

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20436 - L2 Version 2  
Chandra X-Ray Center

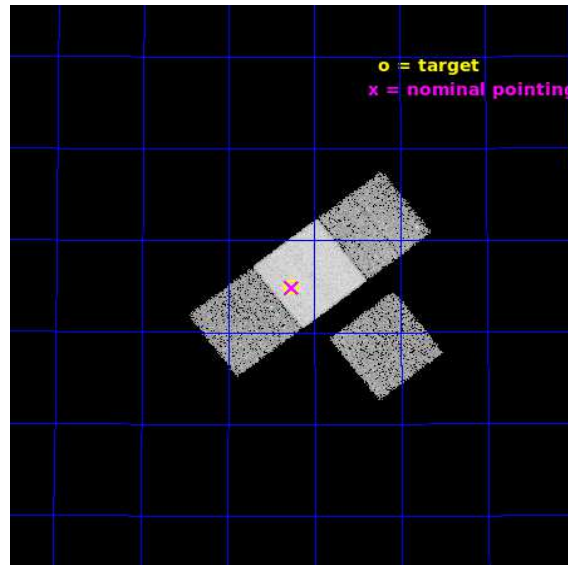
L2 Processing Date : Oct 27 2020

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# 1 Front

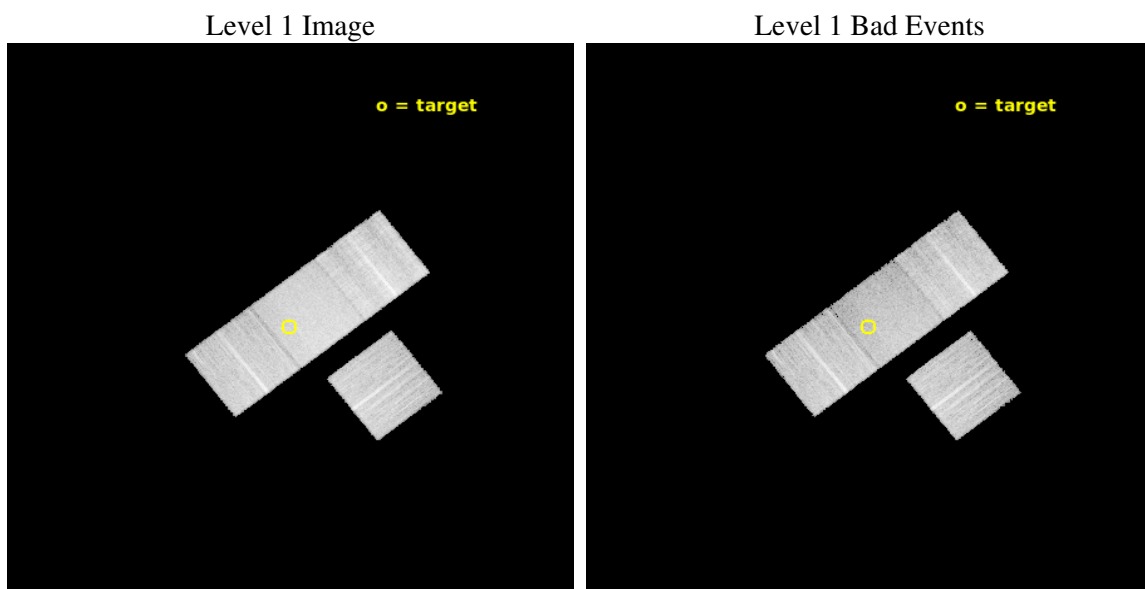
|          |                                                                                                                  |                                             |
|----------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| seq_num  | 703541                                                                                                           | Sequence number                             |
| obs_id   | 20436                                                                                                            | Observation id                              |
| title    | X-Ray properties of Post-Merger Spheroidal Galaxies: The Missing Link in Understanding the Merger-AGN connection | Proposal title                              |
| observer | Preethi Nair                                                                                                     | Principal investigator                      |
| object   | SDSS J132916.20+530455.1                                                                                         | Source name                                 |
| dtcycle  | 0                                                                                                                | &#160                                       |
| cycle    | P                                                                                                                | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 202.3175                                                                                                         | Observer's specified target RA [deg]        |
| dec_targ | 53.082                                                                                                           | Observer's specified target Dec [deg]       |
| ra_nom   | 202.31530192118                                                                                                  | Nominal RA [deg]                            |
| dec_nom  | 53.081311872452                                                                                                  | Nominal Dec [deg]                           |
| roll_nom | 322.14667015236                                                                                                  | Nominal Roll [deg]                          |
| revision | 2                                                                                                                | Processing version of data                  |
| ontime   | 13062.448795319                                                                                                  | Sum of GTIs [s]                             |
| livetime | 12891.778285373                                                                                                  | Livetime [s]                                |
| ontime3  | 13062.366715312                                                                                                  | Sum of GTIs [s]                             |
| ontime6  | 13062.407755375                                                                                                  | Sum of GTIs [s]                             |
| ontime7  | 13062.448795319                                                                                                  | Sum of GTIs [s]                             |
| ontime8  | 13062.325675368                                                                                                  | Sum of GTIs [s]                             |
| l2events | 83314                                                                                                            | Number of level 2 events                    |



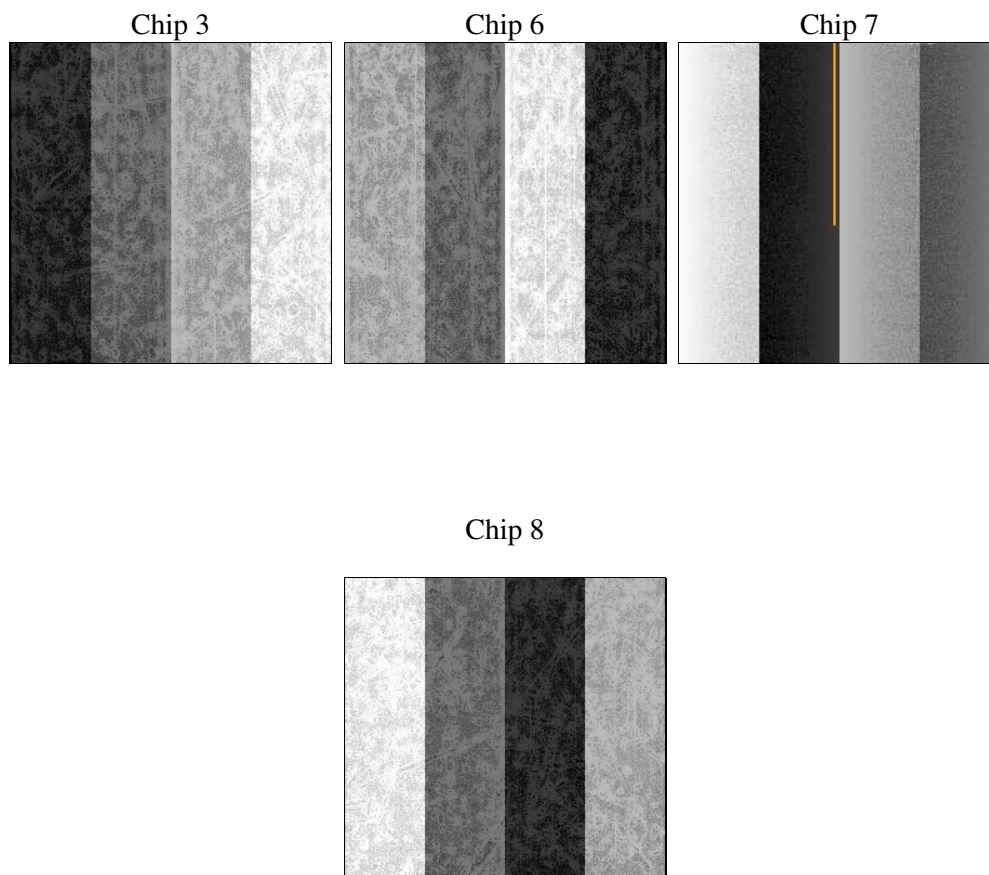
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 13000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.9.2              | Processing system revision     | ontime         | 13062.448795319 | Sum of GTIs [s]                         |
| caldsver | 4.9.3               | &#160                          | ontime3        | 13062.366715312 | Sum of GTIs [s]                         |
| date     | 2020-10-27T20:15:45 | Date and time of file creation | ontime6        | 13062.407755375 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime7        | 13062.448795319 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 13062.325675368 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 461046          | Number of level 1 events                |

