

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 2268 - L2 Version 3  
Chandra X-Ray Center

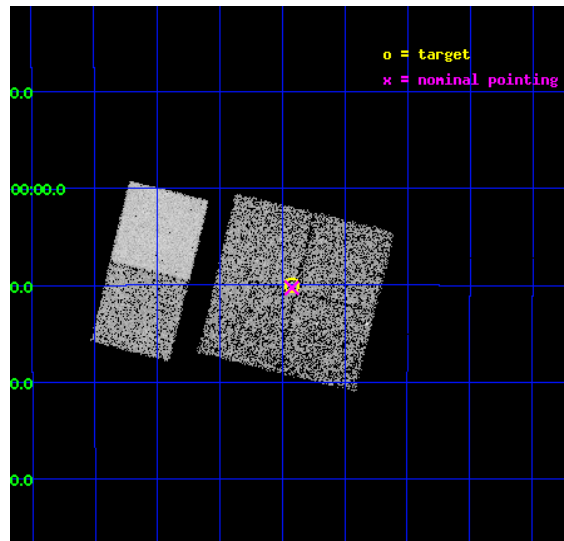
L2 Processing Date : Sep 20 2012

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# 1 Front

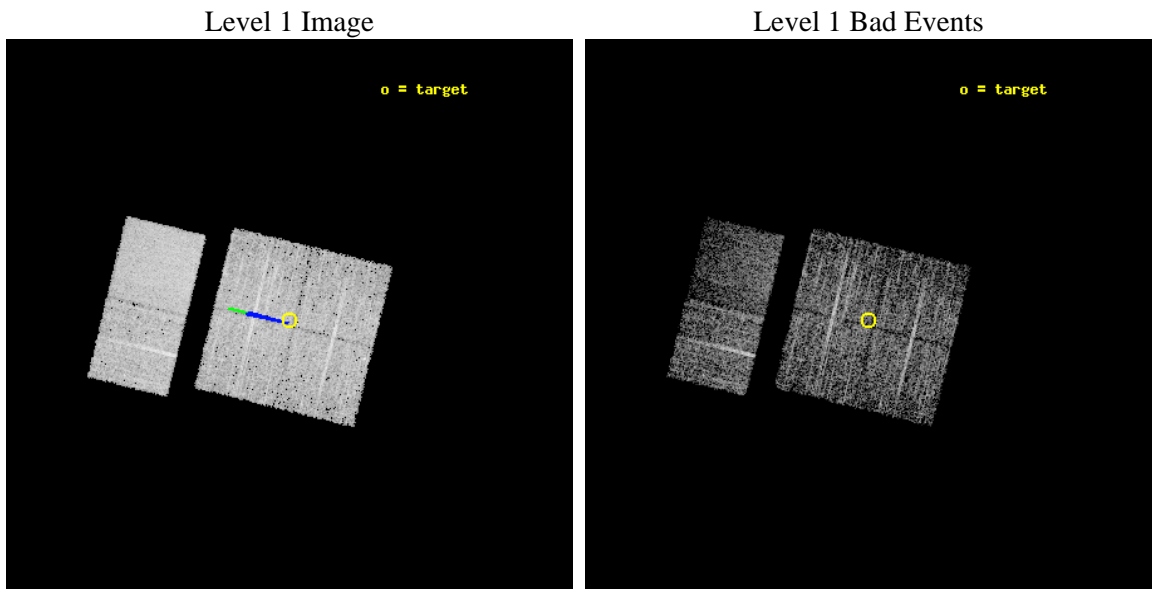
|          |  |   |
|----------|--|---|
| seq_num  | 900095   | Sequence number                             |
| obs_id   | 2268   | Observation id                              |
| title    | CHANDRA SURVEY OF THE GALACTIC RIDGE AROUND THE MILKY WAY CENTER | P   |
| observer | Prof. Q. Daniel Wang   | Principal investigator                      |
| object   | GCS 21   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 265.9817   | Observer's specified target RA [deg]        |
| dec_targ | -29.1668   | Observer's specified target Dec [deg]       |
| ra_nom   | 265.98087466241  | Nominal RA [deg]                            |
| dec_nom  | -29.171484748678   | Nominal Dec [deg]                           |
| roll_nom | 283.80719240746  | Nominal Roll [deg]                          |
| revision | 3  | Processing version of data                  |
| ontime   | 10949.068314627  | Sum of GTIs [s]                             |
| livetime | 10810.42461889   | Livetime [s]                                |
| ontime0  | 10948.945194632  | Sum of GTIs [s]                             |
| ontime1  | 10945.745264396  | Sum of GTIs [s]                             |
| ontime2  | 10949.027274638  | Sum of GTIs [s]                             |
| ontime3  | 10949.068314627  | Sum of GTIs [s]                             |
| ontime6  | 10949.150394633  | Sum of GTIs [s]                             |
| ontime7  | 10949.10935463   | Sum of GTIs [s]                             |
| l2events | 52230  | Number of level 2 events                    |



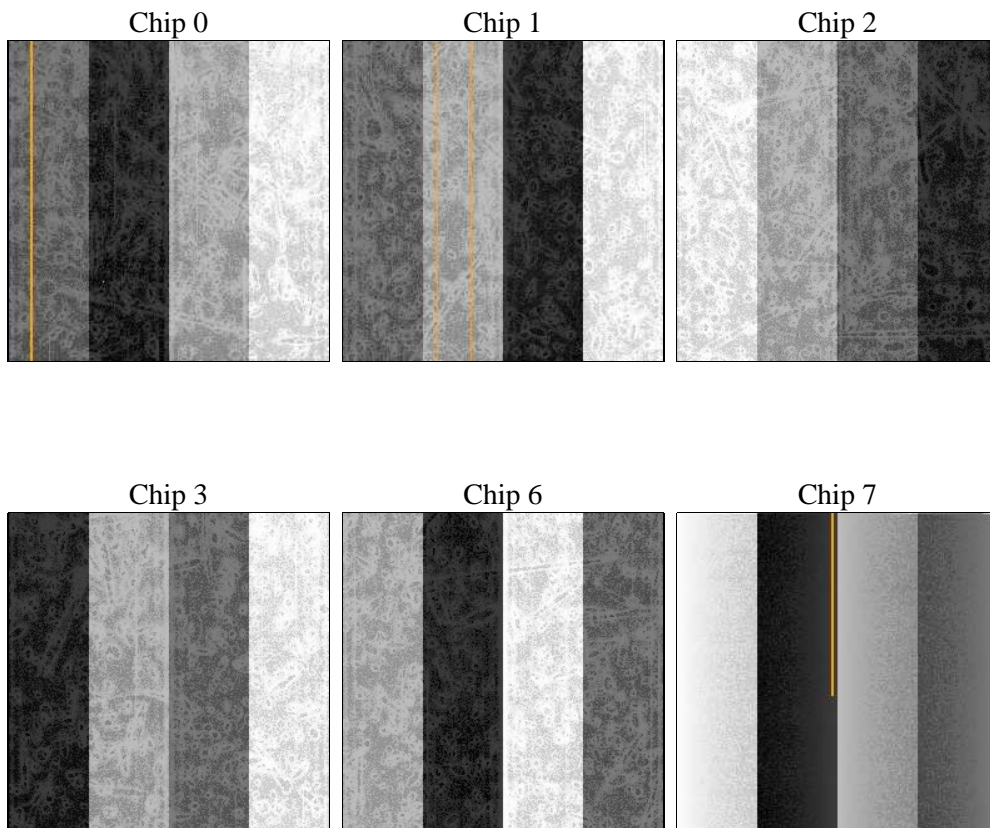
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 11000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 10949.068314627 | Sum of GTIs [s]                         |
| caldsver | 4.5.1.1             | &#160                          | ontime0        | 10948.945194632 | Sum of GTIs [s]                         |
| date     | 2012-09-20T19:18:59 | Date and time of file creation | ontime1        | 10945.745264396 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 10949.027274638 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 10949.068314627 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 10949.150394633 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10949.10935463  | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 189681          | Number of level 1 events                |

