

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10889 - L2 Version 2  
Chandra X-Ray Center

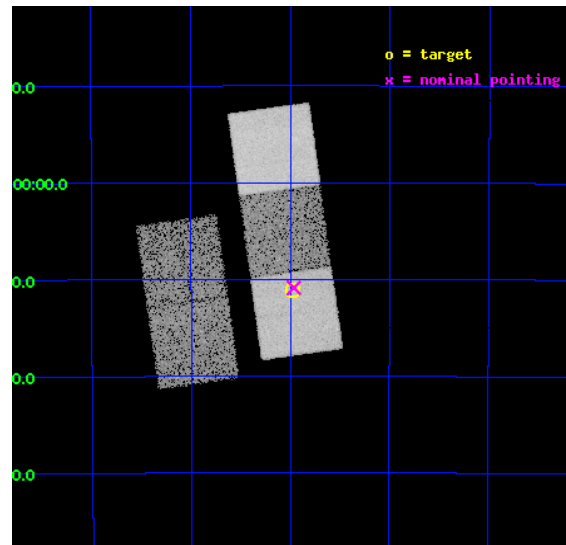
L2 Processing Date : Jun 3 2012

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# 1 Front

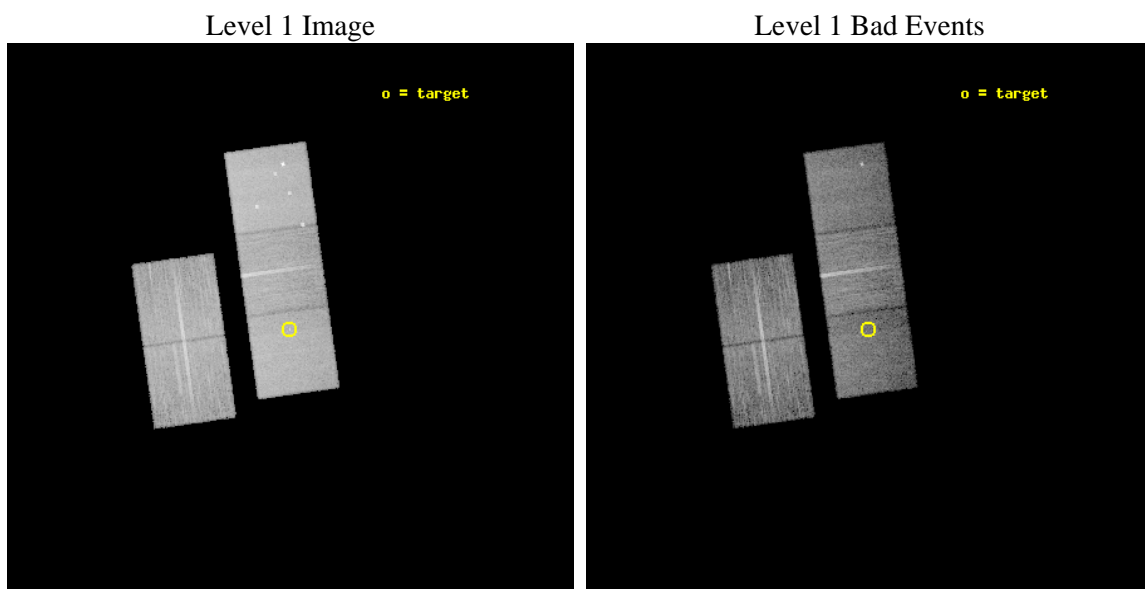
|          |  |   |
|----------|--|---|
| seq_num  | 401028   | Sequence number                             |
| obs_id   | 10889  | Observation id                              |
| title    | The cooling neutron star in the super-Eddington accretor XTE J1701-462 | Proposal title                              |
| observer | Dr Jeroen Homan  | Principal investigator                      |
| object   | XTE J1701-462  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 255.24375  | Observer's specified<br>target RA [deg]     |
| dec_targ | -46.185722   | Observer's specified<br>target Dec [deg]    |
| ra_nom   | 255.24090824256  | Nominal RA [deg]                            |
| dec_nom  | -46.181303655899   | Nominal Dec [deg]                           |
| roll_nom | 82.054582023814  | Nominal Roll [deg]                          |
| revision | 2  | Processing version of<br>data               |
| ontime   | 12034.161073089  | Sum of GTIs [s]                             |
| livetime | 11876.925899248  | Livetime [s]                                |
| ontime2  | 12030.855942786  | Sum of GTIs [s]                             |
| ontime3  | 12030.896982729  | Sum of GTIs [s]                             |
| ontime5  | 12034.120033085  | Sum of GTIs [s]                             |
| ontime6  | 12034.078993082  | Sum of GTIs [s]                             |
| ontime7  | 12034.161073089  | Sum of GTIs [s]                             |
| l2events | 148110   | Number of level 2 events                    |



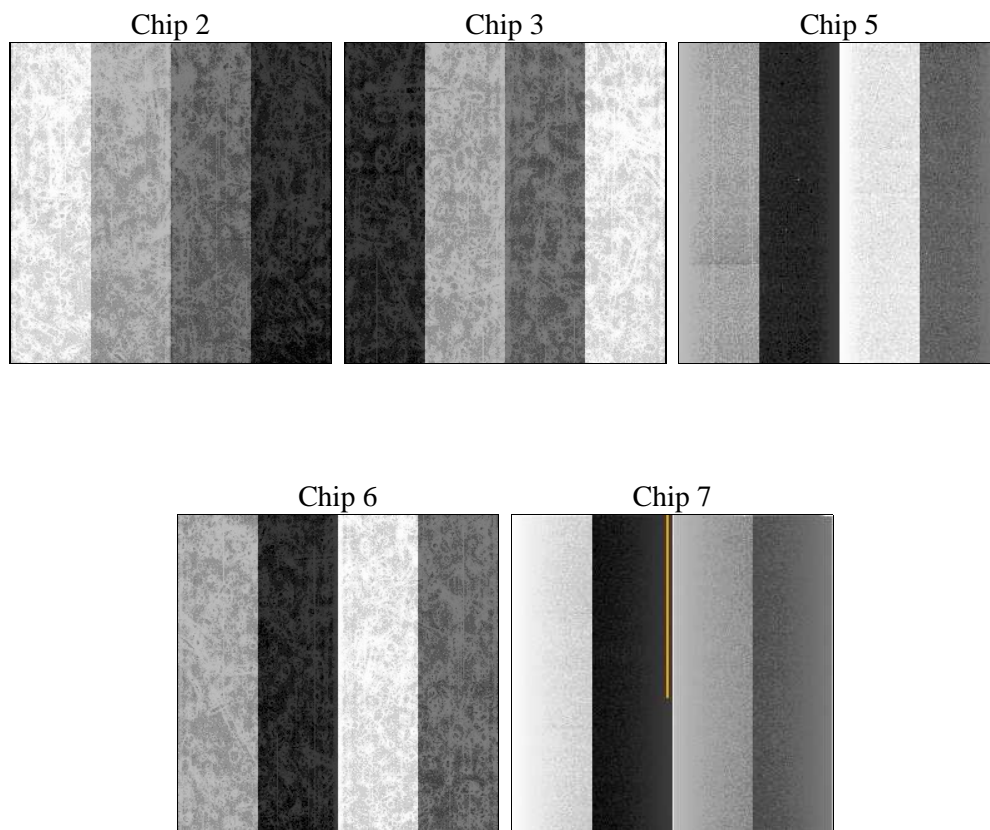
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 12000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 12034.161073089 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime2        | 12030.855942786 | Sum of GTIs [s]                         |
| date     | 2012-06-03T05:49:39 | Date and time of file creation | ontime3        | 12030.896982729 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 12034.120033085 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 12034.078993082 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 12034.161073089 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 575344          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 2  | ccd 3  | ccd 5  | ccd 6  | ccd 7  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 103469 | 100511 | 148572 | 103450 | 119342 |
| rejected events | 93150  | 90541  | 74411  | 92202  | 65339  |
| rejected %      | 90%    | 90%    | 50%    | 89%    | 54%    |

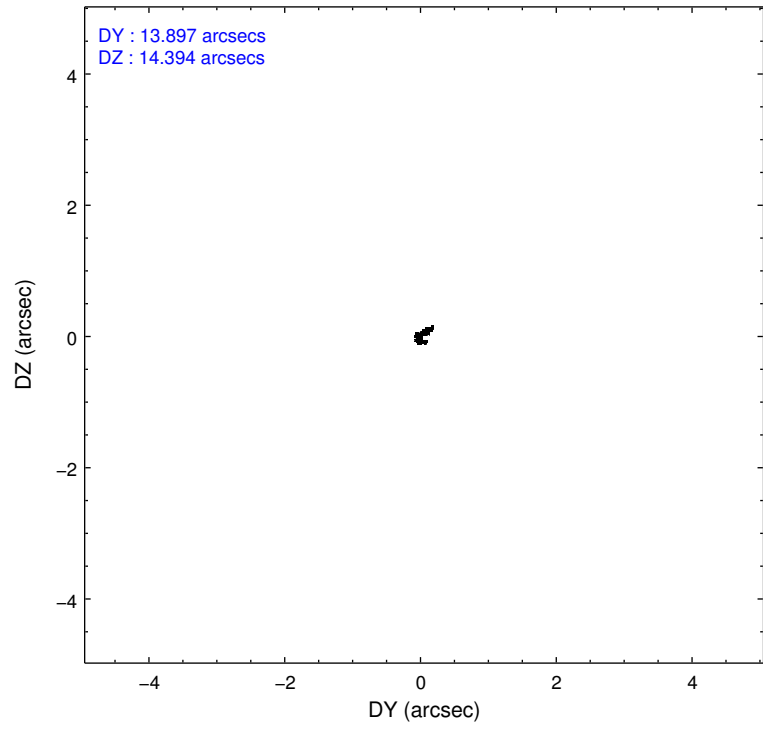
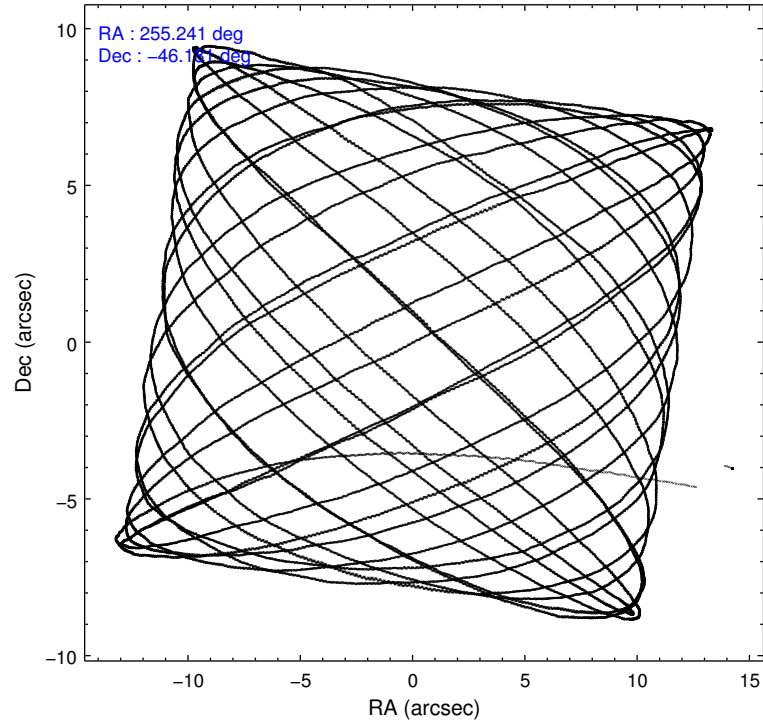
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 3784  | 3663  | 7597  | 4037  | 5113  |
|                | 3%    | 3%    | 5%    | 3%    | 4%    |
| grade 1 events | 71    | 66    | 299   | 51    | 131   |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 2531  | 2092  | 22671 | 2482  | 11097 |
|                | 2%    | 2%    | 15%   | 2%    | 9%    |
| grade 3 events | 1128  | 1118  | 2988  | 1161  | 4869  |
|                | 1%    | 1%    | 2%    | 1%    | 4%    |
| grade 4 events | 1137  | 1103  | 2718  | 1138  | 4871  |
|                | 1%    | 1%    | 1%    | 1%    | 4%    |
| grade 5 events | 3424  | 4181  | 11648 | 4139  | 12761 |
|                | 3%    | 4%    | 7%    | 4%    | 10%   |
| grade 6 events | 1747  | 1997  | 38223 | 2435  | 28073 |
|                | 1%    | 1%    | 25%   | 2%    | 23%   |
| grade 7 events | 89647 | 86291 | 62428 | 88007 | 52427 |
|                | 86%   | 85%   | 42%   | 85%   | 43%   |

