

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 7226 - L2 Version 2  
Chandra X-Ray Center

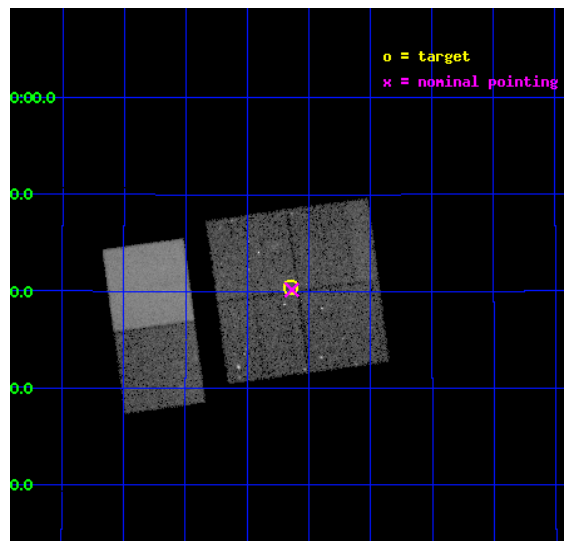
L2 Processing Date : Mar 17 2012

## 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

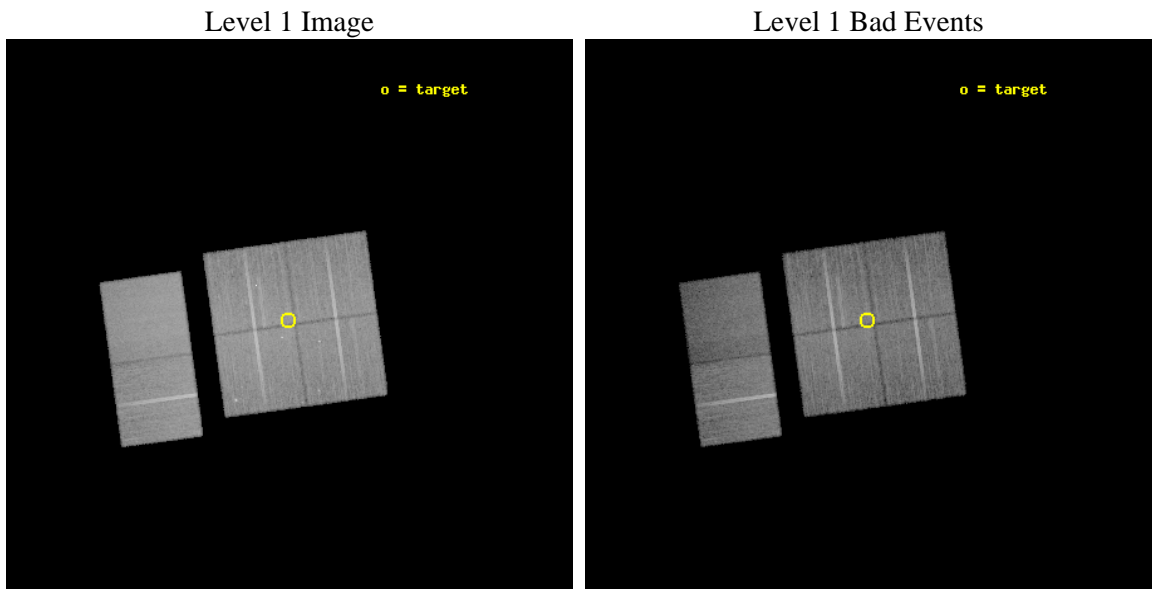
|          |   |   |
|----------|---|---|
| seq_num  | 600484  | Sequence number                             |
| obs_id   | 7226  | Observation id                              |
| title    | The Chandra ACIS Survey of M33 (ChASem33): A Deep Survey of the Nearest Face-on Spiral Galaxy | Proposal title                              |
| observer | Dr Manami Sasaki  | Principal investigator                      |
| object   | M33 Field 4   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 23.286938   | Observer's specified target RA [deg]        |
| dec_targ | 30.673589   | Observer's specified target Dec [deg]       |
| ra_nom   | 23.284206259534   | Nominal RA [deg]                            |
| dec_nom  | 30.669570714182   | Nominal Dec [deg]                           |
| roll_nom | 262.21009251625   | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 25171.117925704   | Sum of GTIs [s]                             |
| livetime | 24852.386074301   | Livetime [s]                                |
| ontime0  | 25177.599906206   | Sum of GTIs [s]                             |
| ontime1  | 25177.599906206   | Sum of GTIs [s]                             |
| ontime2  | 25177.599906206   | Sum of GTIs [s]                             |
| ontime3  | 25171.117925704   | Sum of GTIs [s]                             |
| ontime6  | 25177.599906206   | Sum of GTIs [s]                             |
| ontime7  | 25177.599906206   | Sum of GTIs [s]                             |
| l2events | 159935  | Number of level 2 events                    |



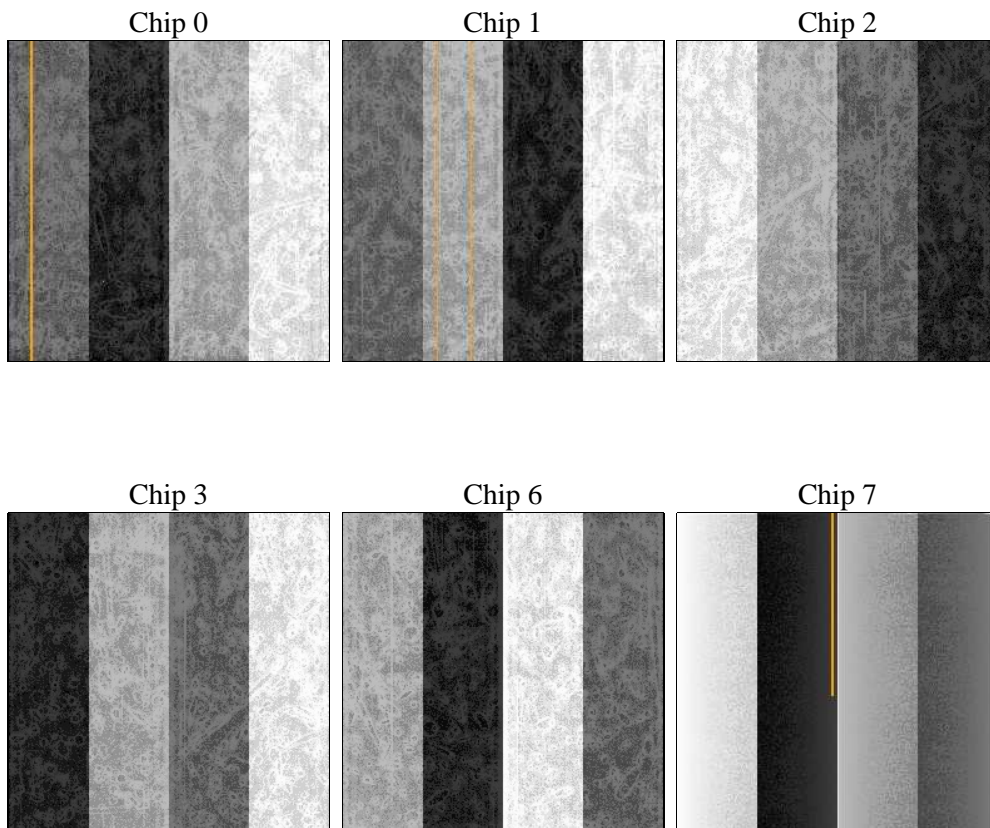
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 25000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.3               | Processing system revision     | ontime         | 25171.117925704 | Sum of GTIs [s]                         |
| caldsver | 4.4.8               | &#160                          | ontime0        | 25177.599906206 | Sum of GTIs [s]                         |
| date     | 2012-03-17T16:24:54 | Date and time of file creation | ontime1        | 25177.599906206 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 25177.599906206 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 25171.117925704 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 25177.599906206 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 25177.599906206 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1059008         | Number of level 1 events                |

