From VM Mon Mar 18 15:19:09 1996
X-VM-Summary-Format: "%n %*%a %-17.17F %-3.3m %2d %4l/%-5c %I\"%s\"\n"
X-VM-Labels: nil
X-VM-VHeader: ("Resent-" "From:" "Sender:" "To:" "Apparently-To:" "Cc:" "Subject:"
"Date:") nil
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Content-Length: 226
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
 ["226" "Mon" "18" "March" "1996" "09:28:11" "-0500" "Alan Bridle" "abridle" nil
"11" "M.Swain oral exam" "^From:" nil nil "3" nil nil nil nil]
 nil)
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
 id AA24337; Mon, 18 Mar 1996 09:28:11 -0500
Message-Id: <9603181428.AA24337@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: dmw@isis.pas.rochester.edu
Subject: M.Swain oral exam
Date: Mon, 18 Mar 1996 09:28:11 -0500

Hi Dan,

I will plan to drive up to Rochester for Mark's oral, arriving
Wed evening or Thurs morning. Is there a hotel within plausible
walking distance of your department, or can I park somewhere close
by it?

Alan B.

From VM Mon Mar 18 15:19:20 1996
Content-Length: 424
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
 ["424" "Mon" "18" "March" "1996" "10:07:04" "-0500" "Dan Watson"
"dmw@isis.pas.rochester.edu" "<199603181507.KAA20202@isis.pas.rochester.edu>" "10"
"Mark's thesis defense" "^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 AA49018; Mon, 18 Mar 1996 10:20:53 -0500
Received: from isis.pas.rochester.edu (isis.pas.rochester.edu [128.151.144.40]) by
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with ESMTP id KAA20126 for
<abridle@polaris.cv.nrao.edu>; Mon, 18 Mar 1996 10:20:51 -0500 (EST)
Received: (from dmw@localhost) by isis.pas.rochester.edu (8.7.4/8.7.3) id KAA20202
for abridle@polaris.cv.nrao.edu; Mon, 18 Mar 1996 10:07:04 -0500 (EST)
Message-Id: <199603181507.KAA20202@isis.pas.rochester.edu>
From: Dan Watson <dmw@isis.pas.rochester.edu>
To: abridle@polaris.cv.nrao.edu
Subject: Mark's thesis defense
Date: Mon, 18 Mar 1996 10:07:04 -0500 (EST)

Alan:

I'll take care of putting you in the relatively nearby Hampton Inn (I-390
at NYS Rt. 15A) for Wednesday and Thursday evening, and I'll arrange a
campus parking permit. (Or, actually, I'll ask our group administrator
Marilee Montanaro - 716-275-4405 - to do so since she's better than I at
these sorts of things.) Is there anything else you'll need? Will you be here
for dinner on Wednesday and/or Thursday?

Dan

From VM Mon Mar 18 15:19:35 1996
X-VM-v5-Data: ([nil nil nil nil nil nil t nil nil]
      ["869" "Mon" "18" "March" "1996" "10:47:37" "-0500" "Alan Bridle" "abridle"
nil "25" "Re: Mark's thesis defense" "^From:" nil nil "3" nil nil (number " " mark
" Z Alan Bridle   Mar 18   25/869   " thread-indent "\"Re: Mark's thesis
defense\"\n") nil]
      nil)
Content-Length: 869
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
          id AA46079; Mon, 18 Mar 1996 10:47:37 -0500
Message-Id: <9603181547.AA46079@polaris.cv.nrao.edu>
In-Reply-To: <199603181507.KAA20202@isis.pas.rochester.edu>
References: <199603181507.KAA20202@isis.pas.rochester.edu>
From: abridle (Alan Bridle)
To: Dan Watson <dmw@isis.pas.rochester.edu>
Subject: Re: Mark's thesis defense
Date: Mon, 18 Mar 1996 10:47:37 -0500

Dan Watson writes:
 > Alan:
 >
 > I'll take care of putting you in the relatively nearby Hampton Inn (I-390
 > at NYS Rt. 15A) for Wednesday and Thursday evening, and I'll arrange a
 > campus parking permit. (Or, actually, I'll ask our group administrator
 > Marilee Montanaro - 716-275-4405 - to do so since she's better than I at
 > these sorts of things.) Is there anything else you'll need? Will you be here
 > for dinner on Wednesday and/or Thursday?
 >

Thanks, Dan.

