

# V&V Reference Report

## L2 ASCDS Version : 10.4.2.1

Observation 17342 - L2 Version 1  
Chandra X-Ray Center

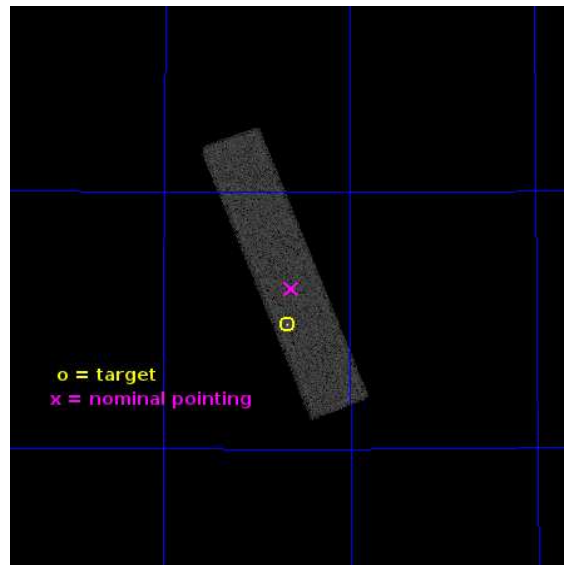
L2 Processing Date : Oct 20 2015

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# 1 Front

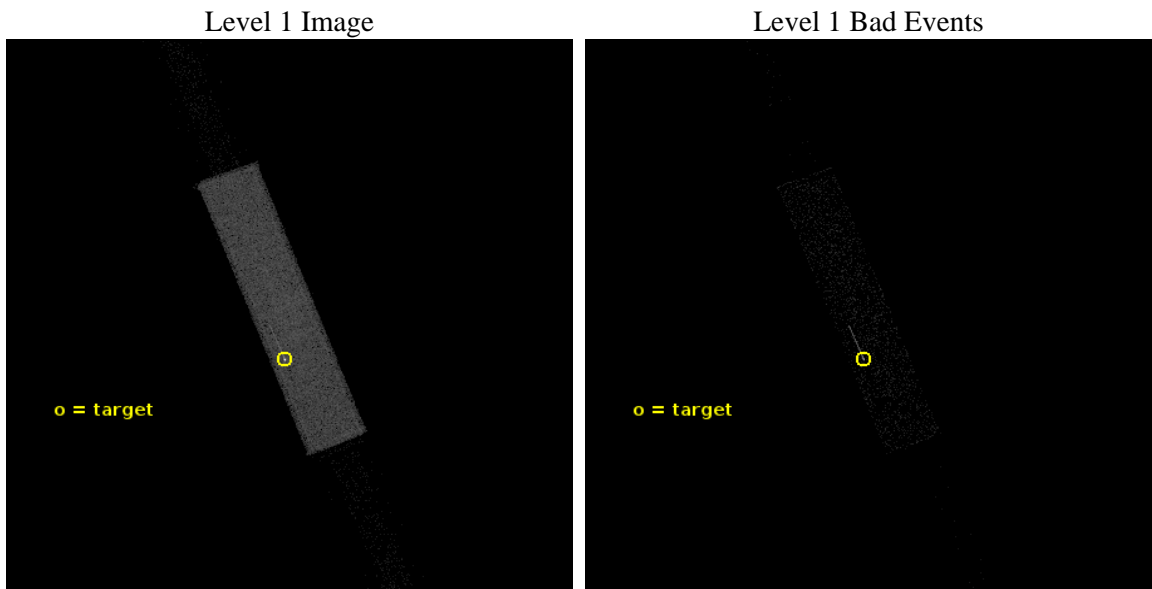
|          |  |                                       |
|----------|--|---------------------------------------|
| seq_num  | 291215   | Sequence number                       |
| obs_id   | 17342  | Observation id                        |
| title    | AO-16 Calibration Observations to Monitor the Spatial Variations in the HRC-S Gain | Proposal title                        |
| observer | Dr. CXC Calibration  | Principal investigator                |
| object   | ArLac  | Source name                           |
| ra_targ  | 332.17   | Observer's specified target RA [deg]  |
| dec_targ | 45.742306  | Observer's specified target Dec [deg] |
| ra_nom   | 332.15747215702  | Nominal RA [deg]                      |
| dec_nom  | 45.812046738076  | Nominal Dec [deg]                     |
| roll_nom | 248.50048637898  | Nominal Roll [deg]                    |
| revision | 1  | Processing version of data            |
| ontime   | 1157.4813156128  | [s]                                   |
| livetime | 1150.437048186   | Ontime multiplied by DTCOR            |
| l2events | 53295  | Number of level 2 events              |



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 1000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 10.4.2.1            | Processing system revision     | ontime         | 1157.4813156128 | [s]                                     |
| caldbver | 4.6.10a             | &#160                          | l1events       | 82661           | Number of level 1 events                |
| date     | 2015-10-20T22:46:12 | Date and time of file creation |                |                 |   |
| revision | 1                   | Processing version of data     |                |                 |   |

### 2.1.3 Events

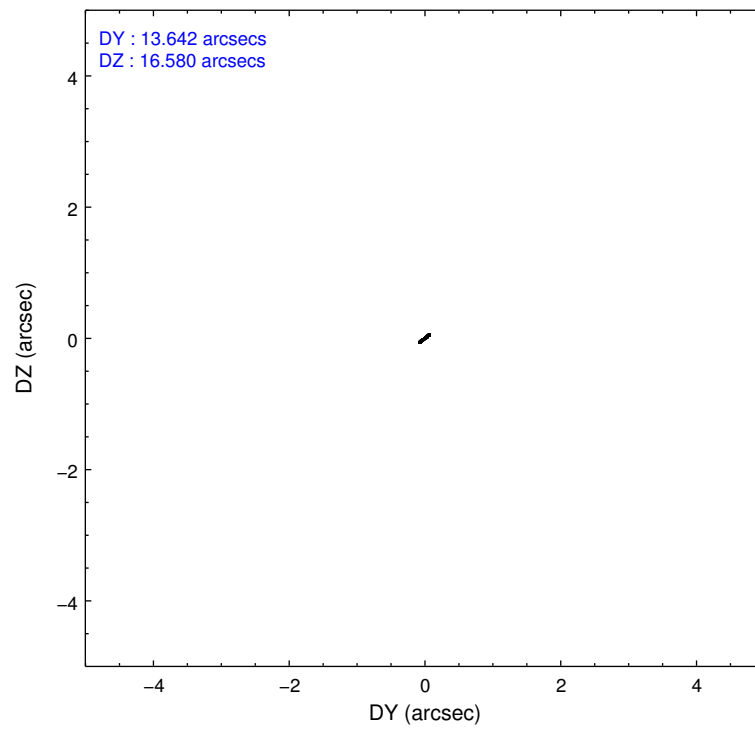
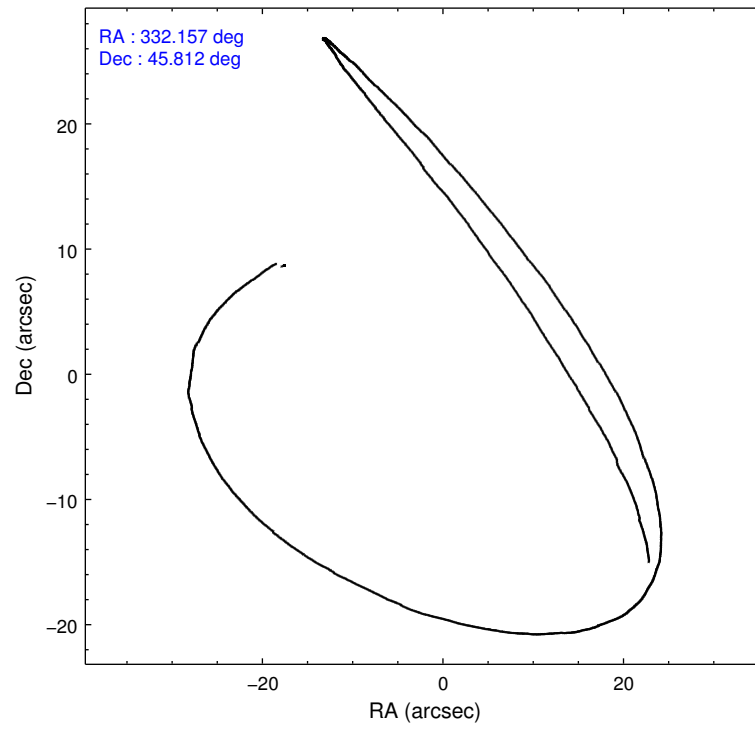
Level 1 Events

