

# V&V Reference Report

## L2 ASCDS Version : 10.5.1.1

Observation 18363 - L2 Version 1  
Chandra X-Ray Center

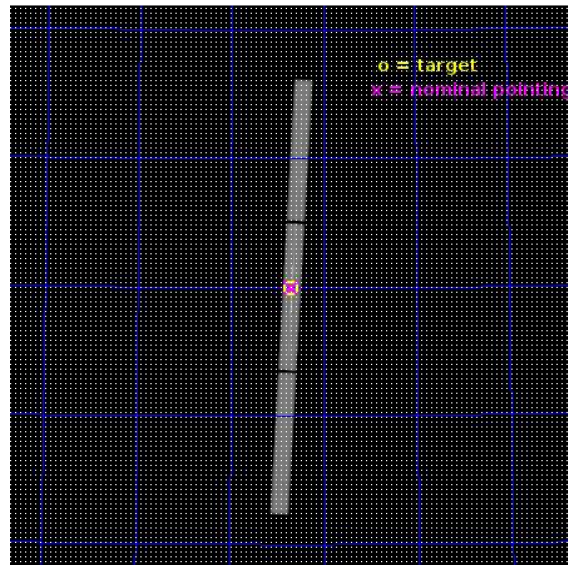
L2 Processing Date : Sep 10 2016

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# 1 Front

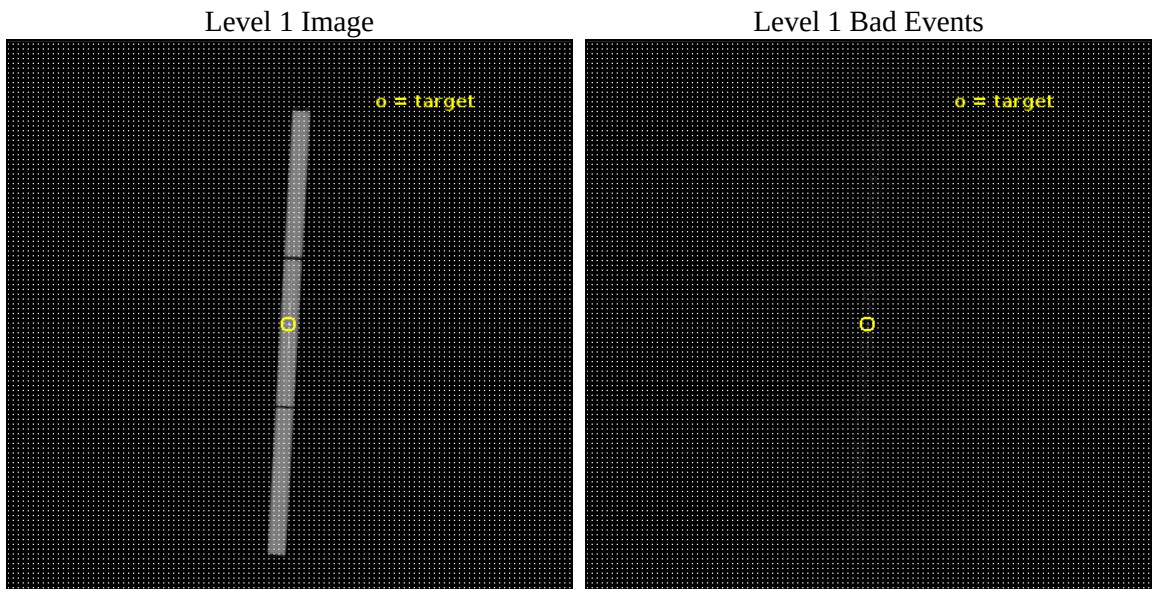
|          |                                        |                                          |
|----------|----------------------------------------|------------------------------------------|
| seq_num  | 291258                                 | Sequence number                          |
| obs_id   | 18363                                  | Observation id                           |
| title    | AO-17 Internal Cross-Calibration Study | Proposal title                           |
| observer | Dr. CXC Calibration                    | Principal investigator                   |
| object   | Capella                                | Source name                              |
| ra_targ  | 79.172917                              | Observer's specified target<br>RA [deg]  |
| dec_targ | 45.996389                              | Observer's specified target<br>Dec [deg] |
| ra_nom   | 79.172944903537                        | Nominal RA [deg]                         |
| dec_nom  | 45.998302701249                        | Nominal Dec [deg]                        |
| roll_nom | 92.997320230844                        | Nominal Roll [deg]                       |
| revision | 1                                      | Processing version of data               |
| ontime   | 10145.450583816                        | [s]                                      |
| livetime | 10056.962986191                        | Ontime multiplied by<br>DTCOR            |
| l2events | 814529                                 | Number of level 2 events                 |



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

|          |                     |                                |                |                      |                                         |
|----------|---------------------|--------------------------------|----------------|----------------------|-----------------------------------------|
| obi_num  | 2                   | Obi number                     | sched_exp_time | 10000.000000         | [s] Scheduled observation exposure time |
| ascdsver | 10.5.1.1            | Processing system revision     | ontime         | 10145.450583816      | [s]                                     |
| caldbver | 4.7.2               | &#160                          | l1events       | 1006592              | Number of level 1 events                |
| date     | 2016-09-10T16:11:22 | Date and time of file creation | tgmethod       | TGDETECT             | Method used to create src1a file        |
| revision | 1                   | Processing version of data     | zo_pos         | (32769.74, 32704.03) | src1a sky pixel position                |

### 2.1.3 Events

Level 1 Events

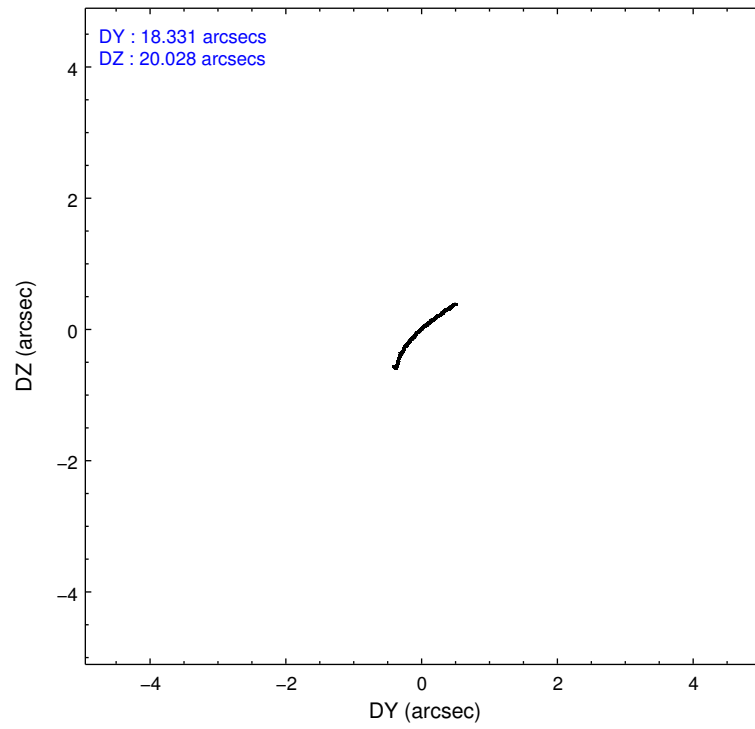
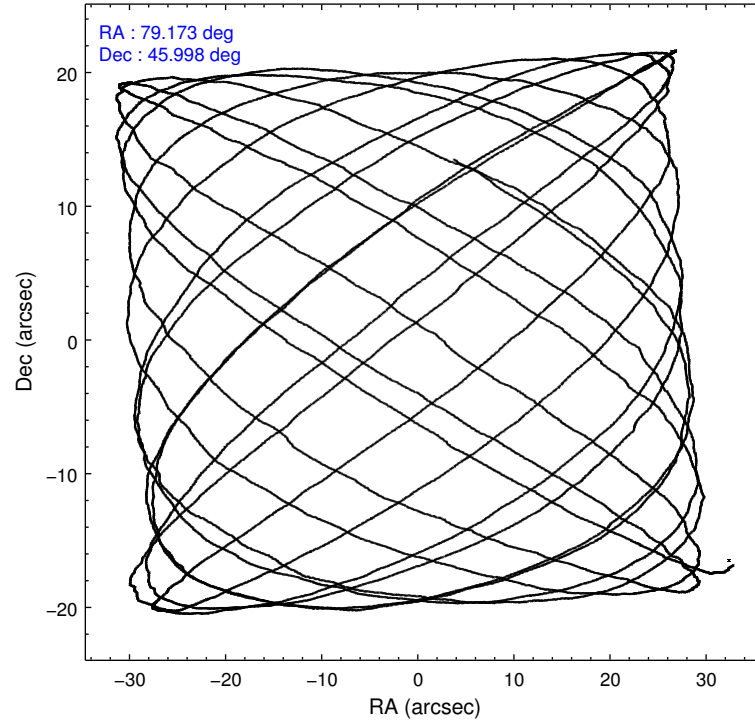
|                 | segment<br>1 | segment<br>2 | segment<br>3 |
|-----------------|--------------|--------------|--------------|
| level 1 events  | 312598       | 379592       | 314402       |
| rejected events | 2350         | 2863         | 2382         |
| rejected %      | 0%           | 0%           | 0%           |

