



Meeting date	<b>07.04.2008</b>	ref./réf.	XMM-SOC_EPIC_BG_WG-007	page/page	1 5
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*date de la réunion*

Meeting place	<b>Mallorca</b>	chairman	A. Read
<i>lieu de la réunion</i>		<i>président</i>	

Minutes' date	11.04.2008	<b>Participants</b> Andy Read (AR): scientific chair, EPIC (Leicester) Jenny Carter (JC), EPIC calibration and BGWG Support (Leicester) Matthias Ehle (ME), ESA coordination (ESAC) Ignacio de la Calle (ESAC), Carlos Gabriel (ESAC)
<i>dates de minute</i>		
This minutes plus related documents and presentations are available on the web at <a href="http://www.src.le.ac.uk/projects/xmm/technical/">http://www.src.le.ac.uk/projects/xmm/technical/</a>		

Subject/objet	Minutes of meeting EPIC Background Working Group 7	copy/copi	Minutes by M. Ehle
		M. Turner, U. Briel, S. Sembay, S. Snowden, K. Kuntz, W. Pietsch, M. Freyberg, S. Molendi, M. Guainazzi, M. Santos-Lleo, N. Schartel, A. Parmar	

ESA

## **0 Participants**

Apologies from WP and SS; also several other BGWG members are not available this time due to all kind of other commitments.

## **1 Action Items from last meetings (AR)**

- AI\_EPIC\_BG\_WG\_01\_12: on MF: Once any BG or Closed fits files had been obtained, the user can change their CCF\_PATH etc. setup so that a new cifbuild would incorporate these extra files. This enables the BG/Closed events files (e.g. the ones used in SS's task) to be used in the SAS, without them having to be included in the CCF files. - **ONGOING** - Interface TBD (MF & RS)
- AI\_EPIC\_BG\_WG\_03\_07: on ME: test soft proton screening s/w SAS tool "espfil" v0.8.2 available in SAS 7.1: MOS & pn data looks OK, some plotting range adjustments needed - **4/5<sup>th</sup> CLOSED**
- 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\_03\_11: on AR: check HK parameters for anomalous MOS FWC data - **ONGOING**
- 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**
- AI\_EPIC\_BG\_WG\_04\_08: on AR: trigger the generation of smaller sub-sets of EPIC-pn FWC data (with M. Freyberg) => update of FWC web page needed - **OPEN**
- AI\_EPIC\_BG\_WG\_06\_01: On SS/KK: After reception of more 10 ksec FWC data, re-discuss observing strategy: is it useful to collect FWC at start/end of orbit or during slew observations? - **OPEN**
- AI\_EPIC\_BG\_WG\_06\_02: On AR: link papers by SS/KK on Analysis Method/Cluster Catalogue and on the Particle BG in BG components table - **CLOSED**
- AI\_EPIC\_BG\_WG\_06\_03: On SS/ME: release of a new ESAS (MOS only) version updated for SAS v7.1 - **OPEN/ONGOING** (see related AI\_WG\_07\_01)
- AI\_EPIC\_BG\_WG\_06\_04: On JC: internal release of BGSelector and public release (with ME) after Testing - **CLOSED**
- AI\_EPIC\_BG\_WG\_06\_05: On WP: ask M. Bauer about the possibility to convert the new BG handling method into a script/tool for general usage - **OPEN** (to be released as web page?)
- AI\_EPIC\_BG\_WG\_06\_06: On WP: ask M. Bauer to compare the new method with the principal method used by XMM-ESAS, i.e. not subtracting but modelling of the background; SS is interested to help when files are available from M. Bauer - **OPEN**
- 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**

## **2 Reports**

### **2.1 The Status of the Blank Sky files and software (JC)**

The selection tool for blank sky datasets, a.k.a. BGSelector, has been updated and made available on the BGWG web page and should be announced in an XMM-Newton Newsletter, see AI\_EPIC\_BG\_WG\_07\_03.

As more data sets are continuously added, further increasing the file size, a new delivery system will be needed. This is to avoid that users have to download huge files to their local disks that would need to be filtered by them, i.e. creating a high demand on computer power and memory. The new approach is to allow users to request a blank sky file via a dedicated web form before it is created for them at Leicester and made available for download afterwards. A prototype of this web based blank sky selection tool was presented by JC.

#### **2.1.1 Ghosting Problem**

The ghosting tool to create refilled blank sky event list has an issue as it can move ‘good’ events to wrong positions spatially in the event file and can move ‘bad’ events (flagged as being close to CCD borders or bad pixels) into ‘good’ areas.

Possible solutions were presented, i.e. masking CCD gaps more stringently or the introduction of a new ghosting event flag. In the meantime, the problem/limitations of the refilled files will need to be properly explained on the BGWG blank sky web page, see AI\_EPIC\_BG\_WG\_07\_04.

