

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 9741 - L2 Version 3
Chandra X-Ray Center

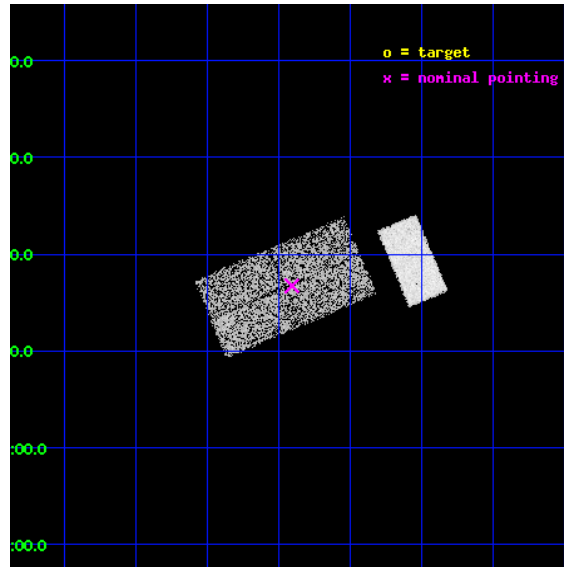
L2 Processing Date : May 7 2012

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1 Front

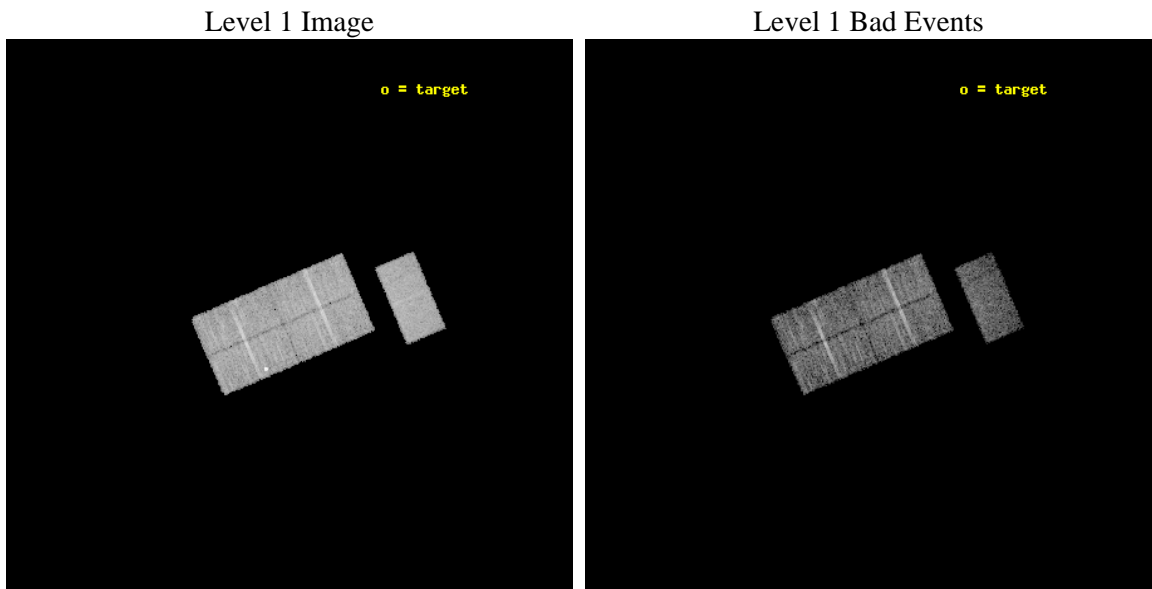
| | | |
|----------|---|---|
| seq_num | 100069 | Sequence number |
| obs_id | 9741 | Observation id |
| title | Solar wind charge exchange induced X-rays at Venus during the Messenger flyby | Proposal title |
| observer | Dr. Konrad Dennerl | Principal investigator |
| object | Venus | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 168.733292 | Observer's specified target RA [deg] |
| dec_targ | 4.922889 | Observer's specified target Dec [deg] |
| ra_nom | 170.60138068496 | Nominal RA [deg] |
| dec_nom | 4.2789621060093 | Nominal Dec [deg] |
| roll_nom | 66.899633660595 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 6789.6000449061 | Sum of GTIs [s] |
| livetime | 6638.2479907178 | Livetime [s] |
| ontime0 | 6789.6000449061 | Sum of GTIs [s] |
| ontime1 | 6789.6000449061 | Sum of GTIs [s] |
| ontime2 | 6789.6000449061 | Sum of GTIs [s] |
| ontime3 | 6789.6000449061 | Sum of GTIs [s] |
| ontime7 | 6789.6000449061 | Sum of GTIs [s] |
| l2events | 24149 | Number of level 2 events |



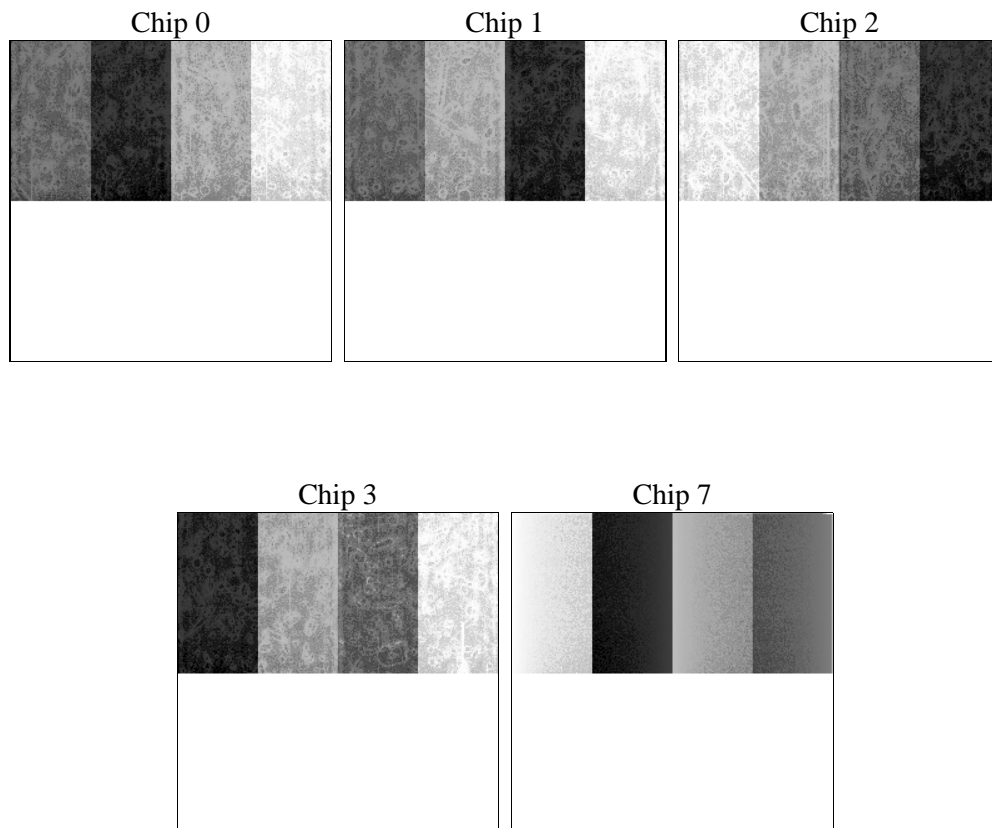
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 6600.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 6789.6000449061 | Sum of GTIs [s] |
| caldsver | 4.4.9 | | ontime0 | 6789.6000449061 | Sum of GTIs [s] |
| date | 2012-05-07T15:03:11 | Date and time of file creation | ontime1 | 6789.6000449061 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime2 | 6789.6000449061 | Sum of GTIs [s] |
| | | | ontime3 | 6789.6000449061 | Sum of GTIs [s] |
| | | | ontime7 | 6789.6000449061 | Sum of GTIs [s] |
| | | | l1events | 159493 | Number of level 1 events |