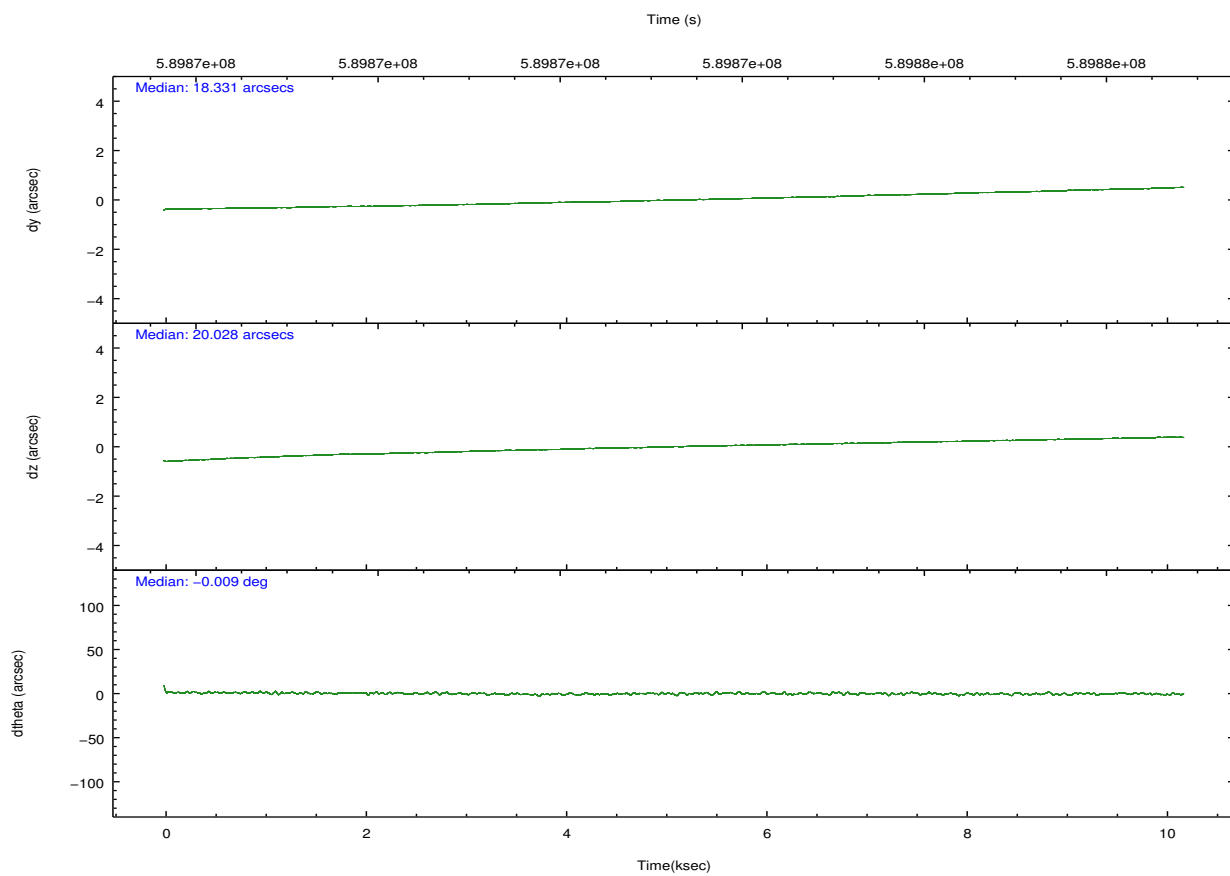
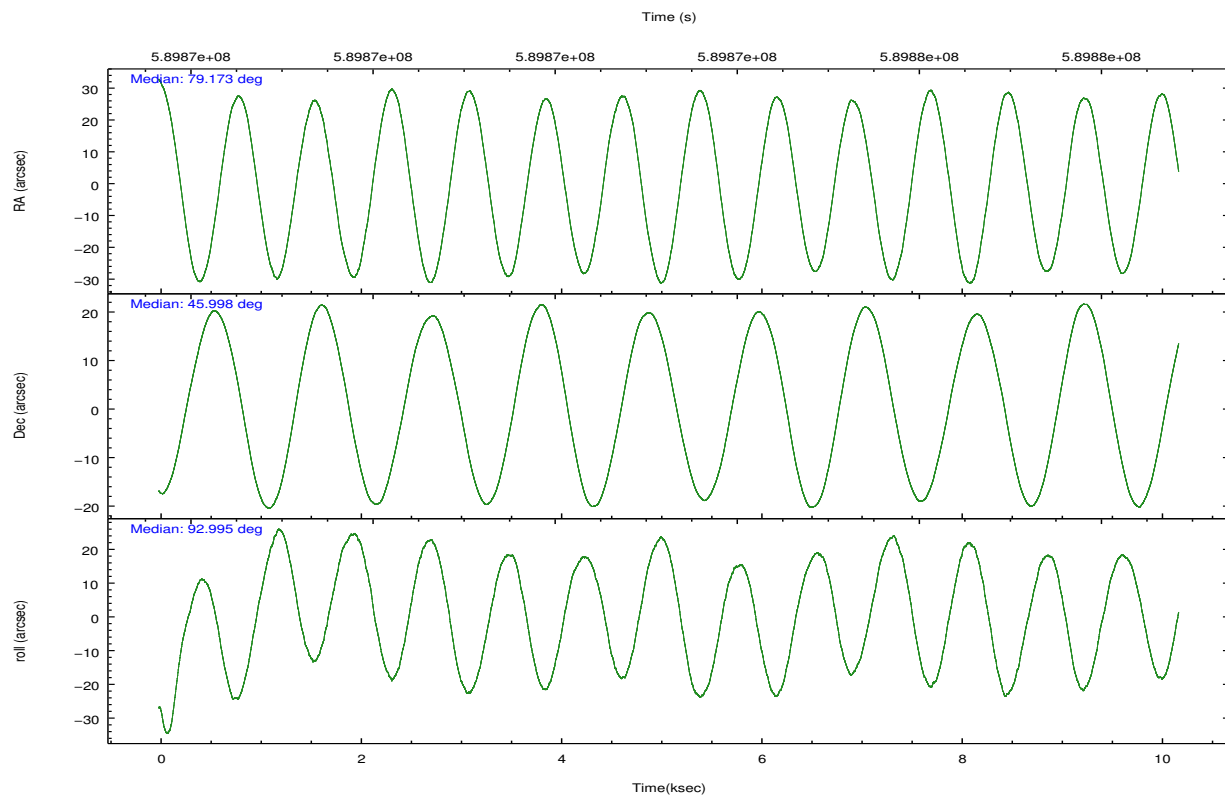


## 2.2 Compared Parameters

| 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                           | LETG                | LETG                 | Obspar update status         | NONE      | UPDATED |
| Data mode                         | OBSERVING           | OBSERVING            |                              |           |         |
| Observation mode                  | POINTING            | POINTING             |                              |           |         |
| [deg] Pointing RA                 | 79.197111           | 79.1729449035366     |                              |           |         |
| [deg] Pointing Dec                | 45.974948           | 45.99830270124856    |                              |           |         |
| [deg] Pointing Roll               | 92.912605           | 92.99732023084442    |                              |           |         |
| [mm] SIM focus pos                | -1.429586           | -1.428180813131781   |                              |           |         |
| [mm] SIM defocus                  | 0.1037507710433287  | 0.1051558262725154   |                              |           |         |
| [mm] SIM translation stage pos    | 250.455976          | 250.466033080201     |                              |           |         |
| [mm] SIM translation stage offset | 0                   | -0.01005468664627074 |                              |           |         |
| [s] Observation start time (MET)  | 589868323.184000    | 589867857.68847      |                              |           |         |
| Observation start date            | 2016-09-10T04:17:35 | 2016-09-10T04:10:57  |                              |           |         |
| [s] Observation end time (MET)    | 589878323.184000    | 589879107.57662      |                              |           |         |
| Observation end date              | 2016-09-10T07:04:15 | 2016-09-10T07:18:27  |                              |           |         |

