URL: http://cxc.harvard.edu/ciao3.4/xspexriv.html
Last modified: December 2006

AHELP for CIAO 3.4

xspexriv

Context: sherpa

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Synopsis

Exponentially cutoff power law reflected from ionized matter. XSpec model.

Description

Exponentially cutoff power law spectrum reflected from ionized material. See Magdziarz and Zdziarski (MNRAS, 273, 837; 1995) for details. Ionization and opacities of the reflecting medium are computed as in xsabsori. The output spectrum is the sum of an e−folded 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 then need to change the limits of relRefl to exclude 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 defined by the xspecabundan command.

xspexriv Parameters

Number	Name	Description
1	PhoIndx	power law photon index, N_E prop. to E^(−PhoIndx)
2	foldE	the e−folding energy in keV (if foldE=0, there is no cutoff; change the lower limit for that)
3	relRefl	reflection scaling factor; if < 0, there is no direct component; relRefl=1 for isotropic source above disk
4	Redshift	redshift, z
5	abund	abundance of elements heavier than He relative to that defined by xspecabundan
6	FeAbund	iron abundance relative to that defined by xspecabundan
7	cosIncl	cosine of inclination angle
8	Tdisk	disk temperature in K
9	xi	disk ionization parameter, xi = 4 pi F_ion/n, where F_ion is the 5 eV − 20 keV irradiating flux and n is the density of the reflector; see Done et al., 1992, ApJ, 395, 275
10	norm	photon flux at 1 keV (photons/keV/cm^2/s) of the power law only 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, 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, 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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