

# V&V Reference Report

## L2 ASCDS Version : 10.8

Observation 22289 - L2 Version 1  
Chandra X-Ray Center

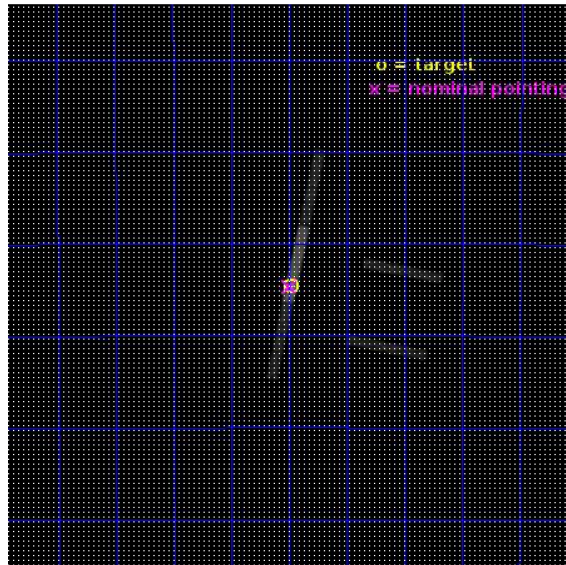
L2 Processing Date : Jul 28 2019

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# 1 Front

|          |                               |                                          |
|----------|-------------------------------|------------------------------------------|
| seq_num  | 402123                        | Sequence number                          |
| obs_id   | 22289                         | Observation id                           |
| title    | Imaging of Swift J1728.9-3613 | Proposal title                           |
| observer | Jon Miller                    | Principal investigator                   |
| object   | Swift J1728.9-3613            | Source name                              |
| dtcycle  | 0                             | &#160                                    |
| cycle    | P                             | events from which exps? Prim/Second/Both |
| ra_targ  | 262.244583                    | Observer's specified target RA [deg]     |
| dec_targ | -36.243306                    | Observer's specified target Dec [deg]    |
| ra_nom   | 262.24915767905               | Nominal RA [deg]                         |
| dec_nom  | -36.244194845692              | Nominal Dec [deg]                        |
| roll_nom | 281.48077288776               | Nominal Roll [deg]                       |
| revision | 1                             | Processing version of data               |
| ontime   | 30070.602048397               | Sum of GTIs [s]                          |
| livetime | 28405.243217475               | Livetime [s]                             |
| ontime2  | 30070.602048397               | Sum of GTIs [s]                          |
| ontime3  | 30070.602048397               | Sum of GTIs [s]                          |
| ontime6  | 30070.602048397               | Sum of GTIs [s]                          |
| ontime7  | 30070.602048397               | Sum of GTIs [s]                          |
| ontime8  | 30070.602048397               | Sum of GTIs [s]                          |
| l2events | 67112                         | Number of level 2 events                 |

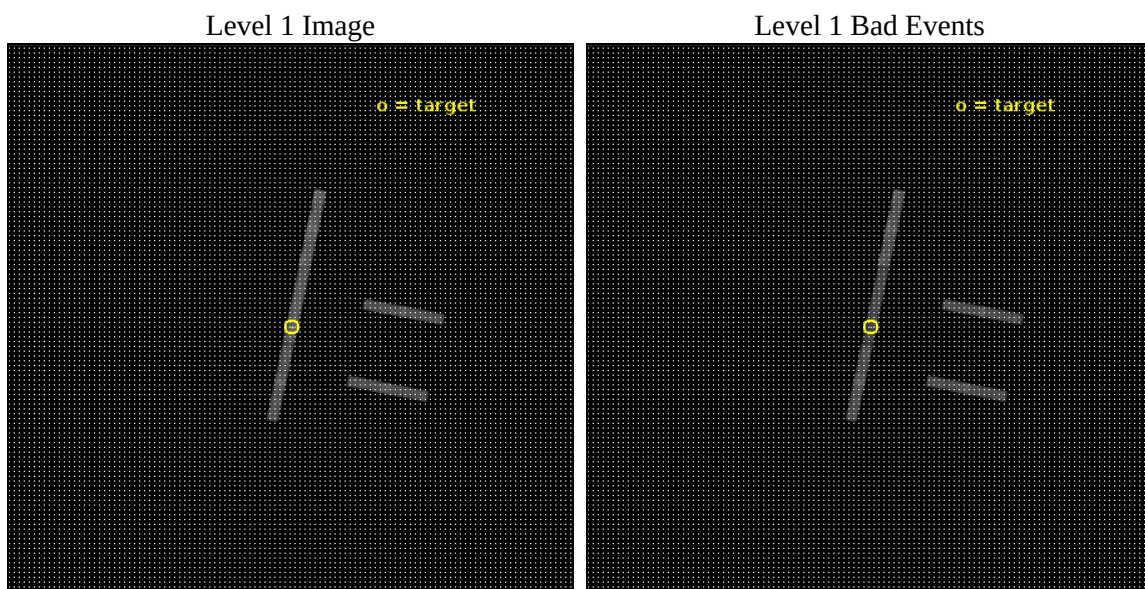




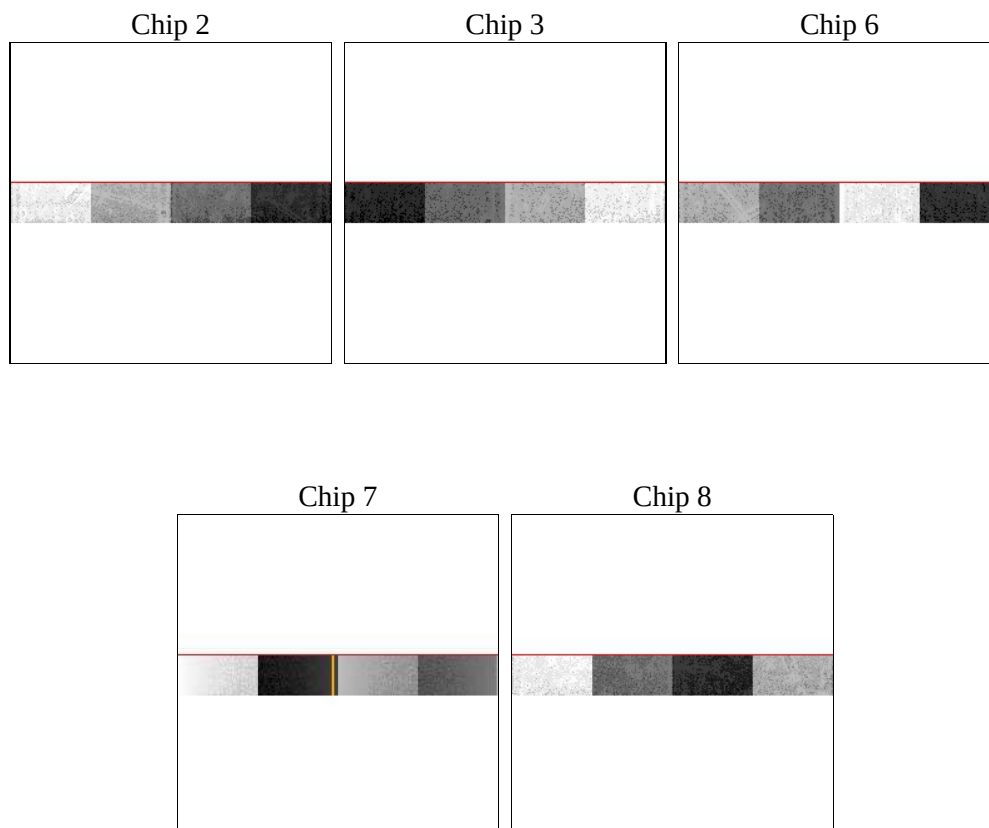
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 30000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.8                | Processing system revision     | ontime         | 30070.602048397 | Sum of GTIs [s]                         |
| caldsver | 4.8.3.1             | &#160                          | ontime2        | 30070.602048397 | Sum of GTIs [s]                         |
| date     | 2019-07-28T21:49:54 | Date and time of file creation | ontime3        | 30070.602048397 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 30070.602048397 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 30070.602048397 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 30070.602048397 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 252282          | Number of level 1 events                |

