

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 5746 - L2 Version 3  
Chandra X-Ray Center

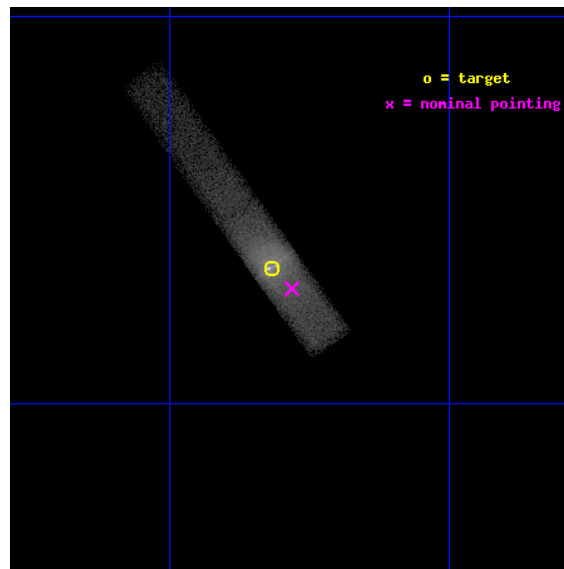
L2 Processing Date : Dec 23 2012

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# 1 Front

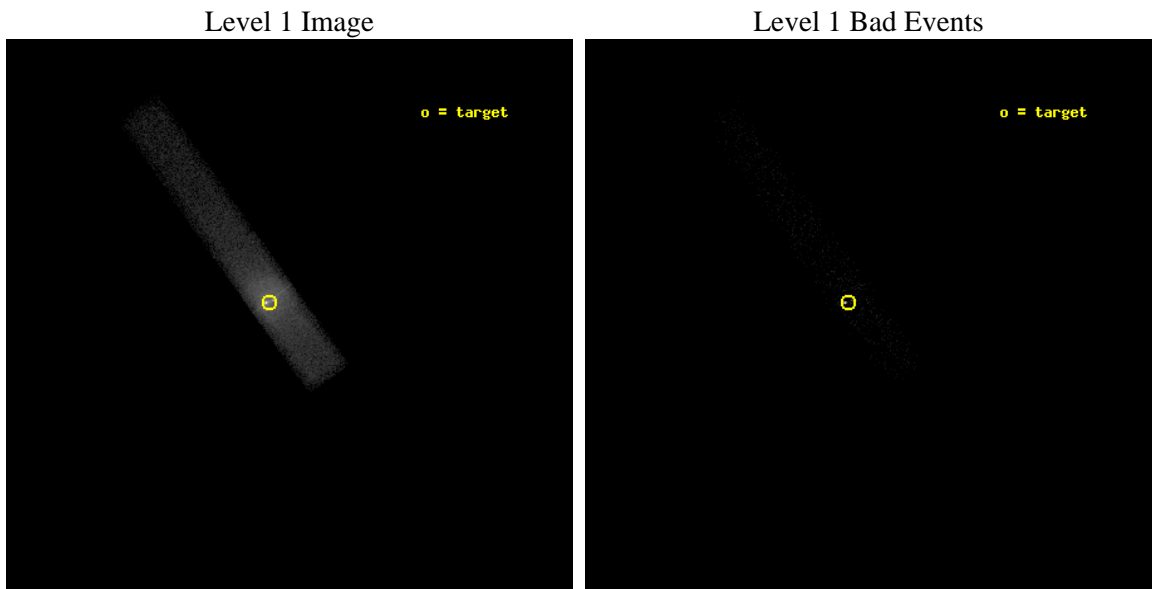
|          |  |   |
|----------|--|---|
| seq_num  | 701168   | Sequence number                             |
| obs_id   | 5746   | Observation id                              |
| title    | The X-ray Flares of Knot 'HST-1' in the M87 Jet (monitoring) | Pro   |
| observer | Dr. John Biretta   | Principal investigator                      |
| object   | M87  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 187.704167   | Observer's specified target RA [deg]        |
| dec_targ | 12.391667  | Observer's specified target Dec [deg]       |
| ra_nom   | 187.69539129689  | Nominal RA [deg]                            |
| dec_nom  | 12.382549526973  | Nominal Dec [deg]                           |
| roll_nom | 234.47175670205  | Nominal Roll [deg]                          |
| revision | 3  | Processing version of data                  |
| ontime   | 5669.6000844538  | Sum of GTIs [s]                             |
| livetime | 5142.0280105694  | Livetime [s]                                |
| ontime7  | 5669.6000844538  | Sum of GTIs [s]                             |
| l2events | 68715  | Number of level 2 events                    |



## 2 OBI

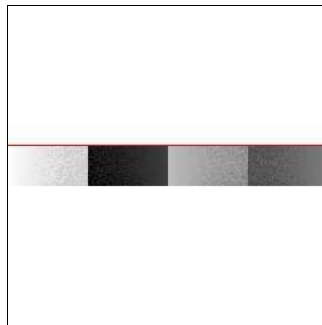
### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 7



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 5486.249000     | [s] Scheduled observation exposure time |
| ascdsver | 8.5.1.1             | Processing system revision     | ontime         | 5669.6000844538 | Sum of GTIs [s]                         |
| caldsver | 4.5.5               | &#160                          | ontime7        | 5669.6000844538 | Sum of GTIs [s]                         |
| date     | 2012-12-23T04:18:24 | Date and time of file creation | l1events       | 87109           | Number of level 1 events                |
| revision | 3                   | Processing version of data     |                |                 |   |

### 2.1.4 Events

|                 |              |
|-----------------|--------------|
|                 | <b>ccd 7</b> |
| level 1 events  | 87109        |
| rejected events | 17726        |
| rejected %      | 20%          |

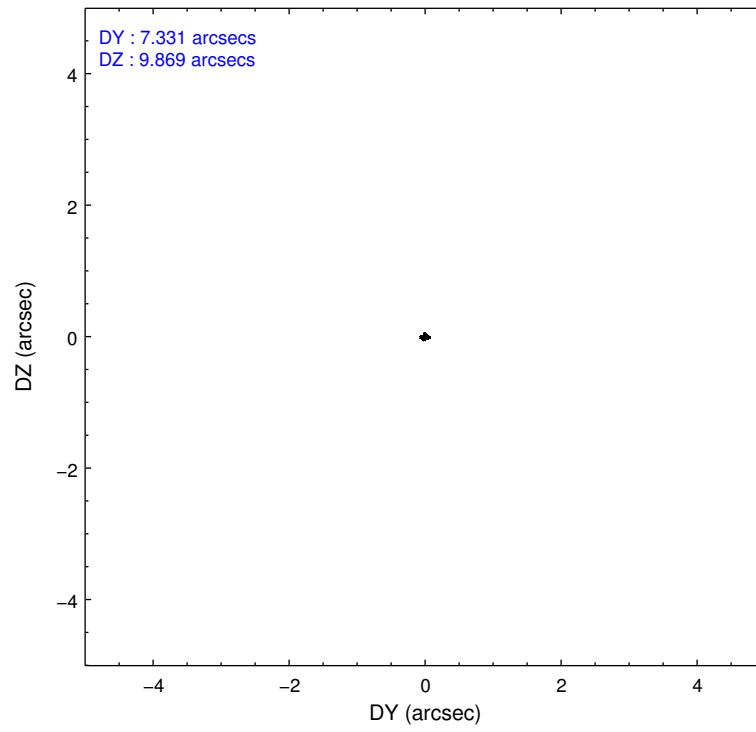
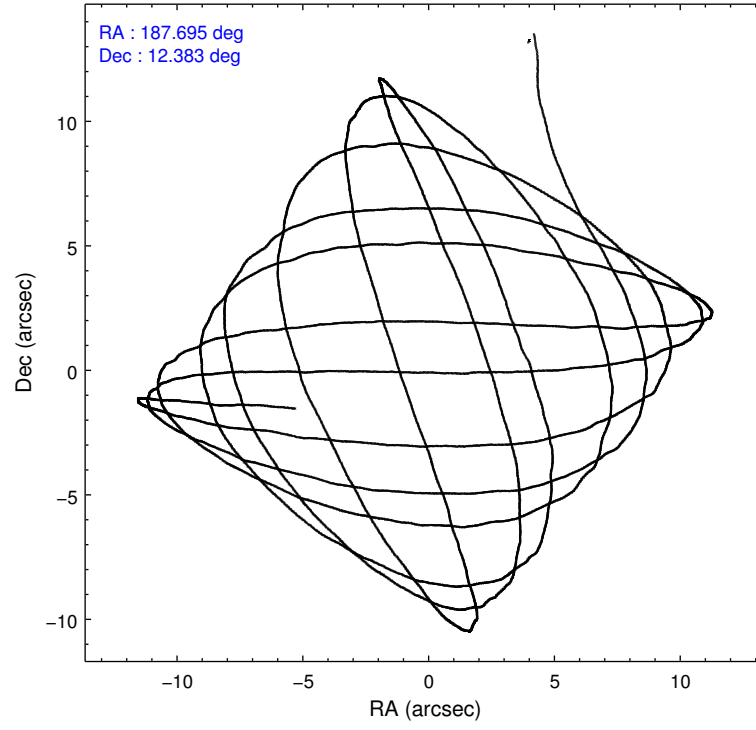
|                |              |
|----------------|--------------|
|                | <b>ccd 7</b> |
| grade 0 events | 20328        |
|                | 23%          |
| grade 1 events | 475          |
|                | 0%           |
| grade 2 events | 17466        |
|                | 20%          |
| grade 3 events | 7958         |
|                | 9%           |
| grade 4 events | 7615         |
|                | 8%           |
| grade 5 events | 3241         |
|                | 3%           |
| grade 6 events | 18205        |
|                | 20%          |
| grade 7 events | 11821        |
|                | 13%          |

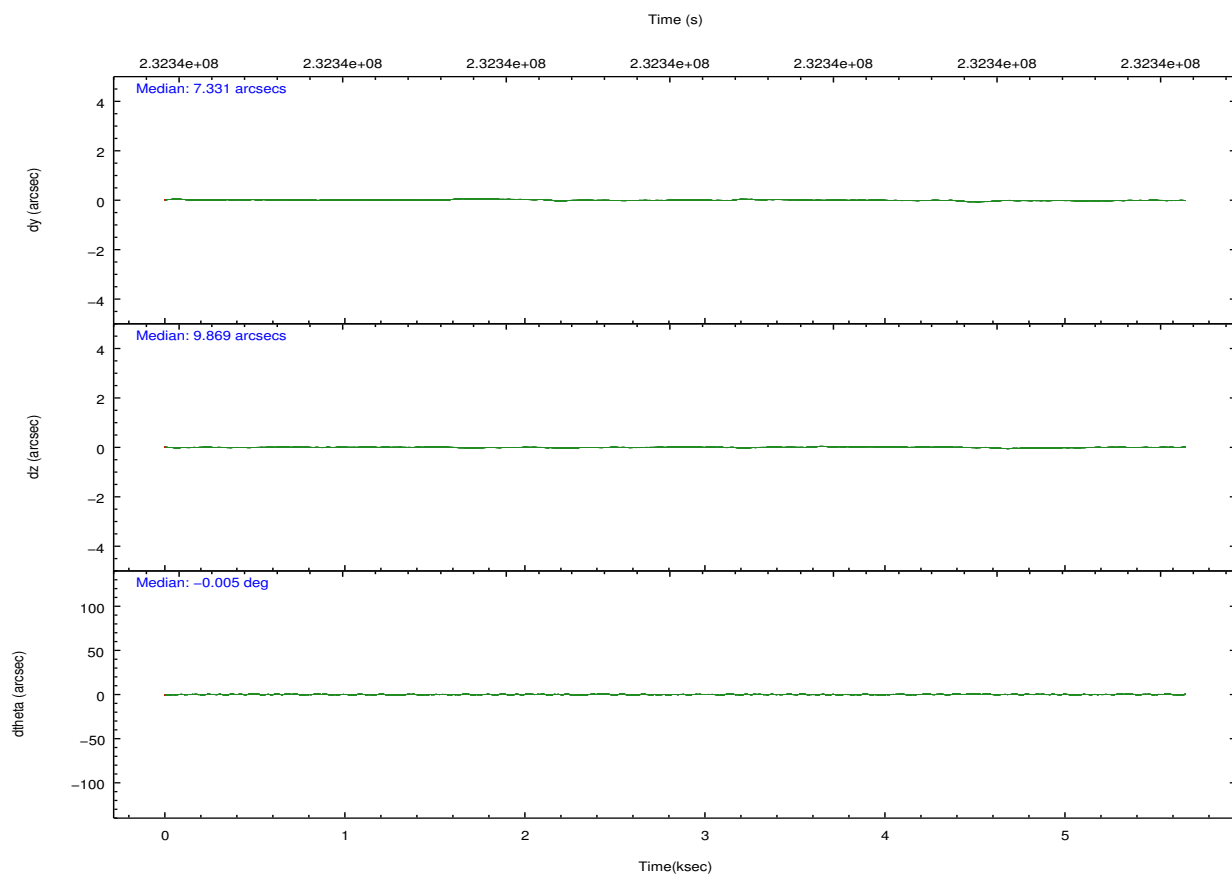
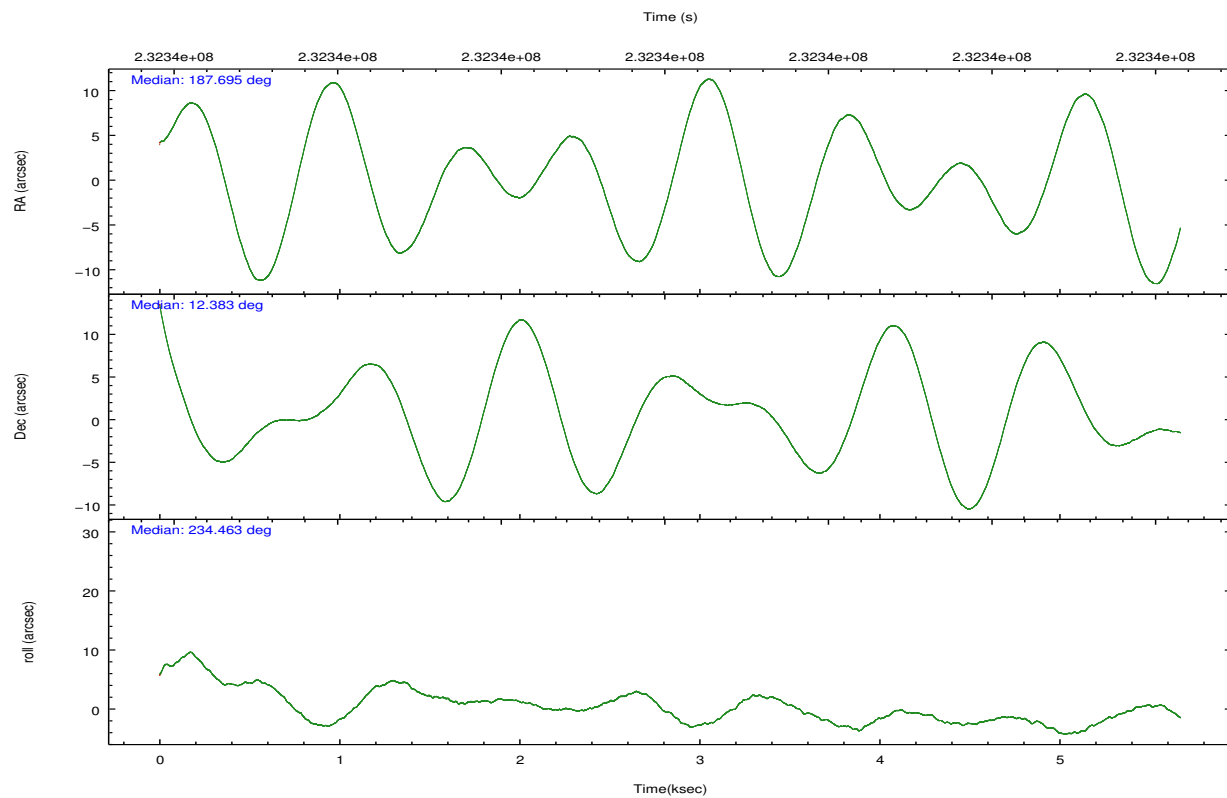


