

example10

May 7, 2018

1 Using SPIRou Tools

These are located in the spirouTools module:

```
In [1]: # just for ipython notebook
import sys
sys.argv = ['notebook']
```

```
In [2]: # import spirouTools
from SpirouDRS.spirouTools import *
```

1.1 Display calibration database

This command displays all the lines in the currently assigned master calibration database file.

```
In [3]: DisplayCalibDB()
```

```
14:19:41.0 - |notebook|ICDP_NAME loaded from:
14:19:41.0 - |notebook| /scratch/Projects/spirou_py3/spirou_py3/INTR00T/config/constants_S
14:19:41.0 - |notebook|CalibDB located at: /scratch/Projects/spirou_py3/data_h4rg/calibDB/mast
WAVE_AB AT4-04/2017-10-11_21-32-17 2017-10-11_21-32-17_hcone_hcone02c406_wave_AB.fits 2000-01-0
WAVE_A 20170710 spirou_wave_ini3.fits 2000-01-01-00:00:00.00 946684800
WAVE_B 20170710 spirou_wave_ini3.fits 2000-01-01-00:00:00.00 946684800
WAVE_C AT4-04/2017-10-11_21-32-17 2017-10-11_21-32-17_hcone_hcone02c406_wave_C.fits 2000-01-01-
DARK AT5/20180409 20180409_dark_dark_001_pp.fits 2018-04-09-18:48:25.000000 1523299705.0
BADPIX_OLD AT5/20180409 20180409_dark_dark_001_pp_badpixel.fits 2018-04-09-18:48:25.000000 1523
BADPIX AT5/20180409 20180409_flat_flat_001_pp_badpixel.fits 2018-04-09-19:10:25.000000 15233010
ORDER_PROFILE_C AT5/20180409 20180409_dark_flat_001_pp_order_profile_C.fits 2018-04-09-19:00:01
LOC_C AT5/20180409 20180409_dark_flat_001_pp_loco_C.fits 2018-04-09-19:00:01.000000 1523300401.
ORDER_PROFILE_AB AT5/20180409 20180409_flat_dark_001_pp_order_profile_AB.fits 2018-04-09-19:05:
LOC_AB AT5/20180409 20180409_flat_dark_001_pp_loco_AB.fits 2018-04-09-19:05:13.000000 152330071
TILT AT5/20180409 20180409_fp_fp_001_pp_tilt.fits 2018-04-09-19:30:29.000000 1523302229.0
DARK AT5/20180409 20180409_dark_dark_001_pp.fits 2018-04-09-18:48:25.000000 1523299705.0
BADPIX_OLD AT5/20180409 20180409_dark_dark_001_pp_badpixel.fits 2018-04-09-18:48:25.000000 1523
```

1.2 Display DRS dependencies

This command will display all dependencies (and version) currently being used by the DRS.

In [4]: `DRS_Dependencies()`

```
14:20:40.0 - || *****
14:20:40.0 - || * DRS Dependencies
14:20:40.0 - || *****
14:20:40.0 - || *****
14:20:40.0 - || * System information:
14:20:40.0 - || *****
14:20:40.0 - ||   Python version = 3.6.4
14:20:40.0 - ||   Python distribution = Anaconda, Inc.
14:20:40.0 - ||   Distribution date = default, Jan 16 2018, 18:10:19
14:20:40.0 - ||   Dist Other = GCC 7.2.0
14:20:40.0 - ||   Path = "/scratch/bin/anaconda3/bin/python"
14:20:40.0 - ||   Platform = "linux"
14:20:40.0 - ||   Arg 1 = "notebook"
14:20:40.0 - || *****
14:20:40.0 - |notebook|Getting python files
14:20:40.0 - |notebook|Getting import statements
14:20:41.0 - |notebook|Stats:
14:20:41.0 - |notebook|      total lines: 26098
14:20:41.0 - |notebook|      total empty lines: 2224
14:20:41.0 - |notebook|      total lines of comments: 13407
14:20:41.0 - |notebook|      total lines of code: 10467
14:20:41.0 - |notebook|Import statements found are:
14:20:41.0 - |notebook|      IPython      (6.2.1)
14:20:41.0 - |notebook|      pdb          (No version info)
14:20:41.0 - |notebook|      matplotlib   (2.1.2)
14:20:41.0 - |notebook|      time         (No version info)
14:20:41.0 - |notebook|      __future__   (No version info)
14:20:41.0 - |notebook|      astropy      (2.0.3)
14:20:41.0 - |notebook|      calendar     (No version info)
14:20:41.0 - |notebook|      collections  (No version info)
14:20:41.0 - |notebook|      datetime     (No version info)
14:20:41.0 - |notebook|      numpy        (1.14.0)
14:20:41.0 - |notebook|      scipy        (1.0.0)
14:20:41.0 - |notebook|      code         (No version info)
14:20:41.0 - |notebook|      filecmp      (No version info)
14:20:41.0 - |notebook|      glob         (No version info)
14:20:41.0 - |notebook|      os           (No version info)
14:20:41.0 - |notebook|      pkg_resources (No version info)
14:20:41.0 - |notebook|      shutil       (No version info)
14:20:41.0 - |notebook|      string       (No version info)
14:20:41.0 - |notebook|      sys          (No version info)
14:20:41.0 - |notebook|      warnings     (No version info)
```

```
14:20:41.0 - * |notebook|Recipe notebook has been successfully completed
```

1.3 Reset the DRS

This command resets the DRS back to installation settings. This includes: - removing all files from the calibDB and master calibDB file - removing all files from the reduced folder - copying over files needed by the DRS (e.g. the files needed by the calibDB)

