

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4854 - L2 Version 5  
Chandra X-Ray Center

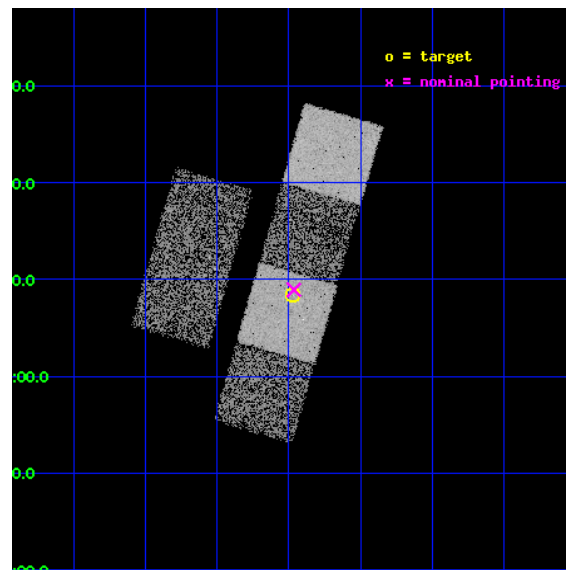
L2 Processing Date : Nov 14 2012

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# 1 Front

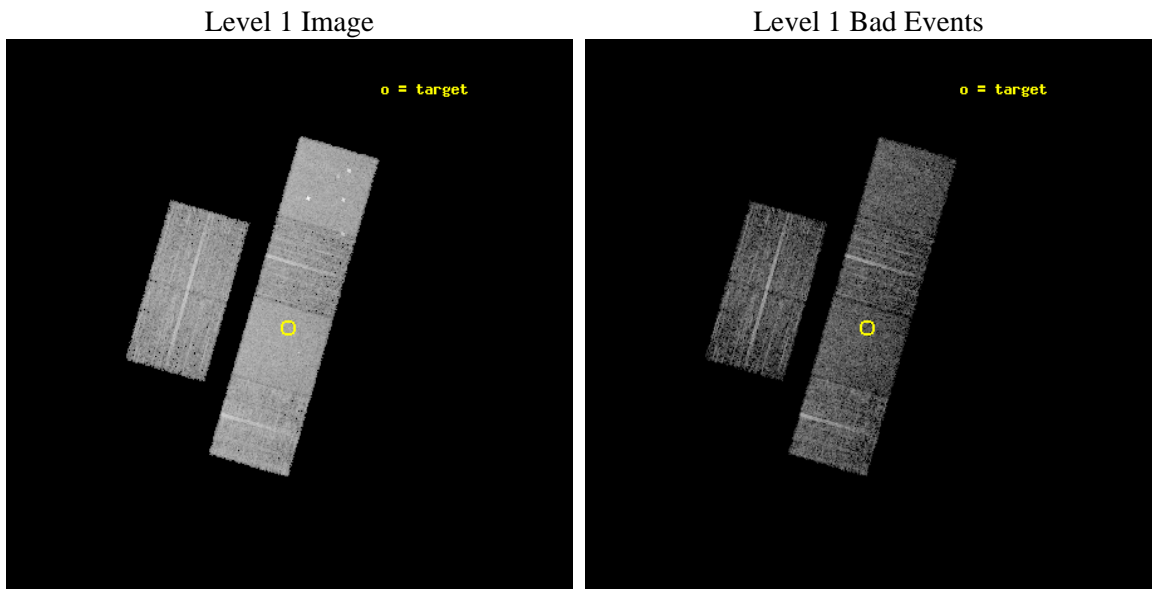
|          |   |   |
|----------|---|---|
| seq_num  | 700936  | Sequence number                             |
| obs_id   | 4854  | Observation id                              |
| title    | X-ray Properties of Dust Reddened Quasars from the Sloan Digital Sky Survey | Proposal title                              |
| observer | Dr. Gordon Richards   | Principal investigator                      |
| object   | SDSS J131058.14+010822.1  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 197.742083  | Observer's specified target RA [deg]        |
| dec_targ | 1.139472  | Observer's specified target Dec [deg]       |
| ra_nom   | 197.74101435472   | Nominal RA [deg]                            |
| dec_nom  | 1.149035435655  | Nominal Dec [deg]                           |
| roll_nom | 106.14902811337   | Nominal Roll [deg]                          |
| revision | 5   | Processing version of data                  |
| ontime   | 5516.7999794483   | Sum of GTIs [s]                             |
| livetime | 5446.9429362904   | Livetime [s]                                |
| ontime2  | 5516.7999794483   | Sum of GTIs [s]                             |
| ontime3  | 5516.7999794483   | Sum of GTIs [s]                             |
| ontime5  | 5516.7999794483   | Sum of GTIs [s]                             |
| ontime6  | 5513.558999151  | Sum of GTIs [s]                             |
| ontime7  | 5516.7999794483   | Sum of GTIs [s]                             |
| ontime8  | 5516.7999794483   | Sum of GTIs [s]                             |
| l2events | 60256   | Number of level 2 events                    |



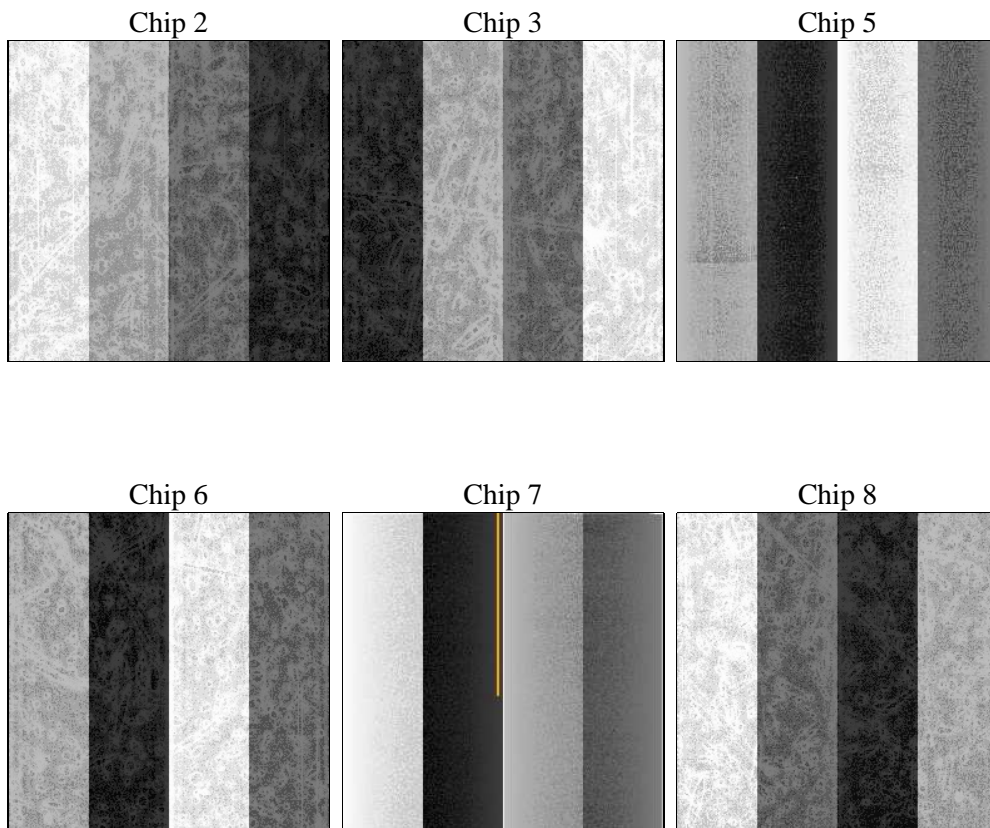
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5560.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 5516.7999794483 | Sum of GTIs [s]                         |
| caldbver | 4.5.2               | &#160                          | ontime2        | 5516.7999794483 | Sum of GTIs [s]                         |
| date     | 2012-11-14T10:48:47 | Date and time of file creation | ontime3        | 5516.7999794483 | Sum of GTIs [s]                         |
| revision | 5                   | Processing version of data     | ontime5        | 5516.7999794483 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 5513.558999151  | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 5516.7999794483 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 5516.7999794483 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 267672          | Number of level 1 events                |

