

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 14386 - L2 Version 1  
Chandra X-Ray Center

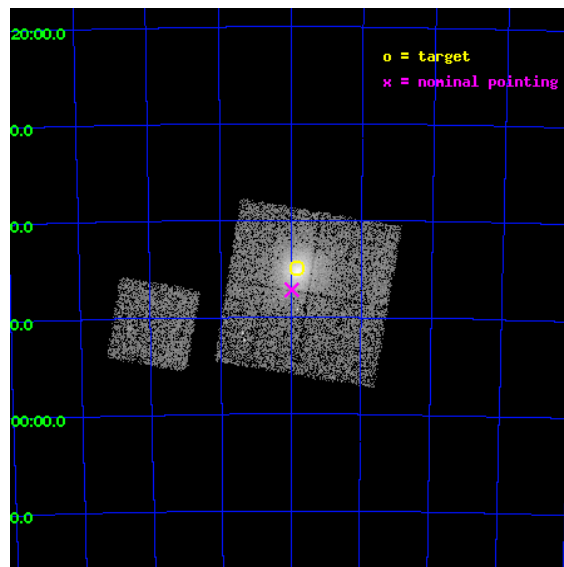
L2 Processing Date : Aug 6 2012

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# 1 Front

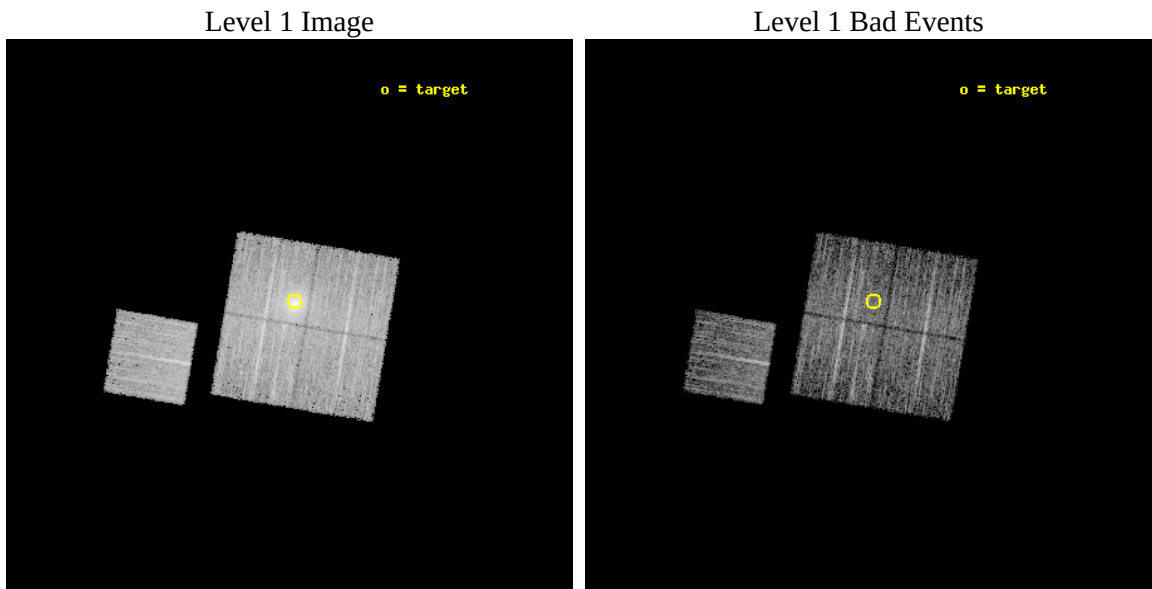
|          |                                                                    |                                             |
|----------|--------------------------------------------------------------------|---------------------------------------------|
| seq_num  | 801211                                                             | Sequence number                             |
| obs_id   | 14386                                                              | Observation id                              |
| title    | Characterizing the Most Massive Clusters in the Local Universe - B | &#160                                       |
| observer | Dr. Stephen Murray                                                 | Principal investigator                      |
| object   | G313.87-17.10                                                      | Source name                                 |
| dtcycle  | 0                                                                  | &#160                                       |
| cycle    | P                                                                  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 240.45875                                                          | Observer's specified target RA [deg]        |
| dec_targ | -75.749444                                                         | Observer's specified target Dec [deg]       |
| ra_nom   | 240.49349412265                                                    | Nominal RA [deg]                            |
| dec_nom  | -75.786223789691                                                   | Nominal Dec [deg]                           |
| roll_nom | 279.56653326729                                                    | Nominal Roll [deg]                          |
| revision | 1                                                                  | Processing version of data                  |
| ontime   | 9083.0000698566                                                    | Sum of GTIs [s]                             |
| livetime | 8964.3239871366                                                    | Livetime [s]                                |
| ontime0  | 9083.0000698566                                                    | Sum of GTIs [s]                             |
| ontime1  | 9079.859049499                                                     | Sum of GTIs [s]                             |
| ontime2  | 9083.0000698566                                                    | Sum of GTIs [s]                             |
| ontime3  | 9083.0000698566                                                    | Sum of GTIs [s]                             |
| ontime6  | 9083.0000698566                                                    | Sum of GTIs [s]                             |
| l2events | 47359                                                              | Number of level 2 events                    |



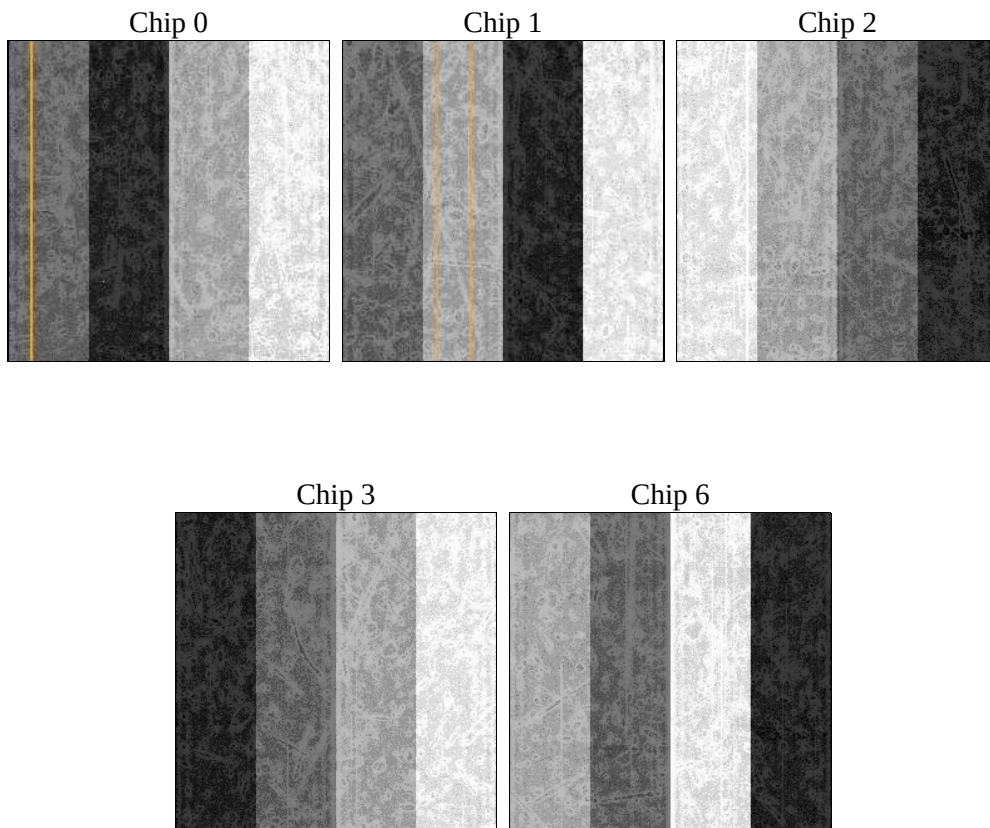
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 9000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 9083.0000698566 | Sum of GTIs [s]                         |
| caldsver | 4.5.1               | &#160                          | ontime0        | 9083.0000698566 | Sum of GTIs [s]                         |
| date     | 2012-08-07T00:02:03 | Date and time of file creation | ontime1        | 9079.859049499  | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime2        | 9083.0000698566 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 9083.0000698566 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 9083.0000698566 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 251081          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 41948 | 46667 | 50742 | 64022 | 47702 |
| rejected events | 36148 | 38085 | 43618 | 39068 | 42062 |
| rejected %      | 86%   | 81%   | 85%   | 61%   | 88%   |

