

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 1628 - L2 Version 3  
Chandra X-Ray Center

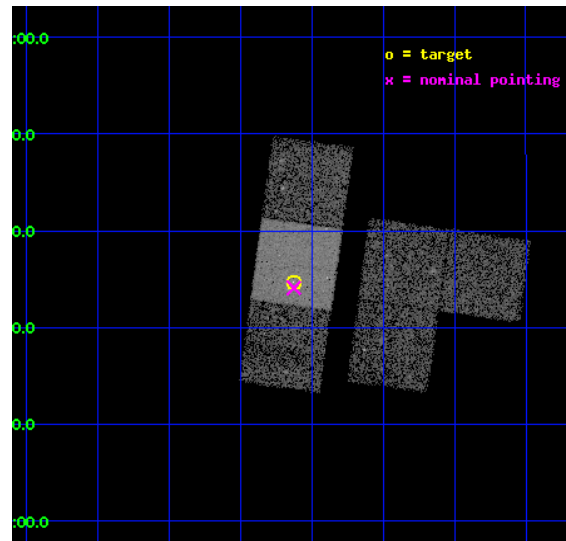
L2 Processing Date : Sep 16 2012

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# 1 Front

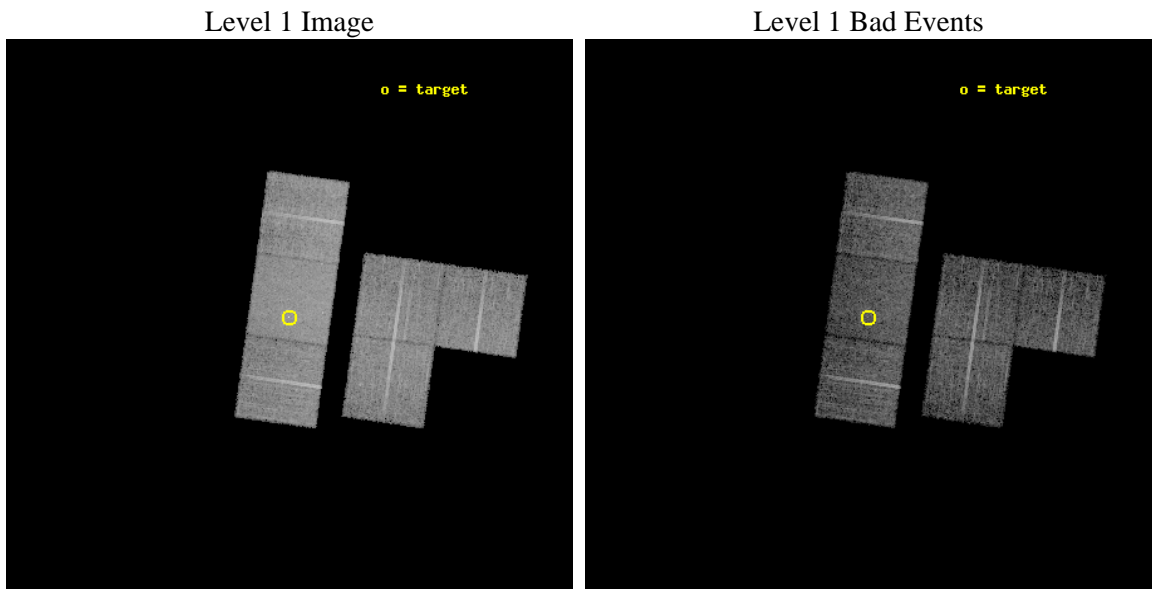
|          |   |   |
|----------|---|---|
| seq_num  | 700244  | Sequence number                             |
| obs_id   | 1628  | Observation id                              |
| title    | FOLLOW - UP ON CHANDRA SURVEY OF GRAVITATIONAL LENSES FOR TIME-DELAY MEASUREMENTS | Proposal title                              |
| observer | Professor Gordon Garmire  | Principal investigator                      |
| object   | MITG J0414+0534   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 63.657083   | Observer's specified target RA [deg]        |
| dec_targ | 5.578333  | Observer's specified target Dec [deg]       |
| ra_nom   | 63.656661880552   | Nominal RA [deg]                            |
| dec_nom  | 5.5685491998499   | Nominal Dec [deg]                           |
| roll_nom | 277.90042681206   | Nominal Roll [deg]                          |
| revision | 3   | Processing version of data                  |
| ontime   | 9136.0000084937   | Sum of GTIs [s]                             |
| livetime | 9020.3144753474   | Livetime [s]                                |
| ontime1  | 9136.0000084937   | Sum of GTIs [s]                             |
| ontime2  | 9136.0000084937   | Sum of GTIs [s]                             |
| ontime3  | 9136.0000084937   | Sum of GTIs [s]                             |
| ontime6  | 9136.0000084937   | Sum of GTIs [s]                             |
| ontime7  | 9136.0000084937   | Sum of GTIs [s]                             |
| ontime8  | 9136.0000084937   | Sum of GTIs [s]                             |
| l2events | 57970   | Number of level 2 events                    |



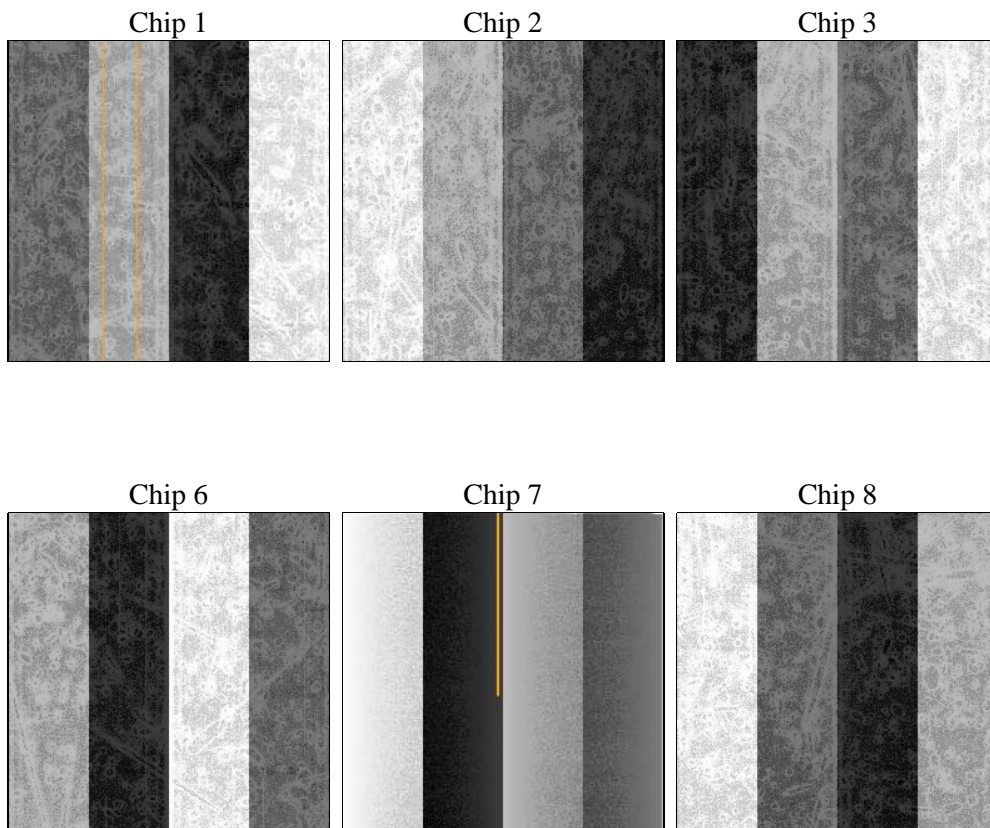
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 9000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 9136.0000084937 | Sum of GTIs [s]                         |
| caldsver | 4.5.1.1             | &#160                          | ontime1        | 9136.0000084937 | Sum of GTIs [s]                         |
| date     | 2012-09-16T03:00:25 | Date and time of file creation | ontime2        | 9136.0000084937 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime3        | 9136.0000084937 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 9136.0000084937 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 9136.0000084937 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 9136.0000084937 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 429583          | Number of level 1 events                |

