

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12142 - L2 Version 2  
Chandra X-Ray Center

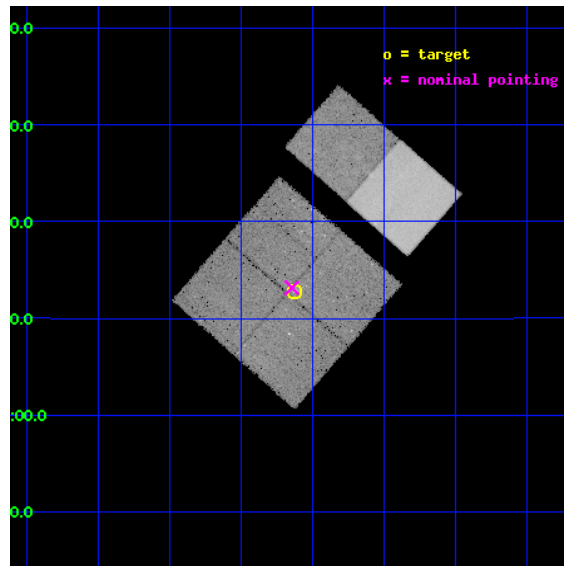
L2 Processing Date : Jul 8 2012

## 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

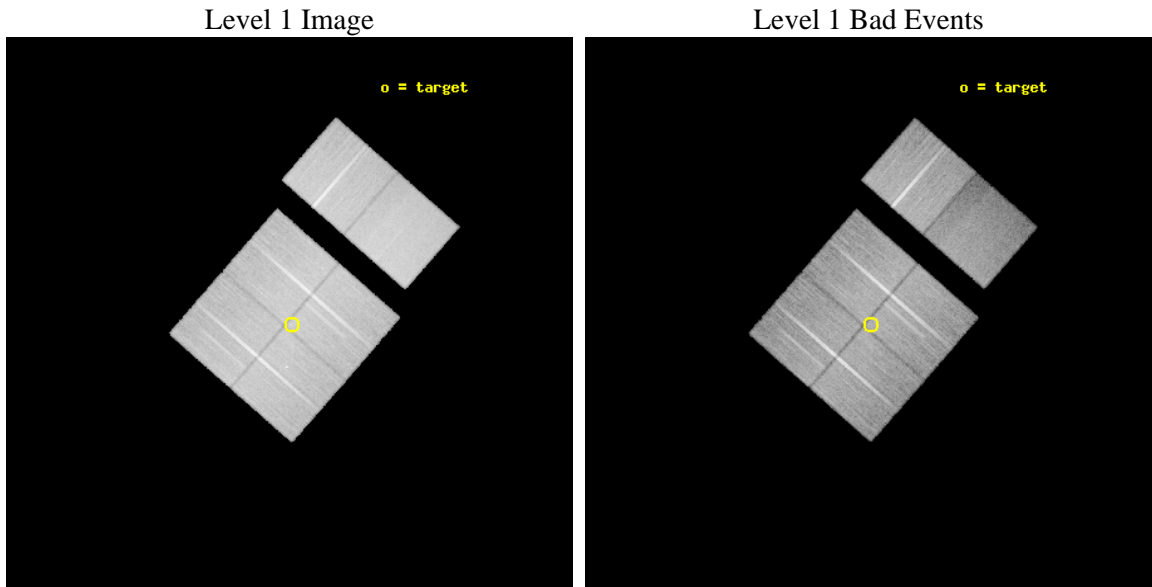
|          |                                       |   |
|----------|---------------------------------------|---|
| seq_num  | 200657                                | Sequence number                             |
| obs_id   | 12142                                 | Observation id                              |
| title    | Star Formation in the Rosette Complex | Proposal title                              |
| observer | Professor Gordon Garmire              | Principal investigator                      |
| object   | RMC-PL6                               | Source name                                 |
| dtcycle  | 0                                     | &#160                                       |
| cycle    | P                                     | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 98.656667                             | Observer's specified target RA [deg]        |
| dec_targ | 4.212278                              | Observer's specified target Dec [deg]       |
| ra_nom   | 98.660899436652                       | Nominal RA [deg]                            |
| dec_nom  | 4.2191807519453                       | Nominal Dec [deg]                           |
| roll_nom | 41.208380123388                       | Nominal Roll [deg]                          |
| revision | 2                                     | Processing version of data                  |
| ontime   | 40047.917810202                       | Sum of GTIs [s]                             |
| livetime | 39540.806960928                       | Livetime [s]                                |
| ontime0  | 40054.399850845                       | Sum of GTIs [s]                             |
| ontime1  | 40054.399850845                       | Sum of GTIs [s]                             |
| ontime2  | 40047.917760432                       | Sum of GTIs [s]                             |
| ontime3  | 40047.917810202                       | Sum of GTIs [s]                             |
| ontime6  | 40051.158880055                       | Sum of GTIs [s]                             |
| ontime7  | 40054.399850845                       | Sum of GTIs [s]                             |
| l2events | 256634                                | Number of level 2 events                    |



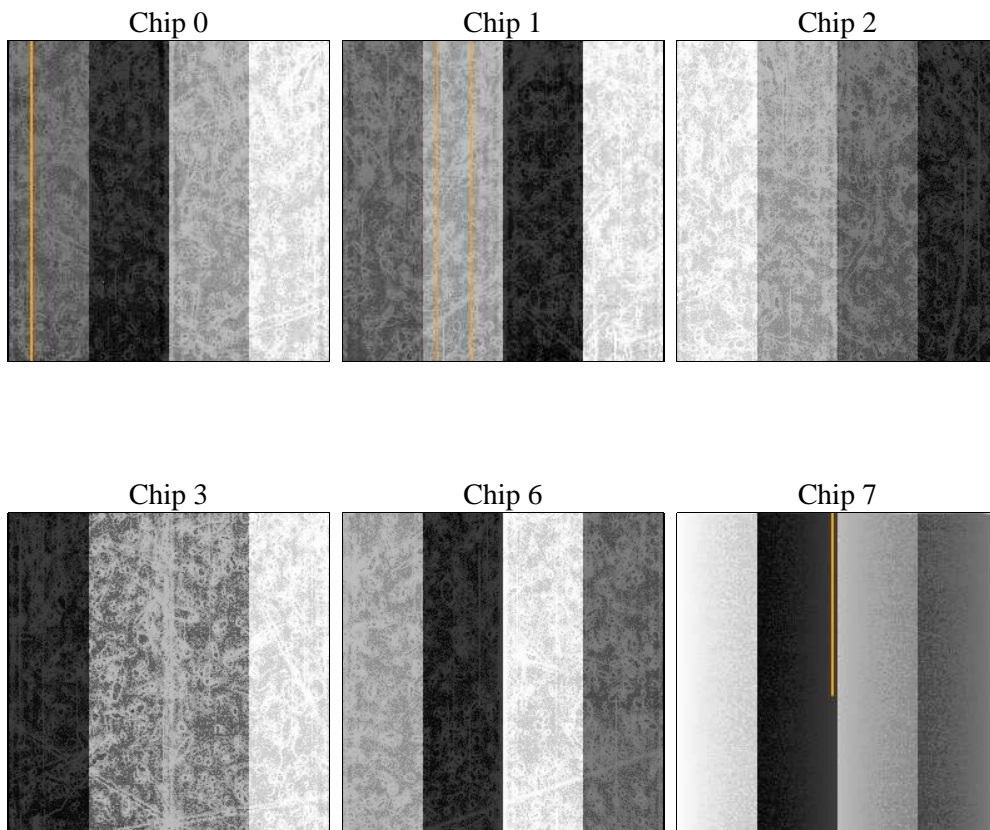
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 40000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 40047.917810202 | Sum of GTIs [s]                         |
| caldbver | 4.5.0               | &#160                          | ontime0        | 40054.399850845 | Sum of GTIs [s]                         |
| date     | 2012-07-08T05:29:05 | Date and time of file creation | ontime1        | 40054.399850845 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 40047.917760432 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 40047.917810202 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 40051.158880055 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 40054.399850845 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1552607         | Number of level 1 events                |

