

# V&V Reference Report

## L2 ASCDS Version : 10.8

Observation 22865 - L2 Version 1  
Chandra X-Ray Center

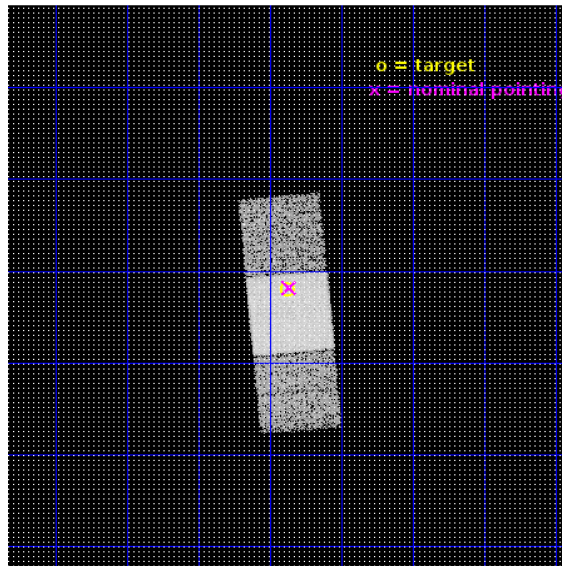
L2 Processing Date : Oct 2 2019

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# 1 Front

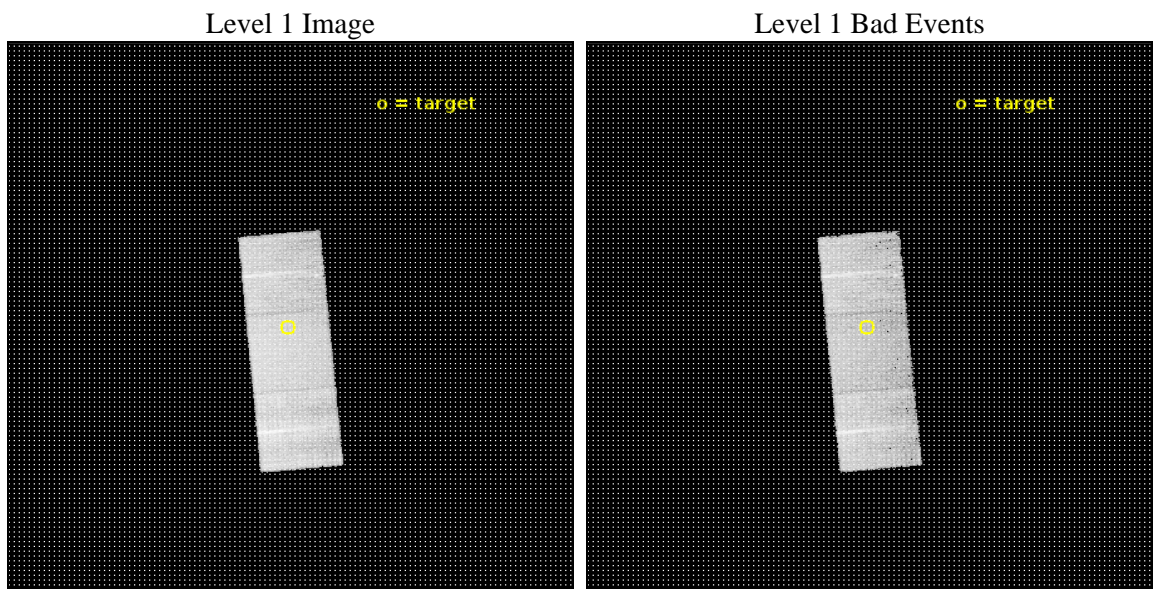
|          |   |   |
|----------|---|---|
| seq_num  | 703921  | Sequence number                             |
| obs_id   | 22865   | Observation id                              |
| title    | Revealing the Full Range of X-ray Properties of Weak-Line Quasars | &#160                                       |
| observer | William Brandt  | Principal investigator                      |
| object   | SDSS J0827+0327   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 126.844708  | Observer's specified target RA [deg]        |
| dec_targ | 3.465528  | Observer's specified target Dec [deg]       |
| ra_nom   | 126.84070424325   | Nominal RA [deg]                            |
| dec_nom  | 3.4695781107327   | Nominal Dec [deg]                           |
| roll_nom | 84.656879872903   | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 10102.748224974   | Sum of GTIs [s]                             |
| livetime | 9970.7483818794   | Livetime [s]                                |
| ontime6  | 10102.70718503  | Sum of GTIs [s]                             |
| ontime7  | 10102.748224974   | Sum of GTIs [s]                             |
| ontime8  | 10102.666144967   | Sum of GTIs [s]                             |
| l2events | 57896   | Number of level 2 events                    |



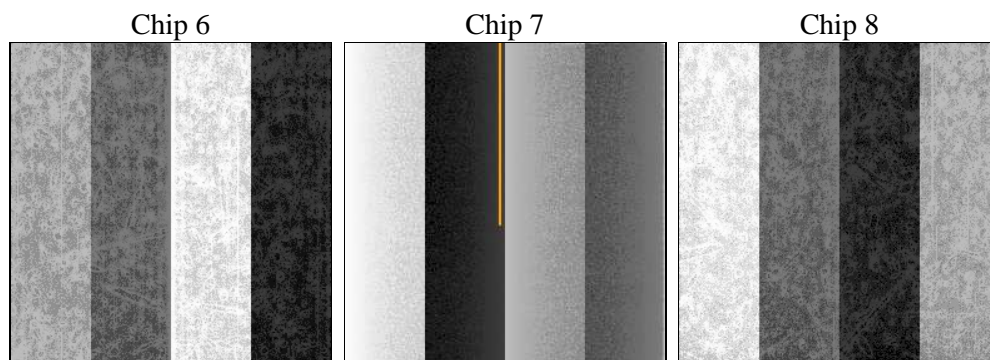
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 9991.092000     | [s] Scheduled observation exposure time |
| ascdsver | 10.8                | Processing system revision     | ontime         | 10102.748224974 | Sum of GTIs [s]                         |
| caldbver | 4.8.4.1             | &#160                          | ontime6        | 10102.70718503  | Sum of GTIs [s]                         |
| date     | 2019-10-02T10:04:39 | Date and time of file creation | ontime7        | 10102.748224974 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime8        | 10102.666144967 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 278718          | Number of level 1 events                |

### 2.1.4 Events

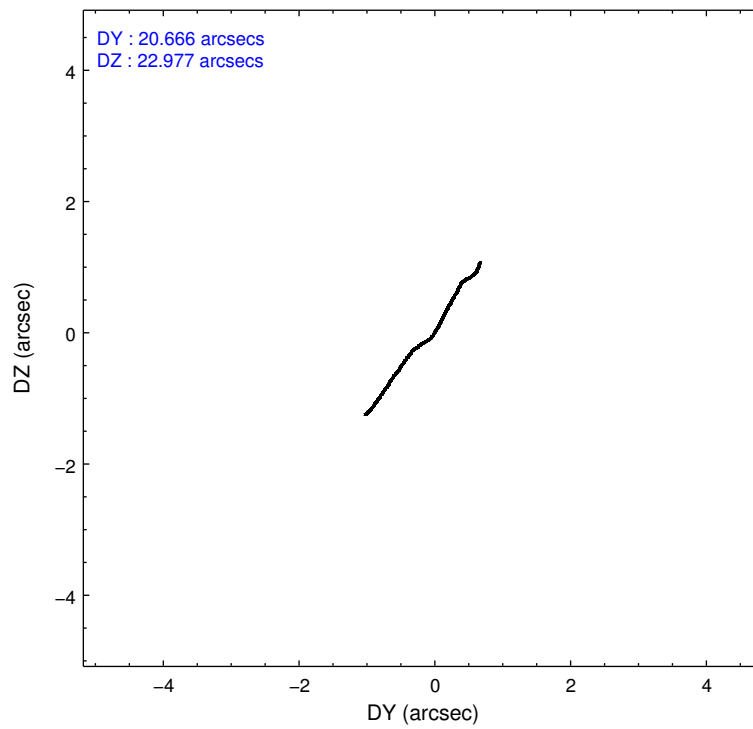
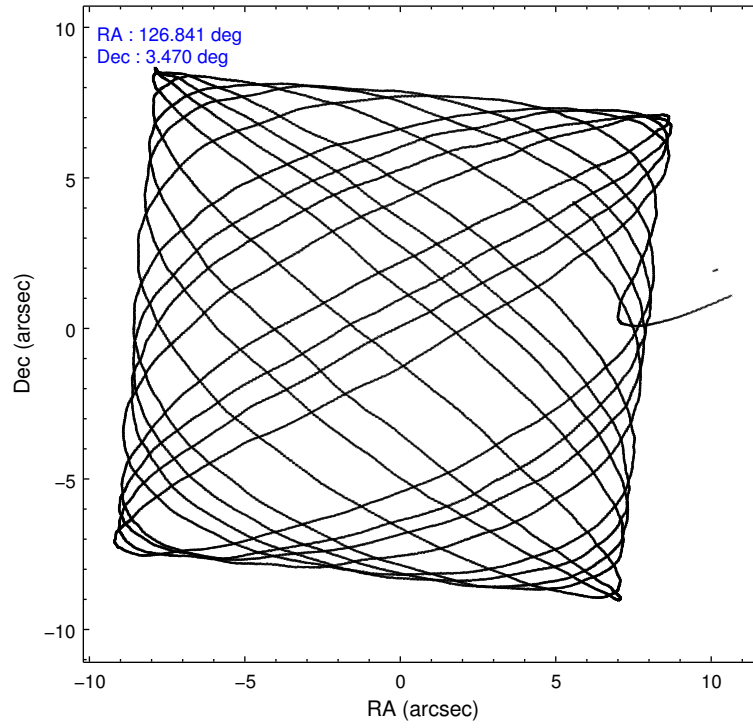
|                 | ccd 6 | ccd 7 | ccd 8  |
|-----------------|-------|-------|--------|
| level 1 events  | 78779 | 97719 | 102220 |
| rejected events | 70050 | 55328 | 75232  |
| rejected %      | 88%   | 56%   | 73%    |