### 2.1.4 Events

|                 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |                | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 62097 | 64255 | 64341 | 66948 | 86138 | 85804 | grade 0 events | 3087  | 3050  | 3310  | 3068  | 3568  | 5658  |
| rejected events | 55445 | 58145 | 58057 | 60620 | 55634 | 70888 |                | 4%    | 4%    | 5%    | 4%    | 4%    | 6%    |
| rejected %      | 89%   | 90%   | 90%   | 90%   | 64%   | 82%   | grade 1 events | 31    | 30    | 40    | 28    | 86    | 61    |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 1641  | 1554  | 1425  | 1548  | 7238  | 3599  |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 2%    | 2%    | 8%    | 4%    |
|                 |       |       |       |       |       |       | grade 3 events | 816   | 738   | 693   | 727   | 3369  | 1949  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 3%    | 2%    |
|                 |       |       |       |       |       |       | grade 4 events | 835   | 711   | 702   | 709   | 3335  | 1816  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 1%    | 1%    | 3%    | 2%    |
|                 |       |       |       |       |       |       | grade 5 events | 2493  | 2209  | 2556  | 2808  | 8152  | 3572  |
|                 |       |       |       |       |       |       |                | 4%    | 3%    | 3%    | 4%    | 9%    | 4%    |
|                 |       |       |       |       |       |       | grade 6 events | 1587  | 1262  | 1361  | 1534  | 18967 | 4560  |
|                 |       |       |       |       |       |       |                | 2%    | 1%    | 2%    | 2%    | 22%   | 5%    |
|                 |       |       |       |       |       |       | grade 7 events | 51607 | 54701 | 54254 | 56526 | 41423 | 64589 |
|                 |       |       |       |       |       |       |                | 83%   | 85%   | 84%   | 84%   | 48%   | 75%   |

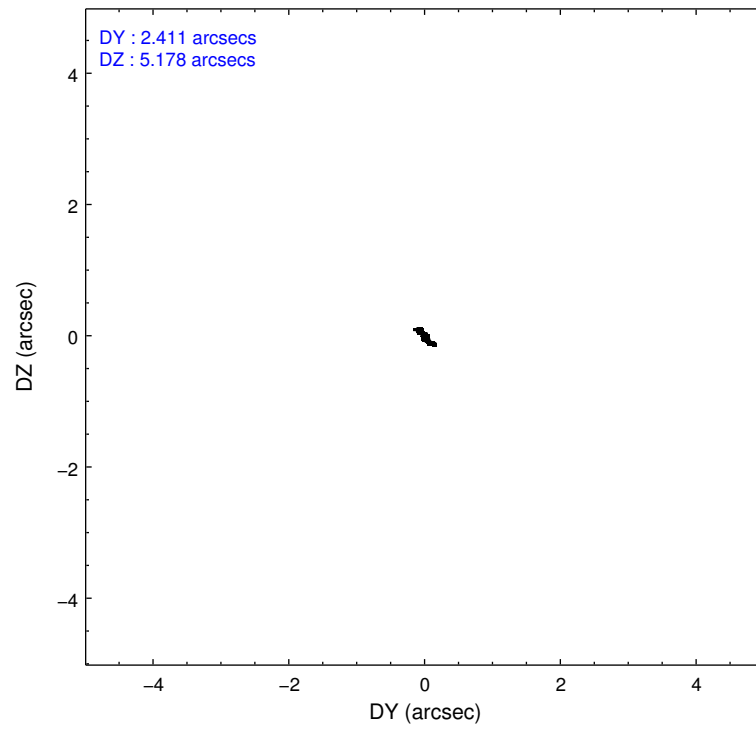
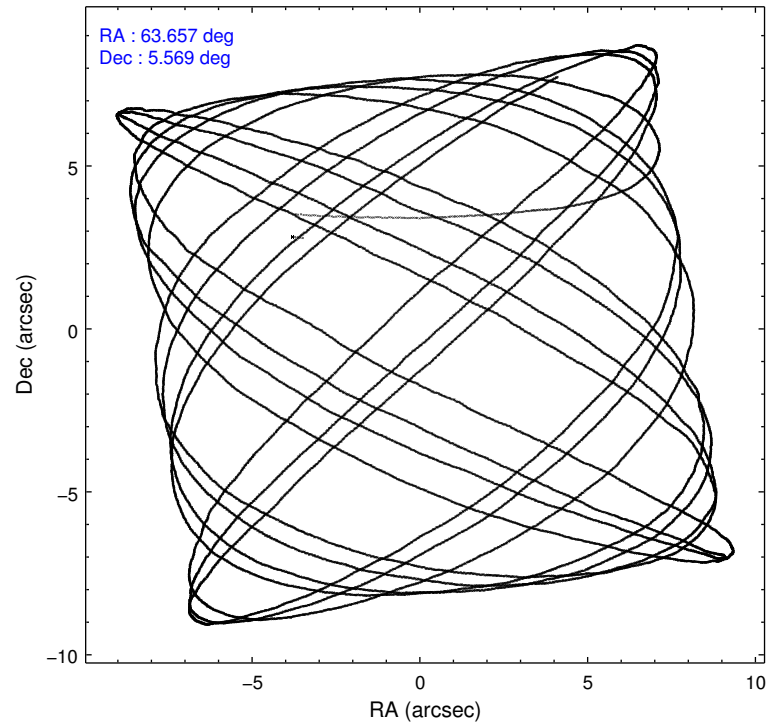