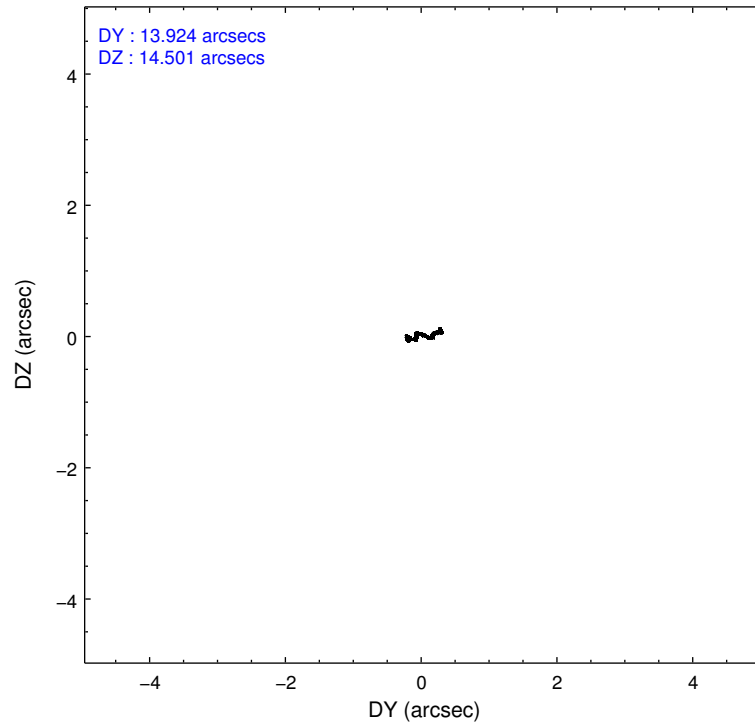
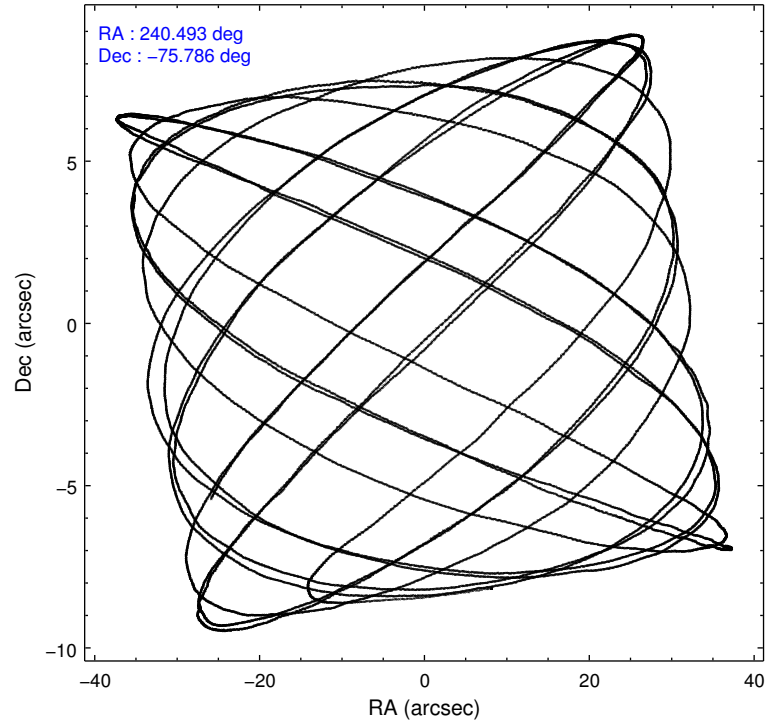
|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 2147  | 4174  | 3364  | 17764 | 1956  |
|                | 5%    | 8%    | 6%    | 27%   | 4%    |
| grade 1 events | 25    | 36    | 31    | 79    | 12    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1438  | 1748  | 1461  | 3139  | 1238  |
|                | 3%    | 3%    | 2%    | 4%    | 2%    |
| grade 3 events | 566   | 664   | 606   | 1189  | 608   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 4 events | 556   | 648   | 626   | 1241  | 612   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 5 events | 2169  | 2271  | 2131  | 2446  | 2283  |
|                | 5%    | 4%    | 4%    | 3%    | 4%    |
| grade 6 events | 1097  | 1350  | 1069  | 1628  | 1231  |
|                | 2%    | 2%    | 2%    | 2%    | 2%    |
| grade 7 events | 33950 | 35776 | 41454 | 36536 | 39762 |
|                | 80%   | 76%   | 81%   | 57%   | 83%   |

