



Spectral Container Project

Goal:

To store HST and other MAST spectral data in a standard FITS format using a consistent set of keywords following the recommendations adopted by the Virtual Observatory (VO) project.

Joint effort between MAST, CADC, and ESA



Spectral Container Features:

- Preserves primary header from original project-defined FITS files and stores wavelength, flux, error estimates, etc. in a 1-row binary table extension.
- New keywords added to extension header including derived values for min, max, and average flux, wavelength, time and errors, S/N, 98% flux level, etc.
- Keyword values queryable from a single Sybase database table.
- Metadata references described in online HTML files.
- Files available online and compatible with VO Spectral Data Model



Status

Registered Pre-V1.0 SSAP Services: FOS (previews), GHRS (previews), STIS (single order), IUE (low dispersion), FUSE, EUVE, HUT, HPOL, WUPPE, TUES, BEFS

Generated Files for V1.0 SSAP: FOS (new previews), GHRS (new previews), STIS (single order), IUE (low dispersion), FUSE (reprocessed data), HUT, WUPPE, TUES, & BEFS (Note V1.0 was adopted in Fall, 2007)

Registered V1.0 SSAP Service: FUSE

On-the-fly V1.0 SSAP Service: GALEX (files to be generated when requested, almost complete)



Further Work

Complete Metadata Collection & Documentation

Register Remaining V1.0 SSAP Services

Echelle Spectra: IUE and STIS files have been generated, but multi-order spectra are not yet supported by SSAP standard.

Time Series Data: No standard available, will be needed for missions such as Kepler.

Spectropolarimetric Data: No standard available, needed for WUPPE



Publications/Documentation:

IVOA Spectral Data Model

<http://www.ivoa.net/Documents/latest/SpectrumDM.html>.

Simple Spectral Access Protocol

<http://www.ivoa.net/Documents/latest/SSA.html>.

“A VO-Compatible Spectral Container for HST and other Missions” [poster presented at 2005 ADASS conference](#).

“Metadata for VO-Compatible Spectral Files in FITS Format” [2006 ADASS poster](#).

Online Keyword Definition Files

<http://archive.stsci.edu/vodocs>