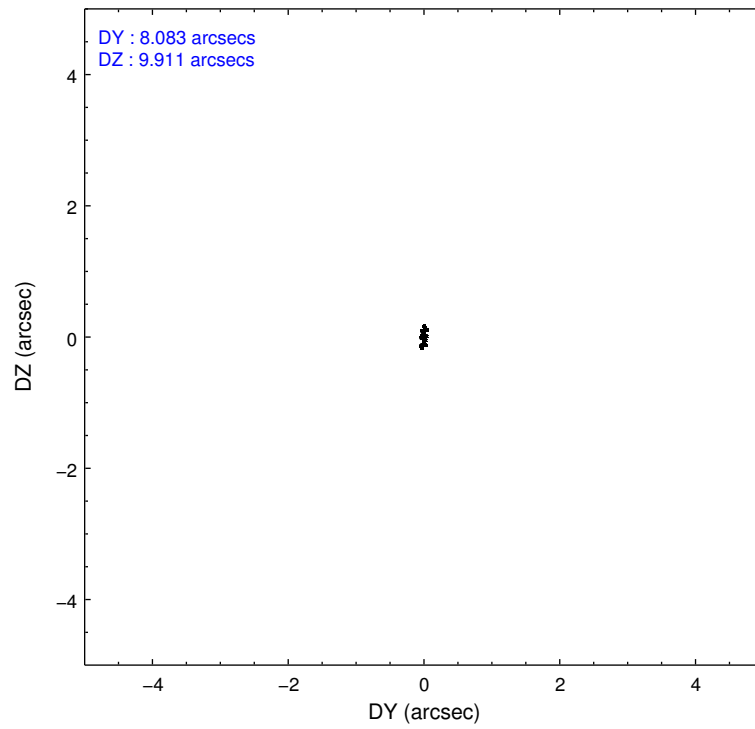
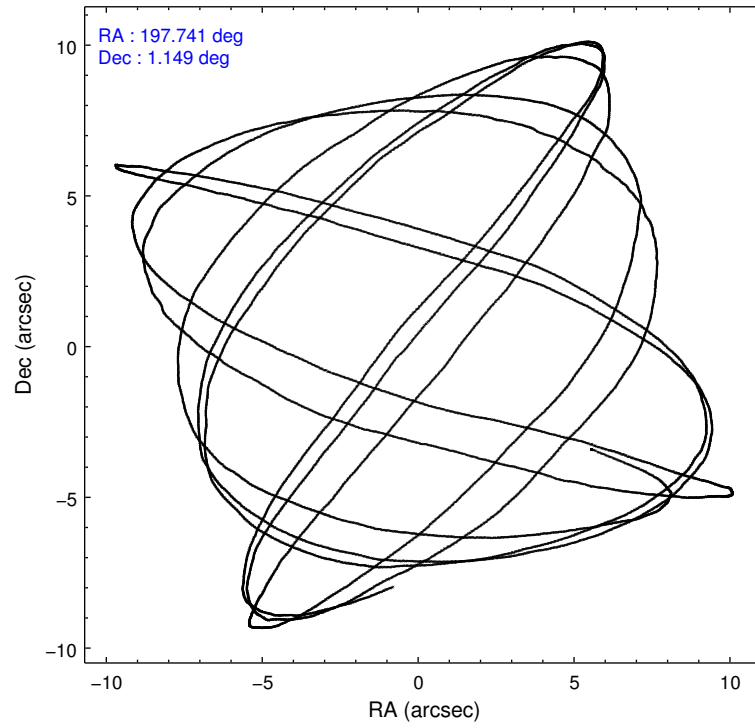
### 2.1.4 Events

