

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12270 - L2 Version 2  
Chandra X-Ray Center

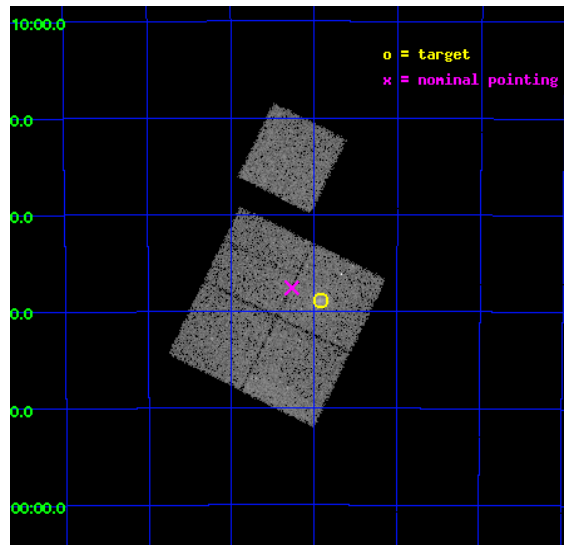
L2 Processing Date : Jul 5 2012

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# 1 Front

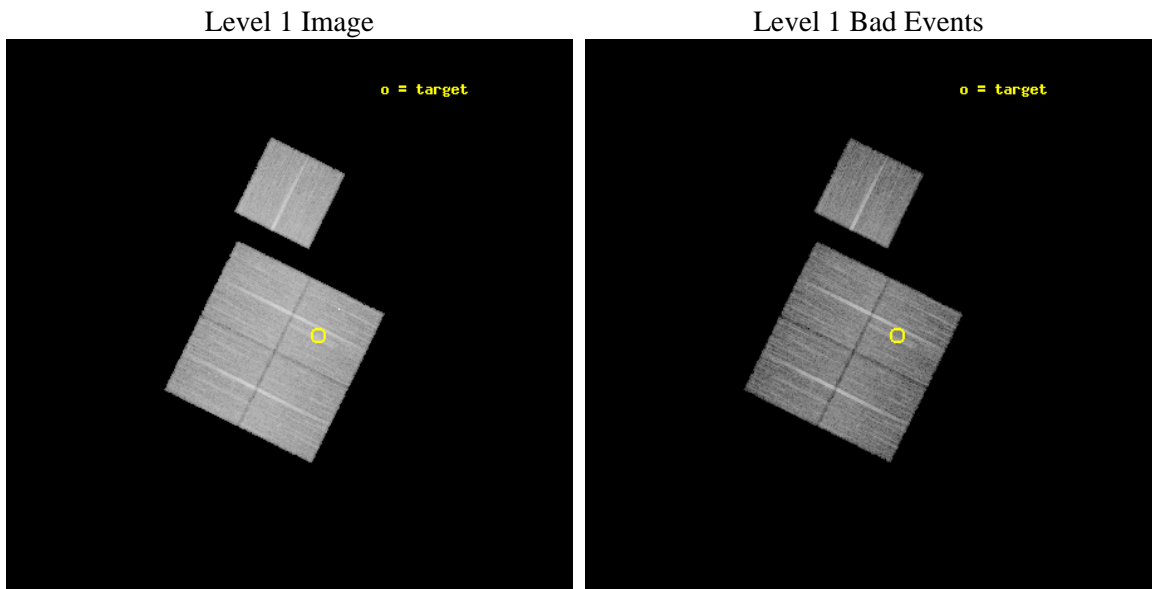
|          |  |   |
|----------|--|---|
| seq_num  | 800989   | Sequence number                             |
| obs_id   | 12270  | Observation id                              |
| title    | Chandra Observations of the ACT Sample of SZE-Selected Galaxy Clusters | Proposal title                              |
| observer | Prof. John Hughes  | Principal investigator                      |
| object   | ACT J0346-5438   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 56.73125   | Observer's specified target RA [deg]        |
| dec_targ | -54.648556   | Observer's specified target Dec [deg]       |
| ra_nom   | 56.816957746058  | Nominal RA [deg]                            |
| dec_nom  | -54.626247237649   | Nominal Dec [deg]                           |
| roll_nom | 26.278555027187  | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 18050.945053875  | Sum of GTIs [s]                             |
| livetime | 17815.096167834  | Livetime [s]                                |
| ontime0  | 18047.680973053  | Sum of GTIs [s]                             |
| ontime1  | 18054.003964126  | Sum of GTIs [s]                             |
| ontime2  | 18044.621963263  | Sum of GTIs [s]                             |
| ontime3  | 18050.945053875  | Sum of GTIs [s]                             |
| ontime6  | 18053.92188412   | Sum of GTIs [s]                             |
| l2events | 61811  | Number of level 2 events                    |



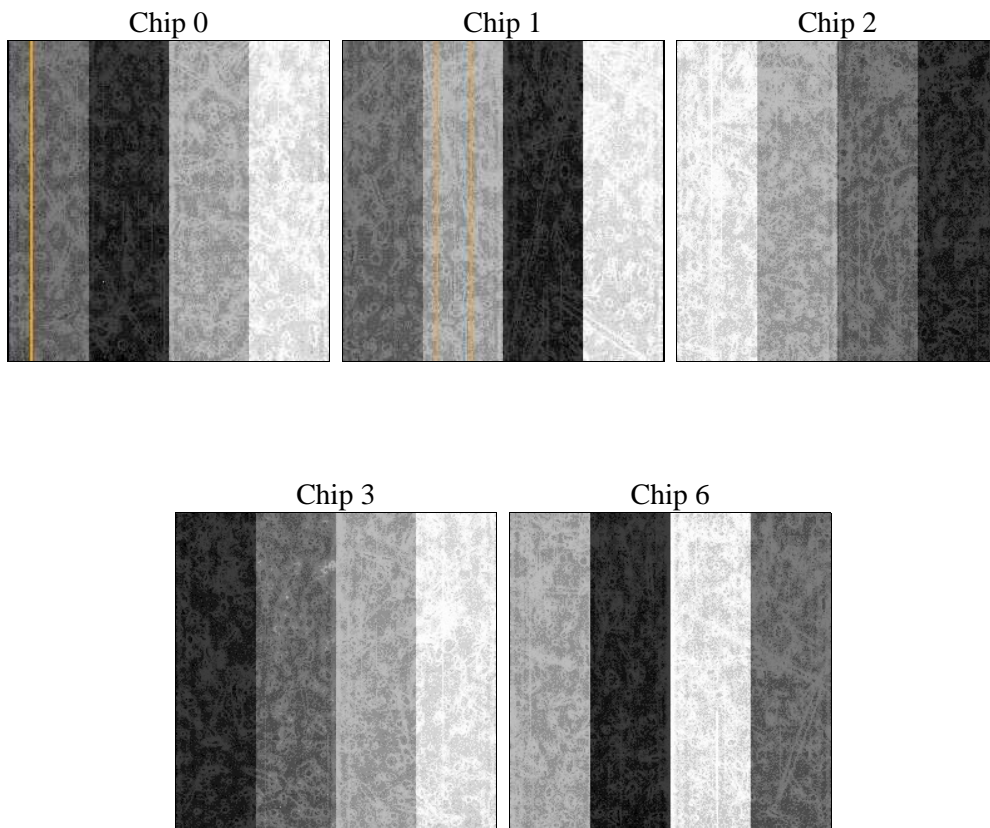
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 18000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 18050.945053875 | Sum of GTIs [s]                         |
| caldbver | 4.5.0               | &#160                          | ontime0        | 18047.680973053 | Sum of GTIs [s]                         |
| date     | 2012-07-05T21:05:19 | Date and time of file creation | ontime1        | 18054.003964126 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 18044.621963263 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 18050.945053875 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 18053.92188412  | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 626975          | Number of level 1 events                |

