

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 1534 - L2 Version 3  
Chandra X-Ray Center

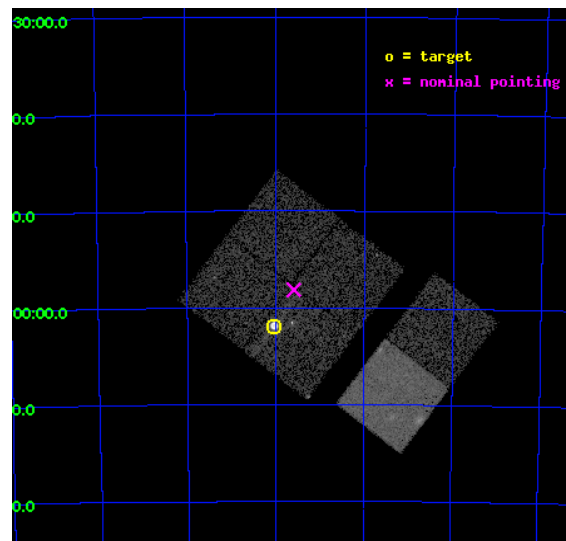
L2 Processing Date : Sep 17 2012

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# 1 Front

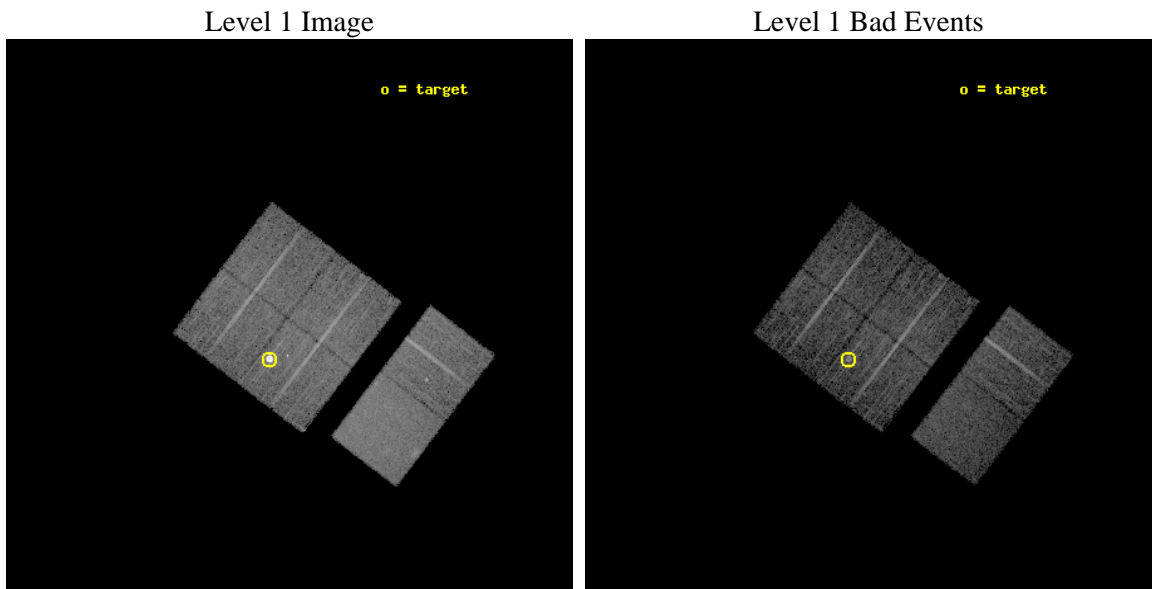
|          |  |   |
|----------|--|---|
| seq_num  | 590143   | Sequence number                             |
| obs_id   | 1534   | Observation id                              |
| title    | ACIS CALIBRATION OBSERVATION OF THE SUPERNOVA REMNANT E0102-72 (JUNE 2001) | Proposal title                              |
| observer | Dr. CXC Calibration  | Principal investigator                      |
| object   | E0102-72.3 [Chip I3, T=120, Offsets=-4,0,0]                                | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 16.01  | Observer's specified target RA [deg]        |
| dec_targ | -72.032028   | Observer's specified target Dec [deg]       |
| ra_nom   | 15.89732384723   | Nominal RA [deg]                            |
| dec_nom  | -71.969258541404   | Nominal Dec [deg]                           |
| roll_nom | 127.32636252982  | Nominal Roll [deg]                          |
| revision | 3  | Processing version of data                  |
| ontime   | 7513.6000069827  | Sum of GTIs [s]                             |
| livetime | 7418.4582795475  | Livetime [s]                                |
| ontime0  | 7513.6000069827  | Sum of GTIs [s]                             |
| ontime1  | 7513.6000069827  | Sum of GTIs [s]                             |
| ontime2  | 7513.6000069827  | Sum of GTIs [s]                             |
| ontime3  | 7513.6000069827  | Sum of GTIs [s]                             |
| ontime6  | 7513.6000069827  | Sum of GTIs [s]                             |
| ontime7  | 7513.6000069827  | Sum of GTIs [s]                             |
| l2events | 79170  | Number of level 2 events                    |



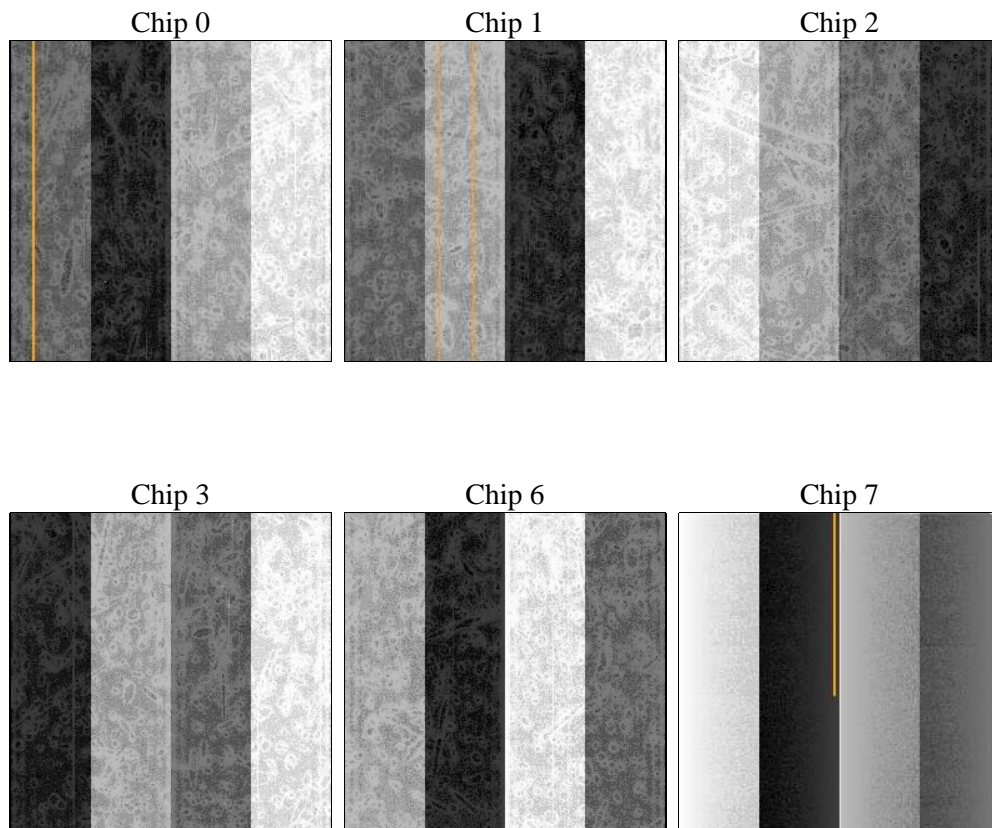
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 7755.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 7513.6000069827 | Sum of GTIs [s]                         |
| caldsver | 4.5.1.1             | &#160                          | ontime0        | 7513.6000069827 | Sum of GTIs [s]                         |
| date     | 2012-09-17T18:02:41 | Date and time of file creation | ontime1        | 7513.6000069827 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 7513.6000069827 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 7513.6000069827 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 7513.6000069827 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 7513.6000069827 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 330840          | Number of level 1 events                |

