

# V&V Reference Report

## L2 ASCDS Version : 8.5.1

Observation 5770 - L2 Version 3  
Chandra X-Ray Center

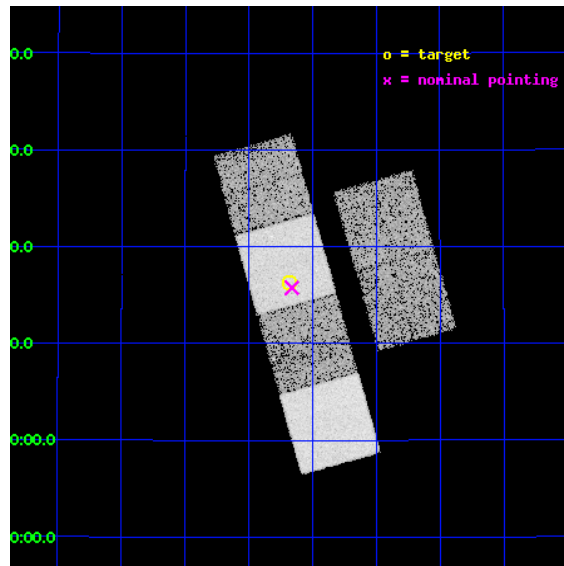
L2 Processing Date : Dec 15 2012

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# 1 Front

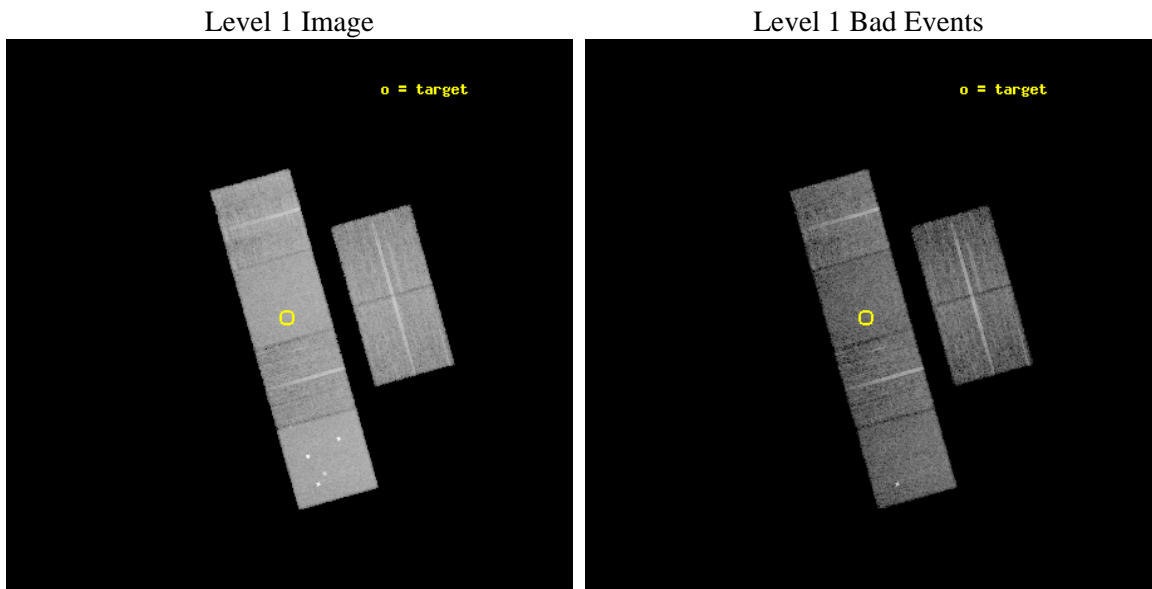
|          |  |   |
|----------|--|---|
| seq_num  | 800483                                 | Sequence number                             |
| obs_id   | 5770                                   | Observation id                              |
| title    | Alternate: The Eclipsing Binary ET Tau | Proposal title                              |
| observer | Professor Gordon Garmire               | Principal investigator                      |
| object   | ET Tau                                 | Source name                                 |
| dtcycle  | 0                                      | &#160                                       |
| cycle    | P                                      | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 84.420417                              | Observer's specified target RA [deg]        |
| dec_targ | 27.271278                              | Observer's specified target Dec [deg]       |
| ra_nom   | 84.415674660114                        | Nominal RA [deg]                            |
| dec_nom  | 27.26257090911                         | Nominal Dec [deg]                           |
| roll_nom | 254.20792654328                        | Nominal Roll [deg]                          |
| revision | 3                                      | Processing version of data                  |
| ontime   | 10022.399962664                        | Sum of GTIs [s]                             |
| livetime | 9895.4902995717                        | Livetime [s]                                |
| ontime2  | 10022.399962664                        | Sum of GTIs [s]                             |
| ontime3  | 10022.399962664                        | Sum of GTIs [s]                             |
| ontime5  | 10022.399962664                        | Sum of GTIs [s]                             |
| ontime6  | 10022.399962664                        | Sum of GTIs [s]                             |
| ontime7  | 10022.399962664                        | Sum of GTIs [s]                             |
| ontime8  | 10022.399962664                        | Sum of GTIs [s]                             |
| l2events | 124156                                 | Number of level 2 events                    |



