

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 8046 - L2 Version 2
Chandra X-Ray Center

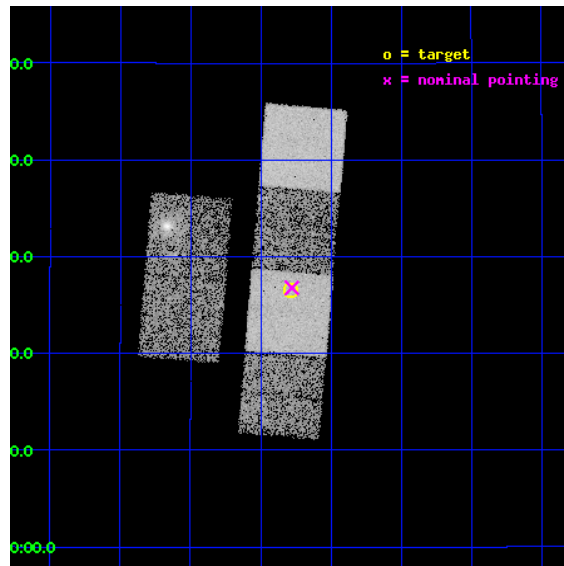
L2 Processing Date : May 10 2012

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1 Front

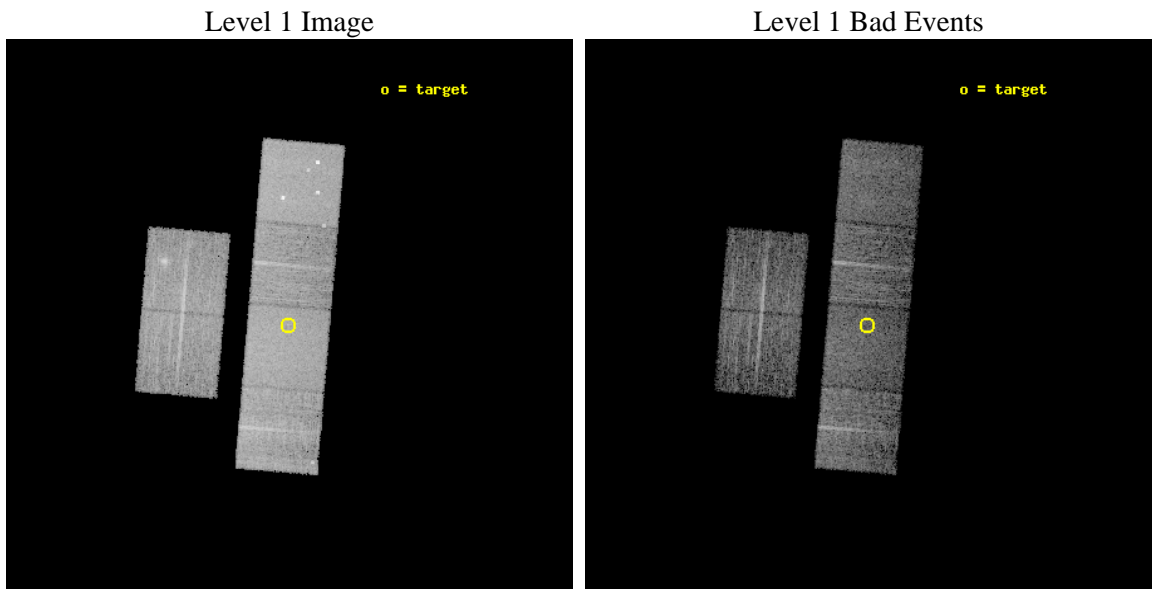
| | | |
|----------|---|---|
| seq_num | 900587 | Sequence number |
| obs_id | 8046 | Observation id |
| title | The Duty Cycle of Supermassive Black Holes: X-raying Virgo | Proposa |
| observer | Prof Tommaso Treu | Principal investigator |
| object | 1938 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 190.6975 | Observer's specified target RA [deg] |
| dec_targ | 11.4425 | Observer's specified target Dec [deg] |
| ra_nom | 190.69452533323 | Nominal RA [deg] |
| dec_nom | 11.446316493133 | Nominal Dec [deg] |
| roll_nom | 94.85646027543 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 5350.3999801278 | Sum of GTIs [s] |
| livetime | 5282.6499939553 | Livetime [s] |
| ontime2 | 5350.3999801278 | Sum of GTIs [s] |
| ontime3 | 5350.3999801278 | Sum of GTIs [s] |
| ontime5 | 5350.3999801278 | Sum of GTIs [s] |
| ontime6 | 5350.3999801278 | Sum of GTIs [s] |
| ontime7 | 5350.3999801278 | Sum of GTIs [s] |
| ontime8 | 5350.3999801278 | Sum of GTIs [s] |
| l2events | 87176 | Number of level 2 events |



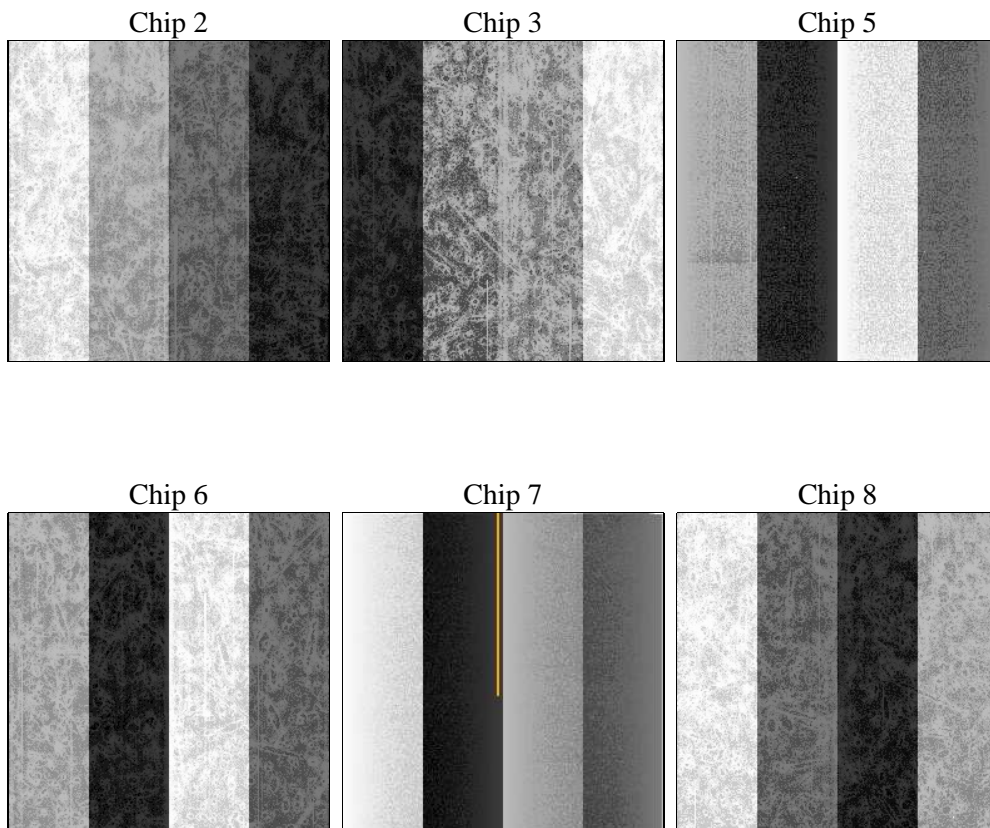
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 5400.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 5350.3999801278 | Sum of GTIs [s] |
| caldbver | 4.4.9 | | ontime2 | 5350.3999801278 | Sum of GTIs [s] |
| date | 2012-05-10T11:09:27 | Date and time of file creation | ontime3 | 5350.3999801278 | Sum of GTIs [s] |
| revision | 2 | Processing version of data | ontime5 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime6 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime7 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime8 | 5350.3999801278 | Sum of GTIs [s] |
| | | | l1events | 373810 | Number of level 1 events |