I'm not sure of my ETA on Wednesday yet but I will certainly plan to be
in town at dinner-time on the Thursday evening.

I'll probably remember the layout of the region around campus when I get
there, but if you could have your admininstrator mail or FAX me a campus map
that might be helpful. I'll probably need one in order to make use of the
parking permit in any case....

Alan

From VM Sat Mar 30 05:57:23 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
     ["793" "Wed" "27" "March" "1996" "09:00:47" "-0500" "Dan Watson"
"dmw@isis.pas.rochester.edu" nil "16" "Mark's thesis defense" "^From:" nil nil "3"
nil nil nil nil]
     nil)
Content-Length: 793
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
          id AA46153; Wed, 27 Mar 1996 09:14:58 -0500
Received: from isis.pas.rochester.edu (isis.pas.rochester.edu [128.151.144.40]) by
cv3.cv.nrao.edu (8.7.5/8.7.1/CV-2.1) with ESMTP id JAA17263 for
<abridle@polaris.cv.nrao.edu>; Wed, 27 Mar 1996 09:14:57 -0500 (EST)
Received: (from dmw@localhost) by isis.pas.rochester.edu (8.7.4/8.7.3) id JAA23932
for abridle@polaris.cv.nrao.edu; Wed, 27 Mar 1996 09:00:47 -0500 (EST)
Message-Id: <199603271400.JAA23932@isis.pas.rochester.edu>
From: Dan Watson <dmw@isis.pas.rochester.edu>
To: abridle@polaris.cv.nrao.edu
Subject: Mark's thesis defense
Date: Wed, 27 Mar 1996 09:00:47 -0500 (EST)

Alan:

I'm relieved to hear that you're free of serious medical problems but
terribly sorry to hear that your father-in-law has passed on. Are you
sure you'll be up for a trip to Rochester? We could postpone it (over
Mark's protests, I'm sure, but it does seem like a right thing to do),
or, if you'd prefer to get it over with but to remain in Charlottesville
(or anywhere else with advanced electronics) we could do it via videocon
(my current favorite, as we have a nice setup in our department now) or
telecon. Let me know ASAP if you'd like to explore any of these alternatives.

In any case, if you appear at the Hampton Inn tonight (remember, it's at
NYS Route 15A and I-390), you will find a map to campus and a parking permit,
with instructions on the use of the permit.

Dan

```
From VM Sat Mar 30 05:57:24 1996
X-VM-v5-Data: ([nil nil nil nil t nil nil nil nil]
      ["526" "Fri" "29" "March" "1996" "13:24:42" "EST" "Hugh M. Van Horn"
"hvanhorn@nsf.gov" "<199603291824.AA17338@note1.nsf.gov>" "15" "Mark Swain"
"^From:" nil nil "3" nil nil nil nil]
      nil)
Content-Length: 526
Received: from cv3.cv.nrao.edu by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
          id AA41911; Fri, 29 Mar 1996 13:25:21 -0500
Received: from note1.nsf.gov (note1.nsf.gov [128.150.11.1]) by cv3.cv.nrao.edu
(8.7.5/8.7.1/CV-2.1) with SMTP id NAA00479 for <abridle@nrao.edu>; Fri, 29 Mar 1996
13:25:11 -0500 (EST)
Received: from localhost by note1.nsf.gov with SMTP id AA17338
  (5.65c/IDA-1.4.4 for <abridle@nrao.edu>); Fri, 29 Mar 1996 13:24:42 -0500
Message-Id: <199603291824.AA17338@note1.nsf.gov>
From: "Hugh M. Van Horn" <hvanhorn@nsf.gov>
To: abridle@nrao.edu, dmw@isis.pas.rochester.edu
Subject: Mark Swain
Date: Fri, 29 Mar 96 13:24:42 EST
```

Dear Alan and Dan:

    I'm sorry that I had to leave yesterday before I had a chance
to talk with you both after Mark's thesis defense. I think you both
did a SUPERB job in guiding him through an exceptionally interesting
thesis! I was really fascinated by the"rails" and by the excellent
physics he got out of that with your guidance.

