

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9453 - L2 Version 2  
Chandra X-Ray Center

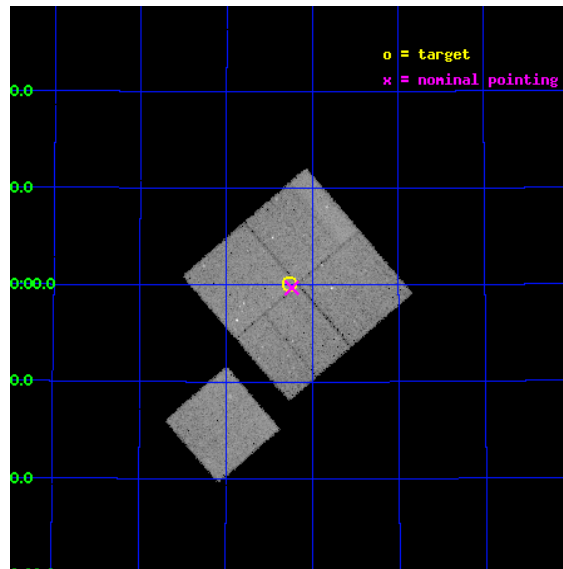
L2 Processing Date : May 16 2012

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# 1 Front

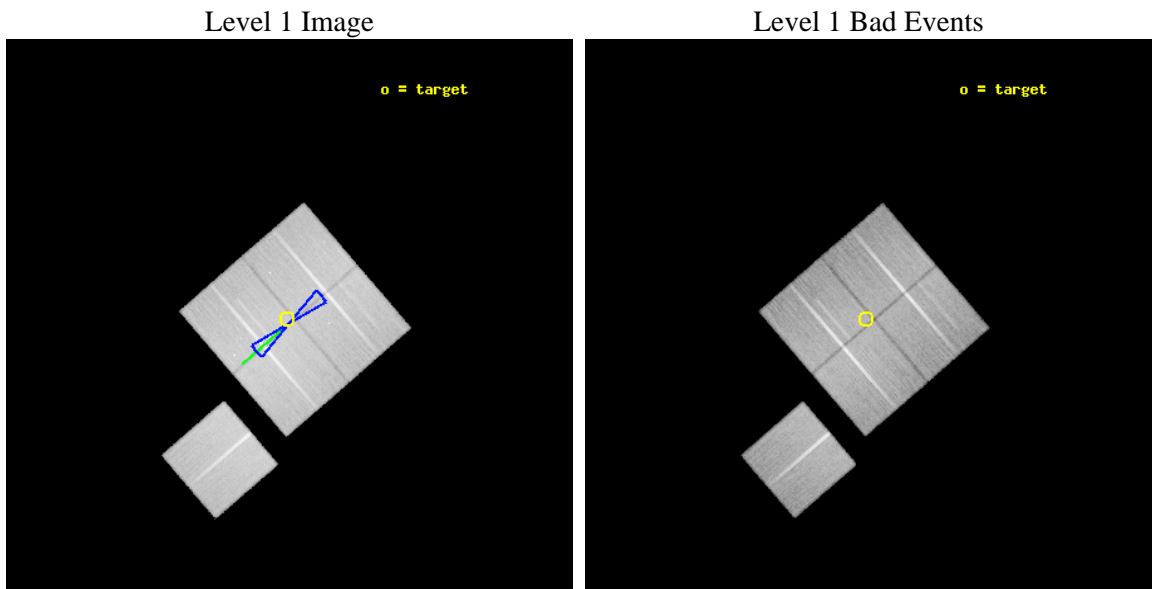
|          |   |   |
|----------|---|---|
| seq_num  | 900796                                      | Sequence number                             |
| obs_id   | 9453  | Observation id                              |
| title    | The Evolution of Faint AGN at High Redshift | Proposal title                              |
| observer | Prof Kirpal Nandra                          | Principal investigator                      |
| object   | AEGIS-1                                     | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 215.064583                                  | Observer's specified target RA [deg]        |
| dec_targ | 53.002694                                   | Observer's specified target Dec [deg]       |
| ra_nom   | 215.05923883256                             | Nominal RA [deg]                            |
| dec_nom  | 52.995290316421                             | Nominal Dec [deg]                           |
| roll_nom | 229.21296284772                             | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 45284.800348282                             | Sum of GTIs [s]                             |
| livetime | 44693.121093547                             | Livetime [s]                                |
| ontime0  | 45278.518367827                             | Sum of GTIs [s]                             |
| ontime1  | 45281.659377933                             | Sum of GTIs [s]                             |
| ontime2  | 45275.377417386                             | Sum of GTIs [s]                             |
| ontime3  | 45284.800348282                             | Sum of GTIs [s]                             |
| ontime6  | 45284.800348282                             | Sum of GTIs [s]                             |
| l2events | 152813                                      | Number of level 2 events                    |



