

V&V Summary Report

L2 ASCDS Version : 10.2.2

Observation 16427 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 12 2014

See axaff16427N002_VV001_vvref2.pdf for the full report

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| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2015.11.05 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 10.077199828327 |

Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

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Note: offset 3 arcmin from nominal aim point; psf, lsf will be degraded, grating rmfs are uncalibrated for off-axis sources.

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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.

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Zeroth order moderately 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

LEG dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.

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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. This should be considered in analysis.

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| seq_num | 790267 | Sequence number |
| obs_id | 16427 | Observation id |
| title | AO-15 Calibration Observations of Mkn421 | Proposal title |
| observer | Dr. CXC Calibration | Principal investigator |
| object | MKN421 | Source name |
| dtcycle | 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 | 166.12518535047 | Nominal RA [deg] |
| dec_nom | 38.253831950593 | Nominal Dec [deg] |
| roll_nom | 261.65505695479 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 10077.199828327 | Sum of GTIs [s] |
| livetime | 9519.108118089 | Livetime [s] |
| ontime5 | 10077.199828327 | Sum of GTIs [s] |
| ontime6 | 10077.199828327 | Sum of GTIs [s] |
| ontime7 | 10077.199828327 | Sum of GTIs [s] |
| ontime8 | 10077.199828327 | Sum of GTIs [s] |
| ontime9 | 10077.199828327 | Sum of GTIs [s] |
| l2events | 156664 | Number of level 2 events |