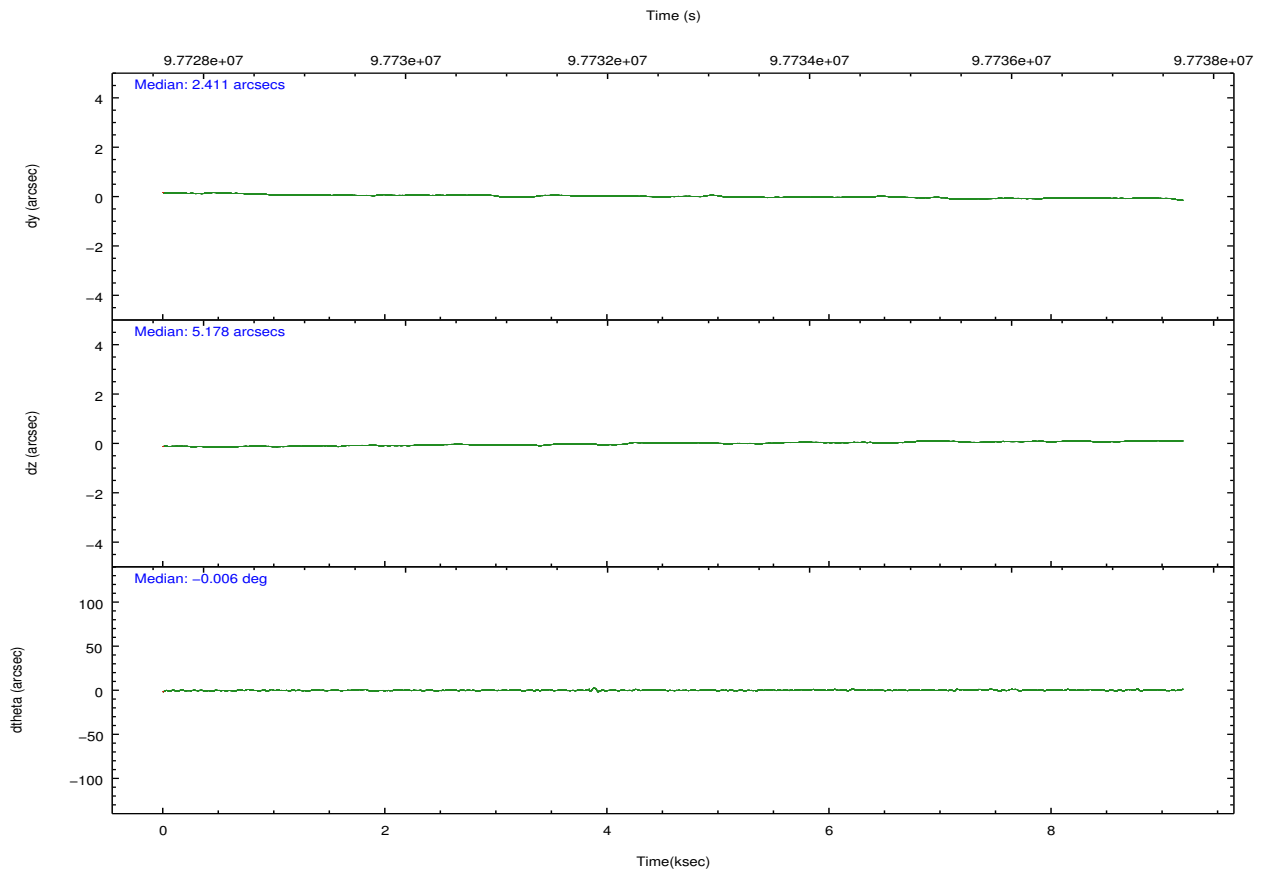
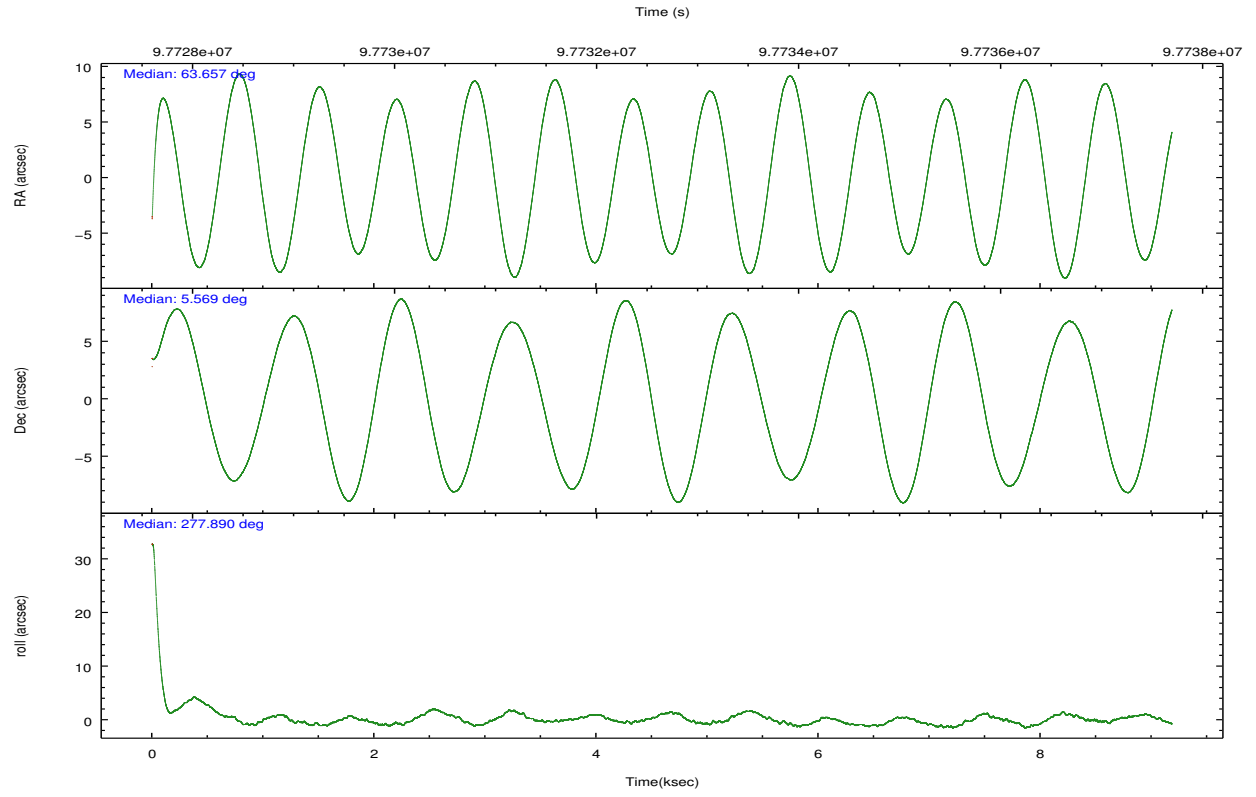
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | ACIS                | ACIS                 |
| Detector                          | ACIS-123678         | ACIS-123678          |
| Grating                           | NONE                | NONE                 |
| Data mode                         | FAINT               | FAINT                |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 63.639610           | 63.65666188055229    |
| [deg] Pointing Dec                | 5.589932            | 5.568549199849905    |
| [deg] Pointing Roll               | 277.745426          | 277.9004268120611    |
| [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)  | 97728205.184000     | 97726245.780269      |
| Observation start date            | 2001-02-05T02:42:21 | 2001-02-05T02:10:45  |
| [s] Observation end time (MET)    | 97737205.184000     | 97738195.230729      |
| Observation end date              | 2001-02-05T05:12:21 | 2001-02-05T05:29:55  |
| Read mode                         | TIMED               | TIMED                |