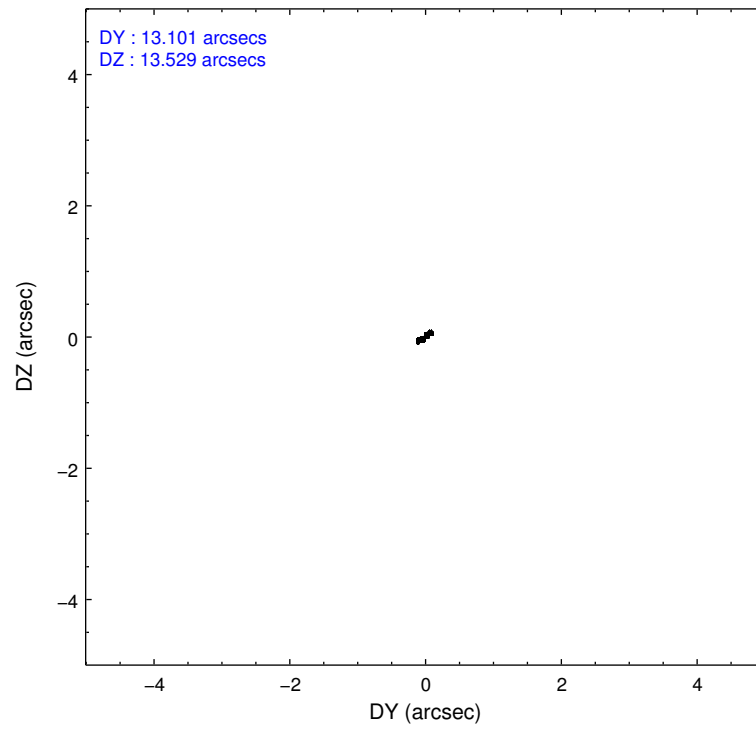
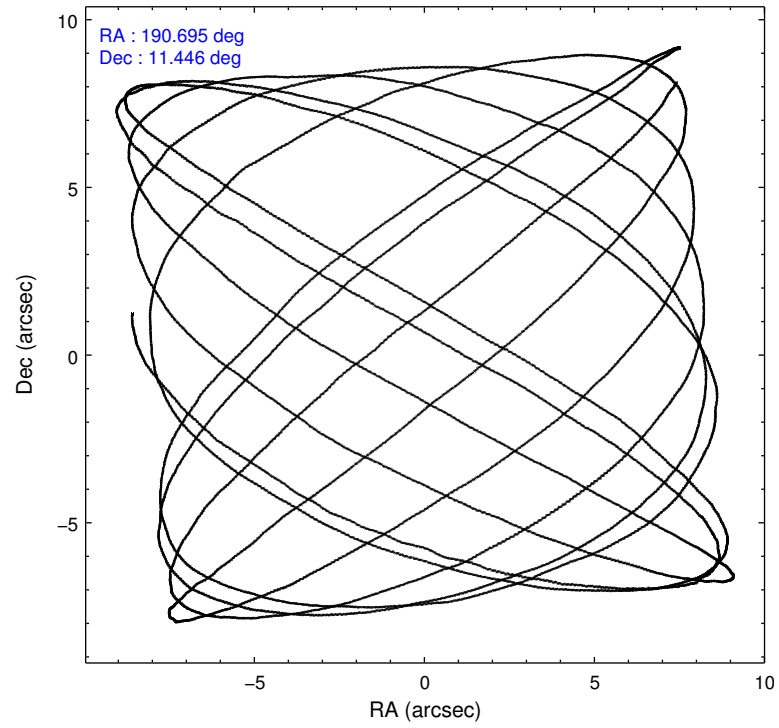
2.1.4 Events

