

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10156 - L2 Version 2  
Chandra X-Ray Center

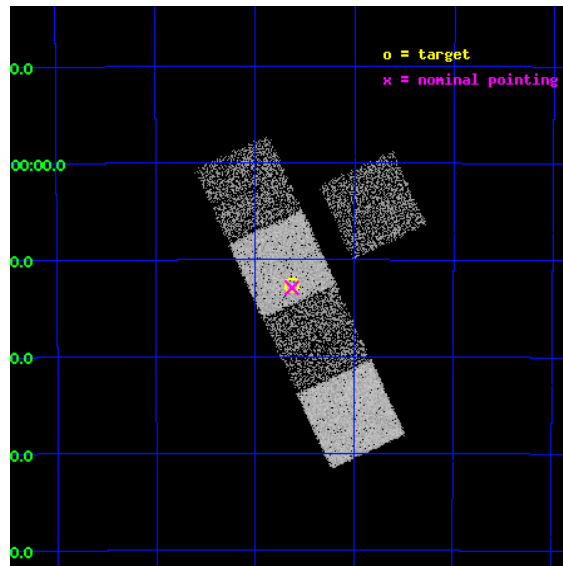
L2 Processing Date : May 31 2012

## 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        |
| 2.4.5    | Slot 7 . . . . .              | 13        |
| 2.5      | FID Slots . . . . .           | 14        |
| 2.5.1    | Slot 0 . . . . .              | 14        |
| 2.5.2    | Slot 1 . . . . .              | 15        |
| 2.5.3    | Slot 2 . . . . .              | 16        |
| <b>A</b> | <b>Summary</b>                | <b>17</b> |
| A.1      | Status . . . . .              | 17        |
| A.2      | Comments . . . . .            | 17        |

# 1 Front

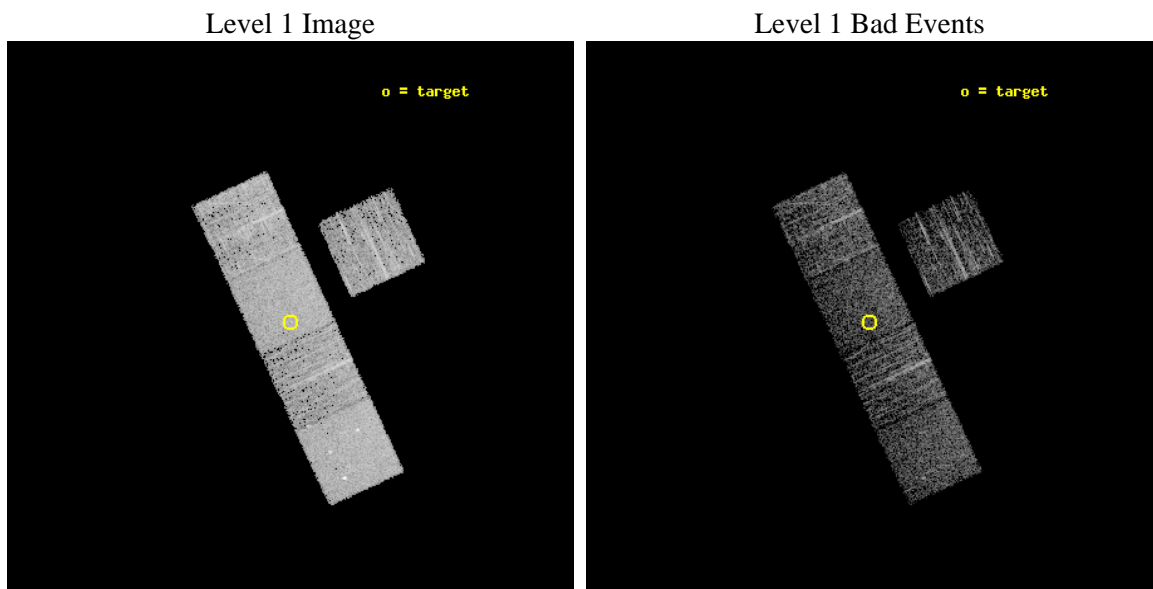
|          |   |   |
|----------|---|---|
| seq_num  | 501083  | Sequence number                             |
| obs_id   | 10156   | Observation id                              |
| title    | Identifying the Nearest and Brightest Neutron Stars | Proposal title                              |
| observer | Prof. Derek Fox                                     | Principal investigator                      |
| object   | 1RXSJ013237.7-461231                                | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 23.156667   | Observer's specified target RA [deg]        |
| dec_targ | -46.210389  | Observer's specified target Dec [deg]       |
| ra_nom   | 23.157495781261                                     | Nominal RA [deg]                            |
| dec_nom  | -46.215184707754                                    | Nominal Dec [deg]                           |
| roll_nom | 245.11232507445                                     | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 2142.1000164747                                     | Sum of GTIs [s]                             |
| livetime | 2114.1119027684                                     | Livetime [s]                                |
| ontime3  | 2138.959056139                                      | Sum of GTIs [s]                             |
| ontime5  | 2142.1000164747                                     | Sum of GTIs [s]                             |
| ontime6  | 2142.1000164747                                     | Sum of GTIs [s]                             |
| ontime7  | 2142.1000164747                                     | Sum of GTIs [s]                             |
| ontime8  | 2142.1000164747                                     | Sum of GTIs [s]                             |
| l2events | 35315   | Number of level 2 events                    |



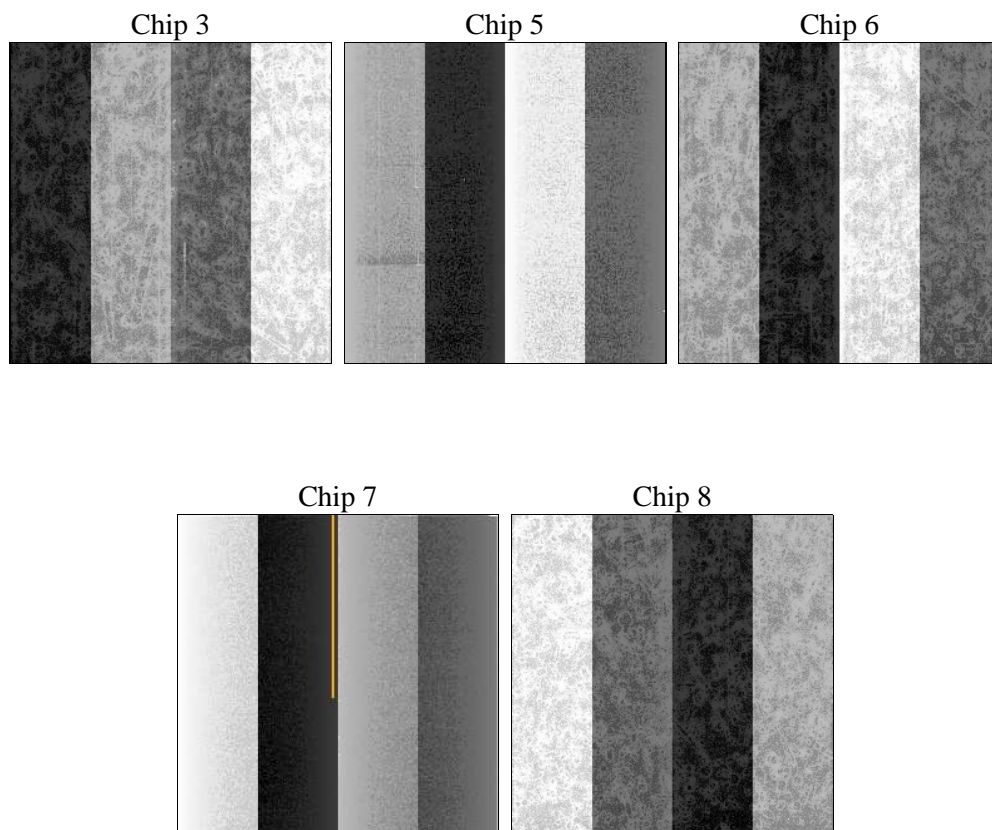
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 2000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 2142.1000164747 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime3        | 2138.959056139  | Sum of GTIs [s]                         |
| date     | 2012-05-31T14:10:35 | Date and time of file creation | ontime5        | 2142.1000164747 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime6        | 2142.1000164747 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 2142.1000164747 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 2142.1000164747 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 182433          | Number of level 1 events                |

