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ITRS Combination Centre at DGFI: Strategy and first results of ITRF2013 analysis

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ITRF2013 will be generated from a combination of single-technique combined time series of station positions and Earth Orientation Parameters (EOP) submitted by the IERS Technique Centers (IGS, ILRS, IVS and IDS). In its function as an ITRS Combination Centre, DGFI will derive an ITRF2013 solution from a combination of the time series of the contributing space techniques GNSS, SLR, VLBI and DORIS. The general concept of the combination strategy used at DGFI is based on the combination of constraint-free normal equation systems, which have to be reconstructed from the input data. These input SINEX files contain either normal equations themselves (for VLBI) or solutions of constrained normal equation systems (for the other techniques). In order to enable the correct reconstruction of the constraint-free normal equation systems from the solutions, the SINEX files must contain - besides the solution itself - the weighted square sum of residuals, the a-posteriori variance factor, the variance-covariance matrix of the parameters computed from the constraints and the number of all parameters inclusive the reduced ones.

In this presentation we will give an overview about the combination strategy applied at DGFI and in this context we will focus on some specific issues related to the combination on the normal equation level. In the second part, we will present some first results of the ITRF2013 analysis. As a first step, it is necessary to verify the submitted input data and to reconstruct the unconstrained normal equations from the SINEX files. It is obvious, that the status of the ITRF2013 analysis strongly depends on the final schedule for the submission of the ITRF2013 input data, which is not fully clear yet.