

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 18154 - L2 Version 1  
Chandra X-Ray Center

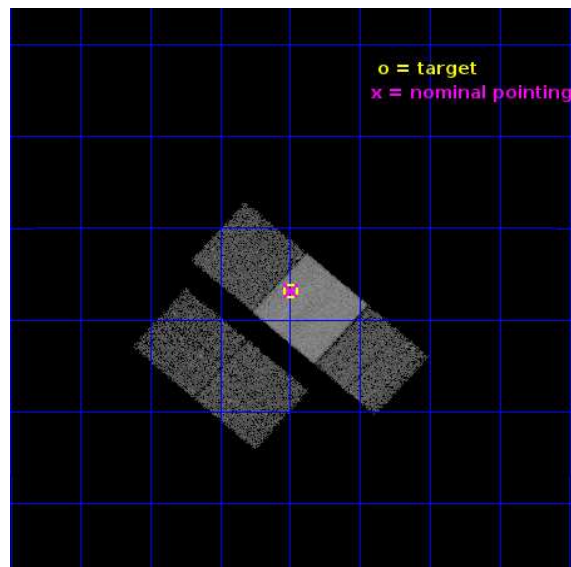
L2 Processing Date : Feb 9 2016

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# 1 Front

|          |                                                                                    |                                             |
|----------|------------------------------------------------------------------------------------|---------------------------------------------|
| seq_num  | 703219                                                                             | Sequence number                             |
| obs_id   | 18154                                                                              | Observation id                              |
| title    | Chandra Legacy Survey of Merger Driven AGN Activation in Nearby X-ray Selected AGN | Proposal title                              |
| observer | Dr Michael Koss                                                                    | Principal investigator                      |
| object   | MCG -2-28-039                                                                      | Source name                                 |
| dtcycle  | 0                                                                                  | &#160                                       |
| cycle    | P                                                                                  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 165.374167                                                                         | Observer's specified target RA [deg]        |
| dec_targ | -12.449444                                                                         | Observer's specified target Dec [deg]       |
| ra_nom   | 165.37270207632                                                                    | Nominal RA [deg]                            |
| dec_nom  | -12.447495488266                                                                   | Nominal Dec [deg]                           |
| roll_nom | 41.224936198667                                                                    | Nominal Roll [deg]                          |
| revision | 1                                                                                  | Processing version of data                  |
| ontime   | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| livetime | 14863.032740565                                                                    | Livetime [s]                                |
| ontime2  | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| ontime3  | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| ontime6  | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| ontime7  | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| ontime8  | 15059.800115943                                                                    | Sum of GTIs [s]                             |
| l2events | 86348                                                                              | Number of level 2 events                    |

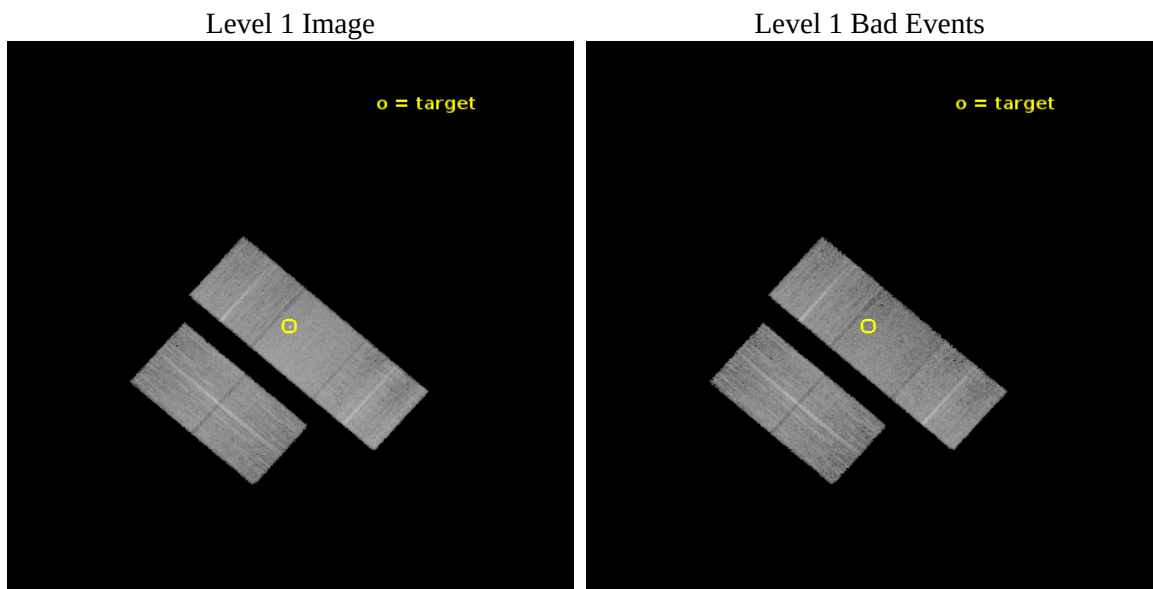




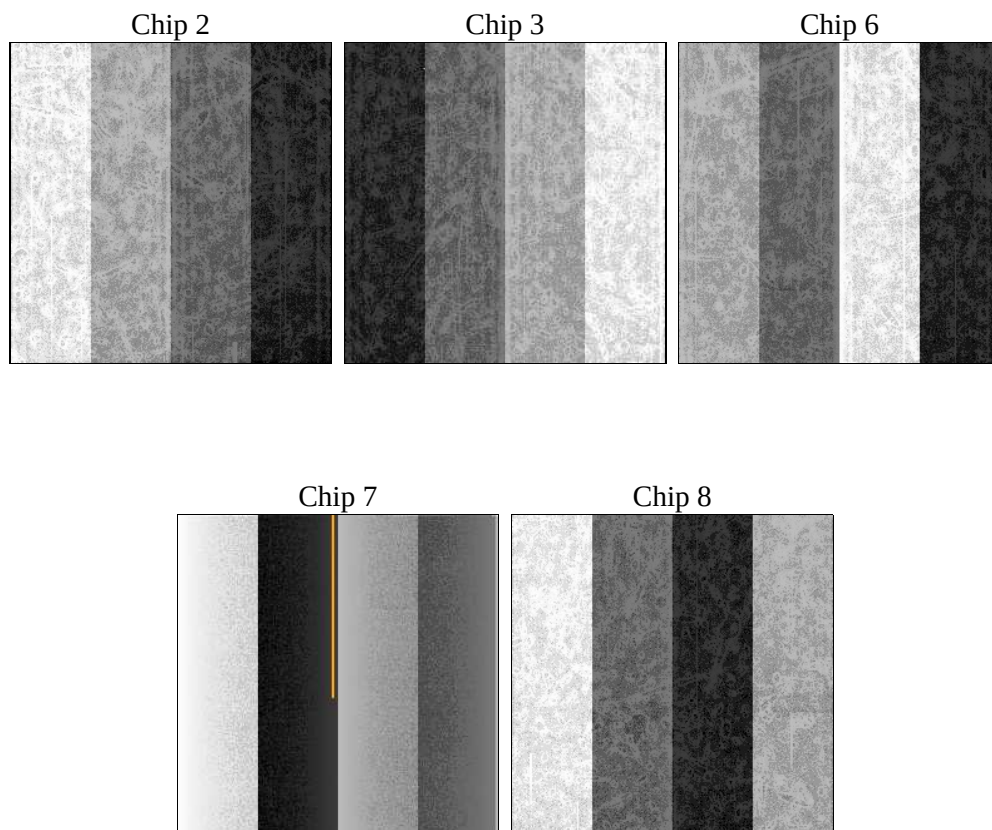
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 15000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.4.3.1            | Processing system revision     | ontime         | 15059.800115943 | Sum of GTIs [s]                         |
| caldsver | 4.7.0               | &#160                          | ontime2        | 15059.800115943 | Sum of GTIs [s]                         |
| date     | 2016-02-09T06:32:05 | Date and time of file creation | ontime3        | 15059.800115943 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime6        | 15059.800115943 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 15059.800115943 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 15059.800115943 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 513210          | Number of level 1 events                |