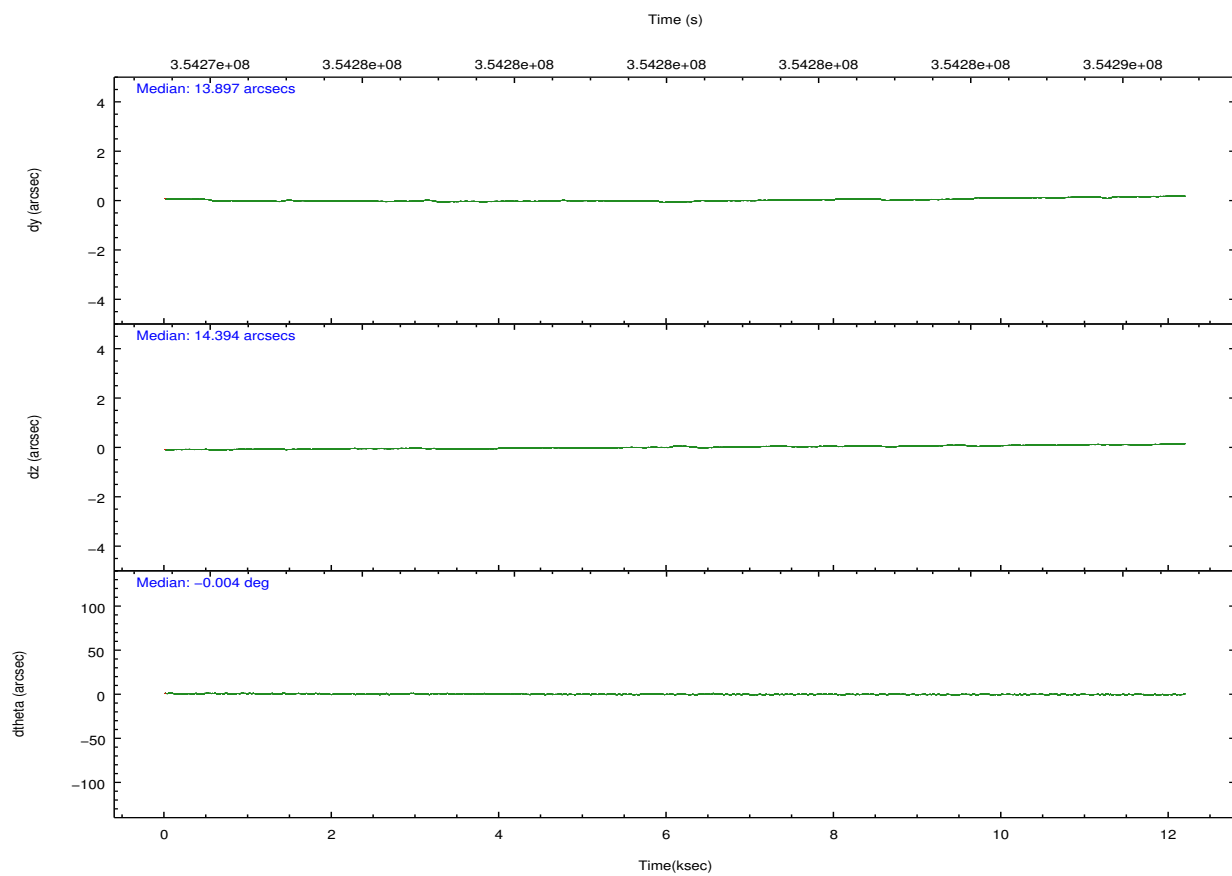
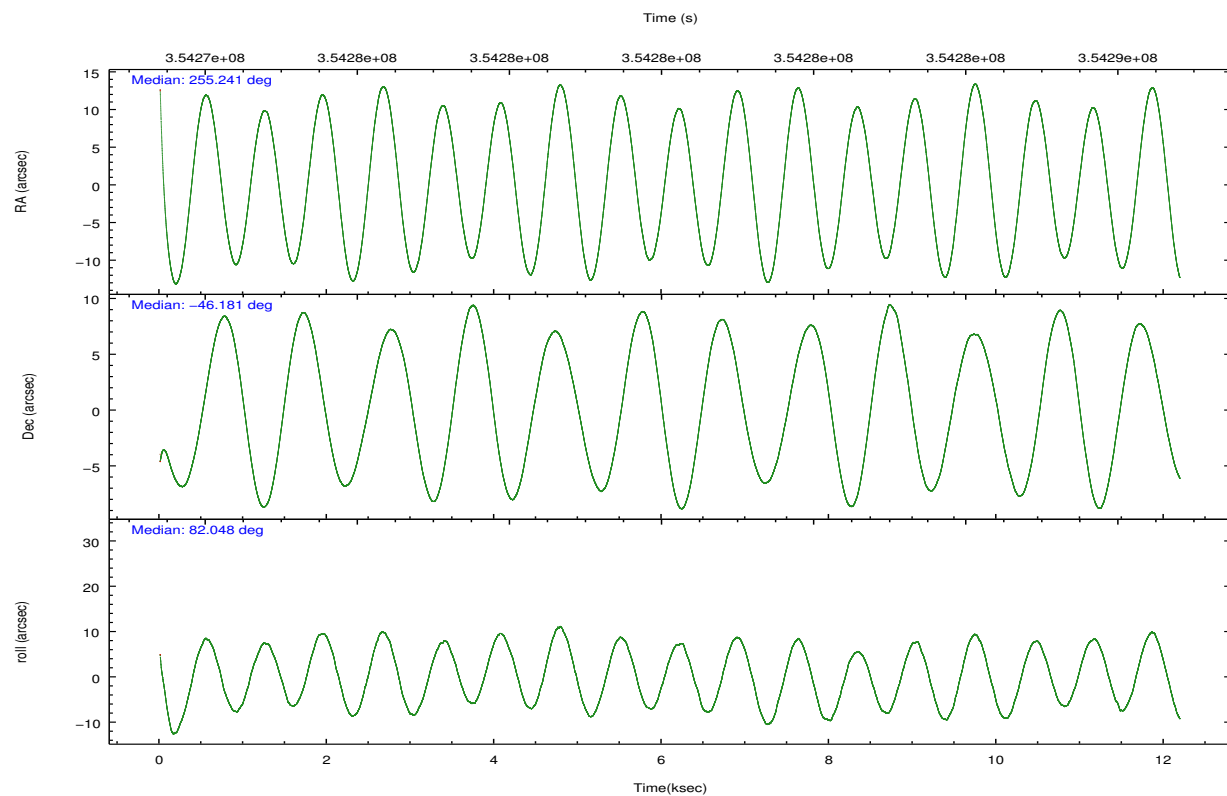


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-23567          | ACIS-23567           | 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                 | 255.256255          | 255.2409082425618    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -46.206484          | -46.1813036558988    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 81.909033           | 82.05458202381436    | [s] Primary exposure time             | 0.000000  | 3.1     |
| [s] Window start time (MET)       | 354196866.184000    | 354196866.184000     |                                       |           |         |
| [s] Window stop time (MET)        | 354801666.184000    | 354801666.184000     |                                       |           |         |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  |                                       |           |         |
| [s] Observation start time (MET)  | 354274217.184000    | 354273282.56307      |                                       |           |         |
| Observation start date            | 2009-03-24T09:29:11 | 2009-03-24T09:14:42  |                                       |           |         |
| [s] Observation end time (MET)    | 354286217.184000    | 354287459.33878      |                                       |           |         |
| Observation end date              | 2009-03-24T12:49:11 | 2009-03-24T13:10:59  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