### 2.1.4 Events

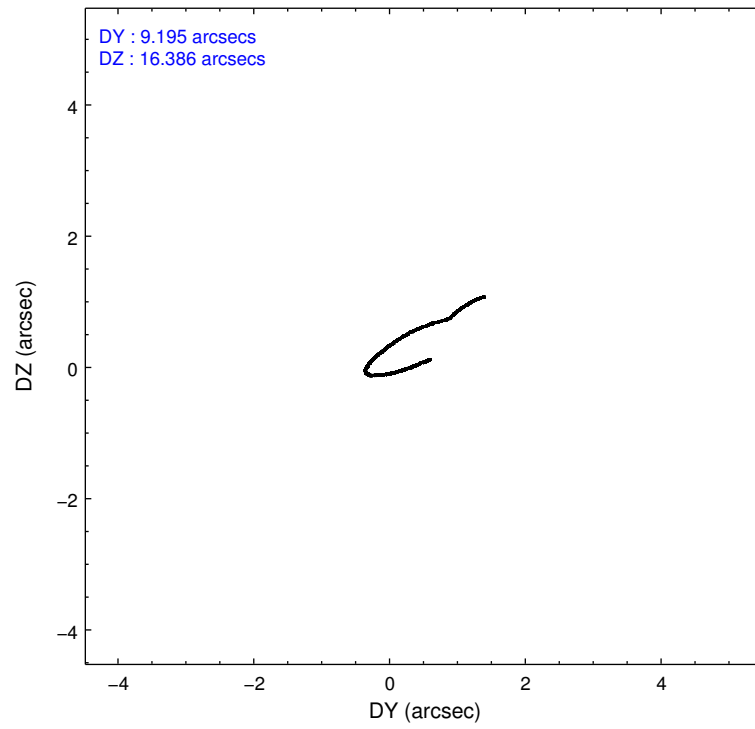
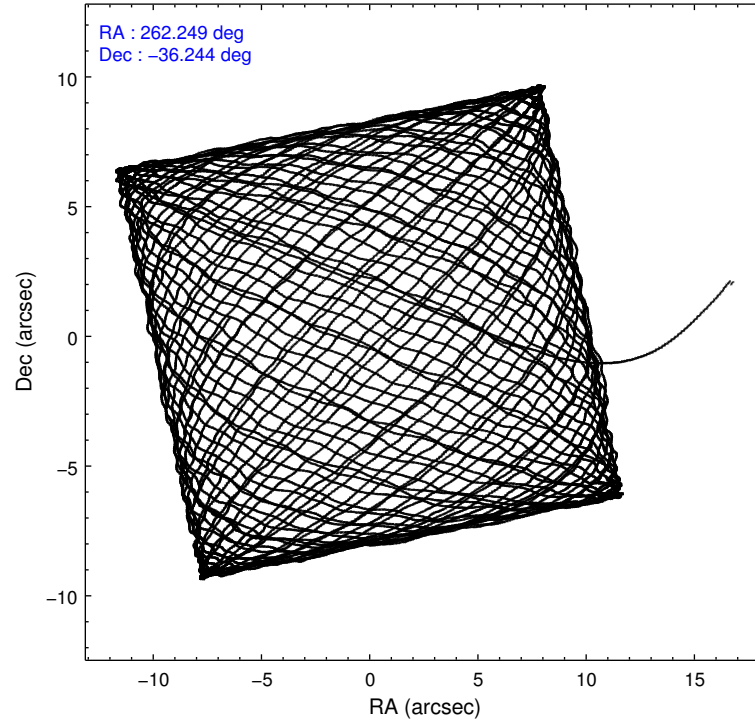
|                 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 35852 | 35312 | 38854 | 88319 | 53945 |
| rejected events | 31859 | 31389 | 34193 | 34278 | 41788 |
| rejected %      | 88%   | 88%   | 88%   | 38%   | 77%   |

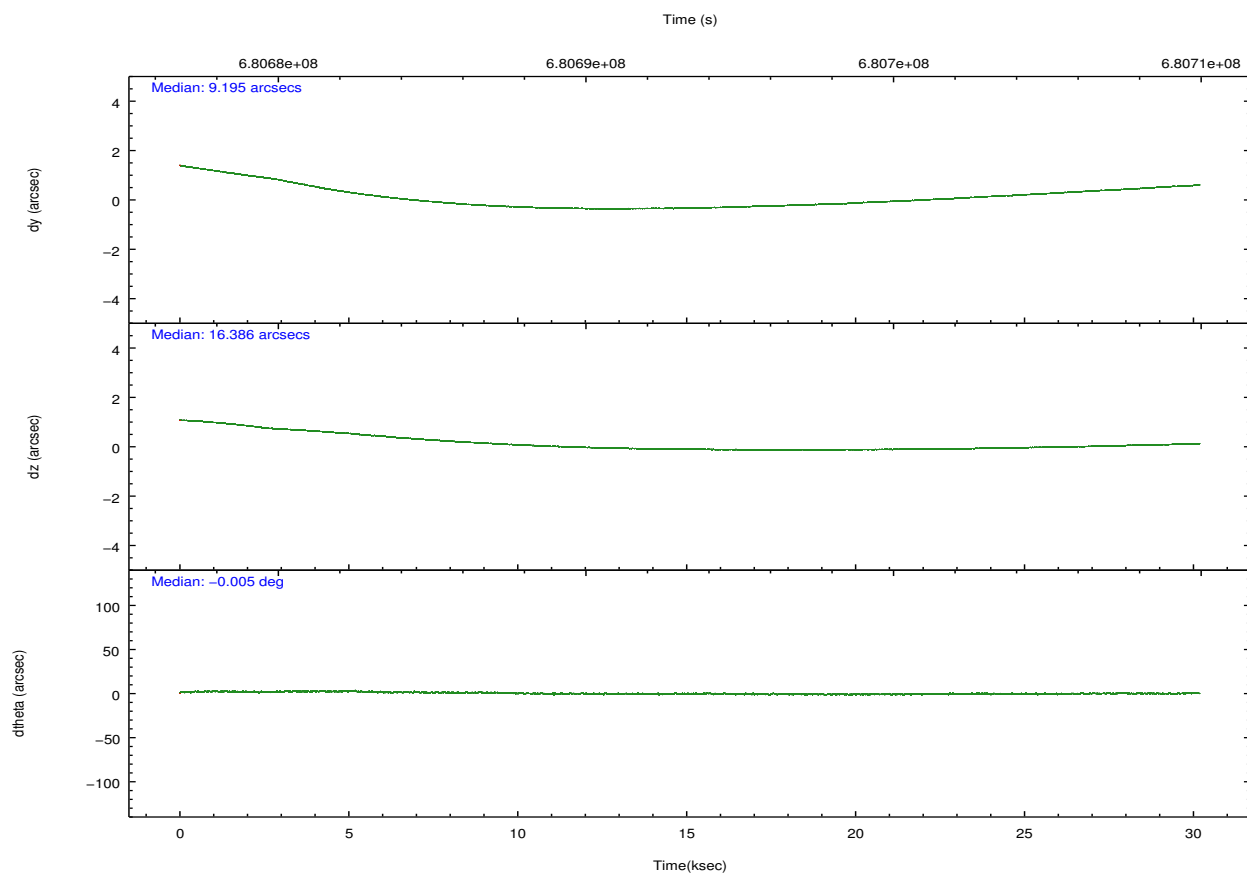
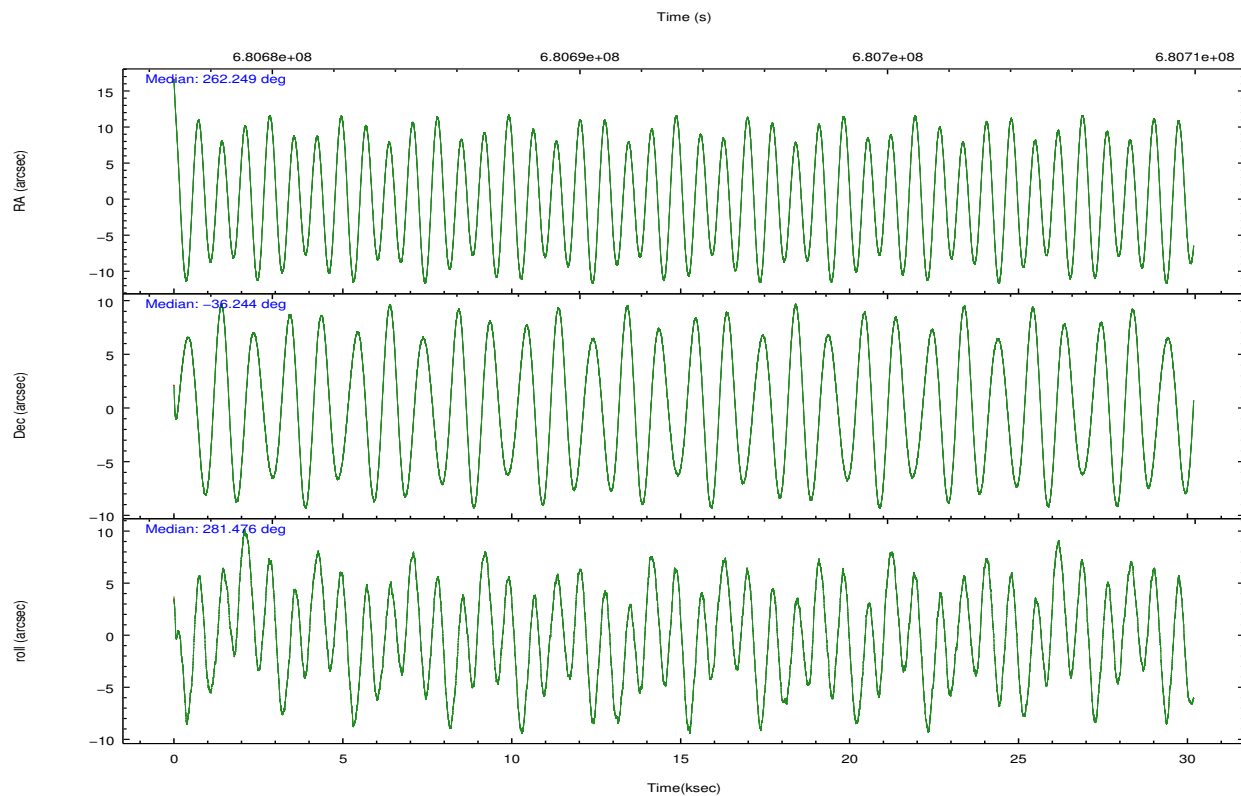
|                | ccd 2 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1273  | 1158  | 1405  | 7294  | 2797  |
|                | 3%    | 3%    | 3%    | 8%    | 5%    |
| grade 1 events | 14    | 12    | 12    | 668   | 15    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 700   | 708   | 887   | 11193 | 2727  |
|                | 1%    | 2%    | 2%    | 12%   | 5%    |
| grade 3 events | 645   | 667   | 684   | 5475  | 1303  |
|                | 1%    | 1%    | 1%    | 6%    | 2%    |
| grade 4 events | 647   | 647   | 692   | 5411  | 1255  |
|                | 1%    | 1%    | 1%    | 6%    | 2%    |
| grade 5 events | 1159  | 1449  | 1409  | 7710  | 2141  |
|                | 3%    | 4%    | 3%    | 8%    | 3%    |
| grade 6 events | 728   | 743   | 994   | 24672 | 4075  |
|                | 2%    | 2%    | 2%    | 27%   | 7%    |
| grade 7 events | 30686 | 29928 | 32771 | 25896 | 39632 |
|                | 85%   | 84%   | 84%   | 29%   | 73%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-23678          | ACIS-23678           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 262.226291          | 262.2491576790546    | CCD I2 on                             | O2        | Y       |
| [deg] Pointing Dec                | -36.223869          | -36.24419484569159   | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 281.310632          | 281.4807728877644    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O1        | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | Y         | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  | CCD S4 on                             | Y         | Y       |
| [s] Observation start time (MET)  | 680678463.184000    | 680677706.85173      | CCD S5 on                             | N         | N       |
| Observation start date            | 2019-07-28T05:19:54 | 2019-07-28T05:08:26  | Number of optional ACIS chips dropped | 1         | 1       |
| [s] Observation end time (MET)    | 680708463.184000    | 680709405.49114      | On-chip summing requested             | N         | N       |
| Observation end date              | 2019-07-28T13:39:54 | 2019-07-28T13:56:45  | Subarray requested                    | CUSTOM    | 1/8     |
| Read mode                         | TIMED               | TIMED                | Subarray start row                    | 449       | 449     |
|                                   |                     |                      | Subarray row count                    | 128       | 128     |
|                                   |                     |                      | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 0.7     |

