THEMIS Software Users,

The THEMIS Project announces the release of Version 5.20 of the THEMIS Science Data Analysis Software. Version 5.20 contains the following significant New Features and Enhancements to the THEMIS Command Line Software (are available in the GUI unless otherwise noted):

Version 5.20 of the THEMIS Science Data Analysis Software (Command Line):

- Themis load routines now limit the amount of data loaded according to the requested time range using either the timerange keyword or timespan routine. One day is no longer the minimum load request.
- A new routine has been added to load the themis pseudo AE index (thm_load_pseudoAE.pro).
  The program thm_cotrans now works on non-THEMIS data and will now detect the SM coordinate system from a tplot variable name.
- Added new data product that stores actual spacecraft mode (wave, particle, fast, slow), rather than requested spacecraft mode. Can be loaded with routine thm_load_scmode.
- Added routine to transform between GOES coordinate systems ENP (PEN) and GEI, or vice versa. Routine is enp_matrix_make, crib can be found in ssl_general/cotrans/special/enp/enp_crib.pro
- Improved time-smoothing algorithm to avoid over-resolution (i.e., interpolation to unrealistically small time resolution before smoothing).
- Time_clip.pro now better handles multi-dimensional tplot variables.
- thm_load_mom.pro DATATYPE keyword now works for Level 1 data requests.
- A new SSE (Selenocentric) coordinate system has been added to thm_cotrans. A crib can be found at themis/examples/thm_crib_slp_sse.pro.
- Enhancement for largely removing 2nd and 3rd spin harmonics from X_DSL & Y_DSL and largely removing 1st and 2nd spin harmonics from Z_DSL completed.

THEMIS Science Team