

# V&V Reference Report

## L2 ASCDS Version : 10.4.2.1

Observation 18423 - L2 Version 1  
Chandra X-Ray Center

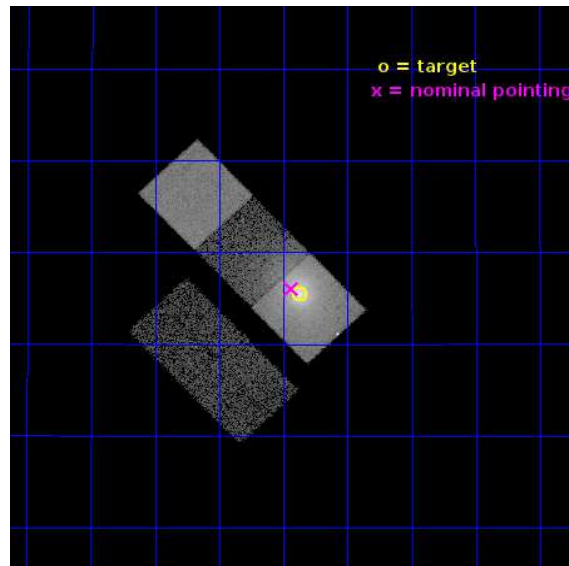
L2 Processing Date : Dec 7 2015

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# 1 Front

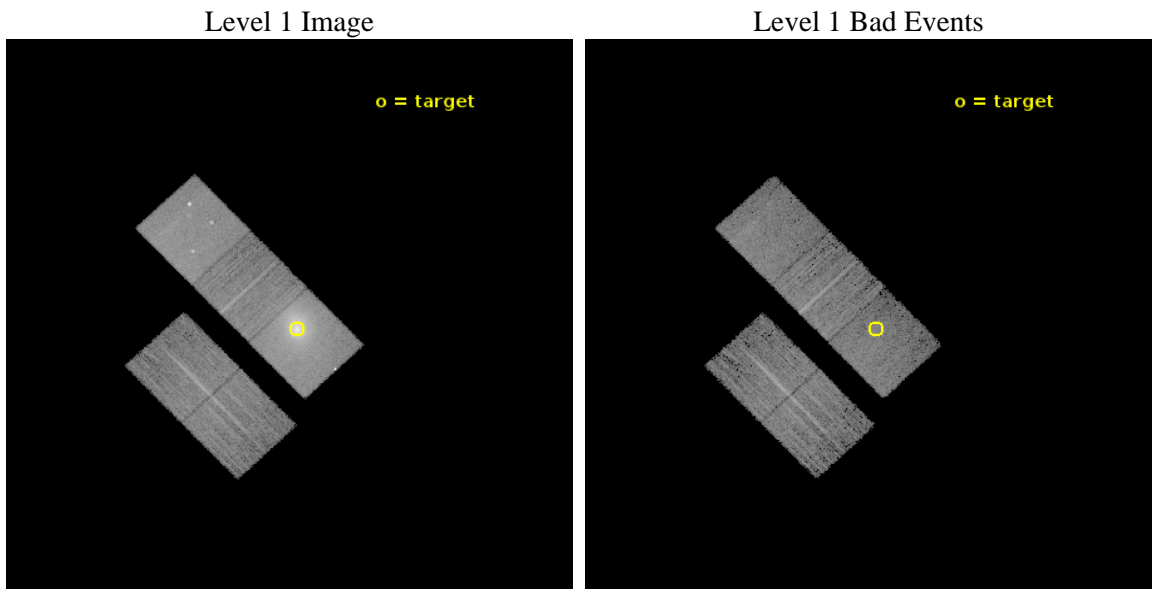
|          |   |   |
|----------|---|---|
| seq_num  | 890116  | Sequence number                             |
| obs_id   | 18423   | Observation id                              |
| title    | Post Heater Turn-On Calibration Observations of A1795 | Proposal tit                                |
| observer | Dr. CXC Calibration                                   | Principal investigator                      |
| object   | A1795   | Source name                                 |
| dtycycle | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 207.219583  | Observer's specified target RA [deg]        |
| dec_targ | 26.590833   | Observer's specified target Dec [deg]       |
| ra_nom   | 207.23460485975                                       | Nominal RA [deg]                            |
| dec_nom  | 26.600999309952                                       | Nominal Dec [deg]                           |
| roll_nom | 46.435520939849                                       | Nominal Roll [deg]                          |
| revision | 1   | Processing version of data                  |
| ontime   | 10053.202404976                                       | Sum of GTIs [s]                             |
| livetime | 9921.8499144949                                       | Livetime [s]                                |
| ontime2  | 10053.038244963                                       | Sum of GTIs [s]                             |
| ontime3  | 10053.079285026                                       | Sum of GTIs [s]                             |
| ontime5  | 10053.161365032                                       | Sum of GTIs [s]                             |
| ontime6  | 10053.120324969                                       | Sum of GTIs [s]                             |
| ontime7  | 10053.202404976                                       | Sum of GTIs [s]                             |
| l2events | 177138  | Number of level 2 events                    |



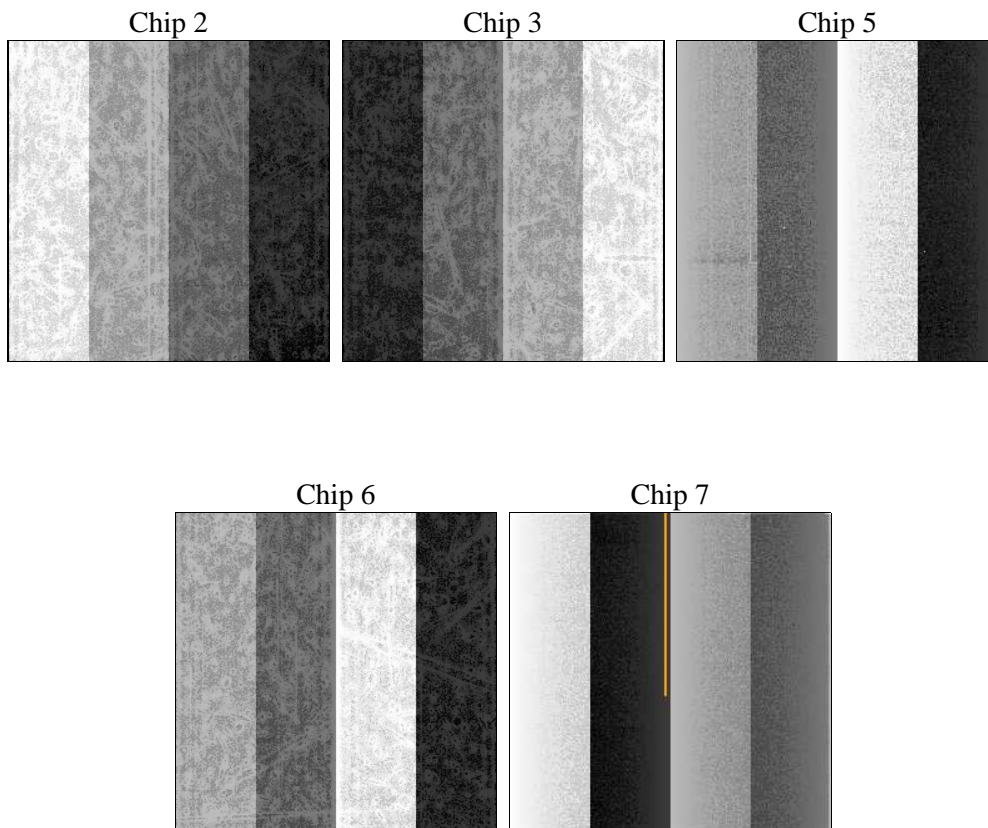
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 10000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.4.2.1            | Processing system revision     | ontime         | 10053.202404976 | Sum of GTIs [s]                         |
| caldbver | 4.6.10a             | &#160                          | ontime2        | 10053.038244963 | Sum of GTIs [s]                         |
| date     | 2015-12-07T12:03:26 | Date and time of file creation | ontime3        | 10053.079285026 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime5        | 10053.161365032 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 10053.120324969 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10053.202404976 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 428338          | Number of level 1 events                |