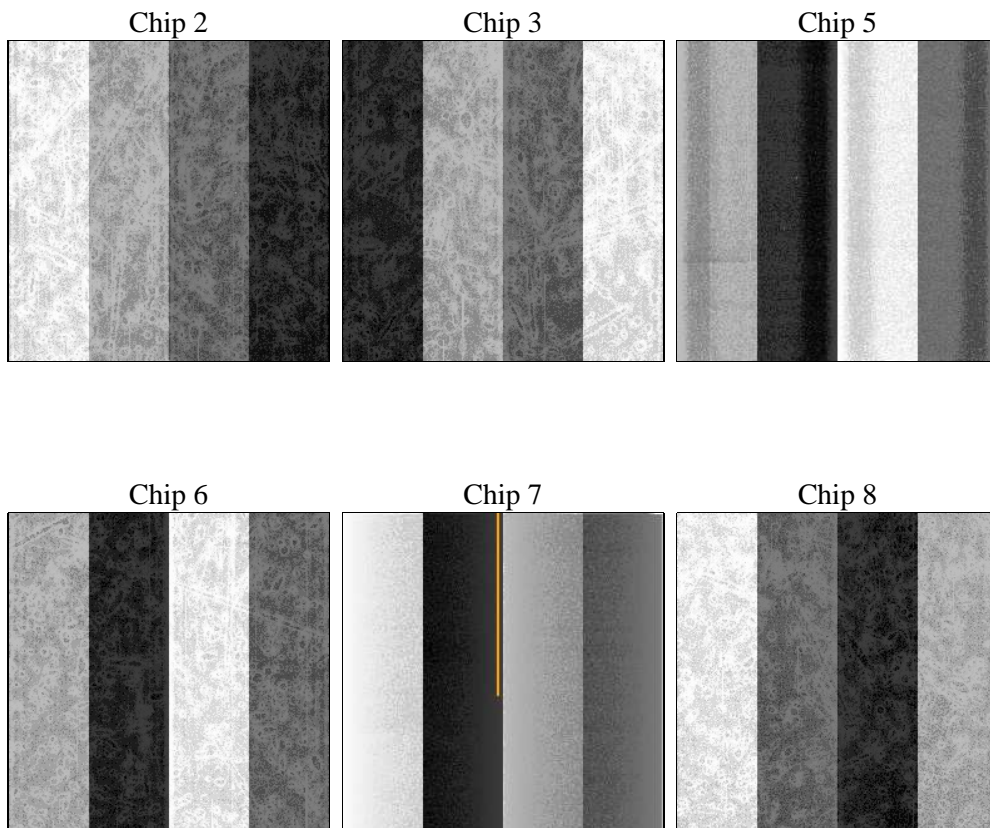
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 10000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.5.1               | Processing system revision     | ontime         | 10022.399962664 | Sum of GTIs [s]                         |
| caldsver | 4.5.5               | &#160                          | ontime2        | 10022.399962664 | Sum of GTIs [s]                         |
| date     | 2012-12-15T05:42:09 | Date and time of file creation | ontime3        | 10022.399962664 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime5        | 10022.399962664 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 10022.399962664 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10022.399962664 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 10022.399962664 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 542716          | Number of level 1 events                |

### 2.1.4 Events

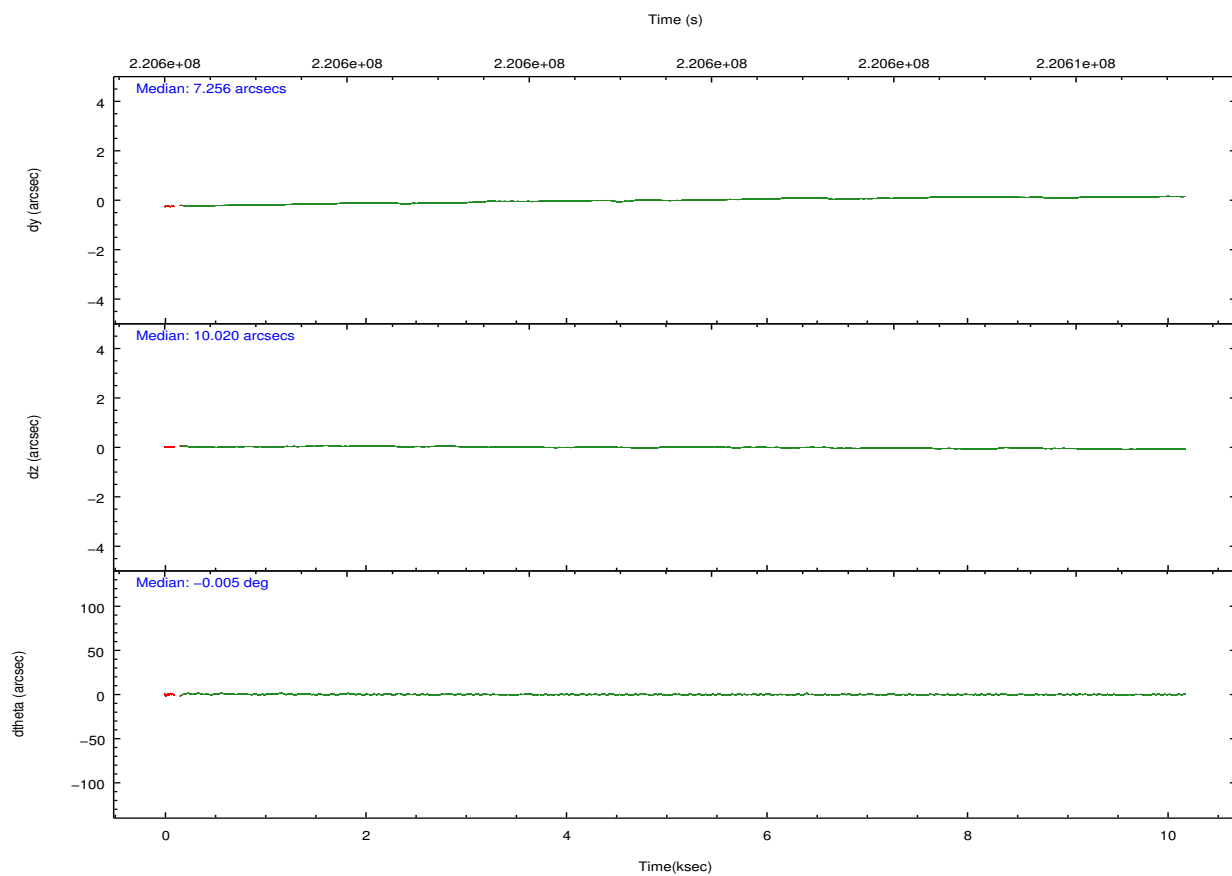
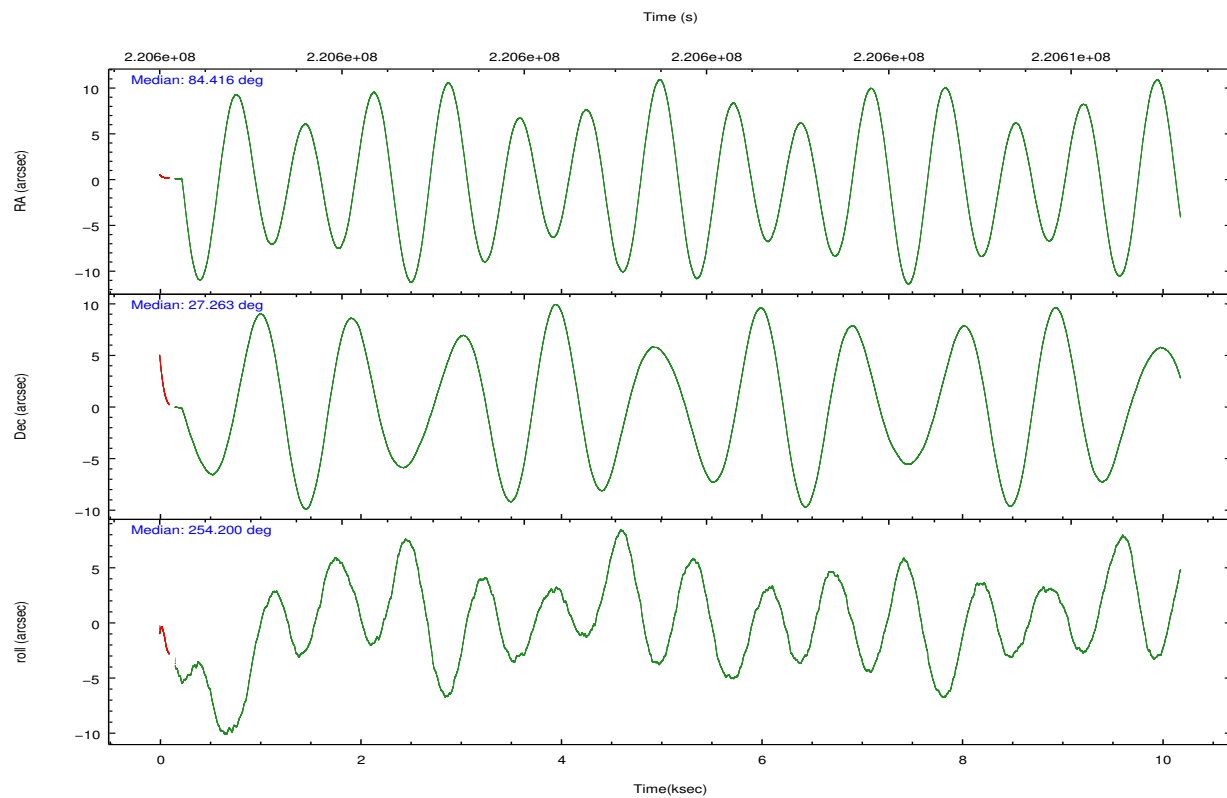
|                 | ccd 2 | ccd 3 | ccd 5  | ccd 6 | ccd 7  | ccd 8 |                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|--------|-------|--------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 76659 | 72903 | 119556 | 74480 | 102853 | 96265 | grade 0 events | 4050  | 3984  | 10222 | 3834  | 3927  | 6981  |
| rejected events | 67467 | 63780 | 61880  | 65072 | 59749  | 74664 |                | 5%    | 5%    | 8%    | 5%    | 3%    | 7%    |
| rejected %      | 88%   | 87%   | 51%    | 87%   | 58%    | 77%   | grade 1 events | 54    | 32    | 134   | 41    | 111   | 63    |