### 2.1.4 Events

|                 | <b>ccd 3</b> | <b>ccd 6</b> | <b>ccd 7</b> | <b>ccd 8</b> |
|-----------------|--------------|--------------|--------------|--------------|
| level 1 events  | 99946        | 103821       | 127014       | 130265       |
| rejected events | 89964        | 92711        | 72034        | 97618        |
| rejected %      | 90%          | 89%          | 56%          | 74%          |

|                | <b>ccd 3</b> | <b>ccd 6</b> | <b>ccd 7</b> | <b>ccd 8</b> |
|----------------|--------------|--------------|--------------|--------------|
| grade 0 events | 3421         | 3219         | 4531         | 8987         |
|                | 3%           | 3%           | 3%           | 6%           |
| grade 1 events | 47           | 32           | 175          | 74           |
|                | 0%           | 0%           | 0%           | 0%           |
| grade 2 events | 2206         | 3084         | 11286        | 8052         |
|                | 2%           | 2%           | 8%           | 6%           |
| grade 3 events | 1050         | 881          | 4294         | 3410         |
|                | 1%           | 0%           | 3%           | 2%           |
| grade 4 events | 1043         | 883          | 4285         | 3098         |
|                | 1%           | 0%           | 3%           | 2%           |
| grade 5 events | 4319         | 4114         | 12016        | 6582         |
|                | 4%           | 3%           | 9%           | 5%           |
| grade 6 events | 2266         | 3048         | 30599        | 9104         |
|                | 2%           | 2%           | 24%          | 6%           |
| grade 7 events | 85594        | 88560        | 59828        | 90958        |
|                | 85%          | 85%          | 47%          | 69%          |

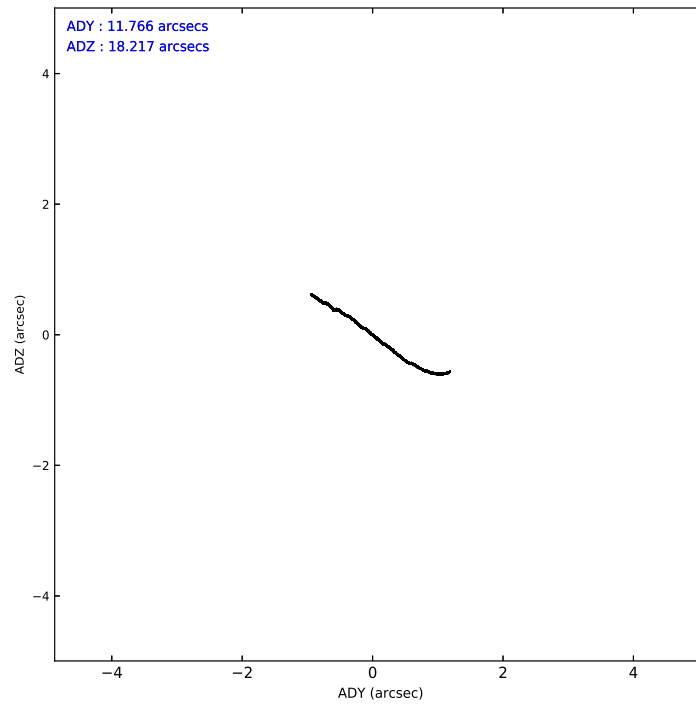
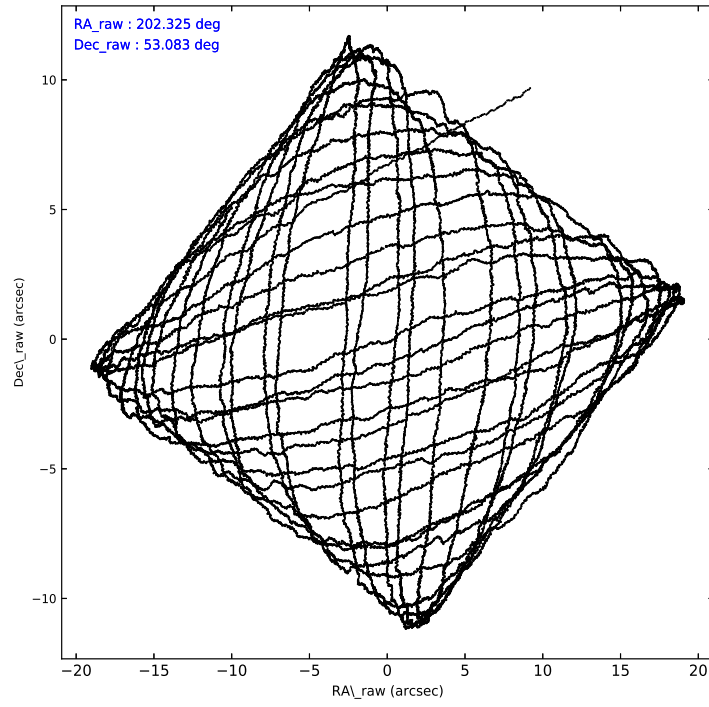


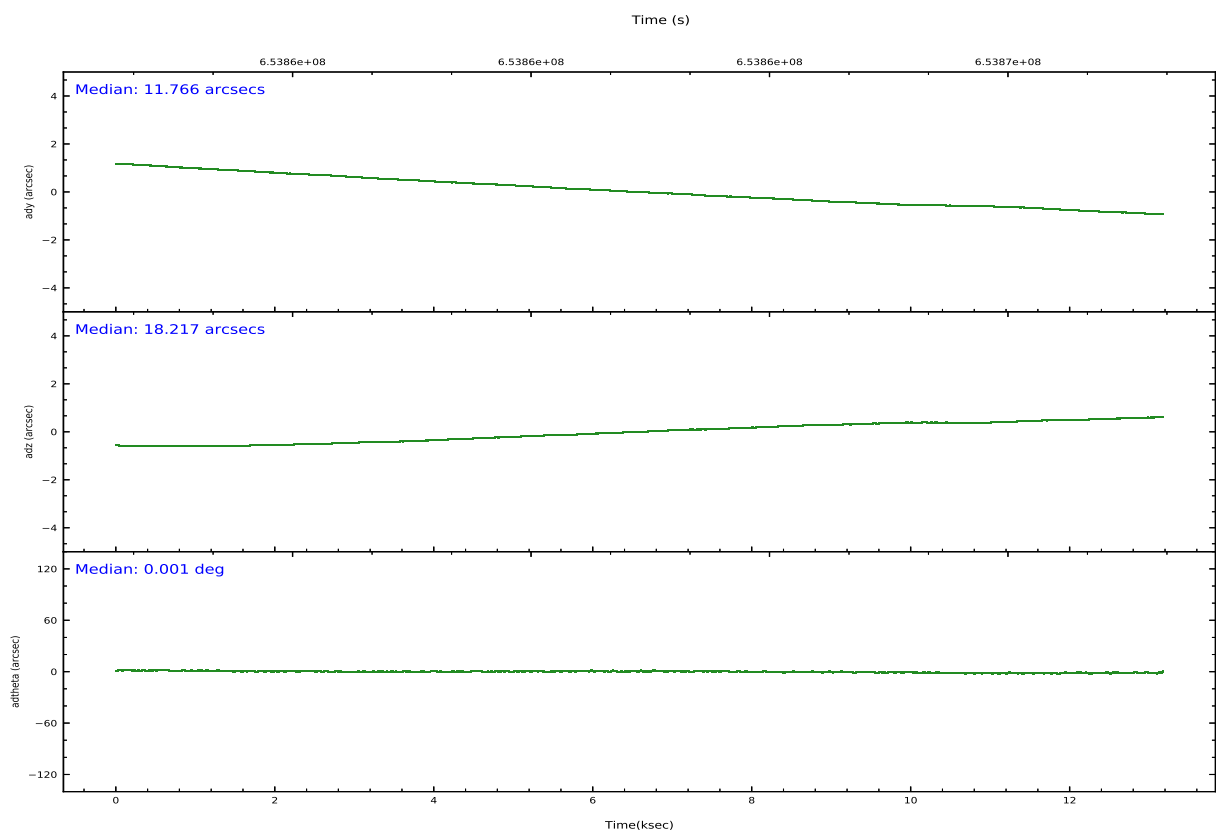
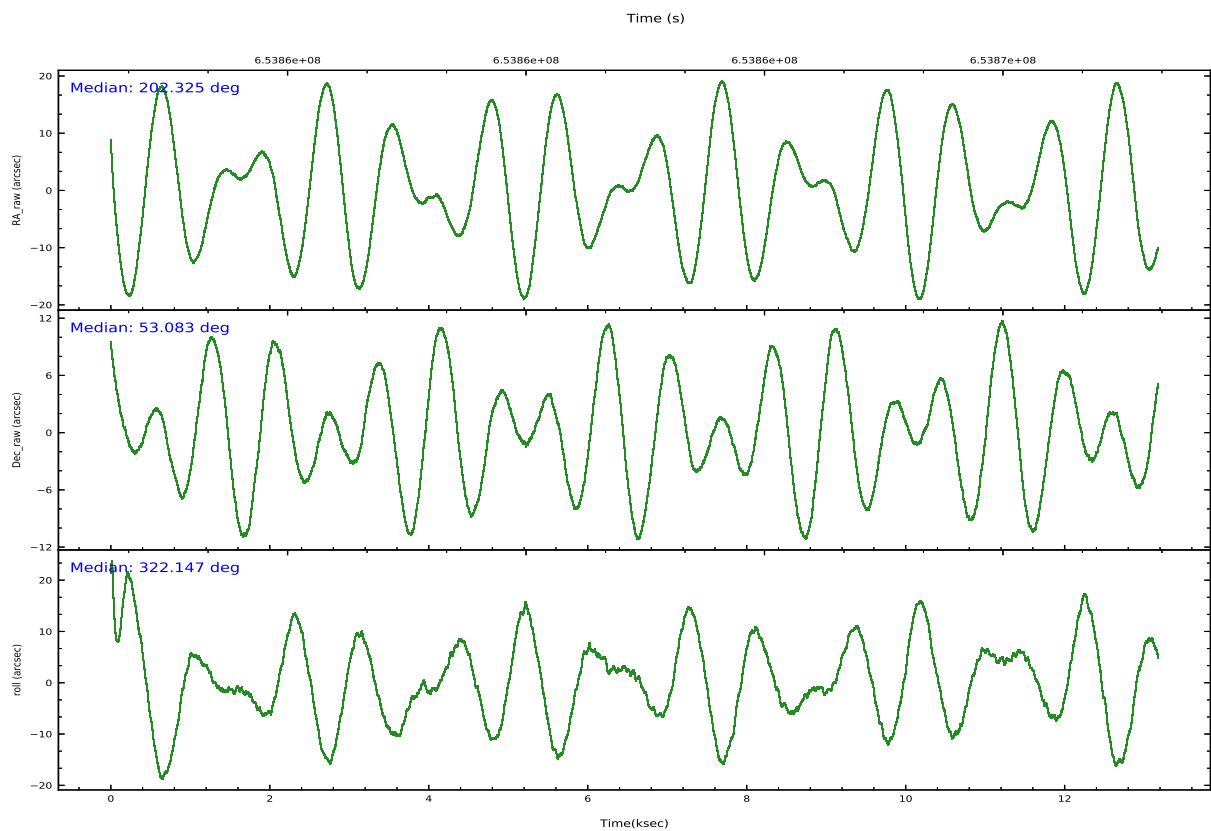
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | ACIS                | ACIS                 |
| Detector                          | ACIS-3678           | ACIS-3678            |
| Grating                           | NONE                | NONE                 |
| Data mode                         | VFAINT              | VFAINT               |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 202.279929          | 202.31530192118      |
| [deg] Pointing Dec                | 53.086721           | 53.081311872452      |
| [deg] Pointing Roll               | 322.030040          | 322.14667015236      |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  |
| [s] Observation start time (MET)  | 653854953.184000    | 653853617.1188       |
| Observation start date            | 2018-09-20T18:21:24 | 2018-09-20T18:00:17  |
| [s] Observation end time (MET)    | 653867953.184000    | 653868754.8322001    |
| Observation end date              | 2018-09-20T21:58:04 | 2018-09-20T22:12:34  |
| Read mode                         | TIMED               | TIMED                |