### 2.1.4 Events

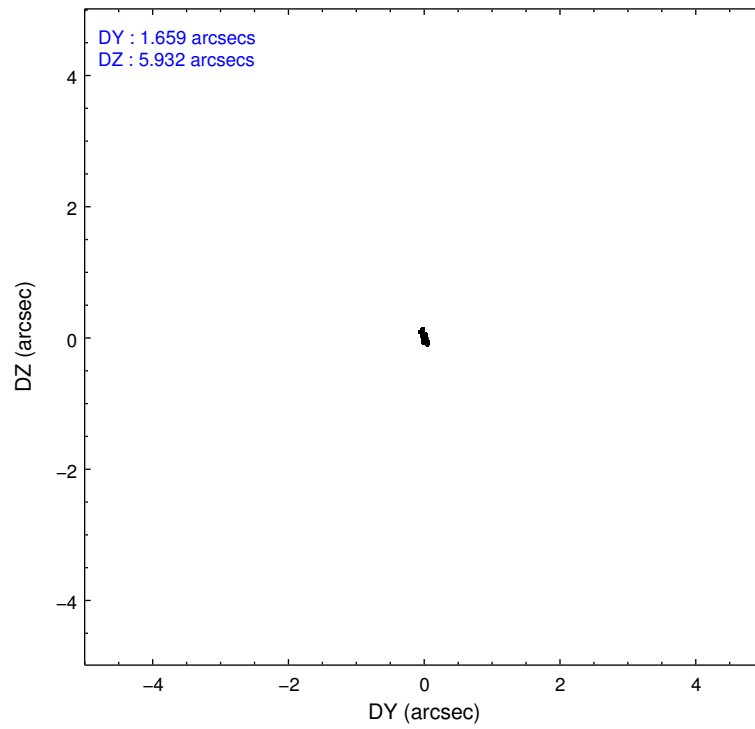
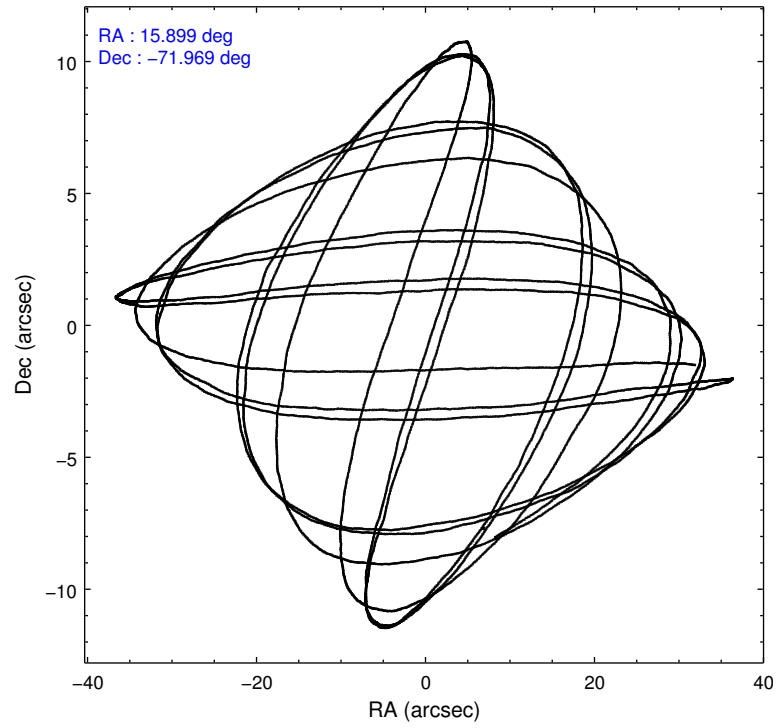
|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 43623 | 44587 | 49798 | 77896 | 51379 | 63557 | grade 0 events | 2434  | 2498  | 2574  | 27015 | 2846  | 2827  |
| rejected events | 37908 | 38525 | 44052 | 44275 | 45085 | 36478 |                | 5%    | 5%    | 5%    | 34%   | 5%    | 4%    |
| rejected %      | 86%   | 86%   | 88%   | 56%   | 87%   | 57%   | grade 1 events | 24    | 16    | 15    | 334   | 34    | 63    |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 1239  | 1173  | 1138  | 3298  | 1194  | 5459  |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 2%    | 4%    | 2%    | 8%    |
|                 |       |       |       |       |       |       | grade 3 events | 572   | 637   | 471   | 1004  | 572   | 2435  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 0%    | 1%    | 1%    | 3%    |
|                 |       |       |       |       |       |       | grade 4 events | 522   | 584   | 538   | 1042  | 552   | 2483  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 1%    | 3%    |
|                 |       |       |       |       |       |       | grade 5 events | 1785  | 1802  | 1529  | 1960  | 2094  | 5898  |
|                 |       |       |       |       |       |       |                | 4%    | 4%    | 3%    | 2%    | 4%    | 9%    |
|                 |       |       |       |       |       |       | grade 6 events | 949   | 1175  | 1029  | 1273  | 1134  | 13885 |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 2%    | 1%    | 2%    | 21%   |
|                 |       |       |       |       |       |       | grade 7 events | 36098 | 36702 | 42504 | 41970 | 42953 | 30507 |
|                 |       |       |       |       |       |       |                | 82%   | 82%   | 85%   | 53%   | 83%   | 47%   |

