

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 18831 - L2 Version 1  
Chandra X-Ray Center

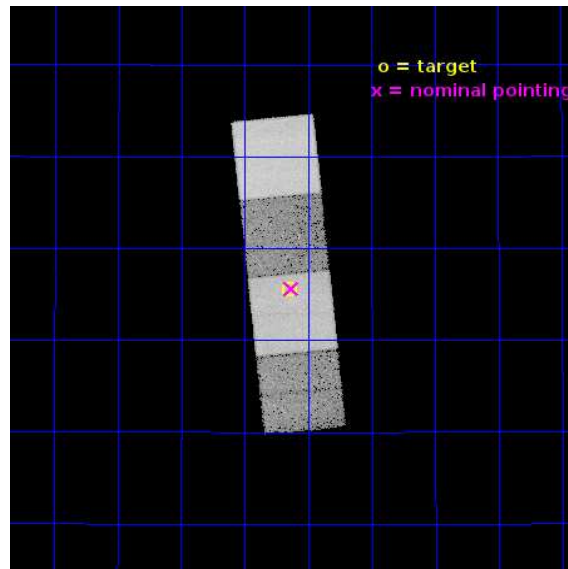
L2 Processing Date : Apr 27 2016

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# 1 Front

|          |                                        |                                             |
|----------|----------------------------------------|---------------------------------------------|
| seq_num  | 703052                                 | Sequence number                             |
| obs_id   | 18831                                  | Observation id                              |
| title    | Chandra observation of SDSS J2222+2745 | Proposal title                              |
| observer | David Pooley                           | Principal investigator                      |
| object   | SDSS J2222+2745                        | Source name                                 |
| dtcycle  | 0                                      | &#160                                       |
| cycle    | P                                      | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 335.535833                             | Observer's specified target RA [deg]        |
| dec_targ | 27.759222                              | Observer's specified target Dec [deg]       |
| ra_nom   | 335.53301778336                        | Nominal RA [deg]                            |
| dec_nom  | 27.760326468887                        | Nominal Dec [deg]                           |
| roll_nom | 84.157938521507                        | Nominal Roll [deg]                          |
| revision | 1                                      | Processing version of data                  |
| ontime   | 27303.843951225                        | Sum of GTIs [s]                             |
| livetime | 26947.099129205                        | Livetime [s]                                |
| ontime5  | 27303.802911282                        | Sum of GTIs [s]                             |
| ontime6  | 27297.479880571                        | Sum of GTIs [s]                             |
| ontime7  | 27303.843951225                        | Sum of GTIs [s]                             |
| ontime8  | 27297.438980341                        | Sum of GTIs [s]                             |
| l2events | 214785                                 | Number of level 2 events                    |

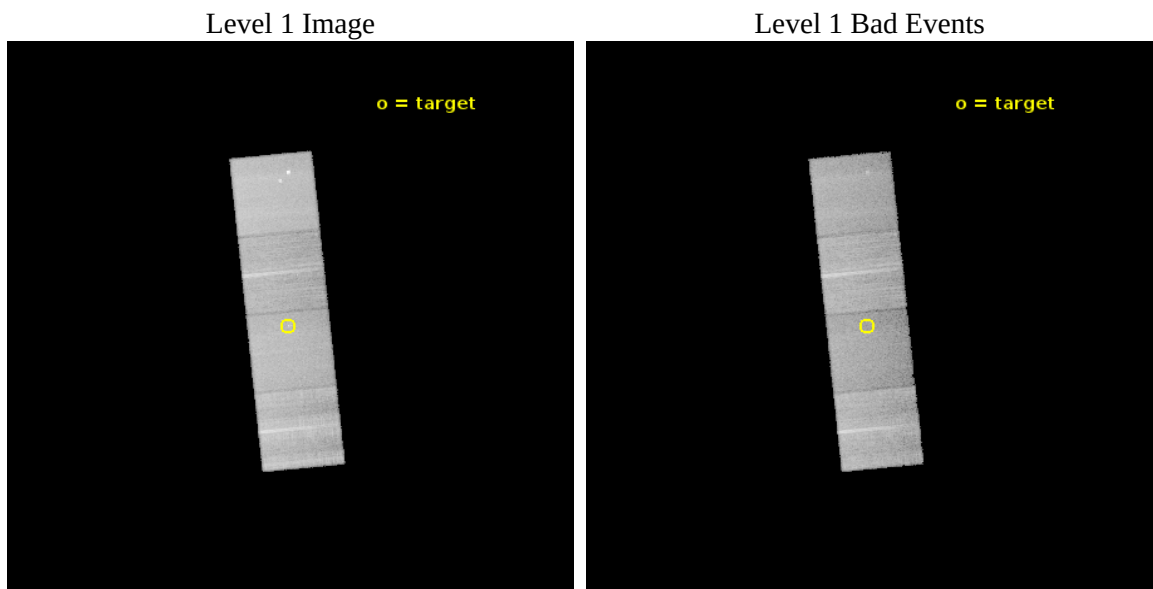




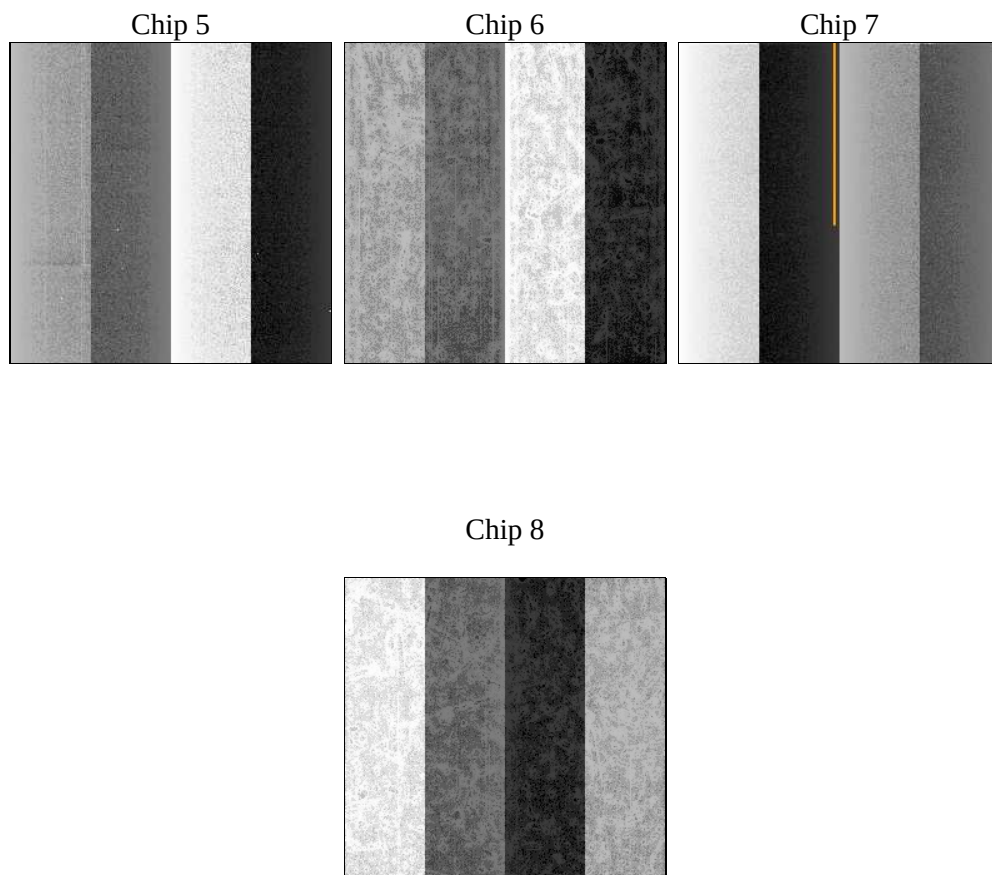
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                         |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 27252.370000    | [s] Scheduled observation exposure time |
| ascdsver | 10.4.3.1            | Processing system revision     | ontime         | 27303.843951225 | Sum of GTIs [s]                         |
| caldsver | 4.7.1               | &#160                          | ontime5        | 27303.802911282 | Sum of GTIs [s]                         |
| date     | 2016-04-27T06:44:27 | Date and time of file creation | ontime6        | 27297.479880571 | Sum of GTIs [s]                         |
| revision | 1                   | Processing version of data     | ontime7        | 27303.843951225 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 27297.438980341 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 736836          | Number of level 1 events                |

