



AHELP for CIAO 3.4

models

Context: [sherpa](#)

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

Synopsis

Summary of Available Models

Description

The following is the list of models available within Sherpa. The last column in the table indicates whether the model is integrated when fit to binned data; "ON" indicates that the model is integrated by default. See the documentation on the INTEGRATE command for further information about source model integration.

Summary of Sherpa Models:

<sherpa_modelname>	Description	Integration
ATTEN	Attenuation by ISM	OFF
{BBODY BB}	Blackbody as a function of energy	ON
BBODYFREQ	Blackbody as a function of frequency	ON
BETA1D	1-D surface brightness beta-model	OFF
{BETA2D LORPOW2D}	2-D Lorentzian with varying power law	OFF
BOX1D	1-D box function	OFF
BOX2D	2-D box function	OFF
BPL1D	Broken power law function	ON
{CONST1D CONST}	1-D constant amplitude model	ON
CONST2D	2-D constant amplitude model	ON
COS	Cosine function	OFF
DELTA1D	1-D delta function	ON
DELTA2D	2-D delta function	ON
DEVAUCOULEURS	DeVaucouleurs profile	OFF
DERED	Dereddening function	OFF
EDGE	Photoabsorption edge model	OFF
{FARF1D FARF}	A 1-D file-based ancillary response model	N/A
{FARF2D FEXPMAP FEXPMAP2D}	A 2-D file-based ancillary response model	N/A
FPSF1D	A 1-D file-based PSF instrument model	N/A
{FPSF2D FPSF PSFFROMFILE}	A 2-D file-based PSF instrument model	N/A
{FRMF1D FRMF}	A 1-D file-based response matrix model	N/A

Ahelp: models – CIAO 3.4

{GAUSS1D GAUSS}	1-D unnormalized Gaussian function	ON
GAUSS2D	2-D unnormalized Gaussian function	OFF
GRIDMODEL	N-D user-specified amplitude model	OFF
{HIGHPASS STEPHI1D}	1-D step function	OFF
{HUBBLE REYNOLDS}	Hubble-Reynolds profile	OFF
JDPILEUP	John Davis (MIT) pileup model	OFF
{LORENTZ1D LORENTZ}	1-D normalized Lorentzian function	ON
LORENTZ2D	2-D unnormalized Lorentzian function	OFF
{LORPOW2D BETA2D}	2-D Lorentzian with varying power law	OFF
{LOWPASS STEPLO1D}	1-D step function	OFF
NBETA	1-D normalized beta function	ON
NGAUSS1D	1-D normalized Gaussian function	ON
POISSON	Poisson function	OFF
{POLYNOM1D POLY}	1-D polynomial function	ON
POLYNOM2D	2-D polynomial function	ON
{POW POWLAW POWLAW1D}	1-D power law	ON
PTSRC1D	A 1-D file-based point-source fitting model	OFF
{PTSRC2D PTSRC}	A 2-D file-based point-source fitting model	OFF
{REYNOLDS HUBBLE}	Hubble-Reynolds profiles	OFF
{RSP1D RSP}	A 1-D instrument model	N/A
RSP2D	A 2-D instrument model utilizing an exposure map and point-spread function	N/A
SCHECHTER	Schechter function	OFF
SHEXP10	Exponential function, base 10	OFF
SHEXP	Exponential function	OFF
SHLOG10	Logarithm function, base 10	OFF
{SHLOGE SHLOG}	Natural logarithm function	OFF
SIN	Sine function	OFF
SQRT	Square root function	OFF
{STEPHI1D HIGHPASS}	1-D step function	OFF
{STEPLO1D LOWPASS}	1-D step function	OFF
TAN	Tangent function	OFF
TPSF1D	A 1-D TCD-model-based PSF instrument model	N/A
{TPSF2D TPSF PSFFROMTCD PSF}	A 2-D TCD-model-based PSF instrument model	N/A
USERMODEL	User implemented model	OFF
XS<xspecname>	An XSPEC model function	N/A

See "ahelp xs" for a list of XSPEC models available within Sherpa.

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](#), [deref](#), [devaucouleurs](#), [edge](#), [erf](#), [erfc](#), [farf](#), [farf2d](#), [fpsf](#), [fpsf1d](#), [frmf](#), [gauss1d](#), [gauss2d](#), [gridmodel](#), [hubble](#), [jdpileup](#), [linebroad](#), [lorentz1d](#), [lorentz2d](#), [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](#), [xsbody](#), [xsbodyrad](#), [xsbevax](#), [xsbevaxiv](#), [xsbknpower](#), [xsbmc](#), [xsbremss](#), [xsbvapec](#), [xsc6mekl](#), [xsc6pmekl](#), [xsc6pvmkl](#), [xsc6vmekl](#), [xscabs](#), [xscemekl](#), [xscevtml](#), [xscflow](#), [xscompbb](#), [xscompls](#), [xscompst](#), [xscomptt](#), [xsconstant](#), [xscutoffpl](#), [xscyclubs](#), [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](#), [xspgpwrlw](#), [xspexrav](#), [xspexriv](#), [xsphabs](#), [xsplabs](#), [xsplcabs](#), [xsposm](#), [xspowerlaw](#), [xspshock](#), [xspwab](#), [xstraymond](#), [xsredder](#), [xsredge](#), [xsrefsch](#), [xssedov](#), [xssmedge](#), [xsspline](#), [xssrcut](#), [xssresc](#), [xssssice](#), [xsstep](#), [xstbabs](#), [xstbgrain](#), [xstbvarabs](#), [xsuvred](#), [xsvapec](#), [xsvvarabs](#), [xsvbremss](#), [xsvsequil](#), [xsvgnei](#), [xsvmcflow](#), [xsvmeka](#), [xsvmekal](#), [xsvnei](#), [xsvnpshock](#), [xsvphabs](#), [xsvpshock](#), [xsvraymond](#), [xsvsedov](#), [xswabs](#), [xswndabs](#), [xsxion](#), [xszbbody](#), [xszbremss](#), [xszedge](#), [xszgauss](#), [xszhighecut](#), [xszpcfabs](#), [xszphabs](#), [xszpowerlw](#), [xsztbabs](#), [xszvarabs](#), [xszvfeabs](#), [xszvphabs](#), [xszwabs](#), [xszwndabs](#)

slang

[usermodel](#)

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URL:
<http://cxc.harvard.edu/ciao3.4/models.html>
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