### 2.1.4 Events

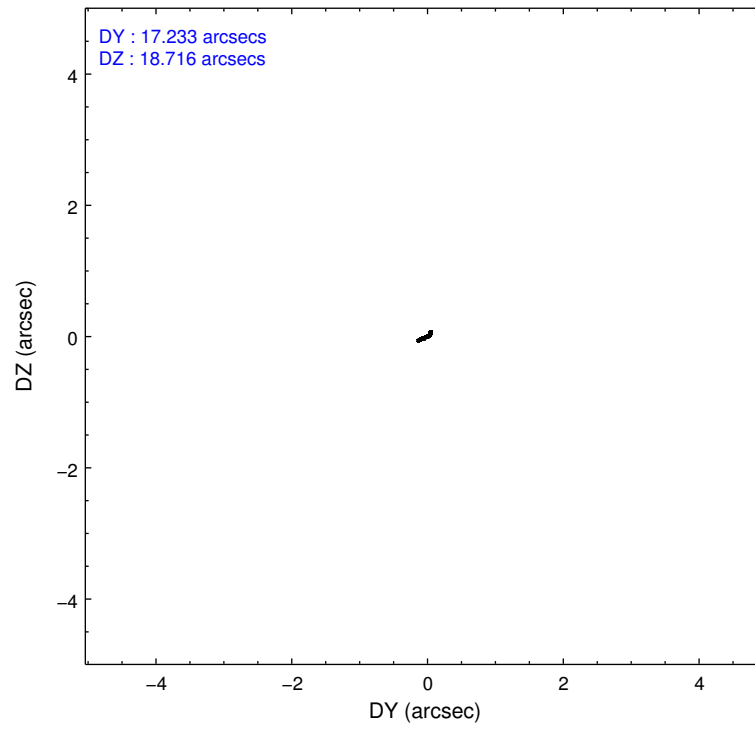
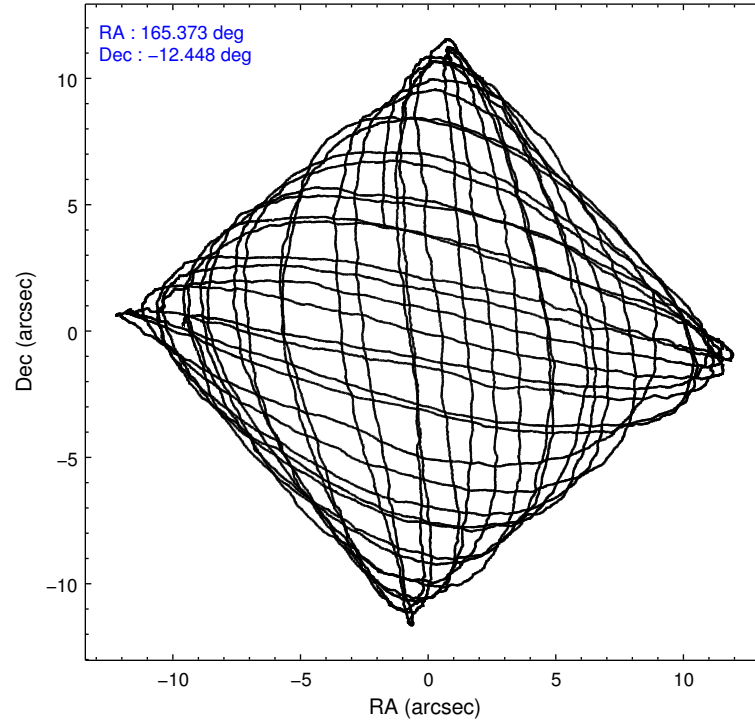
|                 | ccd 2 | ccd 3 | ccd 6 | ccd 7  | ccd 8  |
|-----------------|-------|-------|-------|--------|--------|
| level 1 events  | 92368 | 87655 | 93123 | 121238 | 118826 |
| rejected events | 83037 | 78243 | 82588 | 69254  | 89816  |
| rejected %      | 89%   | 89%   | 88%   | 57%    | 75%    |

