

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5655 - L2 Version 4  
Chandra X-Ray Center

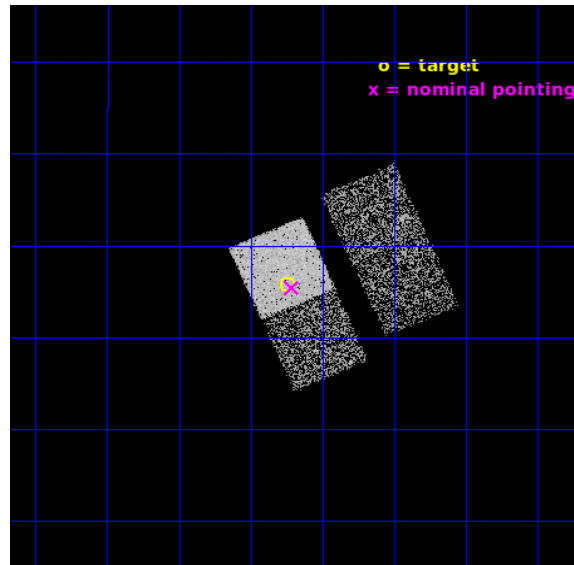
L2 Processing Date : Oct 8 2020

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# 1 Front

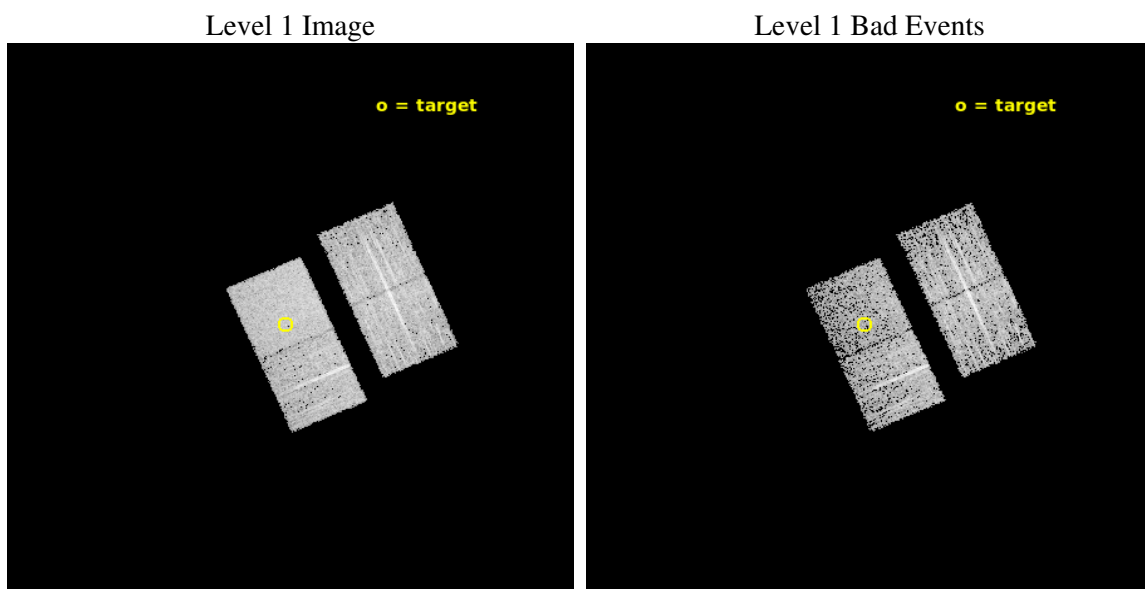
|          |   |   |
|----------|---|---|
| seq_num  | 701078  | Sequence number                             |
| obs_id   | 5655  | Observation id                              |
| title    | The Spectral Energy Distribution and Fe II Emission in Intermediate-Redshift Narrow-line Seyfert 1 Galaxies | Proposal title                              |
| observer | Professor Karen Leighly   | Principal investigator                      |
| object   | SDSS J114944.47+014542.5  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 177.435417  | Observer's specified target RA [deg]        |
| dec_targ | 1.761806  | Observer's specified target Dec [deg]       |
| ra_nom   | 177.42834027549   | Nominal RA [deg]                            |
| dec_nom  | 1.7569541868506   | Nominal Dec [deg]                           |
| roll_nom | 246.18081813745   | Nominal Roll [deg]                          |
| revision | 4   | Processing version of data                  |
| ontime   | 4749.1999908388   | Sum of GTIs [s]                             |
| livetime | 4687.1481966483   | Livetime [s]                                |
| ontime2  | 4749.1999908388   | Sum of GTIs [s]                             |
| ontime3  | 4749.1999908388   | Sum of GTIs [s]                             |
| ontime6  | 4749.1999908388   | Sum of GTIs [s]                             |
| ontime7  | 4749.1999908388   | Sum of GTIs [s]                             |
| l2events | 21811   | Number of level 2 events                    |



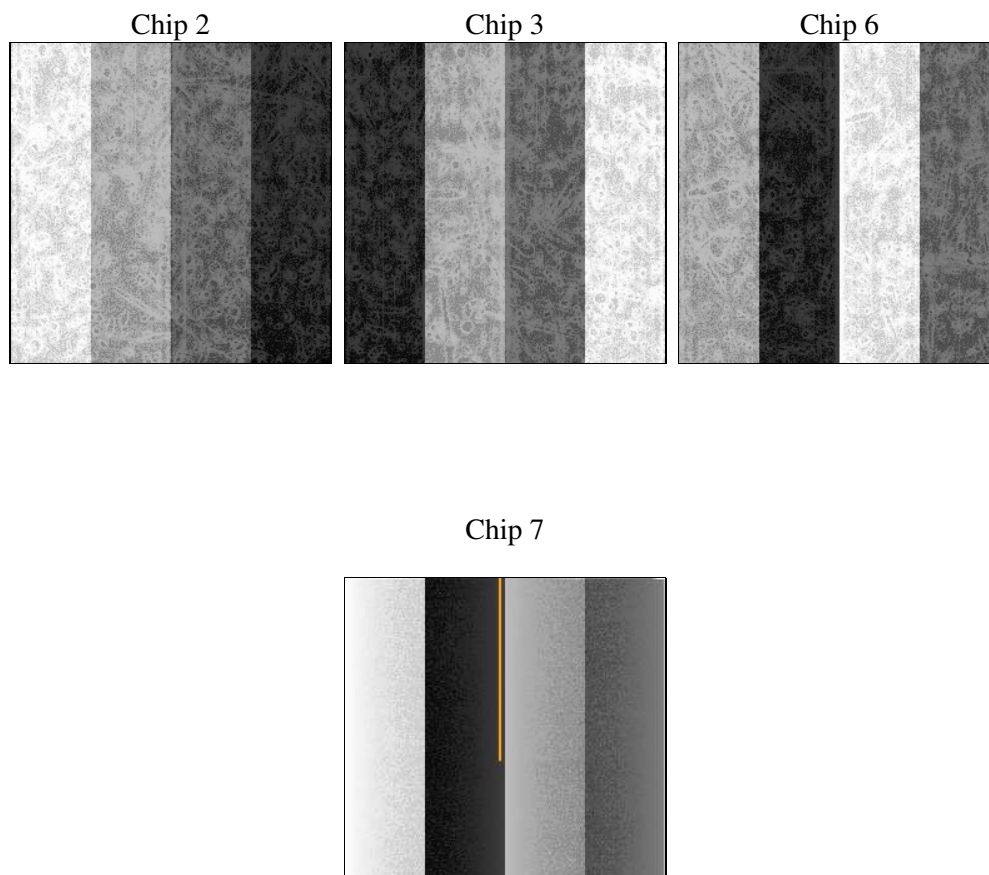
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 4700.000000     | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1              | Processing system revision     | ontime         | 4749.1999908388 | Sum of GTIs [s]                         |
| caldsver | 4.9.2               | &#160                          | ontime2        | 4749.1999908388 | Sum of GTIs [s]                         |
| date     | 2020-10-08T06:37:10 | Date and time of file creation | ontime3        | 4749.1999908388 | Sum of GTIs [s]                         |
| revision | 4                   | Processing version of data     | ontime6        | 4749.1999908388 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 4749.1999908388 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 119633          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|
| level 1 events  | 30142 | 28719 | 28080 | 32692 |
| rejected events | 27368 | 25846 | 24971 | 17867 |
| rejected %      | 90%   | 89%   | 88%   | 54%   |

