



AHELP for CIAO 3.4

get_syserrors

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Synopsis

Module functions to get the systematic error estimates of source and background datasets.

Syntax

```

Array_Type get_syserrors([Integer_Type])
Array_Type get_bsyserrors([Integer_Type])
Array_Type get_full_syserrors([Integer_Type])
Array_Type get_full_bsyserrors([Integer_Type])

Error Return Value: NULL

Arguments:

(1) data set number (default 1)

```

Description

In a typical analysis involving module functions, a user will not seek to manipulate the axes (which are useful primarily for plotting), but to manipulate amplitudes (i.e., y in the expression $y = f(x_0, x_1, \dots, x_{(N-1)})$.) A very simple example would be smoothing of data; a more complex example would be the setting of error estimates iteratively in a manner not supported by Sherpa. First the user would ``get" the error array, then process it, then ``set" it back into Sherpa.

These functions return arrays containing the current systematic error estimates associated with input datasets. (The quantities are the systematic errors multiplied by the data in each bin, thus one may want to also retrieve the data and divide by them to yield quantities that may be input into `set_syserrors`.) The ones without full in the name return arrays comprised of systematic error estimates within the applied filter; those with full in the name retrieve the unfiltered systematic error estimates.

(If the goal is to use these functions to manipulate data, and to set these data back into Sherpa, it is important not to change the filter in Sherpa between calling the `get` and `set` functions!)

Source and background systematic errors may be displayed, e.g., via the Sherpa plotting commands `L PLOT SYSERRORS` and `L PLOT BSYSERRORS`.

Example

Retrieve and display systematic errors:

```

sherpa> data example.pha
The inferred file type is PHA.  If this is not what you want, please
specify the type explicitly in the data command.
WARNING: using systematic errors specified in the PHA file.
RMF is being input from:
  /data/simteste/Testing/sherpaTest/data/example2.rmf
ARF is being input from:
  /data/simteste/Testing/sherpaTest/data/example2.arf
Background data are being input from:
  /data/simteste/Testing/sherpaTest/data/example2_bkg.pha
sherpa> syserr = get_full_syserrors()
sherpa> printarr(syserr,3)
0
0
0

```

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 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 wave axes](#), [get weights](#), [record](#), [save](#), [write](#)

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