### 2.1.4 Events

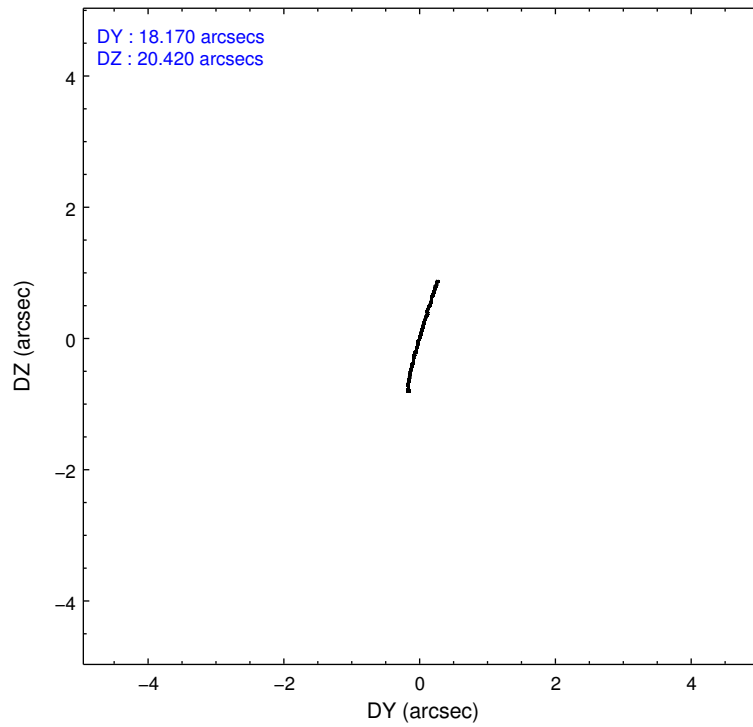
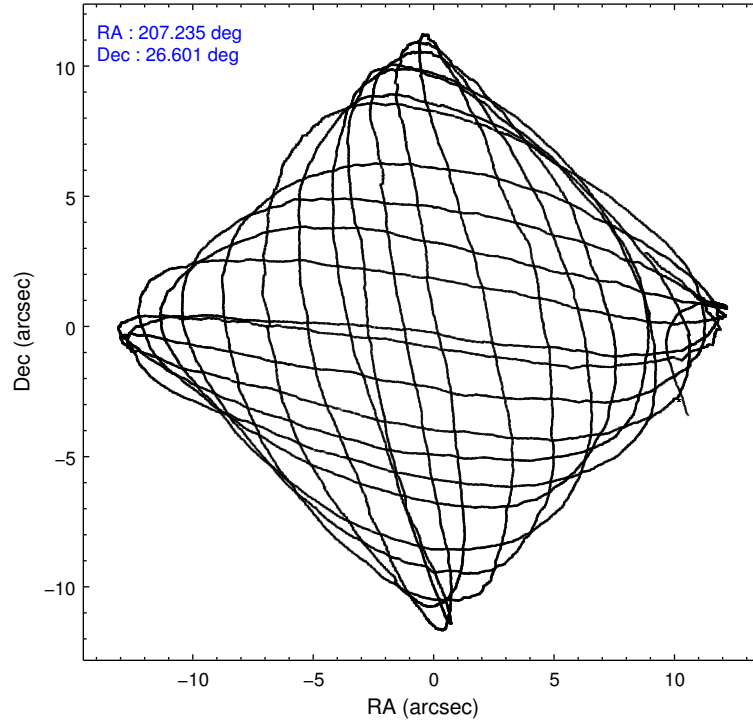
|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7  |
|-----------------|-------|-------|-------|-------|--------|
| level 1 events  | 55861 | 55613 | 93337 | 66861 | 156666 |
| rejected events | 49517 | 49299 | 47986 | 52659 | 43378  |
| rejected %      | 88%   | 88%   | 51%   | 78%   | 27%    |

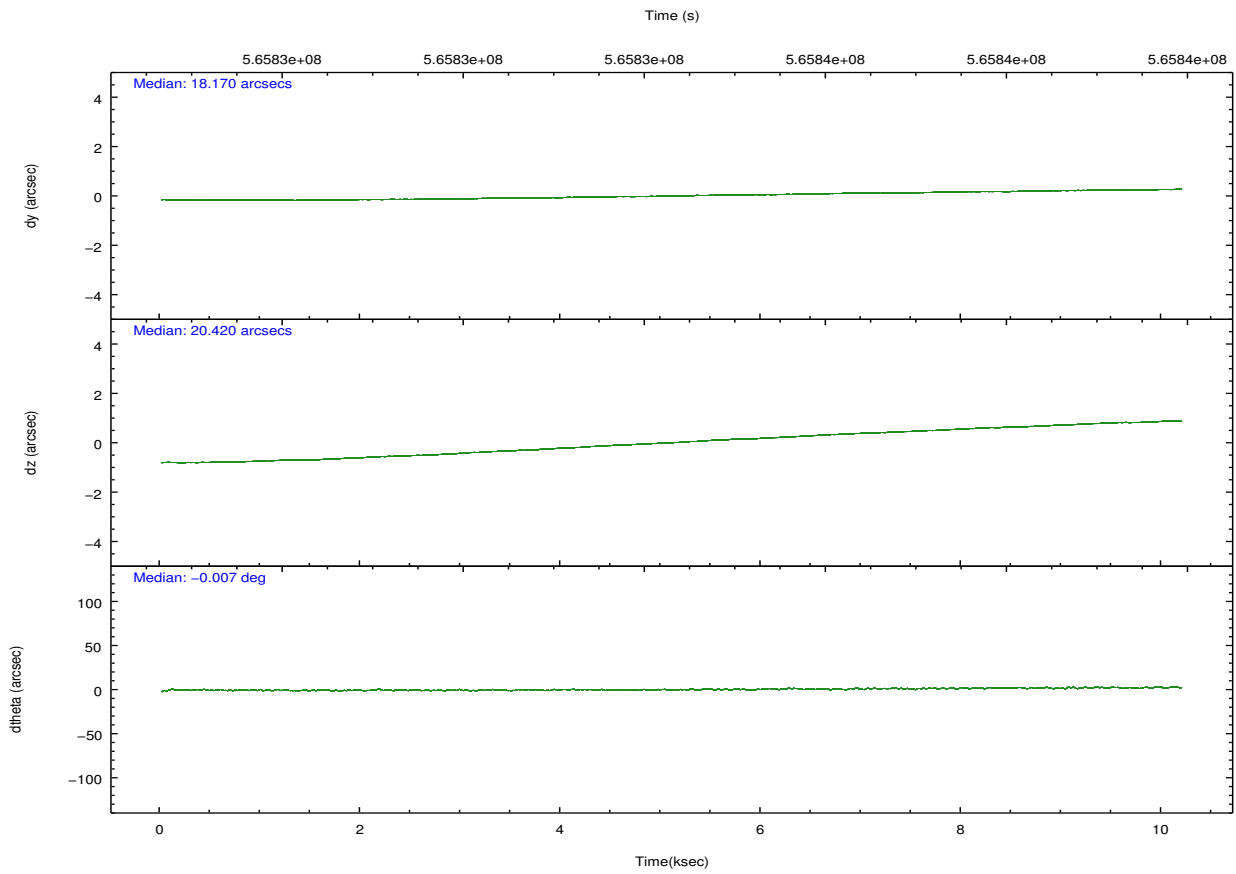
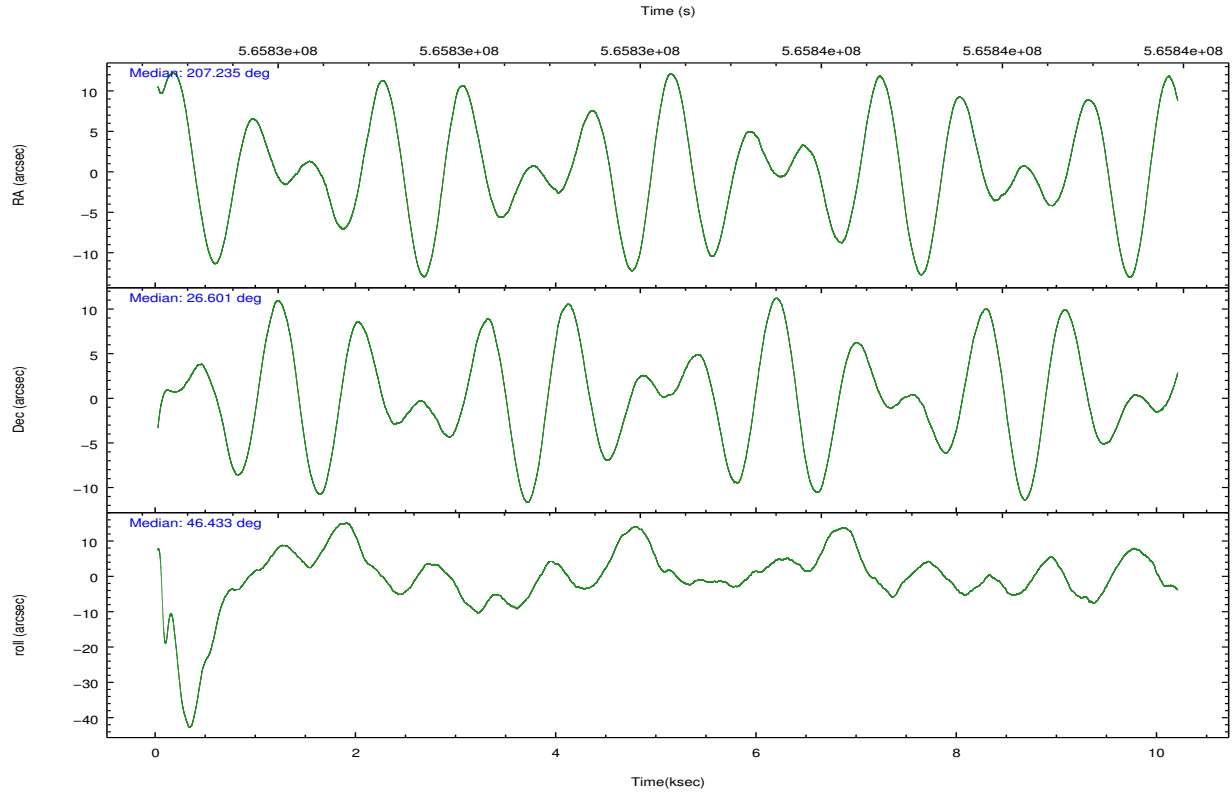
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 2397  | 2410  | 5036  | 8105  | 25514 |
|                | 4%    | 4%    | 5%    | 12%   | 16%   |
| grade 1 events | 21    | 30    | 257   | 40    | 101   |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1428  | 1323  | 13629 | 2411  | 28351 |
|                | 2%    | 2%    | 14%   | 3%    | 18%   |
| grade 3 events | 615   | 679   | 1245  | 921   | 11600 |
|                | 1%    | 1%    | 1%    | 1%    | 7%    |
| grade 4 events | 616   | 647   | 1244  | 882   | 11462 |
|                | 1%    | 1%    | 1%    | 1%    | 7%    |
| grade 5 events | 2290  | 2706  | 5931  | 2789  | 7686  |
|                | 4%    | 4%    | 6%    | 4%    | 4%    |
| grade 6 events | 1291  | 1257  | 24210 | 1885  | 36396 |
|                | 2%    | 2%    | 25%   | 2%    | 23%   |
| grade 7 events | 47203 | 46561 | 41785 | 49828 | 35556 |
|                | 84%   | 83%   | 44%   | 74%   | 22%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-23567          | ACIS-23567           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 207.227736          | 207.234604859748     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 26.574248           | 26.60099930995214    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 46.281938           | 46.43552093984876    | [s] Primary exposure time             | 0.000000  | 3.1     |
| [s] Window start time (MET)       | 563587268.184000    | 563587268.184000     |                                       |           |         |
| [s] Window stop time (MET)        | 566179268.184000    | 566179268.184000     |                                       |           |         |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 565829396.184000    | 565828425.8045599    |                                       |           |         |
| Observation start date            | 2015-12-06T22:48:48 | 2015-12-06T22:33:45  |                                       |           |         |
| [s] Observation end time (MET)    | 565839396.184000    | 565840401.9052401    |                                       |           |         |
| Observation end date              | 2015-12-07T01:35:28 | 2015-12-07T01:53:21  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect





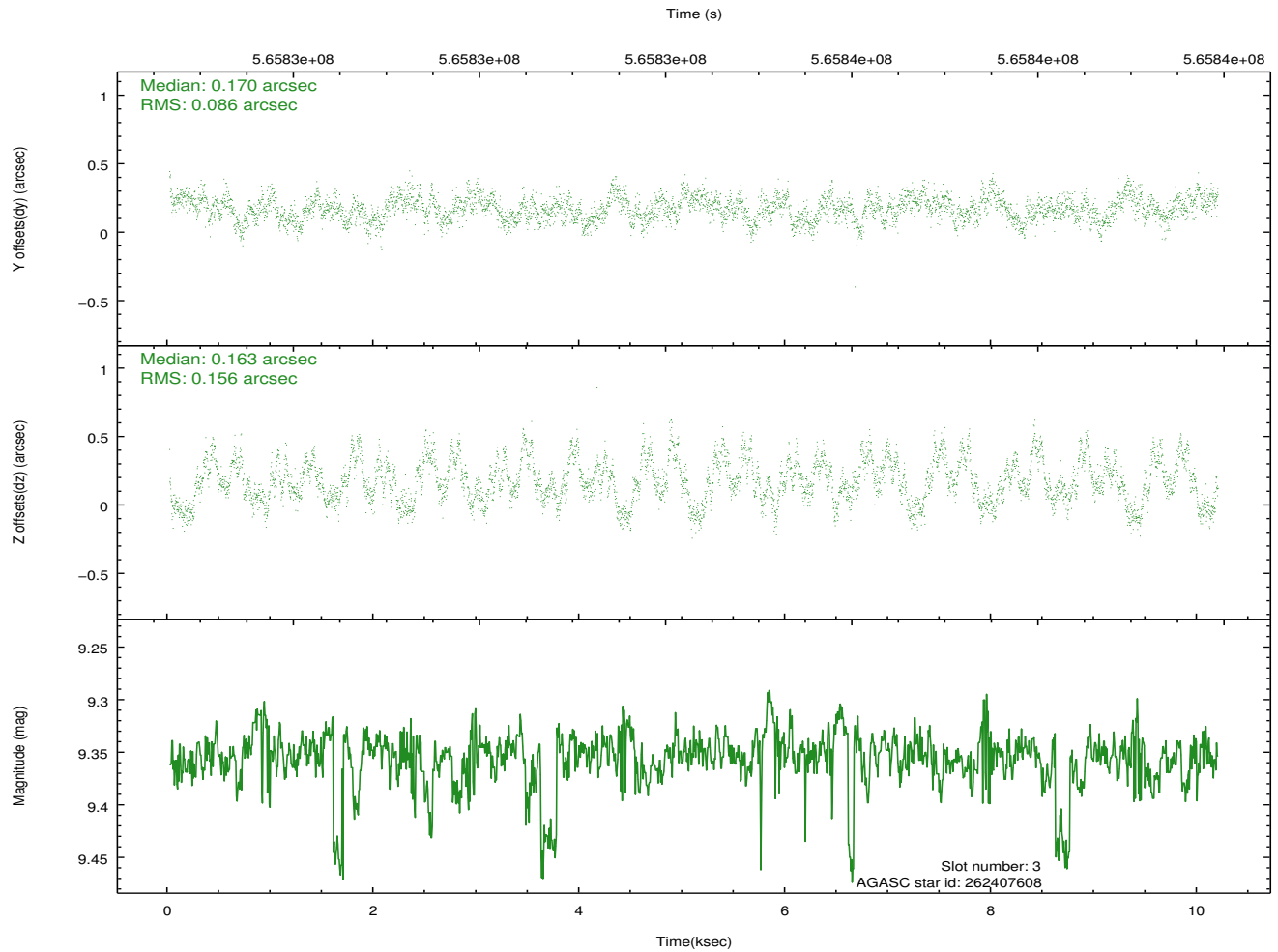
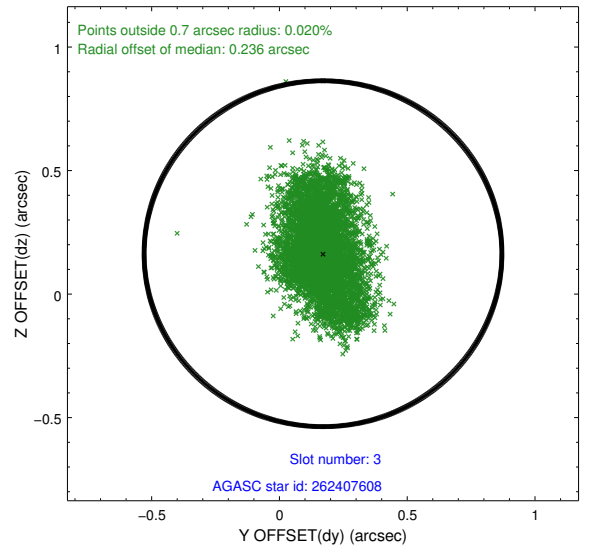
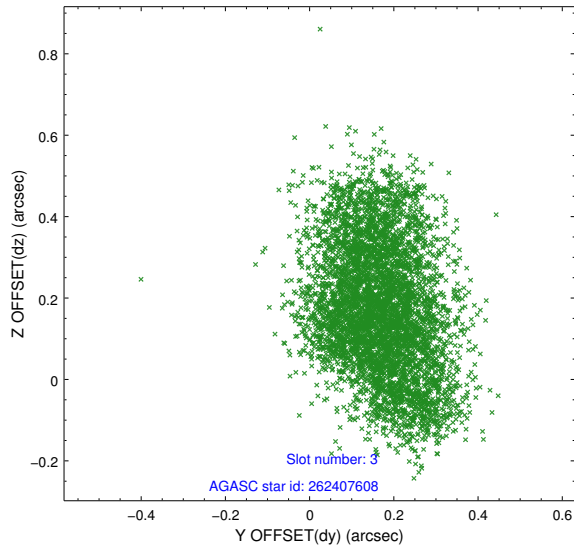
### Slot Statistics

