

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9583 - L2 Version 2  
Chandra X-Ray Center

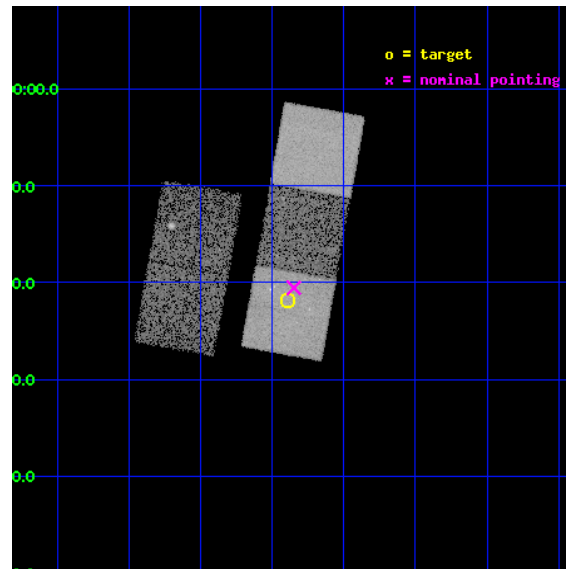
L2 Processing Date : Apr 30 2012

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# 1 Front

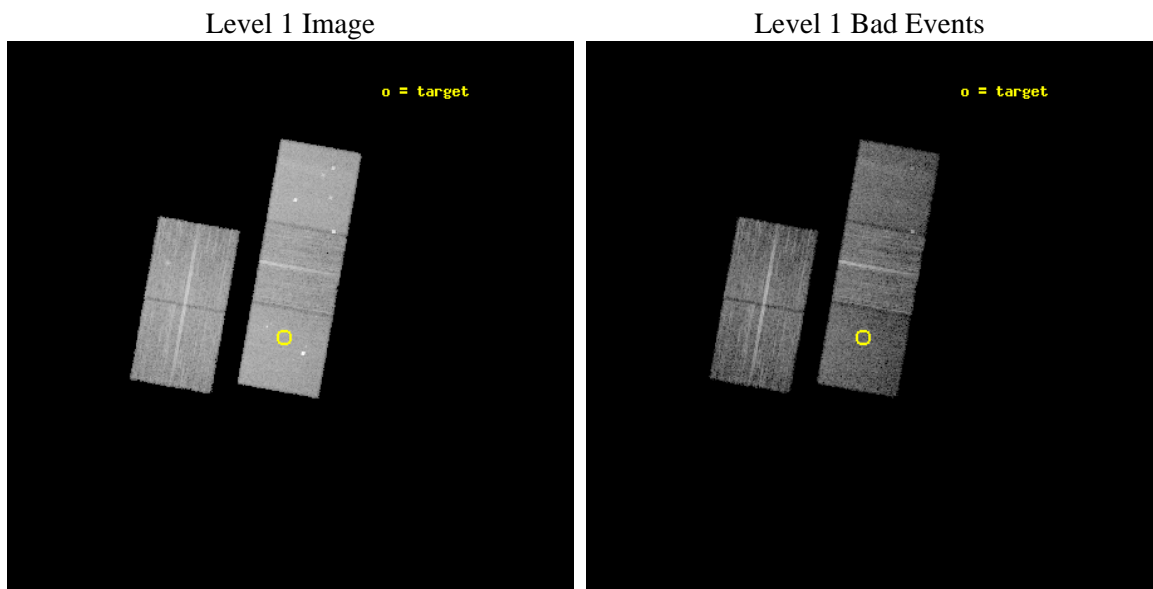
|          |  |   |
|----------|--|---|
| seq_num  | 701487   | Sequence number                             |
| obs_id   | 9583   | Observation id                              |
| title    | Interaction of AGN Outbursts with their Environments | Proposal titl                               |
| observer | Dr. william forman                                   | Principal investigator                      |
| object   | 3C40 and PKS0123-016A                                | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 21.472917  | Observer's specified target RA [deg]        |
| dec_targ | -1.365   | Observer's specified target Dec [deg]       |
| ra_nom   | 21.462127026596                                      | Nominal RA [deg]                            |
| dec_nom  | -1.3424624726227                                     | Nominal Dec [deg]                           |
| roll_nom | 100.1563601587                                       | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 9154.1141877174                                      | Sum of GTIs [s]                             |
| livetime | 9034.5089466941                                      | Livetime [s]                                |
| ontime2  | 9150.8090672493                                      | Sum of GTIs [s]                             |
| ontime3  | 9150.850097239                                       | Sum of GTIs [s]                             |
| ontime5  | 9154.0731477141                                      | Sum of GTIs [s]                             |
| ontime6  | 9154.0321077108                                      | Sum of GTIs [s]                             |
| ontime7  | 9154.1141877174                                      | Sum of GTIs [s]                             |
| l2events | 111649   | Number of level 2 events                    |



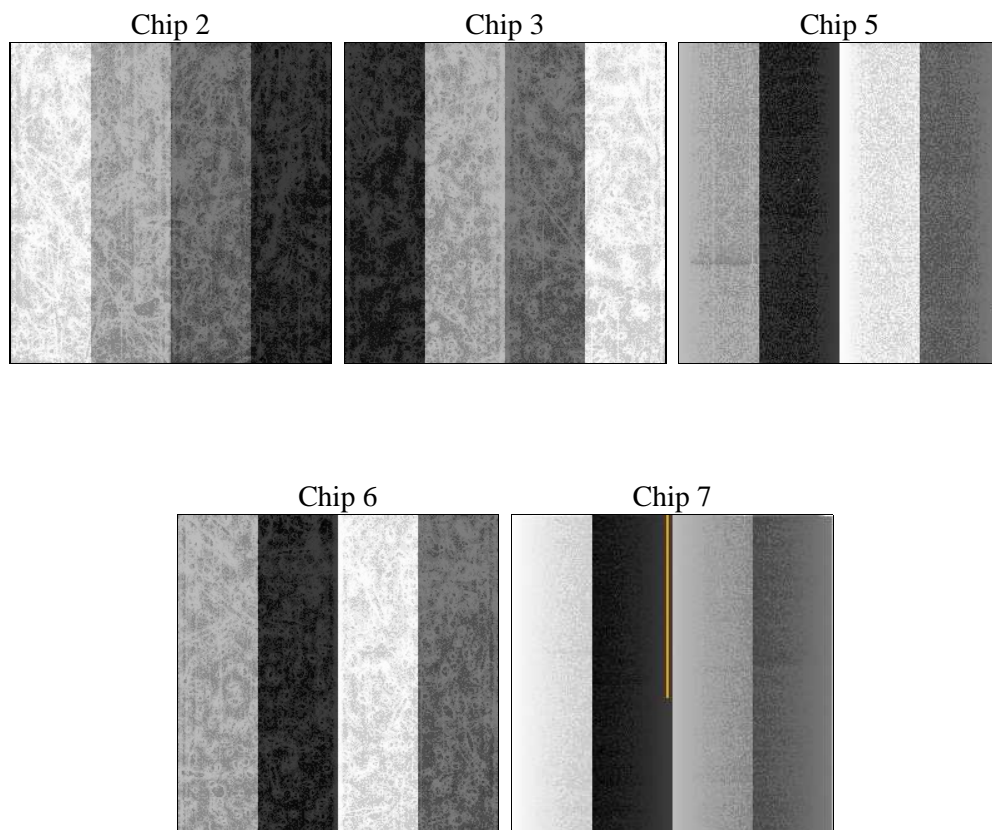
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 9382.979000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 9154.1141877174 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime2        | 9150.8090672493 | Sum of GTIs [s]                         |
| date     | 2012-04-30T13:08:20 | Date and time of file creation | ontime3        | 9150.850097239  | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 9154.0731477141 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 9154.0321077108 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 9154.1141877174 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 418307          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 2 | ccd 3 | ccd 5  | ccd 6 | ccd 7 |
|-----------------|-------|-------|--------|-------|-------|
| level 1 events  | 76750 | 69507 | 105804 | 75946 | 90300 |
| rejected events | 68866 | 62360 | 51630  | 67240 | 44171 |
| rejected %      | 89%   | 89%   | 48%    | 88%   | 48%   |