2.1.4 Events

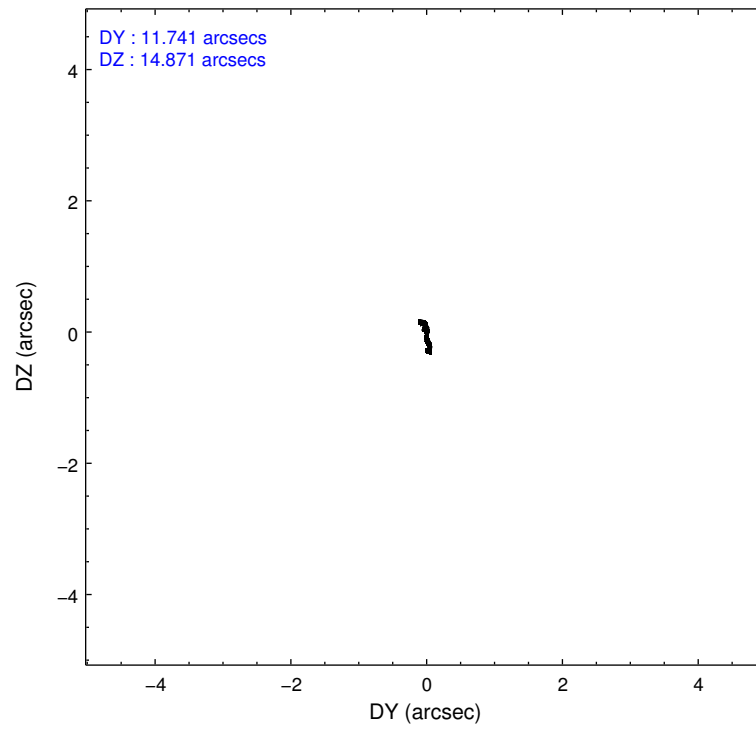
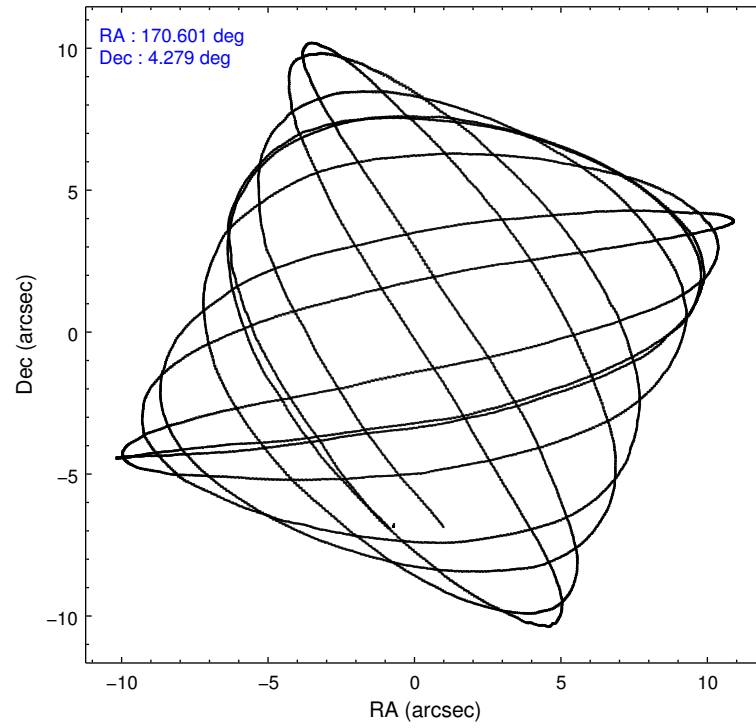
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events | 29518 | 31711 | 33405 | 30990 | 33869 |
| rejected events | 26482 | 27076 | 30477 | 28108 | 18969 |
| rejected % | 89% | 85% | 91% | 90% | 56% |

