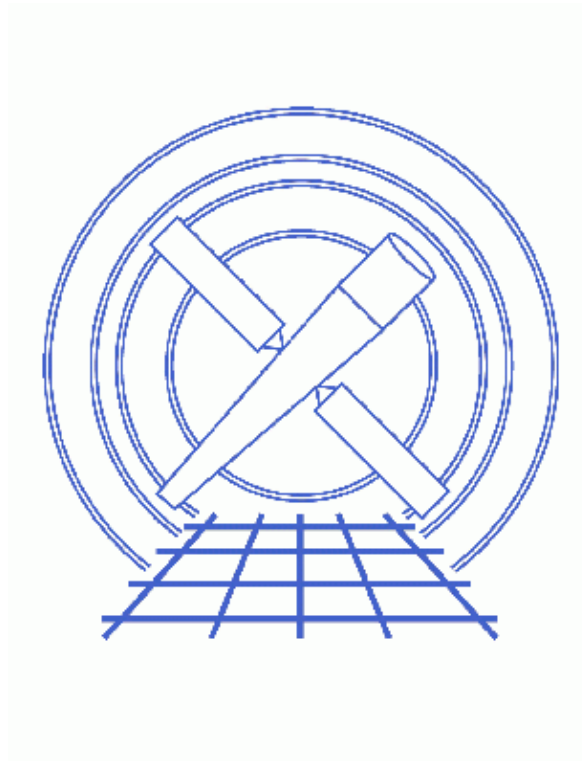


Introduction to the Analysis Menu



CIAO 3.4 Science Threads

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Introduction to the Analysis Menu

CIAO 3.4 Science Threads

Overview

Last Update: 1 Dec 2006 – reviewed for CIAO 3.4: no changes

Synopsis:

The "Analysis" menu is a component of the CIAO graphical user interface (GUI) applications that makes it possible to run command-line tools from within the GUI. A default configuration file is shipped with CIAO, but it is easy to define a custom menu suited to your analysis.

Related Links:

- [Introduction to Peg](#): the parameter editor GUI is used to launch tools from the Analysis menu.

Proceed to the [HTML](#) or [hardcopy \(PDF: \[A4\]\(#\) / \[letter\]\(#\)\)](#) version of the thread.

Get Started

If this is your first time using CIAO, please read the [Starting CIAO](#) thread to ensure that your environment is configured properly.

The format of the file used to define layout of the analysis menu has been changed to match that of ds9's [Analysis Menu Definition Language](#). The old `CXCDSToolTable` format is still supported, but will be removed in a later release. It is recommended that you use the new format, as it is more flexible and works in both the CIAO GUIs and ds9.

Loading a Customized File

The simplest way to change the layout of the Analysis menu is to copy and edit the default file:

```
unix% cp $ASCDS_INSTALL/bin/ciao.ans my_ciao.ans
```

The customized `my_ciao.ans` file must be loaded when the application is launched:

```
unix% prism -toolmenu ./my_ciao.ans
```

This syntax is for the CIAO GUIs: [prism](#), [peg](#), and [filtwin](#).

For ds9:

```
unix% ds9 -analysis ./my_ciao.ans
```

A file that displays nicely in *prism* may not be suitable for ds9 and vice-versa. It is possible to define a custom configuration file for each tool or analysis task, simply launching the one desired for each session.

To have `my_ciao.ans` be used as the new default file, place it in your home directory and rename it `ciao.ans`. This ensures that your customized menu will be available to all GUIs that are launched in the CIAO session. (When provided as a command-line option, the "my_ciao.ans" file will not be passed to new GUIs that are opened.) As describe in the [help file](#), the loading precedence is:

- If the `-toolmenu` command-line option is specified, use the listed file
- Check for the file `ciao.ans` in the user's home directory (i.e. `$HOME/ciao.ans`)
- Check for the file `CXCDSToolTable` in the user's home directory (i.e. `$HOME/CXCDSToolTable`)
- Look for `$ASCDS_INSTALL/bin/ciao.ans`
- Look for `$ASCDS_INSTALL/bin/CXCDSToolTable`

Format of the ciao.ans File

The default configuration file is `$ASCDS_INSTALL/bin/ciao.ans`. When any of the CIAO GUIs – such as *prism* or *peg* – are launched, this file is used to create the entries in the analysis menu. This section describes the formatting options that may be used to edit existing and create new menu items.

Menu Entries

The generic format for menu entries is:

```
<command name> [ # tip <tooltip>]
<template>
menu
<command>
```

- `<command name>` – the name that appears in the menu entry.
- `<tooltip>` (optional) – the tool tip for the entry; this option may not work properly in ds9. A tool tip is the message that appears when the mouse hovers over the menu item for a short time.
- `<template>` – the file format for which the menu item is active (e.g. `*`, `*.fits`, `*.txt`).
- `menu` – specifies that the entry is a menu item. ds9 also has a `bind` option here which is not supported by the CIAO GUIs.
- `<command>` – the command to execute, including any supported [macro expansions](#).