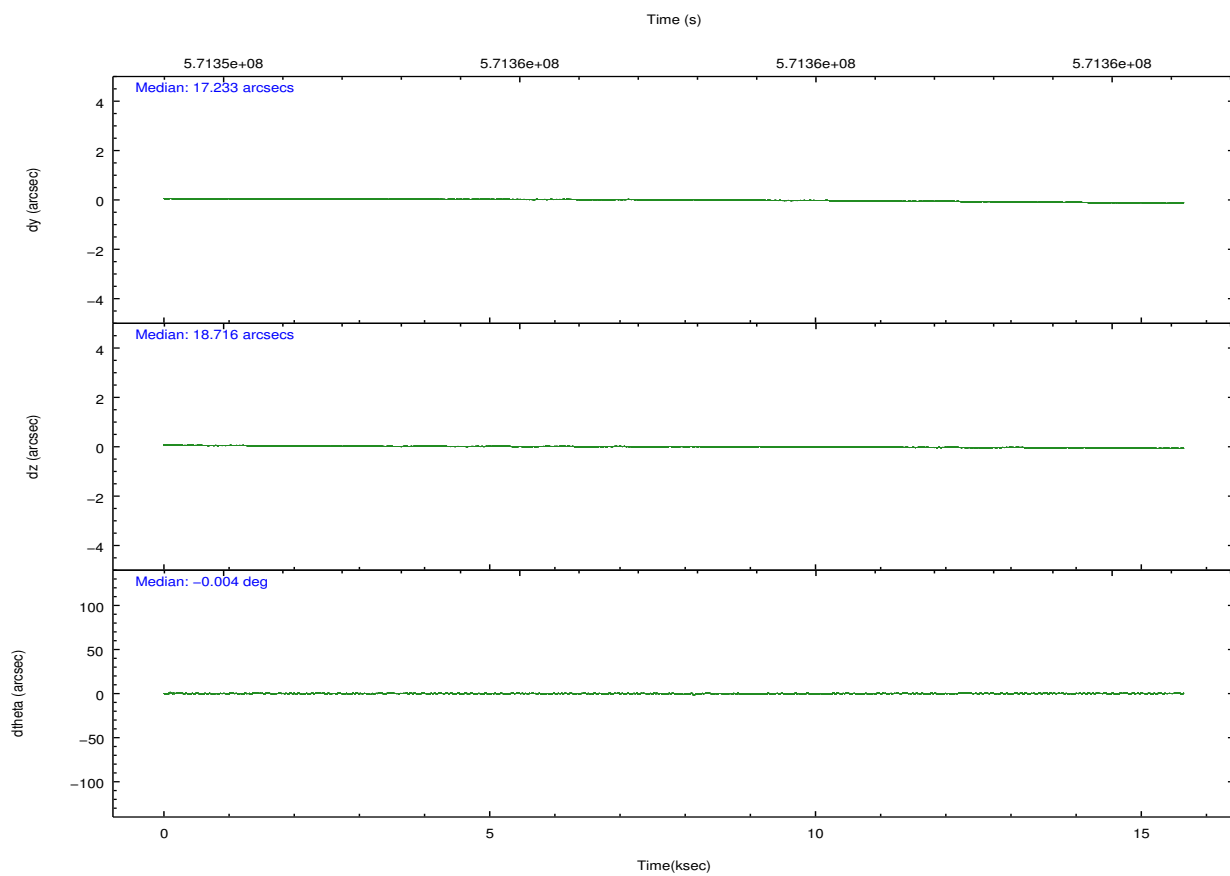
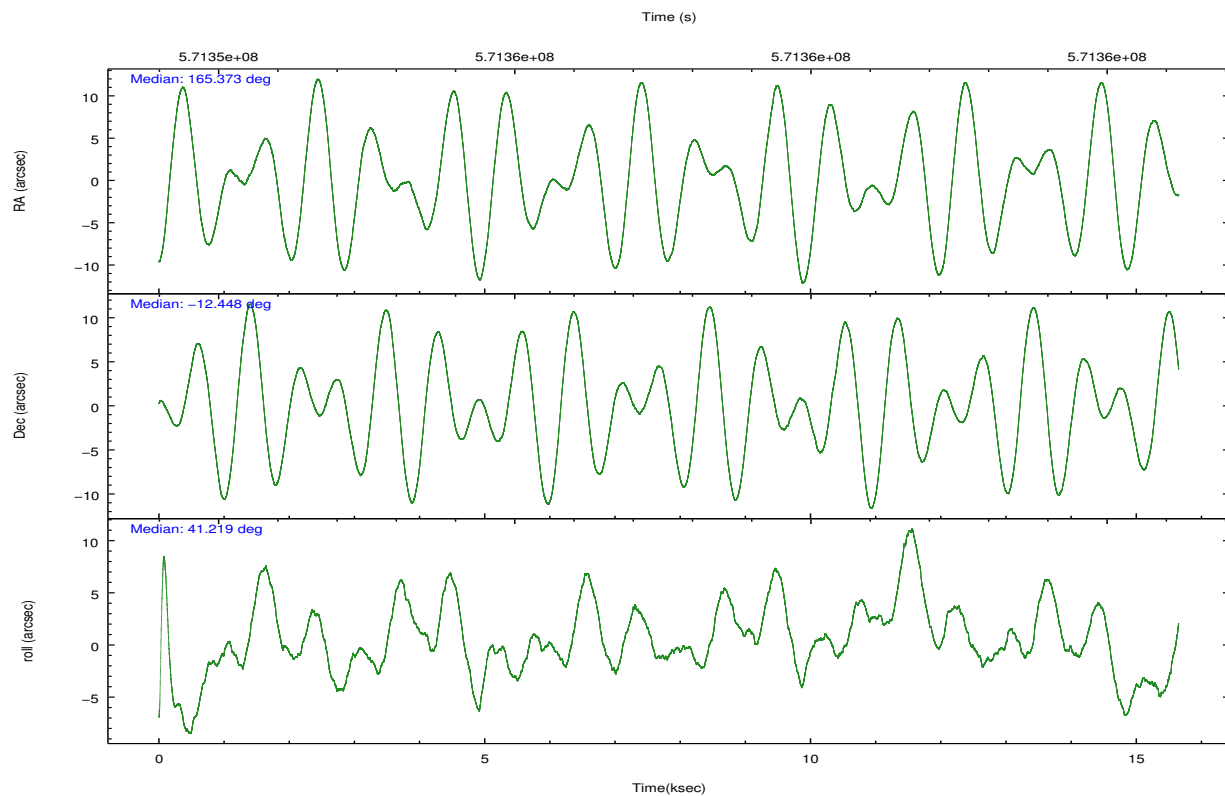
|                | ccd 2 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 3351  | 3168  | 3323  | 4392  | 8239  |
|                | 3%    | 3%    | 3%    | 3%    | 6%    |
| grade 1 events | 50    | 54    | 35    | 166   | 85    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 2232  | 2089  | 2523  | 10826 | 7055  |
|                | 2%    | 2%    | 2%    | 8%    | 5%    |
| grade 3 events | 968   | 1014  | 1009  | 4095  | 3012  |
|                | 1%    | 1%    | 1%    | 3%    | 2%    |
| grade 4 events | 930   | 1044  | 1029  | 3759  | 2860  |
|                | 1%    | 1%    | 1%    | 3%    | 2%    |
| grade 5 events | 3542  | 4435  | 4264  | 11508 | 6414  |
|                | 3%    | 5%    | 4%    | 9%    | 5%    |
| grade 6 events | 1856  | 2099  | 2652  | 28921 | 7873  |
|                | 2%    | 2%    | 2%    | 23%   | 6%    |
| grade 7 events | 79439 | 73752 | 78288 | 57571 | 83288 |
|                | 86%   | 84%   | 84%   | 47%   | 70%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-23678          | ACIS-23678           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 165.363994          | 165.3727020763184    | CCD I2 on                             | O2        | Y       |
| [deg] Pointing Dec                | -12.473630          | -12.44749548826556   | CCD I3 on                             | O3        | Y       |
| [deg] Pointing Roll               | 41.066432           | 41.22493619866715    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O1        | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | O4        | 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                             | O5        | Y       |
| [s] Observation start time (MET)  | 571350411.184000    | 571349237.04295      | CCD S5 on                             | N         | N       |
| Observation start date            | 2016-02-08T20:25:43 | 2016-02-08T20:07:17  | Number of optional ACIS chips dropped | 1         | 1       |
| [s] Observation end time (MET)    | 571365411.184000    | 571365840.5064       | On-chip summing requested             | N         | N       |
| Observation end date              | 2016-02-09T00:35:43 | 2016-02-09T00:44:00  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



