

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 3612 - L2 Version 3  
Chandra X-Ray Center

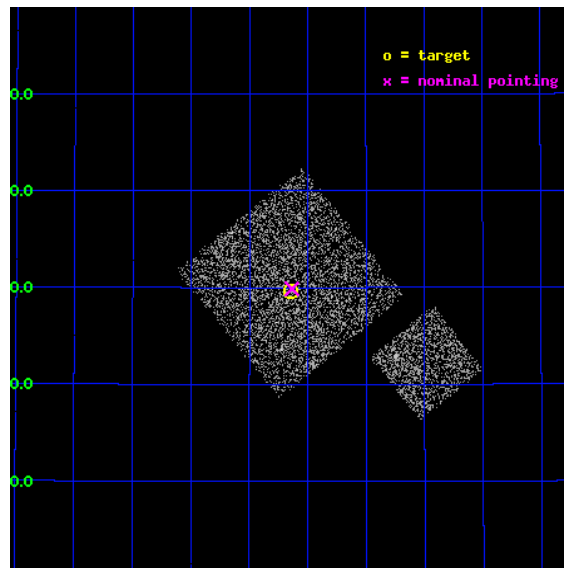
L2 Processing Date : Oct 26 2012

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# 1 Front

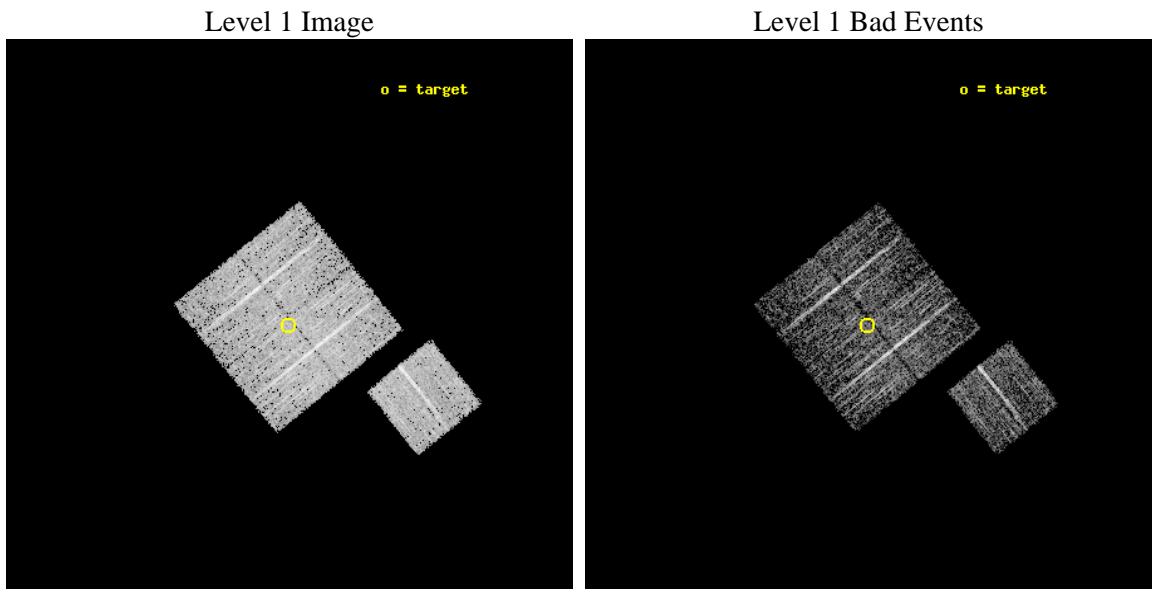
|          |   |   |
|----------|---|---|
| seq_num  | 900212  | Sequence number                             |
| obs_id   | 3612  | Observation id                              |
| title    | CHANDRA LARGE SCALE SURVEY OF THE NOAO<br>BOOTES DEEP FIELD | Proposal                                    |
| observer | Dr. Stephen Murray  | Principal investigator                      |
| object   | NOAO FIELD F14  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 219.536665  | Observer's specified target RA<br>[deg]     |
| dec_targ | 35.493858   | Observer's specified target Dec<br>[deg]    |
| ra_nom   | 219.53394187928   | Nominal RA [deg]                            |
| dec_nom  | 35.497889973116   | Nominal Dec [deg]                           |
| roll_nom | 141.01026532986   | Nominal Roll [deg]                          |
| revision | 3   | Processing version of data                  |
| ontime   | 4674.1303731501   | Sum of GTIs [s]                             |
| livetime | 4613.0594187802   | Livetime [s]                                |
| ontime0  | 4674.0072531402   | Sum of GTIs [s]                             |
| ontime1  | 4674.0482931435   | Sum of GTIs [s]                             |
| ontime2  | 4674.0893331468   | Sum of GTIs [s]                             |
| ontime3  | 4674.1303731501   | Sum of GTIs [s]                             |
| ontime6  | 4673.9662131369   | Sum of GTIs [s]                             |
| l2events | 9364  | Number of level 2 events                    |



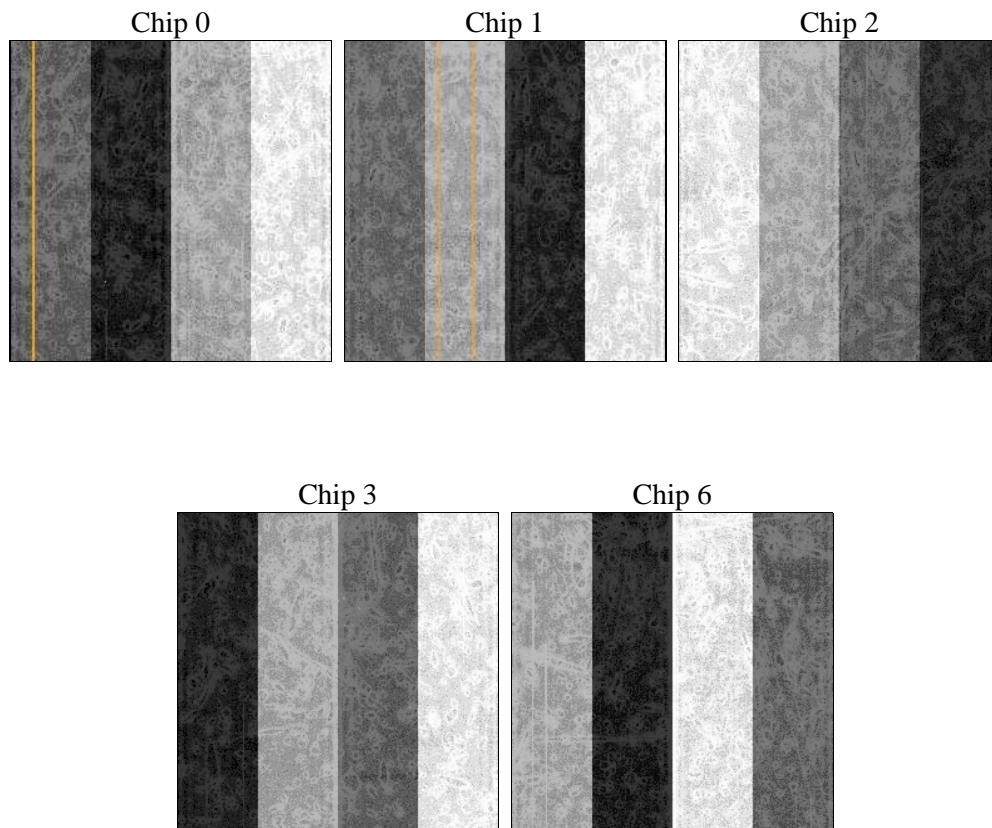
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 4900.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 4674.1303731501 | Sum of GTIs [s]                         |
| caldsver | 4.5.2               | &#160                          | ontime0        | 4674.0072531402 | Sum of GTIs [s]                         |
| date     | 2012-10-26T00:16:57 | Date and time of file creation | ontime1        | 4674.0482931435 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 4674.0893331468 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 4674.1303731501 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 4673.9662131369 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 113196          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 21211 | 20551 | 24458 | 23868 | 23108 |
| rejected events | 18911 | 18181 | 22224 | 21669 | 20773 |
| rejected %      | 89%   | 88%   | 90%   | 90%   | 89%   |