### 2.1.4 Events

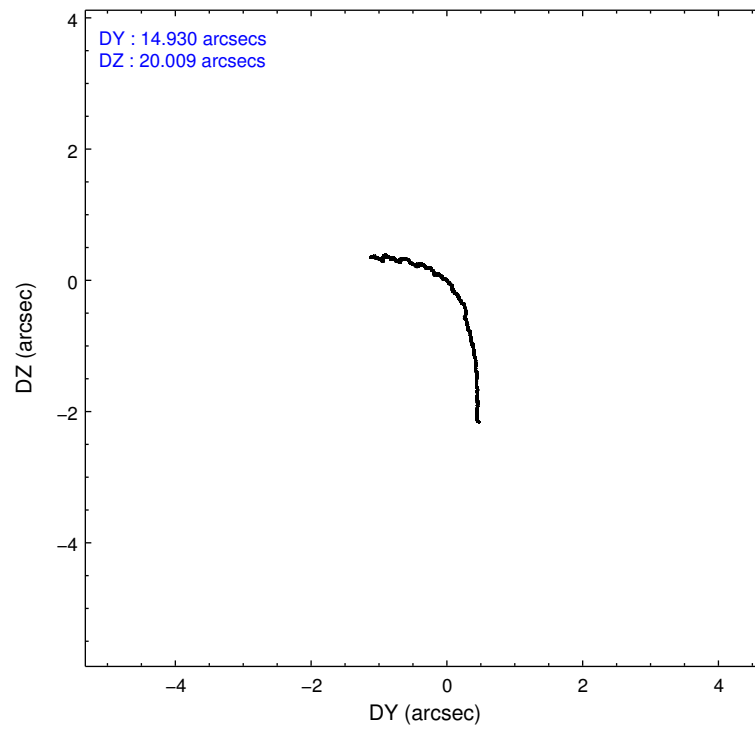
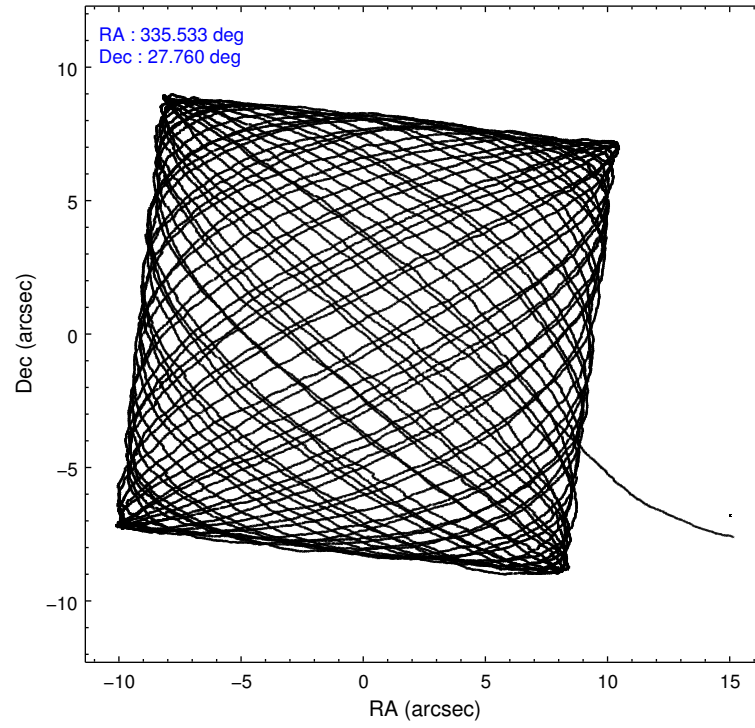
|                 | ccd 5  | ccd 6  | ccd 7  | ccd 8  |
|-----------------|--------|--------|--------|--------|
| level 1 events  | 220614 | 153566 | 170597 | 192059 |
| rejected events | 108732 | 136373 | 90997  | 140253 |
| rejected %      | 49%    | 88%    | 53%    | 73%    |

