

# V&V Reference Report

## L2 ASCDS Version : 10.7

Observation 21388 - L2 Version 1  
Chandra X-Ray Center

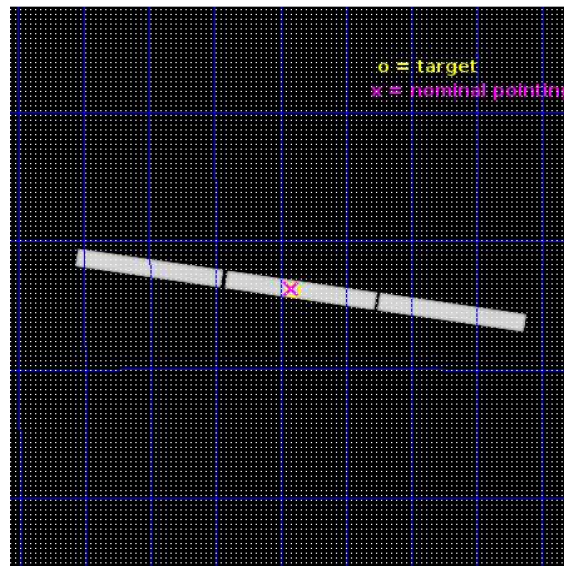
L2 Processing Date : Nov 20 2018

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# 1 Front

|          |                                                                |                                       |
|----------|----------------------------------------------------------------|---------------------------------------|
| seq_num  | 901410                                                         | Sequence number                       |
| obs_id   | 21388                                                          | Observation id                        |
| title    | WARM-HOT CIRCUMGALACTIC MEDIUM OF A SPIRAL GALAXY AT Z = 0.167 | Pro                                   |
| observer | Anjali Gupta                                                   | Principal investigator                |
| object   | PKS0405-123                                                    | Source name                           |
| ra_targ  | 61.951667                                                      | Observer's specified target RA [deg]  |
| dec_targ | -12.1935                                                       | Observer's specified target Dec [deg] |
| ra_nom   | 61.958143920588                                                | Nominal RA [deg]                      |
| dec_nom  | -12.186807623707                                               | Nominal Dec [deg]                     |
| roll_nom | 8.5687146595272                                                | Nominal Roll [deg]                    |
| revision | 1                                                              | Processing version of data            |
| ontime   | 45611.477719307                                                | [s]                                   |
| livetime | 45112.341801835                                                | Ontime multiplied by DTCOR            |
| l2events | 4061033                                                        | Number of level 2 events              |

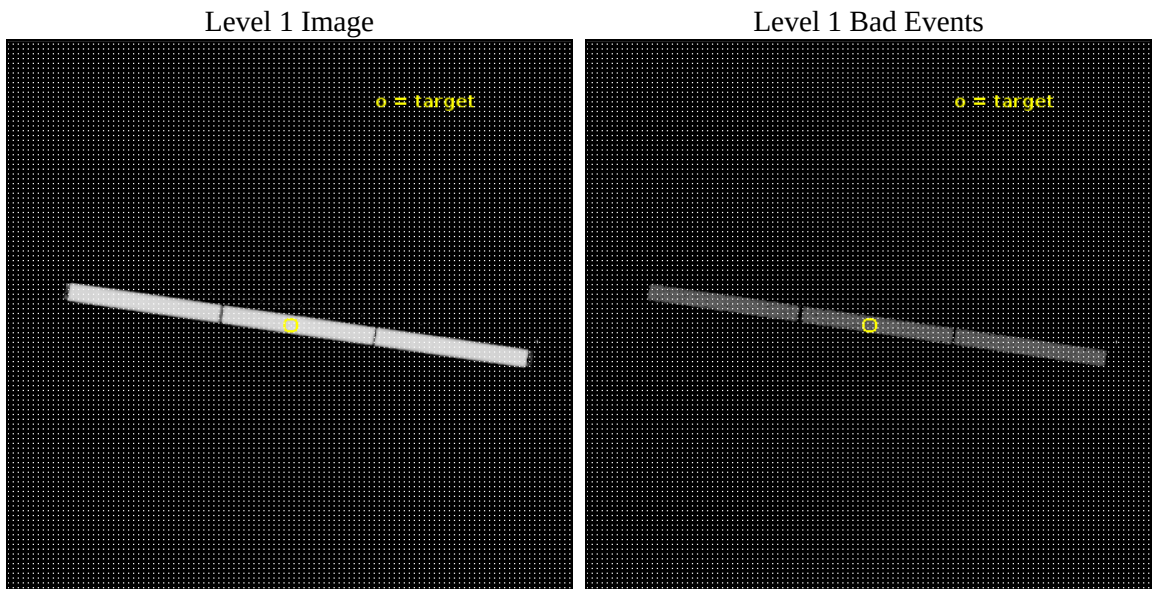




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

|          |                     |                                |                |                      |                                         |
|----------|---------------------|--------------------------------|----------------|----------------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 46000.000000         | [s] Scheduled observation exposure time |
| ascdsver | 10.7                | Processing system revision     | ontime         | 45611.477719307      | [s]                                     |
| caldsver | 4.8.0.1             | &#160                          | l1events       | 5217281              | Number of level 1 events                |
| date     | 2018-11-20T22:15:56 | Date and time of file creation | tgmethod       | TGDETECT             | Method used to create src1a file        |
| revision | 1                   | Processing version of data     | zo_pos         | (32939.43, 32584.49) | src1a sky pixel position                |

### 2.1.3 Events

Level 1 Events

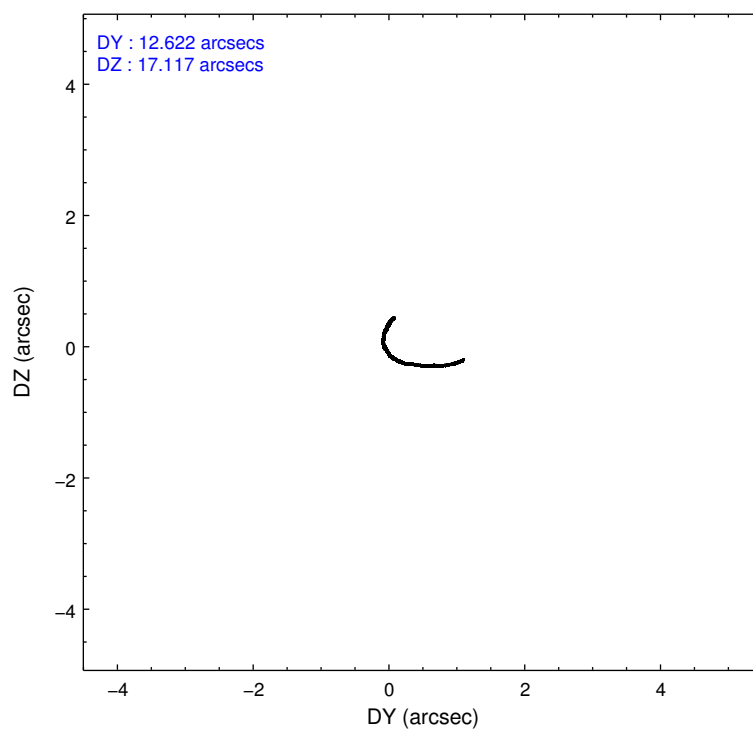
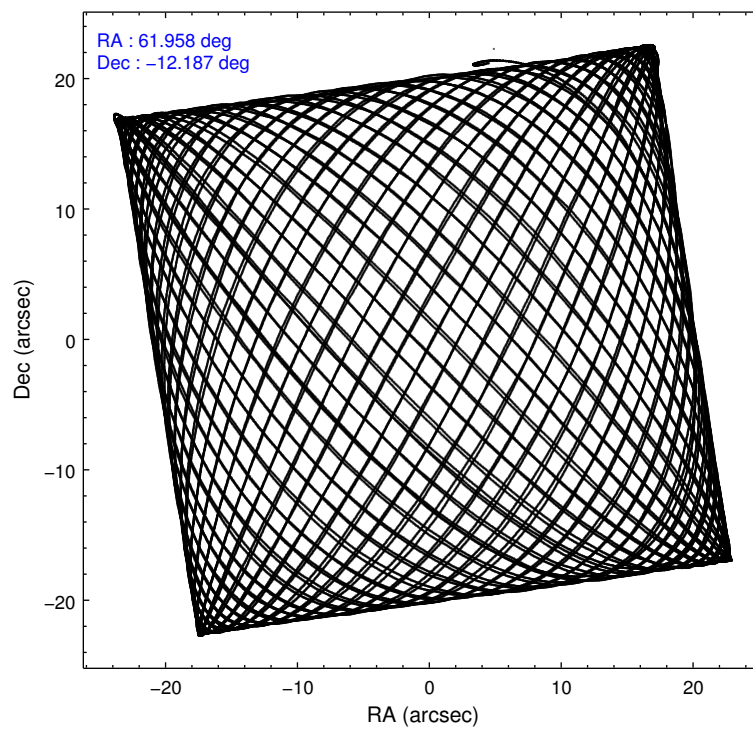
|                 | <b>segment<br/>1</b> | <b>segment<br/>2</b> | <b>segment<br/>3</b> |
|-----------------|----------------------|----------------------|----------------------|
| level 1 events  | 1739612              | 1745430              | 1732239              |
| rejected events | 77760                | 78136                | 77586                |
| rejected %      | 4%                   | 4%                   | 4%                   |

