

CSCview

Chandra Source Catalog Data Access GUI

File Edit View Tools Help

Search Stop New Open Save Send Download Script

Chandra Source Catalog Release 1.1

Catalog Query Results Products

Standard Queries:

- Standard Queries
 - Master Source Basic Summary
 - Master Source Summary
 - Master Source Photometry
 - Master Source Variability
 - Source Observation Summary
 - Source Observation Photometry
 - Source Observation Variability
- Standard Search Criteria
 - Search by Observation Identification
 - Search for Variable Sources

Select: top 1000 rows Save results to file

Result Set: **Sort Order:**

Source Properties:

- Master Sources
 - msid
 - Source Name
 - name
 - Source Position
 - ICRS Equatorial Coordinates
 - ra
 - dec
 - Galactic Coordinates
 - Position Error Ellipse
 - Source Flux Significance (S/N)
 - Source Flags
 - Source Extent
 - Aperture Photometry
 - Spectral Hardware Data

Search Criteria:

Position Search:

None
 Cone
 Crossmatch

Table	Name	Datatype	Units	Description
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CSCview loaded

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Chandra Source Catalog Data Access

The Chandra Source Catalog (CSC) includes point source data extracted from ACIS and HRC imaging (non-grating) data sets, obtained from the start of the mission through the start of 2010.

Data excluded from the catalog, to be included in future releases:

- x *Extended sources which are greater than ~30 arcsec in extent*
- x *HETG and LETG grating data*

X-ray spatial, spectral, and temporal source properties may be downloaded through CSCview, many per CSC energy band (u, s, m, h, b, w).

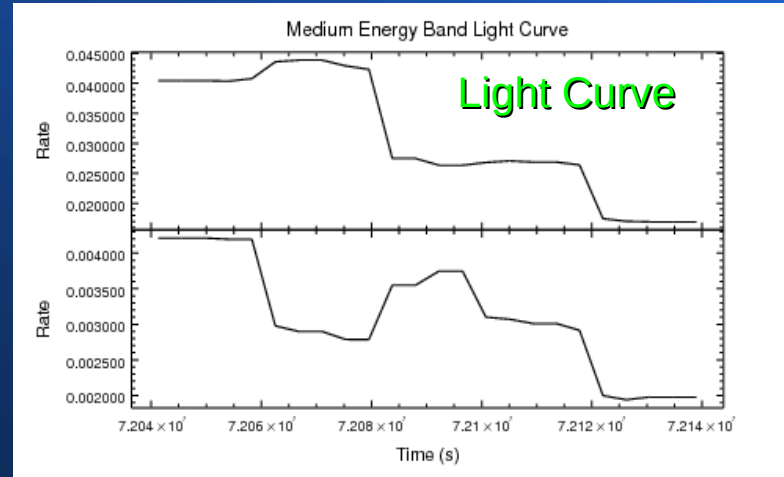
- **Source Position** *equatorial coordinates, off-axis angle*
- **Source Extent** *source region, PSF region*
- **Source Flux** *aperture photometry and spectral model fit fluxes*
- **Source Significance** *flux and detection*
- **Source Spectral Properties** *hardness ratios, power-law and blackbody model fit parameters*
- **Source Variability** *count rate, Gregory-Loredo, Kolmogorov-Smirnov, and Kuiper's variability probability*
- **Source Flags** *is the source variable? saturated? confused with another source?*
- **Observation Summary** *instrument configuration, data processing*

Chandra Source Catalog Data Access

You can also download analysis-ready data files through CSCview:

Source region Full-field

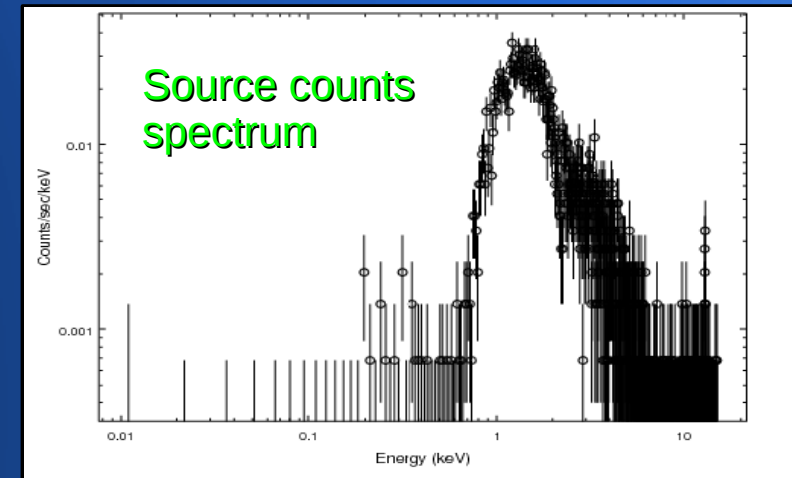
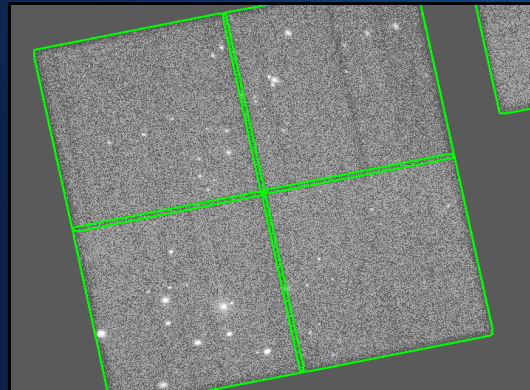
<i>events table & img</i>	<i>events table & img</i>
<i>pha spectrum</i>	<i>background image</i>
<i>ARF</i>	<i>exposure map</i>
<i>RMF</i>	<i>sensitivity map</i>
<i>exposure map</i>	<i>aspect histogram</i>
<i>PSF</i>	<i>bad pixel</i>
<i>light curve</i>	<i>field-of-view</i>
<i>region</i>	



