

# V&V Reference Report

## L2 ASCDS Version : 10.3.3

Observation 17636 - L2 Version 1  
Chandra X-Ray Center

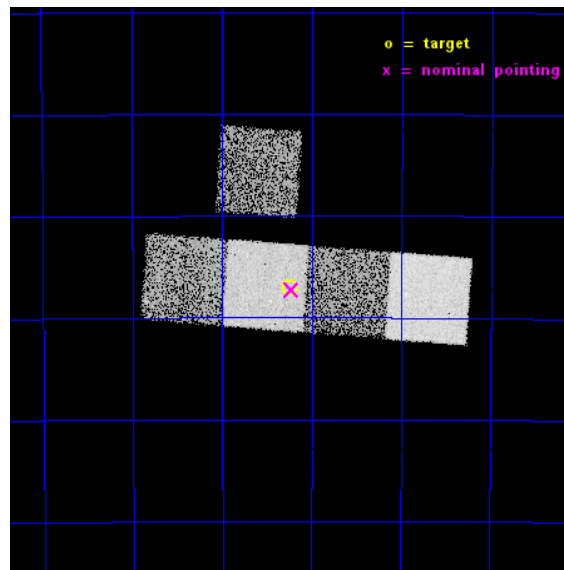
L2 Processing Date : Mar 29 2015

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# 1 Front

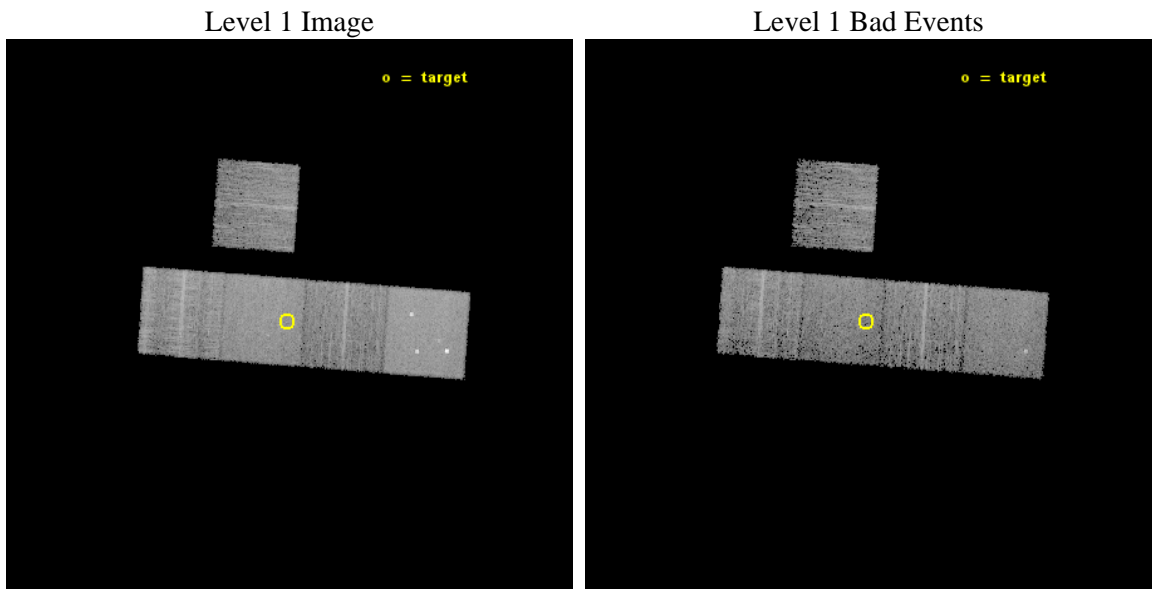
|          |   |   |
|----------|---|---|
| seq_num  | 703155  | Sequence number                             |
| obs_id   | 17636   | Observation id                              |
| title    | X-ray Flux of the Narrow Line Seyfert 1 Galaxy WPVS 007 during an unprecedented low UV flux state | Proposal title                              |
| observer | Dr. Dirk Grupe  | Principal investigator                      |
| object   | WPVS 007  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 9.8125  | Observer's specified target RA [deg]        |
| dec_targ | -51.283889  | Observer's specified target Dec [deg]       |
| ra_nom   | 9.8062839958053   | Nominal RA [deg]                            |
| dec_nom  | -51.287632175495  | Nominal Dec [deg]                           |
| roll_nom | 184.22457509509   | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 10056.400077462   | Sum of GTIs [s]                             |
| livetime | 9925.0058070361   | Livetime [s]                                |
| ontime3  | 10056.400077462   | Sum of GTIs [s]                             |
| ontime5  | 10056.400077462   | Sum of GTIs [s]                             |
| ontime6  | 10056.400077462   | Sum of GTIs [s]                             |
| ontime7  | 10056.400077462   | Sum of GTIs [s]                             |
| ontime8  | 10056.400077462   | Sum of GTIs [s]                             |
| l2events | 76454   | Number of level 2 events                    |



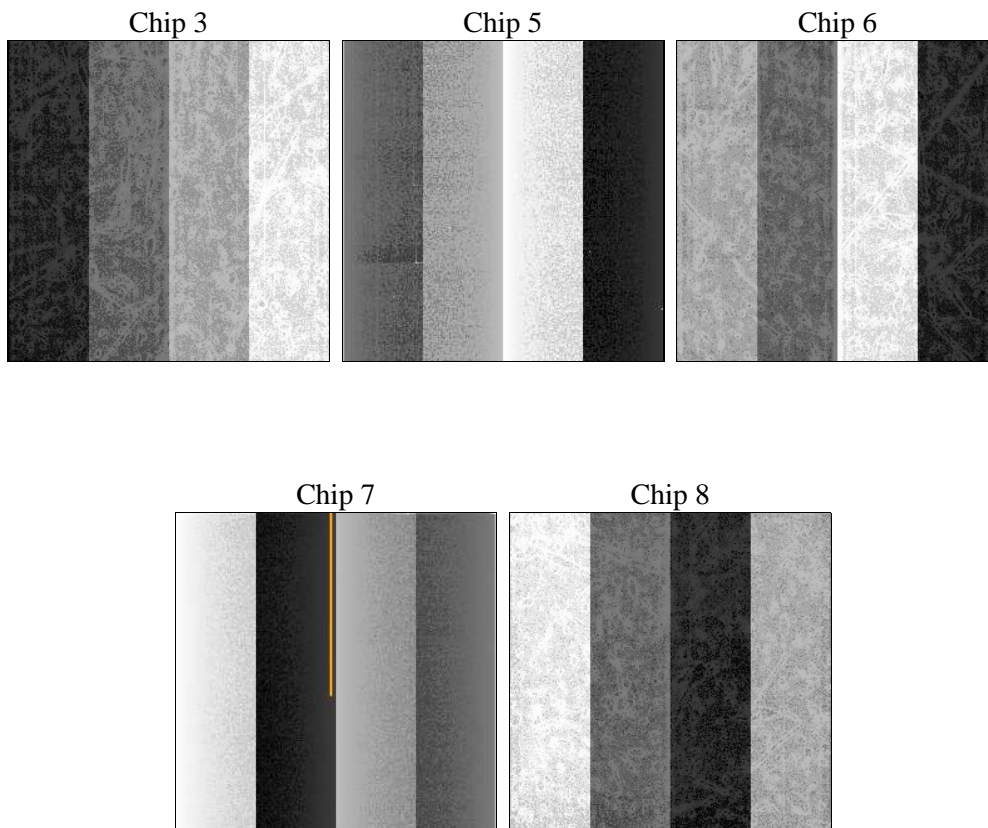
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 10000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.3.3              | Processing system revision     | ontime         | 10056.400077462 | Sum of GTIs [s]                         |
| caldbver | 4.6.7               | &#160                          | ontime3        | 10056.400077462 | Sum of GTIs [s]                         |
| date     | 2015-03-29T11:20:58 | Date and time of file creation | ontime5        | 10056.400077462 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 10056.400077462 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10056.400077462 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 10056.400077462 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 292596          | Number of level 1 events                |

### 2.1.4 Events

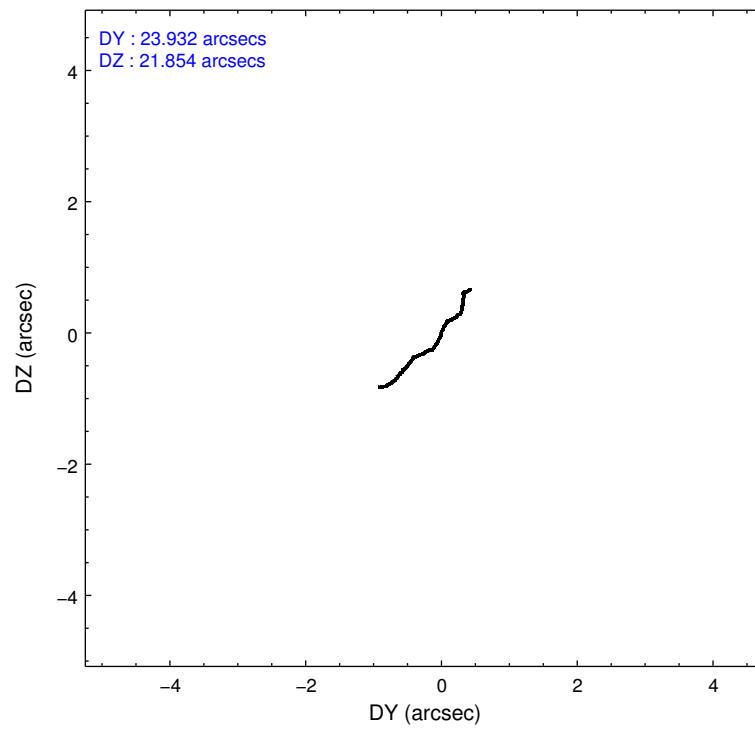
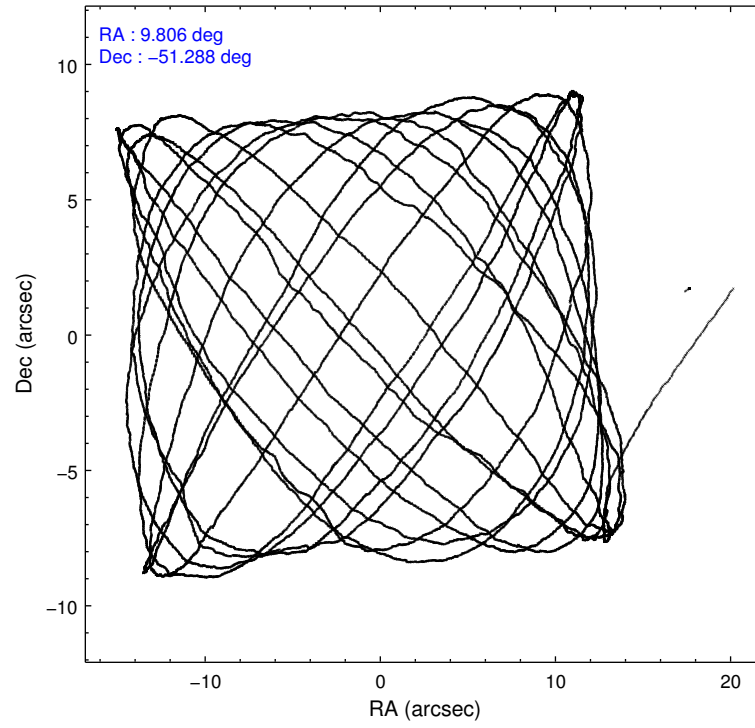
|                 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 43724 | 81087 | 44639 | 62061 | 61085 |
| rejected events | 38635 | 40012 | 38984 | 35428 | 43820 |
| rejected %      | 88%   | 49%   | 87%   | 57%   | 71%   |

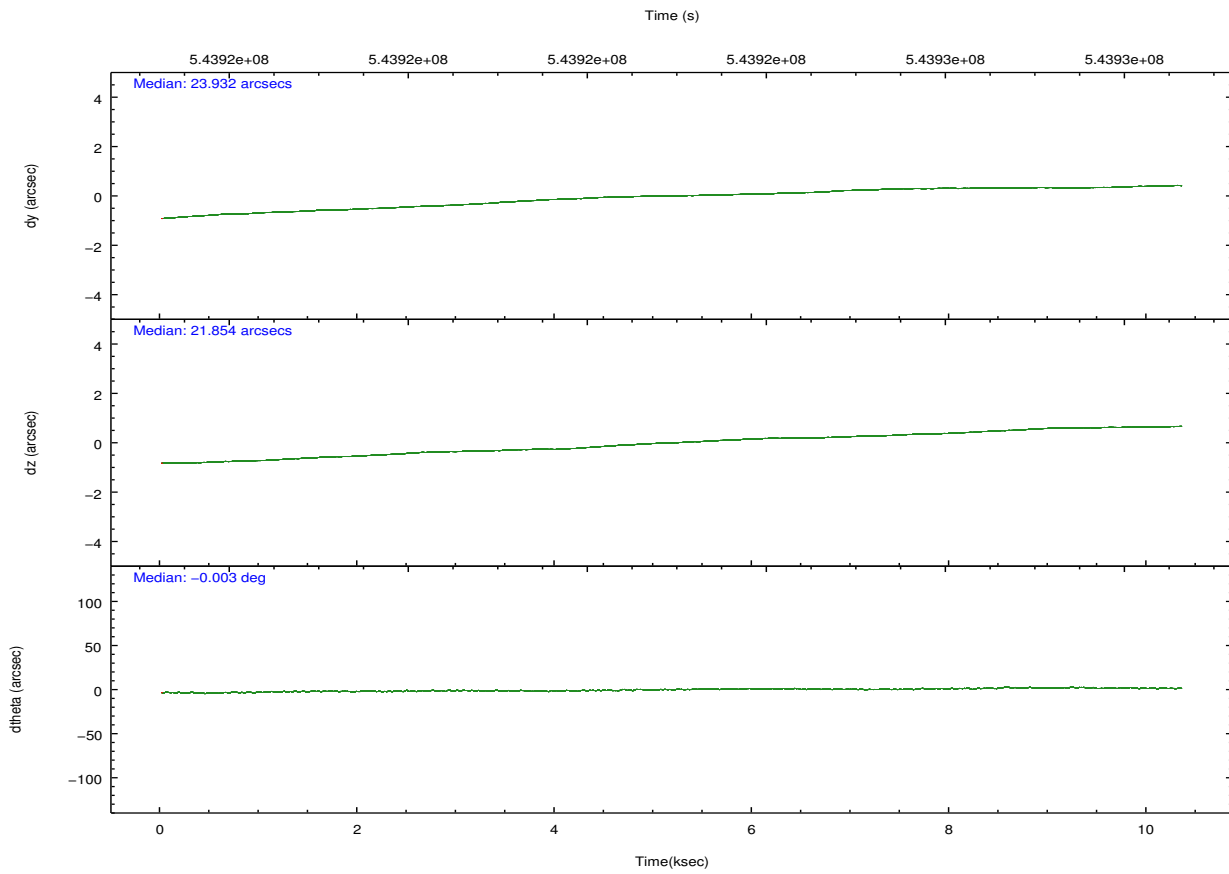
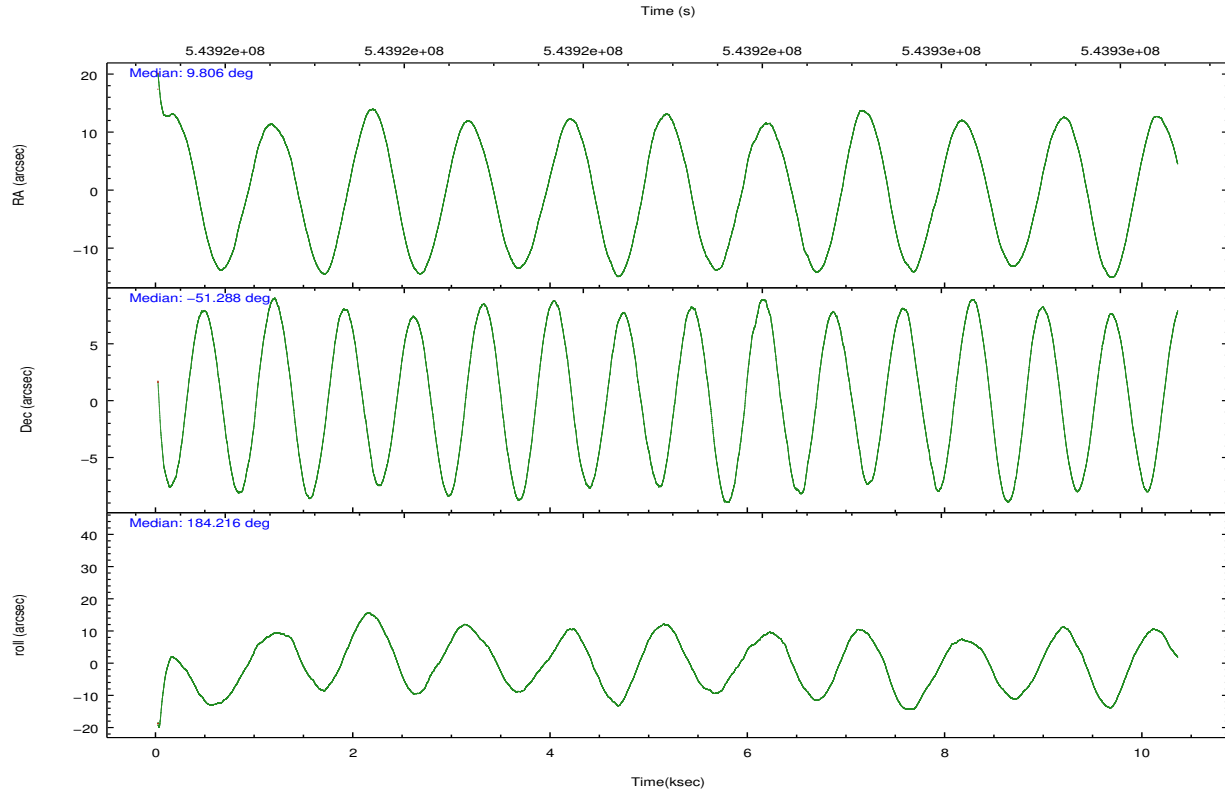
|                | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1822  | 5062  | 1864  | 2343  | 5135  |
|                | 4%    | 6%    | 4%    | 3%    | 8%    |
| grade 1 events | 24    | 544   | 23    | 78    | 36    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1155  | 13549 | 1321  | 5500  | 3988  |
|                | 2%    | 16%   | 2%    | 8%    | 6%    |
| grade 3 events | 531   | 1219  | 569   | 2204  | 1845  |
|                | 1%    | 1%    | 1%    | 3%    | 3%    |
| grade 4 events | 563   | 1199  | 594   | 2293  | 1750  |
|                | 1%    | 1%    | 1%    | 3%    | 2%    |
| grade 5 events | 2302  | 5729  | 2419  | 6523  | 3593  |
|                | 5%    | 7%    | 5%    | 10%   | 5%    |
| grade 6 events | 1019  | 20055 | 1308  | 14305 | 4563  |
|                | 2%    | 24%   | 2%    | 23%   | 7%    |
| grade 7 events | 36308 | 33730 | 36541 | 28815 | 40175 |
|                | 83%   | 41%   | 81%   | 46%   | 65%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-35678          | ACIS-35678           | 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                 | 9.842110            | 9.806283995805309    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | -51.271866          | -51.28763217549455   | CCD I3 on                             | O1        | Y       |
| [deg] Pointing Roll               | 184.095930          | 184.2245750950881    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O2        | Y       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | Y         | 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                             | Y         | Y       |
| [s] Observation start time (MET)  | 543918123.184000    | 543917092.56888      | CCD S5 on                             | N         | N       |
| Observation start date            | 2015-03-28T08:20:56 | 2015-03-28T08:04:52  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 543928123.184000    | 543928745.28203      | On-chip summing requested             | N         | N       |
| Observation end date              | 2015-03-28T11:07:36 | 2015-03-28T11:19:05  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect





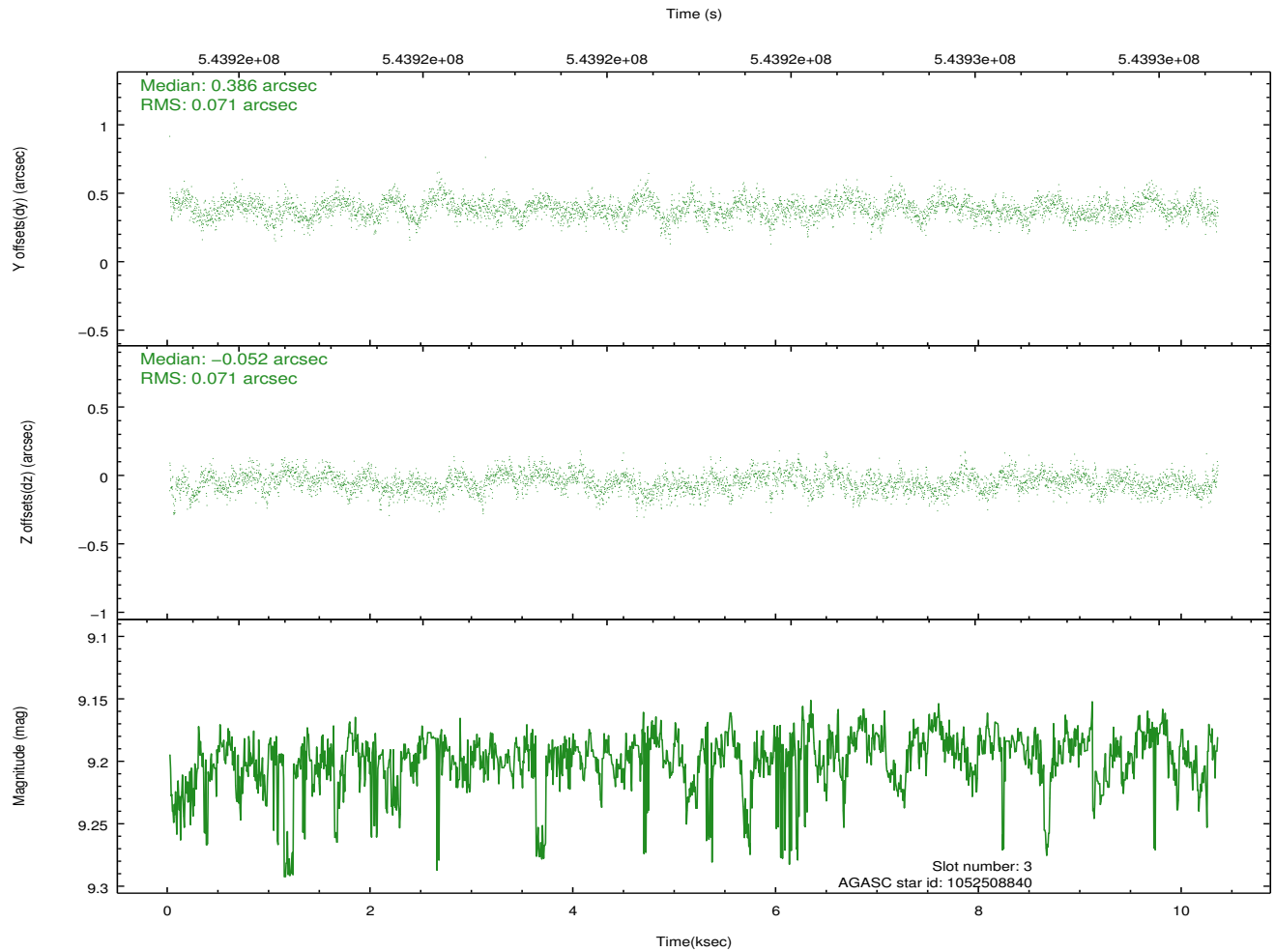
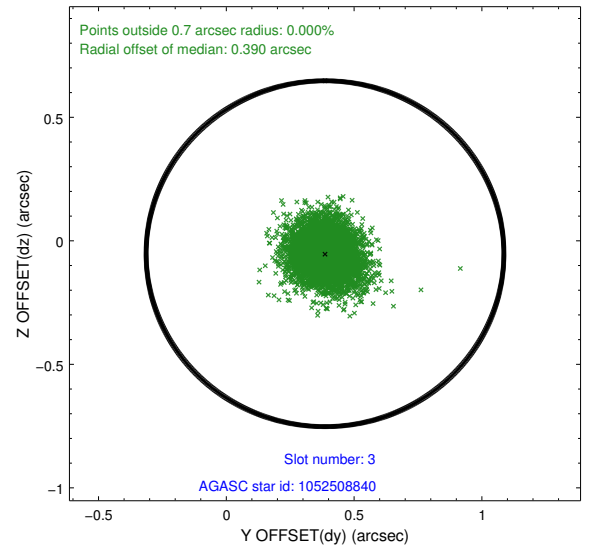
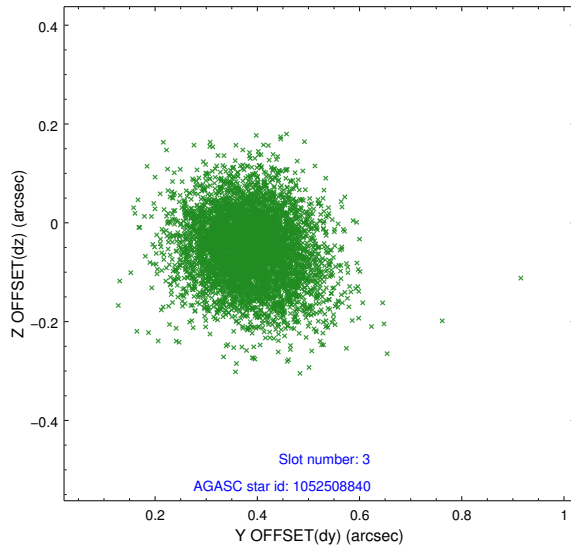
### Slot Statistics

| slot | status | used | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mean_z   |
|------|--------|------|------------|------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0    | FID    |      | ACIS-S-2   | 6.94 | 2522  | -0.159 | -0.055 | 0.024 | 0.032 | 0.000000  | 0.000000   | -777.23  | -1743.37 |
| 1    | FID    |      | ACIS-S-4   | 7.03 | 2522  | 0.369  | 0.091  | 0.018 | 0.028 | 0.000000  | 0.000000   | 2136.36  | 164.69   |
| 2    | FID    |      | ACIS-S-5   | 7.05 | 2522  | -0.242 | -0.027 | 0.010 | 0.017 | 0.000000  | 0.000000   | -1829.49 | 158.87   |
| 3    | GUIDE  | used | 1052508840 | 9.20 | 5038  | 0.386  | -0.052 | 0.105 | 0.172 | 10.903677 | -51.613746 | -2277.61 | 1414.24  |
| 4    | GUIDE  | used | 1052511336 | 8.40 | 5043  | -0.753 | -0.172 | 0.084 | 0.140 | 10.026754 | -51.744882 | -289.96  | 1728.67  |
| 5    | GUIDE  | used | 1052516296 | 9.54 | 5042  | 0.002  | -0.415 | 0.135 | 0.213 | 9.569819  | -51.431221 | 650.69   | 530.50   |
| 6    | GUIDE  | used | 1052516688 | 9.47 | 5041  | 0.026  | 0.024  | 0.180 | 0.281 | 9.618699  | -51.057391 | 449.77   | -805.11  |
| 7    | GUIDE  | used | 1052508800 | 9.17 | 5034  | 0.341  | 0.613  | 0.149 | 0.238 | 10.793104 | -50.601324 | -2338.39 | -2237.83 |

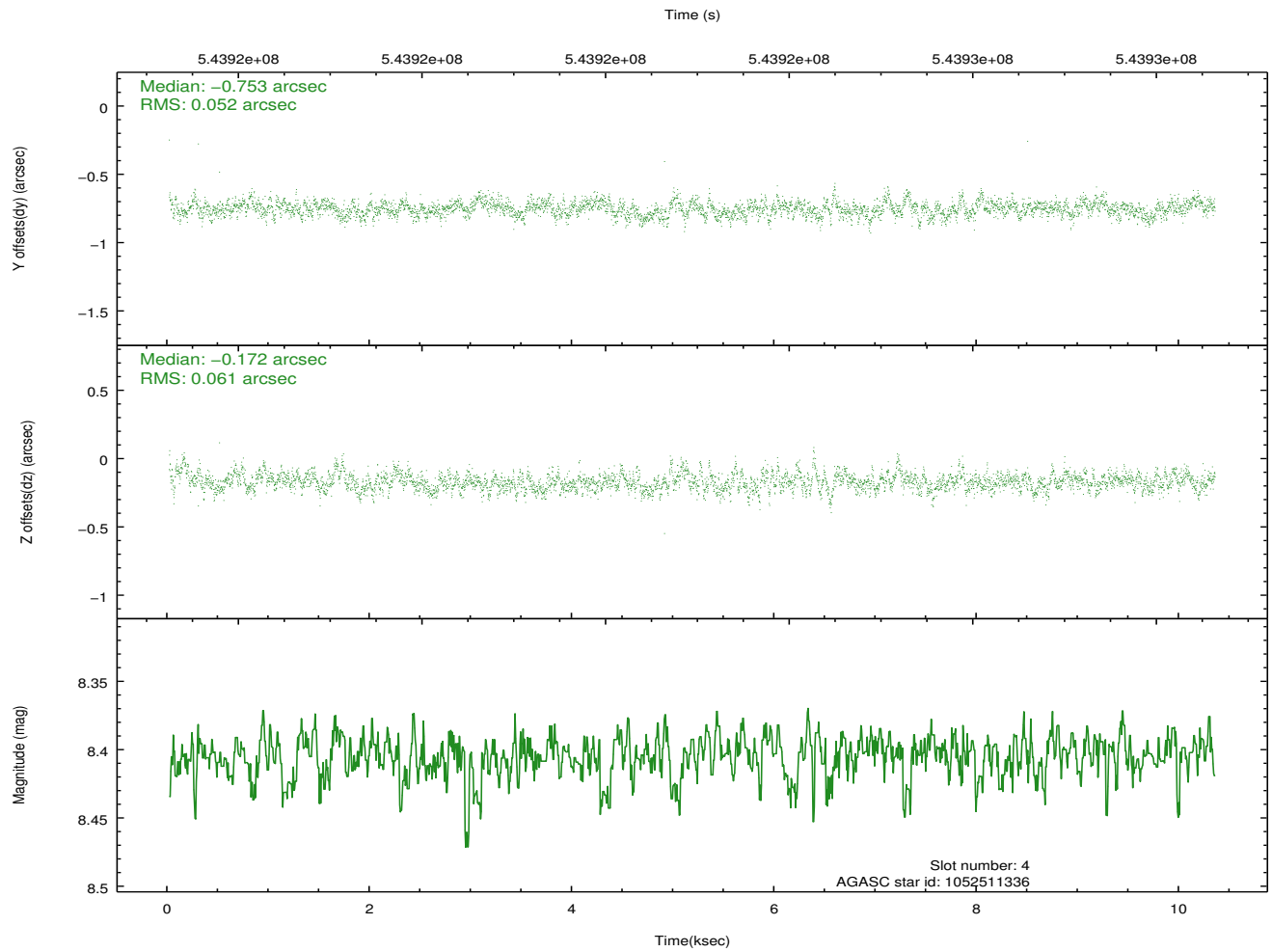
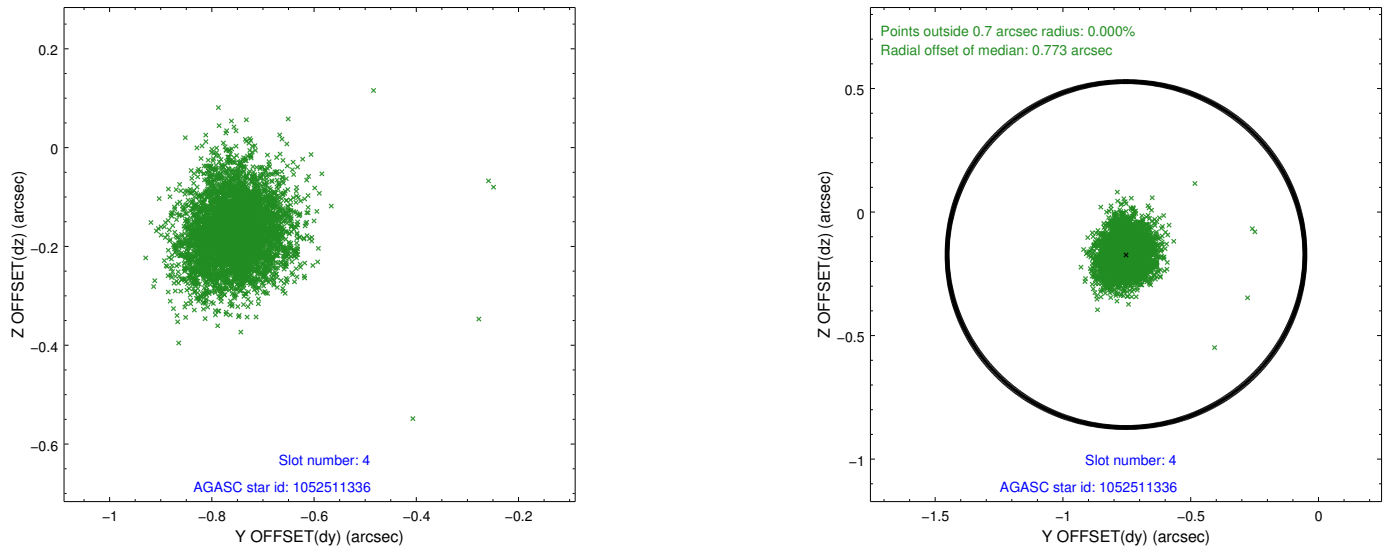
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## 2.4 Star Slots

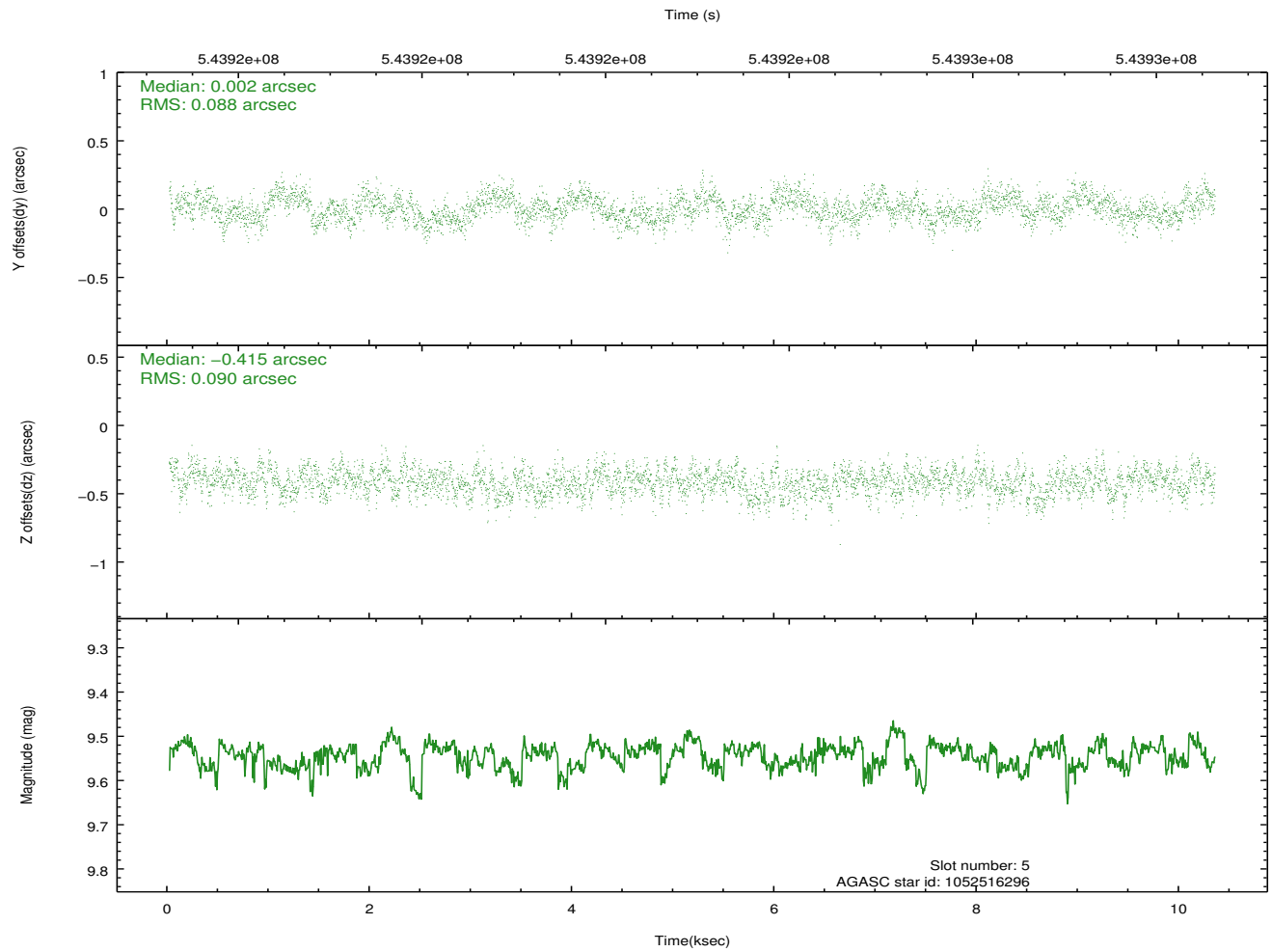
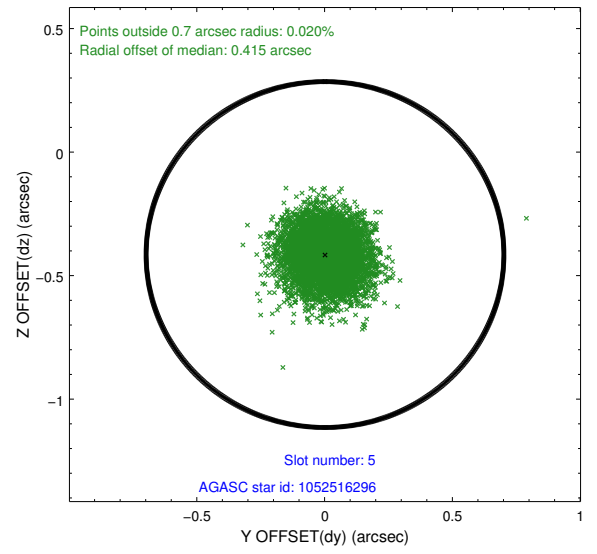
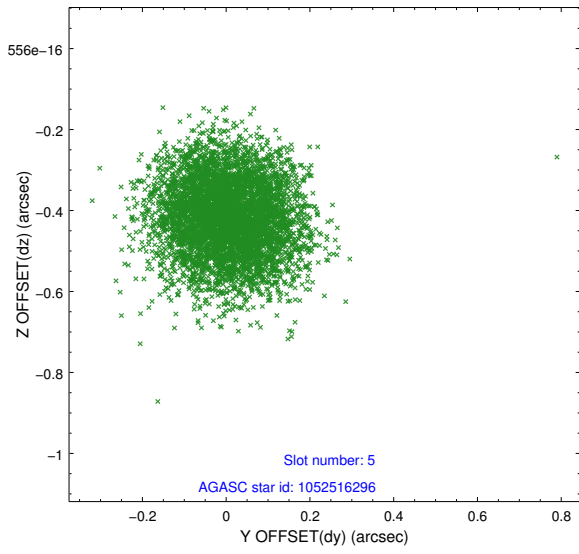
### 2.4.1 Slot 3



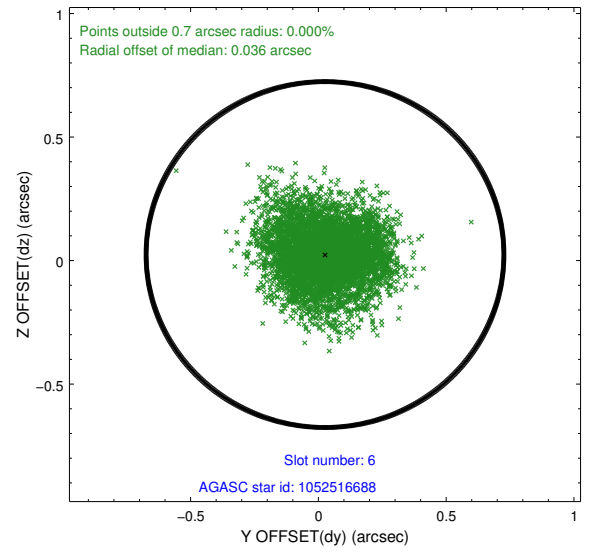
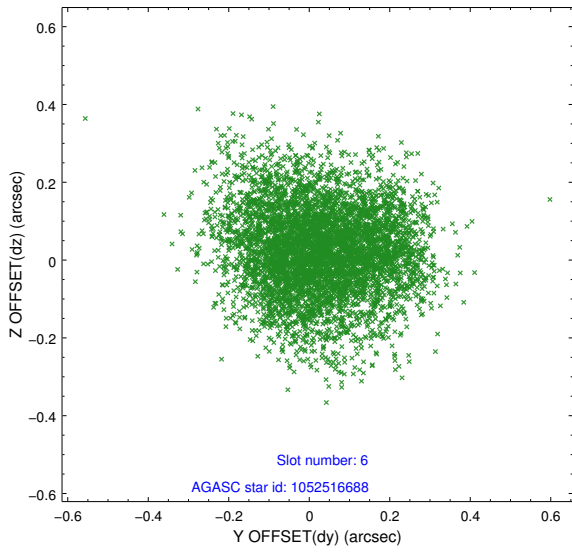
## 2.4.2 Slot 4