### 2.1.4 Events

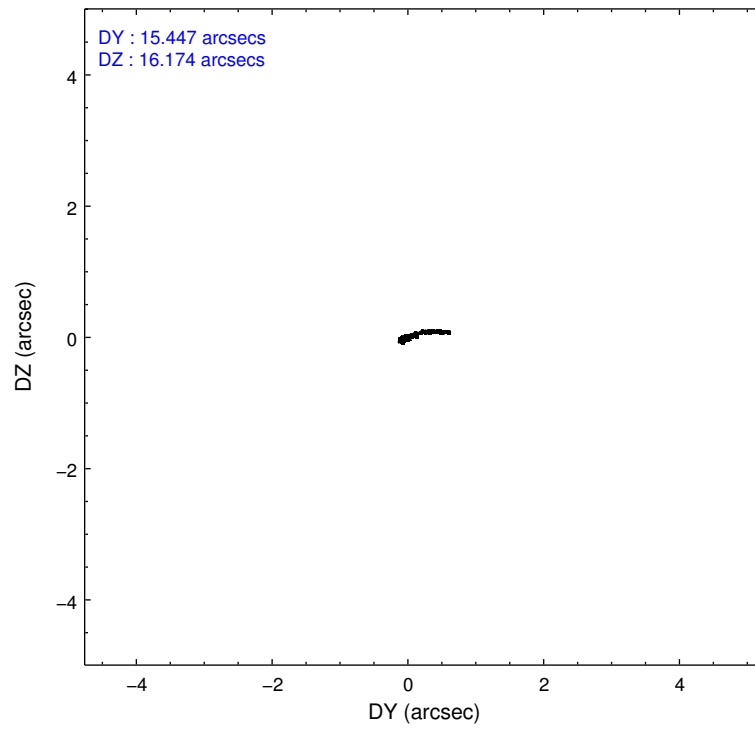
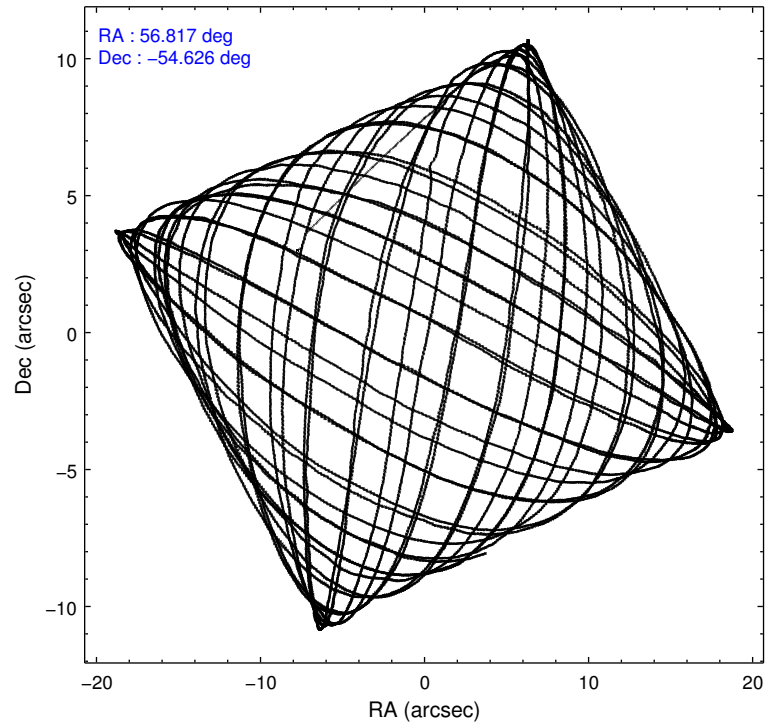
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 116907 | 122045 | 131979 | 127696 | 128348 |
| rejected events | 102963 | 105899 | 117947 | 112598 | 114094 |
| rejected %      | 88%    | 86%    | 89%    | 88%    | 88%    |

