Geophysical Research Abstracts
Vol. 15, EGU2013-8908, 2013
EGU General Assembly 2013

Co-location of space geodetics techniques in Space and on the ground

Jan Kodet (1), Christian Plötz (2), and Ulrich Schreiber (1)

(1) Technische Universität München, Forschungseinrichtung Satellitengeodäsie, Germany (kodet@fs.wettzell.de), (2) Bundesamt für Kartographie und Geodäsie, Geodätisches Observatorium Wettzell, Germany

The most demanding goal of the GGOS initiative is the definition of station positions to an accuracy of 1mm and the corresponding velocities to 0.1mm/year. The main remaining sources of error are caused by systematics, leading to intra- and inter- technique biases. To improve the accuracy of the geodetic techniques, new concepts for monitoring and controlling local ties and biases have to be implemented. We are developing a symmetric two-way measurement technique to identify unaccounted system delays within and between the instrumentation of the Geodetic Observatory Wettzell. Another activity is the mapping of GNSS satellites into the frame of the quasars using VLBI (Very Long Baseline Interferometry) telescope, in geodetic mode. This corresponds to a collocation of geodetic techniques in space. The receiver of the Wettzell 20m antenna has been modified to measure the GNSS L1 signal without changing the local ties. Preliminary experiments have been executed already.