

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 18059 - L2 Version 1  
Chandra X-Ray Center

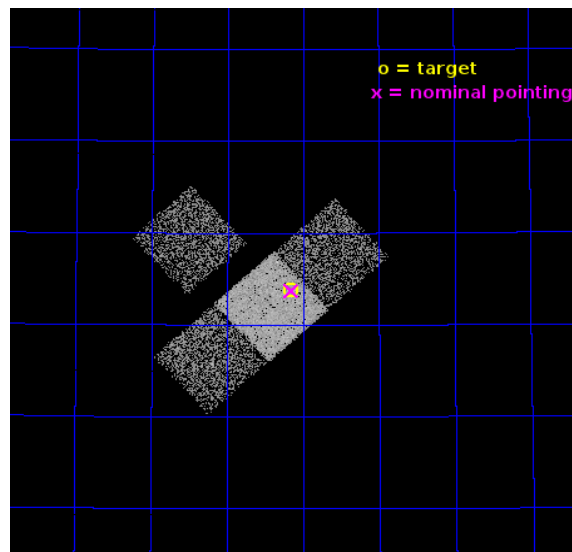
L2 Processing Date : Jan 27 2016

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# 1 Front

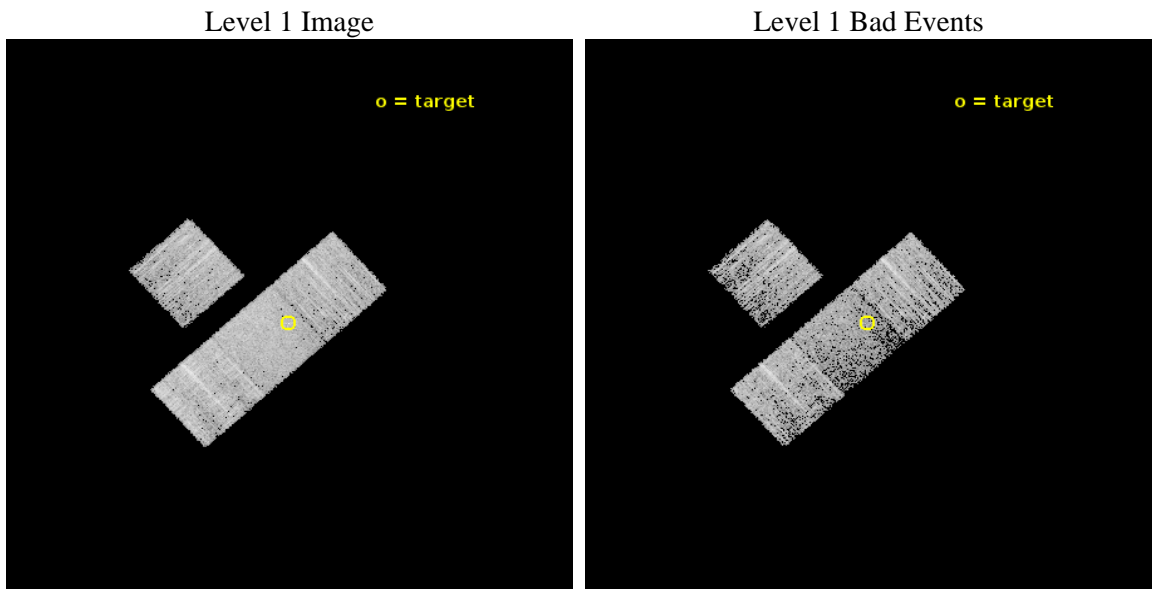
|          |  |   |
|----------|--|---|
| seq_num  | 601241   | Sequence number                             |
| obs_id   | 18059  | Observation id                              |
| title    | Multiwavelength Characterization of Candidate Black Holes in Nearby Dwarf Galaxies | Proposal title                              |
| observer | Dr. RICHARD PLOTKIN  | Principal investigator                      |
| object   | Mrk 1434   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 158.54236  | Observer's specified<br>target RA [deg]     |
| dec_targ | 58.063731  | Observer's specified<br>target Dec [deg]    |
| ra_nom   | 158.53916796181  | Nominal RA [deg]                            |
| dec_nom  | 58.062098584962  | Nominal Dec [deg]                           |
| roll_nom | 137.85237509081  | Nominal Roll [deg]                          |
| revision | 1  | Processing version of<br>data               |
| ontime   | 5065.1602947712  | Sum of GTIs [s]                             |
| livetime | 4998.9802466032  | Livetime [s]                                |
| ontime3  | 5065.0782147646  | Sum of GTIs [s]                             |
| ontime6  | 5065.1192548275  | Sum of GTIs [s]                             |
| ontime7  | 5065.1602947712  | Sum of GTIs [s]                             |
| ontime8  | 5065.0371748209  | Sum of GTIs [s]                             |
| l2events | 23174  | Number of level 2<br>events                 |



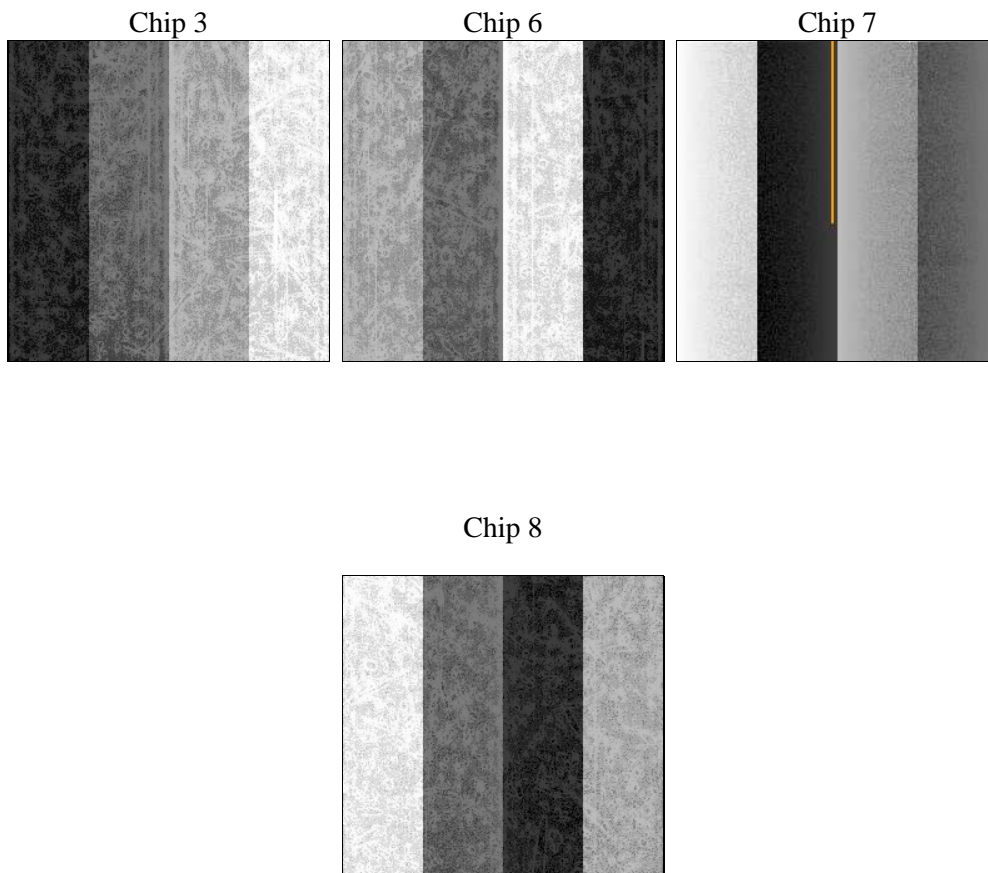
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 10.4.3.1            | Processing system revision     | ontime         | 5065.1602947712 | Sum of GTIs [s]                         |
| caldbver | 4.7.0               | &#160                          | ontime3        | 5065.0782147646 | Sum of GTIs [s]                         |
| date     | 2016-01-27T12:29:58 | Date and time of file creation | ontime6        | 5065.1192548275 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime7        | 5065.1602947712 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 5065.0371748209 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 132922          | Number of level 1 events                |

### 2.1.4 Events

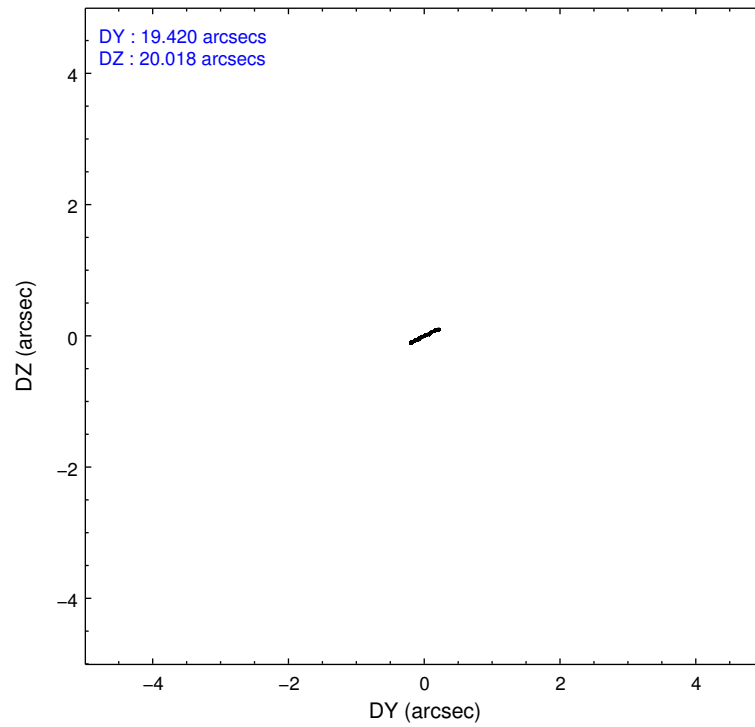
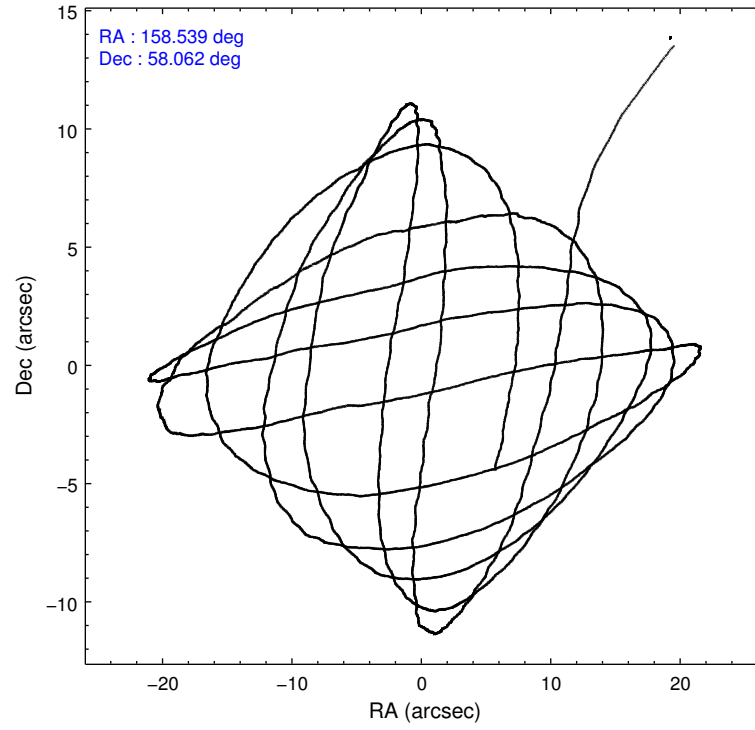
|                 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|
| level 1 events  | 28857 | 31420 | 33033 | 39612 |
| rejected events | 26001 | 28117 | 17996 | 28865 |
| rejected %      | 90%   | 89%   | 54%   | 72%   |

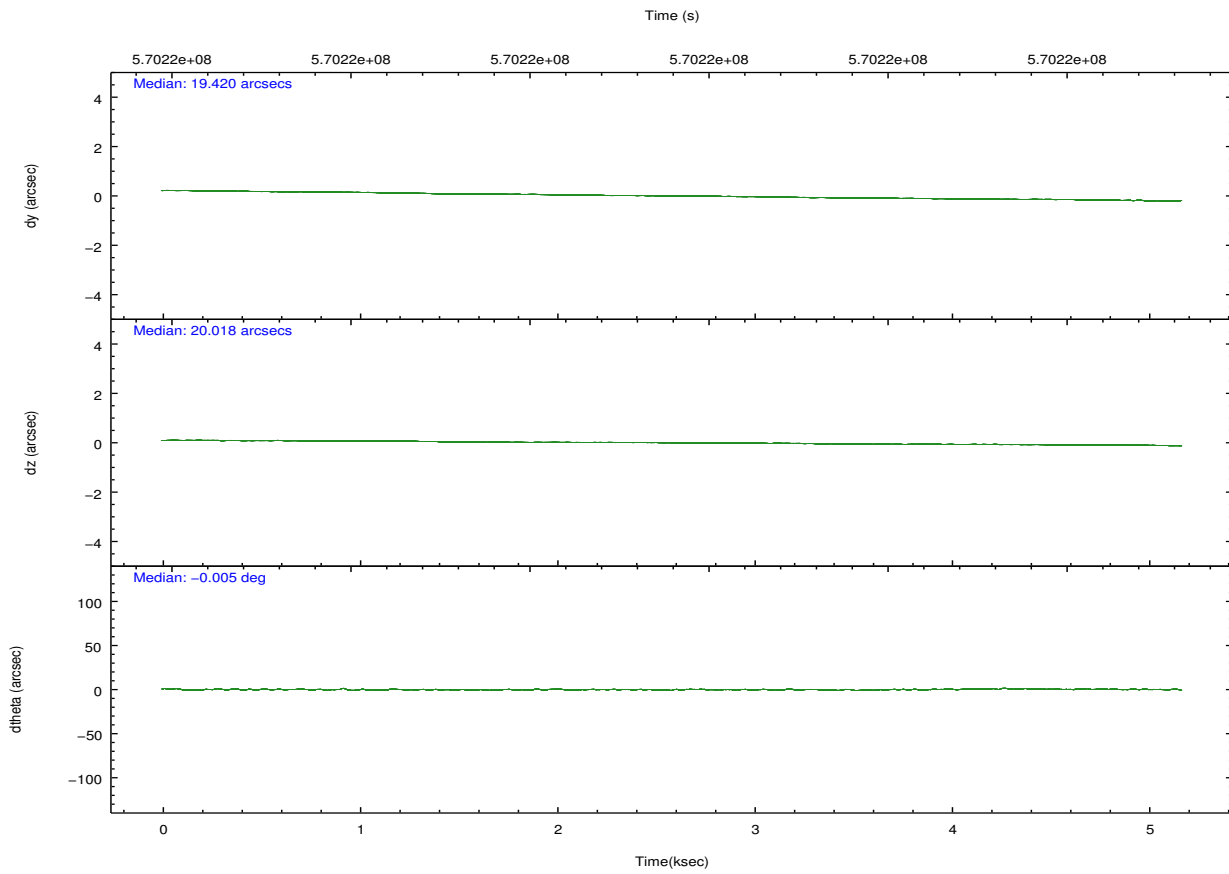
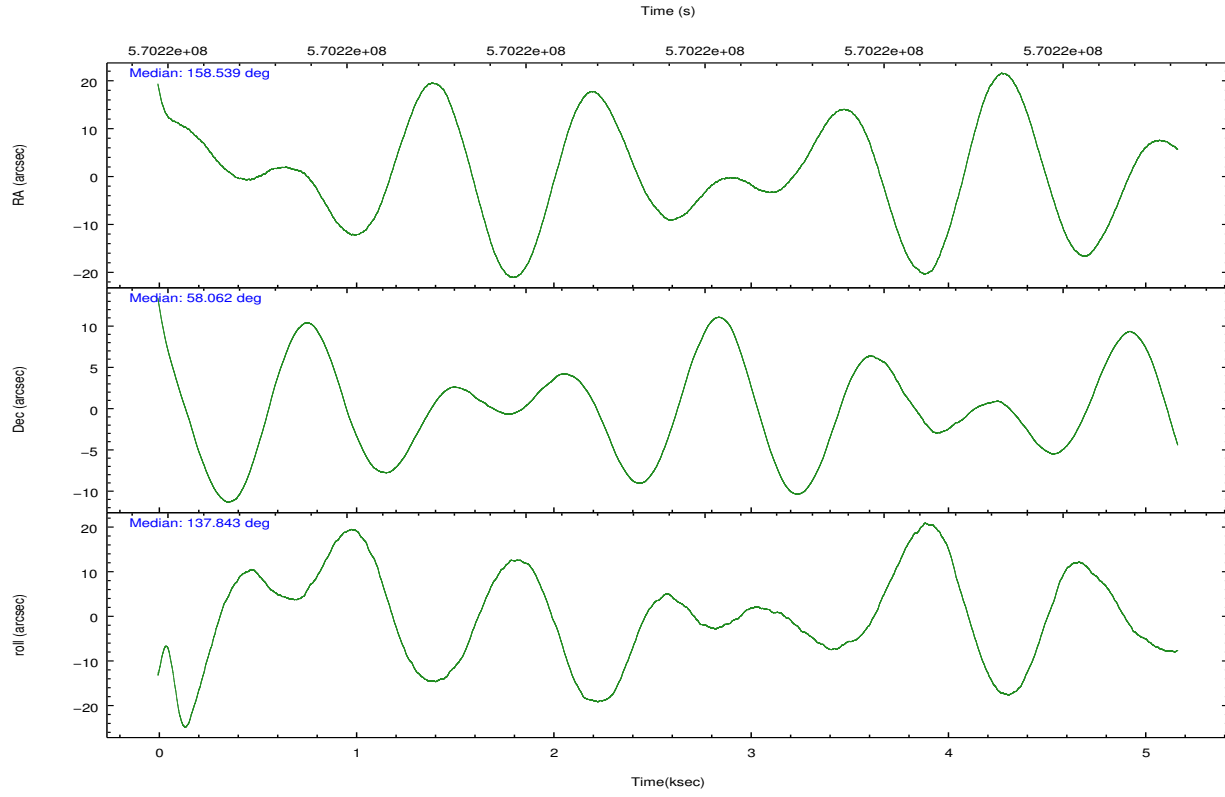
|                | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 984   | 1043  | 1342  | 3057  |
|                | 3%    | 3%    | 4%    | 7%    |
| grade 1 events | 23    | 18    | 51    | 26    |
|                | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 608   | 875   | 3321  | 2593  |
|                | 2%    | 2%    | 10%   | 6%    |
| grade 3 events | 333   | 303   | 1151  | 1113  |
|                | 1%    | 0%    | 3%    | 2%    |
| grade 4 events | 326   | 289   | 1208  | 1034  |
|                | 1%    | 0%    | 3%    | 2%    |
| grade 5 events | 1180  | 1111  | 3149  | 1802  |
|                | 4%    | 3%    | 9%    | 4%    |
| grade 6 events | 607   | 797   | 8026  | 2955  |
|                | 2%    | 2%    | 24%   | 7%    |
| grade 7 events | 24796 | 26984 | 14785 | 27032 |
|                | 85%   | 85%   | 44%   | 68%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-3678           | ACIS-3678            | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 158.589944          | 158.5391679618071    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | 58.056645           | 58.06209858496156    | CCD I3 on                             | O1        | Y       |
| [deg] Pointing Roll               | 137.652592          | 137.85237509081      | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | O3        | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  | CCD S4 on                             | O2        | Y       |
| [s] Observation start time (MET)  | 570219363.184000    | 570218309.89117      | CCD S5 on                             | N         | N       |
| Observation start date            | 2016-01-26T18:14:55 | 2016-01-26T17:58:29  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 570224363.184000    | 570224757.14153      | On-chip summing requested             | N         | N       |
| Observation end date              | 2016-01-26T19:38:15 | 2016-01-26T19:45:57  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect





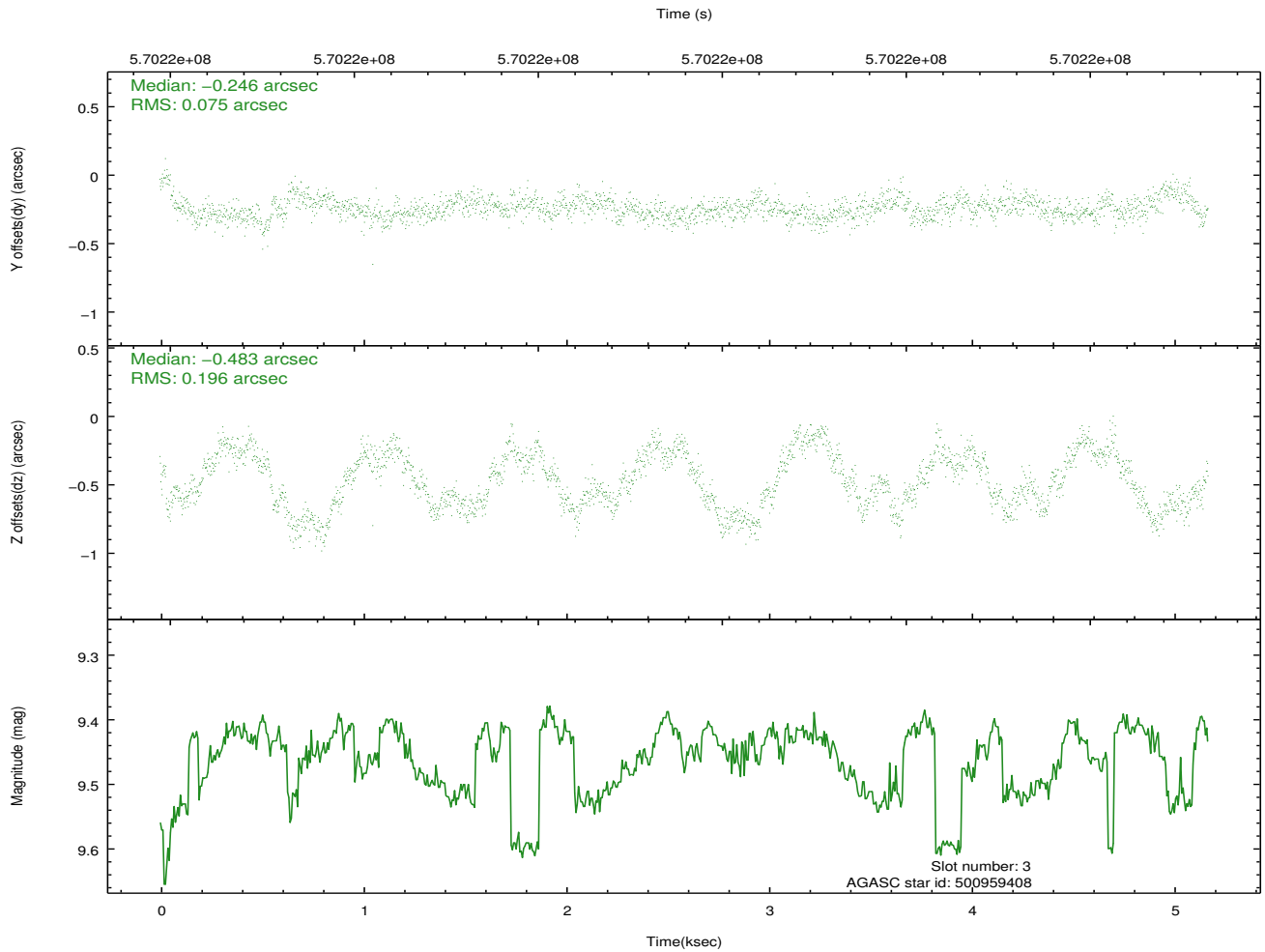
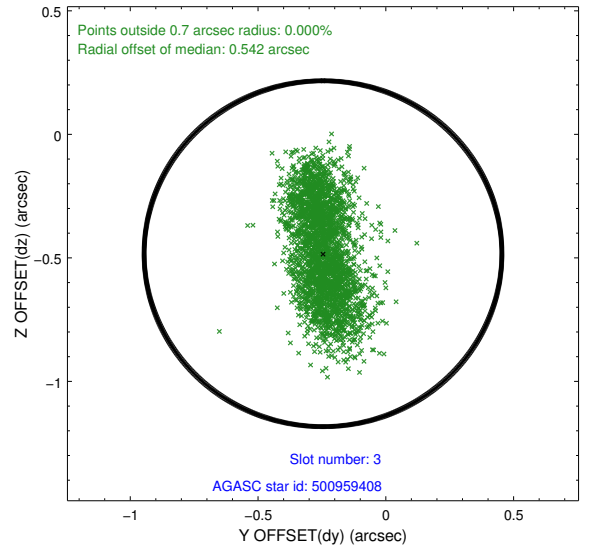
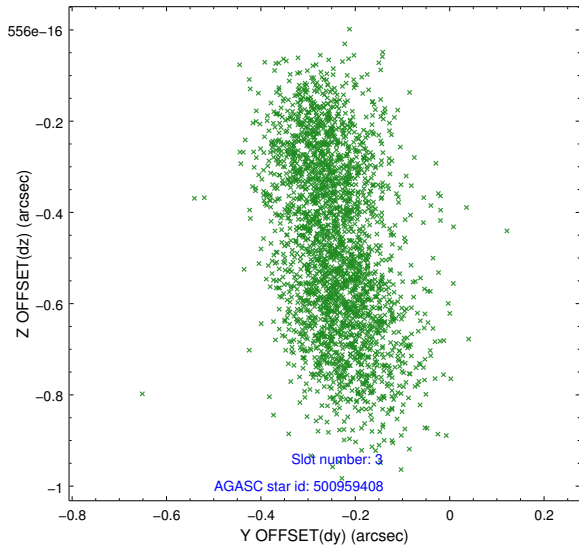
### Slot Statistics

| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    |      | ACIS-S-2  | 7.15 | 1260  | -0.242 | -0.148 | 0.009 | 0.015 | 0.000000   | 0.000000  | -772.73  | -1741.63 |
| 1    | FID    |      | ACIS-S-4  | 7.25 | 1261  | 0.529  | 0.156  | 0.006 | 0.011 | 0.000000   | 0.000000  | 2140.75  | 165.96   |
| 2    | FID    |      | ACIS-S-5  | 7.27 | 1260  | -0.318 | 0.001  | 0.009 | 0.019 | 0.000000   | 0.000000  | -1824.18 | 160.77   |
| 3    | GUIDE  | used | 500959408 | 9.45 | 2519  | -0.246 | -0.483 | 0.231 | 0.359 | 157.361573 | 57.862425 | 1281.60  | 2085.64  |
| 4    | GUIDE  | used | 500960944 | 9.84 | 2511  | -0.236 | -0.299 | 0.205 | 0.341 | 157.785286 | 57.689555 | 260.50   | 2013.85  |
| 5    | GUIDE  | used | 500961384 | 9.45 | 2521  | 0.211  | 0.246  | 0.174 | 0.288 | 159.416101 | 58.123584 | -991.06  | -1241.25 |
| 6    | GUIDE  | used | 500962432 | 9.50 | 2520  | 0.191  | 0.276  | 0.140 | 0.222 | 158.977500 | 58.020820 | -631.51  | -403.31  |
| 7    | GUIDE  | used | 500965384 | 9.76 | 2519  | 0.074  | 0.261  | 0.177 | 0.311 | 159.003342 | 57.936270 | -874.48  | -213.18  |

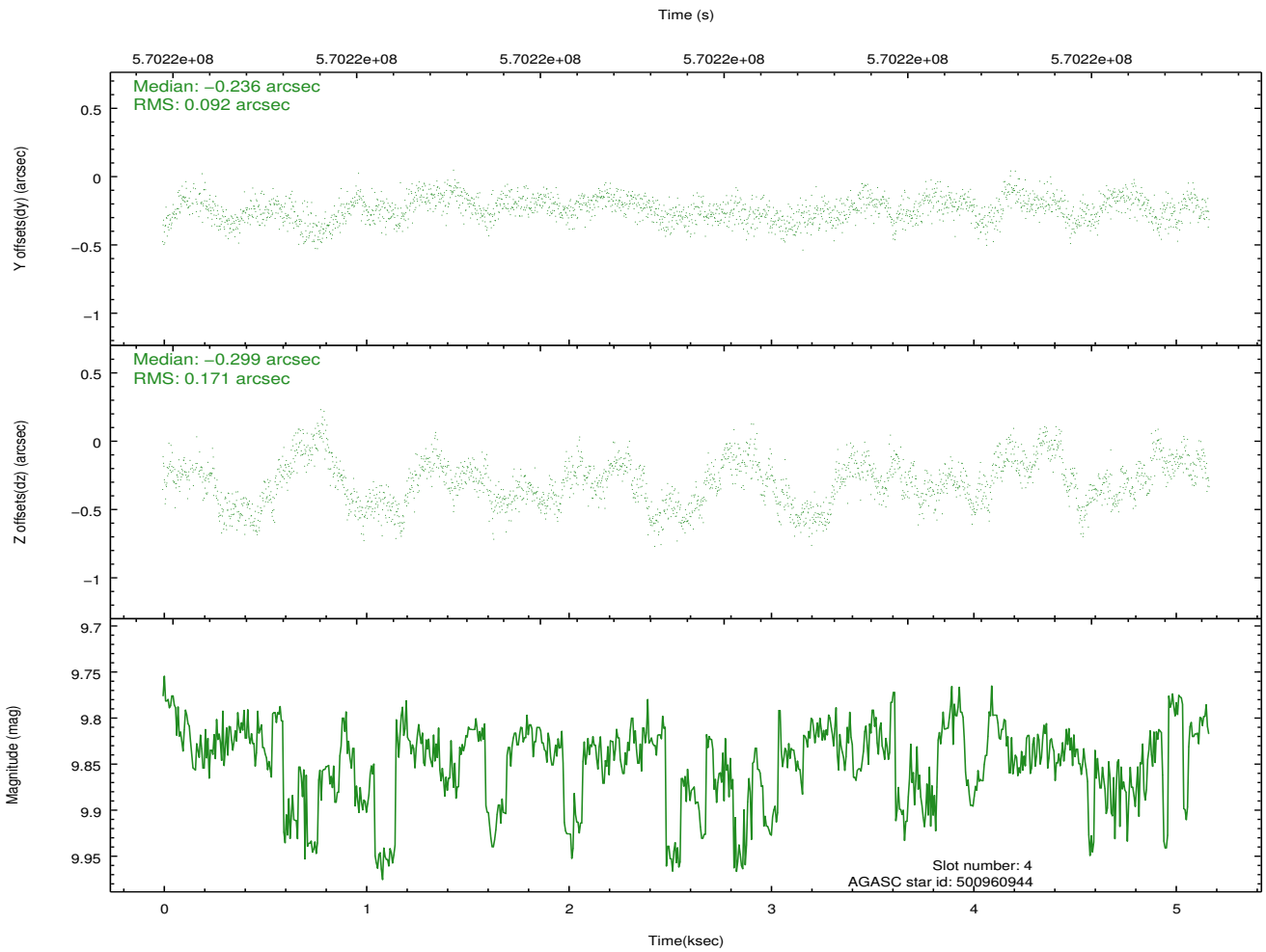
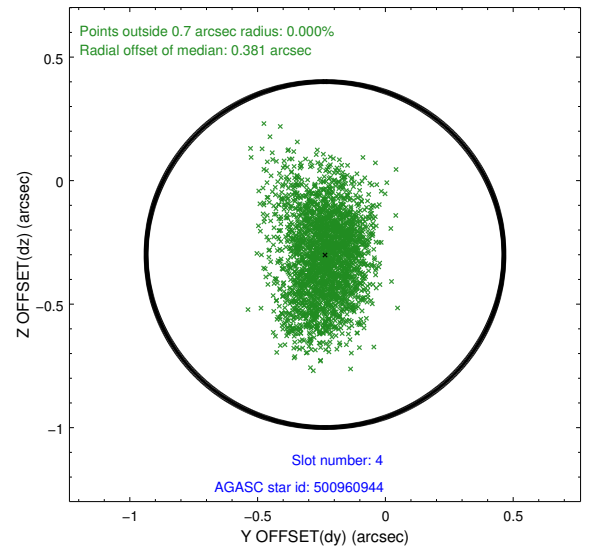
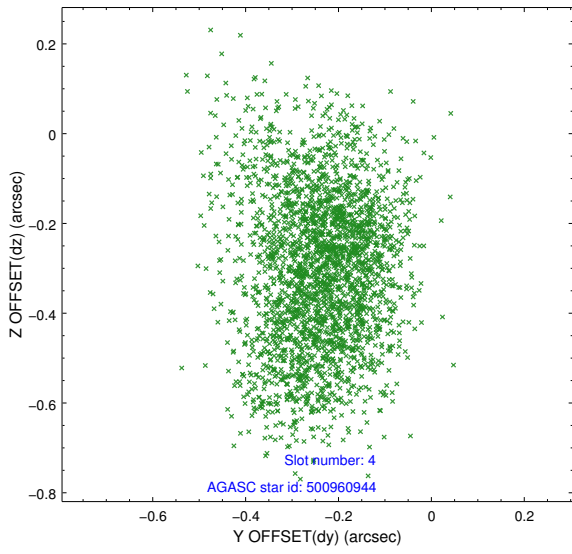
∞

## 2.4 Star Slots

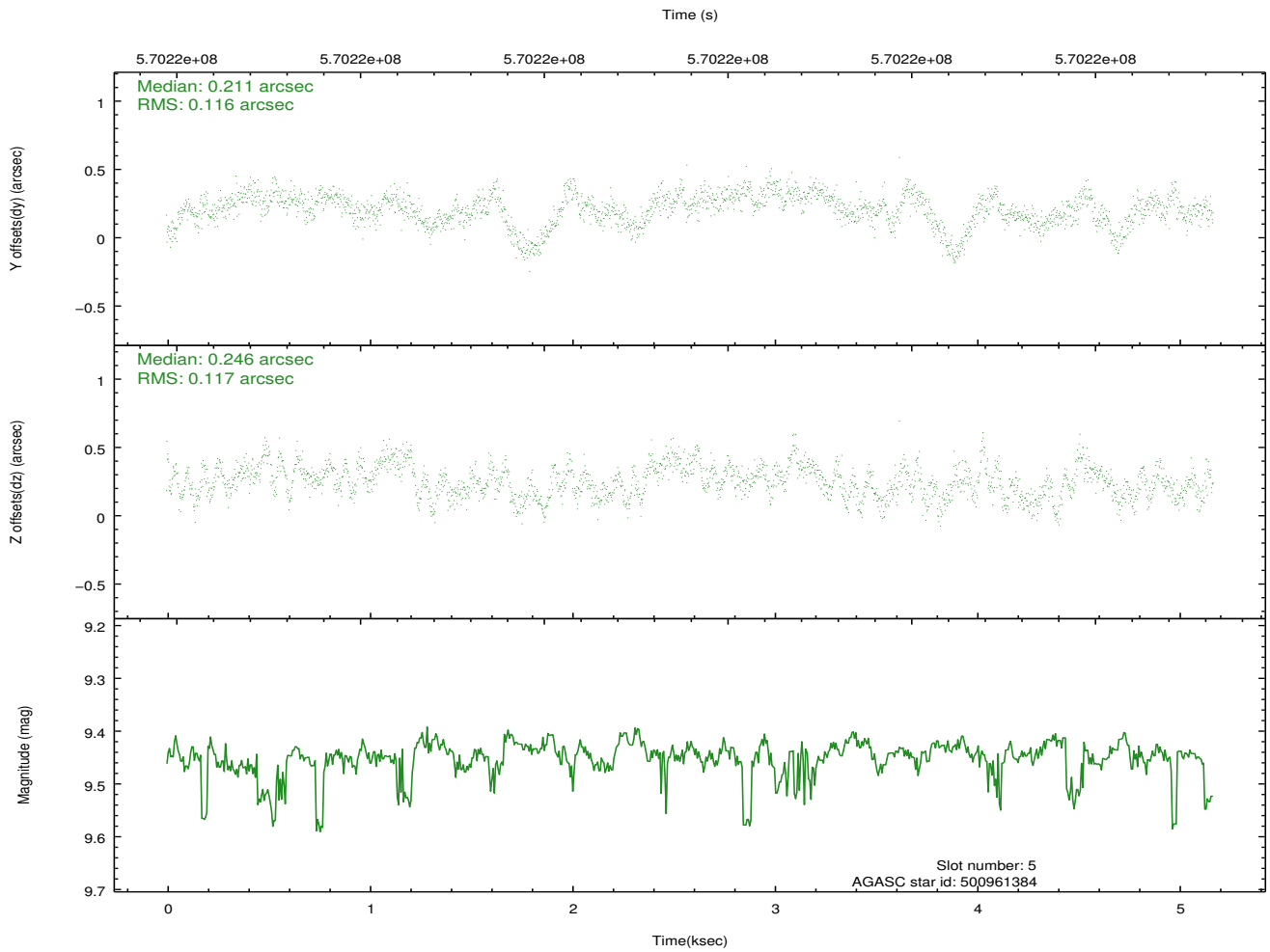
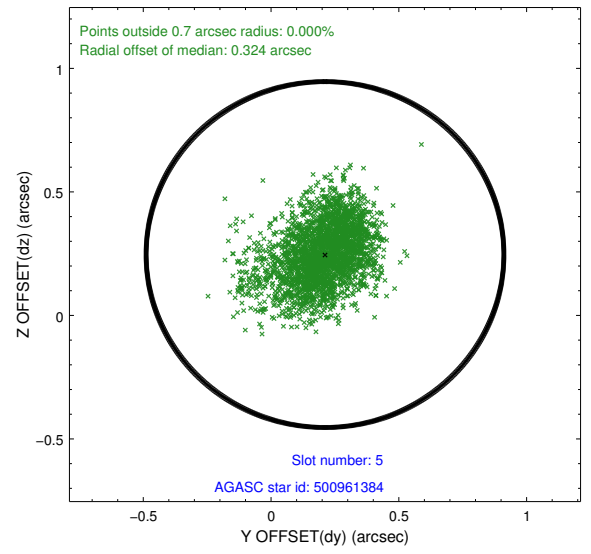
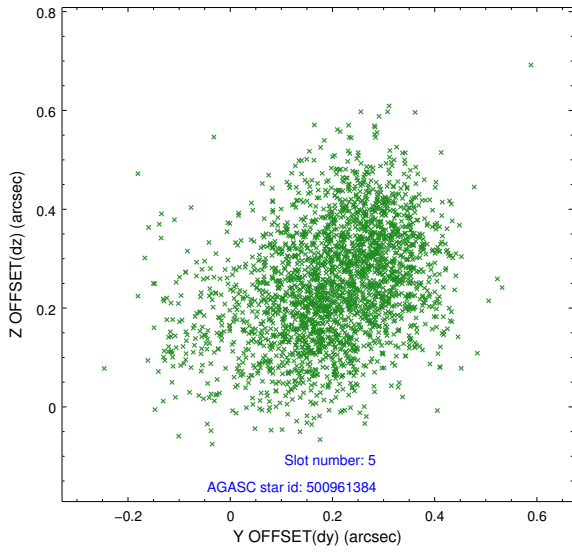
### 2.4.1 Slot 3



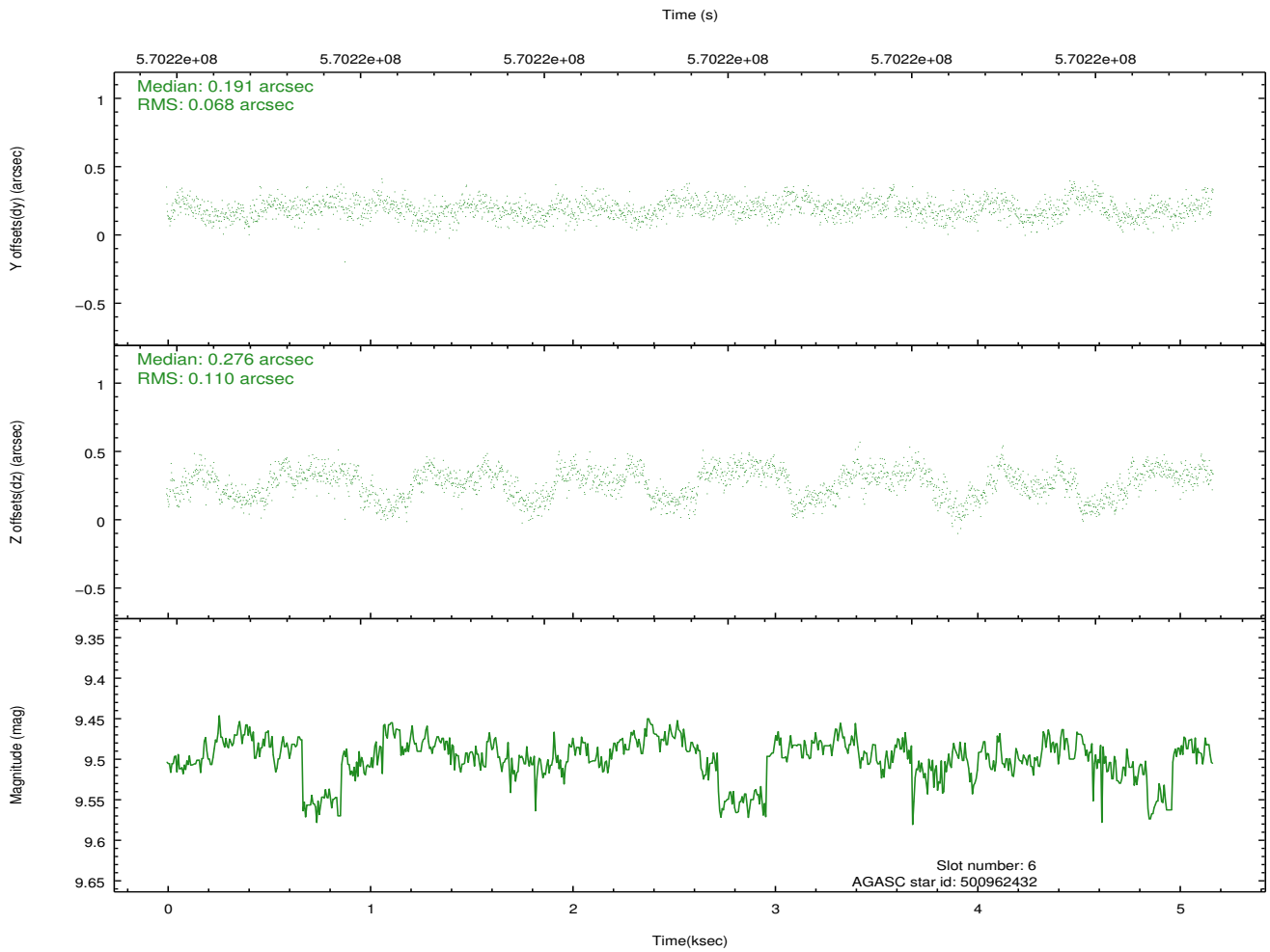
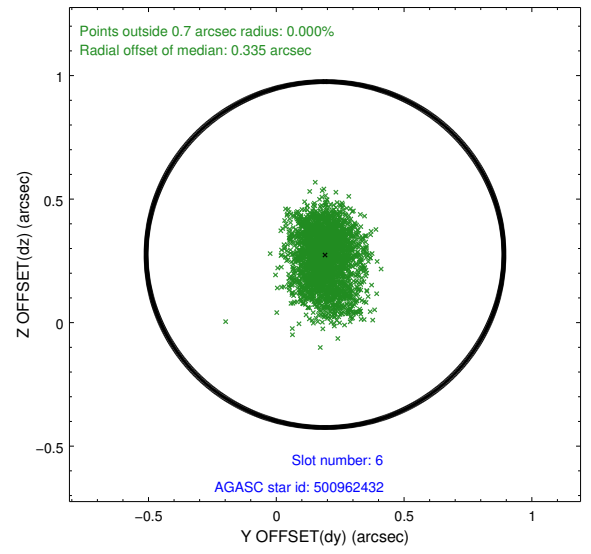
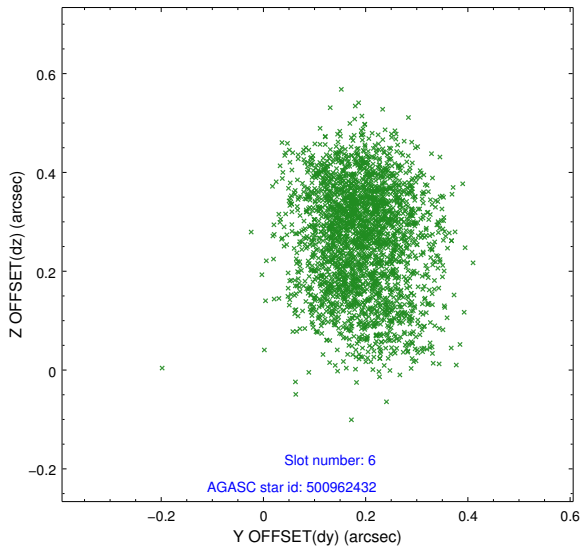
## 2.4.2 Slot 4



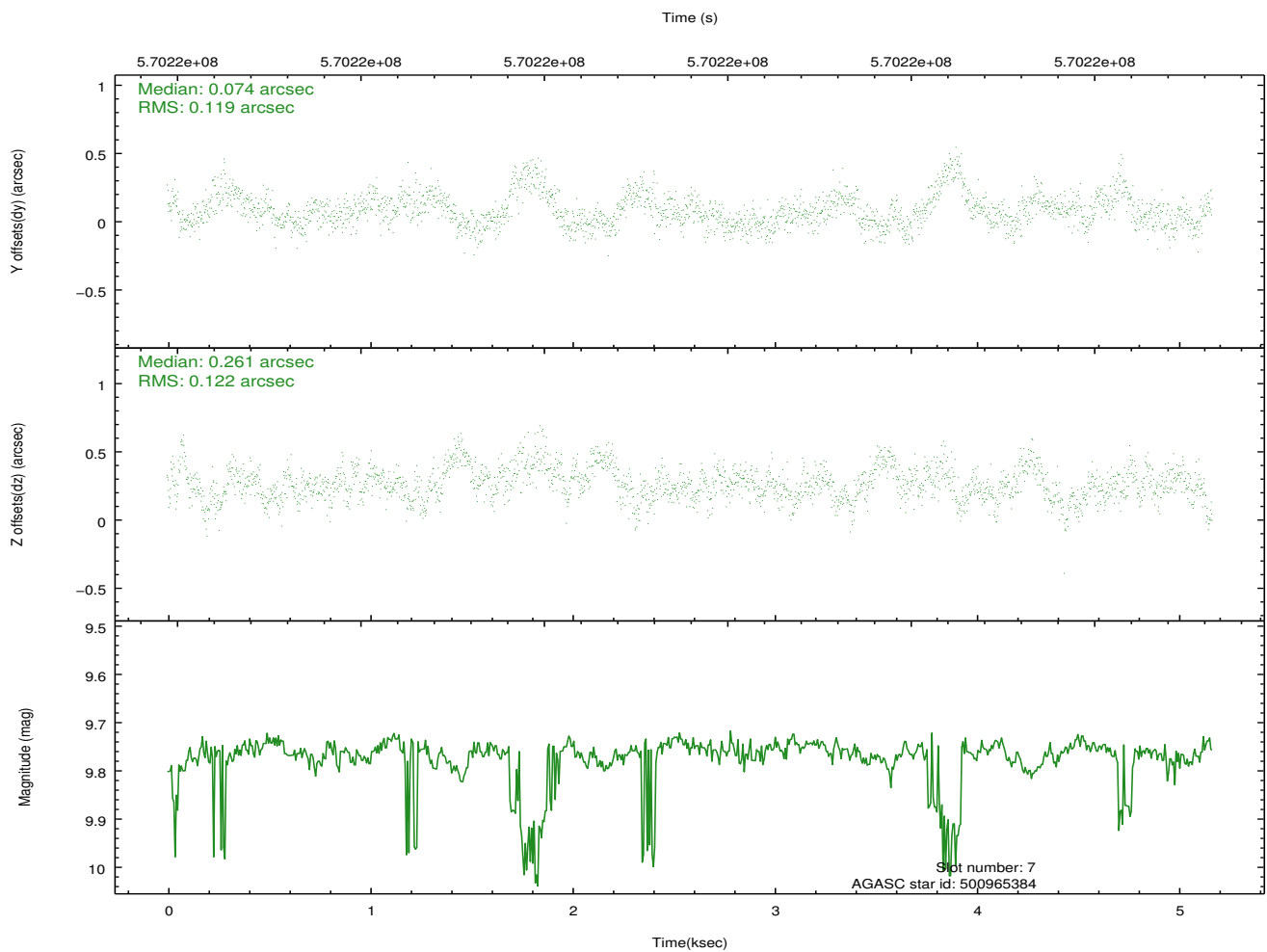
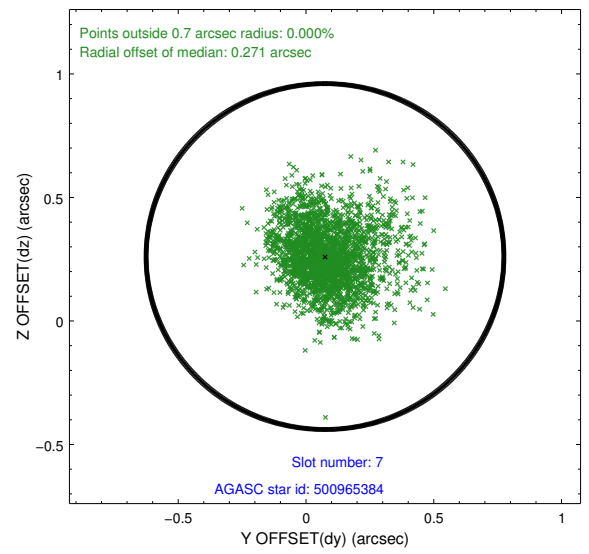
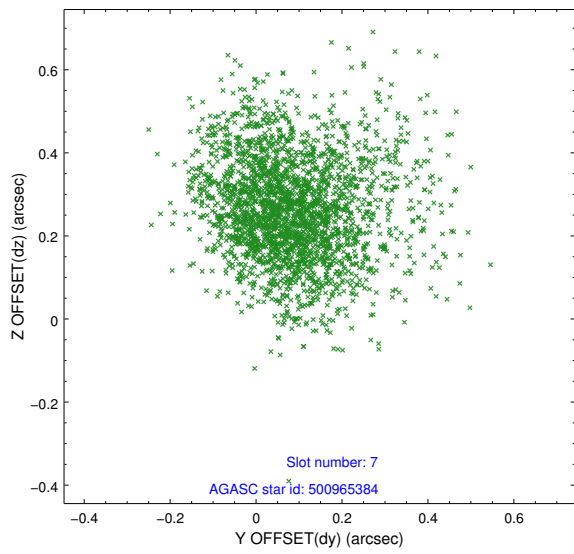
### 2.4.3 Slot 5



### 2.4.4 Slot 6

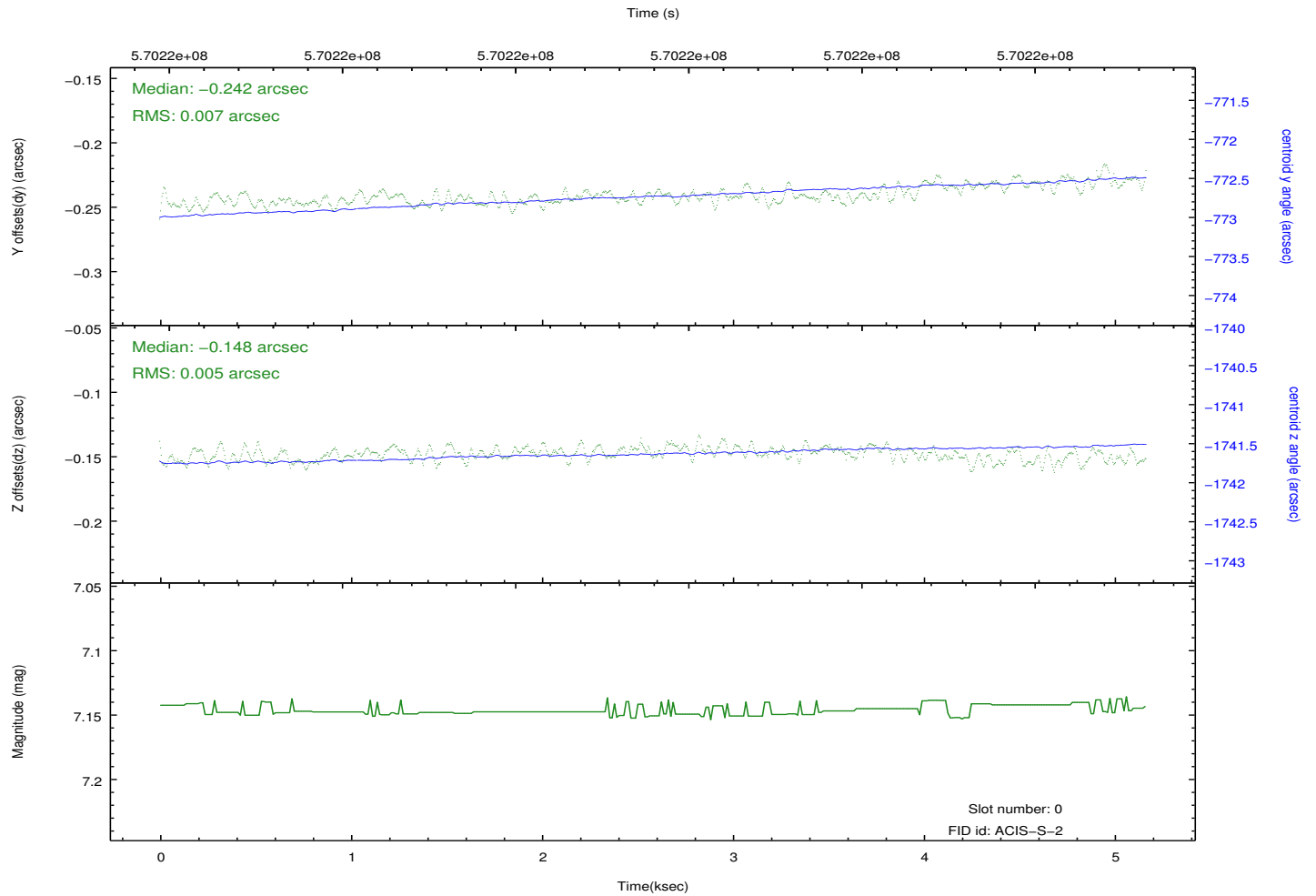
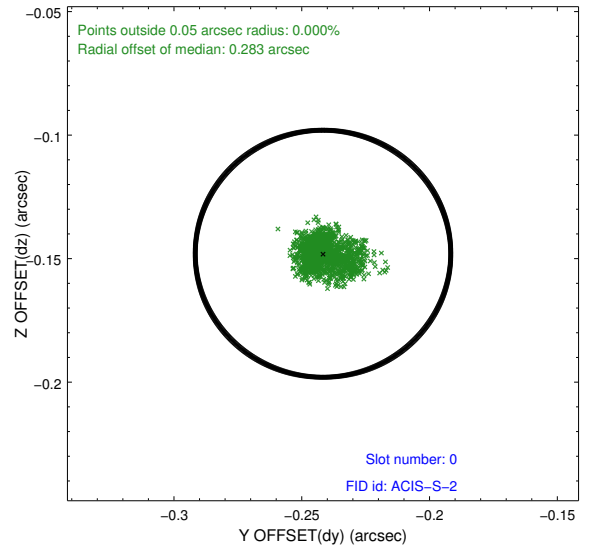
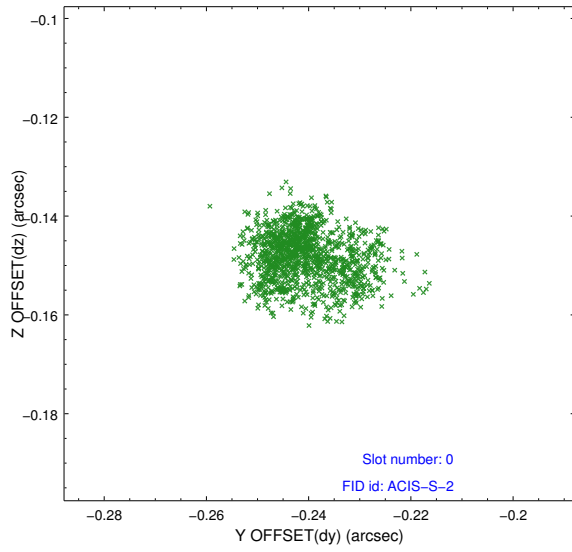


## 2.4.5 Slot 7

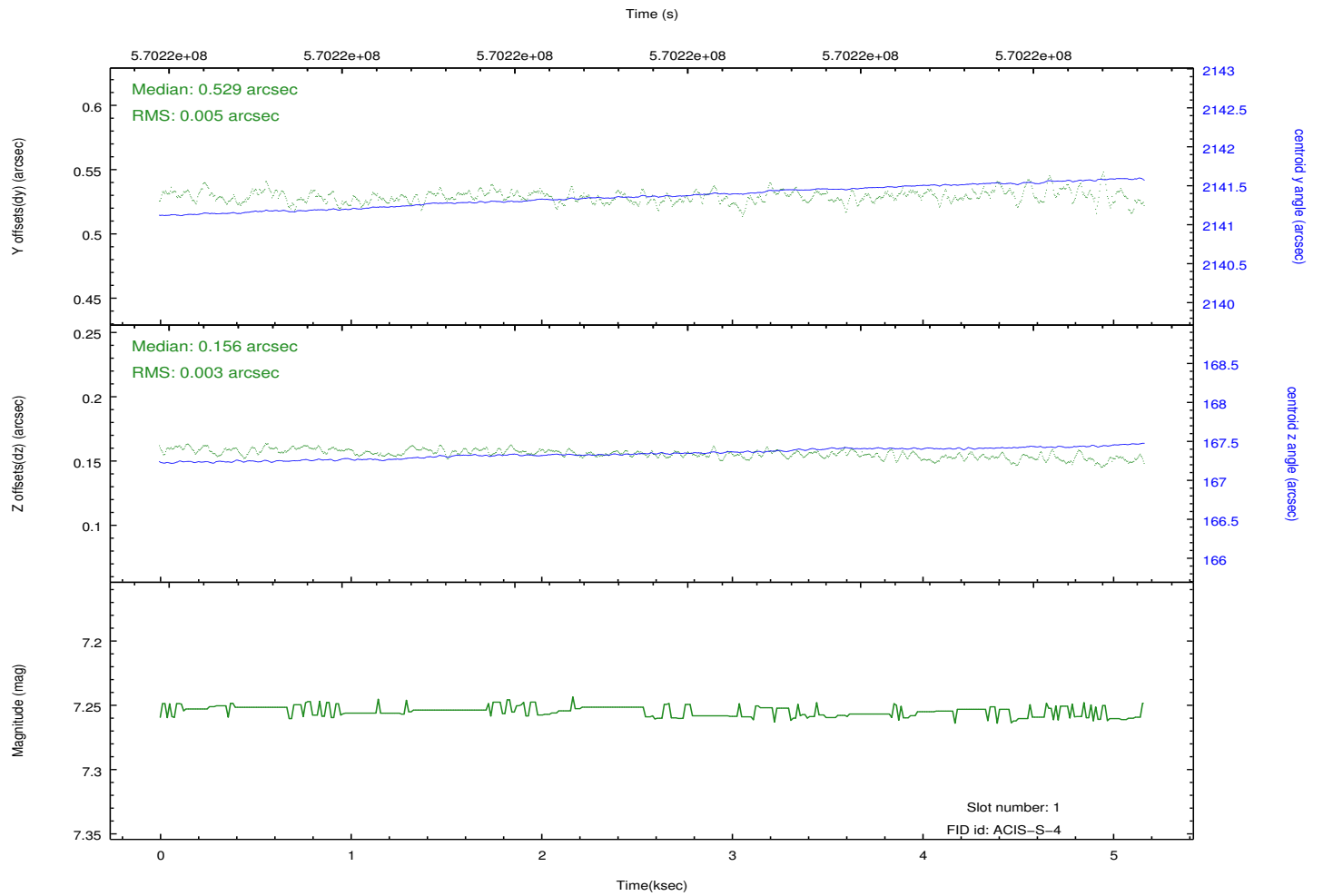
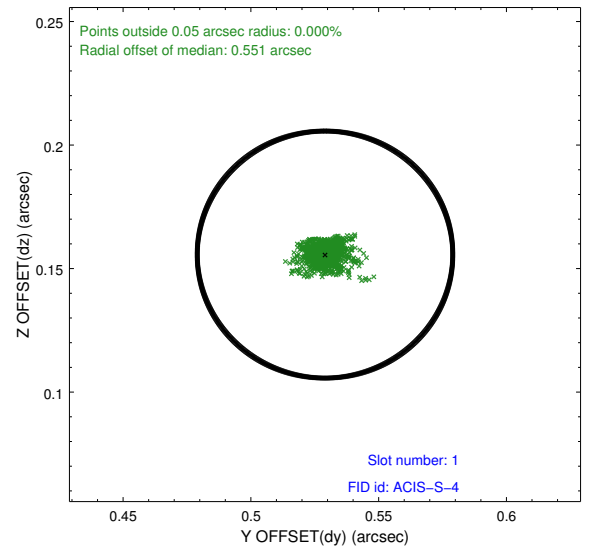
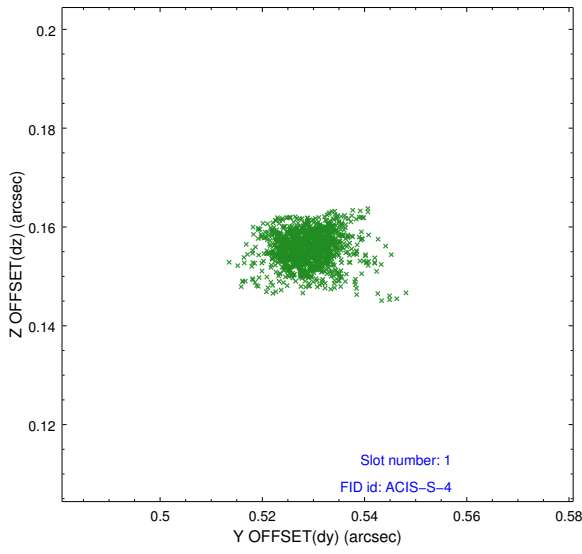


## 2.5 FID Slots

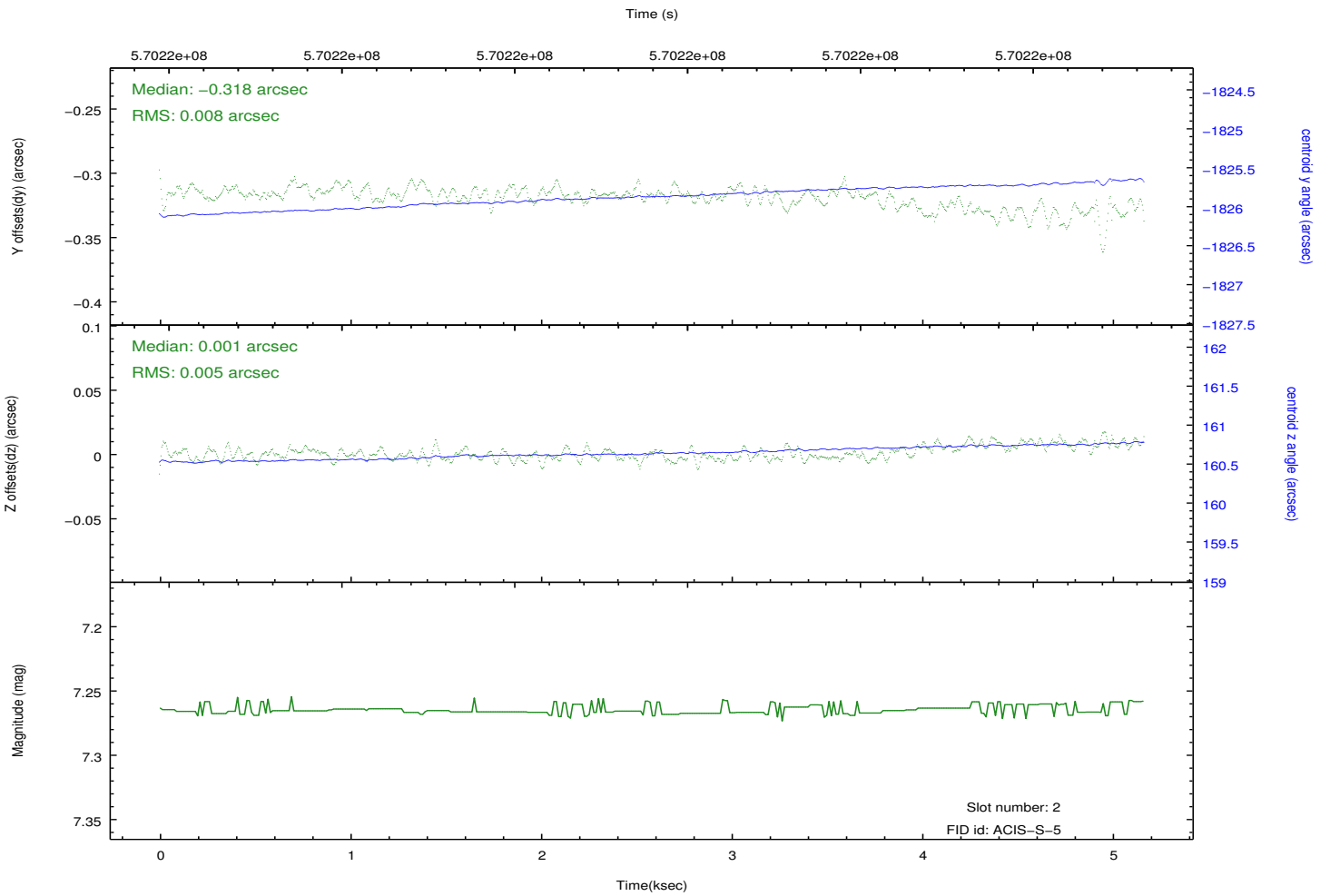
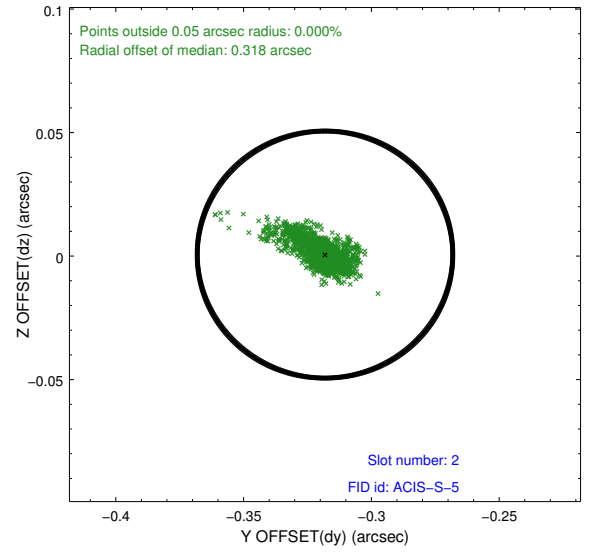
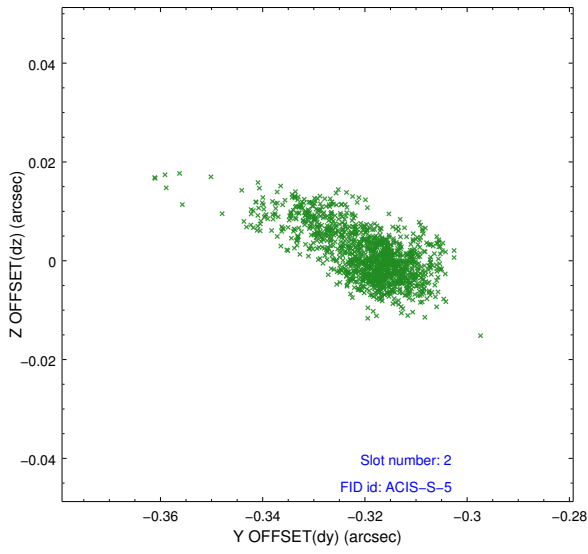
### 2.5.1 Slot 0



## 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)      | 2016.01.27      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 5.0651602947712 |

## A.2 Comments

Joint Proposal: HST+NRAO