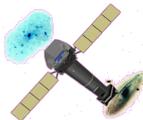


BGWG Blank Sky update

Jenny Carter & Andy Read



XMM
EPIC
MOS

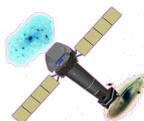
Jenny Carter (jac48@star.le.ac.uk)
9th EPIC BGWG Meeting
Madrid, March 2010



University of
Leicester

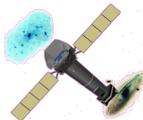
Action Items, March 2009

- AI_EPIC_BG_WG_08_01: Add example current Blank Sky files to web so standard requests might be fulfilled, avoids duplications
- AI_EPIC_BG_WG_08_02: Changes to web page text taking into account user comments
- AI_EPIC_BG_WG_08_03: Add info on exposure weighted nH from the used component files
- AI_EPIC_BG_WG_08_04: Consider the long term support plan and automation of process



Current status, March 2010

- Completed Action Items:
 - 08_02: web site
 - 08_03: nH to output page
- Ongoing Action Items:
 - 08_01: All completed requests added to table on web page, not currently linked to main page
 - 08_03: Continued development to automate the process
- MAJOR CHANGE: New processing with SAS 9.0.0
 - Increased mission coverage, up to revn. 1789
 - Minor changes: src removal based on flux from source list, flags, bad pixs
 - Will have to include warnings re MOS1 CCD 6 for latter revns on web page



Summary table, online at:

http://www.star.le.ac.uk/~jac48/BG/UserRequest/bs_allfiles.html

XMM-Newton EPIC Background Blank Sky File Delivery details

Request from the EPIC Blank Sky team:
We politely request that should the files here contribute to work that leads to publication, that the reference to the Blank Sky work ([Carter and Read \(A&A 464, p1155, 2007\)](#)) be cited.

Diagnostic files for all blank sky available observations, regardless of instrument, filter or mode:

1. Revolution histogram : [revnhist.jpg](#)
2. Ontime histogram (post flare cleaning) : [ontimehist.jpg](#)
3. Component map (galactic coordinates) : [map_selection.jpg](#)
4. Exposure weighted galactic column (cm-2): 1.78e+21

Requests summary:

ID	Inst.	Filt.	Mode	Status	SAS	Time	Date	Revn	Exposure	Galactic column	Count rate	Coord	Max no. events
				(Unfiled/ghosted)		limits (s)		limits	limits (ks)	limits (cm-2)	limits (ct/s)	RA, Dec (or Gal (G) long, lat), radius (deg)	
0173	PN	T	FF	G	7.1					4.0e20,8.0e20	1.0,5.0	16.9,5.0,180	

Done

Start | BGWG.BlankSky.JAC.Ma... | XMM-Newton EPIC Ba... | EN | 15:19

Example delivery page to user

The screenshot shows a Mozilla Firefox browser window with the following details:

- Address Bar:** http://www.star.le.ac.uk/~jac48/BG/UserRequest/bs_response_0173.html
- Page Title:** XMM-Newton EPIC Background Blank Sky Products Delivery
- Request id:** 0173
- Delivered files:**
 - Blank sky event file 1: [blanksky_events.fits](#)
 - Blank sky exposure file, non-vignetted 1: [blanksky_expn.fits](#)
 - Blank sky exposure file, vignetted 1: [blanksky_expv.fits](#)
- Request sent:** Thu, 11 Feb 2010
- Request summary:**
 - Instrument: PN
 - Filter: Thin
 - Mode: Full-Frame

The browser's taskbar at the bottom shows the Start button, several open windows (BGWG.BlankSky.JAC.Ma..., Mozilla Firefox, XMM-Newton EPIC Ba...), and system tray icons including the language indicator (EN), network, volume, and clock (15:07).



