V&V Summary Report
L2 ASCDS Version : 10.7.1

Observation 22209 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : May 4 2019

See axaff22209N001_VV001_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.05.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.382

Comments

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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
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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	703889	Sequence number
obs_id	22209	Observation id
title	Chandra-NuSTAR synergy in the NuSTAR serendipitous survey	Proposal
observer	Dr David Alexander	Principal investigator
object	Cen_X4_s2	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	224.600525	Observer's specified target RA [deg]
dec_targ	-31.725735	Observer's specified target Dec [deg]
ra_nom	224.60237405155	Nominal RA [deg]
dec_nom	-31.722005635596	Nominal Dec [deg]
roll_nom	5.1576103635887	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20382.0	Sum of GTIs [s]
livetime	20106.937100466	Livetime [s]
ontime7	20382.0	Sum of GTIs [s]
l2events	84537	Number of level 2 events