



AHELP for CIAO 3.4

firstlook

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Synopsis

GUI to allow an efficient means of accessing Chandra data products

Syntax

```
firstlook [--info]
firstlook oif1 [oif2 ...]
```

Description

Firstlook is a graphical user interface (GUI) that provides users with a simple means of examining your Chandra dataset. As the name suggests it is intended to allow you to quickly examine the data – such as look at an image, extract a spectrum of a source, or create a lighcurve – rather than perform detailed scientific analysis on the data.

To this extent, the application interacts with various other CIAO software applications to provide a wide range of functionality, including fitting, plotting, file browsing, and imaging. The tool makes use of the observation index files (OIFs) that come with Chandra datasets – or can be created by the mkoif tool – to determine the location and type of the available data.

When launched, firstlook either loads in the OIF specified on the command line or, if given a directory name, it will look in that directory for OIFs. If no files or directories are specified it will use any OIFs it finds in the current working directory and \$ASCDS_WORK_PATH. It is also possible to load files from within the GUI by means of the "Open" submenu of the "File" menu.

Selecting an OIF file (by double clicking on the entry in the display) will generate a file tree which specifies the contents of the observation fileset. The user may expand or collapse branches of the file tree to view or hide the names and paths of the various filetypes. Double-clicking on a filename runs the prism browser with it displaying the contents of the specified file.

Aside from viewing the contents of files, firstlook offers the convenience of displaying an image, extracting a lightcurve, or extracting a spectrum of the data by clicking on the appropriate icon in the toolbar.

Unlike most of the CIAO applications, firstlook does not utilize a parameter file for its own configuration. Instead, it reads in the analysis session parameter file ciao.par as well as the parameter files for the tools which it utilizes (e.g. lightcurve, dmextract). It also recognises several command-line options; most of these can be listed by using the "--help" or "--info" options. The "--iconic" option – added in CIAO 3.0 – is not

listed in these options; it says that firstlook should be started up in an iconified or hidden state.

Example 1

The following examples are also described (with images) in the threads page of the CIAO website available at: <http://exc.harvard.edu/ciao/threads/>.

EXTRACTING A SOURCE SPECTRUM

In the directory where the observation's OIF resides (the oif.fits file), start firstlook. The observation id number should show up in the firstlook display.

Click on the 'view image' icon (it resembles a spiral galaxy). This will display the image data for the observation as well as start a copy of the filter window application, filtwin.

Define a region marker in the image, then load it into filtwin by clicking on the [Update From] button with the Imager selected in the 'Window' selection toggle. The region should appear as a descriptor in physical coordinates in the 'sky' field within the filter list window.

Click on firstlook's spectrum button (the icon resembles a line plot) to extract and display the spectrum count for the specified region. This will generate a plot window containing the spectrum of counts vs channel. Additionally, filtwin will be updated to contain information for the spectrum file and the 'Window' selection toggle will be set to 'Plot Zoom'.

If a more detailed look at a subsection of the plot is desired, click on the [Update From] button in filtwin. This will set the plot window into an interactive pick-points mode where the user may select two points to define the range along the x axis (channel) of the plot. After the second point is selected, the range will appear in the field for 'channel'. Click on filtwin's [Apply To] button to zoom in on the specified range.

Example 2

GENERATING A FULL FIELD A LIGHTCURVE

Start a new instance of firstlook and click on the lightcurve button (the icon resembles a series of crosses forming a curve) to generate a lightcurve for the entire image field. This will generate a plot window containing the lightcurve as rate vs time with error bars. If filtwin was not already running, it will be launched and updated to display the information for the lightcurve file.

To see the plot without error bars, update the filtwin text field after the 'cols' toggle to remove ',error' so that the entry reads 'time,rate'. Click on the [Apply To] button to execute the change.

If a more detailed look at a subsection of the plot is desired, click on the [Update From] button in filtwin. This will set the plot window into an interactive pick-points mode where the user may select two points to define the range along the x axis (time) of the plot. After the second point is selected, the range will appear in the field for 'time'. Click on filtwin's [Apply To] button to zoom in on the specified range. When the plot zooms in, the error bars will disappear. If the error bars are desired they may be recovered by adding the text ',error' to the entry 'time,rate' following the 'cols' toggle and clicking on [Apply To].

CHANGES IN CIAO 3.0

Sorting OIFs

The tool now correctly sorts OIFs so that, after sorting, the correct dataset will be used. Prior to CIAO 3.0 the sorting may have appeared to happen but subsequent analysis would use the original (unsorted) list.

Using more than 10 OIFs

It is now possible to use firstlook with more than 10 OIFs.

Specifying which directories to search

If given a directory name when started, firstlook will scan that directory for OIFs.

Support for the `-iconic` option

Firstlook can now be started iconified/hidden by using the `-iconic` option.

XPA ACCESS POINT AND COMMANDS

As with most of the CIAO GUIs, firstlook has an XPA access point which can be used to control its behaviour: currently this is limited to closing down the application. This is used by the CIAO session handling ("ahelp session") to provide an integrated analysis environment.

The name of the access point is "firstlook" even if there are multiple copies already running, and it understands the following commands when sent via XPA:

```
unix% xpaget firstlook
XPA version: 2.1.4
exit:      -- Exit application
quit:     -- Exit application
```

Bugs

See the [bugs page for this tool](#) on the CIAO website for an up-to-date listing of known bugs.

See Also

concept

[session](#)

gui

[analysis-menu](#), [ciao.par](#), [ciaoshmem](#), [filtwin](#), [gui](#), [peg](#), [prism](#), [taskmonitor](#)

tools

[dmcontour](#), [dmimg2jpg](#), [mkoif](#)

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URL:
<http://cxc.harvard.edu/ciao3.4/firstlook.html>
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