### 2.1.4 Events

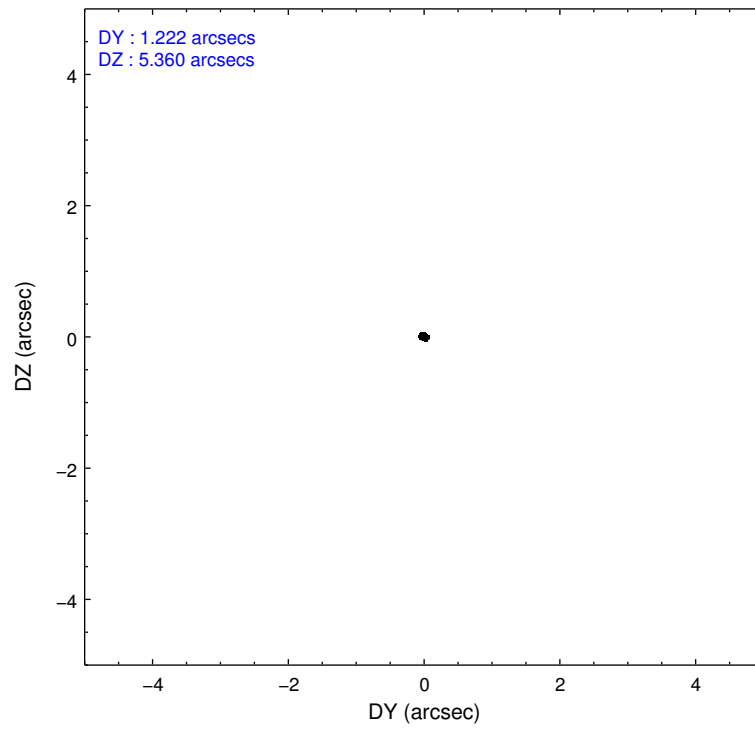
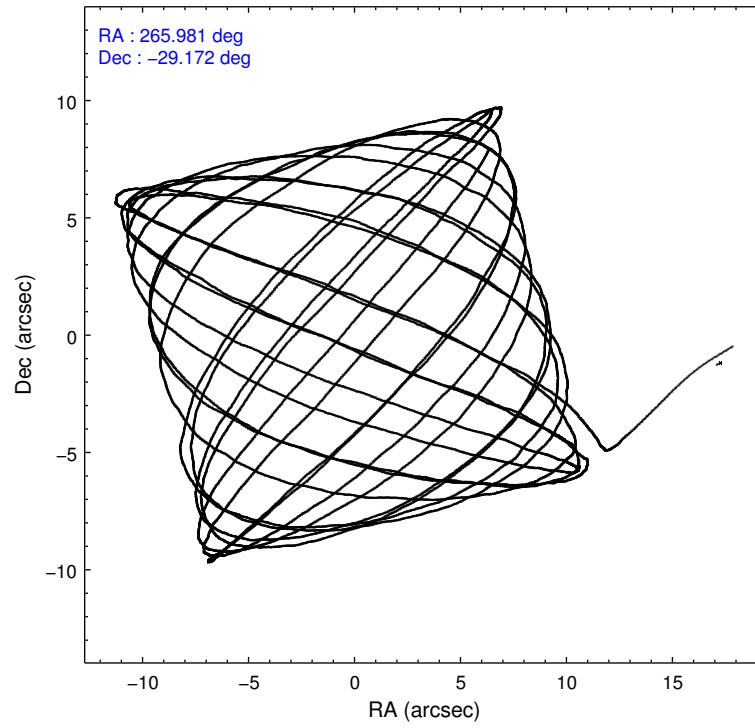
|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 27732 | 27474 | 29840 | 30499 | 33682 | 40454 | grade 0 events | 2602  | 2900  | 3132  | 3523  | 4309  | 2614  |
| rejected events | 22377 | 21535 | 23916 | 23949 | 25745 | 16891 |                | 9%    | 10%   | 10%   | 11%   | 12%   | 6%    |
| rejected %      | 80%   | 78%   | 80%   | 78%   | 76%   | 41%   | grade 1 events | 24    | 23    | 27    | 32    | 26    | 41    |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 1021  | 1094  | 1058  | 1193  | 1414  | 4983  |
|                 |       |       |       |       |       |       |                | 3%    | 3%    | 3%    | 3%    | 4%    | 12%   |
|                 |       |       |       |       |       |       | grade 3 events | 443   | 488   | 443   | 482   | 518   | 2163  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 1%    | 5%    |
|                 |       |       |       |       |       |       | grade 4 events | 425   | 507   | 451   | 470   | 581   | 2154  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 1%    | 5%    |
|                 |       |       |       |       |       |       | grade 5 events | 1104  | 1206  | 1038  | 1298  | 1372  | 4016  |
|                 |       |       |       |       |       |       |                | 3%    | 4%    | 3%    | 4%    | 4%    | 9%    |
|                 |       |       |       |       |       |       | grade 6 events | 868   | 951   | 842   | 885   | 1118  | 11666 |
|                 |       |       |       |       |       |       |                | 3%    | 3%    | 2%    | 2%    | 3%    | 28%   |
|                 |       |       |       |       |       |       | grade 7 events | 21245 | 20305 | 22849 | 22616 | 24344 | 12817 |
|                 |       |       |       |       |       |       |                | 76%   | 73%   | 76%   | 74%   | 72%   | 31%   |

