

Summary of Models

| Model | Description |
|---|---|
| <u>absori</u> | Ionized absorber. |
| <u>acisabs</u> | Extra absorption due to contamination on the ACIS filters. |
| <u>ascac</u> | ASCA PSF mixing model. |
| <u>apec</u> , <u>vapec</u> | APEC thermal plasma model. |
| <u>atable</u> | Additive table model. |
| <u>bbbody</u> , <u>zbody</u> | Blackbody spectrum, with redshift variant |
| <u>bbbodyrad</u> | Blackbody spectrum with norm proportional to surface area. |
| <u>bexrav</u> | E-folded broken power-law reflected from neutral matter |
| <u>bexriv</u> | E-folded broken power-law reflected from ionized matter |
| <u>bknpower</u> | Broken powerlaw. |
| <u>bkn2pow</u> | Three-segment broken powerlaw. |
| <u>bmc</u> | Comptonization by relativistically moving matter. |
| <u>bremss</u> , <u>zbremss</u> | Thermal bremsstrahlung, with redshift variant. |
| <u>c6mekl</u> <u>c6pmekl</u> <u>c6pvmkl</u> <u>c6vmekl</u> | 6th-order Chebyshev polynomial DEM using mekal and variants |
| <u>cabs</u> | Compton scattering (non-relativistic) |
| <u>cemekl</u> | Multi-temperature mekal. |
| <u>cevmkl</u> | Multi-temperature vmeka. |
| <u>cflow</u> | Cooling flow model. |
| <u>compbb</u> | Comptonized blackbody spectrum after Nishimura et al. 1986. |
| <u>compls</u> | Comptonization spectrum after Lamb and Sanford 1979. |
| <u>compst</u> | Comptonization spectrum after Sunyaev and Titarchuk 1980. |
| <u>comptt</u> | Comptonization spectrum after Titarchuk 1994. |
| <u>constant</u> | Energy-independent multiplicative factor. |
| <u>cutoffpl</u> | Powerlaw with high energy exponential rolloff. |
| <u>cvclabs</u> | Cyclotron absorption line. |
| <u>disk</u> | Disk model. |
| <u>diskbb</u> | Multiple blackbody disk model. |
| <u>diskline</u> | Line emission from relativistic accretion disk. |
| <u>diskm</u> | Disk model with gas pressure viscosity. |
| <u>disko</u> | Modified blackbody disk model. |
| <u>diskpn</u> | Accretion disk around a black hole. |
| <u>dust</u> | Dust scattering out of the beam. |

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| <u>edge</u> | Absorption edge. |
| <u>equil</u> , <u>vequil</u> | Equilibrium ionization collisional plasma model from Borkowski. |
| <u>etable</u> | Table model for exponential of -1 times the input. |
| <u>expabs</u> | Low-energy exponential rolloff. |
| <u>expfac</u> | Exponential factor. |
| <u>gaussian</u> | Simple gaussian line profile. |
| <u>gnei</u> , <u>vnei</u> | Generalized single ionization NEI plasma model. |
| <u>grad</u> | GR accretion disk around a black hole. |
| <u>grbm</u> | Gamma-ray burst model. |
| <u>gsmooth</u> | Gaussian smoothing with an energy dependent sigma. |
| <u>highcut</u> | High energy cutoff. |
| <u>hrefl</u> | Simple reflection model good up to 15 keV. |
| <u>laor</u> | Line from accretion disk around a black hole. |
| <u>lorentz</u> | Lorentzian line profile. |
| <u>lsmooth</u> | Lorentzian smoothing with an energy dependent sigma. |
| <u>meka</u> , <u>vmeka</u> | Mewe-Gronenschild-Kaastra thermal plasma (1992). |
| <u>mekal</u> , <u>vmekal</u> | Mewe-Kaastra-Liedahl thermal plasma (1995). |
| <u>mkcflow</u> , <u>vmcflow</u> | Cooling flow model based on mekal. |
| <u>mtable</u> | Multiplicative table model. |
| <u>nei</u> , <u>vnei</u> | Simple nonequilibrium ionization plasma model. |
| <u>notch</u> | Notch line absorption. |
| <u>npshock</u> , <u>vpshock</u> | Plane-parallel shock with ion and electron temperatures. |
| <u>pwab</u> | Power-law distribution of neutral absorbers. |
| <u>ntea</u> | Pair plasma model. |
| <u>pcfabs</u> | Partial covering fraction absorption. |
| <u>pegpwr1w</u> | Powerlaw with pegged normalization. |
| <u>pexrav</u> | Exponentially cut-off power-law reflected from neutral matter. |
| <u>pexriv</u> | Exponentially cut-off power-law reflected from ionized matter. |
| <u>phabs</u> | Photo-electric absorption |
| <u>pileup</u> | CCD pile-up model |
| <u>plabs</u> | Absorption model with power-law dependence on energy. |
| <u>plcabs</u> | Cut-off powerlaw observed through dense, cold matter. |
| <u>posm</u> | Positronium continuum. |
| <u>powerlaw</u> | Simple photon power law. |
| <u>project</u> | 3-D to 2-D projection mixing model. |

