

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9154 - L2 Version 2  
Chandra X-Ray Center

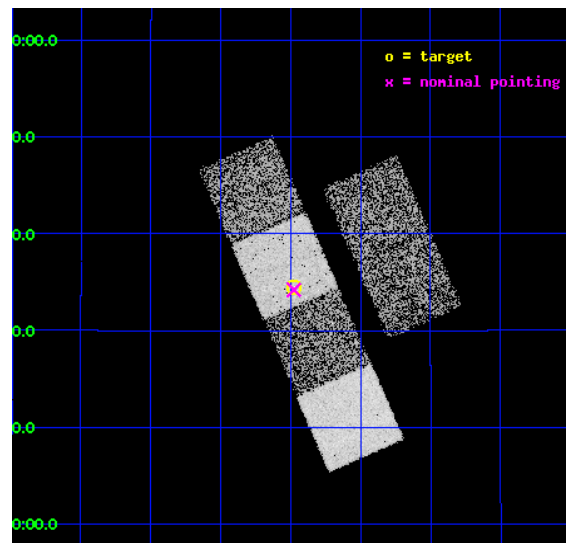
L2 Processing Date : May 12 2012

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# 1 Front

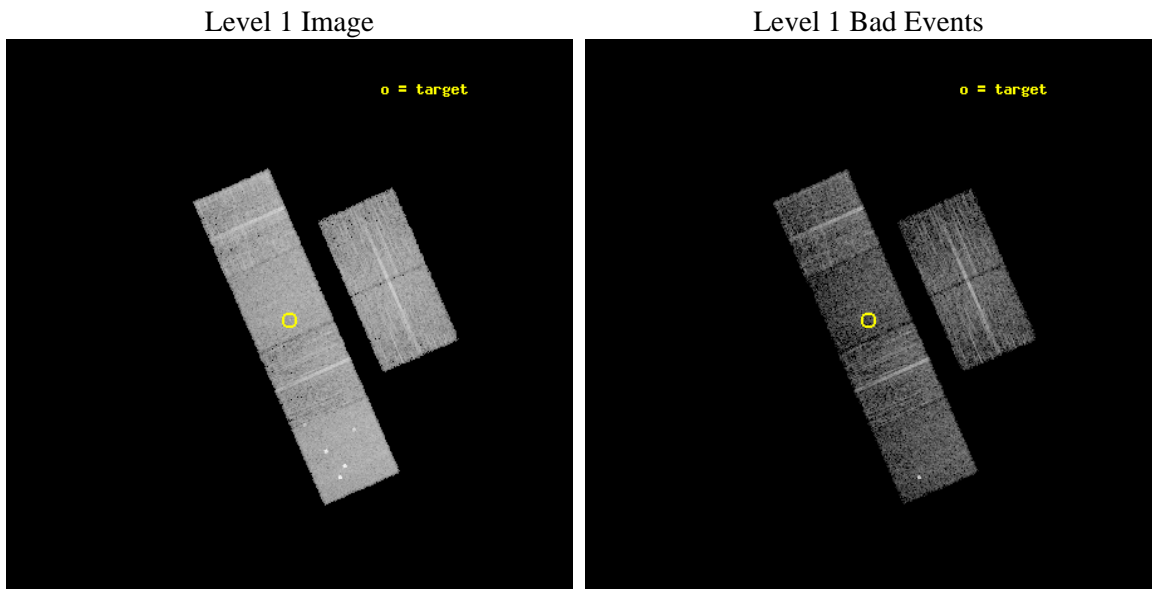
|          |  |   |
|----------|--|---|
| seq_num  | 701596   | Sequence number                             |
| obs_id   | 9154   | Observation id                              |
| title    | Chandra ACIS Snapshots of the Brightest Radio-Loud Broad Absorption Line Quasars in the SDSS | Proposal title                              |
| observer | Professor Gordon Garmire   | Principal investigator                      |
| object   | SDSS J102258.41+123429.7   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 155.743333   | Observer's specified target RA [deg]        |
| dec_targ | 12.574889  | Observer's specified target Dec [deg]       |
| ra_nom   | 155.74419893643  | Nominal RA [deg]                            |
| dec_nom  | 12.570112676389  | Nominal Dec [deg]                           |
| roll_nom | 246.35512189127  | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 5039.9999812841  | Sum of GTIs [s]                             |
| livetime | 4976.1804667975  | Livetime [s]                                |
| ontime2  | 5039.9999812841  | Sum of GTIs [s]                             |
| ontime3  | 5039.9999812841  | Sum of GTIs [s]                             |
| ontime5  | 5039.9999812841  | Sum of GTIs [s]                             |
| ontime6  | 5039.9999812841  | Sum of GTIs [s]                             |
| ontime7  | 5039.9999812841  | Sum of GTIs [s]                             |
| ontime8  | 5039.9999812841  | Sum of GTIs [s]                             |
| l2events | 59730  | Number of level 2 events                    |



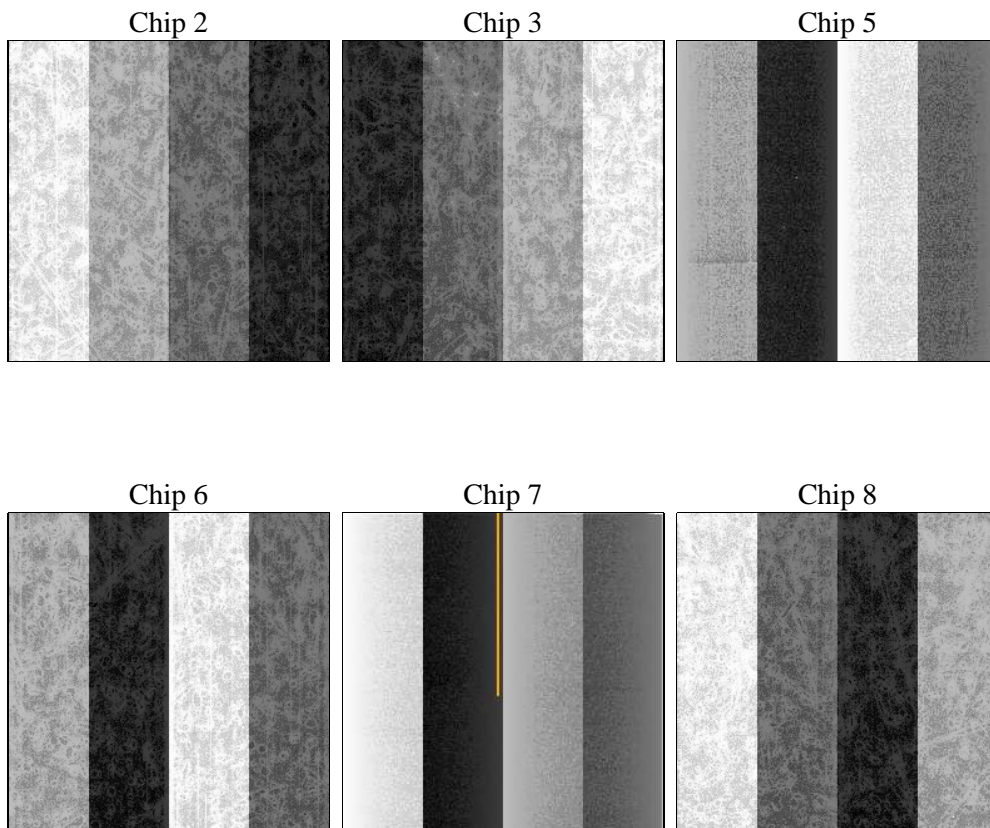
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 5039.9999812841 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime2        | 5039.9999812841 | Sum of GTIs [s]                         |
| date     | 2012-05-12T13:12:49 | Date and time of file creation | ontime3        | 5039.9999812841 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 5039.9999812841 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 5039.9999812841 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 5039.9999812841 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 5039.9999812841 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 274039          | Number of level 1 events                |