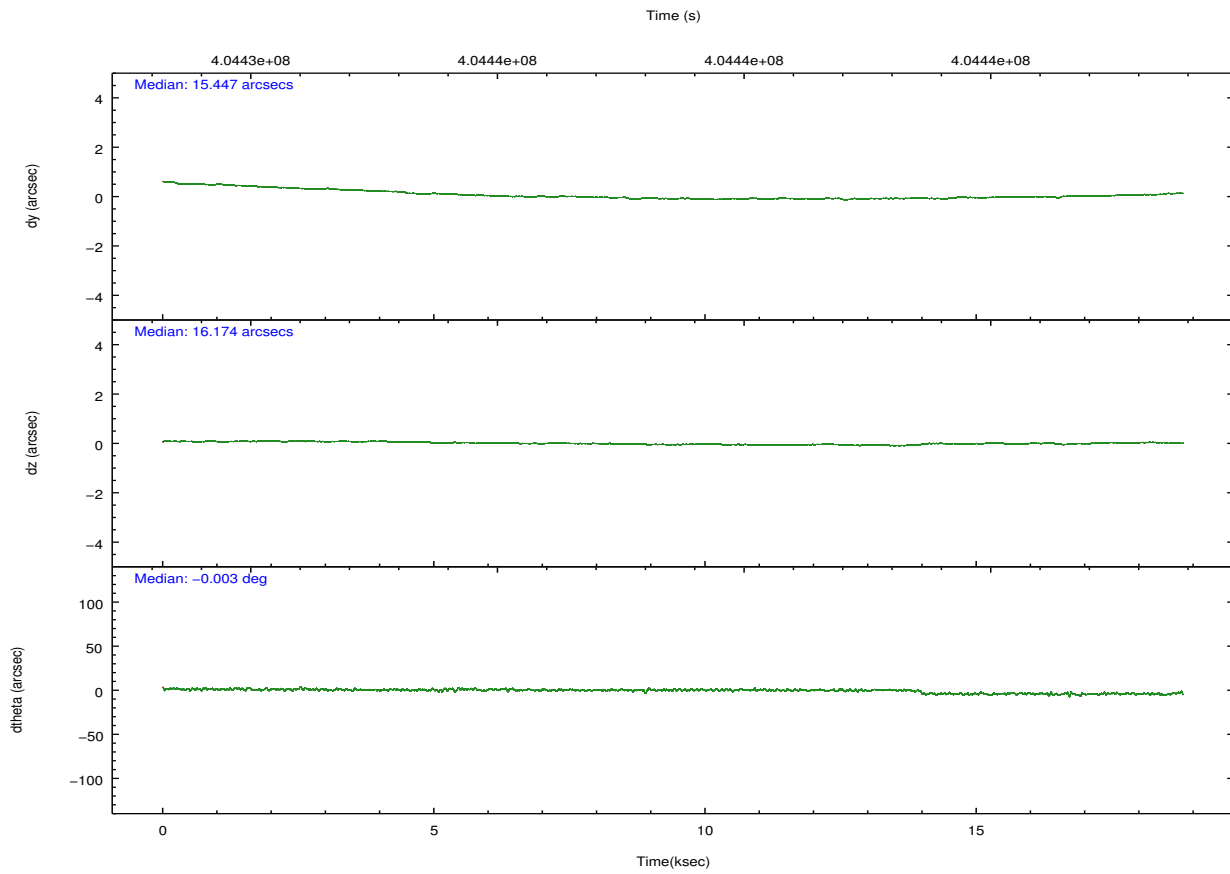
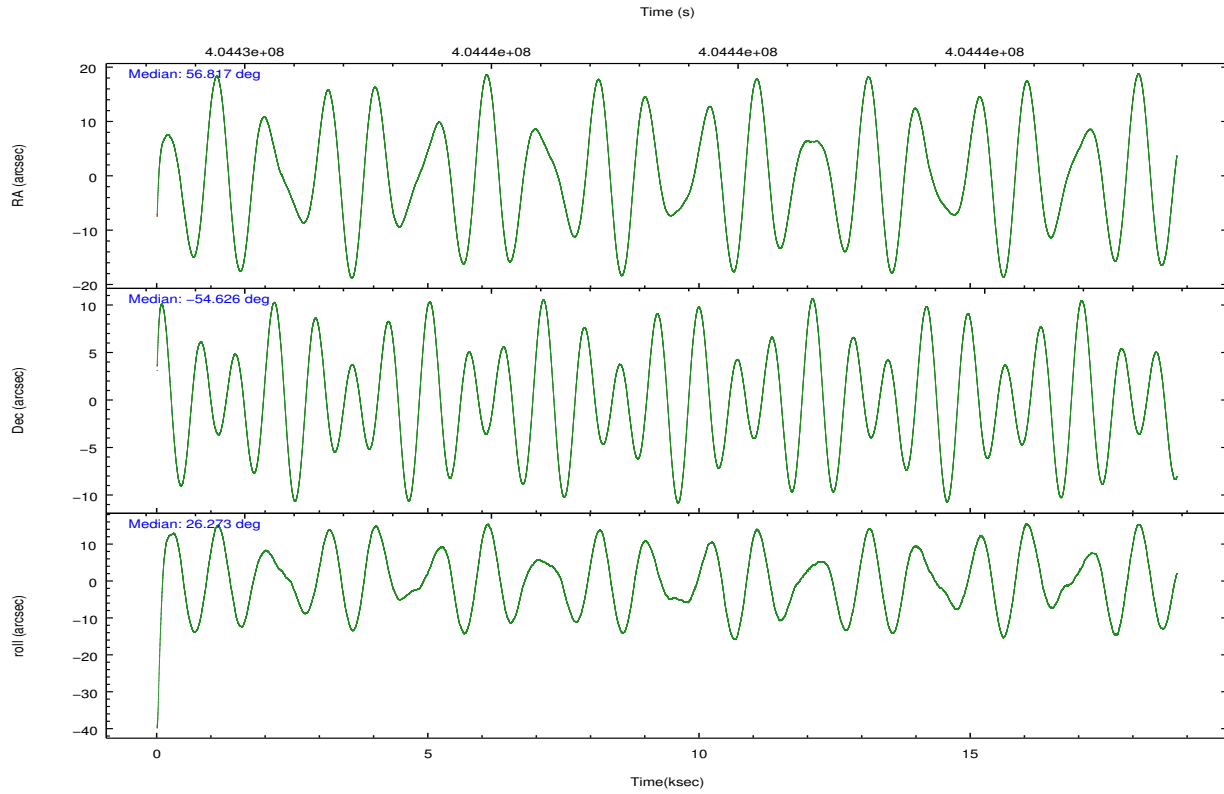
|                | ccd 0 | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|----------------|-------|--------|--------|--------|--------|
| grade 0 events | 4856  | 5752   | 4935   | 6286   | 4839   |
|                | 4%    | 4%     | 3%     | 4%     | 3%     |
| grade 1 events | 67    | 54     | 66     | 101    | 68     |
|                | 0%    | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 3392  | 3850   | 3493   | 3158   | 3333   |
|                | 2%    | 3%     | 2%     | 2%     | 2%     |
| grade 3 events | 1512  | 1622   | 1463   | 1505   | 1531   |
|                | 1%    | 1%     | 1%     | 1%     | 1%     |
| grade 4 events | 1410  | 1664   | 1440   | 1472   | 1451   |
|                | 1%    | 1%     | 1%     | 1%     | 1%     |
| grade 5 events | 5395  | 5634   | 5134   | 5971   | 5732   |
|                | 4%    | 4%     | 3%     | 4%     | 4%     |
| grade 6 events | 2775  | 3262   | 2704   | 2678   | 3102   |
|                | 2%    | 2%     | 2%     | 2%     | 2%     |
| grade 7 events | 97500 | 100207 | 112744 | 106525 | 108292 |
|                | 83%   | 82%    | 85%    | 83%    | 84%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-01236          | ACIS-01236           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | Y         | Y       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                 | 56.790766           | 56.81695774605843    | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                | -54.649188          | -54.626247237649     | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 26.048533           | 26.27855502718688    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272  | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334 | CCD S2 on                             | O1        | Y       |
| [mm] SIM translation stage pos    | -225.792463         | -225.7829997647864   | CCD S3 on                             | N         | N       |
| [mm] SIM translation stage offset | -7.8                | -7.809453238143249   | CCD S4 on                             | N         | N       |
| [s] Observation start time (MET)  | 404429965.184000    | 404428415.97365      | CCD S5 on                             | N         | N       |
| Observation start date            | 2010-10-25T21:38:19 | 2010-10-25T21:13:35  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 404447965.184000    | 404449281.89972      | On-chip summing requested             | N         | N       |
| Observation end date              | 2010-10-26T02:38:19 | 2010-10-26T03:01:21  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



