

V&V Reference Report

L2 ASCDS Version : 8.1.1

Observation 502 - L2 Version 4

Chandra X-Ray Center

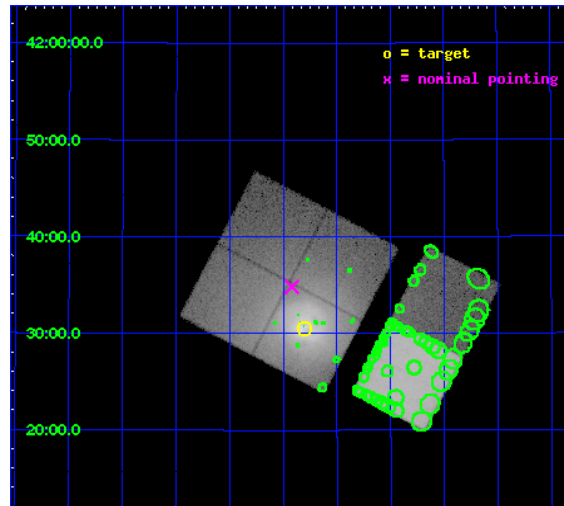
L2 Processing Date : Nov 21 2009

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1 Front

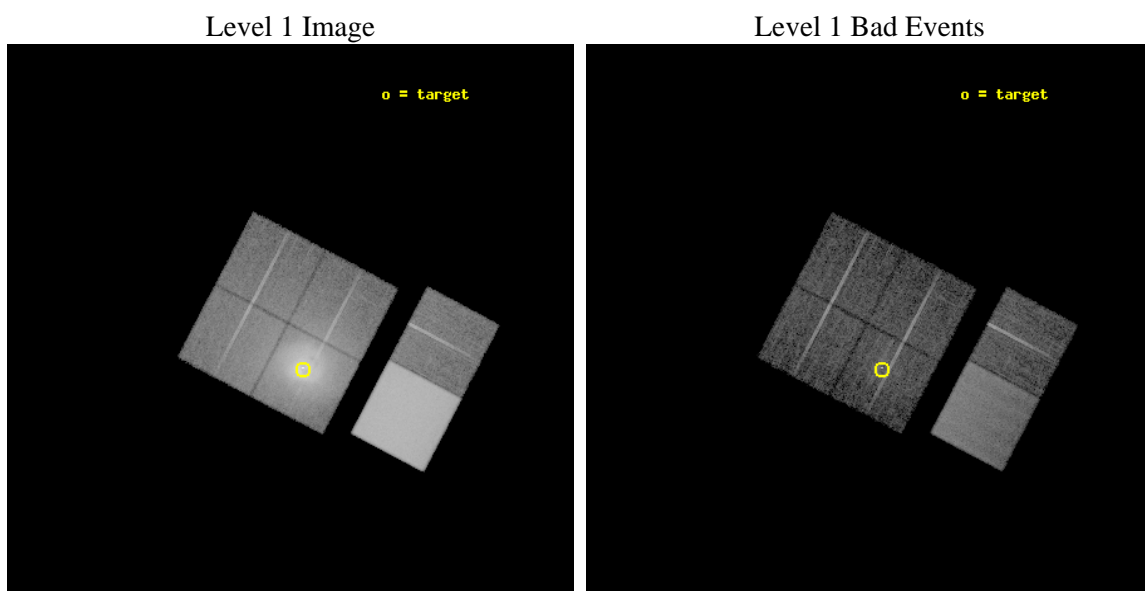
| | | |
|----------|---|---|
| seq_num | 800010 | Sequence number |
| obs_id | 502 | Observation id |
| title | THE COOLING FLOW IN THE PERSEUS CLUSTER | Proposal title |
| observer | Professor Andrew Fabian | Principal investigator |
| object | A426 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 49.952083 | Observer's specified target RA |
| dec_targ | 41.5075 | Observer's specified target Dec |
| ra_nom | 49.979924153299 | Nominal RA |
| dec_nom | 41.580420782789 | Nominal Dec |
| roll_nom | 117.7500924384 | Nominal Roll |
| revision | 4 | Processing version of data |
| ontime | 5205.1052829549 | Sum of GTIs [s] |
| livetime | 5139.195105724 | Livetime [s] |
| ontime0 | 6391.3171080723 | Sum of GTIs [s] |
| ontime1 | 6325.19528725 | Sum of GTIs [s] |
| ontime2 | 5903.8224173784 | Sum of GTIs [s] |
| ontime3 | 5205.1052829549 | Sum of GTIs [s] |
| ontime6 | 7452.9434273764 | Sum of GTIs [s] |
| ontime7 | 14641.649687216 | Sum of GTIs [s] |
| l2events | 967031 | Number of level 2 events |



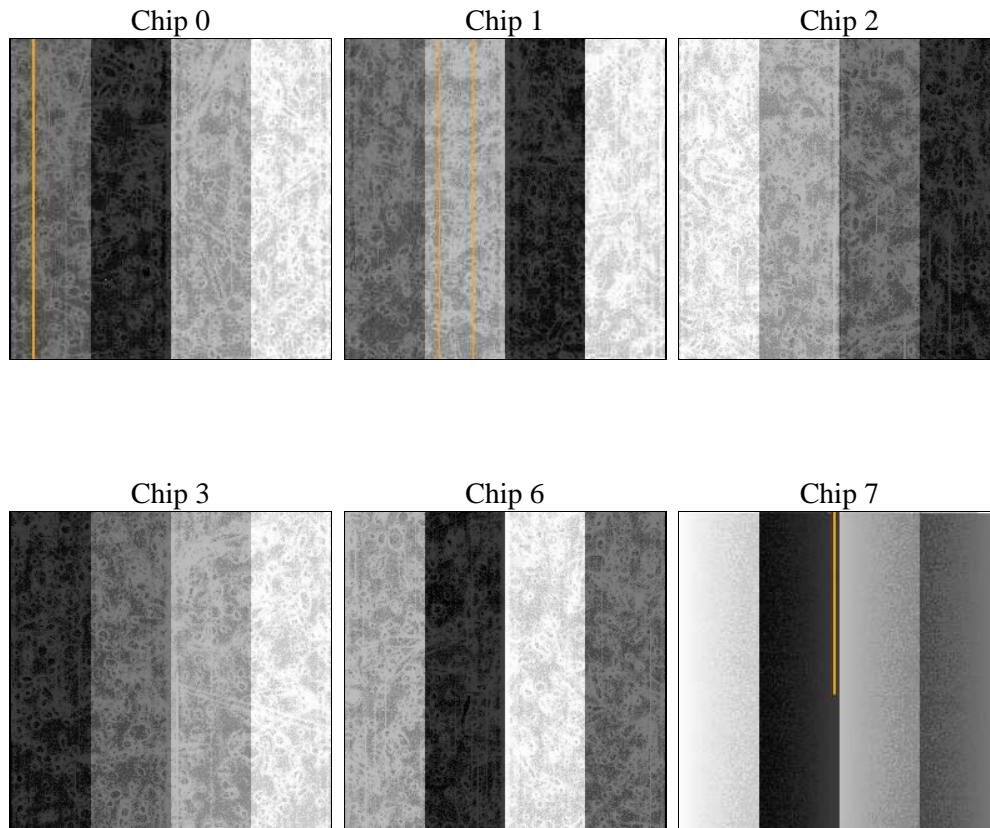
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|-------------------------------------|
| obi_num | 0 | Obi number | sched_exp_time | 20000.000000 | Scheduled observation exposure time |
| ascdsver | 8.1.1 | ASCDS version number | ontime | 5205.1052829549 | Sum of GTIs [s] |
| caldsver | 4.1.4 | | ontime0 | 6391.3171080723 | Sum of GTIs [s] |
| date | 2009-11-21T22:11:18 | Date and time of file creation | ontime1 | 6325.19528725 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime2 | 5903.8224173784 | Sum of GTIs [s] |
| | | | ontime3 | 5205.1052829549 | Sum of GTIs [s] |
| | | | ontime6 | 7452.9434273764 | Sum of GTIs [s] |
| | | | ontime7 | 14641.649687216 | Sum of GTIs [s] |
| | | | l1events | 1395198 | Number of level 1 events |

