hd.mpg.de Tue Jan 23 22:19 EST 1996
>Date: Tue, 23 Jan 1996 12:17:47 +0100
>From: meise@mpia-hd.mpg.de (Klaus Meisenheimer)
>Message-Id: <9601231117.AA27278@sun19.mpia-hd.mpg.de>
>To: geoff@merlin.anu.edu.au
>Subject: Re: Your paper on M87
>X-Sun-Charset: US-ASCII
>Content-Type: text
>Content-Length: 270
>
>Dear Geoff,
>
> the A&A paper on M87 was accepted in Jul. 1995. Since the
>typical period between acceptance and publication is currently
>8-9 months in A&A (!!!), I expect it to appear in March 1996.
>
>I will have a look at your preprint in the next days.
>
>Cheers, Klaus
>
```

```
From abridle Tue Jan 23 19:04:25 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]
  ["129" "Tue" "23" "January" "1996" "19:04:16" "-0500" "Alan Bridle" "abridle"
  nil "12" "Re: Meisenheimer's M87 paper" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA35233; Tue, 23 Jan 1996 19:04:16 -0500
Message-Id: <9601240004.AA35233@polaris.cv.nrao.edu>
In-Reply-To: <9601232309.AA11130@mozart.mso.anu>
References: <9601232309.AA11130@mozart.mso.anu>
From: abridle (Alan Bridle)
To: geoff@merlin.anu.edu.au (Geoff Bicknell)
Subject: Re: Meisenheimer's M87 paper
Date: Tue, 23 Jan 1996 19:04:16 -0500
```

Geoff Bicknell writes:

```
>
> Alan,
> I think this answres your query.
> Cheers,
> Geoff
>
```

Sure does. Thanks, Geoff.

A.

```
From root Wed Jan 24 10:54:38 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["1013" "Wed" "24" "January" "1996" "10:54:30" "-0500" "Anton Zensus"
  "azensus@nrao.edu" "<2.2.32.19960124155430.006b5358@vagabond.cv.nrao.edu>" "35"
  "Finer points on styles (part 1)" "^From:" nil nil "1" nil nil nil nil]
  nil)
```

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27902; Wed, 24 Jan 1996 10:54:37 -0500  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA17327; Wed, 24 Jan 1996 10:54:33 -0500  
Message-Id: <2.2.32.19960124155430.006b5358@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu, abridle@nrao.edu  
Cc: azensus@nrao.edu  
Subject: Finer points on styles (part 1)  
Date: Wed, 24 Jan 1996 10:54:30 -0500

Expect a number of style differences between our editing to surface as we begin to read each other's material. Some of these are listed below:

1. Titles in references:

Titles of papers and chapters in books should be in mixed case, but titles of books, proceedings, etc. should be all capital.

2. Editors

If there is more than one editor of a work, we say (e.g.)

..., eds. J. Dowe, F. Cheetem, and G. How

I believe we all are doing this already, but the original instructions were different.

3. Tables

Tables should have a `\footnotesize` after the `\begin{table}`  
Tables should have no vertical lines. They should have a double table line (`\hline\hline`) at the top, a single table line (`\hline`) after the header, and another single table line after the tabular part, and before any Notes.

Notes should begin after the last table line like this:

```
\hline
\end{tabular}
\end{center}
\smallskip\noindent
{\it Notes:}~$a$~This is the first note. etc.
```

Use math-mode superscripts to annotate items in the table.

From root Wed Jan 24 14:39:51 1996  
X-VM-v5-Data: ([nil nil nil t t nil nil nil nil]  
["566" "Wed" "24" "January" "1996" "13:59:35" "-0500" "Lin Wan"  
"lin@puppsr12.princeton.edu" "<9601241859.AA10027@puppsr12.princeton.edu>" "17"  
"Re: conference paper" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33234; Wed, 24 Jan 1996 14:39:50 -0500

Received: from Princeton.EDU (root@Princeton.EDU [128.112.128.1]) by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id OAA22050 for <abridle@polaris.cv.nrao.edu>; Wed, 24 Jan 1996 14:39:38 -0500 (EST)  
Received: from puppsr12.Princeton.EDU by Princeton.EDU (5.65b/2.124/princeton) id AA15109; Wed, 24 Jan 96 14:03:47 -0500  
Received: by puppsr12.princeton.edu (5.x/SMI-SVR4) id AA10027; Wed, 24 Jan 1996 13:59:35 -0500  
Message-Id: <9601241859.AA10027@puppsr12.princeton.edu>  
From: lin@puppsr12.Princeton.EDU (Lin Wan)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: conference paper  
Date: Wed, 24 Jan 1996 13:59:35 -0500

Dear Dr. Bridle,

Thanks for the email. I just checked the reference for Ruth's paper. The title that I used was the old title for her preprint. She later changed the title to " Powerful extended radio sources as tools to estimate ambient gas densities, jet luminosities, and other key physical parameters". So the correct reference now should be under this title. And it's on 1995, ApJ, 454, 580-592.

Sorry about the error. I should have been more careful to put in the updated title.

Thank you very much for the careful editing.

Best regards.

Lin Wan

From abridle Wed Jan 24 15:29:40 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["229" "Wed" "24" "January" "1996" "15:29:32" "-0500"  
"Alan Bridle" "abridle" nil "13" "Re: conference paper" "^From:" nil nil "1" nil nil nil nil])  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA52589; Wed, 24 Jan 1996 15:29:32 -0500  
Message-Id: <9601242029.AA52589@polaris.cv.nrao.edu>  
In-Reply-To: <9601241859.AA10027@puppsr12.princeton.edu>  
References: <9601241859.AA10027@puppsr12.princeton.edu>  
From: abridle (Alan Bridle)  
To: lin@puppsr12.Princeton.EDU (Lin Wan)  
Subject: Re: conference paper  
Date: Wed, 24 Jan 1996 15:29:32 -0500

Lin Wan writes:

>  
> Sorry about the error. I should have been more careful to put in the  
> updated title.  
>  
> Thank you very much for the careful editing.  
>

Change has now been made, and you're welcome.

Alan B.

From abridle Wed Jan 24 15:53:20 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil  
["1404" "Wed" "24" "January" "1996" "15:53:03" "-0500" "Alan Bridle"  
"abridle" nil "44" "Re: Finer points on styles (part 1)" "^From:" nil nil "1" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31484; Wed, 24 Jan 1996 15:53:03 -0500  
Message-Id: <9601242053.AA31484@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960124155430.006b5358@vagabond.cv.nrao.edu>  
References: <2.2.32.19960124155430.006b5358@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Re: Finer points on styles (part 1)  
Date: Wed, 24 Jan 1996 15:53:03 -0500

Anton Zensus writes:

> Expect a number of style differences between our editing to surface as we  
> begin to read each other's material. Some of these are listed below:  
>  
> 1. Titles in references:  
>  
> Titles of papers and chapters in books should be in mixed case, but titles  
> of books, proceedings, etc. should be all capial.  
>  
> 2. Editors  
>  
> If there is more than one editor of a work, we say (e.g.)  
>  
> ..., eds. J. Dowe, F. Cheetem, and G. How  
>  
> I believe we all are doing this already, but the original instructions were  
> different.  
>  
> 3. Tables  
>  
> Tables should have a \footnotesize after the \begin{table}  
> Tables should have no vertical lines. They should have a double table line  
> (\hline\hline) at the top, a single table line (\hline)after the header, and  
> another single table line after the tabular part, and before any Notes.  
>  
> Notes should begin after the last table line like this:  
>  
> \hline  
> \end{tabular}  
> \end{center}  
> \smallskip\noindent  
> {\it Notes:}~\$a\$~This is the first note. etc.  
>  
> Use math-mode superscripts to annotate items in the table.  
>  
>

Could I add the convention that all author addresses, including  
U.S.A., have a country name at the end, and that periods are used  
inside abbreviations like U.S.A. and U.K. for these? (Tony and I  
had talked about this, but I'm not sure it was sent to Phil.)

A.

From root Wed Jan 24 15:57:55 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["756" "Wed" "24" "January" "1996" "15:57:14" "-0500" "Anton Zensus"

"azensus@nrao.edu" "<2.2.32.19960124205714.006b48d4@vagabond.cv.nrao.edu>" "50"

"Re: Finer points on styles (part 1)" "^From:" nil nil "1" nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53811; Wed, 24 Jan 1996 15:57:54 -0500

Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA17725; Wed, 24 Jan 1996 15:57:17 -0500

Message-Id: <2.2.32.19960124205714.006b48d4@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu (Hardee)

Cc: abridle@nrao.edu

Subject: Re: Finer points on styles (part 1)

Date: Wed, 24 Jan 1996 15:57:14 -0500

At 11:24 AM 1/24/96 CST, you wrote:

>

>Anton,

>

>I assume you meant

>

> eds. J. Dowe, F. Cheetem, \& G. How

>

>instead of

>

> eds. J. Dowe, F. Cheetem, and G. How

>

yes.

>Also are we all doing

>

>ed. C. Fanti

>

>without the `s'

>

>and

>

>eds. A. Ralph \& C. Barf

>

>without a comma before the \&.

>

yes.

>

>I will try to get my tables in the correct format. Wish me luck, I have never

>done a table in tex or latex before.



good luck.

>I would like to recommend that you change the definition of e. g. in the  
>style file so that it prints out like e.g. with no space. ApJ uses this  
>form and I think it looks better. The same goes for i.e. and any other  
>similar constuction.

I will take it under consideration. Hmpffh.

>  
>Phil  
>  
>

Anton

From root Wed Jan 24 16:14:27 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["955" "Wed" "24" "January" "1996" "15:17:50" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
"<9601242117.AA05384@venus.astr.ua.edu.astr.ua.edu>" "34" "Re: Finer points on  
styles (part 1)" "^From:" nil nil "1" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53917; Wed, 24 Jan 1996 16:14:25 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id QAA23392; Wed, 24 Jan 1996 16:14:20 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46838; Wed, 24 Jan 1996 14:53:52 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26633; Wed, 24 Jan 96 15:14:16 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA05384; Wed, 24 Jan 96 15:17:50 CST  
Message-Id: <9601242117.AA05384@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@nrao.edu, abridle@nrao.edu  
Subject: Re: Finer points on styles (part 1)  
Date: Wed, 24 Jan 96 15:17:50 CST

Anton,

If you want to leave e.g. as e. g. its OK. I am not firm on any of these style matters.

Before I go and change all my journal titles, do you mean to Capitalize only the first word of a journal title? At present my journal titles and Book titles are the same with first letters as `caps' like

\reference Wiita, P.~J., Rosen, A., \& Norman, M.~L. 1990. ``Expanding Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium Interface'', \apj, {\bf 350}, 545--560. (WRN)

Second, did you mean that all (first) letters where to be caps in a book title like

``The Lazy Editor Did Not Want To Change All The Titles Again''

or like

`` THE LAZY EDITOR DID NOT WANT TO CHANGE ALL THE TITLES AGAIN''

or like

``The Lazy Editor Did Not Want to Change All the Titles Again''

Alan suggests that countries be added to all addresses like U.S.A. and U.K. and this is fine with me. I only have to add the ``.'`'.

Phil

From root Wed Jan 24 16:17:19 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1932" "Wed" "24" "January" "1996" "16:17:13" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "59" "Book: New machinery!" "^From:" nil nil "1" nil nil nil  
nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA22761; Wed, 24 Jan 1996 16:17:17 -0500  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA17790; Wed, 24 Jan 1996 16:17:16 -0500  
Message-Id: <2.2.32.19960124211713.006c48f4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu, azensus@nrao.edu  
Subject: Book: New machinery!  
Date: Wed, 24 Jan 1996 16:17:13 -0500

Alan and I have discussed this over the last weeks, and I have come up with this:

Ultimately, we will run off the book from one master file, i.e. not in the one-at-a-time mode you have used so far. This will require a few modifications to each file in order to work. I have constructed a few scripts that allow us to make these modifications now, but still process each file individually. Also, I made a "preprint" script that does not put the watermark in, which can give trouble when printed with a large figure using the epsf macros.

here is the speel:

1. For this to work, you need to copy the scripts and updated style files from my ftp area:

<ftp://ftp.cv.nrao.edu/NRAO-staff/azensus/private/jetbook>

jetpage.sty new version

draft.sty new, contains the watermark business

jet.tex script to run a file printing a watermark

jetp.tex runs a file, no watermark, but prepint title page

jeto.tex runs the file in the plain mode it came from the author

PHIL: IF YOUR VERSION OF LATEX IS NOT LATEX2E, please let me know, you need the files slightly modified. There are instructions in them, but I can do it for you as well.

2. Modify your tex input files as follows:

- comment out `\documentstyle`, `\begin{document}`, `\end{document}`  
also any `\input{epsf}`, etc., `\setcounters`, etc.

- after the title, insert a `\label{autho}`, where autho is the 6-character name of the tex file

- after that, insert a line like follows which in the end we'll use for the headings.

```
\markboth{J.~Dowe, F.~Cheetem, and G.~How}{A nice paper}
this is the full or a short version of the title. Use \etal\ if there
are too many authors
```

3. Now you are ready to go:

```
latex jet (or jetp, or jeto)
```

this will ask for the file name, so you type the name, and off it goes.

4. If you want to run dvips to get a plausible name for the ps file, you could say:

```
dvips -o cheet.ps jet
```

From root Wed Jan 24 16:26:24 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["1002" "Wed" "24" "January" "1996" "16:26:05" "-0500" "Anton Zensus"

"azensus@nrao.edu" "<2.2.32.19960124212605.006d808c@vagabond.cv.nrao.edu>" "34"

"Re: Finer points on styles (part 1)" "^From:" nil nil "1" nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu

by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA15081; Wed, 24 Jan 1996 16:26:23 -0500

Received: from vagabond.cv.nrao.edu (root@vagabond.cv.nrao.edu [192.33.115.94]) by

cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id QAA23527; Wed, 24 Jan 1996

16:26:22 -0500 (EST)

Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)

id AA17796; Wed, 24 Jan 1996 16:26:09 -0500

Message-Id: <2.2.32.19960124212605.006d808c@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@NRAO.EDU>

To: hardee@venus.astr.ua.edu (Hardee)

Cc: azensus@nrao.edu, abridle@nrao.edu

Subject: Re: Finer points on styles (part 1)  
Date: Wed, 24 Jan 1996 16:26:05 -0500

At 03:17 PM 1/24/96 CST, Hardee wrote:

>Anton,

>

>If you want to leave e.g. as e. g. its OK. I am not firm on any of these style  
>matters.

>

>Before I go and change all my journal titles, do you mean to Capitalize only  
>the first word of a journal title? At present my journal titles and Book  
>titles are the same with first letters as `caps' like

>

>\reference Wiita, P.~J., Rosen, A., \& Norman, M.~L. 1990. ``Expanding  
> Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium  
> Interface'', \apj, {\bf 350}, 545--560. (WRN)

Yes, unfortunately it should be like this:

``Expanding hydrodynamical jets crossing a galactic halo/intergalactic medium  
interface''

>Second, did you mean that all (first) letters where to be caps in a book title  
>like

>

>``The Lazy Editor Did Not Want To Change All The Titles Again''

yes.

> Alan suggests that countries be added to all addresses like U.S.A. and U.K.  
> and this is fine with me. I only have to add the ``.''.  
ok.

From root Wed Jan 24 16:59:49 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1653" "Wed" "24" "January" "1996" "16:03:17" "CST"

"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "57" "" "^From:" nil nil  
"1" nil nil nil nil]

nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35023; Wed, 24 Jan 1996 16:59:48 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id QAA23903 for <abridle@nrao.edu>; Wed, 24 Jan 1996  
16:59:47 -0500 (EST)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA47376; Wed, 24 Jan 1996 15:39:19 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26826; Wed, 24 Jan 96 15:59:43 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA05436; Wed, 24 Jan 96 16:03:17 CST

Message-Id: <9601242203.AA05436@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@nrao.edu, azensus@nrao.edu

Date: Wed, 24 Jan 96 16:03:17 CST

----- Begin Included Message -----

>From P.Jones@st.nepean.uws.edu.au Wed Jan 24 15:56:47 1996  
Date: Thu, 25 Jan 1996 08:56:22 +1100  
From: Paul Jones <P.Jones@st.nepean.uws.edu.au>  
To: hardee@venus.astr.ua.edu  
Subject: Re: jets workshop copyright agreement & figures  
Content-Length: 1325

Dear Phil,

I have obtained copyright permission from CSIRO publishing, who publish Publ. (formerly Proc.) Astron. Soc. Aust., for figures 1a and 3 of the Alabama Workshop paper. I enclose the email from Peter Robertson.

\*\*\*\*\*  
>From rob366@cis.csiro.au Mon Jan 22 14:07:30 1996  
Date: Mon, 22 Jan 1996 13:56:34 +1100 (DST)  
X-Sender: rob366@solaris.cis.csiro.au  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
To: Paul Jones <P.Jones@st.nepean.uws.edu.au> (by way of j.nicholls@phys  
ics.usyd.edu.au (Jenny Nicholls))  
From: rob366@cis.csiro.au (Peter Robertson)  
Subject: Re: PASA copyright  
Content-Length: 379  
X-Lines: 16  
Status: RO

Dear Paul,

I'm replying on behalf of CSIRO Publishing. You have our permission to reproduce the figures, provided of course that you cite the relevant references.

Best wishes,

Peter Robertson

CSIRO Publishing, PO Box 1139, Collingwood, Vic. 3066  
ph: (613) 9662 7626 fax: (613) 9662 7611  
rob366@publish.csiro.au  
<http://www.publish.csiro.au/publish/journals/ajp/index.html>

\*\*\*\*\*  
I would now like to ask permission of ASP to use figures 1b and 1c of the Alabama Workshop paper in a paper submitted to MNRAS.

thank you,

Paul Jones

----- End Included Message -----

From abridle Wed Jan 24 17:14:07 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1199" "Wed" "24" "January" "1996" "17:13:51" "-0500" "Alan Bridle"  
"abridle" nil "68" "Re: Finer points on styles (part 1)" "^From:" nil nil "1" nil  
nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA22735; Wed, 24 Jan 1996 17:13:51 -0500  
Message-Id: <9601242213.AA22735@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960124205714.006b48d4@vagabond.cv.nrao.edu>  
References: <2.2.32.19960124205714.006b48d4@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Re: Finer points on styles (part 1)  
Date: Wed, 24 Jan 1996 17:13:51 -0500

Y'all\* write:

~~~~~  
\* > > = phil, > = (An)ton(y)  
~~~~~

> >  
> >Anton,  
> >  
> >I assume you meant  
> >  
> > eds. J. Dowe, F. Cheetem, \& G. How  
> >  
> >instead of  
> >  
> > eds. J. Dowe, F. Cheetem, and G. How  
> >  
>  
> yes.

yes too -- A.

>  
> >Also are we all doing  
> >  
> >ed. C. Fanti  
> >  
> >without the `s'  
> >  
> >and  
> >  
> >eds. A. Ralph \& C. Barf  
> >  
> >without a comma before the \&.  
> >  
>  
> yes.

I'm trying to do this. Need a full check later, A.

>  
> >

> >I will try to get my tables in the correct format. Wish me luck, I have never  
> >done a table in tex or latex before.  
>  
> good luck.

same here, A.

>  
> >I would like to recommend that you change the definition of e. g. in the  
> >style file so that it prints out like e.g. with no space. ApJ uses this  
> >form and I think it looks better. The same goes for i.e. and any other  
> >similar constuction.  
>  
> I will take it under consideration. Hmpffh.  
>

I agree with Phil's request, there are some very stretchy e. g.'s in the text because we didn't make them e.g. Same for i.e. but there aren't anywhere near so many.

A.

From abridle Wed Jan 24 17:31:33 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1876" "Wed" "24" "January" "1996" "17:31:28" "-0500" "Alan Bridle"  
"abridle" nil "45" "Re: Finer points on styles (part 1-deux)" "^From:" nil nil "1"  
nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA22683; Wed, 24 Jan 1996 17:31:28 -0500  
Message-Id: <9601242231.AA22683@polaris.cv.nrao.edu>  
In-Reply-To: <9601242117.AA05384@venus.astr.ua.edu.astr.ua.edu>  
References: <9601242117.AA05384@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Re: Finer points on styles (part 1-deux)  
Date: Wed, 24 Jan 1996 17:31:28 -0500

hardee@venus.astr.ua.edu writes:

> Anton,  
>  
> If you want to leave e.g. as e. g. its OK. I am not firm on any of these style  
> matters.

Note my previous support for the e.g., i.e., variant?

>  
> Before I go and change all my journal titles, do you mean to Capitalize only  
> the first word of a journal title? At present my journal titles and Book  
> titles are the same with first letters as `caps' like  
>  
> \reference Wiita, P.~J., Rosen, A., \& Norman, M.~L. 1990. ``Expanding  
> Hydrodynamical Jets Crossing a Galactic Halo/Intergalactic Medium  
> Interface'', \apj, {\bf 350}, 545--560. (WRN)  
>

> Second, did you mean that all (first) letters where to be caps in a book title  
> like  
>  
> ``The Lazy Editor Did Not Want To Change All The Titles Again''  
>

This is the interpretation I have followed, or at least meant to!

But a `_paper_ title` would be 'The inverse Compton emission from a radio galaxy in the Virgo cluster'. i.e. only first letter and proper names capitalized.

We also had discussed, but maybe we need to confirm again, the corresponding rule for section heading and subsection headings. I have been capitalizing the "important" words in `\section text`, but have been treating `\subsection` and `\subsubsection` under the "journal papwr title" rule.

Phil, the "country last" address rule also means we would slightly rewrite David Clarke's address, so that it becomes NS B3H 3C3, Canada. That is an acceptable postal-code sequence in Canada, by analogy with the ZIP here. It is actually preferred for Canadian postal sorting by non-Canadian postal services, though some Canadian institutions do put the postal code after the Canada on their letterhead. (If you're going into David's paper again, he also uses `compliment` where he means `complement`, which escaped his spell-checker because it's an alias.)

A.

```
From abridle Wed Jan 24 17:35:10 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["375" "Wed" "24" "January" "1996" "17:34:59" "-0500" "Alan Bridle" "abridle"
  nil "15" "lowering the case in titles" "^From:" nil nil "1" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA47395; Wed, 24 Jan 1996 17:34:59 -0500
Message-Id: <9601242234.AA47395@polaris.cv.nrao.edu>
In-Reply-To: <2.2.32.19960124212605.006d808c@vagabond.cv.nrao.edu>
References: <2.2.32.19960124212605.006d808c@vagabond.cv.nrao.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu
Subject: lowering the case in titles
Date: Wed, 24 Jan 1996 17:34:59 -0500
```

Anton Zensus writes:

>  
>  
> Yes, unfortunately it should be like this:  
>  
> ``Expanding hydrodynamical jets crossing a galactic halo/intergalactic medium  
  
> interface''  
>

I don't know if you run emacs, but if you do it's quite easy to do most of the conversions by marking a title block and using `Ctrl-X Ctrl-L`. Guess who recently had to do a bunch that way?



A.

```
From root Tue Feb 6 09:25:46 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]
  ["613" "Tue" "6" "February" "1996" "09:25:37" "-0500" "Anton Zensus"
  "azensus@nrao.edu" nil "20" "Re: Finer points on styles " "^From:" nil nil "2" nil
  nil nil nil]
  nil)
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA28130; Tue, 6 Feb 1996 09:25:46 -0500
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)
  id AA04824; Tue, 6 Feb 1996 09:25:40 -0500
Message-Id: <2.2.32.19960206142537.006ac114@vagabond.cv.nrao.edu>
X-Sender: azensus@vagabond.cv.nrao.edu
X-Mailer: Windows Eudora Pro Version 2.2 (32)
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
From: Anton Zensus <azensus@nrao.edu>
To: hardee@venus.astr.ua.edu (Hardee)
Cc: abridle@nrao.edu
Subject: Re: Finer points on styles
Date: Tue, 06 Feb 1996 09:25:37 -0500
```

At 04:55 PM 2/5/96 CST, you wrote:

>Anton,  
>

>Your latest version of jetpage puts the acknowledgements in "normal" rather  
>than the "smaller" font used for the figure captions. Did you mean to do  
>this for the final version. A number of my papers are right on the end of  
>a page and the larger text font sends a reference over to the next page. Of  
>course some additional shortening is almost always possible. What shall I  
>do?

This is a known bug of jetpage, and I have been unable to fix it. For now,  
you can do this:

wrap the \acknowledgement paragraph like this:

```
{\footnotesize
\acknowledgment ...
}
```

```
From abridle Wed Feb 7 11:44:21 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]
  ["479" "Wed" "7" "February" "1996" "11:44:10" "-0500" "Alan Bridle" "abridle"
  nil "17" "Re: Tuscaloosa paper" "^From:" nil nil "2" nil nil (number " " mark "
  Alan Bridle Feb 7 17/479 " thread-indent "\"Re: Tuscaloosa paper\""\n")
  nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA50083; Wed, 7 Feb 1996 11:44:10 -0500
Message-Id: <9602071644.AA50083@polaris.cv.nrao.edu>
In-Reply-To: <199512062019.PAA25095@vela.astro.umd.edu>
References: <199512062019.PAA25095@vela.astro.umd.edu>
From: abridle (Alan Bridle)
To: wilson@astro.umd.edu
Subject: Re: Tuscaloosa paper
```

Date: Wed, 7 Feb 1996 11:44:10 -0500

Hi Andrew,

One small detail re your paper, the Ap.J.'s permission will be needed to reproduce your Figure 2 in the A.S.P. Proceedings. Could you obtain this permission from them, and forward a copy of it to Phil Hardee? Then we will adjust your Figure caption to acknowledge the permission.

(E-mail will do for this, the journals are very co-operative as a rule and most permission are being given within a day or so of the request from the authors).

Thanks again,

Alan

```
From abridle Wed Feb 7 11:47:03 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil]
  ["233" "Wed" "7" "February" "1996" "11:46:57" "-0500" "Alan Bridle" "abridle"
  nil "7" "Re: Tuscaloosa paper" "^From:" nil nil "2" nil nil (number " " mark "
  Alan Bridle Feb 7 7/233 " thread-indent "\"Re: Tuscaloosa paper\""\n")
  nil]
```

```
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA50175; Wed, 7 Feb 1996 11:46:57 -0500
Message-Id: <9602071646.AA50175@polaris.cv.nrao.edu>
In-Reply-To: <199512062019.PAA25095@vela.astro.umd.edu>
References: <199512062019.PAA25095@vela.astro.umd.edu>
From: abridle (Alan Bridle)
To: wilson@astro.umd.edu
Subject: Re: Tuscaloosa paper
Date: Wed, 7 Feb 1996 11:46:57 -0500
```

Sorry, I was momentarily confused, it's Annual Reviews whose permission is needed for your Figure. I was just looking up the pages for your reference to Dopita & Sutherland, "in press", so I had the Ap.J. still on my mind ....

A.

```
From root Thu Feb 8 15:42:07 1996
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
  ["450" "Thu" "8" "February" "1996" "15:38:34" "-0500" "wilson@astro.umd.edu"
  "wilson@astro.umd.edu" "<199602082038.PAA22718@vela.astro.umd.edu>" "14" "Re:
  Tuscaloosa paper" "^From:" nil nil "2" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA47209; Thu, 8 Feb 1996 15:42:05 -0500
Received: from vela.astro.umd.edu (wilson@vela.astro.umd.edu [129.2.162.225]) by
  cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with ESMTTP id PAA22543 for
  <abridle@polaris.cv.nrao.edu>; Thu, 8 Feb 1996 15:42:04 -0500 (EST)
Received: (wilson@localhost)
  by vela.astro.umd.edu (8.7.1/8.6.6sWLS)
  id PAA22718 for abridle@polaris.cv.nrao.edu; Thu, 8 Feb 1996 15:38:34 -0500
```

(EST)

Message-Id: <199602082038.PAA22718@vela.astro.umd.edu>  
In-Reply-To: Mail from 'abridle@polaris.cv.nrao.edu (Alan Bridle)'  
dated: Wed, 7 Feb 1996 11:44:10 -0500  
From: wilson@astro.umd.edu  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Tuscaloosa paper  
Date: Thu, 8 Feb 1996 15:38:34 -0500 (EST)

Alan,

I have obtained permission from ARAA for my Fig. 2. They wouldn't do it by e-mail, so it's in the form of a fax, which I'll mail to you. The phraseology should be: "Reproduced, with permission, from the Annual Reviews of Astronomy and Astrophysics Volume 33 c 1995, by Annual Reviews, Inc." [The little c is of course the copyright symbol (circle round it)].

If you'd like the hard copy instantaneously, I can send it by fax.

Andrew

From root Thu Feb 8 17:24:57 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["31192" "Thu" "8" "February" "1996" "16:20:28" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "715" "" "^From:" nil nil  
"2" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55281; Thu, 8 Feb 1996 17:24:56 -0500  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id RAA24358; Thu, 8 Feb 1996 17:16:52 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA10396; Thu, 8 Feb 1996 15:54:38 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA18808; Thu, 8 Feb 96 16:16:35 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA10260; Thu, 8 Feb 96 16:20:28 CST  
Message-Id: <9602082220.AA10260@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@nrao.edu, azensus@nrao.edu  
Date: Thu, 8 Feb 96 16:20:28 CST

I have just about finished with my proceedings submissions with the exception of Mike Norman's review (not yet in) and with the exception of a final proofreading for error's that a spellchecker can't find (I don't guarantee that I can find them either). I should have my latest revised versions available electronically by Monday. For the sake of uniformity are there any additional stylistic issues or indexing issues that I should begin to address at this time?

I note that I have modified my jetdef.sty file so that \eg = e.g. ; \ie = i.e. ; \cf = cf.~ . I also have listed all the \index{} and \newcommand{}} used in my 20 papers in the harde.tex file of my own proceedings article. I enclose the harde.tex file below for your perusal.

Other possible issues are generating a forward and acknowledgement section as well as an ordering of papers and table of contents. With the exception of Koide's submission and the poster papers the order of presentation can be the same as the schedule. Note that I have placed a plain ascii file list of participants (almost complete e-mail and addresses) in my ftp area along with \*.ps files of the papers.

Your weary co-editor,

Phil

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%                               Figure Manipulation                               %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
%***** use plotfiddle
%
%\plotfiddle{file.ps}{vspace}{rotation}{hscale%}{vscl%}{htrans}{vtrans}
%
%
%***** or use special
%
%\vspace{#cm}
%\special{psfile=file.ps voffset=# hoffset=# vscale=% hscale=% angle=#}
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%                               Indexing                                       %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
%\index{3C345}
%\index{0735+178}
%\index{CygA}
%\index{M84}
%\index{3C274}
%\index{3C353}
%\index{M87}
%\index{3C273}
%\index{0800+608}
%\index{4C39.25}
%\index{0917+624}
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%
%\index{FRII}
%\index{FRII!dynamical age}
%\index{FRII!asymmetry}
%
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%\index{boundary conditions}
%\index{Compact Steep Spectrum sources}
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%\index{current conservation}
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%\index{efficiency}
%\index{energy}
%\index{entrainment}
%\index{entrained mass}
```

```

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% \index{interface}
% \index{interstellar medium}
% \index{intracluster medium, ICM}
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% \index{Kruskal-Schwarzschild criterion}
% \index{light curves}
% \index{linear size}
% \index{magnetic
  filaments}
% \index{misalignments}
% \index{Owen-Ledlow diagram}
% \index{particle acceleration}
% \index{particle acceleration!in situ}
% \index{particle acceleration!shocks}
% \index{particle acceleration!turbulence}
% \index{plasma gun}
% \index{radio-optical plane}
% \index{shear layer}
% \index{spectral aging}
% \index{spectral break}
% \index{spectral index}
% \index{unified scheme}
% \index{variability}
% \index{vortex}
% \index{vorticity}
% \index{wind-like!outflows}
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% \index{BL Lacs!relation to quasars}
% \index{VLBI!simulated maps}
% \index{variability}
% \index{light curves}
% \index{emission!synchrotron}
% \index{BL-Lacs}
% \index{BL-Lacs!bending}
% \index{BL Lacs!X-ray selected}
% \index{BL Lacs!radio selected}
% \index{Doppler factor!inverse Compton}
% \index{Doppler factor!equipartition}
%
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% \index{accretion disk!differential rotation}
% \index{accretion disk!instabilities}
% \index{accretion disk!flaring}
%
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% \index{cocoon!turbulence}
% \index{cocoon!entrainment}
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% \index{hot spot!compactness}

```

```

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% \index{instabilities!Kelvin-Helmholtz, body waves}
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% \index{instabilities!current driven}
% \index{instabilities!magnetoconvective}
% \index{instabilities!magnetorotational}
% \index{instabilities!structural}
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% \index{jets!classical}
% \index{jets!dentist drill}
% \index{jets!electron-positron}
% \index{jets!flapping}
% \index{jets!hot spot}
% \index{jets!magnetic bending}
% \index{jets!magnetic bending scale}
% \index{jets!FR~I}
% \index{jets!FR~II}
% \index{jets!simulation}
% \index{jets!relativistic}
% \index{jets!emission from}
% \index{jets!internal shocks}
% \index{jets!accelerating}
% \index{jets!decelerating}
% \index{jets!restarting}
% \index{jets!spine}
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% \index{jets!relativistic,collimation}
% \index{jets!relativistic,structure}
% \index{jets!relativistic,energy flux}
% \index{jets!axisymmetric}
% \index{jets!nonaxisymmetric}
% \index{jets!1D}
% \index{jets!edge-brightened}
% \index{jets!working surface}
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% \index{lobe!expansion}
% \index{lobe!emission filaments}
% \index{lobe!magnetic field}
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```

```

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% \index{MHD!flows}
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% \index{MHD!Zeus3D}
% \index{MHD!grids}
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% \index{radiative transfer!relativistic}
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% \index{bow-shock}
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% \index{shocks!oblique}
% \index{shocks!reconfinement}
% \index{shocks!reflected}
% \index{shocks!relativistic}
% \index{shocks!relativistic, oblique}
% \index{shocks!relativistic, magnetized}
% \index{shocks!terminal}
% \index{shocks!terminal, oblique}
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% \index{synchrotron intensity!beaming}
% \index{synchrotron intensity!computed}
% \index{synchrotron intensity!Doppler boost}
% \index{synchrotron intensity!relativistic effects}
%
% \index{transport}
% \index{transport!magnetic flux}
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% \index{turbulence}
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%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
%
%% \documentstyle[11pt,pasppconf,jetpage,jetdef]{article}
%
%
%% \begin{document}
%
\title{Entrainment and Structure of MHD Jets}
\label{harde}

\markboth{P.~E.~Hardee}{Entrainment & Structure of MHD Jets}

\author{Philip E. Hardee}
\affil{Department of Physics and Astronomy, University of Alabama,
Tuscaloosa, Alabama 35487, U.S.A.}

\begin{abstract}
%
Two three-dimensional magnetohydrodynamical simulations of
supermagnetosonic magnetized jets differing primarily in their density
relative to the external medium are compared. The light jet entrains
heavier external material, slows and loses coherent internal structure

```

when low order unstable modes grow to large amplitude and filament the jet. The heavy jet maintains both an apparent large amplitude helical twist and a large amplitude elliptical distortion over considerable distance without breaking up. This organized structure is associated with a denser jet core which is surrounded by a less dense sheath consisting of slower moving jet fluid and magnetic field.

```
%
\end{abstract}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Keywords should be included, but they are not printed in the hardcopy. %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\keywords{jets, instabilities, entrainment, MHD}
%
\section{Introduction}
```

Observations show that a jet can propagate many tens of times its diameter while remaining highly collimated and exhibit organized internal structures, \eg, Cygnus A \index{CygA} (Carilli 1996), or lose its high collimation and organized internal structure after only a short distance, \eg, M\,84 \index{M84} (Laing \& Bridle 1984). Differences in the appearance of FR~I and FR~II jets may be a function of the jet/cocoon density ratio. This dependence is suggested by theoretical results and laboratory experiments (Bicknell 1984, 86a, 86b) and three-dimensional numerical simulations (Hardee, Clarke, \& Howell 1995) which show that momentum and mass exchange with an external environment more dense than a jet result in relatively rapid loss of the initial high collimation such as may be the case for FR~I jets \index{jets!FRI}. On the other hand, FR~II jets \index{jets!FRII} are those surrounded by a lobe or cocoon almost certainly less dense than the jet (Norman, Winkler, \& Smarr 1984). In this article we report on results obtained from two three-dimensional numerical simulations of magnetized cylindrical jets of different density.

```
\section{Numerical Simulations}
```

```
\index{jets!simulation}
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```
\subsection{Setup}
```

The simulations are performed using the three-dimensional MHD code ZEUS-3D \index{MHD!Zeus3D}, an Eulerian finite-difference code using the recently developed Consistent Method of Characteristics (CMoC) \index{MHD!CMoC}. The strength of the CMoC lies in its ability to solve the transverse momentum transport and magnetic induction equations simultaneously and in a {\it planar split} fashion (Clarke 1996). Interpolations are carried out by a second-order accurate monotonic upwinded time-centered scheme, and a von Neumann--Richtmyer artificial viscosity is used to stabilize shocks. The MHD test suites as described by Stone \etal\ (1992) and Clarke (1996) were used to establish the reliability of the techniques.

The simulations are initialized by establishing a cylindrical jet in equilibrium with an external medium across a three-dimensional Cartesian grid \index{MHD!grids} resolved into \$130 \times 130 \times 325\$ zones. Thirty uniform zones span the jet diameter along the transverse Cartesian axes (y- \& z-axes). Outside the jet the grid zones are ratioed and altogether the 130 zones along the transverse Cartesian axes span a total distance of 30 jet radii. Along the axial



Cartesian axis (x-axis) 225 uniform zones span a distance of 30 jet radii and along with an additional 100 ratioed zones span a total distance of 60 jet radii. The jets of radius  $R$  are initialized with a uniform density  $\rho_j$  equal to one-quarter (light jet) and four (heavy jet) times the external density  $\rho_x$ . The thermal pressure in the jets is initialized at  $p_j^{th}=0.54p_x$  where  $p_x$  is the pressure in the uniform external medium. The magnetic field in the jets is initialized with a uniform axial component,  $B_z$ , corresponding to a magnetic pressure  $p_j^{B_z}=0.469p_x$ . The slight total jet overpressure ( $\sim 1\%$ ) is partially compensated for by a confining toroidal magnetic field. The toroidal component is zero at jet center, increases to a maximum  $B_\phi \simeq 0.339B_z$  at  $r=0.8R$  and then declines to zero at  $r=0.9R$ . The external sound speed, the jet sound speed, and the axial Alfvén speed are  $a_x$ ,  $a_j$ , and  $V_{A,j}$ , respectively, and we define a jet magnetosonic speed as  $a_j^{ms} \equiv (a_j^2 + V_{A,j}^2)^{1/2}$ . The jet velocity,  $u$ , is initialized such that the external Mach number  $M_x \equiv u/a_x \simeq 12.4$  ( $4.0$ ), and internal Mach number  $M_j \equiv u/a_j = 8.5$  ( $11.0$ ), where numbers in parentheses are for the heavy jet. On the jet axis the internal Alfvénic Mach number  $M_j^A \equiv u/V_{A,j} \simeq 8.3$  ( $10.8$ ), and the internal magnetosonic Mach number  $M_j^{ms} \equiv u/(a_j^2 + V_{A,j}^2)^{1/2} \simeq 6.0$  ( $7.7$ ). At the inlet the jet velocity is precessed at an angle of 0.005 radian relative to the x-axis with an angular frequency  $\omega = 1.6a_x/R$  ( $1.2a_x/R$ ). Jet precession is such that the helical twist induced is in the same sense as that of magnetic field helicity and is near the maximally growing wavelength predicted by theory (Hardee, Clarke, & Rosen in preparation).

#### \subsection{Intensity Images & Cross Sections}

Figure 1 and Figure 2 each contain a total intensity image  $\int I_{\nu} dz$  formed from a line-of-sight integration along the z-axis through the three-dimensional data cube, and magnetic pressure cross sections of the jet at axial distances of 24R, 30R, 36R, and 42R for the light and heavy jets, respectively. Vertical lines in the intensity images at 6R intervals show where cross sections are located. In the intensity images an emissivity is defined by  $p^{\theta} (\sin \theta)^{3/2}$  where  $\theta$  is the angle made by the magnetic field with respect to the line of sight. This emissivity can be shown to mimic synchrotron emission from a system in which the energy and number densities of the relativistic particles are proportional to the energy and number densities of the thermal fluid (Clarke, Norman, & Burns 1989). The cross sections are oriented with the y-axis in the vertical direction and z-axis in the horizontal direction and with the x-axis into the page, i.e., we look outwards along the flow direction.

```

%
\begin{figure}
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  \special{psfile=hardef1.ps voffset=-150 hoffset=-123 vscale=100 hscale=100}
  \special{psfile=hardef2.ps voffset=-300 hoffset=-121 vscale=100 hscale=100}
  \caption {Total intensity image (top) of dimension 60R  $\times$  30R,
and four cross sections of dimension 10R  $\times$  10R at axial
distances 24R, 30R, 36R, & 42R (from top left to bottom right) for the
light jet.}
\end{figure}
%
```

```

\begin{figure}
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 \special{psfile=hardef3.ps voffset=-150 hoffset=-123 vscale=100 hscale=100}
 \special{psfile=hardef4.ps voffset=-300 hoffset=-121 vscale=100 hscale=100}
 \caption {Total intensity image (top) of dimension 60R  $\times$  30R,
 and four cross sections of dimension 10R  $\times$  10R at axial
 distances 24R, 30R, 36R, \& 42R (from top left to bottom right) for the
 heavy jet.}
 \end{figure}

```

Both light and heavy jets show evidence for organized internal structure `\index{jets!structure}` inside an axial distance of  $\sim 30R$ , `\eg`, bifurcation into two magnetic filaments associated with elliptical distortion of the jet. However, beyond an axial distance of  $\sim 30R$  the light jet shows little organized internal structure, considerable expansion, and only a sinusoidal oscillation corresponding to helical twisting induced by the precession at the origin. The cross sections reveal that the light jet fluid, initially highly collimated, has become highly filamented and intermingled with entrained external material. The expected mixing at smaller scales from small scale turbulence `\index{turbulence}` (De Young, `\tp`, `\page \pageref{deyou}`) is suppressed by the grid scale. `\index{MHD!grids}` On the other hand, the heavy jet maintains relatively well defined structure beyond  $\sim 30R$ . Sinusoidal oscillation corresponding to helical twisting induced by the precession at the origin is emphasized by an apparent transverse dimension less than the original jet diameter. Bright narrow regions in the intensity image can be identified with jet flattening caused by the twisting elliptical distortion seen in the cross sections. The intensity image and cross sections in Figure 2 show that the elliptical distortion twists through  $\sim 360^\circ$ , and the helical distortion twists through  $\sim 720^\circ$  over the same length scale,  $\approx 28R$ . Other bright structures in the intensity image can be identified with the two magnetic filaments that accompany the elliptical distortion. A filament appears brighter in total intensity when it is most nearly aligned with the leading edge of jet helicity and undergoes a stronger compression as a result. The sense of jet precession and the rotation of the dual magnetic filaments and the associated elliptical distortion is in the same sense.

#### `\subsection{1D Slices \& Entrainment}`

`\index{entrainment}` The flow morphology is illustrated by the transverse profiles of density, magnetic pressure and axial velocity shown in Figure 3. In the figure the density and velocity are scaled relative to the density and sound speed in the external medium. Both light and heavy jets remain relatively well collimated initially but between 24R and 48R the transverse profiles broaden in a significantly different manner. The velocity profiles show a spine-sheath `\index{jets!spine}` `\index{jets!sheath}` morphology (Laing, `\tp`, `\page \pageref{laing}`) with a central spine of width on the order of the original jet width. However, the spine of the light jet has slowed to  $\sim 50\%$  of its initial speed of  $\sim 12.4a_x$ , while the heavy jet spine still maintains a speed comparable to its initial speed of  $\sim 4a_x$ . The velocity profile of the light jet is narrower,  $\sim 7R$  than that of the heavy jet  $\sim 10R$ . The magnetic pressure profile shows the true extent of spreading of jet fluid and we identify the sheath with the region containing magnetic field. The magnetic profile shows that the light jet fluid has spread over a width of  $\sim 10R$ , and the heavy jet fluid has spread over a width of  $\sim 6R$ .

The density profiles suggest a spine plus sheath width similar to the magnetic pressure profiles. Overall the profiles suggest that the light jet has decelerated \index{jets!decelerating} as it entrained and shock heated external fluid and in the outer portion of the sheath magnetic field and jet fluid has been decelerated to very low speed. On the other hand, the heavy jet has accelerated external fluid outside the magnetized sheath. The heavy jet density profile reveals a reduced density region immediately outside the sheath which suggests shock heating and expansion of the external accelerated fluid.

%

```
\begin{figure}
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  \special{psfile=hardef6.ps voffset=-265 hoffset=-30 vscale=100 hscale=100}
  \caption{Transverse slices showing density, magnetic pressure
and velocity profiles of the light (top) and heavy (bottom) jets at an
axial distance of 48R. The magnetic pressure is in arbitrary units. The initial
scaled jet velocity is  $\sim 12.4$  and  $\sim 4$  for the light and heavy jets,
respectively.}
\end{figure}
```

\section{Stability \& Structure}

Jets of circular cross section are Kelvin-Helmholtz \index{instabilities!Kelvin-Helmholtz} unstable to pinching, helical, elliptical, triangular and higher order modes of distortion. Provided the distortions are of small amplitude, \eg, velocity perturbations induced by instability are a small fraction of the magnetosonic speed, the behavior of the various modes of distortion and the modifications to jet structure are described by a wave dispersion relation (\eg, Birkinshaw 1991). The important aspects of the modes revealed by solution of the dispersion relation are that each mode contains multiple solutions, and on a supermagnetosonic jet each solution has a maximum in the growth rate at some frequency and wavelength. The multiple solutions to each mode are associated with a single surface (S) wave, and multiple body (B<sub>1</sub>...B<sub>n</sub>) waves. Displacements produced by surface waves \index{instabilities!Kelvin-Helmholtz, surface waves} are largest at the jet surface and decrease inwards. Displacements produced by higher order surface modes show a more rapid decrease inwards. Displacements produced by body waves \index{instabilities!Kelvin-Helmholtz, body waves} are also, in general, largest at the jet surface and decrease inwards but show a reversal in displacement at null surfaces within the jet (Hardee, Clarke, \& Howell 1995). Figure 4 shows the jet distortions computed from theory for the surface and first body wave of the helical, elliptical, and triangular modes.

In Figure 4 the maximum possible displacements \index{jets!structure} of initially circular surfaces are shown to emphasize the distortions. At least approximately, the maximum allowed amplitude occurs when displacement surfaces touch. The theory predicts and simulations show that the maximum allowed displacement decreases for higher order body waves and higher order modes. This result is a consequence of the inability of transverse velocity perturbations to exceed the jet magnetosonic speed and a consequence of the shorter wavelengths at the maximum growth rate associated with higher order modes. The linear theory predicts similar structure for light and heavy jets, and similar helical, elliptical and higher order mode structure is seen in the simulations out to an axial distance of  $\sim 30R$ . However, in the



```

%                acronyms for conference proceedings                %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\newcommand{\peters}{in {\it Physics Of Energy Transport In Extragalactic Radio
Sources}, eds. A.~H. Bridle \& J.~A. Eilek
(Green Bank: NRAO)}

\newcommand{\beams}{in {\it Beams And Jets In Astrophysics}, ed. P.~A. Hughes
(Cambridge: CUP)}

\newcommand{\stsci}{in {\it Astrophysical Jets}, eds. D. Burgarella, M. Livio,
\& C.~P. O'Dea (Cambridge: CUP)}

\newcommand{\astrojet}{in {\it Astrophysical Jets}, eds. A. Ferrari \& A.~G.
Pacholzyk (Dordrecht: Reidel)}

\newcommand{\agn}{in {\it Active Galactic Nuclei}, eds. T.~J.-L. Courvoisier \&
M. Mayor (Berlin: Springer-Verlag)}

\newcommand{\rngbrgi}{in {\it Hot Spots In Extragalactic Radio Sources}, eds.
K. Meisenheimer \& H-J. R\"oser (Heidelberg: Springer-Verlag)}

\newcommand{\rngbrgii}{in {\it Jets In Extragalactic Radio Sources}, eds. H-J.
R\"oser, \& K. Meisenheimer (Heidelberg:
Springer-Verlag)}

\newcommand{\numast}{in {\it Numerical Astrophysics}, eds. J. Centrella, J.
LeBlanc, \& R. Bowers (Boston: Jones and Bartlett)}

\newcommand{\cyga}{in {\it Cygnus A: Study Of A Radio Galaxy}, eds. C.~L.
Carilli \& D.~E. Harris (Cambridge: CUP)}

\newcommand{\projtii}{in {\it Protostars And Planets II}, eds. D.~C. Black \&
M.~S. Mathews (Tucson: Univ.\ of Arizona Press)}

\newcommand{\projtiii}{in {\it Protostars And Planets III}, eds. E.~H. Levy \&
J. Lunine (Tucson: Univ.\ of Arizona Press)}

\newcommand{\iauone}{in {\it Extragalactic Radio Sources}, IAU Symposium 97,
eds. D. S. Heesch \& C. M. Wade (Dordrecht: Reidel)}

\newcommand{\iautwo}{in {\it Structure And Dynamics Of Elliptical Galaxies,
IAU}, ed. T.~de~Zeeuw, (Netherlands: Dordrecht)}

\newcommand{\iauthree}{in {\it Extragalactic Radio Sources}, IAU
Symposium 175, ed. C. Fanti (Dordrecht: Kluwer)}

\newcommand{\srs}{in {\it Superluminal Radio Sources}, eds. J.~A. Zensus \&
T.~J. Pearson, (Cambridge: CUP)}

\newcommand{\hri}{in {\it High Resolution Radio Imaging},
Proc. National Academy of Sciences, eds. K.~I. Kellermann
\& M.~H. Cohen}

\newcommand{\sjbo}{in {\it Stellar Jets And Bipolar Outflows}, eds. L. Errico
\& A.~A. Vittone (Dordrecht: Kluwer)}

\newcommand{\ajte}{in {\it Astrophysical Jets And
Their Engines}, ed. W. Kundt (Dordrecht: Reidel)}

```

\newcommand{\nmfd}{in {\it Numerical Methods For Fluid Dynamics}, eds. K.~W. Morton \& M.~J. Baines M. J. (Oxford: Clarendon Press)}

\newcommand{\arh}{in {\it Astrophysical Radiation Hydrodynamics}, eds. K.~H.~A. Winkler \& M.~L. Norman (Dordrecht: Reidel)}

\newcommand{\sarcra}{in {\it Sub-Arcsecond Radio Astronomy}, eds. R.~J. Davis \& R.~S. Booth, (Cambridge: CUP)}

\newcommand{\scsw}{in {\it Nearly Normal Galaxies From The Planck Time To The Present}, a Santa Cruz Summer Workshop in Astronomy and Astrophysics, Lick Observatory, ed. S.~M. Faber (New York: Springer-Verlag)}

\newcommand{\stromlo}{in {\it The First Stromlo Symposium: The Physics Of Active Galaxies}, eds. G.~V. Bicknell, P.~J. Quinn, \& M.~A. Dopita (San Francisco: ASP)}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%  
% additional journal acronyms %  
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\newcommand{\rma}{\it Rev.~Mod.~Astron.}}

\newcommand{\pr}{\it Phys.Rev.}}

\newcommand{\sovastl}{\it Soviet~Ast.~Let.}}

\newcommand{\ppl}{\it Phys.~Plasmas}}

\newcommand{\jfm}{\it J.~Fluid Mech.}}

\newcommand{\cpc}{\it Comp.~Phys.~Comm.}}

\newcommand{\pfl}{\it Phys.~Fluids}}

\newcommand{\pflA}{\it Phys.~Fluids A}}

\newcommand{\aij}{\it AIAA J.}}

\newcommand{\jcp}{\it J.~Comput.~Phys.}}

\newcommand{\arfm}{\it Ann.~Rev.~Fluid Mech.}}

\newcommand{\jetp}{\it J.~Expl.~Theor.~Phys.}}

\newcommand{\mmtka}{\it Mathematika}}

\newcommand{\rpp}{\it Rep.~Prog.~Phys.}}

\newcommand{\prsla}{\it Proc.~Roy.~Soc.~(London)~A}}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\begin{references}

\reference Bicknell, G.~V. 1984. ``A model for the surface brightness of a turbulent low Mach number jet. I. Theoretical development and

application to 3C\,31'', \apj, {\bf 286}, 68--87.

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\end{references}

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From: abridle (Alan Bridle)  
To: wilson@astro.umd.edu  
Subject: Re: Tuscaloosa paper  
Date: Thu, 8 Feb 1996 21:27:51 -0500

wilson@astro.umd.edu writes:

>  
> Alan,  
> I have obtained permission from ARAA for my Fig. 2. They wouldn't do it  
> by e-mail, so it's in the form of a fax, which I'll mail to you. The  
> phraseology should be: "Reproduced, with permission, from the Annual Reviews  
> of Astronomy and Astrophysics Volume 33 c 1995, by Annual Reviews, Inc." [The  
> little c is of course the copyright symbol (circle round it)].  
>  
> If you'd like the hard copy instantaneously, I can send it by fax.  
>  
> Andrew  
>

Thanks, Andrew. Mail will be just fine. A.

From abridle Thu Feb 8 21:28:25 1996  
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To: hardee@venus.astr.ua.edu  
Subject: forwarded message from wilson@astro.umd.edu  
Date: Thu, 8 Feb 1996 21:28:21 -0500

----- start of forwarded message (RFC 934 encapsulation) -----  
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(AIX 3.2/UCB 5.64/4.03)  
id AA47209; Thu, 8 Feb 1996 15:42:05 -0500  
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<abridle@polaris.cv.nrao.edu>; Thu, 8 Feb 1996 15:42:04 -0500 (EST)  
Received: (wilson@localhost)  
by vela.astro.umd.edu (8.7.1/8.6.6sWLS)  
id PAA22718 for abridle@polaris.cv.nrao.edu; Thu, 8 Feb 1996 15:38:34 -0500  
(EST)  
Message-Id: <199602082038.PAA22718@vela.astro.umd.edu>  
In-Reply-To: Mail from 'abridle@polaris.cv.nrao.edu (Alan Bridle)'



dated: Wed, 7 Feb 1996 11:44:10 -0500  
From: wilson@astro.umd.edu  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Tuscaloosa paper  
Date: Thu, 8 Feb 1996 15:38:34 -0500 (EST)

Alan,

I have obtained permission from ARAA for my Fig. 2. They wouldn't do it by e-mail, so it's in the form of a fax, which I'll mail to you. The phraseology should be: "Reproduced, with permission, from the Annual Reviews of Astronomy and Astrophysics Volume 33 c 1995, by Annual Reviews, Inc." [The little c is of course the copyright symbol (circle round it)].

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Andrew

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From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Wed, 14 Feb 96 14:24:14 CST

Alan,

Do we have any convention for words like (hot spot, hotspot or hot-spot). Which of your edited manuscripts would best illustrate observational terminology and suggested constructions.

Phil

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References: <9602142024.AA11380@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Wed, 14 Feb 1996 18:18:22 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Do we have any convention for words like (hot spot, hotspot or  
> hot-spot). Which of your edited manuscripts would best illustrate  
> observational terminology and suggested constructions.  
>  
> Phil

For this one in particular I have been using "hot spot", i.e.  
preferring to use the separate English words where they exist.

The same rule gives "counterjet" (i.e. counter and jet are not  
separate, at least not in the sense that counter is used here).

I reserve hyphenation for use when stringing multiple words  
together in compound adjectives,

i.e. a black hole has high mass

but a high-mass black hole might exist somewhere

Thus we might have the parameters of a hot spot but

a list of derived hot-spot parameters.

Make sense ?

I have put together an engine that compiles the bibliography by  
reading all the .tex files and generating a list of reference codes  
that can then be sorted into order in one file.

Tony and I are experimenting with on our sections to get a few bugs  
out of it, then it should be useful to run it on the entire book at  
some point. It will catch a lot of errors in the references (ours and  
the authors' .....)

A.

From abridle Thu Feb 15 10:57:02 1996  
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References: <199602131914.OAA19270@jnb.astro.lsa.umich.edu>  
From: abridle (Alan Bridle)  
To: "Joel N. Bregman" <jbregman@astro.lsa.umich.edu>  
Subject: Re: graphics stuff  
Date: Thu, 15 Feb 1996 10:56:35 -0500

I use Paint Shop Pro 3.11 for almost everything in image graphics for Windows these days; it does just about everything in image formatting, conversion and editing that I ever need. It does have a built-in TWAIN scanner support.

I'm not sure if you can access pcstuff from outside the NRAO any more. Since the major hacker attack we have disabled most outside logins other than through ftp, which is now very carefully monitored. Basically, we are behind a "firewall" after being shut down for several days by a serious and malignant group of hackers.

So it would be better for you to try to get it from :

<http://www.jasc.com/pspd.html>

Cheers, A.

From root Thu Feb 15 11:03:33 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["630" "Thu" "15" "February" "1996" "10:06:00" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu" nil "12" "" "^From:" nil nil  
"2" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA24148; Thu, 15 Feb 1996 11:03:33 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id LAA16009 for <abridle@polaris.cv.nrao.edu>; Thu,  
15 Feb 1996 11:03:28 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA11266; Thu, 15 Feb 1996 09:40:07 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA27661; Thu, 15 Feb 96 10:01:59 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA11444; Thu, 15 Feb 96 10:06:00 CST  
Message-Id: <9602151606.AA11444@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Thu, 15 Feb 96 10:06:00 CST

Thanks Alan this example will help somewhat. I am experiencing some slow going with what will have to be my final detailed pass through my 20 + 1 (still to come) manuscripts. This even though all I am doing is working on manuscripts in addition to teaching. Unfortunately, I am still finding errors on about every page. I am also finding incorrect or vague statements in some papers that are requiring that I get back to the author's. I hope that I am not too far behind your editing

progress. With the exception of Marscher's and Biretta's papers I have had no time to read any of the papers edited by you or Anton.

Phil

From root Thu Feb 29 16:04:23 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["186" "Thu" "29" "February" "1996" "15:00:03" "CST"  
"hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
"<9602292100.AA14028@venus.astr.ua.edu.astr.ua.edu>" "5" "" "^From:" nil nil "2"  
nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA18743; Thu, 29 Feb 1996 16:04:22 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.1/8.7.1/CV-2.1) with SMTP id QAA03684; Thu, 29 Feb 1996 16:02:03 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA11262; Thu, 29 Feb 1996 14:38:58 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA10643; Thu, 29 Feb 96 15:00:39 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA14028; Thu, 29 Feb 96 15:00:03 CST

Message-Id: <9602292100.AA14028@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@nrao.edu, azensus@nrao.edu

Date: Thu, 29 Feb 96 15:00:03 CST

I have received Norman's review paper and anticipate having all of my proceedings papers finished (99.94% pure) by Monday. Are we ready for the next step---whatever that may be?

Phil

From root Thu Feb 29 16:43:33 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["676" "Thu" "29" "February" "1996" "16:43:29" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "24" "Re: " "^From:" nil nil "2" nil nil nil nil]  
nil)

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35502; Thu, 29 Feb 1996 16:43:32 -0500

Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA24575; Thu, 29 Feb 1996 16:43:31 -0500

Message-Id: <2.2.32.19960229214329.00696f64@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@nrao.edu

Subject: Re:

Date: Thu, 29 Feb 1996 16:43:29 -0500

>Date: Thu, 29 Feb 1996 16:08:00 -0500

>To: hardee@venus.astr.ua.edu (Hardee)

>From: Anton Zensus <azensus@nrao.edu>

>Subject: Re:

>

>I received Readhead today and will process it.

>My impression is that Alan and I should be able to get to the level of

editing you have by the end of next week. perhaps we should talk on the telephone on monday or Tuesday to take stock of where we are.

>

>I am now only missing pearson.

>

>Anton

>

>At 03:00 PM 2/29/96 CST, you wrote:

>>I have received Norman's review paper and anticipate having all of my >>proceedings papers finished (99.94% pure) by Monday. Are we ready for >>the next step---whatever that may be?

>>

>>Phil

>>

>>

>

From abridle Thu Feb 29 17:07:27 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["2750" "Thu" "29" "February" "1996" "17:06:35" "-0500" "Alan Bridle" "abridle" nil "59" "" "^From:" nil nil "2" nil nil nil nil] nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA40014; Thu, 29 Feb 1996 17:06:35 -0500

Message-Id: <9602292206.AA40014@polaris.cv.nrao.edu>

In-Reply-To: <9602292100.AA14028@venus.astr.ua.edu.astr.ua.edu>

References: <9602292100.AA14028@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Date: Thu, 29 Feb 1996 17:06:35 -0500

hardee@venus.astr.ua.edu writes:

> I have received Norman's review paper and anticipate having all of my > proceedings papers finished (99.94% pure) by Monday. Are we ready for > the next step---whatever that may be?

>

> Phil

Hi Phil,

I have pretty much completed work on the tools for bibliography building and indexing. The bibliography side of my set is now in good shape, as I have used these tools to cross-check all the references in the papers I am editing. (They produce a 14-page bibliography, by the way, so we may be looking at 30 pages or so for the whole thing?). I wrote a global editor (combination of grep and an editor) to help with indexing and I have made a first pass across all of my papers for that. I am now doing some rationalization of this first pass but I think I will probably have a decent index for all of my papers by the end of the weekend. The next step on that front is to look at how out indexing approaches can be meshed -- I used the list you sent and my authors' lists as a starting-point, but I'm sure we'll need to do some iterating to get good coverage overall.

Tony is at about the same stage, and has been using the bibliography and indexing tools as I have been coding them. I don't know if they

will help you at this late stage -- do you have a PC that runs Windows? If so, I'll send them on to you.

As you say, what now -- i think we should define the mechanics of putting the three collections together and set some dates that allow for the actual schedules of all three of us. It would be very useful to have all of the .tex files here very soon. My bib and index tools do not require running the LaTeX, they just read the input files and I could probably get a lot done on the composite index and bibliography in about a day now once I have all of the files.

Other "next steps" are deciding how to deal with figures that were provided only on paper, putting the .PS all together in one area on the Web so that authors can check their "proofs", and wrapping the various other things around the text such as an introduction, list of participants, acknowledgements of support for the meeting, the "quotable quote" page, etc.

We should probably all 3 talk by phone soon and lay out what needs to be done and the schedule for doing it. I have a speakerphone in my office so Tony and I could call you together from there. When would be a good time?

I believe we have everybody's papers except for Tim pearson's. I have held off finalizing my own review to take a look at what Tony readhead actually submitted but we got his today and i will finish very soon once I have read his piece. I would like to see Tim's, of course, but won't let that drag the process.

Cheers,

A.

