Archives and Data for X-ray astronomy

Part 1: Getting observation data
Part 2: Source catalogs

Jonathan McDowell

SAO/CXC

with acknowledgements to (and plagiarism from) Keith Arnaud

Part 1: Observation data

Active missions

Chandra X-ray Observatory (1999-present) CCDs, MCP, gratings

cxc.harvard.edu/cda

XMM-Newton (1999-present) CCDs, gratings (and UV)

xmm.vilspa.esa.es/xsa/

Suzaku (2005-present) CCD, phoswich/Si diode

heasarc.nasa.gov/docs/archive.html (and darts.jaxa.jp/astro/suzaku)

Swift (2004-present) CCD, CdZnTe/Mask (and UV)

heasarc.nasa.gov/docs/archive.html

Rossi XTE (1995-present) PCs, phoswich

heasarc.nasa.gov/docs/archive.html

Notable archival missions and instruments

Non-imaging Proportional counters:

HEAO-1 A1,A2 (1977-1979), Exosat ME (1983-86), Ginga LAC (1987-1991)

Imaging proportional counters:

Einstein IPC (1978-81) , Rosat PSPC-B,C (1990-99), BeppoSAX LECS,MECS ,HPGSPC (1996-2002)

CCDs:

ASCA GIS,SIS (1993-2000)

Microchannel plates:

Einstein HRI, Rosat HRI

Phoswich:

BeppoSax PDS

NASA High Energy Astrophysics Science Archive Research Center

- centered at GSFC (but also with a component at CXC)

Provides access to all the publicly available X- and gamma-ray datasets. Also many general catalogs and datasets held at other data centers

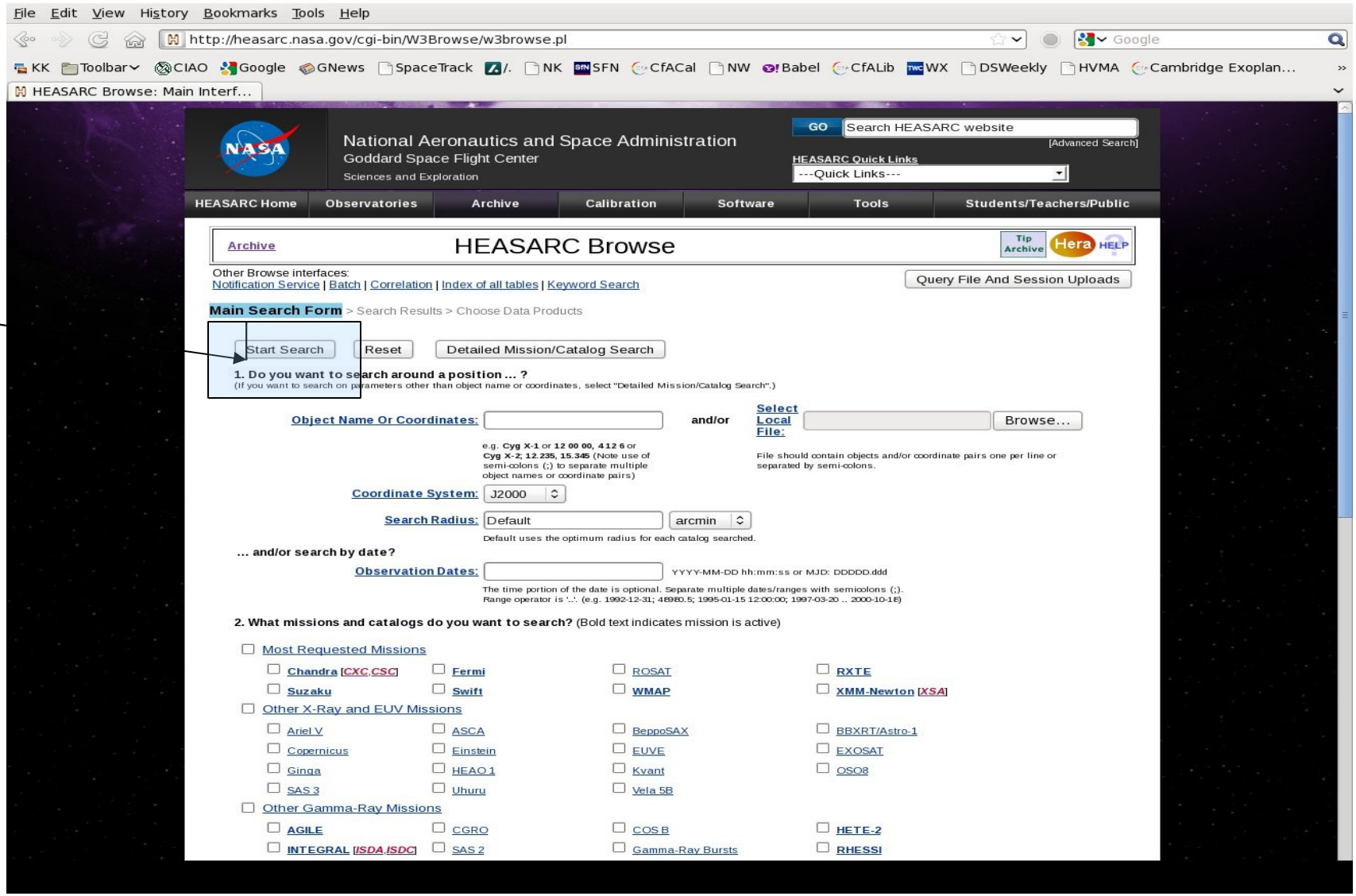
Powerful search engine (Browse) with a uniform interface across missions.

Batch processing and cross-correlation capabilities.

Includes bibliographic links to datasets where available.

If you haven't used browse before read the introduction at heasarc.gsfc.nasa.gov/W3Browse/w3browse-help.html

BROWSE at HEASARC



File Edit View History Bookmarks Tools Help

http://heasarc.nasa.gov/cgi-bin/W3Browse/w3table.pl

KK Toolbar CIAO Google GNews SpaceTrack /. NK SFN CfACal NW Babel CfALib WX DSWeekly HVMA Cambridge Exoplan...

HEASARC Browse: Browse Se...

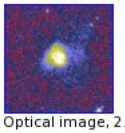
Archive

Browse Search Results: Results Summary for all Missions

Images generated by *SkyView*
Click on image to see full *SkyView* image

Search was based on:

Object/Coordinates: Arp 220
resolved by SIMBAD (local cache) to [15 34 57.27, +23 30 10.5]
Coord. System: Equatorial, equinox 2000
Maximum Rows: (no limit)
Search Radius: Default arc minutes
Reissue Query

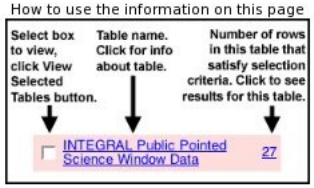


DSS Optical image, 2.83'

RASS X-ray image, 75.0'

