



# 1st Chandra/CIAO Workshop Hands–on Session

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## Practical Information:

- There are 12 workstations called "DEMO1, DEMO2, ... DEMO12" and two people should work at each workstation.
- Users should log–in as "cxcguest1", "cxcguest2", etc. on the corresponding machines (passwords will be revealed on Tuesday).
- All the "cxcguest" accounts are already setup to run CIAO2.0.2. On every window where you expect to run CIAO, you should simply type "ciao". For example:

```
cxcguest-1: ciao
Setting up to use release version of CIAO, from /soft/ciao
I will automatically update the following files in your $HOME dir:
        .CXCdefaults
if they are older than the files in the distribution, however backup
copies will be saved with a .bak extension.
CIAO configuration complete!
```

- Some useful checks:

```
cxcguest-2: ciao -v
Your CIAO version is: 2.0.2
Your CXC_PROP_CLI version is: 3.0

cxcguest-3: echo $PDIRS
/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/`  
12 subdirectories have been created called cxcguest1 through cxcguest12; please use the one relative to your machine.
- Chandra data useful for the analysis can be found in `/data/ciao_demo/data`
- All the CIAO scripts can be found in the directory `/data/ciao_demo/scripts`
- 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 2.0 threads page.

- **Beginners:**
  - Introduction To the Data Model
  - Introduction To Using Prism
  - Data Filtering
  - Create True Color Image
  - Extract an ACIS spectrum and make RMF and ARF
  - Getting Started With Sherpa
  - Introducing Sherpa: ASCII Data & Errors and Single–Component Source Models
  - Fitting Spectral Data: FITS Data & Responses and Multi–Component Source Models
- **Grating analysis:**
  - Examining PHA2 Files
  - Obtain Grating Spectra
  - Create Grating ARFs
  - Extract Coadded and Grouped Nth–Order Source & Background Spectra and ARFs
  - Fitting Grating Data
  - GUIDE: Fitting and Identifying Spectral Lines
  - Extended Source Analysis:
- **Extended Source Analysis:**
  - Create True Color Image
  - Obtain a Radial Profile
  - Exposure Map
- **Source Detection:**
  - Exposure Maps
  - Source Detection
  - Estimate the Number of Counts in a Source

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URL:  
[http://cxc.harvard.edu/ciao3.4/workshop/jan01/hands\\_on.html](http://cxc.harvard.edu/ciao3.4/workshop/jan01/hands_on.html)  
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