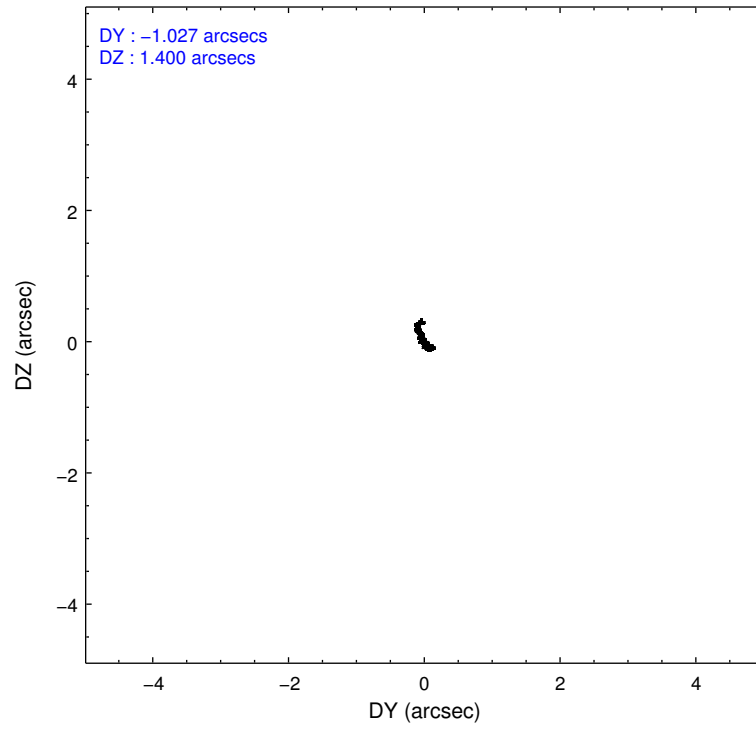
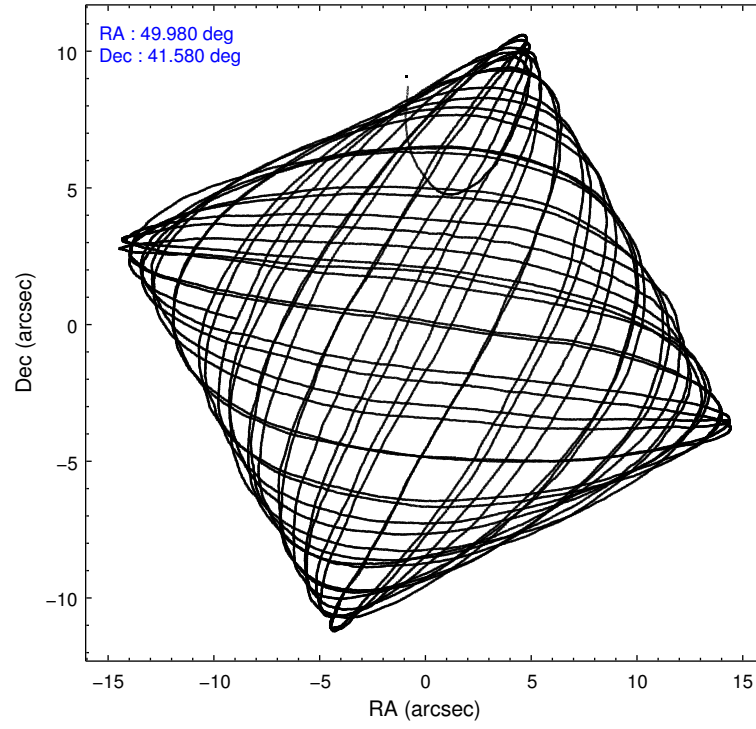
2.1.4 Events

