

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19582 - L2 Version 1
Chandra X-Ray Center

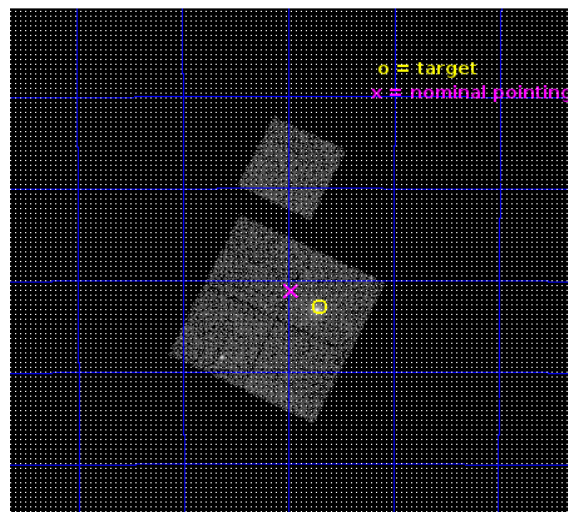
L2 Processing Date : Aug 28 2017

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Bias | 3 |
| 2.1.3 | Parameters | 4 |
| 2.1.4 | Events | 4 |
| 2.2 | Compared Parameters | 5 |
| 2.3 | Aspect | 6 |
| 2.4 | Star Slots | 9 |
| 2.4.1 | Slot 3 | 9 |
| 2.4.2 | Slot 4 | 10 |
| 2.4.3 | Slot 5 | 11 |
| 2.4.4 | Slot 6 | 12 |
| 2.4.5 | Slot 7 | 13 |
| 2.5 | FID Slots | 14 |
| 2.5.1 | Slot 0 | 14 |
| 2.5.2 | Slot 1 | 15 |
| 2.5.3 | Slot 2 | 16 |
| A | Summary | 17 |
| A.1 | Status | 17 |
| A.2 | Comments | 17 |

1 Front

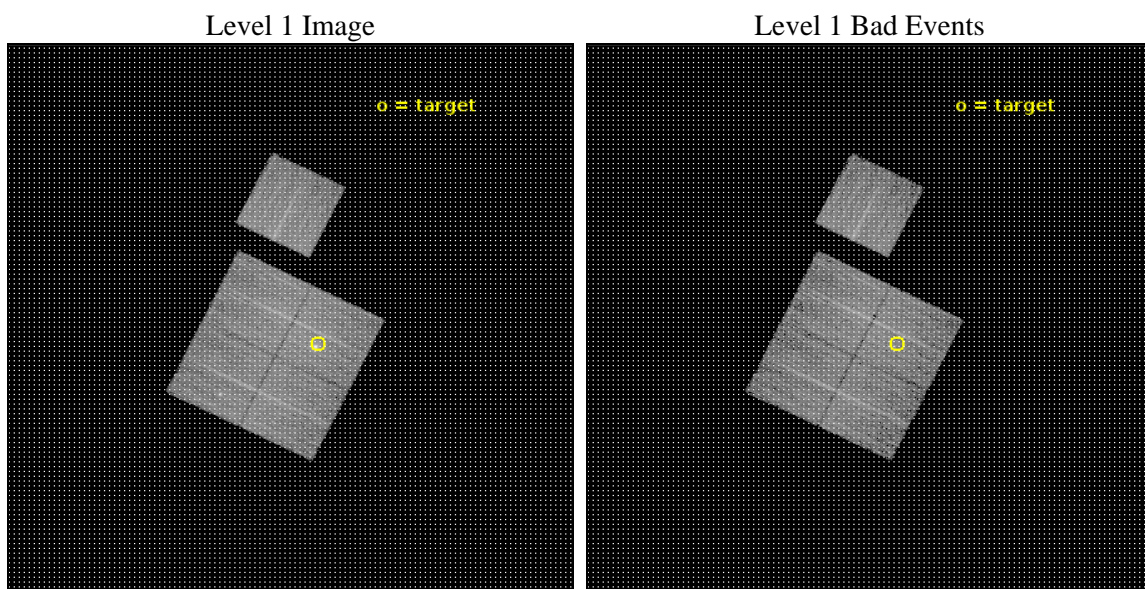
| | | |
|----------|---|---|
| seq_num | 801673 | Sequence number |
| obs_id | 19582 | Observation id |
| title | A Deep, High-Resolution X-ray Analysis of the Phoenix Cluster | Prop |
| observer | Michael McDonald | Principal investigator |
| object | SPT-CLJ2344-4242 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 356.175 | Observer's specified target RA [deg] |
| dec_targ | -42.714611 | Observer's specified target Dec [deg] |
| ra_nom | 356.24296036263 | Nominal RA [deg] |
| dec_nom | -42.685958749424 | Nominal Dec [deg] |
| roll_nom | 26.254727803561 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 10102.632502437 | Sum of GTIs [s] |
| livetime | 9970.6341713425 | Livetime [s] |
| ontime0 | 10099.368342161 | Sum of GTIs [s] |
| ontime1 | 10102.55042243 | Sum of GTIs [s] |
| ontime2 | 10102.591462493 | Sum of GTIs [s] |
| ontime3 | 10102.632502437 | Sum of GTIs [s] |
| ontime6 | 10102.468342423 | Sum of GTIs [s] |
| l2events | 39233 | Number of level 2 events |



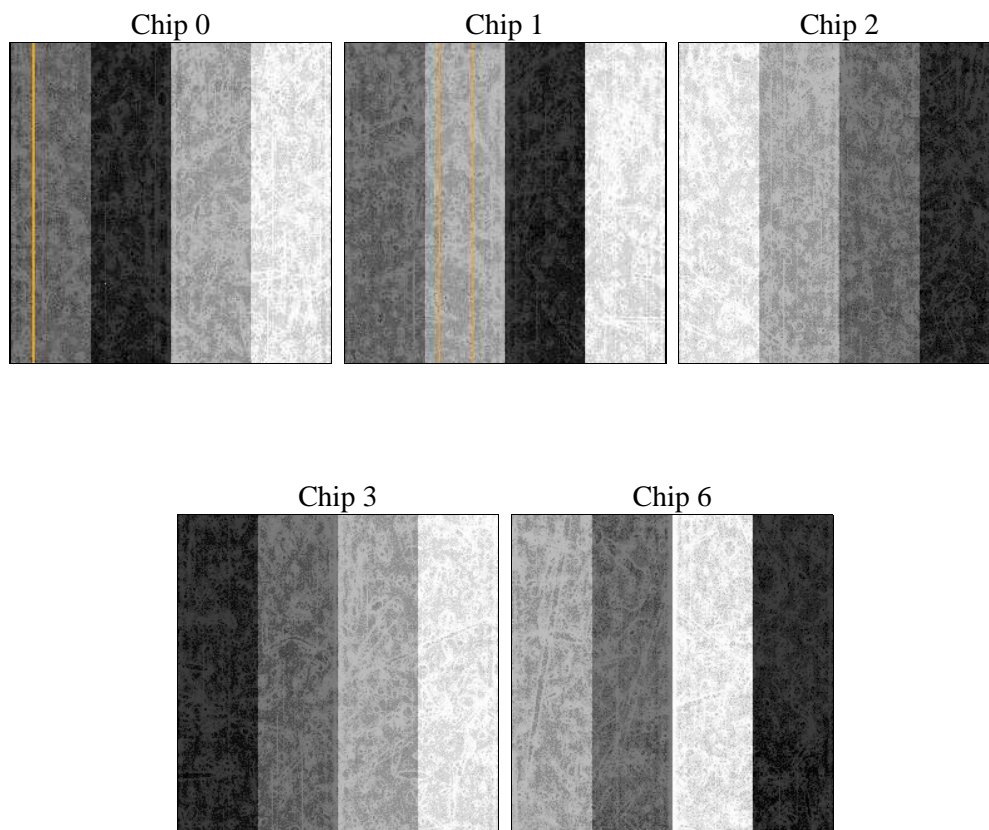
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 10030.765000 | [s] Scheduled observation exposure time |
| ascdsver | 10.6 | Processing system revision | ontime | 10102.632502437 | Sum of GTIs [s] |
| caldbver | 4.7.6 | | ontime0 | 10099.368342161 | Sum of GTIs [s] |
| date | 2017-08-28T22:58:29 | Date and time of file creation | ontime1 | 10102.55042243 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime2 | 10102.591462493 | Sum of GTIs [s] |
| | | | ontime3 | 10102.632502437 | Sum of GTIs [s] |
| | | | ontime6 | 10102.468342423 | Sum of GTIs [s] |
| | | | l1events | 343407 | Number of level 1 events |