```
From root Fri Mar 1 12:38:51 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["892" "Fri" "1" "March" "1996" "11:36:47" "CST" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>"
"21" "" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA24874; Fri, 1 Mar 1996 12:38:50 -0500
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.1/8.7.1/CV-2.1) with SMTP id MAA20723 for <abridle@polaris.cv.nrao.edu>; Fri,
1 Mar 1996 12:38:43 -0500 (EST)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA08751; Fri, 1 Mar 1996 11:15:42 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA11702; Fri, 1 Mar 96 11:37:22 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA14132; Fri, 1 Mar 96 11:36:47 CST
Message-Id: <9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Date: Fri, 1 Mar 96 11:36:47 CST
```

Alan,

While I have a PC that runs windows it is at home and probably not useful in

the editing process. All of my work has been on the Unix box in my office. It might be useful for me to see all of the index categories that you have devised -- I will ask Anton for his -- and I could begin to try to mesh my indexing with yours next week.

I have only three papers that will require some or all of the figures to be pasted in (Lovelace[all], Koide[all], De Young[1]). Of course, I still have the originals here for your papers as well and will need to get them to you whenever.

Note that my spring break is the last week in March. I could come to C'ville to finish up the volume. We should be attempting to finish by the end of March if we are to meet the 6 month after the meeting deadline preferred by the ASP.

Phil

PS. I am free Monday & Tuesday afternoon for a conference call.

From abridle Fri Mar 1 13:02:26 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1711" "Fri" "1" "March" "1996" "13:00:38" "-0500" "Alan Bridle" "abridle"  
nil "37" "" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA45972; Fri, 1 Mar 1996 13:00:38 -0500

Message-Id: <9603011800.AA45972@polaris.cv.nrao.edu>

In-Reply-To: <9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>

References: <9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Date: Fri, 1 Mar 1996 13:00:38 -0500

hardee@venus.astr.ua.edu writes:

> Alan,

>

> While I have a PC that runs windows it is at home and probably not useful in  
> the editing process. All of my work has been on the Unix box in my office.  
> It might be useful for me to see all of the index categories that you have  
> devised -- I will ask Anton for his -- and I could begin to try to mesh my  
> indexing with yours next week.

I'm doing my work half here and half at home now that I'm not running TeX all the time. So I'm mainly PC-based for this, though one is networked to a SPARC station so I can do quick TeX runs and ghostview displays. If you're doing o.k. with your present environment I won't try to slow you down by sending you another one!

>

> I have only three papers that will require some or all of the figures to be  
> pasted in (Lovelace[all], Koide[all], De Young[1]). Of course, I still have  
> the originals here for your papers as well and will need to get them to you  
> whenever.

>

> Note that my spring break is the last week in March. I could come to C'ville  
> to finish up the volume. We should be attempting to finish by the end of  
> March if we are to meet the 6 month after the meeting deadline preferred by  
> the ASP.

>

Unfortunately I have to be away for the 27-29 of March which puts a dent in what would otherwise be a good plan. I agree we should attempt that but we might not make it by a week or two, I think. A real real deadline is mid-April when Tony is going to Germany for a three-week trip and Robert Laing is visiting me here for several weeks.

> PS. I am free Monday & Tuesday afternoon for a conference call.

I'll check Tony's preference and get back to you right soon.

```
From abridle Fri Mar 1 13:14:54 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["826" "Fri" "1" "March" "1996" "13:13:45" "-0500" "Alan Bridle" "abridle"
  nil "20" "" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA24970; Fri, 1 Mar 1996 13:13:45 -0500
Message-Id: <9603011813.AA24970@polaris.cv.nrao.edu>
In-Reply-To: <9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>
References: <9603011736.AA14132@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Date: Fri, 1 Mar 1996 13:13:45 -0500
```

hardee@venus.astr.ua.edu writes:

>

> PS. I am free Monday & Tuesday afternoon for a conference call.

Tony says Tuesday afternoon is much better for him, so let's go with that. Would you like to suggest a time (e.g. after your usual lunch break?)

Turns out Tony will be away all of the last week in march, too, so I think we may not be able to take advantage of your break. That is a pity but we'll have to manage without. Right now, both Tony and I will have to time-share with other activities through most of March but we both have the first couple of weeks of April free so if a huge last push is needed to get it out of here that's the best bet. If we were to miss that window we would be in deep trouble actually, looking at our schedules. So I think we will either be on time or a couple of weeks late!

A.

```
From root Fri Mar 1 13:25:00 1996
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]
  ["409" "Fri" "1" "March" "1996" "12:22:59" "CST" "hardee@venus.astr.ua.edu"
  "hardee@venus.astr.ua.edu" nil "9" "" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA41937; Fri, 1 Mar 1996 13:25:00 -0500
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4])
  by cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id NAA22044 for
  <abridle@polaris.cv.nrao.edu>; Fri, 1 Mar 1996 13:24:58 -0500 (EST)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA10362; Fri, 1 Mar 1996 12:01:54 -0600
```



Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA11779; Fri, 1 Mar 96 12:23:34 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA14162; Fri, 1 Mar 96 12:22:59 CST  
Message-Id: <9603011822.AA14162@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Fri, 1 Mar 96 12:22:59 CST

Alan,

How about 3:00 EST which is 2:00 CST for me on Tuesday. 205-348-4613 is my office phone #. Ok lets plan on getting this done by mid-April at the latest. For me this mean's getting my stuff to you in the appropriate form when you need it, and getting all original figures to you when you need them. I am assuming that the finished volume will be produced at NRAO and mailed to ASP from NRAO.

Phil

From root Mon Mar 4 16:56:34 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["451" "Mon" "4" "March" "1996" "16:56:30" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "17" "conventions" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA47840; Mon, 4 Mar 1996 16:56:34 -0500  
Received: from kalaf.cv.nrao.edu by vagabond.cv.nrao.edu (5.x/S2.3/NRAO-CV/2.4)  
id AA28941; Mon, 4 Mar 1996 16:56:21 -0500  
Message-Id: <2.2.32.19960304215630.006c7924@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@nrao.edu, hardee@venus.astr.ua.edu  
Subject: conventions  
Date: Mon, 04 Mar 1996 16:56:30 -0500

Editing Readhead's paper, I stumble over this:

they capitalize a class of source:

Compact Symmetric Objects

They do this consistenly, even in the references.

I would prefer slightly to lower-case this instead. What do you think?

I am puitting the postscript for this paper in my download area in a bit also, if you want to look at it (probably at this point only Alan).

I am working on producing my first cut of the index. Bear with me,

Anton

From root Wed Mar 6 15:18:19 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil])

```
["707" "Wed" "6" "March" "1996" "14:15:33" "CST" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>"
"30" "" "^From:" nil nil "3" nil nil nil nil]
nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA47726; Wed, 6 Mar 1996 15:18:18 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.1/8.7.1/CV-2.1) with SMTP id PAA05928 for <abridle@polaris.cv.nrao.edu>; Wed,
6 Mar 1996 15:17:52 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
id AA16593; Wed, 6 Mar 1996 13:54:26 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
id AA20407; Wed, 6 Mar 96 14:16:02 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
id AA14949; Wed, 6 Mar 96 14:15:33 CST
Message-Id: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Date: Wed, 6 Mar 96 14:15:33 CST
```

Alan,

I have placed all tex and postscript figure files for my proceedings papers  
in a permanent anonymous ftp area:

ftp crux.astr.ua.edu

```
>login: anonymous
>passwd: your e-mail address
>cd astro-stuff/meetings/jets/texdoc
>mget * (or whatever)
>quit
```

Some of the image files are pretty large 3Mbyte. I have no postscript image  
files for Koide and Lovelace---hardcopy only. I do not have a postscript  
image file for De Young's figure 1.

When do you want me to send the hardcopy of the figures that were mailed to us  
here? It was not clear in our phone conversation whether you wanted them now  
or later.

I am working on the preface and acknowledgements. Who will do the table of  
contents?

Phil

```
From abridle Wed Mar 6 17:10:22 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["990" "Wed" "6" "March" "1996" "17:10:04" "-0500" "Alan Bridle" "abridle"
nil "41" "" "^From:" nil nil "3" nil nil nil nil]
nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA47643; Wed, 6 Mar 1996 17:10:04 -0500
Message-Id: <9603062210.AA47643@polaris.cv.nrao.edu>
```

In-Reply-To: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
References: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Wed, 6 Mar 1996 17:10:04 -0500

hardee@venus.astr.ua.edu writes:

```
> Alan,
>
> I have placed all tex and postscript figure files for my proceedings papers
> in a permanent anonymous ftp area:
>
> ftp crux.astr.ua.edu
>
> >login: anonymous
> >passwd: your e-mail address
> >cd astro-stuff/meetings/jets/texdoc
> >mget * (or whatever)
> >quit
>
> Some of the image files are pretty large 3Mbyte. I have no postscript image
> files for Koide and Lovelace---hardcopy only. I do not have a postscript
> image file for De Young's figure 1.
>
```

Okay.

```
> When do you want me to send the hardcopy of the figures that were mailed to us
> here? It was not clear in our phone conversation whether you wanted them now
> or later.
```

Why not now? If you are done with them yourself, that is.

```
>
> I am working on the preface and acknowledgements. Who will do the table of
> contents?
>
```

I think that is taken care of by Mr. LaTeX when we run the whole thing through Tony's macro package.

Cheers, A.

```
From root Thu Mar 7 09:51:48 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["89" "Thu" "7" "March" "1996" "08:50:00" "CST" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" nil "6" "" "^From:" nil nil "3" nil nil nil nil]
nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA50491; Thu, 7 Mar 1996 09:51:47 -0500
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.1/8.7.1/CV-2.1) with SMTP id JAA19146 for <abridle@polaris.cv.nrao.edu>; Thu,
7 Mar 1996 09:51:46 -0500 (EST)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
```

id AA09789; Thu, 7 Mar 1996 08:28:53 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA21723; Thu, 7 Mar 96 08:50:28 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA15027; Thu, 7 Mar 96 08:50:00 CST  
Message-Id: <9603071450.AA15027@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Thu, 7 Mar 96 08:50:00 CST

Alan,

We will get all the hardcopy figures mailed off to you sometime next week.

Phil

From abridle Thu Mar 7 11:07:32 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["3048" "Thu" "7" "March" "1996" "11:07:17" "-0500" "Alan Bridle" "abridle"  
nil "74" "Points from your refs" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA54050; Thu, 7 Mar 1996 11:07:17 -0500  
Message-Id: <9603071607.AA54050@polaris.cv.nrao.edu>  
In-Reply-To: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
References: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu, azensus  
Subject: Points from your refs  
Date: Thu, 7 Mar 1996 11:07:17 -0500

Hi Phil, I've gone through a trial of the bibliography-munge using your TeX files and found the following points in your references:

1. Refs to ApJ Letters. Tony and I have been doing page refs in format L12-15, whereas yours are in format L12-L15 (pages 12 to 15). We need to standardize. (I don't have strong feelings about it except for having already changed all of mine to the L12-15 format.)
2. Hardee and Clarke 1992 ref has "three-dimensional" in title under Lovelace, "three dimensional" in title under Norman (1 & 2). ADS says the Lovelace form matches the paper, I haven't checked the journal.
3. Bicknell has the wrong title for Komissarov 1994. The correct title is "Mass-loaded relativistic jets".
4. Clarke omits Meier, D. L. second initial (L) in his ref to Lind et al. 1989
5. Hooda adds Norman's second initial in his ref to Loken et al. 1995 but publication did not (Burns is only two-initial author).
6. Christodoulou's ref to Mirabel et al. 1992: Rodr\{\i}gues has the accent, as in Mart\{\i}. Also Galactic Centre should be capitalized as a proper name?
7. Lovelace ref to Mirabel et al. 1994: Galaxy should be capitalized?

8. Hooda and Marti refs to Norman et al 1982 use different defs. for A&A. I think the standard should be \aap.
9. Bicknell did not include Phinney 1983 thesis title. It is: "A theory of radio sources".
10. Question: does your paper title in Carilli's proceedings say "a Cygnus A like jet" or a Cygnus A-like jet"?
11. Clarke and Appl disagree about Appl and Camenzind title hyphenation of "current-carrying" versus "current carrying". I think Appl is correct (there is a hyphen in the original).
12. Appl leaves the word "radio" out of title of Blandford and Payne 1982, i.e. correct version is "production of radio jets".
13. Lovelace ref to Bridle and Eilek: in all other cases we have used {\it Proc. NRAO Workshop No.9: Physics of Energy Transport in Extragalactic Radio Sources}, and (Green Bank, WV: NRAO). There is an alias \greenbank available for this.
14. Lovelace ref to Falke et al should have "radio/uv" in lower case?
15. Hooda and Wiita disagree about punctuation of Gopal Krishna and Wiita 1991 title. Hooda omits a comma after sizes. Wiita's is as in original paper.
16. Komissarov1 has wrong last page number for Begeleman et al. 1984, should be 351.
17. \ul{\$~~~~~\$} instead of repeated author names can't be sorted properly in bibliography. Can we insert the author name(s) where this occurs? Norman2, Clarke contain the only examples, I think.
18. Eilek has wrong order of authors in O'Donoghue et al 1990; she should be second author, Frazer third.
19. Norman2 has wrong title for De Young 1993, correct is "On the relation between Fanaroff-Riley types I and II radio galaxies".
20. Generally, I have been using FR~I and FR~II, rather than FR I and FR II as in Bicknell 2 Owen/Ledlow 1994 ref.

I haven't tried printing the composite yet.

A.

From root Thu Mar 7 11:48:52 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["502" "Thu" "7" "March" "1996" "10:46:50" "CST" "hardee@venus.astr.ua.edu"

"hardee@venus.astr.ua.edu" "<9603071646.AA15113@venus.astr.ua.edu.astr.ua.edu>"

"14" "Re: Points from your refs" "^From:" nil nil "3" nil nil nil nil]

nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA54493; Thu, 7 Mar 1996 11:48:51 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu

(8.7.1/8.7.1/CV-2.1) with SMTP id LAA22031 for <abridle@polaris.cv.nrao.edu>; Thu,

7 Mar 1996 11:48:47 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13699; Thu, 7 Mar 1996 10:25:42 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA22185; Thu, 7 Mar 96 10:47:17 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA15113; Thu, 7 Mar 96 10:46:50 CST  
Message-Id: <9603071646.AA15113@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Points from your refs  
Date: Thu, 7 Mar 96 10:46:50 CST

Alan,

I will go through my papers and get the references revised as per your e-mail.  
I will change my \peters macro to \greenbank macro as you indicated and change  
my Letters paging.

My paper title in Carilli's proceedings was submitted as "a Cygnus A like jet"  
without a - . Admittedly I have not checked to see whether it was changed  
by the editors.

I will place the revised tex files in anonymous ftp when I am done. Probably  
no later than tomorrow as I will work this afternoon on this.

Phil

From abridle Thu Mar 7 14:48:26 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1098" "Thu" "7" "March" "1996" "14:47:29" "-0500" "Alan Bridle" "abridle"  
nil "31" "Re: Points from your refs" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35558; Thu, 7 Mar 1996 14:47:29 -0500  
Message-Id: <9603071947.AA35558@polaris.cv.nrao.edu>  
In-Reply-To: <9603071646.AA15113@venus.astr.ua.edu.astr.ua.edu>  
References: <9603071646.AA15113@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu., azensus  
Subject: Re: Points from your refs  
Date: Thu, 7 Mar 1996 14:47:29 -0500

Hi Phil,

I caught a few more items going through the printout of the  
merged bibliography:

1. Lovelace loses David Clarke's "e" in Clarke et al. 1989
2. Norman2 and Komissarov1 give the wrong year for Falle & Komissarov  
MNRAS 278, 586 -- it is 1996, not 1995. Komissarov2 has it correctly.
3. Bicknell2--Kormendy 1987--does not give the IAU # for Structure & Dynamics of E  
Galaxies. Our standard format would be {\it IAU Symp. ##: Title}.  
Also (Dordrecht:Reidel) not (Netherlands:Dordrecht)?
4. Lovelace has Romanova et al. preprint reference. We asked people to certify

journal name, in press rather than referencing preprints. Same for his Wang et al. reference.

5. Norman2 gives \apj as journal for Stone & Norman 1992 but he must mean \apjs
6. Duncan does not give thesis title for Thompson 1986. I think we have titles of other theses, would be nice to get this one from him.

My first pass at this came out at 22 pages (yours+mine only, not Tony's).

You may or may not be relieved to hear that I'm now going to work on other things until next Wednesday!

A.

```
From root Fri Mar 8 03:41:56 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["1184" "Fri" "8" "March" "1996" "00:42:00" "-0800" "Tim Pearson"
  "tjp@astro.caltech.edu" "<Pine.SUN.3.91.960308002916.25712A-100000@bottom>" "31"
  "Final paper" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA30725; Fri, 8 Mar 1996 03:41:55 -0500
Received: from phobos.caltech.edu (phobos.caltech.edu [131.215.240.1]) by
  cv3.cv.nrao.edu (8.7.1/8.7.1/CV-2.1) with SMTP id DAA06956; Fri, 8 Mar 1996
  03:41:53 -0500 (EST)
Received: from bottom (bottom.caltech.edu) by phobos.caltech.edu
  (4.1/DEI:4.43) id AA02367; Fri, 8 Mar 96 00:42:03 PST
Received: by bottom
  (4.1/DEI:4.43) id AA25730; Fri, 8 Mar 96 00:42:00 PST
X-Sender: tjp@bottom
Message-Id: <Pine.SUN.3.91.960308002916.25712A-100000@bottom>
Mime-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII
From: Tim Pearson <tjp@astro.caltech.edu>
To: Anton Zensus <azensus@nrao.edu>, Phil Hardee <hardee@venus.astr.ua.edu>,
  abridle@nrao.edu
Subject: Final paper
Date: Fri, 8 Mar 1996 00:42:00 -0800 (PST)
```

Dear long-suffering editors,

Here finally is my manuscript\*. I apologize profusely, but there can be no excuse for my dilatoriness. I have been an editor myself, and I know how frustrating it is trying to extract manuscripts. I can only advise that you bug us harder!

I don't think the result was worth the wait ... but you must be the judges of that. If you want to omit it entirely or hack it to pieces, please go ahead! Over the next 24 hours I will proof-read again and let you know if I find any gross errors or omissions that must be corrected.

There are no figures, although of course my talk was all pictures. It is difficult to be selective, and I have filled up more than my allotment with words. I can easily add a few pictures if you want them.

With thanks for your incredible patience and your faith that I would eventually produce something,

Tim

\* In your ftp area and in e-mail to azensus.

Tim Pearson, Astronomy Dept 105-24, Caltech, Pasadena, California 91125, USA  
Internet: tjp@astro.caltech.edu, Pearson\_T@caltech.edu  
NSI-Decnet (SPAN): Deimos::TJP or 15237::TJP  
Telephone: +1 818 395-4980 FAX: +1 818 568-9352

From abridle Fri Mar 8 09:46:36 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["407" "Fri" "8" "March" "1996" "09:46:23" "-0500" "Alan Bridle" "abridle"  
nil "14" "Re: Final paper" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA18363; Fri, 8 Mar 1996 09:46:23 -0500  
Message-Id: <9603081446.AA18363@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.SUN.3.91.960308002916.25712A-100000@bottom>  
References: <Pine.SUN.3.91.960308002916.25712A-100000@bottom>  
From: abridle (Alan Bridle)  
To: Tim Pearson <tjp@astro.caltech.edu>  
Subject: Re: Final paper  
Date: Fri, 8 Mar 1996 09:46:23 -0500

Tim Pearson writes:

> Dear long-suffering editors,  
>  
> Here finally is my manuscript\*. I apologize profusely, but there can  
> be no excuse for my dilatoriness. I have been an editor myself, and I  
> know how frustrating it is trying to extract manuscripts. I can only  
> advise that you bug us harder!  
>

Thanks, Tim. Good timing in fact, as we really are getting close to finalizing.

Alan B.

From abridle Mon Mar 18 08:56:51 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["135" "Mon" "18" "March" "1996" "08:56:49" "-0500" "Alan Bridle" "abridle"  
nil "7" "Your .tex files" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19562; Mon, 18 Mar 1996 08:56:49 -0500  
Message-Id: <9603181356.AA19562@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: Your .tex files  
Date: Mon, 18 Mar 1996 08:56:49 -0500

for the Alabama proceedings.... where are they?



I'd like to build the full bibliography but I could not find them on vagabond.

A.

From abridle Mon Mar 18 09:21:56 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["295" "Mon" "18" "March" "1996" "09:21:12" "-0500" "Alan Bridle" "abridle"  
nil "13" "" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52725; Mon, 18 Mar 1996 09:21:12 -0500  
Message-Id: <9603181421.AA52725@polaris.cv.nrao.edu>  
In-Reply-To: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
References: <9603062015.AA14949@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Mon, 18 Mar 1996 09:21:12 -0500

hardee@venus.astr.ua.edu writes:

>  
> When do you want me to send the hardcopy of the figures that were mailed to us  
> here? It was not clear in our phone conversation whether you wanted them now  
> or later.  
>

Hi Phil, did you send these yet? Nothing has been received here yet.

A.

From root Mon Mar 18 09:52:56 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["382" "Mon" "18" "March" "1996" "09:52:52" "-0500" "Anton Zensus"  
"azensus@nrao.edu" "<199603181452.JAA02571@vagabond.cv.nrao.edu>" "21" "Re: Your  
.tex files" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41472; Mon, 18 Mar 1996 09:52:55 -0500  
Received: from vagabond (cvcisco.cv.nrao.edu [192.33.115.104]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA02571 for  
<abridle@polaris.cv.nrao.edu>; Mon, 18 Mar 1996 09:52:52 -0500 (EST)  
Message-Id: <199603181452.JAA02571@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond  
X-Mailer:  
Windows Eudora Pro Version 2.1.2  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Your .tex files  
Date: Mon, 18 Mar 1996 09:52:52 -0500 (EST)

/net/vagabond/vagabond\_1/azensus/alabama

vagabond had a disk crash last weekend after I left, and I need still to check that things could be completeley salvaged.

I'll be back Wednesday.

Toni

At 08:56 AM 3/18/96 -0500, you wrote:

>  
>for the Alabama proceedings.... where are they?  
>  
>I'd like to build the full bibliography but I could  
>not find them on vagabond.  
>  
>A.  
>  
>

From root Mon Mar 18 10:39:35 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["810" "Mon" "18" "March" "1996" "09:37:41" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9603181537.AA17590@venus.astr.ua.edu.astr.ua.edu>"  
"17" "" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41622; Mon, 18 Mar 1996 10:39:35 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA20389 for <abridle@polaris.cv.nrao.edu>; Mon,  
18 Mar 1996 10:39:29 -0500 (EST)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33777; Mon, 18 Mar 1996 09:16:30 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA12839; Mon, 18 Mar 96 09:37:56 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA17590; Mon, 18 Mar 96 09:37:41 CST

Message-Id: <9603181537.AA17590@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Date: Mon, 18 Mar 96 09:37:41 CST

Alan,

I got a bit behind last week. I will Fed/Ex the hard copy this afternoon and get working on the proceedings again. I have made all changes to the references that you found to be in error and have updated Dick Lovelace's references -- at least according to Dick. One reference is now removed as according to Jim Stone (Wang et al.) it is not yet even in preprint form. I have updated all my .tex files with these corrections.

I still have to work more on the indexing and that is my job this week and next if necessary. Did we in fact decide to index all important sections inclusively or just to put an index heading after the section heading. If so I never received from Anton the manner in which this is done. Should I contact him or can you provide an example. Sorry for the delay.

Phil

From abridle Mon Mar 18 10:41:29 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["337" "Mon" "18" "March" "1996" "10:41:27" "-0500" "Alan Bridle" "abridle"  
nil "17" "Re: Your .tex files" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56387; Mon, 18 Mar 1996 10:41:27 -0500  
Message-Id: <9603181541.AA56387@polaris.cv.nrao.edu>  
In-Reply-To: <199603181452.JAA02571@vagabond.cv.nrao.edu>  
References: <199603181452.JAA02571@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: Your .tex files  
Date: Mon, 18 Mar 1996 10:41:27 -0500

Anton Zensus writes:

```
> /net/vagabond/vagabond_1/azensus/alabama  
>  
>  
> vagabond had a disk crash last weekend after I left, and I need still to  
> check that things could be completeley salvaged.  
>  
> I'll be back Wednesday.  
>  
> Toni  
>
```

In that case, I hope you have backups. This directory no longer exists, it seems.

A.

From abridle Mon Mar 18 11:00:41 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1654" "Mon" "18" "March" "1996" "11:00:28" "-0500" "Alan Bridle" "abridle"  
nil "41" "" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA45982; Mon, 18 Mar 1996 11:00:28 -0500  
Message-Id: <9603181600.AA45982@polaris.cv.nrao.edu>  
In-Reply-To: <9603181537.AA17590@venus.astr.ua.edu.astr.ua.edu>  
References: <9603181537.AA17590@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Mon, 18 Mar 1996 11:00:28 -0500

hardee@venus.astr.ua.edu writes:

```
>  
> Alan,  
>  
> I got a bit behind last week. I will Fed/Ex the hard copy this afternoon and  
> get working on the proceedings again. I have made all changes to the  
> references that you found to be in error and have updated Dick Lovelace's  
> references -- at least according to Dick. One reference is now removed as  
> according to Jim Stone (Wang et al.) it is not yet even in preprint form. I  
> have updated all my .tex files with these corrections.  
>
```

> I still have to work more on the indexing and that is my job this week and next  
> if necessary. Did we in fact decide to index all important sections inclusively  
> or just to put an index heading after the section heading. If so I never  
> received from Anton the manner in which this is done. Should I contact him or  
> can you provide an example. Sorry for the delay.  
>  
> Phil

I think the best use of the inclusive indexing is for whole papers.

To do this:

You put, e.g., `\index{jets!velocity|}` at the start of the paper, and  
`\index{jets!velocity|}` at the end

LaTeX understands the `|( .... |)` construct and uses it to create an index item that lists the range of page numbers that has been marked.

Tony's suggestion re section headings was that each section in a paper (other than "Conclusions" or "Introduction") should correspond to at least one indexable item. So either mark with one of the existing index items, or use as a clue for generating new index items.

I have found this quite useful and will check my files completely for it today. I think I already have it done for almost all cases.

A.

```
From root Mon Mar 18 14:23:24 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["608" "Mon" "18" "March" "1996" "14:23:20" "-0500" "Anton Zensus"
"azensus@nrao.edu" nil "27" "Re: Your .tex files" "^From:" nil nil "3" nil nil nil
nil]
nil)
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA53766; Mon, 18 Mar 1996 14:23:23 -0500
Received: from vagabond (cvcisco.cv.nrao.edu [192.33.115.104]) by
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA02668 for
<abridle@polaris.cv.nrao.edu>; Mon, 18 Mar 1996 14:23:20 -0500 (EST)
Message-Id: <199603181923.OAA02668@vagabond.cv.nrao.edu>
X-Sender: azensus@vagabond
X-Mailer: Windows Eudora Pro Version 2.1.2
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
From: Anton Zensus <azensus@nrao.edu>
To: abridle@polaris.cv.nrao.edu (Alan Bridle)
Subject: Re: Your .tex files
Date: Mon, 18 Mar 1996 14:23:20 -0500 (EST)
```

It just so happens that I made a backup a couple of days before I left - for the first time in a long while. I only hope I can retrieve my stuff from that. If not, I'll be up shit creek without a paddle.

Toni

At 10:41 AM 3/18/96 -0500, you wrote:  
>Anton Zensus writes:

> > /net/vagabond/vagabond\_1/azensus/alabama  
> >  
> >  
> > vagabond had a disk crash last weekend after I left, and I need still to  
> > check that things could be completeley salvaged.  
> >  
> > I'll be back Wednesday.  
> >  
> > Toni  
> >  
>  
> In that case, I hope you have backups. This directory no longer exists, it  
> seems.  
>  
> A.  
>  
>  
>

From abridle Mon Mar 18 15:27:46 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["762" "Mon" "18" "March" "1996" "15:27:24" "-0500" "Alan Bridle" "abridle"  
nil "25" "Re: copyright" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55976; Mon, 18 Mar 1996 15:27:24 -0500  
Message-Id: <9603182027.AA55976@polaris.cv.nrao.edu>  
In-Reply-To: <199601231330.GAA03827@ramapo.aoc.nrao.edu>  
References: <199601231330.GAA03827@ramapo.aoc.nrao.edu>  
From: abridle (Alan Bridle)  
To: Chris Carilli <ccarilli@aoc.nrao.edu>  
Subject: Re: copyright  
Date: Mon, 18 Mar 1996 15:27:24 -0500

Chris Carilli writes:

> > From ablack@cup.cam.ac.uk Tue Jan 23 02:26:18 1996  
> > Date: Tue, 23 Jan 96 09:19:48 +0000  
> > From: ablack <ablack@cup.cam.ac.uk>  
> > To: Chris Carilli <ccarilli@aoc.nrao.edu>  
> > Subject: Re: move etc...  
> > Content-Type: TEXT/plain; charset=US-ASCII  
> > Content-Length: 1401  
>  
> Dear Chris  
>  
> Thanks for your message. I have noted your new address and circulated it to our  
> various departments.  
>  
> You have my permission to reproduce some of the material from your article in  
> 'Cygnus A - Study of a Radio Galaxy' in another proceedings volume - just cite  
> the book and publisher in the usual way.  
>

Chris, can you let me know which material (Figure numbers, etc.) is in need  
of the copyright statement?

Thanks, A.

From root Mon Mar 18 18:05:19 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["766" "Mon" "18" "March" "1996" "17:03:37" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9603182303.AA17779@venus.astr.ua.edu.astr.ua.edu>"  
"20" "" ""^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25535; Mon, 18 Mar 1996 18:05:18 -0500  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id SAA28431 for <abridle@polaris.cv.nrao.edu>; Mon,  
18 Mar 1996 18:05:17 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34514; Mon, 18 Mar 1996 16:42:25 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14041; Mon, 18 Mar 96 17:03:51 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA17779; Mon, 18 Mar 96 17:03:37 CST  
Message-Id: <9603182303.AA17779@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Date: Mon,  
18 Mar 96 17:03:37 CST

Alan,

All of the hardcopy that we received here is on its way to you via  
FedEx and should arrive on Wednesday.

I have placed an updated list of the participants in the texdoc ftp  
area with the .tex files. I had left off several local participants.

I have also placed a preface.tex file in the texdoc ftp area. Please  
add and edit this preface as you and Anton feel would be useful. There  
is plenty of space on the second page. The preface includes acknowledgements.

For your information I have kept the copyright forms here. I do not  
have signed copyright forms for Appl, Baum, Lobanov, Marti, Norman,  
Owen, Pearson, Readhead, Swain, Tingay. Since some of these papers  
were sent directly to NRAO do either you or Anton have additional signed  
forms?

Phil

From abridle Mon Mar 18 18:18:01 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2337" "Mon" "18" "March" "1996" "18:17:45" "-0500" "Alan Bridle" "abridle"  
nil "52" "" ""^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA23871; Mon, 18 Mar 1996 18:17:45 -0500  
Message-Id: <9603182317.AA23871@polaris.cv.nrao.edu>  
In-Reply-To: <9603182303.AA17779@venus.astr.ua.edu.astr.ua.edu>  
References: <9603182303.AA17779@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Mon, 18 Mar 1996 18:17:45 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> All of the hardcopy that we received here is on its way to you via  
> FedEx and should arrive on Wednesday.  
>  
> I have placed an updated list of the participants in the texdoc ftp  
> area with the .tex files. I had left off several local participants.  
>  
> I have also placed a preface.tex file in the texdoc ftp area. Please  
> add and edit this preface as you and Anton feel would be useful. There  
> is plenty of space on the second page. The preface includes acknowledgements.  
>  
> For your information I have kept the copyright forms here. I do not  
> have signed copyright forms for Appl, Baum, Lobanov, Marti, Norman,  
> Owen, Pearson, Readhead, Swain, Tingay. Since some of these papers  
> were sent directly to NRAO do either you or Anton have additional signed  
> forms?  
>

You've lost me on this last point. What copyright forms are these?  
I'm not aware of anything like that coming directly to the NRAO, so  
I would assume that they are all delinquent, including Swain (i.e. me).

Stefi Baum has not submitted a contribution, as she did not attend the  
meeting I have not pressed her on that.

I am about halfway through checking that all of my files still produce  
acceptable postscript after having been cross-indexed, cross-referenced,  
and the references purged/diddles after my composite-bibliography try.  
(your and mine). So if you want to review any of mine from the .ps  
area via the WWW, the ones with March dates are all ready for you.

I will check the rest in tomorrow.

That's the good news. The bad news is that right after Tony left the  
disk on which he has all his work crashed, so I can't do any more on  
the bibliography until he gets back and can try to restore it. I have  
E-mailed him and he says he made a backup before leaving. We have  
to hope that this backup is intact (else all of his work has  
vanished!). He will be back on Wednesday for a few days and I hope to  
sort it all out at that point, get all of his .tex files also into my  
system (which I back up daily), and proceed from there on the  
bibliography.

I've been copying your .eps files from crux all day, it's going very  
slowly indeed. I'll try to do some more from home this evening in the  
hope that the net and the machines will be a bit speedier then.

Cheers, A.

From abridle Tue Mar 19 09:45:31 1996

```
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["182" "Tue" "19" "March" "1996" "09:45:23" "-0500" "Alan Bridle" "abridle"
  nil "10" "Address" "^From:" nil nil "3" nil nil nil nil]
  nil)
```

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52030; Tue, 19 Mar 1996 09:45:23 -0500  
Message-Id: <9603191445.AA52030@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.3.87.9603182224.A7579-0100000@astrosun2>  
References: <Pine.3.87.9603182224.A7579-0100000@astrosun2>  
From: abridle (Alan Bridle)  
To: "Mark R. Swain" <swain@astrosun.tn.cornell.edu>  
Subject: Address  
Date: Tue, 19 Mar 1996 09:45:23 -0500

Mark,

I need to update your mailing address for the Alabama participants' list. Can you send me the full mailing address, phone/fax numbers for your current office?

Thanks,

A.

From abridle Tue Mar 19 11:13:18 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["549" "Tue" "19" "March" "1996" "11:13:04" "-0500" "Alan Bridle" "abridle"  
nil "26" "FYI from Mark R. Swain" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34800; Tue, 19 Mar 1996 11:13:04 -0500  
Message-Id: <9603191613.AA34800@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: FYI from Mark R. Swain  
Date: Tue, 19 Mar 1996 11:13:04 -0500

----- start of forwarded message (RFC 934 encapsulation) -----

From: "Mark R. Swain" <swain@astrosun.tn.cornell.edu>  
To: Alan Bridle <abridle@polaris.cv.nrao.edu>  
Subject: Re: Address  
Date: Tue, 19 Mar 1996 10:27:58 -0500 (EST)

Alan wrote:

>  
> I need to update your mailing address for the Alabama  
> participants' list. Can you send me the full mailing  
> address, phone/fax numbers for your current office?  
>

224 Space Sciences Building  
Cornell University  
Ithaca, NY 14853

phone: 607-255-3140  
fax: 607-255-5875



----- end -----

From VM Tue Mar 19 13:37:53 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil]  
["714" "Tue" "19" "March" "1996" "11:33:11" "-0700" "Chris Carilli"  
"ccarilli@aoc.nrao.edu" "<199603191833.LAA21573@ramapo.aoc.nrao.edu>" "20" "cygnus  
a" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: from arana.aoc.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56371; Tue, 19 Mar 1996 13:33:22 -0500

Received: from ramapo.aoc.nrao.edu (ramapo.aoc.nrao.edu [146.88.4.31]) by  
arana.aoc.nrao.edu (8.6.12/8.6.10) with ESMTP id LAA29897 for <abridle@nrao.edu>;  
Tue, 19 Mar 1996 11:33:13 -0700

Received: (from ccarilli@localhost) by ramapo.aoc.nrao.edu (8.6.12/8.6.10) id  
LAA21573 for abridle@nrao.edu; Tue, 19 Mar 1996 11:33:11 -0700

Message-Id: <199603191833.LAA21573@ramapo.aoc.nrao.edu>

From: Chris Carilli <ccarilli@aoc.nrao.edu>

To: abridle@nrao.edu

Subject: cygnus a

Date: Tue, 19 Mar 1996 11:33:11 -0700

allen,

following is the list of overlapping figures etc...:

1. the originals for Figure 1 and figure 2 were in the ApJ and AJ etc...,  
and the references are cited explicitly
2. the originals of figures 3 - 6 are all in the cygnus a workshop, and can  
be cited as such.
3. the data in the table is also originally from the cygnus a workshop.

admittedly, much of the text also parallels what was presented in the  
cygnus a workshop, however, i've included some extra (important) stuff in the  
alabama proceedings that did not appear in the cygnus a proceedings.

also, i figure the overlap between the two workshops  
was slight in terms of attendees, hence one enlightens a larger percentage  
of the community.

cc

From abridle Tue Mar 19 13:43:53 1996  
X-VM-v5-Data: ([nil nil nil nil nil t nil nil]  
["940" "Tue" "19" "March" "1996" "13:43:10" "-0500" "Alan Bridle" "abridle"  
nil "24" "Re: cygnus a" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28200; Tue, 19 Mar 1996 13:43:10 -0500

Message-Id: <9603191843.AA28200@polaris.cv.nrao.edu>

In-Reply-To: <199603191833.LAA21573@ramapo.aoc.nrao.edu>

References: <199603191833.LAA21573@ramapo.aoc.nrao.edu>

From: abridle (Alan Bridle)

To: Chris Carilli <ccarilli@aoc.nrao.edu>

Subject: Re: cygnus a

Date: Tue, 19 Mar 1996 13:43:10 -0500

Chris Carilli writes:

> allen,  
> following is the list of overlapping figures etc...:  
>  
> 1. the originals for Figure 1 and figure 2 were in the ApJ and AJ etc...,  
> and the references are cited explicitly  
>

Unfortunately, simply referencing the source is not enough for the copyright hounds, you will need to get the permissions explicitly from ApJ and AJ for these figures. (They will freely give them, just takes an E-mail to the office usually). We will then put the "reproduced by permission" acknowledgement and copyright statement as well as the reference in your Figure captions.

Could you please contact the journals for their permissions, and forward copies to Phil in Tuscaloosa. A.S.P. says E-mail is o.k. for this, so if they will give the permission by E-mail you can just send their message on to Phil. If they will only do it in paper form, could you please FAX a copy to Phil when you get it?

Thanks, A.

From abridle Tue Mar 19 13:44:28 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1443" "Tue" "19" "March" "1996" "13:44:00" "-0500" "Alan Bridle" "abridle"  
nil "32" "forwarded message from Chris Carilli" "^From:" nil nil "3" nil nil nil  
nil])  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28346; Tue, 19 Mar 1996 13:44:00 -0500  
Message-Id: <9603191844.AA28346@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: forwarded message from Chris Carilli  
Date: Tue, 19 Mar 1996 13:44:00 -0500

----- start of forwarded message (RFC 934 encapsulation) -----  
Received: from arana.aoc.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56371; Tue, 19 Mar 1996 13:33:22 -0500  
Received: from ramapo.aoc.nrao.edu (ramapo.aoc.nrao.edu [146.88.4.31]) by  
arana.aoc.nrao.edu (8.6.12/8.6.10) with ESMTP id LAA29897 for <abridle@nrao.edu>;  
Tue, 19 Mar 1996 11:33:13 -0700  
Received: (from ccarilli@localhost) by ramapo.aoc.nrao.edu  
(8.6.12/8.6.10) id LAA21573 for abridle@nrao.edu; Tue, 19 Mar 1996 11:33:11 -0700  
Message-Id: <199603191833.LAA21573@ramapo.aoc.nrao.edu>  
From: Chris Carilli <ccarilli@aoc.nrao.edu>  
To: abridle@nrao.edu  
Subject: cygnus a  
Date: Tue, 19 Mar 1996 11:33:11 -0700

allen,  
following is the list of overlapping figures etc...:

1. the originals for Figure 1 and figure 2 were in the ApJ and AJ etc..., and the references are cited explicitly
2. the originals of figures 3 - 6 are all in the cygnus a workshop, and can be cited as such.

3. the data in the table is also originally from the cygnus a workshop.

admittedly, much of the text also parallels what was presented in the cygnus a workshop, however, i've included some extra (important) stuff in the alabama proceedings that did not appear in the cygnus a proceedings.

also, i figure the overlap between the two workshops was slight in terms of attendees, hence one enlightens a larger percentage of the community.

cc

----- end -----

From abridle Tue Mar 19 13:45:11 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["1435" "Tue" "19" "March" "1996" "13:44:45" "-0500" "Alan Bridle" "abridle"  
nil "36" "forwarded message from Alan Bridle" "^From:" nil nil "3" nil nil nil nil]  
nil)

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA28190; Tue, 19 Mar 1996 13:44:45 -0500

Message-Id: <9603191844.AA28190@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus, hardee@venus.astr.ua.edu

Subject: forwarded message from Alan Bridle

Date: Tue, 19 Mar 1996 13:44:45 -0500

----- start of forwarded message (RFC 934 encapsulation) -----

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA28200; Tue, 19 Mar 1996 13:43:10 -0500

Message-Id: <9603191843.AA28200@polaris.cv.nrao.edu>

In-Reply-To: <199603191833.LAA21573@ramapo.aoc.nrao.edu>

References: <199603191833.LAA21573@ramapo.aoc.nrao.edu>

From: abridle (Alan Bridle)

To: Chris Carilli <ccarilli@aoc.nrao.edu>

Subject: Re: cygnus a

Date: Tue, 19 Mar 1996 13:43:10 -0500

Chris Carilli writes:

> allen,

> following is the list of overlapping figures etc...:

>

> 1. the originals for Figure 1 and figure 2 were in the ApJ and AJ etc...,

> and the references are cited explicitly

>

Unfortunately, simply referencing the source is not enough for the copyright hounds, you will need to get the permissions explicitly from ApJ and AJ for these figures. (They will freely give them, just takes an E-mail to the office usually). We will then put the "reproduced by permission" acknowledgement and copyright statement as well as the reference in your Figure captions.

Could you please contact the journals for their permissions, and forward copies to Phil in Tuscaloosa. A.S.P. says E-mail is o.k. for this, so if they will give the permission by E-mail you can just send their message on to Phil. If they will only do it in paper form, could you please FAX a copy to Phil when you get it?

Thanks, A.

----- end -----

```
From root Tue Mar 19 15:36:47 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["1239" "Tue" "19" "March" "1996" "14:34:22" "CST" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9603192034.AA17857@venus.astr.ua.edu.astr.ua.edu>"
"31" "" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA19266; Tue, 19 Mar 1996 15:36:47 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA17137 for <abridle@polaris.cv.nrao.edu>; Tue,
19 Mar 1996 15:36:25 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA22718; Tue, 19 Mar 1996 14:13:10 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA14988; Tue, 19 Mar 96 14:34:36 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA17857; Tue, 19 Mar 96 14:34:22 CST
Message-Id: <9603192034.AA17857@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Date: Tue, 19 Mar 96 14:34:22 CST
```

Alan,

Bad new on the disk crash -- I hope the backup is OK. I just got a query from ASP about the proceedings and told them our target date of April 15 for completion. I hope we don't have to push it back.

As to the copyright forms. Clearly you have none or you would have known. In any event each paper needs a signed copyright form. The form may be found in the anonymous ftp area as copyright.ps along with the original style files etc.. You will need to do one for your review paper and one for Swain's paper.

I have changed Swain's address in the participant list.

I will check with Anton to see if any forms accompanied the late arrival papers or papers with no hardcopy send to me by Lobanov, Pearson, Readhead and Tingay and you don't have to do anything about these. I had forgotten that Stefi had not submitted a paper for the proceedings.

I note that Ron Buta's Barred Galaxy meeting proceedings ASP volume just came out (meeting run here in May). He was able to get very good reproduction of a gray scale galaxy image on the cover. I asked him and he said he had given ASP a top quality glossy photograph -- so they can reproduce a gray scale if the quality of the original is very good.

Back to work,

Phil

From abridle Tue Mar 19 15:58:25 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1984" "Tue" "19" "March" "1996" "15:57:45" "-0500" "Alan Bridle" "abridle"  
nil "52" "" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53553; Tue, 19 Mar 1996 15:57:45 -0500  
Message-Id: <9603192057.AA53553@polaris.cv.nrao.edu>  
In-Reply-To: <9603192034.AA17857@venus.astr.ua.edu.astr.ua.edu>  
References: <9603192034.AA17857@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Date: Tue, 19 Mar 1996 15:57:45 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Bad new on the disk crash -- I hope the backup is OK. I just got a query from  
> ASP about the proceedings and told them our target date of April 15 for  
> completion. I hope we don't have to push it back.  
>

I think we are in good shape unless Tony's backup was a dud. Then we are  
in big trouble, as he had many weeks of work tied up in there. I'll  
let you know as soon as I do.

> As to the copyright forms. Clearly you have none or you would have  
> known. In any event each paper needs a signed copyright form. The  
> form may be found in the anonymous ftp area as copyright.ps along with  
> the original style files etc.. You will need to do one for your review  
> paper and one for Swain's paper.

I'll get onto that right away. I must have had my bureaucracy filter  
in place at that point.

>  
> I have changed Swain's address in the participant list.  
>  
> I will check with Anton to see if any forms accompanied the late  
> arrival papers or papers with no hardcopy send to me by Lobanov,  
> Pearson, Readhead and Tingay and you don't have to do anything about  
> these. I had forgotten that Stefi had not submitted a paper for the  
> proceedings.

He's due here tomorrow, not for long, but I'll bug him on this as  
soon as I see those .tex and .eps files back on a visible disk!

>  
> I note that Ron Buta's Barred Galaxy meeting proceedings ASP volume  
> just came out (meeting run here in May). He was able to get very good  
> reproduction of a gray scale galaxy image on the cover. I asked him  
> and he said he had given ASP a top quality glossy photograph -- so they  
> can reproduce a gray scale if the quality of the original is very  
> good.  
>

In that case we might try for one of the simulations showing lots of nice structure, or perhaps a radio image like 3C353? I was underwhelmed by the line drawings in the end ... not as nice as some sketches shown at the meeting itself.

A.

From abridle Wed Mar 20 09:24:31 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["4541" "Wed" "20" "March" "1996" "09:23:59" "-0500" "Alan Bridle" "abridle"  
nil "98" "Preface, my \$0.10 worth" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34946; Wed, 20 Mar 1996 09:23:59 -0500  
Message-Id: <9603201423.AA34946@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Preface, my \$0.10 worth  
Date: Wed, 20 Mar 1996 09:23:59 -0500

Phil, Tony,

I've made a pass across Phil's excellent draft of preface, and suggest the following slightly abridged version:

=====

%% \documentstyle[11pt,paspconf,jetpage,jetdef]{article}

%% \begin{document}

\title{~~~~~Preface}

\vspace{1cm}

This Workshop was envisaged as a ``decade review'' of the questions raised by detailed imaging of jets and other structures in radio galaxies and quasars. The eleven years since the Green Bank workshop on {\it Physics of Energy Transport in Extragalactic Radio Sources} had seen much improved data at all wavelengths from radio to  $\gamma$ -rays, and on all scales from sub-parsec phenomena in galactic nuclei to the largest scales of cluster formation and mergers. New families of unified models had been proposed, linking classes of object whose relationships were less clear a decade ago, and supported by new observational relationships between these classes. Rapid advances in supercomputers had made it possible to perform three dimensional numerical MHD experiments in jet formation and propagation.

It therefore seemed an auspicious time to assemble a group of active researchers in these areas, including many who were at the earlier meeting, to assess the progress of the past decade, to present new results, and to address how best to use existing observational and computational

resources to answer the remaining questions about energy transport in radio galaxies and quasars.

This volume contains the papers presented at the Workshop which took

place from September 19--23, 1995 in the Bryant Conference Center of the University of Alabama, in the city of Tuscaloosa, Alabama, U.S.A.. The Workshop was attended by 52 persons from nine countries. Ten oral sessions were spread over five meeting days with poster additional presentations. The meeting began with an overview by Peter Scheuer of recent developments, then tackled issues in order of increasing scale. Beginning with questions of jet formation and the nature of the central engine, we moved to the propagation of relativistic jets on parsec scales, then to kiloparsec-scale phenomena in FR~I and FR~II sources, and finally to the relationships between radio sources and their large-scale environments. In most sessions, observation, theory and numerical simulations were intermingled. The final afternoon was devoted to reviews (primarily) of the workshop itself by Alan Bridle (observation), Paul Wiita (theory) and Michael Norman (numerical simulation).

The papers are presented here in the order of their presentation at the meeting, with poster presentations included in the session closest to their topic. The editors have added a bibliography that accumulates all of the literature references from these papers, and an index by major topic and by astronomical object.

The editors thank all those who assisted in organizing the Workshop. In particular, we are grateful to the other SOC members: Geoffrey Bicknell (Australian National University), Jack Burns (New Mexico State University, Robert Laing (Royal Greenwich Observatory), Alan Marscher (Boston University), Michael Norman (University of Illinois) and Peter Scheuer (Mullard Radio Astronomy Observatory), and to John Wardle (Brandeis University) for assistance with planning and chairing the scientific sessions.

Philip Hardee would especially like to acknowledge the assistance of Alex Rosen for expertly preparing the Workshop abstract book. Shuttle and session assistance was provided by University of Alabama graduate students Victor Andersen and Guy Purcell. The Workshop also is indebted to the financial and secretarial services of Amy Aitken in the Physics & Astronomy Department Office. Dr. Stanley Jones, assistant dean for the College of Arts and Sciences, provided the Workshop welcome.

We thank the staff of the Bryant Conference Center, in particular Carol Crump Sanders, for their assistance in the preparation of the Workshop and smoothness of operation during the Workshop. We are also grateful to Danny Whitcomb and Lloyd Junkin of the Physics & Astronomy Department electronics shop for wiring the conference room for electronic mail service.

The Workshop was made possible by a grant from the State of Alabama and the National Science Foundation through EPSCoR grant OSR-9108761.

\vspace{1cm}  
\noindent{Philip Hardee, Alan Bridle, Anton Zensus}\\  
Editors\\  
April 15, 1996  
  
%%\end{document}

=====

Further iterations?

A.

```
From root Wed Mar 20 09:51:45 1996
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
  ["126" "Wed" "20" "March" "1996" "08:50:05" "CST" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9603201450.AA17964@venus.astr.ua.edu.astr.ua.edu>" "7"
"Re: Preface, my $0.10 worth" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA42021; Wed, 20 Mar 1996 09:51:43 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id JAA02335 for <abridle@polaris.cv.nrao.edu>; Wed,
20 Mar 1996 09:51:41 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA31727; Wed, 20 Mar 1996 08:28:53 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA15743; Wed, 20 Mar 96 08:50:18 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA17964; Wed, 20 Mar 96 08:50:05 CST
Message-Id: <9603201450.AA17964@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: Preface, my $0.10 worth
Date: Wed, 20 Mar 96 08:50:05 CST
```

Alan,

Looks great to me -- much improved. You need to add a ")" after  
Jack Burns (New Mexico State University... .

Phil

```
From abridle Wed Mar 20 10:31:40 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["332" "Wed" "20" "March" "1996" "10:31:31" "-0500" "Alan Bridle" "abridle"
nil "16" "Re: Preface, my $0.10 worth" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA56542; Wed, 20 Mar 1996 10:31:31 -0500
Message-Id: <9603201531.AA56542@polaris.cv.nrao.edu>
In-Reply-To: <9603201450.AA17964@venus.astr.ua.edu.astr.ua.edu>
References: <9603201450.AA17964@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: azensus, hardee@venus.astr.ua.edu (Hardee)
Subject: Re: Preface, my $0.10 worth
Date: Wed, 20 Mar 1996 10:31:31 -0500
```

hardee@venus.astr.ua.edu writes:

```
>
> Alan,
>
> Looks great to me -- much improved. You need to add a ")" after
> Jack Burns (New Mexico State University... .
>
> Phil
```



Done. I have also permuted the order of posters and additional in line 5 of para. 3.

Tony is not in yet so I don't know the status of his disk.

A.

```
From abridle Wed Mar 20 15:44:03 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["278" "Wed" "20" "March" "1996" "15:43:48" "-0500" "Alan Bridle" "abridle"
  nil "12" "Package" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA56560; Wed, 20 Mar 1996 15:43:48 -0500
Message-Id: <9603202043.AA56560@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu
Subject: Package
Date: Wed, 20 Mar 1996 15:43:48 -0500
```

by FedEx has arrived in good shape.

Tony's backup tape seems to be intact, he is loading the files now. He also had a slightly older copy of the .tex file edits on his PC at home, it turns out.

So I think we have dodged the bullet and optimism is the word for the day.

A.

```
From root Wed Mar 20 15:54:13 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["883" "Wed" "20" "March" "1996" "14:52:26" "CST" "hardee@venus.astr.ua.edu"
  "hardee@venus.astr.ua.edu" "<9603202052.AA18056@venus.astr.ua.edu.astr.ua.edu>"
  "40" "Re: Package" "^From:" nil nil "3" nil nil nil nil]
  nil)
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA55915; Wed, 20 Mar 1996 15:54:12 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
  (8.7.5/8.7.1/CV-2.1) with SMTP id PAA09122 for <abridle@polaris.cv.nrao.edu>; Wed,
  20 Mar 1996 15:54:07 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA34613; Wed, 20 Mar 1996 14:31:14 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA16501; Wed, 20 Mar 96 14:52:39 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA18056; Wed, 20 Mar 96 14:52:26 CST
Message-Id: <9603202052.AA18056@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: Package
Date: Wed, 20 Mar 96 14:52:26 CST
```

Alan,

----- Begin Included Message -----

>From abridle@polaris.cv.nrao.edu Wed Mar 20 14:43:51 1996  
Date: Wed, 20 Mar 1996 15:43:48 -0500  
From: abridle@polaris.cv.nrao.edu (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Package  
Content-Length: 278

by FedEx has arrived in good shape.

Tony's backup tape seems to be intact, he is loading the files now. He also had a slightly older copy of the .tex file edits on his PC at home, it turns out.

So I think we have dodged the bullet and optimism is the word for the day.

A.

----- End Included Message -----

Good news that.

I am slowly reworking the indexing in my papers. Can I assume that I have till the end of next week to work on the indexing? After that I assume that you will be trying to put the volume together and only absolutely necessary last minute changes in individual papers should be made.

Phil

From root Wed Mar 20 16:28:41 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil]  
["454" "Wed" "20" "March" "1996" "15:21:18" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9603202121.AA18064@venus.astr.ua.edu.astr.ua.edu>"  
"13" "Re: indexing" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36857; Wed, 20 Mar 1996 16:28:40 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA09859 for <abridle@polaris.cv.nrao.edu>; Wed,  
20 Mar 1996 16:27:35 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17545; Wed, 20 Mar 1996 15:00:05 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA16520; Wed, 20 Mar 96 15:21:30 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA18064; Wed, 20 Mar 96 15:21:18 CST  
Message-Id: <9603202121.AA18064@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: indexing

Date: Wed, 20 Mar 96 15:21:18 CST

Alan,

I am trying to use your master categories whenever possible as I redo my indexing. I hope there are few changes.

I had also thought to revise my indexing so that \index{} is not embedded in the text but is at the beginning of the appropriate section or paragraph. How does this sound to you. Does it make any difference? If the subject index works by page this should work fine. Advise whether there is a problem with this approach.

Phil

From abridle Wed Mar 20 16:48:35 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1521" "Wed" "20" "March" "1996" "16:48:26" "-0500" "Alan Bridle" "abridle"  
nil "33" "Re: Package" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36262; Wed, 20 Mar 1996 16:48:26 -0500  
Message-Id: <9603202148.AA36262@polaris.cv.nrao.edu>  
In-Reply-To: <9603202052.AA18056@venus.astr.ua.edu.astr.ua.edu>  
References: <9603202052.AA18056@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Package  
Date: Wed, 20 Mar 1996 16:48:26 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
>  
> I am slowly reworking the indexing in my papers. Can I assume that I  
> have till the end of next week to work on the indexing? After that I  
> assume that you will be trying to put the volume together and only  
> absolutely necessary last minute changes in individual papers should be  
> made.  
>

I think so, if I find any more referencing corrections now that I can include Tony's stuff in the bib, I'll make the changes here but I can also E-mail you the reference bits for any of your papers that get affected so you can glue the changes in also at your end. There will only be a few days of vulnerability to this, as I am also going away for the back half of next week. You are basically right about the index cutoff, I think we will have to try to produce the composite index here and then iterate with you about its contents by E-mail and phone once Tony and I are both back. April 1-15 will be the absolute prime time of this and I think at that stage we should have switched over to all file-editing taking place here.

BTW, my connection to crux times out again as i was trying to check whether there is a file there for Krasnopolsky. I am presuming not as I did a global copy. (This is the first time I've tried to

build the bibliography using `_all_files` and therefore checked against the original paper list, so am late asking this question ....) Can you confirm that they did not submit a paper to correspond to their expected poster?

A.

From abridle Wed Mar 20 16:51:05 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["912" "Wed" "20" "March" "1996" "16:50:44" "-0500" "Alan Bridle" "abridle"  
nil "24" "Re: indexing" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA42478; Wed, 20 Mar 1996 16:50:44 -0500  
Message-Id: <9603202150.AA42478@polaris.cv.nrao.edu>  
In-Reply-To: <9603202121.AA18064@venus.astr.ua.edu.astr.ua.edu>  
References: <9603202121.AA18064@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: indexing  
Date: Wed, 20 Mar 1996 16:50:44 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I am trying to use your master categories whenever possible as I redo my  
> indexing. I hope there are few changes.  
>  
> I had also thought to revise my indexing so that `\index{}` is not  
> embedded in the text but is at the beginning of the appropriate section  
> or paragraph. How does this sound to you. Does it make any  
> difference? If the subject index works by page this should work fine.  
> Advise whether there is a problem with this approach.  
>  
> Phil

Well, I've been indexing wherever it seems appropriate, including in the text. Tony asserts that the LaTeX indexer is smart enough to eliminate multiple entries that would end up pointing to the same page, so it should not matter which way you do it. I have global index entries (whole papers), section entries and in-line ones all through my stuff, so all formats will appear.

A.

From VM Sat Mar 30 06:00:56 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["266" "Thu" "28" "March" "1996" "11:50:24" "+1100" "Ben Lloyd"  
"blloyd@venice.rp.csiro.au" nil "10" "" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 266  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36356; Wed, 27 Mar 1996 19:52:02 -0500  
Received: from crux.rp.CSIRO.AU (crux.rp.CSIRO.AU [130.155.194.32]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id TAA27481 for  
<abridle@polaris.cv.nrao.edu>; Wed, 27 Mar 1996 19:51:55 -0500 (EST)  
Received: from venice.rp.CSIRO.AU (venice.rp.CSIRO.AU [130.155.194.99]) by

crux.rp.CSIRO.AU (8.6.10/8.6.10) with ESMTTP id LAA04874 for  
<abridle@polaris.cv.nrao.edu>; Thu, 28 Mar 1996 11:50:31 +1100  
Received: (from blloyd@localhost) by venice.rp.CSIRO.AU (8.6.12/8.6.12) id LAA25207  
for abridle@polaris.cv.nrao.edu; Thu, 28 Mar 1996 11:50:24 +1100  
Message-Id: <199603280050.LAA25207@venice.rp.CSIRO.AU>  
From: Ben Lloyd <blloyd@venice.rp.CSIRO.AU>  
To: abridle@polaris.cv.nrao.edu  
Date: Thu, 28 Mar 1996 11:50:24 +1100

Alan Bridle,

Regarding the different names given to the same paper (Lloyd, Jones & Haynes)  
referred to in the conference papers by Ben Lloyd and Paul Jones.  
The correct title is  
"Observations of the radio jets in NGC 5090 (PKS B1318-434)".

Thank you,

Ben Lloyd

From VM Mon Apr 1 15:16:26 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1817" "Thu" "21" "March" "1996" "10:55:26" "-0500" "Alan Bridle" "abridle"  
nil "60" "Ref typos, etc." "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 1817  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56736; Thu, 21 Mar 1996 10:55:26 -0500  
Message-Id: <9603211555.AA56736@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Ref typos, etc.  
Date: Thu, 21 Mar 1996 10:55:26 -0500

Tony, Phil:

The first phase of the final bibliography build is under way. In it,  
I assemble all of the references into one file, which makes some  
consistency-checking easier. This time round, I picked up a few more  
blemishes in references: these should be changed in the individual  
.tex files. (Tony, I will do these on my copies if you will start from  
them rather than yours when you get back; Phil, as you're still  
indexing your copies you should probably make changes at your end to  
match what's going in the bibliography).

bickn2 FR I should be FR~I (may need a global look for this)  
Phinney thesis should be Thesis

biret all L??--L?? should be L??-??,

georg all L??--L?? should be L??-??,

koide accent problem: should be L\"udke

komis2 all L??--L?? should be L??-??,

komis3 Begelman et al: 1984, should be 1984.

loban        accent problem: should be Mart\{'\i}  
all L??--L?? should be L??-??,

lovelace    accent problem: should be Rodr\{'\i}guez

marsch      all L??--L?? should be L??-??,

normn1     Arnold. should be Arnold  
Twin-Exhaust should be twin-exhaust  
1992 preprint? is there a real reference available here?

odea        Stanghellini    thesis should be Thesis

pearson     Perlman ref has missing , after Perlman, no \, in PKS name  
NGC\, missing  
M87 should be M\,87 throughout  
typo in Reid et al.: brightnen should be brighten

readh       Taylor: 1996, should be 1996.  
all L??--L?? should be L??-??,

tingay      Clarke: 1973, should be 1973.

=====

I will do the big cross-checking and merging this afternoon. That has a tendency to catch more serious issues like incorrect references, etc.

With some luck, I should have the final bibliography by the end of the week.

A.

From VM Mon Apr 1 15:16:33 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["151" "Thu" "21" "March" "1996" "12:42:55" "-0500" "Alan Bridle" "abridle"  
nil "7" "ref typos" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 151  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27827; Thu, 21 Mar 1996 12:42:55 -0500  
Message-Id: <9603211742.AA27827@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: ref typos  
Date: Thu, 21 Mar 1996 12:42:55 -0500

I've made the changes in my copy of your files.

I also did a little indexing in Pearson's paper on-the-fly while I was in there -- source names.

A.

From VM Mon Apr 1 15:17:09 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2490" "Thu" "21" "March" "1996" "19:23:46" "-0500" "Alan Bridle" "abridle"  
nil "70" "The checking step" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 2490  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA21431; Thu, 21 Mar 1996 19:23:46 -0500  
Message-Id: <9603220023.AA21431@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: The checking step  
Date: Thu, 21 Mar 1996 19:23:46 -0500

Phil,

The (hopefully final?) bibliography-merging run caught the following in files that you are editing:

App11 Bahcall et al. 95 is missing its last author: Unwin, S. C.

Bickn2 Parma et al. 94 ref should have Laing, R. A. as fourth author and De Ruiter, H. R. as second  
FR~I, FR~II not FRI, FRII

Christodoulou Christ. et al. 1995, apj, in press is not 1995; must be 1996 likewise Contop. et al. 1995, apj, in press must be 1996

Clarke Clark, Norman, Burns last page should be 67 not 68.  
Norman2 Clark, Norman, Burns last page should be 67 not 68.

Clarke Hines et al. 89 title should be "radio lobes", not "lobes" also, author order is Hines, Eilek and Owen not H, O and E. Blandford & Ress title was 'twin-exhaust' not twin exhaust

DeYoung Bicknell 1984 used his second initial, V.

Gomez, Lobanov and Norman2 have different titles for Lobanov & Zensus 1996 preprint Tony will have to tell us who's right?

Hardee Carilli claims not to have used his second initial in his \cygawks paper (not that he is reliable on such things)  
He also disowns the : in the title.

Hooda Forman, Jones & Tucker 1985 carries an Erratum, referenced by O'Dea: (1986), \apj, 300, 836.

Hughes Gabuzda et al. 94 second author's name is Mullan, not Mullen

Koide Hardee & Clarke 1992, Clarke's initials are D.A. not D.C.  
Hummel et al 92 errors in authors' names, correct are :  
Hummel, C. A., Muxlow, T. W. B., Krichbaum, T. P., Quirrenbach, A.,  
Schalinski, C. J., Witzel, A., \& Johnson, K. J.

Komis1 Junor is mis-spelled "junior" in Reid et al 89 authors

Komis3 converted Laing 89 \mgbrgi to \hotspot used elsewhere  
title is "observations" not "observation"  
has wrong volume and last page no for Wilson & Scheuer 1983,  
should be 205, 449--463.

Loken like Norman1, has ref to NRL preprint in 1992

Lovelace Falcke et al. title should be radio/uv not Radio/UV

Norman1 I converted \astrojet to \stsci used elsewhere

Wiita also needs the Forman et al erratum (see Hooda)

I also found a bunch in mine and in Tony's, will keep the lists separate for  
now to save you any confusion....

Cheers, A.

From VM Mon Apr 1 15:17:12 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["4882" "Thu" "21" "March" "1996" "23:14:09" "-0500" "Alan Bridle" "abridle"  
nil "95" "Preface, part Deux" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 4882  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55838; Thu, 21 Mar 1996 23:14:09 -0500  
Message-Id: <9603220414.AA55838@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Preface, part Deux  
Date: Thu, 21 Mar 1996 23:14:09 -0500

Following on Tony's suggestions, I've made another tweak of the  
Preface text. I haven't TeXed it (running from small machine at  
home,) but here it is for content:

```
%% \documentstyle[11pt,paspsconf,jetpage,jetdef]{article}
%% \begin{document}
\title{~~~~~Preface}
\vspace{1cm}
```

This Workshop was envisaged as a ``decade review'' of progress in  
answering the questions raised by detailed imaging of jets and other  
structures in radio galaxies and quasars. The eleven years since the  
Green Bank workshop on {\it Physics of Energy Transport in Extragalactic  
Radio Sources\} had seen much improved data at all wavelengths from  
radio to  $\gamma$ -rays, and on all scales from sub-parsec phenomena in



galactic nuclei to the largest scales of cluster formation and mergers. New families of unified models had been proposed, linking classes of object whose relationships were less clear a decade ago, and supported by new observational relationships between these classes. Rapid advances in supercomputers had made it possible to perform three-dimensional numerical experiments in magnetohydrodynamical jet formation and propagation.

It therefore seemed an auspicious time to assemble a group of researchers active in these areas, including many who were at the earlier meeting, to assess the progress of the past decade, to present new results, and to address how best to use existing observational and computational resources to answer the remaining questions about energy transport in radio galaxies and quasars.

This Volume contains the papers presented at the Workshop, which took place from September 19--23, 1995 in the Bryant Conference Center of the University of Alabama, in the city of Tuscaloosa, Alabama, U.S.A. The Workshop was attended by 52 people from nine countries. Ten oral sessions were spread over five meeting days with additional poster presentations. The meeting began with an overview by Peter Scheuer of recent developments, then tackled issues in order of increasing scale. Beginning with questions of jet formation and the nature of the central engine, we moved to the propagation of relativistic jets on parsec scales, then to kiloparsec-scale phenomena in FR~I and FR~II sources, and finally to the relationships between radio sources and their large-scale environments. In most sessions, observation, theory and numerical simulations were intermingled. The final afternoon was devoted to reviews (primarily) of the Workshop itself by Alan Bridle (observations), Paul Wiita (theory), and Michael Norman (numerical simulations).

The papers appear here in the order of their presentation at the meeting, with poster presentations included in the session closest to their topic. The bibliography accumulates all of the literature cited by these papers. The Proceedings are also indexed by major topic and by astronomical object. We thank (most of!) the authors for sending us their papers and extra data for the bibliography and index promptly, and the Astrophysics Data System for its on-line Abstract Service, which we used to check the bibliography. We thank all the authors for contributing their ideas and enthusiasm at the Workshop, and their written papers to this Volume.

We also thank all who assisted in organizing the Workshop. In particular, we are grateful to the other members of the Scientific Organizing Committee: Geoffrey Bicknell (Australian National University), Jack Burns (New Mexico State University), Robert Laing (Royal Greenwich Observatory), Alan Marscher (Boston University), Michael Norman (University of Illinois), and Peter Scheuer (Mullard Radio Astronomy Observatory), and to John Wardle (Brandeis University) for assistance with planning and chairing the scientific sessions.

Philip Hardee would especially like to acknowledge the assistance of Alex Rosen for expertly preparing the Workshop abstract book. Shuttle and session assistance was provided by University of Alabama graduate students Victor Andersen and Guy Purcell. The Workshop also is indebted to the financial and secretarial services of Amy Aitken in the Physics & Astronomy Department Office. Dr. Stanley Jones, assistant dean for the College of Arts and Sciences, provided the Workshop welcome.

We thank the staff of the Bryant Conference Center, in particular Carol Crump Sanders, for their assistance in the preparation of the Workshop and smoothness of operation during the Workshop. We are also grateful to Danny Whitcomb and Lloyd Junkin of the Physics & Astronomy Department electronics shop for wiring the conference room for electronic mail service.

The Workshop was made possible by a grant from the State of Alabama and the National Science Foundation through EPSCoR grant OSR-9108761.