| Parameter                             | Planned   | Actual  |
|---------------------------------------|-----------|---------|
| Obspar version number                 | 8         | 8       |
| Obspar file type                      | PREDICTED | ACTUAL  |
| Obspar update status                  | NONE      | UPDATED |
| Number of optional ACIS chips dropped | 0         | 0       |
| On-chip summing requested             | N         | N       |
| Subarray requested                    | NONE      | NONE    |
| Alternating exposures requested       | N         | N       |
| [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



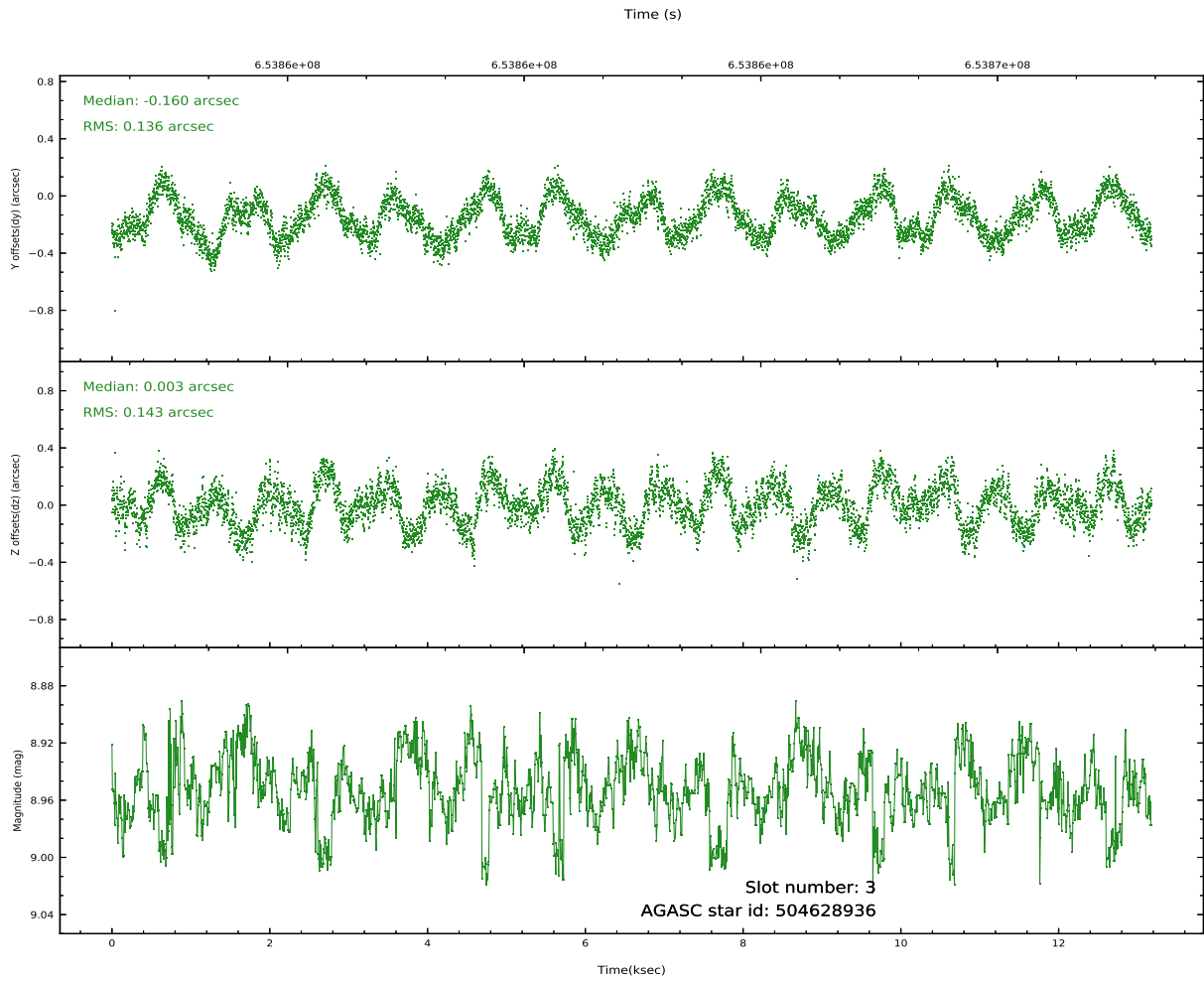
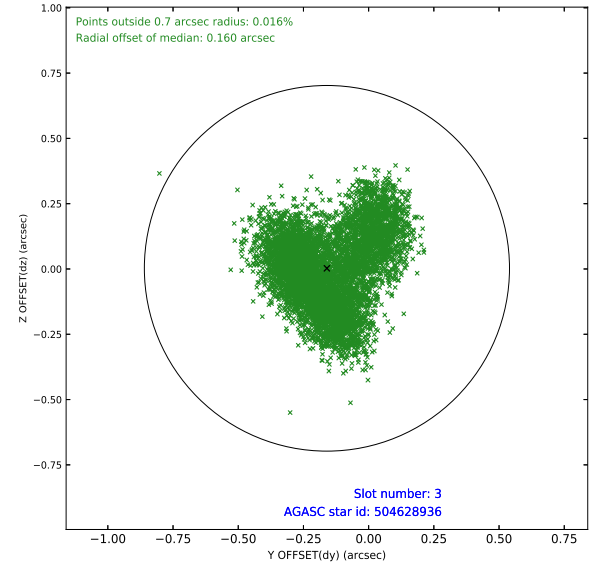
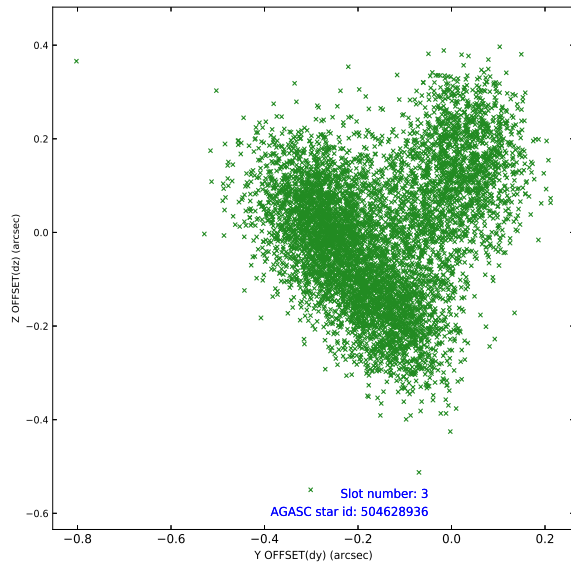


