

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 20037 - L2 Version 2
Chandra X-Ray Center

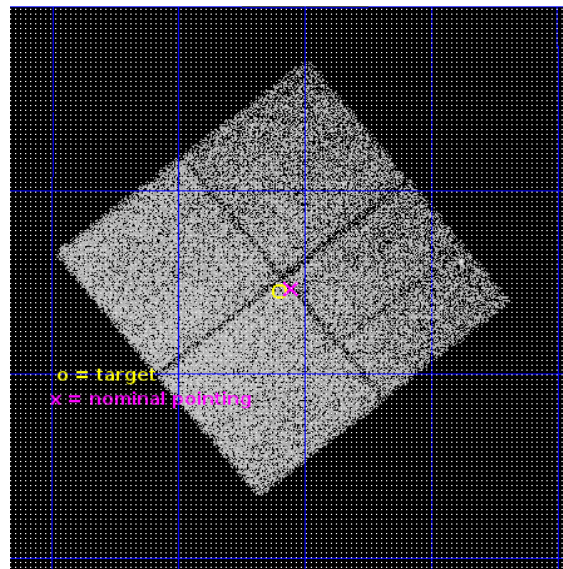
L2 Processing Date : Mar 20 2017

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 5 | 10 |
| 2.4.3 | Slot 6 | 11 |
| 2.4.4 | Slot 7 | 12 |
| 2.5 | FID Slots | 13 |
| 2.5.1 | Slot 0 | 13 |
| 2.5.2 | Slot 1 | 14 |
| 2.5.3 | Slot 2 | 15 |
| A | Summary | 16 |
| A.1 | Status | 16 |
| A.2 | Comments | 16 |

1 Front

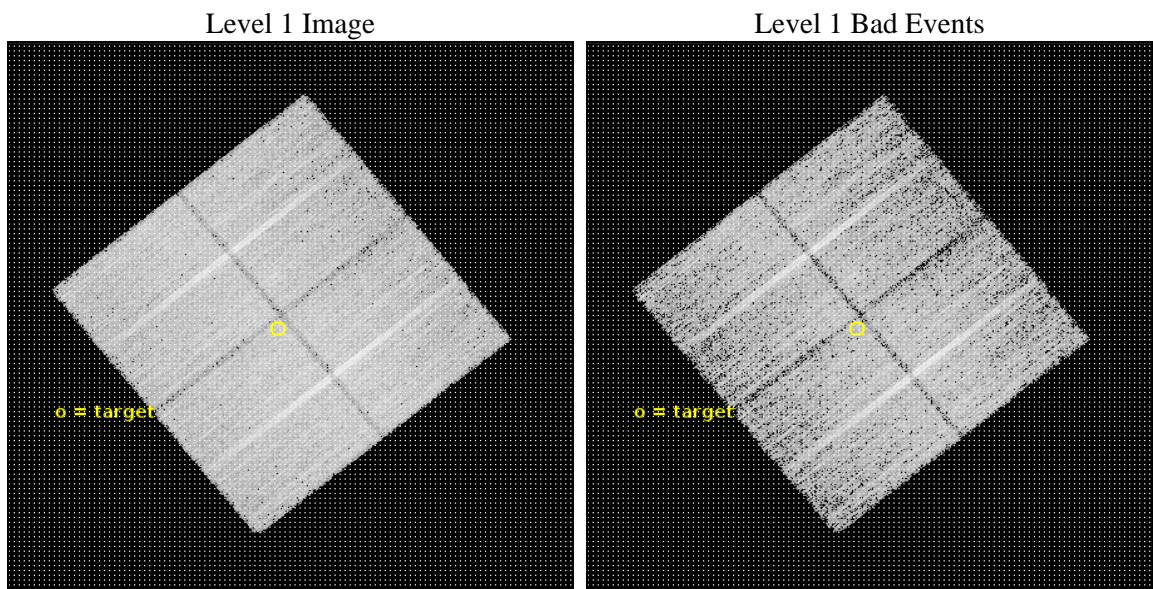
| | | |
|----------|--------------------------------------|---|
| seq_num | 801595 | Sequence number |
| obs_id | 20037 | Observation id |
| title | Probing ICM on mean free path scales | Proposal title |
| observer | Irina Zhuravleva | Principal investigator |
| object | Coma cluster | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 194.649583 | Observer's specified target RA [deg] |
| dec_targ | 28.074806 | Observer's specified target Dec [deg] |
| ra_nom | 194.63810121865 | Nominal RA [deg] |
| dec_nom | 28.077498198767 | Nominal Dec [deg] |
| roll_nom | 141.21408504201 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 17080.339561582 | Sum of GTIs [s] |
| livetime | 16857.172350846 | Livetime [s] |
| ontime0 | 17073.934370995 | Sum of GTIs [s] |
| ontime1 | 17080.257481575 | Sum of GTIs [s] |
| ontime2 | 17080.298521638 | Sum of GTIs [s] |
| ontime3 | 17080.339561582 | Sum of GTIs [s] |
| l2events | 93230 | Number of level 2 events |



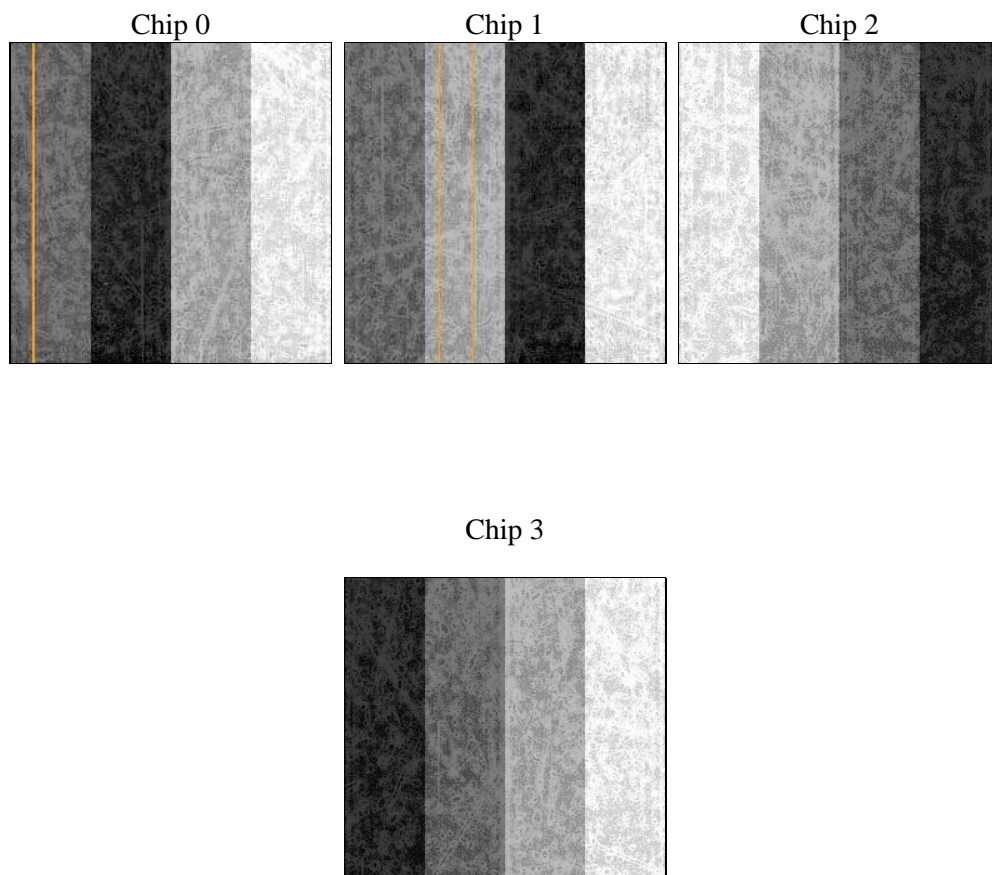
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 1 | Obi number | sched_exp_time | 17000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.5.2 | Processing system revision | ontime | 17080.339561582 | Sum of GTIs [s] |
| caldsver | 4.7.3 | | ontime0 | 17073.934370995 | Sum of GTIs [s] |
| date | 2017-03-20T15:27:42 | Date and time of file creation | ontime1 | 17080.257481575 | Sum of GTIs [s] |
| revision | 2 | Processing version of data | ontime2 | 17080.298521638 | Sum of GTIs [s] |
| | | | ontime3 | 17080.339561582 | Sum of GTIs [s] |
| | | | l1events | 529841 | Number of level 1 events |

