



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*.

- Visit the [Chandra Grating Analysis Page](#)
- [ATOMDB](#): CIAO's spectroscopic library
- [WebGUIDE](#): Interactive GUIDE for ATOMDB version 1.3
- **General:**
 - ◆ [Examining Grating Spectra and Regions: PHA2 files](#)
 - ◆ [Updating dmgroup Syntax for CIAO 3](#)
 - ◆ Why topic: [ACIS QE Degradation](#)
 - ◆ [Correcting Responses for ACIS Contamination](#)
 - ◆ [Measure Grating Dispersion Distance](#)
Uses: the `tg_scale_reg` S-Lang script
 - ◆ [Create an Order-Sorting Image](#)
Uses: the `tg_osort_img` S-Lang script
 - ◆ [Create a Color Spectrum](#)
- **Problems with the Zero Order:**
 - ◆ [Correcting a Misplaced Zero-order Source Position](#)
 - ◆ [Source Position for Grating Data with a Piled or Blocked Zero Order](#)
- **HETG/ACIS:**
 - ◆ [Obtain Grating Spectra from HETG/ACIS-S Data](#)
 - ◆ [Obtain Grating Spectra for Multiple Sources – ACIS](#)
 - ◆ [Create Grating RMFs for ACIS-S Observations](#)
 - ◆ [Compute HETG/ACIS-S Grating ARFs](#)
Uses: the `fullgarf` script
 - ◆ [Grouping a Grating Spectrum](#)
- **LETG/ACIS:**
 - ◆ [Obtain Grating Spectra from LETG/ACIS Data](#)
 - ◆ [Obtain Grating Spectra for Multiple Sources – ACIS](#)
 - ◆ [Create Grating RMFs for ACIS-S Observations](#)
 - ◆ [Compute LETG/ACIS-S Grating ARFs](#)
Uses: the `fullgarf` script
 - ◆ [Grouping a Grating Spectrum](#)

Grating Spectroscopy Threads – CIAO 3.4

• LETG/HRC–S:

- ◆ Obtain Grating Spectra from LETG/HRC–S Data
- ◆ Obtain Grating Spectra for Multiple Sources – HRC
- ◆ Creating Higher–order Responses for HRC–S/LETG Spectra
- ◆ Create Grating RMFs for HRC Observations
- ◆ Compute LETG/HRC–S Grating ARFs
- ◆ Grouping a Grating Spectrum
- ◆ *Sherpa*: Fitting Multiple Orders of HRC–S/LETG Data

• LETG/HRC–I:

- ◆ Obtain Grating Spectra from LETG/HRC–I Data
- ◆ Obtain Grating Spectra for Multiple Sources – HRC
- ◆ Create Grating RMFs for HRC Observations
- ◆ Compute LETG/HRC–I Grating ARFs
- ◆ Grouping a Grating Spectrum

• Combining Spectra & Fitting:

- ◆ Extract Coadded and Grouped Nth–Order Source & Background Spectra and ARFs
Uses: the `add_grating_orders` script
- ◆ Add Grating Spectra and Average ARFs
Uses: the `add_grating_spectra` script
- ◆ *Sherpa*: Fitting Grating Data
- ◆ Create PHA Background File for Use in XSPEC
Uses: the `tg_bkg` script
- ◆ *Sherpa*: GUIDE: Fitting and Identifying Spectral Lines

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