

AJISAI Spin Period Determination from Graz 2 kHz SLR Data

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The Satellite Laser Ranging (SLR) system in Graz, Austria, is operating with 2 kHz repetition rate since October 2003. The high data rate, together with the high accuracy of a few mm, allows to measure to - and to distinguish between - single Corner Cube Reflector panels of the Japanese satellite AJISAI. This unique capability allows to measure the spin period of AJISAI (~2 s) with an achievable accuracy of 50 micro-s. Such extremely accurate spin period measurements during the last 5 years allow - for the first time - identification of non-gravitational perturbations acting on the spin. Detailed knowledge of this phenomenon will also allow accurate prediction of time when the spin period of AJISAI is stable. This in turn can contribute significantly to the next generation laser time transfer via the mirrors on AJISAI.

This talk will present AJISAI spin period determination results and explain the analysis method.