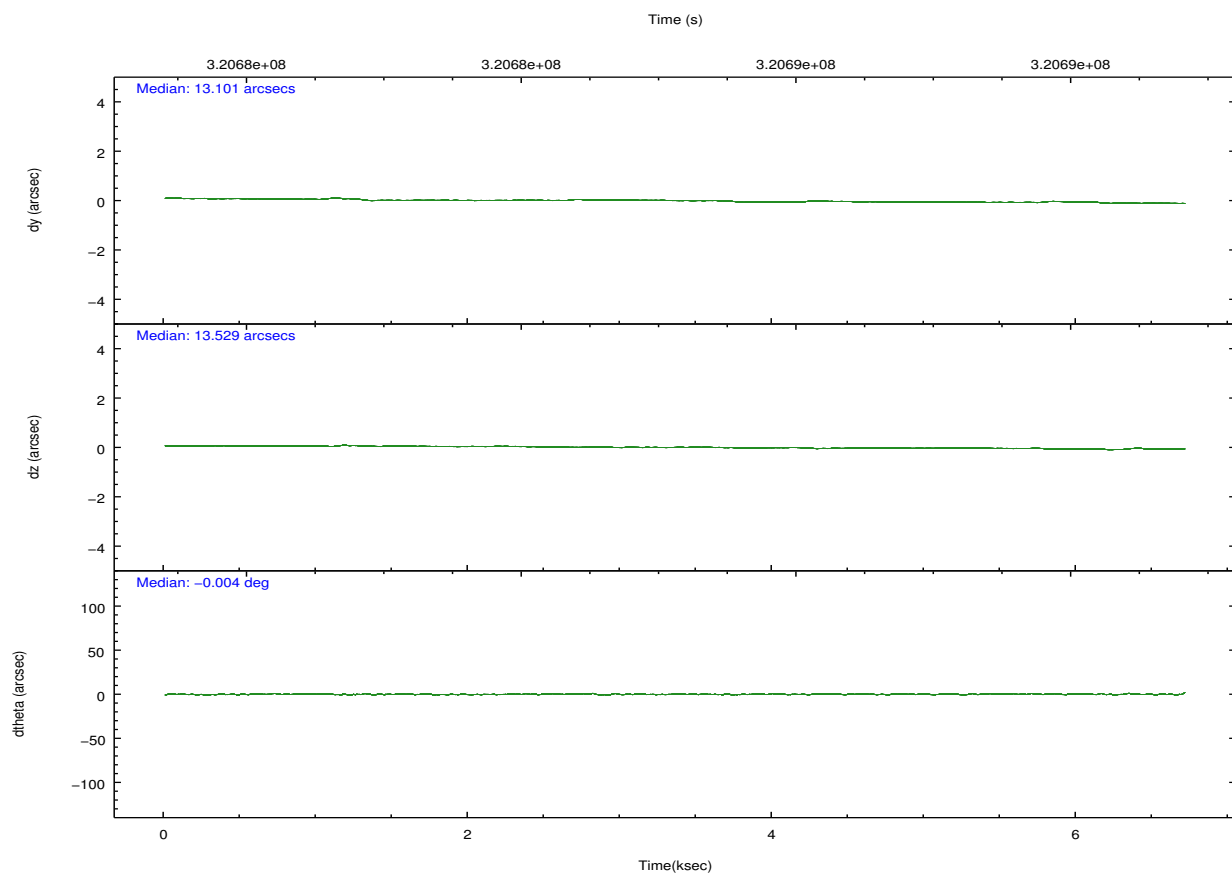
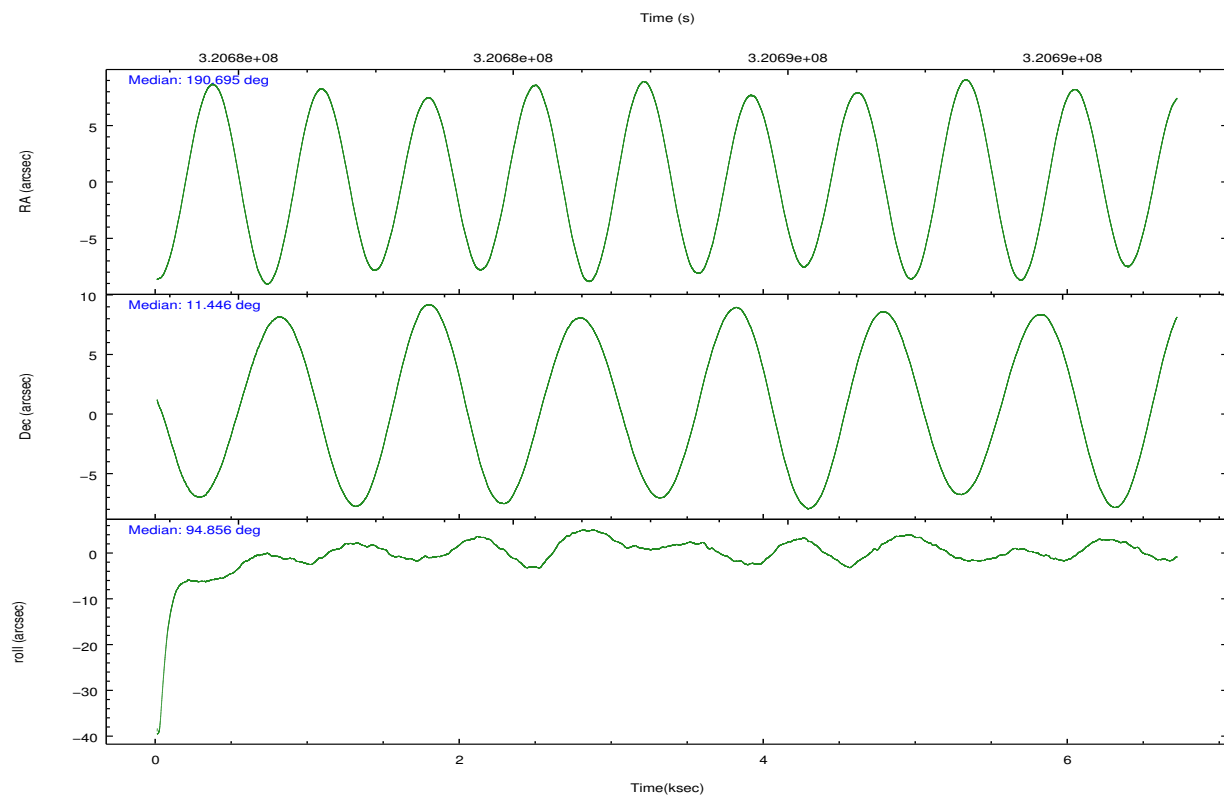
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 53678 | 48907 | 82021 | 51235 | 70926 | 67043 | grade 0 events | 4670 | 2671 | 5416 | 2458 | 2669 | 4856 |
| rejected events | 45314 | 42730 | 42631 | 44965 | 41323 | 51752 | | 8% | 5% | 6% | 4% | 3% | 7% |
| rejected % | 84% | 87% | 51% | 87% | 58% | 77% | grade 1 events | 47 | 38 | 125 | 33 | 70 | 53 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 1481 | 1246 | 12350 | 1378 | 6053 | 3426 |
| | | | | | | | | 2% | 2% | 15% | 2% | 8% | 5% |
| | | | | | | | grade 3 events | 577 | 586 | 1285 | 625 | 2451 | 1547 |
| | | | | | | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 4 events | 606 | 596 | 1135 | 544 | 2436 | 1357 |
| | | | | | | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 5 events | 1984 | 2318 | 5359 | 2360 | 6649 | 3201 |
| | | | | | | | | 3% | 4% | 6% | 4% | 9% | 4% |
| | | | | | | | grade 6 events | 1040 | 1086 | 19258 | 1273 | 16035 | 4121 |
| | | | | | | | | 1% | 2% | 23% | 2% | 22% | 6% |
| | | | | | | | grade 7 events | 43273 | 40366 | 37093 | 42564 | 34563 | 48482 |
| | | | | | | | | 80% | 82% | 45% | 83% | 48% | 72% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-235678 | ACIS-235678 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | FAINT | FAINT | CCD I0 on | N | N |
| Observation mode | POINTING | POINTING | CCD I1 on | N | N |
| [deg] Pointing RA | 190.710805 | 190.6945253332276 | CCD I2 on | O1 | Y |
| [deg] Pointing Dec | 11.424171 | 11.44631649313274 | CCD I3 on | O2 | Y |
| [deg] Pointing Roll | 94.696606 | 94.85646027542994 | CCD S0 on | N | N |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 | CCD S1 on | O3 | Y |
| [mm] SIM defocus | 0 | 0.001444936568705701 | CCD S2 on | Y | Y |
| [mm] SIM translation stage pos | -190.132523 | -190.1425803651734 | CCD S3 on | Y | Y |
| [mm] SIM translation stage offset | 0 | 0.01005778216563158 | CCD S4 on | O4 | Y |
| [s] Observation start time (MET) | 320683083.184000 | 320681557.30259 | CCD S5 on | N | N |
| Observation start date | 2008-02-29T14:36:58 | 2008-02-29T14:12:37 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 320688483.184000 | 320688616.47794 | On-chip summing requested | N | N |
| Observation end date | 2008-02-29T16:06:58 | 2008-02-29T16:10:16 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