2.1.4 Events

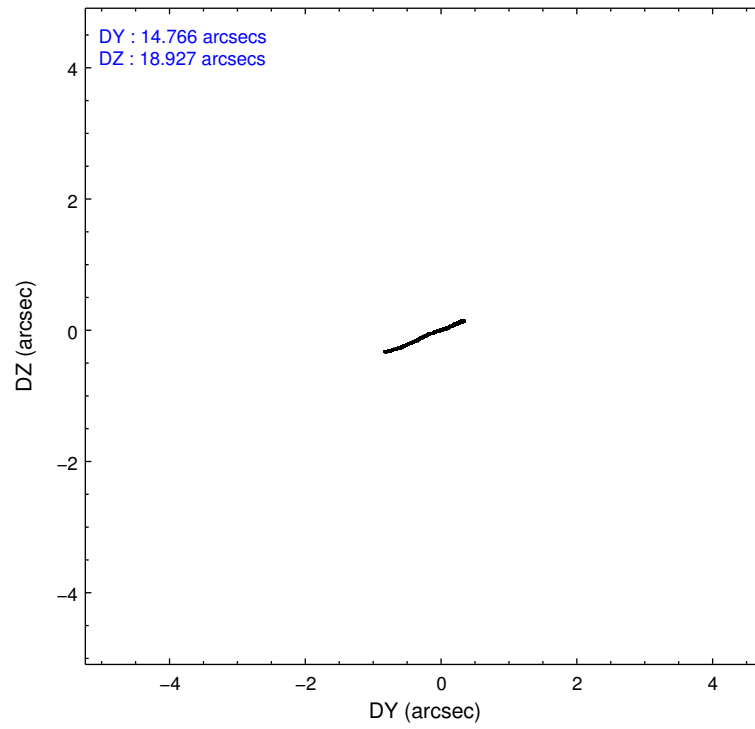
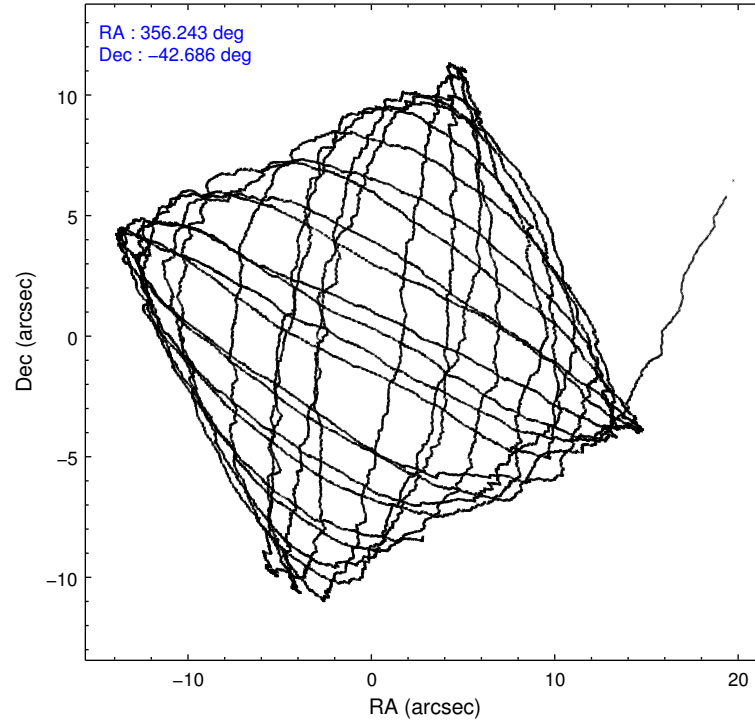
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events | 63626 | 64906 | 71233 | 74900 | 68742 |
| rejected events | 55014 | 56579 | 63665 | 61829 | 61038 |
| rejected % | 86% | 87% | 89% | 82% | 88% |