Source and background events and spatial region



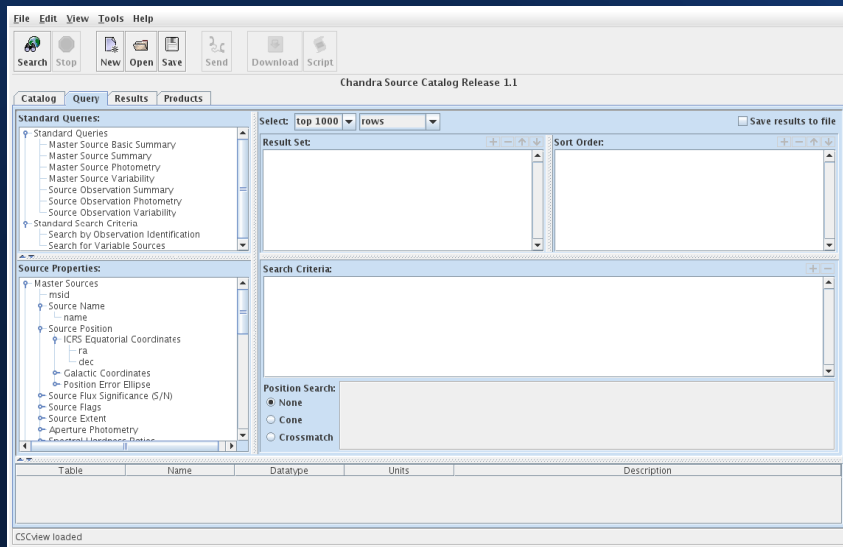
Full-field events and field-of-view spatial region



CSCview User Interface

Graphical User Interface (GUI)

CSCview, a Java applet which runs in a web browser



Command-line Interface (CLI)

Non-interactive access from the Unix command line using *cURL*, *Wget*, ...

Terminal

```
unix% curl -form query='SELECT m.name, m.ra, m.dec, m.flux_aper_b, FROM master_source m WHERE dbo.cone_distance(m.ra, m.dec, 83.773, -5.68464) <= 10' http://cda.cfa.harvard.edu/getProperties
```

```
unix% wget -O out.file 'http://cda.cfa.harvard.edu/csccli/getProperties?query=SELECT m.name, m.ra, m.dec, m.flux_aper_b FROM master_source m WHERE dbo.cone_distance(m.ra, m.dec, 83.7733, -5.68464) <= 10'
```

Launching CSCview

<http://cxc.harvard.edu/csc/>

Chandra X-ray Observatory

[CXC Home](#) [Proposer](#) [Archive](#) [Data Analysis](#)
[Instruments & Calibration](#) [NASA Archives and Centers](#)

Last modified: 14 July 2011

Google Custom Search
Search the CSC website

CHANDRA SOURCE CATALOG

The Chandra Source Catalog
Release 1.1: Point and compact source catalog
[What's New?](#) | [Watch Out](#)

CSC Data Access:
[CSCview](#)
[CSCview Help](#)
[Command-line Interface](#)