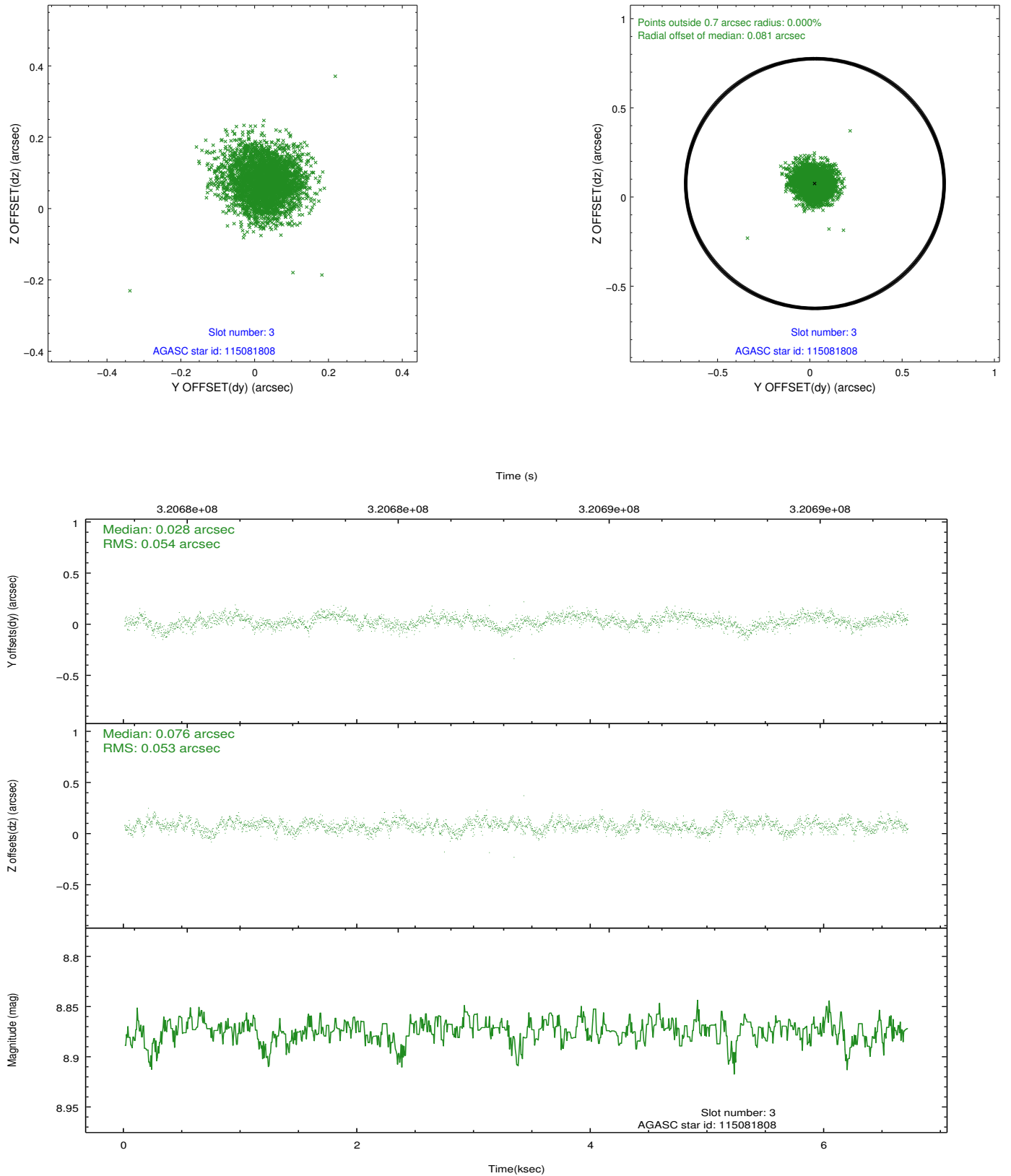


Slot Statistics

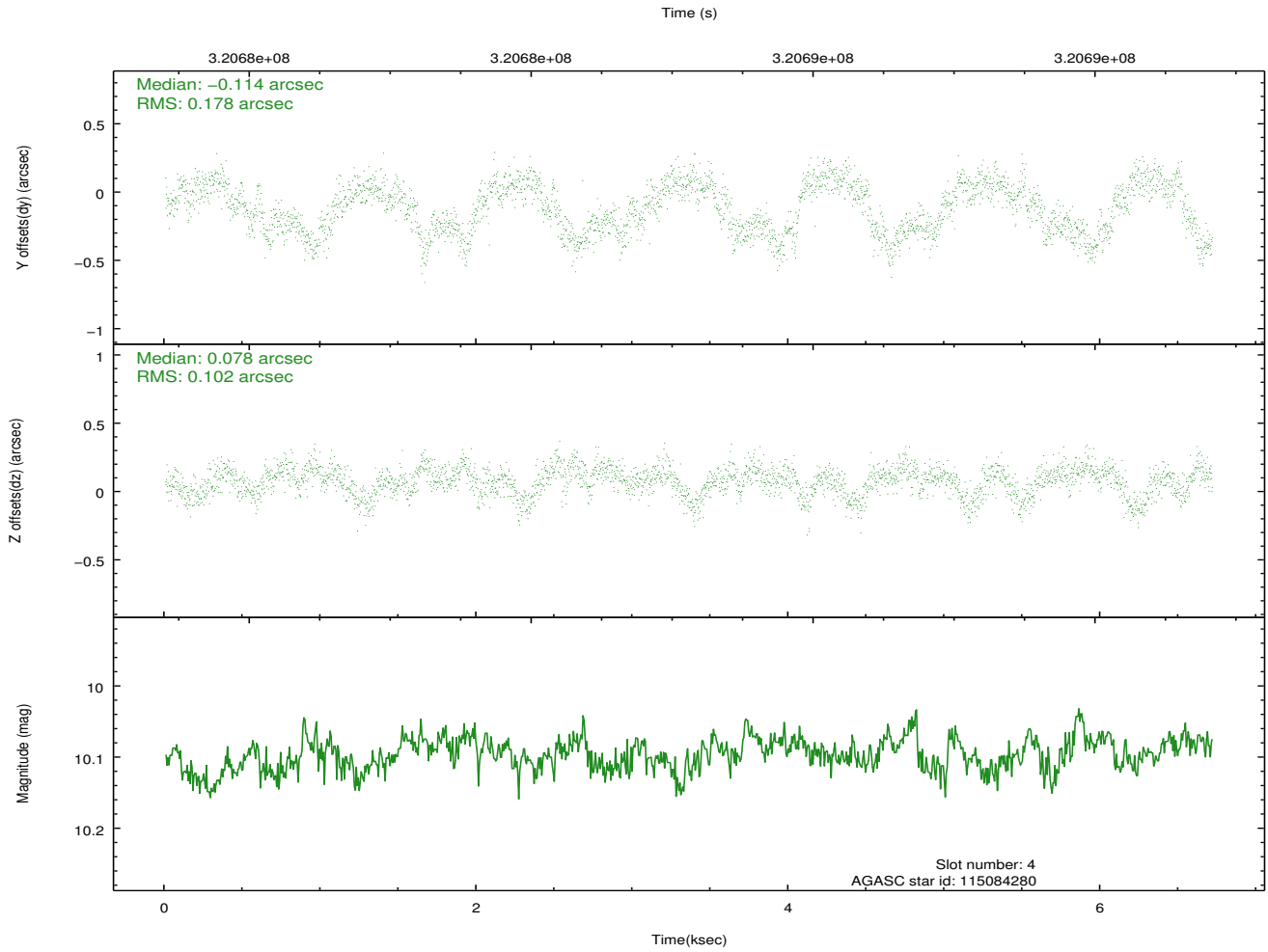
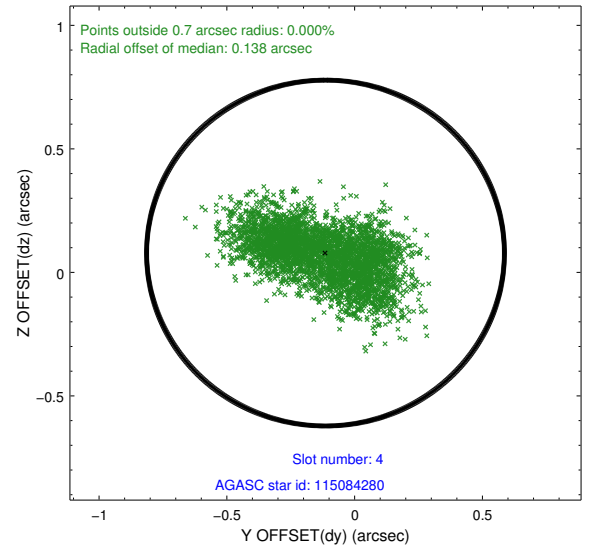
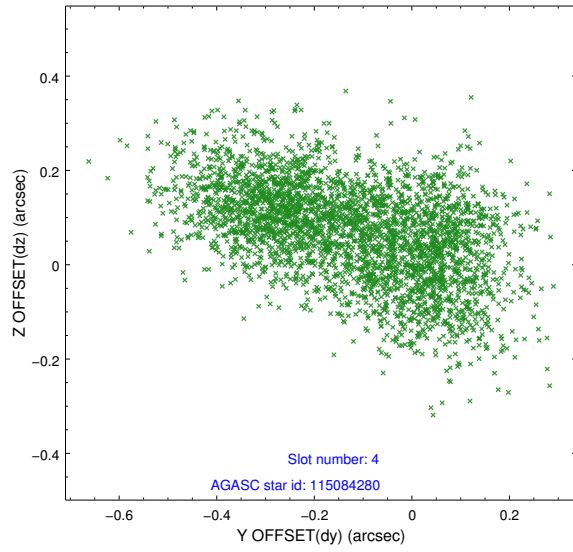
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.10 | 1637 | -0.036 | -0.067 | 0.007 | 0.011 | 0.000000 | 0.000000 | -766.04 | -1734.88 |
| 1 | FID | ACIS-S-4 | 7.19 | 1637 | 0.163 | 0.035 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2147.04 | 172.80 |
| 2 | FID | ACIS-S-5 | 7.23 | 1637 | -0.158 | 0.041 | 0.007 | 0.012 | 0.000000 | 0.000000 | -1817.89 | 167.47 |
| 3 | GUIDE | 115081808 | 8.87 | 3271 | 0.028 | 0.076 | 0.080 | 0.130 | 191.005561 | 10.921316 | -1888.51 | -889.76 |
| 4 | GUIDE | 115084280 | 10.10 | 3266 | -0.114 | 0.078 | 0.221 | 0.346 | 190.781448 | 11.930338 | 1795.22 | -397.00 |
| 5 | GUIDE | 115084352 | 9.24 | 3268 | -0.018 | -0.001 | 0.084 | 0.135 | 190.760225 | 11.783180 | 1273.87 | -278.94 |
| 6 | GUIDE | 115086480 | 9.75 | 3271 | 0.086 | 0.184 | 0.140 | 0.221 | 190.542253 | 10.883394 | -1890.37 | 753.50 |
| 7 | GUIDE | 115087784 | 8.88 | 3271 | 0.026 | -0.325 | 0.089 | 0.144 | 190.162527 | 10.931081 | -1608.73 | 2077.33 |