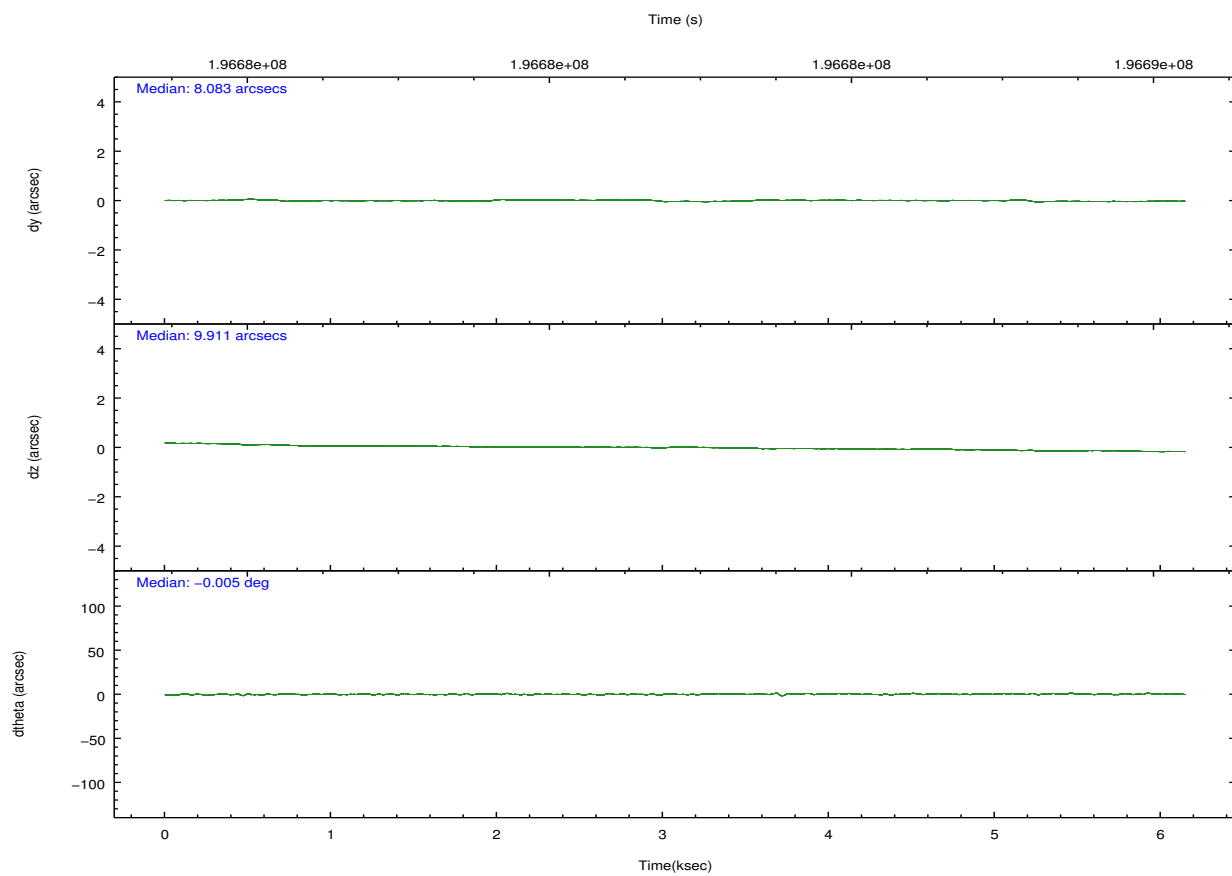
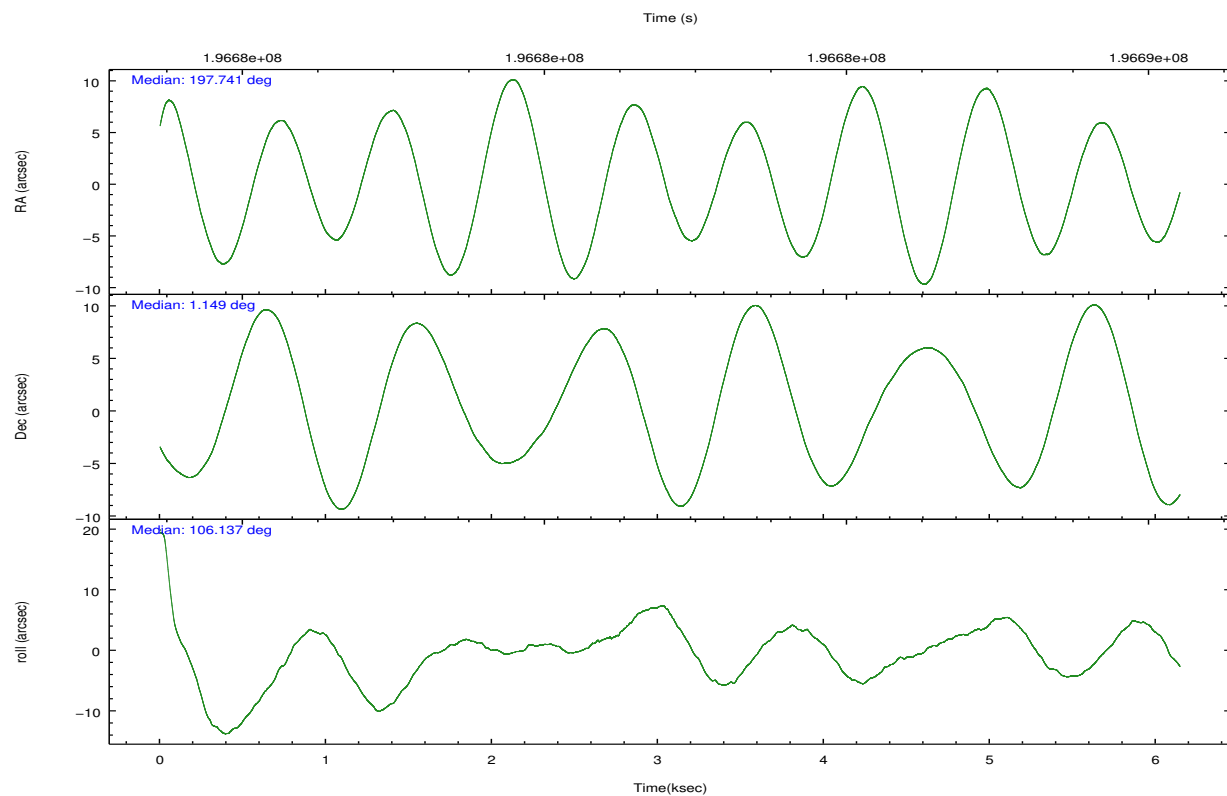
|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 39054 | 36394 | 57928 | 36449 | 51174 | 46673 | grade 0 events | 2031  | 1873  | 4193  | 1754  | 1881  | 2849  |
| rejected events | 34462 | 32079 | 30367 | 32102 | 30007 | 37481 |                | 5%    | 5%    | 7%    | 4%    | 3%    | 6%    |
| rejected %      | 88%   | 88%   | 52%   | 88%   | 58%   | 80%   | grade 1 events | 14    | 19    | 122   | 13    | 46    | 24    |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 990   | 821   | 7870  | 905   | 4283  | 2044  |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 13%   | 2%    | 8%    | 4%    |
|                 |       |       |       |       |       |       | grade 3 events | 409   | 411   | 989   | 414   | 1840  | 1016  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 3%    | 2%    |
|                 |       |       |       |       |       |       | grade 4 events | 388   | 415   | 958   | 446   | 1794  | 909   |
|                 |       |       |       |       |       |       |                | 0%    | 1%    | 1%    | 1%    | 3%    | 1%    |
|                 |       |       |       |       |       |       | grade 5 events | 1511  | 1586  | 4033  | 1673  | 4865  | 2270  |
|                 |       |       |       |       |       |       |                | 3%    | 4%    | 6%    | 4%    | 9%    | 4%    |
|                 |       |       |       |       |       |       | grade 6 events | 779   | 801   | 13583 | 834   | 11392 | 2378  |
|                 |       |       |       |       |       |       |                | 1%    | 2%    | 23%   | 2%    | 22%   | 5%    |
|                 |       |       |       |       |       |       | grade 7 events | 32932 | 30468 | 26180 | 30410 | 25073 | 35183 |
|                 |       |       |       |       |       |       |                | 84%   | 83%   | 45%   | 83%   | 48%   | 75%   |

## 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                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 197.760958          | 197.7410143547229    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 1.130495            | 1.14903543565504     | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 105.991944          | 106.1490281133744    | [s] Primary exposure time             | 0.000000  | 3.2     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 196680350.184000    | 196679189.18305      |                                       |           |         |
| Observation start date            | 2004-03-26T09:24:46 | 2004-03-26T09:06:29  |                                       |           |         |
| [s] Observation end time (MET)    | 196685910.184000    | 196686809.54588      |                                       |           |         |
| Observation end date              | 2004-03-26T10:57:26 | 2004-03-26T11:13:29  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