### 2.1.4 Events

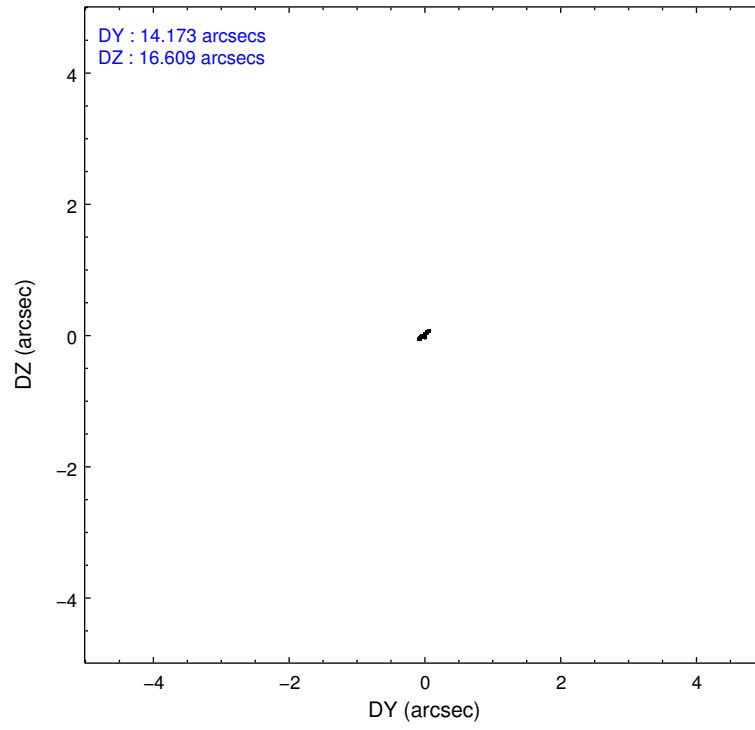
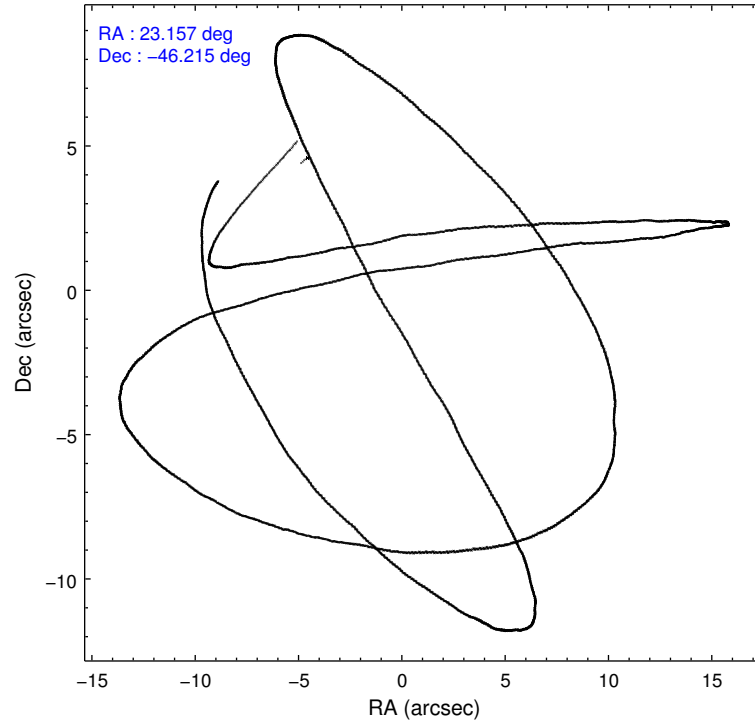
|                 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 27652 | 45506 | 30006 | 40204 | 39065 |
| rejected events | 24911 | 29149 | 27242 | 27230 | 32330 |
| rejected %      | 90%   | 64%   | 90%   | 67%   | 82%   |