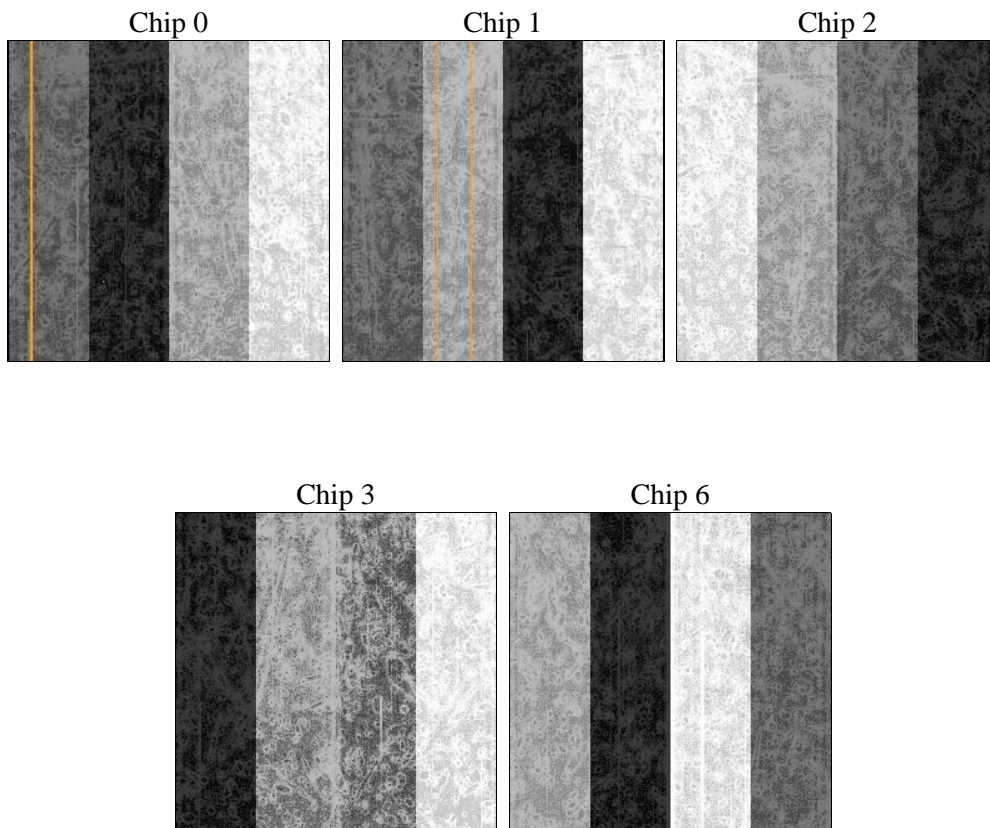
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 45131.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 45284.800348282 | Sum of GTIs [s]                         |
| caldbver | 4.4.9               | &#160                          | ontime0        | 45278.518367827 | Sum of GTIs [s]                         |
| date     | 2012-05-16T14:56:12 | Date and time of file creation | ontime1        | 45281.659377933 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 45275.377417386 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 45284.800348282 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 45284.800348282 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 1747649         | Number of level 1 events                |

