

# V&V Reference Report

## L2 ASCDS Version : 8.5.1

Observation 5773 - L2 Version 3  
Chandra X-Ray Center

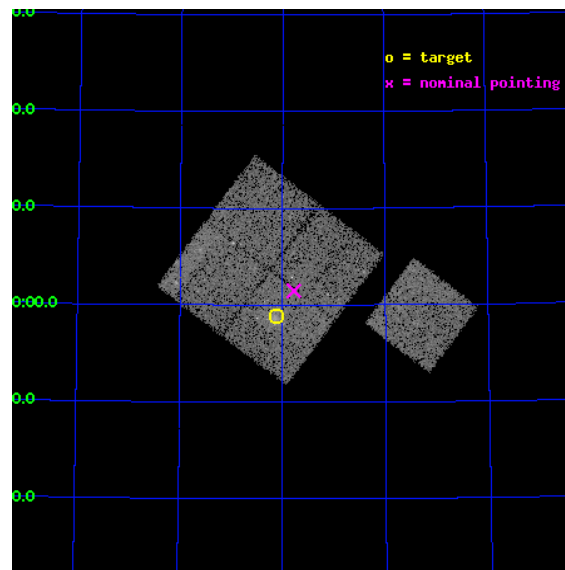
L2 Processing Date : Dec 16 2012

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# 1 Front

|          |  |   |
|----------|--|---|
| seq_num  | 800486   | Sequence number                             |
| obs_id   | 5773   | Observation id                              |
| title    | Chandra observations of high-redshift clusters of galaxies from the 400 Square Degrees ROSAT PSPC survey | Proposal title                              |
| observer | Dr. Stephen Murray   | Principal investigator                      |
| object   | cl1002+6858  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 150.531667   | Observer's specified target RA [deg]        |
| dec_targ | 68.980278  | Observer's specified target Dec [deg]       |
| ra_nom   | 150.44470742888  | Nominal RA [deg]                            |
| dec_nom  | 69.024772684639  | Nominal Dec [deg]                           |
| roll_nom | 127.11974121502  | Nominal Roll [deg]                          |
| revision | 3  | Processing version of data                  |
| ontime   | 20052.497760475  | Sum of GTIs [s]                             |
| livetime | 19790.4971148  | Livetime [s]                                |
| ontime0  | 20052.374640465  | Sum of GTIs [s]                             |
| ontime1  | 20052.415680468  | Sum of GTIs [s]                             |
| ontime2  | 20049.31572032   | Sum of GTIs [s]                             |
| ontime3  | 20052.497760475  | Sum of GTIs [s]                             |
| ontime6  | 20052.333600461  | Sum of GTIs [s]                             |
| l2events | 48678  | Number of level 2 events                    |

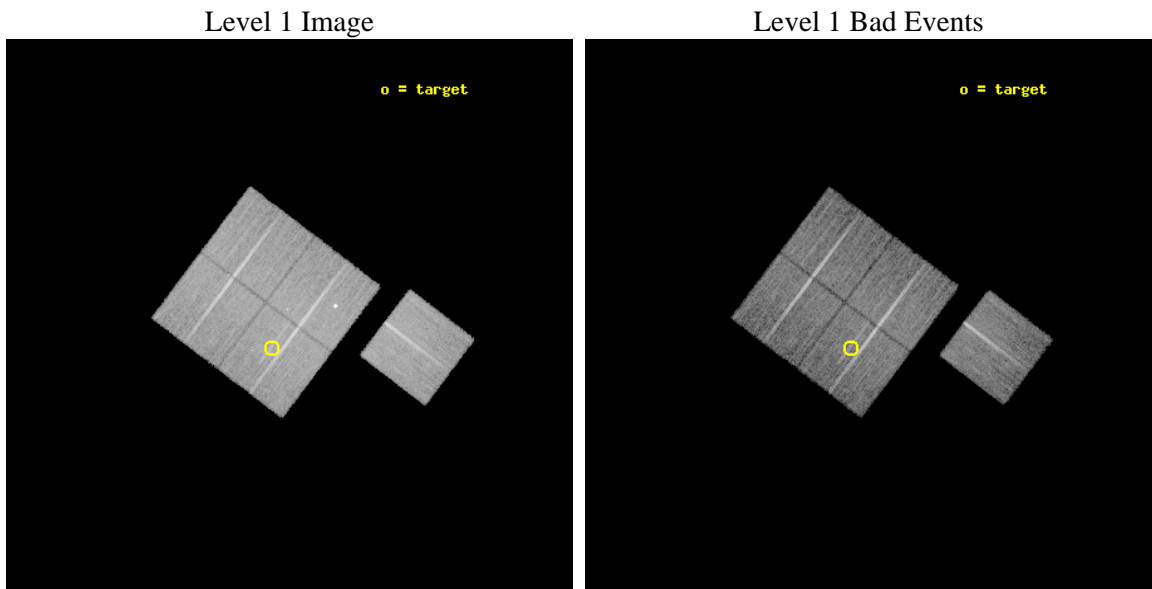




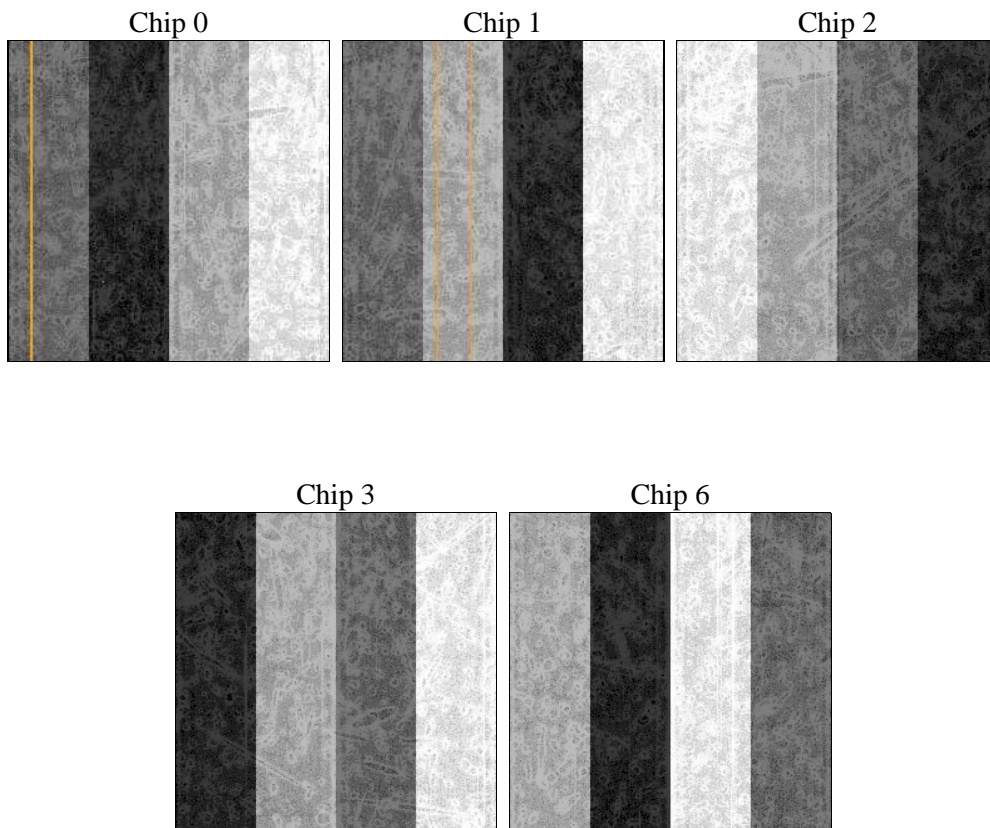
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 20000.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.5.1               | Processing system revision     | ontime         | 20052.497760475 | Sum of GTIs [s]                         |
| caldsver | 4.5.5               | &#160                          | ontime0        | 20052.374640465 | Sum of GTIs [s]                         |
| date     | 2012-12-15T21:20:07 | Date and time of file creation | ontime1        | 20052.415680468 | Sum of GTIs [s]                         |
| revision | 3                   | Processing version of data     | ontime2        | 20049.31572032  | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 20052.497760475 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 20052.333600461 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 557056          | Number of level 1 events                |