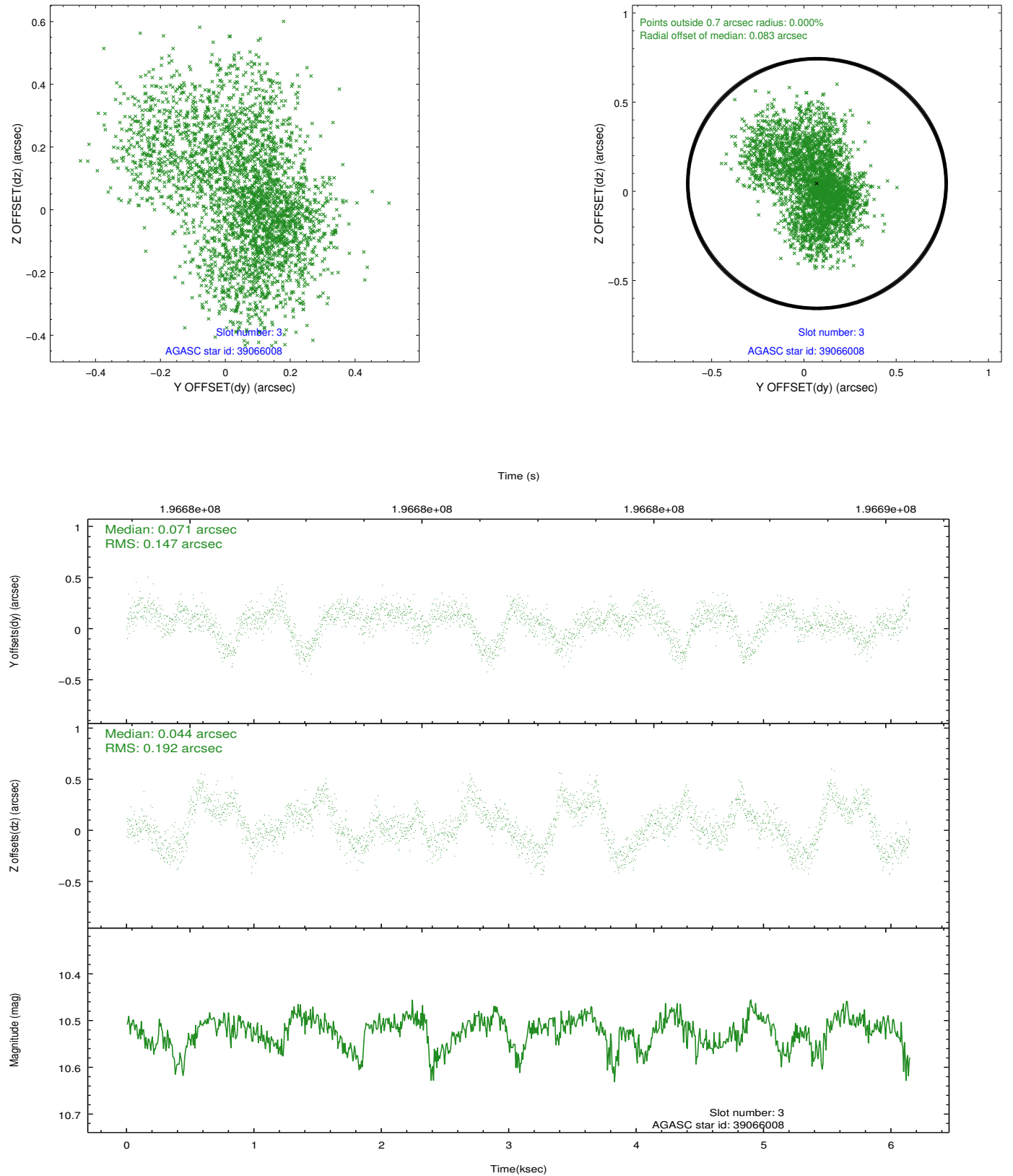


### Slot Statistics

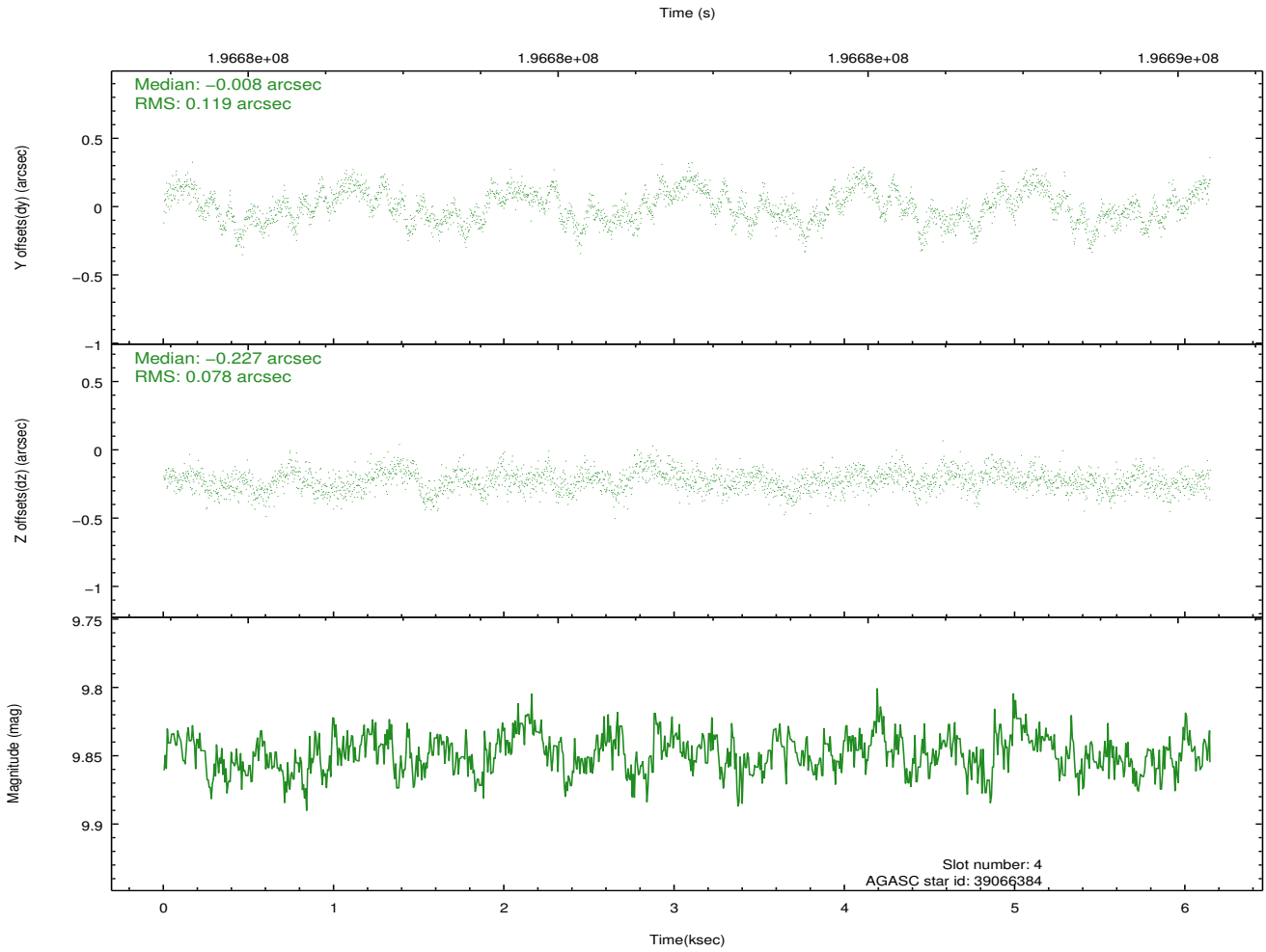
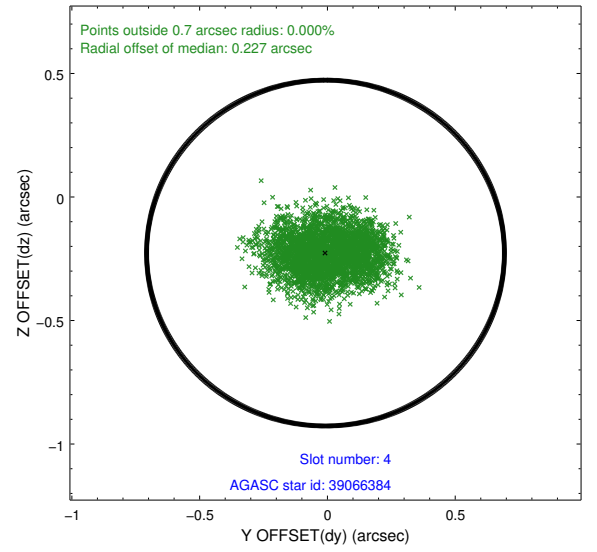
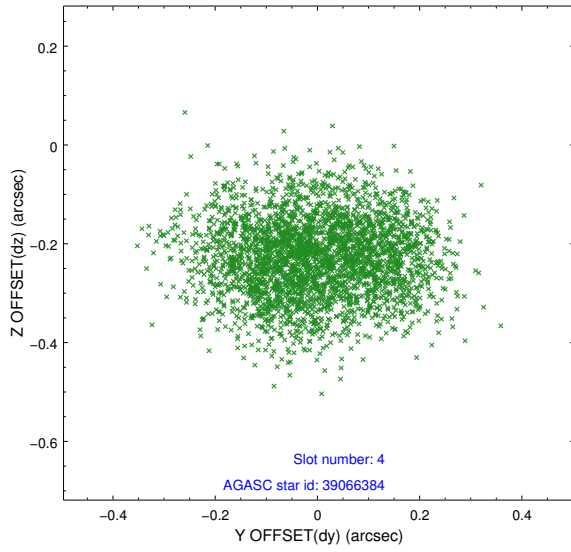
| slot | status | id       | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec      | mean_y   | mean_z   |
|------|--------|----------|-------|-------|--------|--------|-------|-------|------------|----------|----------|----------|
| 0    | FID    | ACIS-S-2 | 7.10  | 1498  | -0.038 | -0.025 | 0.008 | 0.015 | 0.000000   | 0.000000 | -760.86  | -1731.18 |
| 1    | FID    | ACIS-S-4 | 7.20  | 1499  | 0.101  | 0.025  | 0.008 | 0.015 | 0.000000   | 0.000000 | 2152.08  | 176.42   |
| 2    | FID    | ACIS-S-5 | 7.23  | 1499  | -0.094 | 0.008  | 0.008 | 0.014 | 0.000000   | 0.000000 | -1812.56 | 171.09   |
| 3    | GUIDE  | 39066008 | 10.52 | 2996  | 0.071  | 0.044  | 0.263 | 0.415 | 197.446837 | 0.858969 | -627.96  | 1356.19  |
| 4    | GUIDE  | 39066384 | 9.85  | 2995  | -0.008 | -0.227 | 0.155 | 0.240 | 197.255307 | 0.655946 | -1141.20 | 2220.28  |
| 5    | GUIDE  | 39191520 | 8.85  | 2999  | -0.044 | 0.057  | 0.101 | 0.158 | 197.717780 | 1.725616 | 2102.03  | -439.70  |
| 6    | GUIDE  | 39192736 | 9.99  | 2996  | -0.109 | 0.016  | 0.141 | 0.236 | 198.255413 | 1.617492 | 1196.63  | -2193.35 |
| 7    | GUIDE  | 39198040 | 10.08 | 2992  | 0.159  | 0.076  | 0.381 | 0.497 | 197.984957 | 0.836282 | -1239.30 | -484.19  |

