THEMIS Science Data Analysis Software Monthly Accomplishments – April 2008

THEMIS Science Data Analysis Software – TDAS (Bleeding Edge Distribution - post v3.02)
1. Users can now specify phi, theta, pitch, and gyrophase angle ranges for pitch and gyrophase spectra in THM_PART_GETSPEC. Users can also specify the second axis for the field aligned coordinate system with the OTHER_DIM keyword. Spectra can now be normalized to values between zero and one using the NORMALIZE keyword. The NOMASK keyword has been replaced with the MASK and BINS2MASK keywords, allowing users to specify which SST angle bins should be filled with NaNs in order to remove sun contamination from spectra plots.
2. Revisions and new features have been added to the Themis GUI Save Ascii and Postscript Options.
3. The EFI Calibration routine (thm_cal_efi.pro) now uses satellite-dependent calibration parameters and will now conditionally apply the correct gain for AC vs. DC coupled modes.

THEMIS Web
1. All 2006 ASI data are now completely processed for overview plots on the website as well as the keogram CDF-files that use full resolution data.
2. A button was added to the ASI webpage to allow users to directly select mosaics for display. Also for the mosaic display, users can now shift the selected time period by +/- 10 minutes.
3. A listing is now available through the THEMIS website detailing all of the ground magnetometer locations in geographic and magnetic latitude and longitude as well as UT of MagneticMidnight and MagDeclination. The direct link is: ftp://justice.ssl.berkeley.edu/events/magstations.txt
4. A new data inventory listing for ASI high resolution images was created and made available online at: http://themis.ssl.berkeley.edu/data_inventory/ground_data/asi/asi_highrate_files/asi_hirate_display.txt
5. All THEMIS publications are now available, linked via html and excel format by year under "Publications".

THEMIS Data Products
1. Keogram CDF files are completely up-to-date (mid-April 2008) with keograms from full-resolution data where available, otherwise low-resolution jpeg-based keograms.
2. ESA VMO file descriptions have been created for all 5 probes
3. Master L1 CDFs have been updated to conform to more stringent ISTP compliance checks.

THEMIS Science Data Processing
1. Another THEMIS data mirror site went online in Austria at the Space Research Institute in Graz. This brings to three the number of full data mirrors available world wide. The other 2 mirrors include CETP in France and ISAS in Japan. The Austrian site will be pulling the data from CETP. A fourth full data mirror is being planned for UCLA.
2. GBO magnetometer data is now also available at UCLA and the University of Alberta.
3. Periodic internet downloads of high resolution ASI data from the University of Calgary has begun. The periodic downloads are a way of filling in holes and acquiring quick access to special events.
4. The latest results of VC->L0 processing can be viewed at: http://themis.ssl.berkeley.edu/vc_check/list_latest.php
5. The full archive of VC->L0 processing results can be viewed at: http://themis.ssl.berkeley.edu/vc_check/
6. The VC->L0 and L0->L1 data has been reprocessed for the entire mission to incorporate the following:
   a) Previously undetected Reed-Solomon errors in 2007 L0 data repaired or removed
   b) All L1 probe data CDFs now comply with stricter ISTP compliance checks; fixed problems with missing or incorrect attributes that affected client-side calibration routines
   c) NaN-fill instead of 0 fill for missing spin fit data samples, for better consistency with software conventions
   d) Fixed 0.25 sec time offset in 2007 FGL data.