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File Référence

17.2.81

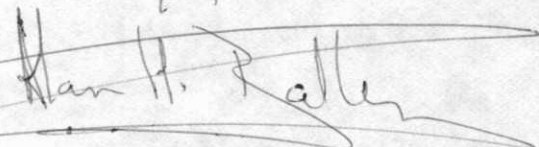
Dear Alan,

Just to assure you that the April issue of the Journal is in press, complete with your paper. Obviously it had high priority or we wouldn't delay the same paper twice.

I am afraid the paper was a victim of confusion during the takeover period — some of which was probably inevitable. That plus the fact that it was the longest single MS on hand accounted for the decision. I hope nothing like it will happen to you again.

I note your request about reprints.

Yours sincerely,



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| | | | |
|-----|--------------|----|----------------------|
| 1. | Baan | 37 | Spangler |
| 2. | Basart | 38 | Strom |
| 3. | Begelman | 39 | Van Breugel |
| 4. | Benford | 40 | van der Laan |
| 5. | Bicknell | 41 | Wardle |
| 6. | Burns | 42 | Wiita |
| 7. | Butcher | 43 | Wilkinsm, P. |
| 8. | Blandford | 44 | Willis |
| 9. | Cohen | 45 | Legg |
| 10. | Christiansen | 46 | Willses |
| 11. | Davis | 47 | Linfield |
| 12. | De Young | 48 | C. Norman |
| 13. | Ekers | 49 | Gisler |
| 14. | Fomalont | 50 | Marscher |
| 15. | Gregory | 51 | Sikora (Warsaw) |
| 16. | Hardee | 52 | Jones (Minnesota) |
| 17. | Harris, D. | 53 | Aller |
| 18. | Högbom | 54 | D. Schwartz |
| 19. | Icke | 55 | F. Feigelson |
| 20. | Johnston, K. | 56 | Ozerov |
| 21. | Kellermann | 57 | Morita (Sapporo) |
| 22. | Kronberg | 58 | Sparke (Berkeley) |
| 23. | Lainq | 59 | Guiliani (Princeton) |
| 24. | Lari | 60 | Nied (JPL) |
| 25. | Menon | 61 | Gopal-Krishna |
| 26. | Miley | 62 | Balick |
| 27. | Owen | | |
| 28. | Pacholczyk | | |
| 29. | Perley | | |
| 30. | Price, R.M. | | |
| 31. | Reedhead | | |
| 32. | Rees | | |
| 33. | Rudnick | | |
| 34. | Scheuer | | |
| 35. | Schilizzi | | |
| 36. | Seagquist | | |

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5 February 1981

Dr. A.H. Batten
Editor, JRASC
Herzberg Institute of Astrophysics
5071 W. Saanich Rd.
Victoria, B.C. V86 3X3
Canada.

Dear Alan,

I was rather disturbed to learn that our article on the collimation of supersonic jets had been set back to the April issue of JRASC, as I have received a very large number of requests for (p)reprints. I trust that it will indeed appear in the April issue and not slip in the schedule again.

I can now confirm that the NRAO will require 250 reprints. These should be invoiced to the Librarian at the Charlottesville office.

I strongly approve of listing JRASC submissions in the Ap.J. "yellow pages." This will greatly increase the visibility of the journal in the U.S., and will encourage more contributions.

Yours sincerely,

Ala Bilde



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File Référence

December 17, 1980.

Dr. A.H. Bridle,
National Radio Astronomy Observatory,
P.O. Box 0,
Socorro, New Mexico 87801, U.S.A.

Dear Alan:

As you may by now have heard, I have somewhat reluctantly taken over the editorship of the R.A.S.C. Journal. I am afraid that your letter of September 25 to Lloyd was a victim of the changeover. I can't remember whether Lloyd gave it to me or not - I don't seem to have it now - but it must have arrived just at about the time of the change and one or other of us seems to have mislaid it.

I am still rather unclear myself how the Journal handles reprint orders, but I will pass your requests on to Marie Fidler and we will try to meet them as far as possible. I am afraid the paper will not appear until the April issue. I feel a little badly about this because I know the original version was sent in quite some time ago. The February issue, which is now in press, was very large, and two papers had to be held back. Mainly because of its length, yours was one of them. It will, therefore, still be some time before you hear anything about reprints.

With best wishes for Christmas and New Year,

Yours sincerely,

Alan H. Batten

AHB:RMH

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Mailed 25 Nov 1980

Interoffice

National Radio Astronomy Observatory

Very Large Array

To: Lloyd Higgs

From: Alan Bridle

Subject: Reprints of JRASC article by Bridle, Chan and Henriksen

As I haven't heard from you on the subject of the enclosed letter, I'm wondering if the original got lost in the great Canadian postal slowdown.