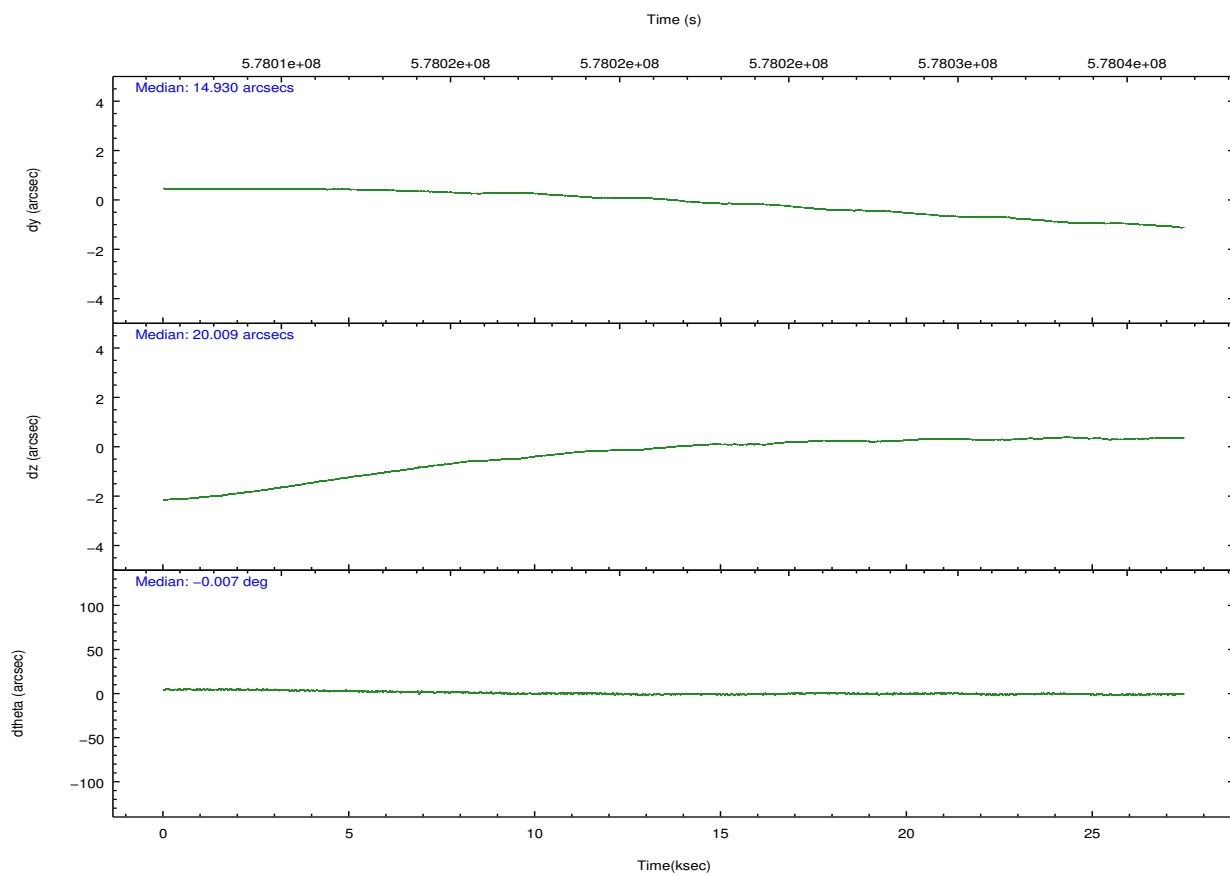
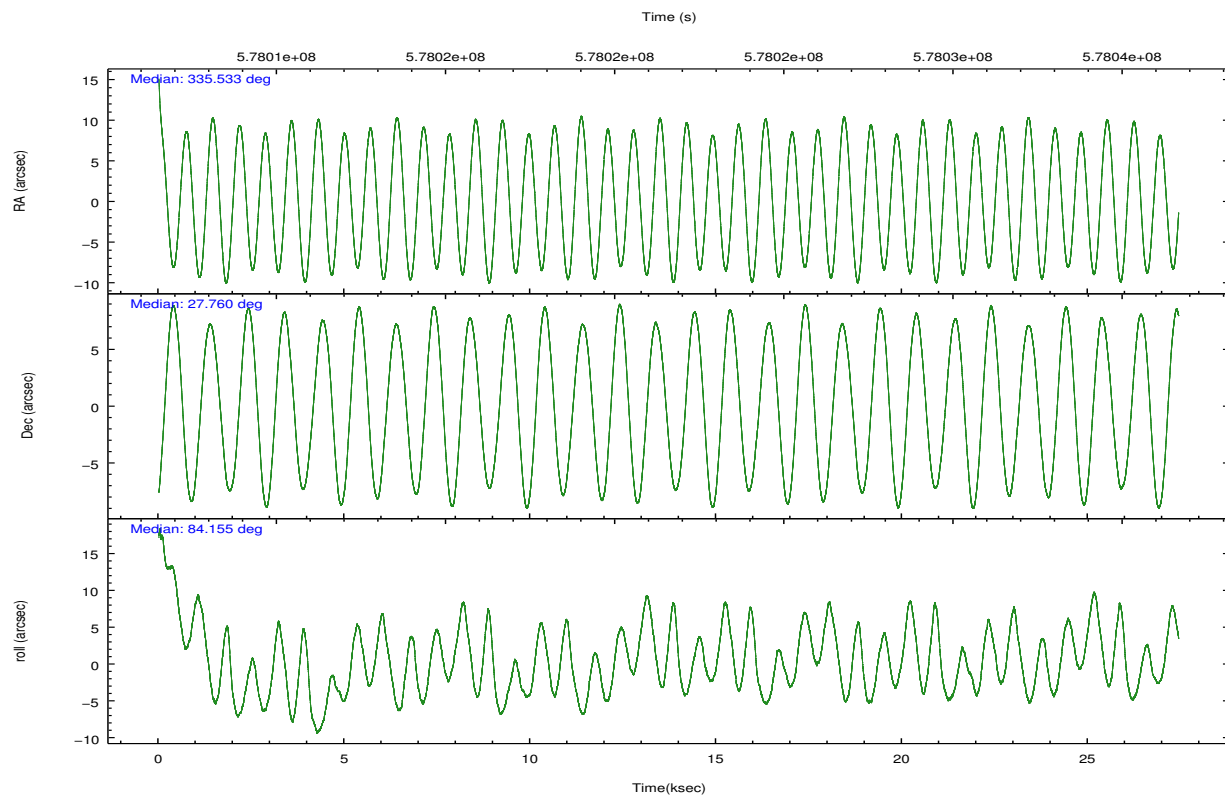
|                | ccd 5 | ccd 6  | ccd 7 | ccd 8  |
|----------------|-------|--------|-------|--------|
| grade 0 events | 8668  | 5901   | 7145  | 14863  |
|                | 3%    | 3%     | 4%    | 7%     |
| grade 1 events | 771   | 66     | 241   | 164    |
|                | 0%    | 0%     | 0%    | 0%     |
| grade 2 events | 35307 | 4164   | 17378 | 12758  |
|                | 16%   | 2%     | 10%   | 6%     |
| grade 3 events | 3659  | 1664   | 6542  | 5508   |
|                | 1%    | 1%     | 3%    | 2%     |
| grade 4 events | 3493  | 1590   | 6253  | 5210   |
|                | 1%    | 1%     | 3%    | 2%     |
| grade 5 events | 15595 | 6110   | 16957 | 9700   |
|                | 7%    | 3%     | 9%    | 5%     |
| grade 6 events | 60769 | 3874   | 42288 | 13470  |
|                | 27%   | 2%     | 24%   | 7%     |
| grade 7 events | 92352 | 130197 | 73793 | 130386 |
|                | 41%   | 84%    | 43%   | 67%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-5678           | ACIS-5678            | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 335.546084          | 335.5330177833641    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | 27.735420           | 27.76032646888692    | CCD I3 on                             | N         | N       |
| [deg] Pointing Roll               | 83.995224           | 84.15793852150661    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | O1        | Y       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | O3        | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  | CCD S4 on                             | O2        | Y       |
| [s] Observation start time (MET)  | 578008079.184000    | 578006773.28328      | CCD S5 on                             | N         | N       |
| Observation start date            | 2016-04-25T21:46:51 | 2016-04-25T21:26:13  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 578035332.184000    | 578035559.89742      | On-chip summing requested             | N         | N       |
| Observation end date              | 2016-04-26T05:21:04 | 2016-04-26T05:25:59  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



