

Bologna, July 5 1988

Dear Rick,

here is an almost final version of our paper, and some comments:

- 1) please forward a copy to Clark and Bridle, and send to me their comments and/or corrections, if any.
- 2) The main table is almost final, some minor things are lacking.
- 3) figures will be redrawn properly, after your comments
- 4) fig. ϕ (i.e. the maps) is our suggested list to be published: please feel free to add and/or delete.
- 5) please check the references, if you can.
- 6) we include a suggestion on how to publish the maps, i.e. six to a page.
- 7) The maps will have the id. marked, whenever it does not coincide with a component
- 8) We suggest to send the paper to The Astronomical Journal; we will take care of it, after receiving your final comments, when we will be back from summer holidays.

cheers, Gavin'

P.S. please send comments back by Electronic mail.

A.H.B. comments on the draft of the B3 identifications paper.

It's basically fine and comments are generally minor ones about typos and/or English. But note the one on flux density scales. I'm presuming that this is what was done, and it may impact the ratios to KPW.

=====

Summary:

This paper presents the first results of a large program of optical identifications of radio sources from the Third Bologna (B3) Catalogue.

A homogeneous sample of 1103 radio sources, selected from the B3 Catalogue at 408 MHz and covering the flux density range from 2.0 to 0.1 Jy, has been mapped at 1465 MHz using the VLA at 15 arcsec resolution. Both positional and structural information have been derived and are presented here.

Optical identifications have been attempted for all of the sources using the Palomar Sky Survey prints, resulting in 322 proposed identifications.

The run of identification percentage, largest angular size (LAS) and spectral index with flux density are analyzed. Evidence is given that sizeable intrinsic radio-optical displacements are possible for steep-spectrum sources. The fraction of "empty field" identifications (fainter than $m_r = 20$) increases from 15% for $S_{408} > 10$ Jy to 86% in the 20 to 60 mJy interval. The 408 to 1465 MHz spectra become steeper with decreasing flux density to about 50 mJy, and become flatter at lower flux densities. A negative correlation is found between the metric size and redshift for radio galaxies, confirming an earlier result of Grueff (1977).

=====

(in the above, I'm suggesting that we give the statistical results explicitly in the summary, so people who don't want to wade through the whole paper may still see them)

=====

- p.3 line 6 delete "then"
- line 8 "radio source", not "radiosource"
- line 10 "radio source", not "radiosource"
- line 16 "radio source", not "radiosource"
- line 4 from end "radio source", not "radiosource"
- last line "radio source", not "radiosource"

- p.4 line 18 sources "with" much fainter flux densities

- p.5 line 10 "the NRAO's Very Large Array (VLA) radio telescope" not "the VLA radiotelescope"
- line 19 "some sources of error", not "some error sources"
- line 21 "the data themselves"

- p.6 line 18 "because obscuration makes these unsuitable for optical identifications, and confusion makes them unsuitable for VLA snapshot-mode observations."

to replace "unsuitable for optical identifications"

- p.7 line 7 "ensure", not "insure"
line 13 delete "carefully"
line 15 "all B3 catalogue sources that meet the above selection criteria"
line 25 "Bologna telescope's interferometric response" not "telescope interferometric response"
line 28 "in retrospect", not "in retrospective"
- p.8 line 2 "radio source", not "radiosource"
- p.9, line 11 "radio source", not "radiosource"
line 21 "regardless of the 408" not "irrespectively of the 408"
last sentence, replace with:
"These would be unusual parameters for a radio source, as we show later. In some cases, however, sources proved to be fainter than this limit, and others were confused by sources outside the initial map area. To deal with these cases, about a hundred sources were reobserved at lower resolution with the VLA in its D configuration."
- p.10 line 1 "Most sources were observed close to meridian transit and thus also close to the zenith. The resulting beam shapes were therefore similar for all maps, with minimal ellipticity ..."
- add: "The flux density scales of all observing sessions were normalized to that of Baars et al. (1977) by observing 3C286, whose flux density on this scale is 14.51 Jy at 1465 MHz"
- also add ref: Baars, J.W.M., Genzel, R., Pauliny-Toth, I.I.K. and Witzel, A. (1977), A & A Suppl. 61, 99.
- line 20 "Very faint and/or diffuse sources, or heavily confused fields, were remapped and deconvolved using the ungridded-subtraction CLEAN algorithm (Schwab 1984) that is implemented in the AIPS task MX. This algorithm significantly reduces the r.m.s. fluctuations due to sidelobes of confusing sources in VLA snapshot maps."
- add ref: Schwab, F.R. (1984), Astron. J. 89, 1076.
- p.12 line 5 "three optical objects"
- p.13 line 4 "radio source" not "radiosource"
line 24 "radio source" not "radiosource"
- p.15 line 2 "all the radio and optical data, as follows:"
line 22 "B3 Catalogue", not "Catalog" (for consistency!)

p.19 line 1 "radio source" not "radiosource"

p.22 line 8 "radio source" not "radiosource"

p.24 line 3 "radio source" not "radiosource"
"optical identifications"

line 20 "to 86%", not "to a high 86%"

p.29 line 3 from end "little" rather than "not very much"

p.31 lines 1,5 "radio source" not "radiosource"
last line "extragalactic radio source population"

Title page: AHE address: "VA 22903-2475"