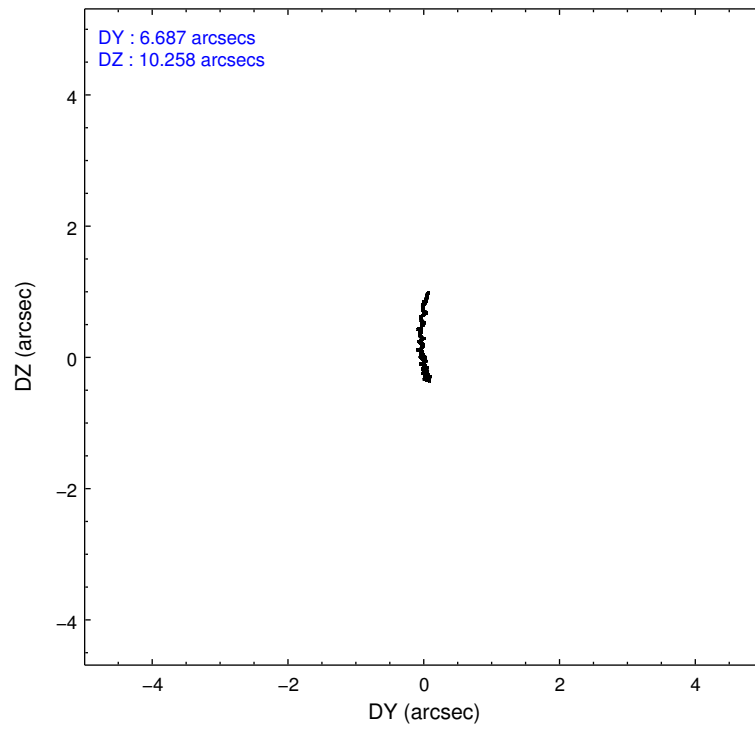
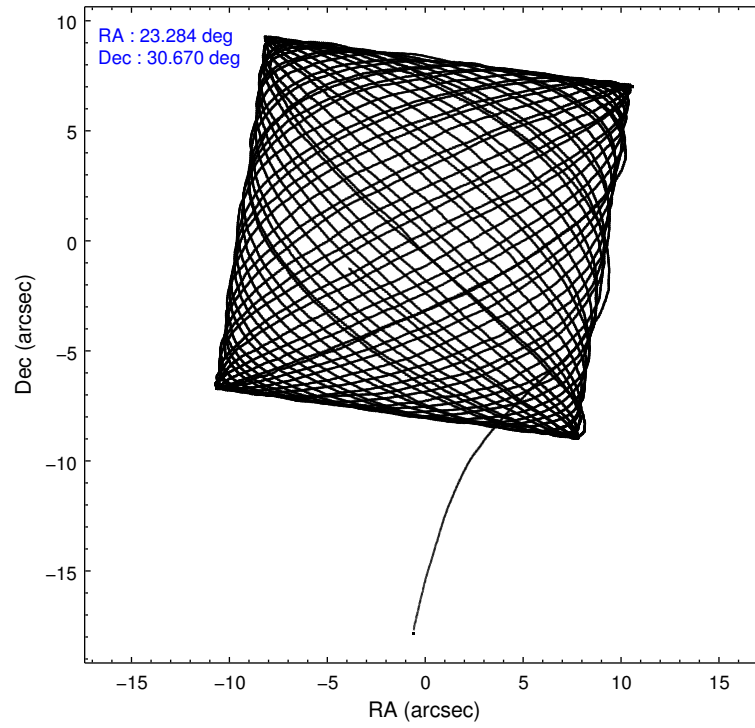
### 2.1.4 Events

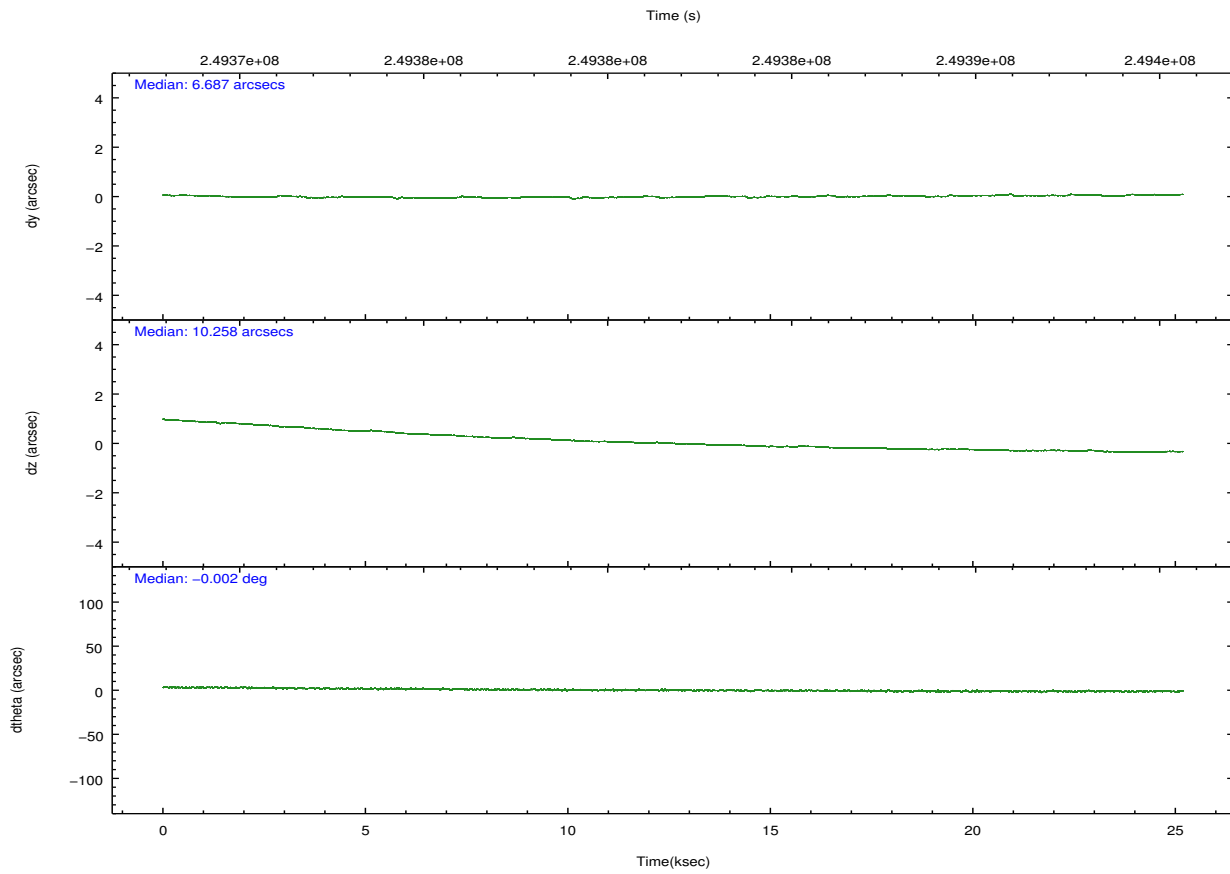
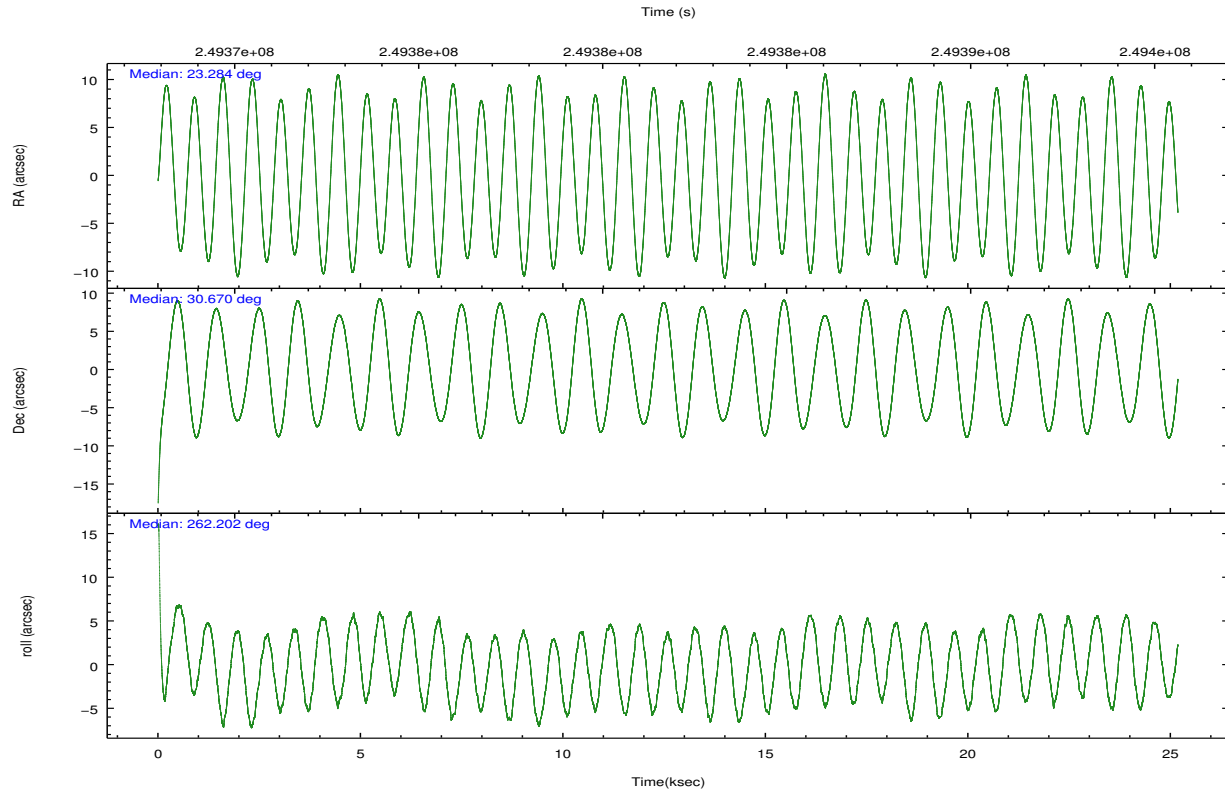
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7  |                | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|-------|
| level 1 events  | 162458 | 159090 | 181353 | 180018 | 180250 | 195839 | grade 0 events | 6569   | 6862   | 7925   | 8077   | 6613   | 7707  |
| rejected events | 145368 | 140573 | 162676 | 161397 | 162287 | 109842 |                | 4%     | 4%     | 4%     | 4%     | 3%     | 3%    |
| rejected %      | 89%    | 88%    | 89%    | 89%    | 90%    | 56%    | grade 1 events | 83     | 92     | 109    | 125    | 123    | 164   |
|                 |        |        |        |        |        |        |                | 0%     | 0%     | 0%     | 0%     | 0%     | 0%    |
|                 |        |        |        |        |        |        | grade 2 events | 4019   | 4149   | 4267   | 3838   | 3968   | 17775 |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 2%     | 2%     | 2%     | 9%    |
|                 |        |        |        |        |        |        | grade 3 events | 2020   | 2060   | 1870   | 2000   | 2037   | 8597  |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 1%     | 1%     | 1%     | 4%    |
|                 |        |        |        |        |        |        | grade 4 events | 1792   | 2146   | 1983   | 1957   | 2003   | 8321  |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 1%     | 1%     | 1%     | 4%    |
|                 |        |        |        |        |        |        | grade 5 events | 5759   | 6569   | 5465   | 6780   | 7177   | 20860 |
|                 |        |        |        |        |        |        |                | 3%     | 4%     | 3%     | 3%     | 3%     | 10%   |
|                 |        |        |        |        |        |        | grade 6 events | 3282   | 3901   | 3209   | 3274   | 3945   | 46407 |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 1%     | 1%     | 2%     | 23%   |
|                 |        |        |        |        |        |        | grade 7 events | 138934 | 133311 | 156525 | 153967 | 154384 | 86008 |
|                 |        |        |        |        |        |        |                | 85%    | 83%    | 86%    | 85%    | 85%    | 43%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                  | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-012367         | ACIS-012367           | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                  | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING              | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 23.272019           | 23.28420625953421     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 30.694913           | 30.66957071418195     | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 262.007609          | 262.2100925162538     | [s] Primary exposure time             | 0.000000  | 3.2     |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272   |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334  |                                       |           |         |
| [mm] SIM translation stage pos    | -233.592463         | -233.5874344608287    |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | -0.005018542100998502 |                                       |           |         |
| [s] Observation start time (MET)  | 249369371.184000    | 249367888.73537       |                                       |           |         |
| Observation start date            | 2005-11-26T05:15:07 | 2005-11-26T04:51:28   |                                       |           |         |
| [s] Observation end time (MET)    | 249394371.184000    | 249395321.32413       |                                       |           |         |
| Observation end date              | 2005-11-26T12:11:47 | 2005-11-26T12:28:41   |                                       |           |         |
| Read mode                         | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