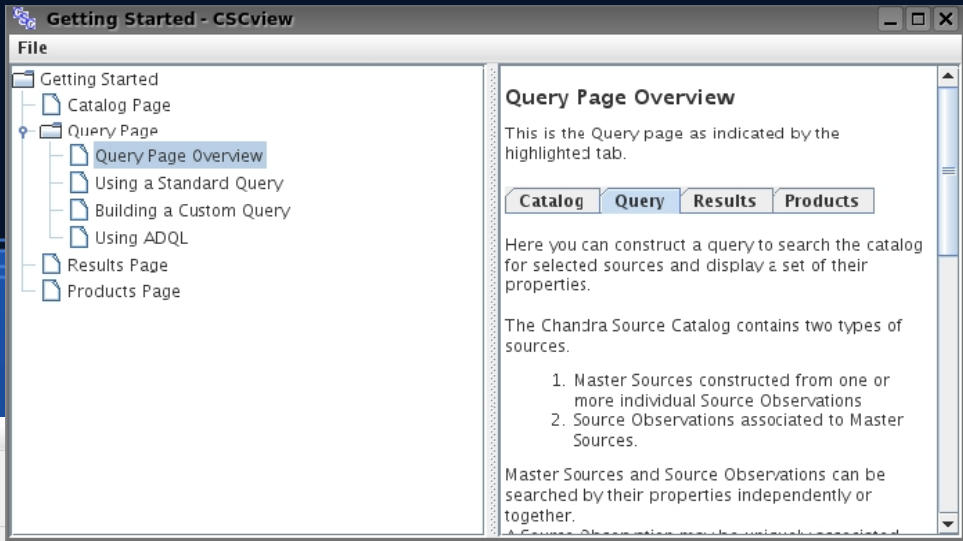
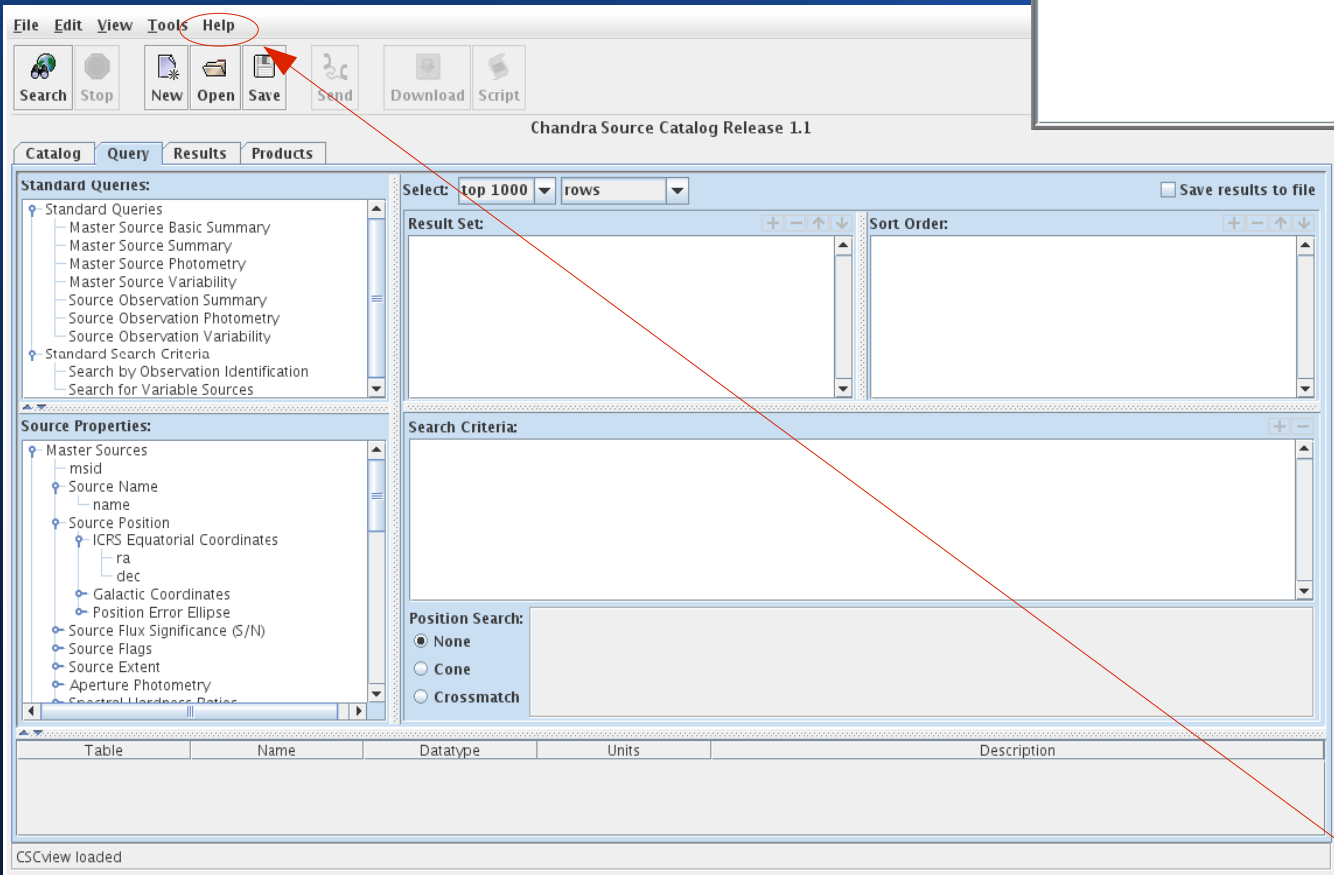
CSC Sky in Google Earth

CSC-SDSS Cross-match Catalog
[CSC Sensitivity Map Service](#)

CSC Homepage
[About the Catalog](#)
[Catalog Organization](#)
[Catalog Release Views and Database Access Views](#)
[Catalog Statistical Characterization](#)
[Schedule and Status](#)
[Caveats and Limitations](#)
Creating the Catalog
[Observation Selection](#)

The locations of observations included in the CSC, in Galactic coordinates (click the image for equatorial coordinates). The size of each symbol is proportional to the logarithm of the number of sources detected in the field, while the color encodes the number of closely-located observations.

CSCview opens on the Query tab

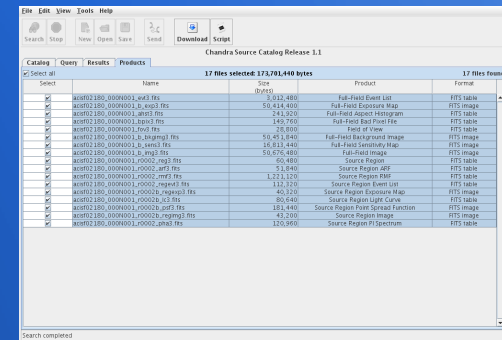
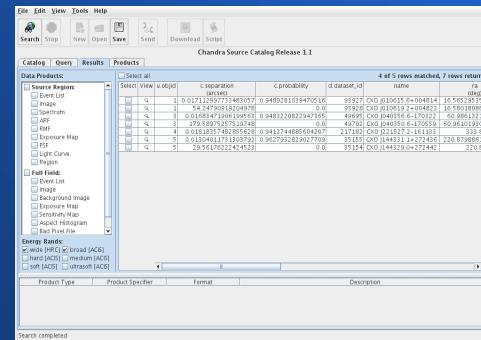
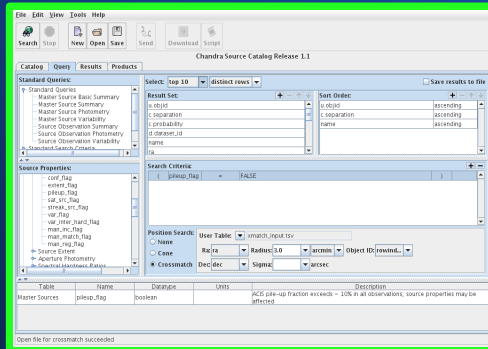
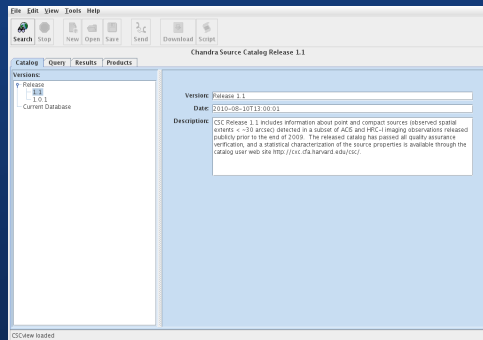