### 2.1.4 Events

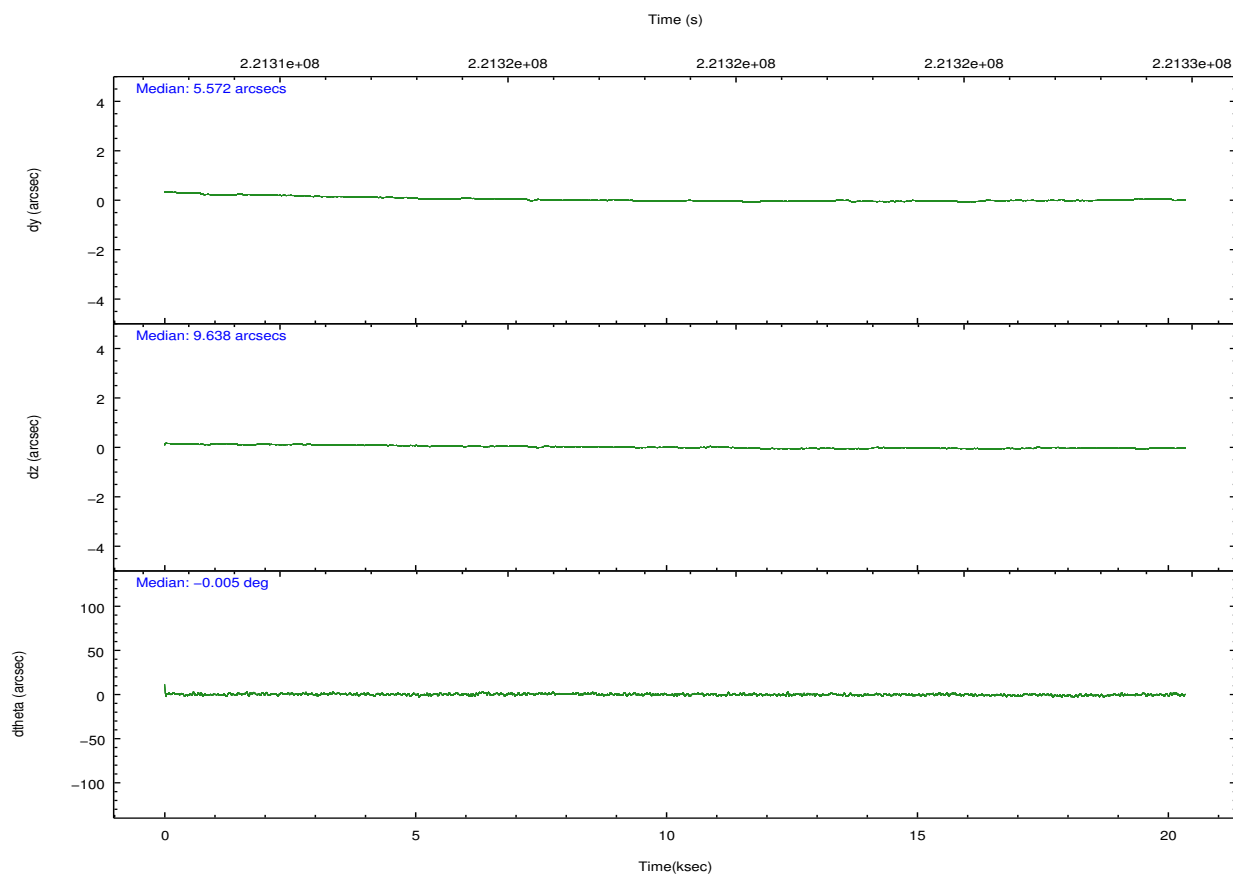
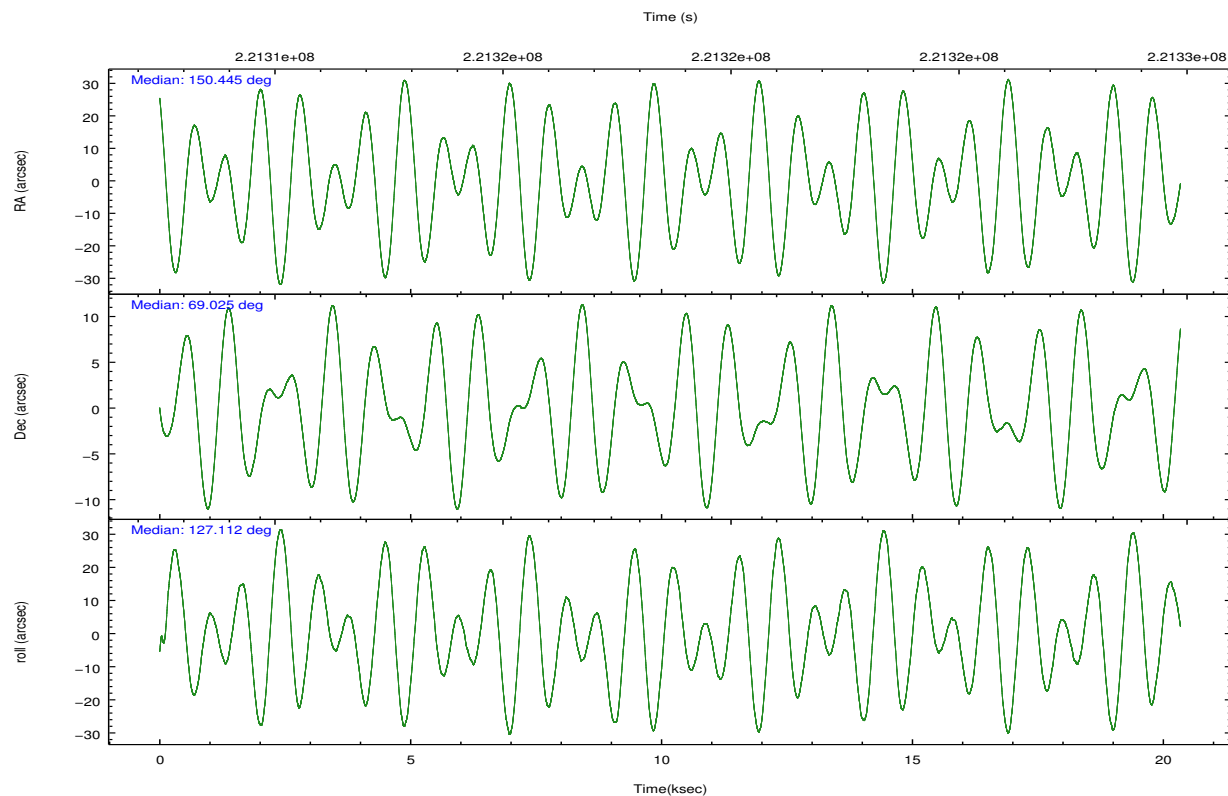
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 104721 | 105934 | 120839 | 111625 | 113937 |
| rejected events | 93638  | 93123  | 106272 | 99964  | 102471 |
| rejected %      | 89%    | 87%    | 87%    | 89%    | 89%    |

