

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 21651 - L2 Version 1  
Chandra X-Ray Center

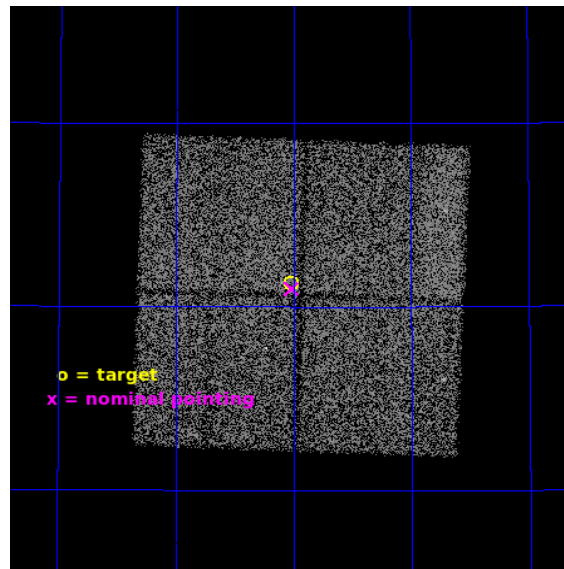
L2 Processing Date : Sep 21 2020

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# 1 Front

|          |                                                                           |                                             |
|----------|---------------------------------------------------------------------------|---------------------------------------------|
| seq_num  | 901417                                                                    | Sequence number                             |
| obs_id   | 21651                                                                     | Observation id                              |
| title    | Coordinated Ultra-Deep X-ray Monitoring of the JWST-NEP Time Domain Field | Proposal title                              |
| observer | Walter Maksym                                                             | Principal investigator                      |
| object   | JWST-DTDF-8                                                               | Source name                                 |
| dtcycle  | 0                                                                         | &#160                                       |
| cycle    | P                                                                         | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 260.755833                                                                | Observer's specified target RA [deg]        |
| dec_targ | 65.854417                                                                 | Observer's specified target Dec [deg]       |
| ra_nom   | 260.753728254                                                             | Nominal RA [deg]                            |
| dec_nom  | 65.849783044826                                                           | Nominal Dec [deg]                           |
| roll_nom | 272.18905580567                                                           | Nominal Roll [deg]                          |
| revision | 1                                                                         | Processing version of data                  |
| ontime   | 20077.592504144                                                           | Sum of GTIs [s]                             |
| livetime | 19815.263977169                                                           | Livetime [s]                                |
| ontime0  | 20071.18735373                                                            | Sum of GTIs [s]                             |
| ontime1  | 20077.510424137                                                           | Sum of GTIs [s]                             |
| ontime2  | 20077.5514642                                                             | Sum of GTIs [s]                             |
| ontime3  | 20077.592504144                                                           | Sum of GTIs [s]                             |
| l2events | 58332                                                                     | Number of level 2 events                    |

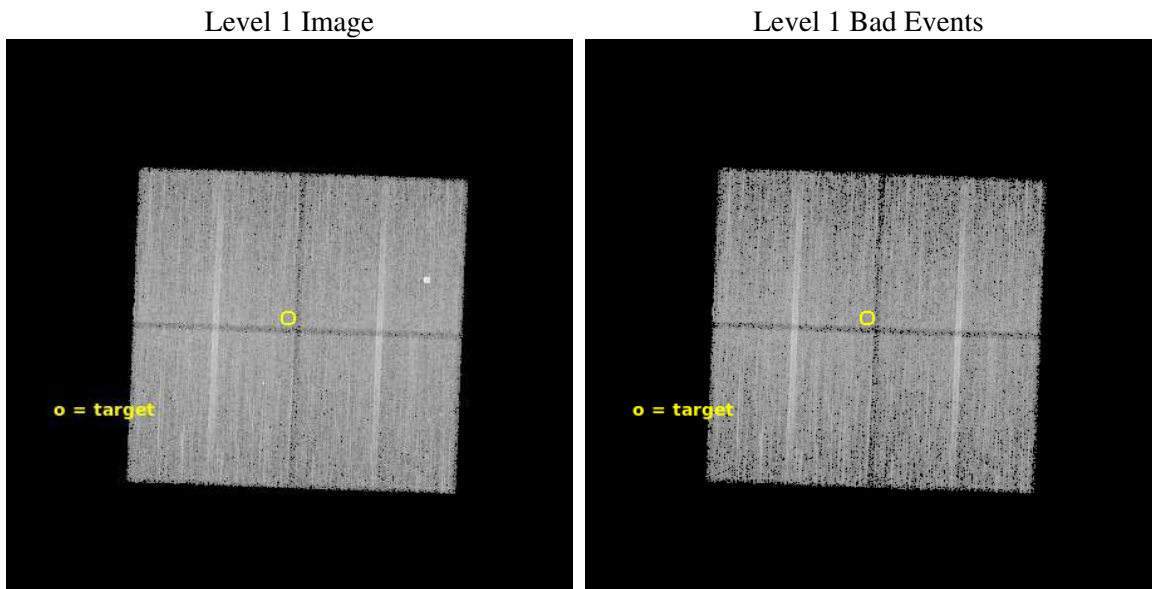




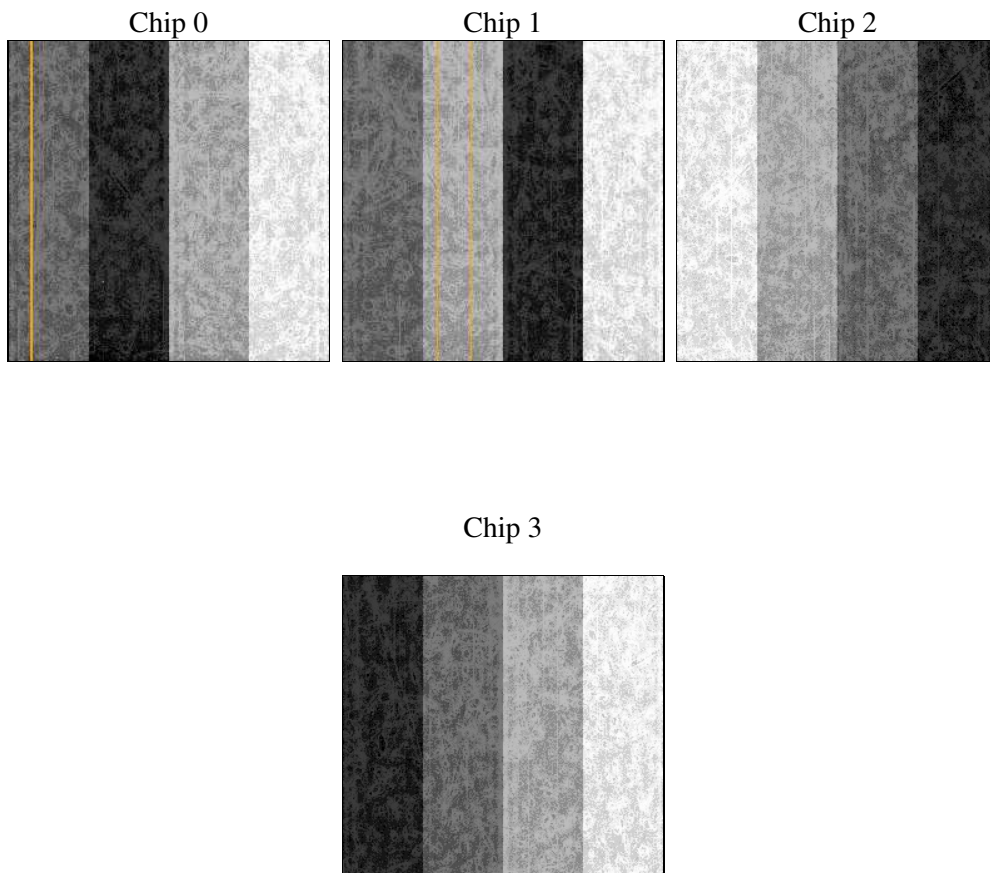
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 20000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1              | Processing system revision     | ontime         | 20077.592504144 | Sum of GTIs [s]                         |
| caldsver | 4.9.2               | &#160                          | ontime0        | 20071.18735373  | Sum of GTIs [s]                         |
| date     | 2020-09-21T21:26:08 | Date and time of file creation | ontime1        | 20077.510424137 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime2        | 20077.5514642   | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 20077.592504144 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 608360          | Number of level 1 events                |

