

CUBE

An IRAM software

Apr. 30th, 2024

Questions? Comments? Bug reports? Mail to: `gildas@iram.fr`

The GILDAS team welcomes an acknowledgment in publications
using GILDAS software to reduce and/or analyze data.

Please use the following reference in your publications:

<http://www.iram.fr/IRAMFR/GILDAS>

Documentation

In charge: J.Pety^{1,2}.

Active developers: S. Bardeau¹.

Main past contributors: V. de Souza¹.

Software

In charge: J.Pety^{1,2}.

Active developers: S. Bardeau¹.

Main past contributors: V. de Souza¹.

1. IRAM
2. Observatoire de Paris

Contents

| | | |
|----------|---------------------------------------|----------|
| 1 | In a nutshell | 1 |
| 2 | Internal Helps | 3 |
| 2.1 | ADM Language Internal Help | 3 |
| 2.1.1 | Language | 3 |
| 2.1.2 | DAG | 3 |
| 2.1.3 | DIRECTORY | 3 |
| 2.1.4 | FIND | 3 |
| 2.1.5 | FREE | 3 |
| 2.1.6 | HISTORY | 4 |
| 2.1.7 | IMPORT | 4 |
| 2.1.8 | LIST | 4 |
| 2.1.9 | SNAPSHOT | 4 |
| 2.2 | CUBE Language Internal Help | 4 |
| 2.2.1 | Language | 4 |
| 2.2.2 | AVERAGE | 4 |
| 2.2.3 | BASELINE | 4 |
| 2.2.4 | CIRCLE | 4 |
| 2.2.5 | CONSISTENCY | 5 |
| 2.2.6 | EXPORT | 5 |
| 2.2.7 | EXTRACT | 5 |
| 2.2.8 | FEATHER | 5 |
| 2.2.9 | FFT | 5 |
| 2.2.10 | HEADER | 5 |
| 2.2.11 | HISTO1D | 5 |
| 2.2.12 | LUMINOSITY | 5 |
| 2.2.13 | MOMENTS | 6 |
| 2.2.14 | NAN | 6 |
| 2.2.15 | NOISE | 6 |
| 2.2.16 | POLY2MASK | 6 |
| 2.2.17 | REPROJECT | 6 |
| 2.2.18 | RESAMPLE | 6 |
| 2.2.19 | RESIDUALS | 6 |
| 2.2.20 | ROTATE | 6 |
| 2.2.21 | SHUFFLE | 7 |
| 2.2.22 | SLICE | 7 |
| 2.2.23 | SMOOTH | 7 |

| | | |
|--------|--------------------|---|
| 2.2.24 | SNR | 7 |
| 2.2.25 | SORT | 7 |
| 2.2.26 | STACK | 7 |
| 2.2.27 | STITCH | 7 |
| 2.2.28 | TEMPLATE | 7 |
| 2.2.29 | WINDOW | 8 |

Chapter 1

In a nutshell

```
1  import raw/paws
2  list
3  update paws-pdbi+30m-12co10-1as-cube:cube /family 12co10
4  header 12co10:cube
5  open edited /like 12co10:cube /init copy
6  put /observatory +noema +30m
7  put /source NGC5194
8  close edited /like 12co10:edited,cube
9  view 12co10:edited,cube
10 baseline 12co10:edited,cube /poly 1 /line -120 +120
11 view
10 noise 12co10:baselined,line,cube /range -120 120
11 bit
12 snr 12co10:baselined,line,cube 12co10:noise
13 view
14 segment 12co10:snr
14 @ show-segments
15 detect 12co10:baseline,line,cube 12co10:segments /range -120 +120
16 view 12co10:residuals
17 moments 12co10:detected
18 show /moments signal
19 show /moments noise
20 show /moments snr
21 memory
21 snapshot
22 free
23 memory
```


Chapter 2

Internal Helps

2.1 ADM Language Internal Help

2.1.1 Language

type ADM? for language summary

2.1.2 DAG

Type DAG ? for help

2.1.3 DIRECTORY

Type DIRECTORY ? for help

2.1.4 FIND

type FIND ? for help

2.1.5 FREE

type FREE ? for help

2.1.6 HISTORY

type HISTORY ? for help

2.1.7 IMPORT

type IMPORT ? for help

2.1.8 LIST

type LIST ? for help

2.1.9 SNAPSHOT

type SNAPSHOT ? for help

2.2 CUBE Language Internal Help

2.2.1 Language

type CUBE? for language Summary

2.2.2 AVERAGE

Type AVERAGE ?[?[]] for help.

2.2.3 BASELINE

Type BASELINE ?[?[]] for help.

2.2.4 CIRCLE

Type CIRCLE ?[?[]] for help.

2.2.5 CONSISTENCY

Type CONSISTENCY `?[?[]]` for help.

2.2.6 EXPORT

Type EXPORT `?[?[]]` for help.

2.2.7 EXTRACT

Type EXTRACT `?[?[]]` for help.

2.2.8 FEATHER

Type FEATHER `?[?[]]` for help.

2.2.9 FFT

Type FFT `?[?[]]` for help.

2.2.10 HEADER

Type HEADER `?[?[]]` for help.

2.2.11 HISTO1D

Type HISTO1D `?[?[]]` for help.

2.2.12 LUMINOSITY

Type LUMINOSITY `?[?[]]` for help.

2.2.13 MOMENTS

Type `MOMENTS` `?[?[]]` for help.

2.2.14 NAN

Type `NAN` `?[?[]]` for help.

2.2.15 NOISE

Type `NOISE` `?[?[]]` for help.

\"=====

2.2.16 POLY2MASK

type `POLY2MASK` `?[?[]]` for help.

2.2.17 REPROJECT

type `REPROJECT` `?[?[]]` for help.

2.2.18 RESAMPLE

type `RESAMPLE` `?[?[]]` for help.

2.2.19 RESIDUALS

type `RESIDUALS` `?[?[]]` for help.

2.2.20 ROTATE

type `ROTATE` `?[?[]]` for help.

2.2.21 SHUFFLE

type SHUFFLE ?[?[]] for help.

2.2.22 SLICE

type SLICE ?[?[]] for help

2.2.23 SMOOTH

type SMOOTH ?[?[]] for help

2.2.24 SNR

type SNR ?[?[]] for help

2.2.25 SORT

type SORT ?[?[]] for help

2.2.26 STACK

type STACK ?[?[]] for help

2.2.27 STITCH

type STITCH ?[?[]] for help

2.2.28 TEMPLATE

type TEMPLATE ?[?[]] for help

2.2.29 WINDOW

type WINDOW ?[?[] for help