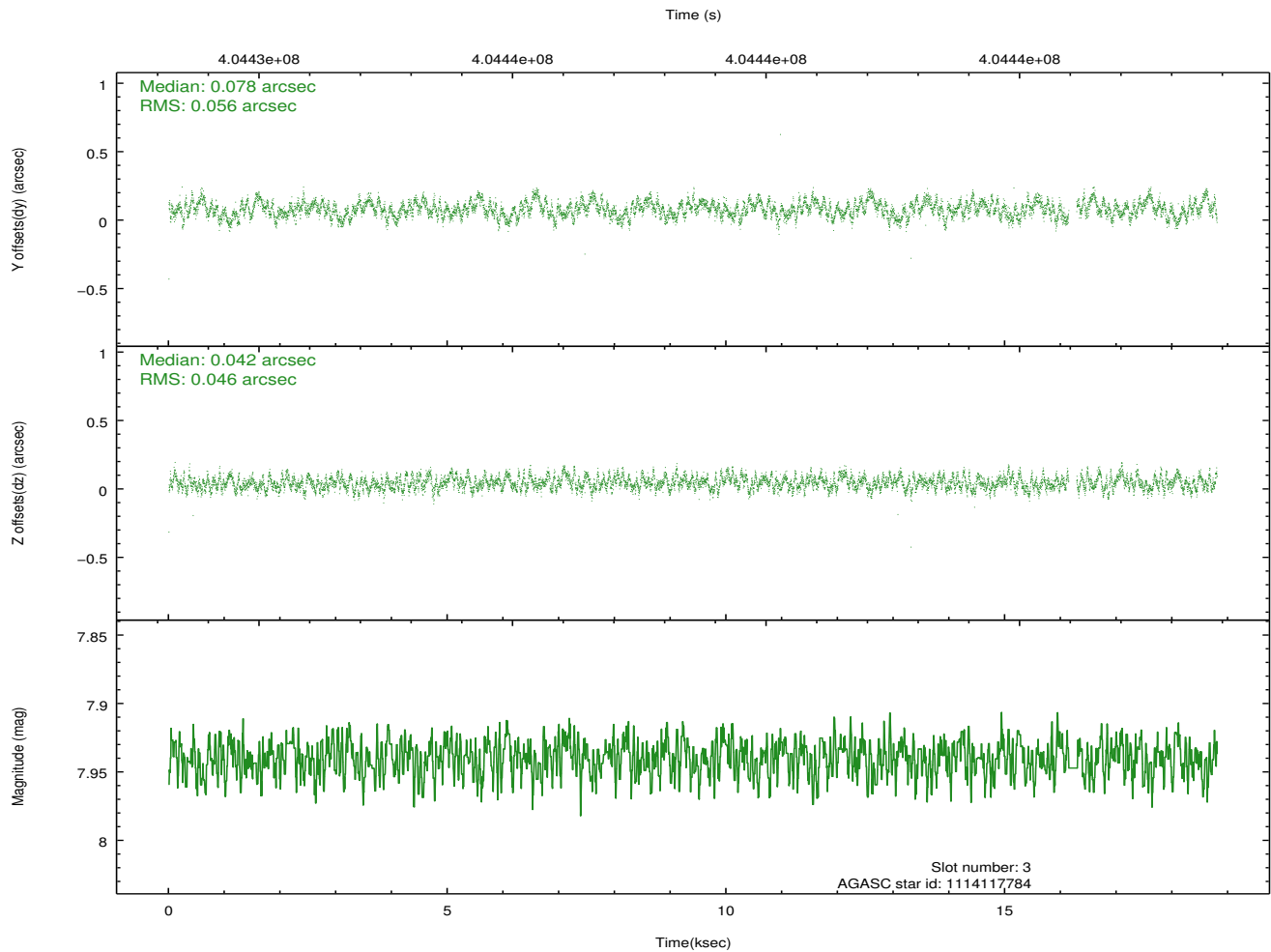
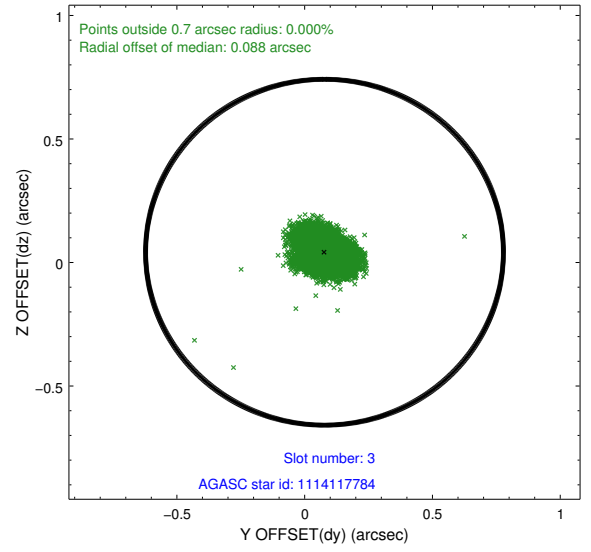
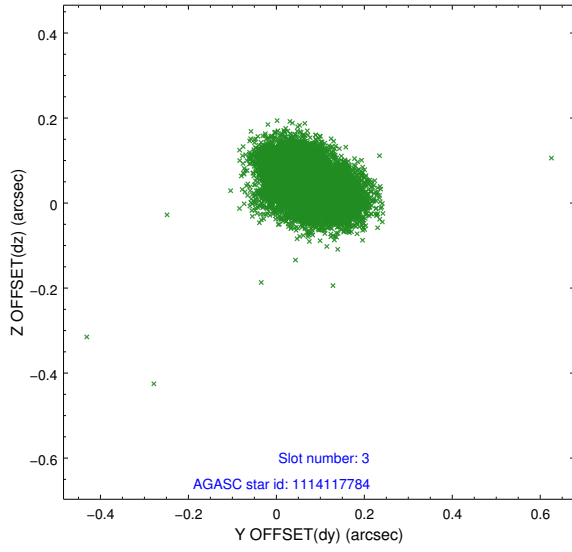


### Slot Statistics

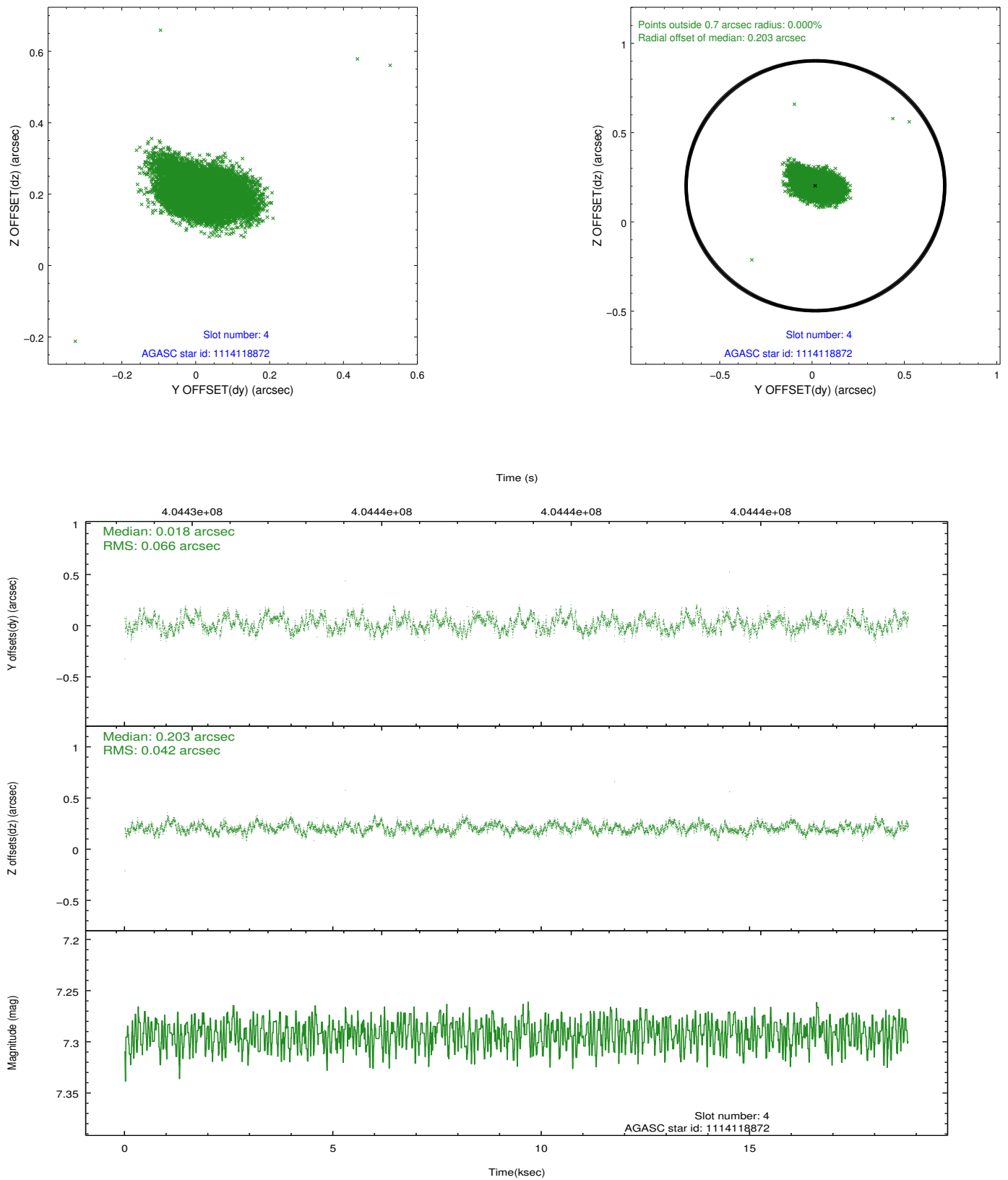
| slot | status | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mean_z   |
|------|--------|------------|------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0    | FID    | ACIS-I-1   | 7.05 | 4586  | 0.114  | -0.074 | 0.014 | 0.028 | 0.000000  | 0.000000   | 923.91   | -1000.19 |
| 1    | FID    | ACIS-I-2   | 7.01 | 4586  | -0.230 | 0.027  | 0.010 | 0.022 | 0.000000  | 0.000000   | -770.82  | -1005.66 |
| 2    | FID    | ACIS-I-4   | 6.96 | 4587  | 0.018  | 0.116  | 0.010 | 0.022 | 0.000000  | 0.000000   | 2143.13  | 900.67   |
| 3    | GUIDE  | 1114117784 | 7.94 | 9100  | 0.078  | 0.042  | 0.077 | 0.123 | 56.191874 | -54.166281 | -373.03  | 2111.34  |
| 4    | GUIDE  | 1114118872 | 7.29 | 9173  | 0.018  | 0.203  | 0.082 | 0.136 | 56.068532 | -54.477824 | -1088.94 | 1211.75  |
| 5    | GUIDE  | 1114122600 | 6.98 | 9168  | 0.069  | -0.042 | 0.075 | 0.113 | 57.103378 | -54.293770 | 1151.31  | 859.92   |
| 6    | GUIDE  | 1114124344 | 9.52 | 9146  | 0.157  | 0.676  | 0.112 | 0.175 | 56.031987 | -54.902586 | -1814.50 | -137.00  |
| 7    | GUIDE  | 1114124776 | 9.50 | 9164  | -0.322 | -0.876 | 0.127 | 0.195 | 55.841690 | -54.293270 | -1235.65 | 2013.57  |