Slot Statistics

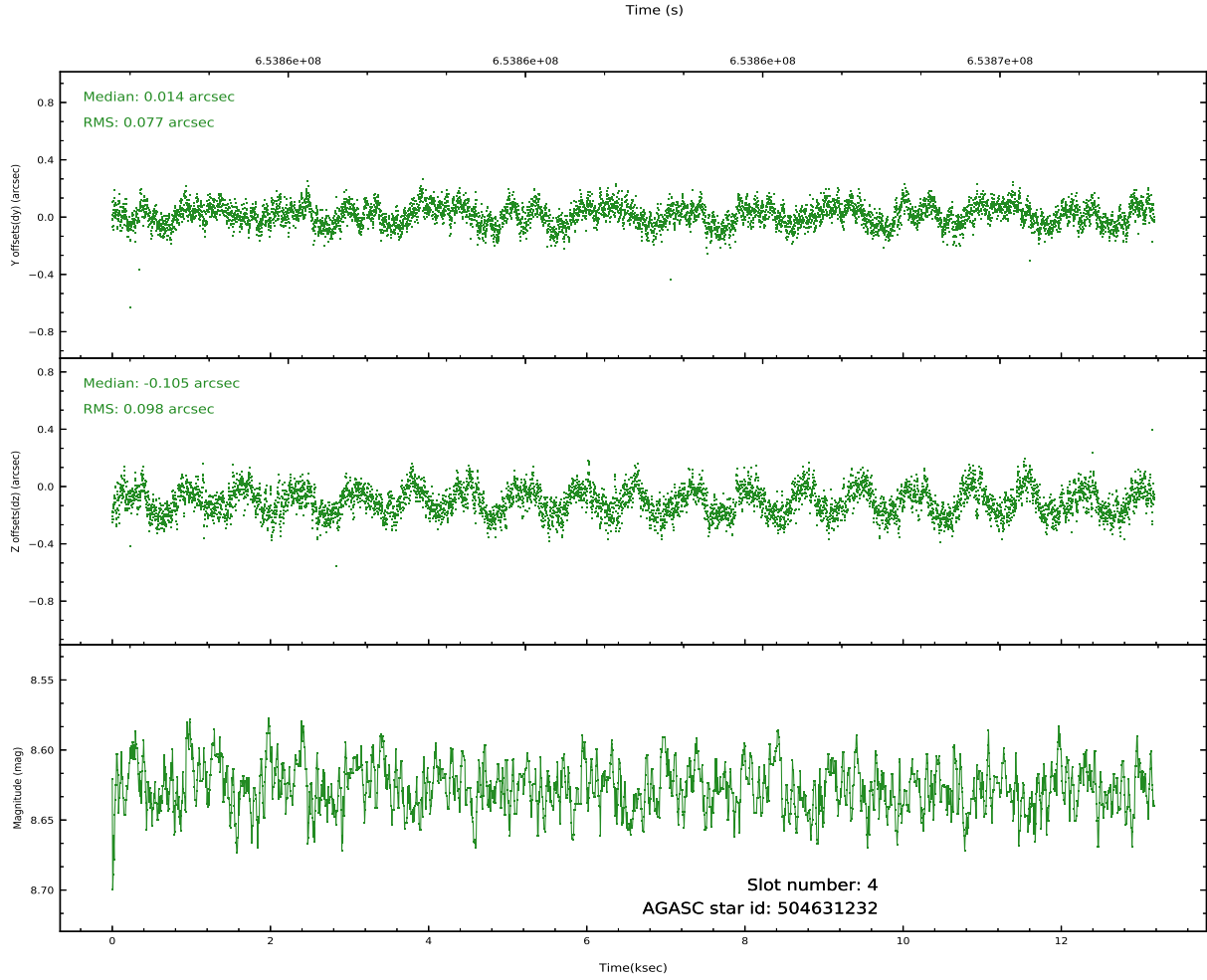
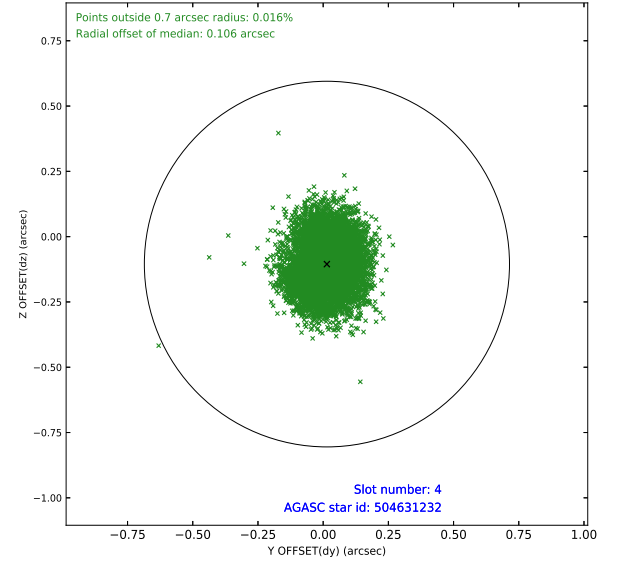
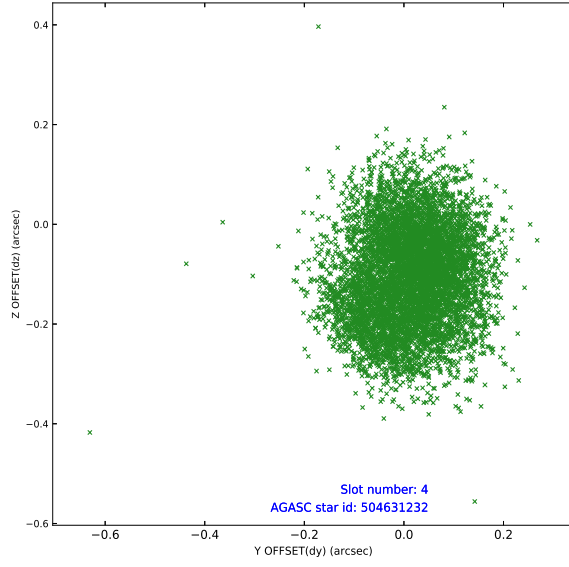
| pt | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mea   |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0  | FID    |      | ACIS-S-2  | 7.14 | 3214  | 1.000    | 0.097  | -0.129 | 0.030 | 0.046 | 0.000000   | 0.000000  | -764.77  | -1739 |
| 1  | FID    |      | ACIS-S-4  | 7.28 | 3213  | 1.000    | 0.158  | -0.012 | 0.015 | 0.021 | 0.000000   | 0.000000  | 2148.58  | 168   |
| 2  | FID    |      | ACIS-S-5  | 7.27 | 3214  | 1.000    | -0.275 | 0.148  | 0.033 | 0.046 | 0.000000   | 0.000000  | -1817.34 | 162   |
| 3  | GUIDE  | used | 504628936 | 8.95 | 6425  | 1.000    | -0.160 | 0.003  | 0.212 | 0.328 | 202.795054 | 53.310284 | 375.60   | 1318  |
| 4  | GUIDE  | used | 504631232 | 8.63 | 6420  | 1.000    | 0.014  | -0.105 | 0.135 | 0.204 | 203.160594 | 52.928549 | 1849.67  | 735   |
| 5  | GUIDE  | used | 504632736 | 6.66 | 6428  | 1.000    | 0.147  | -0.003 | 0.151 | 0.242 | 201.998456 | 52.745587 | 270.97   | -1345 |
| 6  | GUIDE  | used | 504634856 | 8.78 | 6426  | 1.000    | 0.151  | 0.237  | 0.126 | 0.210 | 201.255310 | 53.300818 | -2221.97 | -736  |
| 7  | GUIDE  | used | 504629400 | 8.69 | 6427  | 1.000    | -0.157 | -0.131 | 0.124 | 0.208 | 203.406485 | 53.383650 | 1237.52  | 2345  |

