



AHELP for CIAO 3.4

## setdata

Context: [sherpa](#)

*Jump to:* [Description](#) [Examples](#) [Bugs](#) [See Also](#)

## Synopsis

Sets attributes of a source dataset.

## Syntax

```
sherpa> SETDATA [#] <arg> = <numeric>
```

where # specifies the number of the background dataset (default dataset number is 1).

## Description

The argument <arg> is one of the following options:

### SETDATA Command Arguments

Argument	Description
BACKSCALE	A normalizing quantity which can indicate the the ratio of the area of the source extraction region in an image to the full image area.
TIME	The exposure time of the source observation.

The primary use of this command is to set the attributes of non-PHA datasets (e.g. ASCII datasets). Setting TIME affects the normalization of the source model, which is entered with the SOURCE command.

Setting BACKSCAL affects the relative normalization of the background model when it is applied to a source region. For instance, if the background model amplitude in a background dataset bin is  $M_B$ , the BACKSCAL of that dataset is  $B_B$ , and the BACKSCAL of the source dataset is  $B_S$ , then the contribution of the background to the source region spectrum is

$$M_B' = (B_S/B_B) * M_B$$

For related information, see SETBACK.

## Example 1

Set the time of an input ASCII dataset:

```

sherpa> READ DATA example1.dat
sherpa> PARAMPROMPT OFF
sherpa> SOURCE = POLY[p]
sherpa> THAW p.c1 p.c2
sherpa> FIT
LVMQT: V2.0
LVMQT: initial statistic value = 325.453
LVMQT: final statistic value = 0.255412 at iteration 2
      p.c0  0.305218
      p.c1 -0.142263
      p.c2  1.01643

sherpa> SETDATA TIME = 100
sherpa> FIT
LVMQT: V2.0
LVMQT: initial statistic value = 1.43934e+06
LVMQT: final statistic value = 0.255412 at iteration 3
      p.c0  0.00292297
      p.c1 -0.00133705
      p.c2  0.0101542

```

## Example 2

Set the times and backscals for an input dataset with mean amplitude 60 counts and a background dataset with mean amplitude 20 counts:

```

sherpa> DATA spec.dat
sherpa> BACK back.dat
sherpa> PARAMPROMPT OFF
sherpa> SOURCE = CONST[co]
sherpa> BG = CONST[bo]
sherpa> FIT
LVMQT: V2.0
LVMQT: initial statistic value = 980.167
LVMQT: final statistic value = 142.424 at iteration 3
      co.c0  39.3331
      bo.c0  18.4647

sherpa> SETDATA TIME = 10
sherpa> SETDATA BACKSCALE = .1
sherpa> SETBACK TIME = 100
sherpa> SETBACK BACKSCALE = .25
sherpa> bo.c0.min = 0
sherpa> FIT
LVMQT: V2.0
LVMQT: initial statistic value = 7.34745e+07
LVMQT: final statistic value = 142.424 at iteration 3
      co.c0  5.70591
      bo.c0  0.0738588

```

## Bugs

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

## See Also

*chandra*

guide

*sherpa*

autoest, back, berrors, bsyserrors, coord, data, dataspace, fakeit, feffile, group, guess, is\_subtracted, load, load\_arf, load\_ascii, load\_back\_from, load\_backset, load\_dataset, load\_fitsbin, load\_image, load\_inst, load\_inst\_from, load\_pha, load\_pha2, load\_rmf, read, set\_analysis, set\_axes, set\_backscale, set\_coord, set\_data, set\_exptime, set\_subtract, set\_weights, setback, subtract, ungroup, unsubtract, use

---

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/ciao3.4/setdata.html>  
Last modified: December 2006