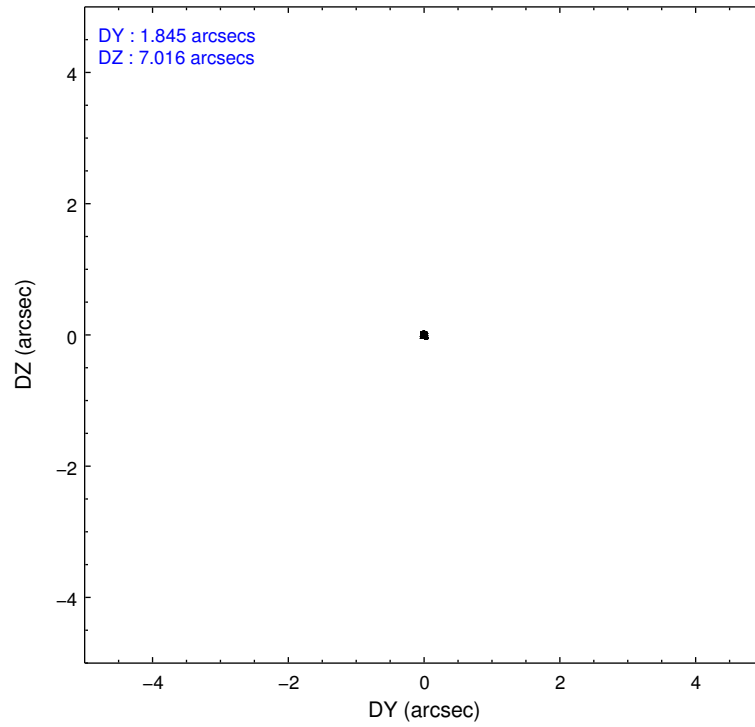
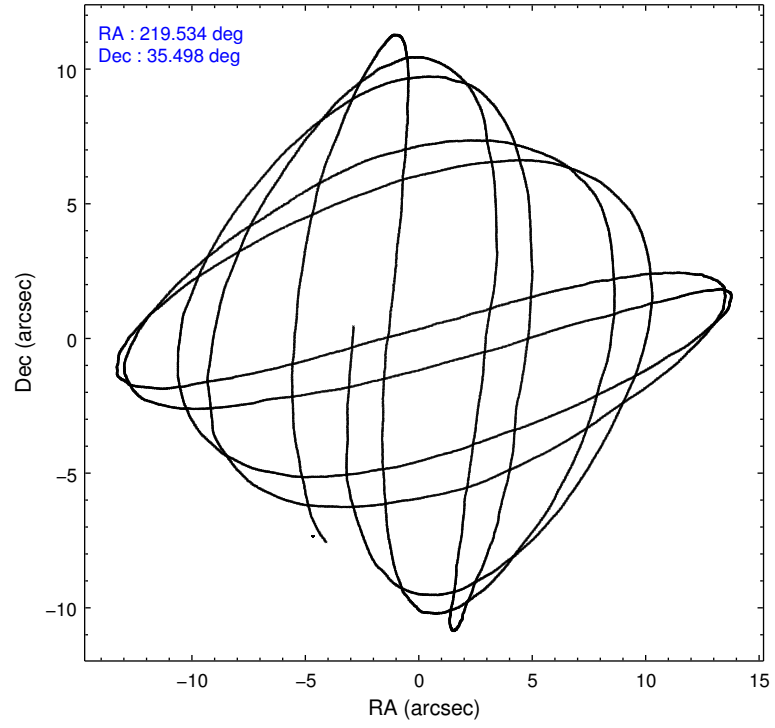
|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 845   | 842   | 850   | 852   | 831   |
|                | 3%    | 4%    | 3%    | 3%    | 3%    |
| grade 1 events | 8     | 11    | 14    | 12    | 7     |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 509   | 497   | 506   | 437   | 522   |
|                | 2%    | 2%    | 2%    | 1%    | 2%    |
| grade 3 events | 272   | 276   | 261   | 267   | 248   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 4 events | 262   | 289   | 258   | 255   | 262   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 5 events | 708   | 717   | 643   | 748   | 744   |
|                | 3%    | 3%    | 2%    | 3%    | 3%    |
| grade 6 events | 413   | 470   | 360   | 391   | 473   |
|                | 1%    | 2%    | 1%    | 1%    | 2%    |
| grade 7 events | 18194 | 17449 | 21566 | 20906 | 20021 |
|                | 85%   | 84%   | 88%   | 87%   | 86%   |