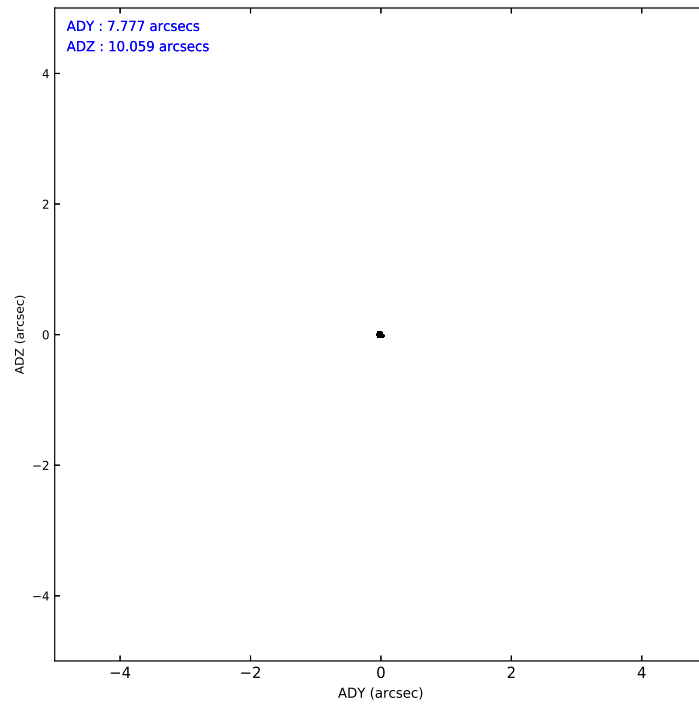
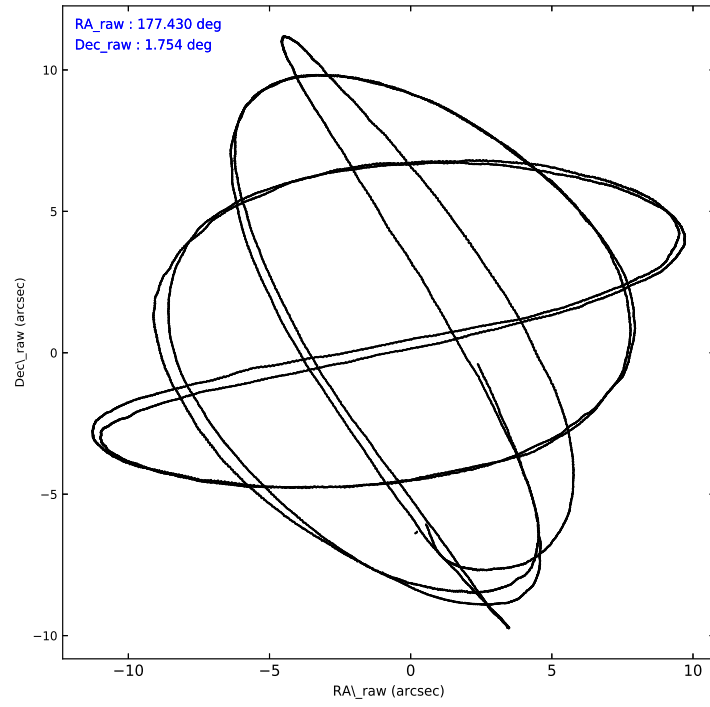
|                | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 1013  | 962   | 1128  | 1328  |
|                | 3%    | 3%    | 4%    | 4%    |
| grade 1 events | 18    | 16    | 17    | 26    |
|                | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 653   | 643   | 658   | 3057  |
|                | 2%    | 2%    | 2%    | 9%    |
| grade 3 events | 300   | 347   | 327   | 1395  |
|                | 0%    | 1%    | 1%    | 4%    |
| grade 4 events | 318   | 333   | 358   | 1344  |
|                | 1%    | 1%    | 1%    | 4%    |
| grade 5 events | 963   | 1167  | 1205  | 3490  |
|                | 3%    | 4%    | 4%    | 10%   |
| grade 6 events | 496   | 591   | 644   | 7728  |
|                | 1%    | 2%    | 2%    | 23%   |
| grade 7 events | 26381 | 24660 | 23743 | 14324 |
|                | 87%   | 85%   | 84%   | 43%   |

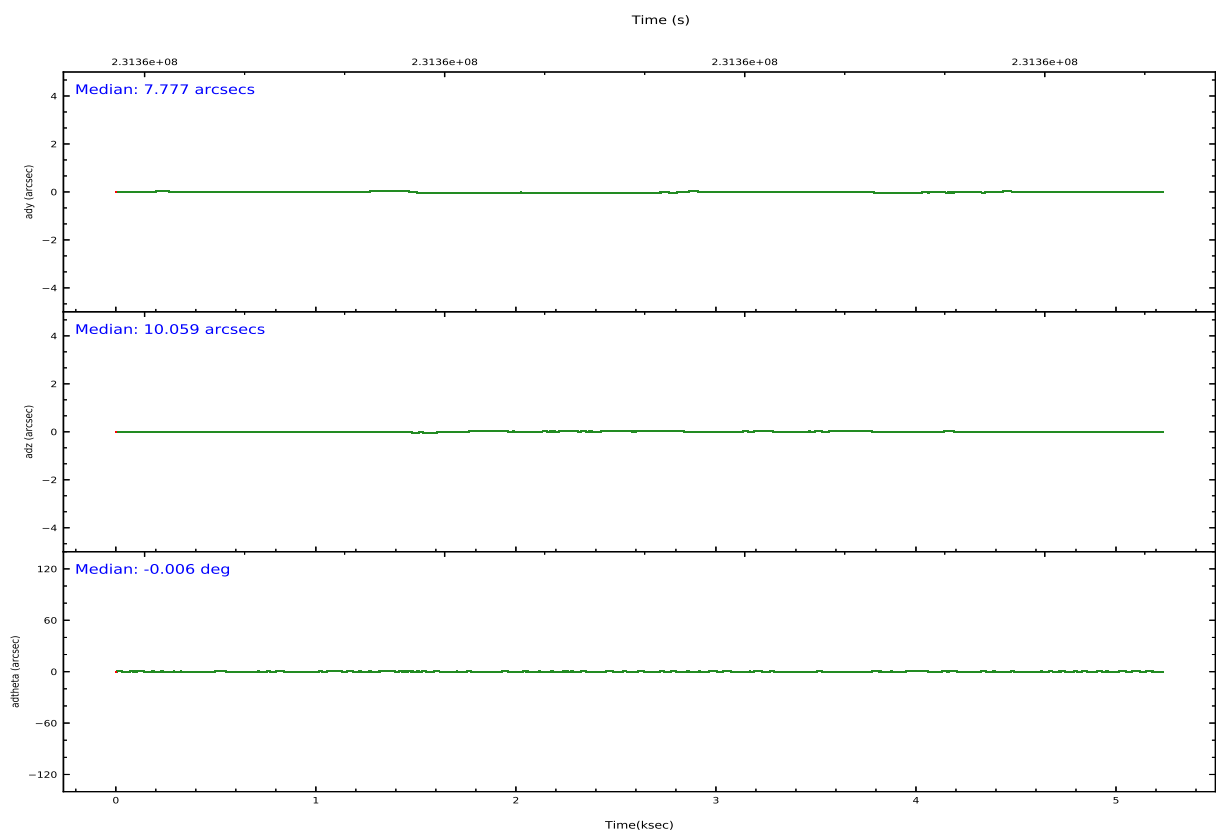
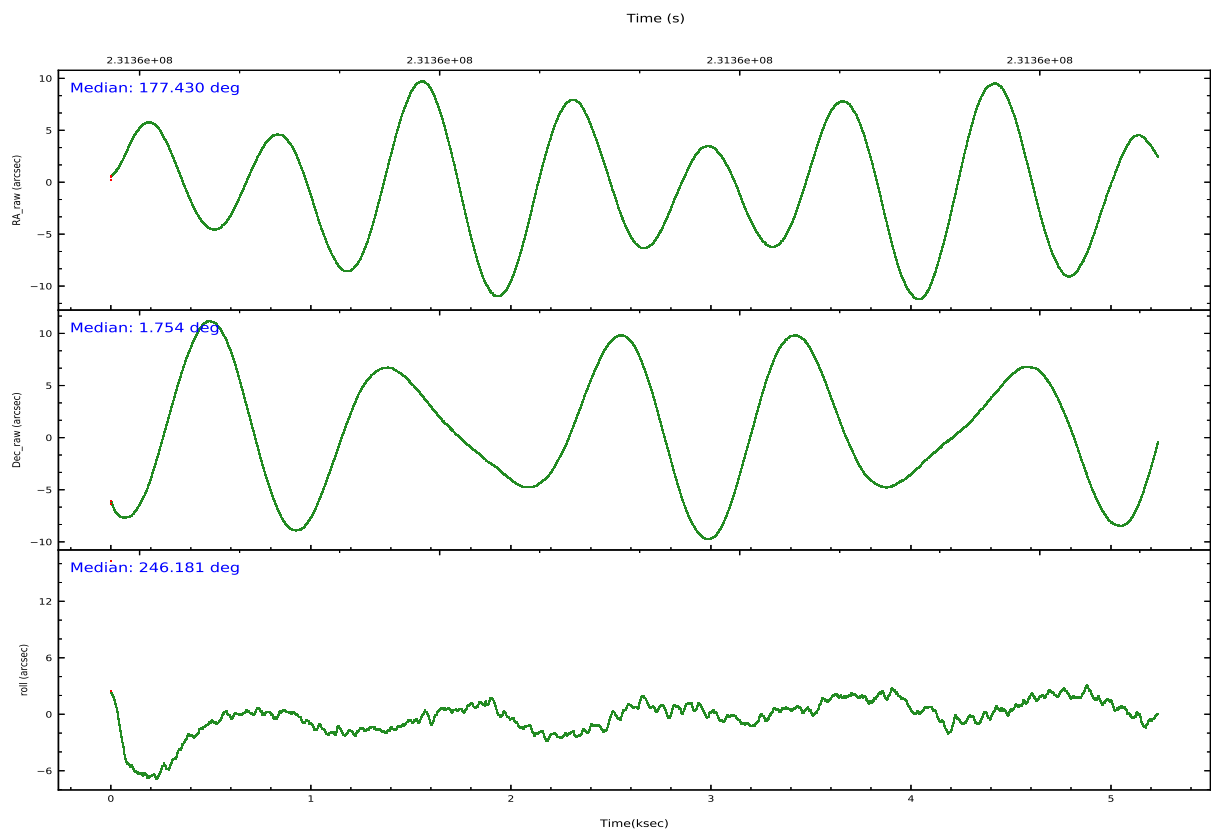