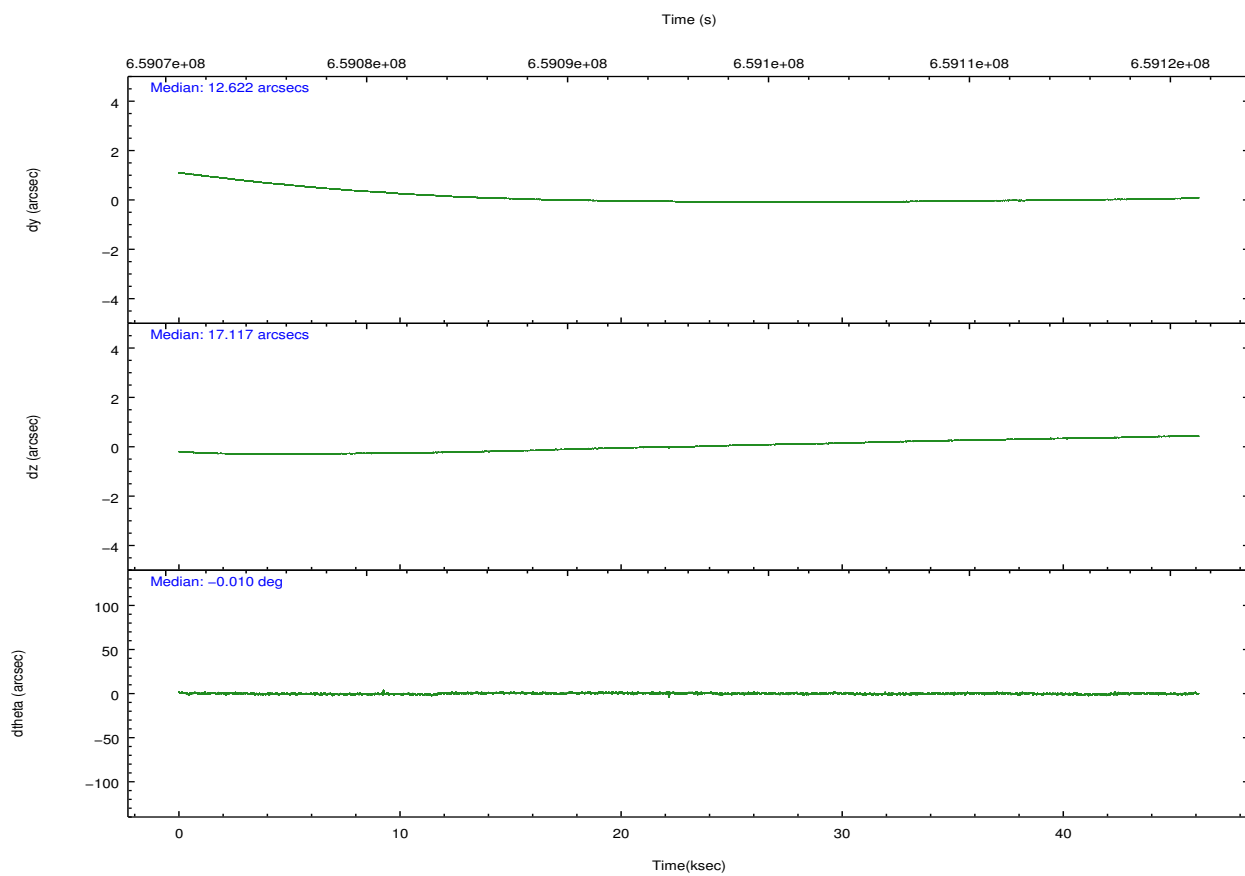
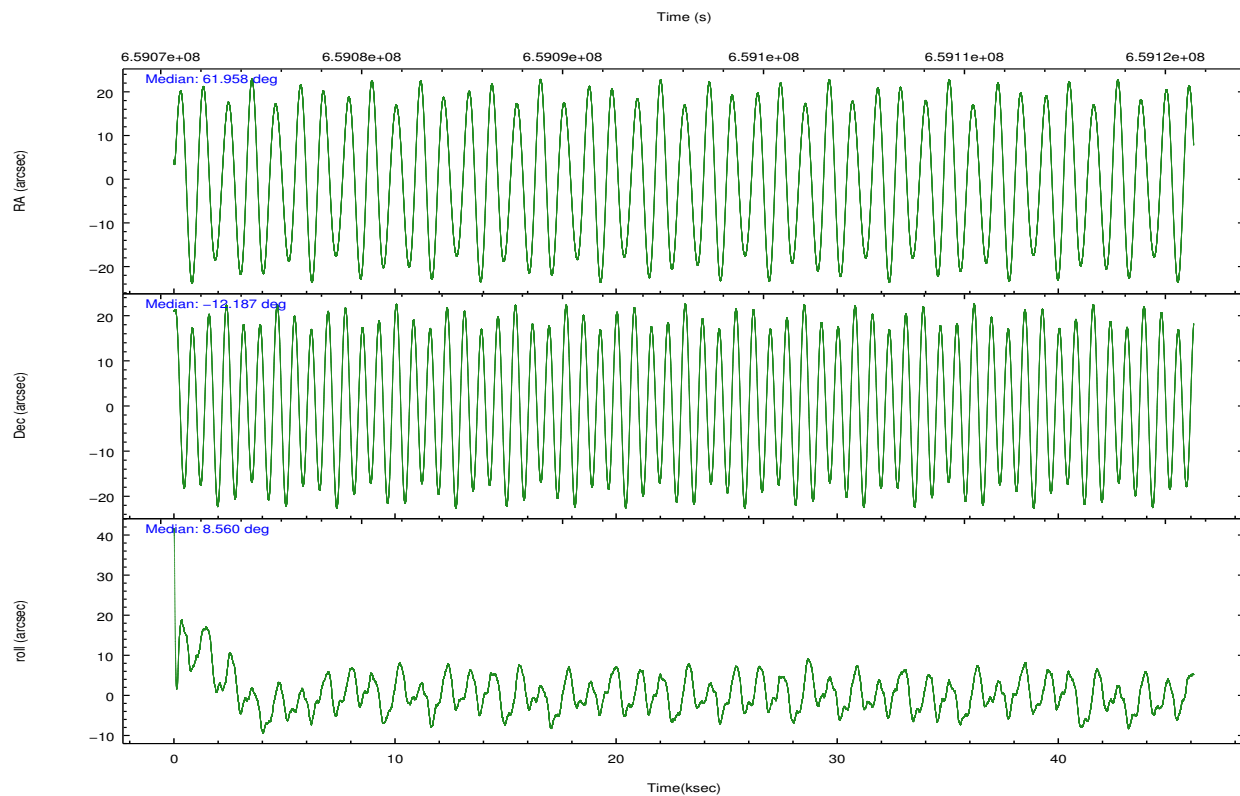
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | HRC                 | HRC                  |
| Detector                          | HRC-S               | HRC-S                |
| Grating                           | LETG                | LETG                 |
| Data mode                         | OBSERVING           | OBSERVING            |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 61.935927           | 61.95814392058753    |
| [deg] Pointing Dec                | -12.205884          | -12.18680762370727   |
| [deg] Pointing Roll               | 8.496671            | 8.56871465952716     |
| [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)  | 659073106.184000    | 659071382.5715801    |
| Observation start date            | 2018-11-20T03:50:37 | 2018-11-20T03:23:02  |
| [s] Observation end time (MET)    | 659119106.184000    | 659119789.22446      |
| Observation end date              | 2018-11-20T16:37:17 | 2018-11-20T16:49:49  |

| Parameter                    | Planned   | Actual  |
|------------------------------|-----------|---------|
| Obspar format version number | 7         | 7       |
| Obspar file type             | PREDICTED | ACTUAL  |
| Obspar update status         | NONE      | UPDATED |