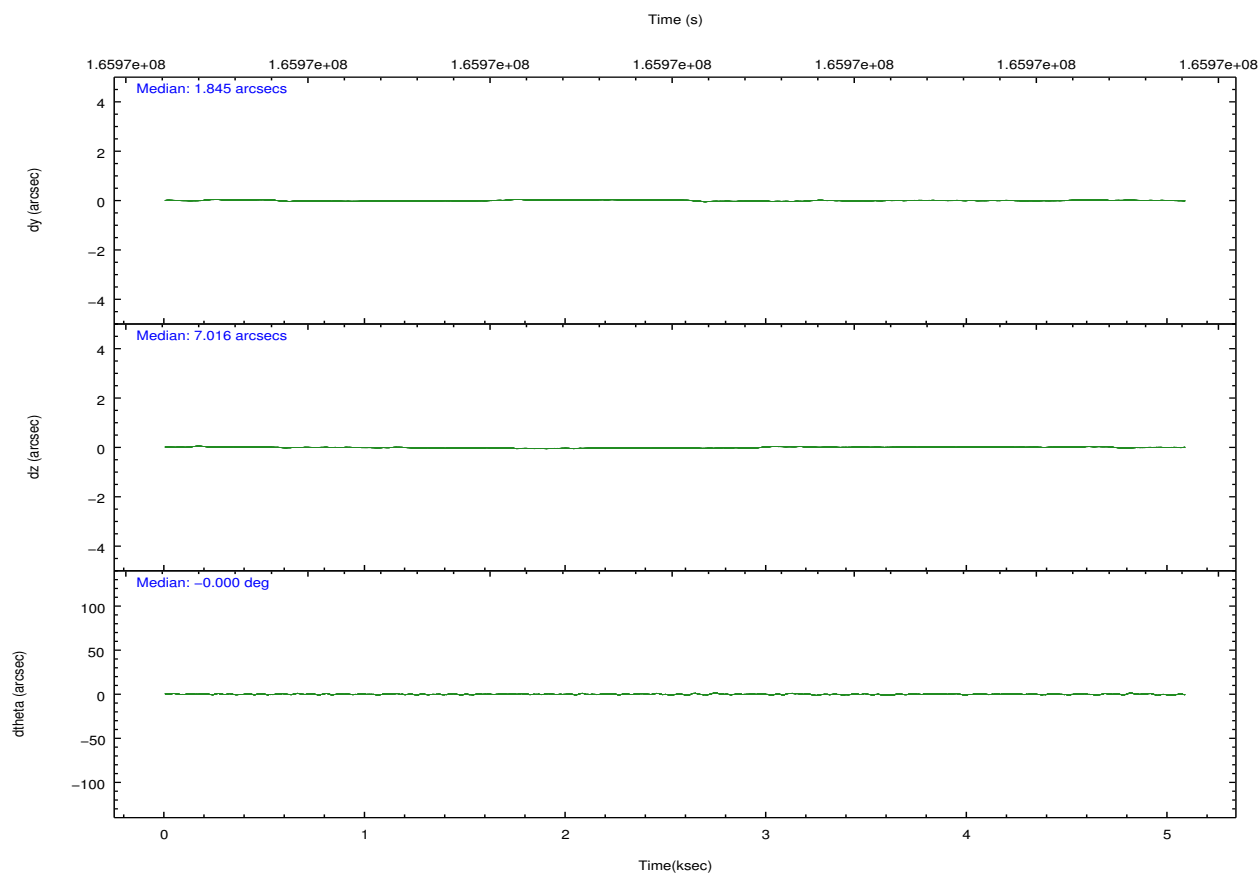
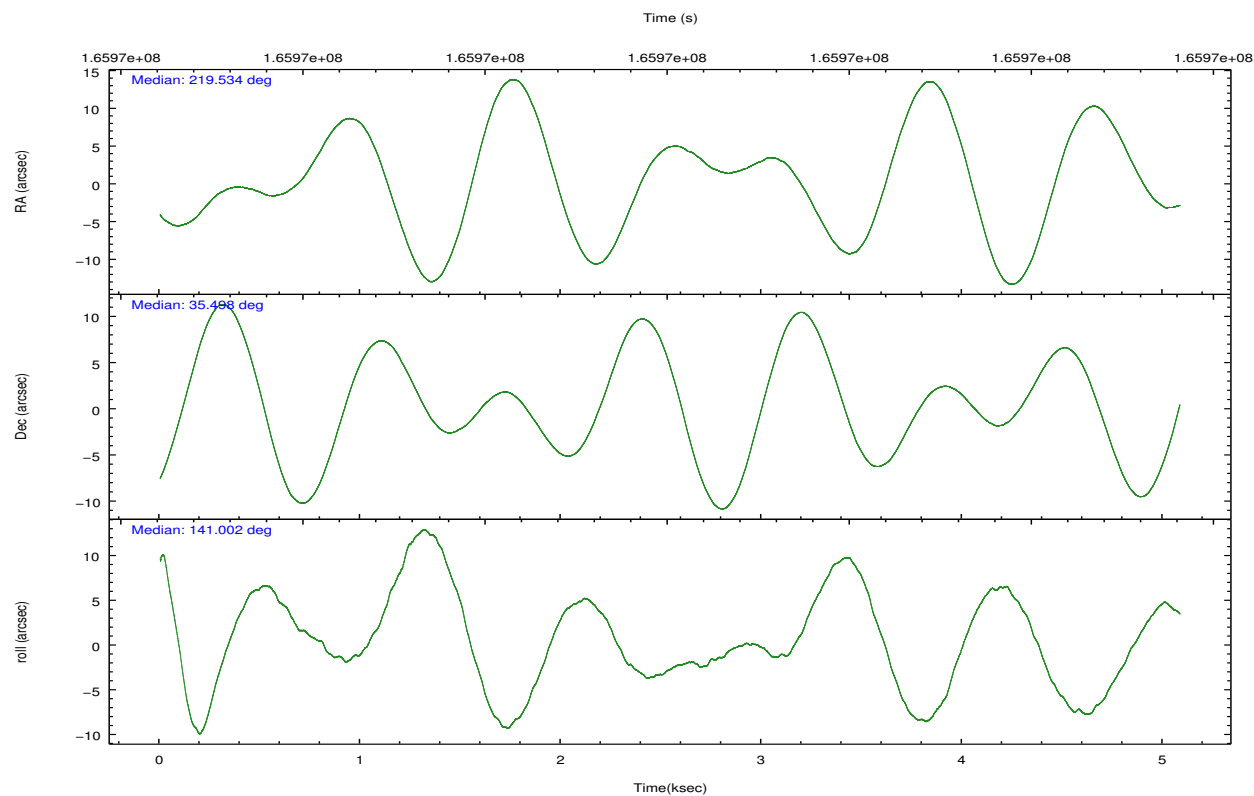


## 2.2 Compared Parameters

| 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                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING              | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 219.567227          | 219.5339418792797     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 35.493769           | 35.49788997311597     | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 140.782257          | 141.0102653298636     | [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)  | 165967662.184000    | 165967285.57427       |                                       |           |         |
| Observation start date            | 2003-04-05T22:06:38 | 2003-04-05T22:01:25   |                                       |           |         |
| [s] Observation end time (MET)    | 165972562.184000    | 165972695.5245        |                                       |           |         |
| Observation end date              | 2003-04-05T23:28:18 | 2003-04-05T23:31:35   |                                       |           |         |
| Read mode                         | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