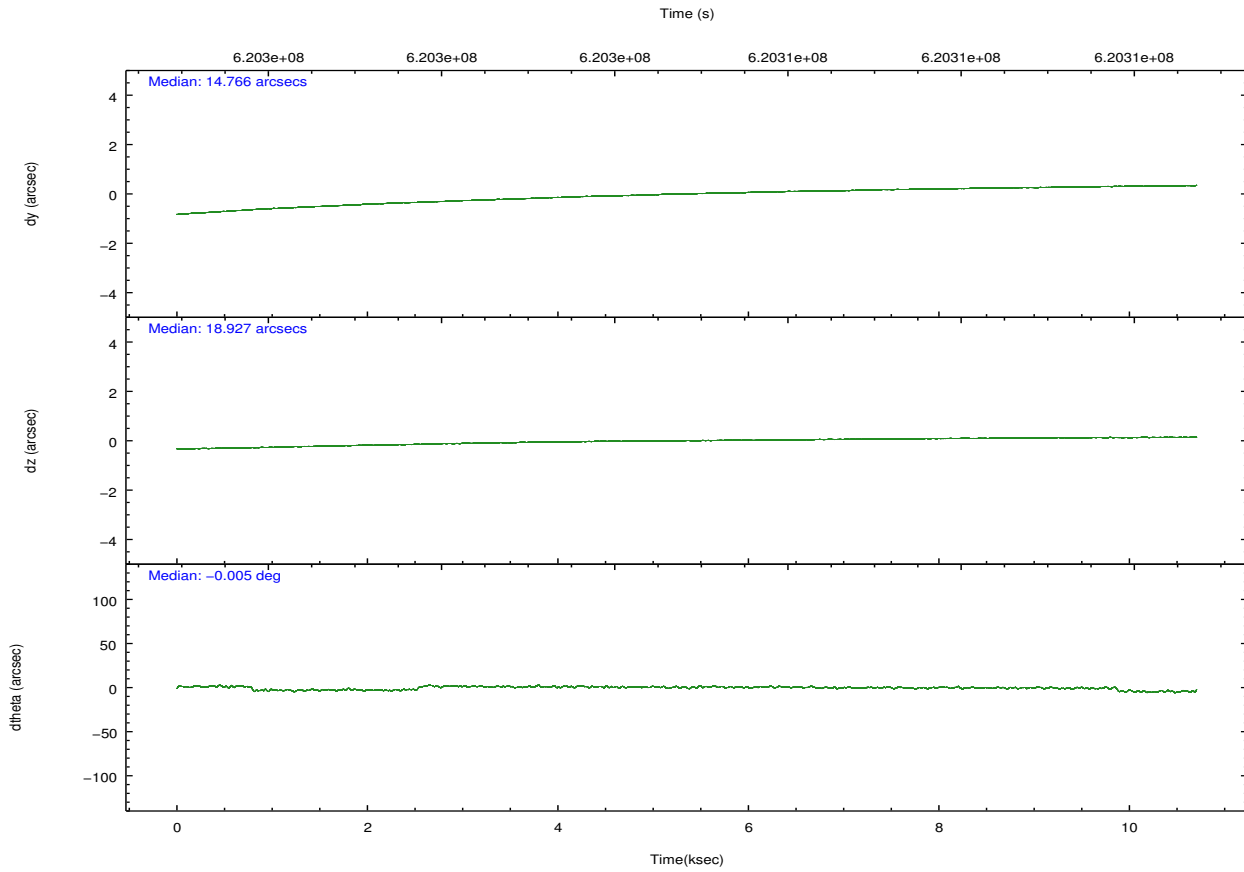
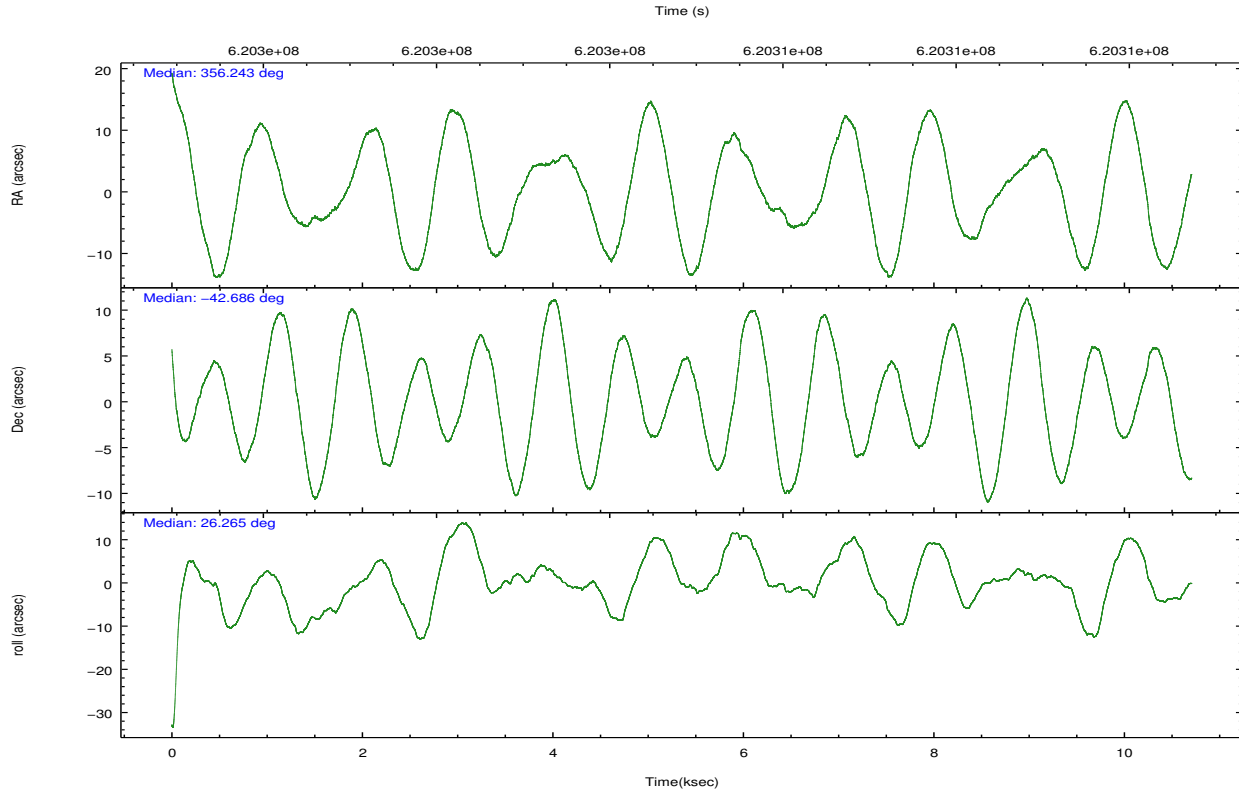
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 3272 | 2842 | 2772 | 7189 | 2498 |
| | 5% | 4% | 3% | 9% | 3% |
| grade 1 events | 40 | 26 | 34 | 79 | 25 |
| | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 2081 | 2063 | 1832 | 2192 | 1788 |
| | 3% | 3% | 2% | 2% | 2% |
| grade 3 events | 828 | 810 | 739 | 949 | 772 |
| | 1% | 1% | 1% | 1% | 1% |
| grade 4 events | 733 | 743 | 764 | 1023 | 734 |
| | 1% | 1% | 1% | 1% | 1% |
| grade 5 events | 2900 | 2997 | 2724 | 3436 | 3158 |
| | 4% | 4% | 3% | 4% | 4% |
| grade 6 events | 1702 | 1875 | 1466 | 1725 | 1916 |
| | 2% | 2% | 2% | 2% | 2% |
| grade 7 events | 52070 | 53550 | 60902 | 58307 | 57851 |
| | 81% | 82% | 85% | 77% | 84% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-01236 | ACIS-01236 | 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 | 356.222228 | 356.2429603626302 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | -42.708946 | -42.68595874942353 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 26.032024 | 26.25472780356141 | CCD S0 on | N | N |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | CCD S1 on | N | N |
| [mm] SIM defocus | 0 | 0.001439871863259334 | CCD S2 on | O1 | Y |
| [mm] SIM translation stage pos | -225.840463 | -225.8433433320239 | CCD S3 on | N | N |
| [mm] SIM translation stage offset | -7.752 | -7.749109670905796 | CCD S4 on | N | N |
| [s] Observation start time (MET) | 620300163.184000 | 620298829.74073 | CCD S5 on | N | N |
| Observation start date | 2017-08-28T09:34:54 | 2017-08-28T09:13:49 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 620310194.184000 | 620310874.00394 | On-chip summing requested | N | N |
| Observation end date | 2017-08-28T12:22:05 | 2017-08-28T12:34:34 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.1 |

