URL: http://cxc.harvard.edu/ciao3.4/beta2d.html
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AHELP for CIAO 3.4

beta2d

Context: sherpa

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Synopsis

2−D Lorentzian with varying power law. Integration OFF. The LORPOW2D model is equivalent.

Description

A 2−D Lorentz model with a varying power law, also known as a Beta model:

```
f(x,y) = f(r) = A/(1+[r/r_0]^2)^alpha ,
```

where

```
r(x,y) = sqrt[x_new^2(1−epsilon)^2 + y_new^2]/(1−epsilon) ,
x_new = (x−x_o)cos(theta) + (y−y_o)sin(theta) ,
```

and

```
y_new = (y−y_o)cos(theta) − (x−x_o)sin(theta) .
```

BETA2D Parameters

Number	Name	Description
1	r0	core radius r_0
2	xpos	x mean position x_o
3	ypos	y mean position y_o
4	ellip	ellipticity epsilon
5	theta	angle of ellipticity theta
6	ampl	amplitude A at (x_o,y_o)
7	alpha	power law index alpha

See "ahelp integrate" for further information about source model integration.

Bugs

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

See Also

sherpa

atten, bbody, bbodyfreq, beta1d, 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, ptsrc1d, 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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