## 2.3 Aspect



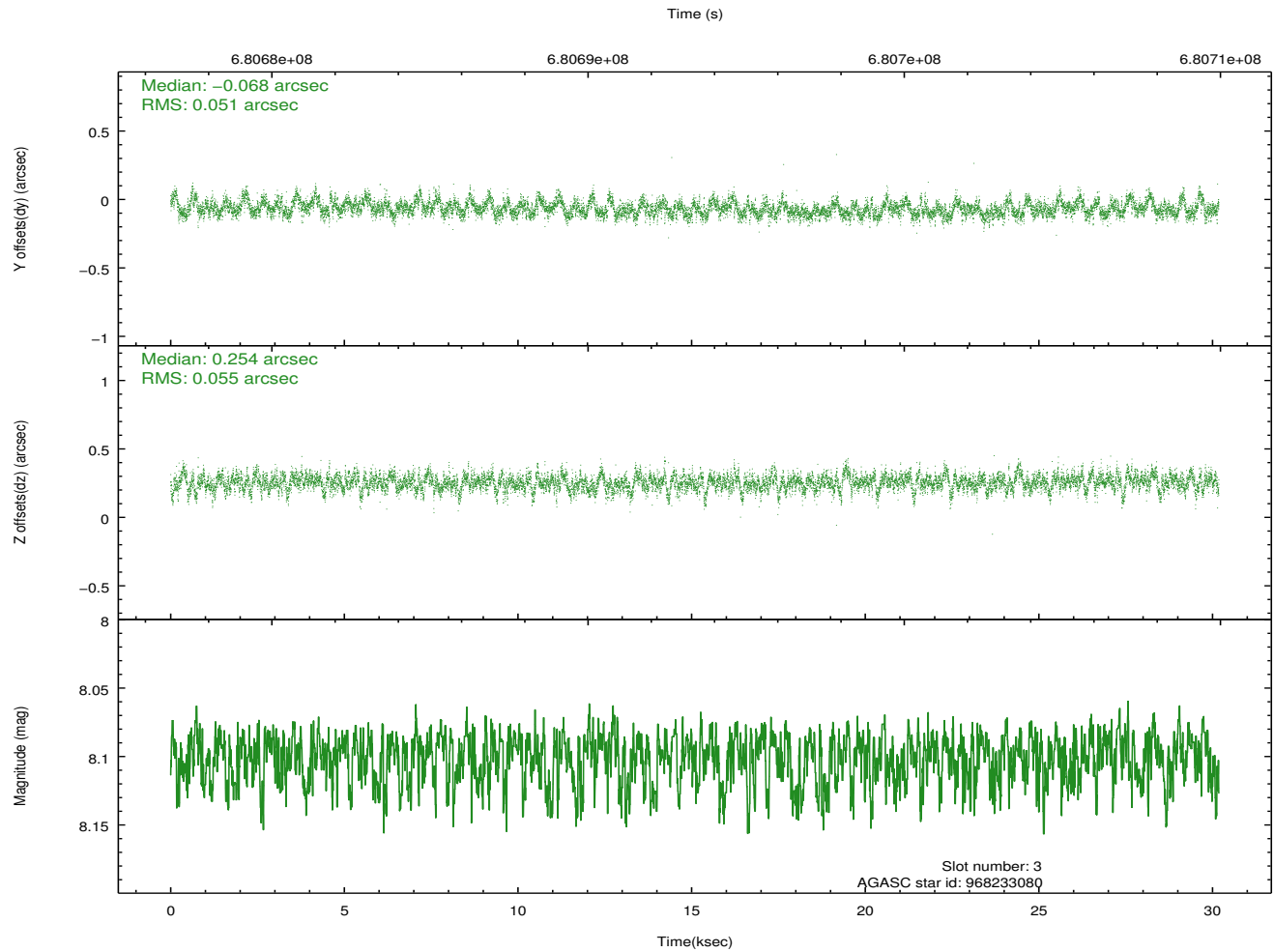
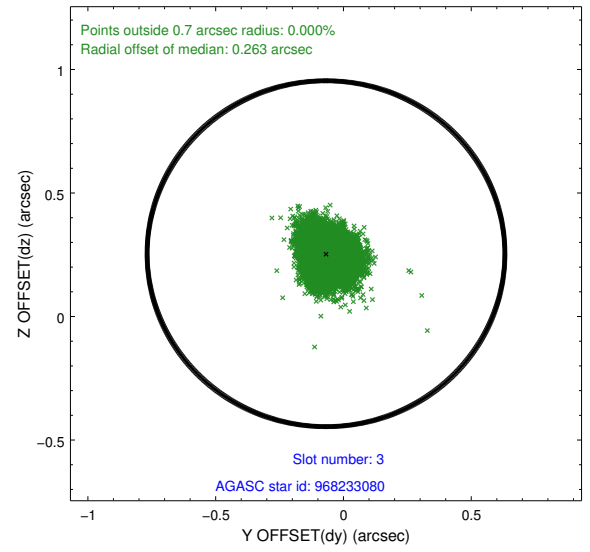
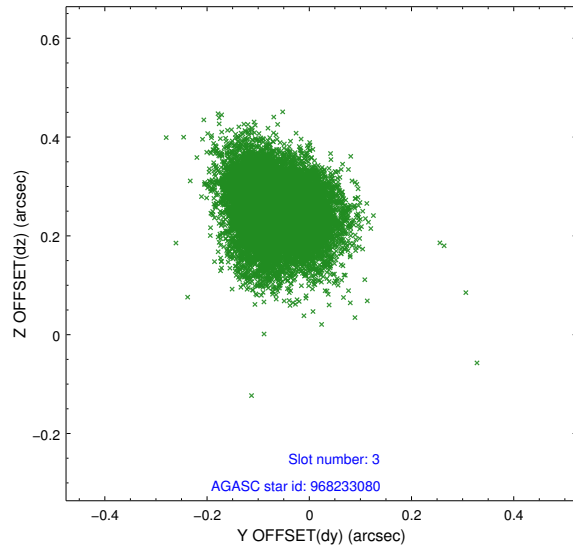