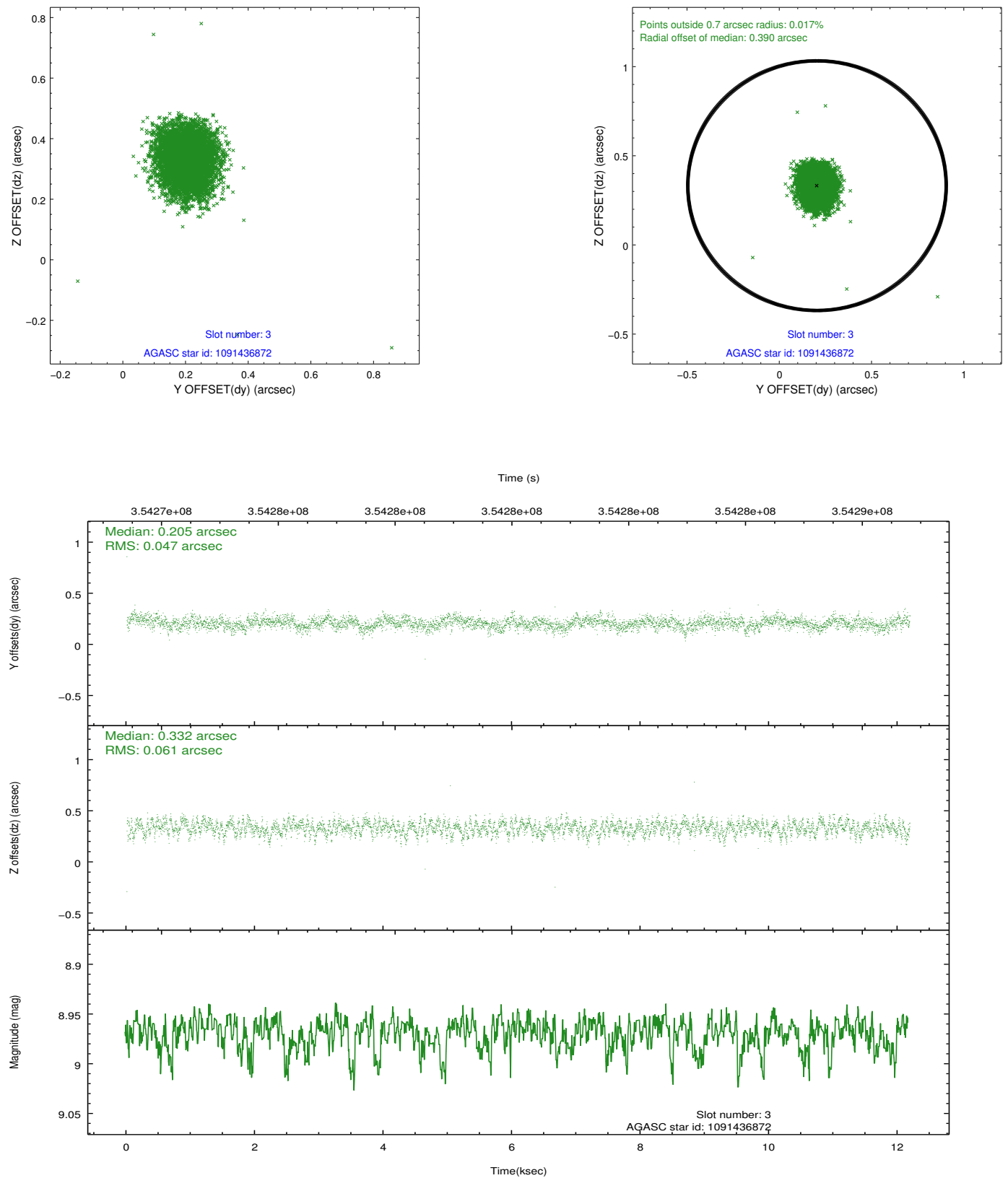


### Slot Statistics

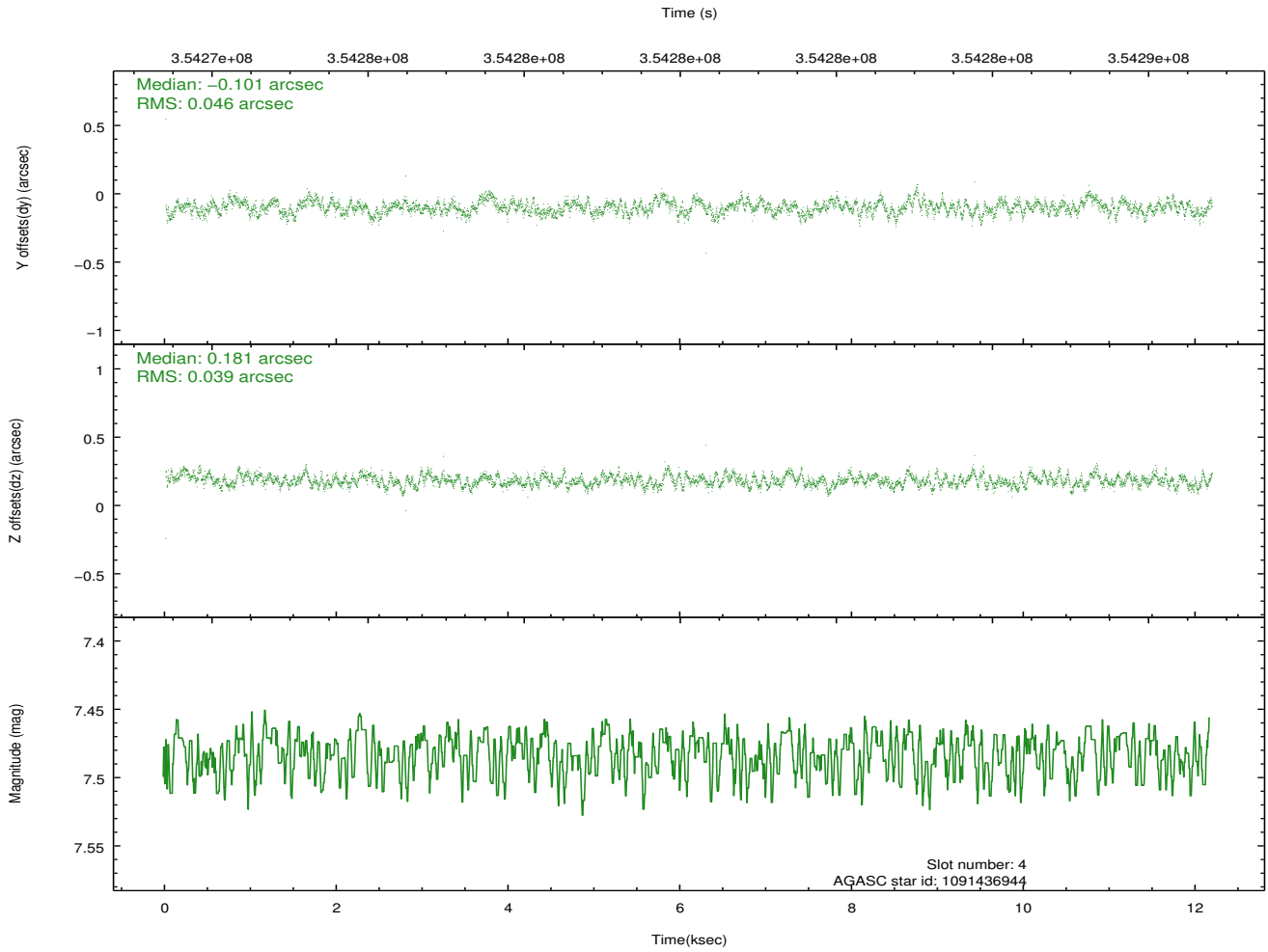
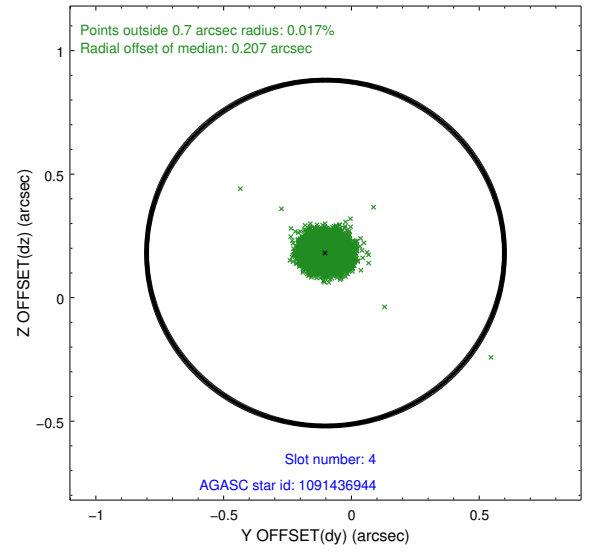
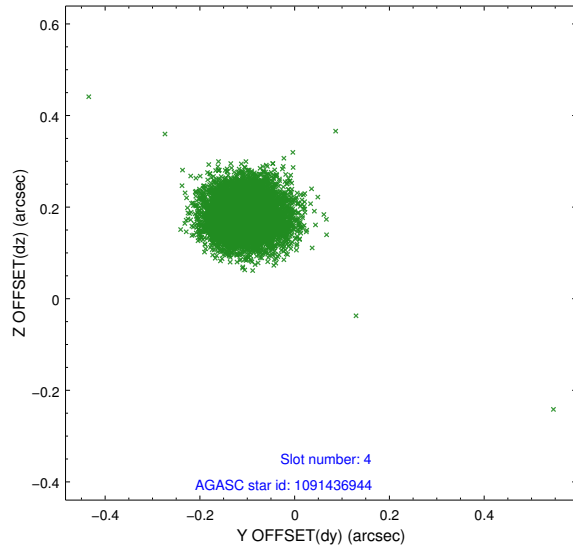
| slot | status | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-S-2   | 6.92 | 2973  | -0.064 | -0.045 | 0.008 | 0.013 | 0.000000   | 0.000000   | -766.92  | -1735.76 |
| 1    | FID    | ACIS-S-4   | 7.00 | 2973  | 0.206  | 0.043  | 0.007 | 0.015 | 0.000000   | 0.000000   | 2146.43  | 172.40   |
| 2    | FID    | ACIS-S-5   | 7.03 | 2973  | -0.173 | 0.011  | 0.007 | 0.013 | 0.000000   | 0.000000   | -1819.36 | 166.48   |
| 3    | GUIDE  | 1091436872 | 8.97 | 5940  | 0.205  | 0.332  | 0.080 | 0.129 | 255.728542 | -46.511740 | -926.17  | -1313.37 |
| 4    | GUIDE  | 1091436944 | 7.48 | 5941  | -0.101 | 0.181  | 0.063 | 0.100 | 255.747540 | -46.187588 | 236.05   | -1203.17 |
| 5    | GUIDE  | 1091443112 | 7.91 | 5942  | -0.204 | -0.159 | 0.062 | 0.097 | 254.637652 | -45.920353 | 795.72   | 1677.67  |
| 6    | GUIDE  | 1091443144 | 8.22 | 5944  | -0.170 | -0.296 | 0.063 | 0.101 | 254.556494 | -45.731344 | 1438.37  | 1980.78  |
| 7    | GUIDE  | 1091440000 | 8.98 | 5938  | 0.271  | -0.060 | 0.078 | 0.123 | 254.971678 | -46.695128 | -1841.05 | 448.03   |

