

V&V Reference Report

L2 ASCDS Version : 10.4.2.1

Observation 17276 - L2 Version 1
Chandra X-Ray Center

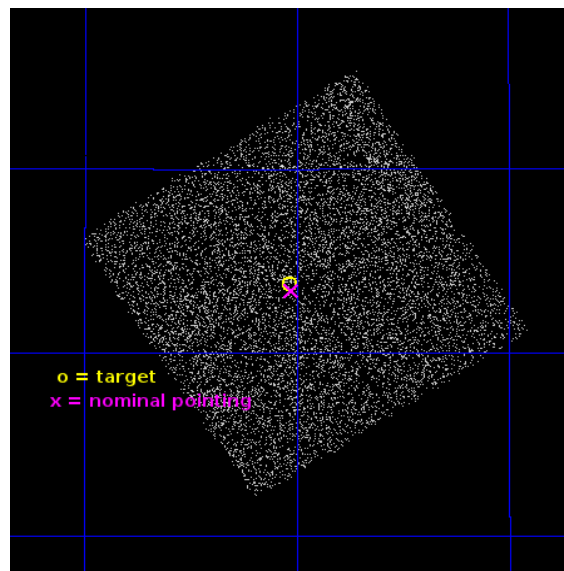
L2 Processing Date : Dec 10 2015

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1 Front

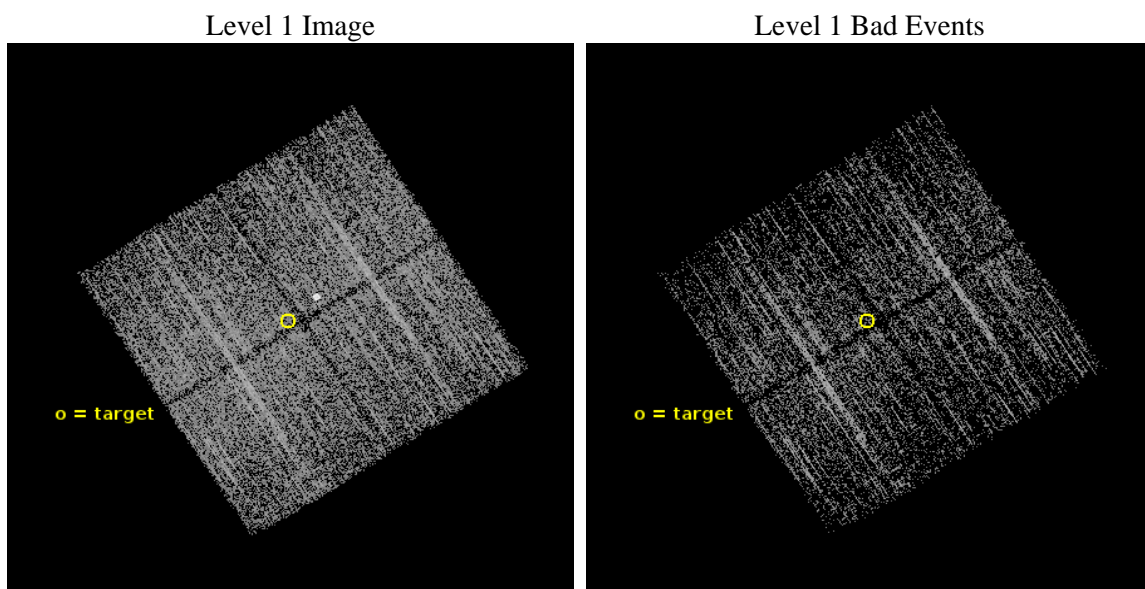
| | | |
|----------|---|---|
| seq_num | 801521 | Sequence number |
| obs_id | 17276 | Observation id |
| title | Perseus: A New, Low-Redshift Anchor for Cluster Cosmology | Proposal |
| observer | Prof. Steven Allen | Principal investigator |
| object | Perseus cluster | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 49.75775 | Observer's specified target RA [deg] |
| dec_targ | 42.229142 | Observer's specified target Dec [deg] |
| ra_nom | 49.756208474266 | Nominal RA [deg] |
| dec_nom | 42.222952872714 | Nominal Dec [deg] |
| roll_nom | 237.25773558655 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 5087.1000392437 | Sum of GTIs [s] |
| livetime | 5020.6333321624 | Livetime [s] |
| ontime0 | 5087.1000392437 | Sum of GTIs [s] |
| ontime1 | 5087.1000392437 | Sum of GTIs [s] |
| ontime2 | 5087.1000392437 | Sum of GTIs [s] |
| ontime3 | 5087.1000392437 | Sum of GTIs [s] |
| l2events | 12169 | Number of level 2 events |



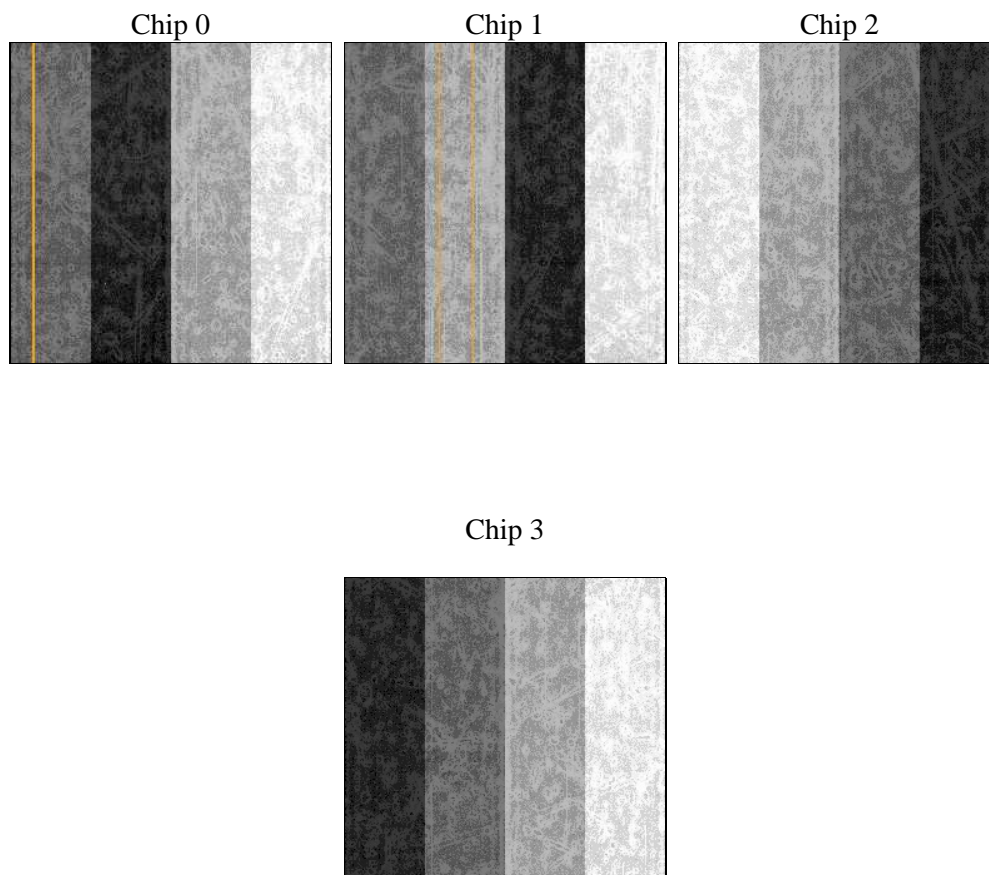
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 1 | Obi number | sched_exp_time | 5000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.4.2.1 | Processing system revision | ontime | 5087.1000392437 | Sum of GTIs [s] |
| caldsver | 4.6.10a | | ontime0 | 5087.1000392437 | Sum of GTIs [s] |
| date | 2015-12-10T13:04:34 | Date and time of file creation | ontime1 | 5087.1000392437 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime2 | 5087.1000392437 | Sum of GTIs [s] |
| | | | ontime3 | 5087.1000392437 | Sum of GTIs [s] |
| | | | l1events | 107466 | Number of level 1 events |