## 2.4 Star Slots

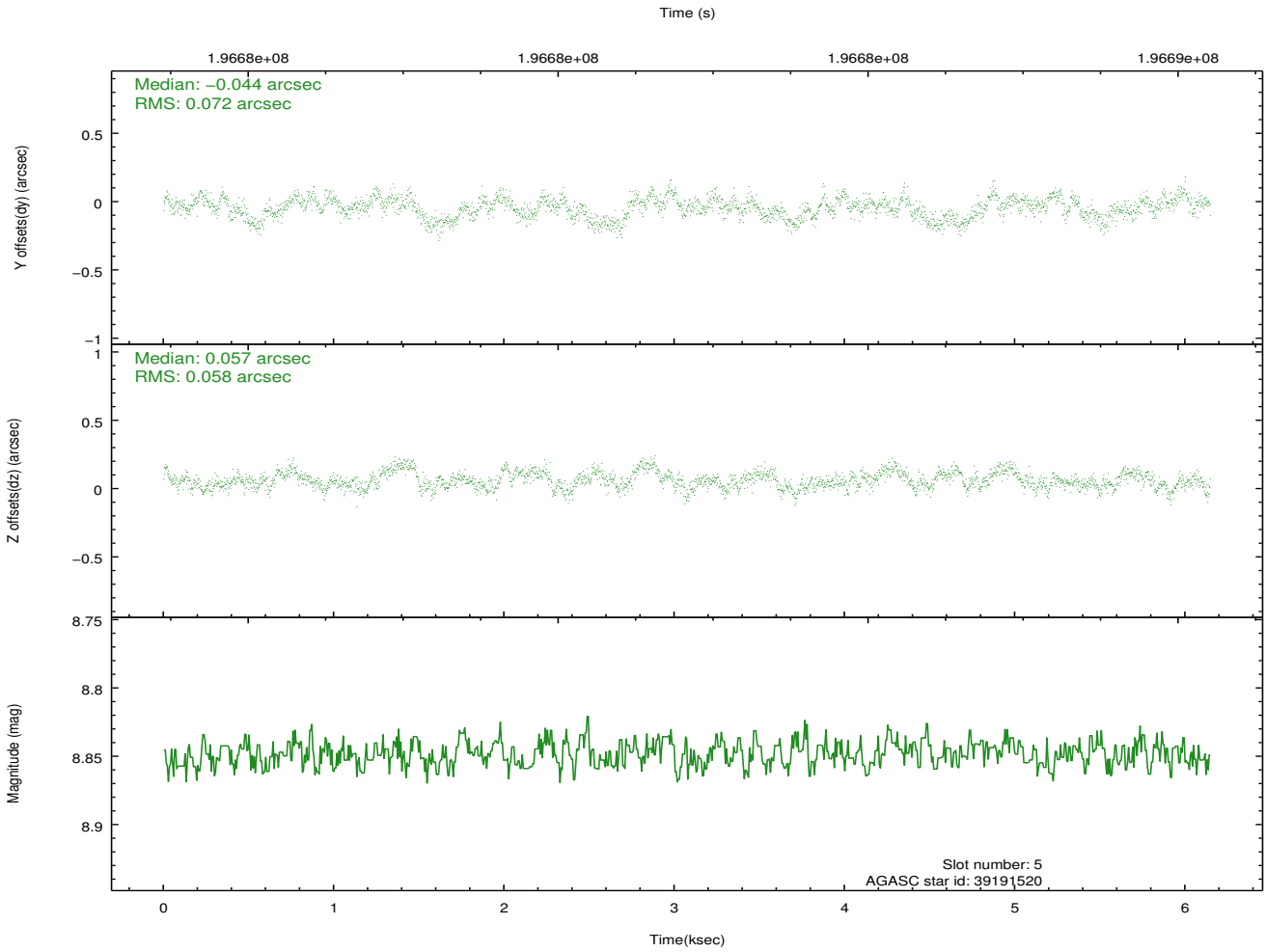
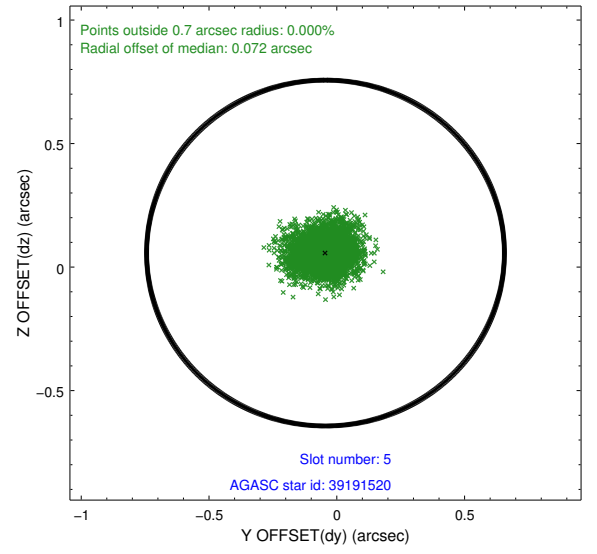
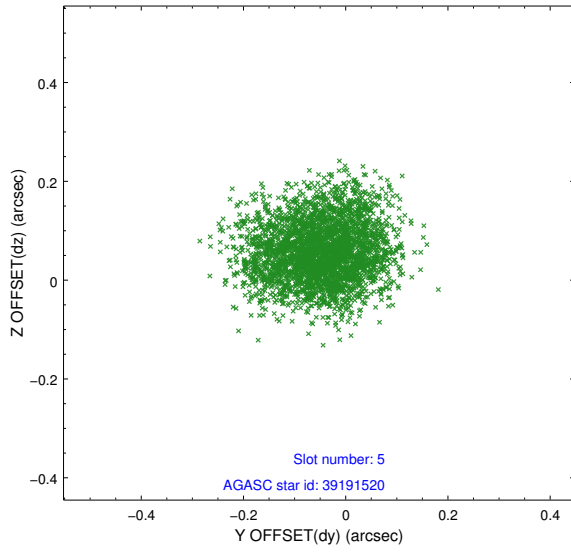
### 2.4.1 Slot 3



