

THEMIS and ARTEMIS Science Data Analysis Software Monthly Accomplishments

October 2013

THEMIS and ARTEMIS Science Data Analysis Software (TDAS) - Post v8.0

The following enhancements were made to the THEMIS/ARTEMIS data analysis software:

- Support for the new ESA electron modes 0x0104, 0x0204, and 0x0304 has been added.
- Crib sheets in the themis/examples directory have been categorized as “basic”, “advanced”, and “experimental”, so that users can find examples appropriate for their experience level.
- Data processing operations that result in data being overwritten or deleted are now tracked better, in order to prevent multiple confirmation prompts when replaying saved THEMIS documents.
- A bug in makepng that was resulting in off-white backgrounds has been fixed.
- The GUI legend boxes now display “Out of range” rather than “NaN” for times outside the range of currently loaded data.
- The GUI now supports loading arbitrary data sets via the CDAWeb web services. Use the “Load Data using CDAWeb” selection from the File menu to access this capability.
- The GOES command line and GUI data loading routines now support GOES-8 through GOES-15, including the xrs, fgm, eps, maged, magpd, epead, and hepad data types at full, 1-minute, and 5-minute resolutions. GOES data is now being obtained from the netCDF files available at satdat.ngdc.noaa.gov. From the command line, use the `goes_load_data` procedure; from the GUI, use File->Load Data and select the GOES tab.

THEMIS and ARTEMIS Data Products

- The CDFs for the GIMA and CARISMA magnetometer networks have been reprocessed to reflect the correct PI information in the metadata.
- The GMAG exclude list has been updated after a long hiatus, and the THEMIS pseudo-AE index data has been reprocessed to account for the latest updates.
- FGM L2 CDFs have been reprocessed with updated calibration files, going back to the following dates: THA 2013-05-03, THB 2012-01-31, THC 2013-04-24, THD 2013-05-07, THE 2013-05-05
- All Sky Imager (ASI) products are available as follows:
 - a. Thumbnail cdf files and overview plots are available through 2013/09/30. Thumbnail movies are available through 2013/09/30.
 - b. Full resolution raw data is available and complete for 2007-2012. Full resolution CDFs are complete through 2013/04/30. Keograms are available and complete through 2013/09/30.
 - c. Web site - Mosaics are up to date and available through 2013/09/30.

THEMIS and ARTEMIS Web Sites and Tools

- An interactive data availability tool showing the status of THEMIS, RBSP, WIND, and GOES data is now available at http://themis.ssl.berkeley.edu/products_availability.shtml
- Menus and navigation on the web sites have been cleaned up and improved.
- An interactive instrument configuration history tool is now available at http://themis.ssl.berkeley.edu/configuration_history/
- Combined orbit plots for THEMIS and RBSP are now available.
- A trace showing the spacecraft potential has been added to the ESA electron spectra in the online summary plots.