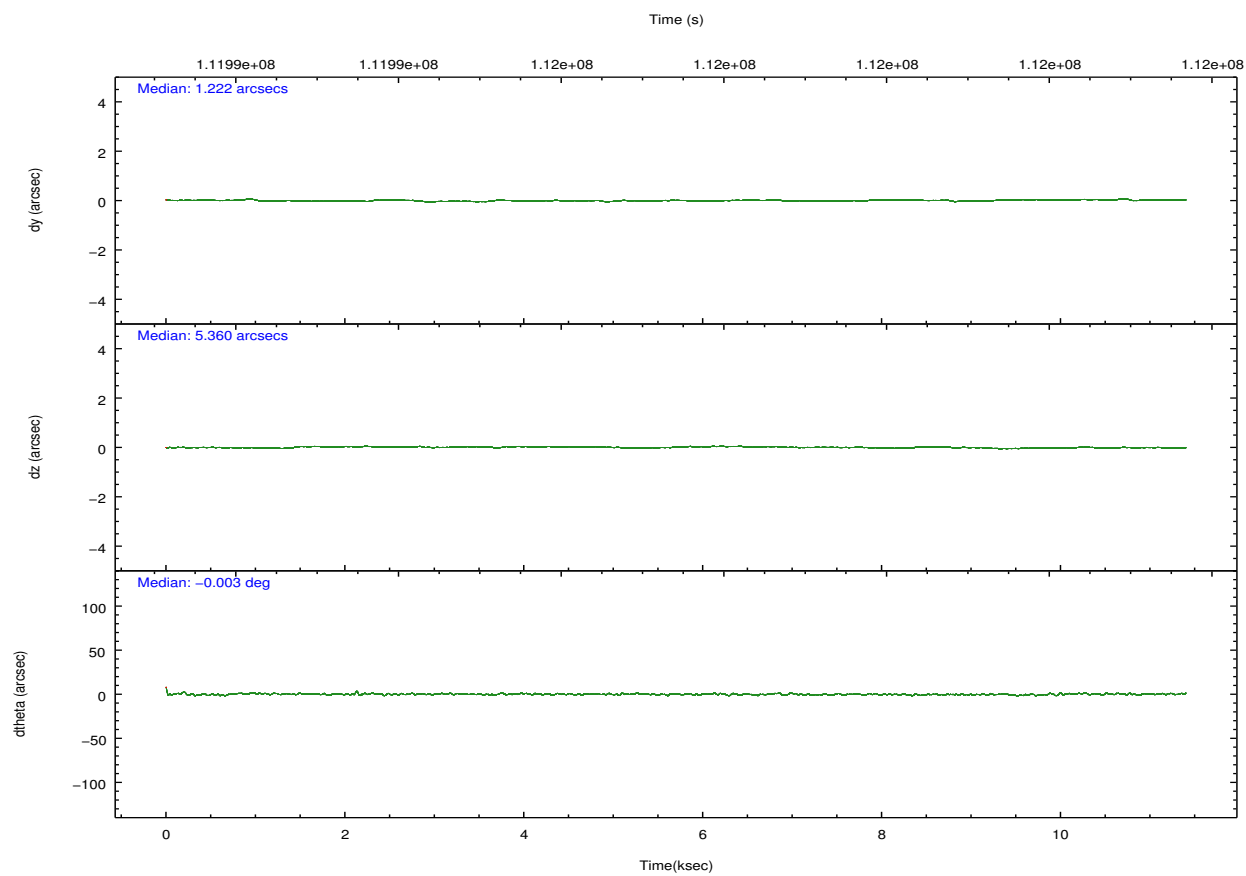
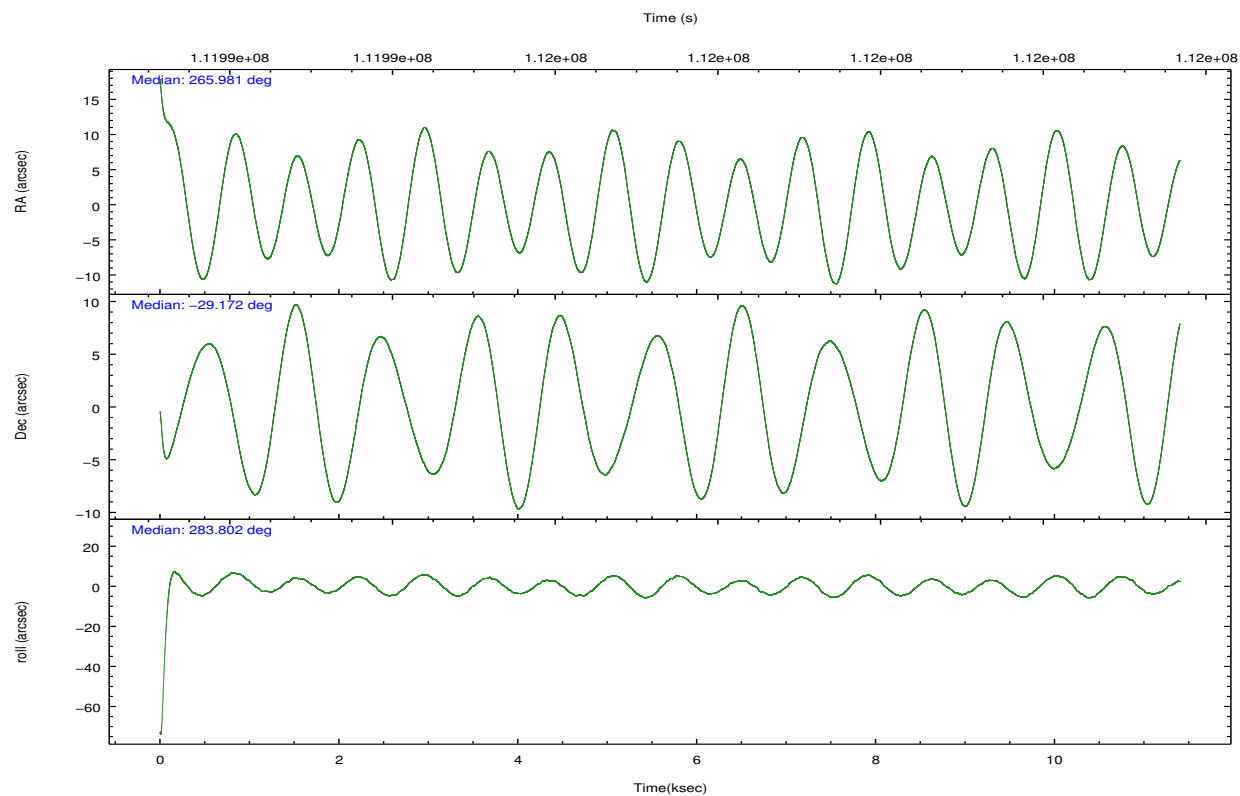


## 2.2 Compared Parameters

| Parameter                            | Planned             | Actual                | Parameter                             | Planned   | Actual  |
|--------------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument                           | ACIS                | ACIS                  | Obspar format version number          | 7         | 7       |
| Detector                             | ACIS-012367         | ACIS-012367           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                              | NONE                | NONE                  | Obspar update status                  | NONE      | UPDATED |
| Data mode                            | FAINT               | FAINT                 | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                     | POINTING            | POINTING              | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                    | 265.959066          | 265.9808746624083     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                   | -29.151693          | -29.17148474867805    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll                  | 283.587976          | 283.8071924074583     | [s] Primary exposure time             | 0.000000  | 3.2     |
| [deg] Roll angle                     | 283.600000          | 283.600000            |                                       |           |         |
| [deg] Roll tolerance                 | 2.000000            | 2.000000              |                                       |           |         |
| Roll constraint allows 180D rotation | N                   | N                     |                                       |           |         |
| [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)     | 111992116.184000    | 111991031.93401       |                                       |           |         |
| Observation start date               | 2001-07-20T04:54:12 | 2001-07-20T04:37:11   |                                       |           |         |
| [s] Observation end time (MET)       | 112003116.184000    | 112003249.93449       |                                       |           |         |
| Observation end date                 | 2001-07-20T07:57:32 | 2001-07-20T08:00:49   |                                       |           |         |
| Read mode                            | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