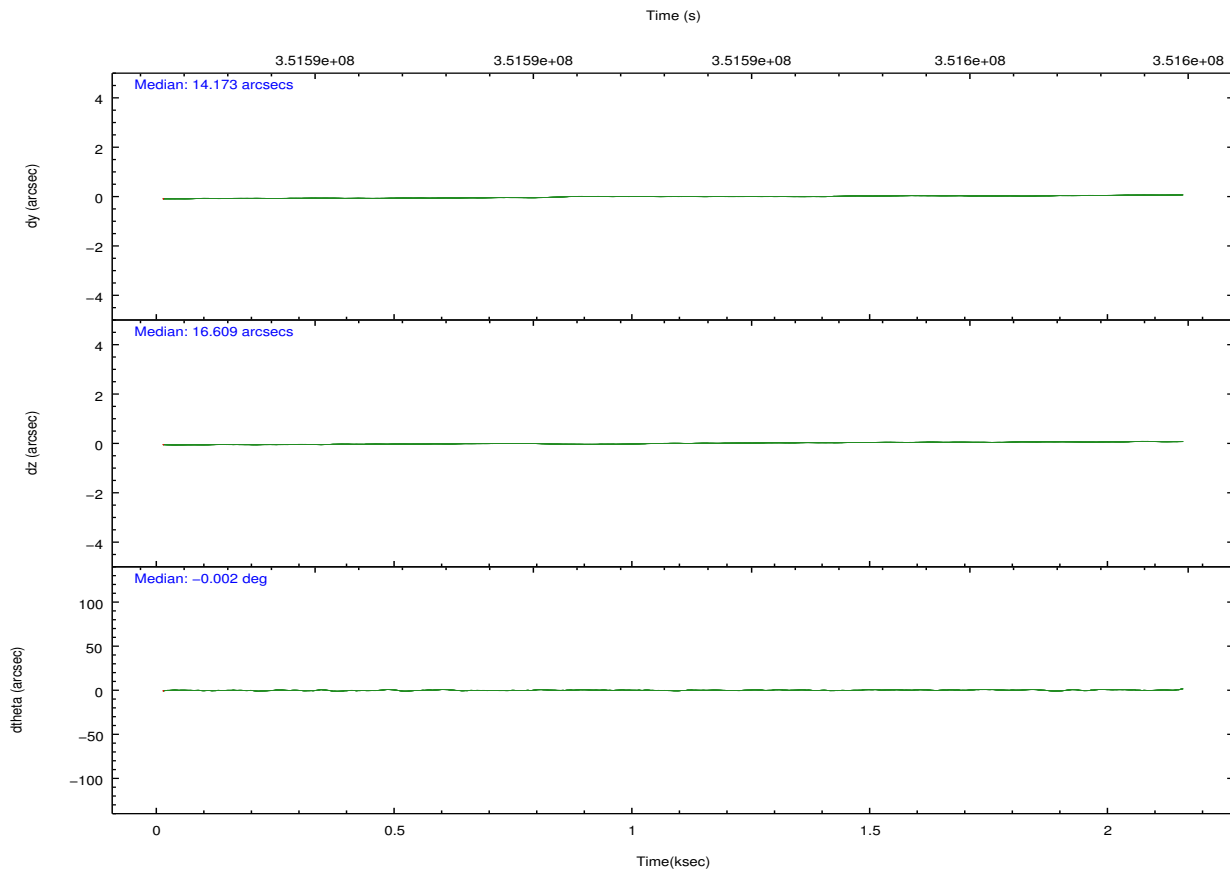
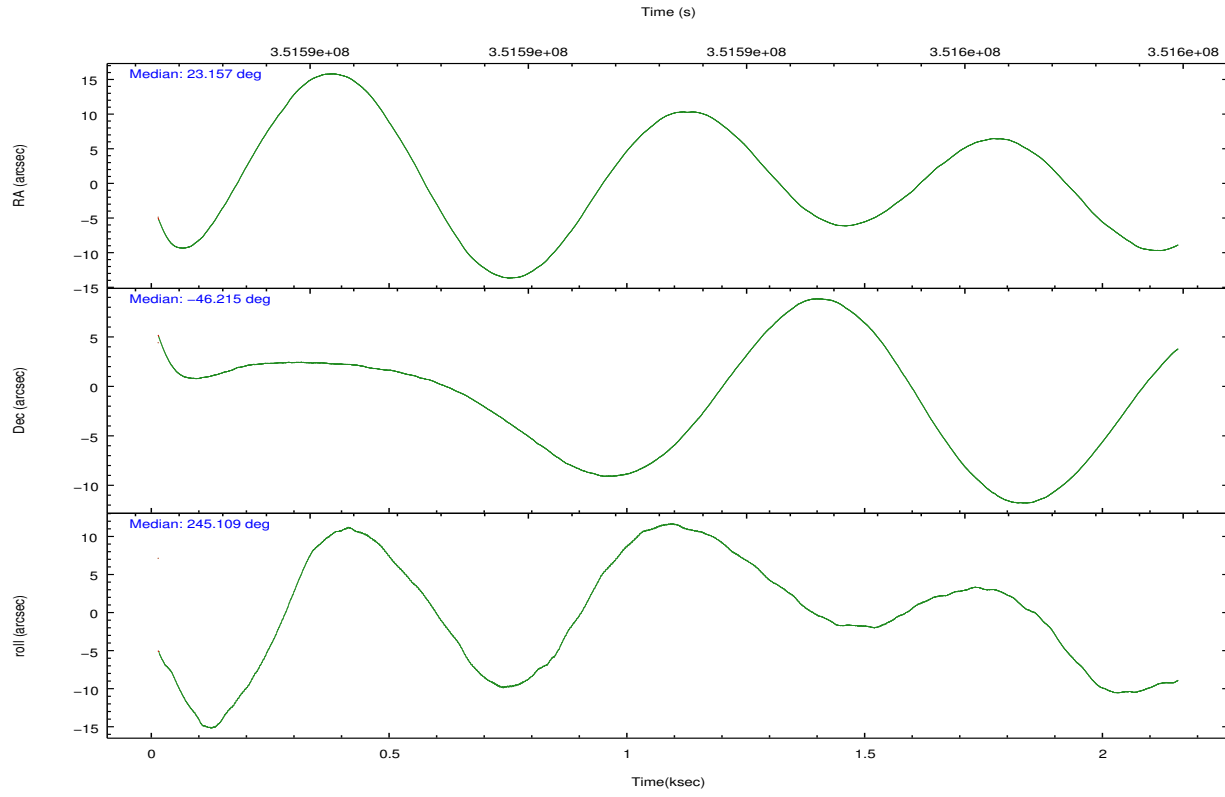
|                | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1522  | 2174  | 1415  | 1400  | 2713  |
|                | 5%    | 4%    | 4%    | 3%    | 6%    |
| grade 1 events | 16    | 201   | 17    | 43    | 36    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 687   | 6530  | 821   | 3395  | 2082  |
|                | 2%    | 14%   | 2%    | 8%    | 5%    |
| grade 3 events | 341   | 708   | 341   | 1426  | 938   |
|                | 1%    | 1%    | 1%    | 3%    | 2%    |
| grade 4 events | 355   | 759   | 330   | 1504  | 878   |
|                | 1%    | 1%    | 1%    | 3%    | 2%    |
| grade 5 events | 1319  | 3182  | 1494  | 3703  | 1828  |
|                | 4%    | 6%    | 4%    | 9%    | 4%    |
| grade 6 events | 596   | 10906 | 719   | 9002  | 2544  |
|                | 2%    | 23%   | 2%    | 22%   | 6%    |
| grade 7 events | 22816 | 21046 | 24869 | 19731 | 28046 |
|                | 82%   | 46%   | 82%   | 49%   | 71%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-35678          | ACIS-35678           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 23.153438           | 23.15749578126133    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | -46.188009          | -46.21518470775388   | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 244.952751          | 245.1123250744492    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O1        | Y       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | Y         | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  | CCD S4 on                             | Y         | Y       |
| [s] Observation start time (MET)  | 351593408.184000    | 351592114.07995      | CCD S5 on                             | N         | N       |
| Observation start date            | 2009-02-21T08:49:02 | 2009-02-21T08:28:34  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 351595408.184000    | 351596649.70517      | On-chip summing requested             | N         | N       |
| Observation end date              | 2009-02-21T09:22:22 | 2009-02-21T09:44:09  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect





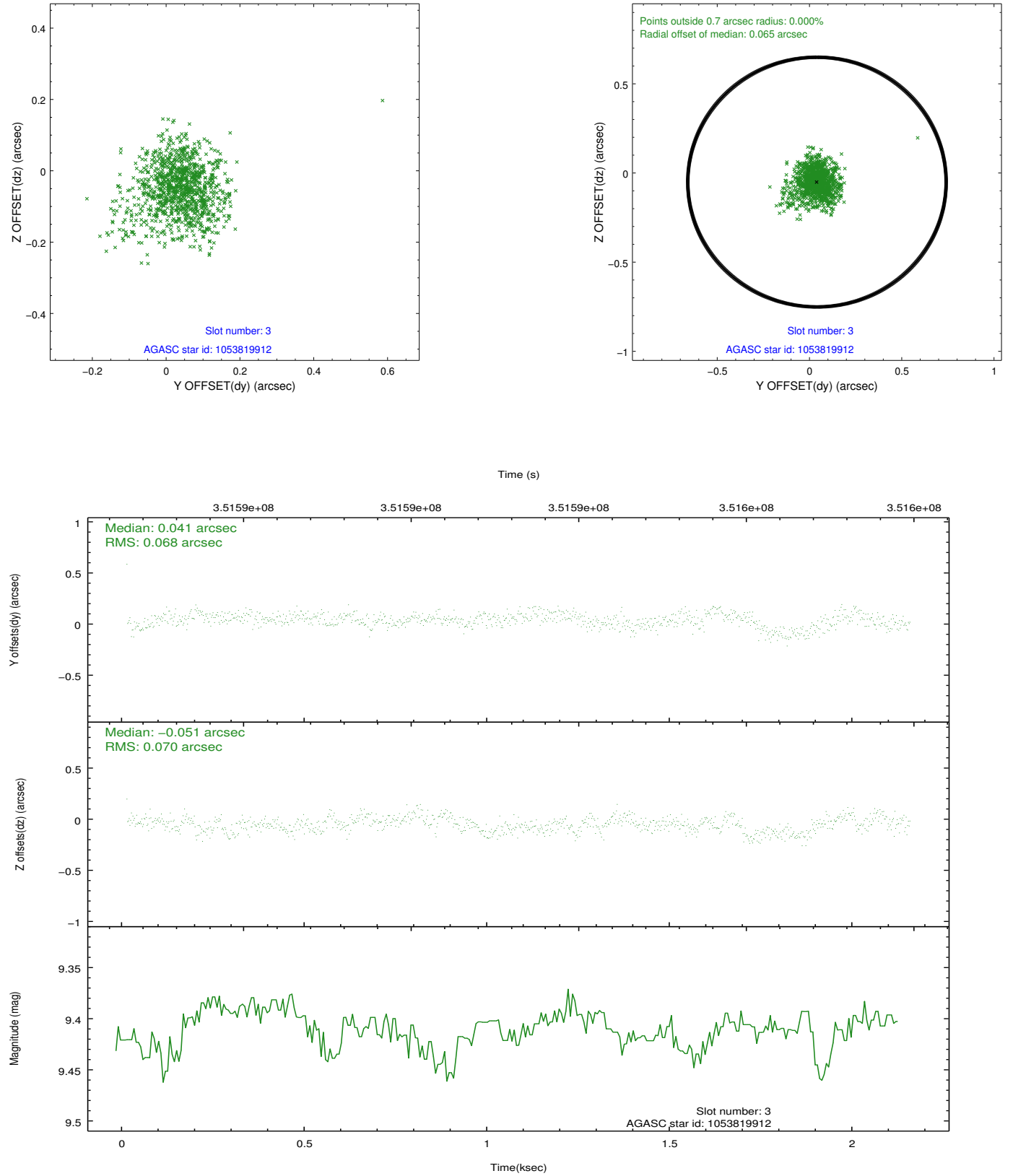
### Slot Statistics

| slot | status | id         | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mean_z   |
|------|--------|------------|-------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0    | FID    | ACIS-S-2   | 6.90  | 524   | -0.093 | -0.058 | 0.006 | 0.011 | 0.000000  | 0.000000   | -767.25  | -1738.07 |
| 1    | FID    | ACIS-S-4   | 6.98  | 523   | 0.114  | 0.043  | 0.006 | 0.010 | 0.000000  | 0.000000   | 2144.89  | 167.27   |
| 2    | FID    | ACIS-S-6   | 7.11  | 524   | -0.049 | 0.021  | 0.006 | 0.010 | 0.000000  | 0.000000   | 398.74   | 808.15   |
| 3    | GUIDE  | 1053819912 | 9.41  | 1046  | 0.041  | -0.051 | 0.101 | 0.170 | 22.962850 | -45.897194 | -745.29  | -875.38  |
| 4    | GUIDE  | 1053824056 | 10.00 | 1045  | 0.020  | 0.132  | 0.138 | 0.245 | 23.609918 | -46.311013 | -76.77   | 1216.81  |
| 5    | GUIDE  | 1053825560 | 10.31 | 1046  | 0.217  | 0.205  | 0.221 | 0.348 | 22.669609 | -46.710466 | 2213.50  | -282.37  |
| 6    | GUIDE  | 1053829024 | 6.61  | 1047  | -0.152 | -0.045 | 0.073 | 0.127 | 22.912525 | -45.575713 | -1736.66 | -1483.06 |
| 7    | GUIDE  | 1053824512 | 8.32  | 1046  | -0.110 | -0.268 | 0.091 | 0.148 | 22.859703 | -46.621574 | 1721.42  | 2.10     |

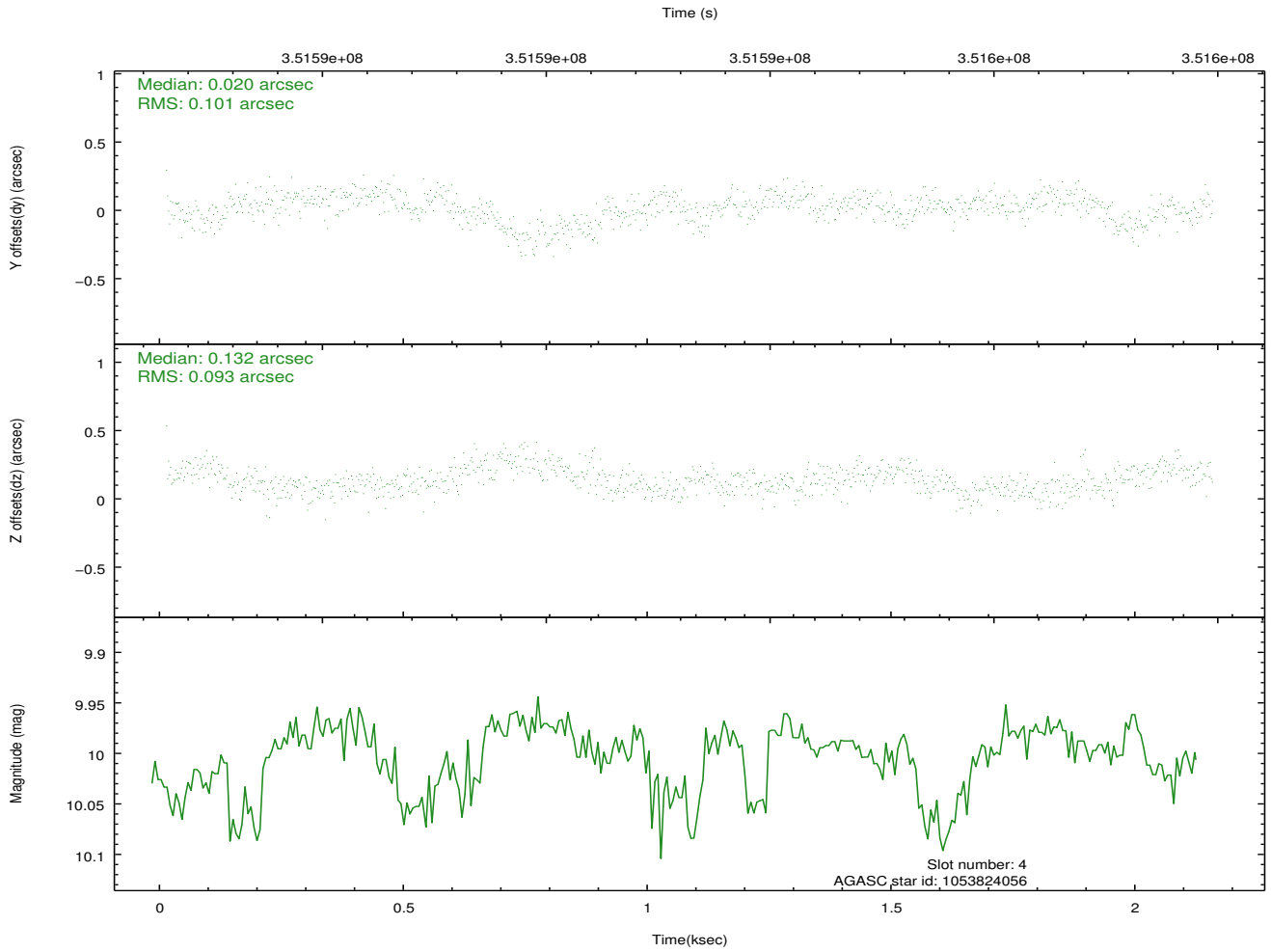
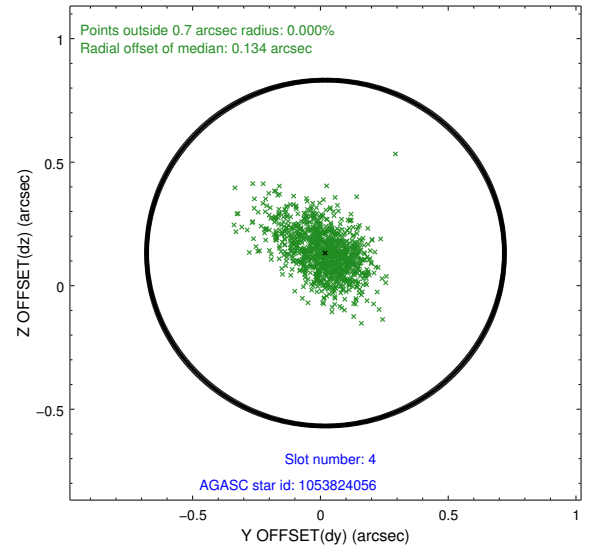
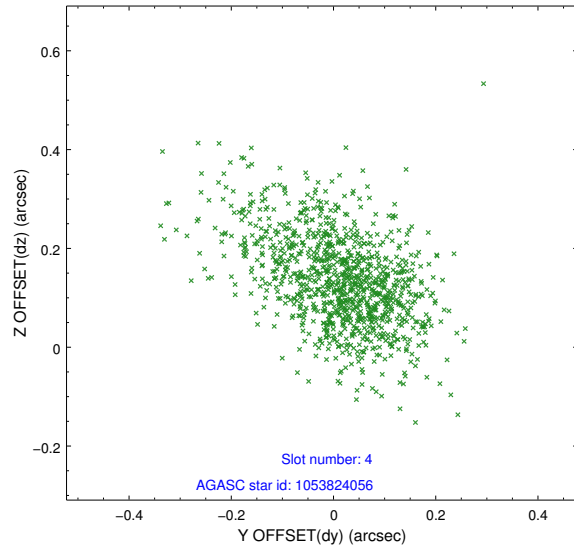