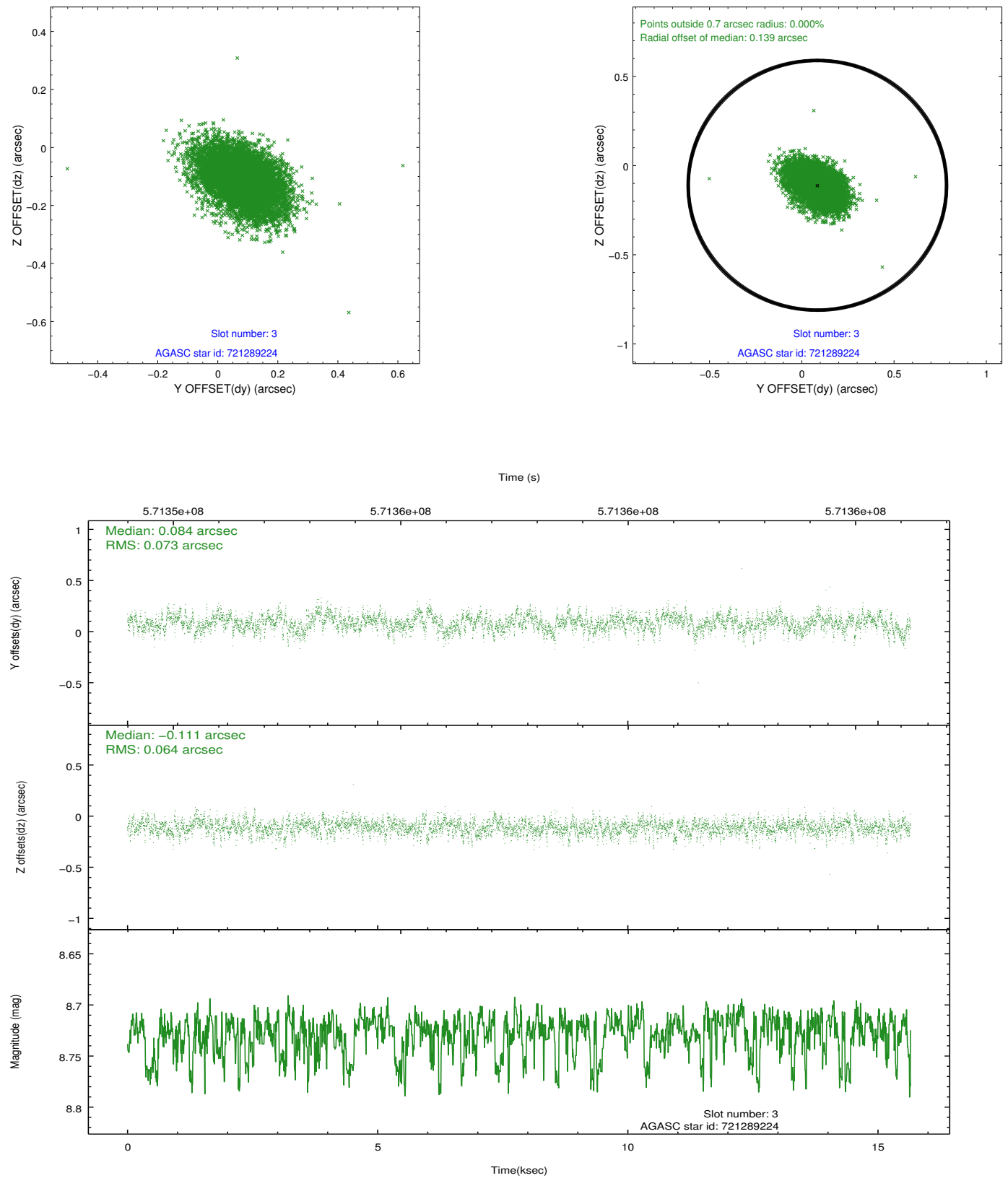


# Slot Statistics

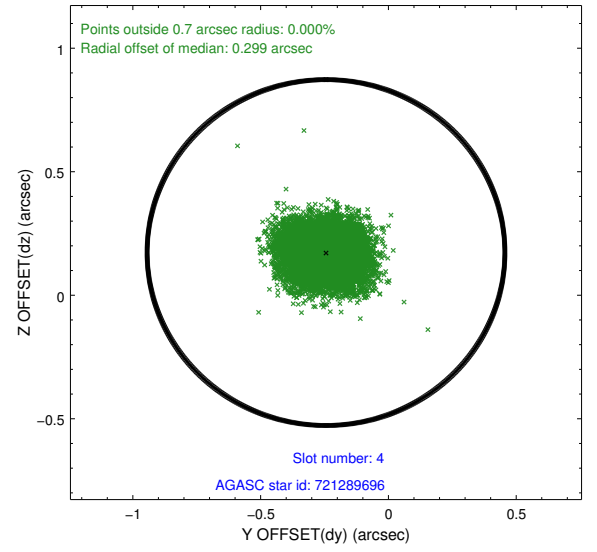
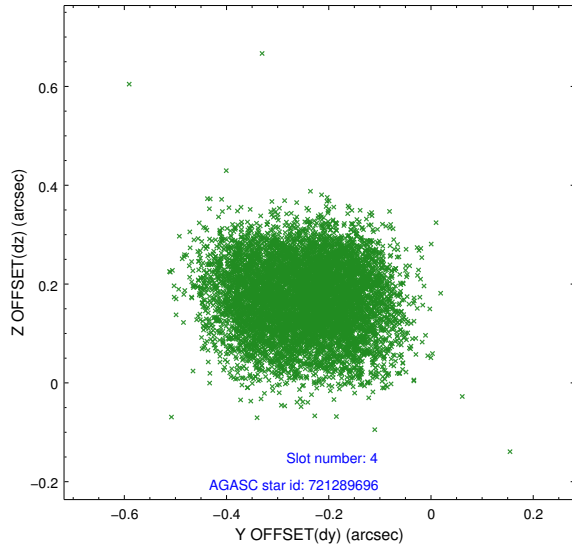
| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    |      | ACIS-S-2  | 7.14 | 3818  | -0.166 | -0.148 | 0.007 | 0.012 | 0.000000   | 0.000000   | -770.40  | -1740.29 |
| 1    | FID    |      | ACIS-S-4  | 7.24 | 3818  | 0.428  | 0.119  | 0.006 | 0.011 | 0.000000   | 0.000000   | 2143.33  | 168.18   |
| 2    | FID    |      | ACIS-S-5  | 7.25 | 3817  | -0.294 | 0.037  | 0.007 | 0.011 | 0.000000   | 0.000000   | -1823.02 | 162.07   |
| 3    | GUIDE  | used | 721289224 | 8.73 | 7634  | 0.084  | -0.111 | 0.101 | 0.171 | 164.545133 | -12.392485 | -1982.54 | 2108.14  |
| 4    | GUIDE  | used | 721289696 | 8.87 | 7630  | -0.244 | 0.173  | 0.128 | 0.194 | 165.648575 | -12.382534 | 969.37   | -409.85  |
| 5    | GUIDE  | used | 721290792 | 8.96 | 7634  | -0.041 | -0.324 | 0.137 | 0.209 | 165.539453 | -11.848820 | 1943.21  | 1289.27  |
| 6    | GUIDE  | used | 721690048 | 8.20 | 7635  | 0.195  | -0.052 | 0.095 | 0.152 | 165.214859 | -12.558682 | -595.97  | 114.06   |
| 7    | GUIDE  | used | 721816888 | 9.41 | 7626  | 0.010  | 0.319  | 0.136 | 0.226 | 166.067452 | -12.691541 | 1345.75  | -2215.05 |