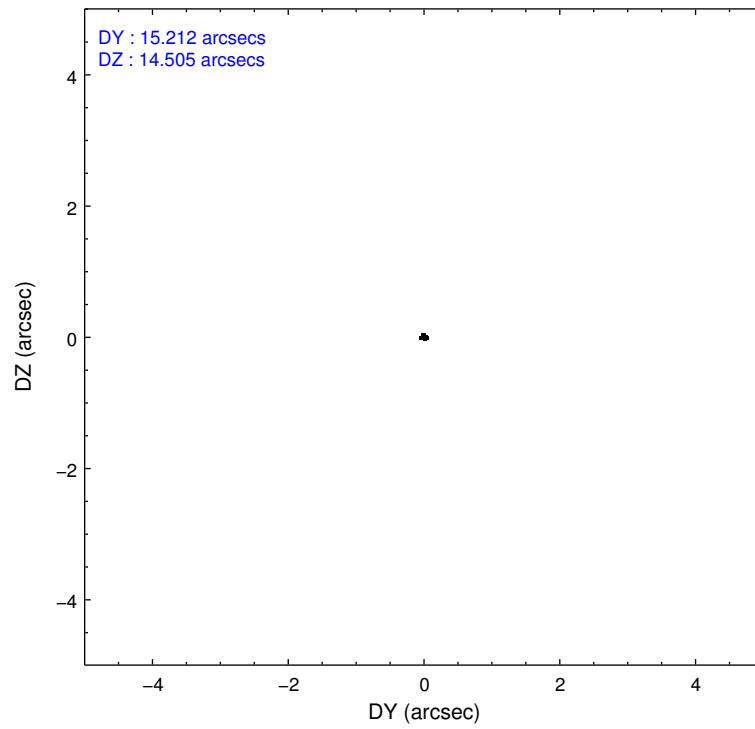
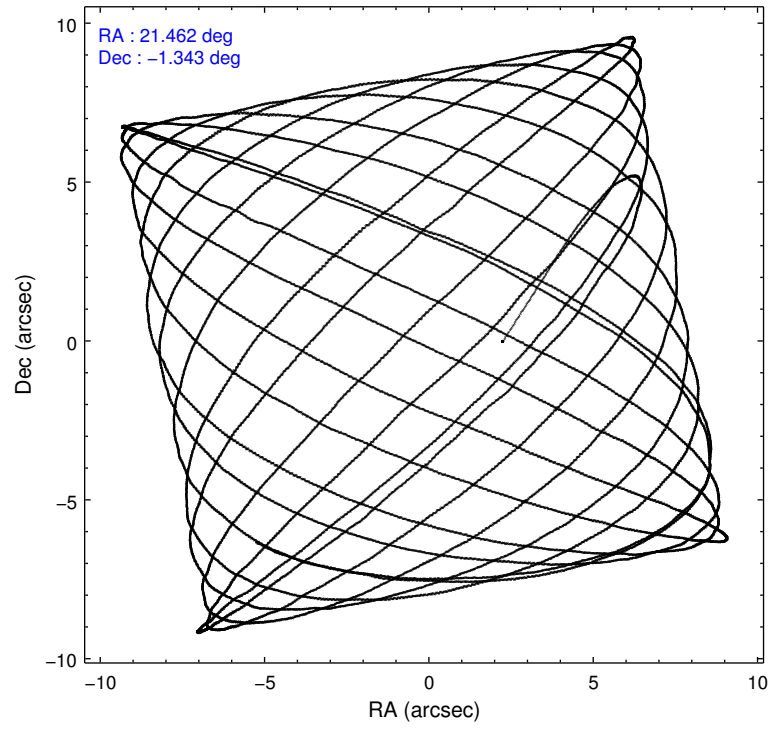
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 3375  | 2746  | 6462  | 3664  | 7775  |
|                | 4%    | 3%    | 6%    | 4%    | 8%    |
| grade 1 events | 45    | 33    | 298   | 43    | 110   |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1721  | 1481  | 15559 | 1754  | 9013  |
|                | 2%    | 2%    | 14%   | 2%    | 9%    |
| grade 3 events | 780   | 801   | 2389  | 874   | 3923  |
|                | 1%    | 1%    | 2%    | 1%    | 4%    |
| grade 4 events | 772   | 745   | 2262  | 812   | 3947  |
|                | 1%    | 1%    | 2%    | 1%    | 4%    |
| grade 5 events | 2307  | 2891  | 8264  | 2961  | 8599  |
|                | 3%    | 4%    | 7%    | 3%    | 9%    |
| grade 6 events | 1242  | 1379  | 27541 | 1608  | 21506 |
|                | 1%    | 1%    | 26%   | 2%    | 23%   |
| grade 7 events | 66508 | 59431 | 43029 | 64230 | 35427 |
|                | 86%   | 85%   | 40%   | 84%   | 39%   |

