

V&V Summary Report

L2 ASCDS Version : 10.7.1

Observation 22203 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : May 5 2019

See axaff22203N001_VV001_vvref2.pdf for the full report

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2019.05.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.07407467258

Comments

Optional chip S2 not included.

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The focal plane temperature during part of this observation was warmer than the upper limit for optimum calibration of the ACIS gain and spectral resolution (i.e., -114.0 C for ACIS-I and -112.0 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	801796	Sequence number
obs_id	22203	Observation id
title	Clusters in Formation - The Case of 3C61.1 and A Luminous AGN in a Merging Cluster	Proposal title
observer	Ralph Kraft	Principal investigator
object	X-CLASS 1835 (3C61.1)	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	35.75	Observer's specified target RA [deg]
dec_targ	86.341667	Observer's specified target Dec [deg]
ra_nom	36.220650090751	Nominal RA [deg]
dec_nom	86.333721101214	Nominal Dec [deg]
roll_nom	3.7390261135068	Nominal Roll [deg]
revision	1	Processing version of data
ontime	15074.07467258	Sum of GTIs [s]
livetime	14877.12078961	Livetime [s]
ontime0	15077.092523098	Sum of GTIs [s]
ontime1	15077.133563042	Sum of GTIs [s]
ontime2	15077.174603105	Sum of GTIs [s]
ontime3	15074.07467258	Sum of GTIs [s]
l2events	42906	Number of level 2 events