Diagnostic files:

1. Revolution histogram 1: [revnhist.jpg](#)
2. Overtime histogram (post flare cleaning) 1: [ontimehist.jpg](#)
3. Component map (galactic coordinates) 1: [map_selection.jpg](#)
4. Exposure weighted galactic column (cm-2): $5.01e+20$

Comment: Files were created for the selection requested. Details of the selection procedure:

1. The instrument, filter, mode and filled status selection was completed successfully, events were found
2. The selection by coordinates was completed successfully, events were found
3. The selection by galactic column density was completed successfully, events were found
4. The selection by count rate was completed successfully, events were found

Request from the EPIC Blank Sky team:

We politely request that should the files here contribute to work that leads to publication, that the reference to the Blank Sky work ([Carter and Read \(A&A 464, p1155, 2007\)](#)) be cited.

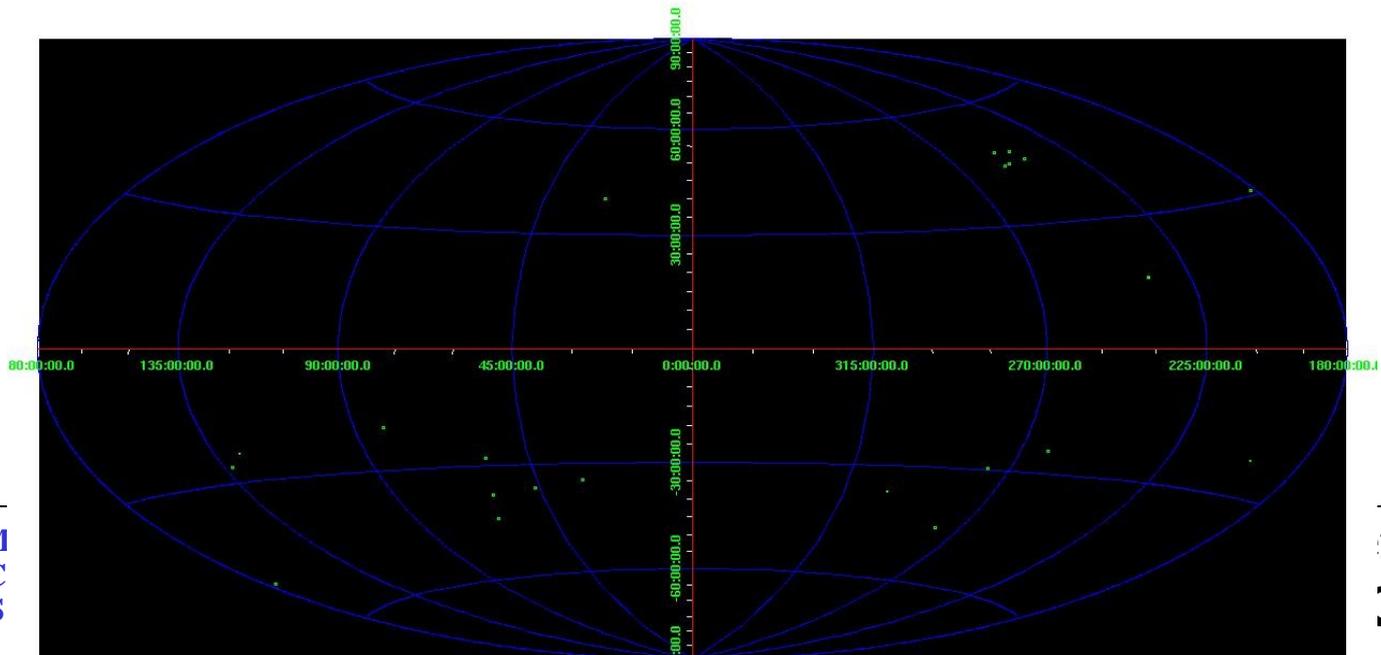
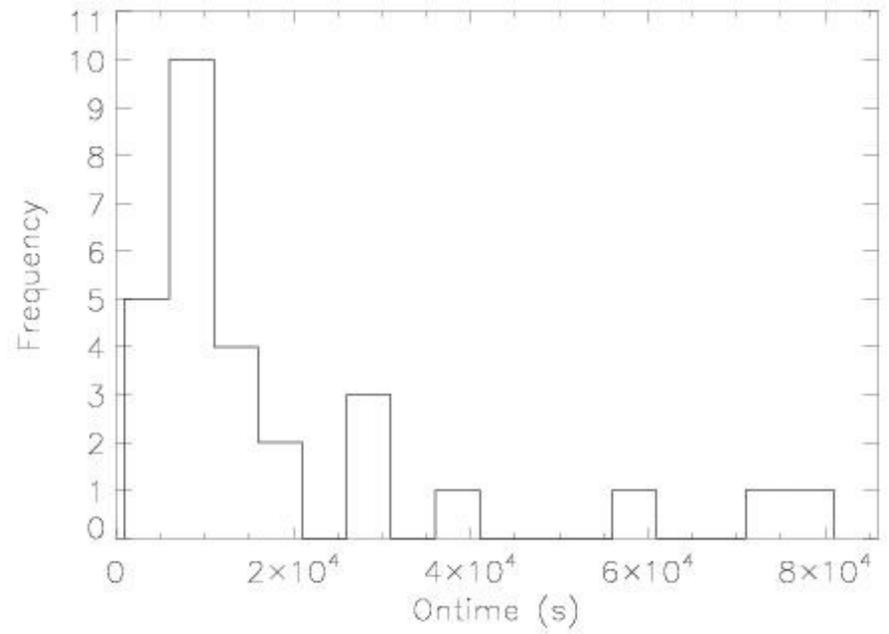
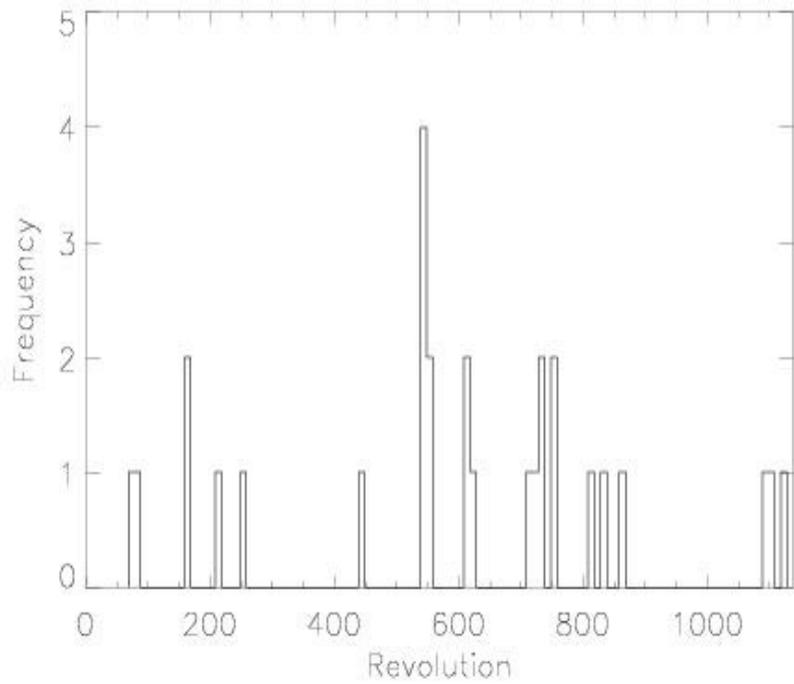
Done