|                 |       |       |        |       |        |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |        |       |        |       | grade 2 events | 1956  | 1727  | 16174 | 1981  | 8840  | 4637  |
|                 |       |       |        |       |        |       |                | 2%    | 2%    | 13%   | 2%    | 8%    | 4%    |
|                 |       |       |        |       |        |       | grade 3 events | 838   | 853   | 2129  | 911   | 3846  | 2511  |
|                 |       |       |        |       |        |       |                | 1%    | 1%    | 1%    | 1%    | 3%    | 2%    |
|                 |       |       |        |       |        |       | grade 4 events | 866   | 884   | 1990  | 871   | 3754  | 2184  |
|                 |       |       |        |       |        |       |                | 1%    | 1%    | 1%    | 1%    | 3%    | 2%    |
|                 |       |       |        |       |        |       | grade 5 events | 3032  | 3325  | 8394  | 3424  | 9730  | 4355  |
|                 |       |       |        |       |        |       |                | 3%    | 4%    | 7%    | 4%    | 9%    | 4%    |
|                 |       |       |        |       |        |       | grade 6 events | 1494  | 1685  | 27252 | 1832  | 22799 | 5333  |
|                 |       |       |        |       |        |       |                | 1%    | 2%    | 22%   | 2%    | 22%   | 5%    |
|                 |       |       |        |       |        |       | grade 7 events | 64369 | 60413 | 53261 | 61586 | 49846 | 70201 |
|                 |       |       |        |       |        |       |                | 83%   | 82%   | 44%   | 82%   | 48%   | 72%   |