Note you will be warnner and are required to type "yes" or "no" when using in default mode however the warning can be shut off with keyword warn=False

```
In [12]: # For notebook only warn=False (as we have no user input available)
         DRS_Reset(warn=False)
```

[illegible]

```

14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/maste
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Removing file: /scratch/Projects/spirou_py3/data_h4rg/calibDB/20180
14:41:30.0 - |notebook| Adding file: 2017-10-11_21-32-17_hcone_hcone02c406_wave_AB.fits to /scr
14:41:30.0 - |notebook| Adding file: 2017-10-11_21-32-17_hcone_hcone02c406_wave_C.fits to /scra
14:41:30.0 - |notebook| Adding file: spirou_wave_ini3.fits to /scratch/Projects/spirou_py3/data
14:41:30.0 - |notebook| Adding file: tapas_combined_za=20.000000.fits to /scratch/Projects/spir
14:41:30.0 - |notebook| Adding file: TAPAS_X_axis_speed_dv=0.5.fits to /scratch/Projects/spirou
14:41:30.0 - |notebook| Adding file: master_calib_SPIROU.txt to /scratch/Projects/spirou_py3/da
14:41:30.0 - * |notebook| Recipe notebook has been successfully completed

```

1.4 List all raw files and directories

This command list all raw files and directories available with the current setup (i.e. DRS_DATA_RAW)

In [10]: ListRawFiles()

```

14:26:55.0 - |notebook| All RAW files in /scratch/Projects/spirou_py3/data_h4rg/raw are:
                20180409
                dark_dark_001.fits
                dark_dark_aff_001.fits
                dark_dark_afp_001.fits
                dark_dark_ahc1_001.fits
                dark_dark_ahc2_001.fits
                dark_flat_001.fits
                dark_hcone_001.fits
                dark_hctwo_001.fits
                flat_dark_001.fits
                flat_flat_001.fits
                fp_fp_001.fits
                hcone_dark_001.fits
                hcone_hcone_001.fits
                hctwo_dark_001.fits
                hctwo_hctwo_001.fits
                dark_dark_001_pp.fits
                dark_dark_aff_001_pp.fits
                dark_dark_afp_001_pp.fits
                dark_dark_ahc1_001_pp.fits
                dark_dark_ahc2_001_pp.fits
                dark_flat_001_pp.fits

```

```

dark_hcone_001_pp.fits
dark_hctwo_001_pp.fits
flat_dark_001_pp.fits
flat_flat_001_pp.fits
fp_fp_001_pp.fits
hcone_dark_001_pp.fits
hcone_hcone_001_pp.fits
hctwo_dark_001_pp.fits
hctwo_hctwo_001_pp.fits

```

20180407

```

dark_dark_001d.fits
dark_flat_001f.fits
flat_dark_001f.fits
flat_flat_001f.fits
fp_fp_001a.fits
hcone_hcone_001c.fits
dark_dark_001d_pp.fits
dark_flat_001f_pp.fits
flat_dark_001f_pp.fits
flat_flat_001f_pp.fits
fp_fp_001a_pp.fits
hcone_hcone_001c_pp.fits

```

20180424

```

Gl699_fp42o.fits
Gl699_fp42o_pp.fits

```

1.5 List all reduced files and directories

This command list all reduced files and directories available with the current setup (i.e. DRS_DATA_REDUCE)

In [11]: ListReducedFiles()

14:41:01.0 - |notebook|All REDUCED files in /scratch/Projects/spirou_py3/data_h4rg/reduced are

20180409

```

20180409_dark_dark_001_pp.fits
20180409_dark_dark_001_pp_badpixel.fits
20180409_flat_flat_001_pp_badpixel.fits
spirou_wave_ini3.fits
2017-10-11_21-32-17_hcone_hcone02c406_wave_AB.fits
2017-10-11_21-32-17_hcone_hcone02c406_wave_C.fits
20180409_dark_flat_001_pp_order_profile_C.fits
20180409_dark_flat_001_pp_loco_C.fits
20180409_dark_flat_001_pp_fwhm-order_C.fits
20180409_dark_flat_001_pp_with-order_C.fits
20180409_flat_dark_001_pp_order_profile_AB.fits
20180409_flat_dark_001_pp_loco_AB.fits

```

```

20180409_flat_dark_001_pp_fwhm-order_AB.fits
20180409_flat_dark_001_pp_with-order_AB.fits
20180409_fp_fp_001_pp_tilt.fits
20180409_dark_flat_001_pp_blaze_C.fits
20180409_dark_flat_001_pp_flat_C.fits
20180409_flat_dark_001_pp_blaze_AB.fits
20180409_flat_dark_001_pp_flat_AB.fits
fp_fp_001_pp_e2ds_AB.fits
fp_fp_001_pp_e2ds_A.fits
fp_fp_001_pp_e2ds_B.fits
fp_fp_001_pp_e2ds_C.fits
hcone_hcone_001_pp_e2ds_AB.fits
hcone_hcone_001_pp_e2ds_A.fits
hcone_hcone_001_pp_e2ds_B.fits
hcone_hcone_001_pp_e2ds_C.fits

```

1.6 List all calibration database files

This command list all calibration database files available with the current setup (i.e. DRS_CALIB_DB)

```
In [13]: ListCalibFiles()
```

```
14:47:36.0 - |notebook|All CALIB_DB files in /scratch/Projects/spirou_py3/data_h4rg/calibDB ar
```

```

2017-10-11_21-32-17_hcone_hcone02c406_wave_AB.fits
2017-10-11_21-32-17_hcone_hcone02c406_wave_C.fits
spirou_wave_ini3.fits
tapas_combined_za=20.000000.fits
TAPAS_X_axis_speed_dv=0.5.fits
master_calib_SPIROU.txt

```