The Getting Started guide pops up alongside the GUI to help you construct queries; separate help documents are available on the CSC website, linked to the Help menu:

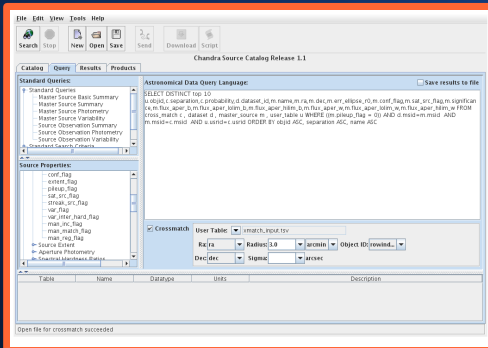
<http://cxc.harvard.edu/csc/gui/>

CSCview tabs

Catalog tab → Query tab → Results tab → Products tab



Choose a “view” of the catalog to access, either a *release view* or the *current database view*.



Save the search results to a text file in TSV or VOTable format.

Download data files such as light curves, spectra, and event files, in FITS table, FITS image, and JPG image format.

Submit a query **interactively** or using **command-line syntax**.

CSCview Catalog tab

(2) Click "Search"

(1) Choose "Release 1.1" or "Current Database view."

Release view: carefully reviewed, well-characterized, static version of the CSC.

Current Database view: dynamic but unstable version of the CSC; source properties and data products can be superseded at any time, and statistical properties of data are not guaranteed.

CSCview loaded

CSCview Query tab

Submit, clear, load, and save queries.

Use these buttons instead of a mouse cursor to move source properties around.

View Tools Help

Search Stop New Open Save Send Download Script

Chandra Source Catalog Release 1.1

Catalog **Query** Results Products

Standard Queries:

- Standard Queries
 - Master Source Basic Summary
 - Master Source Summary
 - Master Source Photometry
 - Master Source Variability
 - Source Observation Summary
 - Source Observation Photometry
 - Source Observation Variability
- Standard Search Criteria
 - Search by Observation Identification
 - Search for Variable Sources

Source Properties:

- Galactic Coordinates
- Position Error Ellipse
- Source Flux Significance (S/N)
- Source Flags
 - conf_flag
 - extent_flag
 - pileup_flag
 - sat_src_flag
 - streak_src_flag
 - var_flag
 - var_inter_hard_flag
 - man_inc_flag
 - man_match_flag
 - man_reg_flag

Select: all distinct rows Save results to file

Result Set: u.objid c.separation c.probability name ra dec err_ellipse_r0

Sort Order: u.objid ascending

Search Criteria: (pileup_flag = FALSE

Position Search: None Cone Crossmatch

User Table: user_table

Ra: col1 Radius: 3.0 arcmin Object ID: rowind...

Dec: col2 Sigma: 1.0 arcsec

Table	Name	Datatype	Units	Description
Data Products	dataset_id	int		Dataset identifier used to access Data Products
Master Sources	name	varchar		Source name in the format 'CXO Jhhmmss.s +/- ddmms'
Master Sources	ra	double	deg	Source position, ICRS right ascension
Master Sources	dec	double	deg	Source position, ICRS declination
Master Sources	err_ellipse_r0	double	arcsec	Major radius of the 95% confidence level error ellipse
Master Sources	conf_flag	boolean		Source regions overlap (source is confused)
Master Sources	sat_src_flag	boolean		Source is saturated in all observations: source properties are un...

New table for crossmatch succeeded

Build a custom query:
Use the provided source properties to specify your desired results and optional search conditions.

