

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 22006 - L2 Version 1  
Chandra X-Ray Center

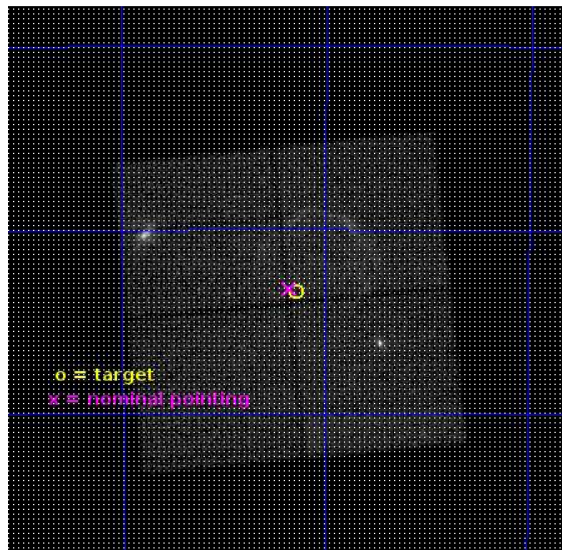
L2 Processing Date : Dec 20 2018

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# 1 Front

|          |                                                                  |                                             |
|----------|------------------------------------------------------------------|---------------------------------------------|
| seq_num  | 503032                                                           | Sequence number                             |
| obs_id   | 22006                                                            | Observation id                              |
| title    | Resolving the Shell of the Superbubble 30 Doradus C with Chandra | P                                           |
| observer | Laura Lopez                                                      | Principal investigator                      |
| object   | 30 Doradus C                                                     | Source name                                 |
| dtcycle  | 0                                                                | &#160                                       |
| cycle    | P                                                                | events from which<br>exps? Prim/Second/Both |
| ra_targ  | 84.072917                                                        | Observer's specified<br>target RA [deg]     |
| dec_targ | -69.222944                                                       | Observer's specified<br>target Dec [deg]    |
| ra_nom   | 84.088853683009                                                  | Nominal RA [deg]                            |
| dec_nom  | -69.220562110921                                                 | Nominal Dec [deg]                           |
| roll_nom | 354.22358643405                                                  | Nominal Roll [deg]                          |
| revision | 1                                                                | Processing version of<br>data               |
| ontime   | 38077.300292969                                                  | Sum of GTIs [s]                             |
| livetime | 37579.79233254                                                   | Livetime [s]                                |
| ontime0  | 38074.159322739                                                  | Sum of GTIs [s]                             |
| ontime1  | 38077.300292969                                                  | Sum of GTIs [s]                             |
| ontime2  | 38077.300292969                                                  | Sum of GTIs [s]                             |
| ontime3  | 38077.300292969                                                  | Sum of GTIs [s]                             |
| l2events | 159164                                                           | Number of level 2<br>events                 |

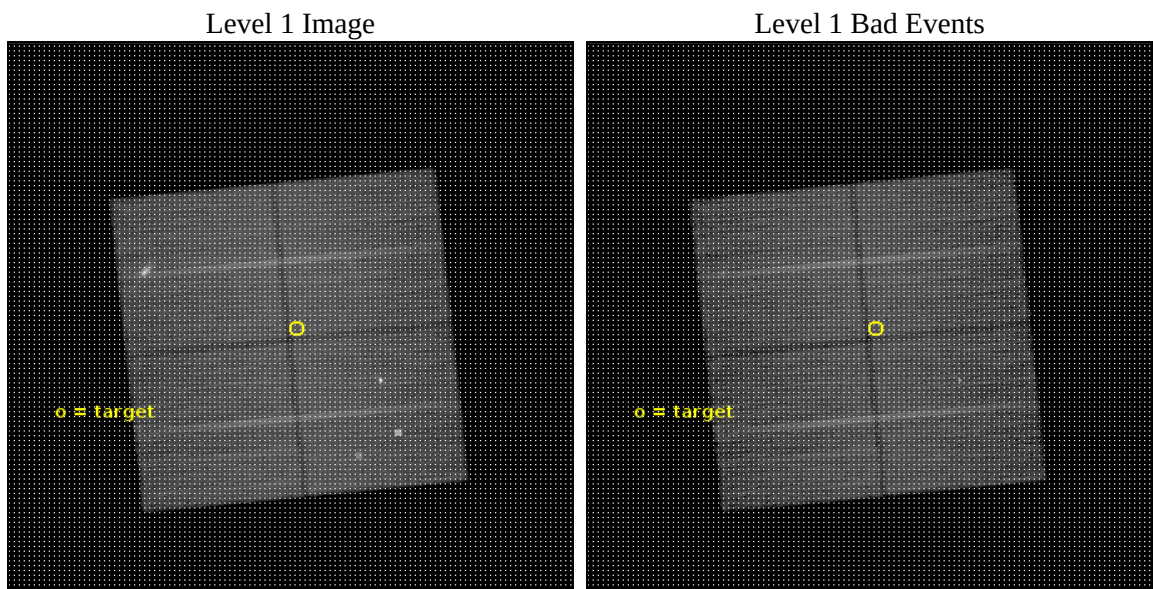




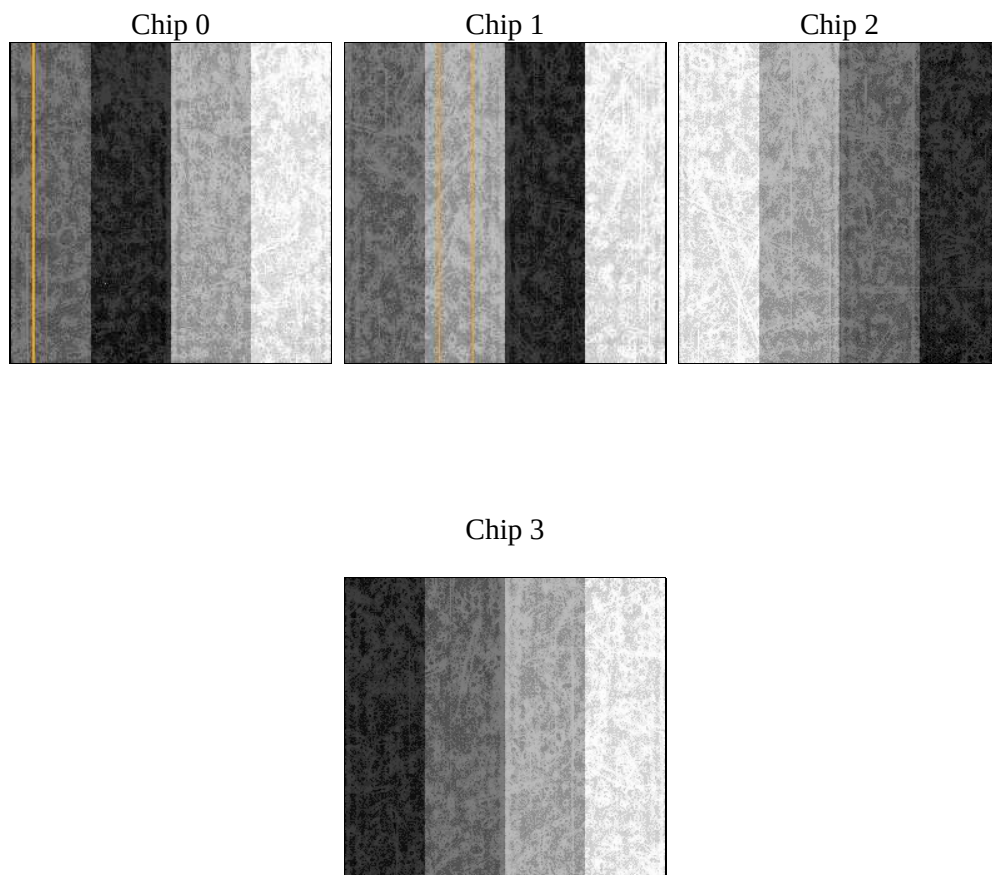
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 38000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 10.7.1              | Processing system revision     | ontime         | 38077.300292969 | Sum of GTIs [s]                         |
| caldsver | 4.8.2               | &#160                          | ontime0        | 38074.159322739 | Sum of GTIs [s]                         |
| date     | 2018-12-20T05:31:27 | Date and time of file creation | ontime1        | 38077.300292969 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime2        | 38077.300292969 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 38077.300292969 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1188190         | Number of level 1 events                |

