

# V&V Reference Report

## L2 ASCDS Version : 10.6

Observation 19771 - L2 Version 1  
Chandra X-Ray Center

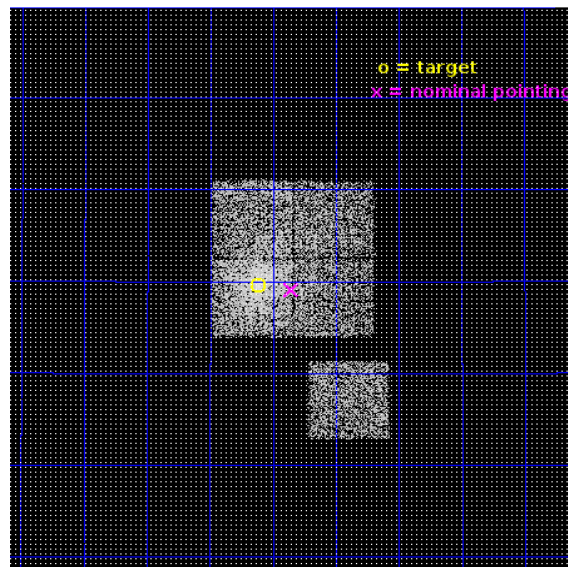
L2 Processing Date : Sep 28 2017

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# 1 Front

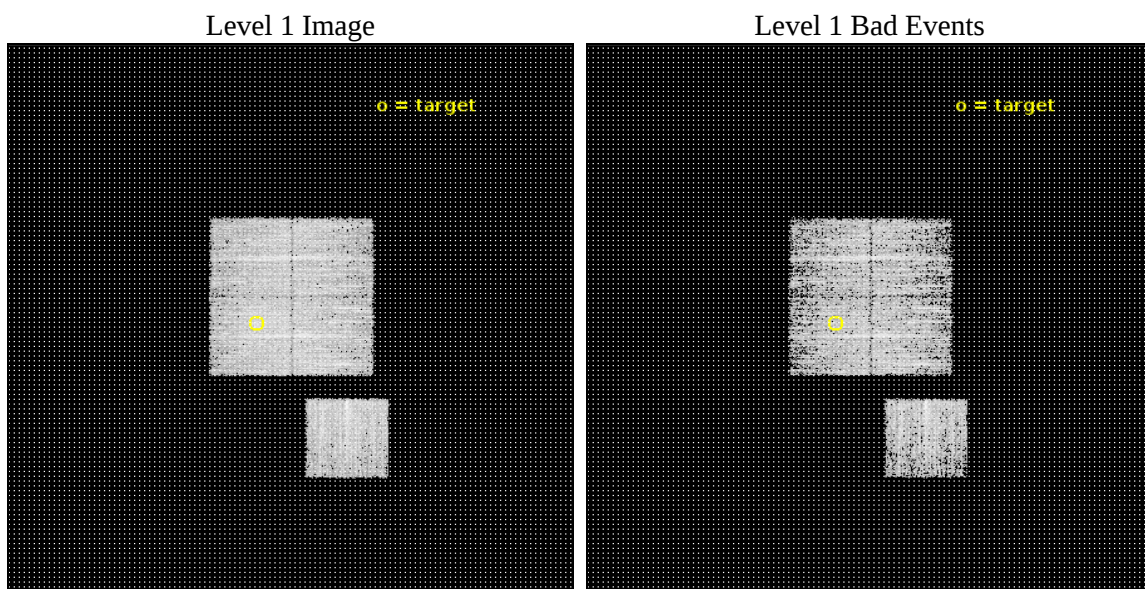
|          |                                   |                                             |
|----------|-----------------------------------|---------------------------------------------|
| seq_num  | 801708                            | Sequence number                             |
| obs_id   | 19771                             | Observation id                              |
| title    | Probing the Planck Cluster Sample | Proposal title                              |
| observer | Ralph Kraft                       | Principal investigator                      |
| object   | G114.78                           | Source name                                 |
| dtcycle  | 0                                 | &#160                                       |
| cycle    | P                                 | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 5.154167                          | Observer's specified target RA [deg]        |
| dec_targ | 28.659917                         | Observer's specified target Dec [deg]       |
| ra_nom   | 5.0883232485847                   | Nominal RA [deg]                            |
| dec_nom  | 28.65180780223                    | Nominal Dec [deg]                           |
| roll_nom | 180.12532672004                   | Nominal Roll [deg]                          |
| revision | 1                                 | Processing version of data                  |
| ontime   | 5071.3746197224                   | Sum of GTIs [s]                             |
| livetime | 5005.113376824                    | Livetime [s]                                |
| ontime0  | 5071.2514997721                   | Sum of GTIs [s]                             |
| ontime1  | 5068.1515495777                   | Sum of GTIs [s]                             |
| ontime2  | 5071.3335797787                   | Sum of GTIs [s]                             |
| ontime3  | 5071.3746197224                   | Sum of GTIs [s]                             |
| ontime6  | 5071.2104597092                   | Sum of GTIs [s]                             |
| l2events | 19651                             | Number of level 2 events                    |



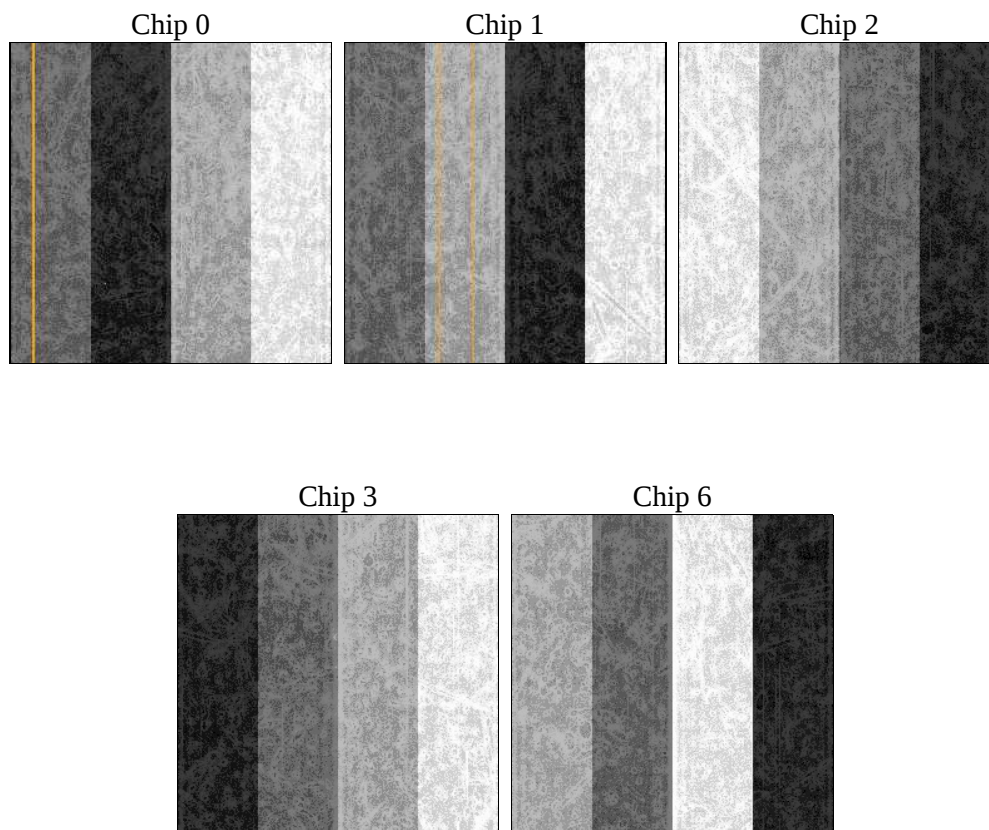
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 10.6                | Processing system revision     | ontime         | 5071.3746197224 | Sum of GTIs [s]                         |
| caldsver | 4.7.6               | &#160                          | ontime0        | 5071.2514997721 | Sum of GTIs [s]                         |
| date     | 2017-09-29T02:49:37 | Date and time of file creation | ontime1        | 5068.1515495777 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime2        | 5071.3335797787 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 5071.3746197224 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 5071.2104597092 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 154574          | Number of level 1 events                |