## 2.3 Aspect



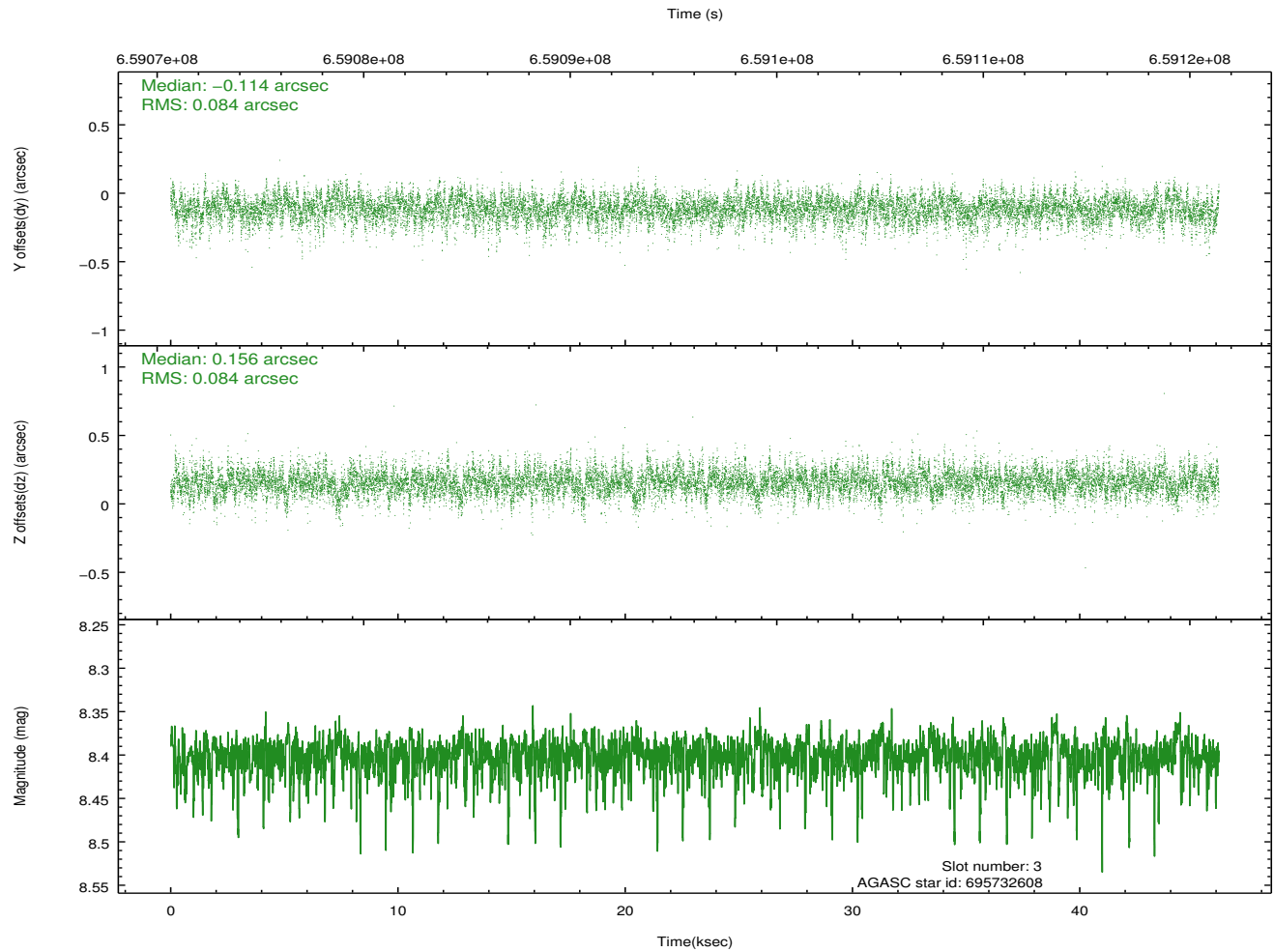
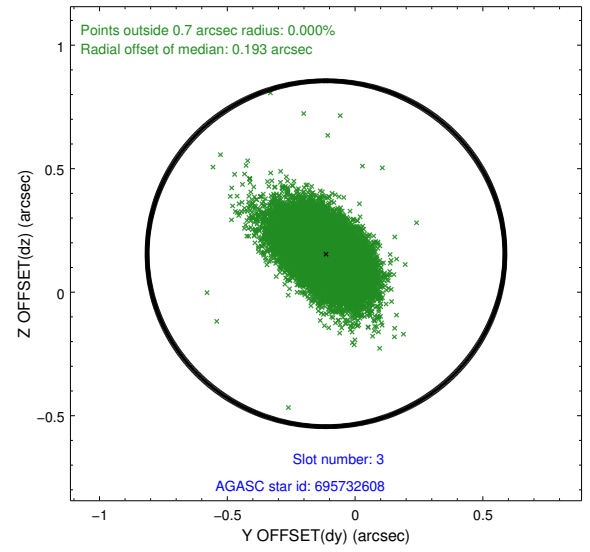
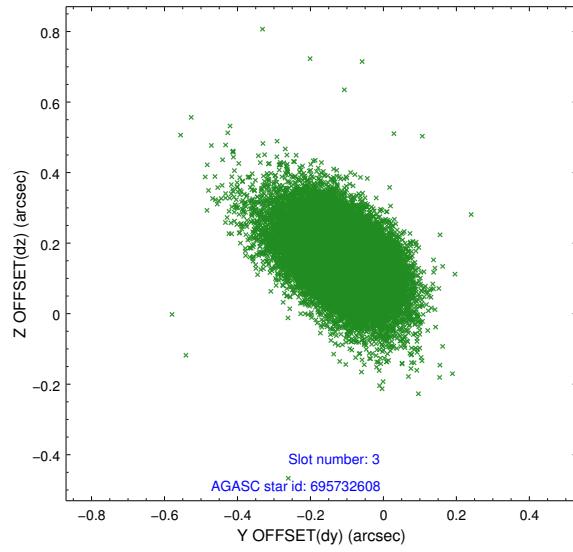


