



Modelling of tidal non-uniformity of rotation of the Earth

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In the work diurnal and quasydiurnal variations of axial rotation of the deformable Earth are investigated on the base of Euler-Louville third equation and results of the data of measurements inside of day. Daily variations of rate of axial rotation of the Earth are caused by luni-solar perturbations in the form of zonal tides (oceanic and solid-state).

The analysis of the equations of the constructed model allows to conclude about celestial-mechanical nature of diurnal variations of the Earth rotation for which expression of the gravitational momentum is defining. They will be observed and in the case of absence of obviously expressed harmonious structure of tensor of inertia.

On the basis of earlier developed mathematical model of intraannual non-uniformity of rotation of the Earth its specification in view of corrections on perturbations from zonal tides is fullfilled. The forecast of the correction in comparison with data of observations is resulted.