

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4116 - L2 Version 3  
Chandra X-Ray Center

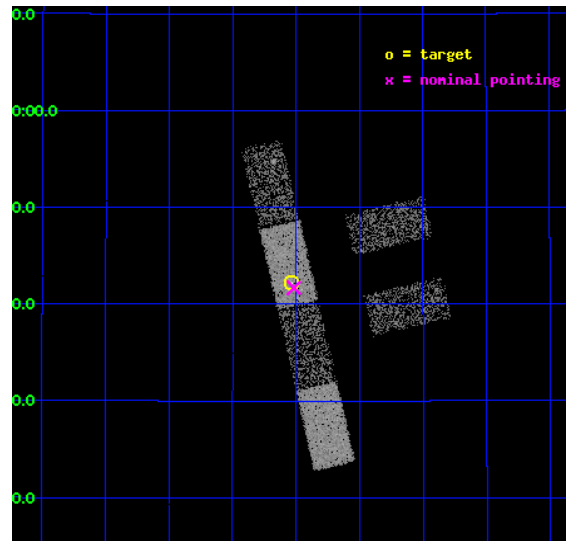
L2 Processing Date : Oct 23 2012

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# 1 Front

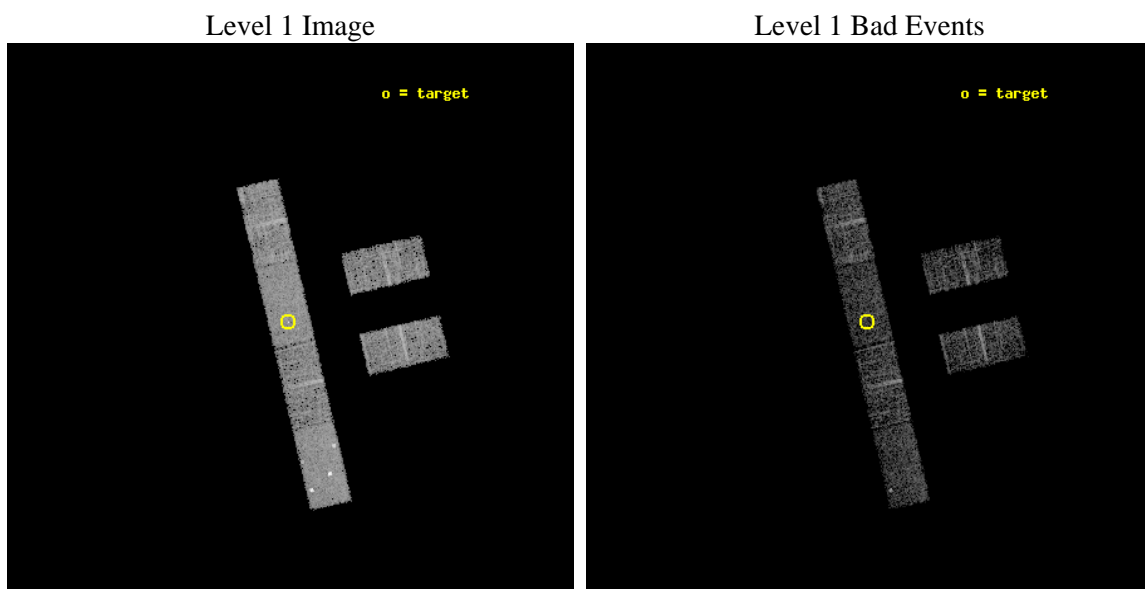
|          |  |   |
|----------|--|---|
| seq_num  | 700795   | Sequence number                             |
| obs_id   | 4116   | Observation id                              |
| title    | WHAT KIND OF JETS DOES NATURE MAKE? X-RAY CHARACTERIZATION OF THE FIRST FLAT SPECTRUM SAMPLE | Proposal title                              |
| observer | Dr. Giovanni Fossati   | Principal investigator                      |
| object   | 87GB 0718+2748   | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 110.383333   | Observer's specified target RA [deg]        |
| dec_targ | 27.703583  | Observer's specified target Dec [deg]       |
| ra_nom   | 110.37920278697  | Nominal RA [deg]                            |
| dec_nom  | 27.694861920601  | Nominal Dec [deg]                           |
| roll_nom | 256.92952657354  | Nominal Roll [deg]                          |
| revision | 3  | Processing version of data                  |
| ontime   | 3645.0000241399  | Sum of GTIs [s]                             |
| livetime | 3563.7466016229  | Livetime [s]                                |
| ontime2  | 3645.0000241399  | Sum of GTIs [s]                             |
| ontime3  | 3645.0000241399  | Sum of GTIs [s]                             |
| ontime5  | 3645.0000241399  | Sum of GTIs [s]                             |
| ontime6  | 3645.0000241399  | Sum of GTIs [s]                             |
| ontime7  | 3645.0000241399  | Sum of GTIs [s]                             |
| ontime8  | 3645.0000241399  | Sum of GTIs [s]                             |
| l2events | 19101  | Number of level 2 events                    |



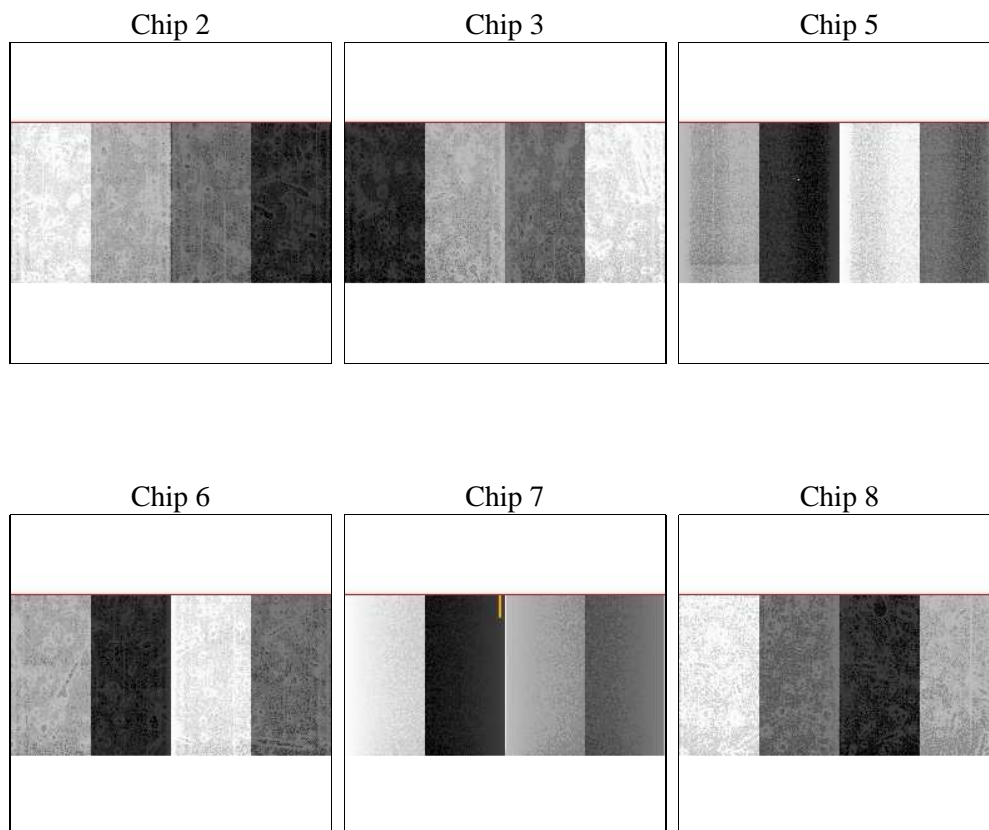
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 3500.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 3645.0000241399 | Sum of GTIs [s]                         |
| caldsver | 4.5.2               | &#160                          | ontime2        | 3645.0000241399 | Sum of GTIs [s]                         |
| date     | 2012-10-23T11:02:02 | Date and time of file creation | ontime3        | 3645.0000241399 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime5        | 3645.0000241399 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 3645.0000241399 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 3645.0000241399 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 3645.0000241399 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 104686          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 14970 | 13950 | 23745 | 14612 | 18502 | 18907 |
| rejected events | 13513 | 12569 | 12601 | 13174 | 11545 | 15776 |
| rejected %      | 90%   | 90%   | 53%   | 90%   | 62%   | 83%   |

