

# Background Working Group (BGWG)

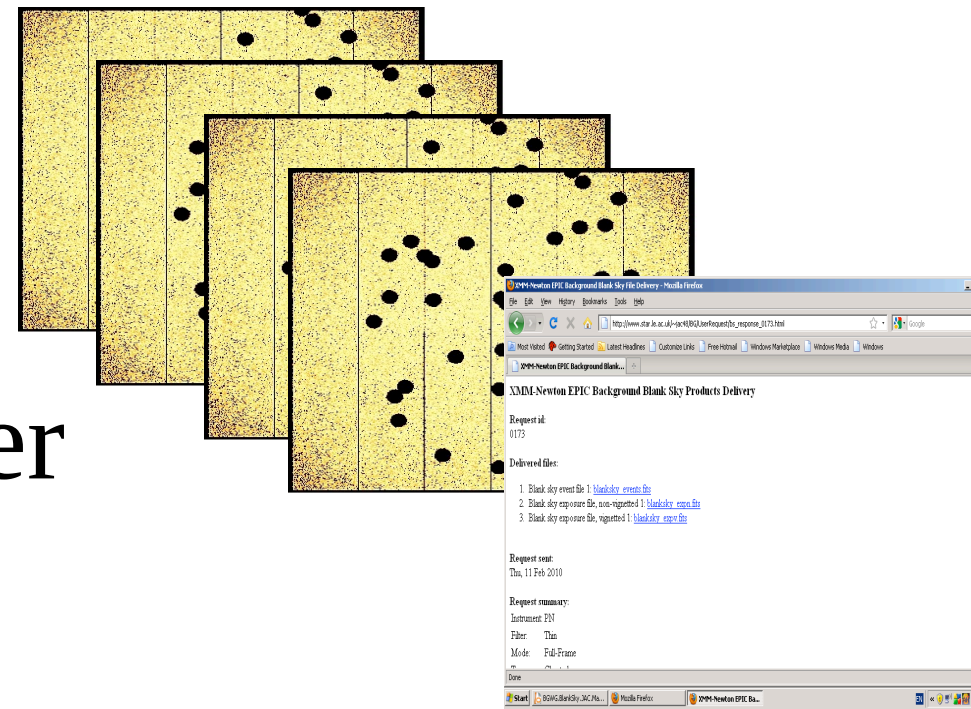
UG 2009:

‘The UG congratulates the SOC, Instrument Teams, Background Working Group (BGWG) and SAS developers also from SSC for the tremendous work done on the different aspects of the calibration, background analysis and SAS development.’

