



AHELP for CIAO 3.4

xsnteea

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Synopsis

Pair plasma model. XSpec model.

Description

A nonthermal pair plasma model based on that of Lightman and Zdziarski (1987, ApJ 319, 643) from Magdziarz and Zdziarski. It includes angle-dependent reflection from Magdziarz and Zdziarski (1995, MNRAS 273, 837). The abundances are set up by the `xspecabundan` command.

xsnteea Parameters

Number	Name	Description
1	lnth	nonthermal electron compactness
2	lbb	blackbody compactness
3	frefl	scaling factor for reflection; 1 = isotropic source above disk
4	kTbb	blackbody temperature in eV
5	gmax	the maximum Lorentz factor
6	lth	thermal compactness; 0 = pure nonthermal plasma
7	taup	Thomson optical depth of ionization electrons (e.g. 0)
8	Ginj	electron injection index; 0 = monoenergetic injection
9	gmin	minimum Lorentz factor of the power law injection; not used for monoenergetic injection
10	g0	minimum Lorentz factor for nonthermal reprocessing; $1 < g_0 \leq g_{min}$
11	radius	radius in cm (for Coulomb/bremsstrahlung only)
12	pairesc	pair escape rate in c; $0 \leq \text{pairesc} \leq 1$, see Zdziarski 1985, ApJ, 289, 514
13	cosIncl	cosine of inclination angle
14	FeAbund	iron abundance relative to that defined by <code>xspecabundan</code>
15	Redshift	redshift, z
16	norm	photon flux of the direct component without reflection at 1 keV in the observer's frame.

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](#).

