

THEMIS Tips of the Month - March 2010  
THEMIS STATE cdfs

User Questions from: Alexander Sjögren

THEMIS responses from: Jim Lewis

User Question: Are there any differences between the L1 files  
(in other words the files = ending in \_v01, \_v02, and \_v03) for the state data?

THEMIS Response:

State V01: Uses predicted ephemeris; spin phase correction and spin axis RA/Dec correction variables are empty; produced immediately when incoming probe telemetry is processed.

State V02: Uses definitive ephemeris incorporating RF tracking data; no spin phase or spin axis RA/Dec corrections; produced about 2 weeks after V01 state, to allow tracking data to be collected and processed.

State V03: Definitive ephemeris; includes spin phase and spin axis RA/Dec corrections derived from FGM data near perigee passes. Produced several months after V02 state, to allow for processing of FGM data and comparison to field models to derive attitude corrections. Will eventually have complete mission coverage for inner probes A, D, and E. V03 state coverage for ARTEMIS probes (B and C) will cease after final Earth flybys, unless another method is invented to determine attitude corrections.

User Question: When THEMIS software compares the local (downloaded) data to the data online to see if there is an updated version, does it look for updated filename (increased version number) or does it check the date of the files? Or both?

THEMIS Response:

For L1 state: TDAS defaults to filename without version suffix -- the un-versioned file is maintained on the data server as a link to the highest currently available version.

For other data types: version suffix denotes incompatible changes to file format; TDAS load routines are hardwired with the correct version suffix compatible with that release of TDAS.

For all data types: Remote and local file timestamps are compared; remote files only downloaded to local data directory if remote file has a newer timestamp, or local file does not exist.