2.1.4 Events

| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|-----------------|-------|-------|-------|-------|
| level 1 events | 26313 | 26980 | 27617 | 26556 |
| rejected events | 22787 | 21595 | 23902 | 23172 |
| rejected % | 86% | 80% | 86% | 87% |

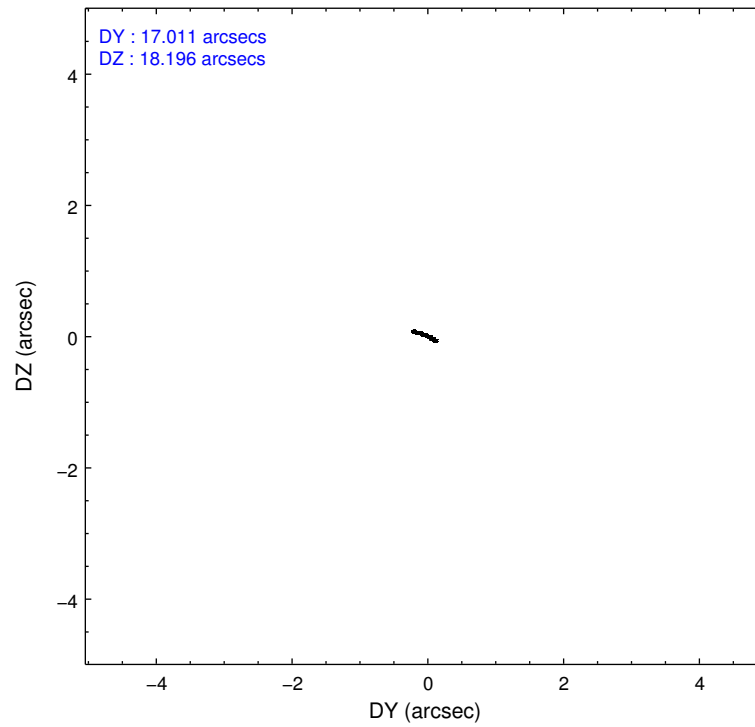
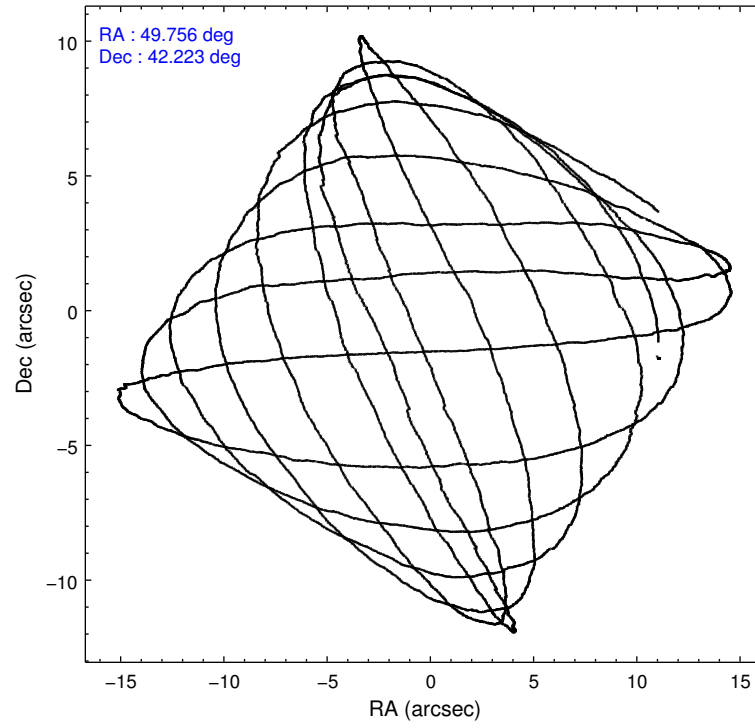
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 1342 | 2913 | 1536 | 1304 |
| | 5% | 10% | 5% | 4% |
| grade 1 events | 17 | 16 | 19 | 25 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 891 | 946 | 889 | 779 |
| | 3% | 3% | 3% | 2% |
| grade 3 events | 318 | 377 | 343 | 350 |
| | 1% | 1% | 1% | 1% |
| grade 4 events | 351 | 342 | 296 | 321 |
| | 1% | 1% | 1% | 1% |
| grade 5 events | 1214 | 1276 | 1214 | 1400 |
| | 4% | 4% | 4% | 5% |
| grade 6 events | 624 | 811 | 652 | 633 |
| | 2% | 3% | 2% | 2% |
| grade 7 events | 21556 | 20299 | 22668 | 21744 |
| | 81% | 75% | 82% | 81% |

