



AHELP for CIAO 3.4

## get\_filter

Context: [sherpa](#)

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## Synopsis

Module functions to get the filter arrays associated with source and background datasets.

## Syntax

```

Array_Type get_filter([Integer_Type])
Array_Type get_bfilter([Integer_Type])

Error Return Value: NULL

Arguments:

(1) data set number (default 1)
  
```

## Description

The function `get_filter()` returns an array of type `Short_Type` that is the same size as the input data set (i.e., the unfiltered data set). The array features two values: 0 for bins outside the currently defined filter, and 1 for bins within the filter. This function may be used in combination with `set_filter` to define new methods of data filtering that go beyond those currently coded in Sherpa; e.g., filtering based on data amplitude. (The function `get_bfilter()` returns the filter associated with the background data set.)

Source and background data filters may be displayed, e.g., via the Sherpa plotting commands `L PLOT FILTER` and `L PLOT BFILTER`.

## Example 1

```

sherpa> data example.dat          # 100 bins, mean amplitude 60
sherpa> foo = get_data()
sherpa> bar = get_filter()
sherpa> bar[where(foo>60)] = 0    # filter out all bins with data > 60
sherpa> () = set_filter(1,bar)
sherpa> write data
Write X-Axis: Bin   Y-Axis: Flux (Counts)
           1       59
  
```

2	46
3	49
5	60
6	60
8	58

## Example 2

```
sherpa> data foo.pha
sherpa> ignore bad
sherpa> notice energy 4:9
sherpa> bar = get_filter_expr()
sherpa> printarr(bar)
ignore source 1 bad
notice source 1 energy 4 : 9
```

## Bugs

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

## See Also

*chandra*

[guide](#)

*sherpa*

[get analysis](#), [get arf axes](#), [get axes](#), [get coord](#), [get data](#), [get energy axes](#), [get errors](#), [get filter expr](#),  
[get fit](#), [get fluxed spectrum](#), [get ftest](#), [get metadata](#), [get photon axes](#), [get photon energy axes](#),  
[get photon wave axes](#), [get qvalue](#), [get raw axes](#), [get record](#), [get source](#), [get statistic](#), [get stats](#),  
[get syserrors](#), [get wave axes](#), [get weights](#), [record](#), [save](#), [write](#)

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URL:  
[http://cxc.harvard.edu/ciao3.4/get\\_filter.html](http://cxc.harvard.edu/ciao3.4/get_filter.html)  
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