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Nutation coefficients determined by the analysis of Lunar Laser Ranging data

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Lunar Laser Ranging (LLR) is carried out for more than 39 years. The complete data set is analysed and various parameters of the Earth-Moon system are determined by least squares adjustment. In the global LLR solution, it is also possible to fit for long-term lunisolar nutation coefficients of different periods (18.6 years, 9.3 years, 1 year, 182.6 days, 13.6 days). Using LLR data from 1970 to 2008, three studies related to nutation were conducted:
1. The nutation coefficients were calculated based on initial values for precession according to the IAU Resolution 2000 and compared with the MHB2000 model of Mathews et al. (2002).
2. The coefficients were determined based on initial values for precession according to the IAU Resolution 2006 and compared to the previous study and the MHB2000 model.
3. Determination of nutation coefficients using different time spans of LLR data, because of the inhomogeneous accuracy of the data.
In this paper, the results of the studies are discussed.