To illustrate, look at the first entry in the default `ciao.ans` file:

```
unix% more $ASCDS_INSTALL/bin/ciao.ans
# ciao.ans - Analysis Menu Definition file for CIAO 3

Edit Parameter File #tip Parameter editor GUI (peg)
*
menu
peg "$entry(Parameter file name)" infile=$filename | $null


---

..cut..
```

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This entry creates a menu item titled "Edit Parameter File" with the tool tip "Parameter editor GUI (peg)". This option is available for all filetypes (*). The command that is executed uses three macros: \$entry(<text>), \$filename, and \$null; see the [next section](#) for an explanation of what the macros do.

The three dashes (---) after the entry create a separator in the menu; see the [Submenus and Separators](#) section.

The resulting menu item is shown in [Figure 1](#) .

Macros

When command-line macros are used in a menu entry, they are expanded before the command is executed. The following macros may be used in the analysis menu:

<i>Macro</i>	<i>Function</i>
\$filename	Substitutes the current filename from the GUI.
\$filename(root)	Same as \$filename but it also removes any specified path, leaving only the root of the filename.
\$entry(<text>)	Displays a text entry dialog with the specified message ("<text>"). If the "Ok" button is selected, then the rest of the command will be executed with the entered text.
\$message([ok okcancel yesno],<text>)	Displays a message dialog box with the specified option buttons and text. The remainder of the command will only be executed if "ok" or "yes" is selected.
\$text	The output of the specified command will be displayed in a window (<i>taskmonitor</i> when run from a CIAO GUI). It should be the last macro of a command.
\$null	Included for compatibility with ds9. The macro tells ds9 that it should not wait for the completion status or output of the command. It is ignored by the CIAO GUIs.

Submenus and Separators

There are two ways to add organization to the analysis menu: nested submenus and separators.

- **Submenus**

Menu items may be placed in submenus which can be nested up to ten deep. The menu format is:

```
hmenu <name> [# tip <tooltip>]
  ..(menu contents)..
endhmenu
```

- ◆ <name> – text to appear in the menu.
- ◆ <tooltip> (optional) – text for the tool tip.

Note that indentation is not important and that hmenu/endlhmenu pairs can appear within a hmenu section. The `ciao.ans` file has several examples of this syntax in use:

```
unix% more $ASCDS_INSTALL/bin/ciao.ans
..cut..

# start "Tools" menu
hmenu Tools - alphabetical # tip Complete list of CIAO tools
  hmenu A-C
    acis_detect_afterglow # tip Identify and flag cosmic ray afterglows
    *.fits *.qp
    menu
    peg acis_detect_afterglow infile=$filename | $null

    (rest of A-C tools listed)


  endhmenu
  hmenu D
    peg acis_detect_afterglow infile=$filename | $null

    (D tools listed)

  endhmenu
  hmenu E-Z

    (E-Z tools listed)

  endhmenu
endhmenu
# end "Tools" menu
..cut..
```

Figure 1  shows the "Tools – alphabetical" menu and the three submenus – "A–C", "D", and "E–Z" – which were created with the syntax shown.

- **Separators**

A separator is a dividing line in the menu. It is created by starting an empty line with three consecutive dashes (---):

```
unix% more $ASCDS_INSTALL/bin/ciao.ans
# ciao.ans - Analysis Menu Definition file for CIAO 3

Edit Parameter File #tip Parameter editor GUI (peg)
*
menu
peg "$entry(Parameter file name)" infile=$filename | $null
```

```

----
hmenu GUI Applications #tip Launch a GUI application
  ds9 # tip Imaging GUI
..cut..

```

A separator is created between the "Edit Parameter File" item and the "GUI Applications" menu, as shown in [Figure 1](#) .

Help

It is also possible to create menu items that bring up a help dialog box. The syntax is straightforward:

```

help <help label>
  <helptext>
endhelp

```

- `help label` – the label for the menu entry.
- `helptext` – the text to be displayed in the dialog box. The text can extend over multiple lines.


To create a help item for Timing Analysis:

```

help Timing Analysis (help)
  Before creating a phase-binned spectrum,
  be sure to barycenter correct the data.

  Tool to use: axbary
  Files needed: level 2 event; ephemeris
endhelp

```

When this item is chosen from the newly-created Analysis menu (see [Loading the New File](#)), [this dialog box](#)  is launched. Clicking "OK" dismisses it.

Creating a Menu Item

Here we have added a new item that lists the FITS header in any file (i.e. there are no filetype restrictions):

```


unix% more my_ciao.ans
# my_ciao.ans - Analysis Menu Definition file for CIAO 3
# customized - 26 June 2003

Edit Parameter File #tip Parameter editor GUI (peg)
*
menu
peg "$entry(Parameter file name)" infile=$filename | $null
----

List Full Header # tip Runs dmlist with opt=header,raw
*
menu
dmlist infile="$filename" outfile="" opt="header,raw" mode="hl" | $text
----
..cut..

```

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Figure 3  shows that the "List Full Header" item has been added to the Analysis menu, after the `my_ciao.ans` file was loaded into the GUI.

