V&V Summary Report
L2 ASCDS Version : 10.6

Observation 18981 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Aug 28 2017

See axaff18981N002_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	5.0592000390291

Comments

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One optional chip was dropped.
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The guide star in slot 7 was removed from the aspect solution due to
poor data quality. The aspect solution is improved by the removal of
this star 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:
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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	401849	Sequence number
obs_id	18981	Observation id
title	The Nature of INTEGRAL Sources in the Galactic Plane	Proposal titl
observer	John Tomsick	Principal investigator
object	IGR J18007-4146	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	270.177917	Observer's specified target RA [deg]
dec_targ	-41.780278	Observer's specified target Dec [deg]
ra_nom	270.18357760652	Nominal RA [deg]
dec_nom	-41.787920911286	Nominal Dec [deg]
roll_nom	270.21260922981	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5059.2000390291	Sum of GTIs [s]
livetime	4993.0978659903	Livetime [s]
ontime0	5059.2000390291	Sum of GTIs [s]
ontime1	5059.2000390291	Sum of GTIs [s]
ontime2	5059.2000390291	Sum of GTIs [s]
ontime3	5059.2000390291	Sum of GTIs [s]
ontime7	5059.2000390291	Sum of GTIs [s]
l2events	31183	Number of level 2 events