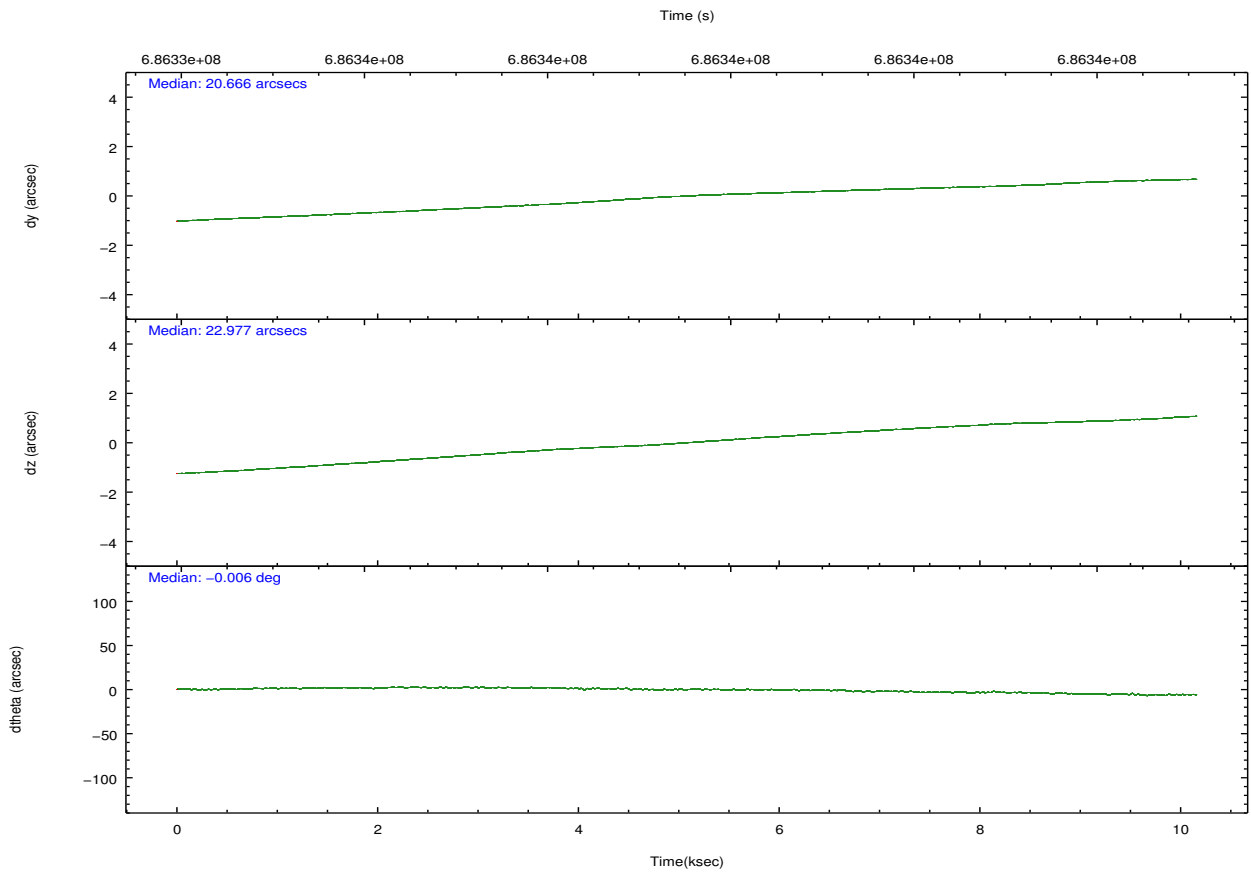
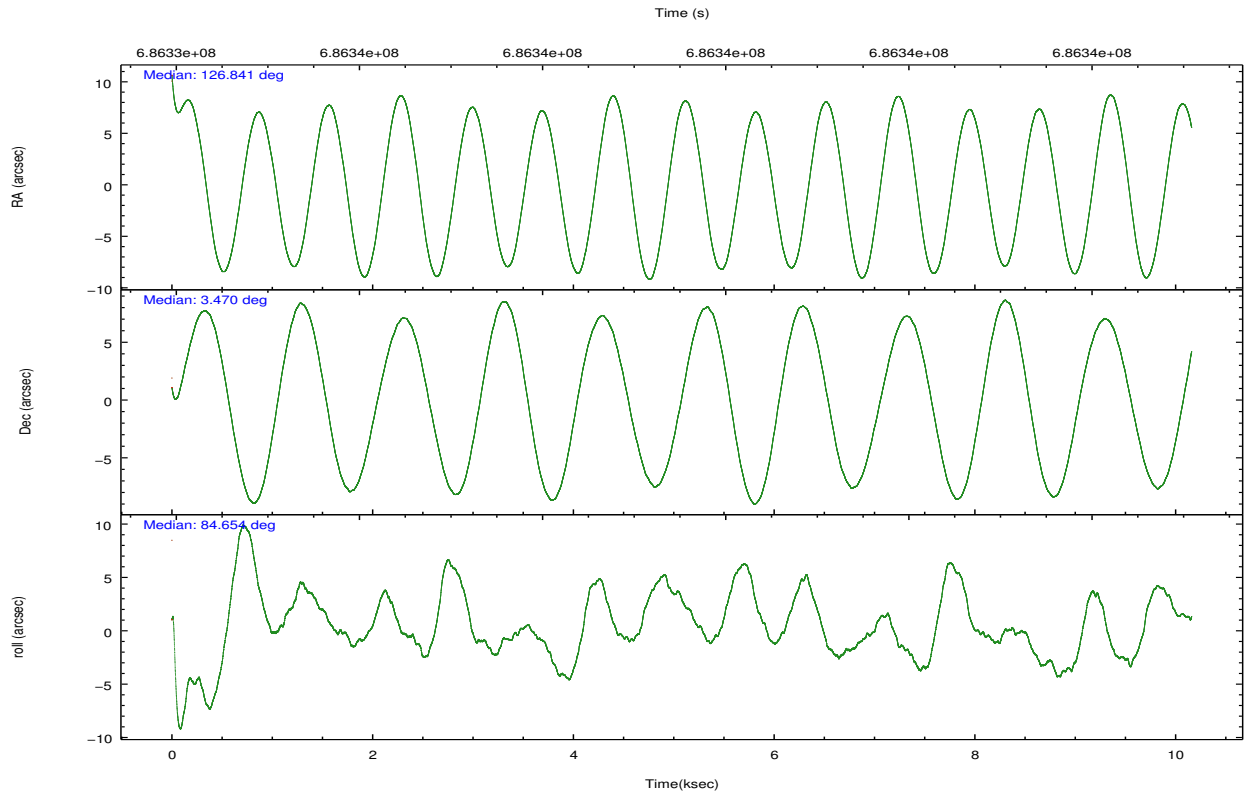
|                | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|
| grade 0 events | 2751  | 3515  | 7598  |
|                | 3%    | 3%    | 7%    |
| grade 1 events | 35    | 138   | 83    |
|                | 0%    | 0%    | 0%    |
| grade 2 events | 2160  | 9120  | 6504  |
|                | 2%    | 9%    | 6%    |
| grade 3 events | 834   | 3224  | 2778  |
|                | 1%    | 3%    | 2%    |
| grade 4 events | 825   | 3224  | 2607  |
|                | 1%    | 3%    | 2%    |
| grade 5 events | 3452  | 9471  | 5428  |
|                | 4%    | 9%    | 5%    |
| grade 6 events | 2161  | 23340 | 7519  |
|                | 2%    | 23%   | 7%    |
| grade 7 events | 66561 | 45687 | 69703 |
|                | 84%   | 46%   | 68%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-678            | ACIS-678             | 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                 | 126.852444          | 126.8407042432506    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | 3.444786            | 3.469578110732721    | CCD I3 on                             | N         | N       |
| [deg] Pointing Roll               | 84.499534           | 84.65687987290281    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | O2        | 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                             | O1        | Y       |
| [s] Observation start time (MET)  | 686334603.184000    | 686333620.2920001    | CCD S5 on                             | N         | N       |
| Observation start date            | 2019-10-01T16:28:54 | 2019-10-01T16:13:40  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 686344594.184000    | 686345657.89273      | On-chip summing requested             | N         | N       |
| Observation end date              | 2019-10-01T19:15:25 | 2019-10-01T19:34:17  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect





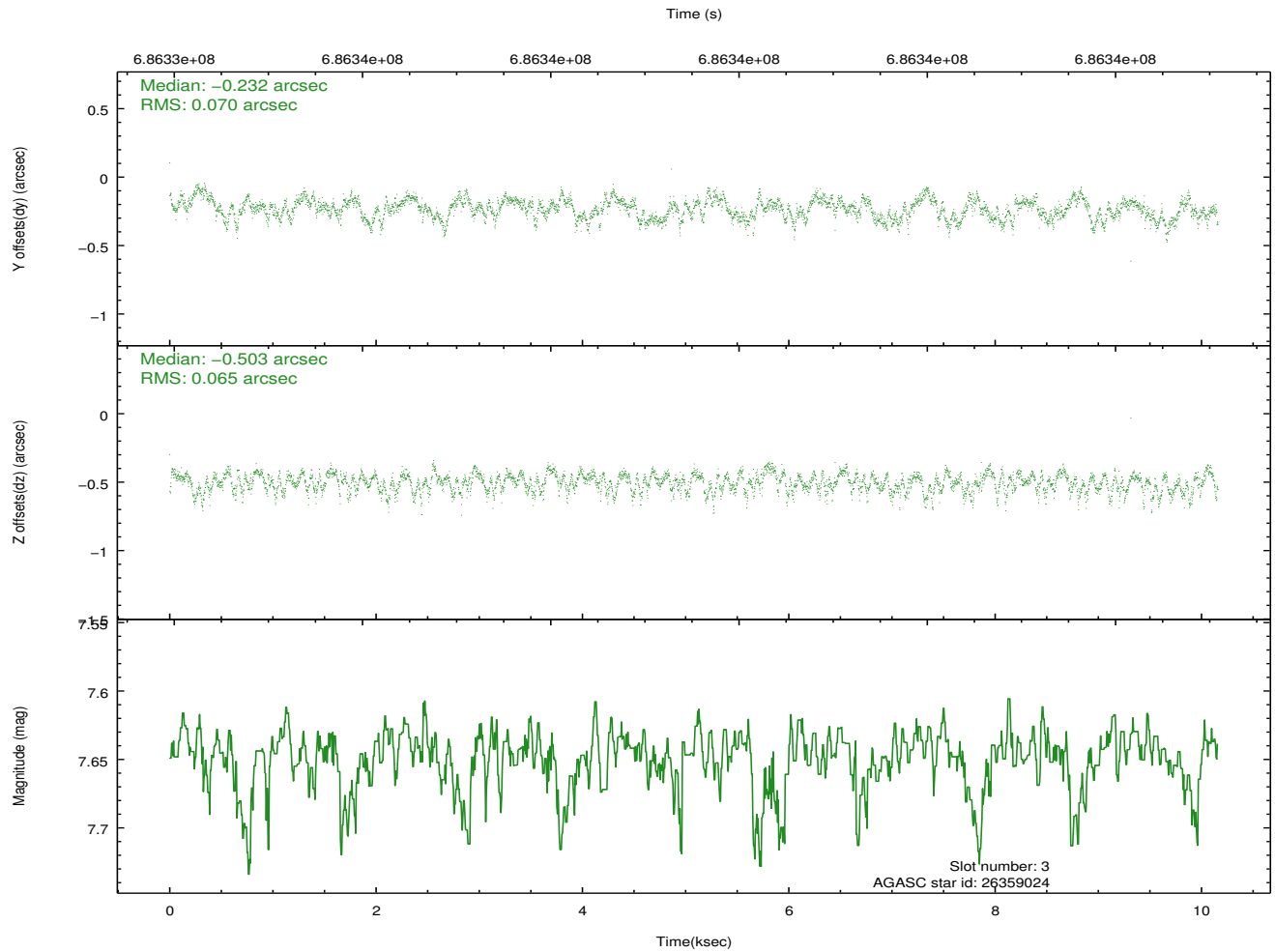
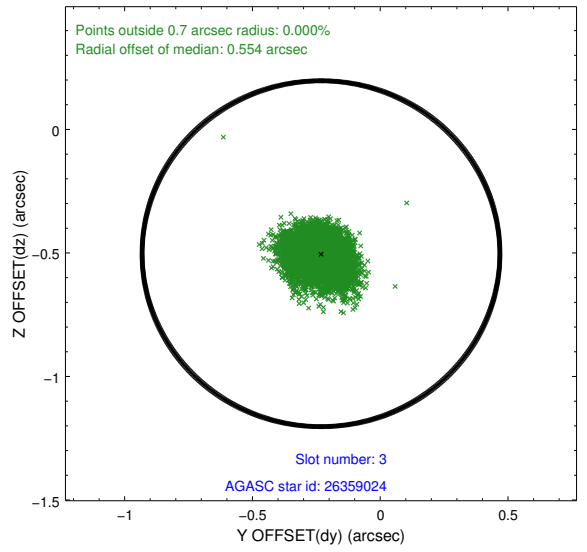
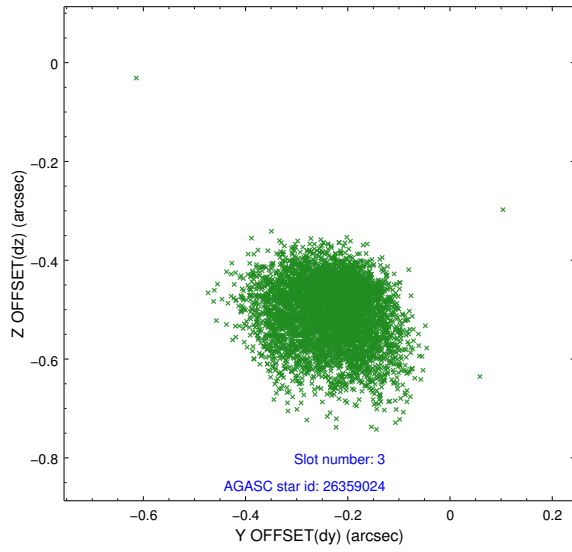
### Slot Statistics

| slot | status | used | id       | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec      | mean_y   | mea   |
|------|--------|------|----------|------|-------|----------|--------|--------|-------|-------|------------|----------|----------|-------|
| 0    | FID    |      | ACIS-S-2 | 7.12 | 2479  | 1.000    | -0.361 | -0.304 | 0.022 | 0.054 | 0.000000   | 0.000000 | -773.98  | -1744 |
| 1    | FID    |      | ACIS-S-4 | 7.21 | 2479  | 1.000    | 0.801  | 0.254  | 0.014 | 0.025 | 0.000000   | 0.000000 | 2140.15  | 163   |
| 2    | FID    |      | ACIS-S-5 | 7.19 | 2479  | 1.000    | -0.464 | 0.059  | 0.022 | 0.048 | 0.000000   | 0.000000 | -1826.33 | 157   |
| 3    | GUIDE  | used | 26359024 | 7.65 | 4957  | 1.000    | -0.232 | -0.503 | 0.102 | 0.162 | 126.849721 | 3.692437 | 886.23   | 95    |
| 4    | GUIDE  | used | 26359512 | 8.20 | 4956  | 1.000    | 0.457  | 0.770  | 0.119 | 0.210 | 127.368527 | 3.094504 | -1075.55 | -1966 |
| 5    | GUIDE  | used | 26360688 | 9.07 | 4955  | 1.000    | 0.391  | 0.622  | 0.231 | 0.339 | 127.385910 | 3.288762 | -374.51  | -1961 |
| 6    | GUIDE  | used | 26363152 | 8.35 | 4953  | 1.000    | -0.357 | -0.423 | 0.183 | 0.268 | 126.399267 | 3.490836 | 9.17     | 1636  |
| 7    | GUIDE  | used | 26869904 | 9.19 | 4949  | 1.000    | -0.265 | -0.447 | 0.137 | 0.223 | 126.769814 | 3.979879 | 1888.79  | 480   |