|                | ccd 0 | ccd 1 | ccd 2  | ccd 3 | ccd 6 |
|----------------|-------|-------|--------|-------|-------|
| grade 0 events | 3893  | 4731  | 7389   | 4531  | 3988  |
|                | 3%    | 4%    | 6%     | 4%    | 3%    |
| grade 1 events | 51    | 49    | 81     | 63    | 43    |
|                | 0%    | 0%    | 0%     | 0%    | 0%    |
| grade 2 events | 2515  | 2747  | 2590   | 2395  | 2460  |
|                | 2%    | 2%    | 2%     | 2%    | 2%    |
| grade 3 events | 1348  | 1399  | 1265   | 1267  | 1336  |
|                | 1%    | 1%    | 1%     | 1%    | 1%    |
| grade 4 events | 1189  | 1401  | 1279   | 1242  | 1253  |
|                | 1%    | 1%    | 1%     | 1%    | 1%    |
| grade 5 events | 4012  | 4360  | 3941   | 4586  | 4404  |
|                | 3%    | 4%    | 3%     | 4%    | 3%    |
| grade 6 events | 2143  | 2537  | 2047   | 2228  | 2431  |
|                | 2%    | 2%    | 1%     | 1%    | 2%    |
| grade 7 events | 89570 | 88710 | 102247 | 95313 | 98022 |
|                | 85%   | 83%   | 84%    | 85%   | 86%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-01236          | ACIS-01236           | 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                 | 150.515350          | 150.4447074288827    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | 69.014221           | 69.02477268463872    | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 126.845094          | 127.1197412150247    | [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    | -225.840463         | -225.8458576473255   |                                       |           |         |
| [mm] SIM translation stage offset | -7.752              | -7.746595355604228   |                                       |           |         |
| [s] Observation start time (MET)  | 221308837.184000    | 221307827.24177      |                                       |           |         |
| Observation start date            | 2005-01-05T10:39:33 | 2005-01-05T10:23:47  |                                       |           |         |
| [s] Observation end time (MET)    | 221328837.184000    | 221329192.85523      |                                       |           |         |
| Observation end date              | 2005-01-05T16:12:53 | 2005-01-05T16:19:52  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect

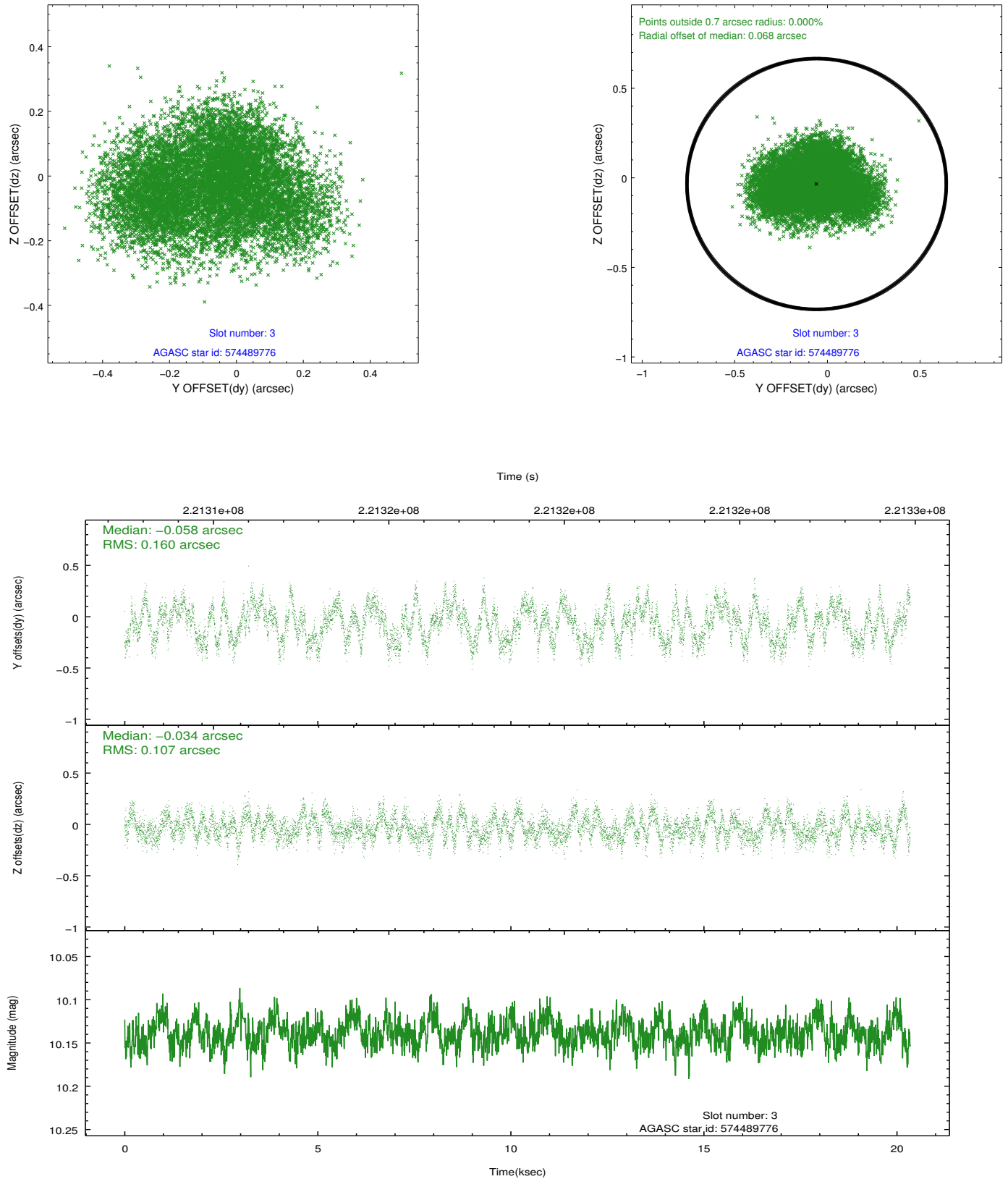


### Slot Statistics

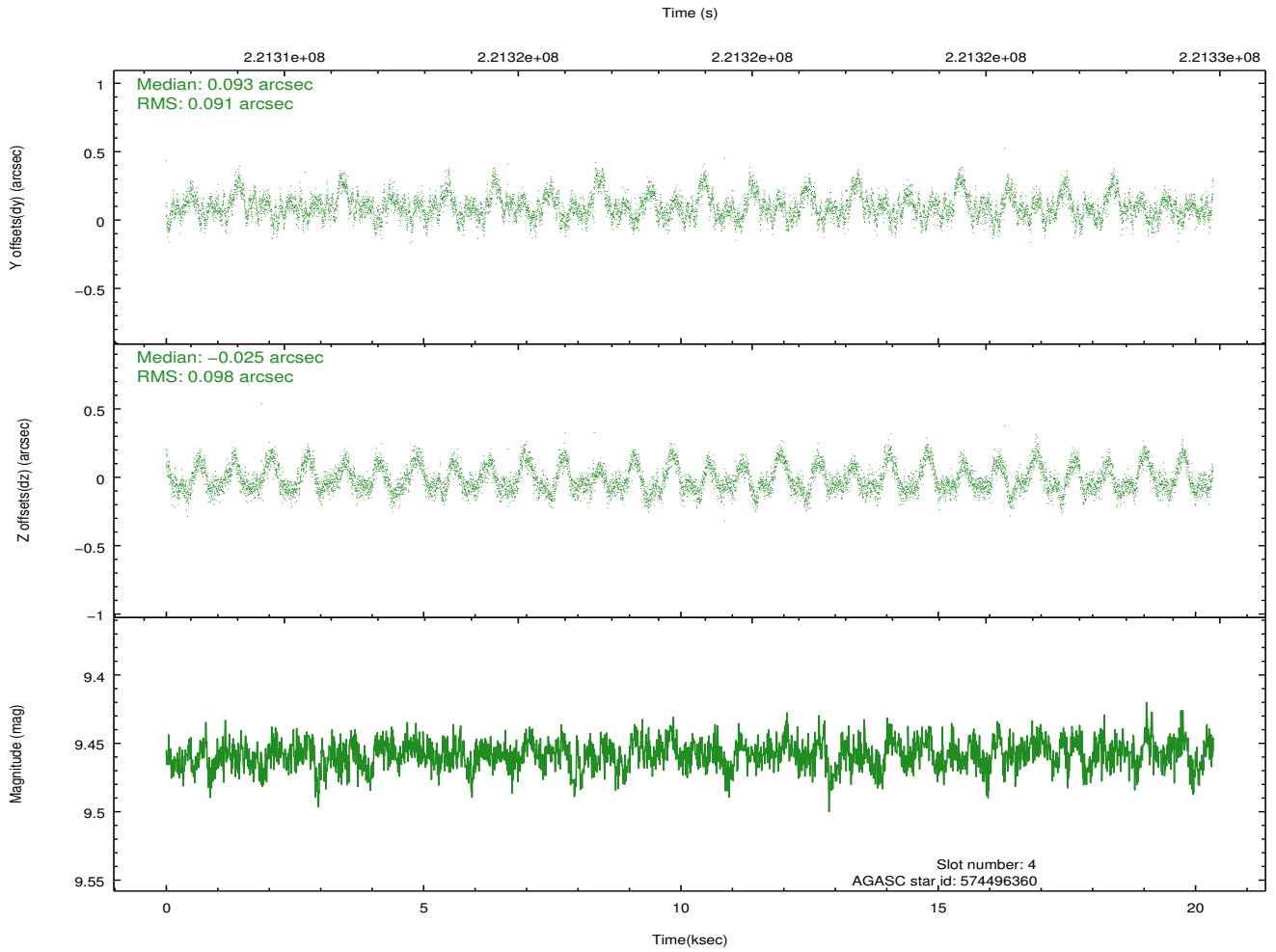
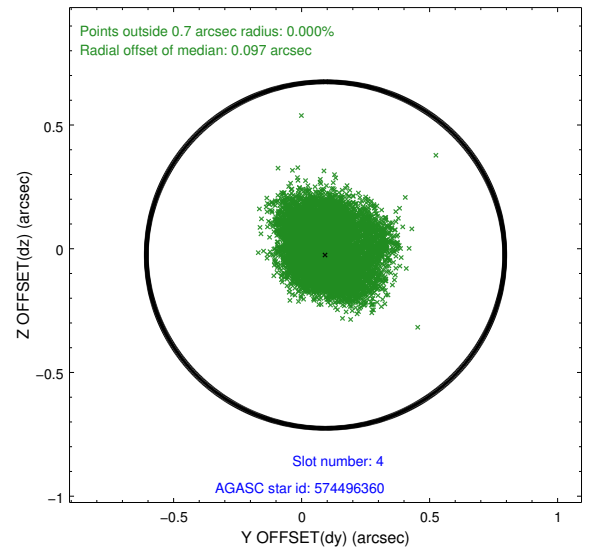
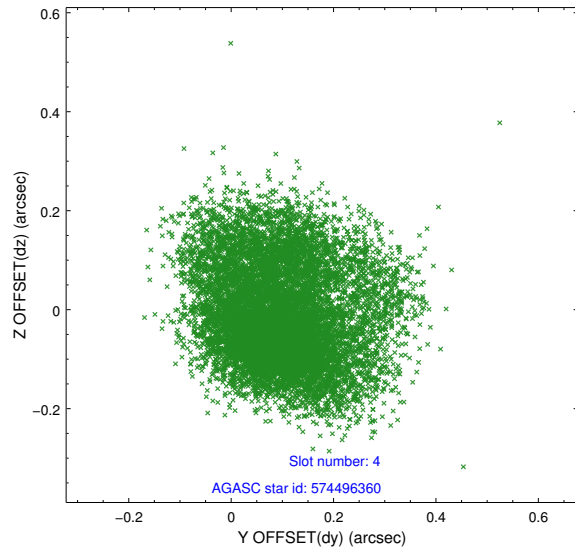
| slot | status | id        | mag   | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.23  | 4961  | 0.087  | -0.082 | 0.010 | 0.016 | 0.000000   | 0.000000  | 934.10   | -992.18  |
| 1    | FID    | ACIS-I-2  | 7.18  | 4963  | -0.164 | 0.055  | 0.007 | 0.012 | 0.000000   | 0.000000  | -760.54  | -997.66  |
| 2    | FID    | ACIS-I-4  | 7.14  | 4960  | -0.021 | 0.094  | 0.007 | 0.012 | 0.000000   | 0.000000  | 2153.27  | 908.70   |
| 3    | GUIDE  | 574489776 | 10.14 | 9914  | -0.058 | -0.034 | 0.211 | 0.317 | 148.323662 | 69.046710 | 1825.54  | 2157.61  |
| 4    | GUIDE  | 574496360 | 9.46  | 9913  | 0.093  | -0.025 | 0.143 | 0.232 | 150.806604 | 68.529829 | -1624.40 | 738.21   |
| 5    | GUIDE  | 574628888 | 10.14 | 9919  | 0.066  | 0.096  | 0.189 | 0.298 | 152.641133 | 68.801223 | -2233.98 | -1783.04 |
| 6    | GUIDE  | 574630280 | 10.61 | 9910  | -0.003 | 0.046  | 0.240 | 0.409 | 152.164287 | 69.175741 | -776.95  | -2054.34 |
| 7    | GUIDE  | 574494880 | 11.10 | 9707  | -0.077 | -0.099 | 0.362 | 0.573 | 149.009874 | 68.677374 | 230.27   | 2289.64  |

