

XMM-Newton CCF Release Note

XMM-CCF-REL-350

RGS HK Temperatures

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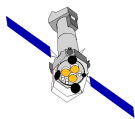
1 CCF components

Name of CCF	VALDATE	EVALDATE	List of Blocks changed	XSCS flag
RGS1_HKPARMINT_0016	2017-09-04T10:50:00	2017-09-08T10:30:00	HKPARMINT	NO
RGS2_HKPARMINT_0015	2017-09-04T10:50:00	2017-09-08T10:30:00	HKPARMINT	NO

2 Changes

During a couple of revolutions (3249 and 3250) there have been some slight temperature rises, which violate the soft limits imposed by the parameters reflecting the temperature sensors T2007, T2015 and T2023 on the RGS1 chain and T2031, T2039 and T2047 on the RGS2 chain. The current limits are $T = [18, 22.5]$ deg in all cases. The RGA temperatures have started to increase several hours after the first eclipse of the Autumn 2017 eclipse season, and have been slightly above the higher limit in a temperature excursion which lasted for almost the entire period of two revolutions. It is possible (though not confirmed at the time of writing) that this increase in temperature is related to the fact that the EPIC MOS heater were on during the first part of revolution 3249. These violations are most probably meaningless and should not affect the data quality. The RGA temperatures returned to the usual values around 20 degrees after the excursion. Therefore we took the decision to increase slightly the upper limit to 23.5 degrees only for that period.

The CCF files RGS1_HKPARMINT_0016 and RGS2_HKPARMINT_0015 are identical to the CCFs RGS1_HKPARMINT_0015 and RGS2_HKPARMINT_0014, respectively, except for the upper limit of the mentioned parameters, set now by 23.5 degrees.



3 Scientific Impact of this Update

It will be possible to derive valid GTIs using HKGTIGEN for RGS1 and RGS2 data in the periods when the RGS temperature sensors were slightly above 22.5 degrees.

4 Estimated Scientific Quality

Not applicable.

5 Test procedures

General checks:

- use FV (or a different FITS viewer) for files inspection.
- use *fdiff* for establishing that the only differences between RGS1_HKPARMINT_0016 and RGS1_HKPARMINT_0015, as well as between RGS2_HKPARMINT_0015 and RGS2_HKPARMINT_0014 respectively, are just the upper limits of the temperature sensors, now set to 23.5 degrees.

Further checks:

Derive GTIs for data showing the slightly high temperatures. Check the GTIs produced.

6 Test results

Following tests were performed:

- *fv* inspection succesful
- *fdiff* used and results as expected
- *hkgtigen* ran on RGS1 and RGS2 data (ODF 0800270501) which could not be correctly processed due to the RGS sensor temperatures slightly 22.5 degrees. GTIs produced with the new CCFs are OK, while the derivation with just the public ccf yields empty event lists.

7 Expected updates

Not foreseen.