



## Utility Bugs: dcounts

### Bugs

#### 1. Problems calculating flux and counts over a range.

The behavior described in this bug applies to the following commands:

- ◆ `[B]EFLUX`,
- ◆ `[B]PFLUX`,
- ◆ `[B]DCOUNTS`,
- ◆ `[B]MCOUNTS`,
- ◆ and the corresponding "get" commands (e.g. `get_eflux`).

Given  $x > 0$ :

1. `"EFLUX (0:x)"` returns the same value as `"EFLUX"` (i.e. the flux over the full range of the dataset), when it should return the flux integrated from the start of the dataset to  $x$ .
2. `"EFLUX (x:0)"` returns the same value as `"EFLUX (x)"`. This should return an error since  $x > 0$ , so the range isn't sensible.

#### Workaround:

replace 0 with a small decimal, e.g. 0.001. Then case 1 gives the correct answer (flux from the start of the dataset to  $x$ ), and case 2 gives 0 (which at least tells you that you did something wrong).

#### 2. Working in counts/channel space

`dcounts` force you to work in either energy or wavelength space, even if `analysis_channel` has been issued.

#### Workaround:

temporarily unset the instrument model. For example, if you have a PHA file, an RMF, and an ARF such as:

```
sherpa> data foo.pha
sherpa> instrument = rsp[rr](foo.rmf,foo.arf)
```

then you can do (note that the first command ends at the "="):

```
sherpa> instrument =
sherpa> analysis channels
sherpa> dcounts (22:70)
sherpa> instrument = rr
sherpa> analysis energy
```

to get the counts in a range of channels.

## Utility Bugs: dcounts – CIAO 3.4

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URL:  
[http://cxc.harvard.edu/sherpa3.4/bugs/ut\\_dcounts.html](http://cxc.harvard.edu/sherpa3.4/bugs/ut_dcounts.html)  
Last modified: 21 September 2006