IRTF Data Archive
Group Label Reference Document for SpeX and iSHELL

Filename: IDA-0012_IDA_glbl_Reference_v090.odt
Version: 0.90
Modified Date: 2016-08-11

NASA Infrared Telescope Facility
Institute for Astronomy
University of Hawaii

Revision History

Revision No.	Description of Revision	Date

1. Purpose

The IRTF Data Archive (IDA) data products are jointly developed by the Infrared Processing and Analysis Center (IPAC) located in Pasadena, California, and the Infrared Telescope Facility (IRTF) located on Manuakea, Hawaii. This document is the specification for the IRTF Data Archive (IDA) .glbl label file.

2. Introduction

The IRTF instruments SpeX and iSHELL produce FITS image files to be archive at IPAC These files are logically grouped together into observation groups. These observation groups are the basic unit when searching and retrieving data from the archive. The IRTF will produce a .glbl label file containing the necessary information to build the data archive search and retrieval web pages based on these observation groups. This document provides the specification for the .glbl files.

3. Label File Format

The .glbl label files are text files.
The file name will consist of the name for the observation group identified by the GROUP_ID keyword, and the ".glbl" extension, ie:

GROUP_ID	sbd_20160322_190000
GROUP LABLE FILENAME:	sbd_20160322_190000.glbl

- Any line beginning with '#' in the 1st column are comments.
- Each line contains a keyword, and its value.
- The keyword is the 1st token on the line. Spaces separated the keyword and values.
- The remaining tokens on the line are the values.

An example of some .glbl entries:

```
#
# This is a comment
#
PUBLIC_DATE 2017-02-01
GROUP_ID    sbg_20160322_190000
```

4. Keyword Reference

The keyword reference table describes the keywords in the label file. The column headers are :

KEYWORD – key of the key,value pair
EXAMPLE – an example value
TYPE – data type for the value. Range is: char, float, double, integer

- Char - character strings. The max number of char in indicated in the parentheses. String value matches should be case insensitive.
- Float – a single-precision floating point value.
- Double – a double-precision floating point value.
- Int – int32 signed integer.

DESCRIPTION – provides addition information such as unit, range, etc.

There is no explicit order for the keywords in the label file. They are grouped in this document for clarity.

Target identification and search parameter keywords

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
GROUP_ID	sbg_20160322_190000	char(20)	Group ID to represent an observation (a set of FITS files) described by the .glbl file. The group ID value consists of INST_ID + UTC_DATE + UTC_TIME of first image in the group.
PUBIC_DATE	2017-02-01	char(10)	UTC Date when the FITS images are to be made public
PROGRAM_ID	2016A999	char(10)	IRTF Program ID. Each IRTF observing program is assigned a program ID for identification. The program ID format is YYYYSNNN. • YYYY – The year. • S – Semester in the year. Value is 'A' or 'B' • NNN – A program number, ie: 001, 002, etc.
RA	00:07:58.00	char(12)	ICRF RA of the TCS last slew to destination. Units are HH:MM:SS.SS. Value is calculated from the LS_* catalog data in the FITS header and represents the RA search position for the GROUP_ID.
DEC	-00:39:58.0	char(12)	ICRF RA of the TCS last slew to destination. Units are DD:MM:SS.SS. Value is calculated from the LS_* catalog data in the FITS header and represents the DEC search position for this GROUP_ID.
DATE	2016-03-22	char (10)	UTC date of observation. From the FITS header keyword DATE_OBS.
TIME_BEG	19:00:00	char (8)	UTC time of the 1st observation. From the FITS TIME_OBS keyword.
TIME_END	19:04:00	char(8)	UTC time the observation ended. From the FITS TIME_OBS+ELAPTIME keyword.
NAME	Mercury	char(40)	Name of the object observed as recorded in the FITS header. From the LS_NAME keyword from the FITS header.
AIRMASS	1.25	float	The mean airmass from the during the observation caculated rom the AIRMASS FITS keyword.
NAIF_ID	199	char(15)	Identifies the solar system object using the NAIF ID value. If the value field is NULL, then no solar system ID is available. IRTF will look up the NAIF_ID using the LS_NAME in the FITS Header.
DATATYPE	Target	char(15)	Indicated the type of object being observed. Values can be: target – a science target standard – a standard object calibration – a calibration frame (dark, lamps, etc)l Value from the FITS DATATYPE keyword. Could be corrected by the IRTF pipeline.
OPTICAL_DEPTH	0.052	float	An optical depth measurement using the TAU 225GHz sensor on Maunakea. From the FITS keyword TAU225. Value of -99 indicate “No Data”
SEEING	0.526	float	A seeing measurement from the Maunakea Differential Image Motion Monitor (DIMM) instrument. Units in arcseconds From IRTF databases. Value of -99 indicate “No Data”.
LUN_LIGHT	dark	char(8)	The lunar light level based on the lunar elevation, and fraction of illumination values from JPH Horizon. Values are: dark = TBD gray = TBD bright =TBD
LUN_SEP	10.0	float	The lunar separation in degrees. Lunar position from JPL Horizons.
SKY_TRANS	photometric	char(12)	A sky transparency evaluation based on a cloud coverage sensor on Manuakea call the ASIVA camera. Values are: photometric, cirrus, cloudy, unknown.