### 2.1.4 Events

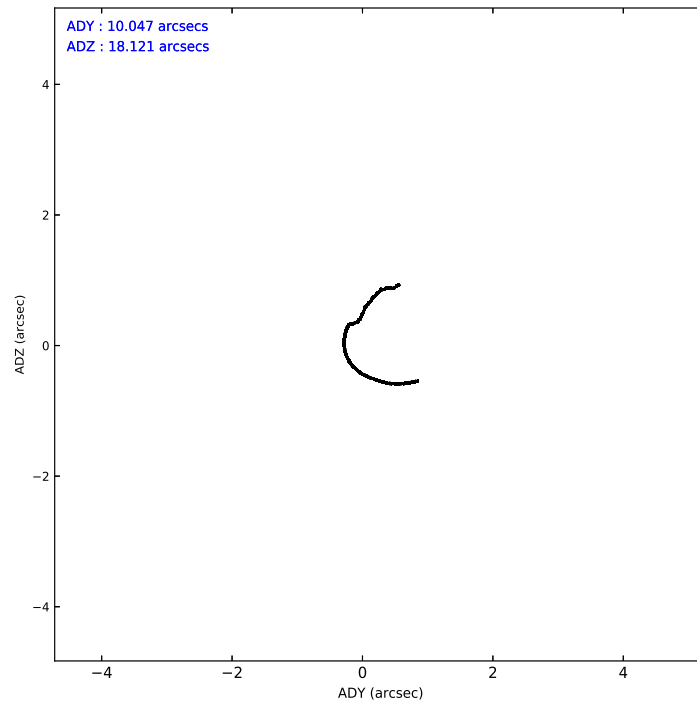
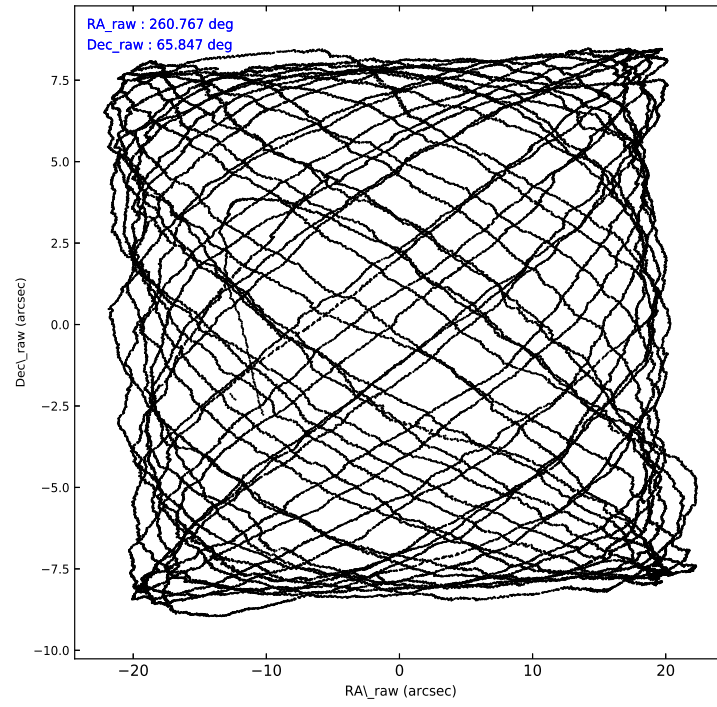
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  |
|-----------------|--------|--------|--------|--------|
| level 1 events  | 144487 | 151990 | 160261 | 151622 |
| rejected events | 127208 | 129907 | 143236 | 135508 |
| rejected %      | 88%    | 85%    | 89%    | 89%    |

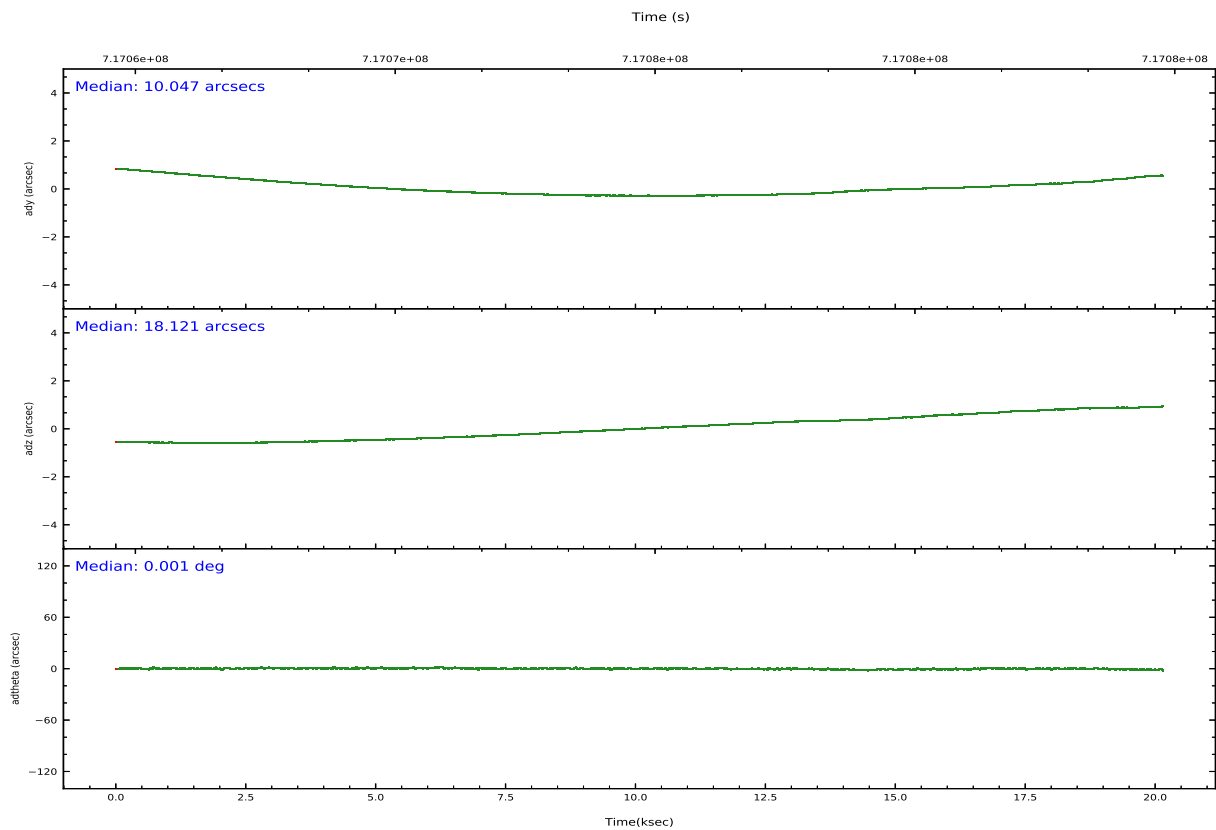
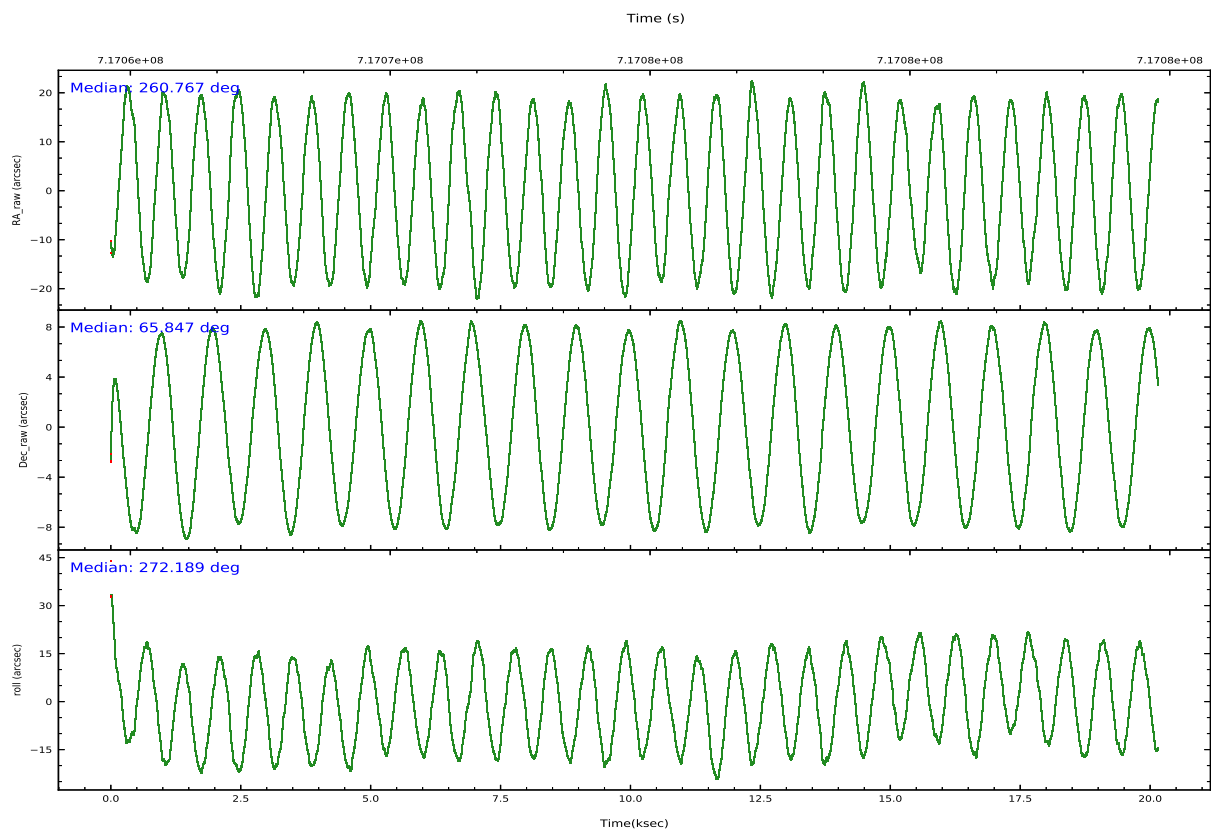
|                | ccd 0  | ccd 1  | ccd 2  | ccd 3  |
|----------------|--------|--------|--------|--------|
| grade 0 events | 5653   | 8540   | 5978   | 5521   |
|                | 3%     | 5%     | 3%     | 3%     |
| grade 1 events | 80     | 85     | 96     | 85     |
|                | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 4459   | 5560   | 4136   | 3664   |
|                | 3%     | 3%     | 2%     | 2%     |
| grade 3 events | 1735   | 1570   | 1637   | 1663   |
|                | 1%     | 1%     | 1%     | 1%     |
| grade 4 events | 1571   | 1677   | 1696   | 1641   |
|                | 1%     | 1%     | 1%     | 1%     |
| grade 5 events | 6427   | 6467   | 6219   | 7259   |
|                | 4%     | 4%     | 3%     | 4%     |
| grade 6 events | 3866   | 4742   | 3579   | 3629   |
|                | 2%     | 3%     | 2%     | 2%     |
| grade 7 events | 120696 | 123349 | 136920 | 128160 |
|                | 83%    | 81%    | 85%    | 84%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                  | Obspar version number                 | 8         | 8       |
| Detector                          | ACIS-0123           | ACIS-0123             | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                  | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT                | CCD I0 on                             | Y         | Y       |
| Observation mode                  | POINTING            | POINTING              | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                 | 260.730456          | 260.753728254         | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                | 65.870285           | 65.849783044826       | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 272.023157          | 272.18905580567       | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272   | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334  | CCD S2 on                             | O1        | N       |
| [mm] SIM translation stage pos    | -233.592463         | -233.5874344608287    | CCD S3 on                             | O2        | N       |
| [mm] SIM translation stage offset | 0                   | -0.005018542100998502 | CCD S4 on                             | N         | N       |
| [s] Observation start time (MET)  | 717064776.184000    | 717063645.7039        | CCD S5 on                             | N         | N       |
| Observation start date            | 2020-09-21T08:38:27 | 2020-09-21T08:20:45   | Number of optional ACIS chips dropped | 2         | 2       |
| [s] Observation end time (MET)    | 717084776.184000    | 717085664.75525       | On-chip summing requested             | N         | N       |
| Observation end date              | 2020-09-21T14:11:47 | 2020-09-21T14:27:44   | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                 | Alternating exposures requested       | N         | N       |
|                                   |                     |                       | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