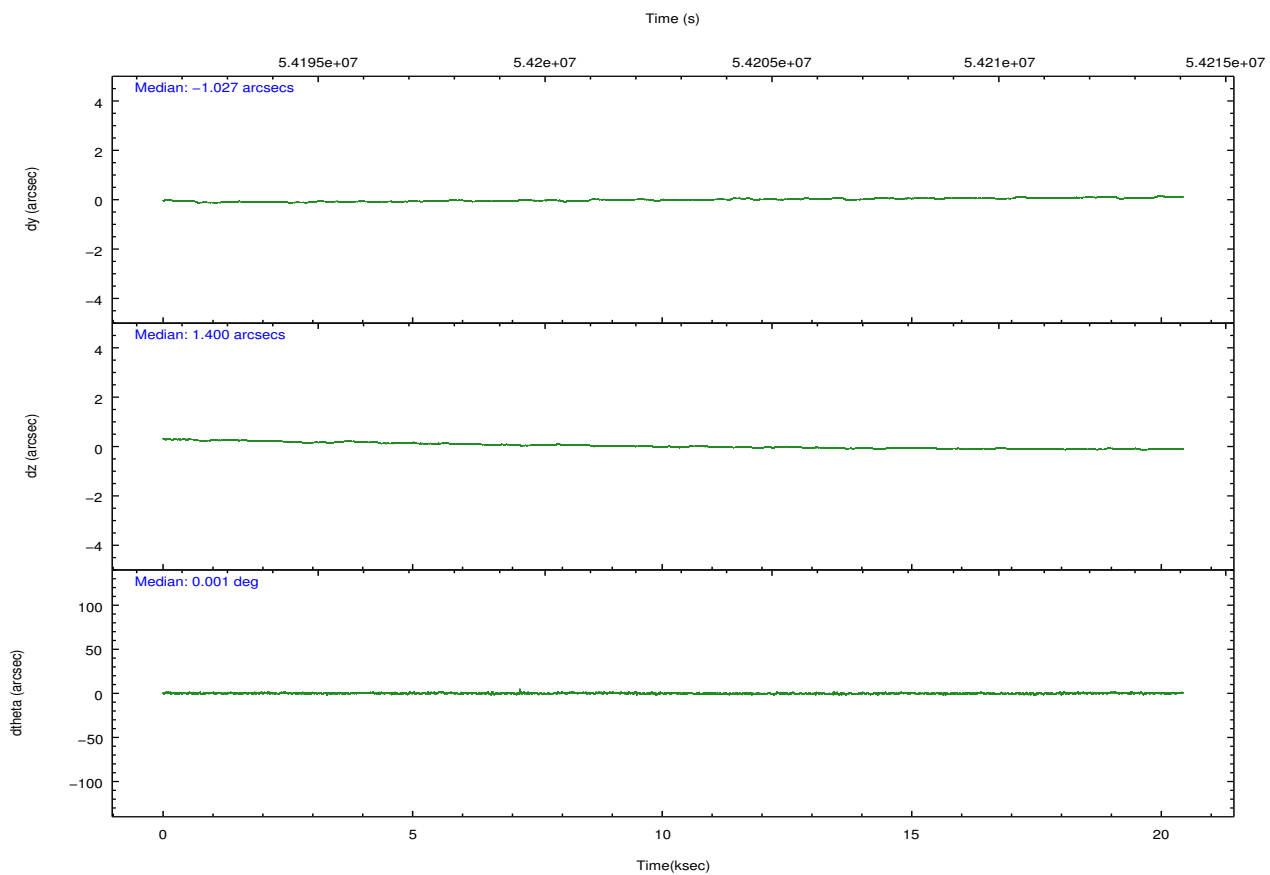
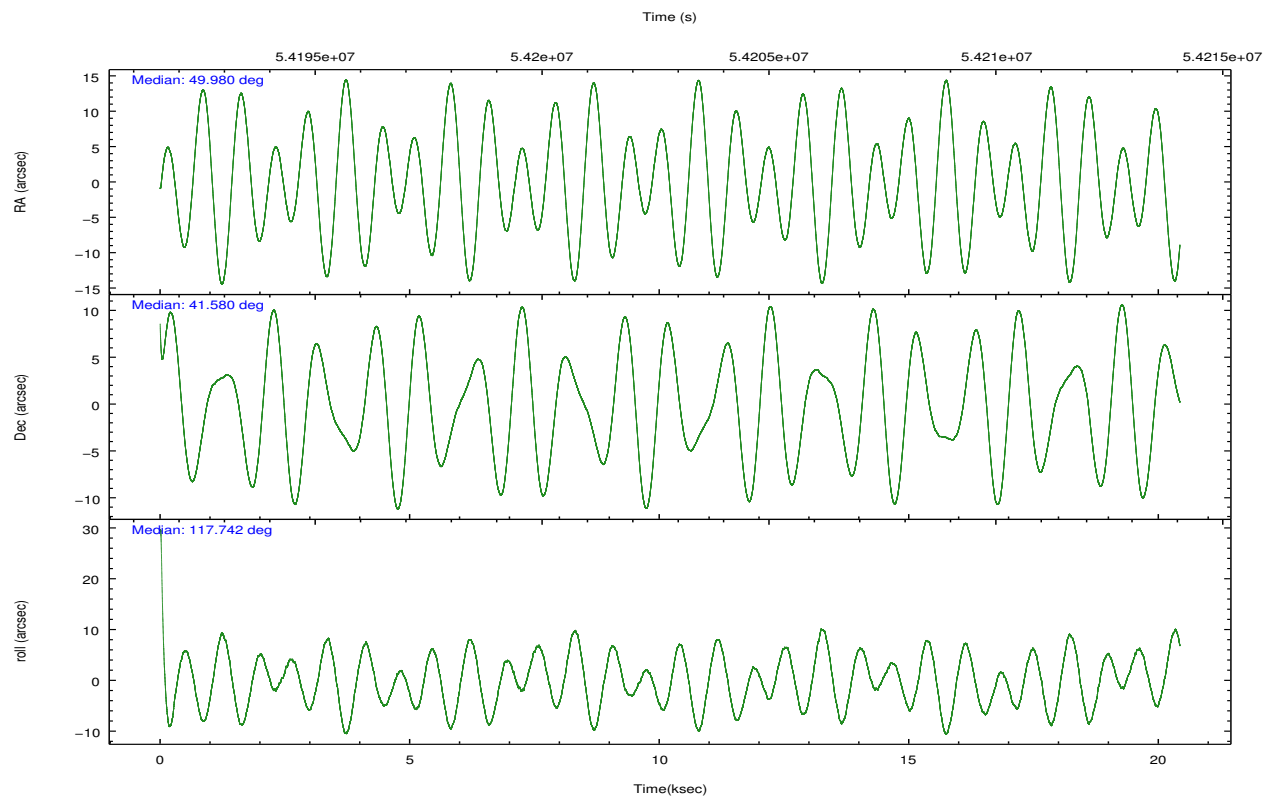
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|--------|--------|--------|-------|--------|----------------|-------|-------|-------|--------|-------|--------|
| level 1 events | 82729 | 122520 | 106935 | 357659 | 90774 | 634581 | grade 0 events | 17850 | 45638 | 27683 | 193069 | 11225 | 63408 |
| rejected events | 51939 | 53383 | 52864 | 54695 | 65259 | 138408 | | 21% | 37% | 25% | 53% | 12% | 9% |
| rejected % | 62% | 43% | 49% | 15% | 71% | 21% | grade 1 events | 68 | 170 | 77 | 1021 | 41 | 155 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 8780 | 15776 | 20839 | 85738 | 10594 | 101233 |
| | | | | | | | | 10% | 12% | 19% | 23% | 11% | 15% |
| | | | | | | | grade 3 events | 1034 | 2076 | 1196 | 6446 | 687 | 36267 |
| | | | | | | | | 1% | 1% | 1% | 1% | 0% | 5% |
| | | | | | | | grade 4 events | 947 | 2073 | 1128 | 6440 | 656 | 34680 |
| | | | | | | | | 1% | 1% | 1% | 1% | 0% | 5% |
| | | | | | | | grade 5 events | 1298 | 1494 | 1218 | 2762 | 1515 | 12709 |
| | | | | | | | | 1% | 1% | 1% | 0% | 1% | 2% |
| | | | | | | | grade 6 events | 2194 | 3574 | 3225 | 11442 | 2353 | 260696 |
| | | | | | | | | 2% | 2% | 3% | 3% | 2% | 41% |
| | | | | | | | grade 7 events | 50558 | 51719 | 51569 | 50741 | 63703 | 125433 |
| | | | | | | | | 61% | 42% | 48% | 14% | 70% | 19% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 6 | 6 |
| Detector | ACIS-012367 | ACIS-012367 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | VFAINT | VFAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| Pointing RA | 50.010928 | 49.97992415329905 | Subarray requested | NONE | NONE |
| Pointing Dec | 41.565060 | 41.5804207827889 | Alternating exposures requested | N | N |
| Pointing Roll | 117.520818 | 117.7500924383997 | Primary exposure time | 0.000000 | 3.2 |
| SIM focus pos (mm) | -0.782348 | -0.7809083437167272 | | | |
| SIM defocus (mm) | 0 | 0.001439871863259334 | | | |
| SIM translation stage pos (mm) | -233.592463 | -233.5874344608287 | | | |
| SIM translation stage offset (mm) | 0 | -0.005018542100998502 | | | |
| Observation start time | 54193037.184000 | 54190784.634397 | | | |
| Observation start date | 1999-09-20T05:36:13 | 1999-09-20T04:59:44 | | | |
| Observation end time | 54213037.184000 | 54213744.63522 | | | |
| Observation end date | 1999-09-20T11:09:33 | 1999-09-20T11:22:24 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