## 2.3 Aspect



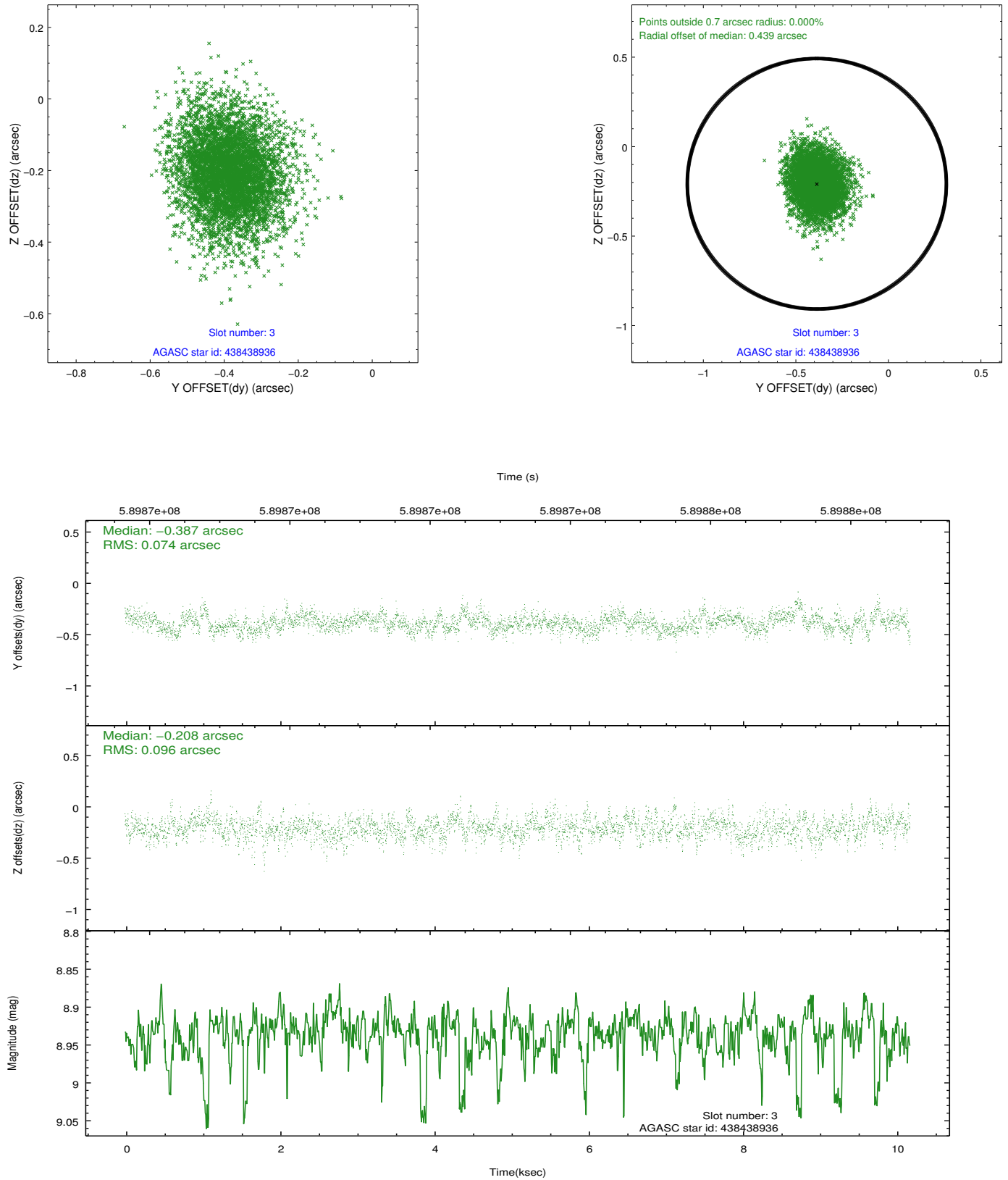


# Slot Statistics

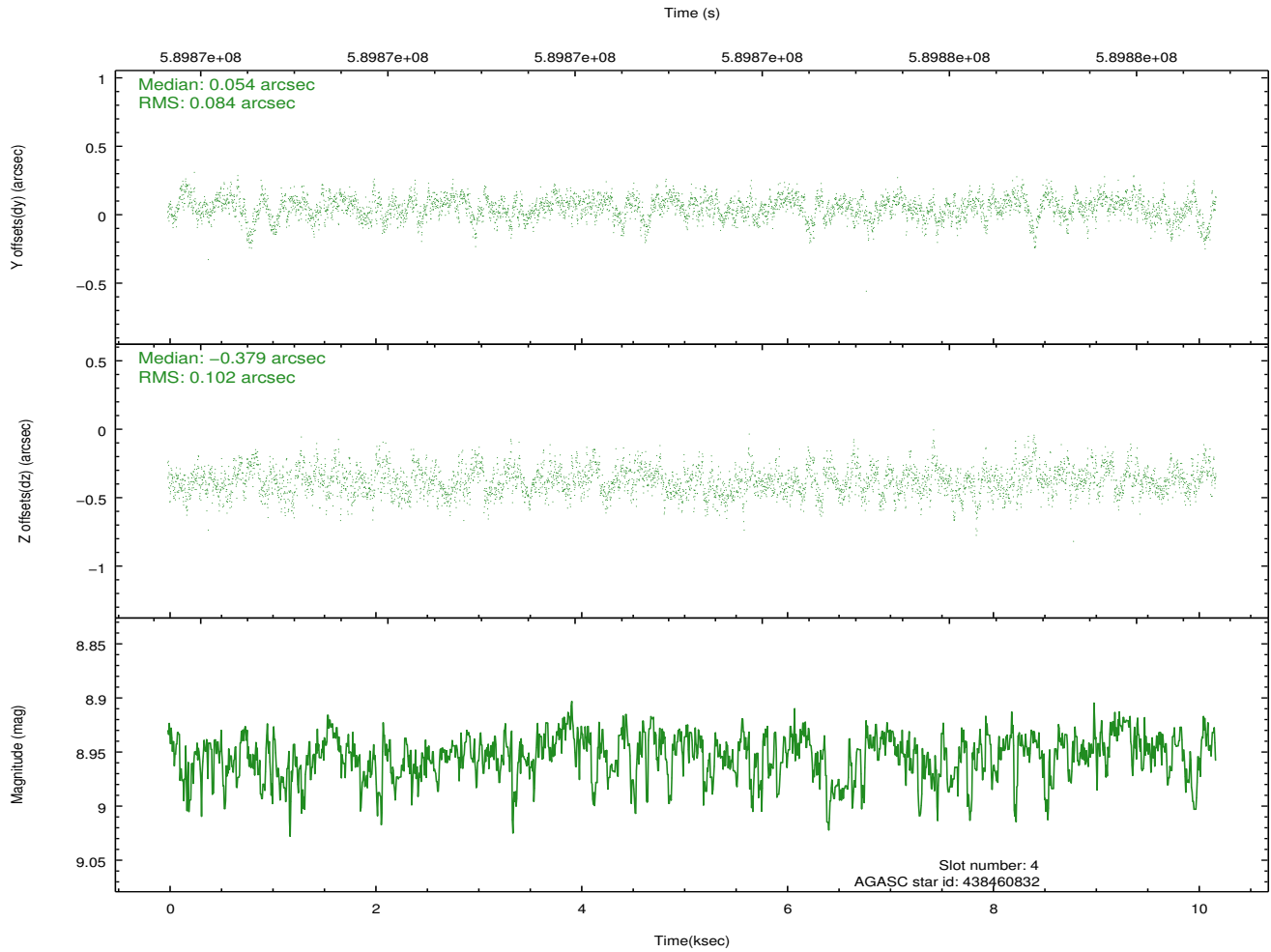
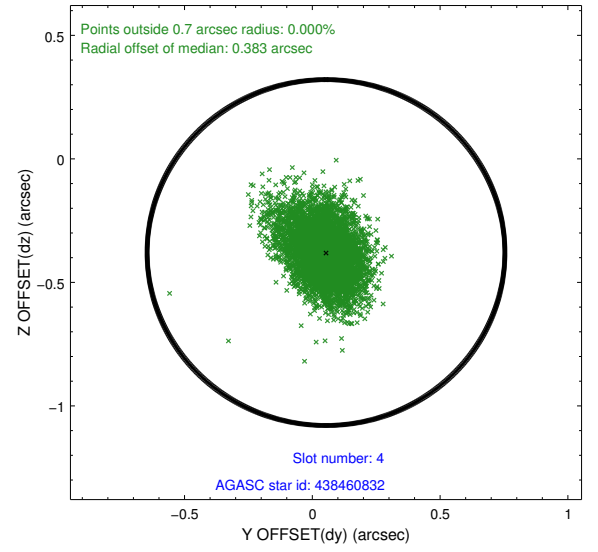
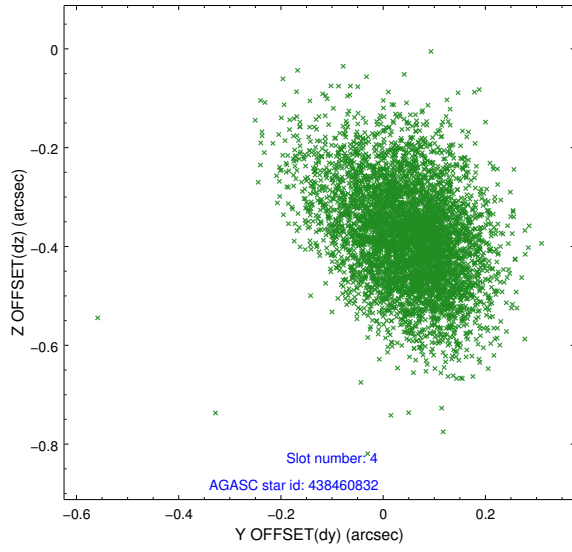
| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0    | FID    |      | HRC-S-1   | 7.04 | 2484  | -0.161 | -0.203 | 0.005 | 0.009 | 0.000000  | 0.000000  | -1173.02 | -469.16  |
| 1    | FID    |      | HRC-S-2   | 7.01 | 2484  | 0.195  | -0.184 | 0.011 | 0.023 | 0.000000  | 0.000000  | 1226.54  | -461.75  |
| 2    | FID    |      | HRC-S-4   | 7.00 | 2484  | 0.369  | 0.083  | 0.010 | 0.021 | 0.000000  | 0.000000  | 1226.17  | 563.24   |
| 3    | GUIDE  | used | 438438936 | 8.93 | 4967  | -0.387 | -0.208 | 0.127 | 0.216 | 78.241026 | 46.550197 | 2202.76  | 2258.36  |
| 4    | GUIDE  | used | 438460832 | 8.95 | 4969  | 0.054  | -0.379 | 0.138 | 0.234 | 78.414614 | 45.554782 | -1400.46 | 2046.61  |
| 5    | GUIDE  | used | 440145944 | 9.05 | 4963  | 0.466  | 0.788  | 0.155 | 0.249 | 80.083717 | 45.428844 | -2064.19 | -2136.43 |
| 6    | GUIDE  | used | 440150048 | 7.11 | 4969  | -0.182 | -0.105 | 0.113 | 0.188 | 79.112838 | 46.416060 | 1596.53  | 128.08   |
| 7    | GUIDE  | used | 440164960 | 8.28 | 4966  | 0.060  | -0.093 | 0.127 | 0.204 | 79.132526 | 46.140947 | 604.95   | 130.73   |

