Meeting date	**06/03/12**	ref./*réf.* XMM-SOC_EPIC_BG_WG-012	page/*page* 1
date de la réunion			1
Meeting place	**Leicester, UK**	chairman Andy Read	
lieu de la réunion		*présidant*	

Minutes' date	08/08/12	Participants
dates de minute		Andy Read (AR, scientific chair, EPIC, Leicester)

Jenny Carter (JC, EPIC, Leicester), Carlos Gabriel (CG, XMM-Newton SOC), Ignacio de la Calle (IdlC, XMM-Newton SOC), Silvano Molendi (SM, INAF) and Richard Owen (RO, Saclay), Steve Snowden (GOF, NASA/GSFC), plus guests: Matteo Guaniazzi (MG, XMM-Newton SOC), Steve Sembay (SSe, EPIC PI, Leicester).

This minutes plus related documents and presentations are available on the web at http://www2.le.ac.uk/departments/physics-and-astronomy/research/src/Missions/xmm-newton/technical/bg-meetings#bgmeetings

1 Open action Items from previous meetings, and new action items from most recent meeting (AR)

AI_EPIC_BG_WG_03_08: on MF: UHB update section 3.2.4: outside FoV eff. area (up to 80 arcmin), Update of CCF (currently not supported, calview, 15 arcmin, TBC) **OPEN** – provide numbers from simulations by B. Aschenbach

AI_EPIC_BG_WG_03_10: on SM: provide BGWG with script on bkg treatment in spectral analysis (after publication of related paper) – **OPEN**

AI_EPIC_BG_WG_04_02: on SS/K. Kuntz: try to extend MOS tools such that they also work for EPIC-pn by about June 2007 – **ONGOING** (see presentation KK)

AI_EPIC_BG_WG_06_07: On SM: to provide new threshold numbers for the Fin/Fout tool to AR to allow him another update of that script (specifically to account for the MOS1 CCD6 loss) – **OPEN**

AI_EPIC_BG_WG_07_07 On CG & IdC: to check BGWG pages from a users point of view and to provide ideas for further improvement of the documentation – **OPEN**

AI_EPIC_BG_WG_07_08 On CG & IdC: to consider preparation of simple analysis threads and recipes for the analysis of extended sources (mentioning complexity & different approaches) – **ONGOING** (documentation of ESAS SAS task & thread needed)

AI_EPIC_BG_WG_08_01 On JC: Add example current Blank Sky files to web form so that 'standard' requests might be fulfilled avoiding duplications of such requests **- ONGOING**

AI_EPIC_BG_WG_08_04 On AR & JC: Consider and plan the long term support for the Blank Sky **-** delivery system, i.e. a transfer from the semi- to a full-automatic system **ONGOING/POSTPONE**

AI_EPIC_BG_WG_08_05 On KK & CG: Discuss possibilities to simplify the calibration files for esas – **ONGOING** (Steve Snowden [SS] working on it)

AI_EPIC_BG_WG_09_01 On JC: Update Small Window mode information on the Blank Sky Web Page to point users to the use of FWC data as an alternative. **- CLOSED**

AI_EPIC_BG_WG_09_02 On IdC: Update FWC repository at the SOC. Extend current work to the rest of pn mode and MOS. Before updating the repository, compare with data from the old repository and investigate increase of the count rate with time. Add plots and update information on the FWC data web pages.**- CLOSED**

AI_EPIC_BG_WG_09_03 On AR: send to IdC KK FWC MOS data document to put on the FWC data web pages.**- CLOSED**

AI_EPIC_BG_WG_09_04 On JC & IdC: Update/clean up of BGWG web pages regarding all the scripts provided. Remove obsolete scripts.**- CLOSED**

AI_EPIC_BG_WG_09_05 On IdC & JC: Update the SAS thread for the use of Blank Sky event files so that is instrument independent, i.e., valid for pn and MOS.**- CLOSED**

AI_EPIC_BG_WG_09_06 On JC: Release of Blank Sky event files processed with SAS v9.0.**- CLOSED**

AI_EPIC_BG_WG_09_07 On CG: To decide on the update of MOS QPB data base by the SOC. **- OPEN**

AI_EPIC_BG_WG_09_08 On AR & JC: Look into compiling a list of SWCX likelihood (contamination) for each obsid and study ways to present to users.