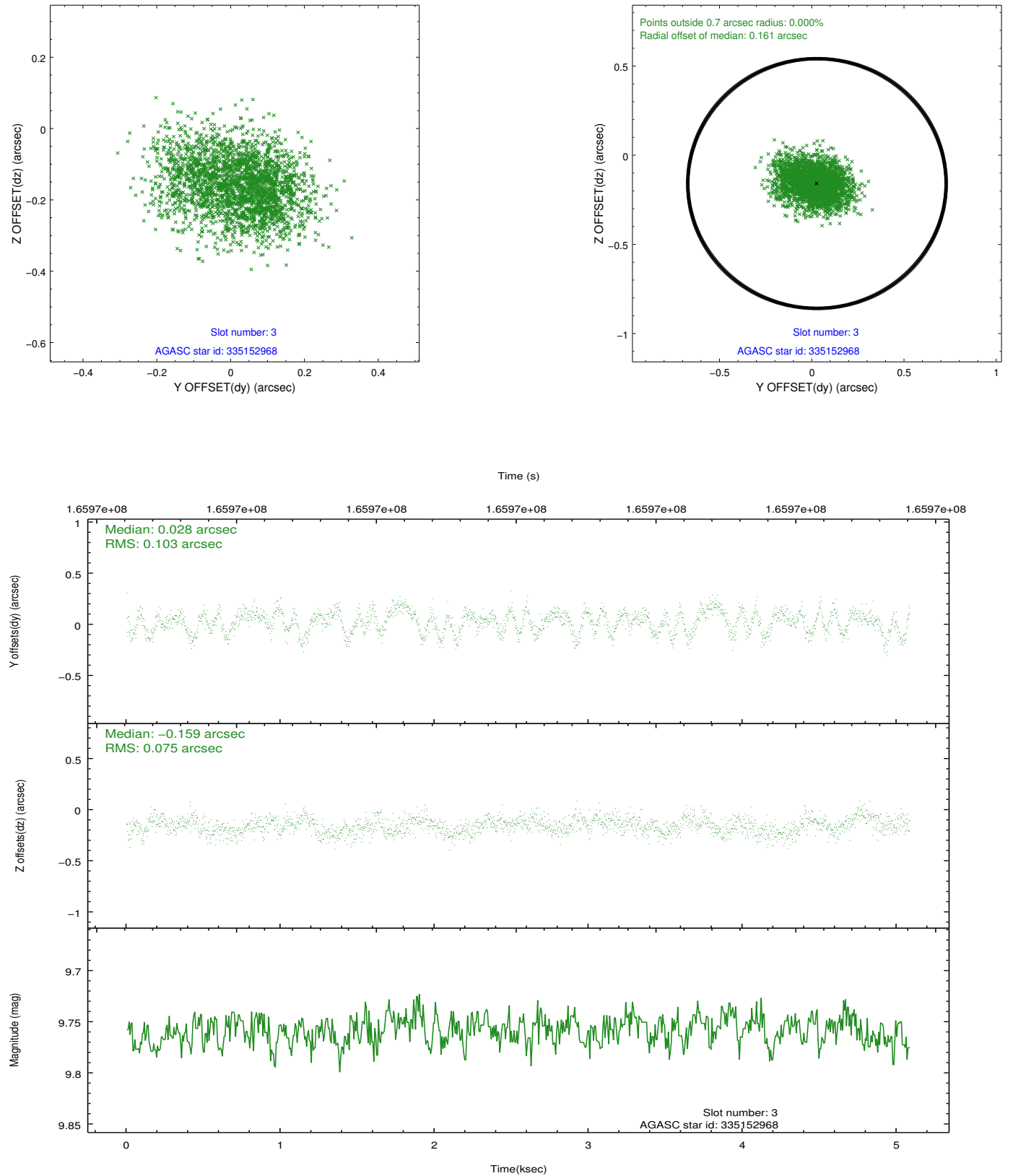


### Slot Statistics

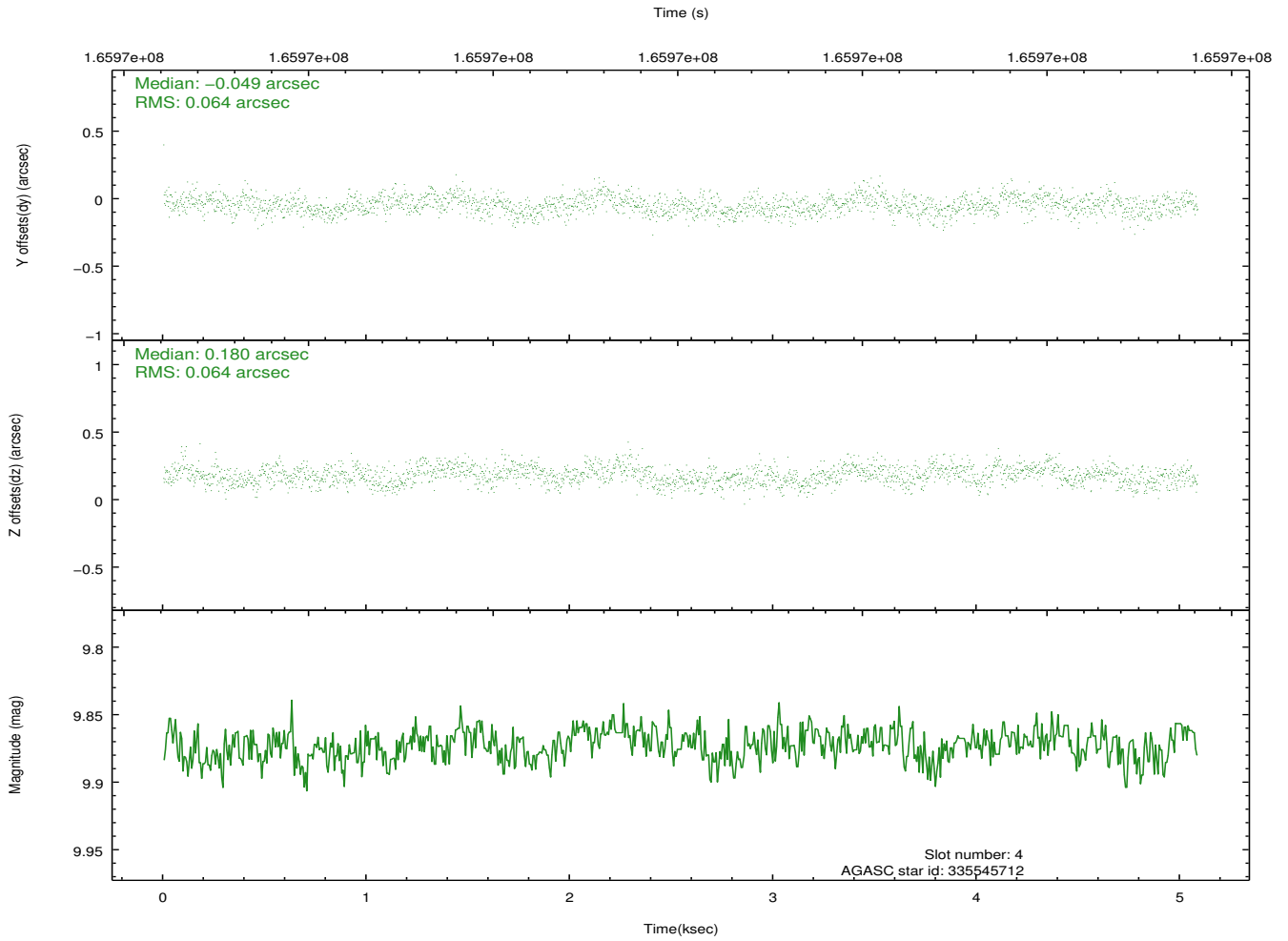
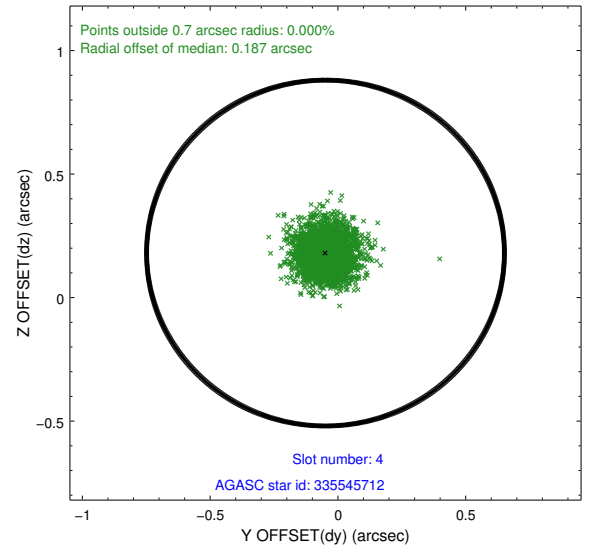
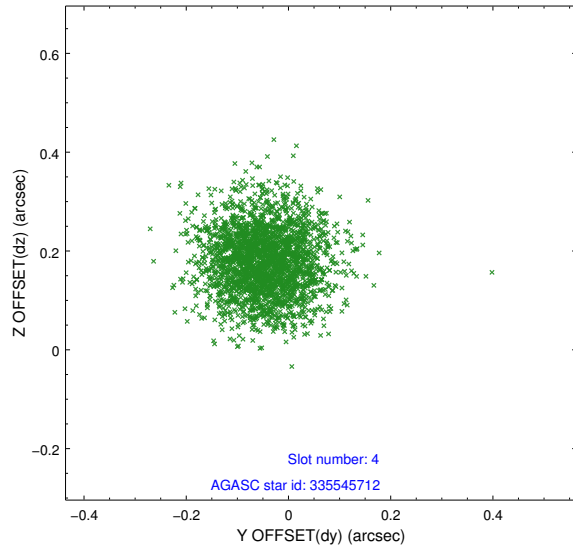
| slot | status | id        | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.25  | 1240  | 0.009  | 0.010  | 0.006 | 0.010 | 0.000000   | 0.000000  | 937.96   | -830.42  |
| 1    | FID    | ACIS-I-5  | 7.24  | 1239  | -0.076 | 0.053  | 0.006 | 0.011 | 0.000000   | 0.000000  | -1809.51 | 1066.59  |
| 2    | FID    | ACIS-I-6  | 7.26  | 1239  | -0.025 | 0.007  | 0.006 | 0.010 | 0.000000   | 0.000000  | 402.25   | 1712.35  |
| 3    | GUIDE  | 335152968 | 9.76  | 2480  | 0.028  | -0.159 | 0.135 | 0.222 | 219.446087 | 34.867883 | -1147.45 | 1971.67  |
| 4    | GUIDE  | 335545712 | 9.87  | 2479  | -0.049 | 0.180  | 0.097 | 0.156 | 220.165930 | 35.199137 | -2032.02 | -295.08  |
| 5    | GUIDE  | 335546608 | 10.05 | 2452  | 0.093  | -0.187 | 0.113 | 0.181 | 219.906522 | 35.245587 | -1337.14 | 59.90    |
| 6    | GUIDE  | 335549864 | 7.53  | 2481  | 0.027  | 0.137  | 0.069 | 0.109 | 219.286726 | 35.929745 | 1626.41  | -699.34  |
| 7    | GUIDE  | 335552808 | 9.68  | 2479  | -0.093 | 0.032  | 0.102 | 0.170 | 220.586307 | 35.562846 | -2144.00 | -2091.78 |

