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

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Synopsis

Blackbody as a function of energy. Integration ON.

Description

Blackbody emission calculated as a function of energy using the expression:

```
f(E) = A (E^2/exp[E/kT]-1) ,
```

where E is the photon energy, and kT is the blackbody temperature (expressed in the same units as the photon energy). The amplitude A is related to the ratio of source radius to distance:

```
A = (2pi/[c^2 h^3]) (R/d)^2 = 9.884 x 10^31 (R/d)^2 ,
```

with Planck's constant h specified in keV−s and the speed of light c specified in cm/s, and with R and d representing the radius of, and distance to, the source respectively. If E/kt < 10^−4, f(E) = AEkT, while if E/kT > 60, f(E) = 0.

BBODY Parameters

Number	Name	Description
1	space	0: energy | 1: wavelength
2	kT	temperature kT (in energy units)
3	ampl	amplitude A

See "ahelp integrate" for further information about source model integration.

Bugs

See the Sherpa bug pages online for an up−to−date listing of known bugs.

See Also

sherpa

atten, 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, xsvsedov, xswabs, xswndabs, xsxion, xszbbody, xszbremss, xszedge, xszgauss, xszhighect, xszpcfabs, xszphabs, xszpowerlw, xsztbabs, xszvarabs, xszvfeabs, xszvphabs, xszwabs, xszwndabs

slang

usermodel

URL:
http://cxc.harvard.edu/ciao3.4/bbody.html
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