



Investigation of Tidal Gravity Results in Jozefoslaw Observatory

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In this paper we used 40 months (2007-2010) of continuous gravity measurements to study different tidal phenomena. The records are taken from Observatory in Jozefoslaw equipped with LaCoste&Romberg Earth Tide Gravimeter.

Tidal gravity parameters in diurnal and semi-diurnal bands are computed using international standard data processing techniques. Accuracy assessment, as well variation in time of those parameters are given. Long series of consistent data allows to investigate in small signals such as gravity changes due to ocean loading. Subtracting body tides from results yields a differences up to 1 microgal which are in good common with computed indirect effect of ocean using most recent models. It clearly explains main source of disagreement between results from measurements and tidal models, despite of long distance to nearest ocean.

Paper deals also with barometric pressure influence on gravity measurements. Importance of reducing pressure variation in tidal analysis is discussed and admittance factor is computed.