

Accumulating intra-technique solutions from epoch normal equations

B. Meisel, D. Angermann, M. Krügel
Deutsches Geodätisches Forschungsinstitut

The accuracy of geodetic space techniques makes it possible to detect variations in station positions of a few millimetres. To achieve a terrestrial reference frame with the highest possible consistency, it is necessary to study and consider these effects. In this presentation we use the epoch (weekly/daily) data sets of SLR, DORIS, GPS and VLBI that are provided as the official ITRF2004 input, as well as some additional data sets for comparison. We compute intra-technique solutions by accumulating the epoch normal equations and compare the epoch data with these multi-year solutions. In this process it is important to introduce positions after discontinuities and to decide whether the velocities before and after such a discontinuity can be set equal. Other issues that are addressed include the estimation of weighting factors to achieve a realistic level of standard deviations and investigations related to the realisation of the geodetic datum.