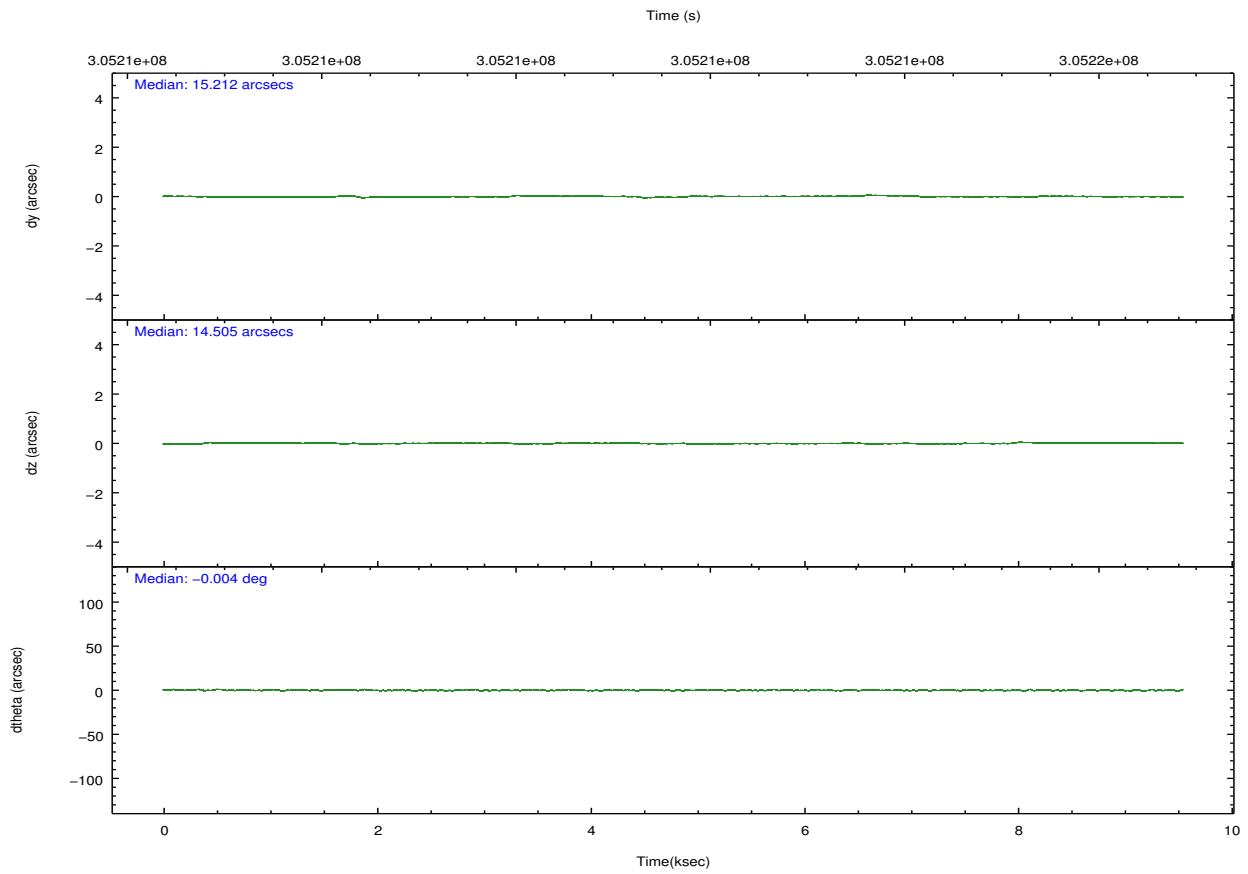
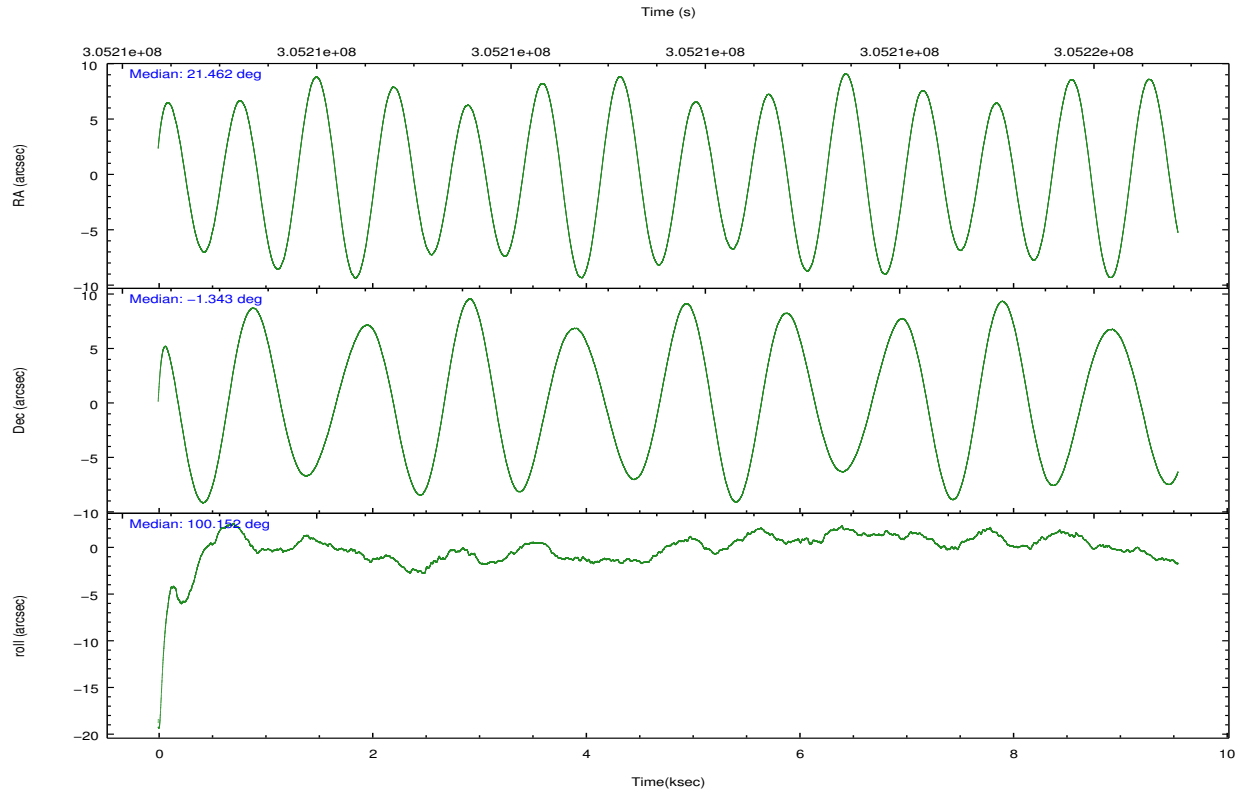


## 2.2 Compared Parameters

| 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                 | 21.480024           | 21.46212702659601    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -1.363065           | -1.342462472622739   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 100.000163          | 100.1563601587005    | [s] Primary exposure time             | 0.000000  | 3.1     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  |                                       |           |         |
| [s] Observation start time (MET)  | 305207004.184000    | 305205909.75457      |                                       |           |         |
| Observation start date            | 2007-09-03T11:42:19 | 2007-09-03T11:25:09  |                                       |           |         |
| [s] Observation end time (MET)    | 305216387.184000    | 305216612.80508      |                                       |           |         |
| Observation end date              | 2007-09-03T14:18:42 | 2007-09-03T14:23:32  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



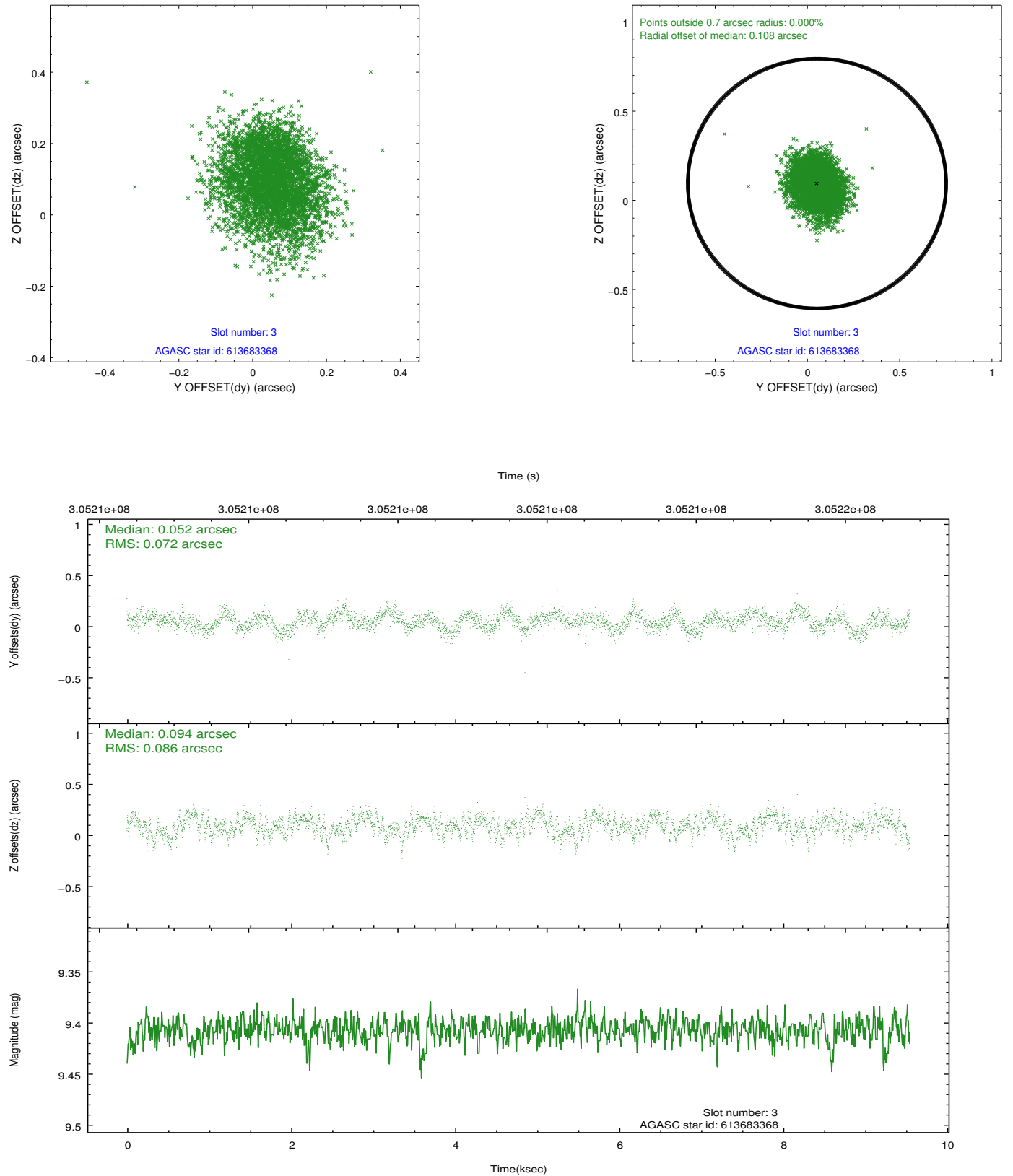


### Slot Statistics

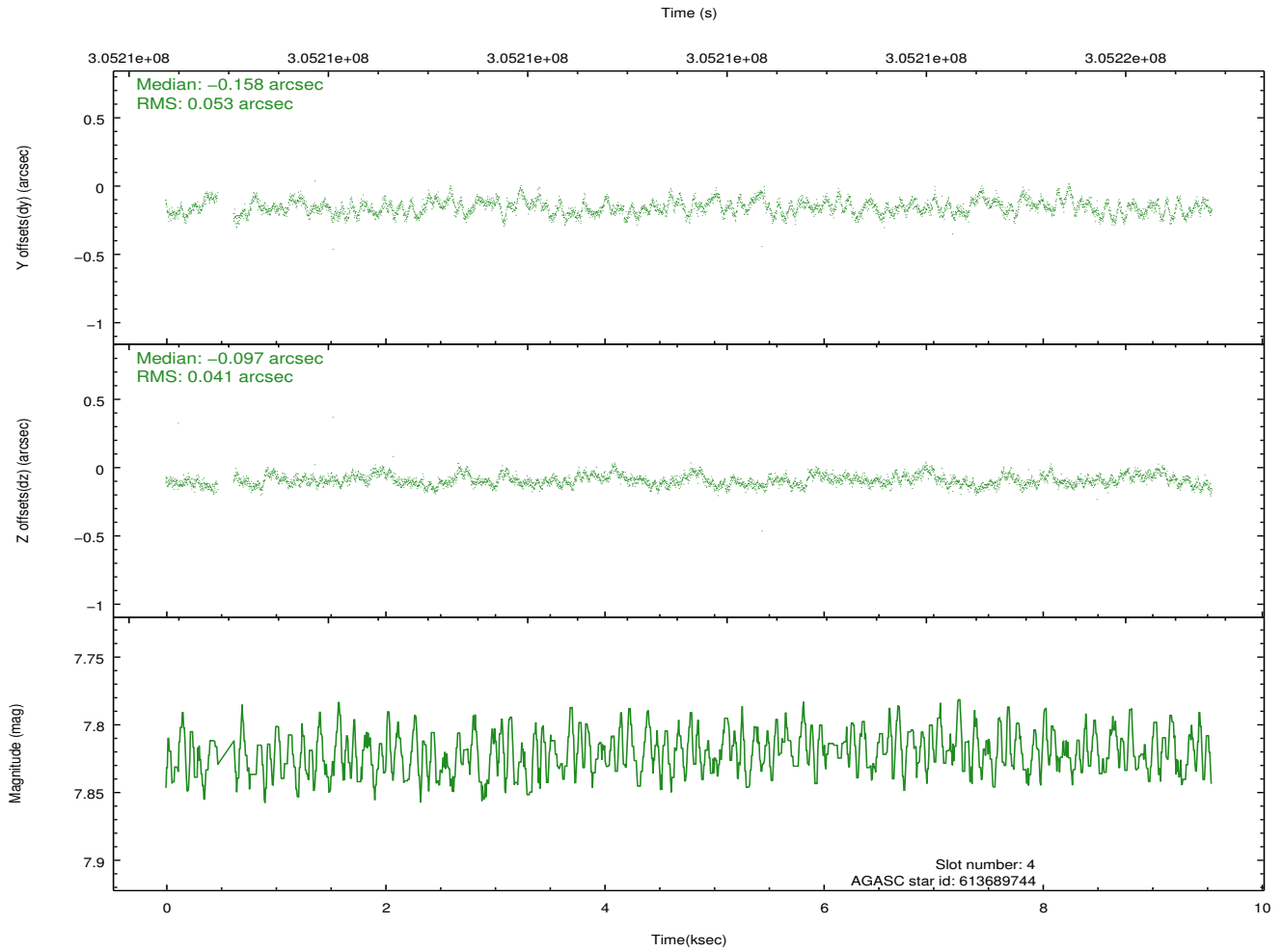
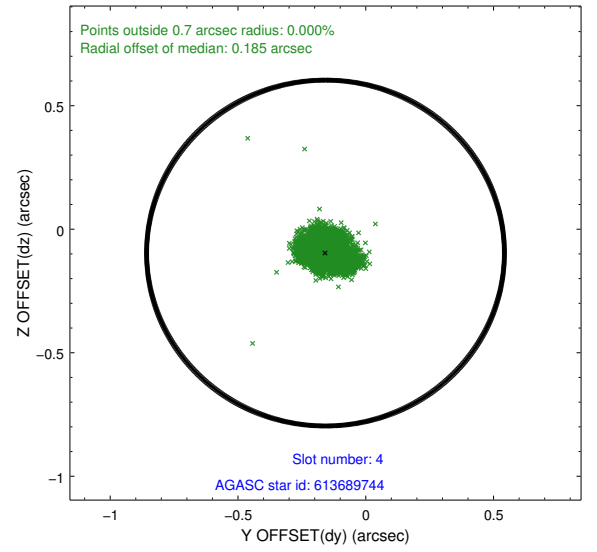
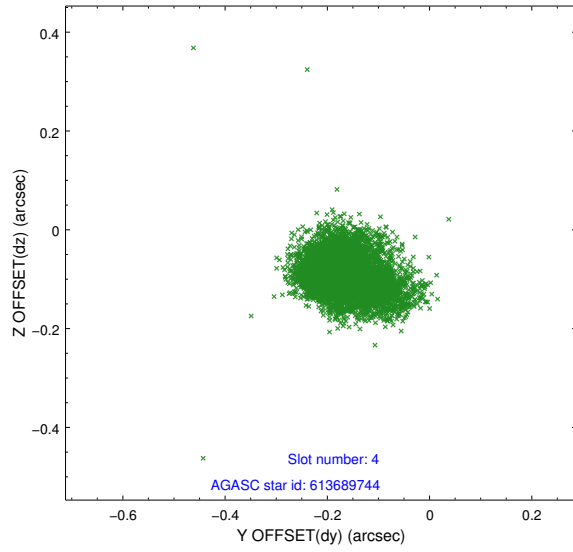
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.09 | 2329  | -0.102 | -0.049 | 0.006 | 0.011 | 0.000000  | 0.000000  | -768.29  | -1735.87 |
| 1    | FID    | ACIS-S-4  | 7.19 | 2329  | 0.212  | 0.062  | 0.005 | 0.010 | 0.000000  | 0.000000  | 2145.04  | 172.14   |
| 2    | FID    | ACIS-S-5  | 7.22 | 2328  | -0.141 | -0.005 | 0.006 | 0.011 | 0.000000  | 0.000000  | -1820.45 | 166.39   |
| 3    | GUIDE  | 613683368 | 9.41 | 4655  | 0.052  | 0.094  | 0.120 | 0.193 | 21.866840 | -1.196576 | 348.94   | -1474.70 |
| 4    | GUIDE  | 613689744 | 7.82 | 4586  | -0.158 | -0.097 | 0.071 | 0.113 | 21.171484 | -0.970235 | 1585.78  | 848.15   |
| 5    | GUIDE  | 613692608 | 9.96 | 4649  | 0.006  | 0.028  | 0.178 | 0.302 | 21.596269 | -0.869341 | 1678.55  | -720.52  |
| 6    | GUIDE  | 613692984 | 9.21 | 4658  | -0.086 | -0.127 | 0.091 | 0.145 | 21.289538 | -1.059684 | 1193.45  | 487.46   |
| 7    | GUIDE  | 613695880 | 9.09 | 4655  | 0.190  | 0.092  | 0.099 | 0.150 | 21.661274 | -1.694663 | -1288.01 | -434.89  |

## 2.4 Star Slots

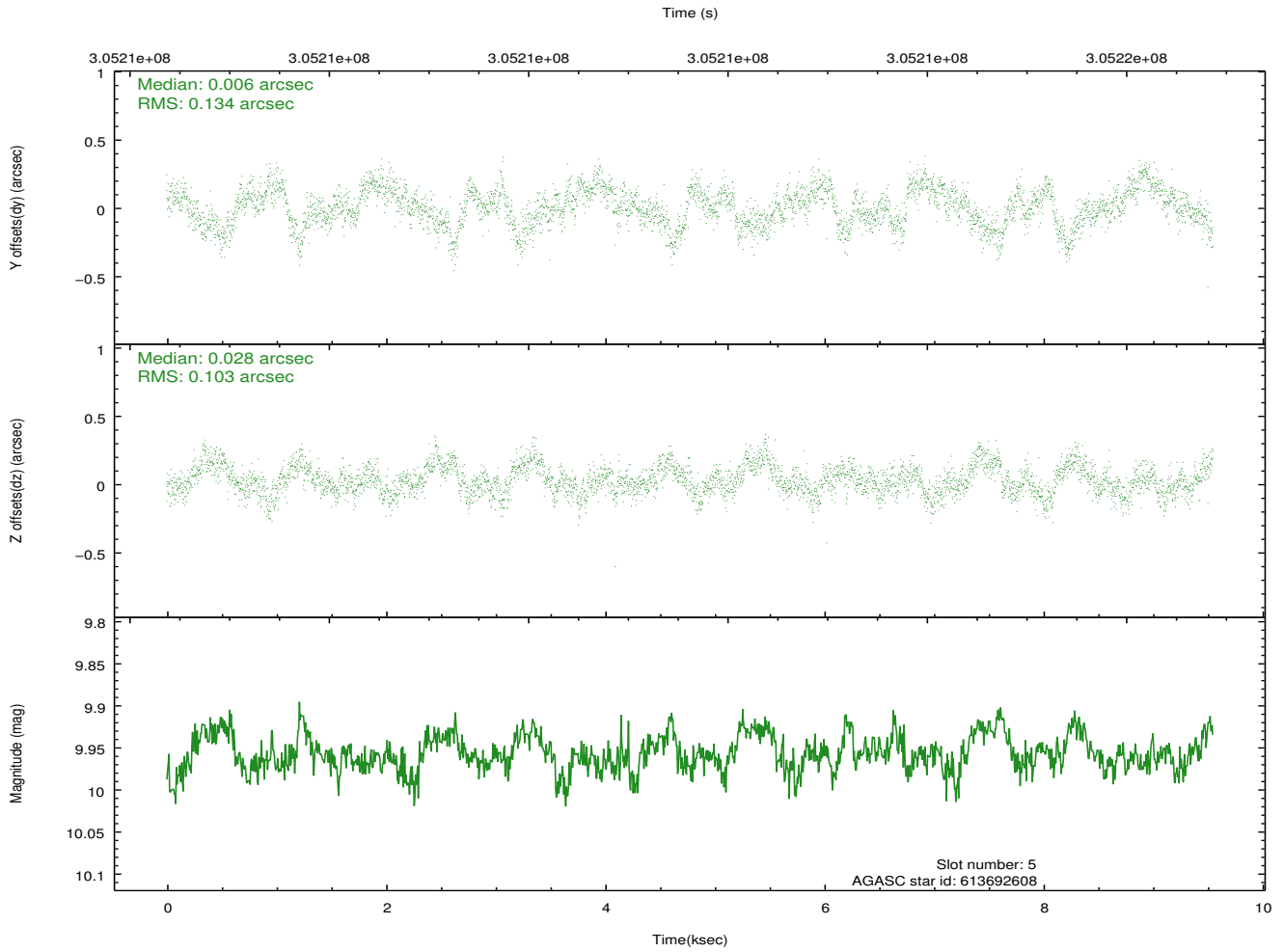
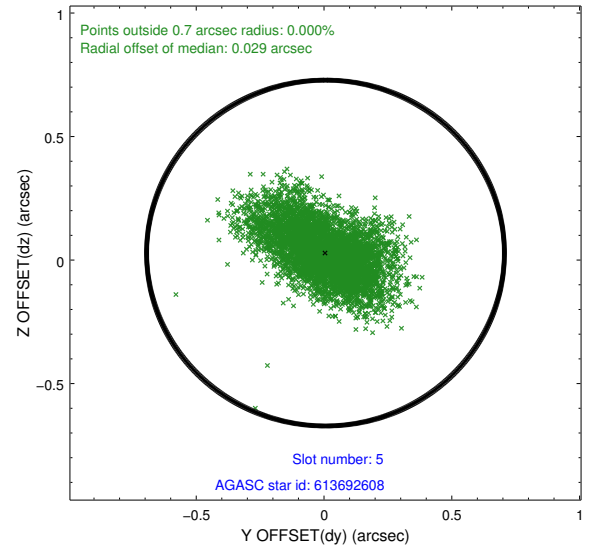
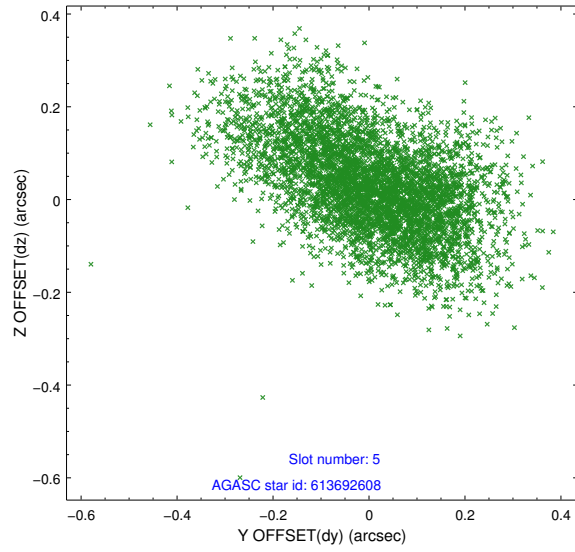
### 2.4.1 Slot 3



