V&V Summary Report
L2 ASCDS Version : 10.7.1

Observation 22244 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Jun 4 2019

See axaff22244N001_VV001_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.06.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.128486023784

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., -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
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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	502999	Sequence number
obs_id	22244	Observation id
title	The Answer is Blowing in the Wind: Jet Sweepback in Three PWNe	Pro
observer	Roger Romani	Principal investigator
object	PSR J1709-4429	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	257.427724	Observer's specified target RA [deg]
dec_targ	-44.485585	Observer's specified target Dec [deg]
ra_nom	257.3550644427	Nominal RA [deg]
dec_nom	-44.486513509232	Nominal Dec [deg]
roll_nom	5.1577209633629	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30128.486023784	Sum of GTIs [s]
livetime	29734.835173614	Livetime [s]
ontime1	30128.444983721	Sum of GTIs [s]
ontime2	30128.486023784	Sum of GTIs [s]
ontime3	30128.527063727	Sum of GTIs [s]
l2events	80307	Number of level 2 events