Create New Table

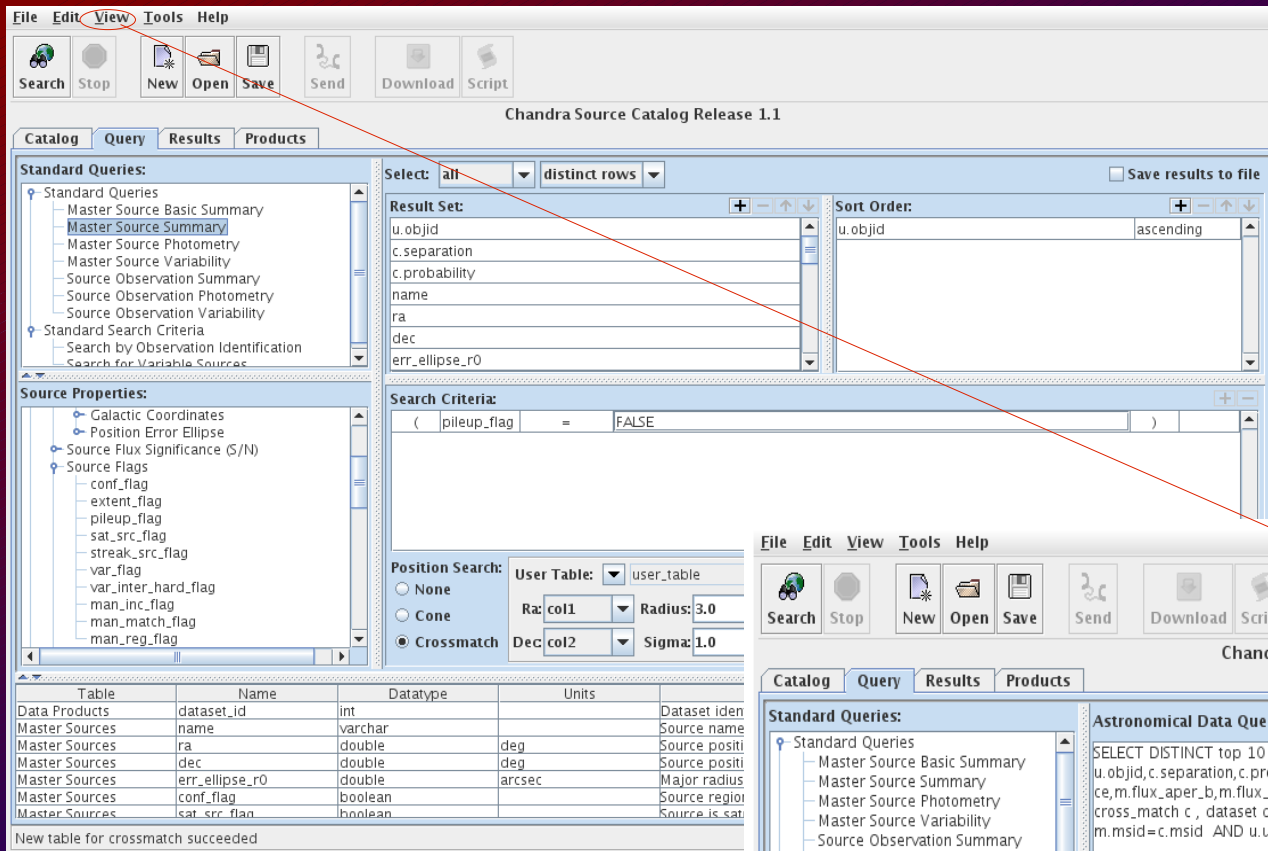
Each column must be separated by a tab. Clear

16.56530 0.80412
41.00765 -15.6776
60.98613 -17.05616
333.86372 -16.19251
220.87989 27.41019

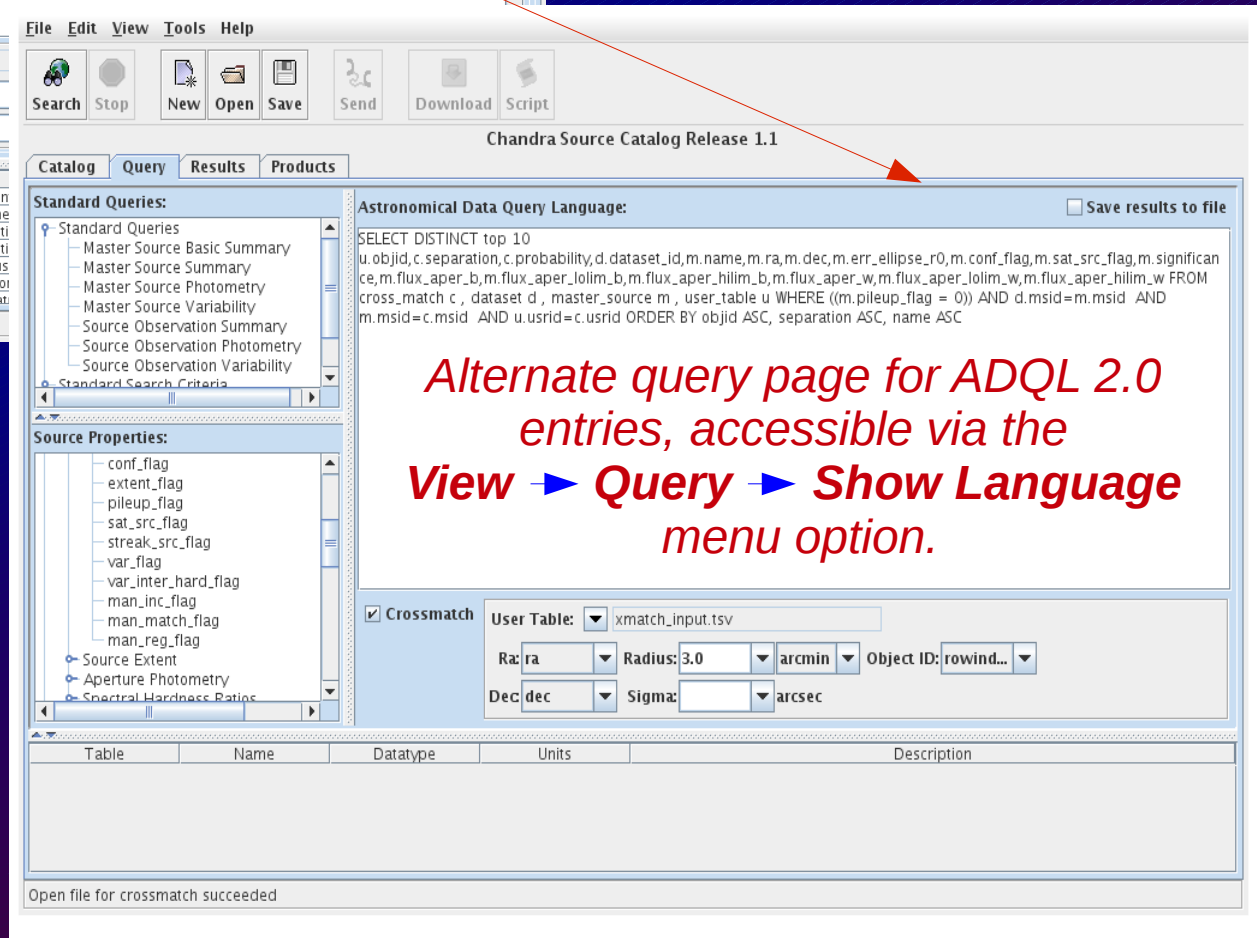
OK Cancel

Search with a **Standard Query** by choosing one from the list and dragging it towards the right.