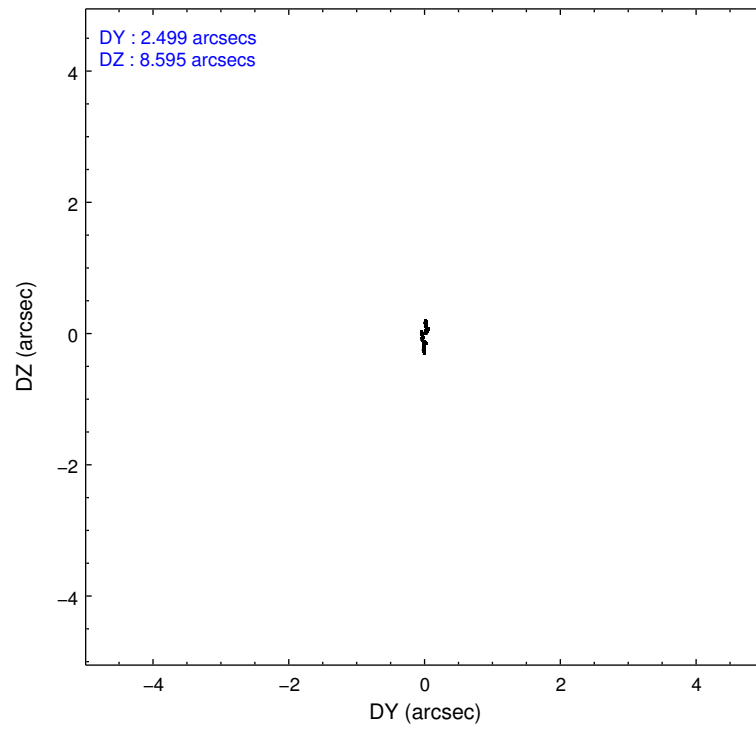
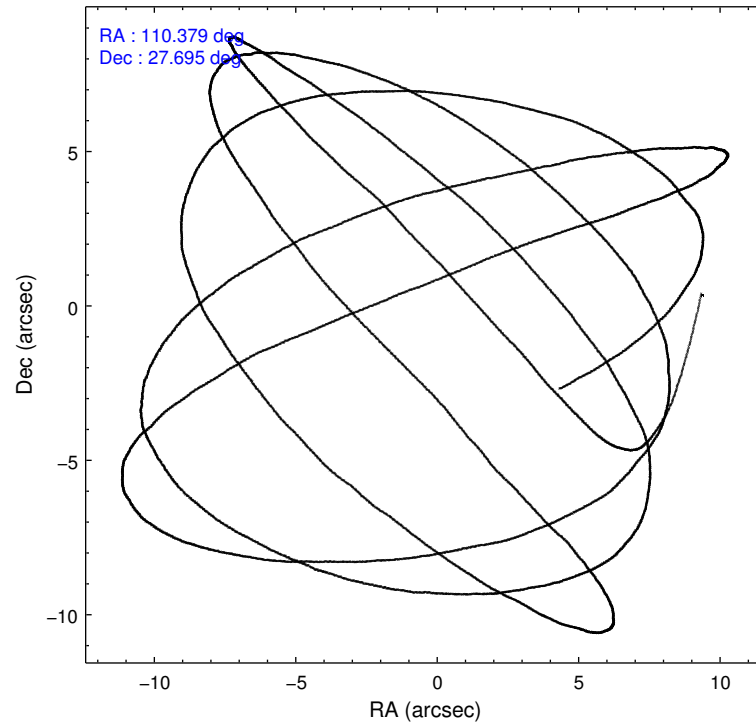
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|-------|
| grade 0 events | 732   | 687   | 4261  | 692   | 825   | 1186  |
|                | 4%    | 4%    | 17%   | 4%    | 4%    | 6%    |
| grade 1 events | 10    | 7     | 39    | 9     | 23    | 6     |
|                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 330   | 298   | 3234  | 278   | 1665  | 703   |
|                | 2%    | 2%    | 13%   | 1%    | 8%    | 3%    |
| grade 3 events | 170   | 195   | 532   | 191   | 787   | 397   |
|                | 1%    | 1%    | 2%    | 1%    | 4%    | 2%    |
| grade 4 events | 175   | 183   | 432   | 190   | 803   | 383   |
|                | 1%    | 1%    | 1%    | 1%    | 4%    | 2%    |
| grade 5 events | 524   | 578   | 1604  | 575   | 1734  | 745   |
|                | 3%    | 4%    | 6%    | 3%    | 9%    | 3%    |
| grade 6 events | 279   | 262   | 4485  | 326   | 3959  | 968   |
|                | 1%    | 1%    | 18%   | 2%    | 21%   | 5%    |
| grade 7 events | 12750 | 11740 | 9158  | 12351 | 8706  | 14519 |
|                | 85%   | 84%   | 38%   | 84%   | 47%   | 76%   |