Best wishes

Alan

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25 September 1980

Dr. L.A. Higgs,
Editor, JRASC,
Herzberg Institute of Astrophysics,
National Research Council of Canada,
100 Sussex Drive,
Ottawa K1A 0R6
Ont., Canada.

Dear Lloyd,

I have arranged that NRAO will pay 50% of the page charges for publication of the article "A Model for Collimation of Supersonic Beams in Extragalactic Radio Sources" by myself, K.L.Chan and R.N.Henriksen. The NRAO will also include the article in its reprint distribution, and will probably order several hundred reprints.

It would be most convenient for us if the billing for the page charges could be divided, 50% being invoiced to me c/o the VLA Site, and 50% to the Librarian, NRAO, Edgemont Road, Charlottesville. If this is not possible, perhaps the billing could be sent to me in the first instance.

I do not recall how JRASC handles reprint orders. Is a purchase order required? I will make the necessary arrangements within NRAO if you will let me know what the preferred mechanism is.

Yours sincerely,


Alan Bridle



NATIONAL RADIO ASTRONOMY OBSERVATORY
CHARLOTTESVILLE LIBRARY

TO: Alan Bridle

DATE: 9-22-80

NRAO will pay 1/2 page charges on
any article published by an NRAO employee &
will include same in our reprint series.

Please send me copies of any page
charge and/or reprint order forms you
get. Thanks -

Sarah

ATTACHED IS FOR YOUR INFO

PLEASE RETURN

DO NOT RETURN

Interoffice

National Radio Astronomy Observatory

Very Large Array

15th September 1980

To: Sarah Martin, CV

From: Alan Bridle (VLA)

Subject: "A Model for Collimation of Supersonic Beams in Extragalactic Radio Sources", by A.H.Bridle, K.L.Chan and R.N.Henriksen

This has been submitted to the Journal of the Royal Astronomical Society of Canada. As A.H.B. is presently an N.R.A.O. employee it could be included in the N.R.A.O. reprint series, and possibly N.R.A.O. would make some contribution to the page charges. I enclose three copies - one for the Director's Office, one for the Charlottesville preprint rack, and one for the Green Bank preprint rack. I have given a copy directly to the VLA Library.

Please let me know what arrangements N.R.A.O. would prefer to make regarding reprints and/or page charges. I'm now at VLA-271



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15th September 1980

Dr. L.A. Higgs,
Editor, JRASC,
Herzberg Institute of Astrophysics,
100 Sussex Drive,
Ottawa, ONT K1A 0R6,
Canada.

Dear Lloyd,

We are pleased that the referee has given the paper "A Model for Collimation of Supersonic Beams in Extragalactic Radio Sources" by Bridle, Chan and Henriksen such a generally favourable report. I enclose (a) a set of revised pages for the copy of the manuscript that you retained and (b) a complete copy of the revised manuscript.

We have responded to some, but not all, of the referee's comments. In particular, we feel that the reasons for making the assumption of transverse homology, and its status as an assumption, are made sufficiently clear in the present text. The comparison with transverse brightness profiles of actual jets is not as straightforward as the referee implies, as it requires computation of the actual distribution of radiation from particles injected into the model's field structure. As the structure is organised and evolves with distance from the nozzle, it is not yet clear to what extent the brightness profiles themselves should be homologous. A student is working on this at Queen's as part of a Ph.D. project, and we do indeed hope to use the transverse brightness profiles as a constraint on such models in the future. At present however we prefer to leave things as they are with the statement (as on p.20 of the manuscript) that the transverse profiles appear approximately Gaussian (and thus homologous) in form. (This statement is made for 3C31 in the reference by Bridle, Henriksen, Chan, Fomalont, Willis and Perley, Ap.J., in press, which will have appeared by the time that this article appears in JRASC).

We have attempted to clarify some parameter definitions as suggested by the referee, but have not in general attempted to shorten sentences for reasons of length alone. Technical writing can require longer-than-average sentence lengths for clarity, and we do not generally agree with the referee that paring would improve the flow. I hope we can agree to differ with him on this.

The significance of the M87 knots had not escaped our attention. The problem is that they are well-documented as brightness knots, but it is not clear that they are oscillations of transverse scale (either from the Arp/Lorre optical display or from the soon-to-be-published VLA map by Owen, Hardee and Bignell). We have added a sentence to note that we are not overlooking M87, but rather are reserving judgement on it.

We hope that the article might indeed be published in the February 1981 issue of the JRASC. It would be most efficient if proofs and further correspondence could be sent to A.H.Bridle at the Department of Physics and Astronomy, 800 Yale Blvd. N.E., University of New Mexico, Albuquerque NM 87131. My telephone number there is (505)-277-2210.

With best wishes

A handwritten signature in cursive script, appearing to read 'Alan Bridle', written in dark ink.