    I'm really pleased that you both agreed to take charge of this
unusual case, and I think we can all be very well satisfied with the
results!

    With very best persoal regards.

                                  Hugh

Hugh,

Thanks for your note re Mark's thesis and defence. I'm also pleased
with how things have turned out, and am looking forward to carrying on
some further projects with Mark; we are working with Rick Perley on
3C219---another FRII jet that can be transverse-resolved with the VLA
and which also hints of boundary-layer emission and a fast "spine".

One of the real challenges will be to distinguish how much of the
apparent emissivity variation across these jets is real and how much
is due to Doppler bias; this will require a sample of well-resolved
jets and counterjets in FRII's spanning a range of orientations to the
line of sight i.e. including some broad-line radio galaxies/quasars.
This will be a good arena for the expanded VLA (and the proposed
wide-band IF system, to get the sensitivity needed to pin down the
transverse polarization profiles at high resolution).

I also think Mark has landed on his feet at Cornell and should do well
in a situation where he is again "hands-on" with an instrument. I
was relieved to see him get that position in a difficult year and I'm
delighted that we were able to get his thesis finished up in such a
timely fashion.

Sorry we did not have longer to talk, but I was glad to hear that
this year's budgetary craziness did not dissuade you from continuing
to fight the good fight at the NSF.

With best wishes,

Alan B.

```
From VM Tue Mar 26 01:57:30 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
      ["1687" "Mon" "25" "March" "1996" "18:07:15" "-0500" "Alan Bridle" "abridle"
nil "36" "forwarded message from Alan Bridle" "^From:" nil nil "3" nil nil nil nil]
      nil)
Content-Length: 1687
Received: by polaris.cv.nrao.edu (AIX 3.2/UCB 5.64/4.03)
         id AA56995; Mon, 25 Mar 1996 18:07:15 -0500
Message-Id: <9603252307.AA56995@polaris.cv.nrao.edu>
From: abridle (Alan Bridle)
To: dmw@isis.pas.rochester.edu
Subject: forwarded
 message from Alan Bridle
Date: Mon, 25 Mar 1996 18:07:15 -0500

------- start of forwarded message (RFC 934 encapsulation) -------


Dan Watson writes:
 > Alan:
 >
 > I'll take care of putting you in the relatively nearby Hampton Inn (I-390
 > at NYS Rt. 15A) for Wednesday and Thursday evening, and I'll arrange a
 > campus parking permit. (Or, actually, I'll ask our group administrator
 > Marilee Montanaro - 716-275-4405 - to do so since she's better than I at
 > these sorts of things.) Is there anything else you'll need? Will you be here
 > for dinner on Wednesday and/or Thursday?
 >

I'll probably remember the layout of the region around campus when I get
there, but if you could have your admininstrator mail or FAX me a campus map
that might be helpful.  I'll probably need one in order to make use of the
parking permit in any case....

^^^^^^^^^^^^^^^^
As I didn't hear anything back from you or her after this do I assume
that a parking map and/or permit will be at the hotel when I check in,
or is there somewhere I can park temporarily until picking up a permit?

I should mention a slight possibility that I may not be able to come
as scheduled: I have been seeing my doctor re a medical problem and he
has ordered some tests that will be done and evaluated tomorrow
afternoon.  He wants to see the results before he okays me for leaving
town.  I am expecting that all will be well and would not even have
mentioned it ahead of time except that Mark is making arrangements to
come down here on Saturday to make his corrections and I needed to
tell him to hold off on details until late Tuesday when my situation
is clarified.  If there is any problem I will let you both know Tuesday
p.m., otherwise assume all is well.

A.
From VM Mon Apr  1 10:27:32 1996
X-VM-v5-Data: ([nil nil nil nil nil nil nil nil nil]
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nil "237" "Re: Mark's thesis defense" "^From:" nil nil "4" nil nil nil nil]
      nil)
Content-Length: 8554
```

Dan, here FYI is the list of comments and suggestions for changes that
I gave to Mark. I will sort out details with him here.

