

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 6069 - L2 Version 5  
Chandra X-Ray Center

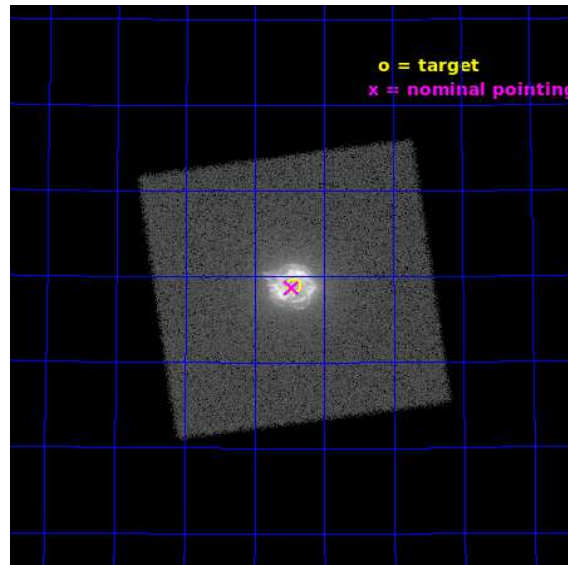
L2 Processing Date : Oct 7 2020

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# 1 Front

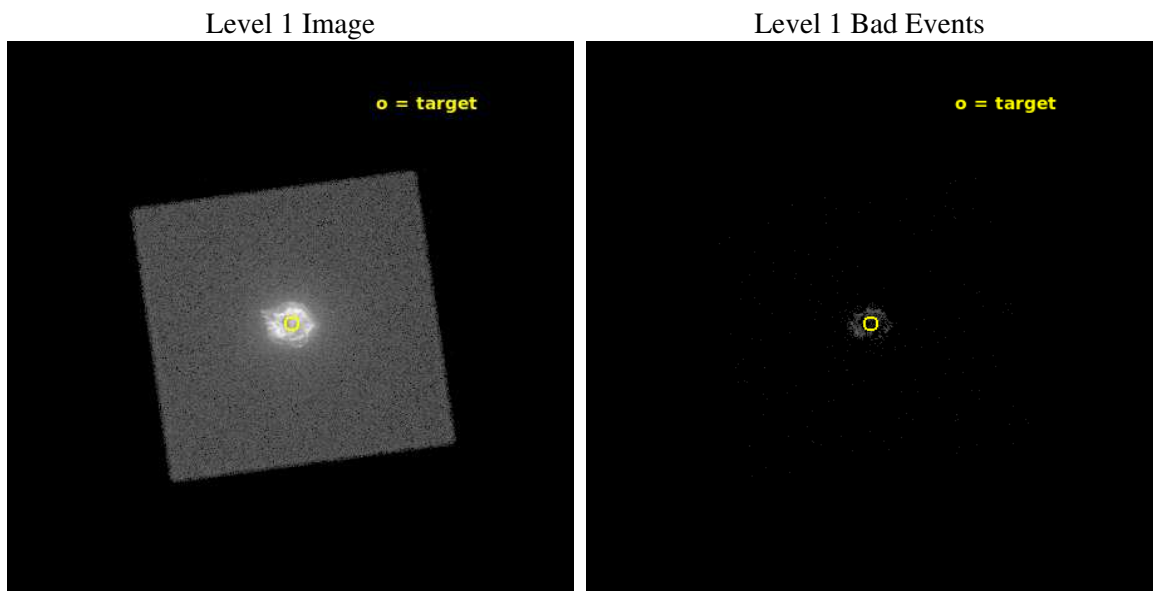
|          |  |                                       |
|----------|--|---------------------------------------|
| seq_num  | 590396   | Sequence number                       |
| obs_id   | 6069   | Observation id                        |
| title    | AO6A Observations of the Standard Candles Cas A and G21.5-09 | Propo                                 |
| observer | CXC Calibration  | Principal investigator                |
| object   | Cas A  | Source name                           |
| ra_targ  | 350.8575   | Observer's specified target RA [deg]  |
| dec_targ | 58.814833  | Observer's specified target Dec [deg] |
| ra_nom   | 350.86607935198  | Nominal RA [deg]                      |
| dec_nom  | 58.812165866318  | Nominal Dec [deg]                     |
| roll_nom | 36.947545560258  | Nominal Roll [deg]                    |
| revision | 5  | Processing version of data            |
| ontime   | 5150.8814840317  | [s]                                   |
| livetime | 5081.8552681884  | Ontime multiplied by DTCOR            |
| l2events | 651040   | Number of level 2 events              |



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1              | Processing system revision     | ontime         | 5150.8814840317 | [s]                                     |
| caldbver | 4.9.2               | &#160                          | l1events       | 783203          | Number of level 1 events                |
| date     | 2020-10-07T18:16:00 | Date and time of file creation |                |                 |   |
| revision | 5                   | Processing version of data     |                |                 |   |

### 2.1.3 Events

#### Level 1 Events

|                 |                      |
|-----------------|----------------------|
|                 | <b>segment<br/>0</b> |
| level 1 events  | 783203               |
| rejected events | 11714                |
| rejected %      | 1%                   |

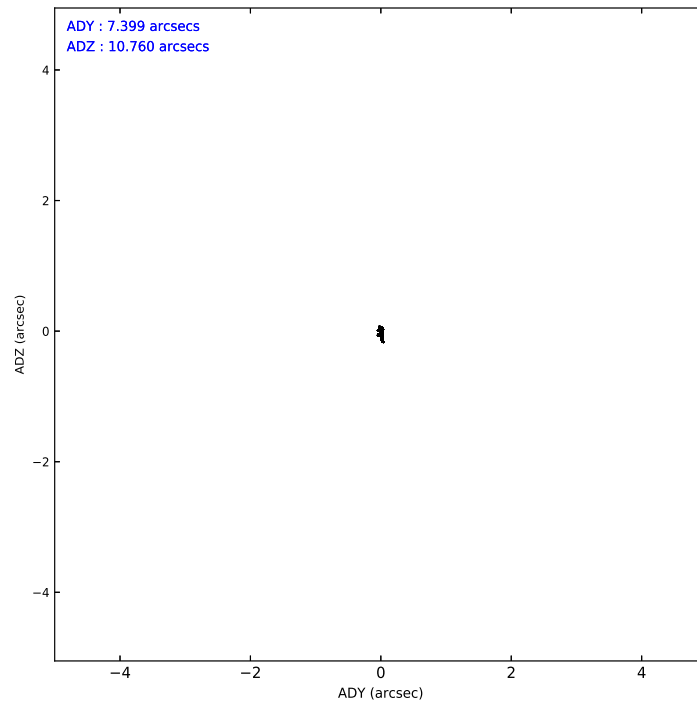
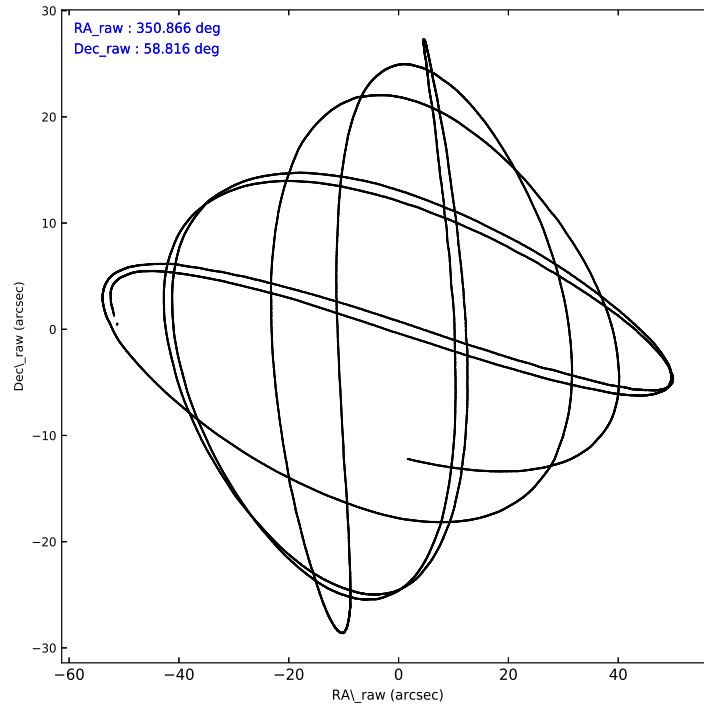