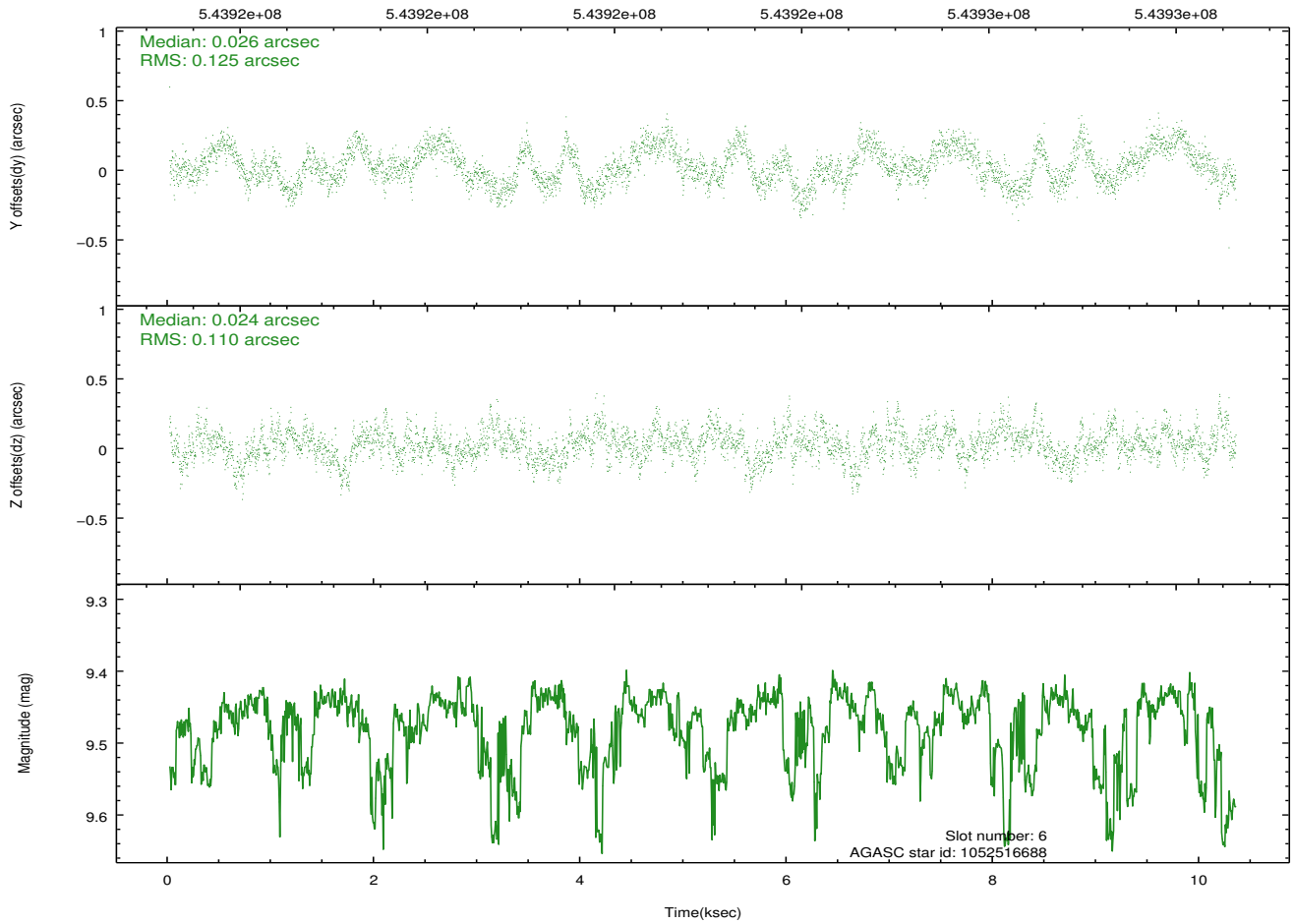
### 2.4.3 Slot 5



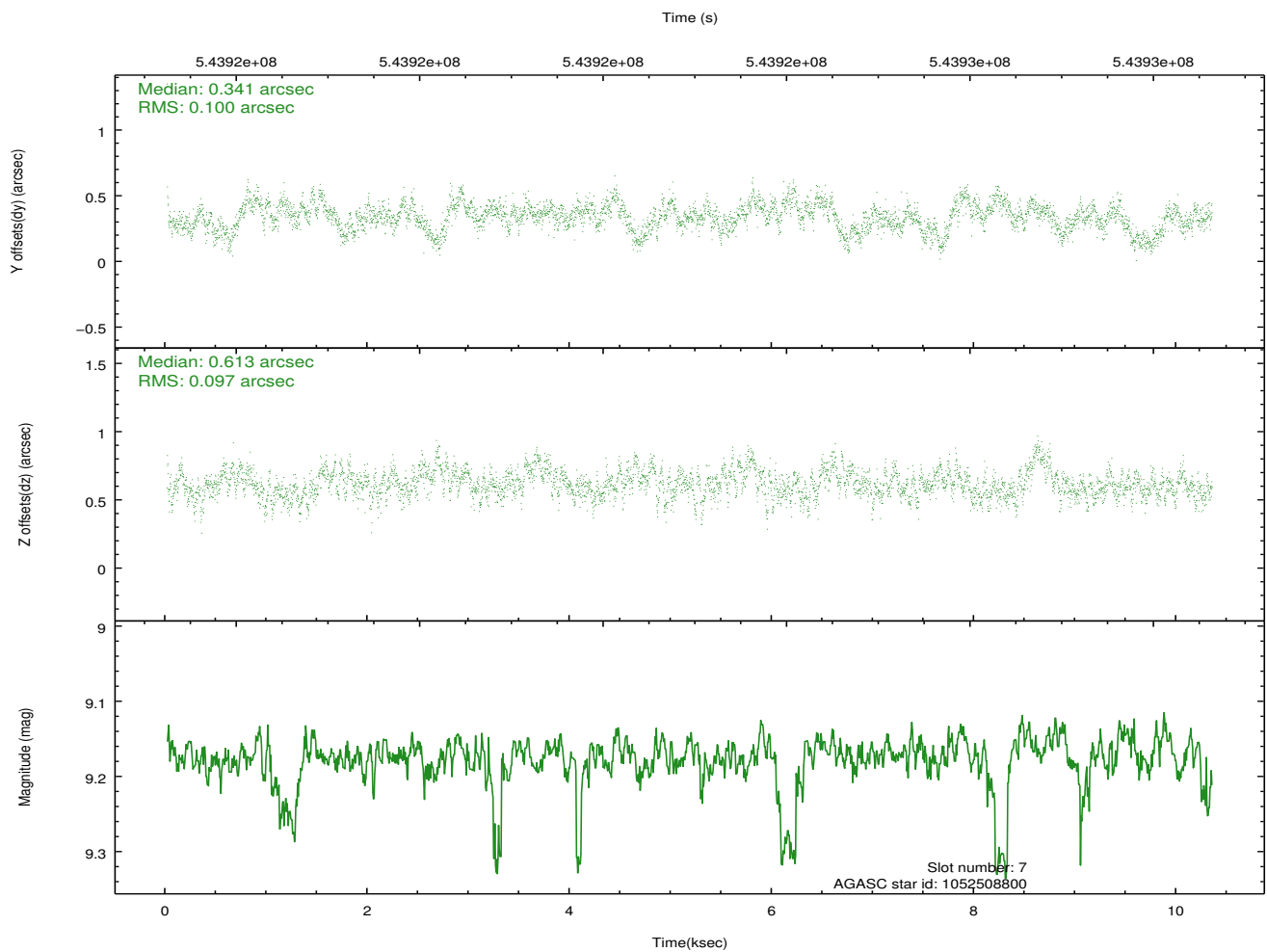
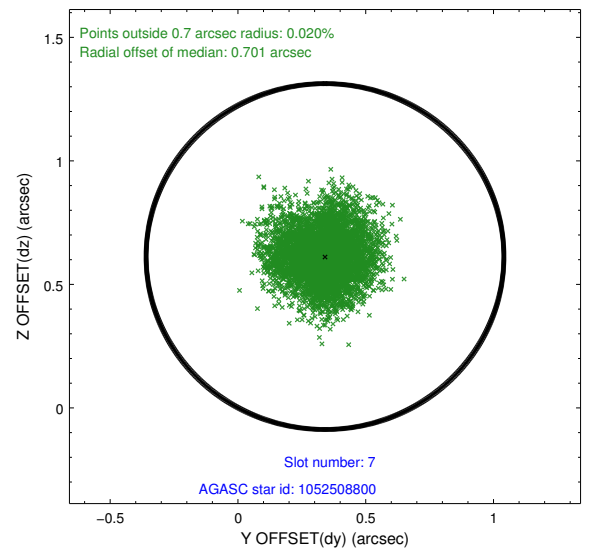
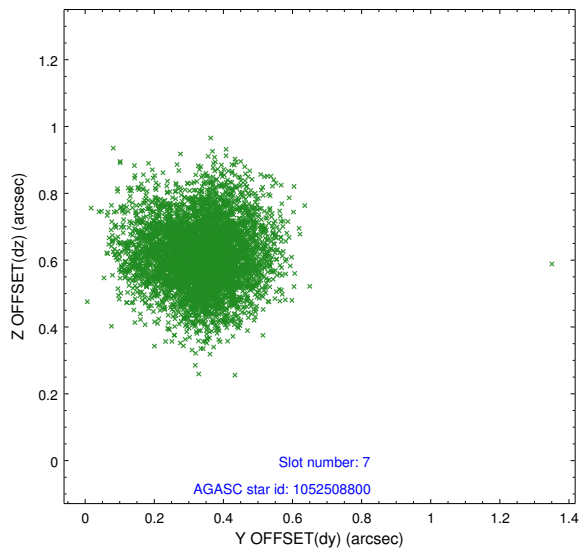
### 2.4.4 Slot 6



Time (s)

