

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11631 - L2 Version 2  
Chandra X-Ray Center

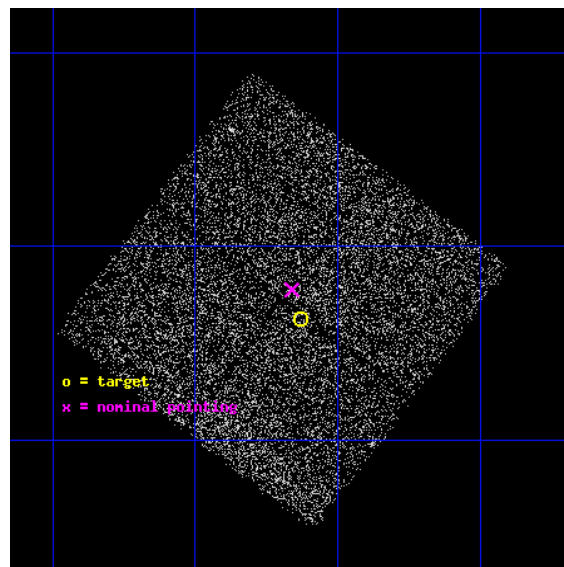
L2 Processing Date : Jun 20 2012

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# 1 Front

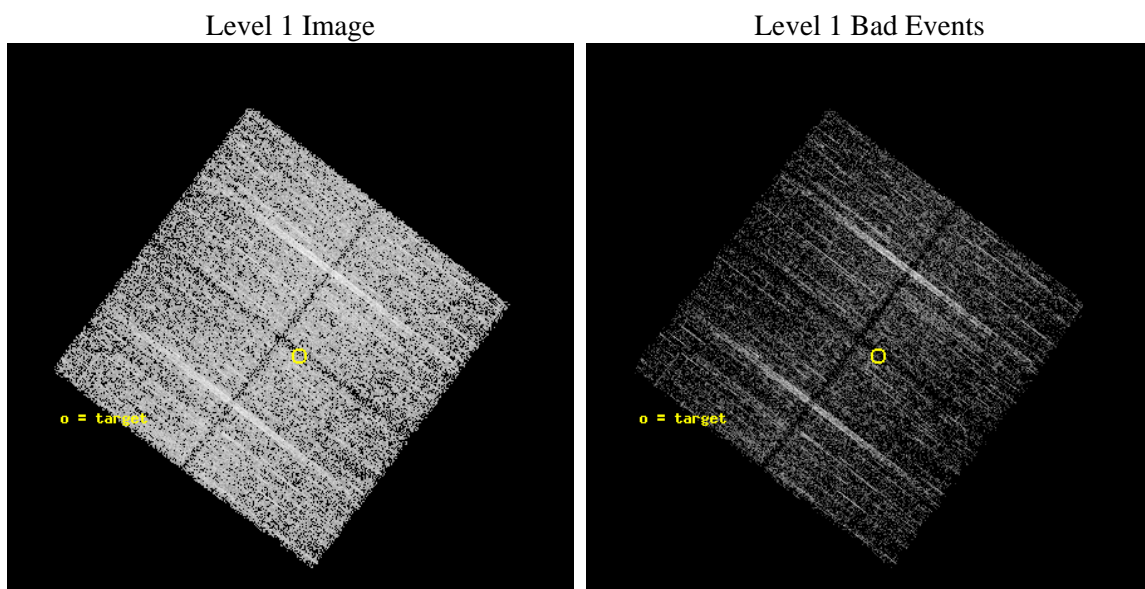
|          |  |   |
|----------|--|---|
| seq_num  | 702217                                       | Sequence number                             |
| obs_id   | 11631  | Observation id                              |
| title    | AGN ignition in the galaxy group environment | Proposal title                              |
| observer | Dr. John Silverman                           | Principal investigator                      |
| object   | 2PIGG_m1480                                  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 153.9075                                     | Observer's specified target<br>RA [deg]     |
| dec_targ | -5.562111                                    | Observer's specified target<br>Dec [deg]    |
| ra_nom   | 153.91537269228                              | Nominal RA [deg]                            |
| dec_nom  | -5.5374456593156                             | Nominal Dec [deg]                           |
| roll_nom | 37.080406899339                              | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 5183.2000398636                              | Sum of GTIs [s]                             |
| livetime | 5115.4777155264                              | Livetime [s]                                |
| ontime0  | 5180.0590396523                              | Sum of GTIs [s]                             |
| ontime1  | 5183.2000398636                              | Sum of GTIs [s]                             |
| ontime2  | 5183.2000398636                              | Sum of GTIs [s]                             |
| ontime3  | 5183.2000398636                              | Sum of GTIs [s]                             |
| l2events | 15364  | Number of level 2 events                    |



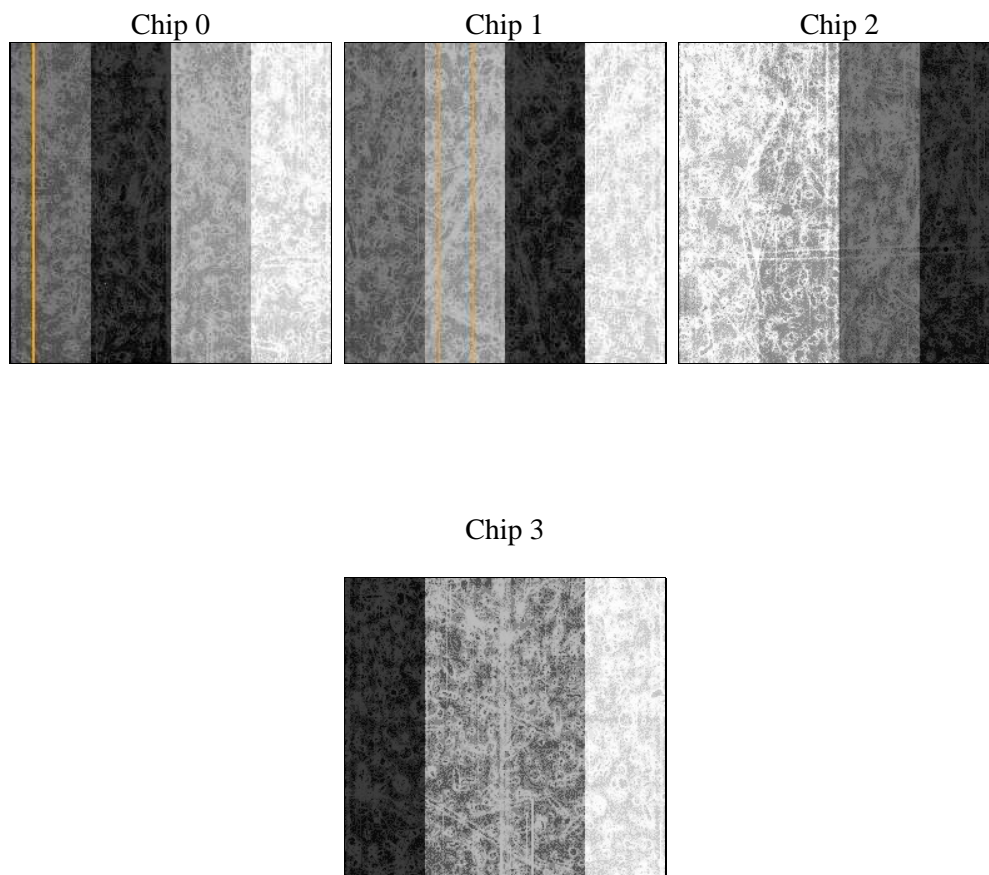
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 5183.2000398636 | Sum of GTIs [s]                         |
| caldbver | 4.4.10              | &#160                          | ontime0        | 5180.0590396523 | Sum of GTIs [s]                         |
| date     | 2012-06-20T23:57:21 | Date and time of file creation | ontime1        | 5183.2000398636 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 5183.2000398636 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 5183.2000398636 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 167164          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|-----------------|-------|-------|-------|-------|
| level 1 events  | 39702 | 39411 | 44815 | 43236 |
| rejected events | 35054 | 34362 | 40282 | 38963 |
| rejected %      | 88%   | 87%   | 89%   | 90%   |