### 2.1.4 Events

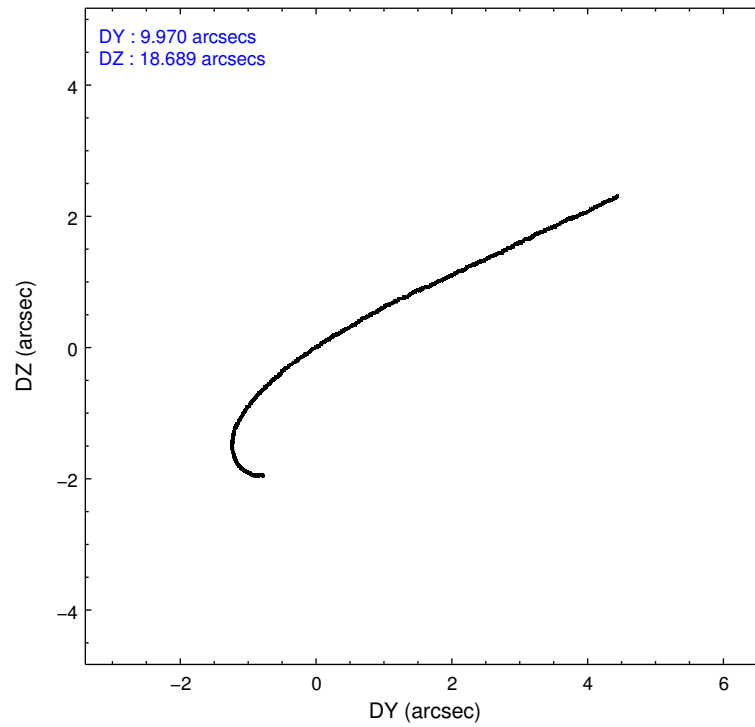
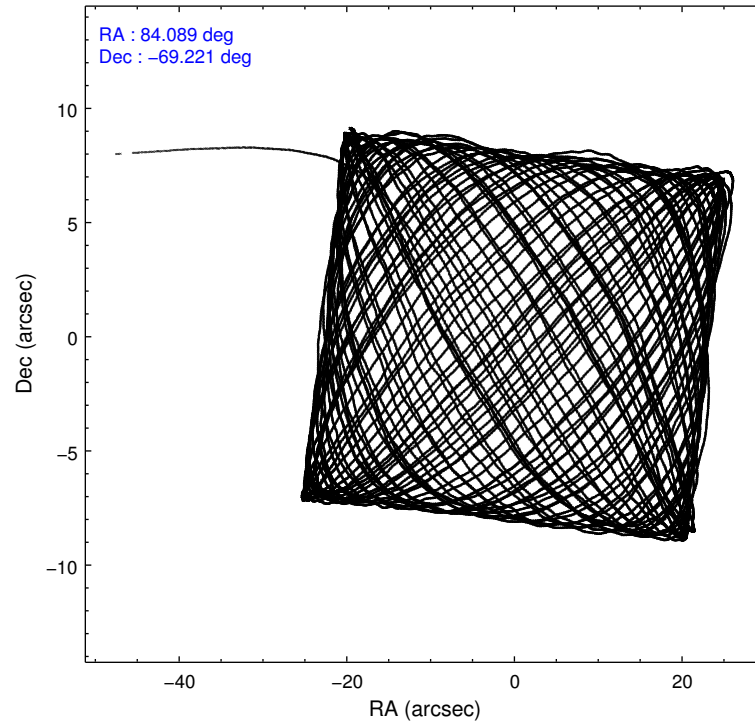
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  |
|-----------------|--------|--------|--------|--------|
| level 1 events  | 266854 | 316571 | 314051 | 290714 |
| rejected events | 231810 | 239888 | 261261 | 253165 |
| rejected %      | 86%    | 75%    | 83%    | 87%    |

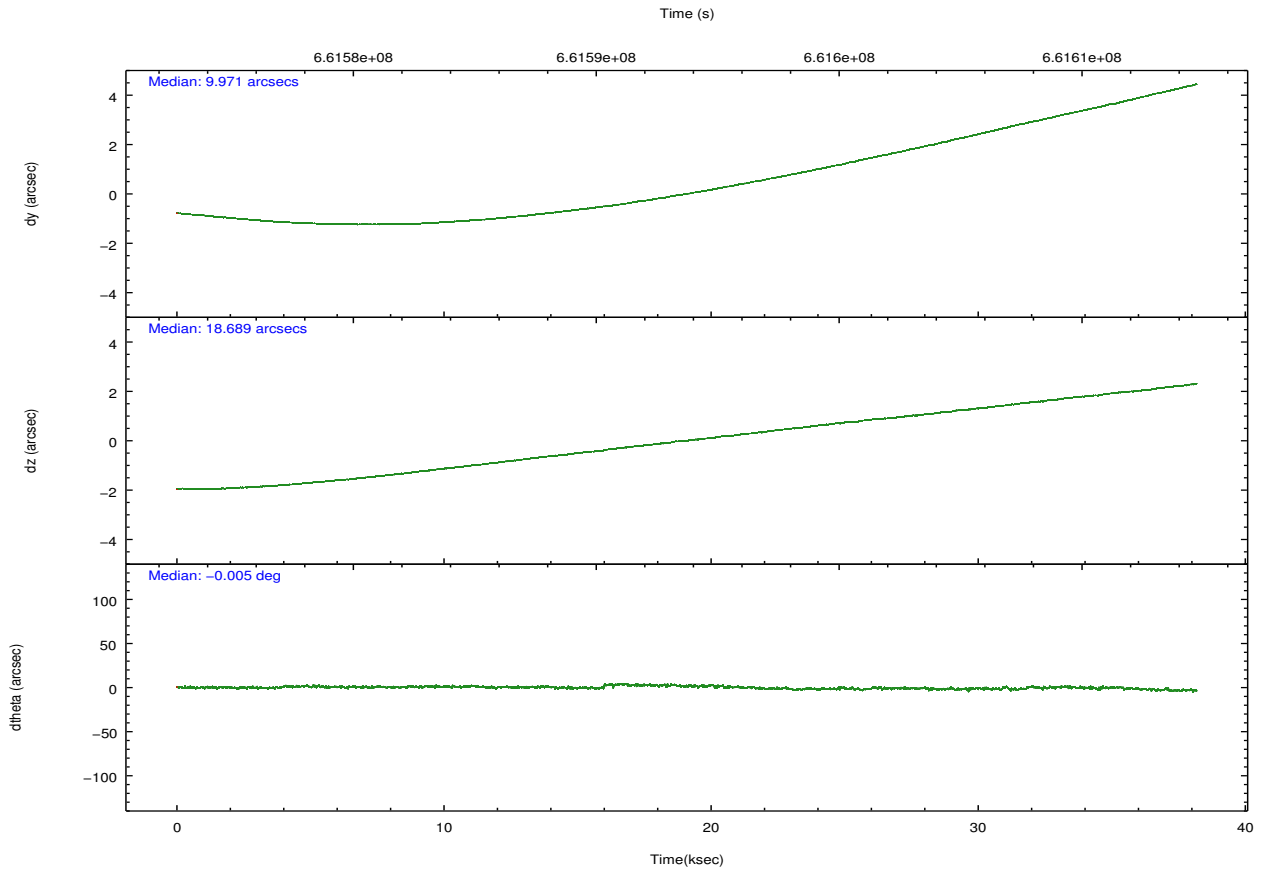
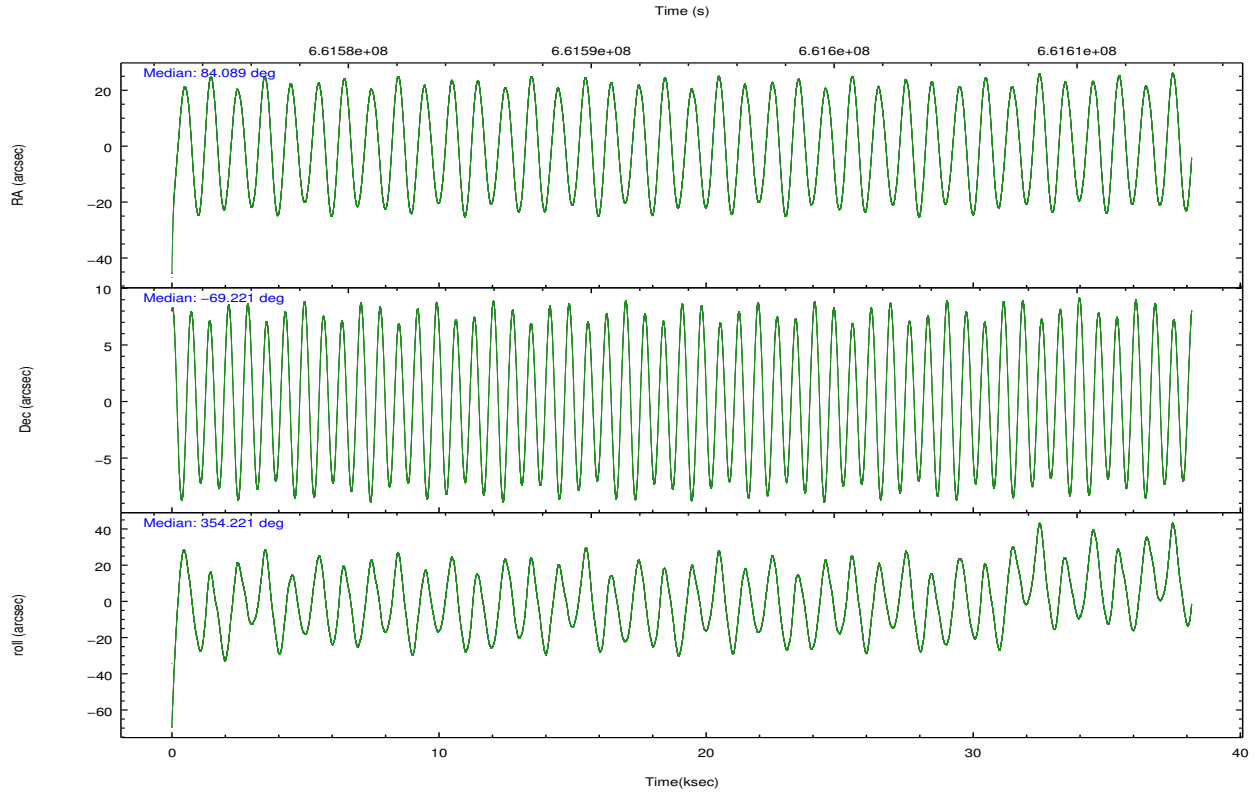
|                | ccd 0  | ccd 1  | ccd 2  | ccd 3  |
|----------------|--------|--------|--------|--------|
| grade 0 events | 13446  | 46452  | 28022  | 16690  |
|                | 5%     | 14%    | 8%     | 5%     |
| grade 1 events | 132    | 1331   | 288    | 214    |
|                | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 8435   | 12905  | 10095  | 7347   |
|                | 3%     | 4%     | 3%     | 2%     |
| grade 3 events | 3222   | 4123   | 3874   | 3411   |
|                | 1%     | 1%     | 1%     | 1%     |
| grade 4 events | 3105   | 4209   | 3950   | 3445   |
|                | 1%     | 1%     | 1%     | 1%     |
| grade 5 events | 12127  | 12869  | 11379  | 13691  |
|                | 4%     | 4%     | 3%     | 4%     |
| grade 6 events | 6841   | 9003   | 6855   | 6657   |
|                | 2%     | 2%     | 2%     | 2%     |
| grade 7 events | 219546 | 225679 | 249588 | 239259 |
|                | 82%    | 71%    | 79%    | 82%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual                | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                  | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-0123           | ACIS-0123             | 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                 | 84.018009           | 84.08885368300862     | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -69.231975          | -69.22056211092141    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 353.948663          | 354.2235864340536     | [s] Primary exposure time             | 0.000000  | 3.1     |
| [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)  | 661574838.184000    | 661573774.15819       |                                       |           |         |
| Observation start date            | 2018-12-19T02:46:09 | 2018-12-19T02:29:34   |                                       |           |         |
| [s] Observation end time (MET)    | 661612838.184000    | 661613495.47306       |                                       |           |         |
| Observation end date              | 2018-12-19T13:19:29 | 2018-12-19T13:31:35   |                                       |           |         |
| Read mode                         | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



