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ABSTRACT BOOK

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Astrometry at the RTT150 Telescope within the International Framework of KSU (Russia), TUG (Turkey) and NAO (Ukraine)

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Contemporary astrometric projects expect for accurate position measurements for objects up to 20–22 magnitude. For ground-based observations it is possible to do with astrographs of 1 metre and more apertures with the accurate tracking at lengthy exposures and accurate timing. Much functional astronomical complex RTT150 implemented on the base of AZT-22 telescope (LOMO, 1995) is appropriate for such purposes. Special properties of the RTT150 computer control which ensure the necessary astrometric characteristics are presented in the paper. A possibility for the accurate tracking is recognized for telescope motion along the given trajectory which is successfully used for corrections of irregularities of the general gear and for compensation of the influence of differential refraction at great zenith distances. The computer control software have a comfortable user interface which allows to control the telescope both in interactive and automatic modes for a given list of objects. Astrometric properties of the RTT150 are confirmed by the results which have been obtained at the project for improvement of the link between optical and radio reference frames. Description of the observation programmes and methods is presented for new astrometric projects. In particular, such problems concerning the research of minor bodies of the Solar System are picked out, as determination and improvement of the orbit elements of the near-Earth objects, determination of the dynamical properties, including masses of the selected asteroids, both from the positional observations and observations of occultations of stars by the asteroids, and improvement of the orbit elements of the faint great planet satellites.