

bextrav: reflected e-folded broken power law, neutral medium

A broken power-law spectrum multiplied by exponential high-energy cutoff, $\exp(-E_c E)$, and reflected from neutral material. See Magdziarz & 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 $|rel_{\text{refl}}| < 0$. Then the actual reflection normalization is $|rel_{\text{refl}}|$. Note that you need to change then the limits of $|rel_{\text{refl}}|$ excluding zero (as then the direct component appears). If $E_c = 0$, there is no cutoff in the power law. The metal and iron abundance are variable with respect to those set by the command **abund**. The opacities are those set by the command **xsect**. As expected in AGNs, H and He are assumed to be fully ionized.

The core of this model is a Greens' function integration with one numerical integral performed for each model energy. The numerical integration is done using an adaptive method which continues until a given estimated fractional precision is reached. The precision can be changed by setting IREFLECT_PRECISION eg `xset IREFLECT_PRECISION 0.05`. The default precision is 0.01 (ie 1%).

par1	Γ_1 , first power law photon index
par2	Ebreak, break energy (keV)
par3	Γ_2 , second power law photon index
par4	E_c , the e-folding energy in keV (if $E_c = 0$ there is no cutoff)
par5	relrefl, reflection scaling factor (1 for isotropic source above disk)
par6	redshift, z
par7	abundance of elements heavier than He relative to the solar abundances
par8	iron abundance relative to the above
par9	cosine of inclination angle
norm	photon flux at 1 keV of the cutoff broken power-law only (no reflection) in the observed frame. }