XMM-Newton CCF Release Note

XMM-CCF-REL-82

EPIC PN Energy Scale

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1 Changes

The offset values for selected columns are uploaded to the PN instrument at the same time as bad pixel locations. These offsets correct for low level noisy columns, by artificially suppressing their threshold values. However, in the ground processing this value must be added back in to obtain the correct energy scaling.
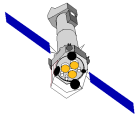
Owing to manual commanding of several exposures, the uploaded offsets vary back and forth between old and new database sets. Moreover, in order to cope with increased telemetry after a number of very noisy pixels appeared in Rev. 156, several offset values had to be manually adjusted in some subsequent revolutions. Other changes in uploaded offset values are due to commanding errors (e.g. Rev. 199). All these variations were accounted for in the previous release, except for the value of one single column offset (CCD 5, column 10) which did not reflect what had been actually uploaded; this has been corrected in this release.

2 Scientific Impact of this Update

For a limited set of columns ensures a correct energy conversion. However if the wrong file is used it probably only affects a handful of columns at around a few eV level.

3 Estimated Scientific Quality

We expect that because the threshold of these columns was artificially raised, the actual detection efficiencies will have been altered as well. Not yet accounted for.

4 Expected Updates

With instrument database modifications, or due to future commanding errors.

5 CCF components

Name of CCF	VALDATE	List of Blocks changed	CAL VERSION	XSCS flag
EPN_ADUCONV_0055	2000-01-01T00:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0056	2000-06-11T03:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0057	2000-06-29T02:49:00	OFFSET_GAIN		NO
EPN_ADUCONV_0058	2000-07-01T08:07:00	OFFSET_GAIN		NO
EPN_ADUCONV_0059	2000-07-03T12:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0060	2000-07-03T22:16:00	OFFSET_GAIN		NO
EPN_ADUCONV_0061	2000-07-05T15:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0062	2000-07-05T22:30:00	OFFSET_GAIN		NO
EPN_ADUCONV_0063	2000-07-07T15:54:00	OFFSET_GAIN		NO
EPN_ADUCONV_0064	2000-07-08T11:50:00	OFFSET_GAIN		NO
EPN_ADUCONV_0065	2000-07-10T03:16:00	OFFSET_GAIN		NO
EPN_ADUCONV_0066	2000-07-10T17:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0067	2000-07-13T12:16:00	OFFSET_GAIN		NO
EPN_ADUCONV_0068	2000-07-26T04:58:00	OFFSET_GAIN		NO
EPN_ADUCONV_0069	2000-07-28T04:32:46	OFFSET_GAIN		NO
EPN_ADUCONV_0070	2000-07-29T00:59:00	OFFSET_GAIN		NO
EPN_ADUCONV_0071	2000-08-02T00:22:00	OFFSET_GAIN		NO
EPN_ADUCONV_0072	2000-08-02T20:19:00	OFFSET_GAIN		NO
EPN_ADUCONV_0073	2000-08-04T11:42:00	OFFSET_GAIN		NO
EPN_ADUCONV_0074	2000-08-04T20:11:00	OFFSET_GAIN		NO
EPN_ADUCONV_0075	2000-08-07T00:58:00	OFFSET_GAIN		NO
EPN_ADUCONV_0076	2000-08-10T10:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0077	2000-10-31T23:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0078	2000-11-03T21:38:00	OFFSET_GAIN		NO
EPN_ADUCONV_0079	2000-11-05T16:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0080	2000-11-05T21:31:00	OFFSET_GAIN		NO
EPN_ADUCONV_0081	2000-11-07T16:00:00	OFFSET_GAIN		NO
EPN_ADUCONV_0082	2000-11-07T21:22:00	OFFSET_GAIN		NO
EPN_ADUCONV_0083	2000-12-13T20:48:00	OFFSET_GAIN		NO
EPN_ADUCONV_0084	2000-12-14T11:07:00	OFFSET_GAIN		NO
EPN_ADUCONV_0085	2000-12-15T14:02:00	OFFSET_GAIN		NO
EPN_ADUCONV_0086	2000-12-15T16:56:00	OFFSET_GAIN		NO
EPN_ADUCONV_0087	2000-12-19T14:05:00	OFFSET_GAIN		NO
EPN_ADUCONV_0088	2000-12-19T16:41:00	OFFSET_GAIN		NO
EPN_ADUCONV_0089	2000-12-21T14:19:00	OFFSET_GAIN		NO
EPN_ADUCONV_0090	2000-12-21T16:39:00	OFFSET_GAIN		NO
EPN_ADUCONV_0091	2000-12-25T13:18:00	OFFSET_GAIN		NO
EPN_ADUCONV_0092	2001-01-08T12:47:00	OFFSET_GAIN		NO
EPN_ADUCONV_0093	2001-01-08T15:53:00	OFFSET_GAIN		NO