



AHELP for CIAO 3.4

## get\_paramestreg

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## Synopsis

Module functions to retrieve the value and statistic arrays from the most recent run of a parameter estimation method

## Syntax

```
Struct_Type get_regunc()
Struct_Type get_regproj()

Error Return Value: NULL
```

## Description

These functions retrieve information from the most recent run of the INTERVAL-UNCERTAINTY or run\_intunc, and INTERVAL-PROJECTION or run\_intproj parameter estimation methods, respectively.

Each returns a structure with seven fields:

- x0: the grid of values for one parameter;
- x1: the grid of values for the second parameter;
- y: the statistics as a function of parameter values;
- levels: an array containing the statistic value corresponding to each contour;
- name: a two-element array listing the parameter names;
- bfit: a two-element array listing the best-fit values of the parameters; and
- config: a Struct\_Type variable containing the parameters used to calculate x0, x1, and y.

## Example

Fit a dataset; get information about chi-square as a function of power-law amplitude p.ampl and slope p.gamma

```
sherpa> DATA spec.dat
sherpa> PARAMPROMPT OFF
sherpa> POLY[p]
sherpa> THAW p.c1 p.c2 p.c3
sherpa> SOURCE = p
```

```

sherpa> FIT
LVMQT: V2.0
LVMQT: initial statistic value = 82.2297
LVMQT: final statistic value = 62.2247 at iteration 3
      p.c0  61.4774
      p.c1  -0.380228
      p.c2  0.00993229
      p.c3  -7.01741e-05

sherpa> REGPROJ p.c0 p.c1
Region-Projection: computing grid size with covariance...done.
                   outer grid loop 20% done...
                   outer grid loop 40% done...
                   outer grid loop 60% done...
                   outer grid loop 80% done...

Minimum: 62.2247
Levels are: 64.5207 68.4057 74.0547
[...plot displayed...]
sherpa> regproj = get_regproj()
sherpa> print(regproj)
x0          = Float_Type[100]
x1          = Float_Type[100]
y           = Float_Type[100]
levels      = Float_Type[3]
name        = String_Type[2]
bfit        = Double_Type[2]
config      = sherpa_VisParEst_State

```

## CHANGES IN CIAO 3.1

The structures returned by these functions contain additional fields – levels, name, bfit, and config – which are described above.

## 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](#), [errors](#), [fctest](#), [get\\_paramest](#), [get\\_paramestint](#), [get\\_paramestlim](#), [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](#)

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URL:  
[http://cxc.harvard.edu/ciao3.4/get\\_paramestreg.html](http://cxc.harvard.edu/ciao3.4/get_paramestreg.html)  
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