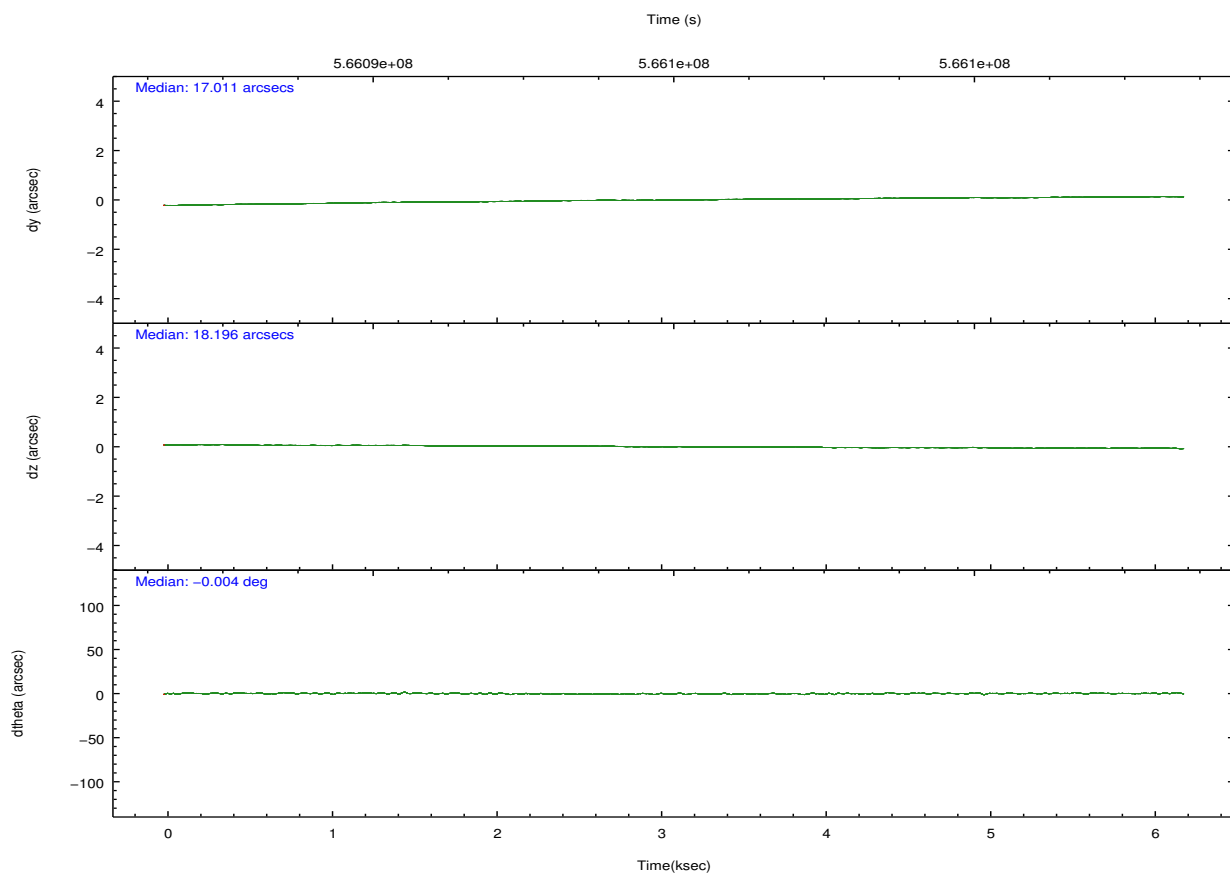
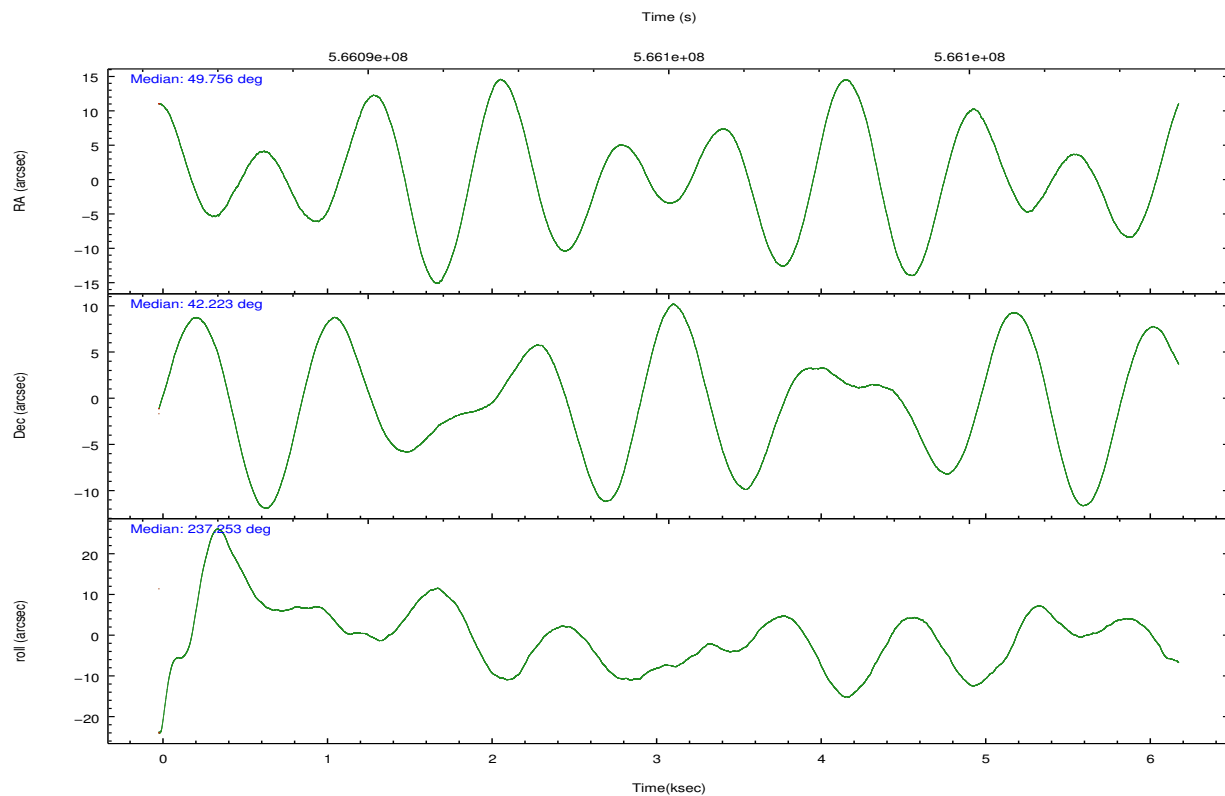
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-0123 | ACIS-0123 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 49.757846 | 49.75620847426602 |
| [deg] Pointing Dec | 42.250466 | 42.22295287271402 |
| [deg] Pointing Roll | 237.047976 | 237.2577355865541 |
| [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) | 566094100.184000 | 566092717.4570301 |
| Observation start date | 2015-12-10T00:20:32 | 2015-12-09T23:58:37 |
| [s] Observation end time (MET) | 566099100.184000 | 566099234.4074 |
| Observation end date | 2015-12-10T01:43:52 | 2015-12-10T01:47:14 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| CCD I0 on | Y | Y |
| CCD I1 on | Y | Y |
| CCD I2 on | Y | Y |
| CCD I3 on | Y | Y |
| CCD S0 on | N | N |
| CCD S1 on | N | N |
| CCD S2 on | O1 | N |
| CCD S3 on | N | N |
| CCD S4 on | N | N |
| CCD S5 on | N | N |
| Number of optional ACIS chips dropped | 1 | 1 |
| On-chip summing requested | N | N |
| Subarray requested | NONE | NONE |
| Alternating exposures requested | N | N |
| [s] Primary exposure time | 0.000000 | 3.1 |

2.3 Aspect



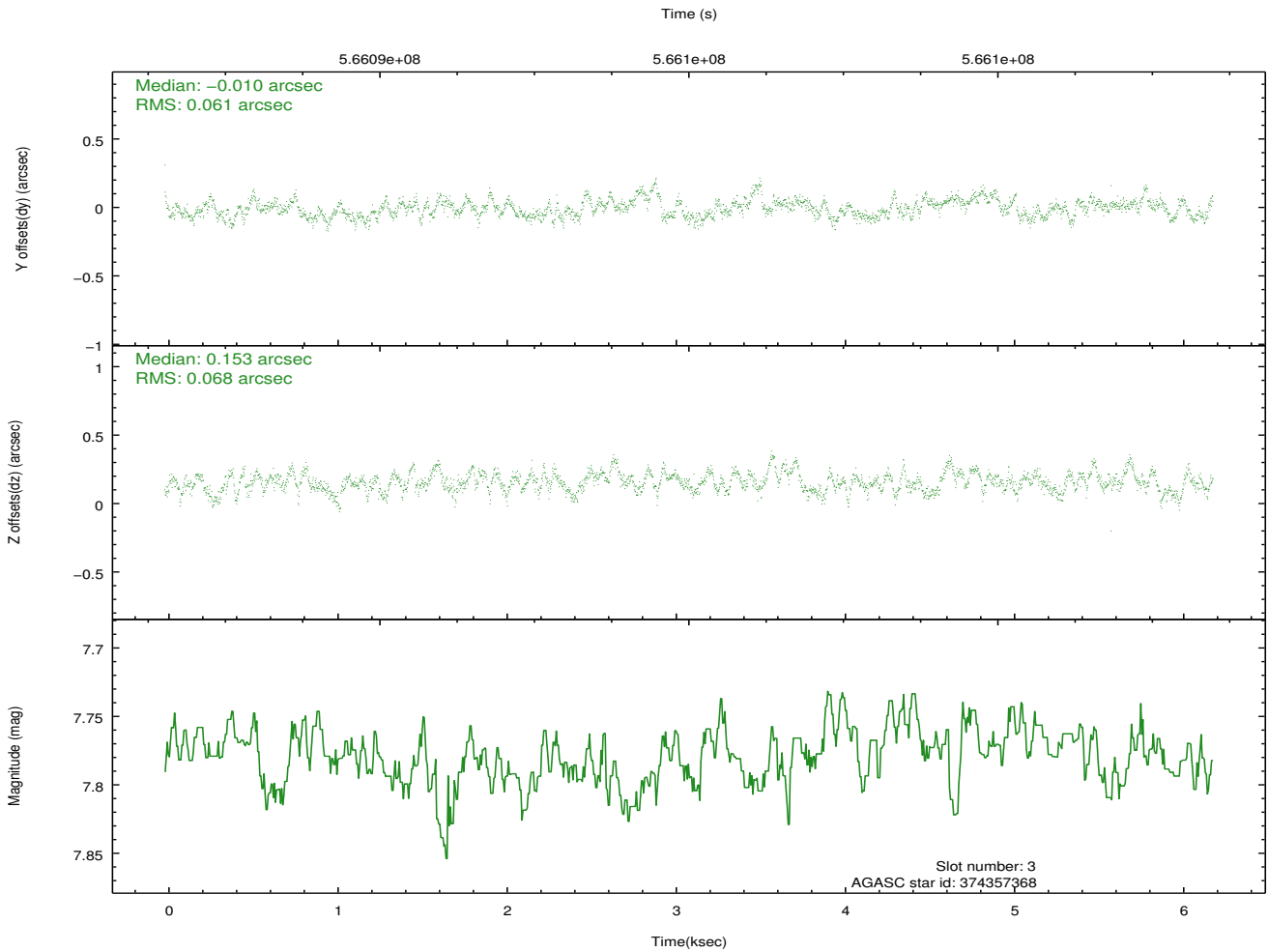
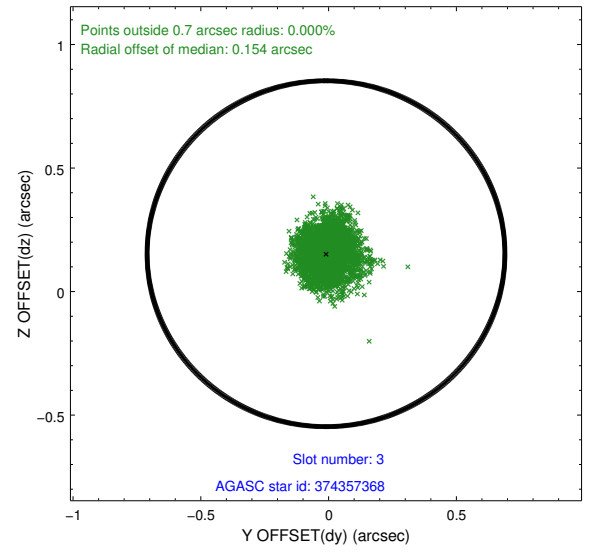
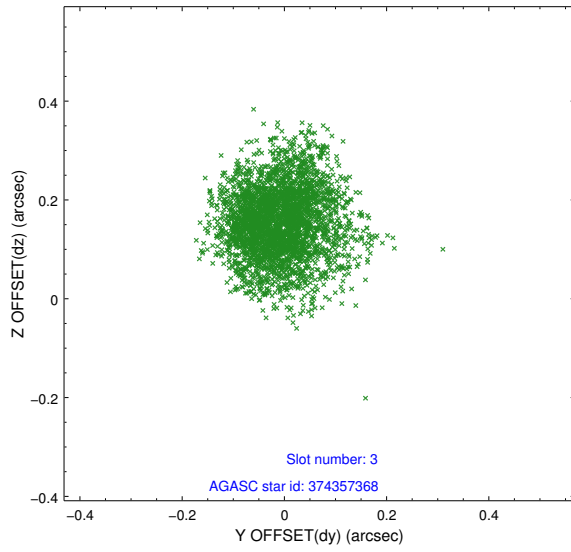


