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AHELP for CIAO 3.4   # run_paramestlim   Context: sherpa

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Synopsis

Module functions to determine confidence intervals, and retrieve the parameter bounds.

Syntax

```
Array_Type run_unc([Array_Type])
Array_Type run_proj([Array_Type])
Array_Type run_cov([Array_Type])

Argument:

(1) An array of strings representing individual thawed model parameters
(default all thawed parameters)
```

Description

These functions initiate runs of the UNCERTAINTY, PROJECTION, and COVARIANCE parameter estimation methods respectively. The chosen method is run using the most recently fit datasets, which are automatically determined and hence are not function arguments. When done, each returns an array of structures, with one structure for each parameter whose bounds were estimated. These structures are the same as those returned by get_unc, get_proj, and get_cov.

Example 1

Fit a dataset; run projection and examine the results:

```
sherpa> () = load_dataset(1,"example.pha")
sherpa> () = set_subtract
sherpa> () = set_source_expr(1,"POW[p]")
sherpa> set_verbose(0)
sherpa> () = run_fit
sherpa> proj = run_proj
sherpa> print(length(proj))
2
sherpa> print(proj[0])
name            =  p.gamma
val             =  1.79469
vlo             =  1.71462
vhi             =  1.87662
sigma           =  1
```

```
sherpa> print(proj[1])
name            =   p.ampl
val             =   0.000191983
vlo             =   0.000180884
vhi             =   0.000203087
sigma           =   1
```

Example 2

Repeat the last example, but only run covariance for one parameter:

```
sherpa> cov = run_cov(["p.ampl"])
sherpa> print(cov[0])
name            =   p.ampl
val             =   0.000191983
vlo             =   0.000180873
vhi             =   0.000203094
sigma           =   1
```

CHANGES IN CIAO 3.1

The structures returned by these functions contain an additional field, sigma, which lists the value of the sigma parameter used in the covariance, uncertainty, or projection run.

Bugs

Functions require that FIT has been called

These functions will only run after the dataset has been fitted; i.e run_fit() called in the same session. This is unlike the Sherpa versions of these commands, which have been updated in CIAO 3.2 to not require the inital fit.

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, ftest, get_paramest, get_paramestint, get_paramestlim, get_paramesreg, goodness, interval–projection, interval–uncertainty, list_paramest, mlr, projection, region–projection, region–uncertainty, restore_paramest, run_paramest, run_paramestint, run_paramestreg, set_errors, set_syserrors, staterrors, syserrors, uncertainty

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Example 2