## 2.4 Star Slots

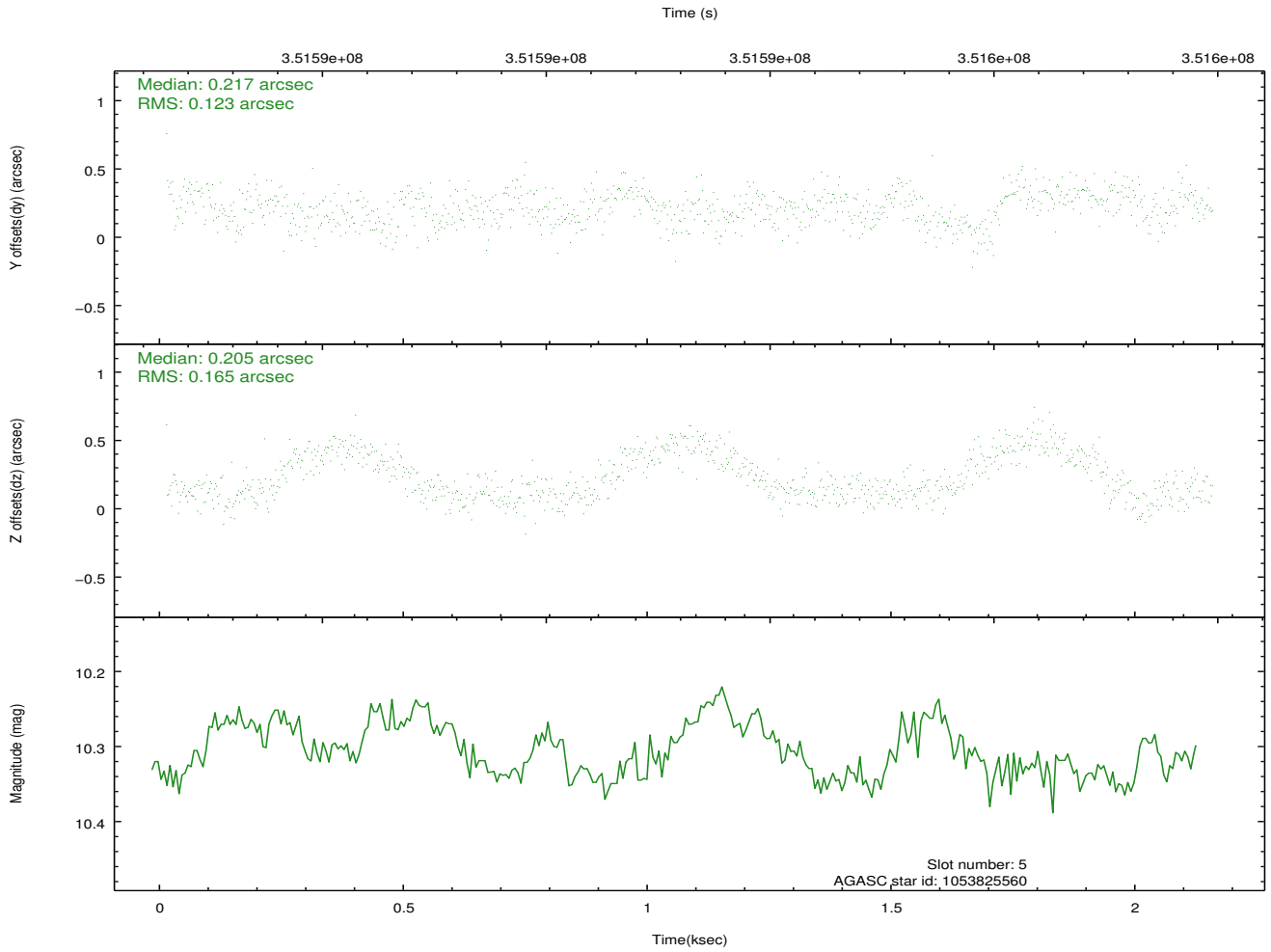
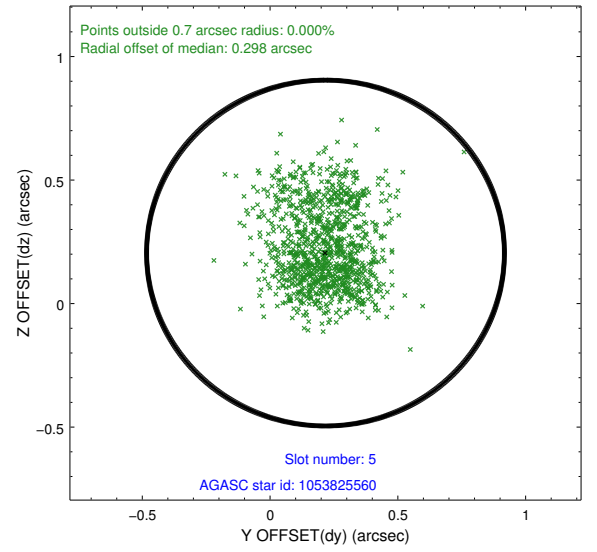
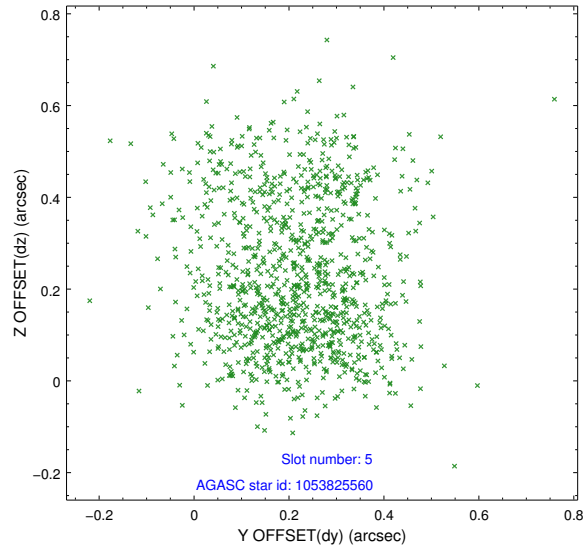
### 2.4.1 Slot 3