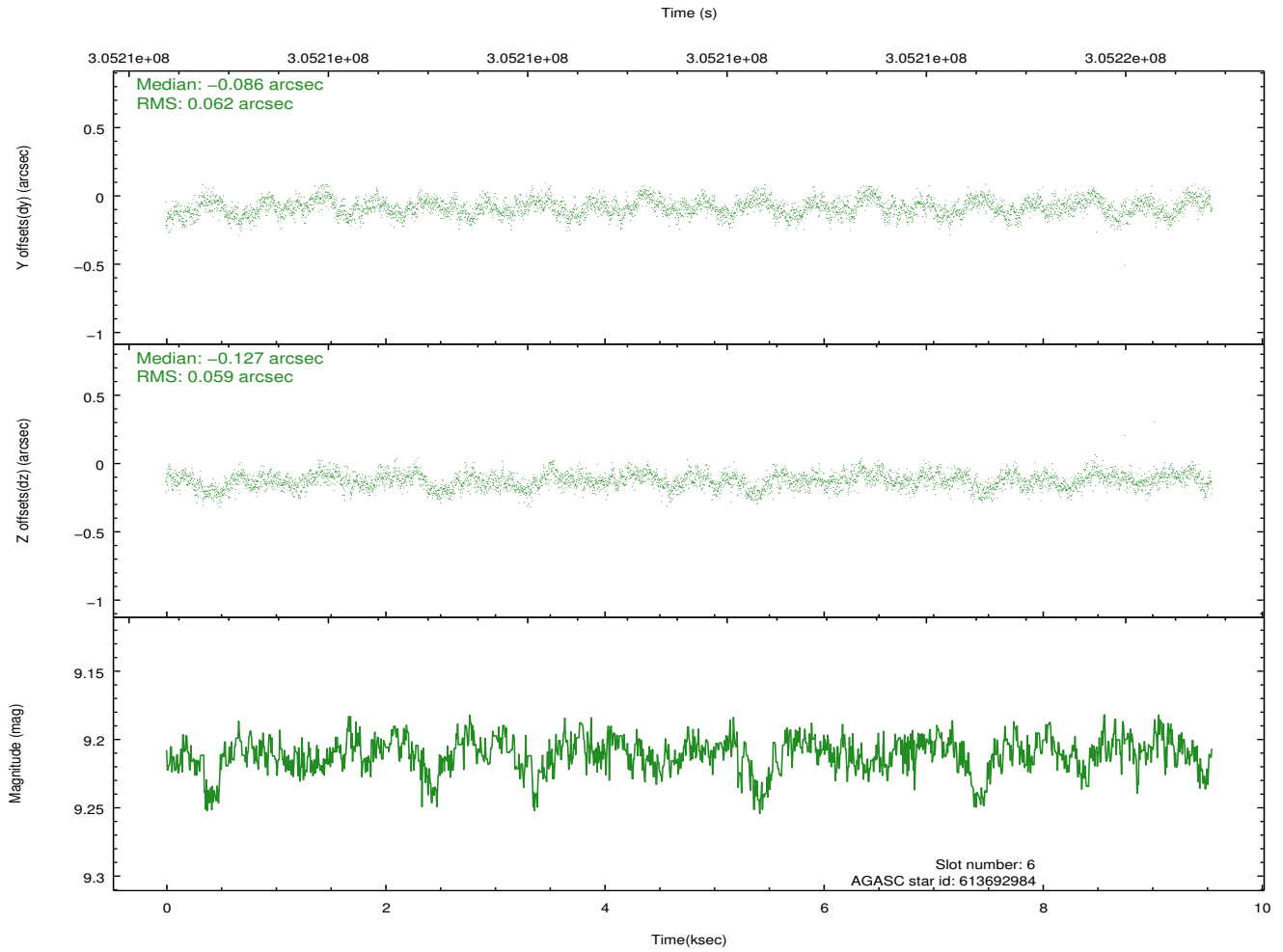
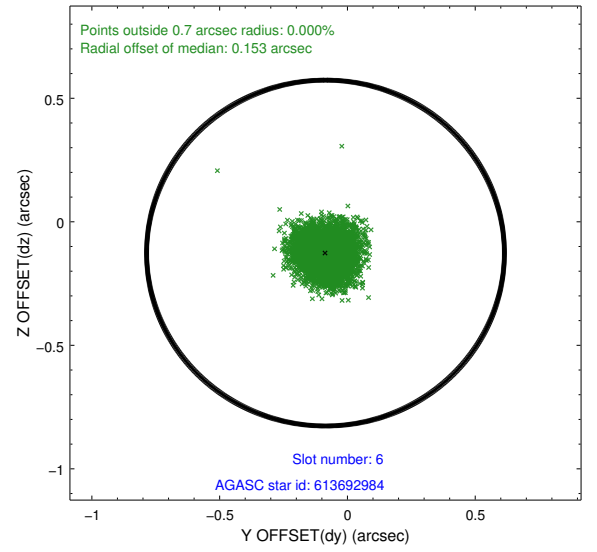
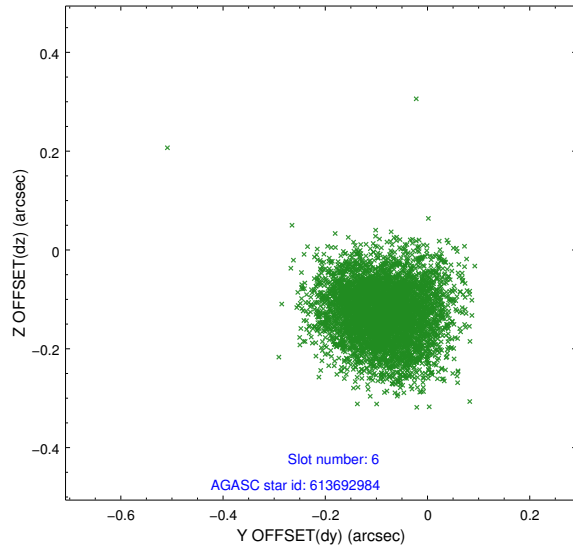
## 2.4.2 Slot 4