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-7              | ACIS-7               | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 187.697702          | 187.6953912968933    | Subarray requested                    | CUSTOM    | 1/8     |
| [deg] Pointing Dec                | 12.409741           | 12.38254952697313    | Subarray start row                    | 449       | 449     |
| [deg] Pointing Roll               | 234.314625          | 234.4717567020485    | Subarray row count                    | 128       | 128     |
| [s] Window start time (MET)       | 231984064.184000    | 231984064.184000     | Alternating exposures requested       | N         | N       |
| [s] Window stop time (MET)        | 232588864.184000    | 232588864.184000     | [s] Primary exposure time             | 0.000000  | 0.4     |
| [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)  | 232337384.184000    | 232336288.07911      |                                       |           |         |
| Observation start date            | 2005-05-13T02:08:40 | 2005-05-13T01:51:28  |                                       |           |         |
| [s] Observation end time (MET)    | 232342870.184000    | 232343086.39192      |                                       |           |         |
| Observation end date              | 2005-05-13T03:40:06 | 2005-05-13T03:44:46  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



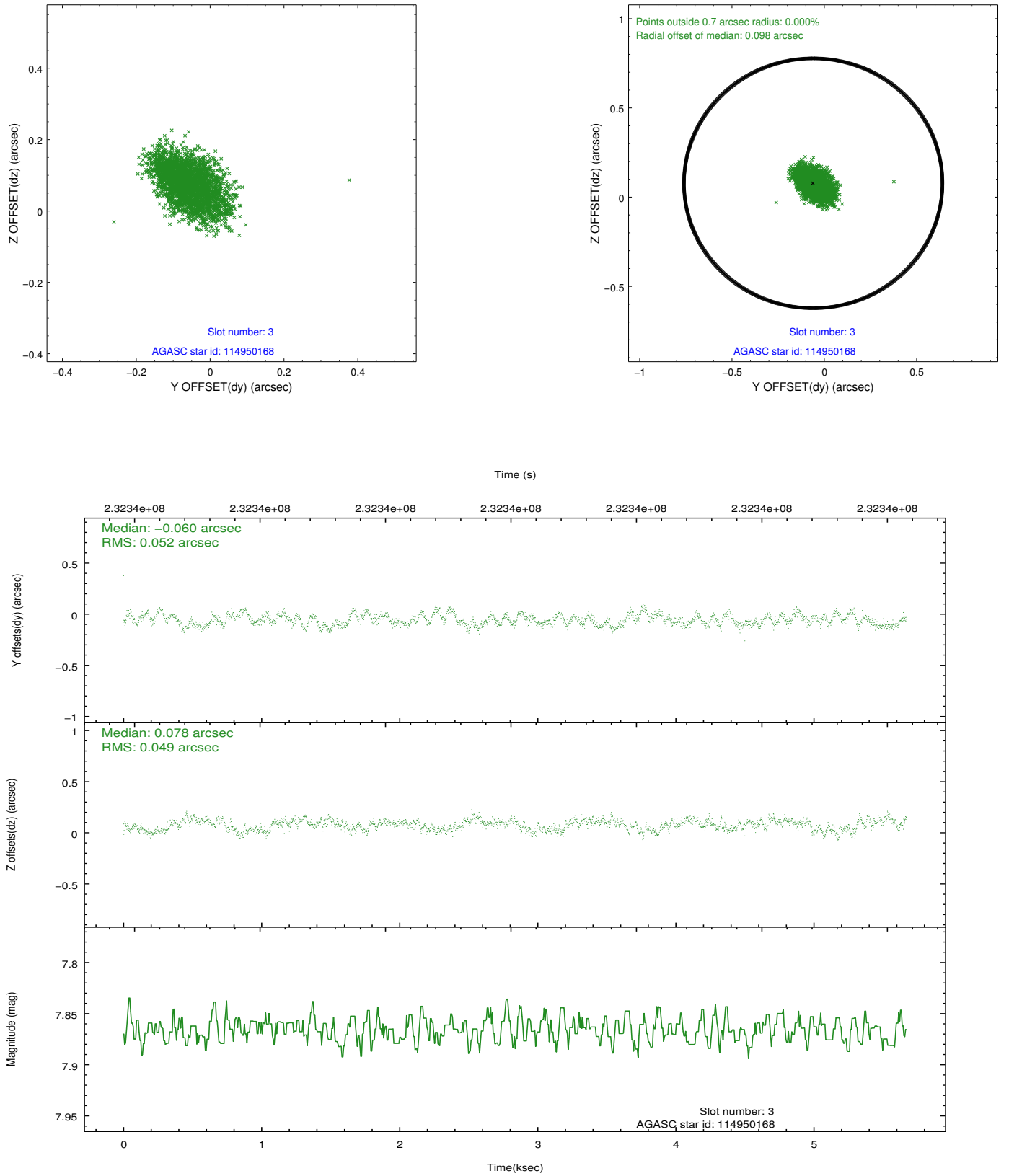


### Slot Statistics

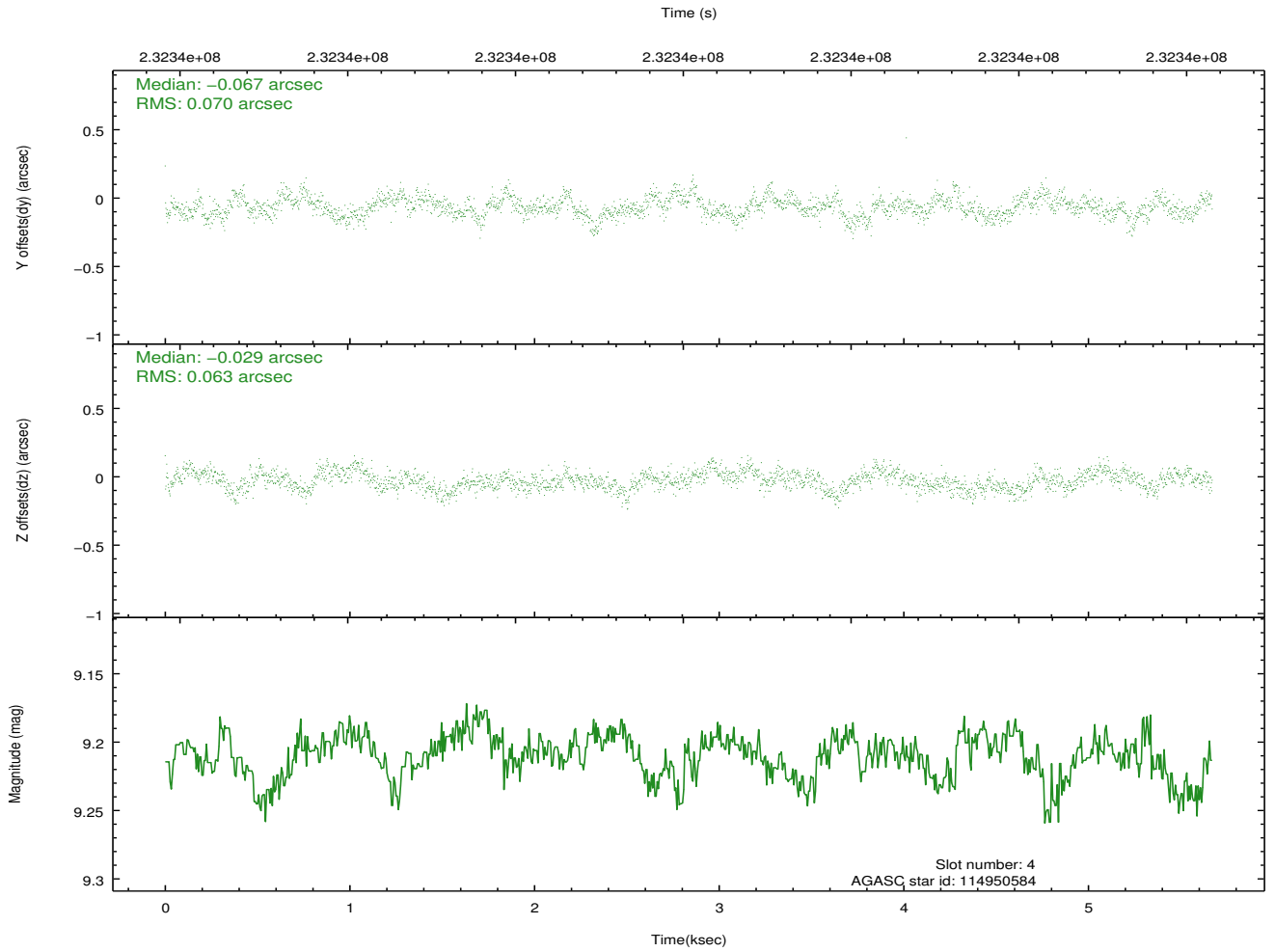
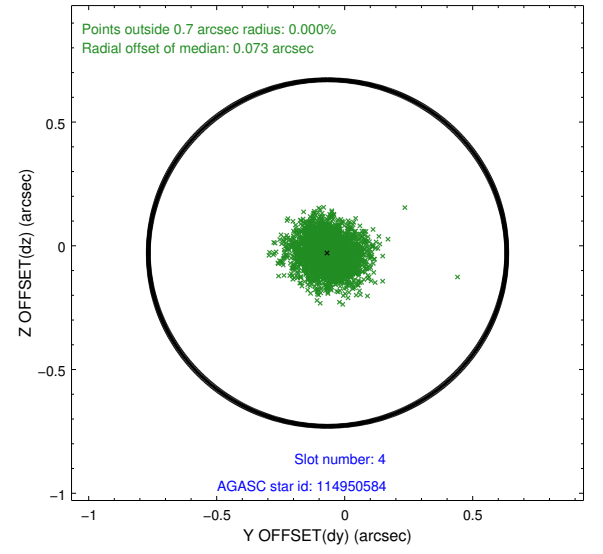
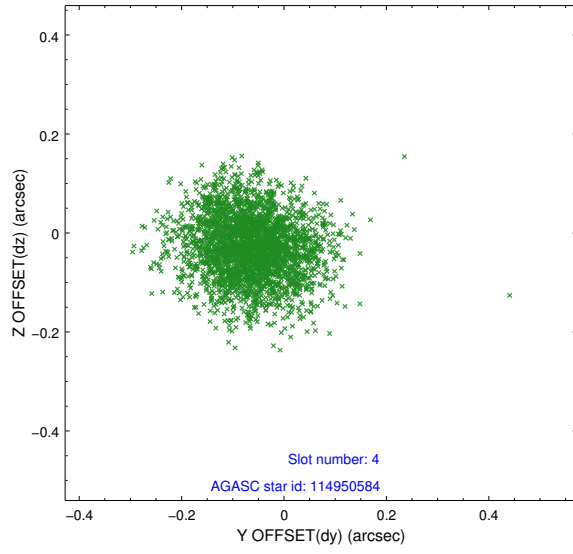
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.10 | 1384  | -0.052 | -0.037 | 0.006 | 0.011 | 0.000000   | 0.000000  | -760.10  | -1731.16 |
| 1    | FID    | ACIS-S-4  | 7.21 | 1384  | 0.118  | 0.035  | 0.005 | 0.010 | 0.000000   | 0.000000  | 2152.82  | 176.37   |
| 2    | FID    | ACIS-S-5  | 7.24 | 1384  | -0.096 | 0.010  | 0.006 | 0.011 | 0.000000   | 0.000000  | -1811.68 | 171.12   |
| 3    | GUIDE  | 114950168 | 7.87 | 2765  | -0.060 | 0.078  | 0.075 | 0.125 | 187.143398 | 12.117441 | 1991.58  | -971.64  |
| 4    | GUIDE  | 114950584 | 9.21 | 2766  | -0.067 | -0.029 | 0.101 | 0.162 | 187.487323 | 11.827248 | 2136.36  | 620.78   |
| 5    | GUIDE  | 114952824 | 8.58 | 2765  | -0.012 | 0.104  | 0.067 | 0.107 | 187.703904 | 12.486727 | -236.66  | -143.85  |
| 6    | GUIDE  | 114954440 | 9.19 | 2765  | 0.089  | -0.049 | 0.101 | 0.165 | 186.915066 | 12.219118 | 2160.80  | -1838.03 |
| 7    | GUIDE  | 114955056 | 8.32 | 2764  | 0.048  | -0.096 | 0.060 | 0.103 | 187.914001 | 12.127854 | 380.82   | 1209.35  |

