XMM-Newton CCF Release Note

XMM-CCF-REL-415

ABSCOEFS: Correction of units

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1 CCF components

Name of CCF	VALDATE	List of Blocks changed	XSCS flag
XMM_ABSCOEFS_0006	1999-01-01T00:00:00	ATOMIC_PROPERTIES	NO

2 Changes

The only change in this update is the correction of the units of the 'Rho' column in the ATOMIC_PROPERTIES extension of this CCF.

J. Kaastra (SRON RGS PI) kindly informed us that the units of the 'Rho' (density) column in the header of extension #7 of the `XMM_ABSCOEFS` CCF were wrong. They were g/cm^3, while the values listed in the CCF are in kg/m^3.

The keyword `TUNIT4` in the header of this extesion as been corrected, while the values themselves have not been changed.

3 Scientific Impact of this Update

The consistency between values and units is important, in case in the future a SAS task may use not only the values but also the units stored in the header.

According to the CAL documentation, this CCF is only used in the SAS tasks `rgsregions` and `rgsrmfgen`, and hence in the `rgsproc` metatask.

Table 1: Atomic Parameter Values in ABSCOEFS CCF

Material	Z	A	Rho $\mathbf{kg/m^3}$
Si	14	28.090	2.330E+03
Al	13	26.980	2.700E+03
C	6	12.010	2.265E+03
Mg	12	24.305	1.740E+03
F	9	18.997	1.700E+00
O	8	15.999	1.430E+00

4 Test procedures & results

- The fits viewer `fv` has been used to inspect the new CCs, its structure, validity dates and contents.
- The SAS task `cifbuild` has been run to confirm that the right CCF version is selected.
- An observation has been processed with `rgsproc` using the current and the new CCF to check if the change of units has any undesiderable effect. The processing has been performed setting the same value of the environment variable `SAS_RAND_SEED`. No differences have been found in the output files.

5 Expected Updates

None