## 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                 | 84.407745           | 84.41567466011361    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 27.288881           | 27.26257090911013    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 254.054923          | 254.207926543277     | [s] Primary exposure time             | 0.000000  | 3.2     |
| [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)  | 220596687.184000    | 220595686.42217      |                                       |           |         |
| Observation start date            | 2004-12-28T04:50:23 | 2004-12-28T04:34:46  |                                       |           |         |
| [s] Observation end time (MET)    | 220606687.184000    | 220607676.87271      |                                       |           |         |
| Observation end date              | 2004-12-28T07:37:03 | 2004-12-28T07:54:36  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect

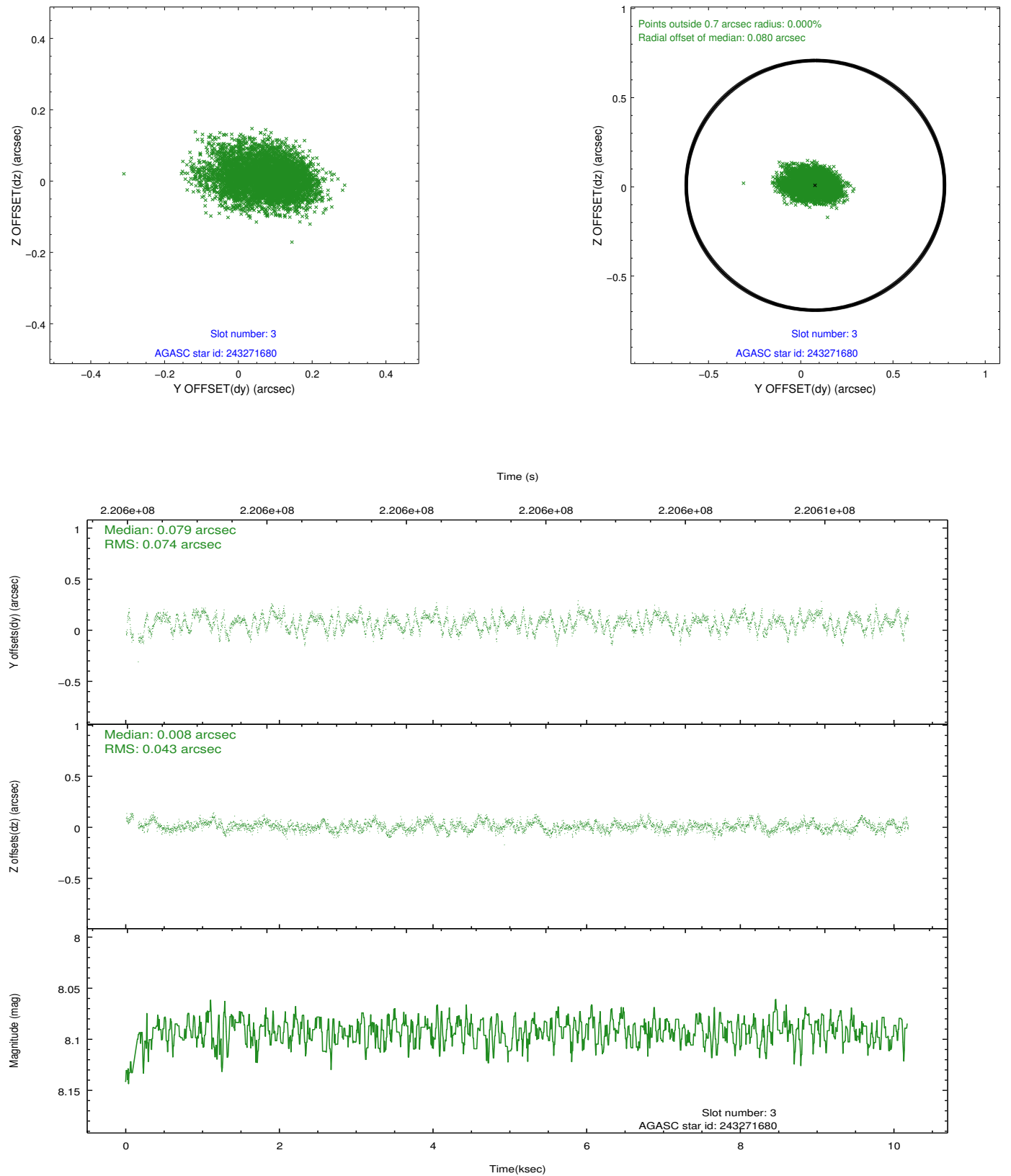


Slot Statistics

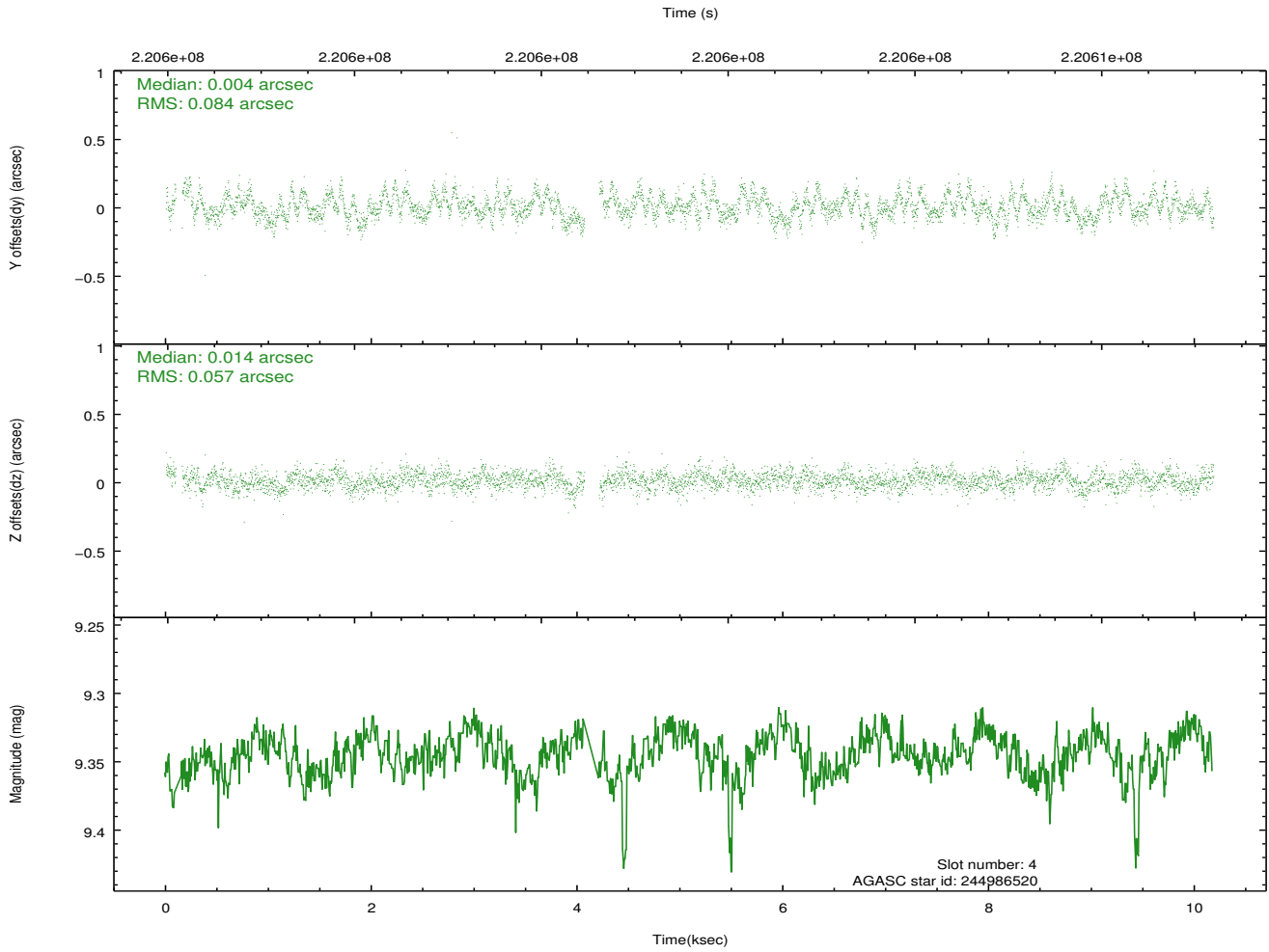
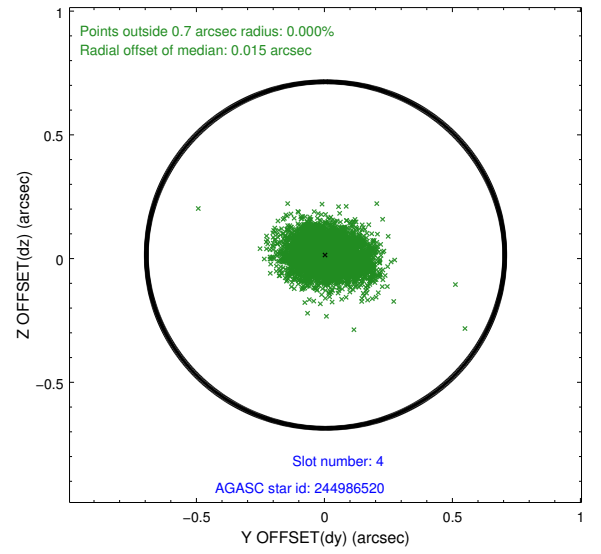
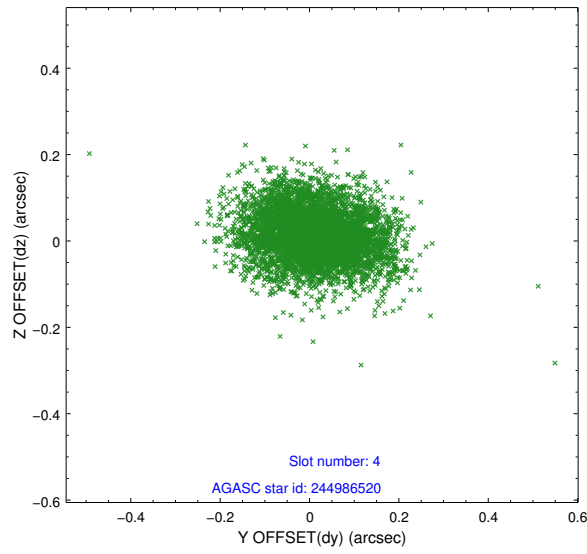
|  |        |           |      |       |        |        |       |
|--|--------|-----------|------|-------|--------|--------|-------|
|  | status | id        | mag  | n_pts | med_dy | med_dz | drl   |
|  | FID    | ACIS-S-2  | 7.10 | 2470  | -0.068 | -0.046 | 0.006 |
|  | FID    | ACIS-S-4  | 7.20 | 2469  | 0.069  | 0.031  | 0.006 |
|  | FID    | ACIS-S-6  | 7.35 | 2468  | -0.029 | 0.023  | 0.007 |
|  | GUIDE  | 243271680 | 8.09 | 4938  | 0.079  | 0.008  | 0.091 |
|  | GUIDE  | 244986520 | 9.34 | 4861  | 0.004  | 0.014  | 0.108 |
|  | GUIDE  | 244987640 | 8.56 | 4937  | -0.113 | -0.027 | 0.061 |
|  | GUIDE  | 244982936 | 8.92 | 4937  | 0.031  | 0.001  | 0.070 |
| 0.0000.0000.0000.0000000.00000000.000.00 |        |           |      |       |        |        |       |