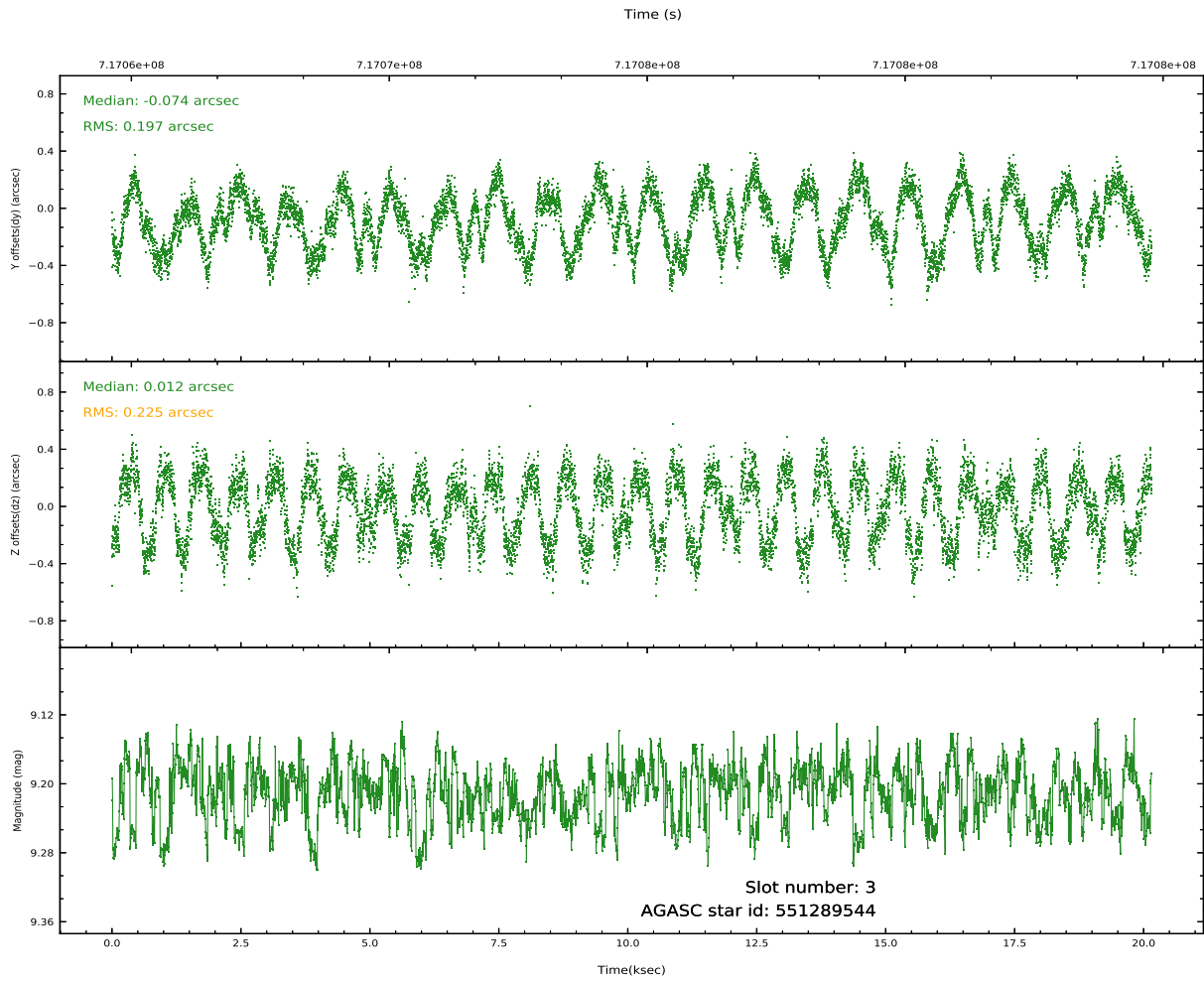
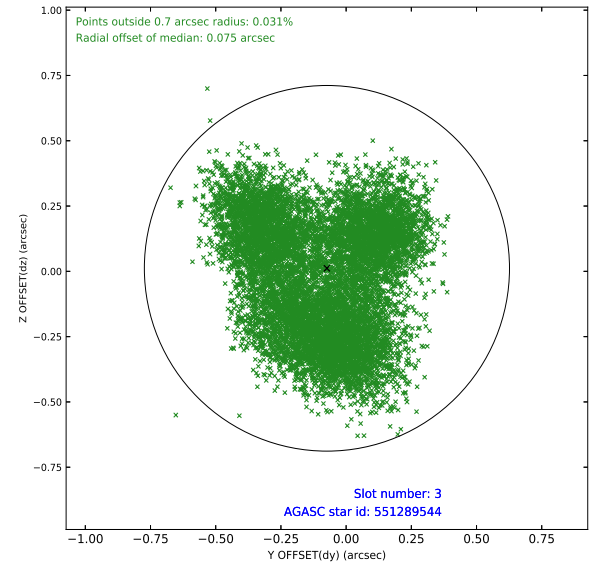
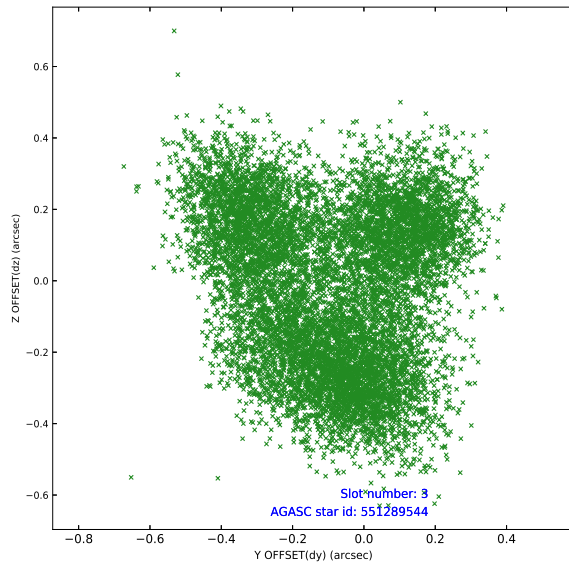


