

errors as a function of right ascension and declination. The extension of the ICRF into the infrared has become a reality.

Progress on Linking Optical-Radio Reference Frames Using CCD Ground-Based Telescopes:

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Abstract. Results of the Joint Project between observatories from China, Russia, Turkey and Ukraine on improvement of linking optical and radio reference frames are discussed. The 300 extra-galactic radio sources (ERS) observation program is extended due to the increase of observations in the southern hemisphere up to -40° declination. At present, observations of more than 150 ERS were used for reduction. The intermediate internal estimation of the link between optical and radio reference frames showed values near zero within an accuracy of about 6 *mas* by using secondary reference stars from UCAC2. A comparison of presented results with those of other investigations was made.

Extragalactic Source Structure:

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Abstract. The compact extra-galactic radio-emitting objects used to define the International Celestial Reference Frame (ICRF) are only imperfect fiducial points in the sky on milliarcsecond scales. Many sources show frequency- and time-dependent extended emission structures with varied morphologies that are explained in the framework of unified theories of active galactic nuclei. Such theories are also useful to make predictions about the expected source morphology at optical and IR wavelengths. Various imaging surveys are now available to evaluate the source compactness and astrometric suitability on a statistical basis. Additionally, exploratory work is being conducted to correct for the effect of source structure in actual astrometric analysis by using hundreds of source maps, as available from ongoing structure monitoring. Recent progress in these areas are reviewed in the framework of future possible ICRF realizations.

Geophysical Nutation Model:

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Abstract. The nutation model that has been adopted by the IAU in 2000 is the semi-analytical model MHB2000 of Mathews et al. (2002, JGR 107(B4), DOI: 10.1028/2001JB000390). We show how robust this model is and examine the information about the interior of the Earth that has been derived. The observations used to derive the parameters of MHB2000 as well as the amplitude of the Free Core Nutation (FCN) are examined in terms of their stability and