=============

Things that should be fixed in final version:

Missing: summaries of 3C353 integrated properties:
        lobe, jet and counterjet integrated flux densities at all freqs
        luminosities, justification of jet/counterjet prominence statements,
            e.g. as in abstract, line 4., p.7, p.79, p.93 etc.

        estimates, (at least equipartition), of strengths of B fields
        in jet and in lobes

p.iv, last line   missing "of"

p.viii line 1, extra "of"

p.2 which particles were included by H & R?

p.3 l.9 implies that Urry/Padovani consider only FR~II's; not so
     Cohen/Unwin a strange choice for superluminal motion ref, a lot has
     happened in 14 years since! But it was not the first (by a long way)

p.6 the "dentist drill model which Scheuer (1982) proposed ..."?

p.7   "edge brightening of the west lobe" cannot be a general
      characteristic of all FRII sources!

      "total power" (line 6) is a monochromatic power for total source,
      not being used with its usual meaning here

      why did delta and b lead to exclusion of 3C353, and how have you
      got around this, given that they have not changed?

p.8   are the 14.9 GHz images used anywhere?

p.9   Table 1.1 caption typos: munits for minutes?
                               "aproximage" for "approximately the"?

p.10 Why "owned" by the NRAO; not sure that's true, and not needed.

p.22 Table 2.1:
      caption has unmatched paren before eta
      sensitivity depends on tapering used, as discussed later: which is this?

why quote frequencies not used in thesis?

p.24   I and I_0 were never defined, their definition is essential to
        understanding all that follows:

        Eqn 2.37 must assume a particular bandwidth shape, what is it?
        Eqn 2.38 does not contain the effects of baseline orientation, so how
        is I/I_0 being measured for time-averaging? -- it should say.
        unclear how Theta(max) in Eq. 2.39 and Theta in 2.38 are related.
        unclear that Theta(HPBW) is synthesized HPBW, hence a proxy for
          baseline length

p.25   l.10 "point center"?
        not "pointing center", surely, but delay tracking center.

p.28   Figure 3.1 is pretty: but is it entirely fair?
        What transfer functions were used?
        Are they the same for the two halves?
        How much of comparison is B vs ABCD, how
        much deconvolution, how much self-calibration?

        Also looks to me as if upper panel is not primary beam corrected, but
        lower is; is this one pointing versus a mosaic, also?

p.33   line 4 from end "brightest unresolved structure" cannot be more than
        two items with these choices. How does this square with observed
        properties of most sources?

p.35   ," should be ",
        How does a "region" have a "resolution"?

p.37   footnote #5, why must be marginally resolved? unresolved?

p.47   footnote #1, don't usually have same BW for all configs, because of BW
        smearing

p.48   "current" AIPS package here means early 1995? Should say.
        pre-IMAGR - which concerns are now applicable to AIPS?

p.53   likewise, should identify AIPS epoch to which comments applied, as
        many changes made since

p.63   Jy/beam area

p.73-76 not really relevant to results presented, unless describe how
          they do affect what is discussed now. This material was written
          when expected that large-scale spectral gradients and aging would
          be major discussion topic. Now only the lobe RM analysis and
          spectra next to jet could depend on it much (jet and counterjet
          spectra largely differential, even in tomography, and not much
          is made of them or the sheath spectra in any case).

