XMM-Newton CCF Release Note

XMM-CCF-REL-190

Further low energy noise rejection refinement for pn.

M. Kirsch

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1 CCF components

Name of CCF	VALDATE	List of Blocks changed	CAL VERSION	XSCS flag
EPN_REJECT_0003	2000-01-01T00:00:00	NOISE_MAP_INDEX	3.172	NO
EPN_REJECT_0003	2000-01-01T00:00:00	MEDIAN_MAP_INDEX	3.172	NO
EPN_REJECT_0003	2000-01-01T00:00:00	NOISE_MAP_DUMMY	3.172	NO
EPN_REJECT_0003	2000-01-01T00:00:00	MEDIAN_MAP_DUMMY	3.172	NO

2 Changes

In order to enable `epreject` for all modes the CCF needed modification in structure. Two dummy extensions `NOISE_MAP_DUMMY and MEDIAN_MAP_DUMMY` have been added in `EPN_REJECT_0003.CCF` and pointers have been added to the extensions `NOISE_MAP_INDEX` and `MEDIAN_MAP_INDEX`.

`epreject version 5.7` will point to the dummy extensions when operated on data in eFF, LW, SW, Timing, Burst mode.

The tables for FF mode (median maps and noise maps) are identical to what was already in `EPN_REJECT_0002.CCF`

If `epreject` is run on data where the required mode-specific calibration is not yet available (non-FF modes), the event file will not be modified and a warning will be issued. With `EPN_REJECT_0002.CCF` `epreject` resulted in a SAS error exit.

For FF mode there are no change with respect to `EPN_REJECT_0002.CCF`.

NOTE: With `epreject version 5.7` offset corrections may be performed on the event file if the ODF contains offset maps. (For details see documentation of `epreject version 5.7`.) If no offset

maps are available the event file will not be modified and a warning is issued. No noise-screening is currently possible with non-FF data and an appropriate warning is issued.

3 Scientific Impact of this Update

NONE.

4 Estimated Scientific Quality

AS BEFORE.

5 Test procedures & results

It was confirmed that `EPN_REJECT_0002.CCF` and `EPN_REJECT_0003.CCF` lead to identical results for FF mode data and that with `EPN_REJECT_0003.CCF` appropriate warnings are issued for non-FF mode data.

6 Expected Updates

Further modification to the CCF is needed for non-FF modes as son as the calibration information is available.