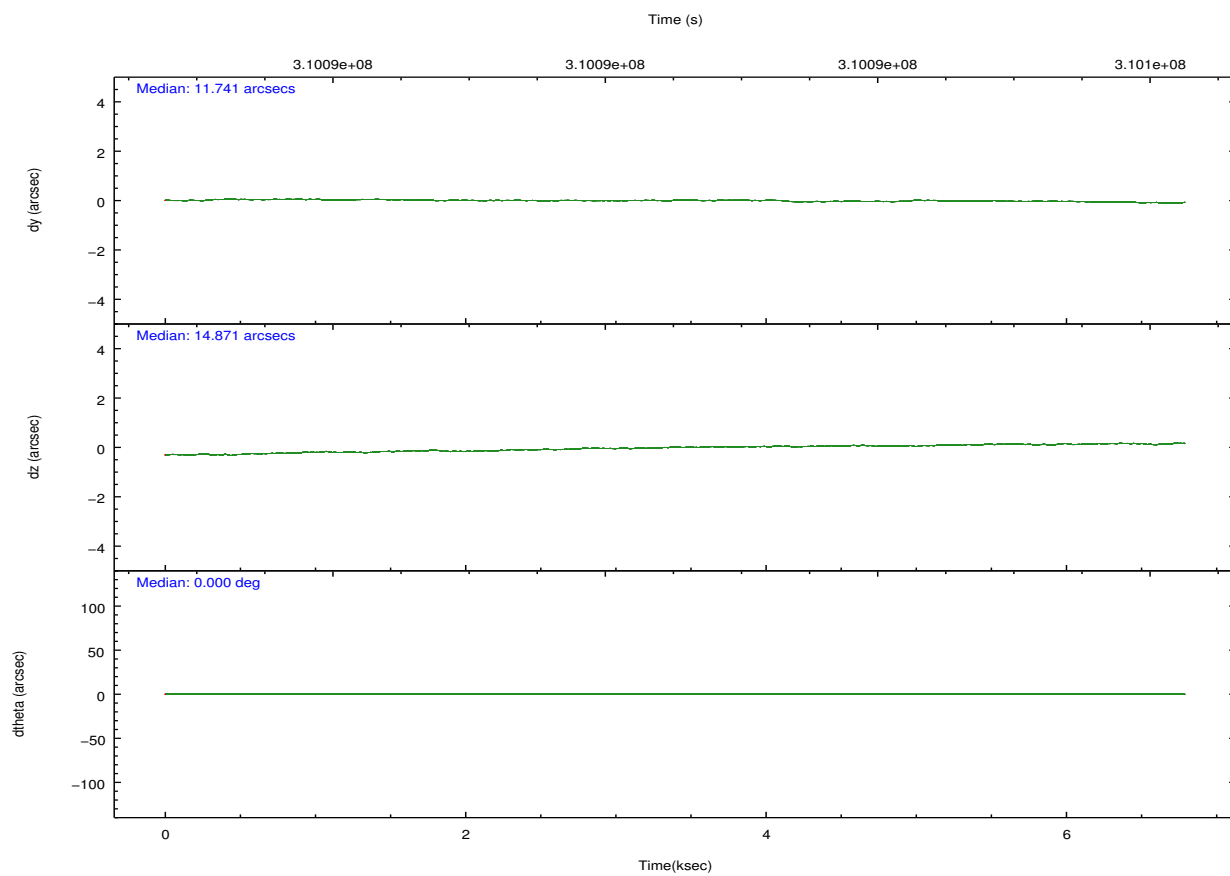
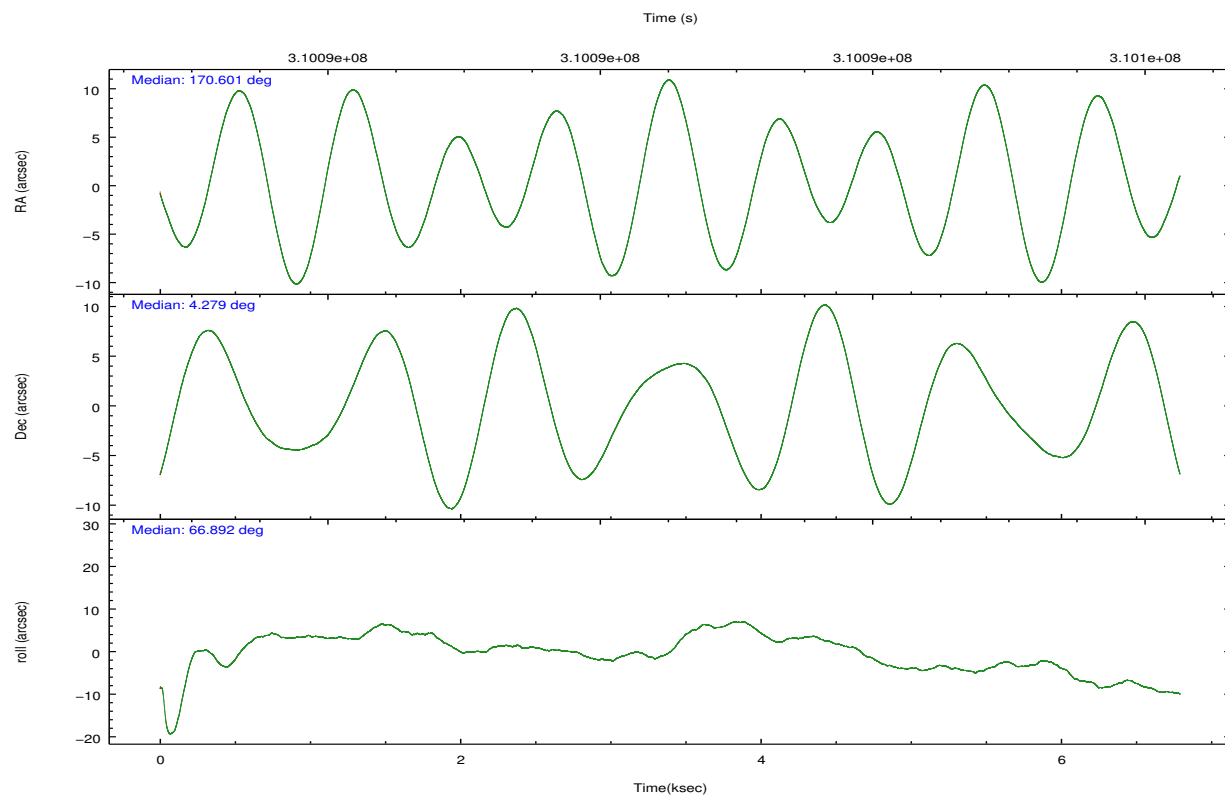
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1073 | 2647 | 1057 | 1073 | 1592 |
| | 3% | 8% | 3% | 3% | 4% |
| grade 1 events | 20 | 19 | 22 | 14 | 64 |
| | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 740 | 744 | 668 | 606 | 3277 |
| | 2% | 2% | 1% | 1% | 9% |
| grade 3 events | 405 | 418 | 404 | 370 | 1562 |
| | 1% | 1% | 1% | 1% | 4% |
| grade 4 events | 399 | 379 | 407 | 413 | 1579 |
| | 1% | 1% | 1% | 1% | 4% |
| grade 5 events | 1013 | 1224 | 1030 | 1258 | 3640 |
| | 3% | 3% | 3% | 4% | 10% |
| grade 6 events | 560 | 658 | 547 | 556 | 7578 |
| | 1% | 2% | 1% | 1% | 22% |
| grade 7 events | 25308 | 25622 | 29270 | 26700 | 14577 |
| | 85% | 80% | 87% | 86% | 43% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-01237 | ACIS-01237 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | VFAINT | VFAINT | CCD I0 on | Y | Y |
| Observation mode | POINTING | POINTING | CCD I1 on | Y | Y |
| [deg] Pointing RA | 170.604844 | 170.6013806849645 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | 4.251596 | 4.278962106009284 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 66.690692 | 66.89963366059482 | CCD S0 on | N | N |
| [s] Window start time (MET) | 309398465.184000 | 309398465.184000 | CCD S1 on | N | N |
| [s] Window stop time (MET) | 310608065.184000 | 310608065.184000 | CCD S2 on | O1 | N |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | CCD S3 on | O2 | Y |
| [mm] SIM defocus | 0 | 0.001439871863259334 | CCD S4 on | N | N |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 | CCD S5 on | N | N |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 | Number of optional ACIS chips dropped | 1 | 1 |
| [s] Observation start time (MET) | 310089309.184000 | 310088933.11483 | On-chip summing requested | N | N |
| Observation start date | 2007-10-29T23:54:04 | 2007-10-29T23:48:53 | Subarray requested | CUSTOM | 1/2 |
| [s] Observation end time (MET) | 310095909.184000 | 310096042.51517 | Subarray start row | 513 | 513 |
| Observation end date | 2007-10-30T01:44:04 | 2007-10-30T01:47:22 | Subarray row count | 512 | 512 |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 1.8 |

