

Minutes of the 6th COL Working Group Meeting

27 May 2014 – Observatoire de Paris

Agenda

09:00 welcome
09:15 introduction
09:30 status on activities in the COL Analysis Centres
11:30 status on activities in the COL Combination Centres
12:30 *lunch*
14:00 discussion on combination procedures
15:00 discussion on present and future activities
15:30 discussion on continuity/renewal of the WG
16:00 summarizing actions and schedule
16:30 *end of meeting*

Chair

Richard Biancale

List of participants

Zuheir Altamimi, Arnaud Pollet, Myriam Zoulida (LAREG/IGN), Frank Lemoine (GSFC), Daniel Gambis, Jean-Yves Richard, Christian Bizouard (Observatoire de Paris), Laurent Soudarin (CLS), Richard Biancale, Jean-Michel Lemoine (CNES), Rolf Koenig (GFZ, from 2 pm per teleconference)

Minutes

1) Introduction and reminder of actions decided at the last meeting (R. Biancale)

The international attendance is limited (though very appreciated) due to diverse reasons so that the morning presentations and discussions are related to GSFC and GRGS activities. There has been no other progress mentioned of the work with respect to COL actions defined at the last meeting in 2013.

2) Activities in GRGS/GSFC/GFZ

GRGS has processed all 4 techniques homogeneously over 12 years with the GINS software. DORIS and GPS processing are part of the IDS and respectively IGS work for the ITRF2013 task (by CNES/CLS). SLR was treated separately from ILRS (by IMCCE) because of different modeling imposed. VLBI was processed in Observatoire de Bordeaux.

However a few differences remain such as:

- Second degree ionosphere correction is only applied in GNSS processing.

- A priori nutation correction parameters (X, Y in NRO) seem to be shifted by ~3 days (GINS bug). But this should have no impact if there are solved for. These a priori are nil for LLR (still to be corrected).
- ERP parameters are defined by independent biases at noon plus a drift per day for GNSS and by piece-wise linear biases at noon for the other techniques. That means that GNSS drifts cannot be combined and remain hence separate.
- Tropospheric gradient parameters per day are only present in GNSS and DORIS NEq.
- 7-days SLR NEqs contain additional pole parameters 12hr before and after the arc dates. They must be fixed in the resolution. The way to get rid of this problem is to use a 6hr pole file.

DYNAMO software scripts for the combination are now completed and in test phase. January 2009 is used as test period for combination. Preliminary results are to be found in the .ppt file put on the COL forum.

Z. Altamimi proposes to provide a report on different weighting methods based on optimal variance estimation.

F. Lemoine presents SLR/DORIS combinations. It appears a strong correlation between the overall Z translation of the DORIS network and ERPs. Frank recommends to solve for DORIS time biases when SLR data are available (e.g. TOPEX, Jason1).

R. Koenig mentions its intention to combine tracking data from LAGEOS, GPS constellation, CHAMP and GRACE.

D. Thaller has expressed per email that BKG is preparing a pre-combined GNSS-SLR solution in the ITRF2013 framework.

3) Future of COL

Besides their effort in producing a combined TRF in parallel to ITRF2013, GRGS, GSFC, BKG, DGFI have expressed their interest to pursue combination activities within the COL-WG.

It is proposed to simplify combination works to only satellite data (DORIS, GNSS, SLR) and to check the impact of multi-technique platforms such as Jason1/2, Envisat, Cryosat-2, when processing them directly at the level of observations, in addition to Lageos and GPS data as already defined. For that we will let circulate soon the COL standards plus the list of tracking stations as well as the space ties to be used.

It is agreed to treat the CONT11 3-weeks period (11 September-1 October 2011) for this new test with the following planning:

- Short teleconference end of September
- Delivery of orbit (in SP3 format) end of 2014
- COL intermediate meeting prior to AGU (December 13th)
- Delivery of EOP and TRF parameters mid 2015
- 7th COL meeting around May 2015