## 2.4 Star Slots

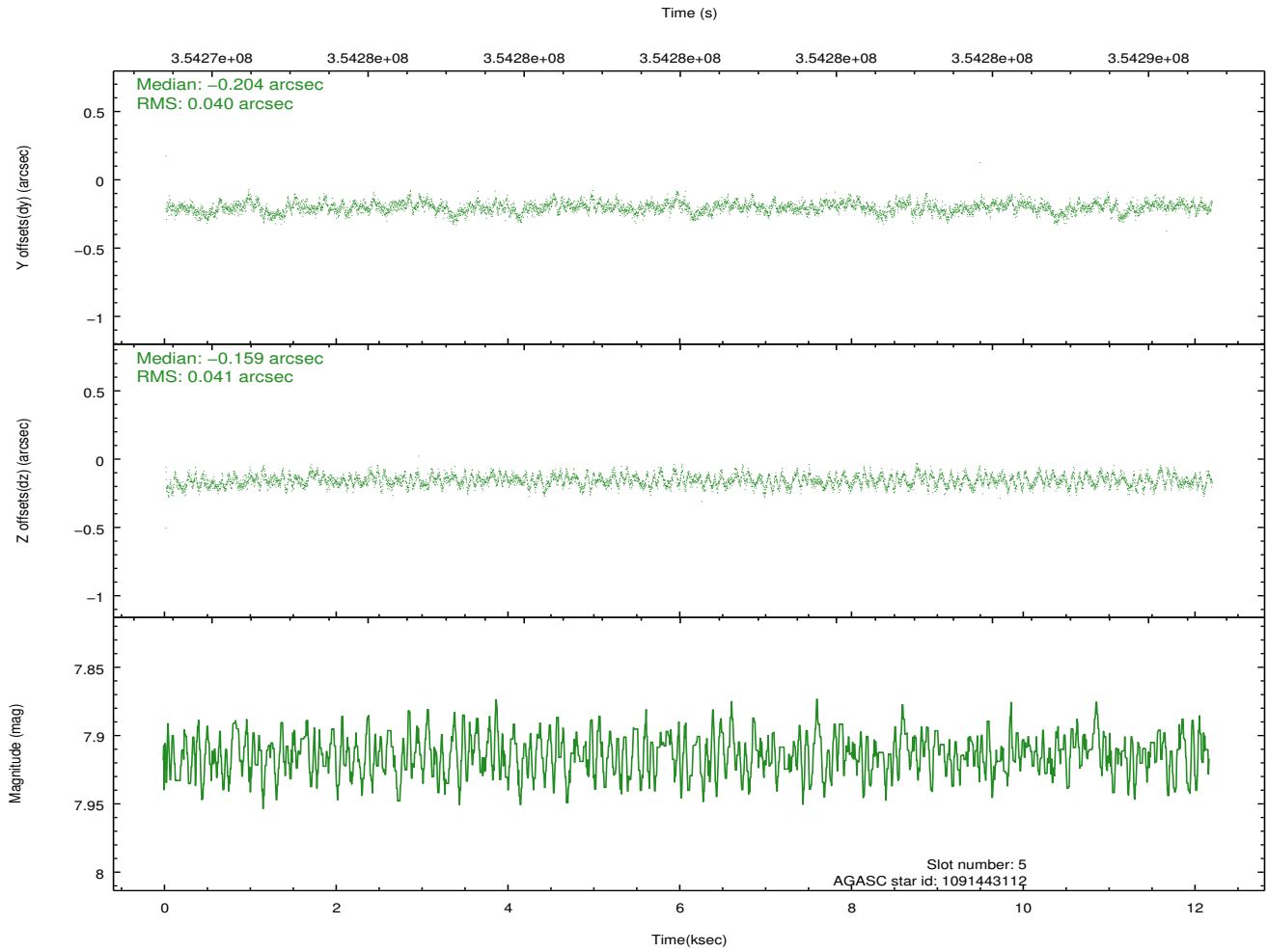
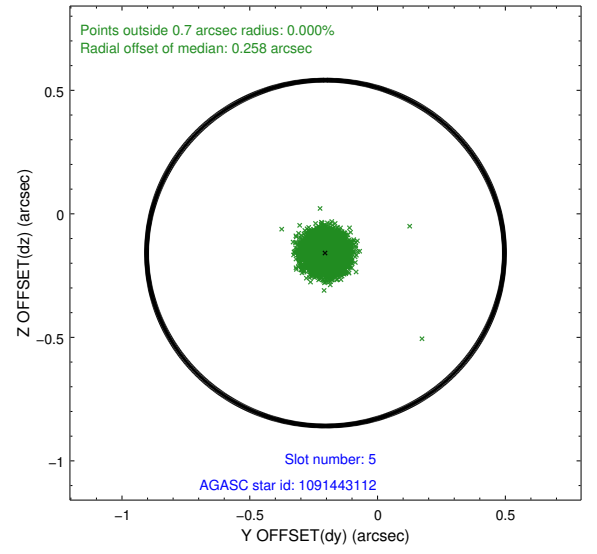
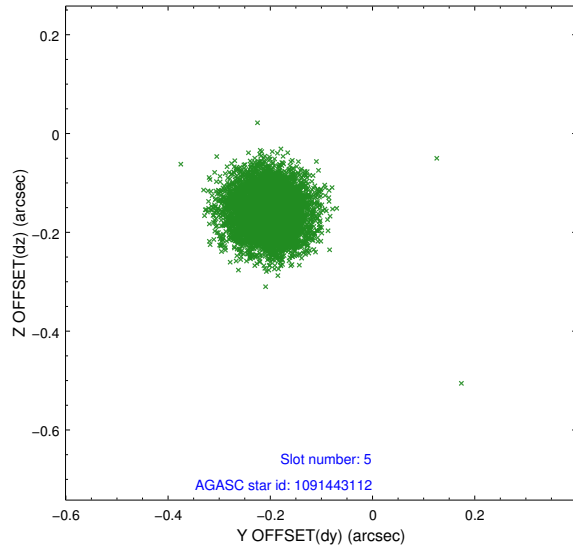
### 2.4.1 Slot 3