Slot Statistics

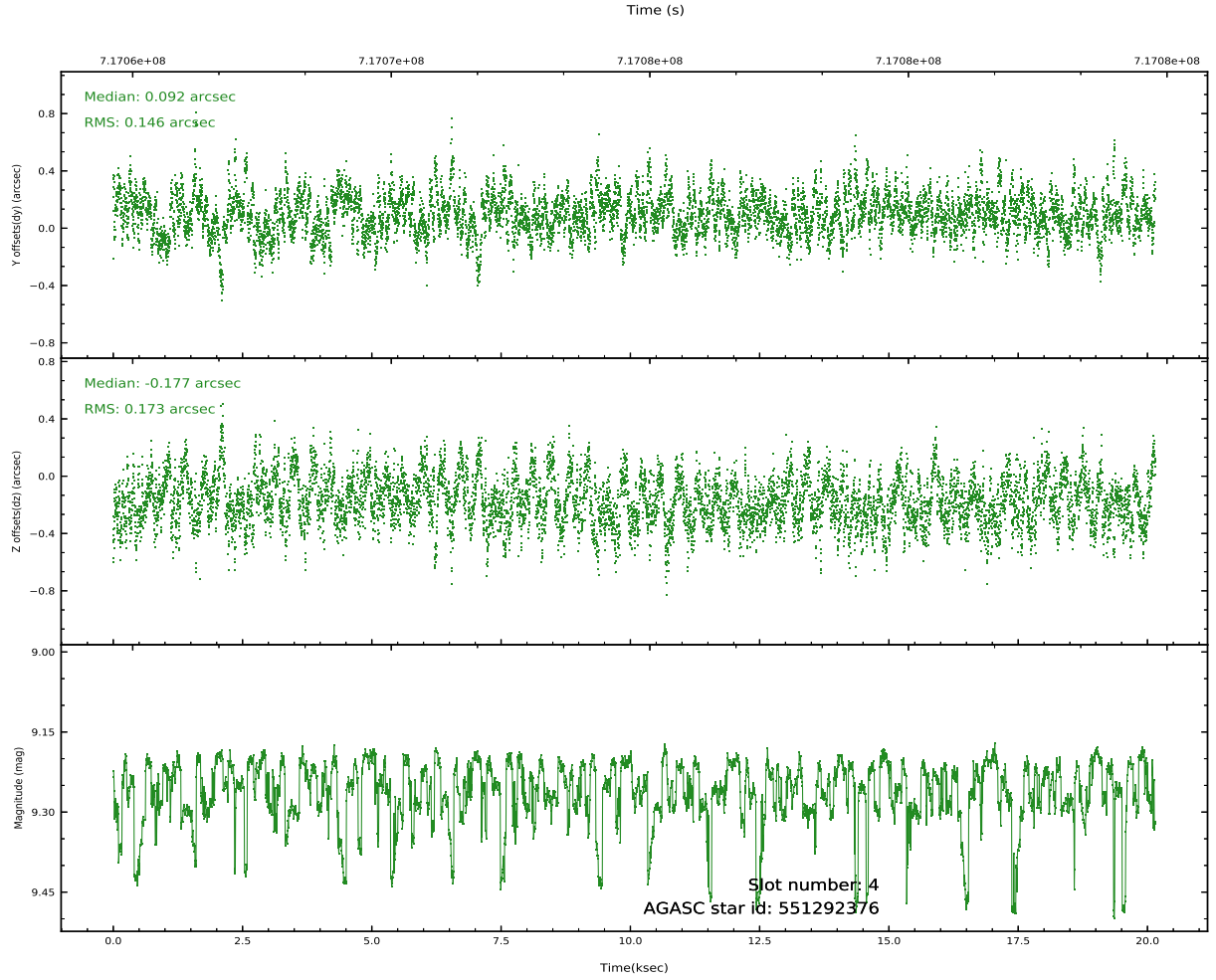
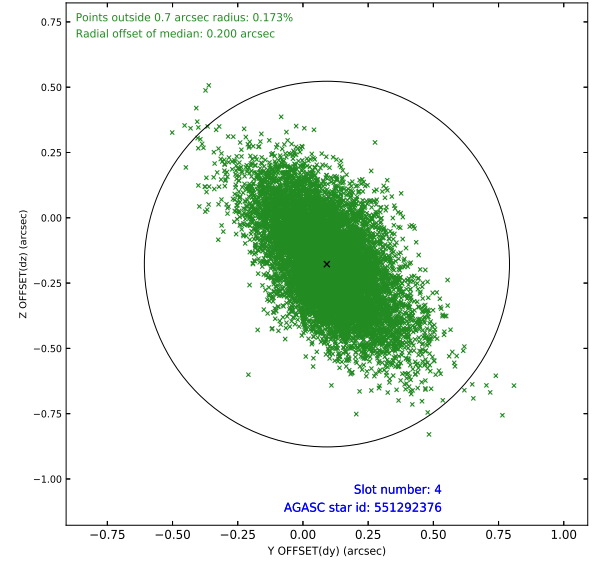
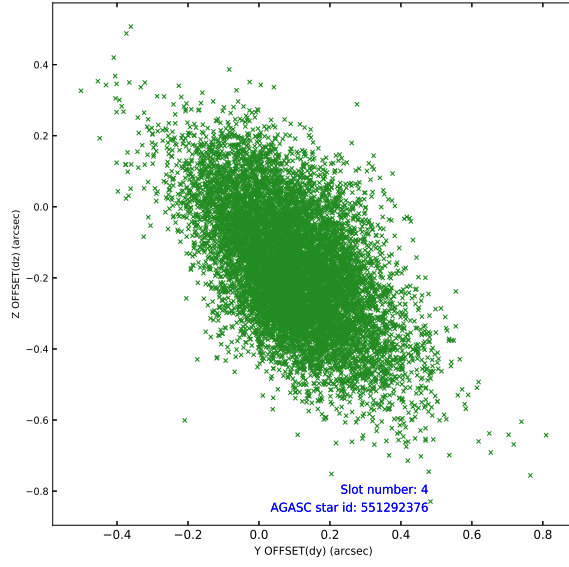
| pt | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mea   |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0  | FID    |      | ACIS-I-3  | 7.45 | 4914  | 1.000    | 0.130  | 0.096  | 0.022 | 0.051 | 0.000000   | 0.000000  | 46.97    | -974  |
| 1  | FID    |      | ACIS-I-5  | 7.24 | 4916  | 1.000    | -0.285 | 0.132  | 0.012 | 0.022 | 0.000000   | 0.000000  | -1818.95 | 1055  |
| 2  | FID    |      | ACIS-I-6  | 7.22 | 4916  | 1.000    | 0.062  | -0.161 | 0.017 | 0.039 | 0.000000   | 0.000000  | 394.96   | 1700  |
| 3  | GUIDE  | used | 551289544 | 9.21 | 9817  | 1.000    | -0.074 | 0.012  | 0.330 | 0.460 | 261.089724 | 65.487644 | 1394.52  | 487   |
| 4  | GUIDE  | used | 551292376 | 9.26 | 9818  | 1.000    | 0.092  | -0.177 | 0.231 | 0.409 | 259.292350 | 65.313144 | 1904.53  | -2230 |
| 5  | GUIDE  | used | 551422208 | 8.57 | 9819  | 1.000    | 0.031  | -0.164 | 0.192 | 0.308 | 261.600178 | 65.236311 | 2318.62  | 1230  |
| 6  | GUIDE  | used | 551814208 | 7.91 | 9824  | 1.000    | 0.091  | 0.164  | 0.193 | 0.312 | 260.175311 | 65.639944 | 796.70   | -852  |
| 7  | GUIDE  | used | 551952296 | 8.72 | 9818  | 1.000    | -0.136 | 0.199  | 0.169 | 0.260 | 261.999680 | 65.847021 | 130.90   | 1866  |