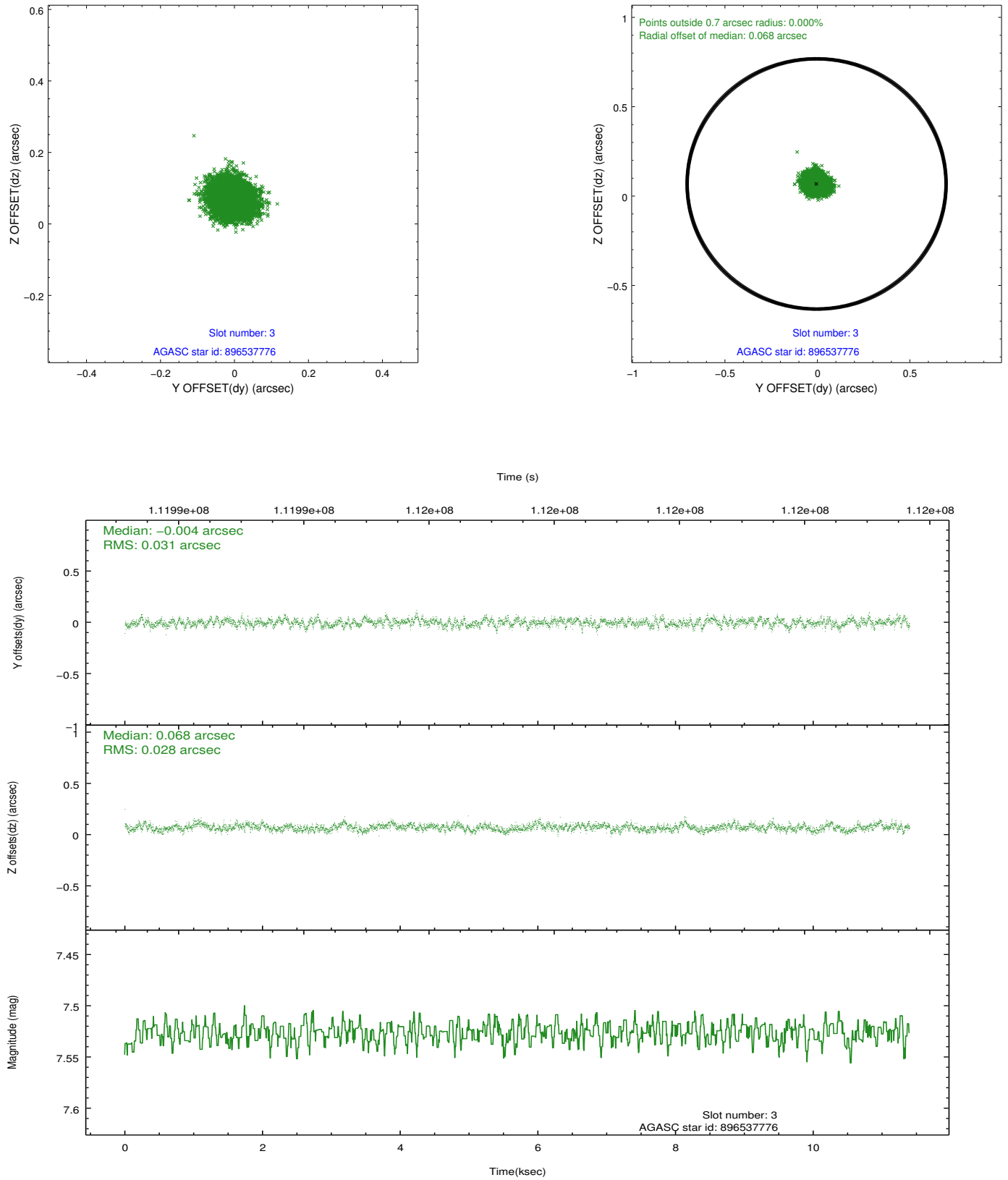


### Slot Statistics

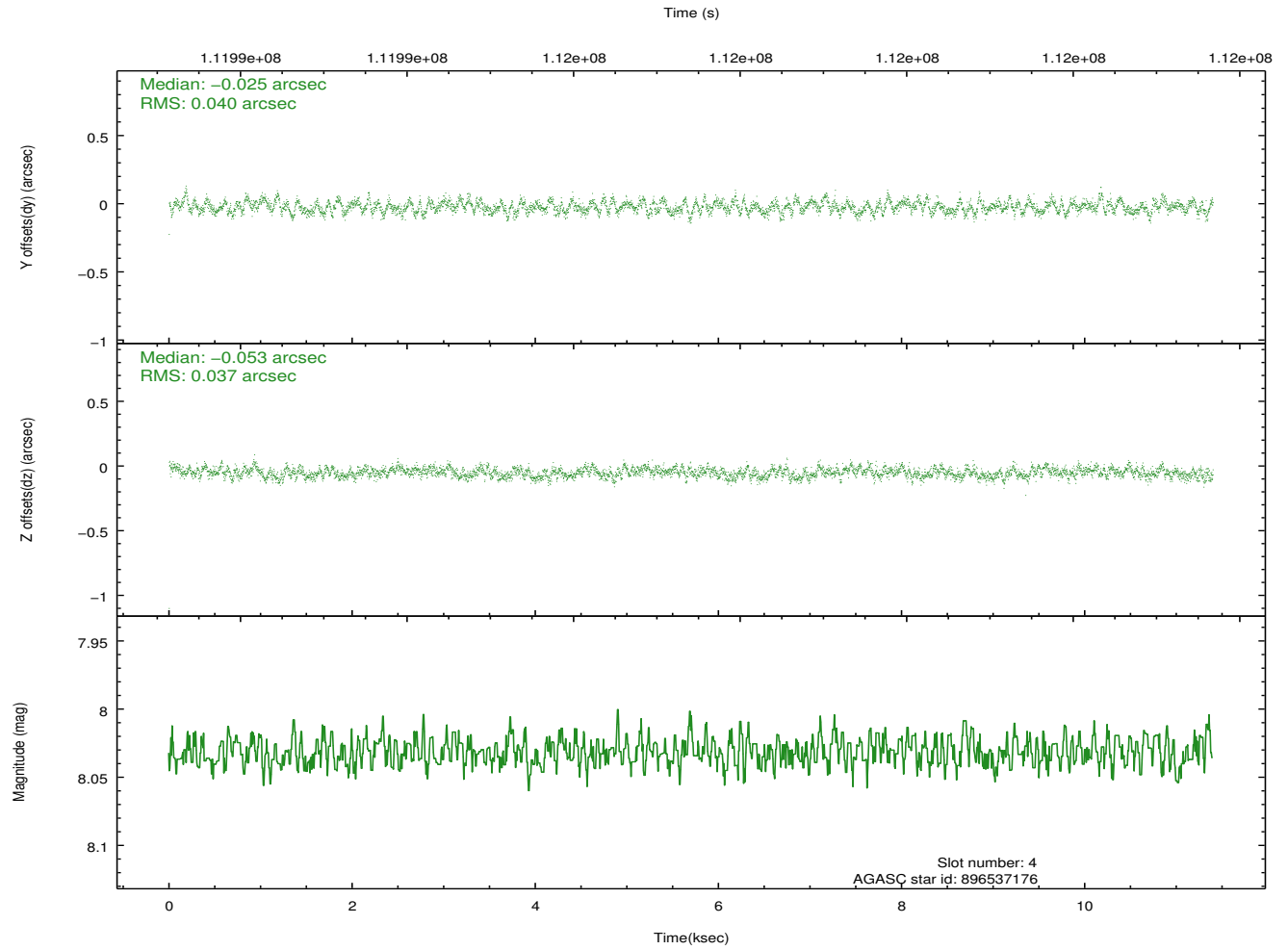
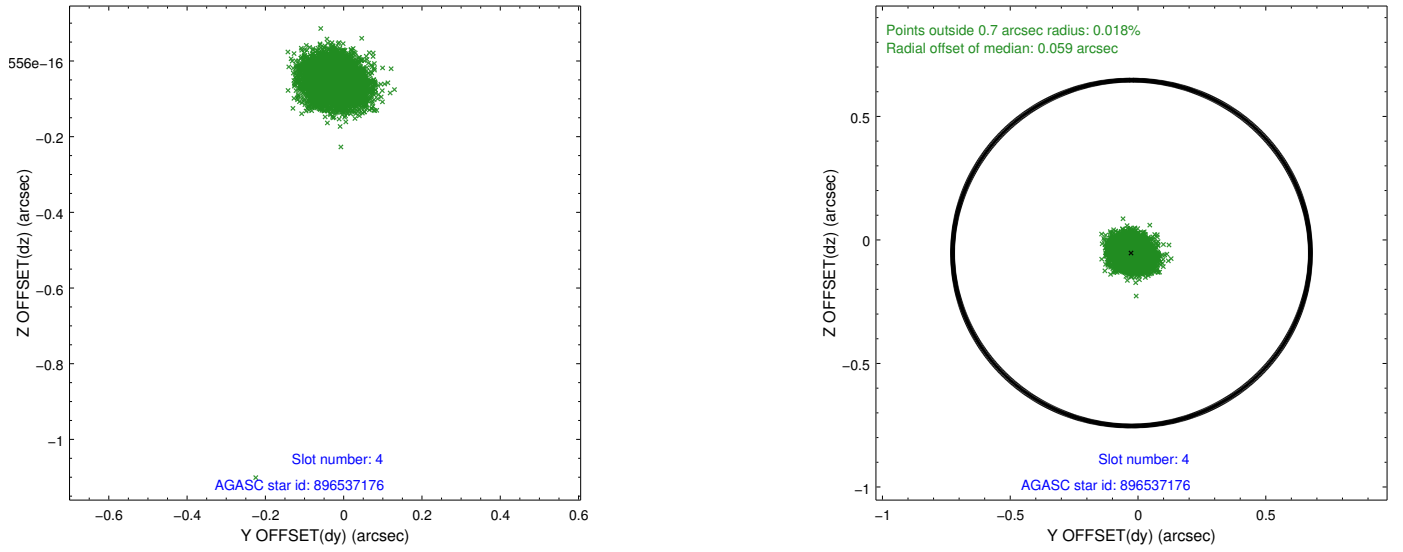
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-I-2  | 7.15 | 2781  | -0.024 | -0.047 | 0.009 | 0.016 | 0.000000   | 0.000000   | -755.57  | -835.13  |
| 1    | FID    | ACIS-I-4  | 7.18 | 2781  | -0.037 | 0.036  | 0.006 | 0.011 | 0.000000   | 0.000000   | 2158.26  | 1070.93  |
| 2    | FID    | ACIS-I-5  | 7.23 | 2781  | -0.040 | 0.081  | 0.009 | 0.015 | 0.000000   | 0.000000   | -1808.85 | 1069.29  |
| 3    | GUIDE  | 896537776 | 7.53 | 5562  | -0.004 | 0.068  | 0.045 | 0.073 | 266.655684 | -29.665673 | 2315.58  | 1682.64  |
| 4    | GUIDE  | 896537176 | 8.03 | 5561  | -0.025 | -0.053 | 0.056 | 0.090 | 266.498272 | -28.678259 | -1253.74 | 2055.38  |
| 5    | GUIDE  | 896402976 | 7.50 | 5562  | -0.163 | -0.012 | 0.059 | 0.101 | 265.099474 | -28.923203 | -1427.60 | -2441.25 |
| 6    | GUIDE  | 896536320 | 8.96 | 5559  | 0.069  | 0.034  | 0.064 | 0.105 | 266.369048 | -29.307026 | 846.70   | 1119.15  |
| 7    | GUIDE  | 896403224 | 8.26 | 5559  | 0.121  | -0.030 | 0.053 | 0.086 | 265.612825 | -29.438915 | 750.92   | -1297.84 |