Start | BGWG.BlankSky.JAC.M... | StarOffice Help - StarOf... | Mozilla Firefox | XMM-Newton EPIC Ba... | jac48 - jac48@nyx.star.... | EN | << >> 15:14



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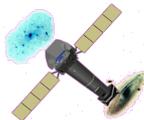
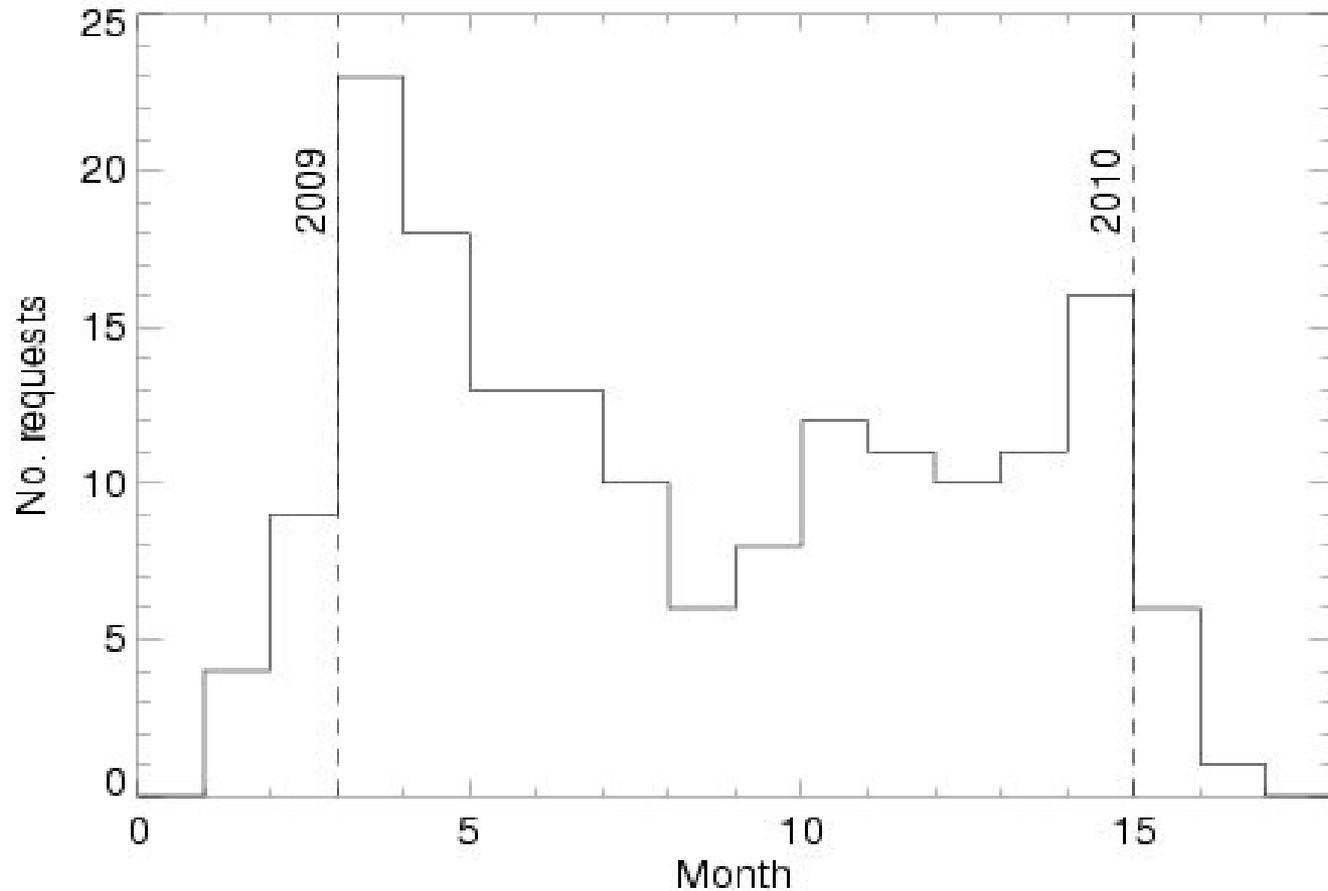




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MOS**

**University of
Nottingham**

Requests summary, start October 2008



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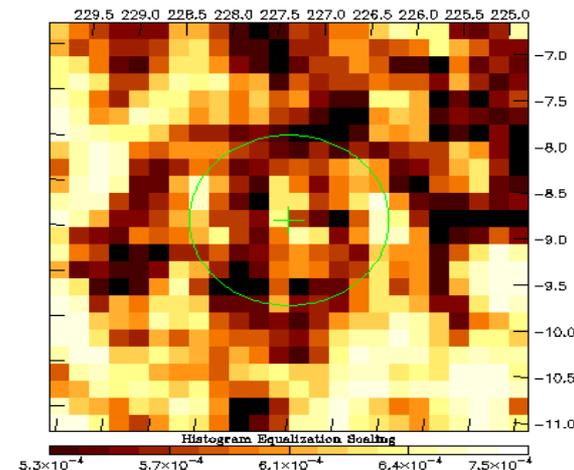
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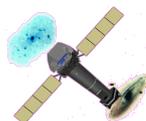
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Queries and comments this year

- Resultant counts between blank sky and user's observation, even with location selection: count rate selection option very helpful