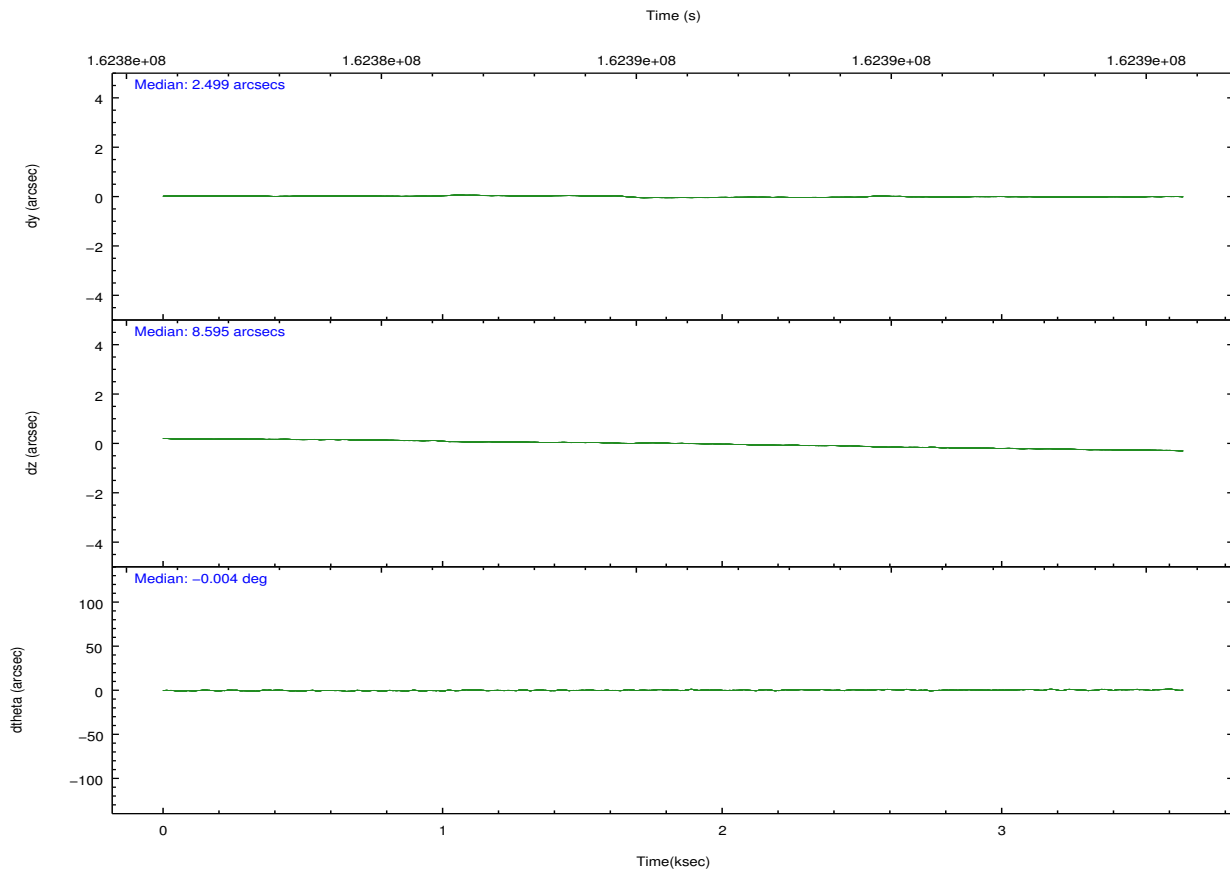
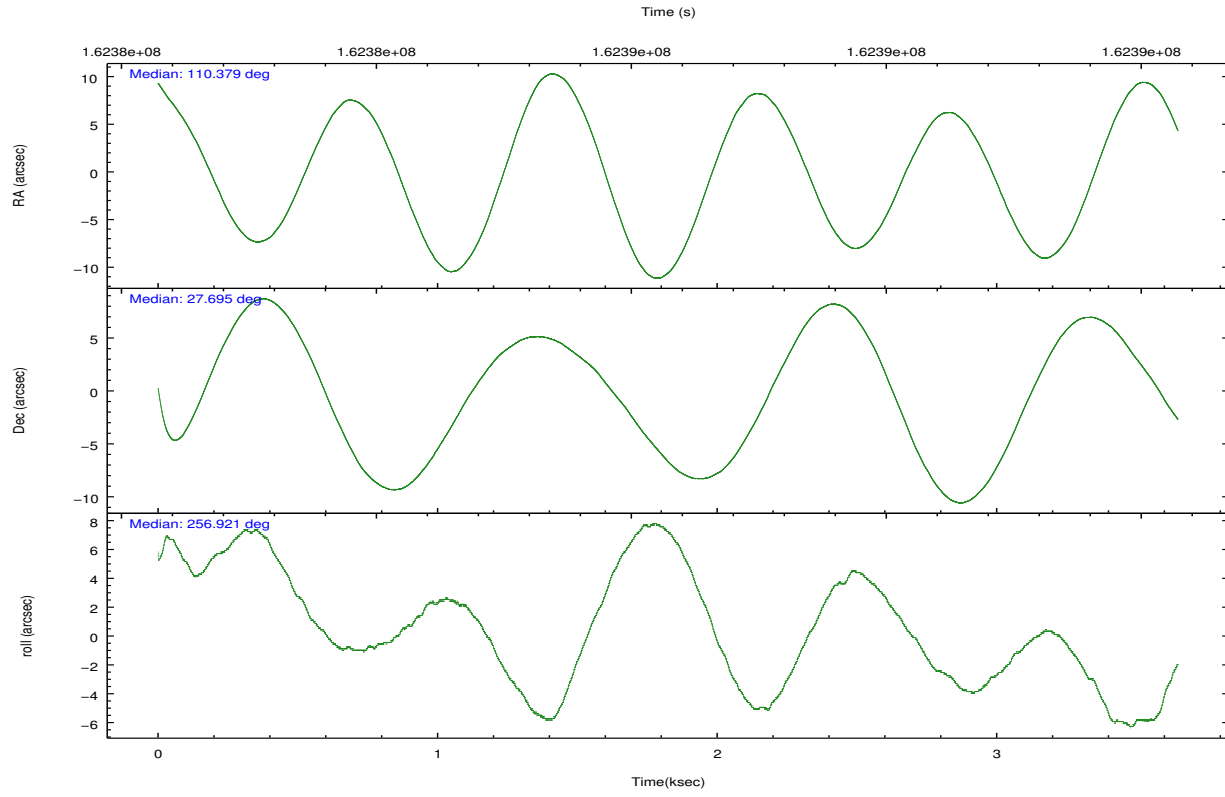


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-235678         | ACIS-235678          | 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                 | 110.369674          | 110.3792027869728    | Subarray requested                    | CUSTOM    | 1/2     |
| [deg] Pointing Dec                | 27.720633           | 27.69486192060063    | Subarray start row                    | 257       | 257     |
| [deg] Pointing Roll               | 256.777326          | 256.9295265735433    | Subarray row count                    | 512       | 512     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | Alternating exposures requested       | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | [s] Primary exposure time             | 0.000000  | 1.8     |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 162384468.184000    | 162383342.17333      |                                       |           |         |
| Observation start date            | 2003-02-23T10:46:44 | 2003-02-23T10:29:02  |                                       |           |         |
| [s] Observation end time (MET)    | 162387968.184000    | 162388480.49855      |                                       |           |         |
| Observation end date              | 2003-02-23T11:45:04 | 2003-02-23T11:54:40  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



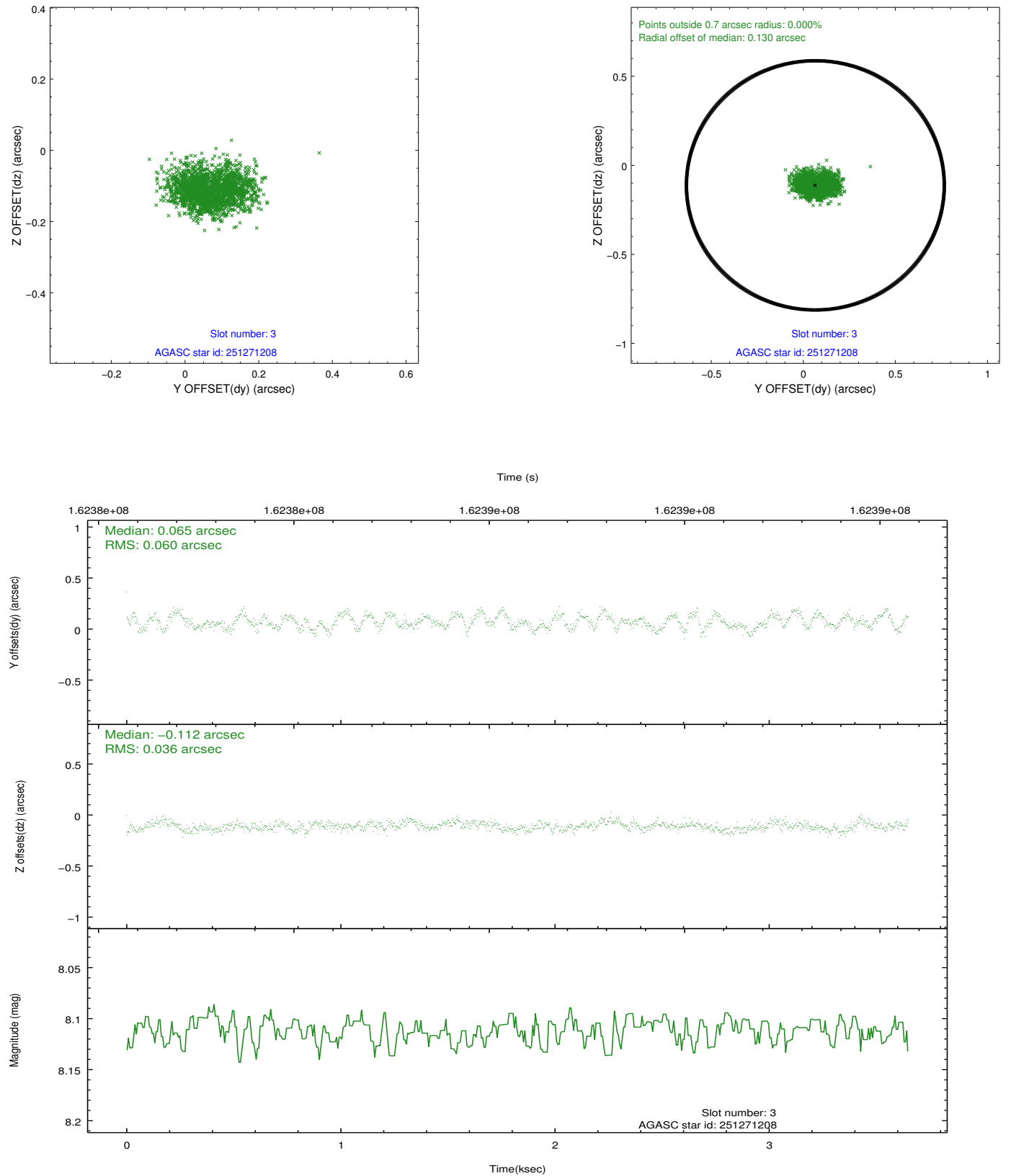


### Slot Statistics

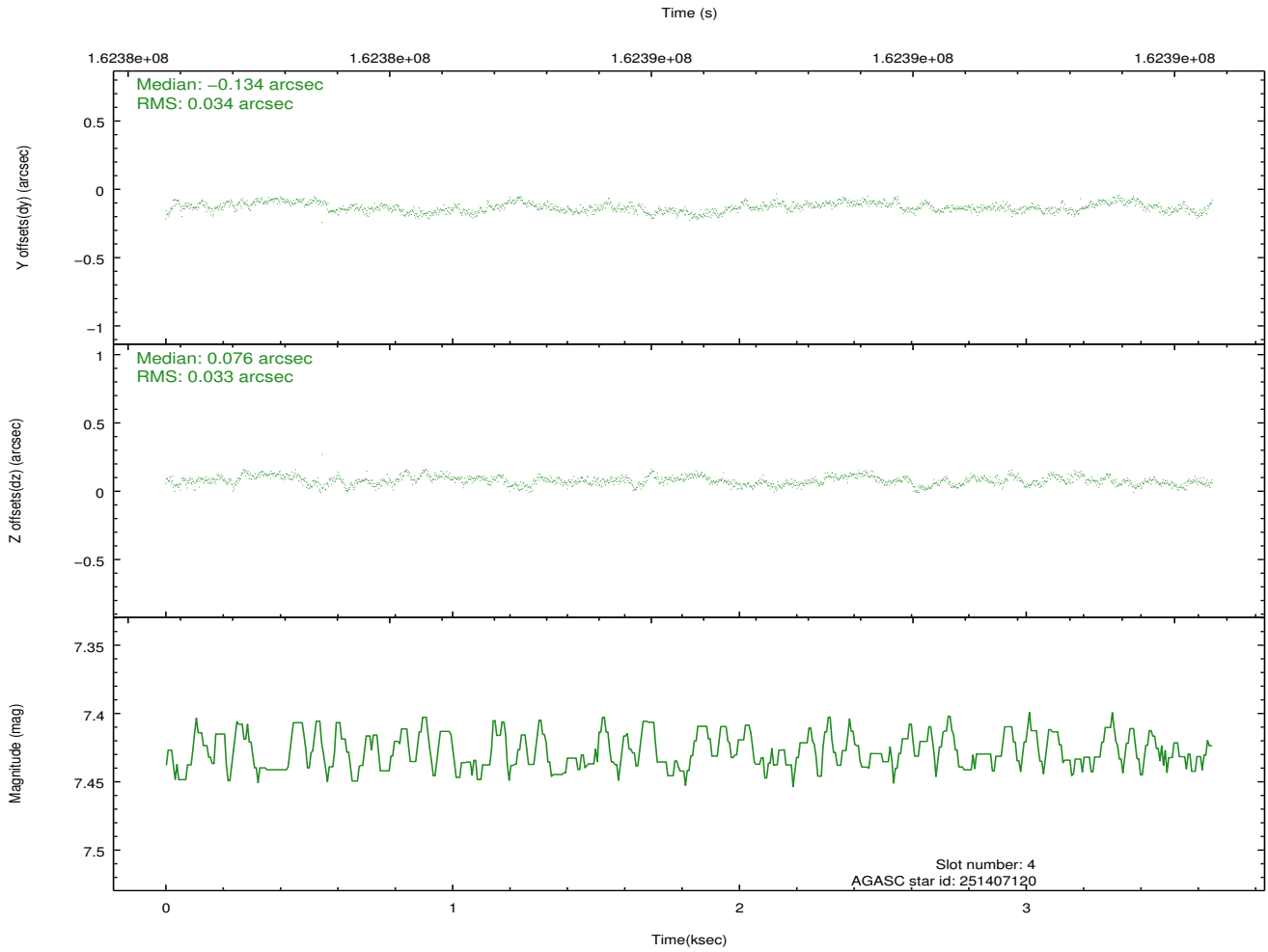
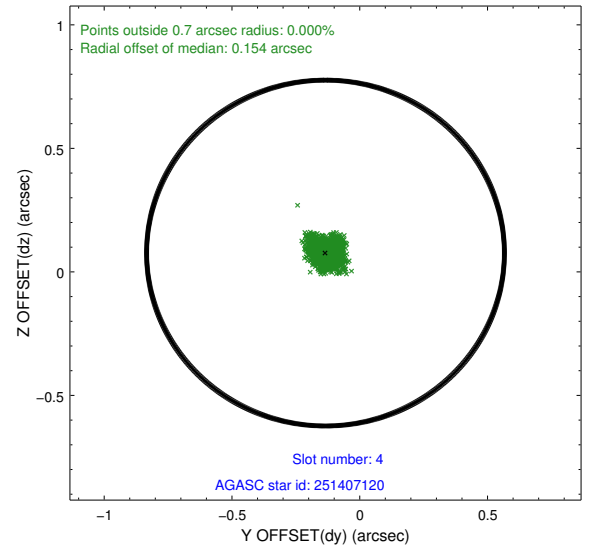
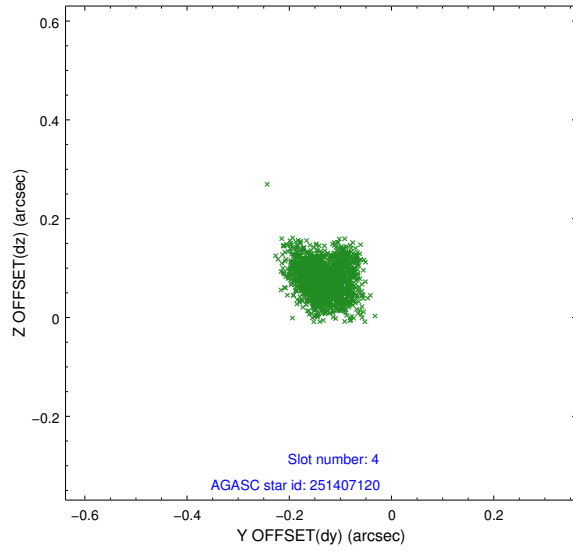
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.10 | 890   | -0.021 | -0.007 | 0.007 | 0.011 | 0.000000   | 0.000000  | -755.15  | -1729.78 |
| 1    | FID    | ACIS-S-4  | 7.20 | 890   | -0.022 | 0.012  | 0.005 | 0.011 | 0.000000   | 0.000000  | 2157.35  | 176.94   |
| 2    | FID    | ACIS-S-5  | 7.24 | 891   | 0.011  | 0.005  | 0.007 | 0.012 | 0.000000   | 0.000000  | -1805.74 | 172.56   |
| 3    | GUIDE  | 251271208 | 8.11 | 1781  | 0.065  | -0.112 | 0.075 | 0.119 | 109.620289 | 27.252852 | 2182.42  | -1950.63 |
| 4    | GUIDE  | 251407120 | 7.43 | 1780  | -0.134 | 0.076  | 0.051 | 0.080 | 110.985598 | 27.794519 | -710.68  | 1846.25  |
| 5    | GUIDE  | 251799824 | 9.55 | 1781  | -0.035 | 0.083  | 0.101 | 0.162 | 110.698742 | 28.158561 | -1774.73 | 656.62   |
| 6    | GUIDE  | 251276032 | 9.80 | 1781  | 0.119  | -0.094 | 0.125 | 0.198 | 109.696777 | 27.274835 | 2049.29  | -1729.91 |
| 7    | GUIDE  | 251408192 | 9.26 | 1779  | -0.021 | 0.043  | 0.110 | 0.182 | 111.193296 | 27.883590 | -1177.63 | 2413.97  |

## 2.4 Star Slots

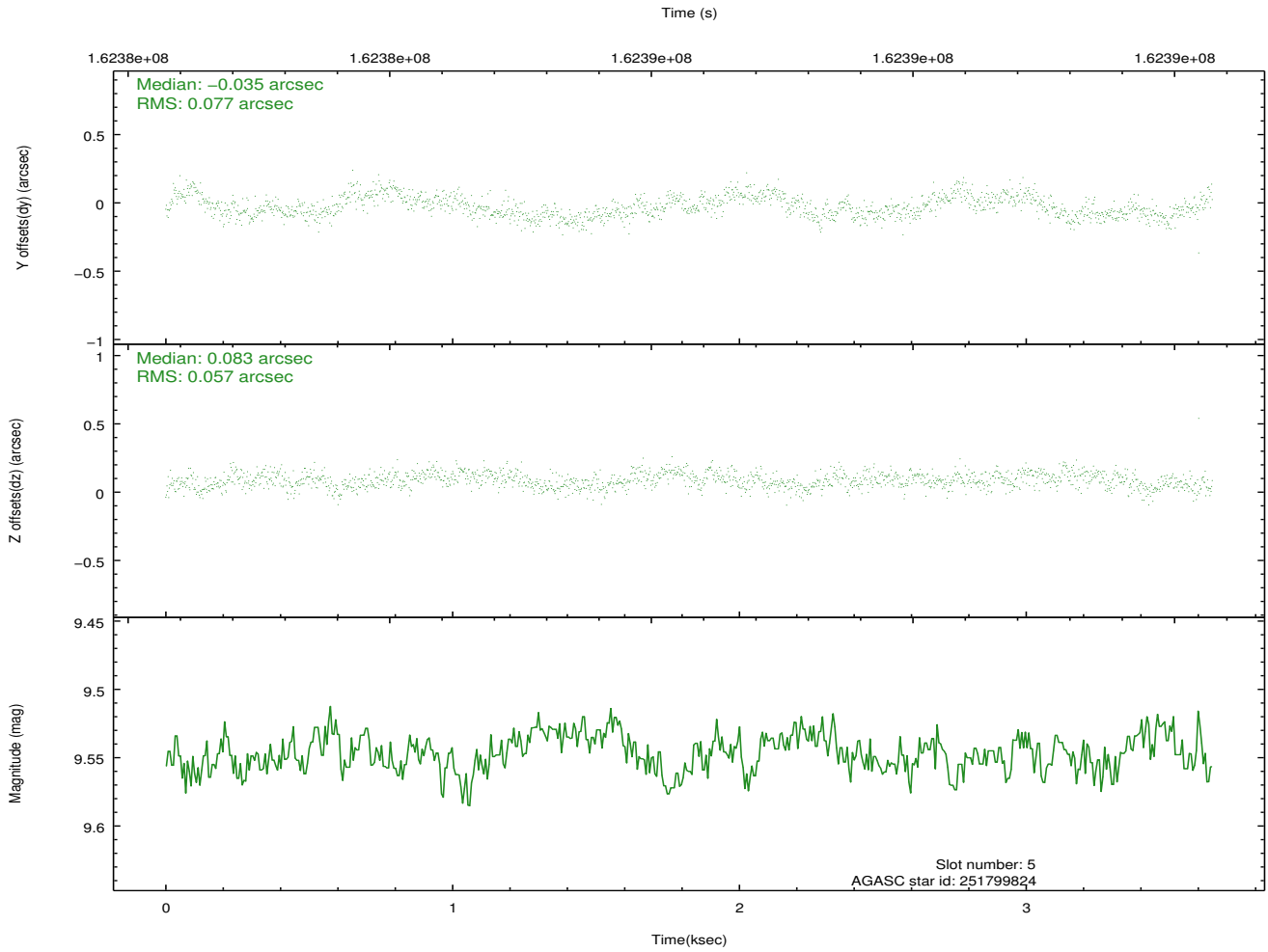
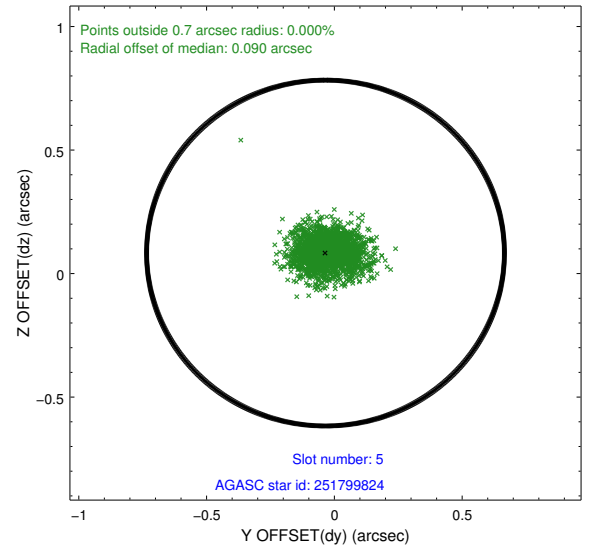
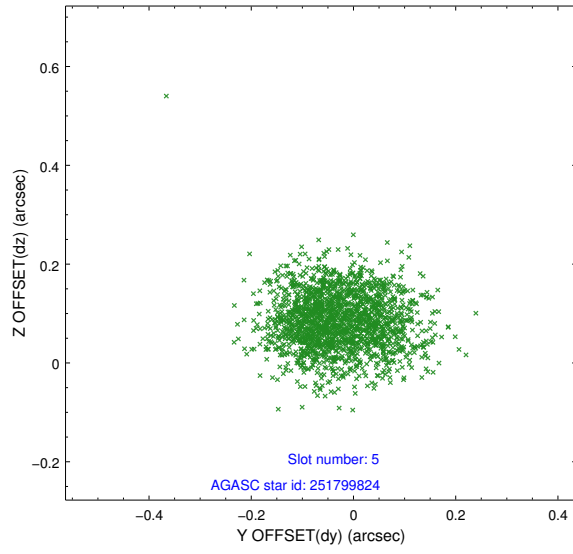
### 2.4.1 Slot 3