Slot Statistics

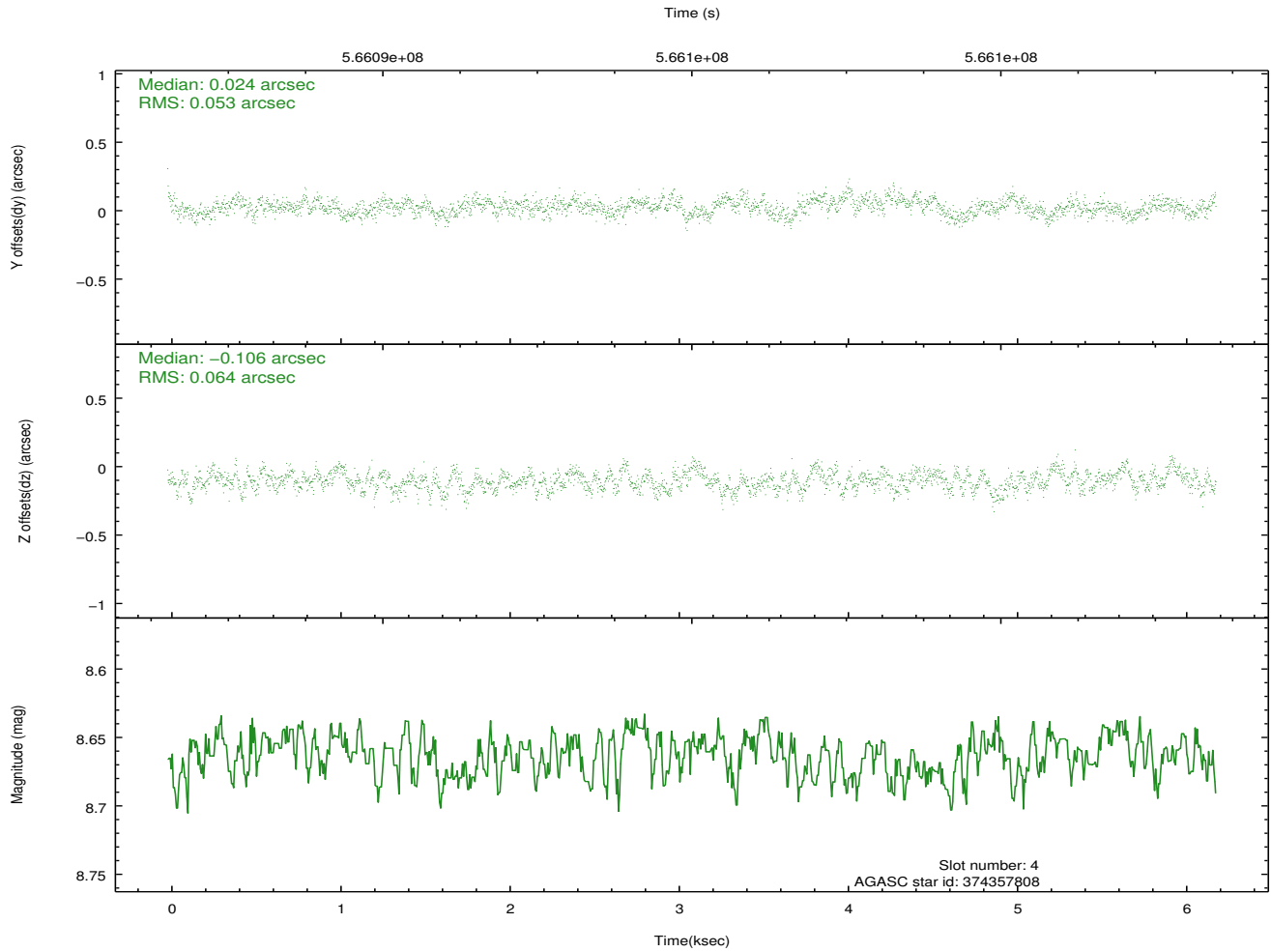
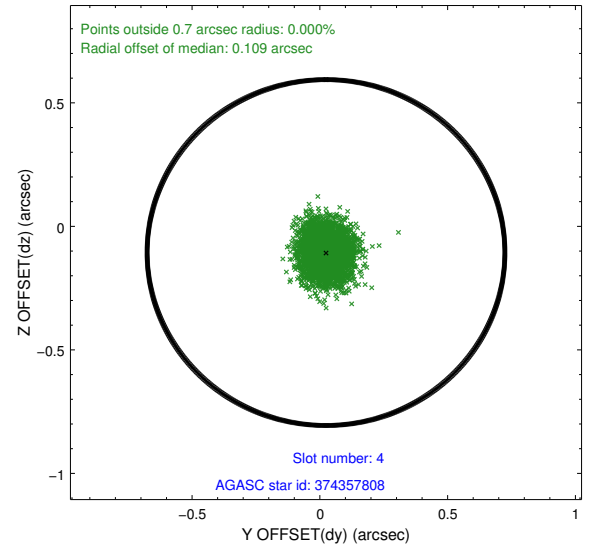
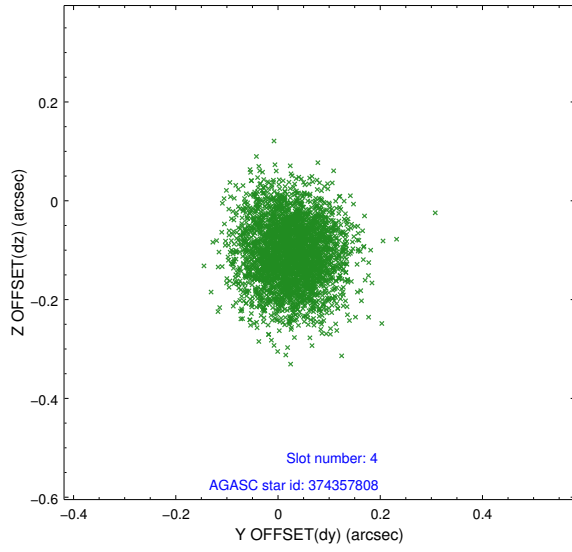
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0 | FID | | ACIS-I-1 | 7.25 | 1512 | 0.066 | 0.006 | 0.009 | 0.015 | 0.000000 | 0.000000 | 922.51 | -841.84 |
| 1 | FID | | ACIS-I-5 | 7.24 | 1512 | -0.351 | 0.037 | 0.007 | 0.011 | 0.000000 | 0.000000 | -1825.57 | 1055.09 |
| 2 | FID | | ACIS-I-6 | 7.26 | 1512 | 0.194 | 0.027 | 0.008 | 0.013 | 0.000000 | 0.000000 | 387.04 | 1700.75 |
| 3 | GUIDE | used | 374357368 | 7.78 | 3024 | -0.010 | 0.153 | 0.096 | 0.159 | 49.396079 | 42.675115 | -762.92 | -1635.10 |
| 4 | GUIDE | used | 374357808 | 8.66 | 3023 | 0.024 | -0.106 | 0.089 | 0.141 | 49.921429 | 42.176083 | -12.76 | 511.58 |
| 5 | GUIDE | used | 374358688 | 9.27 | 3018 | 0.103 | 0.084 | 0.132 | 0.203 | 49.259903 | 42.100043 | 1175.39 | -823.02 |
| 6 | GUIDE | used | 376068632 | 8.75 | 3024 | 0.167 | 0.016 | 0.089 | 0.142 | 50.582093 | 42.167240 | -952.83 | 2002.62 |
| 7 | GUIDE | used | 376070040 | 8.39 | 3019 | -0.286 | -0.150 | 0.110 | 0.168 | 50.072031 | 41.897206 | 607.90 | 1398.51 |

