

Call for White Papers for Chandra Cool Targets

Due Date: Friday, October 23rd, 2026 6PM EDT

Introduction

To maintain high observing efficiency and to prolong spacecraft sub-systems, it is advantageous to identify thermally-useful science targets (generally to cool particular subsystems) in limited (and time-dependent) areas of the sky. The sky locations of cooling regions vary throughout the year but are more commonly found at lower ecliptic latitudes where targets have a larger range of favorable pitch angles that can maximally cool subsystems. Nominally, Chandra planners arrange observations of non-CCT targets (General Observer (GO) peer review-approved, Guaranteed Time Observer (GTO), Director's Discretionary Time (DDT), and calibration (CAL) targets) in an order that supports cooling of subsystems. However, when such sources are not available at the desired location, we occasionally draw sources from a catalog of Chandra Cool Targets (CCTs).

CCTs were obtained through the inaugural community-wide call for white papers issued in 2018. The call resulted in a catalog of 18697 sources with a broad range of observing configurations. Chandra has observed an average of just over 1 Ms per year of CCTs. As the utility of the existing CCT program reaches its end, we are seeking to replace the CCT with new targets and updated observing configurations.

Chandra Cool Targets (CCTs)

This call requests white papers that motivate lists—either existing or custom catalogs—of astrophysical objects that provide a deep reservoir of targets to be included in the observing schedule as needed to satisfy thermal constraints. Chandra observations of CCTs should have intrinsic science value, noting in particular that it is likely that only a random subset will be observed. We estimate that an oversubscribed list of 20,000-40,000 targets (CCTs) uniformly distributed across the sky will be required to facilitate thermal management of the Observatory for the next several years.

The following will apply to CCT observations:

- A CCT will be scheduled only if there is no GO/GTO target at the appropriate pitch angle.
- There is no guarantee that a specific CCT or a minimum number of CCTs will be observed.
- If a list is approved as a source of CCTs, potential targets that are already in the Chandra archive or in the ObsCAT will be removed from the CCT database, unless there is scientific justification for repeated observations.
- New proposals submitted through Chandra's Call for Proposals (CfP) can include observations of CCTs. Approved GO/GTO targets will then be removed from the CCT database of available targets.
- CCT observations will become public immediately.
- Funding to analyze CCT data is available by competing through the NASA Astrophysics Data Analysis Program (ADAP).

Call for CCT White Papers

Lists of CCTs—derived from either existing or custom catalogs—from all areas of astrophysics will be considered. Justifications for a particular list **must** include:

- A general description of the list and any catalog(s) included and any selection criteria (e.g., quasars with $z < 1.0$ or minimum flux to optimize the chance of X-ray detection).
- The scientific rationale for choosing the specified list, including relevance to the Chandra mission.
- The total number of targets in the proposed (existing or custom) list. Lists must contain at least 200 targets, any proposals with fewer than this number will not be considered.
- A statement of the minimum number of sources from the specified list that are required in order to meet the scientific goals of the proposed program.
- The White paper should demonstrate that scientifically useful detections or limits can be obtained in the required exposure time range (see below).

- Nominally, we anticipate a White Paper will consist of 2-4 pages of narrative text with no page limit for supporting materials (figures, representative source lists, and references).

Any given position on the sky is at a pitch angle that is maximally useful for cooling for only up to a few weeks out of each calendar year. Therefore lists that distribute CCTs uniformly throughout the sky are preferred over lists that focus on one area.

The following restrictions apply to CCTs:

- Exposure time request per target will be between 3 and 10 ks.
- A limited number of CCTs outside $\pm 40^\circ$ ecliptic latitude will be accepted.
- For ACIS-I/ACIS-S observations, a maximum of 4 CCDs may be requested, one of which must be a front-illuminated (FI) CCD. The observations will be scheduled with an ACIS focal plane temperature limit of -105.0°C . See resources below for more information on the influence of ACIS focal plane temperature.
- HRC-I may be used.
- Observations with gratings are allowed.
- No constraints or preferences may be specified for CCTs. TOO programs are not supported under this initiative.

White papers for CCT source lists will be evaluated by a panel of reviewers including CXC staff, MSFC Project Science, and outside experts. There is no upper limit on the amount of time in the CCT reservoir: any lists that have potential for excellent science can be accepted. The review panel may prioritize the accepted lists. The authors of accepted white papers will be invited to work with CXC staff to provide instrument configurations.

White Paper Submission and Resources

White papers are due Friday, October 23, 2026, and should be limited to not more than four pages of text, figures and references will not count against the page limit. White papers should be emailed to:

rodolfo.montez@cfa.harvard.edu

More information on the influence of ACIS focal plane temperature on observations, analysis, and sample Cycle 27 response and effective area files can be found at:

https://cxc.cfa.harvard.edu/caldb/prop_plan/imaging/warm_rmfs.html

Potential authors are encouraged to submit questions via the Chandra HelpDesk at <https://cxc.cfa.harvard.edu/help/> or by emailing cxchelp@cfa.harvard.edu.