## 2.4 Star Slots

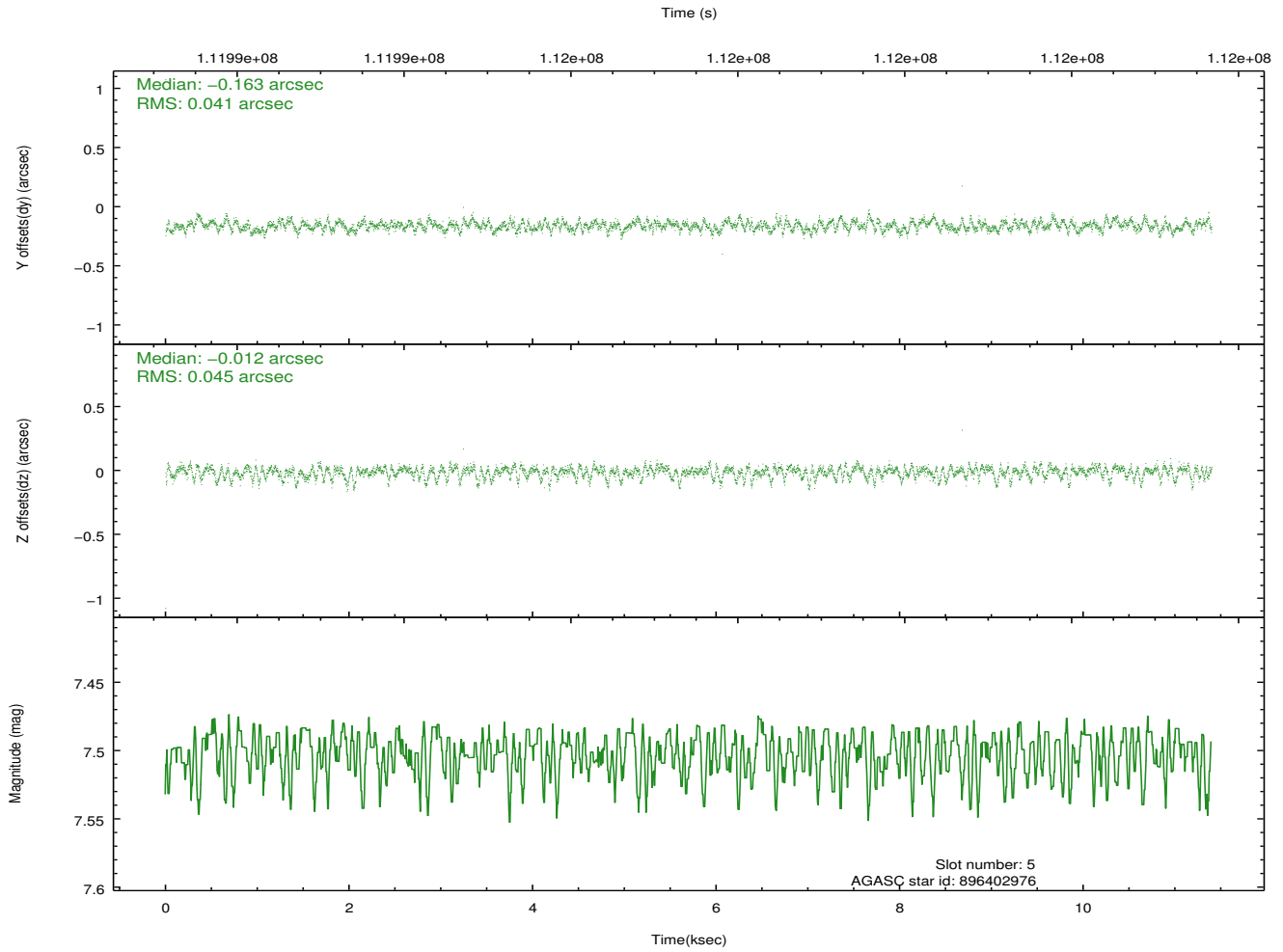
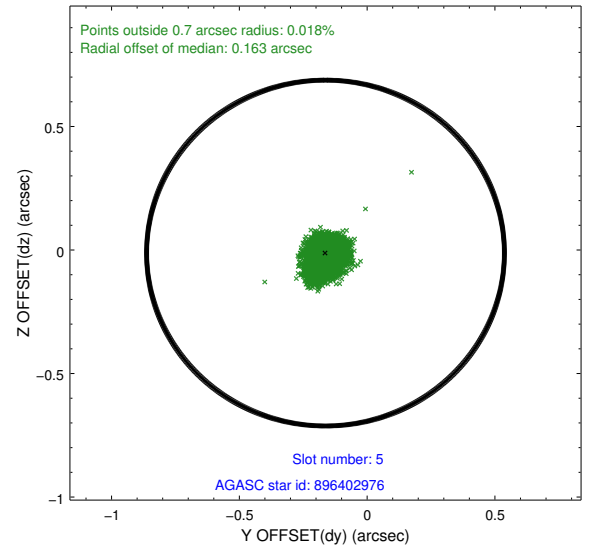
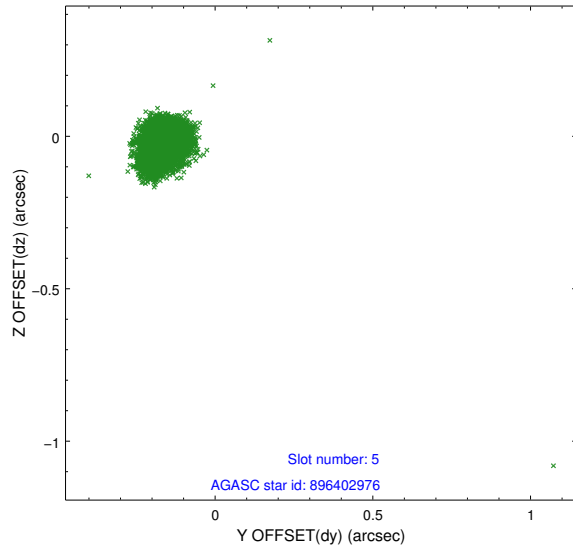
### 2.4.1 Slot 3