## 2.4 Star Slots

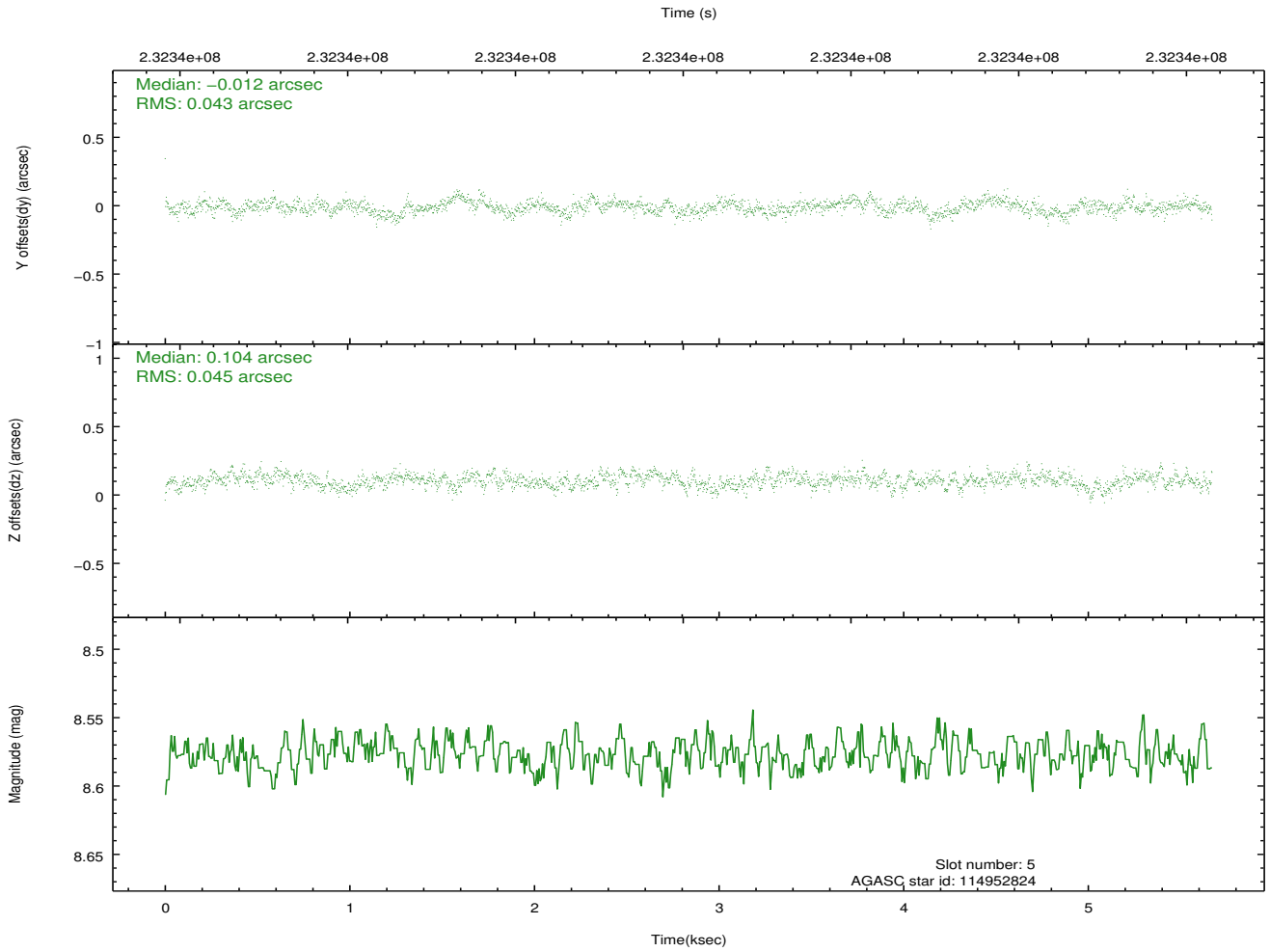
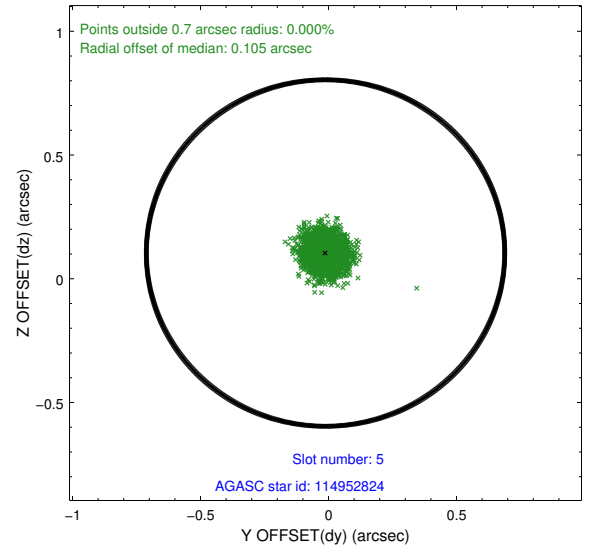
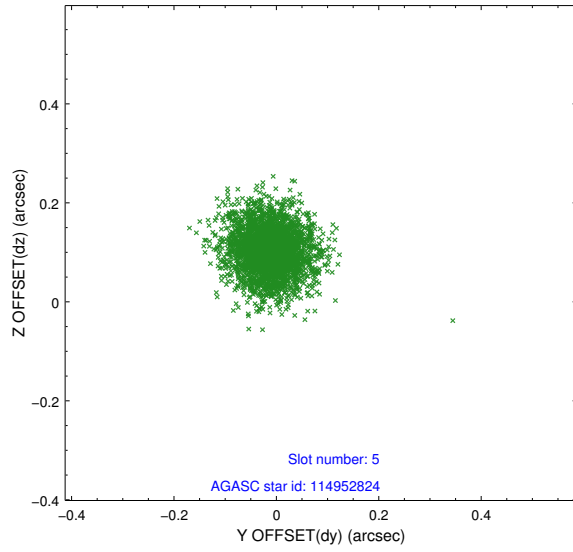
### 2.4.1 Slot 3