2.1.4 Events

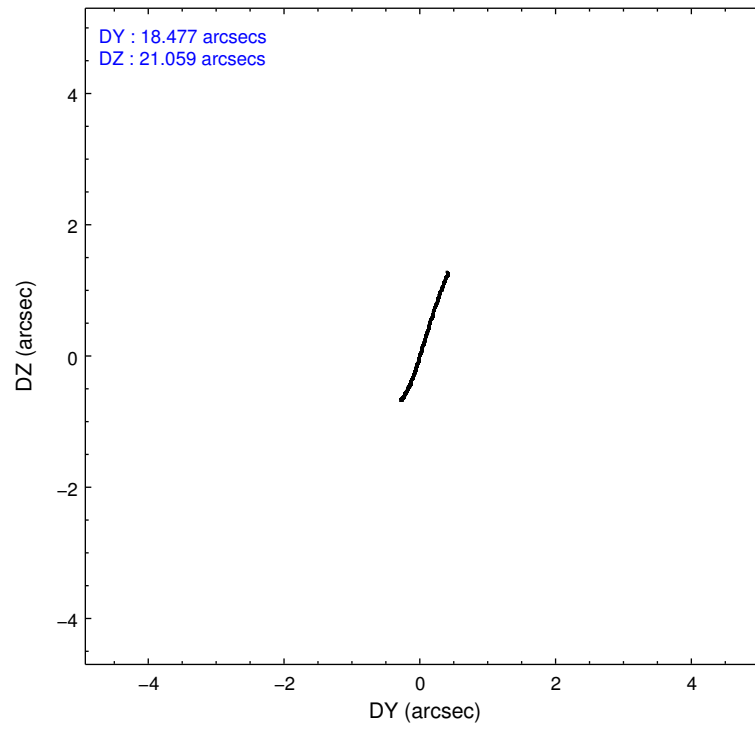
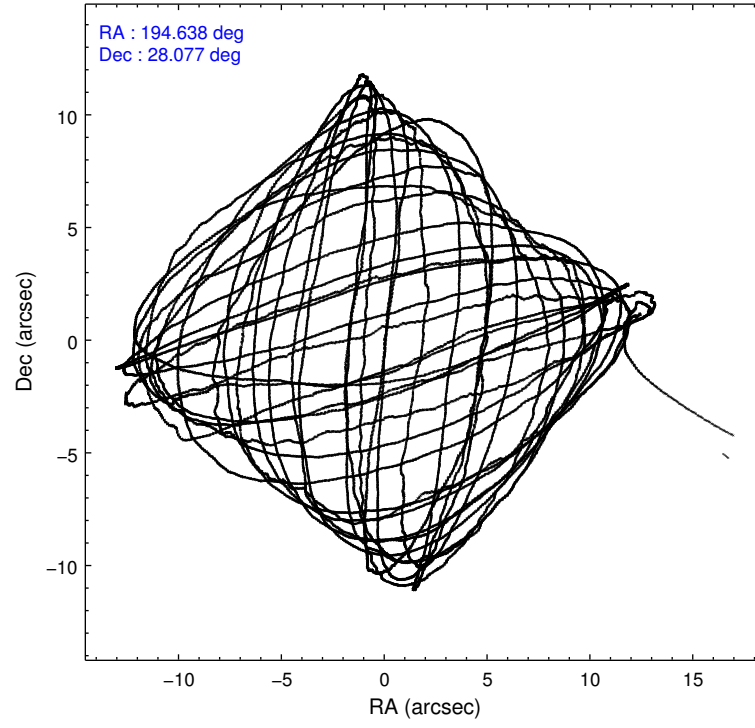
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|-----------------|--------|--------|--------|--------|
| level 1 events | 119557 | 136292 | 134599 | 139393 |
| rejected events | 99314 | 103935 | 113460 | 108011 |
| rejected % | 83% | 76% | 84% | 77% |