Images centered on requested position

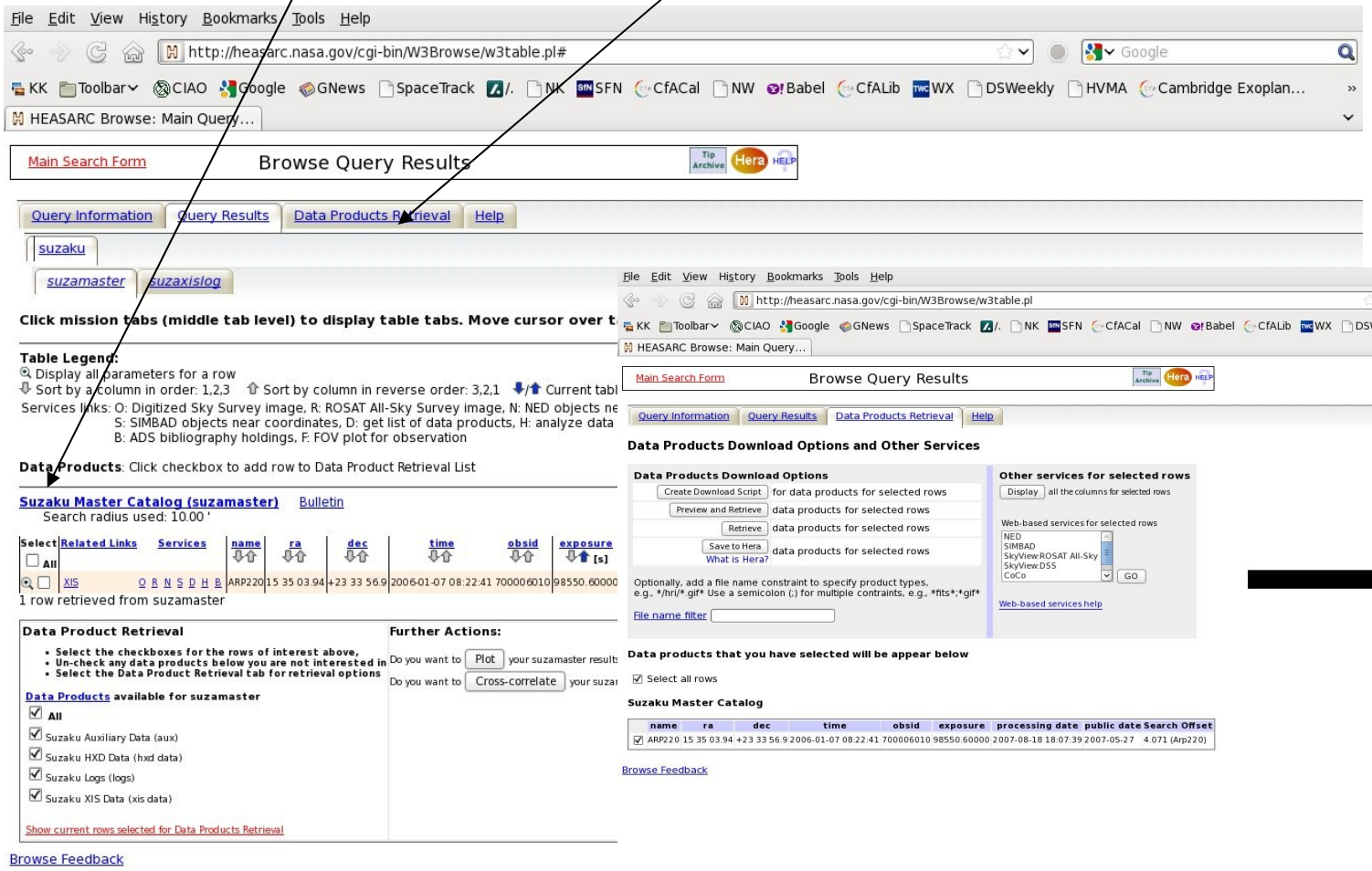
How to use the information on this page



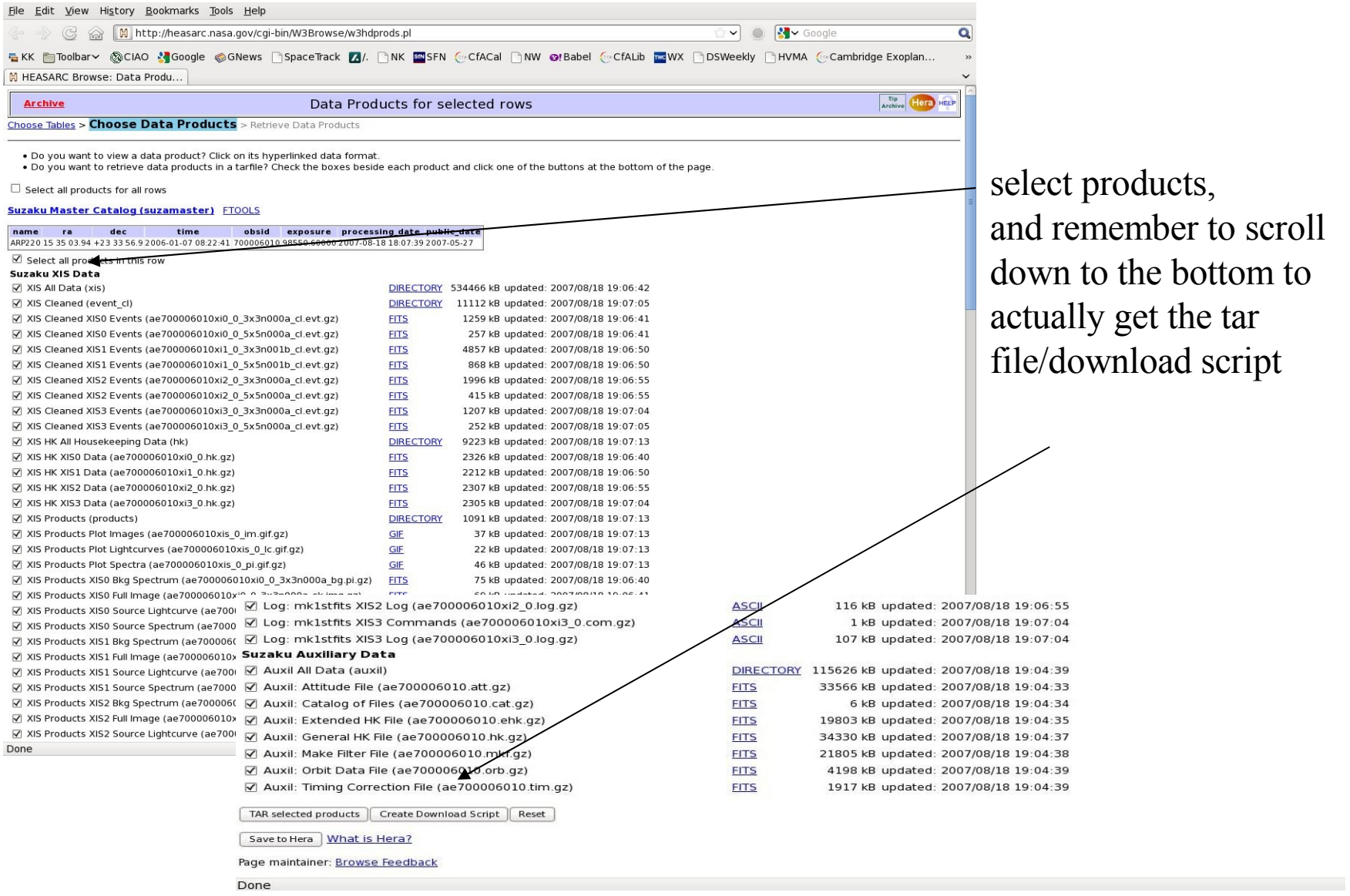
View Selected Tables | Reset

Active HEASARC Missions			
ASCA	ASCA Proposals 2	ASCA Master Catalog 1	ASCA GIS Source Catalog (AMSS-I + AMSS-II) 1
CHANDRA	Chandra Observations 1	Chandra XAssist Source List 3	Chandra Multiwavelength Project (ChaMP) Point Source Catalog 5
GALEX	Galaxy Evolution Explorer (GALEX) Observation Log 3		
HETE-2	HETE-2 Timeline 1451		
INTEGRAL	INTEGRAL Science Window Data 121	INTEGRAL Observing Program 1	INTEGRAL Public Pointed Science Window Data 49
RXTE	XTE Master Catalog 1	XTE Target Index Catalog 1	XTE Proposal Info & Abstracts 1
	XTE Archived Public Slew Data 2		
SPITZER	Spitzer Space Telescope Observation Log 25		
☑ SUZAKU	☑ Suzaku Master Catalog 1	☑ Suzaku XIS Configuration Log 8	
XMM-NEWTON	XMM-Newton OM Objects 35	XMM-Newton Accepted Targets 2	XMM-Newton XAssist Source List 16
	XMM-Newton Master Log & Public Archive 5	XMM-Newton Serendipitous Source Catalog (2XMMi DR3 Version) 5	XMM-Newton Optical Monitor Serendipitous UV Source Survey Catalog 21
Other Missions			
BEPPOSAX	BeppoSAX Approved Pointings 2	BeppoSAX/GRBM Gamma-Ray Burst Catalog 7	BeppoSAX NFI Archive and Observation Log 2
CGRO	CGRO Timeline 2	CGRO/OSSE Observations 9	CGRO/BATSE 4B Catalog 3
	CGRO/BATSE Trigger Data 16	CGRO/EGRET Photon Lists and Maps 13	CGRO/BATSE Gamma-Ray Burst Catalog 5
	CGRO/COMPTEL Low-Level Data and Maps 17	Stern et al. (2001) BATSE Gamma-Ray Burst Catalog 8	GRBs Uniformly Selected from BATSE Archival Data (Version 2.1) 3
	Kommers et al. (2001) BATSE Non-Triggered Gamma-Ray Burst Catalog 5		
EINSTEIN	Einstein IPC Images 1	Einstein MPC Raw Data 10	Einstein IPC Sources Catalog 1
	Einstein IPC Photon Event Data 1	Einstein IPC Unscreened Photon Event List 1	Einstein Survey of Optically Selected Galaxies 1
	Einstein Observatory 2E Catalog of IPC X-Ray Sources 1		
GAMMA-RAY BURSTS	CGRO/BATSE 4B Catalog 3	CGRO/BATSE Gamma-Ray Burst Catalog 5	BeppoSAX/GRBM Gamma-Ray Burst Catalog 7

select a (or the) observation of interest
and then go to Data Prods. Retrieval tab



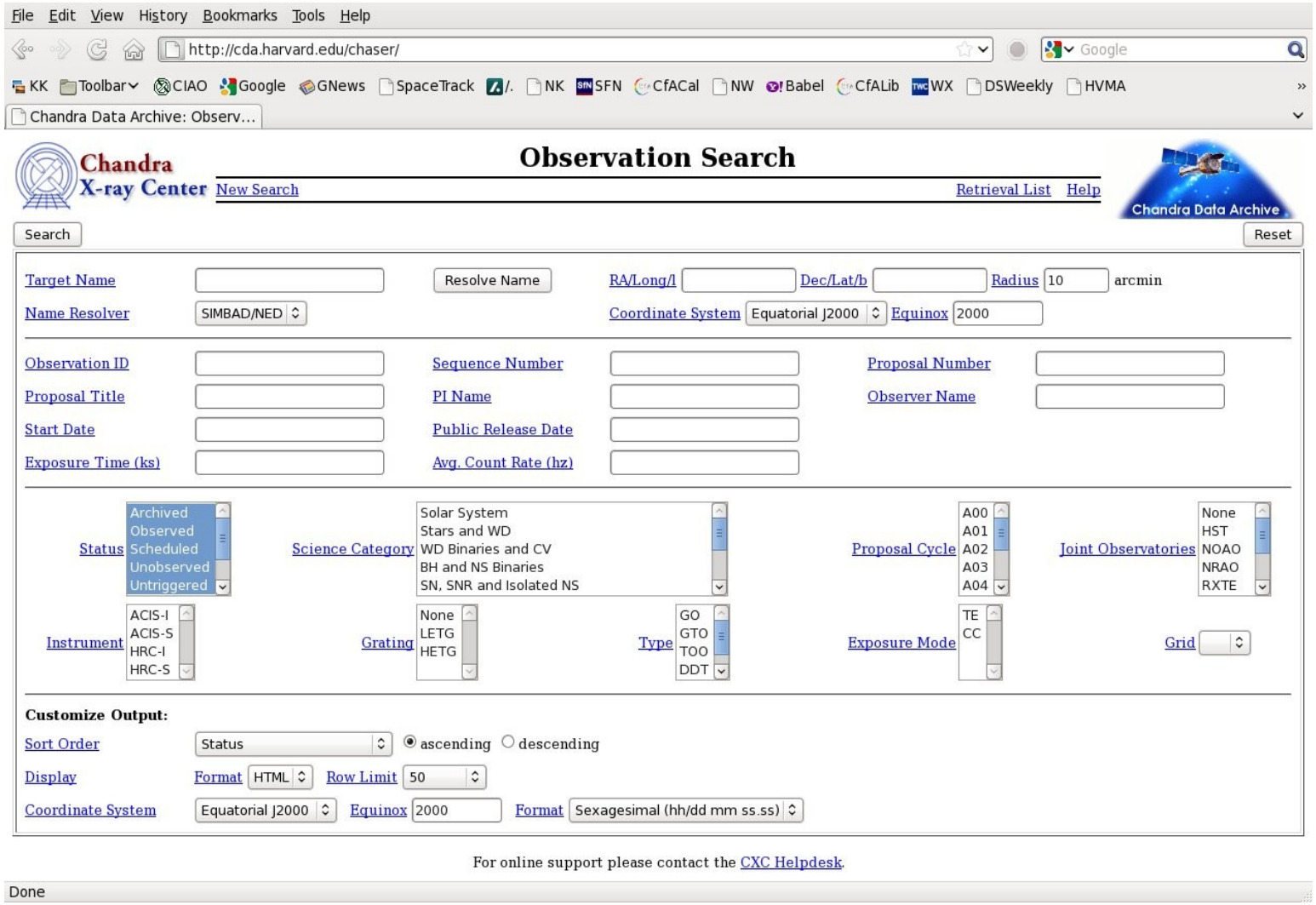
Then click on e.g. 'Preview and Retrieve' to get to this page



select products,
and remember to scroll down to the bottom to actually get the tar file/download script

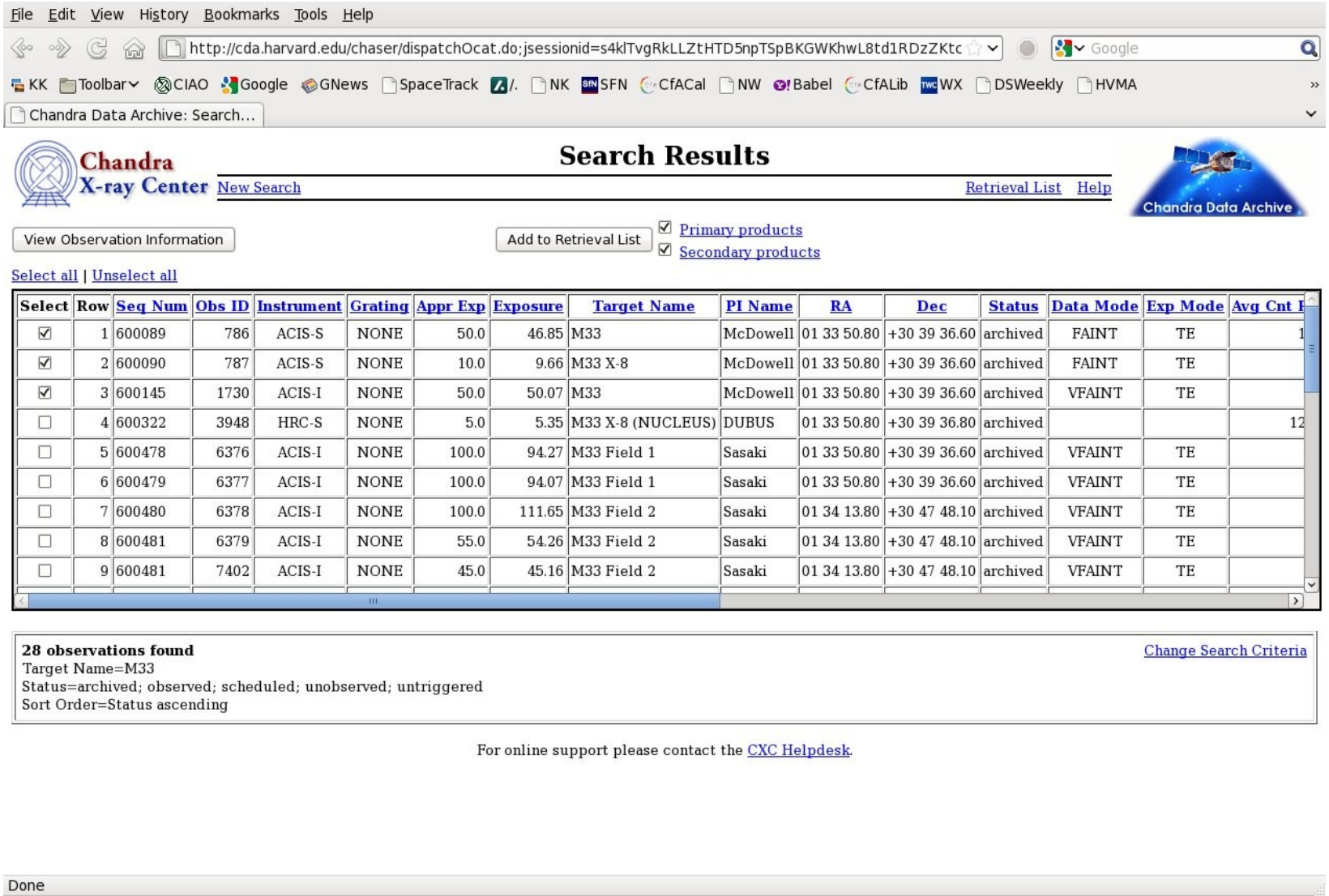
Getting Chandra data: Chaser

cda.harvard.edu/chaser



Chaser: search results

Click on e.g. 'select all' and then 'add to retrieval list'



File Edit View History Bookmarks Tools Help

http://cda.harvard.edu/chaser/dispatchOcat.do;jsessionid=s4klTvgRkLLZtHTD5npTSpBKGWKhwL8td1RDzZKtc

KK Toolbar CIAO Google GNews SpaceTrack /. NK SFN CfACal NW Babel CfALib WX DSWeekly HVMA

Chandra Data Archive: Search...