## 2.4 Star Slots

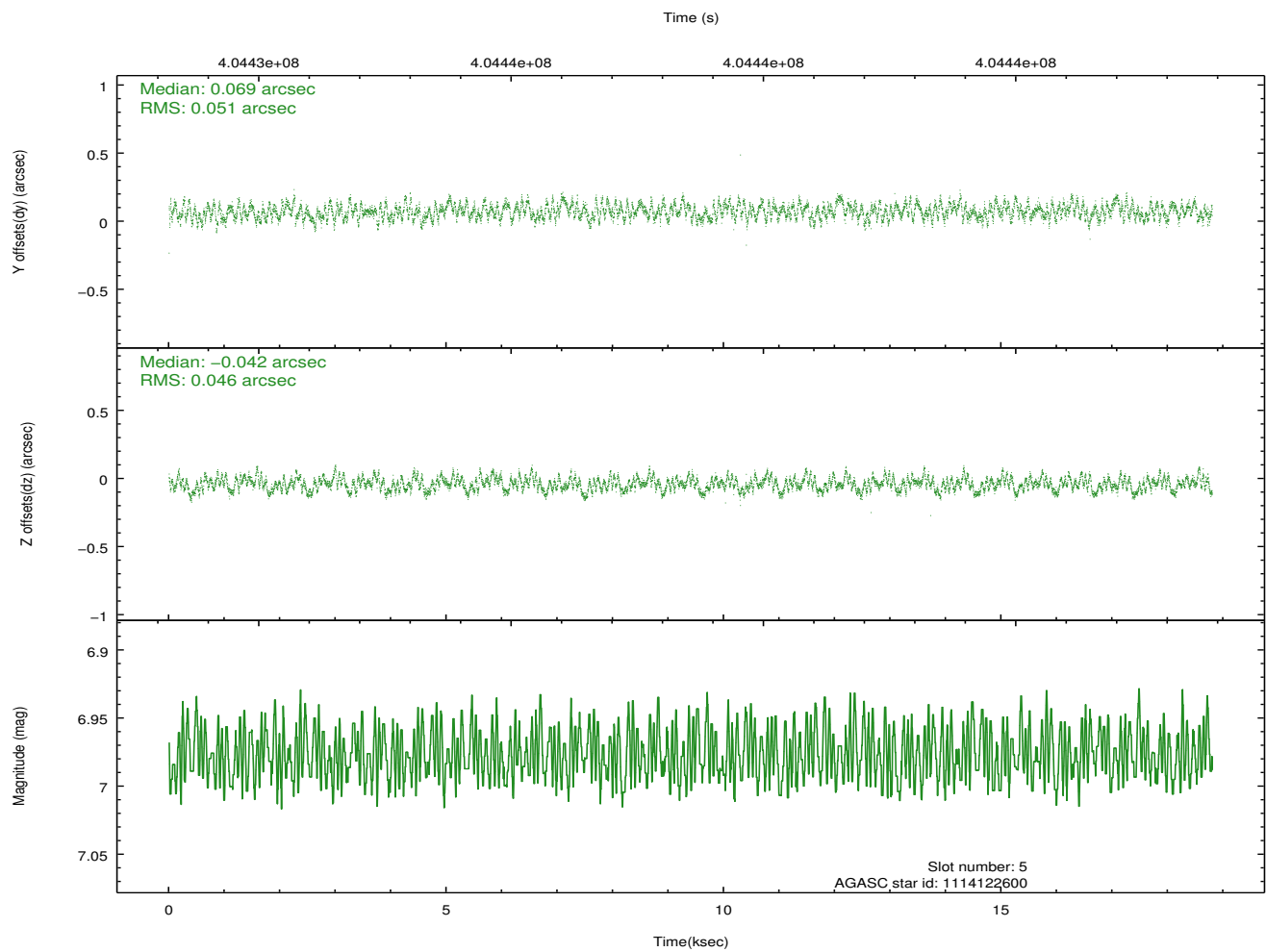
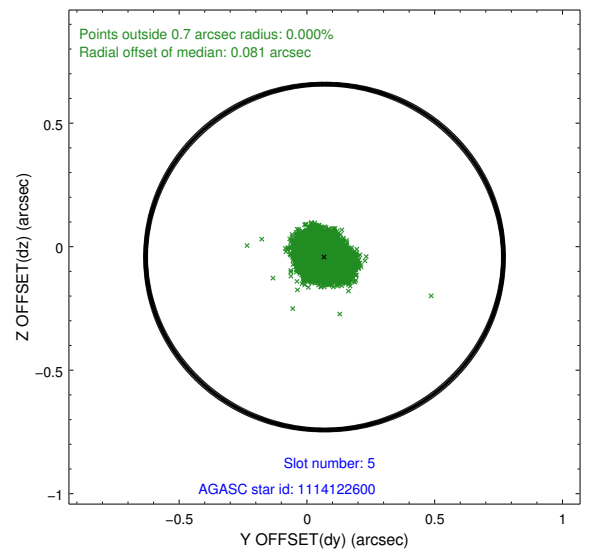
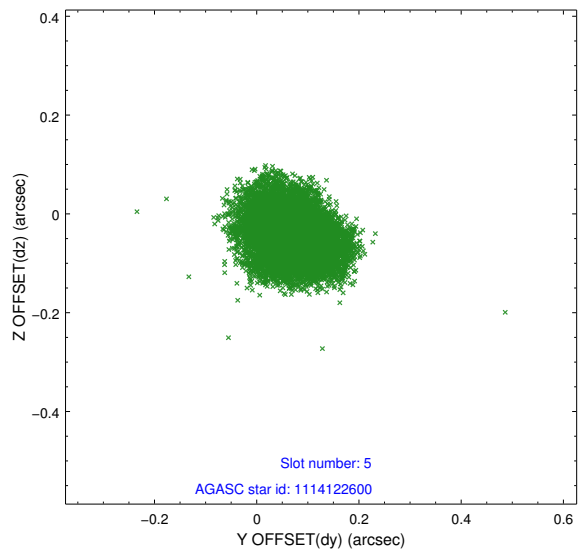
### 2.4.1 Slot 3



