

### 3.6.2.5 Geodetic Institute of the University of Bonn (GIUB)

**Introduction** The Geodetic Institute of the University of Bonn (GIUB) is a member of the German Forschungsgruppe Satellitengeodäsie (FGS) and contributes to its joint IERS Combination Research Centre together with the Deutsches Geodätisches Forschungsinstitut (DGFI). The activities of the two institutes are coordinated by regular working meetings of the two groups involved. GIUB maintains the office of the Analysis Coordinator of the International VLBI Service for Geodesy and Astrometry (IVS) regularly providing VLBI EOP results combined from inputs of up to six IVS Analysis Centres. The work of the CRC at GIUB is mainly concentrated on improvements of the combination technology contributing to both the IERS and the IVS combination efforts.

**Combination procedures** One of the topics covered in combination research effort is the extension of the stochastic model which is underlying the combination strategy. In the process of automatic combination the detection of outliers in the input data is of great importance in order to increase the reliability of the combined product. A method for checking the input data and eliminating outliers was developed and is now regularly applied in the combination process.

The use of ITRF2000 station coordinates as the basis for the combined series is the most recent step towards the generation of a consistent chain from the quasi-inertial frame of radio sources to a commonly accepted conventional terrestrial reference system. While the first combined series was referred to the IERS C04 series through constant biases, a new combined series is consistently linked to ITRF2000. This new series was first published on March 1st, 2002, and is now updated routinely.

Comparisons of the combined IVS series with EOP series of other techniques or combination products where other techniques play an important role have been carried out in order to get a realistic assessment of the quality of the current combination strategy.

**IVS Analysis Pilot Projects** Two IVS Analysis Pilot Projects have been initiated in order to study the effects of fixed reference frames and of software package dependent systematics. Several aspects of the combination process became clearer through these pilot projects and feedback has been given to the IVS Analysis Centres on the quality of their submissions.

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