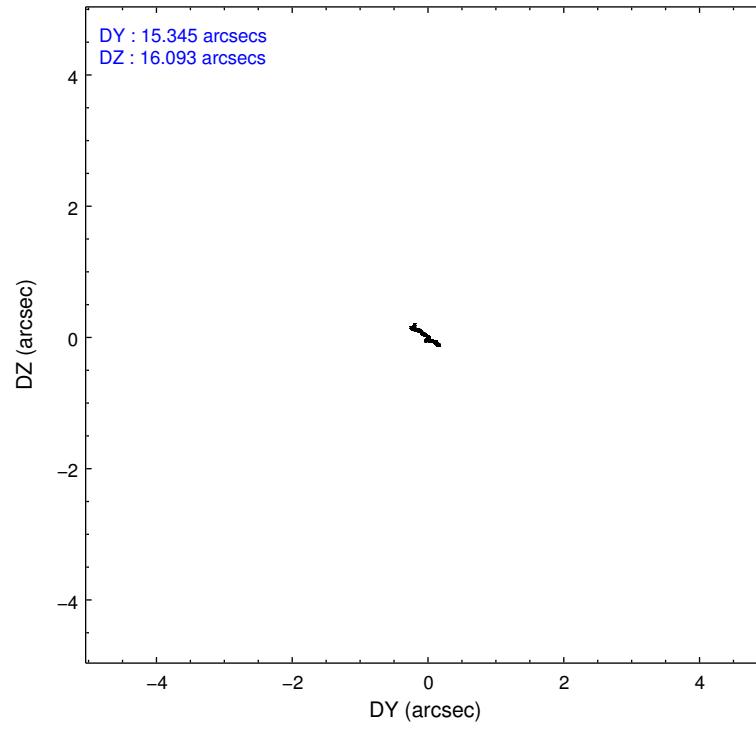
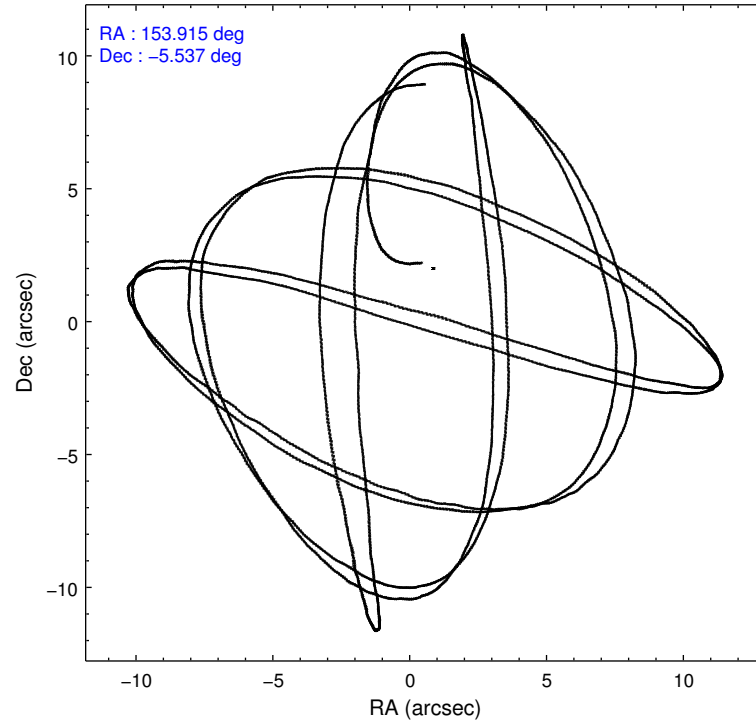
|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 1638  | 1857  | 1697  | 1556  |
|                | 4%    | 4%    | 3%    | 3%    |
| grade 1 events | 20    | 20    | 37    | 32    |
|                | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1116  | 1166  | 1150  | 956   |
|                | 2%    | 2%    | 2%    | 2%    |
| grade 3 events | 534   | 519   | 461   | 463   |
|                | 1%    | 1%    | 1%    | 1%    |
| grade 4 events | 467   | 498   | 476   | 449   |
|                | 1%    | 1%    | 1%    | 1%    |
| grade 5 events | 1662  | 1725  | 1626  | 1822  |
|                | 4%    | 4%    | 3%    | 4%    |
| grade 6 events | 935   | 1055  | 794   | 874   |
|                | 2%    | 2%    | 1%    | 2%    |
| grade 7 events | 33330 | 32571 | 38574 | 37084 |
|                | 83%   | 82%   | 86%   | 85%   |

