

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 664 - L2 Version 5  
Chandra X-Ray Center

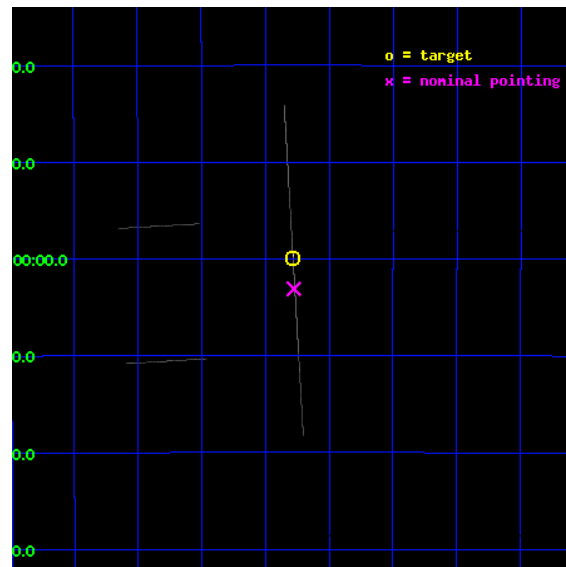
L2 Processing Date : Aug 25 2012

## Contents

|          |                               |           |
|----------|-------------------------------|-----------|
| <b>1</b> | <b>Front</b>                  | <b>2</b>  |
| <b>2</b> | <b>OBI</b>                    | <b>3</b>  |
| 2.1      | OBI . . . . .                 | 3         |
| 2.1.1    | Images . . . . .              | 3         |
| 2.1.2    | Bias . . . . .                | 3         |
| 2.1.3    | Parameters . . . . .          | 4         |
| 2.1.4    | Events . . . . .              | 4         |
| 2.2      | Compared Parameters . . . . . | 5         |
| 2.3      | Aspect . . . . .              | 6         |
| 2.4      | Star Slots . . . . .          | 9         |
| 2.4.1    | Slot 3 . . . . .              | 9         |
| 2.4.2    | Slot 4 . . . . .              | 10        |
| 2.4.3    | Slot 5 . . . . .              | 11        |
| 2.4.4    | Slot 6 . . . . .              | 12        |
| 2.5      | FID Slots . . . . .           | 13        |
| 2.5.1    | Slot 0 . . . . .              | 13        |
| 2.5.2    | Slot 1 . . . . .              | 14        |
| 2.5.3    | Slot 2 . . . . .              | 15        |
| <b>A</b> | <b>Summary</b>                | <b>16</b> |
| A.1      | Status . . . . .              | 16        |
| A.2      | Comments . . . . .            | 16        |

# 1 Front

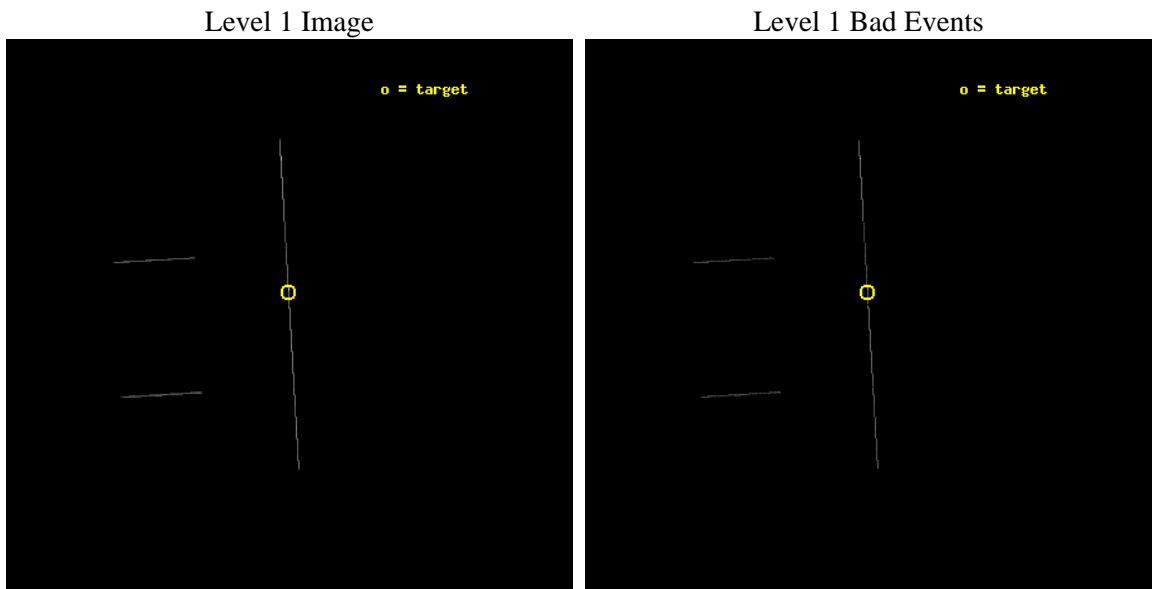
|          |  |                                       |
|----------|--|---------------------------------------|
| seq_num  | 400031                                       | Sequence number                       |
| obs_id   | 664  | Observation id                        |
| title    | THE FAINTEST 'FIELD' LOW-MASS X-RAY BINARIES | Proposal title                        |
| observer | PROF MICHIEL VAN DER KLIS                    | Principal investigator                |
| object   | 1735-269                                     | Source name                           |
| ra_targ  | 264.570833                                   | Observer's specified target RA [deg]  |
| dec_targ | -26.998667                                   | Observer's specified target Dec [deg] |
| ra_nom   | 264.56908658042                              | Nominal RA [deg]                      |
| dec_nom  | -27.051605399173                             | Nominal Dec [deg]                     |
| roll_nom | 86.626110733856                              | Nominal Roll [deg]                    |
| revision | 5  | Processing version of data            |
| ontime   | 1393.5                                       | Sum of GTIs [s]                       |
| livetime | 1388.056640625                               | Livetime [s]                          |
| ontime2  | 1393.5                                       | Sum of GTIs [s]                       |
| ontime3  | 1393.5                                       | Sum of GTIs [s]                       |
| ontime5  | 1393.5                                       | Sum of GTIs [s]                       |
| ontime6  | 1393.5                                       | Sum of GTIs [s]                       |
| ontime7  | 1393.5                                       | Sum of GTIs [s]                       |
| ontime8  | 1393.5                                       | Sum of GTIs [s]                       |
| l2events | 28307  | Number of level 2 events              |



