



Imaging Spectroscopy

After extracting source and background PI or PHA spectra from an imaging observation, the appropriate response files ([ARF](#), [RME](#)) are created so that the data may be modeled and fit. In the case of multiple or extended sources, weighted ARF and RMF are built for the spectral analysis.

• Extracting Spectra and Creating Response Files:

The recommended use for the `specextract` script has been changed. It has been determined that the `mkwarf` tool, which is used for ARF generation by `specextract`, may not produce accurate results for point sources. The `mkarf` tool, used by `psextract`, is preferred for point source extraction.

`specextract` should be used for the analysis of extended sources only. Users working with point sources should instead use the `psextract` script. *Analysis of point sources that was done with `mkwarf/specextract` should be redone with `mkarf/psextract` for the most accurate results*, e.g. taking bad columns into account.

In certain cases, the `mkacisrmf` tool will need to be run separately to create the best possible RMFs for ACIS observations; see [the thread](#) for details.

- ◆ [Using the ACIS "Blank-Sky" Background Files](#)
Uses: the `acis_bkgrnd_lookup` script; the `lc_clean.sl` S-Lang script
- ◆ [Using `specextract` to Extract ACIS Spectra and Response Files](#)
- ◆ [Using `psextract` to Extract ACIS Spectra and Response Files for Pointlike Sources](#)
Uses: the `psextract` script; the `acis_fef_lookup` script
- ◆ [Coadding Spectra and Weighted Responses](#)
Uses: the `acisspec` script
- ◆ [Creating ACIS RMFs with `mkacisrmf`](#)

• Step-by-step Analyses:

These threads give step-by-step instructions for creating spectra and response files. Note that all of the tasks described here are executed automatically by the `specextract` script.

- ◆ [Using the ACIS "Blank-Sky" Background Files](#)
Uses: the `acis_bkgrnd_lookup` script; the `lc_clean.sl` S-Lang script
- ◆ [Weighting ARFs and RMFs: multiple sources](#)
Uses: the `show_wgt.sl` S-Lang script
- ◆ [Step-by-Step Guide to Creating ACIS Spectra for Pointlike Sources](#)
Uses: the `acis_fef_lookup` script

• Deprecated Threads:

The analyses shown in this thread should now be done with the `specextract` script instead. The thread will be removed in a future CIAO release.

Imaging Spectroscopy Threads – CIAO 3.4

- ◆ Extracting Extended Source Spectra and Responses
Uses: the `acisspec` script
- **General:**
 - ◆ A Note on HRC Spectra
 - ◆ Displaying the FEF Regions Covered by a Source
Uses: the `regions.sl S-Lang` script
 - ◆ Why topic: ACIS QE Degradation
 - ◆ Correcting Responses for ACIS Contamination
- See the Sherpa threads for information on fitting spectral data.

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