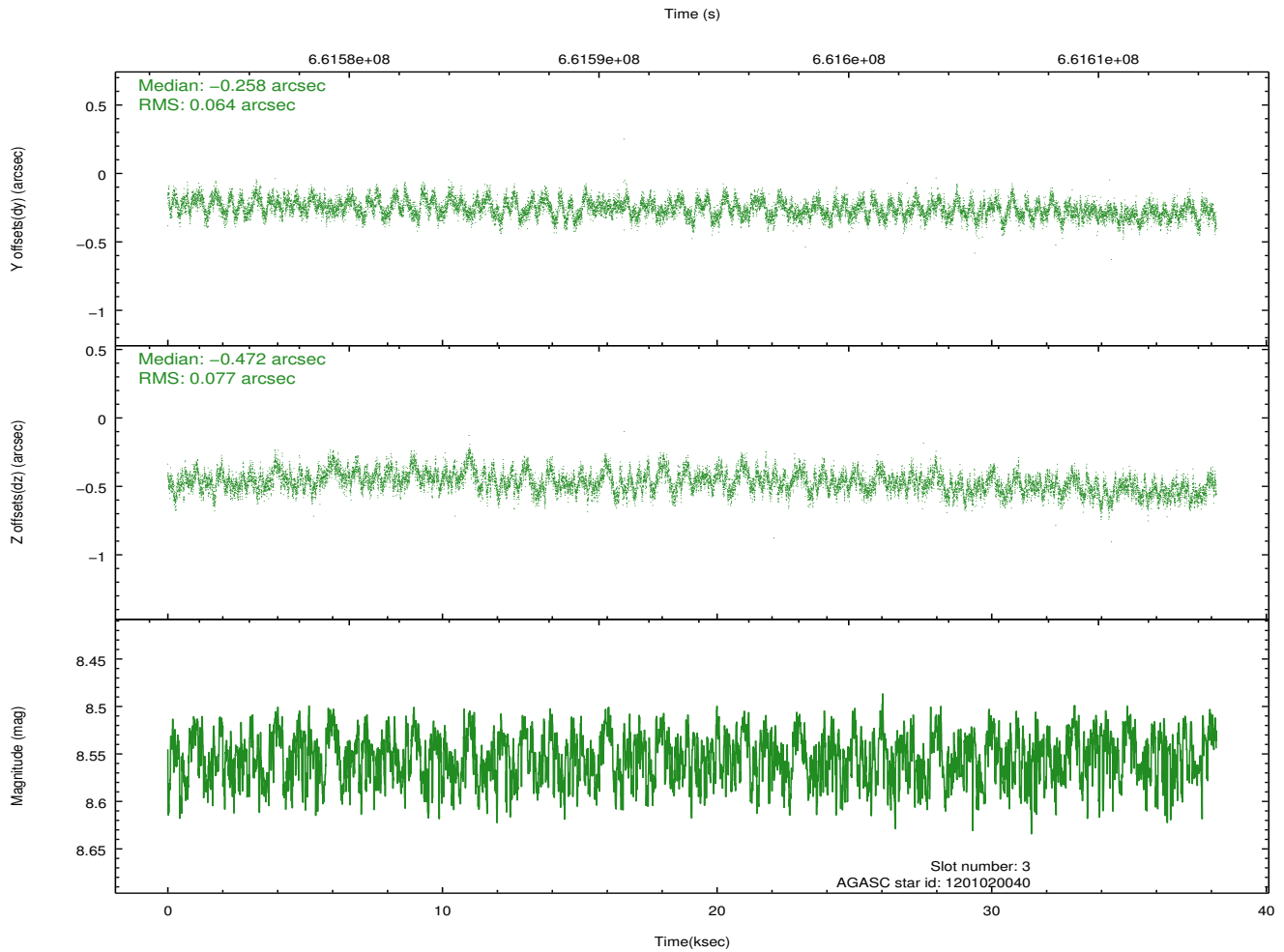
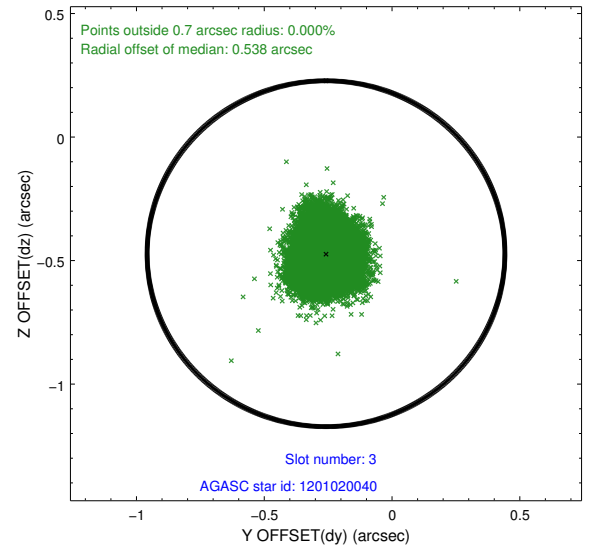
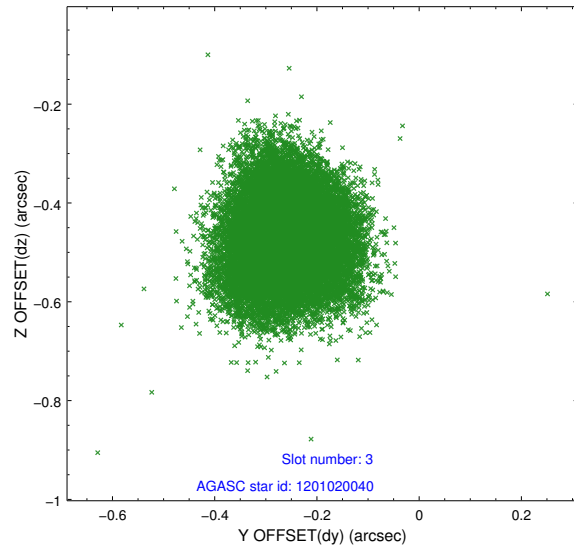