2.3 Aspect



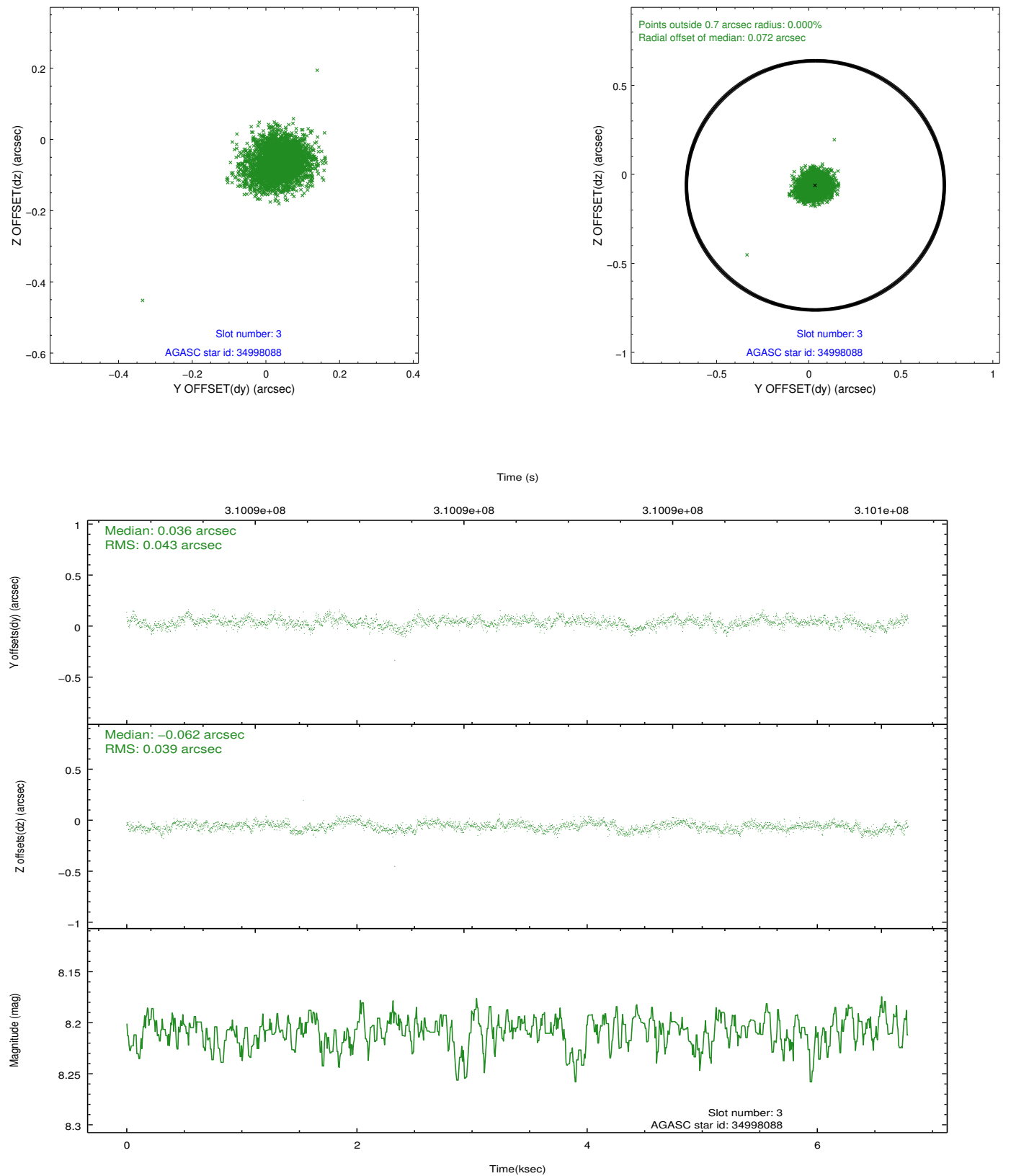


Slot Statistics

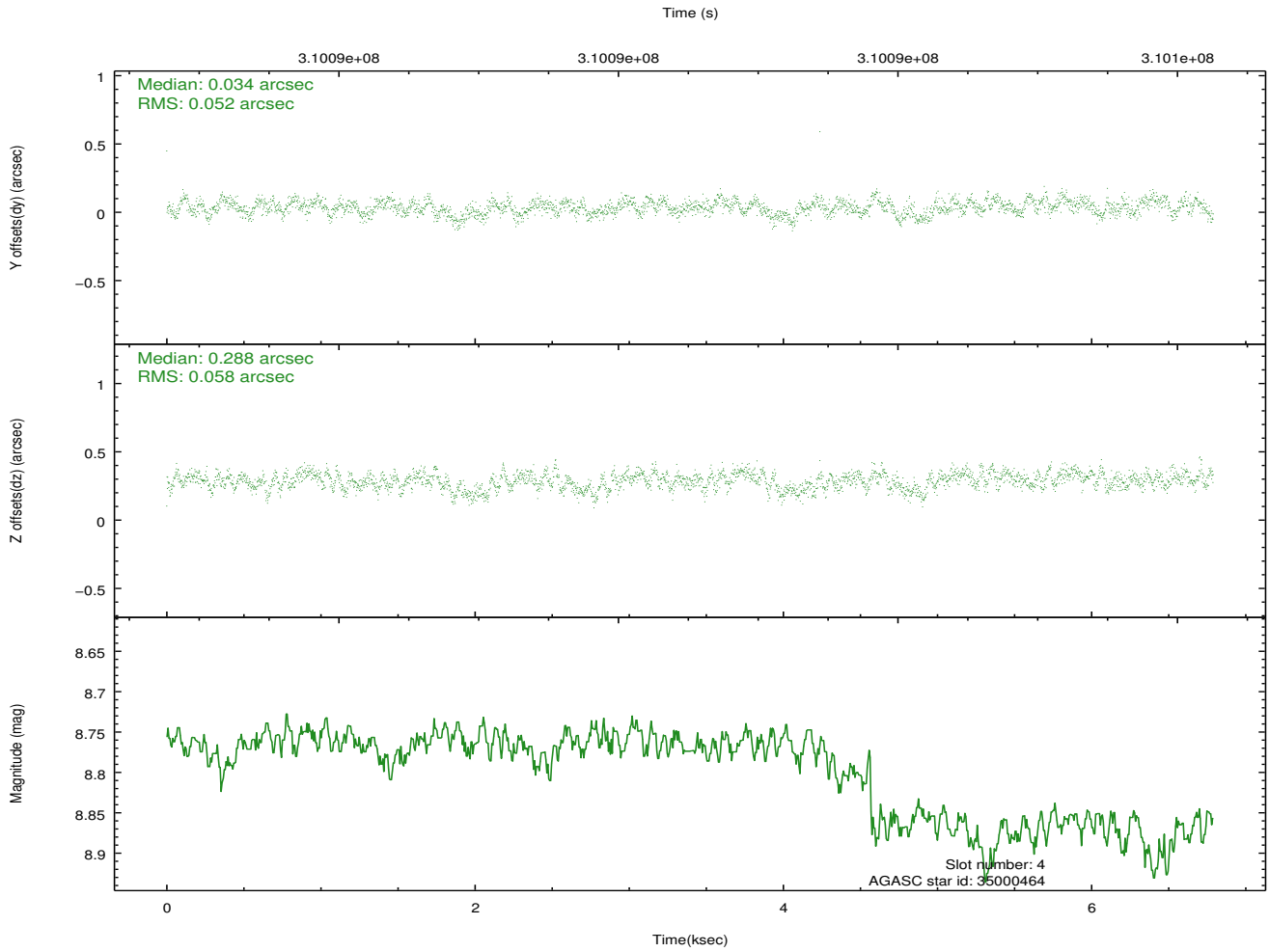
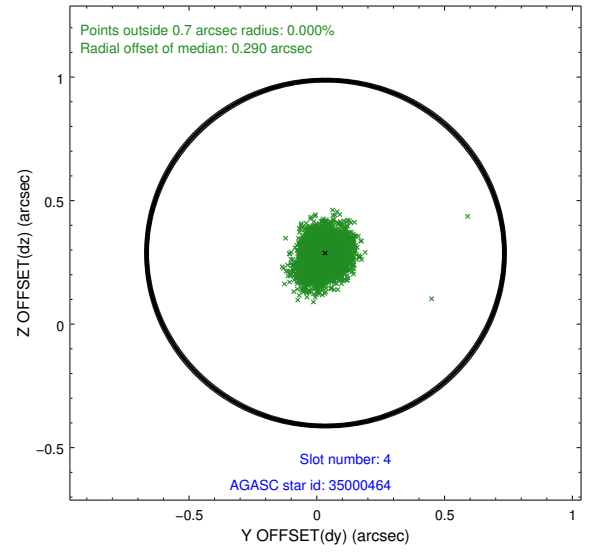
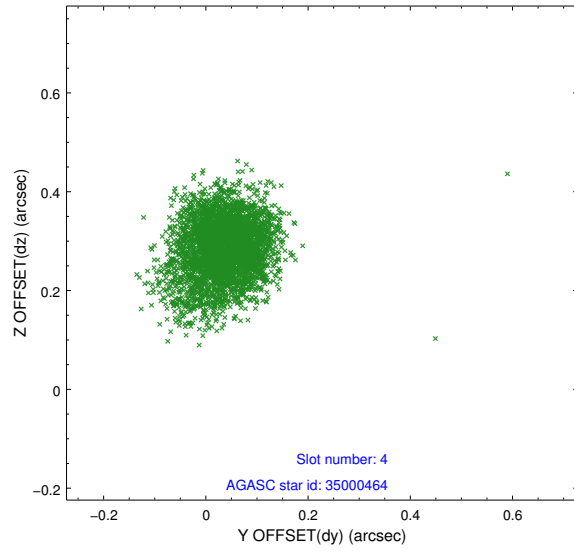
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|---------|----------|------|-------|--------|--------|-------|-------|------------|----------|----------|----------|
| 0 | FID | ACIS-I-2 | 7.13 | 1657 | -0.032 | 0.022 | 0.000 | 0.000 | 0.000000 | 0.000000 | -766.42 | -844.74 |
| 1 | BAD | ACIS-I-5 | 7.24 | 1113 | -0.197 | 0.123 | 0.020 | 0.032 | 0.000000 | 0.000000 | -1821.25 | 1058.64 |
| 2 | UNUSED | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0.00 |
| 3 | GUIDE | 34998088 | 8.21 | 3312 | 0.036 | -0.062 | 0.061 | 0.100 | 170.391115 | 4.208300 | -447.06 | 643.64 |
| 4 | GUIDE | 35000464 | 8.78 | 3310 | 0.034 | 0.288 | 0.082 | 0.134 | 170.965623 | 3.618933 | -1579.53 | -2090.73 |
| 5 | GUIDE | 35000776 | 7.21 | 3312 | -0.164 | -0.182 | 0.049 | 0.082 | 170.371940 | 3.937464 | -1370.10 | 319.96 |
| 6 | GUIDE | 35002728 | 8.20 | 3311 | 0.096 | -0.037 | 0.066 | 0.106 | 170.760736 | 4.138149 | -153.86 | -674.61 |
| 7 | OMITTED | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0.00 |