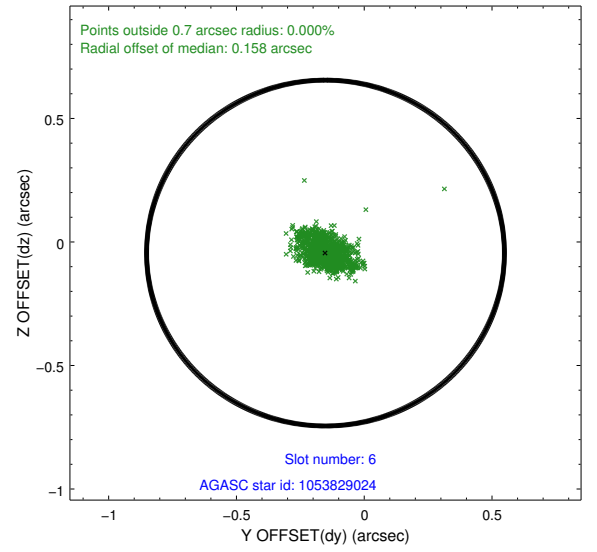
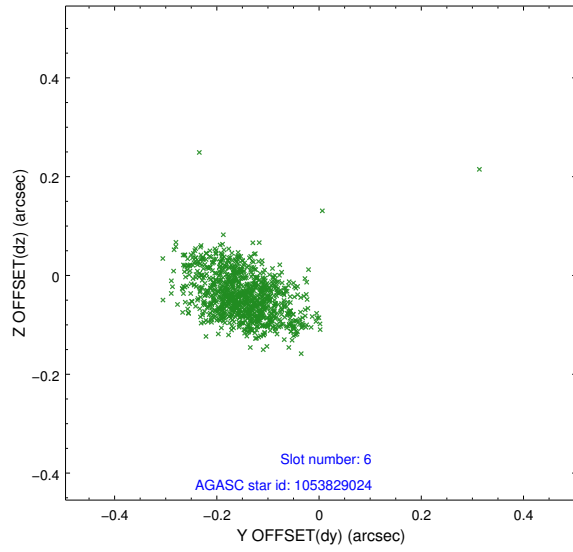
## 2.4.2 Slot 4



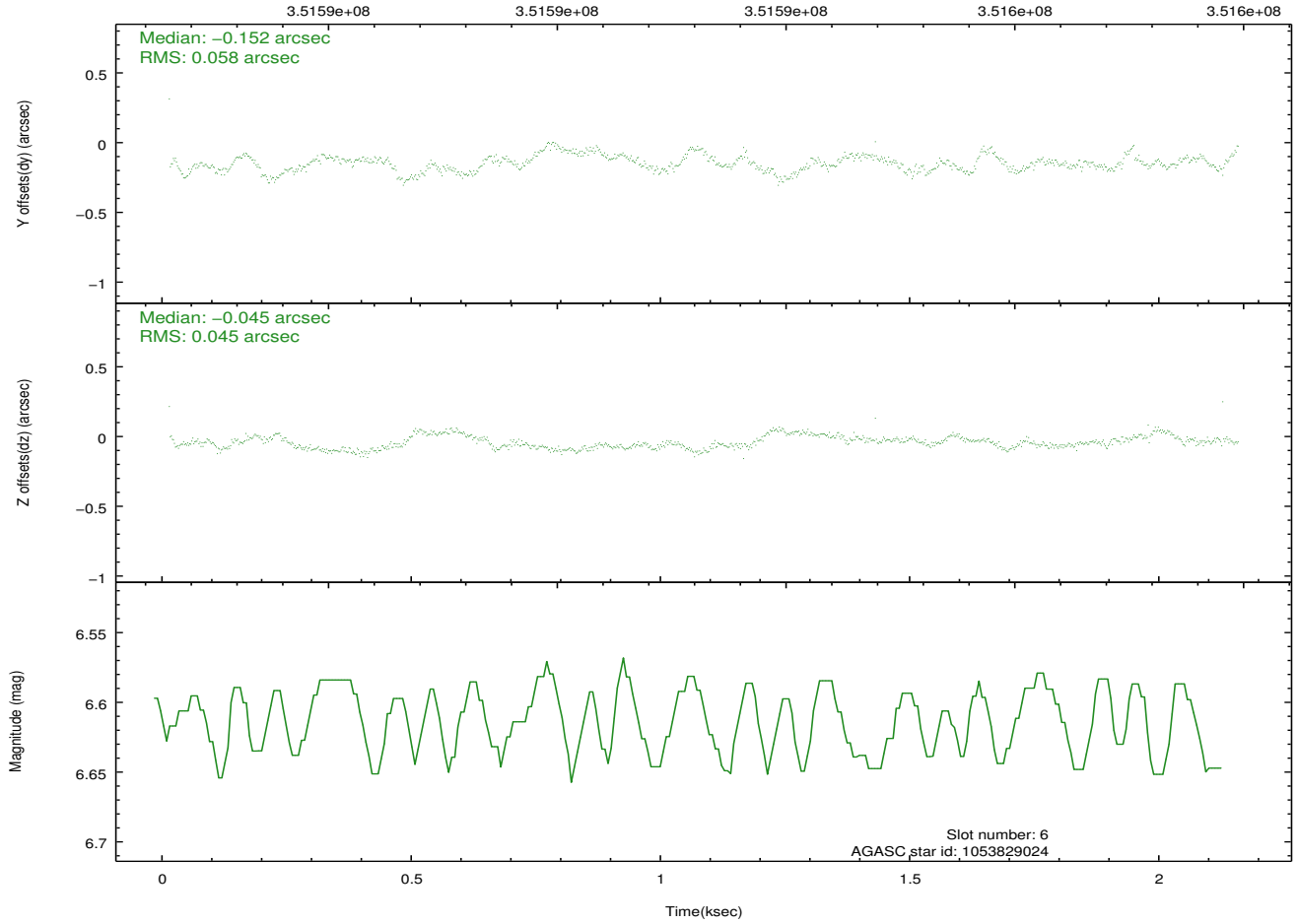
### 2.4.3 Slot 5



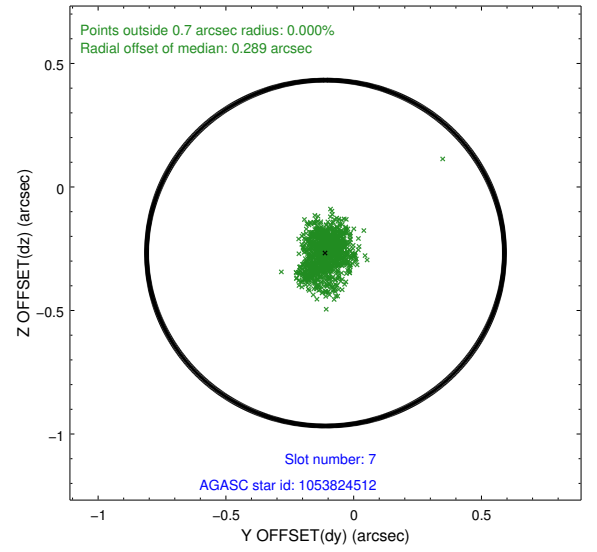
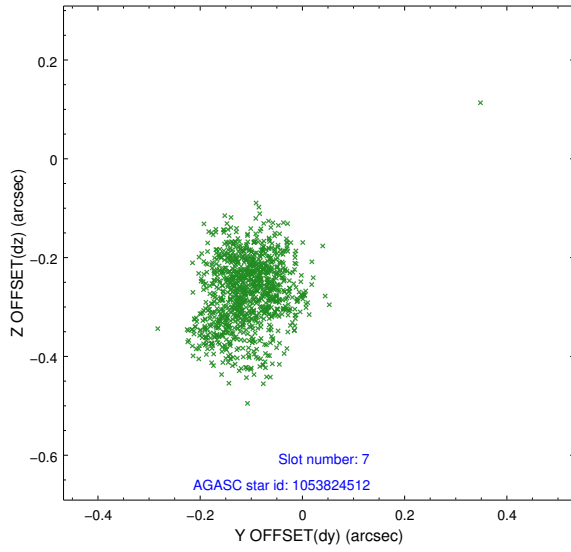
## 2.4.4 Slot 6