## 2.4 Star Slots

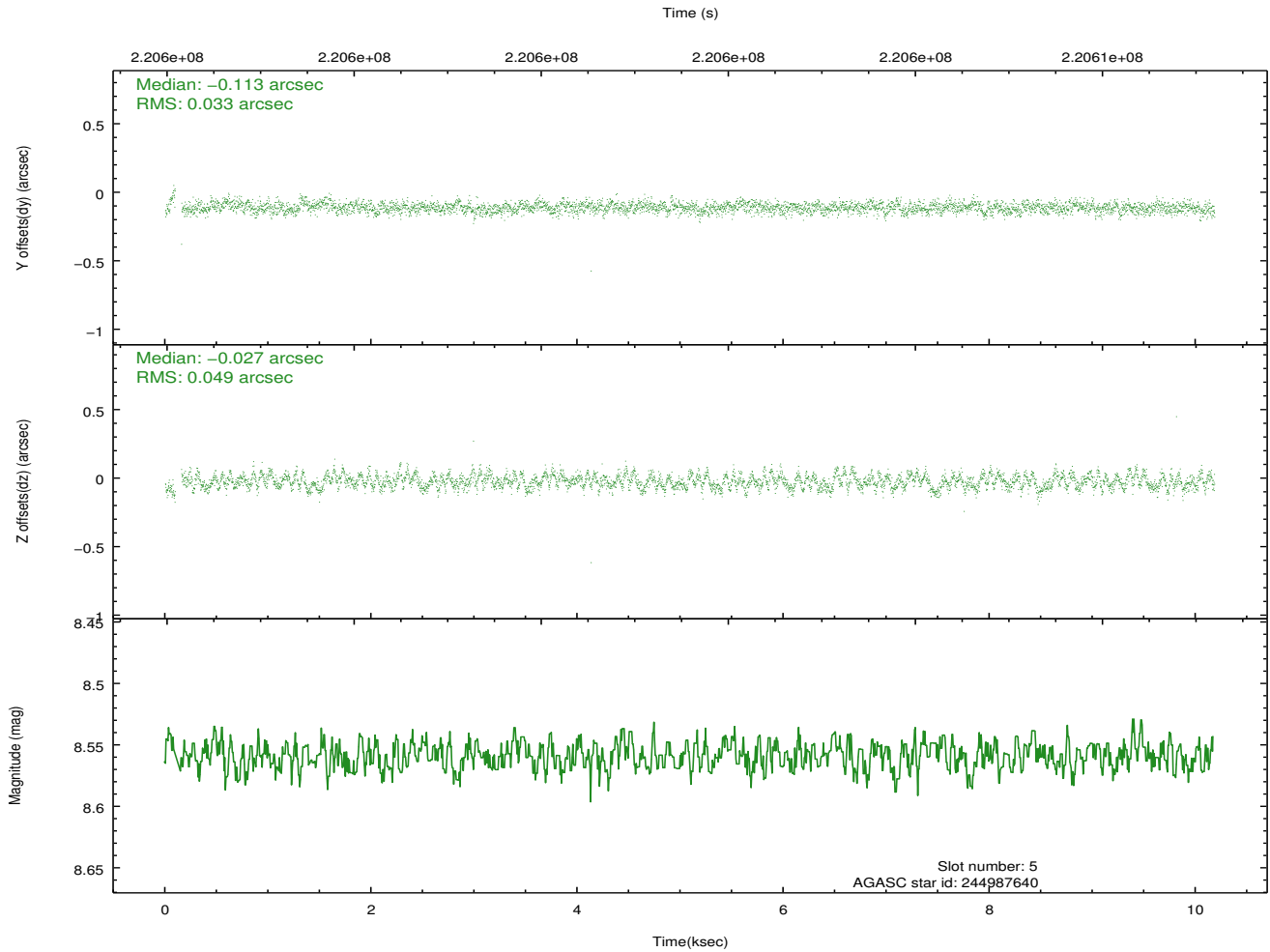
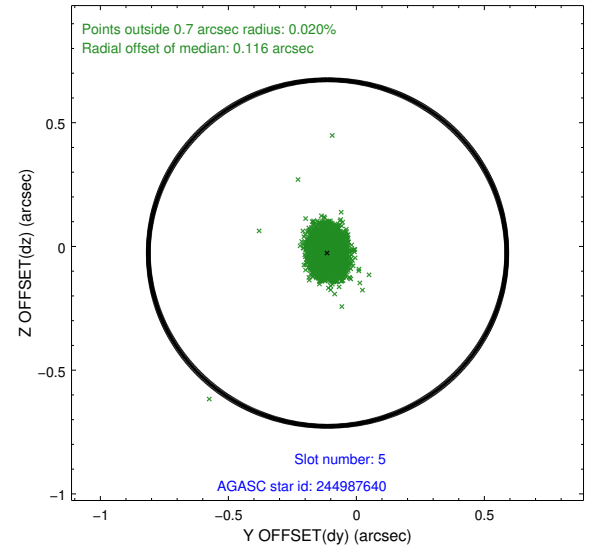
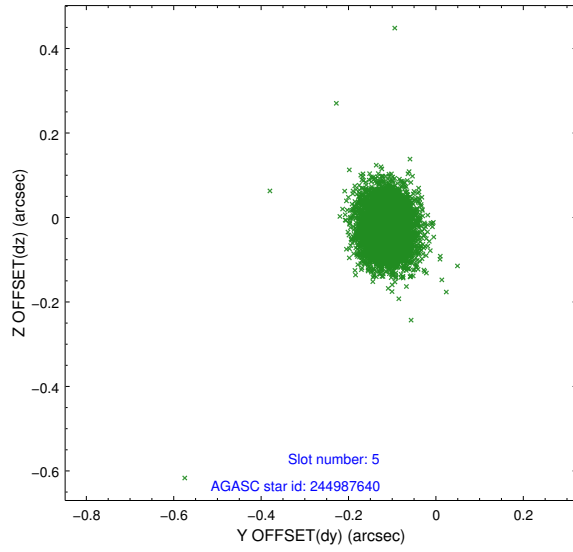
### 2.4.1 Slot 3