2.4 Star Slots

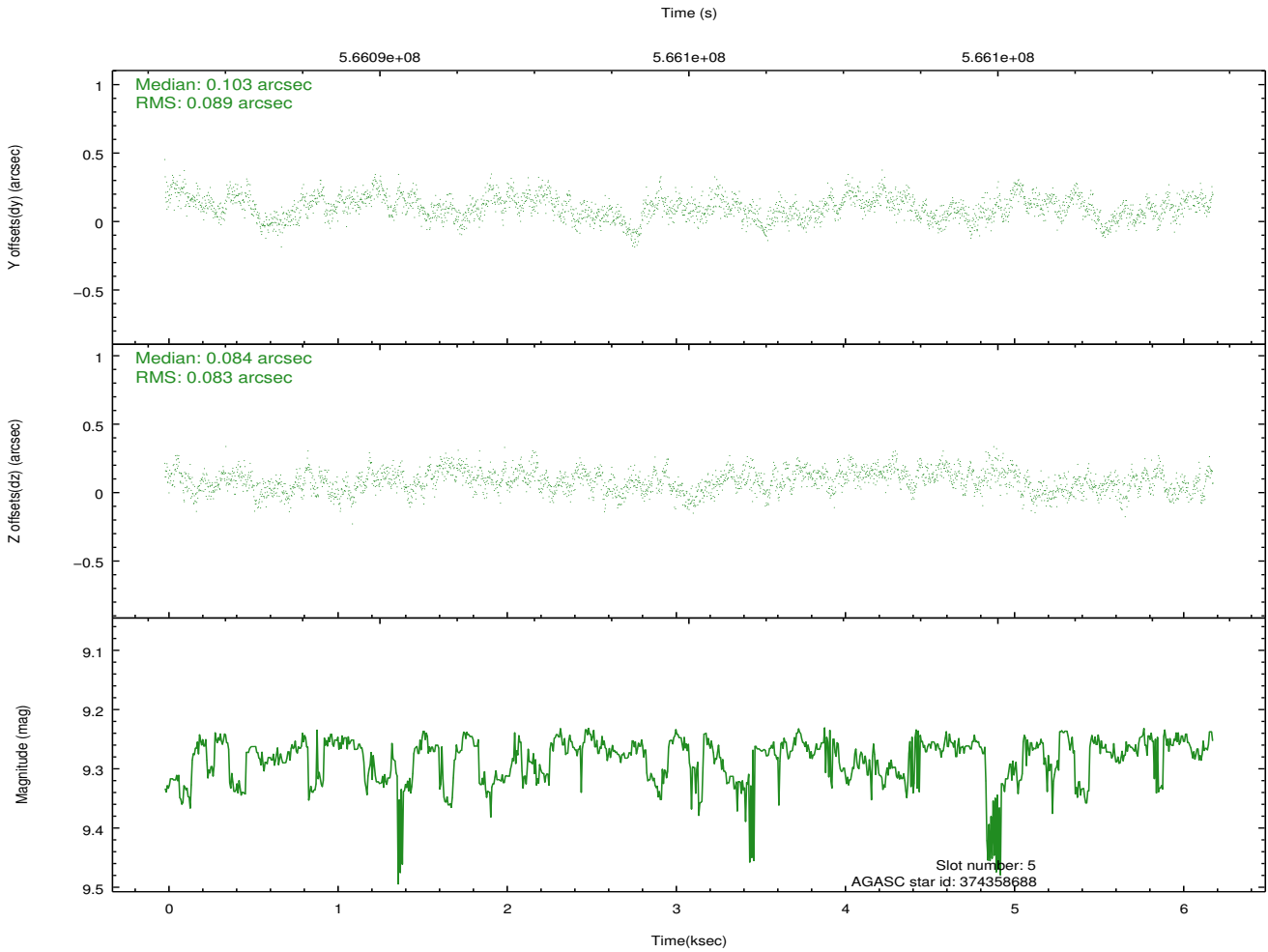
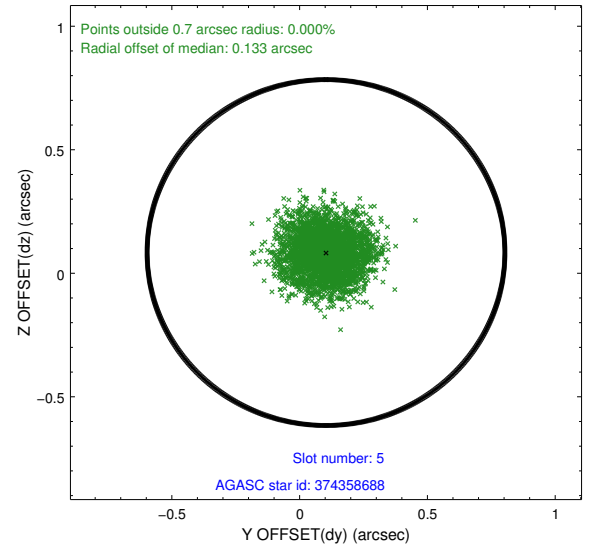
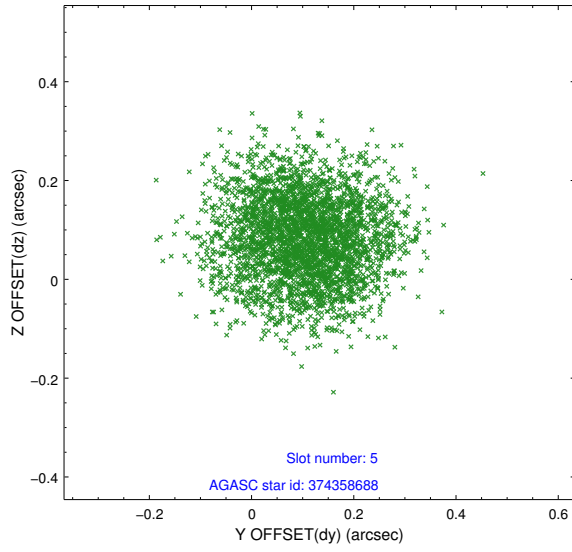
2.4.1 Slot 3