### 2.1.4 Events

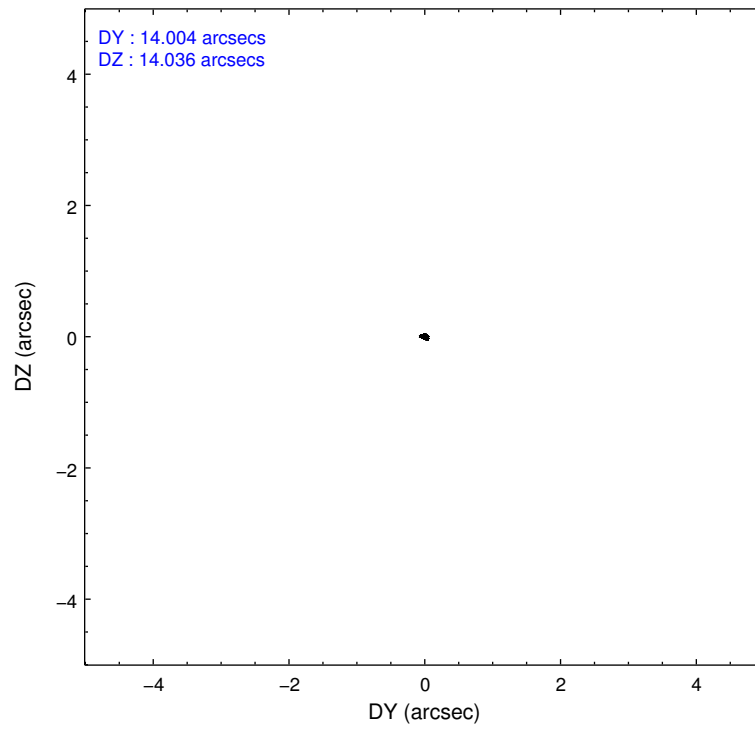
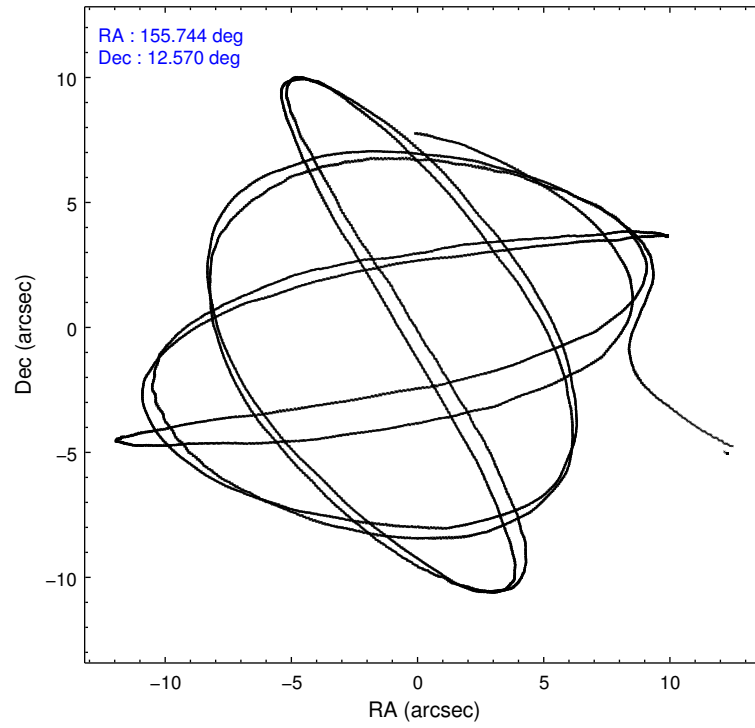
|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 42081 | 38571 | 58455 | 40194 | 44918 | 49820 | grade 0 events | 1400  | 1436  | 4814  | 1476  | 1810  | 3419  |
| rejected events | 38131 | 34730 | 28742 | 36082 | 24718 | 38084 |                | 3%    | 3%    | 8%    | 3%    | 4%    | 6%    |
| rejected %      | 90%   | 90%   | 49%   | 89%   | 55%   | 76%   | grade 1 events | 30    | 22    | 730   | 16    | 59    | 46    |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 1%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 991   | 824   | 8100  | 852   | 4093  | 2741  |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 13%   | 2%    | 9%    | 5%    |
|                 |       |       |       |       |       |       | grade 3 events | 415   | 441   | 1094  | 452   | 1815  | 1212  |
|                 |       |       |       |       |       |       |                | 0%    | 1%    | 1%    | 1%    | 4%    | 2%    |
|                 |       |       |       |       |       |       | grade 4 events | 420   | 400   | 1069  | 431   | 1842  | 1148  |
|                 |       |       |       |       |       |       |                | 0%    | 1%    | 1%    | 1%    | 4%    | 2%    |
|                 |       |       |       |       |       |       | grade 5 events | 1371  | 1574  | 4086  | 1566  | 4719  | 2246  |
|                 |       |       |       |       |       |       |                | 3%    | 4%    | 6%    | 3%    | 10%   | 4%    |
|                 |       |       |       |       |       |       | grade 6 events | 724   | 746   | 14677 | 904   | 10656 | 3223  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 25%   | 2%    | 23%   | 6%    |
|                 |       |       |       |       |       |       | grade 7 events | 36730 | 33128 | 23885 | 34497 | 19924 | 35785 |
|                 |       |       |       |       |       |       |                | 87%   | 85%   | 40%   | 85%   | 44%   | 71%   |

