# Analysis of the VLBI continuous observation session CONT17

The Very Long Baseline Interferometry (VLBI) is a crucial space geodetic technique to realize the Celestial Reference System (CRS), the Terrestrial Reference System (TRS), and Earth Orientation Parameters (EOP). Since it is an interferometric technique, it is essential to make observations with other stations through international cooperation.

Every three years, International VLBI Service for Geodesy and Astrometry (IVS) organizes an observation campaign of continuous VLBI sessions which is called CONT. The purpose of the CONT campaign is to acquire VLBI data over a continuous 15-day period and to demonstrate the highest accuracy of which the up-to-date VLBI technique is capable. The latest CONT campaign is called CONT17 (November 28 - December 12, 2017). CONT17 is different from previous CONT campaigns as the VGOS and VLBA networks will be included. VGOS is a new generation of VLBI systems, and VLBA is a regional but dense network in North America. Therefore, some meaningful impacts of the inclusion of these networks on the geodetic parameters can be expected.
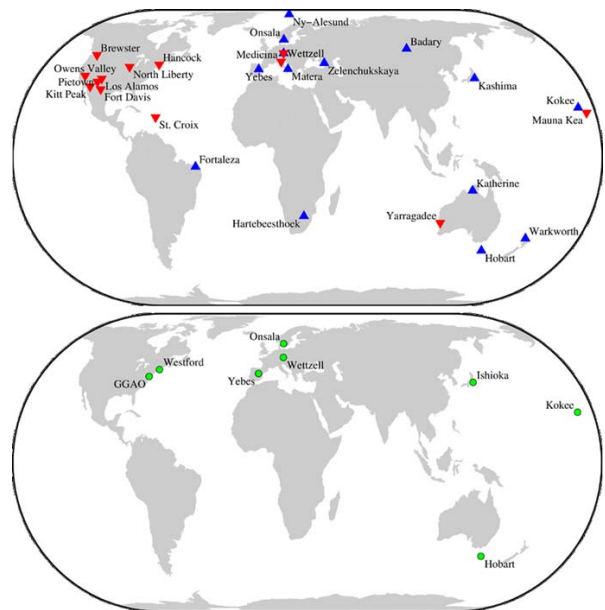
CONT17 participating network (Behrend et al. 2017). Top: 14 geodetic IVS stations (blue triangles) and 10 VLBA stations plus 3 geodetic IVS stations (red inverted triangles); bottom: 8 VGOS stations

Main tasks:

- Study of the current and the new VGOS VLBI system
- Analysis of VLBI data with the dedicated DGFI-TUM software DOGS-RI
- Processing of the CONT17 sessions and analysis of the estimated parameters using different network setups
- Assessment of precision and accuracy of the resulting parameters, e.g. station coordinates, quasar coordinates and Earth orientation parameters from CONT17
- Investigation of the impacts of the VGOS / VLBA networks on geodetic parameters

Institute	Deutsches Geodätisches Forschungsinstitut der TUM (DGFI-TUM)
Supervisors	Matthias Glomsda / Prof. Dr. Florian Seitz
Phone	089/23031-1292
Email:	matthias.glomsda@tum.de