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar version number                 | 8         | 8       |
| Detector                          | ACIS-2367           | ACIS-2367            | 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                 | 177.426720          | 177.42834027549      | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 1.780814            | 1.7569541868506      | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 246.022733          | 246.18081813745      | [s] Primary exposure time             | 0.000000  | 3.1     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 231356891.184000    | 231355846.83448      |                                       |           |         |
| Observation start date            | 2005-05-01T17:47:07 | 2005-05-01T17:30:46  |                                       |           |         |
| [s] Observation end time (MET)    | 231361591.184000    | 231362544.69728      |                                       |           |         |
| Observation end date              | 2005-05-01T19:05:27 | 2005-05-01T19:22:24  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



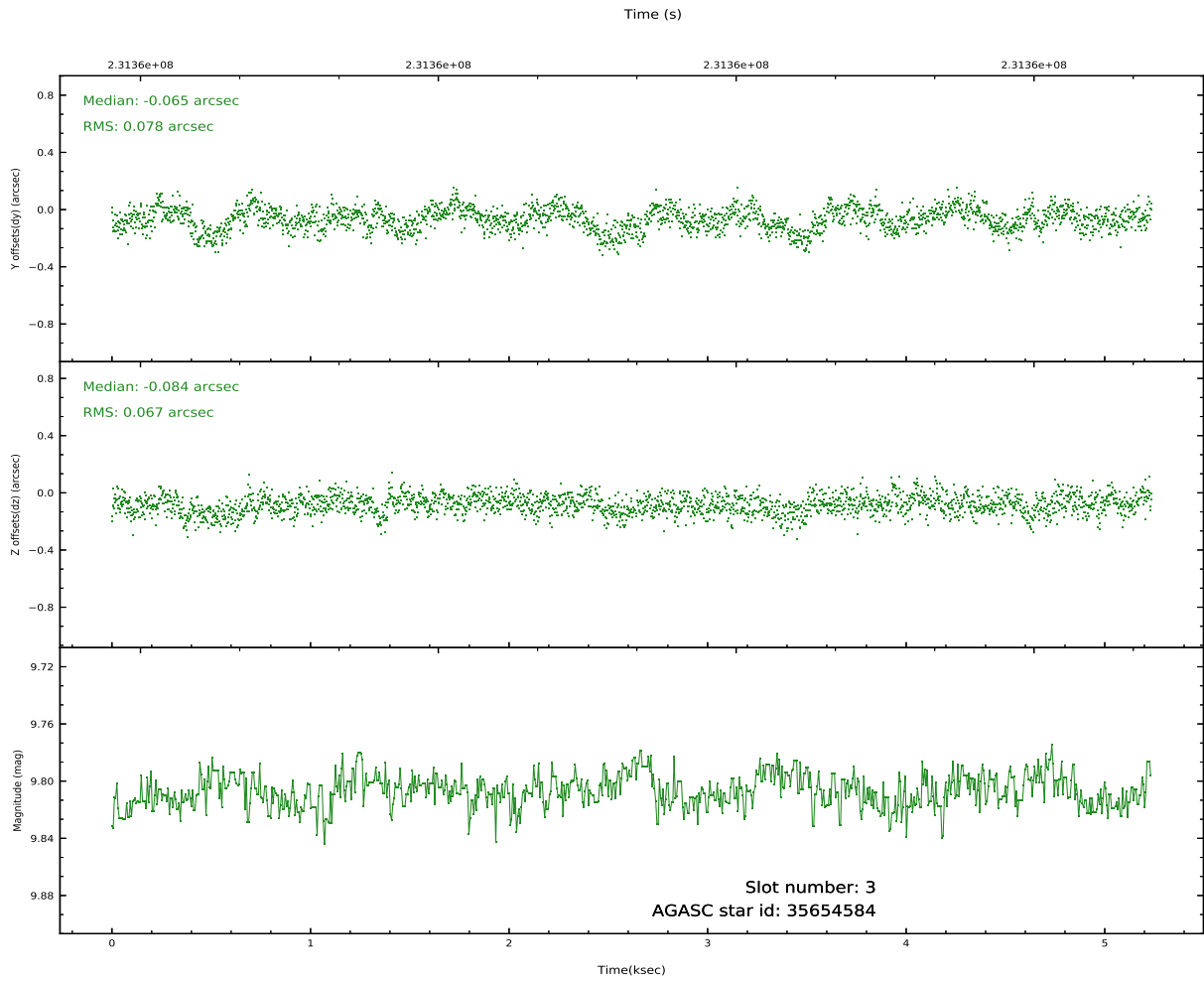
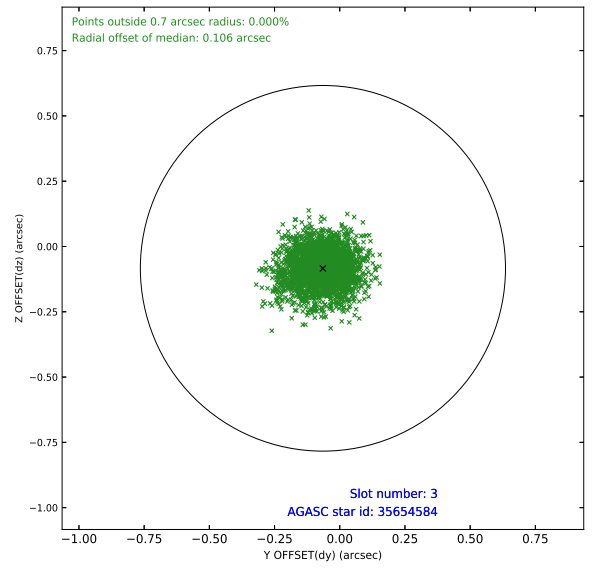
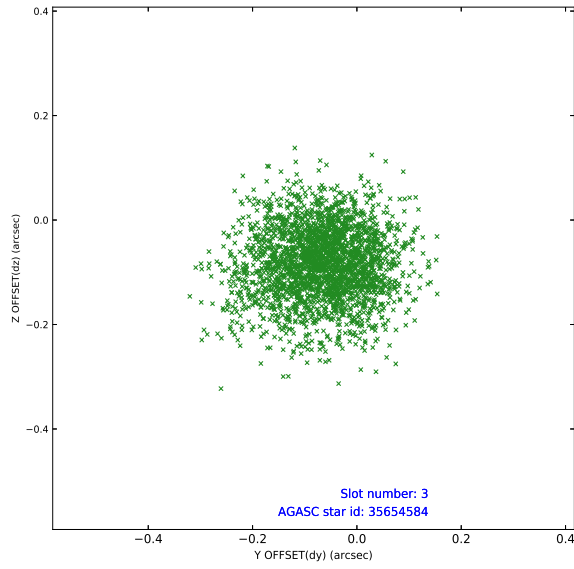