Enter a list of source positions to cross-match against the CSC.



CSCview Query tab



*Alternate query page for ADQL 2.0 entries, accessible via the **View** → **Query** → **Show Language** menu option.*

Enter a query in the main view of the Query tab and see its ADQL 2.0 translation in the “language” view.

CSCview Query tab → ADQL view

The screenshot shows the CSCview Query tab interface. The 'Query' tab is selected, and the 'Astronomical Data Query Language' section is active. A red text box with a blue arrow points to the ADQL query field, containing the following text:

Enter an ADQL 2.0 query in this space, one which you would enter into the 'query' field of a cURL or Wget command-line statement.

```
unix% curl --form query=' ' 'http://cda.cfa.harvard.edu/cscli/getProperties'
```

The interface also displays a table of data products and a status message at the bottom: "New table for crossmatch succeeded".

Table	Name	Datatype	Units	Description
Data Products	dataset_id	int		Dataset identifier used to access Data Products
Master Sources	name	varchar		Source name in the format 'CXO Jhhmmss.s +/- ddmsss'
Master Sources	ra	double	deg	Source position, ICRS right ascension
Master Sources	dec	double	deg	Source position, ICRS declination
Master Sources	err_ellipse_r0	double	arcsec	Major radius of the 95% confidence level error ellipse
Master Sources	conf_flag	boolean		Source regions overlap (source is confused)
Master Sources	sat_src_flag	boolean		Source is saturated in all observations: source properties are unreliable

New table for crossmatch succeeded

CSCview Results tab

File Edit View Tools Help

Search Stop New Open Save Send Download Script

Chandra Source Catalog Release 1.1

Catalog Query **Results** Products

Data Products: Select all 4 of 5 rows matched, 7 rows returned

Source Region:
 Event List
 Image
 Spectrum
 ARF
 RMF
 Exposure Map
 PSF
 Light Curve
 Region

Full Field:
 Event List
 Image
 Background Image
 Exposure Map
 Sensitivity Map
 Aspect Histogram
 Bad Pixel File
 Field of View

Energy Bands:
 wide [HRC] broad [ACIS]
 hard [ACIS] medium [ACIS]
 soft [ACIS] ultrasoft [ACIS]

Select	View	u.objid	c.separation (arcsec)	c.probability	name	ra (deg)	c
<input checked="" type="checkbox"/>	Q	1	0.017112997733483057	0.5055621052154217	CXO J010615.6+004814	16.565295359999997	0.804121
<input type="checkbox"/>	Q	1	54.24790919204978	0.0	CXO J010619.2+004823	16.580180860000002	
<input checked="" type="checkbox"/>	Q	3	0.01683471906199563	0.4720757060121488	CXO J040356.6-170322	60.986132119999999	-17.05616
<input type="checkbox"/>	Q	3	179.58975257519748	0.0	CXO J040350.6-170559	60.961019300000004	-
<input checked="" type="checkbox"/>	Q	4	0.01818357482855628	0.4652402136242174	CXO J221527.2-161133	333.86372425	-
<input type="checkbox"/>	Q	5	29.56176222424523	1.281882521377532E-178	CXO J144329.0+272442	220.87082871	27.41184
<input checked="" type="checkbox"/>	Q	5	0.01304011731303792	0.5305862777076792	CXO J144331.1+272436	220.87988610000002	

After the query is submitted, the Results tab opens with a table of search results; each row represents a source, and each column a selected property characterizing the source.

Product Type	Product Specifier	Format	Description
Source Region Event List	regevt3	FITS table	Photon event list, with associated GTIs recorded in consecutive FITS HDUs
Source Region Image	regimg_w	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); HRC wide energy band
Source Region Image	regimg_b	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); ACIS broad energy band
Source Region Image	regimg_h	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); ACIS hard energy band

Create script canceled

CSCview Results tab

File Edit View Tools Help

Search Stop New Open Save Send Download Script

Chandra Source Catalog Release 1.1

Catalog Query Results Products

Data Products:

- Source Region:
 - Event List
 - Image
 - Spectrum
 - ARF
 - RMF
 - Exposure Map
 - PSF
 - Light Curve
 - Region
- Full Field:
 - Event List
 - Image
 - Background Image
 - Exposure Map
 - Spectrum
 - Region

Select	View	u.objid	c.sep (arcsec)
<input type="checkbox"/>	Q	1	0.0171129
<input type="checkbox"/>	Q	1	54.247
<input checked="" type="checkbox"/>	Q	3	0.016834
<input type="checkbox"/>	Q	3	179.589
<input checked="" type="checkbox"/>	Q	4	0.018183
<input type="checkbox"/>	Q	5	29.561
<input type="checkbox"/>	Q	5	0.013040

Source Region Image table

Source Region Image	FITS table	
Source Region Image	FITS image	
Source Region Image	regimg_b	FITS image
Source Region Image	regimg_h	FITS image

Download canceled

Source Preview - CSCview <2>

File

u.objid	c.separation (arcsec)	c.probability	name	ra (deg)
3	0.01683471906199563	0.4720757060121488	CXO J040356.6-170322	60.9861321199999