## 2.4 Star Slots

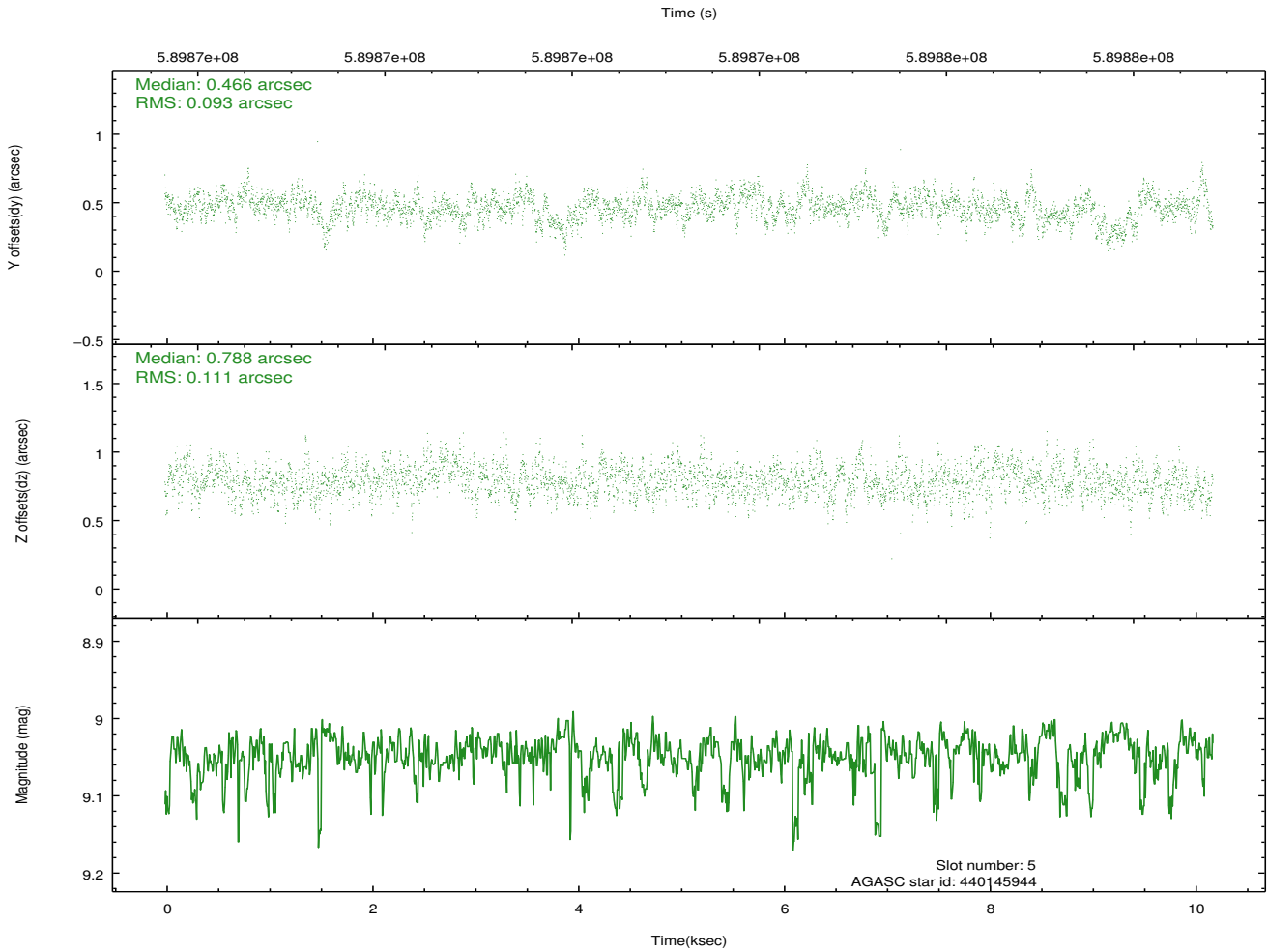
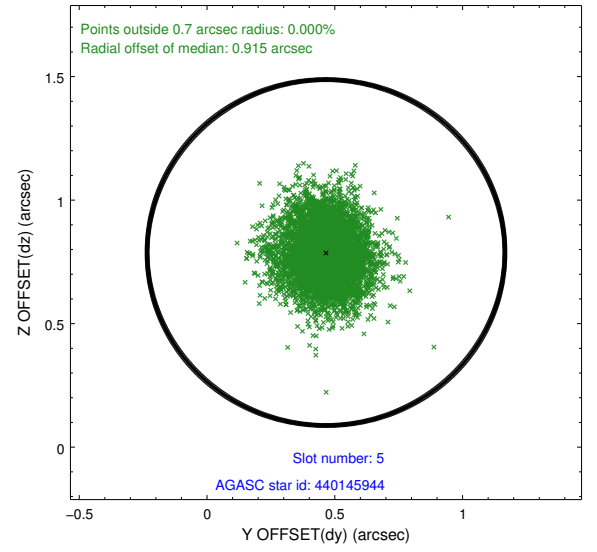
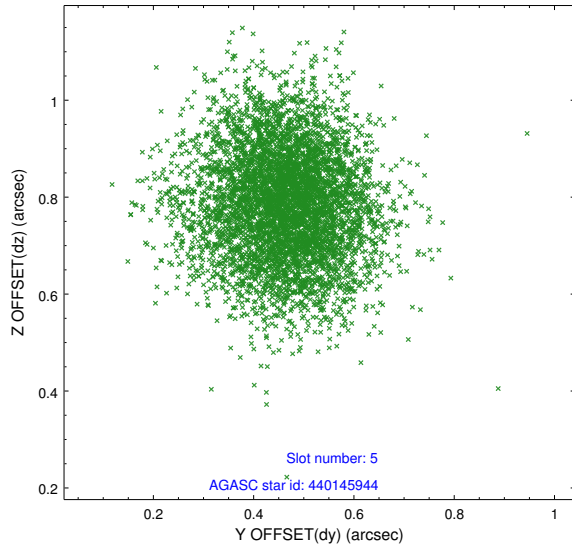
### 2.4.1 Slot 3



