

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 7690 - L2 Version 3
Chandra X-Ray Center

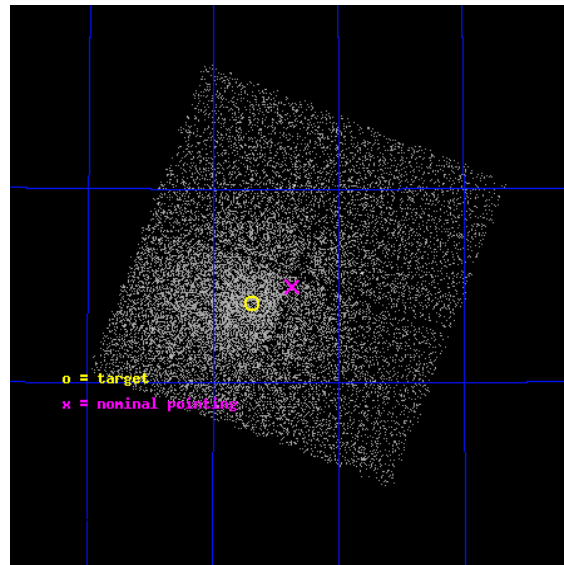
L2 Processing Date : Apr 27 2012

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1 Front

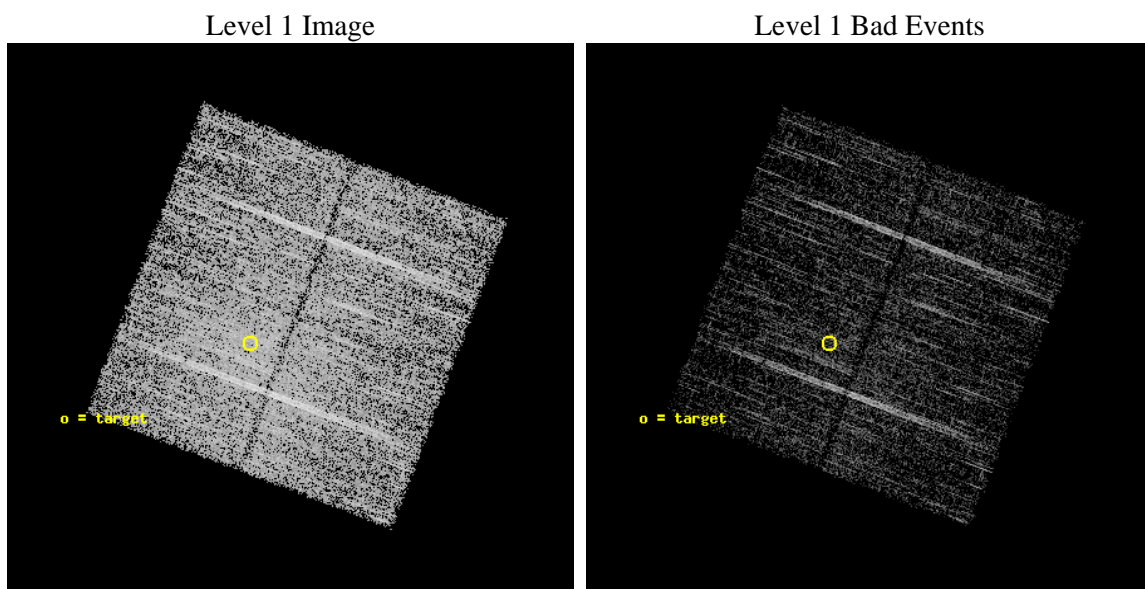
| | | |
|----------|--|---|
| seq_num | 701358 | Sequence number |
| obs_id | 7690 | Observation id |
| title | Snapshot Survey for X-ray Outbursts in Rich Clusters of Galaxies | P |
| observer | Professor Gordon Garmire | Principal investigator |
| object | ABELL2255 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 258.172917 | Observer's specified target RA [deg] |
| dec_targ | 64.068889 | Observer's specified target Dec [deg] |
| ra_nom | 258.09349381666 | Nominal RA [deg] |
| dec_nom | 64.082624696179 | Nominal Dec [deg] |
| roll_nom | 200.80892669429 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 5208.0000400543 | Sum of GTIs [s] |
| livetime | 5139.9536854572 | Livetime [s] |
| ontime0 | 5208.0000400543 | Sum of GTIs [s] |
| ontime1 | 5208.0000400543 | Sum of GTIs [s] |
| ontime2 | 5208.0000400543 | Sum of GTIs [s] |
| ontime3 | 5208.0000400543 | Sum of GTIs [s] |
| l2events | 19887 | Number of level 2 events |



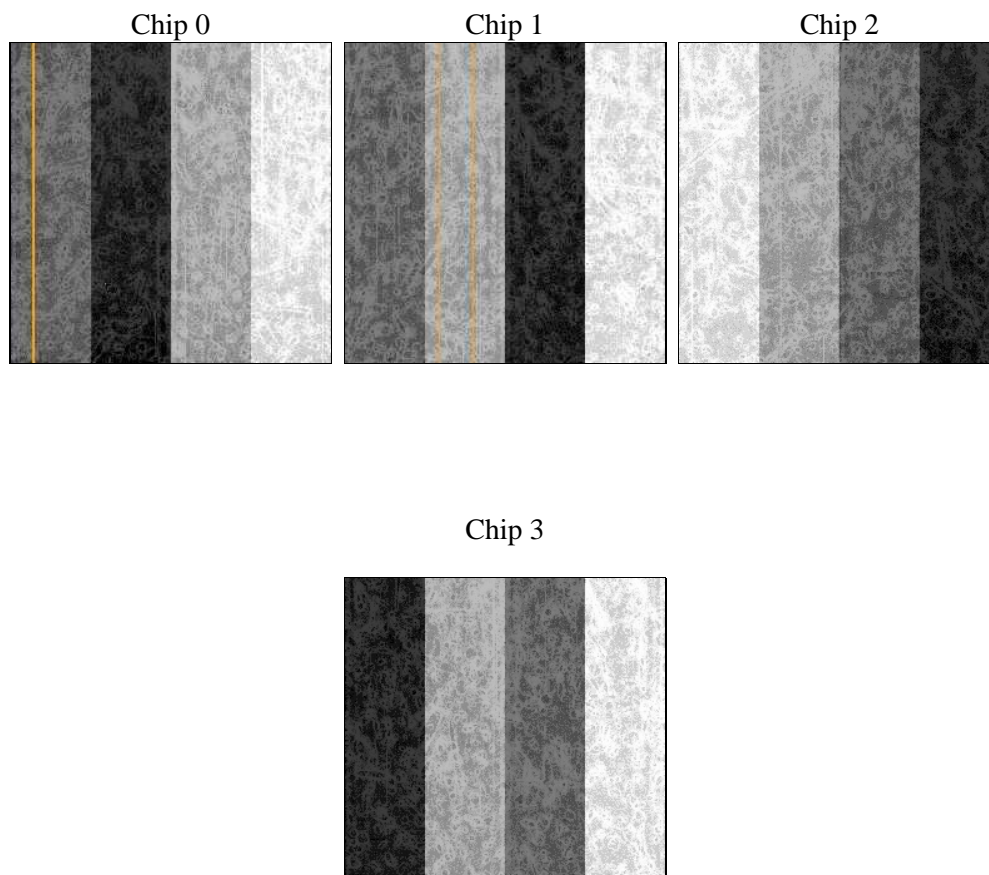
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 5154.643000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 5208.0000400543 | Sum of GTIs [s] |
| caldsver | 4.4.9 | | ontime0 | 5208.0000400543 | Sum of GTIs [s] |
| date | 2012-04-27T14:04:58 | Date and time of file creation | ontime1 | 5208.0000400543 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime2 | 5208.0000400543 | Sum of GTIs [s] |
| | | | ontime3 | 5208.0000400543 | Sum of GTIs [s] |
| | | | l1events | 151065 | Number of level 1 events |