2.4 Star Slots

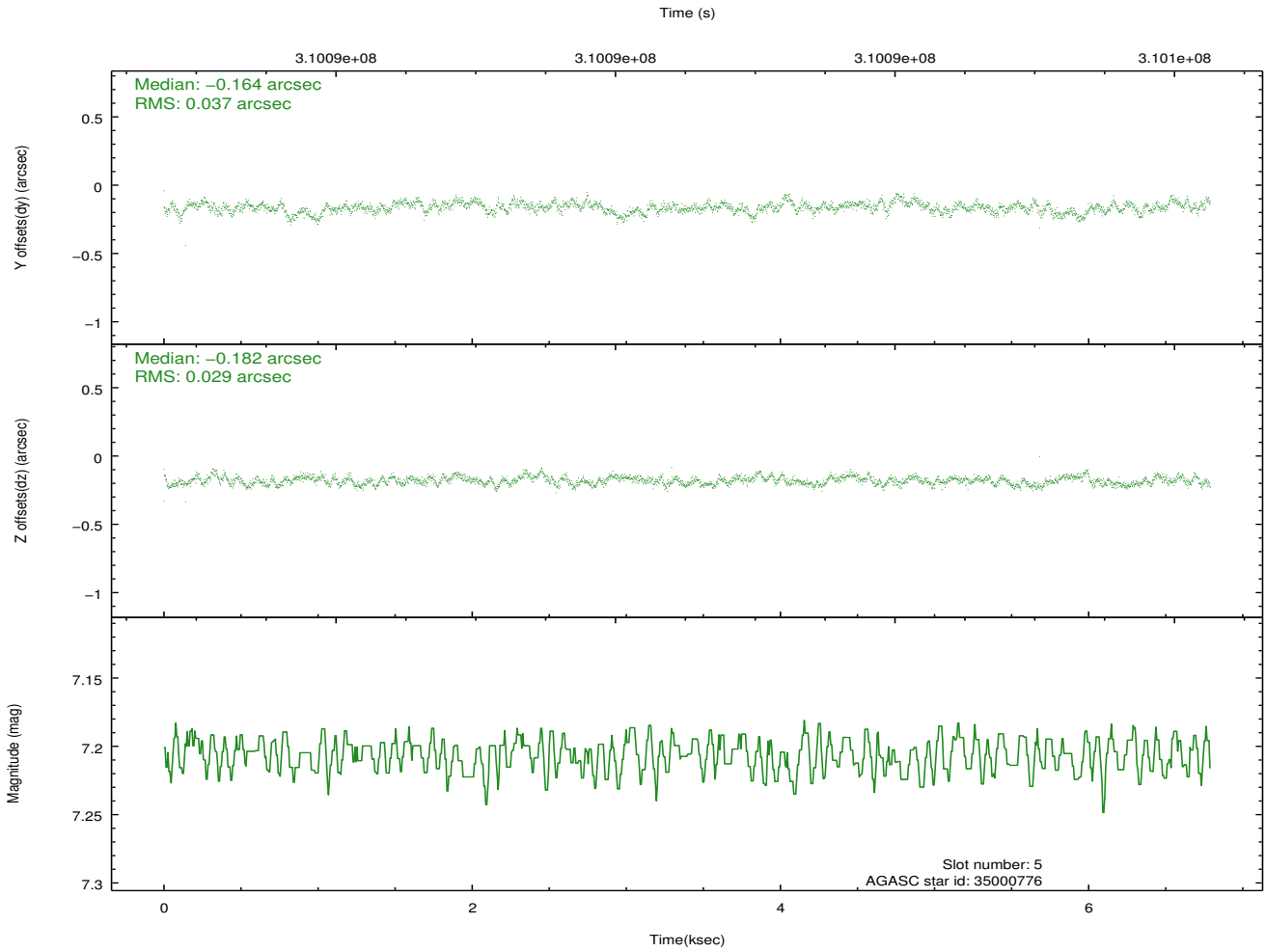
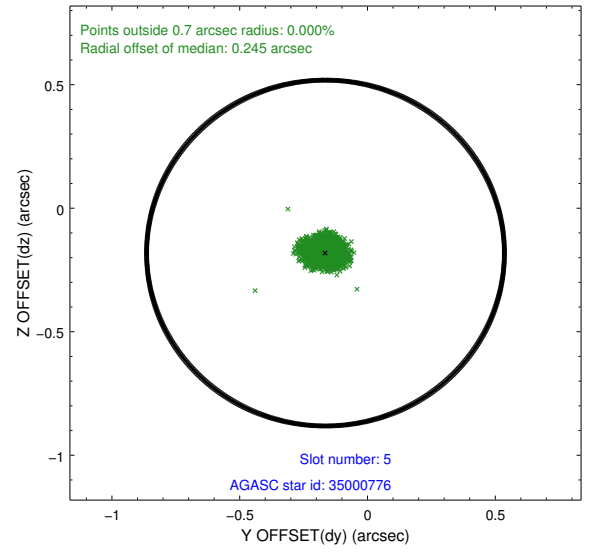
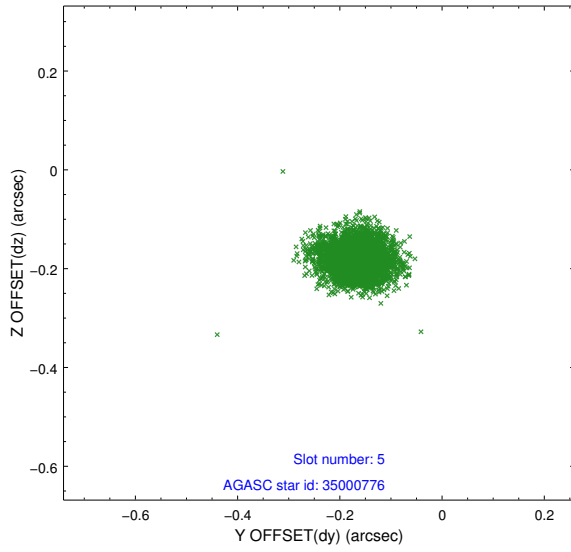
2.4.1 Slot 3