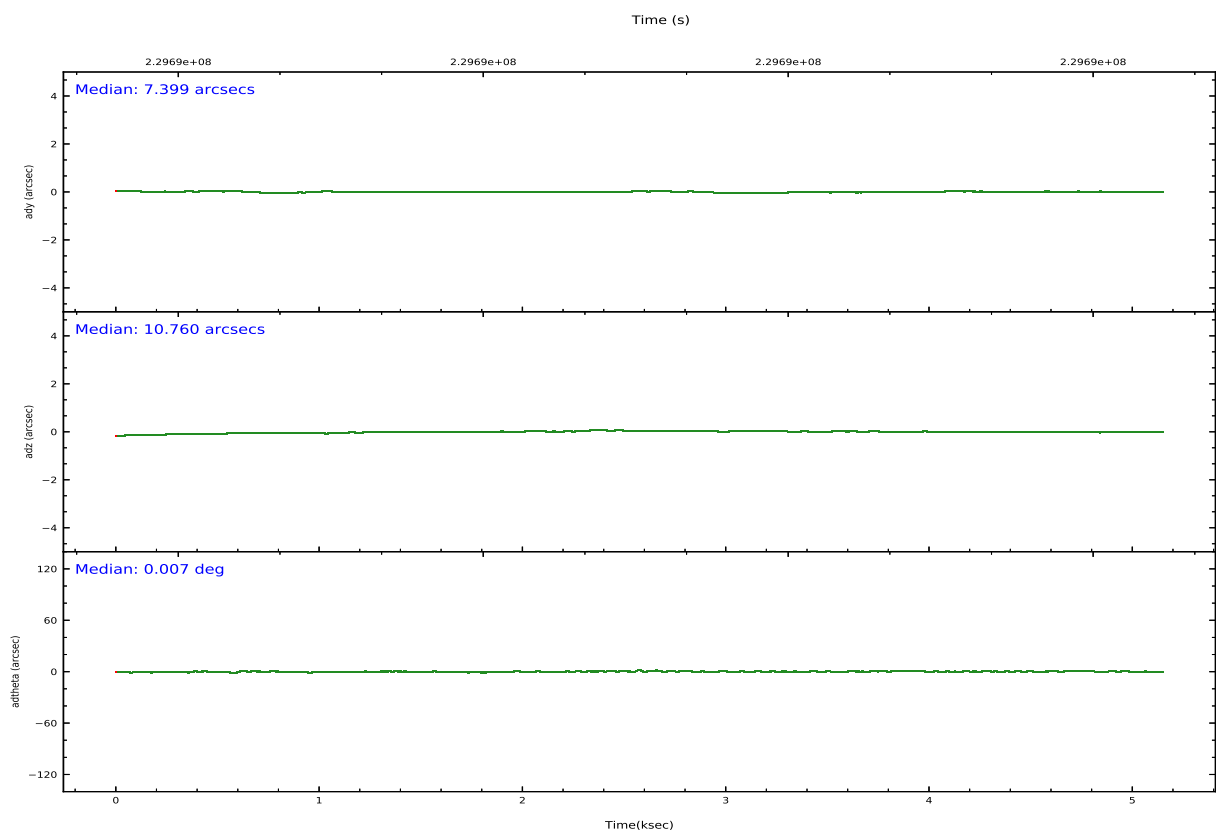
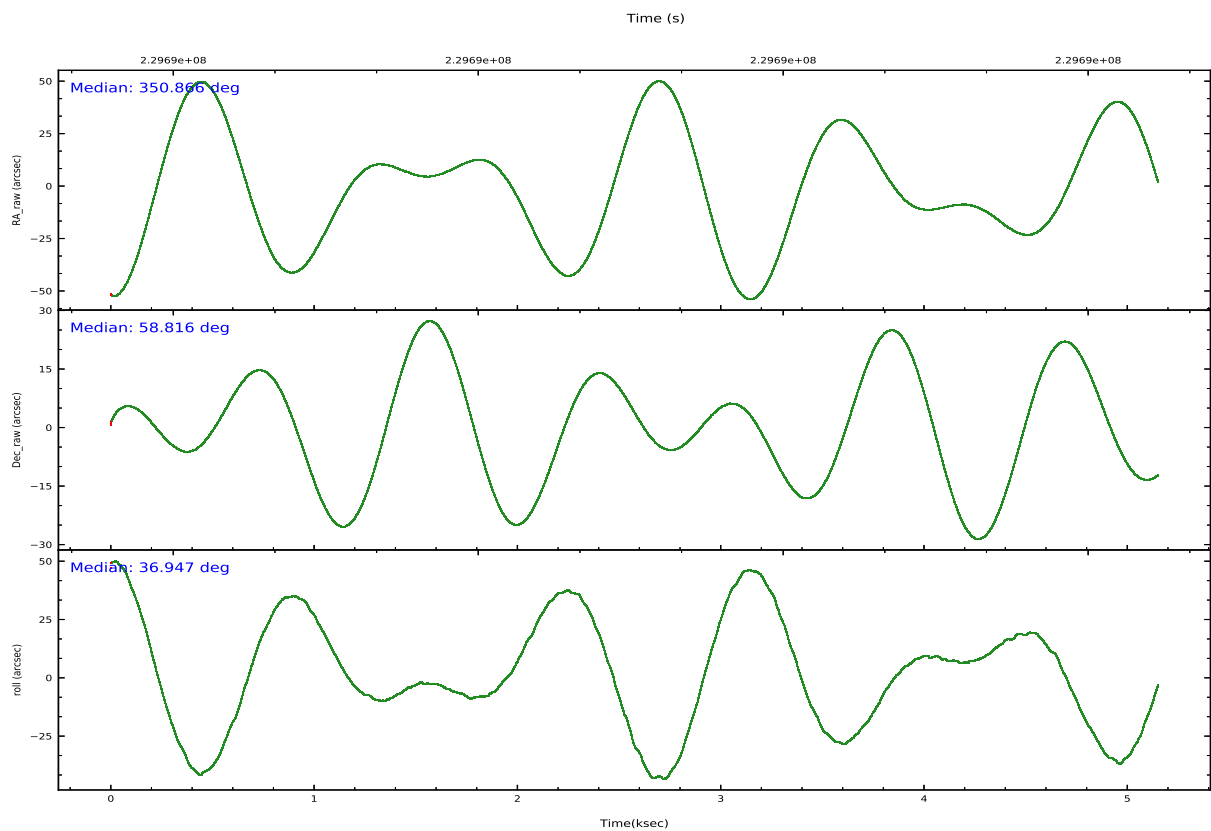
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | HRC                 | HRC                  |
| Detector                          | HRC-I               | HRC-I                |
| Grating                           | NONE                | NONE                 |
| Data mode                         | OBSERVING           | OBSERVING            |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 350.845938          | 350.86607935198      |
| [deg] Pointing Dec                | 58.790678           | 58.812165866318      |
| [deg] Pointing Roll               | 37.068008           | 36.947545560258      |
| [s] Window start time (MET)       | 223603264.184000    | 223603264.184000     |
| [s] Window stop time (MET)        | 233884864.184000    | 233884864.184000     |
| [mm] SIM focus pos                | -1.040293           | -1.038866356238299   |
| [mm] SIM defocus                  | 0                   | 0.001426264420575141 |
| [mm] SIM translation stage pos    | 126.985494          | 126.9829799899862    |
| [mm] SIM translation stage offset | 0                   | 0.002508901615314585 |
| [s] Observation start time (MET)  | 229686845.184000    | 229686446.68356      |
| Observation start date            | 2005-04-12T09:53:01 | 2005-04-12T09:47:26  |
| [s] Observation end time (MET)    | 229691845.184000    | 229692703.79634      |
| Observation end date              | 2005-04-12T11:16:21 | 2005-04-12T11:31:43  |

| Parameter             | Planned   | Actual  |
|-----------------------|-----------|---------|
| Obspar version number | 8         | 8       |
| Obspar file type      | PREDICTED | ACTUAL  |
| Obspar update status  | NONE      | UPDATED |

