V&V Summary Report
L2 ASCDS Version : 10.7.1

Observation 21634 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Mar 29 2019

See axaff21634N001_VV001_vvref2.pdf for the full report

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2019.03.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0709770382643

Comments

```
Window constraint met.
===========
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 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	402105	Sequence number
obs_id	21634	Observation id
title	Periodic self-lensing from accreting supermassive black hole binaries	Proposal title
observer	Daniel D'Orazio	Principal investigator
object	SDSS_J135225.80+132853.2	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	208.1075	Observer's specified target RA [deg]
dec_targ	13.481472	Observer's specified target Dec [deg]
ra_nom	208.10470887665	Nominal RA [deg]
dec_nom	13.480588235889	Nominal Dec [deg]
roll_nom	116.65729027048	Nominal Roll [deg]
revision	1	Processing version of data
ontime	5070.9770382643	Sum of GTIs [s]
livetime	5004.7209900604	Livetime [s]
ontime6	5070.9359983206	Sum of GTIs [s]
ontime7	5070.9770382643	Sum of GTIs [s]
ontime8	5070.8949582577	Sum of GTIs [s]
l2events	28694	Number of level 2 events