



 AHELP for CIAO 3.4

sigma-rejection

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Synopsis

The SIGMA-REJECTION optimization method for fits to 1-D data. Alternate names are SIG-REJ and SR.

Syntax

```
sigma-rejection [niter] [lrej] [hrej] [grow] [omethod]
```

Description

The SIGMA-REJECTION optimization method is based upon the IRAF method SFIT. It iteratively fits data: a best-fit to the data is determined using a 'regular' optimization method (e.g. LEVENBERG-MARQUARDT), then outliers data points are filtered out of the dataset, and the data refit, etc. Iterations cease when there is no change in the filter from one iteration to the next, or when the fit has iterated a user-specified maximum number of times.

Parameters

name	type	def	min	max
niter	integer	5	0	128
lrej	real	3	0	10
hrej	real	3	0	10
grow	integer	0	0	1024
omethod	string	lm		

Detailed Parameter Descriptions

Parameter=niter (integer default=5 min=0 max=128)

The maximum number of iterations in the fit; if 0, the fit will run to convergence (i.e., until there is no change in the filter).

Parameter=lrej (real default=3 min=0 max=10)

Data point rejection criterion in units of sigma, for data points below the model (e.g., absorption line data); using lrej is equivalent to doing L PLOT DELCHI and filtering out all data points lying below $y = -lrej$ on that plot.

Parameter=hrej (real default=3 min=0 max=10)

Data point rejection criterion in units of sigma, for data points above the model (e.g., absorption line data); using hrej is equivalent to doing L PLOT DELCHI and filtering out all data points lying above $y = hrej$ on that plot.

Parameter=grow (integer default=0 min=0 max=1024)

When a given data point is to be filtered out, this parameter sets the number of pixels adjacent to that pixel which are also to be filtered out, i.e., if 0, only the data point itself is filtered out; if 1, the data point and its two immediate neighbors are filtered out, etc.

Parameter=omethod (string default=lm)

The optimization method to use to perform fits at each iteration. Note that quotes are required around the name!

Bugs

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

See Also

sherpa

[get_method](#), [expr](#), [grid](#), [grid-powell](#), [levenberg-marquardt](#), [method](#), [monte-lm](#), [monte-powell](#), [montecarlo](#), [powell](#), [simplex](#), [simul-ann-1](#), [simul-ann-2](#), [simul-pow-1](#), [simul-pow-2](#), [usermethod](#)

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URL:
<http://cxc.harvard.edu/ciao3.4/sigma-rejection.html>
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