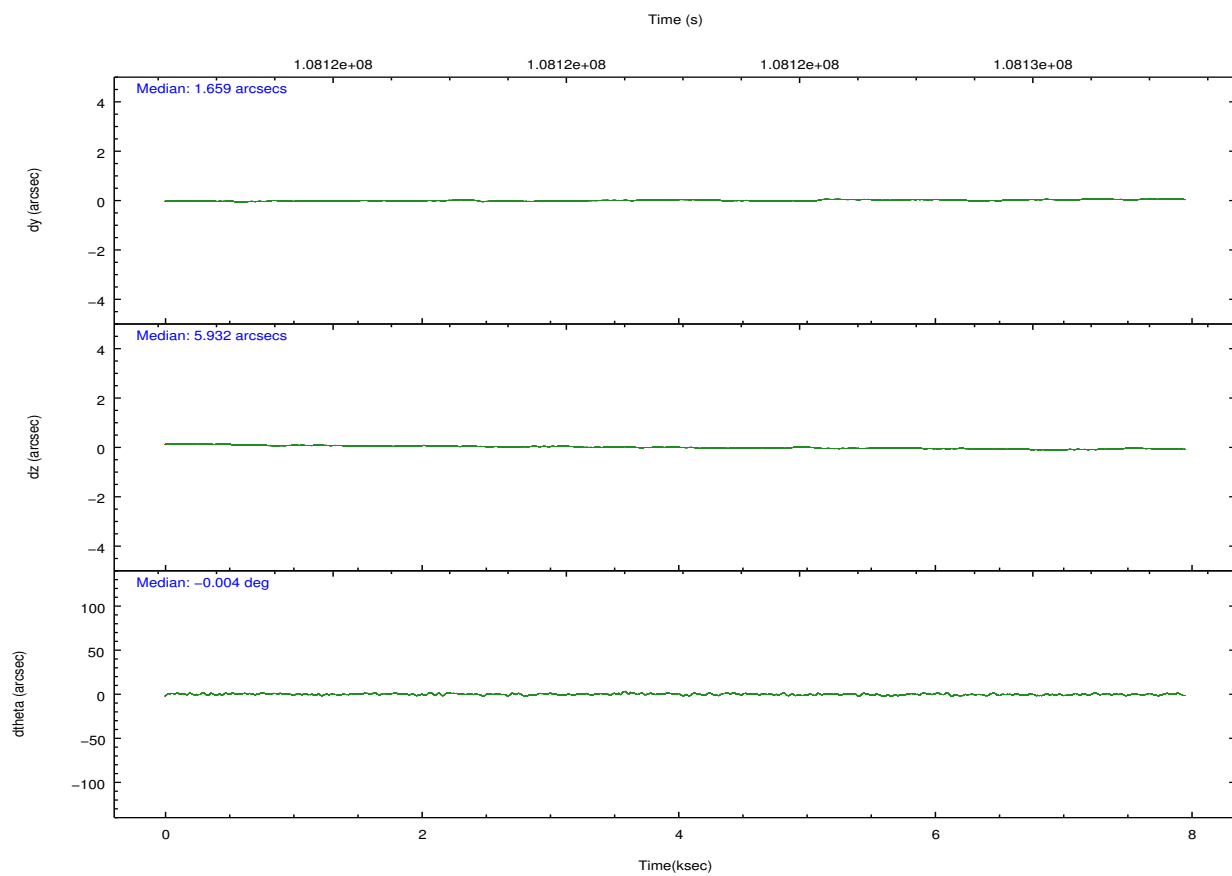
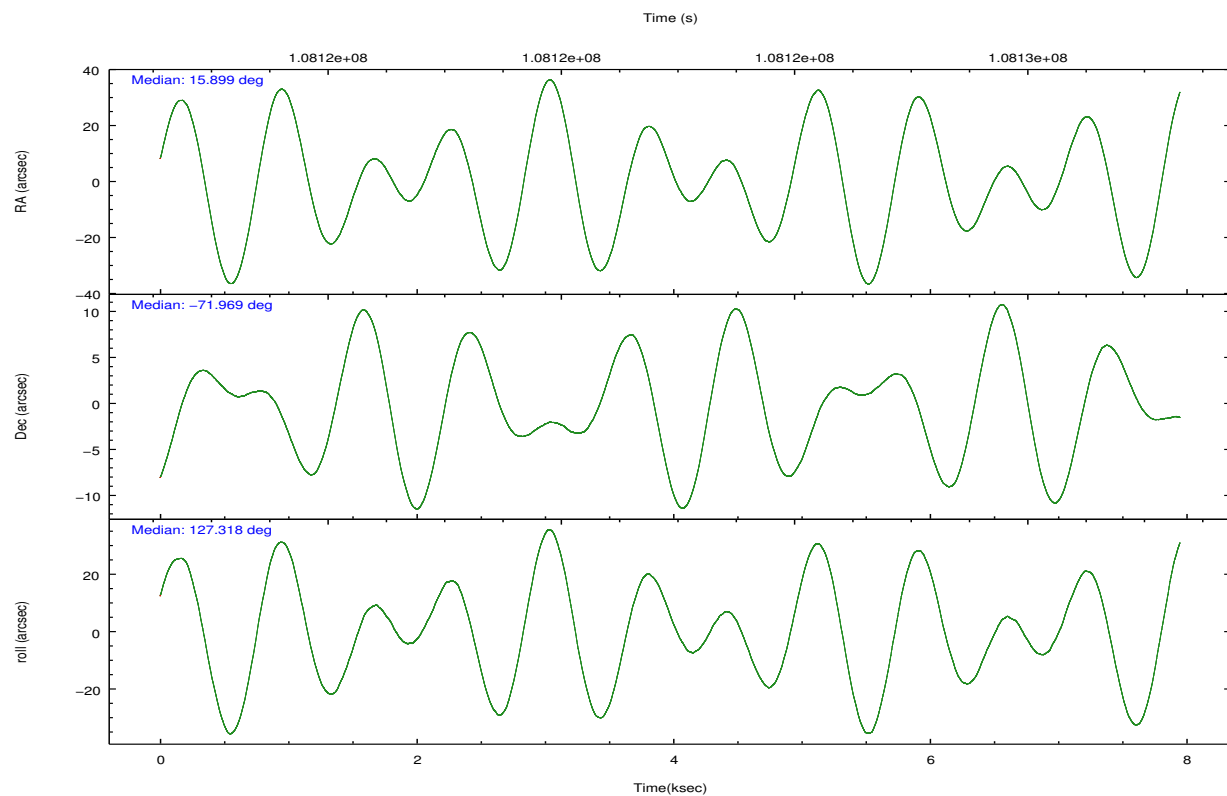


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                  | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-012367         | ACIS-012367           | 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                 | 15.979218           | 15.8973238472304      | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -71.979825          | -71.96925854140382    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 127.195551          | 127.3263625298224     | [s] Primary exposure time             | 0.000000  | 3.2     |
| [s] Window start time (MET)       | 107740864.184000    | 107740864.184000      |                                       |           |         |
| [s] Window stop time (MET)        | 110246464.184000    | 110246464.184000      |                                       |           |         |
| [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)  | 108119150.184000    | 108118773.97033       |                                       |           |         |
| Observation start date            | 2001-06-05T09:04:46 | 2001-06-05T08:59:33   |                                       |           |         |
| [s] Observation end time (MET)    | 108126905.184000    | 108127038.54566       |                                       |           |         |
| Observation end date              | 2001-06-05T11:14:01 | 2001-06-05T11:17:18   |                                       |           |         |
| Read mode                         | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



