Minutes of the Fall 2010 AWG meeting **October 1, 2010**

Paris, France, 9:00 – 17:00

AC and CC Reports and summary of the evaluation and validation of ITRF2008 and ITRF2008D

- ASI – AC & CC (Luceri, Sciarretta)
  - Status of the activities as AC. A new multi-year solution is under construction
  - Comparison of the weekly ILRS-A time series with ITRF2008 and ITRF2008D. ITRF2008 shows a scale slope of about -0.2mm/yr; ITRF2008D shows a scale slope of less than -0.1 mm/yr
    ~3.7, 3.5, 7, 2.5 mm residuals for Tx, Ty, Tz, Scale for both ITRF2008 and ITRF2008D, 0.5mm decrease wrt SLRF2005 for the whole 1983-2008 period
    ~3.5, 3.3, 6.8, 2.2 mm residuals for Tx, Ty, Tz, Scale for both ITRF2008 and ITRF2008D, 0.2-0.5 mm decrease wrt SLRF2005 for the 1993-2008 period
- BKG (Mareyen, Thaller): encountered problems with the sudden EDC address change
- DGFI – AC & CC (H. Mueller)
  - Problem with the AC DGFI solutions, actually not delivered for combination. Bad performance both in sites and EOP. The problem arose when DGFI is the unique AC having a site (e.g. Concepcion), it is being investigated.
  - DGFI is not a backup CC anymore, Kelm retired and no one is in charge of combining ILRS solutions at DGFI†
    †NOTE: JCET has ported and runs the ILRS-B routinely and will take over that responsibility by the end of 2010.
- ESA: no representative of the AC
- GA: no representative of the AC
- GFZ (Vei):
  - Data reprocessing for Lageos-1 from 1983 using ITRF2008 and ITRF2008D; the rms was compared and is very similar, slightly better for ITRF2008D.
  - LOD problem in the weekly solutions starting from the beginning of January detected by ASI CC. Tests for new approach are now in progress.
- GRGS/OCA (Deleflie):
  - The solutions have a low degree of looseness and strong correlation between LOD and UT1. The problem is now solved and the correction will be implemented in the next solutions.
  - Not all stations are included in routine products, effort will be made for the inclusion of more stations.
  - Comparison of Helmert transformation parameters of the ILRS combined solution w.r.t. ITRF2005 and ITRF2008, reduction of biases and wmrs, up to 5 mm for some arcs, better stability for EOPs and coordinates. Two GRGS solutions were made using ITRF2005 and ITRF2008 and comparison of Lageos orbits
- JCET (Pavlis):
  - AC activities: ESA benchmark, station validation, CRD validation, ITRF2008 validation, etc.
  - Feedback from USNO on the daily product, good, stable results when some ACs are NOT contributing(!), not surprisingly, these coincide with those which have EOP problems.
  - JCET website updated: http://geodesy.jcet.umbc.edu/ILRS_QCQA/

— Site log book now available at CDDIS and SCH/SCI query engine online:
  - http://geodesy.jcet.umbc.edu/sch_sci_query/

• NSGF (Appleby):
— Ready to analyse CRD data

Data storage and archival at CDDIS and EDC
— Review of current structure and formulation of recommendation on proposed changes submitted by the ILRS CB (Pavlis)
  - Directory names to be the same between DCs
— Structure of the new EDC presented (H. Mueller). The files in the data center will be the same with those archived at CDDIS
  - Summary files are inside each data directory AND under the "summary" directories

AWG recommends that the files should be synchronized <u>except for daily files</u>.

Systematic Errors /Corrections/Edits & Discontinuities Files
— Data Handling & Discontinuities files: update from H. Mueller.
— San Fernando (7824) pressure rate (2006-2009) correction formulae from SF/OR (Pavlis)
— Biases: the AWG guidelines should be revised and homogeneous policy will be applied by the ACs. ACs will start working with ITRF2008 and, after experiencing ITRF2008, the new policy will be discussed. The combination process will combine the biases and deliver a separate sinex containing biases only.
Separate biases will be estimated for each satellite. New bias code must be devised (AI)
— Some bias issues reported from the GSFC SLR analysis of Jason data. It turns out the Data Handling file was not consulted thoroughly (Lemoine)

New/Returning station qualification process:
— JCET, DGFI and ASI are working on the process. More stations will need to be qualified in the near future. Status and first experiences, interaction of AWG and stations/network/OCs; the process is still in need of some better organization and documentation of the many process that usually run in parallel

New Products, modeling issues, New IERS Conventions (soon), etc.:
— Implementation of ITRF2008 for the routine AC&CC products from November 1st, 2010*