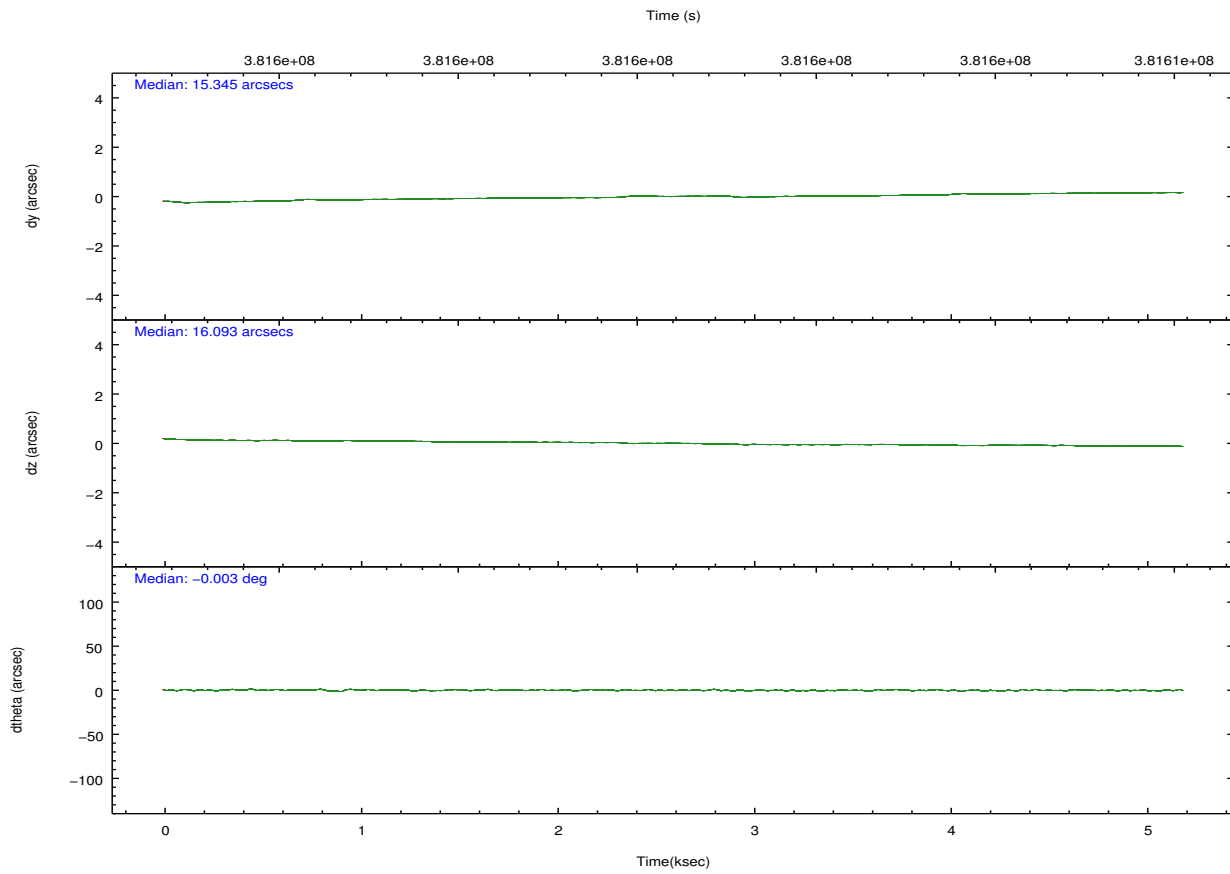
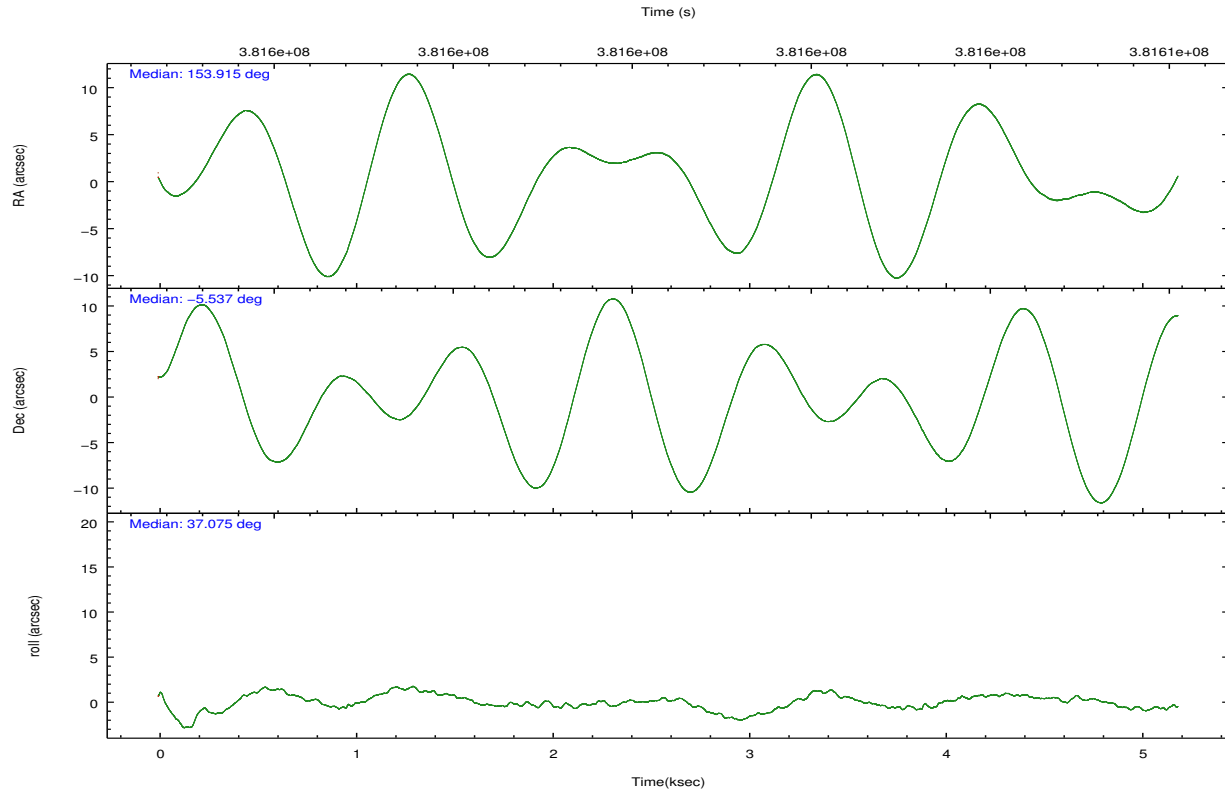


## 2.2 Compared Parameters

| 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                 | 153.904752          | 153.9153726922788     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -5.562905           | -5.537445659315574    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 36.870671           | 37.08040689933921     | [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)  | 381600787.184000    | 381599835.6964        |                                       |           |         |
| Observation start date            | 2010-02-03T16:12:01 | 2010-02-03T15:57:15   |                                       |           |         |
| [s] Observation end time (MET)    | 381605787.184000    | 381605920.60921       |                                       |           |         |
| Observation end date              | 2010-02-03T17:35:21 | 2010-02-03T17:38:40   |                                       |           |         |
| Read mode                         | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