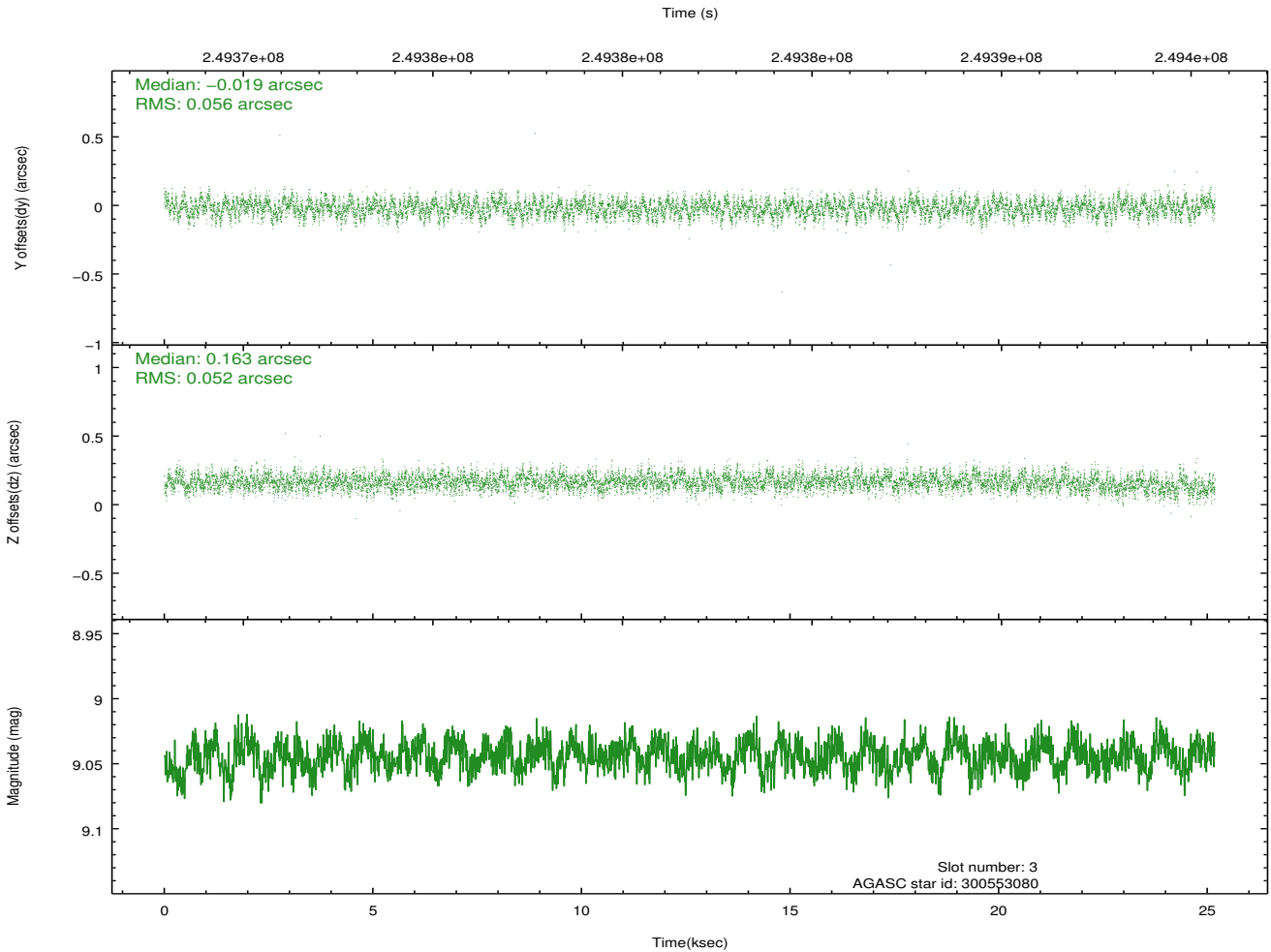
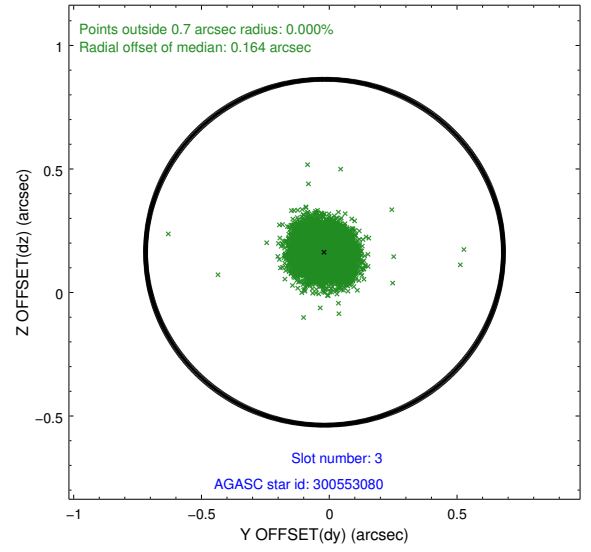
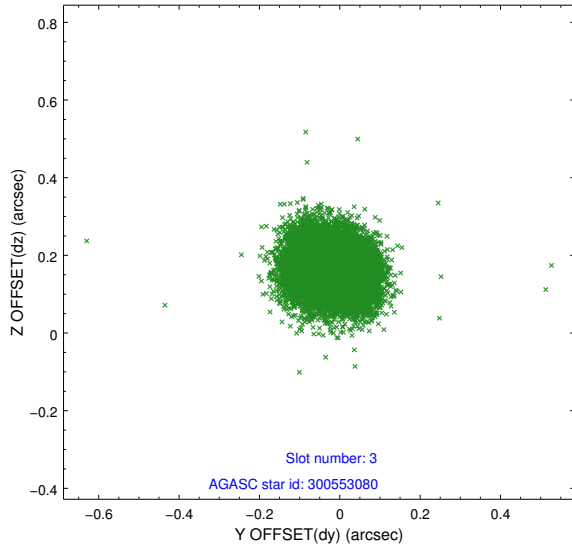


