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 AHELP for CIAO 3.4

## get\_fluxed\_spectrum

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### Synopsis

Retrieve a fluxed spectrum (counts divided by ARF) using module functions in Sherpa.

### Syntax

```
Struct_Type get_fluxed_spectrum([Integer_Type])

Error Return Value: NULL

Arguments:

(1) data set number (default 1)
```

### Description

This function takes the appropriate data set and divides it by the ARF, if the data are counts (PHA) data and information from an ARF file has also been read in. The function returns a S-Lang variable of Struct\_Type containing the counts data divided by the ARF (data), the Poisson errors divided by the ARF (errors), and (in a future version) the ARF itself, estimated on the counts space energy/wavelength grid (arf).

The data and errors arrays can then be used directly in analyses (after using `set_data()` and `set_errors()`), or can be modified further by the user (e.g., converted from  $\text{cts cm}^{-2}$  to  $\text{cts cm}^{-2} \text{ s}^{-1}$  using `get_exptime()`).

### Example

Obtain the fluxed spectrum and make a plot of the spectrum, include errorbars. Finally write fluxed spectrum to the ascii file.

```
sherpa> foo = get_fluxed_spectrum
sherpa> print(spec1)
data          = Float_Type[663]
errors        = Float_Type[663]
arf           = Float_Type[663]
sherpa> xax=get_energy_axes
```

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```
sherpa> print(xax)                                # obtain the energy scale
axistype      = Energy
axisunits     = keV
lo            = Float_Type[663]
hi            = Float_Type[663]
mid           = NULL

sherpa> plot x xax.lo y spec1.data e spec1.errors
                                # this is CHIPS plot command

sherpa> writeascii("fluxed_spec.dat",x.lo, x.hi, spec1.data,
spec1.errors, spec1.arf)

sherpa> $more fluxed_spec.dat
0.3066  0.3212  0.638139      0.172438      32.8455
0.3212  0.3358  0.249041      0.0901943     52.2003
0.3358  0.3504  0.163455      0.0657966     67.2967
0.3504  0.365   0.206631      0.0633644     82.2723
0.365   0.3796  0.213993      0.0594795     93.3986
```

## Bugs

See the [Sherpa bug pages](#) online 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 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/get\\_fluxed\\_spectrum.html](http://cxc.harvard.edu/ciao3.4/get_fluxed_spectrum.html)  
Last modified: December 2006