### 2.1.4 Events

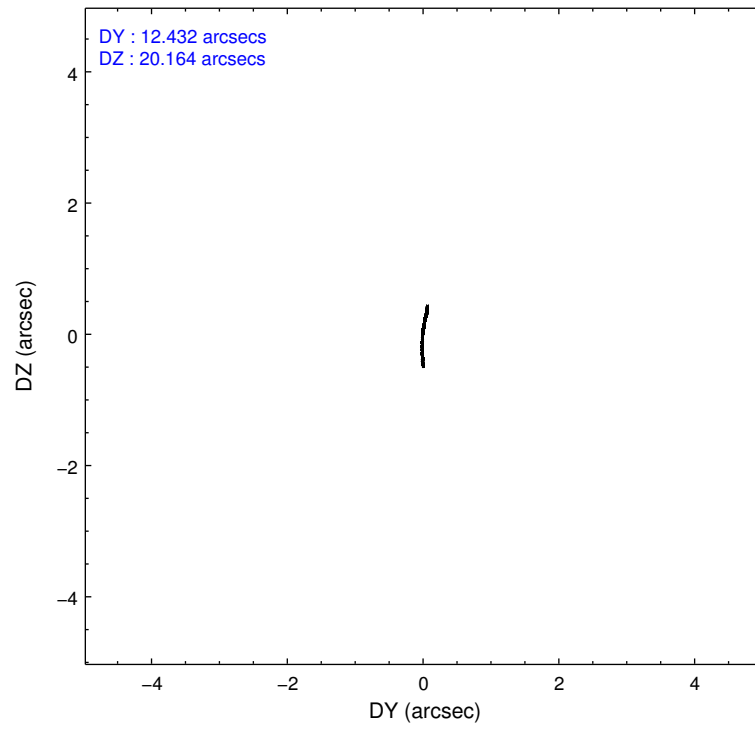
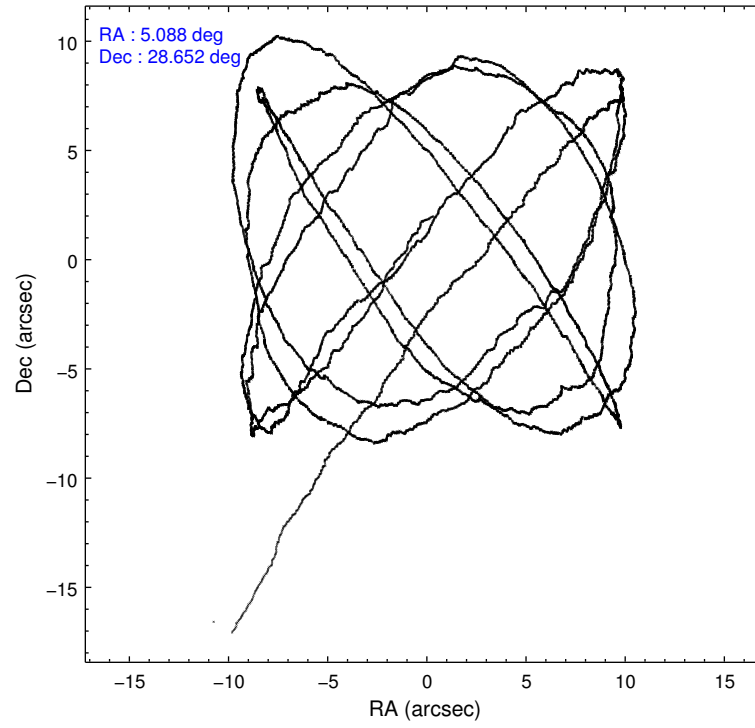
|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 28363 | 28616 | 33189 | 33138 | 31268 |
| rejected events | 24582 | 24124 | 29317 | 26424 | 27509 |
| rejected %      | 86%   | 84%   | 88%   | 79%   | 87%   |

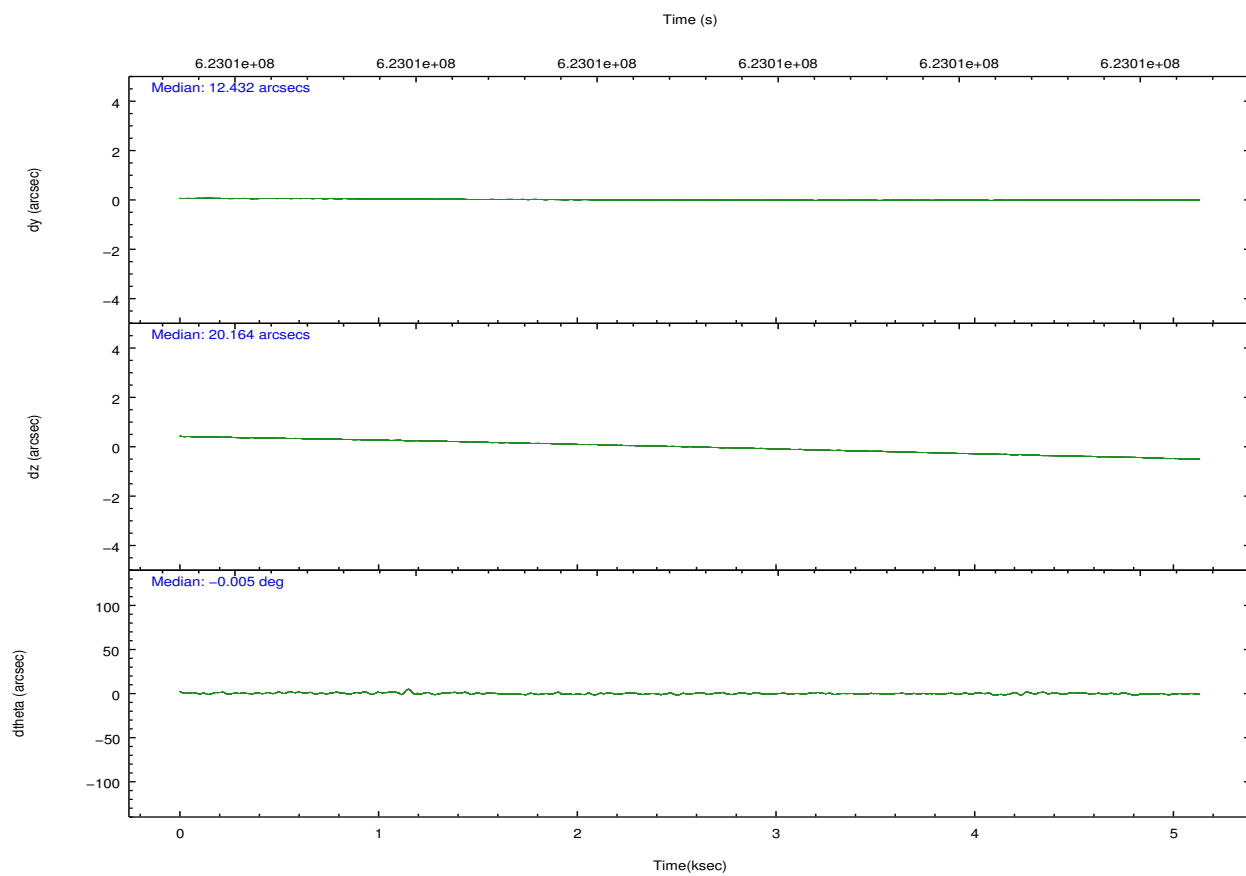
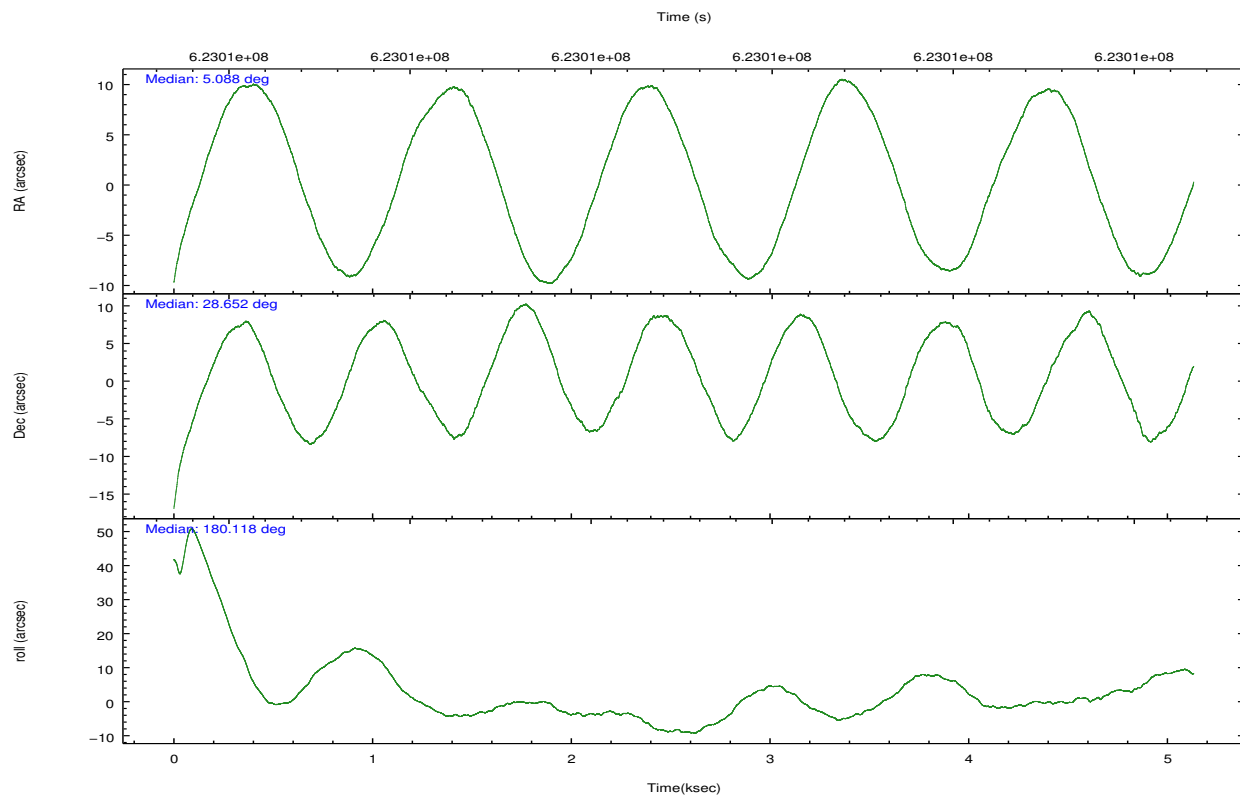
|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1285  | 1715  | 1479  | 3780  | 1288  |
|                | 4%    | 5%    | 4%    | 11%   | 4%    |
| grade 1 events | 21    | 17    | 12    | 45    | 20    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 952   | 1044  | 970   | 1145  | 879   |
|                | 3%    | 3%    | 2%    | 3%    | 2%    |
| grade 3 events | 395   | 423   | 338   | 467   | 359   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 4 events | 354   | 420   | 363   | 500   | 372   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 5 events | 1434  | 1456  | 1350  | 1682  | 1571  |
|                | 5%    | 5%    | 4%    | 5%    | 5%    |
| grade 6 events | 798   | 894   | 725   | 825   | 862   |
|                | 2%    | 3%    | 2%    | 2%    | 2%    |
| grade 7 events | 23124 | 22647 | 27952 | 24694 | 25917 |
|                | 81%   | 79%   | 84%   | 74%   | 82%   |

