Chandra X-ray Center

2nd Chandra/CIAO Workshop Hands−on Session

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For the second Chandra/CIAO workshop, we have modified the format of the hands−on session. Each day will begin with instructional talks and the afternoon will be reserved for hands−on practice.

Practical Information:

- There are 15 workstations called "DEMO1, DEMO2, ... DEMO15." With 30 people registered for the workshop, two people need to work at each computer.
- Users should log−in as "cxcguest1", "cxcguest2", etc. on the corresponding machines. The passwords will be revealed on Monday.
- All the "cxcguest" accounts are already setup to run CIAO2.1. On every window where you expect to run CIAO, you should simply type "ciao". For example:

```
cxcguest-1: ciao
CIAO configuration is complete...
    version   :  CIAO 2.1 Wednesday, February 28, 2001
    bin dir   :  /soft/ciao/bin
```

- Some useful checks:

```
cxcguest-2: ciao -v
 This script sets the user's CIAO environment to utilize:
 version   :  CIAO 2.1 Wednesday, February 28, 2001
 bin dir   :  /soft/ciao/bin
 The current environment is already configured for:
 version   :  CIAO 2.1 Wednesday, February 28, 2001
 bin dir   :  /soft/ciao/bin

cxcguest-3: echo $PFILES
/home/cxcguest/cxcds_param;/soft/ciao/param

cxcguest-4: echo $CALDB
/soft/ciao/CALDB

cxcguest-5: echo $ATOMDB
/soft/ciao/ATOMDB
```

- The workspace is in
  `/data/ciao_demo/`
  15 subdirectories have been created called cxcguest1 through cxcguest15; please use the one relative to your machine.
- Chandra data useful for the analysis can be found in
  `/data/ciao_demo/threads`
- All the CIAO scripts are already downloaded in
  `/soft/ciao/bin`

and can be called from the command line.
- If you need to access CALDB files, they are in
  `/soft/ciao/CALDB`, which is linked to `/data/CALDB/`
- If you need to access ATOMDB files, they are in
  `/soft/ciao/ATOMDB`, which is linked to `/data/axaf8/atomdb/`

Suggested Analysis Sessions:

All the threads listed below can be found from the CIAO 2.1 Threads page.

- Beginners:
  Introduction To the Data Model
  Introduction to Firstlook
  Introduction To Prism
  Data Filtering
  Getting Started With Sherpa
  Introducing Sherpa: ASCII Data & Errors and Single–Component Source Models
- Imaging/Spectroscopy:
  Create True Color Image
  Extract ACIS Spectra and Make RMFs and ARFs
  Compute an Exposure Map
  Reprojecting Coordinates of a Solar System Object
- Grating Analysis:
  Examining PHA2 Files
  Obtain Grating Spectra
  Compute Grating ARFs
  Extract Coadded and Grouped Nth–Order Source & Background Spectra and ARFs
  Fitting Grating Data
  GUIDE: Fitting and Identifying Spectral Lines
  Fitting Spectral Data: FITS Data & Responses and Multi–Component Source Models
- Extended Source Analysis:
  Create True Color Image
  Obtain and Fit a Radial Profile
  Compute an Exposure Map
  Create a PSF
- Source Detection:
  Compute an Exposure Map
  Detecting Sources in Imaging Observations
  Estimating Source Counts in Imaging Observations

Suggested Analysis Sessions: