

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 17118 - L2 Version 1  
Chandra X-Ray Center

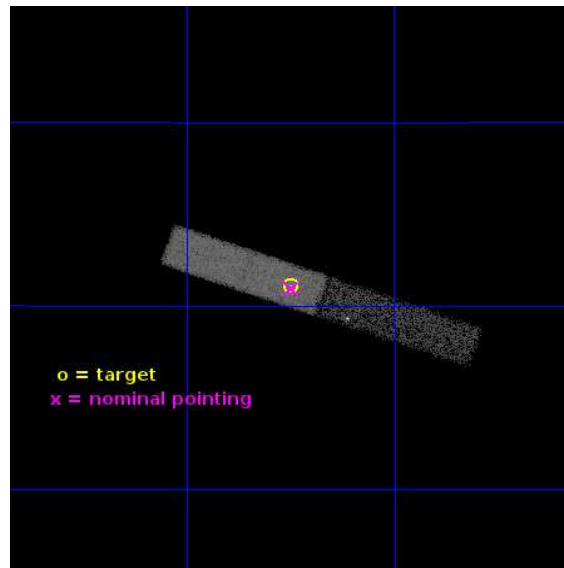
L2 Processing Date : Apr 5 2016

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# 1 Front

|          |                                                       |                                             |
|----------|-------------------------------------------------------|---------------------------------------------|
| seq_num  | 703117                                                | Sequence number                             |
| obs_id   | 17118                                                 | Observation id                              |
| title    | UNCOVERING AGN FUELING AND FEEDBACK IN DWARF GALAXIES | Proposal tit                                |
| observer | Professor Richard Mushotzky                           | Principal investigator                      |
| object   | NGC4138                                               | Source name                                 |
| dtcycle  | 0                                                     | &#160                                       |
| cycle    | P                                                     | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 182.37375                                             | Observer's specified target RA [deg]        |
| dec_targ | 43.685306                                             | Observer's specified target Dec [deg]       |
| ra_nom   | 182.37383930584                                       | Nominal RA [deg]                            |
| dec_nom  | 43.682577752021                                       | Nominal Dec [deg]                           |
| roll_nom | 199.15654478188                                       | Nominal Roll [deg]                          |
| revision | 1                                                     | Processing version of data                  |
| ontime   | 29045.699230433                                       | Sum of GTIs [s]                             |
| livetime | 27778.977840888                                       | Livetime [s]                                |
| ontime6  | 29044.758190513                                       | Sum of GTIs [s]                             |
| ontime7  | 29045.699230433                                       | Sum of GTIs [s]                             |
| l2events | 35890                                                 | Number of level 2 events                    |

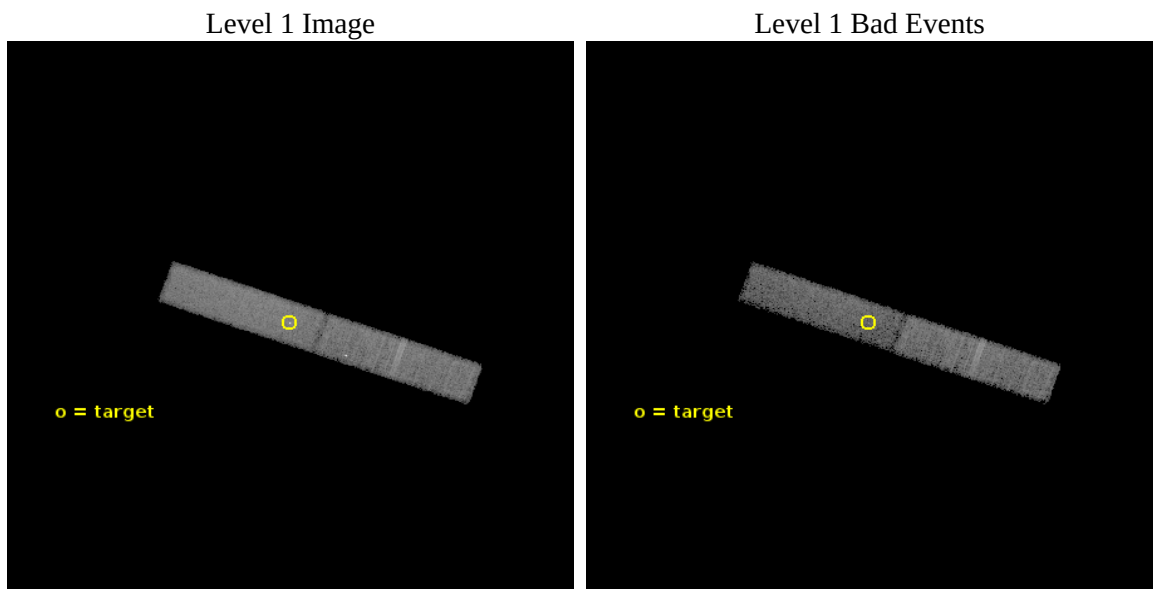




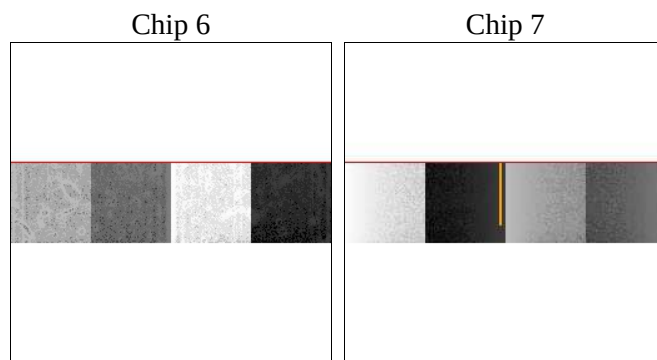
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 28947.234000    | [s] Scheduled observation exposure time |
| ascdsver | 10.4.3.1            | Processing system revision     | ontime         | 29045.699230433 | Sum of GTIs [s]                         |
| caldsver | 4.7.1               | &#160                          | ontime6        | 29044.758190513 | Sum of GTIs [s]                         |
| date     | 2016-04-05T18:51:47 | Date and time of file creation | ontime7        | 29045.699230433 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | l1events       | 119758          | Number of level 1 events                |

