



XMM-Newton – GOF Functions

- **GOF functions include**
 - **User support + help desk- primarily through electronic means but there are some visitors**
 - **SAS testing (we are a major β test site)**
 - **XMM Calibration Activities – EPIC background**
 - **New (Ftools based) software – HERA**
 - **Proposal Support and Proposal Support Software (SimX, PIMMS, and OM Software),
Development of RPS for XMM**
 - **US Budget Reviews – That would be you**
 - **US Archive**
 - **Value-added – OM Catalog, Source Classification, Trend Data and Tools, Object Oriented DB**



XMM-Newton – GOF Personnel

- **GOF Head: Richard Mushotzky**
- **Scientists:**
 - **Deputy Project Scientist & EPIC Specialist: Steve Snowden**
 - **RGS Specialist: Lynne Valencic – Publications, ABC Guide**
 - **OM Specialist: Rick Shafer – HERA**
- **SAS and Systems Support: Brendan Perry**
- **HERA: Pan Chai**
- **Archive and Other Duties as Assigned: Mike Arida**
- **GO Grant Specialist: Sandy Barnes**
- **Software, Browse, etc., Support, Ftools etc.: 1 FTE**
- **Total FTE: ~8 FTE**



XMM-Newton GOF User Support

- **Web Based – Primary Method**
 - **General information**
 - **Instrument capabilities**
 - **Proposal information**
 - **Analysis tools, e.g., ABC Guide**
- **E-mail**
 - **Specific questions, all areas (and then some)**
 - **Goal of same-day acknowledgement, most with same-day answers**
 - **Some referred on to the SOC (for inclusion in FAQ files)**
- **E-mail Newsletter**
- **Site Visits**



XMM-Newton GOF Documentation

- **Web-Based Provision of Documentation**
- **SOC Generated Documentation**
 - **Not intended to be complete**
 - **Has commonly used docs, e.g., XMM Users Handbook
Science proposal documentation**
- **GOF Generated Documentation**
 - **ABC Guide**
Updated for SAS V7.1
 - **Software documentation**
E.g., XMM-ESAS Users Guide, HERA
 - **Budget proposal documentation**
 - **Science proposal documentation**
E.g., SimX Users Guide



XMM-Newton GOF Software

➤ **SimX**

- **Revision of QuickSim – Generalizable, easier to update**
- **Tool for modeling XMM observations**

Updated for every AO

Users Guide

➤ **X-ray Background Tool**

- **RASS count rates in 7 bands**
- **Xspec compatible spectra**
- **Included in HEASARC tools**

➤ **Background Modeling Software**

- **Stand-alone Perl and Fortran 77 routines, may not be put into SAS**



XMM-Newton Background Modeling Package – XMM-ESAS

Steve Snowden & Kip Kuntz

- **Publicly Released 5 April 2006, new version imminent (summer)**
- **XMM-Newton Extended Source Analysis Software, Suite of Fortran 77 programs and Perl scripts**
- **EPIC Instruments (MOS for now, working on pn)**
- **Particle Background Modeling**
 - Position dependent background spectra**
 - Particle background images**
 - Soft proton treatment**
- **Creates exposure corrected, background subtracted, and adaptively smoothed images, and mosaics of multiple pointings**
- **Manual/Cookbook and spectral/imaging examples including suggested treatment for other background components**
- **Future extensions**
 - Extension to PN data – Ongoing**



XMM-Newton Within HERA

Hera is a new experimental data analysis service of the HEASARC

It enables full data analysis over the Internet, including

High speed access to all the HEASARC archival data

Latest versions of the HEASOFT, CIAO, and XMM-SAS software packages

Cluster of 6 fast Linux machines to run the software

Large user disk area for intermediate file storage

Users only need to install the small Fv program

Acts as the client to the Hera servers at the HEASARC

Makes data analysis easier and faster

Users don't have to install and maintain SAS on their local machine

Users don't have to download large data sets to their local machine

Make the data more accessible to new users

The graphical user interface can guide novice users through the steps of the analysis

Hera can be customized for specific purposes



XMM-Newton GOF TBD

Current active tasks:

Expand XMM-ESAS – add capability for processing pn data

Profit – improvements and expansion

SimX – extensive improvements over QuickSim,
will improve PSF treatment

Trend Data – finish initial release