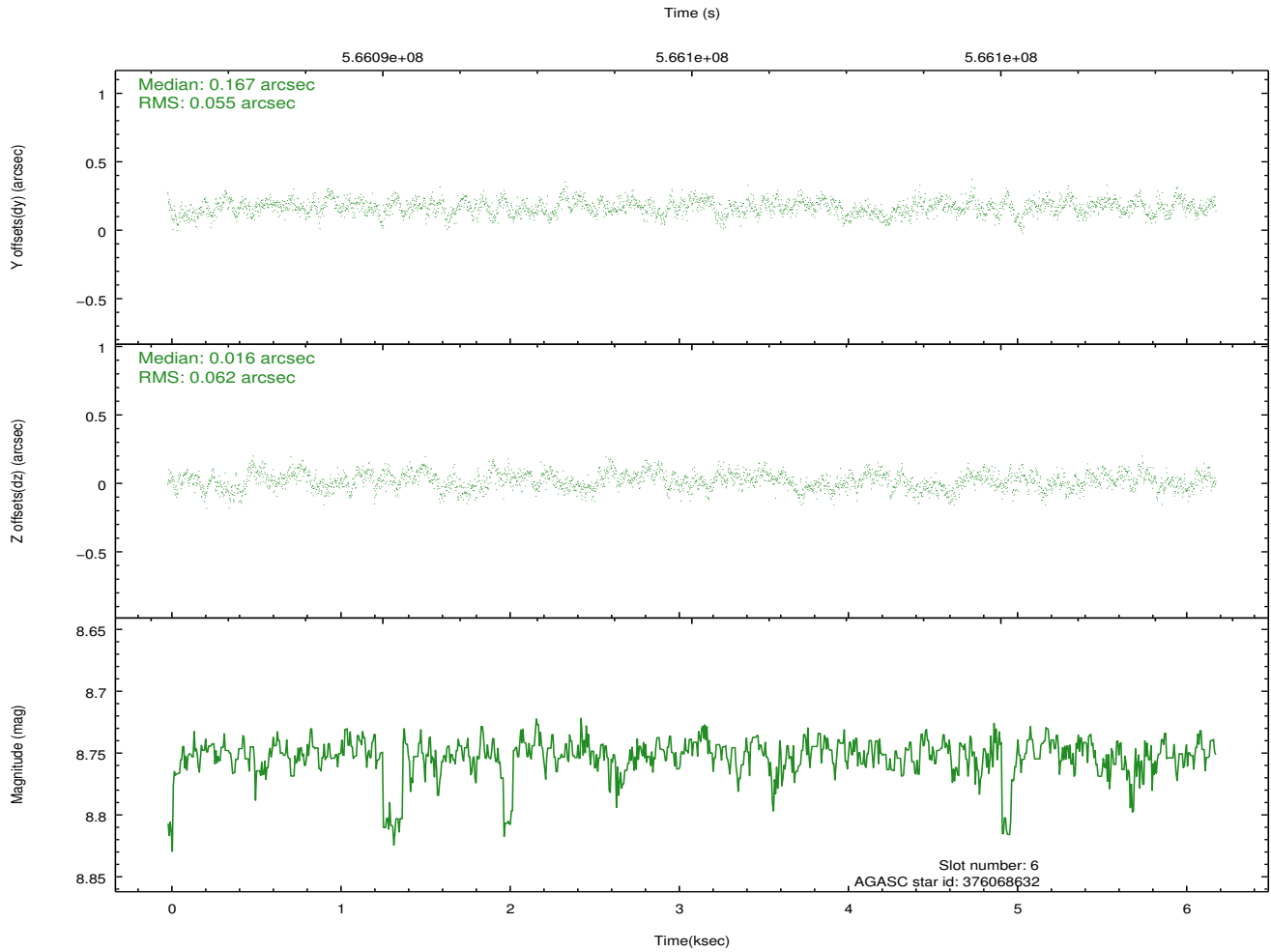
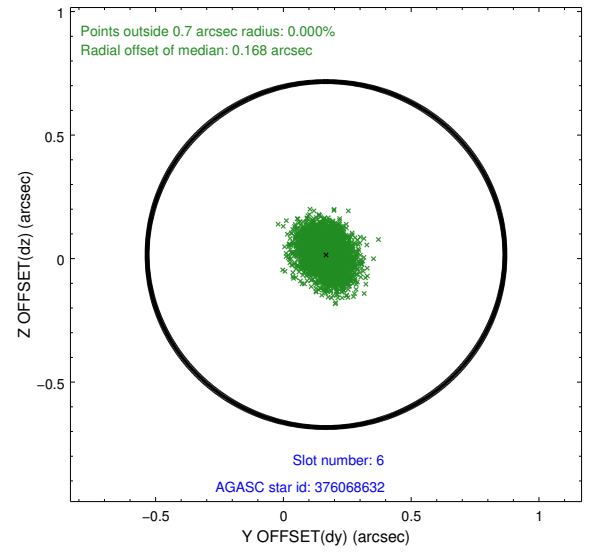
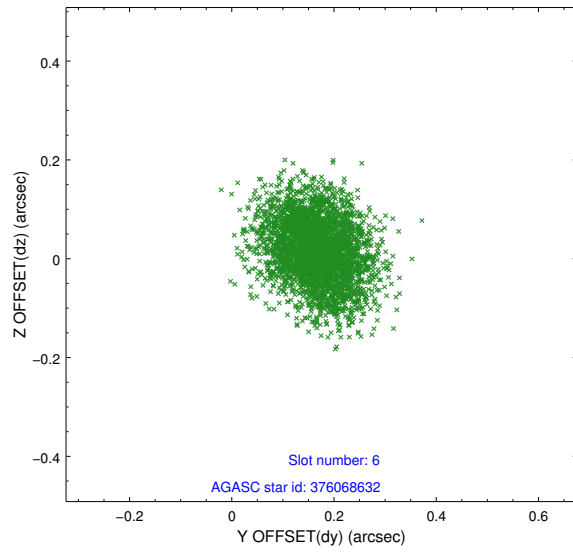
2.4.2 Slot 4