## 2.4 Star Slots

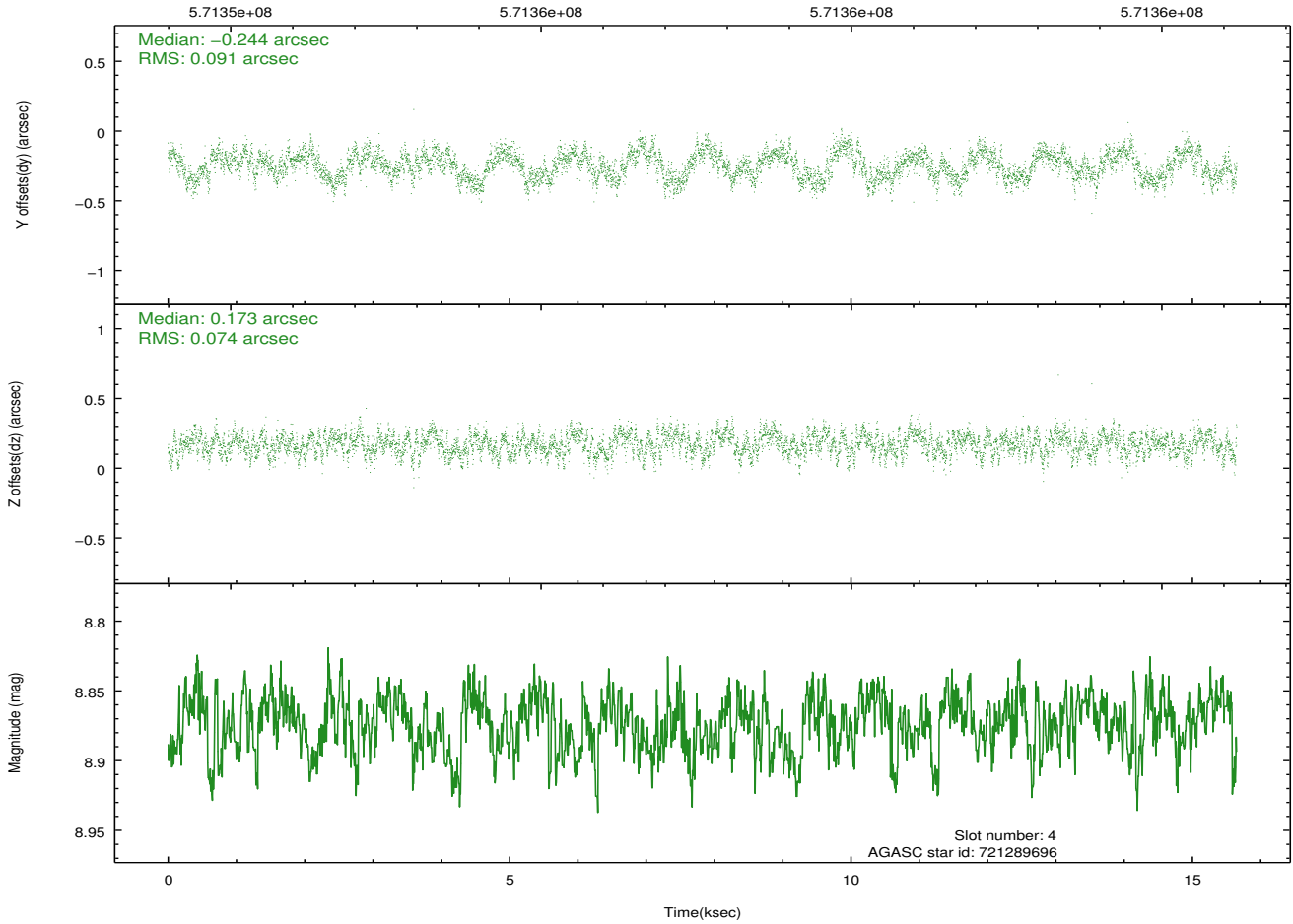
### 2.4.1 Slot 3



## 2.4.2 Slot 4

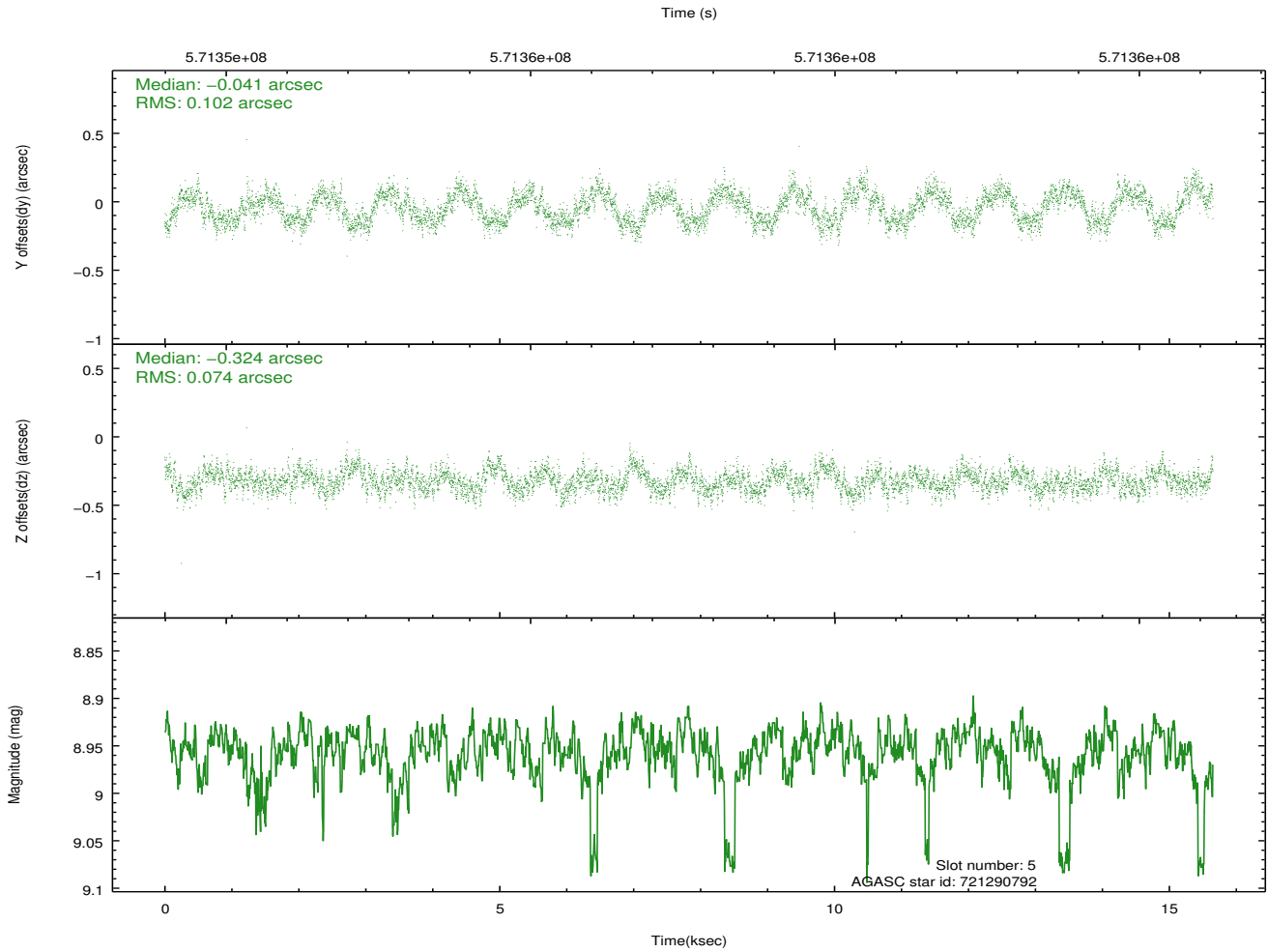
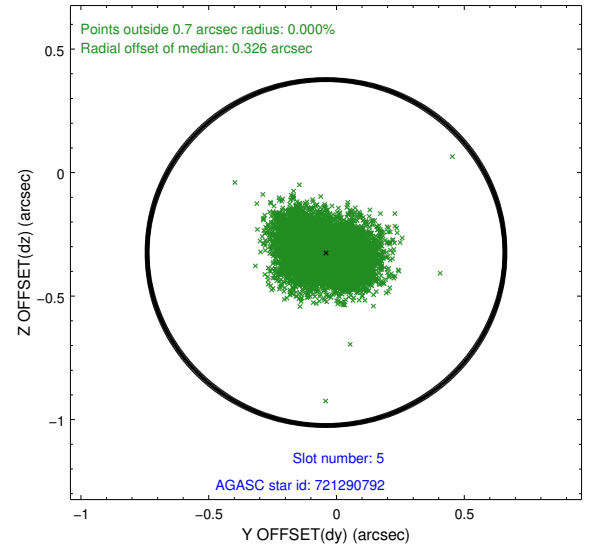
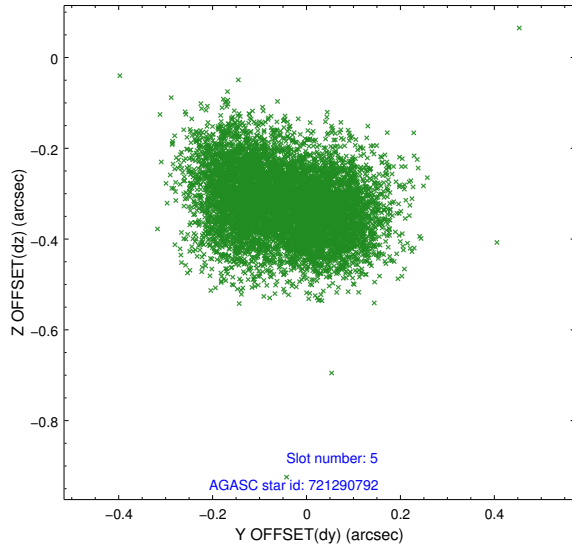


Time (s)

