

**EARTH ORIENTATION PARAMETERS AND GRAVITY VARIATIONS  
DETERMINED FROM LAGEOS 1 AND LAGEOS 2 DATA FOR THE  
PERIOD 1984 – 2011**

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The laser ranging data of geodynamic satellites Lageos 1 from period April 1984 - December 2011 and Lageos 2 from period January 1993 - December 2011 are processed and analyzed. The processing of the observations is made by the latest version 4.2 of the program SLRP (Satellite Laser Ranging Processor), developed in the National Institute of Geophysics, Geodesy and Geography (NIGGG) at the Bulgarian Academy of Sciences (BAS). The SLR solution contains coordinates and velocities of the laser stations, Earth Orientation Parameters (EOP) and estimates of some Earth's dynamic and geometric parameters, such as: geogravitational constant; part of the Earth's geopotential coefficients; Love and Shida numbers; amplitudes and phases of the ocean tides; parameters connected with the satellites motion and laser observations modeling. The paper analyzes some of the important time series connected with the Earth orientation parameters (polar motion and Universal Time UT1) and gravity variations (the product of gravity constant  $G$  and Earth mass  $M$ , second harmonic  $J_2$  and third harmonic  $J_3$  of the Earth gravity potential), applicable in Geodetic and Geophysical research.