# Slot Statistics

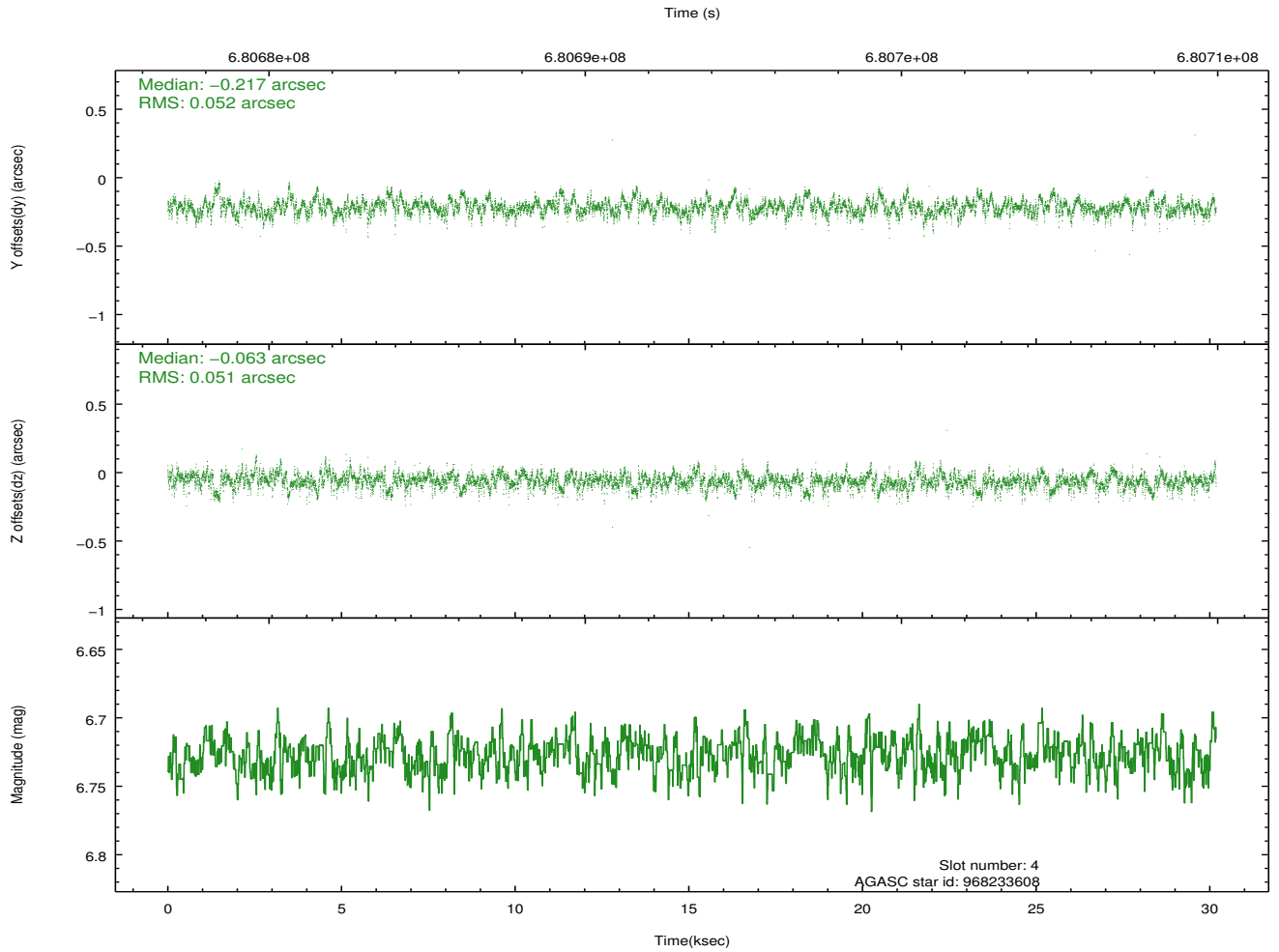
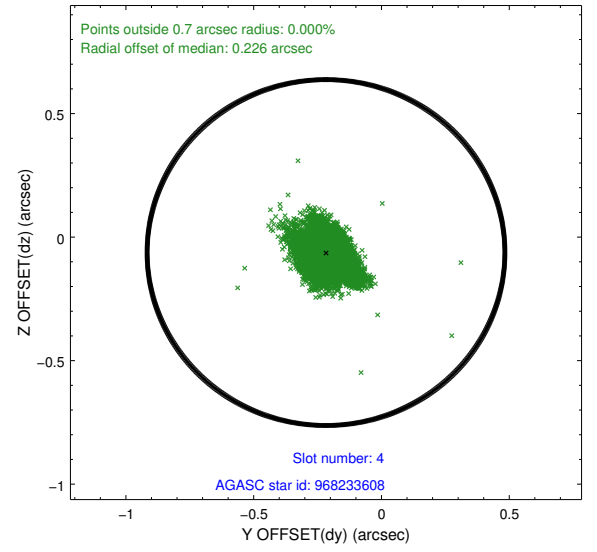
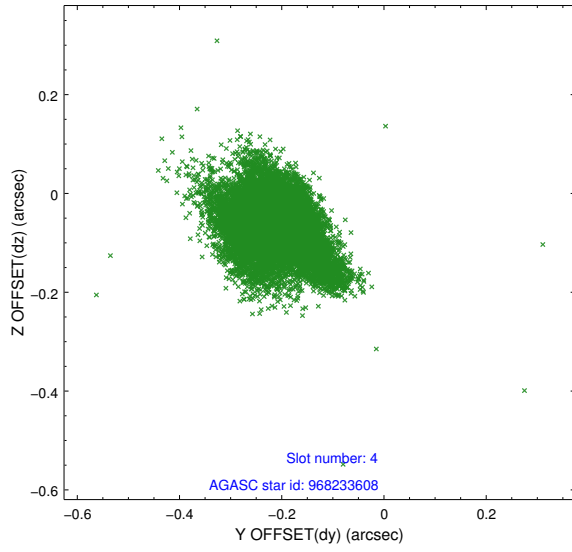
| pt | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mea   |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|------------|----------|-------|
| 0  | FID    |      | ACIS-S-2  | 7.05 | 7361  | 1.000    | -0.241 | -0.130 | 0.016 | 0.049 | 0.000000   | 0.000000   | -762.33  | -1738 |
| 1  | FID    |      | ACIS-S-4  | 7.18 | 7363  | 1.000    | 0.632  | 0.151  | 0.019 | 0.036 | 0.000000   | 0.000000   | 2151.75  | 170   |
| 2  | FID    |      | ACIS-S-5  | 7.14 | 7362  | 1.000    | -0.423 | -0.012 | 0.012 | 0.040 | 0.000000   | 0.000000   | -1815.30 | 164   |
| 3  | GUIDE  | used | 968233080 | 8.10 | 14720 | 1.000    | -0.068 | 0.254  | 0.079 | 0.131 | 262.553982 | -35.644375 | -1856.15 | 1349  |
| 4  | GUIDE  | used | 968233608 | 6.73 | 14723 | 1.000    | -0.217 | -0.063 | 0.073 | 0.135 | 262.776101 | -35.900177 | -823.87  | 1799  |
| 5  | GUIDE  | used | 968233880 | 8.07 | 14718 | 1.000    | -0.141 | -0.069 | 0.109 | 0.170 | 262.894591 | -36.076957 | -130.85  | 2008  |
| 6  | GUIDE  | used | 968234400 | 7.44 | 14723 | 1.000    | 0.284  | 0.062  | 0.084 | 0.132 | 261.948208 | -36.525748 | 909.48   | -1001 |
| 7  | GUIDE  | used | 968235824 | 8.79 | 14705 | 1.000    | 0.132  | -0.184 | 0.120 | 0.189 | 263.103960 | -36.698362 | 2183.35  | 2146  |