# Slot Statistics

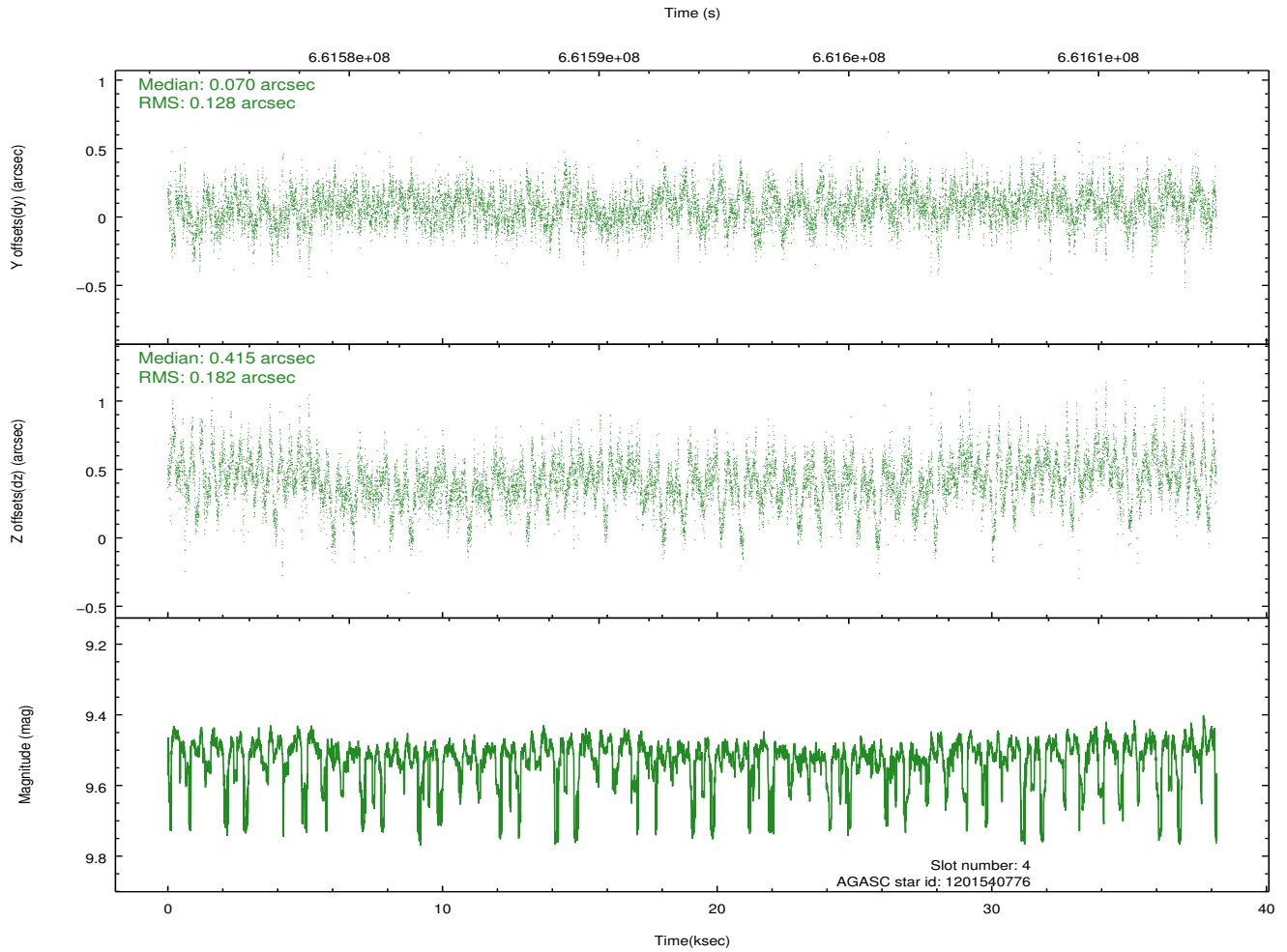
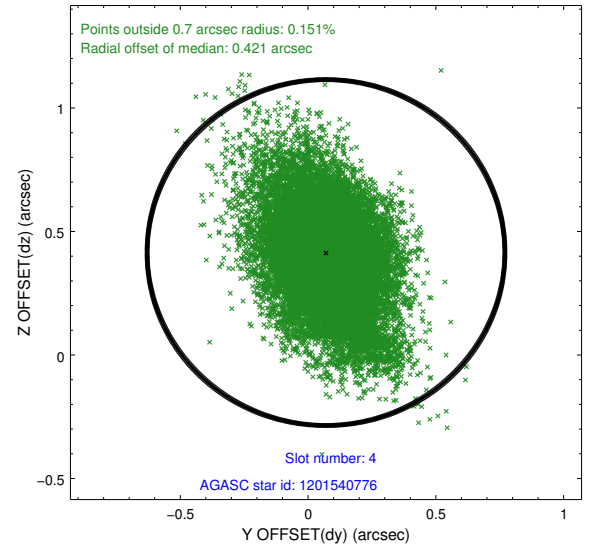
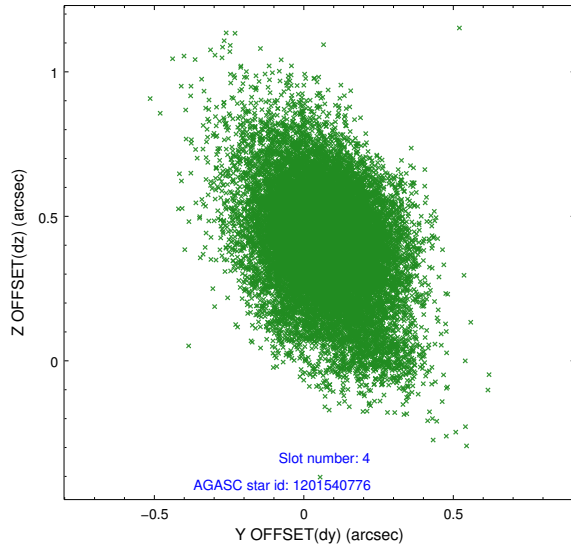
| pt | status | used | id         | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mea   |
|----|--------|------|------------|------|-------|----------|--------|--------|-------|-------|-----------|------------|----------|-------|
| 0  | FID    |      | ACIS-I-2   | 7.11 | 9310  | 1.000    | -0.368 | -0.093 | 0.059 | 0.095 | 0.000000  | 0.000000   | -765.51  | -848  |
| 1  | FID    |      | ACIS-I-4   | 7.17 | 9310  | 1.000    | 0.709  | 0.211  | 0.027 | 0.038 | 0.000000  | 0.000000   | 2149.52  | 1057  |
| 2  | FID    |      | ACIS-I-5   | 7.22 | 9311  | 1.000    | -0.439 | -0.049 | 0.048 | 0.066 | 0.000000  | 0.000000   | -1819.47 | 1055  |
| 3  | GUIDE  | used | 1201020040 | 8.55 | 18615 | 1.000    | -0.258 | -0.472 | 0.108 | 0.170 | 85.379163 | -68.879396 | 1623.91  | 1428  |
| 4  | GUIDE  | used | 1201540776 | 9.51 | 18551 | 1.000    | 0.070  | 0.415  | 0.223 | 0.417 | 85.107945 | -69.858480 | 1583.12  | -2111 |
| 5  | GUIDE  | used | 1201019672 | 6.80 | 18622 | 1.000    | -0.263 | -0.492 | 0.093 | 0.151 | 85.312192 | -68.770187 | 1504.22  | 1812  |
| 6  | GUIDE  | used | 1201410616 | 9.27 | 18595 | 1.000    | 0.486  | 0.880  | 0.184 | 0.294 | 82.516808 | -69.784406 | -1644.05 | -2195 |
| 7  | GUIDE  | used | 1200884248 | 9.43 | 18604 | 1.000    | -0.032 | -0.320 | 0.185 | 0.294 | 83.880915 | -68.565170 | -431.93  | 2368  |

