

# V&V Summary Report

## L2 ASCDS Version : 10.6

Observation 19705 - L2 Version 2  
Chandra X-Ray Center

L2 Processing Date : Oct 16 2017

See axaff19705N002\_VV002\_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.03.07
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	40.05510030818

## Comments

The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.

==

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](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.

==

Optional chip S2 not included.

seq_num	201145	Sequence number
obs_id	19705	Observation id
title	Linking the G352 Giant Molecular Filament to NGC 6357	Proposal tit
observer	Gordon Garmire	Principal investigator
object	G352.841+0.720	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	261.13375	Observer's specified target RA [deg]
dec_targ	-34.567611	Observer's specified target Dec [deg]
ra_nom	261.13699935393	Nominal RA [deg]
dec_nom	-34.576111940452	Nominal Dec [deg]
roll_nom	260.56658813533	Nominal Roll [deg]
revision	2	Processing version of data
ontime	40055.10030818	Sum of GTIs [s]
livetime	39531.750934518	Livetime [s]
ontime0	40055.10030818	Sum of GTIs [s]
ontime1	40051.959247947	Sum of GTIs [s]
ontime2	40051.959387422	Sum of GTIs [s]
ontime3	40055.10030818	Sum of GTIs [s]
ontime7	40055.10030818	Sum of GTIs [s]
l2events	217741	Number of level 2 events