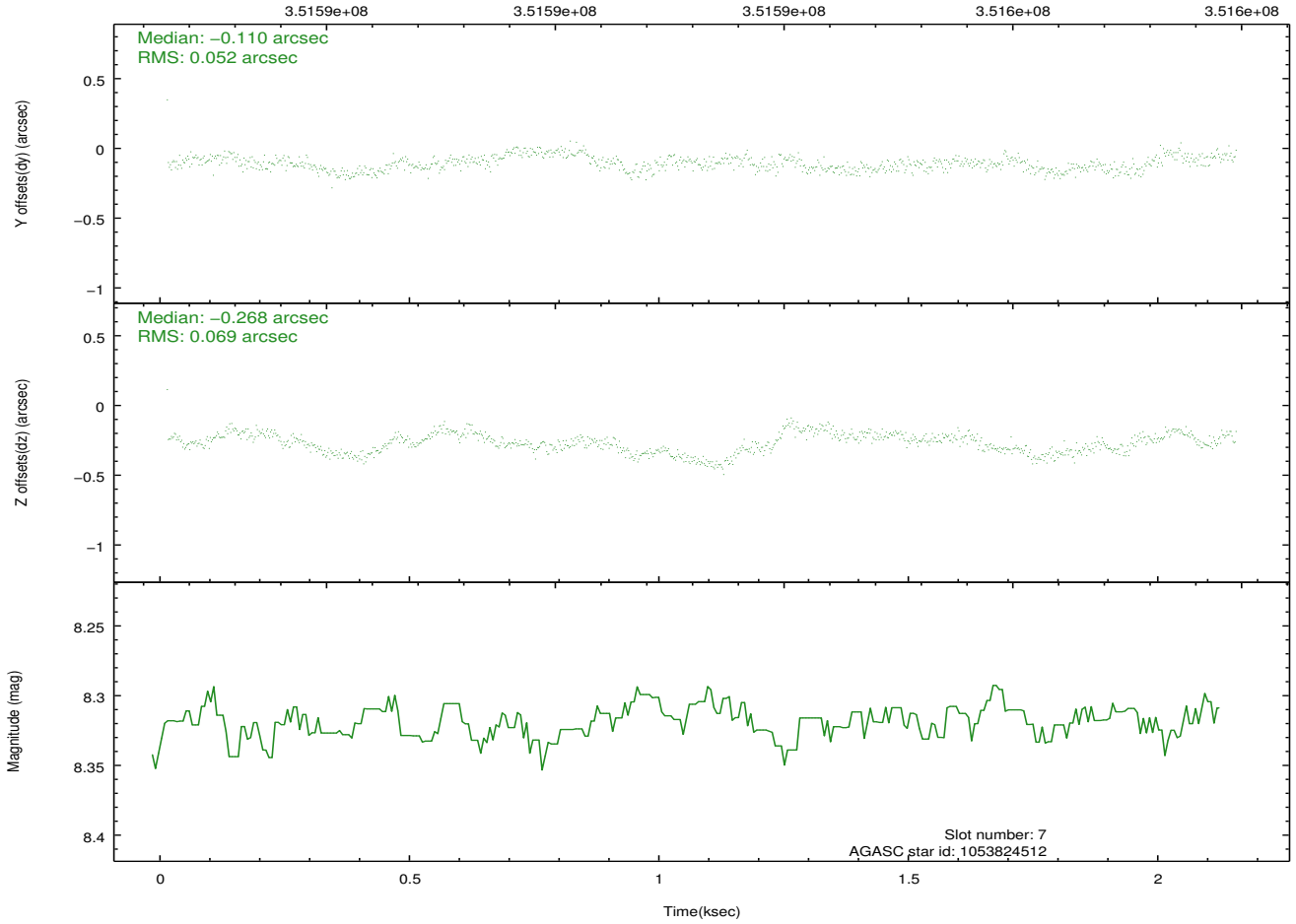
Time (s)



## 2.4.5 Slot 7

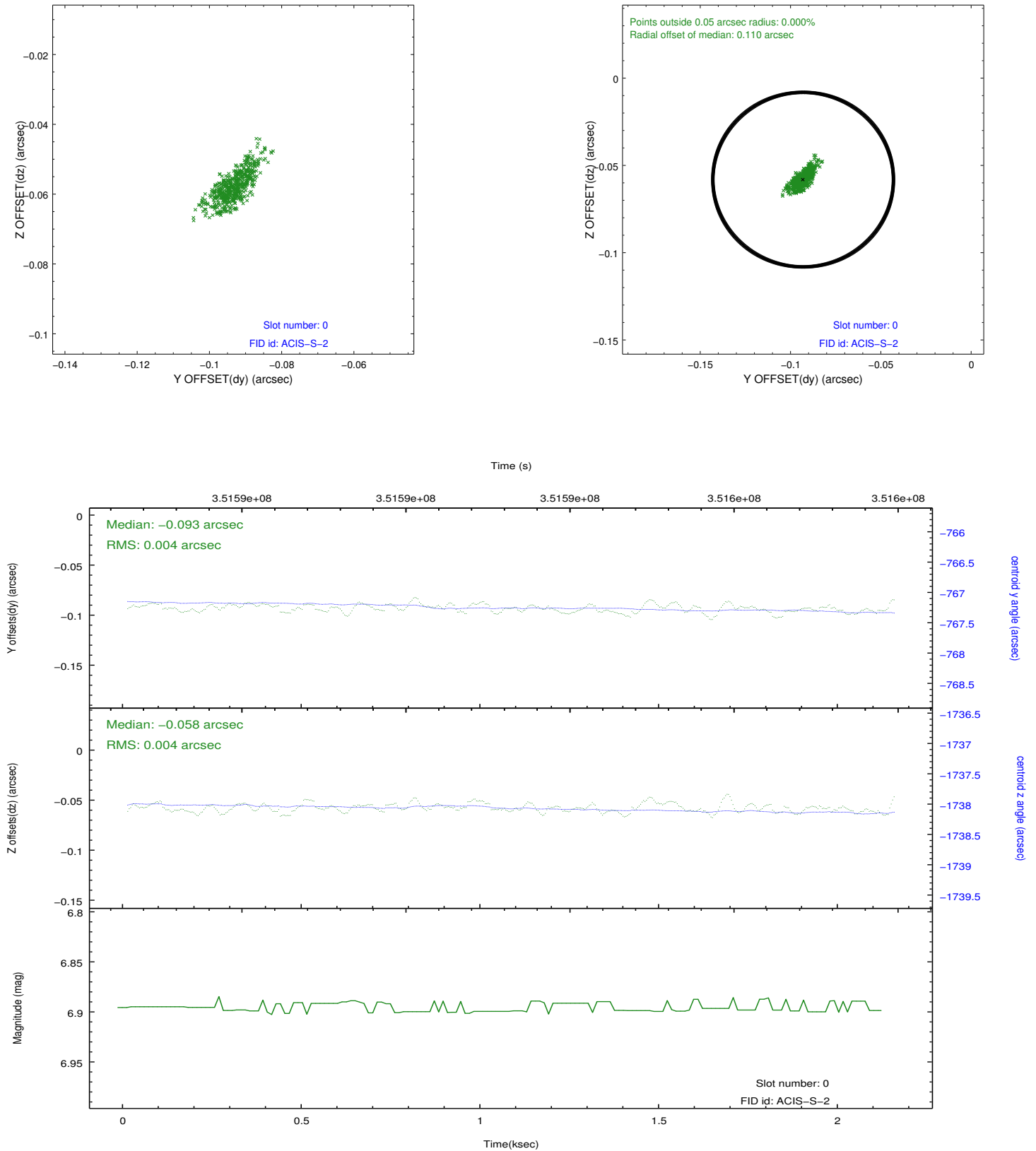


Time (s)

