



# ISTP/IACG Global Attributes

Global attributes are used to provide information about the data set as an entity. Together with variables and variable attributes, the global attributes make the data correctly and independently usable by someone not connected with the instrument team, and hence, a good archive product. The global attributes are also used by the [CDAWeb](#) Display and Retrieval system.

The required Global Attributes are listed here with example values. Note that CDF attributes are case-sensitive and must **exactly** follow what is shown here. Additional Global attributes can be defined but **they must start with a letter and can otherwise contain letters, numbers and the underscore character (no other special characters allowed)**. See [Global Attribute Definitions](#) for the full set of defined Global Attributes.

ATTRIBUTE	EXAMPLE VALUE
<a href="#">"Project"</a>	{ "ISTP>International " - "Solar-Terrestrial Physics" }.
<a href="#">"Source_name"</a>	{ "GEOTAIL>Geomagnetic Tail" }.
<a href="#">"Discipline"</a>	{ "Space Physics>Magnetospheric Science" }.
<a href="#">"Data_type"</a>	{ "K0>Key Parameter" }.
<a href="#">"Descriptor"</a>	{ "EPI>Energetic Particles" - " and Ion Composition" }.
<a href="#">"Data_version"</a>	{ "1" }.
<a href="#">"Logical_file_id"</a>	{ "GE_K0_EPI_19920908_V01" }.
<a href="#">"PI_name"</a>	{ "D. Williams" }.
<a href="#">"PI_affiliation"</a>	{ "JHU/APL" }.
<a href="#">"TEXT"</a>	{ "reference to journal article, URL address" }.
<a href="#">"Instrument_type"</a>	{ "Magnetic Fields (space)" }.
<a href="#">"Mission_group"</a>	{ "Geotail" }.
<a href="#">"Logical_source"</a>	{ "GE_K0_EPI" }.
<a href="#">"Logical_source_description"</a>	{ "Geotail Magnetic Field Key Parameters" }.

## Global Attribute Definitions *in alphabetical order*

### Acknowledgement--- recommended

Text string at PI disposal allowing for information on expected acknowledgment if data is citable.

### ADID\_ref --- no longer relevant

This attribute stores the control authority identifier associated with the detached SFDU label. If no control authority identifier has been assigned, then the identifier associated with the ISTP/IACG Guidelines (NSSD0241) or with CDF (NSSD0110) can be used.

### Data\_type --- required

This attribute identifies the data type of the CDF data set. Both a long name and a short name are given. For ISTP exchangeable data products the values are "Kn>Key Parameter" for approximately minute averaged survey data, and "Hn>High Resolution data" for certified data of higher resolution than Key Parameters. \$n\$ can run from 0 to 9 to allow for more than one kind of data product. For Cluster/CSDS this can either be "SP>Summary Parameter" or "PP>Prime Parameter". Other possible data types may be defined in future. If any of these data sets are modified or used to produce derived products, the data type should be, *e.g.*, "Mn>Modified Data n", where n is from 0 to 9.

### **Data\_version --- required**

This attribute identifies the version of a particular CDF data file for a given date, *e.g.*, the file GE\_K0\_MGF\_19920923\_V01 is the first version of data for 1992 September 23. **Each time** this particular data file is reproduced - for recalibration or other reasons - the Data\_version is incremented by 1. Data\_version always starts at `1`.

### **Descriptor --- required**

This attribute identifies the name of the instrument or sensor that collected the data. Both a long name and a short name are given. An example for ISTP is "EPI>Energetic Particles and Ion Composition". The short name should be limited to from 2 to 4 characters for consistency with ISTP. This attribute should be single valued.

### **Discipline --- required**

This attribute describes both the science discipline and subdiscipline. More than one entry is allowed. The list for space physics is:

- "Space Physics>Magnetospheric Science"
- `Space Physics>Interplanetary Studies"
- `Space Physics>Ionospheric Science"

### **Generated\_by --- recommended**

This attribute allows for the generating data center/group to be identified.