Instrument Setup

The INST_ID keyword identifies the instrument used for the observation. Each instrument has a unique set of keywords to describe its configuration. Each instrument set is described below. The values for the INST_ID are:

- sbd – SpeX Spectrograph, aka Bigdog.
- sgd – SpeX Imager/Guider, aka Guidedog.
- icm - ISHELL Spectrograph, aka Cartman.

- ??? - ISHELL Imager/Guider, aka Kyle.

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
INST_ID	sbg	Char(6)	This section describes the SpeX Bigdog INST_ID keywords
GRAT	ShortXD	char(12)	Position of the grating wheel: Values are: ShortXD, Prism, LXD_long, LXD_short, SO_long, SO_short
SLIT	Open	char(10)	Position of the slit wheel. Value are: Open, Mirror, 0.3x15, 0.5x15, 0.8x15, 1.6x15, 3.0x15, 0.3x60, 0.5x60, 0.8x60, 1.6x60, 3.0x60
OSF	Open	char(10)	OSF wheel position. The OSF is common to both sbd and sgd INSTR_ID. Values are: Open, PK_50, SP_2.5, 0.1xSTOP, Long4, Long5, Long6, Short3, Short4, Short5, Short6, Short7, CH4_s, CH4_l, Blank.

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
INST_ID	sgd	char(6)	This section describes the SpeX Guidedog INST_ID keywords
GFLT	Open	char(12)	Position of the guider filter: Values are: Open, Z, J, H, K, L', 5.1, FeII, H2, Bry, contK, CO+ND2, H+K, 3.417, ZYJHK.
OSF	Open	char(10)	OSF wheel position. The OSF is common to both sbd, and sgd INSTR_ID. Values are: Open, PK_50, SP_2.5, 0.1xSTOP, Long4, Long5, Long6, Short3, Short4, Short5, Short6, Short7, CH4_s, CH4_l, Blank.

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
INST_ID	icm	char(6)	This section describes the ISHELL Spectrograph INST_ID keywords

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
INST_ID	???	char(6)	This section describes the ISHELL Imager/Guider INST_ID keywords

Associated File, Groups, and other keywords

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
TARGET_INFO	sbd_20160322_190500_target.txt sbd_20160322_190500_target.png	char(32)	Identifies the target info quick look product. They provide additional information on the observed target, and are viewed when the archive user selects the [T] button on the web results page. The value field may contain the .txt and/or .png.
PROGRAM_INFO	program_2016B001.txt	char(25)	Identify the program information data product. This .txt file provides basic information about the observing program. It is viewed when the archive user selects the [P] button on the web results page. This data product is also an optional download when requesting the FITS images.
WEATHER_INFO	weather_20160322.txt weather_20160322.png	char(25)	Identifies the weather info quick look information. They provide additional information on the weather conditions during the program observing time, and are viewed when the archive user selects the [W] button on the web results page. The value field may contain the .txt and/or .png.

KEYWORD	EXAMPLE	TYPE	DESCRIPTION
QUALITY_INFO	sbd_20160322_190500_QA.txt sbd_20160322_190500_QA.png	char(32)	Identifies the quality assessment info quick look information. They provides additional information on the quality of the data observed, and are viewed when the archive user selects the [Q] button on the web results page. The value field may contain the .txt and/or .png.
IELOG_FILE	ielog_20160322.zip	char(25)	Identifies the ielog data product associated with the observation. This .zip file contains logs from the telescope control system and instruments during the UTC date indicated in the filename. This data product is an optional download when requesting FITS images.
WEATHER_FILE	weather_20160322.zip	char(25)	Identifies the weather data product associated with the observation. This .zip file contains external environment information collect during the UTC data indicated in the filename. This data product is an optional download when requesting FITS images.
STANDARD_GP	sbg_20160322_190500	char(60)	Identifies the standard groups associated with this GROUP_ID. From 0 to 3 groups can be listed in the value field. Values could be blank if no group exists. This keyword allows for an option to download the related standards files, along with this GROUP_ID's files.
CALIBRATION_GP	sbg_20160322_191000	char(60)	Identifies the calibration groups associated with this GROUP_ID. From 0 to 3 groups can be listed in the value field. Values could be blank of no group exists. This keyword allows for an option to download the related calibration files, along with this GROUP_ID's files.
GUIDER_GP	sgd_20160322_191000	char(20)	For the spectrograph images, this keyword identifies the guider images taken simultaneously with the spectrograph images. From 0 to 1 group can be listed in the value field. This keyword allows for an option to download the related guider files, along with this GROUP_ID's files.
GROUP_FILELIST_BEG GROUP_FILELIST_END	GROUP_FILELIST_BEG sbd.2016A999.160322.obj.00001.a.fits sbd.2016A999.160322.obj.00002.a.fits ... GROUP_FILELIST_END	N/A	The FITS files that make up the observational group GROUP_ID are listed between the GROUP_FILELIST_BEG/_END keywords.