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SESSION   Session 2: Performance evaluation

TYPE   Presentation

TITLE   The SLR observations to GNSS satellites with improved modelling: Preliminary results and open questions

ABSTRACT

In this study the results of the long-term processing of SLR observations to GNSS satellites (both for GPS and GLONASS satellites) will be presented, using the Bernese GNSS Software (SLR development version). The aim of the study is to investigate the associated SLR range biases, defined as the differences between: (a) the observed SLR ranges and (b) the computed spatial distances between the ground stations and the GNSS (precise) orbits. For both, i.e., station positions as well as satellite orbits, we used the latest products: SLRF2014 station positions and Center for Orbit Determination in Europe (CODE) reprocessed orbits applying the improved CODE orbit modelling. With this basis it is assumed that the SLR residuals are reduced compared to earlier investigations. The biases are estimated for the entire period of SLR processing, taking into account inter alia, the non-tidal loading corrections and the Atmospheric Ocean De-aliasing (AOD) effect. The results indicate different biases for the GPS and GLONASS satellites and show remarkable variability among the ground stations.