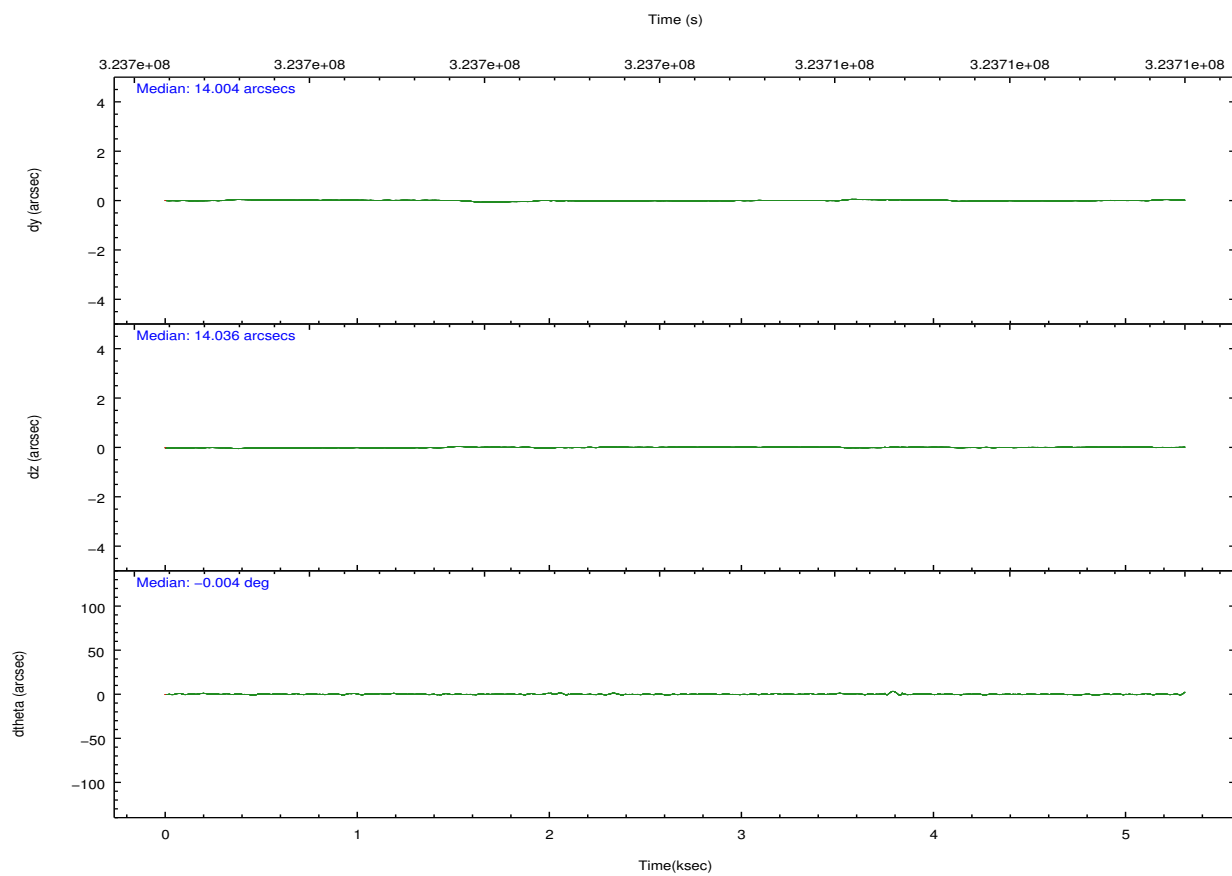
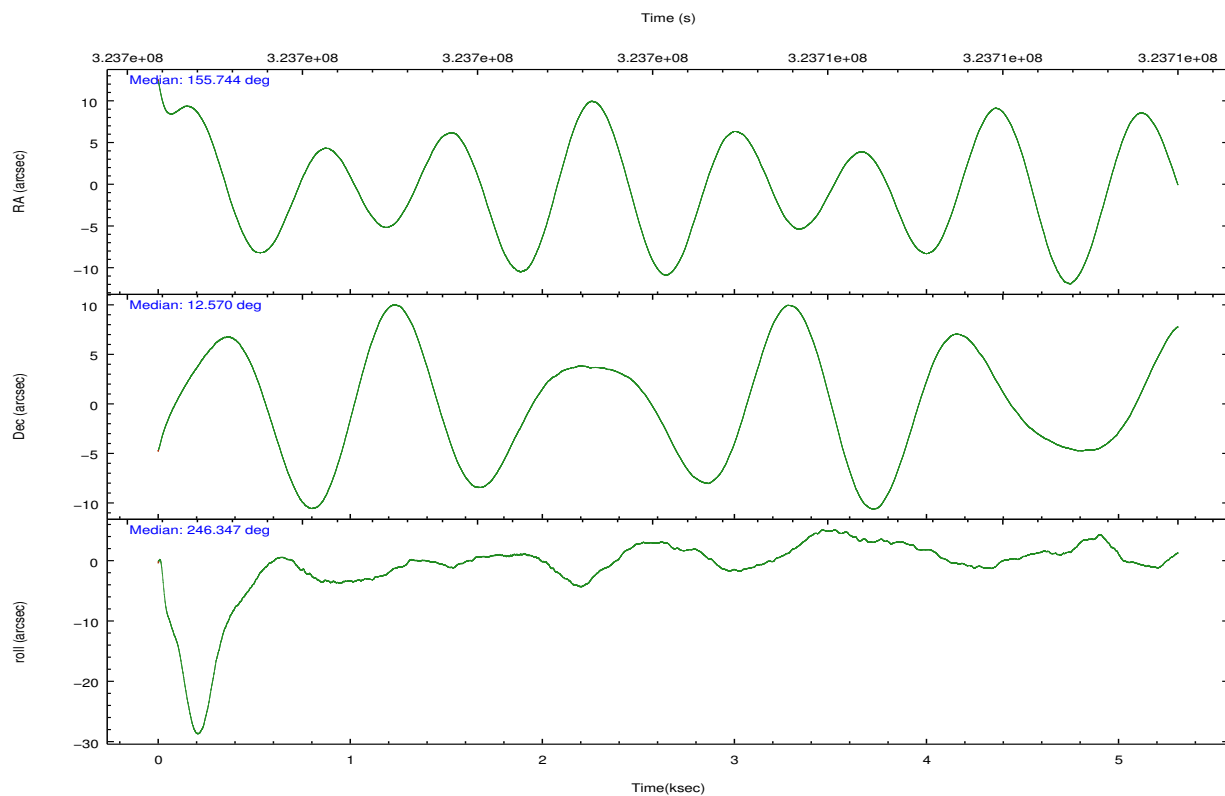


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-235678         | ACIS-235678          | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 155.740543          | 155.7441989364252    | CCD I2 on                             | O1        | Y       |
| [deg] Pointing Dec                | 12.597216           | 12.57011267638876    | CCD I3 on                             | O2        | Y       |
| [deg] Pointing Roll               | 246.199250          | 246.3551218912692    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O3        | Y       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | Y         | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  | CCD S4 on                             | Y         | Y       |
| [s] Observation start time (MET)  | 323702741.184000    | 323701528.78695      | CCD S5 on                             | N         | N       |
| Observation start date            | 2008-04-04T13:24:36 | 2008-04-04T13:05:28  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 323707741.184000    | 323708539.7873       | On-chip summing requested             | N         | N       |
| Observation end date              | 2008-04-04T14:47:56 | 2008-04-04T15:02:19  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.2     |