Chandra X-ray Center

Search Results

New Search | Retrieval List | Help

Chandra Data Archive

View Observation Information | Add to Retrieval List | Primary products | Secondary products

Select all | Unselect all

Select	Row	Seq Num	Obs ID	Instrument	Grating	Appr Exp	Exposure	Target Name	PI Name	RA	Dec	Status	Data Mode	Exp Mode	Avg Cnt R
☑	1	600089	786	ACIS-S	NONE	50.0	46.85	M33	McDowell	01 33 50.80	+30 39 36.60	archived	FAINT	TE	1
☑	2	600090	787	ACIS-S	NONE	10.0	9.66	M33 X-8	McDowell	01 33 50.80	+30 39 36.60	archived	FAINT	TE	
☑	3	600145	1730	ACIS-I	NONE	50.0	50.07	M33	McDowell	01 33 50.80	+30 39 36.60	archived	VFAINT	TE	
☐	4	600322	3948	HRC-S	NONE	5.0	5.35	M33 X-8 (NUCLEUS)	DUBUS	01 33 50.80	+30 39 36.80	archived			12
☐	5	600478	6376	ACIS-I	NONE	100.0	94.27	M33 Field 1	Sasaki	01 33 50.80	+30 39 36.60	archived	VFAINT	TE	
☐	6	600479	6377	ACIS-I	NONE	100.0	94.07	M33 Field 1	Sasaki	01 33 50.80	+30 39 36.60	archived	VFAINT	TE	
☐	7	600480	6378	ACIS-I	NONE	100.0	111.65	M33 Field 2	Sasaki	01 34 13.80	+30 47 48.10	archived	VFAINT	TE	
☐	8	600481	6379	ACIS-I	NONE	55.0	54.26	M33 Field 2	Sasaki	01 34 13.80	+30 47 48.10	archived	VFAINT	TE	
☐	9	600481	7402	ACIS-I	NONE	45.0	45.16	M33 Field 2	Sasaki	01 34 13.80	+30 47 48.10	archived	VFAINT	TE	

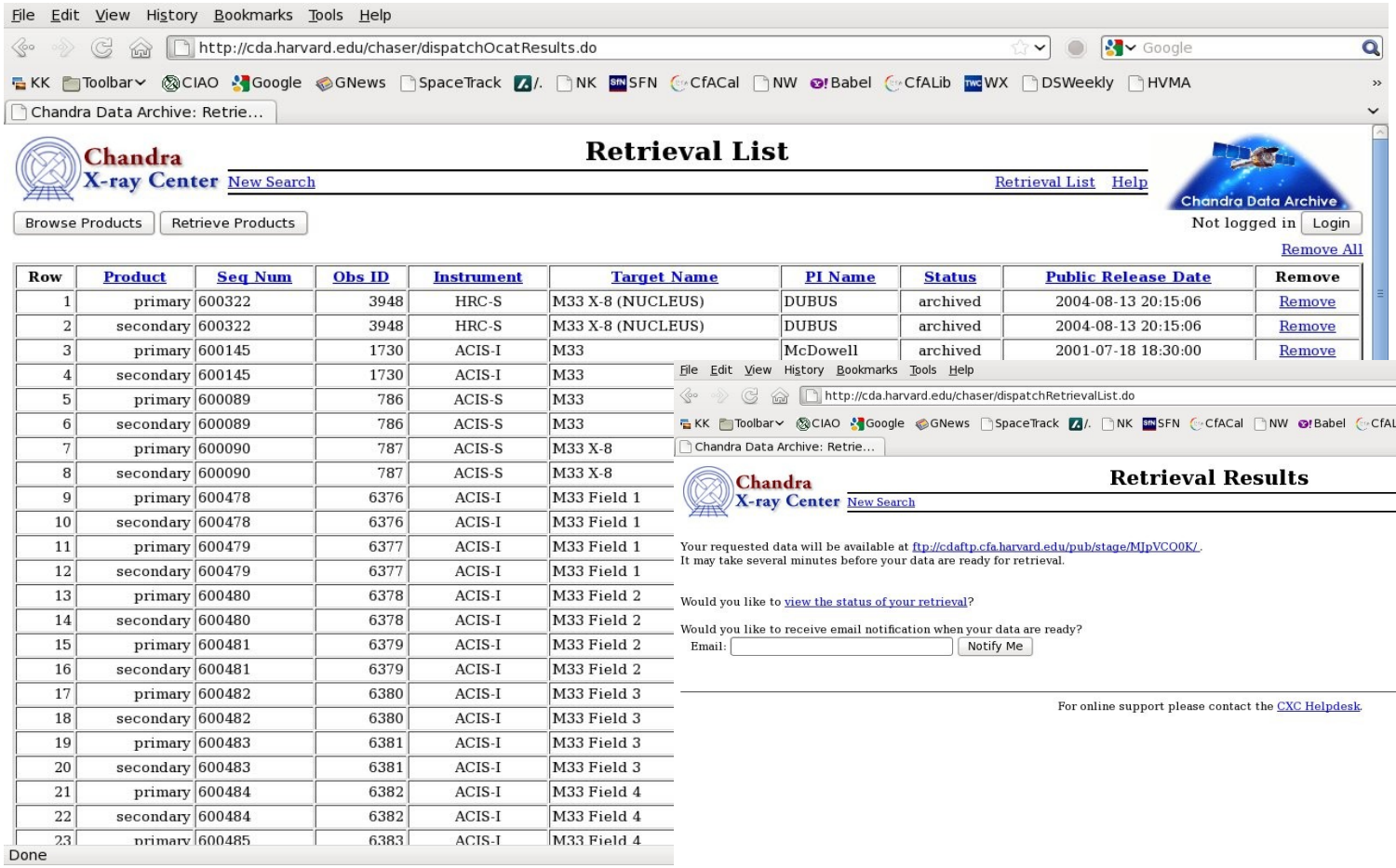
28 observations found Change Search Criteria
Target Name=M33
Status=archived; observed; scheduled; unobserved; untriggered
Sort Order=Status ascending

For online support please contact the CXC Helpdesk.

Done

Chaser: retrieval list

Now click on 'Retrieve products'



Row	Product	Seq Num	Obs ID	Instrument	Target Name	PI Name	Status	Public Release Date	Remove
1	primary	600322	3948	HRC-S	M33 X-8 (NUCLEUS)	DUBUS	archived	2004-08-13 20:15:06	Remove
2	secondary	600322	3948	HRC-S	M33 X-8 (NUCLEUS)	DUBUS	archived	2004-08-13 20:15:06	Remove
3	primary	600145	1730	ACIS-I	M33	McDowell	archived	2001-07-18 18:30:00	Remove
4	secondary	600145	1730	ACIS-I	M33				
5	primary	600089	786	ACIS-S	M33				
6	secondary	600089	786	ACIS-S	M33				
7	primary	600090	787	ACIS-S	M33 X-8				
8	secondary	600090	787	ACIS-S	M33 X-8				
9	primary	600478	6376	ACIS-I	M33 Field 1				
10	secondary	600478	6376	ACIS-I	M33 Field 1				
11	primary	600479	6377	ACIS-I	M33 Field 1				
12	secondary	600479	6377	ACIS-I	M33 Field 1				
13	primary	600480	6378	ACIS-I	M33 Field 2				
14	secondary	600480	6378	ACIS-I	M33 Field 2				
15	primary	600481	6379	ACIS-I	M33 Field 2				
16	secondary	600481	6379	ACIS-I	M33 Field 2				
17	primary	600482	6380	ACIS-I	M33 Field 3				
18	secondary	600482	6380	ACIS-I	M33 Field 3				
19	primary	600483	6381	ACIS-I	M33 Field 3				
20	secondary	600483	6381	ACIS-I	M33 Field 3				
21	primary	600484	6382	ACIS-I	M33 Field 4				
22	secondary	600484	6382	ACIS-I	M33 Field 4				
23	primary	600485	6383	ACIS-I	M33 Field 4				

Chandra Fast Image: cda.harvard.edu/pop

File Edit View History Bookmarks Tools Help

http://cda.harvard.edu/pop/

Chandra Data Archive Search

Chandra X-ray Center

Chandra Data Archive Search

Chandra Data Archive

Quick Picture Advanced Search Help

Quick Picture

Search by name Name M33

Search by position RA Dec

Get Picture

For online support please contact the CXC

Done

File Edit View History Bookmarks Tools Help

http://cda.harvard.edu/pop/dispatchQuick.do

Chandra Data Archive Result

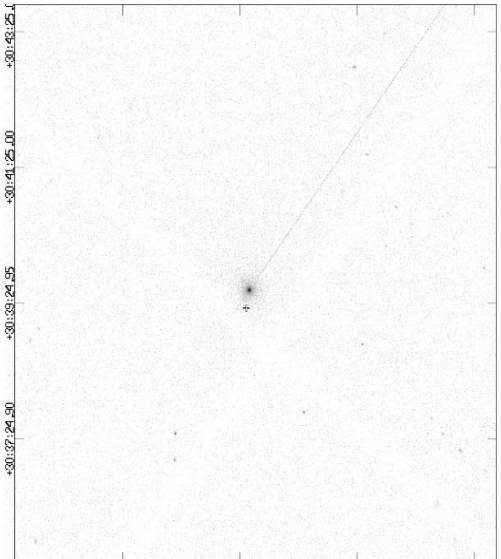
Chandra X-ray Center

Chandra Data Archive Results

Chandra Data Archive

Quick Picture Advanced Search Help

JPEG Center image for observation 6376 - acisf06376N001_cntr_img2.jpg



CIAO: download_chandra_obsid

If you know the observation ID and you have CIAO installed, a simple command line can get you the data:

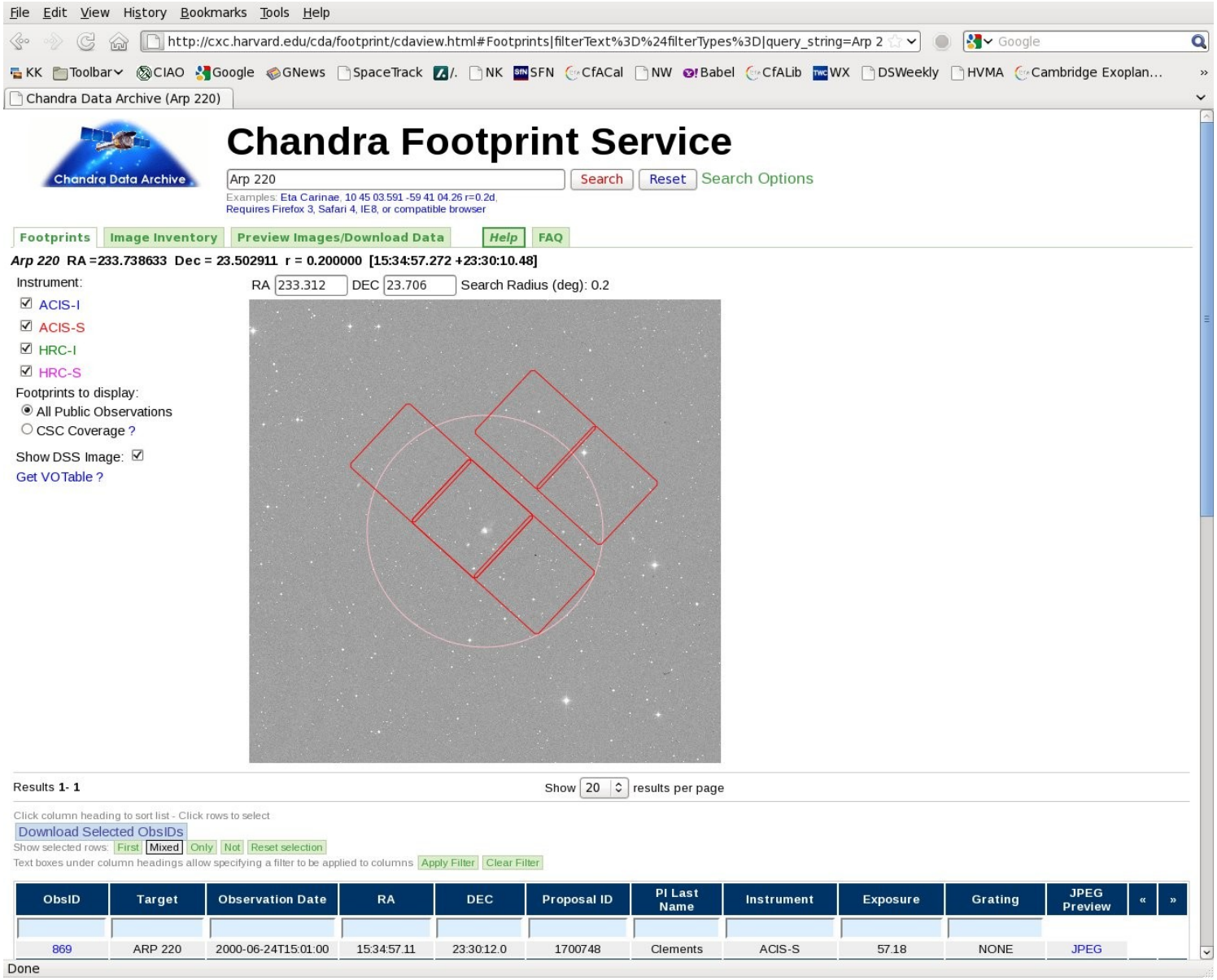
```
neptune> download_chandra_obsid 945
Downloading files for ObsId 945, total size is 200 Mb.

  Type     Format      Size  0........H.........1  Download Time Average Rate
  ------------------------------------------------------------------------
  vv       pdf         79 Kb  ####################          < 1 s  83.0 kb/s
  oif      fits        25 Kb  ####################          < 1 s  52.0 kb/s
  sum      html         2 Kb  ####################          < 1 s  6.1 kb/s
  sum      ps           2 Mb  ####################           19 s  94.0 kb/s
  sum      html         4 Kb  ####################          < 1 s  5.8 kb/s
  sum      html         3 Kb  ####################          < 1 s  3.5 kb/s
  cntr_img fits       146 Kb  ####################            2 s  70.4 kb/s
  cntr_img jpg        666 Kb  ####################            6 s  113.5 kb/s
  evt2     fits        21 Mb  ####################            3 m  118.1 kb/s
  full_img fits        88 Kb  ####################            1 s  67.6 kb/s
  full_img jpg         61 Kb  ####################          < 1 s  64.9 kb/s
  src2     fits        22 Kb  ####################          < 1 s  43.2 kb/s
  src_img  jpg         62 Kb  ####################          < 1 s  70.6 kb/s
  bpix     fits        13 Kb  ####################          < 1 s  25.7 kb/s
  fov      fits         6 Kb  ####################          < 1 s  13.5 kb/s
  eph1     fits       281 Kb  ####################            4 s  73.3 kb/s
  asol     fits        13 Mb  ####################       1 m 57 s  109.8 kb/s
  aoff     fits         5 Mb  ####################           51 s  109.9 kb/s
  evt1     fits       139 Mb  ####################      19 m 56 s  118.7 kb/s
  flt      fits         7 Kb  ####################          < 1 s  16.0 kb/s
  msk      fits         5 Kb  ####################          < 1 s  14.2 kb/s
  mtl      fits         2 Mb  ####################           29 s  71.4 kb/s
  soff     fits         5 Kb  ####################          < 1 s  15.9 kb/s
  stat     fits         2 Mb  ####################           19 s  92.8 kb/s
  bias     fits       430 Kb  ####################            8 s  55.9 kb/s
  bias     fits       491 Kb  ####################            4 s  113.1 kb/s
  bias     fits       425 Kb  ####################            4 s  111.3 kb/s
  bias     fits       431 Kb  ####################            4 s  106.6 kb/s
  bias     fits       430 Kb  ####################            4 s  112.0 kb/s
  bias     fits       433 Kb  ####################            4 s  110.2 kb/s
  pbk      fits         4 Kb  ####################          < 1 s  12.8 kb/s
  vv       pdf          9 Mb  ####################       1 m 31 s  101.8 kb/s
  eph1     fits        18 Kb  ####################          < 1 s  42.7 kb/s
  eph1     fits       274 Kb  ####################            3 s  106.8 kb/s
  eph1     fits       252 Kb  ####################            3 s  96.3 kb/s
  osol     fits       352 Kb  ####################            4 s  98.4 kb/s
  aqual    fits       758 Kb  ####################            7 s  103.1 kb/s
  osol     fits       353 Kb  ####################            7 s  52.0 kb/s
  osol     fits       348 Kb  ####################            3 s  108.6 kb/s
  osol     fits       347 Kb  ####################            3 s  108.3 kb/s
  osol     fits       342 Kb  ####################            3 s  107.6 kb/s
  osol     fits       347 Kb  ####################            3 s  106.7 kb/s
  osol     fits       347 Kb  ####################            3 s  108.7 kb/s
  osol     fits       347 Kb  ####################            3 s  109.2 kb/s
  osol     fits       360 Kb  ####################            3 s  109.8 kb/s

      Total download size for ObsId 945 = 200 Mb
      Total download time for ObsId 945 = 29 m 56 s
```

```
neptune>
neptune>
neptune> ls 945/
axaff00945N001_VV001_vv2.pdf  oif.fits  primary/  secondary/
neptune> ls 945/primary
acisf00945N003_1_sum2.html        acisf00945N003_cntr_img2.jpg      acisf00945N003_src_img2.jpg
acisf00945N003_1_sum2.ps          acisf00945N003_evt2.fits.gz       acisf00945_000N003_bpix1.fits.gz
acisf00945N003_2_sum2.html        acisf00945N003_full_img2.fits.gz  acisf00945_000N003_fov1.fits.gz
acisf00945N003_3_sum2.html        acisf00945N003_full_img2.jpg      orbitf079358700N001_eph1.fits.gz
acisf00945N003_cntr_img2.fits.gz  acisf00945N003_src2.fits.gz       pcadf079384137N003_asol1.fits.gz
neptune> ls 945/secondary
acisf00945_000N003_aoff1.fits.gz  acisf00945_000N003_stat1.fits.gz    acisf079384196N003_5_bias0.fits.gz
acisf00945_000N003_evt1.fits.gz   acisf079384196N003_0_bias0.fits.gz  acisf079385498N003_pbk0.fits.gz
acisf00945_000N003_flt1.fits.gz   acisf079384196N003_1_bias0.fits.gz  aspect/
acisf00945_000N003_msk1.fits.gz   acisf079384196N003_2_bias0.fits.gz  axaff00945N001_VV001_vvref2.pdf.gz
acisf00945_000N003_mtl1.fits.gz   acisf079384196N003_3_bias0.fits.gz  ephem/
acisf00945_000N003_soff1.fits.gz  acisf079384196N003_4_bias0.fits.gz
neptune>
```

Chandra Footprint Service



Some other Chandra archive options:

Bibliography search for Chandra papers on an object

http://cxc.harvard.edu/cgi-gen/cda/bibliography

Chandra source catalog (discussed later)

http://cxc.harvard.edu/csc

Chandra source catalog cross-match with SDSS

http://cxc.harvard.edu/cgi-gen/cda/CSC-SDSSxmatch.html

XMM-Newton Science Archive

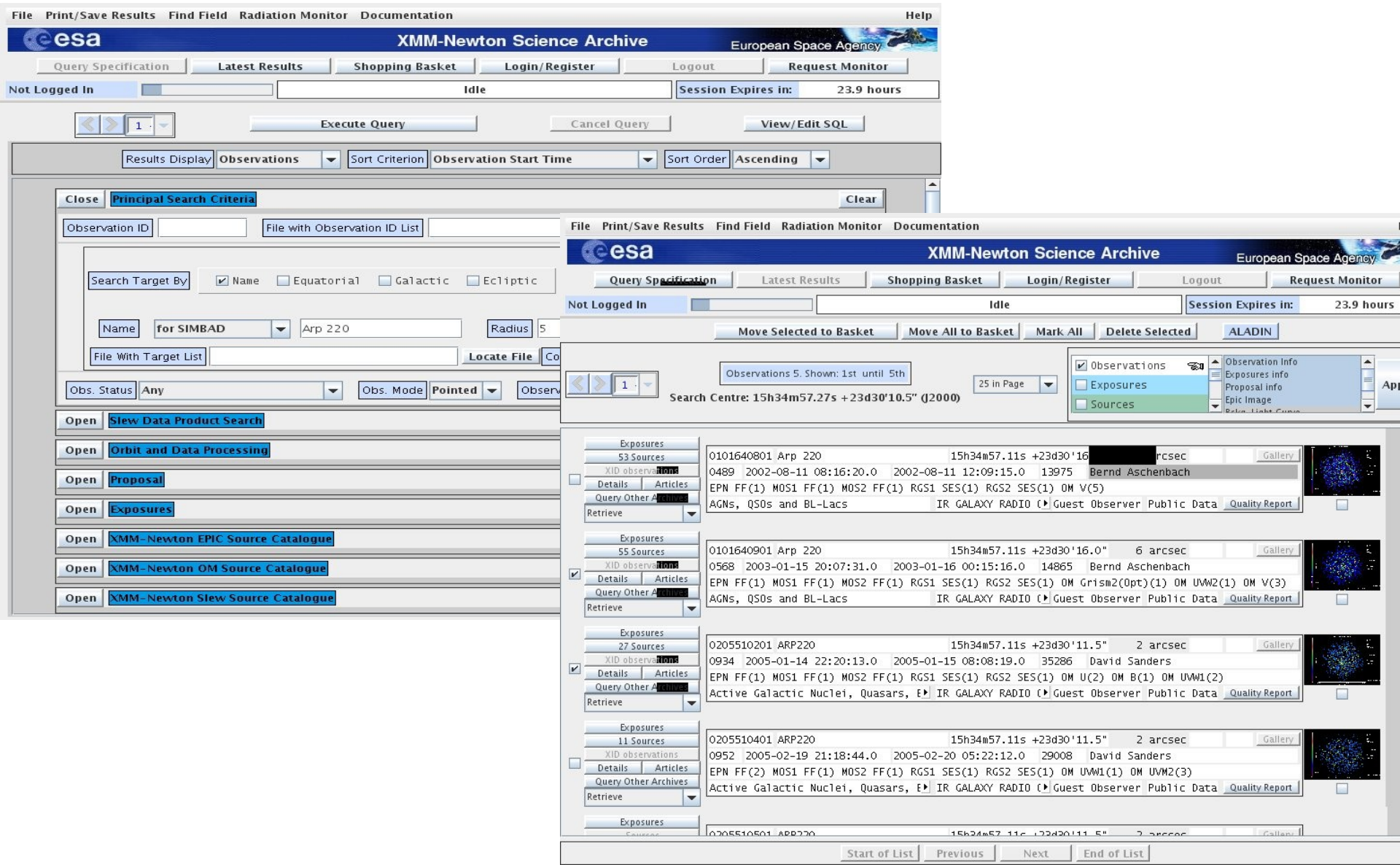
Java Runtime Environment-based interface provides access to all XMM-Newton datasets: http://xmm.esac.esa.int/xsa

(warning: Linux boxes may not have JRE by default)

Must register (get username and password)

Can also use the "AIO" (Archive Interoperability Subsystem)
http://xsa.esac.esa.int:8080/aio/doc/index.html

XMM interface (via Java Web Start)



Mirror sites and archives outside USA

Several sites mirror some datasets. You should use these if you are physically located near them.

LEDAS at Leicester University in the UK has mirrors of the ASCA, ROSAT archives and the XMM source catalog (http://ledas-www.star.le.ac.uk). (The Chandra mirror was retired in 2009)

DARTS at ISAS/JAXA in Japan has several archival datasets including a mirror of the ROSAT All-sky survey (http://darts.isas.jaxa.jp).

ASDC in Italy has BeppoSAX, ASCA, and ROSAT datasets, among others (http://www.asdc.asi.it).