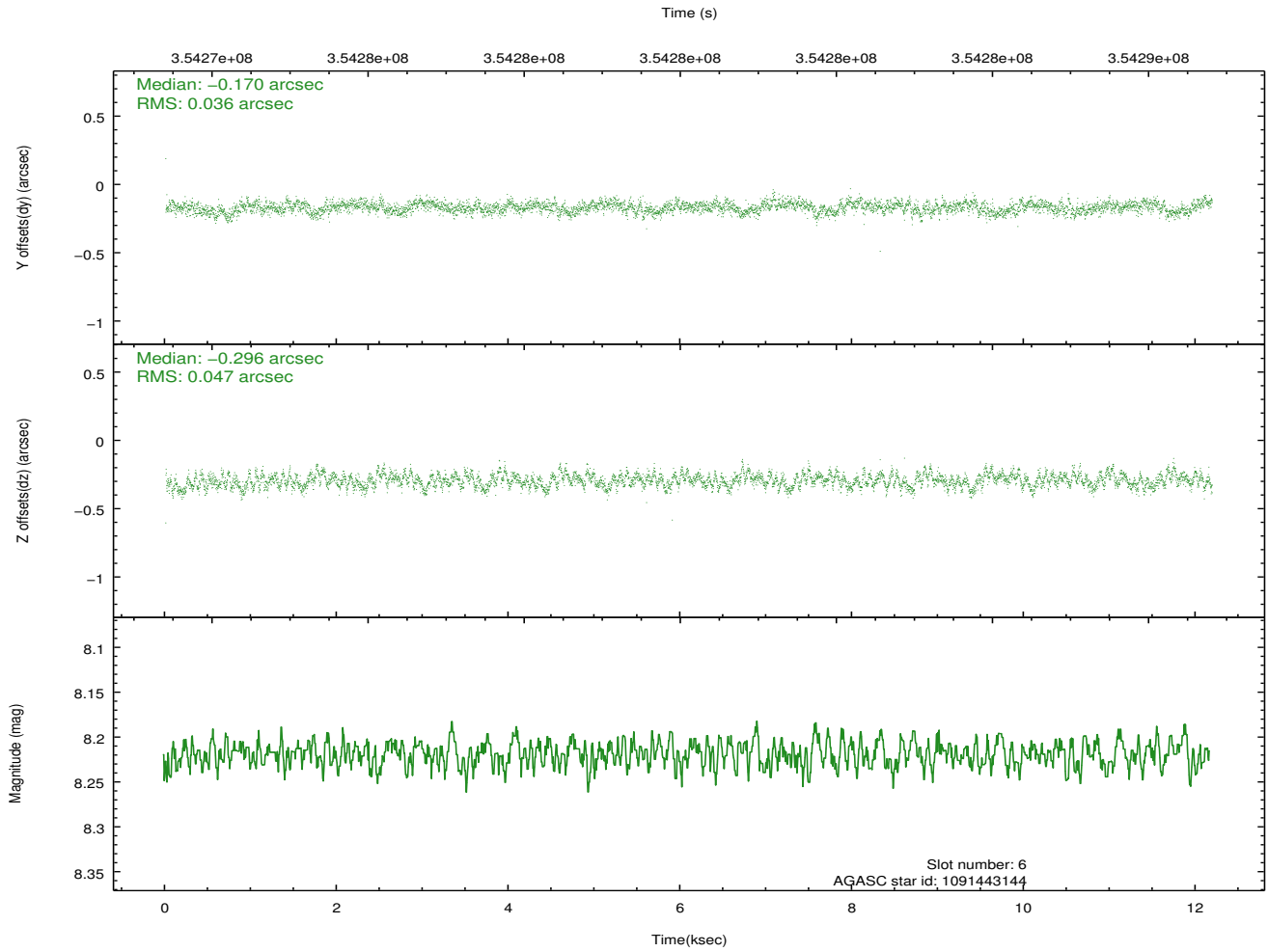
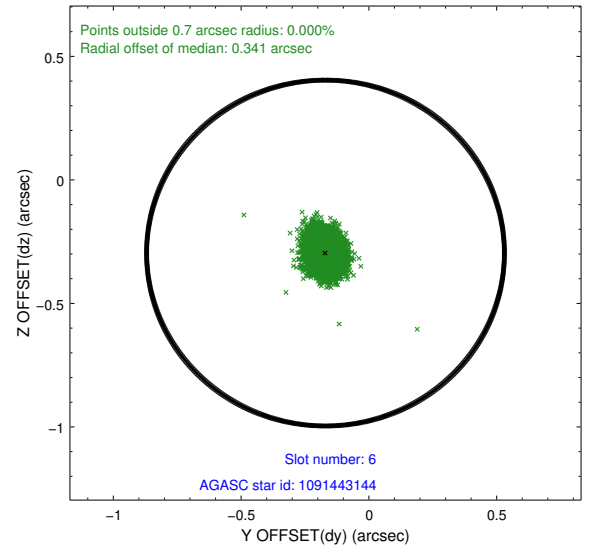
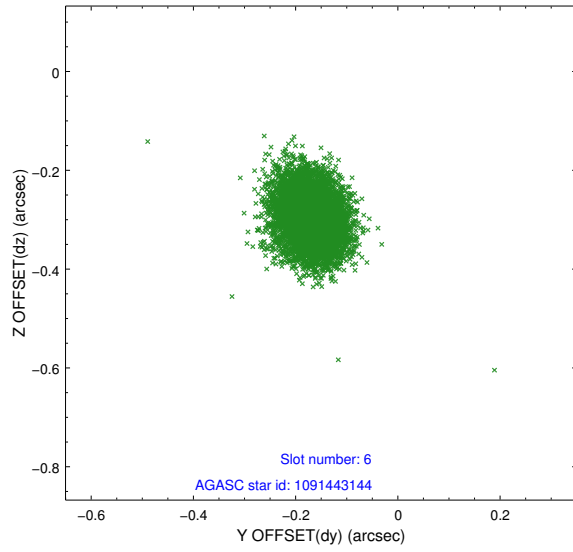
## 2.4.2 Slot 4