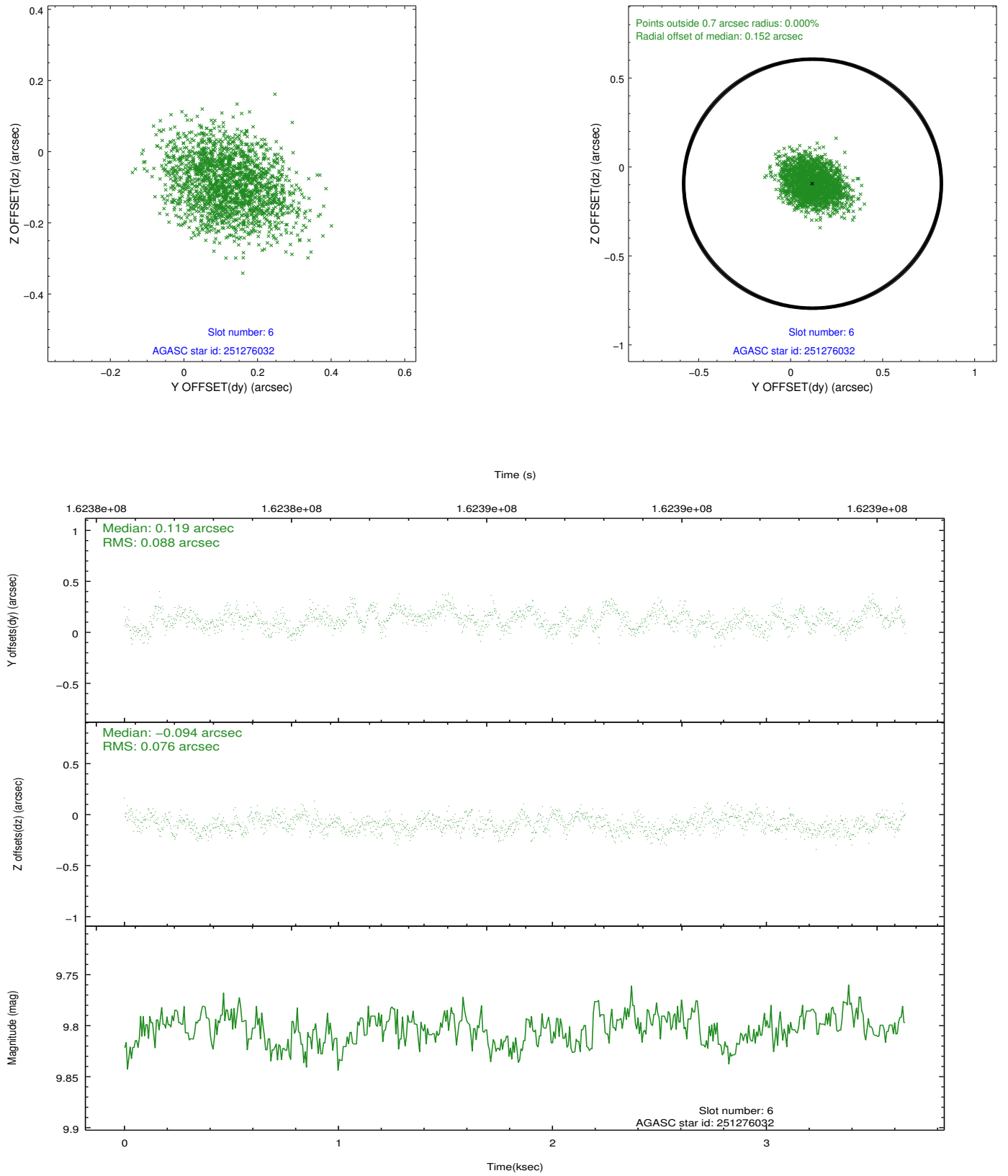
## 2.4.2 Slot 4



### 2.4.3 Slot 5

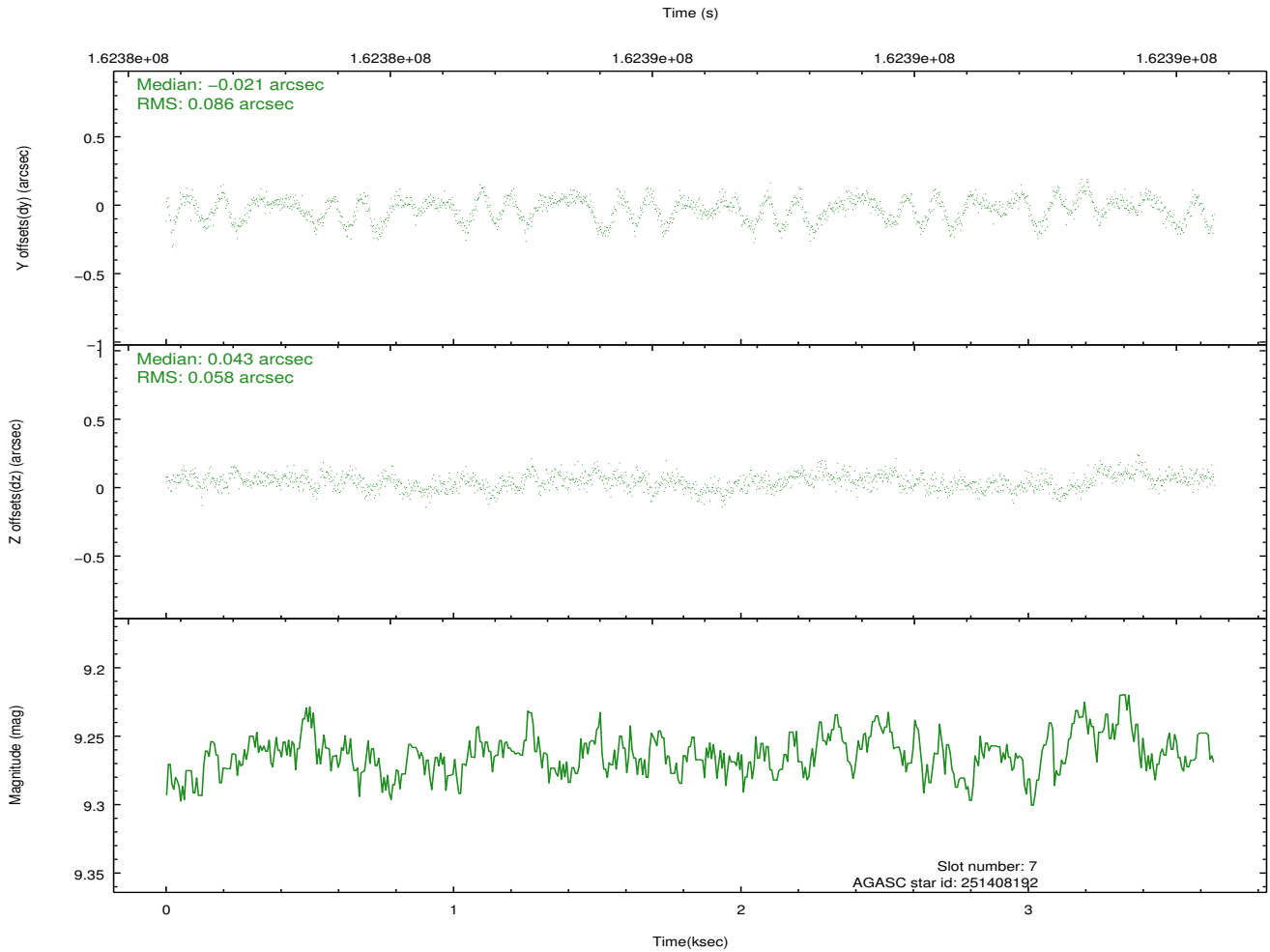
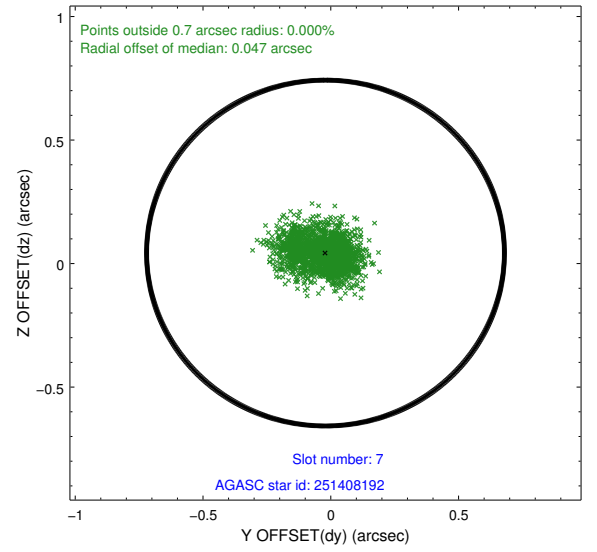
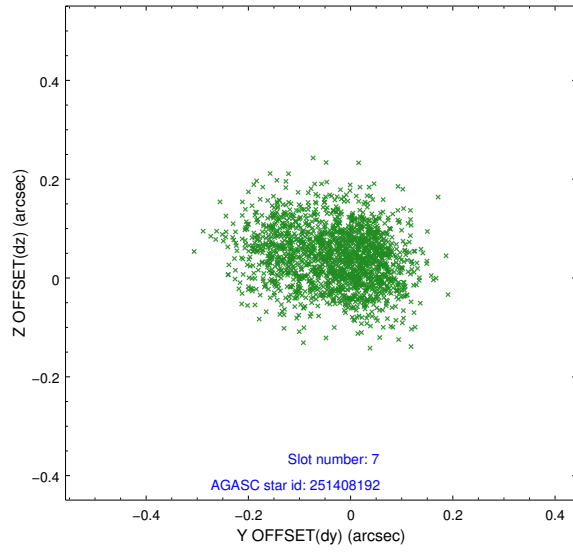


