

V&V Summary Report

L2 ASCDS Version : 10.7.1

Observation 20774 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Mar 19 2019

See [axaff20774N001_VV001_vvref2.pdf](#) for the full report

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.03.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.044300115824

Comments

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/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	703639	Sequence number
obs_id	20774	Observation id
title	A Chandra Survey of Nearby Optical AGN Candidates in Dwarf Galaxies	
observer	Ralph Kraft	Principal investigator
object	Mrk 1488	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	210.317083	Observer's specified target RA [deg]
dec_targ	51.873	Observer's specified target Dec [deg]
ra_nom	210.31278553725	Nominal RA [deg]
dec_nom	51.870780575173	Nominal Dec [deg]
roll_nom	150.73001162266	Nominal Roll [deg]
revision	1	Processing version of data
ontime	15044.300115824	Sum of GTIs [s]
livetime	14847.735259358	Livetime [s]
ontime2	15044.300115824	Sum of GTIs [s]
ontime3	15041.159035563	Sum of GTIs [s]
ontime6	15041.159045696	Sum of GTIs [s]
ontime7	15044.300115824	Sum of GTIs [s]
ontime8	15044.300115824	Sum of GTIs [s]
l2events	107869	Number of level 2 events