| lot | status | used | id        | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_x   |
|-----|--------|------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0   | FID    |      | ACIS-S-1  | 7.22  | 2484  | 0.153  | -0.118 | 0.016 | 0.035 | 0.000000   | 0.000000  | 925.00   | -1737.66 |
| 1   | FID    |      | ACIS-S-5  | 7.25  | 2484  | -0.310 | 0.071  | 0.007 | 0.011 | 0.000000   | 0.000000  | -1824.22 | 159.47   |
| 2   | FID    |      | ACIS-S-6  | 7.36  | 2483  | 0.136  | 0.058  | 0.015 | 0.038 | 0.000000   | 0.000000  | 389.91   | 804.05   |
| 3   | GUIDE  | used | 262407608 | 9.35  | 4962  | 0.170  | 0.163  | 0.192 | 0.307 | 207.378401 | 26.435507 | -24.52   | -695.67  |
| 4   | BAD    | used | 262407800 | 10.04 | 4722  | -0.137 | -0.274 | 0.242 | 0.418 | 207.321181 | 27.251762 | 1967.08  | 1470.85  |
| 5   | GUIDE  | used | 262408096 | 9.31  | 4969  | 0.011  | -0.252 | 0.173 | 0.286 | 207.011678 | 26.515421 | -633.14  | 358.05   |
| 6   | GUIDE  | used | 262408936 | 9.66  | 4958  | -0.439 | -0.174 | 0.179 | 0.302 | 207.154731 | 26.726554 | 233.90   | 548.64   |
| 7   | GUIDE  | used | 262411960 | 9.64  | 4965  | 0.377  | 0.536  | 0.197 | 0.315 | 207.327895 | 25.881727 | -1576.80 | -1956.38 |

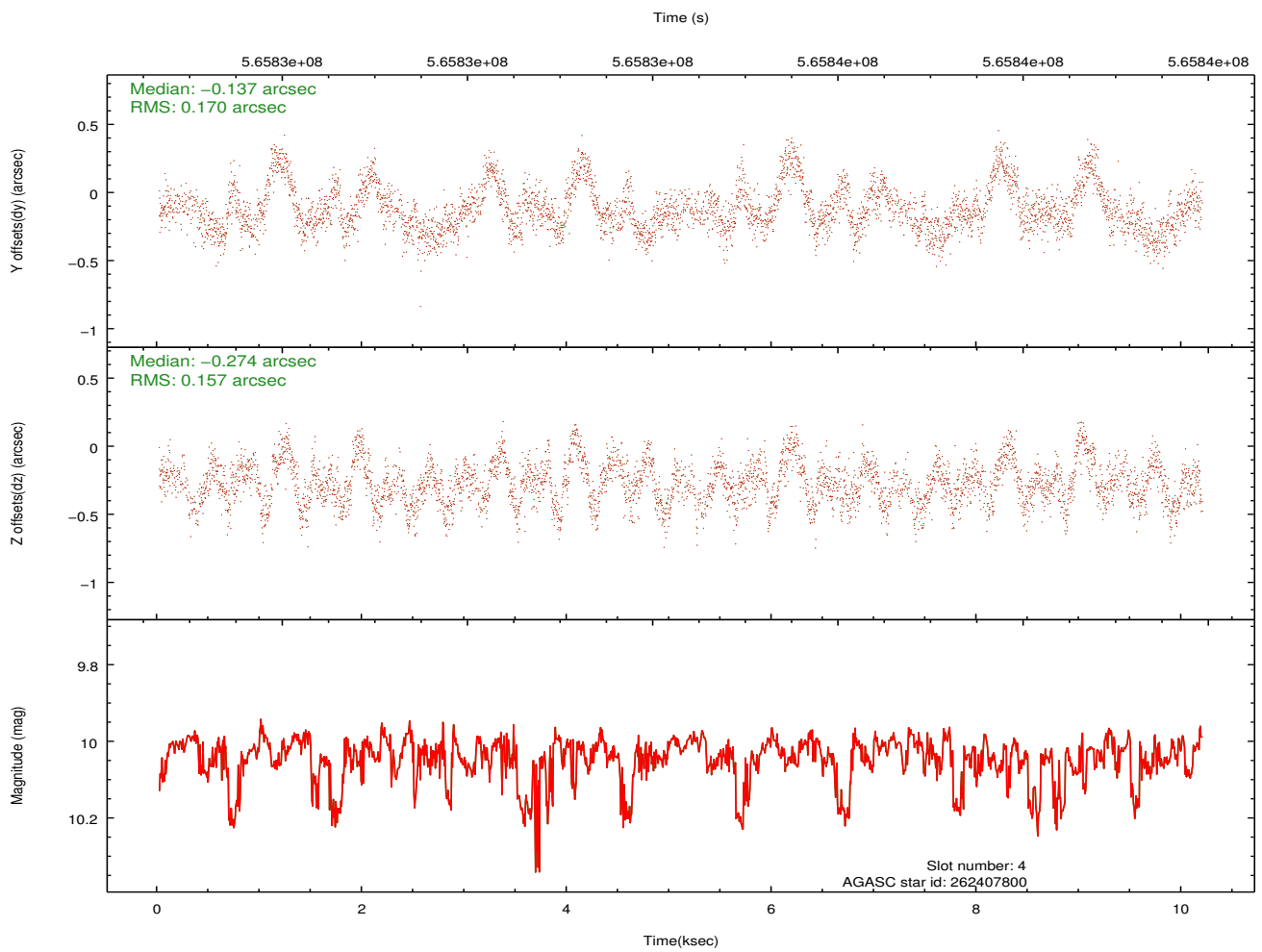
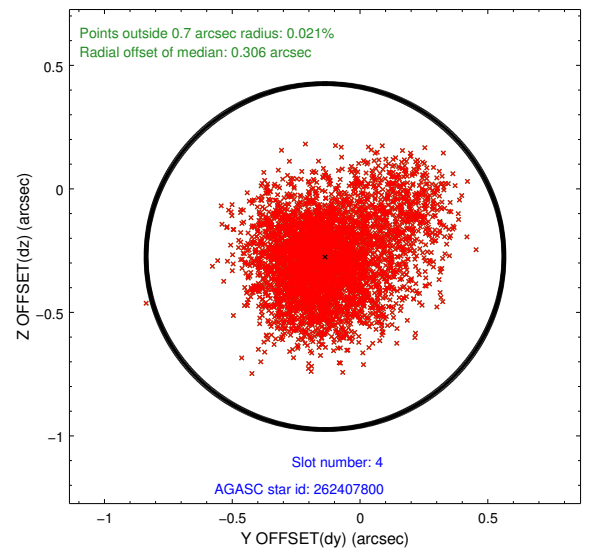
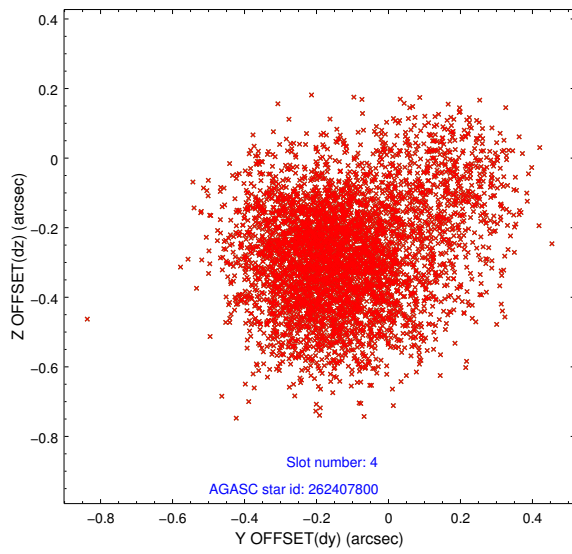
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## 2.4 Star Slots

