URL: http://cxc.harvard.edu/ciao3.4/ptsrc1d.html
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AHELP for CIAO 3.4

ptsrc1d

Context: sherpa

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Synopsis

A 1−D file−based point−source fitting model.

Description

PTSRC1D is a file−based model that may be used in fitting sources, to determine, e.g., if they are point−like or extended.

This model cannot be used as an instrument model.

ASCII and FITS formats are allowed for the input model file . The current implementation requires that the bin size of the data and the PTSRC1D model file are the same. The number of bins can be different.

The model has several parameters, which can be used to adjust the model array to be used in fitting.

"xsize" parameter defines the number of bins extracted from the file to be used in the model.

xoff = 0 parameters defines the center of the array and it should be left at 0 in CIAO 3.2 version of the model.

"norm" parameter is thawed by definition and it is defined as a total number of counts (values) in the model. The best−fit value for a point−like source will be approximately equal to the number of detected counts from the source.

"xpos" parameter indicates where the center of the sub−array is located in the extracted model array, for example it should be set to the location of the source centroid if the input file is a gaussian function. Note that the initial value of the xpos is estimated using the input dataset.

PTSRC1D Parameters

Number	Name	Description
1	file	input file name (FITS or ASCII)
2	xsize	x−full−width of the subset region of the model file
3	xoff	x−direction offset

4	xpos	x−position of the centroid in the data coordinates
5	norm	normalization

Example

The example below shows the initial parameter values for the PTSRC1D model. Note that the default xsize value is set to 32 before the data file is read in. After reading the data file the xsize is set to the size of the array in the model file.

```
sherpa> ptsrc1d[p1]
sherpa> show p1
ptsrc1d[p1]  (integrate: on)
    Param   Type      Value        Min        Max                Units
    -----   ----      -----        ---        ---                -----
 1   file string: "none"
 2  xsize frozen         32          1       1024
 3   xoff frozen          0       -512        512
 4   xpos thawed       12.5       12.5      197.5
 5   norm thawed          1          0       1000

shrpa> p1.file="model.dat"
sherpa> show p1
ptsrc1d[p1]  (integrate: on)
    Param   Type      Value        Min        Max                Units
    -----   ----      -----        ---        ---                -----
 1   file string: "model.dat"
 2  xsize frozen         38          1         38
 3   xoff frozen          0        -19         19
 4   xpos thawed       12.5       12.5      197.5
 5   norm thawed          1          0       1000

sherpa> source 1 = p1
sherpa> fit
```

Bugs

See the Sherpa bug pages online for an up−to−date listing of known bugs.

See Also

sherpa

atten, bbody, bbodyfreq, beta1d, beta2d, box1d, box2d, bpl1d, const1d, const2d, cos, delta1d, delta2d, dered, devaucouleurs, edge, erf, erfc, farf, farf2d, fpsf, fpsf1d, frmf, gauss1d, gauss2d, gridmodel, hubble, jdpileup, linebroad, lorentz1d, lorentz2d, models, nbeta, ngauss1d, poisson, polynom1d, polynom2d, powlaw1d, ptsrc2d, rsp, rsp2d, schechter, shexp, shexp10, shlog10, shloge, sin, sqrt, stephi1d, steplo1d, tan, tpsf, tpsf1d, usermodel, xs, xsabsori, xsacisabs, xsapec, xsbapec, xsbbody, xsbbodyrad, xsbexrav, xsbexriv, xsbknpower, xsbmc, xsbremss, xsbvapec, xsc6mekl, xsc6pmekl, xsc6pvmkl, xsc6vmekl, xscabs, xscemekl, xscevmkl, xscflow, xscompbb, xscompls, xscompst, xscomptt, xsconstant, xscutoffpl, xscyclabs, xsdisk, xsdiskbb, xsdiskline, xsdiskm, xsdisko, xsdiskpn, xsdust, xsedge, xsequil, xsexpabs, xsexpdec, xsexpfac, xsgabs, xsgaussian, xsgnei, xsgrad, xsgrbm, xshighecut, xshrefl, xslaor, xslorentz, xsmeka, xsmekal, xsmkcflow, xsnei, xsnotch, xsnpshock, xsnsa, xsnteea, xspcfabs, xspegpwrlw, xspexrav, xspexriv, xsphabs, xsplabs, xsplcabs, xsposm, xspowerlaw, xspshock, xspwab, xsraymond, xsredden, xsredge, xsrefsch, xssedov, xssmedge, xsspline, xssrcut, xssresc, xssssice, xsstep, xstbabs, xstbgrain, xstbvarabs, xsuvred, xsvapec, xsvarabs, xsvbremss, xsvequil, xsvgnei, xsvmcflow, xsvmeka,

xsvmekal, xsvnei, xsvnpshock, xsvphabs, xsvpshock, xsvraymond, xsvsedov, xswabs, xswndabs, xsxion, xszbbody, xszbremss, xszedge, xszgauss, xszhighect, xszpcfabs, xszphabs, xszpowerlw, xsztbabs, xszvarabs, xszvfeabs, xszvphabs, xszwabs, xszwndabs

slang

usermodel

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