BiRD: a Browsing Interface for RGS Data
http://xmm.esac.esa.int/BiRD/

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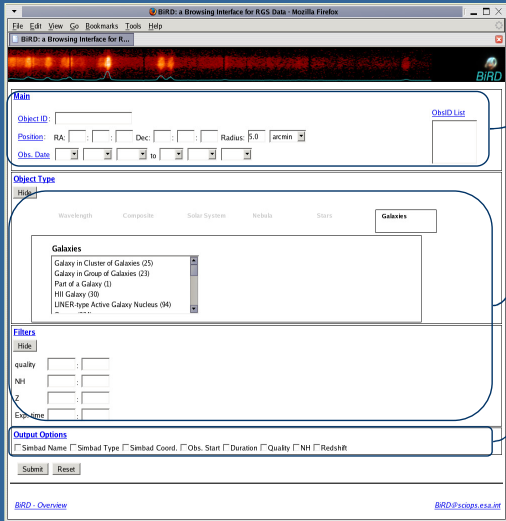
BiRD is a browsing and visualization tool for XMM-Newton RGS fluxed spectra. It allows to browse and examine the data before downloading them from the XSA for full analysis.

Spectra can be selected through the *BiRD* interface using a variety of parameters, such as (e.g.) date of observation, level of exposure or type of object.
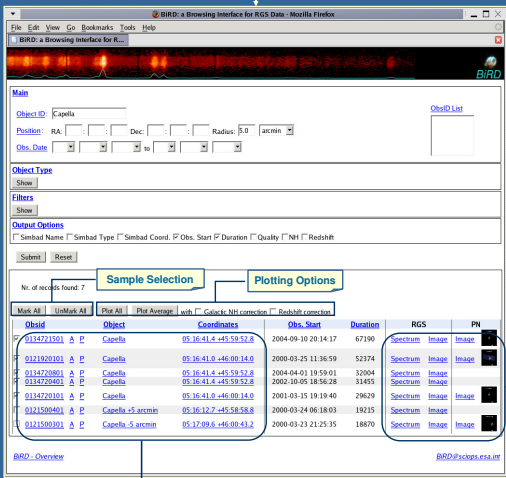
The *BiRD* interface provides access to 4959 RGS observations, that have been uniformly processed with SAS 7.0.

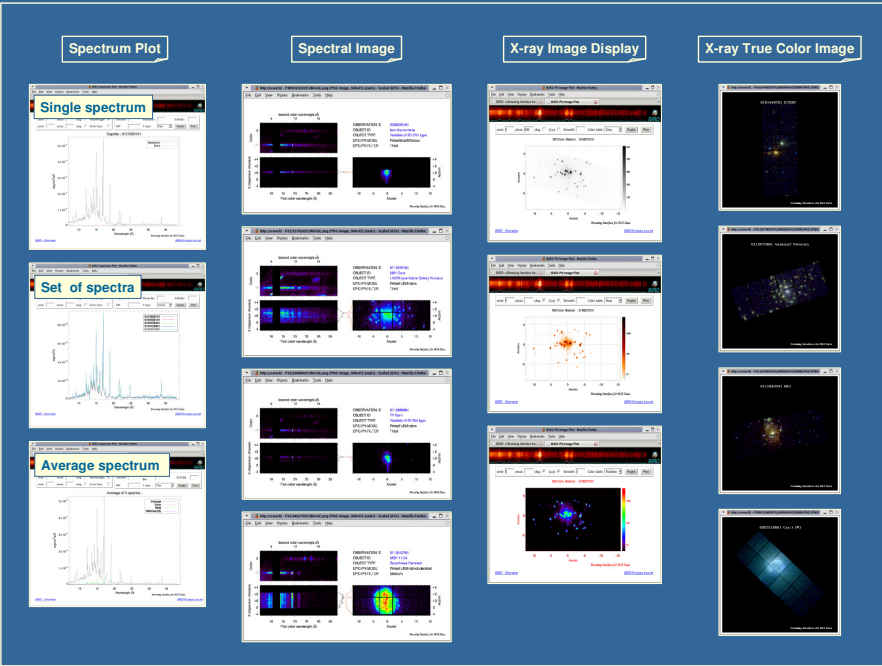Data were processed with the SAS metatask rgsproc:

• rgsproc was run using the target coordinates given in the XMM-Newton proposal
• First order spectra where generated using 100% of the spatial PSF. A model background spectrum (generated with the SAS task rgsbkgmodel) was used for the background correction
• Response matrices were computed for each spectrum with rgsrmfgen
• A fluxed spectrum was created for each observation combining all the available RGS1 and RGS2 first order spectra with rgsfluxer

In addition to the spectra themselves, the *BiRD* interface provides other information useful for the interpretation of the data:

• Observation start time
• Target name and coordinates as provided in the XMM-Newton proposal
• RGS effective exposure time (taken as the average of the exposure time of the RGS1 and RGS2 spectra)
• An estimation of the quality of the combined RGS1+RGS2 fluxed spectrum
• Galactic Hydrogen column density, obtained from Dickey and Lockman (1990)
• From the SIMBAD database:
  • Name and Coordinates
  • Type of object
  • Redshift (if applicable)
• Links to SIMBAD, the On-Line-Browser, the XSA Postcard Server and the XMM List of Publications

Search by:
• Object name
• Coordinates
• Observing date
• Observation Id

Additional search criteria:
• Type of object
• Quality
• Hydrogen Column
• Redshift
• Exposure time

Optional output fields:
• Simbad name
• Simbad Type
• Simbad Coordinates
• Observing date
• Exposure time
• Quality
• Hydrogen Column
• Redshift

Additional Information

Visualization Tools

Spectrum Plot
Single spectrum
Set of spectra
Average spectrum

Spectral Image

X-ray Image Display

X-ray True Color Image

XSA Postcard Server
Simbad search by name and by coordinates
XMM observations on-line browser
List of Publications

BiRD also provides some basic visualization utilities, both for the RGS spectra and spectral images, as well as for the EPIC-pn images taken in parallel:

RGS Spectrum :
Possibility of plotting several spectra together or their average
Selection of Wavelength/Energy and of X and Y ranges (and logarithmic scale)
Smoothing, binning in pixels and binning in Signal-to-Noise Ratio
Correction for redshift and interstellar absorption
Choice among different flux scales (Flux, νFν, photons)

RGS Image:
RGS1 spatial image, and its profile along the XDSP direction
RGS1 spectral image, "rectified" so that the spectral orders appear as horizontal stripes
EPIC-pn image taken simultaneously with the RGS spectrum (when available), and its spatial profile along the DETY direction

EPIC-pn Image:
Selection of the intensity range (and logarithmic scale) and Color Table
Display of grid
Smoothing

EPIC-pn True Color Image:
Red: 0.3-0.7 keV
Green: 0.7-1.2 keV
Blue: 1.2-8.0 keV

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