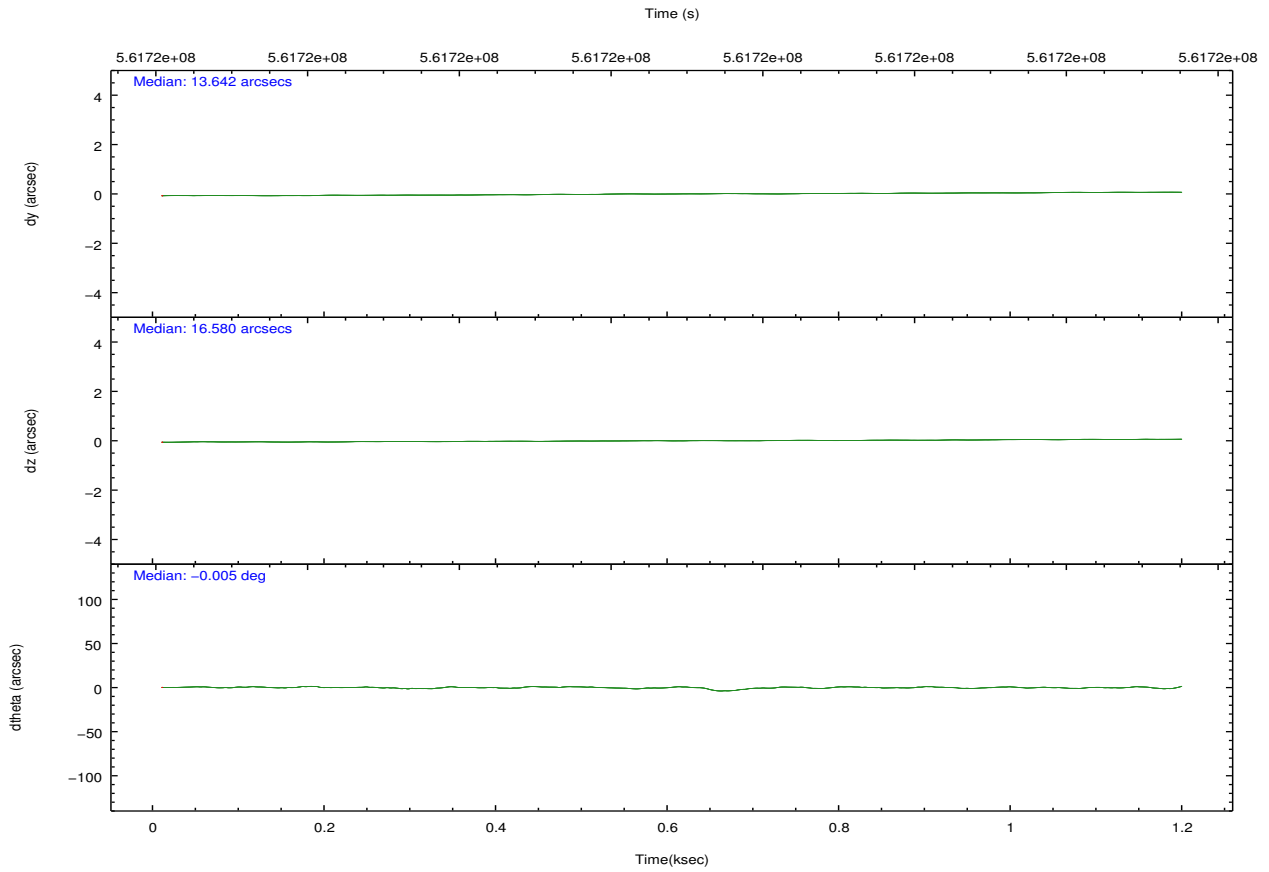
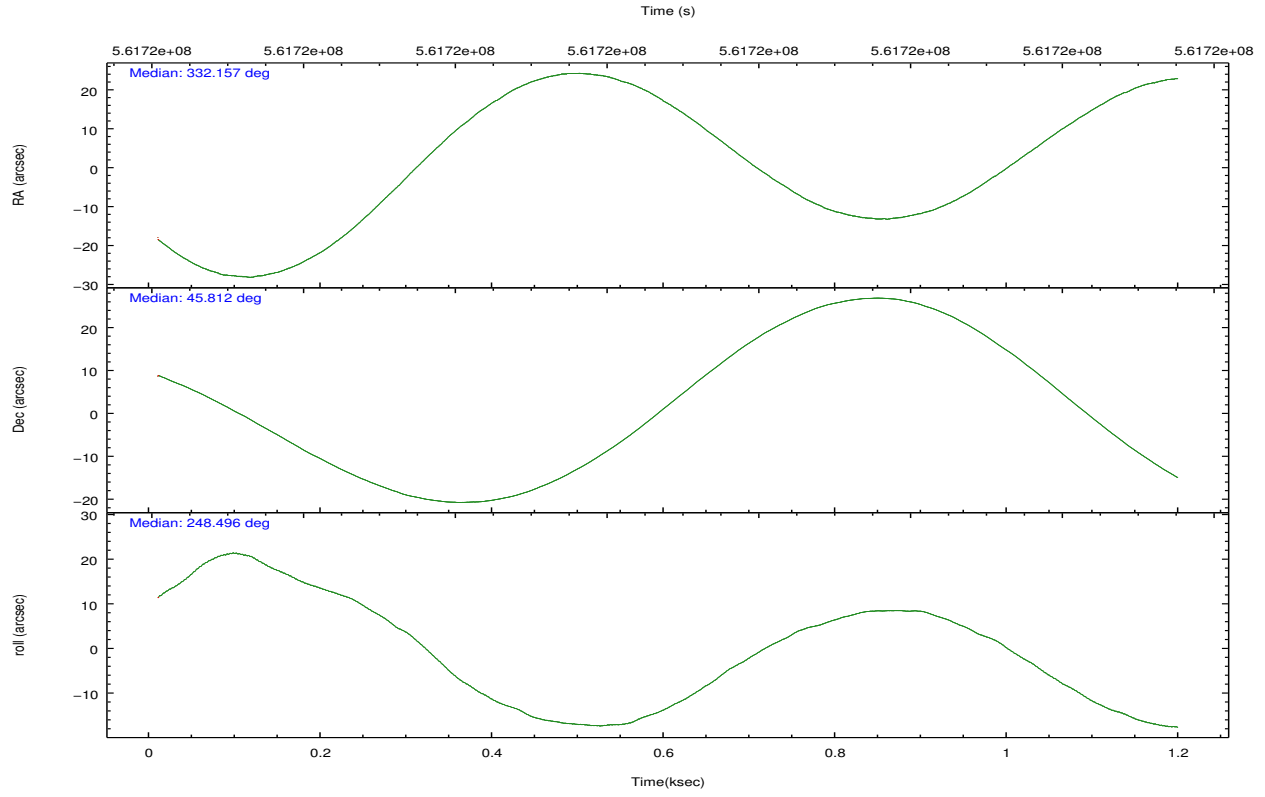
|                 | <b>segment<br/>1</b> | <b>segment<br/>2</b> | <b>segment<br/>3</b> |
|-----------------|----------------------|----------------------|----------------------|
| level 1 events  | 755                  | 81237                | 669                  |
| rejected events | 755                  | 18681                | 669                  |
| rejected %      | 100%                 | 22%                  | 100%                 |