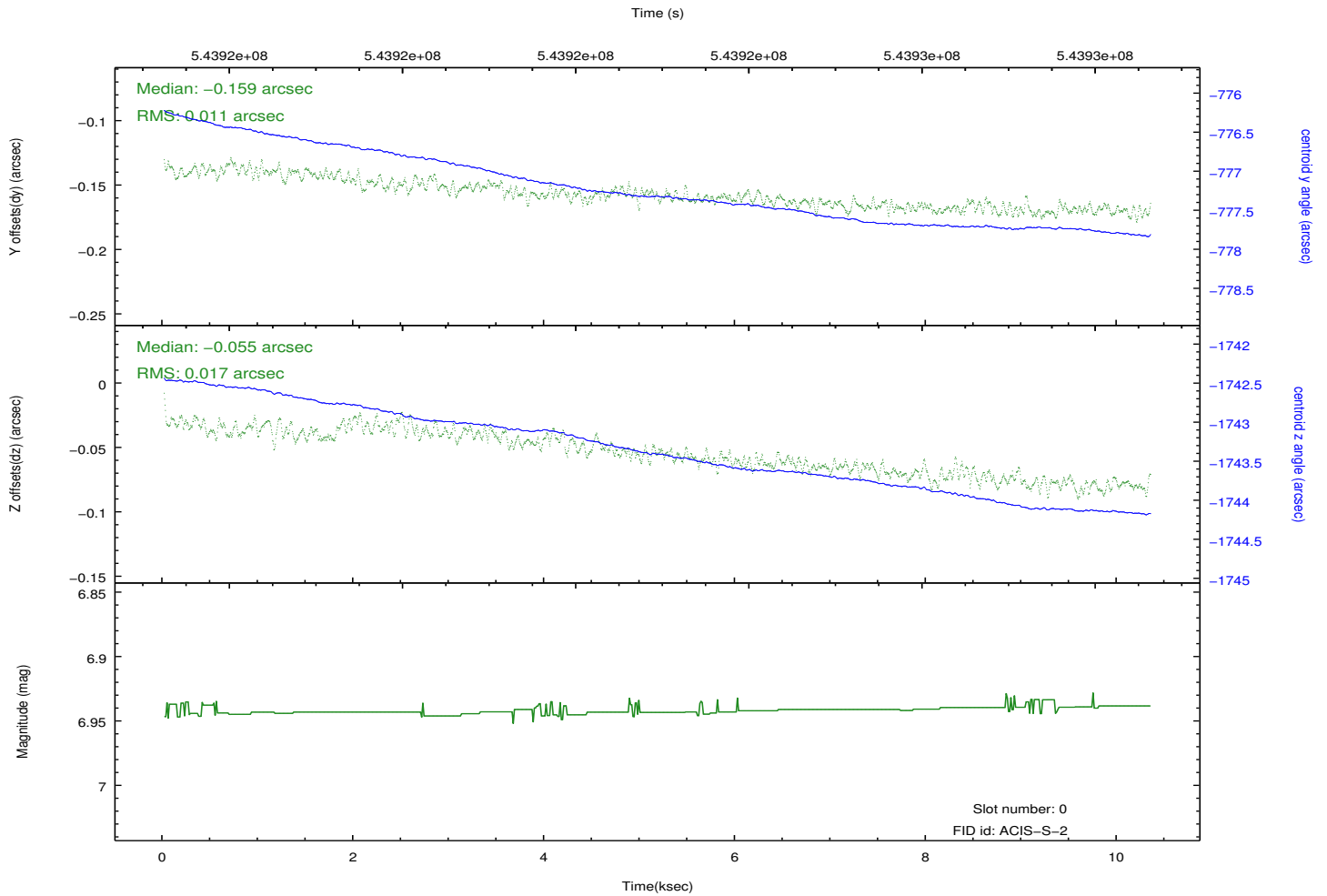
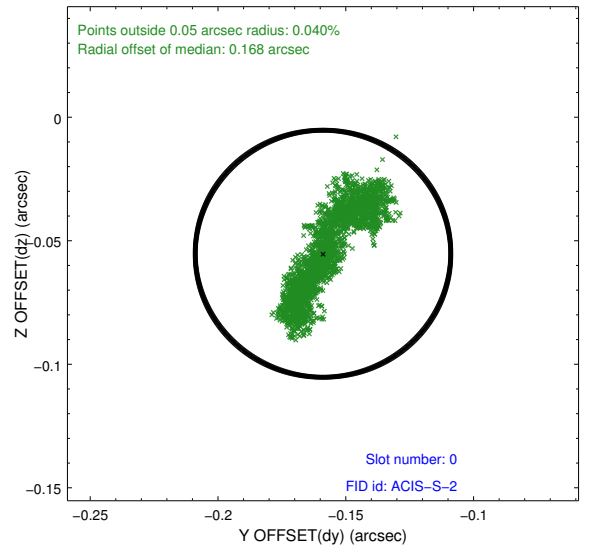
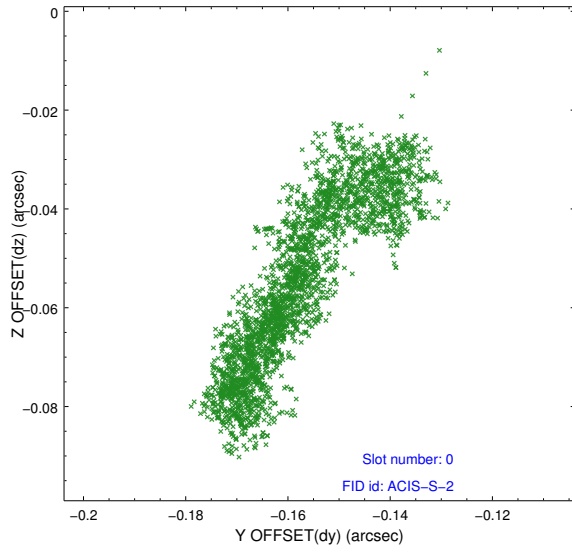


## 2.4.5 Slot 7

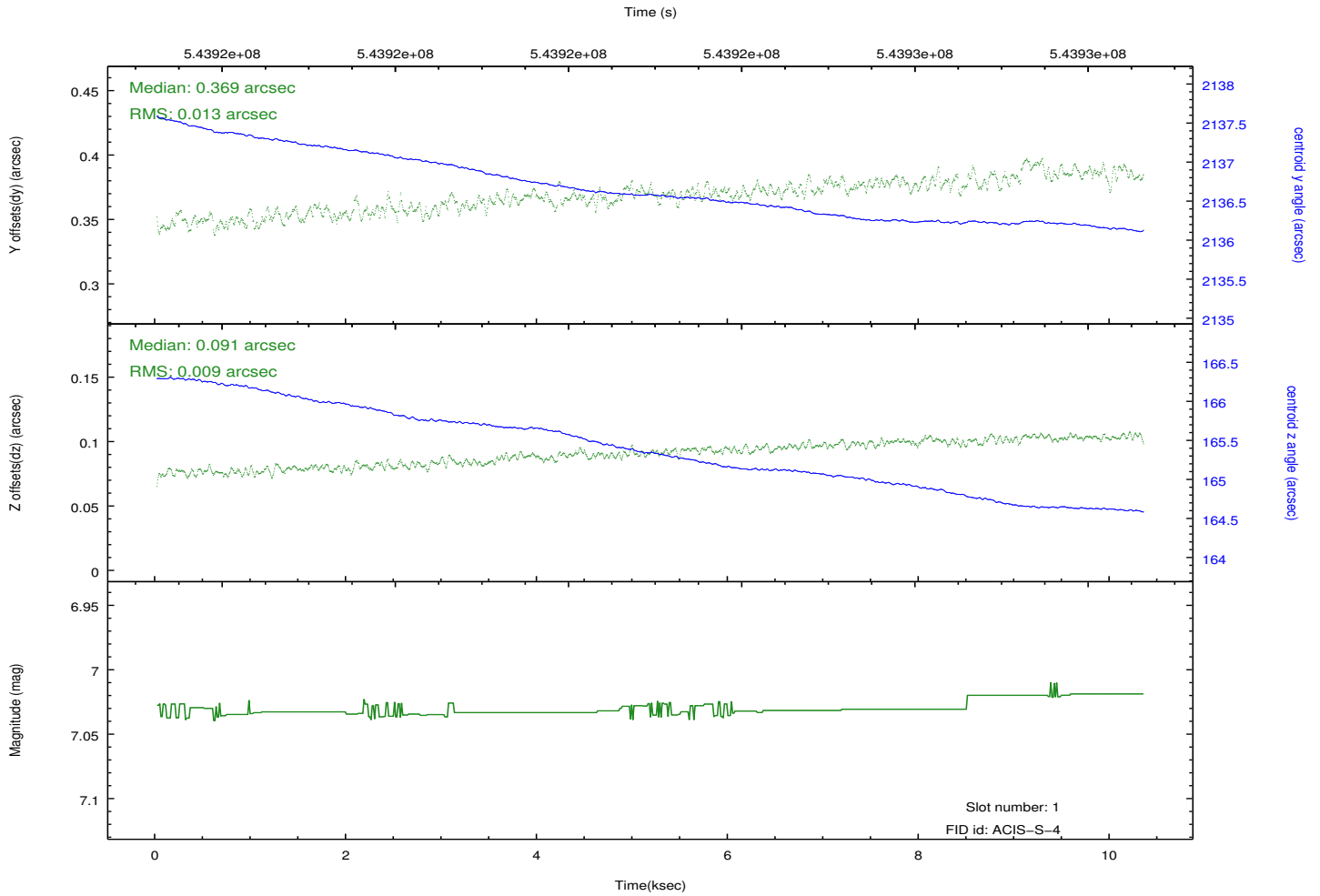
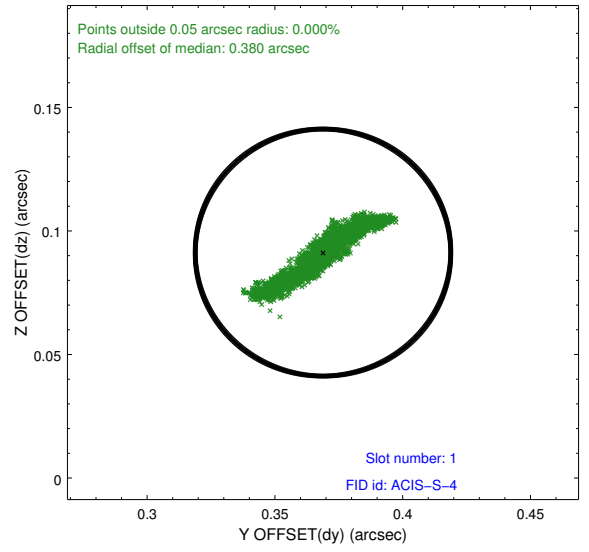
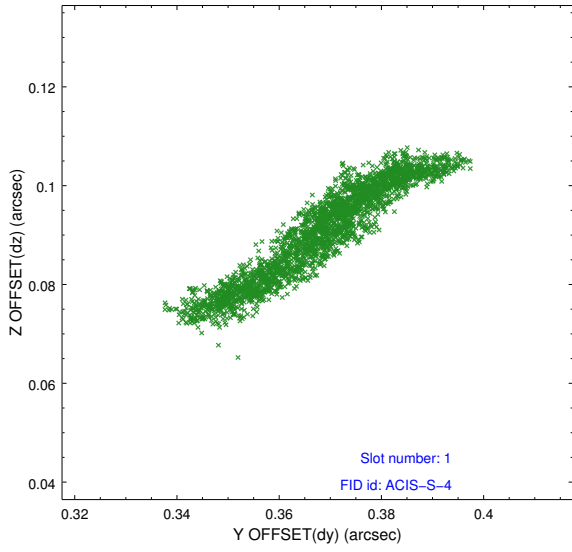