| Model | Description |
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| <u>pshock</u> , vpshock | Constant temperature, plane-parallel shock plasma model. |
| <u>raymond</u> , vraymond | Raymond-Smith thermal plasma. |
| <u>redden</u> | IR/optical/UV extinction from Cardelli et al. (1989) |
| <u>redge</u> | Recombination edge. |
| <u>reflect</u> | Convolution model for reflection from neutral matter |
| <u>refsch</u> | E-folded power-law reflected from an ionized relativistic disk. |
| <u>rgxssrc</u> | Convolution model for extended sources with the XMM RGS. |
| <u>sedov</u> , vsedov | Sedov model with electron and ion temperatures. |
| <u>smedge</u> | Smoothed absorption edge. |
| <u>spline</u> | Spline multiplicative factor. |
| <u>srcut</u> | Synchrotron radiation from cut-off electron distribution. |
| <u>sresc</u> | Synchrotron radiation from escape-limited electron distribution. |
| <u>SSS ice</u> | Einstein Observatory SSS ice absorption. |
| <u>step</u> | Step function convolved with gaussian. |
| <u>tbabs</u> | Absorption due to the ISM including molecules and grains. |
| <u>tbgrain</u> | ISM absorption with variable molecule and grain fractions. |
| <u>tbvarabs</u> | ISM absorption with variable abundances and grain depletion. |
| <u>uvred</u> | UV reddening. |
| <u>vapex</u> | APEC thermal plasma model with variable abundances. |
| <u>varabs</u> | Photoelectric absorption with variable abundances. |
| <u>vphabs</u> | Photoelectric absorption with variable abundances. |
| <u>vpshock</u> | As pshock but with variable abundances. |
| <u>vraymond</u> | Raymond-Smith thermal plasma with variable abundances. |
| <u>vsedov</u> | As sedov but with variable abundances. |
| <u>wabs</u> | Photoelectric absorption (Morrison & McCammon). |
| <u>wndabs</u> | Photoelectric absorption with low energy window. |
| <u>xion</u> | The reflected spectrum from a photo-ionized accretion disk. |
| <u>zedge</u> | Redshifted absorption edge. |
| <u>zgauss</u> | Redshifted gaussian. |
| <u>zhighect</u> | Redshifted high energy cut-off. |
| <u>zpcfabs</u> | Redshifted partial covering absorption. |
| <u>zphabs</u> | Redshifted photoelectric absorption |
| <u>zpowerlw</u> | Redshifted powerlaw. |
| <u>ztbabs</u> | Redshifted ISM absorption without grains. |
| <u>zvarabs</u> | Redshifted photoelectric absorption with variable abundances. |

| Model | Description |
|--------------------------------|---|
| <u>zvfeabs</u> | Redshifted absorption with variable iron abundance. |
| <u>zvphabs</u> | Redshifted photoelectric absorption with variable abundances. |
| <u>zwabs</u> | Redshifted “Wisconsin absorption.” |
| <u>zwndabs</u> | Redshifted photoelectric absorption with low energy window. |