### 2.4.3 Slot 5

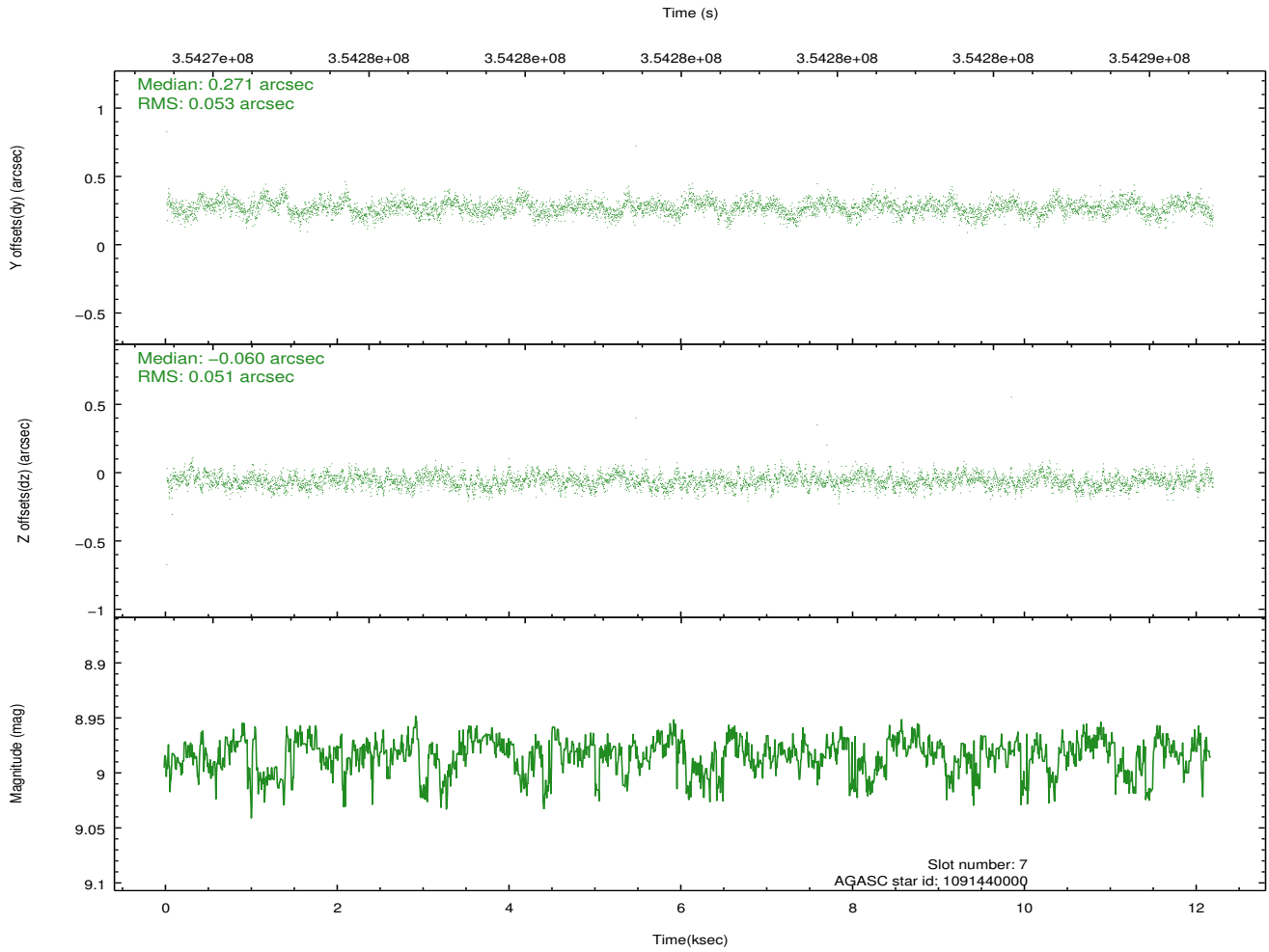
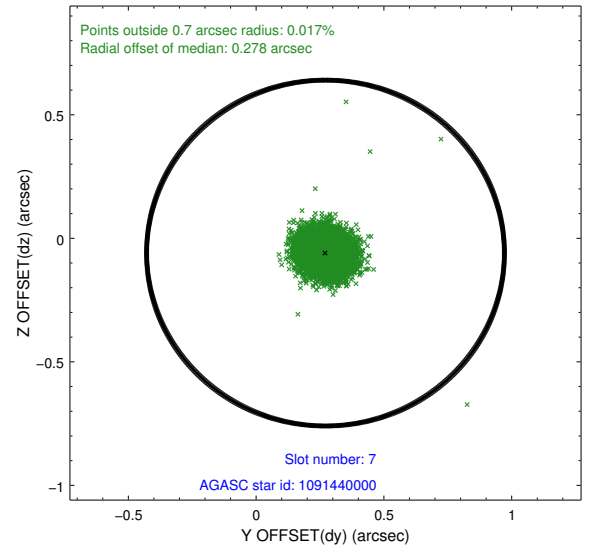
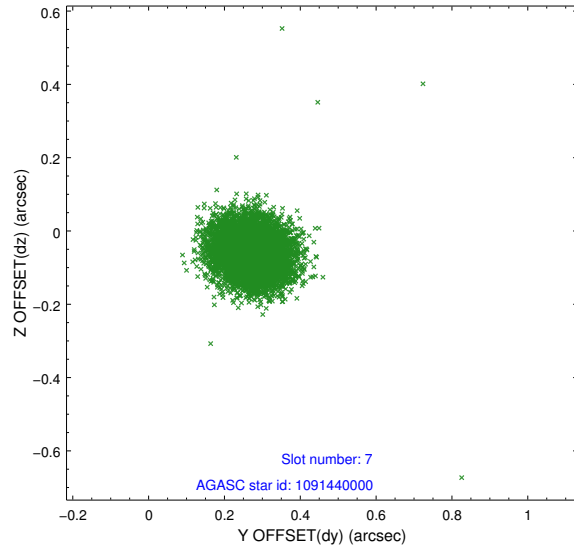