AI_EPIC_BG_WG_10_01 On JC & AR: Investigate Noisy CCDs (numbers/selections) in Blank Sky files. **- ONGOING**

AI_EPIC_BG_WG_10_02 On JC & AR: Table for SWCX, with GUI to identify observation IDs affected.

AI_EPIC_BG_WG_10_03 On CG: Chase BP for coding ESAS in C++.

AI_EPIC_BG_WG_10_04 On CG: Pursue the issue of having ESAS calibration files as CCFs.

AI_EPIC_BG_WG_10_05 On IdlC: ESAS thread - make sure Steve Snowden delivers the thread by the SAS Workshop in June 2011. **- CLOSED**

AI_EPIC_BG_WG_10_06 On IdlC: Check the FWC timing mode data: remove the lower energy limit of 0.2 keV for timing mode and make it 0.3 keV. Check the information on the web page and double check with Matteo, especially the selection of patterns. - **CLOSED**

2 Reports

2.1 Past action Items reviewed (AR)

Review of older Ais

2.2 Blank Sky Files (JC)

Review of past Action Item
      AI_EPIC_BG_WG_08_01 now CLOSED
      AI_EPIC_BG_WG_09_06 now CLOSED
      AI_EPIC_BG_WG_09_08 now CLOSED
      AI_EPIC_BG_WG_08_04 ONGOING/POSTPONE
      AI_EPIC_BG_WG_10_01 ONGOING

The request per month goes up and down. In total there are 99 users from 22 countries. A summary is given on request in a transparency. A table is available on the web with a summary of user requests. There are many Medium filter requests, which seems strange since this is mainly used for extended sources and they should be weak, so the original observations should have been thin filter (just a curiosity). The user requests should be monitored, and for this, a study is on the way to look into using google analytics for monitoring. This needs to be set up.

Table for SWCX is in place at the SOC web pages. The table provides links to spectra and lightcurves. Also there is a pdf file with all the odfs used (around 3000 observations in the table). An example lightcurve and spectrum are shown.

Long term plan for Blank Fields:

      SAS 11.0 analysis completed and in a verification stage, but no plans for release in the near future

      Review AI:

            AI_EPIC_BG_WG_10_01 On JC & AR: Investigate Noisy CCDs (numbers/selections) in Blank Sky files.
            This is work ongoing. The idea would be to make information on noisy MOS CCDs available through the web. It would have to be simple for users (see AR minute notes on his presentation for further details).

            New AI (see end of Minutes): Add google analytics to monitor access and usage of Blank Fields pages. To be discuss in the next meeting.

No questions.

2.3 Blank field templates for PN Timing mode (BM)

This work is motivated by the question, where do we get the background from in pn timing mode observations ? How can we remove the sources so that we are left with blank fields ? The work done looks into 200 observations taken in timing mode. 60 of them, just looking by eye, look blank. But this needs to be properly checked. For this, different slices of CCD 4 are looked into as well as different energy bands. Rates and ratios are compared to see if the fields are really blank. After this test, 30 obs. can be classified as blank fields, and applying an even stricter criterium, only 16 remain as truly blank fields. To double checked, MOS data for this observations is looked at as well for sources in the target location, and nearly all of them show the presence of a source, which means that even the 16 truly Blank Fields could not be that blank. Based on this, some more obs. are removed from the database. More checks are done to see if observations still suffer from contribution from other sources.

The galactic distribution of the selected fields is made to look for clustering of the remaining observations. There are no dependencies with galactic coordinates.

RGS background spectra from CCD 9 is used to get an idea of the level of background and look for source contamination.

Questions:

A. Read: Will this be made available to users ?
In principle yes. It will likely be one single file, no splitting as for the imaging ones. There is not enough data to do this. It might then be presented in a different web page.

