Software Task Priorities (In Play / In the Queue) - 11/26/07

Jim L.

1. Compress and Decompress routines for MOMs. BugzID=81
   11/26 ready for packets from Peter
1. Compress and Decompress routines for Fields. BugzID=81
1.. Interface with Pat to do IDL Geopack Testing on the Mac
1. L1 File definitions Document. BugzID=xx.
1. Help out with Compression Flatsat Testing
~~2a. Setup Themis Mac with IDL (11/13) and TDAS to prep for 12/9 presentation.~~
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. Provide Higher Cadence State Files
   Spinper and spin phase - double precision. BugzID=91
6. Non Monotonic timestamps. BugzID=72

Tim

~~1. SSR Stats bug investigation~~
1. Investigate retrieval of additional datasets from the Canadian (CARISMA) and Alaskan (GI) ground mag networks.
1. Five probe overview for ESA and SST (Tohban scripts) on the web. BugzID=70
   Awaiting Jim M. to complete his part.
1. Related Web Sites - updates (JAXA)
1. Co-ord with Pat to revise pointer for Geopack
2. Additional Ground Mag data from Alaska and Canada Network - processed into slightly different files.
3. Default for Load FIT and MOM to be L1 (for Davin)
3. High-pass filter function.(for Vassilis)
4. tsmooth2 needs to accept a time keyword (say, seconds) rather than # of points. (for Vassilis, Davin)

Jim M.

1. ESA old files Aug and Sept - SPDF
1. L2 ESA mis-placed labels
1. L2 ESA MOM's crib sheet
~~1. Mac not loading data for v3.00 bad time range (though GUI selects are okay)~~
1. Overview Plot changes - in progress
   a. use min value if zeros or lower than min value
   b. log for scale on FBK
   c. ylimits - float of SST/ESA energy spectra plots
   d. generic solution (keyword to optimize) ???
   e. autoscale Y range of SSTspectrograms to avoid the white spaces.
   f. mode bar seems thick
   g. what the near-blank black and panels above the colored FBK plots are?
1. ESA and SST Tohban plot prep for Tim
1. FIT/MOM (Onboard) in separate L2 cdf's
1. MOM L2 CDF and as part of task put Coord Systems into metadata
1.GMAG Stack Plots - In progress few more Spikes, limits changed, reprocess. BugzID=86
2. SVD-FIT instead of POLY-FIT - from Vladimir
3. Review Patches for CDF's to increase speed

Jim M. (Continued)

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. Upper flatfile button (for Vassilis, work with Kate / UCLA Splash)
    e. button for postscripts (for Stephen Mende)
    f. Add new coord transf options to SM, GSM and GEO into GUI
5. GUI Mods
    a. current plot window - tell you which one (for UCLA)
    b. Save Ascii - fix precision, add header (with Pat for UCLA)
    c Label S/C Position button (GSE or GSN - default) (for UCLA)
    d. De-Gap widget add units
    e. DP - Delete or Overview Plot or Clear History - warning message
    f. Long Variable Names truncated in IDL-D
    g. Lower flatfile button (for Vassilis / Chris Russell)

Pat

~~1. 5 probe overview bug issues~~
    ~~a. copying the new status bar code into the esa and sst Tohban plot code, because if this problem is showing up here it may effect those scripts too.~~
    ~~b. check units and correct data types are being loaded~~

1. Add the following routines to the distribution (bin1D.pro and bin2D.pro). Comments exist but some rudimentary comments to make it similar to distribution should be added (purpose, date, author etc).
1. wavepol.pro - add to distribution. This routine (vintage '96) will do polarization analysis in IDL. It will work with time in seconds since 1970 (not only cline time). Note, timeline and freqline are the two output X,Y axes and the rest are the Z axis values. Add a routine that will take a tplot variable and output tplot variables (called: twavepol).
1. IDL Geopack Testing. T96, T01 and T04. BugzID=87
    a. Coordinate Mac Testing by Jim Lewis
    b. Coordinate with Tim new ptr to Geopack v6.6
    c. Pri tbd - Power Mac testing v6.6
1. Fixing Tvector Rotate
    a. Matrix Interpolation done to insure Matrix does not rotate more than 180 degrees
    Discuss change in approach with Vassilis
    b. Quaternion interpolation in Tvector Rotate