2.1.4 Events

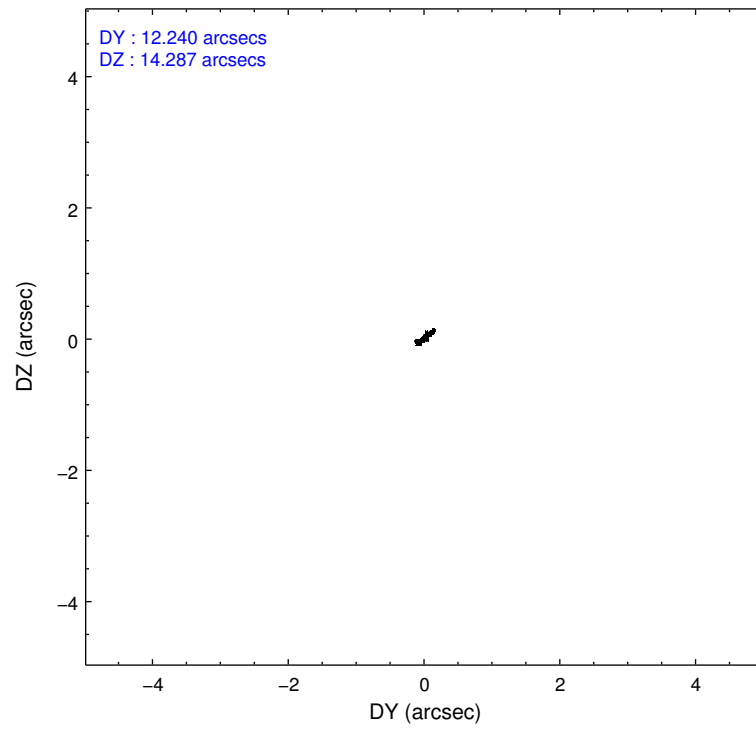
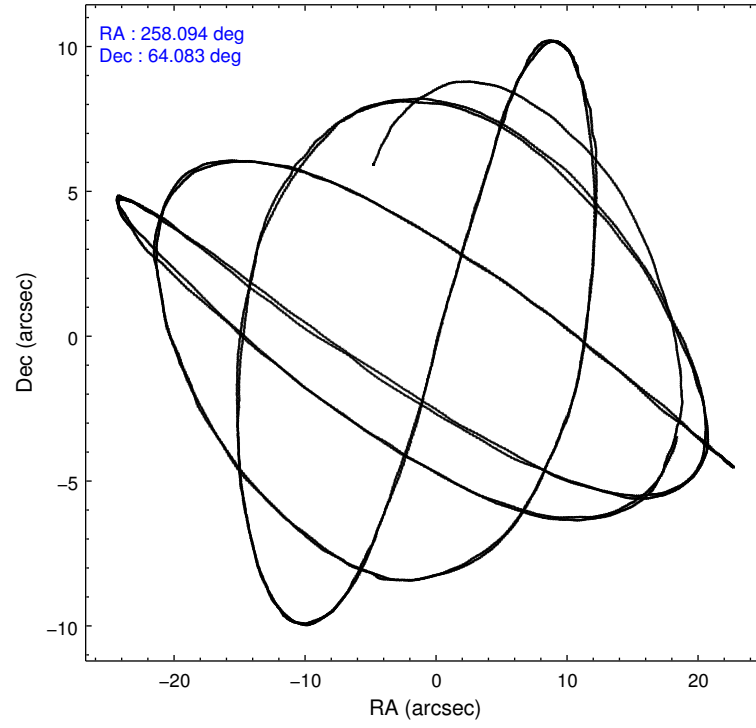
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|-----------------|-------|-------|-------|-------|
| level 1 events | 35917 | 34950 | 39386 | 40812 |
| rejected events | 31868 | 30188 | 34463 | 31354 |
| rejected % | 88% | 86% | 87% | 76% |