## 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               | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 5.115508            | 5.088323248584743    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 28.665820           | 28.65180780222989    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 179.903652          | 180.1253267200352    | [s] Primary exposure time             | 0.000000  | 3.1     |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334 |                                       |           |         |
| [mm] SIM translation stage pos    | -225.842463         | -225.8458576473255   |                                       |           |         |
| [mm] SIM translation stage offset | -7.75               | -7.746595355604228   |                                       |           |         |
| [s] Observation start time (MET)  | 623006092.184000    | 623004830.41155      |                                       |           |         |
| Observation start date            | 2017-09-28T17:13:43 | 2017-09-28T16:53:50  |                                       |           |         |
| [s] Observation end time (MET)    | 623011092.184000    | 623012031.5494699    |                                       |           |         |
| Observation end date              | 2017-09-28T18:37:03 | 2017-09-28T18:53:51  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



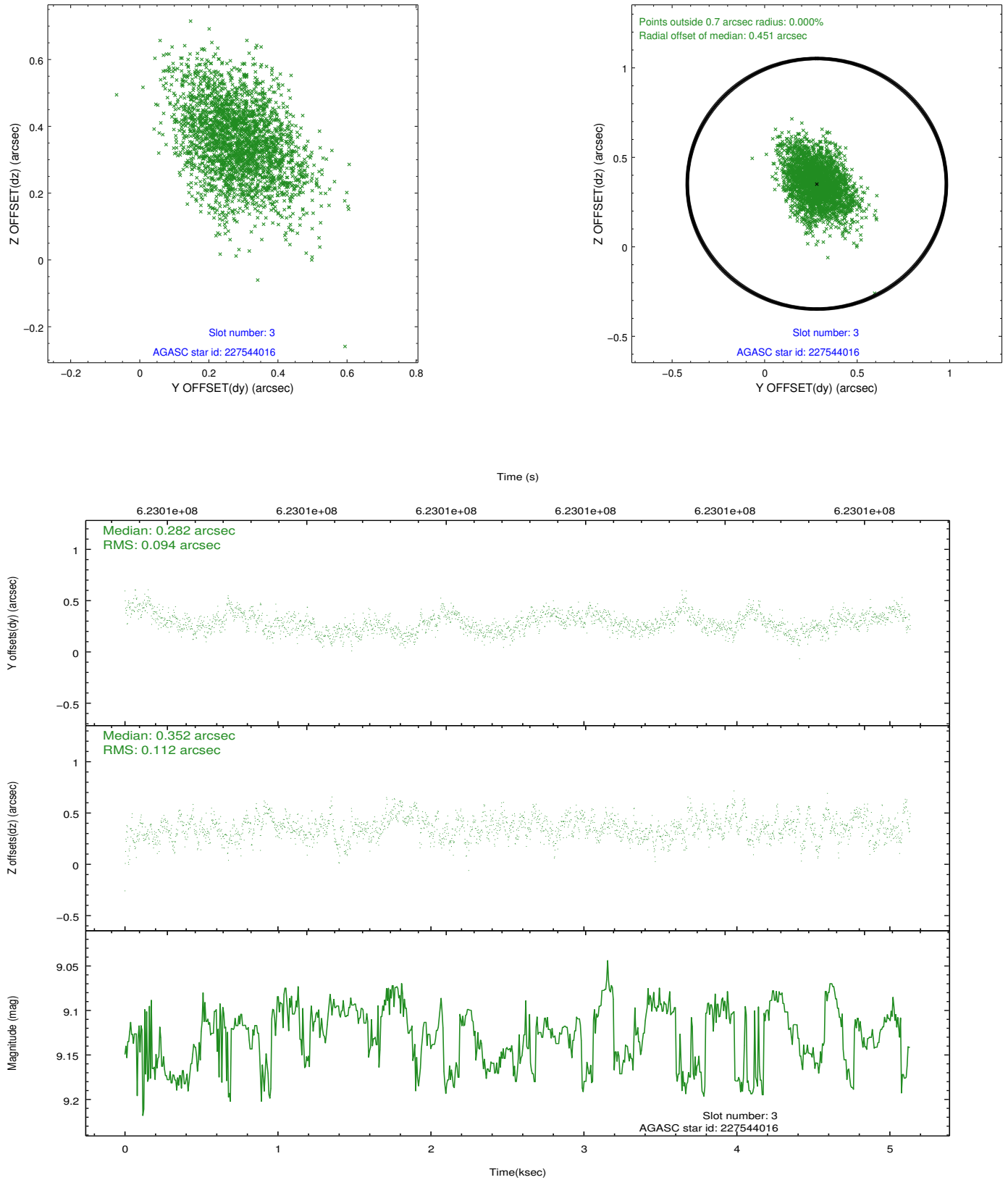


# Slot Statistics

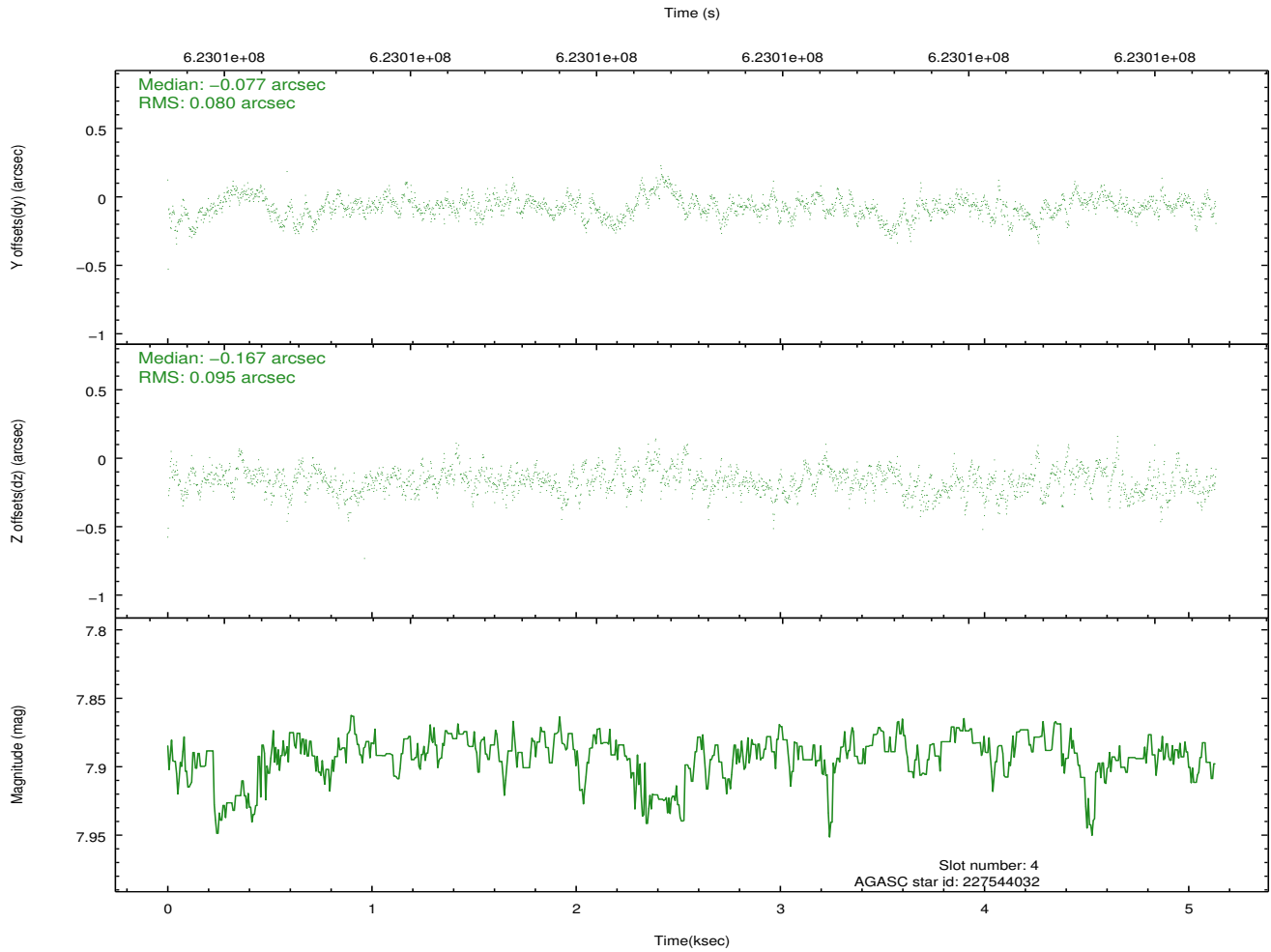
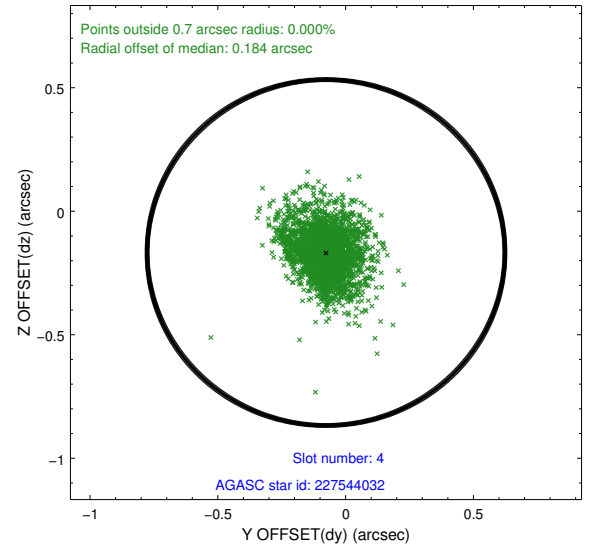
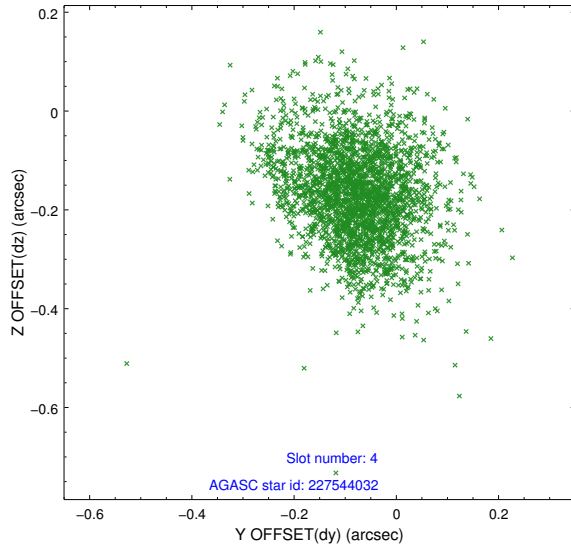
| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra       | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|----------|-----------|----------|----------|
| 0    | FID    |      | ACIS-I-1  | 7.11 | 1252  | -0.105 | -0.164 | 0.020 | 0.029 | 0.000000 | 0.000000  | 926.89   | -1003.03 |
| 1    | FID    |      | ACIS-I-4  | 7.03 | 1252  | 0.022  | 0.167  | 0.011 | 0.019 | 0.000000 | 0.000000  | 2147.17  | 897.42   |
| 2    | FID    |      | ACIS-I-6  | 7.12 | 1252  | -0.014 | 0.064  | 0.015 | 0.024 | 0.000000 | 0.000000  | 394.26   | 1539.79  |
| 3    | GUIDE  | used | 227544016 | 9.13 | 2504  | 0.282  | 0.352  | 0.154 | 0.256 | 5.298344 | 28.904196 | -574.21  | -859.28  |
| 4    | GUIDE  | used | 227544032 | 7.89 | 2505  | -0.077 | -0.167 | 0.127 | 0.213 | 5.356955 | 28.326223 | -767.15  | 1219.51  |
| 5    | GUIDE  | used | 227544064 | 7.81 | 2505  | 0.093  | 0.336  | 0.111 | 0.196 | 5.422859 | 28.903759 | -967.13  | -858.75  |
| 6    | GUIDE  | used | 227559504 | 9.10 | 2503  | -0.085 | -0.158 | 0.189 | 0.318 | 5.467582 | 28.262653 | -1119.27 | 1447.26  |
| 7    | GUIDE  | used | 227549808 | 9.51 | 2501  | -0.241 | -0.357 | 0.193 | 0.342 | 4.577381 | 28.304762 | 1701.95  | 1299.70  |