Calibration databases

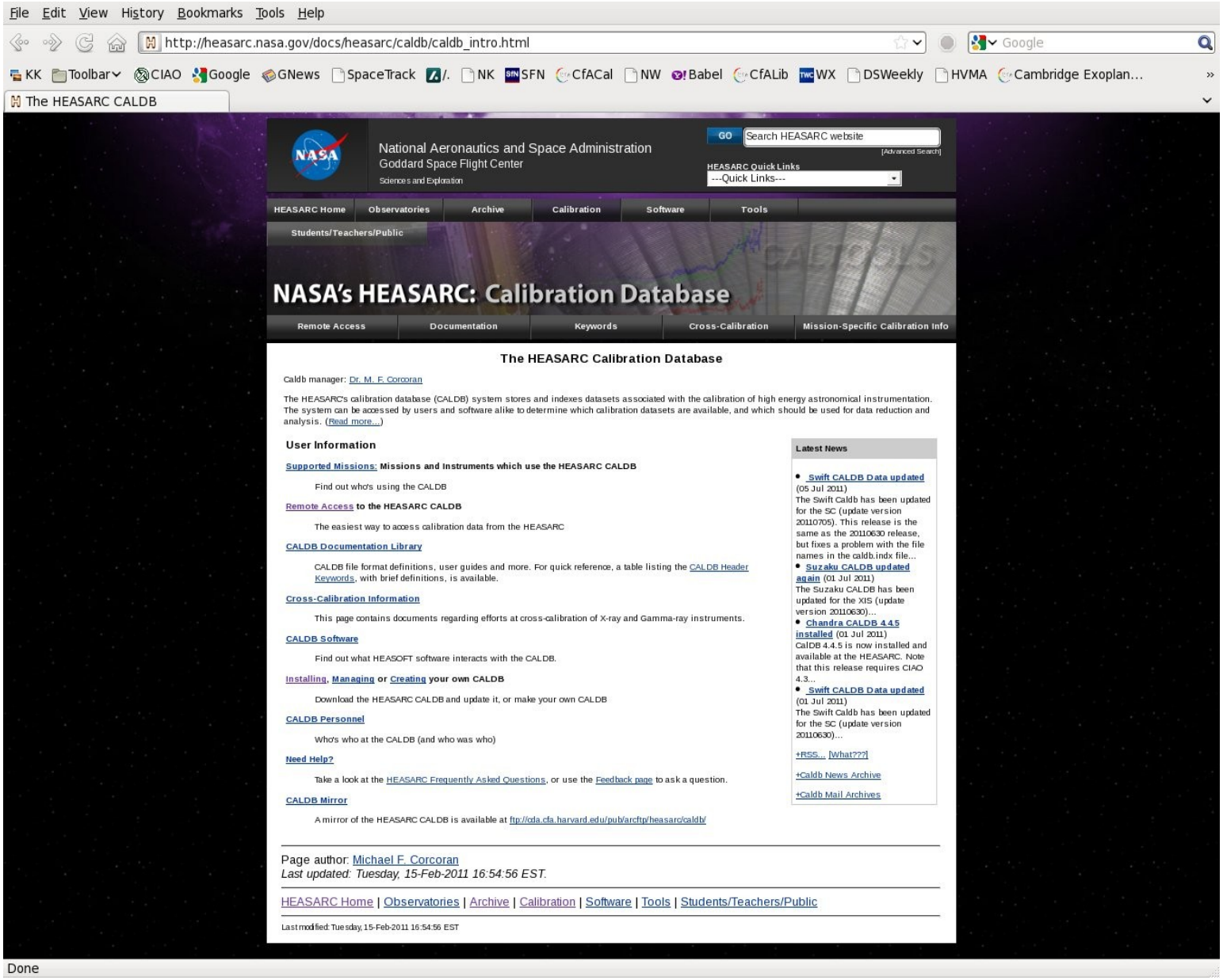
One of the problems in X-ray astronomy is the large number of files that are usually required to store all the calibration information for an instrument.

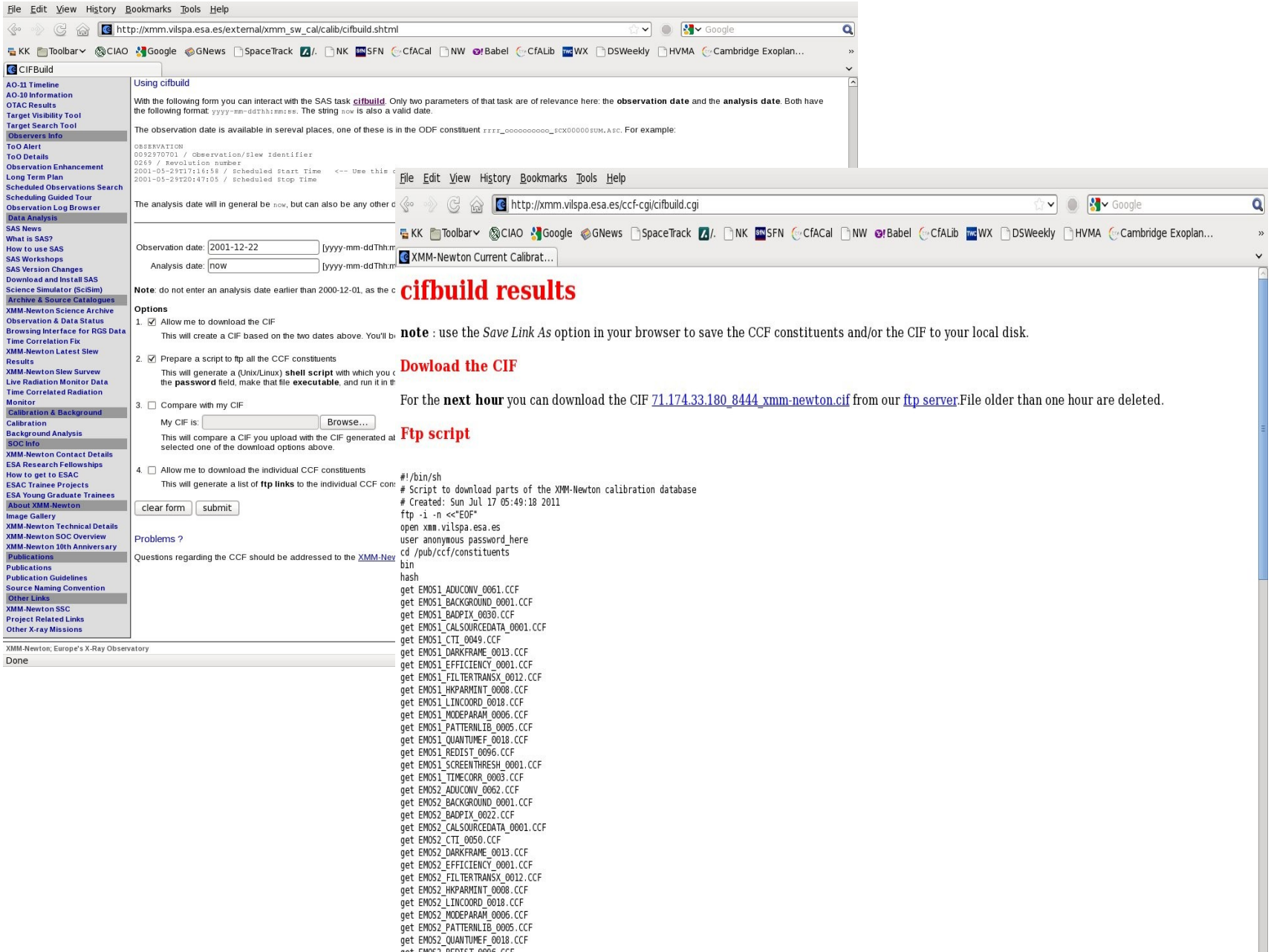
There are two types of calibration databases in use: the HEASARC CALDB used for Chandra and GSFC-supported missions, which has a directory structure and indexing system for calibration FITS data; software uses the index to find out which files are needed for a particular observation.

For HEASARC missions, remote CALDB access is available via instructions at http://heasarc.nasa.gov/docs/heasarc/caldb/caldb_remote_access.html and the data is at heasarc.gsfc.nasa.gov/FTP/caldb/data and can be downloaded using a wget-based approach -see the caldb intro page caldb/caldb_intro.html

For Chandra, the ciao-install tool will automatically download the CALDB.

The XMM mission has its own set of calibration files that use a different approach – CIF and CCF files.. Can download those needed for your observation date using xmm.vilspa.esa.es/external/xmm_sw_cal/calib/cifbuild.shtml


File Edit View History Bookmarks Tools Help
http://heasarc.nasa.gov/docs/heasarc/caldb/caldb_intro.html
Google
KK Toolbar CIAO Google GNews SpaceTrack /. NK SFN CfACal NW Babel CfALib WX DSWeekly HVMA Cambridge Exoplan…
The HEASARC CALDB
National Aeronautics and Space Administration
Goddard Space Flight Center
Sciences and Exploration
GO
Search HEASARC website
[Advanced Search]
HEASARC Quick Links
---Quick Links---
HEASARC Home
Observatories
Archive
Calibration
Software
Tools
Students/Teachers/Public
NASA's HEASARC: Calibration Database
Remote Access
Documentation
Keywords
Cross-Calibration
Mission-Specific Calibration Info
The HEASARC Calibration Database
Caldb manager: Dr. M. F. Corcoran
The HEASARC's calibration database (CALDB) system stores and indexes datasets associated with the calibration of high energy astronomical instrumentation. The system can be accessed by users and software alike to determine which calibration datasets are available, and which should be used for data reduction and analysis. (Read more...)
User Information
Supported Missions: Missions and Instruments which use the HEASARC CALDB
Find out who's using the CALDB
Remote Access to the HEASARC CALDB
The easiest way to access calibration data from the HEASARC
CALDB Documentation Library
CALDB file format definitions, user guides and more. For quick reference, a table listing the CALDB Header Keywords, with brief definitions, is available.
Cross-Calibration Information
This page contains documents regarding efforts at cross-calibration of X-ray and Gamma-ray instruments.
CALDB Software
Find out what HEASOFT software interacts with the CALDB.
Installing, Managing or Creating your own CALDB
Download the HEASARC CALDB and update it, or make your own CALDB
CALDB Personnel
Who's who at the CALDB (and who was who)
Need Help?
Take a look at the HEASARC Frequently Asked Questions, or use the Feedback page to ask a question.
CALDB Mirror
A mirror of the HEASARC CALDB is available at ftp://cda.cfa.harvard.edu/pub/arcftp/heasarc/caldb/
Latest News
Swift CALDB Data updated (05 Jul 2011)
The Swift Caldb has been updated for the SC (update version 20110705). This release is the same as the 20110630 release, but fixes a problem with the file names in the caldb.indx file...
Suzaku CALDB updated again (01 Jul 2011)
The Suzaku CALDB has been updated for the XIS (update version 20110630)...
Chandra CALDB 4.4.5 installed (01 Jul 2011)
CalDB 4.4.5 is now installed and available at the HEASARC. Note that this release requires CIAO 4.3...
Swift CALDB Data updated (01 Jul 2011)
The Swift Caldb has been updated for the SC (update version 20110630)...
+RSS... [What???]
+Caldb News Archive
+Caldb Mail Archives
Page author: Michael F. Corcoran
Last updated: Tuesday, 15-Feb-2011 16:54:56 EST.
HEASARC Home | Observatories | Archive | Calibration | Software | Tools | Students/Teachers/Public
Last modified: Tuesday, 15-Feb-2011 16:54:56 EST
Done


