V&V Summary Report
L2 ASCDS Version : 10.7.1

Observation 21517 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Jan 23 2019

See axaff21517N001_VV001_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.01.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.53877240932

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	703810	Sequence number
obs_id	21517	Observation id
title	X-ray Properties of Extreme Super Eddington Accreting Massive Black Holes	Proposal title
observer	Michael Brotherton	Principal investigator
object	SDSS J101000.68+300321.5	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	152.502917	Observer's specified target RA [deg]
dec_targ	30.055972	Observer's specified target Dec [deg]
ra_nom	152.49797023926	Nominal RA [deg]
dec_nom	30.058226071736	Nominal Dec [deg]
roll_nom	97.159159939579	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10538.77240932	Sum of GTIs [s]
livetime	9864.070019955	Livetime [s]
ontime6	10538.731369376	Sum of GTIs [s]
ontime7	10538.77240932	Sum of GTIs [s]
ontime8	10538.690329313	Sum of GTIs [s]
l2events	9033	Number of level 2 events