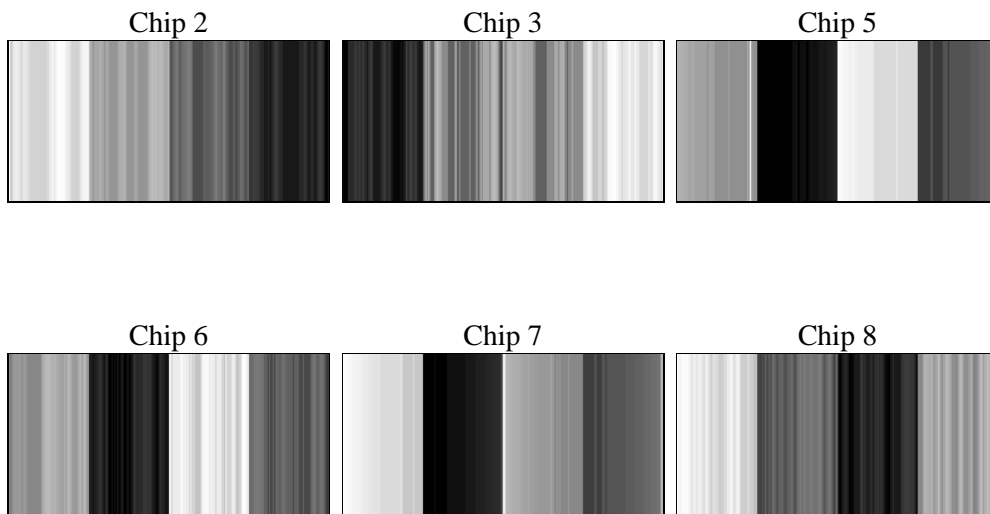
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |             |   |
|----------|---------------------|--------------------------------|----------------|-------------|---|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 1000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 1393.5      | Sum of GTIs [s]                         |
| caldsver | 4.5.1.1             | &#160                          | ontime2        | 1393.5      | Sum of GTIs [s]                         |
| date     | 2012-08-25T03:23:53 | Date and time of file creation | ontime3        | 1393.5      | Sum of GTIs [s]                         |
| revision | 5                   | Processing version of data     | ontime5        | 1393.5      | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 1393.5      | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 1393.5      | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 1393.5      | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 49060       | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 2307  | 2478  | 12134 | 20027 | 6931  | 5183  |
| rejected events | 997   | 1077  | 4777  | 2736  | 3230  | 2126  |
| rejected %      | 43%   | 43%   | 39%   | 13%   | 46%   | 41%   |

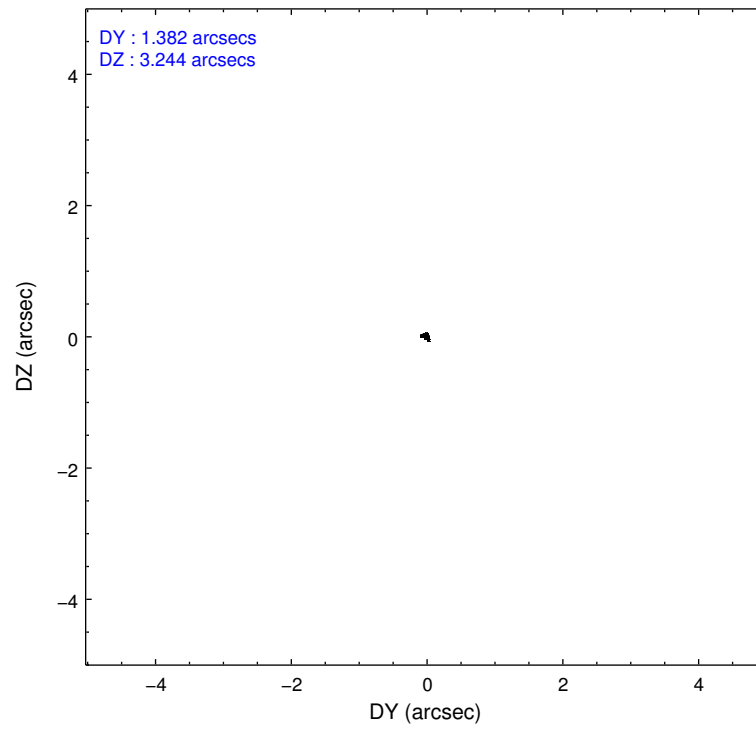
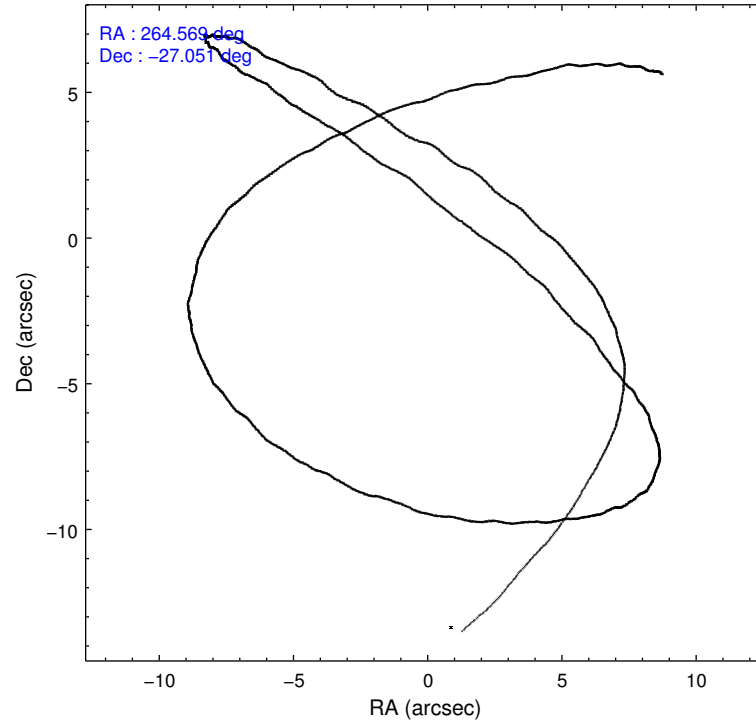
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|-------|
| grade 0 events | 256   | 271   | 4337  | 5337  | 825   | 904   |
|                | 11%   | 10%   | 35%   | 26%   | 11%   | 17%   |
| grade 1 events | 9     | 8     | 14    | 71    | 12    | 14    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 716   | 627   | 2818  | 10801 | 1568  | 1406  |
|                | 31%   | 25%   | 23%   | 53%   | 22%   | 27%   |
| grade 3 events | 390   | 510   | 276   | 714   | 524   | 675   |
|                | 16%   | 20%   | 2%    | 3%    | 7%    | 13%   |
| grade 4 events | 407   | 430   | 262   | 698   | 568   | 678   |
|                | 17%   | 17%   | 2%    | 3%    | 8%    | 13%   |
| grade 5 events | 274   | 306   | 864   | 529   | 953   | 521   |
|                | 11%   | 12%   | 7%    | 2%    | 13%   | 10%   |
| grade 6 events | 255   | 326   | 3563  | 1877  | 2481  | 985   |
|                | 11%   | 13%   | 29%   | 9%    | 35%   | 19%   |
| grade 7 events | 0     | 0     | 0     | 0     | 0     | 0     |
|                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |

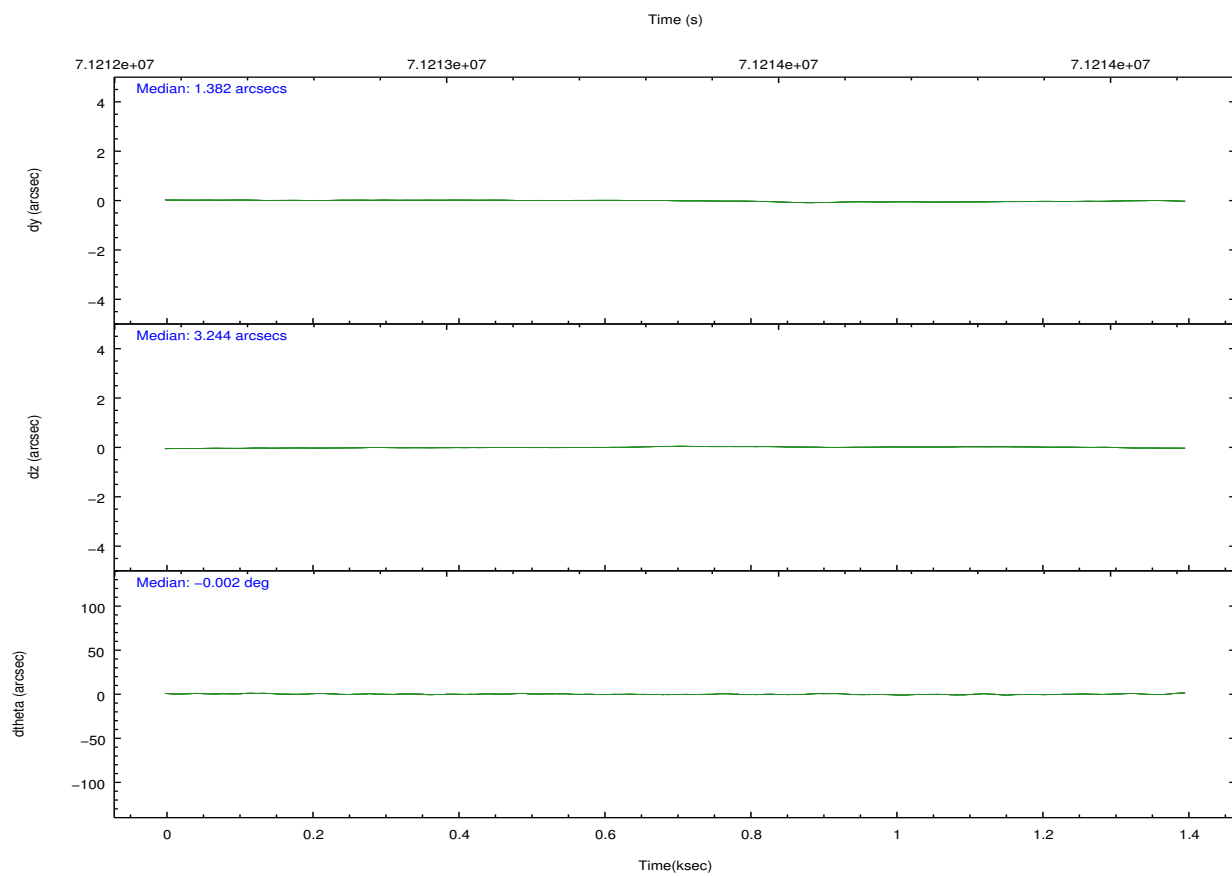
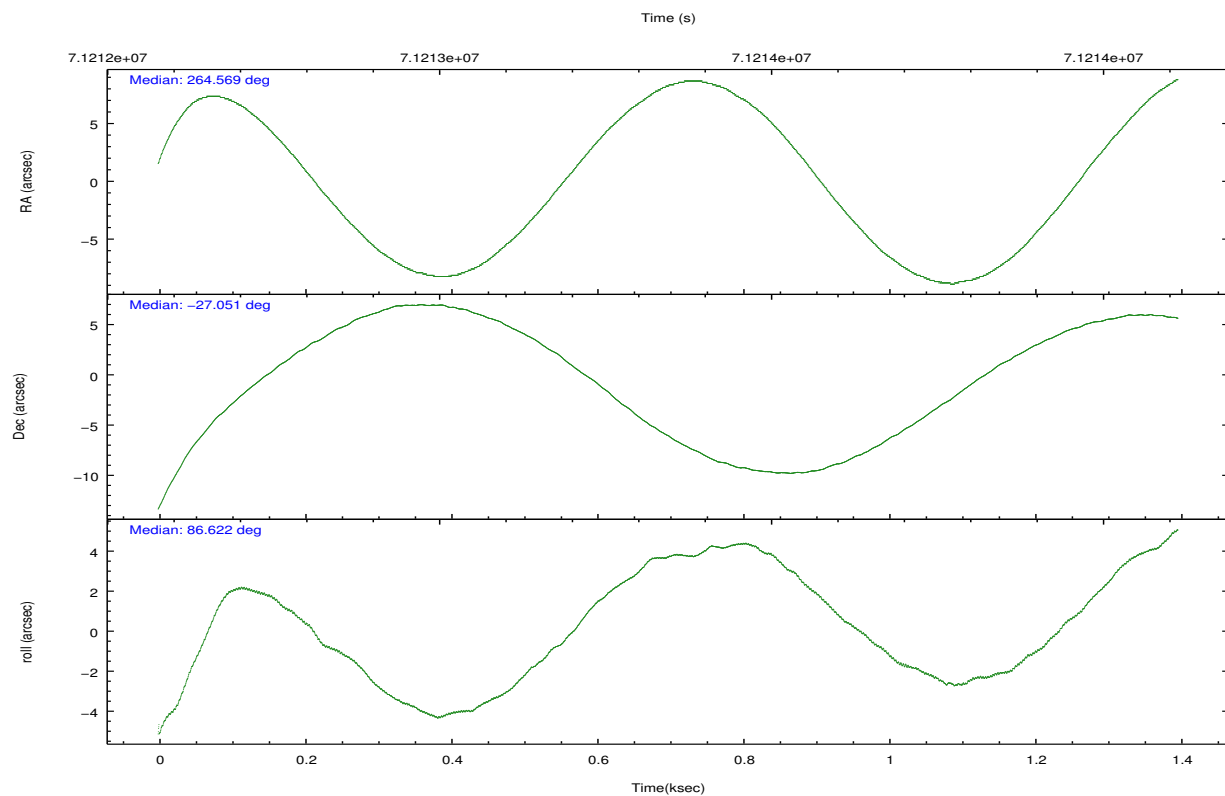
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | ACIS                | ACIS                 |
| Detector                          | ACIS-235678         | ACIS-235678          |
| Grating                           | NONE                | NONE                 |
| Data mode                         | CC33_FAINT          | CC33_FAINT           |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 264.583082          | 264.5690865804211    |
| [deg] Pointing Dec                | -27.076318          | -27.0516053991731    |
| [deg] Pointing Roll               | 86.475927           | 86.62611073385554    |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |
| [mm] SIM translation stage pos    | -182.132523         | -182.1370004450064   |
| [mm] SIM translation stage offset | -8                  | -7.995522138001405   |
| [s] Observation start time (MET)  | 71213043.184000     | 71211885.08597299    |
| Observation start date            | 2000-04-04T05:22:59 | 2000-04-04T05:04:45  |
| [s] Observation end time (MET)    | 71214043.184000     | 71214862.711082      |
| Observation end date              | 2000-04-04T05:39:39 | 2000-04-04T05:54:22  |
| Read mode                         | CONTINUOUS          | CONTINUOUS           |

| Parameter                             | Planned   | Actual  |
|---------------------------------------|-----------|---------|
| Obspar format version number          | 7         | 7       |
| Obspar file type                      | PREDICTED | ACTUAL  |
| Obspar update status                  | NONE      | UPDATED |
| Number of optional ACIS chips dropped | 0         | 0       |
| On-chip summing requested             | N         | N       |
| Subarray requested                    | NONE      | NONE    |
| Alternating exposures requested       | N         | N       |
| [s] Primary exposure time             | 0.000000  | 0       |

## 2.3 Aspect



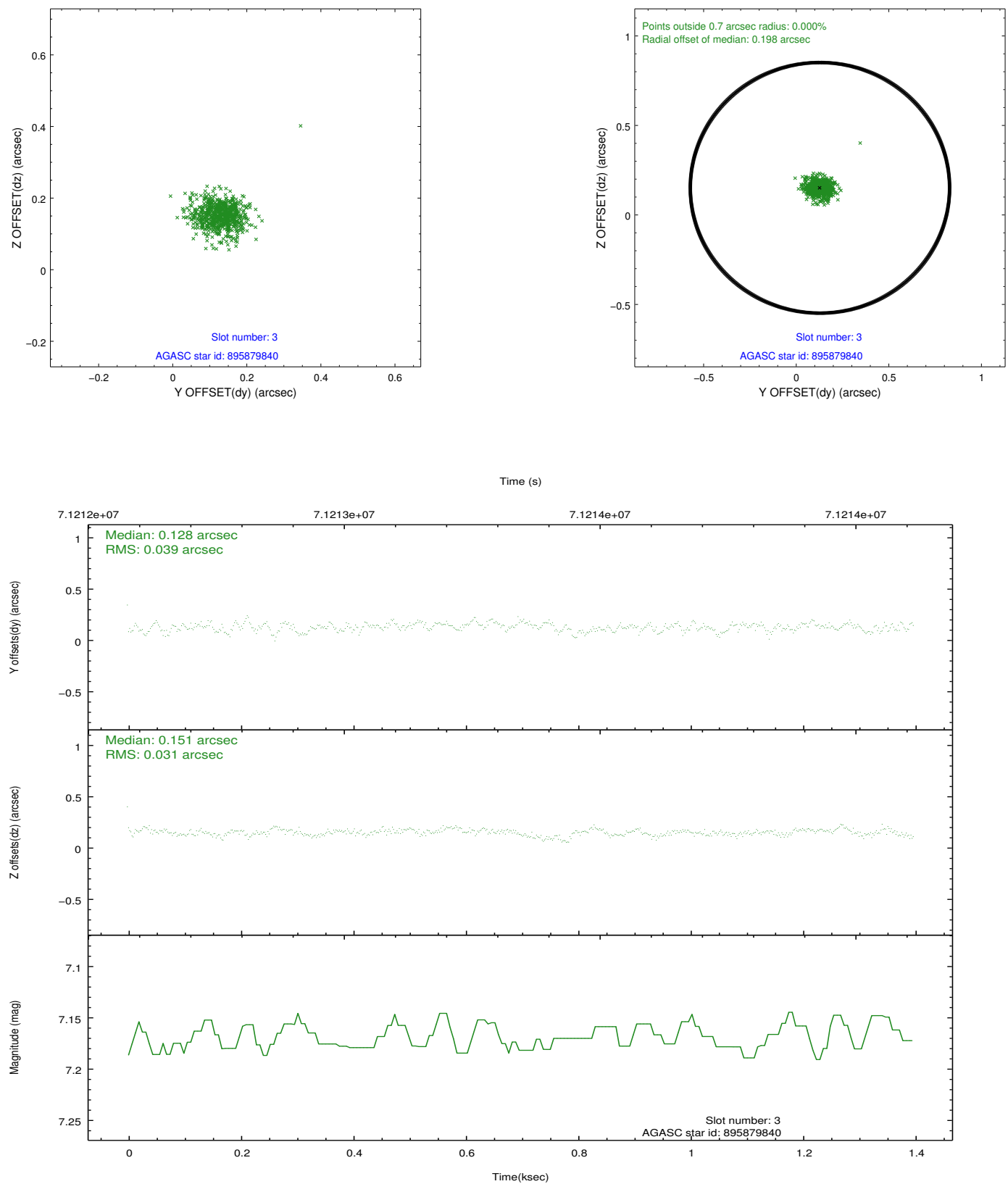


### Slot Statistics

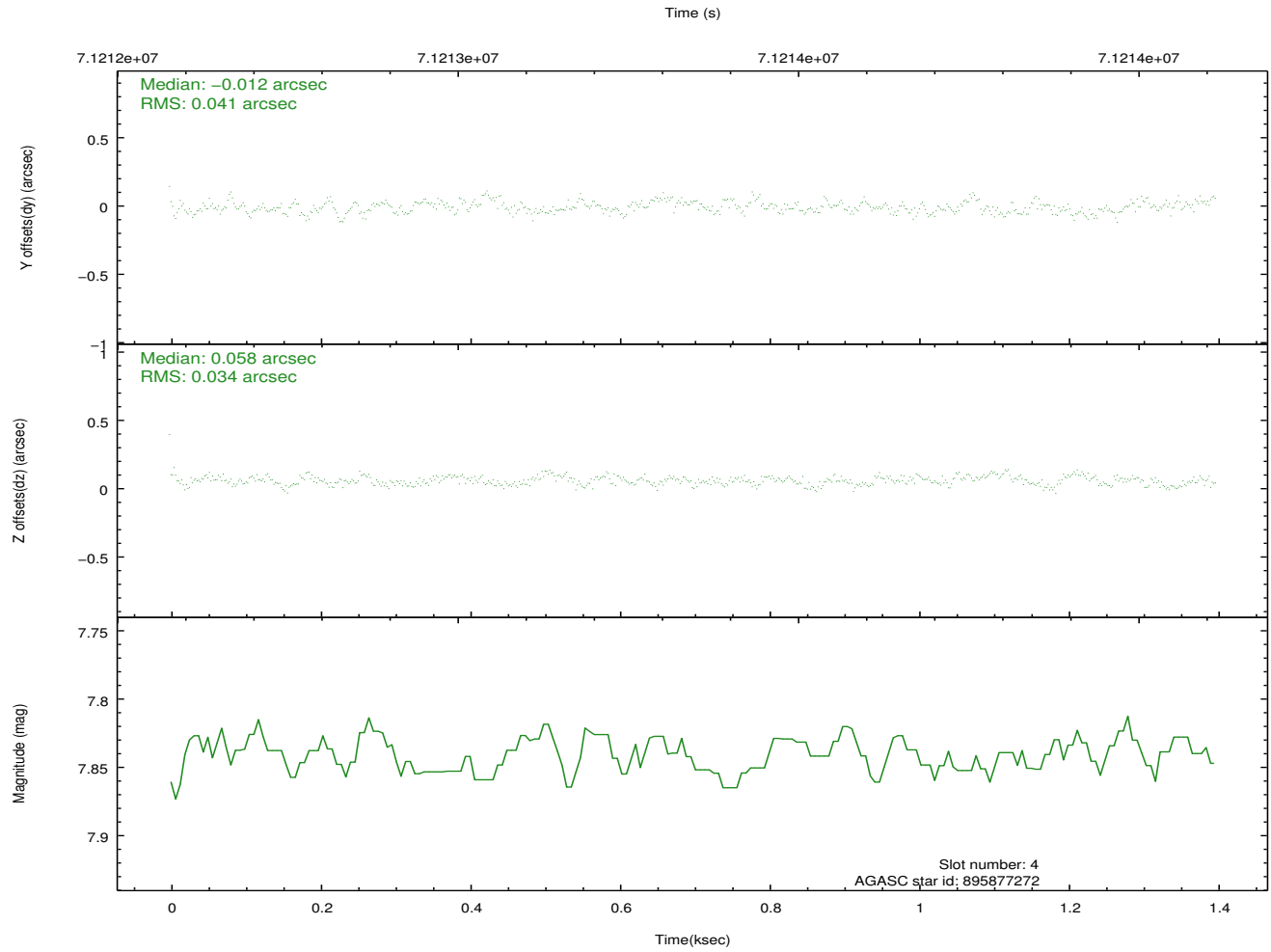
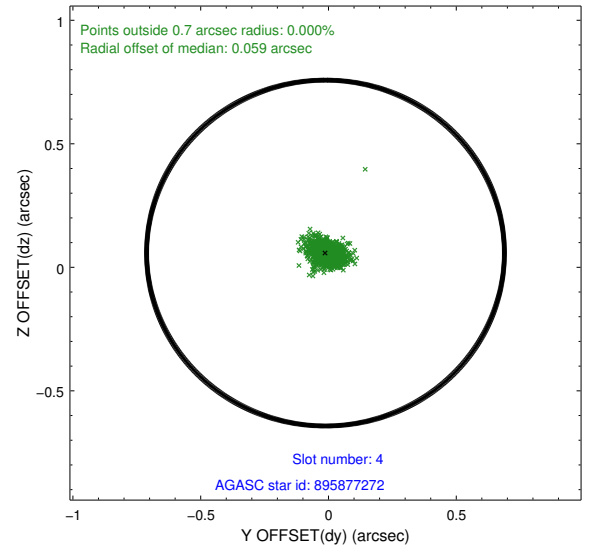
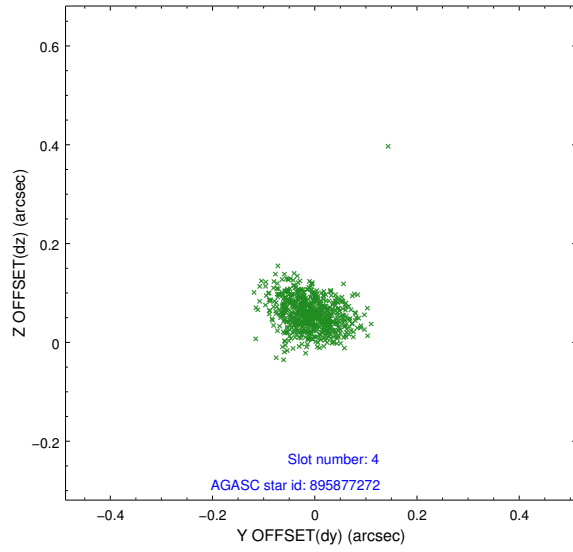
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.09 | 341   | -0.044 | -0.139 | 0.007 | 0.013 | 0.000000   | 0.000000   | -753.51  | -1889.13 |
| 1    | FID    | ACIS-S-4  | 7.18 | 341   | 0.072  | 0.059  | 0.007 | 0.011 | 0.000000   | 0.000000   | 2157.82  | 14.05    |
| 2    | FID    | ACIS-S-5  | 7.23 | 341   | -0.059 | 0.088  | 0.007 | 0.013 | 0.000000   | 0.000000   | -1800.17 | 13.30    |
| 3    | GUIDE  | 895879840 | 7.17 | 683   | 0.128  | 0.151  | 0.050 | 0.085 | 265.218397 | -27.395778 | -1028.79 | -2098.53 |
| 4    | GUIDE  | 895877272 | 7.84 | 683   | -0.012 | 0.058  | 0.055 | 0.091 | 264.774842 | -26.937569 | 533.59   | -587.36  |
| 5    | GUIDE  | 895880752 | 9.63 | 682   | -0.056 | -0.119 | 0.092 | 0.153 | 264.400488 | -26.798038 | 963.27   | 645.51   |
| 6    | GUIDE  | 895881824 | 9.97 | 682   | -0.066 | -0.090 | 0.102 | 0.178 | 264.422842 | -26.750277 | 1140.01  | 586.43   |
| 7    | UNUSED |           | 0.00 | 0     | 0.000  | 0.000  | 0.000 | 0.000 | 0.000000   | 0.000000   | 0.00     | 0.00     |