## 2.4 Star Slots

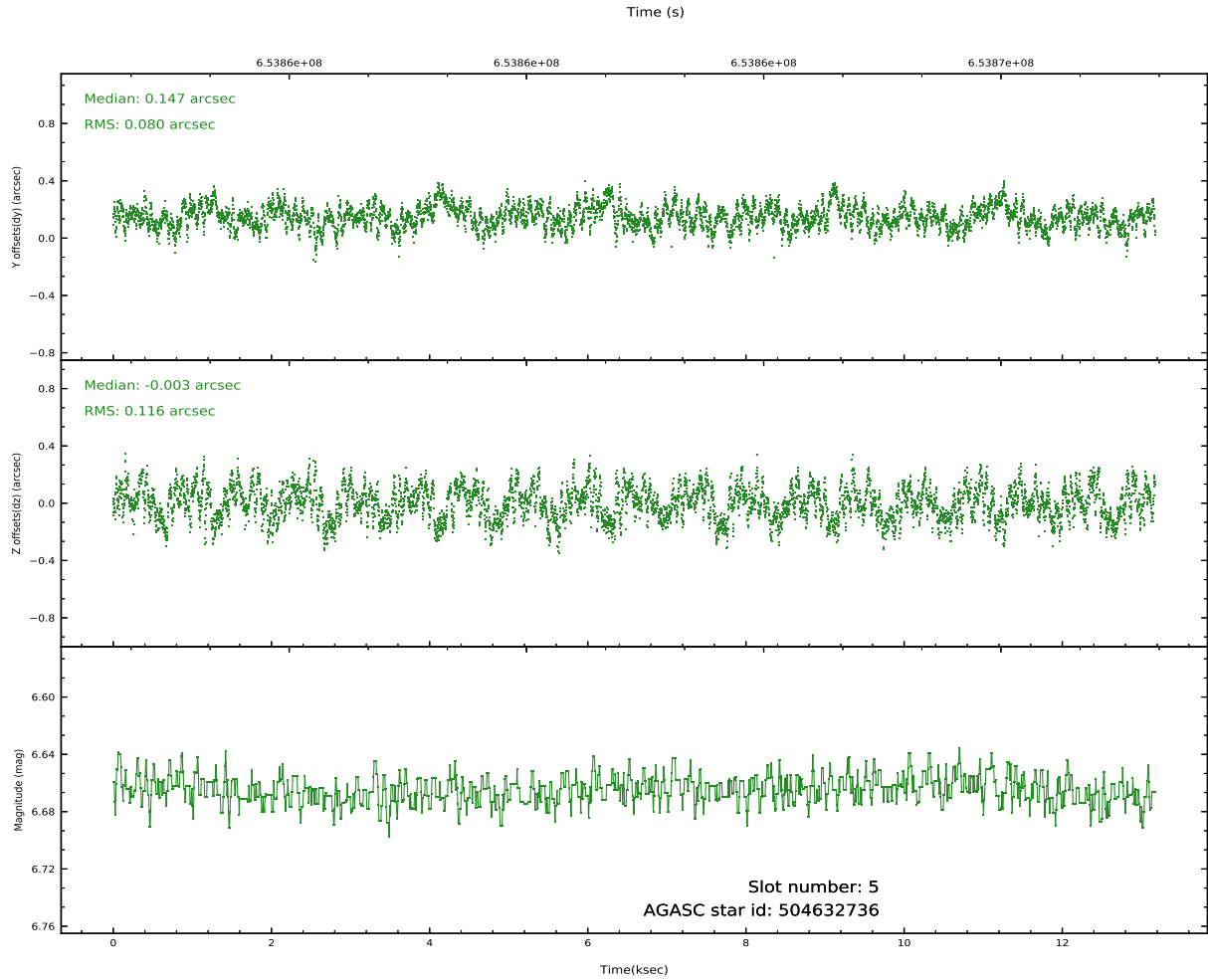
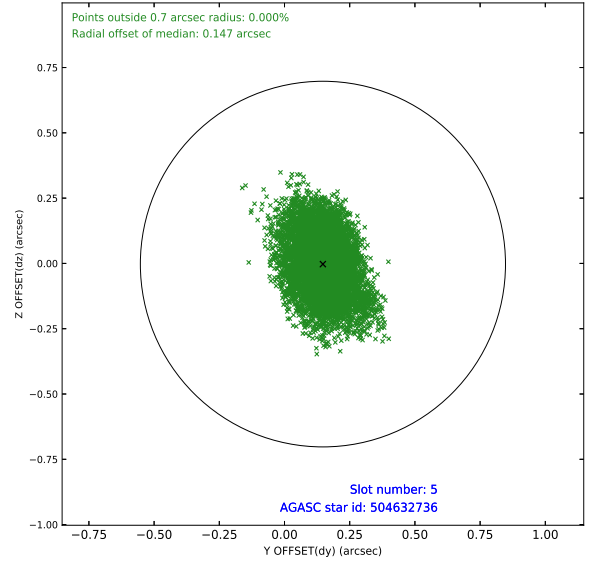
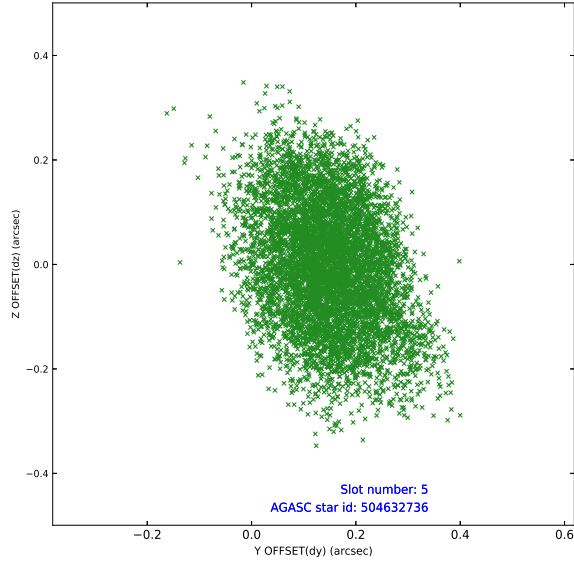
### 2.4.1 Slot 3



