Chandra X-ray Center

AHELP for CIAO 3.4　　　　　**xsvsedov**　　　　　Context: sherpa

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Synopsis

Sedov model with separate ion and electron temperatures and variable abundances. XSpec model.

Description

Sedov model with separate ion and electron temperatures. This model is slow.

kTa provides a measure of the average energy per particle (ions + electrons) and is constant throughout the post−shock flow in plane shock models (Borkowski et al., 2001, ApJ, 548, 820). kTb should always be less than kTa. If kTb exceeds kTa then their interpretations are switched (i.e. the larger of kTa and kTb is always the mean temperature).

Additional references for this model can be found in the help file for the xsequil model ("ahelp xsequil").

xsvsedov Parameters

Number	Name	Description
1	kTa	mean shock temperature in keV
2	kTb	electron temperature immediately behind the shock front (keV)
3	H	hydrogen density in cm^−3
4−14	(element)	abundances for He, C, N, O, Ne, Mg, Si, S, Ca, Fe, Ni with respect to Solar. Abundances are set by the xspecabundan command.
15	Tau	ionization age (s/cm^3) of the remnant (== ambient hydrogen number density times age of remnant)
16	redshift	redshift, z
17	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, hubble, jdpileup, linebroad, lorentz1d, lorentz2d, models, nbeta, ngauss1d, poisson, polynom1d, polynom2d, powlaw1d, ptsrc1d, ptsrc2d, rsp, rsp2d, schechter, shexp, shexp10, shlog10, shloge, sin, sqrt, stephi1d, steplo1d, tan, tpsf, tpsf1d, usermodel, xs, xsabsori, xsacisabs, xsapec, xsbapec, xsbbody, xsbbodyrad, xsbexrav, xsbexriv, xsbknpower, xsbmc, xsbremss, xsbvapec, xsc6mekl, xsc6pmekl, xsc6pvmkl, xsc6vmekl, xscabs, xscemekl, xscevmkl, 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, xshighecut, xshrefl, xslaor, xslorentz, xsmeka, xsmekal, xsmkcflow, xsnei, xsnotch, xsnpshock, xsnsa, xsnteea, xspcfabs, xspegpwrlw, xspexrav, xspexriv, xsphabs, xsplabs, xsplcabs, xsposm, xspowerlaw, xspshock, xspwab, xsraymond, xsredden, xsredge, xsrefsch, xssedov, xssmedge, xsspline, xssrcut, xssresc, xsssice, xsstep, xstbabs, xstbgrain, xstbvarabs, xsuvred, xsvapec, xsvarabs, xsvbremss, xsvequil, xsvgnei, xsvmcflow, xsvmeka, xsvmekal, xsvnei, xsvnpshock, xsvphabs, xsvpshock, xsvraymond, xswabs, xswndabs, xsxion, xszbbody, xszbremss, xszedge, xszgauss, xszhighect, xszpcfabs, xszphabs, xszpowerlw, xsztbabs, xszvarabs, xszvfeabs, xszvphabs, xszwabs, xszwndabs

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usermodel