## 2.4 Star Slots

### 2.4.1 Slot 3

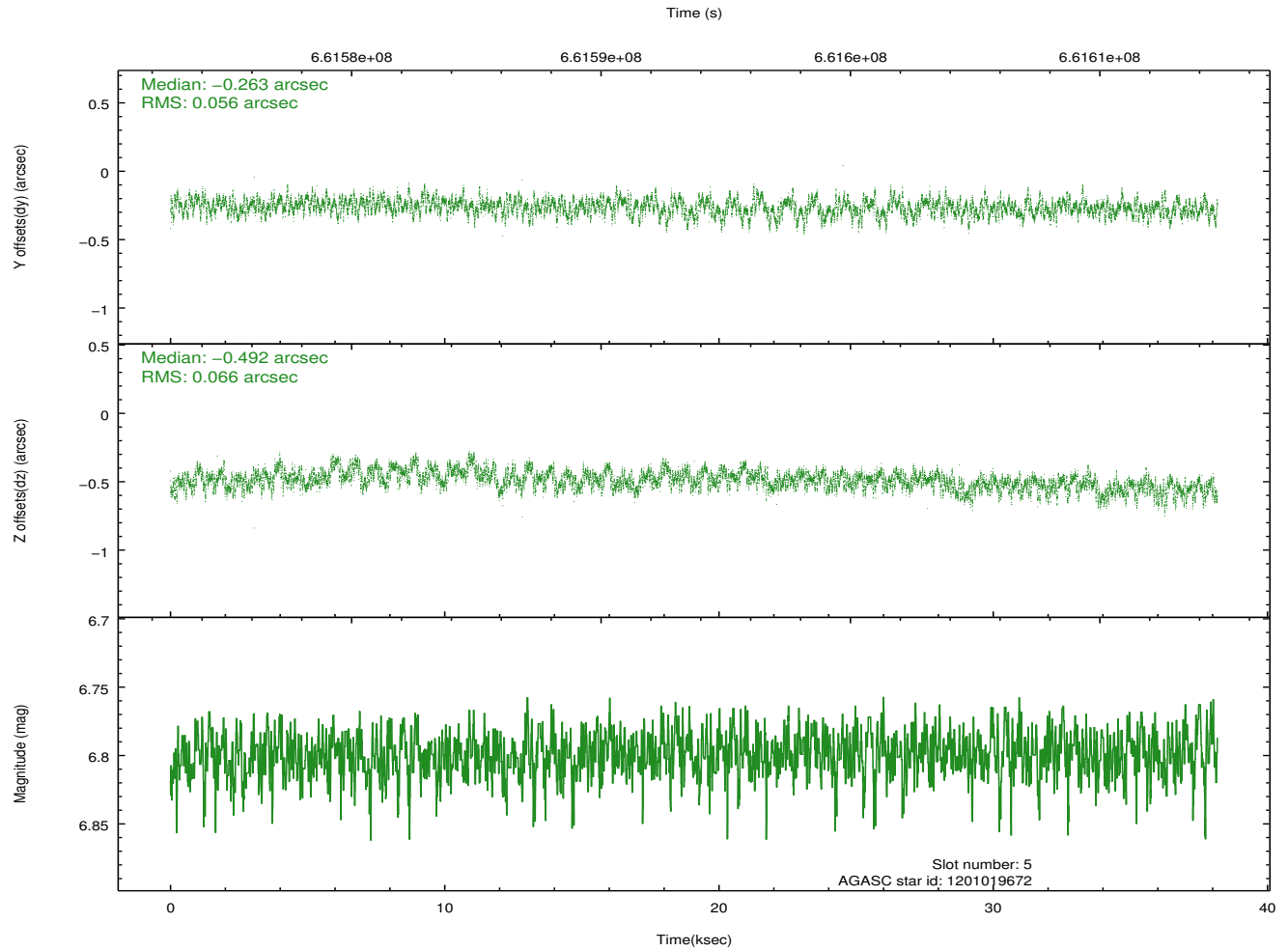
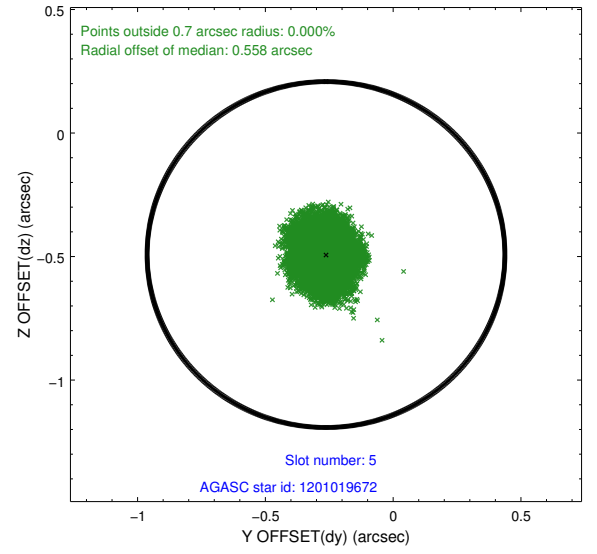
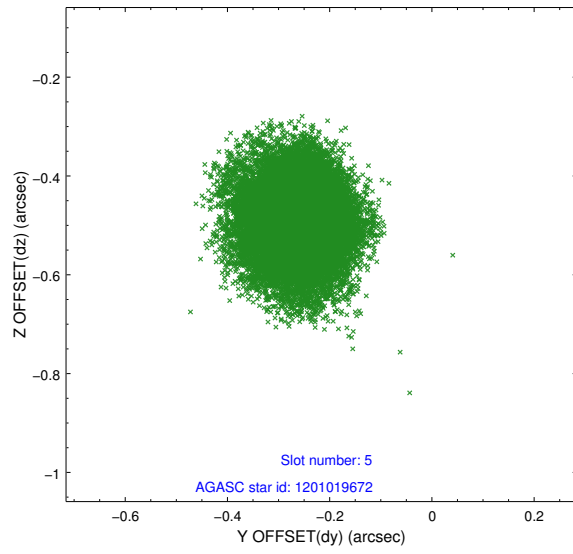