# Slot Statistics

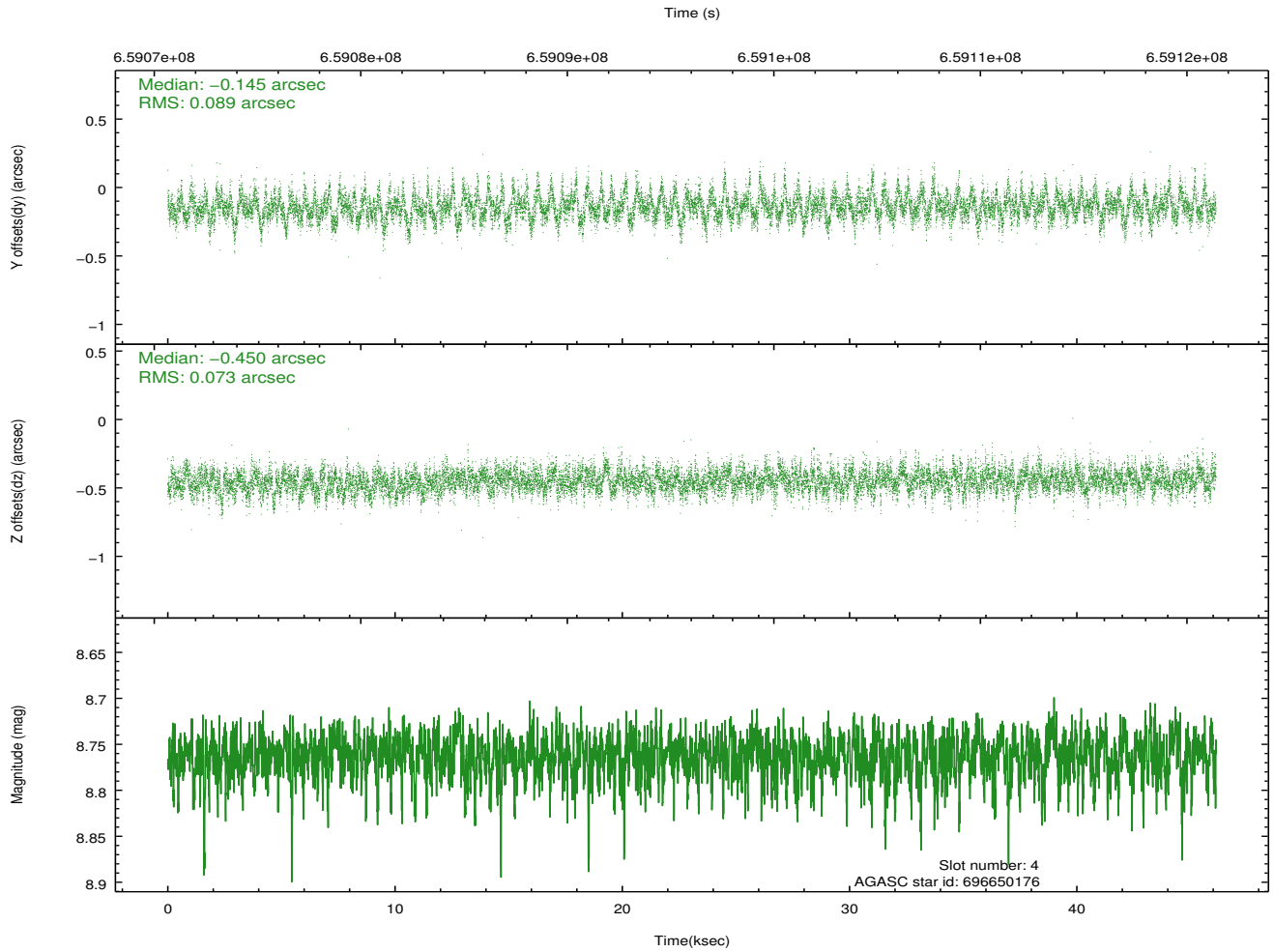
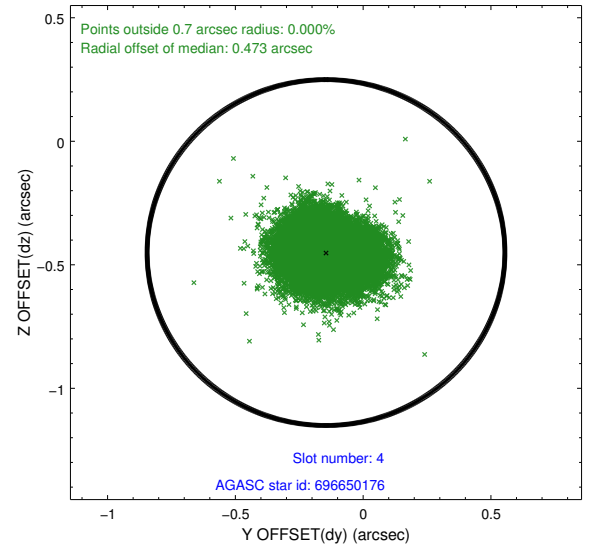
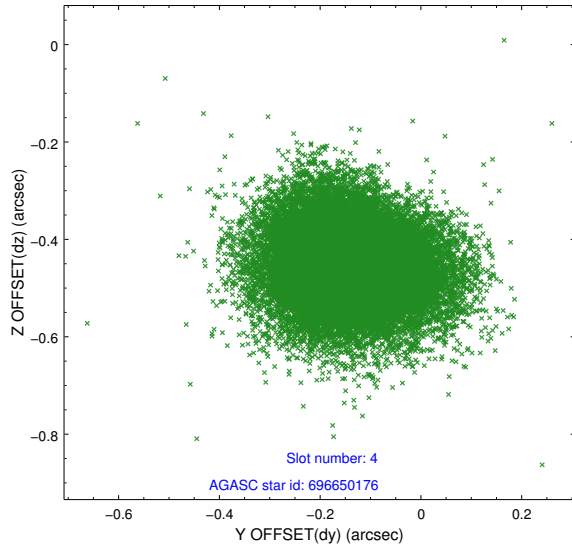
| pt | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mea   |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|-----------|------------|----------|-------|
| 0  | FID    |      | HRC-S-1   | 7.10 | 11250 | 1.000    | -0.125 | -0.197 | 0.010 | 0.026 | 0.000000  | 0.000000   | -1167.23 | -466  |
| 1  | FID    |      | HRC-S-2   | 7.07 | 11250 | 1.000    | 0.512  | -0.154 | 0.009 | 0.022 | 0.000000  | 0.000000   | 1232.98  | -458  |
| 2  | FID    |      | HRC-S-3   | 7.07 | 11250 | 1.000    | 0.002  | 0.049  | 0.011 | 0.027 | 0.000000  | 0.000000   | -1169.83 | 563   |
| 3  | GUIDE  | used | 695732608 | 8.40 | 22491 | 1.000    | -0.114 | 0.156  | 0.121 | 0.214 | 61.234445 | -11.799042 | -2228.75 | 1810  |
| 4  | GUIDE  | used | 696650176 | 8.76 | 22478 | 1.000    | -0.145 | -0.450 | 0.121 | 0.202 | 62.359396 | -11.993938 | 1587.49  | 532   |
| 5  | GUIDE  | used | 696663240 | 9.14 | 22476 | 1.000    | -0.091 | -0.128 | 0.133 | 0.228 | 61.490507 | -11.700212 | -1284.31 | 2030  |
| 6  | GUIDE  | used | 697045096 | 9.19 | 22469 | 1.000    | 0.145  | 0.091  | 0.177 | 0.291 | 62.191152 | -12.584735 | 685.85   | -1481 |
| 7  | GUIDE  | used | 697051584 | 8.22 | 22485 | 1.000    | 0.207  | 0.331  | 0.109 | 0.177 | 61.845245 | -12.658678 | -555.11  | -1564 |

## 2.4 Star Slots

### 2.4.1 Slot 3

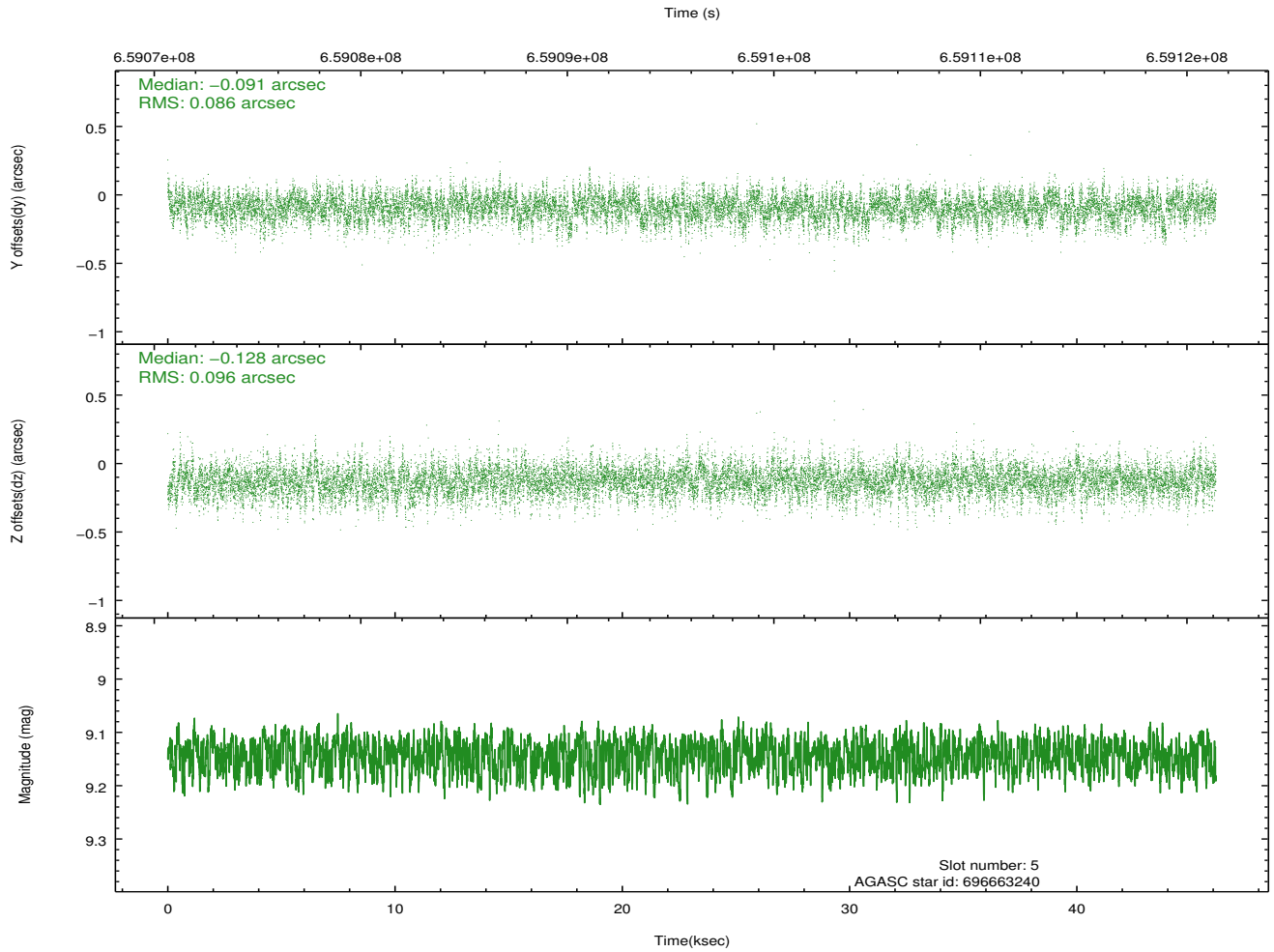
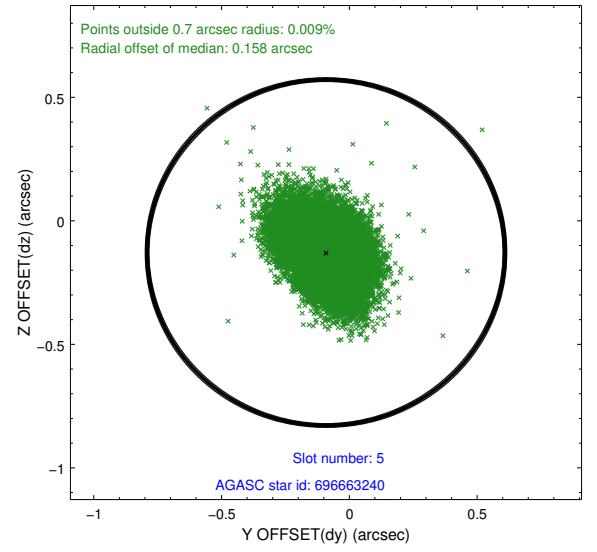
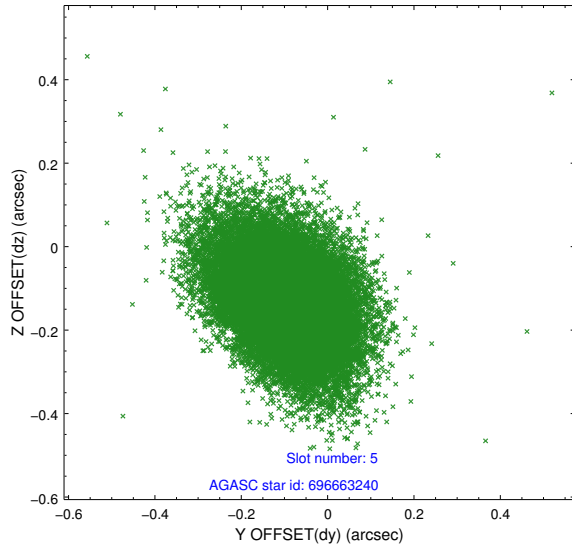