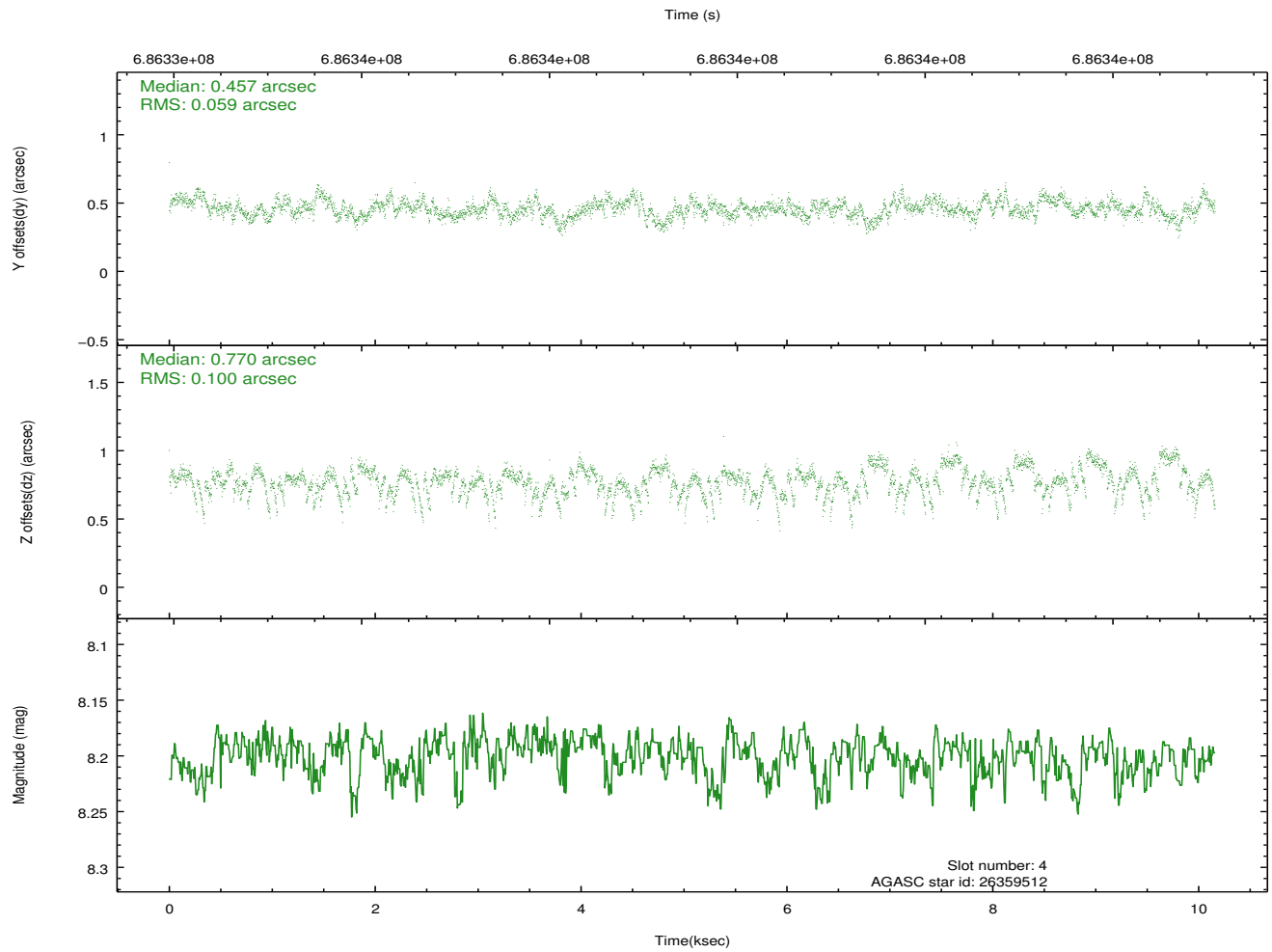
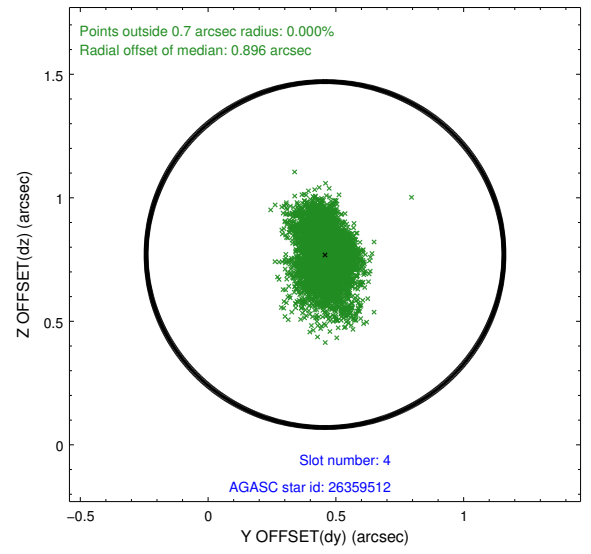
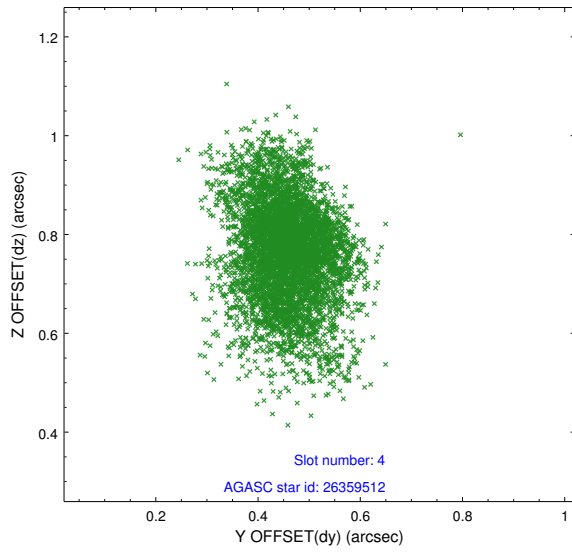
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## 2.4 Star Slots