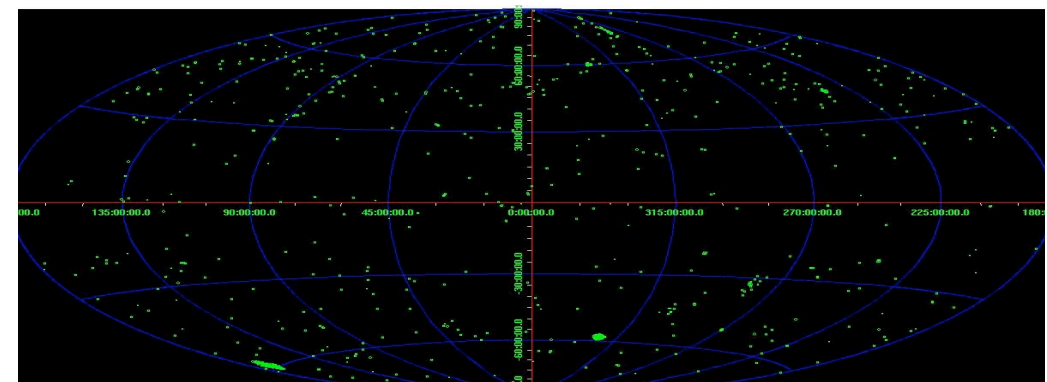
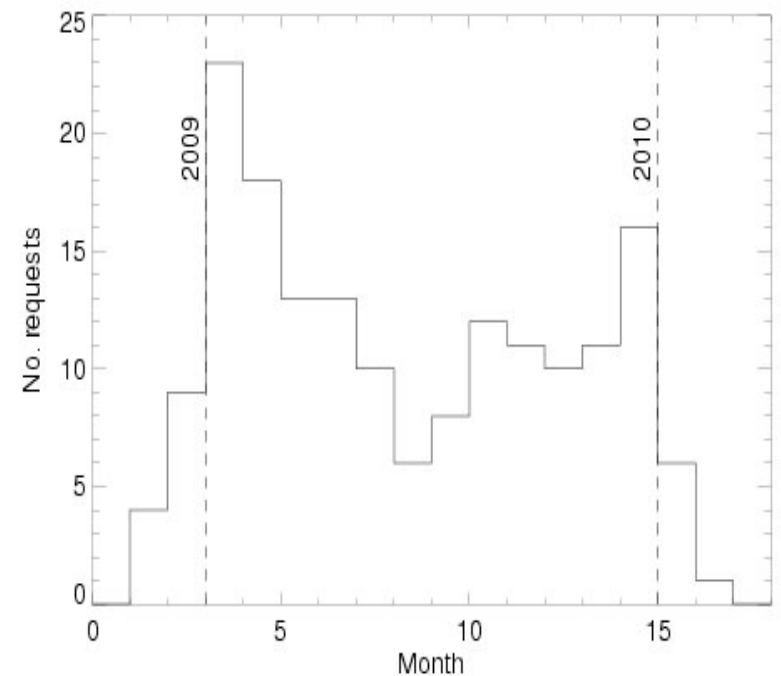
- Blank Sky files
- Solar Wind Charge Exchange (SWCX)
- Filter Wheel Closed (FWC) data
- Extended Source Analysis Software (ESAS)
- CCD Noise/Health (AMR talk to come)
- + User resources (files, tasks, scripts, info, papers)

# Blank sky (JC/AR)

- Online request form, web delivery
- Files processed & tested at Leicester

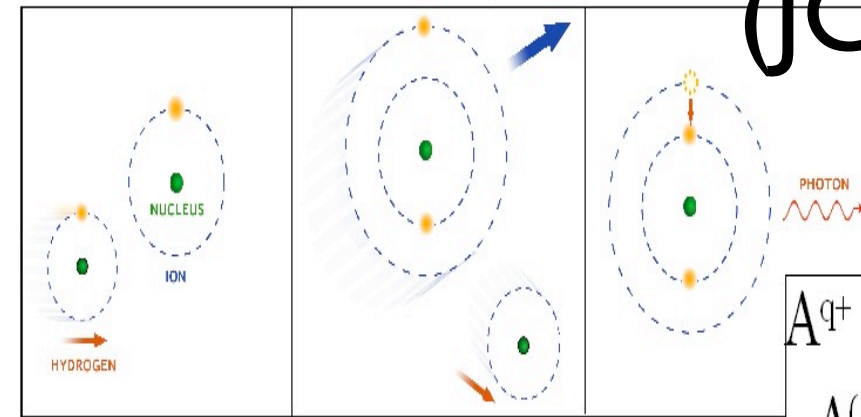


- Diagnostic plots output with files
- Good response
- Changes to web page:
  - Count rate selection
  - Exposure weighted nH info
- Commenced sas 9.0 processing
  - Changes: flag, src removed radius dependent on flux, bad pixels
  - Up to revn. 1789
- Summary page of requests:
- [http://www.star.le.ac.uk/~jac48/BG/UserRequest/bs\\_allfiles.html](http://www.star.le.ac.uk/~jac48/BG/UserRequest/bs_allfiles.html)

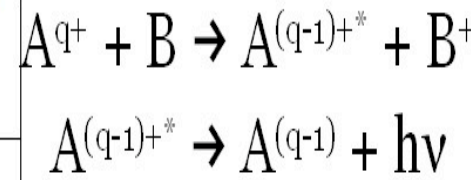


# Solar Wind Charge Exchange (SWCX)

- Solar wind interacting with neutrals
  - Earth's exosphere, near IP space
  - Comets, heliosphere