Slot Statistics

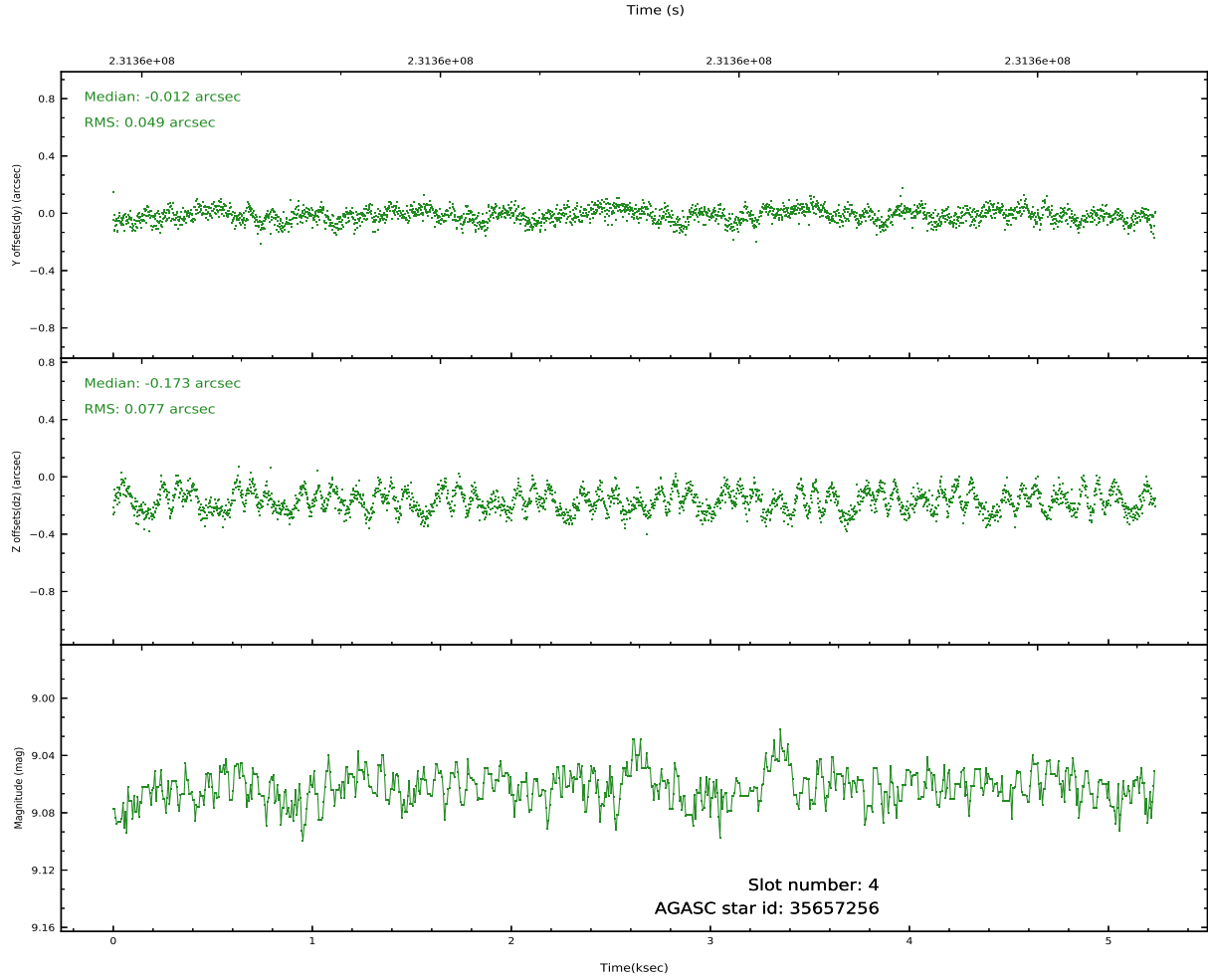
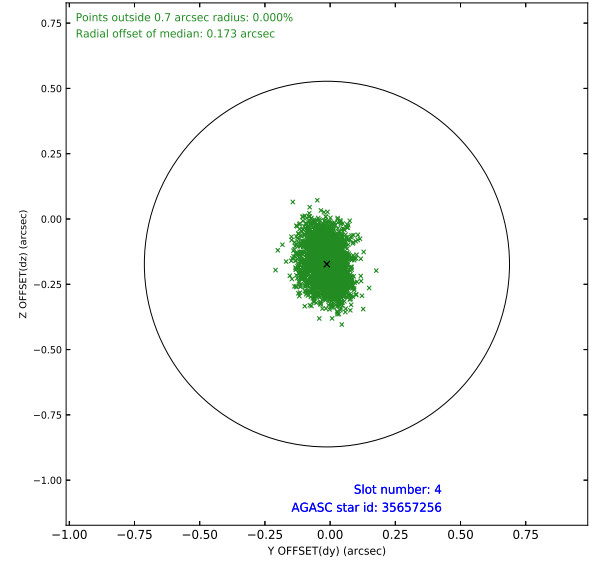
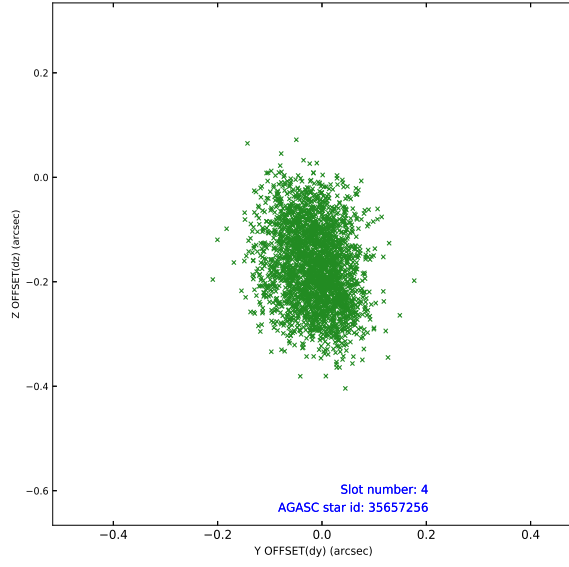
| pt | status | used | id       | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec      | mean_y   | mea   |
|----|--------|------|----------|------|-------|----------|--------|--------|-------|-------|------------|----------|----------|-------|
| 0  | FID    |      | ACIS-S-2 | 7.10 | 1278  | 1.000    | -0.075 | -0.062 | 0.006 | 0.010 | 0.000000   | 0.000000 | -760.55  | -1731 |
| 1  | FID    |      | ACIS-S-4 | 7.21 | 1278  | 1.000    | 0.169  | 0.053  | 0.005 | 0.010 | 0.000000   | 0.000000 | 2152.38  | 176   |
| 2  | FID    |      | ACIS-S-5 | 7.23 | 1278  | 1.000    | -0.125 | 0.018  | 0.006 | 0.010 | 0.000000   | 0.000000 | -1812.03 | 170   |
| 3  | GUIDE  | used | 35654584 | 9.81 | 2553  | 1.000    | -0.065 | -0.084 | 0.110 | 0.180 | 177.454333 | 2.359317 | -1943.08 | -756  |
| 4  | GUIDE  | used | 35657256 | 9.06 | 2552  | 1.000    | -0.012 | -0.173 | 0.099 | 0.157 | 176.857006 | 2.013332 | 67.25    | -2214 |
| 5  | GUIDE  | used | 35658416 | 7.89 | 2554  | 1.000    | -0.104 | -0.016 | 0.073 | 0.117 | 176.725004 | 1.604214 | 1606.95  | -2050 |
| 6  | GUIDE  | used | 35786024 | 9.52 | 2540  | 1.000    | -0.003 | 0.045  | 0.153 | 0.235 | 177.790022 | 1.785804 | -547.00  | 1185  |
| 7  | GUIDE  | used | 35788008 | 9.43 | 2554  | 1.000    | 0.195  | 0.232  | 0.117 | 0.182 | 177.612047 | 1.006805 | 2274.86  | 1742  |