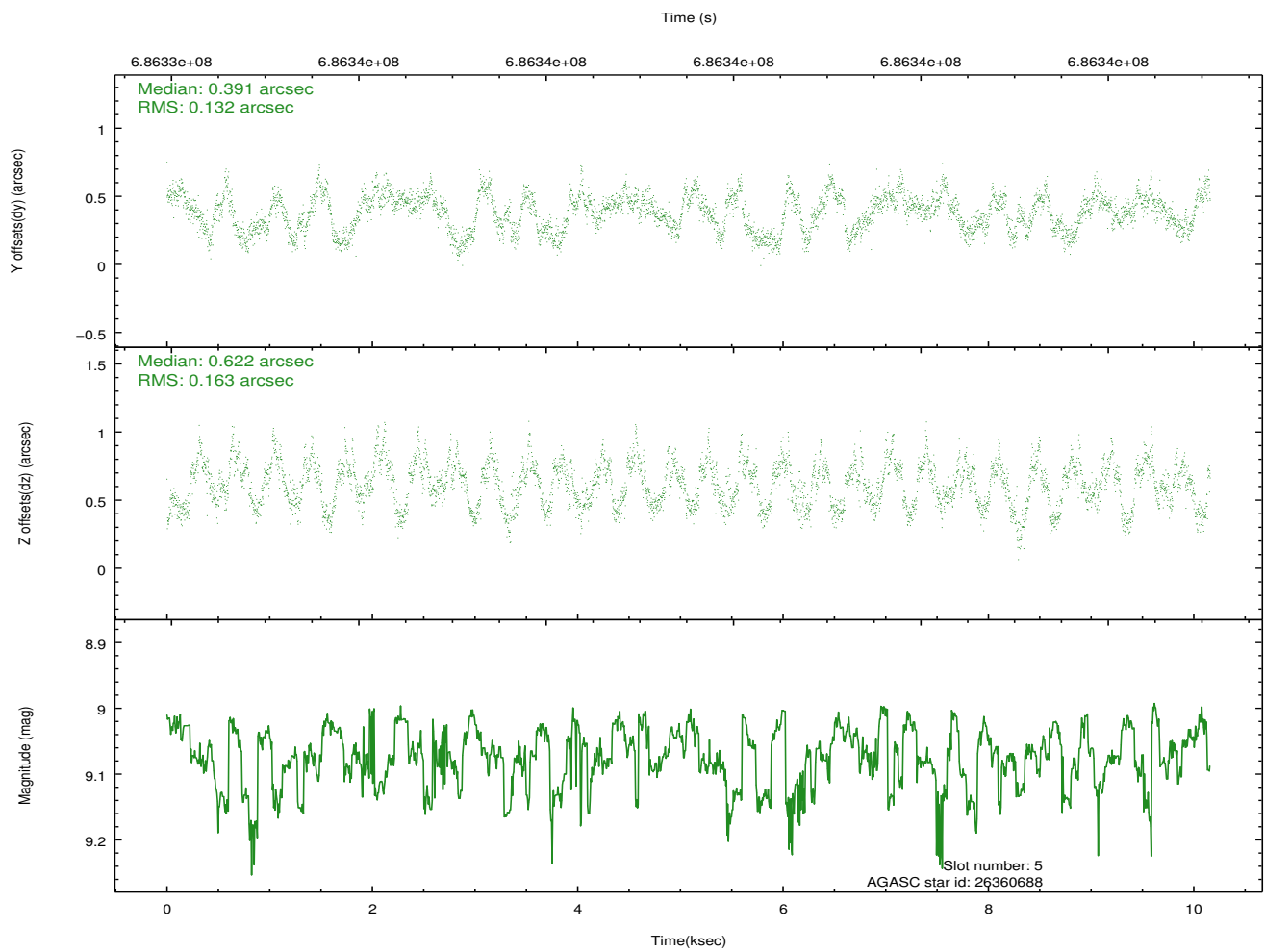
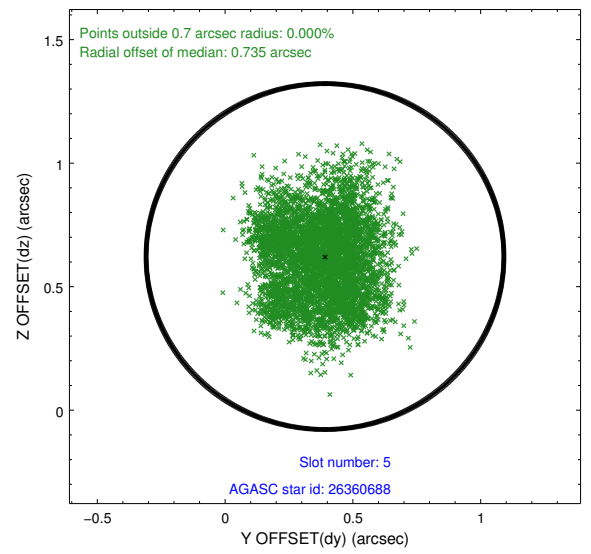
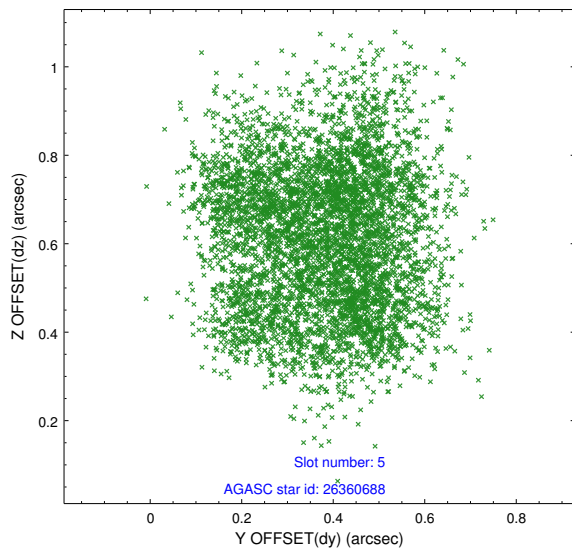
### 2.4.1 Slot 3



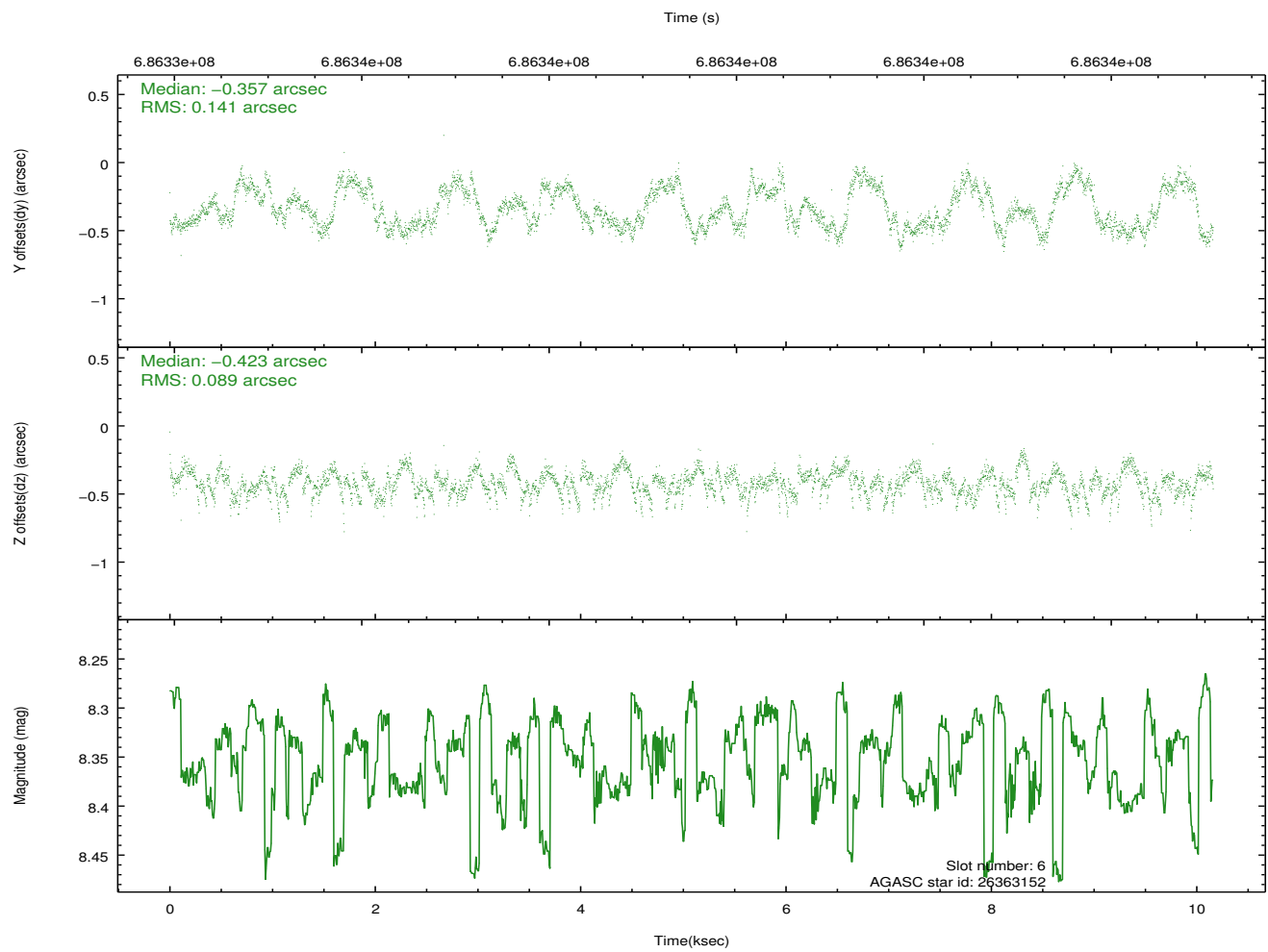
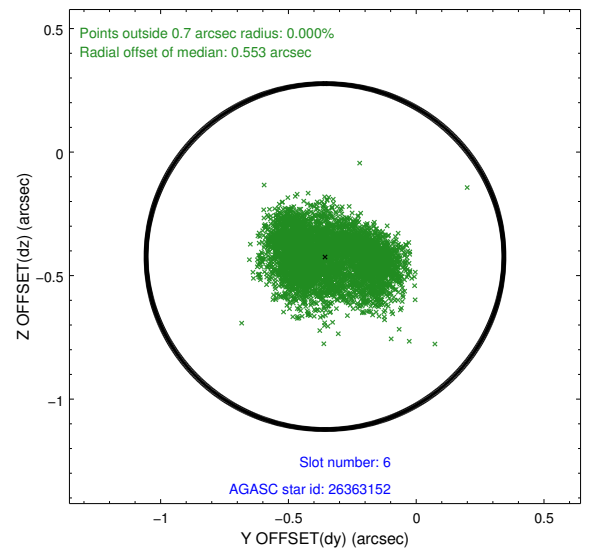
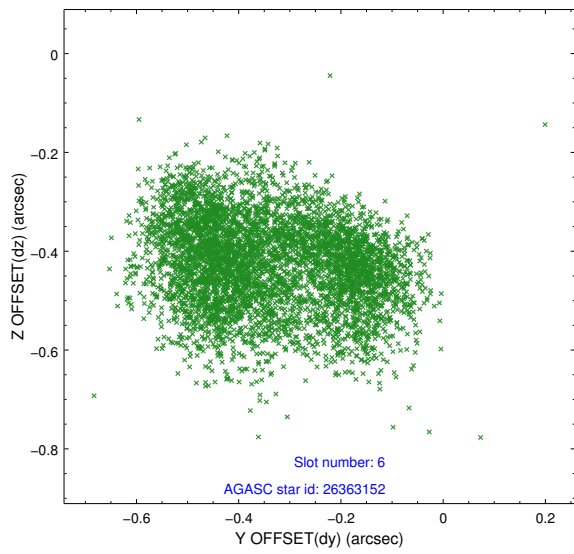
## 2.4.2 Slot 4