## 2.3 Aspect



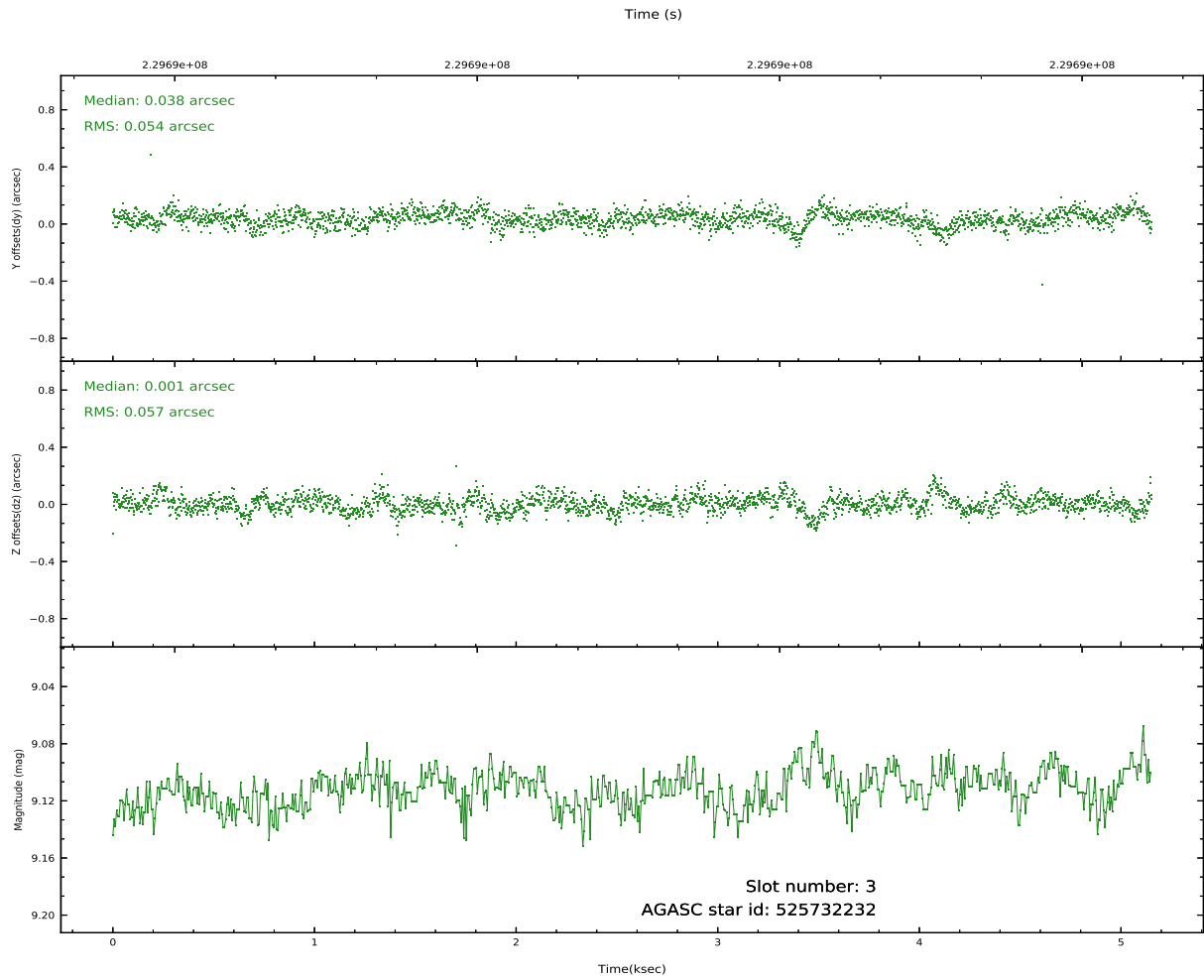
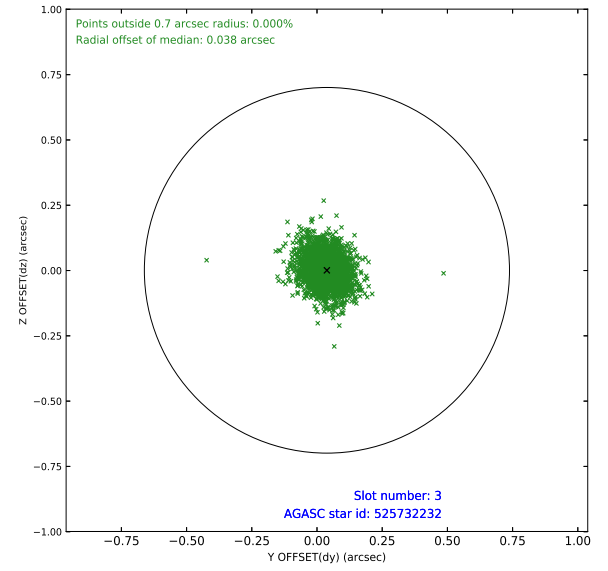
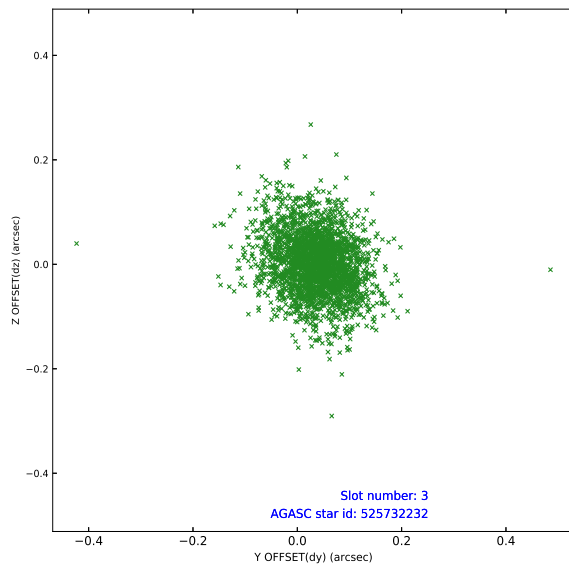