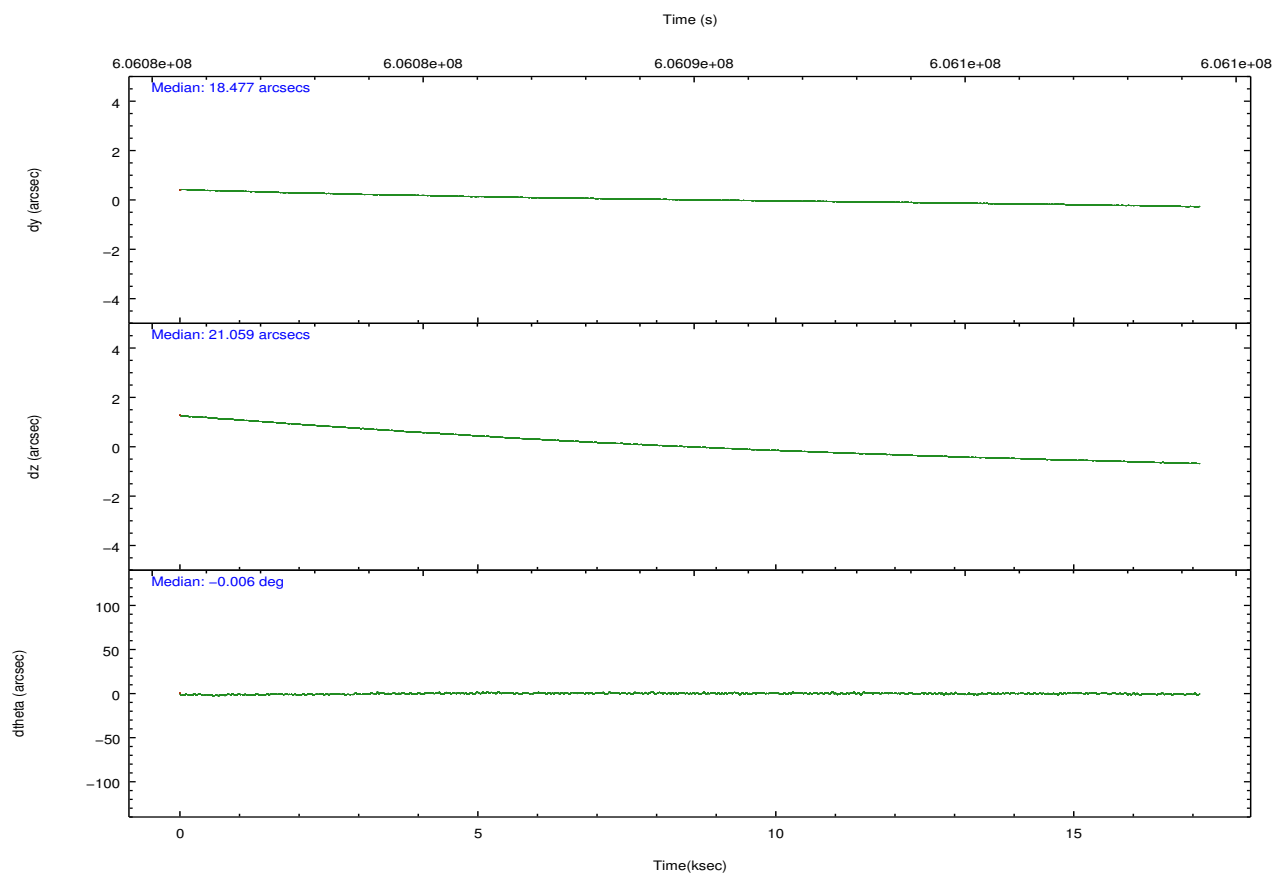
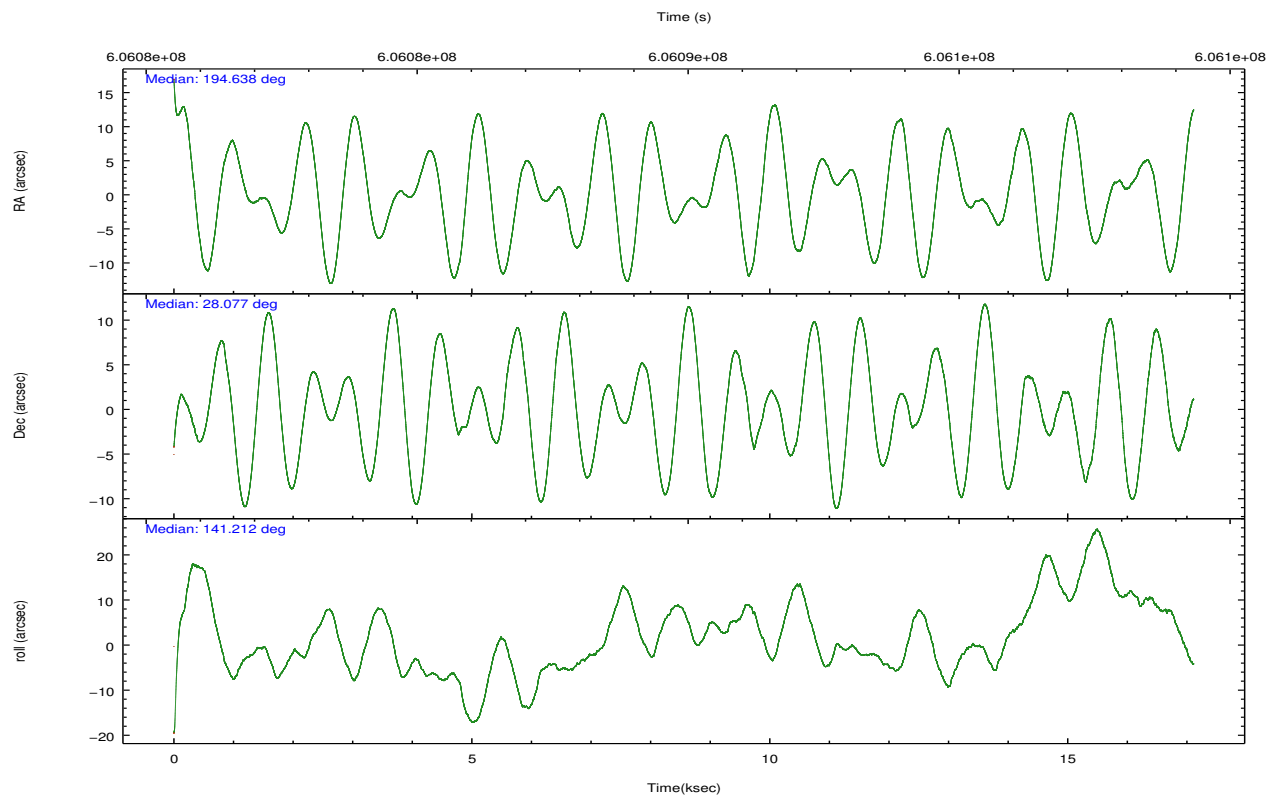
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|----------------|-------|-------|--------|--------|
| grade 0 events | 9662 | 18581 | 11091 | 18842 |
| | 8% | 13% | 8% | 13% |
| grade 1 events | 97 | 123 | 105 | 146 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 4306 | 5649 | 4122 | 4956 |
| | 3% | 4% | 3% | 3% |
| grade 3 events | 1702 | 2103 | 1563 | 2051 |
| | 1% | 1% | 1% | 1% |
| grade 4 events | 1543 | 2152 | 1618 | 2098 |
| | 1% | 1% | 1% | 1% |
| grade 5 events | 5331 | 5476 | 4745 | 6051 |
| | 4% | 4% | 3% | 4% |
| grade 6 events | 3034 | 3884 | 2752 | 3441 |
| | 2% | 2% | 2% | 2% |
| grade 7 events | 93882 | 98324 | 108603 | 101808 |
| | 78% | 72% | 80% | 73% |

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 | 194.669010 | 194.638101218654 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 28.073401 | 28.07749819876707 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 140.990858 | 141.2140850420111 | [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) | 606081482.184000 | 606079803.92538 | | | |
| Observation start date | 2017-03-16T19:56:53 | 2017-03-16T19:30:03 | | | |
| [s] Observation end time (MET) | 606098482.184000 | 606098949.90149 | | | |
| Observation end date | 2017-03-17T00:40:13 | 2017-03-17T00:49:09 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