History

03 Jan 2005 reviewed for CIAO 3.2: no changes

01 Dec 2005 reviewed for CIAO 3.3: no changes

01 Dec 2006 reviewed for CIAO 3.4: no changes

URL: http://cxc.harvard.edu/ciao/threads/amenue_intro/

Last modified: 1 Dec 2006

Image 1: The Analysis menu in prism

The *prism* GUI with the Analysis menu expanded to show the menu items and submenus.

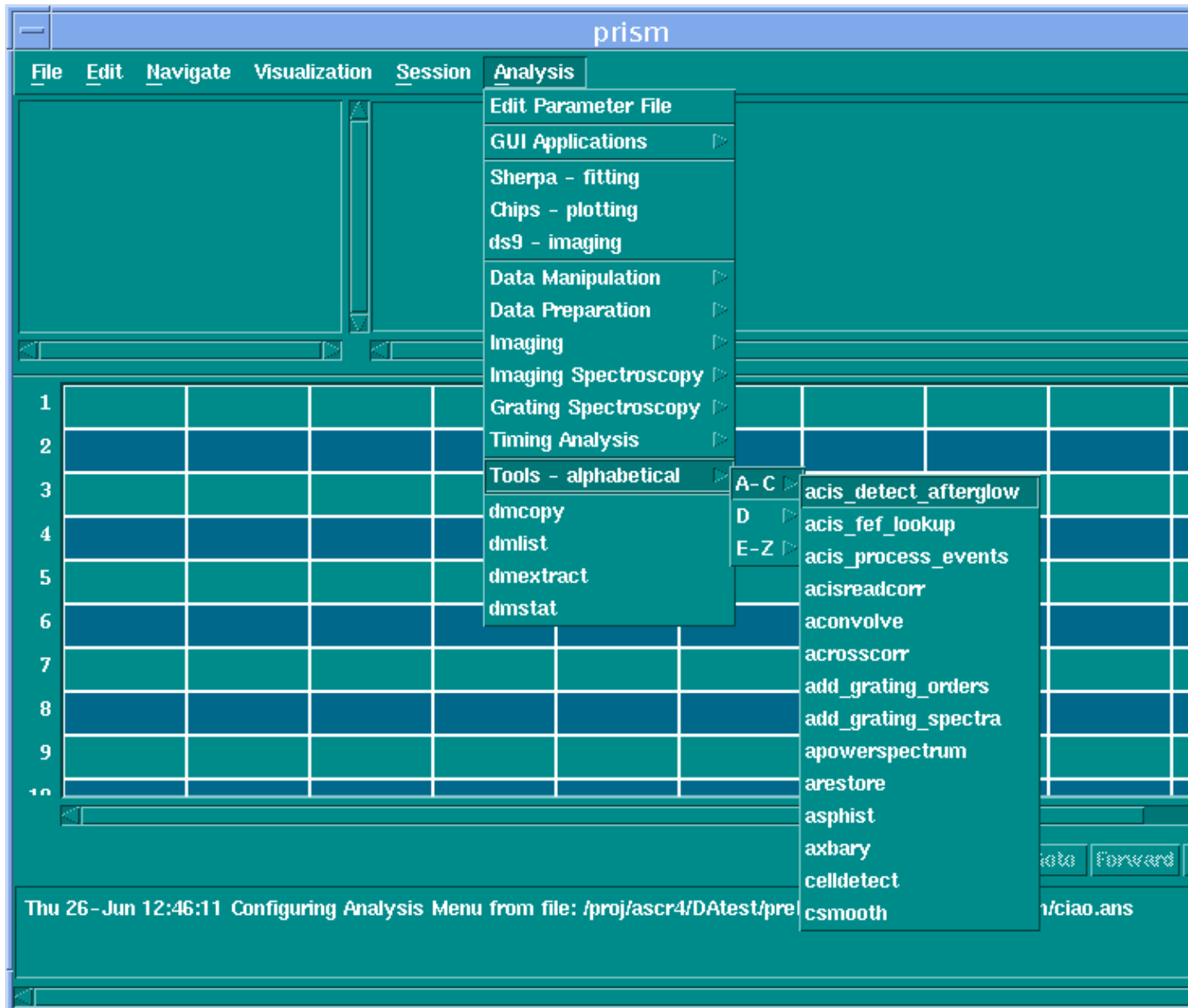


Image 2: A help dialog box

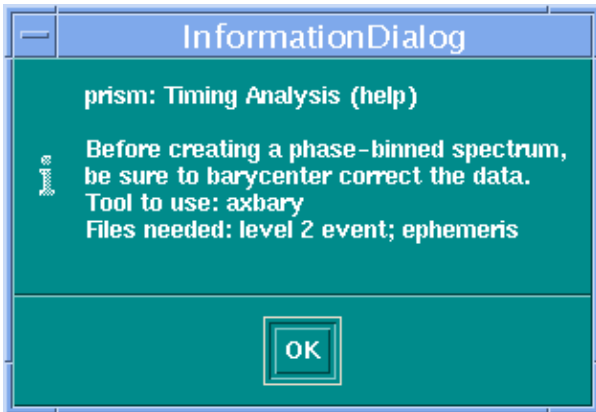


Image 3: A new menu item

The tool tip was shown as the mouse hovered over the menu item.

