

# V&V Summary Report

## L2 ASCDS Version : 10.8

Observation 21304 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Sep 18 2019

See [axaff21304N001\\_VV001\\_vvref2.pdf](#) for the full report

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2019.09.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	42.587163010836

## Comments

Comments for Obi 0

Comment for FP temp violation  
The focal plane temperature during the interval 685081987.59 - 685085687.99 (METs) of this observation was warmer than the upper limit for optimum calibration of the ACIS gain and spectral resolution (i.e., -111.0 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](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.n 3) The gain on FI chips above row 600 can be underestimated by as much as 1% for focal plane temperatures exceeding -116 C.n 4) The spectral resolution (i.e., FWHM) on BI chips is insensitive to the focal plane temperature.n 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.nn 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.n  
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Fid in slot 1 has an RMS deviation > 0.050000 arcsec  
ASPECT review: acceptable.  
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seq_num	503077	Sequence number
obs_id	21304	Observation id
title	CHANDRA CYCLE 20 SPATIAL AND SPECTRAL MONITORING OF SN1987A	Propos
observer	David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.844556615236	Nominal RA [deg]
dec_nom	-69.270684147917	Nominal Dec [deg]
roll_nom	94.135951219592	Nominal Roll [deg]
revision	1	Processing version of data
ontime	42587.163010836	Sum of GTIs [s]
livetime	41055.422519736	Livetime [s]
ontime4	42587.204050779	Sum of GTIs [s]
ontime5	42587.121970773	Sum of GTIs [s]
ontime6	42587.080930829	Sum of GTIs [s]
ontime7	42587.163010836	Sum of GTIs [s]
ontime8	42587.039890766	Sum of GTIs [s]
ontime9	42586.998850822	Sum of GTIs [s]
l2events	144446	Number of level 2 events