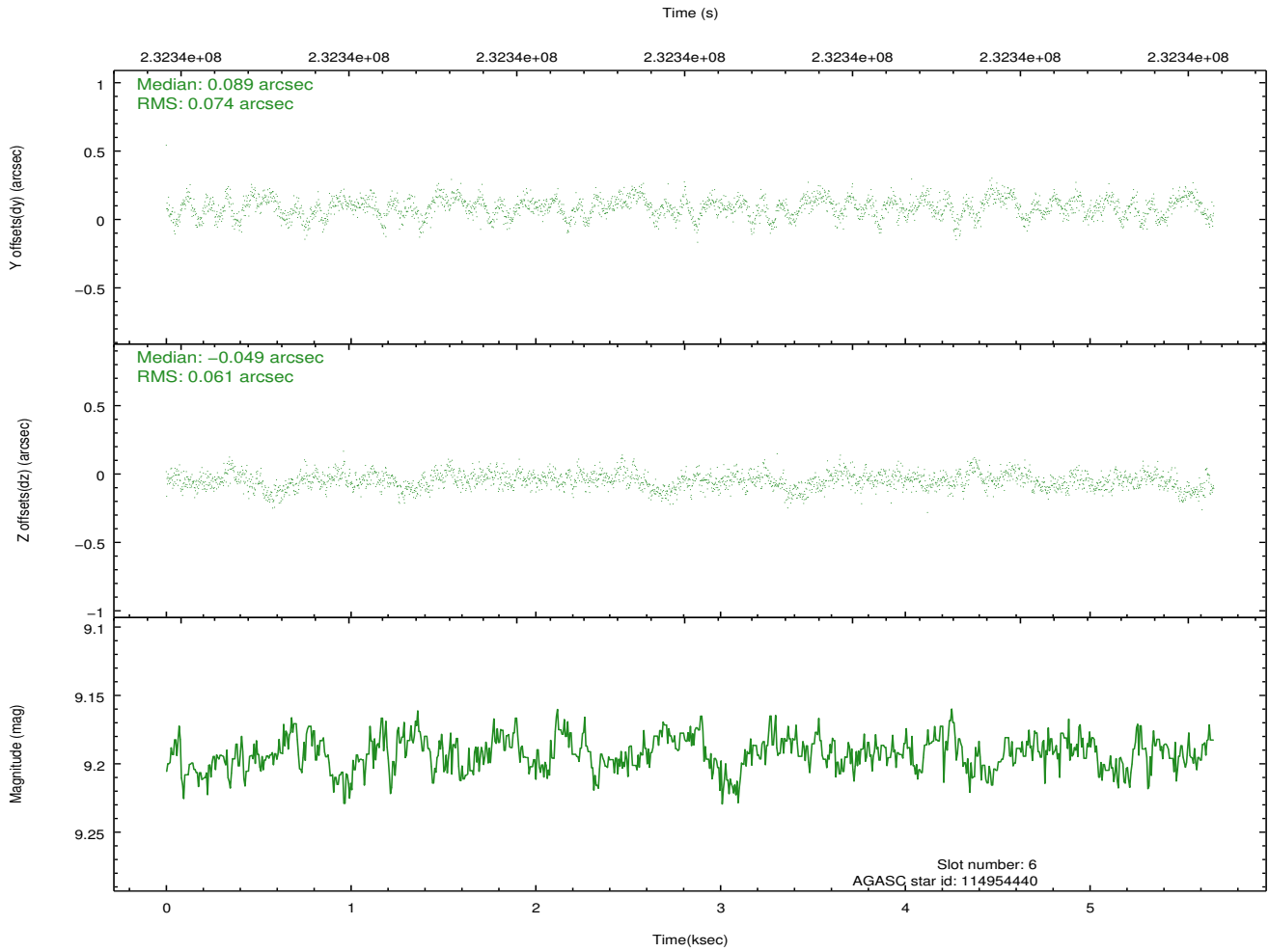
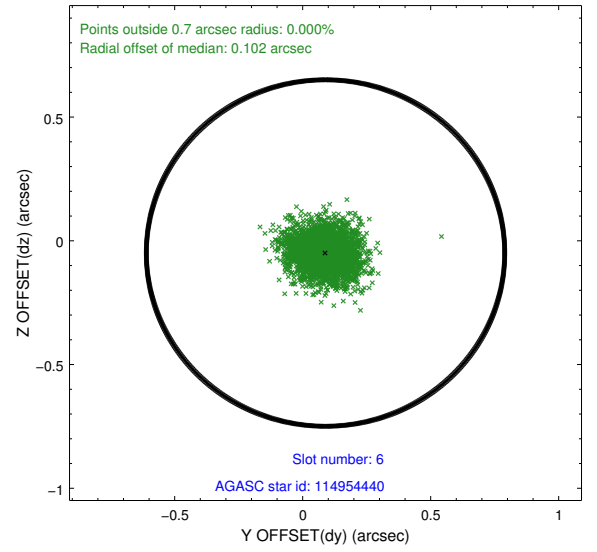
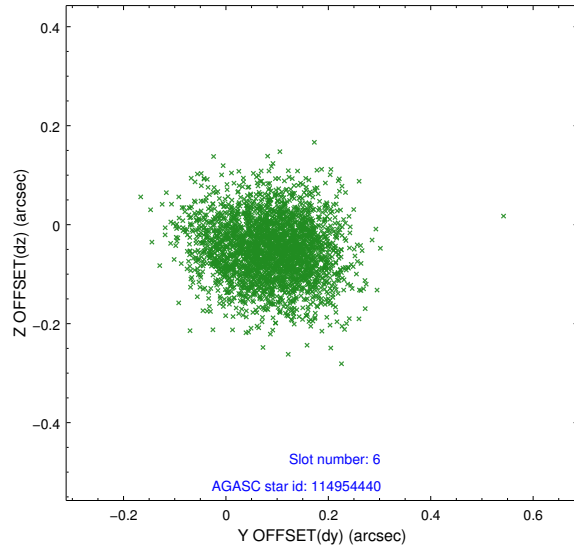