## 2.4 Star Slots

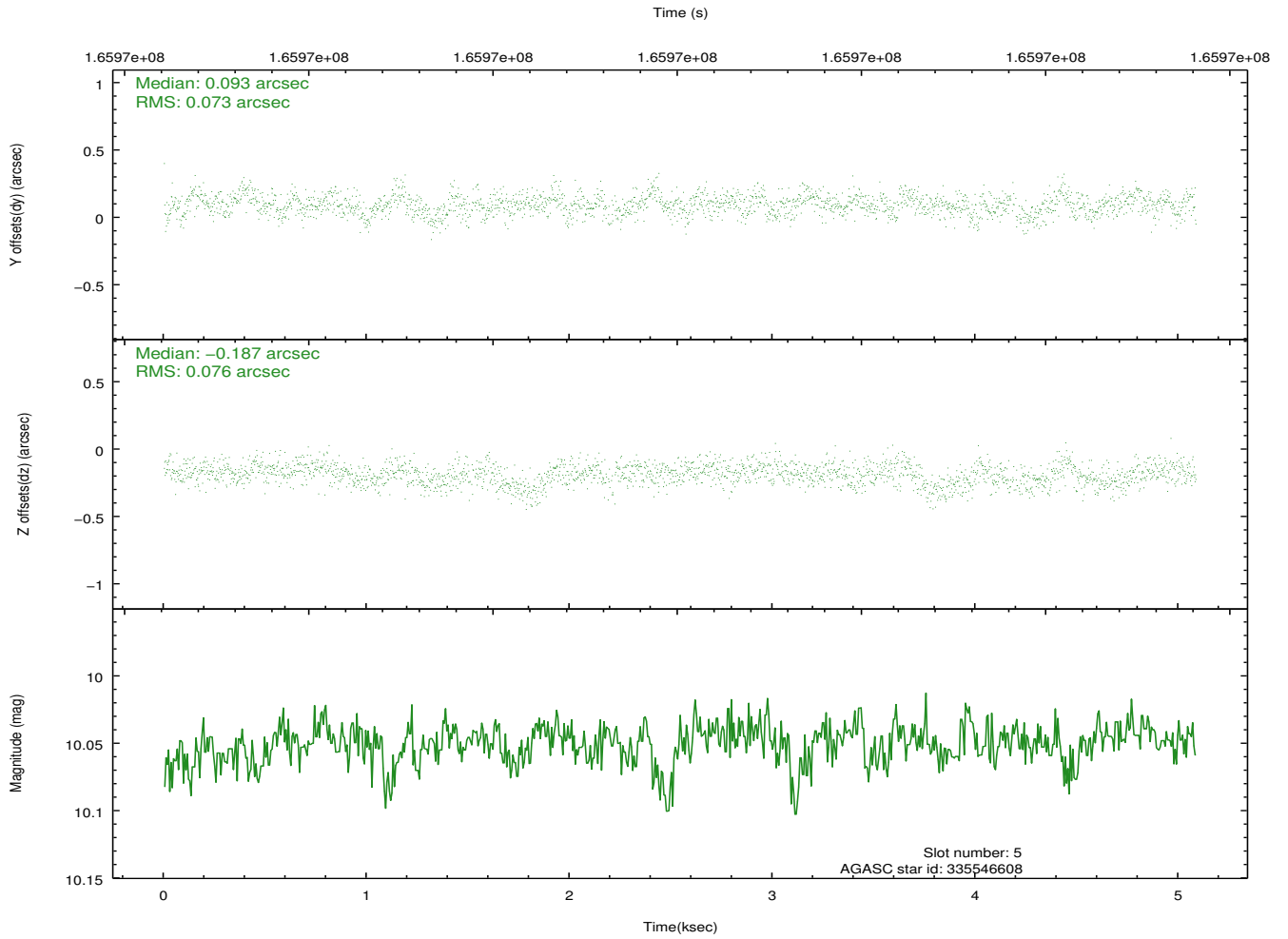
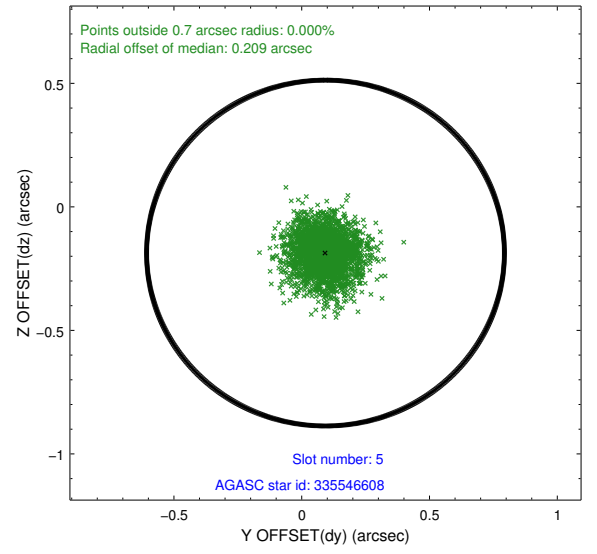
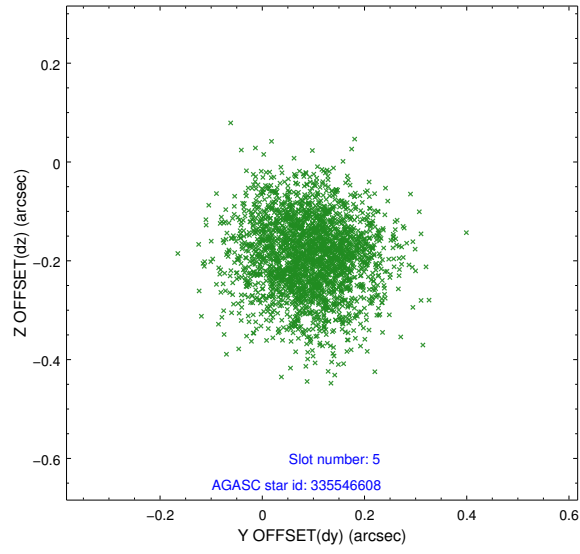
### 2.4.1 Slot 3