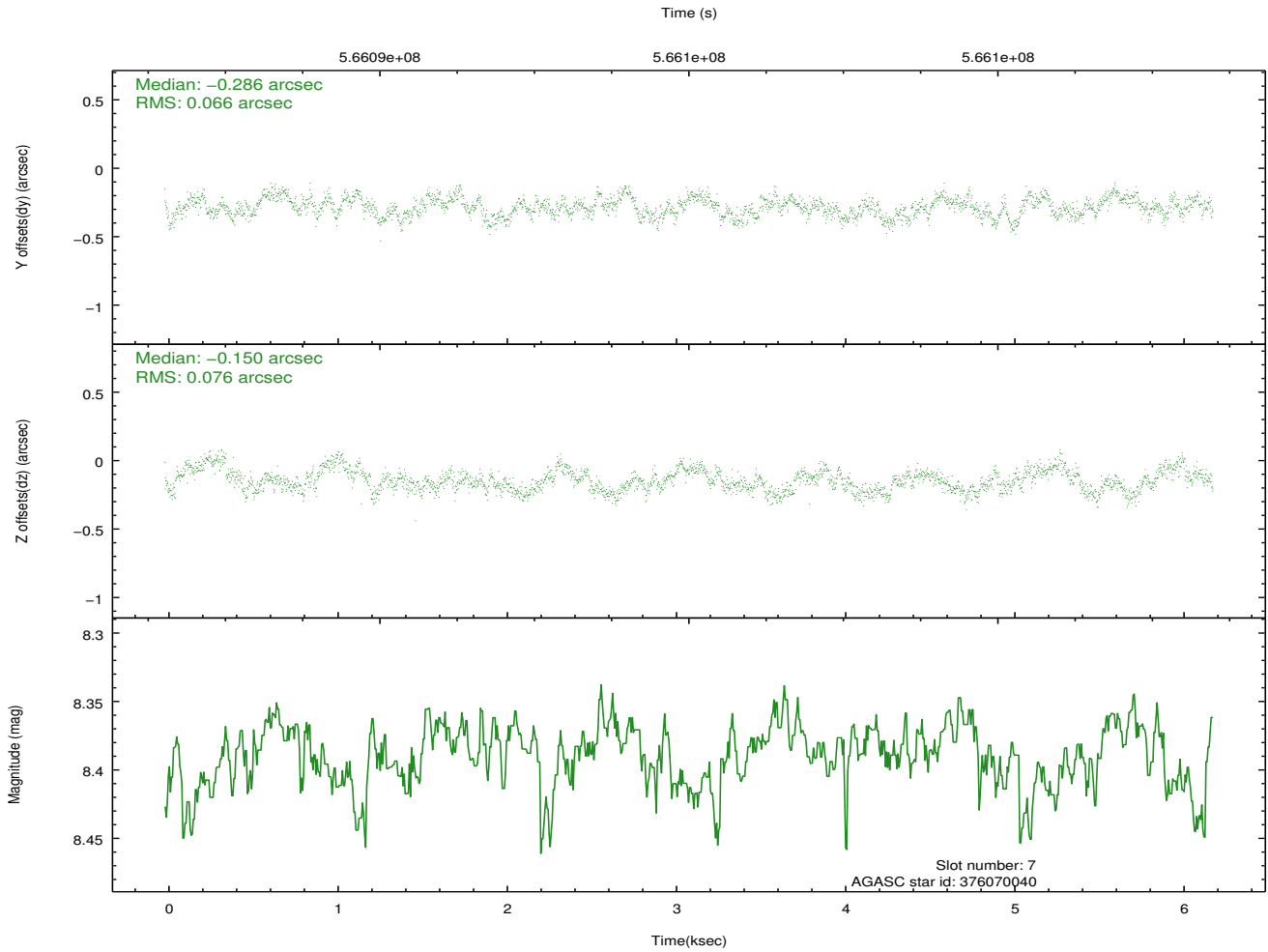
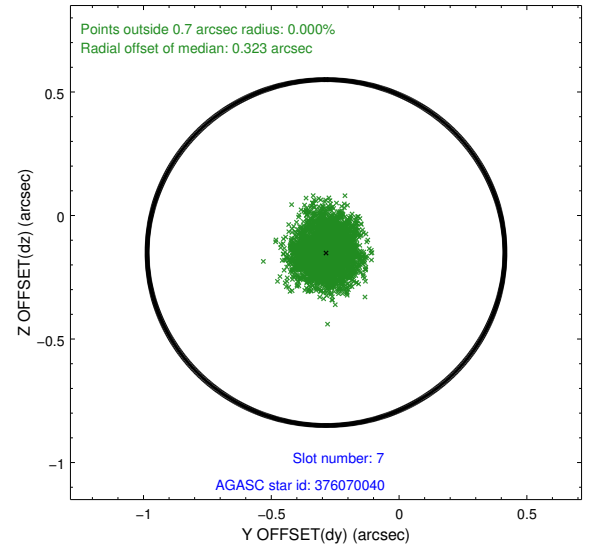
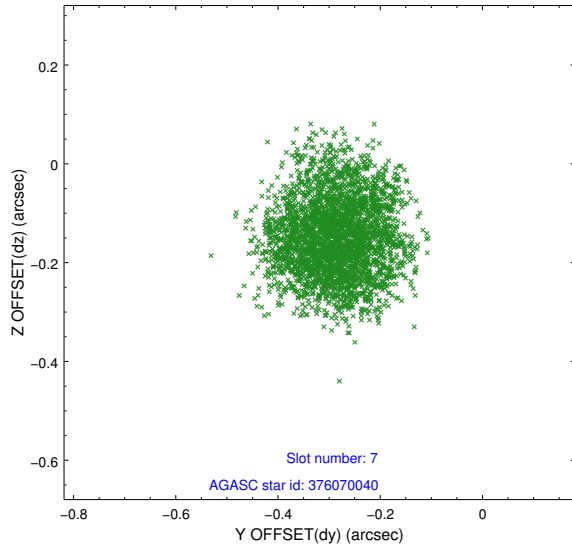
2.4.3 Slot 5