### Slot Statistics

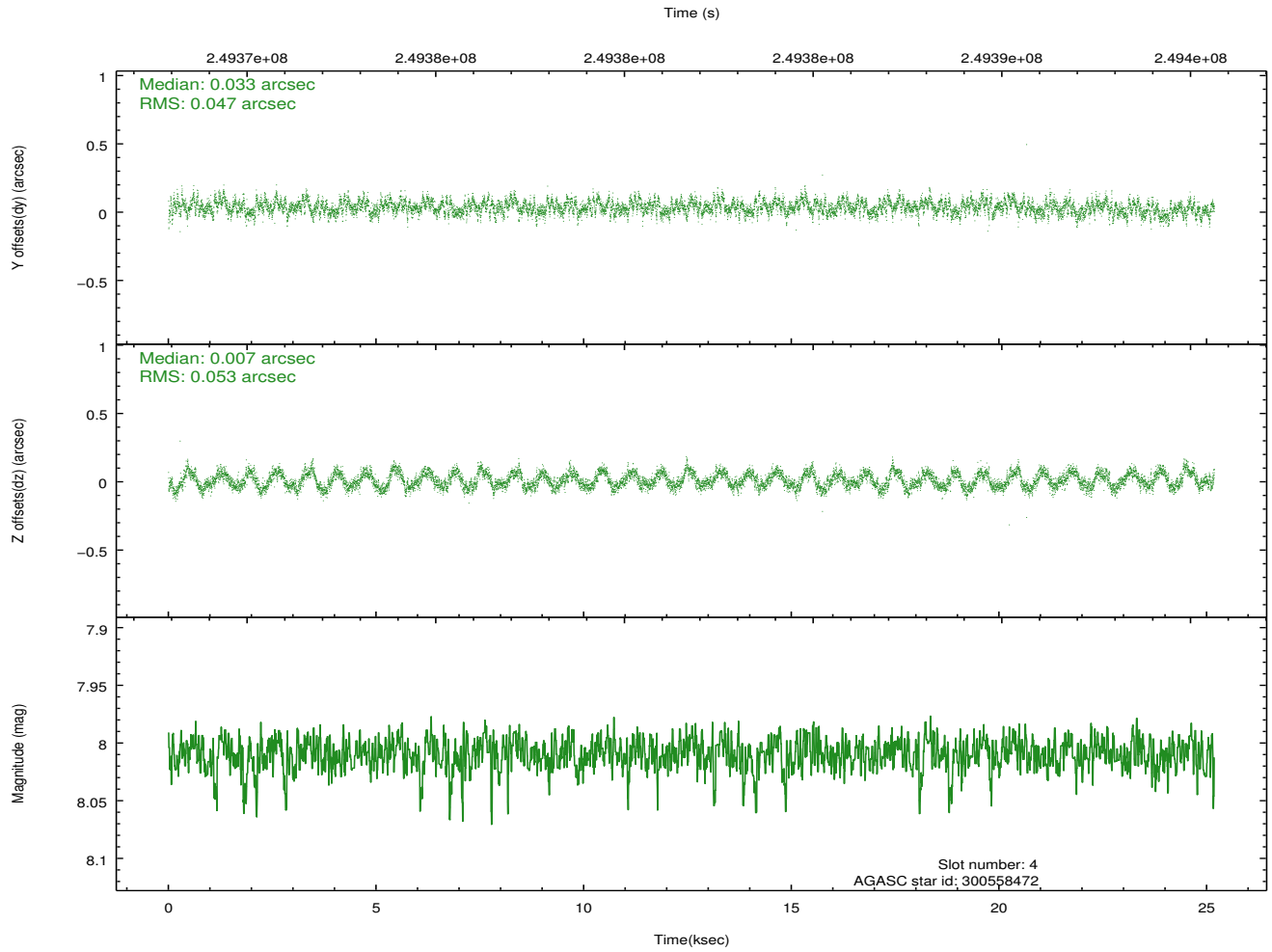
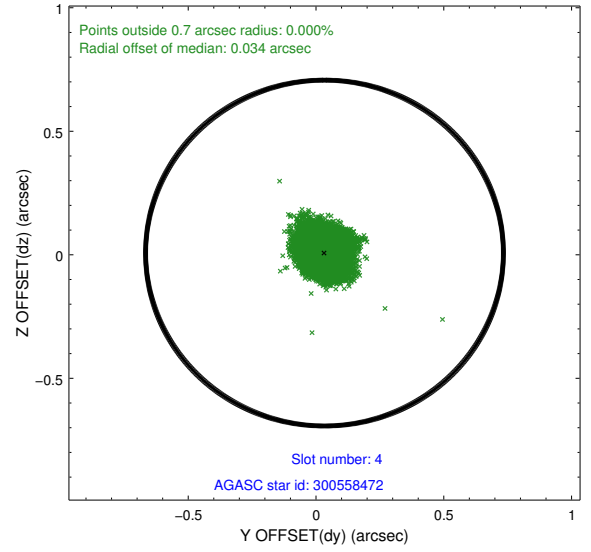
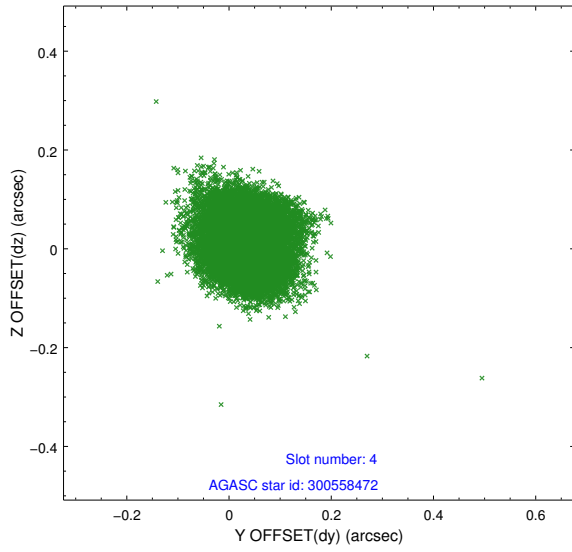
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.25 | 6141  | 0.019  | -0.010 | 0.026 | 0.042 | 0.000000  | 0.000000  | 933.01   | -833.86  |
| 1    | FID    | ACIS-I-5  | 7.23 | 6141  | -0.163 | 0.035  | 0.014 | 0.027 | 0.000000  | 0.000000  | -1815.20 | 1063.64  |
| 2    | FID    | ACIS-I-6  | 7.26 | 6140  | 0.050  | 0.045  | 0.014 | 0.024 | 0.000000  | 0.000000  | 398.48   | 1708.26  |
| 3    | GUIDE  | 300553080 | 9.04 | 12274 | -0.019 | 0.163  | 0.081 | 0.128 | 23.777101 | 30.773227 | -499.84  | 1507.60  |
| 4    | GUIDE  | 300558472 | 8.01 | 12283 | 0.033  | 0.007  | 0.076 | 0.116 | 22.523923 | 30.150572 | 2257.42  | -2034.36 |
| 5    | GUIDE  | 300559960 | 7.88 | 12282 | -0.003 | -0.011 | 0.062 | 0.102 | 22.944463 | 30.624765 | 390.47   | -969.54  |
| 6    | GUIDE  | 300418408 | 9.36 | 12268 | 0.109  | -0.088 | 0.115 | 0.196 | 22.485762 | 30.261517 | 1877.79  | -2205.26 |
| 7    | GUIDE  | 300553600 | 8.87 | 12277 | -0.121 | -0.073 | 0.077 | 0.124 | 22.659100 | 31.349100 | -2074.78 | -2194.80 |

