



AHELP for CIAO 3.4

jointmode

Context: [sherpa](#)

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Synopsis

Joint-mode models define the function argument, on which a model expression is evaluated, to be a particular data axis.

Syntax

A joint-mode model, `<jointmode_model>`, may appear as an element of a model expression, `<modelExpr>`, and is constructed using one of the following syntax options:

```
<sherpa_modelname>{<axis>}
<sherpa_modelname>[<modelname>]{<axis>}
<modelname>{<axis>}
```

where `<axis>` must be enclosed in curly braces, `{ }`, and where `<axis>` is a data column name. Note that `<axis>` defines the particular data axis on which the model expression is to be evaluated.

Example

Create 2-D joint-mode models that define data axes as the arguments for model components:

```
sherpa> DATA example_img.fits FITSIMAGE
sherpa> LORENTZ[SpatialModelAxis0](98:5:200, 70:50:90, 1:1:200)
sherpa> POWLAW1D[SpecModelAxis1]
sherpa> SRC 1 = SpatialModelAxis0{x1}*SpecModelAxis1{x2}
```

The command `LORENTZ[SpatialModelAxis0](98:5:200, 70:50:90, 1:1:200)` assigns the name `SpatialModelAxis0` to the Sherpa model component `LORENTZ`, and assigns various parameters values and ranges. Similarly, a second model component is established and assigned a name. The final command assigns the model expression `SpatialModelAxis0{x1}*SpecModelAxis1{x2}`, to the source model for dataset number 1. This source model expression is an algebraic combination of joint-mode models, where these joint-mode models each define a specific data axis as the argument for a model component. So with this source model expression, the

joint-mode model `SpatialModelAxis0{x1}` will fit model `SpatialModelAxis0` to Axis 0 (x1) of the data, and the joint-mode model `SpecModelAxis1{x2}` will jointly fit model `SpecModelAxis1` to Axis 1 (x2) of the data, etc.

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](#), [kernel](#), [lineid](#), [linkparam](#), [mdl](#), [modeexpr](#), [modelstack](#), [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/jointmode.html>
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