Slot Statistics

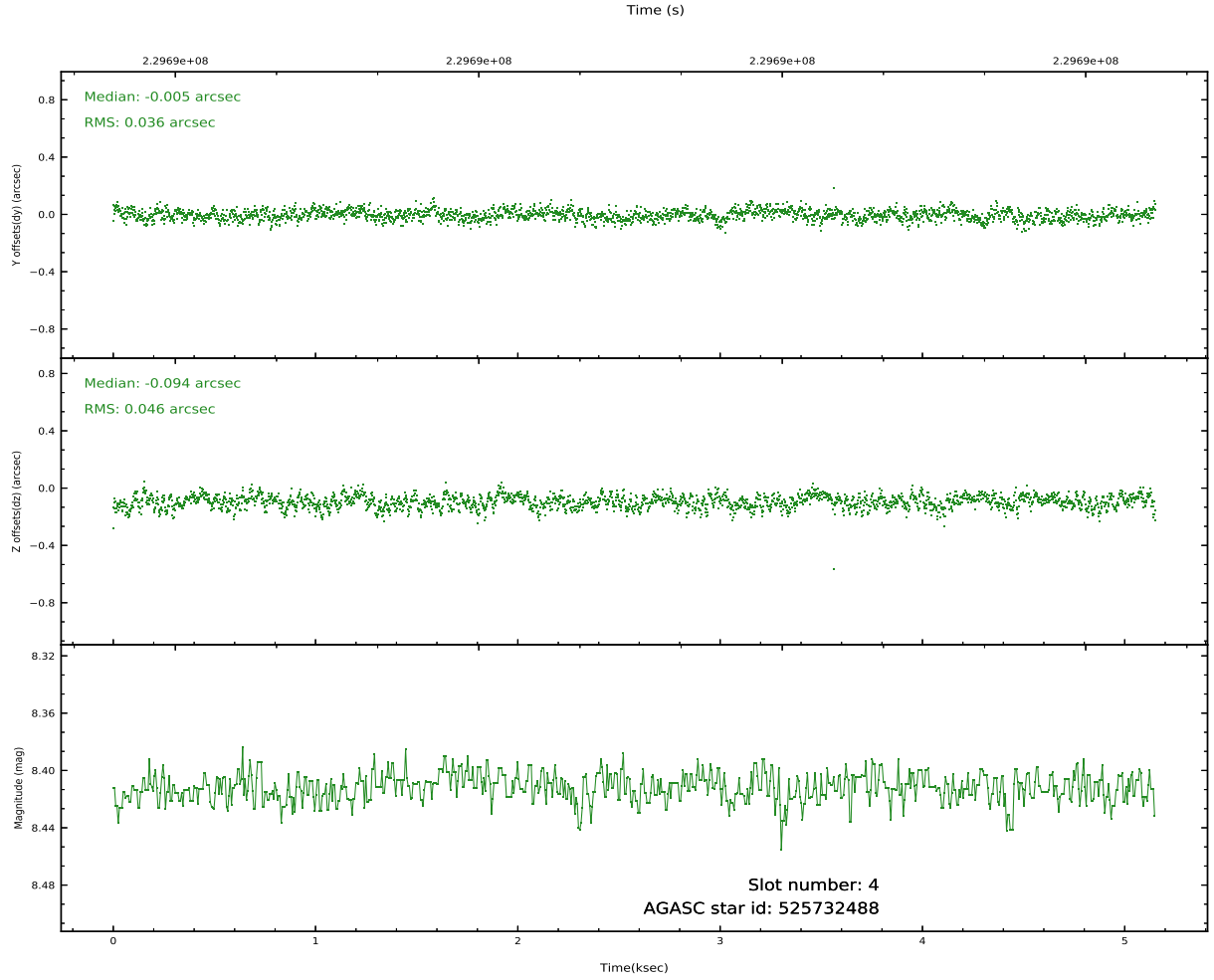
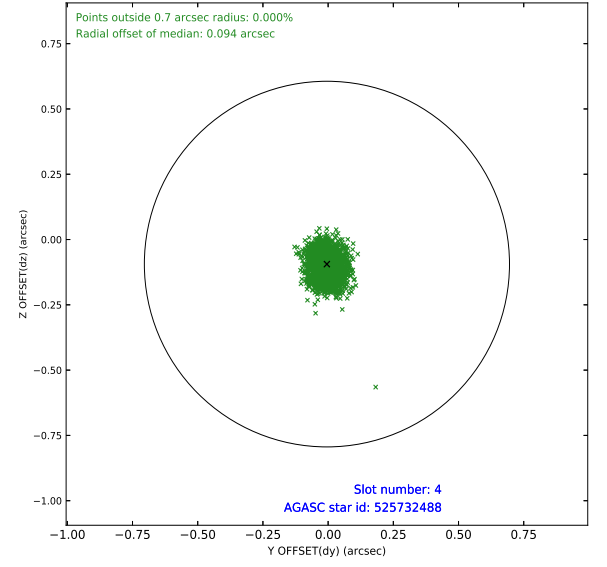
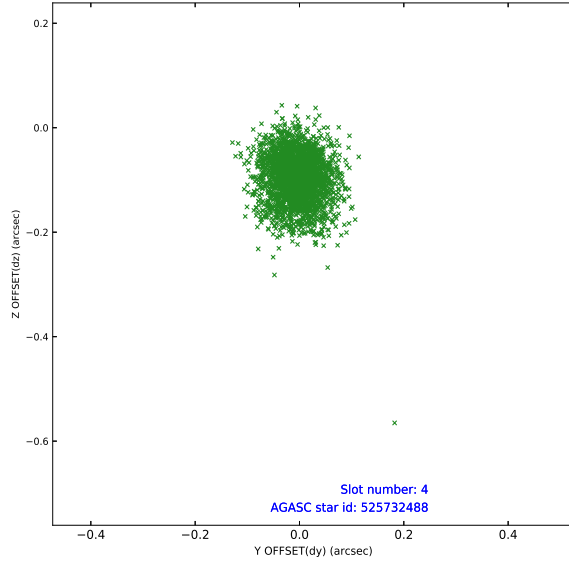
| pt | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mea   |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0  | FID    |      | HRC-I-1   | 7.00 | 1257  | 1.000    | -0.032 | -0.015 | 0.009 | 0.017 | 0.000000   | 0.000000  | -762.99  | -1298 |
| 1  | FID    |      | HRC-I-2   | 7.04 | 1257  | 1.000    | 0.131  | -0.055 | 0.007 | 0.013 | 0.000000   | 0.000000  | 849.20   | -1301 |
| 2  | FID    |      | HRC-I-3   | 7.08 | 1257  | 1.000    | 0.021  | -0.019 | 0.006 | 0.012 | 0.000000   | 0.000000  | -1190.80 | 1004  |
| 3  | GUIDE  | used | 525732232 | 9.11 | 2514  | 1.000    | 0.038  | 0.001  | 0.081 | 0.140 | 351.669550 | 58.757012 | 1159.25  | -1016 |
| 4  | GUIDE  | used | 525732488 | 8.41 | 2514  | 1.000    | -0.005 | -0.094 | 0.061 | 0.101 | 350.087090 | 58.516915 | -1727.70 | 79    |
| 5  | GUIDE  | used | 525732528 | 9.38 | 2514  | 1.000    | 0.115  | -0.008 | 0.094 | 0.151 | 351.607241 | 59.298932 | 2222.77  | 623   |
| 6  | GUIDE  | used | 525735456 | 6.71 | 2514  | 1.000    | -0.182 | -0.079 | 0.055 | 0.081 | 350.628183 | 59.307249 | 802.01   | 1726  |
| 7  | GUIDE  | used | 525735976 | 8.77 | 2511  | 1.000    | 0.034  | 0.183  | 0.065 | 0.106 | 350.142956 | 58.277622 | -2171.25 | -664  |