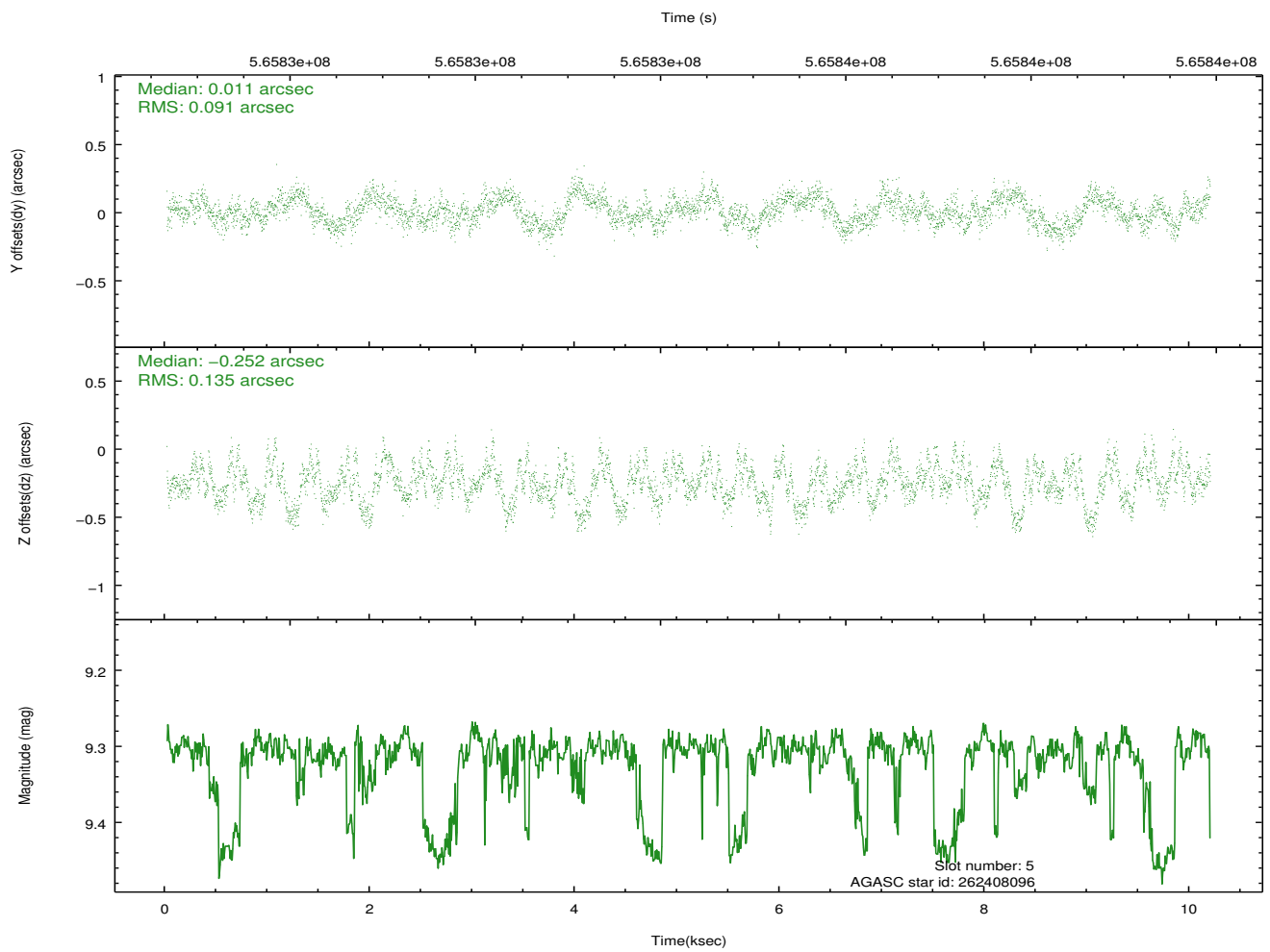
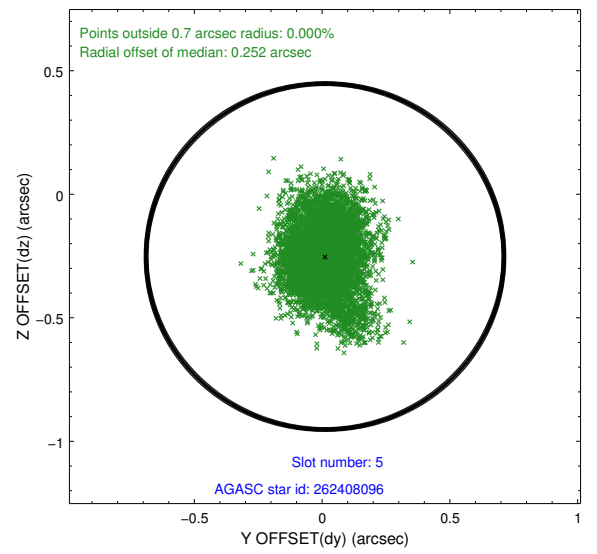
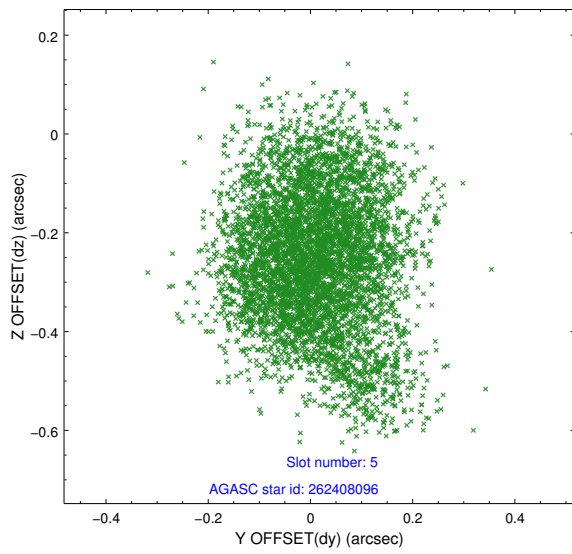
### 2.4.1 Slot 3



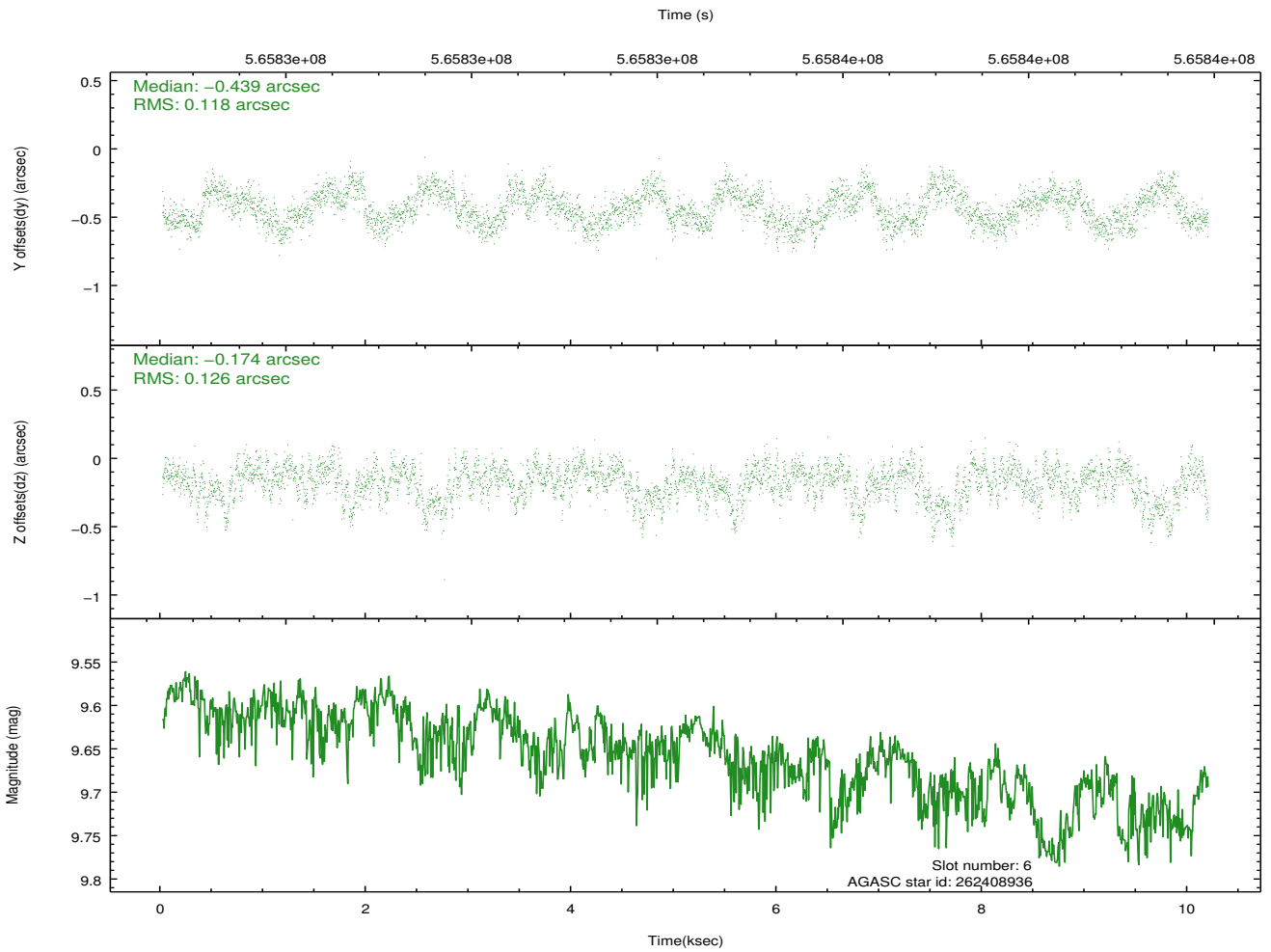
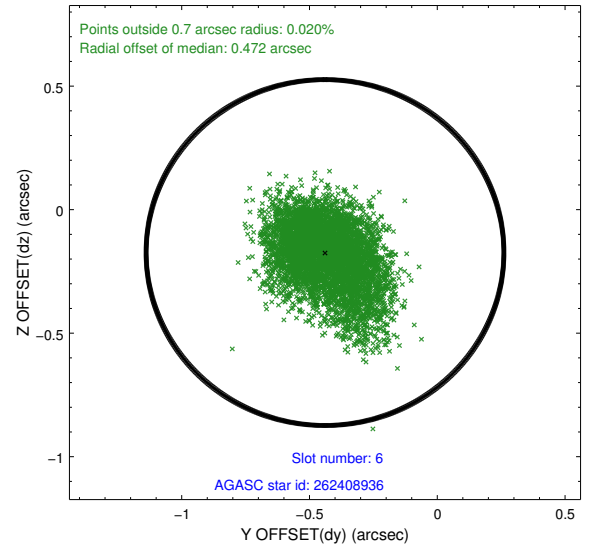
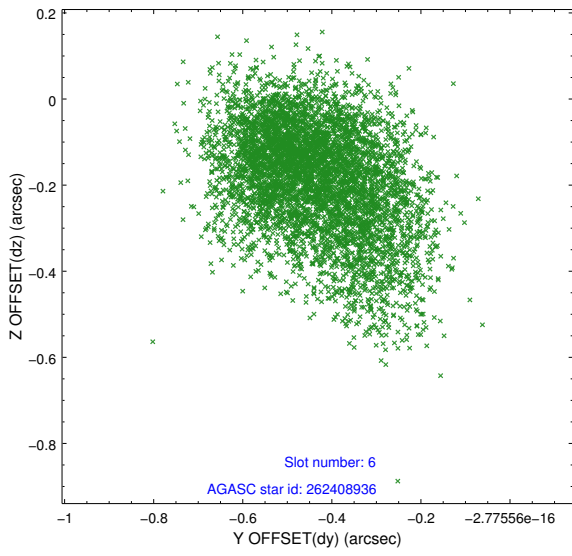
## 2.4.2 Slot 4