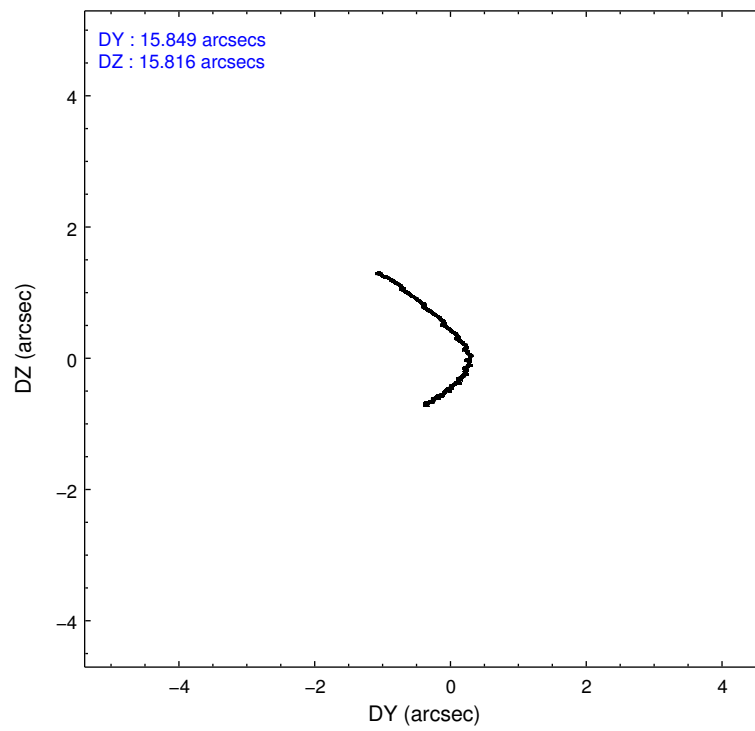
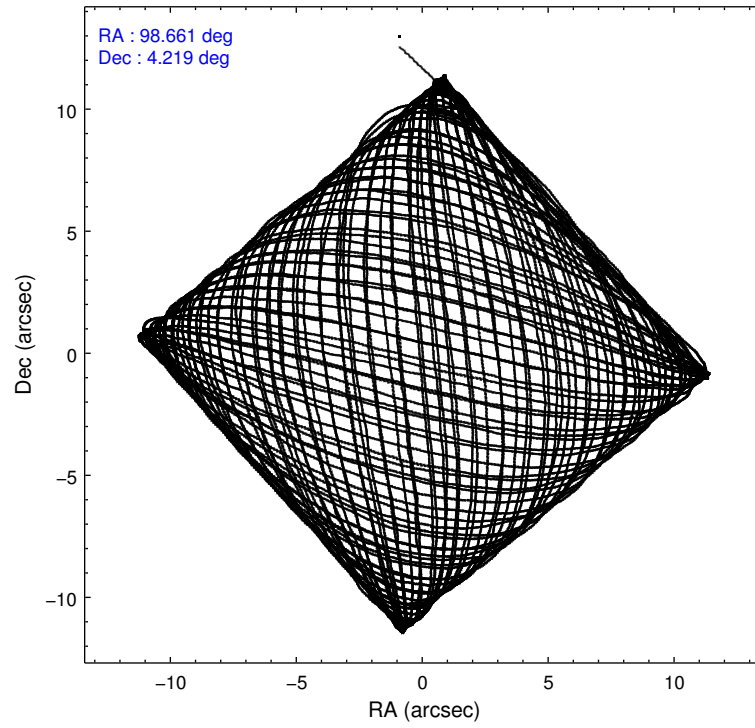
### 2.1.4 Events

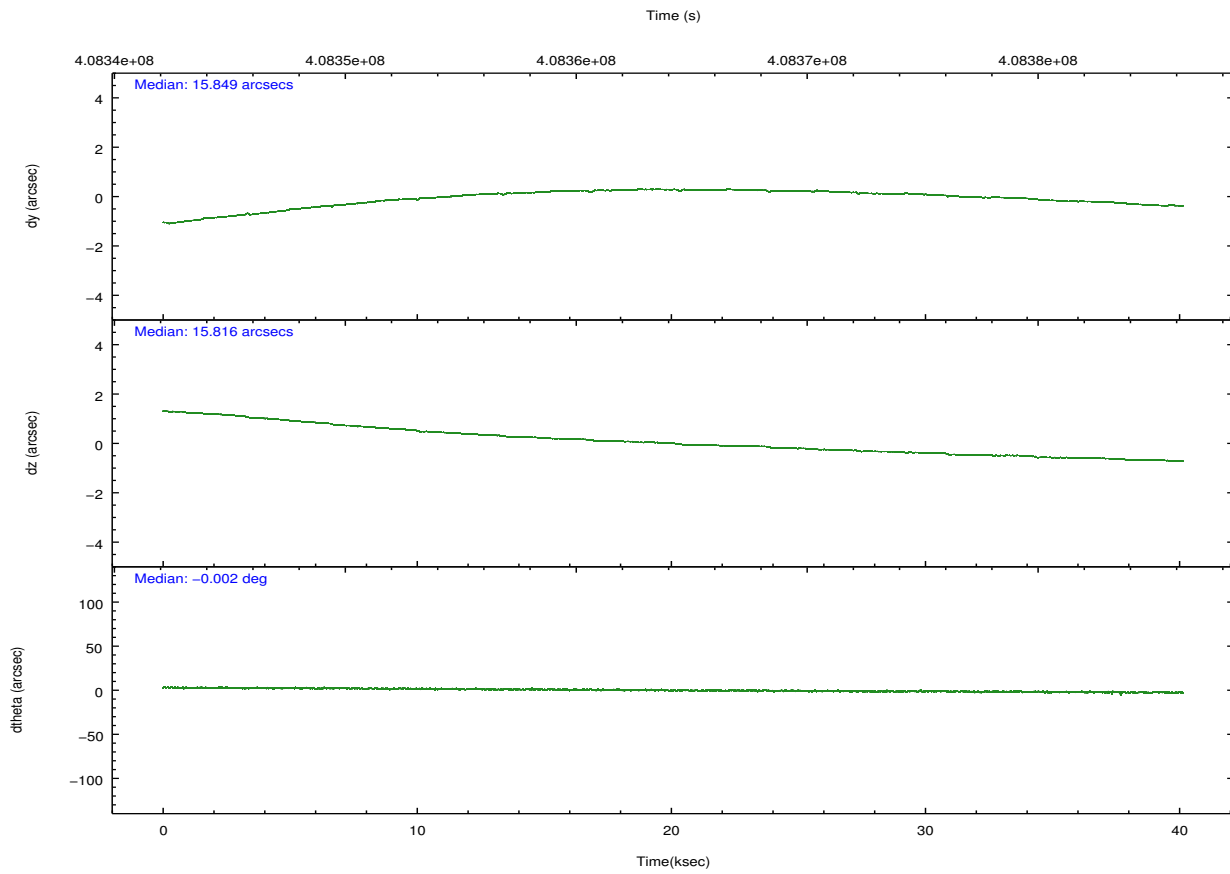
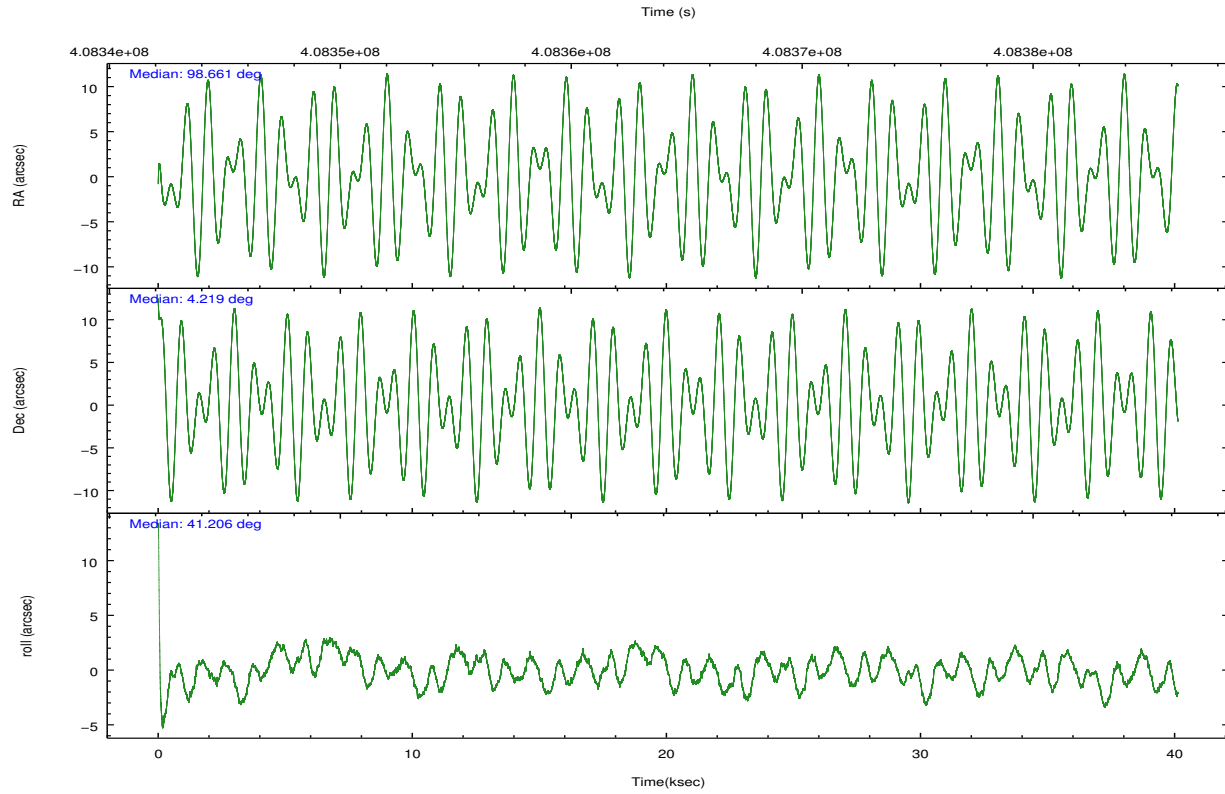
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7  |                | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7  |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events  | 237224 | 242550 | 261703 | 254272 | 273191 | 283667 | grade 0 events | 10117  | 10450  | 11430  | 10172  | 11965  | 13631  |
| rejected events | 208878 | 212176 | 231912 | 226966 | 241749 | 145887 |                | 4%     | 4%     | 4%     | 4%     | 4%     | 4%     |
| rejected %      | 88%    | 87%    | 88%    | 89%    | 88%    | 51%    | grade 1 events | 156    | 122    | 183    | 162    | 149    | 437    |
|                 |        |        |        |        |        |        |                | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     |
|                 |        |        |        |        |        |        | grade 2 events | 7061   | 6896   | 7172   | 6084   | 7098   | 29409  |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 2%     | 2%     | 2%     | 10%    |
|                 |        |        |        |        |        |        | grade 3 events | 3053   | 3393   | 2980   | 2881   | 3089   | 12670  |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 1%     | 1%     | 1%     | 4%     |
|                 |        |        |        |        |        |        | grade 4 events | 2821   | 3288   | 2954   | 2918   | 3058   | 12521  |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 1%     | 1%     | 1%     | 4%     |
|                 |        |        |        |        |        |        | grade 5 events | 9490   | 10141  | 9284   | 10519  | 10691  | 30630  |
|                 |        |        |        |        |        |        |                | 4%     | 4%     | 3%     | 4%     | 3%     | 10%    |
|                 |        |        |        |        |        |        | grade 6 events | 5297   | 6349   | 5255   | 5252   | 6236   | 69556  |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 2%     | 2%     | 2%     | 24%    |
|                 |        |        |        |        |        |        | grade 7 events | 199229 | 201911 | 222445 | 216284 | 230905 | 114813 |
|                 |        |        |        |        |        |        |                | 83%    | 83%    | 84%    | 85%    | 84%    | 40%    |