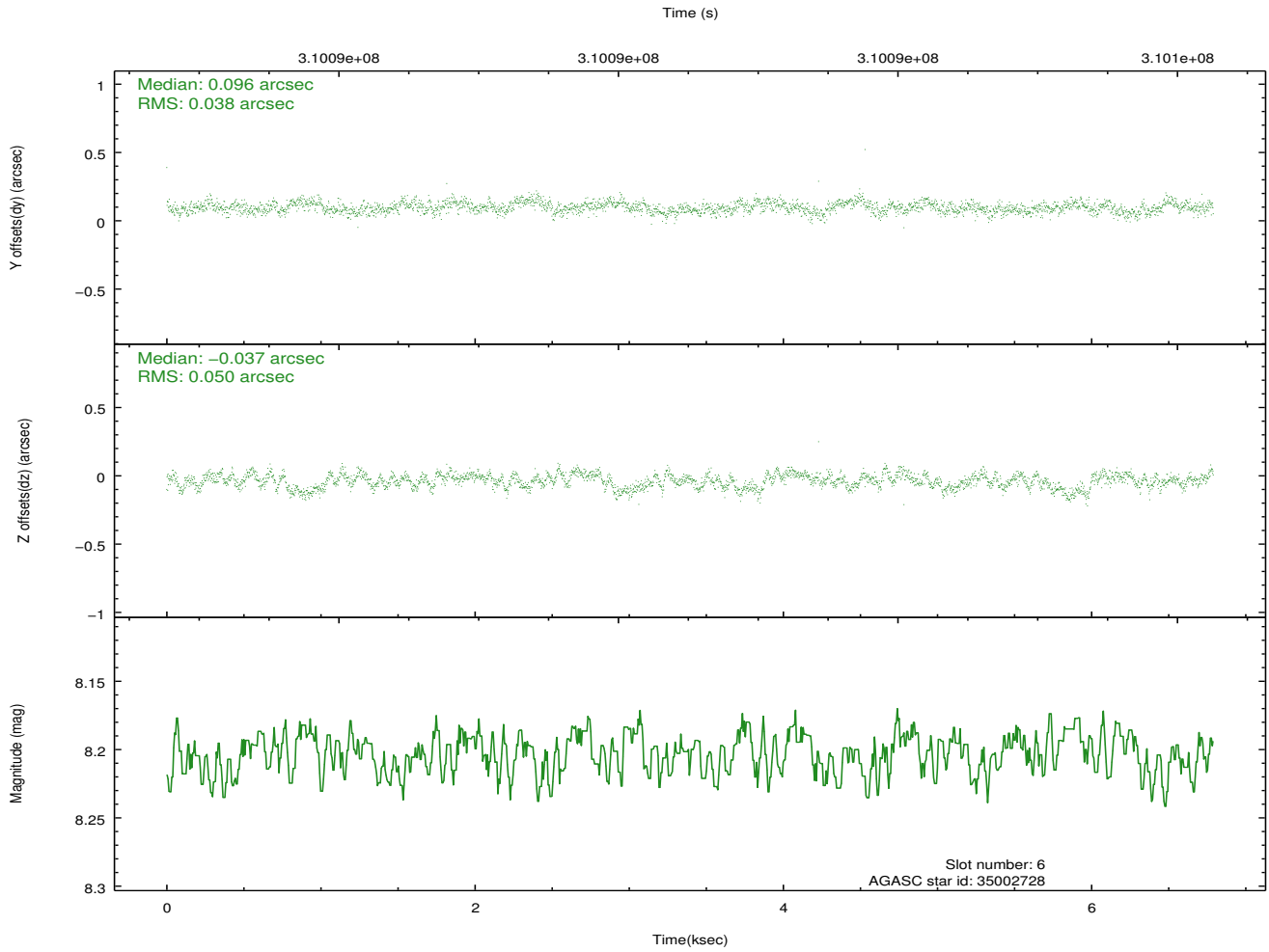
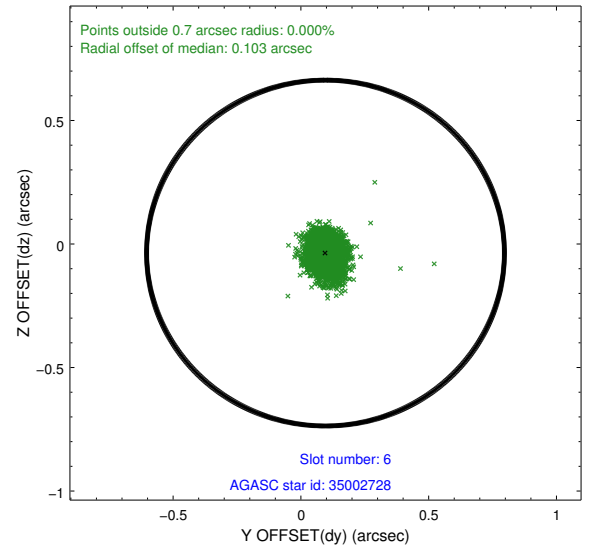
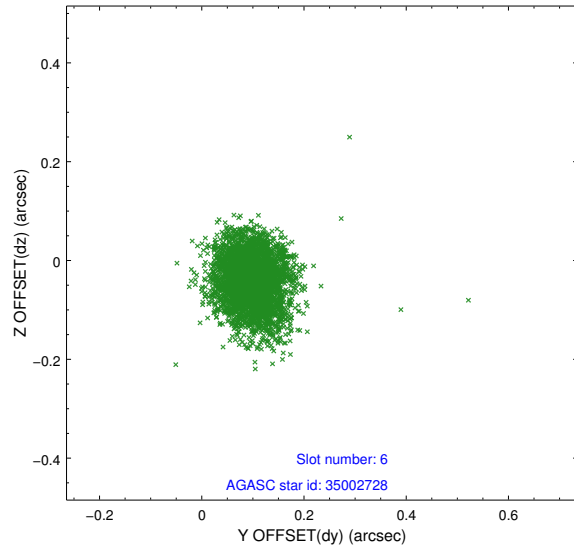
2.4.2 Slot 4