## 2.3 Aspect



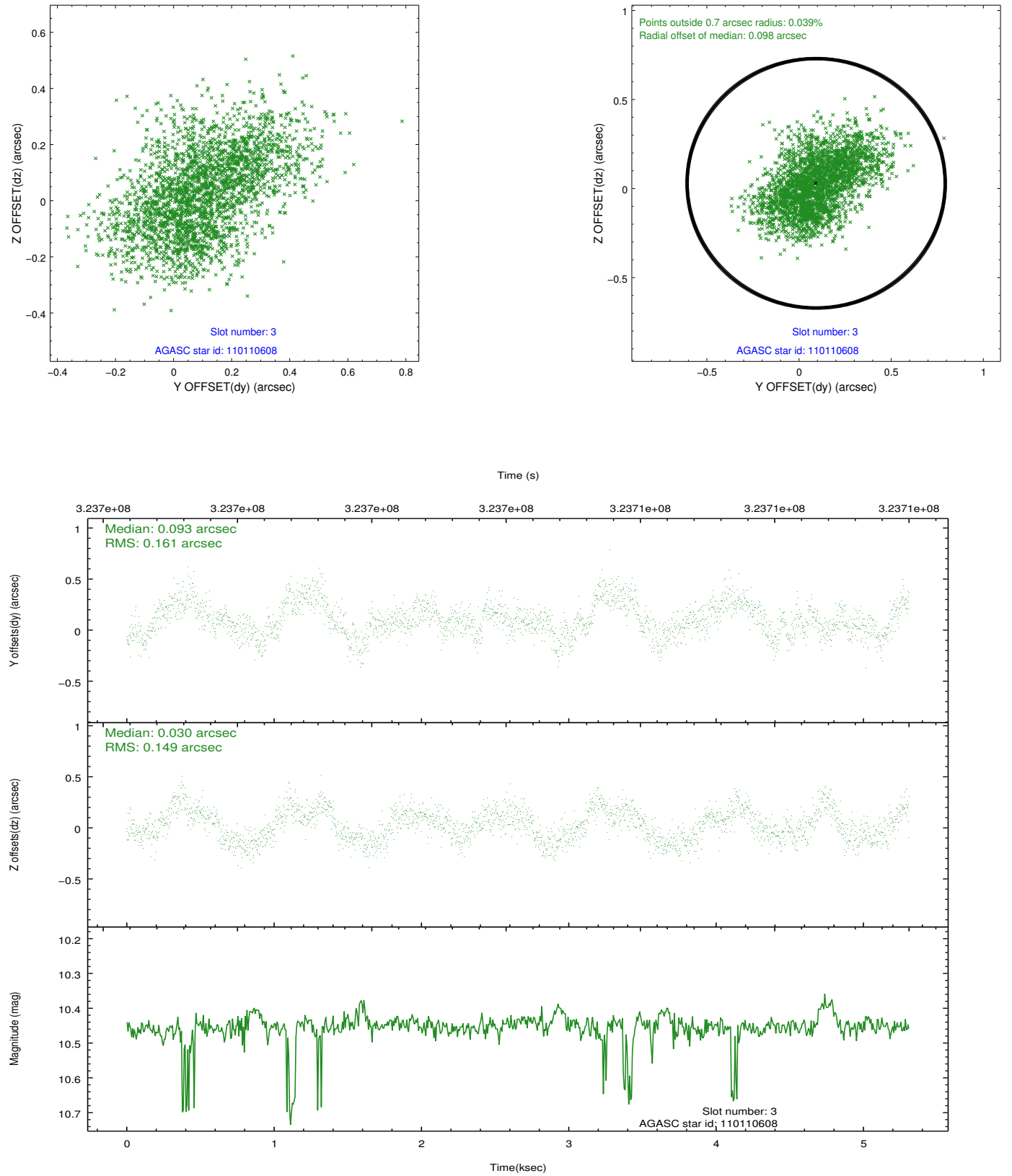


### Slot Statistics

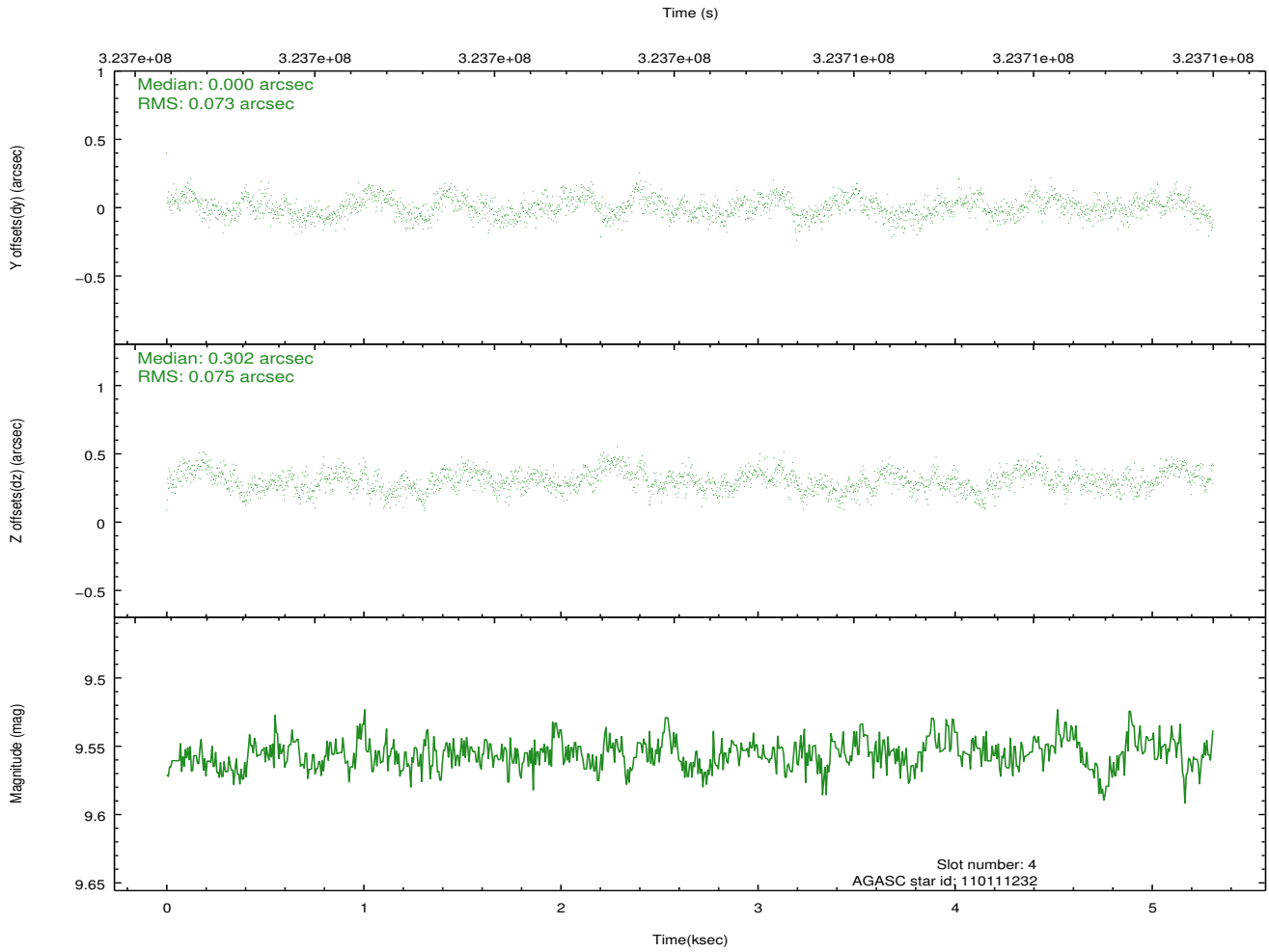
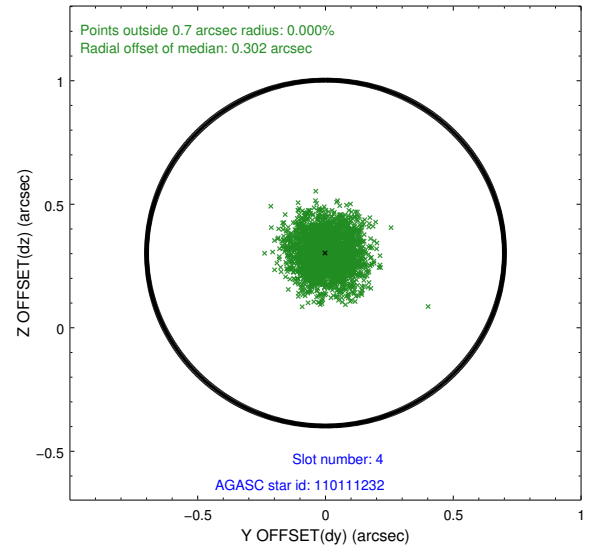
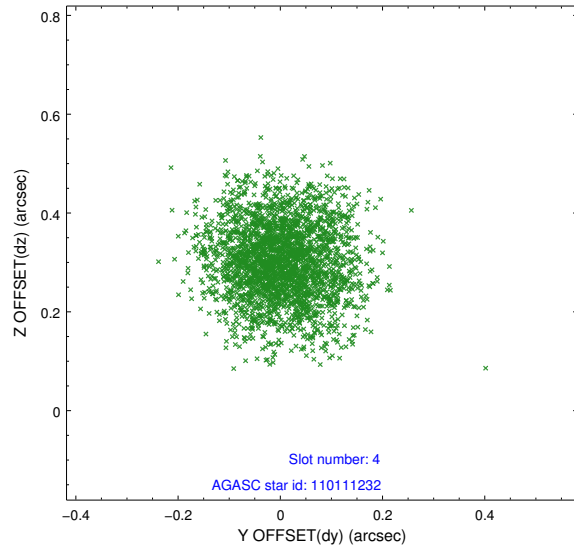
| slot | status | id        | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.10  | 1296  | -0.066 | -0.059 | 0.007 | 0.011 | 0.000000   | 0.000000  | -767.01  | -1735.40 |
| 1    | FID    | ACIS-S-4  | 7.19  | 1296  | 0.194  | 0.048  | 0.006 | 0.010 | 0.000000   | 0.000000  | 2146.00  | 172.02   |
| 2    | FID    | ACIS-S-5  | 7.23  | 1296  | -0.159 | 0.020  | 0.007 | 0.012 | 0.000000   | 0.000000  | -1818.49 | 166.95   |
| 3    | GUIDE  | 110110608 | 10.45 | 2573  | 0.093  | 0.030  | 0.232 | 0.377 | 155.728477 | 11.964235 | 2102.75  | 880.66   |
| 4    | GUIDE  | 110111232 | 9.56  | 2589  | 0.000  | 0.302  | 0.115 | 0.181 | 155.513352 | 12.428358 | 880.03   | -485.37  |
| 5    | GUIDE  | 110111936 | 9.89  | 2589  | -0.005 | -0.210 | 0.168 | 0.267 | 155.585346 | 12.145895 | 1709.14  | 153.15   |
| 6    | GUIDE  | 110633832 | 9.57  | 2588  | -0.126 | 0.055  | 0.137 | 0.214 | 156.003960 | 12.948898 | -1530.35 | 334.24   |
| 7    | GUIDE  | 110635616 | 8.45  | 2588  | 0.014  | -0.178 | 0.069 | 0.109 | 156.244029 | 12.730204 | -1153.19 | 1423.23  |