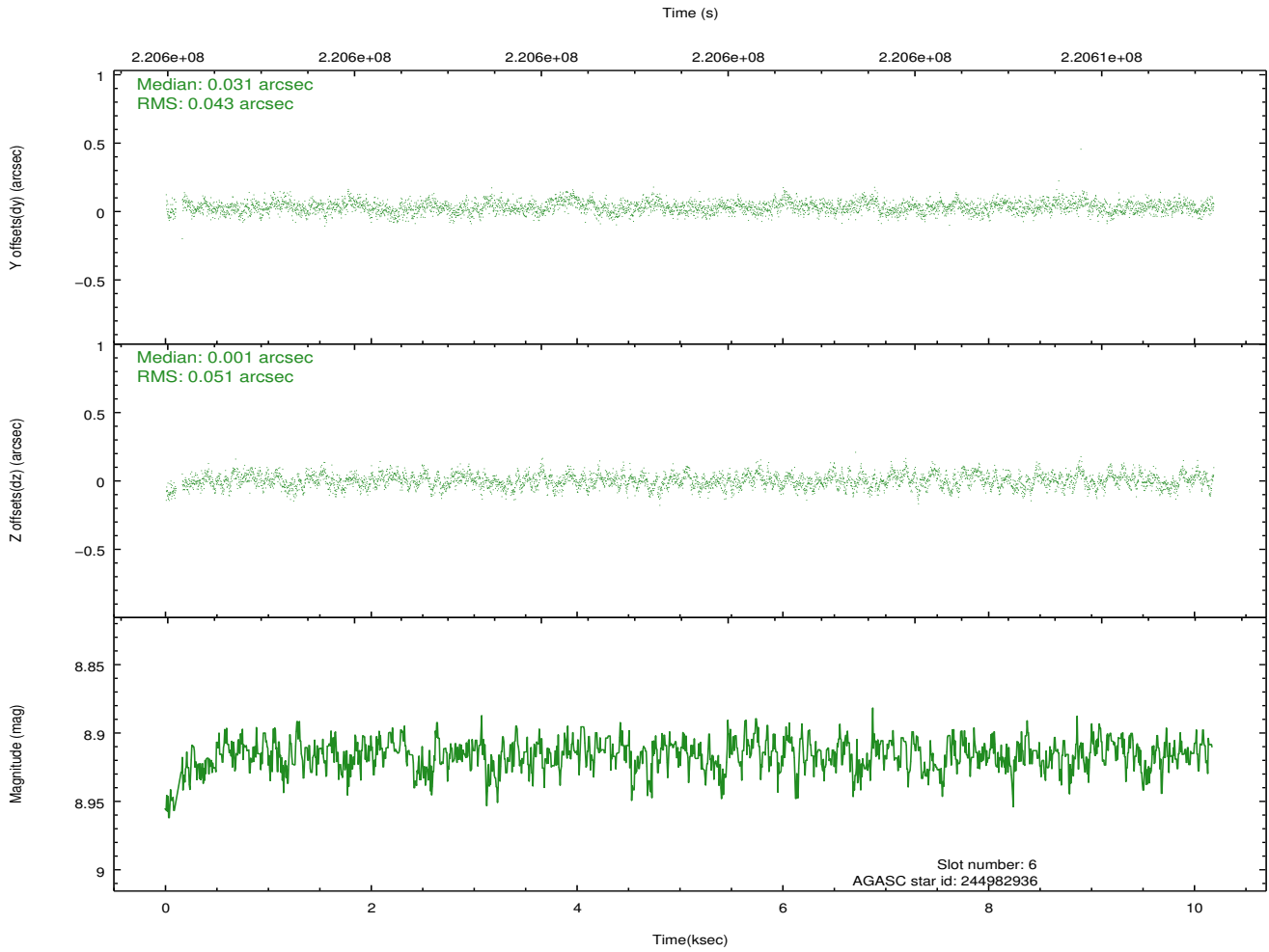
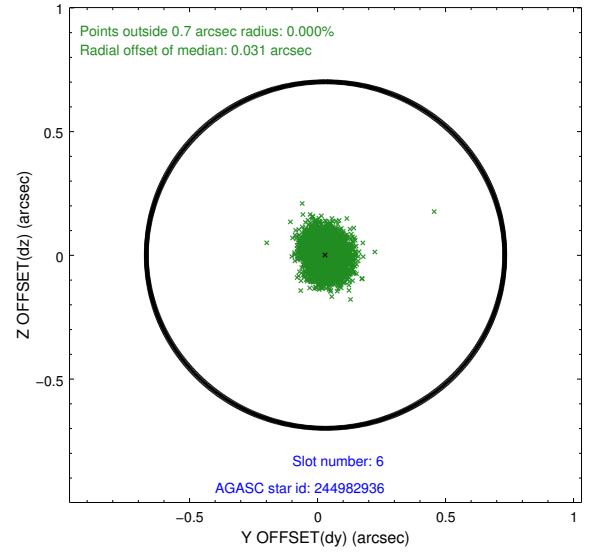
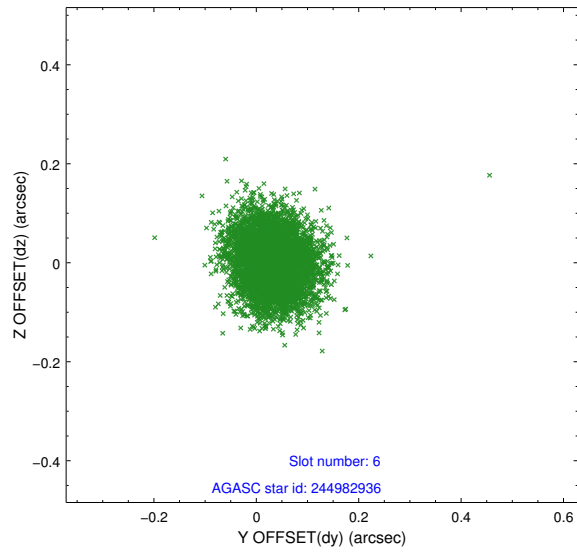
## 2.4.2 Slot 4