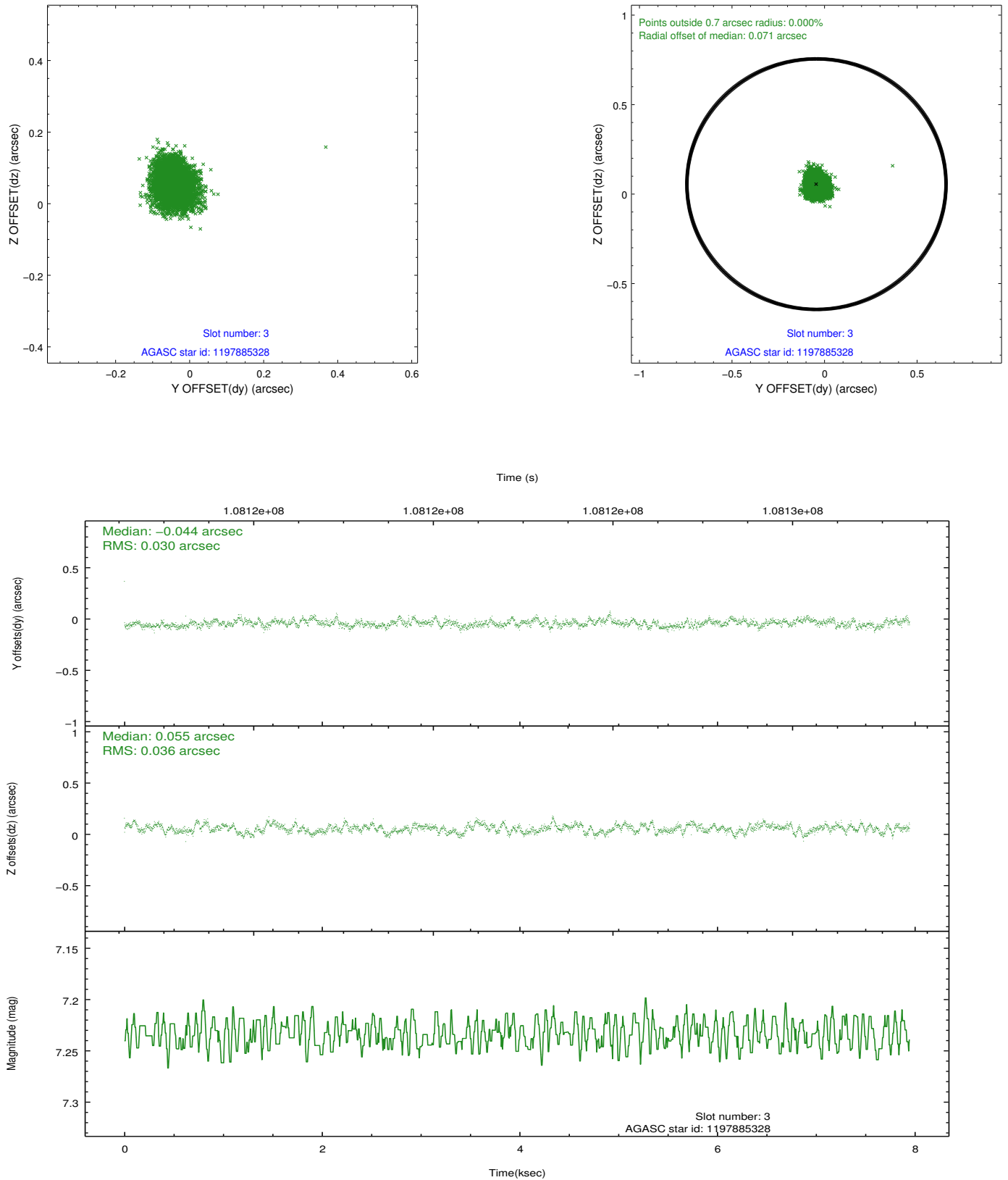


### Slot Statistics

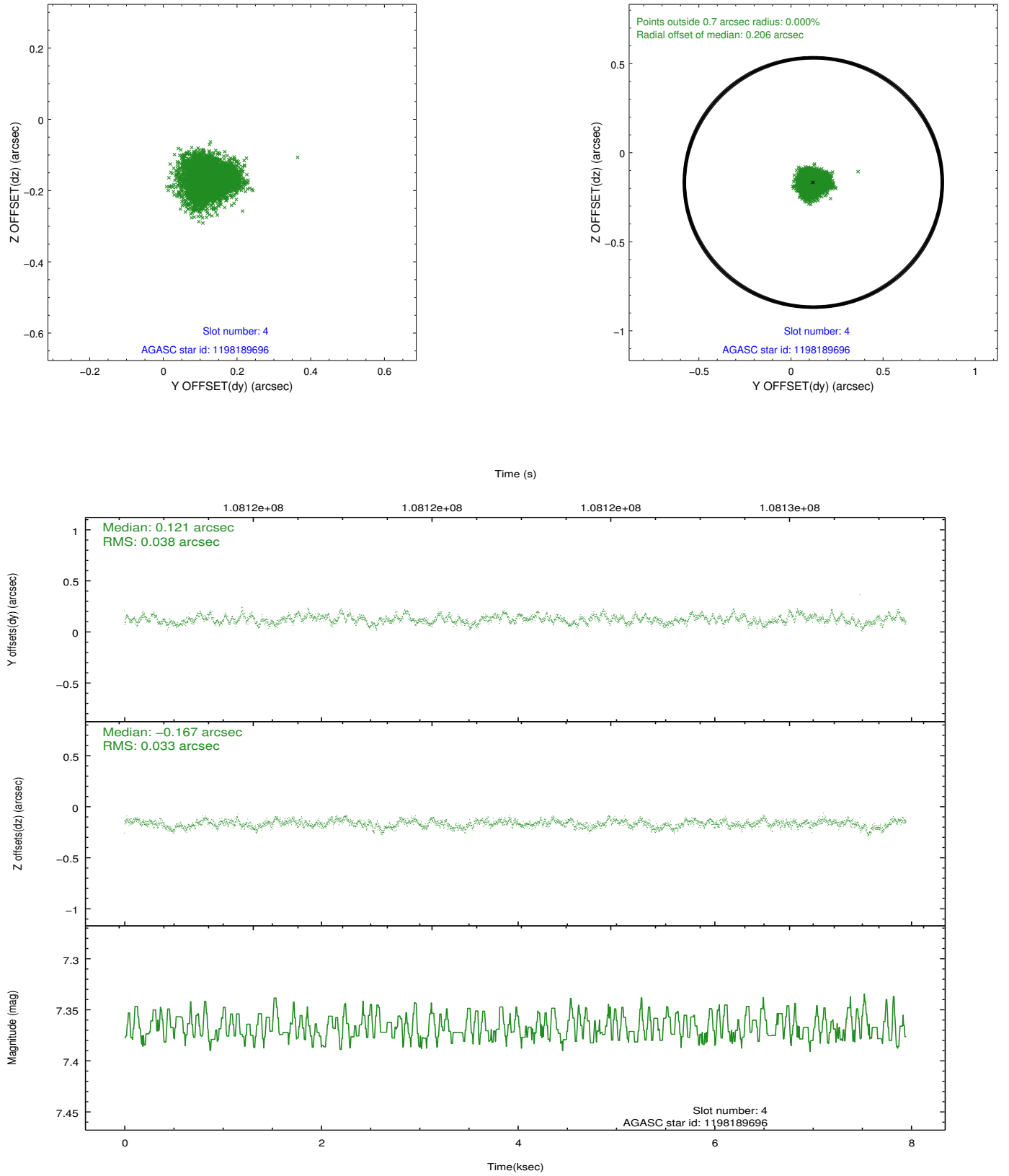
| slot | status | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mean_z   |
|------|--------|------------|------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0    | FID    | ACIS-I-2   | 7.15 | 1939  | -0.067 | -0.020 | 0.006 | 0.011 | 0.000000  | 0.000000   | -756.05  | -835.71  |
| 1    | FID    | ACIS-I-4   | 7.18 | 1938  | -0.025 | 0.039  | 0.008 | 0.013 | 0.000000  | 0.000000   | 2157.68  | 1070.25  |
| 2    | FID    | ACIS-I-6   | 7.26 | 1939  | -0.008 | 0.045  | 0.010 | 0.017 | 0.000000  | 0.000000   | 404.93   | 1713.20  |
| 3    | GUIDE  | 1197885328 | 7.23 | 3877  | -0.044 | 0.055  | 0.050 | 0.080 | 16.283090 | -71.733943 | 498.13   | -806.67  |
| 4    | GUIDE  | 1198189696 | 7.37 | 3878  | 0.121  | -0.167 | 0.054 | 0.086 | 15.223750 | -72.697522 | -1572.45 | 2209.83  |
| 5    | GUIDE  | 1197750936 | 7.57 | 3878  | -0.034 | 0.064  | 0.054 | 0.089 | 15.387940 | -71.549550 | 1639.02  | -395.80  |
| 6    | GUIDE  | 1197884536 | 8.49 | 3876  | 0.038  | 0.018  | 0.104 | 0.159 | 17.160729 | -71.835289 | -395.82  | -1361.98 |
| 7    | GUIDE  | 1197878768 | 9.61 | 3875  | -0.088 | 0.038  | 0.088 | 0.147 | 16.656786 | -71.304581 | 1461.39  | -2088.82 |