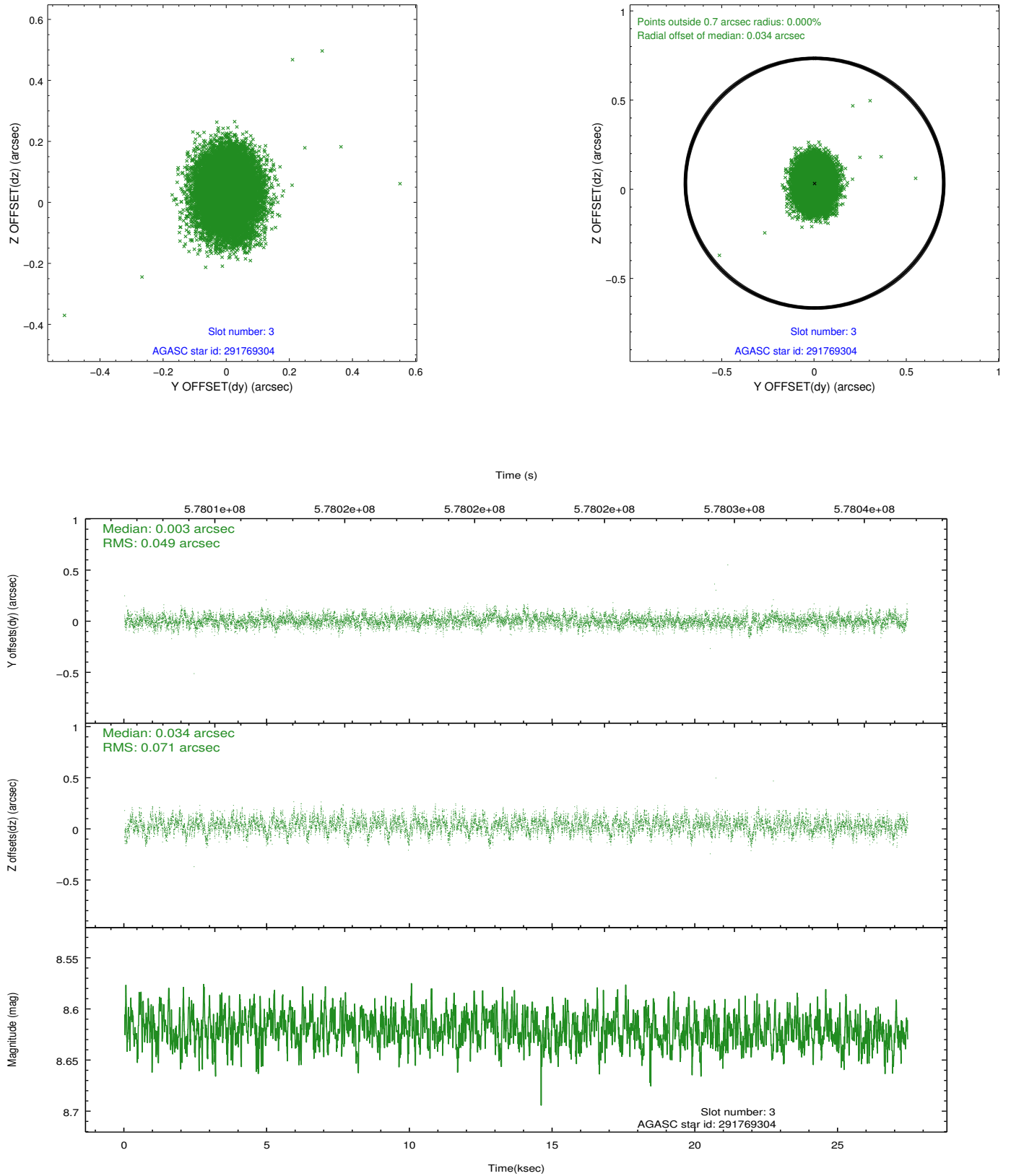


# Slot Statistics

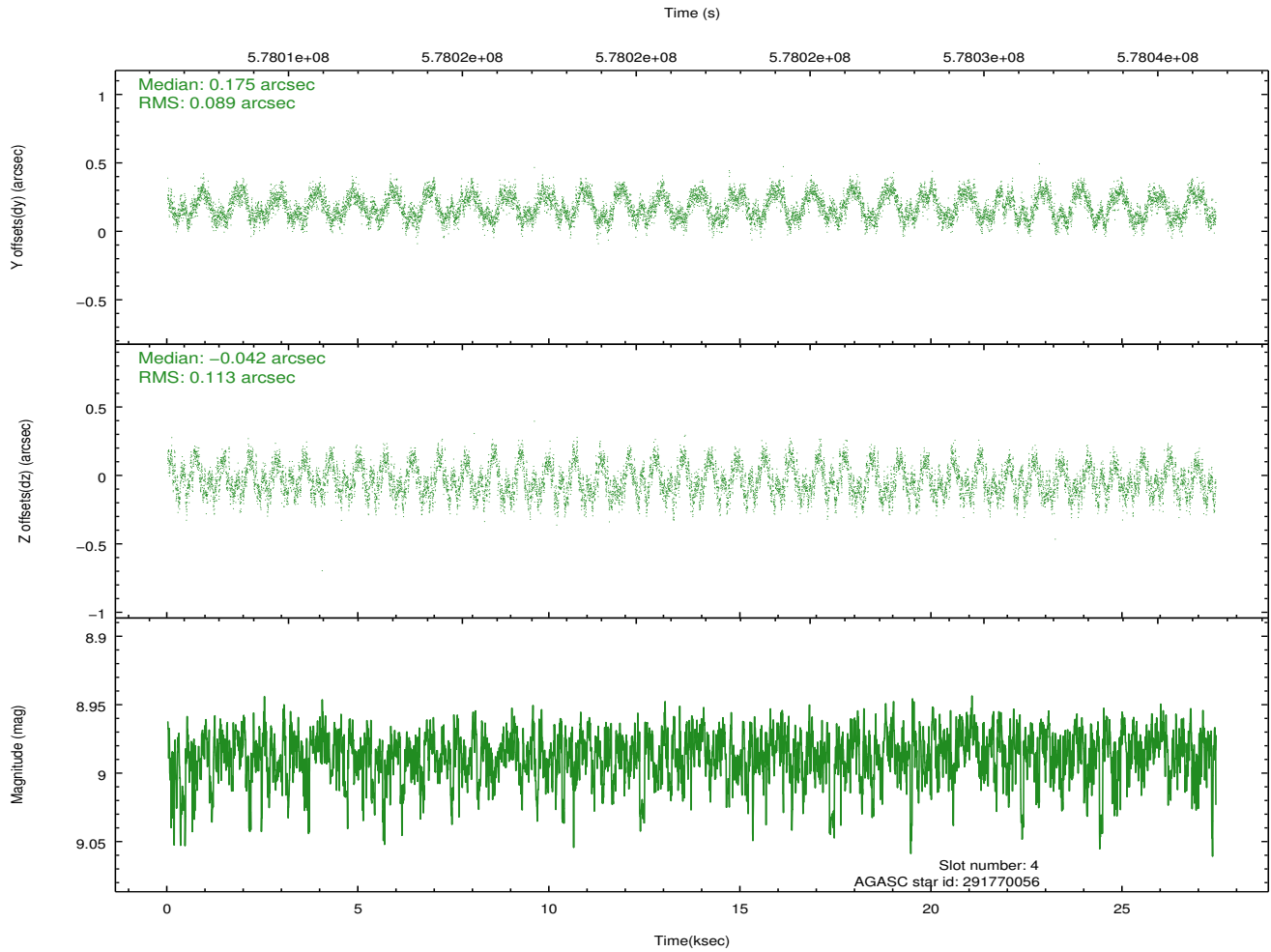
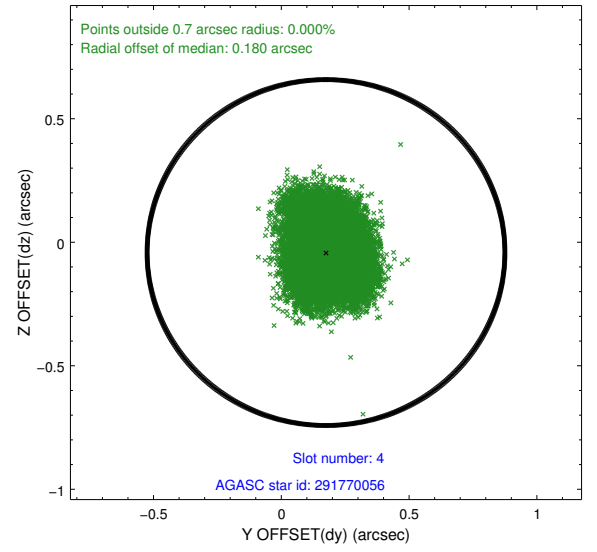
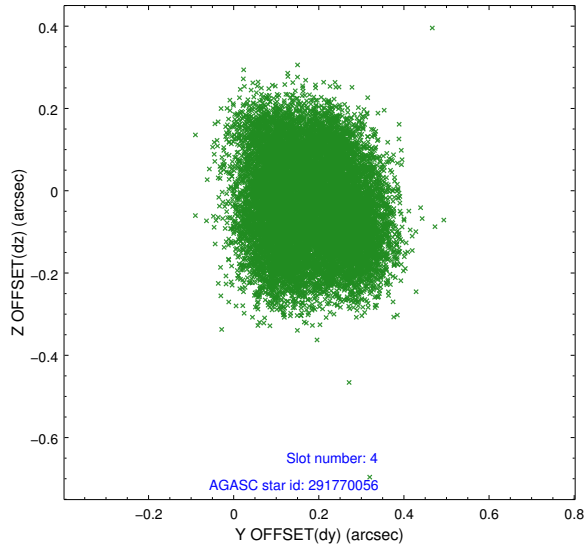
| slot | status | used | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    |      | ACIS-S-1  | 7.21 | 6691  | 0.027  | -0.070 | 0.024 | 0.040 | 0.000000   | 0.000000  | 928.33   | -1736.78 |
| 1    | FID    |      | ACIS-S-4  | 7.22 | 6691  | 0.347  | 0.046  | 0.018 | 0.039 | 0.000000   | 0.000000  | 2146.06  | 167.41   |
| 2    | FID    |      | ACIS-S-5  | 7.23 | 6690  | -0.399 | 0.040  | 0.012 | 0.018 | 0.000000   | 0.000000  | -1820.89 | 161.02   |
| 3    | GUIDE  | used | 291769304 | 8.62 | 13374 | 0.003  | 0.034  | 0.091 | 0.150 | 335.780535 | 27.119163 | -2126.89 | -978.65  |
| 4    | GUIDE  | used | 291770056 | 8.99 | 13377 | 0.175  | -0.042 | 0.158 | 0.233 | 336.088183 | 27.623117 | -217.01  | -1761.46 |
| 5    | GUIDE  | used | 291773656 | 8.90 | 13375 | 0.064  | 0.086  | 0.101 | 0.160 | 335.935616 | 27.098750 | -2146.60 | -1480.90 |
| 6    | GUIDE  | used | 291782488 | 9.38 | 13300 | -0.276 | -0.251 | 0.160 | 0.260 | 335.601335 | 27.992634 | 939.65   | -78.30   |
| 7    | GUIDE  | used | 291767496 | 8.28 | 13375 | 0.037  | 0.161  | 0.079 | 0.131 | 336.300393 | 27.656661 | -22.35   | -2420.47 |