### 2.4.3 Slot 5



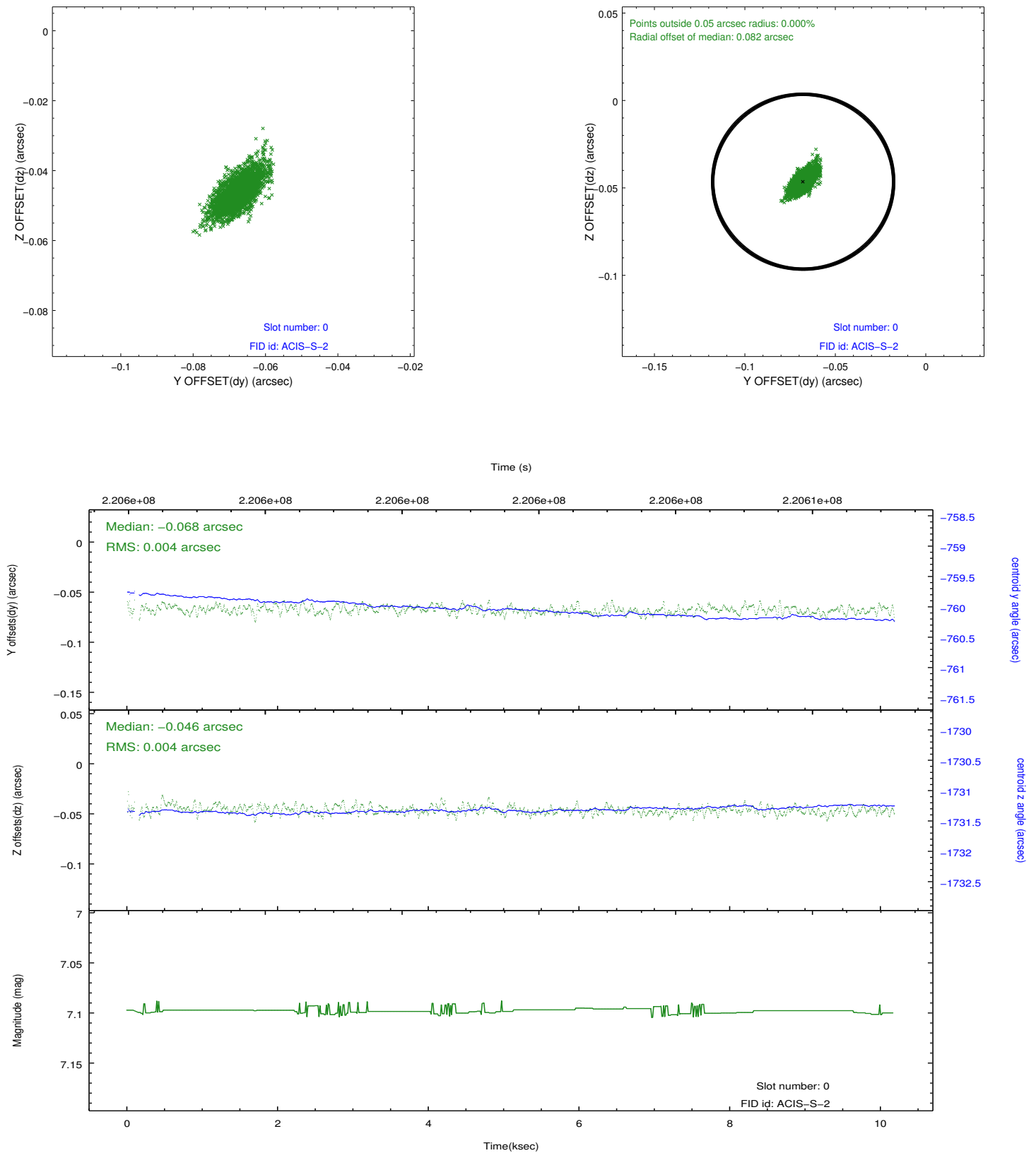
## 2.4.4 Slot 6



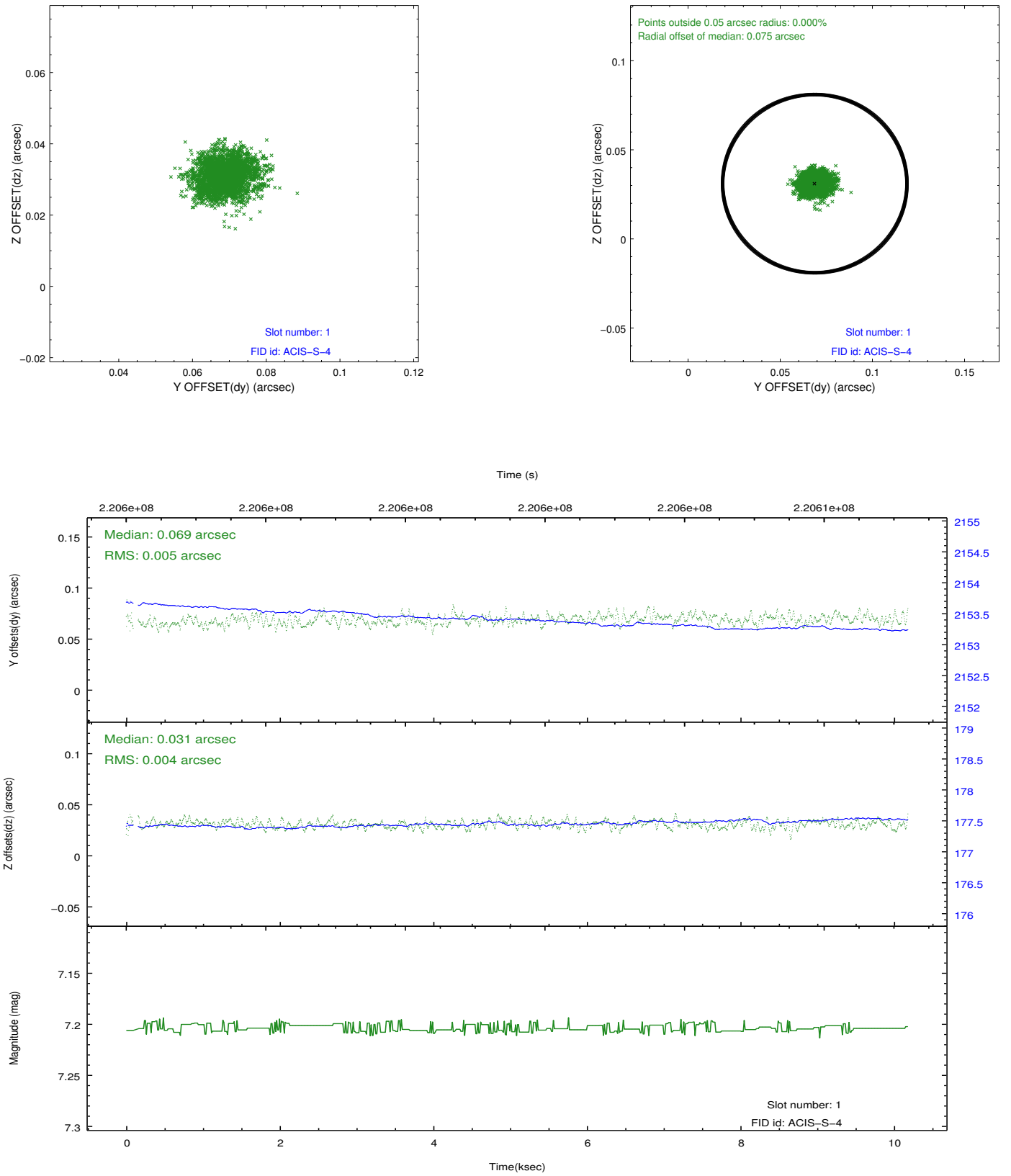


## 2.5 FID Slots

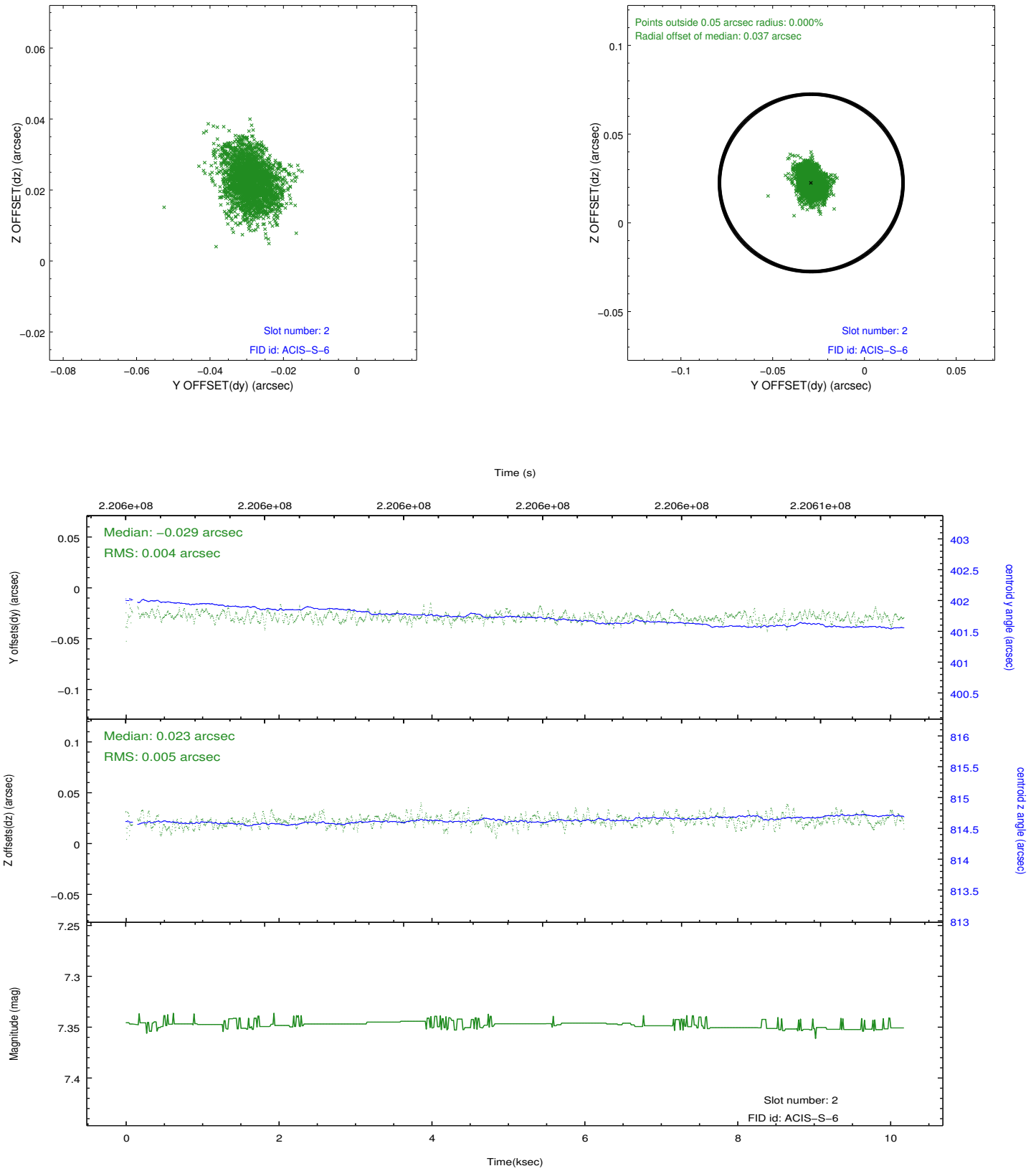
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2013.01.07    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 10.02239      |

### A.2 Comments