## 2.4 Star Slots

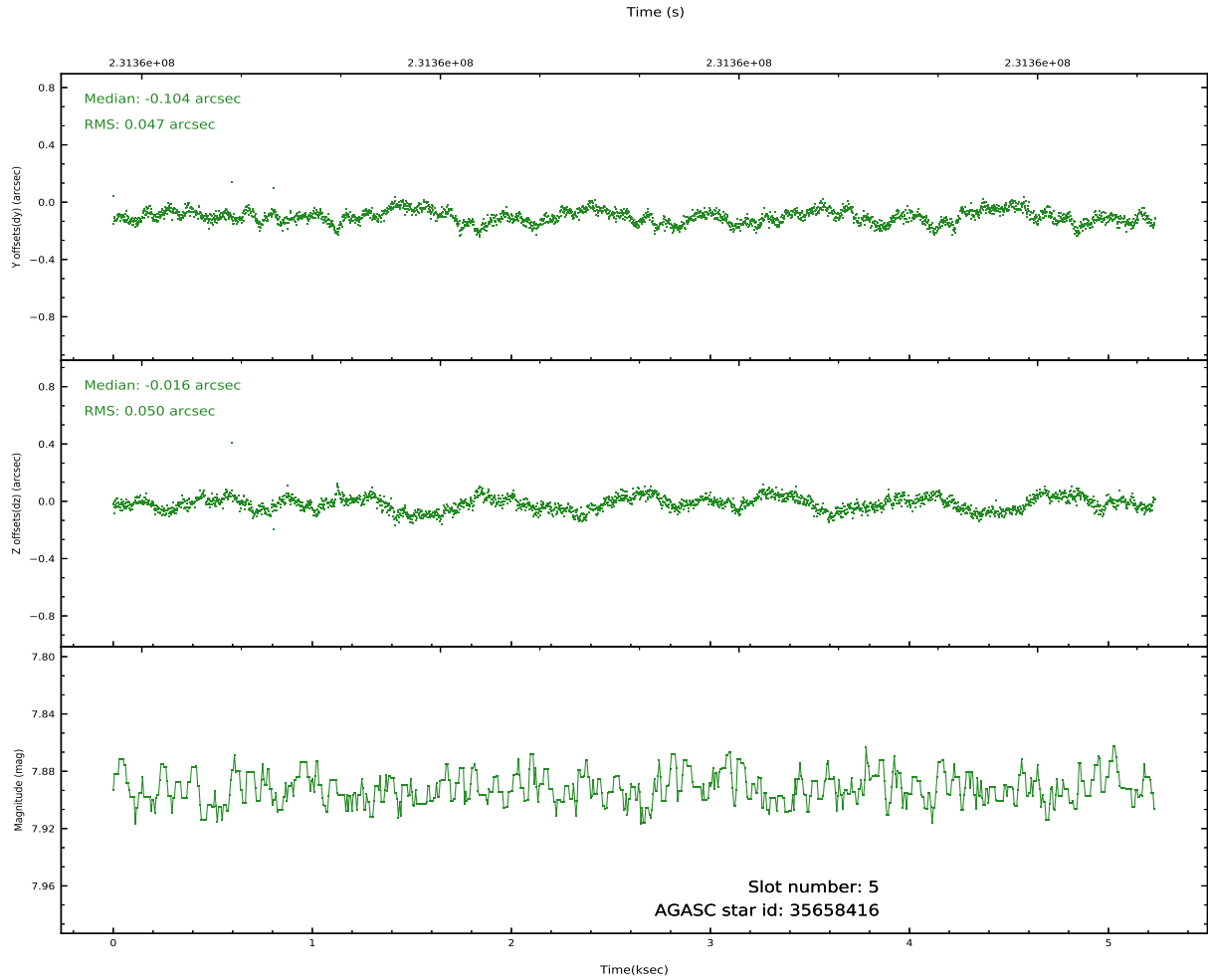
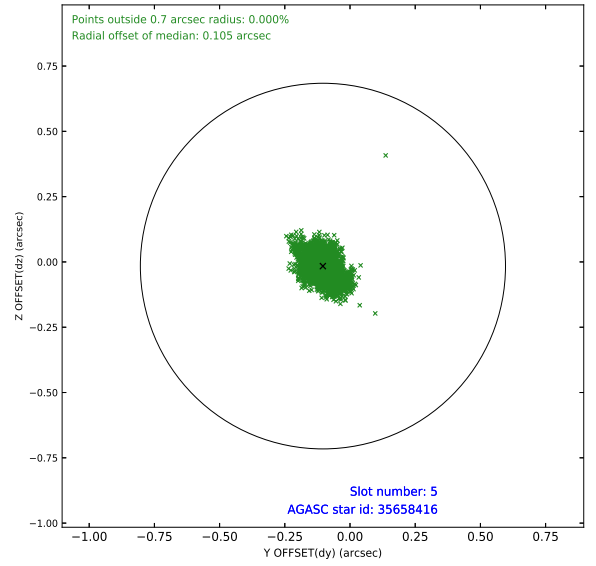
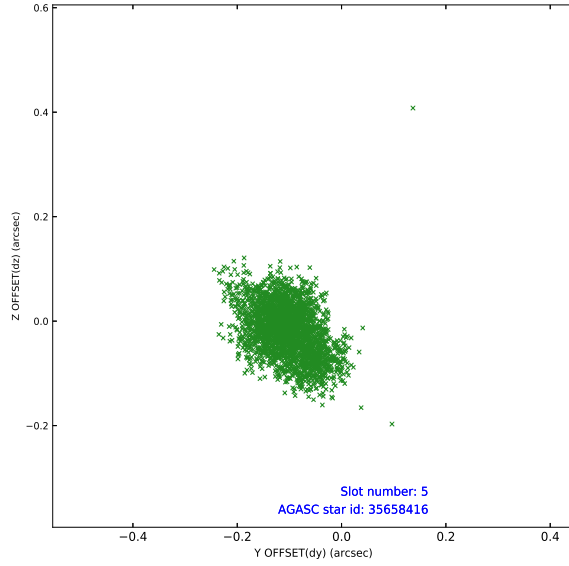
### 2.4.1 Slot 3



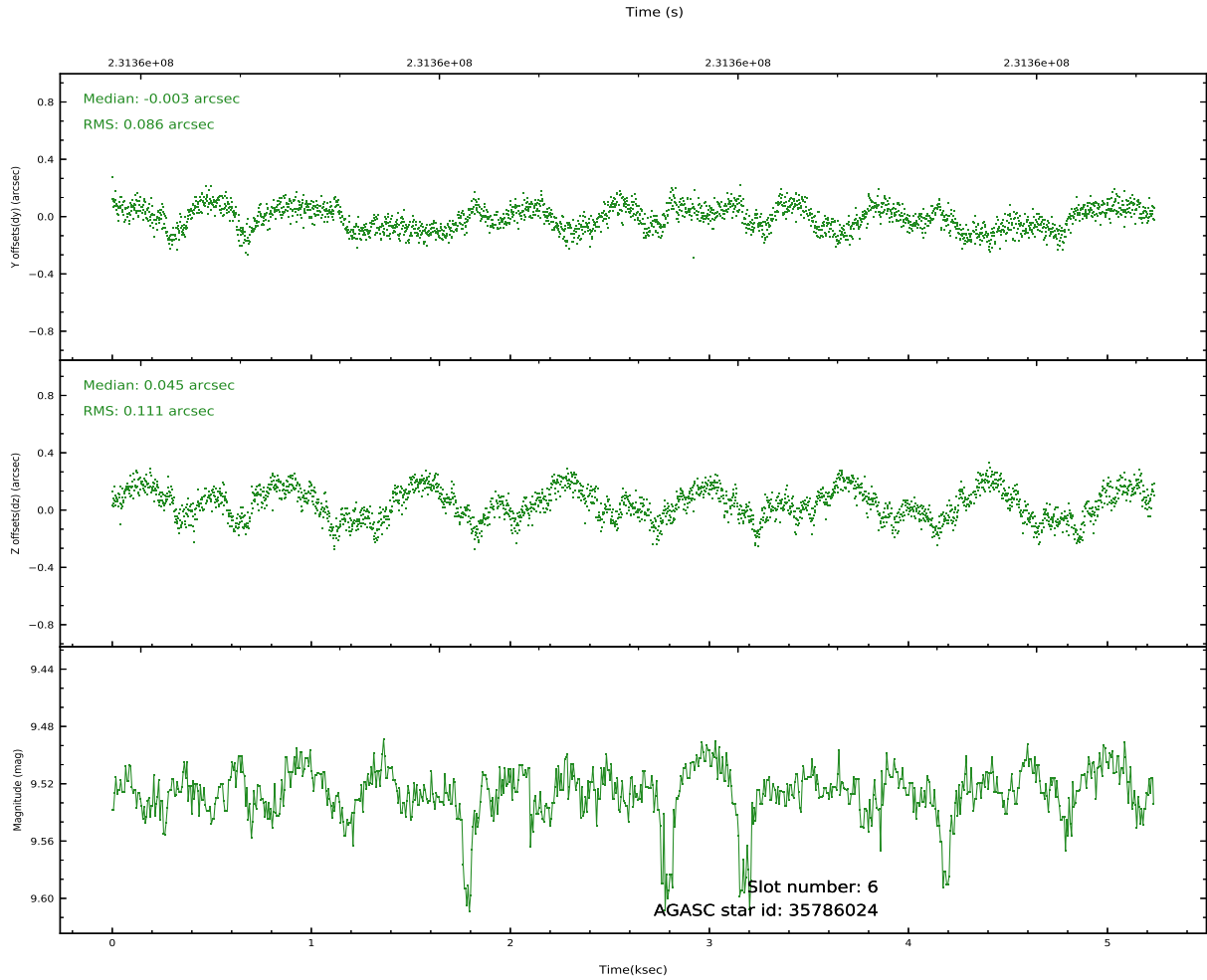
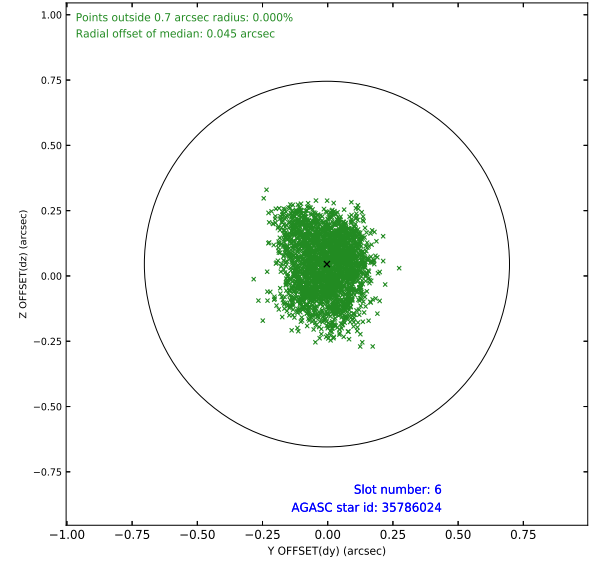
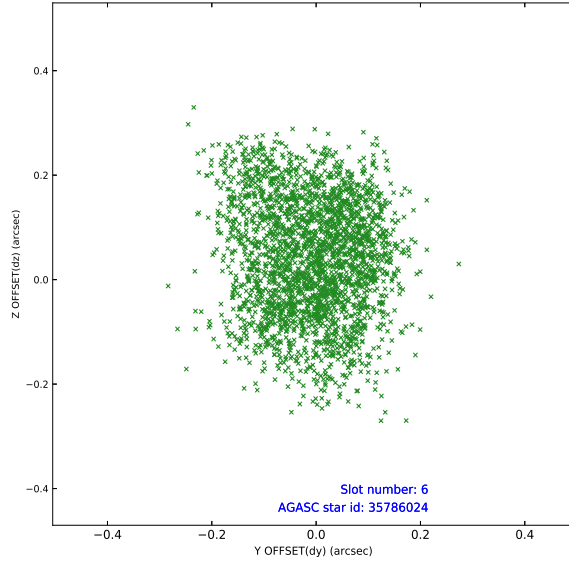
## 2.4.2 Slot 4