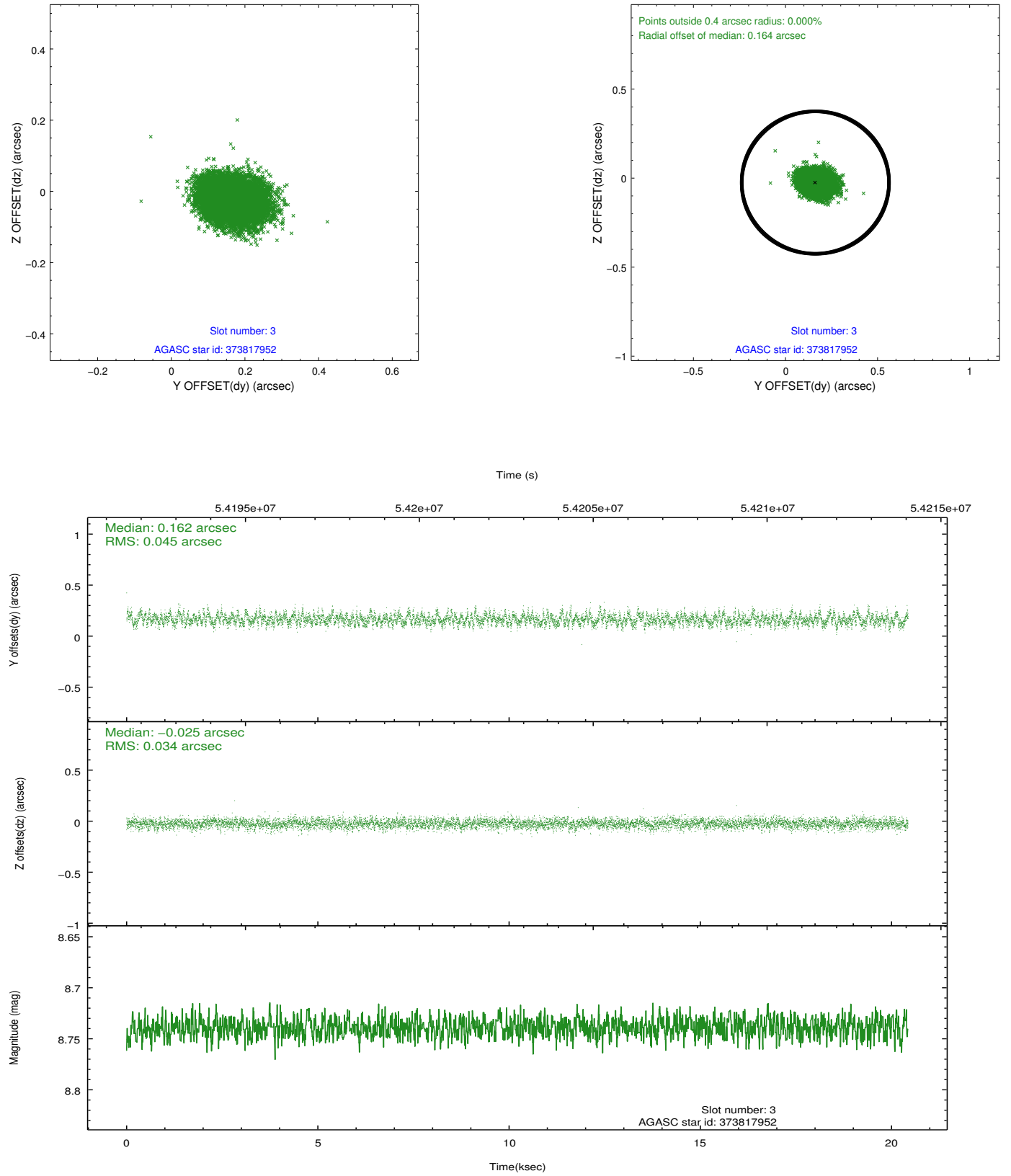


Slot Statistics

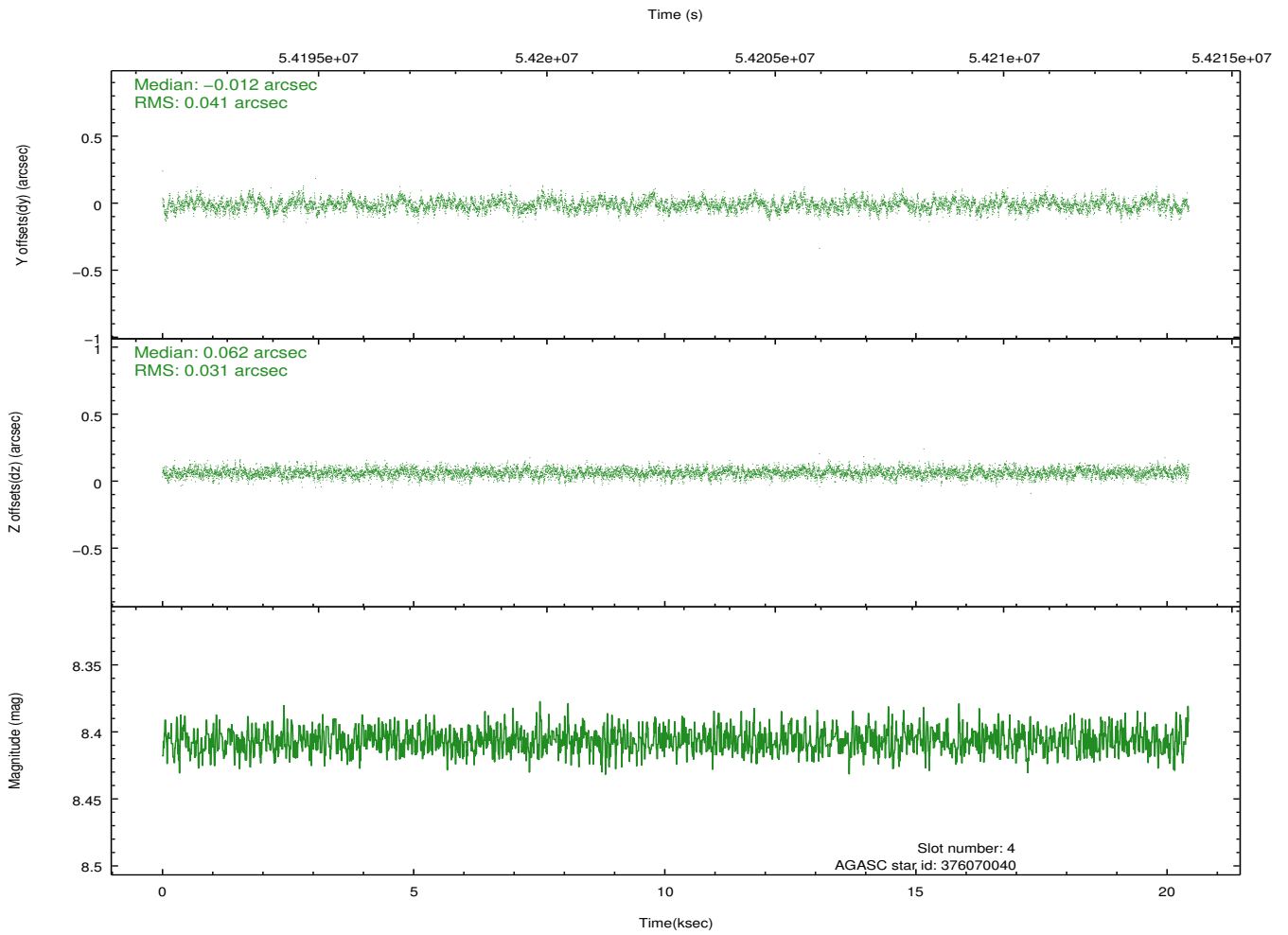
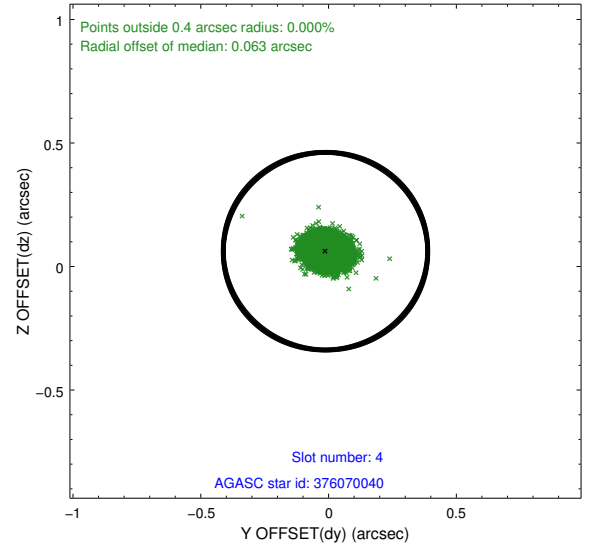
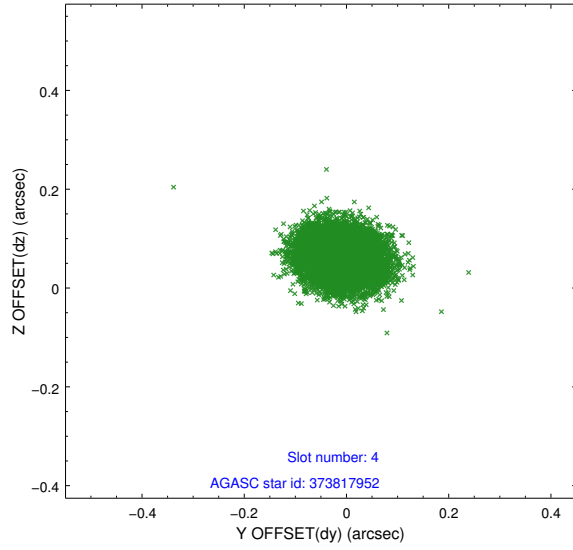
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|---------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|---------|
| 0 | FID | ACIS-I-2 | 7.20 | 9967 | -0.049 | 0.031 | 0.010 | 0.017 | 0.000000 | 0.000000 | -753.34 | -830.96 |
| 1 | FID | ACIS-I-4 | 7.23 | 9965 | 0.124 | 0.027 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2161.01 | 1075.03 |
| 2 | FID | ACIS-I-5 | 7.23 | 9968 | -0.176 | 0.011 | 0.010 | 0.017 | 0.000000 | 0.000000 | -1807.16 | 1073.11 |
| 3 | GUIDE | 373817952 | 8.74 | 9965 | 0.162 | -0.025 | 0.059 | 0.097 | 49.913424 | 40.978510 | -1748.89 | 1211.09 |
| 4 | GUIDE | 376070040 | 8.41 | 9965 | -0.012 | 0.062 | 0.054 | 0.089 | 50.072031 | 41.897206 | 985.94 | -696.73 |
| 5 | OMITTED | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0.00 |
| 6 | GUIDE | 374357808 | 8.68 | 9963 | -0.278 | 0.128 | 0.069 | 0.107 | 49.921429 | 42.176083 | 2062.37 | -803.68 |
| 7 | GUIDE | 373823728 | 9.70 | 9961 | 0.121 | -0.165 | 0.139 | 0.224 | 49.603565 | 40.676740 | -2318.77 | 2463.08 |

