esa **MEETING**

Meeting date *date de la réunion*	**29.03.2011**	ref./*réf.* XMM-SOC_EPIC_BG_WG-010	page/*page* 1/6

Meeting place *lieu de la réunion*	**Palma de Mallorca, Spain**	chairman *président*	Andy Read

Minutes' date / *dates de minute*: 13/10/11

Participants

Andy Read (AR, scientific chair, EPIC, Leicester)
Jenny Carter (JC, EPIC, Leicester), Kip Kuntz (KK, Johns Hopkins & GSFC), Carlos Gabriel (CG, XMM-Newton SOC), Ignacio de la Calle (IdlC, XMM-Newton SOC), Silvano Molendi (SM, INAF) and Richard Owen (RO, Saclay), plus guests: Matteo Guaniazzi (MG, XMM-Newton SOC), Steve Sembay (SSe, EPIC PI, Leicester). (Also present: Maria Santos-Lleo, Tony Abbey, Eckhard Kendziorra, Christoph Tenzer, Benjamin Mück, Paul Plucinsky).

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**

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.**- OPEN**

2 Reports

2.1 Past action Items reviewed (AR)

Review of older AIs

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). **Steve Snowden will take over the task of delivering ESAS threads to the SOC.**

AI_EPIC_BG_WG_08_02 On JC: Implement some changes to web page text taking into account user comments **- CLOSED**

AI_EPIC_BG_WG_08_08 On KK: Look at whether anomalous MOS cases can come and go within observations **- CLOSED**

Review of the latest AI_09. Most of the AI_09s are now closed apart from 09_07 and 09_08

2.2 Blank Sky Files (JC)

- Should we add a rejection for MOS noisy CCDs? (Suggested by a user).

– Should we add a SWCX table for users to assess if their observations are affected by SWCX? If so, where do we link it? Best may be a GUI to input the obsid and get back a (SWCX-affected?) answer (yes [plus info], no, not analysed).
– (AI-08-04) Blank Sky with SAS 11.0 will take a year to have the whole thing processed.
– Several potential AIs came out of JC's presentation:
  • 1: re-process of database with SAS11.0
  • 2: add link/GUI to SWCX-affected observations table to BG page
  • 3: offer filter on anomalous states? Would require list/established method of identification
  • 4: add link to table of all requests to blank sky request form (exists as AI_08_01)
  • 5: continue evaluating long-term plan (exists as AI_08_04)

CG pointed out that for #3 there is a SAS task called emtaglenoise which can be used, making the whole process self-consistent.

2.3 BGWG activities at the SOC (IdlC)

- Blank Sky Files
  - SAS Threads
    The thread dealing with Blank Sky files was updated (JC) on April 2010.
    The thread now deals with the analysis of both MOS and pn blank field files.

  - Changes to Blank Sky Web Pages at the SOC.
    JC implemented some changes in Aug 2010 to reflect the processing of
    the blank sky event files using SAS 9.0 (revolutions included up to 1789).

- Filter Wheel Close Observations
  - Update and rearrange information on the web pages to introduce features to comply with the UG recommendations.
  - Update of repository in March 2011 and includes data up to January 2011. The idea is to update the repository once per year.
  - Added information to merge and select FWC data according to TIME.
  - Added plots to track the time evolution of the FWC data.

- XMM-ESAS
  - As of SAS v.11.0 ESAS includes the analysis of pn data.
  - Creation of a dedicated folder to address ESAS questions on the XMM-Newton helpdesk.
  - Warning and watchout section available and maintained by SS.
  - A thread dealing with data analysis with ESAS will be made available soon.
  - There is now no standalone (non-SAS) version of ESAS.

- Scripts
  - The group holds a repository of scripts for background treatment. Remove some scripts or state that support is no longer provided. The long term aim is to incorporate useful/validated scripts as SAS tasks.

2.4 ESAS within SAS (CG)

- ESAS needs to be made "SAS conform" including harness testing.
- Reduction of cal. Files in ESAS included in SAS v11.0
  - These files should be converted to CCFs to be put under SAS CCB.
  - Use of SAL/CAL ?
- 15 eV bins for MOS analysis, is that still so or is the code more flexible now ?
  What if a user wants to use 5 eV bins ? (asked by S Sembay)

2.5 Particle-induced background (QPB) update (KK)

- The background has different components. QPB is one of them, and it is determined from unexposed pixels & FWC data.
  - For pn, the QBP is more stable than for MOS.
  - No news regarding anomalous states. There are no new CCDs showing anomalous states, and the usual ones are behaving the same.
  - ESAS incorporates a new method of treating anomalous states of MOS CCDs based on HR in different energy ranges.

- Summary (from KK presentation):
  Production of QPB files can be made automatic (almost) for MOS and pn.
  One QPB file per chip and extension (pn per quadrant).
  MOS QPB include anomalous state data.

- Expected work plan:
  Update QPB files every 6 months.
  Update FWC files (SS).
  Construct new SP vignetting maps and spectra.
  Update treatment of SWCX, including new magnetosheath model.

3 Discussion

AR – Several issues:

- Sometimes (rarely, it is believed), in the same observation, at the same time, MOS is fine while pn shows signs of flaring (SP-like) background. It was discussed in the meeting what this could be. No consensus was reached. It is not yet clear what this is.

- FUTURE Plans:
  - UK withdrawal of XMM (and therefore BGWG) funding. No funding for BGWG activities either from ESA.
  - Funding of BGWG activities is currently being done internally at Leicester.

- SM thinks its important to continue the activities of the group, and SSe said they will ask for funding, but there is no guarantee. SM thinks this should be brought to the next UG meeting to get support from them. MG suggested to write a paper describing all components (like the table AR has). AR said this was done [in JC/AR paper (2007)].

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_10_01 On JC & AR: Investigate Noisy CCDs (numbers/selections) in Blank Sky files.

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.

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.