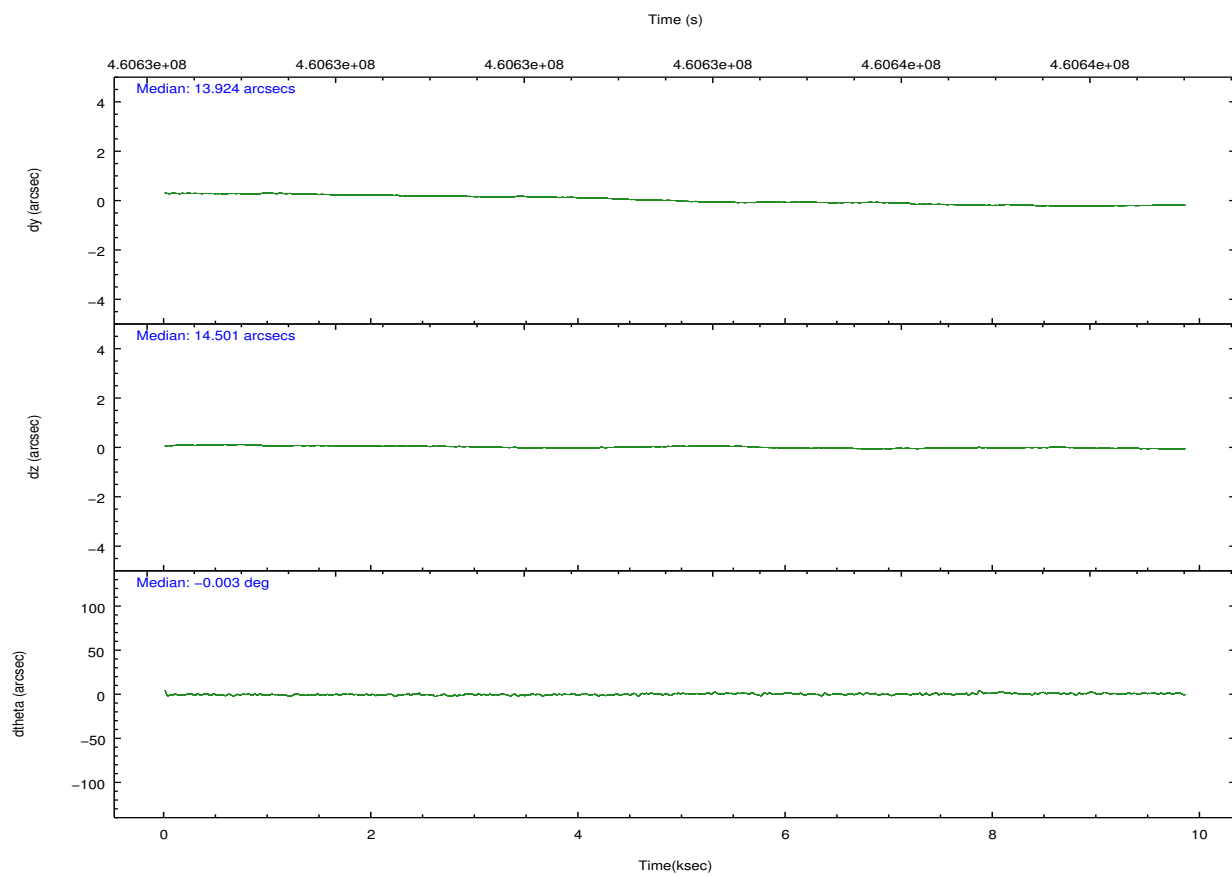
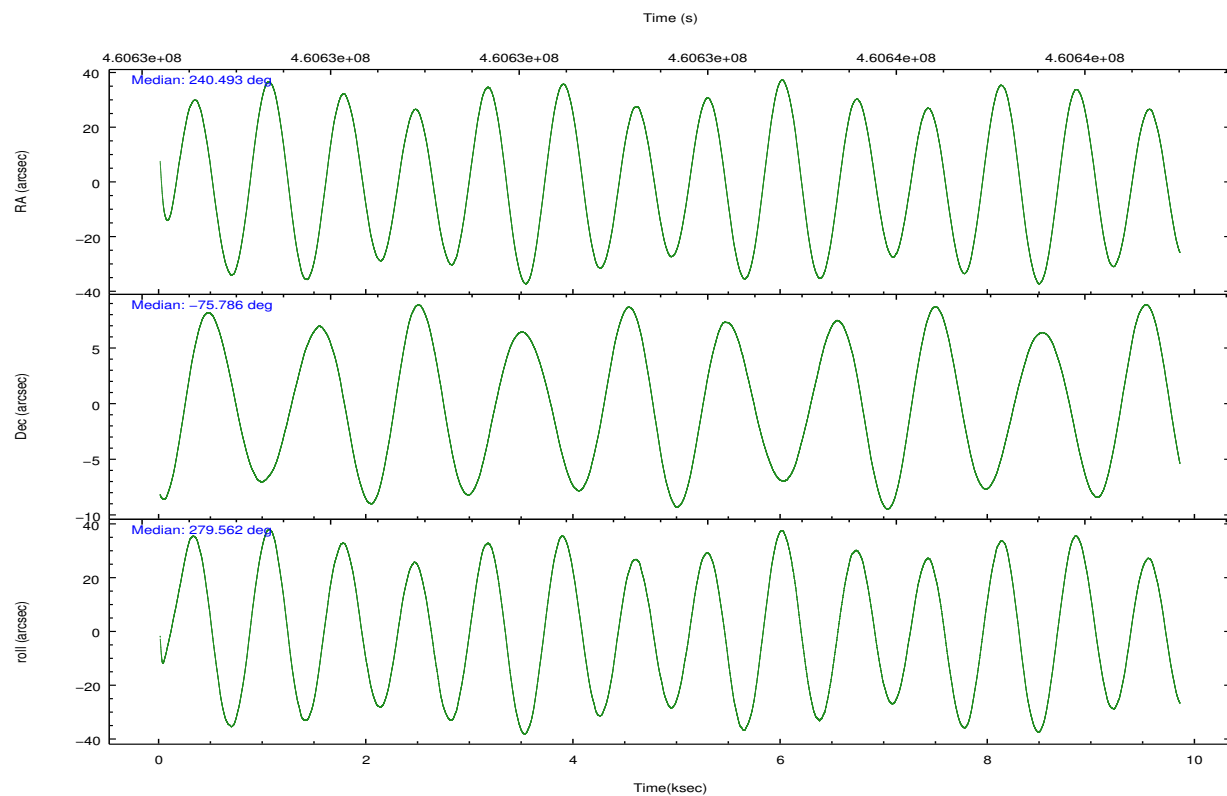


## 2.2 Compared Parameters

| 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               | CCD I0 on                             | Y         | Y       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                 | 240.421815          | 240.4934941226524    | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                | -75.765103          | -75.78622378969069   | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 279.288387          | 279.5665332672941    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272  | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334 | CCD S2 on                             | O1        | Y       |
| [mm] SIM translation stage pos    | -230.592463         | -230.5903706213692   | CCD S3 on                             | N         | N       |
| [mm] SIM translation stage offset | -3                  | -3.002082381560513   | CCD S4 on                             | N         | N       |
| [s] Observation start time (MET)  | 460629532.184000    | 460627897.33133      | CCD S5 on                             | N         | N       |
| Observation start date            | 2012-08-06T08:37:45 | 2012-08-06T08:11:37  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 460638532.184000    | 460639045.74442      | On-chip summing requested             | N         | N       |
| Observation end date              | 2012-08-06T11:07:45 | 2012-08-06T11:17:25  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