## 2.4 Star Slots

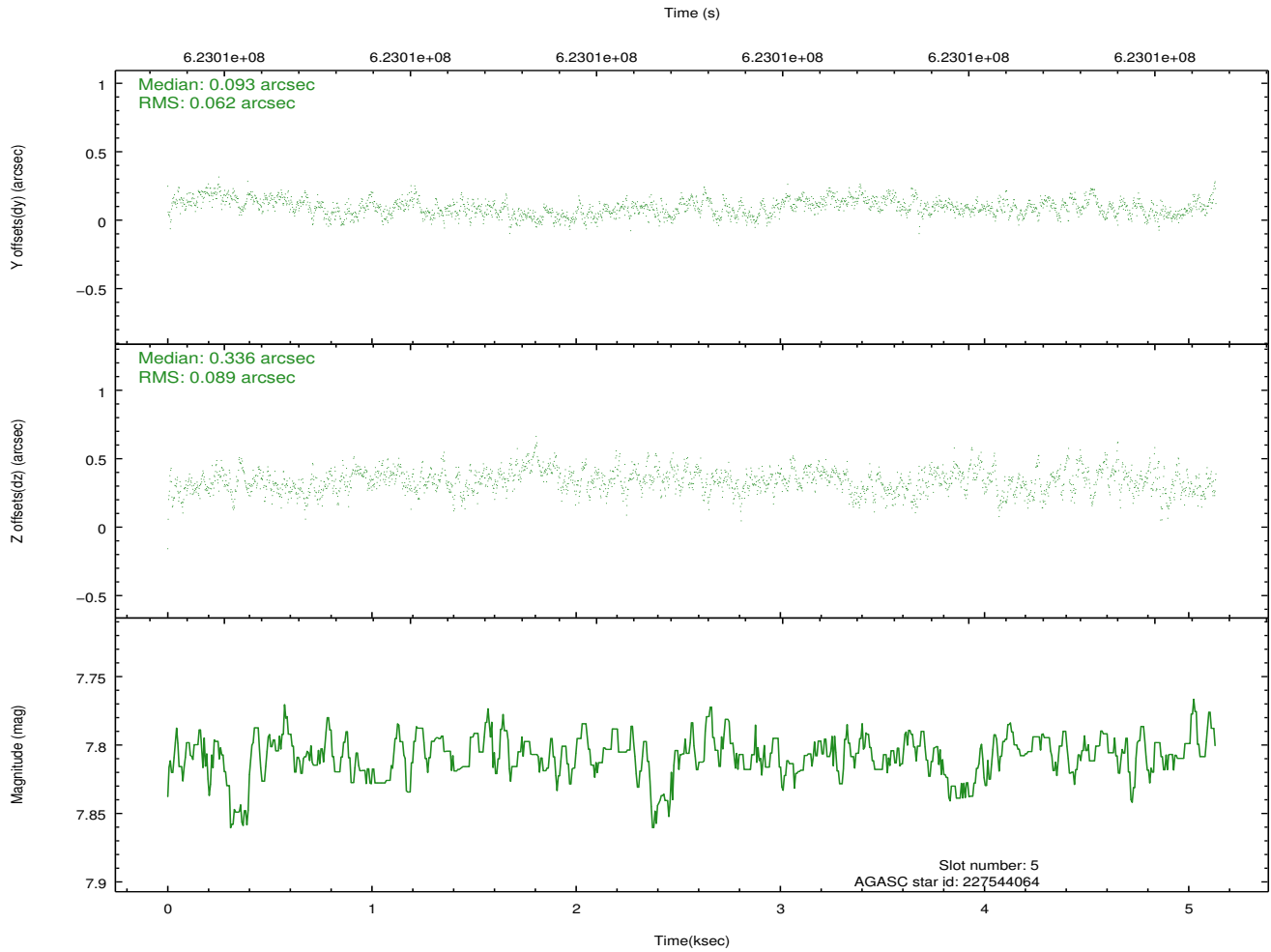
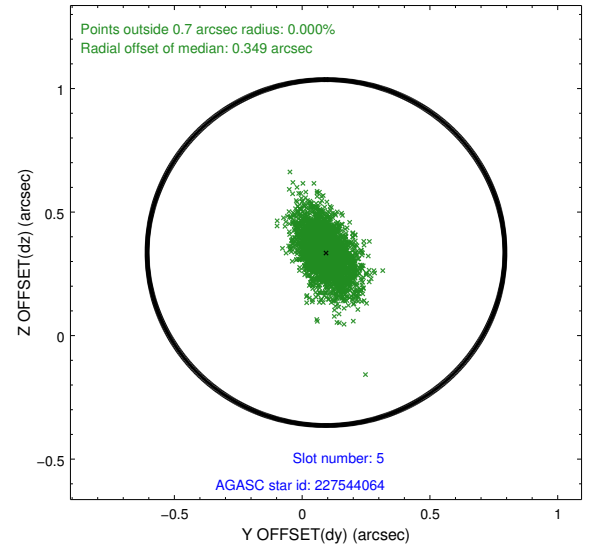
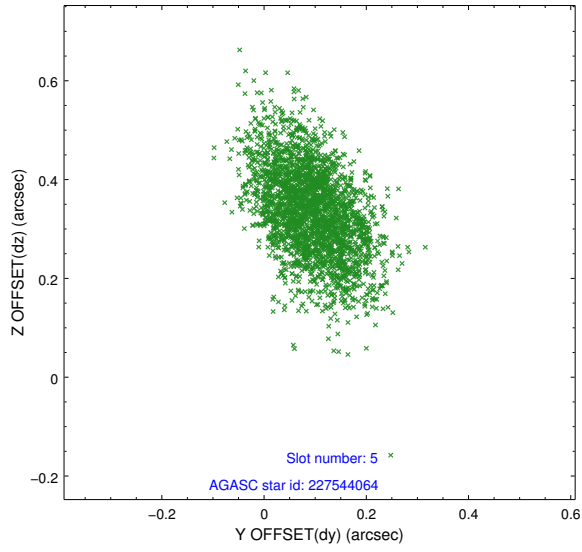
### 2.4.1 Slot 3