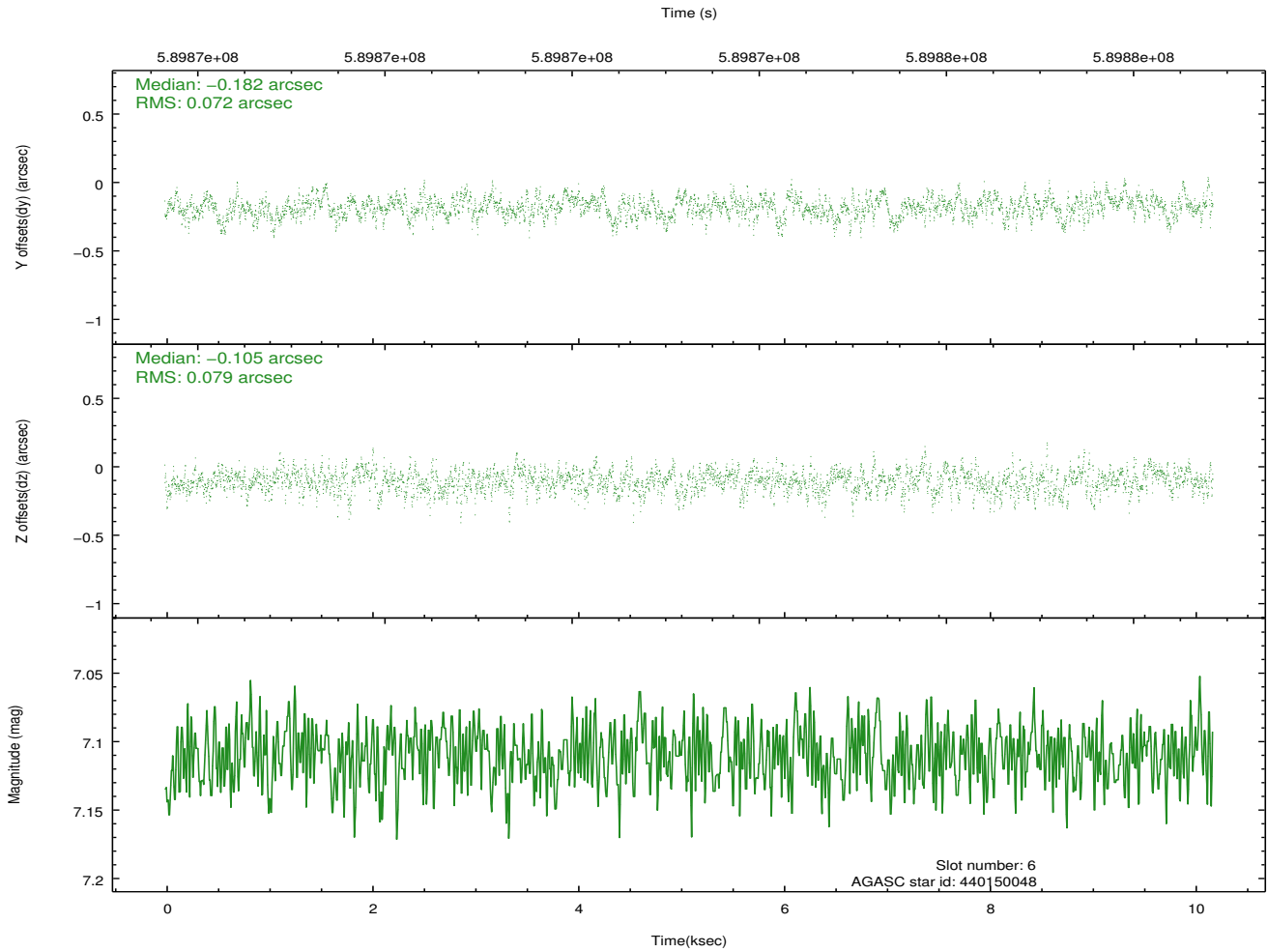
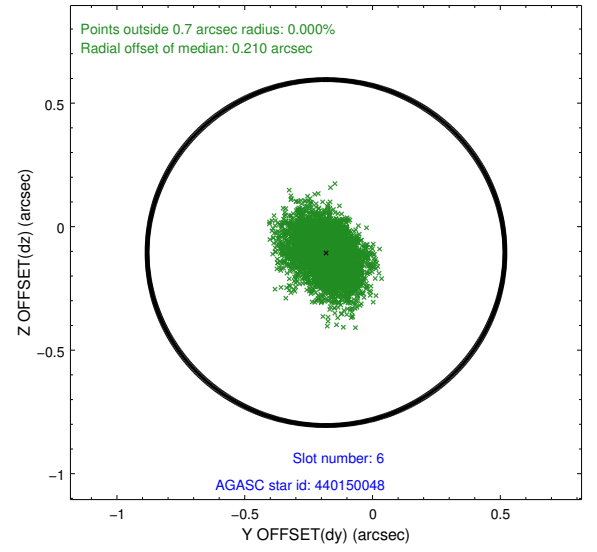
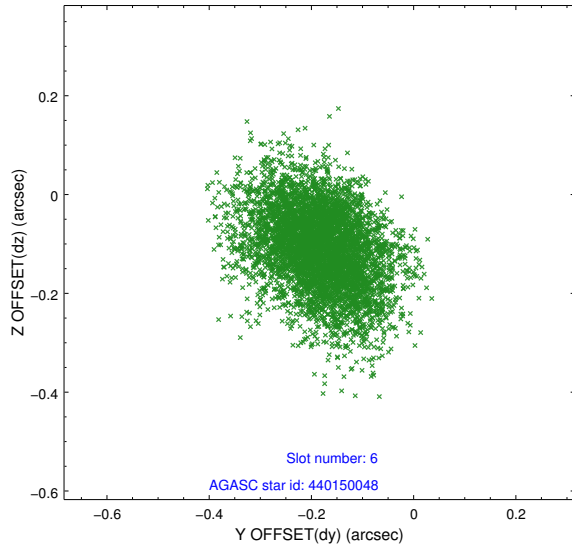
## 2.4.2 Slot 4