### 2.1.4 Events

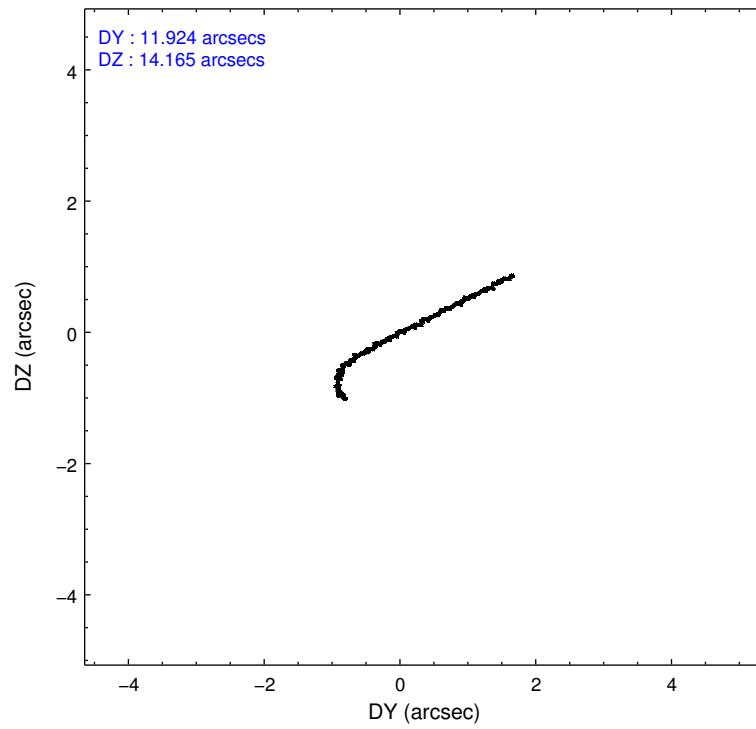
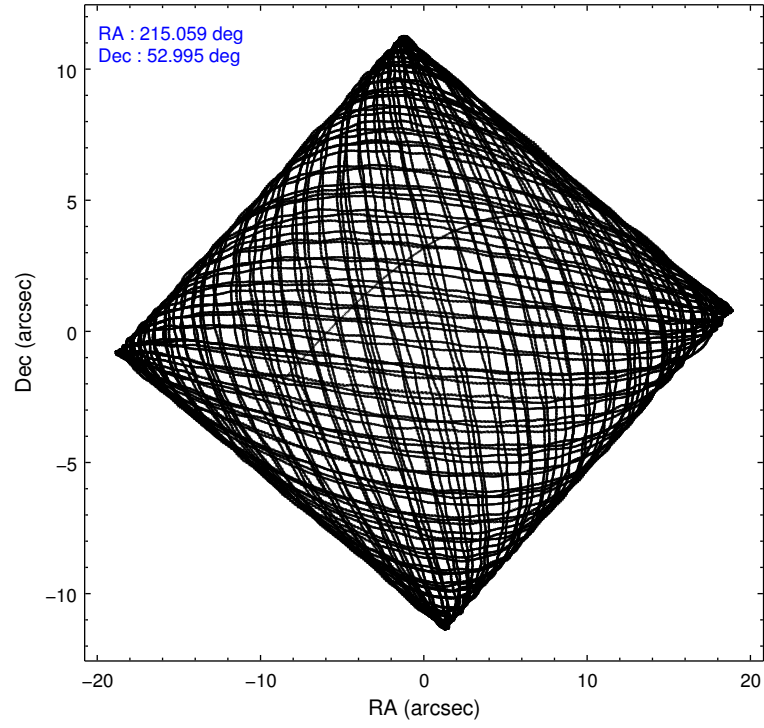
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 330116 | 331261 | 377038 | 351394 | 357840 |
| rejected events | 294261 | 290469 | 341878 | 316018 | 321115 |
| rejected %      | 89%    | 87%    | 90%    | 89%    | 89%    |

