OBSERVATION OF THE SOLAR SYSTEM BODIES ON BOARD OF THE FUTURE RUSSIAN ASTROMETRIC SATELLITE

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Abstract

A future Russian astrometric satellite *Struve* is under design stage which is aimed at extension of the fundamental coordinate system down to 18-th magnitude stars. The accuracy of the output catalogue is planned to be better than 0.6 mas ($V = 14$) for positions and parallaxes and 0.2 mas per year for proper motions (using the first epoch of the Hipparcos program stars). One of the critical points of the project is linking the obtained coordinate system to the dynamical reference frame. The problem might be solved by observations of the Solar System bodies on board of the satellite. The telescopes of the satellite will be able to detect many of the Solar System bodies including asteroids and comets. Problems of registration and reduction of these observations are discussed. Results of computer simulatins are presented which show a possibility of real time recognitions of fast moving objects. Two types of detectors are discussed as a basic ones for the on-board telescopes: the CCD's and the microchannel plates. The former provides wider dynamic range and the latter allows to operate properly with moving objects. It is recommended both of them to be used in different focal planes.