### 2.1.4 Events

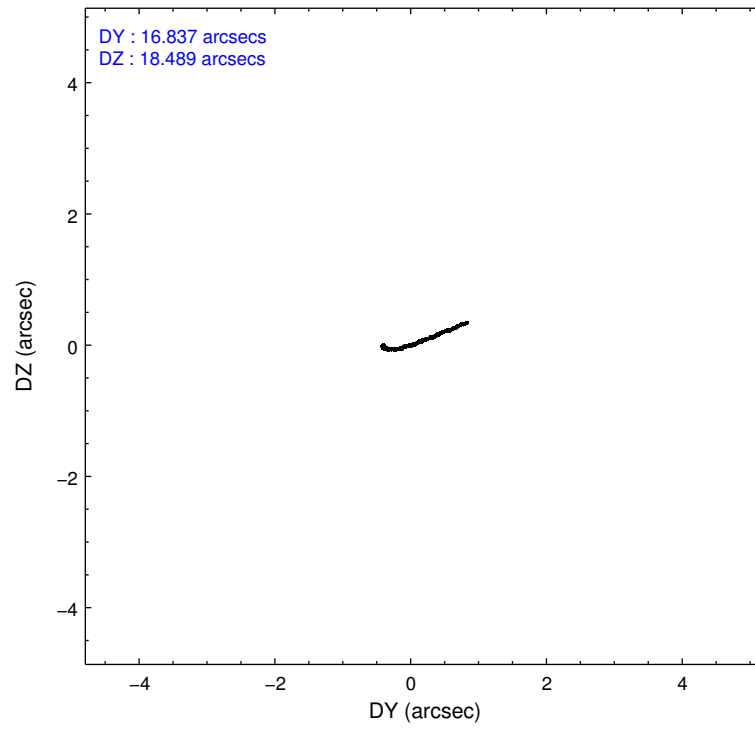
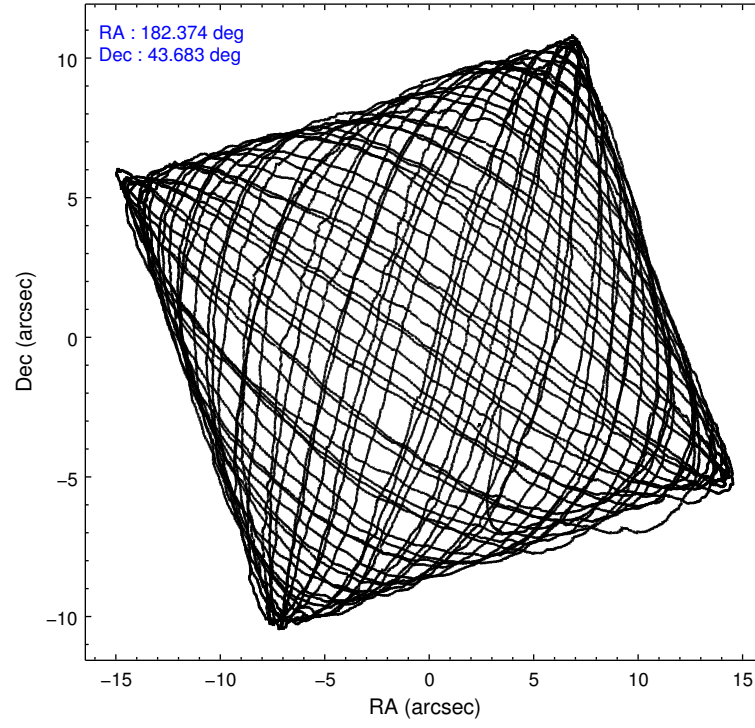
|                 | <b>ccd 6</b> | <b>ccd 7</b> |
|-----------------|--------------|--------------|
| level 1 events  | 56298        | 63460        |
| rejected events | 48902        | 33028        |
| rejected %      | <b>86%</b>   | <b>52%</b>   |

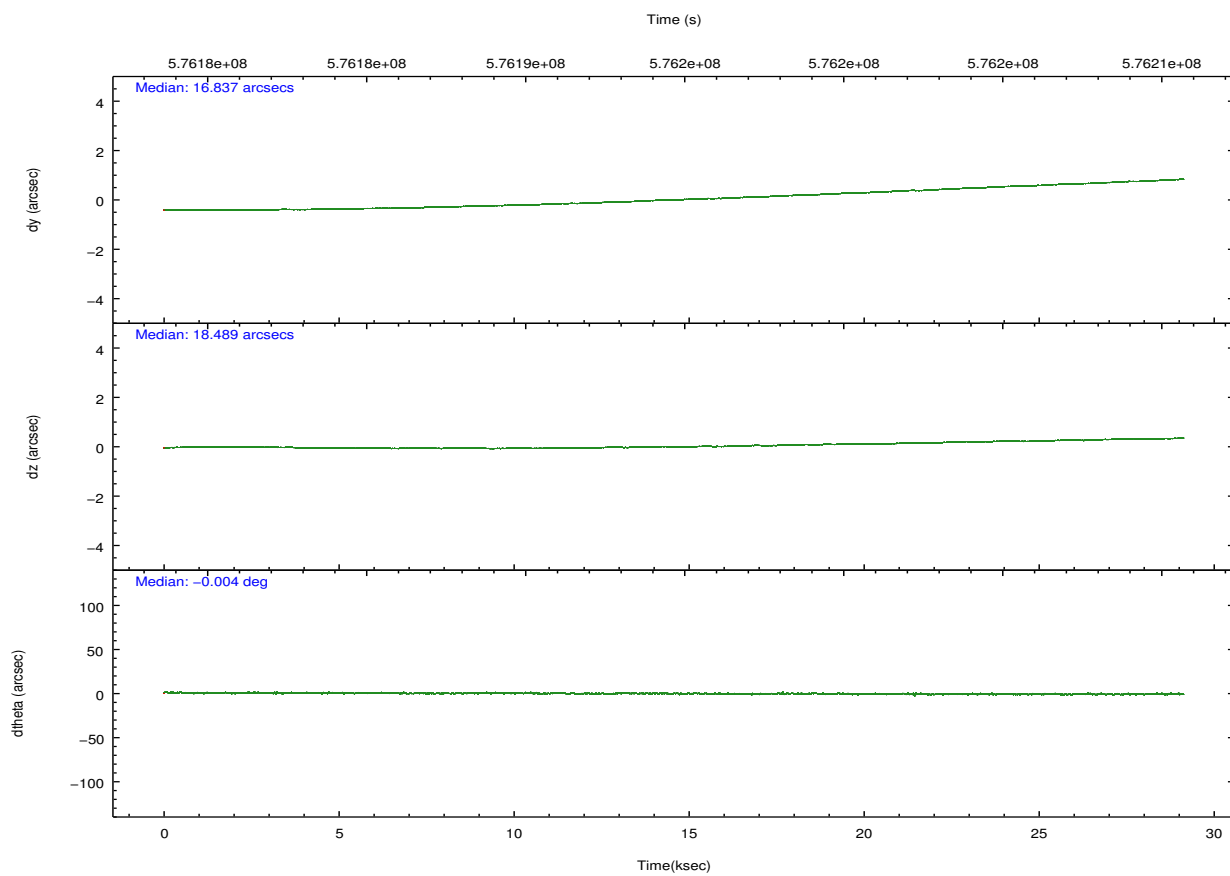
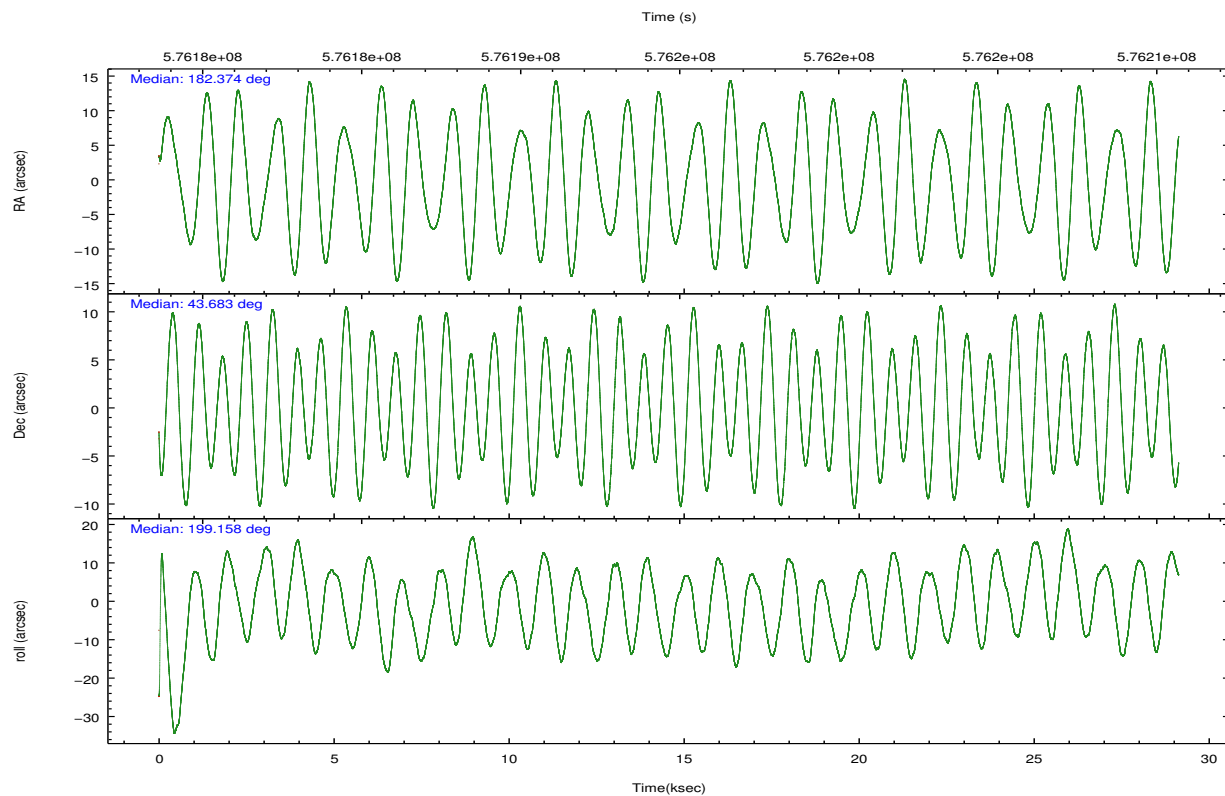
|                | <b>ccd 6</b> | <b>ccd 7</b> |
|----------------|--------------|--------------|
| grade 0 events | 2722         | 3199         |
|                | 4%           | 5%           |
| grade 1 events | 17           | 81           |
|                | 0%           | 0%           |
| grade 2 events | 1316         | 6179         |
|                | 2%           | 9%           |
| grade 3 events | 1081         | 3083         |
|                | 1%           | 4%           |
| grade 4 events | 954          | 3075         |
|                | 1%           | 4%           |
| grade 5 events | 2178         | 6261         |
|                | 3%           | 9%           |
| grade 6 events | 1323         | 14897        |
|                | 2%           | 23%          |
| grade 7 events | 46707        | 26685        |
|                | 82%          | 42%          |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-67             | ACIS-67              | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 182.398280          | 182.3738393058401    | Subarray requested                    | CUSTOM    | 1/4     |
| [deg] Pointing Dec                | 43.703575           | 43.68257775202139    | Subarray start row                    | 385       | 385     |
| [deg] Pointing Roll               | 198.983055          | 199.1565447818829    | Subarray row count                    | 256       | 256     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | Alternating exposures requested       | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | [s] Primary exposure time             | 0.000000  | 0.9     |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  |                                       |           |         |
| [s] Observation start time (MET)  | 576180276.184000    | 576179339.1163501    |                                       |           |         |
| Observation start date            | 2016-04-04T18:03:28 | 2016-04-04T17:48:59  |                                       |           |         |
| [s] Observation end time (MET)    | 576209223.184000    | 576209448.49307      |                                       |           |         |
| Observation end date              | 2016-04-05T02:05:55 | 2016-04-05T02:10:48  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



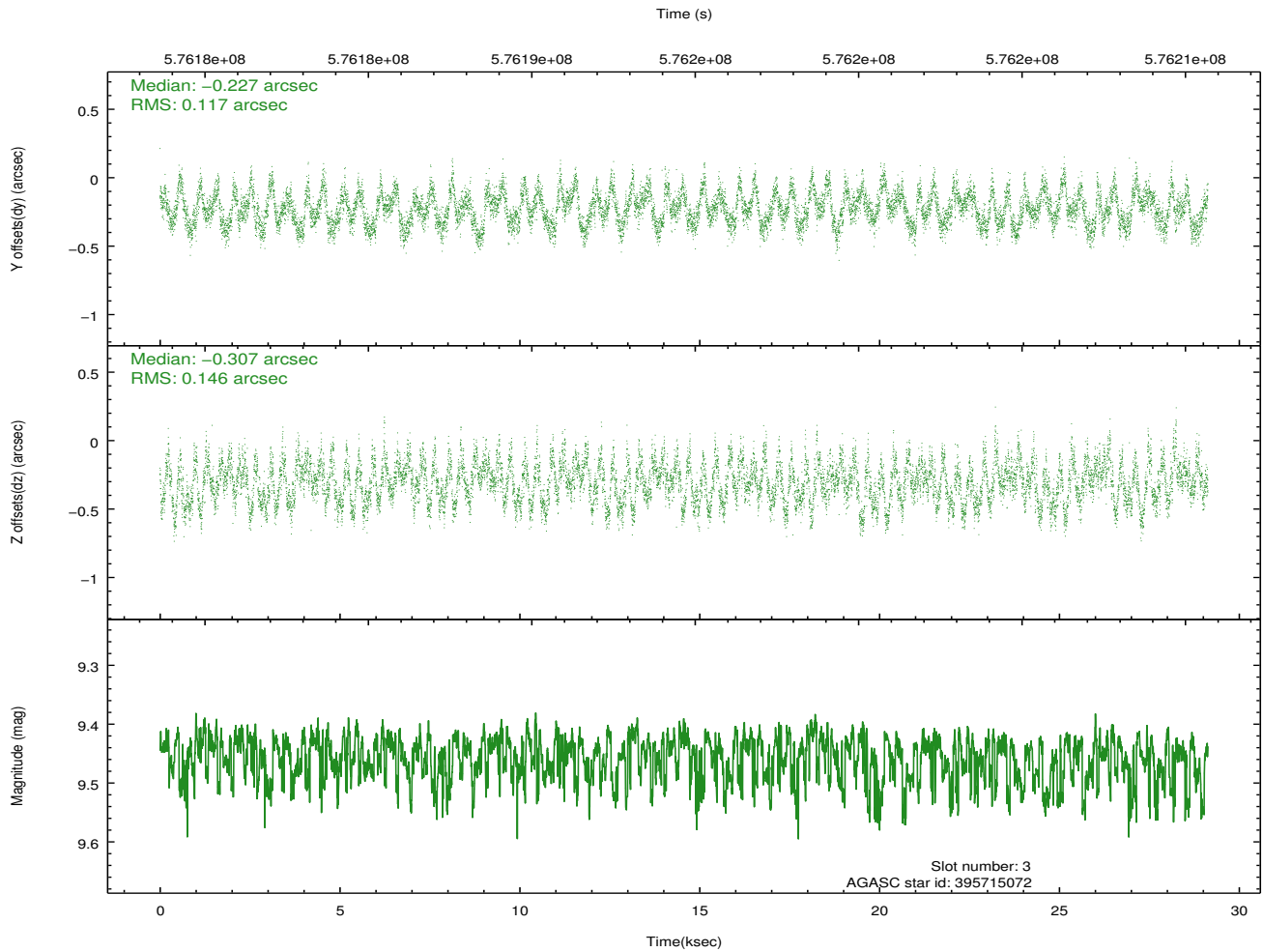
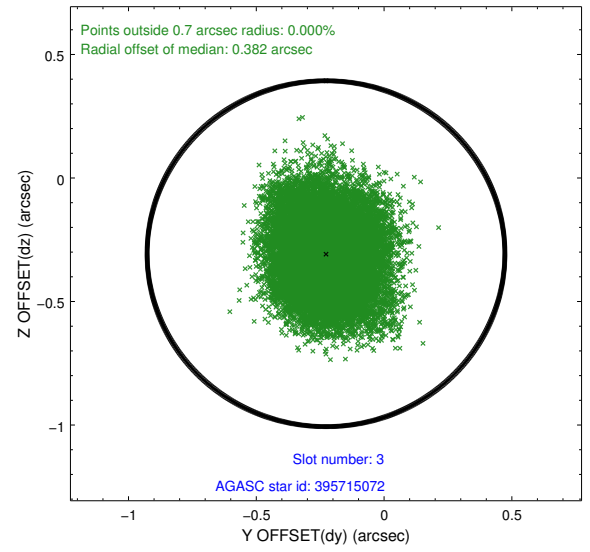
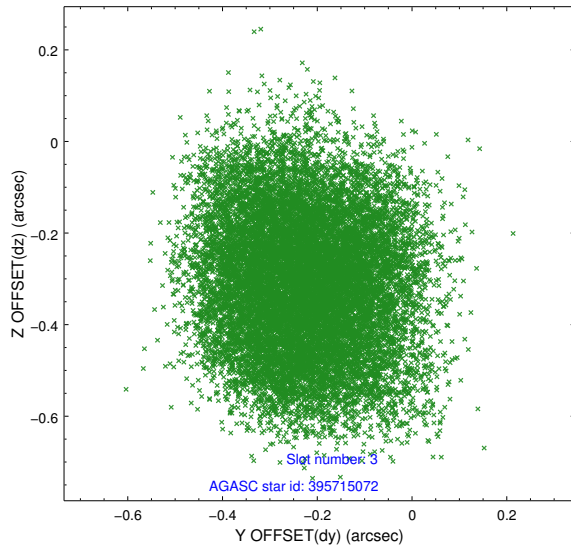


# Slot Statistics

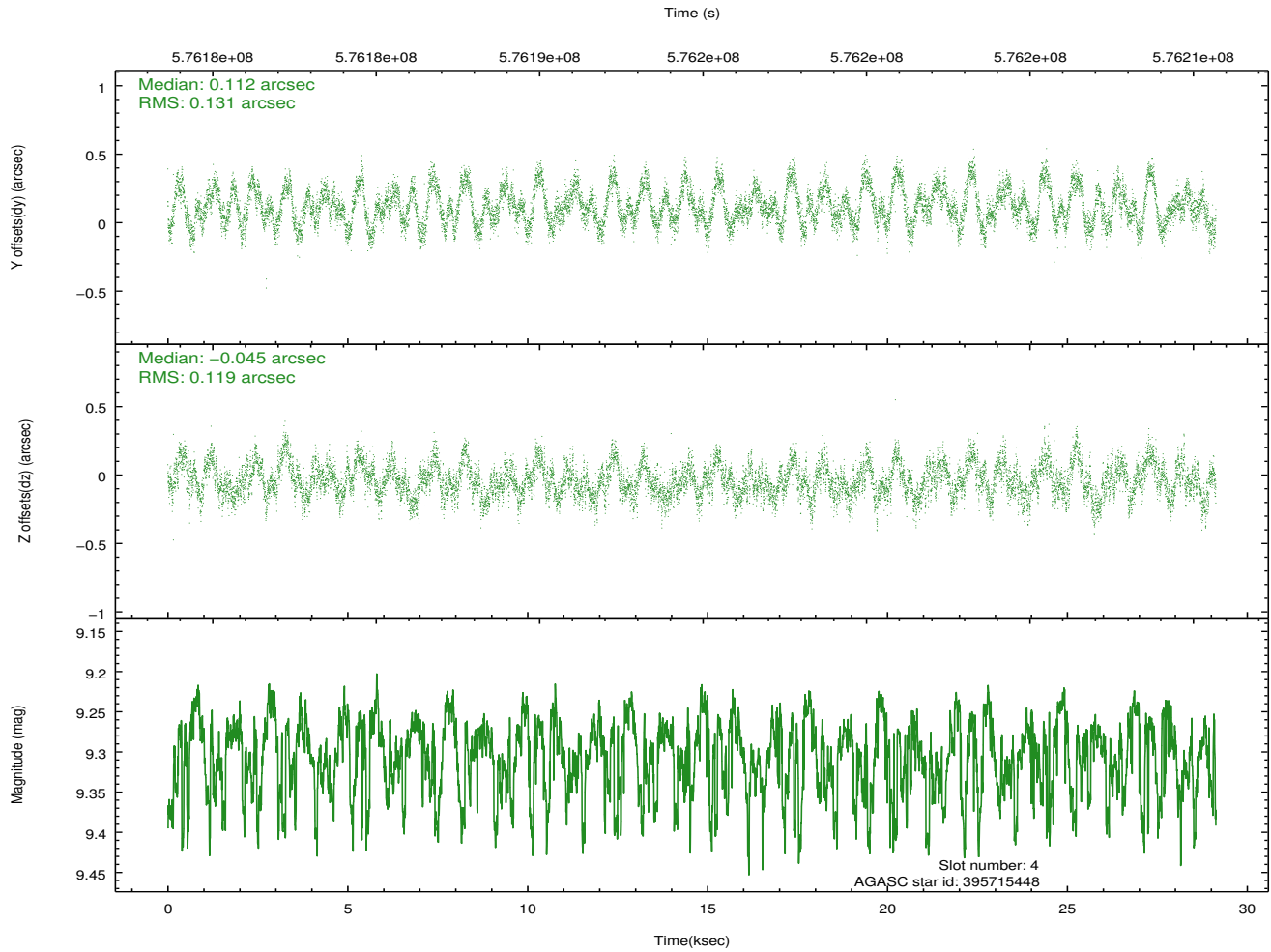
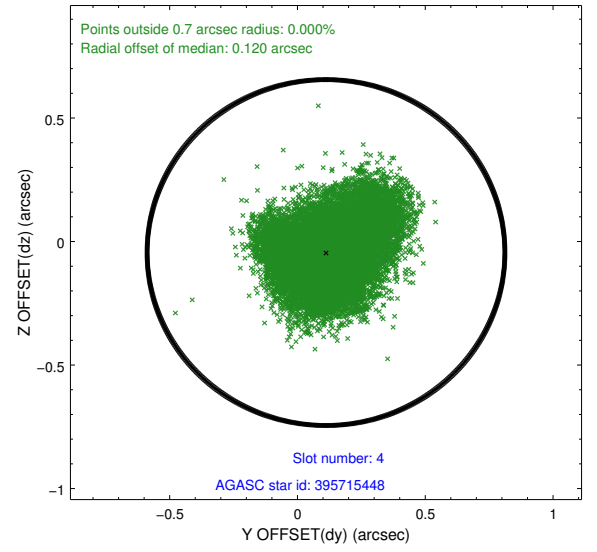
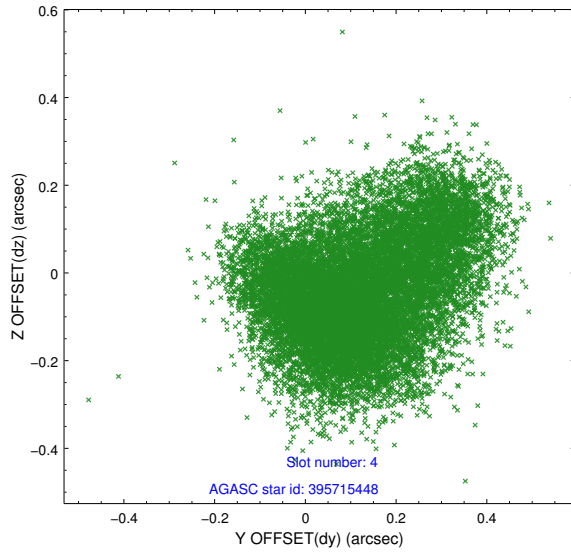
| slot | status | used | id        | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    |      | ACIS-S-2  | 7.12  | 7106  | -0.179 | -0.152 | 0.010 | 0.016 | 0.000000   | 0.000000  | -770.09  | -1740.13 |
| 1    | FID    |      | ACIS-S-4  | 7.23  | 7106  | 0.449  | 0.127  | 0.009 | 0.019 | 0.000000   | 0.000000  | 2143.77  | 168.56   |
| 2    | FID    |      | ACIS-S-5  | 7.24  | 7106  | -0.301 | 0.034  | 0.012 | 0.022 | 0.000000   | 0.000000  | -1822.97 | 162.21   |
| 3    | GUIDE  | used | 395715072 | 9.45  | 14196 | -0.227 | -0.307 | 0.205 | 0.311 | 182.150841 | 42.961754 | 1485.34  | 2311.97  |
| 4    | GUIDE  | used | 395715448 | 9.30  | 14189 | 0.112  | -0.045 | 0.191 | 0.302 | 182.849040 | 43.704154 | -1110.77 | 377.10   |
| 5    | GUIDE  | used | 395717992 | 9.93  | 14191 | -0.028 | 0.171  | 0.236 | 0.408 | 182.854455 | 43.561058 | -954.62  | 867.95   |
| 6    | GUIDE  | used | 395720384 | 10.14 | 14191 | 0.031  | 0.158  | 0.207 | 0.359 | 182.995481 | 43.714906 | -1484.04 | 461.88   |
| 7    | GUIDE  | used | 395708512 | 9.72  | 14157 | 0.100  | 0.018  | 0.262 | 0.458 | 181.398075 | 44.161736 | 1901.51  | -2415.49 |

## 2.4 Star Slots

### 2.4.1 Slot 3

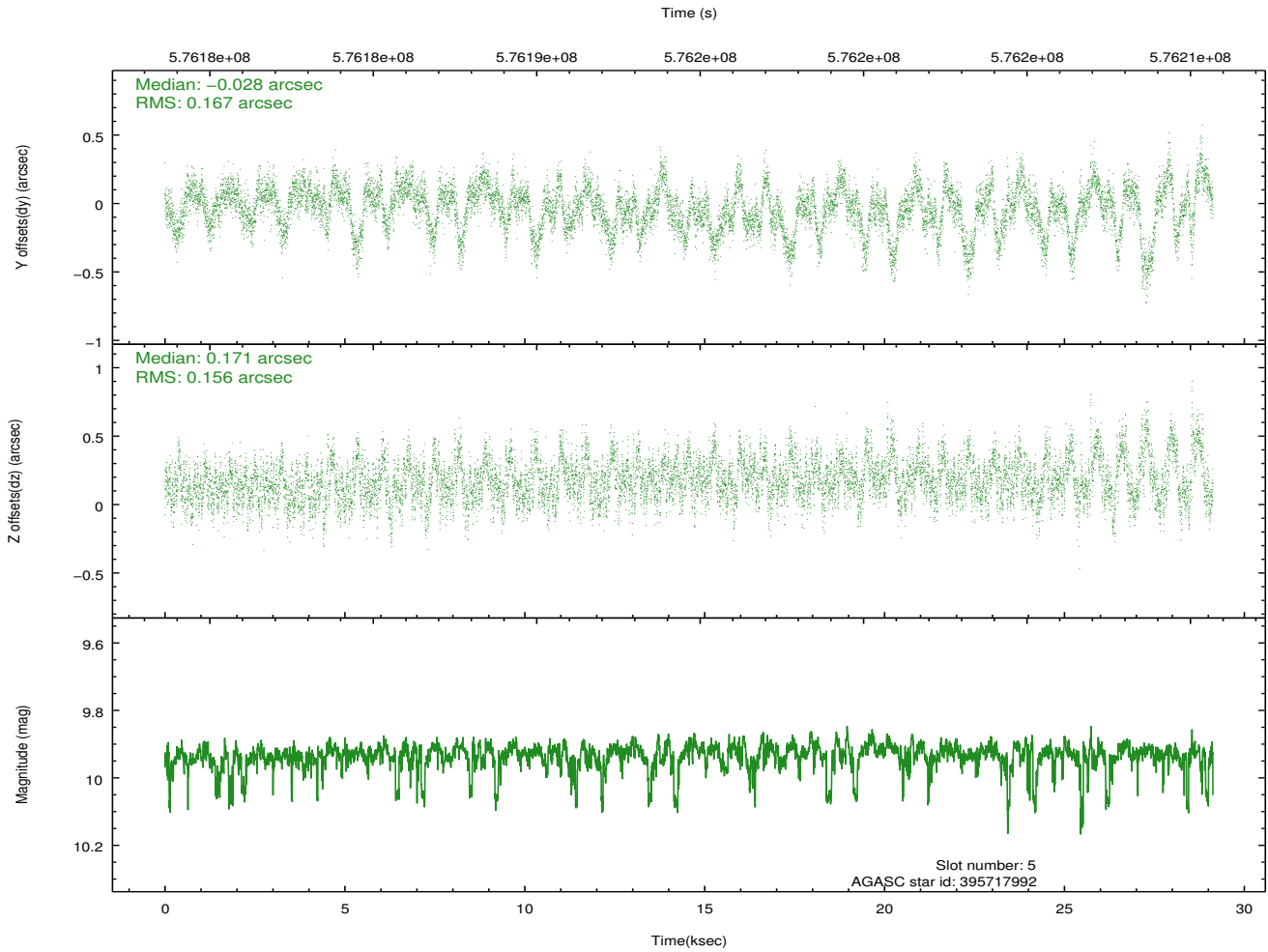
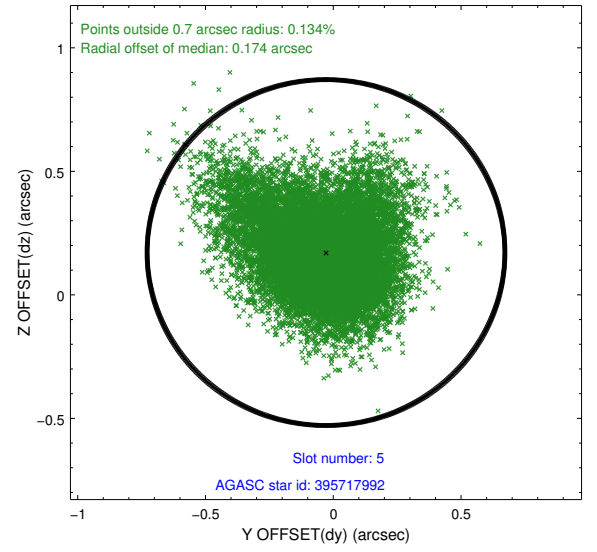
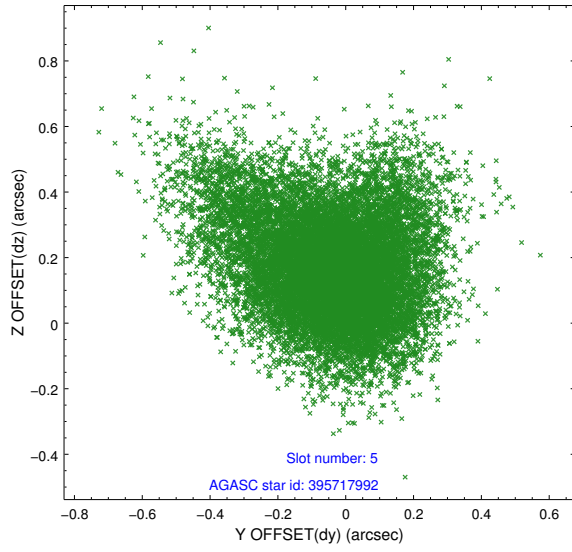