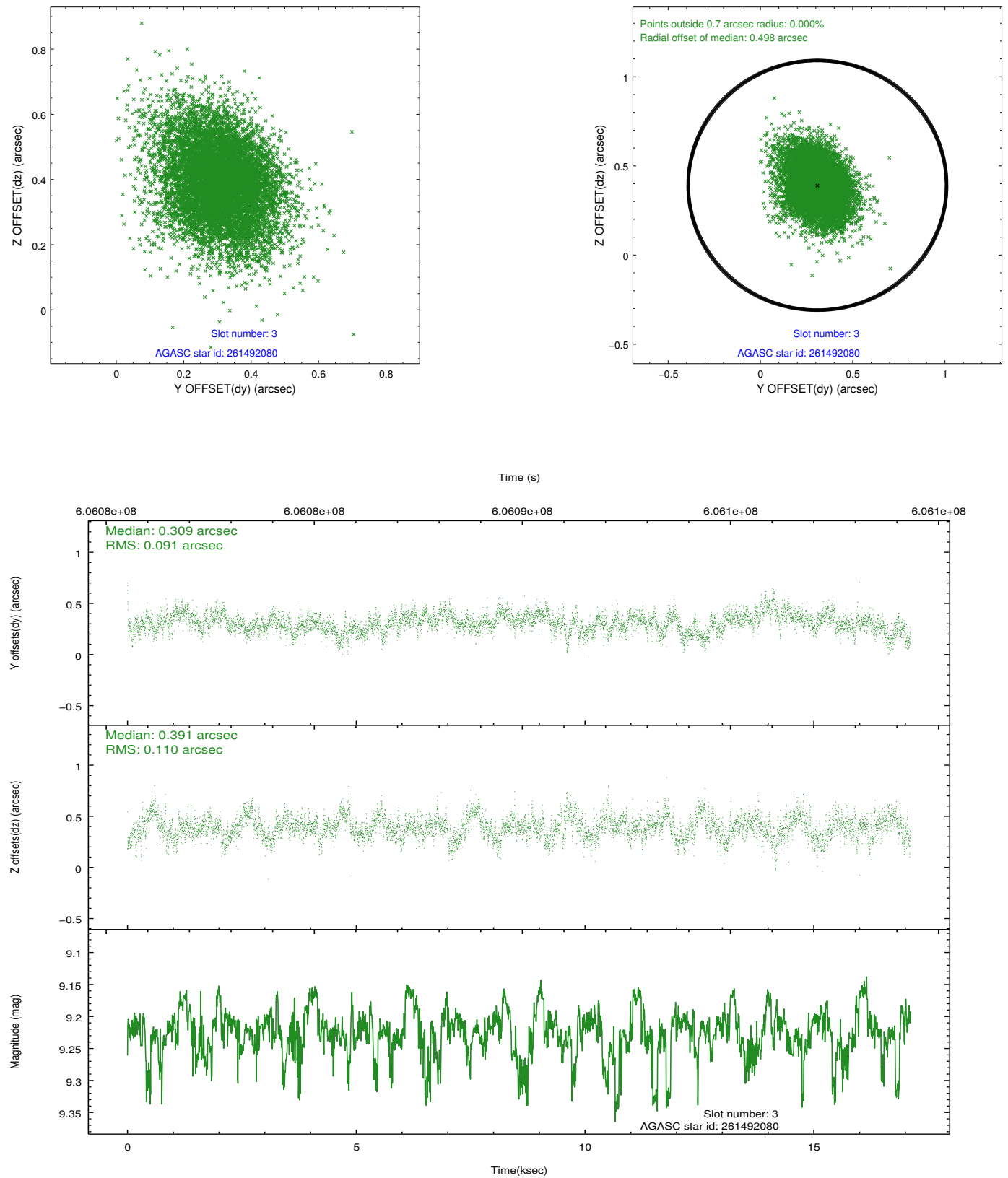


Slot Statistics

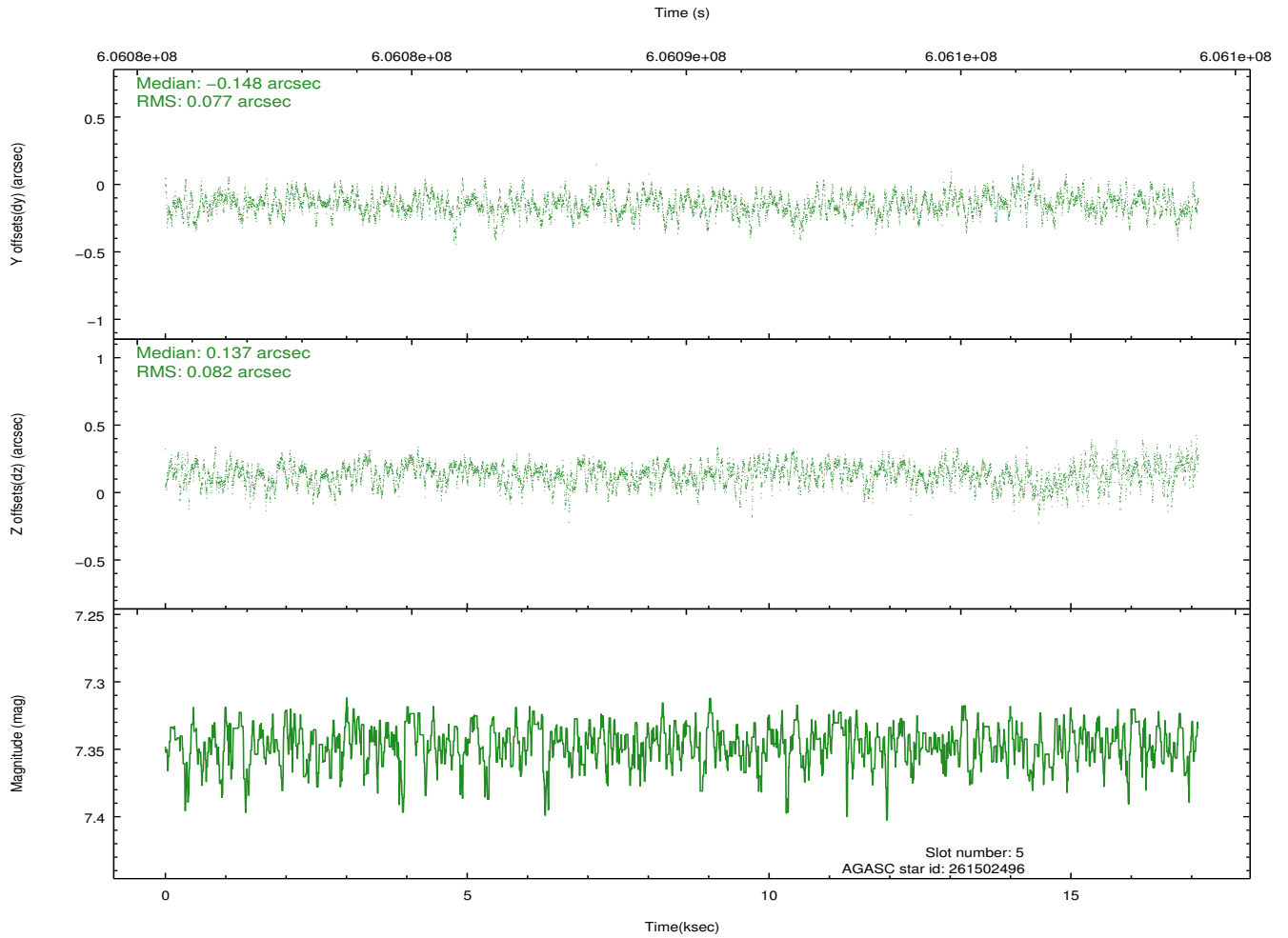
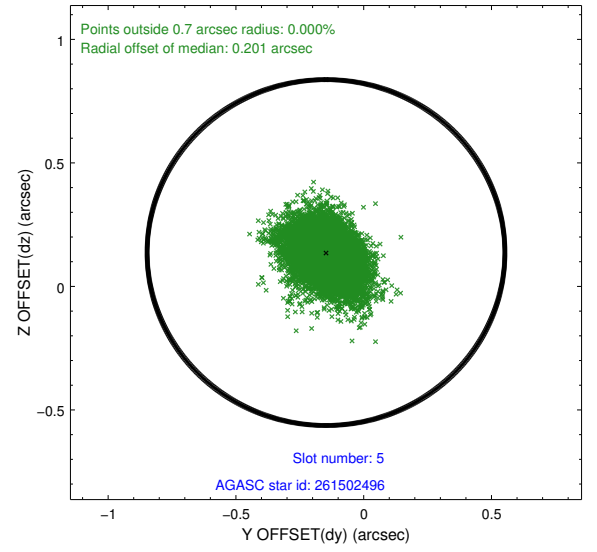
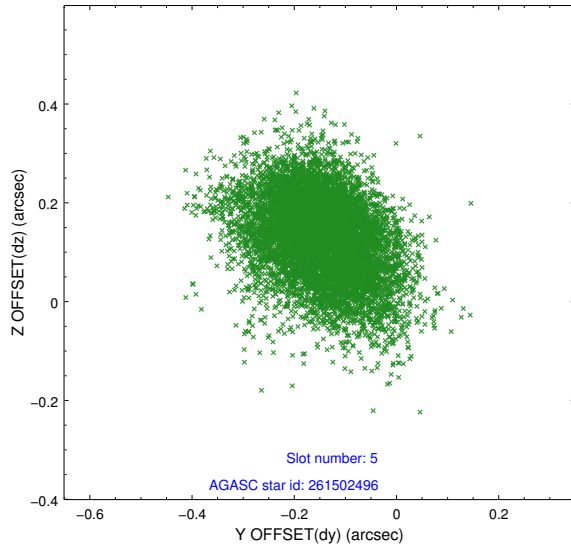
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|---------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | | ACIS-I-1 | 7.09 | 4174 | -0.084 | -0.101 | 0.020 | 0.034 | 0.000000 | 0.000000 | 920.83 | -844.96 |
| 1 | FID | | ACIS-I-4 | 7.02 | 4170 | 0.459 | 0.133 | 0.014 | 0.021 | 0.000000 | 0.000000 | 2141.43 | 1055.04 |
| 2 | FID | | ACIS-I-5 | 7.07 | 4175 | -0.473 | 0.038 | 0.011 | 0.016 | 0.000000 | 0.000000 | -1827.37 | 1052.80 |
| 3 | GUIDE | used | 261492080 | 9.22 | 8332 | 0.309 | 0.391 | 0.149 | 0.251 | 194.976344 | 28.631585 | 512.02 | -2173.24 |
| 4 | OMITTED | | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0.00 |
| 5 | GUIDE | used | 261502496 | 7.35 | 8347 | -0.148 | 0.137 | 0.117 | 0.199 | 194.887297 | 28.065668 | -555.41 | -415.44 |
| 6 | GUIDE | used | 261505760 | 9.77 | 8323 | -0.079 | -0.325 | 0.190 | 0.330 | 193.736841 | 27.992885 | 2128.02 | 2081.48 |
| 7 | GUIDE | used | 261505808 | 9.31 | 8332 | -0.083 | -0.206 | 0.161 | 0.257 | 193.710324 | 27.913269 | 2015.27 | 2358.46 |