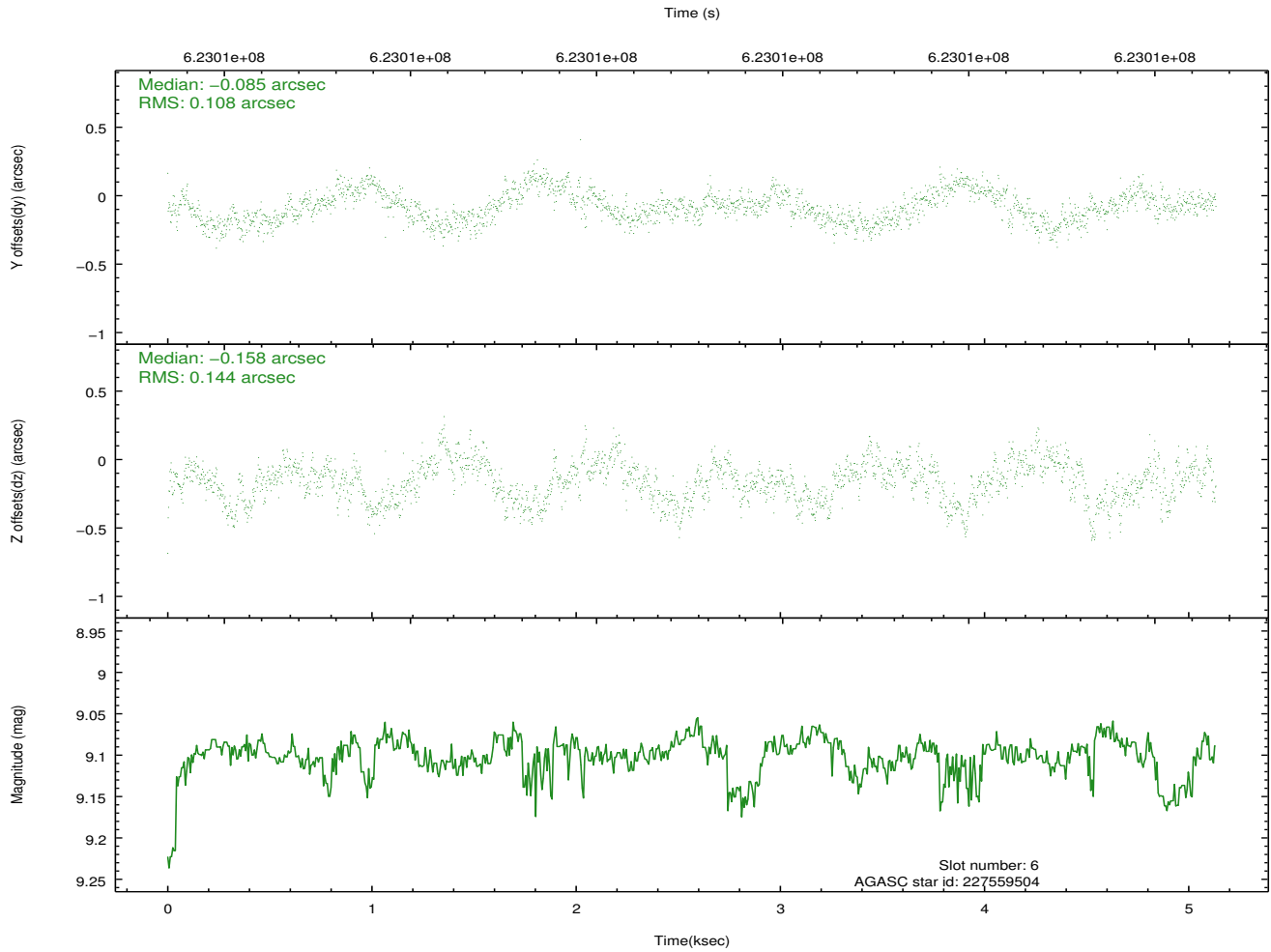
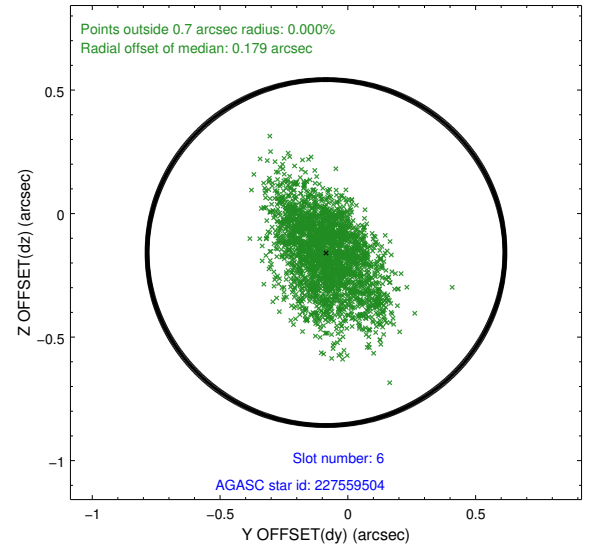
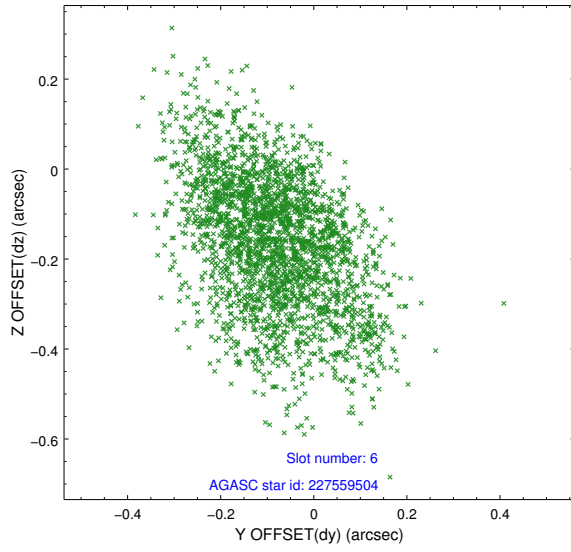
## 2.4.2 Slot 4



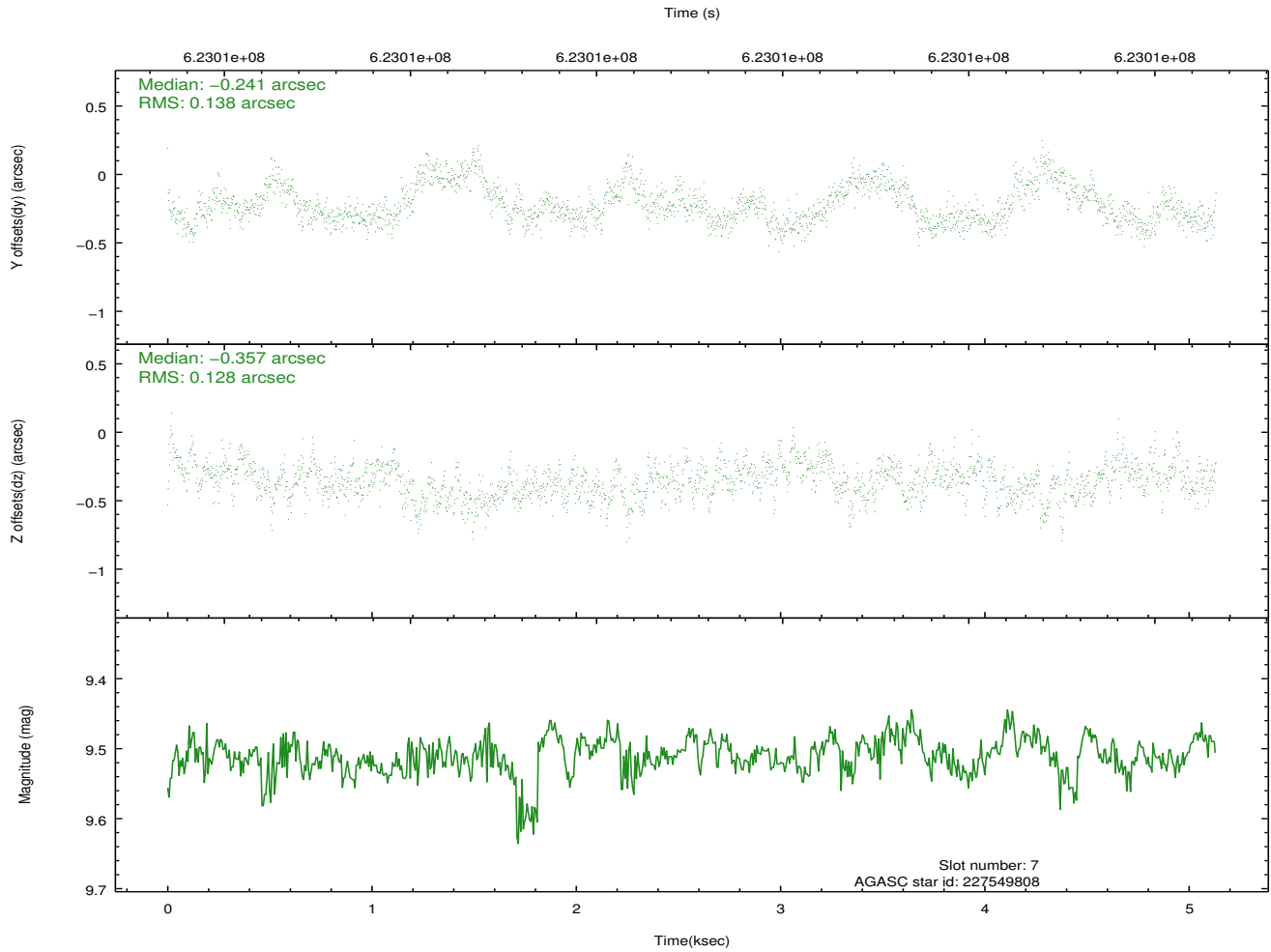
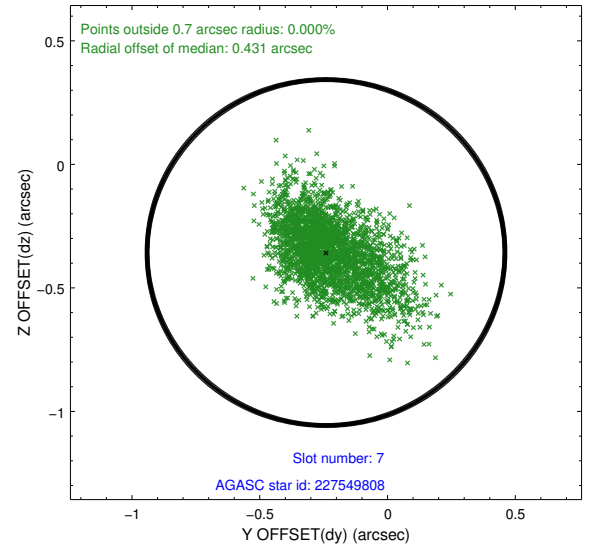
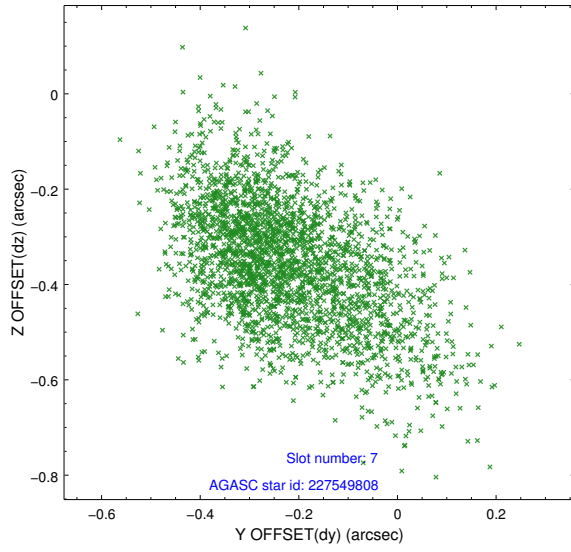
### 2.4.3 Slot 5



