Software Task Priorities (In Play / In the Queue) - 9/10/07

Ken

- 1. SCM Reconciliation
- 1. Add code to clean up the power ripples, and the 8/32Hz noise for SCM (If not already done)
- 2. Tweaks for _dot0 and _0 for subspin resolution (for John tbd)
- 2. implementation of the removal of the spin-independent and -dependent offsets (for John)
- 3. Themis SCM CAL File Processing
- 4. Themis System Administrators Guide
- 6. Themis Developers Guide

Jim L.

- 1. vaf timing bug 8/23 to current. Reprocessing
- 1. Correct Spin period, Spin Plane, sun pulse data. Doc update. BugzID=29 (for Vassilis) L1 Products for June in QA Area. Inform Hannes and Krishan to look at.
- 1. Spin model does not capture slow drifts in spin rate. BugzID=46. In progress.
- 1. Spin Model L1 CDF. BugzID=29. In progress.
- 2. ESA Sweep Modes put into Moments L1 CDF. BugzID=42. (For Davin) Awaiting Scientist Review.
- 2. Modify lzp_wrapper and process_lzp_dir scripts. BugzID=49.
- 2. Clean-up current VC->L0 processing scripts temporary files. BugzID=50.
- 2. L0 to L1 processing: look ahead to the next packet before processing the current packet. BugzID=67
- 3. When FGM range changes in the middle of a packet. Post Proc maybe a solution to eliminate the spike. BugzID=44.
- 4. Unexpected transfer frames time matched packet time yet in the past. BugzID=38.
- 5. L1 File definitions Document. BugzID=xx.

Tim - tbd

Jim M.

- 1. Sort out Issues with SPDF L2 cdf's for ESA and SST and reprocess. Check out error message (thm cal fit).
- 1. Reprocess FGM and FBK and let SPDF know.
- 1. PB and WB
- 1. SS and FS issues (Vassilis email)
- 1. tdspike issues (email from Andreas)
- 2. MOM L2 CDF put Coord Systems into metadata
- 2. FIT/MOM (Onboard) in separate L2 cdf's GMOM's put into ESA files. (for Vassilis)
- 2. Sort out with Tim Interface Issues with production
- 2. Default for Load FIT and MOM to be L1 (for Davin)
- 2. High-pass filter function.(for Vassilis)
- 3. tsmooth2 needs to accept a time keyword (say, seconds) rather than # of points. (for Vassilis, Davin)
- 4. GUI Mods
 - a. thm_ui_config bug found by Davin
 - b. No dialogue box appears for save ascii, no file location in msg box
 - c. See email with history file ...231920 abort.
 - d. button for postscripts (for Stephen Mende)
 - e. Upper flatfile button (for Vassilis, work with Kate / UCLA Splash)
 - f. Add new coord transf options GSM2SM and SM2GSM into GUI

5. GUI Mods

- g. current plot window tell you which one (for UCLA)
- h. Save Ascii fix precision, add header (with Pat for UCLA)
- i. Label S/C Position button (GSE or GSN default) (for UCLA)
- j. De-Gap widget add units
- k. DP Delete or Overview Plot or Clear History warning message
- l. Long Variable Names truncated in IDL-D
- m. Lower flatfile button (for Vassilis / Chris Russell)

Pat

- 1. Tsyganenko model in IDL.
 - a.Write IDL wrapper routines to integrate IDL-Geopack into Themis Science Software BugzID=57. T89 completed.
 - b. Streamline adaptive stepsize trace routine to make it consistent with other IDL-Geopack routines (if necessary after code evaluation) On Hold. BugzID=77.
 - c. Provide option in IDL to input time as array and call dipole recalculation at user specified resolution. BugzID=78. In progress.
 - d. Write wrappers for the idl geopack field tracing routines, to increase simplicity of usage and add tplot compatibility. (BugzID=80). In progress.
- 2. Five probe overview for FGM (Tohban scripts) on the web. BugzID=70
- 3. boundary normal coordinates. To talk to Vassilis. BugzID=59.
- 4. Tplot auto scaling. BugzID=41.
- 4. invalid inputs to the version keyword

Bryan

- 1. Modify thm_load_state to load highest version file, no suffix BugzId=51.
- 1. thm_load_state phase I
 - a. hardcode (units = "km/s" or "km", or "deg")
 - b. finish "no_update" loading option (consult with Davin)
 - c. Finishing the coordinate transformation of the thm_load_state data at input, to include transformation of spinaxis attitude, need to determine keyword switch, implement the rotation of the spinaxis elevation/azimuth from gei to arbitrary coordinates (consult with Pat, Vassilis and Ken)
- 2. thm_load_state phase II (consult with Ken)
 - a. For STATE CDF files, the following variable attributes should be defined, consistent with they way they are defined in the L2 FGM file: units, coordinate_system (consult with Jim L.)
 - b. Once defined in the CDF, thm_load_state should take the values from the dlimits.cdf.vatt to set the metadata for the tplot variables: dlimits.data_att.units, dlimits.data_att.coord_sys
 - c. For thm_load_state, the suffix gets added to support data, but support data is not transformed: if you call thm_load_state, coord='gse', suffix='_gse', /get_support_data only the pos and vel get transformed, but all get the _gse suffix.
 - d. in thm_load_state, the code to delete support data that was loaded for coordinate transformation should be just del_data, '*_state_temp'
- 3. upgrade thm_load to work with probe assignments
- 4. make a b/w colormap for a single tplot panel.
- 5. move functionality of thm_load_state2 into thm_load_state and delete thm_load_state2
- 5. Shadow Indicator (for Vassilis using functionality in ...load_state2 and tplot roi)
- 6. Multiple enhancements concerning keywords, valid_names and thm_load routines

Davin

- 1. Fix Moments and SST cribs (if necessary)
- 2. Create Angular spectrograms

<u>UCLA</u>

- 1. Clean-up the power ripples from the FGM data.
- 2. Hannes add fgm cal files to the distribution.

Software Tasks (UnPrioritized / To Be Discussed (TBD))

- 1. TBD Software Repository Open to the Public
- 2. TBD Auto Loading Ancillary Data (e.g. State, State Support, Mag)
- 3. TBD Mini Language to operate on tplot variables