## 2.4 Star Slots

### 2.4.1 Slot 3

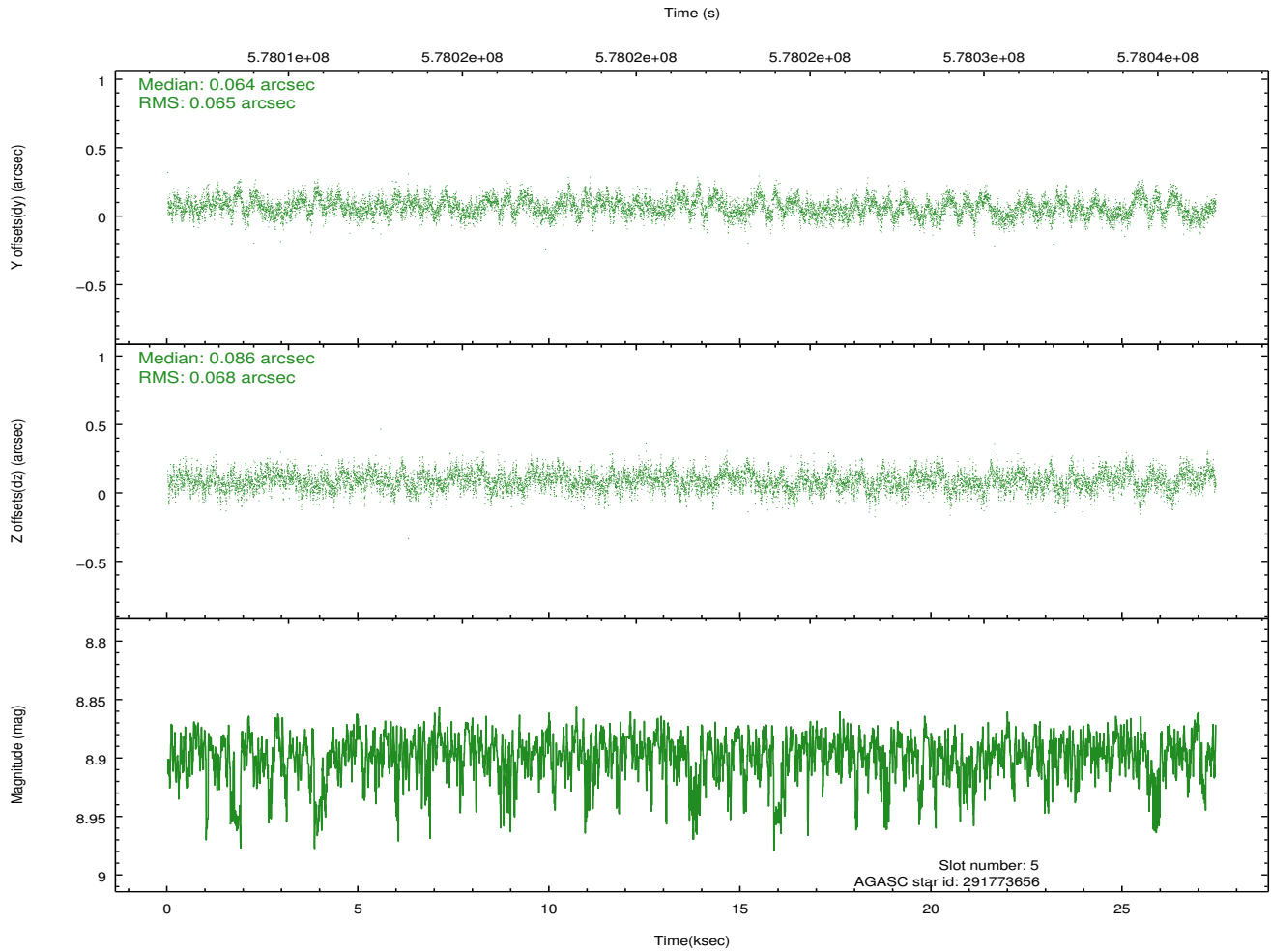
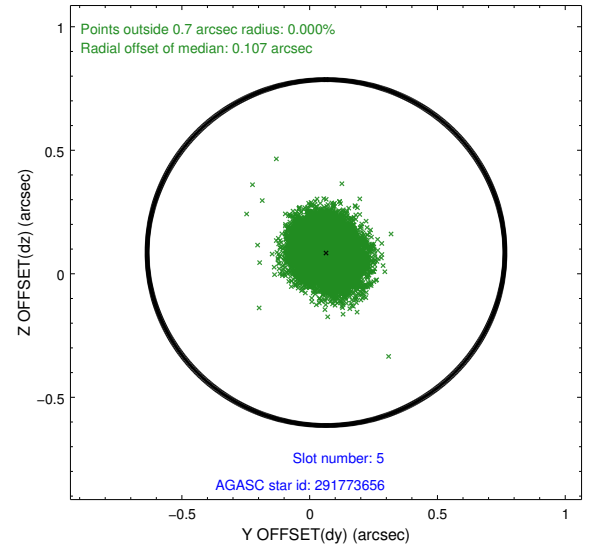
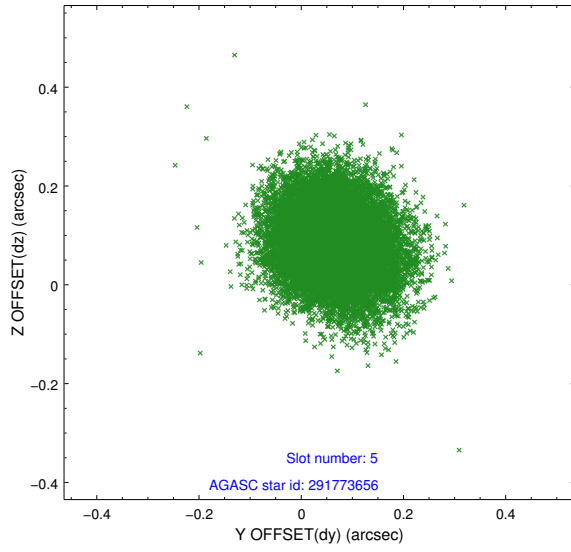