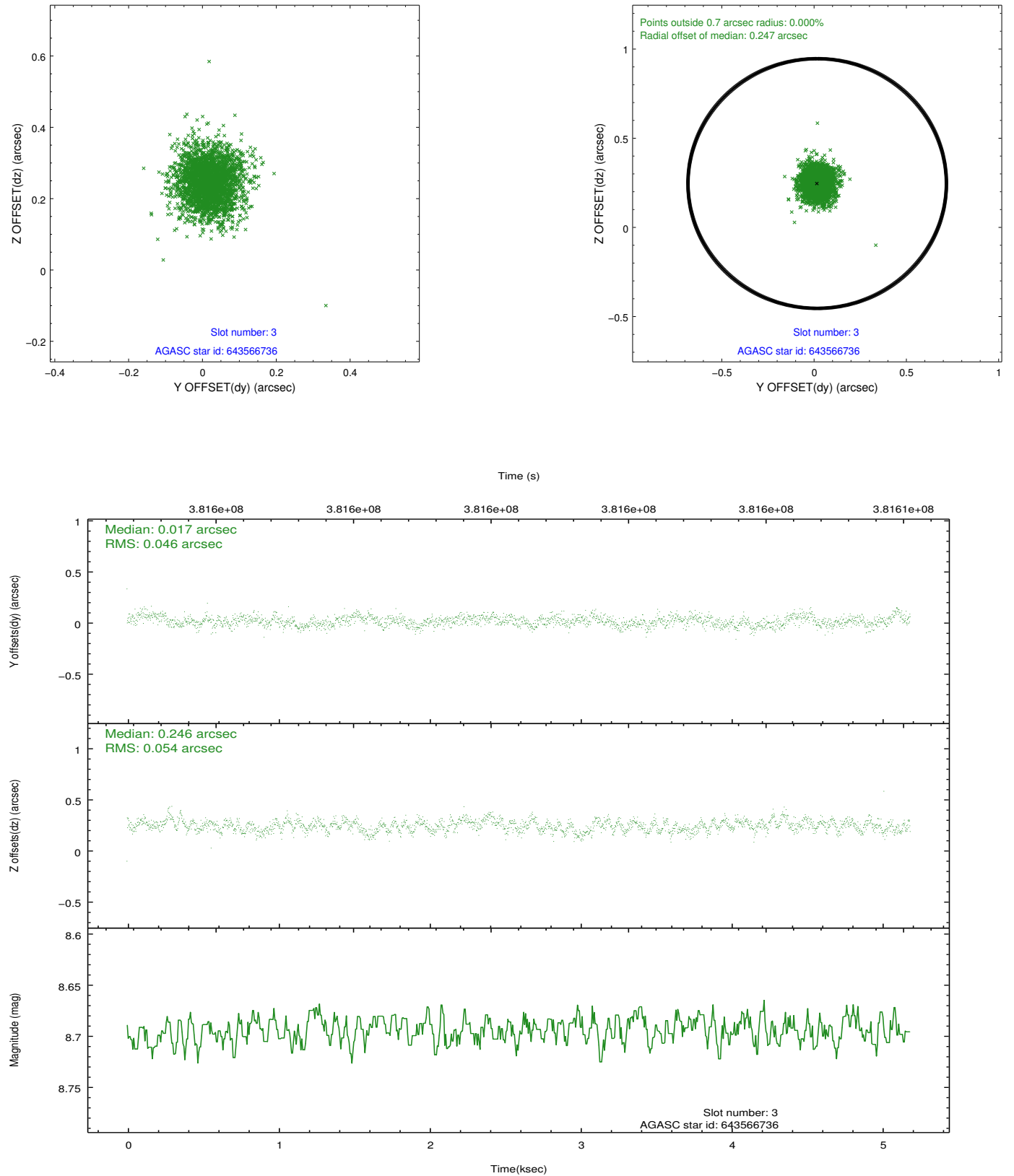


### Slot Statistics

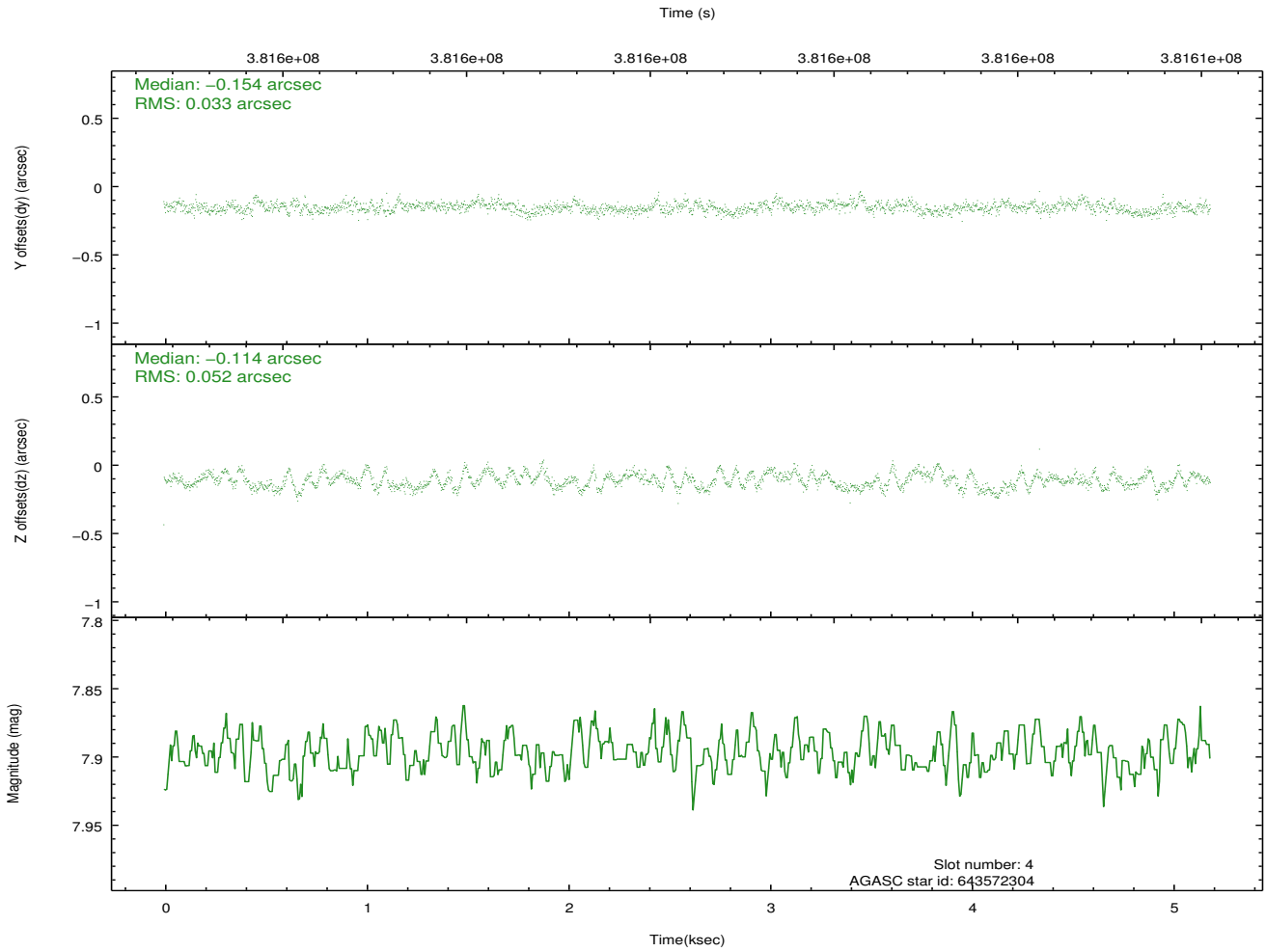
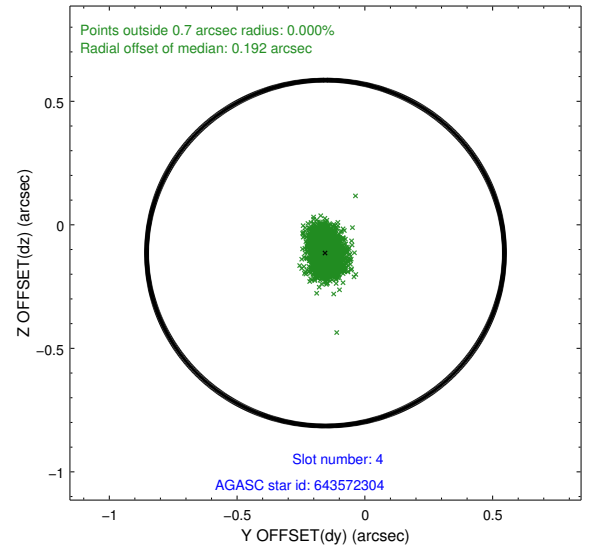
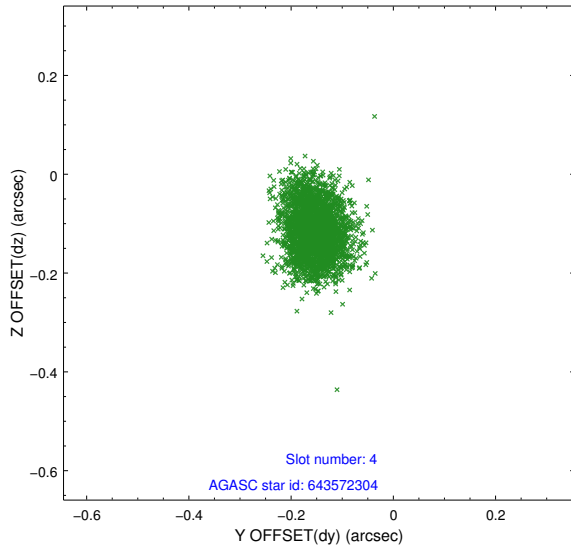
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.03 | 1266  | 0.005  | -0.094 | 0.008 | 0.015 | 0.000000   | 0.000000  | 924.14   | -839.81  |
| 1    | FID    | ACIS-I-4  | 6.96 | 1266  | 0.143  | 0.086  | 0.007 | 0.012 | 0.000000   | 0.000000  | 2144.94  | 1059.61  |
| 2    | FID    | ACIS-I-5  | 7.01 | 1265  | -0.246 | 0.078  | 0.006 | 0.011 | 0.000000   | 0.000000  | -1822.64 | 1058.73  |
| 3    | GUIDE  | 643566736 | 8.69 | 2532  | 0.017  | 0.246  | 0.074 | 0.122 | 153.781439 | -6.423601 | -2211.71 | -2214.64 |
| 4    | GUIDE  | 643572304 | 7.90 | 2531  | -0.154 | -0.114 | 0.065 | 0.105 | 153.443177 | -5.219786 | -584.13  | 1979.38  |
| 5    | GUIDE  | 643572992 | 8.28 | 2531  | 0.154  | 0.078  | 0.084 | 0.132 | 154.070546 | -5.829028 | -99.67   | -1122.05 |
| 6    | GUIDE  | 643575320 | 7.72 | 2532  | -0.140 | -0.232 | 0.055 | 0.086 | 154.005158 | -5.095953 | 1296.48  | 1128.30  |
| 7    | GUIDE  | 643576272 | 8.70 | 2529  | 0.121  | 0.023  | 0.071 | 0.119 | 153.866053 | -5.993417 | -1040.19 | -1156.15 |