## 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                | CCD I0 on                             | Y         | Y       |
| Observation mode                  | POINTING            | POINTING              | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                 | 98.652123           | 98.66089943665155     | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                | 4.193097            | 4.219180751945296     | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 41.000333           | 41.20838012338849     | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.782348           | -0.7809083437167272   | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001439871863259334  | CCD S2 on                             | O2        | Y       |
| [mm] SIM translation stage pos    | -233.592463         | -233.5874344608287    | CCD S3 on                             | O1        | Y       |
| [mm] SIM translation stage offset | 0                   | -0.005018542100998502 | CCD S4 on                             | N         | N       |
| [s] Observation start time (MET)  | 408344259.184000    | 408343012.63784       | CCD S5 on                             | N         | N       |
| Observation start date            | 2010-12-10T04:56:33 | 2010-12-10T04:36:52   | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 408384259.184000    | 408385340.52752       | On-chip summing requested             | N         | N       |
| Observation end date              | 2010-12-10T16:03:13 | 2010-12-10T16:22:20   | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                 | Alternating exposures requested       | N         | N       |
|                                   |                     |                       | [s] Primary exposure time             | 0.000000  | 3.2     |

## 2.3 Aspect



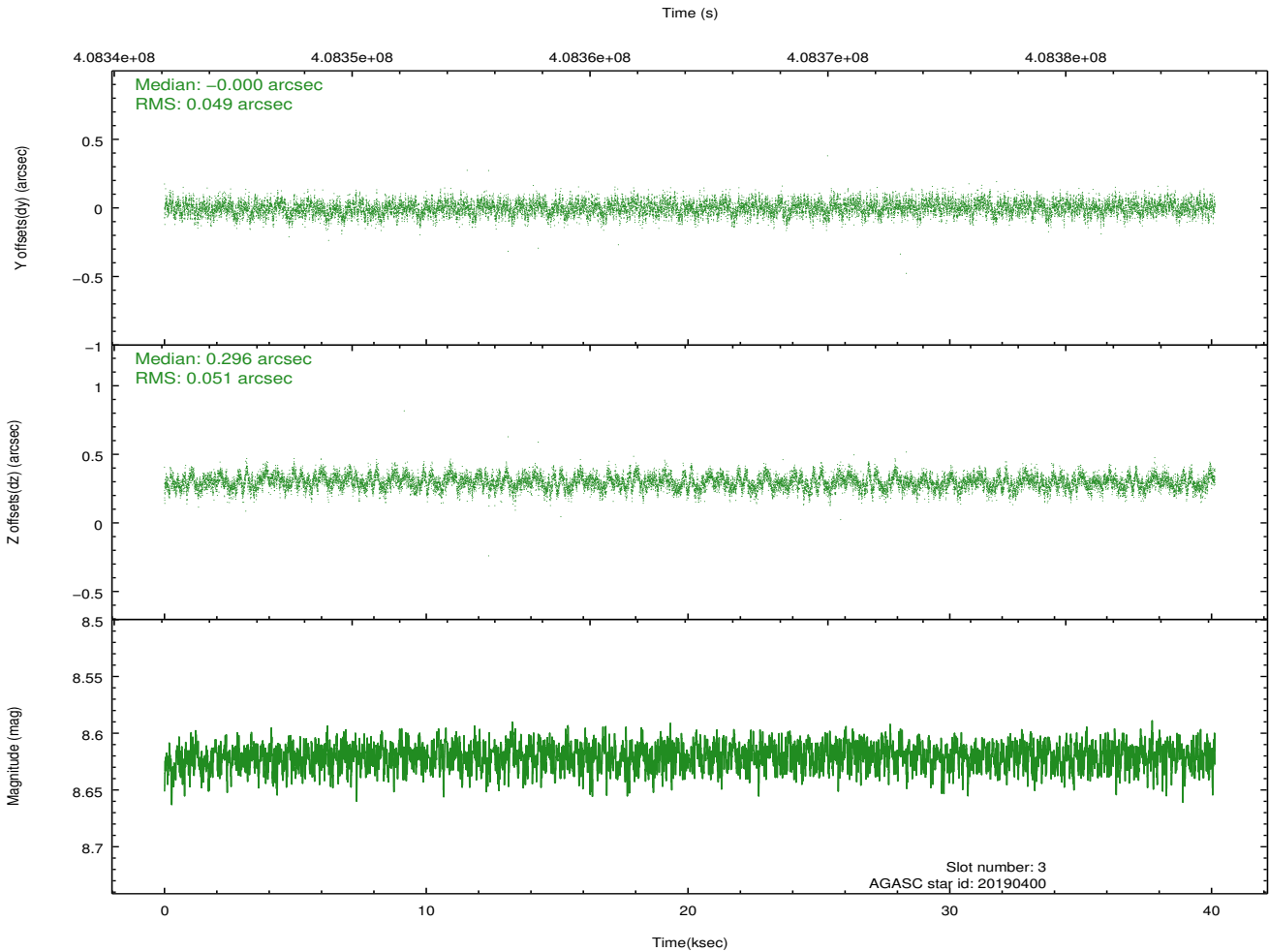
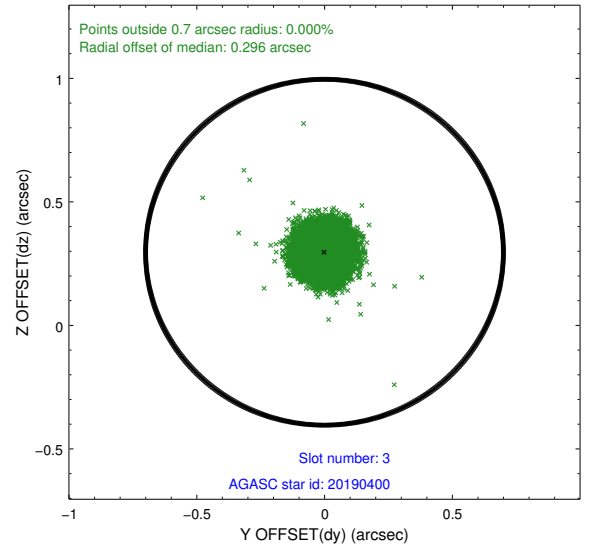
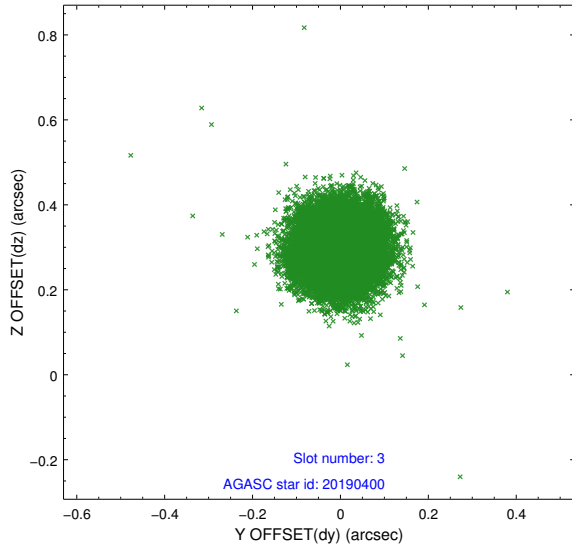


