URL: http://cxc.harvard.edu/ciao3.4/backerrors.html
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AHELP for CIAO 3.4

berrors

Context: sherpa

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Synopsis

Defines an expression to be used to specify the statistical errors for background data. The commands BACKERRORS and BSTATERRORS are equivalent.

Syntax

```
sherpa> BERRORS [<dataset range> | ALLSETS] [ID] = <errorExpr>

<dataset range> = # (or more generally #:#,#:#, etc.) such that #
specifies a dataset number and #:# represents an inclusive range of
datasets; one may specify multiple inclusive ranges by separating them
with commas. The default dataset is dataset 1. The ID modifier is used
if and only if the Sherpa state object variable multiback is set to 1,
i.e., if more than one background dataset is to be associated with a
single source dataset. The ID modifier may be any unreserved string
(e.g., A, foo, etc.), i.e., a string that is not a parsable command.
```

Description

The error expression, <errorExpr>, may be composed of one or more (algebraically−combined) of the following elements:

Component:	Description:
BACK	An input background dataset
numericals	Numerical values
operators	+ − * / ( )

A few things to note:

- Background error expressions cannot be defined without first reading in a background dataset.
- The background errors can be specified in an input file; see READ BERRORS for more information.
- If the background errors are not defined using BERRORS or input using READ BERRORS, then they are computed as defined for the current statistic; see the documentation on the STATISTIC command.

See the related command BSYSERRORS.

The background errors are accessible to the Sherpa/S−Lang module user via the functions get_berrors and set_berrors.

Example 1

Define an expression to be used for the background errors. They are set to 1.5 in each bin.

```
sherpa> DATA data.dat
sherpa> BACK back.dat
sherpa> BERRORS = 1.5
```

Example 2

Define an expression to be used for the background errors. They are set to 0.5 times the background datum in each bin.

```
sherpa> BERRORS = 0.5*BACK
```

Bugs

See the Sherpa bug pages online for an up−to−date listing of known bugs.

See Also

chandra

guide

sherpa

autoest, back, bsyserrors, compute_errors, compute_statistic, coord, covariance, data, dataspace, errors, fakeit, feffile, ftest, get_paramest, get_paramestint, get_paramestlim, get_paramestreg, goodness, group, guess, interval−projection, interval−uncertainty, is_subtracted, list_paramest, load, load_arf, load_ascii, load_back_from, load_backset, load_dataset, load_fitsbin, load_image, load_inst, load_inst_from, load_pha, load_pha2, load_rmf, mlr, projection, read, region−projection, region−uncertainty, restore_paramest, run_paramest, run_paramestint, run_paramestlim, run_paramestreg, set_analysis, set_axes, set_backscale, set_coord, set_data, set_errors, set_exptime, set_subtract, set_syserrors, set_weights, setback, setdata, staterrors, subtract, syserrors, uncertainty, ungroup, unsubtract, use

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