V&V Summary Report
L2 ASCDS Version : 8.4.4

Observation 7587 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : May 1 2012

See axaff07587N005_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	46.17

Comments

Extended source: the wavelength solution is pertinent only to the crab
pulsar position. For extended sources, there is no unique mapping from
position to wavelength.
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Source is severely piled up with extended emission. Standard software
processing technique using the tool tgdetect could not locate the zeroth
order. For this processing, coordinates for the zeroth order have been
determined using a software tool developed by CXC called findzero, which
is expected to be released in CIAO (currently in ISIS). The tool
calculates the point of intersection of the readout streak and the meg
arm (preferred position), or the readout streak and the heg arm. The
newly determined zeroth order coordinates (x=4084.21, y=4107.53) were
manually entered as user parameters for the tool tg_create_mask.
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This observation was executed with an 1/20 sampling for CCD S-3. The
result can be seen in the low count rate for the hard energies in the
plus orders for both meg and heg. Telemetry saturation reduced the
ontime for CCD chips 6, 7, and 8. There will be dropped exposures for
these chips.
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The charge time is based on CCD_ID=5 (S1), which had few dropped frames

and does reflect the requested exposure. Other chips have dropped frames due to telemetry saturation, and their effective exposures range from 12.6-46.2ks.
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WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.

seq_num	500719	Sequence number
obs_id	7587	Observation id
title	HETG Spectroscopy of the Crab Pulsar and the Interstellar Medium	P
observer	Prof Claude Canizares	Principal investigator
object	Crab Pulsar	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.632917	Observer's specified target RA [deg]
dec_targ	22.014472	Observer's specified target Dec [deg]
ra_nom	83.631273482677	Nominal RA [deg]
dec_nom	22.013045741399	Nominal Dec [deg]
roll_nom	273.81053493403	Nominal Roll [deg]
revision	5	Processing version of data
ontime	12606.870547891	Sum of GTIs [s]
livetime	12309.699910062	Livetime [s]
ontime4	46177.017645895	Sum of GTIs [s]
ontime5	46180.499676228	Sum of GTIs [s]
ontime6	22584.763803899	Sum of GTIs [s]
ontime7	12606.870547891	Sum of GTIs [s]
ontime8	36619.208964467	Sum of GTIs [s]
ontime9	46171.794525743	Sum of GTIs [s]
l2events	15501698	Number of level 2 events