## 2.4 Star Slots

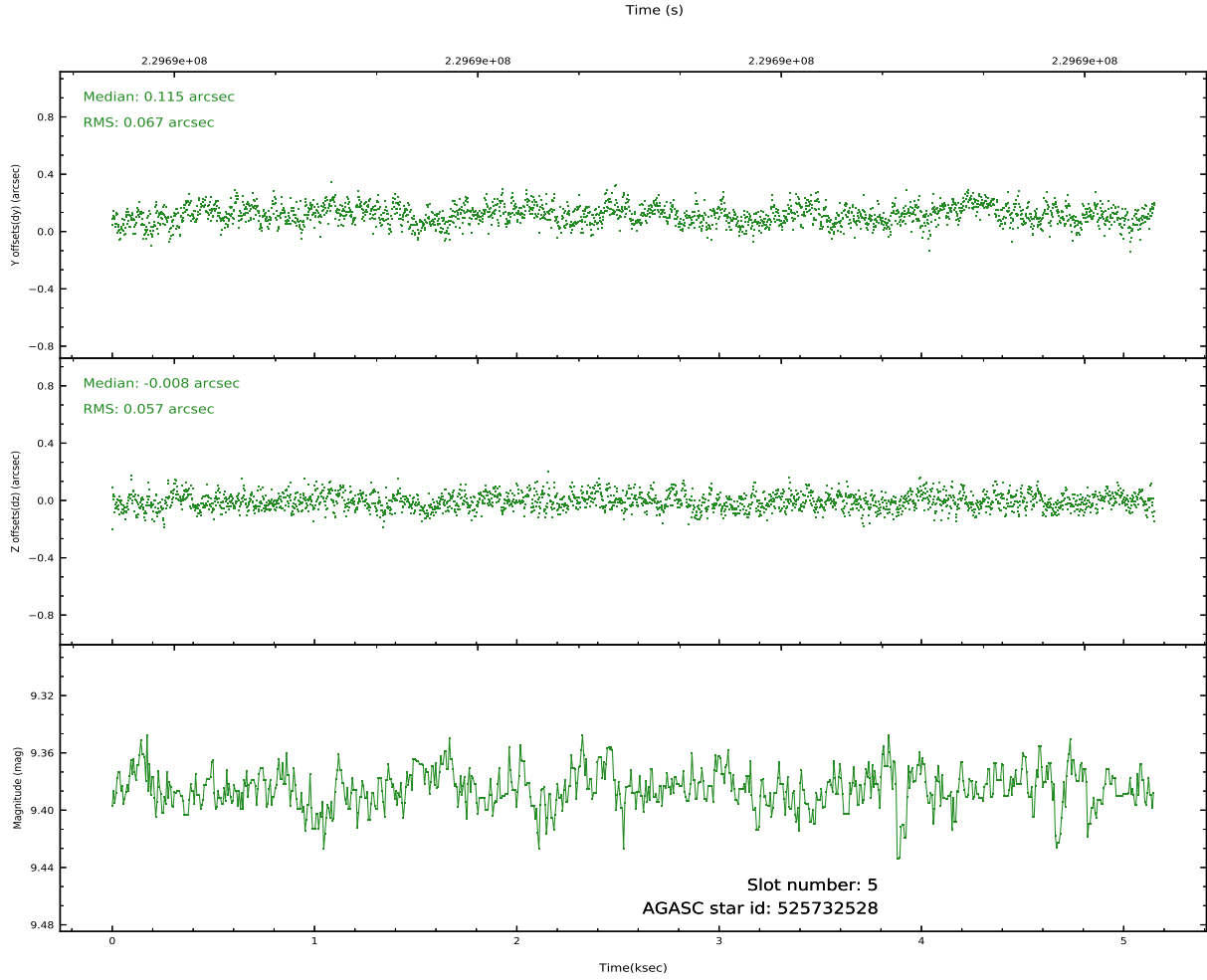
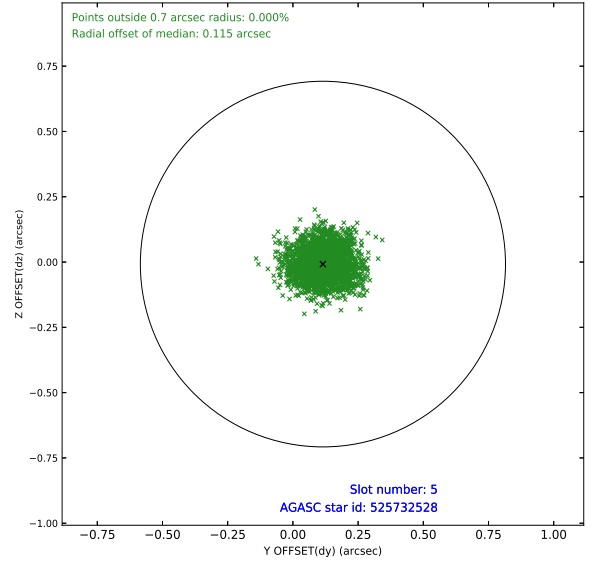
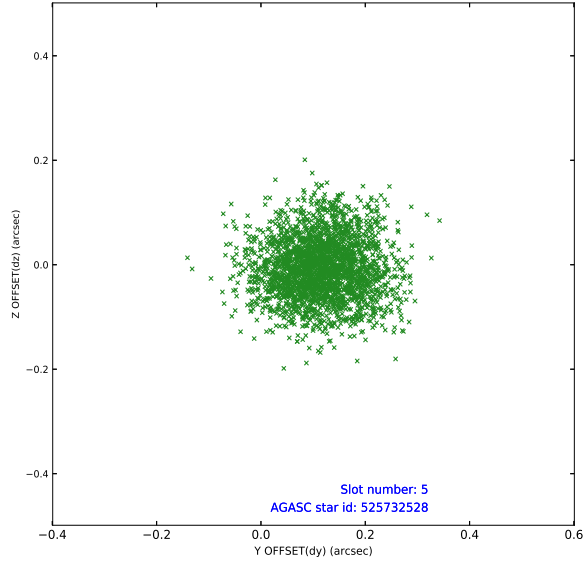
### 2.4.1 Slot 3



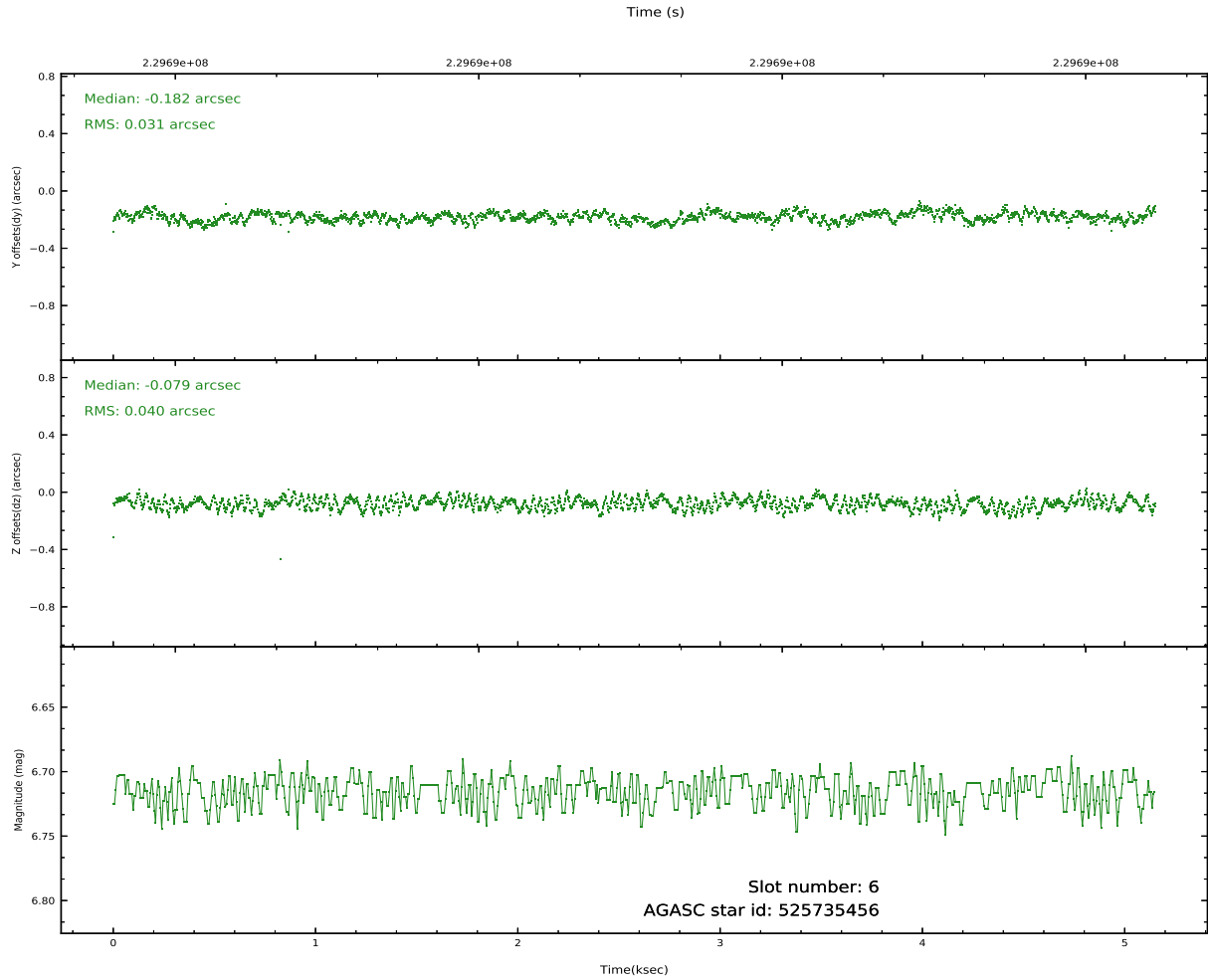
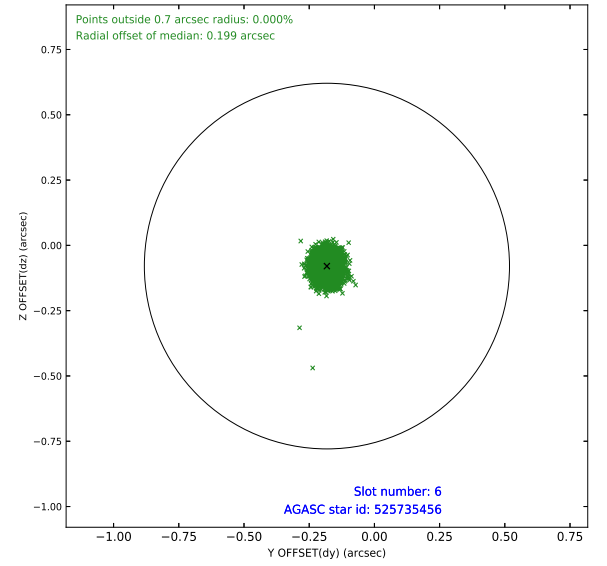
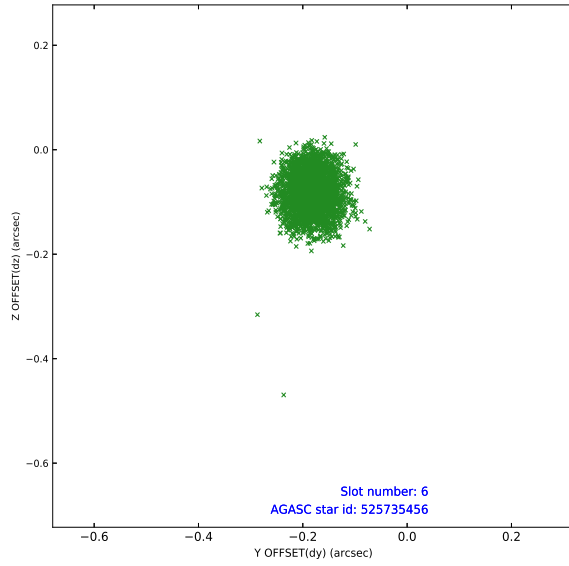
## 2.4.2 Slot 4



