



AHELP for CIAO 3.4

get_fit

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Synopsis

Module functions to get information about the quality of a fit.

Syntax

```

Array_Type get_fit([Integer_Type | Array_Type])
Array_Type get_goodness([Integer_Type | Array_Type])

Error Return Value: NULL

Arguments:

(1) data set number (default all data sets), or an array of data set
numbers.
  
```

Description

The functions `get_fit()` and `get_goodness()` return information about the quality of fit. Currently, the function returns an array of S-Lang variables of `Struct_Type`. The array is of length 1 if information for only one data set is requested, or N+1 if information for N data sets is requested. In the latter case, the total statistic, etc., is given by the first element of the returned array.

The output `Struct_Type` variable contains the following fields:

- `dataset`: the number of the fit dataset; if NULL, then the `Struct_Type` variable contains information about all fits.
- `datatype`: one of source, bkgd, or total.
- `stat`: the observed statistic value, or the sum of the statistic values if `datatype` is set to total.
- `numbins`: the number of bins involved in the fit.
- `dof`: the number of degrees of freedom: `numbins` minus the number of model free parameters.
- `rstat`: the reduced statistic, `stat` divided by `dof`; this field is NULL for the statistics CASH and BAYES.
- `qval`: the q value (see `get_qvalue()`); this field is NULL for the statistics CASH and BAYES.

See the related Sherpa command GOODNESS for more information.

Example

```
[...fit two datasets...]
sherpa> res = get_fit()
sherpa> print(res[0])
dataset          = NULL      # the total stat, etc., are shown
datatype         = total    #
stat             = 127.821
numbins         = 200
dof              = 197
rstat           = 0.64884
qval            = 0.999964
sherpa> res = get_res(2)
sherpa> print(res[0])
dataset          = 2        # only the fit info for dataset 2 shown
datatype         = source
stat             = 63.9103
numbins         = 100
dof              = 98
rstat           = 0.652146
qval            = 0.996969
```

CHANGES IN CIAO 3.2

The `get_fit()` function now works correctly when given an argument. Prior to CIAO 3.2 it would ignore the supplied argument.

Bugs

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

See Also

chandra

[guide](#)

sherpa

[get analysis](#), [get arf axes](#), [get axes](#), [get coord](#), [get data](#), [get energy axes](#), [get errors](#), [get filter](#),
[get filter expr](#), [get fluxed spectrum](#), [get ftest](#), [get metadata](#), [get photon axes](#),
[get photon energy axes](#), [get photon wave axes](#), [get qvalue](#), [get raw axes](#), [get record](#), [get source](#),
[get statistic](#), [get stats](#), [get syserrors](#), [get wave axes](#), [get weights](#), [record](#), [save](#), [write](#)

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URL:
http://cxc.harvard.edu/ciao3.4/get_fit.html
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