2.4.4 Slot 6

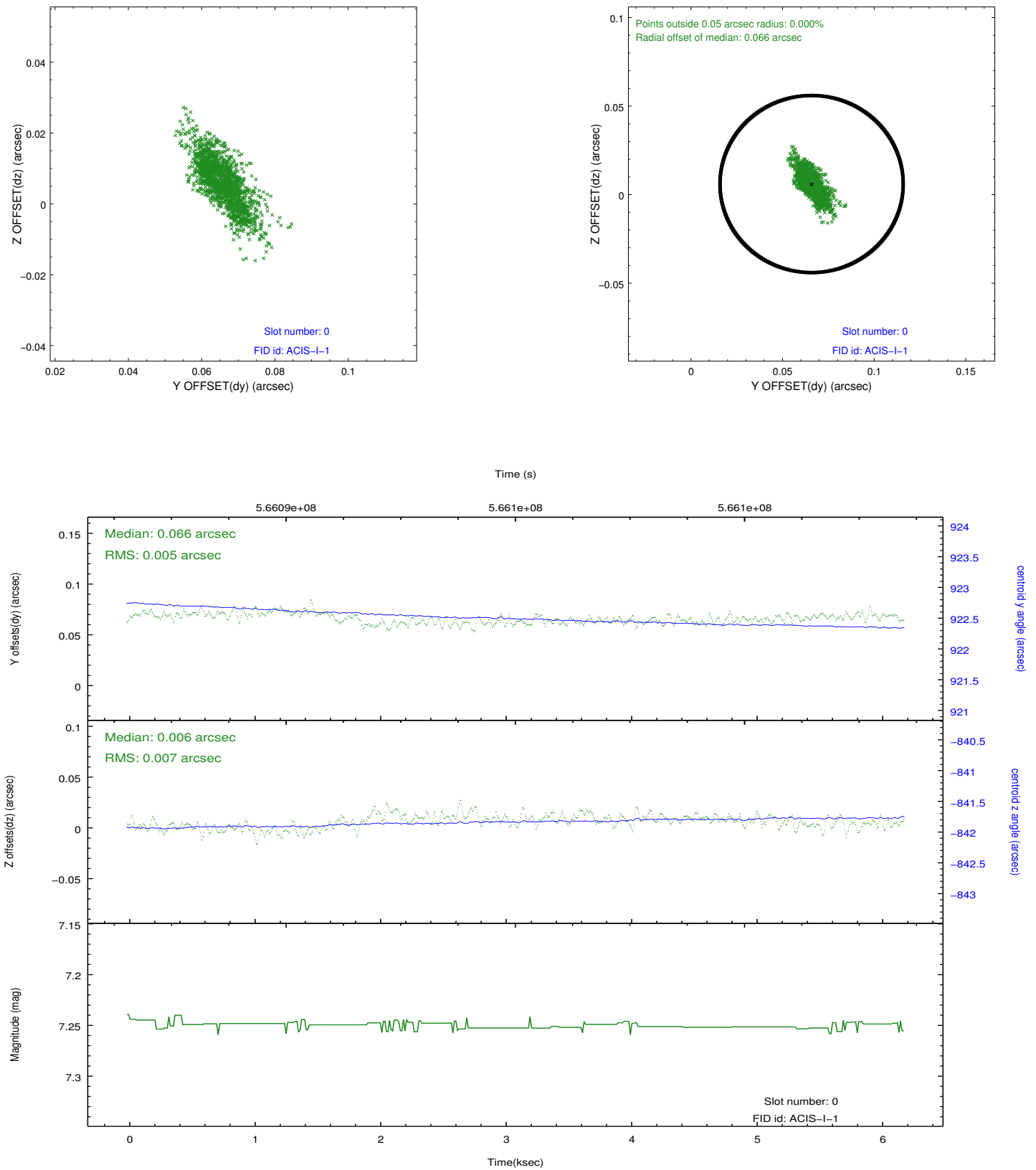


2.4.5 Slot 7

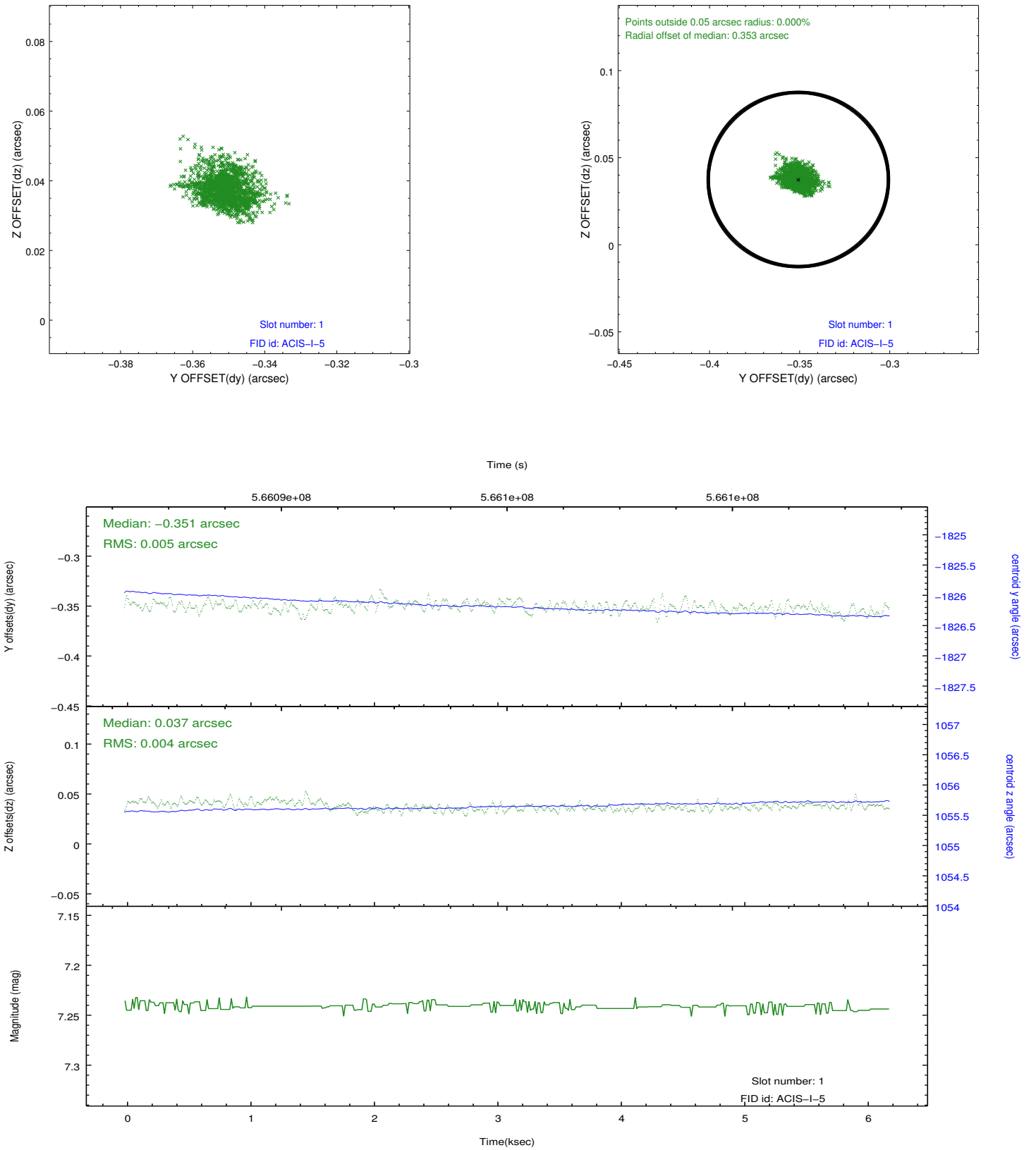


2.5 FID Slots

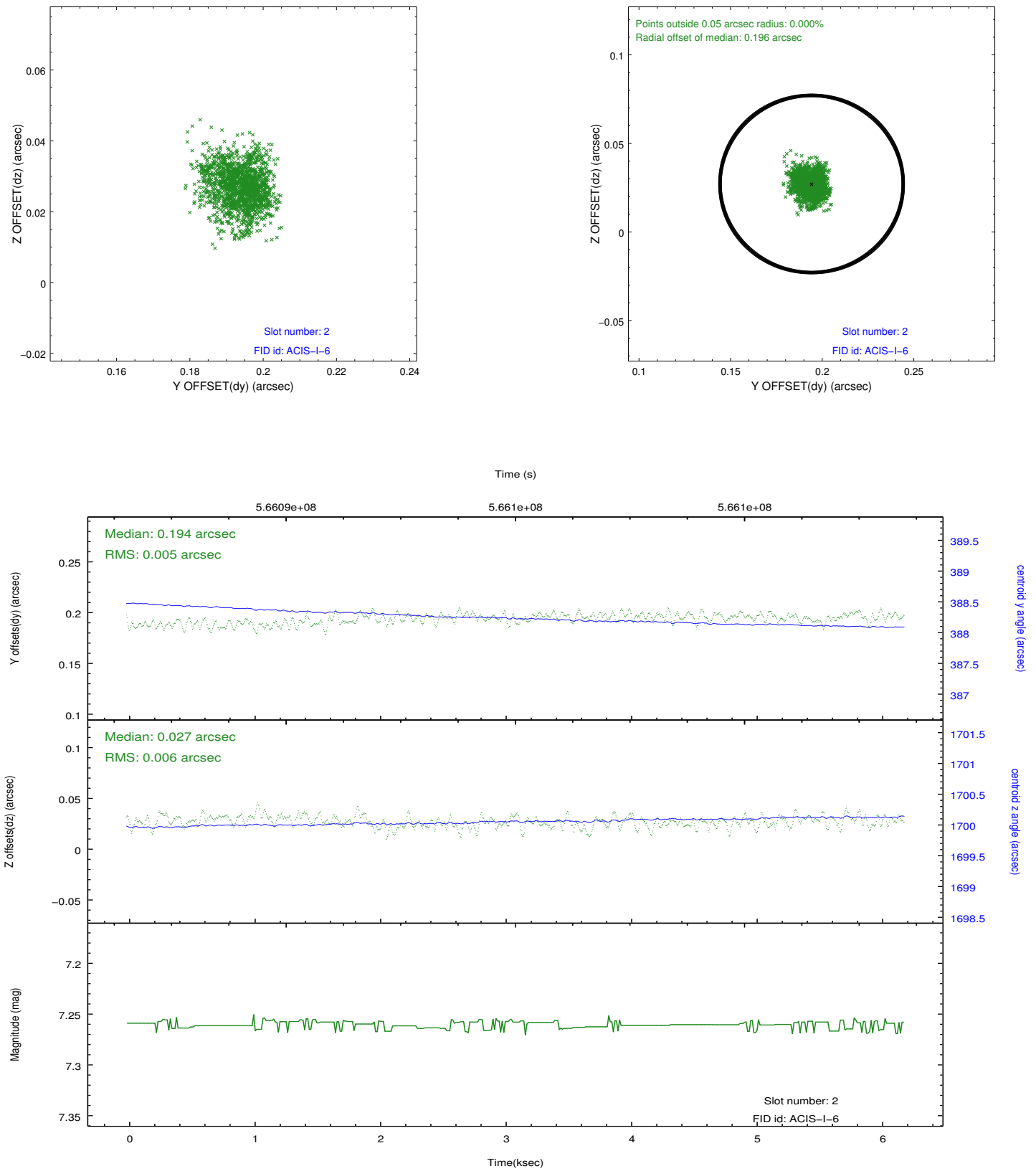
2.5.1 Slot 0



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) | 2015.12.10 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 5.0871000392437 |

A.2 Comments