## 2.4 Star Slots

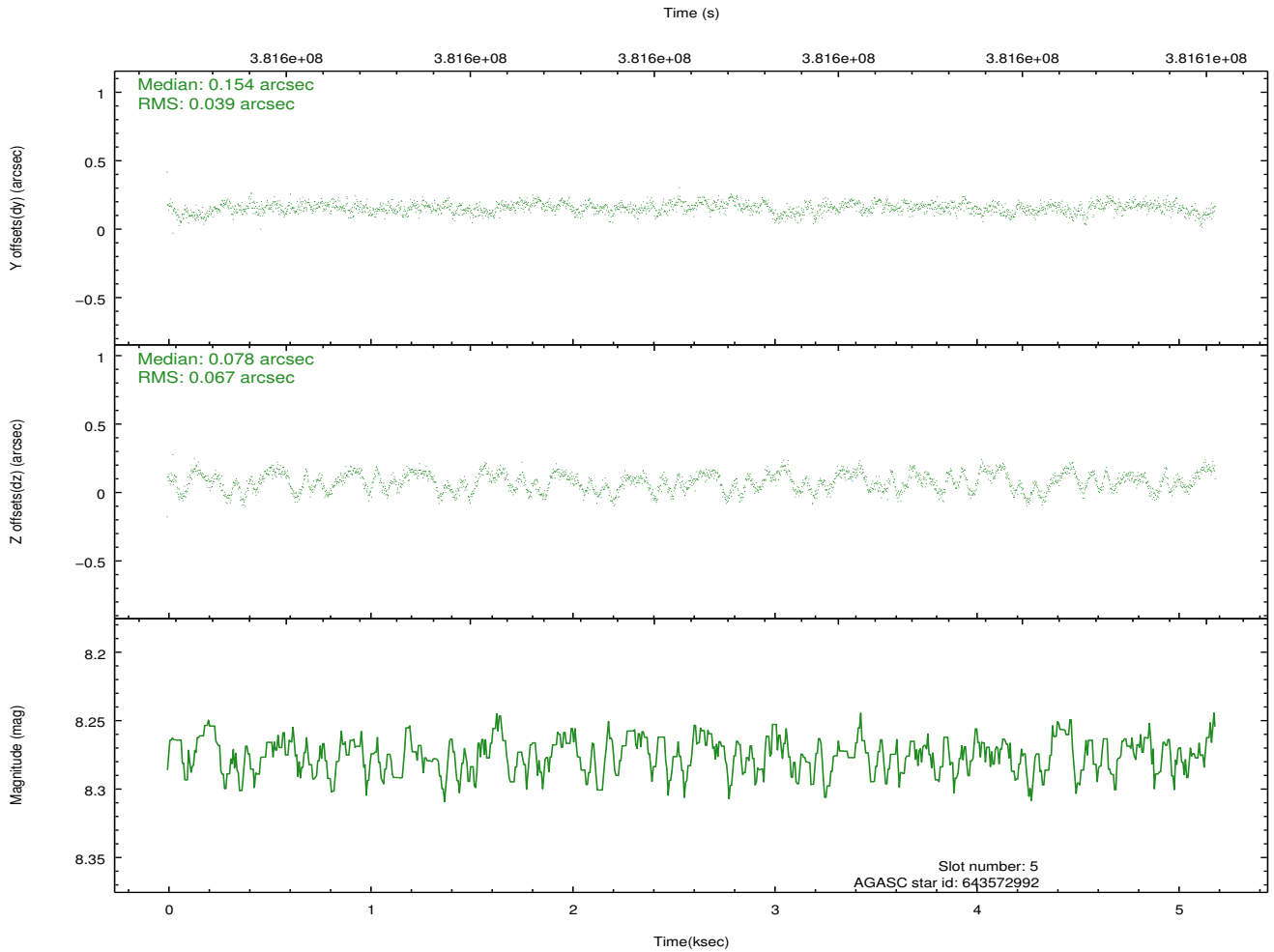
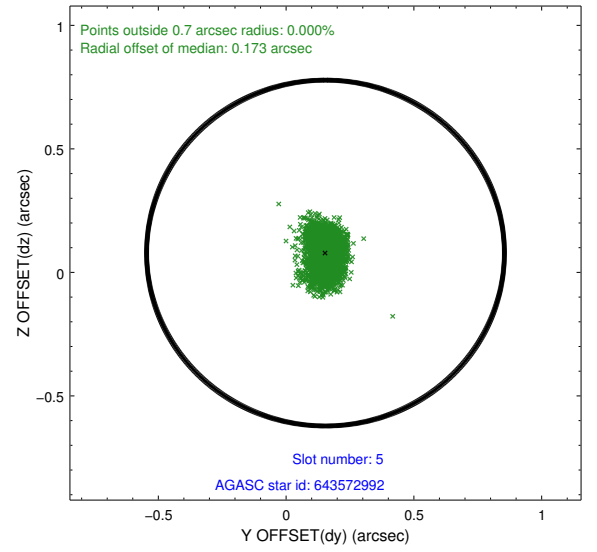
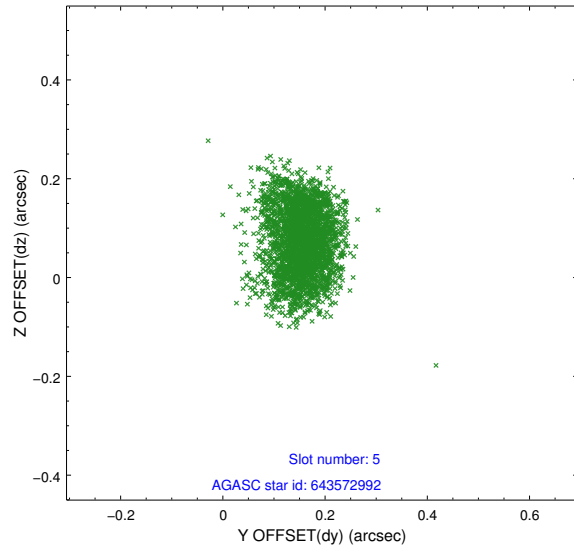
### 2.4.1 Slot 3