### **Generation\_date --- recommended**

Date stamps the creation of the file using the syntax *yyyymmdd*, *e.g.*, "19920923". This is distinct from the date in "validate" below which records the times of later validation processes.

### **HTTP\_LINK --- recommended**

This attribute stores the URL for the PI or CoI web site holding on-line data. This attribute is used in conjunction with "LINK\_TEXT" and "LINK\_TITLE". There can be up to 5 entries for each - there **MUST** be a corresponding entry of "LINK\_TEXT" and "LINK\_TITLE" for each "HTTP\_LINK" entry. CDAWeb will then link to the URL given by "HTTP\_LINK" using the "LINK\_TITLE" and the description in "LINK\_TEXT", on the CDAWeb Data Explorer page. For example

- "LINK\_TEXT" = 3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at
- "LINK\_TITLE" = ISAS DARTS
- "HTTP\_LINK" = <http://www.darts.isas.ac.jp/spdb/index.html>

will give the following link:

3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at [ISAS DARTS](#)

### **Instrument\_type --- required**

This attribute is used to facilitate making choices of instrument type through [CDAWeb](#). More than one entry is allowed. The following list contains the valid values.

- Electric Fields (space)
- Ephemeris
- Imagers (space)
- Magnetic Fields (space)
- Particles (space)
- Plasma and Solar Wind
- Radio and Plasma Waves (space)
- Ground-Based HF-Radars
- Ground-Based Imagers
- Ground-Based Magnetometers, Riometers, Sounders
- Ground-Based VLF/ELF/ULF, Photometers

### **LINK\_TEXT --- recommended**

This attribute stores text describing on-line data available at PI or CoI web sites. This attribute is used in conjunction with "LINK\_TITLE" and "HTTP\_LINK". There can be up to 5 entries for each - there MUST be a corresponding entry of "LINK\_TITLE" and "HTTP\_LINK" for each "LINK\_TEXT" entry. CDAWeb will then link to the URL given by "HTTP\_LINK" using the "LINK\_TITLE" and the description in "LINK\_TEXT", on the CDAWeb Data Explorer page. For example,

- "LINK\_TEXT" = 3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at
- "LINK\_TITLE" = ISAS DARTS
- "HTTP\_LINK" = <http://www.darts.isas.ac.jp/spdb/index.html>

will give the following link:

3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at [ISAS DARTS](#)

### **LINK\_TITLE --- recommended**

This attribute stores the title of the web site holding on-line data available at PI or CoI web sites. This attribute is used in conjunction with "LINK\_TEXT" and "HTTP\_LINK". There can be up to 5 entries for each - there MUST be a corresponding entry of "LINK\_TEXT" and "HTTP\_LINK" for each "LINK\_TITLE" entry. CDAWeb will then link to the URL given by "HTTP\_LINK" using the "LINK\_TITLE" and the description in "LINK\_TEXT", on the CDAWeb Data Explorer page. For example

- "LINK\_TEXT" = 3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at
- "LINK\_TITLE" = ISAS DARTS
- "HTTP\_LINK" = <http://www.darts.isas.ac.jp/spdb/index.html>

will give the following link:

3-sec MGF magnetic field 1 Sep 1993 through 30 Sep 1997 available at [ISAS DARTS](#)

### **Logical\_file\_id --- required**

This attribute stores the name of the CDF file using the ISTP naming convention (source\_name / data\_type / descriptor / date / data\_version), *e.g.*, GE\_K0\_MGF\_19920923\_V01. This attribute is required (1) to allow storage of the full name on IBM PCs, and (2) to avoid loss of the original source in the case of accidental (or intentional) renaming. For CDFs created on the ISTP CDHF, the correct Logical\_file\_id will be filled in by an ICSS support routine.

### **Logical\_source --- required**

This attribute carries source\_name, data\_type, and descriptor information. Used by [CDAWeb](#).