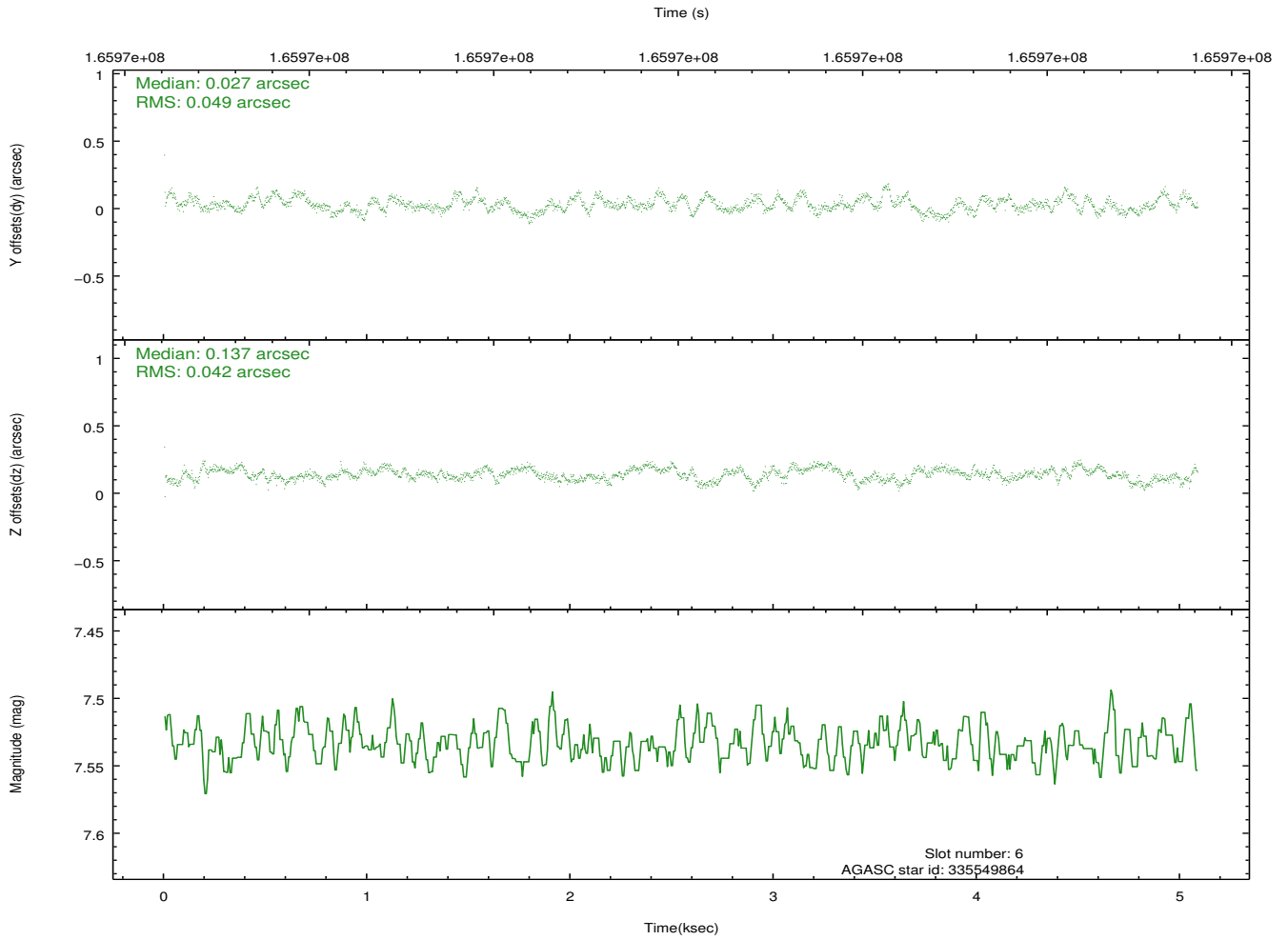
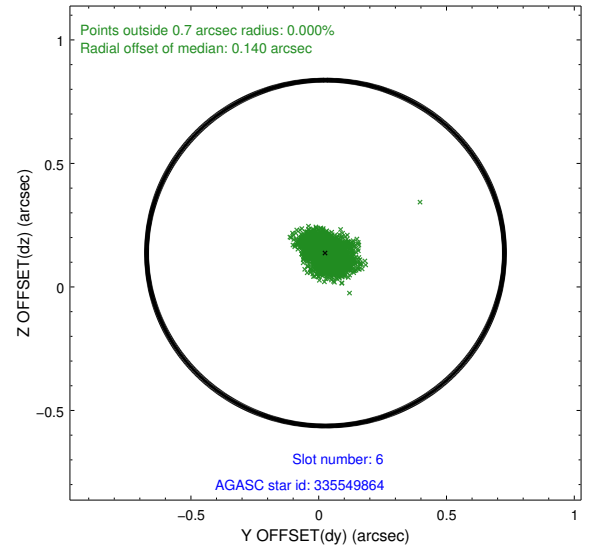
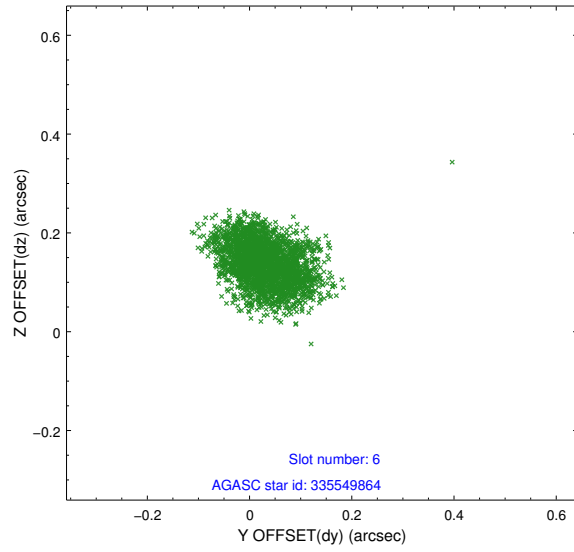
## 2.4.2 Slot 4