## 2.4 Star Slots

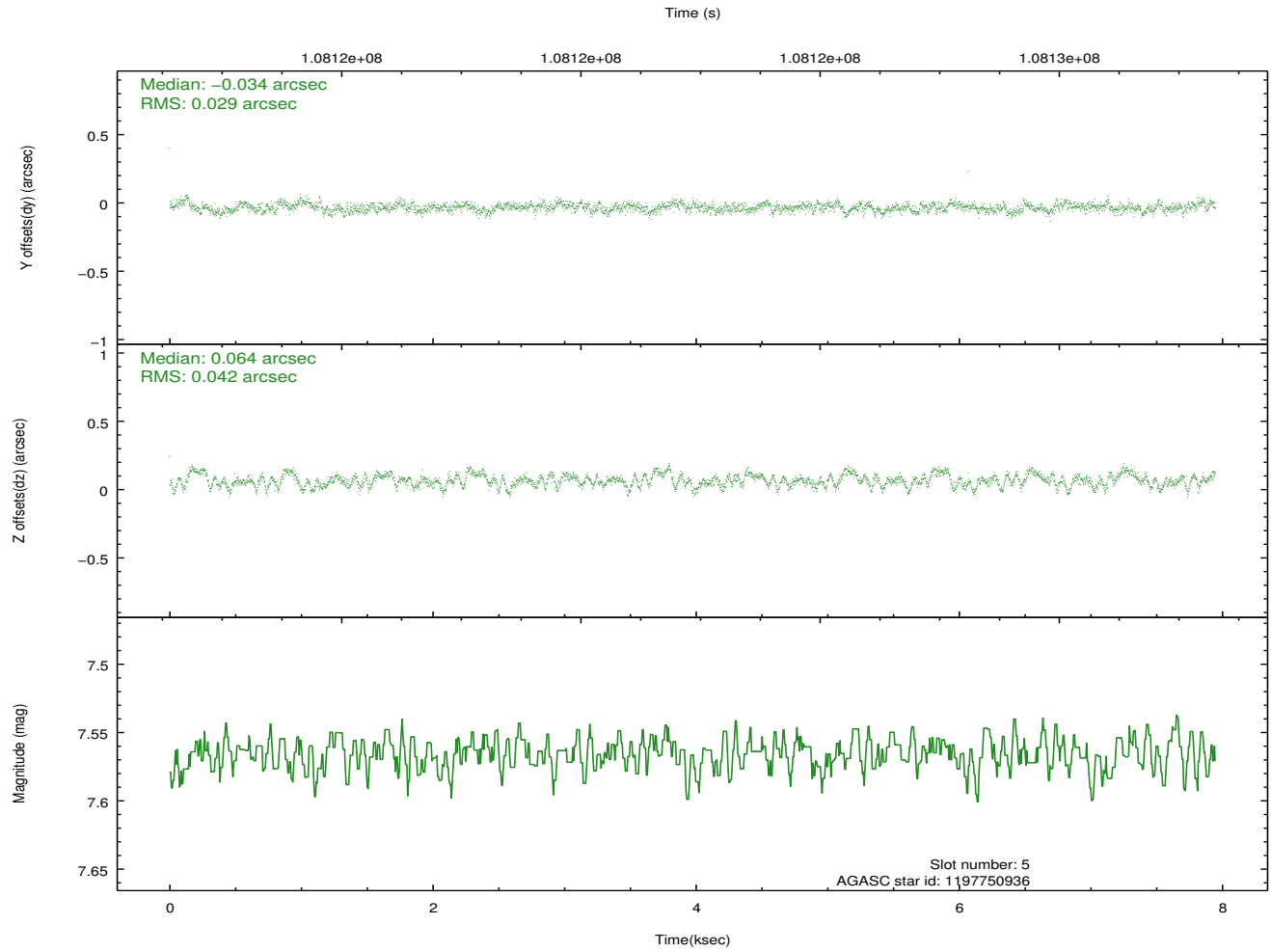
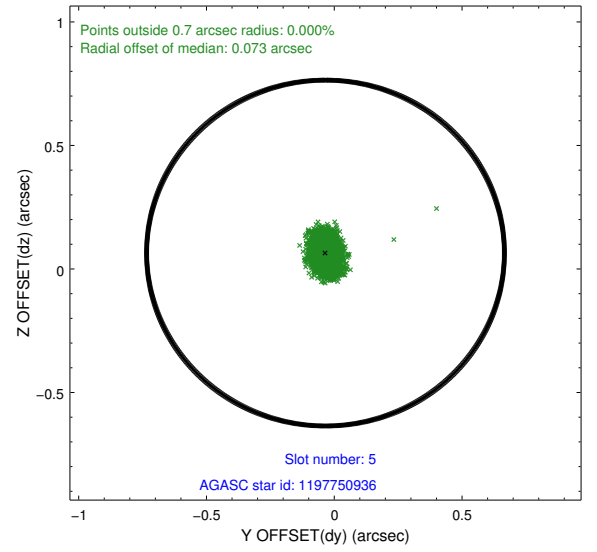
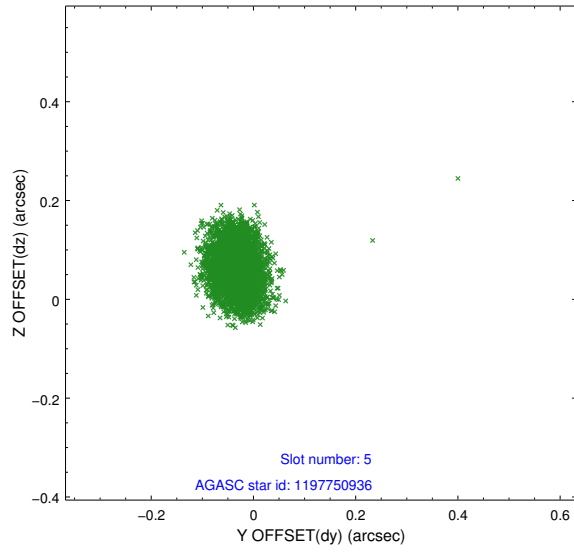
### 2.4.1 Slot 3



