**Chandra X-ray Center**

*AHELP for CIAO 3.4*  **errors**  Context: sherpa

*Jump to:* Description Examples Bugs See Also

# Synopsis

Defines an expression to be used to specify the statistical errors for source data.

# Syntax

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

where <dataset range> = #, or more generally #:#,#:#,..., 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.
```

# Description

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

| Component: | Description: |
|---|---|
| DATA | An input dataset |
| numericals | Numerical values |
| operators | + − * / ( ) |

A few things to note:

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

See the related command SYSERRORS.

The errors are accessible to the Sherpa/S−Lang module user via the functions get_errors and set_errors.

# Example 1

Define an expression to be used for the errors. They are set to one–half of the data value in each bin.

```
sherpa> DATA example.dat
sherpa> ERRORS = (0.5)*(DATA)
```

# Example 2

Define an expression to be used for the errors. They are set to be the sum of the datum and 2.7 in each bin.

```
sherpa> DATA example.dat
sherpa> ERRORS 1 = DATA + 2.7
```

# 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, 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,
set_syserrors, staterrors, syserrors, uncertainty

---

URL:
http://cxc.harvard.edu/ciao3.4/errors.html
Last modified: December 2006