

ILRS Data Formats and Procedures Working Group
Minutes
Meeting of 4 May 2009, 7:00-8:30 pm
TU Wien, Vienna, Austria

1. Introductions

- Noted that The Chair, Wolfgang Seemeuller was in the hospital. Best wishes from the group for a speedy recovery.
- Randy Ricklefs Chaired the meeting

2. Membership (new members)

- Adrian Jaeggi, AIUB/Zimmerwald
- Christian Schwatke, DGF/EDC
- Florent Deleflie, OCA

3. Refraction Study Group Report

- Nothing new.

4. Formats Report

a) CRD Implementation status

The conversion deadline is now June 30, 2010, after which all stations are expected to produce CRD files. For those stations not producing CRD files, CDDIS will, for a limited time, convert and distribute old-format normal points converted to CRD files.

25 stations are now submitting CRD-formatted normal points and are validated or are in the process of being validated, 5 stations are known to be in coding and testing, while 10 stations are unaccounted for. Most of the productive stations are being validated.

Six AWG analysis centers are known to be able to handle CRD data, with 5 helping with the validation chores.

About 7 stations are submitting CRD full rate data for T2L2 and 10 stations are submitting CRD full rate data for LRO. The LRO/LR SOC is working to produce CRD normal points.

There are still several data handling issues. All EDC OC's validated stations still need to provide normal points in CRD and old format, which is something that EDC is working on. The EDC is still sending in CRD normal points 2-3 days later than the old normal points, something they need to fix before full conversion to the CRD format can occur. However, both OCs are now sending bad CRD normal points back to the stations for correction before distribution.

b) Tracking Restrictions

Go/no-go flags for each of the lunar retro-reflector arrays has not yet been implemented. At

this late date in the LRO mission, they may not be. Since Metsovo, one SLR station has added go/no-go flag capabilities. There have been no other additional responses to repeated messages to the stations.

c) Consolidation of ILRS OC quality checks

It was agreed at the DFPWG meeting in Metsovo to harmonize CRD directory structure at EDC and CDDIS. This required a change at EDC, which has been done for both normal point and full rate data. It was agreed that all CRD daily files should contain only data from that day. This requires a change to CDDIS handling, which Carey is ready to do after first notifying users. Furthermore, most of the QC checks listed on the ILRS web site are being performed by both the NASA and EDC OCs.

d) Full rate data handling and transfer

After examining the current and potential amounts of full-rate data from the most prolific kHz ranging stations, it was clear that compressed files would file a few Cds/month at worst. Given the “hassle” of sending CDs or DVDs to the data centers, it was decided that ftp/scp transfers are more reasonable and will be the recommended method. Both EDC and CDDIS have enough capacity to handle all the expected full rate data. Carey Noll expects to be using a new compression scheme, bz2, for full-rate data to get away from the unix “compress” program. The next step is automating transfers of full rate data between the EDC and CDDIS on a daily basis. This is in progress.

e) Sample normal point program

To provide consistent data handling, it has been a goal of the DF&P WG charter to provide software for the ILRS members. There is a great deal of motivation to do this, and a long history of success, including the “distrib” program, CPF and CRD format checkers and read/write routines, and normal point QC programs. We are, however, now missing a “sample” normal point program. There was one in the past that was withdrawn for some reason. The question was, who can provide a program? Graham Appleby volunteered the old EUROLAS normal point program, still in use at a number of stations. Thanks, Graham! There were no suggestions of any other program which we still needed. The “distrib” program is the basis for for calibration programs.

f) Report from EDC

Christian Schwatke, who is working closely with Wolfgang at EDC, made a presentation on CRD issues. The on-line CRD checker will soon be moved to the main DGF1 web site. The checker now handles full rate data and has some multi-pass capabilities. There was a question as to whether all the satellite Ids needed to be checked. Julie Horvath noted that the NASA stations are not including a valid COSPAR ID as the stations don't have access to that ID and no one is known to use it. There was a reminder that the value “-1” should be used if a valid value is not provided.

From the discussion of another question, it may be necessary to insure that CRD headers H1 and H2 be with each pass in a multi-pass file from the stations despite the fact that this is allowed in the format and that one of the CD sample programs will add these lines. There were a number of other questions posed, which the group answered.

5. Quarantining of data from new and upgraded stations

Everyone seems to be ready to comply, but the criteria for quarantine seems to be in the hands of Georg Kirchner and the Networks working group. Carey Noll will be working with EDC to set up identical test directories at CDDIS and EDC for quarantined data. Concepcion data is being quarantined, due to the large station movement during the earthquake and the repairs to the mount thereafter.

6. Concepcion/TIGO SLR station recovery

Hermann Drewes described the effects of the earthquake in Chile and the quick recovery of the TIGO SLR station. The earthquake caused a displacement of about 3 m, which has grown by 1 cm/week. See the web page <http://www.sirgas.org/index.php?id=98&L=2> and download "L. Sánchez, W. Seemüller, H. Drewes (2010). [SIRGAS and the earthquake of February 27th, 2010 in Chile](#). Analysis Report. SIRGAS Analysis Centre at DGFI."

7. San Fernando Pressure measurement problems

Jorge Garate outlined a problem with the San Fernando pressure sensor, which started drifting around 2006, after regular calibrations ended. Using records from a near-by (20 km) calibrated barometer, a correction algorithm was developed. This has been forwarded to the AWG for analysts' use. At some point an SLRMail message will be sent describing the situation.

8. Other business, next meeting

The next meeting will be held at the same venue as the next GB meeting. Proposals were the REFRAG meeting in Paris in early October, AGU in San Francisco in December, or at the Laser Workshop if it's held in January.

Attendees:

Mark Torrence, GSFC
Jorge Garate, ROA
Christian Schwatke, DGFI
Hermann Drewes, DGFI
Julie Harvath, HTSI/NASA
Bart Clarke, HTSI/NASA
Graham Appleby, NERC/GSF
Erricos C. Pavlis, UMBC
Carey Noll, NASA/GSFC
Scott Wetzell, HTSI/NASA SLR
Randall Ricklefs, UT/CSR