### Slot Statistics

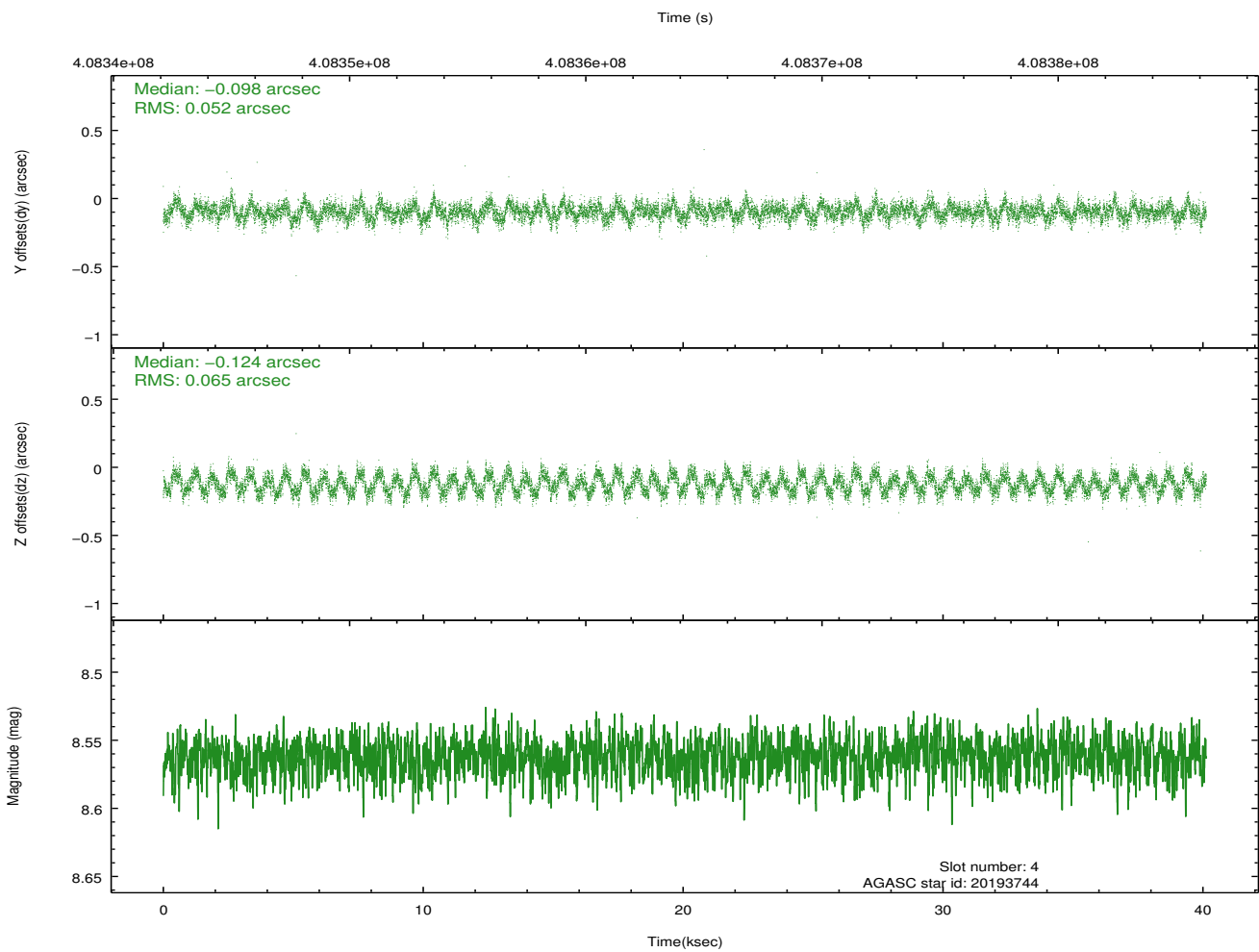
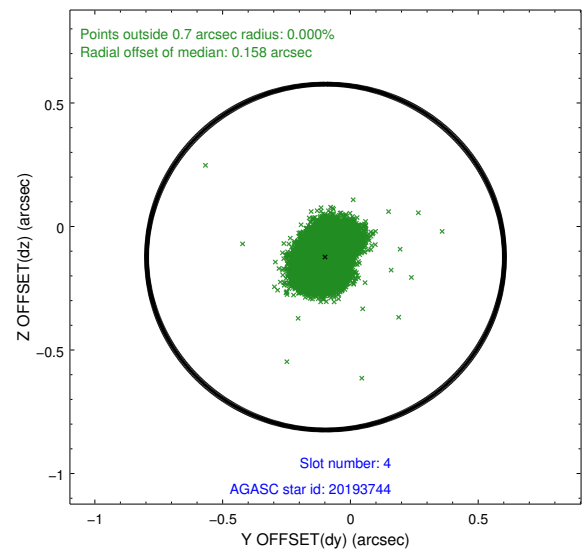
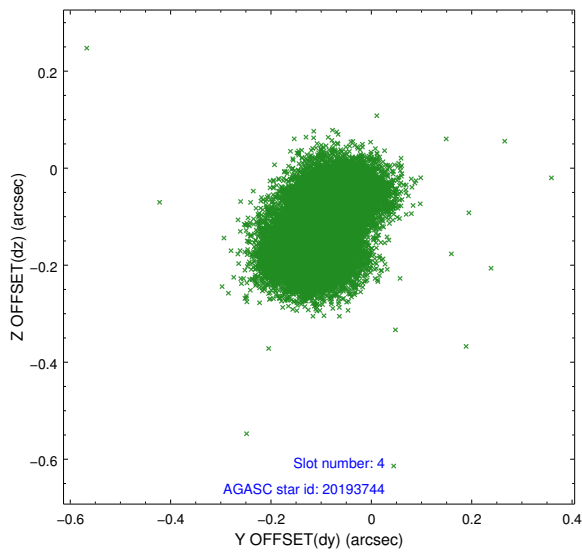
| slot | status | id       | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec      | mean_y   | mean_z   |
|------|--------|----------|------|-------|--------|--------|-------|-------|-----------|----------|----------|----------|
| 0    | FID    | ACIS-I-1 | 7.06 | 9787  | 0.046  | -0.034 | 0.023 | 0.040 | 0.000000  | 0.000000 | 923.72   | -839.57  |
| 1    | FID    | ACIS-I-5 | 7.06 | 9787  | -0.222 | 0.043  | 0.015 | 0.040 | 0.000000  | 0.000000 | -1824.64 | 1058.00  |
| 2    | FID    | ACIS-I-6 | 7.07 | 9788  | 0.083  | 0.056  | 0.014 | 0.023 | 0.000000  | 0.000000 | 389.29   | 1702.52  |
| 3    | GUIDE  | 20190400 | 8.62 | 19562 | -0.000 | 0.296  | 0.076 | 0.120 | 99.315929 | 3.998144 | 1339.79  | -2092.56 |
| 4    | GUIDE  | 20193744 | 8.56 | 19559 | -0.098 | -0.124 | 0.089 | 0.139 | 98.861283 | 4.468345 | 1216.99  | 255.36   |
| 5    | GUIDE  | 20201008 | 7.05 | 19576 | -0.087 | -0.252 | 0.075 | 0.122 | 99.000440 | 4.498035 | 1664.14  | 8.53     |
| 6    | GUIDE  | 20202848 | 7.45 | 19567 | 0.028  | -0.233 | 0.077 | 0.121 | 98.177906 | 3.814518 | -2178.95 | 89.16    |
| 7    | GUIDE  | 19669904 | 9.27 | 19555 | 0.154  | 0.307  | 0.106 | 0.168 | 98.538604 | 3.472747 | -2008.81 | -1689.19 |

