

V&V Summary Report

L2 ASCDS Version : 10.8.1

Observation 23098 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 10 2019

See axaff23098N002_VV001_vvref2.pdf for the full report

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2019.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.092

Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.

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Comment for FP temp violation

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The focal plane temperature during the interval 692256706.10 - 692264218.10 (MET s) of this observation was warmer than the upper limit for optimum calibration of the ACIS gain and spectral resolution (i.e., -111.0 C for ACIS-S).

The Chandra calibration team calibrates the ACIS gain and spectral resolution using data from the external calibration source (ECS). ECS data show that the frontside-illuminated (FI) CCDs are more temperature sensitive than the backside-illuminated (BI) CCDs.

A summary of the current calibration status of the ACIS gain and spectral resolution can be found at:

http://asc.harvard.edu/cal/Acis/Cal_prods/Gain_and_Spectral_Resolution/A_CIS_response_summary.html

The main points are:

- 1) The gain on BI chips remains within 0.3% (i.e., the systematic uncertainty in the ACIS gain quoted on the Chandra Calibration Status Summary web page) at all measured temperatures.
- 2) The gain on FI chips remains within 0.3% below row 600 at all measured temperatures.
- 3) The gain on FI chips above row 600 can be underestimated by as much as 1% for focal plane temperatures exceeding -116 C.
- 4) The spectral resolution (i.e., FWHM) on BI chips is insensitive to the focal plane temperature.
- 5) Warmer focal plane temperatures increase the FWHM on FI chips by up to 30 eV near row 512 and by up to 70 eV near the top of the chips.

In summary, the user should be cautious in the spectral analysis of high S/N emission lines detected on the top half of FI chips in this observation. Default processing with the current version of the CALDB will underestimate photon energies by up to 1% and broaden emission lines by up to 70 eV.

seq_num	704031	Sequence number
obs_id	23098	Observation id
title	C-BASS: A Chandra Legacy Survey of AGN at the Highest Spatial Resolutions	Proposal title
observer	Michael Koss	Principal investigator
object	[HB89]0403-132	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	61.391678	Observer's specified target RA [deg]
dec_targ	-13.137132	Observer's specified target Dec [deg]
ra_nom	61.39609736658	Nominal RA [deg]
dec_nom	-13.134364502669	Nominal Dec [deg]
roll_nom	339.18125879449	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10092.0	Sum of GTIs [s]
livetime	9955.8045931655	Livetime [s]
ontime7	10092.0	Sum of GTIs [s]
l2events	44260	Number of level 2 events