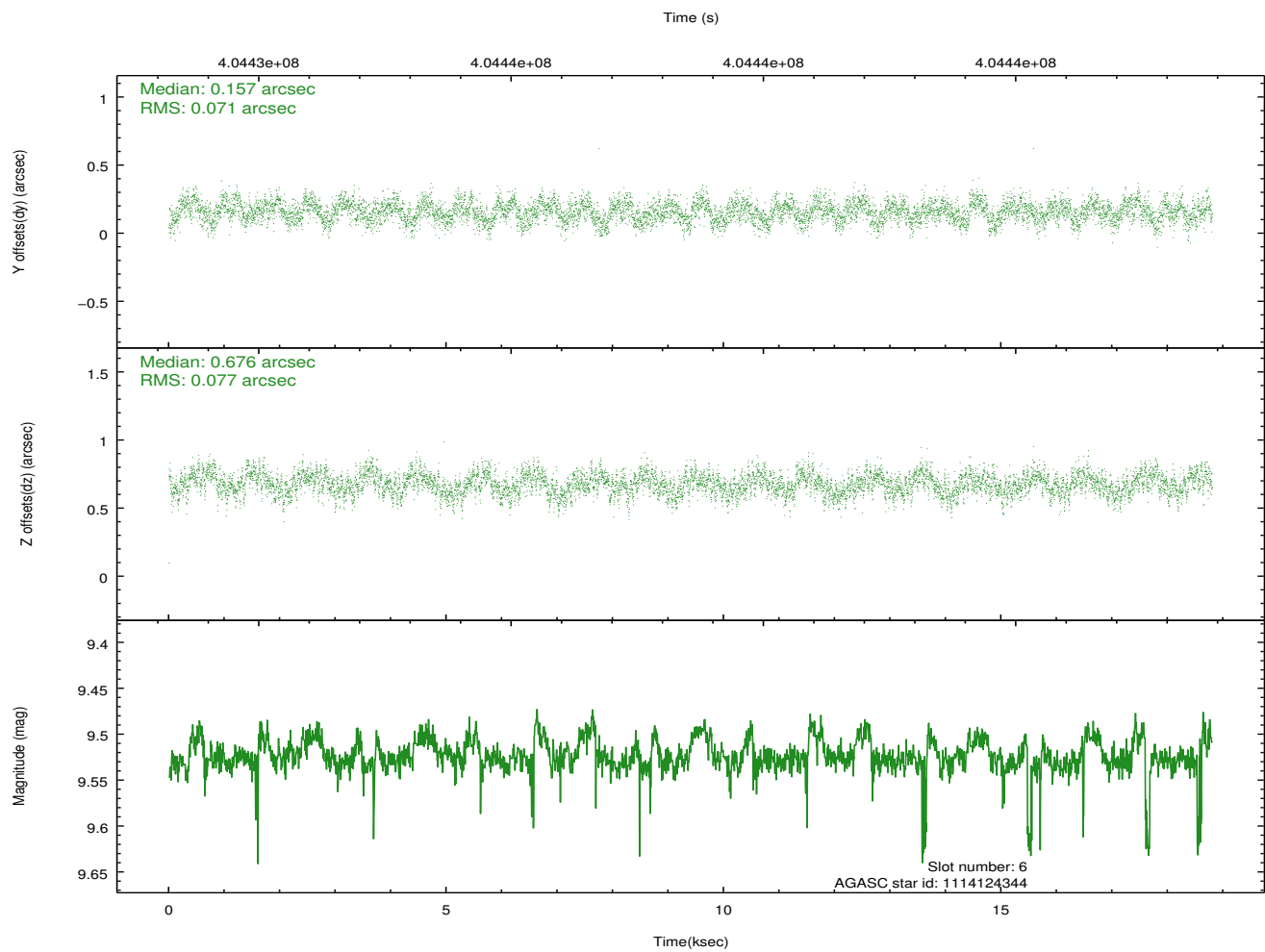
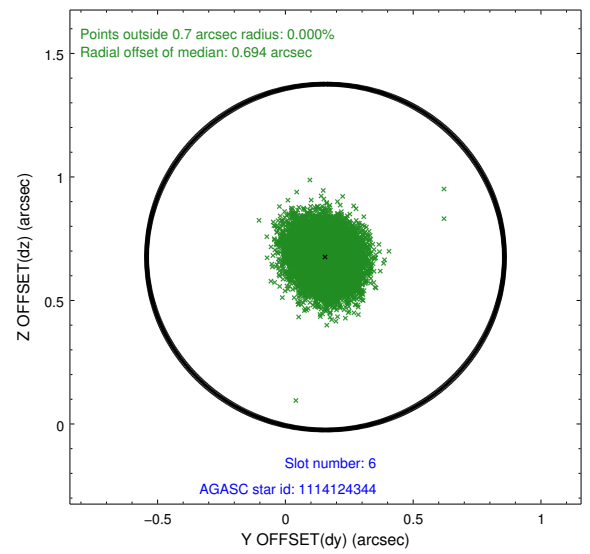
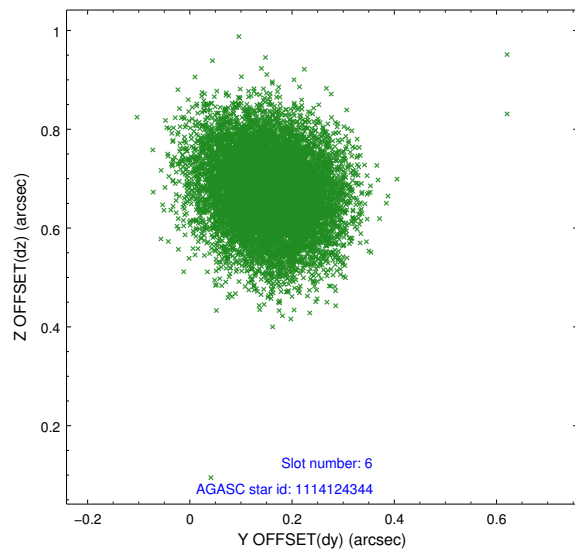
## 2.4.2 Slot 4