## 2.4 Star Slots

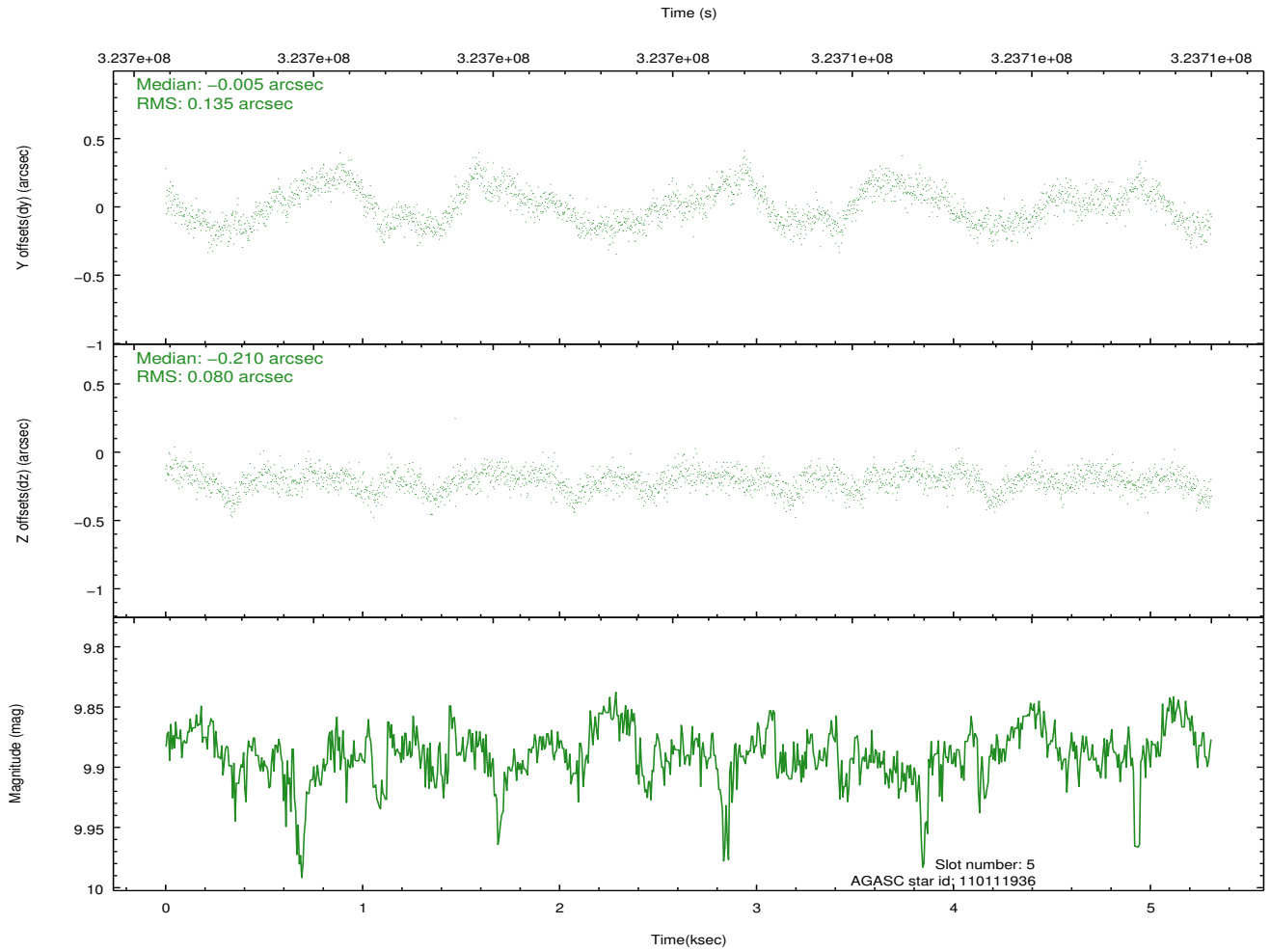
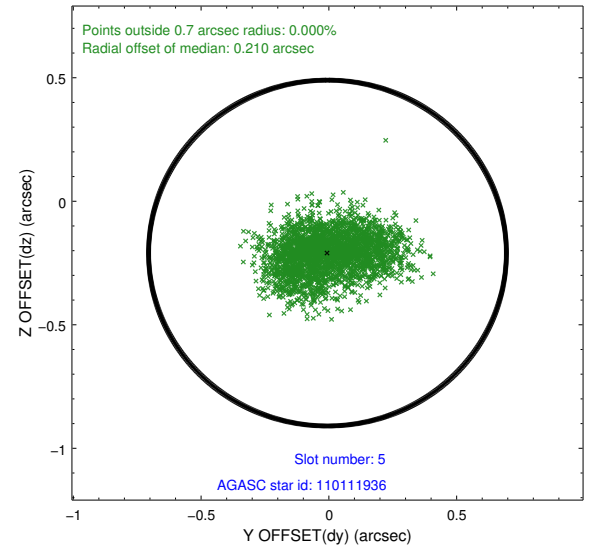
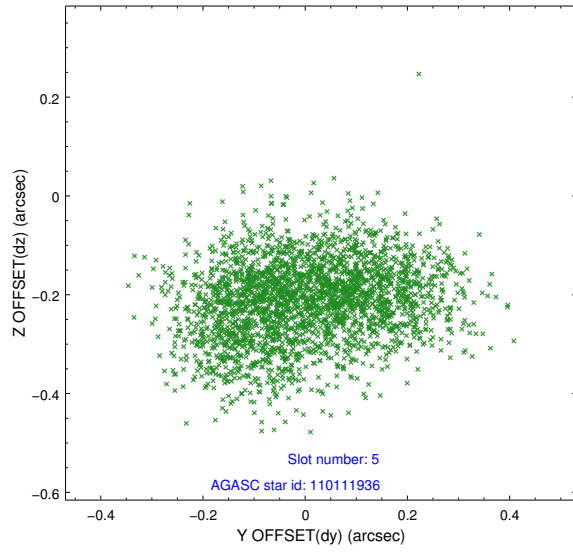
### 2.4.1 Slot 3