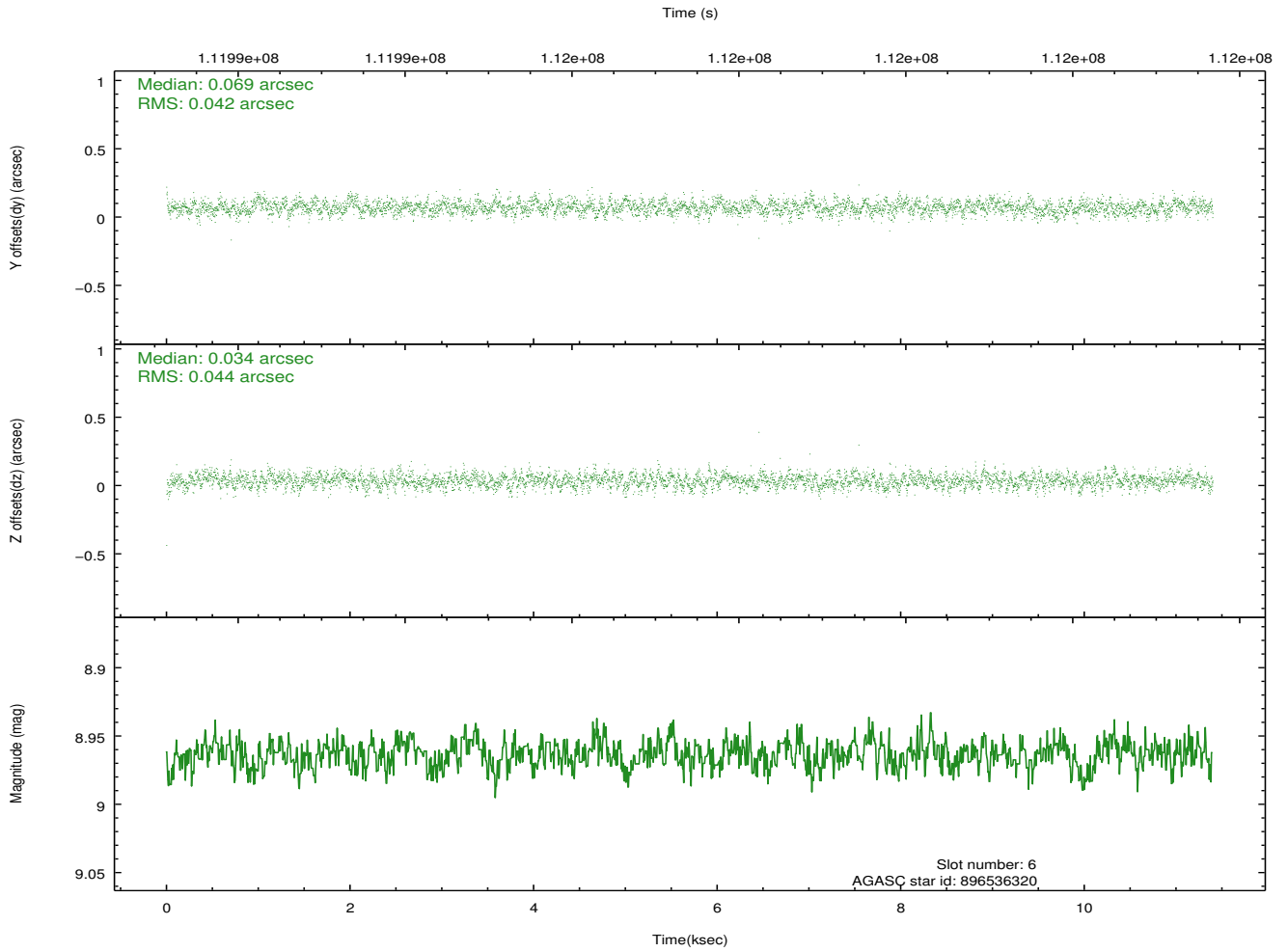
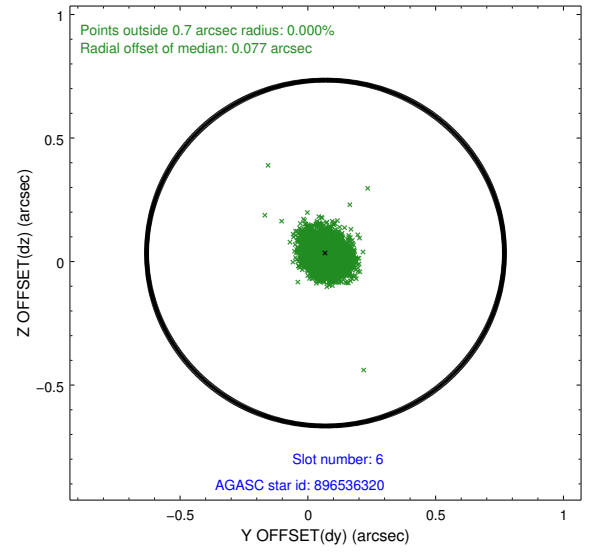
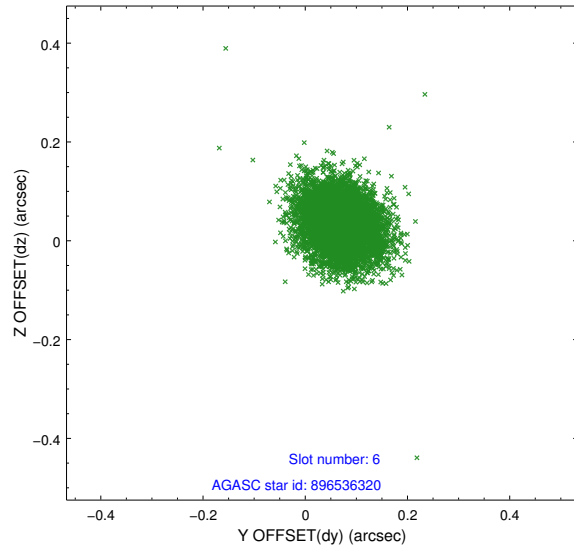
## 2.4.2 Slot 4