## 2.4.2 Slot 4

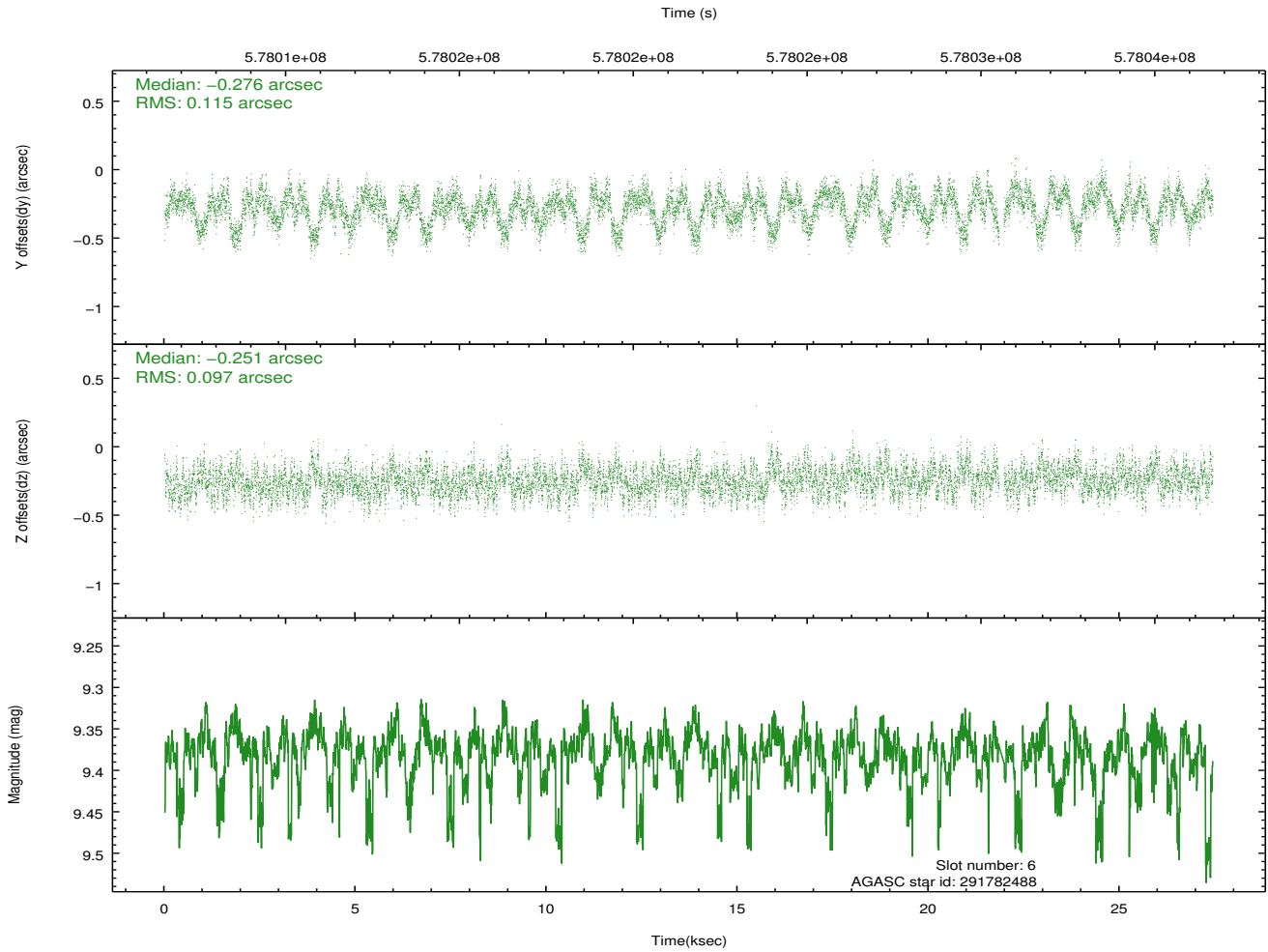
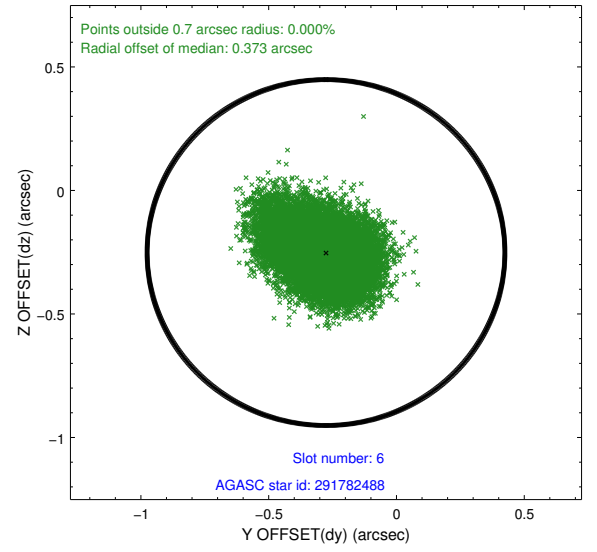
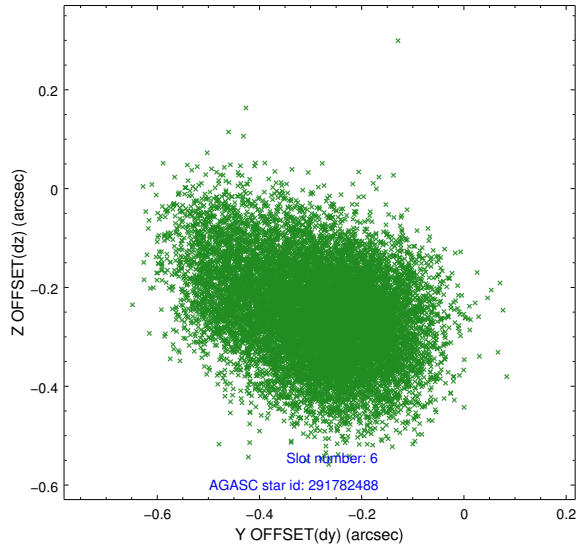