2.3 Aspect



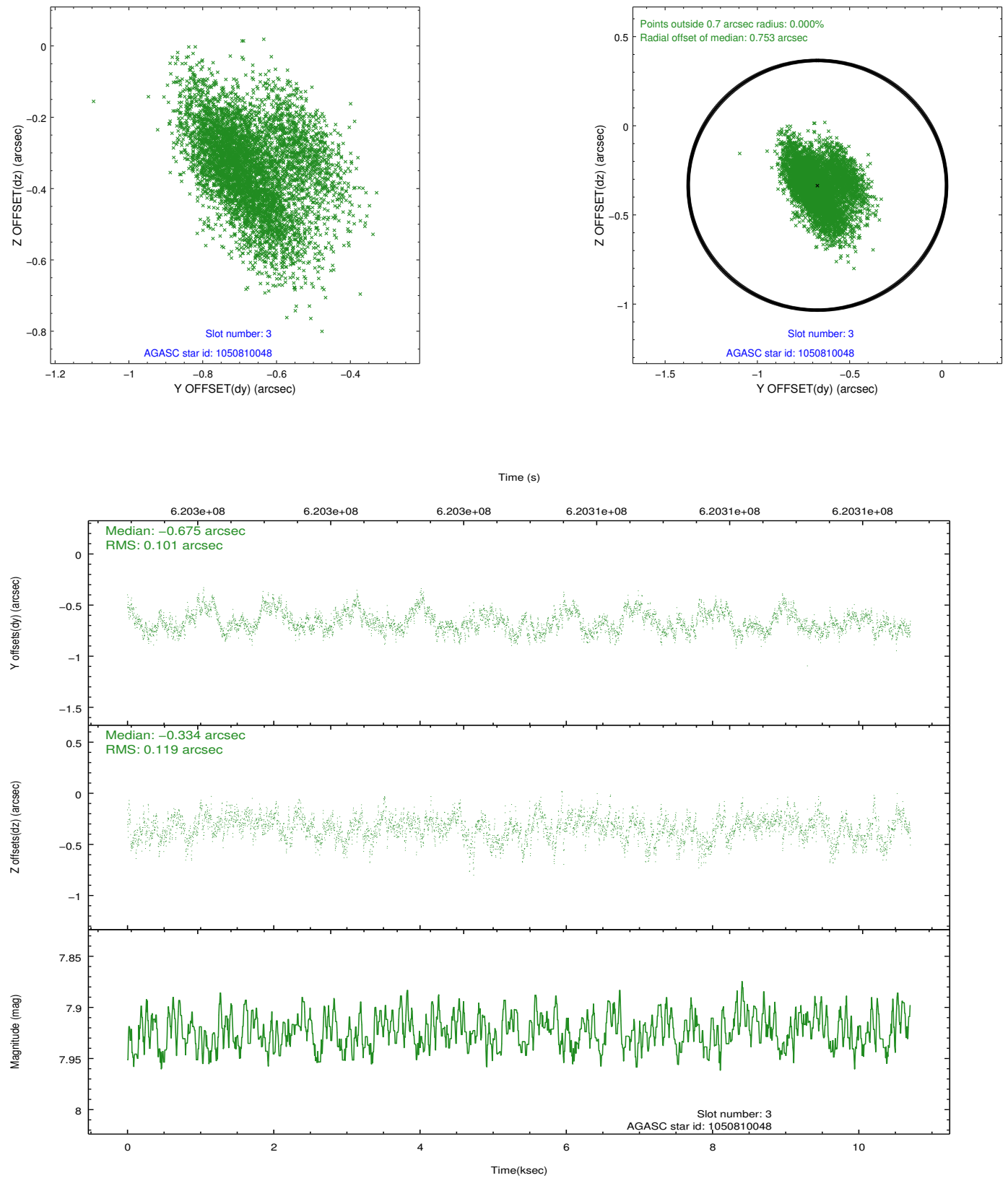


Slot Statistics

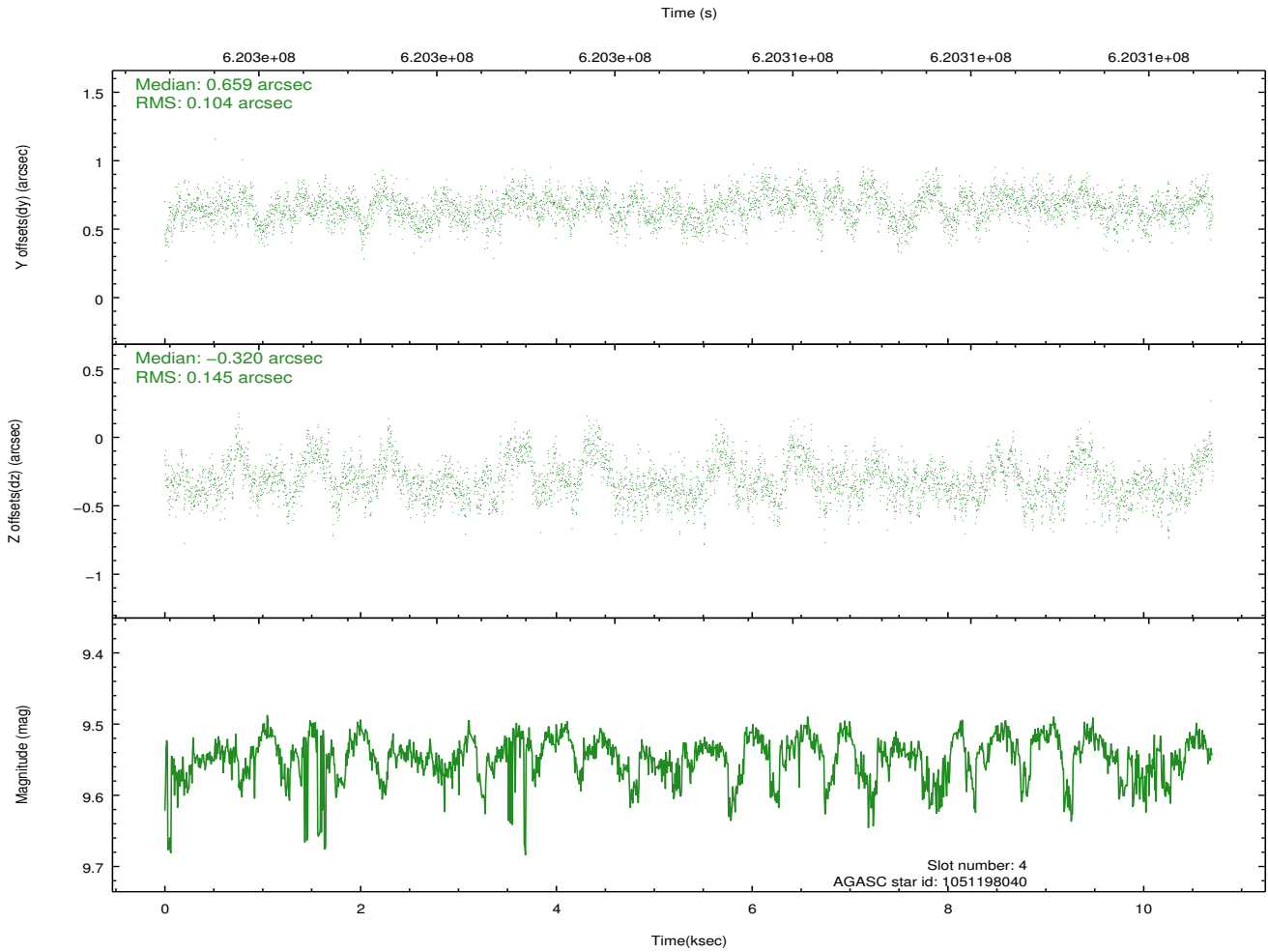
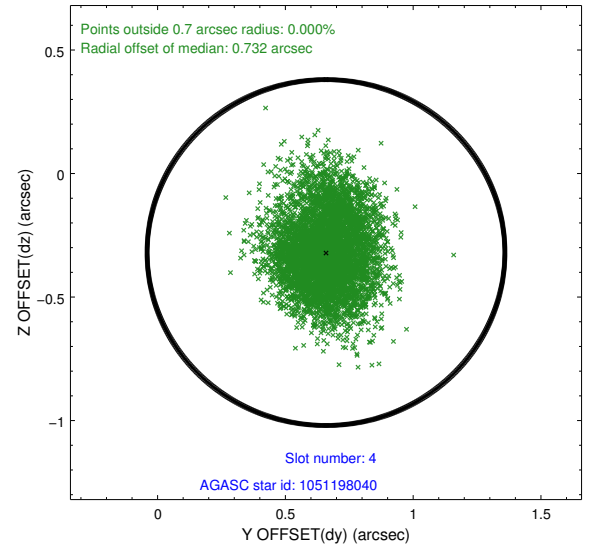
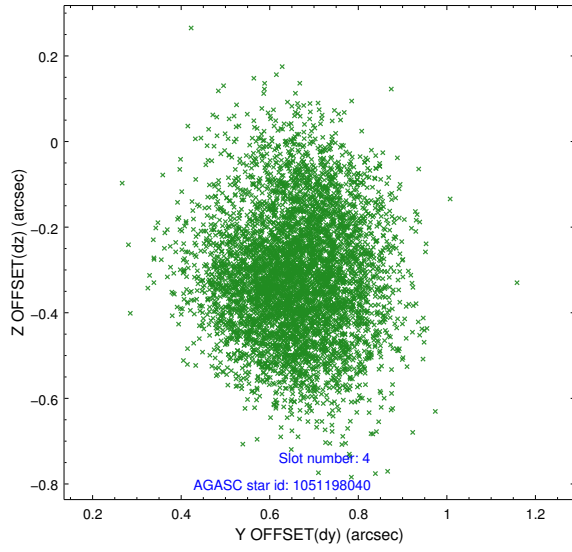
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | | ACIS-I-1 | 7.20 | 2612 | -0.101 | -0.135 | 0.016 | 0.040 | 0.000000 | 0.000000 | 924.57 | -1001.78 |
| 1 | FID | | ACIS-I-4 | 7.10 | 2610 | 0.037 | 0.146 | 0.019 | 0.051 | 0.000000 | 0.000000 | 2144.50 | 899.04 |
| 2 | FID | | ACIS-I-6 | 7.23 | 2612 | -0.033 | 0.052 | 0.014 | 0.036 | 0.000000 | 0.000000 | 391.07 | 1540.63 |
| 3 | GUIDE | used | 1050810048 | 7.92 | 5221 | -0.675 | -0.334 | 0.164 | 0.273 | 356.469230 | -42.341180 | 1171.14 | 900.03 |
| 4 | GUIDE | used | 1051198040 | 9.54 | 5204 | 0.659 | -0.320 | 0.189 | 0.309 | 355.390308 | -42.851948 | -2202.32 | 492.02 |
| 5 | GUIDE | used | 1051204328 | 9.86 | 5208 | 0.208 | 0.352 | 0.363 | 0.535 | 355.958163 | -43.245581 | -1468.34 | -1432.37 |
| 6 | GUIDE | used | 1051205696 | 8.09 | 5223 | -0.079 | 0.069 | 0.175 | 0.278 | 356.065268 | -43.024313 | -869.42 | -838.08 |
| 7 | GUIDE | used | 1051205736 | 9.59 | 5216 | -0.097 | 0.249 | 0.213 | 0.332 | 356.603876 | -43.253982 | 37.00 | -2204.16 |