## 2.4.2 Slot 4



### 2.4.3 Slot 5

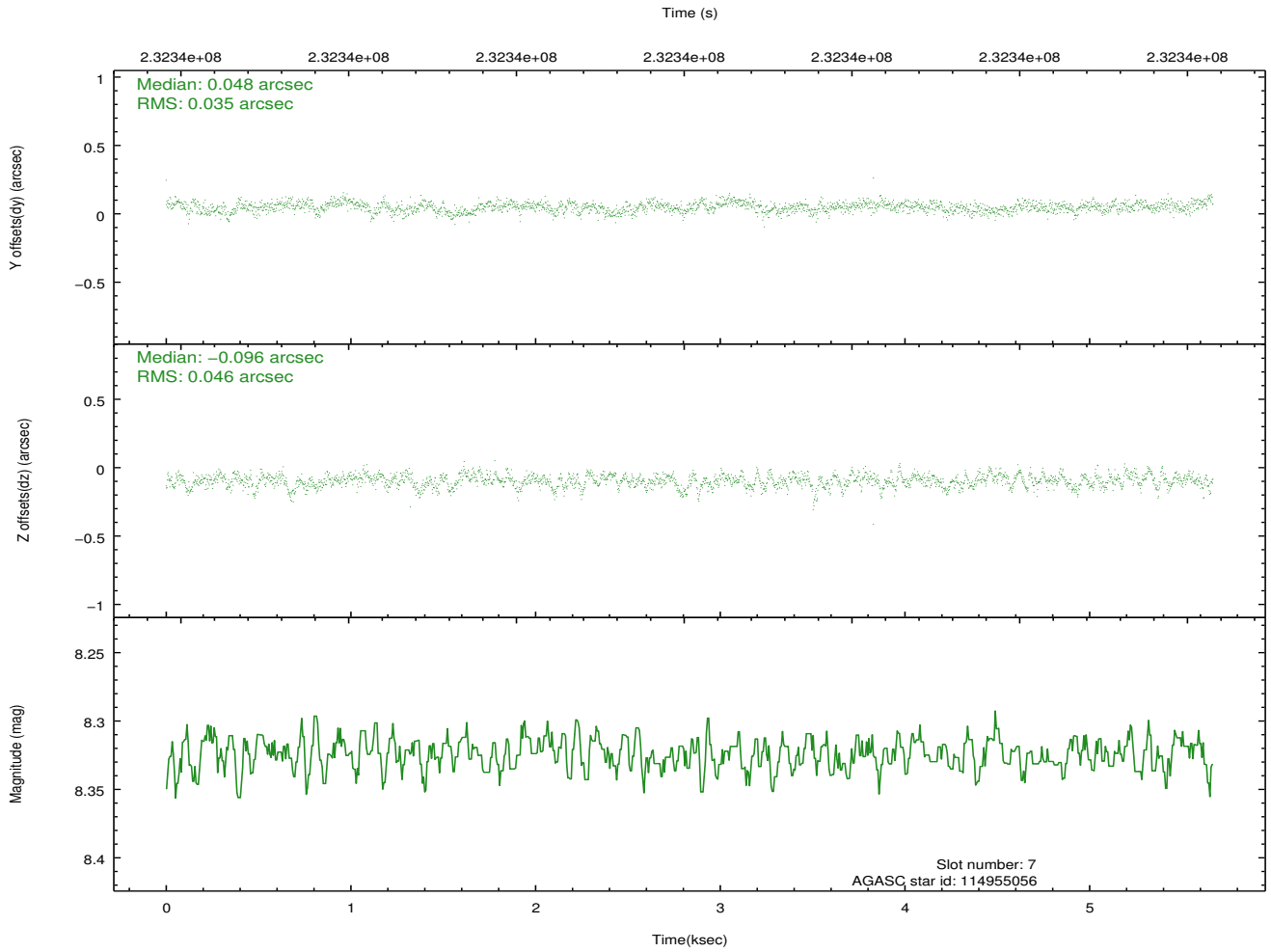
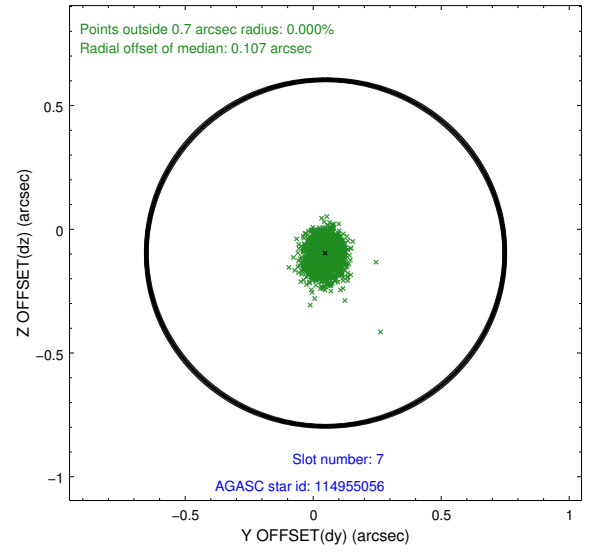
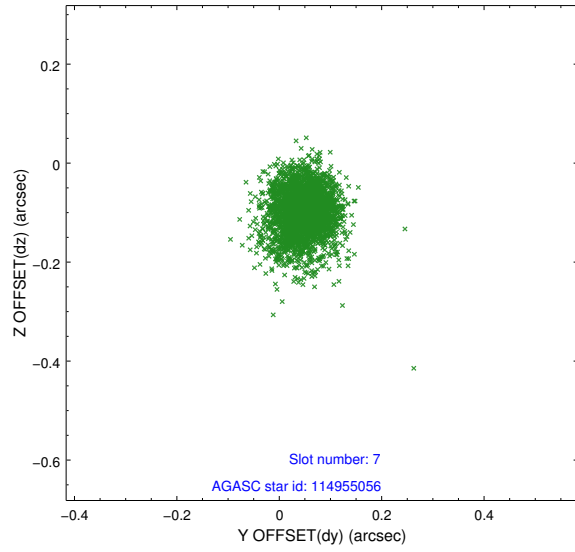