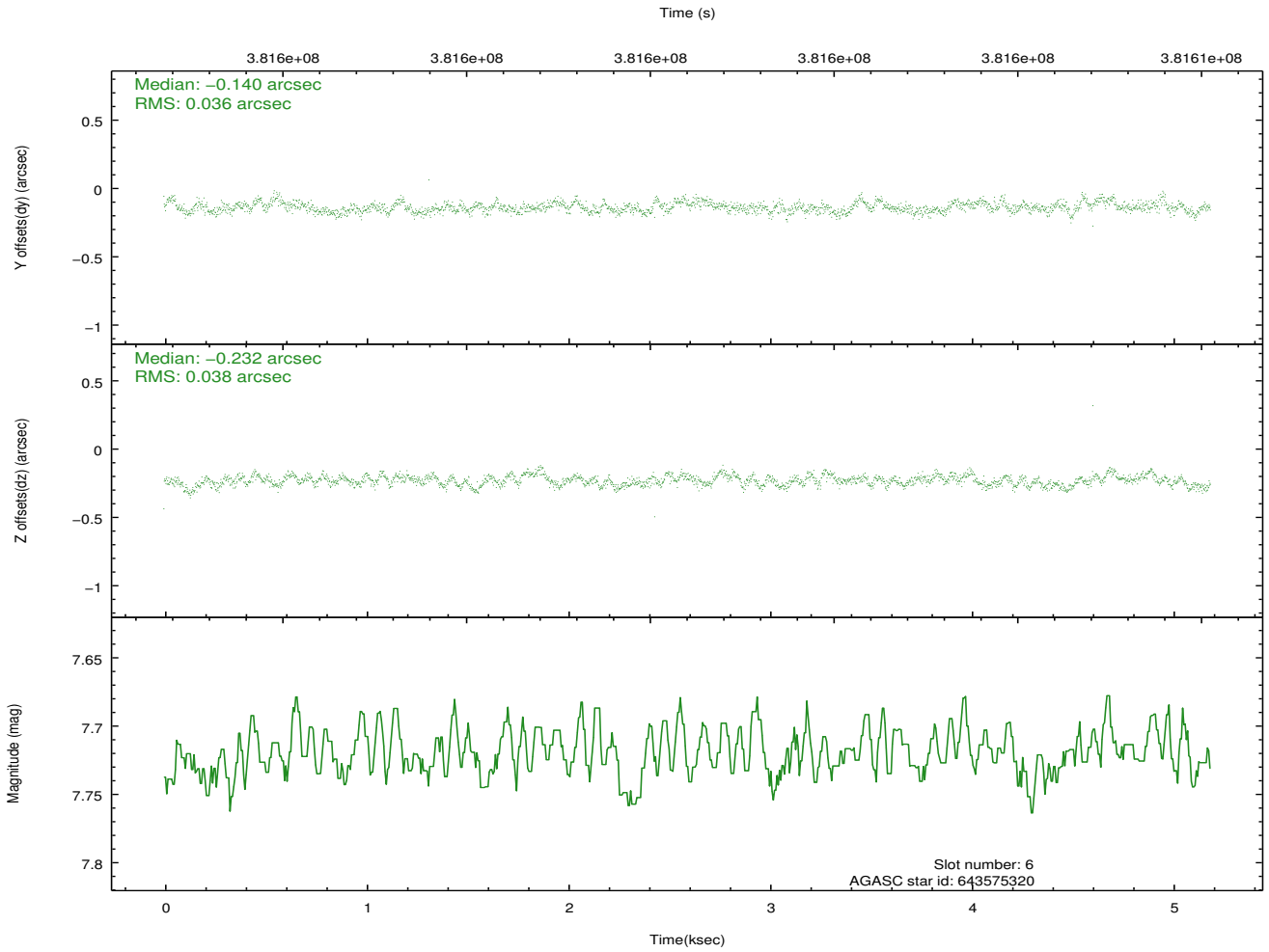
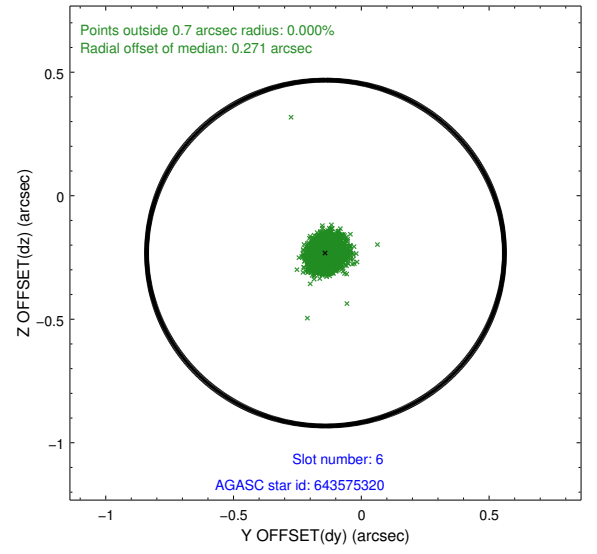
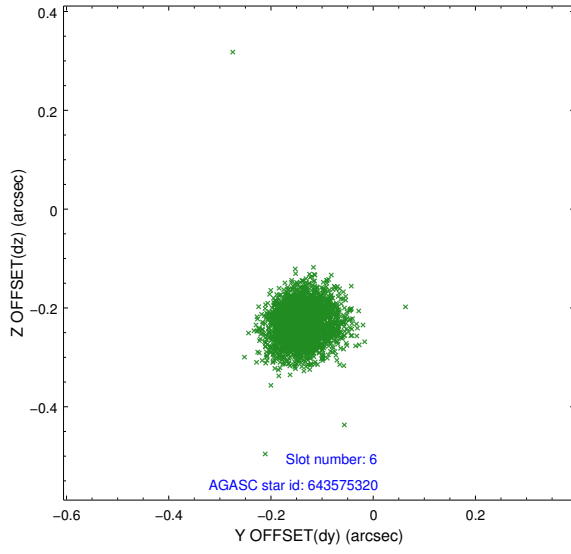
## 2.4.2 Slot 4