2.4 Star Slots

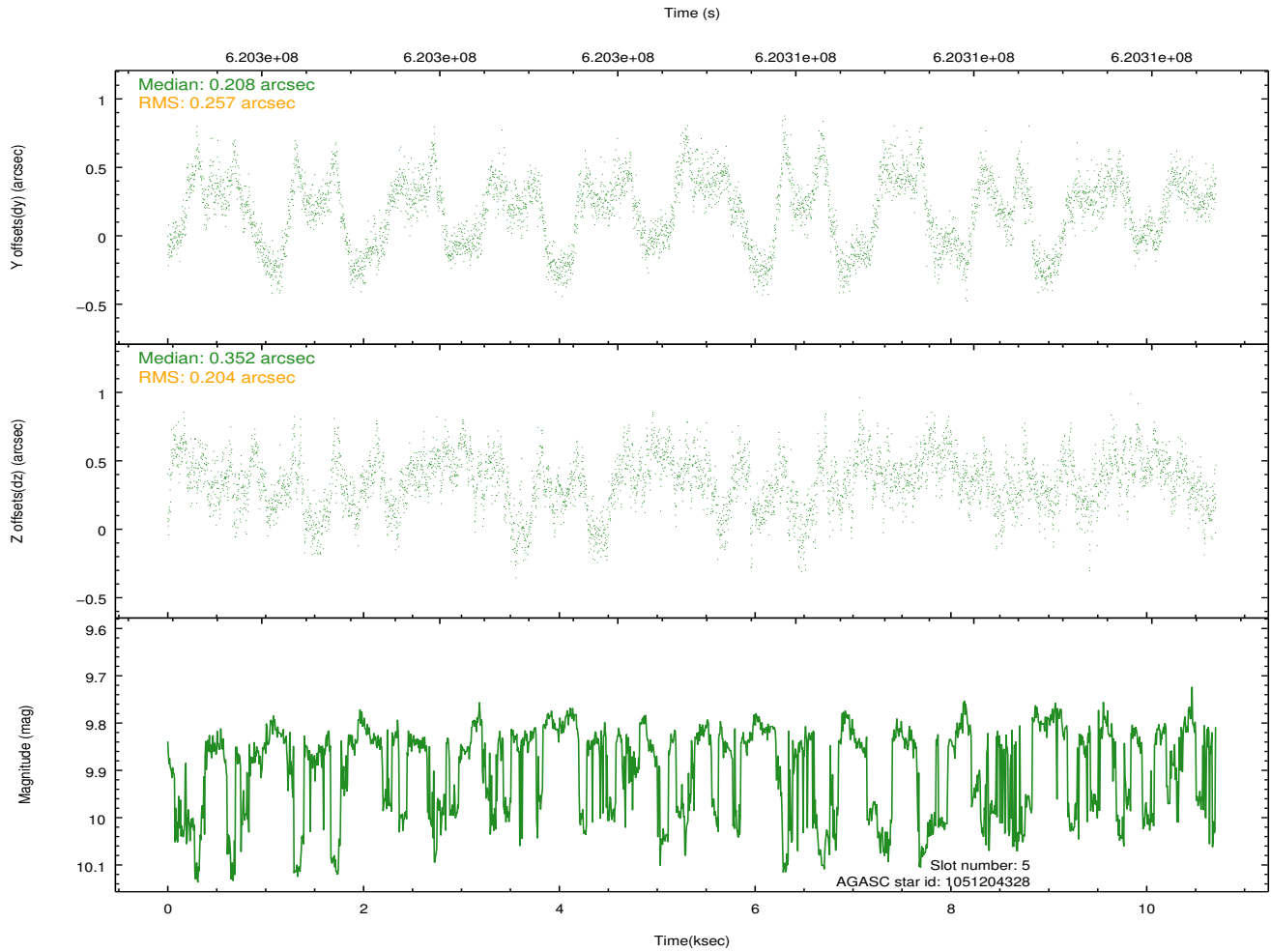
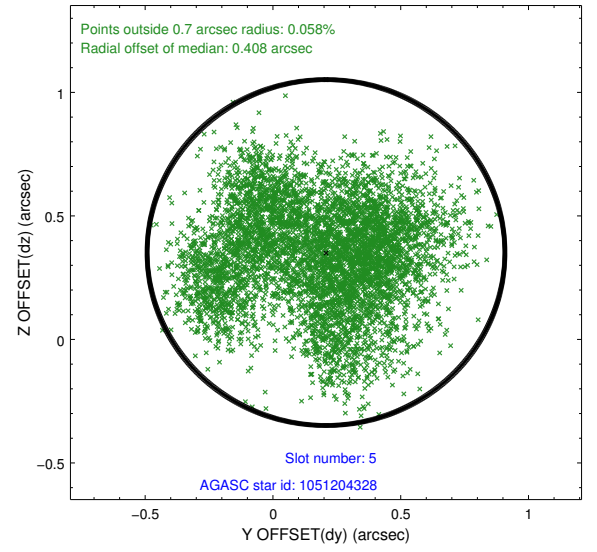
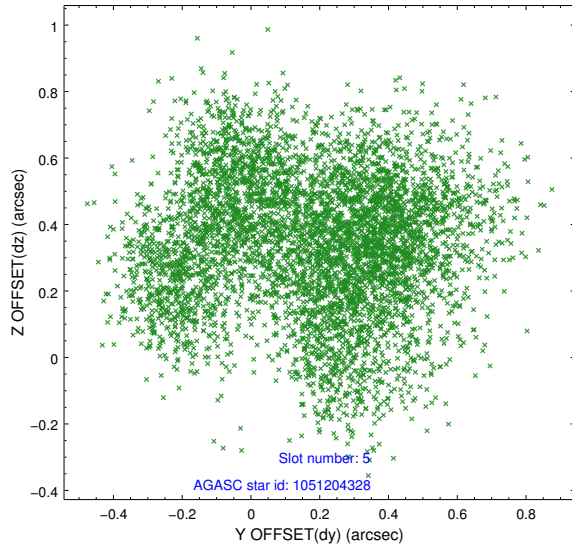
2.4.1 Slot 3



