

URL: <a href="http://cxc.harvard.edu/sherpa3.4/faq/model-link.html">http://cxc.harvard.edu/sherpa3.4/faq/model-link.html</a>
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## 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 <u>help file on linking model parameters</u> contains more information and examples.

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