

kerrdisk: accretion disk line emission with BH spin as free parameter

Model for an accretion disk broad emission line with the black hole spin allowed to be a free parameter. A detailed description can be found in Brenneman & Reynolds (2006ApJ...652.1028B).

This model is quite slow so is best used after models such as laor or diskline have been employed to get an estimate of the best-fit parameters.

par1 = rest frame line energy (keV)

par2 = emissivity index for the inner disk

par3 = emissivity index for the outer disk

par4 = break radius separating the inner and outer portions of the disk (gravitational radii)

par5 = dimensionless black hole spin

par6 = disk inclination angle to the line of sight (degrees)

par7 = inner radius of the disk in units of the radius of marginal stability

par8 = outer radius of the disk in units of the radius of marginal stability

par9 = redshift z

K = flux in line (photons/cm²/s)