## 2.4.2 Slot 4

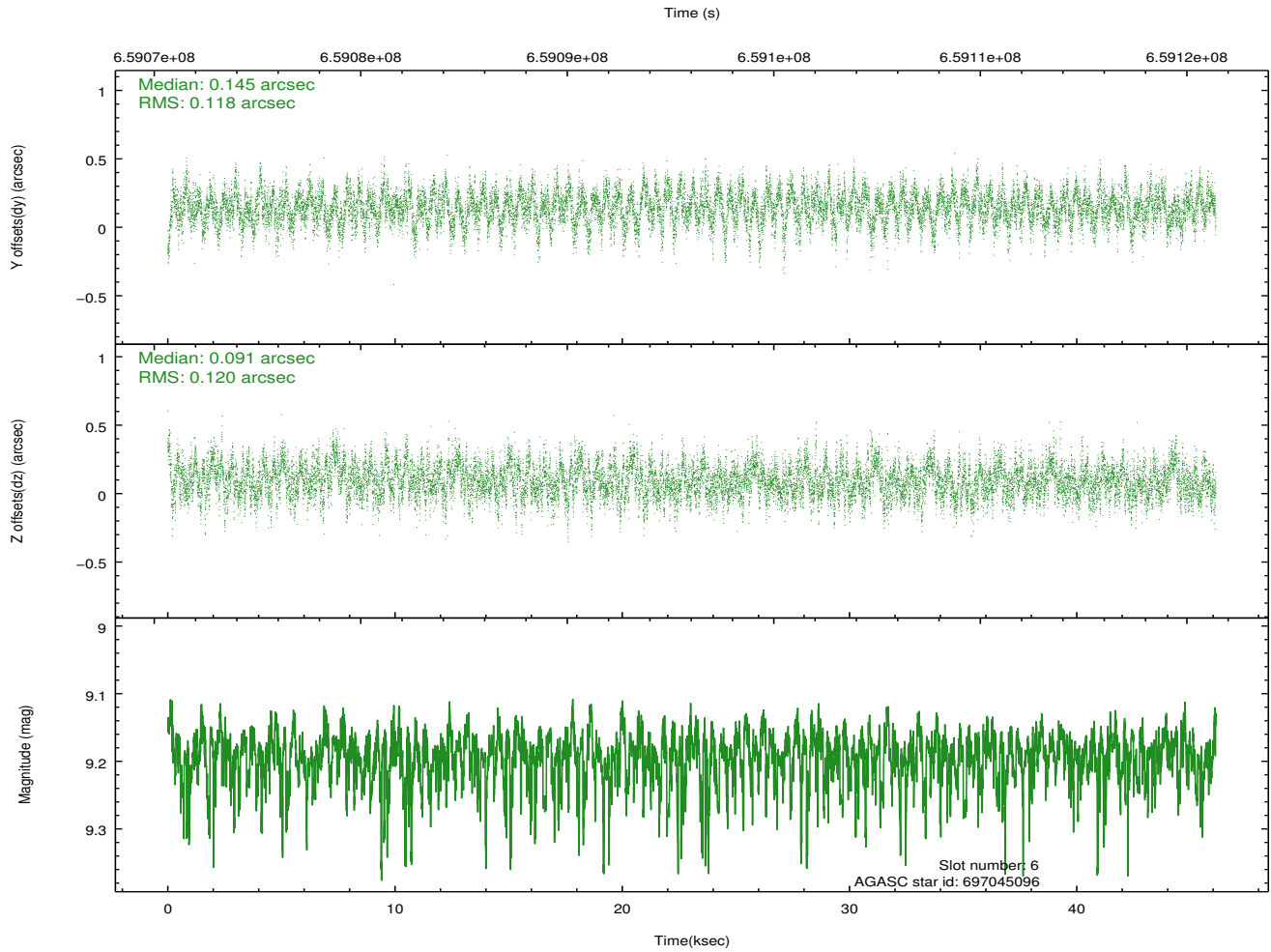
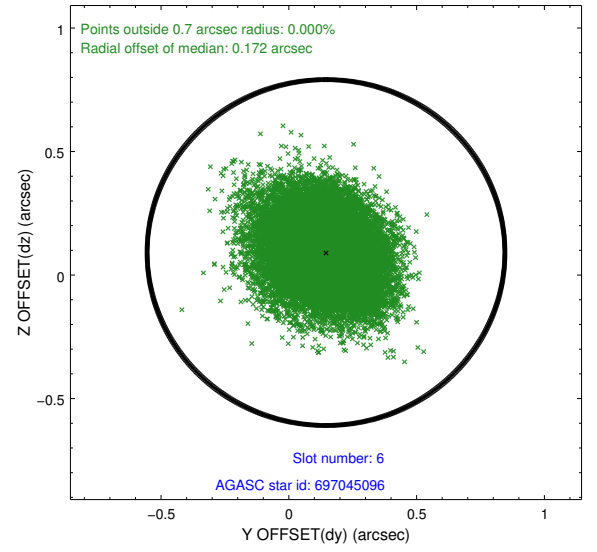
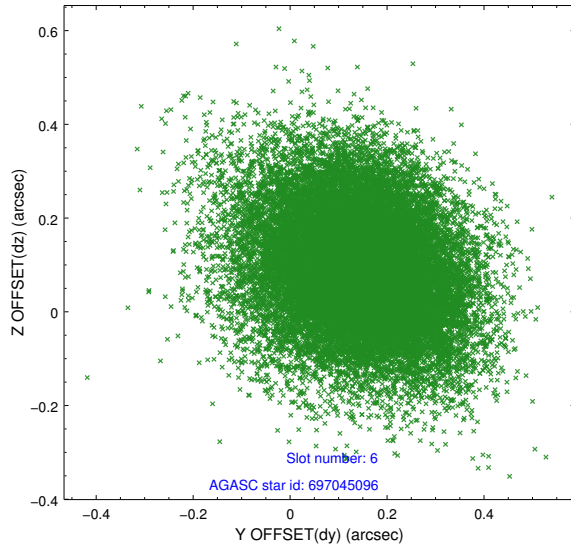