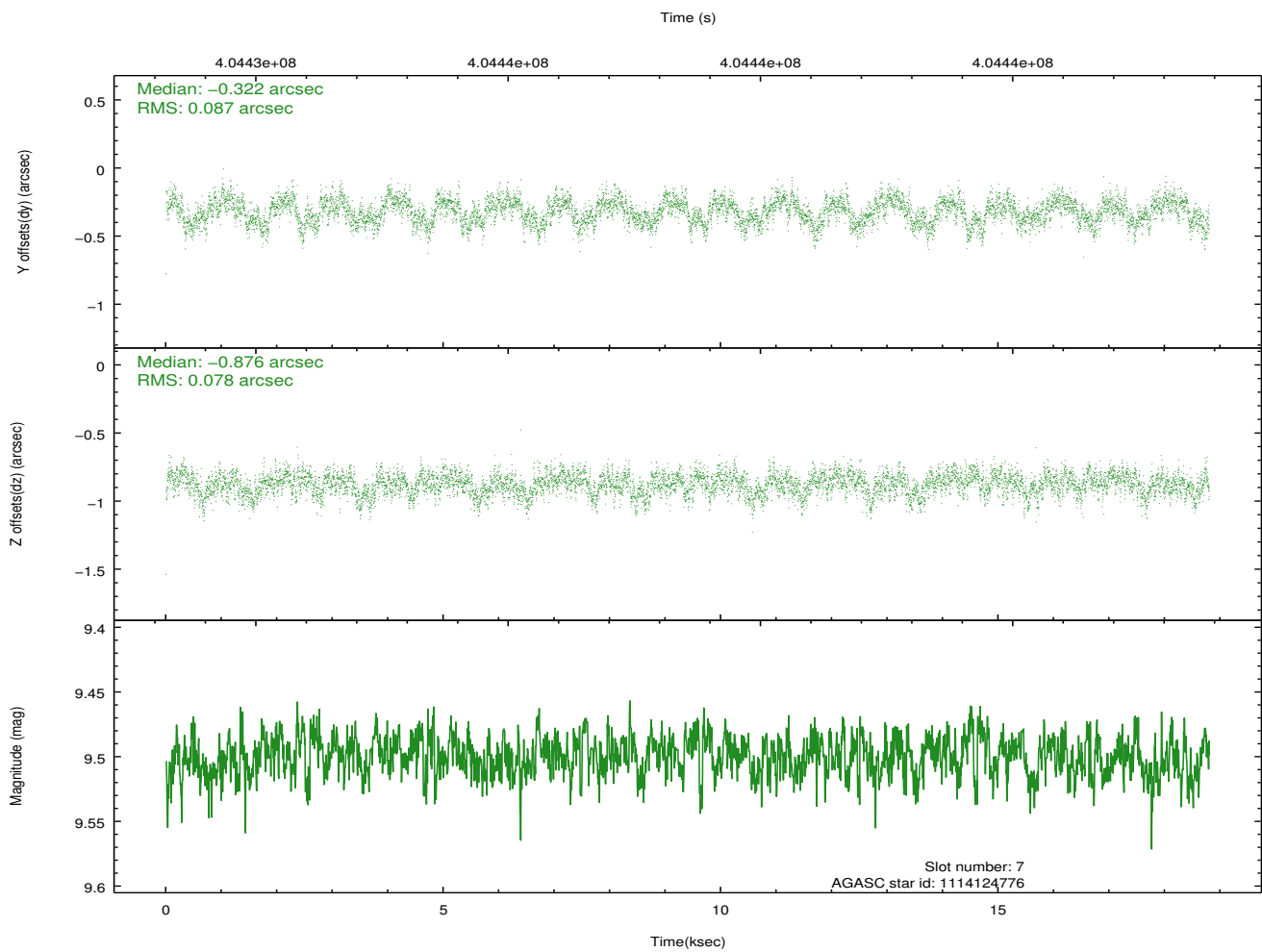
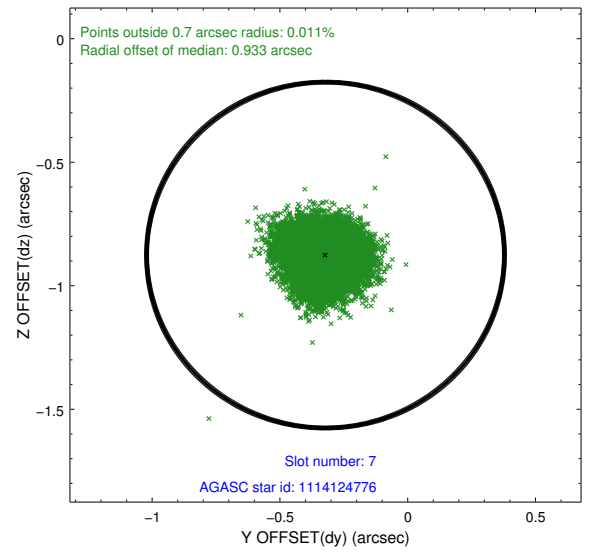
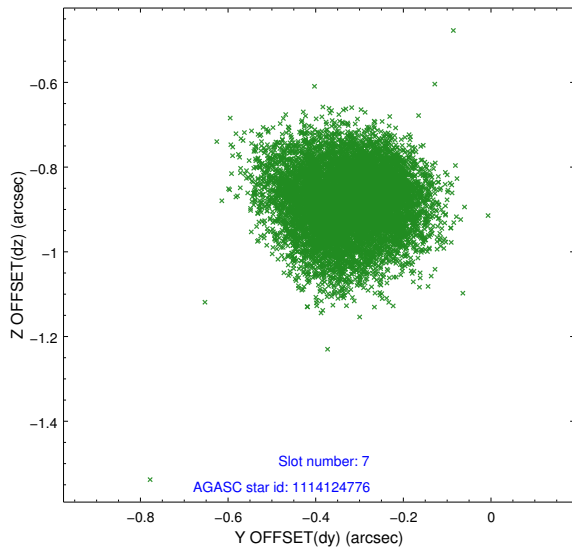
### 2.4.3 Slot 5