### 2.4.3 Slot 5

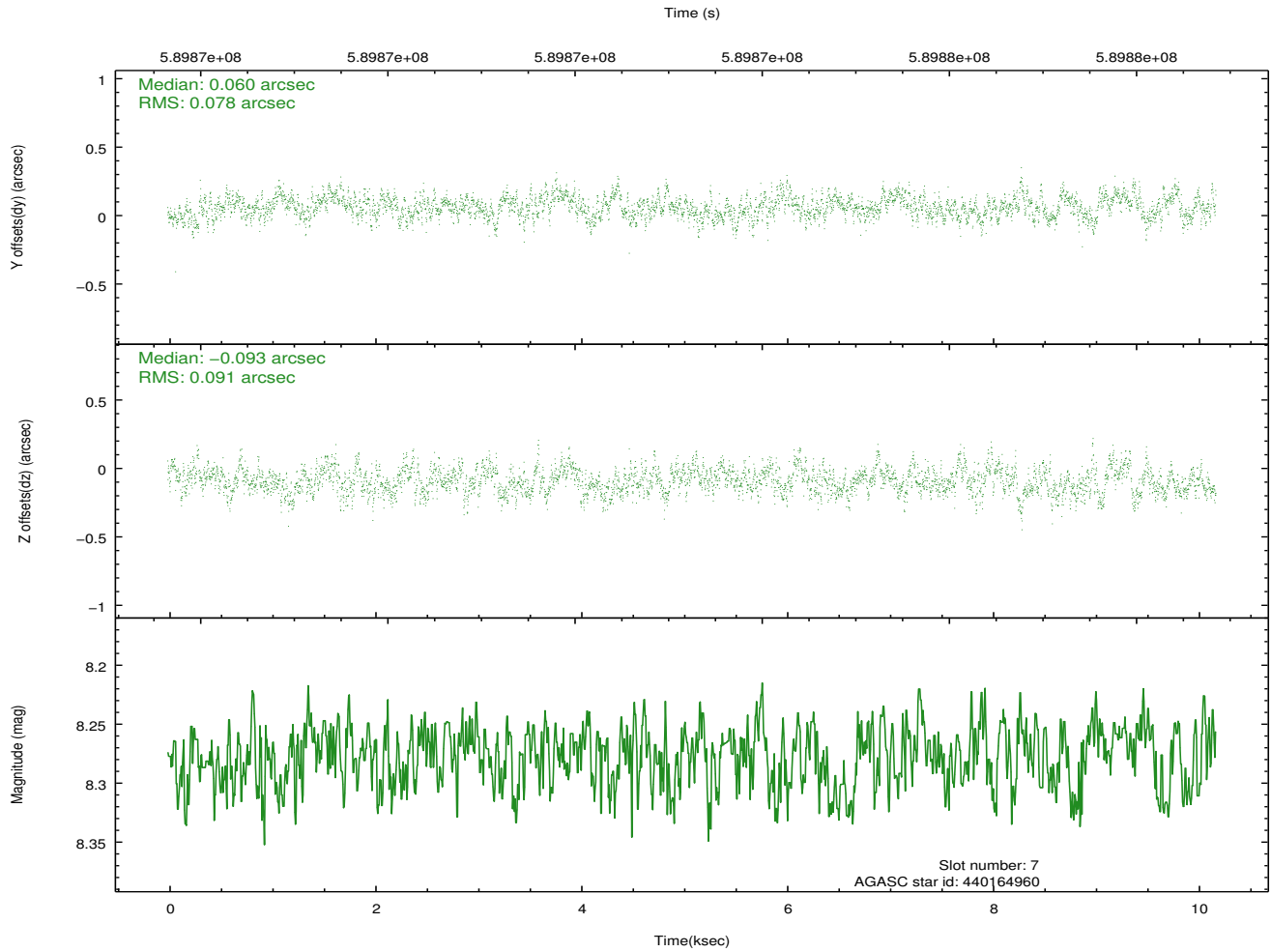
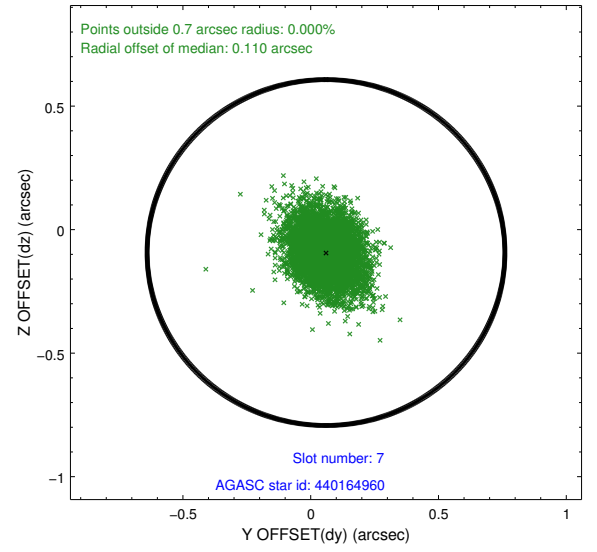
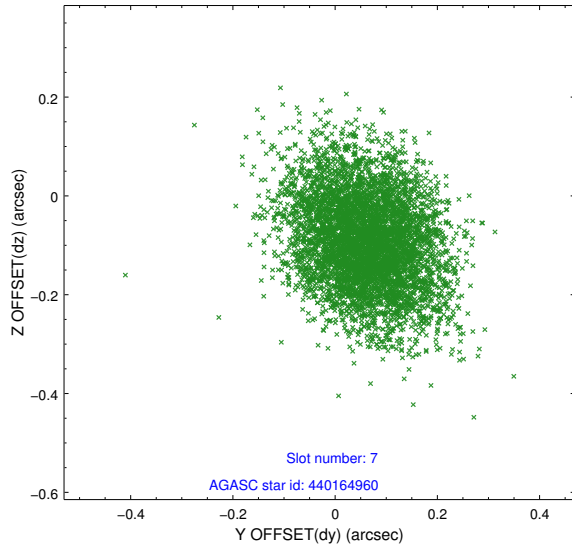


