



AHELP for CIAO 3.4

## sherpa-module

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## Synopsis

Accessing data with the Sherpa/S-Lang module functions.

## Description

Sherpa, the modeling and fitting application of the Chandra Interactive Analysis of Observations (CIAO) software package, was originally designed as a 'black box': data were to be input from a file, and analyzed, with results possibly written out to disk; however, the data themselves were not to be manipulated once input. The embedding of the S-Lang scripting language into Sherpa allows us to move from this 'black box' paradigm to one in which numeric data can be freely moved into and out of the box, and freely manipulated outside that box (e.g., with S-Lang functions). This movement of data requires the new functionality of the Sherpa/S-Lang module.

There are six principal types of Sherpa/S-Lang module functions, differentiated by prefix:

### Summary of Sherpa/S-Lang Module Function Types

Name	Description
get	Functions for retrieving data and settings from Sherpa
is	Query functions
list	Functions for retrieving string-based information from Sherpa and presenting it in tabular form
load	Functions for loading datasets, file-based models, etc., into Sherpa
run	An extension of get functions designed to run a computationally intensive task (e.g., PROJECTION) and after completion return numerical information to the user. (Each run function has a corresponding get function, which simply retrieves the information from the most recent previous run.)
set	Functions for putting data into Sherpa, or changing settings

Miscellaneous functions which are not classified into one of the six types above include:

### Other Sherpa/S-Lang Module Functions

Name	Description
compute_errors	Estimate errors for data given the current Sherpa statistic setting
compute_statistic	Compute a statistic given a data and model array, and the current Sherpa statistic setting
create_model   create_inst_model	Create a new instantiation of a Sherpa model
restore_unc	Restore the default settings of the configuration variable sherpa.unc

restore_proj	Restore the default settings of the configuration variable sherpa.proj
restore_cov	Restore the default settings of the configuration variable sherpa.cov
restore_intunc	Restore the default settings of the configuration variable sherpa.intunc
restore_intproj	Restore the default settings of the configuration variable sherpa.intproj
restore_regunc	Restore the default settings of the configuration variable sherpa.regunc
restore_regproj	Restore the default settings of the configuration variable sherpa.regproj

## CHANGES IN CIAO 3.2

The Sherpa module can now be loaded by using the `require("sherpa");` statement, although the previous method (loading with the `import` command) still works.

## Bugs

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

## See Also

*chandra*

[guide](#)

*sherpa*

[bye](#), [calc\\_kcorr](#), [dataspace](#), [dcounts](#), [dollarsign](#), [echo](#), [eflux](#), [eqwidth](#), [erase](#), [flux](#), [get](#), [get\\_dcounts\\_sum](#), [get\\_dir](#), [get\\_eflux](#), [get\\_eqwidth](#), [get\\_filename](#), [get\\_flux2d](#), [get\\_flux\\_str](#), [get\\_lfactorial](#), [get\\_mcounts\\_sum](#), [get\\_pflux](#), [get\\_source\\_components](#), [get\\_verbose](#), [groupbycounts](#), [guess](#), [is](#), [journal](#), [list](#), [list\\_par](#), [mcounts](#), [numbersign](#), [paramest](#), [plot\\_eprof](#), [plot\\_rprof](#), [prompt](#), [reset](#), [run](#), [set](#), [set\\_analysis](#), [set\\_axes](#), [set\\_coord](#), [set\\_dataspace](#), [set\\_dir](#), [set\\_verbose](#), [setplot](#), [sherpa\\_plotfns](#), [sherpa\\_utils](#), [show](#), [simspec](#), [use](#), [version](#)

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URL:  
<http://cxc.harvard.edu/ciao3.4/sherpa-module.html>  
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