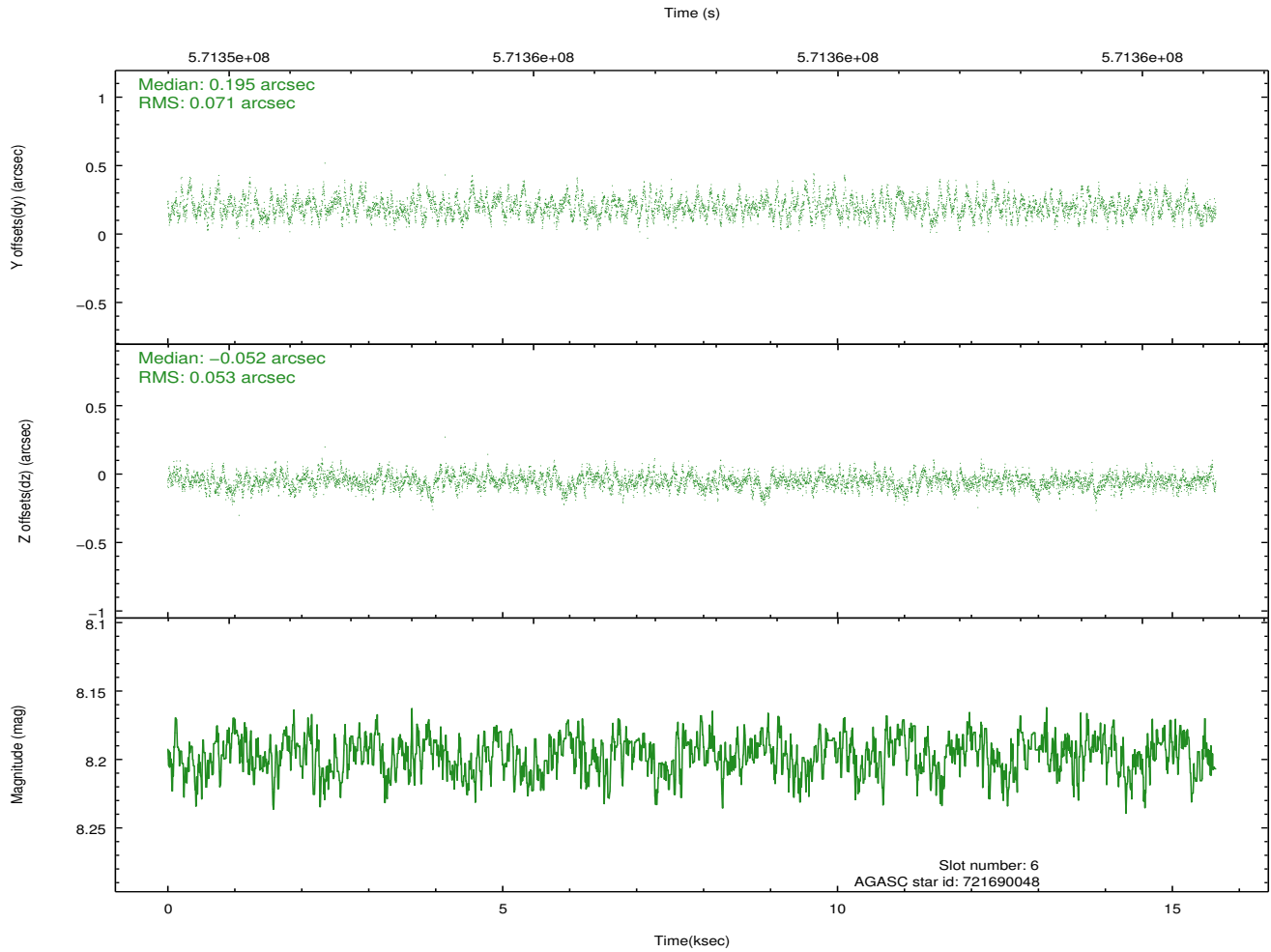
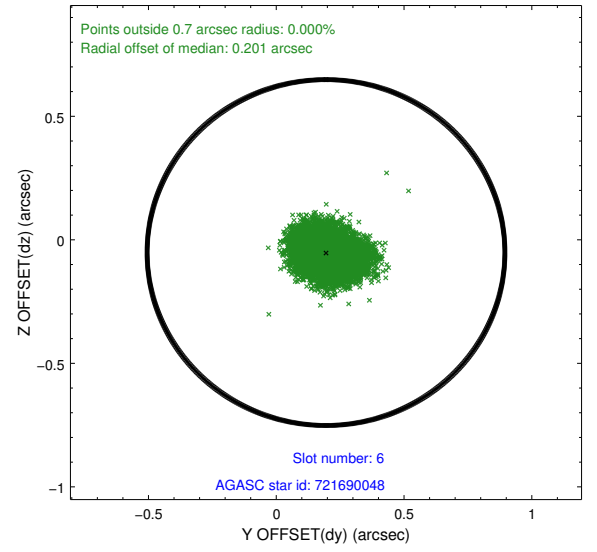
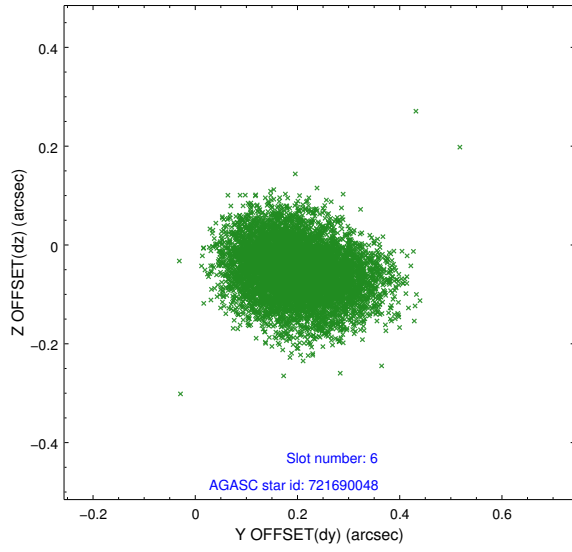




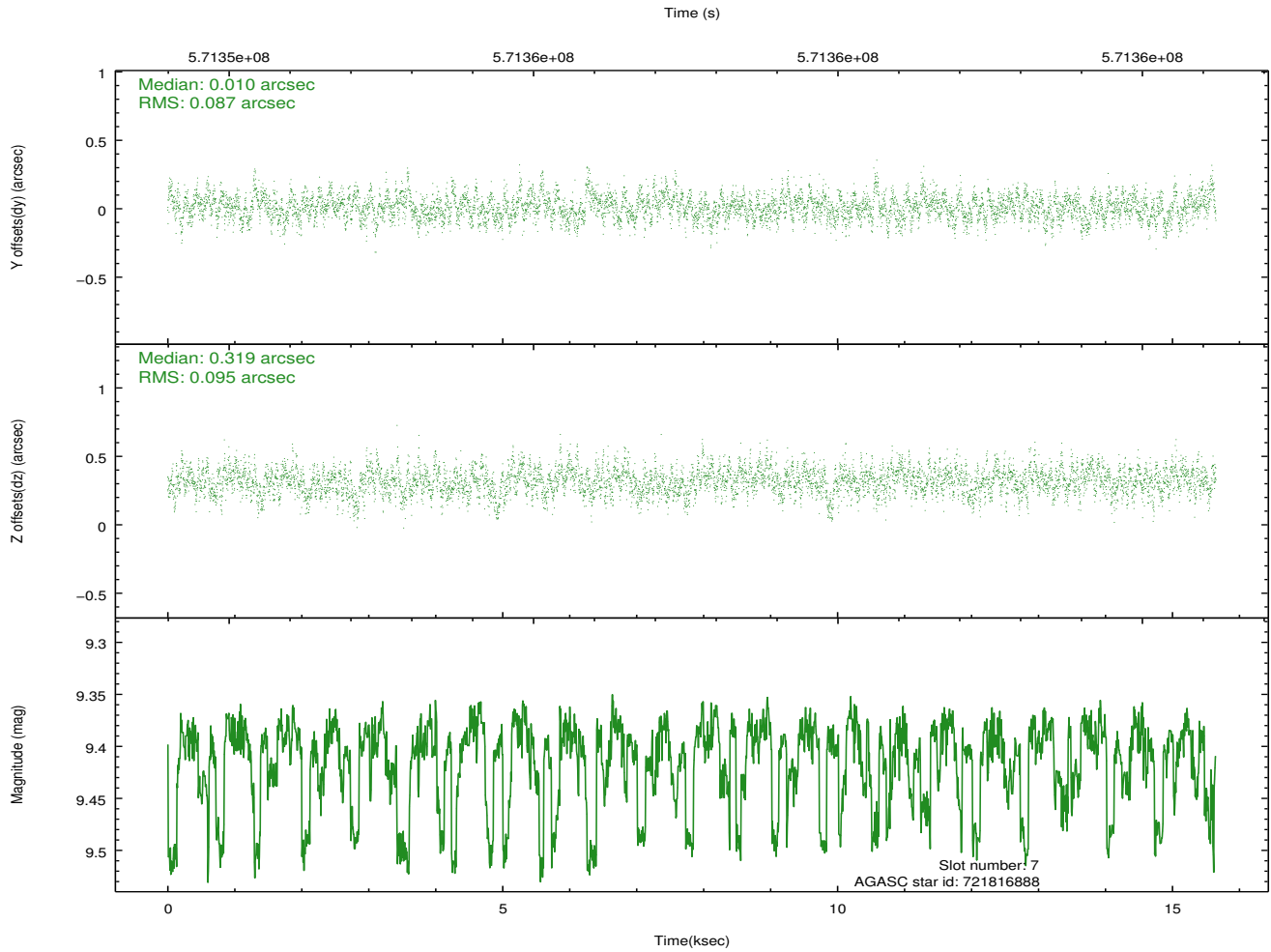
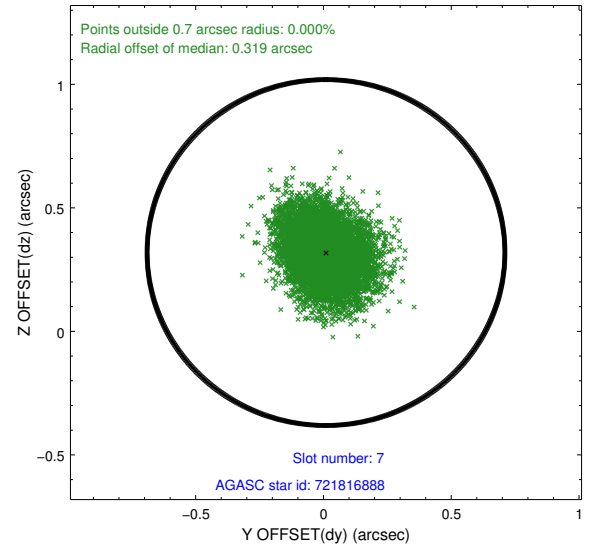
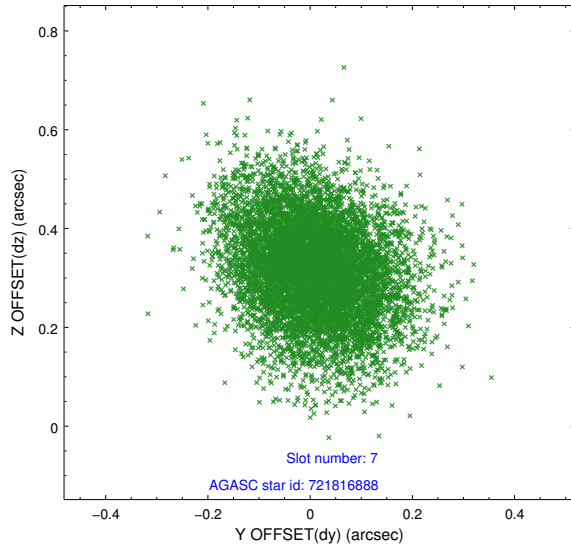
### 2.4.3 Slot 5



