



AHELP for CIAO 3.4

## xsnei

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## Synopsis

Simple nonequilibrium ionization plasma model. XSpec model.

## Description

Non-equilibrium ionization collisional plasma model. This assumes a constant temperature and single ionization parameter. It provides a characterisation of the spectrum but is not a physical model. The references for this model can be found in the help file for the xsequil model ("ahelp xsequil").

### xsnei Parameters

Number	Name	Description
1	kT	plasma temperature in keV
2	Abundanc	metal abundances (He fixed at cosmic). The elements included are C, N, O, Ne, Mg, Si, S, Ca, Fe, Ni. Abundances are set by the xspecabundan command.
3	Tau	ionization timescale (s/cm <sup>3</sup> )
4	redshift	redshift, z
5	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 <sup>-3</sup> ), and $n_H$ is the hydrogen density (cm <sup>-3</sup> )

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](#),

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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, xsbody, xsbodyrad, xsboxrav, xsboxriv, xsbknpower, xsbsmc, xsbremss, xsbvapec, xsc6mekl, xsc6pmecl, xsc6pvmkl, xsc6vmekl, xscabs, xscemekl, xscevmkl, xscflow, xscmpbb, xscmpls, xscmpst, xscmppt, xscmpptt, xscconstant, xscutoffpl, xscyclabs, xsdisk, xsdiskbb, xsdiskline, xsdiskm, xsdisko, xsdiskpn, xsdustr, xsecl, xsequil, xsexpabs, xsexpdec, xsexpfac, xsgabs, xsgaussian, xsgnei, xsggrad, xsgrbm, xshighecut, xshrefl, xslaor, xslorentz, xsmeka, xsmekal, xsmkcflow, xsnotch, xsnpshock, xnsa, xnntea, xspcfabs, xspegpwrlw, xspexrav, xspexriv, xspfabs, xsplabs, xsplcabs, xspesm, xspowerlaw, xspshock, xspwab, xstraymond, xstredden, xstredg, xstrefsch, xssedov, xssmedg, xsspline, xssrcut, xssresc, xssssice, xsstp, xstbabs, xstbgrain, xstbvarabs, xsubred, xsvapec, xsvfabs, xsvbremss, xsvsequil, xsvgnei, xsvmcfow, xsvmekal, 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/xsnei.html>  
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