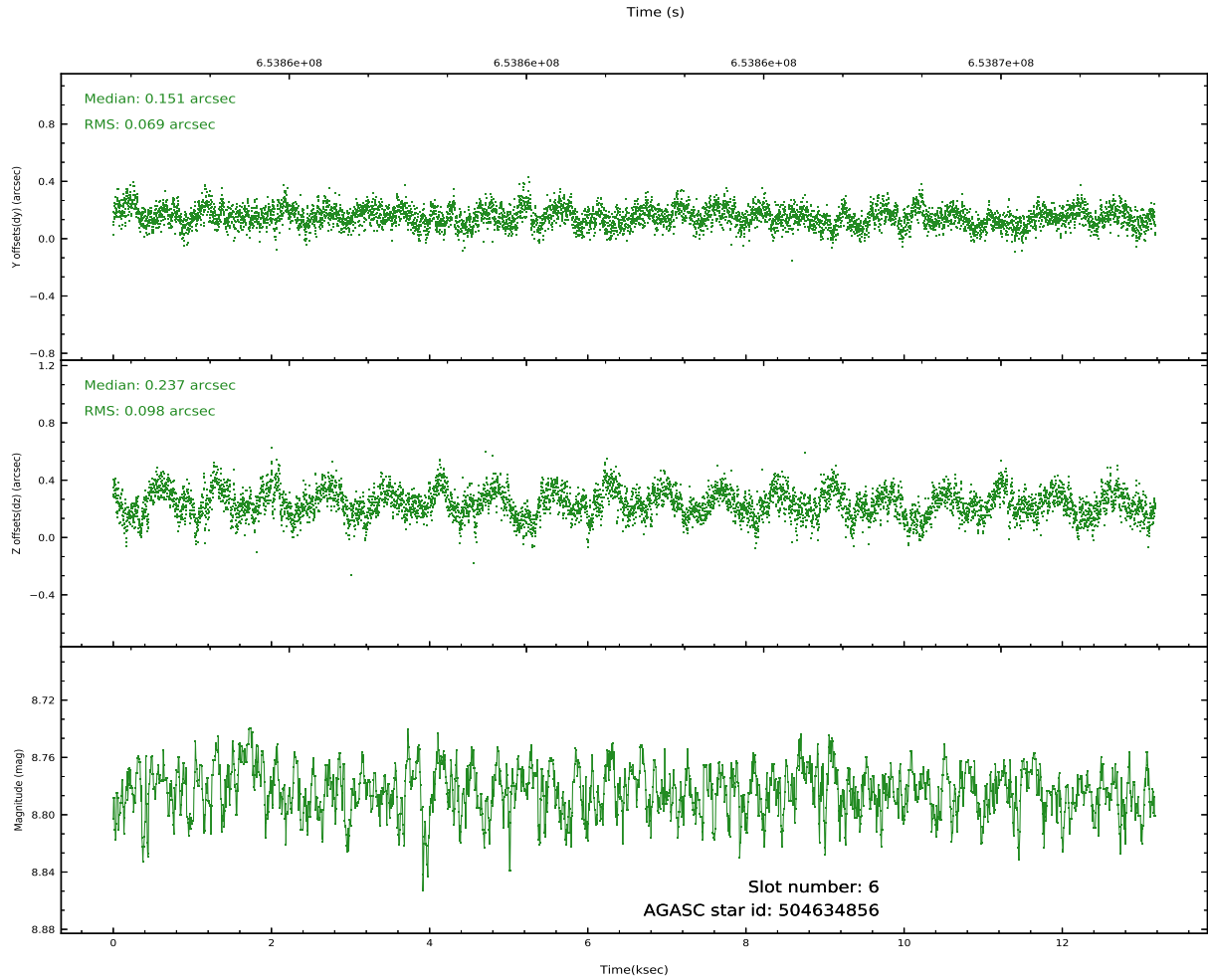
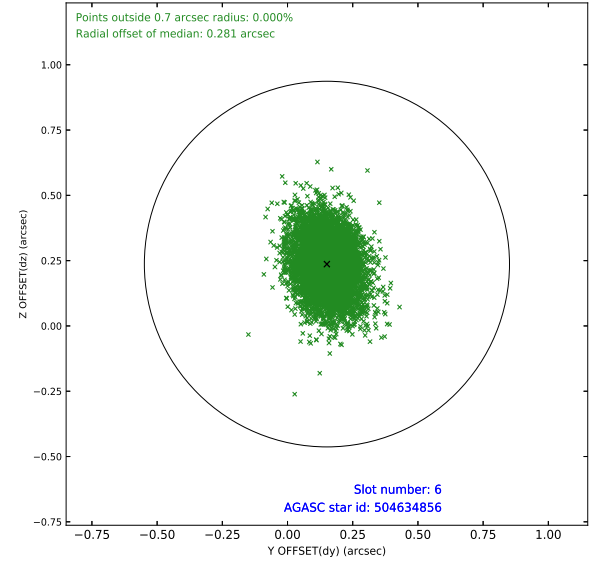
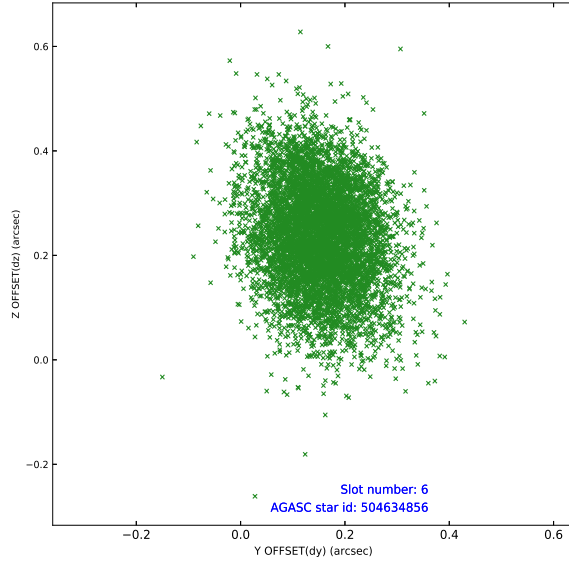
## 2.4.2 Slot 4



### 2.4.3 Slot 5

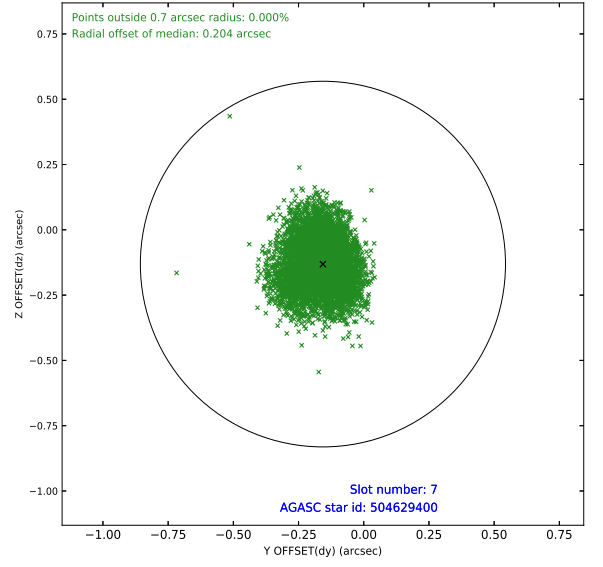
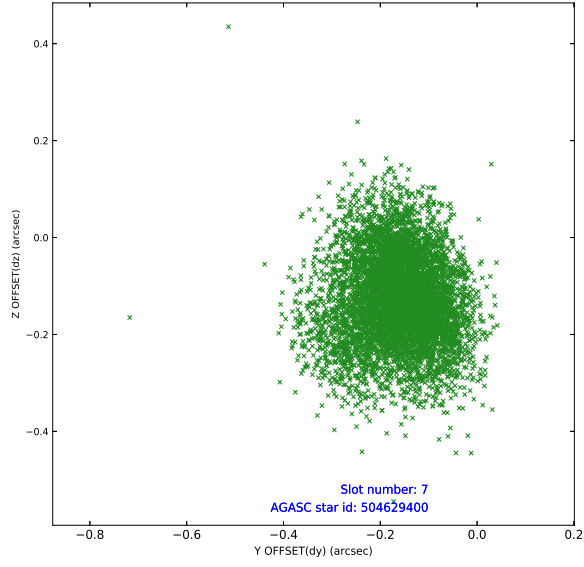