### 2.4.3 Slot 5

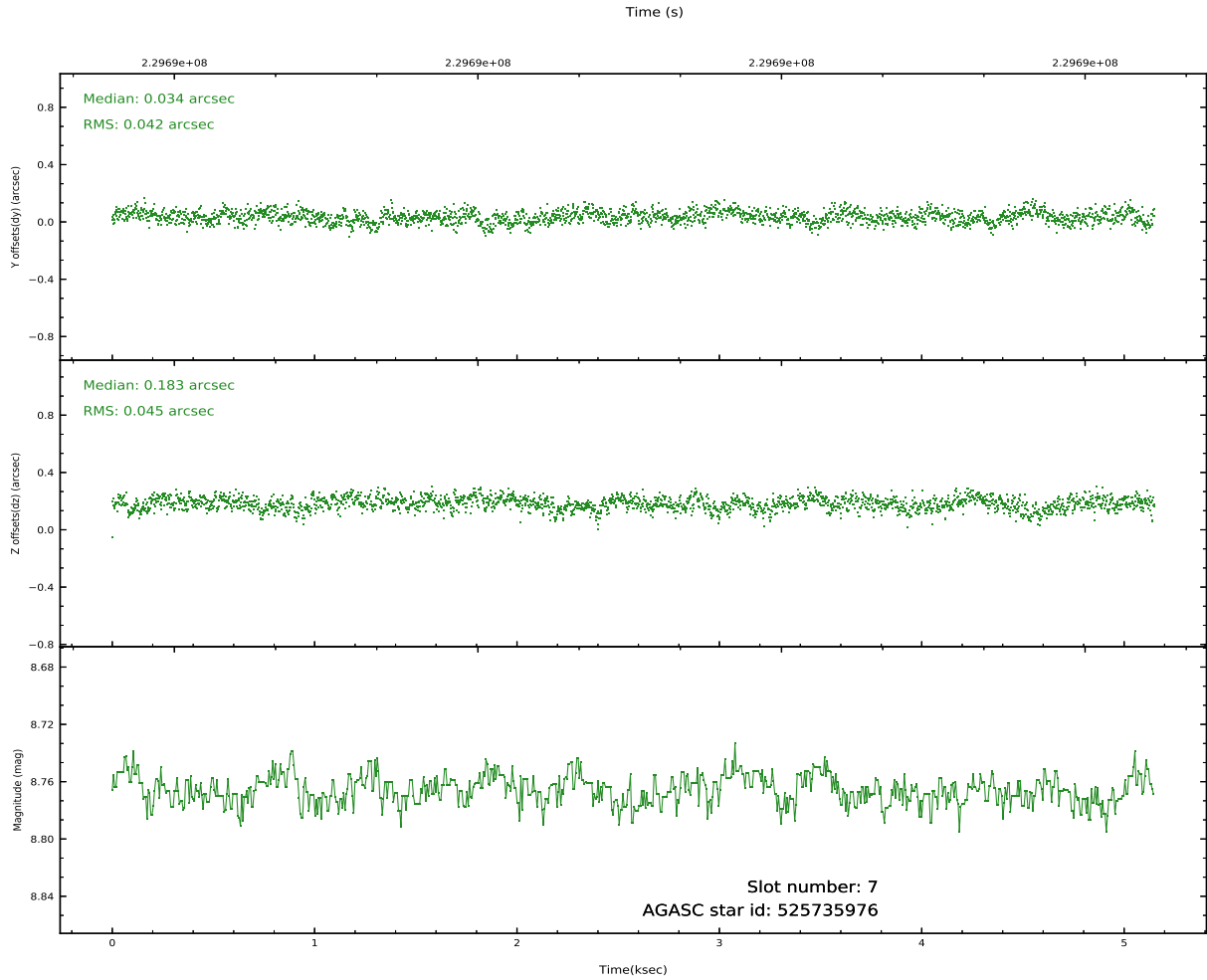
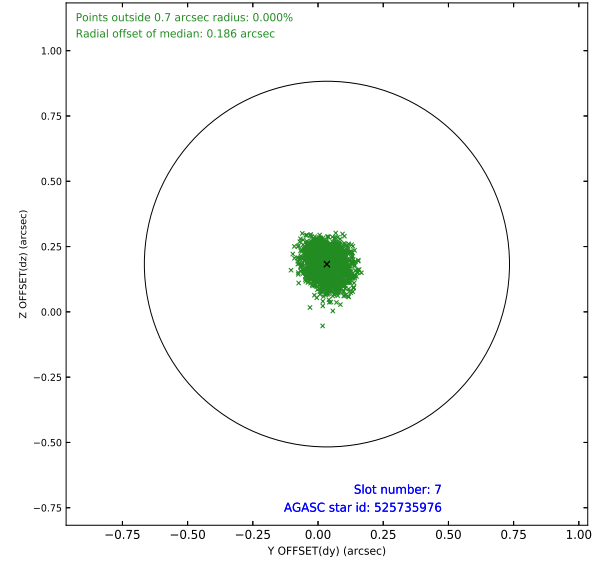
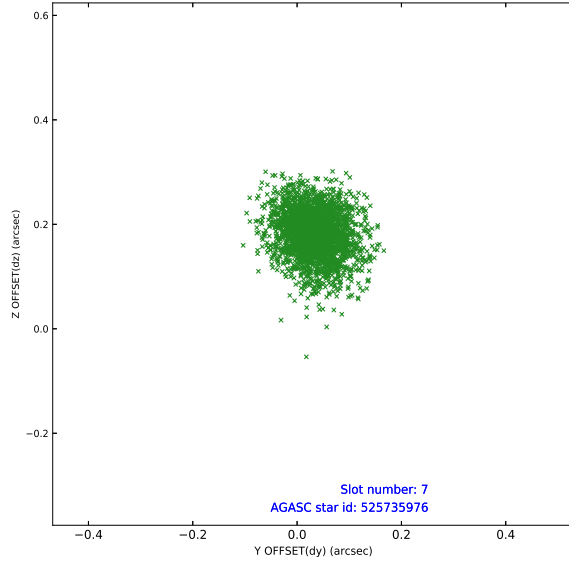


