Chandra X-ray Center

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

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Synopsis

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

Description

Broken power law spectrum multiplied by exponential high−energy cutoff Exp[−E/foldE] , and reflected from neutral material. See Magdziarz and Zdziarski 1995, MNRAS, 273, 837 for details. 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 abundance are variable with respect to those set by a command xspecabundan. The opacities are of Balucinska and McCammon (1992 and 1994, private communication). As expected in AGNs, H and He are assumed to be fully ionized.

xsbexrav 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	cosIncl	cosine of inclination angle
7	abund	abundance of elements heavier than He relative to the solar abundances
8	FeAbund	iron abundance relative to the above
9	redshift	redshift, z
10	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, 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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usermodel