### 2.4.3 Slot 5

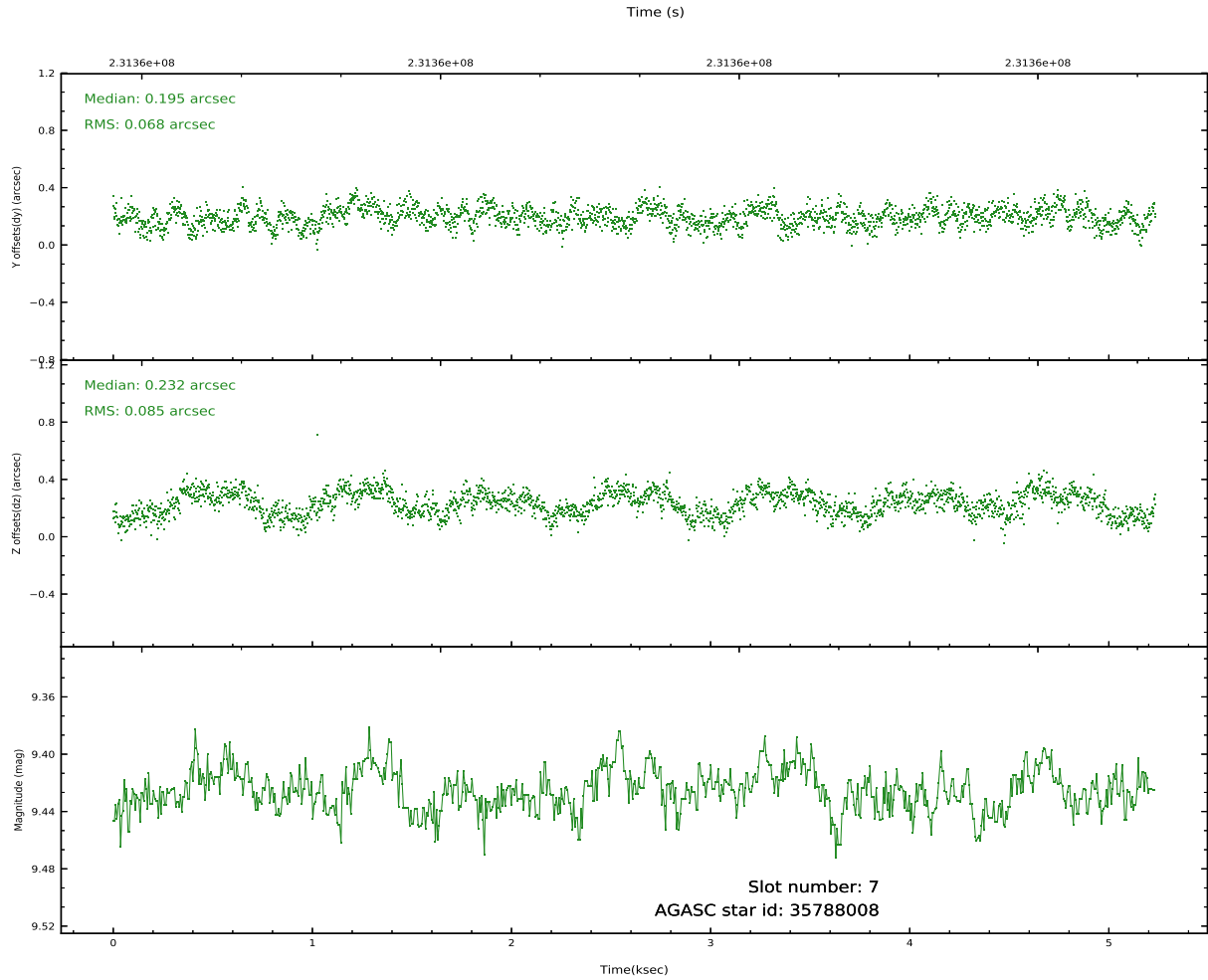
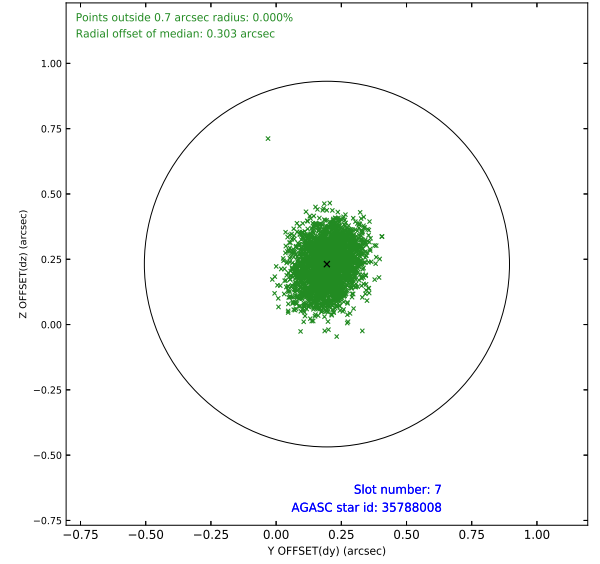
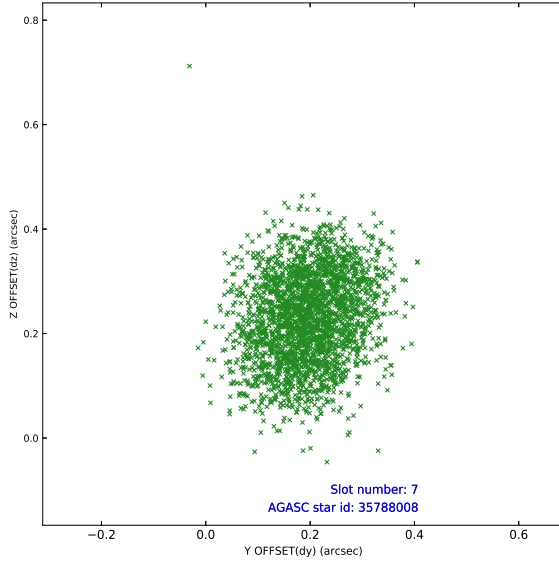