### 2.4.3 Slot 5

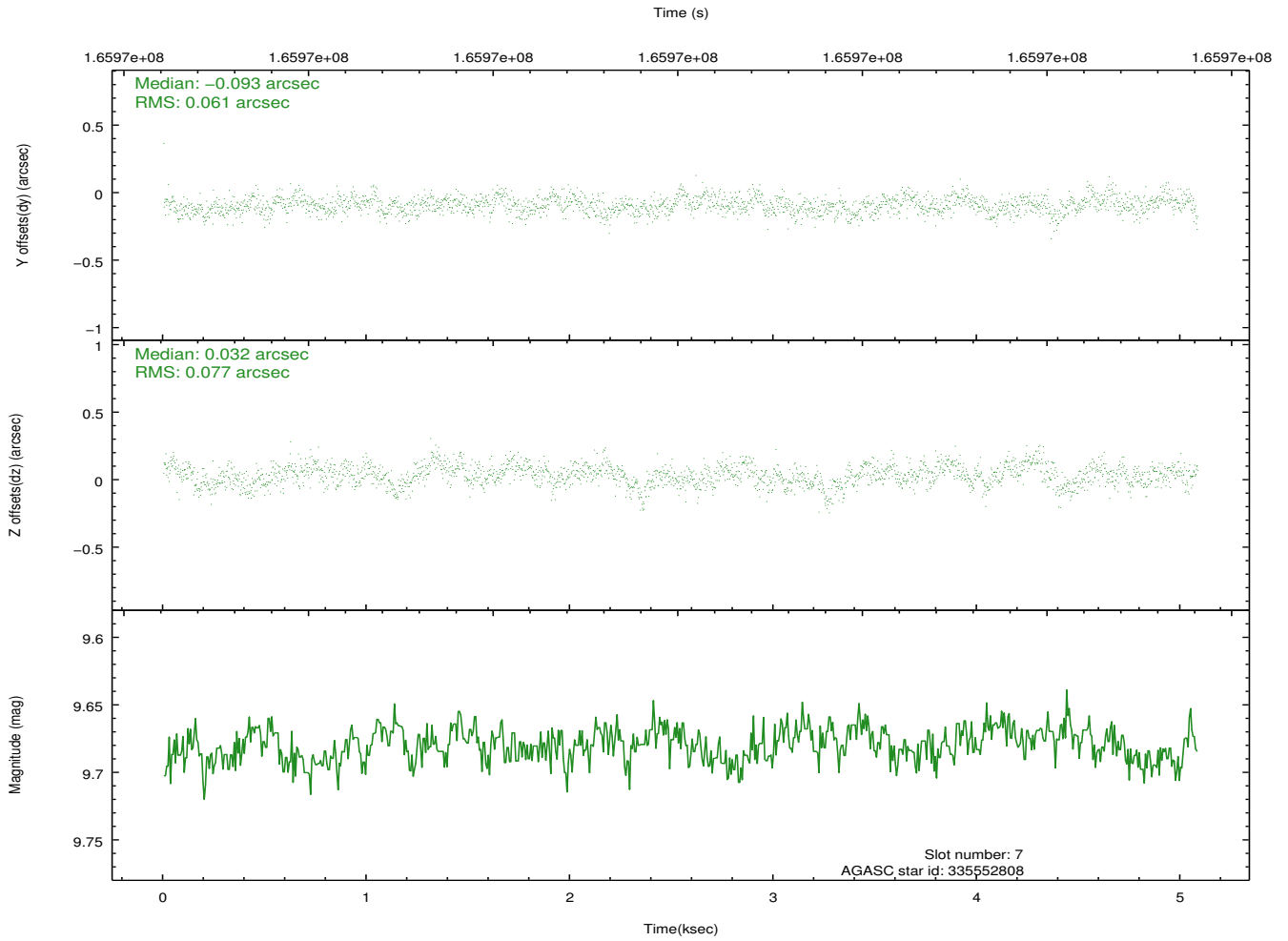
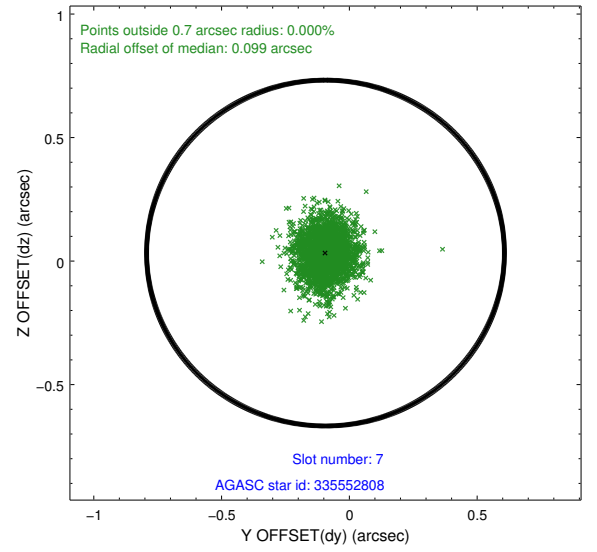
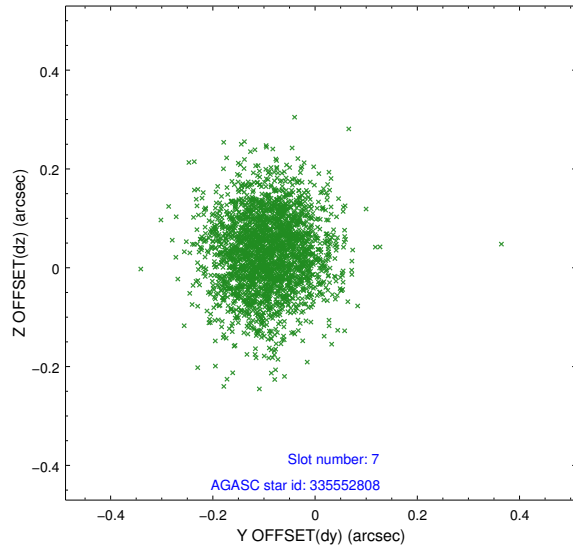


