



AHELP for CIAO 3.4

## bpl1d

Context: [sherpa](#)

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

## Synopsis

Broken power law function. Integration ON.

## Description

A broken power-law model:

$$f(x) = A (x/x_{\text{ref}})^{-\text{gamma}_1}$$

if  $x \leq x_b$ , and

$$f(x) = A' (x/x_{\text{ref}})^{-\text{gamma}_2}$$

otherwise, where

$$A' = A (x_b/x_{\text{ref}})^{(\text{gamma}_2 - \text{gamma}_1)}$$

### BPL1D Parameters

| Number | Name   | Description                           |
|--------|--------|---------------------------------------|
| 1      | gamma1 | first power law photon index gamma_1  |
| 2      | gamma2 | second power law photon index gamma_2 |
| 3      | eb     | break-point x_b                       |
| 4      | ref    | normalization reference point x_ref   |
| 5      | ampl   | amplitude A                           |

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](#), [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](#),

## Ahelp: bpl1d – CIAO 3.4

steph1d, steplo1d, tan, tpsf, tpsf1d, usermodel, xs, xsabsori, xsacisabs, xsapec, xsbapec, xsbody, xsbodyrad, xsbevray, xsbevriy, xsbknpower, xsbtc, xsbremss, xsbvapec, xsc6mekl, xsc6pmekl, xsc6pvmkl, xsc6vmekl, xscabs, xscemekl, xscvtml, xscflow, xscmpbb, xscmpls, xscmpst, xscmpptt, xsconstant, xscutoffpl, xscyclabs, xsdisk, xsdiskbb, xsdiskline, xsdiskm, xsdisko, xsdiskpn, xsdust, xsedg, xsequil, xsexpabs, xsexpdec, xsexpfac, xsgabs, xsgaussian, xsgnei, xsgrad, xsgbrm, xshighecut, xshrefl, xslaor, xslorentz, xsmeka, xsmekal, xsmkcfow, xsnei, xsnotch, xsnpshock, xnsa, xnteea, xspcfabs, xspgpwrlw, xspexray, xspexriv, xspfabs, xsplabs, xsplcabs, xspasm, xspowerlaw, xspshock, xspwab, xrraymond, xredd, xredg, xrefsch, xssedov, xssmedg, xsspline, xssrcut, xssresc, xssssice, xsstep, xstbabs, xstbgrain, xstbvarabs, xsvred, xsvapec, xsvarabs, xsvbremss, xsvsequil, xsvgnei, xsvmcfow, xsvmeka, xsvmekal, xsvnei, xsvnpshock, xsvphabs, xsvpshock, xsvraymond, xvsedov, xswabs, xswndabs, xsxion, xszbody, xszbremss, xszedg, xszgauss, xszhighcut, xszpcfabs, xszphabs, xszpowerlw, xsztbabs, xszvarabs, xszvfeabs, xszvphabs, xszwabs, xszwndabs

*slang*

usermodel

---

The Chandra X-Ray Center (CXC) is operated for NASA by the Smithsonian Astrophysical Observatory.  
60 Garden Street, Cambridge, MA 02138 USA.  
Smithsonian Institution, Copyright © 1998–2006. All rights reserved.

URL:  
<http://cxc.harvard.edu/ciao3.4/bpl1d.html>  
Last modified: December 2006