THE NIKOLAEV AXIAL MERIDIAN CIRCLE: THE PRESENT AND FUTURE STATUS

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ABSTRACT. Some information on the construction of the AMC was given at IAU Colloquium 100 in Belgrade. The present paper reports the first results of trial observations of star right ascensions. At present the instrument is being prepared for semiautomatic absolute and relative night-time and day-time observations. The scheme of the instrument, principal units and calculations of their parameters are estimated and an observational programme is proposed.

The visual observations of 136 FK5 stars were accomplished on the AMC at Nikolaev in 1987. Mean error of one observations is $\pm 0^{s}.0175$ sec δ sec z. Now the second version of the instrument is erected for absolute observations. The construction of this instrument is represented in Fig. 1.

The AMC is equipped with eyepiece micrometeres installed on the telescope (*T*) and an autocollimator. The telescope (*T*) together with the pentag (*P*) can rotate around its optical axis for the possibility of star observation. The future systematic error of this AMC version will be less than $0''.05$. This version of AMC will be mounted on the mountain station. The observing program for AMC consists of radio stars, some FK5 stars, and minor planets for the determination of planetary orbits and the fundamental reference system.

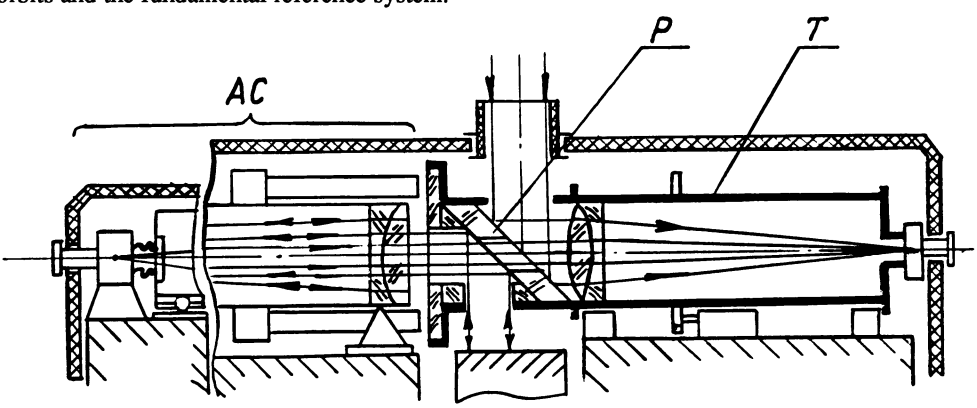

Figure 1. The Axial Meridian Circle.
AC: the immovable vacuum autocollimator (F = 12000 mm, D = 180 mm);
T: the telescope (F = 2500 mm, D = 180 mm); *P*: the titanium-glass pentag.

J. H. Lieske and V. K. Abalakin (eds.), Inertial Coordinate System on the Sky, 88.