## 2.4 Star Slots

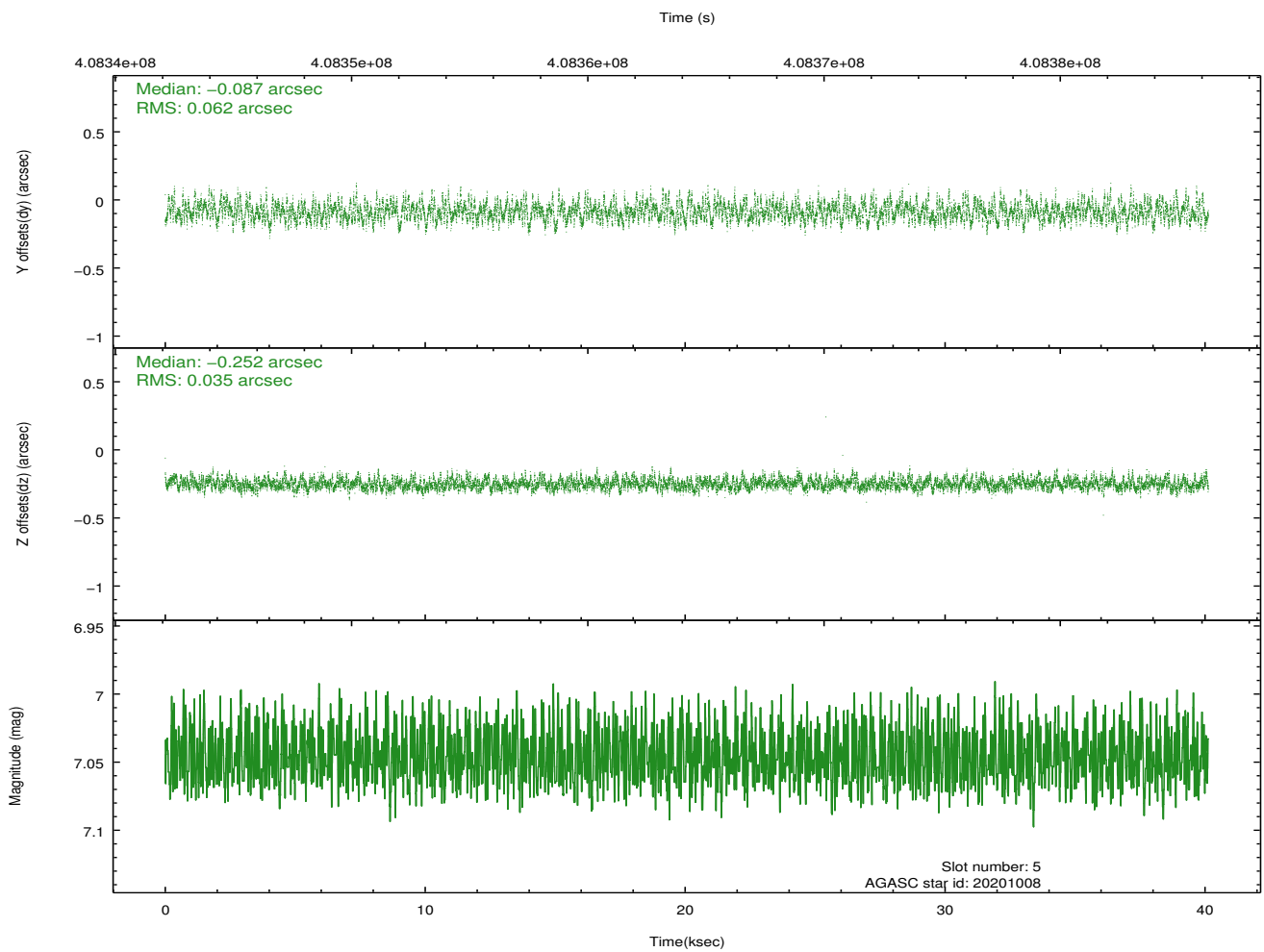
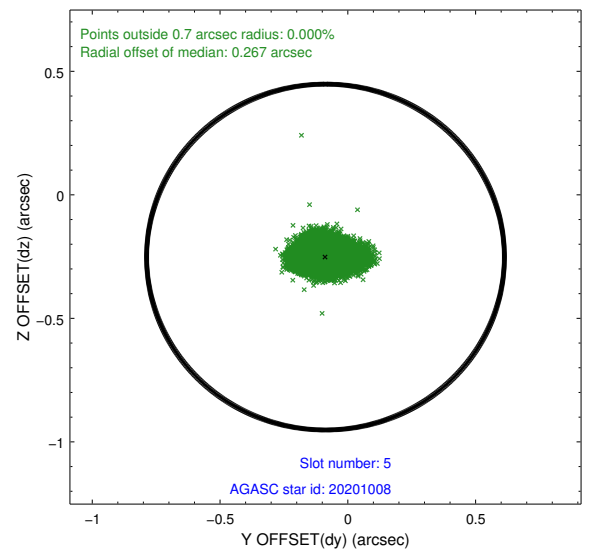
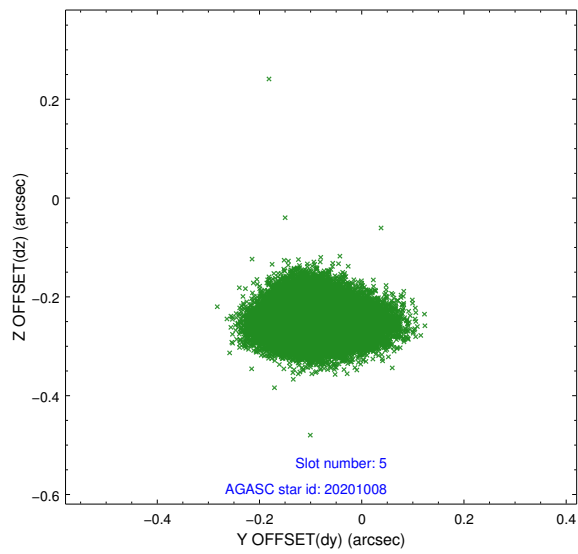
### 2.4.1 Slot 3