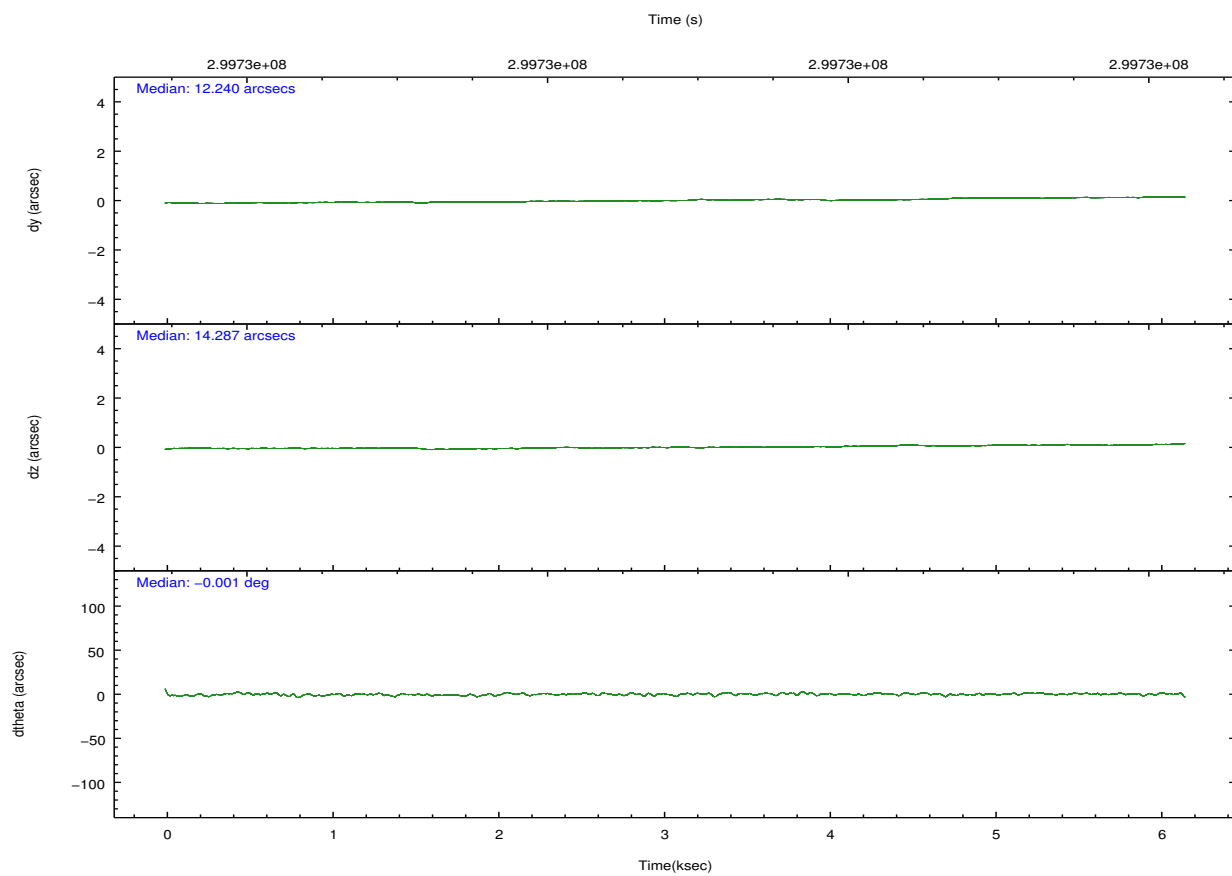
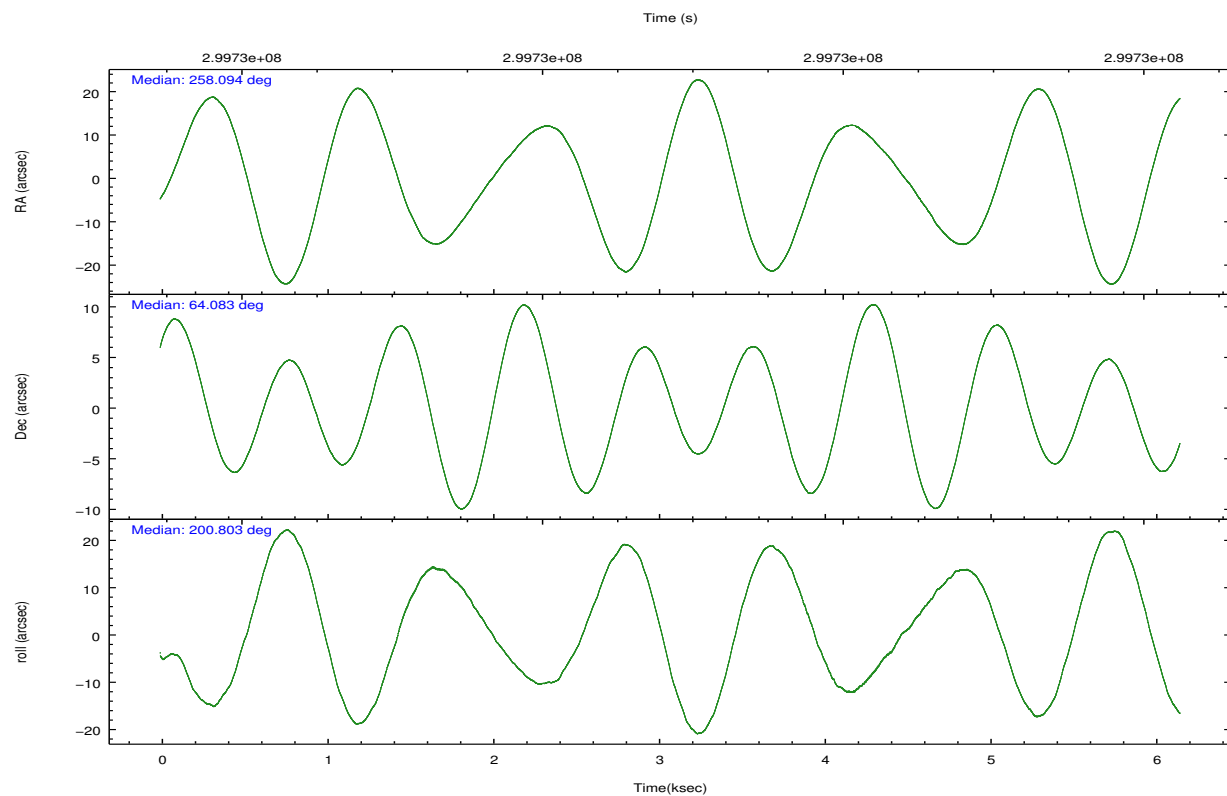
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 1938 | 2476 | 2803 | 6504 |
| | 5% | 7% | 7% | 15% |
| grade 1 events | 26 | 32 | 23 | 55 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 880 | 834 | 868 | 1327 |
| | 2% | 2% | 2% | 3% |
| grade 3 events | 391 | 442 | 406 | 535 |
| | 1% | 1% | 1% | 1% |
| grade 4 events | 340 | 409 | 401 | 521 |
| | 0% | 1% | 1% | 1% |
| grade 5 events | 571 | 699 | 532 | 732 |
| | 1% | 2% | 1% | 1% |
| grade 6 events | 503 | 608 | 450 | 581 |
| | 1% | 1% | 1% | 1% |
| grade 7 events | 31268 | 29450 | 33903 | 30557 |
| | 87% | 84% | 86% | 74% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-0123 | ACIS-0123 | 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 |
| [deg] Pointing RA | 258.133021 | 258.0934938166572 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 64.103999 | 64.08262469617912 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 200.564690 | 200.8089266942853 | [s] Primary exposure time | 0.000000 | 3.1 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | | | |
| [mm] SIM defocus | 0 | 0.001439871863259334 | | | |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 | | | |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 | | | |
| [s] Observation start time (MET) | 299728761.184000 | 299727484.36674 | | | |
| Observation start date | 2007-07-02T01:58:16 | 2007-07-02T01:38:04 | | | |
| [s] Observation end time (MET) | 299733915.184000 | 299734157.11706 | | | |
| Observation end date | 2007-07-02T03:24:10 | 2007-07-02T03:29:17 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



