V&V Summary Report
L2 ASCDS Version : 8.4.5

Observation 2741 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Oct 1 2012

See axaff02741N002_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.486

Comments

Zeroth order piled up and cratered. Standard data processing software
did not correctly locate the zeroth order due to pileup. Manual
intervention was used to input the correct sky coordinates (x=4167.74,
y=4093.41) into the *src1a.fits file table. These corrected coordinates
were determined using a software tool developed by CXC called findzero,
which is expected to be released in CIAO as tg_findzo (currently in ISIS
as findzo). The tool calculates the point of intersection of the readout
streak and the meg arm. The zeroth order source position determined by
the standard pipeline processing using the tool tgdetect was not used in
this processing. The newly determined zeroth order coordinates have been
placed in the *src1a.fits file, replacing the coordinates determined by
tgdetect. Note that these corrected coordinates of the zeroth order
cannot be reproduced by running tgdetect on the data.
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The charge time is based on CCD_ID=4 (S0), which had the fewest dropped
frames. Other chips have dropped frames due to telemetry saturation by
the zeroth order (no mitigating zero order sample-cycle or exclusion
region was requested) and dispersed spectra. Their effective exposures
range from 1.45-4.09 ks.
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For analysis of orders 3 and above, the data should be re-extracted

using custom order-sorting boundaries (osort_lo, osort_hi in tg_resolve_events) to bypass the ccd response. For high orders, residual calibration uncertainties in the response are magnified, and MEG 3rd orders are clipped in PHA-space somewhat near the ends of the spectrum.

seq_num	400221	Sequence number
obs_id	2741	Observation id
title	PHASE RESOLVED HIGH ENERGY RESOLUTION SPECTROSCOPY OF THE BLACK HOLE X-RAY BAINARY CYGNUS X-1	Proposal title
observer	Dr. Shu Zhang	Principal investigator
object	CYG X-1	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.590417	Observer's specified target RA [deg]
dec_targ	35.201611	Observer's specified target Dec [deg]
ra_nom	299.60224098141	Nominal RA [deg]
dec_nom	35.202019215554	Nominal Dec [deg]
roll_nom	12.940152018754	Nominal Roll [deg]
revision	4	Processing version of data
ontime	1932.0680001378	Sum of GTIs [s]
livetime	1886.5250656127	Livetime [s]
ontime4	4484.4839387238	Sum of GTIs [s]
ontime5	4091.0203697681	Sum of GTIs [s]
ontime6	1451.6235905737	Sum of GTIs [s]
ontime7	1932.0680001378	Sum of GTIs [s]
ontime8	1852.1029318124	Sum of GTIs [s]
ontime9	4033.565362528	Sum of GTIs [s]
l2events	1615231	Number of level 2 events