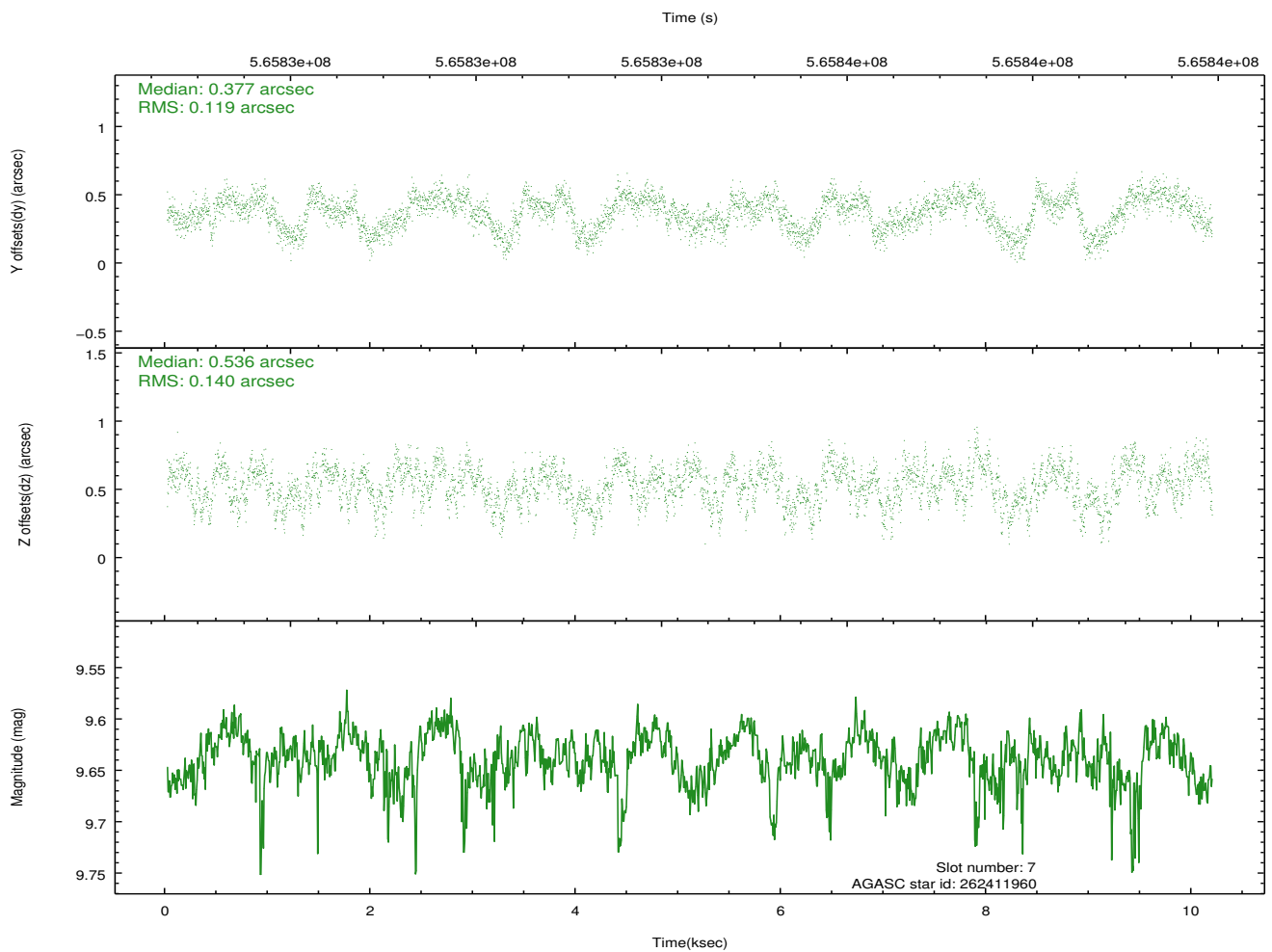
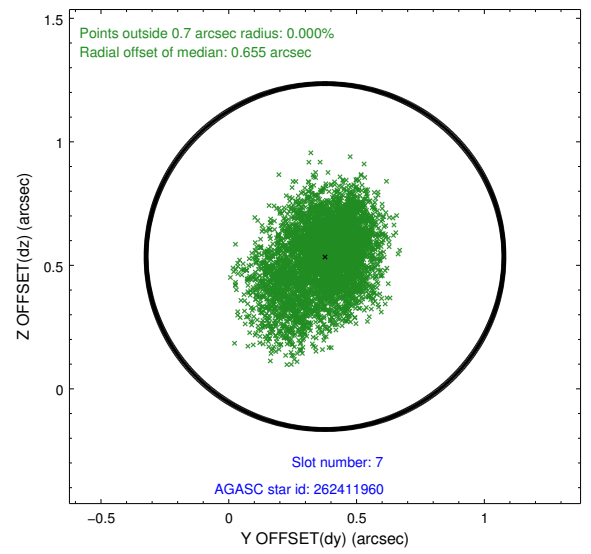
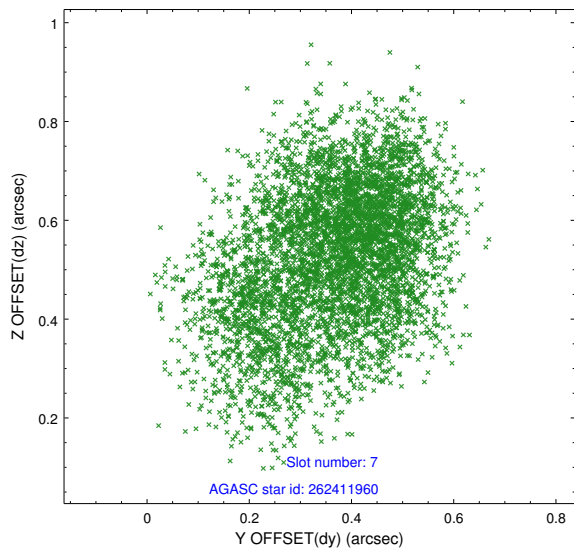
### 2.4.3 Slot 5



