



AHELP for CIAO 3.4

xsvmekal

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Synopsis

M–K–L thermal plasma with variable abundances. XSpec model.

Description

An emission spectrum from hot diffuse gas based on the model calculations of Mewe and Kaastra with Fe L calculations by Liedahl. The model includes line emissions from several elements. Abundances are the number of nuclei per hydrogen nucleus relative to the Solar abundances set by the `xspecabundan` command. The switch parameter determines whether the mekal code will be run to calculate the model spectrum for each temperature, or whether the model spectrum will be interpolated from a pre-calculated table; the former is slower but more accurate.

xsvmekal Parameters

Number	Name	Description
1	kT	plasma temperature in keV
2	nH	hydrogen density in cm ⁻³
3–16	(element)	abundances for He, C, N, O, Ne, Na, Mg, Al, Si, S, Ar, Ca, Fe, Ni with respect to Solar. Abundances are set by the <code>xspecabundan</code> command.
17	redshift	redshift, z
18	Switch	0 = calculate, 1 = interpolate
19	norm	$10^{-14} / (4 \pi (D_A(1+z))^2) \int n_e n_H dV$, where D_A is the angular size distance to the source (cm), n_e is the electron density (cm ⁻³), and n_H is the hydrogen density (cm ⁻³)

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](#),

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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, xsboxrav, xsboxriv, xsbknpower, xsbsmc, xsbremss, xsbvapec, xsc6mekl, xsc6pmekl, xsc6pvmkl, xsc6vmekl, xscabs, xscemekl, xscvmkl, xscflow, xscmpbb, xscmpls, xscmpst, xscmpstt, xscconstant, xscutoffpl, xscyclabs, xsdisk, xsdiskbb, xsdiskline, xsdiskm, xsdisko, xsdiskpn, xsdust, xsedg, xsequil, xsexpabs, xsexpdec, xsexpfac, xsgabs, xsgaussian, xsgnei, xsggrad, xsgrbm, xshighcut, xshrefl, xslaor, xslorentz, xsmeka, xsmekal, xsmkcflow, xsnei, xsnotch, xsnpshock, xnsa, xnntea, xspcfabs, xspgpwrlw, xspexrav, xspexriv, xspfabs, xsplabs, xsplcabs, xspostm, xspowerlaw, xspshock, xspwab, xstraymond, xstredden, xstredg, xstrefsch, xssedov, xssmedg, xsspline, xssrcut, xssresc, xssssice, xsstep, xstbabs, xstbgrain, xstbvarabs, xsvred, xsvapec, xsvvarabs, xsvbremss, xsvsequil, xsvgnei, xsvmcflow, xsvmekal, xsvnei, xsvnpshock, xsvphabs, xsvpshock, xsvraymond, xsvsedov, xswabs, xswndabs, xsxion, xszbody, xszbremss, xszedge, xszgauss, xszhighcut, xszpcfabs, xszphabs, xszpowerlw, xsztbabs, xszvarabs, xszvfeabs, xszvphabs, xszwabs, xszwndabs

slang

usermodel

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URL:
<http://cxc.harvard.edu/ciao3.4/xsvmekal.html>
Last modified: December 2006