### 2.4.3 Slot 5

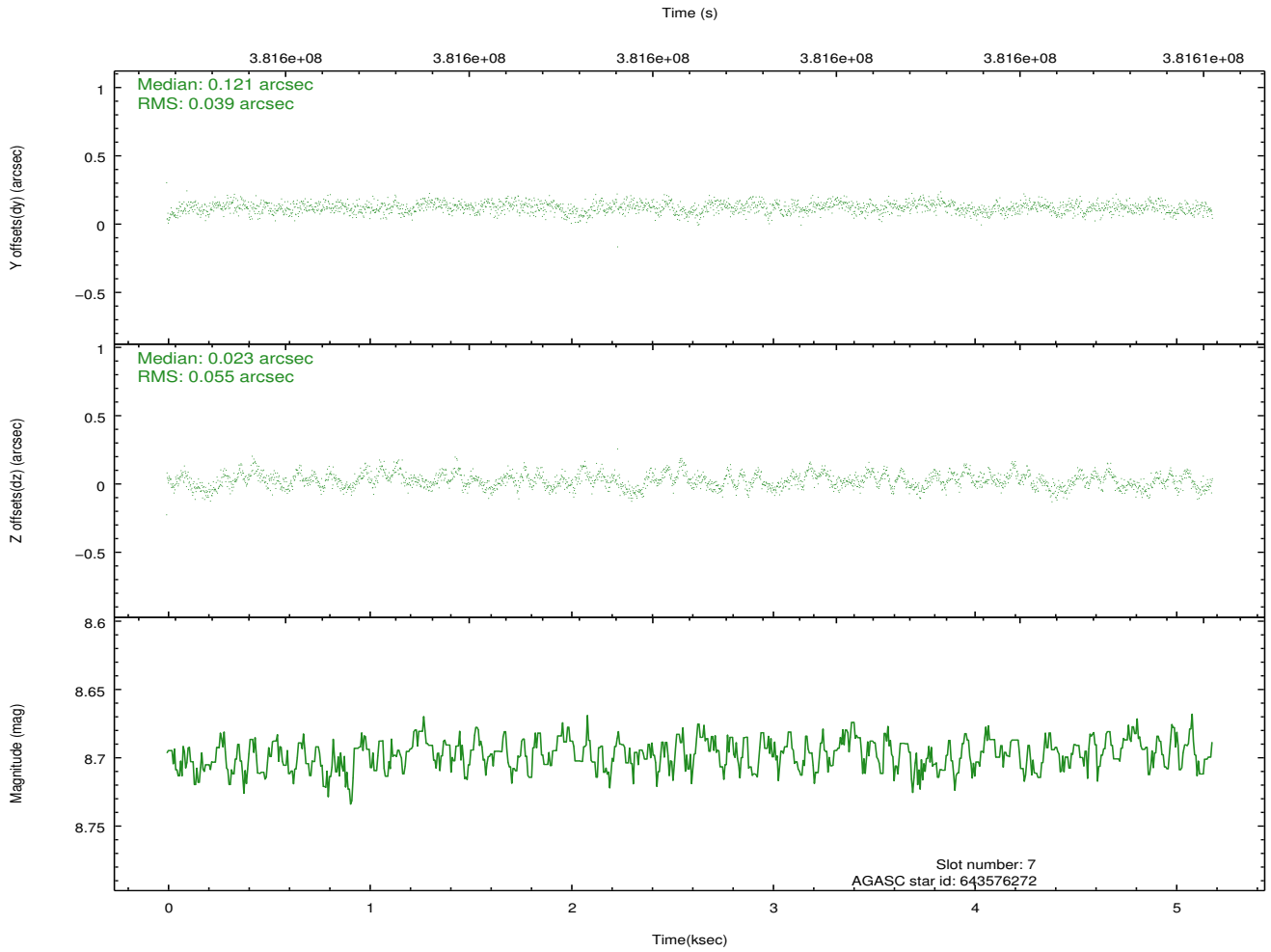
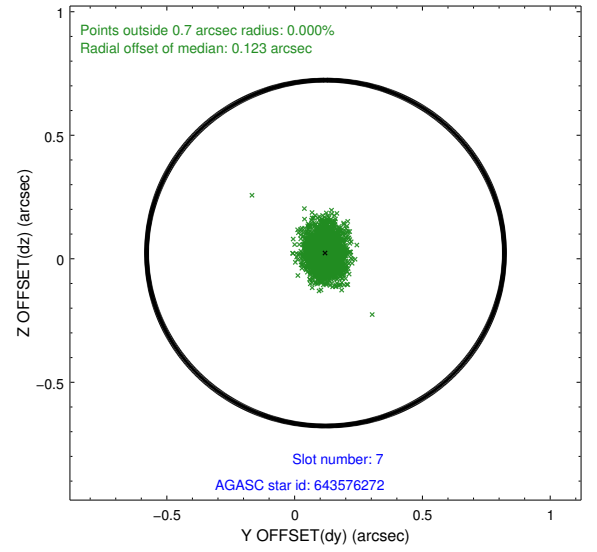
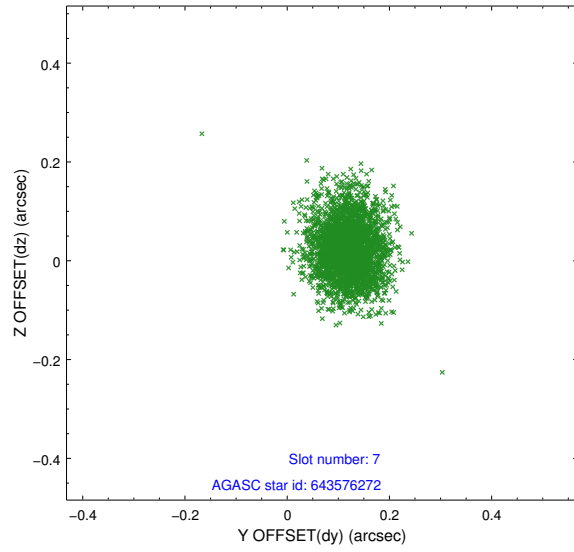