File Edit View History Bookmarks Tools Help
http://xmm.vilspa.esa.es/external/xmm_sw_cal/calib/cifbuild.shtml
CIFBuild
AO-11 Timeline
AO-10 Information
OTAC Results
Target Visibility Tool
Target Search Tool
Observers Info
ToO Alert
ToO Details
Observation Enhancement
Long Term Plan
Scheduled Observations Search
Scheduling Guided Tour
Observation Log Browser
Data Analysis
SAS News
What is SAS?
How to use SAS
SAS Workshops
SAS Version Changes
Download and Install SAS
Science Simulator (SciSim)
Archive & Source Catalogues
XMM-Newton Science Archive
Observation & Data Status
Browsing Interface for RGS Data
Time Correlation Fix
XMM-Newton Latest Slew Results
XMM-Newton Slew Survew
Live Radiation Monitor Data
Time Correlated Radiation Monitor
Calibration & Background
Calibration
Background Analysis
SOC Info
XMM-Newton Contact Details
ESA Research Fellowships
How to get to ESAC
ESAC Trainee Projects
ESA Young Graduate Trainees
About XMM-Newton
Image Gallery
XMM-Newton Technical Details
XMM-Newton SOC Overview
XMM-Newton 10th Anniversary
Publications
Publications
Publication Guidelines
Source Naming Convention
Other Links
XMM-Newton SSC
Project Related Links
Other X-ray Missions
Using cifbuild
With the following form you can interact with the SAS task cifbuild. Only two parameters of that task are of relevance here: the observation date and the analysis date. Both have the following format: yyyy-mm-ddThh:mm:ss. The string now is also a valid date.
The observation date is available in sereval places, one of these is in the ODF constituent rrrr_oooooooooo_SCX00000SUM.ASC. For example:
OBSERVATION
0092970701 / Observation/Slew Identifier
0269 / Revolution number
2001-05-29T17:16:58 / Scheduled Start Time
2001-05-29T20:47:05 / Scheduled Stop Time
The analysis date will in general be now, but can also be any other d
Observation date: 2001-12-22 [yyyy-mm-ddThh:m
Analysis date: now [yyyy-mm-ddThh:m
Note: do not enter an analysis date earlier than 2000-12-01, as the c
Options
1. Allow me to download the CIF
This will create a CIF based on the two dates above. You'll b
2. Prepare a script to ftp all the CCF constituents
This will generate a (Unix/Linux) shell script with which you
the password field, make that file executable, and run it in th
3. Compare with my CIF
My CIF is: Browse...
This will compare a CIF you upload with the CIF generated a
selected one of the download options above.
4. Allow me to download the individual CCF constituents
This will generate a list of ftp links to the individual CCF con
clear form submit
Problems ?
Questions regarding the CCF should be addressed to the XMM-Nev
XMM-Newton; Europe's X-Ray Observatory
Done
File Edit View History Bookmarks Tools Help
http://xmm.vilspa.esa.es/ccf-cgi/cifbuild.cgi
XMM-Newton Current Calibrat...
cifbuild results
note : use the Save Link As option in your browser to save the CCF constituents and/or the CIF to your local disk.
Dowload the CIF
For the next hour you can download the CIF 71.174.33.180_8444_xmm-newton.cif from our ftp server.File older than one hour are deleted.
Ftp script
#!/bin/sh
Script to download parts of the XMM-Newton calibration database
Created: Sun Jul 17 05:49:18 2011
ftp -i -n <<"EOF"
open xmm.vilspa.esa.es
user anonymous password_here
cd /pub/ccf/constituents
bin
hash
get EMOS1_ADUCONV_0061.CCF
get EMOS1_BACKGROUND_0001.CCF
get EMOS1_BADPIX_0030.CCF
get EMOS1_CALSOURCEDATA_0001.CCF
get EMOS1_CTI_0049.CCF
get EMOS1_DARKFRAME_0013.CCF
get EMOS1_EFFICIENCY_0001.CCF
get EMOS1_FILTERTRANSX_0012.CCF
get EMOS1_HKPARMINT_0008.CCF
get EMOS1_LINCOORD_0018.CCF
get EMOS1_MODEPARAM_0006.CCF
get EMOS1_PATTERNLIB_0005.CCF
get EMOS1_QUANTUMEF_0018.CCF
get EMOS1_REDIST_0096.CCF
get EMOS1_SCREENTHRESH_0001.CCF
get EMOS1_TIMECORR_0003.CCF
get EMOS2_ADUCONV_0062.CCF
get EMOS2_BACKGROUND_0001.CCF
get EMOS2_BADPIX_0022.CCF
get EMOS2_CALSOURCEDATA_0001.CCF
get EMOS2_CTI_0050.CCF
get EMOS2_DARKFRAME_0013.CCF
get EMOS2_EFFICIENCY_0001.CCF
get EMOS2_FILTERTRANSX_0012.CCF
get EMOS2_HKPARMINT_0008.CCF
get EMOS2_LINCOORD_0018.CCF
get EMOS2_MODEPARAM_0006.CCF
get EMOS2_PATTERNLIB_0005.CCF
get EMOS2_QUANTUMEF_0018.CCF

Part 2: Catalogs

Catalog pipelines in X-ray astronomy

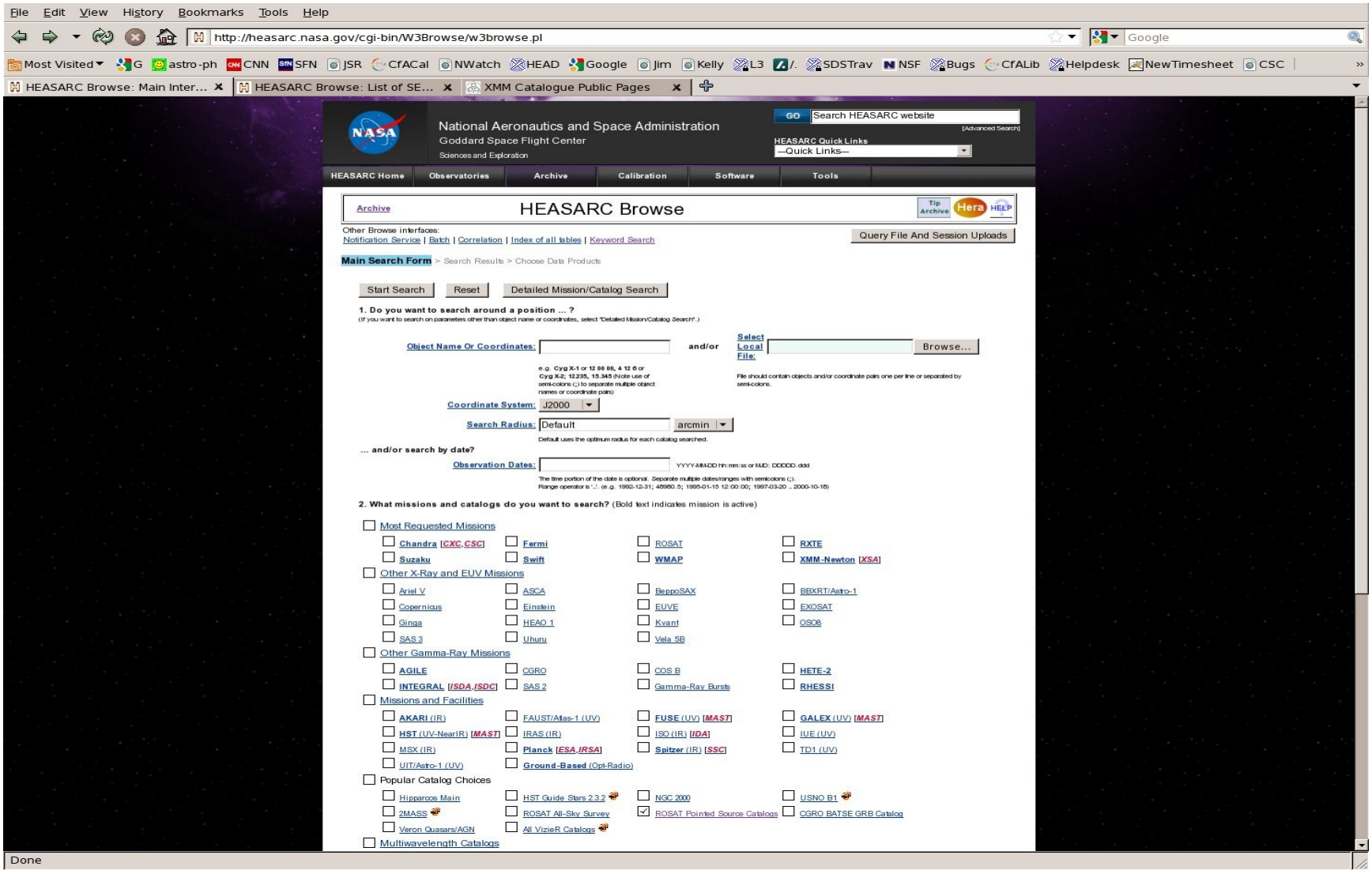
For early missions (Uhuru, HEAO-1) the catalog **was** the science product
With imaging missions – Einstein was the first – a new challenge: serendipitous source detection in targeted image observations

Challenging to make a UNIFORM catalog from data with different observing modes, backgrounds and exposure times.

Einstein 2E catalog – 4800 sources
ROSAT all sky survey catalog – 100000 sources
ROSAT pointed catalog 54000 sources (RRA) and 84000 (WGACAT)
2XMMi-DR3 catalog – 192000 sources
Chandra CSC1.1 - 106000 sources

HEASARC Browse with catalogs

Example: WGACAT



File Edit View History Bookmarks Tools Help

http://heasarc.nasa.gov/cgi-bin/W3Browse/w3table.pl

Most Visited G astro-ph CNN SFN JSR CfACal NWatch HEAD Google Jim Kelly L3 /. SDSTrav NSF Bugs CfALib Helpdesk NewTimesheet CSC

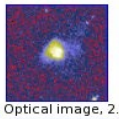
HEASARC Browse: Main Que... | HEASARC Browse: List of SE... | XMM Catalogue Public Pages

Main Search Form

Browse Query Results

Query Information | Query Results | Data Products Retrieval | Help

Images generated by *SkyView*
Click on image to see full *SkyView* image



DSS Optical image, 2.83'

RASS X-ray image, 75.0'

Images centered on requested position

Search was based on:

Object/Coordinates: Arp220
resolved by SIMBAD (local cache) to [15 34 57.27, +23 30 10.5]

Using the coordinates from the SIMBAD resolver for *Arp220*.

Coord. System: Equatorial, equinox 2000

Maximum Rows: 1000

Search Radius: Default arc minutes

Reissue Query | Save Query To File

Redisplay as HTML Table

Printer-Friendly Version

Save All Objects To File

Reset

Browse Tip: Do you know how to find all x-ray observations available for an object? Learn more on this topic or See all tips

Table Name/Row Count Summary: 3 tables queried. A total of 3 rows returned.

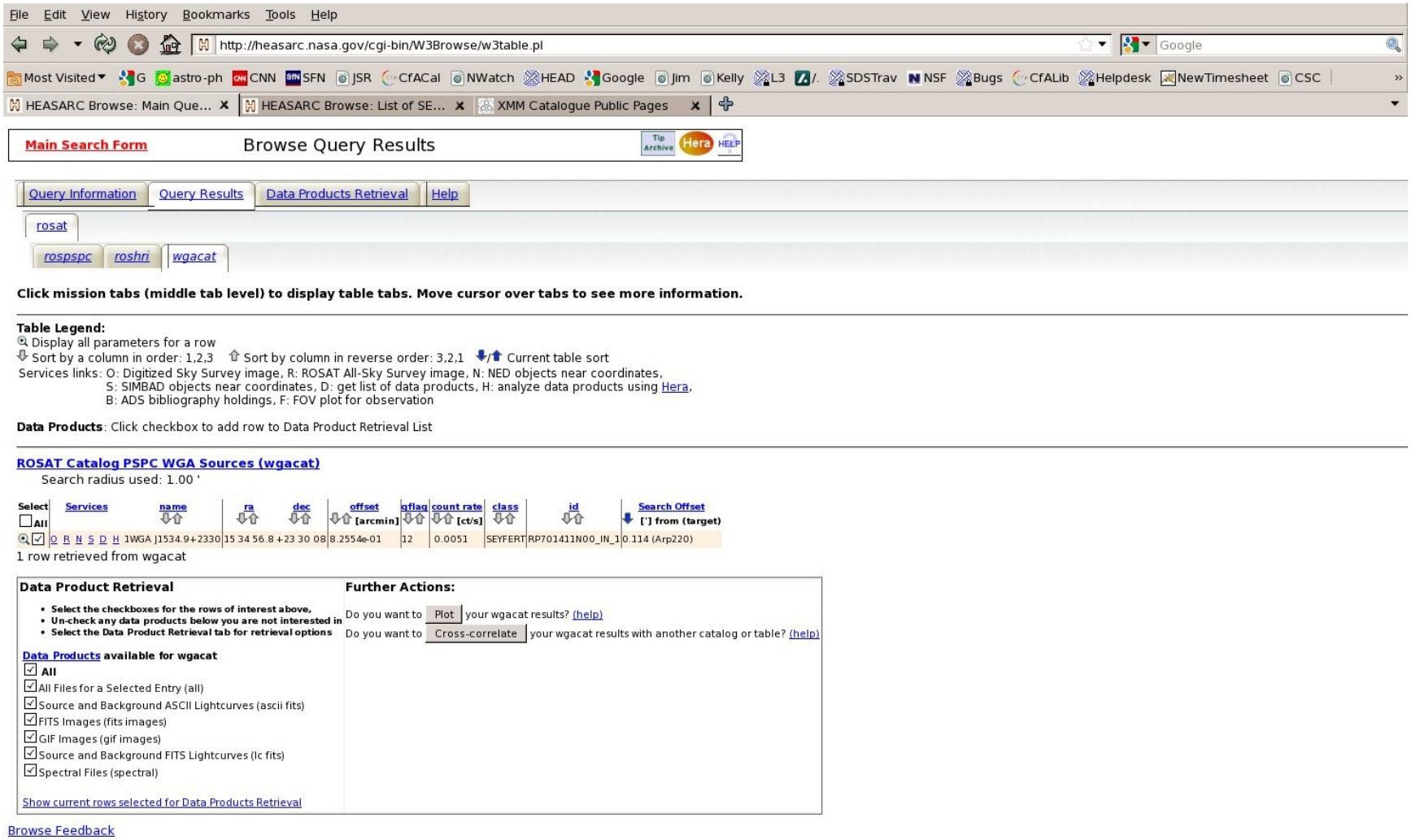
Click on table name to view search results

rospspc:ROSAT Results Archive Sources for the PSPC	1	**roshri**:ROSAT Results Archive Sources for the HRI	1
wgacat:ROSAT Catalog PSPC WGA Sources	1		

