XMM-Newton CCF Release Note

XMM-CCF-REL-122

Addition of MOS SAS specific parameters in MISCDATA CCF

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1 CCF components

| Name of CCF	VALDATE	List of Blocks changed	CAL VERSION	XSCS flag
XMM_MISCDATA_0016	1999-01-01T00:00:00	MISCDATA	cal-3.141 +	NO

2 Changes

A set of new EPIC MOS parameters have been stored in the MISCDATA CCF at the request of Jean Ballet. They were hard coded in the SAS up to now. They are accessible with cal-3.141 onwards.

- cosmicsize parameter of emframes. This is the average number of lost pixels per cosmic-ray pixel above threshold. It is used for estimating the lost area from the NPIXEL field and converting that into a 'dead-time'. It is larger than 1, and depends on the shape of the cosmic-ray tracks, because all pixels next to those actually above threshold are also sterilised. It was calibrated by Philippe Ferrando on a number of diagnostic frames taken during the Commissioning phase to be 1.88.

- cosmicoutoverin parameter of emframes. This is the ratio of cosmic-rays rate outside / inside the field of view. It is used for the same purpose, to get a dead-time applicable to the field of view. This was never properly calibrated, and the default is still 1.

- e3thresholds parameter of emevents. This is a list of 14 integers (7 MOS1 CCDs, followed by 7 MOS2 CCDs), giving the lower threshold on ENERGYE3 (in ADU) below which events are rejected with flag UNDERSHOOT. It was optimised by Jean-Luc Sauvageot to the following: -29 -68 -40 -45 -34 -41 -51 -36 -57 -30 -23 -27 -36 -29

- e3e4ellipse parameter of emenergy. This is a list of 5 reals giving the center coordinates, radii
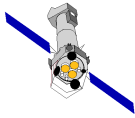
and angle (0 being aligned with the E3/E1 axis) of the allowed ellipse in the E3/E1, E4/E1 plane. Any event outside this ellipse if flagged as BAD_E3E4. It was optimised by Jean-Luc Sauvageot to the following: 5.77E-3 -3.55E-2 1.25 0.74 -1.05

All these parameters were added in the unique MISCDATA binary extension.

3   Scientific Impact of this Update

None. These values are stored in this CCF, in case they might be tuned in the future and be easily updated this way.

4   Estimated Scientific Quality

5   Test procedures & results

This CCF has been tested by Jean Ballet within the development SAS and the emframes, emevents and emenergy tasks give the same results as before.

The current public SAS (v5.3.3) is not affected by those added values: the tasks versions still use the tasks's parameters.

6   Expected Updates

No farthest update is expected.