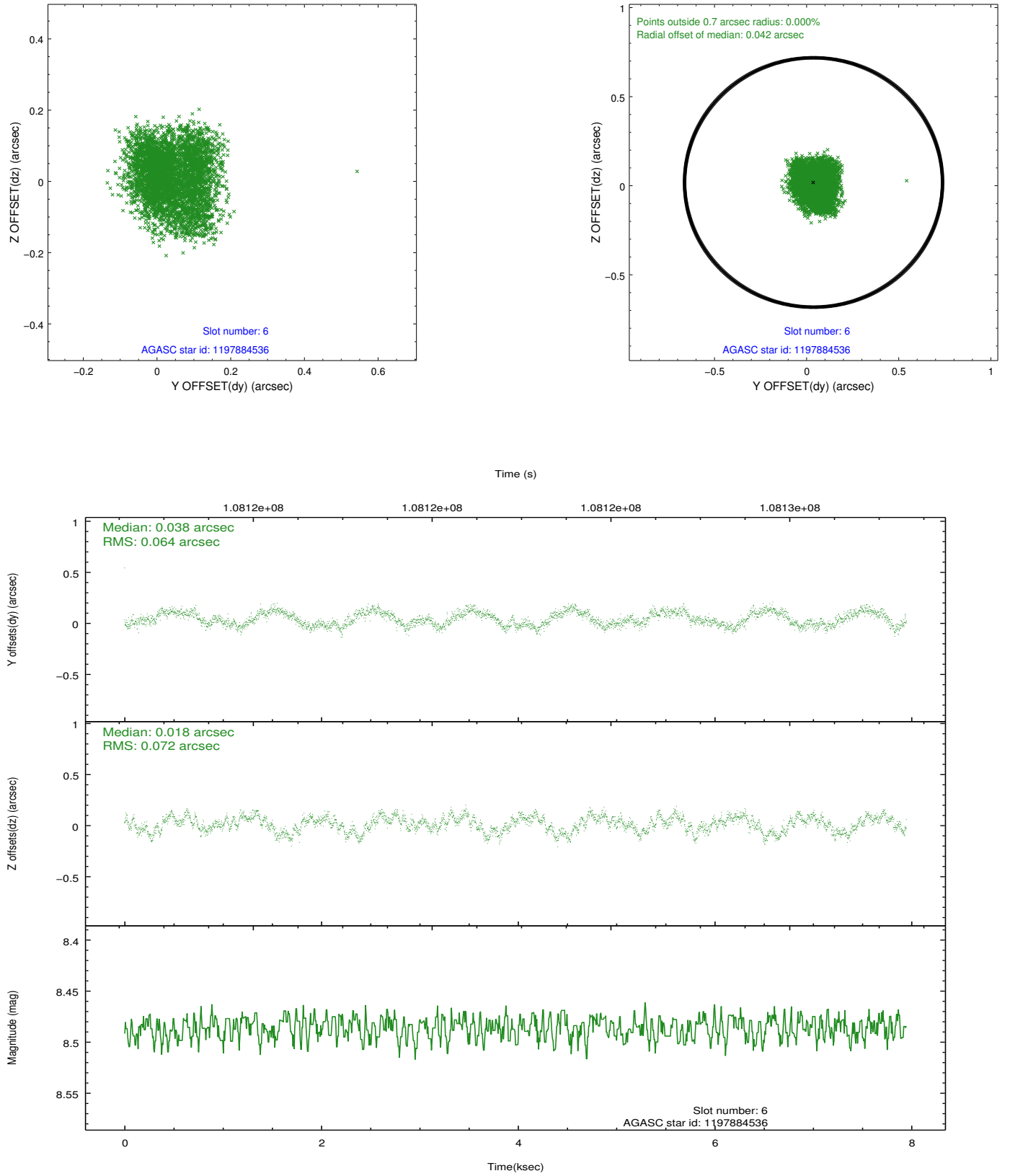
## 2.4.2 Slot 4



### 2.4.3 Slot 5

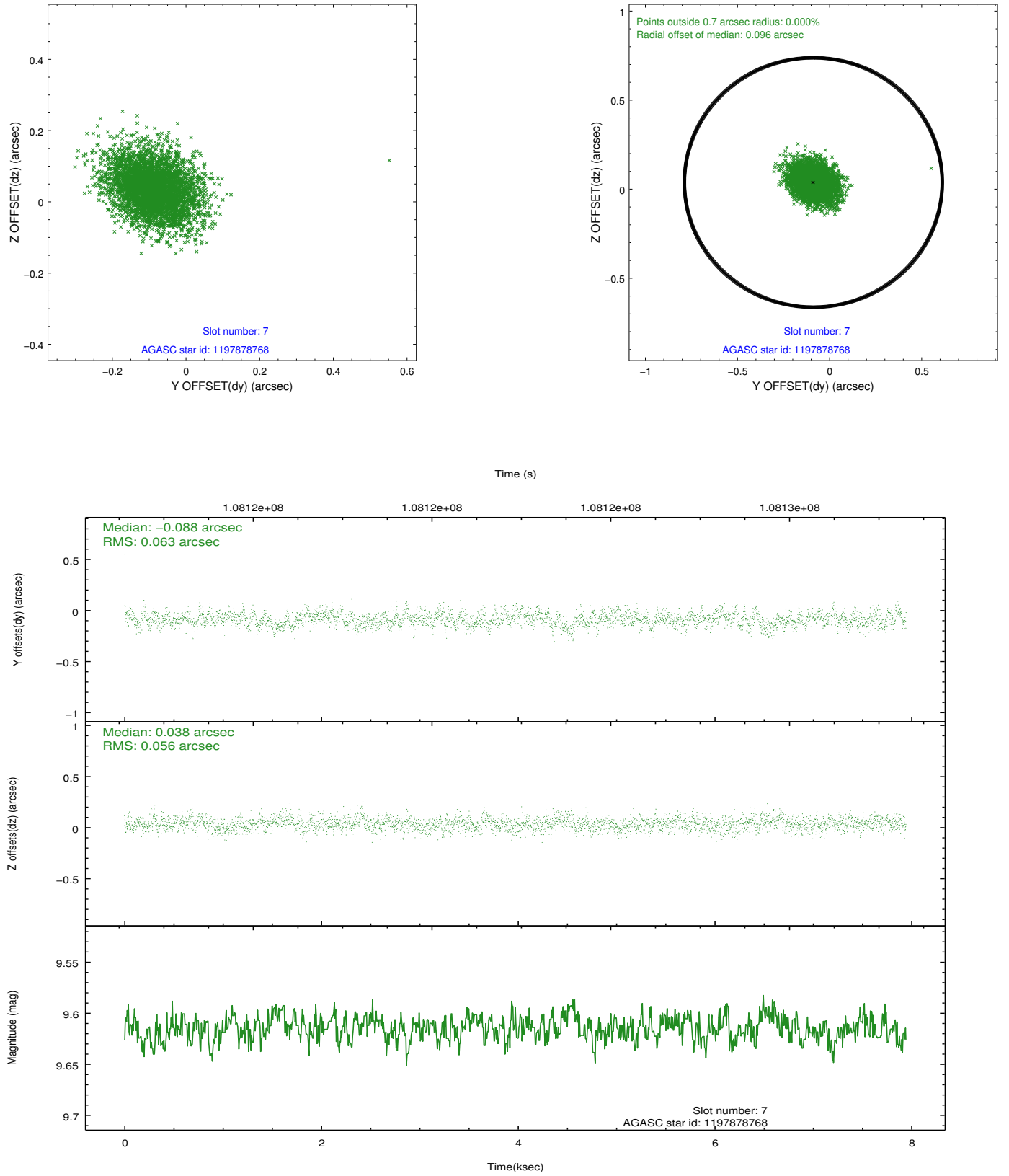


## 2.4.4 Slot 6



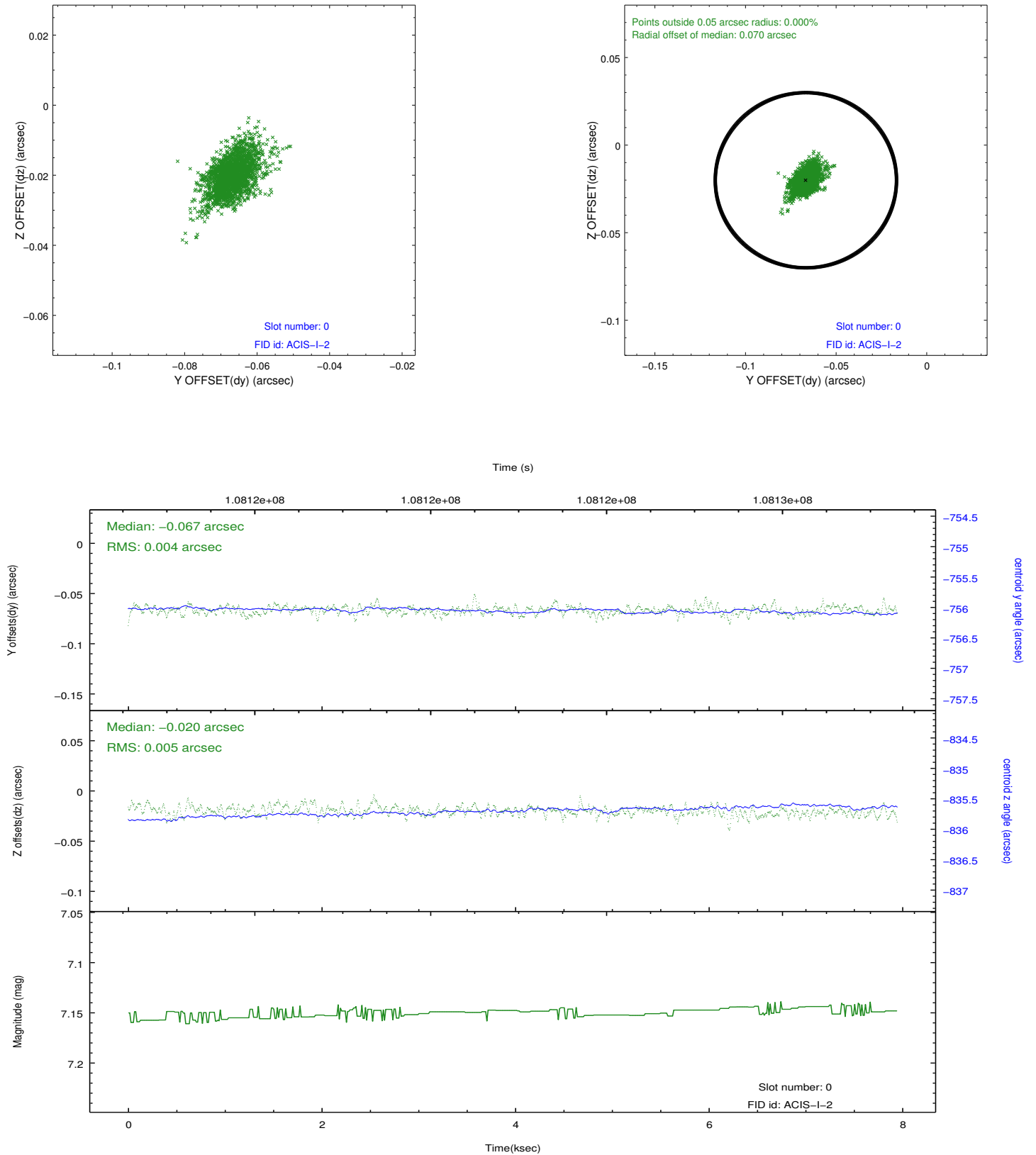