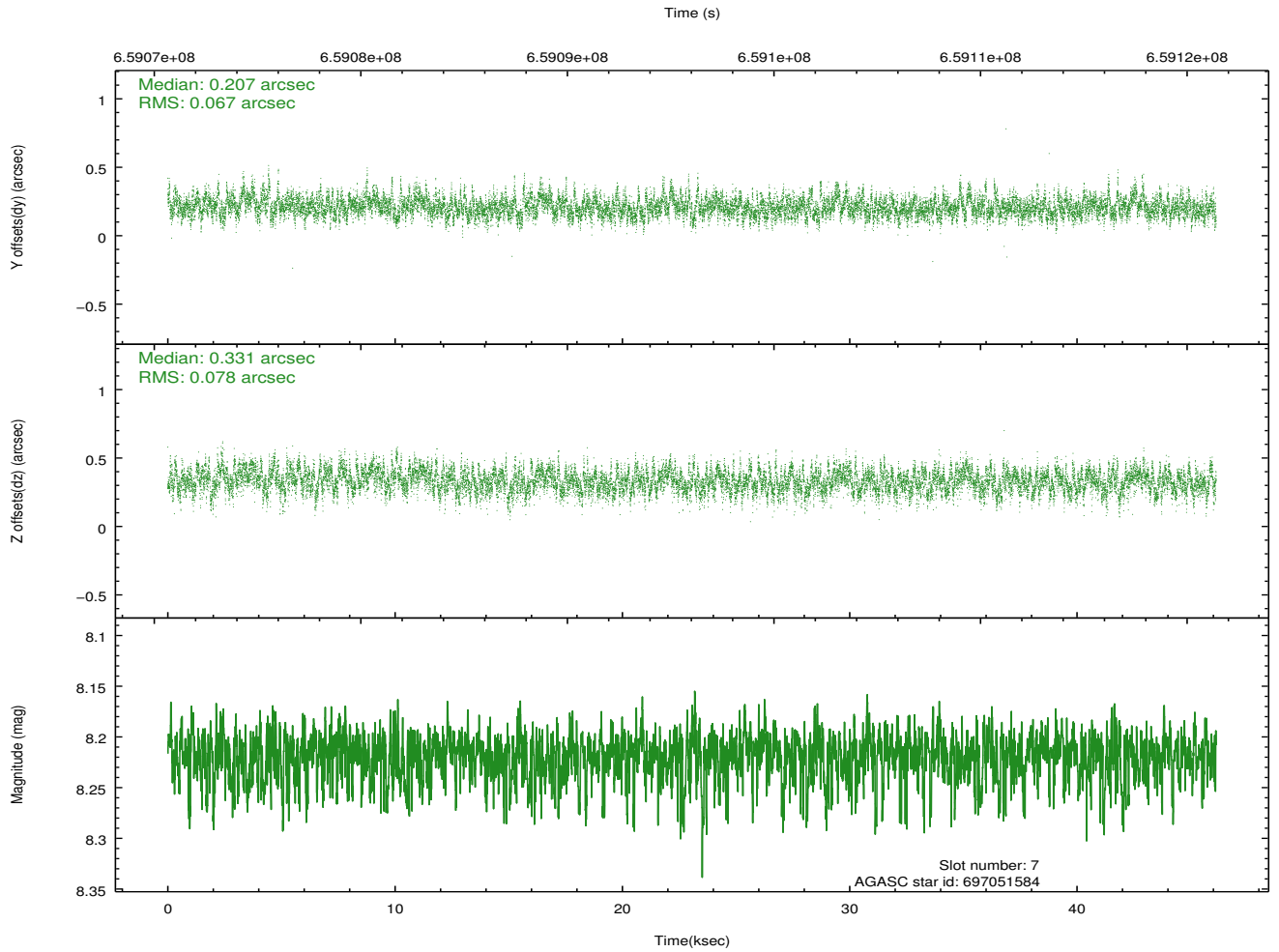
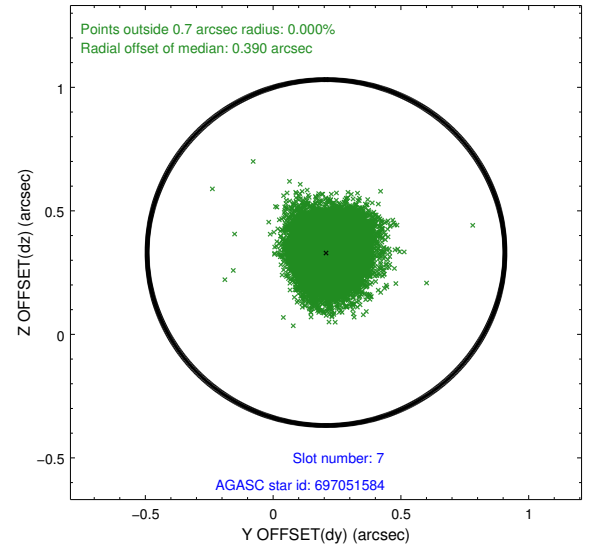
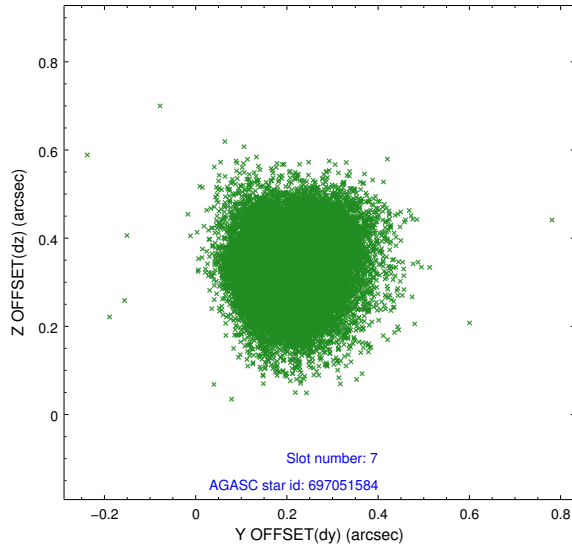
### 2.4.3 Slot 5