## 2.4.2 Slot 4

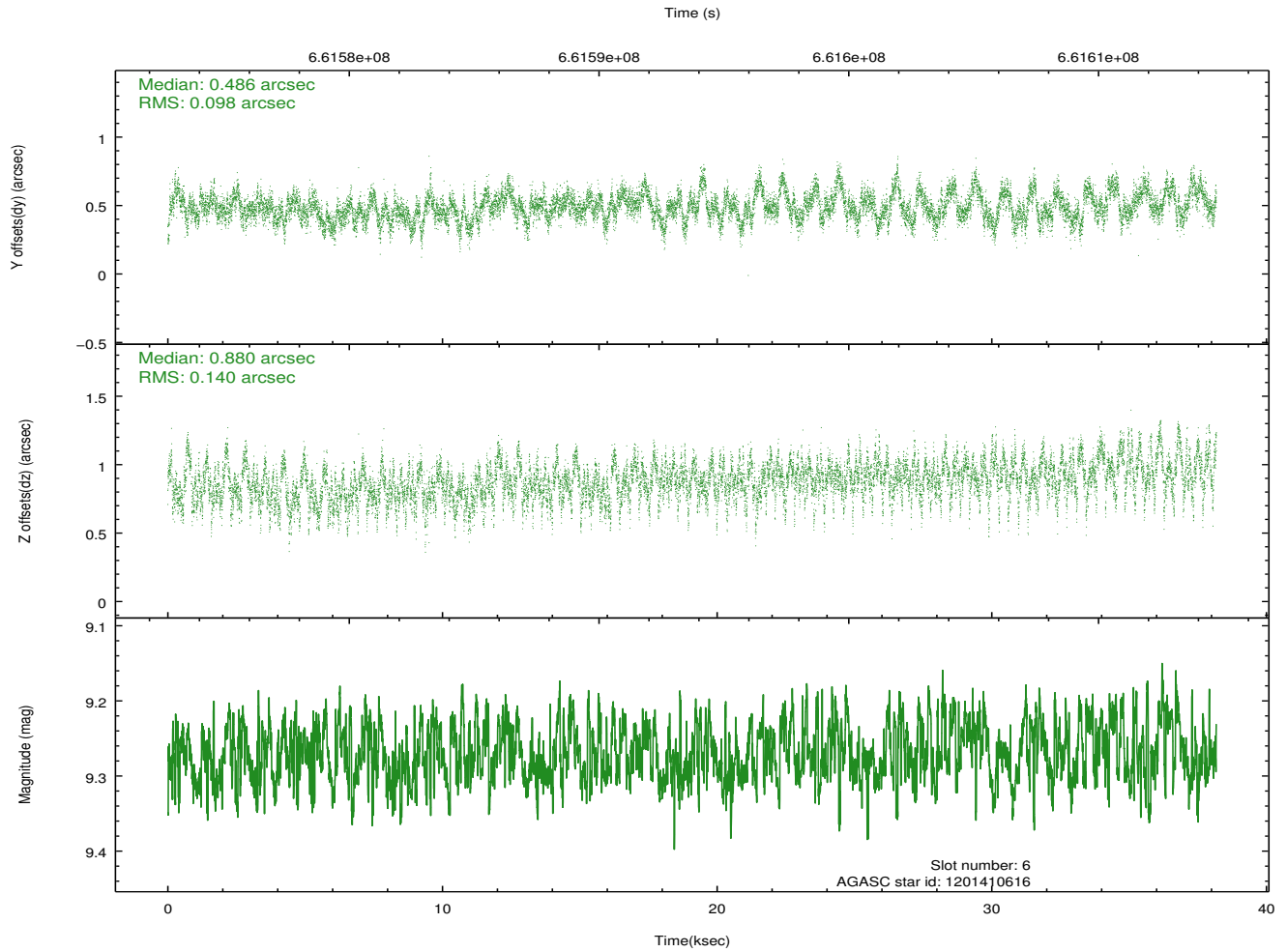
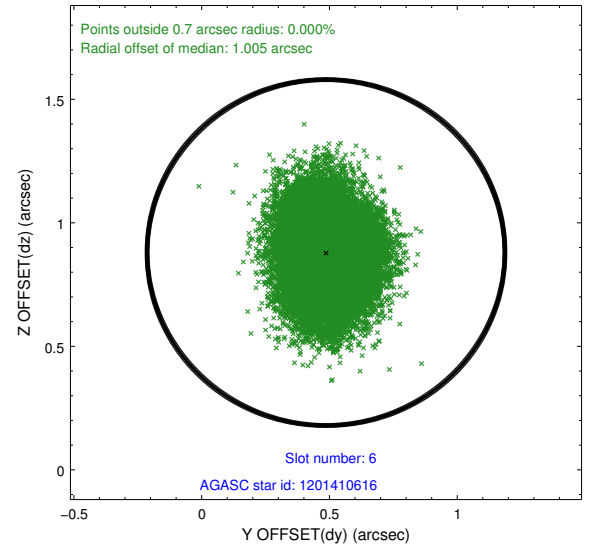
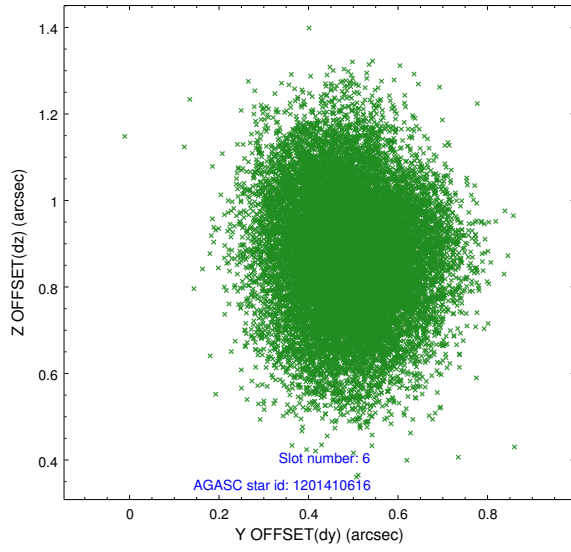




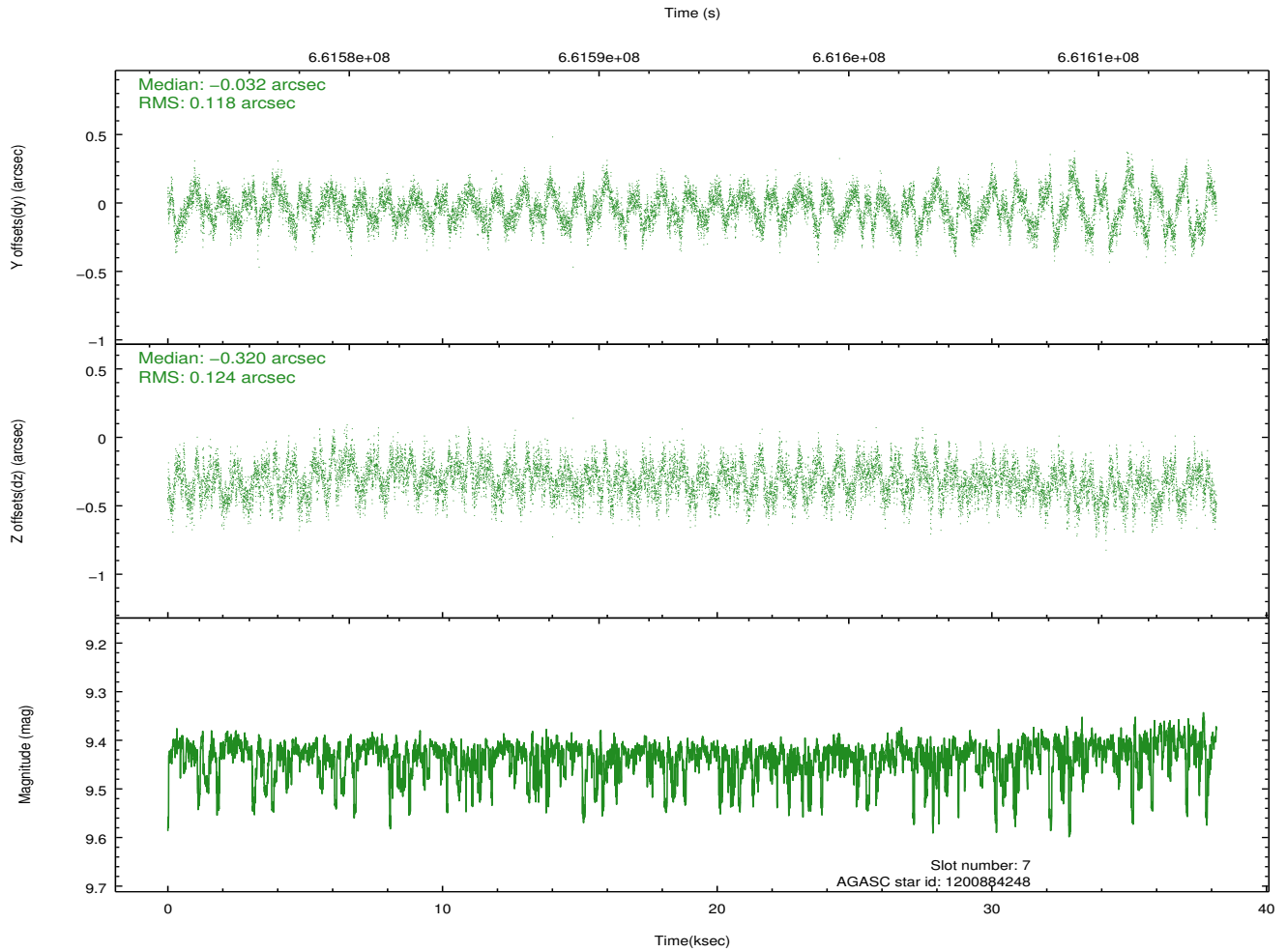
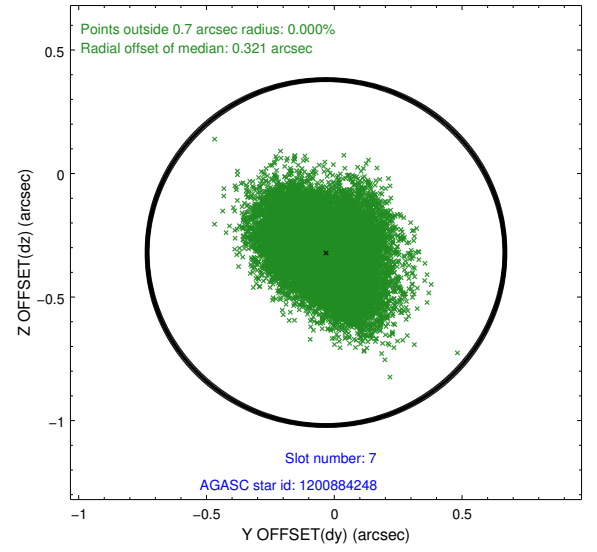
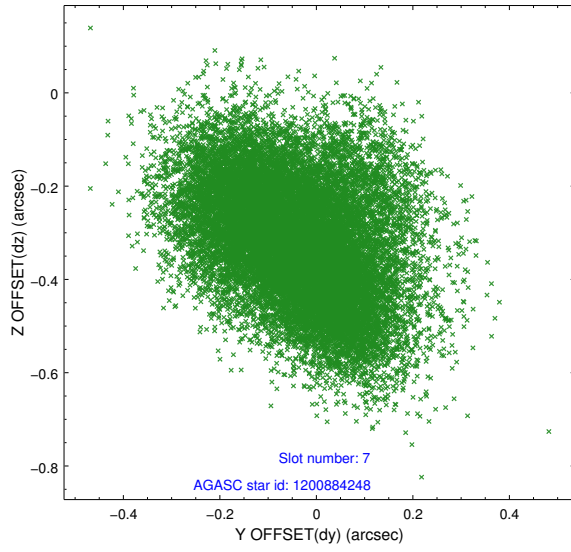
### 2.4.3 Slot 5