## 2.4.2 Slot 4

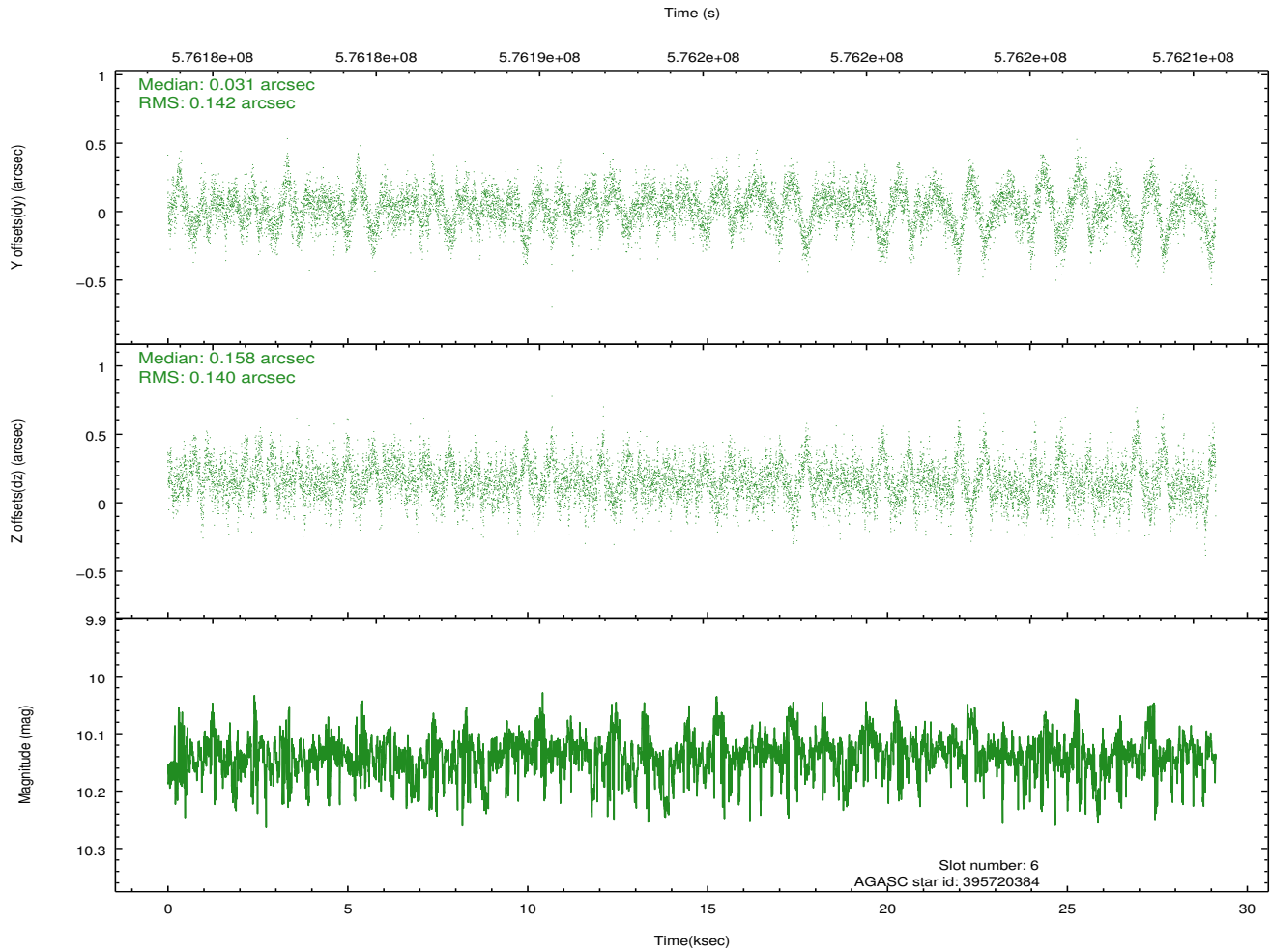
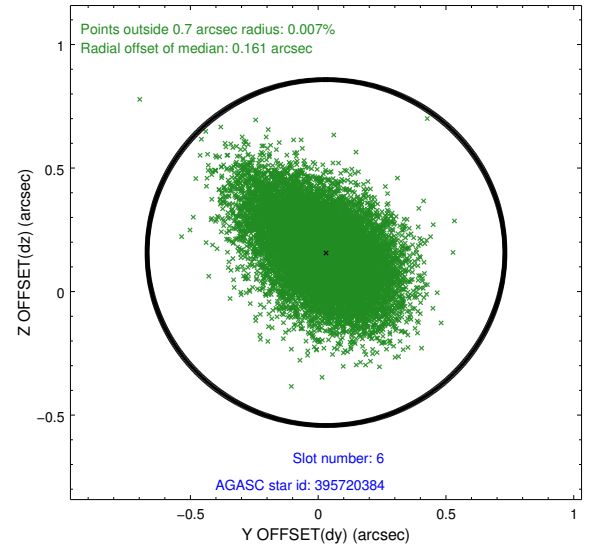
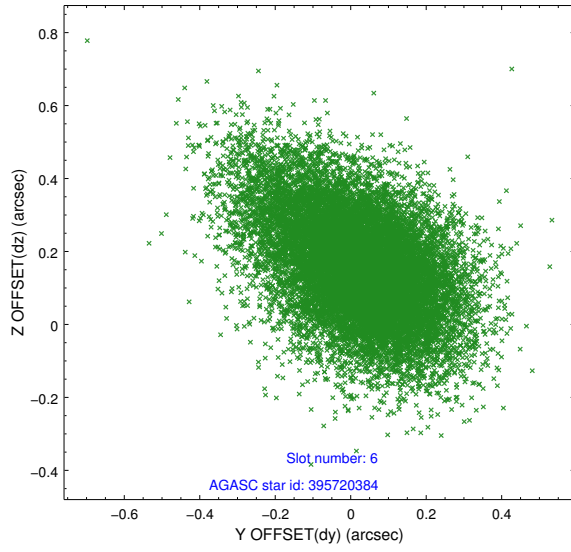




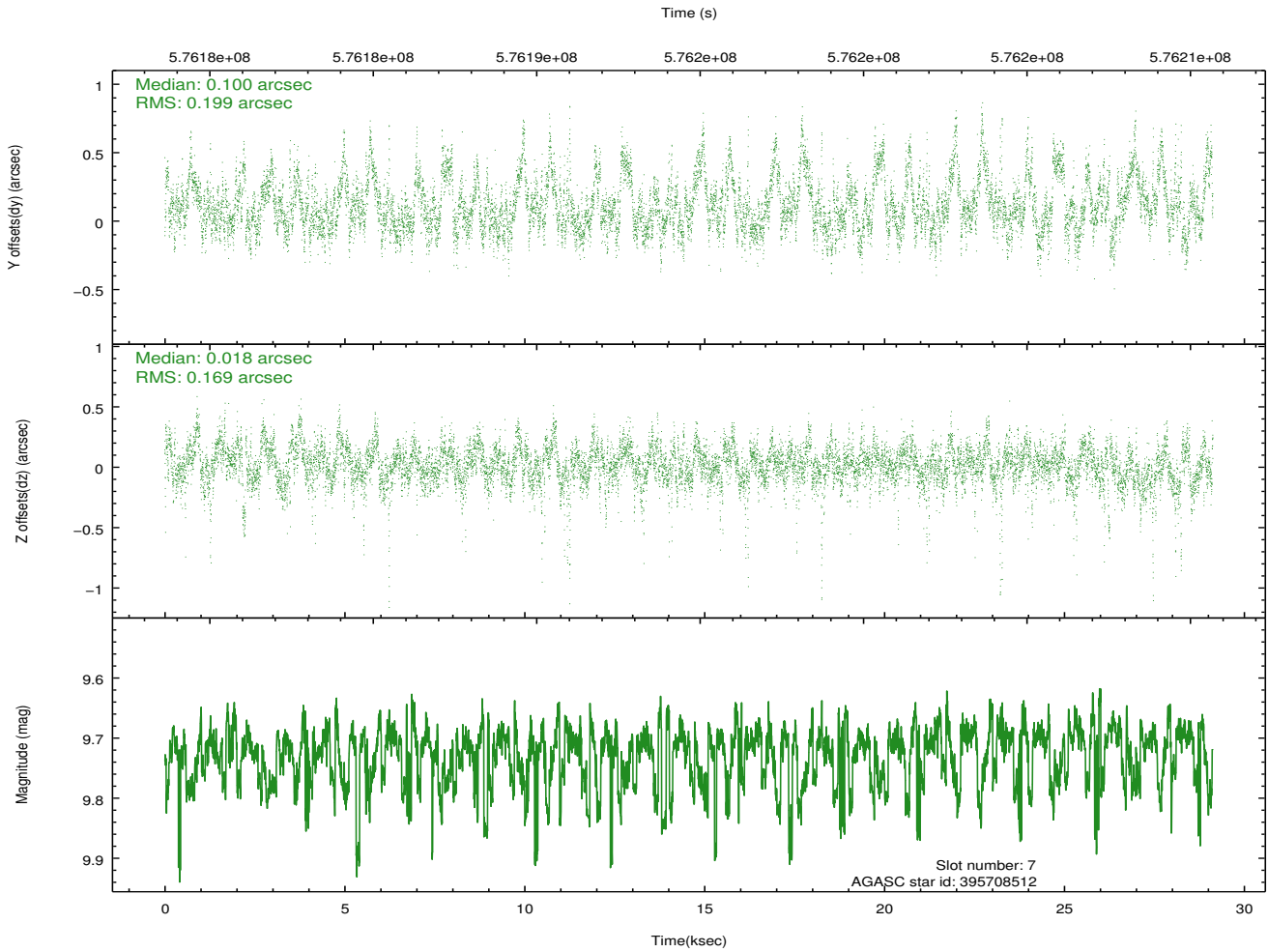
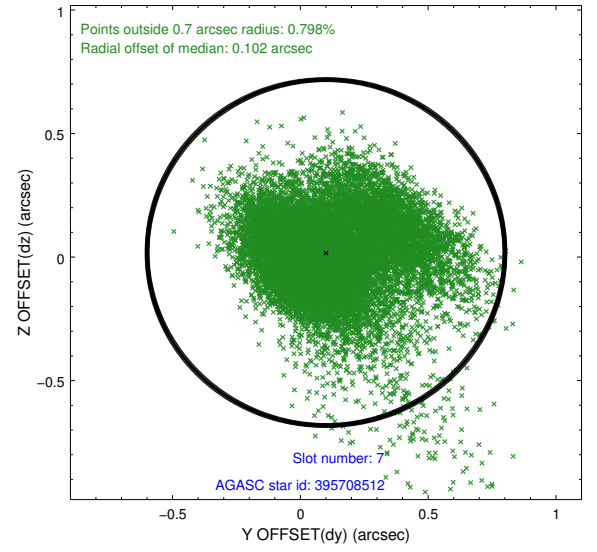
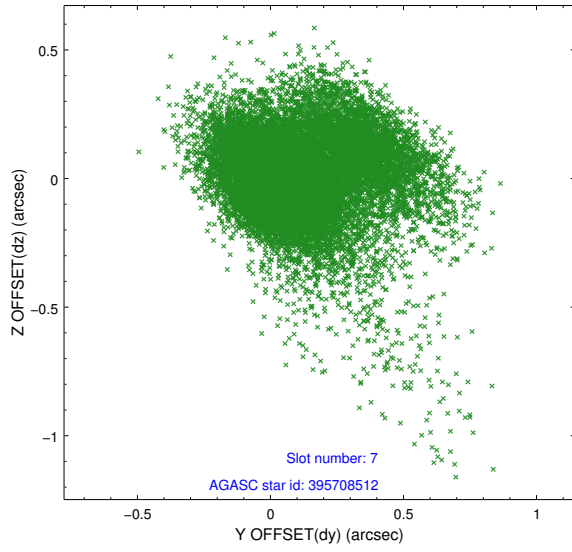
### 2.4.3 Slot 5