## 2.4 Star Slots

### 2.4.1 Slot 3

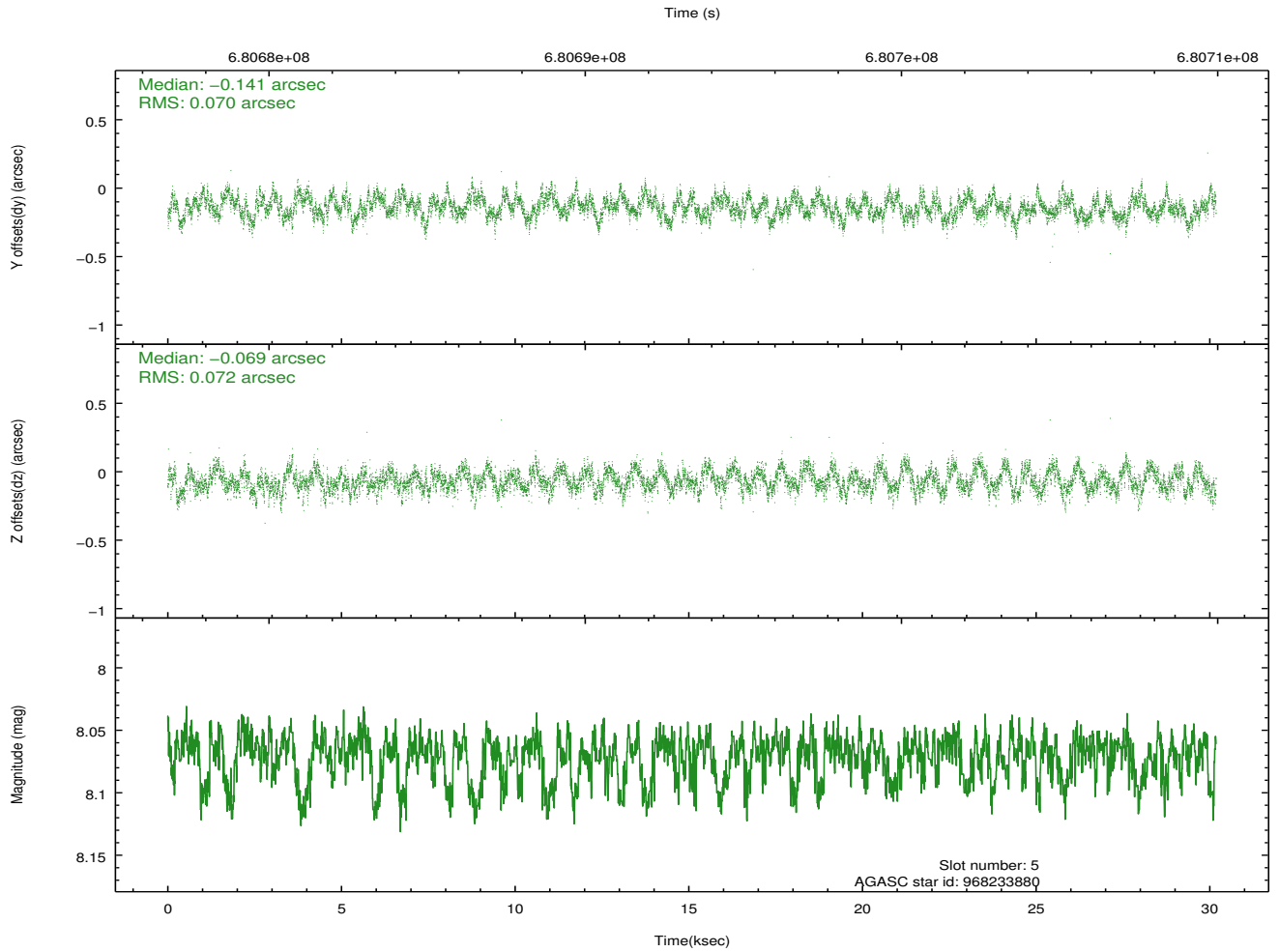
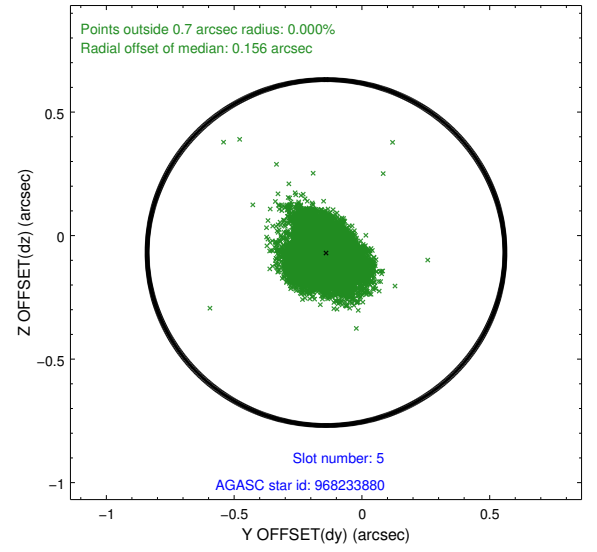
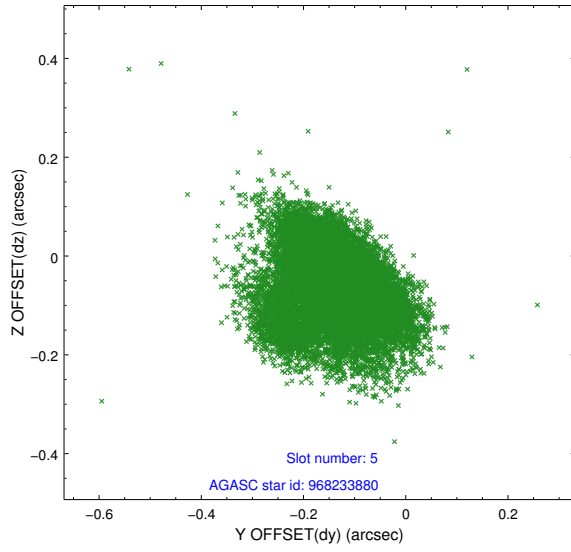


