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## REFINEMENT OF LINKING OPTICAL/RADIO REFERENCE FRAMES

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Preliminary results of fulfilment of collaborated programme for refinement of the optical-radio reference frames linking are discussed. The instrumentation, methods of observation and reduction as well as preliminary results are presented. Optical positions of several extragalactic radio sources (ERS) are determined by using the CCD telescopes of China, Russia and Ukraine. The catalogue which consists of 15000 stars selected from the USNO-A2.0 in the fields around 200 ERS is used as reference one. The positions of stars in this catalogue was received from observations with Nikolaev Axial meridian circle (AMC) for declination zone from equator to  $+90^\circ$  in the 11-14.5 magnitude range made during 1996 - 1998. It is estimated that expected accuracy of the optical / radio linking in case of using about 200 ERS for northern declination zone is on the level of 5mas provided the uncertainties ERS optical positions are not worse than 20 mas.

Comparison between optical and radio positions for ERS 0735+178 obtained with Shanghai, Kharkov and Kazan astrographs has showed a good agreement within random errors. Among these telescopes the Kazan AZT-22 has negligible systematic errors.

It is to be noted accuracy of optical-radio ERS position differences determined mainly by accuracy of intermediate reference stars positions. It is a main reason of large dispersion of optical-radio differences and random error, especially in case of using faint reference stars. Also low accuracy of data may be explained by existence of systematic errors. From another side when ERS observation number will be of about 10-16 the expected mean accuracy would be about 0."02. For the improvement of accuracy the program of observation was extended up to 300 ERS by including the objects from Southern Hemisphere up to  $-30$  degrees in declination. And in this case an accuracy of the coordinate system link can be obtained 3 mas.

Determination of optical / radio ERS differences with position accuracy of 20 mas by using observations of 300 ERS permits to determine rotation parameters with accuracy of 3 mas refine the optical / radio reference frames linking;

ed accuracy is possible by using the collaborated telescopes provided sufficient number of observations (not less than 10-16) and final positional accuracy of AMC catalogue of radio reference stars on the level of not worse than 50 mas; linking of co operation will be useful for obtaining of more better accuracy of linking radio reference frames.

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