

*AHELP for CIAO 3.4*

set_syserrors

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Synopsis

Module functions for assigning source and background systematic error estimates.

Syntax

```
Integer_Type set_syserrors([Integer_Type, ]Array_Type)
Integer_Type set_bsyserrors([Integer_Type, ]Array_Type)

Success/Error Return Values: 1/0

Arguments:

(1) Dataset number (default 1)

(2) An array of source/background systematic error estimates

Note that if only one argument is provided, it is assumed to be an
array, and the dataset is assumed to be dataset 1.
```

Description

The `set_syserrors` and `set_bsyserrors` functions allow the user to assign new source and background systematic error estimates to Sherpa datasets.

Note that:

- Systematic errors are added in quadrature to statistical errors (error estimates that Sherpa makes automatically using the current STATISTIC setting) to yield overall error estimates in each bin.
- The input array length must match the number of bins in the filtered dataset; consequently, if one's goal is to use these functions in data manipulation, it is important not to change the filter in Sherpa between any call to, e.g., `get_syserrors` and `set_syserrors`!
- The input array is typecast to match the type of its associated dataspace (see, e.g., `set_axes` for a definition of dataspace). For instance, if dataset 3 is of `Double_Type`, then when `set_syserrors(3,<array>)` is run, the array is typecast to `Double_Type` if necessary.

See the related Sherpa commands `SYSERRORS` and `BSYSERRORS` for more information.

Example

Assign systematic errors of one-tenth the data amplitude to each data bin:

```
sherpa> DATA spec.dat
sherpa> d = get_data()
sherpa> d[*] = 0.1
sherpa> () = set_syserrors(,d)
```

In this example, an array of the length of the filtered data is retrieved from Sherpa, and all elements of the array are reset to 0.1 (the systematic error estimate). This new array is then sent to Sherpa, where it overwrites the old array of systematic error estimates.

Bugs

See the [Sherpa bug pages](#) online for an up-to-date listing of known bugs.

See Also

sherpa

[berrors](#), [bsyserrors](#), [compute_errors](#), [compute_statistic](#), [covariance](#), [errors](#), [ftest](#), [get_paramest](#), [get_paramestint](#), [get_paramestlim](#), [get_paramestreg](#), [goodness](#), [interval-projection](#), [interval-uncertainty](#), [list_paramest](#), [mlr](#), [projection](#), [region-projection](#), [region-uncertainty](#), [restore_paramest](#), [run_paramest](#), [run_paramestint](#), [run_paramestlim](#), [run_paramestreg](#), [set_errors](#), [staterrors](#), [syserrors](#), [uncertainty](#)

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