## 2.5 FID Slots

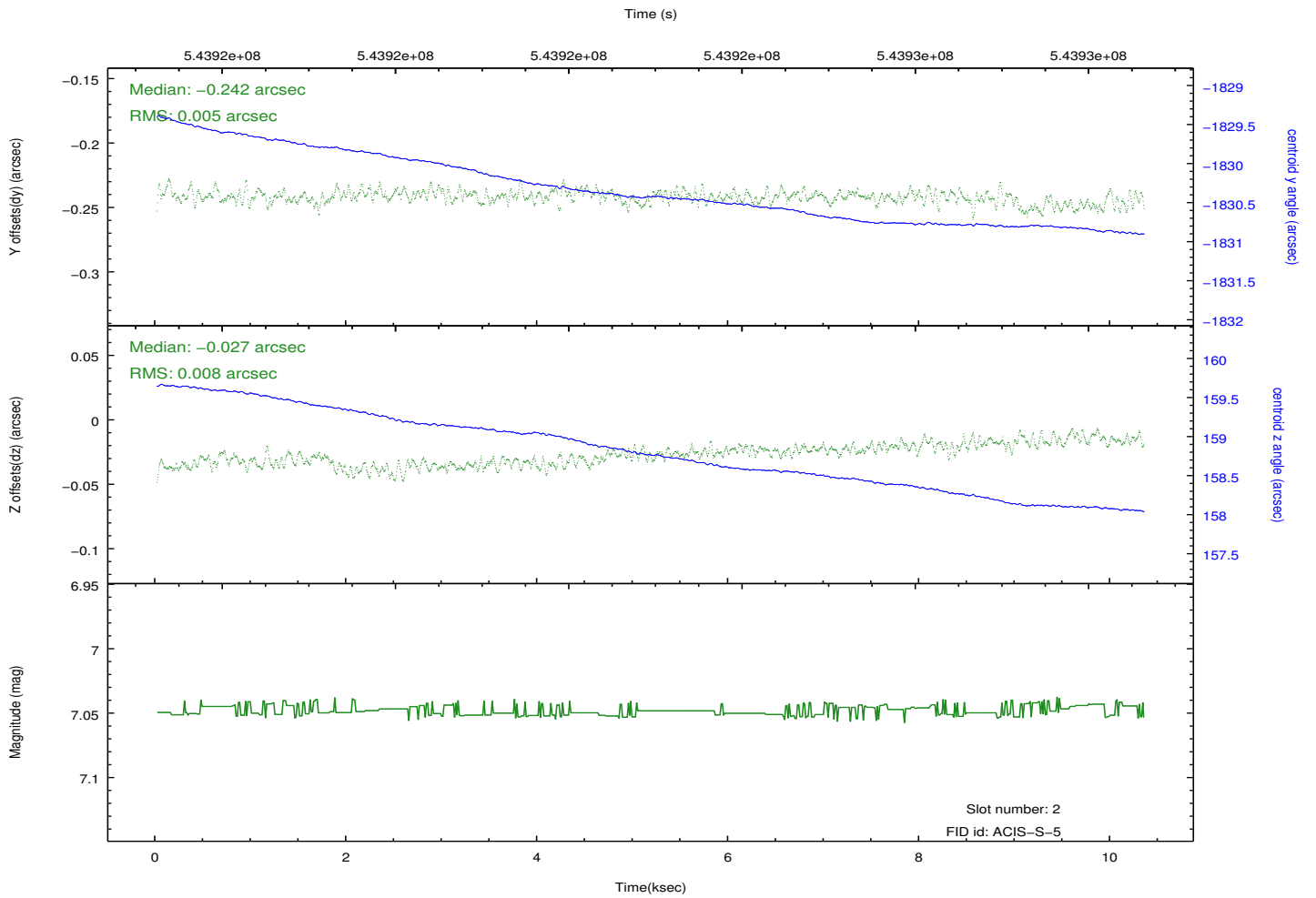
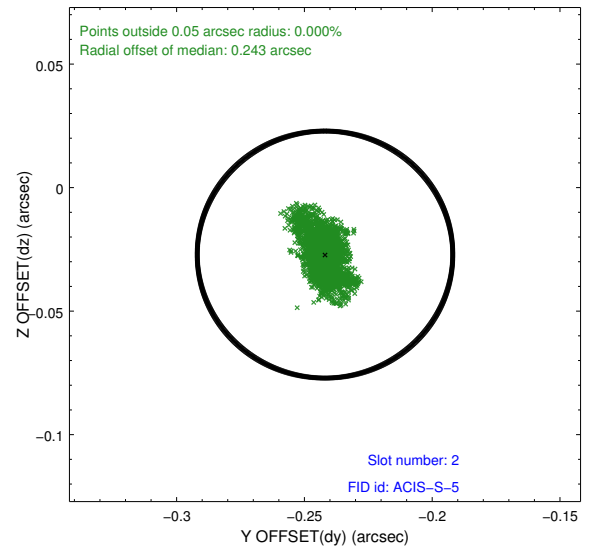
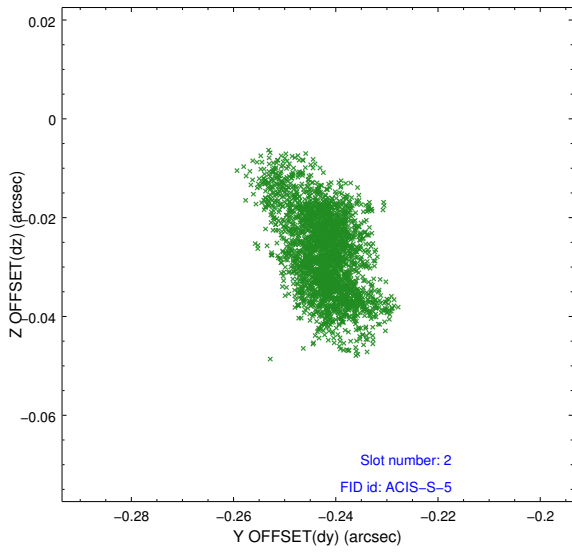
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2015.03.30      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 10.056400077462 |

## A.2 Comments