## 2.4.4 Slot 6



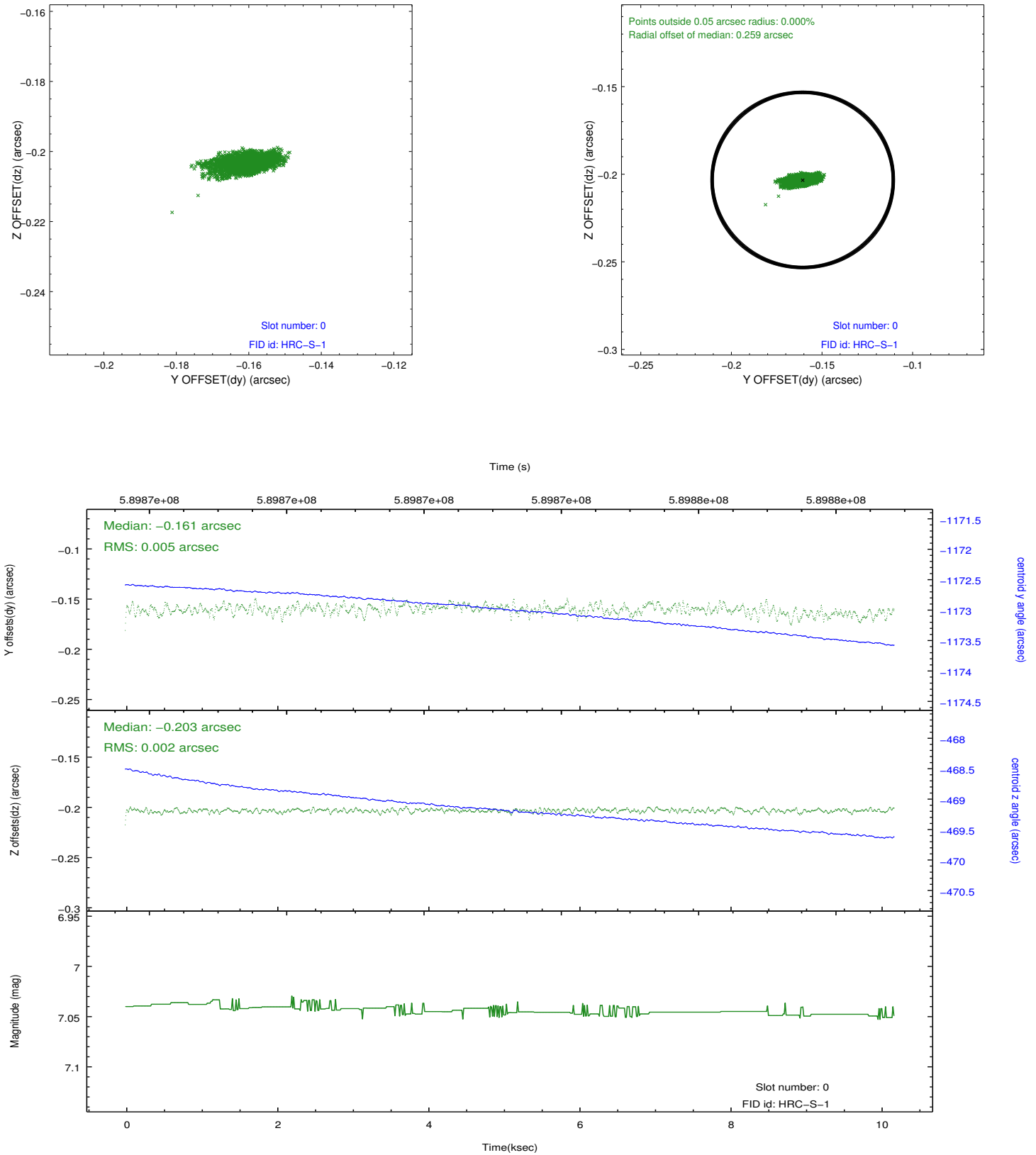


## 2.4.5 Slot 7

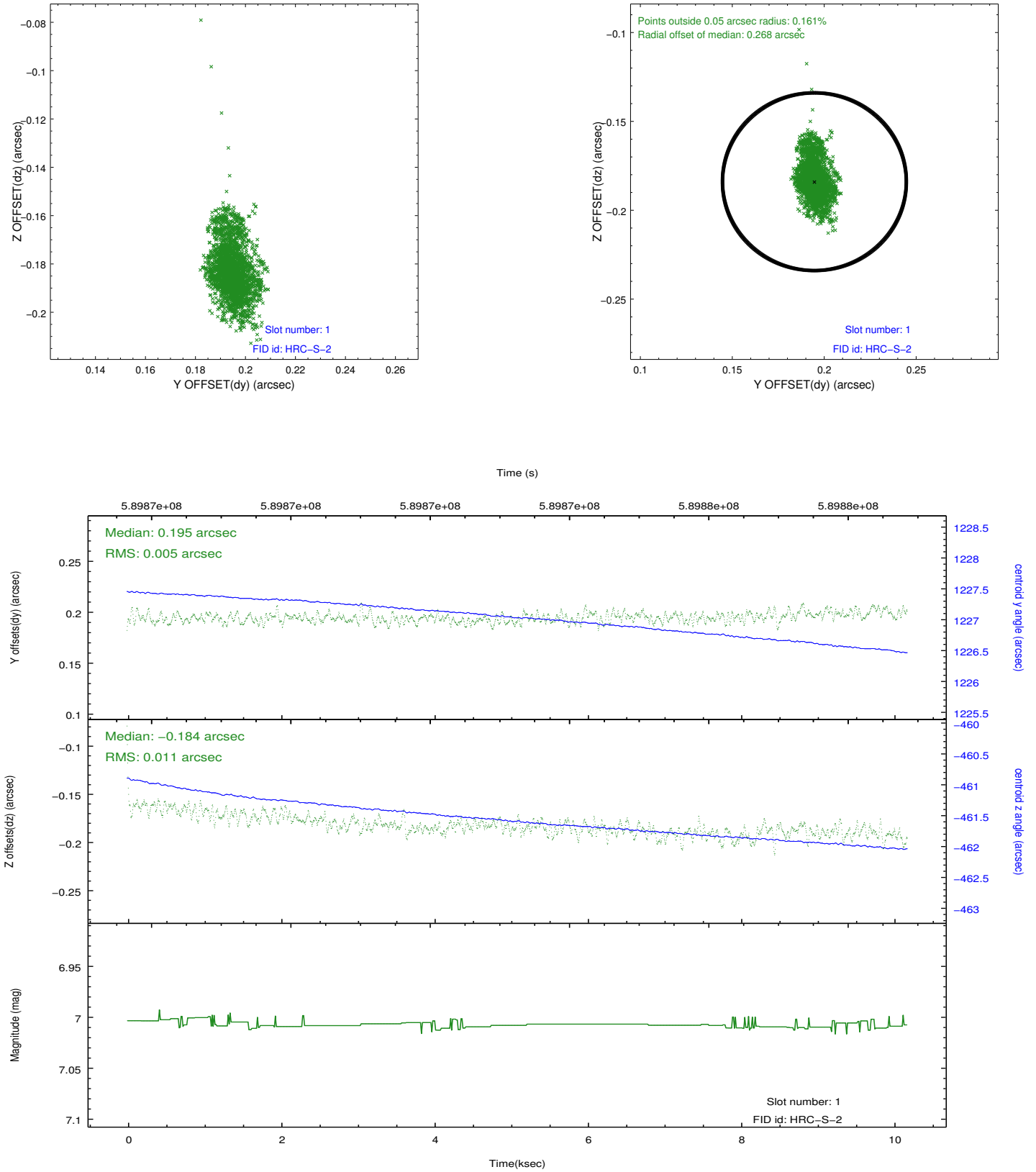


## 2.5 FID Slots

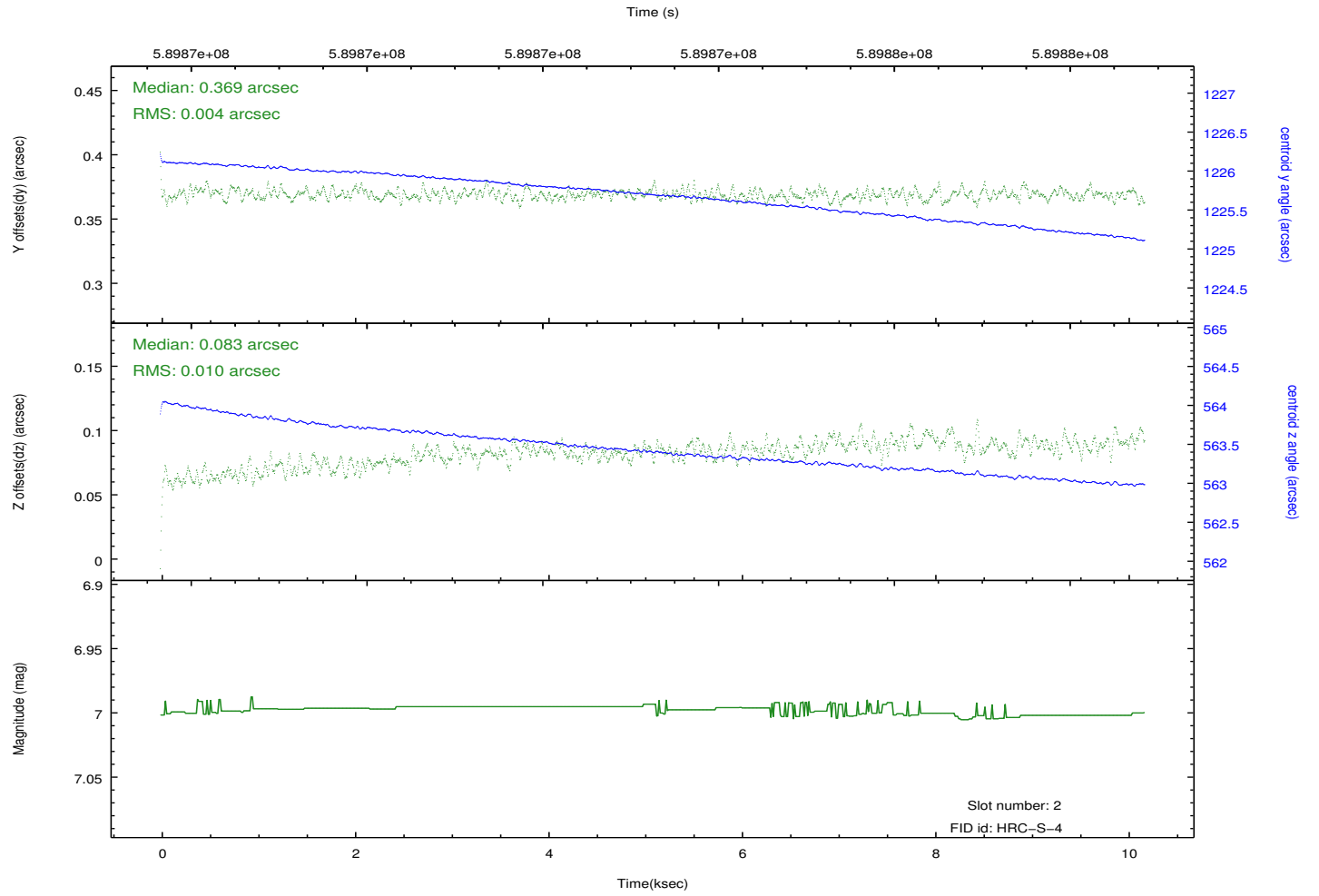
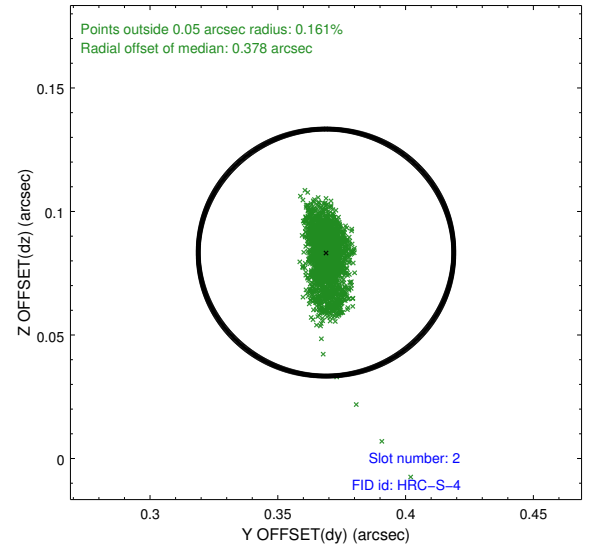
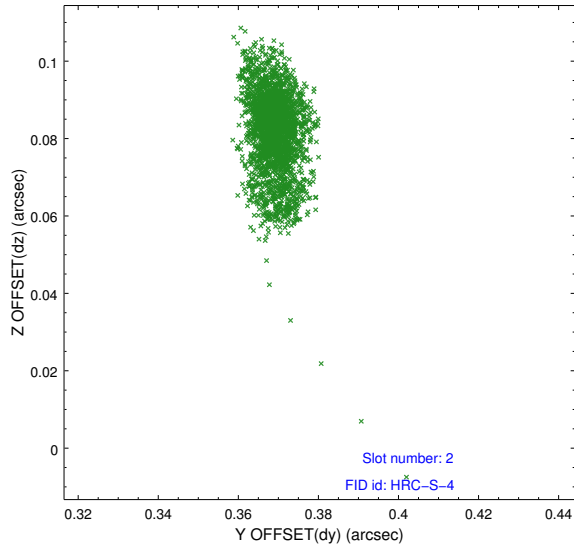
### 2.5.1 Slot 0