## 2.4 Star Slots

### 2.4.1 Slot 3

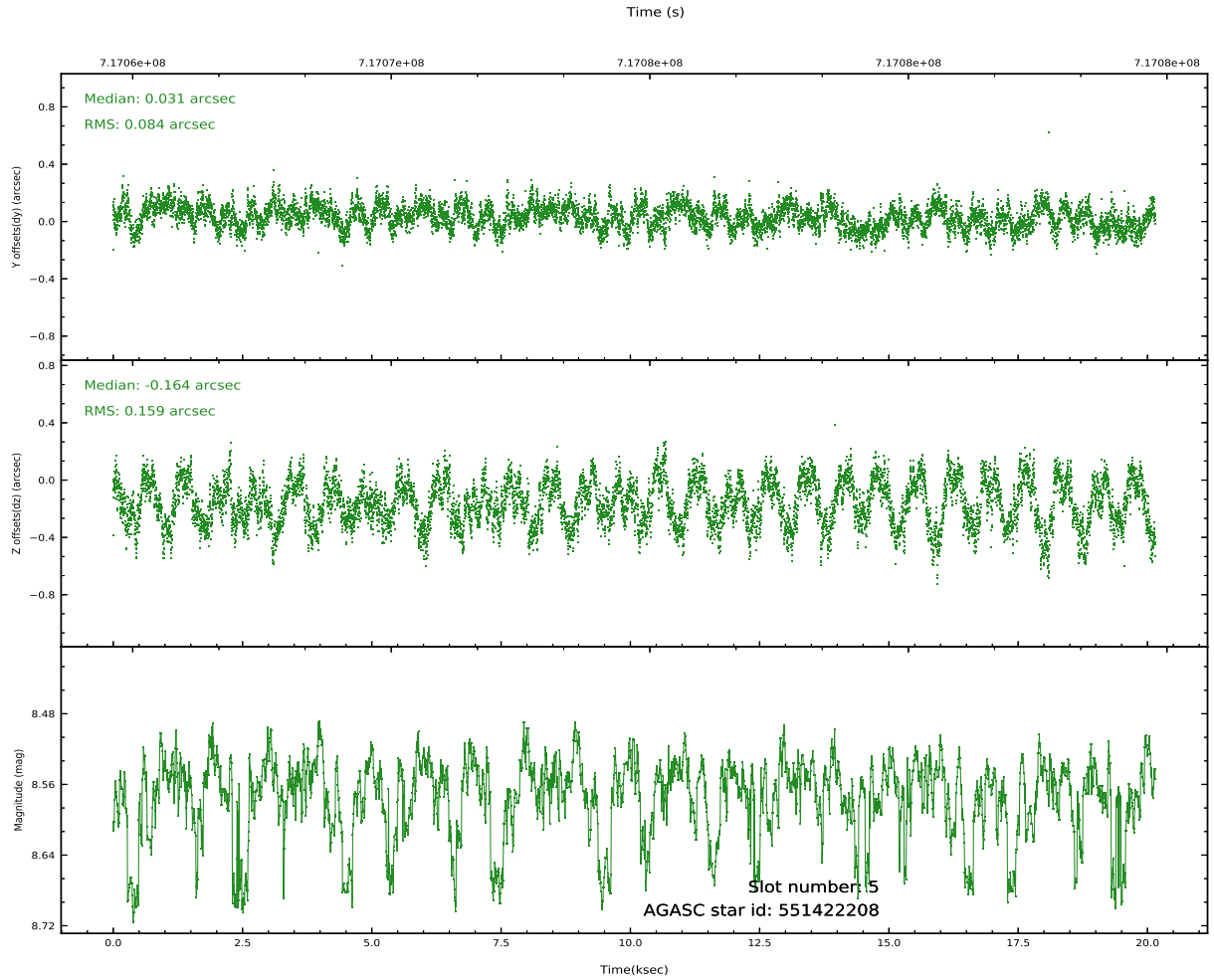
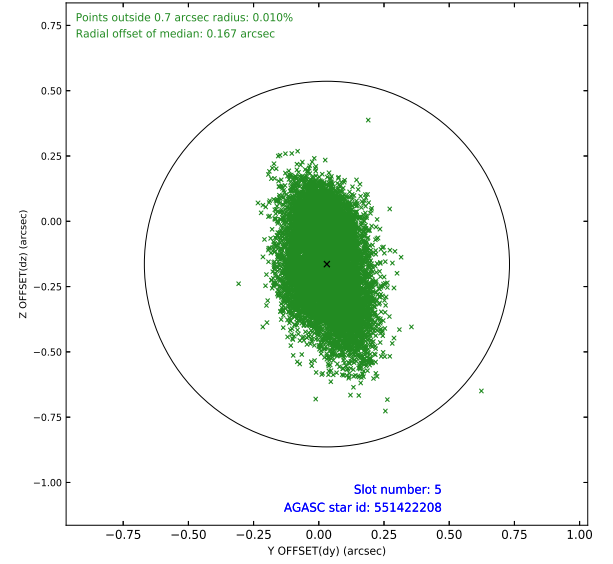
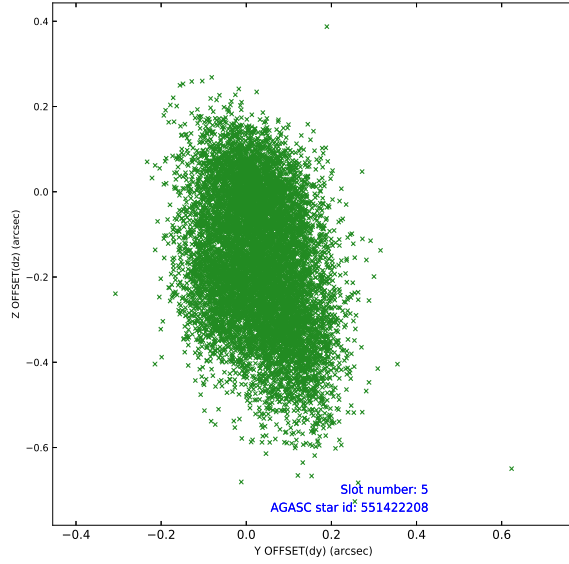


## 2.4.2 Slot 4

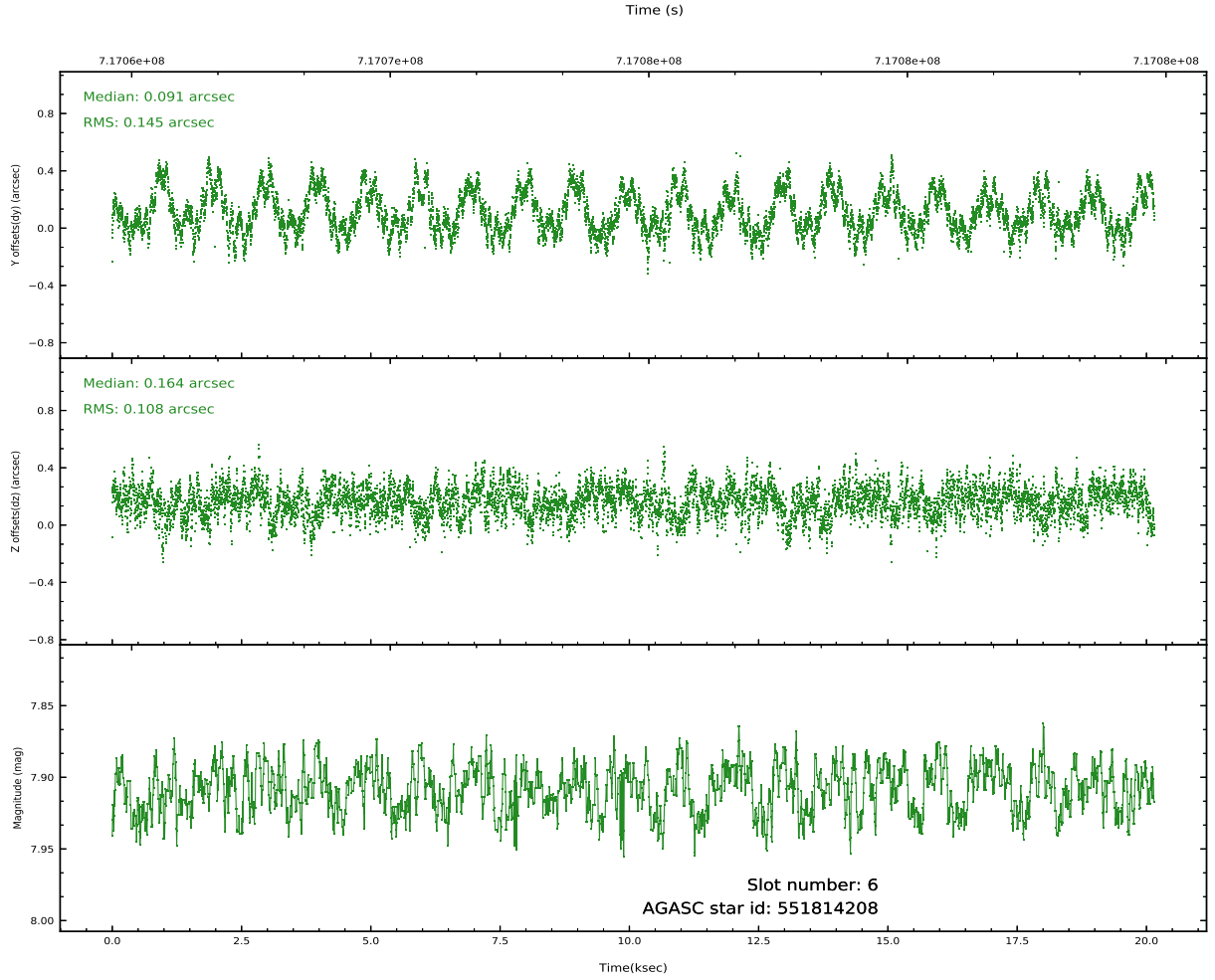
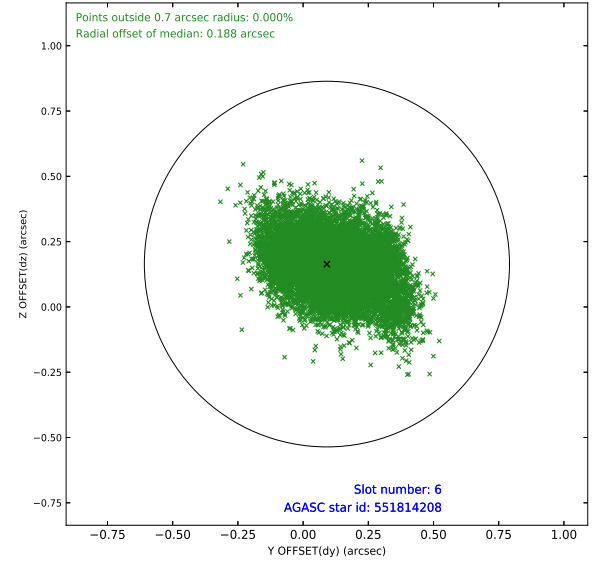
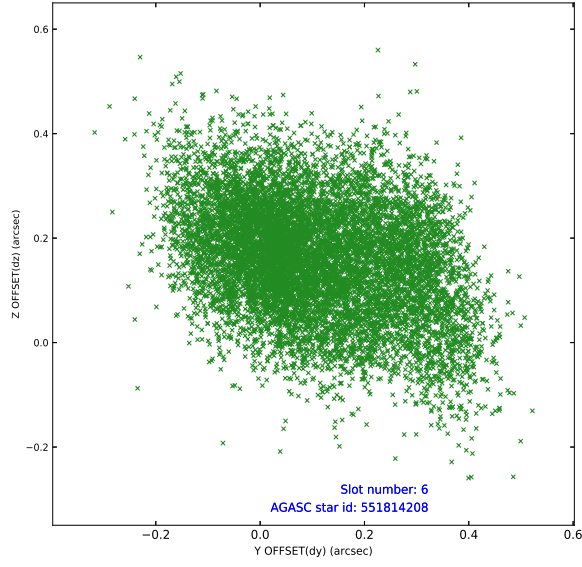