```
\vspace{1cm}
\noindent \sc{Philip Hardee,\\Alan Bridle,\\Anton Zensus}\\
\\
April 1996
```

```
%%\end{document}
```

```
From VM Mon Apr 1 15:17:22 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
 ["3082" "Fri" "22" "March" "1996" "10:17:21" "-0500" "Alan Bridle" "abridle"
 nil "84" "Fuller list after hand-checking" "^From:" nil nil "3" nil nil nil nil]
 nil)
Content-Length: 3082
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
 id AA34805; Fri, 22 Mar 1996 10:17:21 -0500
Message-Id: <9603221517.AA34805@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu
Subject: Fuller list after hand-checking
Date: Fri, 22 Mar 1996 10:17:21 -0500
```

Phil,

Going through the printed bibliography, I found a few more details to fix in your references. Here's the composite list from both of the checking steps, i.e. this updates my message from 7:23 pm yesterday:

Appl1	Bahcall et al. 95 is missing its last author: Unwin, S. C.
Bickn2	Parma et al. 94 ref should have Laing, R. A. as fourth author and De Ruiter, H. R. as second FR~I, FR~II not FRI, FRII
Christodoulou	Christ. et al. 1995, apj, in press is not 1995; must be 1996 likewise Contop. et al. 1995, apj, in press must be 1996
Clarke Norman2	Clark, Norman, Burns last page should be 67 not 68.
Clarke	Hines et al. 89 title should be "radio lobes", not "lobes" also, author order is Hines, Eilek and Owen not H, O and E. Blandford & Ress title was 'twin-exhaust' not twin exhaust
DeYoung	Bicknell 1984 used his second initial, V.

Gomez, Lobanov and Norman2 have different titles for Lobanov & Zensus 1996 preprint  
Tony- who's right?

Hardee Carilli claims not to have used his second initial in  
his \cygawks paper (not that he is reliable on such things)  
He also disowns the : in the title.

missing subtitle text in Bicknell 1986: should be "The global  
energy budget and radiative losses"

Hooda Forman, Jones & Tucker 1985 carries an Erratum, referenced  
by O'Dea: (1986), \apj, 300, 836.

no comma needed between Gopal-Krishna and & (twice)

Hughes Gabuzda et al. 94 second author's name is Mullan, not Mullen

Koide Hardee & Clarke 1992, Clarke's initials are D.A. not D.C.  
Hummel et al 92 errors in authors' names, correct are :  
Hummel, C. A., Muxlow, T. W. B., Krichbaum, T. P., Quirrenbach, A.,  
Schalinski, C. J., Witzel, A., & Johnson, K. J.

Komis1 Junor is mis-spelled "junior" in Reid et al 89 authors

Komis3 converted Laing 89 \mgbrgi to \hotspot used elsewhere  
title is "observations" not "observation"

has wrong volume and last page no for Wilson & Scheuer 1983,  
should be 205, 449--463.

Liu & Pooley 1991 title should be "Spectral" not "Spectra"

Loken like Norman1, has ref to NRL preprint in 1992

Bassett mis-spelled

as Basset

Lovelace Falcke et al. title should be radio/uv not Radio/UV

Gomez has \'{o}

Norman1 converted \astrojet to \stsci used elsewhere

Scheuer 1982 has 1982..

Wiita also need the Forman et al erratum (see Hooda)

no comma needed between Gopal-Krishna and & (twice)

I'm still doing hand-tweaks on my refs, Tony's and the overall bibliography  
format but it is getting very close now. 30 printed pages, by the way.

A.

From VM Mon Apr 1 15:17:24 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["252" "Fri" "22" "March" "1996" "09:33:15" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9603221533.AA18471@venus.astr.ua.edu.astr.ua.edu>"  
"10" "Re: The checking step" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 252  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55224; Fri, 22 Mar 1996 10:36:08 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA15049 for <abridle@polaris.cv.nrao.edu>; Fri,  
22 Mar 1996 10:35:58 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27489; Fri, 22 Mar 1996 09:12:02 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA19759; Fri, 22 Mar 96 09:33:24 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA18471; Fri, 22 Mar 96 09:33:15 CST  
Message-Id: <9603221533.AA18471@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: The checking step  
Date: Fri, 22 Mar 96 09:33:15 CST

Alan,

\reference Hines, D.~C., Owen, F.~N., \& Eilek, J.~A. 1989. ``Filaments in the  
radio lobes of M\,87'', \apj, {\bf 347}, 713--726.

Is the correct order of authors of Hines et al. 89 in Clarke according  
to the ApJ author index.

Phil

From VM Mon Apr 1 15:17:25 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["847" "Fri" "22" "March" "1996" "11:28:33" "-0500" "Alan Bridle" "abridle"  
nil "26" "Re: The checking step" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 847  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55092; Fri, 22 Mar 1996 11:28:33 -0500  
Message-Id: <9603221628.AA55092@polaris.cv.nrao.edu>  
In-Reply-To: <9603221533.AA18471@venus.astr.ua.edu.astr.ua.edu>  
References: <9603221533.AA18471@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: The checking step  
Date: Fri, 22 Mar 1996 11:28:33 -0500

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> \reference Hines, D.~C., Owen, F.~N., \& Eilek, J.~A. 1989. ``Filaments in the  
> radio lobes of M\,87'', \apj, {\bf 347}, 713--726.  
>  
>  
> Is the correct order of authors of Hines et al. 89 in Clarke according

> to the ApJ author index.  
>

Aha! I just checked the journal itself, and that is indeed right. This is a case where SIMBAD and the ADS both permuted the authors. (There were different author orders in some other refs and I used the ADS entry to check the discrepancy, as this is closer to me than our library.) This is only the second case we've found where the ADS/SIMBAD is incorrect, out of ~800 possible cases in the bibliography.

I found one more small item for you: Marti's title for Marti et al 1995a should not have the comma after "supersonic".

A.

```
From VM Mon Apr 1 15:17:35 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["246" "Fri" "22" "March" "1996" "14:19:20" "CST" "hardee@venus.astr.ua.edu"
  "hardee@venus.astr.ua.edu" "<9603222019.AA18668@venus.astr.ua.edu.astr.ua.edu>" "9"
  "Re: Fuller list after hand-checking" "^From:" nil nil "3" nil nil nil nil]
  nil)
Content-Length: 246
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA28222; Fri, 22 Mar 1996 15:21:03 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
  (8.7.5/8.7.1/CV-2.1) with SMTP id PAA20537 for <abridle@polaris.cv.nrao.edu>; Fri,
  22 Mar 1996 15:21:00 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA29100; Fri, 22 Mar 1996 13:58:07 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA21330; Fri, 22 Mar 96 14:19:29 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA18668; Fri, 22 Mar 96 14:19:20 CST
Message-Id: <9603222019.AA18668@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: Fuller list after hand-checking
Date: Fri, 22 Mar 96 14:19:20 CST
```

Alan,

I was following ApJ format in doing Gopal-Krishna, \& Wiita, P.~J. etc. in all of my references. I thought we were following ApJ format in the references which always puts a comma before the \& even if there are only two authors.

Phil

```
From VM Mon Apr 1 15:17:37 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["597" "Fri" "22" "March" "1996" "16:30:00" "-0500" "Alan Bridle" "abridle"
  nil "27" "Re: Fuller list after hand-checking" "^From:" nil nil "3" nil nil nil
  nil]
  nil)
```

Content-Length: 597  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46419; Fri, 22 Mar 1996 16:30:00 -0500  
Message-Id: <9603222130.AA46419@polaris.cv.nrao.edu>  
In-Reply-To: <9603222019.AA18668@venus.astr.ua.edu.astr.ua.edu>  
References: <9603222019.AA18668@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Fuller list after hand-checking  
Date: Fri, 22 Mar 1996 16:30:00 -0500

hardee@venus.astr.ua.edu writes:

```
>  
> Alan,  
>  
> I was following ApJ format in doing Gopal-Krishna, \& Wiita, P.~J. etc.  
> in all of my references. I thought we were following ApJ format in the  
> references which always puts a comma before the \& even if there are only  
> two authors.  
>  
> Phil
```

But the commas are associated with initials, which Gopal-Krishna doesn't have any of.

So Hardee, P. E., \& Bridle, A. H. makes sense, but if your parents had decided not to name us wouldn't it be

Hardee \& Bridle

????

Maybe we'll have to ask for help from Germany .....

A.

From VM Mon Apr 1 15:17:38 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["1066" "Fri" "22" "March" "1996" "15:43:57" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9603222143.AA18705@venus.astr.ua.edu.astr.ua.edu>"  
"49" "Re: Fuller list after hand-checking" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 1066  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36379; Fri, 22 Mar 1996 16:45:41 -0500  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA21805 for <abridle@polaris.cv.nrao.edu>; Fri,  
22 Mar 1996 16:45:40 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27390; Fri, 22 Mar 1996 15:22:44 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA21554; Fri, 22 Mar 96 15:44:06 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA18705; Fri, 22 Mar 96 15:43:57 CST  
Message-Id: <9603222143.AA18705@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu  
Subject: Re: Fuller list after hand-checking  
Date: Fri, 22 Mar 96 15:43:57 CST

Alan,

----- Begin Included Message -----

>From abridle@polaris.cv.nrao.edu Fri Mar 22 15:31:11 1996  
>Date: Fri, 22 Mar 1996 16:30:00 -0500  
>From: abridle@polaris.cv.nrao.edu (Alan Bridle)  
>To: hardee@venus.astr.ua.edu (Hardee)  
>Subject: Re: Fuller list after hand-checking  
>Content-Length: 597

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I was following ApJ format in doing Gopal-Krishna, \& Wiita, P.~J. etc.  
> in all of my references. I thought we were following ApJ format in the  
> references which always puts a comma before the \& even if there are only  
> two authors.  
>  
> Phil

But the commas are associated with initials, which Gopal-Krishna doesn't have any of.

So Hardee, P. E., \& Bridle, A. H. makes sense, but if your parents had decided not to name us wouldn't it be

Hardee \& Bridle

????

Maybe we'll have to ask for help from Germany .....

A.

----- End Included Message -----

Hell if I know. I can do it either way if I only have to change a few.

Remind me when you are going to be in during the next week?

Phil

From VM Mon Apr 1 15:17:41 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["761" "Fri" "22" "March" "1996" "17:40:08" "-0500" "Alan Bridle" "abridle"  
nil "27" "Re: Fuller list after hand-checking" "^From:" nil nil "3" nil nil nil  
nil])

nil)  
Content-Length: 761  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA47971; Fri, 22 Mar 1996 17:40:08 -0500  
Message-Id: <9603222240.AA47971@polaris.cv.nrao.edu>  
In-Reply-To: <9603222143.AA18705@venus.astr.ua.edu.astr.ua.edu>  
References: <9603222143.AA18705@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Fuller list after hand-checking  
Date: Fri, 22 Mar 1996 17:40:08 -0500

hardee@venus.astr.ua.edu writes:

>  
>  
> Hell if I know. I can do it either way if I only have to change a few.  
>  
> Remind me when you are going to be in during the next week?  
>

OK, let's take the comma out, there's only four places, I think.

I'll be here until mid-day Tuesday next week, then away until the following Monday, at which point Tony will also be back.

Some other tiny points caught in the paper version of the bib:

Koide: Jones et al 1985 initials should be Jones, T. W.

Kommis3: "upwind numerical scheme" year should be 1996, not 1995

Normn1: Norman & Balsara 92 delete  
comma after R\oser  
Scheuer 82 ref has un-needed comma after 1982.

I will soon stop grubbing in the dirt here and declare victory.

A.

From VM Mon Apr 1 15:18:00 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["676" "Mon" "25" "March" "1996" "10:59:51" "-0500" "Alan Bridle" "abridle"  
nil "25" "More ref detail" "^From:" nil nil "3" nil nil nil nil]  
nil)

Content-Length: 676  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56530; Mon, 25 Mar 1996 10:59:51 -0500  
Message-Id: <9603251559.AA56530@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: More ref detail  
Date: Mon, 25 Mar 1996 10:59:51 -0500

Hi Phil,

Weekend produced some more small corrections:



Christodoulou Matsumoto et al. given as 1995, in press is  
1996, \apj, {\bf 461}, 115--??? according to ADS  
our copy is not in the library here so can't check last page  
number there, do you have it?

De Young Batchelor 1967 needs comma after Mechanics, and  
Cambridge University Press, not The University Press.

Komiss1 no initials for Giddings in Falle & Giddings 1996  
I presume this is J. R., who has other work with Falle?

Komiss2 Synge 57 needs comma after title

Wiita Saikia et al. 1995 is \mnras, {\bf 276}, 1215--1223.

A.

From VM Mon Apr 1 15:18:04 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["77" "Mon" "25" "March" "1996" "11:36:39" "-0500" "Alan Bridle" "abridle"  
nil "4" "Appl" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 77  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35199; Mon, 25 Mar 1996 11:36:39 -0500  
Message-Id: <9603251636.AA35199@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@vensu.astr.ua.edu  
Subject: Appl  
Date: Mon, 25 Mar 1996 11:36:39 -0500

has wrong initial for Camenzind in Appl & Camenzind 1993a, should be M.

A.

From VM Mon Apr 1 15:18:10 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["101" "Mon" "25" "March" "1996" "11:38:45" "-0500" "Alan Bridle" "abridle"  
nil "7" "" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 101  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA22095; Mon, 25 Mar 1996 11:38:45 -0500  
Message-Id: <9603251638.AA22095@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Date: Mon, 25 Mar 1996 11:38:45 -0500

Phil,

Appl uses wrong initial for Camenzind in Appl & Camenzind 1993a, it should  
be M., not C.

A.

From VM Mon Apr 1 15:18:24 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["253" "Mon" "25" "March" "1996" "13:28:22" "-0500" "Alan Bridle" "abridle"  
nil "12" "astrojet" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 253  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26113; Mon, 25 Mar 1996 13:28:22 -0500  
Message-Id: <9603251828.AA26113@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: astrojet  
Date: Mon, 25 Mar 1996 13:28:22 -0500

Has been used as the \def for two different meetings (Turin and StSci) by normn1 and normn2.

Has also been used in Marti.

The main macro for the STSci meeting (ed Bulgarella et al.) is \stscijets

I will add \astrojets for the Turin meeting.

A.

From VM Mon Apr 1 15:18:39 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["569" "Mon" "25" "March" "1996" "17:52:46" "-0500" "Alan Bridle" "abridle"  
nil "19" "More nits" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 569  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36454; Mon, 25 Mar 1996 17:52:46 -0500  
Message-Id: <9603252252.AA36454@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: More nits  
Date: Mon, 25 Mar 1996 17:52:46 -0500

picked up in scanning the last paper copy:

Hardee No closing quote on title for Bicknell 1986 III.  
i.e. should be NGC\,315",

Christodoulou Fricke 1969 title "rotating stars" should be lower-case

Question: is Expl. the correct abbrev. for Experimental  
in \jetp definition? I would have thought Exp. or Exper.  
rather than this, but I'm not sure.

Bickn2 Parma et al. ref, separate De Ruiters initials: H.~R.

Appl1 Voslamber & Callebaut ref. Should we add Phys Rev Series A/B/C/D ?

A.

From VM Mon Apr 1 15:18:56 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["622" "Tue" "26" "March" "1996" "09:27:49" "-0500" "Alan Bridle" "abridle"  
nil "27" "Title of Lloyd et al paper" "^From:" nil nil "3" nil nil nil nil]  
nil)  
Content-Length: 622  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19348; Tue, 26 Mar 1996 09:27:49 -0500  
Message-Id: <9603261427.AA19348@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: p.jones@st.nepean.uws.edu.au, blloyd@atnf.csiro.au  
Subject: Title of Lloyd et al paper  
Date: Tue, 26 Mar 1996 09:27:49 -0500

Gentlemen,

In making a final check on the cumulative bibliography for the Alabama proceedings, I noticed that the title of a paper in press in MNRAS by Lloyd, Jones & Haynes was given as

"Observations of the jets in NGC 5090 (PKS B1318-434)"  
by Ben Lloyd

but

"The radio jets in NGC 5090 (B1318-434)"  
by Paul Jones

We do not have the preprint here in our Charlottesville library, so could you please confirm the correct title of this paper a.s.a.p.

Final proofs for authors will be available as Postscript files very soon, and we expect to send the proceedings to the ASP in a couple of weeks.

Thank you,

Alan B.

From VM Mon Apr 1 15:18:57 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1111" "Tue" "26" "March" "1996" "11:32:18" "-0500" "Alan Bridle" "abridle"  
nil "34" "Still more!" "^From:" nil nil "3" nil nil nil nil]  
nil)  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57165; Tue, 26 Mar 1996 11:32:18 -0500  
Message-Id: <9603261632.AA57165@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Still more!

Date: Tue, 26 Mar 1996 11:32:18 -0500

Christodoulou Contopoulos et al. 1995 must be 1996, I can't find it in 1985

Most of our refs spell out CUP as Cambridge University Press, so I've converted his to the same in bibliog.

Fricke 1969 "rotating stars" lower-case (may have sent this to you before)

Appl2 Yale University Press should be preceded by New Haven:

(this in a \newcommand that I can fix in jetdef.sty but for safety fix in standalone as well)

Rusk & Rusk vol no. should be in {\bf }

Duncan Thompson: PhD. Dissertation should be Ph.D. Thesis for consistency with other refs to theses

Koide the "et al." in Hummel reference are Witzel, A., & Johnston, K. J. (may have sent this before)

Lovelace Torkelsson: Astrophysical Letters And Communications abbreviate: Ap. Lett. Comm. perhaps ?

Wiita Sanghera et al. ref is {\bf 295}, 629--645.

Spencer et al. ref title needs closing quote

A.

From VM Mon Apr 1 15:19:00 1996

X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]

["704" "Tue" "26" "March" "1996" "11:54:44" "-0500" "Alan Bridle" "abridle"

nil "19" "Bibliography draft" "^From:" nil nil "3" nil nil nil nil]

nil)

Content-Length: 704

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA25104; Tue, 26 Mar 1996 11:54:44 -0500

Message-Id: <9603261654.AA25104@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus, hardee@venus.astr.ua.edu

Subject: Bibliography draft

Date: Tue, 26 Mar 1996 11:54:44 -0500

Tony, Phil:

I have put a draft of the cumulative bibliography (31.5 pages) as a Postscript file in my ftp area, so it is now visible from the workshop's WWW home page. Phil, you might want Alex to grab it for you some time soon? The direct location on ftp.cv.nrao.edu is

/NRAO-staff/abridle/private/alabama/bibliog.ps

The calling authors are identified by their 5-letter codes in this version; these codes will be replaced by page numbers (and sorted to numeric order) as soon as we have the pagination.

Tony: the versions of your papers with the reference sections edited to correspond with the bibliography are all in my workshop area on redbud. Start from these when you do more indexing.

A.

```
From VM Mon Apr 1 15:19:17 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["368" "Fri" "29" "March" "1996" "16:34:40" "-0700" "Frazer Owen"
"fowen@aoc.nrao.edu" "<199603292334.QAA28344@pilabo.aoc.nrao.edu>" "11" "Re: Late
question" "^From:" nil nil "3" nil nil nil nil]
  nil)
Content-Length: 368
Received: from arana.aoc.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA55895; Fri, 29 Mar 1996 18:34:45 -0500
Received: from pilabo.aoc.nrao.edu (pilabo.aoc.nrao.edu [146.88.6.5]) by
arana.aoc.nrao.edu (8.6.12/8.6.10) with ESMTMP id QAA06970 for
<abridle@polaris.cv.nrao.edu>; Fri, 29 Mar 1996 16:34:41 -0700
Received: (from fowen@localhost) by pilabo.aoc.nrao.edu (8.6.12/8.6.10) id QAA28344
for abridle@polaris.cv.nrao.edu; Fri, 29 Mar 1996 16:34:40 -0700
Message-Id: <199603292334.QAA28344@pilabo.aoc.nrao.edu>
X-Sun-Charset: US-ASCII
From: Frazer Owen <fowen@aoc.nrao.edu>
To: abridle@polaris.cv.nrao.edu
Subject: Re: Late question
Date: Fri, 29 Mar 1996 16:34:40 -0700
```

Alan,

I checked the preprint I have of the paper with Dwarakanath and I have no record of the editors of the "Cold gas at High Redshift" meeting. Since I didn't go, I have no real path to the answer. I will ask Dwaraka but if I don't hear from him, I wonder if anyone in CV may have attended the meeting and would know? Also maybe Ellen could find out.

---Frazer

```
From VM Mon Apr 1 15:19:18 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["460" "Sat" "30" "March" "1996" "06:50:33" "-0500" "Alan Bridle" "abridle"
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Content-Length: 460
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  id AA33259; Sat, 30 Mar 1996 06:50:33 -0500
Message-Id: <9603301150.AA33259@polaris.cv.nrao.edu>
In-Reply-To: <199603292334.QAA28344@pilabo.aoc.nrao.edu>
References: <199603292334.QAA28344@pilabo.aoc.nrao.edu>
From: abridle (Alan Bridle)
To: Frazer Owen <fowen@aoc.nrao.edu>
```

Subject: Re: Late question  
Date: Sat, 30 Mar 1996 06:50:33 -0500

Frazer Owen writes:

>  
> Alan,  
>  
> I checked the preprint I have of the paper with Dwarakanath and  
> I have no record of the editors of the "Cold gas at High Redshift"  
> meeting. Since I didn't go, I have no real path to the answer. I will  
> ask Dwaraka but if I don't hear from him, I wonder if anyone in CV  
> may have attended the meeting and would know ? Also maybe Ellen could  
> find out.  
>  
> ---Frazer

I'll ask around; thanks anyway.

A.

From VM Mon Apr 1 15:19:22 1996  
X-VM-v5-Data: ([nil nil nil t nil nil t nil nil]  
["4910" "Sat" "30" "March" "1996" "10:20:30" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "101" "Re: preface draft" "^From:" nil nil "3" nil  
nil (number " " mark " FZ hardee@venus.astr Mar 30 101/4910 " thread-indent  
"\Re: preface draft\""\n") nil]  
nil)  
Content-Length: 4910  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50104; Sat, 30 Mar 1996 11:21:50 -0500  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA17773 for <abridle@polaris.cv.nrao.edu>; Sat,  
30 Mar 1996 11:21:48 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07680; Sat, 30 Mar 1996 09:55:13 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA28502; Sat, 30 Mar 96 10:20:30 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA20712; Sat, 30 Mar 96 10:20:30 CST  
Message-Id: <9603301620.AA20712@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: preface draft  
Date: Sat, 30 Mar 96 10:20:30 CST

Alan,

I have made one more minor change to the preface -- revising the grant  
acknowledgement sentence. See below

Phil

=====

%% \documentstyle[11pt,paspsconf,jetpage,jetdef]{article}

%% \begin{document}

\title{~~~~~Preface}

\vspace{1cm}

This Workshop was envisaged as a ``decade review'' of progress made in answering the questions raised by detailed imaging of jets and other structures in radio galaxies and quasars. The eleven years since the Green Bank workshop on {\it Physics of Energy Transport in Extragalactic Radio Sources\} had seen much improved data at all wavelengths from radio to  $\gamma$ -rays, and on all scales from sub-parsec phenomena in galactic nuclei to the largest scales of cluster formation and mergers. New families of unified models had been proposed, linking classes of object whose relationships were less clear a decade ago, and supported by new observational relationships between these classes. Rapid advances in supercomputers had made it possible to perform three-dimensional numerical experiments in magnetohydrodynamical jet formation and propagation.

It therefore seemed an auspicious time to assemble a group of researchers active in these areas, including many who were at the earlier meeting, to assess the progress of the past decade, to present new results, and to address how best to use existing observational and computational resources to answer the remaining questions about energy transport in radio galaxies and quasars.

This Volume contains the papers presented at the Workshop, which took place from September 19--23, 1995 in the Bryant Conference Center of the University of Alabama, in the city of Tuscaloosa, Alabama, U.S.A. The Workshop was attended by 52 people from nine countries. Ten oral sessions were spread over five meeting days with additional poster presentations. The meeting began with an overview by Peter Scheuer of recent developments, then tackled issues in order of increasing scale. Beginning with questions of jet formation and the nature of the central engine, we moved to the propagation of relativistic jets on parsec scales, then to kiloparsec-scale phenomena in FR-I and FR-II sources, and finally to the relationships between radio sources and their large-scale environments. In most sessions, observation, theory and numerical simulations were intermingled. The final afternoon was devoted to reviews (primarily) of the Workshop itself by Alan Bridle (observations), Paul Wiita (theory), and Michael Norman (numerical simulations).

The papers appear here in the order of their presentation at the meeting, with poster presentations included in the session closest to their topic. The bibliography accumulates all of the literature cited by these papers. The Proceedings are also indexed by major topic and by astronomical object. We thank (most of!) the authors for sending us their papers and extra data for the bibliography and index promptly, and the Astrophysics Data System for its on-line Abstract Service, which we used to check the bibliography. We thank all the authors for contributing their ideas and enthusiasm at the Workshop, and their written papers to this Volume.

We also thank all who assisted in organizing the Workshop. In particular, we are grateful to the other members of the Scientific Organizing Committee: Geoffrey Bicknell (Australian National University), Jack Burns (New Mexico State University), Robert Laing (Royal Greenwich Observatory), Alan Marscher (Boston University),

Michael Norman (University of Illinois), and Peter Scheuer (Mullard Radio Astronomy Observatory), and to John Wardle (Brandeis University) for assistance with planning and chairing the scientific sessions.

Philip Hardee would especially like to acknowledge the assistance of Alex Rosen for expertly preparing the Workshop abstract book. Shuttle and session assistance was provided by University of Alabama graduate students Victor Andersen and Guy Purcell. The Workshop also is indebted to the financial and secretarial services of Amy Aitken in the Physics & Astronomy Department Office. Dr. Stanley Jones, assistant dean for the College of Arts and Sciences, provided the Workshop welcome.

We thank the staff of the Bryant Conference Center, in particular Carol Crump Sanders, for their assistance in the preparation of the Workshop and smoothness of operation during the Workshop. We are also grateful to Danny Whitcomb and Lloyd Junkin of the Physics & Astronomy Department electronics shop for wiring the conference room for electronic mail service.

The Workshop was made possible by the State of Alabama and the National Science Foundation through EPSCoR grant OSR-9108761.

```
\vspace{1cm}
\noindent \sc{Philip Hardee,\\Alan Bridle,\\Anton Zensus}\\
\\
April 1996

%%\end{document}
```

```
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X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
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 (8.7.5/8.7.1/CV-2.1) with SMTP id KAA19824 for <abridle@polaris.cv.nrao.edu>; Mon,
 1 Apr 1996 10:08:07 -0500 (EST)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
 id AA06236; Mon, 1 Apr 1996 08:41:10 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
 id AA29952; Mon, 1 Apr 96 09:06:25 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
 id AA21114; Mon, 1 Apr 96 09:06:28 CST
Message-Id: <9604011506.AA21114@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: proceedings
Date: Mon, 1 Apr 96 09:06:28 CST
```

Alan,



I have scanned the bibliography. Below are a few comments relevant to bibliography items.

Voslamber & Callebaut ref. (Should we add Phys Rev Series A/B/C/D ?)

This ref. is in 1962 when there was just Phys. Rev. and no A etc..

Matsumoto et al. given as 1996 \apj, {\bf 461}, 115--??? We will have to find out the final page number from apj.

I have changed Velikov 1959 to J. Exp. Theor. Phys. from Expl.

I have upgraded my conference proceedings acronyms to be consistent with the bibliographic forms.

We have used various forms of Ph.D. Thesis (different spacing). I have changed all mine to the form above. You need to check:

Stanghellini, C. 1992 and Phinney, E.S. 1983

In Parma et al. 1994 needs to be De Ruiter (I may still have a de Ruiter in one of mine but think I found all of them)

In Schilizzi & McAdam 1975 needs to be MNRAS (is MmRAS)

In Vermeulen et al. 1987 " marc s " in title ?

I have updated all of my .tex files and my .ps files as of this past weekend and hope to be finished unless you find more errors.

I will be scanning your papers and Anton's this morning for errors and will get back to you as soon as I can.

Phil

From VM Mon Apr 1 15:19:55 1996

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"CST" "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"

"<9604012004.AA21174@venus.astr.ua.edu.astr.ua.edu>" "114" "Re: corrections"

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Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA62380; Mon, 1 Apr 1996 15:06:19 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu

(8.7.5/8.7.1/CV-2.1) with SMTP id PAA26958 for <abridle@polaris.cv.nrao.edu>; Mon,

1 Apr 1996 15:06:17 -0500 (EST)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA08984; Mon, 1 Apr 1996 13:39:34 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA01011; Mon, 1 Apr 96 14:04:49 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA21174; Mon, 1 Apr 96 14:04:52 CST  
Message-Id: <9604012004.AA21174@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: corrections  
Date: Mon, 1 Apr 96 14:04:52 CST

Alan,

Since the versions that I have scanned are somewhat out of date you may already have found some of the following. Please pass this on to Anton. By alphabetical order:

App12: Table 1 redo dual line under heading.  
p.3 km s<sup>-1</sup>

Bicknell M87: p.9 >2 add space

Biretta: (Owen, Hardee, & Cornwell 1989) & instead of and - also elsewhere in paper.

Birkinshaw: redo line in Table 1

Bridle: p.8 <0.2 add space

Burns: p.8 >90° add space  
p.8 Rottinger

Carilli: redo line in Table 1  
p.9 #x10# add spaces around the "x"  
magnetosonic on p.10

Daly: comma after equation (1) ?  
Guijosa and Daly or Guijosa & Daly (see general comment below)

Georganopoulos: gamma-rays add the - on p.1

Jones: <8' add space p.1 and other places in this paper as well

Keel: OK

Laing: De Ruiten not de Ruiten p.1  
theta<15° on p.5 add spaces  
Figure size ?

Ledlow: Ledlow and Owen or Ledlow & Owen (see general comment below)

Lloyd: Table 1 redo lines

Lobanov: in Acknowledgements P. Hardee

Marscher: p.8 Marscher, Gear, & Travis (1992)

O'Dea: p.3 x10<sup>22</sup> add space ; 10<sup>43</sup>--10<sup>44</sup>

Owen: p.2 Ph.D. thesis or Ph.D. Thesis ?  
p.3 Butcher and (&) Oemler (needs a ref.??)  
p.4 20cm R=19 add spaces

Qian: p.2  $R=R_o$  ;  $r=r_o$  ;  $t=0$  need spaces  
p.5  $4.22 \times 10^6$  ;  $r > r_i$  need spaces  
p.6 km/sec/Mpc to  $\text{km s}^{-1} \text{Mpc}^{-1}$

Readhead: Figure 1 caption 10,000 20,000

Rudnick: p.2&3 "index/brightness" has extra spaces ; Ph.D. (T)thesis ?  
p.3  $t = 2 \text{Xi} + \text{Pi}/2$   
p.5 Carilli et al. (1991) has an extra space

Scheuer (overview): p.1  $\gamma \sim 10$  and  $\gamma < 15$  need spaces  
p.2  $6.4 + 0.9 \text{Mpc}$  needs spaces  
p.4  $\sim 10:1$  ;  $> 0.8c$  needs spaces

Scheuer (hot spot): can Fig. 1 be improved ?  
p.2 Liu, Pooley, & Riley (1992)

Steffan:  $z=0.046$  needs spaces  
See below for general comment on styles  
Table 1 redo top line

Swain: p.1  $V=15.4$  ;  $z=0.03$  add spaces ;  $\delta = -0.9^\circ$  minus too small  
p.3 need spaces added, for example,  $< 10^\circ$  and other places with  
plus minus  
enlarge figs p.4 or reduce empty space  
Acknowledgement 1-d (?) 1-D or 1D

Tingay: OK

Vermeulen: p.1  $\gamma \sim 10$  add spaces

Wan: p.2 eq.(1) to equation (1) ; eq.(2) to equation (2)  
p.4  $(1+z)$  add spaces  
p.5  $\times 10^{-9}$  add spaces

Wardle: p.1  $> 175:1$  ;  $> 12:1$  ;  $< 0.1c$  add spaces  
Table 1 redo bottom line  
p.2 A. H. Bridle

Wilson: throughout paper e.g. and i.e. lack following "comma"  
[OIII] needs to be followed by space before  $\lambda$  in several places  
p.8 role has a  $\hat{\phantom{o}}$  over the o.

General comments:

Should we use (Figure #) or (Fig. #) -- I am using (Figure #) throughout.  
What about (eq.#) or (Eq. #) or (equation #)? This comment only relevant  
to when in ( ). Otherwise spell out.

Should we make uniform the construction author & author (199#) or  
author and author (199#). At present both ways are used within the same  
paper. I am guilty as well.

Should we try to make uniform papers use of the word "section" or the symbol for "section". At present both ways are used.

Phil

From VM Mon Apr 1 15:37:18 1996  
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Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68325; Mon, 1 Apr 1996 15:13:22 -0500  
Message-Id: <9604012013.AA68325@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: forwarded message from hardee@venus.astr.ua.edu  
Date: Mon, 1 Apr 1996 15:13:22 -0500

----- start of forwarded message (RFC 934 encapsulation) -----  
Content-Length: 2952  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA62380; Mon, 1 Apr 1996 15:06:19 -0500  
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1 Apr 1996 15:06:17 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA08984; Mon, 1 Apr 1996 13:39:34 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA01011; Mon, 1 Apr 96 14:04:49 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA21174; Mon, 1 Apr 96 14:04:52 CST  
Message-Id: <9604012004.AA21174@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: corrections  
Date: Mon, 1 Apr 96 14:04:52 CST

Alan,

Since the versions that I have scanned are somewhat out of date you may already have found some of the following. Please pass this on to Anton. By alphabetical order:

Appl2: Table 1 redo dual line under heading.  
p.3 km s<sup>-1</sup>

Bicknell M87: p.9 >2 add space

Biretta: (Owen, Hardee, & Cornwell 1989) & instead of and - also elsewhere in paper.

Birkinshaw: redo line in Table 1

Bridle: p.8 <0.2 add space

Burns: p.8 >90<sup>o</sup> add space  
p.8 Rottinger

Carilli: redo line in Table 1  
p.9 #x10<sup>#</sup> add spaces around the "x"  
magnetosonic on p.10

Daly: comma after equation (1) ?  
Guijosa and Daly or Guijosa & Daly (see general comment below)

Georganopoulos: gamma-rays add the - on p.1

Jones: <8' add space p.1 and other places in this paper as well

Keel: OK

Laing: De Ruiten not de Ruiten p.1  
theta<15<sup>o</sup> on p.5 add spaces  
Figure size ?

Ledlow: Ledlow and Owen or Ledlow & Owen (see general comment below)

Lloyd: Table 1 redo lines

Lobanov: in Acknowledgements P. Hardee

Marscher: p.8 Marscher, Gear, & Travis (1992)

O'Dea: p.3 x10<sup>22</sup> add space ; 10<sup>43</sup>--10<sup>44</sup>

Owen: p.2 Ph.D. thesis or Ph.D. Thesis ?  
p.3 Butcher and (&) Oemler (needs a ref.??)  
p.4 20cm R=19 add spaces

Qian: p.2 R=R<sub>o</sub> ; r=r<sub>o</sub> ; t=0 need spaces  
p.5 4.22x10<sup>6</sup> ; r>r<sub>i</sub> need spaces  
p.6 km/sec/Mpc to km s<sup>-1</sup> Mpc<sup>-1</sup>

Readhead: Figure 1 caption 10,000 20,000

Rudnick: p.2&3 "index/brightness" has extra spaces ; Ph.D. (T)thesis ?  
p.3 t = 2 Xi + Pi/2  
p.5 Carilli et al. (1991) has an extra space

Scheuer (overview): p.1 gamma~10 and gamma<15 need spaces  
p.2 6.4+0.9 Mpc needs spaces  
p.4 ~10:1 ; >0.8c needs spaces

Scheuer (hot spot): can Fig. 1 be improved ?  
p.2 Liu, Pooley, & Riley (1992)

Steffan: z=0.046 needs spaces  
See below for general comment on styles  
Table 1 redo top line

Swain: p.1 V=15.4 ; z=0.03 add spaces ; delta = -0.9<sup>o</sup> minus too small  
p.3 need spaces added, for example, <10<sup>o</sup> and other places with  
plus minus

enlarge figs p.4 or reduce empty space  
Acknowledgement 1-d (?) 1-D or 1D

Tingay: OK

Vermeulen: p.1  $\gamma_{10}$  add spaces

Wan: p.2 eq.(1) to equation (1) ; eq.(2) to equation (2)  
p.4 (1+z) add spaces  
p.5  $\times 10^{-9}$  add spaces

Wardle: p.1 >175:1 ; >12:1 ; <0.1c add spaces  
Table 1 redo bottom line  
p.2 A. H. Bridle

Wilson: throughout paper e.g. and i.e. lack following "comma"  
[OIII] needs to be followed by space before lambda in several places  
p.8 role has a  $\hat{\phantom{o}}$  over the o.

General comments:

Should we use (Figure #) or (Fig. #) -- I am using (Figure #) throughout.  
What about (eq.#) or (Eq. #) or (equation #)? This comment only relevant  
to when in ( ). Otherwise spell out.

Should we make uniform the construction author \& author (199#) or  
author and author (199#). At present both ways are used within the same  
paper. I am guilty as well.

Should we try to make uniform papers use of the word "section" or the symbol  
for "section". At present both ways are used.

Phil  
----- end -----

From VM Mon Apr 1 17:35:43 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])  
["1404" "Mon" "1" "April" "1996" "15:59:42" "-0500" "Alan Bridle" "abridle"  
nil "64" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1404  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68510; Mon, 1 Apr 1996 15:59:42 -0500  
Message-Id: <9604012059.AA68510@polaris.cv.nrao.edu>  
In-Reply-To: <9604011506.AA21114@venus.astr.ua.edu.astr.ua.edu>  
References: <9604011506.AA21114@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee), azensus  
Subject: Re: proceedings  
Date: Mon, 1 Apr 1996 15:59:42 -0500

hardee@venus.astr.ua.edu writes:

>  
> I have scanned the bibliography. Below are a few comments relevant to

> bibliography items.  
>  
>  
> Voslamber & Callebaut ref. (Should we add Phys Rev Series A/B/C/D ?)  
>  
> This ref. is in 1962 when there was just Phys. Rev. and no A etc..

OK

>  
> Matsumoto et al. given as 1996 \apj, {\bf 461}, 115--??? We will have  
> to find out the final page number from apj.  
>

Flagged for adjustment in final version.

> I have changed Velikov 1959 to J. Exp. Theor. Phys. from Expl.  
>  
>

Likewise here now

>  
> We have used various forms of  
Ph.D. Thesis (different spacing). I have  
> changed all mine to the form above. You need to check:  
>  
> Stanghellini, C. 1992 and Phinney, E.S. 1983

will check this.

>  
>  
> In Parma et al. 1994 needs to be De Ruiter (I may still have a de Ruiter in  
> one of mine but think I found all of them)

Hold it. de Ruiter is correct, not De Ruiter.

>  
> In Schilizzi & McAdam 1975 needs to be MNRAS (is MmRAS)

No, it was MmRAS.

>  
> In Vermeulen et al. 1987 " marc s " in title ?  
>  
>

That's the way they had it in Nature. Wierd, but that's the title  
of the paper.

> I have updated all of my .tex files and my .ps files as of this past  
> weekend and hope to be finished unless you find more errors.

OK, I'll transfer them across a.s.a.p.

A.

From VM Mon Apr 1 17:35:45 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["283" "Mon" "1" "April" "1996" "15:11:48" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604012111.AA21200@venus.astr.ua.edu.astr.ua.edu>" "9"  
"Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 283  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA23904; Mon, 1 Apr 1996 16:13:05 -0500  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA28193 for <abridle@polaris.cv.nrao.edu>; Mon,  
1 Apr 1996 16:13:04 -0500 (EST)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07359; Mon, 1 Apr 1996 14:46:29 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA01214; Mon, 1 Apr 96 15:11:45 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA21200; Mon, 1 Apr 96 15:11:48 CST  
Message-Id: <9604012111.AA21200@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: proceedings  
Date: Mon, 1 Apr 96 15:11:48 CST

Alan,

I will go back and get De Ruiter to de Ruiter (tomorrow). You will need to check your files because I saw at least one De Ruiter in the biblio that I think came from one of your papers. If there are any other changes to be made I can make them tomorrow or Wednesday.

Phil

From VM Mon Apr 1 17:35:50 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["416" "Mon" "1" "April" "1996" "17:34:22" "-0500" "Alan Bridle" "abridle"  
nil "13" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 416  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA63405; Mon, 1 Apr 1996 17:34:22 -0500  
Message-Id: <9604012234.AA63405@polaris.cv.nrao.edu>  
In-Reply-To: <9604012111.AA21200@venus.astr.ua.edu.astr.ua.edu>  
References: <9604012111.AA21200@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: proceedings  
Date: Mon, 1 Apr 1996 17:34:22 -0500

hardee@venus.astr.ua.edu writes:

>  
> I will go back and get De Ruiter to de Ruiter (tomorrow). You will  
> need to check your files because I saw at least one De Ruiter in the biblio  
> that I think came from one of your papers. If there are any other changes  
> to be made I can make them tomorrow or Wednesday.



>

Yes, I found them all using the Global Editor tool I wrote for this stage of things ...

A.

```
From VM Thu Apr 25 13:38:02 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["105" "Tue" "2" "April" "1996" "08:44:44" "CST" "hardee@venus.astr.ua.edu"
  "hardee@venus.astr.ua.edu" "<9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>" "6"
  "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 105
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA59219; Tue, 2 Apr 1996 09:45:59 -0500
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
  (8.7.5/8.7.1/CV-2.1) with SMTP id JAA11089 for <abridle@polaris.cv.nrao.edu>; Tue,
  2 Apr 1996 09:45:58 -0500 (EST)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA07042; Tue, 2 Apr 1996 08:19:25 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA02047; Tue, 2 Apr 96 08:44:40 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA21255; Tue, 2 Apr 96 08:44:44 CST
Message-Id: <9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: proceedings
Date: Tue, 2 Apr 96 08:44:44 CST
```

Alan,

I have corrected my file bickn2.tex to de Ruitter and placed it in the ftp area. What next?

Phil

```
From VM Thu Apr 25 13:38:07 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["687" "Tue" "2" "April" "1996" "11:22:27" "-0500" "Alan Bridle" "abridle"
  nil "21" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 687
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA46754; Tue, 2 Apr 1996 11:22:27 -0500
Message-Id: <9604021622.AA46754@polaris.cv.nrao.edu>
In-Reply-To: <9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>
References: <9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: proceedings
Date: Tue, 2 Apr 1996 11:22:27 -0500
```

hardee@venus.astr.ua.edu writes:

> Alan,

>

> I have corrected my file bickn2.tex to de Ruitter and placed it in the

> ftp area. What next?  
>  
> Phil

I'm making the changes you found to my files and Tony's, and will copy all of your files across right after that. Then we need to look at the index that is produced by our current index marks. Tony will run that this afternoon from the master files that are now all in my area. As soon as we see what that index looks like, we may have a bit to dicuss among the three of us. If all goes well, we should have a Postscript draft of it by the end of the working day for you to review. If not, tomorrow a.m. should see it.

A.

From VM Thu Apr 25 13:38:08 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["251" "Tue" "2" "April" "1996" "11:29:32" "-0500" "Alan Bridle" "abridle"  
nil "11" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 251  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46116; Tue, 2 Apr 1996 11:29:32 -0500  
Message-Id: <9604021629.AA46116@polaris.cv.nrao.edu>  
In-Reply-To: <9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>  
References: <9604021444.AA21255@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: proceedings  
Date: Tue, 2 Apr 1996 11:29:32 -0500

hardee@venus.astr.ua.edu writes:

>  
> I have corrected my file bickn2.tex to de Ruitter and placed it in the  
> ftp area. What next?  
>

I have just copied all of your .tex files to my machine, so I have the complete working master set there.

A.

From VM Thu Apr 25 13:38:20 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["413" "Tue" "2" "April" "1996" "16:31:02" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "21" "tex problems" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 413  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46773; Tue, 2 Apr 1996 16:31:04 -0500  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA01289 for <abridle>; Tue,  
2 Apr 1996 16:31:03 -0500 (EST)  
Message-Id: <2.2.32.19960402213102.006b5be4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: tex problems  
Date: Tue, 02 Apr 1996 16:31:02 -0500

Alan,

I ran so far into these problems - can you please fix them in your editing:

ledlow

remove setcounter(page)

Wilson, Appl2

put { } around acknowledgement (inc. the footnotesize)

Wardle, Bicknell, Jones, Lloyd, Rudnick, laing, Carilli

markboth is missing

Hughes, Duncan,

probably can put all authors in markboth

Marti

markboth has Problem because auf accents

From VM Thu Apr 25 13:38:23 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["119" "Tue" "2" "April" "1996" "17:20:26" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "5" "index" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 119

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25137; Tue, 2 Apr 1996 17:20:32 -0500

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA01330; Tue, 2 Apr 1996  
17:20:29 -0500 (EST)

Message-Id: <2.2.32.19960402222026.006860c4@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu, abridle@vagabond.cv.nrao.edu

Subject: index

Date: Tue, 02 Apr 1996 17:20:26 -0500

I made the first run of the complete index. You can copy the postscript file  
index.ps from my workshop ftp area.

az

From VM Thu Apr 25 13:38:32 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["307" "Wed" "3" "April" "1996" "08:49:26" "-0500" "Anton Zensus"]

"azensus@nrao.edu" nil "8" "acknowledgment formatting" "^From:" nil nil "4" nil nil  
nil nil]  
nil)  
Content-Length: 307  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60100; Wed, 3 Apr 1996 08:49:30 -0500  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id IAA01811; Wed, 3 Apr 1996  
08:49:29 -0500 (EST)  
Message-Id: <2.2.32.19960403134926.007160e4@vagabond.cv.nrao.edu>  
X-Sender:  
azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Cc: hardee@venus.astr.ua.edu  
Subject: acknowledgment formatting  
Date: Wed, 03 Apr 1996 08:49:26 -0500

I found a fix for the problem with fonts of acknowledgments.  
Not elegant, but it works.

There is a new jetpage.sty, and all that is needed in the acknowledgement  
paragraph is the \acknowledgement keyword at the beginning. No size command  
should be there, as it is likely to screw up the line spacing.

From VM Thu Apr 25 13:38:36 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["330" "Wed" "3" "April" "1996" "08:56:06" "-0500" "Alan Bridle" "abridle"  
nil "9" "Clarification" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 330  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53457; Wed, 3 Apr 1996 08:56:06 -0500  
Message-Id: <9604031356.AA53457@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Clarification  
Date: Wed, 3 Apr 1996 08:56:06 -0500

I just realized my last message could easily be misinterpreted. I  
don't think there's anything wrong with "emission" as a master  
category, i.e. one with subsections such as {emission!inverse Compton}  
and {emission!synchrotron}, just that {emission} by itself (one  
instance only) would not help the reader find something.

A.

From VM Thu Apr 25 13:38:45 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["2372" "Wed" "3" "April" "1996" "11:56:26" "-0500" "Alan Bridle" "abridle"  
nil "87" "Re: corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 2372  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA38465; Wed, 3 Apr 1996 11:56:26 -0500  
Message-Id: <9604031656.AA38465@polaris.cv.nrao.edu>  
In-Reply-To: <9604012004.AA21174@venus.astr.ua.edu.astr.ua.edu>  
References: <9604012004.AA21174@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: corrections  
Date: Wed, 3 Apr 1996 11:56:26 -0500

hardee@venus.astr.ua.edu writes:

>  
> Since the versions that I have scanned are somewhat out of date you may  
> already have found some of the following. Please pass this on to Anton.

I have gone down your list (Tony is working on his part of it this a.m.)  
and have made fixes as appropriate, except for the following:

> Burns: p.8 >90^o add space  
> p.8 Rottinger  
          ^^^^^^^^^^

there isn't one, what did you mean?

> Laing: De Ruitter not de Ruitter p.1  
> theta<15^o on p.5 add spaces  
> Figure size ?  
          ^^^^^^^^^^

which one? they are all as big as they can be

>  
> Owen: p.2 Ph.D. thesis or Ph.D. Thesis ?  
> p.3 Butcher and (&) Oemler (needs a ref.??)  
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

both are in reference list

>  
> Scheuer (hot spot): can Fig. 1 be improved ?  
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

his original overflowed. This is full size, converted from his TeX  
input. I don't know how to improve it any more, if you have some  
tricks you know to play, by all means try with his original file.

>  
> Steffan: z=0.046 needs spaces  
> See below for general comment on styles  
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

I wasn't sure what this meant for Steffen.

> Wan: p.2 eq.(1) to equation (1) ; eq.(2) to equation (2)  
> p.4 (1+z) add spaces  
          ^^^^^^^^^^^^^^^^

I couldn't see where you wanted this; none seemed necessary.

>  
> Wilson: throughout paper e.g. and i.e. lack following "comma"  
> [OIII] needs to be followed by space before lambda in several places  
> p.8 role has a ^ over the o.  
                  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

sure, that's how it is spelled.

> General comments:  
>  
>  
> Should we use (Figure #) or (Fig. #) -- I am using (Figure #) throughout.  
> What about (eq.#) or (Eq. #) or (equation #)? This comment only relevant  
> to when in ( ). Otherwise spell out.  
>

Figure, equation

>  
> Should we make uniform the construction author \& author (199#) or  
> author and author (199#). At present both ways are used within the same  
> paper. I am guilty as well.

in references it should always be \&; the rest are typos.

>  
> Should we try to make uniform papers use of the word "section" or the symbol  
> for "section". At present both ways are used.  
>

Section

I'm starting in on the index refurbishing now (after lunch)

A.

From VM Thu Apr 25 13:39:00 1996  
X-VM-v5-Data: ([nil nil nil t nil nil nil nil]  
  ["1112" "Wed" "3" "April" "1996" "12:04:45" "-0500" "Anton Zensus"  
  "azensus@nrao.edu" "<2.2.32.19960403170445.006cf704@vagabond.cv.nrao.edu>" "32"  
  "Corrections in references" "^From:" nil nil "4" nil nil nil nil]  
  nil)  
Content-Length: 1112  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
  id AA38499; Wed, 3 Apr 1996 12:04:50 -0500  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
  vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id MAA01962; Wed, 3 Apr 1996  
  12:04:49 -0500 (EST)  
Message-Id: <2.2.32.19960403170445.006cf704@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu

Cc: azensus@vagabond.cv.nrao.edu  
Subject: Corrections in references  
Date: Wed, 03 Apr 1996 12:04:45 -0500

I made these corrections which you should import into the bibliography:

PEARSON

omitted the title of Davis, Unwin, & Muxlow 1991: "Large-scale superluminal motion in the quasar 3C273".

Pearson & Readhead 1988, "GHzx" should be "GHz". (was ok in the file I copied from you, so probably is ok in bib.

Carilli and Harris, Cygnus A book - capitalize major words in title

Cohen and Kellermann workshop: lowercase "and" in title

"Nan Rendong" should be references as such (was Nan Ren-Dong), following A&A abstract usage

Hummel, Muxlow et al: title: parsec-kiloparsec

add these references:

\reference Krichbaum, T. P., Alef, W., \& Witzel,  
A. 1996. ``High-resolution VLBI imaging of the inner jet of Cygnus~A'',  
\cygawks, 92--97.

\reference Zensus, J. A., \& Porcas, R. W. 1987. ``Superluminal motion in a randomly oriented quasar sample'', \slradio, 126--128.

JETDEF.STY

I propose that we lowercase all minor words in the titles of books and proceedings (and, in, of, a, etc.). Uppercase all major words, of course.

From VM Thu Apr 25 13:39:07 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1754" "Wed" "3" "April" "1996" "13:40:42" "-0500" "Alan Bridle" "abridle"  
nil "60" "Re: Corrections in references" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1754

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29512; Wed, 3 Apr 1996 13:40:42 -0500

Message-Id: <9604031840.AA29512@polaris.cv.nrao.edu>

In-Reply-To: <2.2.32.19960403170445.006cf704@vagabond.cv.nrao.edu>

References: <2.2.32.19960403170445.006cf704@vagabond.cv.nrao.edu>

From: abridle (Alan Bridle)

To: Anton Zensus <azensus@nrao.edu>

Subject: Re: Corrections in references

Date: Wed, 3 Apr 1996 13:40:42 -0500

Anton Zensus writes:

> I made these corrections which you should import into the bibliography:  
>  
> PEARSON  
> omitted the title of Davis, Unwin, & Muxlow 1991: "Large-scale  
> superluminal motion in the quasar 3C273".

Will add that.

```
>
> Pearson & Readhead 1988, "GHzx" should be "GHz". (was ok in the file
> I copied from you, so probably is ok in bib.
>
> Carilli and Harris, Cygnus A book - capitalize major words in title
>
> Cohen and Kellermann workshop: lowercase "and" in title
>
```

We had previously said that book titles would all start with capitals, and there are some outside of jetdef.sty that would need re-fixing to conform to this. I had converted mixed-case titles to all-capitalized in the bib. where I found them mixed.

```
> "Nan Rendong" should be references as such (was Nan Ren-Dong),
> following A&A abstract usage
```

I'm now confused, which of the above is correct?

```
>
> Hummel, Muxlow et al: title: parsec-kiloparsec
>
```

That's the way it is in bib (koide had it right)

```
> add these references:
> \reference Krichbaum, T. P., Alef, W., \& Witzel,
> A. 1996. ``High-resolution VLBI imaging of the inner jet of Cygnus~A'',
> \cygawks, 92--97.
>
```

is there, I guess you mean add pearson to the codes?

```
> \reference Zensus, J. A., \& Porcas, R. W. 1987. ``Superluminal
> motion in a randomly oriented quasar sample'', \slradio, 126--128.
>
```

likewise.

