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EOP and low degree geopotential coefficients from SLR data

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The second-degree geopotential coefficients reflect the behaviour of the Earth's inertia tensor of order 2, describing in turn the main mass variations of our planet impacting EOP. SLR data from geodetic satellite constellation span now almost three decades; their reduction with refined data analysis procedures allows to estimate the low degree geopotential coefficients very accurately, in order to detect trends and periodic variations related to tidal effects and atmospheric/oceanic mass variations. In particular, the monthly C20 coefficients determined with SLR data can be correlated with the LOD determinations and the C21/S21 coefficients with the variations of the Earth's principal figure axis, in turn related to the pole motion.
Time and frequency analysis of the SLR estimated geopotential coefficients as well as of independently estimated EOP and related excitation functions will be presented.