## 2.4 Star Slots

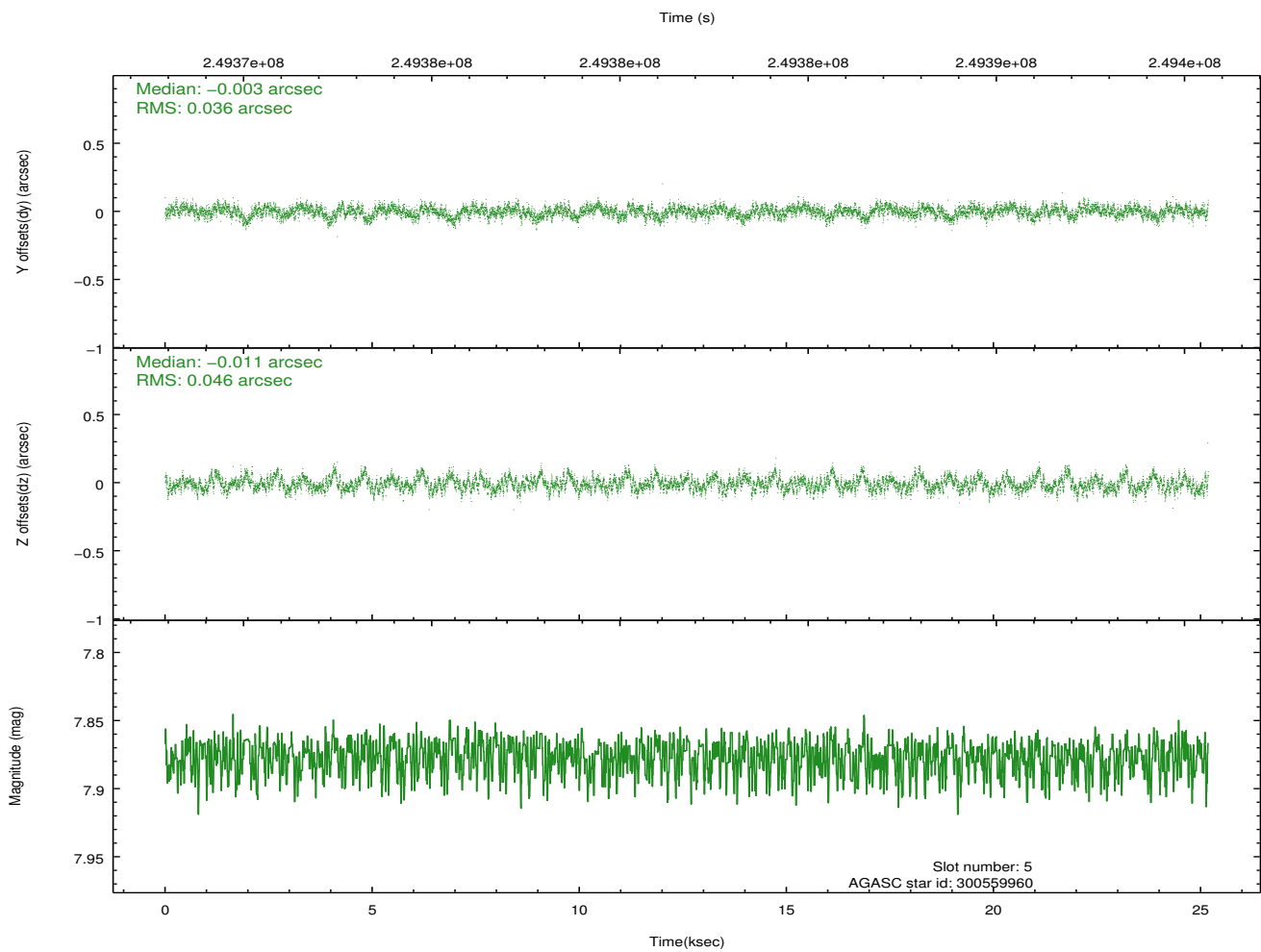
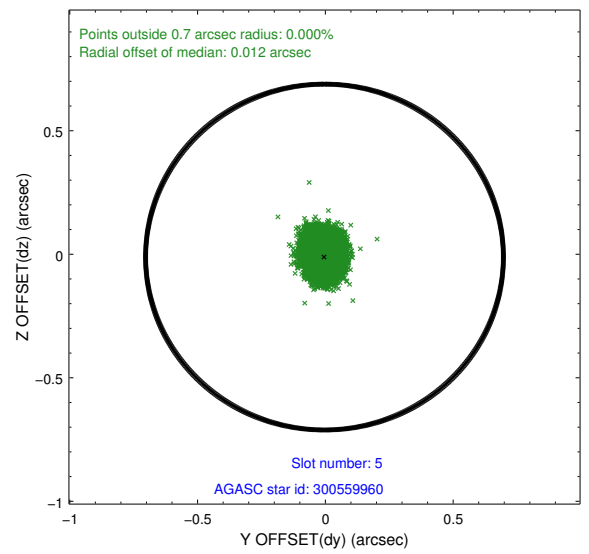
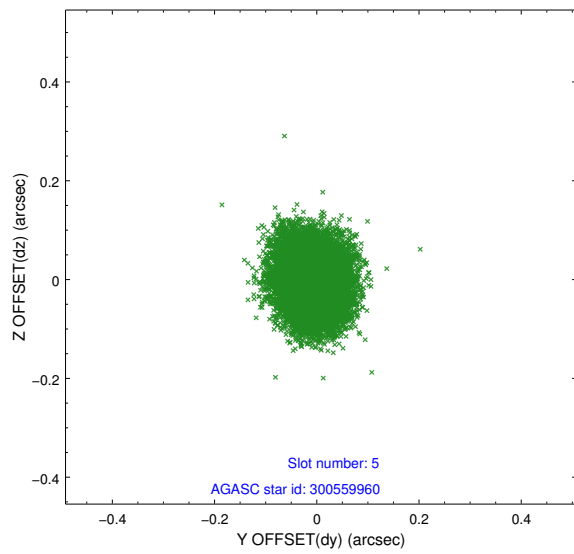
### 2.4.1 Slot 3