## 2.4.4 Slot 6



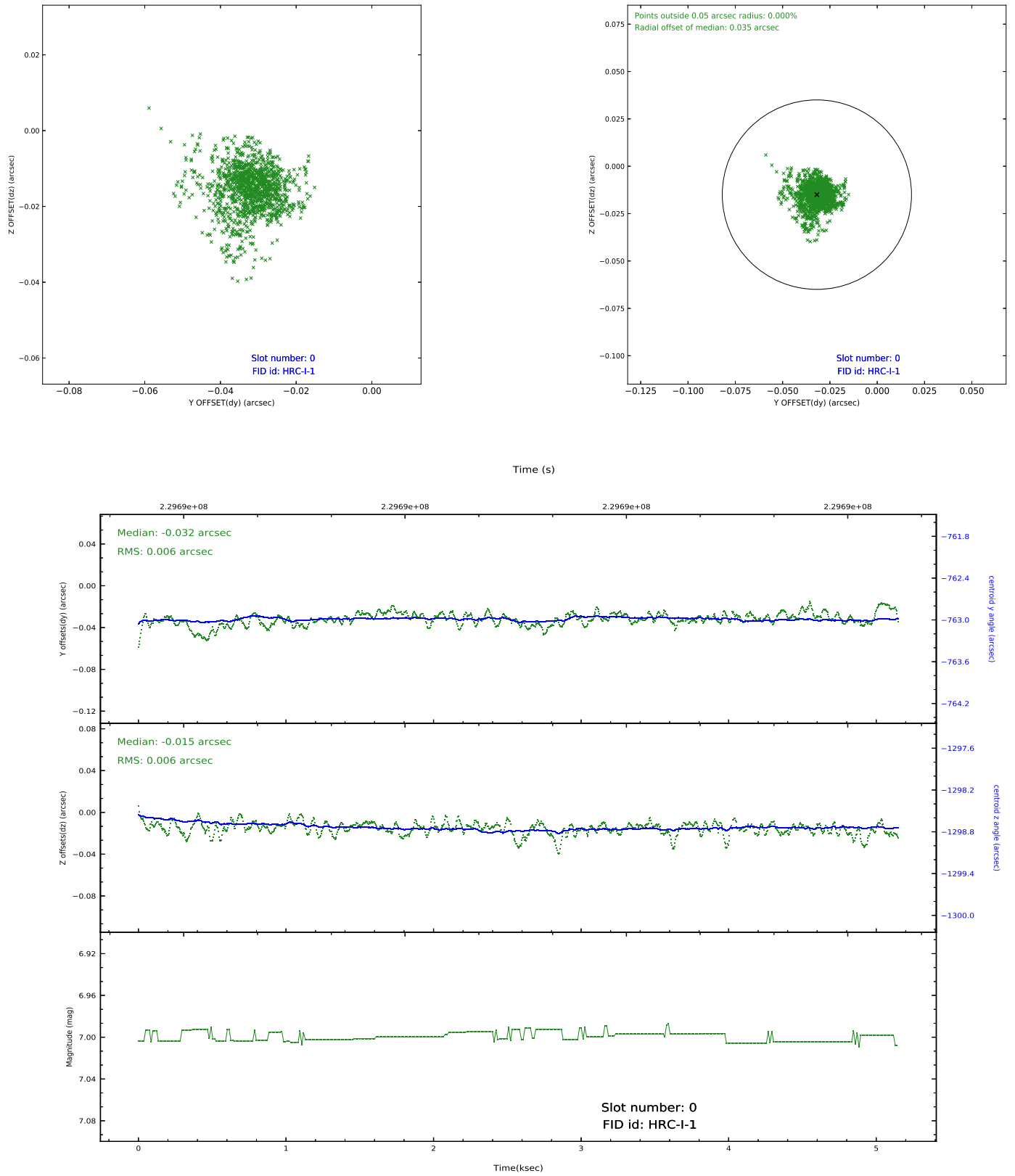


## 2.4.5 Slot 7

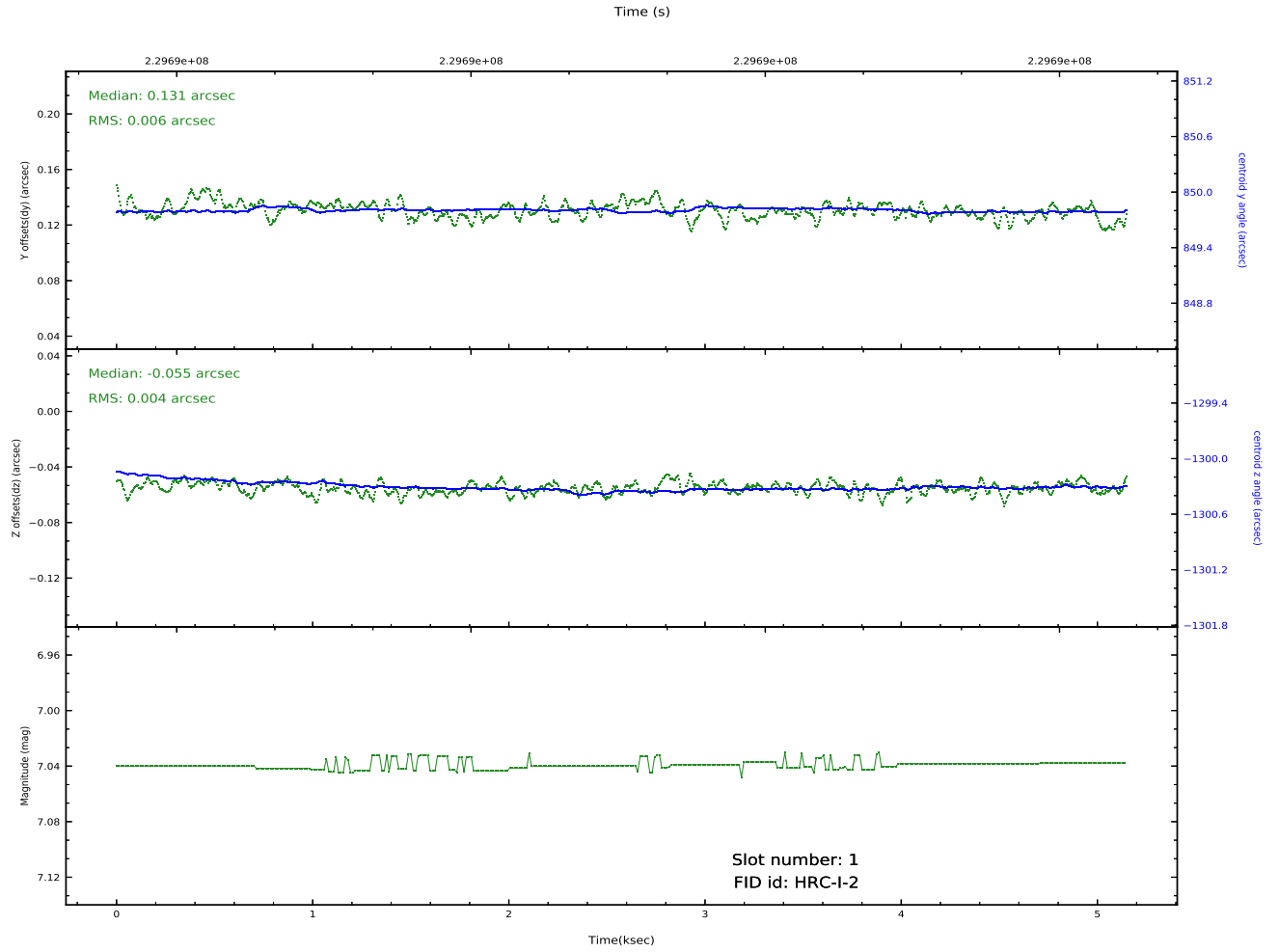
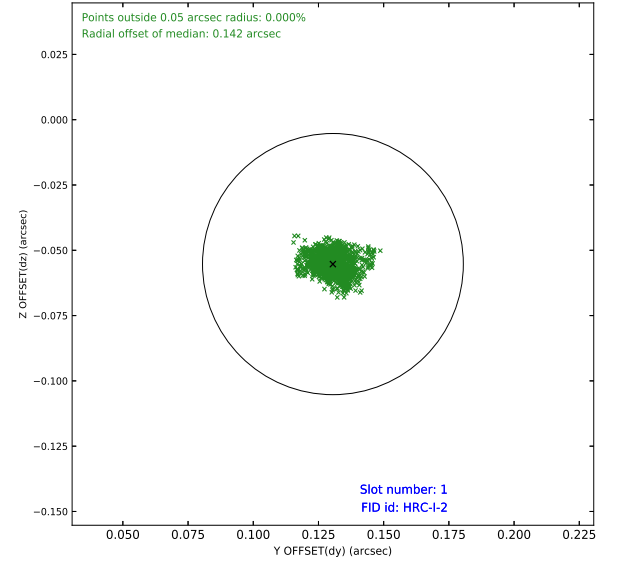
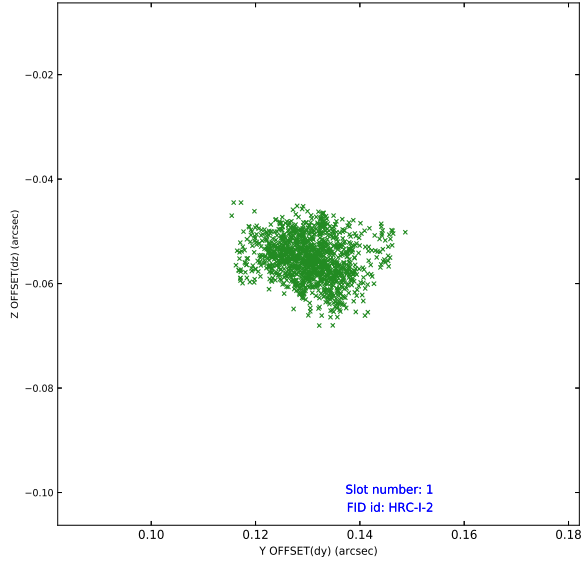


