V&V Summary Report
L2 ASCDS Version : 10.7.1

Observation 21286 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Jan 20 2019

See axaff21286N001_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2019.01.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.5512837810516

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.
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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	503059	Sequence number
obs_id	21286	Observation id
title	Where Have All the Central Compact Objects Gone?	Proposal title
observer	Eric Gotthelf	Principal investigator
object	PSR J0944-1354	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	146.120417	Observer's specified target RA [deg]
dec_targ	-13.911556	Observer's specified target Dec [deg]
ra_nom	146.11958001447	Nominal RA [deg]
dec_nom	-13.908071259678	Nominal Dec [deg]
roll_nom	35.763171828078	Nominal Roll [deg]
revision	1	Processing version of data
ontime	3551.2837810516	Sum of GTIs [s]
livetime	3504.8836440351	Livetime [s]
ontime2	3551.1196210384	Sum of GTIs [s]
ontime3	3551.201701045	Sum of GTIs [s]
ontime6	3551.2427411079	Sum of GTIs [s]
ontime7	3551.2837810516	Sum of GTIs [s]
ontime8	3551.1606611013	Sum of GTIs [s]
l2events	25843	Number of level 2 events