## 2.4 Star Slots

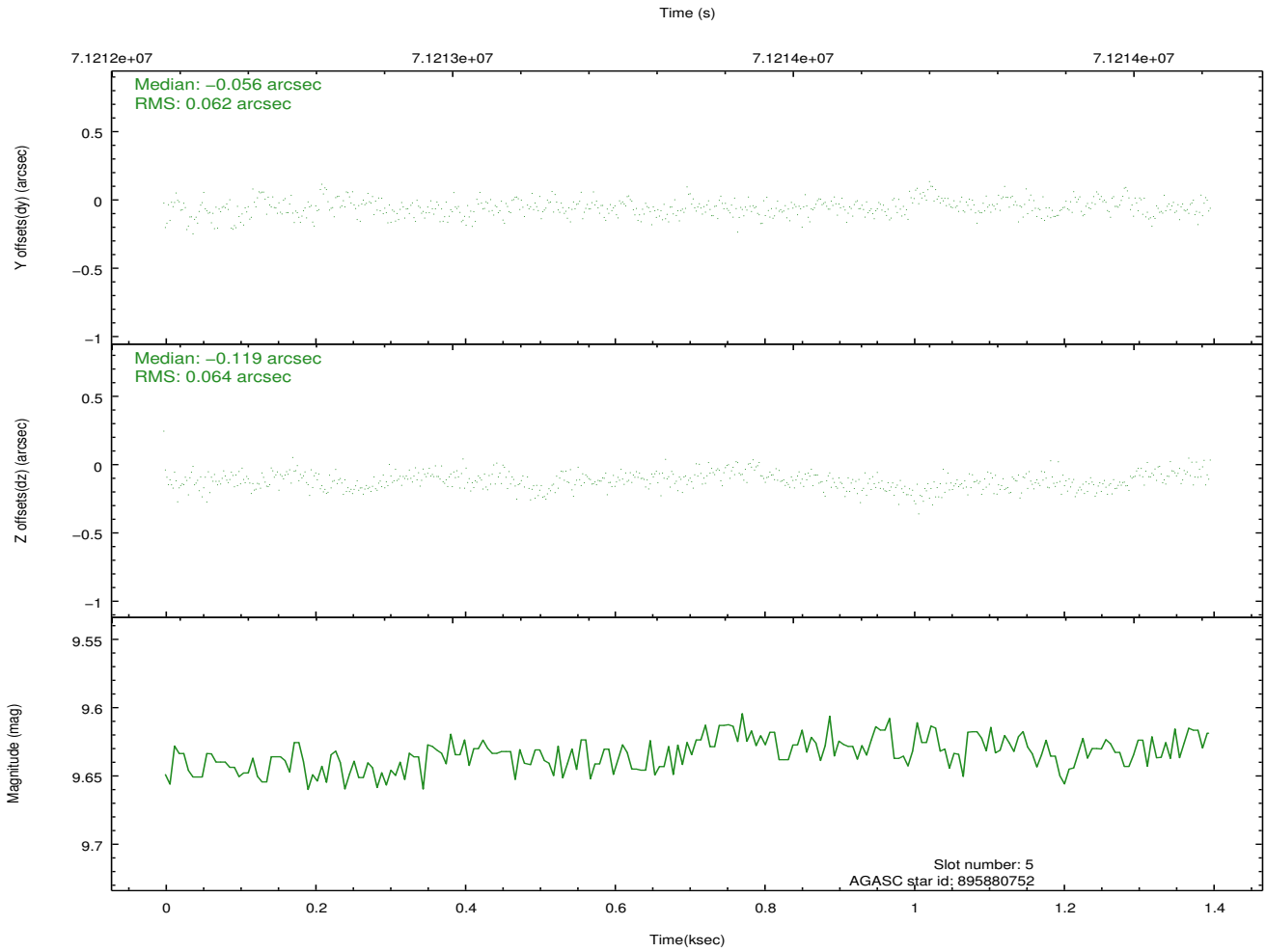
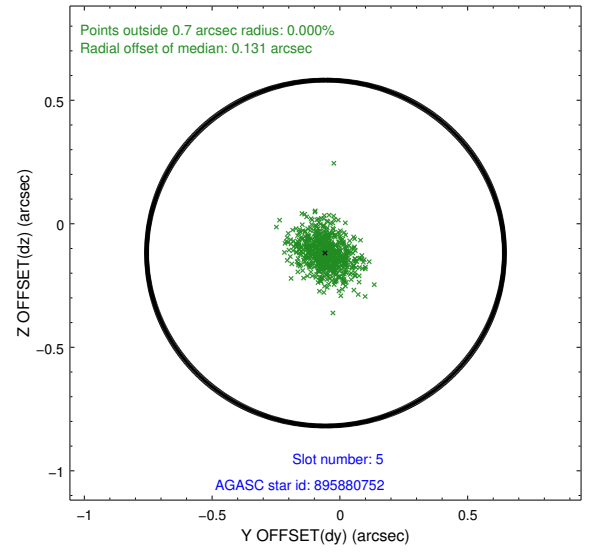
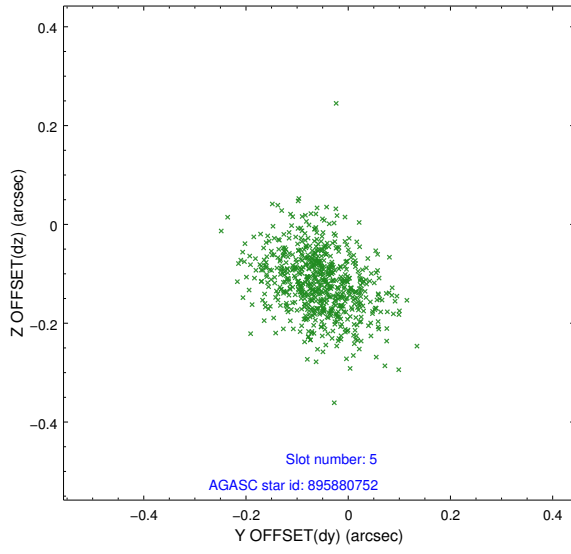
