



AHHELP for CIAO 3.4

xspexriv

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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 $\text{relRefl} < 0$. Then the actual reflection normalization is $|\text{relRefl}|$. Note that you then need to change the limits of relRefl to exclude zero (as then the direct component appears). If $\text{foldE} = 0$ 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 $E^{(-\text{PhoIndx})}$
2	foldE	the e-folding energy in keV (if $\text{foldE}=0$, there is no cutoff; change the lower limit for that)
3	relRefl	reflection scaling factor; if < 0 , there is no direct component; $\text{relRefl}=1$ 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, $\xi = 4 \pi F_{\text{ion}}/n$, 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](#), [steph1d](#), [steplo1d](#), [tan](#), [tpsf](#), [tpsf1d](#), [usermodel](#), [xs](#), [xsabsori](#), [xsacisabs](#), [xsapec](#), [xsbapec](#), [xsbody](#), [xsbodyrad](#), [xsbevav](#), [xsbevav1d](#), [xsbknpower](#), [xsbsmc](#), [xsbremss](#), [xsbvapec](#), [xsc6mekl](#), [xsc6pmekl](#), [xsc6pvmekl](#), [xsc6vmekl](#), [xscabs](#), [xscemekl](#), [xscevmecl](#), [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](#), [xshighcut](#), [xshrefl](#), [xslaor](#), [xslorentz](#), [xsmeka](#), [xsmekal](#), [xsmkcfllow](#), [xsnei](#), [xsnotch](#), [xsnpshock](#), [xsnsa](#), [xsnteea](#), [xspcfabs](#), [xspegpwrllw](#), [xspexrav](#), [xsphabs](#), [xsplabs](#), [xsplcabs](#), [xspasm](#), [xspowerlaw](#), [xspshock](#), [xspwab](#), [xsraymond](#), [xsredden](#), [xsredge](#), [xsrefsch](#), [xssedov](#), [xssmedge](#), [xsspline](#), [xssrcut](#), [xssresc](#), [xssssice](#), [xsstep](#), [xstbabs](#), [xstbgrain](#), [xstbvarabs](#), [xsuvred](#), [xsvapec](#), [xsvarabs](#), [xsvbremss](#), [xsvequil](#), [xsvgnei](#), [xsvmcfllow](#), [xsvmeka](#), [xsvmekal](#), [xsvnei](#), [xsvnpshock](#), [xsvphabs](#), [xsvpshock](#), [xsvraymond](#), [xsvsedov](#), [xswabs](#), [xswndabs](#), [xsxion](#), [xszbbody](#), [xszbremss](#), [xszedge](#), [xszgauss](#), [xszhighect](#), [xszpcfabs](#), [xszphabs](#), [xszpowerllw](#), [xsztbabs](#), [xszvarabs](#), [xszvfeabs](#), [xszvphabs](#), [xszwabs](#), [xszwndabs](#)

slang

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