## 2.4.4 Slot 6

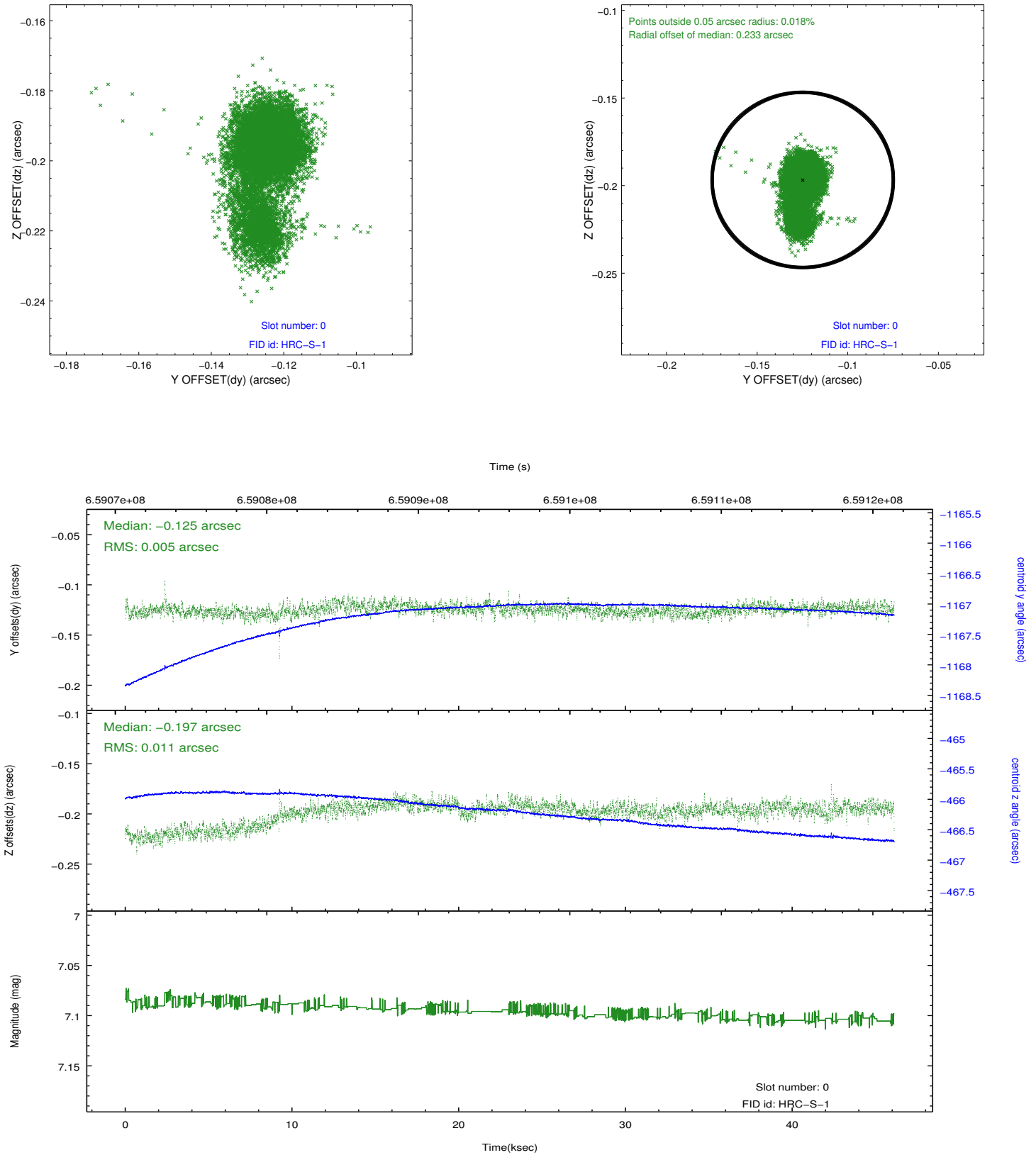


## 2.4.5 Slot 7

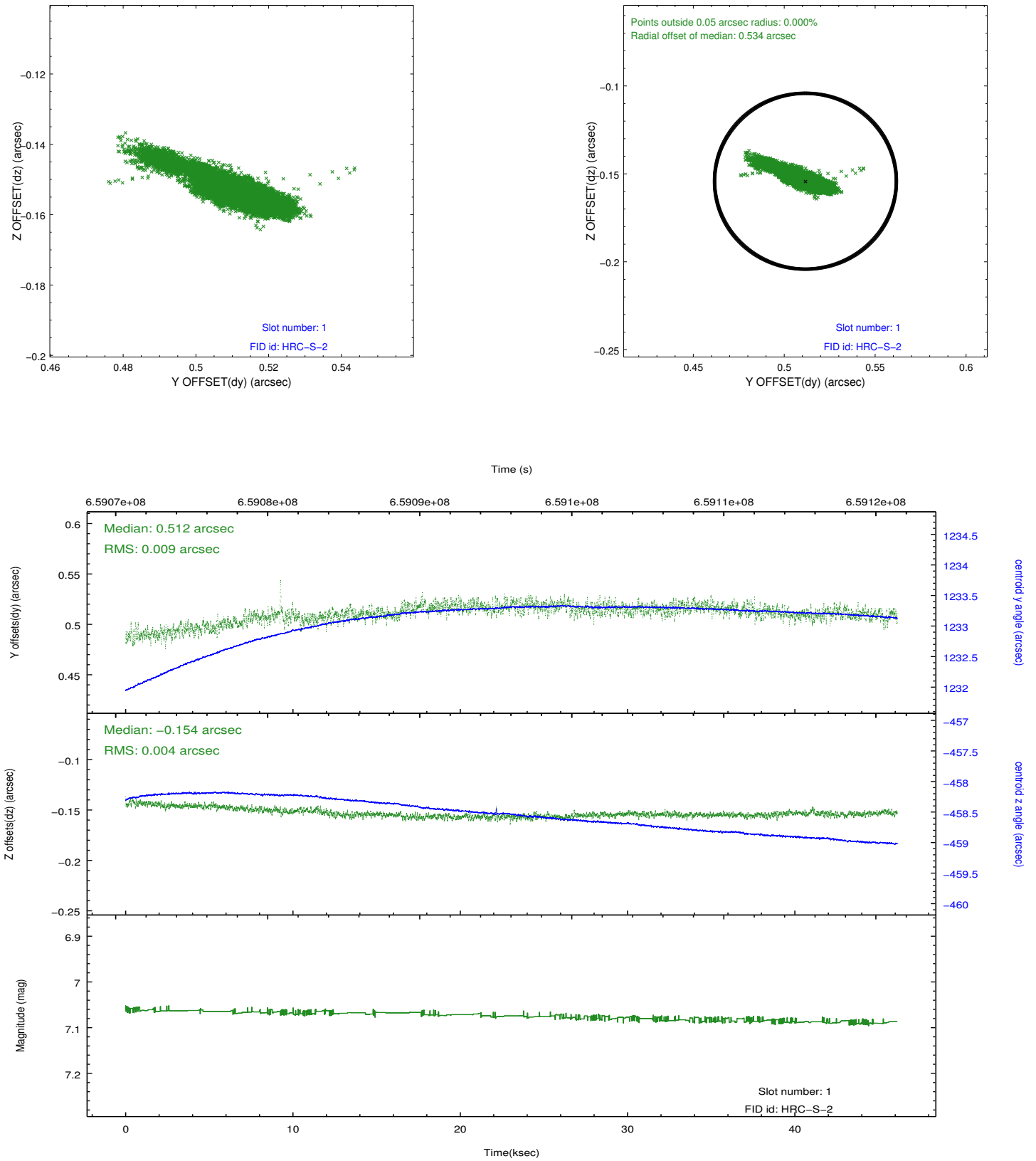


## 2.5 FID Slots

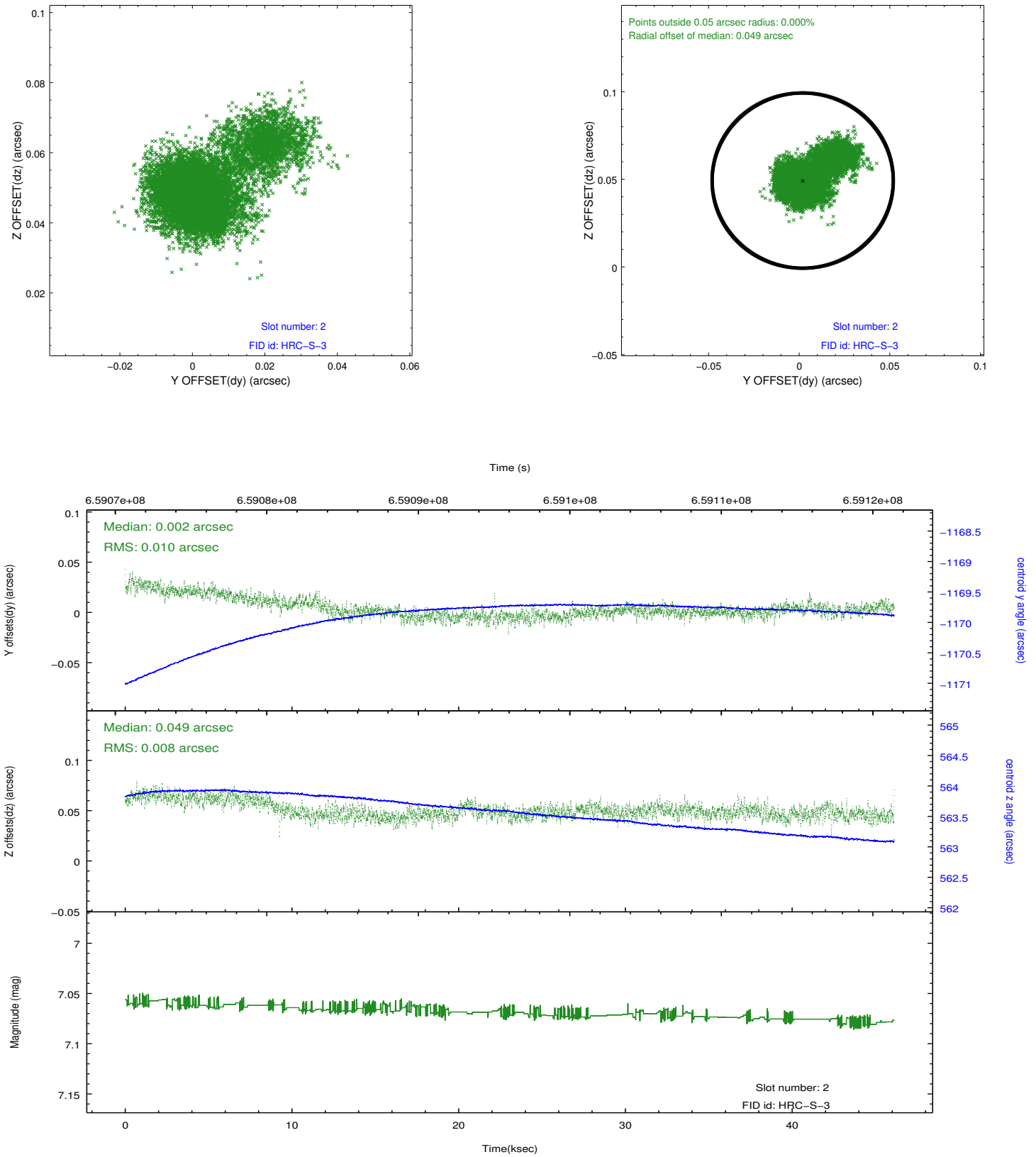
### 2.5.1 Slot 0



## 2.5.2 Slot 1

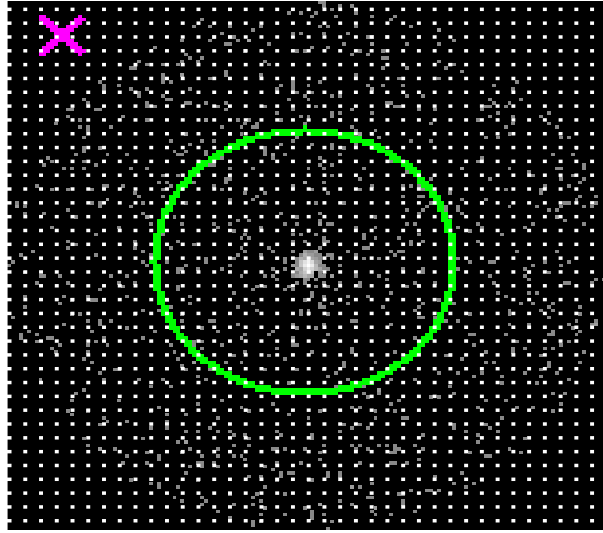


### 2.5.3 Slot 2

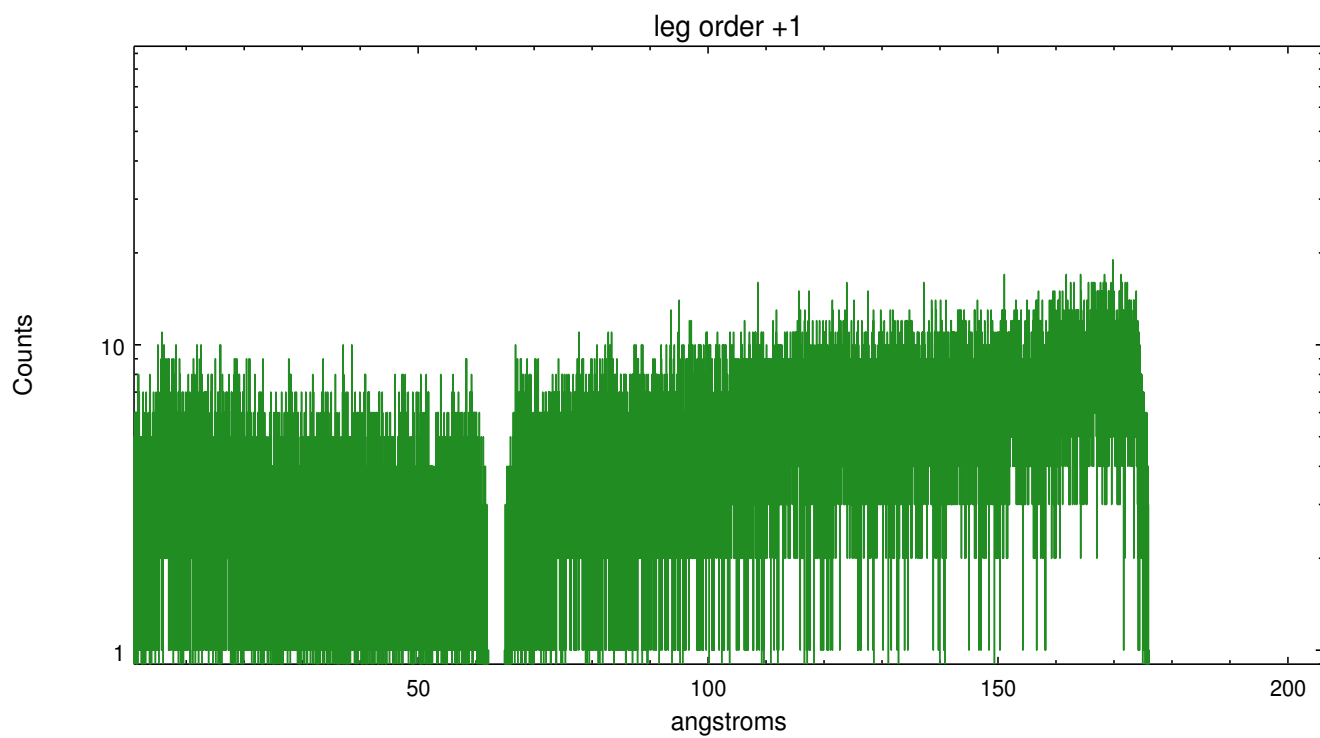
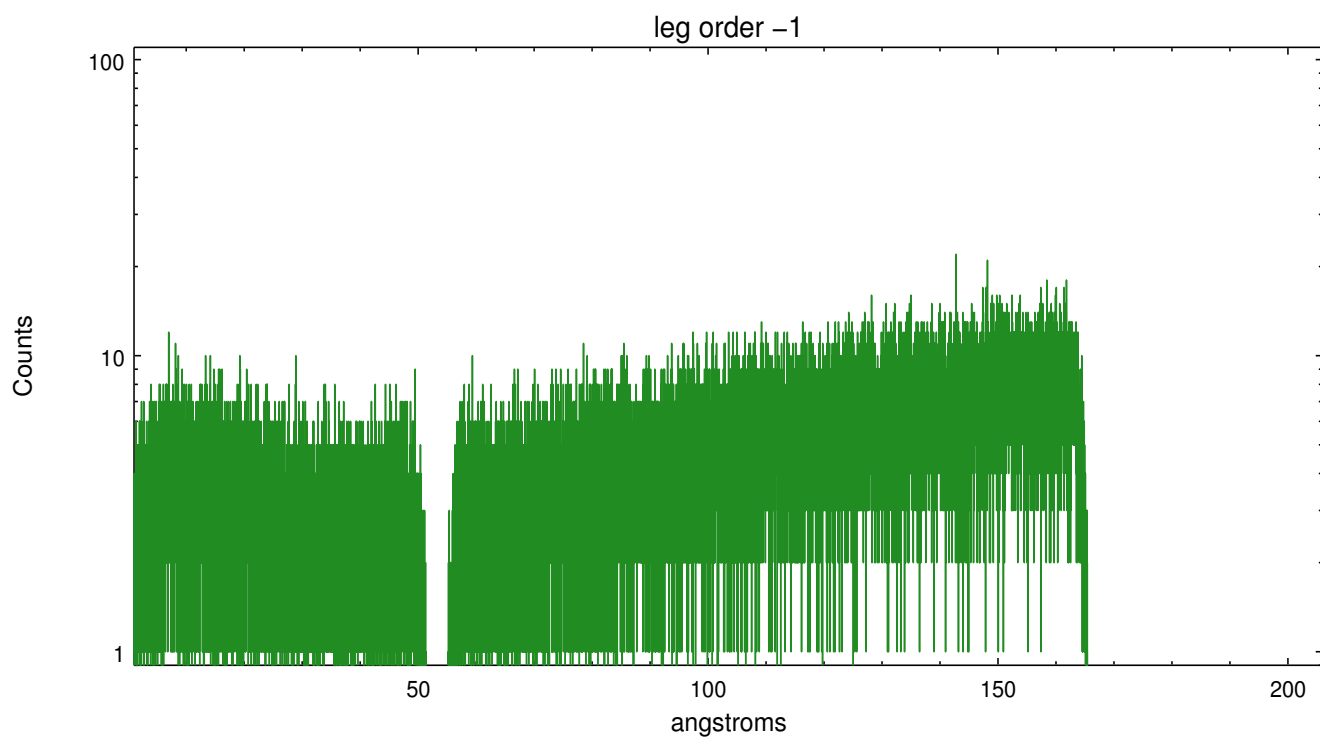


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order





# A Summary

## A.1 Status

|                            |                    |
|----------------------------|--------------------|
| V&V Scientist              | David Huenemoerder |
| V&V Date (YYYY-MM-DD)      | 2018.11.28         |
| V&V Edition                | 2                  |
| V&V Disposition and Status | OK                 |
| V&V Charge Time            | 45.611477719307    |

## A.2 Comments

Due to corruption of the secondary science data during this observation, some instrument parameters have bogus values. PLEASE NOTE: All the event data in this observation are good. The short gaps in the GTI intervals can be eliminated (i.e., use the first START and last STOP). THE DTF values during this observation can be estimated by dropping all the low values and averaging the remaining values near 1.0.