### 2.4.3 Slot 5

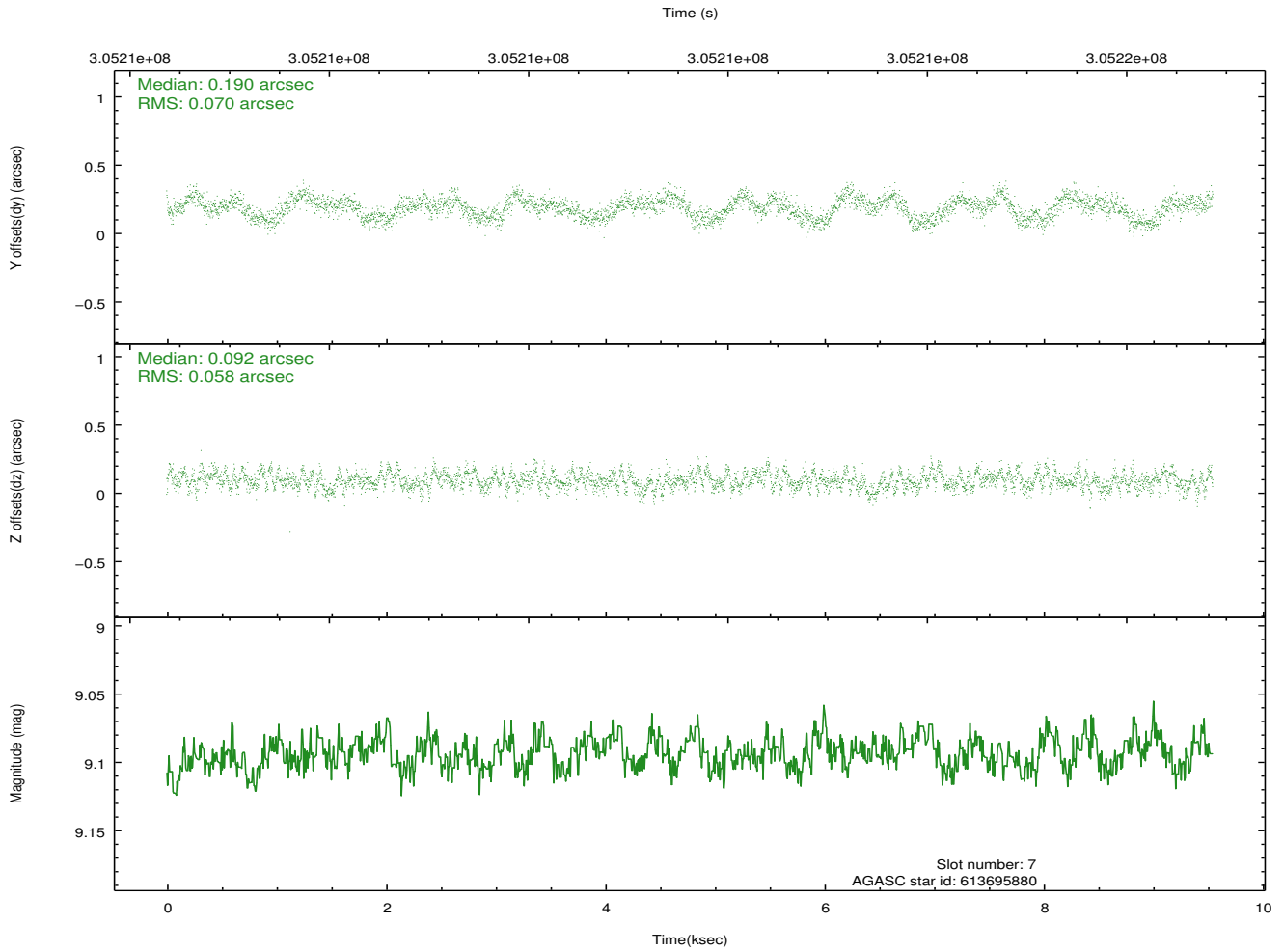
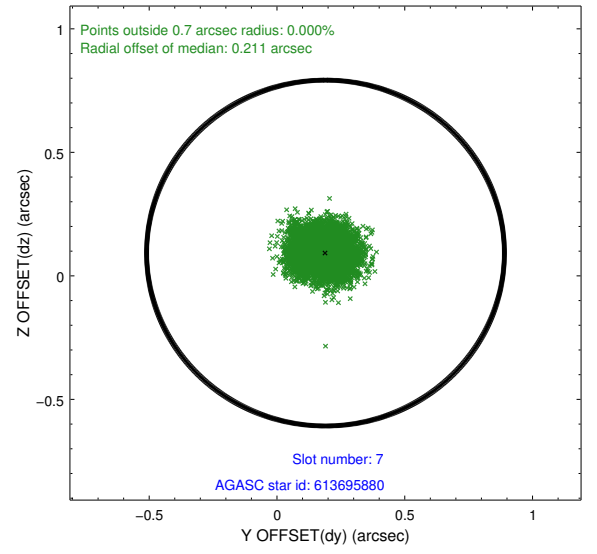
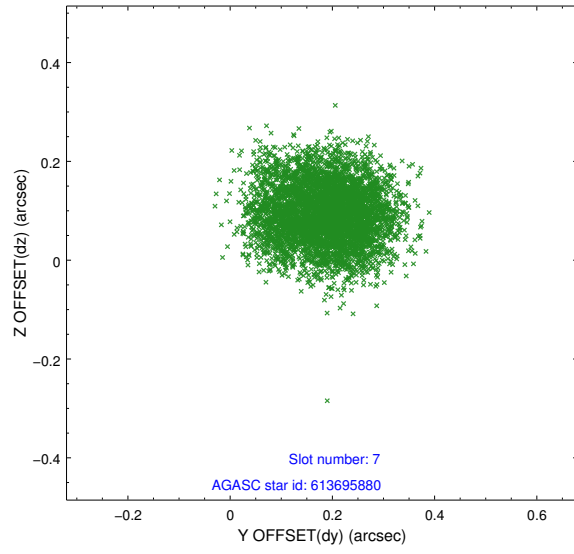