2.4 Star Slots

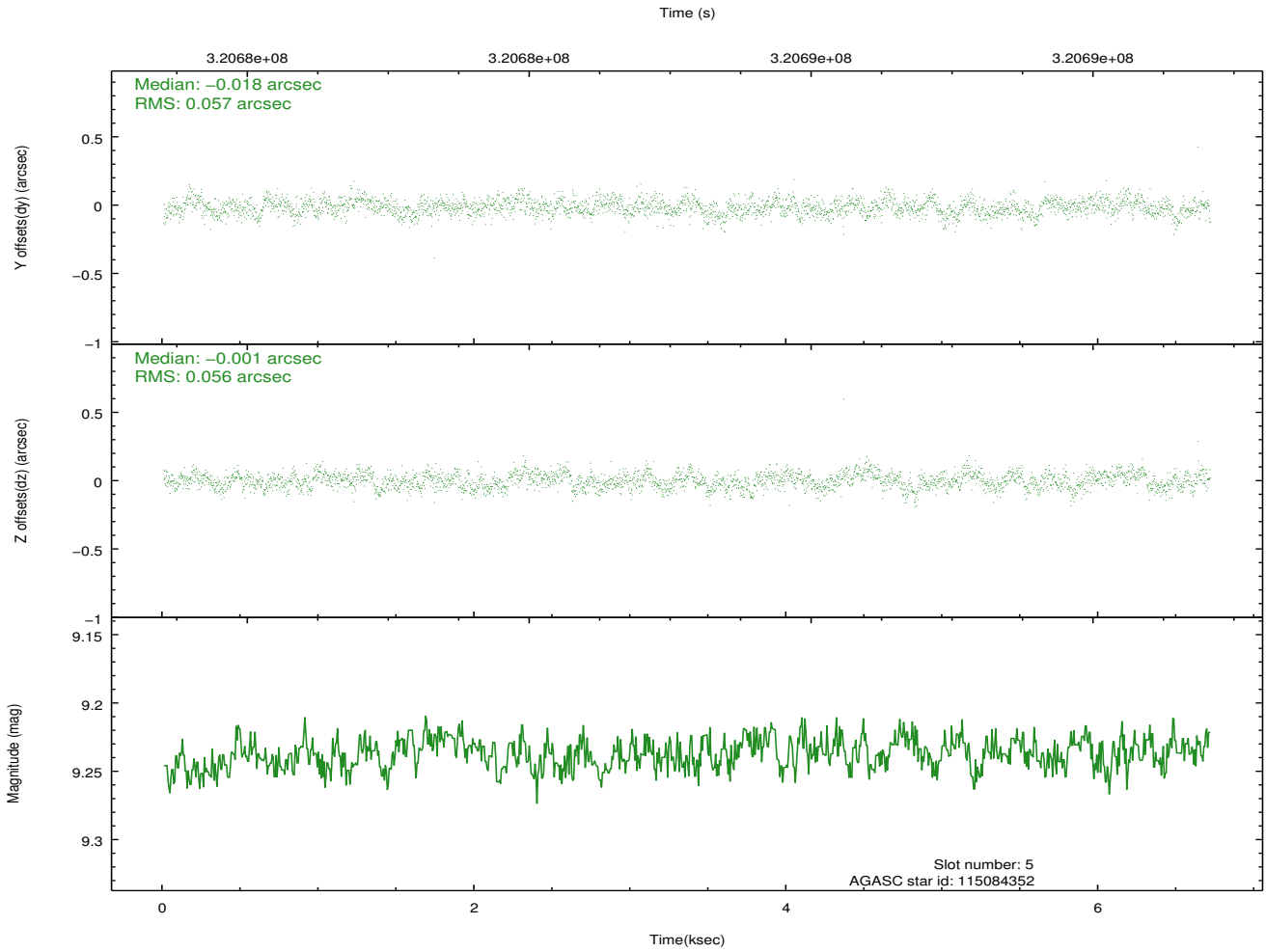
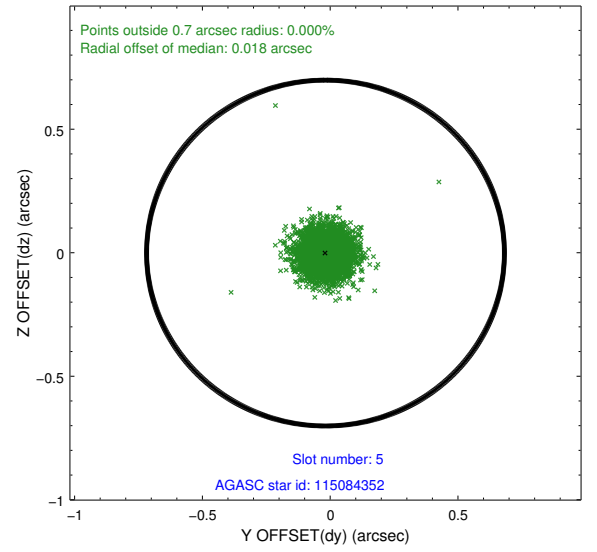
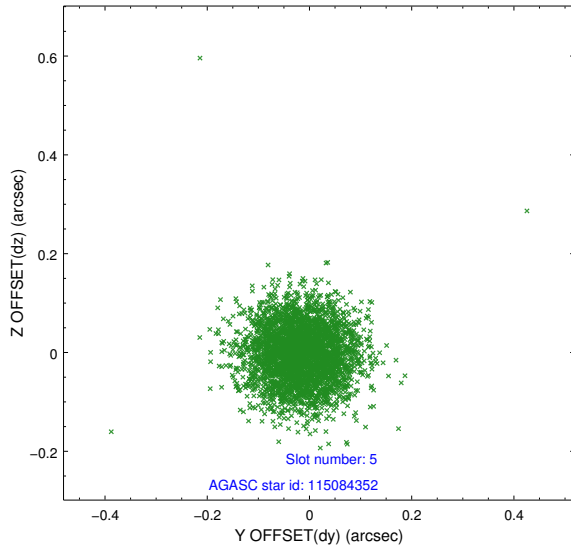
2.4.1 Slot 3