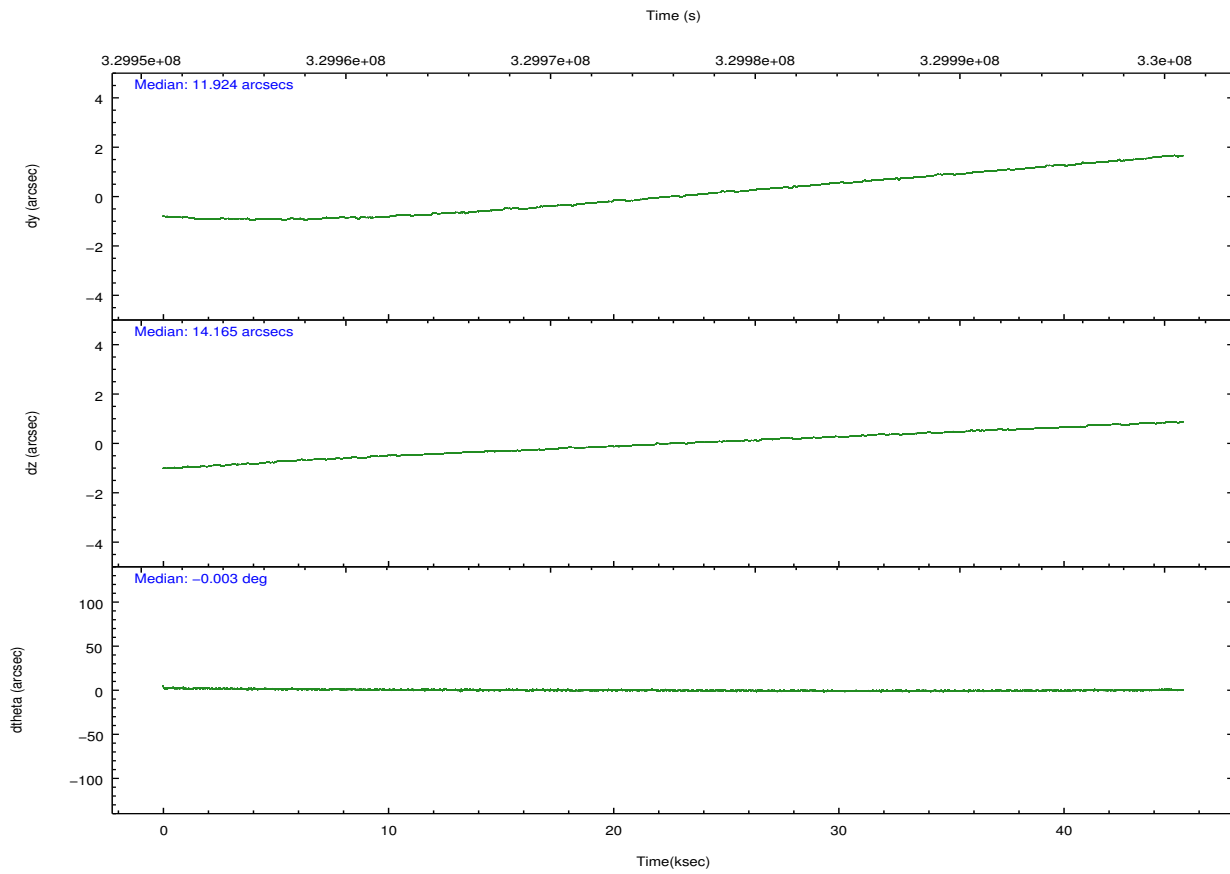
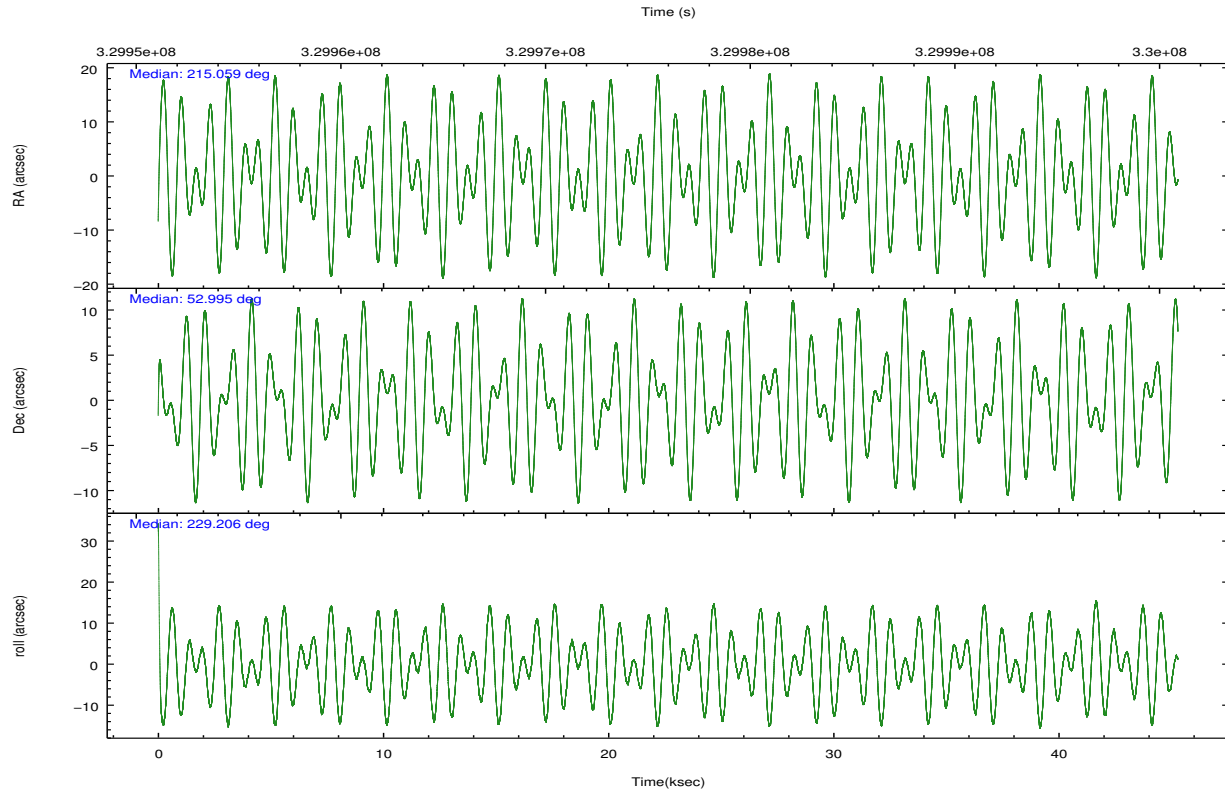
|                | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|----------------|--------|--------|--------|--------|--------|
| grade 0 events | 12748  | 14793  | 12400  | 12756  | 12944  |
|                | 3%     | 4%     | 3%     | 3%     | 3%     |
| grade 1 events | 213    | 172    | 187    | 211    | 164    |
|                | 0%     | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 8711   | 9256   | 8533   | 7759   | 8006   |
|                | 2%     | 2%     | 2%     | 2%     | 2%     |
| grade 3 events | 3975   | 4365   | 3783   | 3991   | 4066   |
|                | 1%     | 1%     | 1%     | 1%     | 1%     |
| grade 4 events | 3689   | 4264   | 3876   | 3949   | 3853   |
|                | 1%     | 1%     | 1%     | 1%     | 1%     |
| grade 5 events | 12786  | 14235  | 12101  | 14833  | 14380  |
|                | 3%     | 4%     | 3%     | 4%     | 4%     |
| grade 6 events | 6772   | 8158   | 6612   | 6969   | 7897   |
|                | 2%     | 2%     | 1%     | 1%     | 2%     |
| grade 7 events | 281222 | 276018 | 329546 | 300926 | 306530 |
|                | 85%    | 83%    | 87%    | 85%    | 85%    |

