

EROS — AUTOMATED SOFTWARE SYSTEM FOR EPHEMERIS CALCULATION AND ESTIMATION OF PROBABILITY DOMAIN

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This work is devoted to the description of the software EROS (Ephemeris Research and Observation Services), which is being developed both by the astronomy department of Ural Federal University and Tomsk State University. This software provides the ephemeris support for the positional observations. The most interesting feature of the software is an automatization of all the processes preparation for observations – from the determination of the night duration to the ephemeris calculation and forming of a program observation schedule. The accuracy of ephemeris calculation mostly depends on initial data precision that defined from errors of observations which used to determination of orbital elements. In the case if object has a small number of observations which spread at short arc of orbit there is a real necessity to calculate not only at nominal orbit but probability domain both. In this paper under review ephemeris we will be understand a field on the celestial sphere which calculated based on the probability domain. Our software EROS has a relevant functional for estimation of review ephemeris. This work contains description of software system and results of the program using.