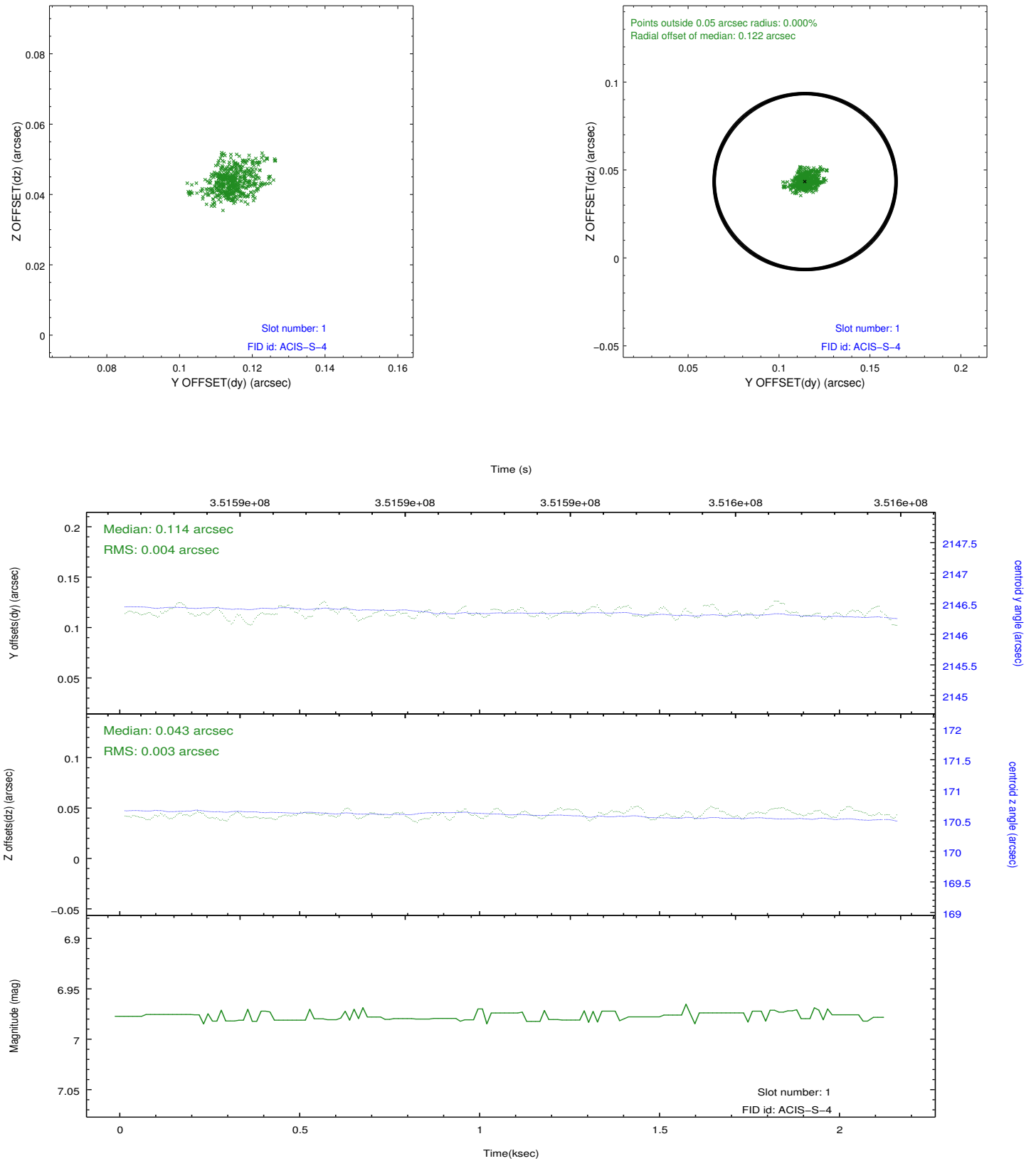


## 2.5 FID Slots

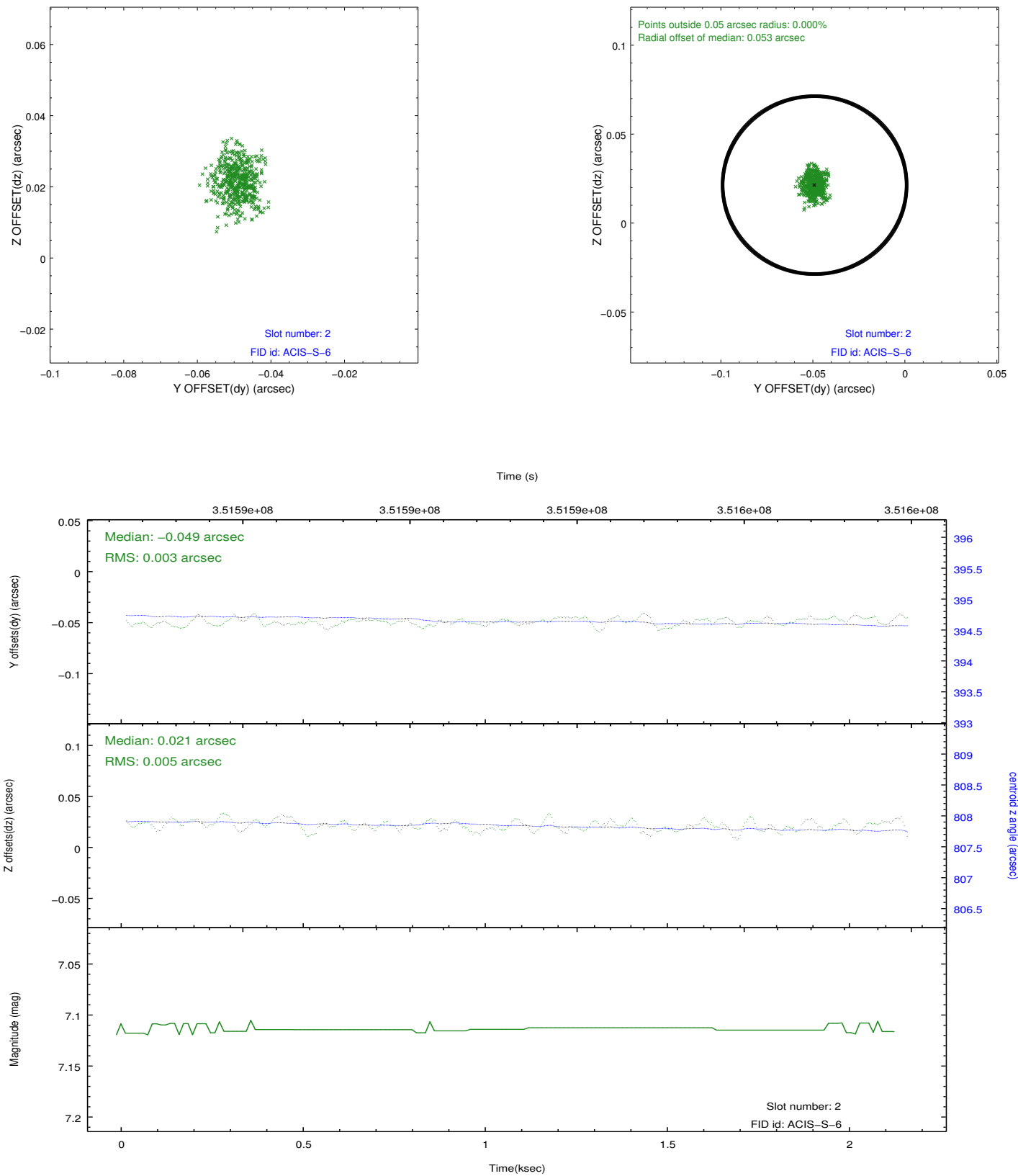
### 2.5.1 Slot 0



## 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)      | 2012.06.05  |
| V&V Edition                | 1           |
| V&V Disposition and Status | OK          |
| V&V Charge Time            | 2.14210001  |

### A.2 Comments