## 2.4.4 Slot 6

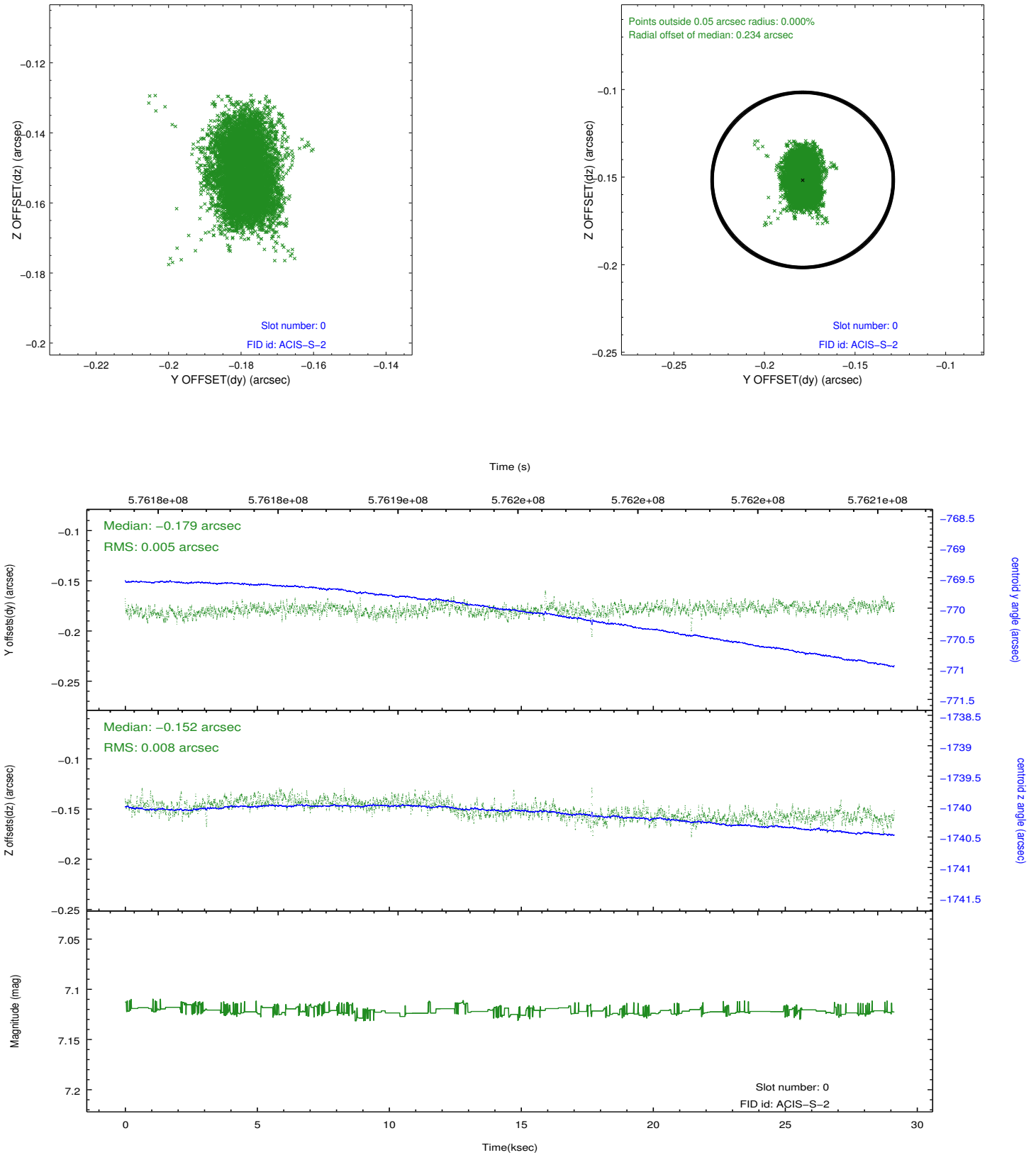


## 2.4.5 Slot 7

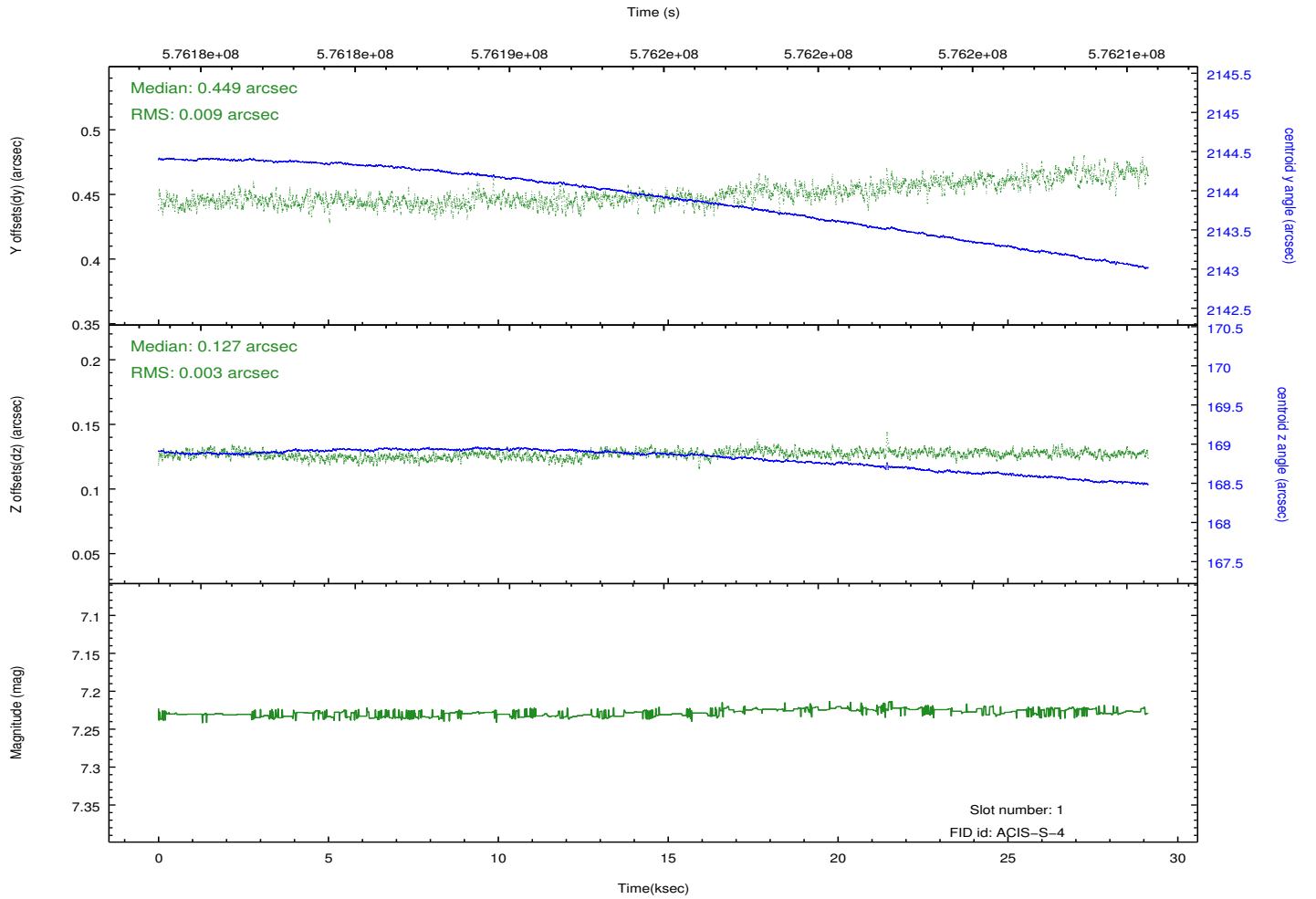
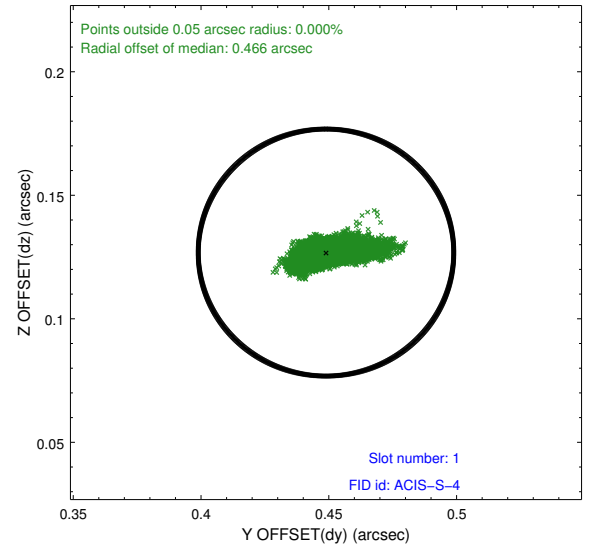
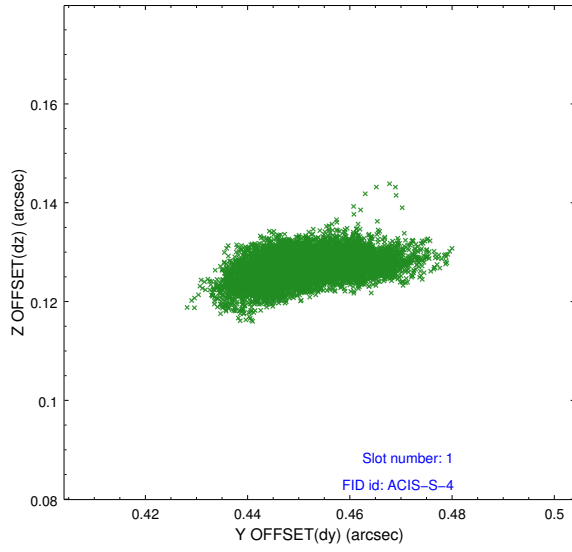