## 2.2 Compared Parameters

| Parameter                         | Planned               | Actual               | Parameter                    | Planned   | Actual  |
|-----------------------------------|-----------------------|----------------------|------------------------------|-----------|---------|
| Instrument                        | HRC                   | HRC                  | Obspar format version number | 7         | 7       |
| Detector                          | HRC-S                 | HRC-S                | Obspar file type             | PREDICTED | ACTUAL  |
| Grating                           | NONE                  | NONE                 | Obspar update status         | NONE      | UPDATED |
| Data mode                         | OBSERVING             | OBSERVING            |                              |           |         |
| Observation mode                  | POINTING              | POINTING             |                              |           |         |
| [deg] Pointing RA                 | 332.149990            | 332.1574721570183    |                              |           |         |
| [deg] Pointing Dec                | 45.840292             | 45.81204673807632    |                              |           |         |
| [deg] Pointing Roll               | 248.438469            | 248.5004863789783    |                              |           |         |
| [mm] SIM focus pos                | -1.533336             | -1.526339935833849   |                              |           |         |
| [mm] SIM defocus                  | 7.710433287538843e-07 | 0.006996703570447904 |                              |           |         |
| [mm] SIM translation stage pos    | 250.455976            | 250.466033080201     |                              |           |         |
| [mm] SIM translation stage offset | 0                     | -0.01005468664627074 |                              |           |         |
| [s] Observation start time (MET)  | 561715273.184000      | 561714897.10917      |                              |           |         |
| Observation start date            | 2015-10-20T08:00:05   | 2015-10-20T07:54:57  |                              |           |         |
| [s] Observation end time (MET)    | 561716273.184000      | 561716406.93426      |                              |           |         |
| Observation end date              | 2015-10-20T08:16:45   | 2015-10-20T08:20:06  |                              |           |         |

## 2.3 Aspect





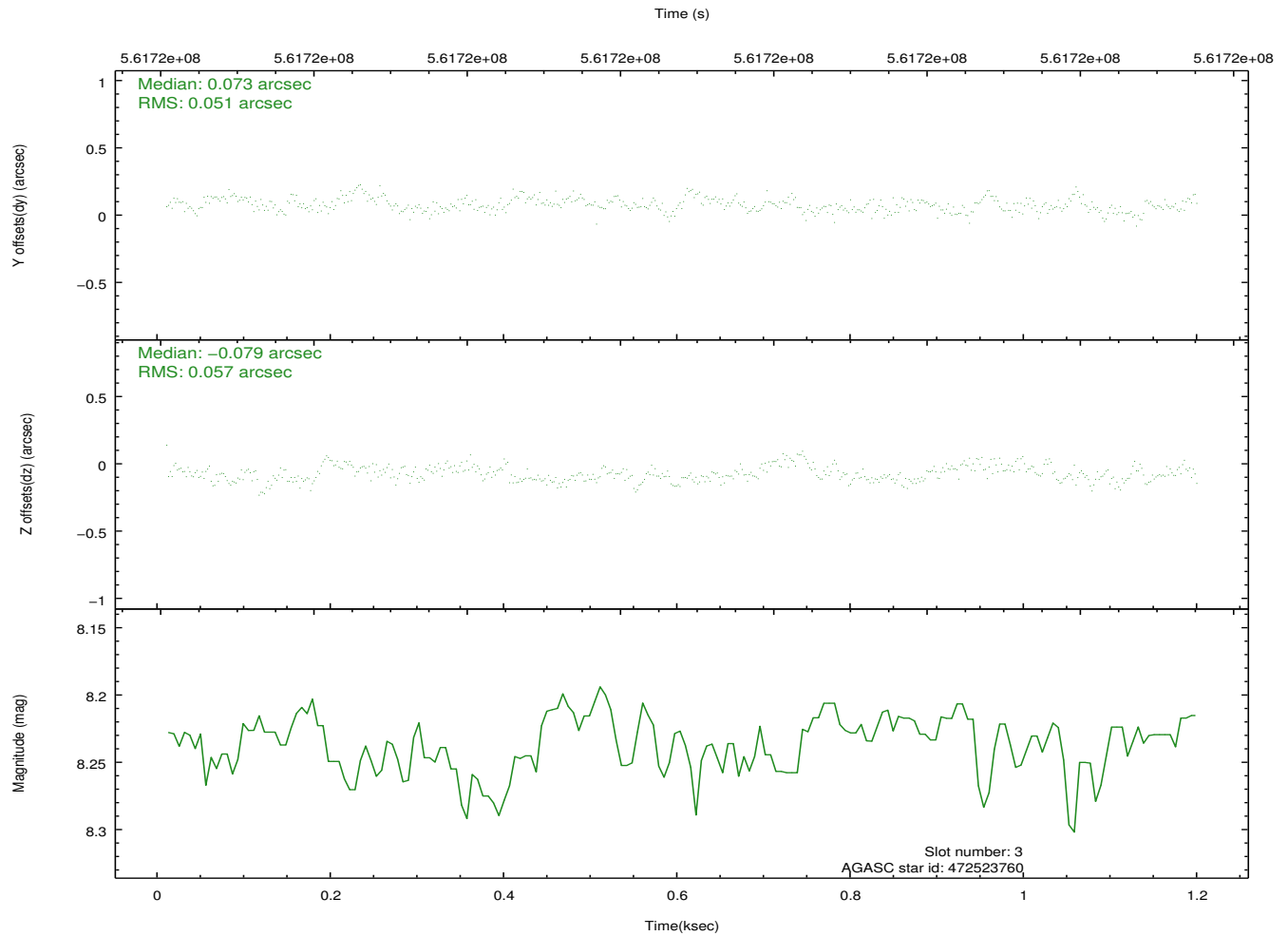
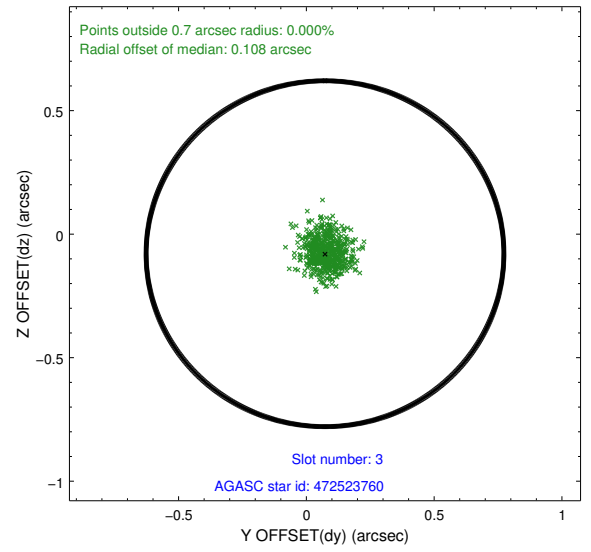
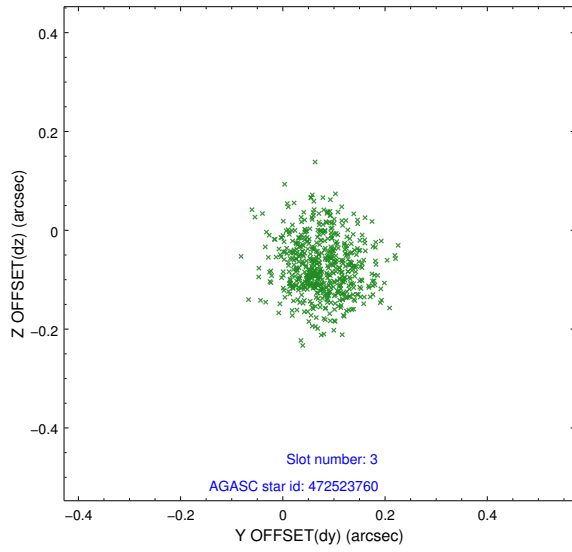
### Slot Statistics

| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    |      | HRC-S-1   | 7.03 | 291   | -0.117 | -0.178 | 0.005 | 0.008 | 0.000000   | 0.000000  | -1168.17 | -465.52  |
| 1    | FID    |      | HRC-S-2   | 7.00 | 291   | 0.210  | -0.103 | 0.009 | 0.017 | 0.000000   | 0.000000  | 1227.80  | -459.62  |
| 2    | FID    |      | HRC-S-4   | 6.98 | 291   | 0.309  | -0.023 | 0.008 | 0.015 | 0.000000   | 0.000000  | 1234.68  | 565.21   |
| 3    | GUIDE  | used | 472523760 | 8.24 | 581   | 0.073  | -0.079 | 0.080 | 0.133 | 331.645363 | 45.403260 | 1928.52  | -607.75  |
| 4    | GUIDE  | used | 472535576 | 7.85 | 581   | -0.023 | 0.139  | 0.073 | 0.115 | 331.438373 | 46.291802 | -865.06  | -2245.71 |
| 5    | GUIDE  | used | 472536328 | 8.12 | 581   | 0.053  | 0.218  | 0.091 | 0.150 | 331.496671 | 46.454831 | -1469.55 | -2324.39 |
| 6    | GUIDE  | used | 472655152 | 9.40 | 580   | -0.009 | -0.093 | 0.155 | 0.261 | 332.504239 | 45.862991 | -406.73  | 793.01   |
| 7    | GUIDE  | used | 472665256 | 8.99 | 580   | -0.088 | -0.182 | 0.160 | 0.342 | 332.808125 | 46.195041 | -1797.60 | 1056.39  |

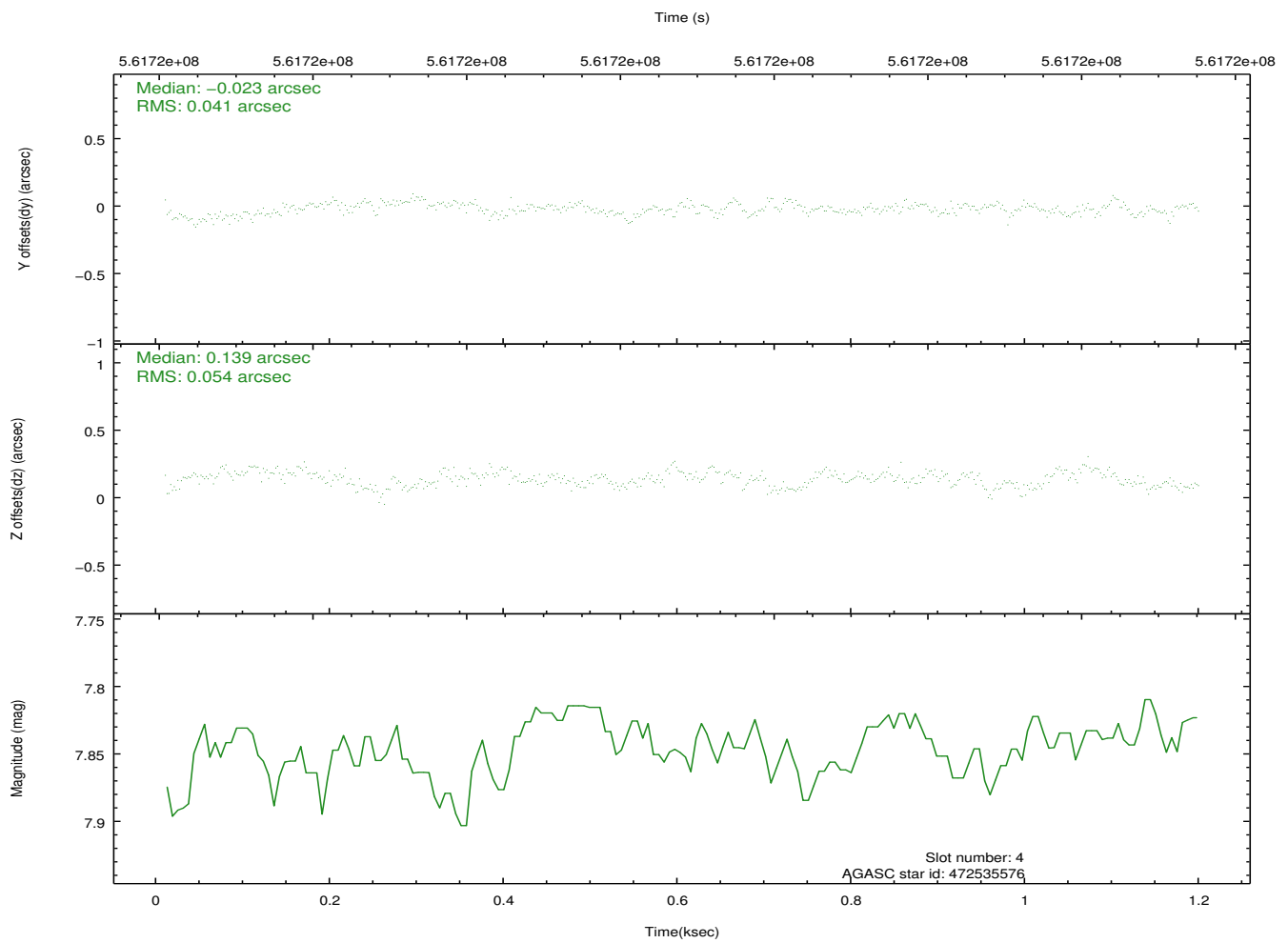
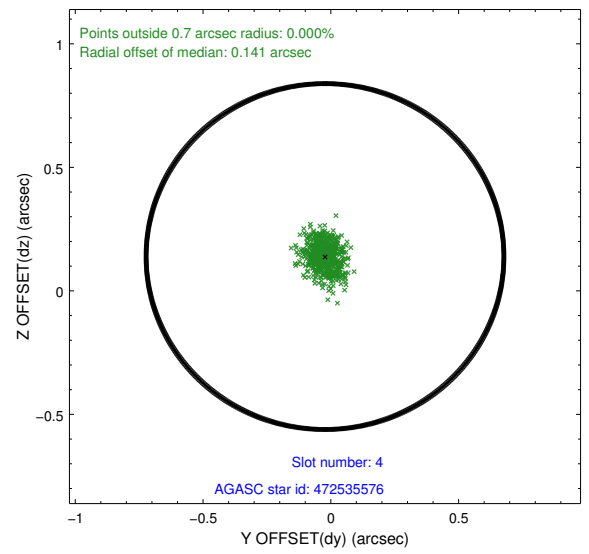
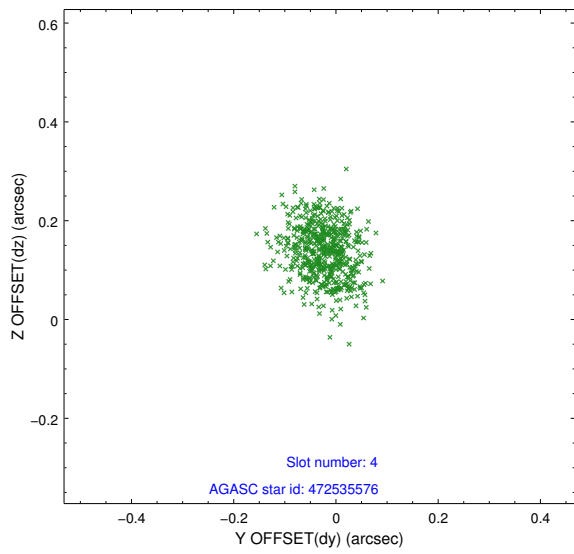
∞