## 2.4 Star Slots

### 2.4.1 Slot 3

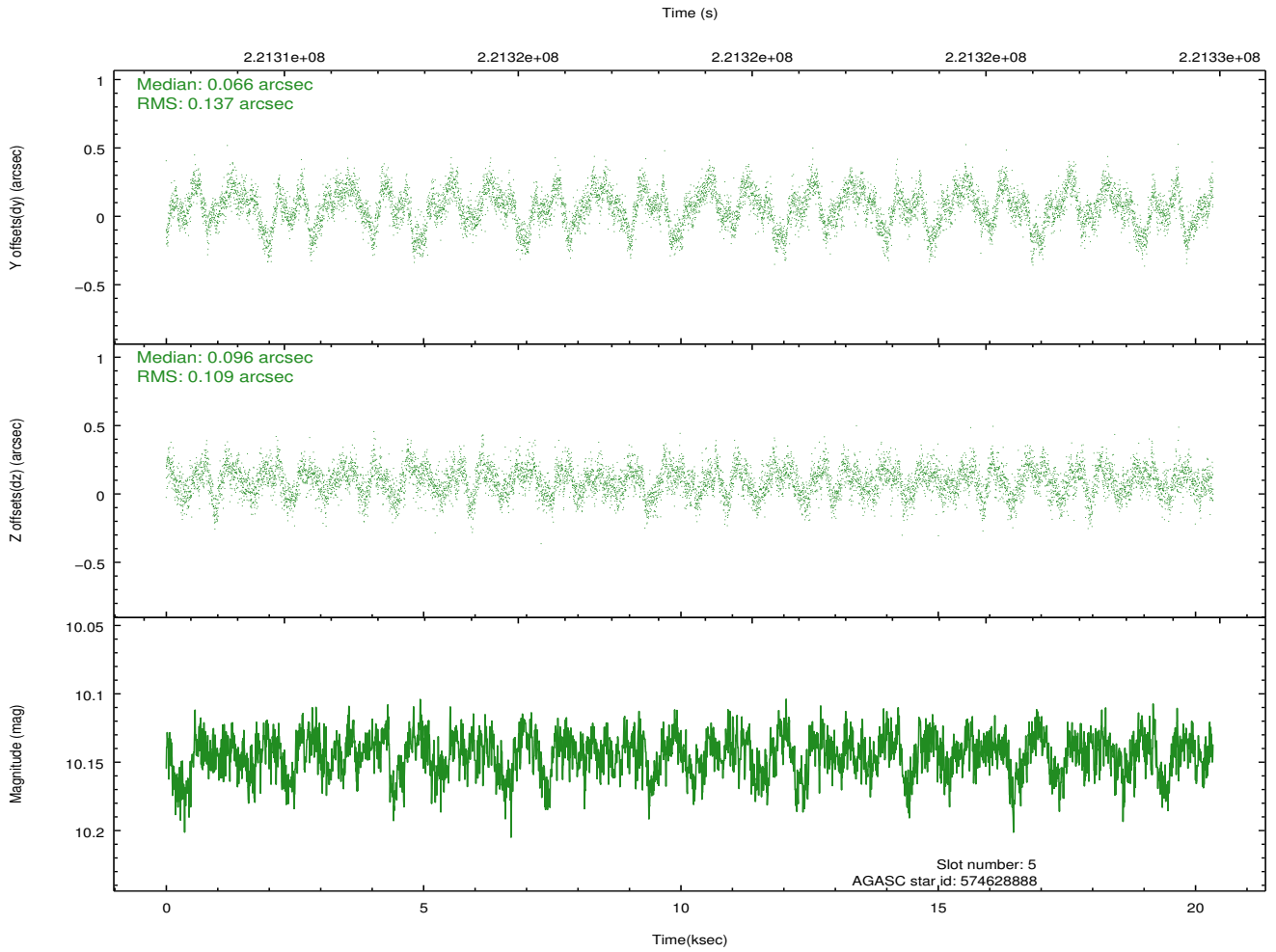
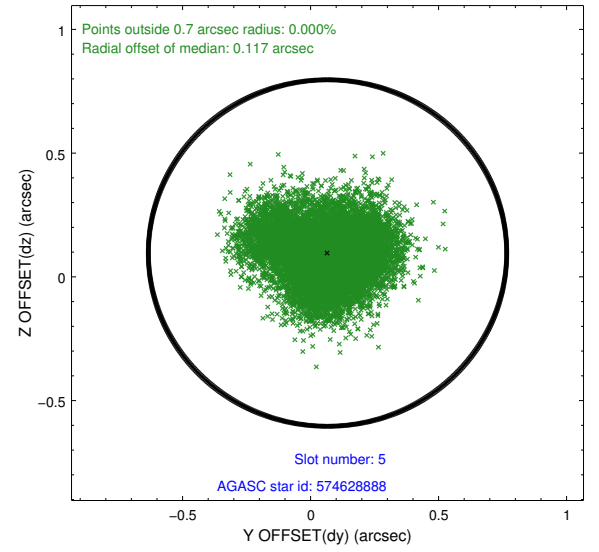
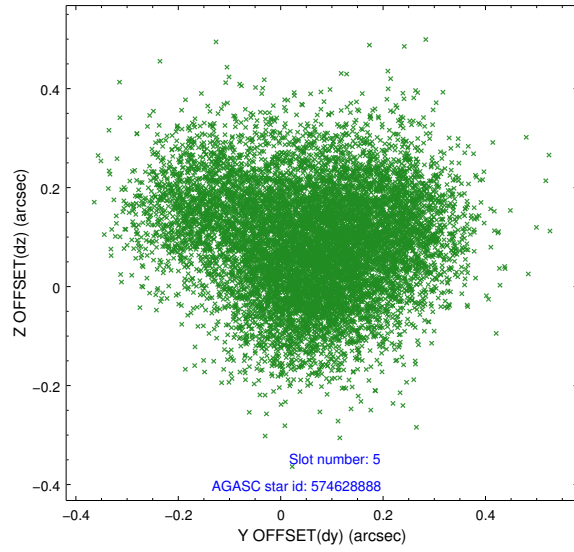


