XMM-Newton CCF Release Note

XMM-CCF-REL-204

EPIC PN Bad Pixels

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1 CCF Components

Name of CCF	VALDATE	EVALDATE	Blocks Changed	CAL Version	XSCS Flag
EPN_BADPIX_0118.CCF	1999-12-10T00:00:00	2000-01-29T15:41:00	BADPIX		NO
EPN_BADPIX_0119.CCF	2000-01-30T09:08:52	2000-02-02T20:21:31	BADPIX		NO
EPN_BADPIX_0120.CCF	2000-02-03T10:38:07	2000-02-03T12:29:15	BADPIX		NO
EPN_BADPIX_0121.CCF	2000-02-03T22:57:58	2000-02-04T05:00:00	BADPIX		NO

2 Changes

This set of changes comprises four EPN_BADPIX CCFs covering the very early mission phase up to revolution 28. There are several PN exposures in this period which were performed with a different uploaded bad pixel table than the one reflected in the current CCF covering this period, i.e. issue 0093. The only difference is in the number of rows at the read-out end which are set to BAD, which is just one (SAS `RAWY` = 1) in these particular exposures, as opposed to the first eleven (SAS `RAWY` = 1 . . . 11) as contained in the current CCF.

3 Scientific Impact of this Update

This update affects only the first eleven rows close to the read out, which are noisy and in general not of great scientific interest. Nevertheless, these CCFs allow a consistent handling of spatial exposure, and avoid *epproc* processing warnings such as:
`epproc::epevents: warning (badEvent), Event is on an uploaded bad pixel: [...]`
which are issued with the current CCF on exposures where it is not applicable.

4 Estimated Scientific Quality

Note that in all the EPIC cameras there are intermittent bad pixels that may arise in only one exposure. The user is recommended to run the bad pixel finding algorithm, and remove after processing.

5 Test Procedures and Summary of the Test Results

Correct bad pixel contents confirmed with *calview*. Correct functionality tested with *epproc*: as expected, previous warning messages regarding events detected on "bad" pixels in the first eleven rows are not issued with the new CCFs. Correct validity dates checked by running *cifbuild* on the available early mission ODFs and confirming that the correct EPN_BADPIX CCF issue for the particular exposure is included in the CIF.