V&V Summary Report
L2 ASCDS Version : 10.7

Observation 20785 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Nov 23 2018

See axaff20785N001_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.11.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.295196360826

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	801798	Sequence number
obs_id	20785	Observation id
title	Witnessing the formation of a radio halo	Proposal title
observer	Ralph Kraft	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	250.10166868668	Nominal RA [deg]
dec_nom	46.708243930487	Nominal Dec [deg]
roll_nom	348.19956117083	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25295.196360826	Sum of GTIs [s]
livetime	24964.69599832	Livetime [s]
ontime0	25282.509239197	Sum of GTIs [s]
ontime1	25291.973280787	Sum of GTIs [s]
ontime2	25285.732329845	Sum of GTIs [s]
ontime3	25295.196360826	Sum of GTIs [s]
ontime7	25295.23740077	Sum of GTIs [s]
l2events	203876	Number of level 2 events