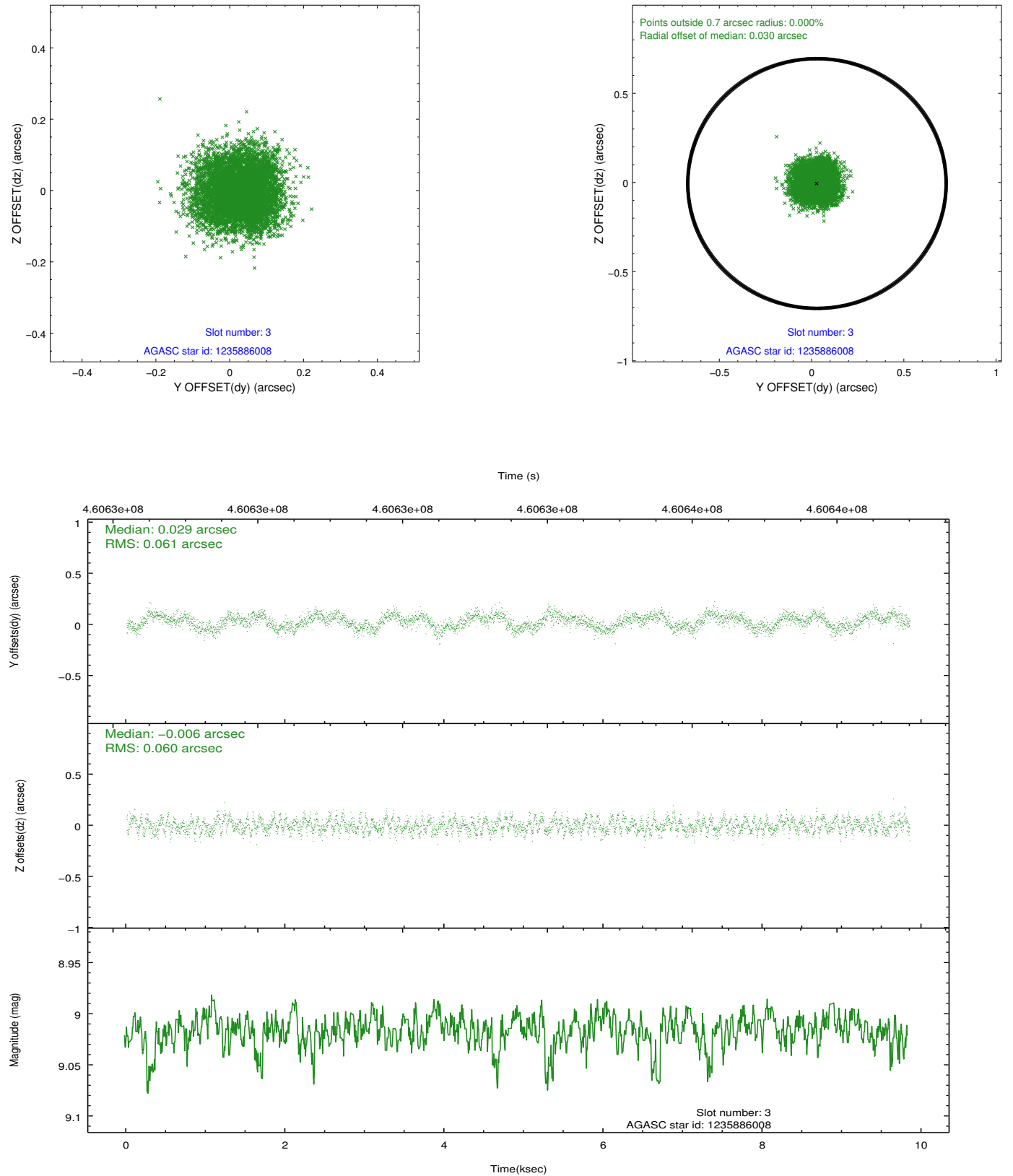


# Slot Statistics

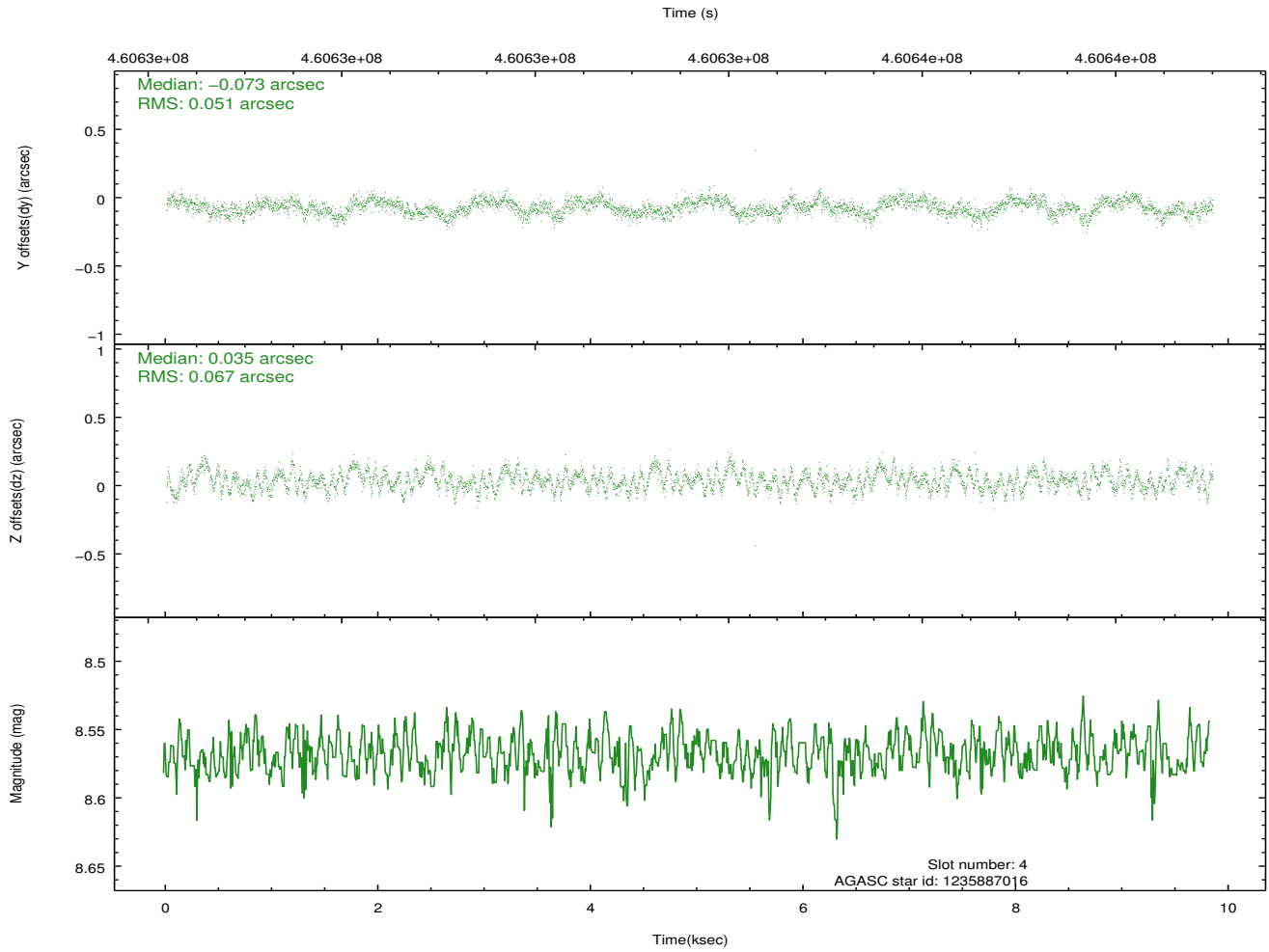
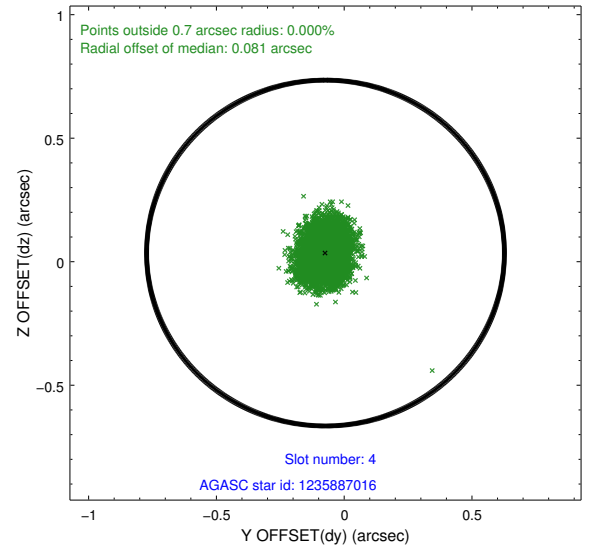
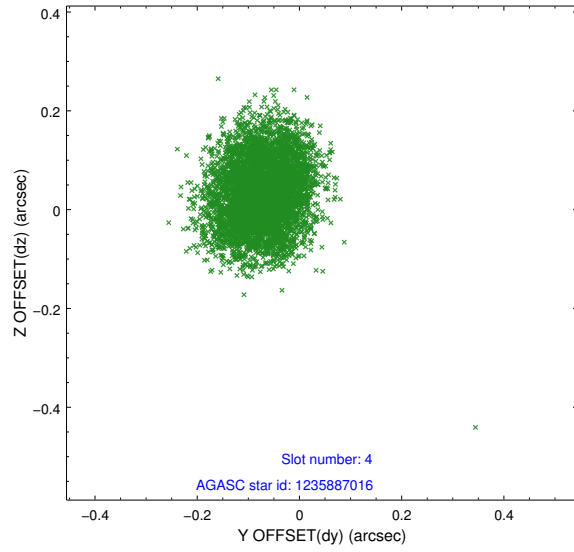
| slot | status | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-I-2   | 7.03 | 2402  | -0.150 | -0.120 | 0.009 | 0.016 | 0.000000   | 0.000000   | -768.98  | -905.76  |
| 1    | FID    | ACIS-I-4   | 7.01 | 2400  | 0.291  | 0.116  | 0.008 | 0.016 | 0.000000   | 0.000000   | 2145.22  | 1000.38  |
| 2    | FID    | ACIS-I-5   | 7.09 | 2402  | -0.243 | 0.074  | 0.010 | 0.018 | 0.000000   | 0.000000   | -1822.09 | 998.35   |
| 3    | GUIDE  | 1235886008 | 9.02 | 4803  | 0.029  | -0.006 | 0.093 | 0.143 | 238.500178 | -75.405209 | -1531.54 | -1515.58 |
| 4    | GUIDE  | 1235887016 | 8.57 | 4804  | -0.073 | 0.035  | 0.091 | 0.141 | 238.752853 | -75.485628 | -1215.54 | -1327.01 |
| 5    | GUIDE  | 1235888184 | 9.00 | 4800  | 0.085  | -0.079 | 0.091 | 0.143 | 238.648285 | -75.674410 | -553.49  | -1510.30 |
| 6    | GUIDE  | 1237588016 | 8.58 | 4802  | -0.212 | -0.004 | 0.075 | 0.118 | 241.499310 | -75.802833 | 296.10   | 915.27   |
| 7    | GUIDE  | 1237587104 | 9.36 | 4770  | 0.176  | 0.054  | 0.101 | 0.159 | 243.410964 | -76.269993 | 2269.97  | 2216.51  |