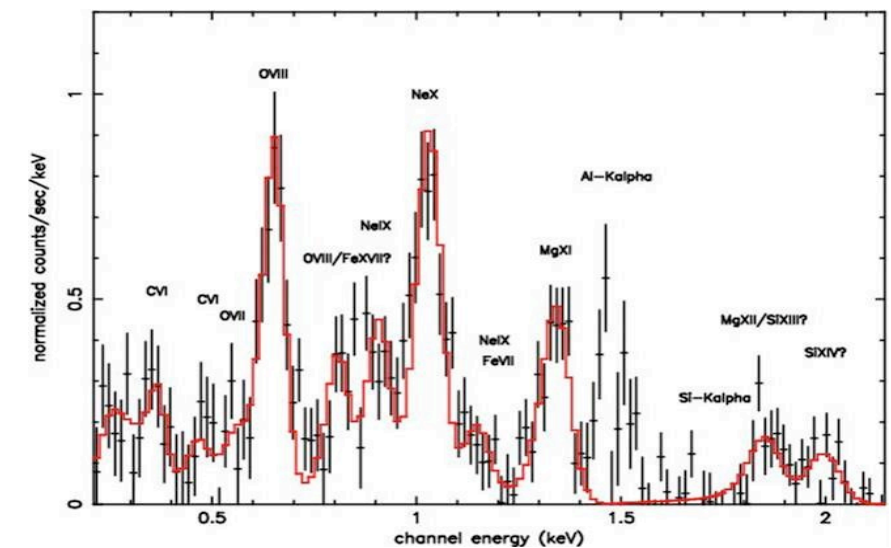
(JC/SS/AR)



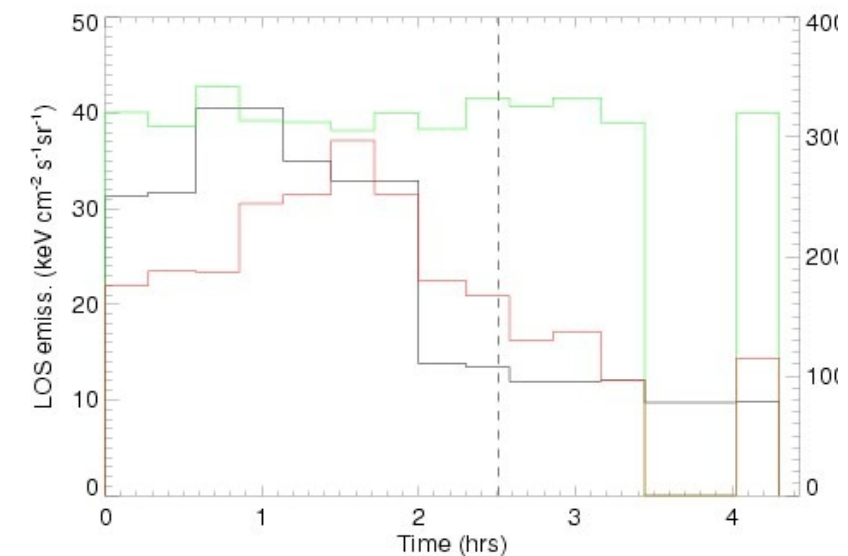
- Dependent on solar wind speed & density, XMM-Newton viewing
- Extend work of Carter & Sembay 2008 , look for time variable SWCX (exospheric) component in

0.5 – 0.7 keV band

- XMM-Newton observed CME
  - in detail look, many solar wind heavy ions seen, Carter et al. 2010



- Modelling expected emission based on upwind solar wind conditions
- Plan web based diagnostic of likelihood of SWCX during observation