## 2.4.4 Slot 6



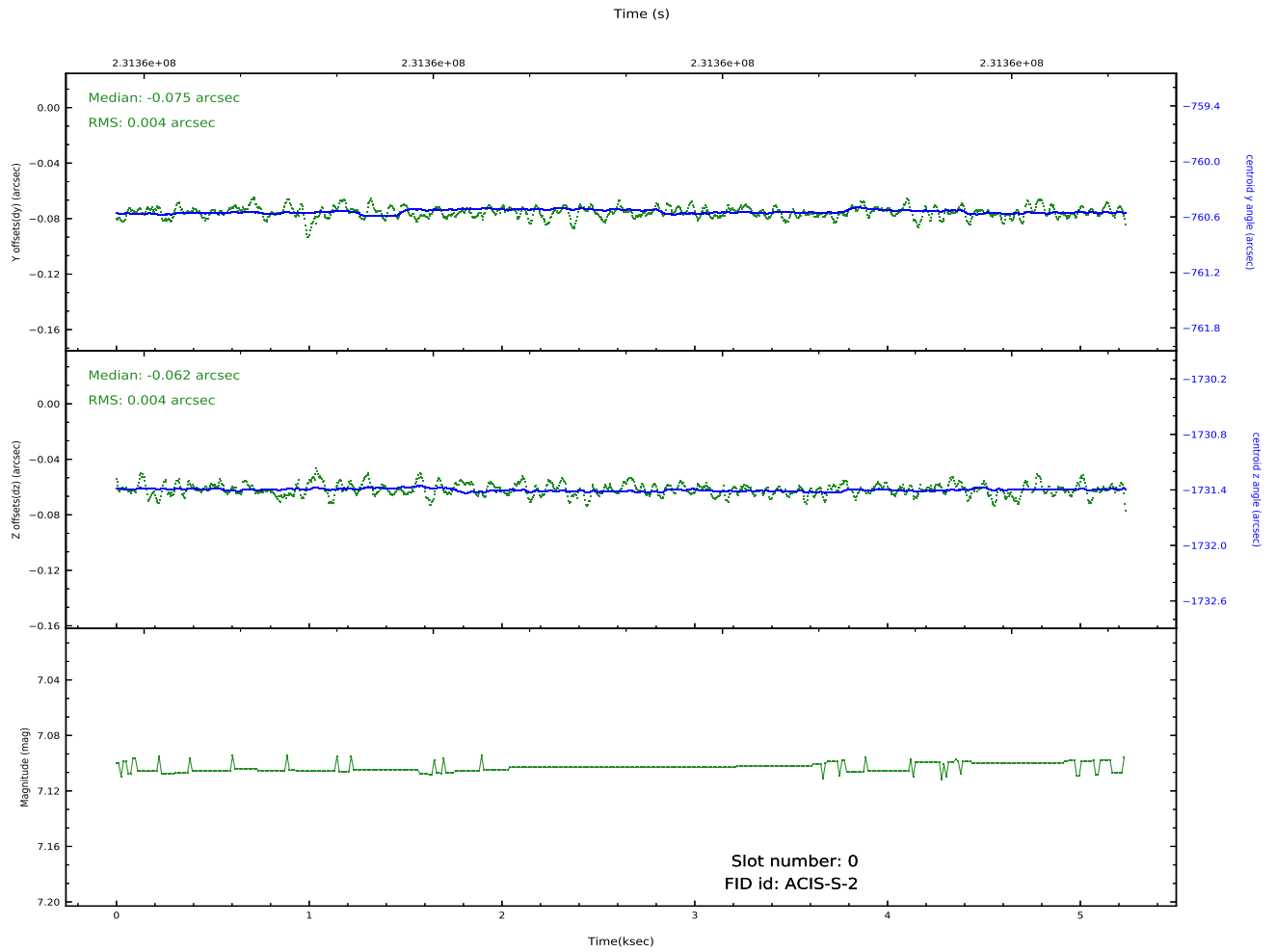
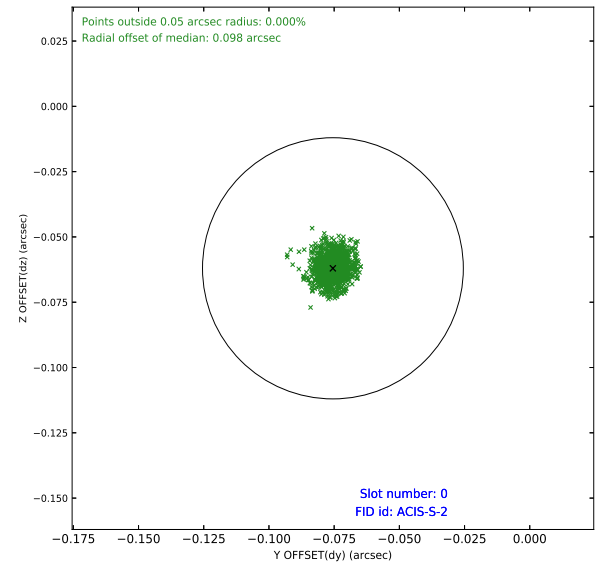
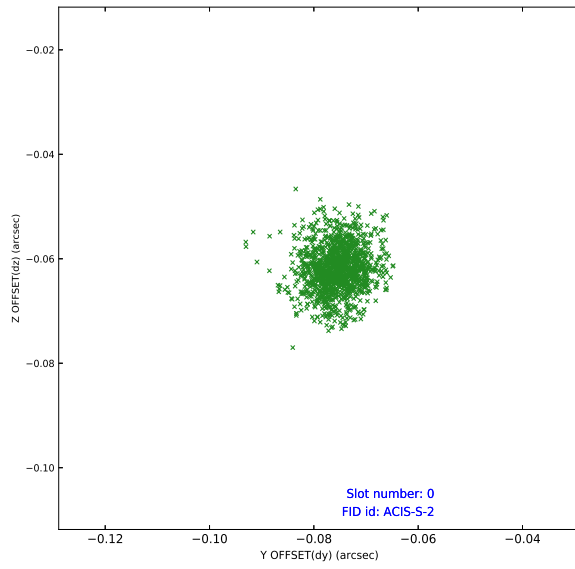


## 2.4.5 Slot 7

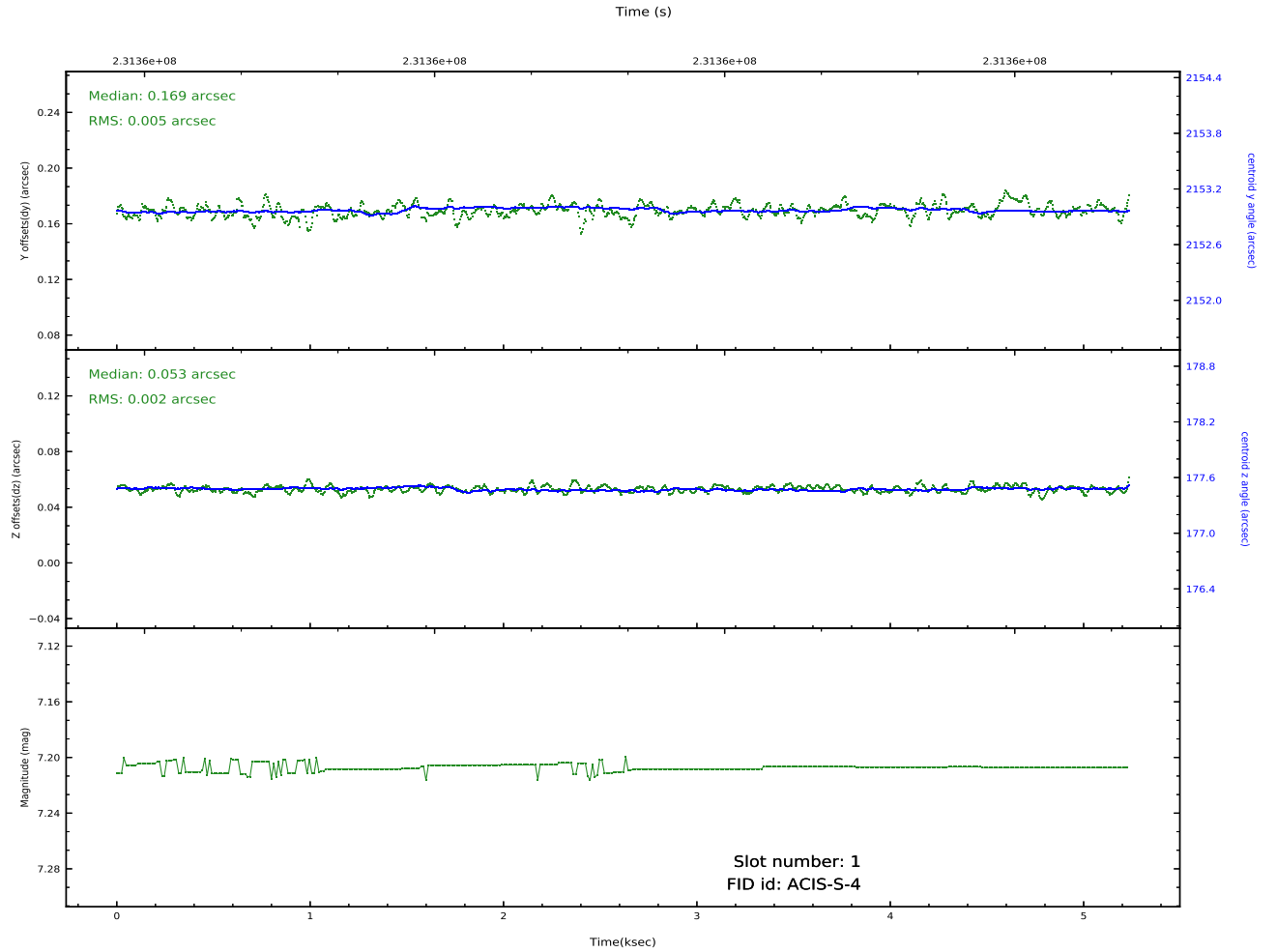
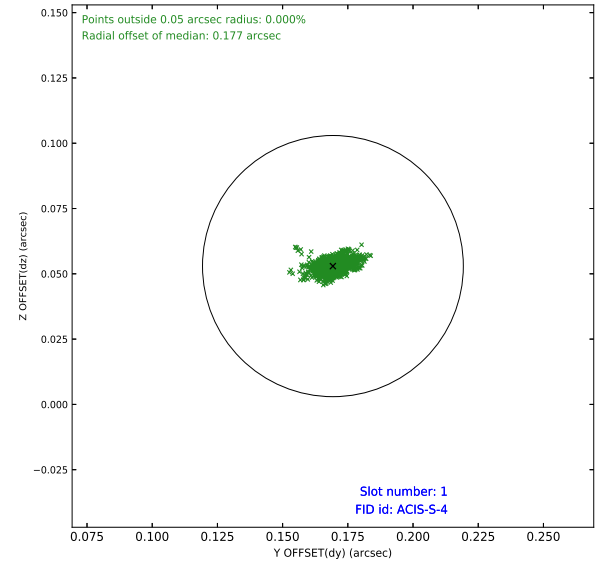
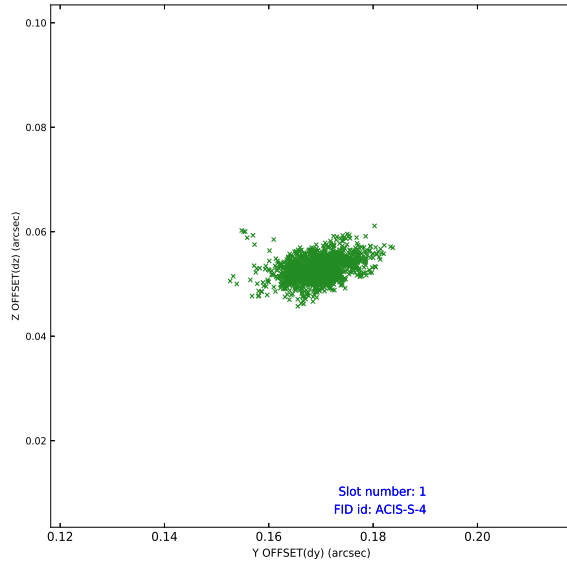


