V&V Summary Report
L2 ASCDS Version : 10.8

Observation 22654 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Sep 21 2019

See axaff22654N001_VV002_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.04.02
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	38.988618219376

Comments

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One optional chip was 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., -112.0 C for ACIS-I).
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.
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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	801883	Sequence number
obs_id	22654	Observation id
title	Observing the Rarest Clusters at z>1 with Chandra	Proposal title
observer	Michael McDonald	Principal investigator
object	SPT-CLJ2317-3239	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	349.455	Observer's specified target RA [deg]
dec_targ	-32.6656	Observer's specified target Dec [deg]
ra_nom	349.48297184017	Nominal RA [deg]
dec_nom	-32.696034777697	Nominal Dec [deg]
roll_nom	341.22379762861	Nominal Roll [deg]
revision	1	Processing version of data
ontime	38988.618219376	Sum of GTIs [s]
livetime	38479.203219336	Livetime [s]
ontime0	38994.900300026	Sum of GTIs [s]
ontime1	38991.759229779	Sum of GTIs [s]
ontime2	38985.477049232	Sum of GTIs [s]
ontime3	38988.618219376	Sum of GTIs [s]
l2events	112493	Number of level 2 events