## 2.4.4 Slot 6

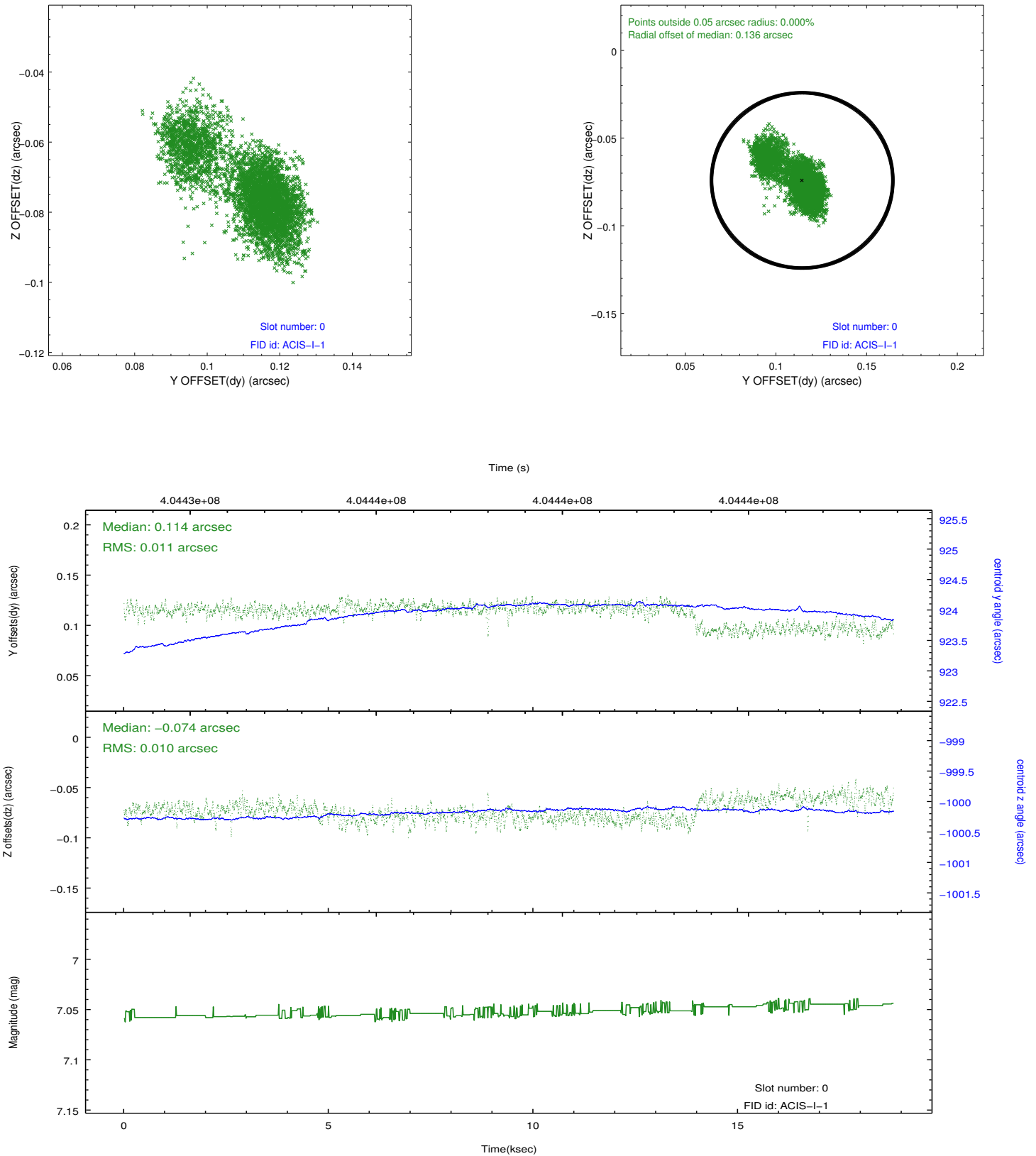


## 2.4.5 Slot 7

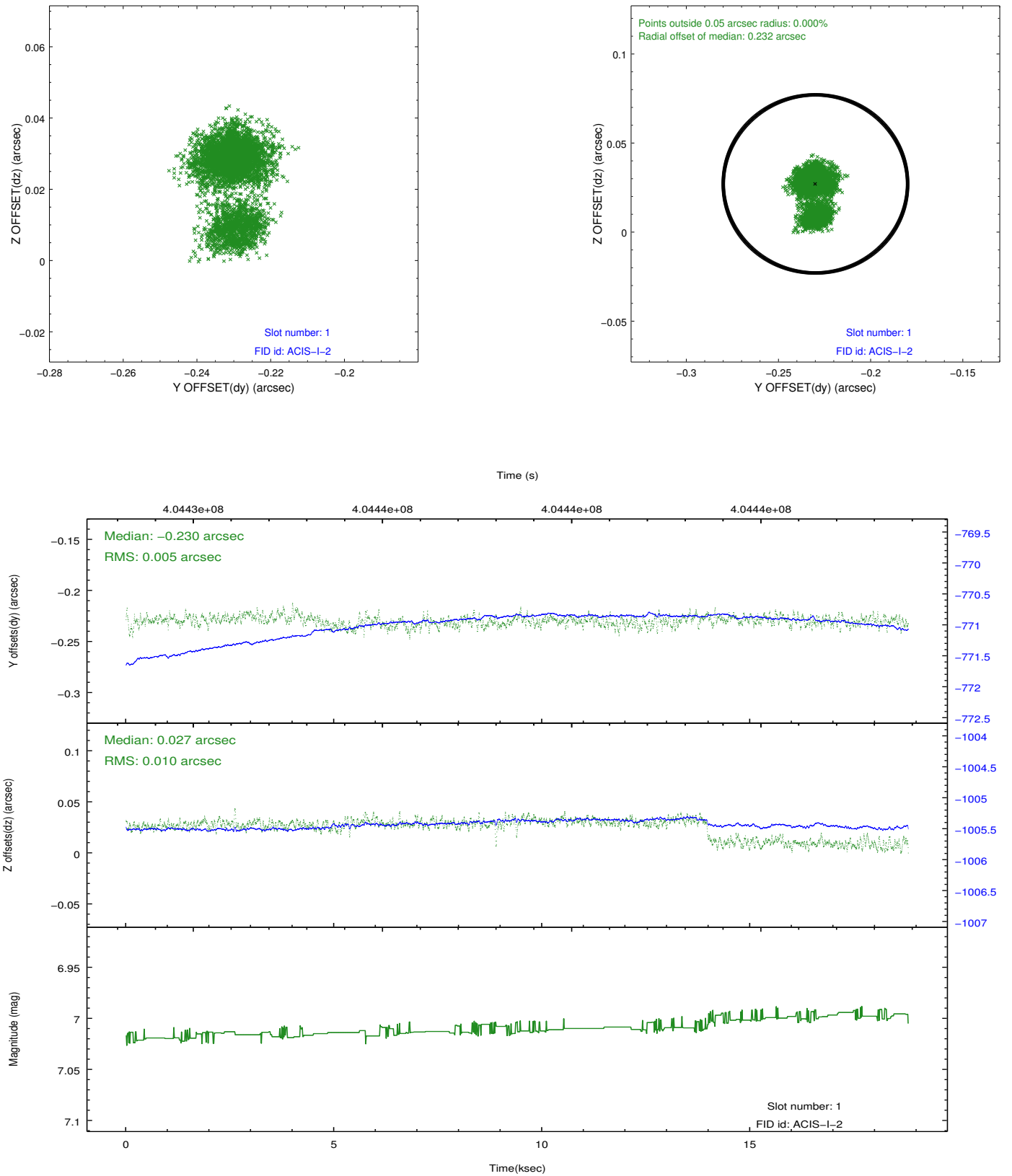


## 2.5 FID Slots

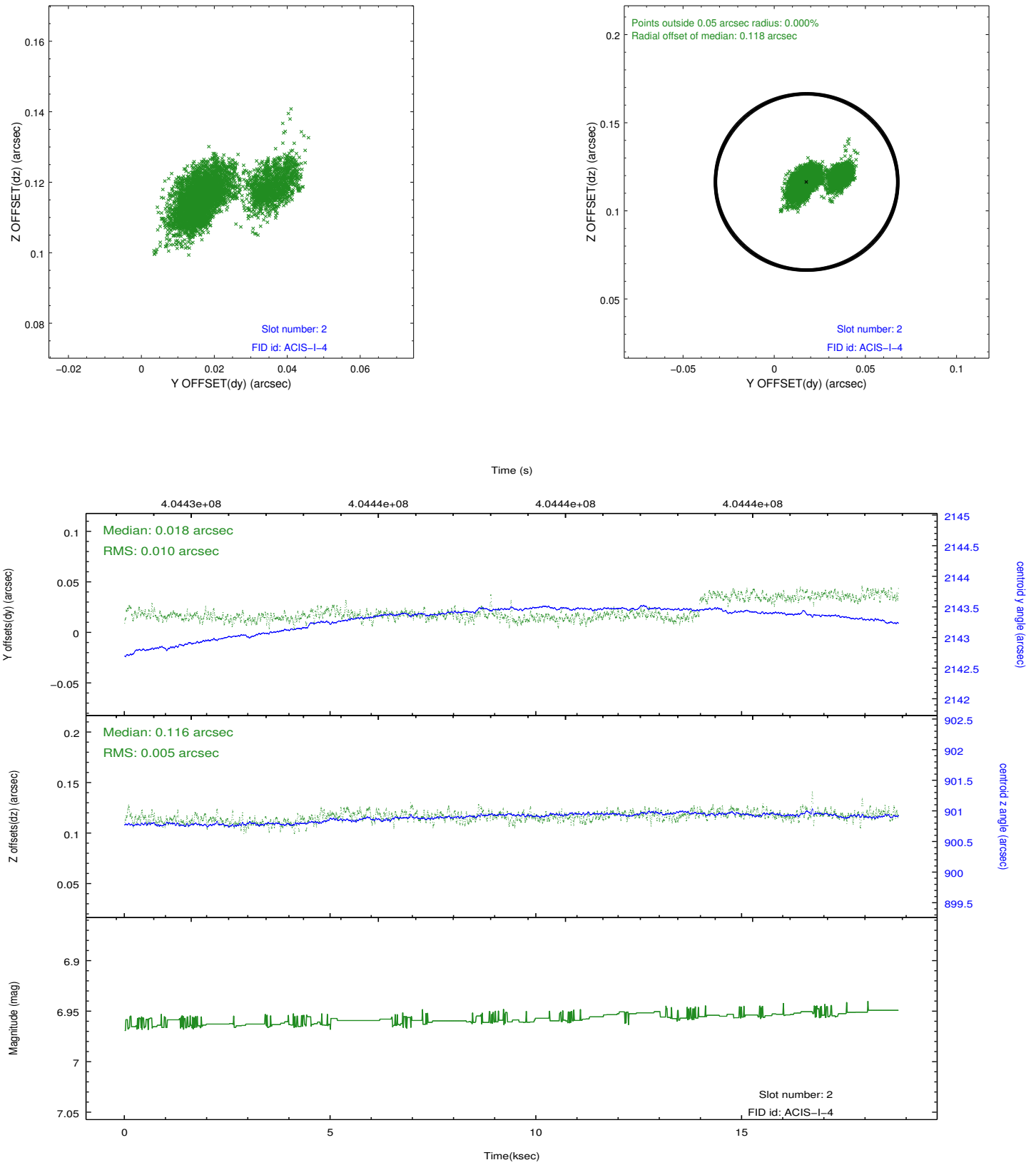
### 2.5.1 Slot 0



## 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)      | 2012.07.13      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 18.050945056677 |

### A.2 Comments