

THE ESTABLISHMENT OF THE RADIO/OPTICAL REFERENCE FRAME

J. L. Russell, K. J. Johnston (NRL)
 C. DeVegt, N. Zacharias (Hamburger Sternwarte)
 C. Ma, D. Shaffer (CDP/GSFC)
 D. Jauncey, J. Reynolds, G. White (CSIRO)
 J. Hughes, R. Hindsley (USNO)

This 5-yr program which began in 1987 is to establish a link between the radio and optical reference frames, using about 400 extragalactic sources which are compact and flat spectrum in the radio and which are observable in the optical. An overview of the program is presented at this meeting by Johnston *et al.* Various specific aspects of it are also discussed in Ma *et al.*, McCarthy *et al.* and Reynolds *et al.*

The observations have been continuing in both hemispheres and in both the radio and the optical. We have observed 348 sources with VLBI. There is at least one astrograph plate available for 369 sources and at least one prime focus plate available for 138 sources. Altogether there are 450 sources with some data.

In the selection of the final 400 radio/optical link sources, which will replace the list from Argue *et al.* (1984), we have been categorizing the sources into three lists. The first is the primary sources, those with sufficient data of good quality. The second includes the preliminary sources, those with some good data, but needing more. The third is those sources chosen based on survey data which have not been observed yet. Implicitly, there is a fourth list of reject sources.

At this meeting we have shown the first drafts of lists of sources in each classification, including a total of 564 sources -- 220 primary, 139 preliminary, 160 proposed and 45 rejects. The final list of sources will be presented at the upcoming 1991 IAU General Assembly.

REFERENCE

Argue, A. N., deVegt, C., Elsmore, B., Fanselow, J., Harrington, R., Hemenway, P., Johnston, K. J., Kuehr, H., Kumkova, I., Neill, A. E., Walter, H., Witzel, A. (1984) *Astron. Astrophys.* 130, 191.