V&V Summary Report
L2 ASCDS Version : 10.6

Observation 20984 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Mar 1 2018

See axaff20984N001_VV001_vvref2.pdf for the full report

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.03.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.934292982101

Comments

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Note: this is a calibration observation with a large dither amplitude
perpendicular to the dispersion; it will have a changing response with
time due to the spatial non-uniformity to the spatial non-uniformity of
the filter contamination.
===
Zeroth order very close to chip gap, Apparently not dithered in to chip
gap.
===
Big dither pattern used. z amplitude approximately 8 times y amplitude,
with modified frequency. See archive metadata for details.
===
Zeroth order is extended and piled up. The zeroth order sky position was
determined using a software tool developed by CXC called findzero, which
is available in CIAO as part of the tgdetect2 tool. The tool calculates
the point of intersection of the readout streak on the ACIS CCD and the
meg dispersed spectral arm, rather than using a centroid position of the
source. The findzero results are more accurate than source centroid in
this case.
===
Faint grating spectra can be seen in an image of bad events. This is
probably due to pileup in the spectrum, causing migration to bad grades.
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This should be considered in analysis.
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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.
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WARNING: Zeroth order selected by pipeline tools is well-centered in the extended source but is not at the position(s) of brightest emission. The user may want to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events.
===
Gain and CTI correction are not well calibrated on CCD_ID 5 (ACIS-S1). Default order sorting can clip some regions, particularly longward of 30A (first order). User-specified custom processing parameters may be required in tg_resolve_events (osipfile=none, osort_lo, osort_hi ~0.5) though this can allow more zeroth order background at short wavelengths.

seq_num	790318	Sequence number
obs_id	20984	Observation id
title	AO-19 Big Dither Observation of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.1336095597	Nominal RA [deg]
dec_nom	38.199617348023	Nominal Dec [deg]
roll_nom	165.14409797398	Nominal Roll [deg]
revision	1	Processing version of data
ontime	27934.292982101	Sum of GTIs [s]
livetime	26929.575019554	Livetime [s]
ontime5	27934.251942158	Sum of GTIs [s]
ontime6	27934.210902095	Sum of GTIs [s]
ontime7	27934.292982101	Sum of GTIs [s]
ontime8	27934.169862151	Sum of GTIs [s]
l2events	583963	Number of level 2 events