## 2.4.4 Slot 6



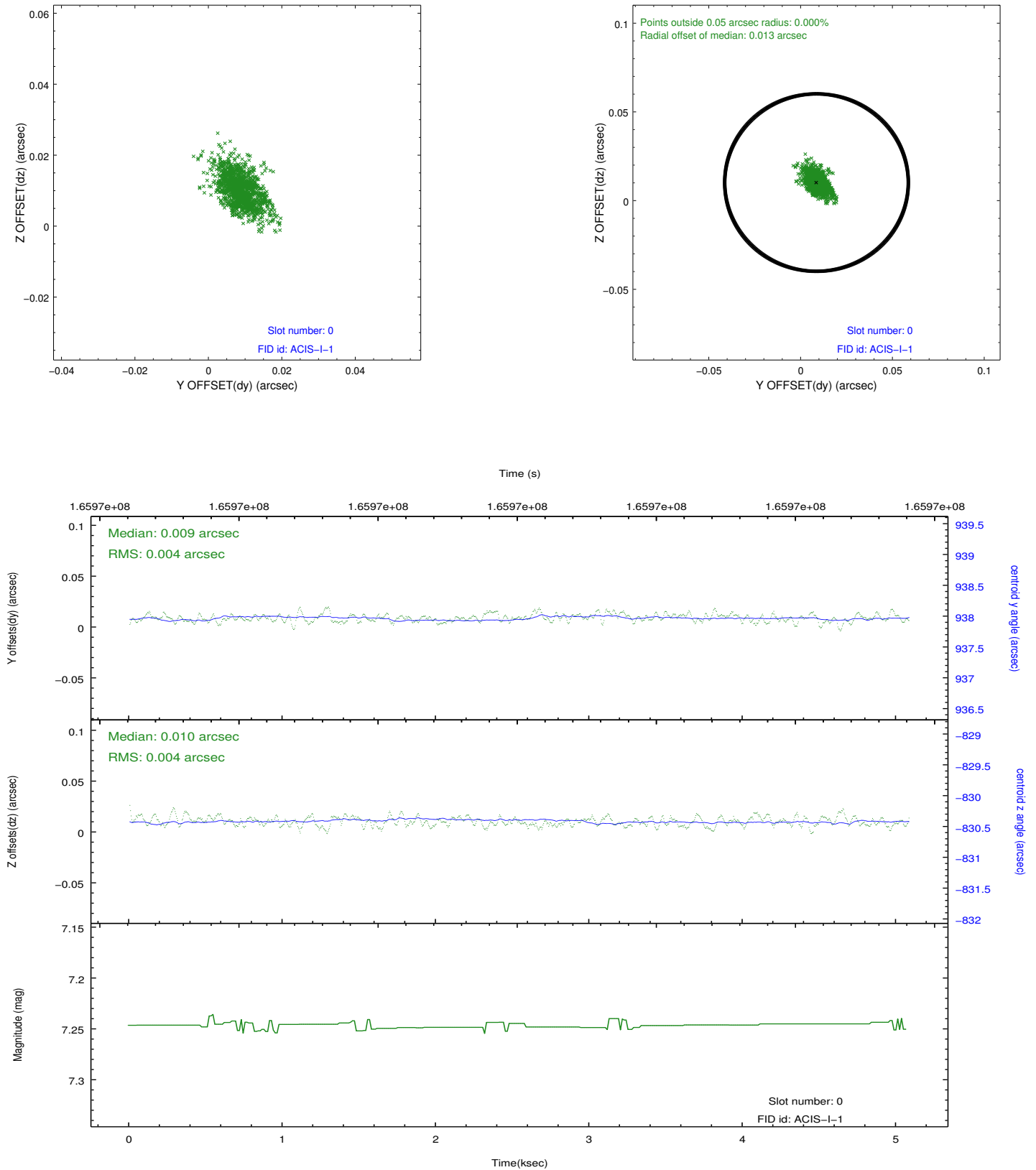


## 2.4.5 Slot 7

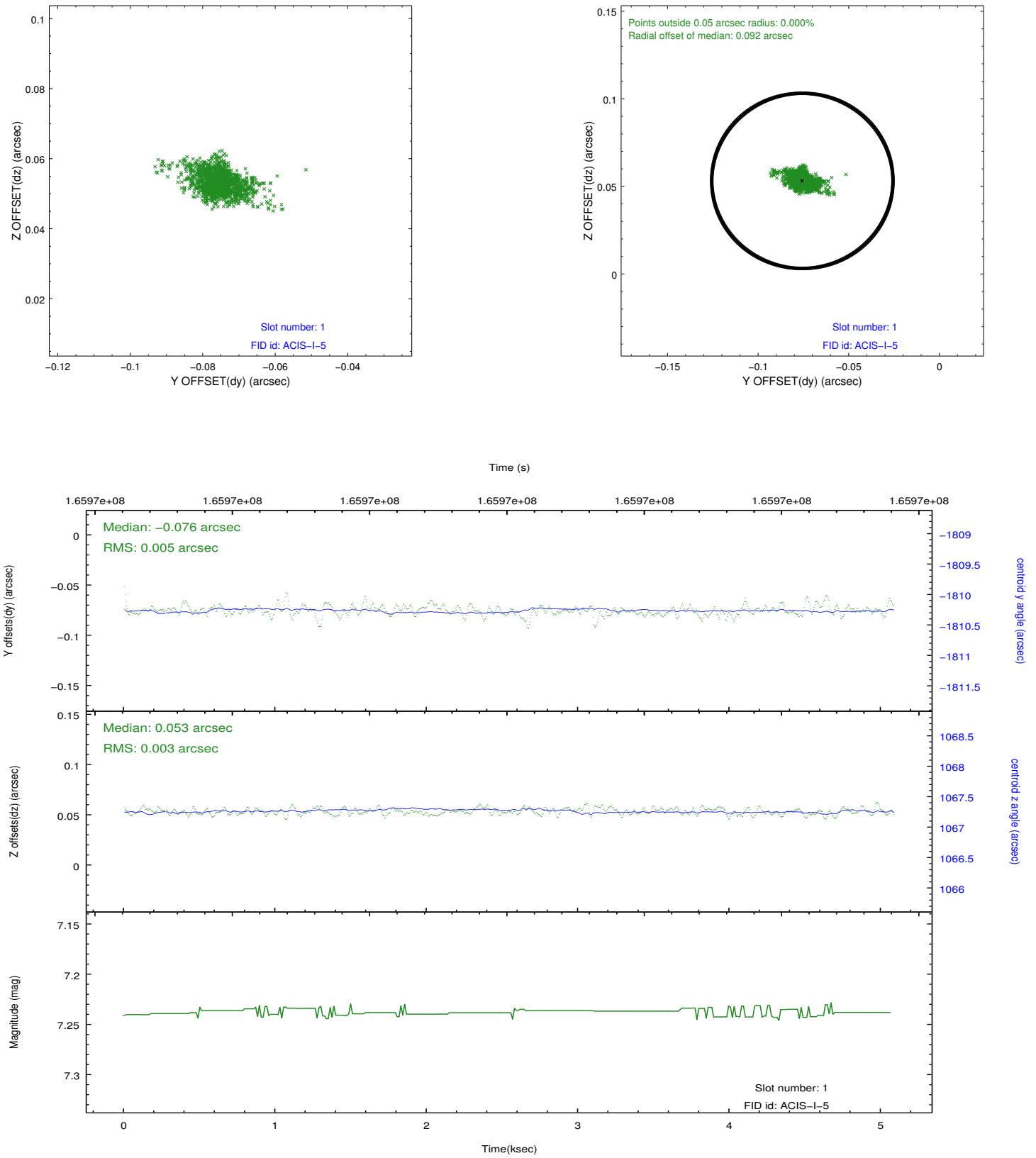


## 2.5 FID Slots

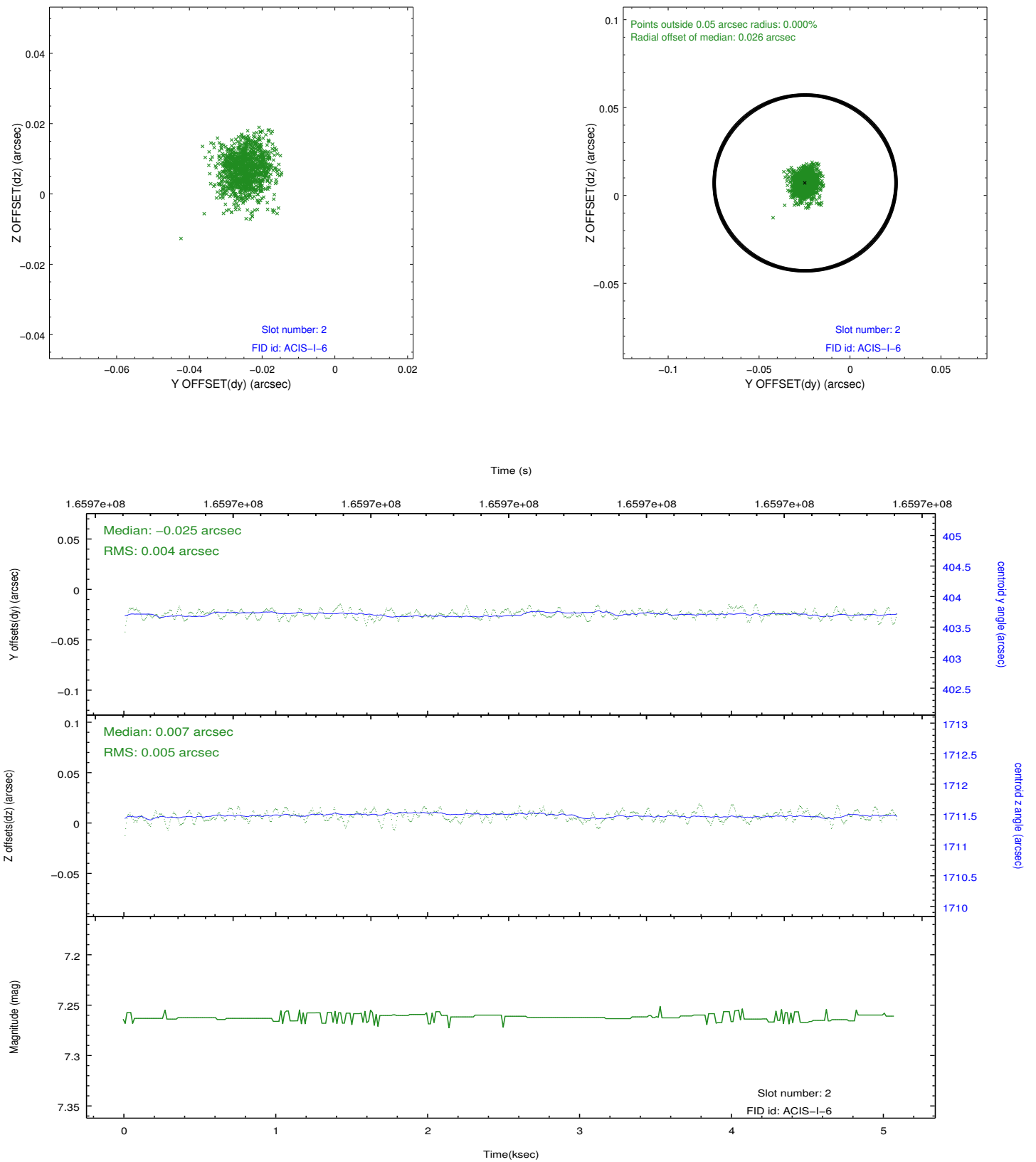
### 2.5.1 Slot 0



## 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)      | 2012.11.13 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 4.674      |

### A.2 Comments