THEMIS Science Data Analysis Software Monthly Accomplishments – June - July 2009
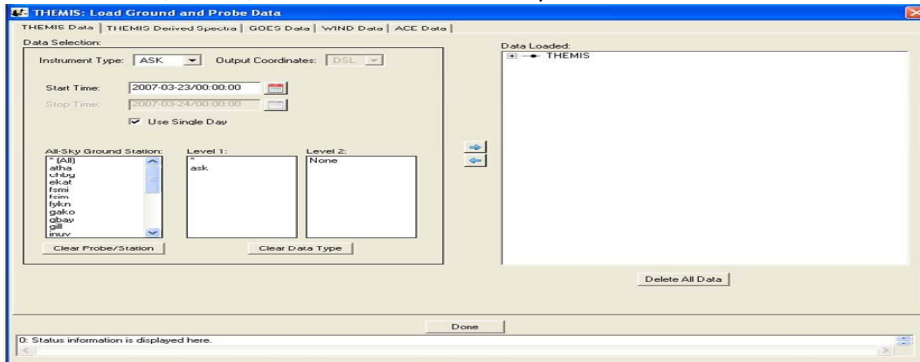
Presentations and Trainings
1. The THEMIS Science Data Analysis Software including the new Graphical User Interface (GUI) was presented to the GEM Conference held in Colorado during June 2009. Thirty people participated in the Training.

THEMIS Science Data Analysis Software (TDAS) - V5.1
1. Version 5.1 contains the following significant New Features and Enhancements to the THEMIS (GUI):
   - Two new Data Processing function windows:
     Interpolate - allows the user to control interpolation parameters
     Power Spectrum - allows the user to make selections for power spectral
   - Load Data options - New Tabs on the Load Ground and Probe Data Window for GOES, WIND, ACE data and Particle Spectra

   - Overview Plot Key provided
   - Save THEMIS document Replay feature -   - Preserves sequence of data processing functions within the document. The operations can be replayed the next time they run the GUI.

THEMIS Science Data Analysis Software (TDAS) - Post v5.1
1. The following enhancements have been made to the GUI: Improved and enhanced tick display on axes, addition of standard IDL functions and operators to the Calculate Window, landscape mode added to page options, widgets added to control marker title fonts/color/size Calculate and label and line colors are now synchronized.
2. A capability to flag time intervals when no sun pulse data is available due to shadows is now available. The routine spinmodel_get_info is now available to give users information about shadow periods and spin model start/stop times.
3. The thm_part_getspec routine can now handle cases when angle/energy ranges are set so narrow that no angle/energy bins are contained in those ranges.
4. The on-the-fly EFI DC offset subtraction now dynamically adjusts the smoothing window to handle data gaps.
5. A new CDF containing solar and lunar position/velocity/attitude. Data in GEI (true of date epoch) for dates between 2007-01-01 - 2025-12-31. It is loadable and downloadable with new load routine themis/state/thm_load_slp.
6. Olivier Le Contel's wavpol/twavpol code is now available. In addition a crib has been created to demonstrate how to use it with SCM data. It can be found in: ssl_general/science/wavpol/.

THEMIS Web
1. The Electric Field Instrument's (EFI) web pages have been enhanced. The following web pages have been added: Table of EFI Parameters, EFI Modes and Data Products, How to Select an Appropriate Data Type, Sources of Non-Ideal Instrument Performance and FAQ's.
2. Links from the ESA and MOM Data Descriptions to web pages describing the new ESA and MOM quality flags in the L2 cdf's.

THEMIS Data Products
1. The L2 ESA and MOM cdfs have been reprocessed to add new quality flags. These quality flags are described on the THEMIS web pages from their respective Data Descriptions web pages.
2. The ESA L2 files were also reprocessed to correct processing of 88X15 solar wind electron full mode.