XMM-Newton CCF Release Note

XMM-CCF-REL-17

RGS Wavelength Scale

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1 CCF components

Name of CCF	VALDATE	List of Blocks changed	CAL VERSION	XSCS flag
RGS1_LINCOORD_0007	1998-01-01T00:00:00	LINCOORD	—	NO
RGS2_LINCOORD_0007	1998-01-01T00:00:00	LINCOORD	—	NO
XMM_BORESIGHT_0013	2000-01-01T00:00:00	BORESIGHT	—	NO

2 Changes

LINCOORD The locations of the CCD's relative to each other within each camera (RFC) were taken from precision alignment measurements during integration.

The initial position of the camera reference alignment points was taken from ground integration measurements. Their positions along the dispersion axis were modified based on in-flight measurements in coordination with the corrections of the respective bore-sight angles.

BORESIGHT The angles were corrected by using all in-flight calibration data, including several off-axis measurements of coronal targets (HR1099, Capella, AB Dor) [1, 2, 3].

3 Scientific Impact of this Update

First release.

4   Estimated Scientific Quality

The wavelength scale when determined from the attitude of the spacecraft (by the SAS) and given a celestial source position is generally accurate to within 8 mÅ over the whole pass-band, but occasionally excursions of this have occurred as much as 20 mÅ [1]. This is subject to further investigations by using proper (higher resolution) attitude history files (AHF's) and also the pointing from EPIC data may have to be analyzed to understand this.

References

[1] John Peterson and Marc Audard. *Blind Wavelength Scale Implementation*. RGS-COL-CAL-00011, Columbia University, 2000. http://xmm.astro.columbia.edu/cal_files/cal00011.ps.

[2] Frits Paerels. *Preliminary Wavelength Scale for the First light Spectra*. RGS-COL-CAL-00004, Columbia University, 2000. http://xmm.astro.columbia.edu/cal_files/cal00004.ps.

[3] Frits Paerels. *Preliminary In-Flight Assessment of the RGS Wavelength Response*. RGS-COL-CAL-00003, Columbia University, 2000. http://xmm.astro.columbia.edu/cal_files/cal00003.ps.