### 2.4.3 Slot 5

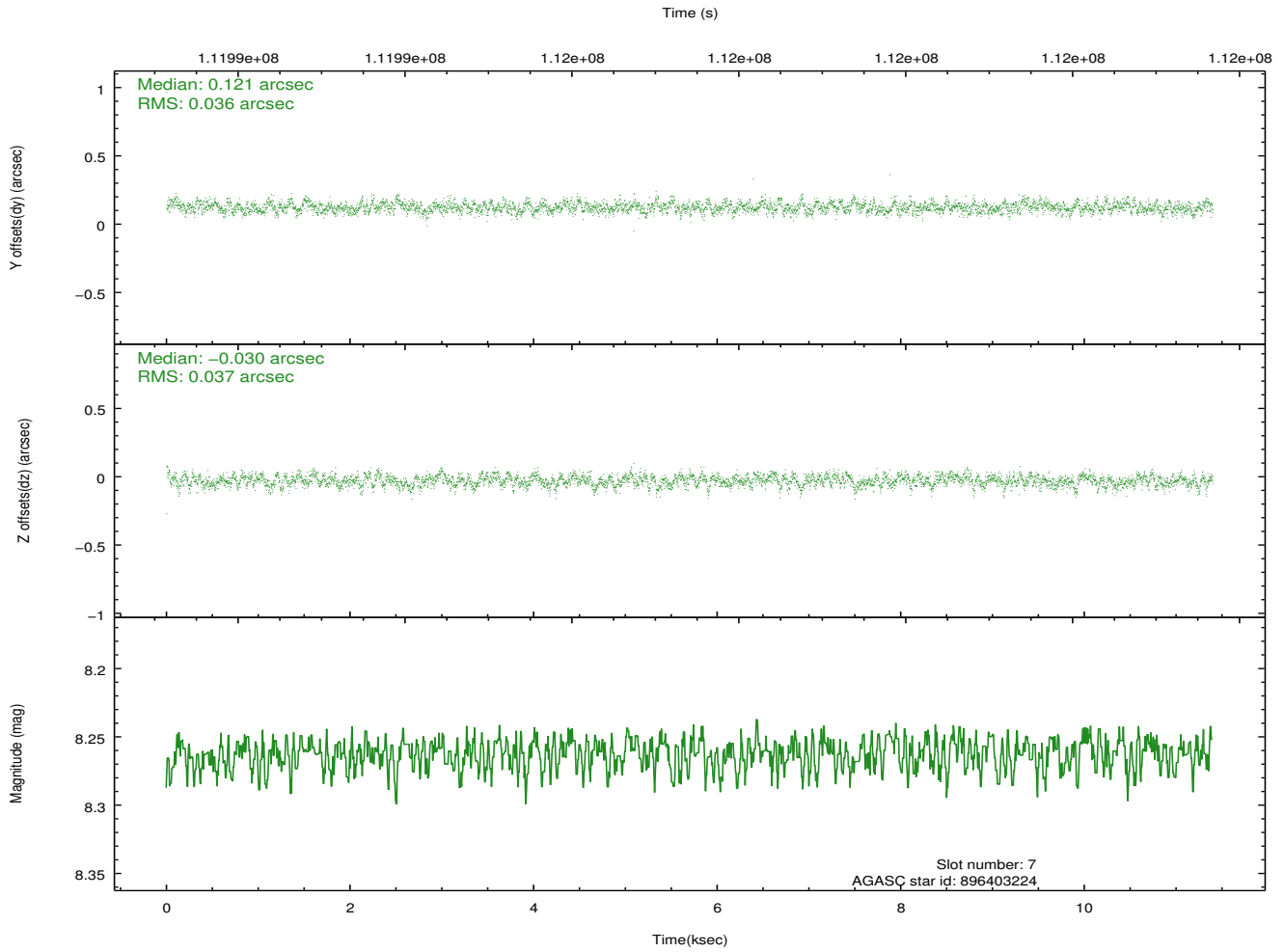
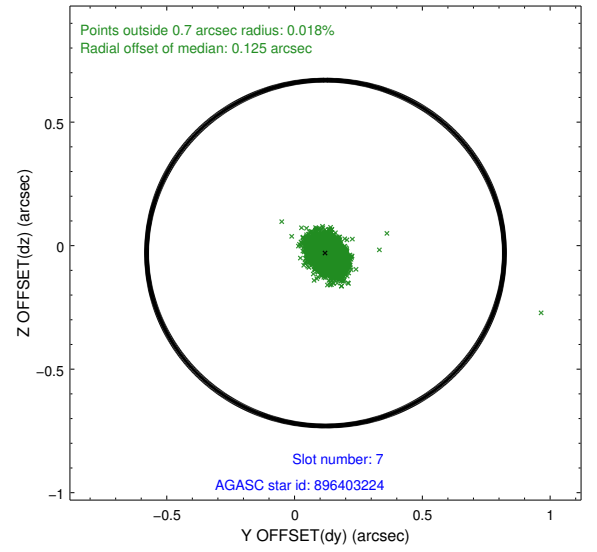
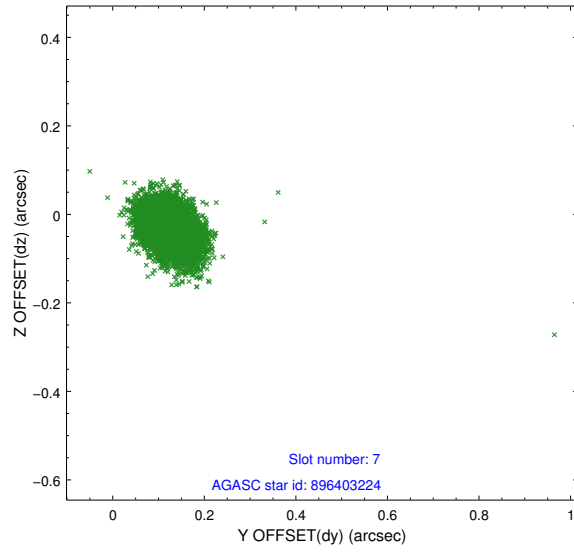


