

V&V Summary Report

L2 ASCDS Version : 10.7

Observation 20361 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Nov 13 2018

See [axaff20361N001_VV001_vvref2.pdf](#) for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.11.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	37.528303859115

Comments

The focal plane temperature during the first appr. 8 ks 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/Acis_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	901404	Sequence number
obs_id	20361	Observation id
title	Deep Pilot X-ray Observations of the JWST-NEP Time Domain Field	Pr
observer	Walter Maksym	Principal investigator
object	JWST-DTDF-4	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	260.725	Observer's specified target RA [deg]
dec_targ	65.808333	Observer's specified target Dec [deg]
ra_nom	260.74788851155	Nominal RA [deg]
dec_nom	65.807758723185	Nominal Dec [deg]
roll_nom	329.18781886033	Nominal Roll [deg]
revision	1	Processing version of data
ontime	37528.303859115	Sum of GTIs [s]
livetime	37053.097878819	Livetime [s]
ontime0	37528.180739164	Sum of GTIs [s]
ontime1	37528.221779108	Sum of GTIs [s]
ontime2	37528.262819171	Sum of GTIs [s]
ontime3	37528.303859115	Sum of GTIs [s]
ontime6	37528.385939121	Sum of GTIs [s]
ontime7	37528.344899178	Sum of GTIs [s]
l2events	277279	Number of level 2 events