2.4.3 Slot 5

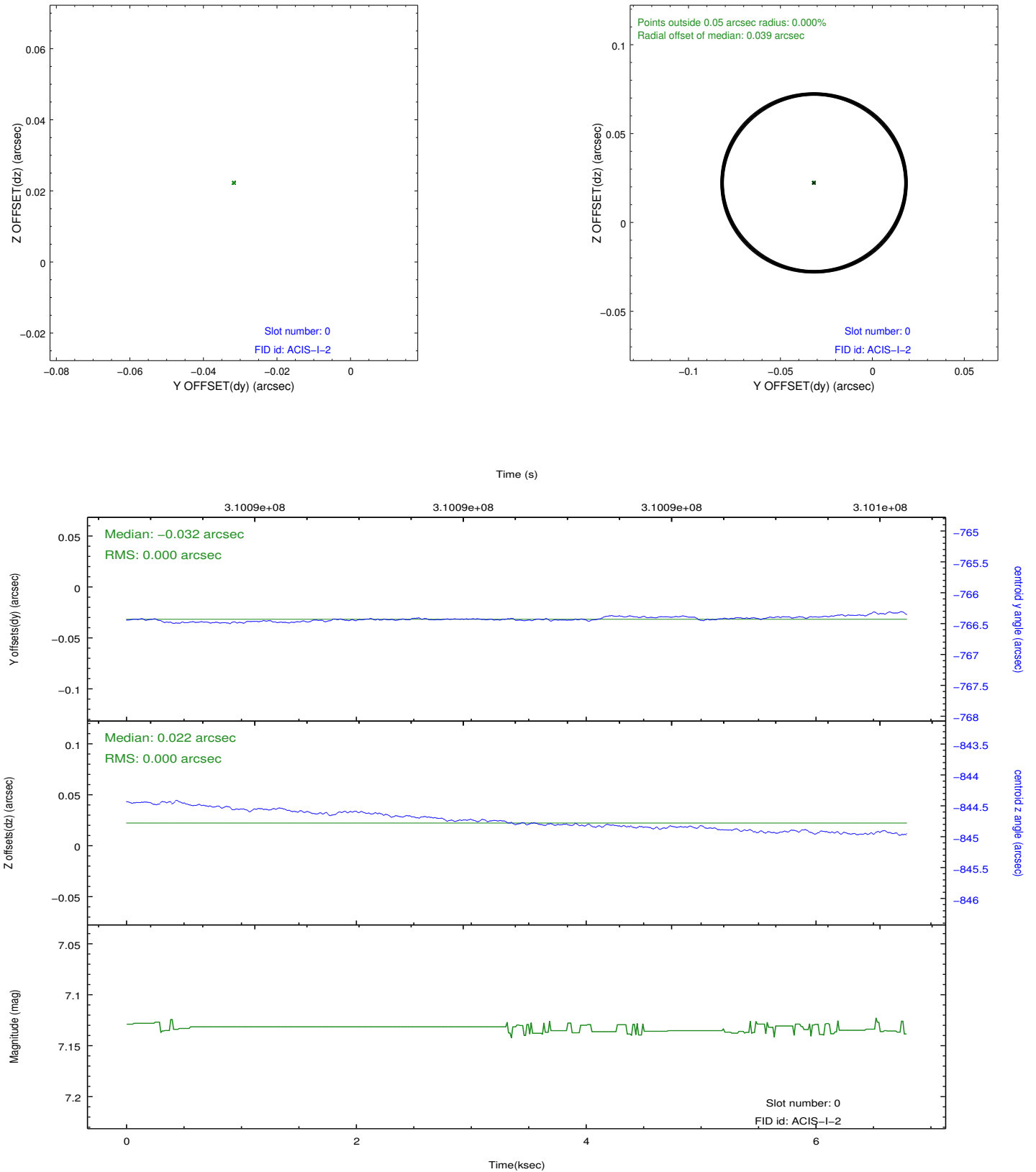


2.4.4 Slot 6

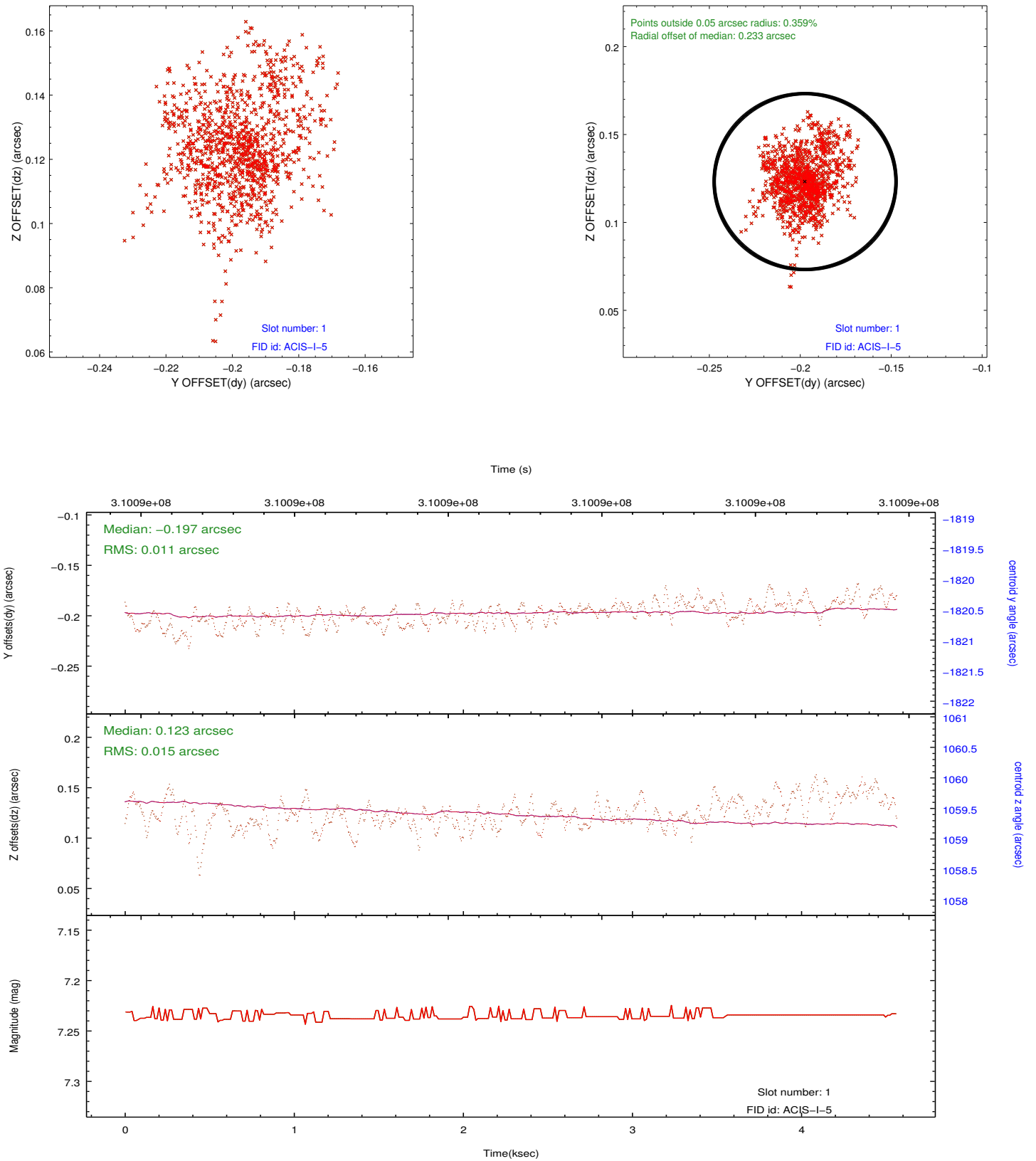


2.5 FID Slots

2.5.1 Slot 0



2.5.2 Slot 1



A Summary

A.1 Status

| | |
|----------------------------|---------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2012.05.10 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 6.78960004 |

A.2 Comments

Window preference met.

Slot 2 was not utilized in this observation.

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.