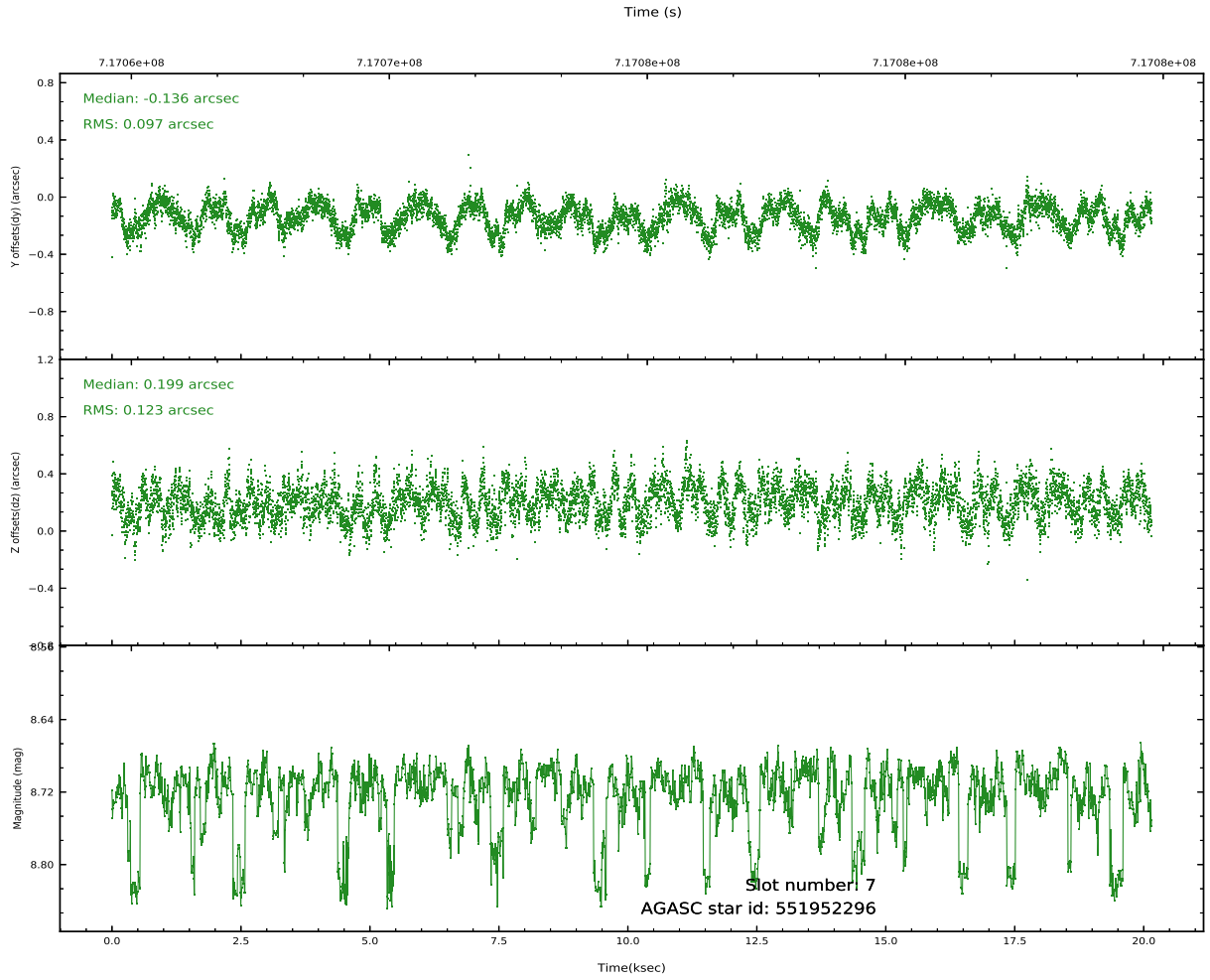
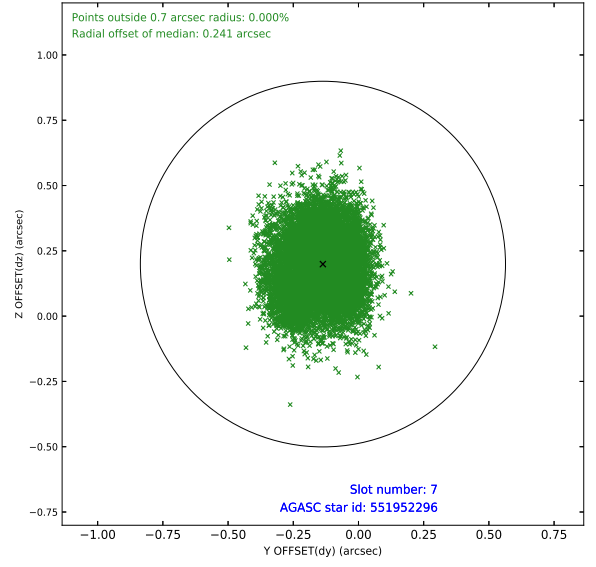
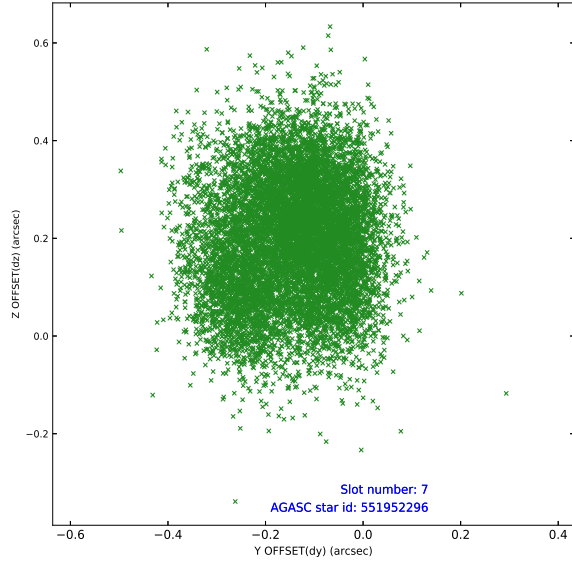
### 2.4.3 Slot 5