## 2.4.4 Slot 6



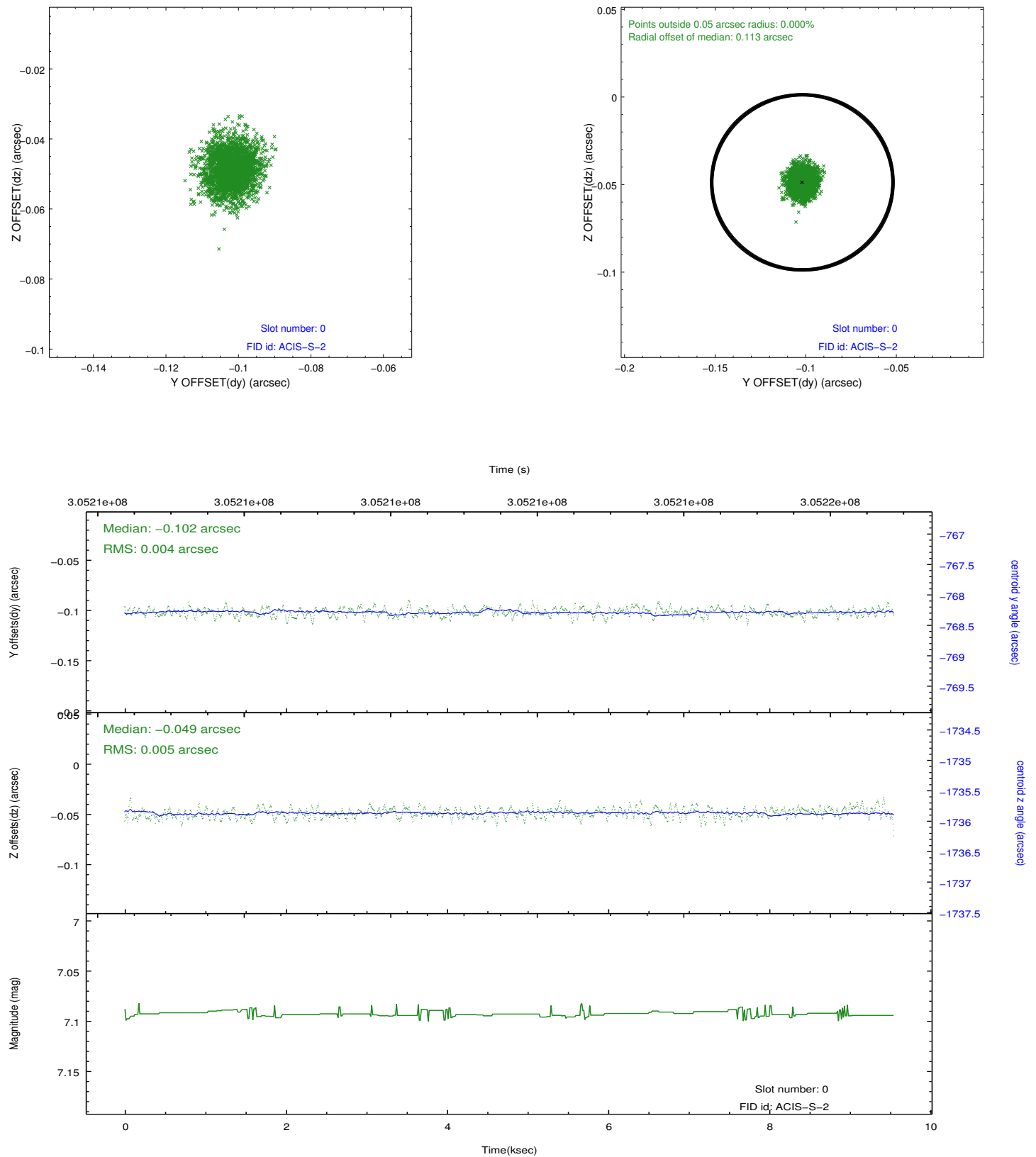


## 2.4.5 Slot 7

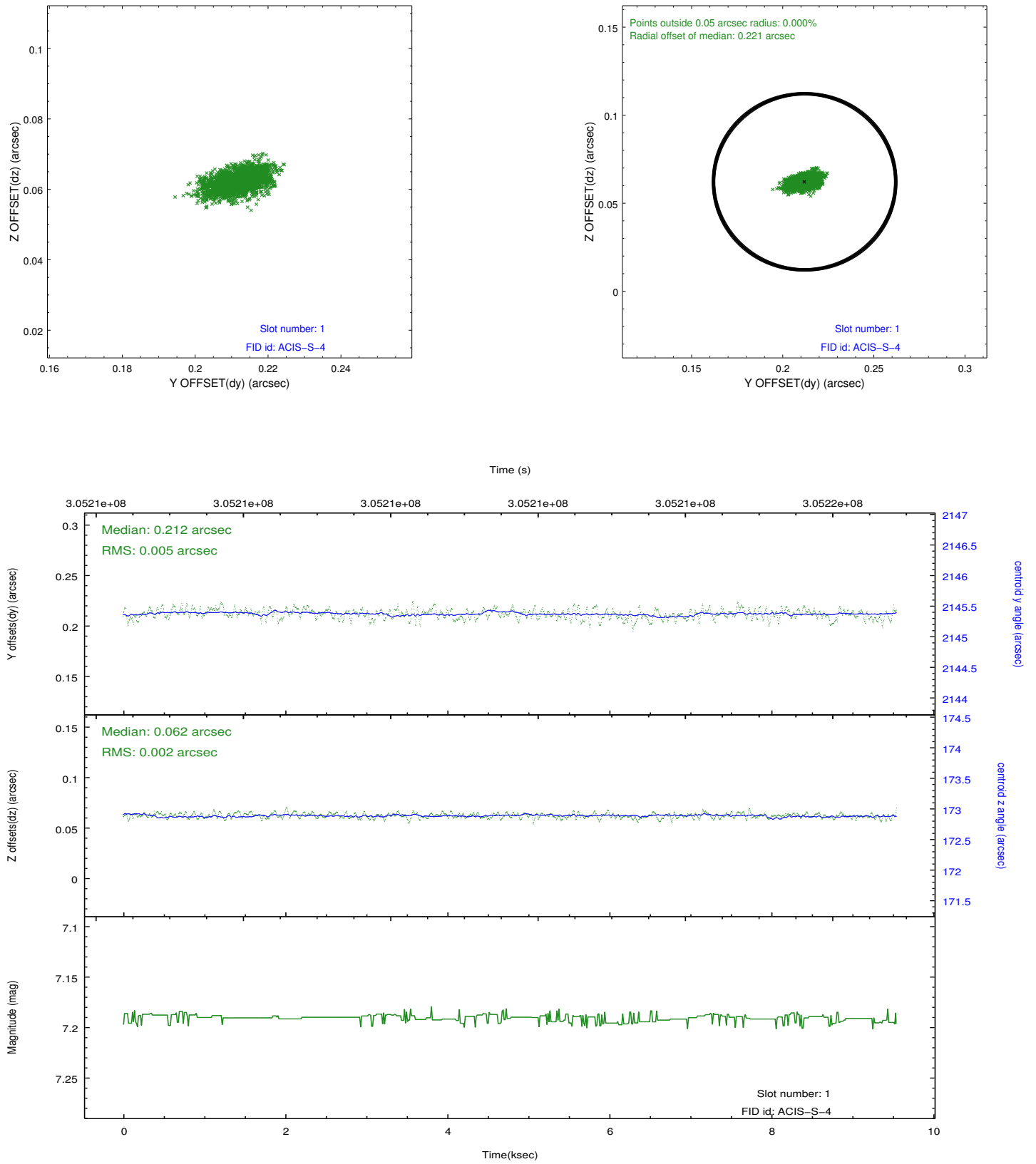


## 2.5 FID Slots

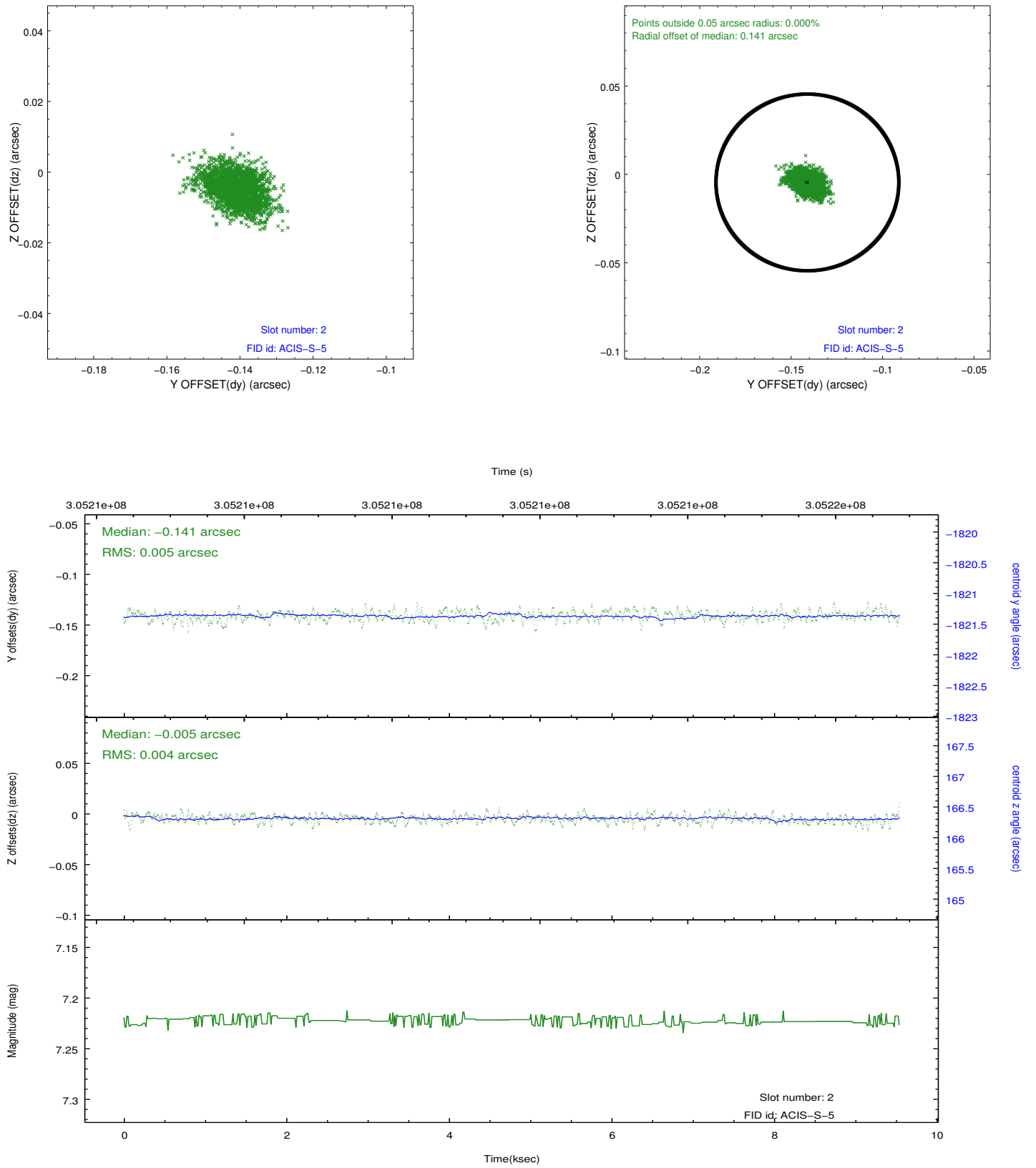
### 2.5.1 Slot 0



## 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)      | 2012.05.02 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 9.15430007 |

## A.2 Comments

Joint proposal with VLA. One of the x-ray sources appears to fall on the gap between the nodes of the CCD chips and to have been dithered over this gap. Dithering over the node boundary can give a false indication of variability and affect flux measurements.