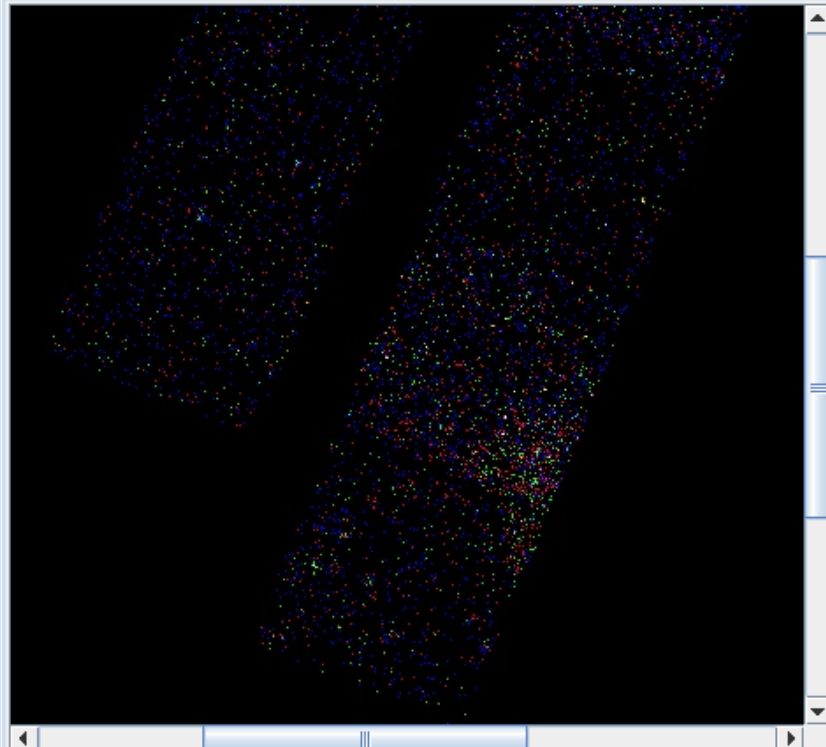
Source Region:
 Tricolor Image
 Image
 PSF

Full Field:
 Image

Energy Band:
 wide [HRC]
 broad [ACIS]
 hard [ACIS]
 medium [ACIS]
 soft [ACIS]
 ultrasoft [ACIS]

Blocking Factor: 4

Image Scale: 1



Width: 4033.7408 arcsec Height: 4033.7408 arcsec

Preview source region events and PSF images in various energy bands, and broad-band full-field images.

CSCview Results tab

Save the table of search results to a TSV or VOTable format file.

File Edit View Tools Help

Search Stop New Open Save Send Download Script

Chandra Source Catalog Release 1.1

Catalog Query Results Products

Data Products:

- Source Region:
 - Event List
 - Image
 - Spectrum
 - ARF
 - RMF
 - Exposure Map
 - PSF
 - Light Curve
 - Region
- Full Field:
 - Event List
 - Image
 - Background Image
 - Exposure Map
 - Sensitivity Map
 - Aspect Histogram
 - Bad Pixel File
 - Field of View

Energy Bands:

- wide [HRC] broad [ACIS]
- hard [ACIS] medium [ACIS]
- soft [ACIS] ultrasoft [ACIS]

4 of 5 rows matched, 7 rows returned

Select	View	u.objid	c.separation (arcsec)	c.probability	name	ra (deg)	c
<input checked="" type="checkbox"/>	Q	1	0.017112997733483057	0.5055621052154217	CXO J010615.6+004814	16.565295359999997	0.804121
<input type="checkbox"/>	Q	1	54.24790919204978	0.0	CXO J010619.2+004823	16.580180860000002	
<input checked="" type="checkbox"/>	Q	3	0.01683471906199563	0.4720757060121488	CXO J040356.6-170322	60.986132119999999	-17.05616
<input type="checkbox"/>	Q	3	179.58975257519748	0.0	CXO J040350.6-170559	60.961019300000004	-
<input checked="" type="checkbox"/>	Q	4	0.01818357482855628	0.4652402136242174	CXO J221527.2-161133	333.86372425	-
<input type="checkbox"/>	Q	5	29.56176222424523	1.281882521377532E-178	CXO J144329.0+272442	220.87082871	27.41184
<input checked="" type="checkbox"/>	Q	5	0.01304011731303792	0.5305862777076792	CXO J144331.1+272436	220.87988610000002	

Product Type Product Specifier Format Description

Source Region Event List	regevt3	FITS table	Photon event list, with associated GTIs recorded in consecutive FITS HDUs
Source Region Image	regimg_w	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); HRC wide energy band
Source Region Image	regimg_b	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); ACIS broad energy band
Source Region Image	regimg_h	FITS image	Per-energy-band background-subtracted, exposure corrected images (photons/s*cm^2); ACIS hard energy band

Create script canceled

CSCview Products tab

The screenshot shows the CSCview interface with the **Products** tab selected. The main window displays a table of 196 selected files with columns for Name, Size (bytes), Product, and Format. A blue arrow points to the table with the text: *List of data products requested in the Results tab.*

Two dialog boxes are overlaid on the interface:

- Download Products**: A dialog box with "Save In:" set to "science". The text inside reads: *Download a single tar file containing the selected data products, OR*. The "File Name:" field contains "cscpackage.tar" and "Files of Type:" is set to ".tar".
- Save Batch File**: A dialog box with "Save In:" set to "science". The text inside reads: *Retrieve a download script containing a list of Wget commands – one for each data file – to be executed on the Unix command line for a batch download.* The "File Name:" field contains "cscbatch" and "Files of Type:" is empty.

A red arrow points from the "OR" text in the "Download Products" dialog to the "Save Batch File" dialog.

At the bottom left, the status bar indicates "Search completed".

Troubleshooting

Why can't I find my source?

The source is in the catalog, but your search criteria are too strict:

Have you set a flux threshold unrealistically high, or used a very small cone search radius in a search on source position?

Try relaxing or reducing the number of search conditions and re-submit your query.