## 2.4.4 Slot 6

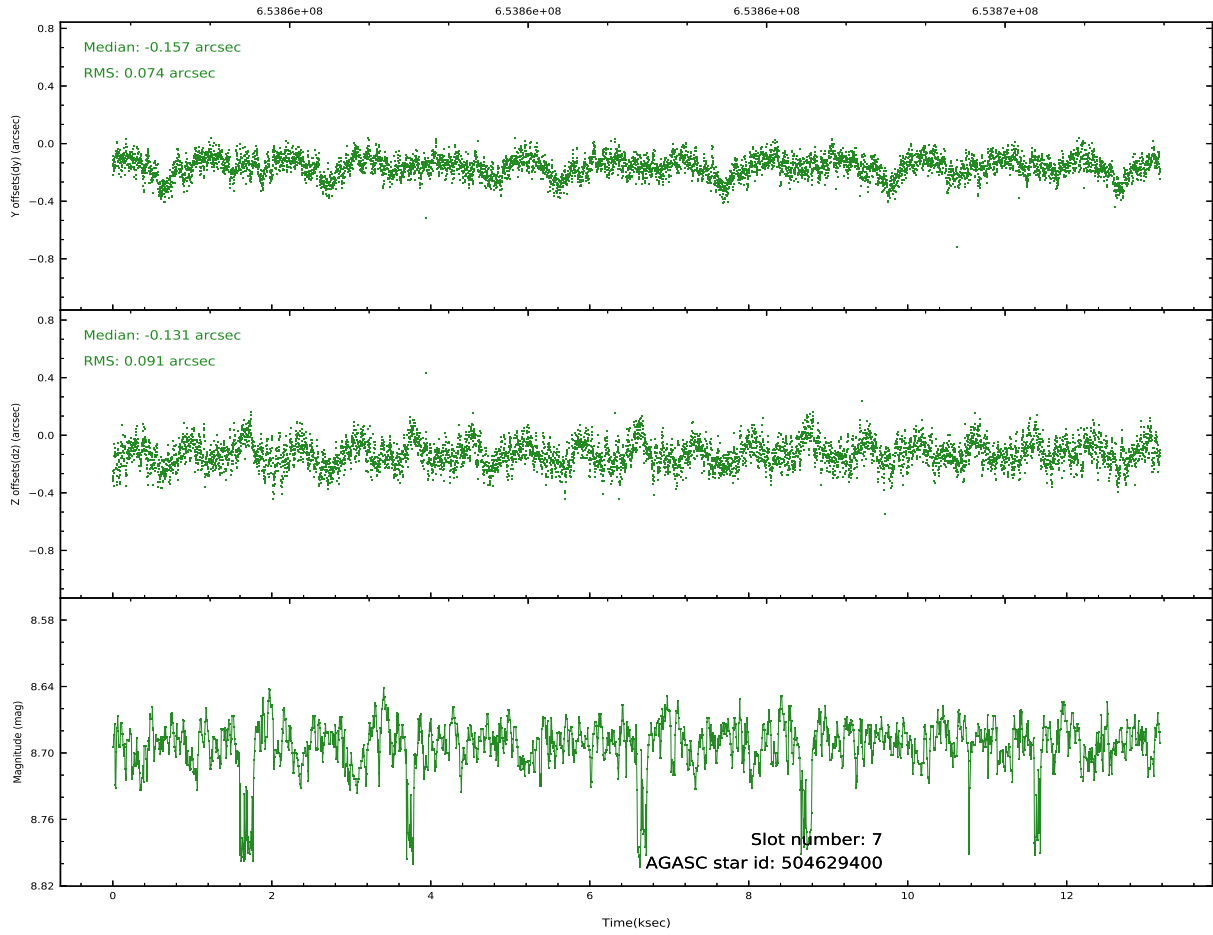




## 2.4.5 Slot 7

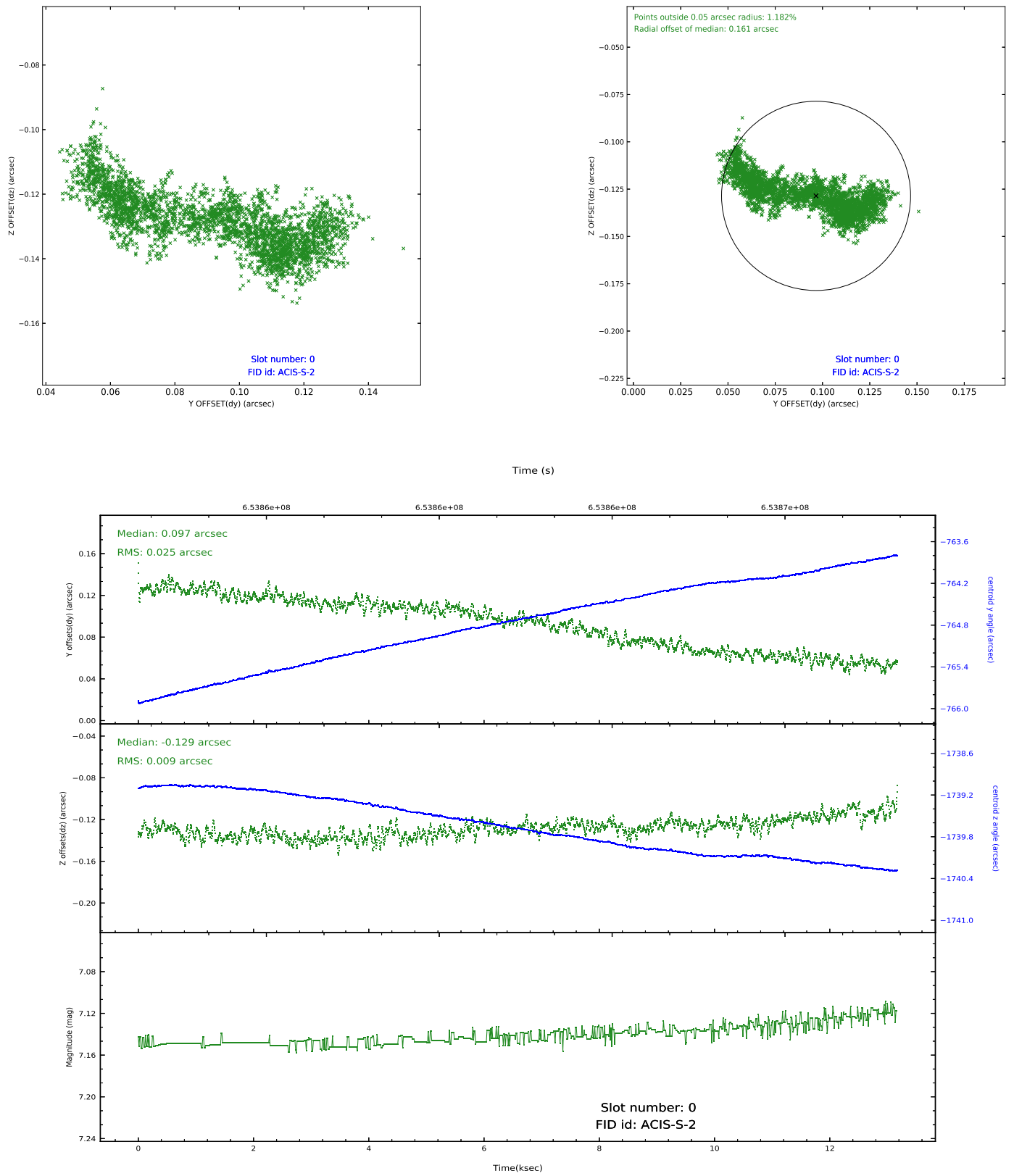


Time (s)

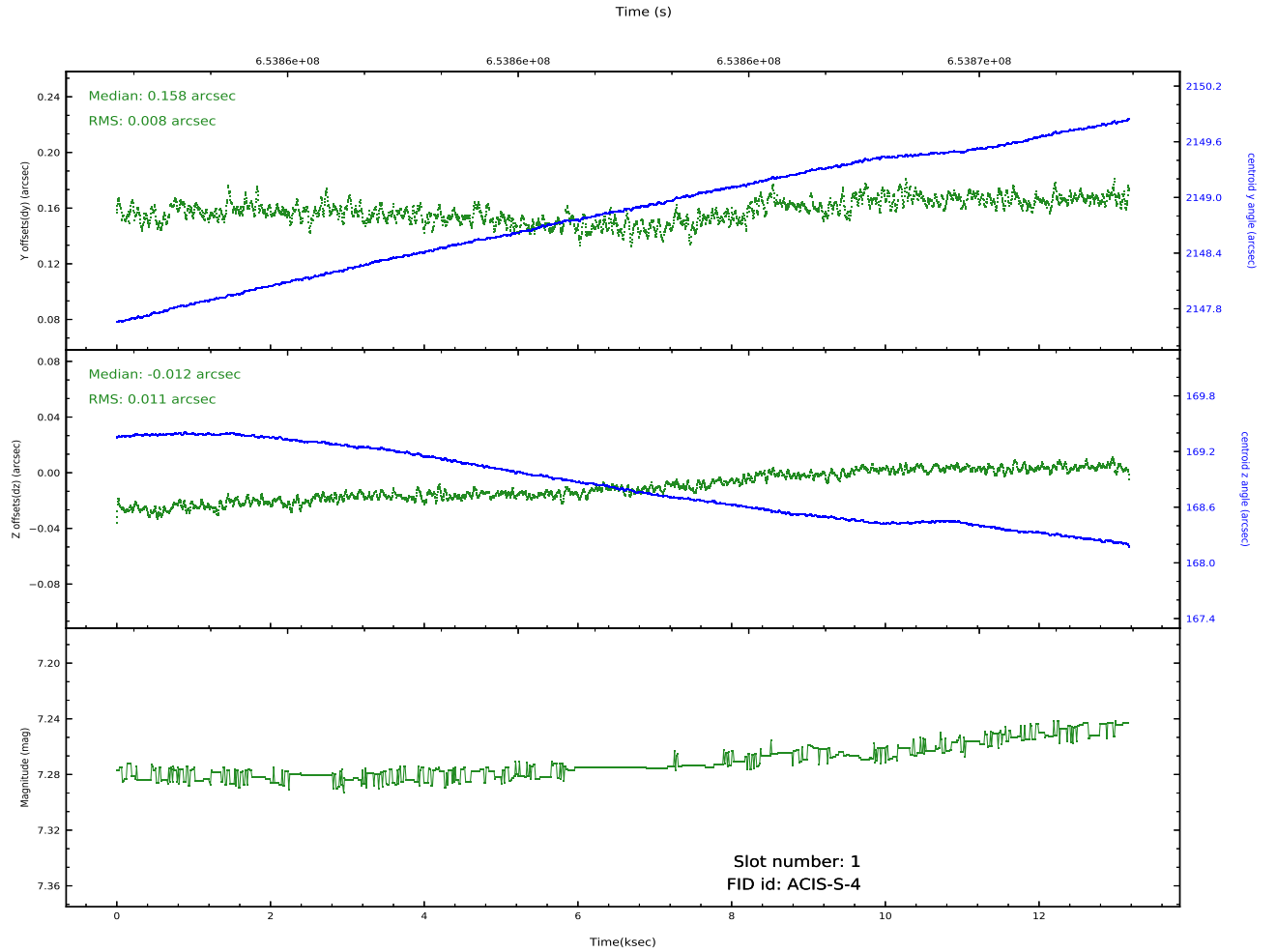
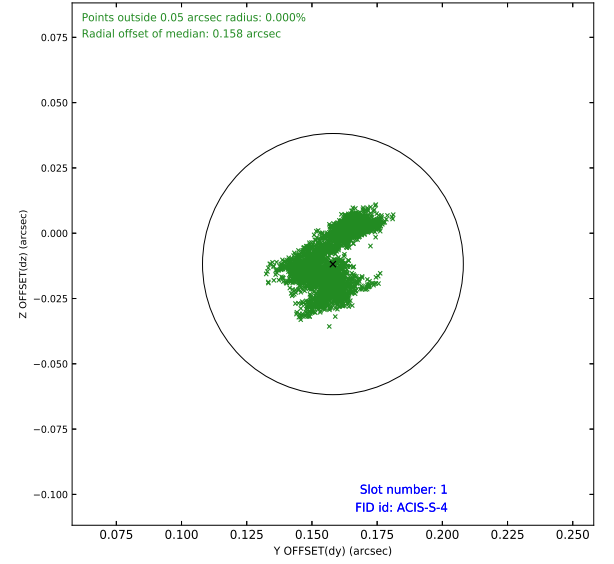
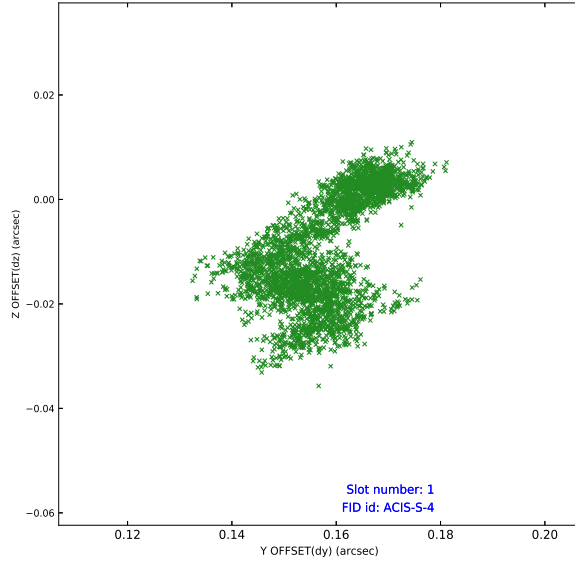


