URL: http://cxc.harvard.edu/sherpa3.4/faq/model_link.html
Last modified: 21 September 2006

When fitting two spectra simultaneously, is there a way to vary one model, but keep the ratio of normalizations between different models the same?

If, for example, what you want is for this expression to be true:

```
(N_R1 / N_P1) = 2.0 * (N_R2 / N_P2)
```

and your source model definitions are as so:

```
source 1 = xsraymond[ray1] + powlaw[po1]
source 2 = xsraymond[ray2] + powlaw[po2]
```

(so `N_R1` is the normalization of `ray1`, `N_P1` is the normalization of `po1`, and so forth), then the parameters need to be related in the following way:

```
sherpa> ray1.norm => 2.0 * po1.ampl * (ray2.norm / po2.ampl)
```

The help file on linking model parameters contains more information and examples.

The Chandra X−Ray Center (CXC) is operated for NASA by the Smithsonian Astrophysical Observatory.
60 Garden Street, Cambridge, MA 02138 USA.
Smithsonian Institution, Copyright © 1998−2006. All rights reserved.

URL: http://cxc.harvard.edu/sherpa3.4/faq/model_link.html
Last modified: 21 September 2006

2 , is there a way to vary one model, but keep the ratio of normalizations between different models the same?