



 AHELP for CIAO 3.4

get_source_components

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Synopsis

Return, as an array, the names of the model components in the source expression of a dataset.

Syntax

```
cpts = get_source_components();
cpts = get_source_components( dnum );
```

Description

The routine is loaded into Sherpa with the call

```
require ("sherpa_utils");
```

The functions returns a String_Type array which contains the names of the components used to define the source expression. If no argument is given then dataset number 1 is assumed, otherwise it uses the argument (dnum) as the dataset number to use. for dataset number 1. This routine complements `get_source_expr()` which returns the full source expression.

Example 1

```
sherpa> paramprompt off
sherpa> source = xsphabs[gal] * ( xsmekal[clus] + xspowerlaw[p1] )
sherpa> print( get_source_expr )
(gal * (clus + p1))
sherpa> cpts = get_source_components
sherpa> cpts
String_Type[3]
sherpa> print( cpts )
gal
clus
p1
```

Here we set up a source expression consisting of a plasma model plus a powerlaw, both absorbed by the "xsphabs" model. The `get_source_expr()` routine returns a string listing the full source expression, so we use the

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get_source_components() routine from sherpa_utils.sl to break it down into its compnenets (here "gal", "clus", and "pl").

Since we are using dataset number 1 then we do not need to provide arguments to either the get_source_expr() or get_source_components() routines. This means that we can call these routines without the trailing "()".

Example 2

```
sherpa> paramprompt off
sherpa> source 3 = xsphabs * ( xsmekal + xspowerlaw )
sherpa> print( get_source_expr(3) )
(xsphabs * (xsmekal + xspowerlaw))
sherpa> cpts = get_source_components(3)
sherpa> print( cpts )
xsphabs
xsmekal
xspowerlaw
```

This is very similar to the previous example except that we are using dataset 3 – and so have to include it when calling both get_source_expr() and get_source_components() – and we do not provide our own names for the source components – and so they default to the model names.

NOTES

Please see "ahelp sherpa_utils" for information on how to load these routines into Sherpa.

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_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-module](#), [sherpa_plotfns](#), [sherpa_utils](#), [show](#), [simspec](#), [use](#), [version](#)

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