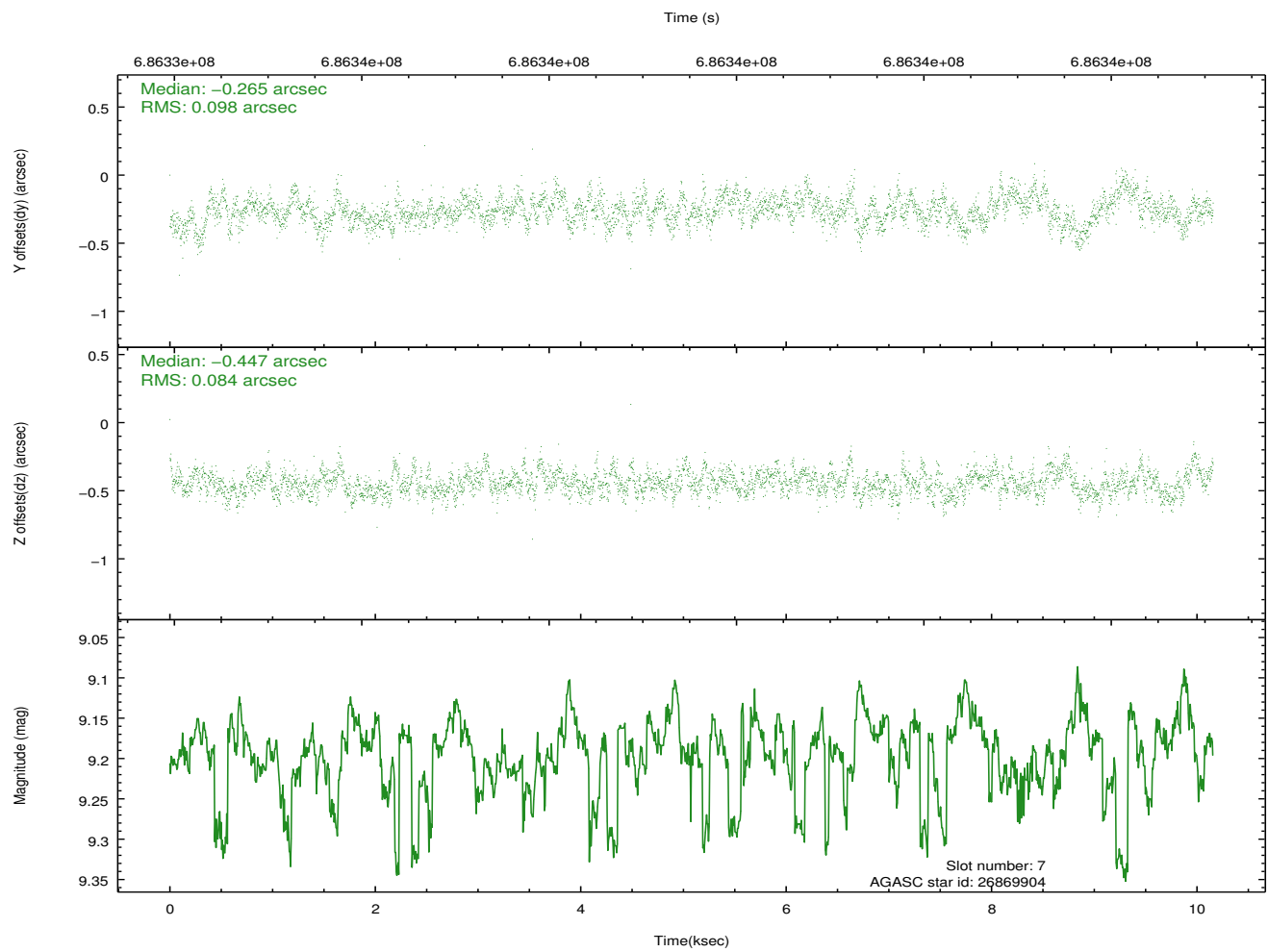
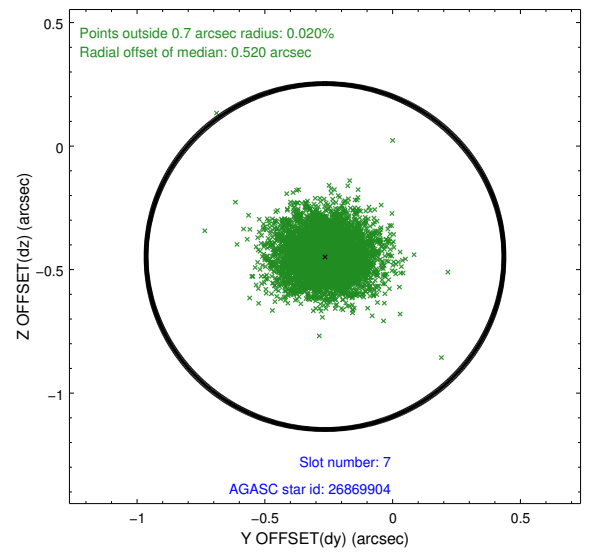
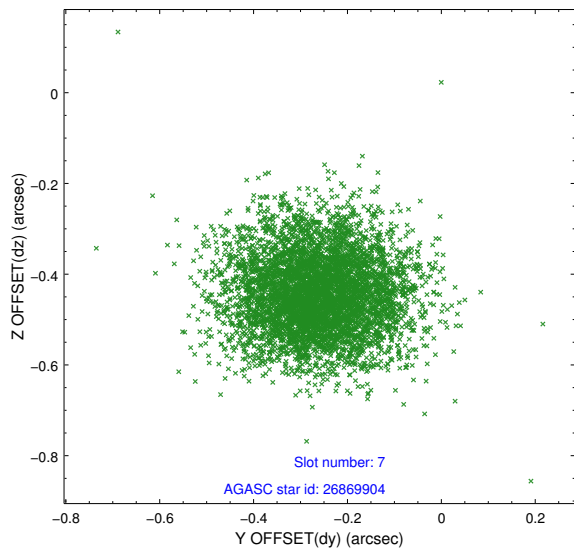
### 2.4.3 Slot 5