```
>
> JETDEF.STY
> I propose that we lowercase all minor words in the titles of books and
> proceedings (and, in, of, a, etc.). Uppercase all major words, of
> course.
>
```

see above, backtracks from where we went, but I do not feel strongly about it.

A.

From VM Thu Apr 25 13:39:11 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["200" "Wed" "3" "April" "1996" "14:39:43" "-0500" "Alan Bridle" "abridle"  
nil "7" "Marscher index" "^From:" nil nil "4" nil nil nil nil])



nil)  
Content-Length: 200  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA39662; Wed, 3 Apr 1996 14:39:43 -0500  
Message-Id: <9604031939.AA39662@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: Marscher index  
Date: Wed, 3 Apr 1996 14:39:43 -0500

I suspect that Marscher's index items were lost in the test run. When you're in there, could you change his \index{BL~Lacertae objects} to \index{BL~Lac objects} to match all the other papers?

A.

From VM Thu Apr 25 13:39:14 1996  
X-VM-v5-Data:  
[nil nil nil nil nil nil nil]  
["276" "Wed" "3" "April" "1996" "14:42:26" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "13" "Re: Marscher index" "^From:" nil nil "4" nil nil nil  
nil]

nil)  
Content-Length: 276  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27644; Wed, 3 Apr 1996 14:42:32 -0500  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA02095 for  
<abridle@polaris.cv.nrao.edu>; Wed, 3 Apr 1996 14:42:31 -0500 (EST)  
Message-Id: <2.2.32.19960403194226.0072f124@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@polaris.cv.nrao.edu (Alan Bridle)  
Subject: Re: Marscher index  
Date: Wed, 03 Apr 1996 14:42:26 -0500

At 02:39 PM 4/3/96 -0500, you wrote:

>  
>I suspect that Marscher's index items were lost in the  
>test run.

right, I go the name wrong.

When you're in there, could you change  
>his \index{BL~Lacertae objects} to \index{BL~Lac objects}  
>to match all the other papers?

done

From VM Thu Apr 25 13:39:37 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["2895" "Wed" "3" "April" "1996" "14:47:24" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604032047.AA21497@venus.astr.ua.edu.astr.ua.edu>"

"91" "Re: corrections" "^From:" nil nil "4" nil nil nil nil]
nil)
Content-Length: 2895
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA46674; Wed, 3 Apr 1996 15:48:47 -0500
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA07238 for <abridle@polaris.cv.nrao.edu>; Wed,
3 Apr 1996 15:48:45 -0500 (EST)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
id AA11822; Wed, 3 Apr 1996 14:22:04 -0600
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
id AA05897; Wed, 3 Apr 96 14:47:18 CST
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
id AA21497; Wed, 3 Apr 96 14:47:24 CST
Message-Id: <9604032047.AA21497@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: corrections
Date: Wed, 3 Apr 96 14:47:24 CST

Alan,

- > Burns: p.8 >90^o add space
> p.8 Rottinger

Sorry about p.8 of Burns - I saw Rottegering and assumed Rotteger.

- > Laing: De Ruitter not de Ruitter p.1
> theta<15^o on p.5 add spaces
> Figure size ?
^^^^^^^^^^^^

which one? they are all as big as they can be

- >
> Scheuer (hot spot): can Fig. 1 be improved ?

his original overflowed. This is full size, converted from his TeX
input. I don't know how to improve it any more, if you have some
tricks you know to play, by all means try with his original file.

I don't know how to improve figures - I was just making a general
comment if the spacing did not look optimum.

- >
> Owen: p.2 Ph.D. thesis or Ph.D. Thesis ?
> p.3 Butcher and (&) Oemler (needs a ref.??)
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

both are in reference list

I was wondering whether thesis should be capialized and whether Butcher
& Oemler needed a (date) in the text here. OK either way.

- > Wan: p.2 eq.(1) to equation (1) ; eq.(2) to equation (2)
> p.4 (1+z) add spaces

^^^^^^^^^^^^^^^^^^

I couldn't see where you wanted this; none seemed necessary.

I was thinking that  $(1+z)$  at end of first sentence under Results would look better as  $(1 + z)$  but no matter.

- >
- > Wilson: throughout paper e.g. and i.e. lack following "comma"
- > [OIII] needs to be followed by space before lambda in several places
- > p.8 role has a ^ over the o.  
^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

sure, that's how it is spelled.

Not in American english. Is this British? No matter.

- >
- > Should we make uniform the construction author \& author (199#) or
- > author and author (199#).

Now I am uncertain how this should appear in the text and have both constructions. Should I make sure that all mine are like:

Wilson p.8 - Smith \& Heckman (1989) hypothesise that the unusual colors and color variations are related to merger induced star formation.

Constructions with "and" instead of "\&" will be hard to find and I will probably miss some. find and replace won't work for this.

- >
- > Should we try to make uniform papers use of the word "section" or the symbol
- > for "section". At present both ways are used.
- >

Section

I may need to modify at least one of my papers but can't find it in a quick sweep. Maybe all mine are OK.

=====  
Do I need to change the acknowledgement formatting in my 21 papers?

I will read through the indexes to see about consolladation but probably not be able to get to it till tomorrow. I gather the "emission" catagory is Ok since I do not use emission by itself but always with a modifier?

I have only one place where I used eq.() instead of equation (). This was because it was (see eq.(#)). I will look to change any other occurances and e-mail to you the changed latex files.

In haste,

Phil

From VM Thu Apr 25 13:39:47 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1170" "Wed" "3" "April" "1996" "16:14:41" "-0500" "Alan Bridle" "abridle"  
nil "41" "Re: corrections" "^From:" nil nil "4" nil nil nil nil])

nil)  
Content-Length: 1170  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60021; Wed, 3 Apr 1996 16:14:41 -0500  
Message-Id: <9604032114.AA60021@polaris.cv.nrao.edu>  
In-Reply-To: <9604032047.AA21497@venus.astr.ua.edu.astr.ua.edu>  
References: <9604032047.AA21497@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: corrections  
Date: Wed, 3 Apr 1996 16:14:41 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
  
>  
> >  
> > Wilson: throughout paper e.g. and i.e. lack following "comma"  
> > p.8 role has a ^ over the o.  
> > ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  
>  
> sure, that's how it is spelled.  
>  
> Not in American english. Is this British? No matter.

Webster's Dictionary gives both, in fact. I always use that to check my 'merrican.

>  
> Wilson p.8 - Smith & Heckman (1989) hypothesise that the unusual colors and color variations are related to merger induced star formation.  
>  
> Constructions with "and" instead of "&" will be hard to find and I  
> will probably miss some. find and replace won't work for this.

I've been query-replacing the " and" with " &" to handle this anywhere you pointed it out.

>  
> Do I need to change the acknowledgement formatting in my 21 papers?

No! Tony's fix should handle them all and now we are doing index-modification here the "masters" of all files are the ones in my area. So don't make any changes to your copies of the files from now on, I'll be making them for you.

Just E-mail me if you see anything in your files that should be changed.

A.

From VM Thu Apr 25 13:39:49 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["545" "Wed" "3" "April" "1996" "17:36:10" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "16" "more changes needed" "^From:" nil nil "4" nil nil nil

nil]

nil)

Content-Length: 545

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19652; Wed, 3 Apr 1996 17:36:18 -0500

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA03047 for <abridle>; Wed,  
3 Apr 1996 17:36:15 -0500 (EST)

Message-Id: <2.2.32.19960403223610.006c89d8@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject: more changes needed

Date: Wed, 03 Apr 1996 17:36:10 -0500

Bicknell1: needs label {bickn1}

Bridle: calls "normal" - Phil introduced "normn1" for this. You can change this  
to whichever you prefer as long as you tell me if you change the  
name of Normans files

Wilson: has a spurious \projtii in reference section

Appl1: remove all newcommands before ref section

Marti: format for equation calss should be like this:

Equation~18... and not: Equation~(18)

there also seems to be a problem with mathmode/accents which I have  
not yet figured out in this one.

From VM Thu Apr 25 13:40:14 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["281" "Thu" "4" "April" "1996" "08:38:43" "-0500" "Anton Zensus"

"azensus@nrao.edu" nil "12" "clarification" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 281

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40004; Thu, 4 Apr 1996 08:38:49 -0500

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id IAA03414 for <abridle>; Thu,  
4 Apr 1996 08:38:48 -0500 (EST)

Message-Id: <2.2.32.19960404133843.006ae190@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject: clarification

Date: Thu, 04 Apr 1996 08:38:43 -0500

we should discuss this a little:

> General comments:

>  
>  
> Should we use (Figure #) or (Fig. #) -- I am using (Figure #) throughout.  
> What about (eq.#) or (Eq. #) or (equation #)? This comment only relevant  
> to when in ( ). Otherwise spell out.  
>

Figure, equation

From VM Thu Apr 25 13:40:19 1996  
X-VM-v5-Data: ([nil nil nil nil nil  
nil nil nil nil]  
["742" "Thu" "4" "April" "1996" "10:09:09" "-0500" "Alan Bridle" "abridle"  
nil "18" "To do" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 742  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52750; Thu, 4 Apr 1996 10:09:09 -0500  
Message-Id: <9604041509.AA52750@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: To do  
Date: Thu, 4 Apr 1996 10:09:09 -0500

Hi Phil,

I just talked with Tony and we both expect to have our next round of work on the index done by the end of the day, so we should have a new draft for you to see by tomorrow.

In the meanwhile, we need to TeX-set the participant list if that has not already been done, and pick out some cover art. I would not be averse to using the picture that you used for the abstract book (rather than one from a particular paper in the proceedings). But perhaps you could make a choice in this area while we continue the indexing tidy-up?

The bibliographic end of things has pretty much converged, Tony only found three things for me to change, and now it waits upon the final pagination, to turn the calling codes into page references.

A.

From VM Thu Apr 25 13:40:29 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["3403" "Thu" "4" "April" "1996" "14:07:52" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604042007.AA21664@venus.astr.ua.edu.astr.ua.edu>"  
"147" "Re: To do" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 3403  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA20197; Thu, 4 Apr 1996 15:09:15 -0500  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA25924 for <abridle@polaris.cv.nrao.edu>; Thu,  
4 Apr 1996 15:09:13 -0500 (EST)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07298; Thu, 4 Apr 1996 13:42:33 -0600  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA07465; Thu, 4 Apr 96 14:07:46 CST  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA21664; Thu, 4 Apr 96 14:07:52 CST  
Message-Id: <9604042007.AA21664@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: To do  
Date: Thu, 4 Apr 96 14:07:52 CST

Alan,

I will work on the image used for the abstract booklet. I had not suggested it initially because it is from an old 2-D simulation. On the other hand it looks much better than the 3-D images.

I assume that you can change indexing in the papers without too much difficulty? If not do what is practical. I will do whatever I can to assist.

I suggest going to harde.tex and removing the leading `%\index{}` list as being unnecessary at this point.

With the exception of objects almost all my index categories are placed before the paragraph to which they refer and are easy to find.

Are we going to have a single index or object and subject indexes?

Should I look through your index listing as well as what I have below and if so what should I look for, i.e., how can I best assist the process?

I assume that you will put the participants list in proper form?

Phil

I have been through Anton's index and have the following suggestions (I hope this rapidly typed list makes sense) in order:

BL-Lac objects

bending change to `\index{BL Lac objects!bending}`

boundary conditions change to `\index {numerical simulations!initialization}`

bow shock change to `\index{shocks!bow shock}`

cocoon

vortices change to `\index{lobes!vortices}`

compact steep spectrum object

compact steep spectrum objects make all these the same

compact steep spectrum sources

Doppler factor

I used this in Wiita's review relevant to equipartition, 34 Daly's work. There should be index in Daly's inverse Compton, 34 work?

elliptical galaxies put these few in with the galaxies category

environment  
environments pick one

FR-I sources to FR I sources

gallaxies  
elliptical, 14 spelling

hot spots

advance speed  
advance speeds pick one

asymmetries  
asymmetry pick one

instabilities

current driven  
current-driven pick one

instabilities, magnetorotational change to  
\index{instabilities!magnetorotational}

instability  
Kelvin-Helmholtz change to \index{instabilities!Kelvin-Helmholtz}

jets

accelerating  
acceleration pick one

decelerating  
deceleration pick one

edge-brightened  
edge-brightening pick one

environment  
environments  
environs pick one

Kelvin-Helmholtz instabilities change to  
\index{instabilities!Kelvin-Helmholtz}

velocity  
velocities pick one

VLBI I think I used this in Norman's paper but it is the same as  
parsec-scale so could be changed to \index{jets!parsec-scale}

X-ray emission  
X-rays pick one

magnetic field strength  
magnetic fields suggest use magnetic fields



luminosity function  
luminosity functions  
lumknosity function

M 87

M 84 ?? How did this sneak in here.

M 87

MHD

Zeus3D can probably go in `\index{numerical simulations!MHD, Zeus-3D}`

numerical simulations

MHD

MHD jets pick one unless first one is not jets

relativistic

relativistic jets pick one - all relativistic simulations are of jets

numerical simulations, initialization change to

`\index{numerical simulations!initialization}`

FR I sources, 2 should this be FR I ?

radio luminsosity function (spell)

radio sources

lifetime

lifetimes

radius, Schwarzschild I suggest `\index{black hole!Schwarzschild radius}`

stars, neutron change to `\index{stars!neutron}`

stars, young change to `\index{stars!young}`

superluminal motion

superluminal motions

From VM Thu Apr 25 13:40:31 1996

X-VM-v5-Data: ([nil nil nil t nil nil nil nil]

["722" "Thu" "4" "April" "1996" "16:16:33" "CST" "hardee@venus.astr.ua.edu"

"hardee@venus.astr.ua.edu" "<9604042216.AA21892@venus.astr.ua.edu.astr.ua.edu>"

"18" "Re: cover image" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 722

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA19695; Thu, 4 Apr 1996 17:17:51 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu

(8.7.5/8.7.1/CV-2.1) with SMTP id RAA28262 for <abridle@polaris.cv.nrao.edu>; Thu,

4 Apr 1996 17:17:49 -0500 (EST)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA14073; Thu, 4 Apr 1996 15:51:13 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA07692; Thu, 4 Apr 96 16:16:27 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA21892; Thu, 4 Apr 96 16:16:33 CST

Message-Id: <9604042216.AA21892@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu  
Subject: Re: cover image  
Date: Thu, 4 Apr 96 16:16:33 CST

Alan,

I have generated two images in postscript format coverA.ps, dark on lighter background, and coverB.ps, light on dark background. They may be found in the anonymous ftp area in astro-stuff/meetings/jets/hardee along with the postscript versions of my edited papers. If they both look acceptable I suggest sending both to the ASP so that they might decide which would reproduce better. They are at the correct size for the cover of the proceedings. I can generate photographic quality images next week if these look OK to you and Anton.

I will not be able to go through my papers to find the places where author and author needs to be changed to author \& author until this weekend. I hope this is OK.

Phil

From VM Thu Apr 25 13:40:35 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1913" "Thu" "4" "April" "1996" "18:07:39" "-0500" "Alan Bridle" "abridle"  
nil "57" "Re: To do" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1913  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48343; Thu, 4 Apr 1996 18:07:39 -0500  
Message-Id: <9604042307.AA48343@polaris.cv.nrao.edu>  
In-Reply-To: <9604042007.AA21664@venus.astr.ua.edu.astr.ua.edu>  
References: <9604042007.AA21664@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: To do  
Date: Thu, 4 Apr 1996 18:07:39 -0500

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I will work on the image used for the abstract booklet. I had not  
> suggested it initially because it is from an old 2-D simulation. On  
> the other hand it looks much better than the 3-D images.  
>

I think that;s fine, it's purely cosmetic. We should describe it somewhere, perhaps as a one-sentence item to be added to the Preface. Could you do that?

> I assume that you can change indexing in the papers without too much  
> difficulty? If not do what is practical. I will do whatever I can to  
> assist.  
>  
> I suggest going to harde.tex and removing the leading %\index{} list as being  
> unnecessary at this point.

>

Yes, and I have indeed purged your paper as suggested.

>

> Are we going to have a single index or object and subject indexes?

>

We will end up with object and subject. We will separate them by hand at the last minute as wthere is no way to tell teX which is which.

> Should I look through your index listing as well as what I have below and if

> so what should I look for, i.e., how can I best assist the process?

>

There's a new .ps file in Tony's area; no particular stage of completiopn, just what we had done by today. Ignore the typographical problems, but it will do as a list of indexed items. There are at least a couple of dozen new redundancies generated by today's work that I will purge a.s.a.p., but your comments on the overall structure and groupings would be appreciated.

> I assume that you will put the participants list in proper form?

Is that

something you could do while we are still indexing, to save time?

>

> I have been through Anton's index and have the following suggestions

> (I hope this rapidly typed list makes sense) in order:

most of them have been done in the new version, but will use your list as part of the checklist for next iteration; thanks much

A.

From VM Thu Apr 25 13:40:38 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]

["880" "Thu" "4" "April" "1996" "18:08:53" "-0500" "Alan Bridle" "abridle"

nil "27" "Re: cover image" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 880

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA39185; Thu, 4 Apr 1996 18:08:53 -0500

Message-Id: <9604042308.AA39185@polaris.cv.nrao.edu>

In-Reply-To: <9604042216.AA21892@venus.astr.ua.edu.astr.ua.edu>

References: <9604042216.AA21892@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: cover image

Date: Thu, 4 Apr 1996 18:08:53 -0500

hardee@venus.astr.ua.edu writes:

>

> Alan,

>  
> I have generated two images in postscript format coverA.ps, dark on lighter  
> background, and coverB.ps, light on dark background. They may be found in  
> the anonymous ftp area in astro-stuff/meetings/jets/hardee along with the  
> postscript versions of my edited papers. If they both look acceptable I  
> suggest sending both to the ASP so that they might decide which would  
> reproduce better. They are at the correct size for the cover of the  
> proceedings. I can generate photographic quality images next week if  
> these look OK to you and Anton.  
>

OK, will check a.s.a.p.

> I will not be able to go through my papers to find the places where  
> author and author needs to be changed to author \& author until this weekend.  
> I hope this is OK.  
>

Fine, I'm still finding some in Tony's and mine!

A.

From VM Thu Apr 25 13:40:49 1996

X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]

["481" "Fri" "5" "April" "1996" "09:54:33" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "17" "Re: To do" "^From:" nil nil "4" nil nil nil  
nil]

nil)

Content-Length: 481

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA20460; Fri, 5 Apr 1996 10:55:47 -0500

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA10687 for <abridle@polaris.cv.nrao.edu>; Fri,  
5 Apr 1996 10:55:47 -0500 (EST)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13884; Fri, 5 Apr 1996 09:29:13 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA08277; Fri, 5 Apr 96 09:54:26 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA21949; Fri, 5 Apr 96 09:54:33 CST

Message-Id: <9604051554.AA21949@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: To do

Date: Fri, 5 Apr 96 09:54:33 CST

Alan,

Does Anton have a template for a participant list? How complete should I make  
the address (I know I want at least affiliation, city and country)?

I will see if I can incorporate a sentence in the preface about the cover art.

Do not forget to include Tim Cawthorne's abstract in the proceedings book as  
Anton promised Tim it would be included.

Put Koide's paper with small scale jets (BL Lac objects) and not where it appeared in the workshop.

time for class,

Phil

From VM Thu Apr 25 13:40:57 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["402" "Fri" "5" "April" "1996" "12:36:30" "CST" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "19" "Re: To do" "^From:" nil nil "4" nil nil nil  
nil]  
nil)

Content-Length: 402

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA59621; Fri, 5 Apr 1996 13:37:42 -0500

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id NAA13838 for <abridle@polaris.cv.nrao.edu>; Fri,  
5 Apr 1996 13:37:41 -0500 (EST)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA07702; Fri, 5 Apr 1996 12:11:11 -0600

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)

id AA08602; Fri, 5 Apr 96 12:36:23 CST

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)

id AA22052; Fri, 5 Apr 96 12:36:30 CST

Message-Id: <9604051836.AA22052@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: To do

Date: Fri, 5 Apr 96 12:36:30 CST

Alan,

I have found all of the author and author expressions that need to be changed in my papers "hurray" and here they are:

Appl1: Heyvarts and Norman (1989) on p.3

De Young: Brown and Roshko (1974) on p.2

Koide: Conway and Murphy (1993) on p.5

Lovelace: Gosh and Lamb (1978) on p.9

Normn2: Hooda and Wiita (\tp, \page \pageref{hooda}) on p.8

Wiita: Peacock and Wall (1982) on p.6

Phil

From VM Thu Apr 25 13:41:09 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["679" "Mon" "8" "April" "1996" "08:34:20" "-0400" "Alan Bridle" "abridle"  
nil "17" "Re: trouble" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 679

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA56398; Mon, 8 Apr 1996 08:34:20 -0400

Message-Id: <9604081234.AA56398@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960405201730.006c5bc0@vagabond.cv.nrao.edu>  
References: <2.2.32.19960405201730.006c5bc0@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: trouble  
Date: Mon, 8 Apr 1996 08:34:20 -0400

Anton Zensus writes:

> I just noticed that you apparently did not get the right version of appl2.tex  
> the one I copied from you has only 2 index entries. I'll need to check if  
> the same problem is present with others. Hope we are nopt diverging....  
>

Sorry, I discovered that I had backed up appl1.tex from your disk, not appl2.tex. Thus I copied the paper that Phil had edited instead of the one that you had edited. Do you have a copy of appl2.tex with your indexing? If not, then those index entries have indeed been lost as my copy is from before last Thursday's round.

No other papers should be affected by this, I have all of your other files backed up.

A.

From VM Thu Apr 25 13:41:12 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["804" "Mon" "8" "April" "1996" "10:43:12" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "33" "template for list of contributors" "^From:" nil nil  
"4" nil nil nil nil]  
nil)  
Content-Length: 804  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55828; Mon, 8 Apr 1996 10:43:18 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA07159; Mon, 8 Apr 1996  
10:43:14 -0400 (EDT)  
Message-Id: <2.2.32.19960408154312.0069ea0c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: multipart/mixed; boundary="====\_828992592==\_"  
X-Attachments: F:\azensus\alabama\authors.tex;  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu, abridle@vagabond.cv.nrao.edu  
Subject: template for list of contributors  
Date: Mon, 08 Apr 1996 10:43:12 -0500

====\_828992592==\_  
Content-Type: text/plain; charset="us-ascii"

attached is the template for the authors list.

az

====\_828992592==\_  
Content-Type: text/plain; charset="us-ascii"  
Content-Disposition: attachment; filename="authors.tex"

```

\chapter*{Contributors}

\addcontentsline{toc}{section}{\numberline{} \sc Contributors}
\markboth{Contributors}{Contributors}

\noindent

\begin{description}

\item[Alan H.\ Bridle] National
Radio Astronomy Observatory, 520 Edgemont Road, Charlottesville,
Virginia 22903-2475, U.S.A. \quad {azensus{\@}abridle.edu}

\item[J.\ Anton Zensus] National
Radio Astronomy Observatory, 520 Edgemont Road, Charlottesville,
Virginia 22903-2475, U.S.A. \quad {azensus{\@}nrao.edu}

\end{description}

```

```

-----_828992592==_--

```

```

From VM Thu Apr 25 13:41:17 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["830" "Mon" "8" "April" "1996" "10:46:03" "-0500" "Anton Zensus"
"azensus@nrao.edu" nil "33" "Re: forwarded message from hardee@venus.astr.ua.edu"
"^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 830
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA55981; Mon, 8 Apr 1996 10:46:07 -0400
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA07162; Mon, 8 Apr 1996
10:46:06 -0400 (EDT)
Message-Id: <2.2.32.19960408154603.006e4530@vagabond.cv.nrao.edu>
X-Sender: azensus@vagabond.cv.nrao.edu
X-Mailer: Windows Eudora Pro Version 2.2 (32)
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
From: Anton Zensus <azensus@nrao.edu>
To: abridle@polaris.cv.nrao.edu (Alan Bridle)
Cc: azensus@polaris.cv.nrao.edu
Subject: Re: forwarded message from hardee@venus.astr.ua.edu
Date: Mon, 08 Apr 1996 10:46:03 -0500

```

```

>From: hardee@venus.astr.ua.edu (Hardee)
>To: abridle@polaris.cv.nrao.edu
>Subject: Re: To do
>Date: Fri, 5 Apr 96 09:54:33 CST
>
>
>Alan,
>
>Does Anton have a template for a participant list? How complete should I make
>the address (I know I want at least affiliation, city and country)?

```

just sent you the template

>

>I will see if I can incorporate a sentence in the preface about the cover art.

>

before you do that, let me make a couple of changes

>Do not forget to include Tim Cawthorne's abstract in the proceedings book as  
>Anton promised Tim it would be included.

please send me Cawthorne's abstract so I can make  
it into a chapter.

>Put Koide's paper with small scale jets (BL Lac objects) and not where it  
>appeared in the workshop.

please tell me after what other paper you think he should be placed.

az

From VM Thu Apr 25 13:41:22 1996

X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]

["17891" "Mon" "8" "April" "1996" "12:31:20" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604081731.AA22620@venus.astr.ua.edu.astr.ua.edu>"  
"625" "Re: To do" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 17891

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA39342; Mon, 8 Apr 1996 13:33:16 -0400

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id NAA25867 for <abridle@polaris.cv.nrao.edu>; Mon,  
8 Apr 1996 13:33:03 -0400 (EDT)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA06882; Mon, 8 Apr 1996 12:06:00 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA11508; Mon, 8 Apr 96 12:31:07 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA22620; Mon, 8 Apr 96 12:31:20 CDT

Message-Id: <9604081731.AA22620@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: To do

Date: Mon, 8 Apr 96 12:31:20 CDT

Alan,

I enclose a revised preface with a one line description of the cover  
art near the end. Please check to see if satisfactory.

I also enclose a Workshop Contributors section. I did this before  
Anton sent a template. I this hope works OK. Notice that the number  
of workshop attendees (52) in the preface is different from the number  
of contributors as Stefi Baum, Gregory Taylor and of course Anton did  
not come. Since Stefi did not come or send a contribution I was unsure  
as to whether to include her in the list. You will need to decide



whether to leave her name in the list. Her name is on the paper with you and Mark for example. Two who did come, Tim Cawthorne and Rubin K., did not send contributions. Tim's should appear as an abstract in the proceedings volume. I did not encourage Rubin K. to submit a contribution as he had done little work by the workshop and was really there to listen. He essentially had no abstract for his poster and so I would not include it in the proceedings volume.

Phil

=====

```
%% \documentstyle[11pt,pasconf,jetpage,jetdef]{article}
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```
%% \begin{document}
```

```
\title{~~~~~Preface}
```

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\vspace{1cm}
```

This Workshop was envisaged as a ``decade review'' of progress made in answering the questions raised by detailed imaging of jets and other structures in radio galaxies and quasars. The eleven years since the Green Bank workshop on {\it Physics of Energy Transport in Extragalactic Radio Sources\} had seen much improved data at all wavelengths from radio to  $\gamma$ -rays, and on all scales from sub-parsec phenomena in galactic nuclei to the largest scales of cluster formation and mergers. New families of unified models had been proposed, linking classes of object whose relationships were less clear a decade ago, and supported by new observational relationships between these classes. Rapid advances in supercomputers had made it possible to perform three-dimensional numerical experiments in magnetohydrodynamical jet formation and propagation.

It therefore seemed an auspicious time to assemble a group of researchers active in these areas, including many who were at the earlier meeting, to assess the progress of the past decade, to present new results, and to address how best to use existing observational and computational resources to answer the remaining questions about energy transport in radio galaxies and quasars.

This Volume contains the papers presented at the Workshop, which took place from September 19--23, 1995 in the Bryant Conference Center of the University of Alabama, in the city of Tuscaloosa, Alabama, U.S.A. The Workshop was attended by 52 people from nine countries. Ten oral sessions were spread over five meeting days with additional poster presentations. The meeting began with an overview by Peter Scheuer of recent developments, then tackled issues in order of increasing scale. Beginning with questions of jet formation and the nature of the central engine, we moved to the propagation of relativistic jets on parsec scales, then to kiloparsec-scale phenomena in FR-I and FR-II sources, and finally to the relationships between radio sources and their large-scale environments. In most sessions, observation, theory and numerical simulations were intermingled. The final afternoon was devoted to reviews (primarily) of the Workshop itself by Alan Bridle (observations), Paul Wiita (theory), and Michael Norman (numerical simulations).

The papers appear here in the order of their presentation at the

meeting, with poster presentations included in the session closest to their topic. The bibliography accumulates all of the literature cited by these papers. The Proceedings are also indexed by major topic and by astronomical object. We thank (most of!) the authors for sending us their papers and extra data for the bibliography and index promptly, and the Astrophysics Data System for its on-line Abstract Service, which we used to check the bibliography. We thank all the authors for contributing their ideas and enthusiasm at the Workshop, and their written papers to this Volume.

We also thank all who assisted in organizing the Workshop. In particular, we are grateful to the other members of the Scientific Organizing Committee: Geoffrey Bicknell (Australian National University), Jack Burns (New Mexico State University), Robert Laing (Royal Greenwich Observatory), Alan Marscher (Boston University), Michael Norman (University of Illinois), and Peter Scheuer (Mullard Radio Astronomy Observatory), and to John Wardle (Brandeis University) for assistance with planning and chairing the scientific sessions.

Philip Hardee would especially like to acknowledge the assistance of Alex Rosen for expertly preparing the Workshop abstract book. Shuttle and session assistance was provided by University of Alabama graduate students Victor Andersen and Guy Purcell. The Workshop also is indebted to the financial and secretarial services of Amy Aitken in the Physics & Astronomy Department Office. Dr. Stanley Jones, assistant dean for the College of Arts and Sciences, provided the Workshop welcome.

We thank the staff of the Bryant Conference Center, in particular Carol Crump Sanders, for their assistance in the preparation of the Workshop and smoothness of operation during the Workshop. We are also grateful to Danny Whitcomb and Lloyd Junkin of the Physics & Astronomy Department electronics shop for wiring the conference room for electronic mail service.

The volume cover photograph shows a density image from a numerical simulation of a two-dimensional flapping slab jet.

The Workshop was made possible by the State of Alabama and the National Science Foundation through EPSCoR grant OSR-9108761.

\vspace{1cm}  
\noindent \sc{Philip Hardee,\\Alan Bridle,\\Anton Zensus}\\  
\vspace{1cm}

%%\end{document}

=====  
=====

%% \documentstyle[11pt,pasconf,jetpage,jetdef]{article}

%% \begin{document}

\def\no{\noindent}

\title{~~~~~Workshop Contributors}

\vspace{0.5cm}

```
\no
\begin{tabular}{ll}
Victor~Andersen:
&~~~~~Dept. of Physics \& Astronomy,
University \\
~ &~~~~~of Alabama,
Tuscaloosa, Alabama, U.S.A. \\
~ &~~~~~(andersen@crux.astr.ua.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Stefan~M.~Appl:
&~~~~~Observatoire Astronomique, Strasbourg, \\
~ &~~~~~France (appl@cdsxb6.u-strasbg.fr)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Stefi~A.~Baum:
&~~~~~STScI, Baltimore, Maryland, U.S.A. \\
~ &~~~~~(sbaum@stsci.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Geoffrey~V.~Bicknell:
&~~~~~Astrophysical Theory Centre, Australian \\
~ &~~~~~National University, Canberra, Australia \\
~ &~~~~~(geoff@merlin.anu.edu.au)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
John~A.~Biretta:
&~~~~~STScI, Baltimore, Maryland, U.S.A. \\
~ &~~~~~(biretta@stsci.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Mark~Birkinshaw:
&~~~~~Dept. of Physics,
University of Bristol, Bristol, \\
~ &~~~~~U.K. (Mark.Birkinshaw@Bristol.ac.uk)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Alan~H.~Bridle:
&~~~~~NRAO, Charlottesville, Virginia, U.S.A. \\
~ &~~~~~(abridle@nrao.edu)
\end{tabular}
```

\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Jack~O.~Burns:  
&~~~~~Dept. of Astronomy, New Mexico State \\  
~ &~~~~~University,  
Las Cruces, New Mexico, U.S.A. \\  
~ &~~~~~(jburns@nmsu.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Chris~L.~Carilli:  
&~~~~~NRAO, Socorro, New Mexico, U.S.A. \\  
~ &~~~~~(ccarilli@nrao.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Timothy~V.~Cawthorne:  
&~~~~~University of Central Lancashire, Dept. of \\  
~ &~~~~~Physics & Astronomy, Lancashire, U.K. \\  
~ &~~~~~(tvc@star.uclan.ac.uk)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Dimitris~Christodoulou:  
&~~~~~Dept. of Physics, Louisiana State \\  
~ &~~~~~University,  
Baton Rouge, Louisiana, U.S.A. \\  
~ &~~~~~(dcristo@rouge.phys.lsu.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
David~A.~Clarke:  
&~~~~~St. Mary's University,  
Dept. of Astronomy \\  
  
~ &~~~~~\& Physics,  
Halifax, Nova Scotia, Canada \\  
~ &~~~~~(dclarke@ap.stmarys.ca)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Ruth~A.~Daly:  
&~~~~~Dept. of Physics, Princeton University, \\  
~ &~~~~~Princeton, New Jersey, U.S.A. \\  
~ &~~~~~(daly@puppgg.princeton.edu)  
\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

David~S.~De~Young:

&~~~~~NOAO,

Tucson, Arizona, U.S.A. \\

~ &~~~~~(ddeyoung@noao.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

G.~Comer~Duncan:

&~~~~~Dept. of Physics \& Astronomy,

Bowling Green \\

~ &~~~~~State University,

Bowling Green, Ohio, U.S.A. \\

~ &~~~~~(gcd@riemann.bgsu.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Jean~A.~Eilek:

&~~~~~New Mexico Tech, Dept. of Physics, Socorro \\

~ &~~~~~New Mexico, U.S.A. (jeilek@aoc.nrao.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Markos~Georganopoulos:

&~~~~~Dept. of Astronomy, Boston University, \\

~ &~~~~~Boston, Massachusetts, U.S.A. \\

~ &~~~~~(markos@qjet.bu.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Jos\ '{e}~L.~G\ '{o}mez:

&~~~~~Dept. of Astronomy, Boston University, \\

~ &~~~~~Boston, Massachusetts, U.S.A. \\

~ &~~~~~(jlgomez@rjet.bu.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Eddie~J.~Guerra:

&~~~~~Dept. of Physics, Princeton University, \\

~ &~~~~~Princeton, New Jersey, U.S.A. \\

~ &~~~~~(eddie@pulsar.princeton.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

```
Philip~E.~Hardee:
&~~~~~Dept. of Physics \& Astronomy, University \\
~ &~~~~~of Alabama, Tuscaloosa, Alabama, U.S.A. \\
~ &~~~~~(hardee@venus.astr.ua.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Jagbir~S.~Hooda:
&~~~~~Georgia State University, Dept. of Physics \\
~ &~~~~~\& Astronomy, Atlanta, Georgia, U.S.A. \\
~ &~~~~~(hooda@chara.gsu.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Philip~A.~Hughes:
&~~~~~University of Michigan, Dept. of Astronomy, \\
~ &~~~~~Ann Arbor, Michigan, U.S.A. \\
~ &~~~~~(hughes@astro.lsa.umich.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Paul~A.~Jones:
&~~~~~Physics Dept., University of Western Sydney, \\
~ &~~~~~Kingswood, New South Wales, Australia \\
~ &~~~~~(p.jones@st.nepean.uws.edu.au)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
William~C.~Keel:
&~~~~~Dept. of Physics \& Astronomy, University \\
~ &~~~~~of Alabama, Tuscaloosa, Alabama, U.S.A. \\
~ &~~~~~(keel@bildad.astr.ua.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Shinji~Koide:
~ &~~~~~Dept. of Electronics \& Information, \\
~ &~~~~~Toyama University, Toyama, Japan \\
~ &~~~~~(koidesin@ecs.toyama-u.ac.jp)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Serguei~S.~Komissarov:
&~~~~~Dept. of Applied Mathematical Studies, \\
~ &~~~~~The University of Leeds, Leeds, U.K. \\
~ &~~~~~(serguei@amsta.leeds.ac.uk)
\end{tabular}
```

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Ruben~F.~Krasnopolsky:  
&~~~~California Institute of Technology,  
Pasadena, \\  
~ &~~~~California, U.S.A.  
(ruben@tapir.caltech.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Robert~A.~Laing:  
&~~~~Royal Greenwich Observatory,  
Cambridge, \\  
~ &~~~~U.K. (rl@mail.ast.cam.ac.uk)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Michael~J.~Ledlow:  
&~~~~Dept. of Astronomy,  
New Mexico State \\  
~ &~~~~University, Las Cruces, New Mexico, U.S.A. \\  
~ &~~~~(mledlow@nmsu.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Ben~D.~Lloyd:  
&~~~~Physics Dept.,  
University of Western Sydney, \\  
~ &~~~~Kingswood, New South Wales, Australia \\  
~ &~~~~(blloyd@atnf.csiro.au)

\end{tabular}

\vspace{0.5cm}

\no

\begin{tabular}{ll}

Andrew~P.~Lobanov:  
&~~~~NRAO, Socorro, New Mexico, U.S.A. \\  
~ &~~~~(alobanov@nrao.edu)

\end{tabular}

\vspace{0.1cm}

\no

\begin{tabular}{ll}

Chris~Loken:  
&~~~~Dept. of Astronomy, New Mexico State \\  
~ &~~~~University, Las Cruces, New Mexico,  
U.S.A. \\  
~ &~~~~(cloken@nmsu.edu)

\end{tabular}

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Richard~V.~E.~Lovelace:
&~~~~~Cornell University, Dept. of Applied Physics, \\
~ &~~~~~Ithaca, New York, U.S.A.
(RVL1@cornell.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Alan~P.~Marscher:
&~~~~~Boston University, Dept. of Astronomy, \\
~ &~~~~~Boston, Massachusetts, U.S.A. \\
~ &~~~~~(marscher@buast0.bu.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Jos~\{e\}~M$^{\underline{\mbox{a}}}$~Mart~\{i\}:
&~~~~~Departamento de Astronom~\{i\}a y Astrof~\{i\}sica, \\
~ &~~~~~Universidad de Valencia, Valencia, Spain \\
~ &~~~~~(martij@kerr.ific.uv.es)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Michael~L.~Norman:
&~~~~~Dept. of Astronomy, University \\
~ &~~~~~of Illinois, Urbana, Illinois, U.S.A. \\
~ &~~~~~(norman@ncsa.uiuc.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Christopher~P.~O'Dea:
&~~~~~STScI, Baltimore, Maryland, U.S.A. \\
~ &~~~~~(odea@stsci.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Frazer~N.~Owen:
&~~~~~NRAO, Socorro, New Mexico, U.S.A. \\
~ &~~~~~(fowen@nrao.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Timothy~J.~Pearson:
&~~~~~California Institute of Technology, Pasadena, \\
~ &~~~~~California, U.S.A. (tjp@deimos.caltech.edu)
\end{tabular}
\vspace{0.1cm}
```



```
\no
\begin{tabular}{ll}
Guy~B.~Purcell:
&~~~~~Dept. of Physics \& Astronomy, University \\
~ &~~~~~of Alabama, Tuscaloosa, Alabama, U.S.A. \\
~ &~~~~~(purcell@crux.astr.ua.edu)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Shanjie~J.~Qian:
&~~~~~Beijing Astronomical Observatory, Chinese \\
~ &~~~~~Academy of Sciences, Beijing, China \\
~ &~~~~~(rqsj@bao01.bao.ac.cn)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Lawrence~Rudnick:
&~~~~~Dept. of Astronomy, University of \\
~ &~~~~~Minnesota, Minneapolis, Minnesota, U.S.A. \\
~ &~~~~~(larry@ast1.spa.umn.edu)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Anthony~C.~S.~Readhead:
&~California Institute of Technology, Pasadena, \\
~ &~California, U.S.A. (acr@deimos.caltech.edu)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
R.~Alexander~Rosen:
&~~~~~Dept. of Physics \& Astronomy, University \\
~ &~~~~~of Alabama, Tuscaloosa, Alabama, U.S.A. \\
~ &~~~~~(rosen@eclipse.astr.ua.edu)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Peter~A.~G.~Scheuer:
&~~~~~Mullard Radio Astronomy Observatory, \\
~ &~~~~~Cambridge, U.K. (pags@mrao.cam.ac.uk)
\end{tabular}
```

\vspace{0.1cm}

```
\no
\begin{tabular}{ll}
Wolfgang~Steffen:
&~~~~~Dept. of Physics \& Astronomy, University \\
~ &~~~~~of Manchester, Manchester, U.K. \\
~ &~~~~~(wsteffen@ast.man.ac.uk)
\end{tabular}
```

\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Mark~R.~Swain:  
&~~~~~Astronomy Dept., Cornell University, \\  
~ &~~~~~Ithaca, New York, U.S.A. \\  
~ &~~~~~(swain@astrosun.tn.cornell.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Gregory~B.~Taylor:  
&~~~~~NRAO, Socorro, New Mexico, U.S.A. \\  
~ &~~~~~(gtaylor@nrao.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Steven~J.~Tingay:  
&~~~~~Mt. Stromlo Observatory, Weston PO, \\  
~ &~~~~~Australia (tingay@mso.anu.edu.au)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Ren~C.~Vermeulen:  
&~~~~~California Institute of Technology, \\  
~ &~~~~~Pasadena, California, U.S.A. \\  
~ &~~~~~(rcv@astro.caltech.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Lin~Wan:  
&~~~~~Dept. of Physics, Princeton University, \\  
~ &~~~~~Princeton, New Jersey, U.S.A. \\  
~ &~~~~~(linwan@phoenix.princeton.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
John~F.~C.~Wardle:  
&~~~~~Physics Dept., Brandeis University, \\  
~ &~~~~~Waltham, Massachusetts, U.S.A. \\  
~ &~~~~~(wardle1@binah.cc.brandeis.edu)  
\end{tabular}  
\vspace{0.1cm}

\no  
\begin{tabular}{ll}  
Paul~J.~Wiita:  
&~~~~~Dept. of Physics \& Astronomy, Georgia \\

```
~ &~~~~~State University, Atlanta, Georgia, U.S.A. \\
~ &~~~~~(wiita@chara.gsu.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Andrew~S.~Wilson:
&~~~~~Astronomy Dept., University of Maryland, \\
~ &~~~~~College Park, Maryland, U.S.A. \\
~ &~~~~~(wilson@astro.umd.edu)
\end{tabular}
\vspace{0.1cm}
```

```
\no
\begin{tabular}{ll}
Anton Zensus:
&~~~~~NRAO, Charlottesville, Virginia, U.S.A. \\
~ &~~~~~(azensus@nrao.edu)
\end{tabular}
```

```
%%\end{document}
```

```
=====  
From VM Thu Apr 25 13:41:26 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
  ["1350" "Mon" "8" "April" "1996" "15:47:11" "-0400" "Alan Bridle" "abridle"  
  nil "32" "Re: To do" "^From:" nil nil "4" nil nil nil nil]  
  nil)  
Content-Length: 1350  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
  id AA58940; Mon, 8 Apr 1996 15:47:11 -0400  
Message-Id: <9604081947.AA58940@polaris.cv.nrao.edu>  
In-Reply-To: <9604081731.AA22620@venus.astr.ua.edu.astr.ua.edu>  
References: <9604081731.AA22620@venus.astr.ua.edu.astr.ua.edu>  
From:  
  abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: To do  
Date: Mon, 8 Apr 1996 15:47:11 -0400
```

hardee@venus.astr.ua.edu writes:

```
>  
> Alan,  
>  
> I enclose a revised preface with a one line description of the cover  
> art near the end. Please check to see if satisfactory.  
>
```

OK Tony also sent me a revision today so I will merge them and send back to you both.

```
> I also enclose a Workshop Contributors section. I did this before  
> Anton sent a template. I this hope works OK. Notice that the number  
> of workshop attendees (52) in the preface is different from the number  
> of contributors as Stefi Baum, Gregory Taylor and of course Anton did  
> not come. Since Stefi did not come or send a contribution I was unsure
```

> as to whether to include her in the list. You will need to decide  
> whether to leave her name in the list. Her name is on the paper with  
> you and Mark for example. Two who did come, Tim Cawthorne and Rubin  
> K., did not send contributions. Tim's should appear as an abstract in  
> the proceedings volume. I did not encourage Rubin K. to submit a  
> contribution as he had done little work by the workshop and was really  
> there to listen. He essentially had no abstract for his poster and so  
> I would not include it in the proceedings volume.  
>

I'll forward that to Tony, as I have all the files out at the moment  
for further indexing work maybe he can put your stuff into his template.

A.

```
From VM Thu Apr 25 13:41:32 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["1539" "Mon" "8" "April" "1996" "17:39:04" "-0500" "Anton Zensus"
"azensus@nrao.edu" nil "66" "mods needed" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 1539
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA29476; Mon, 8 Apr 1996 17:39:08 -0400
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by
  vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA07747 for <abridle>; Mon,
  8 Apr 1996 17:39:07 -0400 (EDT)
Message-Id: <2.2.32.19960408223904.006a5364@vagabond.cv.nrao.edu>
X-Sender: azensus@vagabond.cv.nrao.edu
X-Mailer: Windows Eudora Pro Version 2.2 (32)
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
From: Anton Zensus <azensus@nrao.edu>
To: abridle@vagabond.cv.nrao.edu
Subject: mods needed
Date: Mon, 08 Apr 1996 17:39:04 -0500
```

jetdef.sty:

these are correct5ed versions of faulty defs:

```
\def\arfm{\ref@jnl{Ann.\ Rev.\ Fluid Mech.}}
```

```
\def\aplc{\ref@jnl{Ap.\ Lett.\ Comm.}}
```

```
\def\mmtka{\ref@jnl{Mathematika}}
```

```
\def\prsla{\ref@jnl{Proc.\ Roy.\ Soc.\ (London)~A}}
```

```
\def\nmfd{in {\it Numerical Methods For Fluid Dynamics\}, eds. K.~W.
  Morton \& M.~J. Baines (Oxford: Clarendon Press)}
```

we have duplicate def for \arcsec, need to have two different ones!

marscher:

```
\index{blazars!radio spectra} <<< remove one }
```

```
correct this: \jets!emission from} << insert index{
```

hughes:  
change: `\begin{figure} [h] <<<< [ht] or [t] twice`

marti:  
remove trailing curly bracket after acknowledgments

appl2: gave mathmode problem. running dos2unix cured it!!!

biret:  
line 163, ref is missing: should be `\bzo`

caril:  
change `\etal\}` to `\etal}` in markboth  
remove additional `"}` in line 373

normn1:  
change: `\begin{figure} [h] <<<< [ht] or [t] twice`

steffen:  
no space (or newline) between arguments of markboth!  
line 56: wrong use of `\arcsec`  
there is another problem near line 187 which I cxa'n't figure out  
(mathmode).

hoota:  
line 277. extra `$` after `\theta !`

readh:  
change `\hii` to `\Hii`, `\hi` to `\Hi`

clark  
there are two `\index{propagation|}` - remove the oine in middle of text

verme  
has two incidents of `\index{superluminal motion|}`

From VM Thu Apr 25 13:41:48 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["472" "Tue" "9" "April" "1996" "14:52:05" "-0500" "Anton Zensus"

"azensus@nrao.edu" nil "25" "mods & info 4/9/96" "^From:" nil nil "4" nil nil nil  
nil]

nil)

Content-Length: 472

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57265; Tue, 9 Apr 1996 14:52:11 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA08500; Tue, 9 Apr 1996  
14:52:09 -0400 (EDT)

Message-Id: <2.2.32.19960409195205.00702c84@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Cc: azensus@vagabond.cv.nrao.edu  
Subject: mods & info 4/9/96  
Date: Tue, 09 Apr 1996 14:52:05 -0500

Please copy these files to your area:

preface.tex - az, included my and Hardee's changes

contrib.tex - az formatted version from phil

cawth.tex - new file (not included in your backups until now!)

WAN:

can we rename his figure files to wanf\*.eps, also in his file?

KEEL:

can we rename figures to keelf\* (now keel\_f\*), also in text?

ALL:

there are a number of calls with \input (e.g. to psfig). they should be commented out, unless unique and necessary.

From VM Thu Apr 25 13:41:53 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["567" "Wed" "10" "April" "1996" "09:52:55" "-0400" "Alan Bridle" "abridle"  
nil "19" "Preface/Contributors" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 567  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA63516; Wed, 10 Apr 1996 09:52:55 -0400  
Message-Id: <9604101352.AA63516@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Preface/Contributors  
Date: Wed, 10 Apr 1996 09:52:55 -0400

Hi Phil,

Tony has TeXset the contributor list to his format now.  
I have two questions. In the preface you say there were  
52 attendees from nine countries. The contributor list  
has 55 people from eight countries by my count. I know of two  
contributors who did not attend (Baum, Zensus) but  
we may be off by one person and one country somewhere.

Could you check this? I may be missing something obvious to you.

A.

P.S. A new draft of the index will soon be available, we are running it off now. I have done almost nothing else for the last couple of days!

From VM Thu Apr 25 13:41:55 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["299" "Wed" "10" "April" "1996" "10:09:25" "-0400" "Alan Bridle" "abridle"  
nil "11" "Half of problem solved" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 299  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46198; Wed, 10 Apr 1996 10:09:25 -0400  
Message-Id: <9604101409.AA46198@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Half of problem solved  
Date: Wed, 10 Apr 1996 10:09:25 -0400

Hi Phil, I realised you had pre-solved the "missing person" case in your message that accompanied your .tex file -- it was Greg Taylor. However, I still have the "missing country" problem. Either you or I can't count, I guess. probably it's me but may be worth you checking again anyway.

A.

From VM Thu Apr 25 13:41:57 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["548" "Wed" "10" "April" "1996" "09:15:55" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "16" "Re: Preface/Contributors" "^From:" nil nil "4"  
nil nil nil nil]  
nil)  
Content-Length: 548  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48969; Wed, 10 Apr 1996 10:17:06 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA23758 for <abridle@polaris.cv.nrao.edu>; Wed,  
10 Apr 1996 10:16:59 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07900; Wed, 10 Apr 1996 08:50:33 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA15878; Wed, 10 Apr 96 09:15:39 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA23020; Wed, 10 Apr 96 09:15:55 CDT  
Message-Id: <9604101415.AA23020@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Preface/Contributors  
Date: Wed, 10 Apr 96 09:15:55 CDT

Alan,

Greg Taylor sent a poster paper but did not attend and this is why the 3 person difference between attendees and contributor list. (Baum, Taylor, Zensus)

Countries are: USA, France, Spain, England, Canada, Australia, China, Japan and I counted Germany because Qian was coming from Max Planck at the time. If you want to cut the country count to reflect the present addresses then it is 8 and perhaps this should be changed.

Tell me when I should look for the new index.

Phil

From VM Thu Apr 25 13:41:59 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["829" "Wed" "10" "April" "1996" "10:29:10" "-0500" "Anton Zensus" "azensus@nrao.edu" nil "25" "Re: volume number" "^From:" nil nil "4" nil nil nil nil])

Content-Length: 829

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA24177; Wed, 10 Apr 1996 10:29:15 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA09352 for <abridle>; Wed, 10 Apr 1996 10:29:14 -0400 (EDT)

Message-Id: <2.2.32.19960410152910.006f8094@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject:

Re: volume number

Date: Wed, 10 Apr 1996 10:29:10 -0500

>Date: Wed, 10 Apr 96 09:23:41 CDT

>From: hardee@venus.astr.ua.edu (Hardee)

>To: azensus@nrao.edu

>Subject: Re: volume number

>

>

>Anton,

>

>I will wait and contact the ASP for the volume number at the appropriate time  
>if you wish. I had only thought to speed the process by having you contact  
>ASP directly instead of relaying through me as you will need to add the  
>volume number for your final printing.

>

>At present I imagine that the final printing will be mailed from NRAO directly  
>to ASP? I would, however, like to see a duplicate before it is sent off, say  
>by overnight FedEx? From here I can separately send the copyright forms and  
>the cover art. Does this sound reasonable to you?

>



>Phil  
>  
>PS. I am still short two copyright forms but have e-mail out to Readhead and  
> Tingay asking for their forms.  
>  
>  
>

From VM Thu Apr 25 13:42:01 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1173" "Wed" "10" "April" "1996" "10:55:48" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "60" "mods & info 4/10/96 " "^From:" nil nil "4" nil nil nil  
nil]  
nil)

Content-Length: 1173

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA53428; Wed, 10 Apr 1996 10:55:55 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA09372; Wed, 10 Apr 1996  
10:55:53 -0400 (EDT)

Message-Id: <2.2.32.19960410155548.0071486c@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Cc: azensus@vagabond.cv.nrao.edu

Subject: mods & info 4/10/96

Date: Wed, 10 Apr 1996 10:55:48 -0500

copy from az: preface.tex - az (includes all recent changes)

copy from az: contrib.tex

copy from az: title.tex

scheul: include markboth

daly:

daly.tex:\index{AGN!Doppler boosting|bf} change bf to bb

qian1.tex:0917+624\index{0917+624|bf} change bf to bb

qian2:

\section{Burst Injection by Relativistic  
Shock\index{shocks!relativistic}  
^ insert missing curly bracket here

biret:

\index{counterjets!M\,87}}  
^ remove extra curly bracket

caril

line 434: \copyright 1996 Cambridge University Press.)  
remove extra bracket ^

swain

\index{jets!polarimetry!"rails"} change " to `` and ' ' m(two

occurrences)

lloyd:

lloyd.tex:\index{jets!turbulence|)} missing range beginning

loken:

loken.tex:\index{jets!entrainment|)} missing range beginning

loken.tex:\index{numerical simulations|)} "

steffen:

steff.tex:\index{numerical simulations!jet propagation|)}

verme:

verme.tex:\index{superluminal motion|)} change one occur. to range

ending

From VM Thu Apr 25 13:42:06 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["824" "Wed" "10" "April" "1996" "17:53:43" "-0500" "Anton Zensus"

"azensus@nrao.edu" nil "29" "RE: Zensus, manuscript" "^From:" nil nil "4" nil nil  
nil nil]

nil)

Content-Length: 824

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25803; Wed, 10 Apr 1996 17:54:00 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA09574; Wed, 10 Apr 1996  
17:53:48 -0400 (EDT)

Message-Id: <2.2.32.19960410225343.006ef054@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: IAU175@astbol.bo.cnr.it

Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: RE: Zensus, manuscript

Date: Wed, 10 Apr 1996 17:53:43 -0500

Dear Carla,

We are finalizing the proceedings from the Alabama workshop on jets last September, and are constructing a complete bibliography. There are a number of references to IAU 175 and I wonder if you can provide us with page numbers for these papers (both starting and ending, that is. That would allow us to avoid "in press" citations for these items.

Hope you can help with this request. Thanks in advance for your help.

Best wishes,

Toni

Here are the papers in question:

Meier, Payne, and Lind: "The production of jets from magnetized accretion disks..."

Parma, de Ruiter, Fanti: "Low luminosity radio sources"

Saikia, and Garrington: "Constraints on unified schemes from polarization studies"

Steffen, Holloway, Pedlar, Axon: "IRAS 0421+0400..."

Vermeulen: "Superluminal motion: the first 100 sources"

From VM Thu Apr 25 13:42:09 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["429" "Wed" "10" "April" "1996" "17:54:04" "-0500" "Anton Zensus"

"azensus@nrao.edu" nil "25" "more mods 4/10/96" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 429

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA28199; Wed, 10 Apr 1996 17:54:13 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA09577; Wed, 10 Apr 1996 17:54:11 -0400 (EDT)

Message-Id: <2.2.32.19960410225404.0068e978@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Cc: azensus@vagabond.cv.nrao.edu

Subject: more mods 4/10/96

Date: Wed, 10 Apr 1996 17:54:04 -0500

make labels to figures (definition and calls in paper) unique for:  
(currently, they are fig-1, which causes trouble in multi-paper mode)

biret  
keel  
lovel  
qian1  
qian2  
wan

biret:  
change \ref{bickn} to \ref{bickn1}

wiita:  
change \ref{bickn} to \ref{bickn2}

bridl:  
there is a ref to kommissarov and Falle. I think this is komis1.  
Please check

From VM Thu Apr 25 13:42:10 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["108" "Wed" "10" "April" "1996" "18:15:45" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "5" "yet more mods 4/10/96" "^From:" nil nil "4" nil nil nil  
nil])  
Content-Length: 108  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA22684; Wed, 10 Apr 1996 18:15:53 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id SAA09597 for <abridle>; Wed,  
10 Apr 1996 18:15:53 -0400 (EDT)  
Message-Id: <2.2.32.19960410231545.007236cc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: yet more mods 4/10/96  
Date: Wed, 10 Apr 1996 18:15:45 -0500

Scheuerl: remove newcommand for mir  
change \mir to \anyas

copy jetdef.sty with latest changes

From VM Thu Apr 25 13:42:21 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["356" "Thu" "11" "April" "1996" "13:14:26" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "14" "reference" "^From:" nil nil "4" nil nil nil nil]  
nil])  
Content-Length: 356  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA20060; Thu, 11 Apr 1996 13:14:55 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA12293; Thu, 11 Apr 1996  
13:14:34 -0400 (EDT)  
Message-Id: <2.2.32.19960411181426.006eb000@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: jburns@nmsu.edu  
Cc: abridle@vagabond.cv.nrao.edu  
Subject: reference  
Date: Thu, 11 Apr 1996 13:14:26 -0500

Jack,

I am doing final checking of the refs for the Alabama book. Your paper:

Roettiger, Burns, and loken: "the observational consequences..."

is not yet known in the APJ Production office in Chicago. Can you please advise us on the status of the manuscript? Should I rather list it as submitted or has it already been accepted?

Thanks,

Anton Zensus

From VM Thu Apr 25 13:42:27 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2158" "Thu" "11" "April" "1996" "14:08:39" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "61" "Message for Janice" "^From:" nil nil "4" nil nil nil  
nil]  
nil)  
Content-Length: 2158  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59991; Thu, 11 Apr 1996 14:12:34 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA12334; Thu, 11 Apr 1996  
14:08:48 -0400 (EDT)  
Message-Id: <2.2.32.19960411190839.0074ada0@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: apj@noao.edu  
Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: Message for Janice  
Date: Thu, 11 Apr 1996 14:08:39 -0500

Dear Janice,

After our phone conversation, I am sending here the references that we have in our proceedings listed as submitted. We be very grateful (and our bibliography more useful) if you could let me know

1. if they are indeed all in your queue
2. those which are accepted, i.e. that we should list as in press

Thanks very much,  
and please forgive the TeX symbols..

Regards,

Anton Zensus

Romanova, M.~M., Ustyugova, G.~V.,~  
Koldoba, A.~V., Chechetkin,  
V.~M., \& Lovelace, R.~V.~E. 1996. ``Simulations of magnetically  
driven outflows: Stationary solutions'', \apj, submitted.

Contopoulos, J., Christodoulou, D.~M., \& Kazanas, D. 1996.  
``Interchange method in compressible magnetized Couette flow:  
Magnetoconvective and magnetorotational instabilities'', \apj,  
submitted.

Mart\{'i}, J.~M, M"uller, E.,  
Font, J.~A., Ib'a\~nez, J.~M., \& Marquina,  
A. 1995. ``Morphology and dynamics of relativistic jets'', \apj,  
submitted. (Paper~I)

Mart\{'i}, J.~M., M"uller, E., Font,  
J.~A., Ib'a\~nez, J.~M, \& Marquina, A.  
1996. ``Morphology and dynamics of relativistic jets'', \apj,  
submitted.

Sparks, W.~B., Biretta, J.~A., \& Macchetto, F. 1996. ``The  
jet of M-87 at tenth arcsecond resolution: Optical, uv, and radio  
observations'', \apj, submitted.

G\omez, P.,  
Pinkney, J., Burns, J., Wang, Q., \& Owen, F. 1996. ``ROSAT X-ray  
observations of galaxy clusters with wide-angle tailed radio  
sources'', \apj, submitted.

Koide, S., Sakai, J.-I., Nishikawa, K.-I., \& Mutel, R.~L. 1995.  
``Numerical simulation of bent jets: Propagation into an oblique  
magnetic field'', \apj, submitted.

Hooda, J.~S., \& Wiita, P.~J. 1996. ``Three-dimensional simulations  
of extragalactic jets crossing ISM/ICM interfaces'', \apj,  
submitted.

Eilek, J.~A. 1996. ``Fluid flow and spectral aging in  
tailed radio galaxies'', \apj, in press.

Eilek, J.~A., Melrose, D.~B., \& Walker, M.~A.~W. 1996.  
``Synchrotron aging in filamented magnetic fields'',  
\apj, in press.

From VM Thu Apr 25 13:42:28 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["605" "Thu" "11" "April" "1996" "15:34:35" "-0500" "Anton Zensus"  
"azensus@nrao.edu" nil "21" "Re: Boris ref" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 605

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29561; Thu, 11 Apr 1996 15:34:46 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by

vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id PAA12415 for <abridle>; Thu, 11 Apr 1996 15:34:45 -0400 (EDT)  
Message-Id: <2.2.32.19960411203435.006b374c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: Re: Boris ref  
Date: Thu, 11 Apr 1996 15:34:35 -0500

>Date: Thu, 11 Apr 96 14:29:50 CDT  
>From: hardee@venus.astr.ua.edu (Hardee)  
>To: azensus@nrao.edu  
>Subject: Re: refs

>  
>Anton,

>  
>Here is the correct reference. I had made the changes in the tex files and  
>I thought that Alan had those changes already. The reference appears in  
>the papers loken.tex and normnl.tex. Is Alan certain that he ftp'ed the last  
>versions of my tex files (typically dated March 31)?

>  
>\reference Boris, J.~P., Grinstein, F.~F., Oran, E.~S., \& Kolbe, R.~L. 1992.  
> ``New insights into large eddy simulation'', \fdr, {\bf 10},  
> 199--228.

>  
>Phil

From VM Thu Apr 25 13:42:31 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["799" "Thu" "11" "April" "1996" "15:39:48" "-0500" "Anton Zensus"  
"azensus@nrao.edu" "<2.2.32.19960411203948.007480f4@vagabond.cv.nrao.edu>" "28"  
"Boris ref" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 799

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29636; Thu, 11 Apr 1996 15:39:59 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id PAA12431 for <abridle>; Thu,  
11 Apr 1996 15:39:58 -0400 (EDT)

Message-Id: <2.2.32.19960411203948.007480f4@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: Boris ref  
Date: Thu, 11 Apr 1996 15:39:48 -0500

>Date: Thu, 11 Apr 1996 15:39:29 -0500  
>To: hardee@venus.astr.ua.edu (Hardee)  
>From: Anton Zensus <azensus@nrao.edu>

>Subject: Re: refs  
>  
>thanks. I checked, and it is ok in the file. The bibliography run was  
earlier and I just changed it there also.  
>  
>A.  
>  
>At 02:29 PM 4/11/96 CDT, you wrote:  
>>Anton,  
>>  
>>Here is the correct reference. I had made the changes in the tex files and  
>>I thought that Alan had those changes already. The reference appears in  
>>the papers loken.tex and normnl.tex. Is Alan certain that he ftp'ed the last  
>>versions of my tex files (typically dated March 31)?  
>>  
>>\reference Boris, J.~P., Grinstein, F.~F., Oran, E.~S., \& Kolbe, R.~L. 1992.  
>> ``New insights into large eddy simulation'', \fdr, {\bf 10},  
>> 199--228.  
>>  
>>  
>>Phil  
>>  
>>  
>

From VM Thu Apr 25 13:42:32 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
 ["749" "Thu" "11" "April" "1996" "15:47:22" "-0400" "Alan Bridle" "abridle"  
nil "24" "Status" "^From:" nil nil "4" nil nil nil nil]  
 nil)  
Content-Length: 749  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
 id AA46973; Thu, 11 Apr 1996 15:47:22 -0400  
Message-Id: <9604111947.AA46973@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Status  
Date: Thu, 11 Apr 1996 15:47:22 -0400

Phil,

So you know what is happening:

Tony is working hard on the large-scale layout and the finishing touches to the bibliography.

I am working on the (hopefully final) phase of the index editing. We will have another full draft of the latter by the end of the day and will do a test run of the whole thing to paper late this evening.

Once the obvious bugs are removed from the test run, we will FedEx a penultimate draft to you.

Tony is not now leaving for Germany as planned, he will be here full-time until this is ssent off. I do still have Robert Laing visiting, and we will work hard at getting this out as close to



our self-imposed deadline as possible. Neither of us is doing anything else that is substantial at the moment.

A.

From VM Thu Apr 25 13:42:34 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1154" "Thu" "11" "April" "1996" "15:50:36" "-0400" "Alan Bridle" "abridle"  
nil "33" "Re: Boris ref" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1154  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64077; Thu, 11 Apr 1996 15:50:36 -0400  
Message-Id: <9604111950.AA64077@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960411203948.007480f4@vagabond.cv.nrao.edu>  
References: <2.2.32.19960411203948.007480f4@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: Boris ref  
Date: Thu, 11 Apr 1996 15:50:36 -0400

Anton Zensus writes:

> >Date: Thu, 11 Apr 1996 15:39:29 -0500  
> >To: hardee@venus.astr.ua.edu (Hardee)  
> >From: Anton Zensus <azensus@nrao.edu>  
> >Subject: Re: refs  
> >  
> >thanks. I checked, and it is ok in the file. The bibliography run was  
> >earlier and I just changed it there also.  
> >  
> >A.  
> >  
> >At 02:29 PM 4/11/96 CDT, you wrote:  
> >>Anton,  
> >>  
> >>Here is the correct reference. I had made the changes in the tex files and  
> >>I thought that Alan had those changes already. The reference appears in  
> >>the papers loken.tex and normnl.tex. Is Alan certain that he ftp'ed the last  
> >>versions of my tex files (typically dated March 31)?  
> >>  
> >>\reference Boris, J.~P., Grinstein, F.~F., Oran, E.~S., \& Kolbe, R.~L. 1992.  
> >>`New insights into large eddy simulation', \fdr, {\bf 10},  
> >>199--228.  
> >>

I had asked Phil to tell me about reference changes made since the bib run, as they would need to be hand-added. He had said that all he did after that was indexing. Possibly some other work is being duplicated, in that case, but I don't think anything should have been lost.

A.

From VM Thu Apr 25 13:42:36 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["282" "Thu" "11" "April" "1996" "14:59:42" "CDT" "hardee@venus.astr.ua.edu"]

"hardee@venus.astr.ua.edu" "<9604111959.AA23323@venus.astr.ua.edu.astr.ua.edu>"  
"20" "Re: Status" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 282  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA24962; Thu, 11 Apr 1996 16:00:54 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA16432 for <abridle@polaris.cv.nrao.edu>; Thu,  
11 Apr 1996 16:00:53 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA05029; Thu, 11 Apr 1996 14:34:20 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA18294; Thu, 11 Apr 96 14:59:25 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA23323; Thu, 11 Apr 96 14:59:42 CDT  
Message-Id: <9604111959.AA23323@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Status  
Date: Thu, 11 Apr 96 14:59:42 CDT

Alan,

The latest version of the index looks quite good. A quick read through found  
backflow, 280, 296 ...

under letter b.

Should this be separate from the

lobes

backflow, 149, 150 ...

category under letter l?

I also found "ellipticalinteractions" with no space.

Phil

From VM Thu Apr 25 13:42:39 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["575" "Thu" "11" "April" "1996" "16:06:59" "-0400" "Alan Bridle" "abridle"  
nil "32" "Re: Status" "^From:" nil nil  
"4" nil nil nil nil]  
nil)

Content-Length: 575

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59463; Thu, 11 Apr 1996 16:06:59 -0400

Message-Id: <9604112006.AA59463@polaris.cv.nrao.edu>

In-Reply-To: <9604111959.AA23323@venus.astr.ua.edu.astr.ua.edu>

References: <9604111959.AA23323@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: Status

Date: Thu, 11 Apr 1996 16:06:59 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> The latest version of the index looks quite good. A quick read through found  
>  
> backflow, 280, 296 ...  
>  
> under letter b.  
>  
> Should this be separate from the  
>  
> lobes  
>  
> backflow, 149, 150 ...  
>  
> catagory under letter l?

It`s being combined.

>  
> I also found "ellipticalinteractions" with no space.  
>  
> Phil

Yup, a typo, has just been fixed.

The version Tiny posted is last night's, lots of changes today, but won`t hurt to pass on anything you see in case I missed it.

Thanks, A.

From VM Thu Apr 25 13:43:04 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["519" "Sat" "13" "April" "1996" "01:32:21" "-0400" "azensus@nrao.edu"  
"azensus@nrao.edu" nil "12" "author index" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 519

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57629; Sat, 13 Apr 1996 01:30:58 -0400

Received: from carlo.cv.nrao.edu (carlo.cv.nrao.edu [192.33.115.171]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id BAA01112; Sat, 13 Apr 1996  
01:30:53 -0400 (EDT)

Message-Id: <2.2.32.19960413053221.0069a2ac@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu (Unverified)

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: azensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu (Hardee)

Cc: abridle@vagabond.cv.nrao.edu

Subject: author index

Date: Sat, 13 Apr 1996 01:32:21 -0400

There were a number of typos in my first version of the author index of Friday afternoon. I just made a new version (Saturday, 1am). If you look at this at all, please use this version.

Anton

---

Dr. Anton Zensus | Ph: (804) 296-0231  
Scientist | Fx: (804) 296-0278  
National Radio Astronomy Observatory |  
520 Edgemont Road | Email: azensus@nrao.edu  
Charlottesville, VA 22902 USA | WWW: http://www.cv.nrao.edu/~azensus

From VM Thu Apr 25 13:43:07 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2403" "Mon" "15" "April" "1996" "10:02:03" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "72" "Message for Janice, sent again" "^From:" nil nil "4"  
nil nil nil nil]  
nil)

Content-Length: 2403

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28796; Mon, 15 Apr 1996 10:02:21 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA02362; Mon, 15 Apr 1996  
10:02:08 -0400 (EDT)

Message-Id: <2.2.32.19960415140203.006de508@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: apj@noao.edu

Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: Message for Janice, sent again

Date: Mon, 15 Apr 1996 10:02:03 -0400

>>>> I sent this last week, but it may not have reached you because we had  
mailer trouble. Please let me know if you can help us with this.

Thanks,

Anton Zensus

---

Dear Janice,

After our phone conversation, I am sending here the references that we have  
in our proceedings listed as submitted. We be very grateful (and our  
bibliography more useful) if you could let me know

1. if they are indeed all in your queue
2. those which are accepted, i.e. that we should list as in press

Thanks very much, and please forgive the TeX symbols..

Regards,

Anton Zensus

Romanova, M.~M., Ustyugova, G.~V.,  
Koldoba, A.~V., Chechetkin,  
V.~M., \& Lovelace, R.~V.~E. 1996. ``Simulations of magnetically  
driven outflows: Stationary solutions'', \apj, submitted.

Contopoulos, J., Christodoulou, D.~M., \& Kazanas, D. 1996.  
``Interchange method in compressible magnetized Couette flow:  
Magnetoconvective and magnetorotational instabilities'', \apj,  
submitted.

Mart\{'i}, J.~M, M"uller, E.,  
Font, J.~A., Ib\{'a\~nez, J.~M., \& Marquina,  
A. 1995. ``Morphology and dynamics of relativistic jets'', \apj,  
submitted. (Paper~I)

Mart\{'i}, J.~M., M"uller, E., Font,  
J.~A., Ib\{'a\~nez, J.~M, \& Marquina, A.  
1996. ``Morphology and dynamics of relativistic jets'', \apj,  
submitted.

Sparks, W.~B., Biretta, J.~A., \& Macchetto, F. 1996. ``The  
jet of M~87 at tenth arcsecond resolution: Optical, uv, and radio  
observations'', \apj, submitted.

G\omez, P.,  
Pinkney, J., Burns, J., Wang, Q., \& Owen, F. 1996. ``ROSAT X-ray  
observations of galaxy clusters with wide-angle tailed radio  
sources'', \apj, submitted.

Koide, S., Sakai, J.-I., Nishikawa, K.-I., \& Mutel, R.~L. 1995.  
``Numerical simulation of bent jets: Propagation into an oblique  
magnetic field'', \apj, submitted.

Hooda, J.~S., \& Wiita, P.~J. 1996. ``Three-dimensional simulations  
of extragalactic jets crossing ISM/ICM interfaces'', \apj,  
submitted.

Eilek, J.~A. 1996. ``Fluid flow and spectral aging in  
tailed radio galaxies'', \apj, in press.

Eilek, J.~A., Melrose, D.~B., \& Walker, M.~A.~W. 1996.  
``Synchrotron aging in filamented magnetic fields'',  
\apj, in press.

From VM Thu Apr 25 13:43:18 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["117" "Mon" "15" "April" "1996" "14:16:57" "-0400" "Anton Zensus"  
"azensus@nrao.edu" "<2.2.32.19960415181657.006db0c0@vagabond.cv.nrao.edu>" "7"  
"mods 4/15/96" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 117

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA58768; Mon, 15 Apr 1996 14:17:03 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA00663 for <abridle>; Mon,  
15 Apr 1996 14:17:01 -0400 (EDT)

Message-Id: <2.2.32.19960415181657.006db0c0@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: mods 4/15/96  
Date: Mon, 15 Apr 1996 14:16:57 -0400

verme:

remove \title line (there is already a \chapter)

crossind

line 43, has extra ")" after GPS

From VM Thu Apr 25 13:43:23 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["517" "Mon" "15" "April" "1996" "15:06:51" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "20" "more mods 4/15" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 517

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46246; Mon, 15 Apr 1996 15:06:57 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id PAA00886 for <abridle>; Mon,  
15 Apr 1996 15:06:56 -0400 (EDT)

Message-Id: <2.2.32.19960415190651.006bffb4@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: more mods 4/15  
Date: Mon, 15 Apr 1996 15:06:51 -0400

taylo

line 237: \compact symmetric > \index{compact

hughes line 147 \visualization{Schliern} > \index{visualization!Schlieren} ?

caril

line 381 extra ")" in figure cation for figure4 (at end)

clark

line 172 \numerical > \index{numerical

burns

line 401 : remove ")" at end of line ("...rich cluster.")

steffen

change \arcsec\ to \farcs\ (I believe...) .... \arcsec is no longer  
def. in jetdef.sty (twice)

line 163: \numerical > \index{numerical

From VM Thu Apr 25 13:43:25 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["379" "Mon" "15" "April" "1996" "15:48:55" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "19" "label mods" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 379  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50326; Mon, 15 Apr 1996 15:49:00 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id PAA00949 for <abridle>; Mon,  
15 Apr 1996 15:48:59 -0400 (EDT)  
Message-Id: <2.2.32.19960415194855.006ade5c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: label mods  
Date: Mon, 15 Apr 1996 15:48:55 -0400

make all \title to \chapter

qian1  
qian2  
biret  
keel  
wan

all use labels for figures like "fig-1" - nedd to make them unique

laing and chris both use an equation label "{vel}" - make unique

biret and hooda use "{tbl-1}" labels - make unique

cawth:

fix label & markboth: label should probably be outside of markboth,  
there are two markboth, and:  
4C71 > 4C\,71

From VM Thu Apr 25 13:43:27 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["106" "Mon" "15"  
"April" "1996" "16:29:44" "-0400" "Anton Zensus" "azensus@nrao.edu" nil "4" "yet  
more mods 4/15" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 106  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59316; Mon, 15 Apr 1996 16:29:50 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA00984 for <abridle>; Mon,  
15 Apr 1996 16:29:49 -0400 (EDT)  
Message-Id: <2.2.32.19960415202944.006bf3b4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu  
Subject: yet more mods 4/15  
Date: Mon, 15 Apr 1996 16:29:44 -0400

bickn2:

last ref: Wurtz: change {\bf 103} to {\bf 103}  
^

From VM Thu Apr 25 13:43:29 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2384" "Mon" "15" "April" "1996" "16:29:47" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "74" "APJ submitted-References" "^From:" nil nil "4" nil nil  
nil nil]  
nil)  
Content-Length: 2384  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA35018; Mon, 15 Apr 1996 16:29:53 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA00987 for <abridle>; Mon,  
15 Apr 1996 16:29:52 -0400 (EDT)  
Message-Id: <2.2.32.19960415202947.006f10a0@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: APJ submitted-References  
Date: Mon, 15 Apr 1996 16:29:47 -0400

Alan, here are the apj corrections: I will change the status as appropriate  
in the bibliography; please do the mods. in the individual chapters.

A.

>Date: Mon, 15 Apr 96 13:24:07 MST  
>From: apj@noao.edu (APJ Office)  
>To: azensus@nrao.edu  
>Subject: References  
>  
>Dear Dr. Zensus:  
>  
>I'm sorry it took me so long to get back with you.  
>  
>I will put in () what status we have for the following ms.  
>Janice  
>  
>Romanova, M.~M., Ustyugova, G.~V.,~  
>Koldoba, A.~V., Chechetkin,  
> V.~M., \& Lovelace, R.~V.~E. 1996. ``Simulations of magnetically  
> driven outflows: Stationary solutions'', \apj, submitted.  
>(submitted)  
>  
>Contopoulos, J., Christodoulou, D.~M., \& Kazanas, D. 1996.  
> ``Interchange method in compressible magnetized Couette flow:  
> Magnetoconvective and magnetorotational instabilities'', \apj,