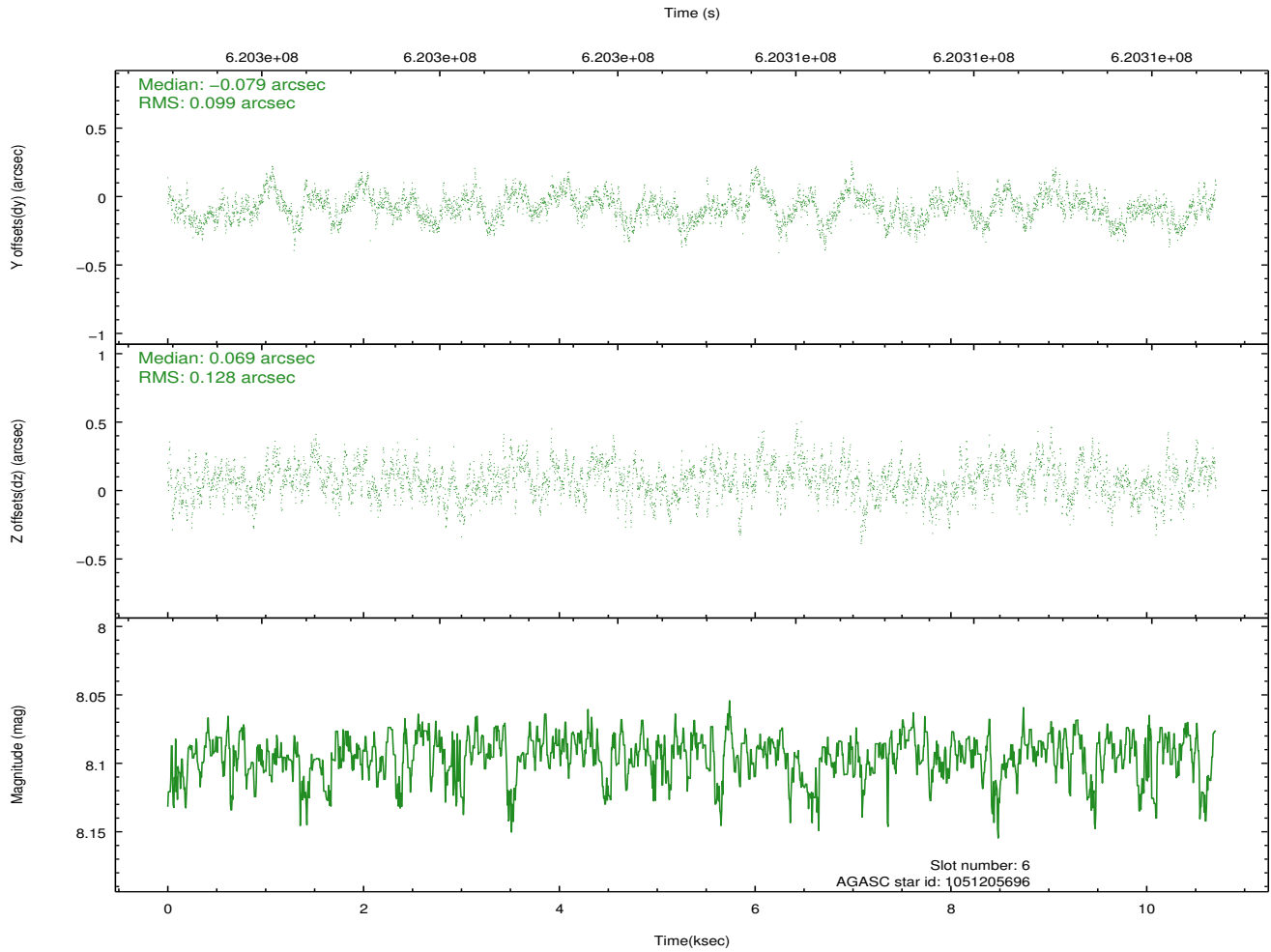
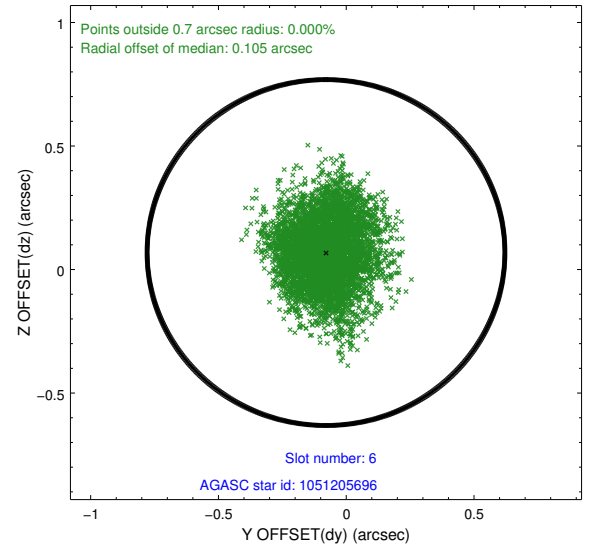
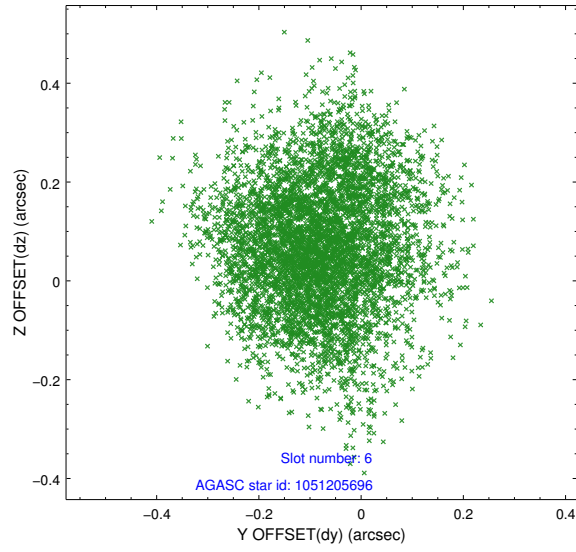
2.4.2 Slot 4



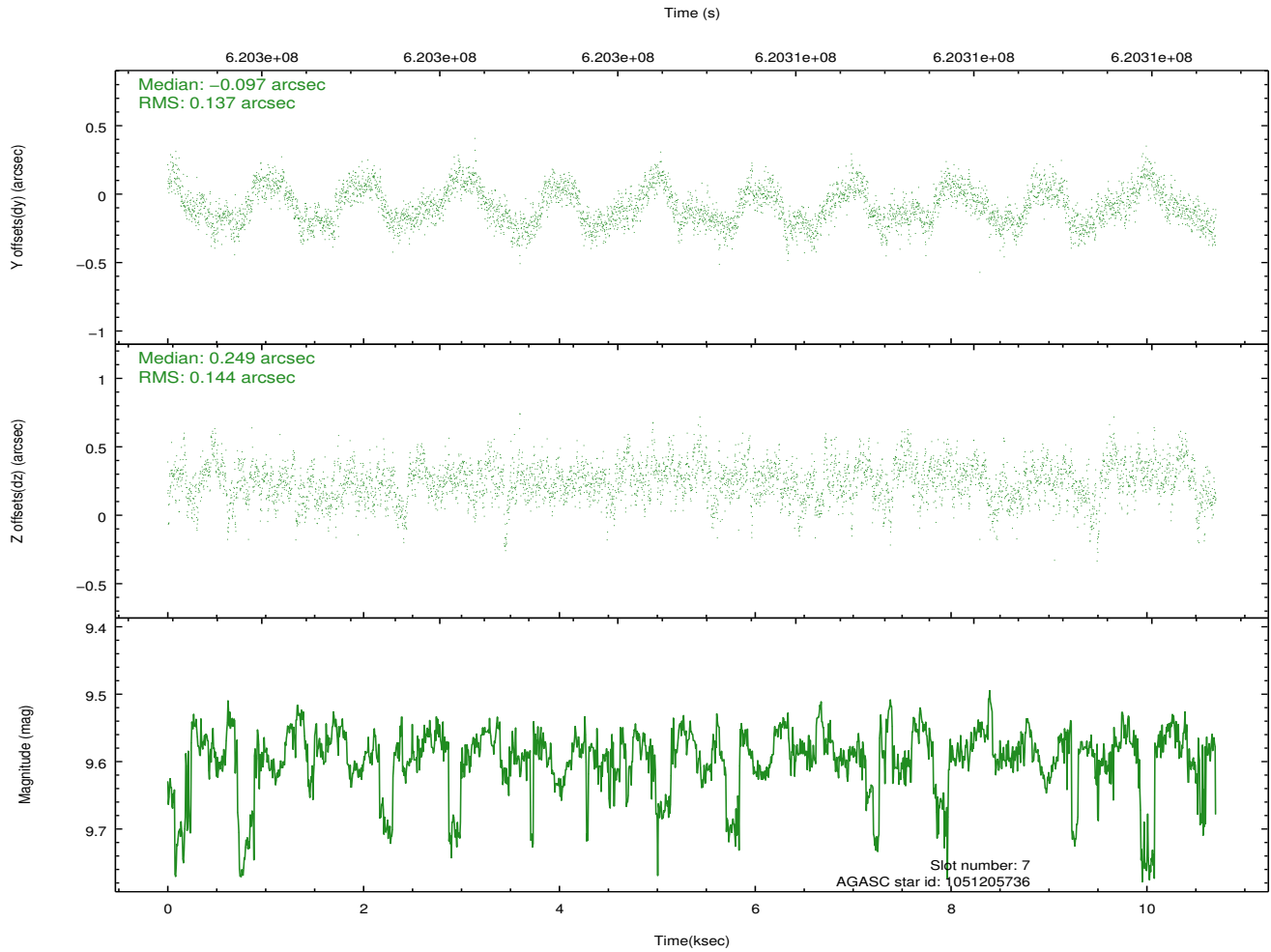
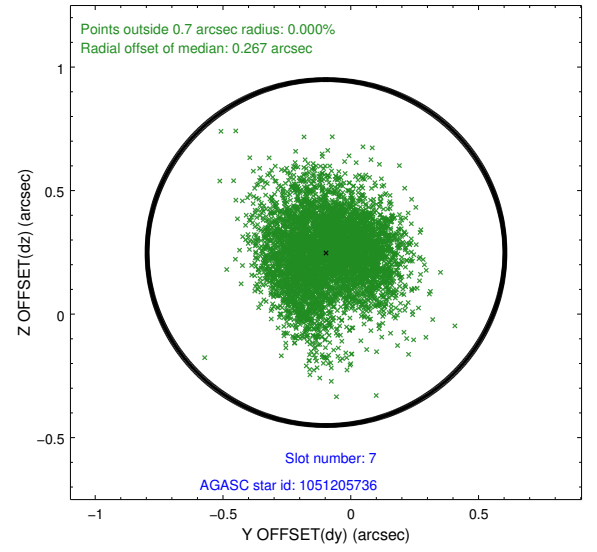
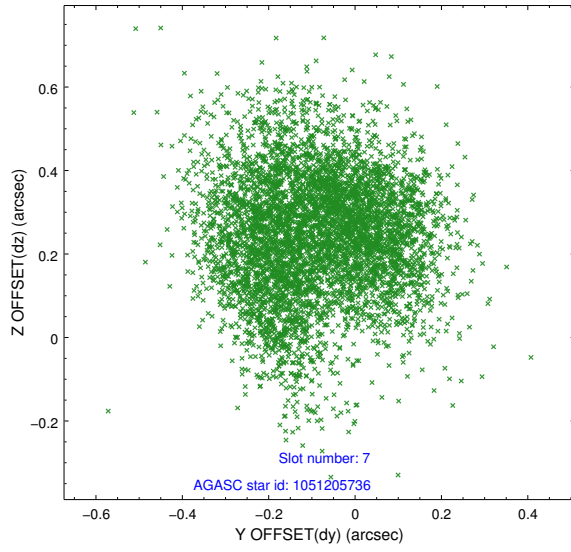
2.4.3 Slot 5



