URL: http://cxc.harvard.edu/ciao3.4/threads/index.html
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Science Threads for CIAO 3.4

Data Versions

The following threads are designed to work with processing versions later than R4CU5UPD8 or DS 6.0.0. Nearly all Chandra data available satisfies this criterion. Please visit the Chandra Data Archive to find the most up−to−date processing of an observation.

All threads

A list of all the threads on one page.

Introduction

Beginners should start here. The Introductory threads provide an overview of the main components (GUI applications, plotting) and concepts (the Data Model, filtering) in the CIAO data analysis software.

Data Preparation

When Chandra data goes through Standard Data Processing (SDP), the most recently available calibration is applied to it. Since this calibration is continuously being improved, one should check whether there are currently newer files available. Similarly, some science decisions are made during SDP; every user has the option to reprocess the data with different parameters.

Timing Analysis

In order to perform absolute timing analysis on a dataset, a barycenter correction must first be applied to the data. One may then create lightcurves and phase−binned spectra to look for variability in the source. These threads also provide information on working with data taken in the ACIS continuous clocking (CC) mode.

Imaging

The Imaging threads cover a wide range of topics that include source detection, creating exposure maps and normalized images, and calculating image statistics. How to create color images for publication is addressed, as well as merging data from multiple observations.

Imaging Spectroscopy

After extracting source and background PI or PHA spectra from an imaging observation, the appropriate response files (ARF, RMF) are created so that the data may be modeled and fit. In the case of multiple or extended sources, weighted ARF and RMF are built for the spectral analysis.

Grating Spectroscopy

If new calibration has been applied to the event file, the grating spectrum should be re−extracted as well. It is then possible to build grating response files (gARF, gRMF) in order to model and fit the data in *Sherpa*.

S−Lang

A list of threads that use *S−Lang*, the CIAO Scripting Language, to automate a variety of tasks.

Datasets

Links to the datasets used in the threads.

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