## 2.4.4 Slot 6

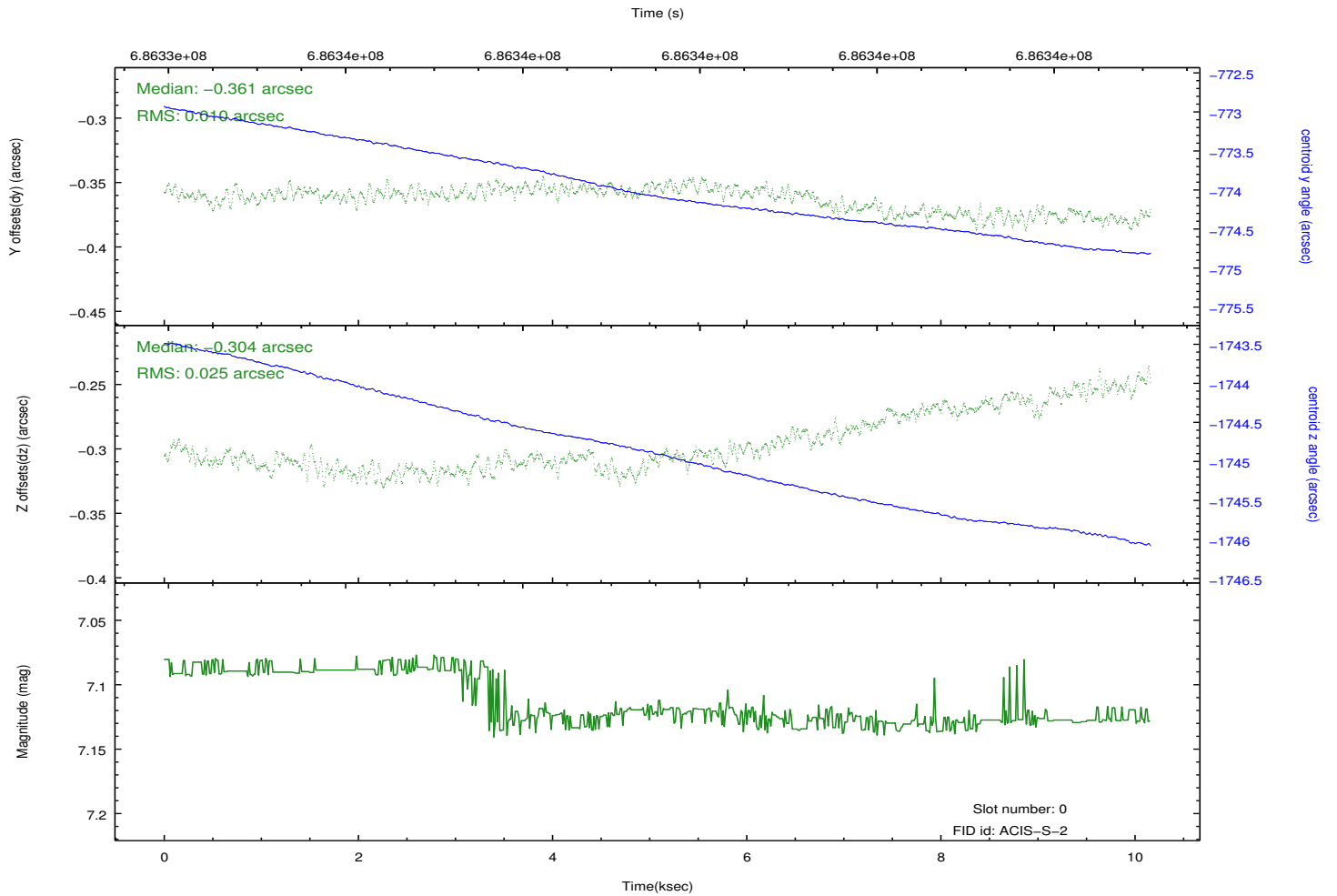
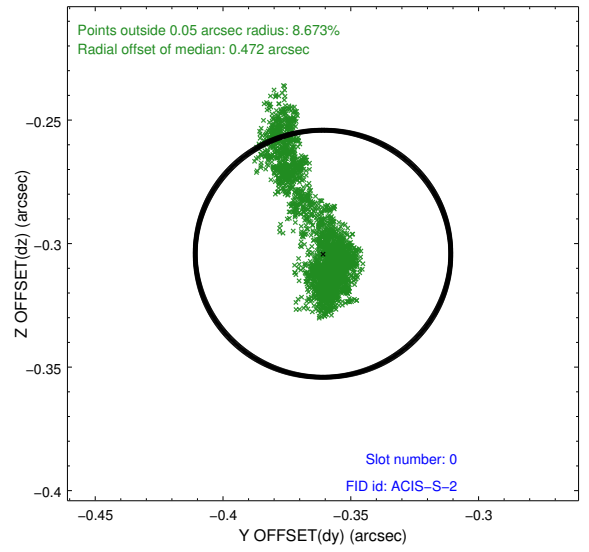
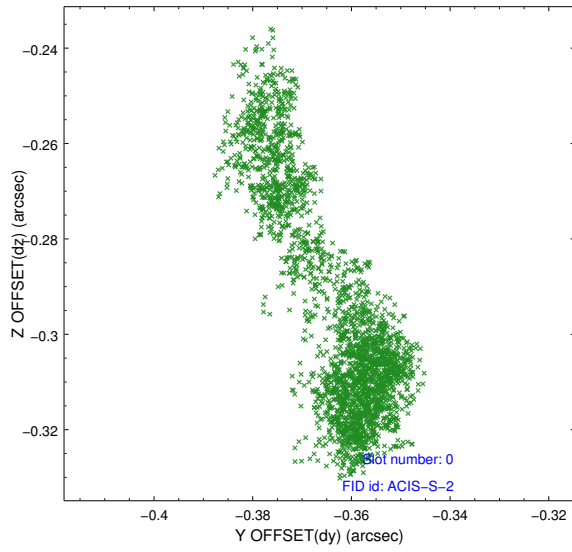


## 2.4.5 Slot 7

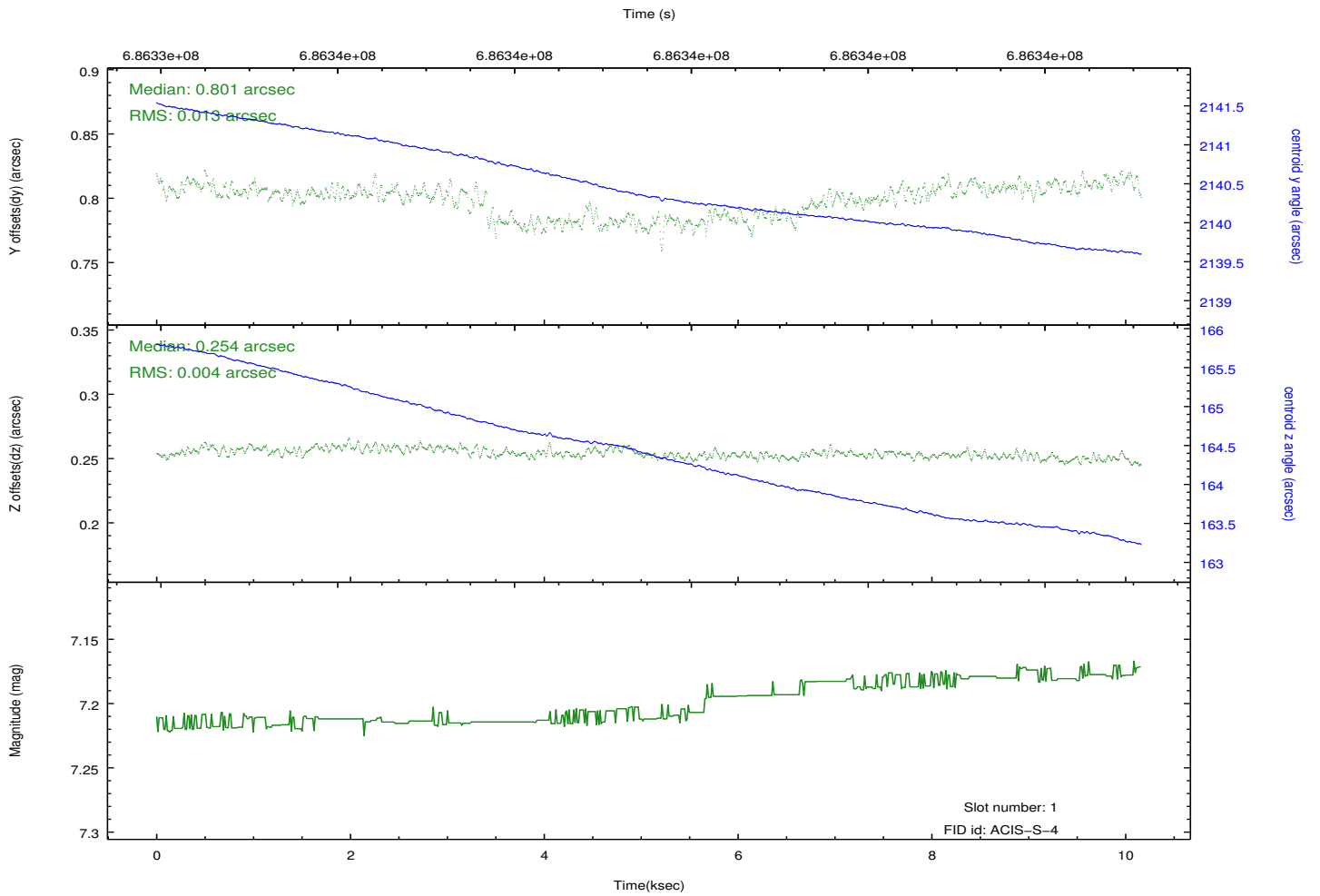
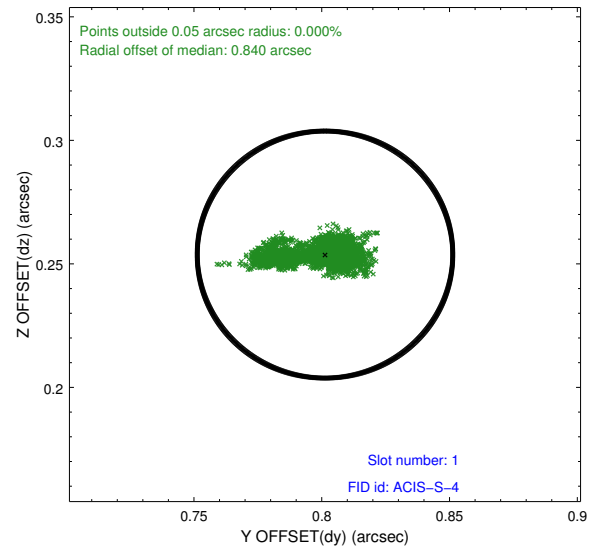
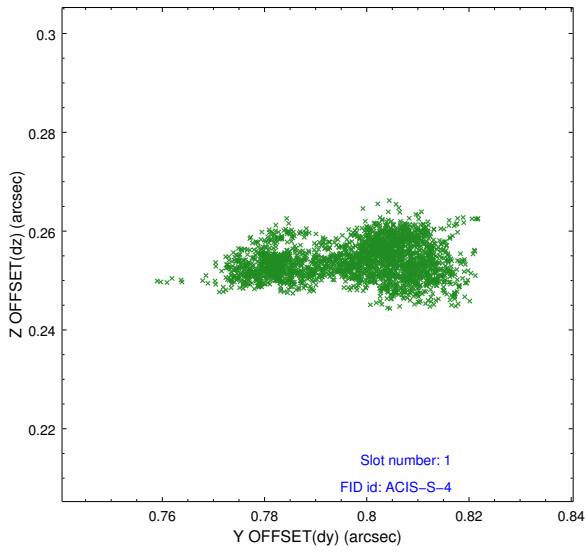