## 2.4.2 Slot 4

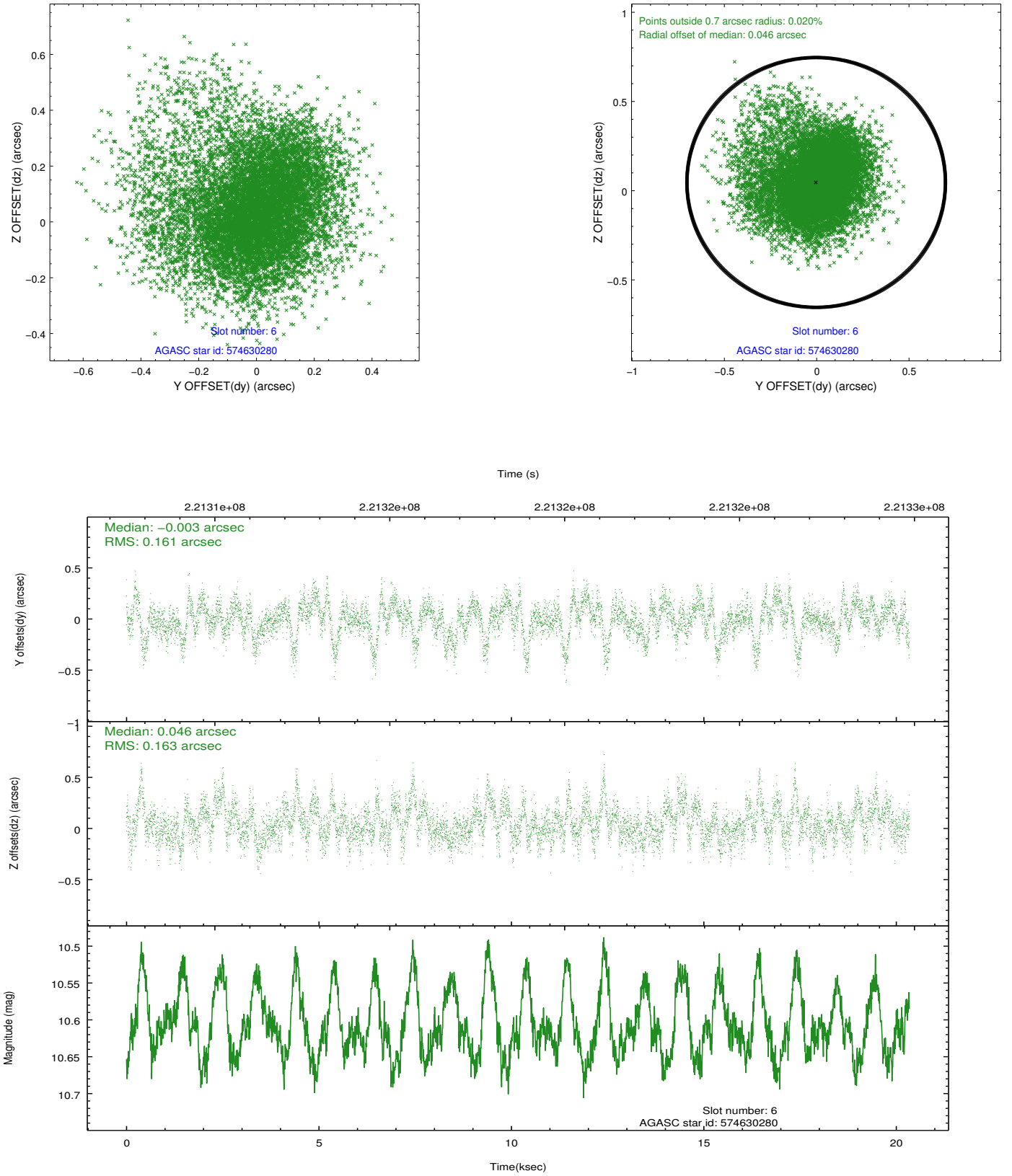




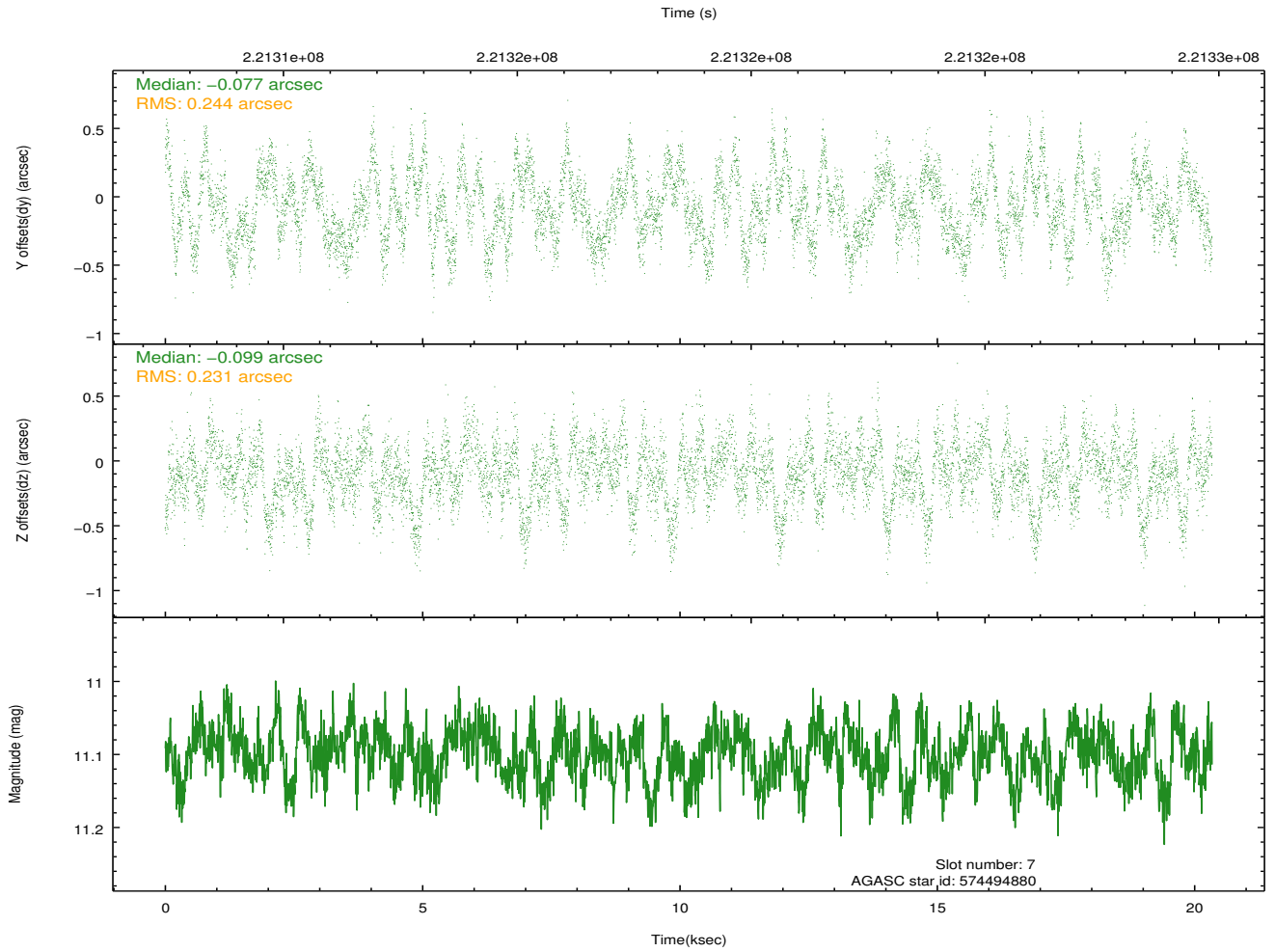
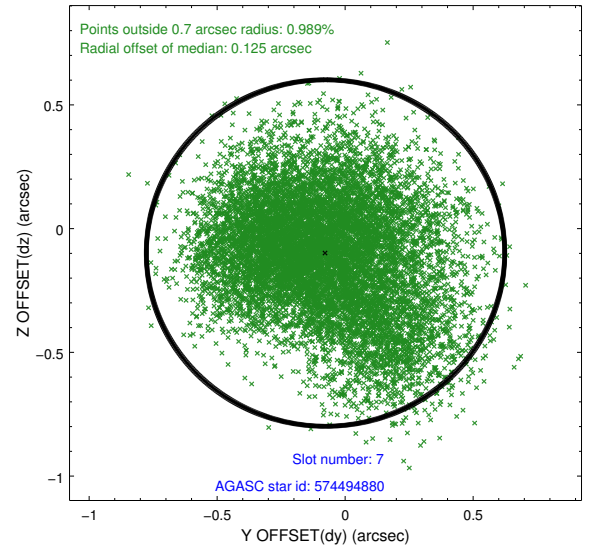
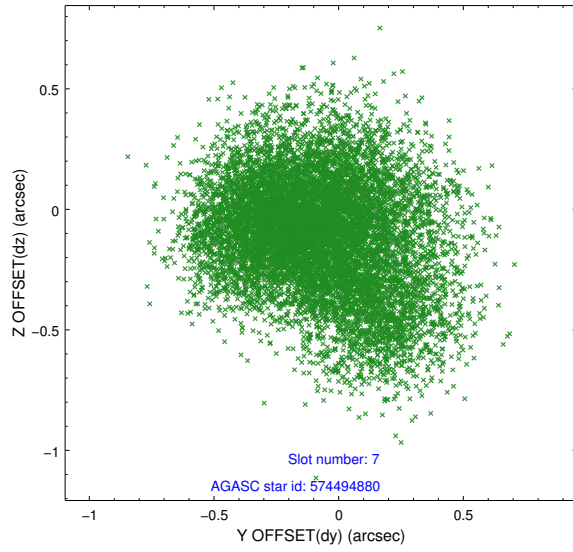
### 2.4.3 Slot 5



