

V&V Summary Report

L2 ASCDS Version : 10.7.1

Observation 20604 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Apr 30 2019

See axaff20604N001_VV001_vvref2.pdf for the full report

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2019.04.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0716000391245

Comments

Monitor constraint met. Optional chips S1, I2, and I3 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	703605	Sequence number
obs_id	20604	Observation id
title	Exploratory X-ray Monitoring of z>4 Radio-Quiet Quasars	Proposal t
observer	Ohad Shemmer	Principal investigator
object	PSS 1326+0743	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	201.549167	Observer's specified target RA [deg]
dec_targ	7.732639	Observer's specified target Dec [deg]
ra_nom	201.55057895592	Nominal RA [deg]
dec_nom	7.7304019300154	Nominal Dec [deg]
roll_nom	211.15630729995	Nominal Roll [deg]
revision	1	Processing version of data
ontime	5071.6000391245	Sum of GTIs [s]
liveltime	5005.3358509557	Livetime [s]
ontime6	5071.6000391245	Sum of GTIs [s]
ontime7	5071.6000391245	Sum of GTIs [s]
ontime8	5071.6000391245	Sum of GTIs [s]
l2events	29645	Number of level 2 events