## 2.4.4 Slot 6

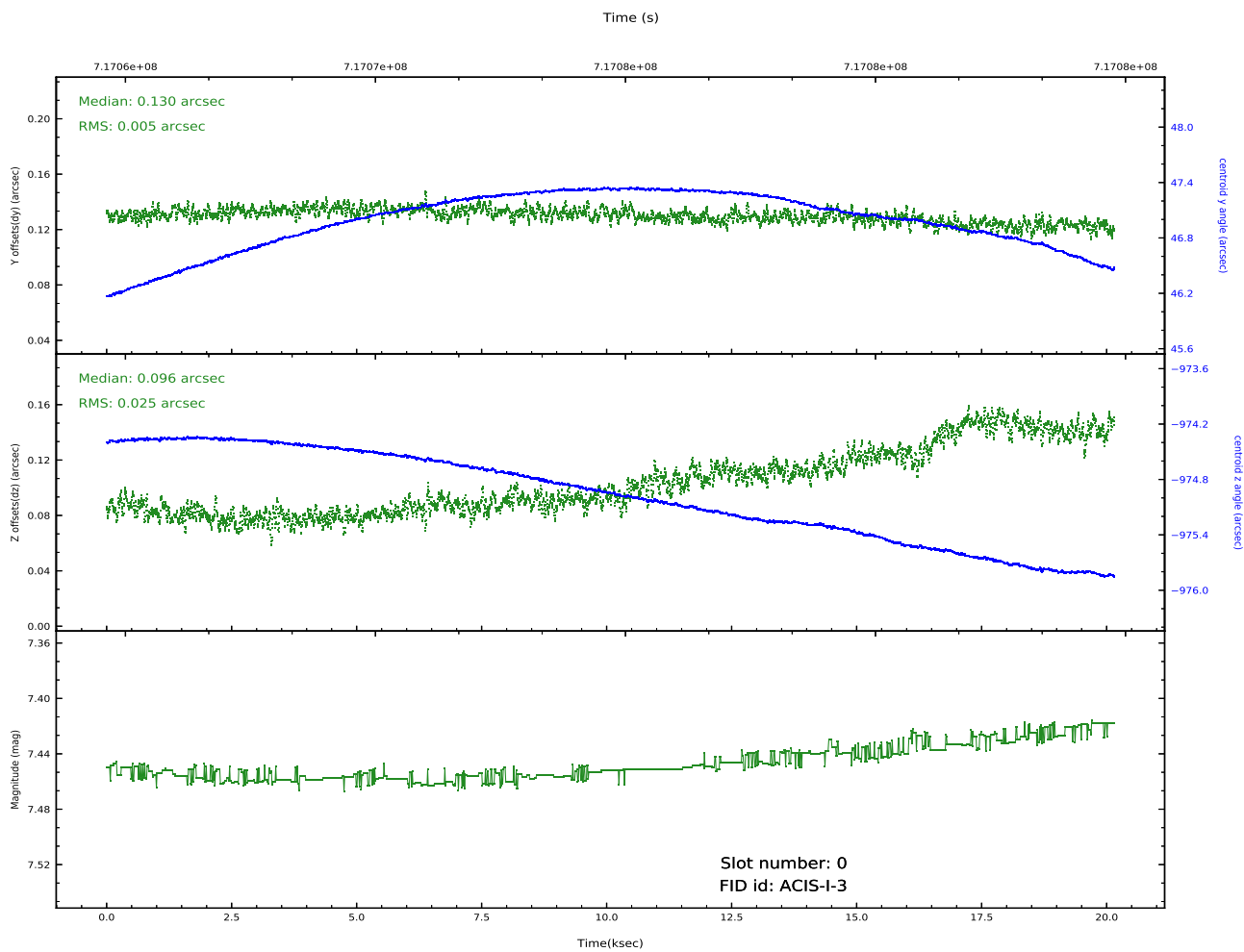
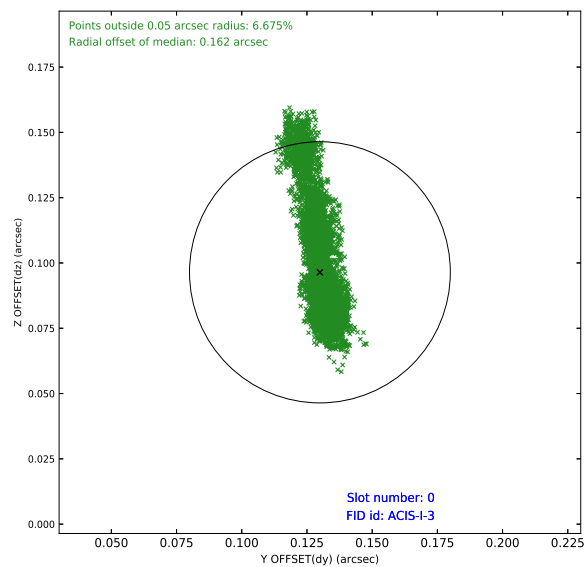
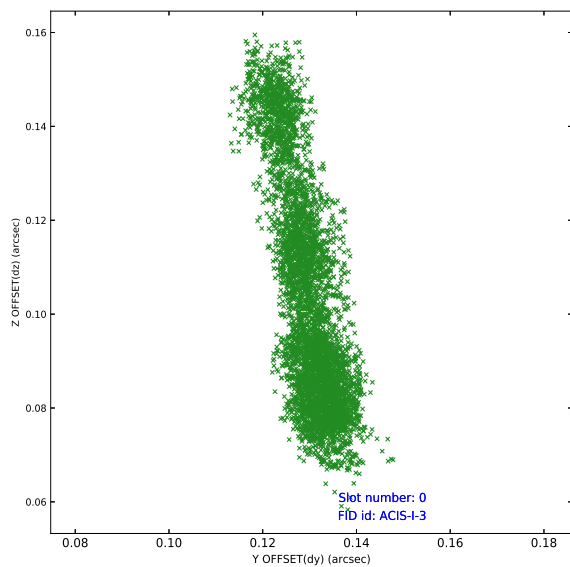


## 2.4.5 Slot 7

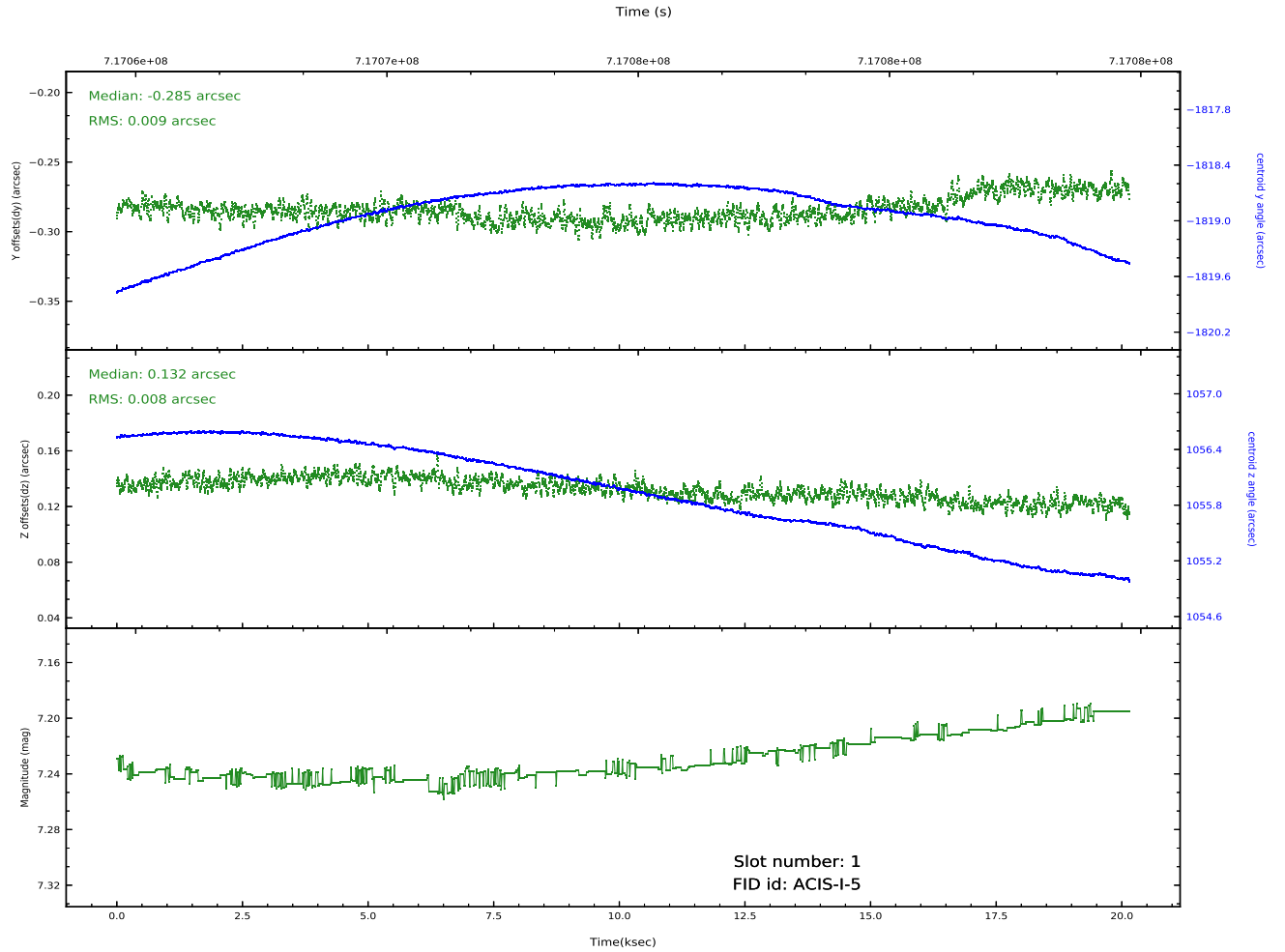
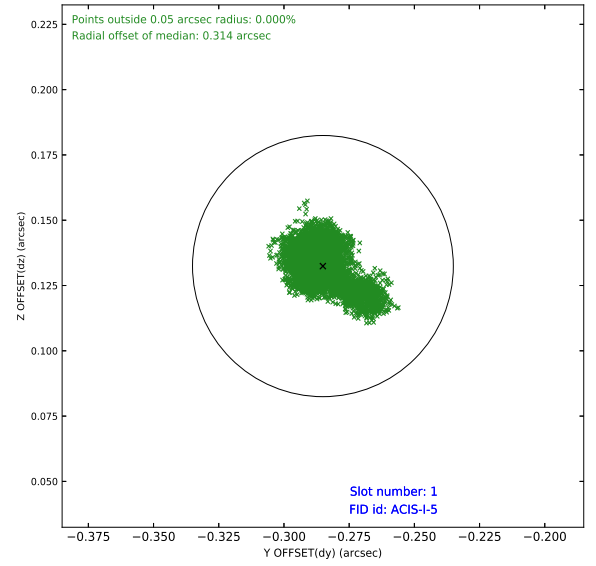
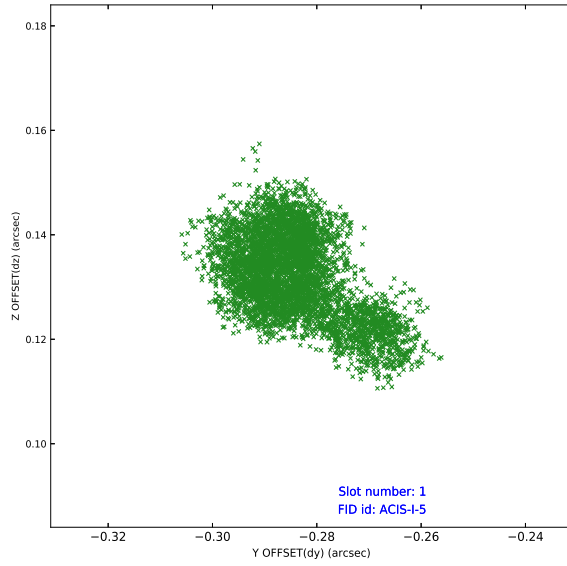