#### **2.1.2 Other Issues**

Skycast and blank sky files: If SAS task atcalc is used more than once on a blank sky file, then on using the backscale task, the backscale keyword is wrongly set to 0. This problem was investigated and is understood; as it cannot be solved in the blank sky files, the workaround solution will need to be explained on the blank sky web page, see AI\_EPIC\_BG\_WG\_07\_05.

### **2.2 BGWG report update for next XMM-Newton User Group meeting (ME)**

The XMM-Newton User Group is asking again for a status report on the progress of the BGWG for their next meeting, May 6-7 2008 at ESAC. ME has been given a 15 minute time slot for this presentation. ME reminded on the “future plans of the BGWG” as presented in last years UG meeting to discuss progress on items listen then (see UG presentation available at [http://xmm.esac.esa.int/external/xmm\\_user\\_support/usersgroup/20070607/back\\_treatment.pdf](http://xmm.esac.esa.int/external/xmm_user_support/usersgroup/20070607/back_treatment.pdf)).

The discussion resulted in AI\_EPIC\_BG\_WG\_07\_01 and 02(see below).

### **3 Discussion**

For details, see presentation by AR available on-line at <http://www.src.le.ac.uk/projects/xmm/technical/>

#### **3.1 Web Pages (AR)**

The current layout and contents of the BGWG web pages was shown and changes since the previous meeting were highlighted: update of blank-sky web page (JC/ME); update of link to Nevalainen et al. 2005 data (ME); update of technical note “XMM-Newton background” (XMM-SOC-USR-TN-0014 by P. Rodriguez and R. Gonzalez) on BGWG portal page.

#### **3.2 BG components Synopsis Table (AR)**

Several updates, mostly linked to recently published papers were introduced and highlighted.

#### **3.3 ESAS update**

Steve Snowden reported via e-mail that for the planned update of the ESAS analysis package he is having some problems with the SAS task arfgen and the creation of the cross-arfs: the normalization of the arf changes with selected binning size for the detector map. He is already in contact with the task developer, R. Saxton, see also AI\_EPIC\_BG\_WG\_07\_09. Because of the arfgen issue, the work on getting ESAS functioning with EPIC-pn data had to be postponed.

### **4 Final session: - Summing up**

#### **4.1 New members of the BGWG**

Ignacio de la Calle and Carlos Gabriel (both XMM-Newton SOC) expressed their interest in the work of the BGWG and were present at this meeting for the first time. Being newcomers to this working group they were invited to check existing pages and tools from a users point of view and to provide feedback (see AI\_EPIC\_BG\_WG\_07\_07). Both also agreed to consider the preparation of analysis threads and recipes for the analysis of extended sources (AI\_EPIC\_BG\_WG\_07\_08).

#### **4.3 Next Meeting**

Date and Location will be attached to the next EPIC Cal/Ops meeting, currently planned for spring 2009 in Mallorca: These meetings usually take 1.5 days so that a 0.5 day BGWG meeting can be scheduled (preferably) before or after this.

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**New Action Items resulting from this meeting:**

- AI\_EPIC\_BG\_WG\_07\_01 On JC: to provide ME with a list on major performed updates on blank sky files (as input for next UG meeting report)
- AI\_EPIC\_BG\_WG\_07\_02 On ME: to draft next UG presentation and distribute to AR/SS for check and comments
- AI\_EPIC\_BG\_WG\_07\_03 On JC: to draft a section on the release of BGSelector for an XMM-Newton Newsletter
- AI\_EPIC\_BG\_WG\_07\_04 On JC: to provide descriptions of limitations of refilled blank-sky event files on the blank sky web page (Watchout section) and continue investigation of possible solutions to ghosting problem
- AI\_EPIC\_BG\_WG\_07\_05 On JC: to provide descriptions on the scaling of exposure maps and on the workaround for the skycast problem (both related to blank sky fields) on the blank sky web page
- AI\_EPIC\_BG\_WG\_07\_06 On JC & AR: to include descriptions mentioned under AI\_WG\_07\_05 also in related scripts and tools
- AI\_EPIC\_BG\_WG\_07\_07 On CG & IC: to check BGWG pages from a users point of view and to provide ideas for further improvement of the documentation
- AI\_EPIC\_BG\_WG\_07\_08 On CG & IC: to consider preparation of simple analysis threads and recipes for the analysis of extended sources (mentioning complexity & different approaches)
- AI\_EPIC\_BG\_WG\_07\_09 On CG: clarify (with R. Saxton) arfgen problem reported by S. Snowden which is related to the planned ESAS update

Possible future AI (on R. Saxton+student)?

Use SciSim to simulate cluster & bkg and test different analysis methods on it (also for Chandra simulator).