Alan Bridle



National Research Council
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Conseil national de recherches
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Herzberg Institute
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d'astrophysique

AIR MAIL

File Référence 1468-3-1

September 3, 1980

Dr. Alan Bridle
Department of Physics and Astronomy
University of New Mexico
800 Yale Blvd. N.E.
Albuquerque, N. Mex. 87131
U.S.A.

Dear Alan:

I have received the referee's report on your paper with Chan and Henriksen and it is enclosed. You will see that the referee raises several minor points and you may wish to make some modifications. (I have also enclosed an annotated manuscript). Please let me know as soon as possible what changes, if any, that you wish to make. The paper will probably appear in the February 1981 issue (the first with Alan Batten as editor!).

With best regards,

L.A. Higgs
Editor
RASC Journal

Encl.
LAH/jpb

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Referee's Report

'A MODEL FOR COLLIMATION OF SUPERSONIC
BEAMS IN EXTRAGALACTIC RADIO SOURCES'

A.H. Bridle, K.L. Chan and R.N. Henriksen

This is an excellent and interesting paper and is acceptable as it stands. The authors may, or may not, like to consider acting on the following points.

1. The key assumption of the model is 'transverse homology'. It is not clear how crucial this assumption is.

? Would the solutions for longitudinal variations likely be much different if the assumption were only roughly approximated?

JJP
Ph.D.
thesis!
[Is the observed transverse distribution of radio emission from the closer and angularly big radio sources consistent with the assumption? In particular, does the transverse distribution in Figures 1 and 2 (for NGC 315 and 383) show reasonable agreement with transverse homology?

2. One of the most interesting examples in astronomy of spatial periodicity occurs in the jet of M 87. Could this be an example of the pinch-induced oscillation in transverse width that is predicted by the model?

will
put in
one-line
speculation
re this.

3. Several extragalactic sources are quadruple, i.e. they have two well defined pairs of components. Are these consistent with the model?

huh?

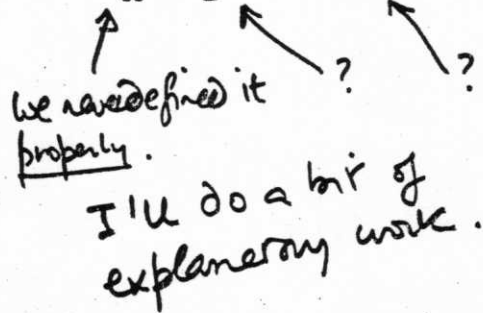
4. The subject of this paper is hard going no matter what the style of writing. The reading is made more difficult here by the use of very long sentences. A sample of a few sentences averaged 36 words apiece, about 3 times the length

The sentences he's marked in the text need well to me, but I'll attempt some breaking-up to show writing. Gramm men should not mind long sentences occasionally, I feel.

found in most English writing. Breaking some of these sentences into two or three would improve the paper.

5. It may be helpful to the reader to spend a sentence defining in words, or at least describing physically, some of the more important parameters such as: M_A , ϵ_B , and R_1 .

we have defined it
properly.
I'll do a bit of
explanatory work.





DEPARTMENT OF PHYSICS
STIRLING HALL
Physics
Engineering Physics
Astronomy

Queen's University
Kingston, Canada
K7L 3N6

18 July 1980

Dr L.A.Higgs,
Editor, JRASC,
Herzberg Institute of Astrophysics,
National Research Council,
100 Sussex Drive,
OTTAWA K1A 0R6

Dear Lloyd,

We enclose two copies of the manuscript, and glossies for six Figures, of an article entitled A MODEL FOR COLLIMATION OF SUPERSONIC BEAMS IN EXTRAGALACTIC RADIO SOURCES by A.H.Bridle, K.L.Chan and R.N.Henriksen. We hope that this article will be suitable for publication in the Journal of the Royal Astronomical Society of Canada.

The article reviews and applies an MHD model for heavy supersonic jets in extragalactic radio sources. An article giving the full mathematical development of the model in a form oriented towards the theoretical reader has been accepted for publication in the Ap.J. and is scheduled for publication in October 1980. This article discusses the model in a form oriented towards observers (Sections 3 and 4) and towards the specific problem of explaining and modelling recent VLA observations of the collimation properties of radio jets. Sections 5 and 6 give an entirely new classification of model types within the general framework, and apply the model to interpret new data on the jets in NGC 315. Sections 1, 2, 7 and 8 review the past and future context of the work. The article thus contains elements of review, explanation and interpretation of the model which we hope may make it particularly suitable for publication in the Journal.

Because of our imminent sabbatical movements, we should be grateful if all correspondence, etc. concerning the article could be addressed to R.N.Henriksen at Queen's until August 11th; thereafter to A.H.Bridle at the Department of Physics and Astronomy, University of New Mexico, 800 Yale Blvd. N.E., Albuquerque, NM 87131.

Yours sincerely,

Alan Bridle

Dick Henriksen