AHELP for CIAO 3.4 **sherpa.regproj** Context: sherpa

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Synopsis

Configure REGION−PROJECTION in Sherpa.

Syntax

```
sherpa.regproj.[field]
```

Description

The Sherpa configuration variable (also called "state object") sherpa.regproj contains settings of REGION−PROJECTION for creating a contour plot of confidence regions using the PROJECTION algorithm in Sherpa. See ahelp REGION−PROJECTION for more details.

The following table lists each field of sherpa.regproj, with a description and the default value:

Field Name	Description	Default
fast	Use levenberg−marquardt (or simplex if using Cash) in place of current optimization method (0 = false, 1 = true)	1
expfac	Relative size of the plot if the grid limits are determined automatically	3
arange	Whether the grid limits are to be determined automatically (0 = false, 1 = true)	1
min	Minimum x, y values if plot limits set manually	[0,0]
max	Maximum x, y values if plot limits set manually	[0,0]
log	Use log scale for plot axes (0 = false, 1 = true)	[0,0]
nloop	Number of grid points for each axis	[10,10]
sigma	Number of sigma for each countour (e.g., [1,2,3] corresponds to contours of 1, 2 and 3 sigma)	[1,2,3]

Example 1

Set the method to LEVENBERG−MARQUARDT and grid limits for both parameter, e.g. the limits for the plot axis, and finally set the contour levels to 2, 4 and 6 sigma.

```
sherpa> sherpa.regproj.fast = 1
```

```
sherpa> sherpa.regproj.min=[0.1,1.5]
sherpa> sherpa.regproj.max=[1.,2.5]
sherpa> sherpa.regproj.sigma = [2,4,6]
```

Example 2

List the current and default values of the sherpa.regproj and restore the default values:

```
sherpa> sherpa.regproj.log = [1,1]
sherpa> sherpa.regproj.sigma = [1,3,5]
sherpa> list_regproj

Parameter    Current          Default                      Description
------------------------------------------------------------------------
fast             1                1      Switch to LM/simplex: 0(n)/1(y)
expfac           3                3             Expansion factor for grid
arange           0                1                    Auto-range: 0(n)/1(y)
min          [0,0]            [0,0]            Minimum values, each axis
max          [0,0]            [0,0]            Maximum values, each axis
log          [1,1]            [0,0]  Log-spacing: 0(n)/1(y), each axis
nloop      [10,10]          [10,10]   Number of grid points, each axis
sigma      [1,3,5]          [1,2,3]       Number of sigma, each contour

sherpa> restore_regproj

sherpa> list_regproj

Parameter    Current          Default                      Description
------------------------------------------------------------------------
fast             1                1      Switch to LM/simplex: 0(n)/1(y)
expfac           3                3             Expansion factor for grid
arange           1                1                    Auto-range: 0(n)/1(y)
min          [0,0]            [0,0]            Minimum values, each axis
max          [0,0]            [0,0]            Maximum values, each axis
log          [0,0]            [0,0]  Log-spacing: 0(n)/1(y), each axis
nloop      [10,10]          [10,10]   Number of grid points, each axis
sigma      [1,2,3]          [1,2,3]       Number of sigma, each contour
```

Example 3

Create alias sr for sherpa.regproj and use it:

```
sherpa> variable sr = sherpa.regproj
sherpa> sr.fast = 0
sherpa> sr.sigma = [1,1.6,2.6]
```

Bugs

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