

V&V Summary Report

L2 ASCDS Version : 10.5.2

Observation 18978 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 27 2017

See axaff18978N002_VV002_vvref2.pdf for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.03.07
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	4.7890087037086

Comments

The fid light in slot 0 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.

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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 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	401846	Sequence number
obs_id	18978	Observation id
title	The Nature of INTEGRAL Sources in the Galactic Plane	Proposal titl
observer	John Tomsick	Principal investigator
object	IGR J20413+3210	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	310.384167	Observer's specified target RA [deg]
dec_targ	32.219	Observer's specified target Dec [deg]
ra_nom	310.38894672408	Nominal RA [deg]
dec_nom	32.226495840115	Nominal Dec [deg]
roll_nom	36.668413037712	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4789.0087037086	Sum of GTIs [s]
livetime	4728.3673919074	Livetime [s]
ontime0	4788.8855837584	Sum of GTIs [s]
ontime1	4788.926623702	Sum of GTIs [s]
ontime2	4788.967663765	Sum of GTIs [s]
ontime3	4789.0087037086	Sum of GTIs [s]
ontime6	4789.0907837152	Sum of GTIs [s]
ontime7	4789.0497437716	Sum of GTIs [s]
l2events	33332	Number of level 2 events