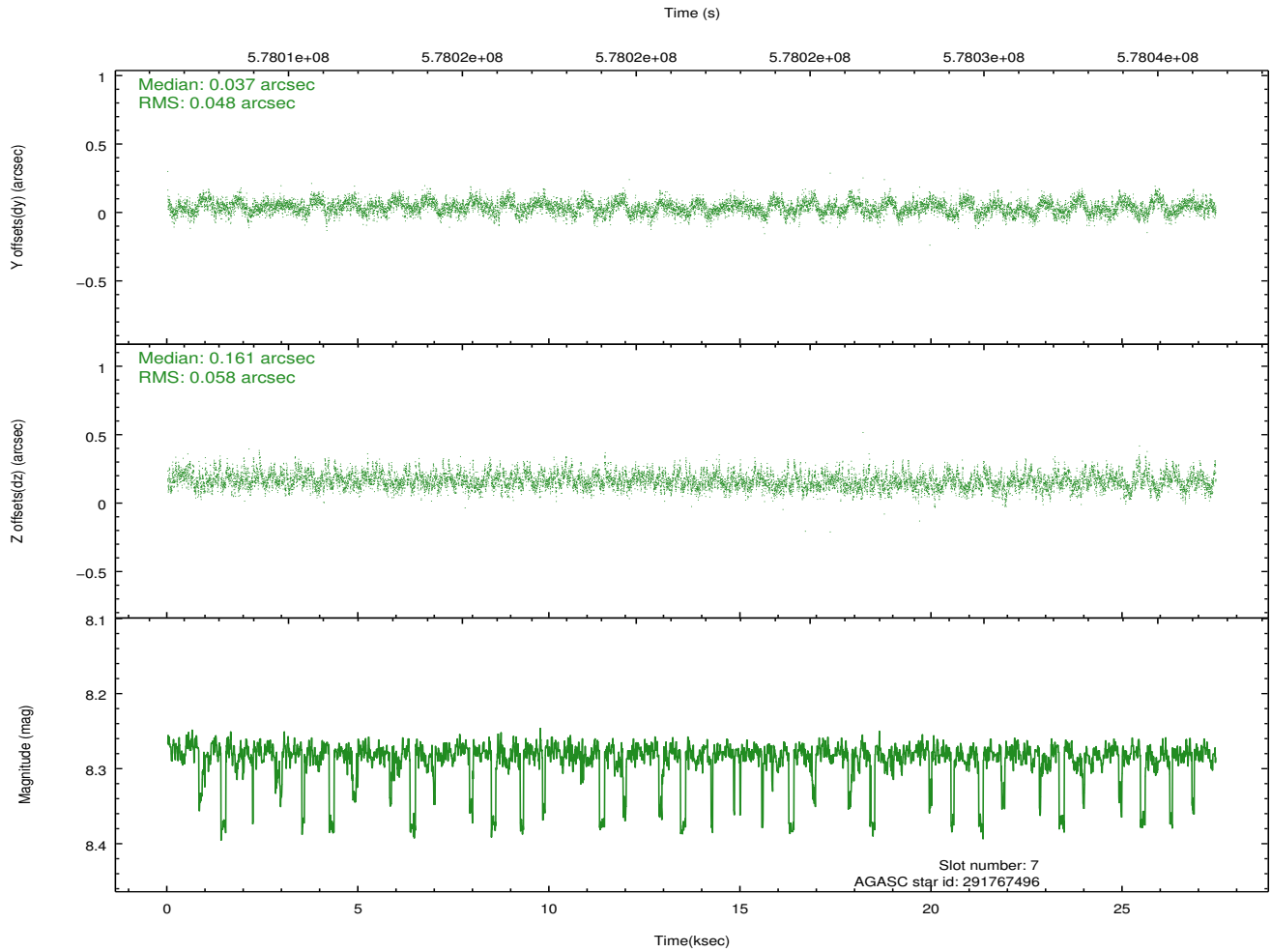
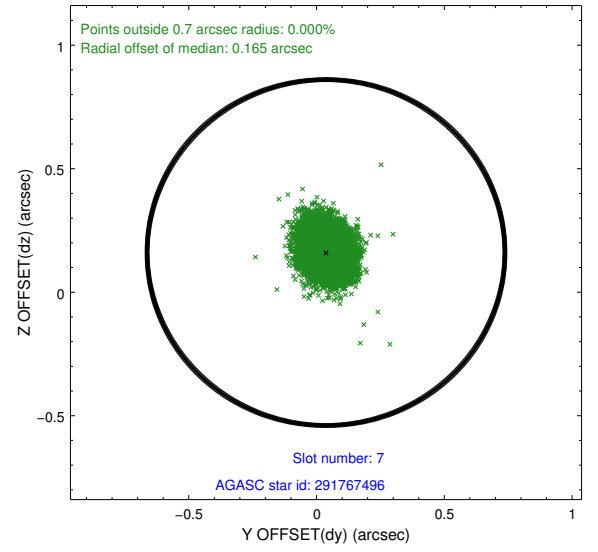
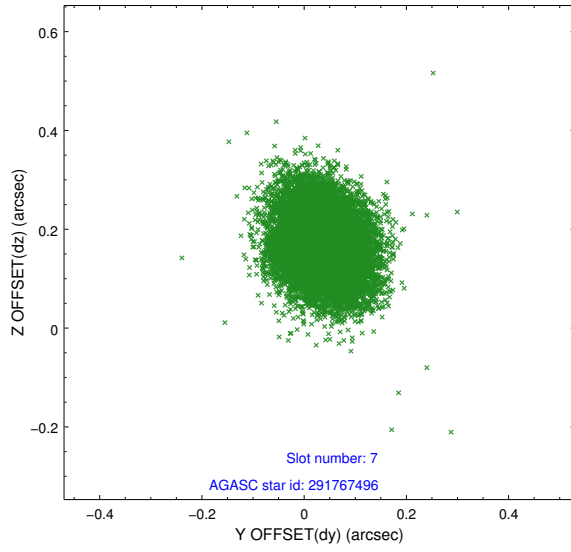
### 2.4.3 Slot 5



