Accessing data from the US ROSAT PUBLIC DATA ARCHIVE

M. F. Corcoran
(NASA/GSFC-LHEA & USRA)

last update: 27-September-2001

Contents

1 Retrieving Data from the *ROSAT* Data Archive **1**
1.1 Organization of the US *ROSAT* Archive 1
1.2 Retrieving data via anonymous FTP 2
1.3 Using BROWSE to Access the ROSAT Archive 3

2 For more information **4**

Abstract

This article is useful to help *ROSAT* archive users understand how to find and access archived *ROSAT* data. For more information about the *ROSAT* archive, see

`ftp://legacy.gsfc.nasa.gov/rosat/doc/archive/archive_intro.html`

For help please e-mail rosathelp@olegacy.gsfc.nasa.gov or request@olegacy.gsfc.nasa.gov

1 Retrieving Data from the *ROSAT* Data Archive

1.1 Organization of the US *ROSAT* Archive

The *ROSAT* archive is stored on a magnetic disk farm administered by the HEASARC. The archive is a standard unix file system. PSPC data can be found at

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data`

while HRI sequences are located in

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data`

ROSAT data are stored within directories named by sequence type as follows:

Sequence Type	Description
000000	Mispoints
100000	Calibration observations
200000	Normal stars
300000	Cataclysmic Variables
400000	X-ray Binaries
500000	Supernova Remnants
600000	Galaxies
700000	Active Galaxies
800000	Clusters of Galaxies
900000	Solar Systems, Surveys and Miscellaneous

Within the sequence-type subdirectories, each ROSAT data sequence is stored in a subdirectory named by the sequence id. Each sequence subdirectory contains a number of FITS files in RDF format containing the public *ROSAT* data for that sequence.

1.2 Retrieving data via anonymous FTP

For each sequence type listed above a table of contents file in HTML format is stored within the `processed_data` directory, which may be used to identify sequences of interest. The table of contents file has the form `sequence_type.html`, for example

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data/800000.html`

To aid the user these table of contents files are also labelled with a descriptive name, for example

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data/clusters_of_galaxies.html`

ASCII lists of all public archived data are available via ftp from

`ftp://legacy.gsfc.nasa.gov/rosat/doc/archive/lists/rosarchive_final.pos.gz`

for the list of archived sequences sorted by declination and

`ftp://legacy.gsfc.nasa.gov/rosat/doc/archive/lists/rosarchive_final.seq.gz`

for the list of archived sequences sorted by sequence number

Once a sequence of interest is identified the sequence data directory can directly be accessed by ftp, and data files of interest can be transferred to the user's computer.

For example,users who may be interested in *ROSAT* PSPC observations of normal stars can access a list of such observations at

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data/normal_stars.html`

The first entry in this file is a pointing at V410 Tau with a sequence identification number of RP200001A00. Data for this sequence is archived at

`ftp://legacy.gsfc.nasa.gov/rosat/data/pspc/processed_data/200000/rp200001a00/`

FTP from the unix command line can also be used to download data from the *ROSAT* archive. Using command line ftp, users can tar an entire data directories for download. An example, in which the entire directory associated with the *ROSAT* observation 800646a01, is shown below:

```
your_machine% ftp legacy.gsfc.nasa.gov
Connected to legacy.
Name (legacy.gsfc.nasa.gov:einstein): anonymous
331 Guest login ok, send your complete e-mail address as password.
Password:
ftp> cd rosat/data/pspc/processed_data/800000
250 CWD command successful.
ftp> dir
200 PORT command successful.
ftp> bin
200 Type set to I.
ftp> get rp800646a01.tar
200 PORT command successful.
150 Opening BINARY mode data connection for /bin/gnutar.
```

Specifying a directory with a "`.tar`" extension, the entire directory will be `tar'ed` and transferred to the user's local disk.

1.3 Using BROWSE to Access the ROSAT Archive

BROWSE is a web-based interface to catalogs and data archives supported by the HEASARC. BROWSE can be used to search the *ROSAT* catalogued datasets by position, source name, or table parameter (like observation start date, end date, exposure time, etc.) and access and download data directly from the archive. The BROWSE interface can be accessed at

`http://heasarc.gsfc.nasa.gov/db-perl/W3Browse/w3browse.pl`

The main ROSAT observation catalogs are the *ROSAT* Master Observation catalog (ROSMASTER) and the *ROSAT* Archival Data catalog (ROSPUBLIC). There are also a nubmer of *ROSAT* source catalogs available for searching with BROWSE. The "basic" BROWSE search facility can be used to search for *ROSAT* data for a given object or celestial coordinate by inputting the name or coordinate of the object and clicking the *ROSAT* checkbox under "X-ray Missions". Advanced searches can allow searching the catalogue of archived observations by position, source name and/or parameter.

After the search is done, the results can be displayed in an HTML table. The results can be sorted by any displayed parameter. Data products can be displayed as clickable links in the web browser or directly downloaded as a tar file.

For detailed information on using BROWSE, see that BROWSE help page at

`http://heasarc.gsfc.nasa.gov/W3Browse/w3browse-help.html`

2 For more information

Please contact


```
          Dr. Michael Corcoran
          Code 668
          Goddard Space Flight Center
          Greenbelt      MD 20771
          (301) 286-5576
          corcoran@barnegat.gsfc.nasa.gov
   rosathelp@olegacy.gsfc.nasa.gov
```