XMMextractor_tools

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Abstract

The module XMMextractor_tools, under the main package (pyutils) contains several utilities used by (XMMextractorpy), which can be used also in standalone situations, alongside the objects from (pyOAL).

1 Use

In order to use XMMextractor_tools simply import it in a Python session:

```
import pysas.XMMextractor_tools.XMMextractor_tools as xmm_tools

pyutils.(function)...
```

A further explanation of the different functions present in XMMextractor_tools can be found in the section below. For a more detailed description on how to run each function, use the help(...) command.

2 Description

XMMextractor_tools contains several functions used mainly by the XMMextractorpy package, although they can be used normally by any other Python package or environment, similar to (pyutils).

2.1 Current functions

At the moment, these are the current functions present in XMMextractor_tools:

- *ODF_times:* Searches in the SUM.SAS file the duration and times of the observation.
- *angular_distance:* Returns in degrees the angular distance between two objectives.
- *add_source_to_region_file:* Creates a region file text that can be read with ds9.
- *produce_ps_file:* Produces a PS file.

- *deg_to_hours:* Transforms degrees to hours.
- *deg_to_sexagesimal:* Transform degrees into sexagesimmal degrees.
- *event_file_spectral_info:* returns information regarding the timing of the event file.
- *get_back_scale:* returns the backscale.
- *get_area_scale:* returns the areascale.
- *get_entries:* Returns the number of entries loaded in the header of a FITS file.
- *print_sas_setup:* shows the information regarding the current SAS setup.
- *set_coordinates:* set the coordinates for a given Observation object (from pyOAL).
- *produce_image:* produces an image for EPIC.
- *produce_image_4GUI:* produce an image to be used for the GUI.
- *produce_smooth_image:* produces an smooth image.
- *GTI_file_info:* returns the ONTIME parameter for a GTI file.
- *get_OM_science_modes:* returns a tuple of booleans representing the current science modes available for the observation.
- *get_bkg_region_SP_creation:* returns the background information for a region.
- *get_src_region_SP_creation:* returns the source information for a region.
- *get_src_region_LC:* returns the source region information (for light curves)
- *event_file_info:* returns basic information concerning an event files.
- *get_bkg_region_LC:* returns the background region information (for light curve)
- *prepare_region_log_file:* Writes into a log file the information from a region.
- *build_expression:* Writes a basic expression for either a source or background region.

2.2 Errors

Will raise the usual Python exceptions through the AstroPy/NumPy frame. Other errors will be notified to the user accordingly in each function.

3 Input Files

1. Each function has its own arguments and inputs. Please use the help function to gather more information.

4 Output Files

1. Each utility has its own output files (or any). This is mentioned in the documentation for each function.

5 Comments

- Please report any bug found or any extra utilities that may seem useful in the context of the XMMextractor package.

References