V&V Summary Report
L2 ASCDS Version : 10.6.4.1

Observation 20566 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Oct 6 2018

See axaff20566N001_VV001_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.10.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.456482453942

Comments

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Joint proposal with HST.
One optional chip was dropped.
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
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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	801765	Sequence number
obs_id	20566	Observation id
title	The Chandra Strong Lens Sample: Revealing Baryonic Physics In Strong Lensing Selected Clusters	Proposal title
observer	Matthew Bayliss	Principal investigator
object	SDSSJ1002+2031	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	150.6125	Observer's specified target RA [deg]
dec_targ	20.5175	Observer's specified target Dec [deg]
ra_nom	150.63764659863	Nominal RA [deg]
dec_nom	20.569636746592	Nominal Dec [deg]
roll_nom	62.156249972835	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20456.482453942	Sum of GTIs [s]
livetime	20189.203450838	Livetime [s]
ontime0	20453.218363643	Sum of GTIs [s]
ontime1	20456.400373936	Sum of GTIs [s]
ontime2	20453.300443649	Sum of GTIs [s]
ontime3	20456.482453942	Sum of GTIs [s]
ontime7	20456.523493886	Sum of GTIs [s]
l2events	142731	Number of level 2 events