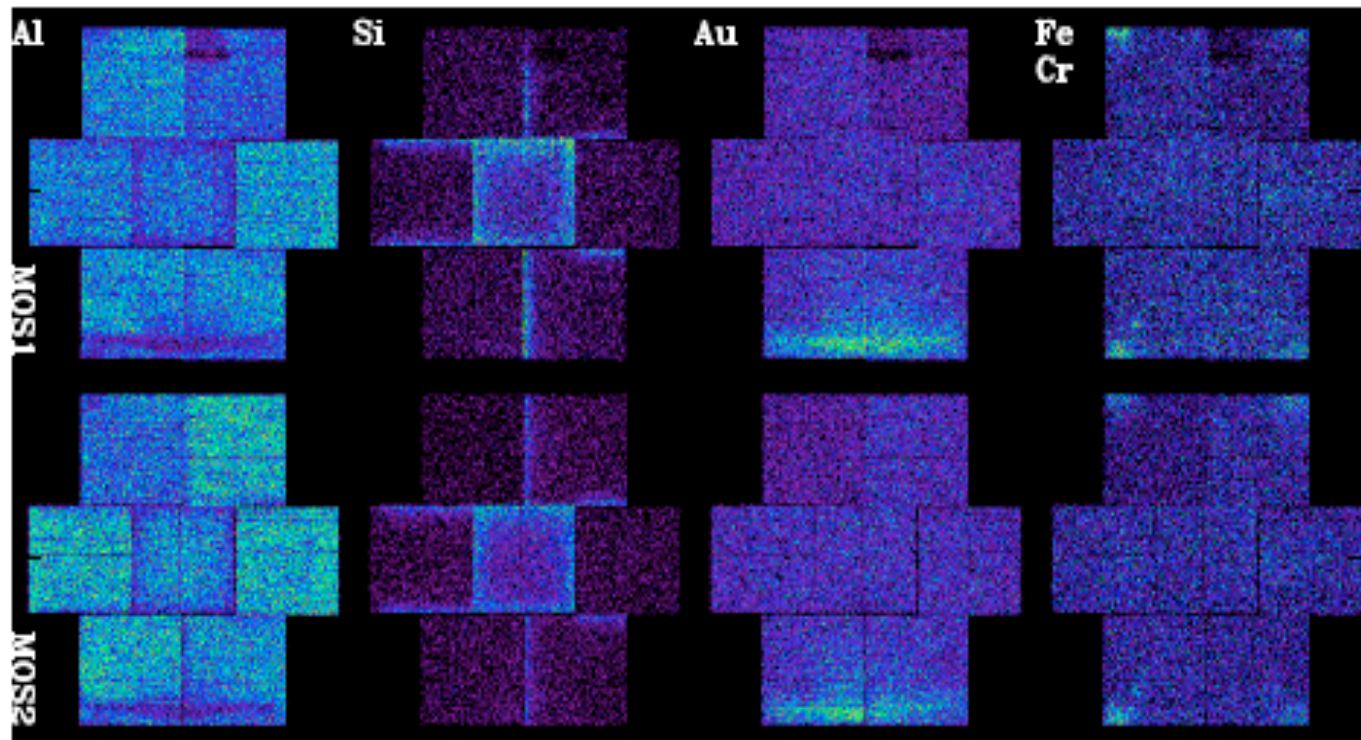




# Filter Wheel Closed Data

IdIC/KK

- New approach implemented in the Routine Calibration Plan as of **summer 2009**
  - 2 x 10 ksec RCO; CLOSED FF (**10 ksec/semester**)
  - Should there be evidence of response inhomogeneities, this can be increased via NRCOs
  - Additionally, during all the slews in every 4<sup>th</sup> revolution, the MOS cameras can be set to CLOSED FF (pn slews are used for science)



As of Jan 2010, the SOC takes over the responsibility for updating the FWC repository

Update of repository has started with pn FF and other modes and MOS will follow once an approach for the update is agreed on

# Extended Source Analysis Software SS/KK/IdIC/CG

Part of SAS as of v.9.0 (*only MOS analysis available; pn on the way*)

Stand alone version of the Cookbook (v.4 2010), will merge with SAS Manual when full XMM-ESAS version is ready within SAS

Trainee in 2010 to start working in comparison of background treatment methods

