

XMM-Newton CCF Release Note

XMM-CCF-REL-233

EPIC PN Bad Pixels

M.J.S. Smith

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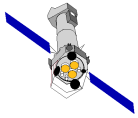
1 CCF Components

Name of CCF	VALDATE	EVALDATE	Blocks Changed	CAL Version	XSCS Flag
EPN_BADPIX_0122.CCF	2007-07-12T05:12:03	2007-07-13T17:45:53	BADPIX		NO
EPN_BADPIX_0123.CCF	2007-07-23T16:48:18	2007-07-23T19:13:18	BADPIX		NO
EPN_BADPIX_0124.CCF	2007-07-24T17:00:00	2007-07-25T18:00:00	BADPIX		NO
EPN_BADPIX_0125.CCF	2007-07-27T16:26:00	2007-07-27T18:55:00	BADPIX		NO
EPN_BADPIX_0126.CCF	2007-07-31T03:56:00	2007-07-31T16:02:00	BADPIX		NO
EPN_BADPIX_0127.CCF	2007-08-16T22:36:18		BADPIX		NO
EPN_BADPIX_0128.CCF	2007-08-05T03:20:00	2007-08-06T11:07:00	BADPIX		NO
EPN_BADPIX_0129.CCF	2007-08-07T03:10:00	2007-08-07T07:55:00	BADPIX		NO
EPN_BADPIX_0130.CCF	2007-08-15T02:40:00	2007-08-15T09:45:00	BADPIX		NO

2 Changes

The CCFs cover the new bad pixel table which is in use from Revolution 1408 onwards, as well as several observations in revolutions prior to that.

The changes affect CCD 11 column 64 only. This column has row intervals with extremely noisy pixels, the locations of which shift through the column over time. The new bad pixel table better masks the noisiest of these pixels, and un.masks pixels which have reduced noise.



3 Scientific Impact of this Update

Reduced telemetry load due to the on-board masking of these noisy pixels will lower the chances of counting mode excursions, thus increasing the quadrant 3 live-time. A high energetic noisy pixel which adversely affected GTI interval selection through the standard flare screening method has been masked in the new bad pixel table.

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 and validity dates tested with *epproc* (SAS 7.1.0).