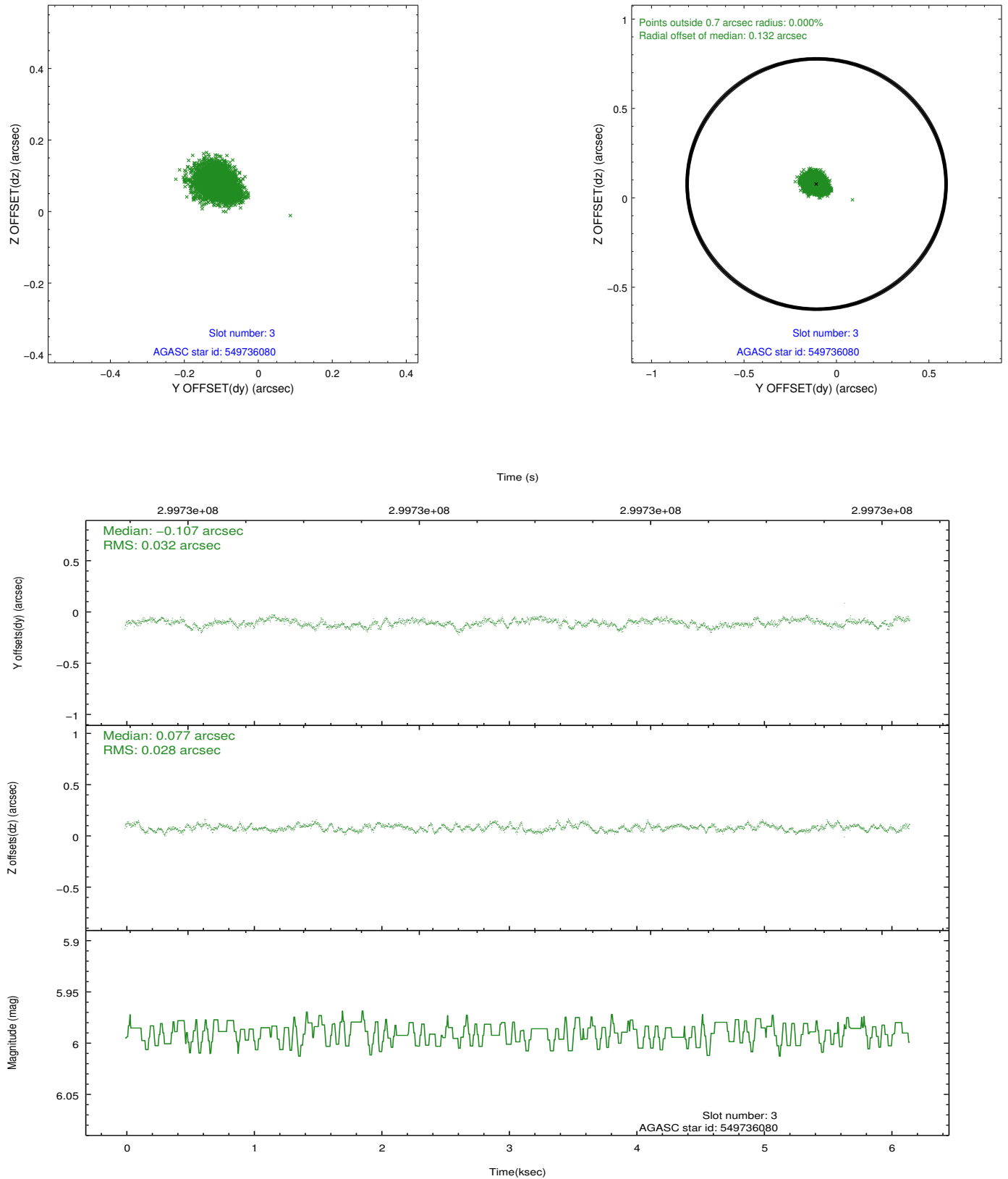


Slot Statistics

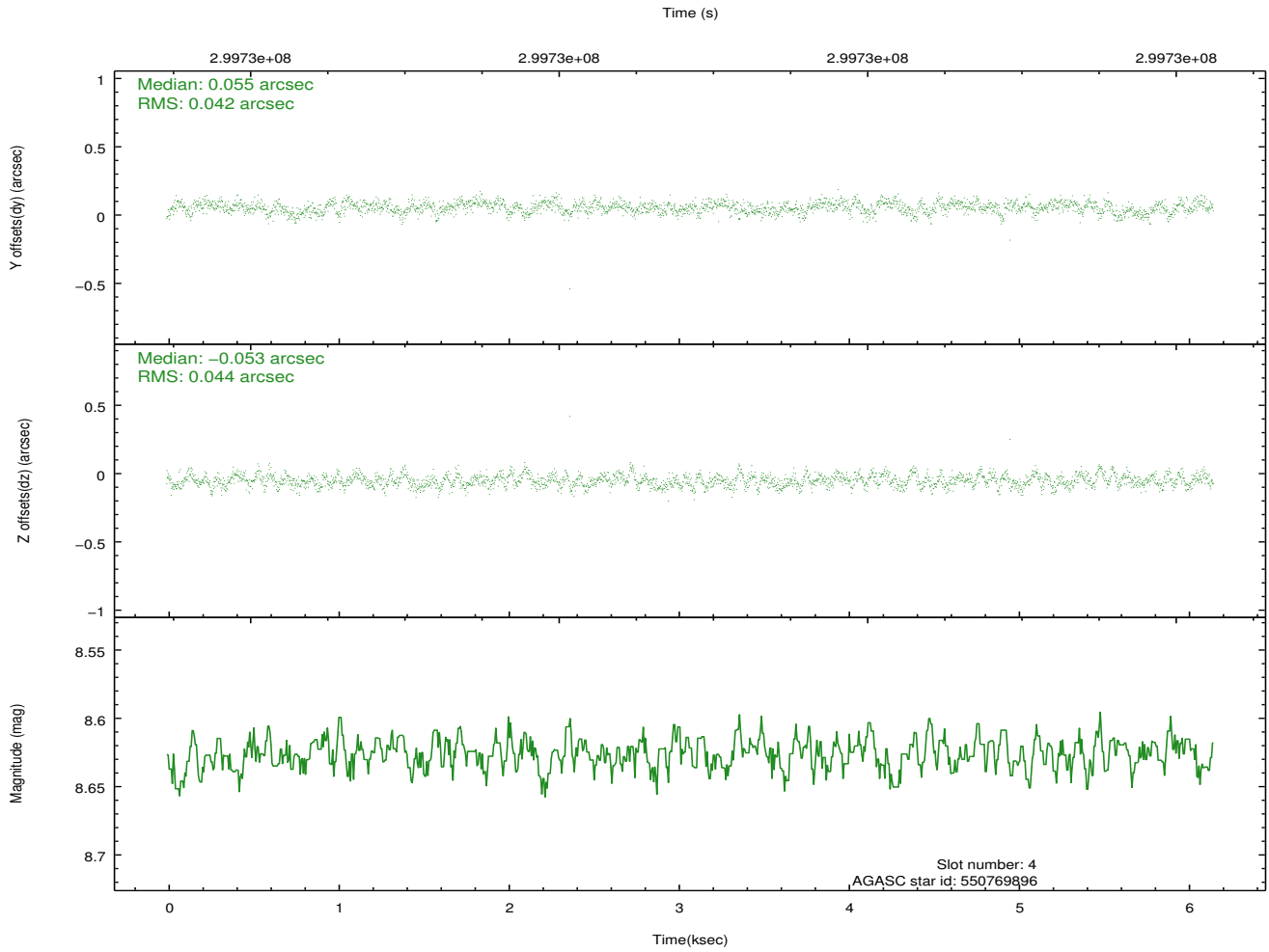
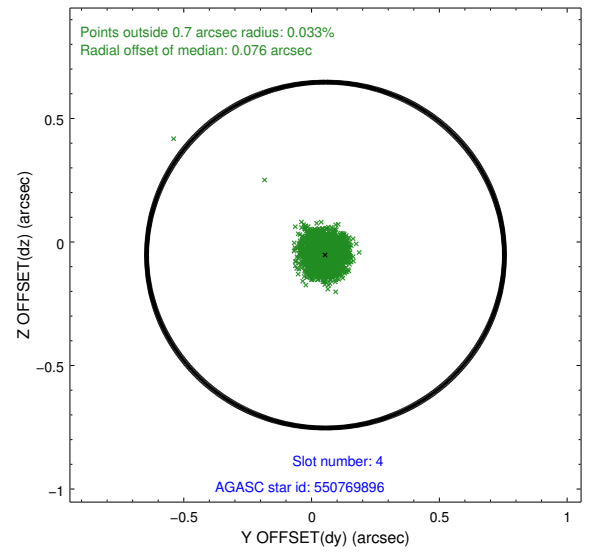
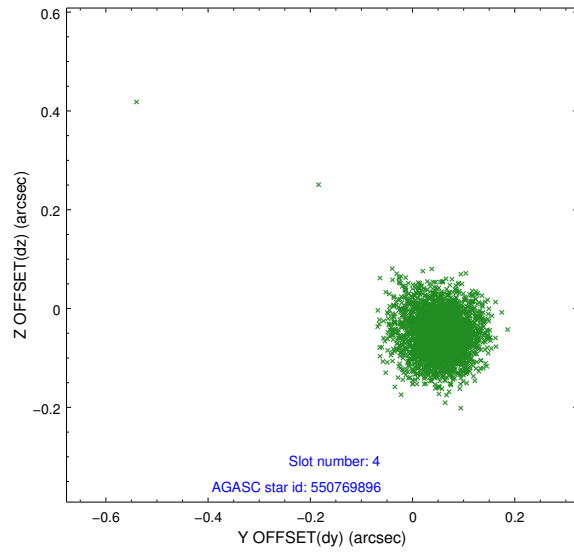
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | ACIS-I-1 | 7.22 | 1501 | -0.063 | 0.086 | 0.009 | 0.016 | 0.000000 | 0.000000 | 927.21 | -837.82 |
| 1 | FID | ACIS-I-2 | 7.14 | 1500 | -0.135 | -0.094 | 0.006 | 0.011 | 0.000000 | 0.000000 | -766.42 | -844.88 |
| 2 | FID | ACIS-I-4 | 7.16 | 1501 | 0.100 | 0.075 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2146.87 | 1061.46 |
| 3 | GUIDE | 549736080 | 5.99 | 3003 | -0.107 | 0.077 | 0.046 | 0.070 | 257.102105 | 64.319102 | 1229.46 | -1301.71 |
| 4 | GUIDE | 550769896 | 8.63 | 3001 | 0.055 | -0.053 | 0.062 | 0.102 | 257.787710 | 63.467361 | 1325.04 | 1949.30 |
| 5 | GUIDE | 550770640 | 7.77 | 3003 | -0.026 | -0.081 | 0.078 | 0.131 | 259.728053 | 63.722729 | -1908.54 | 2148.92 |
| 6 | GUIDE | 551288960 | 7.61 | 3003 | 0.000 | -0.037 | 0.063 | 0.104 | 259.407558 | 64.033161 | -1798.87 | 926.04 |
| 7 | GUIDE | 551291288 | 9.38 | 3001 | 0.081 | 0.090 | 0.092 | 0.149 | 259.078054 | 64.773988 | -2208.72 | -1758.66 |

