

Notes from the Prediction Study Group Meeting: October 3, 2005

Meeting started ~6:30pm.

1) HTSI is producing CPF predictions for all satellites but Moon and ICESAT. NERC is also. AIUB is producing GPS & GLONASS. CSR is producing ICESAT and Moon. Since February MLRS has been ranging using CPF much of the time. Zimmerwald has also since July. All but ~ 4 or 5 of the satellites have now been tracked using CPF.

2) Need to change (add to) format to indicate instantaneous vector (which is vector computed with same time at station and target). Also adding an ASCII name to header. Prediction groups can now add X-Y-Z of CoM to the header.

3) LLR & TLR will have to be handled differently than SLR since they cannot be computed from geocentric reference frame. Sample code will be for SLR but will at least have stubs for LLR & TLR.

4) Sample code for satellites is available from Werner and another set from Randy. There is a read & interpolate and also a format check program and a scheduling program. Do we hand it all out? How do we check it all out? Werner suggests giving stations the code and a writeup on it, so stations can modify the code or write their own if they want. Graham agrees and says he's using Werner's code for testing.

5) Study group suggested adding a short summary document to the large current instructions writeup. Werner suggests an SLR only document at first. RLR will post documentation on CDDIS and asks study group to review and edit.

6) Currently MLRS & Zimmerwald are getting the predictions mailed. Format of subject line is:

SUBJECT: ICESAT DAILY CPFS UTX

HTSI is asked to adopt this format for subject line. The filename convention is:

aaa_cpf_yymmdd[_n].bbb

where "aaa" is satellite
"yyymmdd" is date
"bbb" is center producing the predictions.

Julie says that GLONASS may become a problem if they get into the 100s. So it was decided to change the "aaa" field to be 10 characters with any unused characters being handled with underscores.

7) Currently many stations pick up predictions via ftp although some get mailed. And all ICESAT predictions get mailed. What are the plans for the future? Can the predictions

be mailed as attachments? (Later Werner indicated that the exploders can't handle attachments).

8) Mandatory header record for accuracy? Group decided it wasn't needed. This is difficult to produce for lower satellites (by the prediction centers) and it is really best to update the predictions as often as needed. Georg suggested picking up the latest set of predictions just before the pass.

9) Velocity field is not needed for SLR and neither is the INBOUND field. Only the outbound field will be generated by the prediction centers for SLR work, along with the angular offsets for point-behind. The required velocities are output from the interpolator.

10) Manuever message will not be needed, except as an alert to operators – CPF will handle this as a matter of course.

11) # days in each CPF file: 5. File must back up several hours (or at least 5 times the interval size) to allow interpolator to function.

12) The reference frame is ITRF (body fixed, True-of-date).

13) Predictions should be available on CDDIS & EDC shortly. Predictions centers will be required to produce CPF by end of year. Central Bureau will contact the prediction centers. New exploders will need to be generated for CPF mailings. Target date for station conversion: June 30, 2006. This date will be reviewed again in Vienna.

14) It was discussed if there should only be a single prediction center generating predictions for each satellite. The conclusion was “no” – we need backups, but that each satellite should have a primary prediction center – one that is considered the best provider of the predicts for that satellite.

Meeting ended ~ 7:36pm.