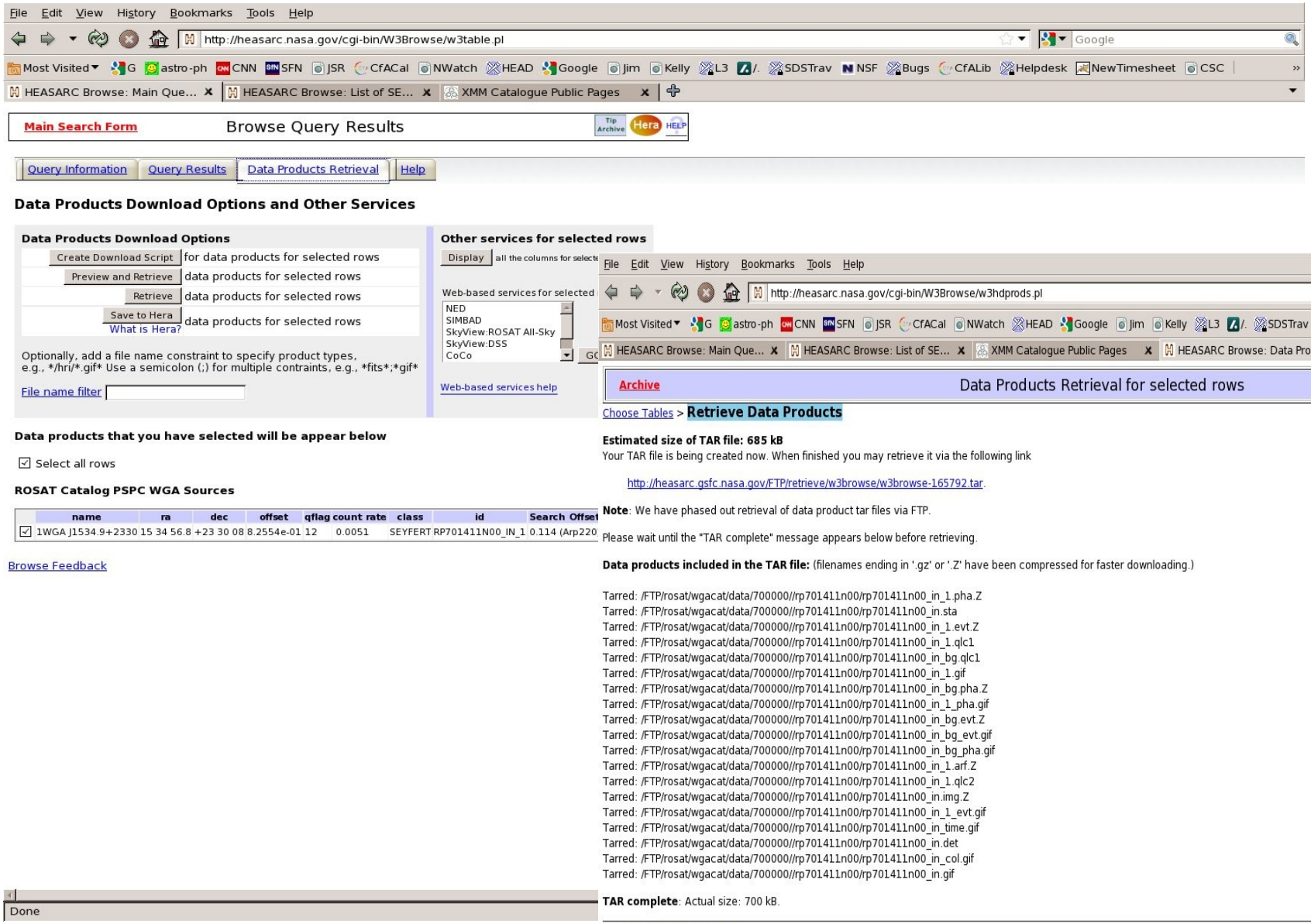
Browse Feedback

Done

In query results tab, pick catalog and select entry and data products



Can retrieve selected data products



2XMM catalog(ue)

http://xmmssc-www.star.le.ac.uk/Catalogue/2XMMi-DR3

with FITS download at 2XMMi-DR3cat_v1.0.fits.gz under that URL
with 299 columns and one line per detection
and 2XMMi_DR3cat_slim_v1.0.fits.gz with a subset of 38 columns
and one line per source

Chandra Source Catalog

An example of how to download a version of the catalog roughly equivalent to XMM's “slim”:

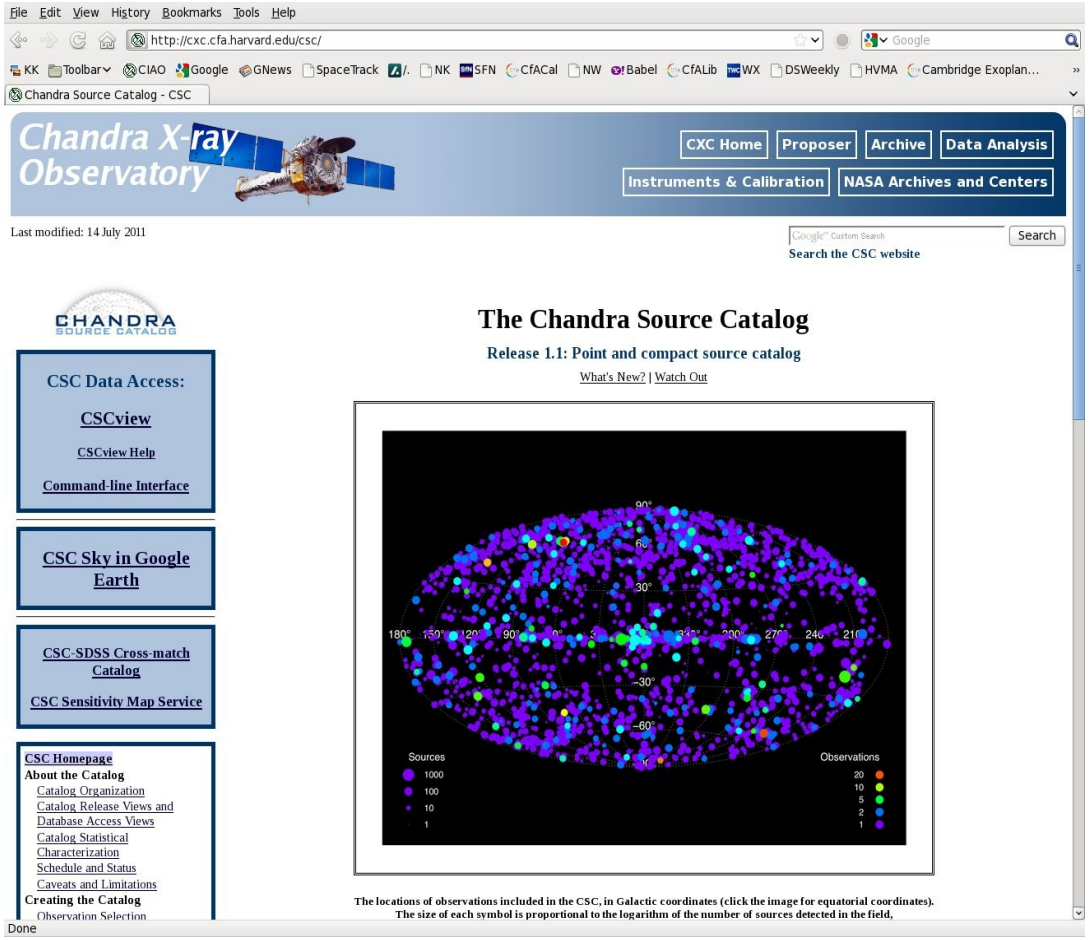
wget -O csc.cat "http://cda.cfa.harvard.edu/csccli/getProperties?nullAppearance=-99&coordFormat=decimal&query=SELECT m.name,m.ra,m.dec,m.err_ellipse_r0,m.conf_flag,m.sat_src_flag,m.significance,m.flux_aper_b,m.flux_aper_lolim_b,m.flux_aper_hilim_b,m.flux_aper_w,m.flux_aper_lolim_w,m.flux_aper_hilim_w,m.flux_aper_s,m.flux_aper_lolim_s,m.flux_aper_hilim_s,m.flux_aper_m,m.flux_aper_lolim_m,m.flux_aper_hilim_m,m.flux_aper_h,m.flux_aper_lolim_h,m.flux_aper_hilim_h,m.extent_flag,m.hard_hm,m.hard_hm_lolim,m.hard_hm_hilim,m.hard_ms,m.hard_ms_lolim,m.hard_ms_hilim,m.var_intra_index_b,m.var_inter_index_b,m.var_intra_index_w,m.var_inter_index_w FROM master_source m"

I've placed the CSC1.1 results for this query at

http://planet4589.org/sci/csc/csc.cat

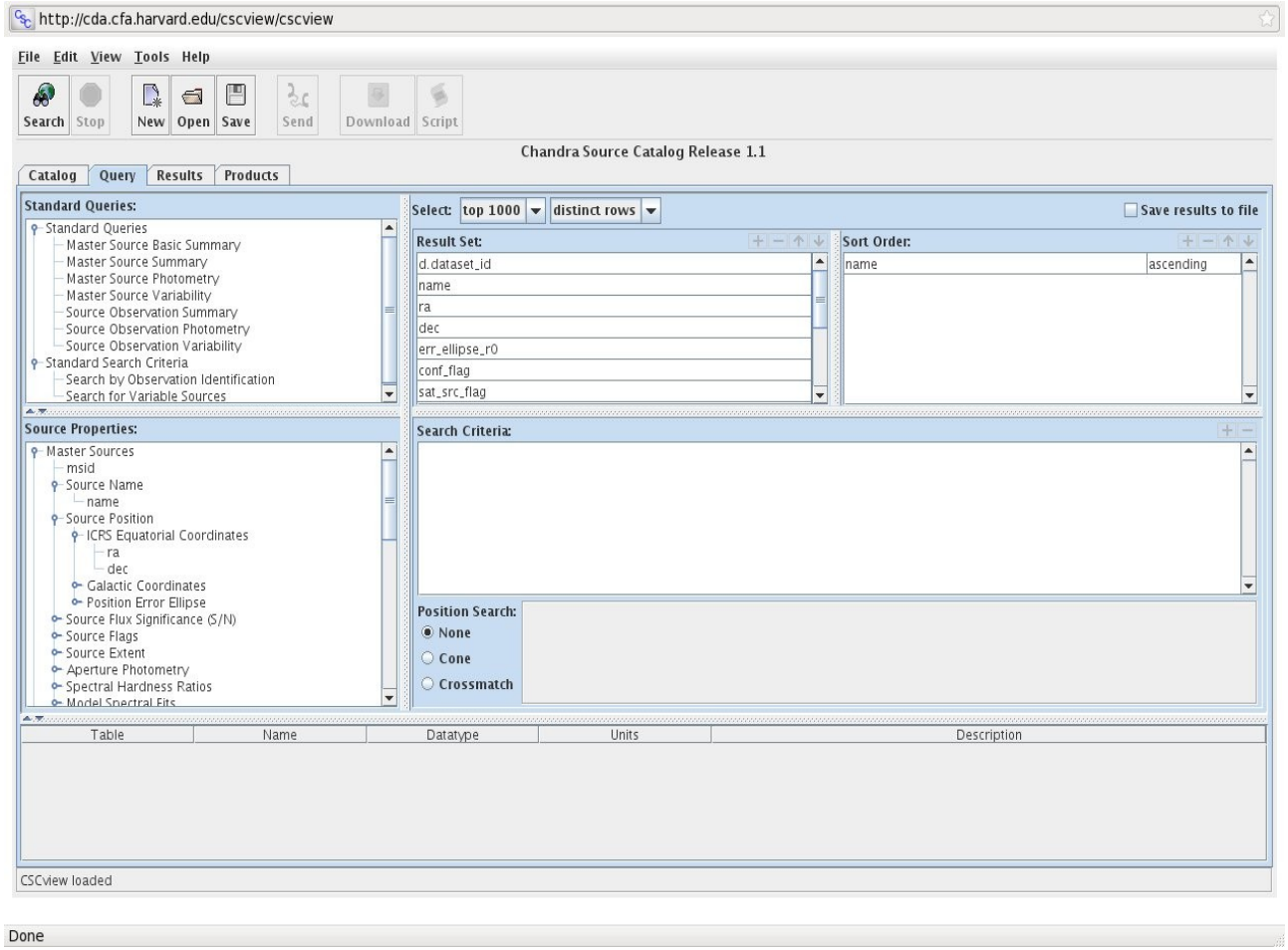
Using the CSC

Instead of downloading the whole catalog you can use the sophisticated Java application CSCView