## 2.4 Star Slots

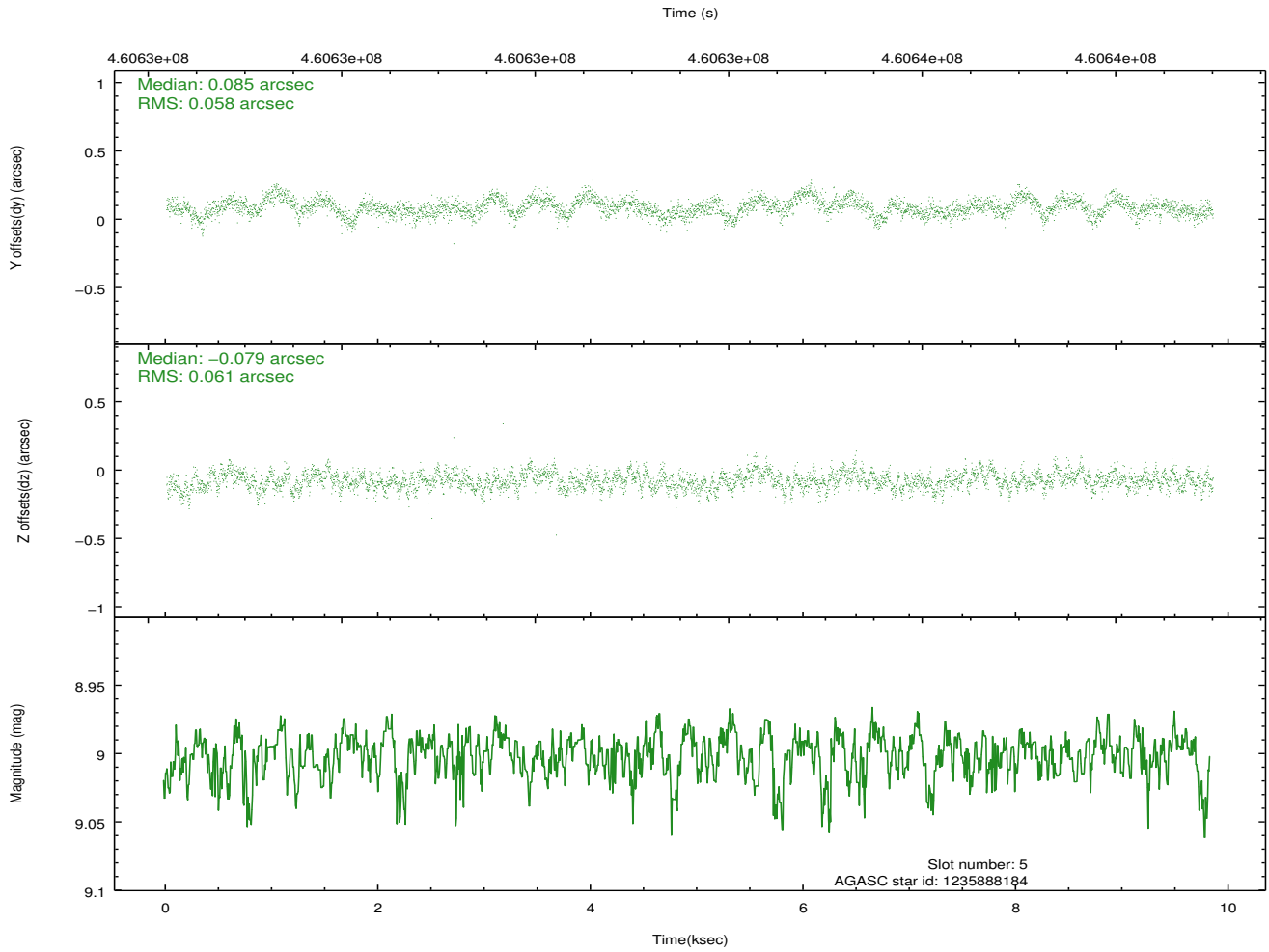
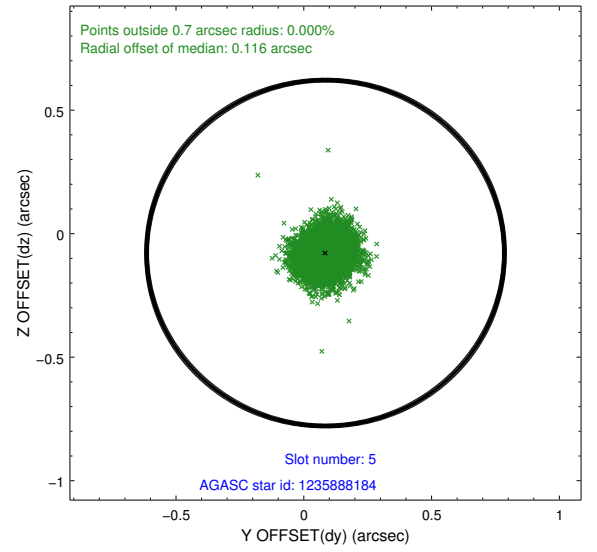
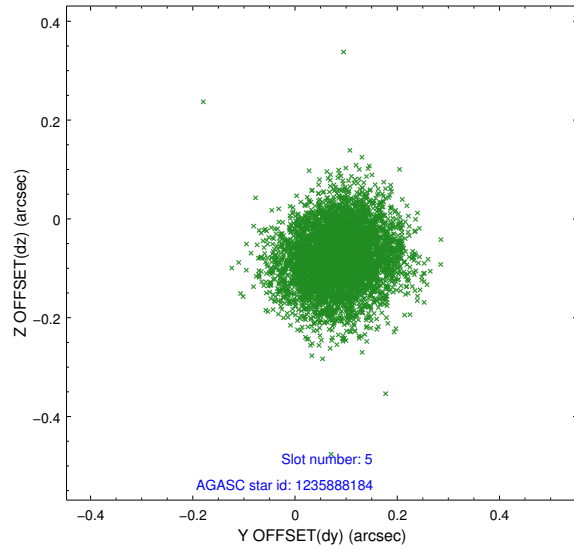
### 2.4.1 Slot 3