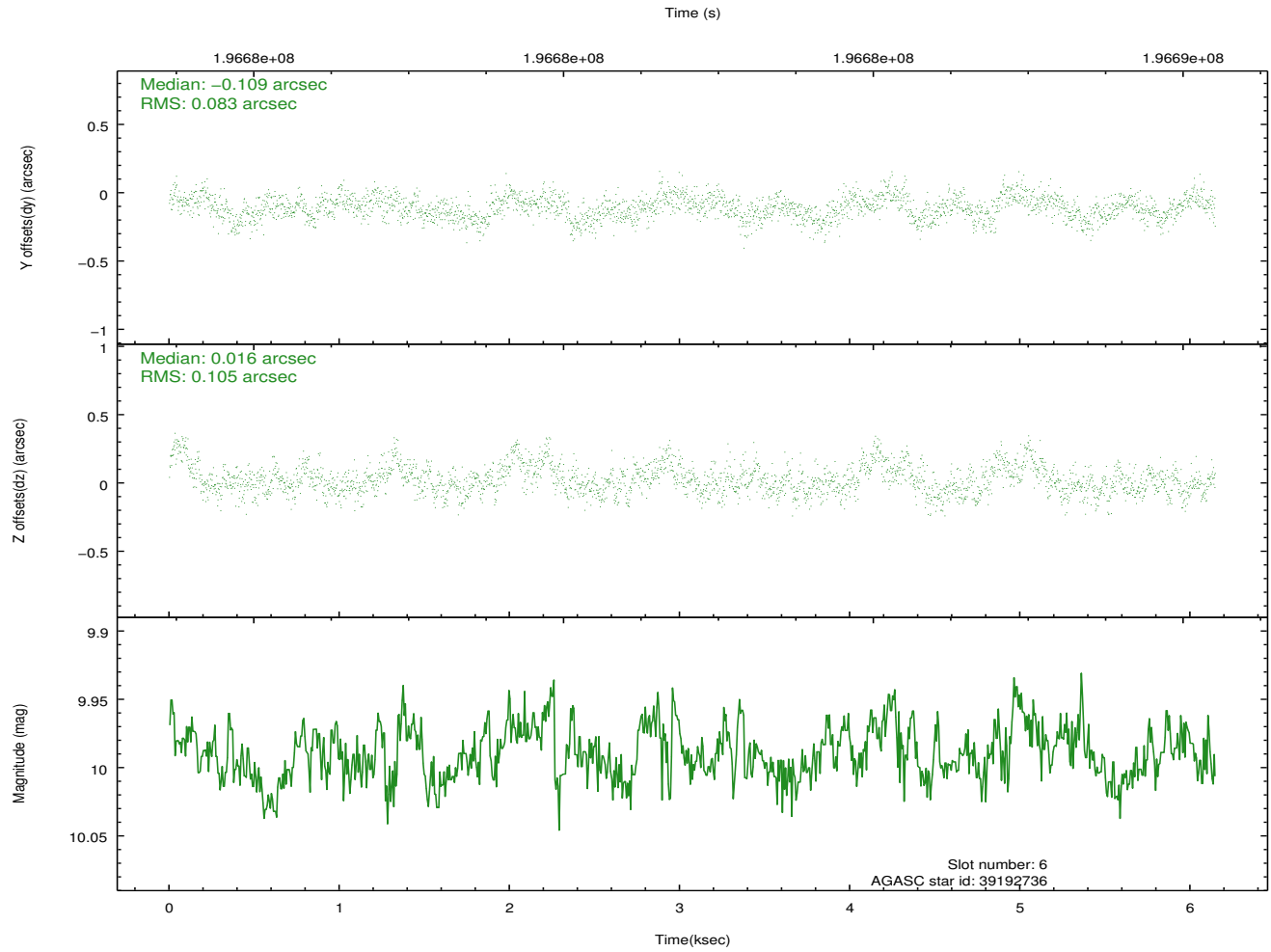
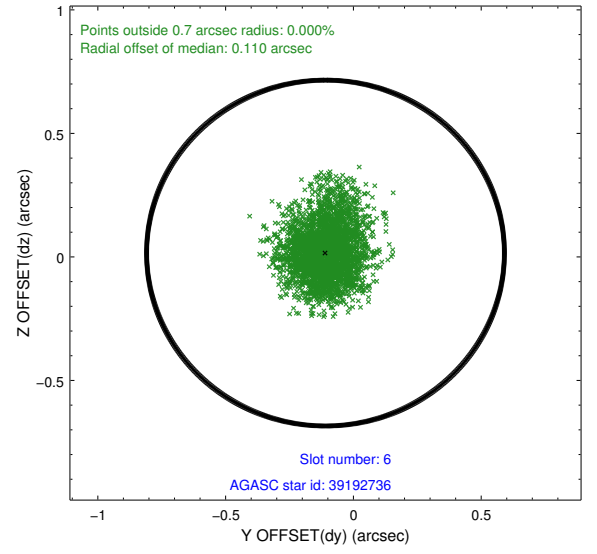
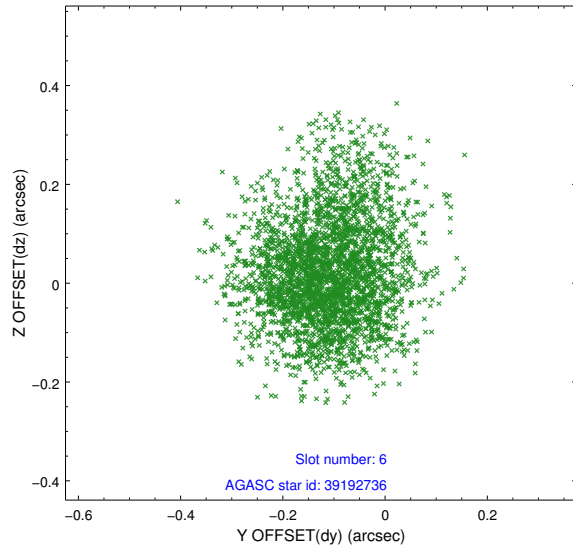
## 2.4.2 Slot 4



