



Hourly Earth rotation parameters and atmospheric angular momentum functions for CONT08

J. Boehm (1), D. Salstein (2), D. MacMillan (3), P. Steigenberger (4), M. Schindelegger (1), and H. Schuh (1)

(1) TU Vienna, Vienna, Austria (johannes.boehm@tuwien.ac.at), (2) AER, Lexington, U.S.A. (dsalstei@aer.com), (3) GSFC/NVI Inc., Greenbelt, U.S.A. (daniel.s.macmillan@nasa.gov), (4) TU Munich, Munich, Germany (steigenberger@bv.tu-muenchen.de)

The plan for the CONT08 campaign was to acquire state-of-the-art VLBI data over a continuous period of two weeks to demonstrate the potential accuracy which can be achieved by VLBI. CONT08 was designed also to support high-resolution Earth rotation studies. As the diurnal and sub-diurnal signals in the atmospheric excitation functions are relatively large in the northern hemisphere summer months, an observation period during August 2008 was chosen for this campaign. We compare high frequency (hourly) Earth Rotation Parameters (ERP) from VLBI and GPS observations during CONT08 with atmospheric angular momentum functions derived from hourly 4V data of the European Centre for Medium-Range Weather Forecasts (ECMWF) during that time span, which consist of the atmospheric model trajectory hourly states between 12-hour analyses. We will address the discrepancies seen between the theoretical models (ocean and atmospheric) and the observations at those frequencies. The previous CONT campaigns already allowed the study of high frequency ERP variations to some extent. With the 512 Mb/s VLBI recording rate and a network with larger geographical coverage, the sub-daily precision for CONT08 is expected to be better than for earlier CONT campaigns, thus clarifying even more the deviations from the ocean tide model and allowing for testing further theoretical models, such as the equatorial eccentricity.