## 2.4.4 Slot 6

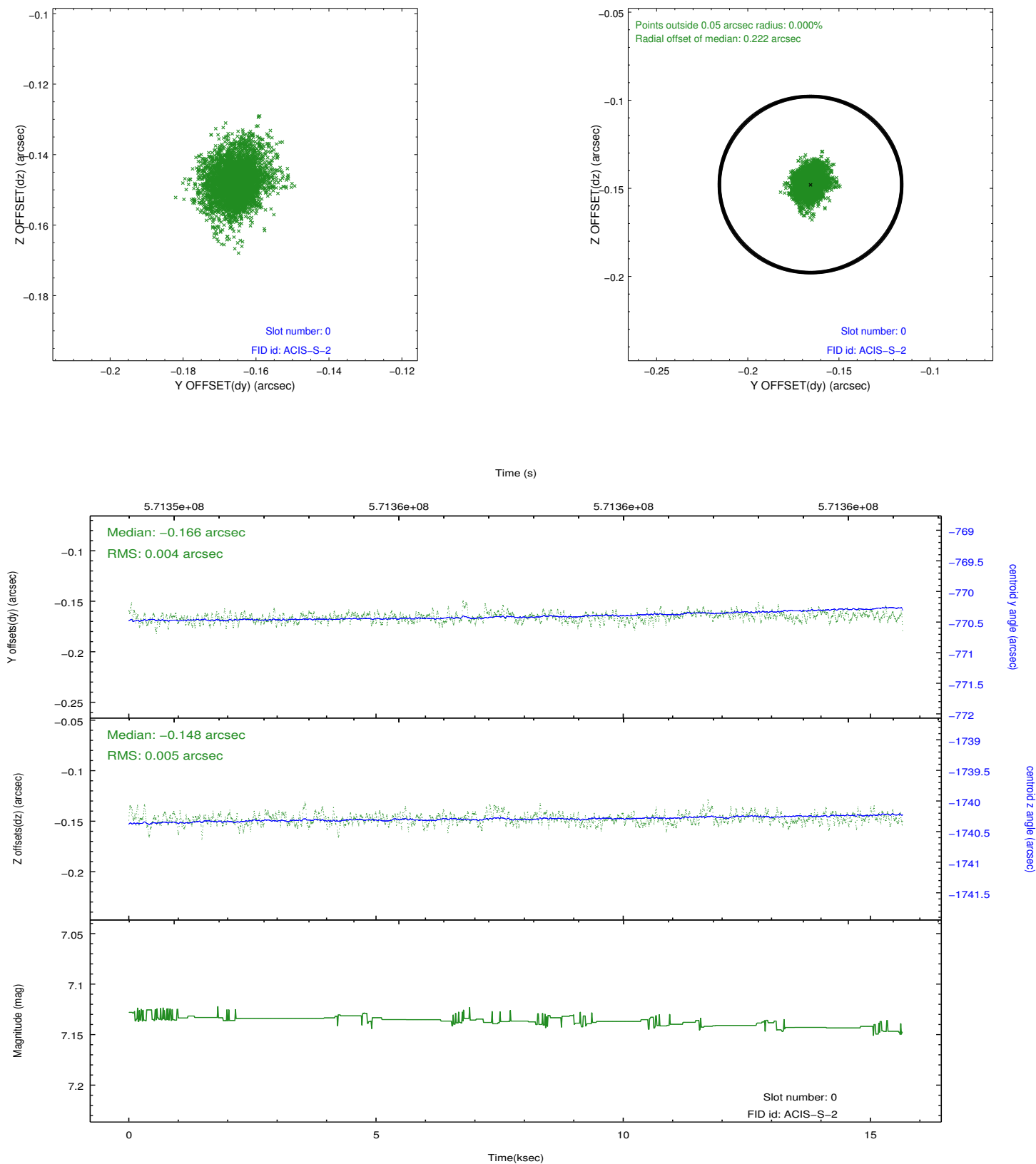


## 2.4.5 Slot 7

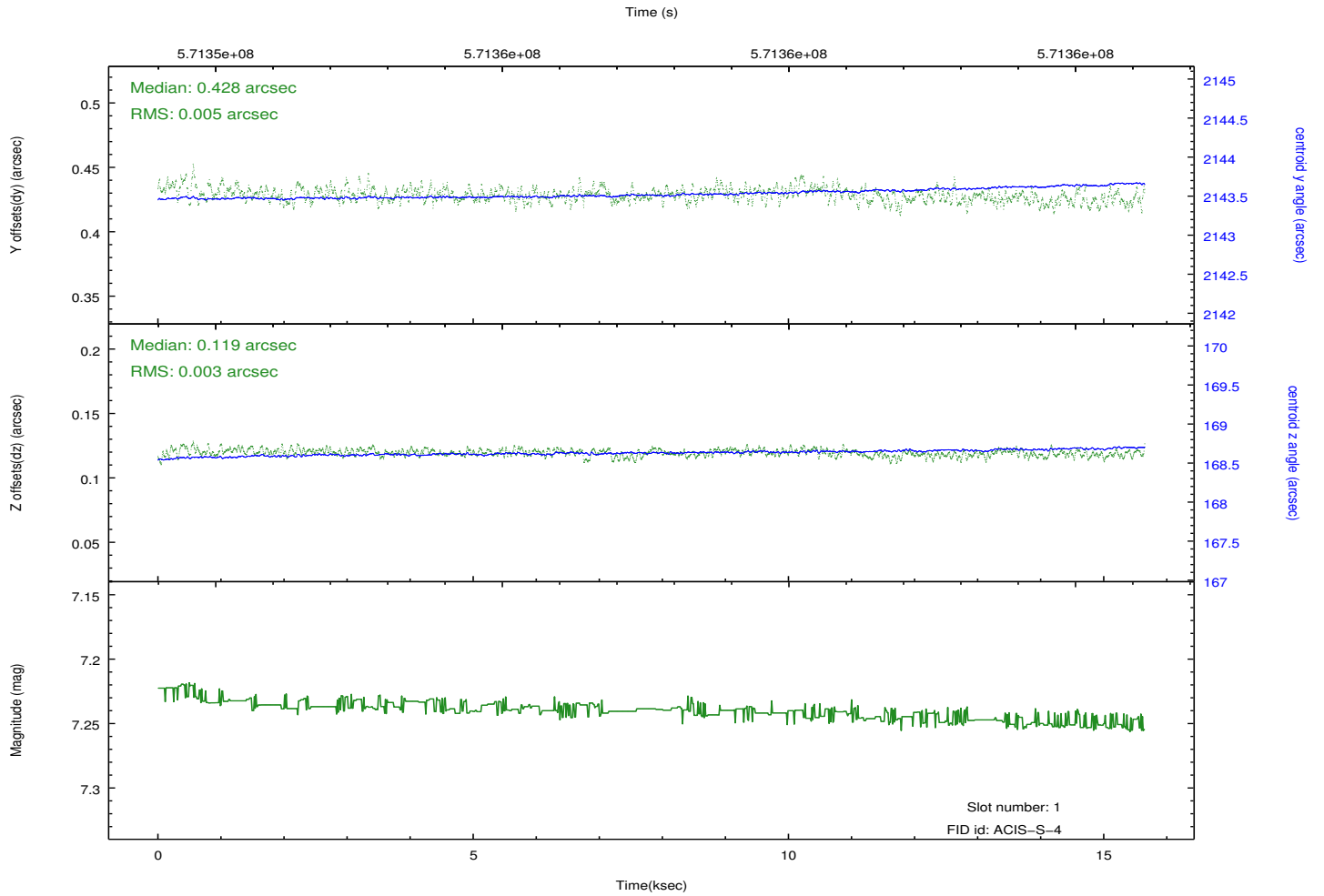
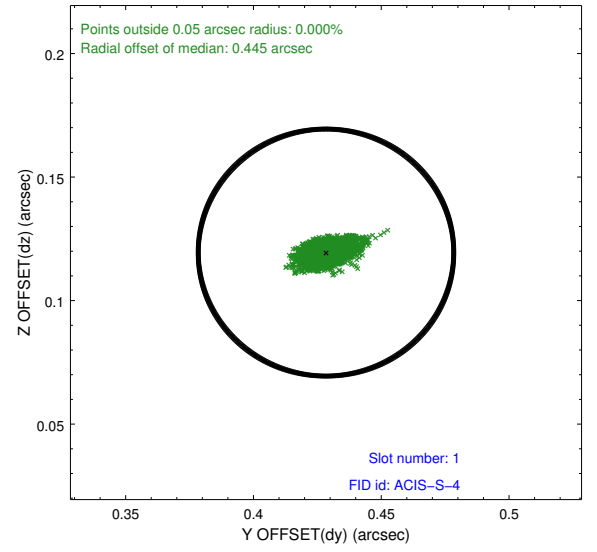
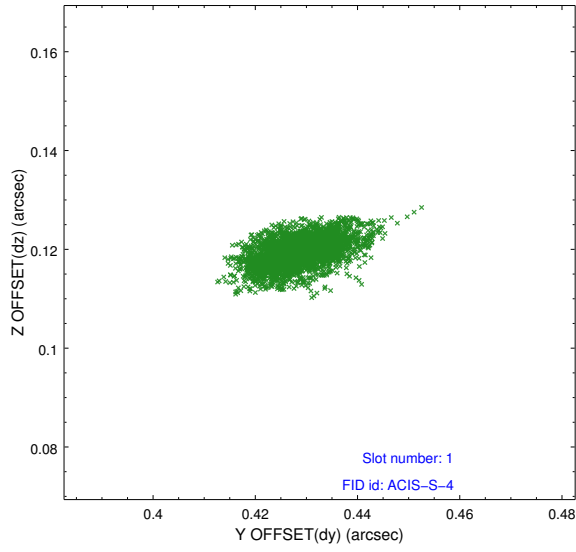