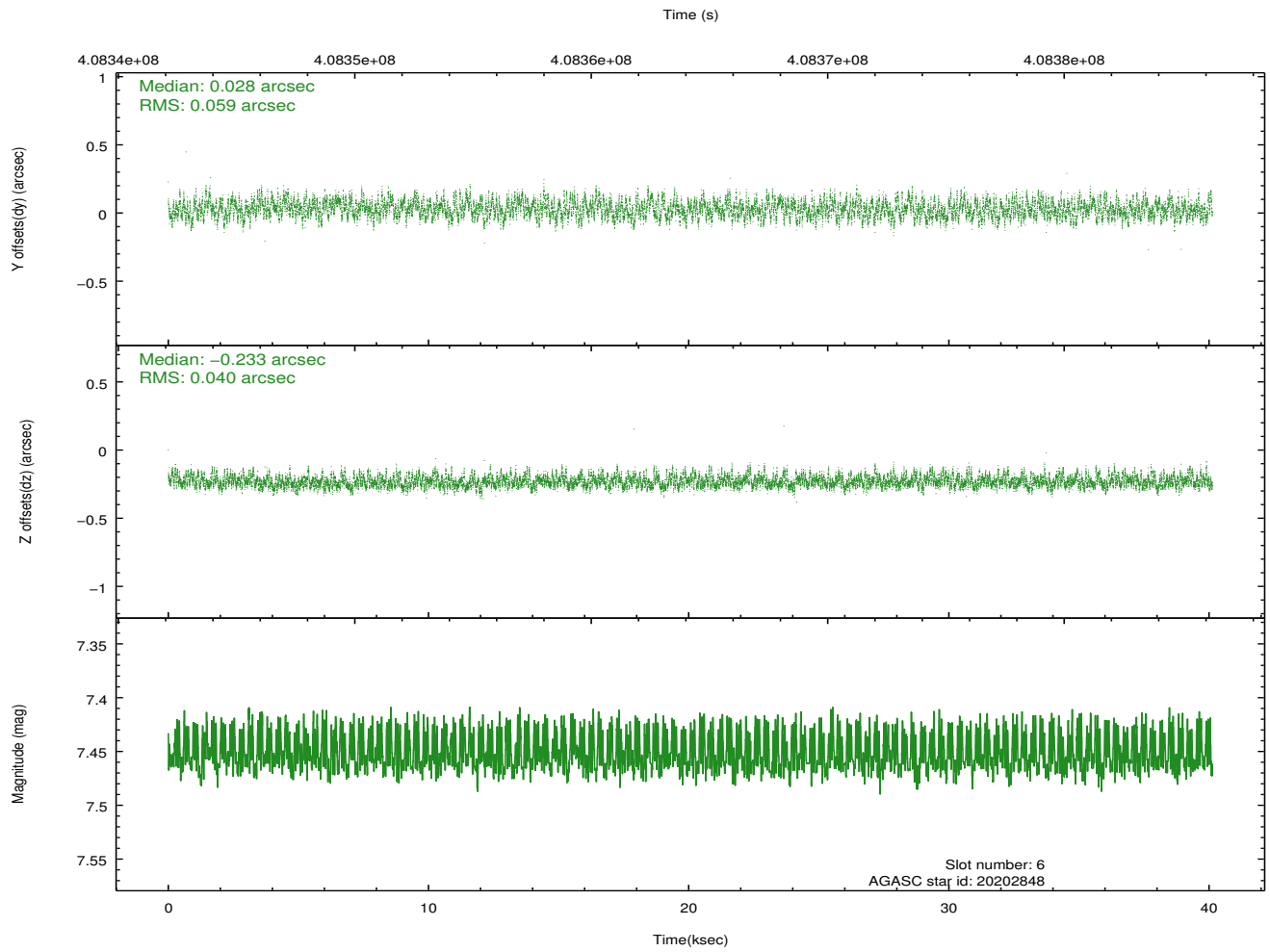
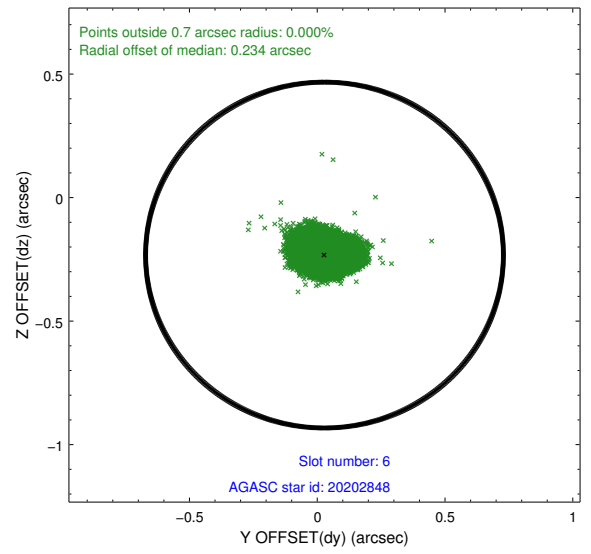
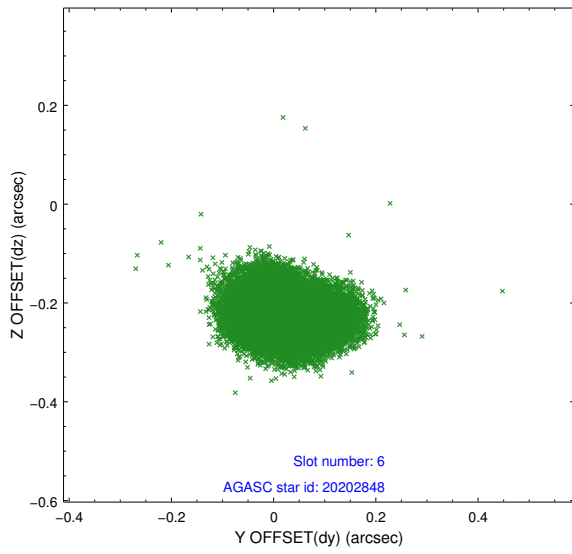
## 2.4.2 Slot 4



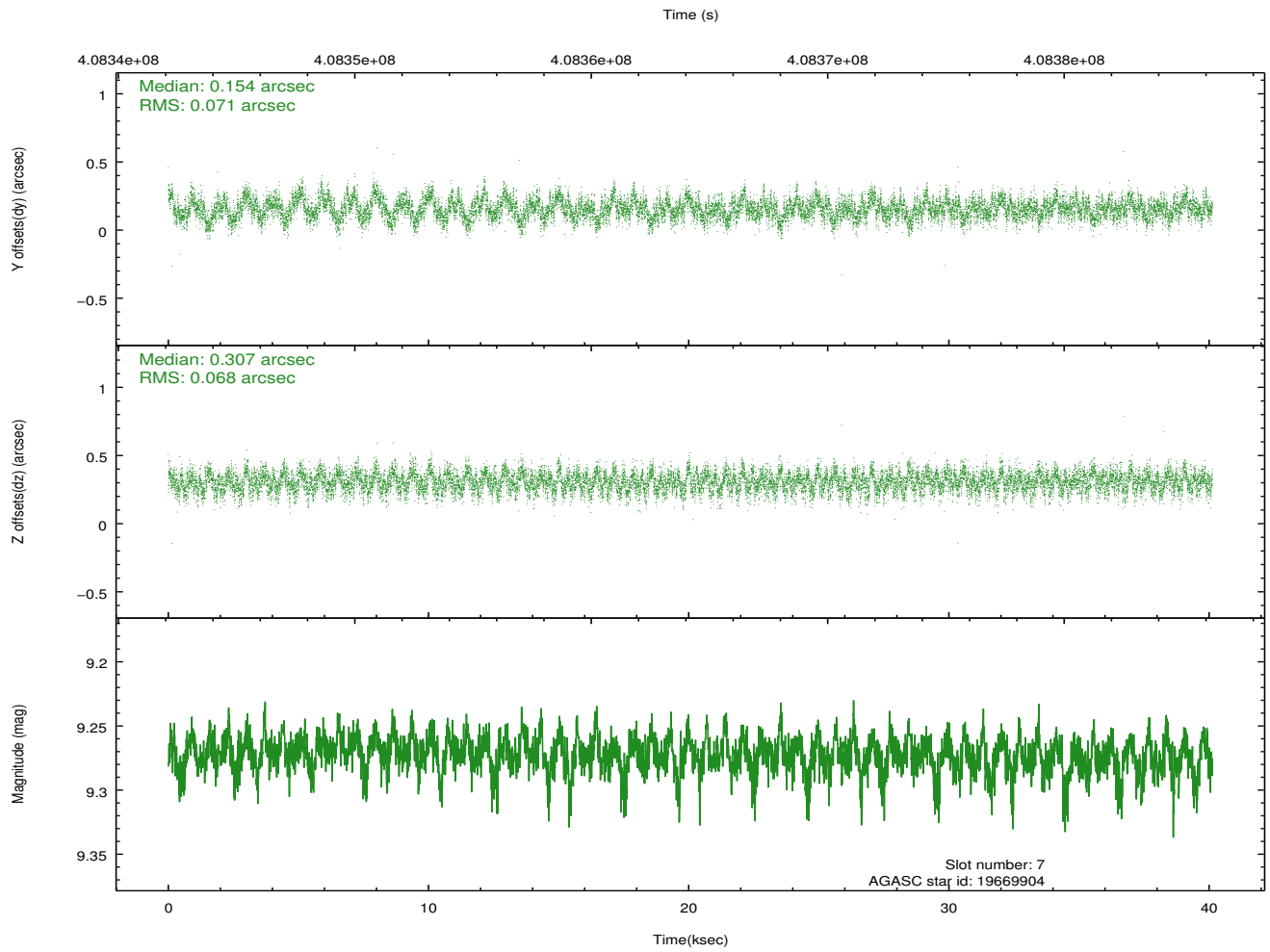
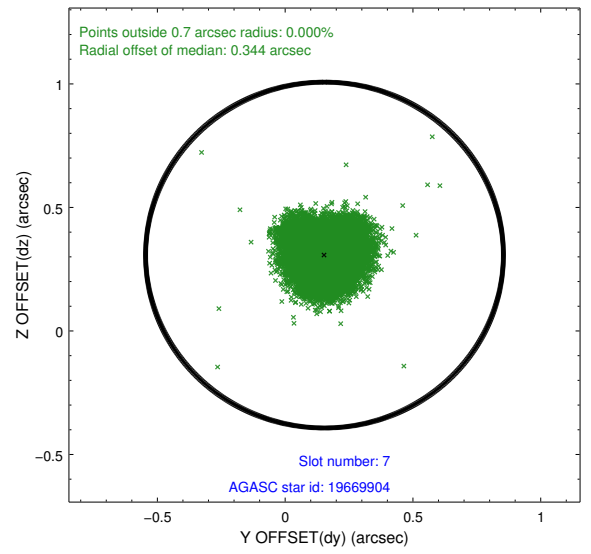
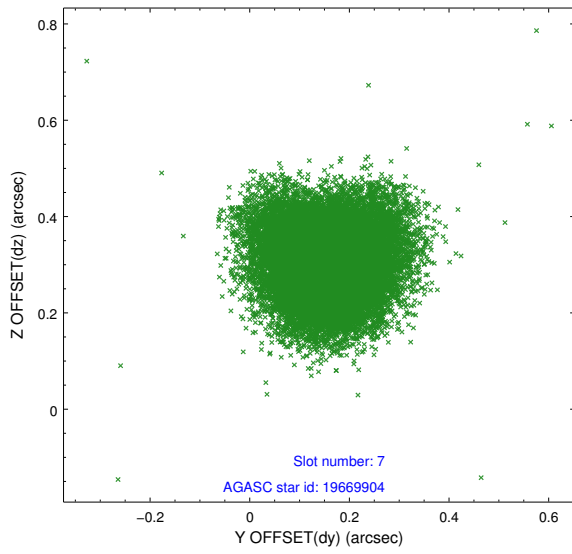
### 2.4.3 Slot 5