### 2.4.1 Slot 3



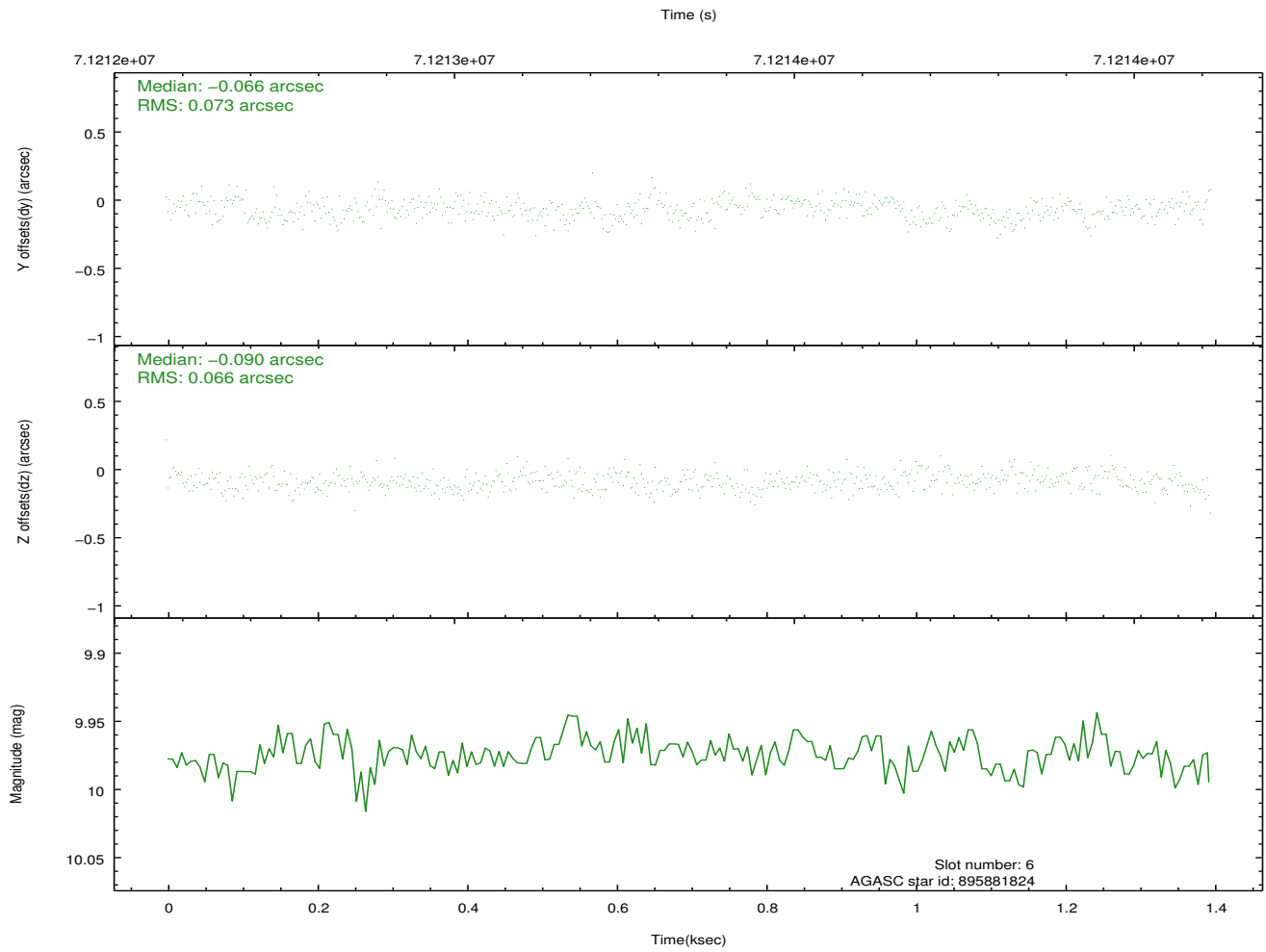
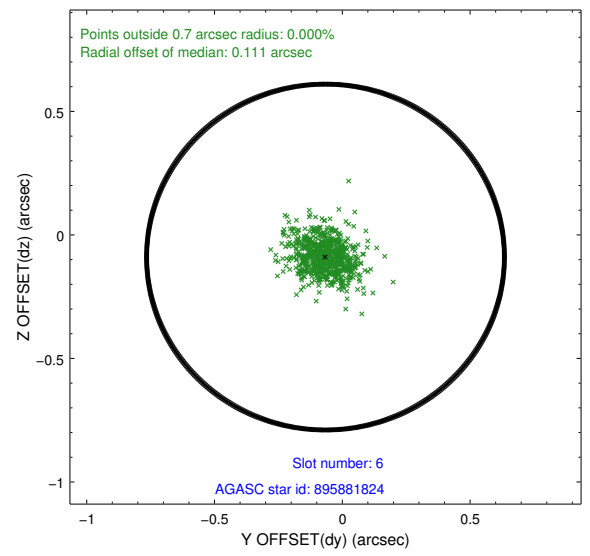
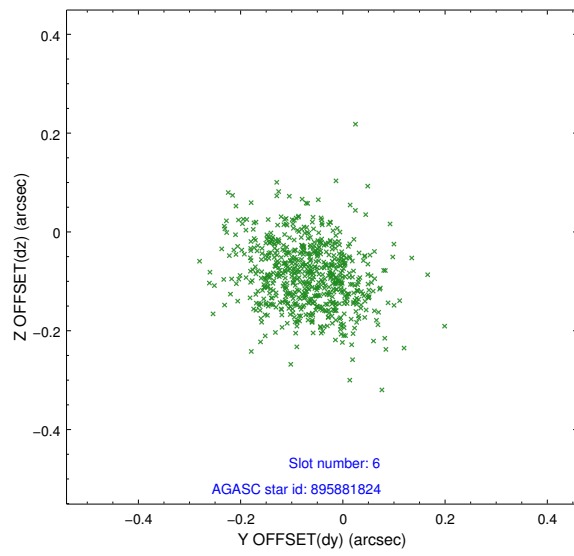
## 2.4.2 Slot 4