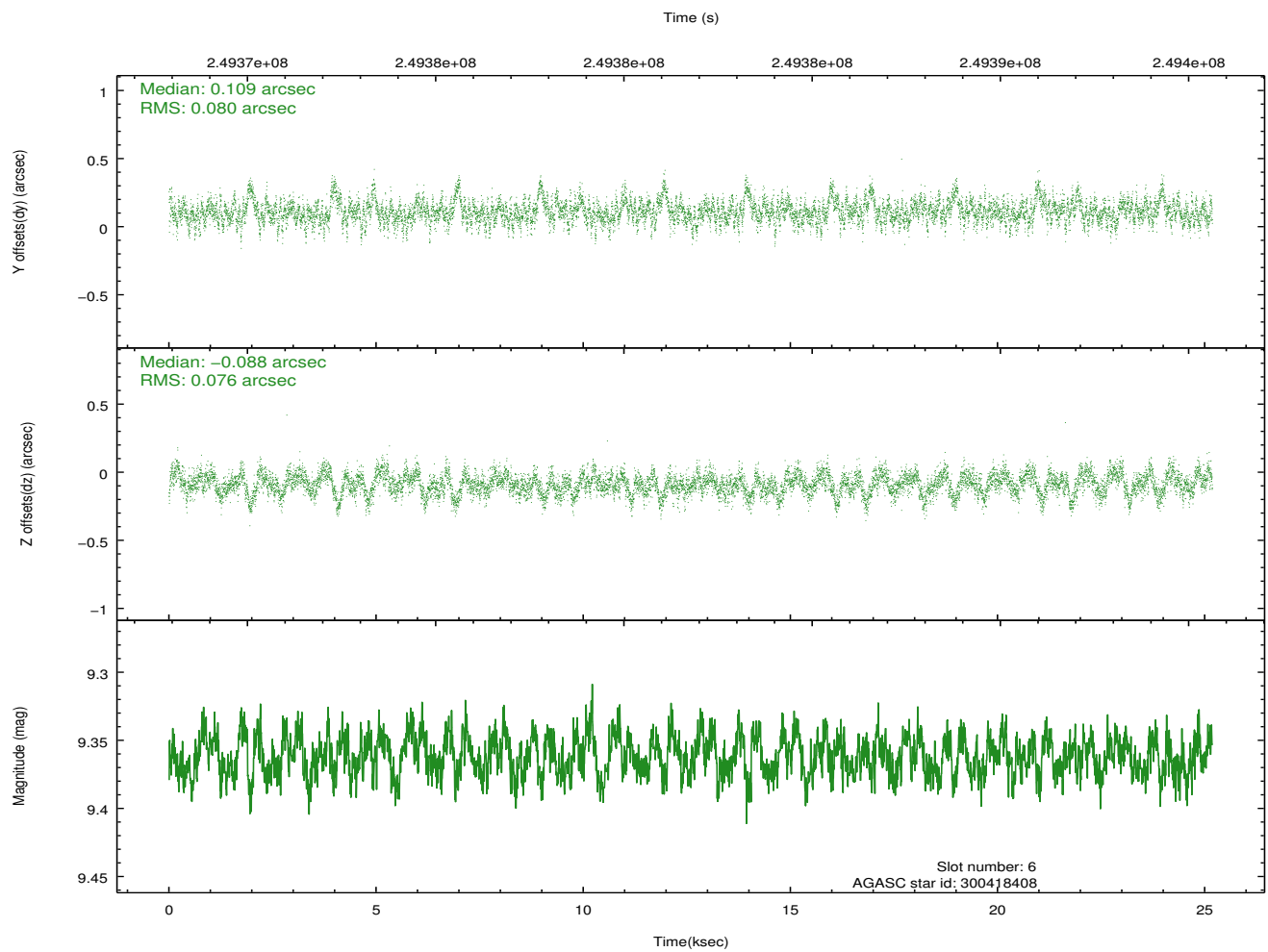
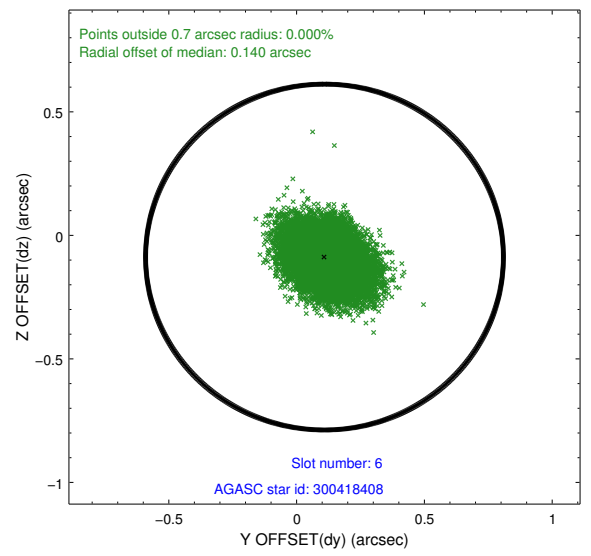
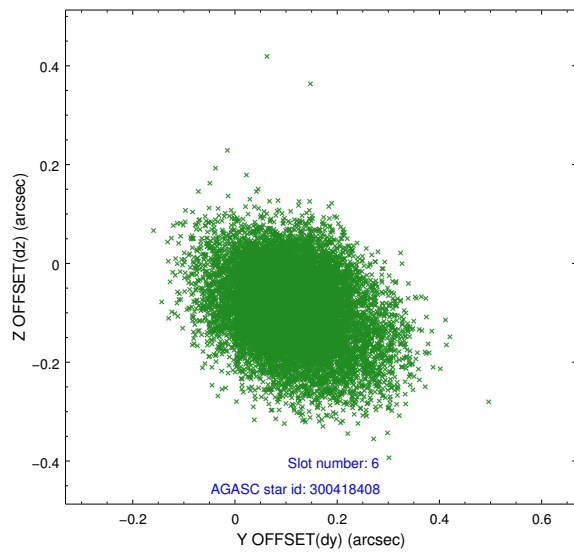
## 2.4.2 Slot 4



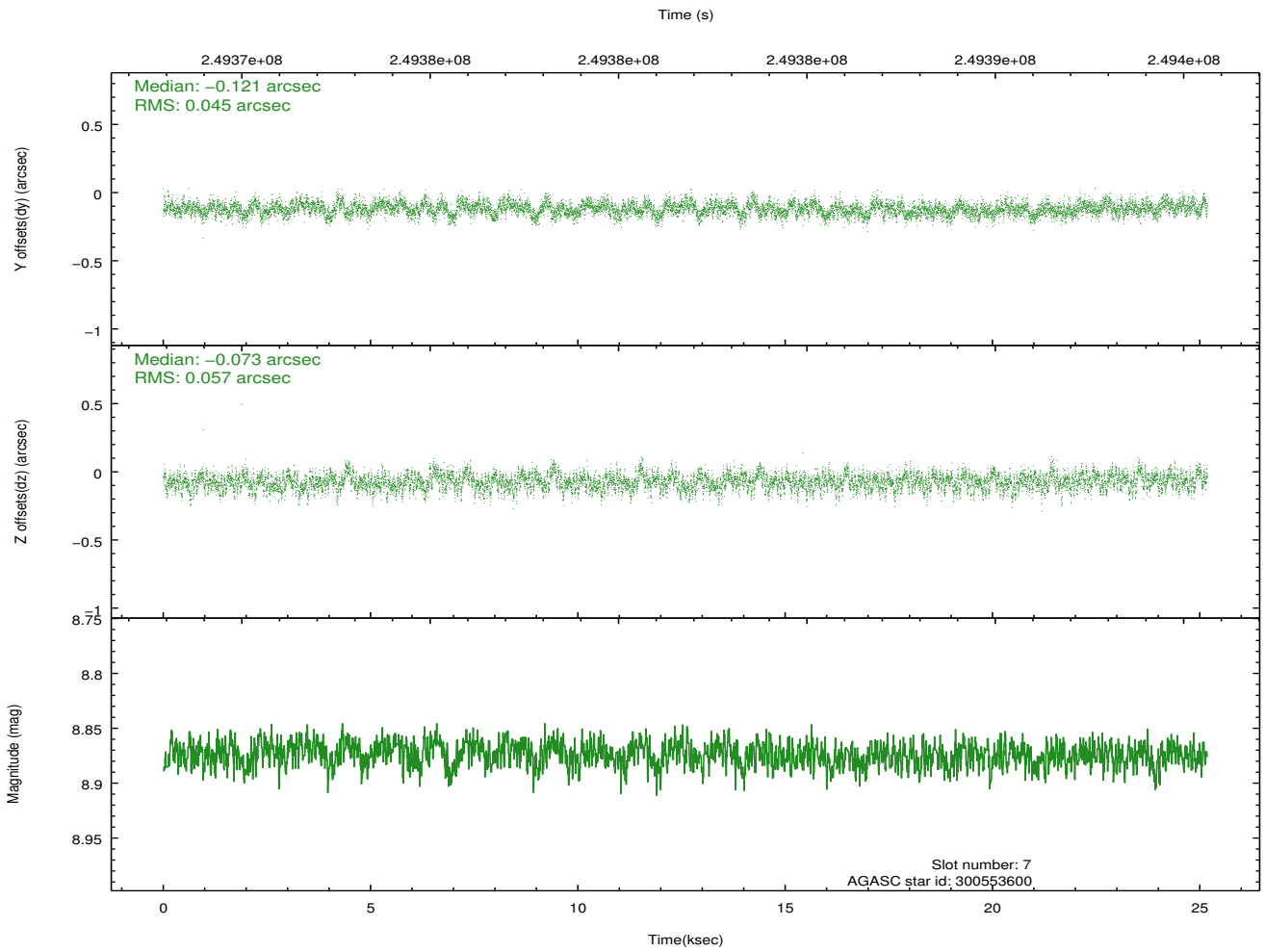
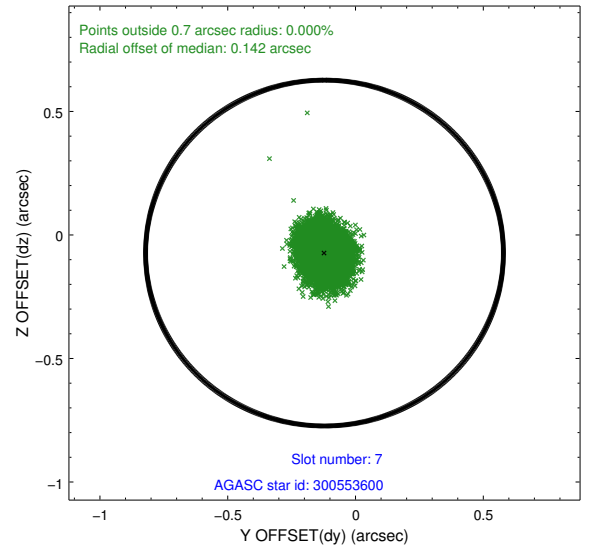
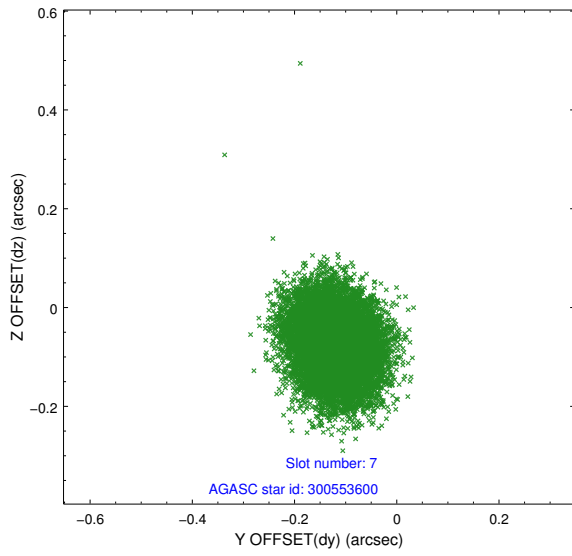
### 2.4.3 Slot 5