2.4 Star Slots

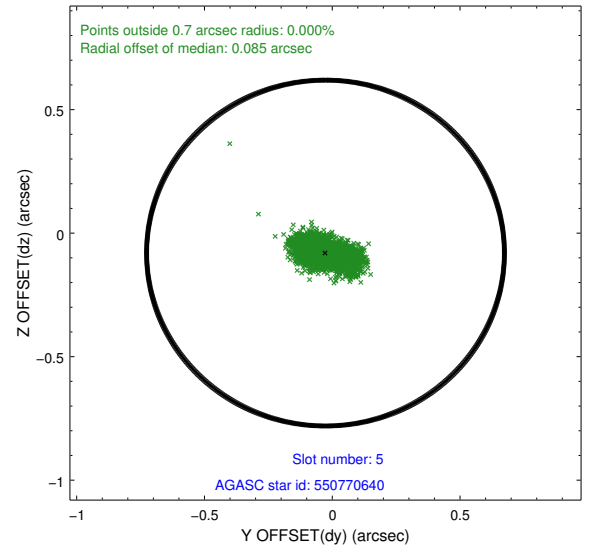
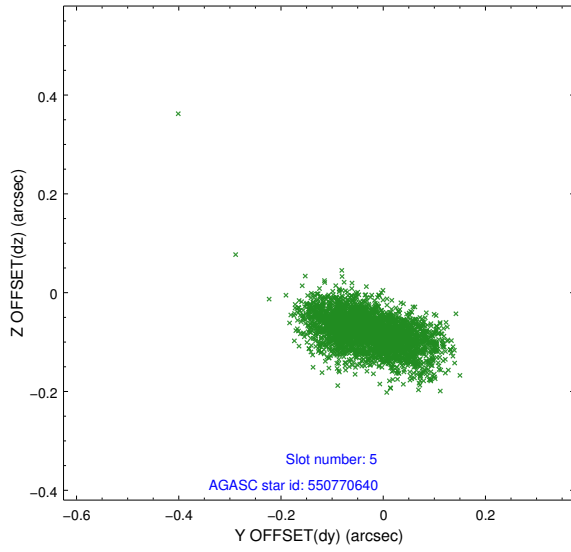
2.4.1 Slot 3