          14.9 GHz images were not used at all for the analysis, appear
          only in introductory chapters?

p.77   Table 4.2 needs to be related to Table 2.1; how close to expected
        performance are the "final images"?

p.79   Typo: two-sided

p.80   would be helpful to identify which profiles are the significantly
       flat-topped ones, now that they are all labeled; this was purpose of
       adding individual labels to Figure 5.6

p.83 should give definition of "equivalent rectangular width", this is not
     a common term in literature

p.87, Fig. 5.7 angular units given as mJy

p.88, Fig. 5.8 caption refers to cj4 and cj7, which are not present in figure
                whole figure looks mislabeled---this is counterjet data,
                like Fig. 5.7

p.89 Fig. 5.9 would be much more convincing if HPBW shown other than in words

p.90 isophote mispelled isophot
      Table 5.1 caption: one isophote cannot have a separation, must be plural

p.92 line 6: does the asymmetry have to be in the expansion? why not a
      deflection?

      last line: "show"

p.93   Table 5.2 how come the counterjet sheath error is 15 times the jet
       error, and how have the jet and counterjet been averaged?
       Was just talking about "average jet profile", so what is
       "average jet flux density"?

p.93 ratio quoted in line 4 is "intensity ratio"? integrated, or averaged
      per unit length?

p.97 Figure 5.13 caption type J1&C1
      top panel X axis is mislabeled: this is jet data?

p.102 last line, this is the Rotation Measure, not Faraday depth

p.103 RM cannot be determined (unambiguously) from 2 frequencies,
      and was not (p.111 footnote)!

      This section needs to be clarified, discussing the ambiguities,
      especially as potential ambiguities are shown in Fig. 5.30 (p.125)

p.106 line 6 from end "internal to jet": why wouldn't a boundary-layer, i.e.
      surface, feature be able to do this?

p.117 top   can you characterize the variations of the polarization
            properties in any simple fashion? "positive and negative
            peaks in difference profiles" is a bit vague, is there a
            pattern that can be described?

p.117 footnote. the beam can never resolve fluctuations along the line
                 of sight, so this type of depolarization should be
                 distinguished from beam depolarization, which involves
                 fluctuations across the line of sight?

p.122 line 10 "the" missing

Figure 5.26 profile !-1 average ?

p. 135-140   are units explained anywhere?

p.144 Fig. 6.8   the psi of the legend is the i of the captions
                 should be changed for consistency

p.147 "none" is singular, not plural (line 8)

p.149 line 5 from end: how is this different from first half of sentence?
      not clear what two points are being contrasted here

p.152 Fig. 6.12 caption <,> have been interchanged in line 3
      assumption behind "P inverted" should be explained in text on p.149
      why is this o.k.?

p.157 Fig. 6.17 caption obscure: i = i and 0 <= i 80?

p.165 statement about pressure-gradient stabilization should be referenced
      there is an article mentioning this in Ann Rev Fl. Mech 1996.

p.167 line 7 from end "temporally" means "temporarily" here?

p.168 Laing model dates to 1993 in literature.

p.170 line 5 245?
      line 11 from end punctuation ";" not),(
      also line 3 from end ";" not)(

p.174 M87 opening angle, is this full angle or half angle?

p.175 line 8 "terms _of_ magnetic field"
      line 12 "jets", not "jet"
      line
 11 from end: orphan M can be avoided in TeX, use "M\,87"

p.176 line 3 intrinsically is mis-spelled

p.177 line 7 detailed imaging might not _confirm_ the picture!

Bibliography:
is in neither strict alphabetical nor strict chronological order
within each letter.

B & P 84, no vol no.
B, B, F, F, P, E. year given as 245, no vol. no.
C & E 85, no vol. no.
de R et al 91, page no. should be at end.
F & R 74, no vol. no.
Greisen, private comm. should not be in bibl and private mis-spelled
K et al 91, no vol. no.
Laing 1993 Cambridge mis-spelled
Laing 1980 our of order and no vol. no.
Laing 1981a no vol. no., out of order
Laing 1981b, no vol. no., out of order
Parma et al. 87 out of order unless chrono
P & C 1996 out of order
Perley 89 page no. should be at end
P, B, & C 92 out of order, 258 in middle of publisher.
Schwarz 78 page no in parentheses, why?
Schwarz 79 page no. should be at end
T et al 91, gratuitous J., before Swenson
Vinokur page no in parentheses
W & K 74 no vol. no.
W & G 85, no vol. no.

=================================== end of file ===================

A.