2.4 Star Slots

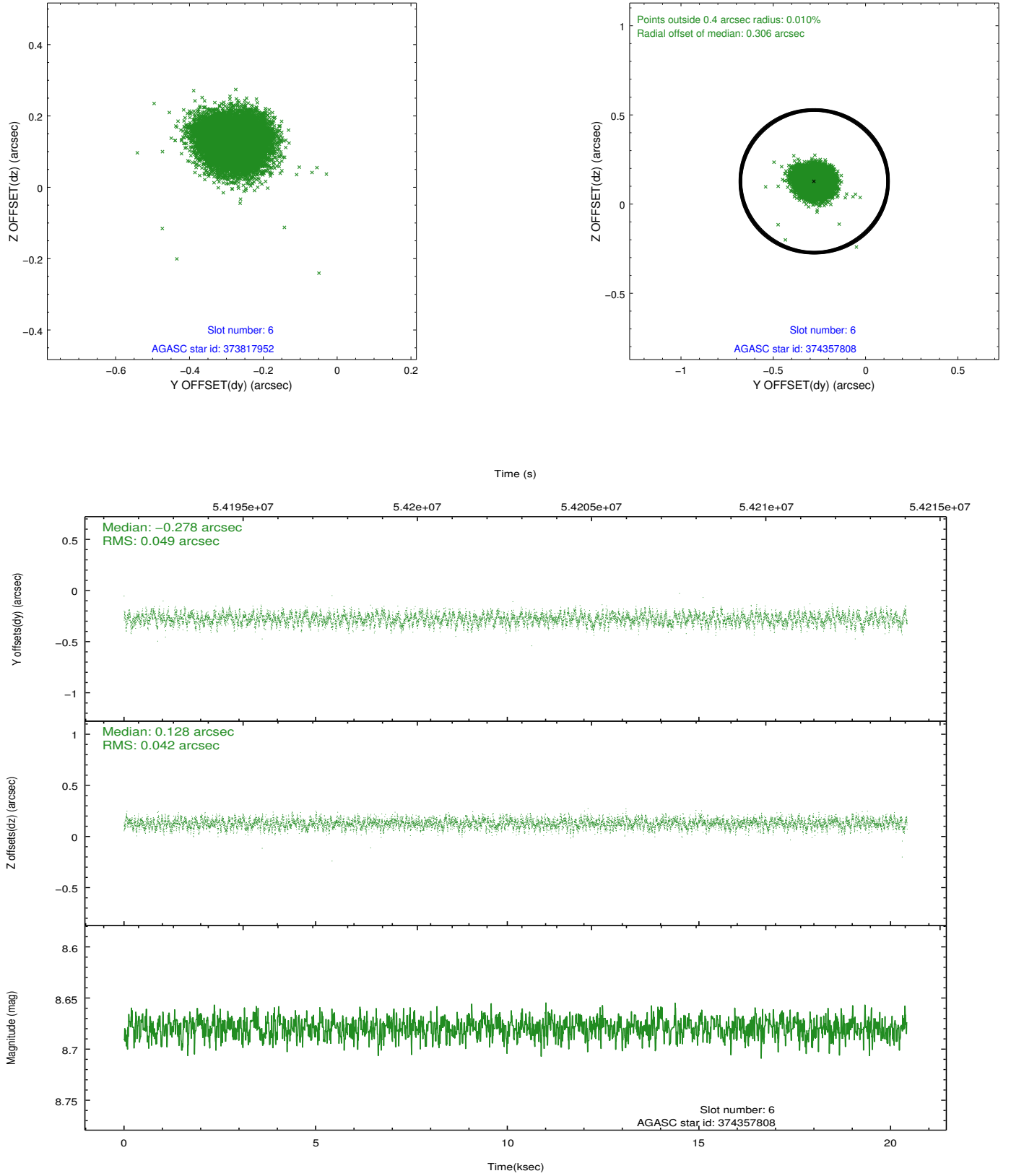
2.4.1 Slot 3



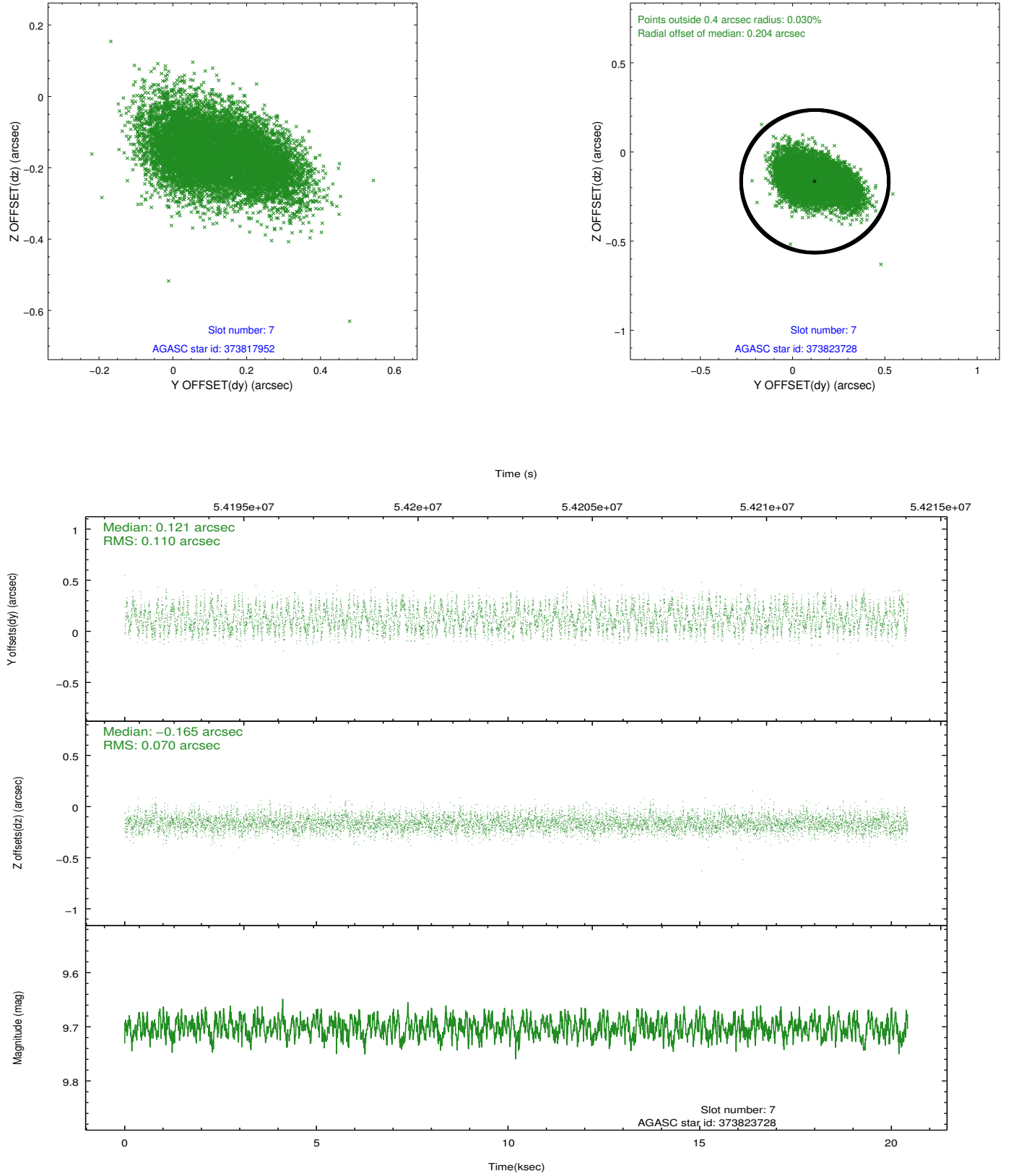
2.4.2 Slot 4



2.4.3 Slot 6

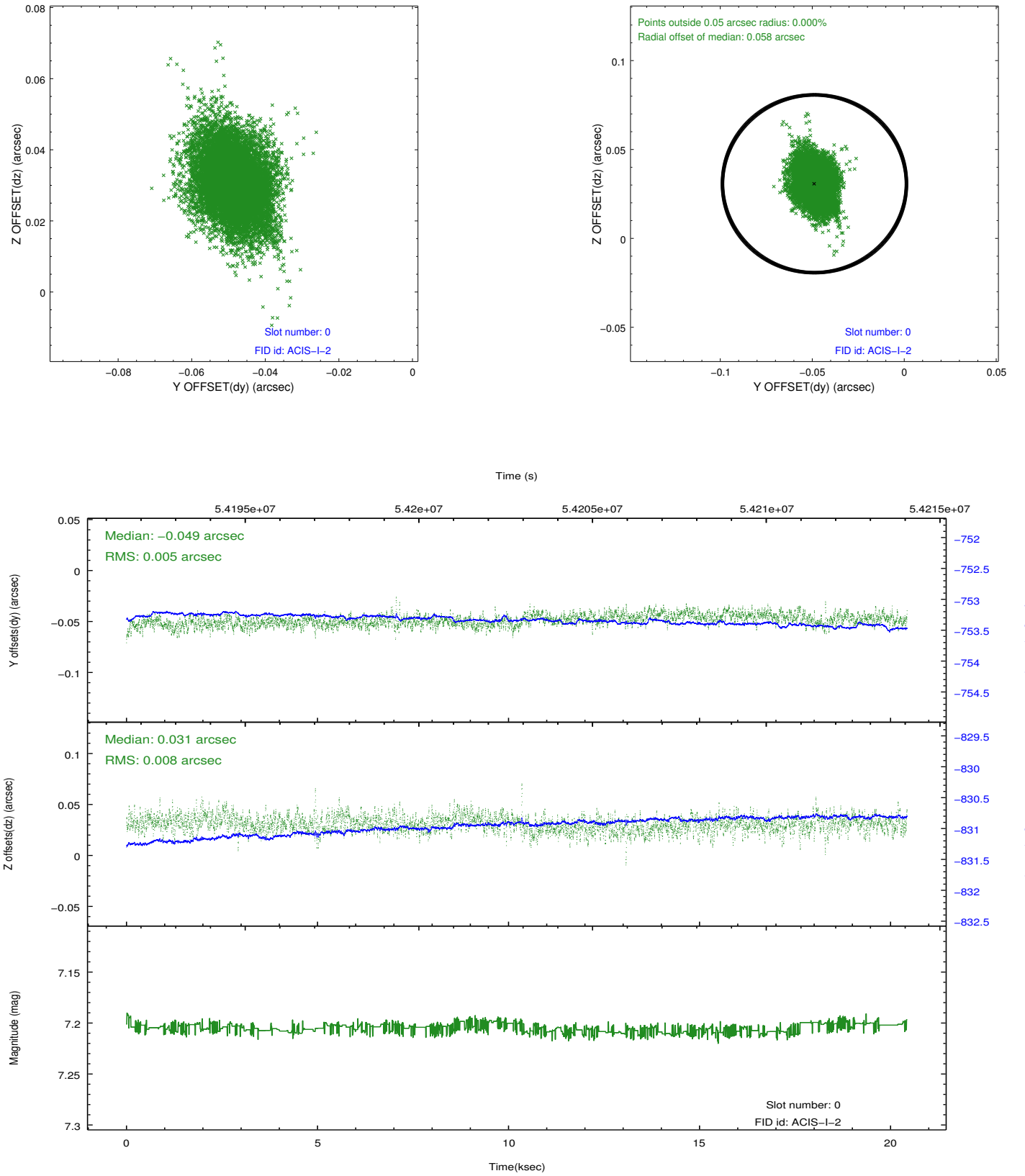


2.4.4 Slot 7

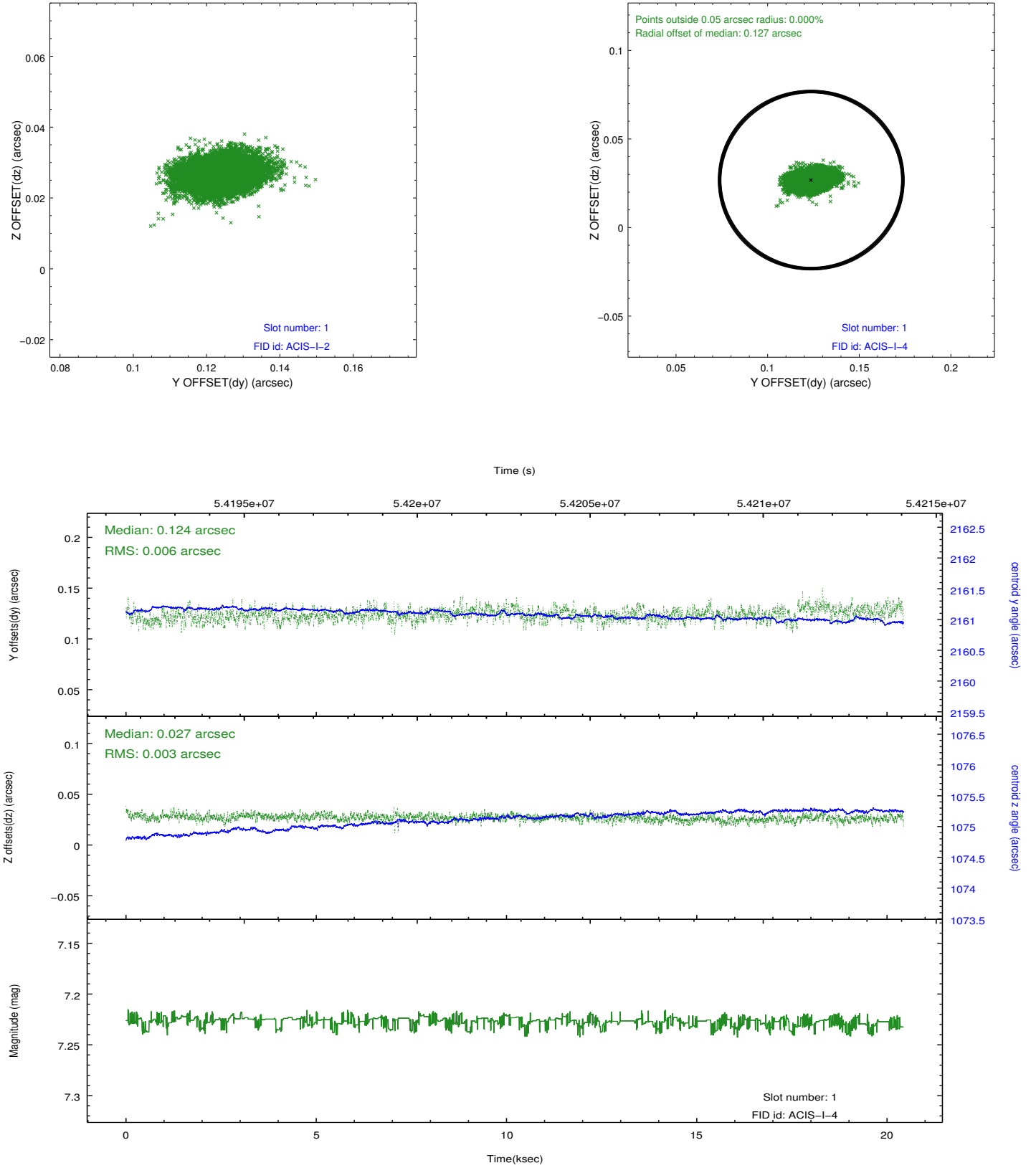


2.5 FID Slots

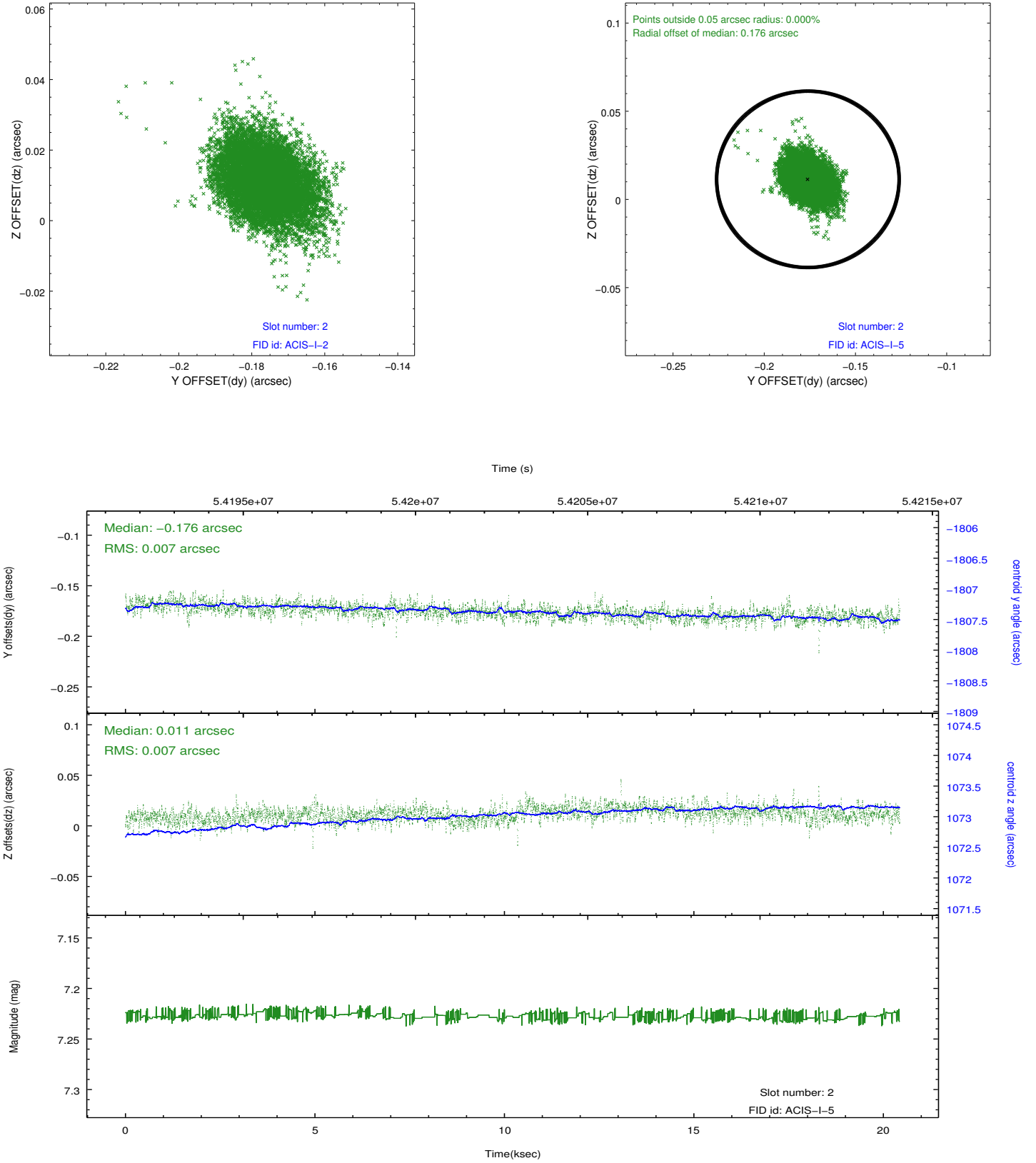
2.5.1 Slot 0



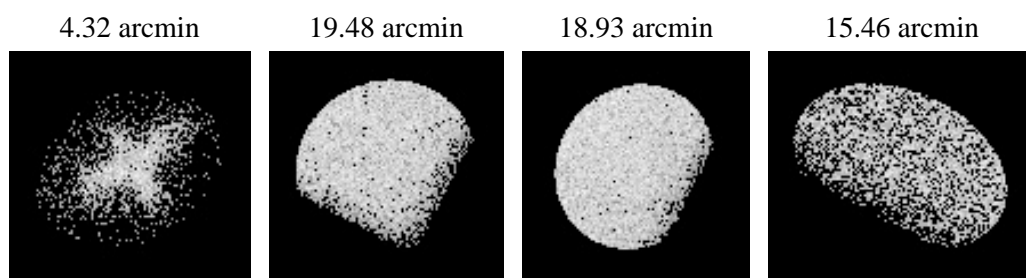
2.5.2 Slot 1



2.5.3 Slot 2



3 Point Sources



A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2009.11.23 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 5.38 |

A.2 Comments

The high count rate resulted in telemetry saturation and a large number of dropped exposures. The ONTIME value reflects the lost exposure time.

=====

The guide star in slot 5 was removed from the aspect solution due to poor data quality. The aspect solution is not expected to be degraded by removing one guide star from the solution.

=====

This calibration observation was acquired with the focal plane temperature raised from -120C to -110C, for attempted recalibration of ACIS for the

1999-09-16 through 2000-01-28 period.

=====

This reprocessing of the data applies no CTI correction because none is available for that temperature.

=====

Charge time:

Charge time for this ObsId remains at previous value of 5.38 ks.