



 AHELP for CIAO 3.4

truncate

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Synopsis

Resets negative model amplitudes to zero.

Syntax

```
sherpa> TRUNCATE [<dataset range> | ALLSETS] [{ON | OFF}]
```

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 number 1.

Description

The command TRUNCATE resets any negative model amplitudes to zero (actually, $1.e-25$); truncation is necessary for the Poisson–likelihood–based statistics of Sherpa (BAYES, CASH, and CSTAT) to work properly (none of these statistics allows negative model amplitudes). Note that:

- if neither ON nor OFF is specified, the truncation setting for the specified dataset(s) is displayed;
- truncation is automatically turned on if the assigned STATISTIC is BAYES, CASH, or CSTAT; and
- truncation is never automatically turned off.

Example

Fitting with a linear model, using the Cash statistic:

```
sherpa> READ DATA example1.dat
sherpa> PARAMPROMPT OFF
Model parameter prompting is off
sherpa> SOURCE = POLYNOM1D[my]
sherpa> THAW my.c1
sherpa> my.c0.min = -10
sherpa> METHOD SIMPLEX
```

```
sherpa> STATISTIC CASH
sherpa> TRUNCATE OFF
sherpa> FIT
  smplx: v1.3
  smplx: initial statistic value = -9.05568E+02
Error: predicted data are zero or negative.
-- Apply commands RESET and TRUNCATE ON, and refit.
sherpa> RESET
sherpa> TRUNCATE
Model Truncation for Dataset 1: off
sherpa> TRUNCATE ON
sherpa> FIT
  smplx: v1.3
  smplx: initial statistic value = -9.05568E+02
  smplx: converged to minimum = -1.05814E+03 at iteration = 67
  smplx: final statistic value = -1.05814E+03
          my.c0 -6.61366
          my.c1 7.16072
```

Bugs

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

See Also

sherpa

[autoest](#), [background](#), [bayes](#), [cash](#), [chicvar](#), [chidvar](#), [chigehrels](#), [chimvar](#), [chiprimini](#), [chisquare](#), [create](#), [create_model](#), [createparamset](#), [cstat](#), [fit](#), [freeze](#), [get defined models](#), [get model params](#), [get models](#), [get num par](#), [get par](#), [get stackexpr](#), [get stat expr](#), [getx](#), [gety](#), [guess](#), [instrument](#), [integrate](#), [is paramset](#), [jointmode](#), [kernel](#), [lineid](#), [linkparam](#), [mdl](#), [modelexpr](#), [modelstack](#), [nestedmodel](#), [noise](#), [paramprompt](#), [paramset](#), [pileup](#), [rename](#), [run_fit](#), [set par](#), [set paramset](#), [set stackexpr](#), [source](#), [statistic](#), [thaw](#), [unlink](#), [userstat](#)

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URL:
<http://cxc.harvard.edu/ciao3.4/truncate.html>
Last modified: December 2006