



# CHANDRA SOURCE CATALOG

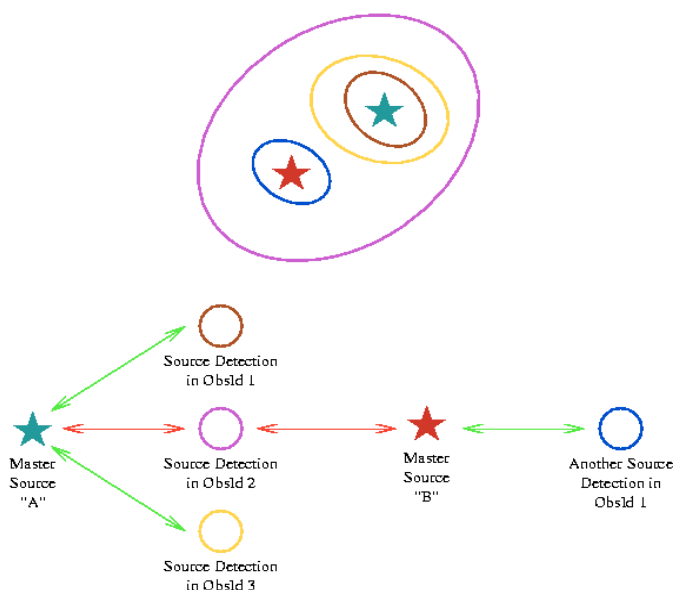


<http://cxc.harvard.edu/csc/>

The Chandra Source Catalog (CSC) is ultimately intended to be the definitive catalog of all X-ray sources detected by the Chandra X-Ray Observatory. The first release of the CSC, scheduled for January 2009, will include information about sources detected in public ACIS imaging observations from roughly the first eight years of the Chandra mission. Only point sources, and compact sources with extents  $< \sim 30$  arcseconds, will be included. Highly extended sources, and sources located in selected fields containing bright, highly extended sources, will be excluded.

The CSC contains positions and multi-band count rates for the sources, as well as derived spatial, spectral and temporal calibrated source properties that may be compared with data obtained by other telescopes. The CSC also includes associated data products for each source, including images, photon event lists, light curves, and spectra.

The catalog is presented in two table views: the Master Chandra Source Table and the Table of Individual Source Observations. Each distinct X-ray source on the sky identified in the CSC is represented by a single *master source* table entry and one or more *individual* ("per obi") source table entries for each observation in which the source is detected. In each table, a row represents a source, and each column a quantity or parameter that is officially part of the catalog.



If a source is detected in multiple observations that overlap the same region of sky, then the master source table entry is produced by merging the corresponding individual source observations. The properties of a master source observation represent the best estimates of the actual source properties derived from the set of individual source observations contributing to the master source observation. The Table of Individual Source Observations contains source properties based on observational data extracted independently from each Chandra pointing in which the source is detected; it contains multiple entries for the corresponding single, merged source entry in the Master Chandra Source Table.

Bidirectional links within the catalog database connect a master table entry with multiple individual source entries associated with it, so that users can view all observations of a single source and how they contribute to the master entry. This feature allows the user to request any combination of master source properties and individual source properties in a single query to the database, so they are not restricted to searching a single table at a given time. The red arrows in the figure illustrate that confused sources are linked to multiple master sources in the catalog, but their properties do not contribute to the reported master source properties.