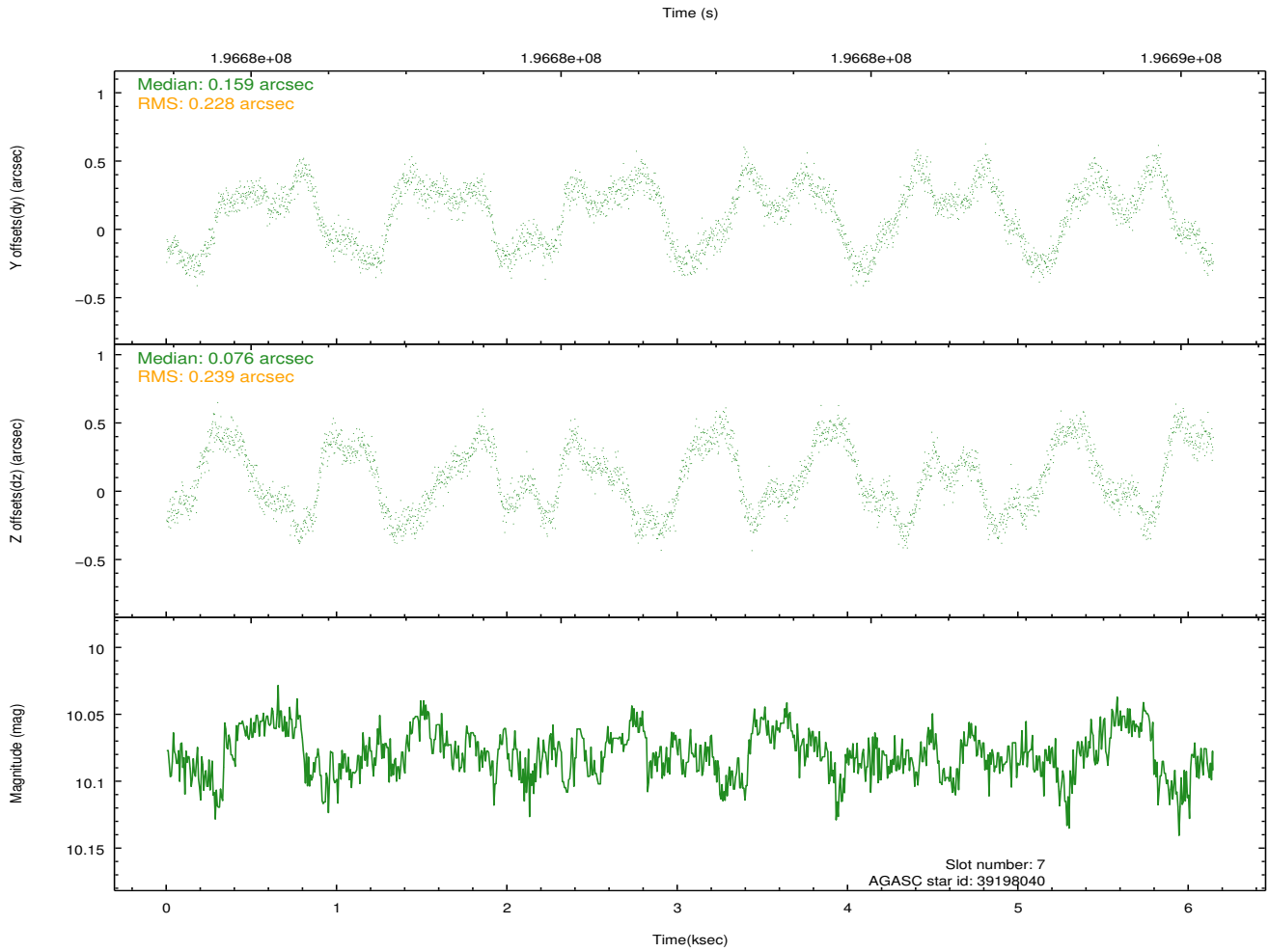
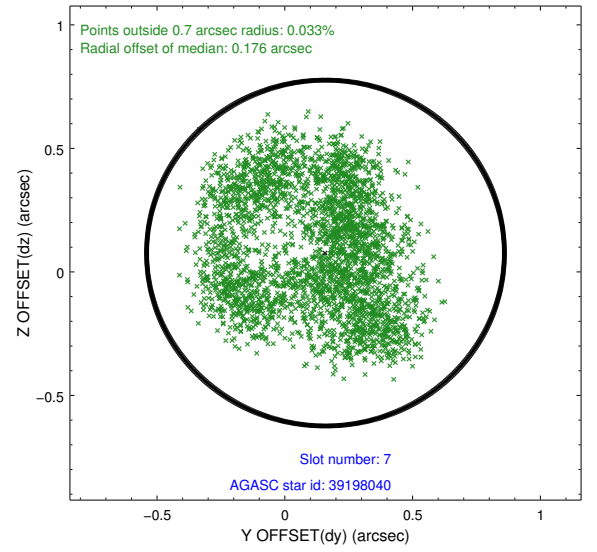
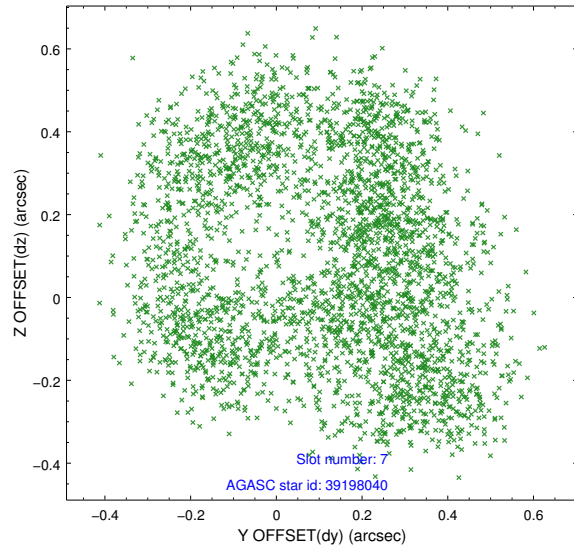
### 2.4.3 Slot 5