### 2.4.4 Slot 6

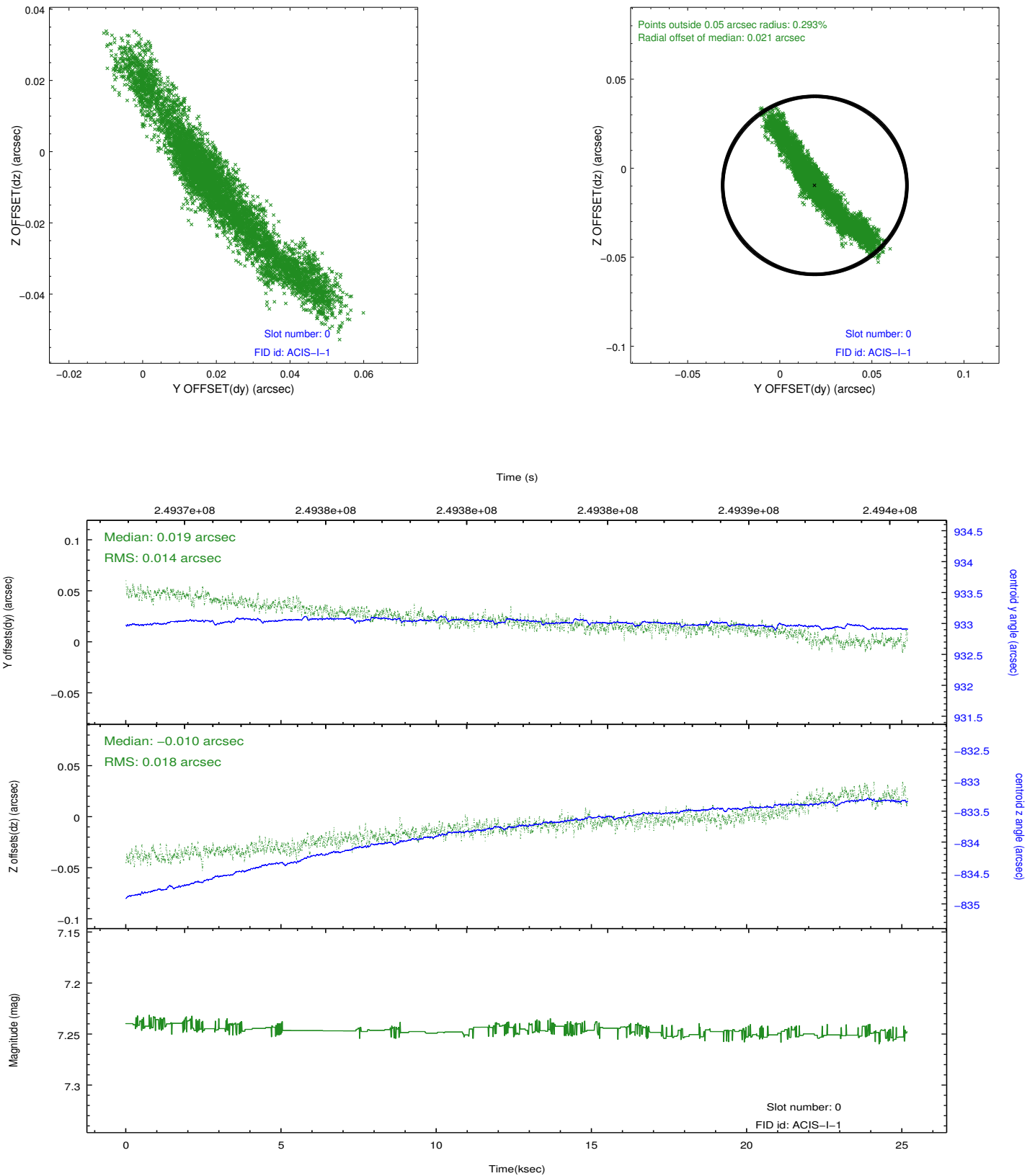


### 2.4.5 Slot 7

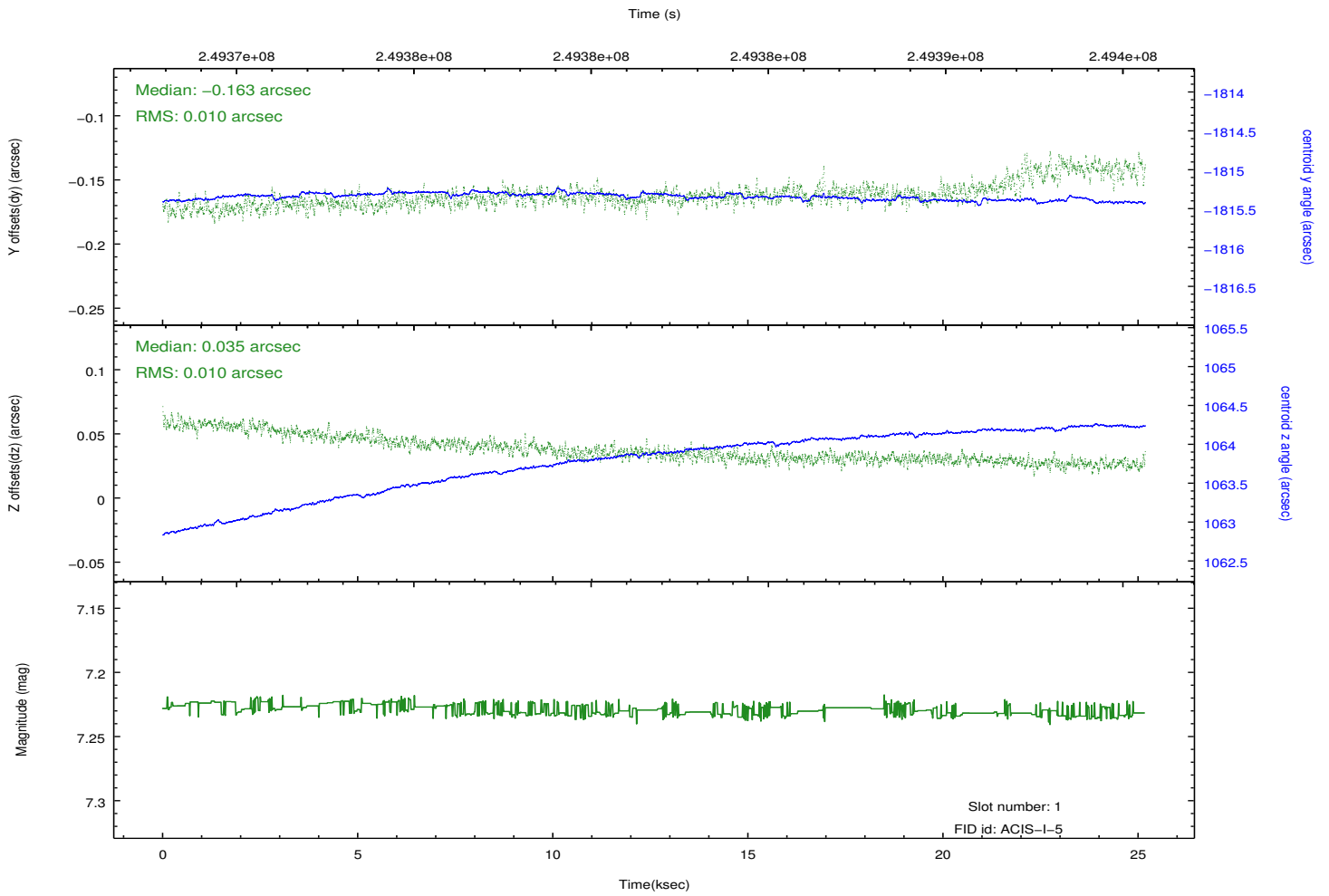
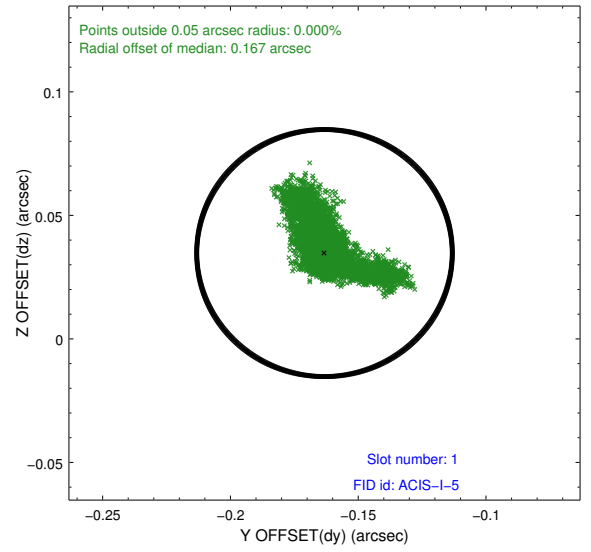
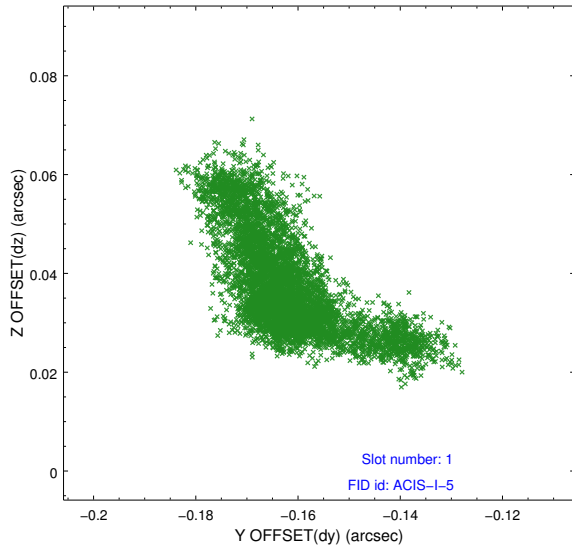