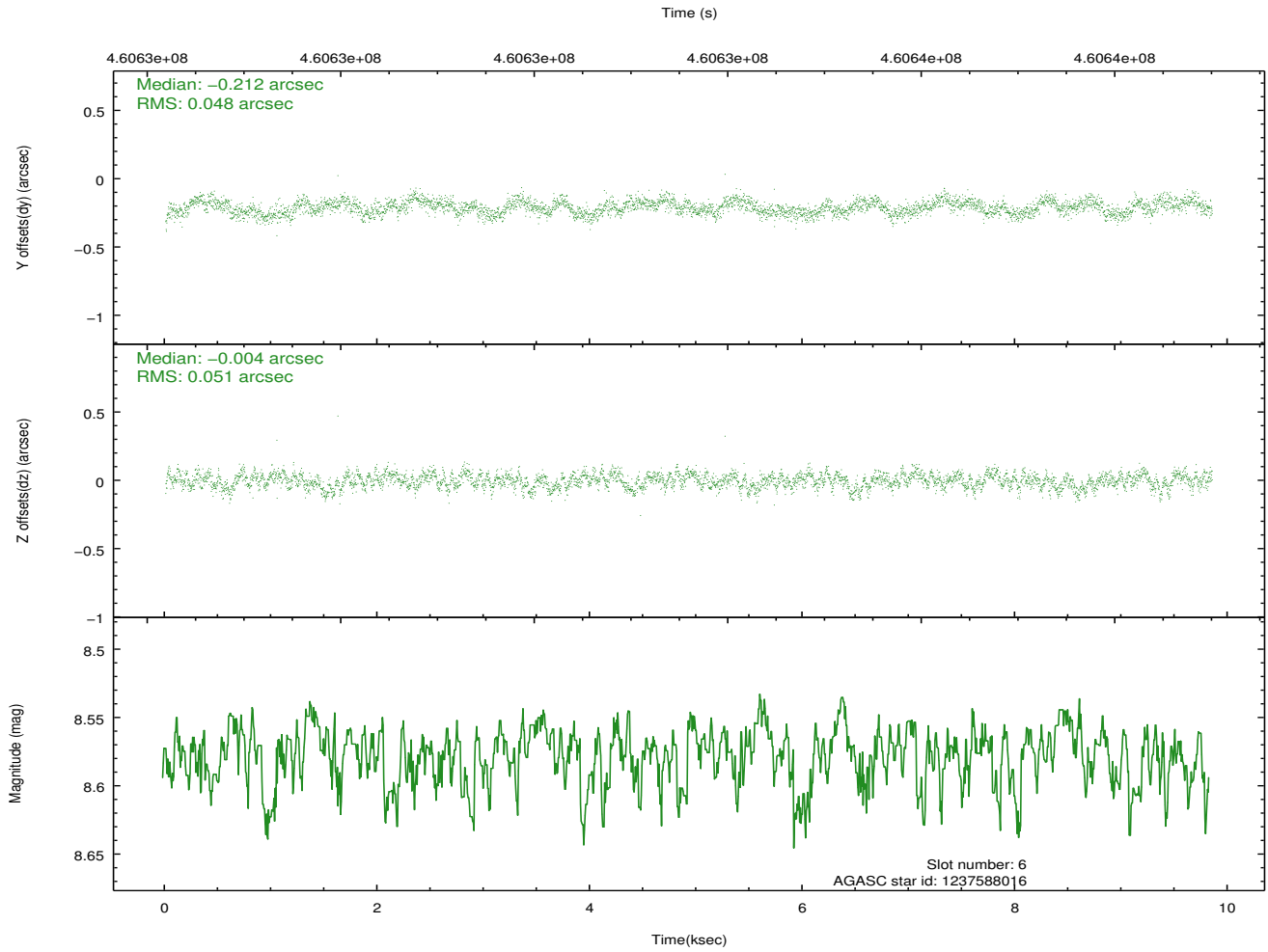
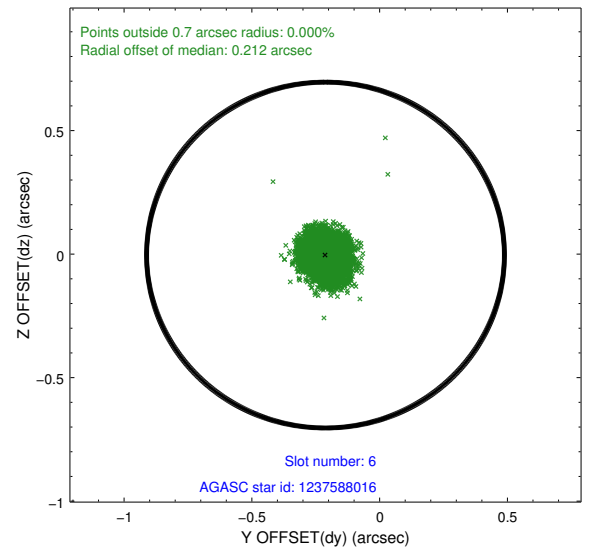
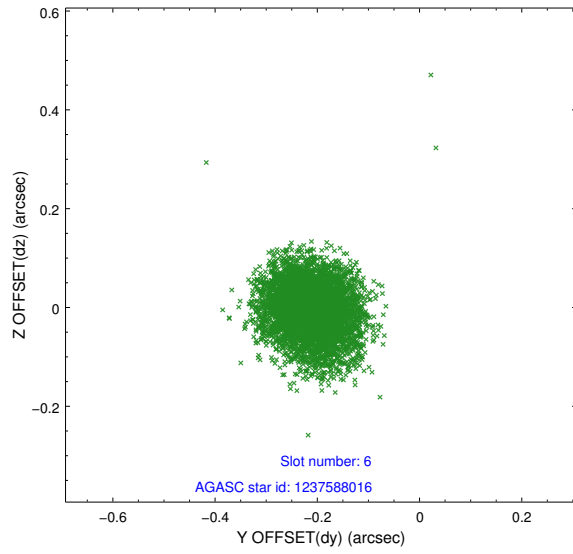
## 2.4.2 Slot 4



