Contribution ID: **9**   Type: **Oral Presentation**

Robust ambiguity estimation for automated analysis of Intensive sessions

Wednesday, 16 March 2016 11:25 (15 minutes)

Robust and automatic estimation of ambiguities is one of the main requirements for a fully automated analysis of Intensive sessions. We apply the L1-norm minimization to ambiguity estimation and ionosphere calibration using the c5++ analysis software. This study includes IVS Intensive sessions on the Kokee-Wettzell baseline from 2001 to 2015 where Version-1 database are accessible. Version-1 corresponds to correlation output meaning the ambiguity elimination and the ionosphere calibration need to be performed prior to parameter estimation. In total we use 1778 databases in this study. The analysis is done in two steps. First the session is processed in automatic mode to resolve the ambiguities and estimate the ionospheric delays. Then, we estimate UT1-UTC using the ionosphere-free databases. In standard c5++ both steps use the well-known least-squares optimization (L2-norm minimization) to fit the model to the observations. We introduce the L1-norm minimization into the first step and then estimate UT1-UTC using the least-squares method. The results are compared with databases analysed using least-squares in both steps. The performance differences are assessed by investigating the session fit and the respective UT1-UTC estimates. Further details can be found in [1].

[1] Kareinen et al. (2015), Robust ambiguity estimation for automated analysis of Intensive sessions, manuscript submitted to Computers & Geosciences.

Primary author: Mr KAREINEN, Niko (Chalmers University of Technology)

Co-authors: Prof. HAAS, Rüdiger (Chalmers University of Technology);   Dr HOBIGER, Thomas (Chalmers University of Technology)

Presenter: Mr KAREINEN, Niko (Chalmers University of Technology)

Session Classification: Oral4: Data structures and Analysis Strategies in the VGOS Era

Track Classification: 4: Data Structures and Analysis Strategies in the VGOS Era