

# BiRD: Browsing RGS Spectra

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As of May 2008, the XMM-Newton Science Archive (XSA) contains nearly **5500** RGS observations of more than **2300** different astronomical objects. We have processed all these datasets with the most up-to-date version of software (SAS 7.0) and calibration files.

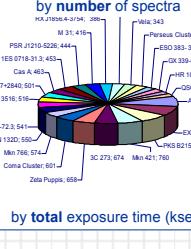
Data were processed with the SAS metatask *rgsproc*, with:

- target coordinates given in the XMM-Newton proposal
- 100% of the spatial PSF
- a model background spectrum (generated with the SAS task *rgsbkgmodel*) for the background correction

Response matrices were computed for each spectrum with *rgsrmfgen*, and a fluxed spectrum was created for each observation combining all the available first order spectra with *rgsfluxer*

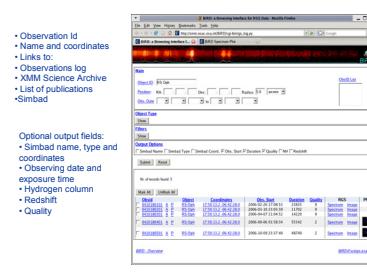
This large dataset of spectra uniformly processed and calibrated in physical units can be accessed through the **BiRD** (Browsing Interface for RGS Data) utility.

This tool allows to browse and examine the data before downloading them from the XSA for full analysis. Spectra can be selected through several parameters, such as e.g. date of observation, level of exposure or type of object..



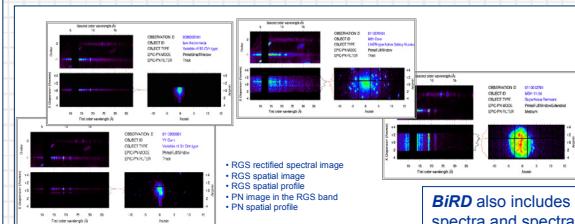
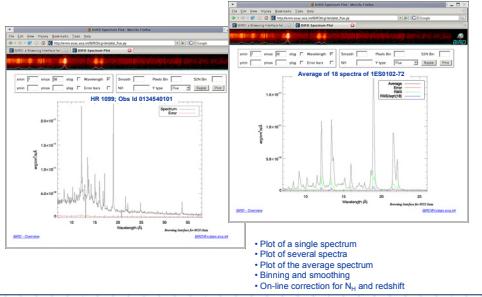
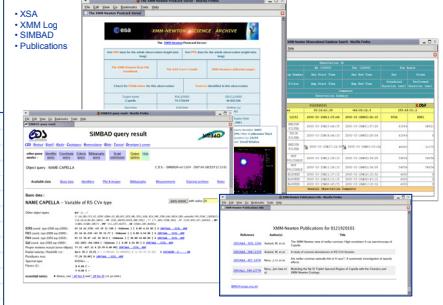
## Main search parameters:

- Object name
- Coordinates
- Observing date
- Observation id
- Type of object
- Quality
- Hydrogen Column
- Redshift
- Exposure time



## BiRD provides the following information:

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



BiRD also includes some basic plotting and visualization utilities, both for the RGS spectra and spectral images, as well as for the EPIC-pn images taken simultaneously:

- Choice of units, binning and smoothing
- On-line correction for redshift and interstellar absorption
- Plot of the average of the selected spectra

