Global adjustment of geodetic and geodynamical parameters in the VLBI software VieVS

Hana Spicakova, Johannes Boehm, Tobias Nilsson, Lucia Plank, Kamil Teke, and Harald Schuh
TU Vienna, Institute of Geodesy and Geophysics, Vienna, Austria (hana@mars.hg.tuwien.ac.at)

The VLBI group at the Institute of Geodesy and Geophysics (TU Wien) has developed and released the first version of a new geodetic VLBI data analysis software called VieVS (Vienna VLBI Software). The software allows analysing the VLBI data with highly sophisticated computational approaches and it is arranged in a easy to handle user-friendly structure (see poster "Vienna VLBI Software VieVS – Version 1 released" by Plank et al.). One of the next upgrades is the implementation of a new module for parameter estimation by a so-called global adjustment, where the connection of the single sessions is done by stacking of the normal equations. The time varying parameters (such as Earth orientation or troposphere parameters) are always modelled by piecewise linear offsets at integer fractions of integer hours which simplifies the connection to the next session and easily allows combination in the sense of GGOS. We focus on the determination of time independent geodynamical parameters like the parameters of the solid Earth tides: Love and Shida numbers. Apart from the estimation of the constant nominal values of Love and Shida numbers for the second degree of the tidal potential, VieVS allows to determine frequency dependent values in the diurnal band together with the Free Core Nutation period. In this poster we show first results obtained from the 24-hour IVS R1 and R4 sessions covering 7 years.