



AHELP for CIAO 3.4

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Synopsis

Synchrotron radiation from escape-limited electron distribution. XSpec model.

Description

The synchrotron spectrum from an electron distribution limited by particle escape above some energy. The electrons are shock-accelerated in a Sedov blast wave encountering a constant-density medium containing a uniform magnetic field. The model includes variations in electron acceleration efficiency with shock obliquity, and post-shock radiative and adiabatic losses, as described in Reynolds, S.P., ApJ 493, 357 1998. This is a highly specific, detailed model for a fairly narrow set of conditions. See also Reynolds, S.P., ApJL 459, L13 1996. Note that the radio spectral index and flux can be obtained from [Green's Catalogue of Galactic Supernova Remnants](#).

xssresc Parameters

Number	Name	Description
1	alpha	radio spectral index; flux proportional to frequency ^(-alpha)
2	rolloff	approximately the frequency (Hz) at which the flux has dropped by a factor of 10 below straight power law extrapolation from radio frequencies
3	norm	normalization, 1 GHz flux (Jy)

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](#),

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steplo1d, tan, tpsf, tpsf1d, usermodel, xs, xsabsori, xsacisabs, xsapec, xsbapec, xsbody, xsbodyrad,
xsboxray, xsboxriv, xsboxpower, xsboxmc, xsboxremss, xsboxvapec, xsc6mekl, xsc6pmekl, xsc6pvmkl,
xsc6vmekl, xscabs, xscemekl, xscvmkl, xscflow, xscmpbb, xscmpls, xscmpst, xscmpptt, xsconstant,
xscutoffpl, xscyclabs, xsdisk, xsdiskbb, xsdiskline, xsdiskm, xsdisko, xsdiskpn, xsdust, xsedge, xsequil,
xsexpabs, xsexpdec, xsexpfac, xsgabs, xsgaussian, xsgnei, xsggrad, xsgrbm, xshighcut, xshrefl, xslaor,
xslorentz, xsmeka, xsmekal, xsmkcflow, xsnei, xsnotch, xsnphock, xsnsa, xsnreea, xspcfabs,
xspgpwrlw, xspexray, xspexriv, xspfabs, xsplabs, xsplcabs, xspesm, xspowerlaw, xspshock, xspwab,
xstraymond, xstredn, xstredge, xstrefsch, xstsedov, xstmedge, xstpline, xstsrcut, xstssice, xststep, xstbabs,
xstbgrain, xstbvarabs, xstuvred, xstvapec, xstvarabs, xstvbremss, xstvequil, xstvgnei, xstvmcflow, xstvmeka,
xstvmekal, xstvnei, xstvnphock, xstvphabs, xstvphock, xstvraymond, xstvsedov, xstwabs, xstwndabs, xstxion,
xstzbody, xstzbremss, xstzedge, xstzgauss, xstzhigect, xstzpcfabs, xstzphabs, xstzpowerlw, xstzbabs,
xstzvarabs, xstzveabs, xstzvphabs, xstzwabs, xstzwndabs

slang

usermodel

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URL:
<http://cxc.harvard.edu/ciao3.4/xssresc.html>
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