

V&V Summary Report

L2 ASCDS Version : 10.7.1

Observation 21679 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Jun 8 2019

See [axaff21679N001_VV001_vvref2.pdf](#) for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.06.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	37.578128791809

Comments

Two optional chips were dropped.

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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	201258	Sequence number
obs_id	21679	Observation id
title	Linking the G352 Giant Molecular Filament to the Giant HII Region NGC 6334	Proposal title
observer	Gordon Garmire	Principal investigator
object	G351.744+0.594	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	260.503333	Observer's specified target RA [deg]
dec_targ	-35.543611	Observer's specified target Dec [deg]
ra_nom	260.50839920293	Nominal RA [deg]
dec_nom	-35.538857435861	Nominal Dec [deg]
roll_nom	20.159424336449	Nominal Roll [deg]
revision	1	Processing version of data
ontime	37578.128791809	Sum of GTIs [s]
livetime	37087.142874528	Livetime [s]
ontime0	37581.146742225	Sum of GTIs [s]
ontime1	37578.046791911	Sum of GTIs [s]
ontime2	37578.08779192	Sum of GTIs [s]
ontime3	37578.128791809	Sum of GTIs [s]
l2events	112937	Number of level 2 events

