LIS/OTD Software Update – Release Notes

4 February 1999

These release notes document updates and bug fixes to the LIS/OTD User Software. The new software version number is 1.1. Please read these notes thoroughly before installing or using the LIS/OTD Software.

Installation:

Installation of the LIS/OTD software package is unchanged over the original (v1.0, 2 June 1998) release; please consult the full documentation for details. We strongly suggest that you preserve your v1.0 installation until you have installed and tested the v1.1 software.

Fixes:

- Support for the leap second on 1 January 1999 has been added to both the C and IDL software packages. The next leap second will probably be in July 2000, but has not been formally announced yet.
- Both C and IDL packages have been tested and updated for Y2K compatibility.
- Several minor software modifications have been made to facilitate installation on Solaris and Linux operating systems. Several users have successfully run the C package on these platforms, but they are still "officially" unsupported. The IDL software should, as before, be fully cross-platform compatible.
- Some users on Linux platforms report difficulty reading old OTD files with the C-language GetData() routine (the files should be loaded and automatically converted to new LIS-format structure variables). If you experience this problem, you can alternatively use the GetOTDData() and OTD_to_LIS() routines to achieve the same result. The calling interfaces for these routines may be found in the file liblisotd_readlis_readutils.c and liblisotd_readotd_readutils.c.
- The LISAPP IDL software has been updated to workaround a bug introduced by RSI in IDL for Irix 5.0.3 and higher. This bug is in their HDF Scientific Data Set input routines, and may affect other platforms as well. If you are experiencing difficulty with LISAPP in any module that uses or plots background images, the v1.1 software should fix the problem.

Usage Notes:

Viewtime Granules

Some users are confused by our implementation of OTD and LIS "viewtime granules". These are simply a discrete (gridded) way to describe the continuous OTD/LIS field-of-view polygons in (longitude,latitude,time). The granules are 0.5x0.5 degrees in spatial size and aligned along a *fixed* 0.5x0.5 degree grid. The duration of observation of for each granule is contained in the "effective_obs" field of the HDF, C or IDL viewtime granule data structure. This field may be shorter than the (end time – start time) for the granule because it has been scaled to account for sensor fields-of-view which only partially fill 0.5x.0.5 deg grid boxes (e.g., near the edges of the array).

Because the OTD and LIS sensors may occasionally experience brief "dropouts" in their observation of storms during an overpass (as their data buffers fill), there may be more than one viewtime granule for each fixed earth grid cell during a given orbit (the granules are "closed" when the sensor goes blind, and a new one "opened" when it begins viewing again). Since the data is broken up by orbits, these granules will nonetheless *always* correspond to the same storm overpass.

A visualization of OTD/LIS viewtime granules can be found in a separate PDF document being distributed with this release.

Questionable Navigation

The LIS HDF files contain questionable navigation during some spacecraft manuevers. The lightning data during these periods are also mislocated and may even be spurious since processing depends accurate navigation data. A method for correcting this problem is in the works. In the meantime, it is suggested that data during these periods not be used. A list of all known maneuver periods is included with this release.

Alert Flags

There are some instances where the detailed alert flags do not agree with the alert_summary flag in the LIS data. This issue is currently being investigated. Until it is resolved, we suggest that users be conservative in their analysis and consider either the detailed or summary flag to be indicative of a period worthy of more detailed examination.