Bundesamt für
Kartographie und Geodäsie

Report on the 4th EPN LAC Workshop, September 18-19 Graz, Austria

Heinz Habrich

Venue and Participants

- Venue:
  - Space Research Institute, Department Satellite Geodesy Austrian Academy of Sciences
  - Local organizers: Peter Pesec and Günter Stangl

- Participants
  - 28 participants
  - 13 nations
  - 14 of the 16 local analysis centers represented
  - Non LAC institutions, e.g., Technical University of Civil Engineering, Bucharest, Romania and University of Federal Armed Forces, Munich, Germany

Workshop Objective

- Review of the last 2 years work by reports of all contributors
- Discussion about the participation in current and future projects
- Improvement of processing strategy and options
- Examination of current and future direction of the EPN (development of a roadmap for the next 2 years)

Workshop Schedule

- Session 1: LACs reports
- Session 2: EPN special projects reports
- Session 3: Processing strategies
- Session 4: Discussion

» All contributions are available at the EPN-CB (pdf-files)

» The topics of the discussions, each summary and the resulting recommendations are available at the EPN-CB

Datum definition of the weekly EPN solutions

Recommendation 1:

- To fix the datum of the EPN solutions, as well as the individual LAC solutions, the minimal constraint approach is better than the fixed-station approach. Using the present version of Bernese, it is not be possible to apply this minimal constraint approach. This topic will be re-discussed when the next Bernese version will be released.

Combination of daily SINEX files

Recommendation 2:

- In order to evaluate the use of daily SINEX submission by the LACs, H. Habrich will invite the LACs to participate to a test campaign (~8 weeks).
- The final decision on the daily SINEX submission is delayed until the results of the test campaign are available and the datum definition of the sub-networks has improved.

ETRS time series

- Who is using the weekly ETRS89 solutions? Should we recommend a pre-transformation from ITRFxx to ITRF2000 before the transformation to ETRS89 to prevent the rotation in the ETRS89 which becomes visible since the usage of ITRF2000?

Recommendation 3:

- Discuss these topics it at the next meeting of the EUREF Technical Working Group.

EUREF contribution to ECGN

- How can the EPN improve the height component to better support ECGN, TIGA and ESEAS?

Recommendation 3:

- Contact the IERS Special Bureau for the Atmosphere and inform them about EUREFs interest for the modeling of the atmospheric loading.
- Other methods to improve the height component can only be implemented when using the Bernese V5.0.

Receiver/satellite PCV

Recommendation 5:

- Absolute receiver and satellite antenna PCVs will improve the EPN solutions. However, their implementation should be coordinated with the IGS and will therefore at least be postponed until the next IGS workshop in Berne, March 2004.

GLONASS observations

Recommendation 6:

- H. Habrich will invite the LACs to participate to some test computations adding GLONASS data to their sub-network solution.

Update of Analysis Options Table

- Should we allow solving for tropospheric gradients?

Recommendation 7.1:

- It is to soon now to know what to do. Better is to wait and gather experience with the new Bernese software version.

- Are there any alternatives to the weighting scheme that is presently used to create the EPN Combined Solution?

Recommendation 7.2:

- H. Habrich will look into how the IGS is doing the waiting and investigate whether it can be used for the EPN combination.

Update of Analysis Options Table cont.

- Should we introduce satellite dependent weights, e.g., the accuracy codes as given in the IGS orbits?

Recommendation 7.3:

- Presently, the use of satellite dependent weights needs further testing and should be re-discussed in the future.

- Should we reprocess the EPN?

Recommendation 7.4:

- Although a complete reprocessing of the EPN would improve the overall consistency of the time series, it is recommended to wait for a final decision on the absolute PCVs and the new Bernese V5.0, which will include new processing options that will improve the overall quality of the computations.

Update of Analysis Options Table cont.

- Should we use the radome-dependent receiver antenna calibration values that IGS issues into the EPN processing?

Recommendation 7.5:

- The EPN LACs that use software other than Bernese should test the radome-dependent calibration values and inform the Analysis Coordinator about this so that he can test for inconsistencies between the different solutions.

Proposal for LAC in Bucharest:

Recommendation 10:

- The proposal for a new LAC in Bucharest at FGB (Faculty of Geodesy Bucharest) was generally accepted. The plenum of the Workshop became convinced to favor the distribution of the EPN analysis to many European nations against the scientific aspect of a common solution. FGB will contact the EPN-CB if it is prepared to start with the analysis. After that, a sub-network will be designed.