## 2.5 FID Slots

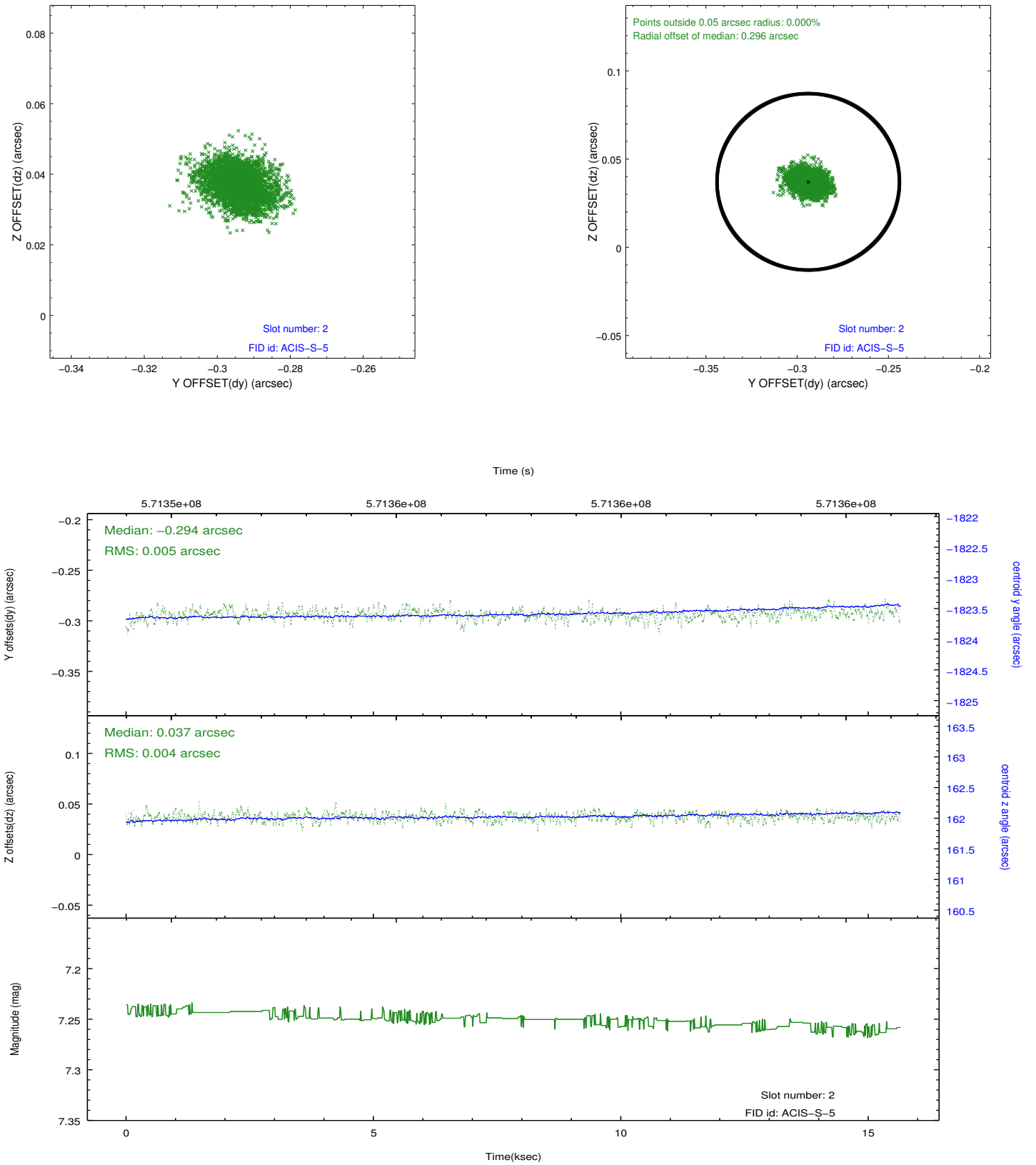
### 2.5.1 Slot 0



## 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)      | 2016.02.09      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 15.059800115943 |

### A.2 Comments