CONTRIBUTION OF BELGRADE ASTRONOMICAL OBSERVATORY IN CREATION OF MODERN REFERENCE FRAMES

Miodrag Dacić
Astronomical Observatory, Volgina 7, 11160 Belgrade, Serbia

The Astronomical Observatory in Belgrade possesses several classical astronomical instruments which were actively used from the thirties (of the last century) till 1995. As for the astrometric instruments utilised in the position determination for stars and other celestial bodies, important results were achieved with the Large Meridian Circle of Belgrade Observatory. With it seven observational catalogues were compiled, out of which three should be distinguished: the Catalogue of Latitude Stars, the Catalogue of NPZT-Programme Stars and the Catalogue of Stars in the Vicinity of 78 Radio Sources. The star positions from the first catalogue were taken in the formation of extension for the referent frame (FK5 Ext). The positions of fundamental stars obtained by using the differential method in the observations of the NPZT stars were used for the purpose of calculating the individual correction of star position in the basic catalogue - FK5. The positions of the stars situated in the vicinity of radio sources were used for the purpose of establishing a link between optical and radio interferometric observations, on the basis of which the International Celestial Reference Frame (ICRF) was formed. Besides, during a 20-years period, from 1975, with the Meridian Circle day-light observations of the Sun, Mercury, Venus and stars were performed for the purpose of obtaining the corrections of the positions of the equatorial plane and vernal-equinox point, i. e. of the coordinate-system orientation.