## 2.5 FID Slots

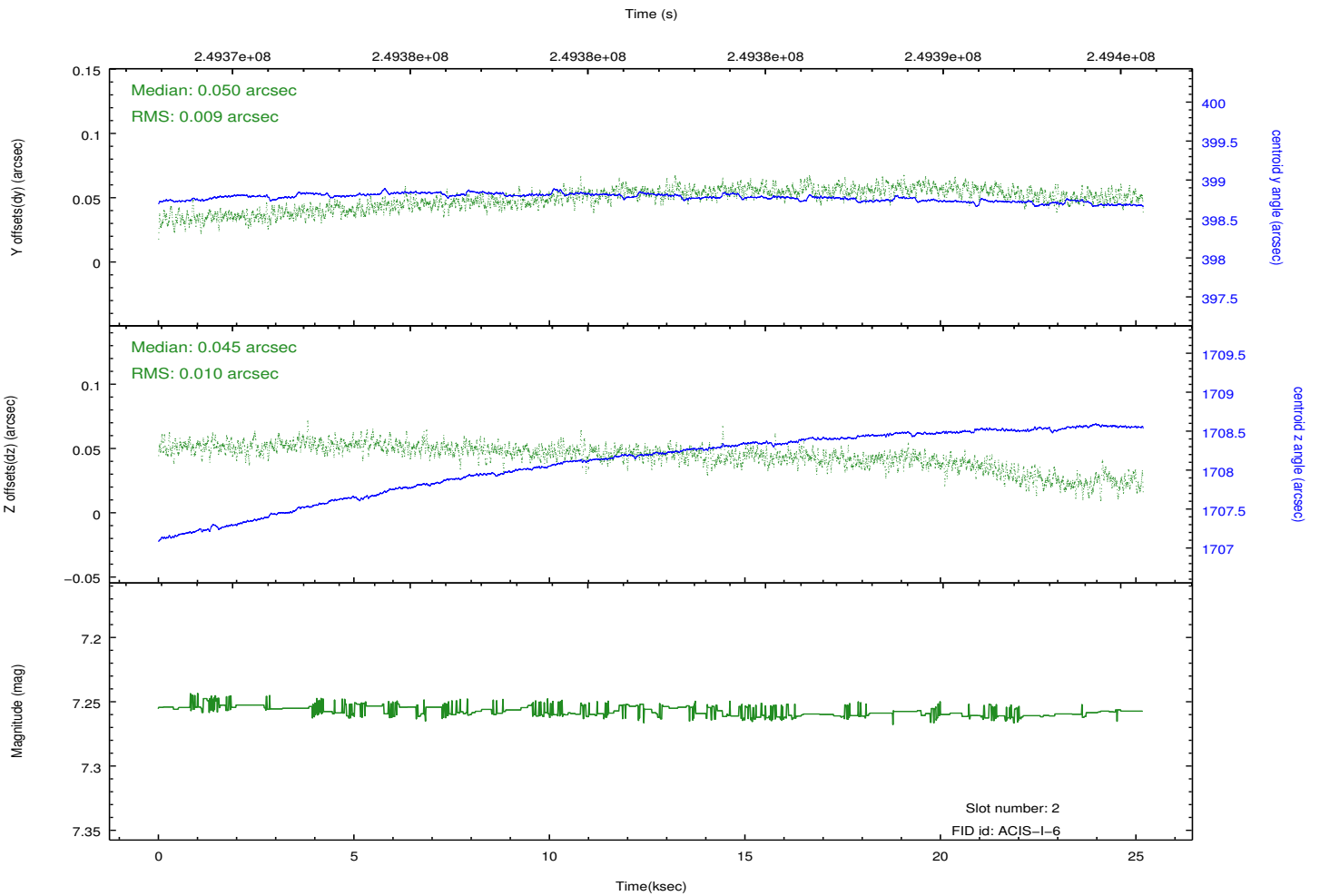
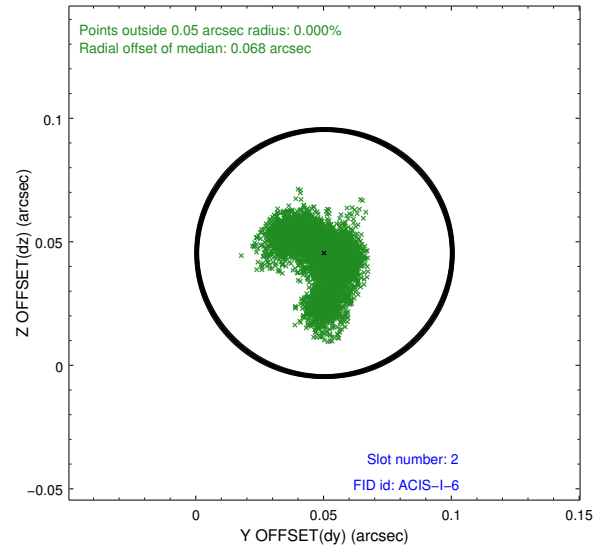
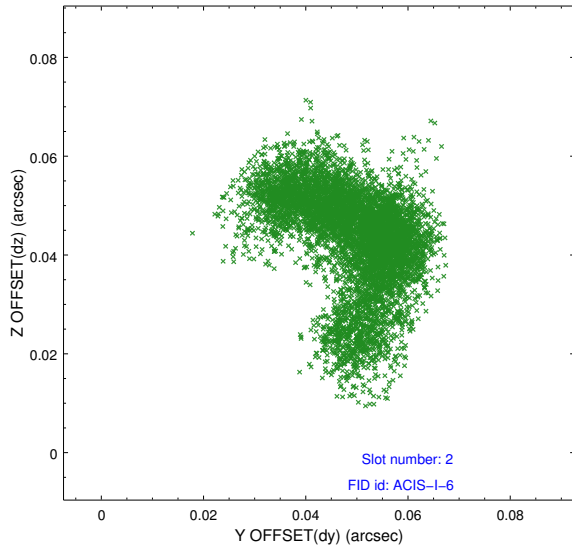
### 2.5.1 Slot 0



## 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)      | 2012.03.19 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 25.17111   |

## A.2 Comments

Focal plane temperature rises during the observation. Roll preference met.