## 2.4.4 Slot 6

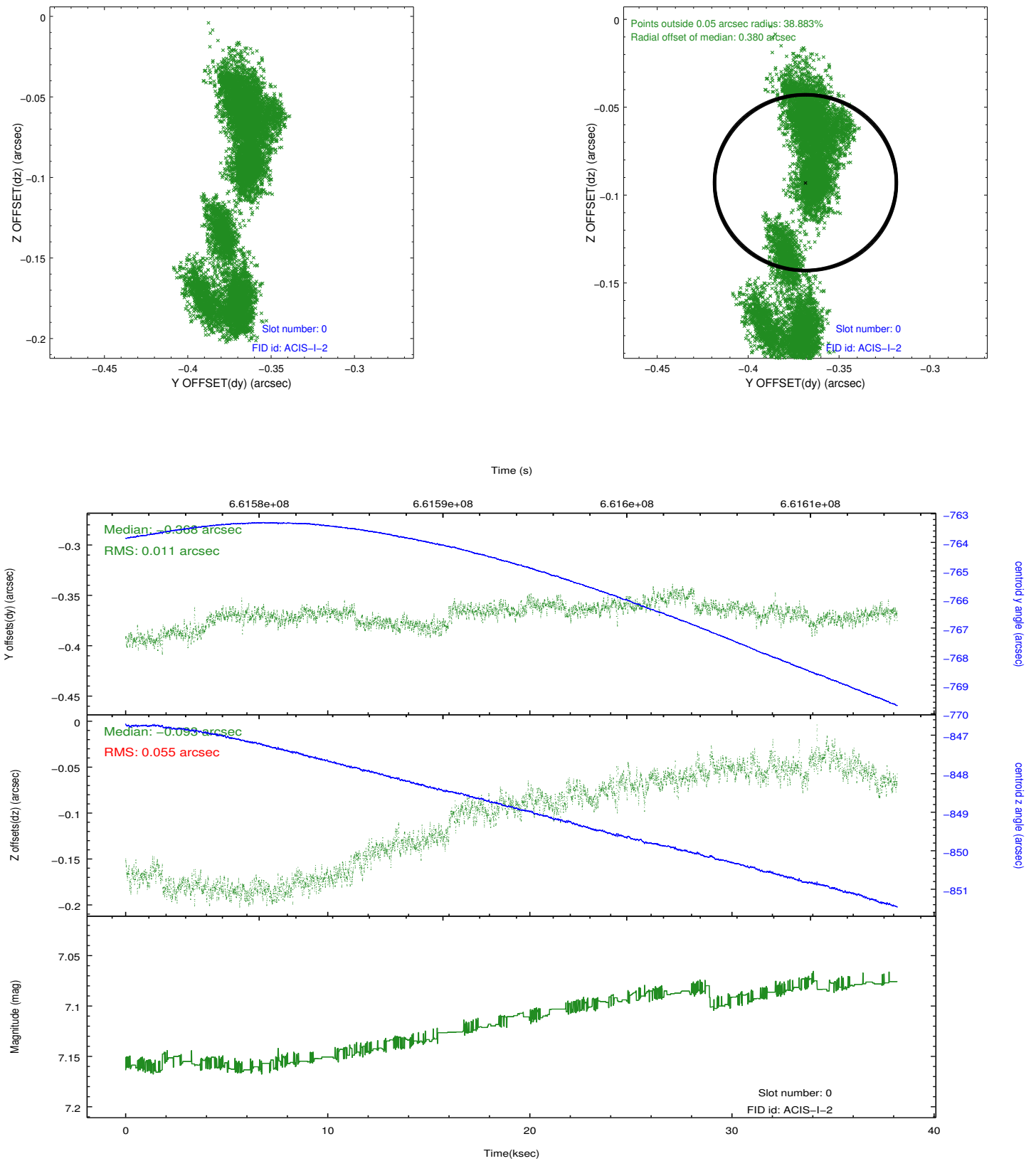


## 2.4.5 Slot 7

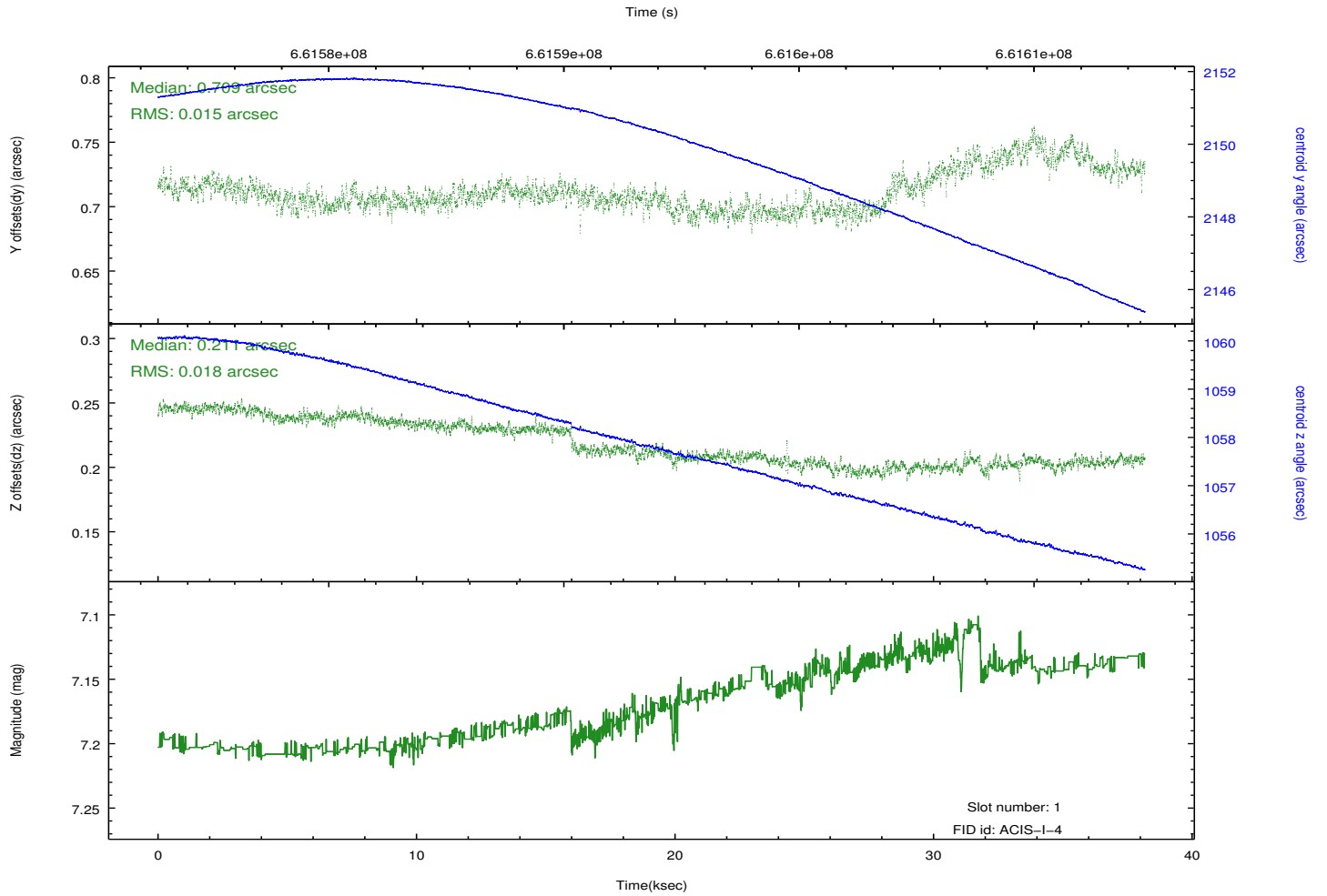
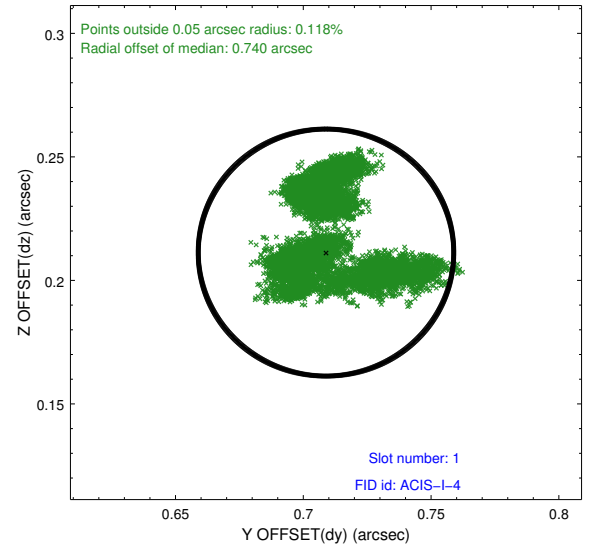
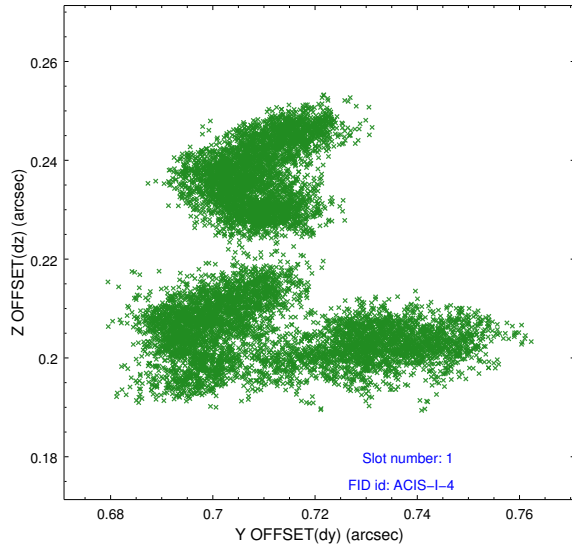