| 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  | 3.2     |

## 2.3 Aspect



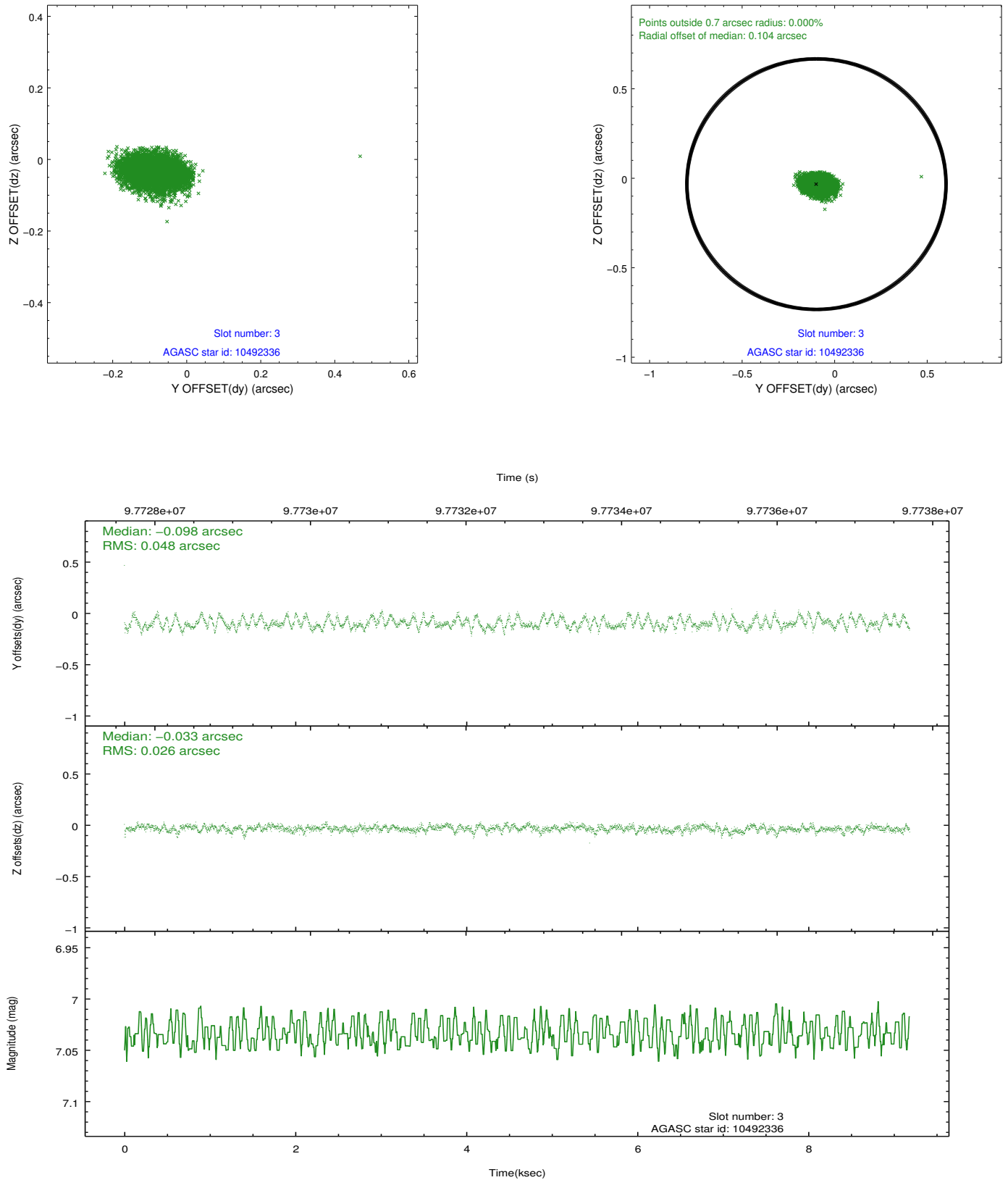


### Slot Statistics

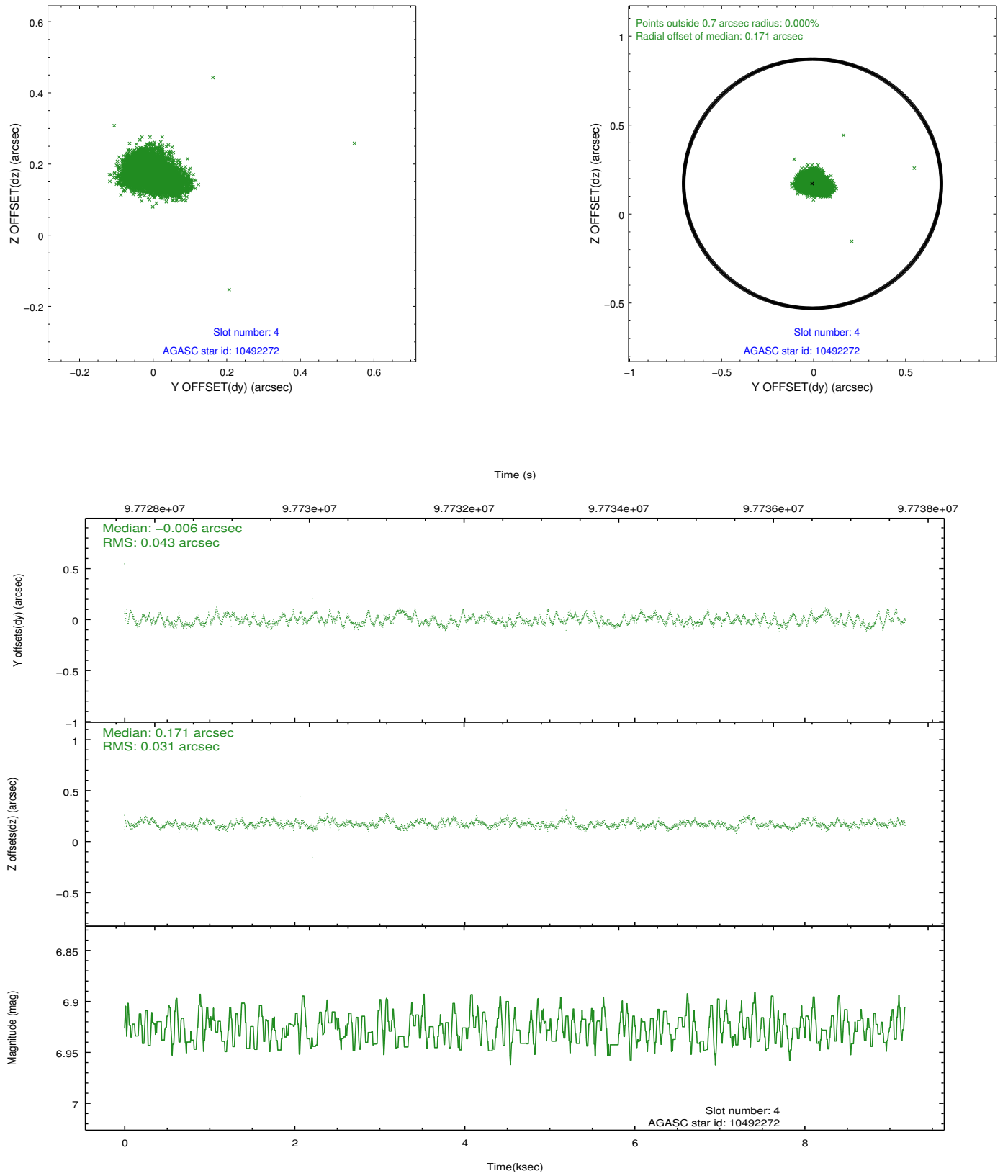
| slot | status | id       | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec      | mean_y   | mean_z   |
|------|--------|----------|------|-------|--------|--------|-------|-------|-----------|----------|----------|----------|
| 0    | FID    | ACIS-S-1 | 7.19 | 2241  | -0.011 | 0.003  | 0.007 | 0.013 | 0.000000  | 0.000000 | 940.99   | -1721.90 |
| 1    | FID    | ACIS-S-5 | 7.24 | 2241  | 0.018  | 0.006  | 0.006 | 0.011 | 0.000000  | 0.000000 | -1807.65 | 175.03   |
| 2    | FID    | ACIS-S-6 | 7.36 | 2241  | -0.027 | 0.004  | 0.008 | 0.014 | 0.000000  | 0.000000 | 405.88   | 819.67   |
| 3    | GUIDE  | 10492336 | 7.03 | 4481  | -0.098 | -0.033 | 0.058 | 0.093 | 63.181049 | 5.030869 | 1773.04  | -1900.52 |
| 4    | GUIDE  | 10492272 | 6.93 | 4481  | -0.006 | 0.171  | 0.056 | 0.088 | 64.297548 | 5.024571 | 2334.32  | 2063.98  |
| 5    | GUIDE  | 10489120 | 8.97 | 4479  | -0.050 | -0.095 | 0.090 | 0.138 | 63.037180 | 5.195794 | 1115.59  | -2330.83 |
| 6    | GUIDE  | 10493912 | 9.39 | 4477  | 0.121  | 0.088  | 0.070 | 0.115 | 63.610162 | 5.180568 | 1447.18  | -303.42  |
| 7    | GUIDE  | 10493872 | 9.39 | 4475  | 0.030  | -0.131 | 0.091 | 0.150 | 63.703184 | 5.387990 | 752.12   | 127.63   |