## 2.5 FID Slots

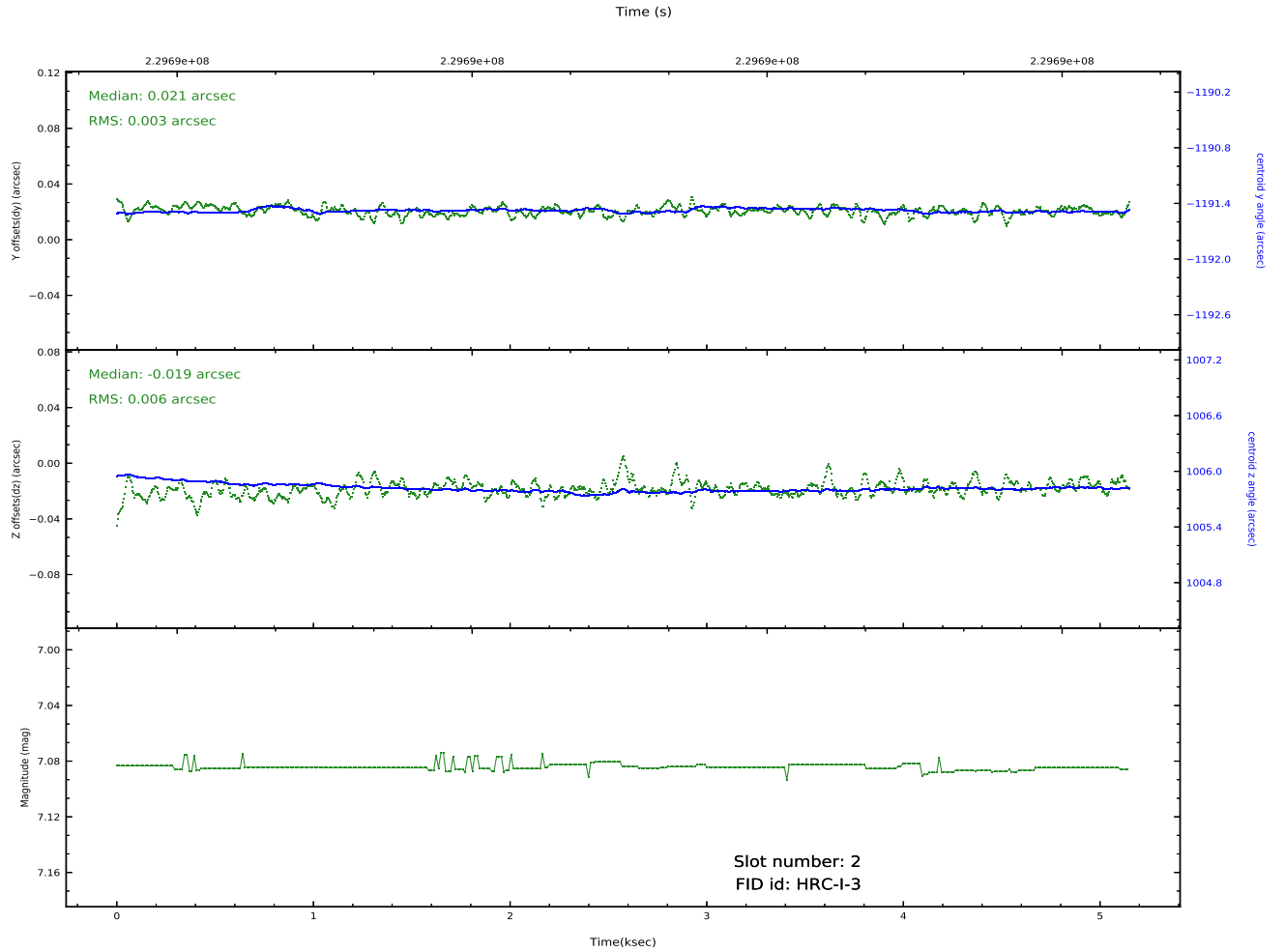
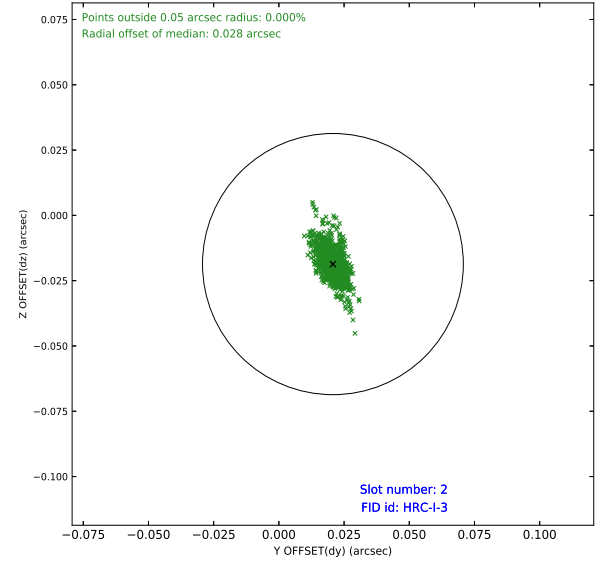
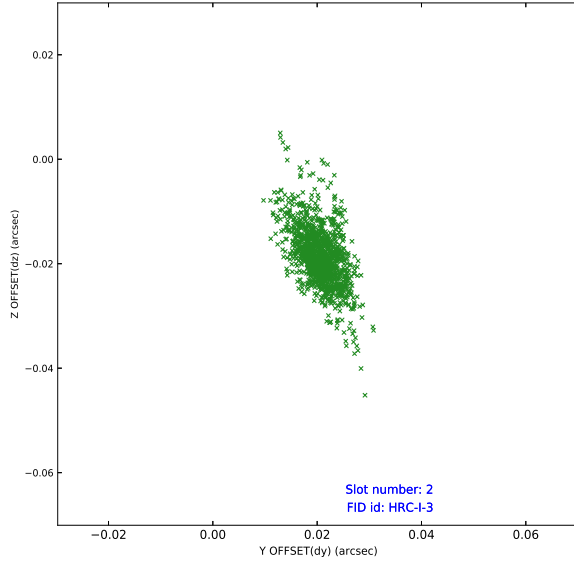
### 2.5.1 Slot 0



## 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)      | 2020.10.08    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 5.150881      |

### A.2 Comments

Window constraint was met.