## 2.4.4 Slot 6

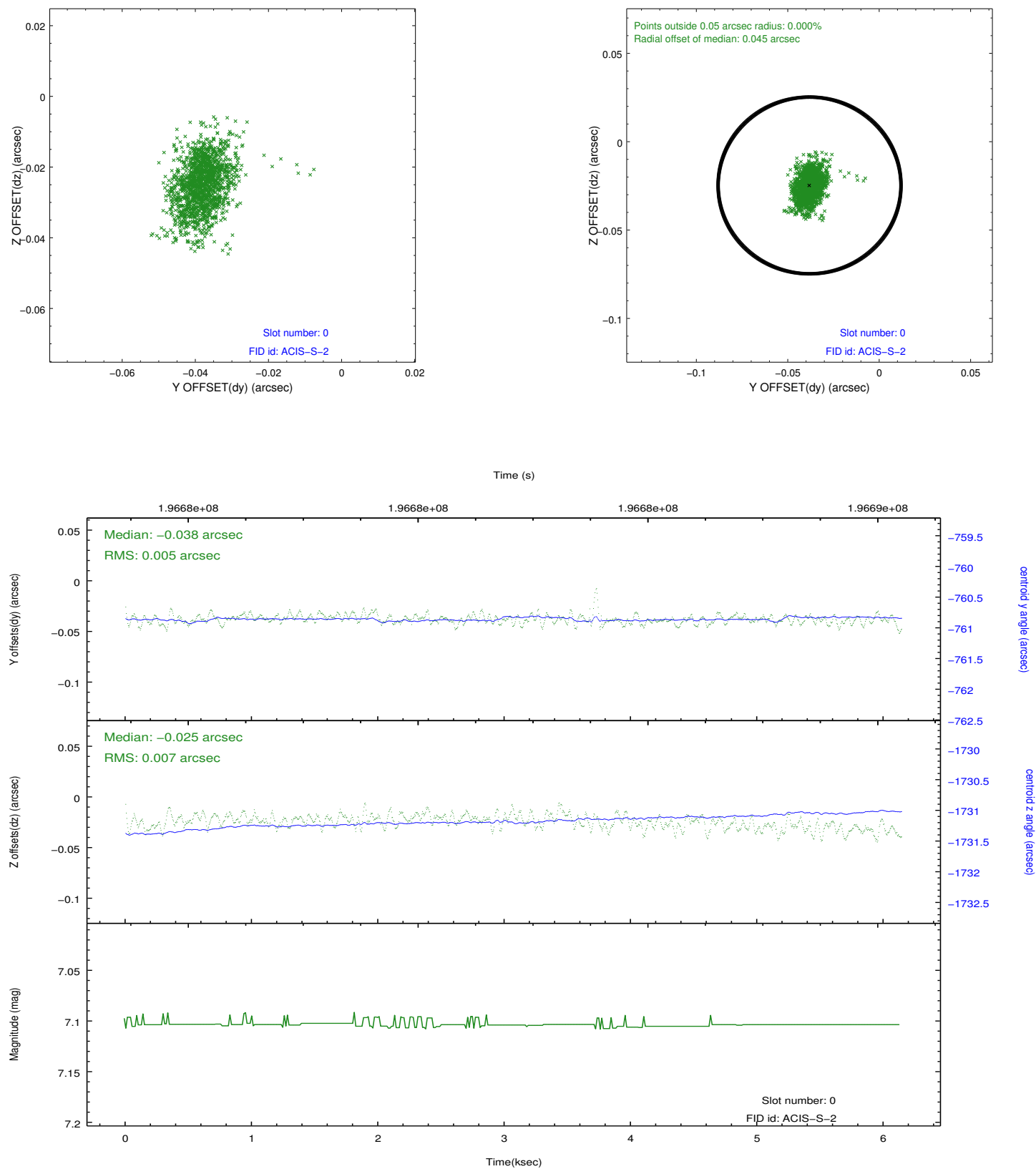


## 2.4.5 Slot 7

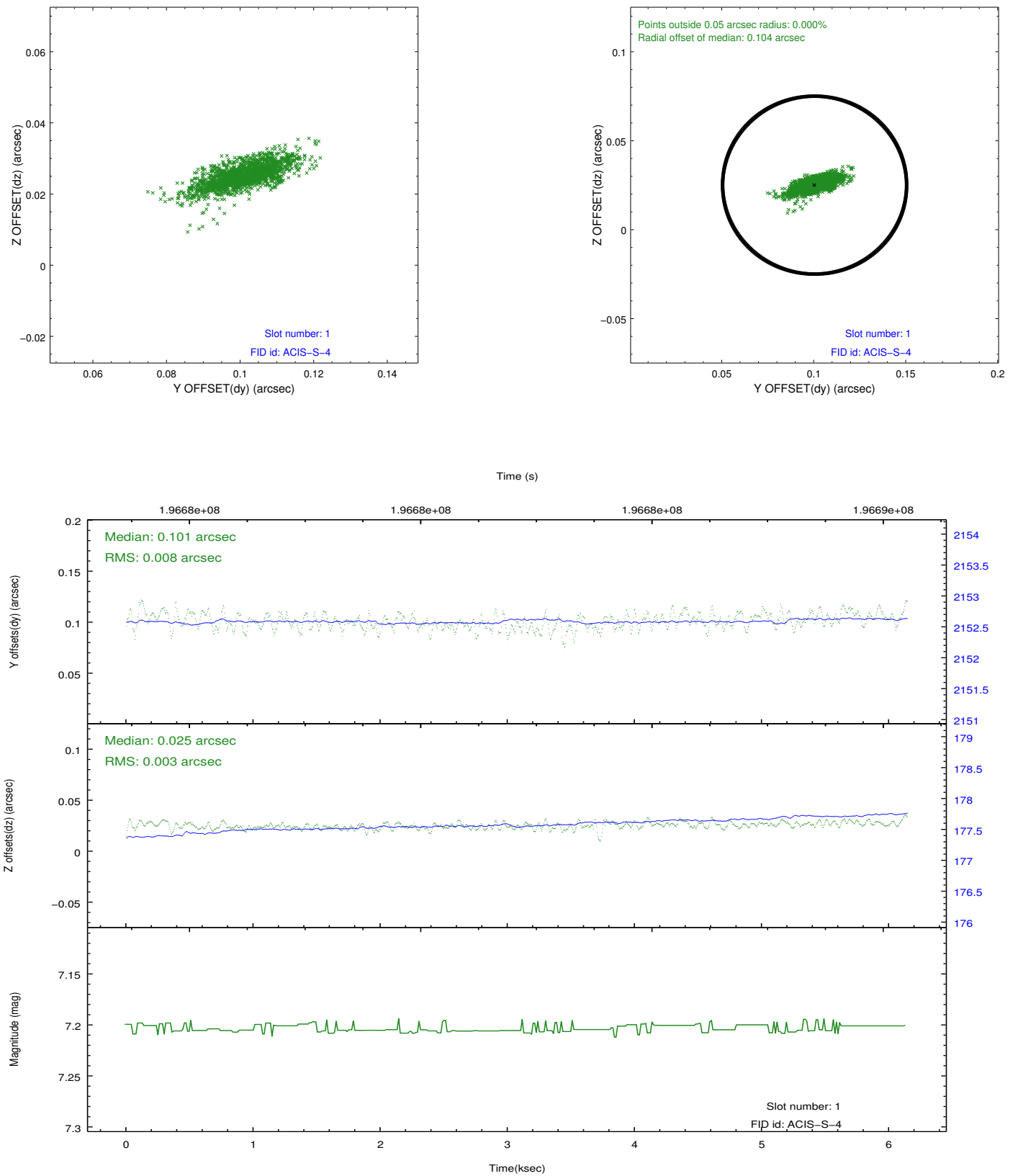


## 2.5 FID Slots

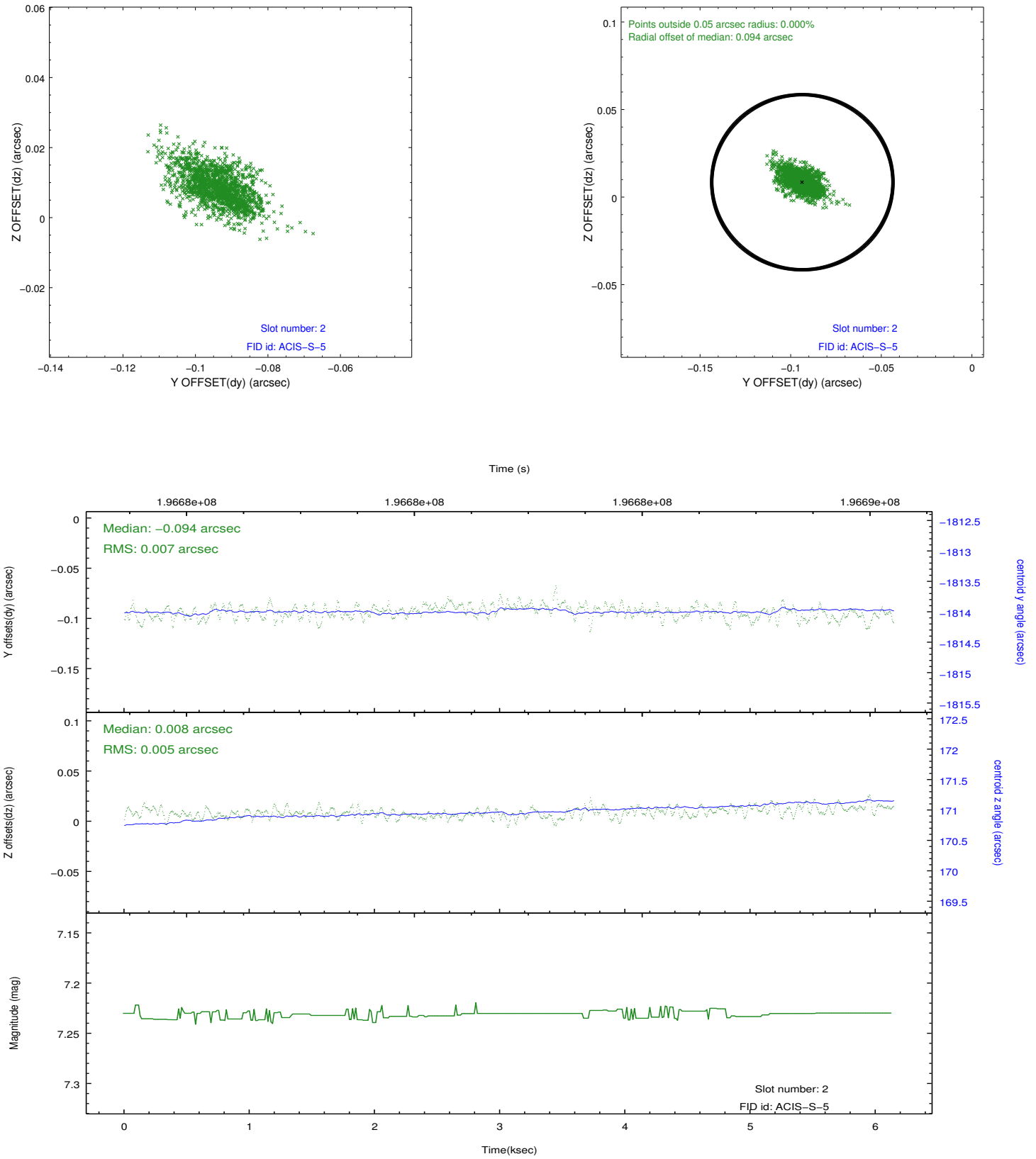
### 2.5.1 Slot 0



## 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)      | 2012.12.14 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 5.519      |

### **A.2 Comments**