## 2.4.4 Slot 6



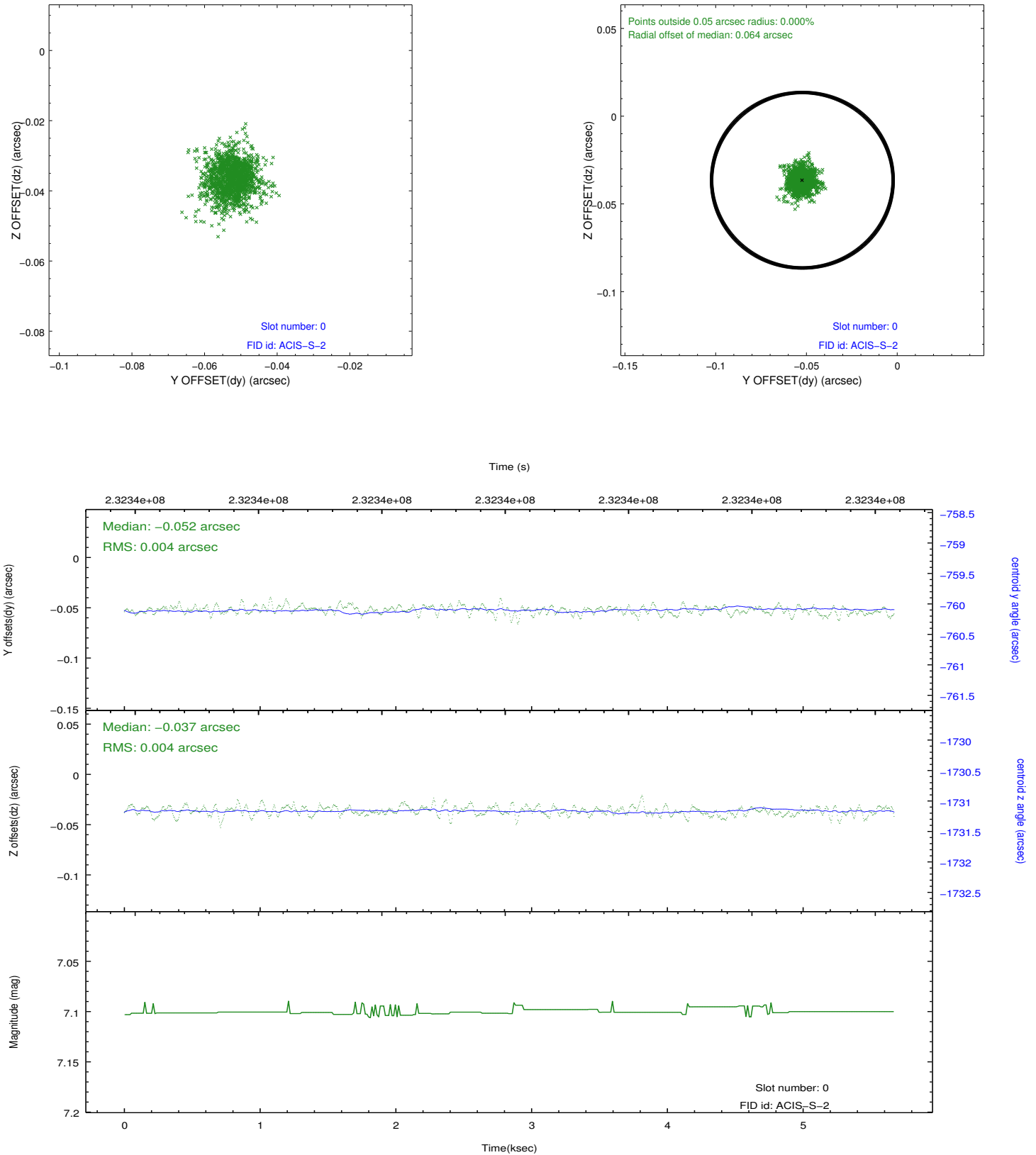


## 2.4.5 Slot 7

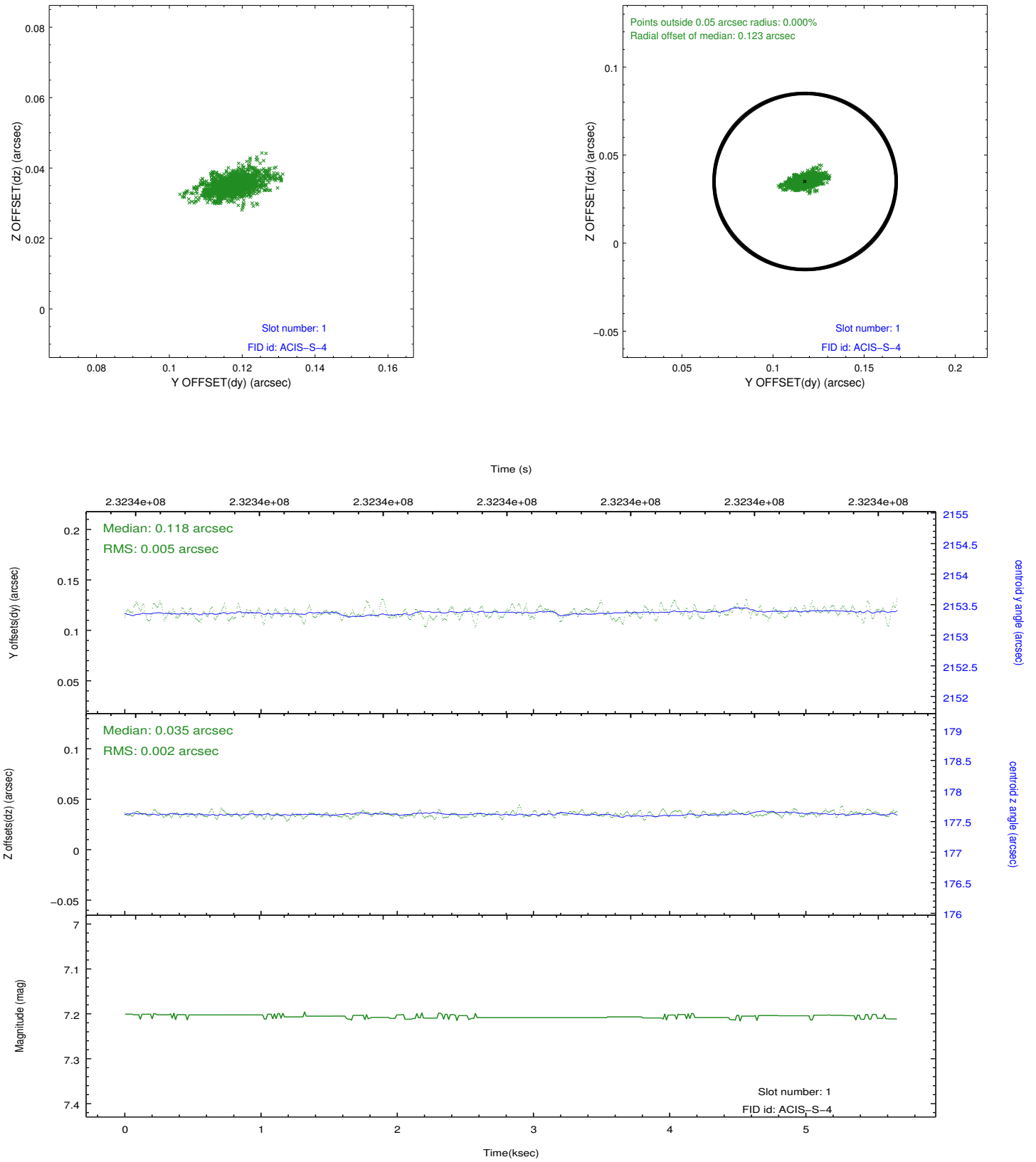


## 2.5 FID Slots

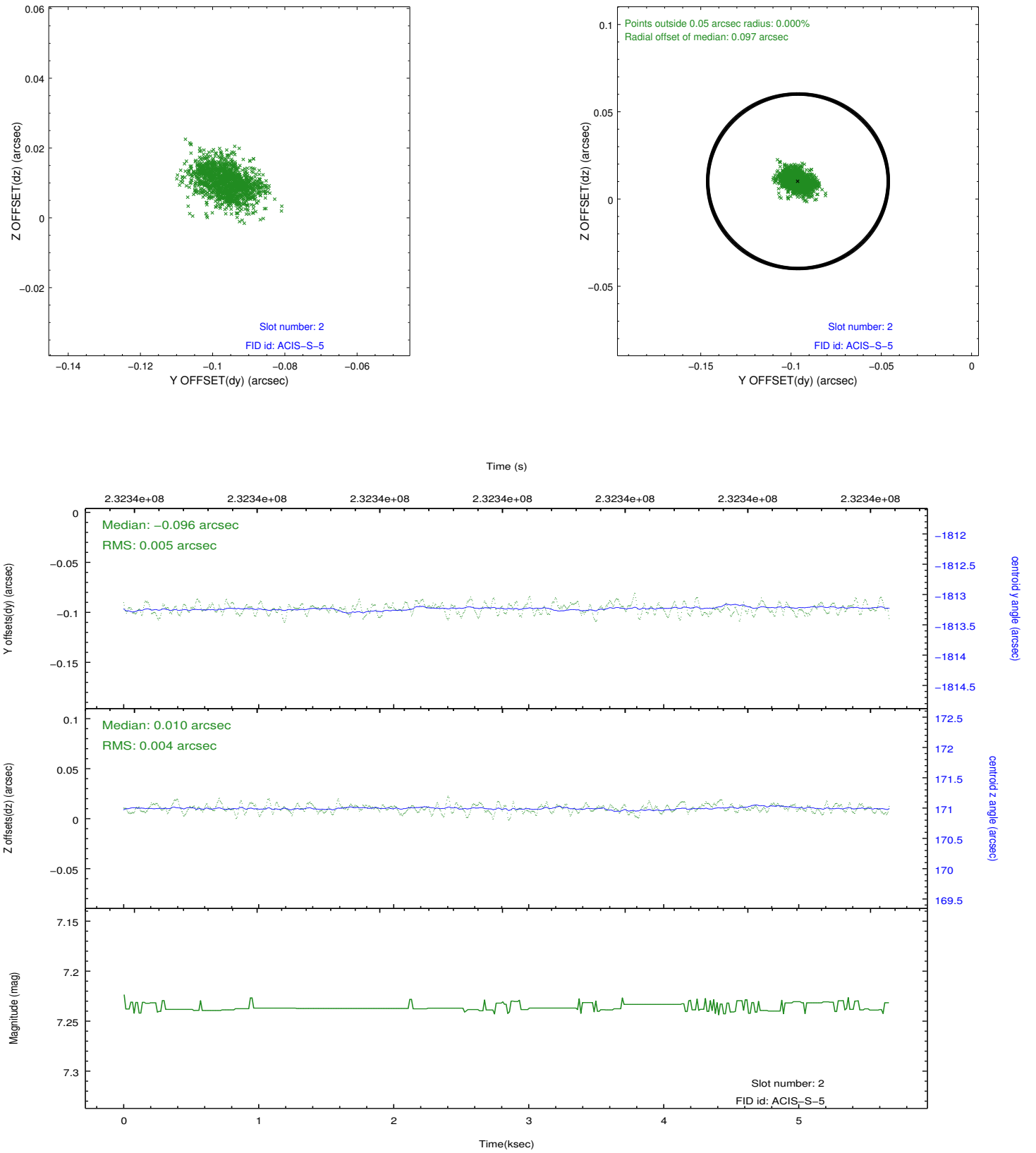
### 2.5.1 Slot 0



## 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)      | 2013.01.15 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 5.6696     |

## A.2 Comments

Window constraint satisfied. Joint Proposal: CX0-HST