## 2.4.4 Slot 6



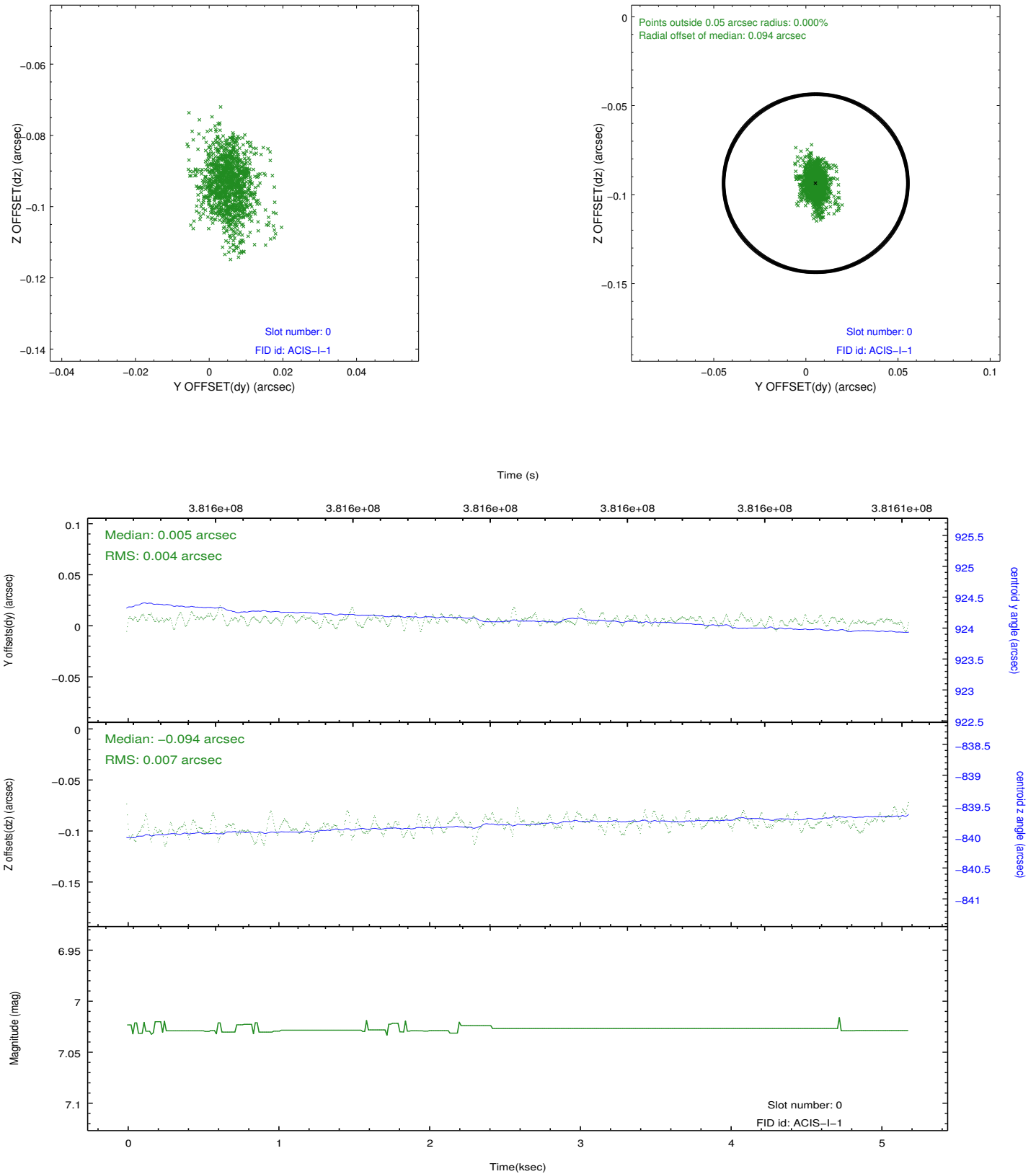


## 2.4.5 Slot 7

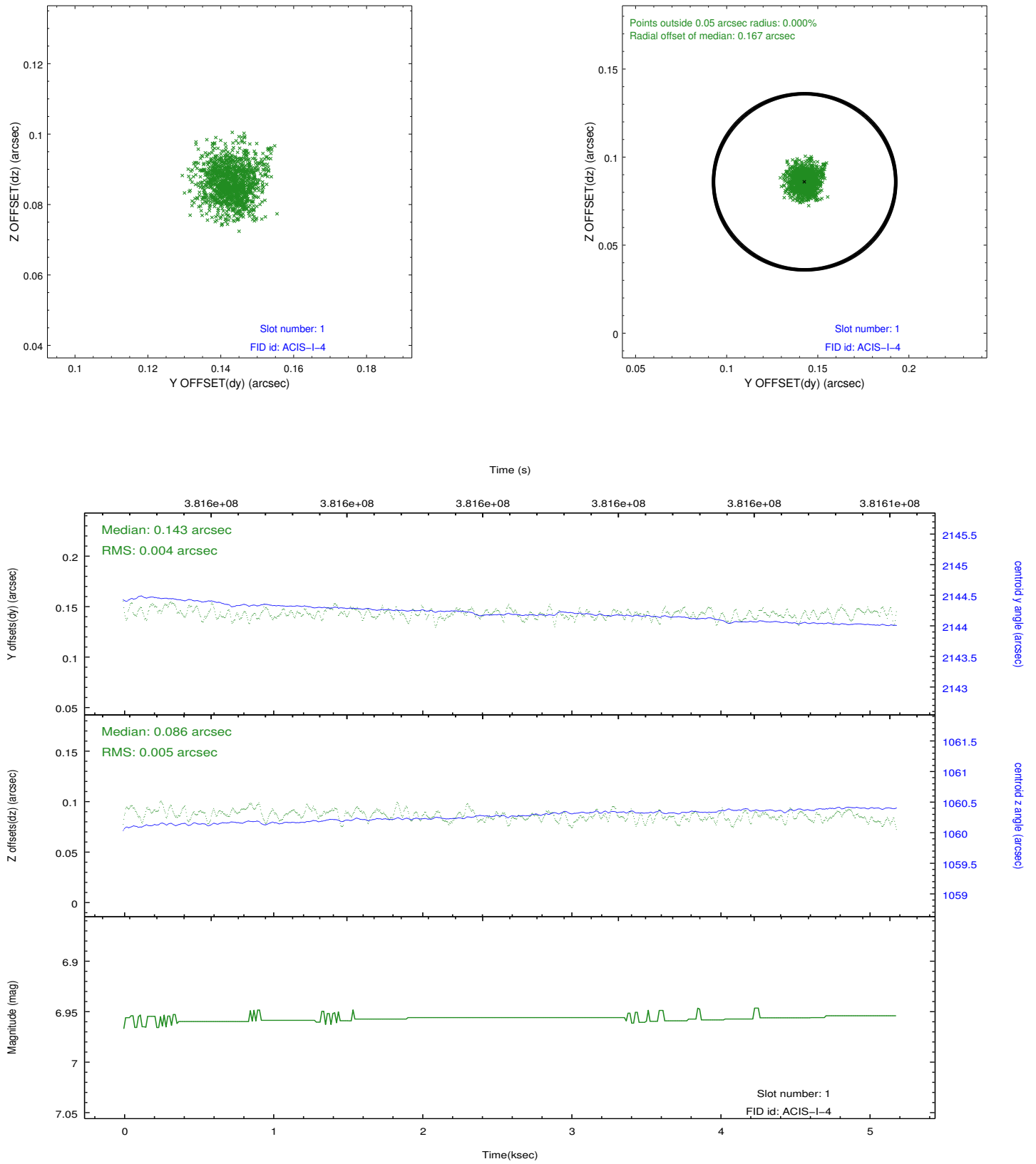


## 2.5 FID Slots

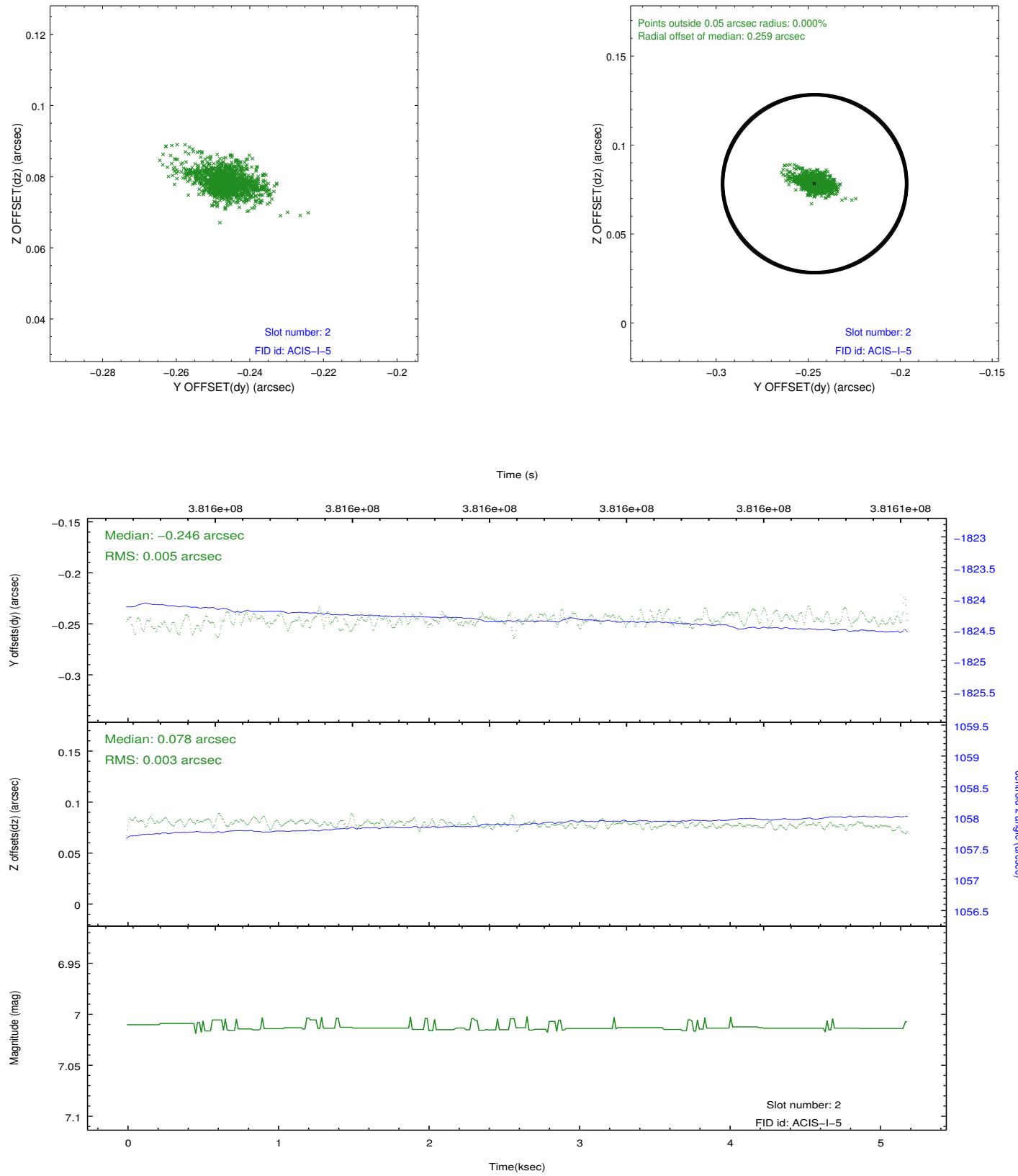
### 2.5.1 Slot 0



## 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)      | 2012.06.27      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 5.1832000398636 |

### A.2 Comments