

Network and Engineering Working Group Report

Meeting Thursday 14th November

Chair: G. Kirchner, Co-Chair: M. Wilkinson

The NEWG met at the 18th ILRS Workshop in Japan and we were able to discuss some ongoing topics and those that came up over the course of the Workshop. Below is a summary.

New station changes log

Randy Ricklefs has finalised the new station changes tracking format. This is a new file required from all stations and will replace the SCH and SCI formats. See here http://ilrs.gsfc.nasa.gov/network/site_procedures/configuration_files.html

The NEWG approved of the simplicity of the new format and felt that more stations would produce and update the file. It was asked whether all stations could be expected to keep this new file up to date. Georg suggested stations could be given 6 months to produce the file before being contacted directly. The new format does not provide much space for details and so is still a starting point for analysts to explain any jumps that coincide with these log entries.

Beam divergence measurement

It is now necessary for stations to know their laser energy density at satellite mission heights. During the workshop Ray Burris presented a new beam divergence measurement technique and this was discussed at the NEWG. Matt said that its advantage is that it is quick and straight forward and not too much of a burden on stations. Ray agreed to draft a procedure to go to stations and also volunteered to collect and process the results.

Envisat ILRS tracking

Georg argued that Envisat tracking should continue because it is a good target to demonstrate the capability of the SLR technique for monitoring debris objects, satellite dynamics and collision avoidance. Georg advised that at present stations should expect to track Envisat, due to retro target visibility, in the East of your station in the day and in the West at night.

ADS-B laser avoidance systems at SLR stations

A number of stations are experimenting with ADS-B aircraft tracking systems with encouraging results. The NEWG discussed a suggestion by Jorge del Pino to create a record of all occasions when stations takes measures to avoid aircraft, this should include radar detections also.

European Laser Time Transfer (ELT)

The ELT involves laser stations tracking the International Space Station. There will be safety requirements for all stations planning to take part and these are being drafted by the Transponders Working Group and could include software and hardware

changes. The NEWG will be able to feedback on this draft when it is made available.

Range bias

The issue of station range bias came up repeatedly over the course of the workshop and the NEWG will have to work with the Analysis Working Group, the ILRS Central Bureau and stations to make sure QC is properly performed, explanations are found for jumps in time series and problems with data are quickly identified and resolved. A 'clinic' focussed on such biases was suggested for a future workshop.