## 2.4.4 Slot 6

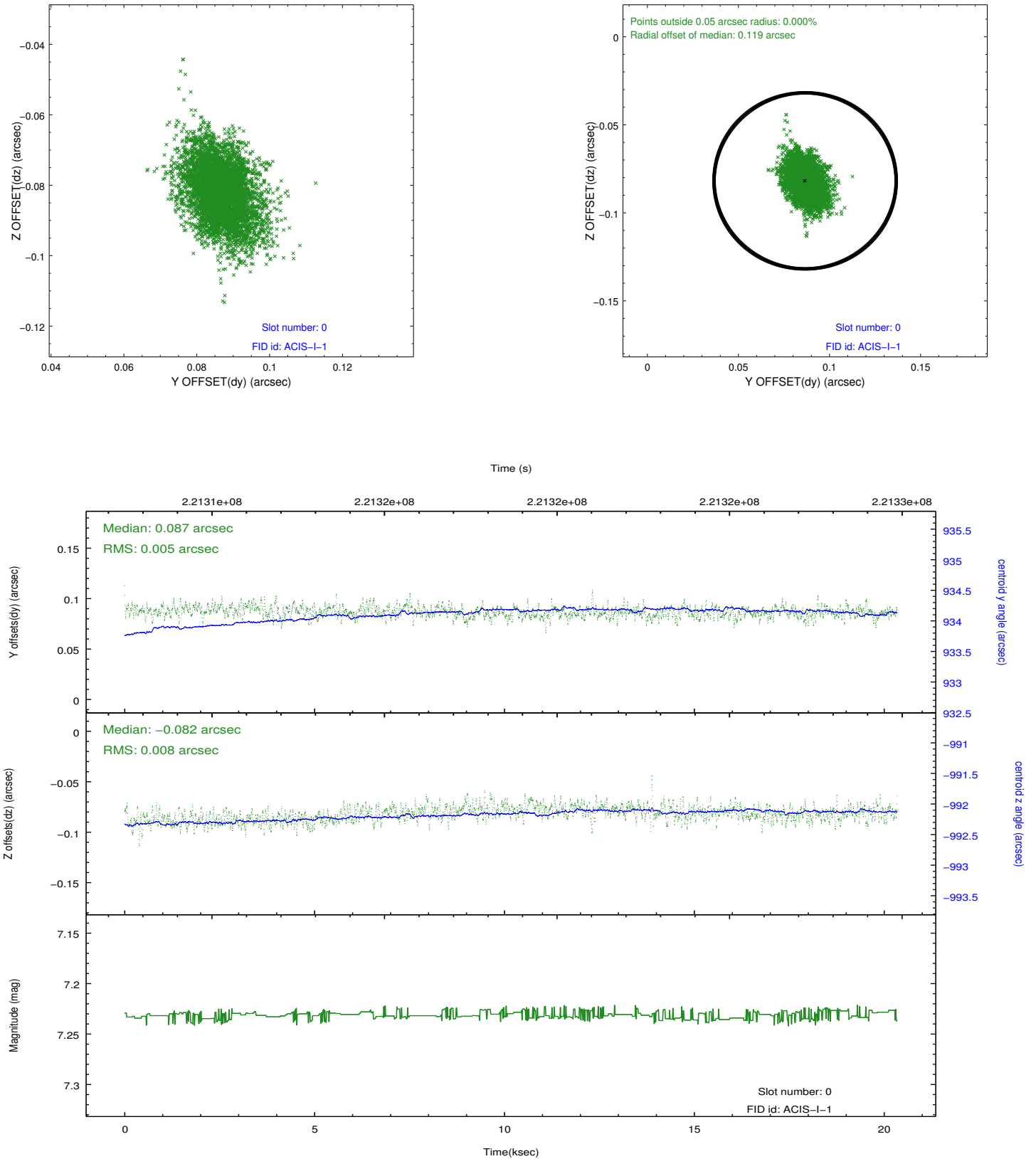


## 2.4.5 Slot 7

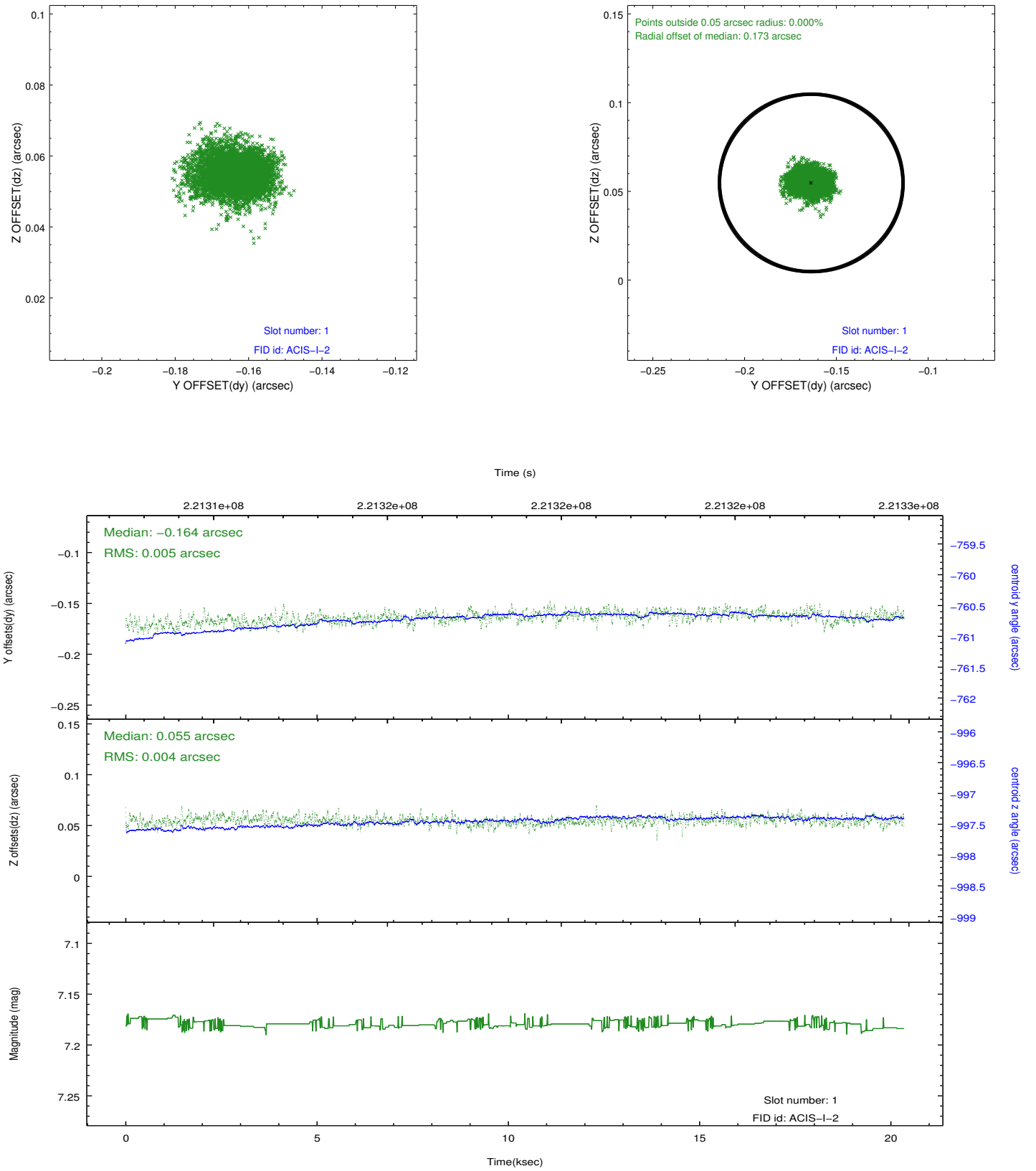


## 2.5 FID Slots

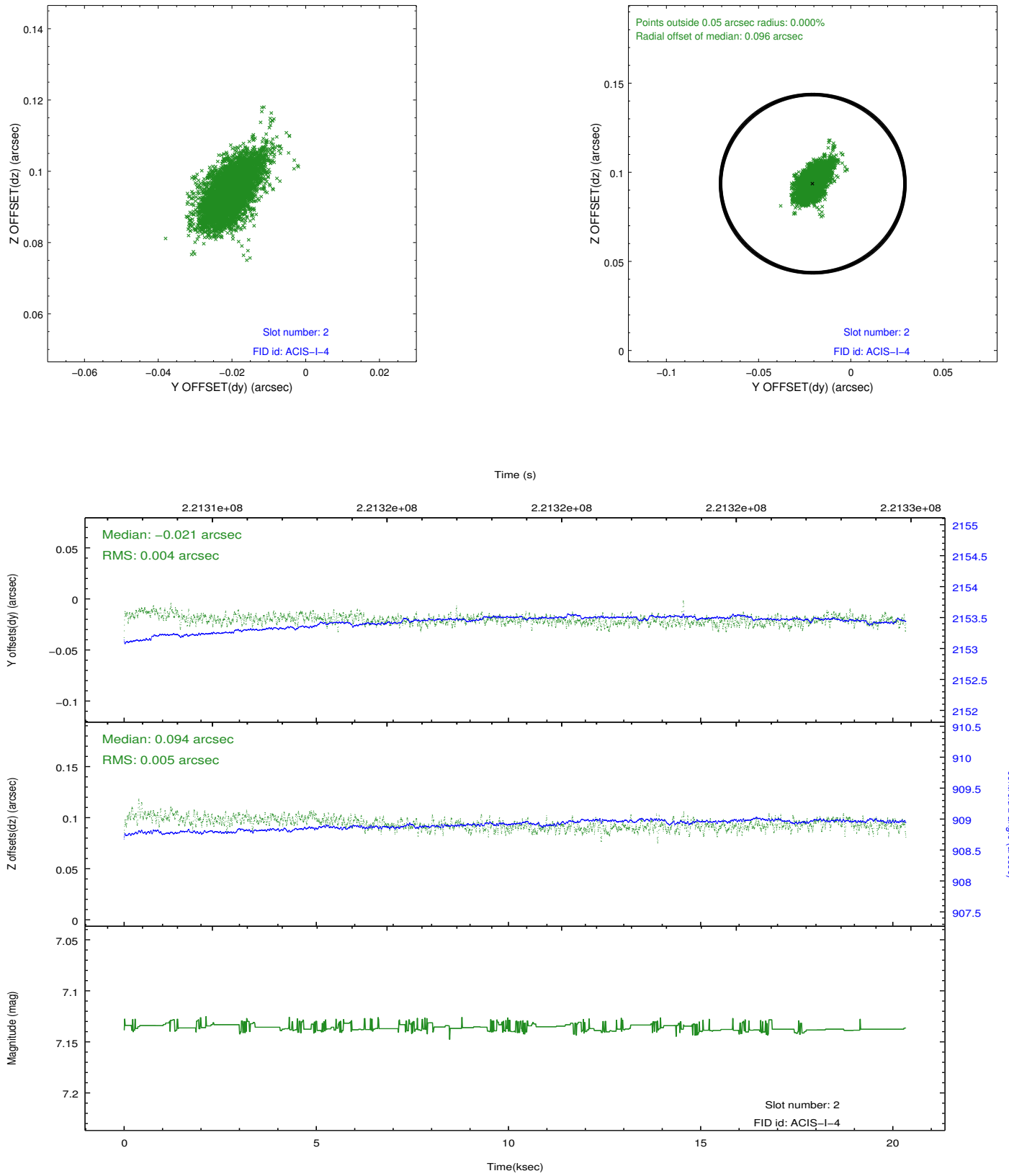
### 2.5.1 Slot 0



## 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)      | 2013.01.08 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 20.05389   |

### A.2 Comments