### 2.4.4 Slot 6

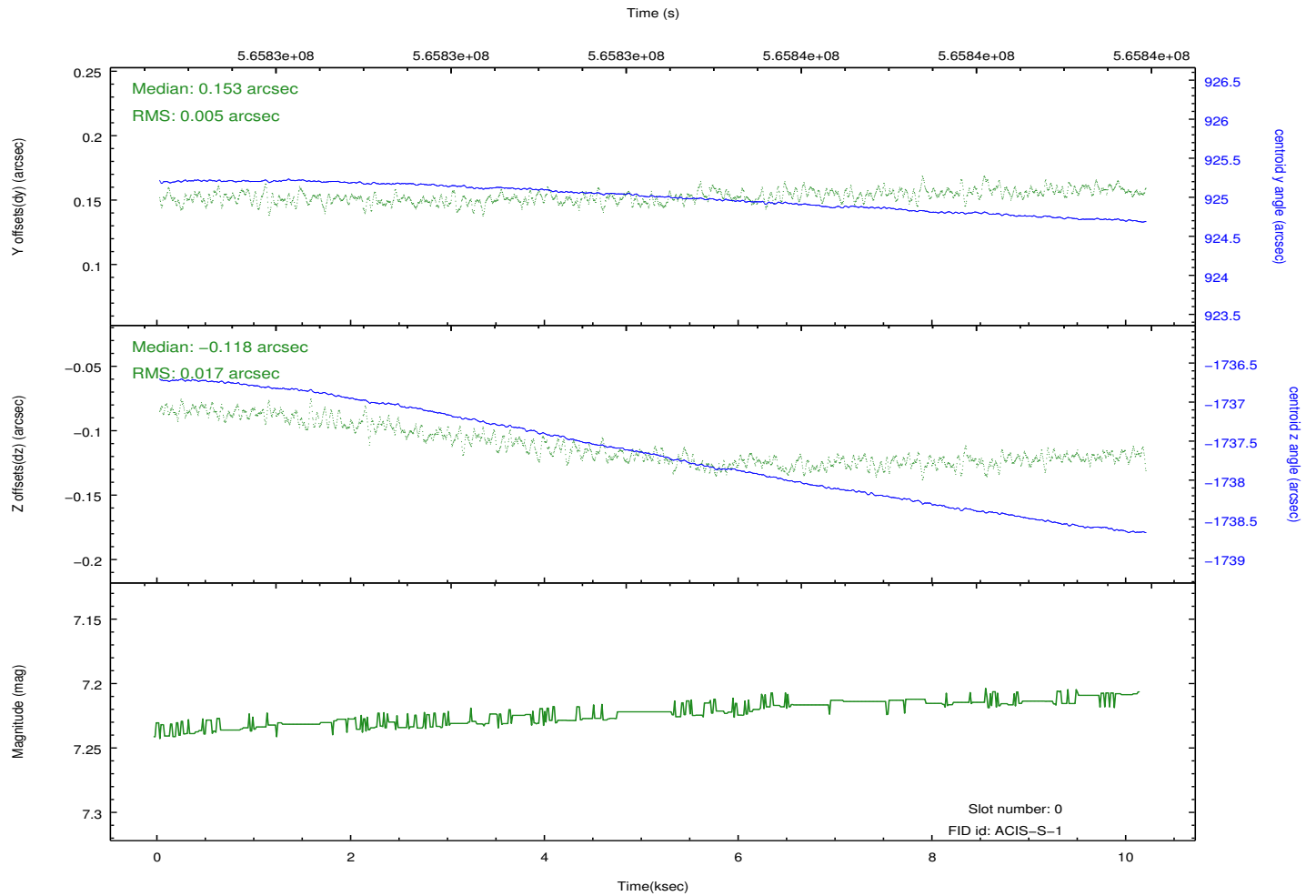
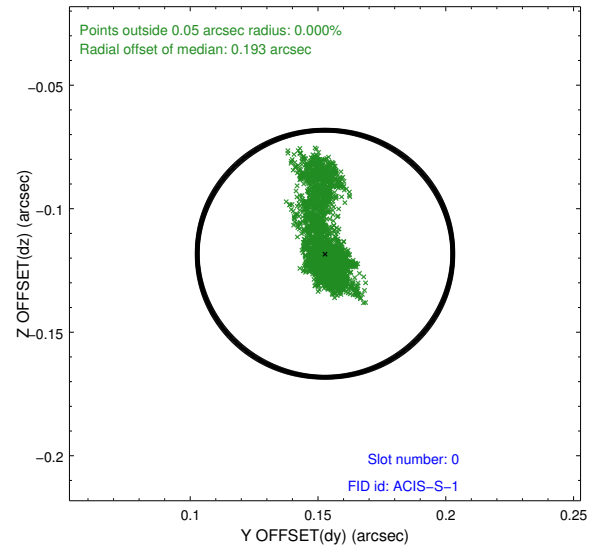
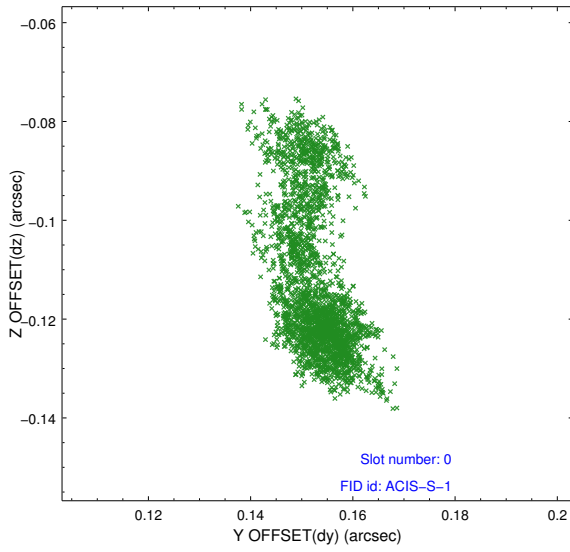


## 2.4.5 Slot 7

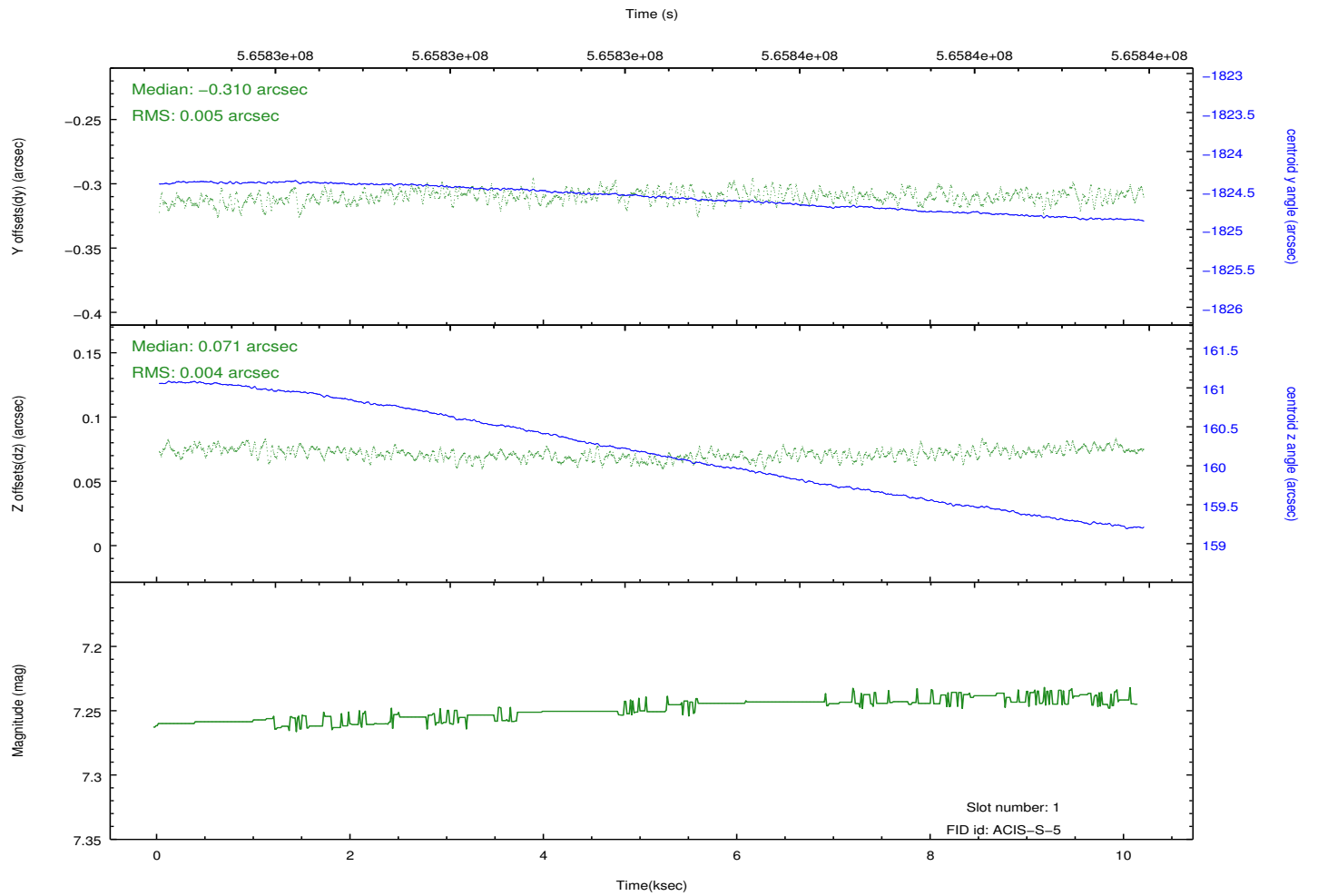
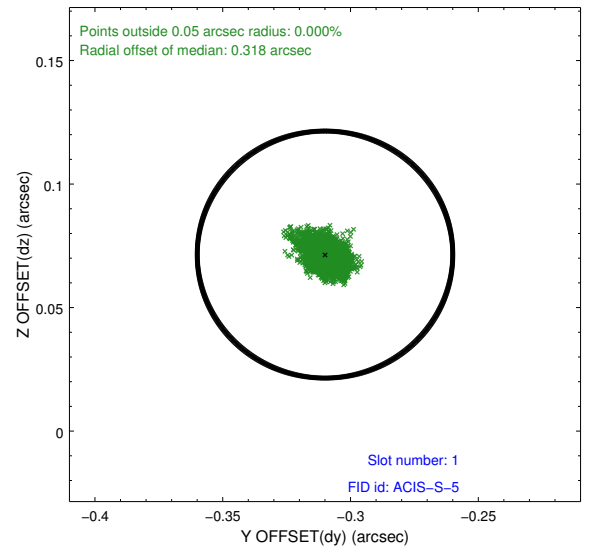
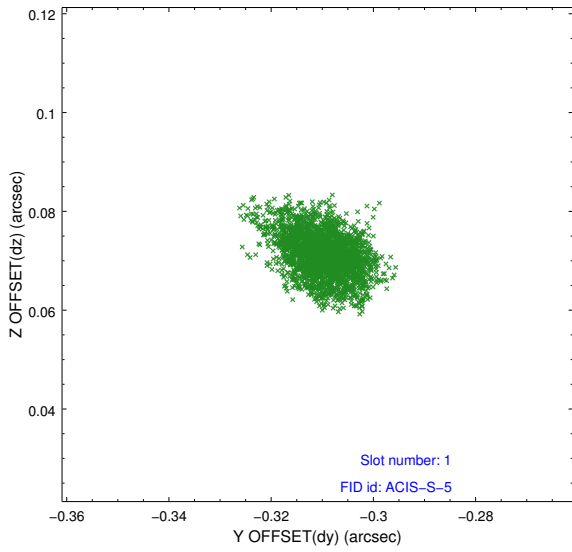