2.4 Star Slots

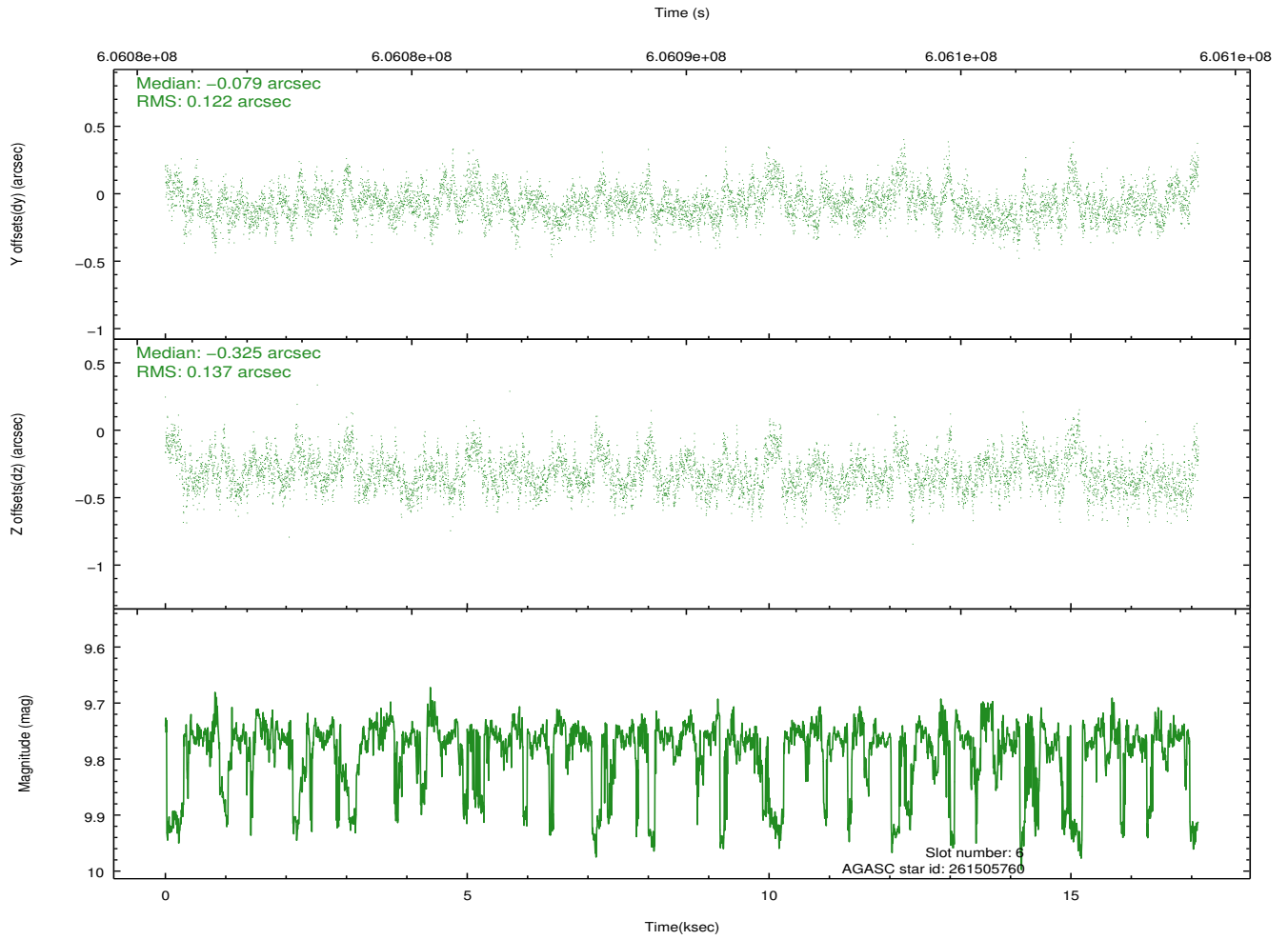
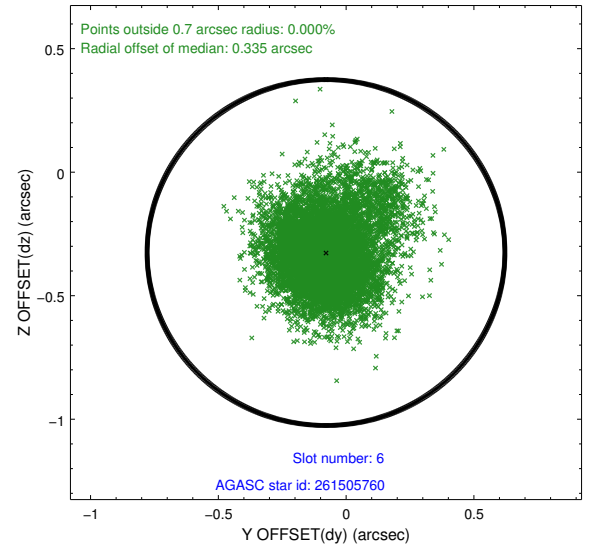
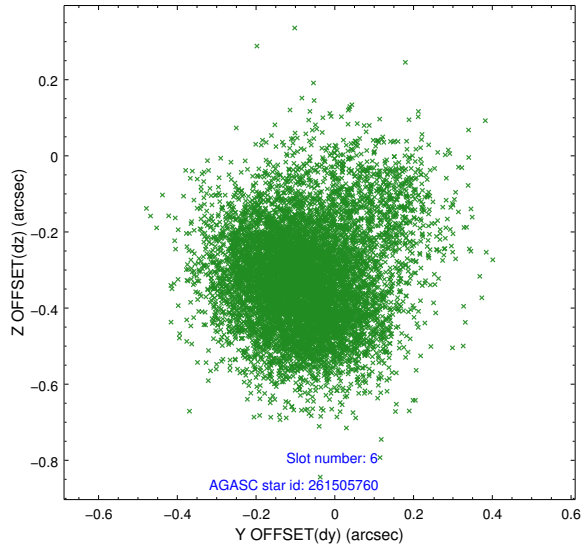
2.4.1 Slot 3