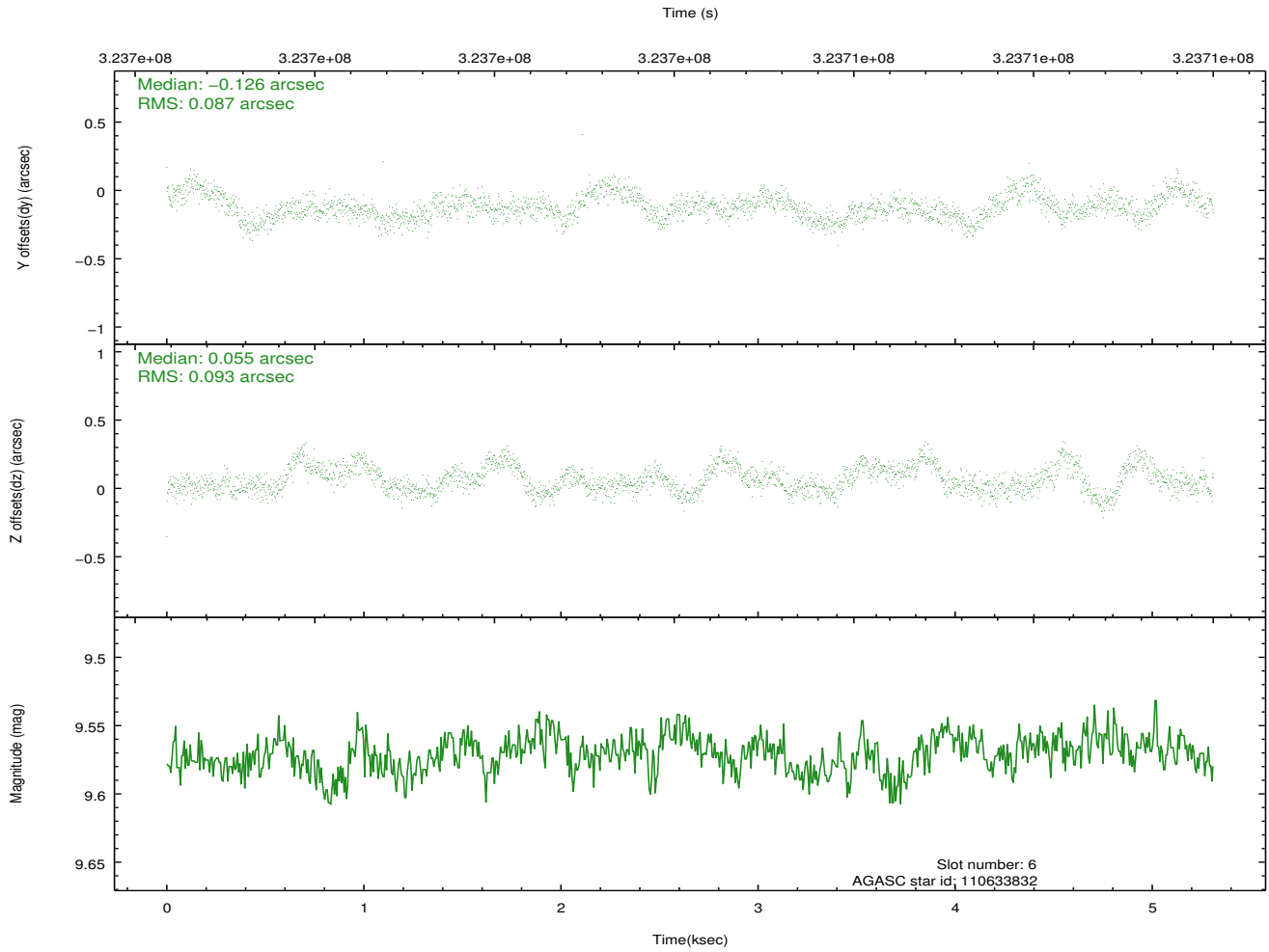
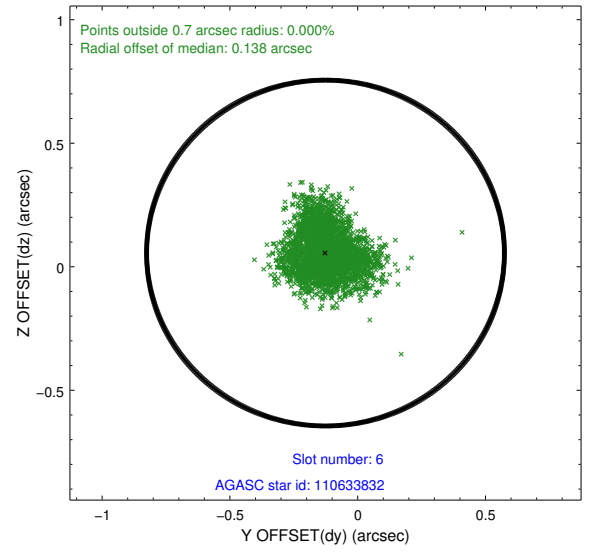
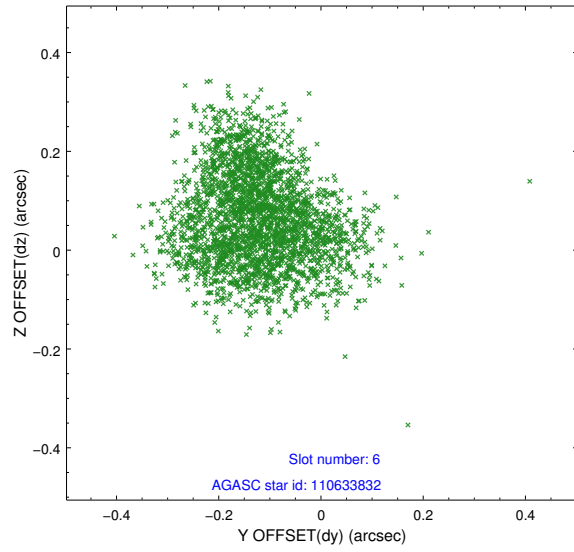
## 2.4.2 Slot 4