## 2.5 FID Slots

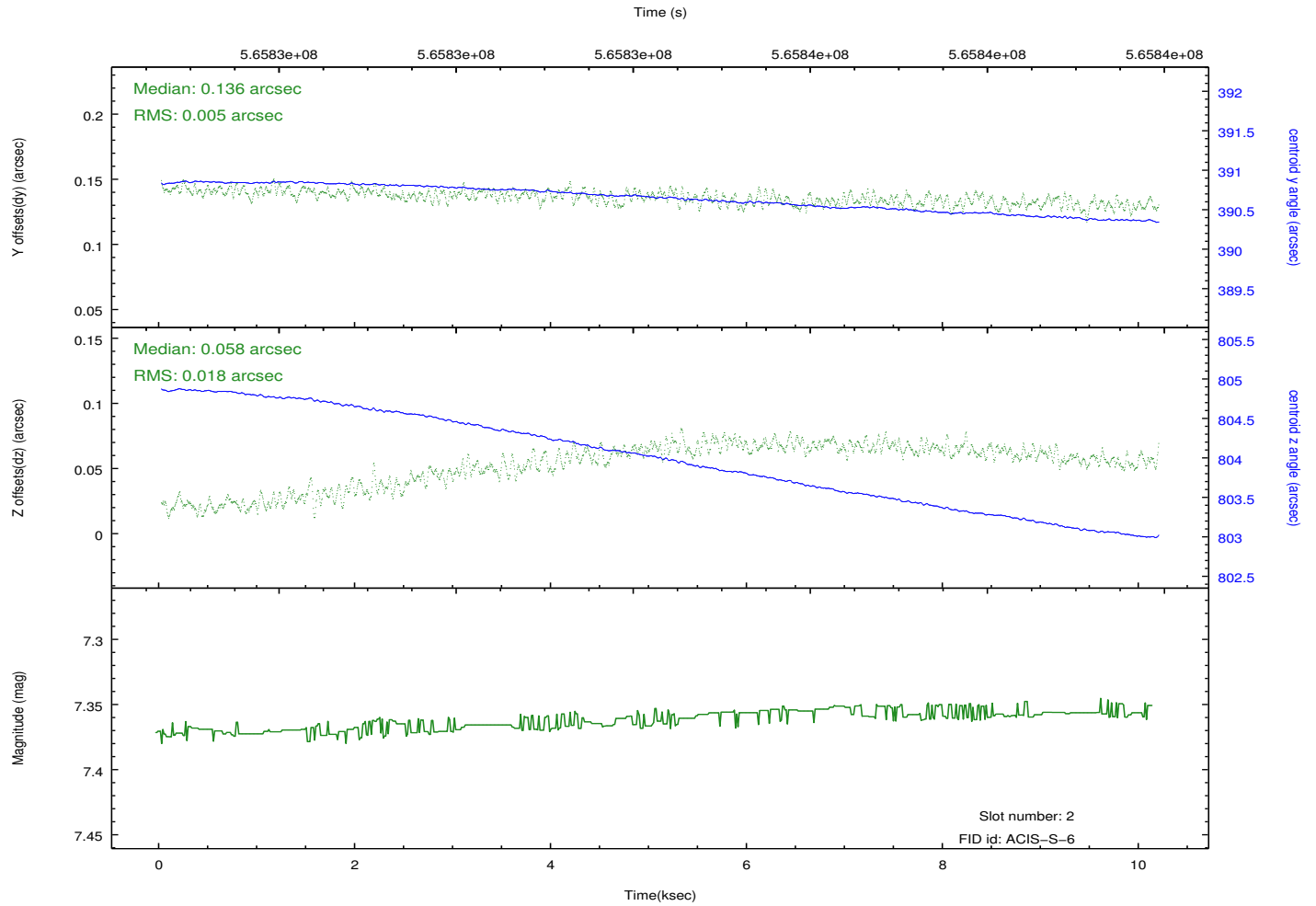
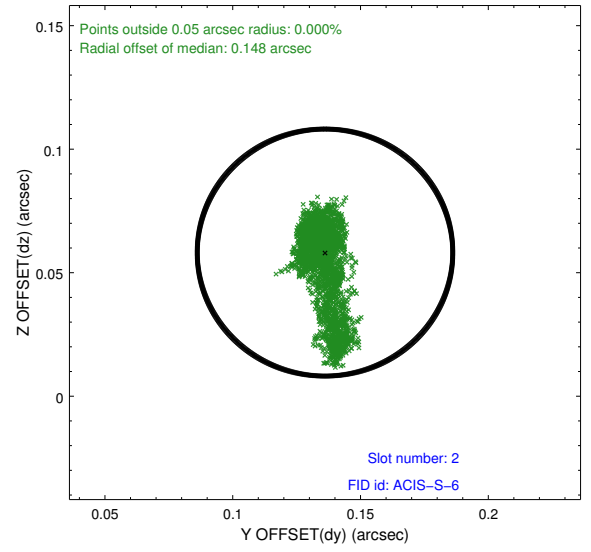
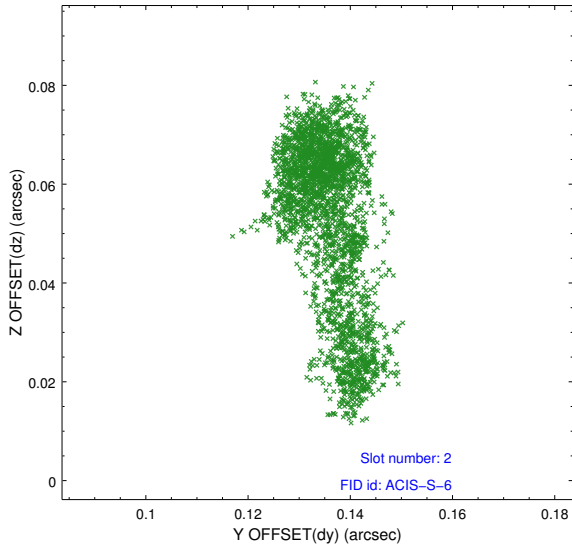
### 2.5.1 Slot 0



## 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)      | 2015.12.07      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 10.053202404976 |

## A.2 Comments