



 AHELP for CIAO 3.4

modelstack

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Synopsis

A model stack assigns an arbitrary name to a model expression, for subsequent use in parameter expressions and/or nested models.

Syntax

```
sherpa> <model_stackname> = <modelExpr>
```

where <model_stackname> is the name being assigned to the model expression.

Example 1

Create a model stack for use in a parameter expression:

```
sherpa> ERASE ALL
sherpa> GAUSS[modelb]
sherpa> SRC = modelb
sherpa> PositionVariation = POLYNOM1D
sherpa> modelb.pos => PositionVariation
```

The command GAUSS[modelb], assigns the name modelb to the Sherpa model component GAUSS. The next command defines this model component as the source model to be used for fitting. The third command, PositionVariation = POLYNOM1D, assigns a model stack name to the Sherpa default model POLYNOM1D. The final command creates a parameter expression that links the parameter pos of modelb to the model component POLYNOM1D via the model stack name PositionVariation. Note that the creation of a model stack is necessary since the following syntax is currently not allowed: modelb.pos => POLYNOM1D.

Example 2

Create multiple model stacks for use in parameter expressions:

```
sherpa> ERASE ALL
sherpa> SRC = GAUSS[modelb]
```

```
sherpa> PositionVariation = POLY[modela]
sherpa> fwhmVariation = POLY[modelaa]
sherpa> modelb.pos => PositionVariation
sherpa> modelb.fwhm => fwhmVariation
```

This example creates two different model stacks, and assigns the names `PositionVariation` and `fwhmVariation` to the model stacks. These model stack names are then used in parameter expressions, to link different parameters of `modelb` to different model components: the command `modelb.fwhm => fwhmVariation`, for example, links the parameter `fwhm` of `modelb` to the model component `modelaa` (via the model stack name `fwhmVariation`).

Example 3

Create a model stack for use in a nested model:

```
sherpa> SHLOGE[modelk]
sherpa> independent = SIN[modeli] + COS[modelj]
sherpa> SOURCE = modelk{independent}
```

The command `SHLOGE[modelk]` assigns the name `modelk` to the Sherpa model component `SHLOGE`. Next, the user assigns a model stack name (`independent`) to the model expression `SIN[modeli] + COS[modelj]`. With the final command, the user then assigns the model expression `modelk{independent}`, to the source model for dataset number 1. This source model expression is a nested model, which utilizes the model stack. Note that the model stack definition is necessary since the following syntax is not allowed: `SOURCE = modelk{SIN[modeli] + COS[modelj]}`.

Bugs

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

See Also

sherpa

[autoest](#), [background](#), [create](#), [create model](#), [createparamset](#), [fit](#), [freeze](#), [get defined models](#), [get model params](#), [get models](#), [get num par](#), [get par](#), [get stackexpr](#), [getx](#), [gety](#), [guess](#), [instrument](#), [integrate](#), [is paramset](#), [jointmode](#), [kernel](#), [lineid](#), [linkparam](#), [mdl](#), [modelexpr](#), [nestedmodel](#), [noise](#), [paramprompt](#), [paramset](#), [pileup](#), [rename](#), [run fit](#), [set par](#), [set paramset](#), [set stackexpr](#), [source](#), [thaw](#), [truncate](#), [unlink](#)

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URL:
<http://cxc.harvard.edu/ciao3.4/modelstack.html>
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