### 2.4.3 Slot 5

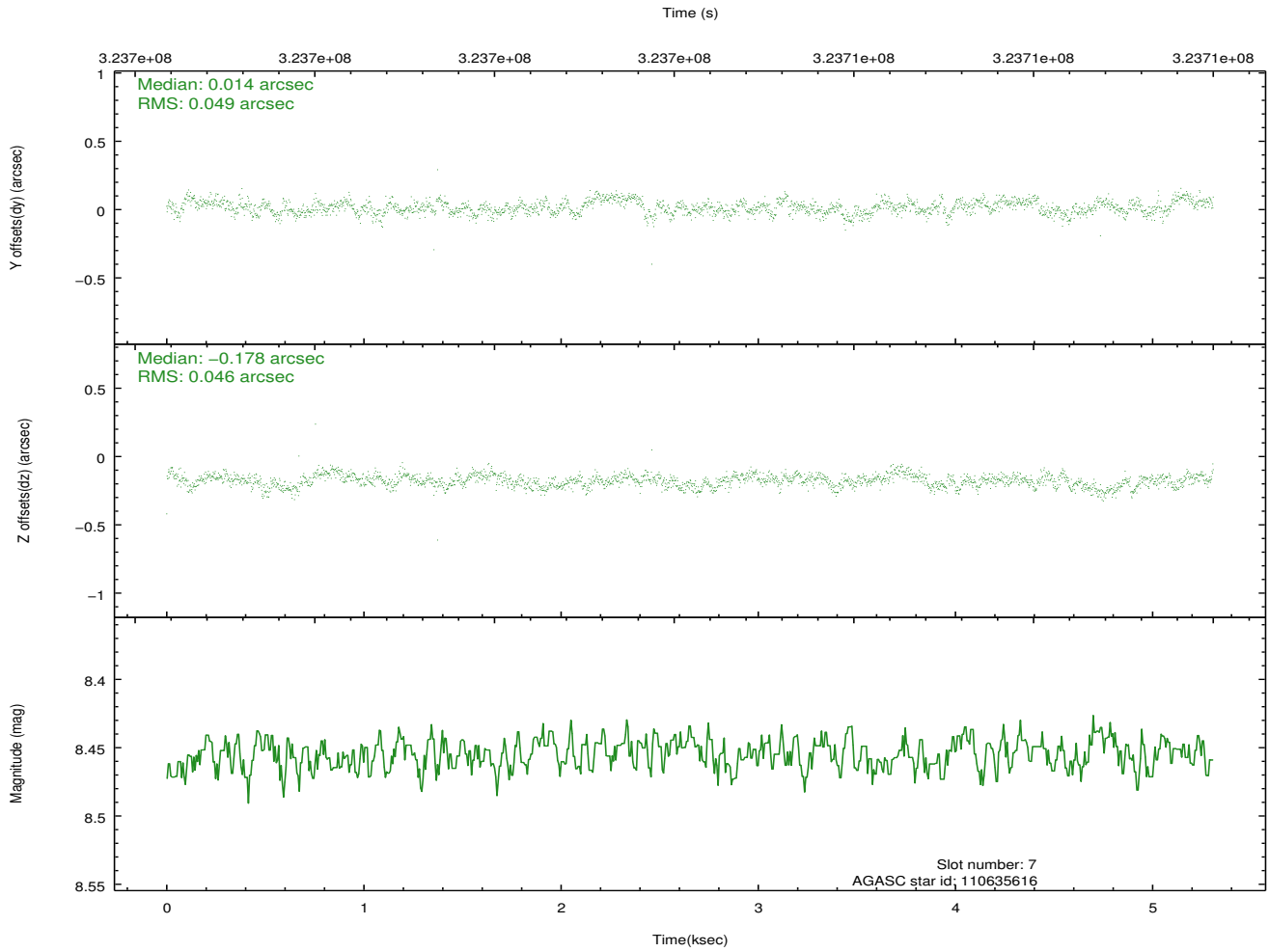
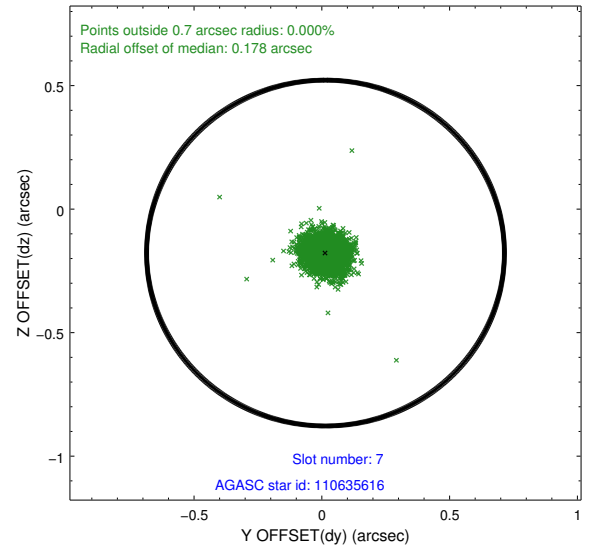
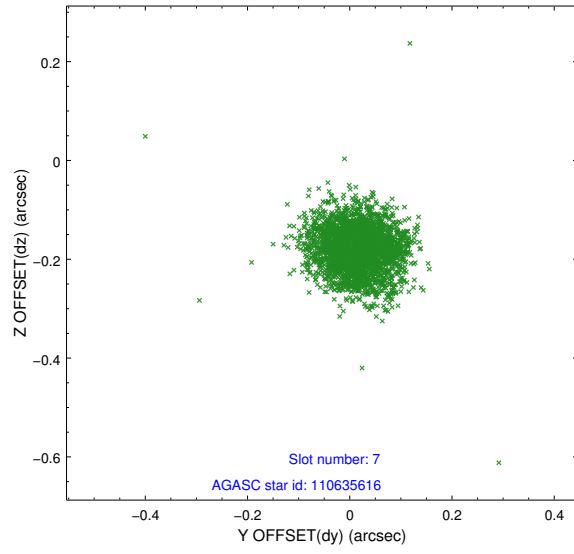