## 2.4 Star Slots

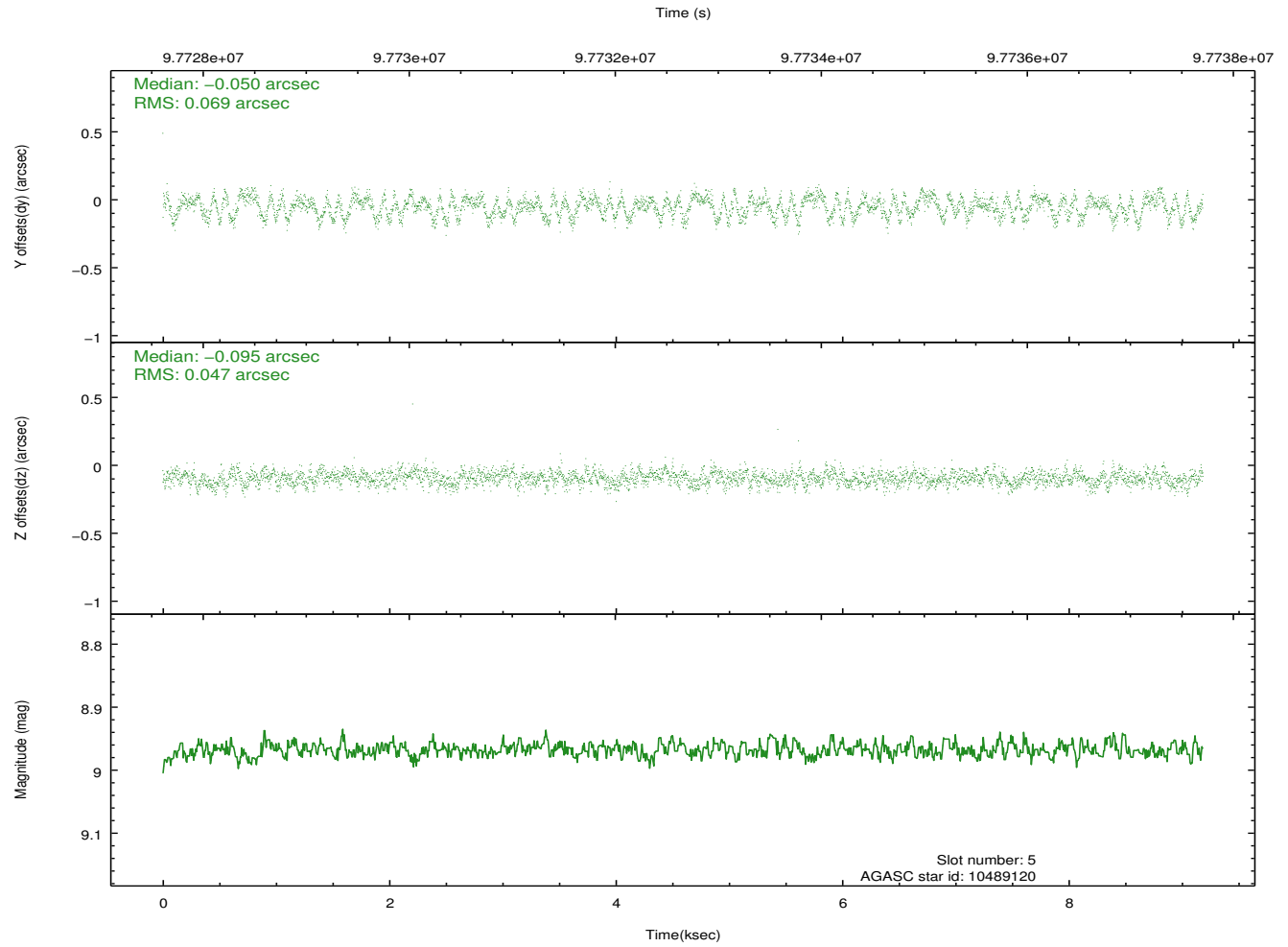
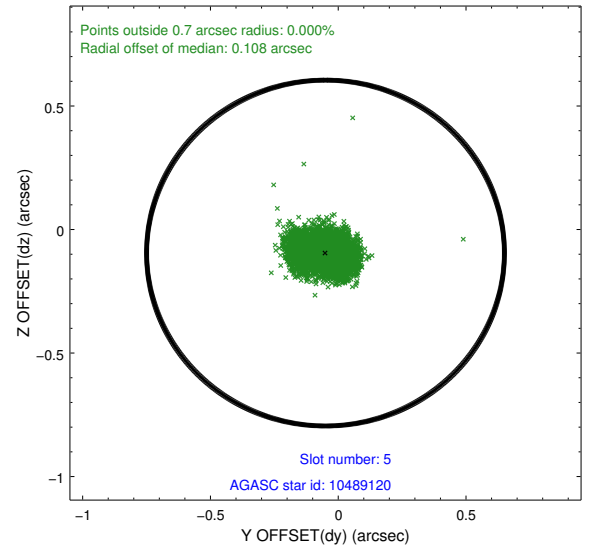
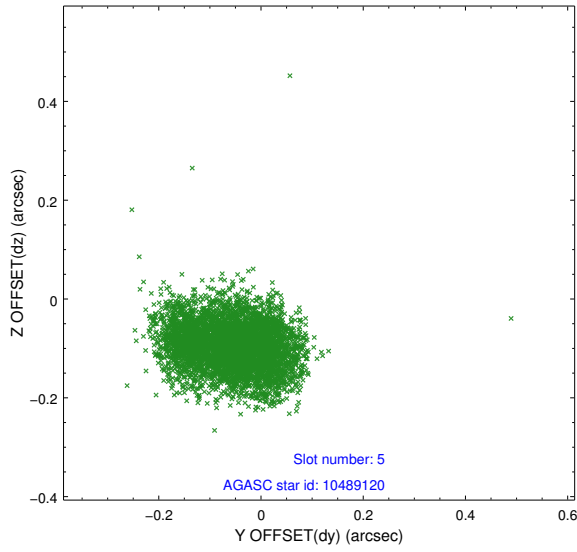
### 2.4.1 Slot 3