## 2.4.2 Slot 4

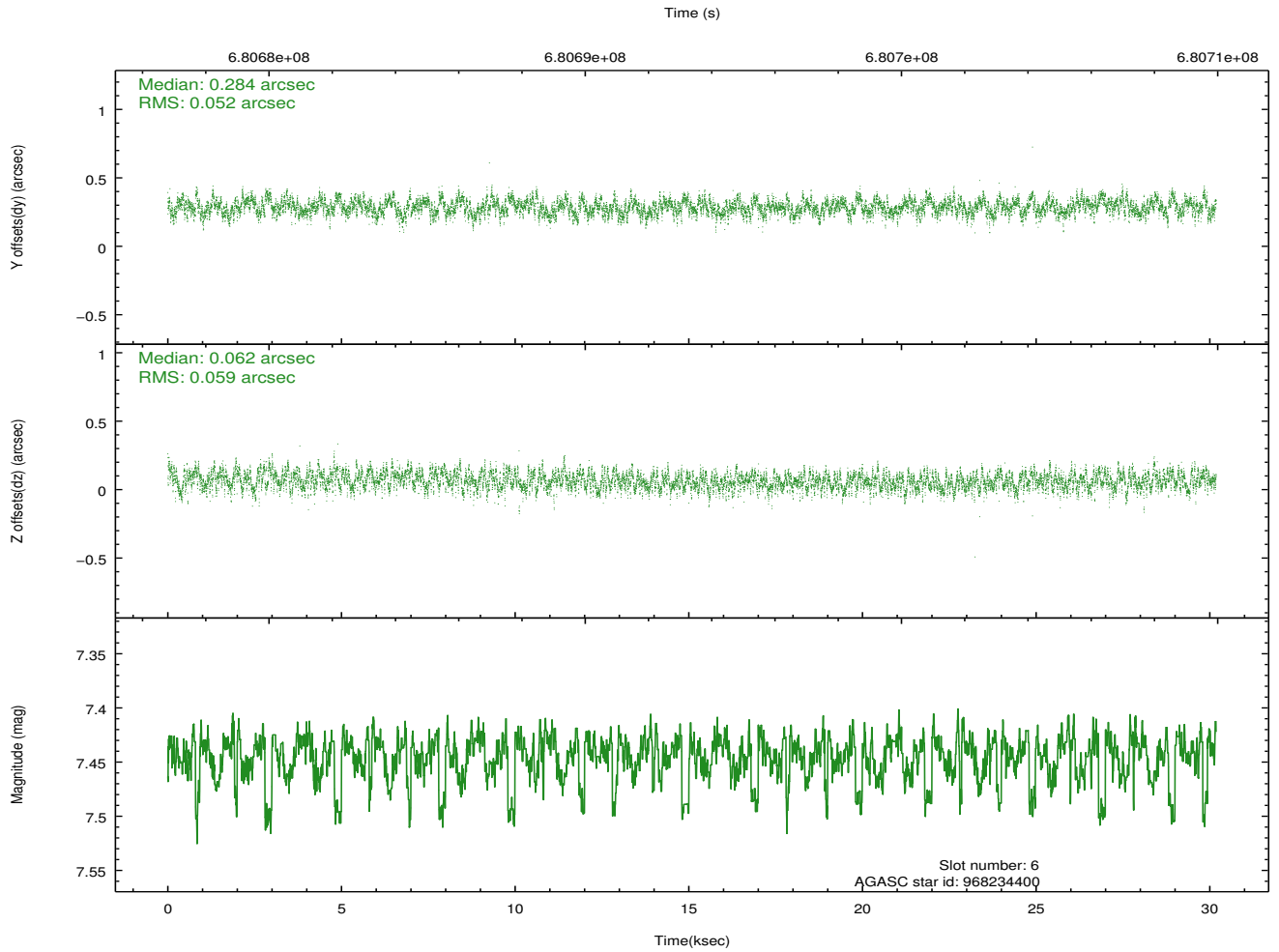
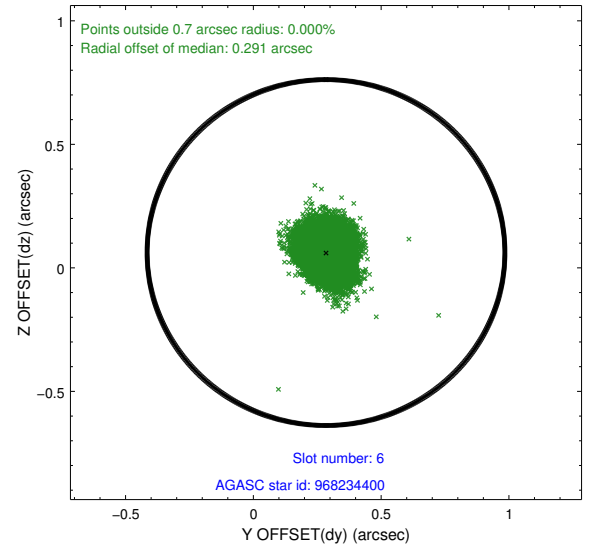
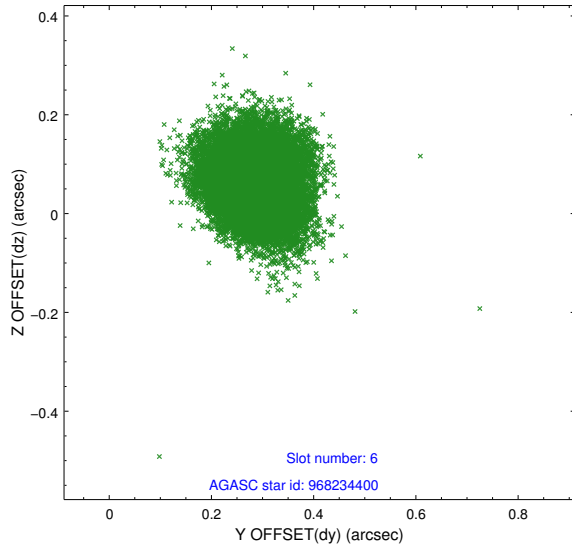




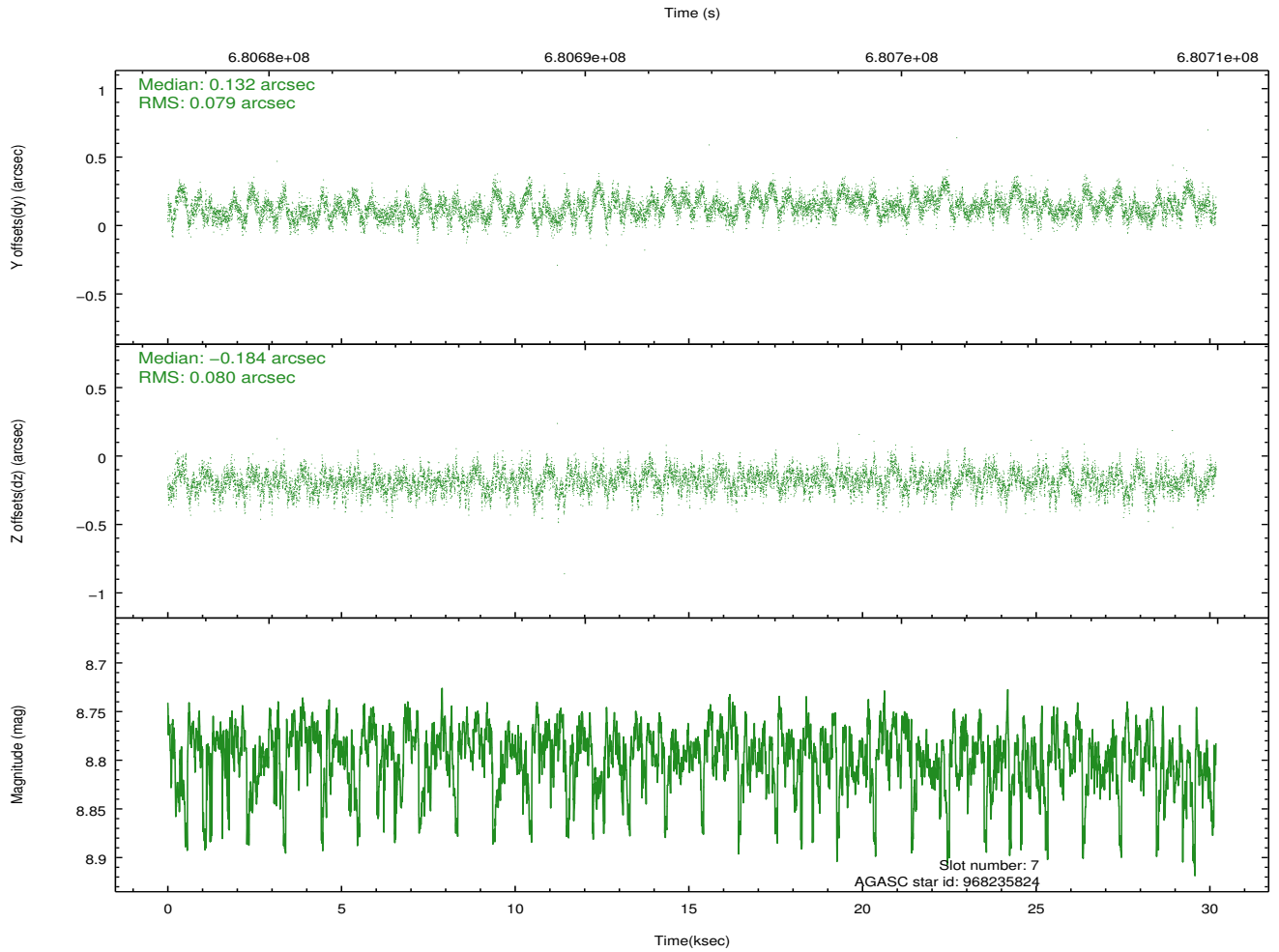
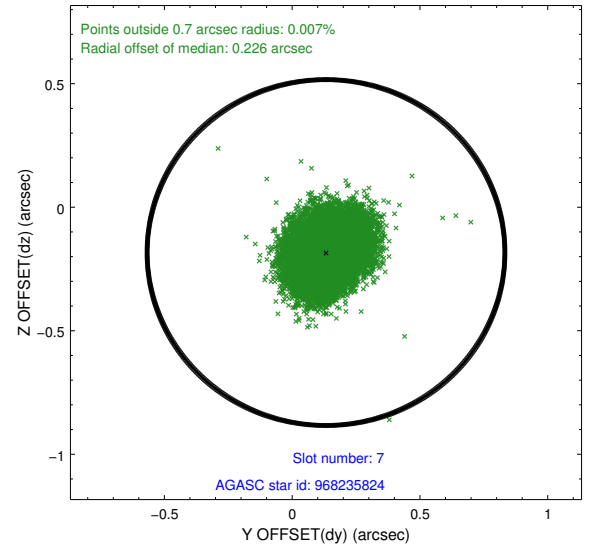
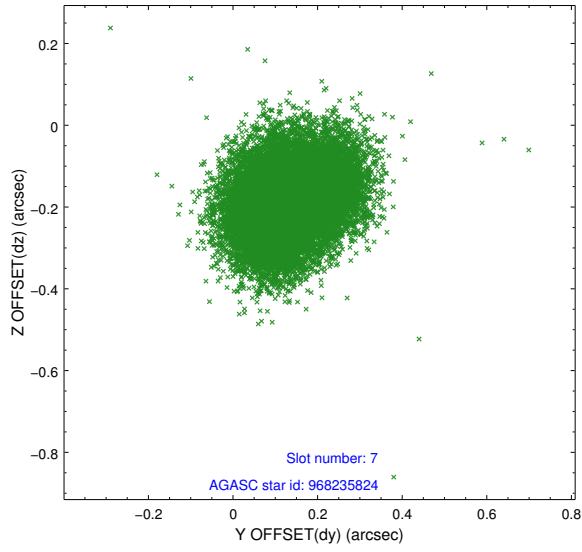
### 2.4.3 Slot 5



