startsas

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Abstract

Python task to start a SAS working session, either from the command line or from a Python notebook.

1 Use

pipeline processing	no
interactive analysis	yes

2 Description

After Heasoft and SAS initialisations, the quickest way to start a working session with SAS is to run

```
startsas odfid=0122700101
```

where the value given to the `odfid` parameter is the ODF ID of an existing XMM-Newton Observation you want to work with.

The `startsas` program will understand you want to get such Observation from the XMM-Newton Science Archive. The file download will be done by means of a special version of the Python module `astroquery` prepared to work with XMM-Newton data.

By default data are obtained at level `ODF` which provides only the raw observation data. The parameter named `level` can be used to select an alternate level `PPS`, which will download the raw data and the output products resulting from processing such data with the XMM-Newton Pipeline.

For level `ODF`, the file <`odfid`>`.tar.gz` is downloaded to a directory of your choice. You may set such directory by means of the parameter `workdir`. If such directory does not exist, it is created new. If you do not set a specific working directory, it is assumed your working directory is where you started with `startsas`. Once the tar file <`odfid`>`.tar.gz` file s downloaded, it is unpacked into a subdirectory named <`odfid`>, within your working directory.

For level `PPS`, all Pipeline products are placed in <`odfid`>`/pps`. A link to the html including the Observation Summary (`P`<`odfid`>`OBX000SUMMAR0000.HTM`) is printed out.

Instead of `odfid`, we can use the parameters `sas_ccf` and `sas_odf` to take already existing `ccf.cif` and SAS summary files, as

```
startsas sas_ccf=<path>/ccf.cif sas_odf=<path>/*SUM.SAS
```

The program understands you want to use these `ccf.cif` and SAS summary file, in directory <`path`>, to define `SAS_CCF` and `SAS_ODF` for subsequent SAS commands.

Before using effectively these files the program will check them to see whether

- The `PATH` keyword is written inside the SAS summary file
- The mandatory file `MANIFEST.NNNNNN` (where `NNNNNN` is the AMS extraction number) is present to ensure they belong to a real ODF.

3 Parameters

This section documents the parameters recognized by this task (if any).

Parameter	Mand	Type	Default	Constraints
odfid	no	string		

ODF ID

level	no	string		

Download level. Can be either `ODF` (default) or `PPS`

workdir	no	string	pwd	

Working directory. Allows to set the working directory different to start directory.

sasfiles	no	bool	no	

Allow to set sas_ccf and sas_odf parameters. Parent parameter for them.

sas_ccf	yes	sring		

CIF file. Requires `workdir` be present and equal to `other`

sas_odf	yes	string		

SAS summary file. Requires `workdir` be present and equal to `other`

cifbuild_opts	no	string		

Options to run `cifbuild`

odfingest_opts	no	string		

Options to run `odfingest`

4 Input Files

1. ODF ID files

5 Output Files

1. Calibration Index File
2. Summary File

References