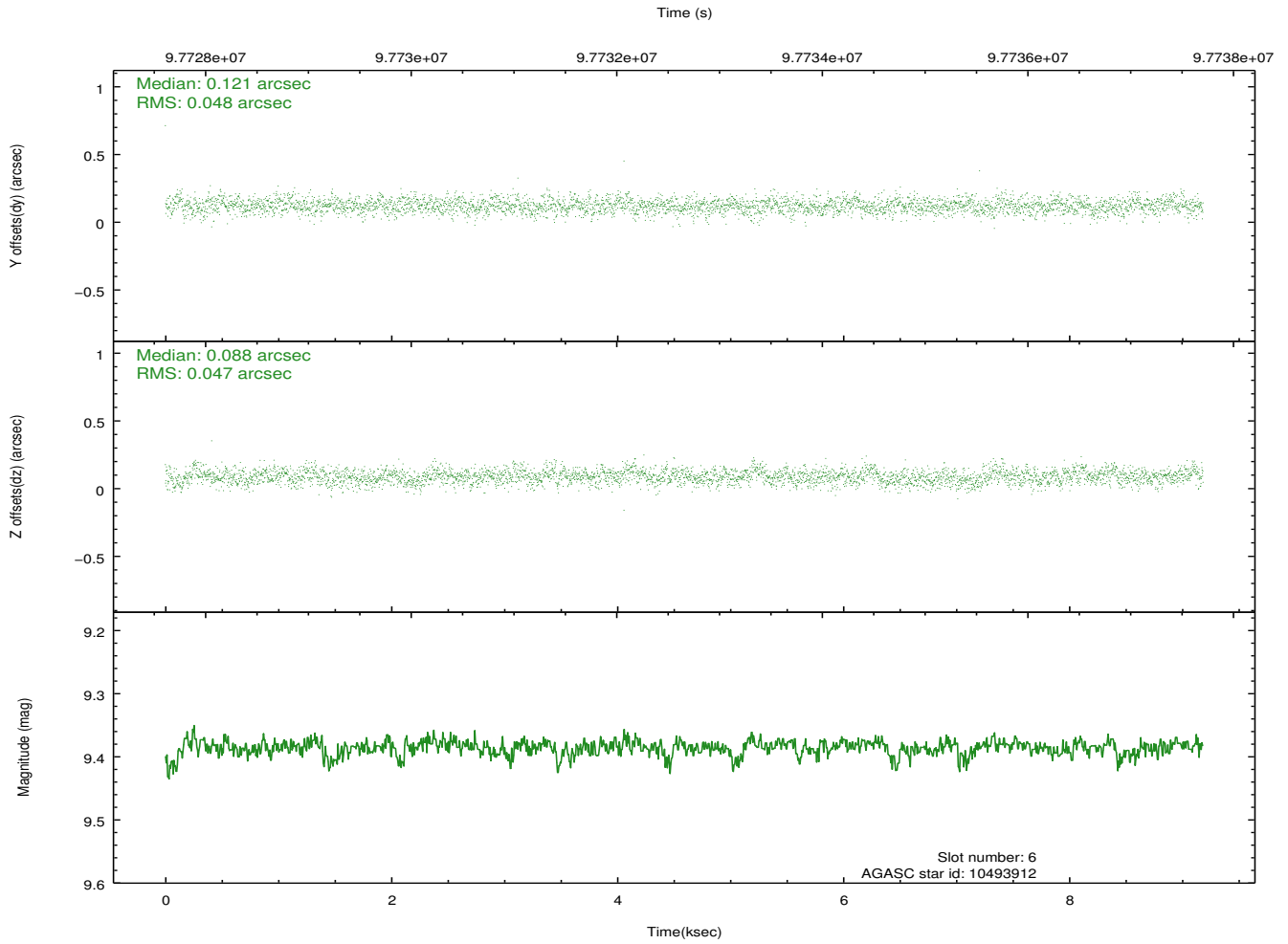
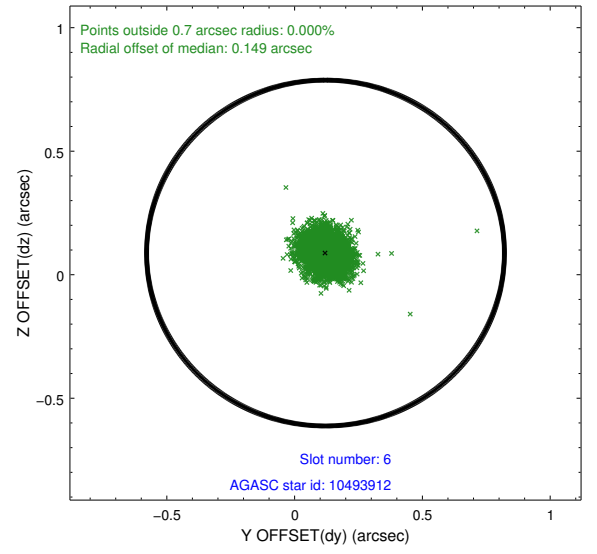
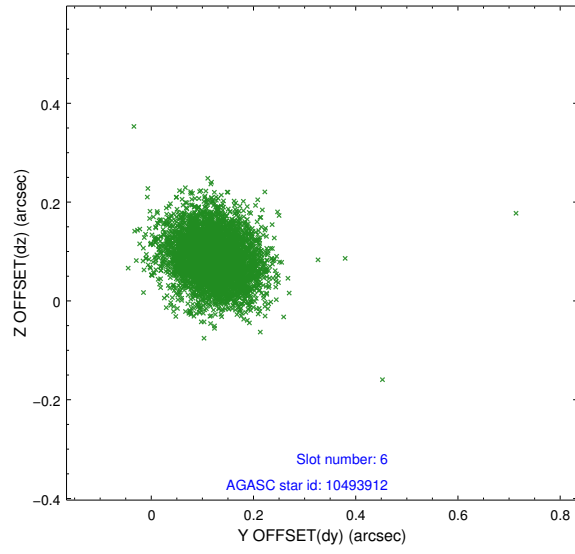
## 2.4.2 Slot 4



