MODIFIED METHOD OF KREJNIN AND MURRI FOR THE DETERMINATION OF ABSOLUTE DECLINATIONS

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ABSTRACT. Krejnin and Murri's method (1973) enablesenables one to derive absolute declinations of stars in a narrow equatorial zone $|\delta| \leq 10'$ from observations near the Earth's equator $|\varphi| \leq 10'$. Some systematic effects, including the errors of the value of the micrometer screw for two equatorial instruments (or the scale error if one of the instruments is a PZT), might be determined if a global reduction is used for the original observations from the equator and from those of an astrolabe at latitude $|\varphi| \approx 20°$ to 23°. Astrolabes—especially photoelectric ones (Hu 1988) are considered to be the most efficient for determination of absolute declinations of stars and absolute latitudes of the instruments in Tolchel'nikova-Murri (1985).

In *Izv. GAO* No. 206 the method will be published as well as the criterion for estimating the efficiency of different programs, which is required to improve planning in astrometry.

References

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ON THE DEFINITION OF AN "INERTIAL COORDINATE SYSTEM"

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ABSTRACT. Astrometry is a branch of science which develops methods for the quantitative descriptions of places and time instants of astronomical events on the basis of observations of celestial bodies. For this purpose a theoretical coordinate system is introduced (*e.g.* equatorial α, δ). The aim of astrometry is to apply this system to the observed reference objects (stars, planets etc.) so that their coordinates $\alpha(t)$, $\delta(t)$ can be calculated according to the relations $\alpha(t) = f_1(P_k, t\text{-}t_o)$ and $\delta(t) = f_2(P_k, t\text{-}t_o)$ where P_k are parameters, t_o is the conventional time instant and t is the current time. In order to understand the term inertial coordinate system assume that the coordinates $\alpha(t_i)$, $\delta(t_i)$, i=1,2,...n are used for plotting the coordinate origins. If these coincide then the system is conventional-fixed and therefore inertial. Thus, the inertial coordinate system in astrometry is a conventional-fixed reference frame reproduced with the use of celestial bodies whose law of motion is known with sufficient accuracy.