## 2.4.4 Slot 6



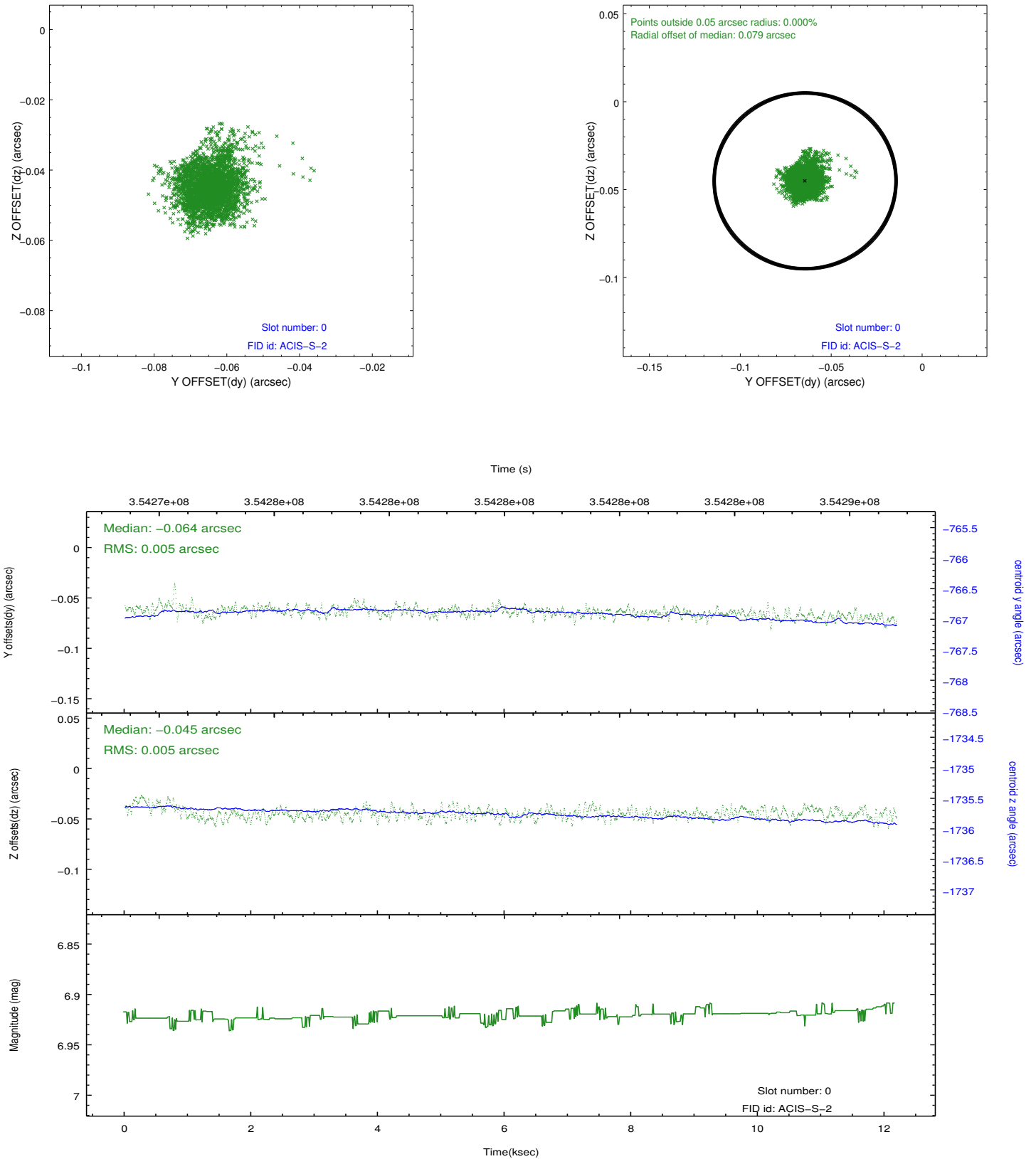


## 2.4.5 Slot 7

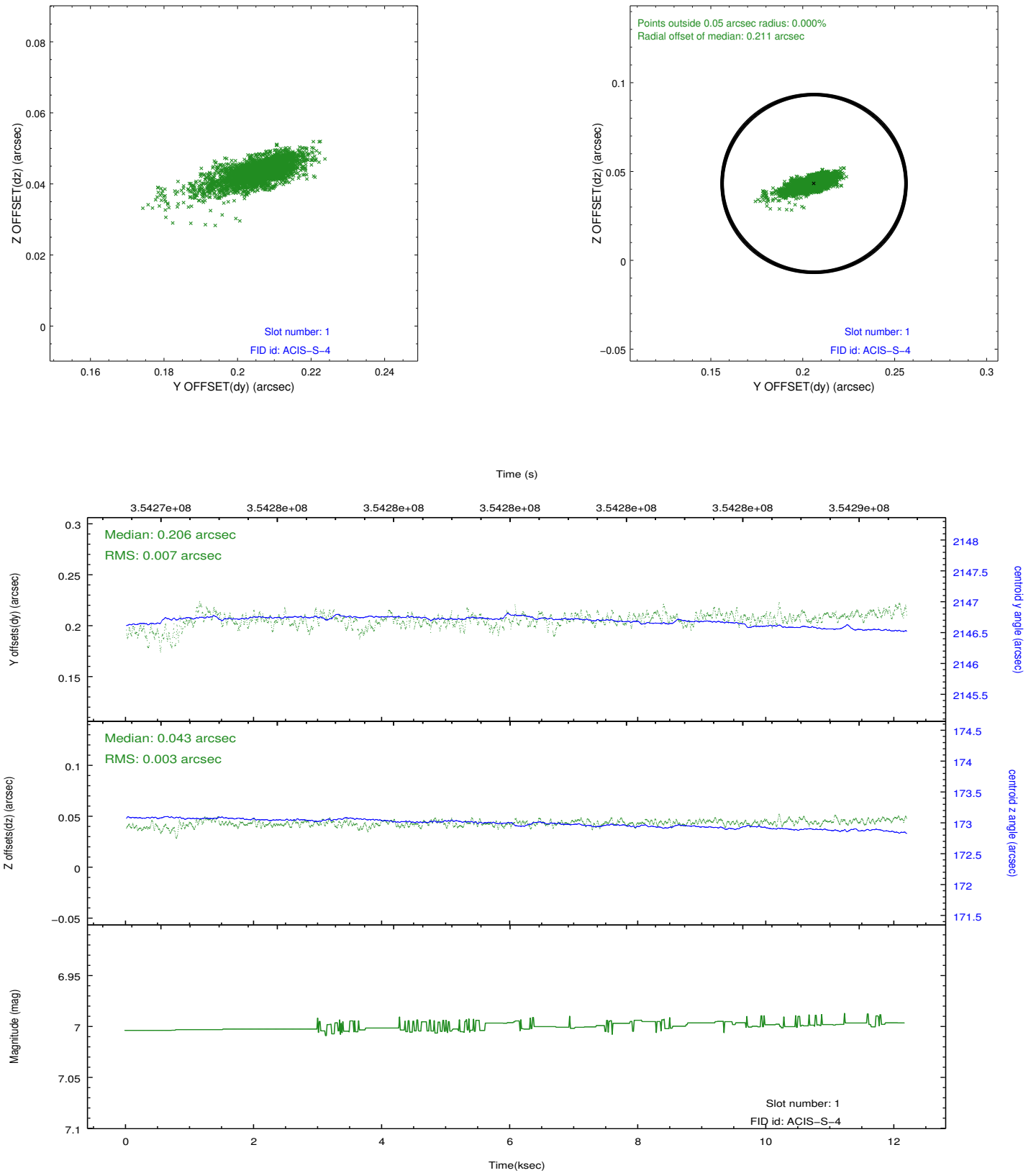


## 2.5 FID Slots

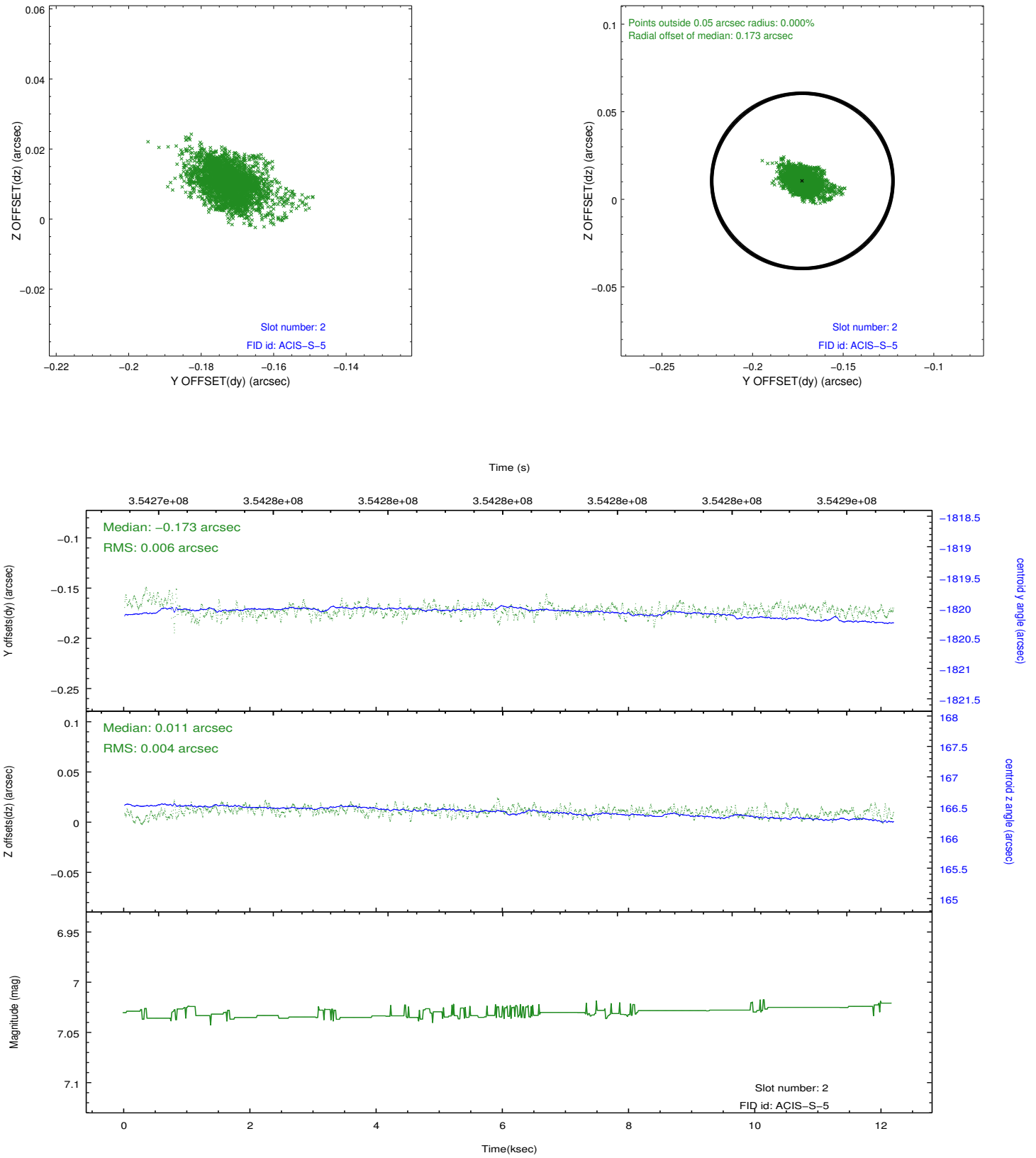
### 2.5.1 Slot 0



## 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)      | 2012.06.07 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 12.0342    |

### A.2 Comments

Time constraint met.