## 2.5.2 Slot 1

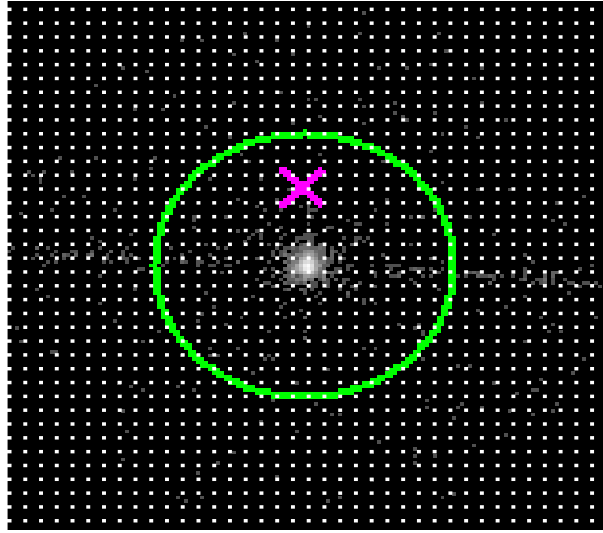


### 2.5.3 Slot 2

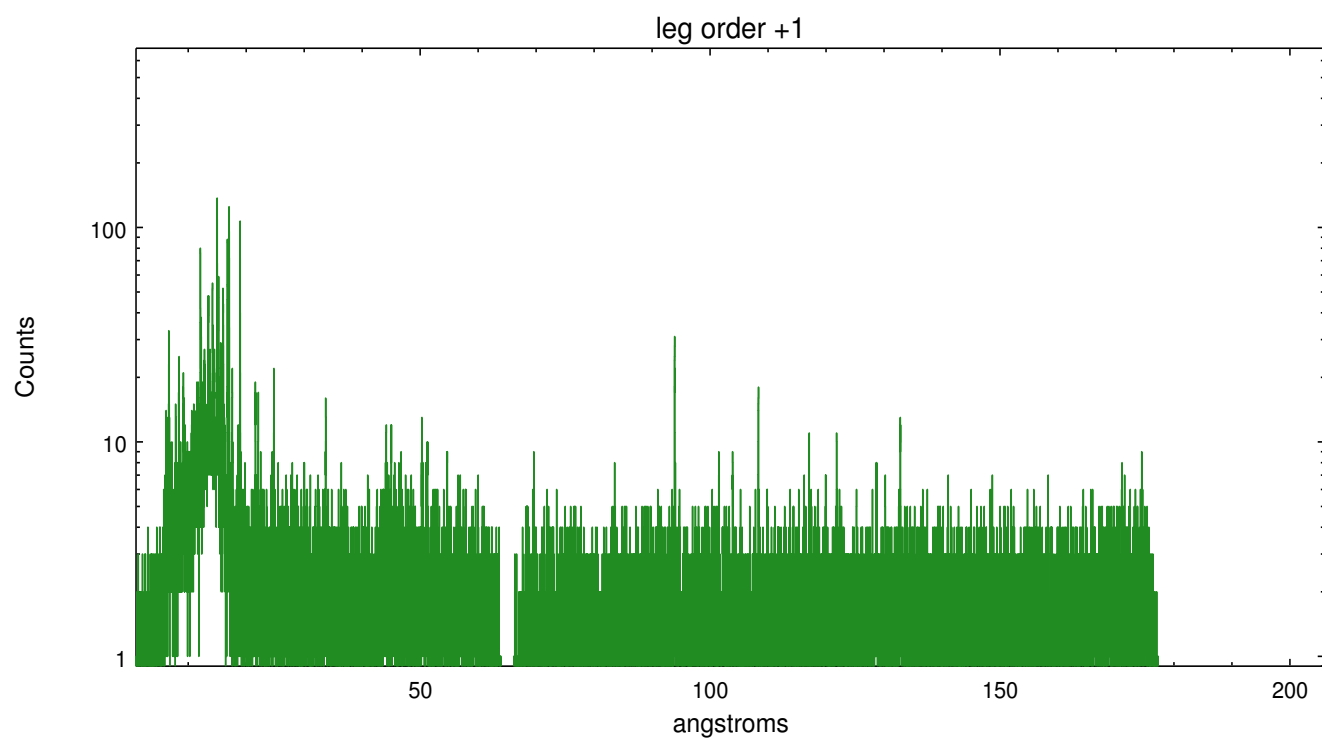
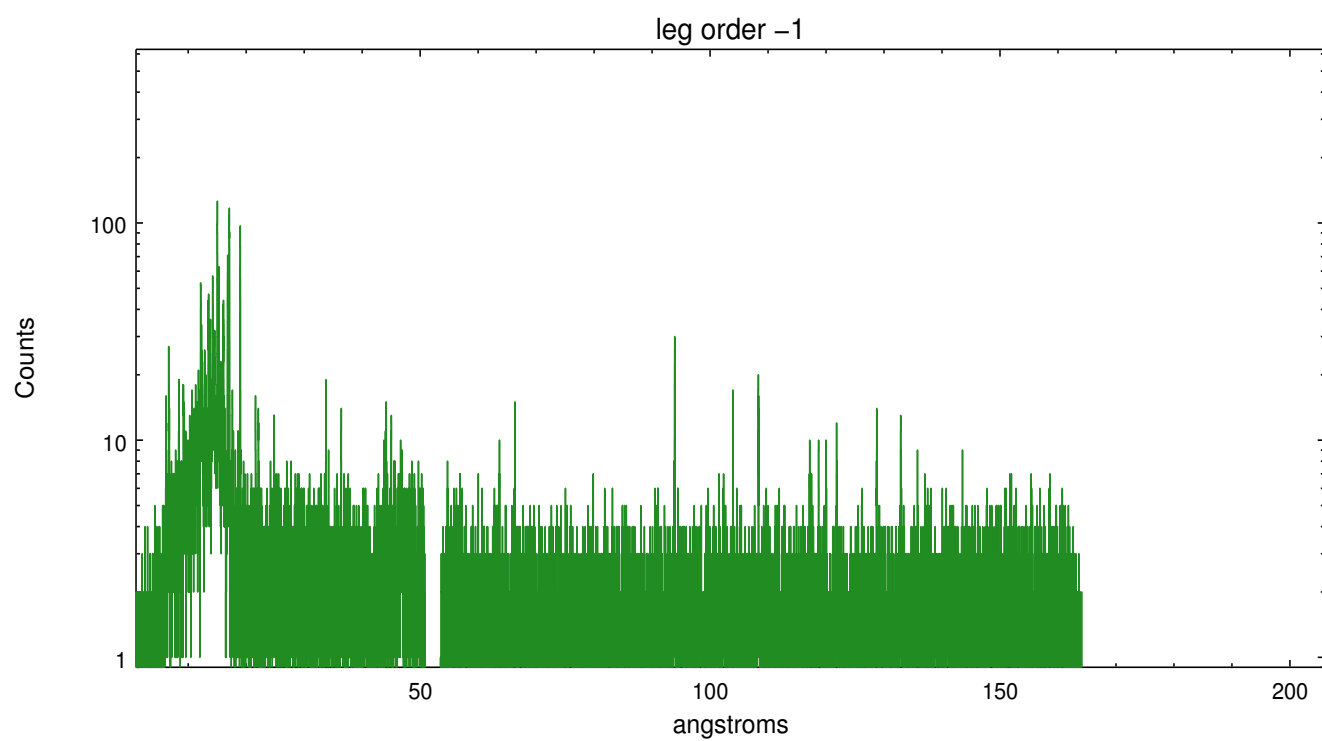


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order



## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2016.09.12      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 10.145450583816 |

### A.2 Comments