



AHELP for CIAO 3.4

sherpa-module

Context: [sherpa](#)

Jump to: [Description](#) [CHANGES IN CIAO 3.2](#) [Bugs](#) [See Also](#)

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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