## 2.5 FID Slots

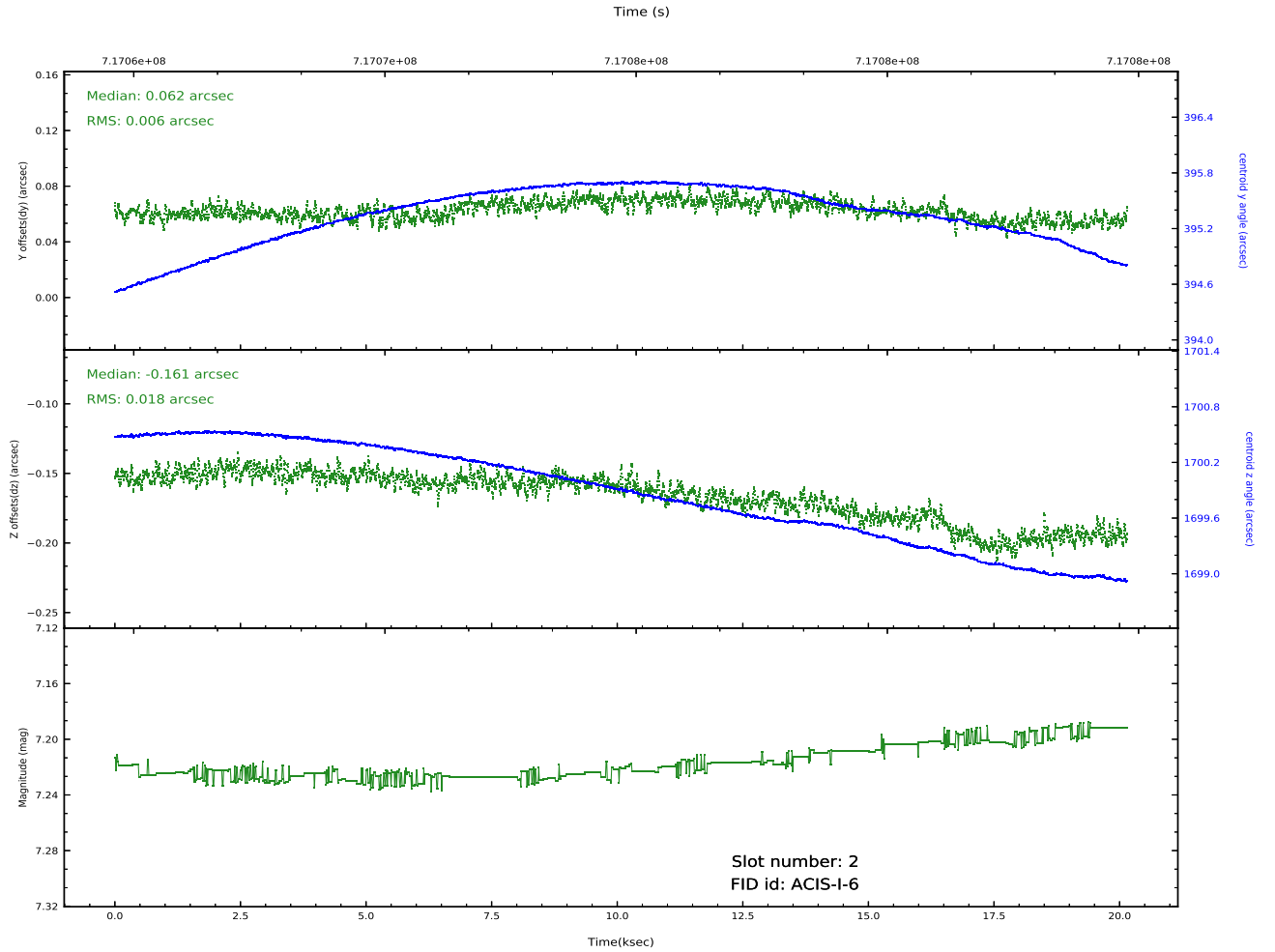
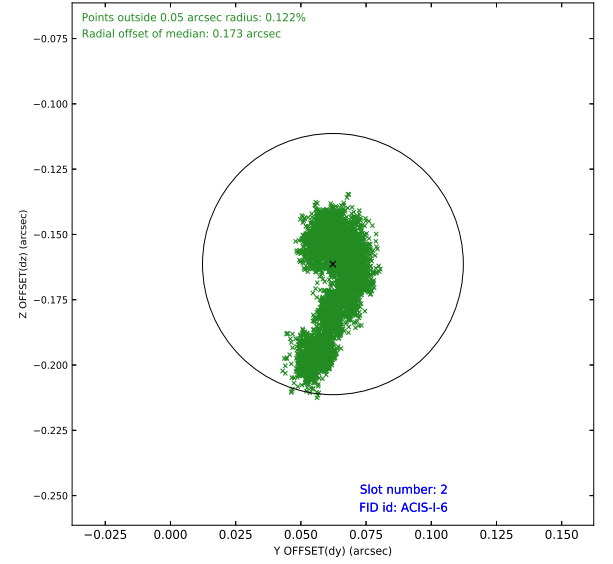
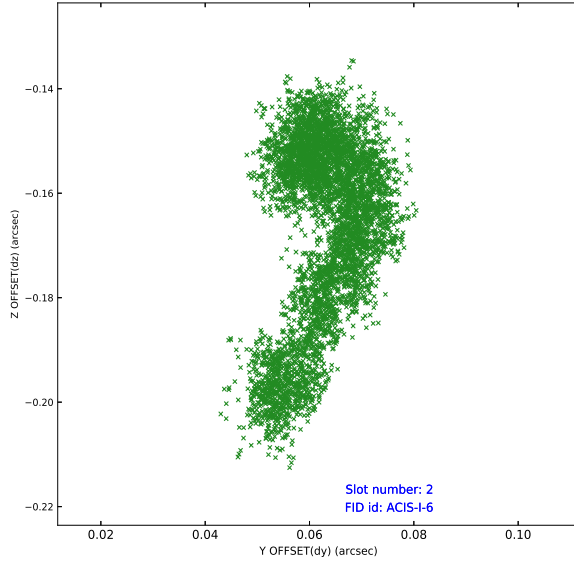
### 2.5.1 Slot 0



## 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)      | 2020.09.21      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 20.077592504144 |

### A.2 Comments

Two optional chips were dropped.