## 2.4.4 Slot 6

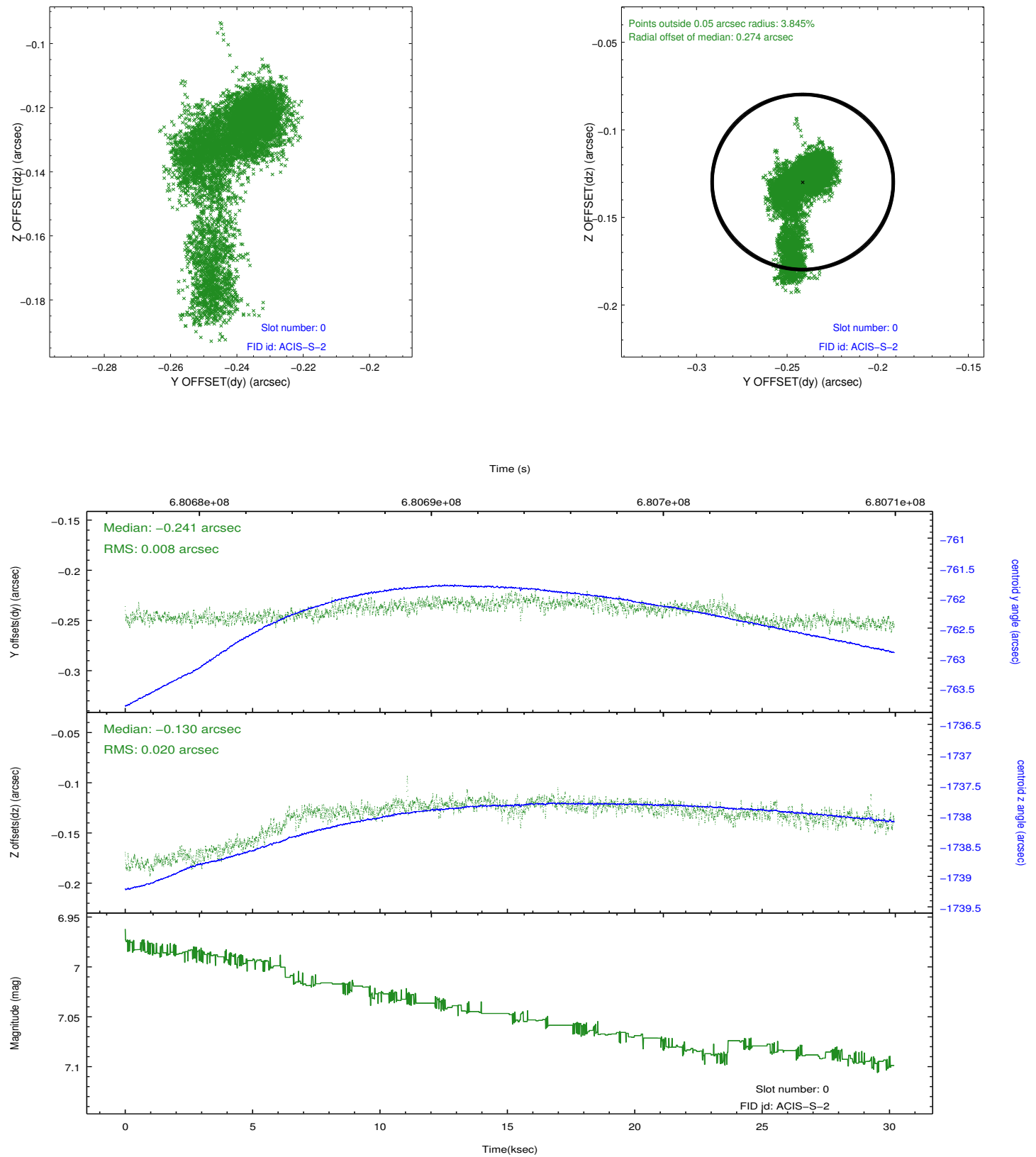


## 2.4.5 Slot 7

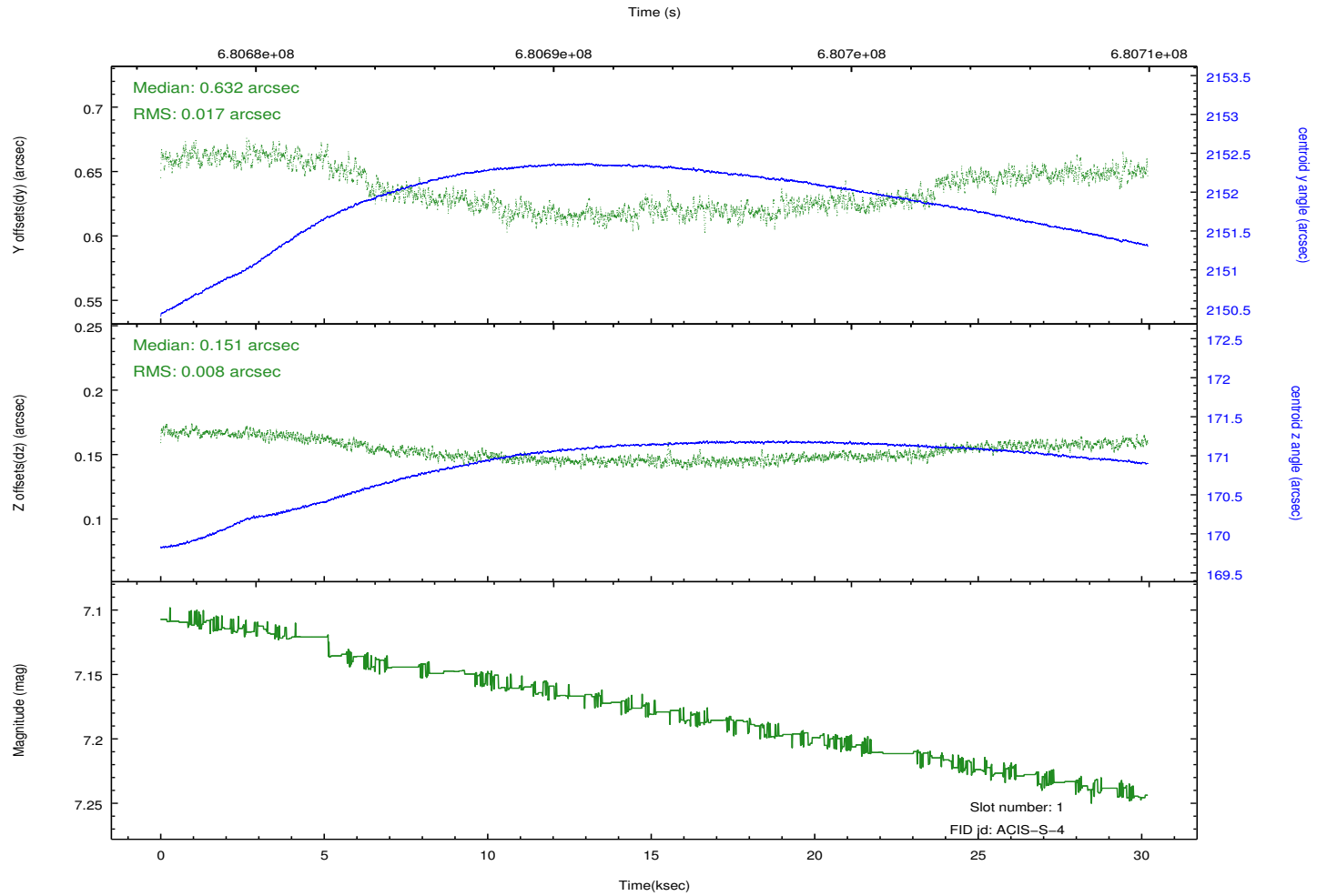
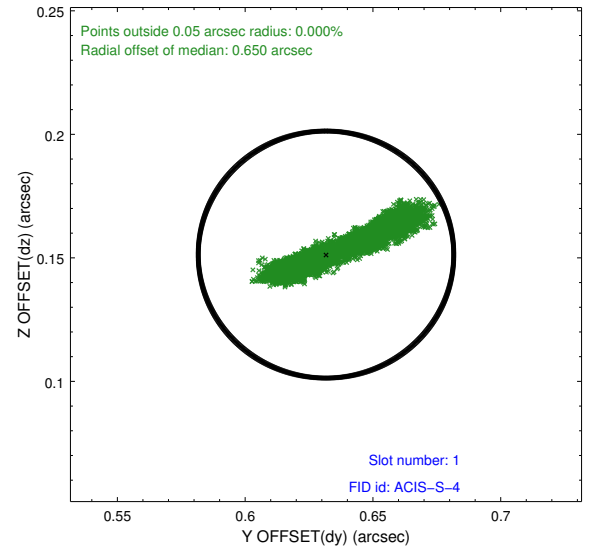
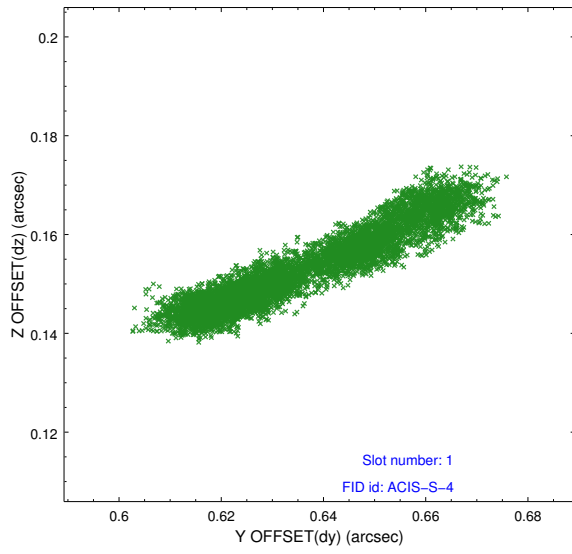


## 2.5 FID Slots

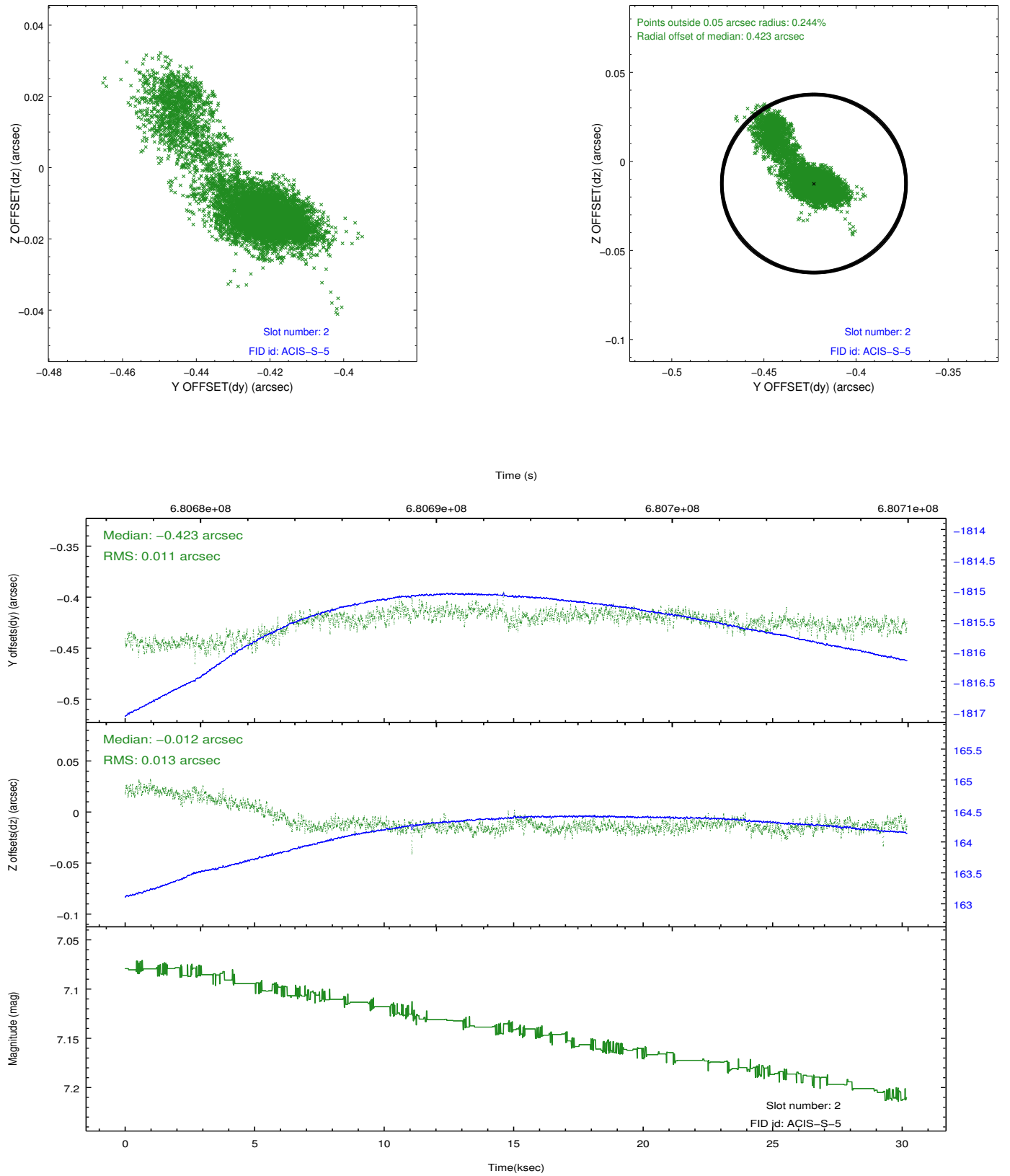
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Beth Sundheim   |
| V&V Date (YYYY-MM-DD)      | 2019.07.28      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 30.070602048397 |

### A.2 Comments

One optional chip was dropped.