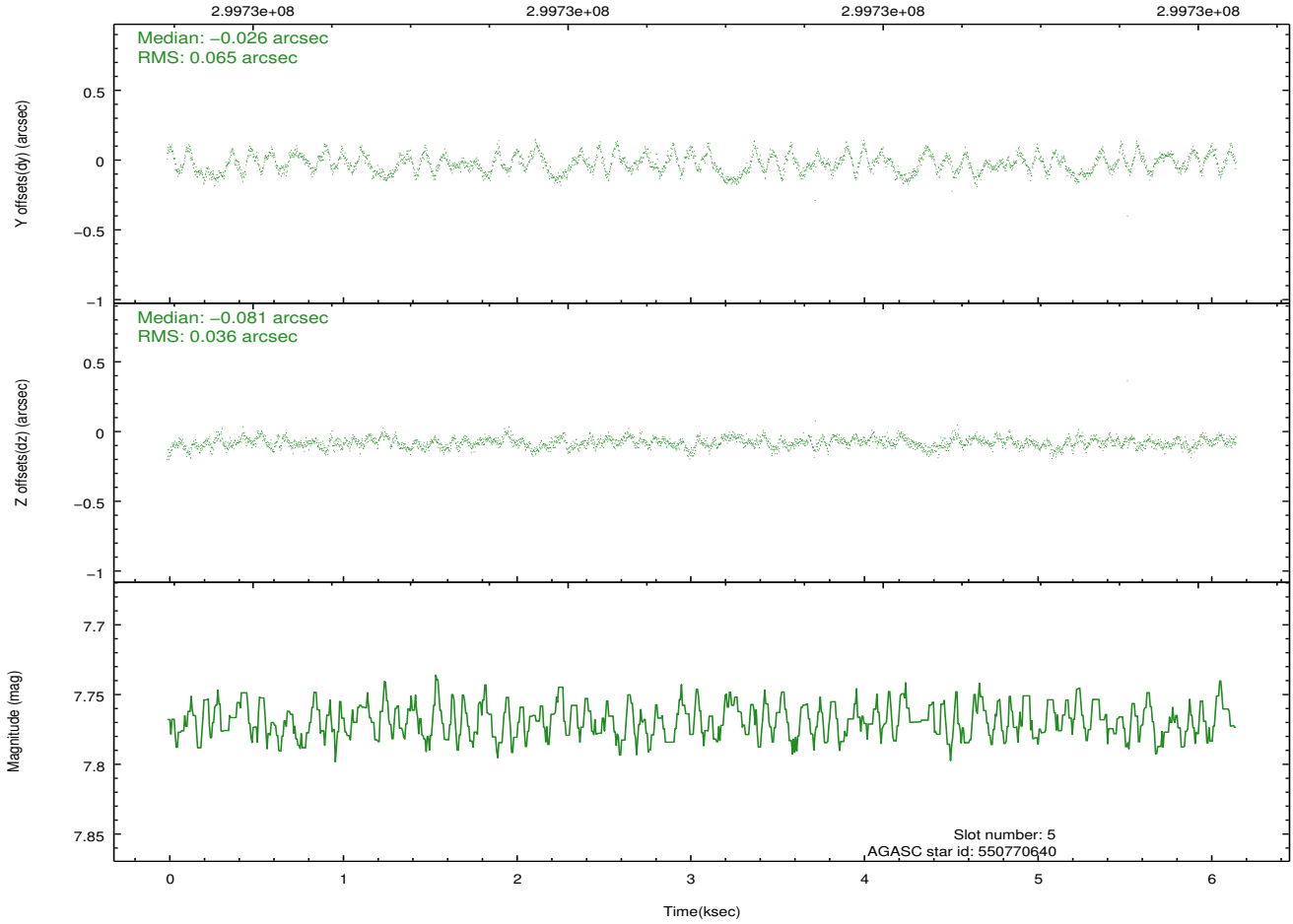
2.4.2 Slot 4



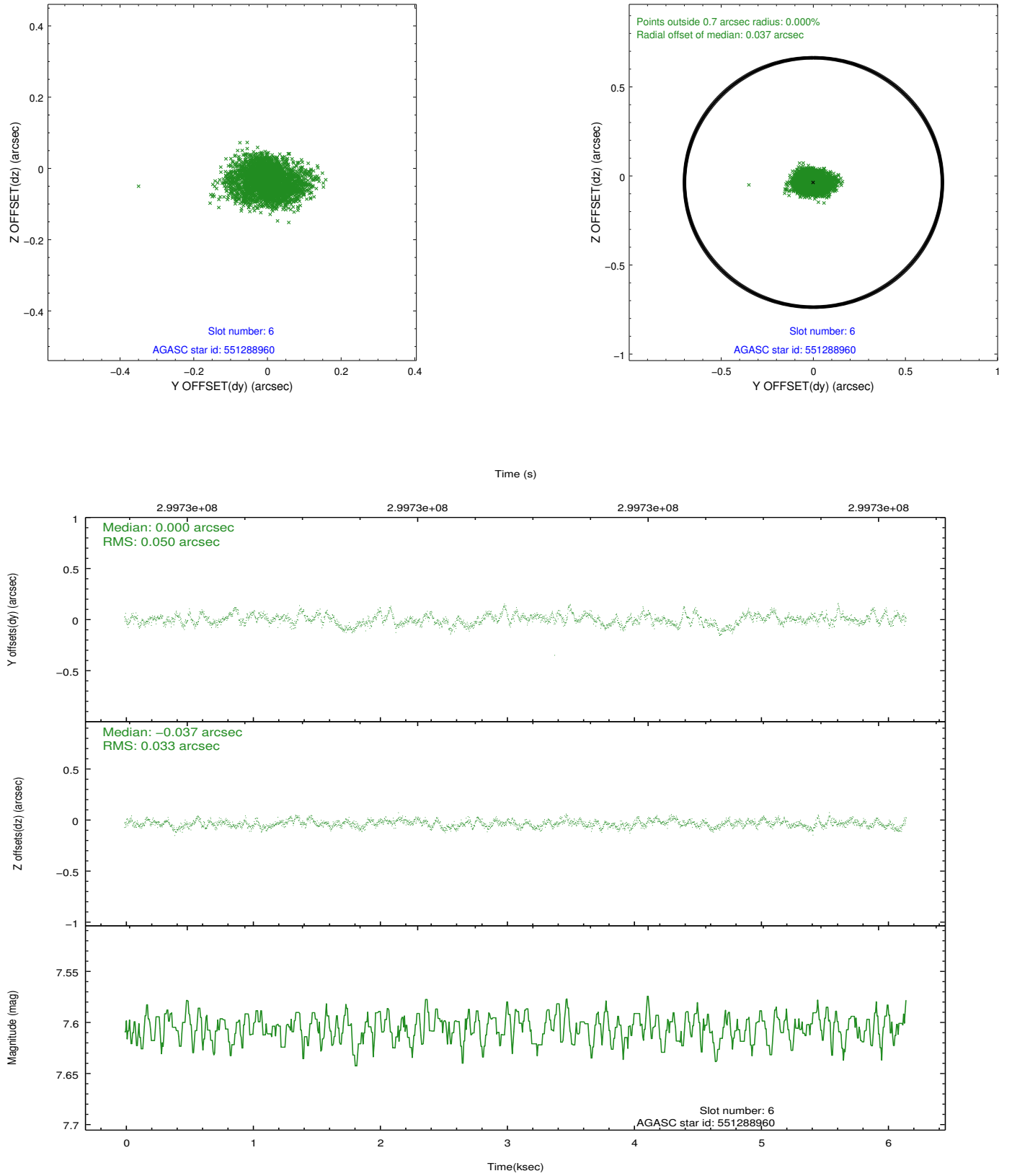
2.4.3 Slot 5



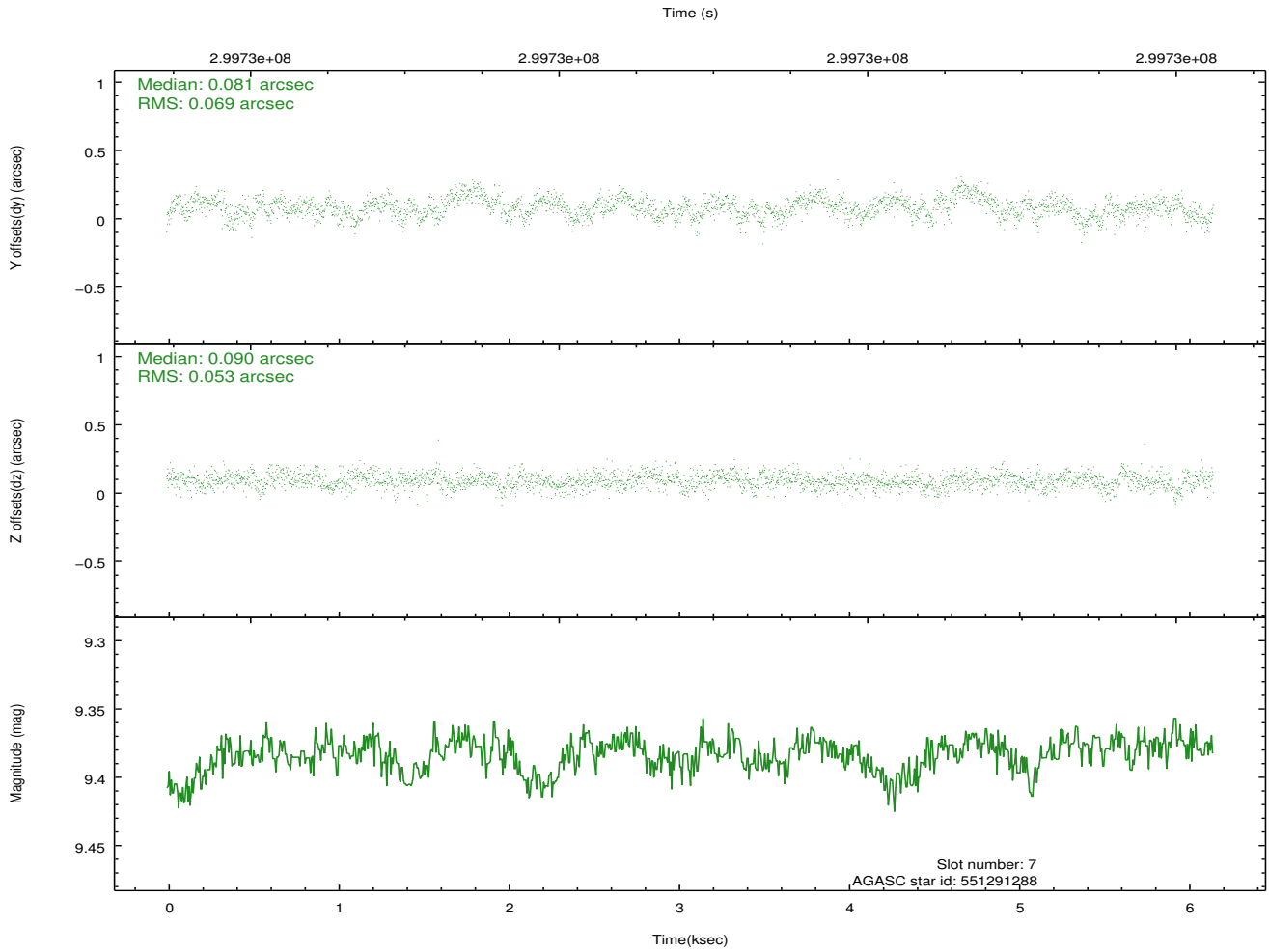
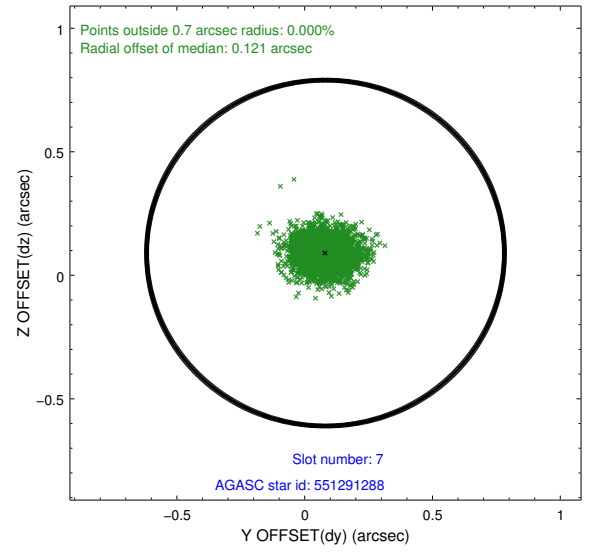
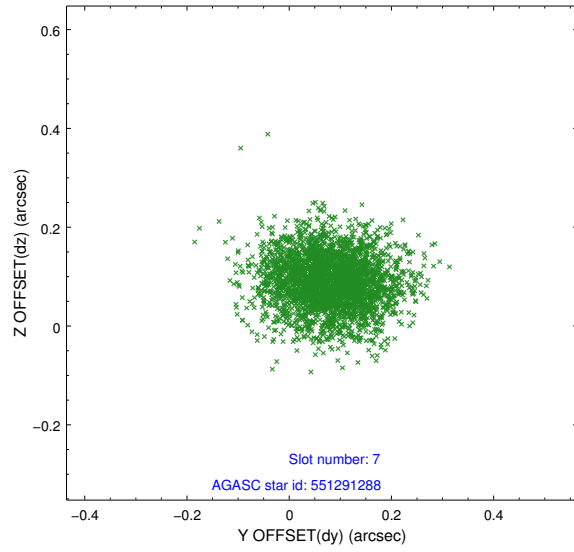
Time (s)



