V&V Summary Report
L2 ASCDS Version : 8.4.5

Observation 1787 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Aug 29 2012

See axaff01787N003_VV002_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.03.05
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	7.692

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	590213	Sequence number
obs_id	1787	Observation id
title	ACIS CHIP RESPONSE TO LINES WITH E=0.6-1.5 KEV	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	E0102-72.3 [Chip I1, T=110, Offsets=-4,-1,0]	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	16.01	Observer's specified target RA [deg]
dec_targ	-72.032028	Observer's specified target Dec [deg]
ra_nom	15.890377400349	Nominal RA [deg]
dec_nom	-71.966273308188	Nominal Dec [deg]
roll_nom	100.28396043459	Nominal Roll [deg]
revision	5	Processing version of data
ontime	7689.6000071466	Sum of GTIs [s]
livetime	7592.2296617349	Livetime [s]
ontime0	7686.359046936	Sum of GTIs [s]
ontime1	7689.6000071466	Sum of GTIs [s]
ontime2	7689.6000071466	Sum of GTIs [s]
ontime3	7689.6000071466	Sum of GTIs [s]
ontime6	7689.6000071466	Sum of GTIs [s]
ontime7	7689.6000071466	Sum of GTIs [s]
l2events	74854	Number of level 2 events