## 2.4.4 Slot 6

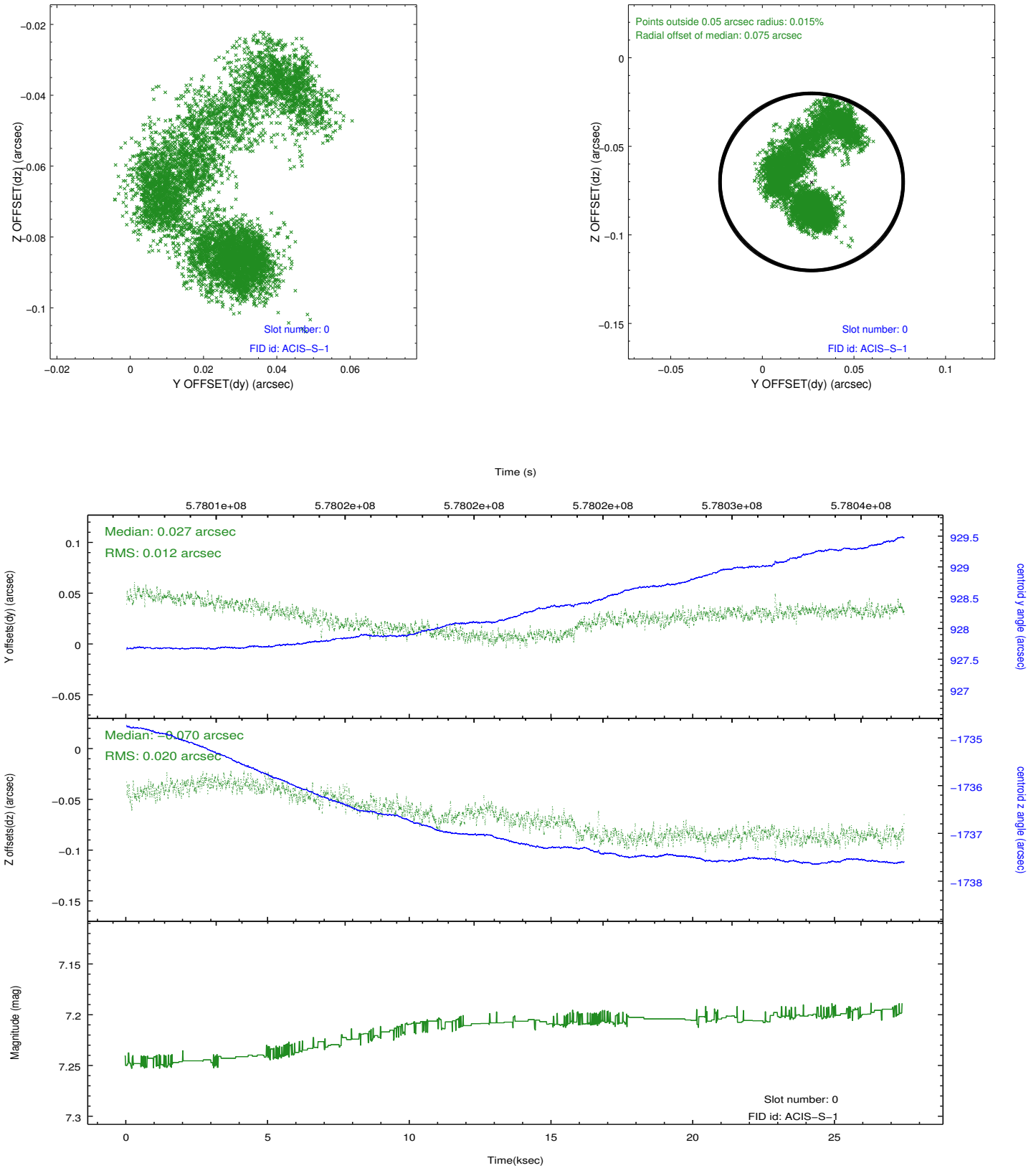


## 2.4.5 Slot 7

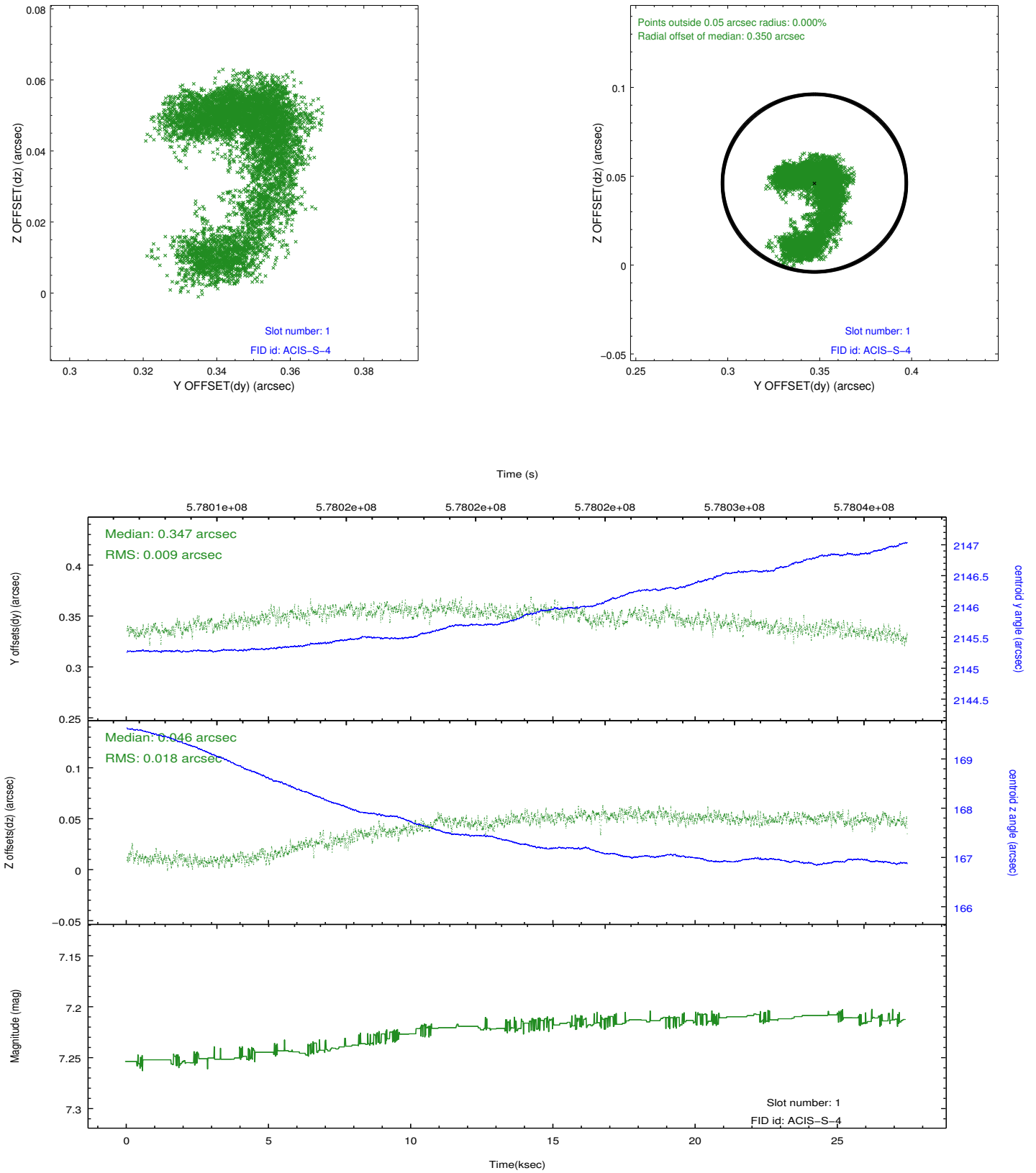


## 2.5 FID Slots

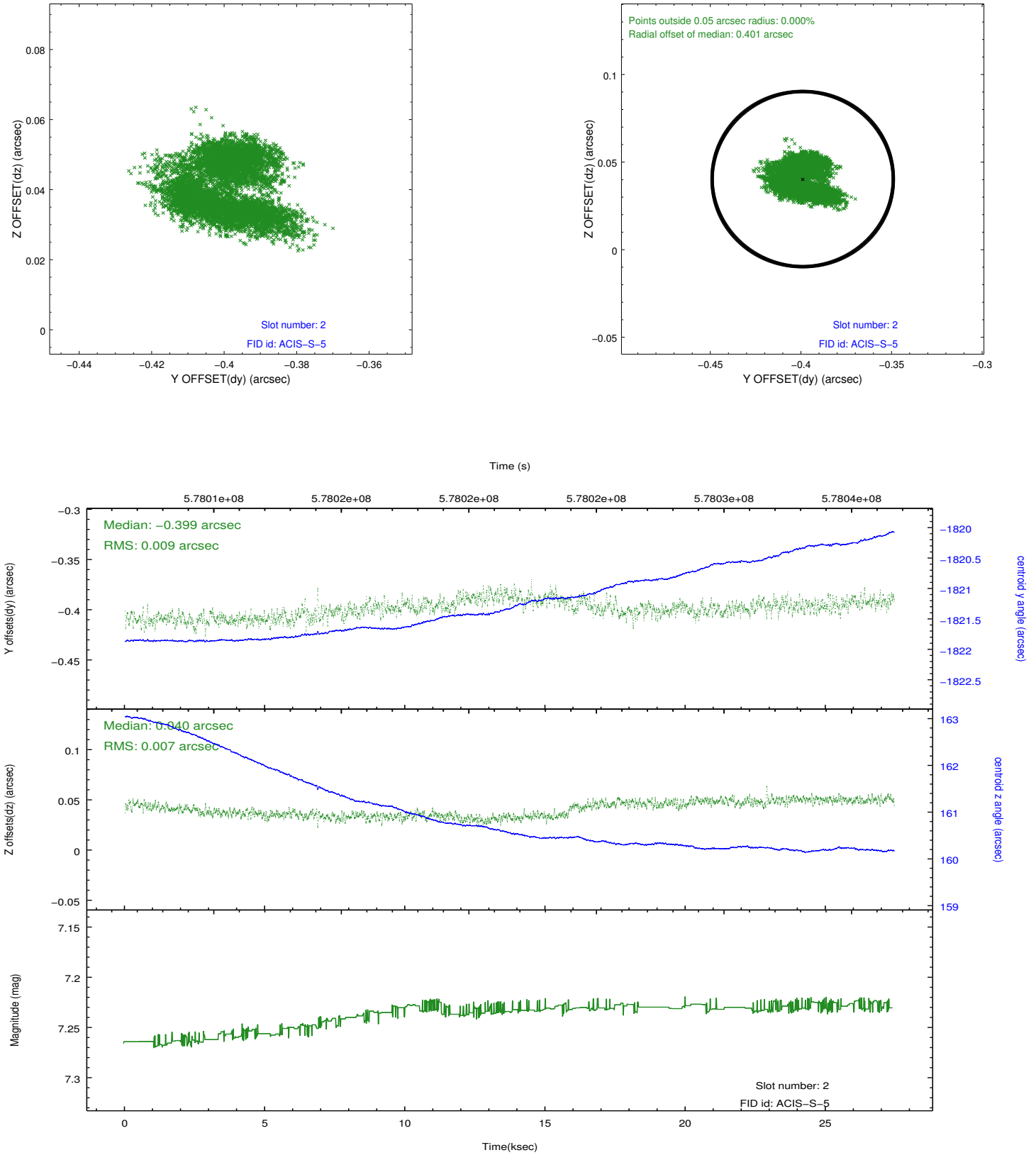
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

|                            |                 |
|----------------------------|-----------------|
| V&V Scientist              | Joy Nichols     |
| V&V Date (YYYY-MM-DD)      | 2016.04.27      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 27.303843951225 |

### A.2 Comments