*** NOTE: this schedule changed upon the request from IERS to wait until the IERS C04 08 series (compatible with ITRF2008) are available. ACs should wait for an announcement when this change will go in effect (SOON!).**

— New modelling (atmospheric gravity and loading, new CoM etc.) to be tested by all until the end of the year and implemented starting from the next year. New re-analysis will start after a test period.
— ACs will start using the new CRD data format starting from January 15th.
— CoG offsets valid mostly for CURRENT network available at:
  - EXISTING CoG TABLE FOR LAGEOS 1 & 2: http://ilrs.gsfc.nasa.gov/stations/site_info/data_correction/nsgf_iCoM_LAGEOScorrections.html
  - NEW CoG TABLE FOR ETALON 1 & 2: http://ilrs.gsfc.nasa.gov/stations/site_info/data_correction/nsgf_iCoM_ETALONcorrections.html

- Time dependent CoG offsets for LAGEOS and ETALON are under development at NSGF and will be based on the information taken from the site logs of each station. When completed, it will be submitted to the AWG for testing and approval.

— Orbit files
  - ACs will start delivering orbits in SP3c format starting from November 1st; comparison and tests by the end of the year.

Other scheduling and modeling changes to the operational product:

— ACs should use as many stations as they can. NSGF and GRGS will work towards this goal.
— All ACs should in principle contribute to the daily. DGFI is ready, as soon as the LOD problem is fixed. Pavlis will contact GA and ESA to know if they are ready to contribute**.
— A different network can be used for the weekly and daily solutions, a smaller network for the daily removing the "poor" stations. ASI and JCET will work on this issue (AI). Change to be implemented with the new models.
— A discussion takes place on the opportunity of moving the weekly product to Sunday and the combination to Monday; practically the daily product made on Sunday should be named as weekly. Since a different timeline for the weekly product (e.g. after one month) is also under discussion, it is decided to leave the routine production as it is nowadays.
— Low-degree harmonics of the gravity field from SLR (degree/order 2). ACs already having this capability are asked to deliver test solutions to a specific directory on CDDIS (AI) in a compatible SINEX format.

(**NOTE: ESA already contributing at this time)

Review of the AI list

— Most old actions have been closed.
Pavlis presents the work done by Chrystof (AIUB) on the difference in the contents of the data files at EDC and CDDIS. The plots show the number of data at EDC, CDDIS and AIUB (merged) for some satellites. The data are not the same at the two data centers and often a smaller number at EDC. The relevant action item can be considered closed

JoG Special Issue:

A draft TOC was presented to the ILRS/GB and it was agreed to send it to the JoG Editor for approval before the announcement of the special issue and the issuing of a call for papers. Table of proposed "solicited" papers with suggested contributors to be mailed to AWG group and confirmation of these teams expected by the end of the year (AI).

Next meeting

–17th ILRS Int. Workshop, Bad Kötzting, Germany, **Saturday, May 14, 2011**

ACTION ITEMS:

1) Testing of atmospheric loading and gravitational variations to be done using the data over years 2008-2009. ECMWF files to be delivered for use in the test (ECP) and GRACE dealiasing products for the same period of time from GFZ (RK).
2) Setup of a test directory at the DCs for acceptance of low-degree SH test solutions (ECP)
3) Devise a new bias letter code (HM)
4) JCET and ASI will work on the selection of a stable sub-network for the DAILY series (ECP/CL)
5) Atmospheric modeling to be included in SATAN asap and AWG notified (GA)
6) Bernese s/w needs to have the estimation of low degree harmonics included (DT)
7) AWG to respond to CB/GB and DF&P WG on the proposed DC data archives organization (ECP).
8) AC/CC should anticipate the release of the new IERS Conventions 2010 and implement them in their s/w (DO NOT USE them until instructed to do so!!!)
9) Follow up the IGS discussion of ORBEX and report back to AWG (ECP).
10) Generation of time-sensitive CoG tables by station in preparation, based on the current tables and the spreadsheet of the distilled sitelogs for the entire network (GA).
11) The proposed TOC for the JoG Special Issue to be sent to AWG for acceptance of participation in the writing teams of the solicited papers. Once those are received, the TOC will be sent for approval to the JoG Editor (ECP)
12) Arrange the next meeting which will occur at Kötzting, Germany in conjunction with 17th ILW (ECP/USch)

CL – Cinzia Luceri
CS – Cecilia Sciarretta
DT – Daniela Thaller
ECP – E. C. Pavlis
FD – Florent Deleflie
GA – Graham Appleby
HM – Horst Müller
RK – Rolf König
USch – Ulli Schreiber

List of attendees, AWG @ Paris, Fall 2010 (Oct. 1)

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