### **Logical\_source\_description --- required**

This attribute writes out the full words associated with the encrypted Logical\_source above, *e.g.*, "Geotail Magnetic Field Key Parameters". Used by [CDAWeb](#).

### **Mission\_group --- required**

This attribute has a single value and is used to facilitate making choices of source through [CDAWeb](#). Valid values include (but are not restricted to) :

- Geotail
- IMP8
- Wind
- Geosynchronous Investigations
- Ground-Based Investigations

### **MODS --- recommended**

This attribute is an NSSDC standard global attribute which is used to denote the history of modifications made to the CDF data set. The MODS attribute should contain a description of all significant changes to the data set. This attribute is not directly tied to Data\_version, but each version produced will contain the relevant modifications. This attribute can have as many entries as necessary to contain the desired information.

### **Parents --- optional**

This attribute lists the parent CDF(S) for files of derived and merged data sets. Subsequent entry values are used for multiple parents. The syntax for a CDF parent would be *e.g.* "CDF>logical\_file\_id".

## **PI\_affiliation --- required**

This attribute value should include a recognizable abbreviation.

## **PI\_name --- required**

This attribute value should include first initial and last name.

## **Project --- required**

This attribute identifies the name of the project and indicates ownership. For ISTP missions and investigations, the value used is "ISTP>International Solar-Terrestrial Physics". For the Cluster mission, the value is "STSP Cluster>Solar Terrestrial Science Programmes, Cluster". Other acceptable values are "IACG>Inter-Agency Consultative Group", "CDAWxx>Coordinated Data Analysis Workshop xx", "SPDS>Space Physics Data System", and "NSSDC>National Space Science Data Center Archived Data". Others may be defined in future. This attribute can be multi-valued if the data has been supplied to more than one project.

## **Rules\_of\_use --- recommended**

Text containing information on, {\it e.g.} citability and PI access restrictions. This may point to a World Wide Web page specifying the rules of use.

## **Skeleton\_version --- optional**

This is a text attribute containing the skeleton file version number. This is a required attribute for Cluster, but for IACG purposes it exists if experimenters want to track it.

## **Software\_version --- optional**

This is a required attribute for Cluster, but for IACG purposes it exists if experimenters want to track it.

## **Source\_name --- required**

This attribute identifies the mission or investigation that contains the sensors. For ISTP, this is the mission name for spacecraft missions or the investigation name for ground-based or theory investigations. Both a long name and a short name are provided. This attribute should be single valued. Examples:

- "GEOTAIL>Geomagnetic Tail"
- "WIND>Wind Interplanetary Plasma Laboratory"
- "DARN>Dual Auroral Radar Network"
- "GOES\_7>Geostationary Operational Environmental Satellite 7"
- "IMP-8>Interplanetary Monitoring Platform"
- "LANL1989\_046>Los Alamos National Laboratory 1989"
- "C1>Cluster Satellite No 1".

## **TEXT --- required**

This attribute is an NSSDC standard global attribute which is a text description of the experiment whose data is included in the CDF. A reference to a journal article(s) or to a World Wide Web page describing the experiment is essential, and constitutes the minimum requirement. A written description of the data set is also desirable. This attribute can have as many entries as necessary to contain the desired information.

### **Time\_resolution --- recommended**

specifies time resolution of the file, *e.g.*, "3 seconds".

### **TITLE --- optional**

This attribute is an NSSDC standard global attribute which is a title for the data set, *e.g.*, " Geotail EPIC Key Parameters".

### **Validate --- optional**

Details to be specified. This attribute is written by software for automatic validation of features such as the structure of the CDF file on a simple pass/fail criterion. The software will test that all expected attributes are present and, where possible, have reasonable values. The syntax is likely to be of the form "test>result>where-done>date". It is not the same as data validation.

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[\\* Return to ISTP/IACG Guidelines](#)

[\\* Return to Space Physics Use of CDF](#)

[\\*CDF home page](#)

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