## 2.4 Star Slots

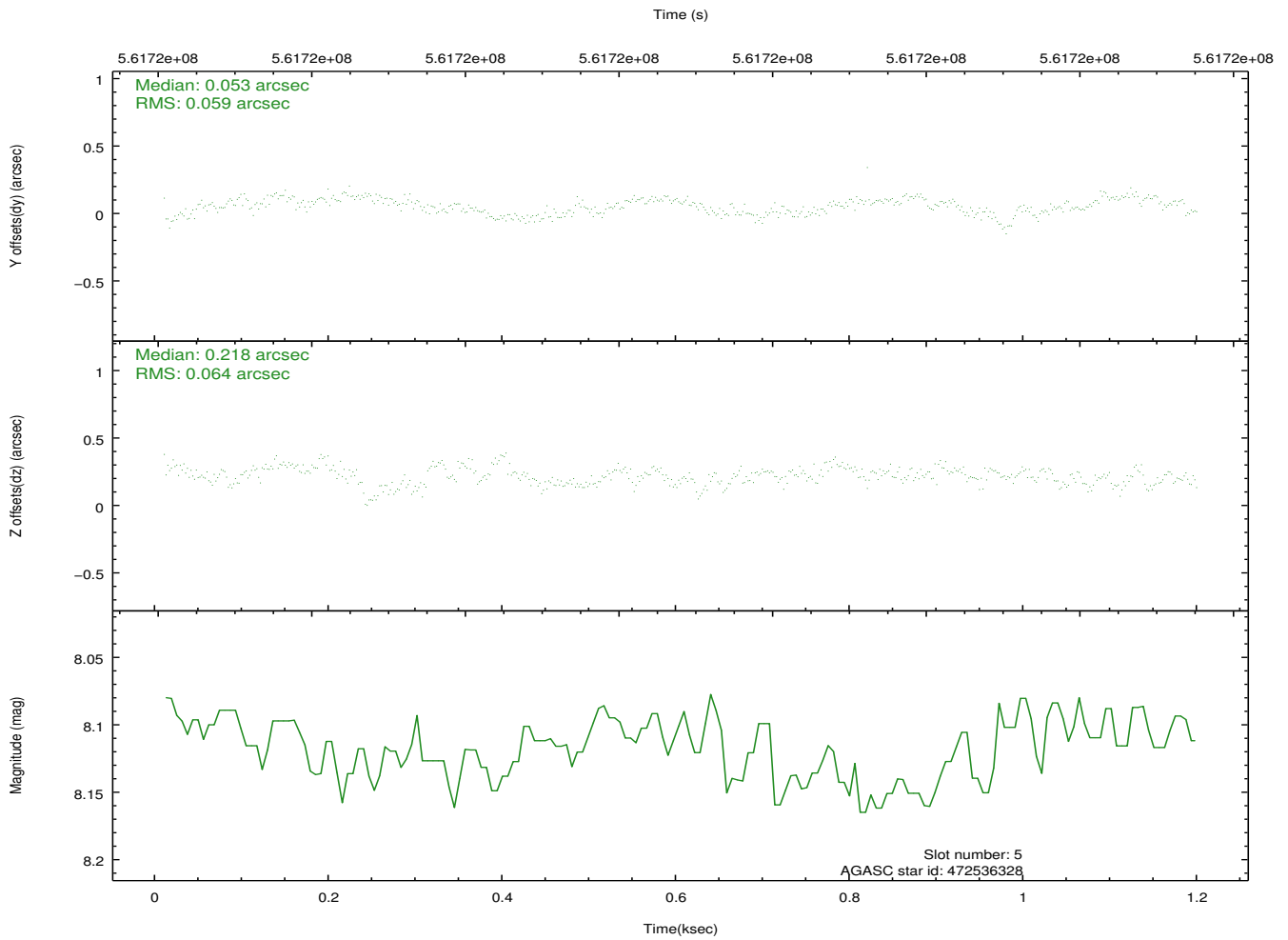
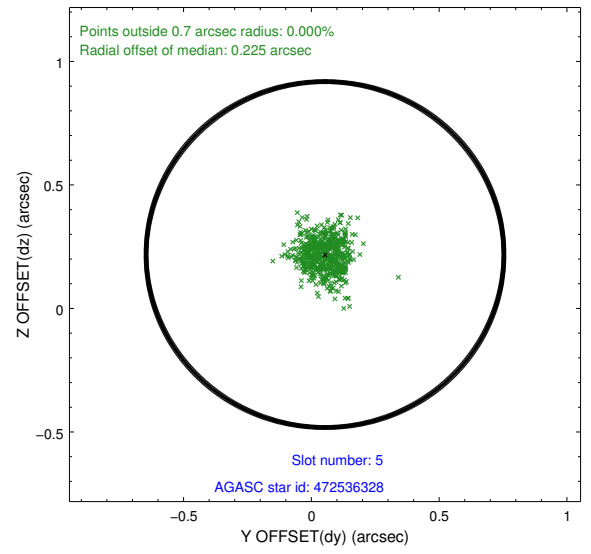
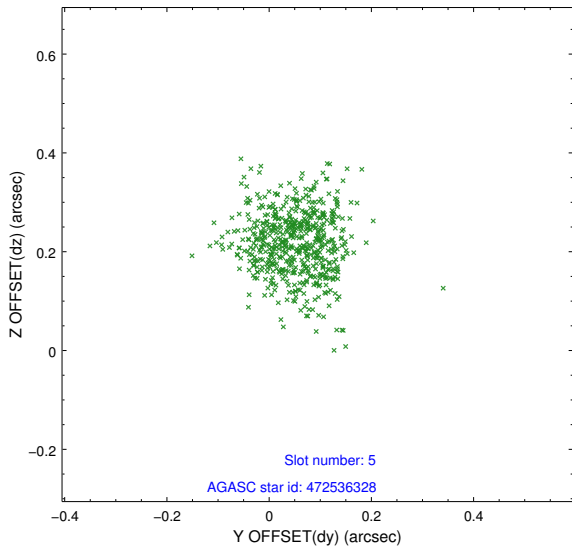
### 2.4.1 Slot 3



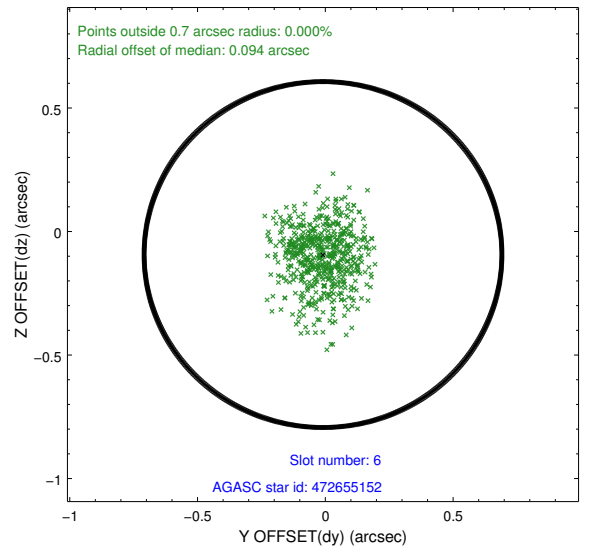
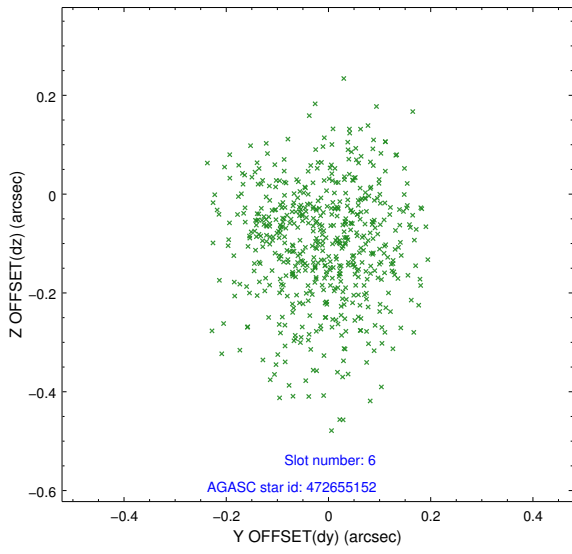
## 2.4.2 Slot 4



