Chandra X-ray Center

AHELP for CIAO 3.4   **gauss2d**   Context: sherpa

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Synopsis

2–D unnormalized Gaussian function. Integration OFF.

Description

A 2–D Gaussian model:

$$f(x,y) = f(r) = A \exp[-f(r/F)^2]$$

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

$$y\_new = (y-y\_o)\cos(theta) - (x-x\_o)\sin(theta)$$

The constant f = 2.7725887 = 4log2 relates the full–width at half–maximum F to the Gaussian sigma.

GAUSS2D Parameters

Number	Name	Description
1	fwhm	full–width at half–maximum F
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)

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, beta2d, box1d, box2d, bpl1d, const1d, const2d, cos, delta1d, delta2d, dered, devaucouleurs, edge, erf, erfc, farf, farf2d, fpsf, fpsf1d, frmf, gauss1d, 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

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See Also