V&V Summary Report
L2 ASCDS Version : 10.12.2

Observation 28229 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Apr 4 2024

See axaff28229N001_VV001_vvref2.pdf for the full report

V&V Scientist	Rydia Hayes-Huer
V&V Date (YYYY-MM-DD)	2024.04.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.093951576352

Comments

The focal plane temperature during the interval 828603202.25 - 828614342.25 (MET s) of this observation was warmer than the upper limit for optimum calibration of the ACIS gain and spectral resolution (i.e., -111.0 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/ACIS_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	705038	Sequence number
obs_id	28229	Observation id
title	Spacetime & Spectra: Joint Chandra/JWST/EHT Observations of Sgr A*	
observer	Daryl Haggard	Principal investigator
object	Sgr A*	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.416833	[deg] Observer's specified target RA
dec_targ	-29.007825	[deg] Observer's specified target Dec
ra_nom	266.41821353913	[deg] Nominal RA
dec_nom	-29.011519493741	[deg] Nominal Dec
roll_nom	88.141464485706	[deg] Nominal Roll
revision	1	Processing version of data
ontime	25093.951576352	[s] Sum of GTIs
livetime	23190.477207186	[s] Livetime
ontime6	25093.910536408	[s] Sum of GTIs
ontime7	25093.951576352	[s] Sum of GTIs
l2events	26698	Number of level 2 events