## 2.5 FID Slots

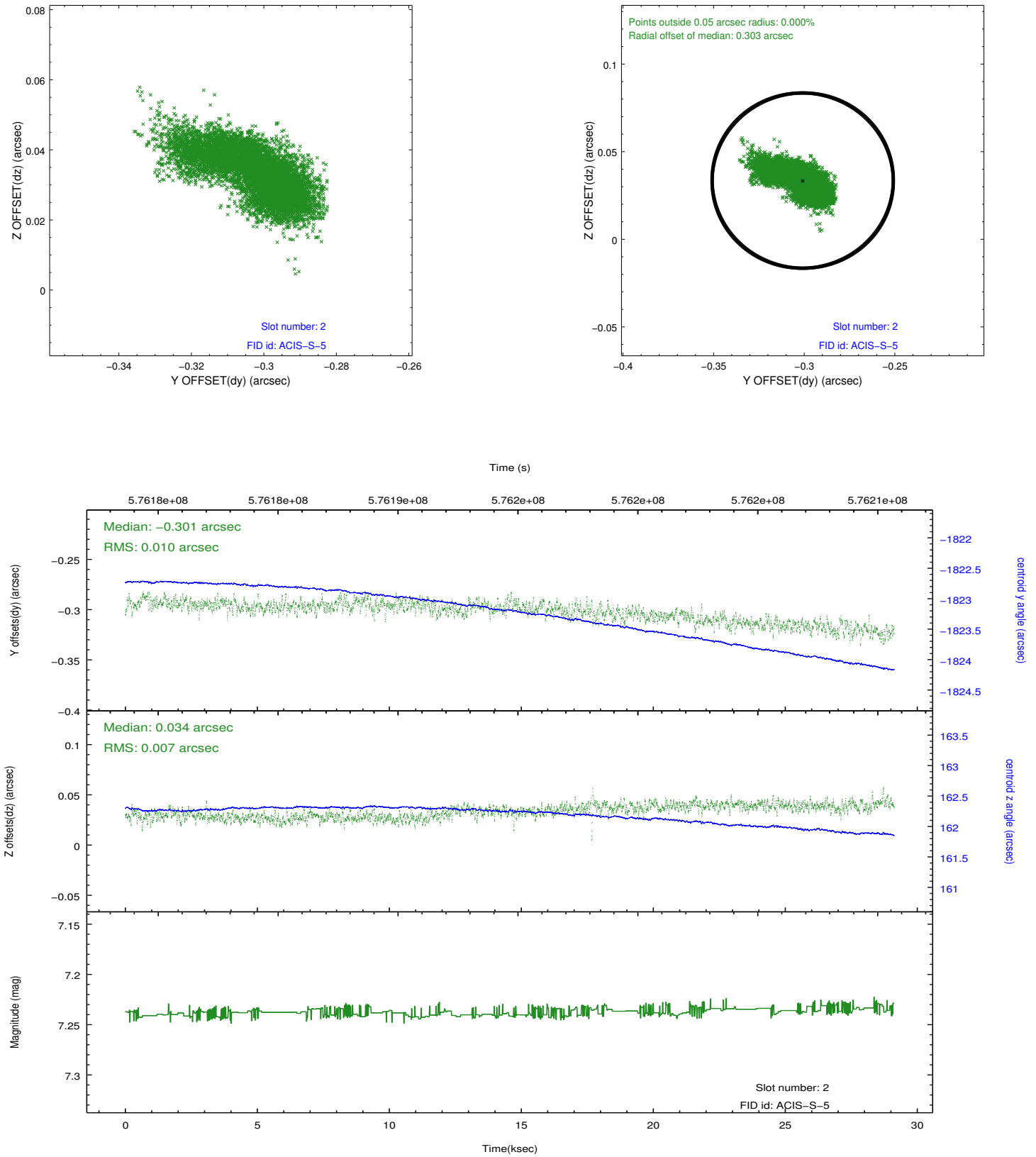
### 2.5.1 Slot 0



## 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)      | 2016.04.05      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 29.045699230433 |

### A.2 Comments