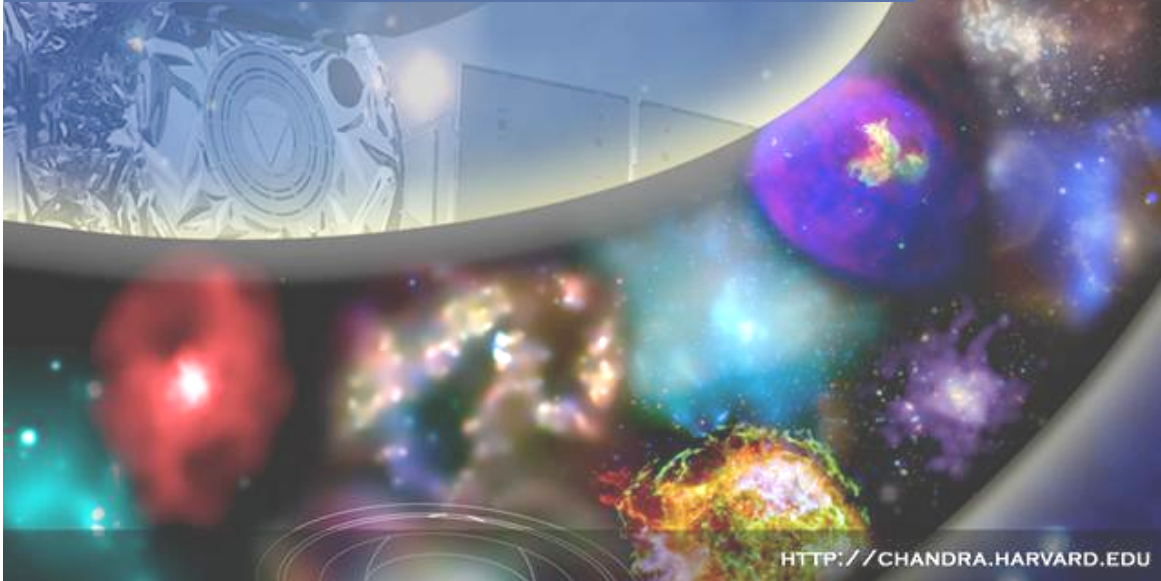


Chandra Source Catalog Review

Welcome & Introduction

G. Fabbiano
CfA, 8 February 2006



Purpose of this review

- CUC asked for this review
- The Catalog is a significant endeavor
 - We want to do it well
 - Comments will be folded into future activities
- Review is timely
 - We have done enough work to understand the project
 - There is still time for modifications and change of emphasis

Some CXC Questions to the Committee

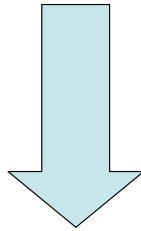
- Are there additional science use cases we need to consider?
 - Additional catalog requirements
- Are there any further areas/considerations in the Catalog definition and data product generation?
- Is the characterization of the catalog adequate?
- Is our approach re VO interfaces and interaction with other catalogs appropriate?
- Comments on our planned staged release approach?
 - The final schedule will depend on balancing this activity with other higher priority tasks (Project, CUC)

Past and Present Players

- CXCDS - [Science](#)
 - G. Fabbiano
 - Ian Evans
 - Arnold Rots
 - Mike McCollough
- CXC-SDS
 - Jonathan McDowell
 - Frank Primini
 - Margarita Karovska
- Past science members
 - Adam Dobrzycki
 - Peter Freeman
 - Dan Harris
 - Stephane Paltani
 - John Slavin
 - Mike Wise
- CXCDS - [SW](#)
 - Janet Evans
 - Kenny Glotfelty (pipelines/tools)
 - Roger Hain
 - Tom Calderwood
 - Stephen Doe (fitting)
 - Yulie Zografou (archive)
 - Peter Harbo
 - Mike Tibbets
 - David Van Stone
 - David Plummer (AP)
 - John Greer

The Chandra Data Tesseract

- Chandra data is 4-dimensional (event list)
- Each photon detected individually
 - X, Y coordinates
 - Energy
 - time



Our Science Goal

- Characterize the X-ray sky
 - Source detection or limit (sensitivity)
 - Position
 - X-ray colors & spectra
 - Time variability
 - Extent
- Users will define their science projects
 - Measure of success: unanticipated science projects
- Interfacing with the VO

Catalog Properties

- Dynamic catalog
 - Will grow larger and better
 - More data
 - Better calibration
 - History will be preserved
- Complex catalog
 - Data base tables of sources and properties
 - Source data objects
 - 4-D data
 - Calibrations
 - Allow user data analysis

Catalog Software

- Pipeline and archive
 - Extension of present operational s/w
- New tools will be added to CIAO
 - E.g. mosaicing tools

Why is the CXC doing it?

- Powerful, valuable resource for astronomy
 - Unique high resolution view of the X-ray sky
 - CXC has the resources and the expertise
- Long lived project for future VO astronomy
 - CXC is NASA center for Chandra lifetime
 - HEASARC takes over next
- Uniform data reduction
 - Building on CXC pipelines and products
- Part of our original mandate
 - Approved by NASA

CXC Presentation Agenda - day 1

Feb 8 => Session 1

9:00 o Welcome -- Pepi Fabbiano & Andy Lawrence

- o Big Picture I -- Jonathan McDowell
 - . Introduction to the Chandra Source Catalog
 - . X-ray source population

10:30 BREAK

11:00 o Big Picture II -- Jonathan McDowell

- . Scope of the Catalog

- o Science Use Cases I -- Jonathan McDowell
 - . Categories: X-ray characterization, crossmatch, detailed studies

12:30 LUNCH (provided)

Feb 8 => Session 2

13:30 o Instruments -- Frank Primini

- . Overview of instruments and characteristics
- . Known issues and limitations

15:00 BREAK

15:30 o Architecture -- Ian Evans

- . Goals
- . Catalog overview
- . Catalog production overview
- . User interfaces overview

17:00 Discussion (time is also budgeted within each individual presentation)

17:30 Adjourn Day 1

CXC Presentation Agenda - day 2

Feb 9 => Session 3

- 8:00 Continental breakfast
- 9:00 o Data Processing Implementation -- Janet Evans
 - . Pipeline infrastructure
 - . Development status
- o Pipeline Details -- Kenny Glotfelty
 - . Current pipeline implementation
 - . Examples of data products
- 10:30 BREAK
- 11:00 o Archive / Catalog -- Arnold Rots
 - . Architecture
 - . Contents
 - . Versioning, referencing, and tracking
 - . User interfaces
 - . Compatibility with the Virtual Observatory
- 12:30 LUNCH (provided)

Feb 9 => Session 4

- 13:30 o Characterization -- Ian Evans
 - . Goals
 - . Catalog characterization
 - . Characterization methods
 - . Evolution of characterization
- 15:00 BREAK
- 15:30 o Science Use Cases II -- Ian Evans
 - . Review of science use cases
 - . Catalog-enabled science use cases
- o Schedule -- Ian Evans
 - . Milestones
 - . Projected timeline
- 17:00 Discussion
- 17:30 Adjourn Day 2