## 2.4.4 Slot 6



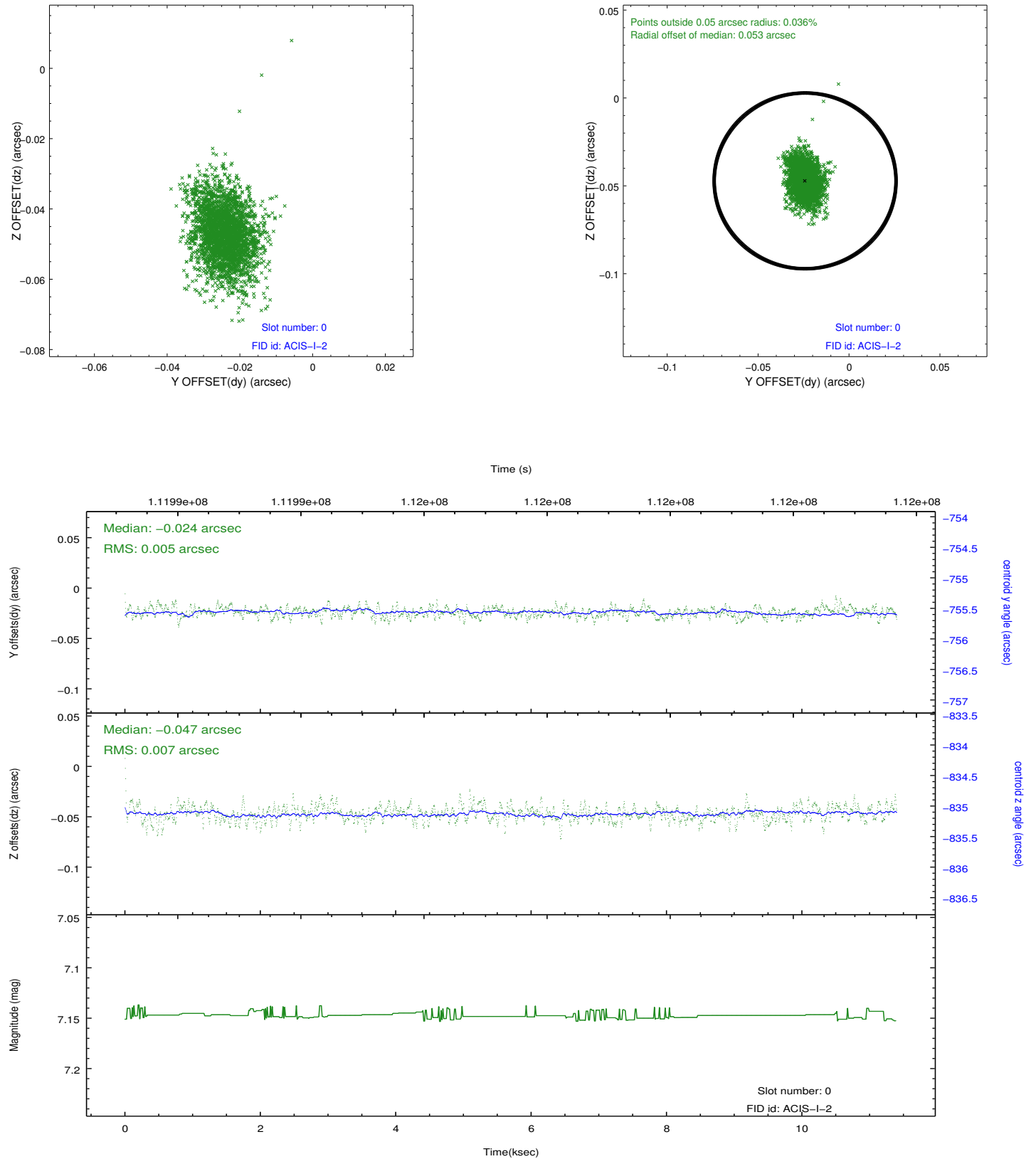


## 2.4.5 Slot 7

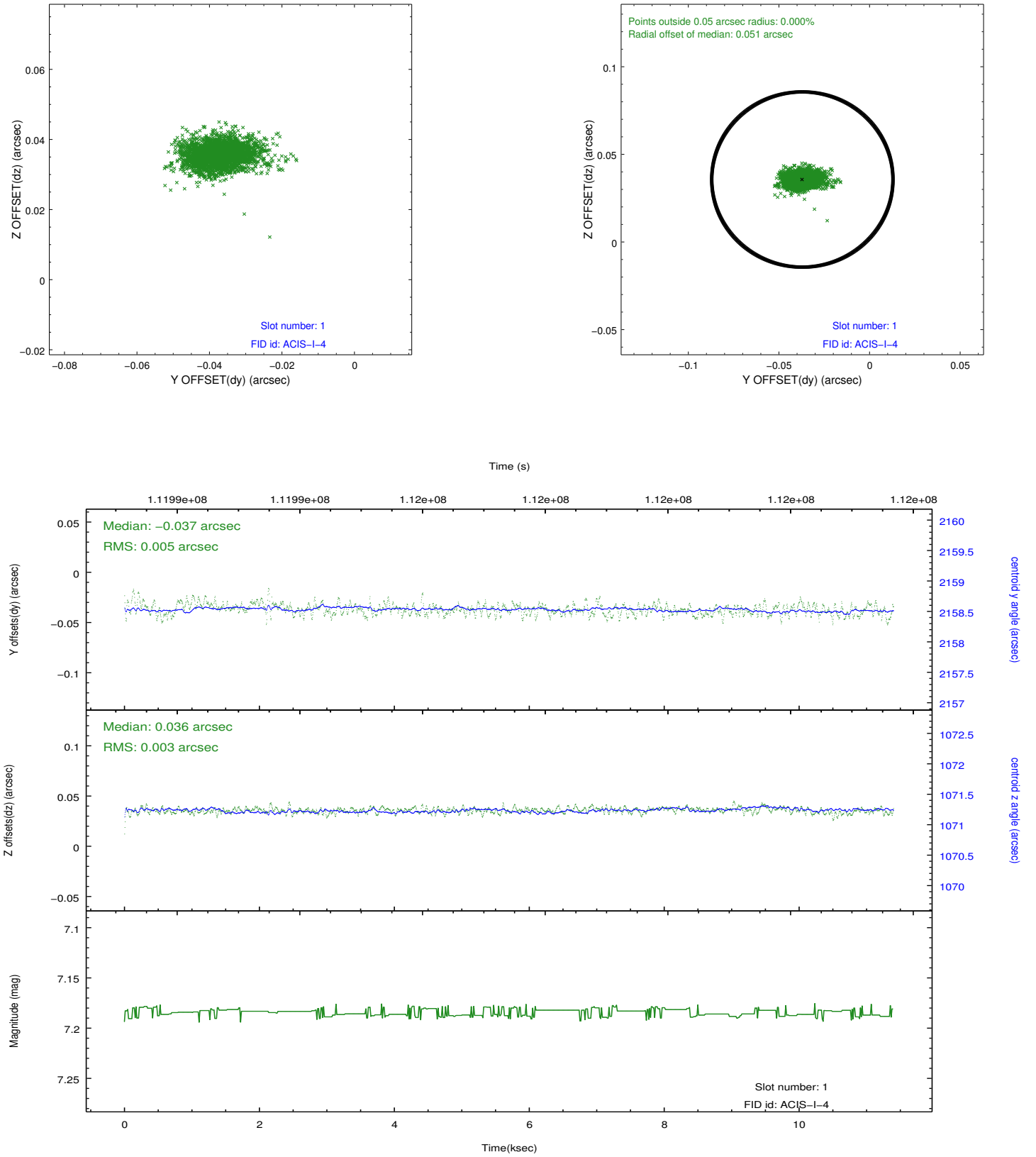


## 2.5 FID Slots

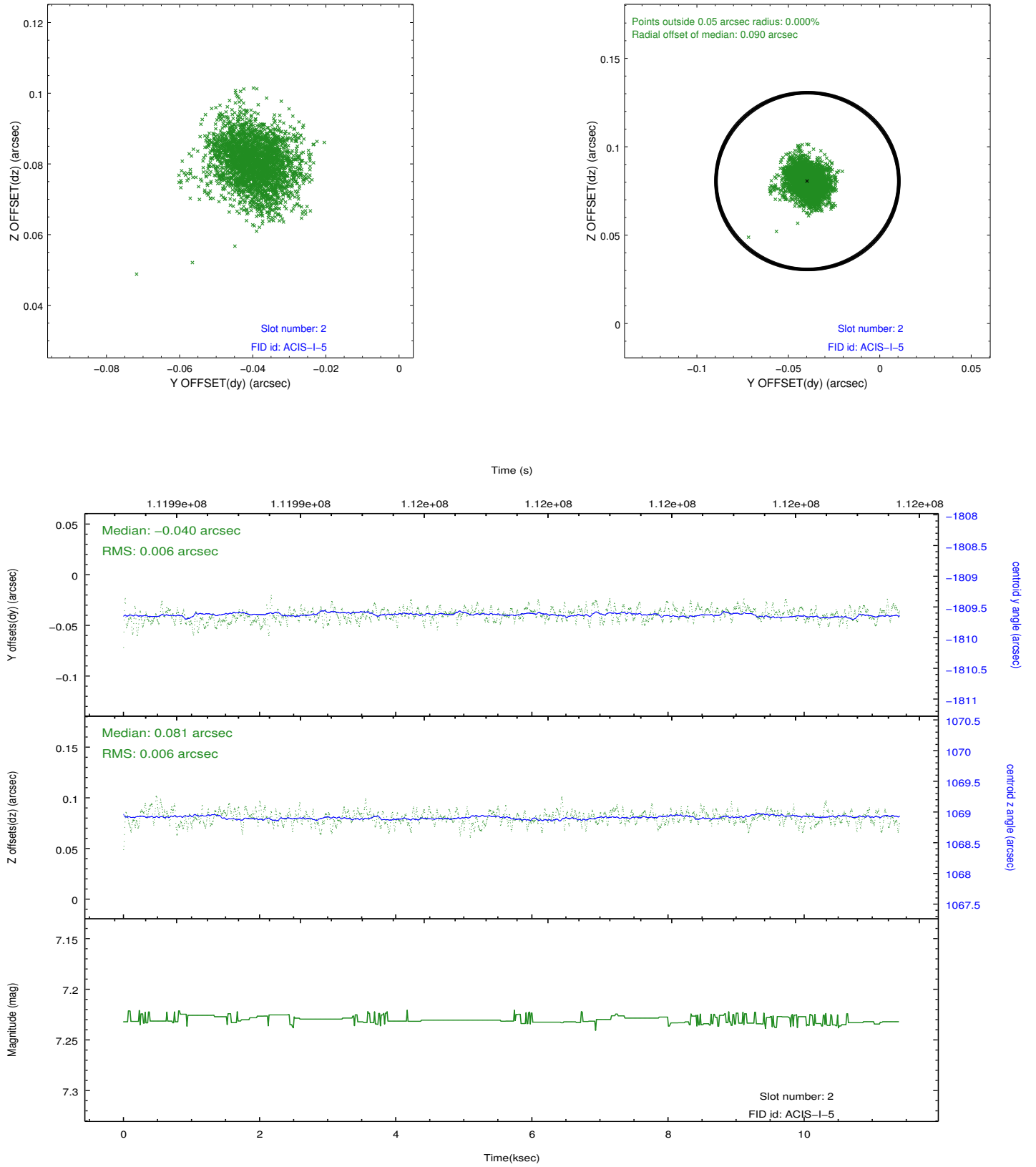
### 2.5.1 Slot 0



## 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)      | 2012.09.24 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 10.95      |

### A.2 Comments

Roll constraint satisfied.