### 2.4.3 Slot 5

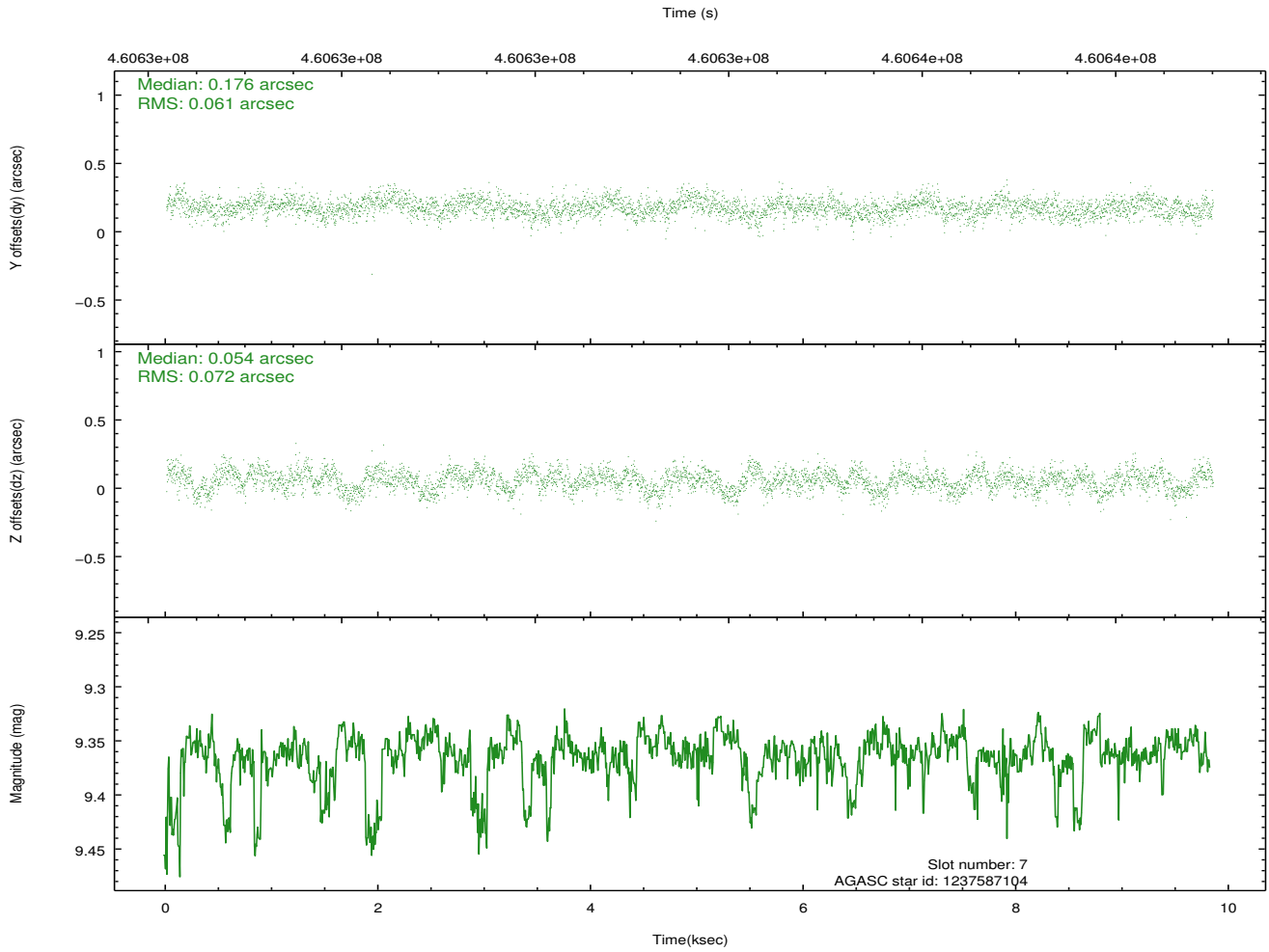
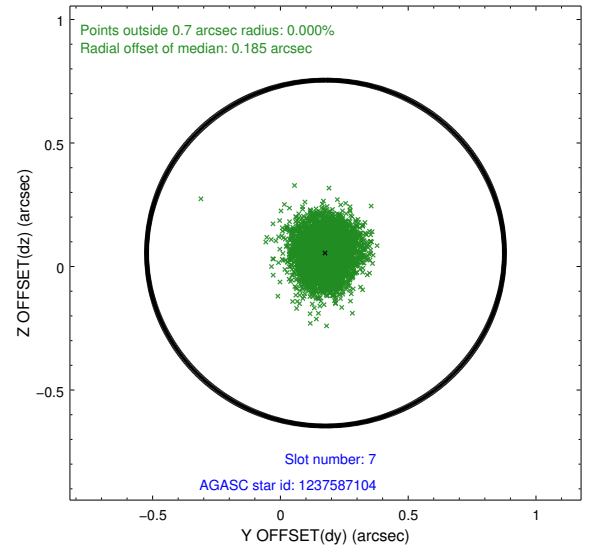
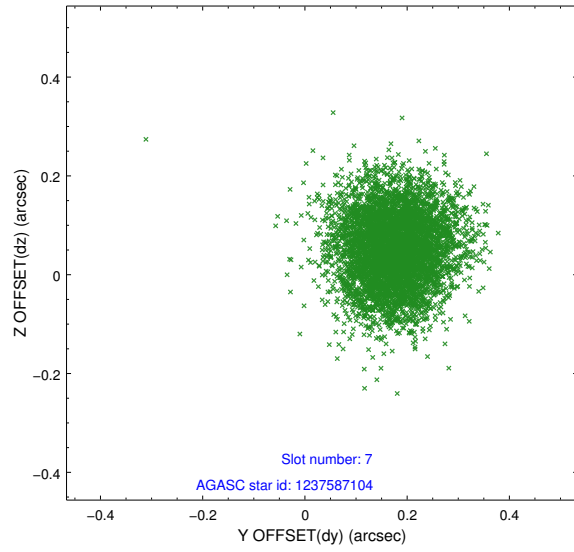