### 2.4.4 Slot 6

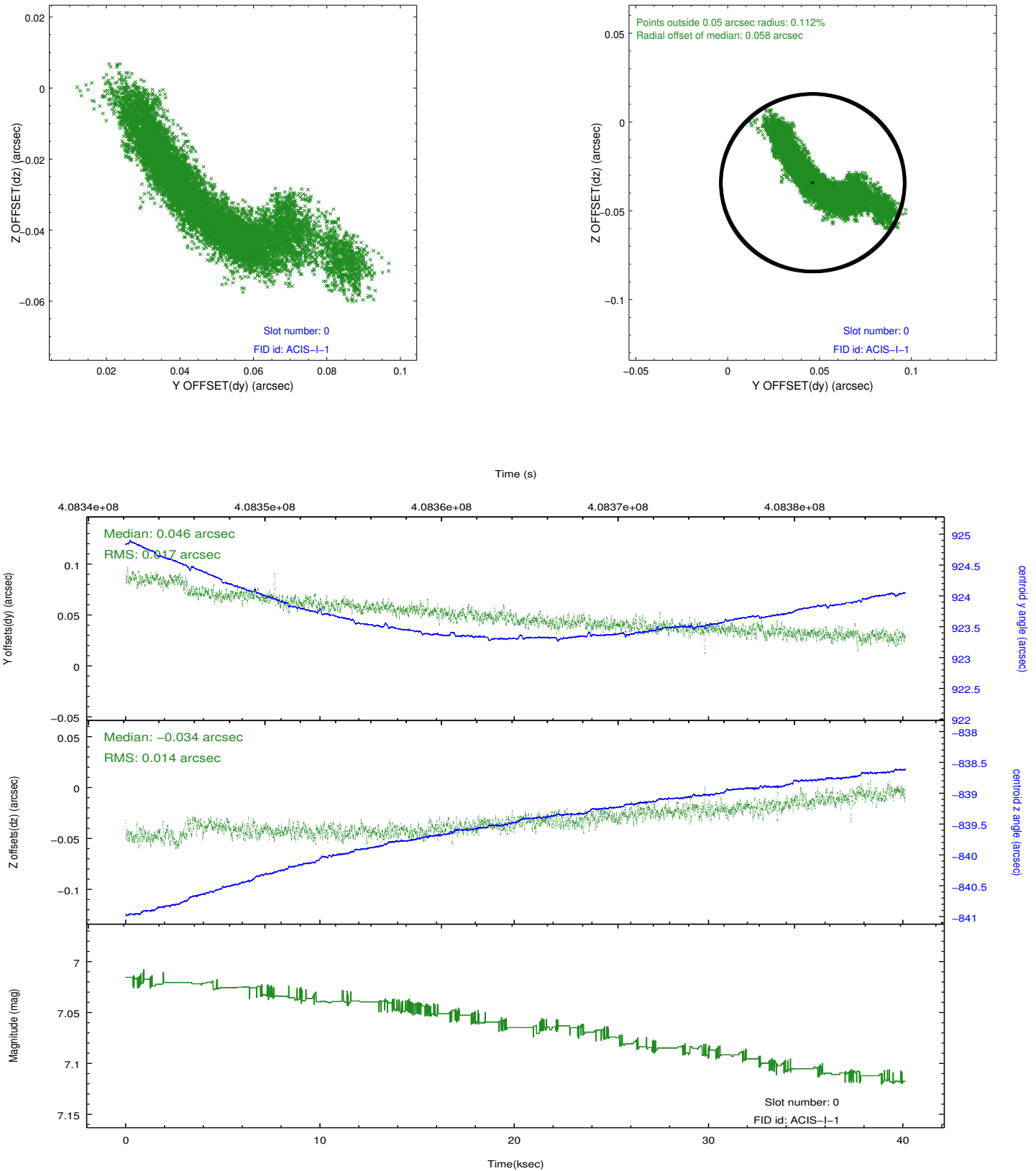


### 2.4.5 Slot 7

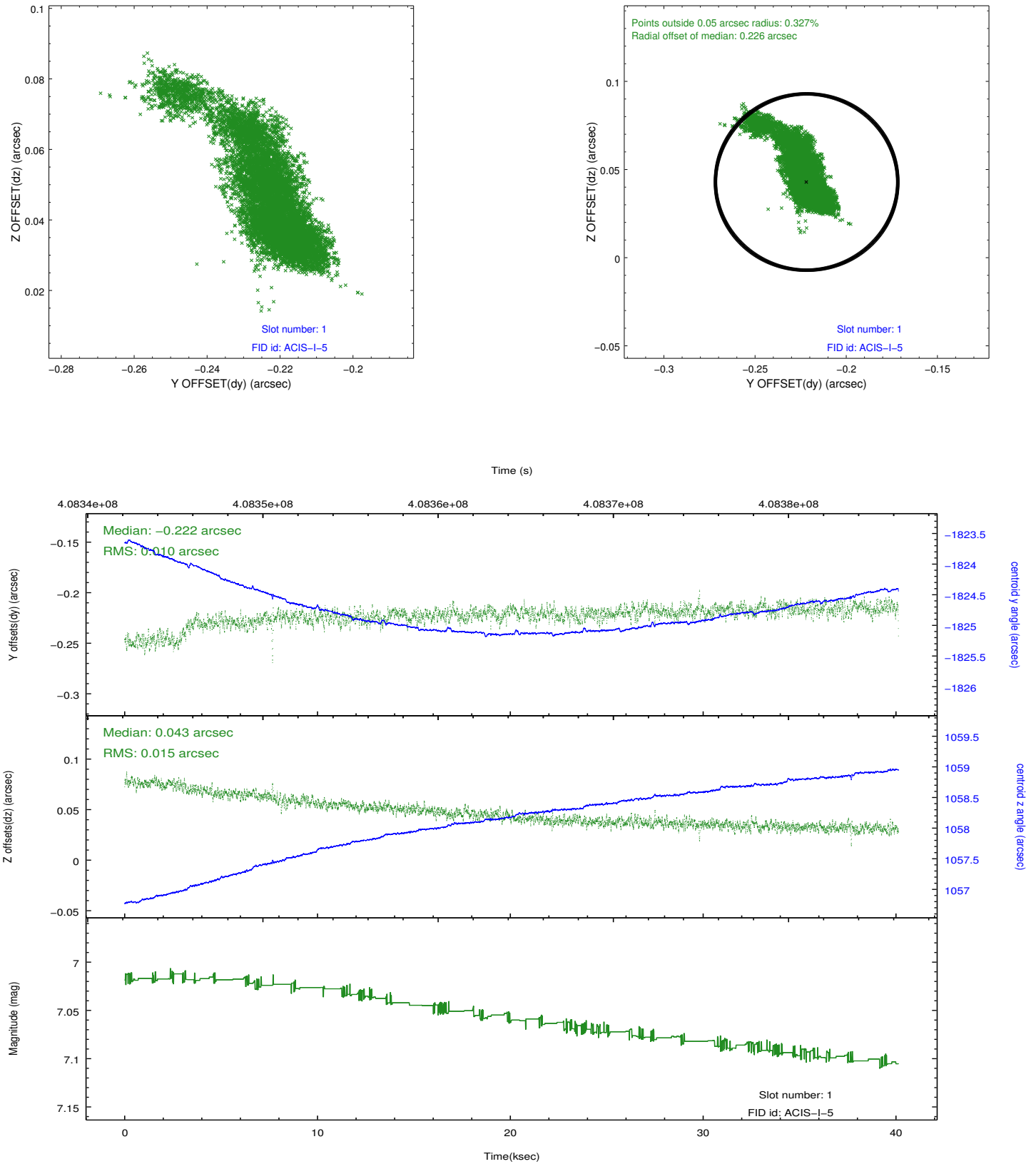


## 2.5 FID Slots

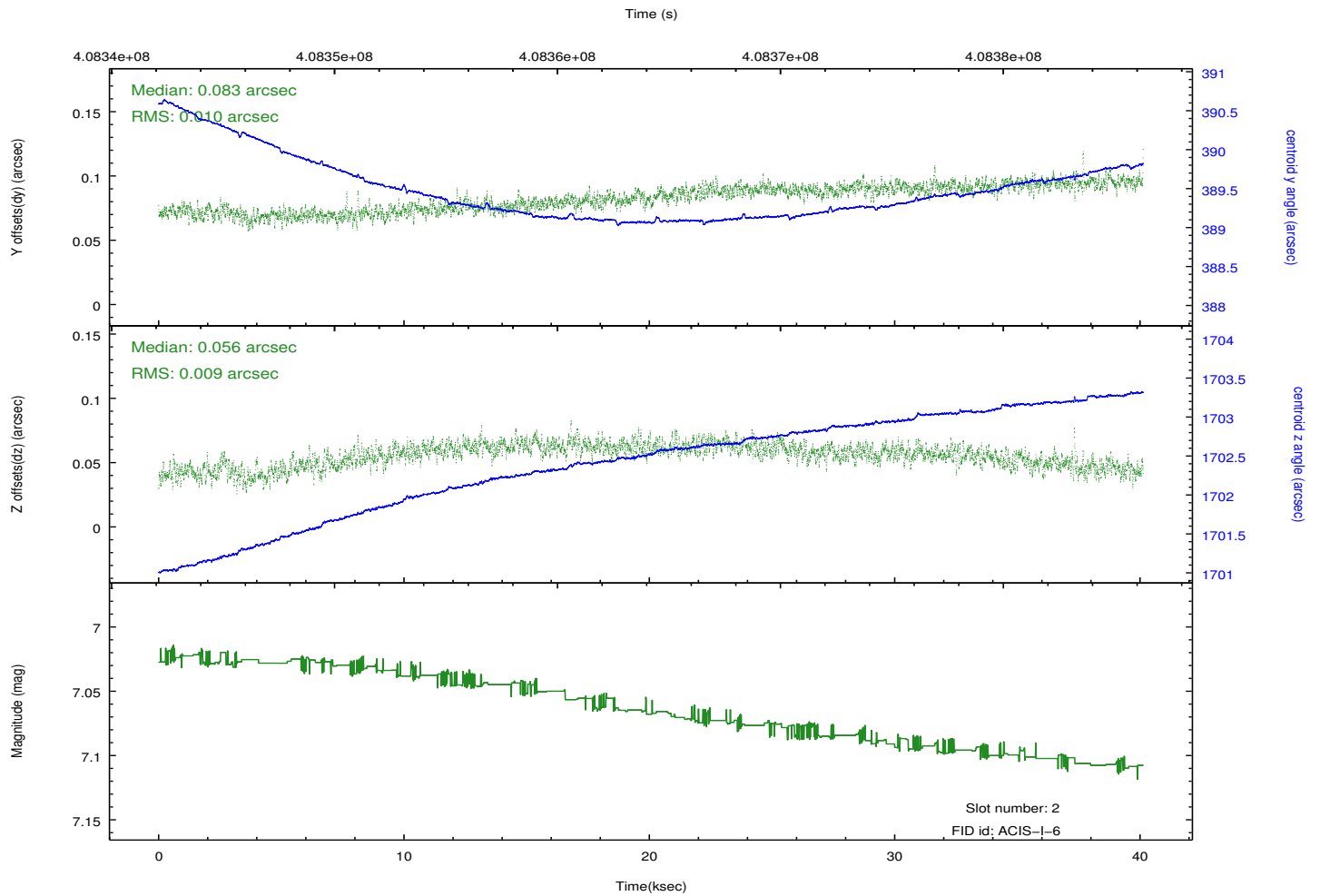
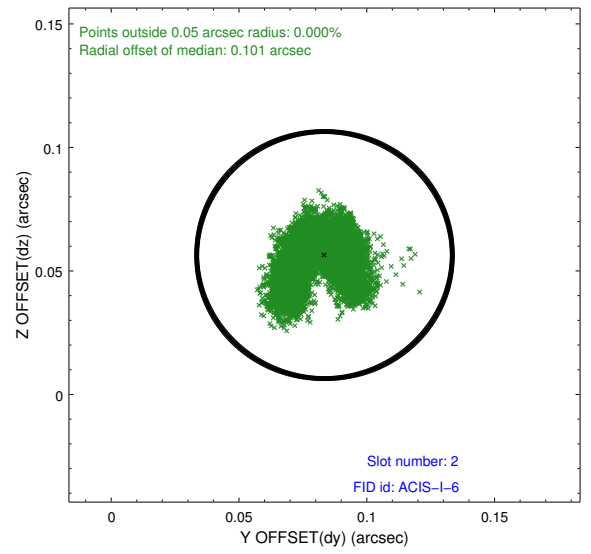
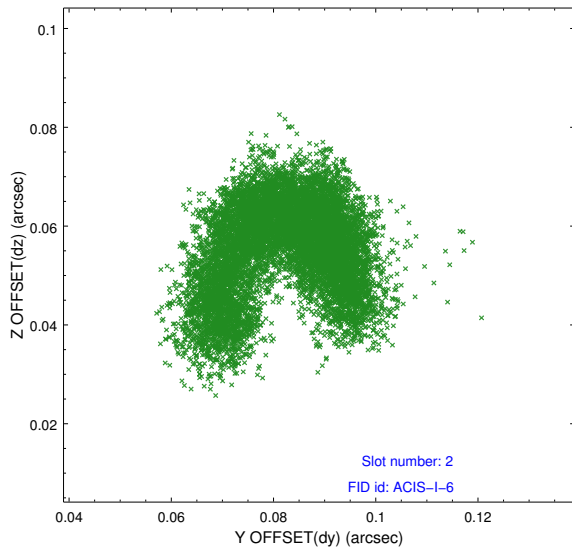
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Beth Sundheim   |
| V&V Date (YYYY-MM-DD)      | 2012.07.17      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 40.047917810202 |

## A.2 Comments