

# THEMIS and ARTEMIS Science Data Analysis Software Monthly Accomplishments

## August - October, 2010

### THEMIS and ARTEMIS Science Data Analysis Software (TDAS) - Post v5.21

1. New calibration coefficients for SST on-board moments have been added.  
They now match ground computed moments within a few per cent.
2. Corrected ordering the output angle bins when angle="theta" was selected in thm\_part\_moments and thm\_part\_getspec.
3. The spin model code has been vectorized and should make load/calibration routines much faster.
4. Added a correction to eliminate spikes in ground psif/psef data when attenuator switches.
5. Added keywords to calc routine/mini language to perform automatic interpolation. Allows user to select interpolation target or will auto-select based on syntax.
6. Formatting of numbers with low precisions and small magnitudes in format\_annotation/slice\_2d has been fixed.
7. Artemis spin axes offsets updated.
8. Fixed thm\_spinfit, so that it is now possible to directly compare on-board spinfit EFS and FGS data with EFF and FGL that have been spin fit on the ground.
9. Upgraded the FIT calibration routine to account for the possibility that EFS data is spin-fit using e34, instead of e12.
10. Added the ability to load EFI data in physical units without spin-dependent offsets.

### THEMIS and ARTEMIS Web

1. Added plots of GOES data for 2007&2008 to THEMIS summary plots online.  
Can be accessed from <http://themis.ssl.berkeley.edu/summary.shtml?autoload=1>

### THEMIS and ARTEMIS Data Products

1. L2 FGM data were reprocessed from 2010-03-29 for new calibration data.
2. The Themis fine attitude determination for probes A, D and E has been updated until 2010, Jul 26.
3. V03 STATE 2010 data cdf's have been reprocessed for inner probes A, D, and E with latest spin attitude corrections.
4. ESA, SST and MOM L1 and L2 cdf's had the following updates:
  - a. fixed incorrect ESA solar wind mode flags and time tags
  - b. added variables with full 16-bit ESA and SST mode configuration words
5. L2 FBK and FFT cdf's were reprocessed due to the timing changes for the L1 FBK and FFT data.
6. All Sky Imager (ASI) products are available as follows:
  - a. L1 cdf's and Mosaics are up to date and available through 11/15/2010.
  - b. Thumbnail cdf files and overview plots are available through 10/31/2010.  
Thumbnail movies are available through 4/30/2010.
  - c. Full resolution raw data is available and complete for 2007-2009. 2010 complete through April 2010.  
Full resolution cdf's and keograms are available and complete for 2007-2009. 2010 complete through April 2010.
  - d. Web site Mosaics and Movies have been reprocessed for 2007/2008 and 2008/2009 seasons. They are up to date and available through April 2010.