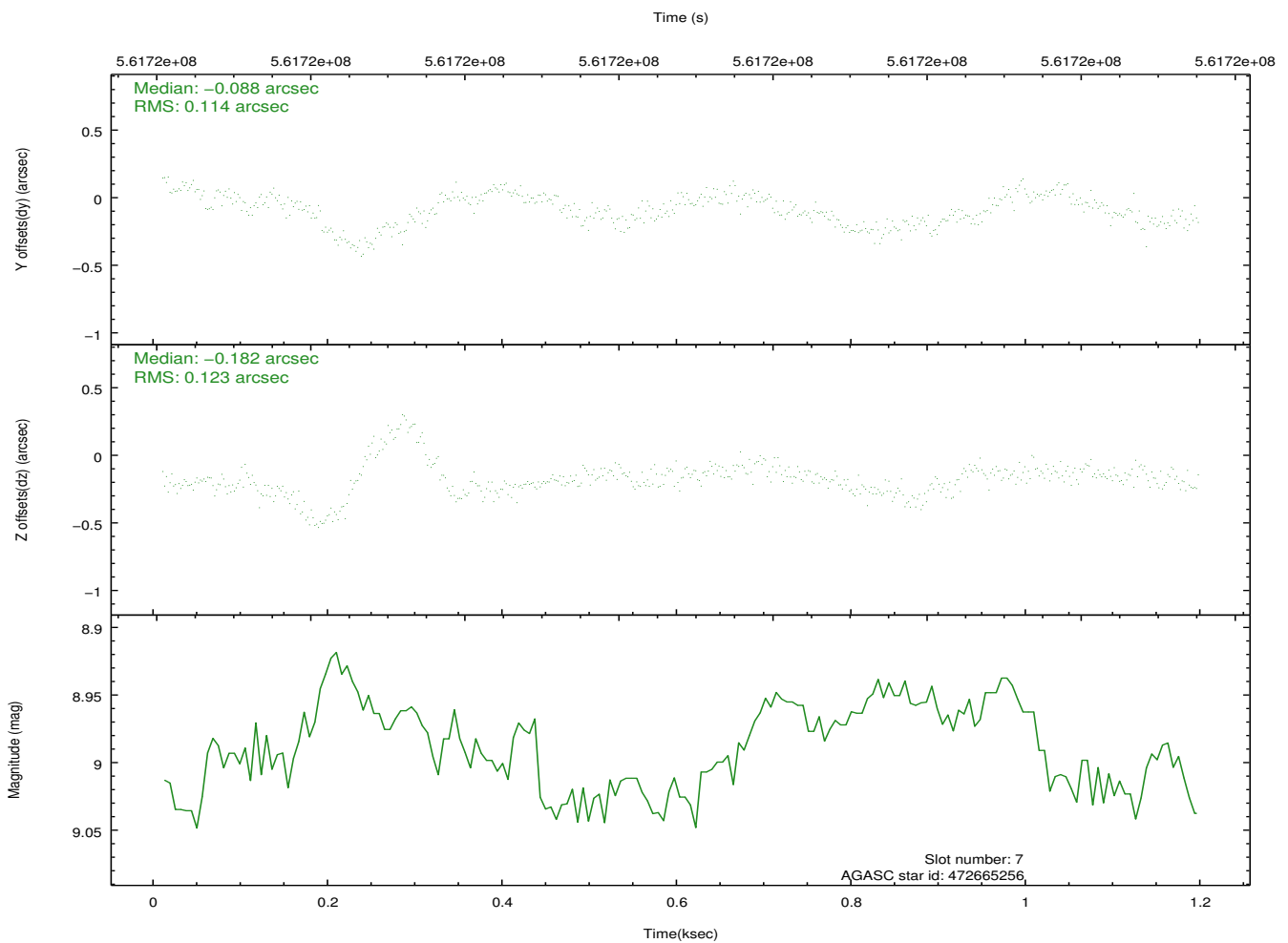
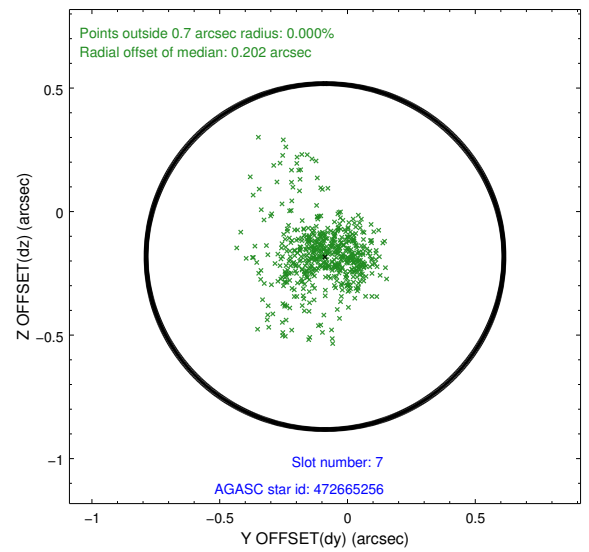
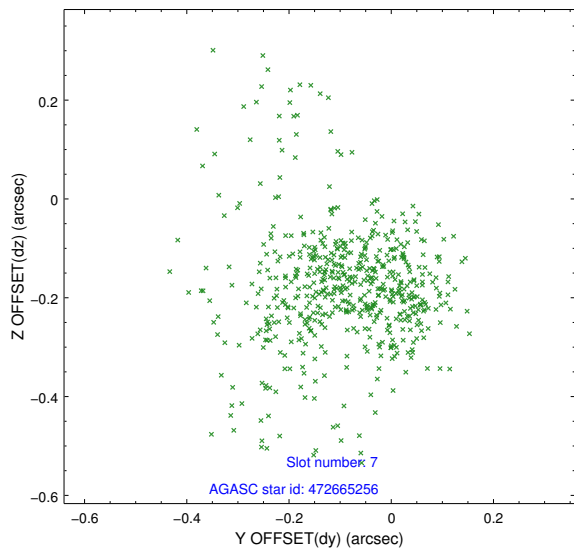
### 2.4.3 Slot 5



