Notes for the Fall 2016 ILRS ASC Meeting

Saturday, October 8, GFZ-Telegrafenberg, Potsdam, Germany, 9:00 – 17:00

OPERATIONAL PRODUCTS: STATUS REPORTS and FUTURE PLANS

ASI: A brief assessment of the standard products is presented: BKG and GRGS are not delivering the solutions since months, the 3D wrms of the coordinate residuals is higher for BKG,DGFI, ESA and GFZ in the last year, the GFZ scale has an offset w.r.t. the others. The LAGEOS and ETALON orbits are routinely delivered and the comparisons with the combined orbits are presented in terms of radial, cross-track, along-track differences.
The AC time series obtained with ITRF2014P as a priori reference frame were evaluated: ESA, GFZ need to make further checks for a few stations, most probably on the PSD model application, GRGS and JCET have noisy results for a few stations requiring the PSD model.

BKG: The BKG standard products are not delivered since months. New personnel has been recruited and will be in charge of the AC duties.

DGFI: The standard products probably have an issue on the looseness, the CC will check (ASI AI). The Etalon orbits are noisy, a check is required (DGFI AI).

ESA: 3 colleagues are coming into the group. Busy with the Galileo project, SLR is important for Galileo and the group is having more visibility. The number of stations included in the standard products is quite low; with the ITRF2014 implementation, all the stations will be considered in the analysis.

GFZ: the cause of the problem in the LOD estimation is still not clear. GFZ is leading the GGOS-sim group whose objective is the simulations of the geodetic ground network to help planning and coordinating the geodetic infrastructure.

GRGS: Serious computers problems stopped the GRGS production. The system crashed and no backup available. The AC is now almost ready to restart.

NSGF: LARES is now included in SATAN, good orbit fit. Otsubo spent 3 months at NSGF and some comparisons between C5++ and Satan were performed. The LOD determination issue seems to be solved.
Etalon CoM modeling, update tables under preparation, tables to be still prepared for LARES,

Starlette, Stella. Discussion on the difference between single photons and multi-photons stations when modeling the CoM. The issue should be addressed by the signal SC.
No further work done on the gravity estimation. ECP requested that a new table with the Starlette and LARES CoM corrections (available since two years) be prepared and released immediately.

JCET: comparison of the systematic errors PP series. Discussion on the representation of biases into SINEX for multi-wavelength sites. Preparation for adoption of ITRF2014, the new SLRF2014. The published tables of the IERS mean pole have different values for the same epoch, differences are not announced or documented, to be discussed with Bizouard.
Orbits: DGFI, GRGS, NSGF are missing the online documentation file.

SYSTEMATIC ERROR MONITORING PILOT PROJECT

- ASI presented the results of the combination of the available time series. The time series obtained with separate estimation for the 2 LAGEOS is similar to the one obtained estimating a unique bias for both. The separate estimation is preferable to avoid mixing errors above all in case of big systematics for one of the two. When compared with the standard solution, the scatter of the UP component time series is obviously larger and the overall wrms of the coordinate residuals is 1.5 mm higher. The effect on the EOP is negligible while the scale w.r.t. ITRF2008 is closer to zero.

- Discussion on the use of the time series. The estimation of systematic errors cannot be done for the standard products because estimating the biases for all the sites together with the coordinates weakens the official products. The 7-day estimation is a medium/long term monitoring and will be used essentially to update the data handling file.

- ESA, GRGS will submit the series within the end of October. BKG will be able to submit hopefully in January 2017 (AI). A new combination will be made after their submission.

ITRF2014 IMPLEMENTATION PLANS AT AC/CC

- Weekly products with ITRF2014 from November, official use planned for January 2017. Extension of the reanalysis to 2016/present and seamless transition to that mode of data analysis for all operational products (with ITRF2014/SLRF2014 as standard) planned after January 2017.

- Adoption of the official set of PSD "breaks" for all of the affected sites by all ACs. The PSD model is ok until the end of 2017. Update is foreseen for some stations, information will be given. In case of new earthquakes, the updated model will be delivered after one year from the event.

MAJOR TOPICS:

1. *Adoption and extension of other ancillary models (e.g. mean pole)* Issue of the mean pole available at IERS. The use of the fortran routine is safer since the time series is changing.

2. *Estimation of low-degree SH of the gravity field:* NSGF will be ready to have the low-degree SH in the SINEX file. To be planned at the next meeting.

3. *Inclusion of LARES as a 5th satellite in our operational product development:* postponed

4. *Revisit NT Atm. Loading & Gravity implementation as an internal PP (eventually to be used operationally):* postponed

5. *The Journal of Geodesy Special Issue* The authors will be contacted to update the abstracts, both contents and authors, by the end of the year. Other possible papers:
   a. biases from the engineering point of view.
   b. historical station networks: NASA, EUROLAS, WPLTN
   c. geodetic satellites

6. *DOI for the ILRS products?* It will be discussed at the ILRS CB.

Other topics, next meeting…
− **Next ASC meeting during the 2017 EGU, Saturday, April 22, 2017**