The source is not in the catalog:

- * *The source did not pass quality assurance filters for inclusion in the catalog; e.g., the signal-to-noise was too low, or the source flux was fainter than the Chandra limiting sensitivity.*

Learn more here: http://cxc.harvard.edu/csc/faq/src_inclusion.html

- * *The source was observed by Chandra but the CCD on which it lies was excluded from the catalog because it contains extended emission.*

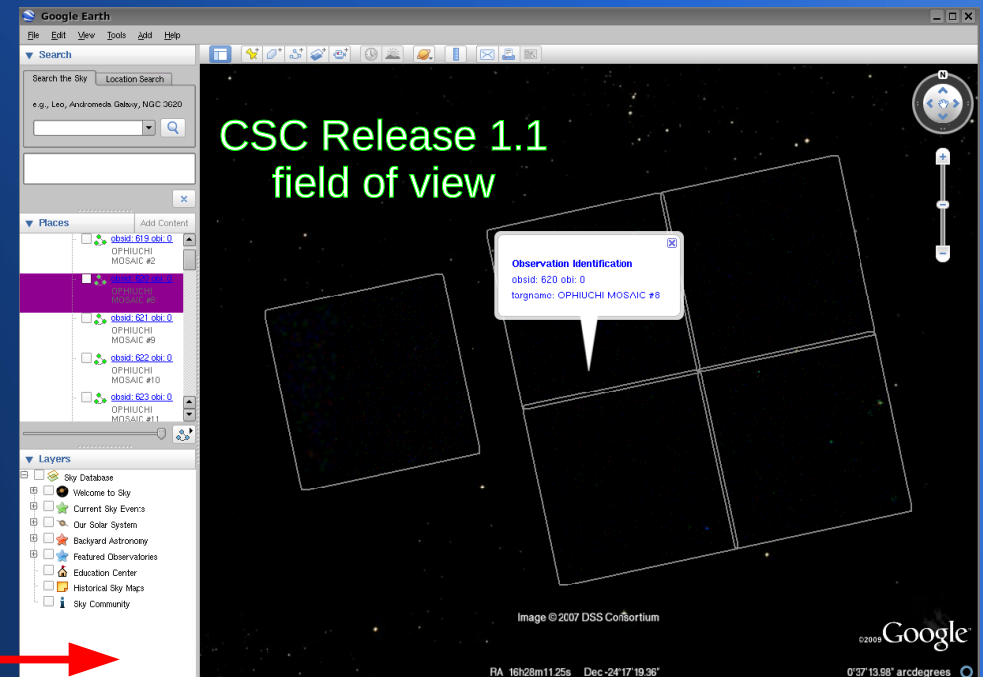
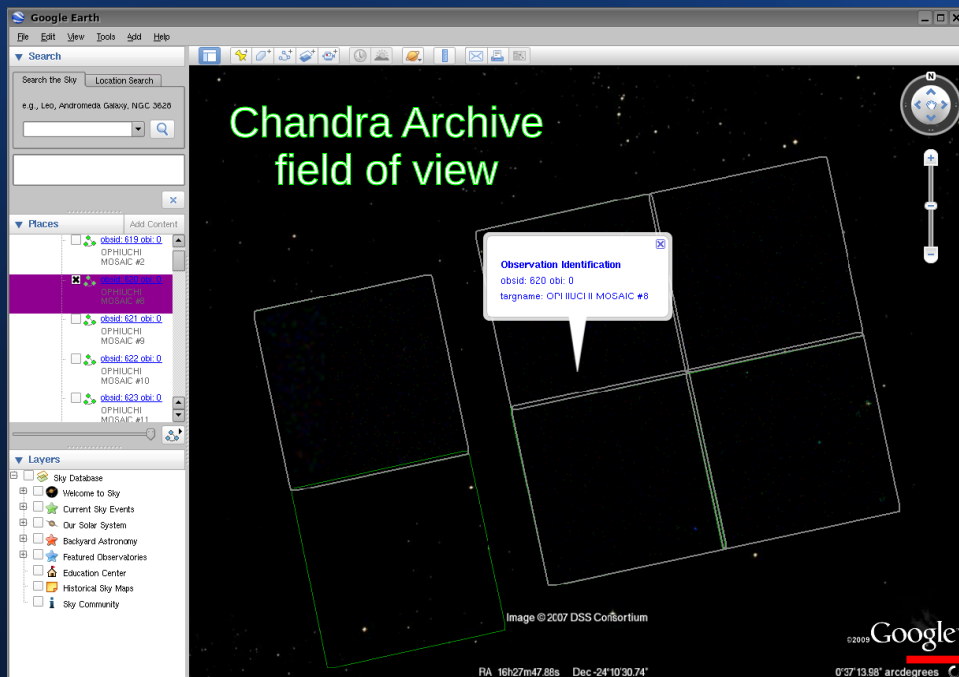
If you know the ObsID, check for it in the list of “dropped chips” for CSC Release 1.1:
http://cxc.harvard.edu/csc/faq/dropped_chips.html

Troubleshooting

Why can't I find my source?

Search for your source in the CSC interface to Sky in Google Earth, where you can visually inspect Chandra observations for dropped chips.

<http://cxc.harvard.edu/csc/googlecat/>



dropped chip

CSC Resources

<http://cxc.harvard.edu/csc/>

Refer to the CSC website for:

- * step-by-step *CSCview* and data analysis tutorials;
- * high-level descriptions of source properties and data files included in the catalog;
- * answers to frequently asked questions;
- * *How & Why* topics;
- * catalog science requirements and specifications; and
- * a thorough summary of the catalog statistical characterization.

Submit questions to the

CXC Helpdesk

<http://cxc.harvard.edu/helpdesk>