## 2.5 FID Slots

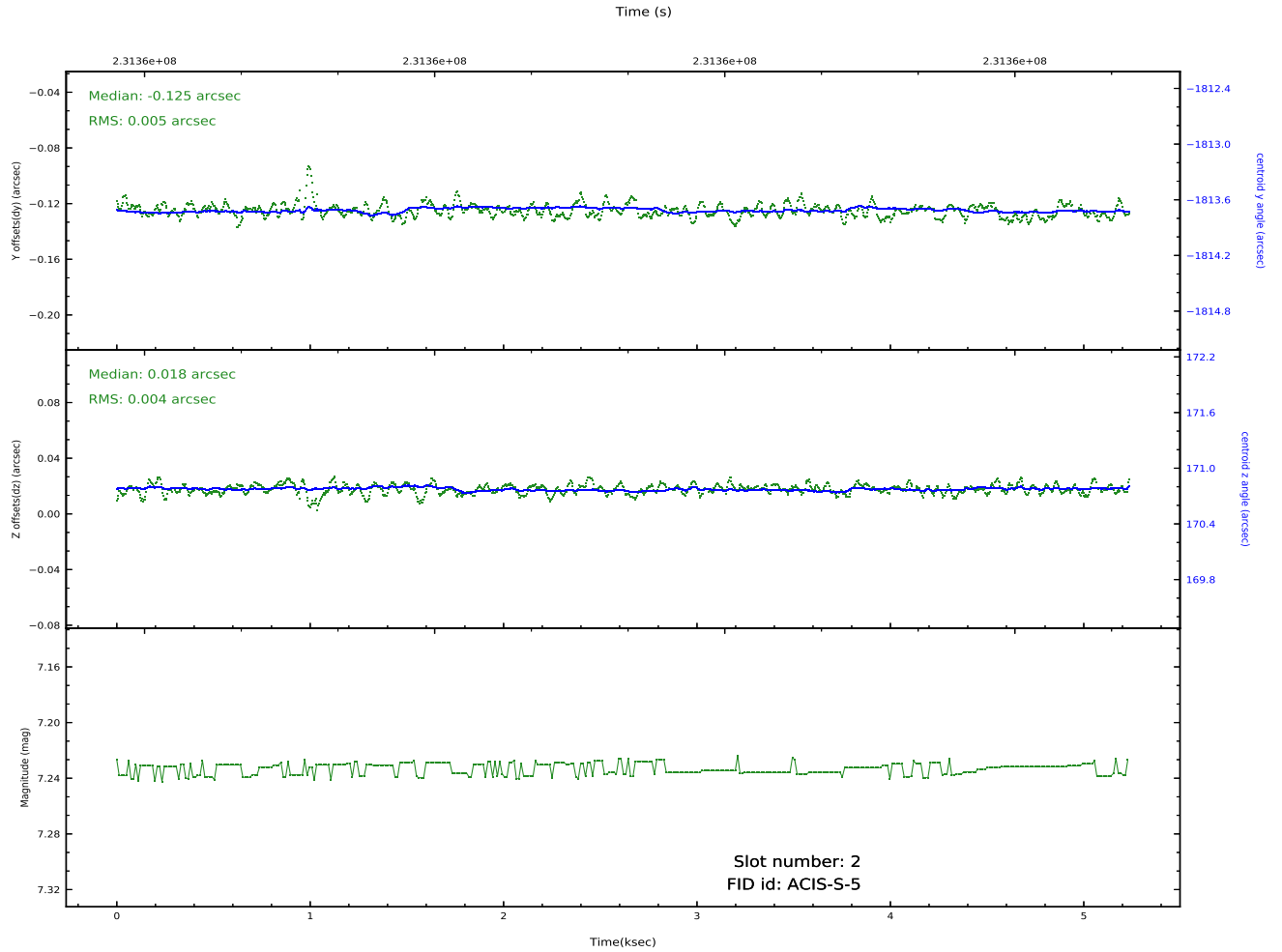
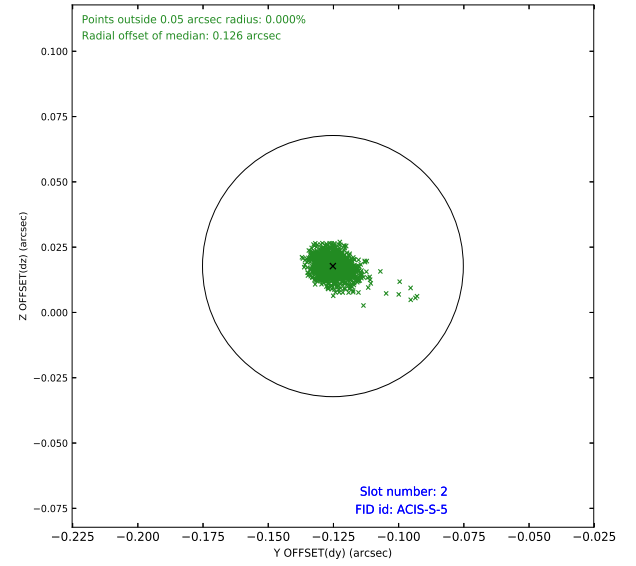
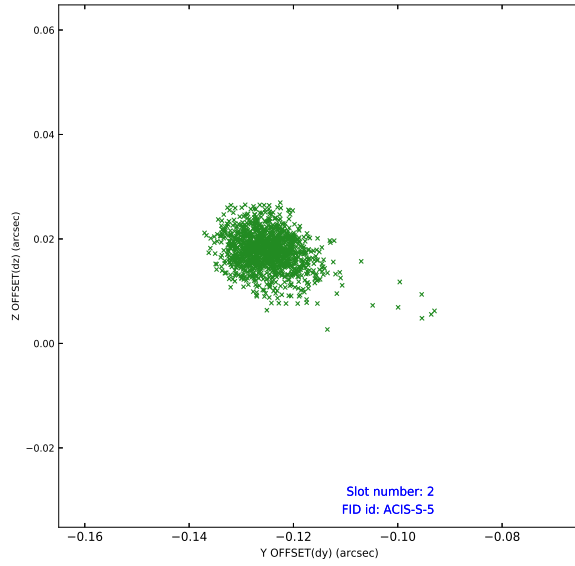
### 2.5.1 Slot 0



## 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)      | 2020.10.08 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 4.749199   |

### A.2 Comments