2.4.4 Slot 6

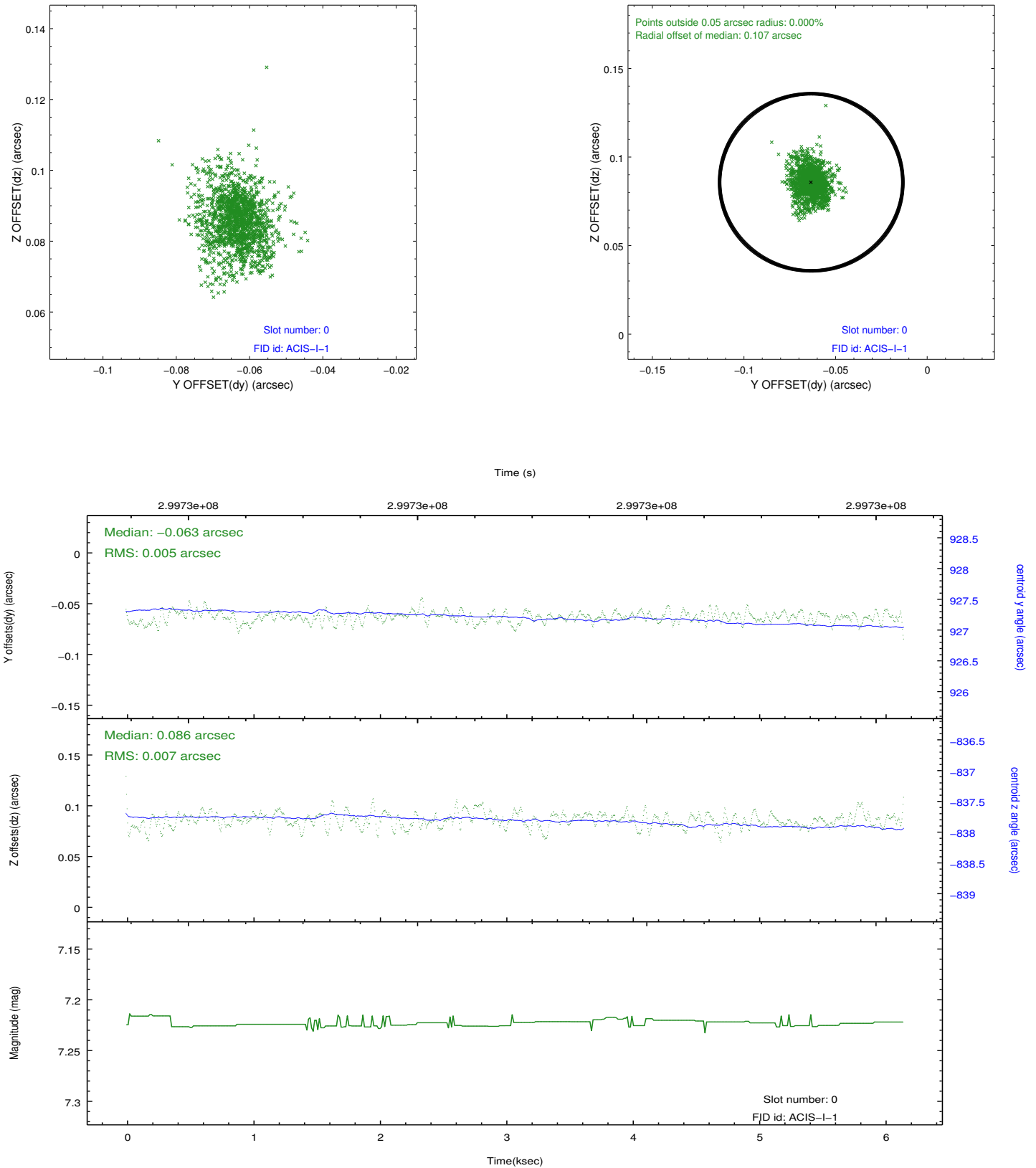


2.4.5 Slot 7

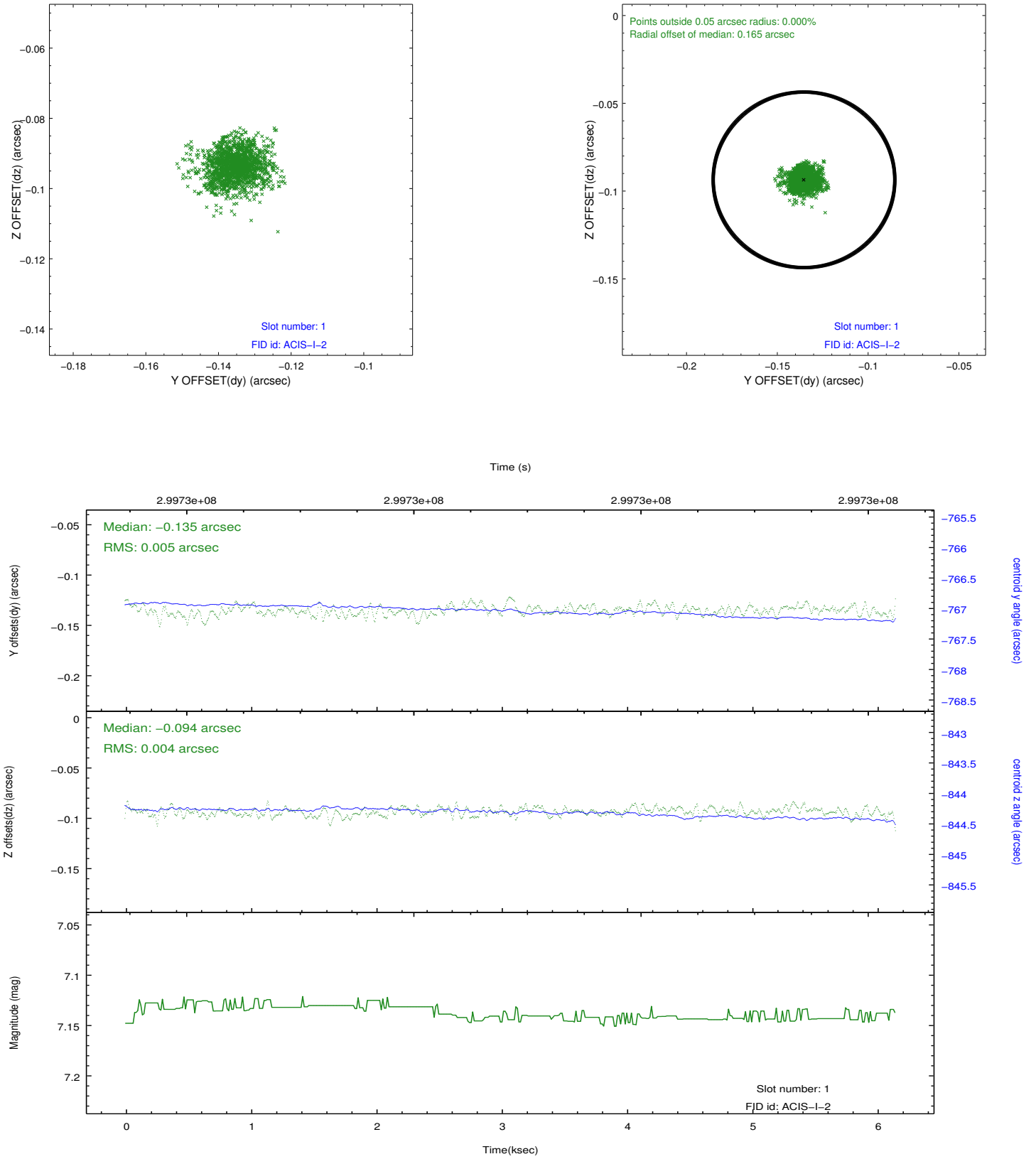


2.5 FID Slots

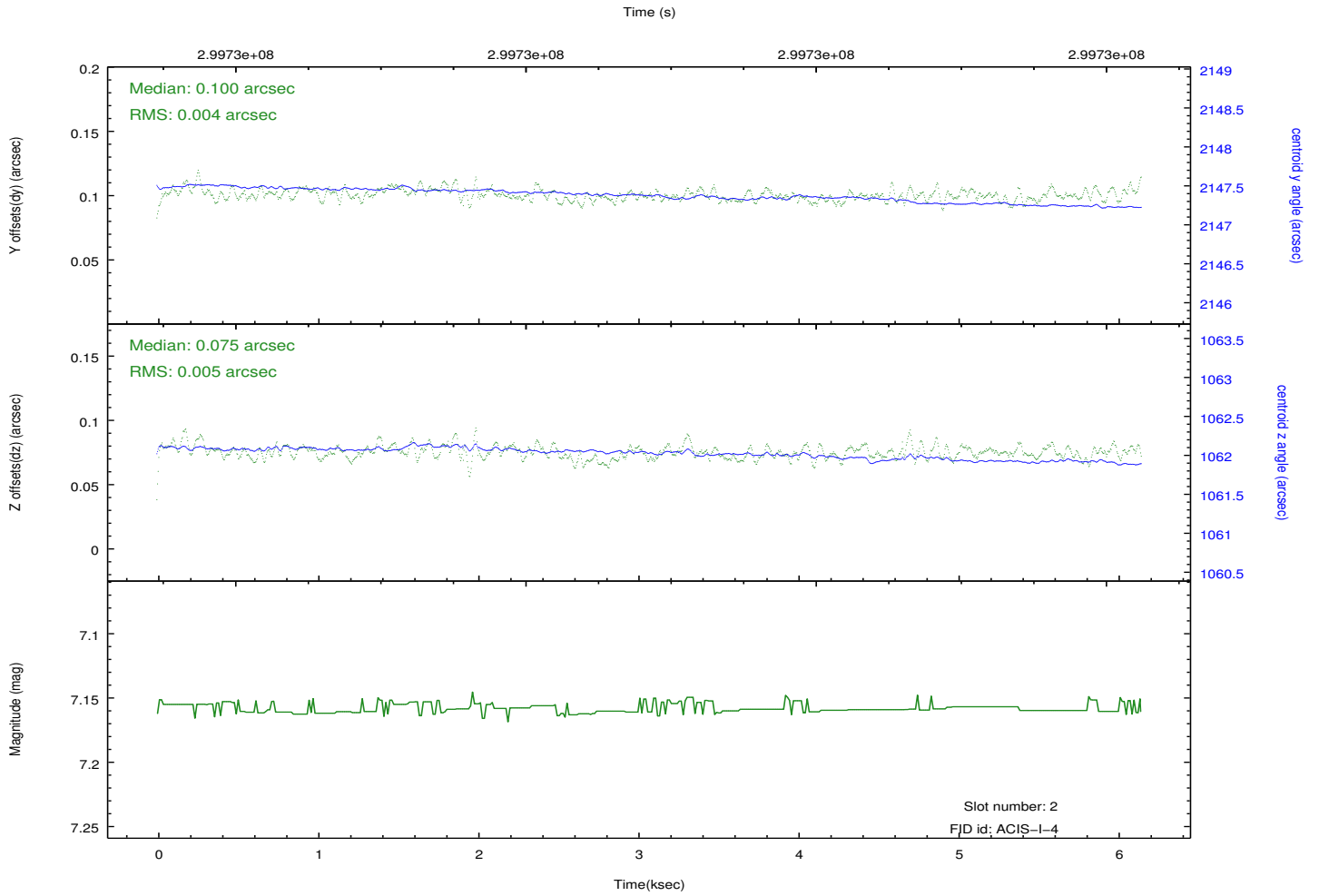
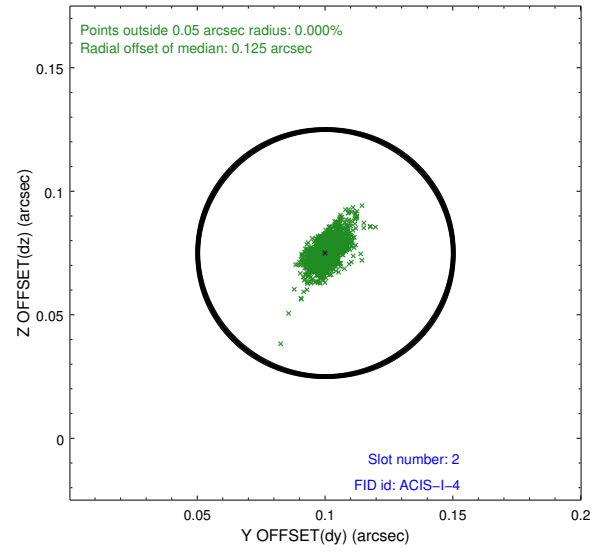
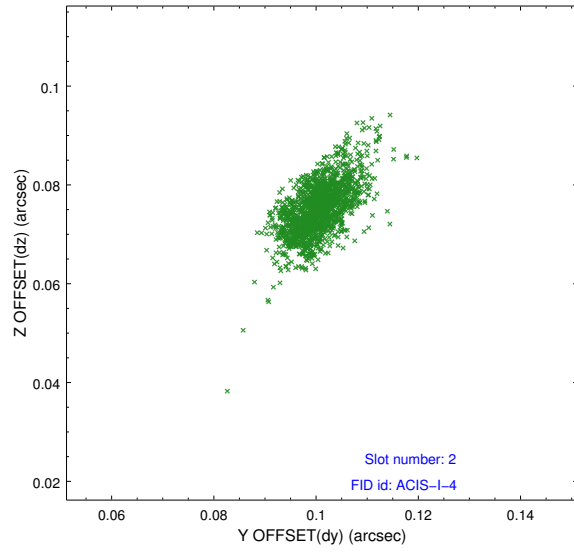
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2012.04.30 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 5.20800004 |

A.2 Comments

A spatial region of the original bias map for CCD = 1 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 1 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:

(258.31724,64.21712), (258.31458,64.22018), (258.25415,64.21028), (258.25683,64.20722)