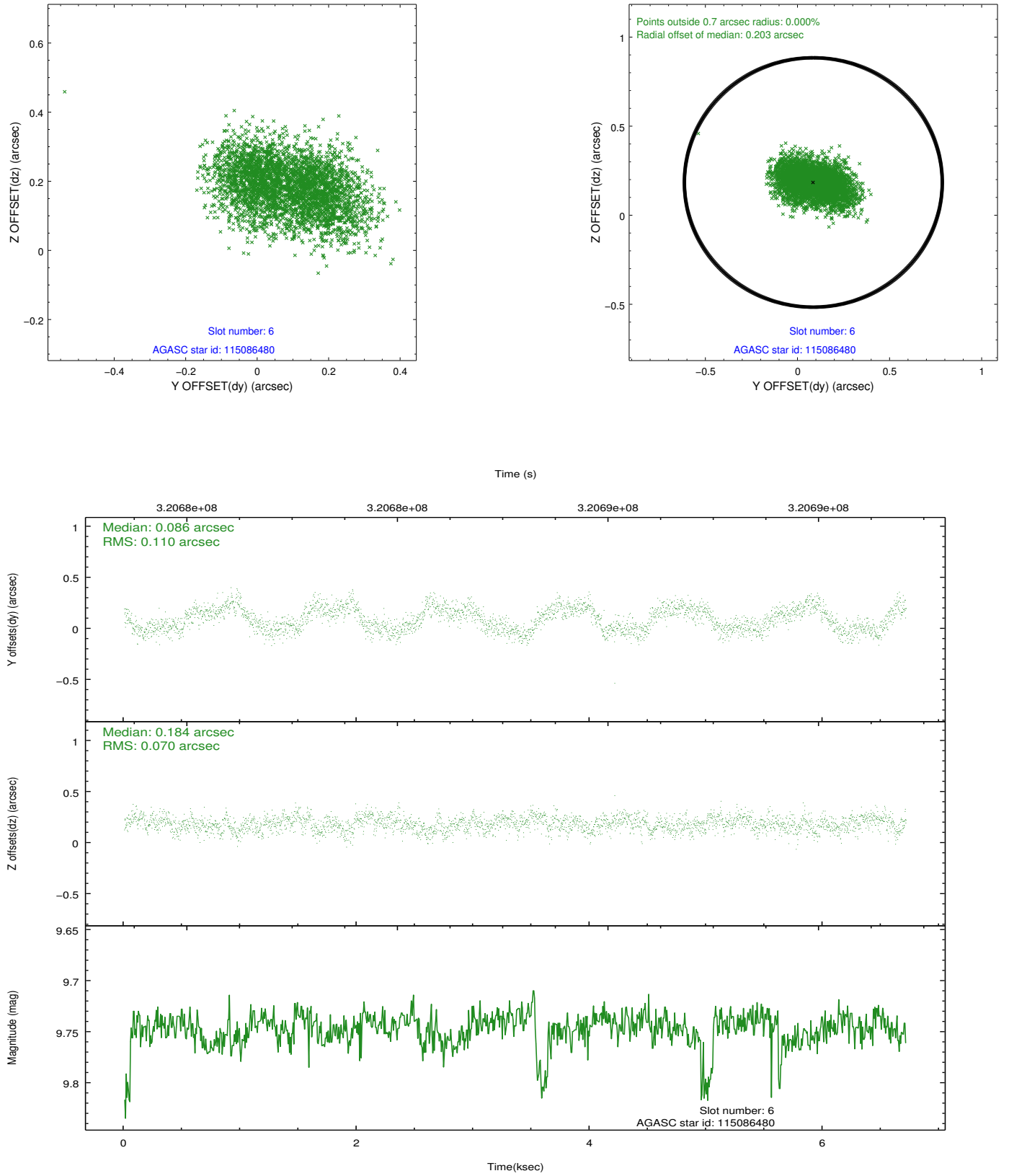
2.4.2 Slot 4



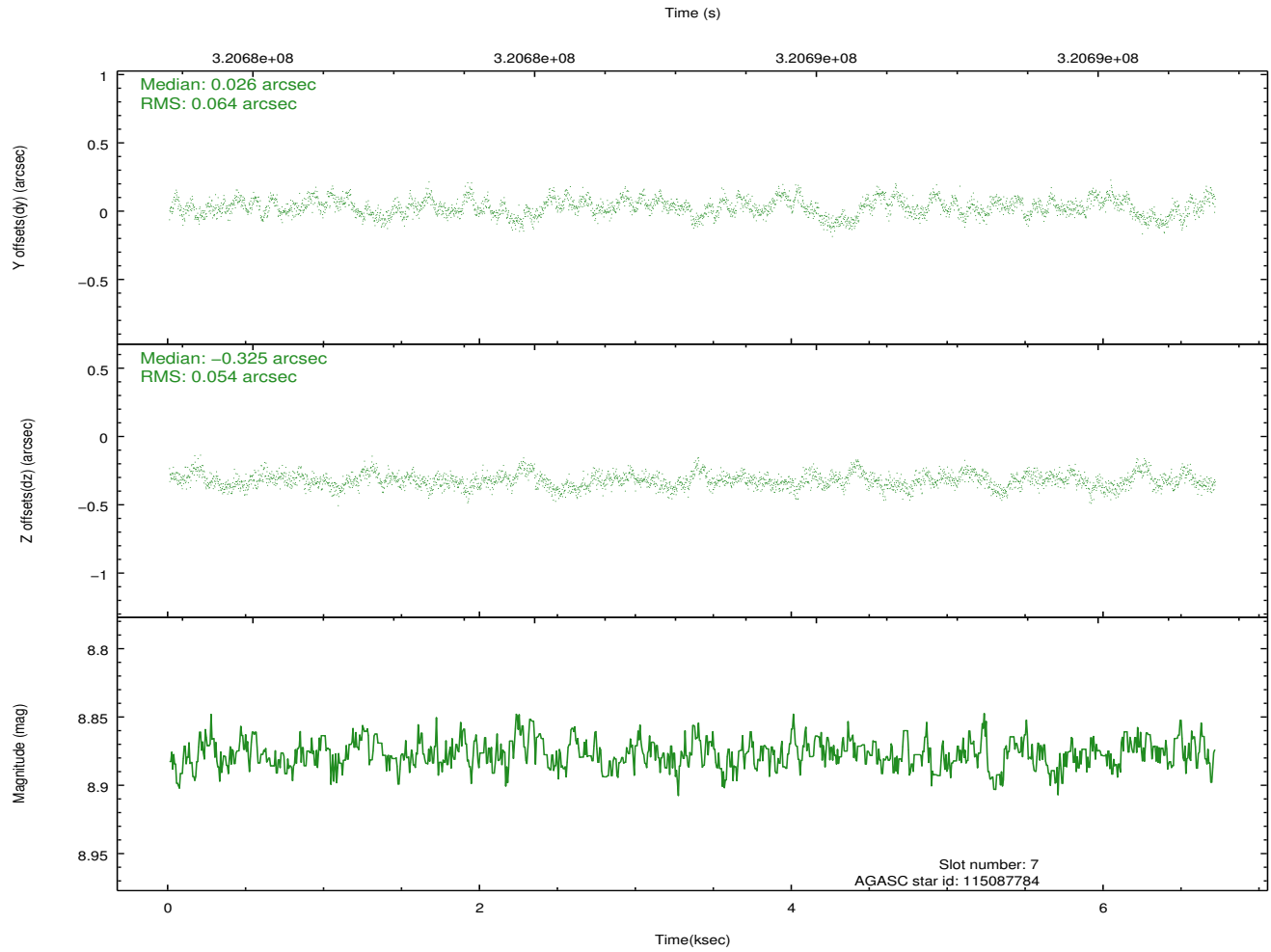
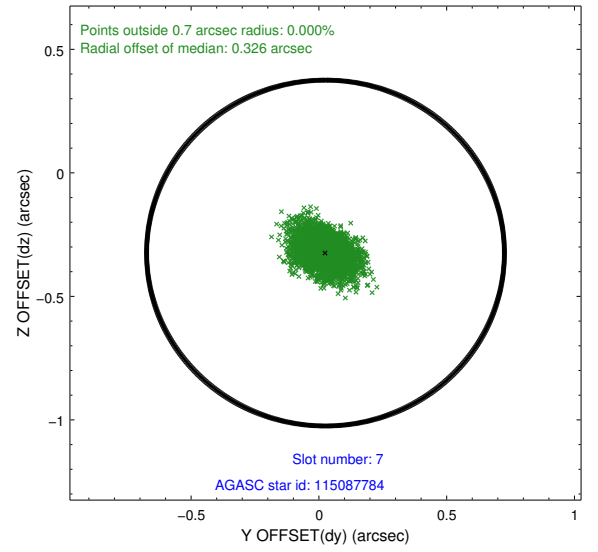
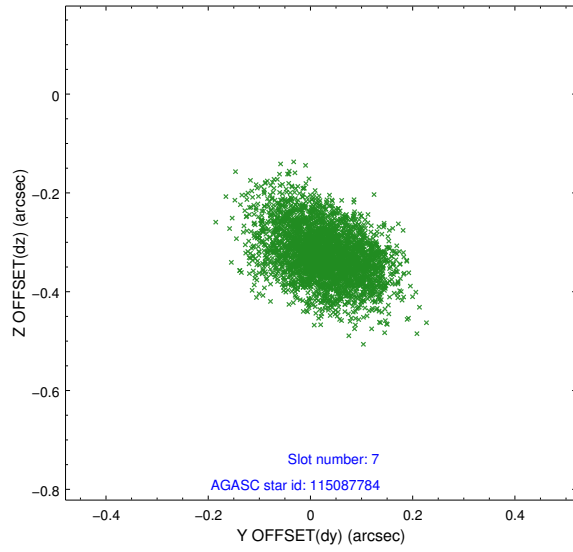
2.4.3 Slot 5