## 2.5 FID Slots

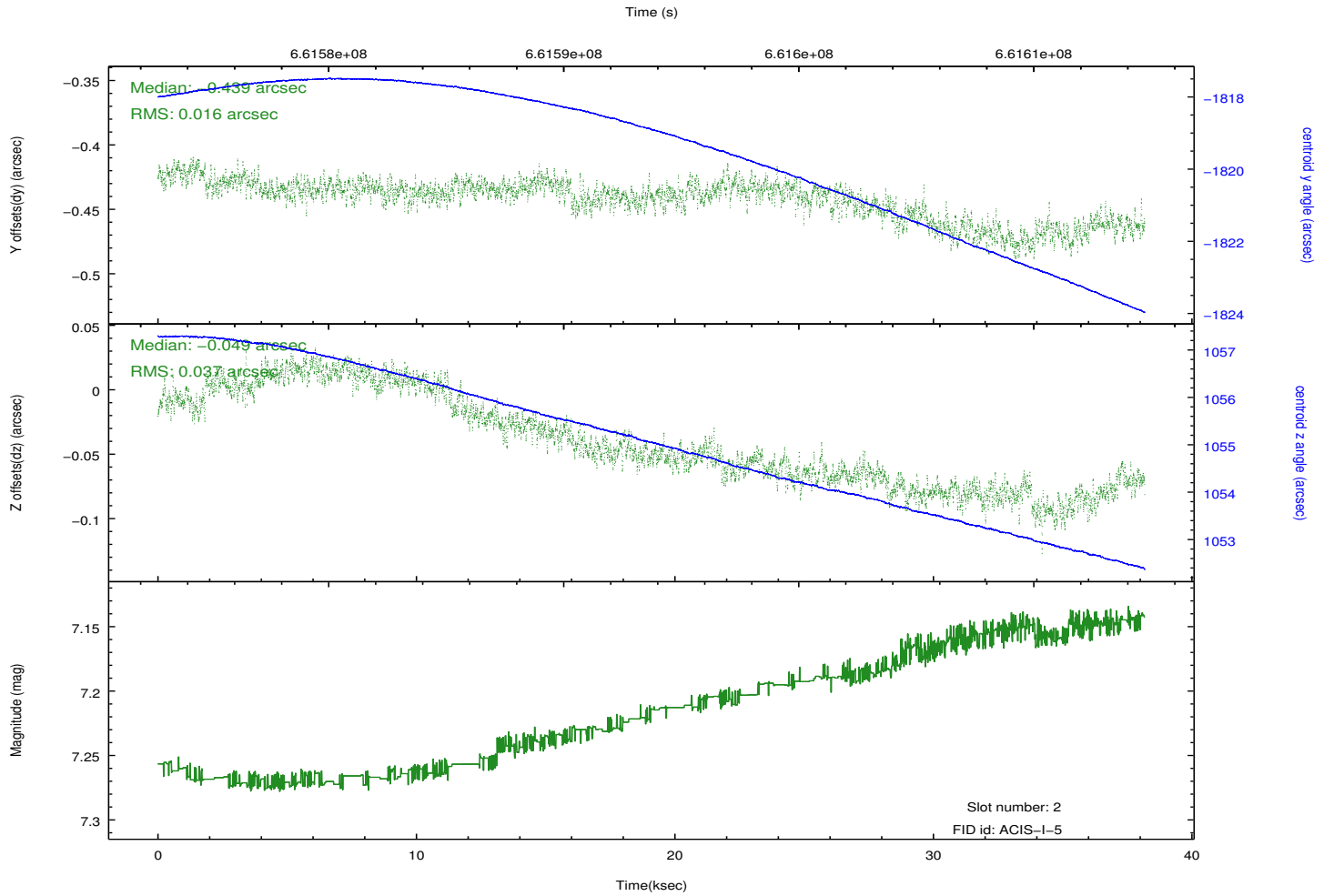
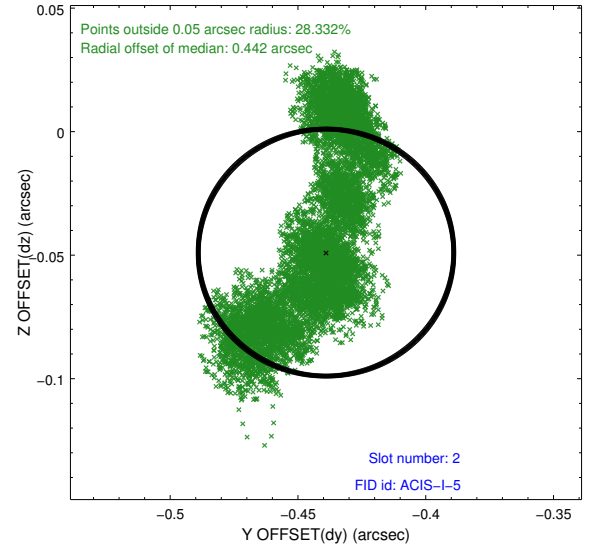
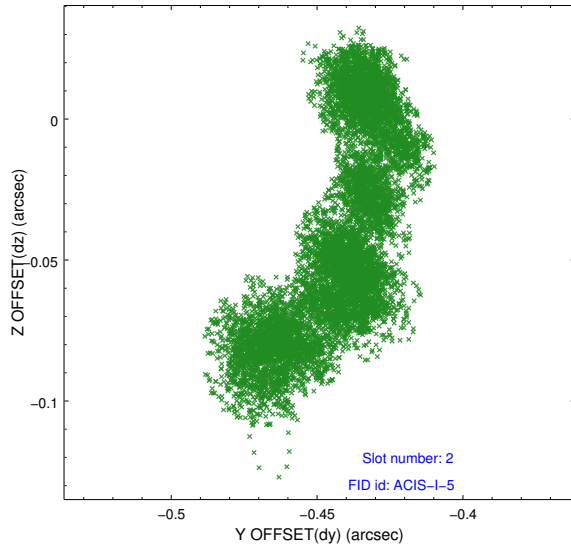
### 2.5.1 Slot 0



## 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)      | 2018.12.20      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 38.077300292969 |

### A.2 Comments