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

xsbexriv

Context: sherpa

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Synopsis

E−folded broken power law reflected from ionized matter. XSpec model.

Description

Broken power law spectrum multiplied by exponential high−energy cutoff, Exp[−E/foldE], and reflected from ionized material. See Magdziarz and Zdziarski 1995, MNRAS, 273, 837 for details. Ionization and opacities of the reflecting medium is computed as in the procedure absori. The output spectrum is the sum of an e−folded broken power law and the reflection component.

The reflection component alone can be obtained for relRefl < 0. Then the actual reflection normalization is |relRefl|. Note that you need to change then the limits of relRefl excluding zero (as then the direct component appears). If foldE = 0, there is no cutoff in the power law.

The metal and iron abundances are variable with respect to those set by the command xspecabundan.

xsbexriv Parameters

Number	Name	Description
1	Gamma1	first power law photon index
2	breakE	break energy (keV)
3	Gamma2	second power law photon index
4	foldE	the e−folding energy in keV (if foldE=0, there is no cutoff)
5	relRefl	reflection scaling factor (1 for isotropic source above disk)
6	redshift	redshift, z
7	abund	abundance of elements heavier than He relative to the solar abundances
8	FeAbund	iron abundance relative to the above
9	cosIncl	cosine of inclination angle
10	Tdisk	disk temperature in K
11	xi	disk ionization parameter, xi = 4 pi F_ion/n, where F_ion is the 5 eV − 20 keV irradiating flux, n is the density of the reflector; see Done et al., 1992, ApJ, 395, 275
12	norm	photon flux at 1 keV of the cutoff broken power law only (no reflection) in the observed frame.

This information is taken from the XSpec User's Guide. Version 11.3.1 of the XSpec models is supplied with CIAO 3.2.

Bugs

For a list of known bugs and issues with the XSPEC models, please visit the XSPEC bugs page.

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, 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, 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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