The XMM Calibration Access Layer library

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Abstract

CAL: Access to Calibration Data in the XMM CCF

1 Introduction

The Calibration Access Layer CAL is a subroutine library in the XMM Science Analysis System (SAS). The purpose of the CAL is twofold:

- give SAS task access to basic calibration data in the XMM Current Calibration File (CCF) (see *Interface Control Document for the Current Calibration File*[1])
- apply dedicated calibration algorithms to uncalibrated science data

2 Requirements

The CAL requires that a complete XMM CCF is accessible on the file system the SAS is being run on. The CCF needs to reside in a single directory the name of which must be specified via an environment variable or a task parameter on the command line (see Sect. 3.1 for details).

3 User-visible functionality

None.

3.1 Environmental dependencies

The calibration algorithms in the CAL are driven by data in the *Current Calibration File (CCF)*[1]. A CCF is represented by the contents of a Calibration Index File (CIF) which comprises for each constituent various entries such as the start validity date, issue number, file name etc.

Access to the CIF and the CCF constituents can be controlled via the following environment variables:

`SAS_CCF` The name of a data set containing a table with the name `CALINDEX`. This will normally be a CIF created by the task **cifbuild**. `SAS_CCF` can also be given the name of a directory which is then supposed to contain a CIF with the default name `ccf.cif`.

`SAS_CCFFILES` A white-space separated list of CCF constituents which should replace the corresponding ones listed in the active CIF.

`SAS_CCFPATH` A colon separated list of directories which constitutes a search path for CCF constituents.

Each of these variables has a corresponding command line option that is automatically available to all tasks making use of the CAL. A given value on the command line supersedes any assignments made to the corresponding environment variable. For more information on this and the names of the command line options, please consult the documentation of package **taskmain**.

References

[1] ESA. Interface control document for the XMM current calibration file. Technical Report XMM-GEN-ICD-0005, ESA/SSD, Dec 2001. Issue 4.0.