2.4.4 Slot 6

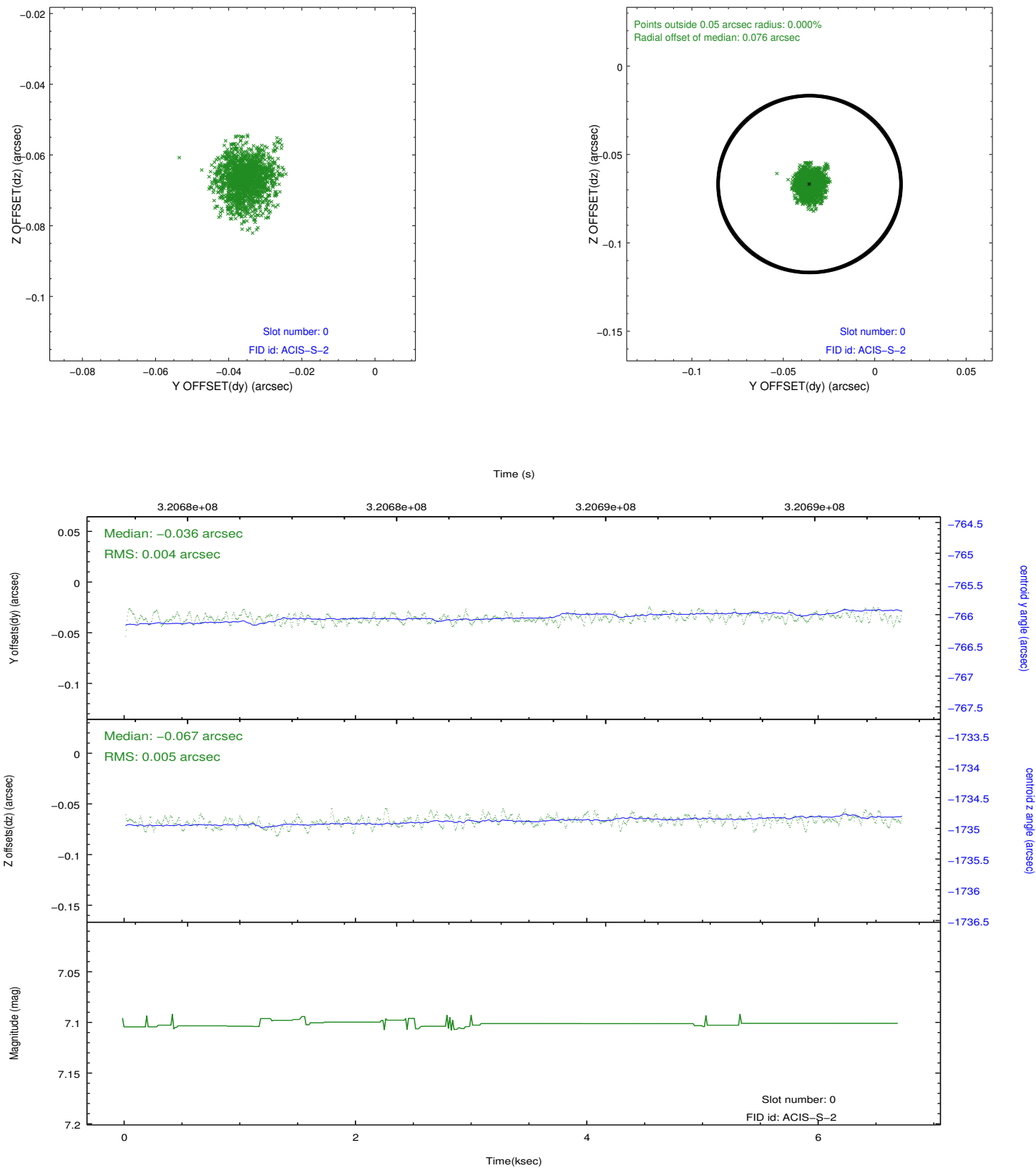


2.4.5 Slot 7

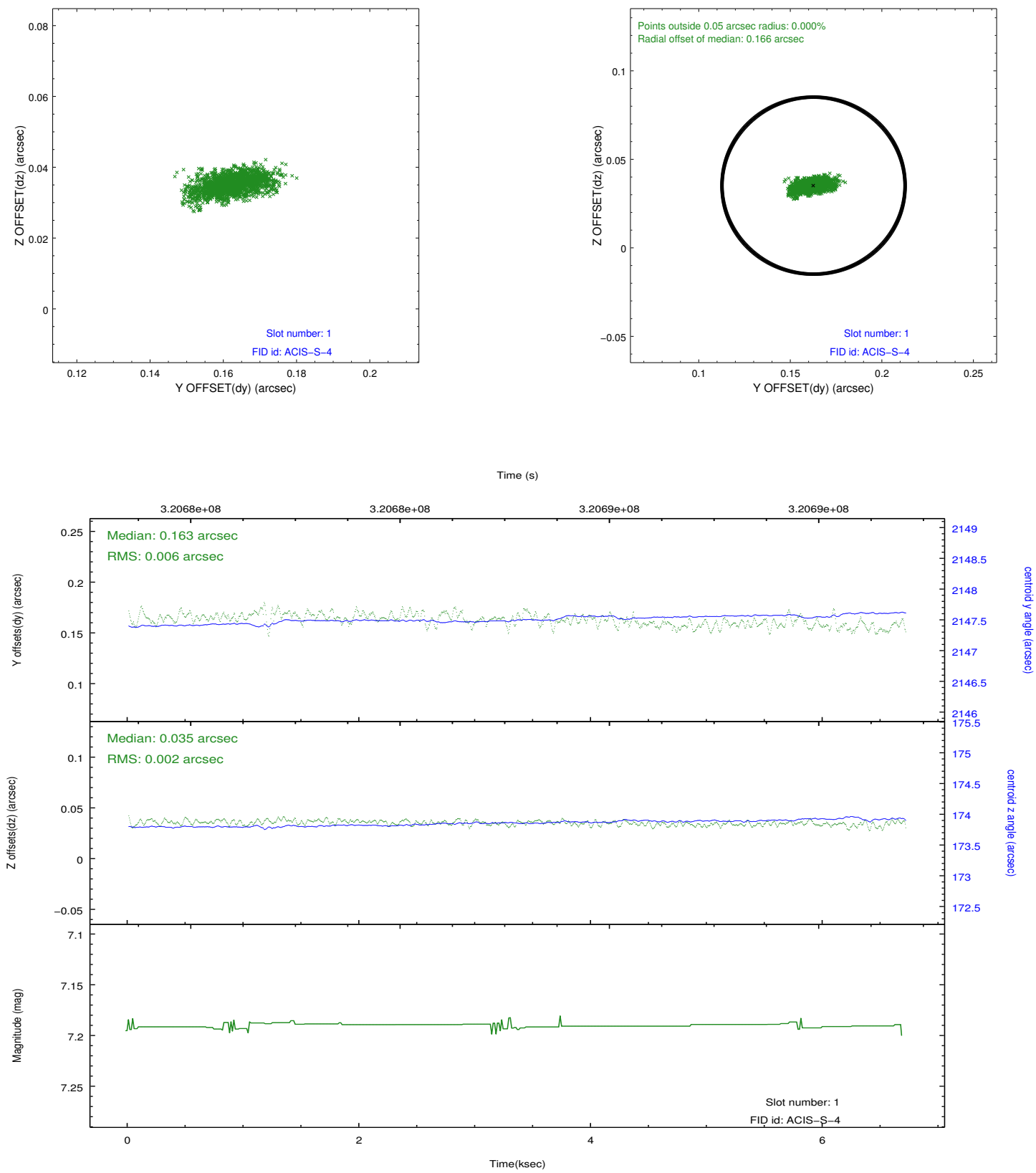


2.5 FID Slots

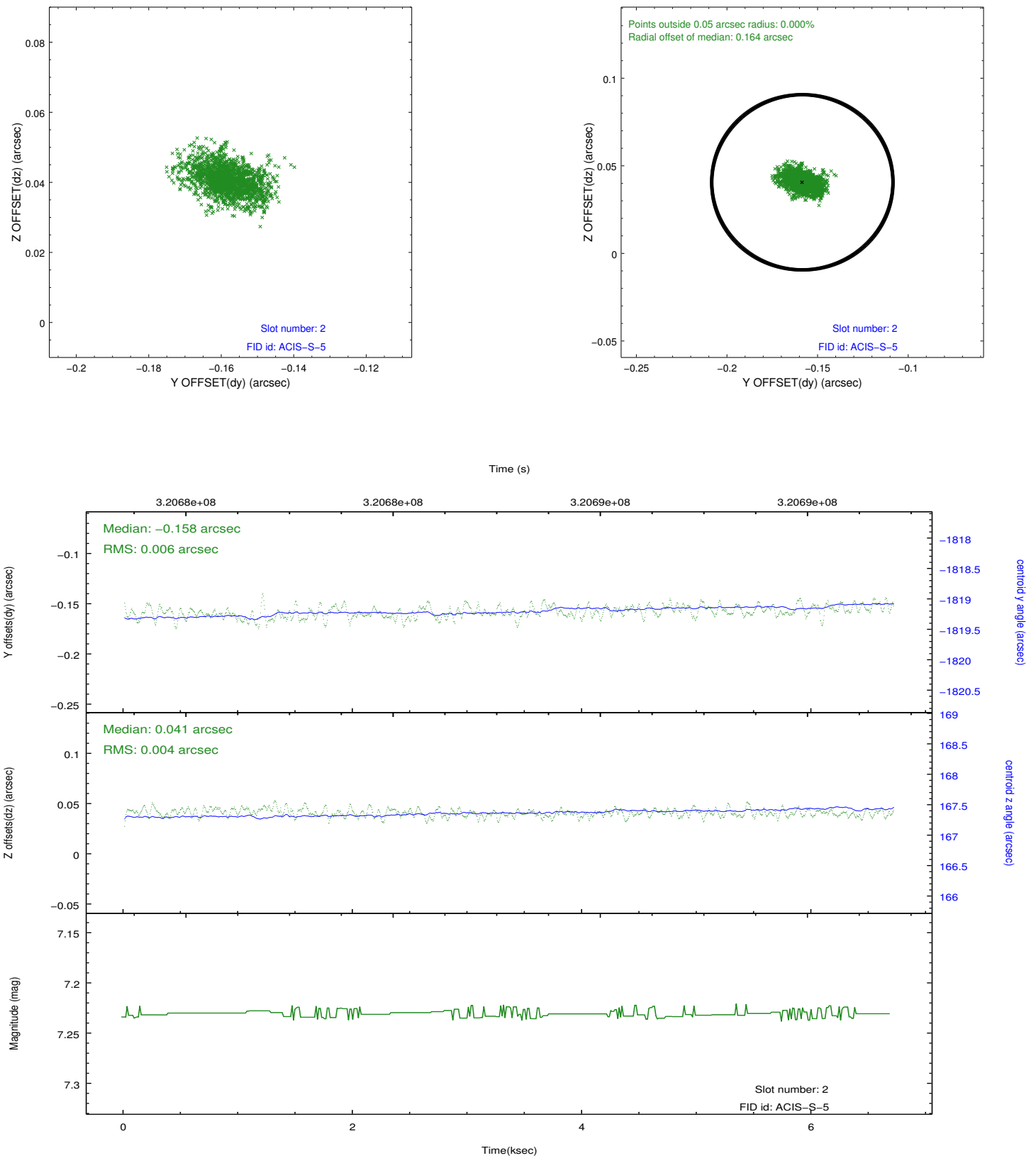
2.5.1 Slot 0



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) | 2012.05.13 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 5.35039998 |

A.2 Comments

Joint proposal with Spitzer.