```

> submitted.
>(submitted)
>
>Mart\{'\i}, J.~M, M"uller, E.,
> Font, J.~A., Ib\'a~nez, J.~M., \& Marquina,
> A. 1995. ``Morphology and dynamics of relativistic jets'', \apj,
> submitted. (Paper~I)
>(submitted)
>Mart\{'\i}, J.~M., M"uller, E., Font,
> J.~A., Ib\'a~nez, J.~M, \& Marquina, A.
> 1996. ``Morphology and dynamics of relativistic jets'', \apj,
> submitted.
>(this is the same ms as above.)
>Sparks, W.~B., Biretta, J.~A., \& Macchetto, F. 1996. ``The
>jet of M~87 at tenth arcsecond resolution: Optical, uv, and radio
>observations'', \apj, submitted.
>(submitted)
>
>G\'omez, P.,
>Pinkney, J., Burns, J., Wang, Q., \& Owen, F. 1996. ``ROSAT X-ray
>observations of galaxy clusters with wide-angle tailed radio
>sources'', \apj, submitted.
>(Submitted)
>
>Koide, S., Sakai, J.-I., Nishikawa, K.-I., \& Mutel, R.~L. 1995.
> ``Numerical simulation of bent jets: Propagation into an oblique
> magnetic field'', \apj, submitted.
>(Accepted for June 20, 1996 issue)
>
>Hooda, J.~S., \& Wiita, P.~J. 1996. ``Three-dimensional simulations
> of extragalactic jets crossing ISM/ICM interfaces'', \apj,
>submitted.
>(submitted)
>
>Eilek, J.~A. 1996. ``Fluid flow and spectral aging in
> tailed radio galaxies'', \apj, in press.
>(submitted)
>
>Eilek, J.~A., Melrose, D.~B., \& Walker, M.~A.~W. 1996.
> ``Synchrotron aging in filamented magnetic fields'',
> \apj, in press.
>(submitted)
>
>
>
>

```

From VM Thu Apr 25 13:43:35 1996

```

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
["363" "Tue" "16" "April" "1996" "11:15:02" "-0400" "Anton Zensus"
"azensus@nrao.edu" "<2.2.32.19960416151502.006fdcd8@vagabond.cv.nrao.edu>" "20"
"mods: 4/16/96" "^From:" nil nil "4" nil nil nil nil]
nil)

```

Content-Length: 363

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA45021; Tue, 16 Apr 1996 11:15:09 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA01780 for <abridle>; Tue, 16 Apr 1996 11:15:08 -0400 (EDT)



>  
> daly: in affil, change Dept. to Department?  
>

She didn't have Dept. wrong author?

> burns: has no markboth  
>  
>

done

A.

From VM Thu Apr 25 13:43:41 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["376" "Tue" "16" "April" "1996" "11:27:43" "-0400" "Alan Bridle" "abridle"  
nil "21" "Re: mods: 4/16/96" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 376  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40745; Tue, 16 Apr 1996 11:27:43 -0400  
Message-Id: <9604161527.AA40745@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960416151502.006fdcd8@vagabond.cv.nrao.edu>  
References: <2.2.32.19960416151502.006fdcd8@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: mods: 4/16/96  
Date: Tue, 16 Apr 1996 11:27:43 -0400

Anton Zensus writes:

>  
> birki, allbama2: \sxot ref, change to journal style  
>

already is, so this change should be in jetdef.sty

> also: birki, ledlo: change \itemize to \enumerate (or do we accept bullet  
> items?)

done

>  
> also: chris, laing, bickn1, and normn1 may be running into an extra page  
>  
>

I'll look into these once the format is stbilized

A.

From VM Thu Apr 25 13:43:43 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2576" "Tue" "16" "April" "1996" "15:46:01" "-0400" "Alan Bridle" "abridle"  
nil "54" "Strategy for proofs" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 2576

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32317; Tue, 16 Apr 1996 15:46:01 -0400  
Message-Id: <9604161946.AA32317@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Strategy for proofs  
Date: Tue, 16 Apr 1996 15:46:01 -0400

Hi Phil,

The bad news is that Tony has had to make a quick and unexpected trip to Socorro for OVLBI business. He will be back Friday evening. The good news is that I had just finished what I was doing on the indexing and therefore pick up some slack on the munging-together of all the files to make the book.

Turns out that there is a small array of new bugs that comes in when all the files are run together, as opposed to separately; including ambiguous labeling and other small but annoying details. We also have to run the full book out on another workstation with a different version of Latex and a different OS and this has introduced some further small but aggravating extra steps in the process.

The good news is that I do now have a passable draft of the whole thing, 40 Mb of Postscript; it would gzip down to about 7 Mb.

There are some typographical problems with the automatic generation of the table of contents and the index that we will simply fix by hand in the .toc and idx files, it's not worth the time and effort to try and test new LaTeX macro stuff to get around them automatically. But these will be done at the last moment when we are sure that page numbering cannot possibly change again.

How would it be best to get this to you for perusal? The fastest by a mile would be to put the gzipped .PS file on our ftp area so you could pull it across to Alabama this evening. I do not dare run the whole thing out to paper during a workday here, and anyway it is at the stage where the best proofing is done in GhostView.

If you would have the disk space and time to review the thing as .PS I'll put the current draft where you can grab it. If not, I will do a late-night printer run this week and FedEx paper to you.

Both Tony and I will go through it completely once each before making the final paper run here. Given Tony's trip, this will now be this weekend and early next week. I still have the hard deadline of Robert's arrival here on Thursday next (25th), but we should have the final paper version done by then.

One bug I may not try to fix until Tony returns as it is deep inside his macro package: the equations in the book are being numbered continuously rather than restarting with each new author. I know how to fix this by brute force but I would sooner he fixed it inside his package at this point. If I get everything else straightened out before he comes back I will look into hacking on his code, but if not, just assume that it will be corrected in the final version rather than in this proof stage.

A.

From VM Thu Apr 25 13:43:45 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["245" "Tue" "16" "April" "1996" "15:09:52" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604162009.AA24272@venus.astr.ua.edu.astr.ua.edu>" "8"  
"Re: Strategy for proofs" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 245  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48204; Tue, 16 Apr 1996 16:11:04 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA16089 for <abridle@polaris.cv.nrao.edu>; Tue,  
16 Apr 1996 16:11:02 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA07350; Tue, 16 Apr 1996 14:44:29 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26640; Tue, 16 Apr 96 15:09:30 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA24272; Tue, 16 Apr 96 15:09:52 CDT  
Message-Id: <9604162009.AA24272@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Strategy for proofs  
Date: Tue, 16 Apr 96 15:09:52 CDT

Alan,

Yes, I can get the gzipped file later today and gunzip the postscript file. I have no shortage of disk space on my workstation. This would give me the opportunity to print it out and read through it during the rest of this week.

Phil

From VM Thu Apr 25 13:43:51 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1885" "Tue" "16" "April" "1996" "17:21:39" "-0400" "Alan Bridle" "abridle"  
nil "50" "Re: Strategy for proofs" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1885  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46867; Tue, 16 Apr 1996 17:21:39 -0400  
Message-Id: <9604162121.AA46867@polaris.cv.nrao.edu>  
In-Reply-To: <9604162009.AA24272@venus.astr.ua.edu.astr.ua.edu>  
References: <9604162009.AA24272@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Strategy for proofs  
Date: Tue, 16 Apr 1996 17:21:39 -0400

Hi Phil:

jetbook.ps.gz is in /pub/NRAO-staff/abridle/private/alabama

on ftp.cv.nrao.edu

It's just over 7 Mb, expands to just over 40.

Known deficiencies:

Table of Contents is a zoo that will be fixed by hand, but the paginations are correct, and useful when reading the .ps file. Tony has temporarily turned on a 3-level contents list (down to subsections) to help with format checks and finding stuff. We suggest that only a 2-level one (to sections) go in the final version.

Index will be split by hand into two parts: Source Index and Topic Index. Also there are some multiple entries and M\_\_A entries that are generated by LaTeX and will be merged/ expunged by hand. Otherwise no more indexing is planned and I have consolidated entries as much as I would do without further comment from you or Tony.

There's an Author Index (alphabetical by authors giving page refs to the papers) that Tony generated but has gone to ground in some odd corner of his disk where I can't find it at this moment. Another 2 pages at the end.

The Table captioning macro has to be fixed to center the shorter captions and put a little more space in before the first double line. Tony was working on this when he had to go catch his plane.

As I mentioned before, the Equation-numbering macro has still to be brought into line with the Figure and Table-numbering one.

There has been a small outbreak of unintended line-breaks, apparently caused by going back/forth between Unix and DOS in some cases (ctrl-M characters). We will need to read carefully for these and I will also write a sanity-scanner for all the .tex files to check for such things automatically before we finalize.

Biretta's Figure 1 is misplaced to the right, and needs to be re-centered. Also was on Tony's list of things to do, I will look at it tomorrow a.m. now.

A.

```
From VM Thu Apr 25 13:43:53 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["191" "Tue" "16" "April" "1996" "16:27:54" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9604162127.AA24324@venus.astr.ua.edu.astr.ua.edu>" "9"
"Re: Strategy for proofs" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 191
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA19309; Tue, 16 Apr 1996 17:29:01 -0400
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id RAA17469 for <abridle@polaris.cv.nrao.edu>; Tue,
16 Apr 1996 17:29:00 -0400 (EDT)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
```

id AA12649; Tue, 16 Apr 1996 16:02:32 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA26724; Tue, 16 Apr 96 16:27:33 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA24324; Tue, 16 Apr 96 16:27:54 CDT  
Message-Id: <9604162127.AA24324@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Strategy for proofs  
Date: Tue, 16 Apr 96 16:27:54 CDT

Alan,

Is the jetbook.ps.gz in Anton's area the same as the one in yours. I ask because I am half way through pulling the one from Anton's area and hope I don't have to do it again.

Phil

From VM Thu Apr 25 13:43:56 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["357" "Tue" "16" "April" "1996" "17:42:35" "-0400" "Alan Bridle" "abridle"  
nil "18" "Re: Strategy for proofs" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 357  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41755; Tue, 16 Apr 1996 17:42:35 -0400  
Message-Id: <9604162142.AA41755@polaris.cv.nrao.edu>  
In-Reply-To: <9604162127.AA24324@venus.astr.ua.edu.astr.ua.edu>  
References: <9604162127.AA24324@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Strategy for proofs  
Date: Tue, 16 Apr 1996 17:42:35 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Is the jetbook.ps.gz in Anton's area the same as the one in yours. I ask  
> because I am half way through pulling the one from Anton's area and hope  
> I don't have to do it again.  
>  
> Phil  
>

No, Tony's was left in mid-edit much earlier today and I have fixed a lot of things since then.

A.

From VM Thu Apr 25 13:44:08 1996  
X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]  
["4956" "Wed" "17" "April" "1996" "10:37:05" "-0400" "Alan Bridle" "abridle"

nil "108" "Proofreading book draft" "^From:" nil nil "4" nil nil nil nil] nil)  
Content-Length: 4956  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48244; Wed, 17 Apr 1996 10:37:05 -0400  
Message-Id: <9604171437.AA48244@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Proofreading book draft  
Date: Wed, 17 Apr 1996 10:37:05 -0400

Phil, Tony:

To save you having to E-mail me about these, FYI I have so far caught and changed:

Scheul: p.2, line 8 "is is"  
p.3, para 4: inconsistent cases.  
p.5, midway add ref to Readhed, \tp  
Wilson: p.12 Table notes to footnotesize  
p.14, line N-2, malformed index entry  
p.23, line N-1, book titles are all u.c. by convention  
p.24, line 2, same  
, line N-6, same, also ASP changed to match new jetdef.sty  
Lovellace p.30, line 4 romanize max  
p.31, line N-1, same  
p.34, B & E ref, remove WV after GB to match new jetdef.sty  
Christod p.37 use standard format for authors' addresses  
this makes them overflow 6 pages, but they were now one  
reference over the limit anyway, so we might as well  
make them look the same as everyone else anyway!  
p.39 line 3, space after cf.  
p.42 CUP-->Cambridge Univ. Press  
Marscher p.53 jetdef.sty: \compsy2 has malformed AIP entry  
Qian1 p.55, break 2-line address after institute name  
p.55, line N-7, , --> ; before Camenzind  
p.57, line 6 punctuation ; --> .  
Qian2 p.61, break 2-line address after institute name  
p.63, Fig.1 caption make lightcurve two words  
p.66 Fig. --> Figure, see also Marscher p.53 change  
time-delay ---> time delay  
Georg p.69 line 6 below eqns, \cos  
p.70 line 8 space between (XBL) and and  
p.71 line 10 \$-\$ in PKS name  
Daly \markboth: no initial for last author  
note: for consistency, all markboth authorlists dropped initials  
p.74, line N-1 Fig. --> Figure  
p.74,75,76 use \& in authorlists  
Readhead p.79, line N-2 of Intro: crazy ref due to malformed \pageref  
p.80, line N-1, insert of before five  
p.82, does not print -- see below  
Appl p.130, second para, correct indentation  
Phil: caused by inter-paragraph indexing when no paragraph!  
  
p.130, line N-9 the the  
p.131, correct indentation below equation, same as p.130  
add circumflex to role, uniform with other papers  
throughout: use \deg for degree symbol  
throughout: use \farcs for decimal arcsecs



p.135, Goedbloed ref: delete issue no.6 (also Bibl)  
 Hughes p.137, break 2-line address after institute name  
 Duncan p.143, likewise  
 Marti p.149, use standard format for authors' addresses  
 p.150, Sec.1, line N-5; use ; to separate refs  
 p.151, before eqn., space after cf.  
 p.151, Sec.3, line N-4, malformed index item  
 p.152, below eqs. eq. --> equation (did global search here)  
 p.154, does not print -- see below  
 Bicknell p.199 and elsewhere close up -- in degree ranges  
 Keel p.210, line 3 close up speed and .  
 Jones p.219, abstract, delete commas after Telescope and jets  
 p.219, para.2, symmetrize parens around MOST  
 p.223, line 2, period after A  
 p.224, Jones & McAdam ref, MNRAS, submitted. ( also in Bibl)  
 Rudnick p.231, abstr line 6, close up spectra and ,  
 Laing: p.240 and Bowman et al. ref in biblio; year is 1996  
 p.243 item 9: reinstate his \hspace  
 (Tony: this undoes one of your edits, but I think he knew what  
 he was doing in this case!)  
 p.243 Sec 2.3, item 2, malformed index entry  
 Carilli p.289, abstract, space after parsec  
 Swain p.305, sect 3.2 heading use ---  
 Clarke throughout: convert 1-D, 2-D, 3-D to 1D, 2D, 3D for consistency  
 with other papers  
 p.314 end of Sec.3, delete extra .  
 p.317 and 318: use 3-author list for Carilli, Hines, Biretta refs.  
 Norman p.321, line N-15, delete extra , after etc.  
 p.323, sec 3.1, line 5: space between cf. and Figure  
 p.325, para.2 last line, likewise  
 throughout: romanize {jet}, {amb}, {head}, {cocoon} subscripts  
 Komiss3 p.330, Sec.3, para.1, line N-2, . after predicts  
 p.331, para.2, line 2: space between cone and (Figure  
 p.333, romanize cm  
 Scheu2: no markboth entry  
 text, line 8: comma after i.e.  
 Birkin p.337 text, line 3, and line N-5: close up around ---  
 p.339,340, Fig. --> Figure

Things to fix still:

p.82 and p.154 will not print on 600 dpi printer

Figure and Table caption algorithm needs to do better centering  
for short captions

Equation autonumbering needs to suppress 0. heading and reset  
counter with every paper

The "preprint" header lines are no longer being output on every  
title page (only the Index has them).

resize Qian figures (this was on Tony's "to-do" list)

Laing paper overflow, will try to put some text on page with figures

Anything I find after p.342 and in the pages that didn't print  
because of format problems on our 600 dpi printer. (p.82 --122  
and 154-196). I will work on these later today.

A.

From VM Thu Apr 25 13:44:15 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["216" "Wed" "17" "April" "1996" "13:17:52" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604171817.AA00407@venus.astr.ua.edu.astr.ua.edu>" "8"  
"Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 216  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA43807; Wed, 17 Apr 1996 14:18:52 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id OAA06729 for <abridle@polaris.cv.nrao.edu>; Wed,  
17 Apr 1996 14:18:50 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13161; Wed, 17 Apr 1996 12:52:30 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA28841; Wed, 17 Apr 96 13:17:30 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA00407; Wed, 17 Apr 96 13:17:52 CDT  
Message-Id: <9604171817.AA00407@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Wed, 17 Apr 96 13:17:52 CDT

Alan,

My print spooler does not have enough free space to print the entire 40  
Mbyte postscript file at once. Is it possible for you to split the  
file into say 3 or 4 pieces that could be printed separately.

Phil

From VM Thu Apr 25 13:44:16 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["822" "Wed" "17" "April" "1996" "15:10:22" "-0400" "Alan Bridle" "abridle"  
nil "26" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 822  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59559; Wed, 17 Apr 1996 15:10:22 -0400  
Message-Id: <9604171910.AA59559@polaris.cv.nrao.edu>  
In-Reply-To: <9604171817.AA00407@venus.astr.ua.edu.astr.ua.edu>  
References: <9604171817.AA00407@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Wed, 17 Apr 1996 15:10:22 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> My print spooler does not have enough free space to print the entire 40  
> Mbyte postscript file at once. Is it possible for you to split the

> file into say 3 or 4 pieces that could be printed separately.  
>  
> Phil

Aha, I was wondering if you would hit something like that. Yes, I can do that of course and will break up the next run that way. If you have to download again, you might as well get the version that has all my changes made so far.

Meanwhile, if you have Ghostview, you could simply mark page ranges for printing from there once you have the file loaded. I have been doing that about 100 pages at a time to achieve the same effect.

I'm about to do another editing round and will break up the next .ps output into 4 roughly equal chunks.

A.

```
From VM Thu Apr 25 13:44:28 1996
X-VM-v5-Data: ([nil nil nil t nil nil nil nil]
  ["295" "Wed" "17" "April" "1996" "16:26:17" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9604172126.AA01653@venus.astr.ua.edu.astr.ua.edu>" "8"
"Re: book draft" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 295
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA55322; Wed, 17 Apr 1996 17:27:28 -0400
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id RAA10608 for <abridle@polaris.cv.nrao.edu>; Wed,
17 Apr 1996 17:27:27 -0400 (EDT)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA11601; Wed, 17 Apr 1996 16:00:55 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA29401; Wed, 17 Apr 96 16:25:55 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA01653; Wed, 17 Apr 96 16:26:17 CDT
Message-Id: <9604172126.AA01653@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: book draft
Date: Wed, 17 Apr 96 16:26:17 CDT
```

Alan,

I don't have ghostview and pageview on my workstation will not print a page range -- only 1 page or all the pages. However, if you have a .dvi file I can view and print page ranges from the .dvi file. (This would probably only work if the .dvi file was made on a sun workstation)

Phil

```
From VM Thu Apr 25 13:44:30 1996
X-VM-v5-Data: ([nil nil nil t nil nil nil nil]
  ["3520" "Wed" "17" "April" "1996" "17:27:23" "-0400" "Alan Bridle" "abridle"
nil "85" "More fixing proof draft" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 3520
```

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA24308; Wed, 17 Apr 1996 17:27:23 -0400  
Message-Id: <9604172127.AA24308@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: More fixing proof draft  
Date: Wed, 17 Apr 1996 17:27:23 -0400

Today's edits in place:

O'Dea p.85 break address line at institute  
romanize {cool} subscript throughout  
p.87 last line infrared for IR  
p.88 Mirabel, Sanders & Kazes 1989 for Mirabel et al.  
p.89 line 7 from end of text, . after galaxies, no . outside )  
Taylor p.91 line N-9, Section for \Sec  
p.95 Figure~ for Fig.  
Pearson p.98 Sec.2, line 4 comma after Roberts  
p.98 malformed \pageref for Vermeulen  
p.98 Sec 2, para 2, High-dynamic  
p.99 end of para 1, malformed \pageref  
para 2, line 2, malformed \pageref  
p.100 line 6, likewise -- I've now done a global search on these  
as there must have been an incorrect massive-replace at some  
point  
p.101-102 alphabetize small numbers  
p.102 Walker et al. 1994 --> Walker, Romney, & Benson  
p.103 Sec.6, para.2, midway Taylor, Readhead, & Pearson (1996)  
p.104 line N-7 gratuitous linefeed  
p.105 Capitalize book titles: Carilli & Harris/ Cohen/Kellermann  
p.107 Boldface volume nos (Romney et al, Wilkinson 95)  
Lobanov p.109 break two-line address after NRAO  
p.109 Intro, midway Lobanov & Zensus  
p.111 line 6, Fig.2 to Figure 2 and below (global replaced)  
dlete comma after unclear  
p.112 line N-4, Sol et al --> Sol, Pelletier, \& Ass\'eo  
Vermeul p.118 line N-3, malformed \pageref  
p.119 para.2, line N-1, ; for ,  
p.120 para 1, last line, ; for ,  
Burns p.350 line N-15 eliminate ,,  
Owen p.355 abstract last line adjust punctuation  
p.360 Dwarakanath & Owen ref, add eds. as in Bibl  
Steffen p.367 Norman, Burns \& Sulkanen not \et al\  
line N-9 reproduces not reproduce  
Koide p.373 Iowa City, not city  
Fejes et al should be Fejes, Porcas, & Akujor  
Hardee et al. 1994  
should be Hardee, Cooper & Clarke  
2-D ---> 2D  
p.377 Sec.4, para.1, last lineL\"udke, not Ludke  
p.378 acknowledgements: add "the" before NCSA  
Hooda 3-D --> 3D for consistency throughout  
p.380 Hardee et al. 1995 should be Hardee, Clarke & Howell  
p.382 mid-way separate cf. from Table 1  
p.384 end of 6, add \deg, .

---

Still to do:

Steffen p.370 get rid of table underscore line  
Koide p.377 He refers to Hardee (1994), not in ref list.  
Phil: is this a missing ref, or is it Hardee, Cooper & Clarke?  
Koide p.377, line N-1: Phil: what is this =< delta > construction? obscure?  
is it "expectation value of delta theta", if so we should  
reformat it accordingly, here and p.378 (top)  
Hooda p.381 Table 1 underscore not needed  
Bridle p.391 something in the master format changed so this and p.393 are  
very loosely formatted, and the paper now spills over its  
12-page limit. What changed?  
Cawthorne make an editorial note that abstract only because of  
author illness?

=====

I am breaking off editing at this point so that I can make another  
.ps run for Phil as he suggested.

I have still to review the second pageset that was screwed by the  
printing failure

A.

From VM Thu Apr 25 13:44:32 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["730" "Wed" "17" "April" "1996" "17:46:48" "-0400" "Alan Bridle" "abridle"  
nil "18" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 730  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA15047; Wed, 17 Apr 1996 17:46:48 -0400  
Message-Id: <9604172146.AA15047@polaris.cv.nrao.edu>  
In-Reply-To: <9604172126.AA01653@venus.astr.ua.edu.astr.ua.edu>  
References: <9604172126.AA01653@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Wed, 17 Apr 1996 17:46:48 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> I don't have ghostview and pageview on my workstation will not print a page  
> range -- only 1 page or all the pages. However, if you have a .dvi file  
> I can view and print page ranges from the .dvi file. (This would probably  
> only work if the .dvi file was made on a sun workstation)

>  
> Phil

You would need all the modified .eps and .ps files as well for this. I'm making four new .gz files right now and will move them to the ftp area as soon as possible. One of them is still rather large, even though I adjusted the page ranges to try to compensate, I think it must be biretta influence. I am making these sight unseen as Mary will be here soon to pick me up.

A.

```
From VM Thu Apr 25 13:44:41 1996
X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]
  ["467" "Wed" "17" "April" "1996" "17:07:29" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" nil "14" "Re: book draft" "^From:" nil nil "4" nil nil
nil nil]
  nil)
Content-Length: 467
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA59247; Wed, 17 Apr 1996 18:08:28 -0400
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id SAA11251 for <abridle@polaris.cv.nrao.edu>; Wed,
17 Apr 1996 18:08:27 -0400 (EDT)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA12916; Wed, 17 Apr 1996 16:42:07 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA29498; Wed, 17 Apr 96 17:07:07 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA01726; Wed, 17 Apr 96 17:07:29 CDT
Message-Id: <9604172207.AA01726@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: book draft
Date: Wed, 17 Apr 96 17:07:29 CDT
```

Alan,

Koide: the  $\langle \delta \theta \rangle$  construction is "average value of  $\delta \theta$ " as Koide defines it but could be revised if necessary.

Hardee (1994) should in fact be Hardee et al. (1994) which is in the reference list. (Hardee, Cooper & Clarke 1994)

If this is all that you found wrong in Koide's paper then I guess I didn't do too badly. I had to rewrite the original - it was unreadable.

Phil

PS. Wish me luck with the postscript files.

```
From VM Thu Apr 25 13:44:51 1996
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]
  ["336" "Thu" "18" "April" "1996" "10:24:39" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>"
"10" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 336
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
```

id AA37432; Thu, 18 Apr 1996 11:25:38 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA25251 for <abridle@polaris.cv.nrao.edu>; Thu,  
18 Apr 1996 11:25:35 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA15769; Thu, 18 Apr 1996 09:59:16 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA00679; Thu, 18 Apr 96 10:24:16 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01824; Thu, 18 Apr 96 10:24:39 CDT  
Message-Id: <9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Thu, 18 Apr 96 10:24:39 CDT

Alan,

I am in the process of printing out the files and will begin reading tonight. In scanning the table of contents I noted that Koide's paper has not been moved to the appropriate location. His paper is relevant to the bending of BL Lacs on small scales < 1 kpc and so should probably come after Pearson but before Hughes.

Phil

From VM Thu Apr 25 13:45:29 1996  
X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]  
["3444" "Thu" "18" "April" "1996" "16:51:40" "-0400" "Alan Bridle" "abridle"  
nil "76" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 3444  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41784; Thu, 18 Apr 1996 16:51:40 -0400  
Message-Id: <9604182051.AA41784@polaris.cv.nrao.edu>  
In-Reply-To: <9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>  
References: <9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Thu, 18 Apr 1996 16:51:40 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I am in the process of printing out the files and will begin reading  
> tonight. In scanning the table of contents I noted that Koide's paper  
> has not been moved to the appropriate location. His paper is relevant  
> to the bending of BL Lacs on small scales < 1 kpc and so should  
> probably come after Pearson but before Hughes.  
>  
> Phil

I'm not exactly overjoyed by this idea as it involves a fair bit of hand-work in the bibliography, where the one assumption that was made was that the order of papers would not change again. It can be done if

really needed, however. Koide is in the proceedings where he was in the meeting, so how crucial is this change?

Meanwhile, here are today's gleanings from the main text:

=====

AHB changes following the April 17 reprint of .ps sent to Phil Hardee:

Wilson, p.12 attempt to fix interline spacing problem in Table notes  
Lovelace, p.25 break address after University,  
Christodoulou , p.37 break address after Center,  
Marscher, p.45 break address after University,  
Qian1, p.57, line 3+ itemize his list, Fig. ---> Figure  
Daly, remove initial from markboth (escaped from last round)  
p.75, line N-7, Vermeulen & Cohen  
Marti, p.149 break address after Astrophysik,  
Gomez, p.159 Put addresses in standard format  
Komiss1, p.165 break address after Leeds,  
break address after Institute,  
line 6 replace , see also with ;  
line 7 replace Duncan & Hughes w Duncan, Hughes, & Opperman  
p.169 line N-3, replace Komissarov w Komissarov & Falle  
p.170 line 6 replace et al. w Blandford, & Rees  
Komis2, p.173 break addresses as in Komis1  
line 2 \etal\ --> Blandford & ress  
line 6 \etal\ --> M"uller & Ib'a~nez  
Appl2, p.183 mid-way extra linefeeds removed  
p.184 line 2 , \etal\ --> Cooper, \& Clarke  
p.184 line 5, \etal\ --> Thorne, & Price  
Biretta, p.187 line N-4 (Bicknell & Begelman, these P....)  
Bickn2, p.259 remove spaces, romanize refs in equation  
DeYoung, p.265 comma not period after KPNO  
Loken, p.274 \etal\ --> Clarke, & Howell  
Komis3, p.331 line N-3, replace Duncan & Hughes w Duncan, Hughes, & Opperman  
p.334 Sec.4, line 5 \etal\ --> Conway & Leahy; Lui --> Liu  
p.335 line N-6, \et al\ as above. line N likewise  
p.336 line N-5 main text, \etal\ --> Dreher \& Cowan  
Burns, p/345 abstract line 6 suggest--->suggests  
abstract line 8 period after mergers  
em-dash before wide-angle tails and after halos  
Owen, p.362 Dwarakanath ref, all caps in Book Title  
Ledlow p.366 romanize {opt} subscript  
Bridle, p.387 break address after Observatory,  
p.390 Sec 5.1, line 8 Appl, Sol \& Vicente  
p.395 midway remove ? in Swain pageref  
Norman, p.411 break address after Astronomy,  
p.411 line 3 of text add PETERS before Workshop (he uses later)  
p.411 line N-2, Lovelace \& Romanova (\tp  
line N-1, space after cf., move Figure 1 to after Page  
p.413 Duncan  
\etal\ --> Dunca, Hughes, \& opperman

Pearson, Vermeulen lack \page before \pageref entries. Added

To chase, still (in addition to the previous to-do's):



Tingay: Clark 1973 has no title! (This has slipped through at least two dozen cracks to get this far!)

From VM Thu Apr 25 13:45:46 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["415" "Thu" "18" "April" "1996" "17:24:54" "-0400" "Alan Bridle" "abridle"  
nil "10" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 415  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28211; Thu, 18 Apr 1996 17:24:54 -0400  
Message-Id: <9604182124.AA28211@polaris.cv.nrao.edu>  
In-Reply-To: <9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>  
References: <9604181524.AA01824@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Thu, 18 Apr 1996 17:24:54 -0400

In going through the O'Dea paper again I caught a number of additional places where \etal\ should be an author list and have fixed these on-the-fly. I also found that his Readhead etal reference had been upgraded to 1996 in the bibliography and ref list but not in the text. I am now doing a search on the entire document to make sure that all the 1995-->1996 upgrades for publication dates have propagated.

A.

From VM Thu Apr 25 13:45:49 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["495" "Thu" "18" "April" "1996" "16:24:10" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604182124.AA01972@venus.astr.ua.edu.astr.ua.edu>"  
"14" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 495  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25792; Thu, 18 Apr 1996 17:25:16 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id RAA02924 for <abridle@polaris.cv.nrao.edu>; Thu,  
18 Apr 1996 17:25:10 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36638; Thu, 18 Apr 1996 15:58:47 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA02561; Thu, 18 Apr 96 16:23:47 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA01972; Thu, 18 Apr 96 16:24:10 CDT  
Message-Id: <9604182124.AA01972@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Thu, 18 Apr 96 16:24:10 CDT

Alan,

OK leave Koide where he is, no real harm done.

I have had only one printing problem in that my printer gives me an error at figure 1 in Hardee and then will not print out subsequent pages 280-312 (the pages remaining in this .ps file) My printer says error: rangecheck. Presumably you can print out OK. I suggest that when you split the book into 4 .ps files that one of the splits be immediately after Hardee -- then I won't lose more than a few pages if the problem remains.

Phil

From VM Thu Apr 25 13:45:51 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1491" "Thu" "18" "April" "1996" "17:50:31" "-0400" "Alan Bridle" "abridle"  
nil "43" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1491

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44754; Thu, 18 Apr 1996 17:50:31 -0400

Message-Id: <9604182150.AA44754@polaris.cv.nrao.edu>

In-Reply-To: <9604182124.AA01972@venus.astr.ua.edu.astr.ua.edu>

References: <9604182124.AA01972@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: book draft

Date: Thu, 18 Apr 1996 17:50:31 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> OK leave Koide where he is, no real harm done.

Thanks for that!

>  
> I have had only one printing problem in that my printer gives me an  
> error at figure 1 in Hardee and then will not print out subsequent  
> pages 280-312 (the pages remaining in this .ps file) My printer says  
> error: rangecheck. Presumably you can print out OK. I suggest that  
> when you split the book into 4 .ps files that one of the splits be  
> immediately after Hardee -- then I won't lose more than a few pages if  
> the problem remains.  
>  
> Phil

There are a bunch of these messing up our printouts, too,  
and they depend on what is immediately before them. Several  
of the changes I made today have altered where our printer  
refuses to print with messages like this. In a few cases,  
we can print on one printer but not on another from the  
same file, and vice versa. Bottom line is that these things  
vary and we will have to work around whichever pages don't print  
in the actual cases, they are very hard to predict.

My search for the 1996 entries and their consistency exposed  
several more sins and "fast ones" by authors that I am fixing  
on-the-fly now.

I'm about to do another jumbo run based on my edits today. This will probably be the run that Tony gets to read when he gets back ....

Despite the plethora of things I caught today, I do believe we are starting to converge. Will be interesting to see what your eye picks out ....

A.

```
From VM Thu Apr 25 13:45:59 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["74" "Fri" "19" "April" "1996" "09:51:14" "-0400" "Alan Bridle" "abridle"
  nil "7" "Qian1" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 74
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA61157; Fri, 19 Apr 1996 09:51:14 -0400
Message-Id: <9604191351.AA61157@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: azensus
Subject: Qian1
Date: Fri, 19 Apr 1996 09:51:14 -0400
```

Tony,

I have fixed up his format without changing length of paper.

A.

```
From VM Thu Apr 25 13:46:04 1996
X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]
  ["616" "Fri" "19" "April" "1996" "10:07:39" "-0400" "Alan Bridle" "abridle"
  nil "19" "Komissarov & Falle" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 616
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA64658; Fri, 19 Apr 1996 10:07:39 -0400
Message-Id: <9604191407.AA64658@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: azensus, hardee@venus.astr.ua.edu
Subject: Komissarov & Falle
Date: Fri, 19 Apr 1996 10:07:39 -0400
```

Tony, Phil:

All three papers use an author format that leaves leading superscripts in front of the addresses, unlike any other in the book.

We could resolve this by making Komissarov's Russian address an \altafill in all three cases. I will do this unless one of you objects. I have been trying to standardize the address formats a little bit to make the appearance more uniform, and this set now stands out.

The other "oddities" are the "two equal addresses" - Wilson and Birkinshaw \$ Worrall, but in both cases I think this is actually required. I'm not sure how similar Komissarov's case is to these.

A.

```
From VM Thu Apr 25 13:46:07 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
  ["217" "Fri" "19" "April" "1996" "09:30:58" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9604191430.AA02082@venus.astr.ua.edu.astr.ua.edu>" "9"
"Re: Komissarov & Falle" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 217
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA17471; Fri, 19 Apr 1996 10:32:18 -0400
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA16576 for <abridle@polaris.cv.nrao.edu>; Fri,
19 Apr 1996 10:32:15 -0400 (EDT)
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)
  id AA32716; Fri, 19 Apr 1996 09:05:35 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
  id AA03168; Fri, 19 Apr 96 09:30:34 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
  id AA02082; Fri, 19 Apr 96 09:30:58 CDT
Message-Id: <9604191430.AA02082@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: Komissarov & Falle
Date: Fri, 19 Apr 96 09:30:58 CDT
```

Alan,

More later but while you are working on addresses you need to get Marscher and Georganopoulos addresses identical. One of them uses Avenue and one uses Ave. in the street address.

Off to class shortly,

Phil

```
From VM Thu Apr 25 13:46:10 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["252" "Fri" "19" "April" "1996" "13:50:44" "-0400" "Alan Bridle" "abridle"
nil "12" "Re: Komissarov & Falle" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 252
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA40168; Fri, 19 Apr 1996 13:50:44 -0400
Message-Id: <9604191750.AA40168@polaris.cv.nrao.edu>
In-Reply-To: <9604191430.AA02082@venus.astr.ua.edu.astr.ua.edu>
References: <9604191430.AA02082@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: Komissarov & Falle
Date: Fri, 19 Apr 1996 13:50:44 -0400
```

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> More later but while you are working on addresses you need to get Marscher and  
> Georganopoulos addresses identical. One of them uses Avenue and one uses Ave.  
> in the street address.  
>

Done.

A.

From VM Thu Apr 25 13:46:13 1996  
X-VM-v5-Data: ([nil nil nil t t nil nil nil nil]  
["4402" "Fri" "19" "April" "1996" "13:02:22" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604191802.AA02124@venus.astr.ua.edu.astr.ua.edu>"  
"155" "Re: book" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 4402  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA66997; Fri, 19 Apr 1996 14:03:25 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id OAA20236 for <abridle@polaris.cv.nrao.edu>;  
Fri, 19 Apr 1996 14:03:23 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13793; Fri, 19 Apr 1996 12:36:58 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA03906; Fri, 19 Apr 96 13:01:57 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02124; Fri, 19 Apr 96 13:02:22 CDT  
Message-Id: <9604191802.AA02124@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book  
Date: Fri, 19 Apr 96 13:02:22 CDT

Alan,

Well I made it through the first 109 pages last night and below is what I found.  
I will not be able to skim more until Saturday afternoon.

Phil

In contents:

add commas & ands in various places. Remove notation numbers.  
several titles are overlong without enough space to the page number  
align Summary under Qian1  
correct Ma Marti etc..

Center the word "Preface" ?

In contributors:

Hooda - Physics and Astronomy

Koide - Electronics and Information

Lovelace - Department of Applied Physics but Department of Astronomy in the paper address -- I will have to check with Dick on his correct affiliation but it used to be Department of Applied Physics

Tingay - spacing on Mt. Stromlo

Papers:

- p.2 - spacing on (6.4 + 0.9 Mpc) midpage  
spacing on Tanaka et al. last paragraph before 3.
- p.5 - should there be a comma after Lobes in 5. Hot Spots, Lobes etc.?  
comma after e.g. before Massaglia .... in fourth paragraph
- p.6 - general question about capitalization in reference titles (see first reference: ...jet in Cygnus A: a subluminal... When I did titles like this one I always capitalized after the ":" so we may not be uniform here.
- p.12 - general comment, make sure all tables have the same single line double line convention.
- p.15 - first paragraph spacing at ...emission-line spectra...
- p.25 - Department of Astronomy or Department of Applied Physics?
- p.35 - double period in Meier reference
- p.45 - Commonwealth Ave. in address should agree with p.67
- p.51 - in 2. (see Fig.2) change to (see Figure 2)
- p.53 - ref to Daly, R. A., & Marshcer, A. P. is missing the &
- p.55 - floating period at end of first sentence in Intr.
- p.56 and 57 - problem with figure position and caption overlap
- p.57 - fig.3. change to figure 3.  
see Fig. 1) change to see Figure 1)
- p.61 - ...,i.e, the three-stage... needs a comma after "i.e."
- p.62 - change  $R=R_0$  to  $R = R_0$  etc.. immediately above section 2.2. and  $t=0$  to  $t = 0$  below section 2.2.
- p.63 - bottom rewrite sentence as follows: We assume "equation here", where  $\eta$ ,  $\sigma$  and  $w$  are constants, and  $n$  is an integer.
- p.65 - bottom change (eq. 6) to (equation 6)
- p.67 - Commonwealth Avenue in address should agree with p.45
- p.68 - bottom spacing and spelling at ...synchrotron energy losses give....  
synchrotron energy losses give

- p.70 - (Fig. 1) change to (Figure 1)
- p.71 - next to last paragraph (Fig. 2) change to (Figure 2)
- p.74 - double period at end of 2nd equation and immediately after replace "symbol" for section with word "section"
- p.75 - below 3.: symbol for section to section 1 and last paragraph Vermeulen and Cohen to Vermeulen & Cohen
- p.77 - theta-gamma replace with theta--gamma in two places
- p.78 - theta-gamma replace with theta--gamma in two places  
Remove "And" at beginning of 3rd sentence in 2nd paragraph
- p.79 - (these Proceedings, Page 91) ; below 2. Taylor et al. (1996)
- p.80 - Rewrite the following above eq. 1 as it makes no sense: "At first sight result the second point appears odd, because, if we assume..."
- p.81 - double and single table lines OK?
- p.83 - top (see Fig. 1) change to (see Figure 1)
- p.86 - line 3+ Stanghellini et al. 1995 in preparation change to Stanghellini et al. in preparation  
  
lower down 2-3 change to 2--3
- p.87 - 3 up from bottom  $\times 10^{22}$  add space  $\times 10^{22}$
- p.88 - line 6 remove extra space between ....Sanders, Kazes 1989.....
- p.92 - 12 up from bottom B1-B2 change to B1--B2
- p.95 - This double and single line setup on the Table is how I thought all Tables should appear as it is ApJ standard!!!
- p.98 - (...these Proceedings, Page 117)
- p.99 - (...these Proceedings, Page 109)  
(these Proceedings, Page 117)  
below 3. : millijanskys to milliJanskys
- p.100 - (...these Proceedings, Page 291;...)
- p.101 - (these Proceedings, Page 215)
- p.102 - line 5 (at least one [3C 338], and...) is the [] necessary?
- p.103 - below 6. : (these Proceedings, Page 79)  
(these Proceedings, Page 91)
- p.104 - (...these Proceedings, Page 129)
- p.106 - in reference Hummel there is a loose et al. in the author list
- p.107 - in reference Reid need a comma after Spencer

From VM Thu Apr 25 13:46:15 1996  
X-VM-v5-Data: ([nil nil nil t nil nil nil nil nil]  
["2539" "Fri" "19" "April" "1996" "15:15:37" "-0400" "Alan Bridle" "abridle"  
nil "84" "Re: book" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 2539  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA21694; Fri, 19 Apr 1996 15:15:37 -0400  
Message-Id: <9604191915.AA21694@polaris.cv.nrao.edu>  
In-Reply-To: <9604191802.AA02124@venus.astr.ua.edu.astr.ua.edu>  
References: <9604191802.AA02124@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee), azensus  
Subject: Re: book  
Date: Fri, 19 Apr 1996 15:15:37 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> Well I made it through the first 109 pages last night and below is what I found.  
> I will not be able to skim more until Saturday afternoon.  
>  
> Phil  
>

Phil, all of your comments are now done except for the following:  
(Tony: I have fixed the Figure problems in your papers now)

> In contents:  
>  
> add commas & ands in various places. Remove notation numbers.  
>  
> several titles are overlong without enough space to the page number  
>  
> align Summary under Qian1  
>  
> correct Ma Marti etc..  
>

Lots of editing still to be done in the contents, so I'm holding off  
until we have the final pagination, there is so much that's wrong here at the  
moment that we need to wait until pagination is stable before going  
in by hand. My last iteration has pruned Bicknell and Laing back inside



their allocation, and I'm reordering my own review to make it fit with the new macros.....

> Center the word "Preface" ?

I think Tony wants to keep the section heads the same everywhere, so this is deliberate. We should discuss when he's back.

> Lovelace - Department of Applied Physics but Department of Astronomy in the  
> paper address -- I will have to check with Dick on his correct  
> affiliation but it used to be Department of Applied Physics

I agree this should be checked, are you doing that?

>  
> Papers:  
>  
> p.2 - spacing on (6.4 + 0.9 Mpc) midpage

I have not been leaving extra spaces around \pm in general, this would require a global search if it is what we want.

>  
> p.6 - general question about capitalization in reference titles (see first  
> reference: ...jet in Cygnus A: a subluminal... When I did titles  
> like this one I always capitalized after the ":" so we may not be  
> uniform here.

I have changed them all (including the one in harde.tex (!) to the capital-letter format but I'm not sure this is grammatical, and it definitely conflicts with the A&A practice, for example. I can easily change them all back to lower-case.

>  
> p.25 - Department of Astronomy or Department of Applied Physics?  
>

I await your answer!

>  
> p.62 - change  $R=R_0$  to  $R = R_0$  etc.. immediately above section 2.2. and  $t=0$   
> to  $t = 0$  below section 2.2.  
>

these look o.k. to me as-is, have left them for the moment

All others done, await the next batch! Do you want me to run off some more .ps files before you leave today, or will you stay with the ones you have for the weekend?

A.

From VM Thu Apr 25 13:46:17 1996  
X-VM-v5-Data: ([nil nil nil t t nil nil nil nil])

```
["551" "Fri" "19" "April" "1996" "14:31:34" "CDT" "hardee@venus.astr.ua.edu"
"hardee@venus.astr.ua.edu" "<9604191931.AA02176@venus.astr.ua.edu.astr.ua.edu>"
"13" "Re: book" "^From:" nil nil "4" nil nil nil nil]
nil)
Content-Length: 551
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA46815; Fri, 19 Apr 1996 15:32:33 -0400
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA22326 for <abridle@polaris.cv.nrao.edu>; Fri,
19 Apr 1996 15:32:32 -0400 (EDT)
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)
id AA31315; Fri, 19 Apr 1996 14:06:10 -0500
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)
id AA04013; Fri, 19 Apr 96 14:31:09 CDT
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)
id AA02176; Fri, 19 Apr 96 14:31:34 CDT
Message-Id: <9604191931.AA02176@venus.astr.ua.edu.astr.ua.edu>
From: hardee@venus.astr.ua.edu (Hardee)
To: abridle@polaris.cv.nrao.edu
Subject: Re: book
Date: Fri, 19 Apr 96 14:31:34 CDT
```

Alan,

It would be useful to rerun a .ps file between pages 277(?) and 313 as this is the section that I lost due to my printer error. Since the error was in my own paper why don't you make a .ps file between the end of my paper and page 313. For everything else I can use the version that I have now.

Phil

PS. I just called Dick Lovelace and his office is in the Department of Applied Physics. However, the secretary also said he is considered a member of the Astronomy Department as well. I suggest we use Department of Applied Physics.

From

```
VM Thu Apr 25 13:46:18 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
["545" "Fri" "19" "April" "1996" "16:44:46" "-0400" "Alan Bridle" "abridle"
nil "19" "Re: book" "^From:" nil nil "4" nil nil nil nil]
nil)
Content-Length: 545
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
id AA51840; Fri, 19 Apr 1996 16:44:46 -0400
Message-Id: <9604192044.AA51840@polaris.cv.nrao.edu>
In-Reply-To: <9604191931.AA02176@venus.astr.ua.edu.astr.ua.edu>
References: <9604191931.AA02176@venus.astr.ua.edu.astr.ua.edu>
From: abridle (Alan Bridle)
To: hardee@venus.astr.ua.edu (Hardee)
Subject: Re: book
Date: Fri, 19 Apr 1996 16:44:46 -0400
```

hardee@venus.astr.ua.edu writes:

```
>
> Alan,
>
```

> It would be useful to rerun a .ps file between pages 277(?) and 313 as this is  
> the section that I lost due to my printer error. Since the error was in my  
> own paper why don't you make a .ps file between the end of my paper and page  
> 313. For everything else I can use the version that I have now.  
>  
> Phil  
>

Done, modulo the page numbering changes I have effected by pushing Laing  
and Bicknell back into their allotted crevices.

It's in the usual place as jetbook5.ps.gz

A.

From VM Thu Apr 25 13:46:24 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["2697" "Sun" "21" "April" "1996" "18:00:32" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>"  
"124" "Re: book draft corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 2697  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA20725; Sun, 21 Apr 1996 19:01:25 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id TAA19971 for <abridle@polaris.cv.nrao.edu>; Sun,  
21 Apr 1996 19:01:24 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA36675; Sun, 21 Apr 1996 17:35:08 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA05429; Sun, 21 Apr 96 18:00:06 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02527; Sun, 21 Apr 96 18:00:32 CDT  
Message-Id: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft corrections  
Date: Sun, 21 Apr 96 18:00:32 CDT

Alan,

More corrections follow. Last batch probably not until Tuesday. Next set will  
begin with Clarke's paper and go to the end.

Phil

Lobanov

p.1 - footnote index not on name

p.2 - middle ...with a relativistic shock (LZ96).

to get figure 4 out of reference section I suggest switching Figures 1  
and 2 in numbering and placing the present figure 2 below the reference  
to (Figure 2) in section 2.1. Thus there would be figures on p.2,3,4,5  
with references on p.6 - I hope this works. I can do this if you do  
not have the time.

Wardle

Table 1 dual to single underline at bottom

Appl

p.2 - lower middle eq. to equation

Marti - reduce empty space between fig 2 and section 4.2 with a  $\backslash\text{vspace}\{-1.0\text{cm}\}$  and fig 3 should come back to its position below first few lines section 4.2 and the last two references should come back to the previous page.

komis2 - last sentence should it be ...Komissarov & Falle (these Proceedings, Page 331)?

Appl - Table 1 dual to single underline at bottom

p.4 - 17 ...  $/\text{ly}^{-3}$  yields... change to ...  $\text{ly}^{-3}$  yields...

reference Conway & Murphy needs comma in ref list

Biretta

p.2 - 5th paragraph (Tab. 1) to (Table 1)

Table 1 dual to single underline at bottom

p.5 - last paragraph remove comma from ...Boksenberg, et al. 1992)

p.11 - 5th paragraph ... vs. optical ... remove extra space. should vs be in italics?

Bicknell

p.7 - 14 under section 8. question should the dates be in () in the reference?

Keel

p.5 - Acknowledgements. ...EPSCoR grant OSR-9108761... is the correct grant code.

reference list

Barden - should not be (San Francisco: ASP) so must not be calling macro def

Tsai - title should have II instead of 2

Tingay

p.2 - below sec 2.1 Fig. 1 to Figure 1

reference list

Clark - as you know has no title

Jones

p.5 excessive space under fig 3

Lloyd

Table 1 dual to single underline at bottom

Rudnick

p.5 - under sec 4 extra comma after Eilek in (O`Donoghue, Owen, & Eilek, 1993)

Laing

p.2 - last sentence 1st paragraph is comma needed before ...slowly, and derived...

Bicknell

p.4 - spacing goes awry at page bottom : this should correct the reference list overflow

p.6 - near top eq. to equation  
under fig 2 should number "2" be changed to two?

De Young

fig 2 caption - vs to vs. ?

Eilek

p.3 - paragraph above sec 3. should read: Applying equation ()...  
and also Using equation ()...

Carilli

p.2 - 15 (3C 295] to (3C 295)

Table 1 dual to single underline at bottom

p.10 - 110 (ICM] to (ICM)  
excessive space to Acknowledgements

reference Biretta needs an \&

Wan

last page - Thus, the similar lobe pressure...  
... Readhead et al.\ (these Proceedings, Page 79).

From VM Thu Apr 25 13:46:27 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1831" "Mon" "22" "April" "1996" "09:44:28" "-0400" "Alan Bridle" "abridle"  
nil "53" "Re: book draft corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1831

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA19640; Mon, 22 Apr 1996 09:44:28 -0400

Message-Id: <9604221344.AA19640@polaris.cv.nrao.edu>

In-Reply-To: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>

References: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: book draft corrections  
Date: Mon, 22 Apr 1996 09:44:28 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> More corrections follow. Last batch probably not until Tuesday. Next set will  
> begin with Clarke's paper and go to the end.

Hi Phil,

Thanks for the corrections, all marked in my working copy. Tony is back and working on the formatting problems.

A couple of your comments do not match what Tony and I have been attempting to standardize:

>  
> to get figure 4 out of reference section I suggest switching Figures 1  
> and 2 in numbering and placing the present figure 2 below the reference  
> to (Figure 2) in section 2.1. Thus there would be figures on p.2,3,4,5  
> with references on p.6 - I hope this works. I can do this if you do  
> not have the time.  
>

Tony will write you re this one, we are not completely consistent, and probably cannot be without redoing some peoples' Figures, but he will explain the conflict.

> Wardle  
>  
> Table 1 dual to single underline at bottom  
>

Here, and elsewhere, we have been trying to convert everything to a double line top and bottom (major demarcation, and single lines internally. Most of them have already been fixed to to this, we will check them all before final run. This is not the same as Ap.J. standard but it does not need to be.

All others are in the "to do" markup.

We desperately need to freeze the page numbers so we can work on the contents and index in final form, also run a script that allows us to generate the individual .ps files to exhibit to the authors for proofreading. We must make a real effort to freeze the page numbers by the end of the working day today.

I do not think this should be hard, as the number of corrections per reading is declining very rapidly. However, we must soon pass the point where some format changes are excluded because they would change pagination.

A.

From VM Thu Apr 25 13:46:34 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil])

["266" "Mon" "22" "April" "1996" "08:57:04" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "10" "Re: book draft corrections" "^From:" nil nil  
"4" nil nil nil nil]  
nil)

Content-Length: 266

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59125; Mon, 22 Apr 1996 09:57:57 -0400

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id JAA27734 for <abridle@polaris.cv.nrao.edu>; Mon,  
22 Apr 1996 09:57:56 -0400 (EDT)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31425; Mon, 22 Apr 1996 08:31:40 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA06123; Mon, 22 Apr 96 08:56:38 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02601; Mon, 22 Apr 96 08:57:04 CDT

Message-Id: <9604221357.AA02601@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: book draft corrections

Date: Mon, 22 Apr 96 08:57:04 CDT

Alan,

I will not worry about the tables - just as long as they are consistent.

I will start to read through the remaining pages after my class this morning.  
I am slowed today because we have a job candidate in and of course a  
colloquium and receptions etc..

Phil

From VM Thu Apr 25 13:46:38 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

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nil "126" "\"To do\" status/collation re book" "^From:" nil nil "4" nil nil nil  
nil]  
nil)

Content-Length: 5061

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56907; Mon, 22 Apr 1996 10:18:01 -0400

Message-Id: <9604221418.AA56907@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus, hardee@venus.astr.ua.edu

Subject: "To do" status/collation re book

Date: Mon, 22 Apr 1996 10:18:01 -0400

Tony, Phil: here's a status report on the "to do" lists, spliced from last week's  
E-mail:

p.82 and p.154 will not print on 600 dpi printer : p.82 known problem  
from Caltech, will delete and paste into final copy. (Tony believes  
the Figure  
.ps prints by itself.)

Figure and Table caption algorithm needs to do better centering  
for short captions. (Tony is working on this.)

Equation autonumbering needs to suppress 0. heading and reset counter with every paper. (Tony is working on this.)

The "preprint" header lines are no longer being output on every title page (only the Index has them). (Tony is working on this.)

resize Qian figures (this was on Tony's "to-do" list). (Alan has done this.)

Laing paper overflow, will try to put some text on page with figures. (Done.)

Steffen p.370 get rid of table underscore line. (Done.)

Hooda p.381 Table 1 underscore not needed. (Done.)

Bridle p.391 something in the master format changed so this and p.393 are very loosely formatted, and the paper now spills over its 12-page limit. What changed?  
(I have reformatted so it now fits.)

Cawthorne make an editorial note that abstract only because of author illness? (I will add if you both agree.)

Tingay: Clark 1973 has no title! (Done.)

Subject: Komissarov & Falle

Date: Fri, 19 Apr 1996 10:07:39 -0400

All three papers use an author format that leaves leading superscripts in front of the addresses, unlike any other in the book. We could resolve this by making Komissarov's Russian address an \altafill in all three cases. I will do this unless one of you objects. I have been trying to standardize the address formats a little bit to make the appearance more uniform, and this set now stands out.  
(I have made this change.)

The other "oddities" are the "two equal addresses" - Wilson and Birkinshaw & Worrall, but in both cases I think this is actually required. (These are still to be searched.)

In contents:

add commas & ands in various places. Remove notation numbers.

several titles are overlong without enough space to the page number

align Summary under Qian1

correct Ma Marti etc..

(These will all be done once page numbering is stable)

Phil: Center the word "Preface" ?

Alan : I think Tony wants to keep the section heads the same everywhere, so this is deliberate. We should discuss when he's back. (Tony: thoughts?)



In contributors:

Hooda - Physics and Astronomy. (Done.)

Koide - Electronics and Information (Done.)

Phil: Lovelace - Department of Applied Physics but Department of Astronomy in the paper address -- I will have to check with Dick on his correct affiliation but it used to be Department of Applied Physics

PS. I just called Dick Lovelace and his office is in the Department of Applied Physics. However, the secretary also said he is considered a member of the Astronomy Department as well. I suggest we use Department of Applied Physics.

Alan: If he is in both, shouldn't we go with the address that he himself put on his paper, which was Dept. of Astronomy. That way, he makes the choice, not us.

> p.2 - spacing on (6.4 + 0.9 Mpc) midpage

Alan: I have not been leaving extra spaces around \pm in general, this would require a global search if it is what we want. (Low on list at the moment).

Phil:

> p.6 - general question about capitalization in reference titles (see first  
> reference: ...jet in Cygnus A: a subluminal... When I did titles  
> like this one I always capitalized after the ":" so we may not be  
> uniform here.

Alan: I have changed them all (including the one in harde.tex (!) to the capital-letter format but I'm not sure this is grammatical, and it definitely conflicts with the A&A practice, for example. I can easily change them all back to lower-case.

Akain again: on looking at how the journals to do this, I prefer the lower-case version. I would like to convert them all to that. Phil was right, we were inconsistent, but I prefer the lower-case option as used by A&A for example, given that we are lower-casing everything else in these titles. (Decision required!)

Phil:

> p.62 - change  $R=R_0$  to  $R = R_0$  etc.. immediately above section 2.2. and  $t=0$   
> to  $t = 0$  below section 2.2.  
>

Alan: these look o.k. to me as-is, have left them for the moment. (Will leave indefinitely unless someone prods me!)n

We need to break the .ps into individual papers and post to the net with E-mail notification to authors for quick proofreading. This requires running Ton'y breakup script, which in turn requires final page numbers. Deadline: end of today for page number finalization.

Where is the description of the cover art going to be places, and what is it? Phil, can you write the description? I think the description should be in the Preface. What is the final form for submission of the art (is it the .ps file, or a paper copy?). I think the master of the .ps file is still in Phil's ftp area?

A.

From VM Thu Apr 25 13:46:44 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["259" "Mon" "22" "April" "1996" "11:34:54" "-0400" "Alan Bridle" "abridle"  
nil "9" "Koide" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 259  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44003; Mon, 22 Apr 1996 11:34:54 -0400  
Message-Id: <9604221534.AA44003@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Koide  
Date: Mon, 22 Apr 1996 11:34:54 -0400

In fixing the <> stuff in Koide I have a problem at the  
bottom of p.375 (line N-1) If the < and > are angle brackets  
around the  $\Delta\Theta$  then there is no "punctuation" before  
the  $\sqrt{\quad}$ . Are missing an equals sign, or another > or < ?

Help needed,

A.

From VM Thu Apr 25 13:46:46 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["46" "Mon" "22" "April" "1996" "11:36:44" "-0400" "Alan Bridle" "abridle"  
nil "4" "Re: Koide, II" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 46  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA51878; Mon, 22 Apr 1996 11:36:44 -0400  
Message-Id: <9604221536.AA51878@polaris.cv.nrao.edu>  
In-Reply-To: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>  
References: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Koide, II  
Date: Mon, 22 Apr 1996 11:36:44 -0400

or should the "punctuation" be  $\times$  ?

.

From VM Thu Apr 25 13:46:51 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["773" "Mon" "22" "April" "1996" "11:33:14" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604221633.AA02655@venus.astr.ua.edu.astr.ua.edu>"  
"27" "Re: Koide" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 773  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57806; Mon, 22 Apr 1996 12:34:06 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id MAA00392 for <abridle@polaris.cv.nrao.edu>; Mon,  
22 Apr 1996 12:34:05 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27496; Mon, 22 Apr 1996 11:07:49 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA06374; Mon, 22 Apr 96 11:32:47 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02655; Mon, 22 Apr 96 11:33:14 CDT  
Message-Id: <9604221633.AA02655@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Koide  
Date: Mon, 22 Apr 96 11:33:14 CDT

Alan,

Here is the construction that you want to use for Koide. Basically we have  
 $\langle \theta \rangle = \text{average of } \theta \text{ times the square root term.}$

$\langle \theta \rangle = \langle \Delta \theta \rangle \sqrt{L/l_B}$ ,

Possibly you want to add a  $\times$  or multiplication dot in the expression but  
I don't think it is absolutely necessary.

It would also be advisable to replace on the top of the next page the  
present:

The average scattering angle  $\langle \Delta \theta \rangle = \frac{4}{15} \pi \frac{L}{a} \frac{1}{\eta M_A^2}$  (Koide et al 1995),

with

The average scattering angle  $\langle \Delta \theta \rangle = \frac{4}{15} \pi \frac{L}{a} \frac{1}{\eta M_A^2}$  (Koide  
et al 1995),

the only change being "<" to  $\langle$  and ">" to  $\rangle$

I hope this clarifies things.

Phil

From VM Thu Apr 25 13:46:54 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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nil "7" "Re: Koide" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 103

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44874; Mon, 22 Apr 1996 13:32:47 -0400  
Message-Id: <9604221732.AA44874@polaris.cv.nrao.edu>  
In-Reply-To: <9604221633.AA02655@venus.astr.ua.edu.astr.ua.edu>  
References: <9604221633.AA02655@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Koide  
Date: Mon, 22 Apr 1996 13:32:47 -0400

hardee@venus.astr.ua.edu writes:

> I hope this clarifies things.  
>  
> Phil

Yup, changes made. A.

From VM Thu Apr 25 13:47:10 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["278" "Mon" "22" "April" "1996" "14:26:36" "-0400" "Alan Bridle" "abridle"  
nil "9" "Figure copyrights" "^From:" nil nil "4" nil nil nil nil]  
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id AA45953; Mon, 22 Apr 1996 14:26:36 -0400  
Message-Id: <9604221826.AA45953@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Figure copyrights  
Date: Mon, 22 Apr 1996 14:26:36 -0400

The only Figure copyrights mentioned in the book at the moment are the ones I have extracted from Wilson, Carilli, and Jones.

Is this really all we need? For example, Biretta, Figs.2 and 5 are examples where it seems that copyright permissions should have been obtained.

A.

From VM Thu Apr 25 13:47:17 1996  
X-VM-v5-Data:  
([nil nil nil nil nil nil nil nil nil]  
["866" "Mon" "22" "April" "1996" "15:02:07" "-0400" "Alan Bridle" "abridle"  
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id AA57776; Mon, 22 Apr 1996 15:02:07 -0400  
Message-Id: <9604221902.AA57776@polaris.cv.nrao.edu>  
In-Reply-To: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>  
References: <9604212300.AA02527@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Marti's figures  
Date: Mon, 22 Apr 1996 15:02:07 -0400

hardee@venus.astr.ua.edu writes:

```
>  
> Marti - reduce empty space between fig 2 and section 4.2 with a  
> \vspace{-1.0cm} and fig 3 should come back to its position below  
> first few lines section 4.2 and the last two references should  
> come back to the previous page.  
>
```

This doesn't work (1cm causes a collision), and anything that puts the paper 8 pages leaves it too scrunched-up in this region.

I am going to try an alternative. His Figures 12 and 4 are too compressed

to be legible even now, before the further 10% reduction, but he did provide the files as separate .PS figures. If he is going to over-run anyway, we might as well rearrange his Figures so that the panels in Figures 2 and 4 run the full width and become legible. I'll change the Figure captions and text to reflect this change if the Figures come out looking better.

From VM Thu Apr 25 13:47:19 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["308" "Mon" "22" "April" "1996" "14:12:56" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "11" "Re: Marti's figures" "^From:" nil nil "4" nil  
nil nil nil]  
nil)

Content-Length: 308

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46016; Mon, 22 Apr 1996 15:13:55 -0400

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA03490 for <abridle@polaris.cv.nrao.edu>; Mon,  
22 Apr 1996 15:13:53 -0400 (EDT)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA31321; Mon, 22 Apr 1996 13:47:32 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA07075; Mon, 22 Apr 96 14:12:29 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02736; Mon, 22 Apr 96 14:12:56 CDT

Message-Id: <9604221912.AA02736@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: Marti's figures

Date: Mon, 22 Apr 96 14:12:56 CDT

Alan,

Yes, go ahead and enlarge Marti's gray scale figure's if he is going to be over the limit anyway. The only reason they were small was to keep him under 8 pages.

I have now skimmed all but the 3 review papers and am working on the correction list. I should be able to get it to you shortly.

Phil

From VM Thu Apr 25 13:47:23 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["1677" "Mon" "22" "April" "1996" "14:41:05" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604221941.AA02745@venus.astr.ua.edu.astr.ua.edu>"  
"86" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1677

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA47297; Mon, 22 Apr 1996 15:42:05 -0400

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA03870 for <abridle@polaris.cv.nrao.edu>; Mon,  
22 Apr 1996 15:42:01 -0400 (EDT)

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id AA34551; Mon, 22 Apr 1996 14:15:40 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA07205; Mon, 22 Apr 96 14:40:38 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02745; Mon, 22 Apr 96 14:41:05 CDT  
Message-Id: <9604221941.AA02745@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Mon, 22 Apr 96 14:41:05 CDT

Alan,

more corrections follow.

Phil

Clarke

p.4 - 2nd paragraph should Fanaroff and Riley be Fanaroff & Riley?

Norman1

p.1 - no space after period end of first sentence

p.8 - after Norman, Smarr, Winkler & Smith reference should there be a (NSWS)?  
There may be other omissions like this in various papers?

Komis3

p.1 - 2nd paragraph ...Duncan & Hughes... should be ...Duncan, Hughes, & Opperman,  
these... Sorry - this was my fault.

Birkinshaw

p.2 - section 2 1st sentence funny construction at ...(PSPC);  
Pfeffermann et al. 1986) in...

p.5 - reference title Birkinshaw 1994a "H~I and...

Burns

p.1 - 3rd from bottom: extra commas after Owen and before dates in  
(e.g., Zhao...

p.3 - 7 from bottom: should there be a comma after ...White, in preparation)

p.4 - 11 from bottom: same as above after ...Norman, in preparation)

p.5 - 3rd line \S 2.1 to section 2.1  
8 from bottom \S 2.3 to section 2.3

reference list

Ledlow, M. J. \& Burns, J. O. 1996

Mulchaey needs a D. after Burstein,

Owen

p.3 - line 11 Wall and Peacock to Wall & Peacock

under section 3. is ...Burns in these Proceedings. Page 345,... correct form?

Ledlow

reference Heckman needs comma at Balick, B.

Steffen

p.4 - extra line under Table 1.

get fig 4 before references

Koide

in Discussion 1st paragraph change to

...Hardee (1987) and Hardee et al.\ (1994) and Conway \& Murphy (1993)...

2nd paragraph

remove !magnetosonic - where did this come from?

Hooda

p.2 - 16 (cf. Eilek & Shore 1989) needs a space after cf.

p.3 - extra space above 3. Input Parameters

funny line under Table 1

the net result is to throw fig.1 back a page from where it would best be displayed.

From VM Thu Apr 25 13:47:28 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

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nil)

Content-Length: 1214

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA54542; Mon, 22 Apr 1996 16:30:24 -0400

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA04772 for <abridle@polaris.cv.nrao.edu>; Mon,  
22 Apr 1996 16:30:17 -0400 (EDT)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13820; Mon, 22 Apr 1996 15:04:01 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA07407; Mon, 22 Apr 96 15:28:59 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02759; Mon, 22 Apr 96 15:29:26 CDT

Message-Id: <9604222029.AA02759@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: book draft

Date: Mon, 22 Apr 96 15:29:26 CDT

Alan,

Final corrections below. Sorry for the remaining errors in Wiita and Norman. I thought I had them all earlier. Are you going to contact Biretta about possible figure copyright? Do I get tonight off for good behavior?

Off to colloquium. Back at 5 CDT, i.e., 6 EDT,

Phil

=====

Bridle

p.2 - B++?

p.5 - footnote: If the mass is...

p.6 - footnote 8: ...it will be important to see if...

p.7 - ? on construction: Burns, these Proceedings, Page 345 and Owen et al., these Proceedings, Page 357. or do we use ().

p.8 - 3rd paragraph: (see Swain, Bridle, \& Baum, these Proceedings, Page???)  
section 8.2

#2 - Fig. 4 to Figure 4 and Fig. 3 to Figure 3

p.9 - #3 (Swain..., Page 303?)

Wiita

p.4 - 10 up \S3. to section 3.

p.6 - 7 up Peacock and Wall to Peacock & Wall

p.7 - 11 up \S6 to section 6

Norman

p.1 - bottom (cf. Lovelace...) needs space after cf.; also in other papers with reference to a figure the order of the reference had the figure # last I think.

p.8 - under 5.4 Hooda and Wiita to Hooda & Wiita

p.9 - top line you may wish to make etc.. just etc. if this is consistent with the structure elsewhere.

From VM Thu Apr 25 13:47:33 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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id AA61397; Mon, 22 Apr 1996 16:45:12 -0400  
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In-Reply-To: <9604221941.AA02745@venus.astr.ua.edu.astr.ua.edu>  
References: <9604221941.AA02745@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Mon, 22 Apr 1996 16:45:12 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> more corrections follow.  
>  
> Phil  
>

Got them all, expect for ones I don't understand:

>  
> Koide  
>  
> in Discussion 1st paragraph change to  
>  
> ...Hardee (1987) and Hardee et al.\ (1994) and Conway \& Murphy (1993)...  
>  
> 2nd paragraph  
>

Does this mean "delete Hardee & Clarke 1992 and replace Hardee et al 1992 with Hardee, Cooper, & Clarke (1994)?"

> remove !magnetosonic - where did this come from?  
>

Looks like a malformed indexing problem, it isn't in current copy anyway.

> Hooda  
>  
> p.3 - extra space above 3. Input Parameters  
> funny line under Table 1  
> the net result is to throw fig.1 back a page from where it would best be  
> displayed.  
>

The line isn't there in current version (something in Tony's macro did this but it is now fixed). But where would you like to see Fig.1, it did not move when this happened.

A.

From VM Thu Apr 25 13:47:37 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil]  
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"17:12:48" "CDT" "hardee@venus.astr.ua.edu" "hardee@venus.astr.ua.edu"  
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Content-Length: 807  
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id AA43788; Mon, 22 Apr 1996 18:13:43 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
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22 Apr 1996 18:13:39 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13679; Mon, 22 Apr 1996 16:47:24 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA07785; Mon, 22 Apr 96 17:12:21 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02783; Mon, 22 Apr 96 17:12:48 CDT  
Message-Id: <9604222212.AA02783@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Mon, 22 Apr 96 17:12:48 CDT

Alan,

In my original Hooda and Wiita section 4 started on page 3 and fig.1  
was on page 4 with the remainder of section 4 and the conclusions on  
page 5 and references on page 6. That was why it looked to me like the  
fig had moved back one page.

In Koide I refer to section 4. 1st paragraph lines 9 and 10

In Koide my printed copy reads: ...field. This mechanism provides an  
alternative to proposals by Hardee (1987, 1994) and Conway and Murphy  
(1993) who suggested that Kelvin-Helmholtz...

These lines should read as: ...field. This mechanism provides an  
alternative to proposals by Hardee(1987) and Hardee, Cooper, \& Clarke  
(1994) and Conway \& Murphy (1993) who suggested that  
Kelvin-Helmholtz...

Sorry for the confusion that I generated here. Hope this clears up the  
remaining problems.

Phil

From VM Thu Apr 25 13:47:53 1996  
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id AA41925; Tue, 23 Apr 1996 11:54:19 -0400  
Message-Id: <9604231554.AA41925@polaris.cv.nrao.edu>  
In-Reply-To: <9604222212.AA02783@venus.astr.ua.edu.astr.ua.edu>  
References: <9604222212.AA02783@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: book draft  
Date: Tue, 23 Apr 1996 11:54:19 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> In my original Hooda and Wiita section 4 started on page 3 and fig.1  
> was on page 4 with the remainder of section 4 and the conclusions on  
> page 5 and references on page 6. That was why it looked to me like the  
> fig had moved back one page.  
>

OK. It's one of the things that changed when we had to move to a different rev. of LaTeX (and to the book macro in place of the single-paper macro; Tony was forced to make a few changes when we saw how the book macro formatted things like acknowledgments!).

In fact the Fig. appears on the page facing where it is first mentioned, so I think the layout provided by LaTeX-2e is quite reasonable. All a reformatting would do is change the order of pages 380 and 381, again leaving it on the page facing where it is mentioned, only in the other order. I'm not sure it's worth the effort to swap?

> In Koide I refer to section 4. 1st paragraph lines 9 and 10  
>  
> In Koide my printed copy reads: ...field. This mechanism provides an  
> alternative to proposals by Hardee (1987, 1994) and Conway and Murphy  
> (1993) who suggested that Kelvin-Helmholtz...  
>  
> These lines should read as: ...field. This mechanism provides an  
> alternative to proposals by Hardee(1987) and Hardee, Cooper, \& Clarke  
> (1994) and Conway \& Murphy (1993) who suggested that  
> Kelvin-Helmholtz...  
>

Got it.

Today's agenda is fixing the remaining problems with the book macro (such as equation numbering), starting the hand-work on the ToC and Index. and running out the "proof" postscript copies for the authors to check if they can do this quickly.

Do you have an E-mail distribution file we can use for the bulk E-mail notification about proofs, and/or could you send it out when we have it ready? Tony feels this should be the last harassment of people for Figure copyrights as well.

Did Carilli ever send you the ones I asked him for -- he did not reply to me. Tony says that Biretta has not answered E-mail about his copyrights. For his Figure 2, I could change his labeling so it is no loner identical to the Biretta & Junor paper, but for his Figure 5 we are supposed to be going with his glossy "as is" and this really should have a permission. Tony thinks we could stick something on the glossy to alter it. If we do, I suggest we threaten Biretta with sticking on "Property of the Philadelphia Flyers", or some such, to see if he still ignores E-mail!

A.

From VM Thu Apr 25 13:48:02 1996  
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"80" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
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23 Apr 1996 13:43:23 -0400 (EDT)  
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Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA09197; Tue, 23 Apr 96 12:42:02 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02888; Tue, 23 Apr 96 12:42:30 CDT  
Message-Id: <9604231742.AA02888@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: book draft  
Date: Tue, 23 Apr 96 12:42:30 CDT

Alan,

I think the figure in Hooda and Wiita can be left as is and is not worth any additional effort.

I have e-mail from Chris including permission from Adam Black at CUP to reproduce his figures.

Below is my bulk e-mail address file. the ones pounded out either have no paper or should not need notification.

I still have not managed to get a copyright form from Tingay. Since D. Jauncey is the second author perhaps I should contact him by e-mail. Do you have Jauncey's e-mail address.

Phil

geoff@mso.anu.edu.au,  
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dclarke@olympus.stmarys.ca,  
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ddeyoung@noao.edu,  
tvc@gal.star.uclan.ac.uk,  
gcd@riemann.bgsu.edu,  
serguei@amsta.leeds.ac.uk,  
hooda@chara.gsu.edu,  
dchristo@rouge.phys.lsu.edu,

rl@mail.ast.cam.ac.uk,  
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biretta@stsci.edu,  
odea@stsci.edu,  
larry@ast1.spa.umn.edu,  
wardle1@binah.cc.brandeis.edu,  
acr@deimos.caltech.edu,  
fowen@nrao.edu,  
ccarilli@nrao.edu,  
rcv@astro.caltech.edu,  
gbt@nrao.edu,  
alobanov@nrao.edu,  
wilson@astro.umd.edu,  
tjp@deimos.caltech.edu,  
mledlow@nmsu.edu,  
P.jones@st.nepean.uws.edu.au,  
blloyd@vela.rp.csiro.au,  
tingay@mso.anu.edu.au,  
daly@pupgg.princeton.edu,  
linwan@phoenix.princeton.edu,  
keel@bildad.astr.ua.edu,  
koidesin@ecs.toyama-u.ac.jp,  
rqsj@bao01.bao.ac.cn,  
swain@astrosun.tn.cornell.edu,

#sbaum@stsci.edu,  
#hardee@venus.astr.ua.edu,  
#ruben@tapir.caltech.edu,  
#rosen@eclipse.astr.ua.edu,  
#eddie@pulsar.princeton.edu,  
#abridle@nrao.edu,  
#azensus@nrao.edu,  
#purcell@crux.astr.ua.edu,  
#andersen@crux.astr.ua.edu,

From VM Thu Apr 25 13:48:07 1996

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id AA41930; Tue, 23 Apr 1996 13:58:33 -0400

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Message-Id: <2.2.32.19960423175830.006ced40@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: formatting  
Date: Tue, 23 Apr 1996 13:58:30 -0400

I believe, I have fixed these problems:

caption for figures/tables  
equation numbering  
eye-brow  
pagination difference between jetbook and jet: jetbook is now exactly as in printed version from you (don't know about jetp yet)  
toc creation (although still needs final run of clean-up by hand)

You need these files which I modified (please backup what you are using now, in case there is a problem I overlooked...)

jetbook.tex  
jetbook.sty  
jetpage.sty  
book.cls

I changed all these also (minor), but you need to make sure that you have not made changes yourself since I copied them yesterday:

preface.tex  
contrib.tex  
quotes.tex  
allbama2.tex  
indauth.tex  
colophon.tex

From VM Thu Apr 25 13:48:09 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["925" "Tue" "23" "April" "1996" "14:35:21" "-0400" "Alan Bridle" "abridle"  
nil "32" "Re: book draft" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length:  
925

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25206; Tue, 23 Apr 1996 14:35:21 -0400

Message-Id: <9604231835.AA25206@polaris.cv.nrao.edu>  
In-Reply-To: <9604231742.AA02888@venus.astr.ua.edu.astr.ua.edu>  
References: <9604231742.AA02888@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: book draft  
Date: Tue, 23 Apr 1996 14:35:21 -0400

hardee@venus.astr.ua.edu writes:  
>

> Alan,  
>  
> I think the figure in Hooda and Wiita can be left as is and is not worth any  
> additional effort.  
>

Fine.

> I have e-mail from Chris including permission from Adam Black at CUP to  
> reproduce his figures.

Unfortunately that's not the one we need, it's the AJ permission for his Fig.2  
that is outstanding. I guess, as usual, he did nothing. Same with Biretta.  
I suppose we will have to get these permissions ourselves.

>  
> Below is my bulk e-mail address file. the ones pounded out either have no  
> paper or should not need notification.  
>  
> I still have not managed to get a copyright form from Tingay. Since D. Jauncey  
> is the second author perhaps I should contact him by e-mail. Do you have  
> Jauncey's e-mail address.  
>

Tony has probably got it, will ask him.

I am now making the run with all the format fixes Tony has come up with .

A.

From VM Thu Apr 25 13:48:11 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1178" "Tue" "23" "April" "1996" "15:07:20" "-0400" "Alan Bridle" "abridle"  
nil "38" "Re: formatting" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1178  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46721; Tue, 23 Apr 1996 15:07:20 -0400  
Message-Id: <9604231907.AA46721@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960423175830.006ced40@vagabond.cv.nrao.edu>  
References: <2.2.32.19960423175830.006ced40@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: formatting  
Date: Tue, 23 Apr 1996 15:07:20 -0400

Anton Zensus writes:

> I believe, I have fixed these problems:  
>  
> caption for figures/tables  
> equation numbering  
> eye-brow  
> pagination difference between jetbook and jet: jetbook is now exactly as in  
> printed version from you (don't know about jetp yet)  
> toc creation (although still needs final run of clean-up by hand)  
>

Good news:

Figure and Table captioning are much improved.  
Equation numbering looks good.  
Eyebrows are in place.

Bad news:

Unfortunately, pagination `_has_` changed yet again, with some bad results:

Three papers have now jumped over their allotted limits: Wan, Normn1, Bridle These are all ones on which quite a bit of shoehorning effort has already been done.

Pages with two tighly-sho-horned Figures have also broken, e.g. old page 313, new 315. The effect of this is to move Clarke's second figure to the very back after his references, very undesirable.

There seems to be extra space between the abstract and the first section heading, as my paper overflows from its first page, and cannot recover after that.

Did you deliberately re-introduce the "draft" watermark and might this connect with the new pagination problems?

A.

```
From VM Thu Apr 25 13:48:15 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
  ["1617" "Tue" "23" "April" "1996" "18:10:50" "-0400" "Alan Bridle" "abridle"
  nil "43" "Draft re proofs" "^From:" nil nil "4" nil nil nil nil]
  nil)
Content-Length: 1617
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
  id AA38832; Tue, 23 Apr 1996 18:10:50 -0400
Message-Id: <9604232210.AA38832@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: azensus, hardee@venus.astr.ua.edu
Subject: Draft re proofs
Date: Tue, 23 Apr 1996 18:10:50 -0400
```

Dear Workshop Author,

We are about to send the the proceedings of the Workshop on Energy Transport in Radio Galaxies and Quasars to the A.S.P.

All papers are now in the final book format. This entailed changes to the detailed layout, referencing, etc. that you provided. We have discussed any substantive changes with authors as we did the editing, but this is to alert you to your final, brief, chance to check the layout and typography of your paper as it will appear in the book.

To do this, go to

<ftp://ftp.cv.nrao.edu/NRAO-staff/azensus/private/alabama>

on the WWW, or via anonymous ftp, and retrieve the .ps file for your



paper. All papers are named with a <=5-character code from the first <=5 letters of the first author's name. For example, hardee.ps for Philip Hardee. Ambiguities are resolved by appending 1, 2 etc. to the code: e.g. scheul.ps for Peter Scheuer's first paper, scheu2.ps for his second paper, etc.

Send any comments on your proofs to abridle@nrao.edu by the end of this week (?? date ??). Note that no changes can be made at this stage that would alter pagination of the volume, we seek only to correct any remaining typographical errors.

You may also be interested in obtaining biblio.ps (248kb), a file with the cumulative bibliography for the Proceedings.

Please note that any Figures that you have used in these Proceedings will now be copyright (c) 1996 by the A.S.P. If you have not yet sent us copyright approval for your use of Figures from published papers or other proceedings, please do so before the end of this week.

Philip Hardee  
Alan Bridle  
Anton Zensus

From VM Thu Apr 25 13:48:17 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["53" "Tue" "23" "April" "1996" "18:28:03" "-0400" "Alan Bridle" "abridle"  
nil "5" "Readhead" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 53  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61272; Tue, 23 Apr 1996 18:28:03 -0400  
Message-Id: <9604232228.AA61272@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Readhead  
Date: Tue, 23 Apr 1996 18:28:03 -0400

Anybody notice that his paper has no abstract?

A.

From VM Thu Apr 25 13:48:19 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["87" "Wed" "24" "April" "1996" "08:05:39" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "6" "Re: Readhead" "^From:" nil nil "4" nil nil nil  
nil]  
nil)  
Content-Length: 87  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA38805; Wed, 24 Apr 1996 09:06:29 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id JAA29728 for <abridle@polaris.cv.nrao.edu>; Wed,  
24 Apr 1996 09:06:28 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA13599; Wed, 24 Apr 1996 07:40:14 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA10656; Wed, 24 Apr 96 08:05:11 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03001; Wed, 24 Apr 96 08:05:39 CDT  
Message-Id: <9604241305.AA03001@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Readhead  
Date: Wed, 24 Apr 96 08:05:39 CDT

Alan,

Readhead's paper no abstract hummm. Guess we are all brain dead by now.

Phil

From VM Thu Apr 25 13:48:22 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1061" "Wed" "24" "April" "1996" "09:09:15" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "27" "Volume number" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1061  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25618; Wed, 24 Apr 1996 09:09:33 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA06099; Wed, 24 Apr 1996  
09:09:17 -0400 (EDT)  
Message-Id: <2.2.32.19960424130915.006e2acc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: PASP@ACOUSB.BYU.EDU  
Cc: hardee@venus.astr.ua.edu, abridle@vagabond.cv.nrao.edu  
Subject: Volume number  
Date: Wed, 24 Apr 1996 09:09:15 -0400

To: Liz Holloman, PASP

Dear Liz,

We are getting ready to run the final print of our proceedings, ``Energy Transport in radio Galaxies and Quasars''. Editors P. E. Hardee, A. H. Bridle, and J. A. Zensus. For this, I need the following information from you:

1. Have you already assigned a volume number, and if not, can you do that now? I realize (from experience) that you like to do this only very shortly before you receive the manuscript. Therefore, I waited until the book is practically finished. All papers are typeset, and front and backmatter are complete, leaving us with looking for remaining typos, the final printing run, pasting artwork, and final check. So we are confident that we will send the complete package to you within two weeks (or less) from today.
2. Is there a particular manner in which you (the printer) prefers to have photographs and line drawings pasted onto the manuscript? E.g., transparent

sticky tape all around or just in a couple of places, sides or top?

Looking forward to hearing from you.

Thanks,

Anton

From VM Thu Apr 25 13:48:38 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["705" "Wed" "24" "April" "1996" "08:27:37" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "15" "Re: paste in figures" "^From:" nil nil "4" nil  
nil nil nil]  
nil)

Content-Length: 705

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40056; Wed, 24 Apr 1996 09:27:12 -0400

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id JAA00219; Wed, 24 Apr 1996 09:27:11 -0400 (EDT)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA13688; Wed, 24 Apr 1996 08:02:11

-0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA10662; Wed, 24 Apr 96 08:27:08 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03016; Wed, 24 Apr 96 08:27:37 CDT

Message-Id: <9604241327.AA03016@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: azensus@nrao.edu, abridle@nrao.edu

Subject: Re: paste in figures

Date: Wed, 24 Apr 96 08:27:37 CDT

When Ron Buta sent his conference proceedings to the ASP he did not paste in the photographs or line drawing but carefully labeled them in separate envelopes and ASP placed them appropriately. This had the advantage of avoiding creased figures from glue etc. They appear to have lined up the figures properly in his final volume. I suggest that we do something similar if this is OK with the ASP.

I will need to submit the cover art from here. Unfortunately our photographic quality printer has degraded somewhat and the computer center allowed its maintenance contract to lapse. Still I think I can send them a reasonable quality image that is better than a 600 dpi laser printer can do.

Phil

From VM Thu Apr 25 13:48:40 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2210" "Wed" "24" "April" "1996" "09:29:18" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "53" "Author message, modified" "^From:" nil nil "4" nil nil  
nil nil]  
nil)

Content-Length: 2210

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40073; Wed, 24 Apr 1996 09:29:21 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by

vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA06163; Wed, 24 Apr 1996 09:29:20 -0400 (EDT)  
Message-Id: <2.2.32.19960424132918.006aalfc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Cc: hardee@venus.astr.ua.edu  
Subject: Author message, modified  
Date: Wed, 24 Apr 1996 09:29:18 -0400

ALABAMA MEETING: PROOF CORRECTIONS DUE FRIDAY APRIL 26

Dear Workshop Author,

We are ready to send the Proceedings of the Workshop on Energy Transport in Radio Galaxies and Quasars to the publisher (ASP). At this point, we ask your cooperation one more time in proofreading the final version of your manuscript. Time is of the essence, so we ask for immediate response.

All papers are now in the final book format. This entailed changes to the detailed layout, referencing, etc. that you provided. We have discussed any substantive changes with authors as we did the editing, but this is to alert you to your final, brief, chance to check the layout and typography of your paper as it will appear in the book.

Please access the files via:

<ftp://ftp.cv.nrao.edu/NRAO-staff/azensus/private/alabama>

on the WWW, or via anonymous ftp, and retrieve the postscript file for your paper. Note that for each paper there is an uncompressed (.ps) and a compressed (.ps.gz) version of the same file, the latter being much smaller in many cases. You need the tool GUNZIP/GZIP to deal with the compressed file.

Our naming convention should be easy to understand (papers are named with a <=5-character code from the first <=5 letters of the first author's name. For example, harde.ps for Philip Hardee. Ambiguities are resolved by appending 1, 2 etc. to the code: e.g. scheu1.ps for Peter Scheuer's first paper, scheu2.ps for his second paper, etc.)

Please send any comments on your proofs to abridle@nrao.edu by the end of this week (Friday, 26 April 96). Note that no changes can be made at this stage that would alter pagination of the volume, we seek only to correct any remaining typographical errors.

You may also be interested in obtaining biblio.ps, the cumulative bibliography for the Proceedings.

Please note that any figures that you have used in these Proceedings will now be copyright (c) 1996 by the A.S.P. If you have not yet told us that a particular figure is already copyrighted, or have not sent us the requested copyright approval for your use of figures from publisher and

authors of journal or proceedings papers, please do so now.

Philip Hardee  
Alan Bridle  
Anton Zensus

From VM Thu Apr 25 13:48:45 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["520" "Wed" "24" "April" "1996" "11:10:37" "-0400" "Alan Bridle" "abridle"  
nil "15" "ispell" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 520  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59611; Wed, 24 Apr 1996 11:10:37 -0400  
Message-Id: <9604241510.AA59611@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee!venus.astr.ua.edu  
Subject: ispell  
Date: Wed, 24 Apr 1996 11:10:37 -0400

Has just been run on all of the paper files to catch typos,  
abbreviation differences and residual mis-spellings throughout the  
book. Tony: this means you should copy over all the files from  
my area again before making the final group of .ps file for  
ftp-ing.

I found an average of 1 error (or abbreviation inconsistency)  
per paper. I.e., it is down to a dull roar in this department.

I have continued the policy of allowing Brits and Euros to  
follow English spelling, but otherwise using American standard.

A.

From VM Thu Apr 25 13:48:47 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1110" "Wed" "24" "April" "1996" "11:55:06" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "52" "RE: Volume number" "^From:" nil nil "4" nil nil nil  
nil]  
nil)  
Content-Length: 1110  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61066; Wed, 24 Apr 1996 11:55:10 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA06274; Wed, 24 Apr 1996  
11:55:09 -0400 (EDT)  
Message-Id: <2.2.32.19960424155506.006dcad8@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: RE: Volume number  
Date: Wed, 24 Apr 1996 11:55:06 -0400



Content-Length: 519  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50086; Wed, 24 Apr 1996 12:11:18 -0400  
Message-Id: <9604241611.AA50086@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: ispell  
Date: Wed, 24 Apr 1996 12:11:18 -0400

Has just been run on all of the paper files to catch typos, abbreviation differences and residual mis-spellings throughout the book. Tony: this means you should copy over all the files from my area again before making the final group of .ps file for ftp-ing.

I found an average of 1 error (or abbreviation inconsistency) per paper. I.e., it is down to a dull roar in this department.

I have continued the policy of allowing Brits and Euros to follow English spelling, but otherwise using American standard.

A.

From VM Thu Apr 25 13:49:26 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["996" "Wed" "24" "April" "1996" "14:59:11" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "32" "RE: Volume number : corrected message" "^From:" nil  
nil "4" nil nil nil nil]  
nil)

Content-Length: 996  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61977; Wed, 24 Apr 1996 15:00:02 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA06458; Wed, 24 Apr 1996  
14:59:14 -0400 (EDT)  
Message-Id: <2.2.32.19960424185911.006eaaa4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: pasp@physc2.byu.edu  
Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: RE: Volume number : corrected message  
Date: Wed, 24 Apr 1996 14:59:11 -0400

please ignore the previous message, it did not contain the full message body.

~~~~~

Dear Dr. McNamara,

Thanks for the information. We are convinced we can ship all before 2 weeks from today. So we will accept vol 100.

Will do as you say on fig. placement.

One other question: I have formatted as usual  
the frontmatter

with roman page numbers.

This starts with the table of contents. What page number should this have?  
at the moment I am using ix - but your front business seems to be ever  
expanding so it may actually require a different number?

Here is the information you requested for lib. of congress:

1. Title: Energy Transport in Radio Galaxies and Quasars
2. Editors: P. E. Hardee, A. H. Bridle, and J. A. Zensus
3. number of pages is currently 463, but this may change by 1 or 2 pages. I  
will have the final number on Thursday or Friday, so please wait until I  
send that to you.

Regards,

Anton Zensus

From VM Thu Apr 25 13:49:37 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2328" "Wed" "24" "April" "1996" "21:33:31" "-0400" "Alan Bridle" "abridle"  
nil "80" "forwarded message with addresses" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 2328

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68985; Wed, 24 Apr 1996 21:33:31 -0400

Message-Id: <9604250133.AA68985@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: azensus

Subject: forwarded message with addresses

Date: Wed, 24 Apr 1996 21:33:31 -0400

----- start of forwarded message (RFC 934 encapsulation) -----

Content-Length: 1801

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41750; Tue, 23 Apr 1996 13:43:28 -0400

Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id NAA17757 for <abridle@polaris.cv.nrao.edu>; Tue,  
23 Apr 1996 13:43:23 -0400 (EDT)

Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA34450; Tue, 23 Apr 1996 12:17:05 -0500

Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA09197; Tue, 23 Apr 96 12:42:02 CDT

Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA02888; Tue, 23 Apr 96 12:42:30 CDT

Message-Id: <9604231742.AA02888@venus.astr.ua.edu.astr.ua.edu>

From: hardee@venus.astr.ua.edu (Hardee)

To: abridle@polaris.cv.nrao.edu

Subject: Re: book draft

Date: Tue, 23 Apr 96 12:42:30 CDT

Alan,



Below is my bulk e-mail address file. the ones pounded out either have no paper or should not need notification.

I still have not managed to get a copyright form from Tingay. Since D. Jauncey is the second author perhaps I should contact him by e-mail. Do you have Jauncey's e-mail address.

Phil

geoff@mso.anu.edu.au,  
marscher@buast0.bu.edu,  
pags@mrao.cam.ac.uk,  
norman@ncsa.uiuc.edu,  
appl@astro.u-strasbg.fr,  
hughes@astro.lsa.umich.edu,  
jlgomez@rjet.bu.edu,  
markos@qjet.bu.edu,  
RVL1@cornell.edu,  
Mark.Birkinshaw@Bristol.ac.uk,  
wiita@chara.gsu.edu,  
wsteffen@ast.man.ac.uk,  
martij@kerr.ific.uv.es,  
jeilek@aoc.nrao.edu,  
dclarke@olympus.stmarys.ca,  
cloken@nmsu.edu,  
ddeyoung@noao.edu,  
tvc@gal.star.uclan.ac.uk,  
gcd@riemann.bgsu.edu,  
serguei@amsta.leeds.ac.uk,  
hooda@chara.gsu.edu,  
dchristo@rouge.phys.lsu.edu,  
rl@mail.ast.cam.ac.uk,  
jburns@nmsu.edu,  
biretta@stsci.edu,  
odea@stsci.edu,  
larry@ast1.spa.umn.edu,  
wardle1@binah.cc.brandeis.edu,  
acr@deimos.caltech.edu,  
fowen@nrao.edu,  
ccarilli@nrao.edu,  
rcv@astro.caltech.edu,  
gbt@nrao.edu,  
alobanov@nrao.edu,  
wilson@astro.umd.edu,  
tjp@deimos.caltech.edu,  
mledlow@nmsu.edu,  
P.jones@st.nepean.uws.edu.au,  
blloyd@vela.rp.csiro.au,  
tingay@mso.anu.edu.au,  
daly@pupgg.princeton.edu,  
linwan@phoenix.princeton.edu,  
keel@bildad.astr.ua.edu,  
koidesin@ecs.toyama-u.ac.jp,  
rqsj@bao01.bao.ac.cn,  
swain@astrosun.tn.cornell.edu,

From VM Thu Apr 25 13:49:42 1996  
X-VM-v5-Data: ([nil nil nil t nil nil nil nil]  
["2303" "Wed" "24" "April" "1996" "23:12:28" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "55" "URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4" nil  
nil (number " " mark " F Anton Zensus Apr 24 55/2303 " thread-indent  
"\URGENT: ALABAMA PROOFREADING\"") nil]  
nil)

Content-Length: 2303

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44905; Wed, 24 Apr 1996 23:12:37 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id XAA06828; Wed, 24 Apr 1996  
23:11:53 -0400 (EDT)

Message-Id: <2.2.32.19960425031228.006ca4bc@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: geoff@merlin.anu.edu.au, marscher@buast0.bu.edu, pags@mrao.cam.ac.uk,  
norman@ncsa.uiuc.edu, appl@cdsxba.u-strasbg.fr,  
hughes@astro.lsa.umich.edu, jlgomez@rjet.bu.edu, markos@qjet.bu.edu,  
RVL1@cornell.edu, Mark.Birkinshaw@Bristol.ac.uk, wiita@chara.gsu.edu,  
wsteffen@ast.man.ac.uk, martij@kerr.ific.uv.es, jeilek@aoc.nrao.edu,  
dclarke@olympus.stmarys.ca, cloken@nmsu.edu, ddeyoung@noao.edu,  
tvc@gal.star.uclan.ac.uk, gcd@riemann.bgsu.edu,  
serguei@amsta.leeds.ac.uk, hooda@chara.gsu.edu,  
dchristo@rouge.phys.lsu.edu, rl@mail.ast.cam.ac.uk, jburns@nmsu.edu,  
biretta@stsci.edu, odea@stsci.edu, larry@astl.spa.umn.edu,  
wardle1@binah.cc.brandeis.edu, acr@deimos.caltech.edu, fowen@nrao.edu,  
ccarilli@nrao.edu, rcv@astro.caltech.edu, gbt@nrao.edu,  
alobanov@nrao.edu, wilson@astro.umd.edu, tjp@deimos.caltech.edu,  
mledlow@nmsu.edu, P.jones@st.nepean.uws.edu.au,  
blloyd@vela.rp.csiro.au, tingay@merlin.anu.edu.au,  
daly@pupgg.princeton.edu, linwan@phoenix.princeton.edu,  
keel@bildad.astr.ua.edu, koidesin@ecs.toyama-u.ac.jp,  
rqsj@bao01.bao.ac.cn, swain@astrosun.tn.cornell.edu

Subject: URGENT: ALABAMA PROOFREADING

Date: Wed, 24 Apr 1996 23:12:28 -0400

>> ALABAMA MEETING: PROOF CORRECTIONS DEADLINE 29 APRIL, 8am EDT <<

Dear Workshop Author,

We are almost ready to send the Proceedings of the Workshop on Energy  
Transport in Radio Galaxies and Quasars to the publisher (ASP). At this  
point, we can offer you a very brief opportunity to proofread the final  
version of your manuscript. Time is of the essence, so we ask for immediate  
response.

All papers are now available as postscript files in the final book format.  
This format entailed changes to the detailed layout, referencing, etc. that  
you provided. We have discussed any substantive changes with authors as we  
did the editing, but this is to alert you to your final, brief, chance to  
check the layout and typography of your paper as it will appear in the  
book.

Please access the files via:

ftp://ftp.cv.nrao.edu/NRAO-staff/azensus/private/alabama

on the WWW, or via anonymous ftp, and retrieve the postscript file(s) for your paper(s). Note that for each paper there is an uncompressed (.ps) and a compressed (.ps.gz) version of the same file, the latter being much smaller in many cases. However, you need the tool GUNZIP/GZIP to deal with the compressed file.

Our naming convention should be easy to understand (papers are named with a <=5-character code from the first <=5 letters of the first author's name. For example, harde.ps for Philip Hardee. Ambiguities are resolved by appending 1, 2 etc. to the code: e.g. scheul.ps for Peter Scheuer's first paper, scheu2.ps for his second paper, etc.)

Please send any comments on your proofs to abridle@nrao.edu by

8am EDT on Monday, 29 April

Note that no changes can be made at this stage that would alter pagination of the Volume; we seek only to correct any remaining typographical errors.

You may also be interested in retrieving biblio.ps, the cumulative bibliography for the Proceedings.

Please note that any figures that you have used in these Proceedings will now be copyright (c) 1996 by the A.S.P. If you have not yet told us that a particular figure is already copyrighted, and/or have not yet sent us the publisher's approval for your reuse of copyrighted figures from a journal or other proceedings papers, please do so immediately.

Philip Hardee  
Alan Bridle  
Anton Zensus

From VM Thu Apr 25 13:49:45 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["316" "Thu" "25" "April" "1996" "13:33:56" "+1000" "Steven Tingay"  
"tingay@merlin.anu.edu.au" "<199604250333.NAA02328@magician.anu.edu.au>" "13"  
"Alabama Proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 316  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46522; Wed, 24 Apr 1996 23:34:08 -0400  
Received: from anugpo.anu.edu.au (anugpo.anu.edu.au [150.203.2.6]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id XAA10867 for <abridle@nrao.edu>;  
Wed, 24 Apr 1996 23:34:05 -0400 (EDT)  
Received: from merlin (merlin.anu.edu.au [150.203.89.16]) by anugpo.anu.edu.au  
(8.6.12/8.6.12) with ESMTMP id NAA11963 for <abridle@nrao.edu>; Thu, 25 Apr 1996  
13:34:02 +1000  
Received: from magician.anu.edu.au by merlin (SMI-8.6/MSO-1.1)  
id NAA23698; Thu, 25 Apr 1996 13:33:56 +1000  
Received: by magician.anu.edu.au (SMI-8.6/SMI-SVR4)  
id NAA02328; Thu, 25 Apr 1996 13:33:56 +1000  
Message-Id: <199604250333.NAA02328@magician.anu.edu.au>  
X-Sun-Charset: US-ASCII

From: tingay@merlin.anu.edu.au (Steven Tingay)  
To: abridle@nrao.edu  
Subject: Alabama Proceedings  
Date: Thu, 25 Apr 1996 13:33:56 +1000

Dear Alan,

One very small change to our contribution,

Sub-Parsec-Scale structure and evolution of the Centaurus A radio jet.

In the discussion: second paragraph, sescond sentence. Could I change "sub-parsec-scale jet of Centaurus A" to "sub-parsec-scale structure of Centaurus A" please.

Cheers,

Steven Tingay

From VM Thu Apr 25 13:49:48 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1031" "Thu" "25" "April" "1996" "09:40:11" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "50" "message from ASP" "^From:" nil nil "4" nil nil nil  
nil])

Content-Length: 1031

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu  
(AIX 3.2/UCB 5.64/4.03)

id AA55209; Thu, 25 Apr 1996 09:40:19 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA07120; Thu, 25 Apr 1996  
09:40:14 -0400 (EDT)

Message-Id: <2.2.32.19960425134011.007072b0@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu, abridle@vagabond.cv.nrao.edu

Subject: message from ASP

Date: Thu, 25 Apr 1996 09:40:11 -0400

>Sender: pasp@physcl.byu.edu

>Date: Thu, 25 Apr 1996 06:09:08 MST/MDT

>From: pasp@physc2.byu.edu

>To: azensus@nrao.edu

>Subject: RE: Volume number : corrected message

>

>25 April 1996

>

>Hi Anton,

>

>You are right, our frontis pages are growing.

>

>The Table of Contents should begin on page xi (lower case roman eleven).

>

>Things HAVE changed since you did your first book. When we started this

>several years ago who thought it would do so well? We started this in

>addition to our work as editor/production manager of the PASP and when the



Alan,

I just noticed that the title of Tingay's paper repeats the word radio twice:  
...Centarurus A Radio Radio Jet. One of the Radios needs to go.

Phil

From VM Thu Apr 25 13:49:57 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1289" "Thu" "25" "April" "1996" "10:36:45" "-0400" "Alan Bridle" "abridle"  
nil "30" "Figures" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1289  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA23846; Thu, 25 Apr 1996 10:36:45 -0400  
Message-Id: <9604251436.AA23846@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: jburns@nmsu.edu  
Subject: Figures  
Date: Thu, 25 Apr 1996 10:36:45 -0400

Jack,

We are having a problem with the Figures for your paper in the Alabama workshop proceedings because you pasted the only copies that onto your draft manuscript, leaving only a tiny space between them and the text. The only way we can directly use what you sent is to cut the figures off your pages and repaste them to our camera-ready copy. The result is unlikely to look good when rephotographed by ASP because there will be two layers of paper and glue raised above the surrounding text; edges are bound to show.

This is why we asked for separate correct-size originals and/or Postscript files for the figures. Tony and I did not realize until last night that you had only sent one pasted-up copy to Phil.

If necessary, we will simply Xerox new copies from what you sent, and paste these into your final copy; but your grey-scales will be degraded by this process. If you could get either unpasted paper copies (at the correct size), or the Postscript files for your Figures, to us in Cville by next Wednesday noon. these would be much preferable to anything we can do with what you sent. We will not be able to hold beyond that, however.

This is especially so for the grey scales: the contour plots will probably survive the copying process well enough.

Regards, A.

From VM Thu Apr 25 13:49:58 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["280" "Thu" "25" "April" "1996" "10:49:34" "-0400" "Alan Bridle" "abridle"  
nil "15" "Re: more corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 280  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA68003; Thu, 25 Apr 1996 10:49:34 -0400  
Message-Id: <9604251449.AA68003@polaris.cv.nrao.edu>  
In-Reply-To: <9604251426.AA03160@venus.astr.ua.edu.astr.ua.edu>  
References: <9604251426.AA03160@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: more corrections  
Date: Thu, 25 Apr 1996 10:49:34 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I just noticed that the title of Tingay's paper repeats the word radio twice:  
> ...Centarurus A Radio Radio Jet. One of the Radios needs to go.  
>  
> Phil

Yes, we caught that one in a late-night session yesterday!

A.

From VM Thu Apr 25 13:49:59 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["605" "Thu" "25" "April" "1996" "10:53:52" "-0400" "Alan Bridle" "abridle"  
nil "20" "Re: more corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 605  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA39399; Thu, 25 Apr 1996 10:53:52 -0400  
Message-Id: <9604251453.AA39399@polaris.cv.nrao.edu>  
In-Reply-To: <9604251426.AA03160@venus.astr.ua.edu.astr.ua.edu>  
References: <9604251426.AA03160@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: more corrections  
Date: Thu, 25 Apr 1996 10:53:52 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I just noticed that the title of Tingay's paper repeats the word radio twice:  
> ...Centarurus A Radio Radio Jet. One of the Radios needs to go.  
>  
> Phil

We actually got that one corrected before the ps files got put on the Web. Interestingly, Tingay was the first author to get back to us re his proofs, about 20 min after we posted them!

I imagine the fastest way for you to look at the proofs at your end would be to grab all the single-paper .gz files out of Tony's ftp area. Do you have any kind of printer functional at the moment?

A.

From VM Thu Apr 25 13:50:00 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["159" "Thu" "25" "April" "1996" "09:57:31" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>" "7"  
"Re: no more corrections?" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 159  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52011; Thu, 25 Apr 1996 10:58:19 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA17108 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 10:58:18 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27629; Thu, 25 Apr 1996 09:32:05 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA12588; Thu, 25 Apr 96 09:57:00 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03173; Thu, 25 Apr 96 09:57:31 CDT  
Message-Id: <9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: no more corrections?  
Date: Thu, 25 Apr 96 09:57:31 CDT

Alan,

At an appropriate point will you put the complete volume split into 4 or 5  
.ps files in your ftp area so I can print it out and skim through it.

Phil

From VM Thu Apr 25 13:50:01 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["614" "Thu" "25" "April" "1996" "15:59:58" "+0100" "pags@mrao.cam.ac.uk"  
"pags@mrao.cam.ac.uk" "<m0uCSWV-0005dpC@mraos.ra.phy.cam.ac.uk>" "17" "alabama"  
"^From:" nil nil "4" nil nil (number " " mark " R pags@mrao.cam.ac. Apr 25  
17/614 " thread-indent "\"alabama\""\n") nil]  
nil)  
Content-Length: 614  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17895; Thu, 25 Apr 1996 11:00:19 -0400  
Received: from mraos.ra.phy.cam.ac.uk (root@mraos.ra.phy.cam.ac.uk [131.111.48.8])  
by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA17144 for  
<abridle@nrao.edu>; Thu, 25 Apr 1996 11:00:17 -0400 (EDT)  
Received: from mraosa.ra.phy.cam.ac.uk by mraos.ra.phy.cam.ac.uk with smtp  
(Smail3.1.29.0 #2) id m0uCSWV-0005dpC; Thu, 25 Apr 96 15:59 BST  
Message-Id: <m0uCSWV-0005dpC@mraos.ra.phy.cam.ac.uk>  
X-Mailer: ELM [version 2.4 PL25]  
Mime-Version: 1.0  
Content-Type: text/plain; charset=US-ASCII  
Content-Transfer-Encoding: 7bit  
From: pags@mrao.cam.ac.uk  
To: abridle@nrao.edu  
Subject: alabama  
Date: Thu, 25 Apr 1996 15:59:58 +0100 (BST)



Dear Alan,

Proofreading: I've done my `obverview' talk and find

1. please don't split 100pc between ppl and 2
2. p2 line 4 close bracket after `separately' .

May I also remind you (or tell you if I have not done so before!) that the diagram in scheu2 is copyrighted by the Royal Astronomical Society and reproduced by their permission. Perhaps there should be a sentence at the very end (after `Scheuer(1995)') Figure 1 is reproduced with kind permission of the Royal Astronomical Society.

Thanks for undertaking the thankless task of editing the proceedings!

Greetings to Mary, please.

Peter

From VM Thu Apr 25 13:50:03 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil  
["948" "Thu" "25" "April" "1996" "11:04:19" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "27" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4"  
nil nil nil nil]  
nil)

Content-Length: 948

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50473; Thu, 25 Apr 1996 11:04:22 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA07202 for <abridle>; Thu,  
25 Apr 1996 11:04:22 -0400 (EDT)

Message-Id: <2.2.32.19960425150419.00716268@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject: Re: URGENT: ALABAMA PROOFREADING

Date: Thu, 25 Apr 1996 11:04:19 -0400

>Sender: wsteffen@ast.man.ac.uk

>Date: Thu, 25 Apr 1996 14:14:37 +0100

>From: Wolfgang Steffen <wsteffen@ast.man.ac.uk>

>To: Anton Zensus <azensus@nrao.edu>

>Subject: Re: URGENT: ALABAMA PROOFREADING

>References: <2.2.32.19960425031228.006ca4bc@vagabond.cv.nrao.edu>

>

>Thanks for giving the chance to proof-read the proceedings articles.

>The only change I have is concerning the source name IRAS0421+0400

>which should read IRAS04210+0400 (there's one more '0' in the middle).

>This would have to be change at where ever the source is mentioned.