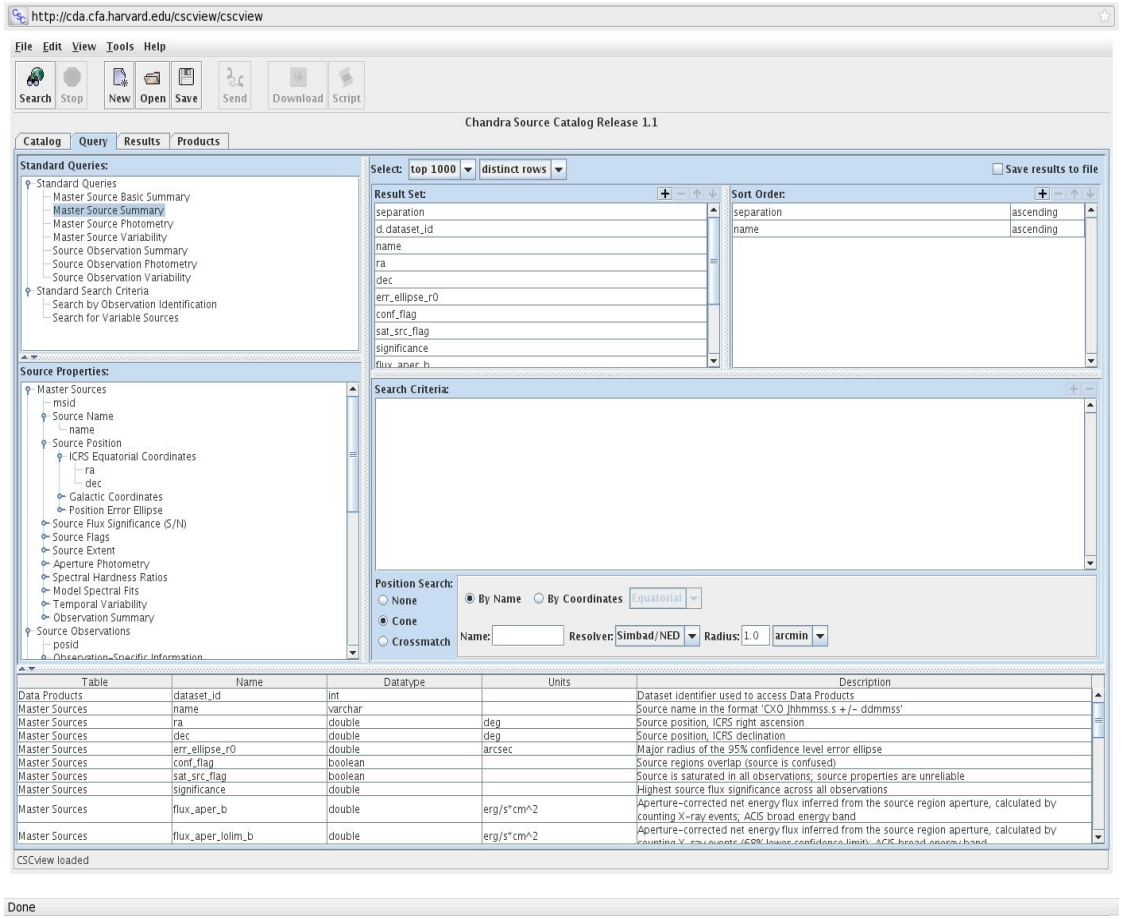
CSCView documentation

http://cxc.cfa.harvard.edu/csc/gui/intro.html



First click 'cone' then click 'Master source summary'

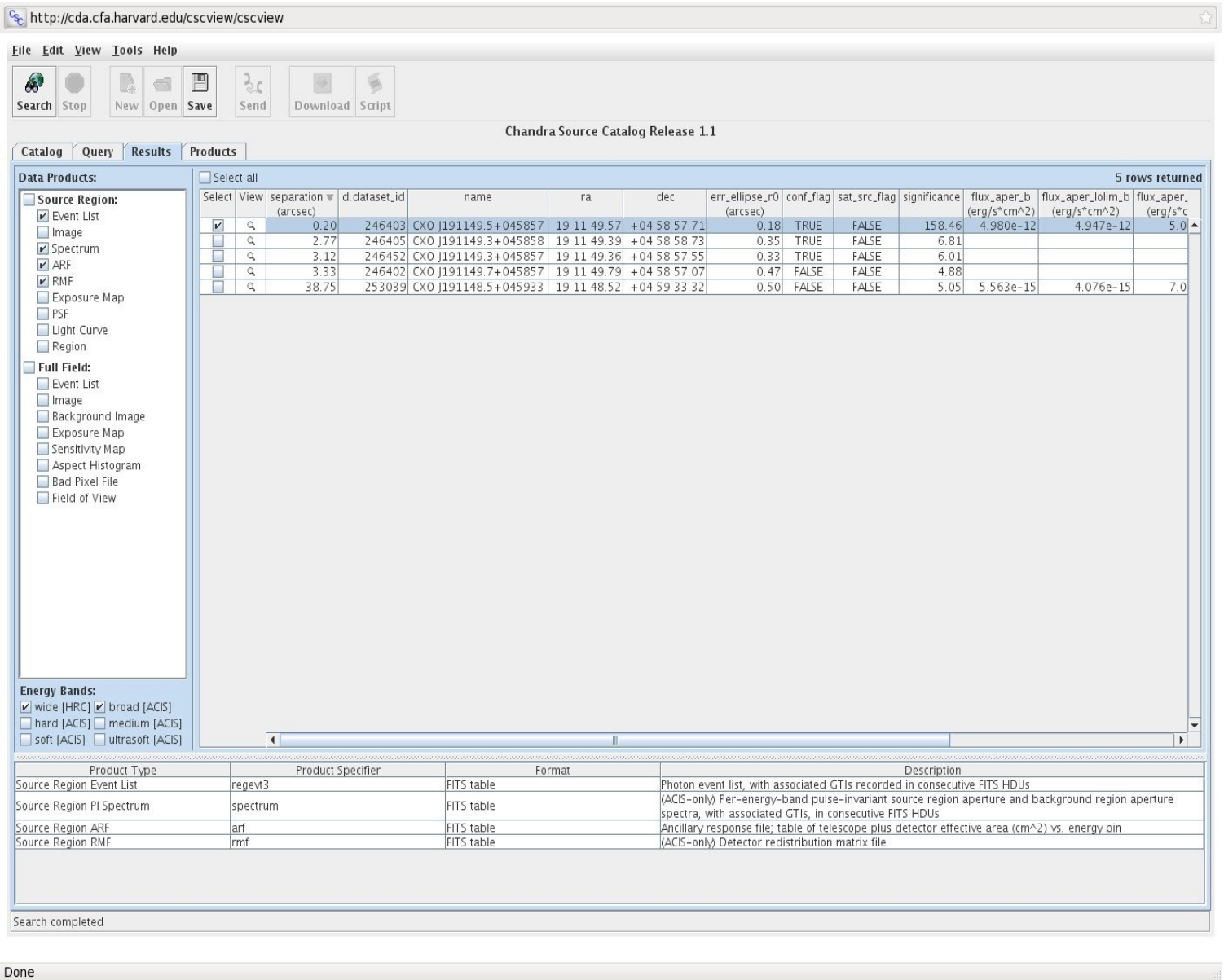
CSCView start window



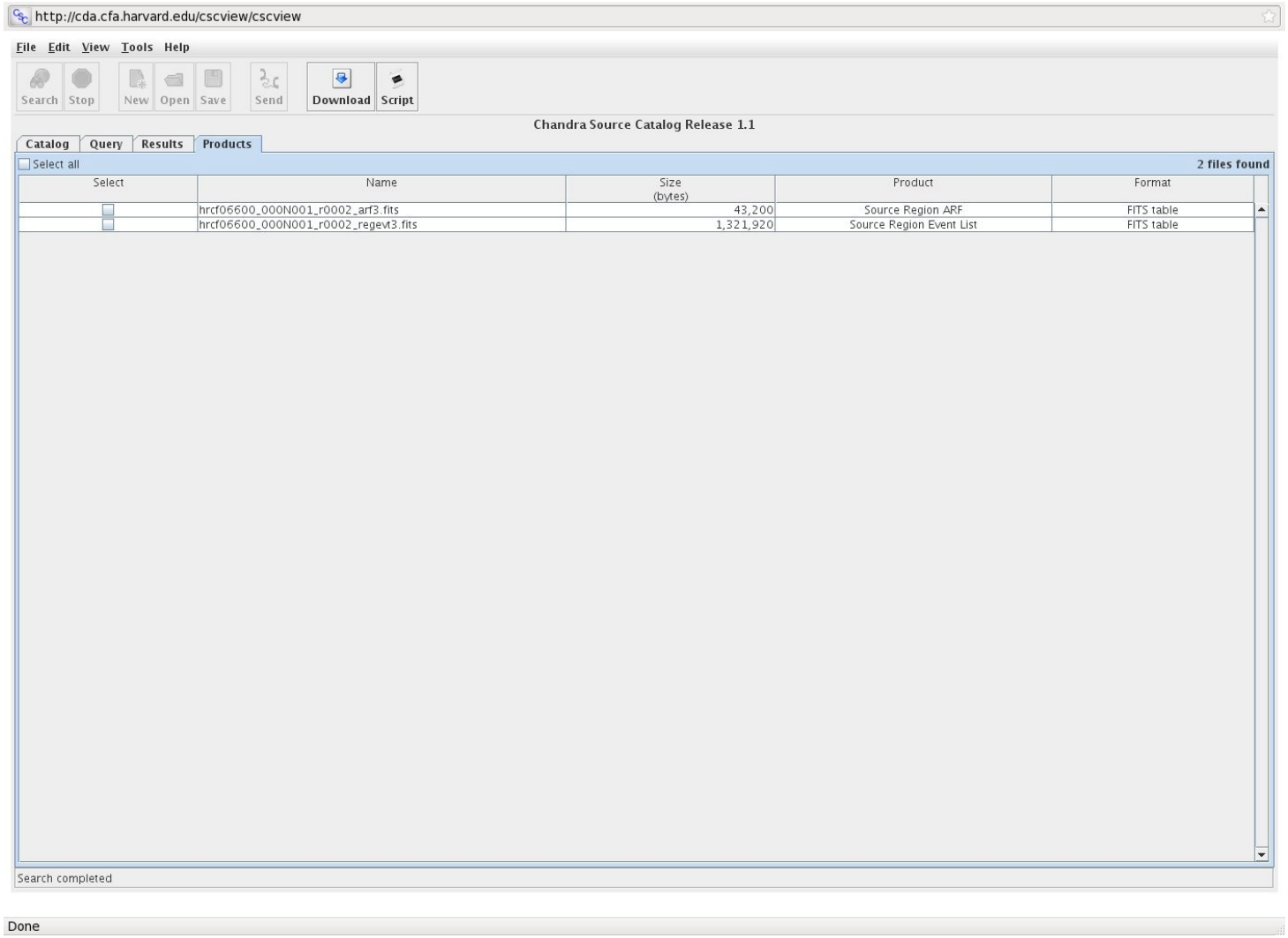
Enter source name and then click Search button at top left

Warning: note default search limit of 1000

CSCView results window



Now have results!
Can do even better and get associated data products: select source and click desired products


http://cda.cfa.harvard.edu/cscview/cscview
File Edit View Tools Help
Search Stop New Open Save Send Download Script
Chandra Source Catalog Release 1.1
Catalog Query Results Products
Select all
2 files found
Select
Name
Size (bytes)
Product
Format
hrcf06600_000N001_r0002_arf3.fits
43,200
Source Region ARF
FITS table
hrcf06600_000N001_r0002_regevt3.fits
1,321,920
Source Region Event List
FITS table
Search completed
Done

CSC is a point source catalog – chips with large extended sources are omitted.
This is probably why you're not finding your favorite source!
Here is an example, using Chandra Sky in Google Earth