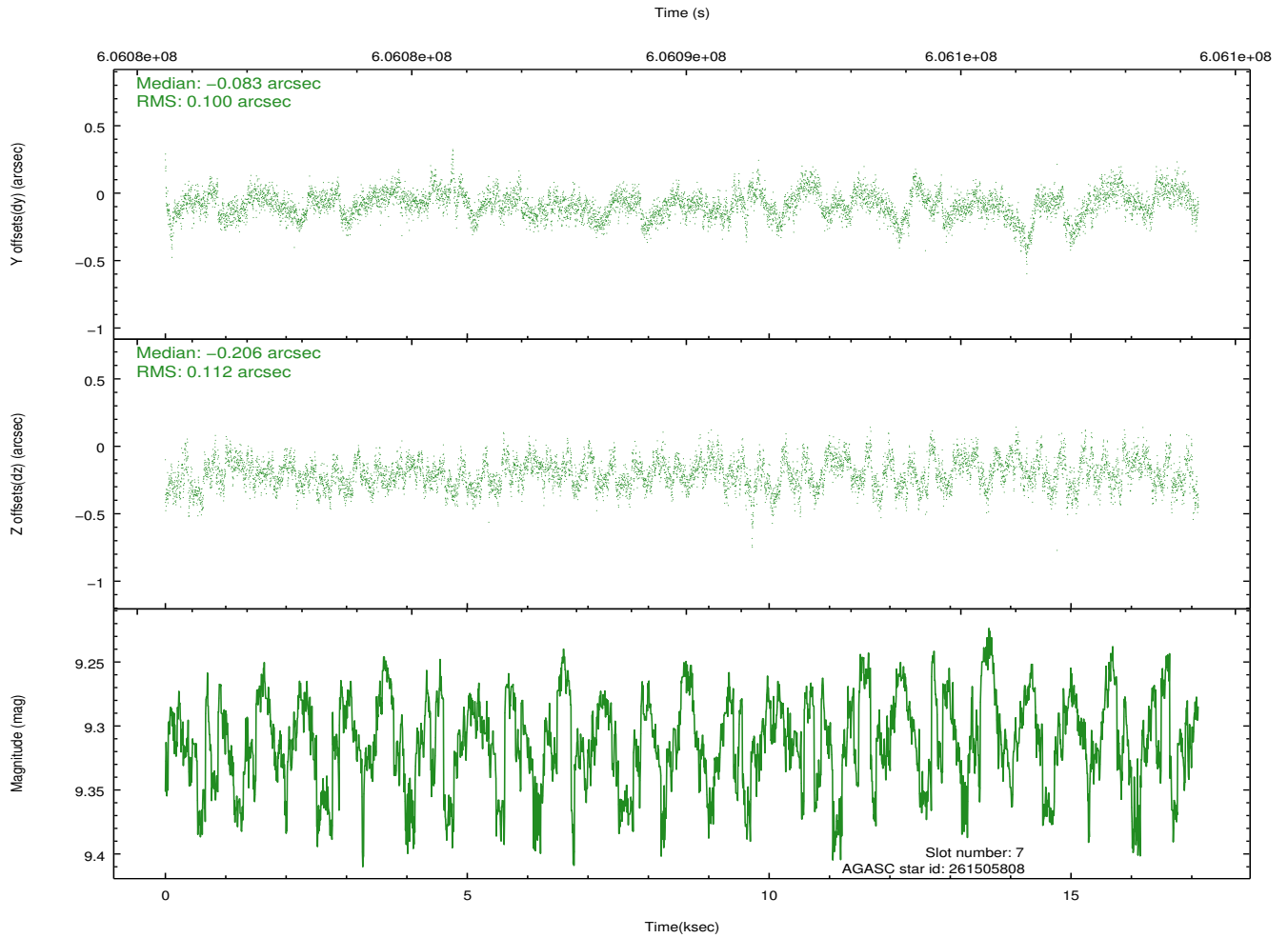
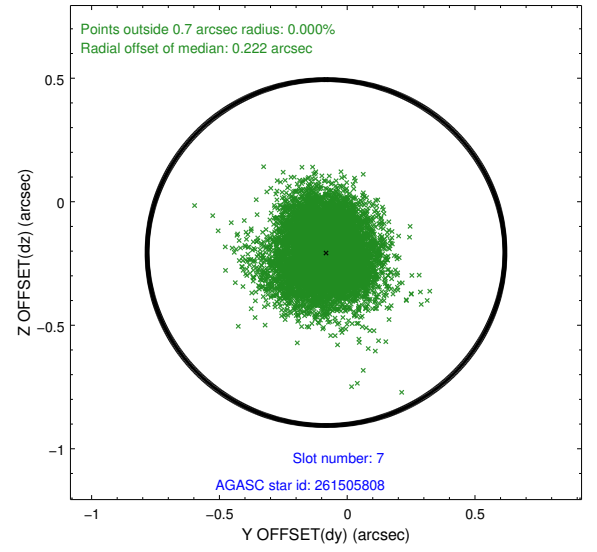
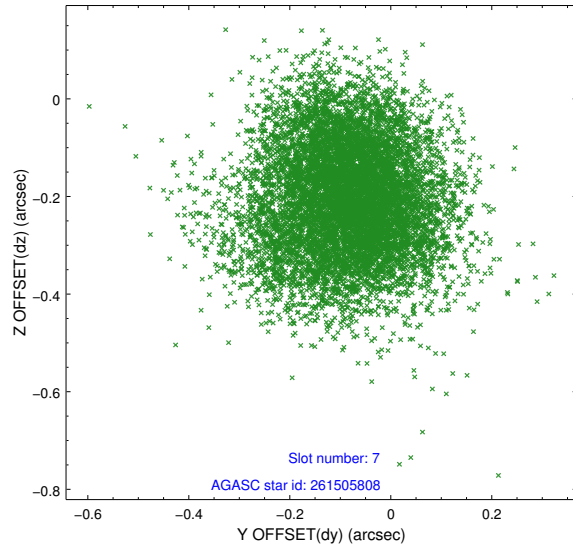
2.4.2 Slot 5