## 2.4.4 Slot 6

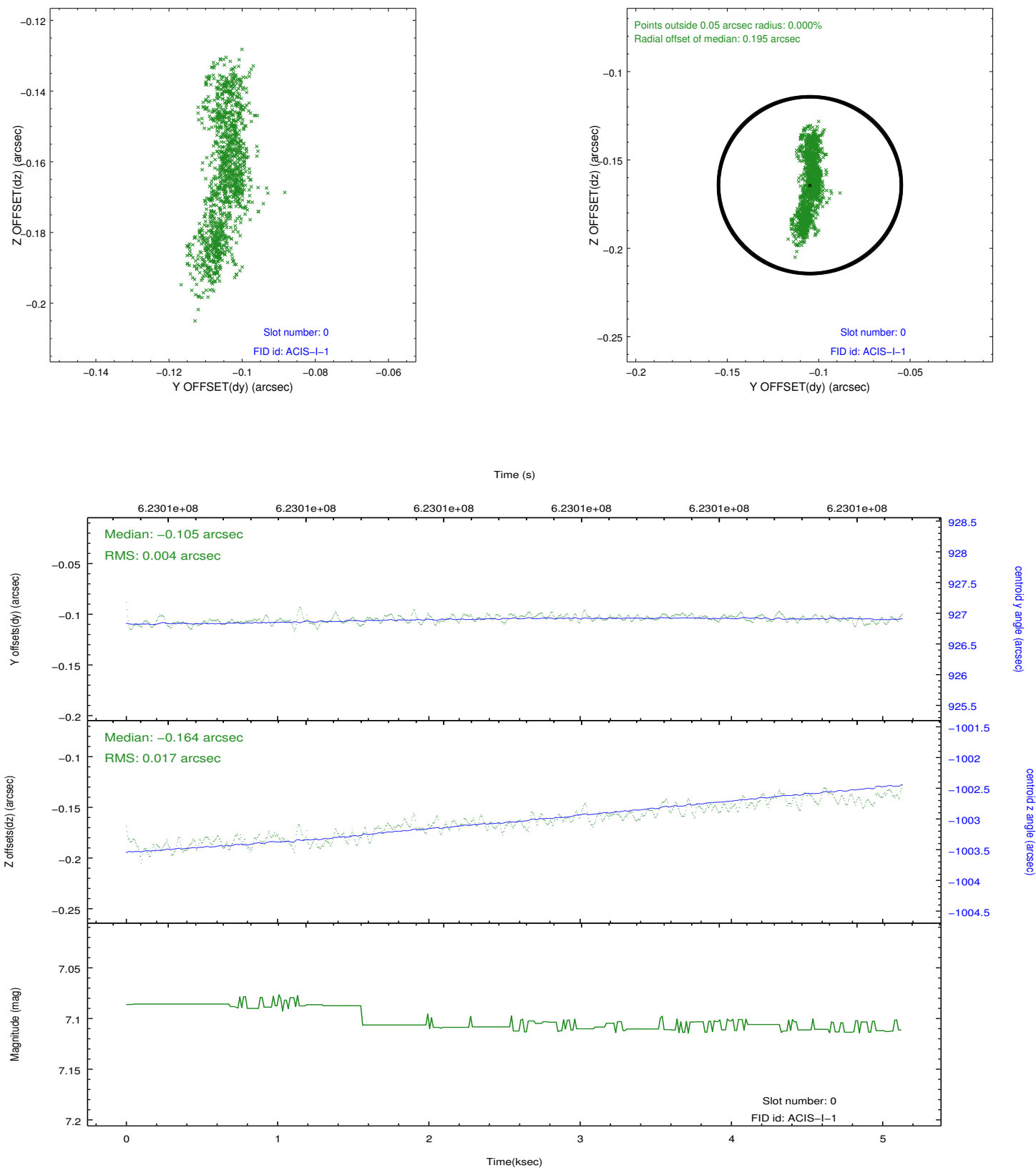


## 2.4.5 Slot 7

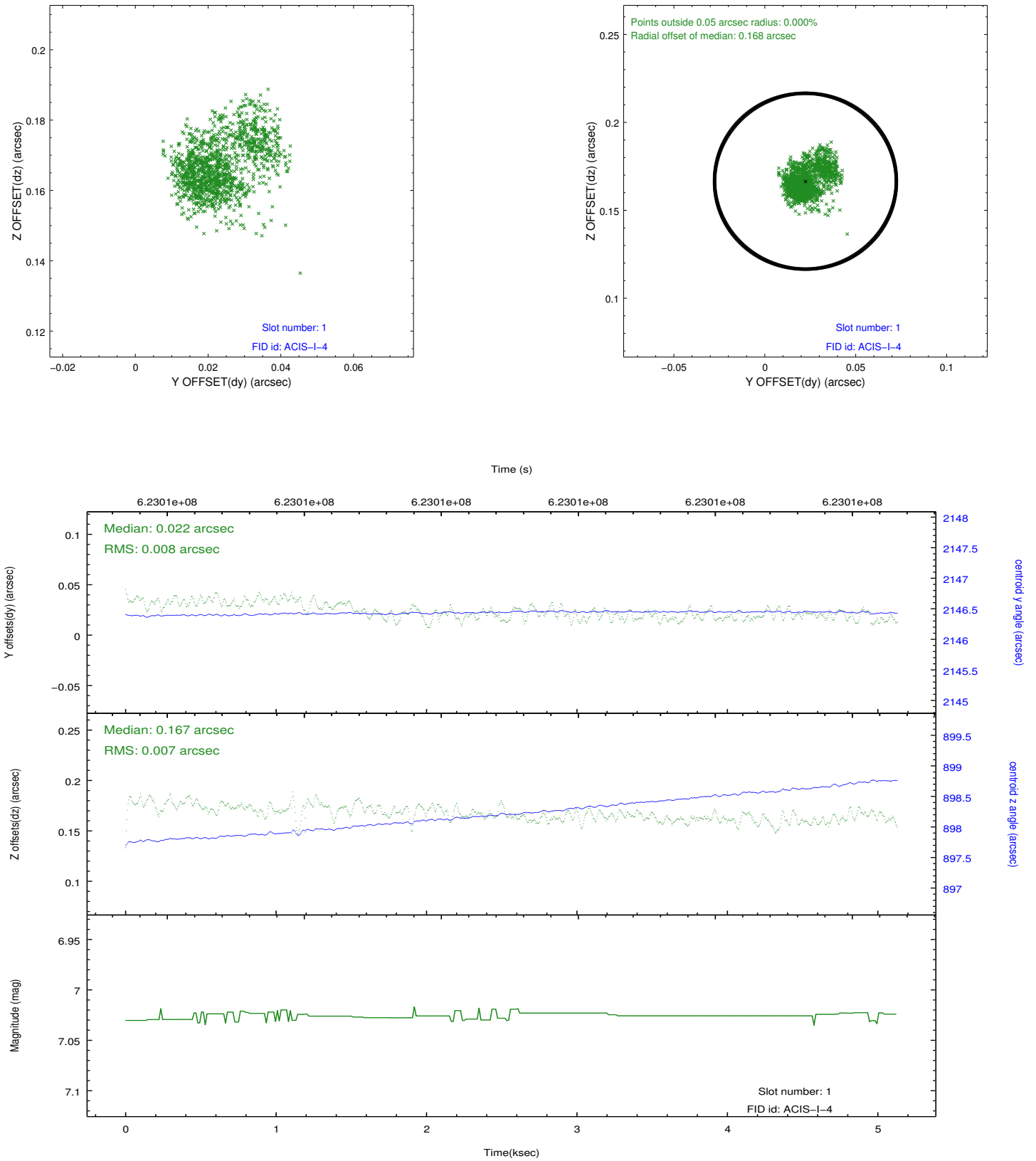


## 2.5 FID Slots

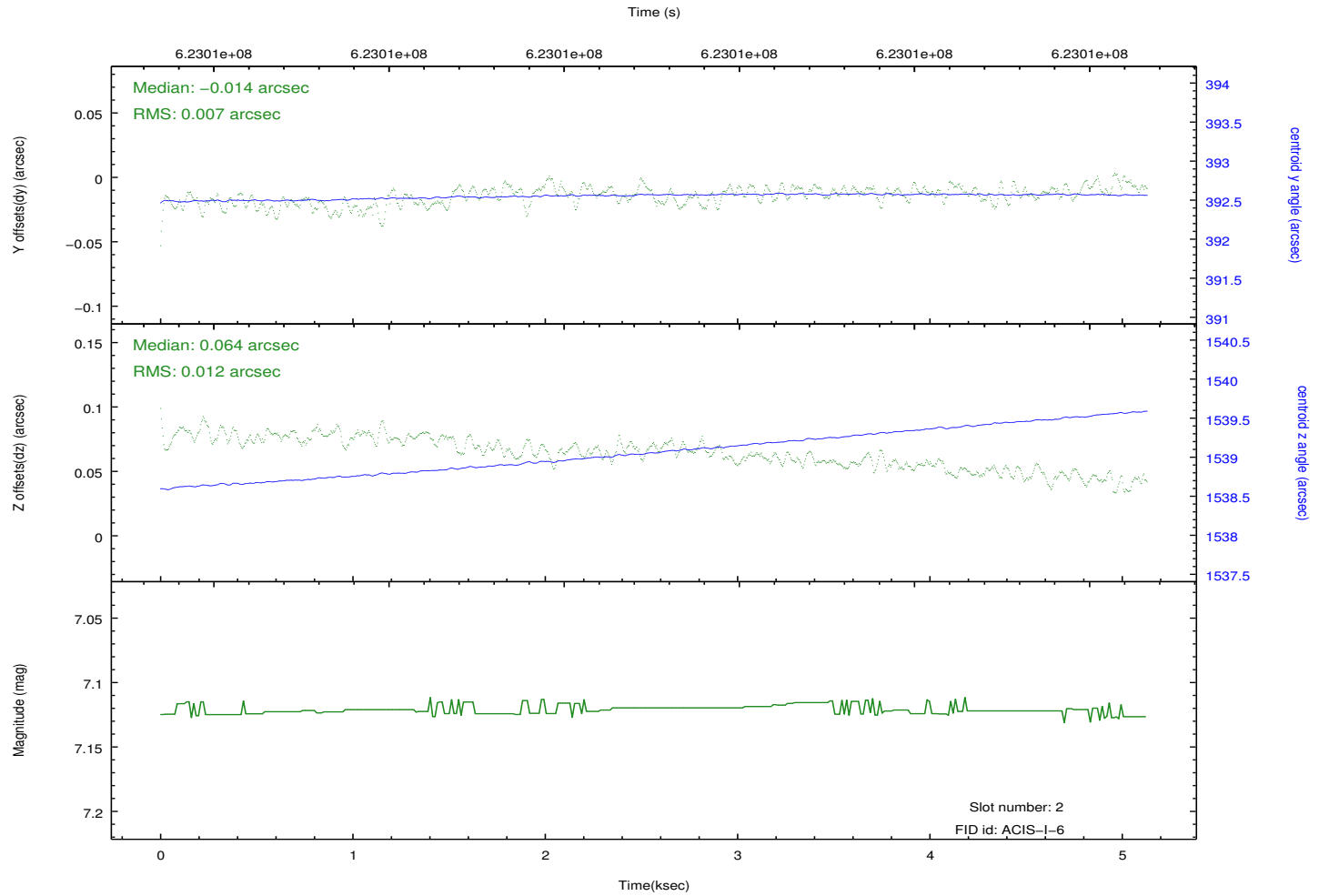
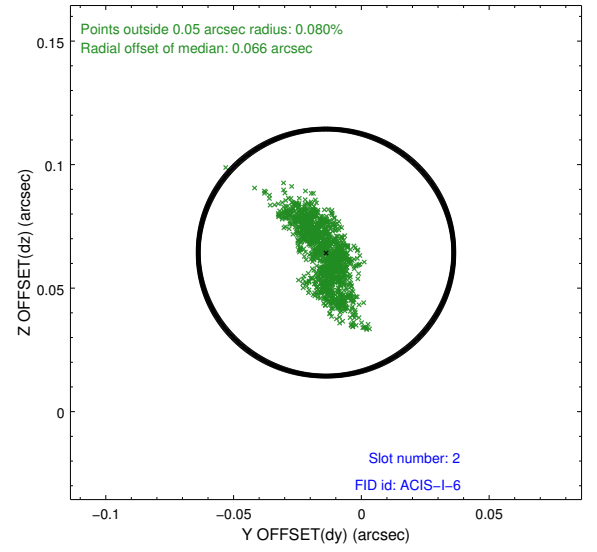
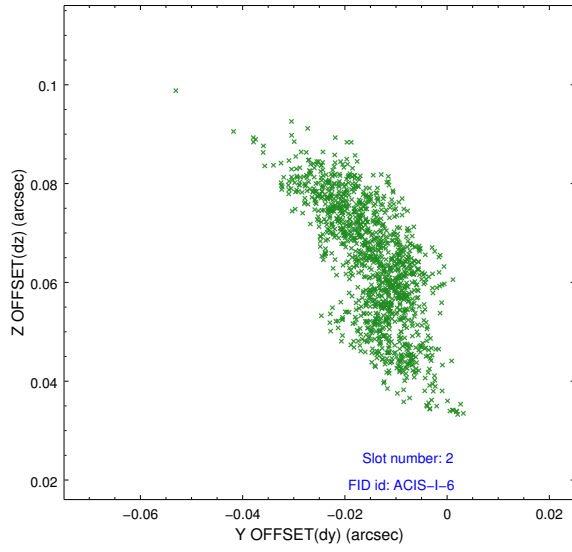
### 2.5.1 Slot 0



## 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)      | 2017.09.29      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 5.0713746197224 |

### A.2 Comments