XMM-Newton CCF Release Note

XMM-CCF-REL-75

RGS Bad Pixels

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1 CCF components

| Name of CCF	VALDATE	List of Blocks changed	CAL VERSION	XSCS flag
RGS1_BADPIX_0005	2000-02-06T16:50:00	BADPIX		NO
RGS2_BADPIX_0005	2000-01-25T19:30:00	BADPIX		NO

2 Changes

Fixing an entry corresponding to an uplinked hot column segment for RGS2 (CCD9 column 147) which was wrongly assigned to node 0 instead of to node 1.

The not uplinked bad pixels derived from early flight data were replaced by results obtained using diagnostic data corresponding to revolutions 25 to 200, as reported in XMM-SOC-INST-TN-0001 Issue 2.0.

3 Scientific Impact of this Update

It is correctly interpreting what was uplinked to on-board bad pixel rejection. With respect to the not uplinked bad pixels, the results are much more reliable, since they are based on an analysis of a huge amount of diagnostic data, covering the whole period between revolutions 25 and 200.
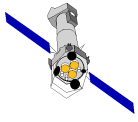
4   Estimated Scientific Quality

Very efficient bad pixel rejection algorithms are implemented within the SAS, so that not uplinked bad pixel entries in these tables are used only as an alternative for speeding up processing or for checking purposes. In addition the number of hot pixels is very low (only pixels showing a very high frequency above the pulse height threshold were considered: $> 85\%$ in the whole period), therefore their influence on response generation should be not significant.

5   Expected Updates

Within the next weeks, a new release of uploadable bad pixels will be effective on-board. This will call for a new release of the CCF.

Complementary studies using science data covering the same long period are expected within the next few weeks. They should confirm or modify the results with respect to not uplinked bad pixels obtained using diagnostic data.