2.4.3 Slot 6

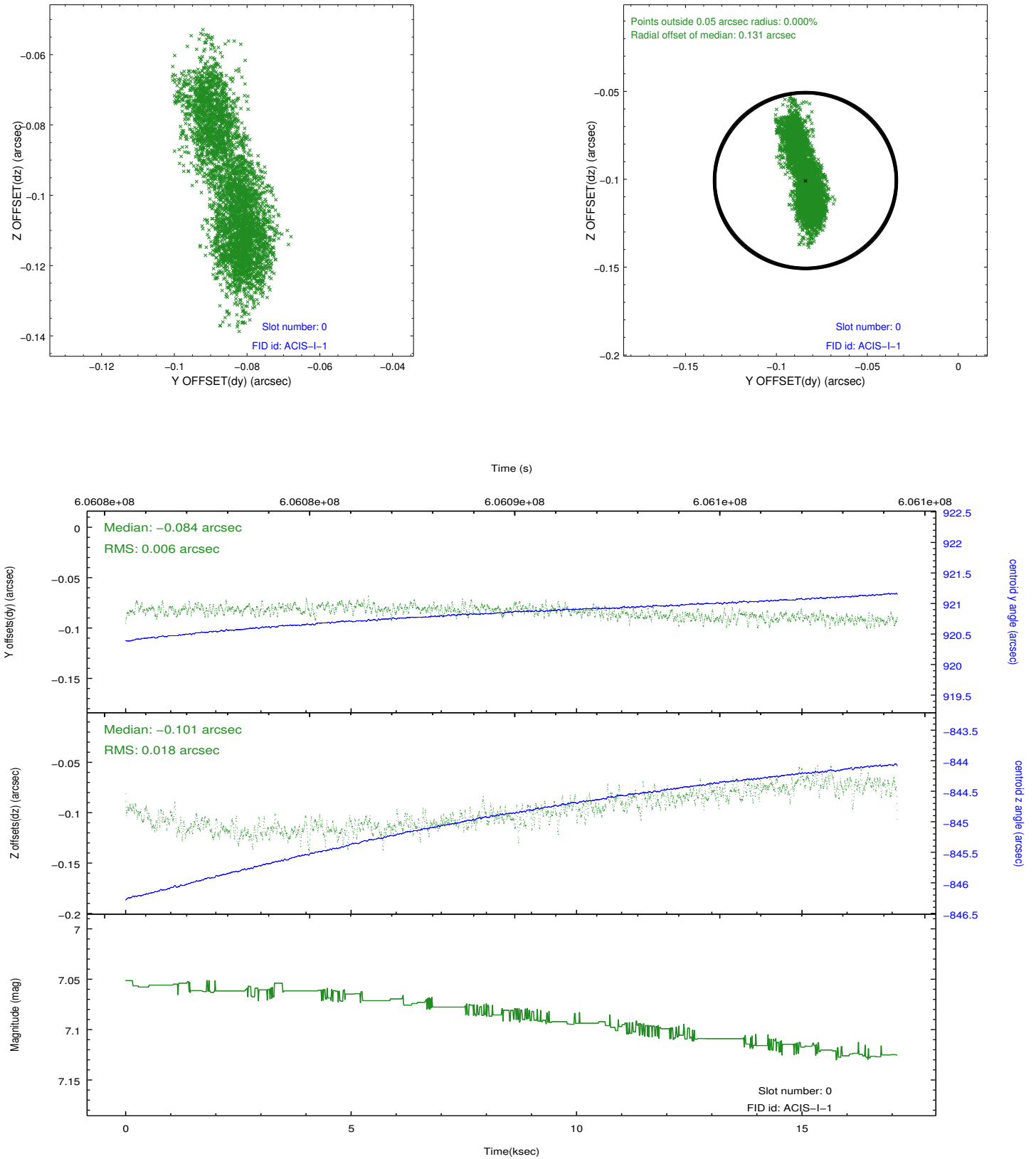


2.4.4 Slot 7

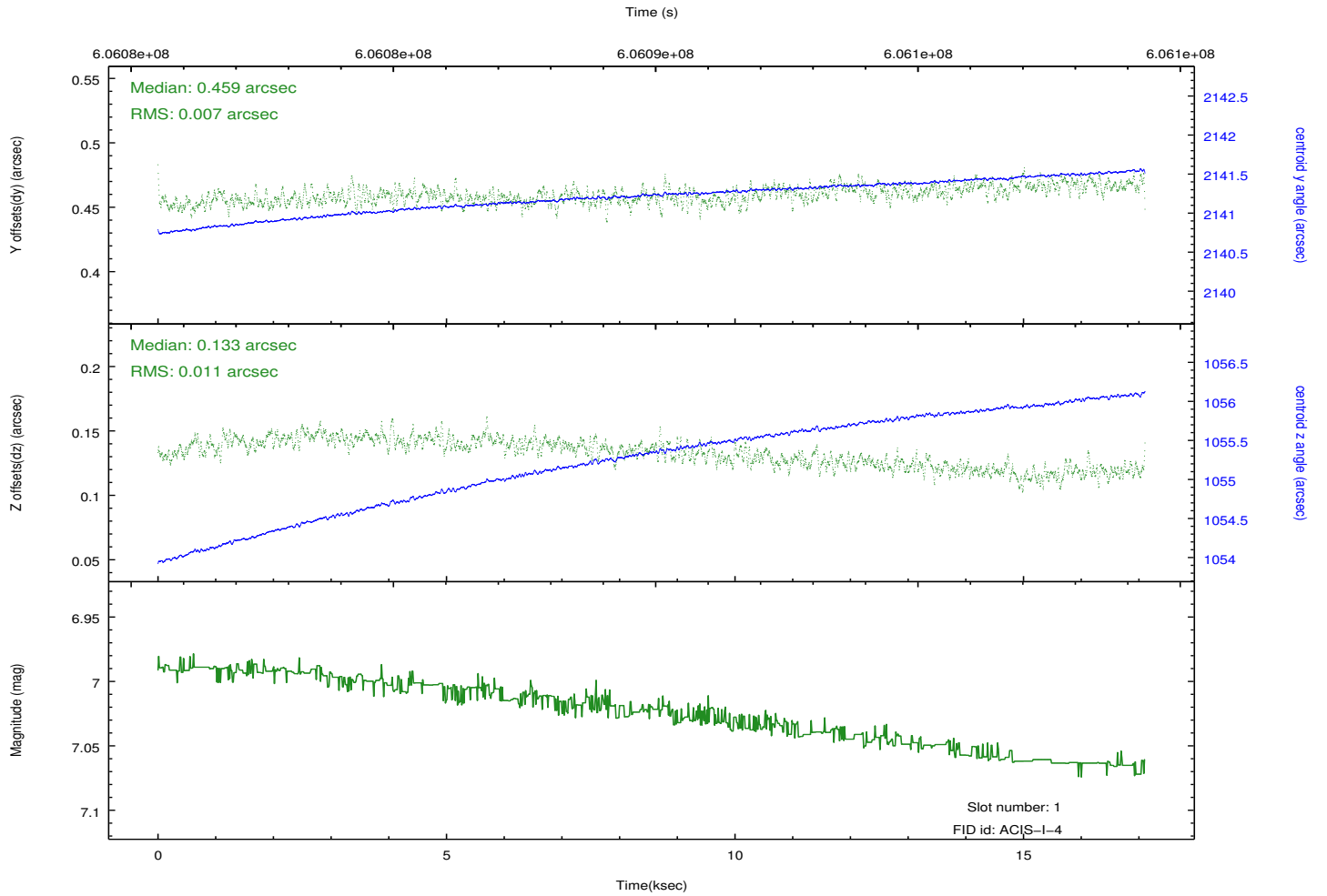
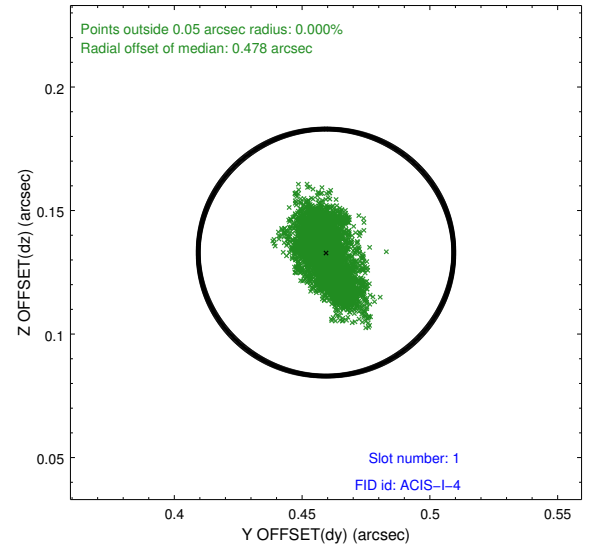
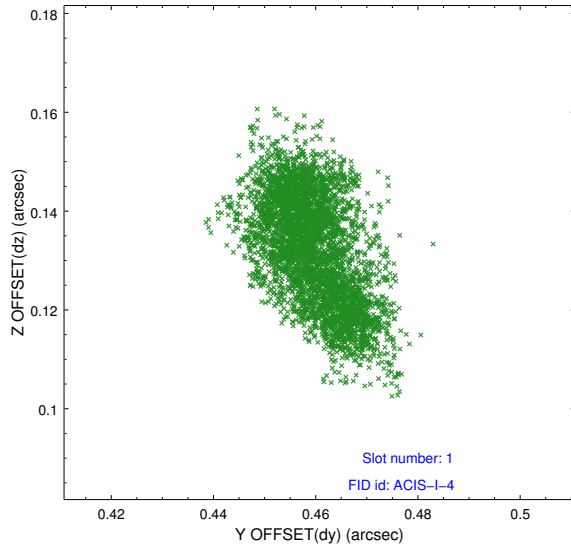


2.5 FID Slots

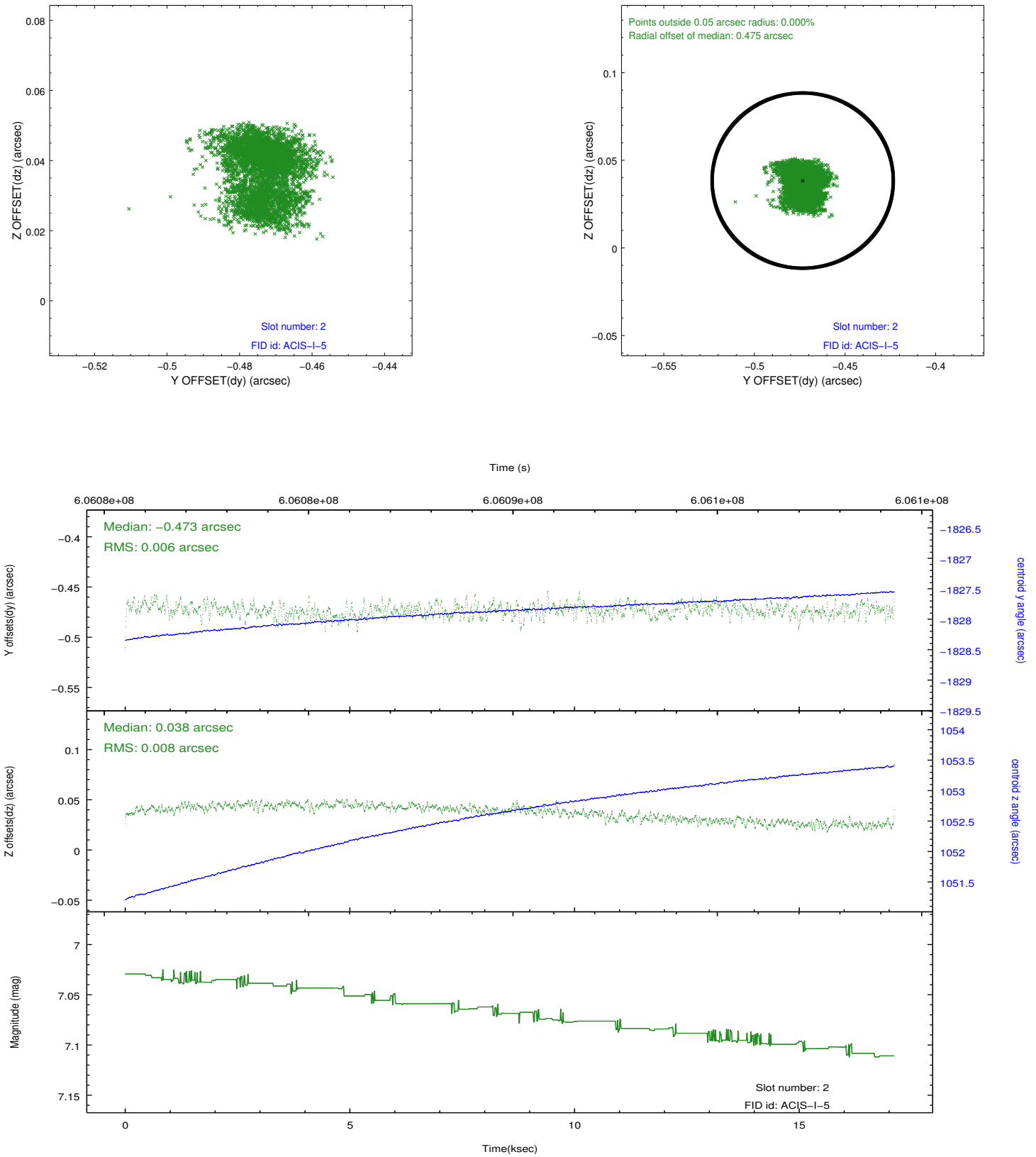
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|-----------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2017.03.20 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 17.080339561582 |

A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.