## 2.5 FID Slots

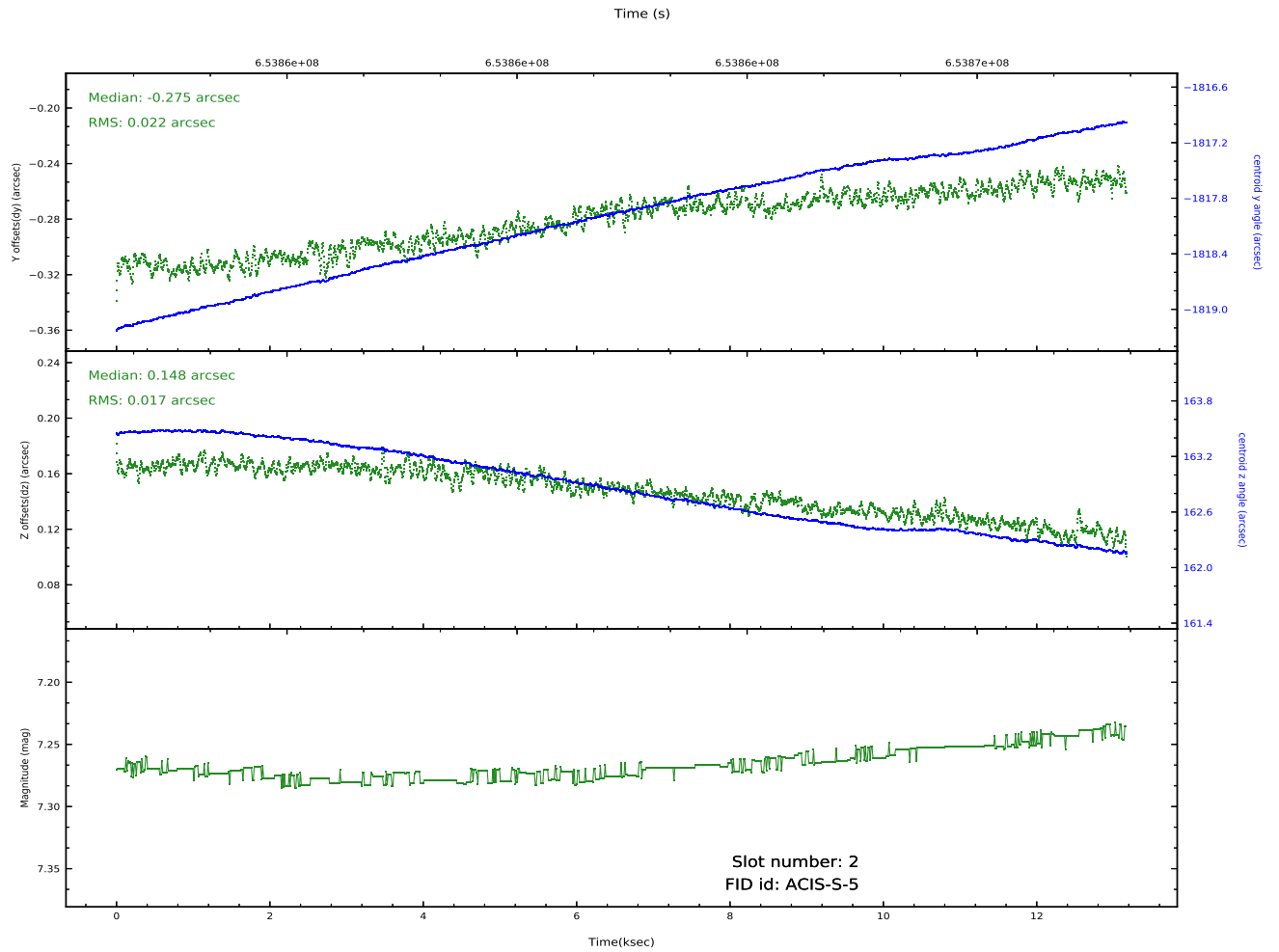
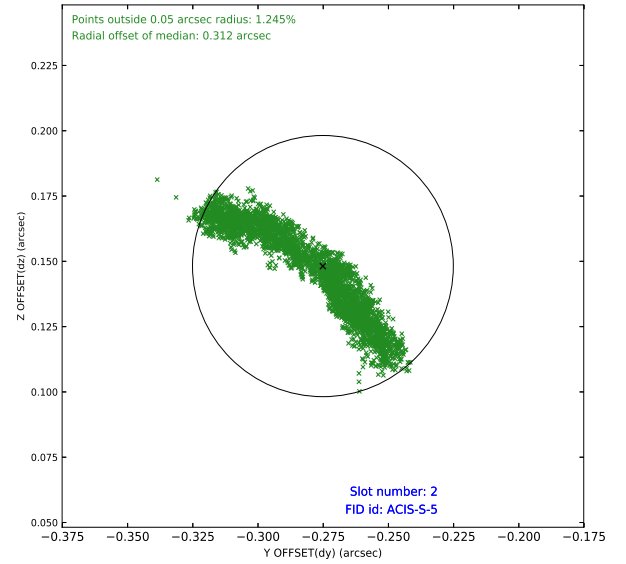
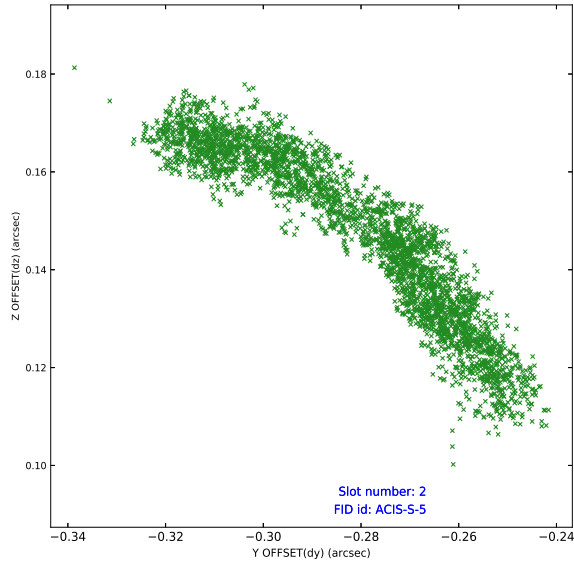
### 2.5.1 Slot 0



## 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)      | 2020.10.30      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 13.062448794842 |

### **A.2 Comments**