## 2.4.4 Slot 6



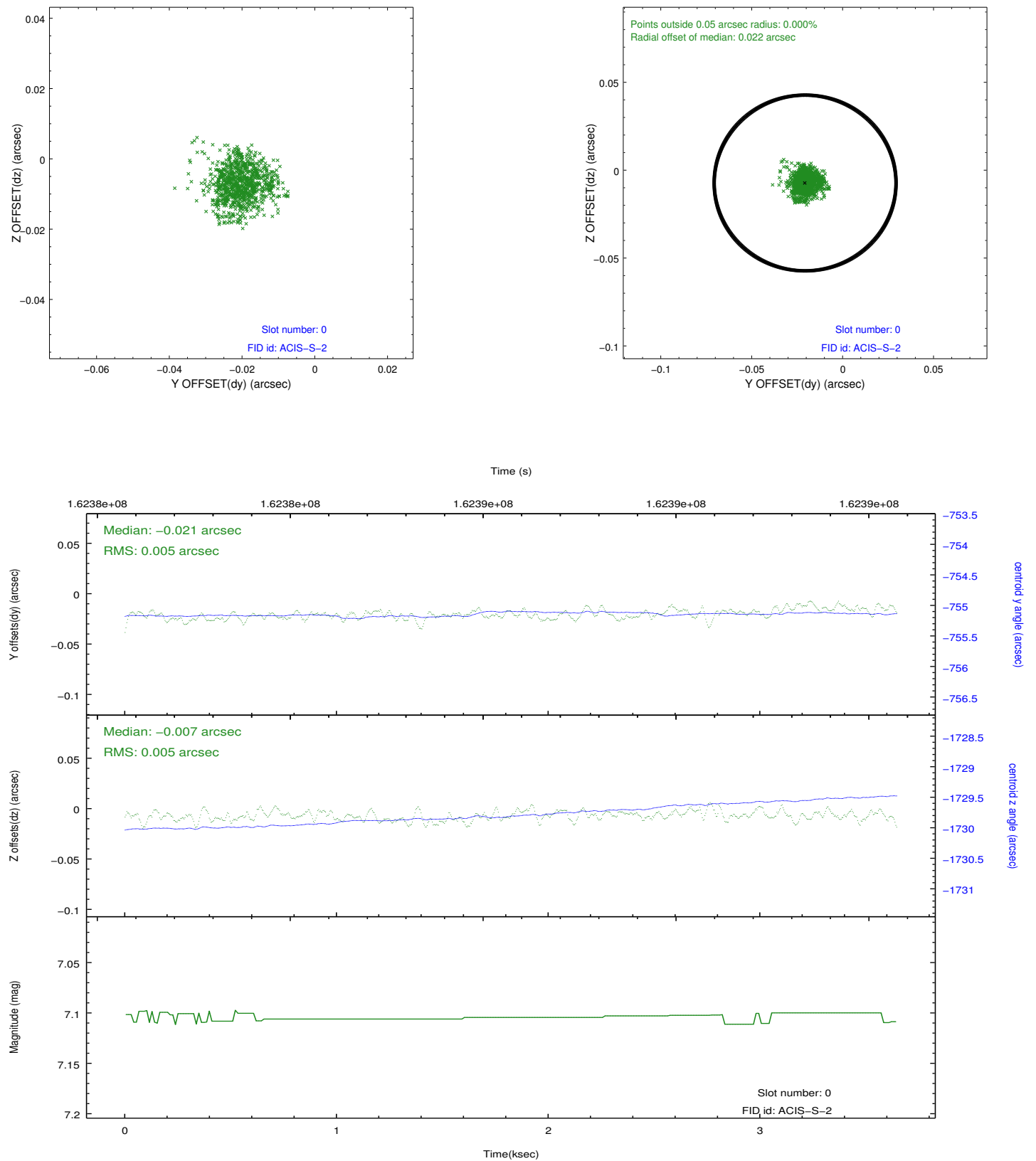


## 2.4.5 Slot 7

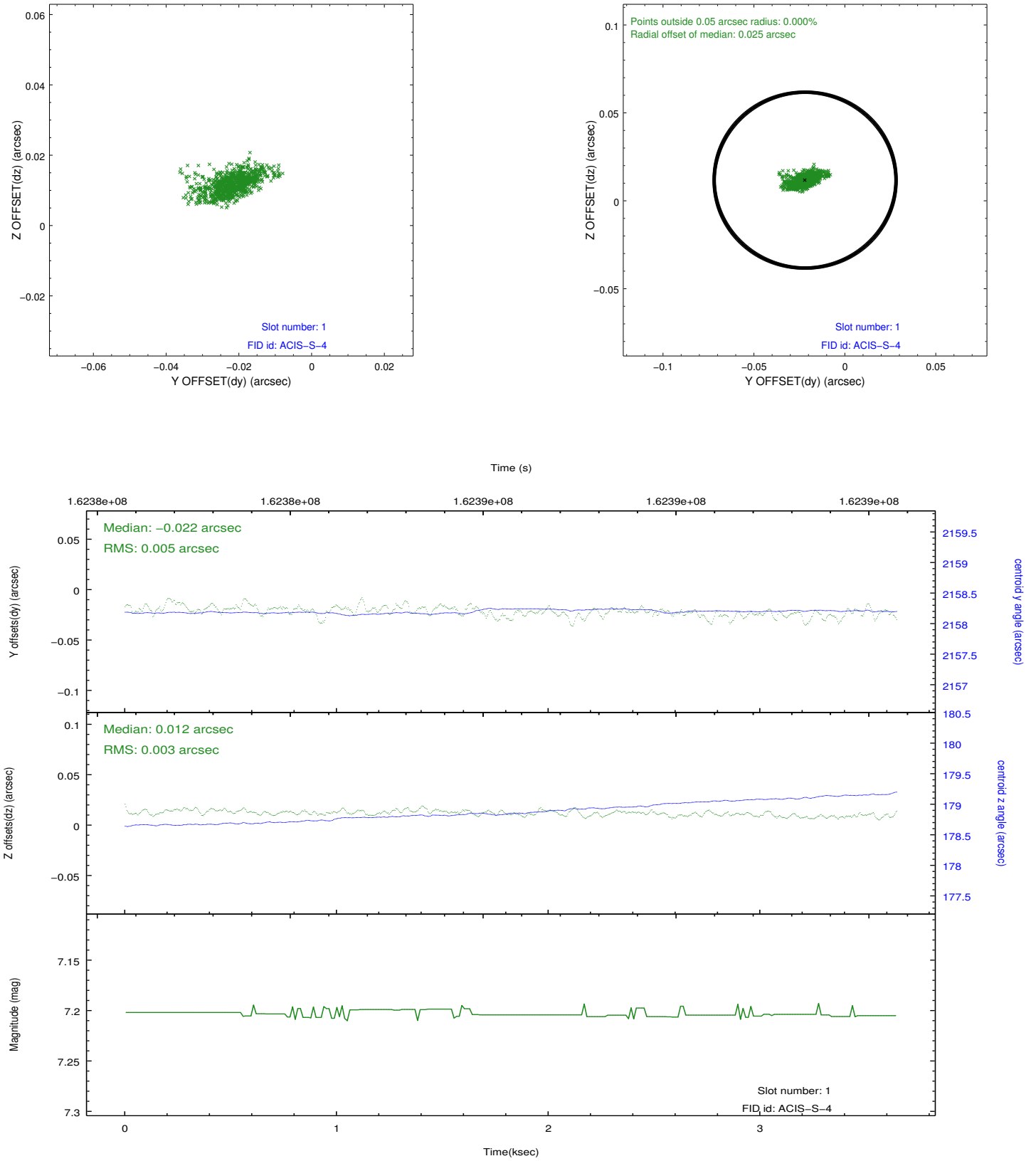


## 2.5 FID Slots

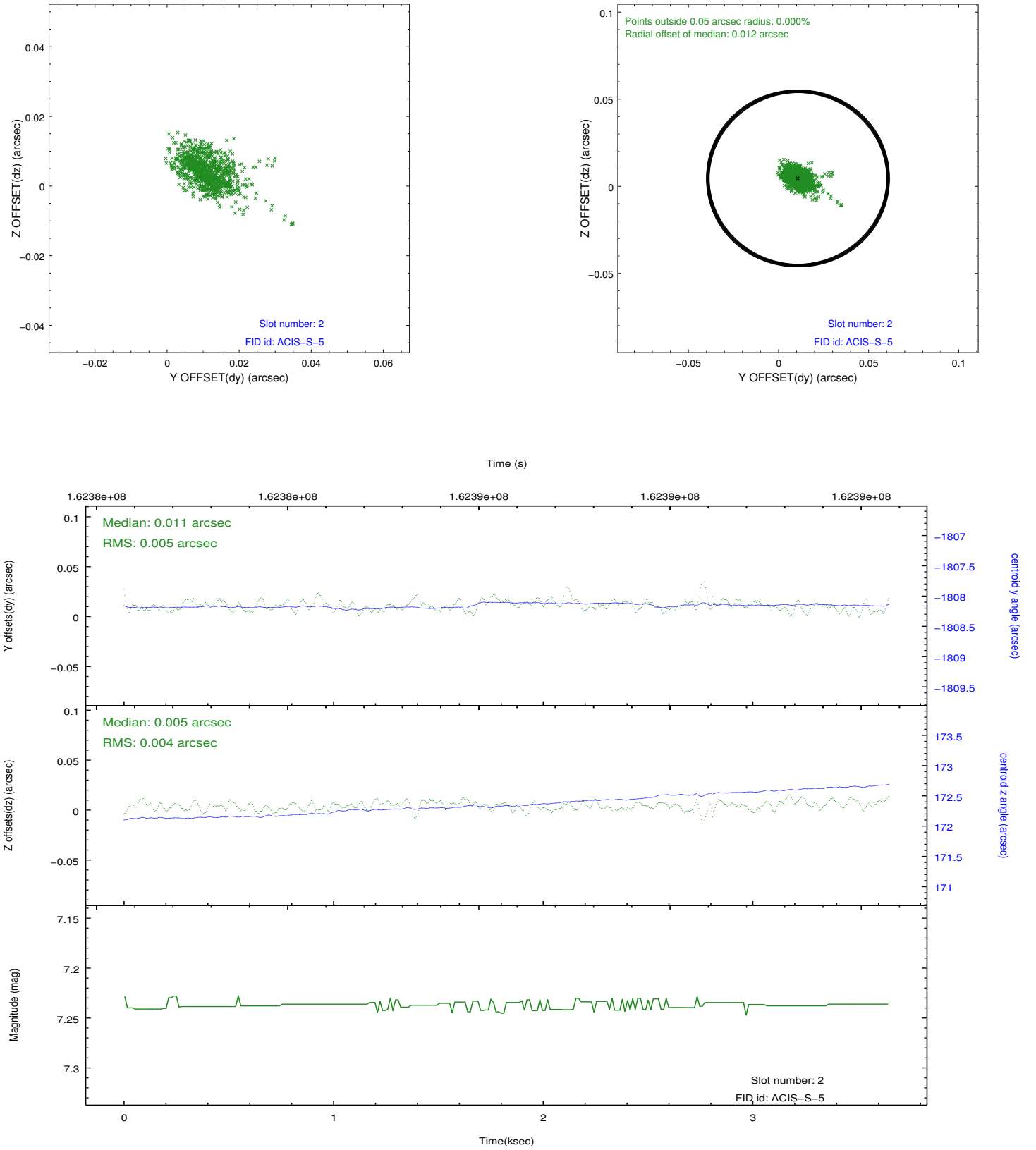
### 2.5.1 Slot 0



## 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)      | 2012.11.07 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 3.645      |

### **A.2 Comments**