

V&V Summary Report

L2 ASCDS Version : 10.7

Observation 21954 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Nov 13 2018

See axaff21954N001_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.11.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.023700177193

Comments

Standard software processing technique using the tools `tgdetect` and `findzo` could not locate a target near the aim point, because the aimpoint was placed between 2 stars of interest. The star HL Tau was chosen as the source for the spectral extraction in this processing of the data. The zeroth order position was specified manually as the brightest X-ray emission in the source. The investigator will want to verify that the zeroth order position is at the desired position for extraction of the spectrum. The nearby star XZ Tau can also be the source for a spectral extraction using `TGCat` or `CIAO` tools.

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The ACA has the capability to devote one or more of the eight image slots to "monitor" particular sky locations. This allows simultaneous optical photometry of one or more targets in the ACA field of view. These optical sources can be slightly fainter than the ACA guide star limit of $m_{ACA} = 10.2$ mag. The bright-end limit for monitor star photometry is $m_{ACA} = 6.2$ mag. However, since there are a fixed number of image slots, devoting a slot to photometry instead of tracking a guide star results in a degradation of the image reconstruction and celestial location accuracy (Section 5.4). Using one monitor slot represents a 15 - 25% increase in the aspect image reconstruction RMS diameter, depending on the particular guide star configuration. Two monitor slots

would increase the diameter by about 50 - 60%, but this configuration is not operationally allowed under normal circumstances. The photometric accuracy which can be achieved depends primarily on the star magnitude, integration time, CCD dark current, CCD read noise, sky background, and the CCD dark current uncertainty.

seq_num	201178	Sequence number
obs_id	21954	Observation id
title	An (X-ray Gratings) Tale of Two Young Stellar Objects	Proposal tit
observer	David Principe	Principal investigator
object	XZ Tau and HL Tau	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	67.91375	Observer's specified target RA [deg]
dec_targ	18.232028	Observer's specified target Dec [deg]
ra_nom	67.910008005395	Nominal RA [deg]
dec_nom	18.234345848152	Nominal Dec [deg]
roll_nom	88.157769584875	Nominal Roll [deg]
revision	1	Processing version of data
ontime	23023.700177193	Sum of GTIs [s]
livetime	22722.878584576	Livetime [s]
ontime5	23023.700177193	Sum of GTIs [s]
ontime6	23014.277046561	Sum of GTIs [s]
ontime7	23023.700177193	Sum of GTIs [s]
ontime8	23023.700177193	Sum of GTIs [s]
ontime9	23023.700177193	Sum of GTIs [s]
l2events	270074	Number of level 2 events