## 2.4.4 Slot 6



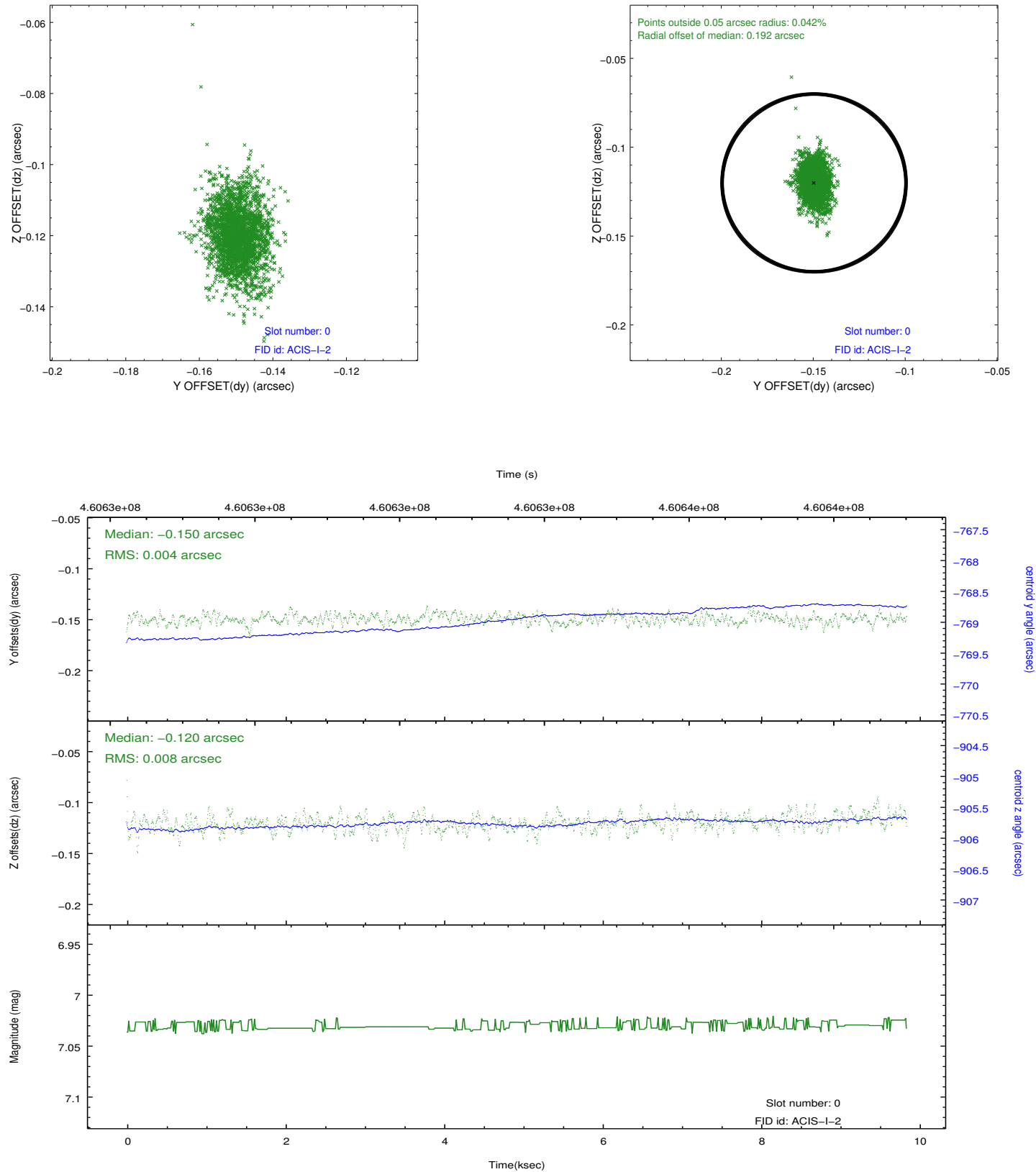


## 2.4.5 Slot 7

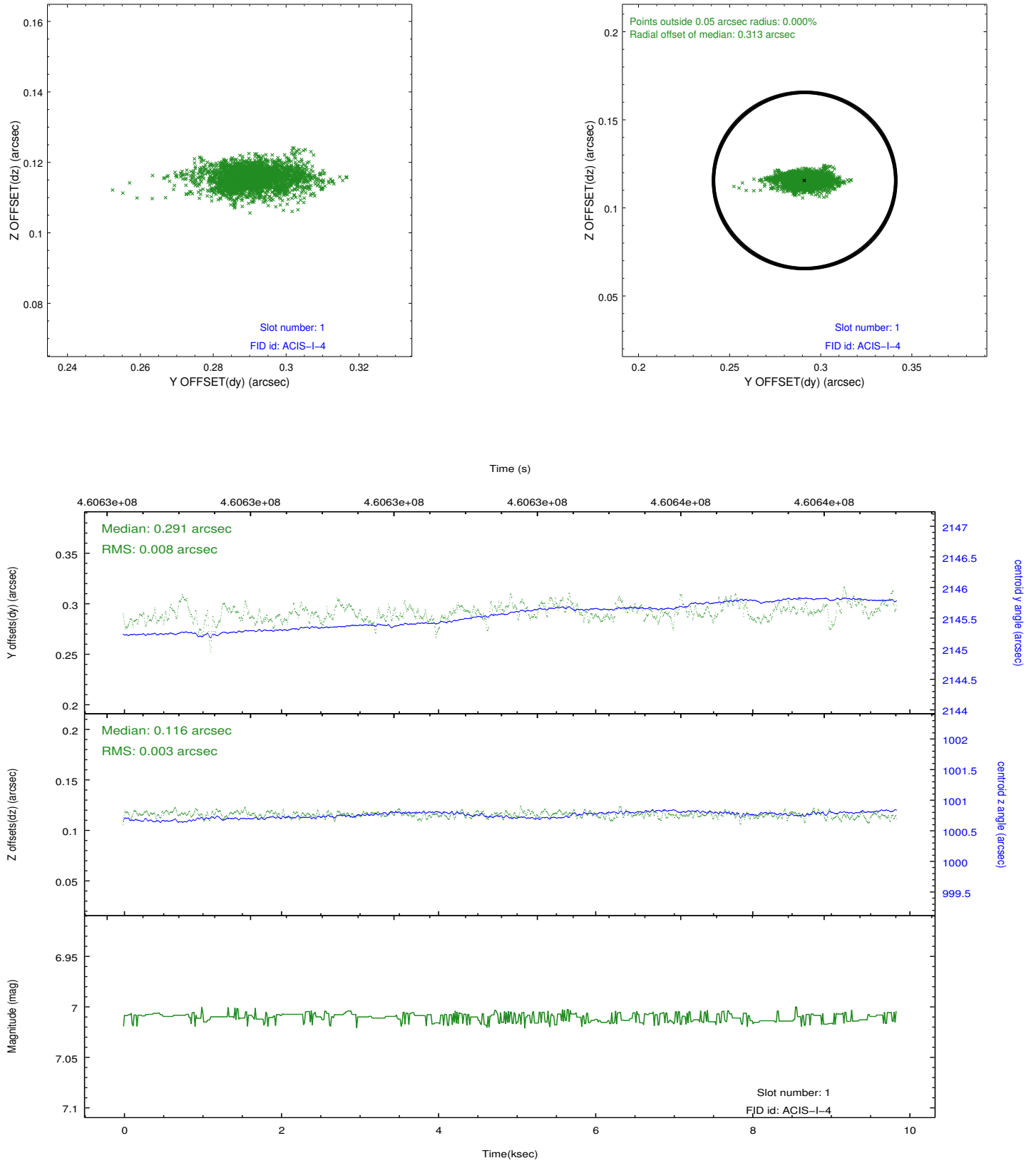


## 2.5 FID Slots

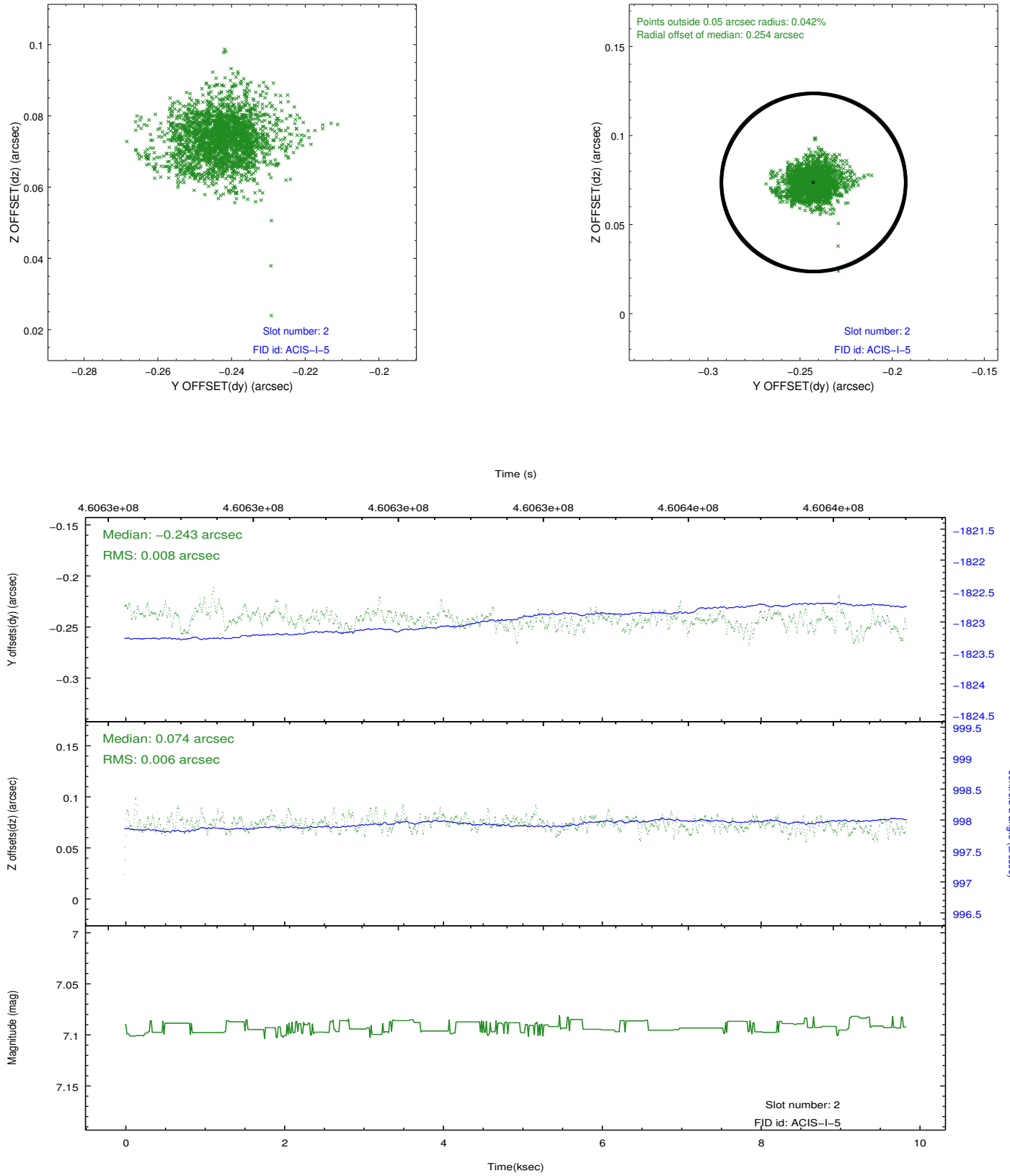
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2012.08.07      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 9.0830000698566 |

### A.2 Comments