V&V Summary Report
L2 ASCDS Version : 10.6.4.1

Observation 20589 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Sep 26 2018

See axaff20589N001_VV001_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.09.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	63.326718516588

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	801785	Sequence number
obs_id	20589	Observation id
title	Witnessing the formation of a radio halo	Proposal title
observer	Rebecca Canning	Principal investigator
object	Abell 2219	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	250.089167	Observer's specified target RA [deg]
dec_targ	46.705833	Observer's specified target Dec [deg]
ra_nom	250.09951996022	Nominal RA [deg]
dec_nom	46.698826867818	Nominal Dec [deg]
roll_nom	288.20115894615	Nominal Roll [deg]
revision	1	Processing version of data
ontime	63326.718516588	Sum of GTIs [s]
livetime	62499.308318717	Livetime [s]
ontime0	63326.718456745	Sum of GTIs [s]
ontime1	63320.436586618	Sum of GTIs [s]
ontime2	63333.000487208	Sum of GTIs [s]
ontime3	63326.718516588	Sum of GTIs [s]
ontime7	63333.000487208	Sum of GTIs [s]
l2events	508429	Number of level 2 events