![Chandra X-ray Center logo]

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

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Synopsis

Decay in the ACIS quantum efficiency. XSpec model.

Description

Users should be aware of the following before including this model in their analysis.

- As of CIAO 3.0, the ACIS QE degradation is accounted for when response files are created. This model is no longer needed if you are using that version (or newer) of the software.
- This model is out of date since it doesn't include any spatial variation and includes an early version of the spatially–invariant model.

This model accounts for the decay in the ACIS quantum efficiency most likely caused by molecular contamination of the ACIS filters. The user needs to supply the number of days between Chandra launch and observation. The xsacisabs parameters related to the composition of the hydrocarbon and the rate of decay should be frozen and not modified. The present version of xsacisabs is to be used for the analysis of bare ACIS I and ACIS S data. For the present version of xsacisabs one must use the standard QE file vN0003 instead of the optional vN0004 file.

Because of the present large uncertainty in the ACIS gain at energies below 350eV we recommend that events in the 0–350eV range be ignored in the spectral analysis until the gain issue is resolved.

xsacisabs calculates the mass absorption coefficients of the contaminant from atomic scattering factor files.

xsacisabs Parameters

Number	Name	Description
1	Tdays	Days between Chandra launch and ACIS observation
2	norm	normalization factor
3	tauinf	Slope of linear quantum efficiency decay
4	tefold	Offset of linear quantum efficiency decay

5	nC	Number of carbon atoms in hydrocarbon
6	nH	Number of hydrogen atoms in hydrocarbon
7	nO	Number of oxygen atoms in hydrocarbon
8	nN	Number of nitrogen atoms in hydrocarbon

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, 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, xssssice, 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/xsacisabs.html
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