2.4.4 Slot 6

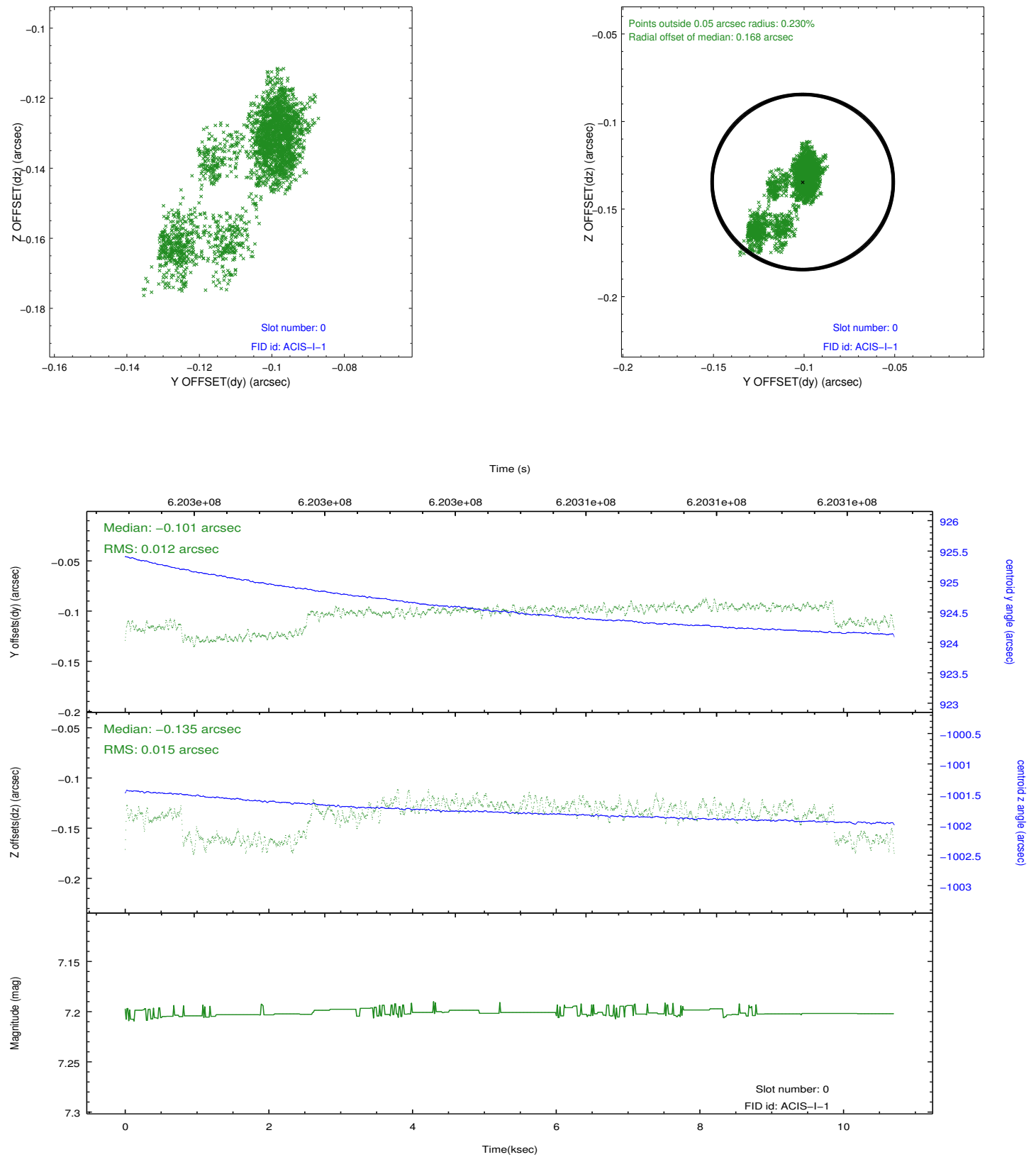


2.4.5 Slot 7

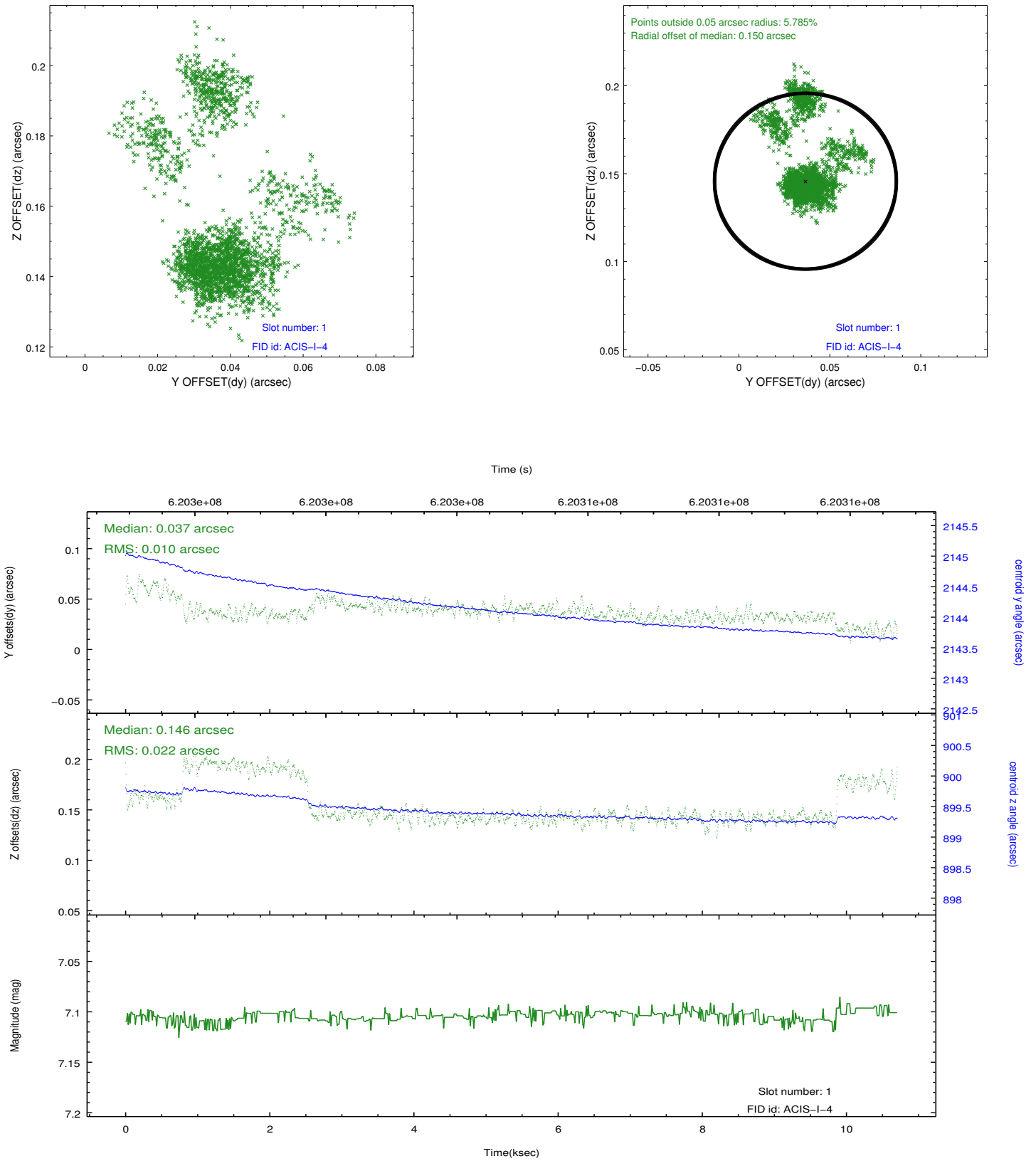


2.5 FID Slots

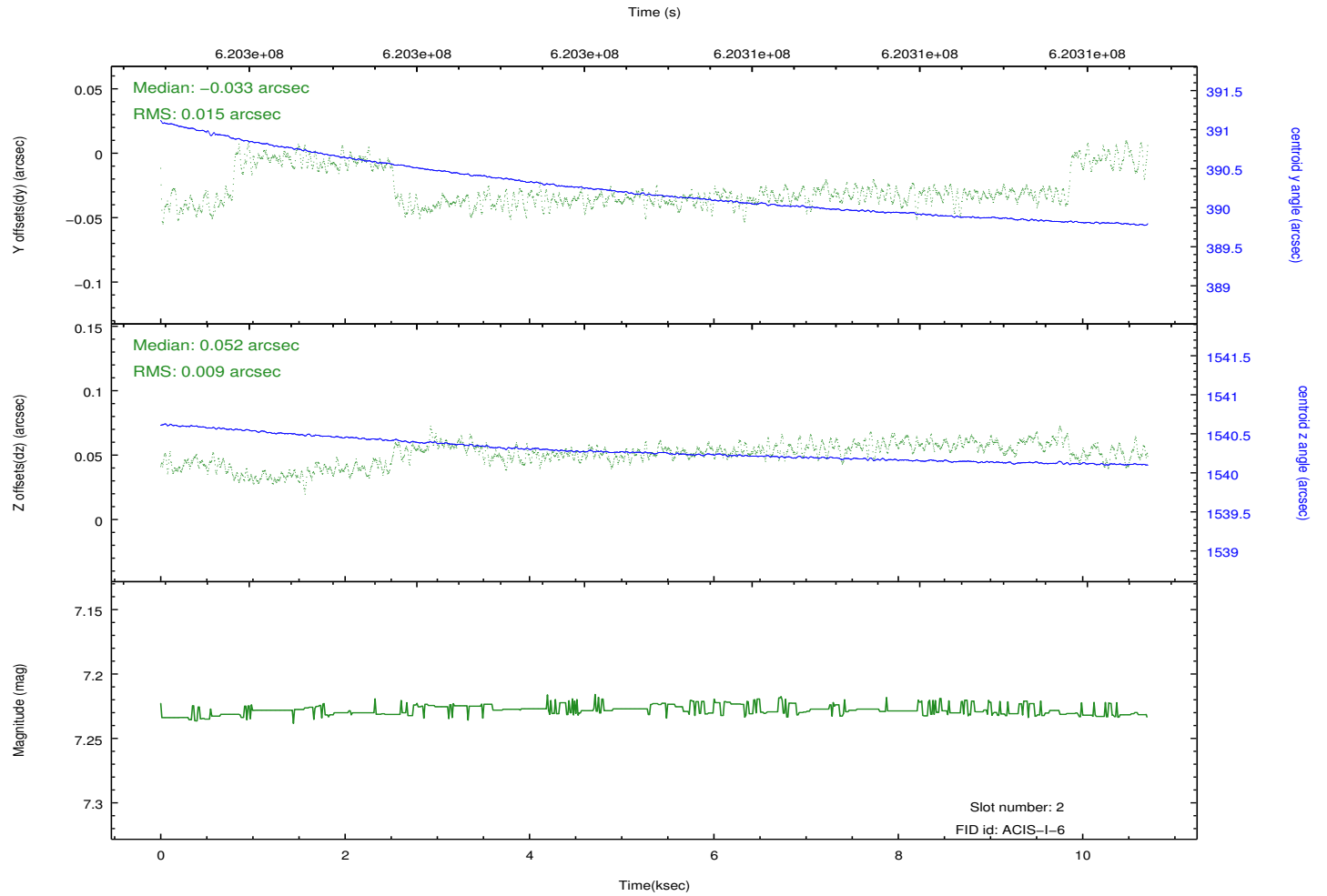
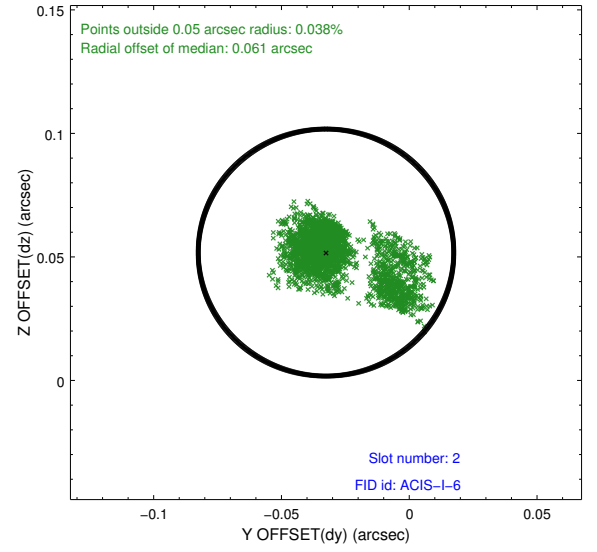
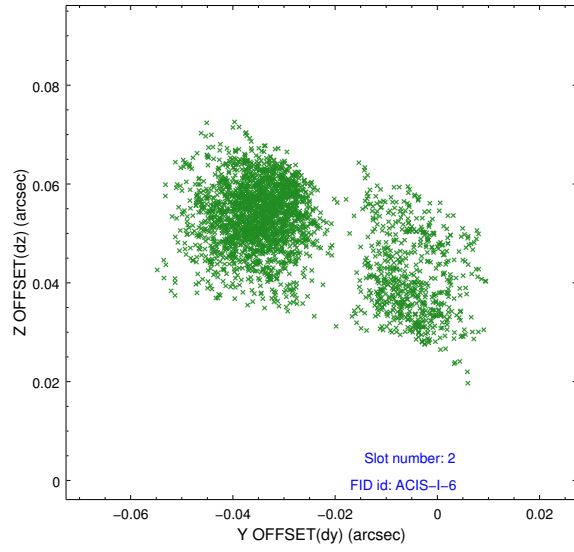
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|-----------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2017.08.28 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 10.102632502437 |

A.2 Comments