## 2.4.4 Slot 6



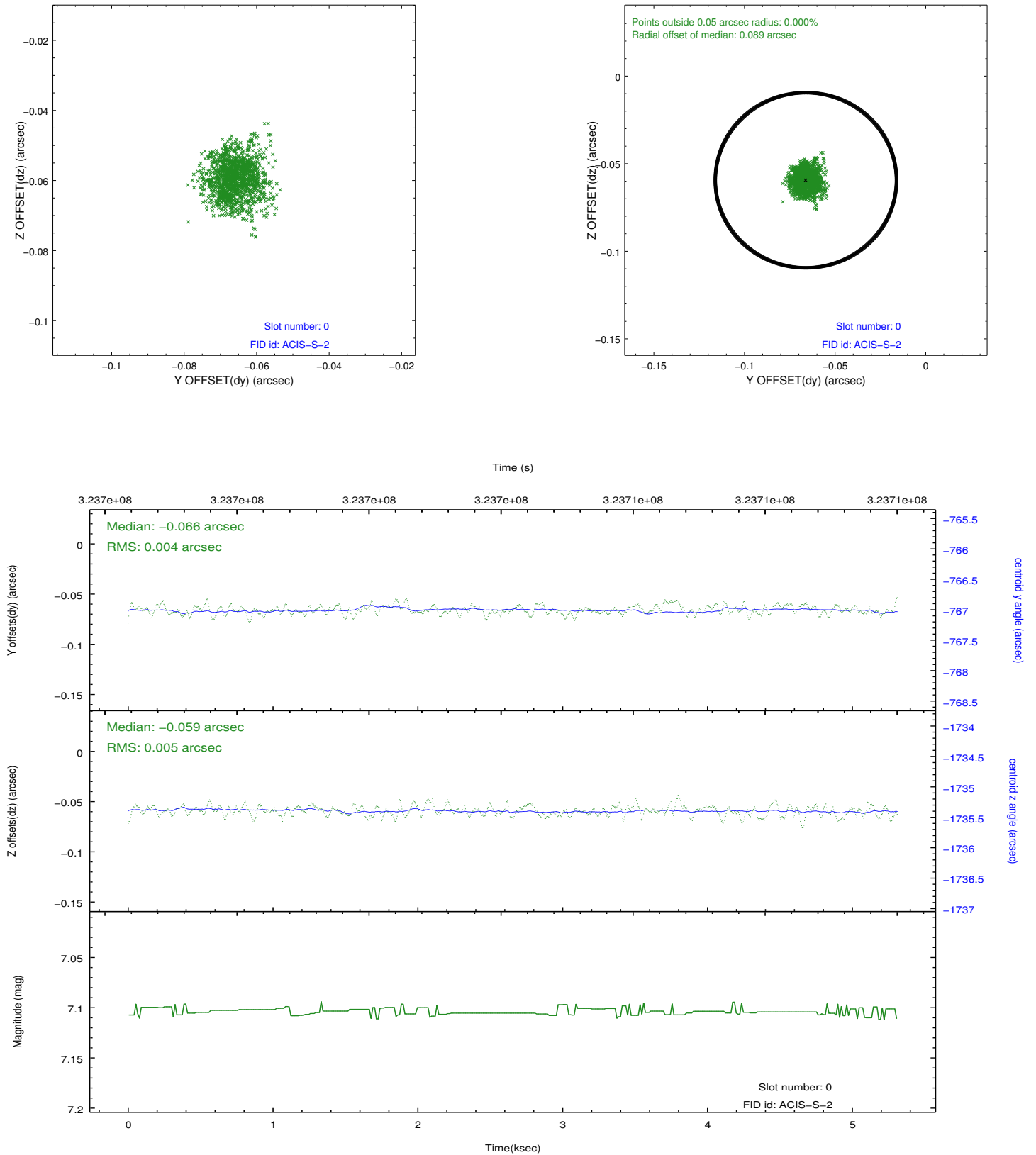


## 2.4.5 Slot 7

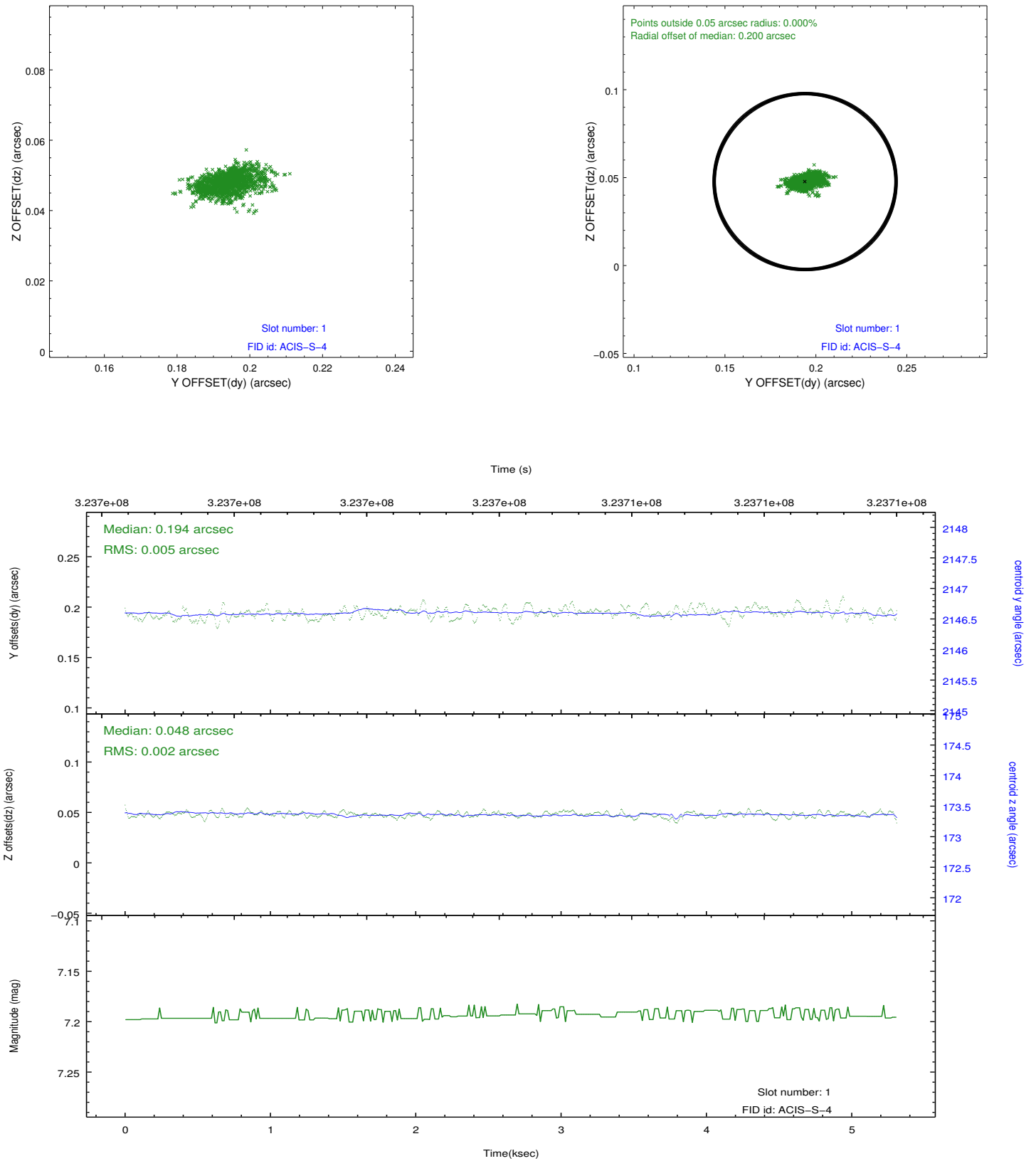


## 2.5 FID Slots

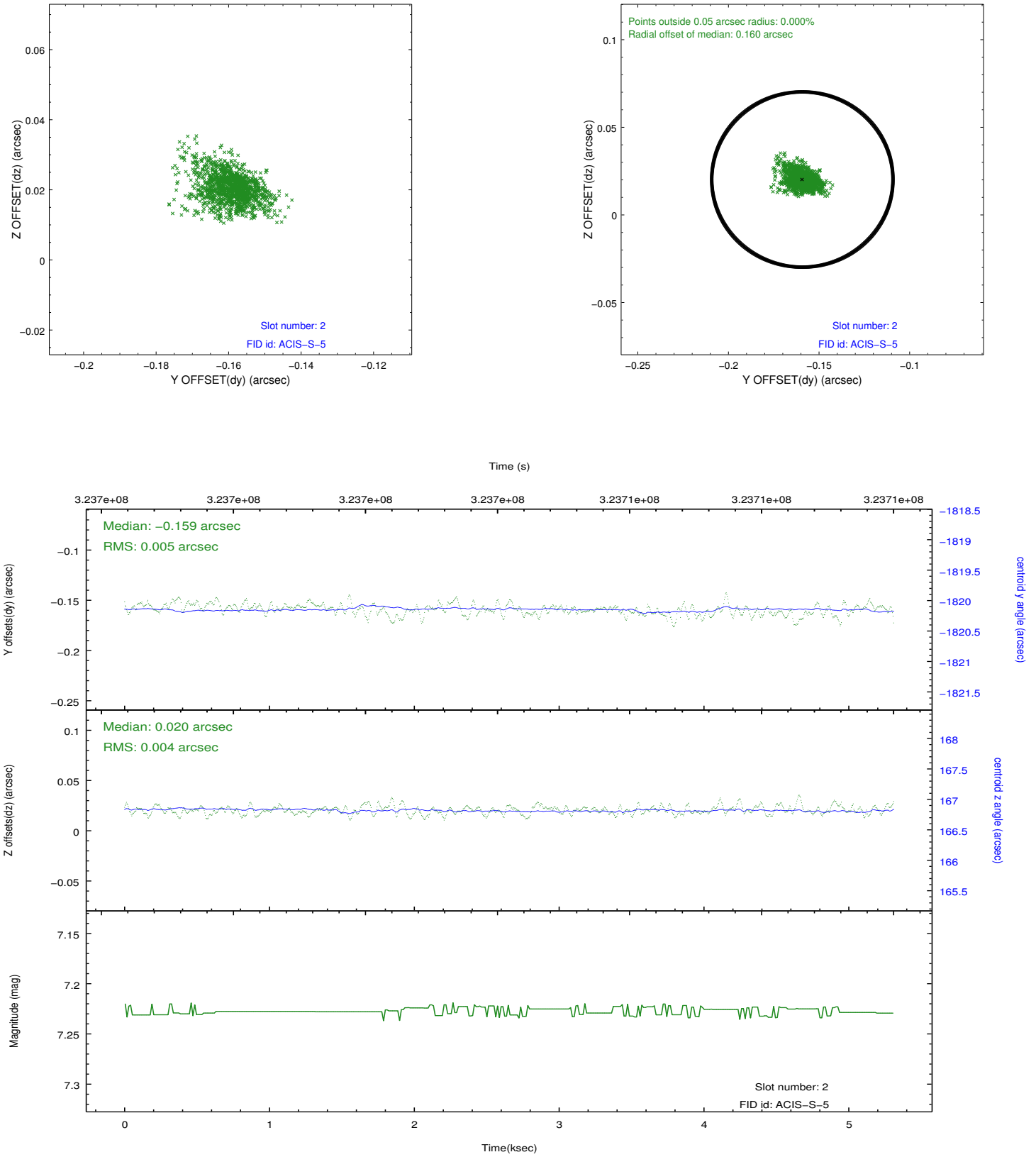
### 2.5.1 Slot 0



## 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)      | 2012.05.14 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 5.03999998 |

### A.2 Comments