## 2.4.5 Slot 7

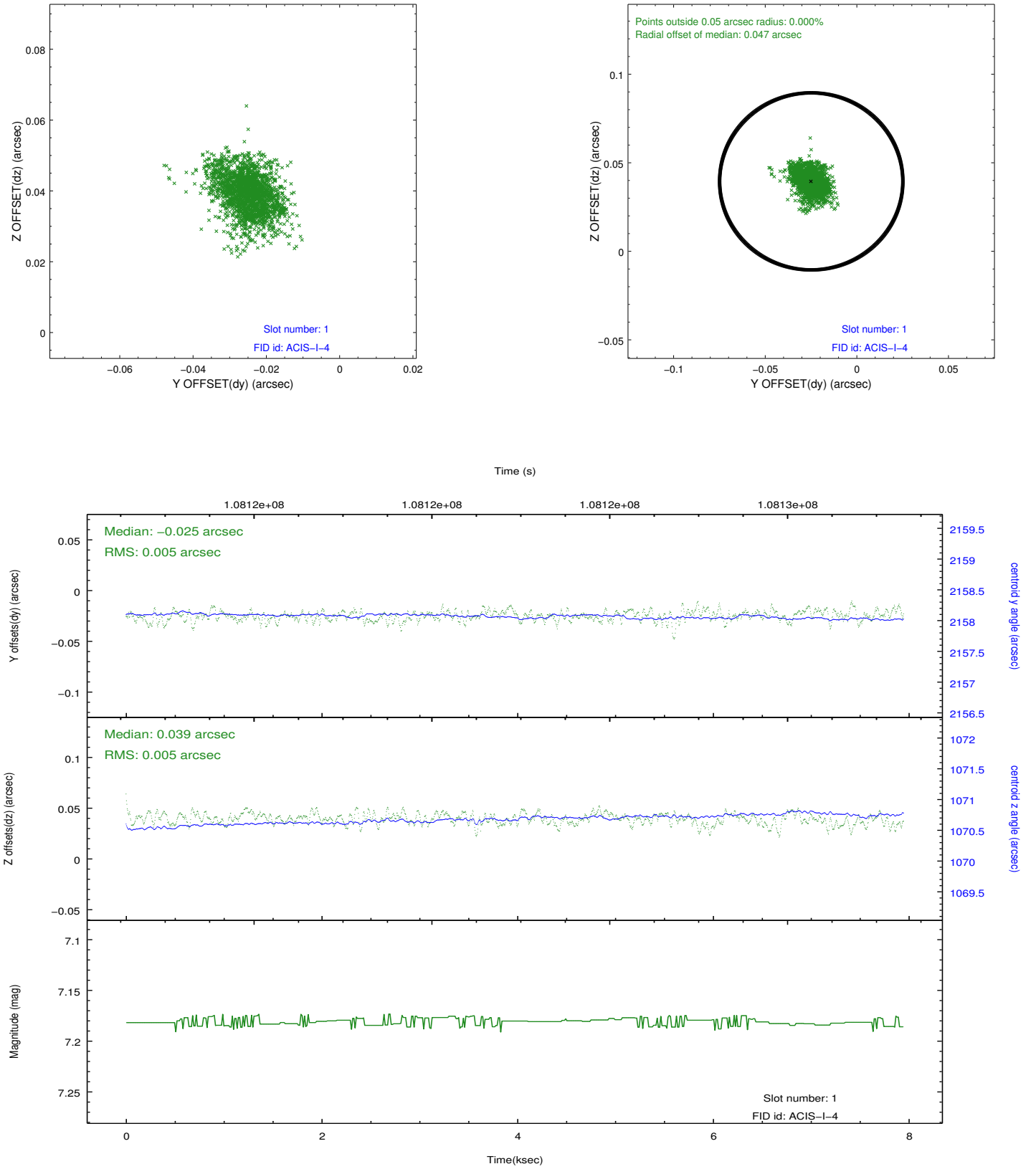


## 2.5 FID Slots

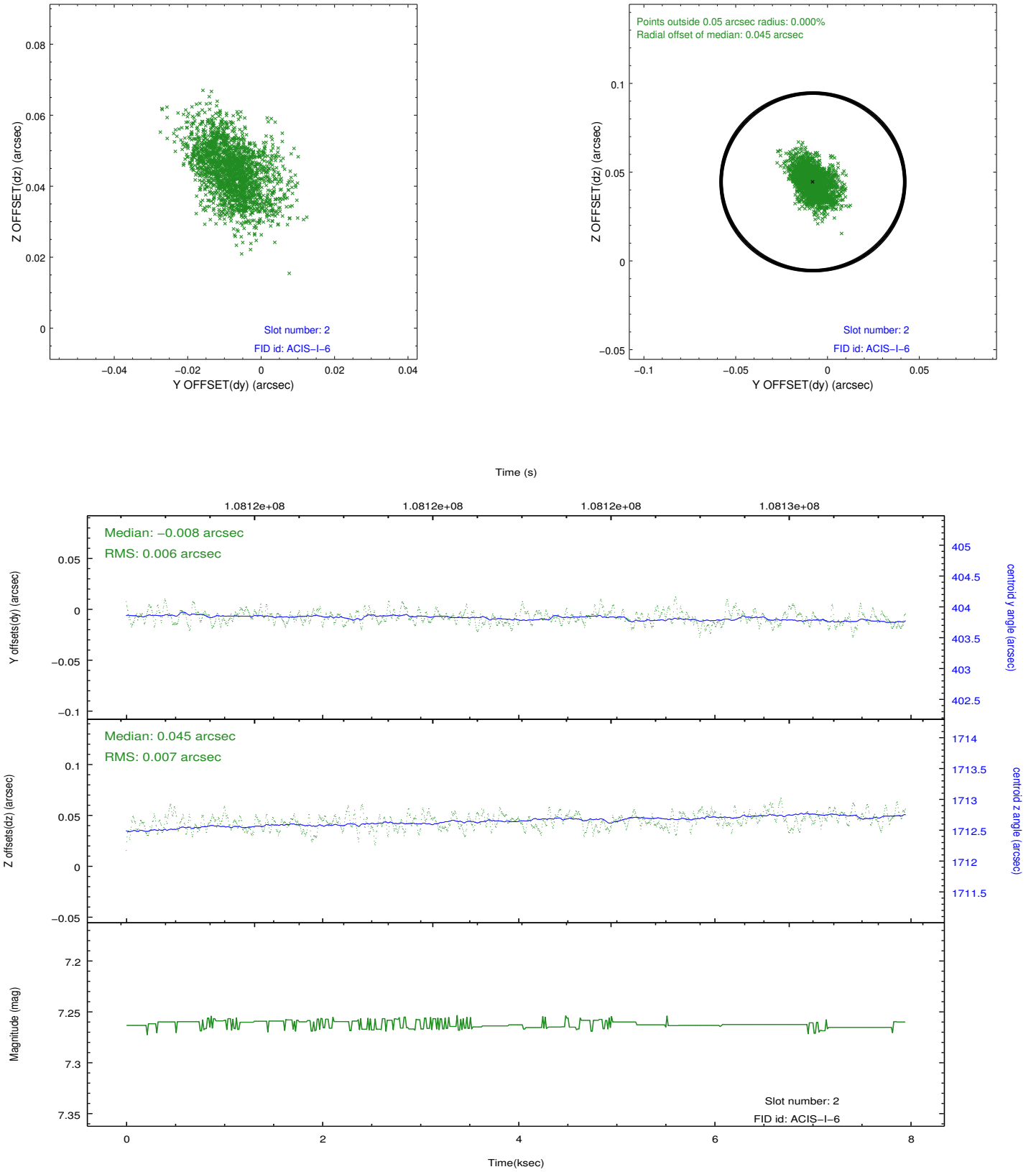
### 2.5.1 Slot 0



## 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)      | 2012.09.20 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 7.516      |

### A.2 Comments

Window constraint OK.