## 2.4.4 Slot 6

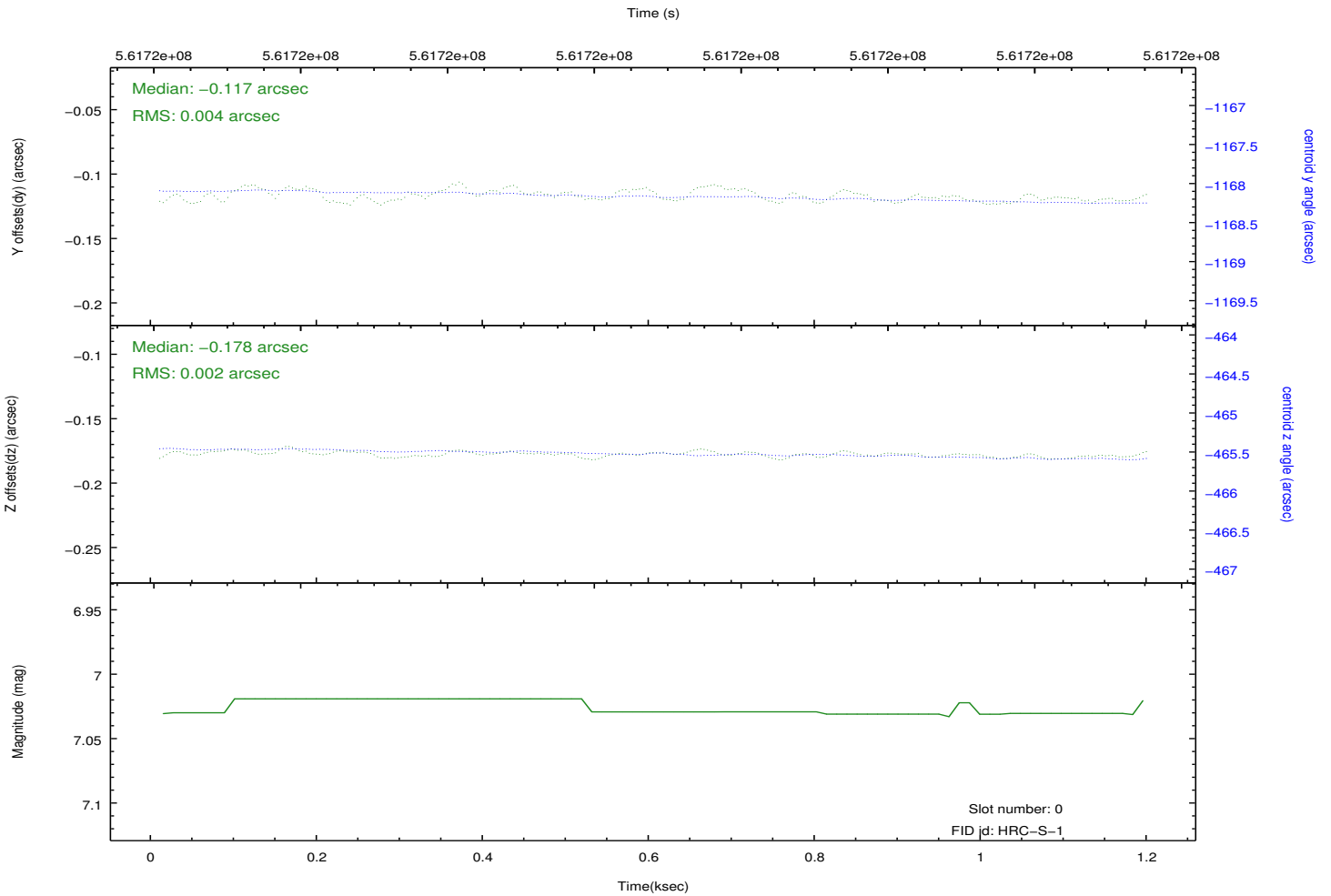
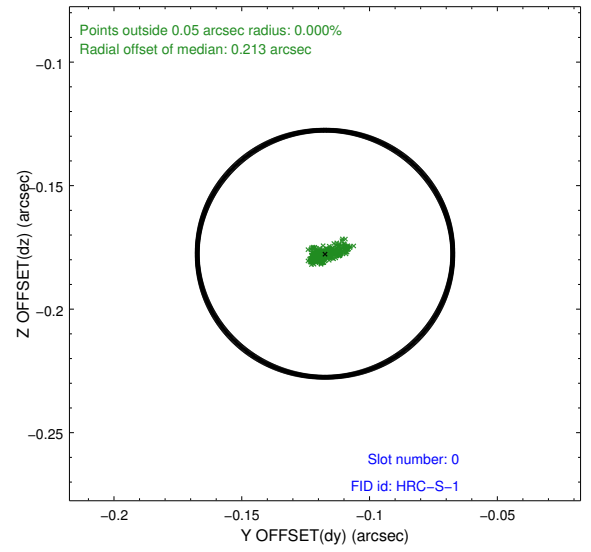
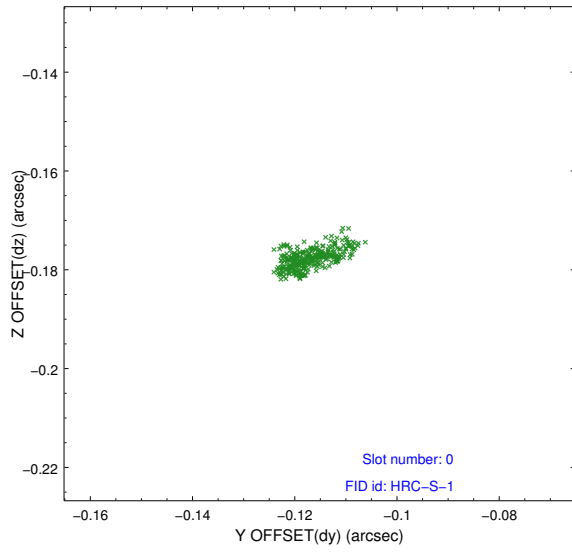


## 2.4.5 Slot 7

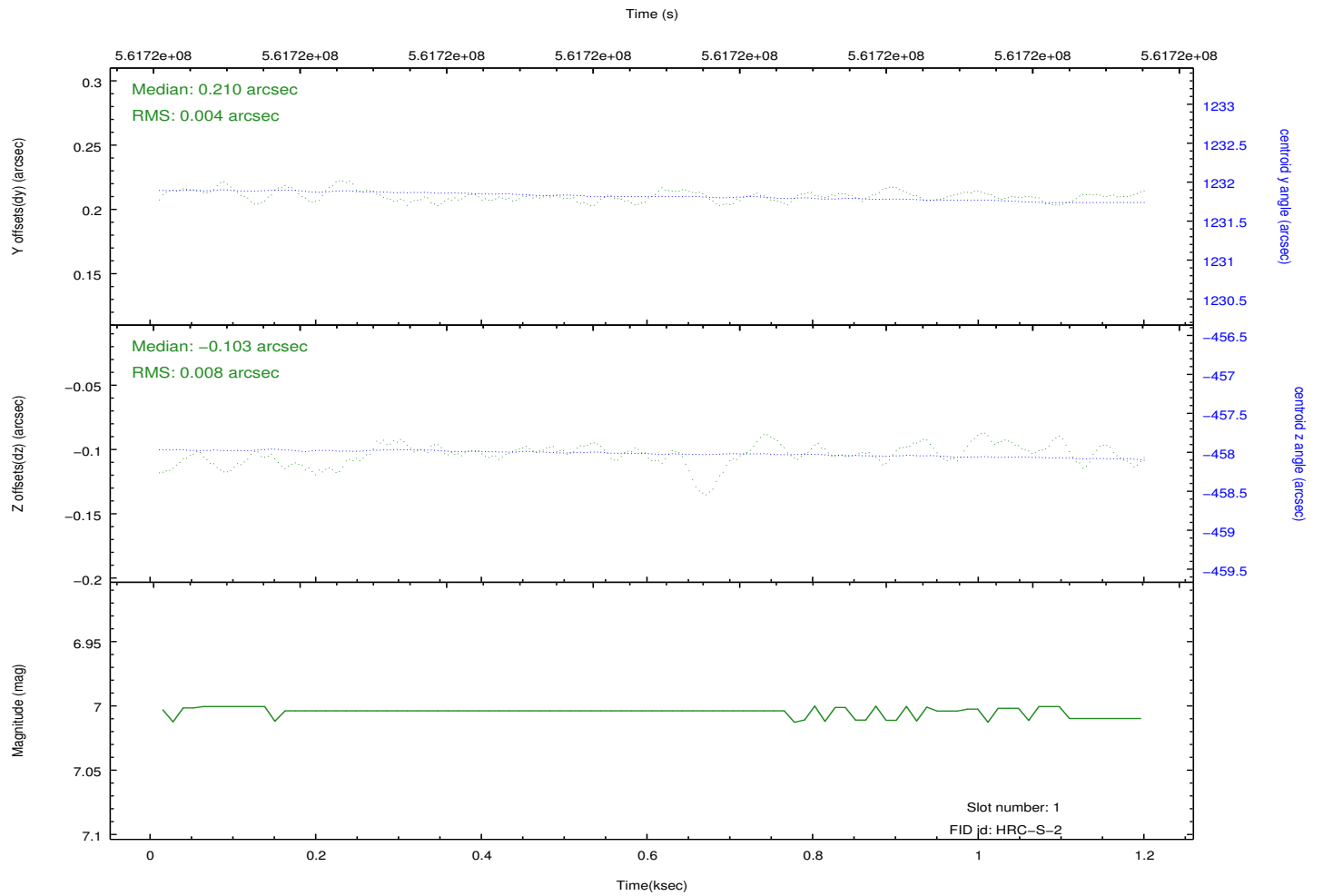
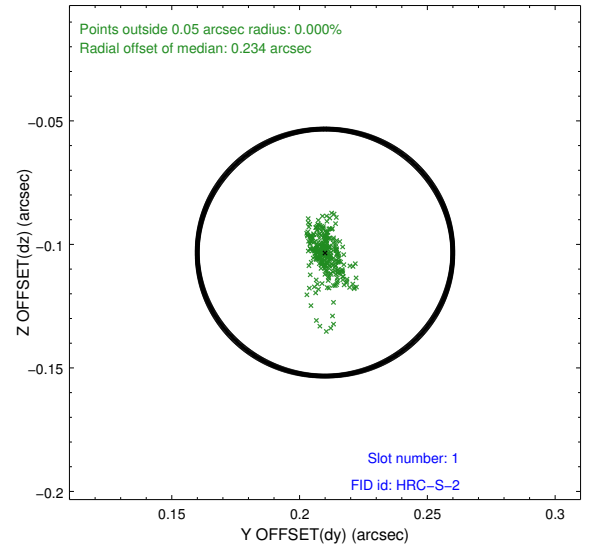
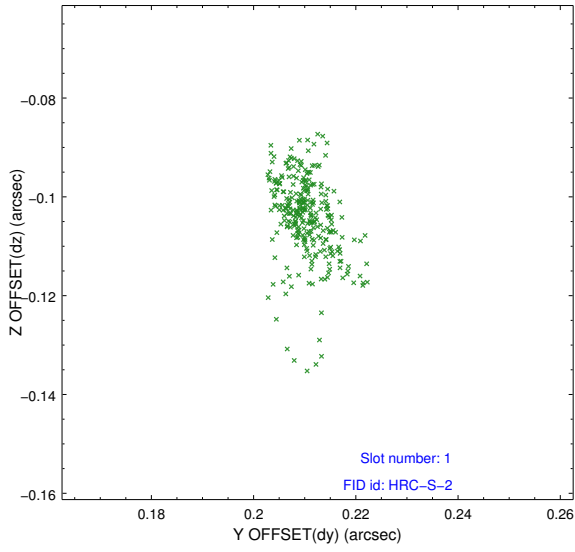