>

>Thanks again,

>

>Wolfgang Steffen

>--

>

>  
> Wolfgang Steffen  
> Dept. of Physics and Astronomy  
> University of Manchester  
> Manchester M13 9PL, UK  
> email: wsteffen@ast.man.ac.uk  
> http://axp2.ast.man.ac.uk:8000/~wsteffen  
>  
>

From VM Thu Apr 25 13:50:05 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["704" "Thu" "25" "April" "1996" "09:15:05" "-0600" "jburns@nmsu.edu"  
"jburns@nmsu.edu" "<199604251515.JAA29056@NMSU.Edu>" "17" "Re: Figures" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 704  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40942; Thu, 25 Apr 1996 11:18:38 -0400  
Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA17529 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 11:18:36 -0400 (EDT)  
Received: from NMSU.Edu by bubba.NMSU.Edu (8.6.10/NMSU)  
id JAA10578; Thu, 25 Apr 1996 09:17:35 -0600  
Received: from zeus by NMSU.Edu (8.6.10/NMSU-1.18)  
id JAA29056; Thu, 25 Apr 1996 09:15:06 -0600  
Message-Id: <199604251515.JAA29056@NMSU.Edu>  
Received: by zeus (5.x/NMSU)  
id AA27336; Thu, 25 Apr 1996 09:13:57 -0600  
X-Sun-Charset: US-ASCII  
From: jburns@NMSU.Edu ()  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Figures  
Date: Thu, 25 Apr 1996 09:15:05 -0600

Alan:

This will be a bit painful to reconstruct some of these images,  
but I'll try to do so. The only other copies that I have are pasted  
into another master that I have here which I'm using to send out  
preprints. It's my fault for not reading Phil's instructions more  
carefully. For virtually all the other conferences that I've attended  
with ASP proceedings, they've simply photographed the originals which  
I've sent with figures pasted in. My understanding was that you all  
were going to do the same thing -- why else was Phil so explicit in  
how to paste figures in the text?

Anyway, I'll try to regenerate all the greyscales & Fed Ex  
them to you so you'll received them by Wednesday.

Jack

From VM Thu Apr 25 13:50:06 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["717" "Thu" "25" "April" "1996" "11:21:31" "-0400" "Alan Bridle" "abridle"  
nil "20" "Re: no more corrections?" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 717  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30047; Thu, 25 Apr 1996 11:21:31 -0400  
Message-Id: <9604251521.AA30047@polaris.cv.nrao.edu>  
In-Reply-To: <9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>  
References: <9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: no more corrections?  
Date: Thu, 25 Apr 1996 11:21:31 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> At an appropriate point will you put the complete volume split into 4 or 5  
> .ps files in your ftp area so I can print it out and skim through it.  
>  
> Phil

I can do that as soon (and if) as someone creates some space in our ftp area. Tony and I filled the whole thing to overflowing last night with the proofs that are there now (This was after I deleted my entire ftp area -- all NRAO staff share the same allocation, I'm afraid). The one game I may be able to play is to stick more files temporarily in my html area, which is on another machine with some space available. Could you access them if I do that, i.e. via the WWW rather than by anon-ftp?

A.

From VM Thu Apr 25 13:50:07 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["311" "Thu" "25" "April" "1996" "10:44:55" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "11" "Re: no more corrections?" "^From:" nil nil  
"4" nil nil nil nil]  
nil)  
Content-Length: 311  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40940; Thu, 25 Apr 1996 11:45:44 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA17916 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 11:45:43 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28348; Thu, 25 Apr 1996 10:19:29 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA12670; Thu, 25 Apr 96 10:44:25 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03191; Thu, 25 Apr 96 10:44:55 CDT  
Message-Id: <9604251544.AA03191@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: no more corrections?  
Date: Thu, 25 Apr 96 10:44:55 CDT

Alan,

Yes I should be able to access the files via WWW.

I am surprised that Tingay responded rapidly as I have not been able to get a copyright form from him after several e-mail requests. I just sent another. Its at times like this that I think my e-mail to Australia is falling into a black hole.

Phil

From VM Thu Apr 25 13:50:08 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1844" "Thu" "25" "April" "1996" "11:49:02" "-0400" "Alan Bridle" "abridle"  
nil "39" "Re: Figures" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1844  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30122; Thu, 25 Apr 1996 11:49:02 -0400  
Message-Id: <9604251549.AA30122@polaris.cv.nrao.edu>  
In-Reply-To: <199604251515.JAA29056@NMSU.Edu>  
References: <199604251515.JAA29056@NMSU.Edu>  
From: abridle (Alan Bridle)  
To: jburns@NMSU.Edu ()  
Subject: Re: Figures  
Date: Thu, 25 Apr 1996 11:49:02 -0400

jburns@nmsu.edu writes:

> Alan:  
>  
> This will be a bit painful to reconstruct some of these images,  
> but I'll try to do so. The only other copies that I have are pasted  
> into another master that I have here which I'm using to send out  
> preprints. It's my fault for not reading Phil's instructions more  
> carefully. For virtually all the other conferences that I've attended  
> with ASP proceedings, they've simply photographed the originals which  
> I've sent with figures pasted in. My understanding was that you all  
> were going to do the same thing -- why else was Phil so explicit in  
> how to paste figures in the text?  
>  
> Anyway, I'll try to regenerate all the greyscales & Fed Ex  
> them to you so you'll received them by Wednesday.  
>

Thanks, Jack. I have in fact just tried Xeroxing your copy and scanning your grey scales on our flatbed scanner to see if I could make acceptable Postscript from them that way. Unfortunately the oblique incidence in a scanner really has a hard time with edges and that route won't fly; the Xerox copies, while from a high-quality machine, are also noticeably less contrasty than your originals though they would do if for some reason you can't get better copies to us. I worry that we go through yet another reproduction at ASP however, so it is dangerous to lose anything at all up-front.

We always intended to provide an enhanced format over the ASP standard, so I'm sorry if we contributed to confusion by not making this clearer. Most folks seem to have sent what we needed, and I did not look into your original package as sent to Phil until late last evening; I have been concentrating on the text aspects of this so far. We have done quite a bit more than is usual for the ASP series with this

particular volume; I hope you will think the result is worth it.

A.

From VM Thu Apr 25 13:50:16 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["701" "Thu" "25" "April" "1996" "12:27:34" "-0400" "Alan Bridle" "abridle"  
nil "26" "Re: Alabama Proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 701  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52175; Thu, 25 Apr 1996 12:27:34 -0400  
Message-Id: <9604251627.AA52175@polaris.cv.nrao.edu>  
In-Reply-To: <199604250333.NAA02328@magician.anu.edu.au>  
References: <199604250333.NAA02328@magician.anu.edu.au>  
From:  
abridle (Alan Bridle)  
To: tingay@merlin.anu.edu.au (Steven Tingay)  
Subject: Re: Alabama Proceedings  
Date: Thu, 25 Apr 1996 12:27:34 -0400

Steven Tingay writes:

> Dear Alan,  
>  
> One very small change to our contribution,  
>  
> Sub-Parsec-Scale structure and evolution of the Centaurus A radio jet.  
>  
> In the discussion: second paragraph, second sentence. Could I change  
> "sub-parsec-scale jet of Centaurus A" to "sub-parsec-scale structure of  
> Centaurus A" please.  
>  
> Cheers,  
>  
> Steven Tingay

Thanks for the prompt reply, Steve.

BTW, Phil Hardee says you have still not sent in the copyright assignment form (to ASP) for your paper. It's the only one outstanding for a paper itself -- could you FAX it to us at 804-296-0278, please, as we must have them all by the time we send the camera-ready copy to ASP.

A.

From VM Thu Apr 25 13:50:43 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil nil]  
["172" "Thu" "25" "April" "1996" "12:04:06" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "7" "Re: forwarded message from Alan Bridle"  
"^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 172  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA62073; Thu, 25 Apr 1996 13:04:56 -0400

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA18944 for <abridle@polaris.cv.nrao.edu>; Thu, 25 Apr 1996 13:04:53 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03) id AA36757; Thu, 25 Apr 1996 11:38:40 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1) id AA12930; Thu, 25 Apr 96 12:03:36 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1) id AA03203; Thu, 25 Apr 96 12:04:06 CDT  
Message-Id: <9604251704.AA03203@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: forwarded message from Alan Bridle  
Date: Thu, 25 Apr 96 12:04:06 CDT

Alan,

We may need to verify Tingay's e-mail and postal address. I had his e-mail address as tingay@mso.anu.edu.au and I see tingay@merlin.anu.edu.au on his reply.

Phil

From VM Thu Apr 25 13:50:47 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["982" "Thu" "25" "April" "1996" "13:19:15" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "35" "2 typos" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 982  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA63827; Thu, 25 Apr 1996 13:19:19 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA07413 for <abridle>; Thu, 25 Apr 1996 13:19:18 -0400 (EDT)  
Message-Id: <2.2.32.19960425171915.006e40b8@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: 2 typos  
Date: Thu, 25 Apr 1996 13:19:15 -0400

>From: dchristo@baton.phys.lsu.edu (Dimitris Christodoulou)  
>Subject: 2 typos  
>To: azensus@nrao.edu  
>Date: Thu, 25 Apr 1996 11:23:59 -0500 (CDT)  
>  
>Hi:  
>I found two typos in the article chris.ps by Christodoulou et al.  
>  
>1. In page 39, part 4., the sentence should read:  
>  
> Once again.....decide the stability of the flow.  
>(As it is now, "the flow stability" does not sound right.)  
>  
>  
>2. In page 42, last sentence of the article, the verb must be "links"

>(singular, not plural as is now).  
>  
>These changes do not modify pagination.  
>Thank you very much for a job well done!!!  
>

>Sincerely,  
>--

>  
>-----  
>Dimitris Christodoulou  
>Department of Physics and Astronomy  
>Louisiana State University  
>Baton Rouge, Louisiana  
>70803  
>WORK : (504)388-6793 (FAX:388-5855)  
>E-MAIL : dchristo@rouge.phys.lsu.edu  
>-----  
>  
>

From VM Thu Apr 25 13:50:56 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["506" "Thu" "25" "April" "1996" "10:26:40" "PDT" "Rene C. Vermeulen"  
"rcv@astro.caltech.edu" "<9604251726.AA06027@smurf>" "19" "Alabama proofs  
corrections." "^From:" nil nil "4" nil nil (number " " mark " R Rene C. Vermeulen  
Apr 25 19/506 " thread-indent "\"Alabama proofs corrections.\""\n") nil]  
nil)

Content-Length: 506  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA62187; Thu, 25 Apr 1996 13:26:08 -0400  
Received: from phobos.caltech.edu (phobos.caltech.edu [131.215.240.1]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA19399 for <abridle@nrao.edu>;  
Thu, 25 Apr 1996 13:26:07 -0400 (EDT)  
Received: from smurf (smurf.caltech.edu) by phobos.caltech.edu  
(4.1/DEI:4.43) id AA12314; Thu, 25 Apr 96 10:26:41 PDT  
Received: by smurf  
(4.1/DEI:4.43) id AA06027; Thu, 25 Apr 96 10:26:40 PDT  
Message-Id: <9604251726.AA06027@smurf>  
From: rcv@astro.caltech.edu (Rene C. Vermeulen)  
To: abridle@nrao.edu  
Cc: rcv@astro.caltech.edu  
Subject: Alabama proofs corrections.  
Date: Thu, 25 Apr 96 10:26:40 PDT

Dear Alan,

I have 3 numerical corrections to go along with the corrected figure which is already inserted into the proofs that I read on Anton's web page today. All three are on page 121, and they should be easy to find:

10<sup>34</sup> --> 10<sup>35</sup> h<sup>-2</sup>  
10<sup>32</sup> --> 10<sup>33</sup> h<sup>-2</sup>  
10<sup>31</sup> --> 10<sup>32</sup> h<sup>-2</sup>

I am also faxing you a copy of page 121 with the corrections indicated.

Thanks very much to you and your co-editors for your very thorough and obviously labour-intensive editing job !!

Regards,  
Rene Vermeulen.

From VM Thu Apr 25 18:23:45 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1230" "Thu" "25" "April" "1996" "12:28:15" "-0400" "Alan Bridle" "abridle"  
nil "39" "forwarded message from Alan Bridle" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1230

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60328; Thu, 25 Apr 1996 12:28:15 -0400

Message-Id: <9604251628.AA60328@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu

Subject: forwarded message from Alan Bridle

Date: Thu, 25 Apr 1996 12:28:15 -0400

----- start of forwarded message (RFC 934 encapsulation) -----

Content-Length: 701

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA52175; Thu, 25 Apr 1996 12:27:34 -0400

Message-Id: <9604251627.AA52175@polaris.cv.nrao.edu>

In-Reply-To: <199604250333.NAA02328@magician.anu.edu.au>

References: <199604250333.NAA02328@magician.anu.edu.au>

From: abridle (Alan Bridle)

To: tingay@merlin.anu.edu.au (Steven Tingay)

Subject: Re: Alabama Proceedings

Date: Thu, 25 Apr 1996 12:27:34 -0400

Steven Tingay writes:

> Dear Alan,

>

> One very small change to our contribution,

>

> Sub-Parsec-Scale structure and evolution of the Centaurus A radio jet.

>

> In the discussion: second paragraph, sescond sentence. Could I change

> "sub-parsec-scale jet of Centaurus A" to "sub-parsec-scale structure of

> Centaurus A" please.

>

> Cheers,

>

> Steven Tingay

Thanks for the prompt reply, Steve.

BTW, Phil Hardee says you have still not sent in the copyright assignment form (to ASP) for your paper. It's the only one outstanding for a paper itself -- could you FAX it to us at 804-296-0278, please, as we must have them all by the time we send the camera-ready copy to ASP.

A.

----- end -----



From VM Thu Apr 25 18:23:47 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["333" "Thu" "25" "April" "1996" "13:09:46" "-0600" "jburns@nmsu.edu"  
"jburns@nmsu.edu" "<199604251909.NAA19598@NMSU.Edu>" "12" "Re: Figures" "^From:"  
nil nil "4" nil nil nil nil]  
nil)

Content-Length: 333

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30117; Thu, 25 Apr 1996 15:13:39 -0400

Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA20925 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 15:13:37 -0400 (EDT)

Received: from NMSU.Edu by bubba.NMSU.Edu (8.6.10/NMSU)  
id NAA22654; Thu, 25 Apr 1996 13:12:16 -0600

Received: from zeus by NMSU.Edu (8.6.10/NMSU-1.18)  
id NAA19598; Thu, 25 Apr 1996 13:09:46 -0600

Message-Id: <199604251909.NAA19598@NMSU.Edu>

Received: by zeus (5.x/NMSU)  
id AA27369; Thu, 25 Apr 1996 13:08:40 -0600

X-Sun-Charset: US-ASCII

From: jburns@NMSU.Edu ()

To: abridle@polaris.cv.nrao.edu

Subject: Re: Figures

Date: Thu, 25 Apr 1996 13:09:46 -0600

Alan:

Would you prefer me to FTP you postscript versions of these  
3 greyscale figures? I think I can do this. If so, please give  
me instructions on the anonymous FTP address there.

Now, how will you use these postscript files? Can the ASP  
deal directly with postscript or do they still have to photograph  
the figures?

Jack

From VM Thu Apr 25 18:23:49 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["2937" "Thu" "25" "April" "1996" "15:31:27" "-0400" "Alan Bridle" "abridle"  
nil "61" "Figure questions" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 2937

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA62066; Thu, 25 Apr 1996 15:31:27 -0400

Message-Id: <9604251931.AA62066@polaris.cv.nrao.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu

Subject: Figure questions

Date: Thu, 25 Apr 1996 15:31:27 -0400

Hi Phil,

Tony and I just spent about an hour going through the Figures  
making sure we have the appropriate material for the pasteup  
(ASP told us they prefer us to do that), and deciding where the

versions coming out of our printer are better/worse than those from the authors. In the process we discovered the following:

Jack Burns pasted his Figures tightly up against text and trimmed the edges real close, did not send "originals". I am corresponding with him re this and he will FedEx proper originals by Wednesday (which is when we will do the pasteup). If we don't get his stuff, the Xerox copies I have already made here will also do, though his greyscales suffer a bit.

Bill Keel sent a glossy that contains less detail of the velocity field in M87 than our output from his PostScript, so the PostScript is definitely preferable re showing his science (the glossy is very black). But we noticed that the wedge is reversed between his glossy and the PostScript version. In the Postscript, light grey is 1500 km/s, black is 1000; on the glossy it was the other way around. One of these has to be wrong! Can you check with him whether the PostScript version is correct, and, if not, get a file from him that has the right wedge? The glossy is both too big and too dark to use.

Chris Loken's original has a different Figure arrangement (4 figs, not 3 as in the now-edited version). At some point his original Figs. 1 and 2 were combined into Figs 1 (a), (b) and (c) and the text was adjusted accordingly, but the captioning is now a bit messed up. His present Figure 2 caption has a (c) that will be deleted, and his Figure 1 caption is now ambiguous because it does not distinguish the rows in the Figure clearly. We will attempt to adjust the caption for Figure 1 slightly to clarify this situation, but it must now be done without changing the pagination of the paper. If you have already had discussions with him about this, we may need to be aware of them.

Finally, your own Figs. 1 and 2 are printing rather dark on our printer (which normally gives slightly lighter copy than others we have seen). We don't have your originals to compare with, however. Certainly as printing it makes the main scientific point but we are wondering if the Figure was meant to be rather lighter than we are seeing it. I don't know how to check this before we submit, short of comparing directly with an example from your printer.

In all other papers, we are in good shape: no Figures were missing, and the decision about which to use is straight-forward. A few are a bit tacky in terms of quality (Qian, Carilli) but we can't improve much on what the authors provide (we're having Qian's worst one redrawn by Pat Smiley, but can't do any more that way).

Cheers, A.

Proof corrections are starting to come in, all small so far. Several people thanking us for all the work, I'll collect it all and forward to you later.

From VM Thu Apr 25 18:23:50 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil])

["777" "Thu" "25" "April" "1996" "15:54:31" "-0400" "Alan Bridle" "abridle"  
nil "25" "Re: Figures" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 777

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA70168; Thu, 25 Apr 1996 15:54:31 -0400

Message-Id: <9604251954.AA70168@polaris.cv.nrao.edu>

In-Reply-To: <199604251909.NAA19598@NMSU.Edu>

References: <199604251909.NAA19598@NMSU.Edu>

From: abridle (Alan Bridle)

To: jburns@NMSU.Edu ()

Subject: Re: Figures

Date: Thu, 25 Apr 1996 15:54:31 -0400

jburns@nmsu.edu writes:

> Alan:

>

> Would you prefer me to FTP you postscript versions of these  
> 3 greyscale figures? I think I can do this. If so, please give  
> me instructions on the anonymous FTP address there.

>

We can still do that at this stage, and then compare the output from  
our 600-dpi printer with the copies you pasted into your original  
manuscript. If the result is not satisfactory, there would still be  
time for you to FedEx us the right-size copies you can make at NMSU.

Put them in ftp.cv.nrao.edu in the NRAO-staff/abridle area

> Now, how will you use these postscript files? Can the ASP  
> deal directly with postscript or do they still have to photograph  
> the figures?

>

They still photograph entire pages, unfortunately.

A.

From VM Thu Apr 25 18:23:51 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil])

["196" "Thu" "25" "April" "1996" "14:26:18" "-0600" "jburns@nmsu.edu"  
"jburns@nmsu.edu" nil "8" "Re: Figures" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 196

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA48576; Thu, 25 Apr 1996 16:30:04 -0400

Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA21874 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 16:30:00 -0400 (EDT)

Received: from NMSU.Edu by bubba.NMSU.Edu (8.6.10/NMSU)

id OAA26476; Thu, 25 Apr 1996 14:28:49 -0600

Received: from zeus by NMSU.Edu (8.6.10/NMSU-1.18)

id OAA25885; Thu, 25 Apr 1996 14:26:18 -0600

Message-Id: <199604252026.OAA25885@NMSU.Edu>

Received: by zeus (5.x/NMSU)

id AA27444; Thu, 25 Apr 1996 14:24:48 -0600

X-Sun-Charset: US-ASCII

From: jburns@NMSU.Edu ()  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Figures  
Date: Thu, 25 Apr 1996 14:26:18 -0600

Alan:

So, it would probably be easier for you to deal with a hardcopy anyway if they are going to photograph it. Thus, I'll FedEx the hardcopies of the figures as I originally planned.

Jack

From VM Thu Apr 25 18:23:51 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["985" "Thu" "25" "April" "1996" "15:30:35" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604252030.AA03265@venus.astr.ua.edu.astr.ua.edu>"  
"22" "Re: Figure questions" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 985  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48563; Thu, 25 Apr 1996 16:31:24 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA21922 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 16:31:22 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30422; Thu, 25 Apr 1996 15:05:10 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13464; Thu, 25 Apr 96 15:30:05 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03265; Thu, 25 Apr 96 15:30:35 CDT  
Message-Id: <9604252030.AA03265@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Figure questions  
Date: Thu, 25 Apr 96 15:30:35 CDT

Alan,

Bill is revising the wedge on his postscript version which is in error and should contact you shortly about where to find his revised figure on our anonymous ftp.

I was the one who revised Loken's figure arrangement and the error in the figure captions is mine. I should have removed the (c) from figure 2 caption. On figure 1 there looks to be enough extra space on the page for a longer figure caption if necessary. (a) is top two panels and (b) is bottom three panels with  $x = 20, 25$  and  $30r_j$  (left to right). On figure 1 I had thought it was obvious enough not to need further captioning but I forgot that I do this same kind of slicing of simulation data all the time and it might not be obvious to others.

I don't know what to tell you about my own figures except that the background should be black. I could FedEx you a printout of my paper (600 dpi printer) although all our printers (3) seem to be streaking the dark background slightly. Please advise.

Phil

From VM Thu Apr 25 18:23:52 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["302" "Thu" "25" "April" "1996" "16:53:29" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "18" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4"  
nil nil nil nil]  
nil)

Content-Length: 302

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA32709; Thu, 25 Apr 1996 16:53:34 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA07497 for <abridle>; Thu,  
25 Apr 1996 16:53:33 -0400 (EDT)

Message-Id: <2.2.32.19960425205329.006d6de8@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject: Re: URGENT: ALABAMA PROOFREADING

Date: Thu, 25 Apr 1996 16:53:29 -0400

>Date: Thu, 25 Apr 1996 13:05:00 -0700 (PDT)

>From: Tony Readhead <acr@astro.caltech.edu>

>To: Anton Zensus <azensus@nrao.edu>

>Cc: Tim Pearson <tjp@astro.caltech.edu>

>Subject: Re: URGENT: ALABAMA PROOFREADING

>

>

>Dear Toni,

>

>I've read the proofs and have no corrections.

>

>Thanks,

>

>Tony

>

>

>

From VM Thu Apr 25 18:23:54 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1611" "Thu" "25" "April" "1996" "16:56:16" "-0400" "Alan Bridle" "abridle"  
nil "40" "Re: Figure questions" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1611

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59088; Thu, 25 Apr 1996 16:56:16 -0400

Message-Id: <9604252056.AA59088@polaris.cv.nrao.edu>

In-Reply-To: <9604252030.AA03265@venus.astr.ua.edu.astr.ua.edu>

References: <9604252030.AA03265@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)

Subject: Re: Figure questions

Date: Thu, 25 Apr 1996 16:56:16 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> Bill is revising the wedge on his postscript version which is in error  
> and should contact you shortly about where to find his revised figure  
> on our anonymous ftp.  
>

OK

> I was the one who revised Loken's figure arrangement and the error in  
> the figure captions is mine. I should have removed the (c) from figure  
> 2 caption. On figure 1 there looks to be enough extra space on the  
> page for a longer figure caption if necessary. (a) is top two panels  
> and (b) is bottom three panels with  
x = 20, 25 and 30r\_j (left to  
> right). On figure 1 I had thought it was obvious enough not to need  
> further captioning but I forgot that I do this same kind of slicing of  
> simulation data all the time and it might not be obvious to others.  
>

Oh we figured it out o.k. but then we asked why we needed to. Does  
Chris know you were making this change or is he getting a surprise  
when he sees the proofs? We'll adjust the caption a bit, in the  
attempt to clarify.

> I don't know what to tell you about my own figures except that the  
> background should be black. I could FedEx you a printout of my paper  
> (600 dpi printer) although all our printers (3) seem to be streaking the  
> dark background slightly. Please advise.  
>

The background is plenty black! We were wondering exactly how much  
lighter detail there should be. From just remembering your pictures  
from the meeting I think most of the important detail is there but  
it would help to have your own printout to compare with, to make  
sure we are getting everything.

A.

From VM Thu Apr 25 18:23:56 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["361" "Thu" "25" "April" "1996" "17:11:45" "-0400" "Alan Bridle" "abridle"  
nil "15" "Re: no more corrections?" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 361

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA25664; Thu, 25 Apr 1996 17:11:45 -0400

Message-Id: <9604252111.AA25664@polaris.cv.nrao.edu>  
In-Reply-To: <9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>  
References: <9604251457.AA03173@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: no more corrections?  
Date: Thu, 25 Apr 1996 17:11:45 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> At an appropriate point will you put the complete volume split into 4 or 5  
> .ps files in your ftp area so I can print it out and skim through it.  
>  
> Phil

Tony is now splitting the version as posted to the WWW into 7 sections and will let you know when and where it is ready for you to retrieve.

A.

From VM Thu Apr 25 18:23:57 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["772" "Thu" "25" "April" "1996" "16:15:35" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604252115.AA03333@venus.astr.ua.edu.astr.ua.edu>"  
"20" "Re: Figures & cover art" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 772  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68264; Thu, 25 Apr 1996 17:16:23 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id RAA22714 for <abridle@polaris.cv.nrao.edu>; Thu,  
25 Apr 1996 17:16:22 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27396; Thu, 25 Apr 1996 15:50:09 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA13549; Thu, 25 Apr 96 16:15:04 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03333; Thu, 25 Apr 96 16:15:35 CDT  
Message-Id: <9604252115.AA03333@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: Figures & cover art  
Date: Thu, 25 Apr 96 16:15:35 CDT

Alan,

Yes, Chris is getting a surprise but the layout is much better than his original layout.

I will FedEx a complete printout of my paper.

It occurs to be that I might also send the cover art as well. The only possible confusion would arise because I have two possible versions of the cover art and two printouts of each (one printout using our best 600 dpi printer and one using a dye sublimation printer from the computer center). Should I send the cover art? If this goes out tomorrow you will have it on Monday.

It further occurs to me that the cover art is in postscript files and you might try to print out a cleaner copy. Thus, I have placed compressed files coverA.ps.gz and coverB.ps.gz in our anonymous ftp area in astro-stuff/meetings/jets.

Phil

From VM Thu Apr 25 18:23:58 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1245" "Thu" "25" "April" "1996" "17:30:56" "-0400" "Alan Bridle" "abridle"  
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nil)  
Content-Length: 1245  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA27603; Thu, 25 Apr 1996 17:30:56 -0400  
Message-Id: <9604252130.AA27603@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Draft copyright request  
Date: Thu, 25 Apr 1996 17:30:56 -0400

Gentlemen:

We are the editors of the workshop proceedings "Energy Transport in Radio Galaxies and Quasars", to be published as Volume 100 in the Astronomical Society of the Pacific Conference Series.

One of our contributing authors, Dr. \*\*\*\*a\*\*\*\*, has included in his paper a diagram which is a reproduction, with attribution, of a Figure from:

\*\*\*\*\* b \*\*\*\*\*

This is to request your permission to reproduce the Figure in our volume, and for the form of the copyright notice that we should add to his Figure caption.

We would appreciate an early reply to abridle@nrao.edu, as we hope to send camera-ready copy to the ASP by mid-week.

Thank you,

Philip Hardee  
Alan Bridle  
Anton Zensus

=====

a = J. O. Burns

b = Briel et al. , A&A, 246, L10-13.

b = Roettiger, Burns, & Pinkney, ApJ, 454, 634-640.

=====

a = C. L. Carilli

b = Carilli, Bartel, & Diamond, AJ, 108, 64-75.



=====  
a = J. Biretta

b = Biretta, Zhou, & Owen, ApJ, 447, 582-596.  
=====

From VM Thu Apr 25 18:24:02 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["284" "Thu" "25" "April" "1996" "17:33:30" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "12" "full book in 7 sections" "^From:" nil nil "4" nil nil  
nil nil]  
nil)  
Content-Length: 284  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61994; Thu, 25 Apr 1996 17:33:40 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA07536; Thu, 25 Apr 1996  
17:33:35 -0400 (EDT)  
Message-Id: <2.2.32.19960425213330.00717dfc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu  
Cc: abridle@vagabond.cv.nrao.edu  
Subject: full book in 7 sections  
Date: Thu, 25 Apr 1996 17:33:30 -0400

Phil,

I put 7 files (which combined are all pages in the book) into this directory:

<ftp://ftp.cv.nrao.edu/NRAO-staff/azensus/private/jetbook/>

Note this is not the same as the master directory

They are compressed with gzip, and hopefully you have no trouble printing them.

Anton

From VM Thu Apr 25 18:24:03 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["508" "Thu" "25" "April" "1996" "17:40:07" "-0400" "Alan Bridle" "abridle"  
nil "16" "Re: Figures & cover art" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 508  
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id AA27434; Thu, 25 Apr 1996 17:40:07 -0400  
Message-Id: <9604252140.AA27434@polaris.cv.nrao.edu>  
In-Reply-To: <9604252115.AA03333@venus.astr.ua.edu.astr.ua.edu>  
References: <9604252115.AA03333@venus.astr.ua.edu.astr.ua.edu>

From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: Figures & cover art  
Date: Thu, 25 Apr 1996 17:40:07 -0400

hardee@venus.astr.ua.edu writes:

> Alan,  
>  
> It further occurs to me that the cover art is in postscript files and  
> you might try to print out a cleaner copy. Thus, I have placed  
> compressed files coverA.ps.gz and coverB.ps.gz in our anonymous ftp  
> area in astro-stuff/meetings/jets.  
>

I have coverB.ps and am printing it. coverA.ps.gz appears to have an invalid crc and may be corrupted. I transferred both with the same mget so I rather think the problem may be in the original file?

A.

From VM Thu Apr 25 18:24:04 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1259" "Thu" "25" "April" "1996" "17:40:53" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "56" "slightly revised: Draft copyright request" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1259  
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id AA62098; Thu, 25 Apr 1996 17:40:59 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA07547; Thu, 25 Apr 1996  
17:40:58 -0400 (EDT)  
Message-Id: <2.2.32.19960425214053.007244dc@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: slightly revised: Draft copyright request  
Date: Thu, 25 Apr 1996 17:40:53 -0400

To Whom It May Concern:

We are the editors of the workshop proceedings "Energy Transport in Radio Galaxies and Quasars", to be published as Volume 100 in the Astronomical Society of the Pacific Conference Series.

One of our contributing authors, Dr. \*\*\*\*a\*\*\*\*, has included in his paper a diagram which is a reproduction, with attribution, of a Figure from:

\*\*\*\*\* b \*\*\*\*\*

This is a request for permission to reproduce the Figure in

our volume, and for the form of the copyright notice that we should add to his Figure caption.

We would appreciate an early reply to abridle@nrao.edu, as we hope to send camera-ready copy to the ASP by mid-week.

Many Thanks.

Philip Hardee  
Alan Bridle  
Anton Zensus

=====

a = J. O. Burns

b = Briel et al. , A&A, 246, L10-13.

b = Roettiger, Burns, & Pinkney, ApJ, 454, 634-640.

=====

a = C. L. Carilli

b = Carilli, Bartel, & Diamond, AJ, 108, 64-75.

=====

a = J. Biretta

b = Biretta, Zhou, & Owen, ApJ, 447, 582-596.

=====

From VM Thu Apr 25 18:24:05 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
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"azensus@nrao.edu" nil "34" "Permission to reproduce copyright material" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 923  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA48745; Thu, 25 Apr 1996 18:11:54 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id SAA07586; Thu, 25 Apr 1996  
18:11:53 -0400 (EDT)  
Message-Id: <2.2.32.19960425221149.007134e8@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: Permission to reproduce copyright material  
Date: Thu, 25 Apr 1996 18:11:49 -0400

>Date: Thu, 25 Apr 1996 18:07:12 -0400  
>To: apj@noao.edu  
>From: Anton Zensus <azensus@nrao.edu>  
>Subject: Permission to reproduce copyright material  
>  
>  
>  
>To Whom It May Concern:  
>  
>We are the editors of the workshop proceedings "Energy Transport in  
>Radio Galaxies and Quasars", to be published as Volume 100 in the  
>Astronomical Society of the Pacific Conference Series.  
>  
>One of our contributing authors, Dr. J. O. Burns, has included in his  
>paper a diagram which is a reproduction, with attribution, of a Figure  
>from:  
>  
>Roettiger, Burns, & Pinkney, ApJ, 454, 634-640.  
>  
>This is a request for permission to reproduce the Figure in  
>our volume, and for the form of the copyright notice that we should  
>add to his Figure caption.  
>  
>We would appreciate an early reply to abridle@nrao.edu, as we hope to  
>send camera-ready copy to the ASP by mid-week.  
>  
>Many Thanks.  
>  
>Philip Hardee  
>Alan Bridle  
>Anton Zensus  
>  
>

From VM Thu Apr 25 18:24:06 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["919" "Thu" "25" "April" "1996" "18:11:52" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "34" "Permission to reproduce copyright material" "^From:"  
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Content-Length: 919

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61566; Thu, 25 Apr 1996 18:11:58 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id SAA07589; Thu, 25 Apr 1996  
18:11:57 -0400 (EDT)

Message-Id: <2.2.32.19960425221152.006f5f84@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: Permission to reproduce copyright material  
Date: Thu, 25 Apr 1996 18:11:52 -0400

>Date: Thu, 25 Apr 1996 18:08:24 -0400  
>To: apj@noao.edu  
>From: Anton Zensus <azensus@nrao.edu>  
>Subject: Permission to reproduce copyright material  
>  
>  
>  
>To Whom It May Concern:  
>  
>We are the editors of the workshop proceedings "Energy Transport in  
>Radio Galaxies and Quasars", to be published as Volume 100 in the  
>Astronomical Society of the Pacific Conference Series.  
>  
>One of our contributing authors, Dr. J. A. Biretta, has included in his  
>paper a diagram which is a reproduction, with attribution, of a Figure  
>from:  
>  
>Biretta, Zhou, & Owen, ApJ, 447, 582-596.  
>  
>This is a request for permission to reproduce the Figure in  
>our volume, and for the form of the copyright notice that we should  
>add to his Figure caption.  
>  
>We would appreciate an early reply to abridle@nrao.edu, as we hope to  
>send camera-ready copy to the ASP by mid-week.  
>  
>Many Thanks.  
>  
>Philip Hardee  
>Alan Bridle  
>Anton Zensus  
>  
>

From VM Thu Apr 25 18:24:07 1996  
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"azensus@nrao.edu" nil "34" "Permission to reproduce copyright material" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 936  
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id AA57236; Thu, 25 Apr 1996 18:12:01 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id SAA07592; Thu, 25 Apr 1996  
18:12:00 -0400 (EDT)  
Message-Id: <2.2.32.19960425221156.0073d82c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: Permission to reproduce copyright material

Date: Thu, 25 Apr 1996 18:11:56 -0400

>Date: Thu, 25 Apr 1996 18:09:29 -0400

>To: astroj@astro.washington.edu

>From: Anton Zensus <azensus@nrao.edu>

>Subject: Permission to reproduce copyright material

>

>

>

>To Whom It May Concern:

>

>We are the editors of the workshop proceedings "Energy Transport in

>Radio Galaxies and Quasars", to be published as Volume 100 in the

>Astronomical Society of the Pacific Conference Series.

>

>One of our contributing authors, Dr. C. L. Carilli, has included in his

>paper a diagram which is a reproduction, with attribution, of a Figure

>from:

>

>Carilli, Bartel, & Diamond, AJ, 108, 64-75.

>

>This is a request for permission to reproduce the Figure in

>our volume, and for the form of the copyright notice that we should

>add to his Figure caption.

>

>We would appreciate an early reply to abridle@nrao.edu, as we hope to

>send camera-ready copy to the ASP by mid-week.

>

>Many Thanks.

>

>Philip Hardee

>Alan Bridle

>Anton Zensus

>

>

From VM Thu Apr 25 18:24:08 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["918" "Thu" "25" "April" "1996" "18:11:59" "-0400" "Anton Zensus"

"azensus@nrao.edu" nil "34" "Permission to reproduce copyright material" "^From:"

nil nil "4" nil nil nil nil]

nil)

Content-Length: 918

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA61609; Thu, 25 Apr 1996 18:12:04 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by

vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id SAA07595; Thu, 25 Apr 1996

18:12:03 -0400 (EDT)

Message-Id: <2.2.32.19960425221159.00738fe0@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: Permission to reproduce copyright material

Date: Thu, 25 Apr 1996 18:11:59 -0400

>Date: Thu, 25 Apr 1996 18:10:42 -0400  
>To: aanda@mesioib.obspm.fr  
>From: Anton Zensus <azensus@nrao.edu>  
>Subject: Permission to reproduce copyright material  
>  
>  
>  
>Dear Dr. Lequeux,  
>  
>We are the editors of the workshop proceedings "Energy Transport in  
>Radio Galaxies and Quasars", to be published as Volume 100 in the  
>Astronomical Society of the Pacific Conference Series.  
>  
>One of our contributing authors, Dr. J. O. Burns, has included in his  
>paper a diagram which is a reproduction, with attribution, of a Figure  
>from:  
>  
>Briel et al., A&A, 246, L10-13.  
>  
>This is a request for permission to reproduce the Figure in  
>our volume, and for the form of the copyright notice that we should  
>add to his Figure caption.  
>  
>We would appreciate an early reply to abridle@nrao.edu, as we hope to  
>send camera-ready copy to the ASP by mid-week.  
>  
>Many Thanks.  
>  
>Philip Hardee  
>Alan Bridle  
>Anton Zensus  
>  
>

From VM Fri Apr 26 10:01:08 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["137" "Fri" "26" "April" "1996" "18:10:32" "+1000" "Paul Jones"  
"P.Jones@st.nepean.uws.edu.au" nil "6" "Alabama Proc - OK" "^From:" nil nil "4" nil  
nil nil nil]  
nil)  
Content-Length: 137  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA64720; Fri, 26 Apr 1996 04:11:19 -0400  
Received: from lancelet.st.nepean.uws.edu.au (lancelet.st.nepean.uws.EDU.AU  
[137.154.148.30]) by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id EAA28958 for  
<abridle@nrao.edu>; Fri, 26 Apr 1996 04:11:14 -0400 (EDT)  
Received: from elwood.st.nepean.uws.edu.au (elwood) by  
lancelet.st.nepean.uws.edu.au with SMTP id AA21097  
(5.65c/IDA-1.5 for <abridle@nrao.edu>); Fri, 26 Apr 1996 18:10:11 +1000  
Received: by elwood.st.nepean.uws.edu.au id AA06731  
(5.65c/IDA-1.4.4 for abridle@nrao.edu); Fri, 26 Apr 1996 18:10:32 +1000  
Message-Id: <199604260810.AA06731@elwood.st.nepean.uws.edu.au>  
From: Paul Jones <P.Jones@st.nepean.uws.edu.au>  
To: abridle@nrao.edu  
Cc: pjones@st.nepean.uws.edu.au  
Subject: Alabama Proc - OK  
Date: Fri, 26 Apr 1996 18:10:32 +1000

Alan,

Ben Lloyd and I have looked at the proofs of our papers for the Alabama Proceedings. They look fine, thank you,

Paul Jones

From VM Fri Apr 26 10:53:29 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]

["253" "Fri" "26" "April" "1996" "08:13:35" "-0400" "Anton Zensus"

"azensus@nrao.edu"

nil "15" "Re: Permission to reproduce copyright material" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 253

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA41287; Fri, 26 Apr 1996 08:13:41 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id IAA08325; Fri, 26 Apr 1996 08:13:39 -0400 (EDT)

Message-Id: <2.2.32.19960426121335.0073c0b0@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: Re: Permission to reproduce copyright material

Date: Fri, 26 Apr 1996 08:13:35 -0400

>From: AANDA@MESIOB.OBSPM.FR

>Date: Fri, 26 Apr 1996 10:55:05 +0002

>Subject: Re: Permission to reproduce copyright material

>To: azensus@nrao.edu

>X-VMS-Cc: AANDA

>

>

>Message received.

>Answer will be given as soon as possible.

>Sincerely

>

>A&A

>

>

From VM Fri Apr 26 10:53:32 1996

X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]

["462" "Fri" "26" "April" "1996" "08:52:51" "-0500" "William Keel"

"keel@bildad.astr.ua.edu" "<199604261352.IAA05878@bildad.astr.ua.edu>" "10"

"missing M87 file" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 462

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA65934; Fri, 26 Apr 1996 09:40:33 -0400

Received: from bildad.astr.ua.edu (bildad.astr.ua.edu [130.160.100.19]) by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA01805 for <abridle@nrao.edu>; Fri, 26 Apr 1996 09:40:29 -0400 (EDT)

Received: by bildad.astr.ua.edu (940816.SGI.8.6.9/940406.SGI)



for abridle@nrao.edu id IAA05878; Fri, 26 Apr 1996 08:52:51 -0500  
Message-Id: <199604261352.IAA05878@bildad.astr.ua.edu>  
From: keel@bildad.astr.ua.edu (William Keel)  
To: abridle@nrao.edu  
Subject: missing M87 file  
Date: Fri, 26 Apr 1996 08:52:51 -0500

You caught me! I realized after submitting the initial postscript file that I had flipped the gray-scale direction in the image for better reproduction but not the scale bar, so I redid the hardcopy (which I had the impression would be used for printing) in a month when that printer (beyond our jurisdiction) was not doing so well. Anyway, the postscript file done right way around is in <ftp://crux.astr.ua.edu/pub/outgoing/keel/m87field.ps>

Regards,  
Bill Keel

From VM Fri Apr 26 10:53:41 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["184" "Fri" "26" "April" "1996" "09:18:57" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604261418.AA03458@venus.astr.ua.edu.astr.ua.edu>" "9"  
"Re: cover art" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 184  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA49945; Fri, 26 Apr 1996 10:19:45 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA02504 for <abridle@polaris.cv.nrao.edu>; Fri,  
26 Apr 1996 10:19:43 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33442; Fri, 26 Apr 1996 08:53:31 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14107; Fri, 26 Apr 96 09:18:26 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03458; Fri, 26 Apr 96 09:18:57 CDT  
Message-Id: <9604261418.AA03458@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: cover art  
Date: Fri, 26 Apr 96 09:18:57 CDT

Alan,

I remade coverA.ps.gz and tested it here by gunzipping it and printing it. It should be OK now. I gather that I should send my copies of the cover art on to you today?

Phil

From VM Fri Apr 26 10:53:42 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["1081" "Fri" "26" "April" "1996" "10:24:31" "-0400" "wiita@chara.gsu.edu"  
"wiita@chara.gsu.edu" "<9604261424.AA13824@chara.gsu.edu>" "31" "wiita and hooda  
corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1081

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA54329; Fri, 26 Apr 1996 10:24:00 -0400  
Received: from chara.gsu.edu (zeldovich.chara.gsu.edu [131.96.5.20]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id KAA02586 for <abridle@nrao.edu>;  
Fri, 26 Apr 1996 10:23:58 -0400 (EDT)  
Received: by chara.gsu.edu (5.57/Ultrix3.0-C)  
id AA13824; Fri, 26 Apr 96 10:24:32 -0400  
Message-Id: <9604261424.AA13824@chara.gsu.edu>  
X-Mts: smtp  
From: wiita@chara.gsu.edu  
To: abridle@nrao.edu  
Cc: wiita@chara.gsu.edu, hooda@chara.gsu.edu  
Subject: wiita and hooda corrections  
Date: Fri, 26 Apr 96 10:24:31 -0400

Dear Alan,

Thanks for giving us a chance to proofread the papers. It was also very useful to see the write-ups of a couple of the other papers, as I'm in the process of writing a supercomputer time proposal to continue our simulations.

There is one typo in the Hooda and Wiita paper, Three-dimensional Simulations of Jets Crossing Angled Interfaces, in the very last line of p. 381: 45 should be  $45^\circ$ .  
I.e., there should be a degree symbol and a period to end Conclusion 6.

I'd also like to make two corrections to the Abstract of my paper, Theoretical Developments in Jet Propagation (on p. 395).

Since I used the word presented twice in the first sentence, I think it would read better as:  
Highlights of the theoretical talks given at this Workshop are presented.

There should be a comma in the last line of the abstract between sources and are: spectrum radio sources, are considered.

None of these should affect pagination.

One final question: will this indeed be ASP conference volume No. 100, as indicated by the headers?

Best wishes,  
Paul

-----

From VM Fri Apr 26 10:53:46 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["355" "Fri" "26" "April" "1996" "10:46:09" "-0400" "Alan Bridle" "abridle"  
nil "15" "Re: cover art" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 355  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28658; Fri, 26 Apr 1996 10:46:09 -0400  
Message-Id: <9604261446.AA28658@polaris.cv.nrao.edu>  
In-Reply-To: <9604261418.AA03458@venus.astr.ua.edu.astr.ua.edu>  
References: <9604261418.AA03458@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)

To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: cover art  
Date: Fri, 26 Apr 1996 10:46:09 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> I remade coverA.ps.gz and tested it here by gunzipping it and printing  
> it. It should be OK now. I gather that I should send my copies of the  
> cover art on to you today?  
>

I think so. Perhaps include your printouts of your simulation  
Figures for comparison with our in the same package?

A.

From VM Fri Apr 26 10:53:51 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["1311" "Fri" "26" "April" "1996" "10:49:09" "-0400" "Alan Bridle" "abridle"  
nil "39" "Re: wiita and hooda corrections" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 1311  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA65885; Fri, 26 Apr 1996 10:49:09 -0400  
Message-Id: <9604261449.AA65885@polaris.cv.nrao.edu>  
In-Reply-To: <9604261424.AA13824@chara.gsu.edu>  
References: <9604261424.AA13824@chara.gsu.edu>  
From: abridle (Alan Bridle)  
To: wiita@chara.gsu.edu  
Subject: Re: wiita and hooda corrections  
Date: Fri, 26 Apr 1996 10:49:09 -0400

wiita@chara.gsu.edu writes:

> Dear Alan,  
>  
> Thanks for giving us a chance to proofread the papers. It was also very useful  
> to see the write-ups of a couple of the other papers, as I'm in the process of  
> writing a supercomputer time proposal to continue our simulations.  
>

Glad to oblige, Paul. Our thanks to you for the excellent review!

> There is one typo in the Hooda and Wiita paper, Three-dimensional  
> Simulations of Jets Crossing Angled Interfaces, in the very last line of p. 381:  
> 45 should be  $45^\circ$ .  
> I.e., there should be a degree symbol and a period to end Conclusion 6.  
>  
> I'd also like to make two corrections to the Abstract of my paper,  
> Theoretical Developments in Jet Propagation (on p. 395).  
>  
> Since I used the word presented twice in the first sentence, I think it  
> would read better as:  
> Highlights of the theoretical talks given at this Workshop are presented.

>  
> There should be a comma in the last line of the abstract between sources and  
are:  
> spectrum radio sources, are considered.  
>  
> None of these should affect pagination.

Will all be done.

>  
> One final question: will this indeed be ASP conference volume No. 100,  
> as indicated by the headers?  
>

Yes, provided we meet our current deadline!

Best wishes, A.

From VM Fri Apr 26 10:53:52 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["831" "Fri" "26" "April" "1996" "10:52:46" "-0400" "Alan Bridle" "abridle"  
nil "22" "Re: missing M87 file" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 831  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60081; Fri, 26 Apr 1996 10:52:46 -0400  
Message-Id: <9604261452.AA60081@polaris.cv.nrao.edu>  
In-Reply-To: <199604261352.IAA05878@bildad.astr.ua.edu>  
References: <199604261352.IAA05878@bildad.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: keel@bildad.astr.ua.edu (William Keel)  
Subject: Re: missing M87 file  
Date: Fri, 26 Apr 1996 10:52:46 -0400

William Keel writes:

> You caught me! I realized after submitting the initial postscript  
> file that I had flipped the gray-scale direction in the image for  
> better reproduction but not the scale bar, so I redid the hardcopy  
> (which I had the impression would be used for printing) in a month  
> when  
that printer (beyond our jurisdiction) was not doing so well.  
> Anyway, the postscript file done right way around is in  
> ftp://crux.astr.ua.edu/pub/outgoing/keel/m87field.ps  
>

We are generally using the glossies unless the postscript printout  
we are getting from our printer shows details as effectively, or (as  
it happens in this case) a little better. So you almost got it by us:  
it was only when comparing the two in detail that I noticed the  
reversal.

I have your new file on my machine now,

Thanks, Alan B.

From VM Fri Apr 26 10:53:55 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["194" "Fri" "26" "April" "1996" "10:53:10" "-0400" "Alan Bridle" "abridle"  
nil "9" "Re: Alabama Proc - OK" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 194  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44862; Fri, 26 Apr 1996 10:53:10 -0400  
Message-Id: <9604261453.AA44862@polaris.cv.nrao.edu>  
In-Reply-To: <199604260810.AA06731@elwood.st.nepean.uws.edu.au>  
References: <199604260810.AA06731@elwood.st.nepean.uws.edu.au>  
From: abridle (Alan Bridle)  
To: Paul Jones <P.Jones@st.nepean.uws.edu.au>  
Subject: Re: Alabama Proc - OK  
Date: Fri, 26 Apr 1996 10:53:10 -0400

Paul Jones writes:

>  
> Alan,  
> Ben Lloyd and I have looked at the proofs of our papers for  
> the Alabama Proceedings. They look fine, thank you,  
>

Thanks for the speedy reply, A.

From VM Fri Apr 26 11:10:13 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["942" "Fri" "26" "April" "1996" "10:57:55" "-0400" "Alan Bridle" "abridle"  
nil "31" "Re: alabama" "^From:" nil nil "4" nil nil (number " " mark " Alan  
Bridle Apr 26 31/942 " thread-indent "\"Re: alabama\""\n") nil]  
nil)  
Content-Length: 942  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA65691; Fri, 26 Apr 1996 10:57:55 -0400  
Message-Id: <9604261457.AA65691@polaris.cv.nrao.edu>  
In-Reply-To: <m0uCSWV-0005dpC@mraos.ra.phy.cam.ac.uk>  
References: <m0uCSWV-0005dpC@mraos.ra.phy.cam.ac.uk>  
From: abridle (Alan Bridle)  
To: pags@mrao.cam.ac.uk  
Subject: Re: alabama  
Date: Fri, 26 Apr 1996 10:57:55 -0400

pags@mrao.cam.ac.uk writes:

>  
> Proofreading: I've done my `obvreview' talk and find  
> 1. please don't split 100pc between pp1 and 2  
> 2. p2 line 4 close bracket after `separately' .  
>  
> May I also remind you (or tell you if I have not done so before!) that  
> the diagram in scheu2 is copyrighted by the Royal Astronomical Society  
> and reproduced by their permission. Perhaps there should be a sentence  
> at the very end (after `Scheuer(1995)') Figure 1 is reproduced with kind  
> permission of the Royal Astronomical Society.

All noted.

>  
> Thanks for undertaking the thankless task of editing the proceedings!

Not quite so thankless, after all!

>  
> Greetings to Mary, please.  
>

Mary is doing very well these days and sends her best to you. Robert Laing is currently with us for a couple of weeks, enjoying a nice blossom-filled Virginia spring. Sorry we didn't do better when you were here!

A.

From VM Fri Apr 26 11:10:17 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["710" "Fri" "26" "April" "1996" "11:00:26" "-0400" "Alan Bridle" "abridle"  
nil "28" "Re: Alabama proofs corrections." "^From:" nil nil "4" nil nil (number " "  
mark " Alan Bridle Apr 26 28/710 " thread-indent "\"Re: Alabama  
proofs corrections.\"\\n") nil]  
nil)  
Content-Length: 710  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44870; Fri, 26 Apr 1996 11:00:26 -0400  
Message-Id: <9604261500.AA44870@polaris.cv.nrao.edu>  
In-Reply-To: <9604251726.AA06027@smurf>  
References: <9604251726.AA06027@smurf>  
From: abridle (Alan Bridle)  
To: rcv@astro.caltech.edu (Rene C. Vermeulen)  
Subject: Re: Alabama proofs corrections.  
Date: Fri, 26 Apr 1996 11:00:26 -0400

Rene C. Vermeulen writes:

> I have 3 numerical corrections to go along with the corrected  
> figure which is already inserted into the proofs that I read  
> on Anton's web page today. All three are on page 121, and they  
> should be easy to find:  
>  
>  $10^{34} \rightarrow 10^{35} h^{-2}$   
>  $10^{32} \rightarrow 10^{33} h^{-2}$   
>  $10^{31} \rightarrow 10^{32} h^{-2}$   
>  
> I am also faxing you a copy of page 121 with the corrections  
> indicated.

All received and will be done.

>  
> Thanks very much to you and your co-editors for your very  
> thorough and obviously labour-intensive editing job !!  
>

Much appreciated, and passed on to them! We've been greatly helped by time and care put in by the authors, too.

Best wishes, Alan

From VM Fri Apr 26 16:48:36 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["318" "Fri" "26" "April" "1996" "10:57:39" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604261557.AA03470@venus.astr.ua.edu.astr.ua.edu>"  
"10" "Re: cover art, etc." "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 318  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68574; Fri, 26 Apr 1996 11:58:34 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA04864 for <abridle@polaris.cv.nrao.edu>; Fri,  
26 Apr 1996 11:58:29 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA06839; Fri, 26 Apr 1996 10:32:13 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA14285; Fri, 26 Apr 96 10:57:08 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03470; Fri, 26 Apr 96 10:57:39 CDT  
Message-Id: <9604261557.AA03470@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: cover art, etc.  
Date: Fri, 26 Apr 96 10:57:39 CDT

Alan,

I will send cover art and a complete printed copy of the latest draft  
version of my paper with the figures via FedEx.

I also now have Tingay's copyright form via fax. Should I also send  
all the copyright forms so that along with Readhead's form they can be  
mailed in with the final volume from C'ville?

Phil

From VM Fri Apr 26 16:48:40 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["1055" "Fri" "26" "April" "1996" "09:26:02" "-0700" "Astronomical Journal"  
"astroj@astro.washington.edu" "<9604261623.AA12120@bluemoon.astro.washington.edu>"  
"37" "Re: Permission to reproduce copyright material" "^From:" nil nil "4" nil nil  
nil nil]  
nil)  
Content-Length: 1055  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68278; Fri, 26 Apr 1996 12:23:26 -0400  
Received: from bluemoon.astro.washington.edu (bluemoon.astro.washington.edu  
[128.95.99.12]) by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id MAA05302 for  
<abridle@nrao.edu>; Fri, 26 Apr 1996 12:23:24 -0400 (EDT)  
Received: from gould.astro.washington.edu by bluemoon.astro.washington.edu  
(5.65/UW-NDC Revision: 2.25 ) id AA12120; Fri, 26 Apr 96 09:23:09 -0700  
Message-Id: <9604261623.AA12120@bluemoon.astro.washington.edu>  
X-Sender: astroj@bluemoon.astro.washington.edu  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: astroj@astro.washington.edu (Astronomical Journal)  
To: abridle@nrao.edu

Subject: Re: Permission to reproduce copyright material  
Date: Fri, 26 Apr 1996 09:26:02 -0700

Dr Bridle:

Permission is hereby granted to reproduce the figure from  
Carilli, Bartel, & Diamond, AJ, 108, 64-75 (1994)  
Please add "Reproduced by permission of the Astronomical Journal" to the  
citation.

Sincerely,  
Chaim Rosemarin  
Assistant Editor

>To Whom It May Concern:

>

>We are the editors of the workshop proceedings "Energy Transport in  
>Radio Galaxies and Quasars", to be published as Volume 100 in the  
>Astronomical Society of the Pacific Conference Series.

>

>One of our contributing authors, Dr. C. L. Carilli, has included in his  
>paper a diagram which is a reproduction, with attribution, of a Figure  
>from:

>

>Carilli, Bartel, & Diamond, AJ, 108, 64-75.

>

>This is a request for permission to reproduce the Figure in  
>our volume, and for the form of the copyright notice that we should  
>add to his Figure caption.

>

>We would appreciate an early reply to abridle@nrao.edu, as we hope to  
>send camera-ready copy to the ASP by mid-week.

>

>Many Thanks.

>

>Philip Hardee

>Alan Bridle

>Anton Zensus

Return address: astroj@astro.washington.edu

From VM Fri Apr 26 16:48:41 1996

X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]

["878" "Fri" "26" "April" "1996" "09:57:12" "-0700" "Tim Pearson"

"tjp@astro.caltech.edu" "<Pine.SOL.3.92.960426095308.628A-100000@bottom>" "22" "Re:  
URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 878

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60024; Fri, 26 Apr 1996 12:56:41 -0400

Received: from phobos.caltech.edu (phobos.caltech.edu [131.215.240.1]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id MAA05799; Fri, 26 Apr 1996  
12:56:37 -0400 (EDT)

Received: from bottom (bottom.caltech.edu) by phobos.caltech.edu  
(4.1/DEI:4.43) id AA20485; Fri, 26 Apr 96 09:57:16 PDT

Received: from localhost by bottom with SMTP

(SMI-8.6/DEI:4.43) id JAA00674; Fri, 26 Apr 1996 09:57:13 -0700

X-Sender: tjp@bottom

In-Reply-To: <2.2.32.19960425031228.006ca4bc@vagabond.cv.nrao.edu>



Message-Id: <Pine.SOL.3.92.960426095308.628A-100000@bottom>  
Mime-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII  
From: Tim Pearson <tjp@astro.caltech.edu>  
To: Anton Zensus <azensus@nrao.edu>  
Cc: Alan Bridle <abridle@nrao.edu>  
Subject: Re: URGENT: ALABAMA PROOFREADING  
Date: Fri, 26 Apr 1996 09:57:12 -0700 (PDT)

Thank you. The proofs of my paper look fine. Only one minor point: the two references to Readhead et al 1996a,b are still listed as in press (also in the papers by Readhead and Taylor), although you have the complete references in the combined bibliography.

Readhead, A. C. S., Taylor,  
G. B., Xu, W., Pearson, T. J., Wilkinson,  
P. N., Polatidis, A. G.  
1996, ApJ, 460, 612-633  
The statistics and ages of compact symmetric objects.

Readhead, A. C. S., Taylor, G. B., Pearson, T. J., Wilkinson, P. N.  
1996, ApJ, 460, 634-643  
Compact symmetric objects and the evolution of powerful  
extragalactic radio sources.

Tim

Tim Pearson, Astronomy Dept 105-24, Caltech, Pasadena, California 91125, USA  
Internet: tjp@astro.caltech.edu, Pearson\_T@caltech.edu  
WWW: http://astro.caltech.edu/~tjp/  
Telephone: +1 818 395-4980 FAX: +1 818 568-9352

From VM Fri Apr 26 16:48:46 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["295" "Fri" "26" "April" "1996" "14:56:46" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "14" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4"  
nil nil nil nil]  
nil)

Content-Length: 295  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59308; Fri, 26 Apr 1996 14:56:52 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA08779 for <abridle>; Fri,  
26 Apr 1996 14:56:51 -0400 (EDT)  
Message-Id: <2.2.32.19960426185646.0073830c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: Re: URGENT: ALABAMA PROOFREADING  
Date: Fri, 26 Apr 1996 14:56:46 -0400

>Date: Fri, 26 Apr 1996 19:09:29 +0100  
>From: M Birkinshaw <Mark.Birkinshaw@Bristol.ac.uk>  
>To: azensus@nrao.edu  
>Subject: Re: URGENT: ALABAMA PROOFREADING

>Cc: mb1@Bristol.ac.uk  
>  
>Dear Anton  
>  
>The file birki.ps looks fine to me. And the overall format looks good.  
>  
> Mark Birkinshaw  
>  
>

From VM Mon Apr 29 09:47:42 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["393" "Fri" "26" "April" "1996" "16:24:37" "-0400" "Alan Bridle" "abridle"  
nil "18" "Re: cover art, etc." "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 393  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA59279; Fri, 26 Apr 1996 16:24:37 -0400  
Message-Id: <9604262024.AA59279@polaris.cv.nrao.edu>  
In-Reply-To: <9604261557.AA03470@venus.astr.ua.edu.astr.ua.edu>  
References: <9604261557.AA03470@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: cover art, etc.  
Date: Fri, 26 Apr 1996 16:24:37 -0400

hardee@venus.astr.ua.edu writes:  
> Alan,  
>  
> I will send cover art and a complete printed copy of the latest draft  
> version of my paper with the figures via FedEx.  
>  
> I also now have Tingay's copyright form via fax. Should I also send  
> all the copyright forms so that along with Readhead's form they can be  
> mailed in with the final volume from C`ville?  
>

Good idea.

A.

From VM Mon Apr 29 09:47:46 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["164" "Fri" "26" "April" "1996" "15:30:45" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604262030.AA03641@venus.astr.ua.edu.astr.ua.edu>" "7"  
"Re: cover art, etc." "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 164  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA38438; Fri, 26 Apr 1996 16:31:33 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id QAA09432 for <abridle@polaris.cv.nrao.edu>; Fri,  
26 Apr 1996 16:31:31 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)

id AA11537; Fri, 26 Apr 1996 15:05:19 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA15053; Fri, 26 Apr 96 15:30:13 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA03641; Fri, 26 Apr 96 15:30:45 CDT  
Message-Id: <9604262030.AA03641@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: cover art, etc.  
Date: Fri, 26 Apr 96 15:30:45 CDT

Alan,

All of the material cover art, copyright forms, my paper with figures is in the hands of FedEx with instructions to deliver it to you Monday morning.