~~1. Cotrans testing - implement use of Hannes's routine (Now indepemdent of Tvector Rotate~~ -

1. Ground Trac and tplotxy routines and to finalize crib sheet
cribsheet plots footprints and equatorial trac for 3/23 on probe 'C'.
2. New overview plot - summary of fields and moments and a crib sheet that shows people how to create spinresolution overviews (bgmom overviews - for Bfield and ground processed moments).
2. VMO Deliverables: data product description files
Step 1 - vet James We
Step 1 - fgm L2 cdf for one probe, Step 2 - fgm L2 cdf for all probes
2. "th?_fgs_sigma" and "th?_efs_sigma" to the FIT CDFs (L1) and this should make it to the L2 CDFs as well,
2. Mini language to operate on tplot variables - first provide concept writup
3. boundary normal coordinates. On Hold. BugzID=59.
4. Christine's code to rotate the XY coord's along Earth direction was very effective. Also it was used by others. We need to streamline it, and its very similar to the others you've already written.
4. Tplot auto scaling. BugzID=41.
4. invalid inputs to the version keyword
4. Clean-up of makepng and makegif

Bryan

1a. Create energy spectra using thm_part_moments (~~esa~~ and sst - full distribution)
1b. Create angular spectra using thm_part_moments (~~esa~~ and sst - full distribution)
1c. Create plotting routine for angular spectrograms (~~esa~~ and sst - full distribution)
1. Generalized for any mode
1. Software Version: 2_01, IDL Version: 6.2, In thm_cal_fit, line 338, the operator produces unmanaged error on good files. (from Vladimir)
1. Modify thm_load_state to load highest version file, no suffix BugzID=51.
thm_load issue from Ferdinand
2. 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)
3. 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'
   e. THC braid photoelectrons
4. upgrade thm_load to work with probe assignments
5. move functionality of thm_load_state2 into thm_load_state and delete thm_load_state2
6. Shadow Indicator (for Vassilis - using functionality in ...load_state2 and tplot roi)
7. Multiple enhancements concerning keywords, valid_names and thm_load routines

Ken

1. Themis SCM CAL File Processing - produce table of contents and assign sections with Patrick R.
2. Themis System Administrators Guide
3. Themis Developers Guide

Harald

1. Validate Tsygenko work from Pat

Christine

1. Correlation and dynamic correlation code: include these 2 rourines and make a wrapper that works with tplot variables (and possibly interpolation if necessary)

Vladimir

1. v3.00 error still there? Software Version: 2_01, IDL Version: 6.2, in thm_cal_fit, line 338
The operator produces unmanaged error on good files.
1. Magnetopause Coordinates
1. Zero order step to create pre-processed solar wind data
2. Shue MP routine

Thomas Moreau
1 Create IDL code to make an L1 ESA cdf.
2. Create IDL code to read L1 ESA cdf with the same functionality
as Jim McFadden's L0 code.

UCLA
1. Clean-up the power ripples from the FGM data. (Krishan)
Awaiting new programmer

Software Tasks To Be Discussed (TBD) / To Be Assigned (TBA)
1. TBA - Tweaks for _dot0 and _0 for subspin resolution (for John - tbd)
2. TBA - Implementation of the removal of the spin-independent and -dependent offsets (for John)
3. TBD - print, dprint, msg continue, verbose options for a standard
4. TBD - Mini Language to operate on tplot variables
5. TBD - Administrator's Guide
6. Hold - Themis E-Field Data (Forrest, John)

Monthly List of Updates
1.
2.
3.
4.