- Large blank sky files too big for use with espfilt
 - Small blank sky files could be processed
 - Advised user to use standard GTI filtering
 - Appears limit to size of file espfilt can handle
- Large/small window mode occasional query – directed to FWC or use of outer CCDs



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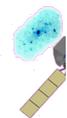
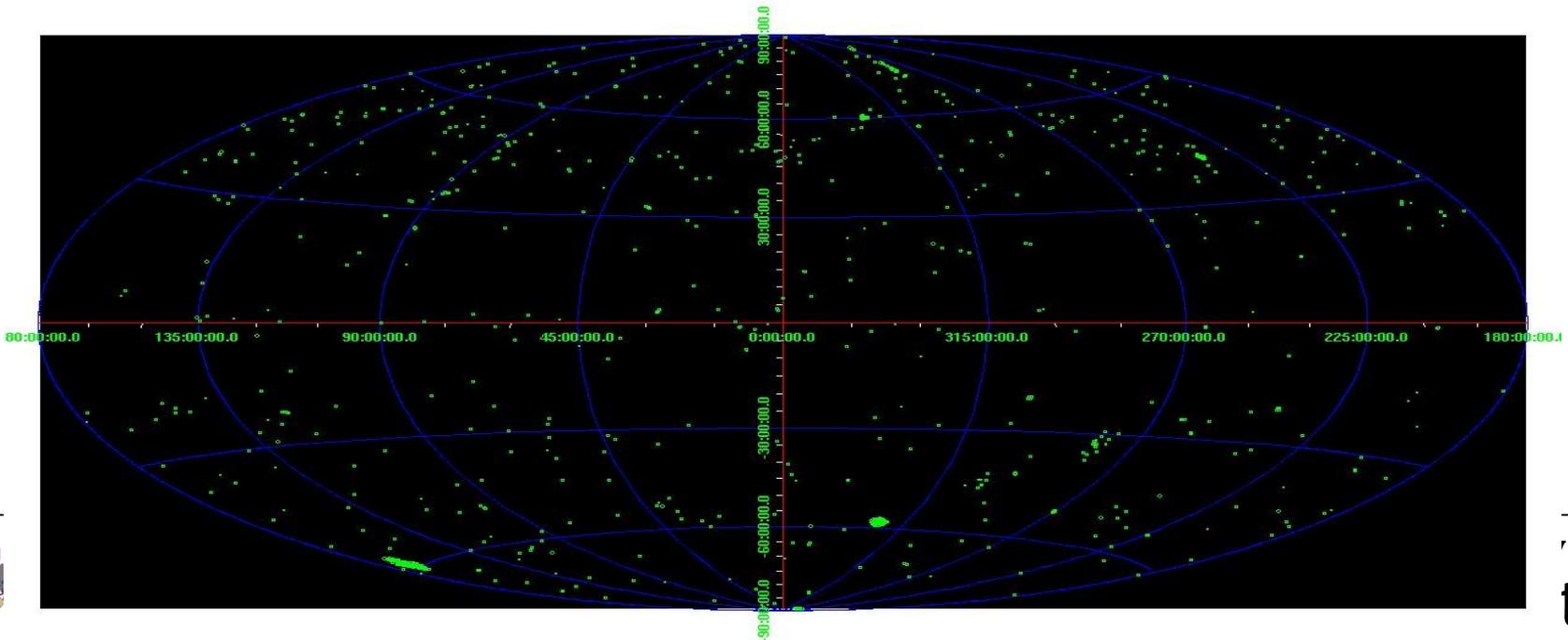
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Blank sky with SAS 9.0

- Many more files up to revn. 1789
- Src. removal radius based on flux threshold, flags, bad pixs.
- Verification and changes required to web page - ACTIONS ON JC (in progress, hope for May release)
- Sky coverage, example MOS1 full-frame, thin (approximately 920 files, some will probably be removed):



Other points

- Online threads at SOC
 - Awaiting web structure changes to be implemented by the SOC
 - Suggestions for adjustments to text have been sent to IdlC
- Small Window mode
 - **ACTION JC/IdlC:** add comment to blank sky web site recommending FWC data sets