### 2.4.3 Slot 5

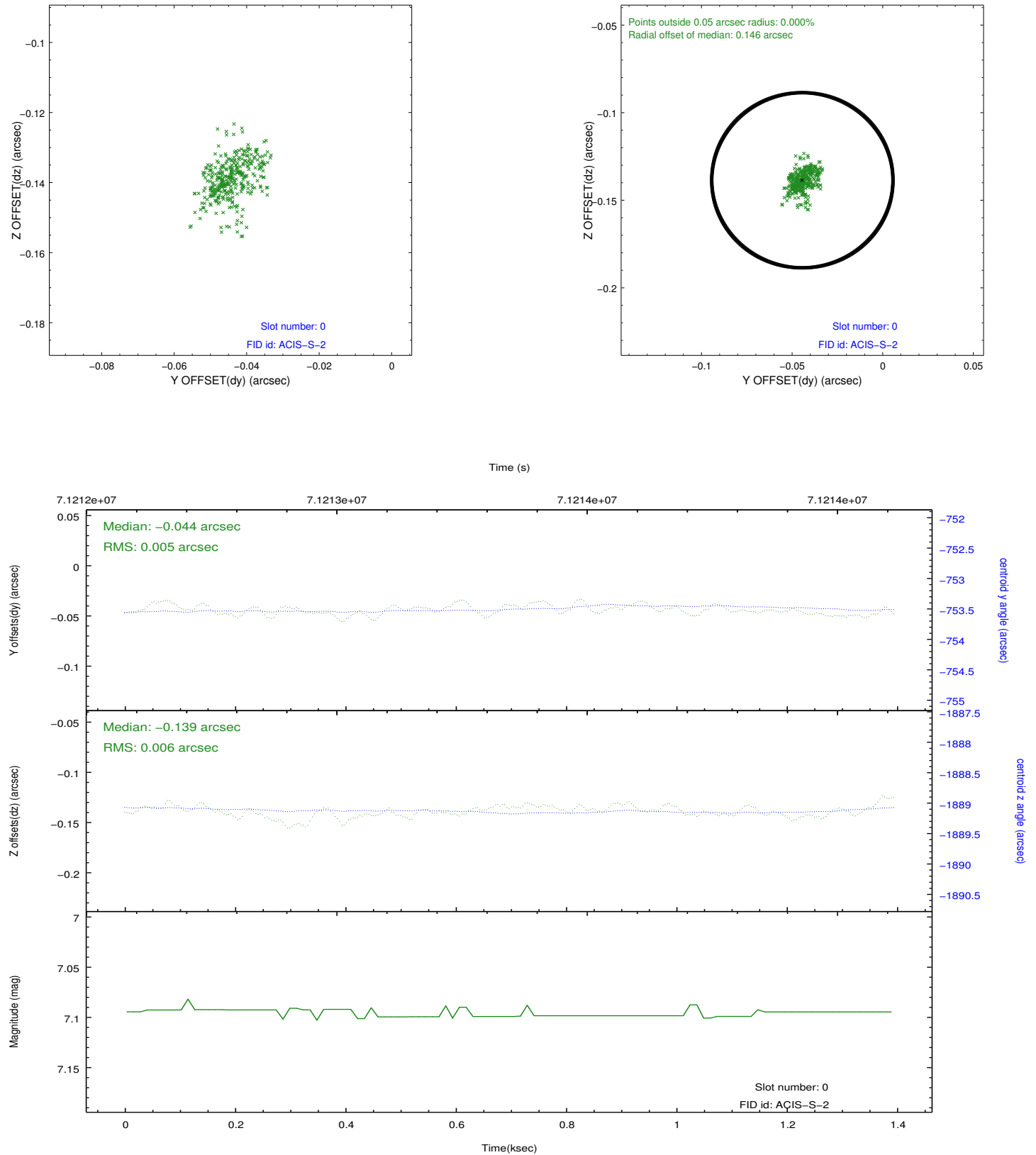


## 2.4.4 Slot 6

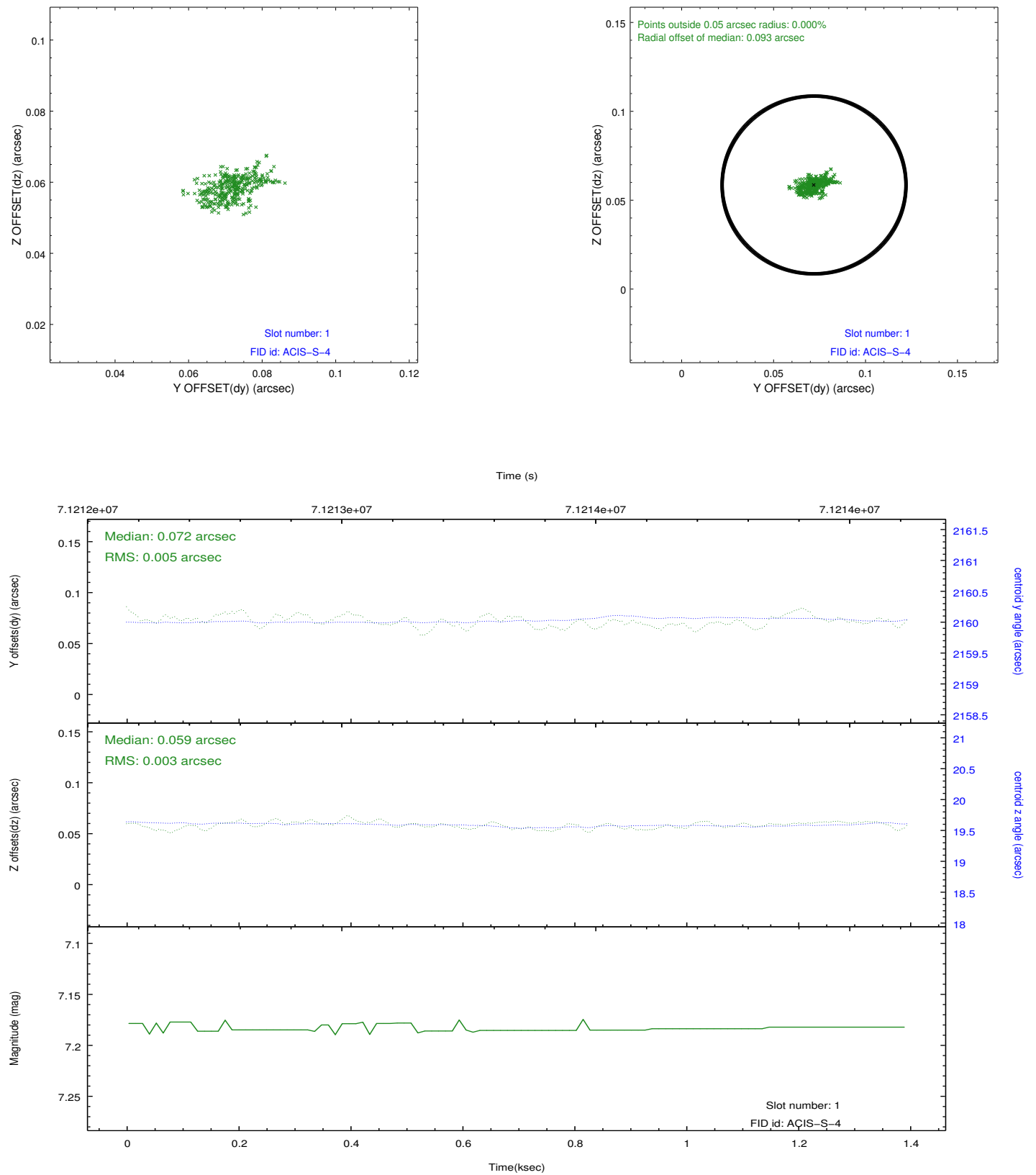


## 2.5 FID Slots

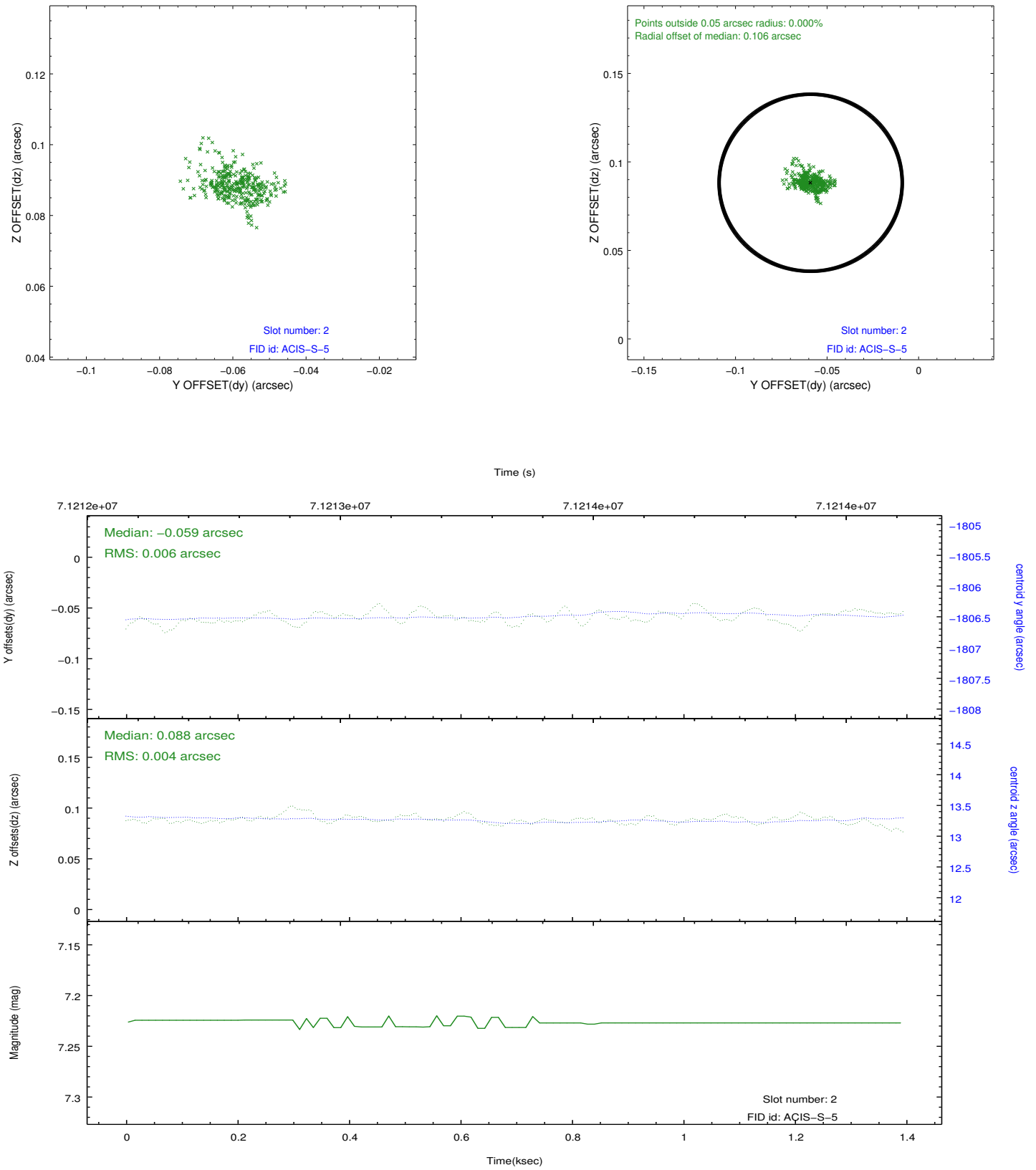
### 2.5.1 Slot 0



## 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)      | 2012.08.27  |
| V&V Edition                | 1           |
| V&V Disposition and Status | OK          |
| V&V Charge Time            | 1.396       |

### A.2 Comments

Charge time for this ObsId remains at previous value of 1.396 ks. Guide star in slot 7 was eliminated from aspect solution by the software due to poor data quality.