S. Snowden: Why not use the sides of the chip as usual ? Why is this needed ? The CR background needs to be checked. The CR can be looked into the out of fov events in the MOS cameras. (I am not sure I understand this bit).

2.4 BGWG activities at the SOC (IdlC)

Updates of Blank Sky Pages and Skycast script provided by JC. They have been made public at the SOC pages.

New SWCX pages provided by JC made public at the SOC pages.

FWC repository updated regularly. Last update on February 2012 before this meeting.
Action item related to the FWC data AI_EPIC_BG_WG_10_06 has been closed by placing a cut on the energy of the events at 300 eV for pn timing information.

Two ESAS threads are available at the SOC web pages to help users on the image and spectrum production. The threads have been provided by S. Snowden.

Questions:

A. Read: Are we monitoring the FWC repository ? Should we ? IdlC: de FWC repository is updated once or twice per year if required. One before the AO opening and another one in preparation for the BGWG meeting.

A. Read: is anyone looking into MOS FWC data in slew mode ? IdlC: this data is not been looked at at the moment. An AI results from this question (see end of minutes).

2.5 ESAS within SAS (CG)

SAS v12.0 to be released in April 2012.
Review of new tasks in SAS
     ESAS Upgrade

Future of ESAS:
     CALDB should be turned into CCFs.
     MOS processing will use 5 eV spectral channels: Will require CALDB upgrade.
     Adaptive smoothing tasks now provide additional information
     Minor fixes
     Convert code to F90/F95
     Convert CALDB to CCF

Questions:

M. Guainazzi: is X-ray loading correction into SAS v12.0 ? Can it go into epreject ?
In principle it can be done. C. Gabriel, how much coding does it need ? Carlos
thinks there is no time to include it in SAS v12.0 (code to be freezed in two weeks).

A. Read: Adaptive smoothing, what has been improved ? S. Snowden: The task creates a few more images/histograms to show how the smoothing was done. It tells you the level of smoothing on a pixel by pixel basis.

2.6 MOS CCD Noise (AR)

A summary of the problem is presented: low energy plateau below 1 keV is seen in several CCDs. Multiples CCDs, notable M1CCD4, M2CCD5. This mainly affects source detection in the pipeline. There is a technical note soon to be released written by Andy R. with a summary: XMM-CCF-TN-000.

No clues as to any pattern or reason for this noisy states yet. Seems to come in periods of higher radiation.

Running the SAS task emtaglenoise on entire archive gives about a 95% success rate in fixing the problem.

MOS2 CCD5 still noisy after change to secondary chain).

Unusual BG Features:

> When M1 and M2, pn shows unusual high noise. They are rare, at least not common. Flares occur in the lightcurve. It occurs in IN and OUT of FOV, so they are not photons. Andy looked at the spectrum as well. It appears is featureless, like soft protons but only appear in pn, not MOS (Obsid: 0401880601). There is also no spatial distribution. In this particular observation, MOS was with the THICK filter while pn was in Medium. Maybe this could explain the difference.

3 Discussion

AR reviews possible new action items.

AOB: None

4 Final session: - Summing up

4.1   Next Meeting
TBD : Dependent on funding/availability etc. If a next meeting can go ahead, it will likely be attached as usual (0.5-day prior) to the next EPIC Cal/Ops meeting.

New Action Items resulting from this meeting:

AI_EPIC_BG_WG_11_01 On IdlC: ask Richard S. if FWC data taken in slew mode can be easily
                                          analyzed, and if so, look into it.

AI_EPIC_BG_WG_11_02 On SS/KK/BP/CG: collect in one main ESAS action all of the old ones

AI_EPIC_BG_WG_11_03 On JC & AR: MOS noise + google analytics for Blank Files

AI_EPIC_BG_WG_11_04 On B. Mueck: test timing Blank Sky files with X-ray Binaries

AI_EPIC_BG_WG_11_05 On B. Mueck: make timing Blank Sky files available