## 2.5 FID Slots

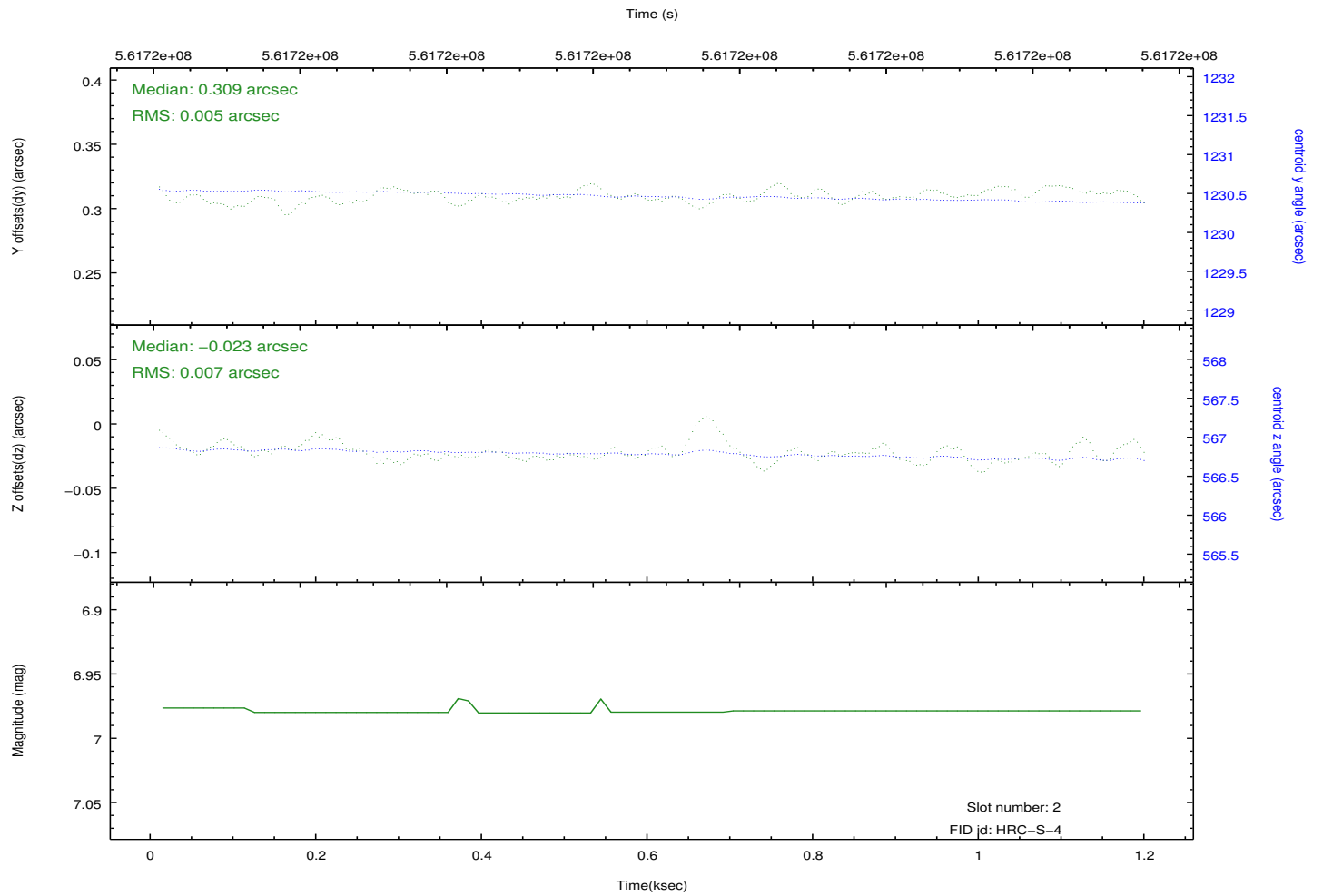
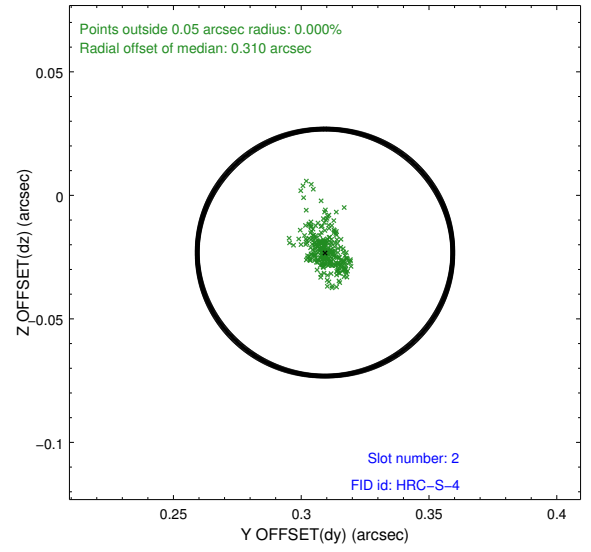
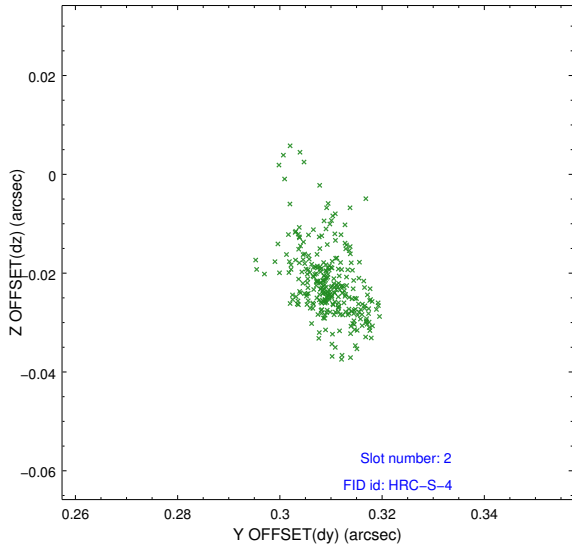
### 2.5.1 Slot 0



## 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)      | 2015.10.21      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 1.1574813156128 |

## A.2 Comments