

# Data Files Conventions (Discussion) May 2006

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# Metadata

- Why we are using the ISTP-compliance standard
  - [http://spdf.gsfc.nasa.gov/sp\\_use\\_of\\_cdf.html](http://spdf.gsfc.nasa.gov/sp_use_of_cdf.html)
  - Constitute minimum acceptable metadata standard
- Global Attributes
  - ["Project"](#) { "ISTP>International " - "Solar-Terrestrial Physics" }.
  - ["Source name"](#) { "GEOTAIL>Geomagnetic Tail" }.
  - ["Discipline"](#) { "Space Physics>Magnetospheric Science" }.
  - ["Data type"](#) { "K0>Key Parameter" }.
  - ["Descriptor"](#) { "EPI>Energetic Particles" - " and Ion Composition" }.
  - ["Data version"](#) { "1" }.
  - ["Logical file id"](#) { "GE\_K0\_EPI\_19920908\_V01" }.
  - ["PI name"](#) { "D. Williams" }.
  - ["PI affiliation"](#) { "JHU/APL" }.
  - ["TEXT"](#) { "reference to journal article, URL address" }.
  - ["Instrument type"](#) { "Magnetic Fields (space)" }.
  - ["Mission group"](#) { "Geotail" }.
  - ["Logical source"](#) { "GE\_K0\_EPI" }.
  - ["Logical source description"](#) { "Geotail Magnetic Field Key Parameters" }.

# More on the ISTP Standard

- Variable Attributes
  - "SW\_P\_Den"
  - "CATDESC" CDF\_CHAR { "Ion number density (Solar Wind " - "Analyzer), scalar" }
  - "DEPEND\_0" CDF\_CHAR { "Epoch" }
  - "DICT\_KEY" CDF\_CHAR { "density>ion\_number" }
  - "DISPLAY\_TYPE" CDF\_CHAR { "time\_series" }
  - "FIELDNAM" CDF\_CHAR { "Ion Number Density (CPI/SWA)" }
  - "FILLVAL" CDF\_REAL4 { -1.0e+31 }
  - "FORMAT" CDF\_CHAR { "f8.3" }
  - "LABLAXIS" CDF\_CHAR { "Ion N" }
  - "UNITS" CDF\_CHAR { "#/cc" }
  - "VALIDMIN" CDF\_REAL4 { 0.01 }
  - "VALIDMAX" CDF\_REAL4 { 1000.0 }
  - "VAR\_NOTES" CDF\_CHAR { "Assuming no helium (0.3 - several " - "hundred) if the density is less than " - "0.3/cc the higher moments (VEL,TEMP) " - "shall not be used because of the poor " - "counting statistics." }
  - "VAR\_TYPE" CDF\_CHAR { "data" }.

# Metadata Status for STEREO Data Products

- PLASTIC and IMPACT have both committed to providing ISTP-compliant CDF's for basic science products
- S/WAVES? Will there be higher level products? How will metadata be captured?
- SECCHI products? What kinds of metadata make sense?

# Mapping to SPASE

- Basis for VHO API
- “The SPASE data system is a model for scientific data systems. It is based on the latest web-based technologies and is designed to be a distributed data systems with a heterogenous mix of platforms and systems.”
- SPASE website: <http://www.igpp.ucla.edu/spase/>
- ACE Example:  
[http://www.srl.caltech.edu/ACE/ASC/SOAP/ASC\\_DataCatalog.xml](http://www.srl.caltech.edu/ACE/ASC/SOAP/ASC_DataCatalog.xml)
- Essentially, a dictionary for constructing search queries so that everyone is “talking the same language”
- Work ongoing to improve SPASE for particle data

# More on File Conventions

- [http://stereo-ssc.nascom.nasa.gov/intranet/software\\_telecon/2005-04-20/telecon\\_2005\\_04\\_20.txt](http://stereo-ssc.nascom.nasa.gov/intranet/software_telecon/2005-04-20/telecon_2005_04_20.txt)
- Do we want uniform file naming conventions?
- Standard convention doesn't really seem to work for IMPACT:  
STA\_L01\_PLASTIC\_20060420\_V02.CDF
- Need ability to reflect subproducts for IMPACT:  
STB\_L1\_SWEA\_DISB\_20061106\_V01.cdf