Phil

From VM Mon Apr 29 09:47:50 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["351" "Fri" "26" "April" "1996" "16:45:42" "-0400" "Alan Bridle" "abridle"  
nil "15" "Re: Permission to reproduce copyright material" "^From:" nil nil "4" nil  
nil nil nil]  
nil)  
Content-Length: 351  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA69701; Fri, 26 Apr 1996 16:45:42 -0400  
Message-Id: <9604262045.AA69701@polaris.cv.nrao.edu>  
In-Reply-To: <9604261623.AA12120@bluemoon.astro.washington.edu>  
References: <9604261623.AA12120@bluemoon.astro.washington.edu>  
From: abridle (Alan Bridle)  
To: astroj@astro.washington.edu (Astronomical Journal)  
Subject: Re: Permission to reproduce copyright material  
Date: Fri, 26 Apr 1996 16:45:42 -0400

Astronomical Journal writes:

- > Dr Bridle:
- > Permission is hereby granted to reproduce the figure from
- > Carilli, Bartel, & Diamond, AJ, 108, 64-75 (1994)
- > Please add "Reproduced by permission of the Astronomical Journal" to the
- > citation.
- > Sincerely,
- > Chaim Rosemarin
- > Assistant Editor
- >

Thank you for this prompt reply,

Alan Bridle

From VM Mon Apr 29 09:47:52 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["337" "Fri" "26" "April" "1996" "16:48:24" "-0400" "Alan Bridle" "abridle"  
nil "11" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 337  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA61553; Fri, 26 Apr 1996 16:48:24 -0400  
Message-Id: <9604262048.AA61553@polaris.cv.nrao.edu>  
In-Reply-To: <Pine.SOL.3.92.960426095308.628A-100000@bottom>  
References: <2.2.32.19960425031228.006ca4bc@vagabond.cv.nrao.edu>  
<Pine.SOL.3.92.960426095308.628A-100000@bottom>  
From: abridle (Alan Bridle)  
To: Tim Pearson <tjp@astro.caltech.edu>  
Subject: Re: URGENT: ALABAMA PROOFREADING  
Date: Fri, 26 Apr 1996 16:48:24 -0400

Tim Pearson writes:

> Thank you. The proofs of my paper look fine. Only one minor point: the  
> two references to Readhead et al 1996a,b are still listed as in press  
> (also in the papers by Readhead and Taylor), although you have the  
> complete references in the combined bibliography.  
>

Thanks for pointing that out, Tim.

A.

From VM Mon Apr 29 09:47:55 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["256" "Fri" "26" "April" "1996" "17:05:59" "-0400" "Alan Bridle" "abridle"  
nil "12" "Re: cover art, etc." "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 256  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29414; Fri, 26 Apr 1996 17:05:59 -0400  
Message-Id: <9604262105.AA29414@polaris.cv.nrao.edu>  
In-Reply-To: <9604262030.AA03641@venus.astr.ua.edu.astr.ua.edu>  
References: <9604262030.AA03641@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: cover art, etc.  
Date: Fri, 26 Apr 1996 17:05:59 -0400

hardee@venus.astr.ua.edu writes:

>  
> Alan,  
>  
> All of the material cover art, copyright forms, my paper with figures is in  
> the hands of FedEx with instructions to deliver it to you Monday morning.  
>  
> Phil

Excellent. Have a good weekend!

A.

From VM Mon Apr 29 09:47:59 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]  
["342" "Sat" "27" "April" "1996" "09:27:50" "+0800" "rqsj@bao01.bao.ac.cn"  
"rqsj@bao01.bao.ac.cn" nil "9" "proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 342  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17828; Fri, 26 Apr 1996 23:11:59 -0400

Received: from bao01 (bao01.bao.ac.cn [159.226.63.5]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id XAA13585 for <abridle@nrao.edu>; Fri, 26 Apr 1996  
23:11:51 -0400 (EDT)  
Message-Id: <199604270311.XAA13585@cv3.cv.nrao.edu>  
X-Vms-To: SMTP%"abridle@nrao.edu"  
From: rqsj@bao01.bao.ac.cn  
To: abridle@nrao.edu  
Subject: proceedings  
Date: Sat, 27 Apr 1996 09:27:50 +0800

Dear Prof.Hardee

Thank you very much for the e-mail.  
Please help to correct one typing error in the paper for 0917.  
On the right side of equation (6):  
the factor  $\{\{\Gamma\}_{ps}\}^{-5}$   
should be  $\{\{\Gamma\}_{ps}\}^5$ . Many thanks.  
Qian, S.J.  
Beijing,  
27 April, 1996

From VM Mon Apr 29 09:48:00 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil]  
["683" "Sat" "27" "April" "1996" "11:45:38" "-0600" "mledlow@nmsu.edu"  
"mledlow@nmsu.edu" nil "19" "ALABAMA CONFERENCE PROCEEDINGS" "^From:" nil nil "4"  
nil nil nil nil]  
nil)

Content-Length: 683

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57265; Sat, 27 Apr 1996 13:43:17 -0400  
Received: from bubba.NMSU.Edu (bubba.NMSU.Edu [128.123.3.39]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id NAA20274 for <abridle@nrao.edu>; Sat, 27 Apr 1996  
13:43:15 -0400 (EDT)  
Received: from NMSU.Edu by bubba.NMSU.Edu (8.6.10/NMSU)  
id LAA17919; Sat, 27 Apr 1996 11:45:41 -0600  
Received: from ocotillo by NMSU.Edu (8.6.10/NMSU-1.18)  
id LAA05205; Sat, 27 Apr 1996 11:43:12 -0600  
Message-Id: <199604271743.LAA05205@NMSU.Edu>  
Received: by ocotillo (5.x/NMSU)  
id AA21409; Sat, 27 Apr 1996 11:45:39 -0600  
X-Mailer: ELM [version 2.4 PL24]  
Content-Type: text  
From: mledlow@NMSU.Edu ()  
To: abridle@nrao.edu  
Subject: ALABAMA CONFERENCE PROCEEDINGS  
Date: Sat, 27 Apr 1996 11:45:38 -0600 (MDT)

Hi Alan,

I've proofread my paper in the proceedings, and found a few typographical  
errors and corrections. I list them below:

Page 359, last paragraph : "the ro<sup>^</sup>le of the environment" should not  
have the circumflex  
over the 'o'.

Page 360, line 6, 1st paragraph : "and interacts with, the hot ..."  
doesn't need the comma after 'with'.

Page 363, Conclusions, item 2 : "radio galaxies shows" should be

"radio galaxies show"

Page 364, References, next to last entry : the Owen, Ledlow, Keel paper  
is no longer in press, but has appeared in print.  
The reference is AJ, 111, 53

--Michael Ledlow

From VM Mon Apr 29 09:48:03 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["876" "Sat" "27" "April" "1996" "14:22:12" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "41" "access to proof" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 876  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA20407; Sat, 27 Apr 1996 14:22:21 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA09280; Sat, 27 Apr 1996  
14:22:10 -0400 (EDT)  
Message-Id: <2.2.32.19960427182212.007665c4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: deyoung@noao.edu (Dave De Young)  
Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: access to proof  
Date: Sat, 27 Apr 1996 14:22:12 -0400

I am surprised it did not work for you - we had a good number of people  
already successful.

With generic ftp, this is what you do:

```
ftp ftp.cv.nrao.edu
```

```
login as anonymous, password is your email address
```

```
cd NRAO-staff/azensus/private/alabama
```

then you should be able to access the files, especially deyou.ps and deyou.ps.gz

Let me know if you have trouble.

The other way to get there is via a WWW browser, at this address:

```
http://www.cv.nrao.edu/~azensus/jetwks/jetwks.html  
good luck. If you still have trouble let me know immediately, and we will  
fax you a copy.
```

az

At 04:21 PM 4/26/96 MST, you wrote:

```
>  
>Hi Anton;  
>
```

>I tried to get my alabama ps files vi anonymous ftp, but kept  
>getting "unknown host" messages. Whats the correct ftp  
>address to get to these via anonymous ftp? The one given in  
>the email just doesn't work. Thanks.  
>  
>Dave De Young  
>  
>  
>  
>  
>

From VM Mon Apr 29 09:48:53 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["485" "Sun" "28" "April" "1996" "11:21:57" "+0800" "rqsj@bao01.bao.ac.cn"  
"rqsj@bao01.bao.ac.cn" nil "12" "proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 485  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA57283; Sat, 27 Apr 1996 23:21:37 -0400  
Received: from bao01 (bao01.bao.ac.cn [159.226.63.5]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id XAA25630 for <abridle@nrao.edu>; Sat, 27 Apr 1996  
23:21:32 -0400 (EDT)  
Message-Id: <199604280321.XAA25630@cv3.cv.nrao.edu>  
X-Vms-To: SMTP%"abridle@nrao.edu"  
From: rqsj@bao01.bao.ac.cn  
To: abridle@nrao.edu  
Subject: proceedings  
Date: Sun, 28 Apr 1996 11:21:57 +0800

Dear Prof.Hardee  
Please help to correct two typing errors in the paper for 0917.  
(1) On the right side of equation (3) the factor  
 $\{(\{\lambda\}_{osc}/r0)\}^{-2}$  should be  
 $\{(\{\lambda\}_{osc}/r0)\}^2$ ;  
(2) On the right side of equation (6) the factor  
 $\{\{\Gamma\}_{ps}\}^{-5}$  should be  
 $\{\{\Gamma\}_{ps}\}^5$ .This was mentioned in the last e-mail.  
Many thanks.  
Qian,S.  
Beijing,  
28 April,1996

From VM Mon Apr 29 09:49:01 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["486" "Sun" "28" "April" "1996" "16:38:12" "+0800" "rqsj@bao01.bao.ac.cn"  
"rqsj@bao01.bao.ac.cn" nil "12" "proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 486  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA26501; Sun, 28 Apr 1996 04:37:47 -0400  
Received: from bao01 (bao01.bao.ac.cn [159.226.63.5]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id EAA27931 for <abridle@nrao.edu>; Sun, 28 Apr 1996  
04:37:43 -0400 (EDT)  
Message-Id: <199604280837.EAA27931@cv3.cv.nrao.edu>  
X-Vms-To: SMTP%"abridle@nrao.edu"  
From: rqsj@bao01.bao.ac.cn  
To: abridle@nrao.edu

Subject: proceedings  
Date: Sun, 28 Apr 1996 16:38:12 +0800

Dear Prof.Hardee

Please help to correct two typing errors in the paper for 0917.

(1) On the right side of equation (3) the factor

$\{(\{\lambda\}_{osc}/r0)\}^{-2}$  should be

$\{(\{\lambda\}_{osc}/r0)\}^{2}$ ;

(2) On the right side of equation (6) the factor

$\{\Gamma_{ps}\}^{-5}$  should be

$\{\Gamma_{ps}\}^{5}$ .This was mentioned in the last e-mail.

Many thanks.

Qian,S.

Beijing,

28 April,1996

From VM Mon Apr 29 09:49:13 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["416" "Sun" "28" "April" "1996" "09:29:02" "-0400" "Anton Zensus"

"azensus@nrao.edu" nil "17" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4"

nil nil nil nil]

nil)

Content-Length: 416

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA68555; Sun, 28 Apr 1996 09:29:08 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by

vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id JAA09688 for <abridle>; Sun,

28 Apr 1996 09:29:07 -0400 (EDT)

Message-Id: <2.2.32.19960428132902.00730448@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu

Subject: Re: URGENT: ALABAMA PROOFREADING

Date: Sun, 28 Apr 1996 09:29:02 -0400

Alan, can you check if we ever had postscript for him? I believe  
last week we decided to stick the artwork on it.

>Date: Sat, 27 Apr 96 14:26:52 CDT

>From: larry@mazel.spa.umn.edu (Larry Rudnick)

>To: azensus@nrao.edu

>Subject: Re: URGENT: ALABAMA PROOFREADING

>

>

>az- i found no pictures as part of the .ps file, and

>assume this is by design. if there's a problem,

>please let me know. thanks.

> lr

>

>

>

From VM Mon Apr 29 09:49:18 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["54" "Sun" "28" "April" "1996" "11:37:28" "-0400" "Anton Zensus"



"azensus@nrao.edu" nil "6" "Energy transport in radio galaxies and quasars"  
"^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 54  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41423; Sun, 28 Apr 1996 11:37:40 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA09722; Sun, 28 Apr 1996  
11:37:34 -0400 (EDT)  
Message-Id: <2.2.32.19960428153728.0070831c@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: pasp@physc2.byu.edu  
Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: Energy transport in radio galaxies and quasars  
Date: Sun, 28 Apr 1996 11:37:28 -0400

Liz,

The final number of pages is 465.

az

From VM Mon Apr 29 09:49:19 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["197" "Sun" "28" "April" "1996" "14:04:52" "MST" "Dave De Young"  
"deyoung@noao.edu" "<9604282104.AA17427@orion.tuc.noao.edu>" "8" "paper" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 197  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28258; Sun, 28 Apr 1996 17:04:56 -0400  
Received: from noao.edu (noao.edu [140.252.1.54]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with ESMTMP id RAA03467 for <abridle@nrao.edu>; Sun, 28 Apr  
1996 17:04:54 -0400 (EDT)  
Received: from orion.tuc.noao.edu (orion.tuc.noao.edu [140.252.1.22]) by noao.edu  
(8.7.5/8.7.3/SAG-15Apr96) with SMTP id OAA02349 for <abridle@nrao.edu>; Sun, 28 Apr  
1996 14:04:53 -0700 (MST)  
Received: by orion.tuc.noao.edu (4.1/SAG.sat.14)  
id AA17427; Sun, 28 Apr 96 14:04:52 MST; for abridle@nrao.edu  
Message-Id: <9604282104.AA17427@orion.tuc.noao.edu>  
From: deyoung@noao.edu (Dave De Young)  
To: abridle@nrao.edu  
Subject: paper  
Date: Sun, 28 Apr 96 14:04:52 MST

Alan;

I looking at the .ps file for my Alabama paper, I couldn't help  
noticing that Figure 1 is missing. I understand you are the  
person to grumble to about such things. Thanks.

Dave De Young

From VM Mon Apr 29 09:49:41 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["491" "Sun" "28" "April" "1996" "17:58:59" "-0400" "Alan Bridle" "abridle"  
nil "20" "Re: paper" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 491  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68565; Sun, 28 Apr 1996 17:58:59 -0400  
Message-Id: <9604282158.AA68565@polaris.cv.nrao.edu>  
In-Reply-To: <9604282104.AA17427@orion.tuc.noao.edu>  
References: <9604282104.AA17427@orion.tuc.noao.edu>  
From: abridle (Alan Bridle)  
To: deyoung@noao.edu (Dave De Young)  
Subject: Re: paper  
Date: Sun, 28 Apr 1996 17:58:59 -0400

Dave De Young writes:

>  
> Alan;  
>  
> I looking at the .ps file for my Alabama paper, I couldn't help  
> noticing that Figure 1 is missing. I understand you are the  
> person to grumble to about such things. Thanks.  
>  
> Dave De Young

Hi Dave, This was one you provided as a glossy. The copy that  
you provided of your Fig.3 is also slightly better than we can  
get from the .ps with our printer so we will stick both of these  
into the final copy.

Was everything else o.k.?

Alan

From VM Mon Apr 29 09:49:43 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["73" "Sun" "28" "April" "1996" "15:30:25" "MST" "Dave De Young"  
"deyoung@noao.edu" nil "7" "Re: paper" "^From:"  
nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 73  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41276; Sun, 28 Apr 1996 18:31:44 -0400  
Received: from noao.edu (noao.edu [140.252.1.54]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with ESMTP id SAA04270 for <abridle@polaris.cv.nrao.edu>; Sun,  
28 Apr 1996 18:31:43 -0400 (EDT)  
Received: from orion.tuc.noao.edu (orion.tuc.noao.edu [140.252.1.22]) by noao.edu  
(8.7.5/8.7.3/SAG-15Apr96) with SMTP id PAA04182 for <abridle@polaris.cv.nrao.edu>;  
Sun, 28 Apr 1996 15:30:26 -0700 (MST)  
Received: by orion.tuc.noao.edu (4.1/SAG.sat.14)  
id AA22924; Sun, 28 Apr 96 15:30:25 MST; for abridle@polaris.cv.nrao.edu  
Message-Id: <9604282230.AA22924@orion.tuc.noao.edu>  
From: deyoung@noao.edu (Dave De Young)  
To: abridle@polaris.cv.nrao.edu  
Subject: Re: paper  
Date: Sun, 28 Apr 96 15:30:25 MST

Alan;

Thanks for the clarification. All else seemed fine.

Best,

Dave

From VM Mon Apr 29 09:49:55 1996  
X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]  
["1129" "Mon" "29" "April" "1996" "12:31:05" "+0200" "Silke Britzen"  
"p660sil@mpiffr-bonn.mpg.de" "<9604291031.AA18259@sun23.mpiffr>" "52" "Alabama  
Meeting" "^From:" nil nil "4" nil nil (number " " mark " R Silke Britzen Apr  
29 52/1129 " thread-indent "\"Alabama Meeting\""\n") nil]  
nil)  
Content-Length: 1129  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68456; Mon, 29 Apr 1996 06:31:24 -0400  
Received: from IBM.rhrz.uni-bonn.de (ibm.rhrz.uni-bonn.de [131.220.236.2]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id GAA09660 for <abridle@nrao.edu>;  
Mon, 29 Apr 1996 06:31:21 -0400 (EDT)  
Received: from mpifrrouter.mpiffr-bonn.mpg.de by IBM.rhrz.uni-bonn.de  
(IBM VM SMTP V2R2) with TCP; Mon, 29 Apr 96 12:30:07 MEZ  
Received: from sun23.mpiffr by mpifrrouter.mpiffr-bonn.mpg.de (4.1/SMI-4.0)  
id AA21390; Mon, 29 Apr 96 12:31:05 +0200  
Received: by sun23.mpiffr (4.1/SMI-4.1-DNI)  
id AA18259; Mon, 29 Apr 96 12:31:05 +0200  
Message-Id: <9604291031.AA18259@sun23.mpiffr>  
From: p660sil@mpiffr-bonn.mpg.de (Silke Britzen)  
To: abridle@nrao.edu  
Subject: Alabama Meeting  
Date: Mon, 29 Apr 96 12:31:05 +0200

Dear Dr. Bridle,

in the following please find some comments concerning the  
Qian et al.-contributions for the Alabama Meeting.

Sincerely yours,

Silke Britzen and Alexander Kraus

qian2.ps:  
\_\_\_\_\_

hyphen missing: Max-Planck-Institut ...

2.5. Calculation of flux density  
-----

...  $K_{*}(r,t')$  (multiplication symbol)  $B_{*}(r,t')$  ...  
If the observing frequency ...

qian1.ps:  
\_\_\_\_\_

## 1. Introduction

one blank too much: compact extragalactic radio sources, especially ...  
definition: IDV (Intraday Variability)  
hyphen missing: half of the  $\gamma$ -ray ...

## 2. Separation of the ICV Component

wrong number: illustration in Figure 2

## 3. S ... Relationship

point: ... by a factor  $\sim 1.6$ .

## 4. Interpretation of the Spectral Evolution

... observed spectral evolution of the intraday variations.

## 5. High-Brightness Temperature Problem

in equation (3): ...  $(\lambda_{\text{osc}}/r_0)^{+2}$   
in equation (6): ... =  $\Gamma_{\text{ps}}^{+5}(1.06$  ...

From VM Mon Apr 29 09:49:58 1996

X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]

["1377" "Mon" "29" "April" "1996" "13:27:21" "+0200" "Stefan Appl"  
"appl@cdsxb6.u-strasbg.fr" "<199604291127.NAA11982@cdsxb6.u-strasbg.fr>" "49"  
"proofs of Alabama workshop" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 1377

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA66994; Mon, 29 Apr 1996 07:27:40 -0400

Received: from cdsxb6.u-strasbg.fr (cdsxb6.u-strasbg.fr [130.79.128.6]) by  
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id HAA10089 for <abridle@nrao.edu>;  
Mon, 29 Apr 1996 07:27:38 -0400 (EDT)

Received: from cdsxb6 (localhost [127.0.0.1]) by cdsxb6.u-strasbg.fr  
(8.6.11/8.6.12) with SMTP id NAA11982 for <abridle@nrao.edu>; Mon, 29 Apr 1996  
13:27:21 +0200

Message-Id: <199604291127.NAA11982@cdsxb6.u-strasbg.fr>

From: Stefan Appl <appl@cdsxb6.u-strasbg.fr>

To: abridle@nrao.edu

Subject: proofs of Alabama workshop

Date: Mon, 29 Apr 96 13:27:21 +0200

Dear Dr Bridle,

please find in the following the corrections to my contributions to  
the Alabama workshop.

A) Corrections for Appl et al. "Misalignment and Curvature..."

p. 184 middle: "Such systems have evolution times of  $10^{17}$  years..."

should be replaced by

"Such systems have evolution times of  $10^7$  years..."

p. 184 end of Sect 2: replace

"...outflow from the outer disk." by

"...outflow from the outer disk (Sol et al. 1989)."

p. 185 references: add the reference

Sol, H., Pelletier, G, Ass\'eo, E., 1989, "Two-fluid model for extragalactic radio jets", MNRAS, 237, 411

B) Corrections for Appl "Properties of Relativistic MHD Jets"

p. 129 last line of abstract: insert white space between " $10^0$ " and "to"

p. 130 last line: replace total derivatives by partial derivatives

p. 131 2nd line after eq. 4: replace "continually" by "continuously"

p. 132, last line of Sect 4.2: replace "rate" by "rates"

p. 135, references:

replace

"Appl, S. 1996, 'Current-driven instabilities in MHD jets',  
A&A, submitted"

by

"Appl, S., 1996, 'Instabilities in transmagetosonic jets',  
A&A, in press"

C) Concerning acknowledgement for financial support (both papers):

Please put in whatever is most appropriate, the organizer or the SOC.

With kind regards

Stefan Appl

=====  
From VM Mon Apr 29 09:50:04 1996

X-VM-v5-Data: ([nil nil nil nil t nil t nil nil]

["955" "Mon" "29" "April" "1996" "08:12:47" "-0400" "Alan Marscher"

"marscher@buast0.bu.edu" "<199604291212.IAA13421@buast0.bu.edu>" "23" "Corrections  
to proof of paper" "^From:" nil nil "4" nil nil nil nil]

nil)

Content-Length: 955

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA41386; Mon, 29 Apr 1996 08:13:42 -0400

Received: from buast0.bu.edu (BUAST0.BU.EDU [128.197.73.42]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id IAA10458 for <abridle@nrao.edu>; Mon, 29 Apr 1996  
08:13:41 -0400 (EDT)

Received: by buast0.bu.edu (8.6.11/Spike-2.1)  
id IAA13421; Mon, 29 Apr 1996 08:12:47 -0400

Message-Id: <199604291212.IAA13421@buast0.bu.edu>

X-Sun-Charset: US-ASCII

From: marscher@buast0.bu.edu (Alan Marscher)

To: abridle@nrao.edu

Subject: Corrections to proof of paper

Date: Mon, 29 Apr 1996 08:12:47 -0400

Hi, Alan. Although I am about 10 minutes past the 8 A.M. deadline, I hope that you can correct a few errors in the proof of my paper for the Alabama meeting:

On p. 51, the words "3C 279 in" should be inserted before the words "June 1991" 4 lines from the bottom of item 2. In the next sentence, the word "Doppler" should replace "Lorentz." On the same page, 4th line of item 3: there should be no open parenthesis at the start of the sentence that begins "In this case the flare ..."

I need to mention that figs. 1, 3, and 4 are nearly identical to figs. 1, 3, and 2, respectively, of my paper in the proceedings of the National Academy of Sciences colloquium "Quasars & Active Galactic Nuclei: High Resolution Radio Imaging," edited by Marshall Cohen & Ken Kellermann. The reference is 1995, Proc. Natl. Acad. Sci., 92, 11439-11441. I had not given this any thought (since I drew the figures) until I read Wednesday's e-mail.

Cheers,  
Al Marscher

From VM Mon Apr 29 09:50:51 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["322" "Mon" "29" "April" "1996" "09:39:08" "-0400" "Alan Bridle" "abridle"  
nil "10" "Re: Corrections to proof of paper" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 322  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA56532; Mon, 29 Apr 1996 09:39:08 -0400  
Message-Id: <9604291339.AA56532@polaris.cv.nrao.edu>  
In-Reply-To: <199604291212.IAA13421@buast0.bu.edu>  
References: <199604291212.IAA13421@buast0.bu.edu>  
From: abridle (Alan Bridle)  
To: marscher@buast0.bu.edu (Alan Marscher)  
Subject: Re: Corrections to proof of paper  
Date: Mon, 29 Apr 1996 09:39:08 -0400

Alan Marscher writes:

> Hi, Alan. Although I am about 10 minutes past the  
> 8 A.M. deadline, I hope that you can correct a few errors  
> in the proof of my paper for the Alabama meeting:

No problem (was just giving the Europeans until after their lunchtime to get their messages in!). We are doing the edits now.

A.

From VM Mon Apr 29 09:50:55 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["196" "Mon" "29" "April" "1996" "09:46:08" "-0400" "Alan Bridle" "abridle"  
nil "16" "Re: proofs of Alabama workshop" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 196

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA28056; Mon, 29 Apr 1996 09:46:08 -0400  
Message-Id: <9604291346.AA28056@polaris.cv.nrao.edu>  
In-Reply-To: <199604291127.NAA11982@cdsxb6.u-strasbg.fr>  
References: <199604291127.NAA11982@cdsxb6.u-strasbg.fr>  
From: abridle (Alan Bridle)  
To: Stefan Appl <appl@cdsxb6.u-strasbg.fr>  
Subject: Re: proofs of Alabama workshop  
Date: Mon, 29 Apr 1996 09:46:08 -0400

Stefan Appl writes:

>  
> Dear Dr Bridle,  
>  
> please find in the following the corrections to my contributions to  
> the Alabama workshop.  
>

Received your corrections, thanks

Alan B.

From VM Mon Apr 29 09:51:31 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["160" "Mon" "29" "April" "1996" "08:46:21" "CDT" "Larry Rudnick"  
"larry@mazel.spa.umn.edu" "<9604291346.AA04014@mazel.spa.umn.edu>" "4" "ALABAMA  
(sent to tony by mistake)" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 160

Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA69663; Mon, 29 Apr 1996 09:46:27 -0400

Received: from mail.cs.umn.edu (mail.cs.umn.edu [128.101.149.1]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with ESMTP id JAA11647 for <abridle@nrao.edu>; Mon, 29 Apr  
1996 09:46:25 -0400 (EDT)

Received: from mazel.spa.umn.edu (mazel.spa.umn.edu [128.101.221.6]) by  
mail.cs.umn.edu (8.7.5/8.6.12) with SMTP id IAA26030 for <abridle@nrao.edu>; Mon,  
29 Apr 1996 08:46:24 -0500 (CDT)

Received: by mazel.spa.umn.edu (4.1/SMI-4.1)

id AA04014; Mon, 29 Apr 96 08:46:21 CDT

Message-Id: <9604291346.AA04014@mazel.spa.umn.edu>

From: larry@mazel.spa.umn.edu (Larry Rudnick)

To: abridle@nrao.edu

Subject: ALABAMA (sent to tony by mistake)

Date: Mon, 29 Apr 96 08:46:21 CDT

i have one small correction, if that is possible.  
on page 237, 2nd paragraph, 1st line. replace the  
words "this source" with "1433+553" . thanks.

larry

From VM Thu May 2 17:52:15 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["372" "Mon" "29" "April" "1996" "11:04:42" "-0400" "Anton Zensus"]

"azensus@nrao.edu" nil "20" "Re: Permission to reproduce copyright material"  
"^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 372  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA69451; Mon, 29 Apr 1996 11:04:50 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA10457 for <abridle>; Mon,  
29 Apr 1996 11:04:49 -0400 (EDT)  
Message-Id: <2.2.32.19960429150442.0072b8c8@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: Re: Permission to reproduce copyright material  
Date: Mon, 29 Apr 1996 11:04:42 -0400

>From: AANDA@MESIOB.OBSPM.FR  
>Date: Mon, 29 Apr 1996 16:15:59 +0002  
>Subject: Re: Permission to reproduce copyright material  
>To: azensus@nrao.edu  
>X-VMS-Cc: AANDA

>  
>  
>Dear Dr. Zensus,  
>  
>Permission is given to you to reproduce a figure from  
>Briel et al., A&A, 246, L10-13, provided the journal is mentioned  
>in the caption.  
>  
>Yours sincerely,  
>  
>J. Lequeux  
>A&A  
>  
>

From VM Thu May 2 17:52:33 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["250" "Mon" "29" "April" "1996" "13:25:27" "-0400" "Alan Bridle" "abridle"  
nil "11" "Re: Alabama Meeting" "^From:" nil nil "4" nil nil nil nil]  
nil)

Content-Length: 250  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA60904; Mon, 29 Apr 1996 13:25:27 -0400  
Message-Id: <9604291725.AA60904@polaris.cv.nrao.edu>  
In-Reply-To: <9604291031.AA18259@sun23.mpifr>  
References: <9604291031.AA18259@sun23.mpifr>  
From: abridle (Alan Bridle)  
To: p660sil@mpifr-bonn.mpg.de (Silke Britzen)  
Subject: Re: Alabama Meeting  
Date: Mon, 29 Apr 1996 13:25:27 -0400

Silke Britzen writes:  
> Dear Dr. Bridle,  
>



> in the following please find some comments concerning the  
> Qian et al.-contributions for the Alabama Meeting.  
>

Thank you for sending these comments; all points have been corrected.

Alan Bridle

From VM Thu May 2 17:52:36 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["302" "Mon" "29" "April" "1996" "14:26:10" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "18" "Re: URGENT: ALABAMA PROOFREADING" "^From:" nil nil "4"  
nil nil nil nil]  
nil)  
Content-Length: 302  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17520; Mon, 29 Apr 1996 14:26:18 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA10553 for <abridle>; Mon,  
29 Apr 1996 14:26:17 -0400 (EDT)  
Message-Id: <2.2.32.19960429182610.00758ff4@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: Re: URGENT: ALABAMA PROOFREADING  
Date: Mon, 29 Apr 1996 14:26:10 -0400

>Date: Thu, 25 Apr 1996 13:05:00 -0700 (PDT)  
>From: Tony Readhead <acr@astro.caltech.edu>  
>To: Anton Zensus <azensus@nrao.edu>  
>Cc: Tim Pearson <tjp@astro.caltech.edu>  
>Subject: Re: URGENT: ALABAMA PROOFREADING

>  
>  
>Dear Toni,  
>  
>I've read the proofs and have no corrections.

>  
>Thanks,  
>  
>Tony  
>  
>  
>

From VM Thu May 2 17:52:38 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["553" "Mon" "29" "April" "1996" "14:14:15" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9604291914.AA03931@venus.astr.ua.edu.astr.ua.edu>"  
"13" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 553  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33528; Mon, 29 Apr 1996 15:13:47 -0400

Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id PAA17484; Mon, 29 Apr 1996 15:13:43 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03) id AA33766; Mon, 29 Apr 1996 13:48:48 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1) id AA18595; Mon, 29 Apr 96 14:13:40 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1) id AA03931; Mon, 29 Apr 96 14:14:15 CDT  
Message-Id: <9604291914.AA03931@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@nrao.edu, abridle@nrao.edu  
Subject: Re: proceedings  
Date: Mon, 29 Apr 96 14:14:15 CDT

How long do you plan to wait to hear from individuals regarding their conference proceedings paper - through today, tomorrow? I printed the entire proceedings out over the weekend. Should I take a last minute look at any particular part of the proceedings, say tonight or tomorrow?

I will plan to e-mail Liz Holloman with the mailing addresses for the proceedings and have the ASP bill me directly. Do you wish for more than the two copies that are provided for each editor? I will be ordering a few extras and can handle any extra expense.

Phil

From VM Thu May 2 17:52:39 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil nil]  
["831" "Mon" "29" "April" "1996" "16:53:46" "-0400" "Alan Bridle" "abridle"  
nil "24" "Re: proceedings" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 831  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03) id AA31683; Mon, 29 Apr 1996 16:53:46 -0400  
Message-Id: <9604292053.AA31683@polaris.cv.nrao.edu>  
In-Reply-To: <9604291914.AA03931@venus.astr.ua.edu.astr.ua.edu>  
References: <9604291914.AA03931@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: Re: proceedings  
Date: Mon, 29 Apr 1996 16:53:46 -0400

hardee@venus.astr.ua.edu writes:

>  
> How long do you plan to wait to hear from individuals regarding their  
> conference proceedings paper - through today, tomorrow? I printed the  
> entire proceedings out over the weekend. Should I take a last minute  
> look at any particular part of the proceedings, say tonight or  
> tomorrow?

We plan to start the (hopefully) final print near the end of the workday tomorrow, and to do the paste-up on Wednesday.

>  
> I will plan to e-mail Liz Holloman with the mailing addresses for the  
> proceedings and have the ASP bill me directly. Do you wish for more

> than the two copies that are provided for each editor? I will be  
> ordering a few extras and can handle any extra expense.  
>

A third copy for me would be "plenty" if you have the resources available, thanks.

A.

From VM Thu May 2 17:52:43 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["440" "Mon" "29" "April" "1996" "17:32:37" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "40" "modified files" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 440  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA69408; Mon, 29 Apr 1996 17:32:48 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA10930; Mon, 29 Apr 1996  
17:32:46 -0400 (EDT)  
Message-Id: <2.2.32.19960429213237.00b90d68@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Cc: azensus@vagabond.cv.nrao.edu  
Subject: modified files  
Date: Mon, 29 Apr 1996 17:32:37 -0400

I copied from you all files at 15.50 today. Made the following changes,  
but before copying all files, please back up your previous versions.

I edited these from proof comments:

ledlo  
tinga  
rudni  
steff  
hooda  
wiita  
laing

I also edited these, from my own read-through

qian1  
qian2  
eilek  
marti  
scheul  
wilso  
dunca  
komis1  
komis2  
keel  
lloyd

bickn2  
deyou  
loken  
clark  
komis3  
burns

finally, these changed also

toc.tex  
jetbook.tex  
colophon.tex

From VM Thu May 2 17:52:45 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["305" "Mon" "29" "April" "1996" "17:37:04" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "10" "we could..." "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 305  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17739; Mon, 29 Apr 1996 17:37:15 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id RAA10935; Mon, 29 Apr 1996  
17:37:13 -0400 (EDT)  
Message-Id: <2.2.32.19960429213704.006a9b08@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Cc:  
hardee@venus.astr.ua.edu  
Subject: we could...  
Date: Mon, 29 Apr 1996 17:37:04 -0400

1. clean up the indices (roman vs. italic) in komis3
2. clean up Koide's reference to figs in text:  
[(a), (b), (c), (d)] - > (a, b, d, c)
3. at least once, spell out PETERS in Normans summary (which might  
chnage the paging...)

but I have no strength tonight to tackle them...

From VM Thu May 2 17:53:07 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1939" "Tue" "30" "April" "1996" "10:10:43" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "68" "additional corrections" "^From:" nil nil "4"  
nil nil nil nil]  
nil)  
Content-Length: 1939  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46214; Tue, 30 Apr 1996 11:10:13 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id LAA00353; Tue, 30 Apr 1996 11:10:10 -0400 (EDT)

Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30310; Tue, 30 Apr 1996 09:45:15 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA19530; Tue, 30 Apr 96 10:10:06 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA04040; Tue, 30 Apr 96 10:10:43 CDT  
Message-Id: <9604301510.AA04040@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@nrao.edu, abridle@nrao.edu  
Subject: additional corrections  
Date: Tue, 30 Apr 96 10:10:43 CDT

I am working from the April 24 version. I only found a few things to do.

Phil

to the table of contents:

under Spectral Evolution of the Intraday Variations in the QSO 0917+624 55

6. Summary ( the word Summary needs to be aligned properly)

under Time-Variable Synchrotron Emission from Hydrodynamic Relativistic Jets 159

Ibanez should be moved to the first line of authors with only  
Marcaide remaining on the second line of authors.

under Large-Scale Motions in the Hot ISM of M 87 209

there should be an "and" between Owen and Eilek in the author list

under Sub-Parsec-Scale Structure and Evolution of the Centarus A Radio Jet 215

i suggest to end the 1st line of authors with Tzioumis and move McCulloch to  
the 3rd line of authors for better appearance.

to the contributors list

Shinji Koide Department of Electronics and Information - the "and" is missing

Michael L. Norman NCSA and Department of Astronomy - add "NCSA and" to the  
address to agree with the paper.

Steven J. Tingay Mt.\ Stromlo Observatory, Weston Creek PO, - shorten space  
after Mt. and add the word "Creek" to the address to agree with the paper.

Figure adjustments (not truly necessary but to improve appearance)

page 155 move Fig.3 of Marti et al. down the page 0.5 to 1 cm.

page 204 move Fig.4 of Bicknell & Begelman down the page about 1 cm.

Address addition

page 267 after Bryan and Norman last address line left out city name and should read "University of Illinois at Urbana-Champaign, Urbana, IL 61801, U.S.A." to agree with the address on Norman's review paper.

I assume you have already removed the (c) from the caption under Fig.2 on p.271 of Loken's paper.

Author index

Appl, Sol & Vicente is page 181 not page 129

Appl is page 129 not page 181

Guerra with Daly is page 73 - at present no page # is given

Sol with Appl is page 181 not page 129

Vicente with Appl is page 181 not page 129

From VM Thu May 2 17:53:12 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["2099" "Tue" "30" "April" "1996" "14:01:34" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "79" "Re: additional corrections" "^From:" nil nil "4" nil  
nil nil nil]  
nil)

Content-Length: 2099

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33796; Tue, 30 Apr 1996 14:01:46 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA11991; Tue, 30 Apr 1996  
14:01:44 -0400 (EDT)

Message-Id: <2.2.32.19960430180134.00764944@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: hardee@venus.astr.ua.edu (Hardee)

Cc: abridle@vagabond.cv.nrao.edu

Subject: Re: additional corrections

Date: Tue, 30 Apr 1996 14:01:34 -0400

all done, except changes of figure placement.

az

At 10:10 AM 4/30/96 CDT, you wrote:

>

>I am working from the April 24 version. I only found a few things to do.

>

>Phil

>

>

>to the table of contents:

>

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>  
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Jets 159  
>  
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>under Large-Scale Motions in the Hot ISM of M 87 209  
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> there should be an "and" between Owen and Eilek in the author list  
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>Shinji Koide Department of Electronics and Information - the "and" is  
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>Michael L. Norman NCSA and Department of Astronomy - add "NCSA and" to the  
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>  
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>  
>Guerra with Daly is page 73 - at present no page # is given  
>

>Sol with Appl is page 181 not page 129  
>  
>Vicente with Appl is page 181 not page 129  
>  
>

From VM Thu May 2 17:53:21 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["436" "Tue" "30" "April" "1996" "16:31:31" "-0400" "Anton Zensus"  
"azensus@nrao.edu" "<2.2.32.19960430203131.00767bac@vagabond.cv.nrao.edu>" "24"  
"got to go now" "^From:" nil nil "4" nil nil nil nil]  
nil)  
Content-Length: 436  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA44375; Tue, 30 Apr 1996 16:31:44 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA12127 for <abridle>; Tue,  
30 Apr 1996 16:31:40 -0400 (EDT)  
Message-Id: <2.2.32.19960430203131.00767bac@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu  
Subject: got to go now  
Date: Tue, 30 Apr 1996 16:31:31 -0400

I made some more corrections, and only just now am starting to print.

I will start the printing the first passes.

The files are on

/net/vagabond/vagabond\_1/azensus/alabama/PS

I will create the individual files in the same directory later from home.

The first two sets should go to the printer as soon as thje splitting is finished.

You can probably (!!!) pick them up by the time you leave.

A.

I'll be here later tonight

From VM Thu May 2 17:53:23 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["558" "Tue" "30" "April" "1996" "18:01:50" "-0400" "Alan Bridle" "abridle"  
nil "24" "Re: got to go now" "^From:" nil nil "4" nil nil nil nil]  
nil)



Content-Length: 558  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA38869; Tue, 30 Apr 1996 18:01:50 -0400  
Message-Id: <9604302201.AA38869@polaris.cv.nrao.edu>  
In-Reply-To: <2.2.32.19960430203131.00767bac@vagabond.cv.nrao.edu>  
References: <2.2.32.19960430203131.00767bac@vagabond.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: Anton Zensus <azensus@nrao.edu>  
Subject: Re: got to go now  
Date: Tue, 30 Apr 1996 18:01:50 -0400

Anton Zensus writes:

> I made some more corrections, and only just now am starting to print.  
>  
> I will start the printing the first passes.  
>  
> The files are on  
>  
> /net/vagabond/vagabond\_1/azensus/alabama/PS  
>  
> I will create the individual files in the same directory later from home.  
>  
> The first two sets should go to the printer as soon as thje splitting is  
> finished.  
>  
> You can probably (!!!) pick them up by the time you leave.  
>

Have got a complete copy to take home.

Have started printing out another, for you.

Alan

From VM Thu May 2 17:53:28 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["433" "Wed" "1" "May" "1996" "00:10:44" "-0400" "Alan Bridle" "abridle" nil  
"16" "Will have some more small corrections" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 433  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA40751; Wed, 1 May 1996 00:10:44 -0400  
Message-Id: <9605010410.AA40751@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus  
Subject: Will have some more small corrections  
Date: Wed, 1 May 1996 00:10:44 -0400

Tony,

Reading through at home this p..m. have found a few more  
small corrections, also some sign that a couple of small  
changes  
to jetdef.sty and allbama2.tex did not make it into  
your copies, we should do a small amount of fixing before  
the actual run-off tomorrow (Wednesday).

But nothing major. Robert is also reading through some papers.

I have the remaining things marked on paper copy, will check with you early a.m.

A.

From VM Thu May 2 17:53:31 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil nil]  
["630" "Wed" "1" "May" "1996" "08:33:30" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "25" "Re: Will have some more small corrections" "^From:"  
nil nil "5" nil nil nil nil]  
nil)

Content-Length: 630

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA29337; Wed, 1 May 1996 08:33:43 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id IAA12512 for  
<abridle@polaris.cv.nrao.edu>; Wed, 1 May 1996 08:33:42 -0400 (EDT)

Message-Id: <2.2.32.19960501123330.00ba0d50@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@polaris.cv.nrao.edu (Alan Bridle)

Subject: Re: Will have some more small corrections

Date: Wed, 01 May 1996 08:33:30 -0400

Looks like we both had a late night, judging from when you sent your message - I had just left.

I think we are getting towards the end.

At 12:10 AM 5/1/96 -0400, you wrote:

>

>Tony,

>

>Reading through at home this p..m. have found a few more  
>small corrections, also some sign that a couple of small  
>changes to jetdef.sty and allbama2.tex did not make it into  
>your copies, we should do a small amount of fixing before  
>the actual run-off tomorrow (Wednesday).

>

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>papers.

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>I have the remaining things marked on paper copy, will check  
>with you early a.m.

>

>A.

>

>

From VM Thu May 2 17:53:34 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil nil]

["1044" "Wed" "1" "May" "1996" "13:17:25" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "50" "Re: Vol. 100 schedule" "^From:" nil nil "5" nil nil  
nil nil]  
nil)

Content-Length: 1044

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA30080; Wed, 1 May 1996 13:17:55 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA12883; Wed, 1 May 1996  
13:17:37 -0400 (EDT)

Message-Id: <2.2.32.19960501171725.00bb0998@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: pasp@phyc2.byu.edu

Cc: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: Re: Vol. 100 schedule

Date: Wed, 01 May 1996 13:17:25 -0400

Liz,

Package is scheduled to go in the mail this Friday (5/3) (FedEx)

While we are at it, a few questions:

1. Must the text on each page be centered on the page, or are margins of  
2.4 (left) and 0.8 in (right) acceptable?

2. On the eye-brow:

should I add a line for copyright, or is this sufficient:

Energy Transport in Radio Galaxies and Quasars

A.S.P. Conference Series, Vol. 100, 1996

P. Hardee, A. H. Bridle, and J. A. Zensus (eds.)

[Copyright "c" 1996 by Astronomical Society of the Pacific] ---???

Anton

At 09:47 AM 5/1/96 MST/MDT, you wrote:

>1 May 1996

>

>Hi Anton,

>

>Just a warning that we are counting on you to stick to the schedule you

>gave us earlier for we have now assigned Vol. 101 and it will arrive a week

>from today--that's the 8th of May.

>

>Thanks for sending the number of pages. I sent off the application for the

>Library of Congress number on Monday, April 29 and it usually takes a

>couple of weeks to get back, so the timing should be just right.

>

>Many thanks,,

>

>Liz

>

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From VM Thu May 2 17:53:41 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil nil]  
["780" "Wed" "1" "May" "1996" "13:42:49" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "35" "RE: Vol. 100 schedule" "^From:" nil nil "5" nil nil  
nil nil]  
nil)  
Content-Length: 780  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA55153; Wed, 1 May 1996 13:43:03 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id NAA12926; Wed, 1 May 1996  
13:43:01 -0400 (EDT)  
Message-Id: <2.2.32.19960501174249.00713484@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu  
Subject: RE: Vol. 100 schedule  
Date: Wed, 01 May 1996 13:42:49 -0400

>Sender: pasp@physc1.byu.edu  
>Date: Wed, 01 May 1996 11:33:52 MST/MDT  
>From: pasp@physc2.byu.edu  
>To: azensus@nrao.edu  
>Subject: RE: Vol. 100 schedule  
>  
>1 May 1996  
>  
>Anton,  
>  
>Many thanks for the good news. I will let you know just as soon as we  
>receive the package.  
>  
>The text on the page should be 5-3/16 inches wide by 8-5/16 inches long.  
>The placement on the page makes no difference.  
>  
>The copyright statement on the eyebrow is NOT necessary. Just the first 3  
>lines that you sent is all that is needed.  
>  
>Thanks for all your hard work. I know I can be a nag and I know that you  
>know I can be a nag after your first book! Sorry about that--it comes with  
>the job, deadlines and all that. Thanks for understanding.  
>  
>Good luck!

>  
>Liz  
>  
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>  
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>  
>

From VM Thu May 2 17:53:43 1996  
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]  
["550" "Wed" "1" "May" "1996" "14:20:24" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" "<9605011920.AA04186@venus.astr.ua.edu.astr.ua.edu>"  
"17" "RE: Vol. 100 cover art" "^From:" nil nil "5" nil nil nil nil]  
nil)

Content-Length: 550  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA61932; Wed, 1 May 1996 15:20:02 -0400  
Received: from nsl.ua.edu (nsl.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id PAA24228; Wed, 1 May 1996 15:20:01 -0400 (EDT)  
Received: from hera.astr.ua.edu by nsl.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA17834; Wed, 1 May 1996 13:54:56 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA21942; Wed, 1 May 96 14:19:46 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA04186; Wed, 1 May 96 14:20:24 CDT  
Message-Id: <9605011920.AA04186@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: azensus@nrao.edu, abridle@nrao.edu  
Subject: RE: Vol. 100 cover art  
Date: Wed, 1 May 96 14:20:24 CDT

How good an image were you able to generate for the cover art relative to the  
images that I sent?

Do you have a preference?

Are you planning to send both images to ASP? I made the two different  
images as it was unclear to me which would reproduce best on the cover.

Comments?

Phil

PS. I thank you for all of your hard work on the proceedings volume. If you  
had not put the final version together it would have been the end of this  
month before I could have done it here. (I am in the throes of final  
exams and grading this week)

From VM Thu May 2 17:53:44 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1073" "Wed" "1" "May" "1996" "16:10:53" "-0400" "Alan Bridle" "abridle" nil  
"29" "RE: Vol. 100 cover art" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 1073

Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA68738; Wed, 1 May 1996 16:10:53 -0400  
Message-Id: <9605012010.AA68738@polaris.cv.nrao.edu>  
In-Reply-To: <9605011920.AA04186@venus.astr.ua.edu.astr.ua.edu>  
References: <9605011920.AA04186@venus.astr.ua.edu.astr.ua.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu (Hardee)  
Subject: RE: Vol. 100 cover art  
Date: Wed, 1 May 1996 16:10:53 -0400

hardee@venus.astr.ua.edu writes:

>  
> How good an image were you able to generate for the cover art relative to the  
> images that I sent?  
>  
> Do you have a preference?  
>  
> Are you planning to send both images to ASP? I made the two different  
> images as it was unclear to me which would reproduce best on the cover.  
>

We will send ASP several options as they are probably in the best position  
to judge which one will survive their process best.

>  
> PS. I thank you for all of your hard work on the proceedings volume. If you  
> had not put the final version together it would have been the end of this  
> month before I could have done it here. (I am in the throes of final  
> exams and grading this week)

We still expect to make the ASP deadline - they have now assigned vol. 101,  
so the crunch is very real. We are about to do the final printout following  
a "final" check through last night. Robert Laing has also read parts of  
the text through and may continue to do so this evening. Paste-up will  
be tomorrow, FedEx on Friday.

A.

From VM Thu May 2 17:53:52 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil  
["1164" "Thu" "2" "May" "1996" "09:45:25" "MST" "APJ Office" "apj@noao.edu"  
nil "48" "Your inquiry of 4/25/96" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 1164  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA50247; Thu, 2 May 1996 12:46:31 -0400  
Received: from noao.edu (noao.edu [140.252.1.54]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with ESMTP id MAA09566 for <abridle@nrao.edu>; Thu, 2 May 1996  
12:46:29 -0400 (EDT)  
Received: from orion.tuc.noao.edu (orion.tuc.noao.edu [140.252.1.22]) by noao.edu  
(8.7.5/8.7.3/SAG-15Apr96) with SMTP id JAA17789 for <abridle@nrao.edu>;  
Thu, 2 May 1996 09:45:26 -0700 (MST)  
Received: by orion.tuc.noao.edu (4.1/SAG.sat.14)  
id AA22624; Thu, 2 May 96 09:45:25 MST; for abridle@nrao.edu  
Message-Id: <9605021645.AA22624@orion.tuc.noao.edu>  
From: apj@noao.edu (APJ Office)  
To: abridle@nrao.edu

Subject: Your inquiry of 4/25/96  
Date: Thu, 2 May 96 09:45:25 MST

THE ASTROPHYSICAL JOURNAL  
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INTERNET: apj@noao.edu

May 2, 1996

Dr. Philip E. Hardee  
Department of Physics & Astronomy  
University of Alabama  
Tuscaloosa, AL 35487

Dear Dr. Hardee:

Thank you for your inquiry of April 25th regarding  
permission to reprint from the Journal.

Our policy is that authors may grant reprinting  
permission. Therefore Dr. Burns can use his published  
material as he wishes.

Sincerely,  
Helmut A. Abt  
Editor-in-Chief

HAA:cmh

cc: Dr. J. O. Burns

From VM Thu May 2 17:54:18 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["1070" "Thu" "2" "May" "1996" "17:50:19" "-0400" "Alan Bridle" "abridle" nil  
"26" "Status" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 1070  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)

id AA36123; Thu, 2 May 1996 17:50:19 -0400  
Message-Id: <9605022150.AA36123@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Status  
Date: Thu, 2 May 1996 17:50:19 -0400

Hi Phil,

Just to let you know that Tony and I now have the hopefully-final pages, pasted up, in a not-yet-sealed box waiting to go to FedEx.

We plan to do some final checking tomorrow a.m. when we are relatively fresh (were here to almost midnight last night and are slightly dazed from the paste-up and inevitable last-minute adjustments associated with it), then to have it on its way to ASP well before end of working day tomorrow.

We have kept 3 Xerox copies of all pages that contained pasted-in art, and will make three more printouts of all the other pages over the weekend. That way we will each end up with a full paper copy of the as-submitted version.

We ran the final dvips with 600dpi fonts as well as a 600dpi printer. This made all the small print noticeably sharper, so bibliography, footnotes, eyebrow etc look better for camera. Tony made some last-minute changes in standard fonts for authornames etc, after showing me some samples. Nothing that changed pagination or text in any way, but all making the pages look more handsome.

Cheers, A.

From VM Fri May 3 11:04:51 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["6504" "Fri" "3" "May" "1996" "09:11:26" "CDT" "hardee@venus.astr.ua.edu"  
"hardee@venus.astr.ua.edu" nil "344" "Re: Status" "^From:" nil nil "5" nil nil nil  
nil])  
Content-Length: 6504  
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)  
id AA46280; Fri, 3 May 1996 10:12:19 -0400  
Received: from ns1.ua.edu (ns1.ua.edu [130.160.4.4]) by cv3.cv.nrao.edu  
(8.7.5/8.7.1/CV-2.1) with SMTP id KAA25074 for <abridle@polaris.cv.nrao.edu>; Fri,  
3 May 1996 10:12:04 -0400 (EDT)  
Received: from hera.astr.ua.edu by ns1.ua.edu (AIX 3.2/UCB 5.64/4.03)  
id AA33791; Fri, 3 May 1996 08:45:57 -0500  
Received: from venus.astr.ua.edu.astr.ua.edu by hera.astr.ua.edu (4.1/SMI-4.1)  
id AA25158; Fri, 3 May 96 09:10:46 CDT  
Received: by venus.astr.ua.edu.astr.ua.edu (4.1/SMI-4.1)  
id AA04599; Fri, 3 May 96 09:11:26 CDT  
Message-Id: <9605031411.AA04599@venus.astr.ua.edu.astr.ua.edu>  
From: hardee@venus.astr.ua.edu (Hardee)  
To: abridle@polaris.cv.nrao.edu, azensus@nrao.edu  
Subject: Re: Status  
Date: Fri, 3 May 96 09:11:26 CDT



Sounds like you are nearly done. I'm all in favor of making the pages look better.

Below is the mailing list for copies of the proceedings that I will send to Liz Holloman at ASP. I will be ordering extra copies as you requested. I will have the ASP bill U of A.

Phil

Proceedings mailing list

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Grand Total: ..... 65 Volumes @ \$2581.50

From VM Tue May 7 18:41:52 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["139" "Fri" "3" "May" "1996" "16:52:22" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "8" "RE: Vol. 100 " "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 139  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.04)  
id AA46700; Fri, 3 May 1996 16:52:40 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by

vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id QAA14870; Fri, 3 May 1996 16:52:26 -0400 (EDT)  
Message-Id: <2.2.32.19960503205222.0072a0ec@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: pasp@physc2.byu.edu  
Cc: hardee@venus.astr.ua.edu, abridle@vagabond.cv.nrao.edu  
Subject: RE: Vol. 100  
Date: Fri, 03 May 1996 16:52:22 -0400

Dear Dr. McNamara, Liz

Vol. 100 was shipped by FedEx from Charlottesville today. Overnight.

You should have it on Monday.

Anton Zensus

From VM Tue May 7 18:42:09 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]  
["664" "Mon" "6" "May" "1996" "14:01:56" "-0400" "Anton Zensus"  
"azensus@nrao.edu" nil "34" "Volume 100 is here!" "^From:" nil nil "5" nil nil nil  
nil])

nil)

Content-Length: 664

Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.04)  
id AA53278; Mon, 6 May 1996 14:02:00 -0400

Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id OAA01381; Mon, 6 May 1996  
14:01:58 -0400 (EDT)

Message-Id: <2.2.32.19960506180156.006ef58c@vagabond.cv.nrao.edu>

X-Sender: azensus@vagabond.cv.nrao.edu

X-Mailer: Windows Eudora Pro Version 2.2 (32)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

From: Anton Zensus <azensus@nrao.edu>

To: abridle@vagabond.cv.nrao.edu, hardee@venus.astr.ua.edu

Subject: Volume 100 is here!

Date: Mon, 06 May 1996 14:01:56 -0400

>Sender: pasp@physc1.byu.edu

>Date: Mon, 06 May 1996 11:47:15 MST/MDT

>From: pasp@physc2.byu.edu

>To: azensus@nrao.edu

>Subject: Volume 100 is here!

>

>6 May 1996

>

>Good morning Anton,

>

>Your book has arrived and Harold has looked it over and is very pleased. I

>will get the frontis pages done and the cover and when we get the Library

>of Congress number I will let you know that we have mailed it.

>

>I'll also let you know the publication schedule when I get that--it usually

>takes a couple of weeks for them to get it to me.  
>  
>Many thanks for a job well done. If I have any questions I'll let you know.  
>  
>Thanks again,  
>  
>Liz  
>  
>  
>  
>  
>  
>  
>  
>  
>  
>  
>  
>

From VM Tue May 7 18:42:11 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["391" "Mon" "6" "May" "1996" "15:14:03" "-0400" "Alan Bridle" "abridle" nil  
"11" "Your copy" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 391  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.04)  
id AA69045; Mon, 6 May 1996 15:14:03 -0400  
Message-Id: <9605061914.AA69045@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: hardee@venus.astr.ua.edu  
Subject: Your copy  
Date: Mon, 6 May 1996 15:14:03 -0400

of the final text is on its way to you by FedEx. Look for it Tuesday a.m.  
Took us some extra time to make the further Xerox copies so could  
not send yours same day as the ASP's. Now that top copy is safely in  
San Francisco we can really relax!

Web page has also been updated to point to the individual .ps files  
and I made a small GIF of the cover picture to dress it up a little.

A.

From VM Tue May 7 18:42:37 1996  
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil]  
["2084" "Tue" "7" "May" "1996" "13:25:17" "-0400" "Alan Bridle" "abridle" nil  
"53" "Copy of \"in press\" as sent" "^From:" nil nil "5" nil nil nil nil]  
nil)  
Content-Length: 2084  
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.06)  
id AA50838; Tue, 7 May 1996 13:25:17 -0400  
Message-Id: <9605071725.AA50838@polaris.cv.nrao.edu>  
From: abridle (Alan Bridle)  
To: azensus, hardee@venus.astr.ua.edu  
Subject: Copy of "in press" as sent  
Date: Tue, 7 May 1996 13:25:17 -0400



----- start of forwarded message (RFC 934 encapsulation) -----

- ----- Forwarded message -----

Date: Tue, 7 May 1996 13:08:19 -0400

From: Alan Bridle <abridle@nrao.edu>

To: geoff@merlin.anu.edu.au, marscher@buast0.bu.edu, pags@mrao.cam.ac.uk,  
norman@ncsa.uiuc.edu, appl@cdsxba.u-strasbg.fr,  
hughes@astro.lsa.umich.edu, jlgomez@rjet.bu.edu, markos@qjet.bu.edu,  
RVL1@cornell.edu, Mark.Birkinshaw@Bristol.ac.uk, wiita@chara.gsu.edu,  
wsteffen@ast.man.ac.uk, martij@kerr.ific.uv.es, jeilek@aoc.nrao.edu,  
dclarke@olympus.stmarys.ca, cloken@nmsu.edu, ddeyoung@noao.edu,  
tvc@gal.star.uclan.ac.uk, gcd@riemann.bgsu.edu,  
serguei@amsta.leeds.ac.uk, hooda@chara.gsu.edu,  
dchristo@rouge.phys.lsu.edu, rl@ast.cam.ac.uk, jburns@nmsu.edu,  
biretta@stsci.edu, odea@stsci.edu, larry@astl.spa.umn.edu,  
wardle1@binah.cc.brandeis.edu, acr@deimos.caltech.edu, fowen@nrao.edu,  
ccarilli@nrao.edu, rcv@astro.caltech.edu, gbt@nrao.edu,  
alobanov@nrao.edu, wilson@astro.umd.edu, tjp@deimos.caltech.edu,  
mledlow@nmsu.edu, P.jones@st.nepean.uws.edu.au, blloyd@vela.rp.csiro.au,  
tingay@merlin.anu.edu.au, daly@pupgg.princeton.edu,  
linwan@phoenix.princeton.edu, keel@bildad.astr.ua.edu,  
koidesin@ecs.toyama-u.ac.jp, rqsj@bao01.bao.ac.cn,  
swain@astrosun.tn.cornell.edu

Subject: Alabama Workshop Proceedings now in press

Dear Workshop Author,

The Proceedings of the Alabama Workshop are now in press as:

Energy Transport in Radio Galaxies and Quasars  
A.S.P. Conference Series, Vol. 100, 1996  
P. E. Hardee, A. H. Bridle, and J. A. Zensus (eds.)

You can access FINAL PREPRINTS (in either compressed or uncompressed  
postscript format) for all papers and for the bibliography through the  
World-Wide-Web at:

<http://www.cv.nrao.edu/~azensus/jetwks/jetwks.html>

Note that some of the postscript files have missing figures (those which  
authors provided only as paper copies).

Phil has arranged for your pre-paid copy of the volume to be sent directly  
to you by the A.S.P.

Anton Zensus  
Alan Bridle  
Philip Hardee

----- end -----

From VM Fri May 17 15:30:32 1996

X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil])

["1137" "Mon" "6" "May" "1996" "11:12:11" "-0400" "Anton Zensus"]

"azensus@nrao.edu" nil "40" "RE: Vol. 100 " "^From:" nil nil "5" nil nil nil nil]

nil)  
Content-Length: 1137  
Received: from vagabond.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.04)  
id AA31456; Mon, 6 May 1996 11:12:19 -0400  
Received: from kalaf.cv.nrao.edu (kalaf.cv.nrao.edu [192.33.115.41]) by  
vagabond.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with SMTP id LAA01213; Mon, 6 May 1996  
11:12:12 -0400 (EDT)  
Message-Id: <2.2.32.19960506151211.006f1a34@vagabond.cv.nrao.edu>  
X-Sender: azensus@vagabond.cv.nrao.edu  
X-Mailer: Windows Eudora Pro Version 2.2 (32)  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
From: Anton Zensus <azensus@nrao.edu>  
To: hardee@venus.astr.ua.edu  
Cc: abridle@vagabond.cv.nrao.edu  
Subject: RE: Vol. 100  
Date: Mon, 06 May 1996 11:12:11 -0400

Phil,

I will be gone as of tomorrow. Would you like to be the single point of  
contact with PASP from now on, or should we send something like the draft  
message below.  
Alan has the complete book material on his computer, so he can respond to  
and fix all problems.

Anton

--

Dear Dr. McNamara, Liz

Please note that I will be travelling to Europe for the next three weeks.  
If there is any need for you to contact re problems or questions with Vol.  
100, please contact Alan Bridle (abridle@nrao.edu) and Phil Hardee  
(hardee@venus.astr.ua.edu).

Alan Bridle (abridle@nrao.edu)  
Phone: (804) 296-0375 Fax: (804) 296-0278  
NRAO  
520 Edgemont Road  
Charlottesville, VA 22903

Regards,

Anton Zensus

-----  
Dr. Anton Zensus | Ph: (804) 296-0231  
Scientist | Fx: (804) 296-0278  
National Radio Astronomy Observatory | Email: azensus@nrao.edu  
520 Edgemont Road | WWW:  
Charlottesville, VA 229903-2475, USA | <http://www.cv.nrao.edu/~azensus/>  
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