

V&V Summary Report

L2 ASCDS Version : 8.4.3

Observation 12463 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 4 2012

See [axaff12463N002_VV001_vvref2.pdf](#) for the full report

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.02.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.373998249173

Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSE algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.

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The livetime for each chip is about 10 ks instead of 30 ks for each chip because the use of a 0.4 s frame time for the selection of chips and rows used during the observation is shorter than the time it takes to read out one frame of data. The formula in section 6.12.1 of the POG: http://asc.harvard.edu/proposer/POG/html/chap6.html#tth_sEc6.12.1

indicates that the frame time must be at least 0.7 s to avoid 'flushing' the detector before each frame of data is collected. The time required to flush the detector is specified on p. 120 of the ACIS Science Instrument Software User's Guide: <http://acis.mit.edu/swuserA/swuser.pdf> Events that occur during such a flush are discarded onboard. The flush time is effectively 'dead time.' For this reason, most of the 30 ks of the observation was spent flushing the detectors instead of collecting data. Had the frame time been 0.7 s or longer, there would have been about 30 ks of exposure instead of only about 10 ks.

seq_num	401204	Sequence number
obs_id	12463	Observation id
title	X-ray observations of a nearby, old Rotating Radio Transient	Propo
observer	Prof. Maura McLaughlin	Principal investigator
object	J1840-14	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	280.137333	Observer's specified target RA [deg]
dec_targ	-14.318056	Observer's specified target Dec [deg]
ra_nom	280.13491707429	Nominal RA [deg]
dec_nom	-14.313832156046	Nominal Dec [deg]
roll_nom	87.246479609863	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29373.998249173	Sum of GTIs [s]
livetime	10083.069562397	Livetime [s]
ontime4	29373.998249173	Sum of GTIs [s]
ontime5	29373.998249173	Sum of GTIs [s]
ontime6	29373.998249173	Sum of GTIs [s]
ontime7	29373.998249173	Sum of GTIs [s]
ontime8	29373.998249173	Sum of GTIs [s]
ontime9	29373.998249173	Sum of GTIs [s]
l2events	21879	Number of level 2 events