### 2.4.3 Slot 5

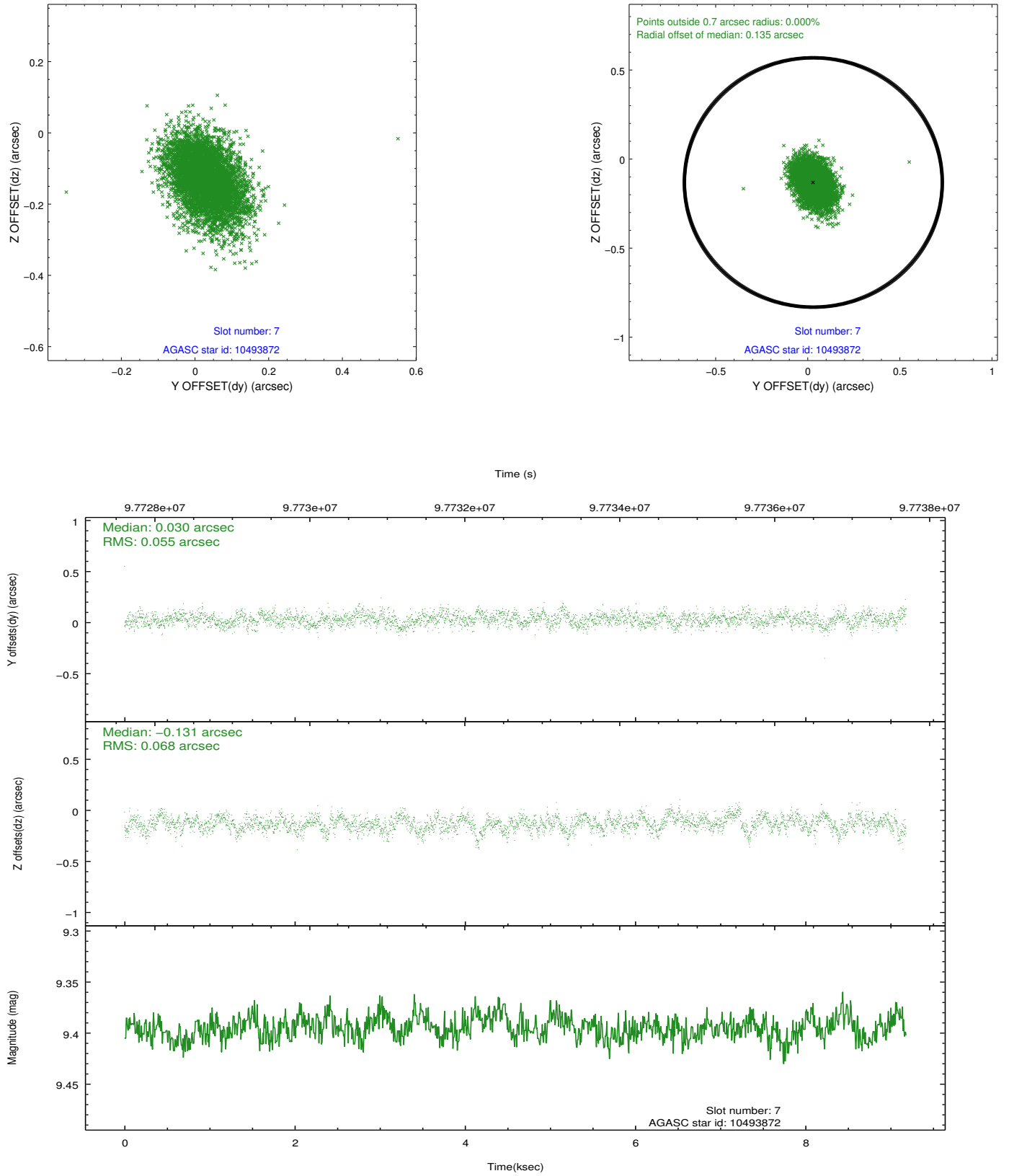


## 2.4.4 Slot 6



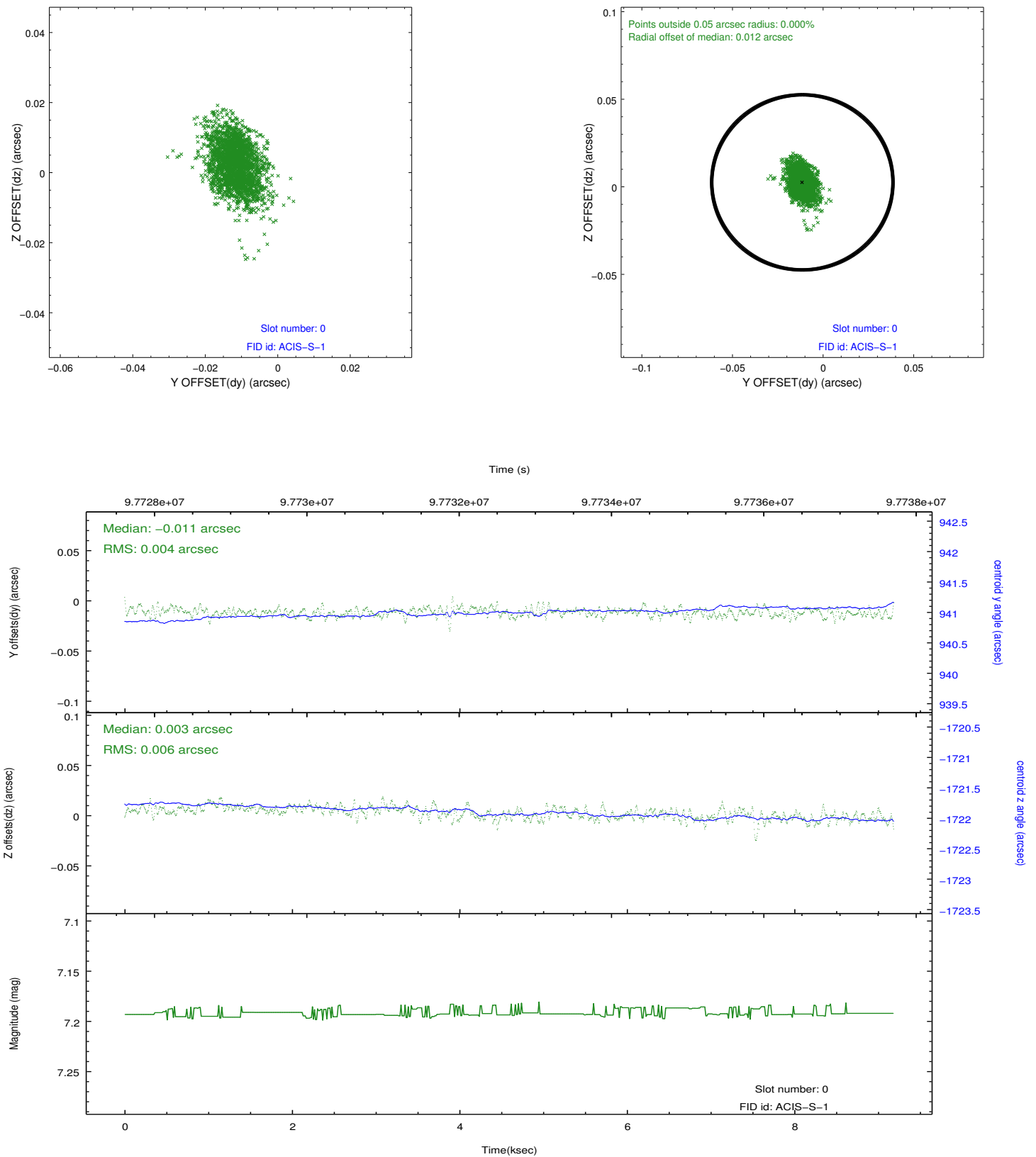


## 2.4.5 Slot 7

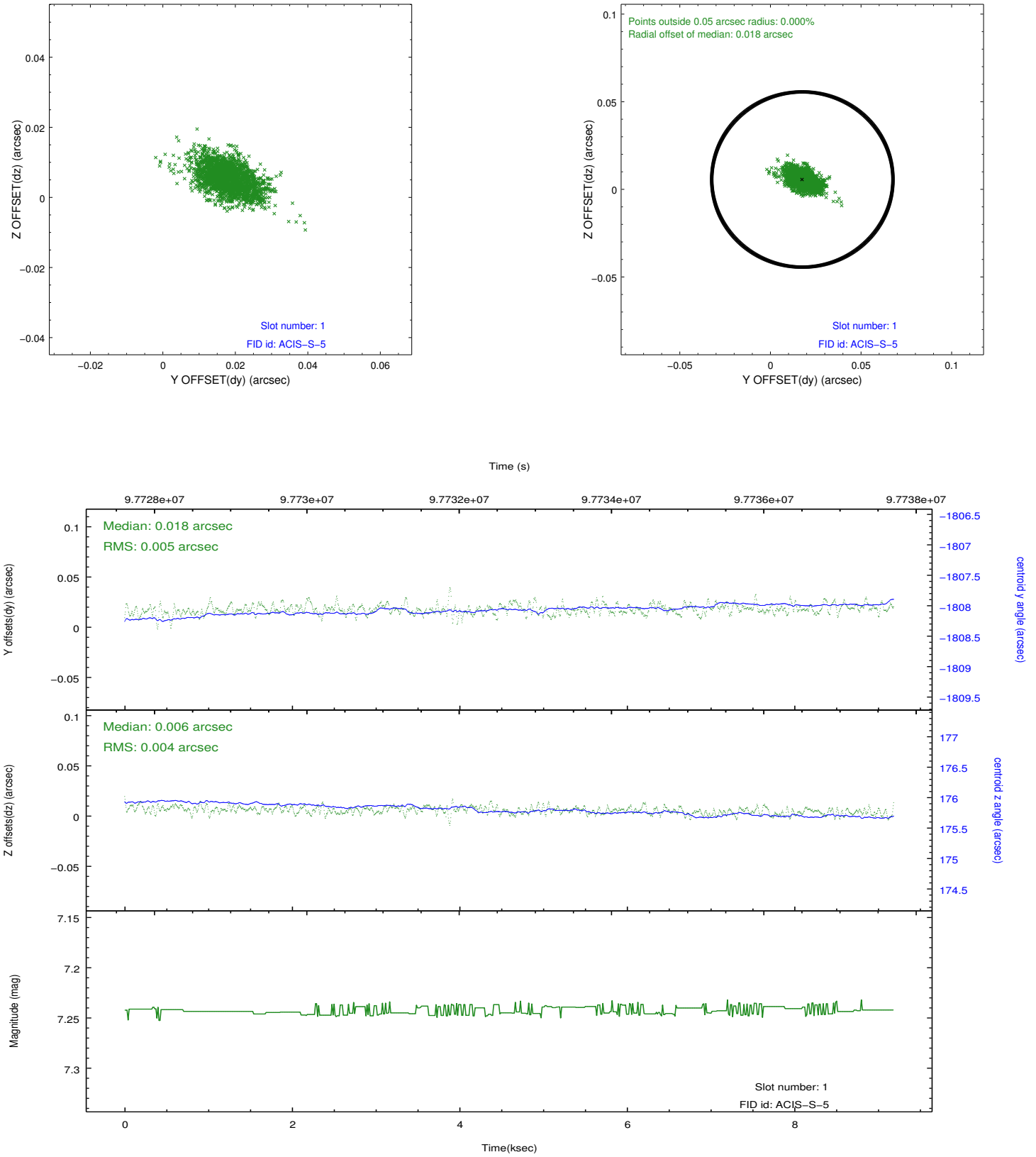


## 2.5 FID Slots

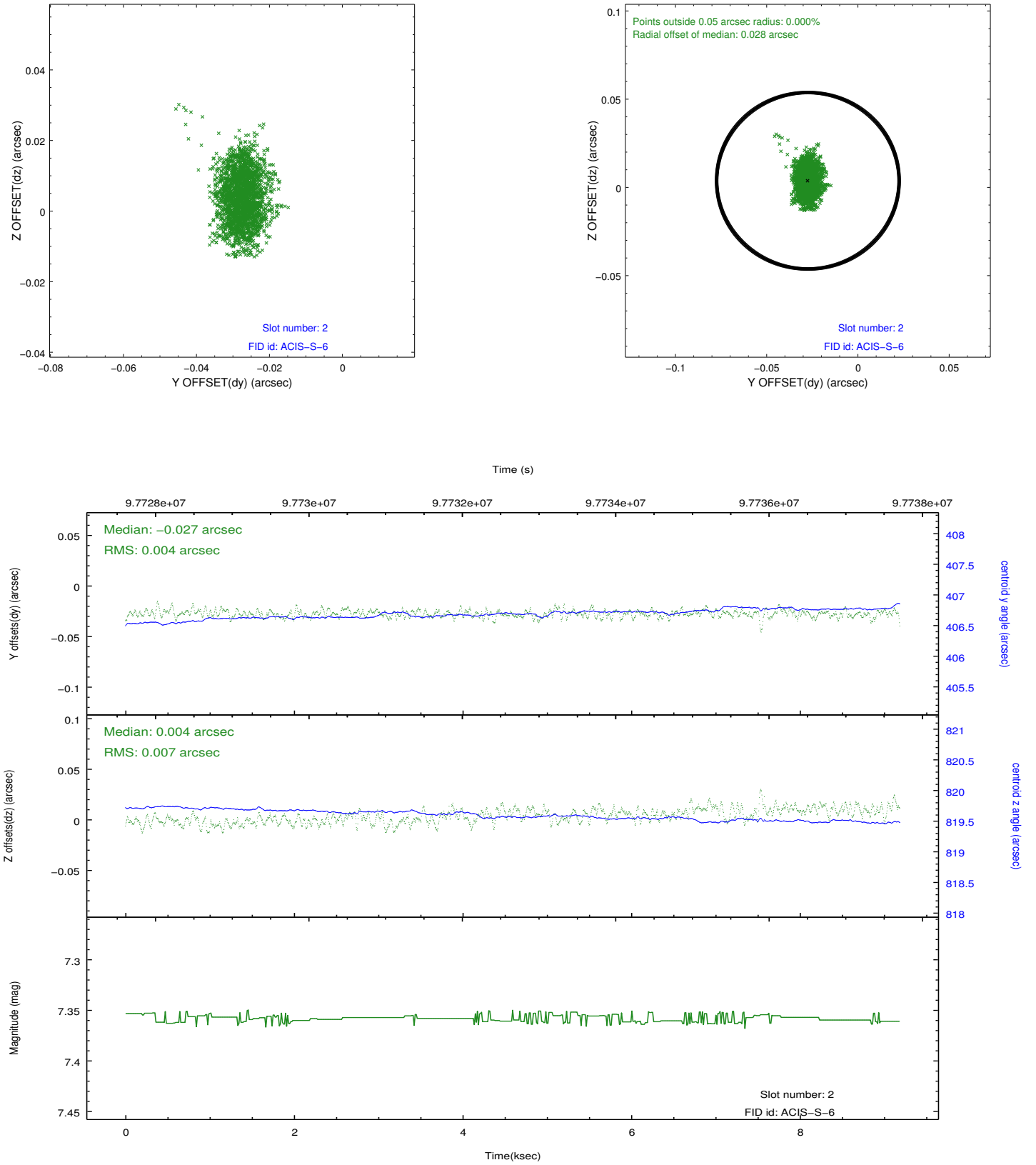
### 2.5.1 Slot 0



## 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)      | 2012.09.19 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 9.136      |

### A.2 Comments

Monitor constraint met.