



AHELP for CIAO 3.4

chart_spectrum

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Synopsis

chart_spectrum.sl – Create a source spectrum for input to ChaRT

Syntax

```
write_chart_spectrum("output_file.dat",[min_energy],[max_energy])  
plot_chart_spectrum(min_energy,max_energy)
```

Description

If you use a spectrum file as the spectral specification for your PSF when running ChaRT, you will need to use the script chart_spectrum.sl.

It is assumed that the spectral data have been fit in Sherpa before chart_spectrum.sl is run. For help with fitting, see the [Fitting PHA Spectra thread](#).

The script is run from within Sherpa ("ahelp sherpa"), as shown in the example. To load the script:

```
sherpa> () = evalfile("chart_spectrum.sl")
```

This step is only necessary once per Sherpa session.

The first argument to write_chart_spectrum is the name of the spectrum file to create. (If the file already exists, it will be overwritten.) The other arguments specify the minimum and maximum energies to include in the spectrum. If the bounds are omitted, the full energy range (as determined by Sherpa) will be used.

The output produced by write_chart_spectrum is an ASCII file that contains two columns. The first column gives the center of the energy bin in [keV]. The second column is the flux in [photons/cm²/s].

If you would like to plot your spectrum, use the function plot_chart_spectrum.

This script is used in the [Preparing to Run ChaRT thread](#).

Example 1

```
sherpa> write_chart_spectrum("source_flux_chart.dat",1.0,8.0)
```

Create a spectrum file named "source_flux_chart.dat" over the range 1–8 keV.

Example 2

```
sherpa> plot_chart_spectrum(1.0,8.0)
```

Plot the spectrum over the range 1–8 keV.

NOTES

This script is not an official part of the CIAO release but is made available as "contributed" software via the [CIAO scripts page](#). Please see the [installation instructions page](#) for help on installing the package.

Bugs

See the [bugs page for this script](#) on the CIAO website for an up-to-date listing of known bugs.

See Also

chandra

[guide](#)

sherpa

[get analysis](#), [get arf axes](#), [get axes](#), [get coord](#), [get data](#), [get energy axes](#), [get errors](#), [get filter](#),
[get filter expr](#), [get fit](#), [get fluxed spectrum](#), [get ftest](#), [get metadata](#), [get photon axes](#),
[get photon energy axes](#), [get photon wave axes](#), [get qvalue](#), [get raw axes](#), [get record](#), [get source](#),
[get statistic](#), [get stats](#), [get syserrors](#), [get wave axes](#), [get weights](#), [record](#), [save](#), [write](#)

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URL:
http://cxc.harvard.edu/ciao3.4/chart_spectrum.html
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