## 2.5 FID Slots

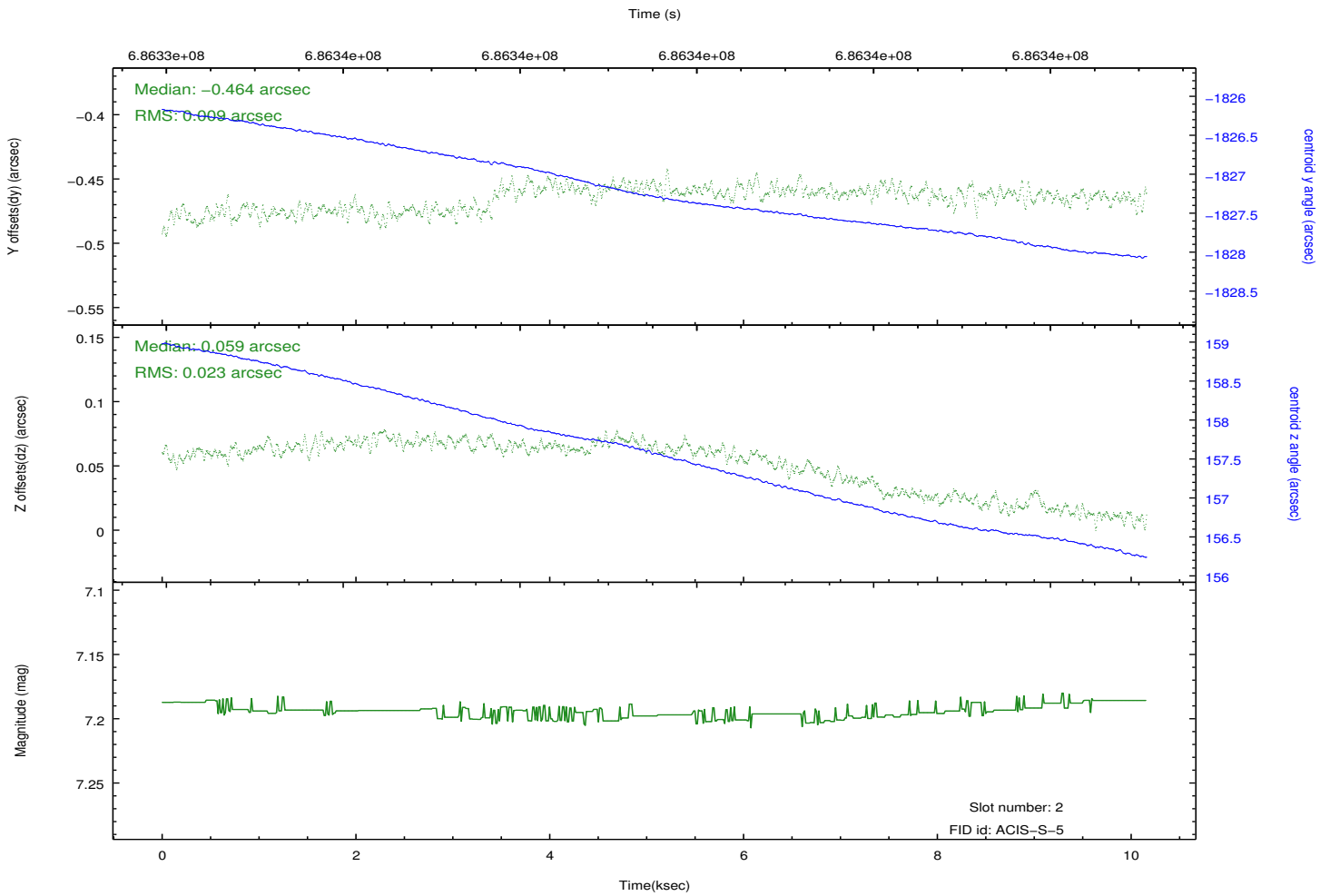
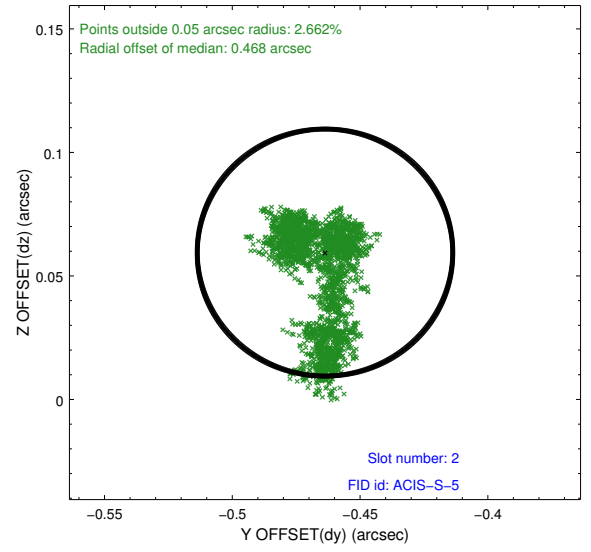
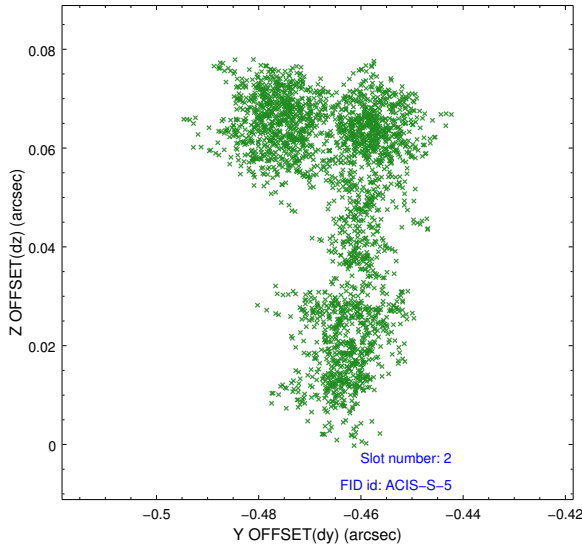
### 2.5.1 Slot 0



## 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)      | 2019.10.02      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 10.102748224974 |

### A.2 Comments