## 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                | CCD I0 on                             | Y         | Y       |
| Observation mode                     | POINTING            | POINTING              | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                    | 215.067608          | 215.0592388325638     | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                   | 53.022319           | 52.99529031642101     | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll                  | 228.997590          | 229.2129628477179     | CCD S0 on                             | N         | N       |
| [deg] Roll angle                     | 50.000000           | 50.000000             | CCD S1 on                             | N         | N       |
| [deg] Roll tolerance                 | 10.000000           | 10.000000             | CCD S2 on                             | O1        | Y       |
| Roll constraint allows 180D rotation | Y                   | Y                     | CCD S3 on                             | N         | N       |
| [mm] SIM focus pos                   | -0.782348           | -0.7809083437167272   | CCD S4 on                             | N         | N       |
| [mm] SIM defocus                     | 0                   | 0.001439871863259334  | CCD S5 on                             | N         | N       |
| [mm] SIM translation stage pos       | -233.592463         | -233.5874344608287    | Number of optional ACIS chips dropped | 0         | 0       |
| [mm] SIM translation stage offset    | 0                   | -0.005018542100998502 | On-chip summing requested             | N         | N       |
| [s] Observation start time (MET)     | 329953493.184000    | 329952483.39177       | Subarray requested                    | NONE      | NONE    |
| Observation start date               | 2008-06-15T21:43:48 | 2008-06-15T21:28:03   | Alternating exposures requested       | N         | N       |
| [s] Observation end time (MET)       | 329998624.184000    | 329999480.66907       | [s] Primary exposure time             | 0.000000  | 3.1     |
| Observation end date                 | 2008-06-16T10:15:59 | 2008-06-16T10:31:20   |                                       |           |         |
| Read mode                            | TIMED               | TIMED                 |                                       |           |         |

## 2.3 Aspect



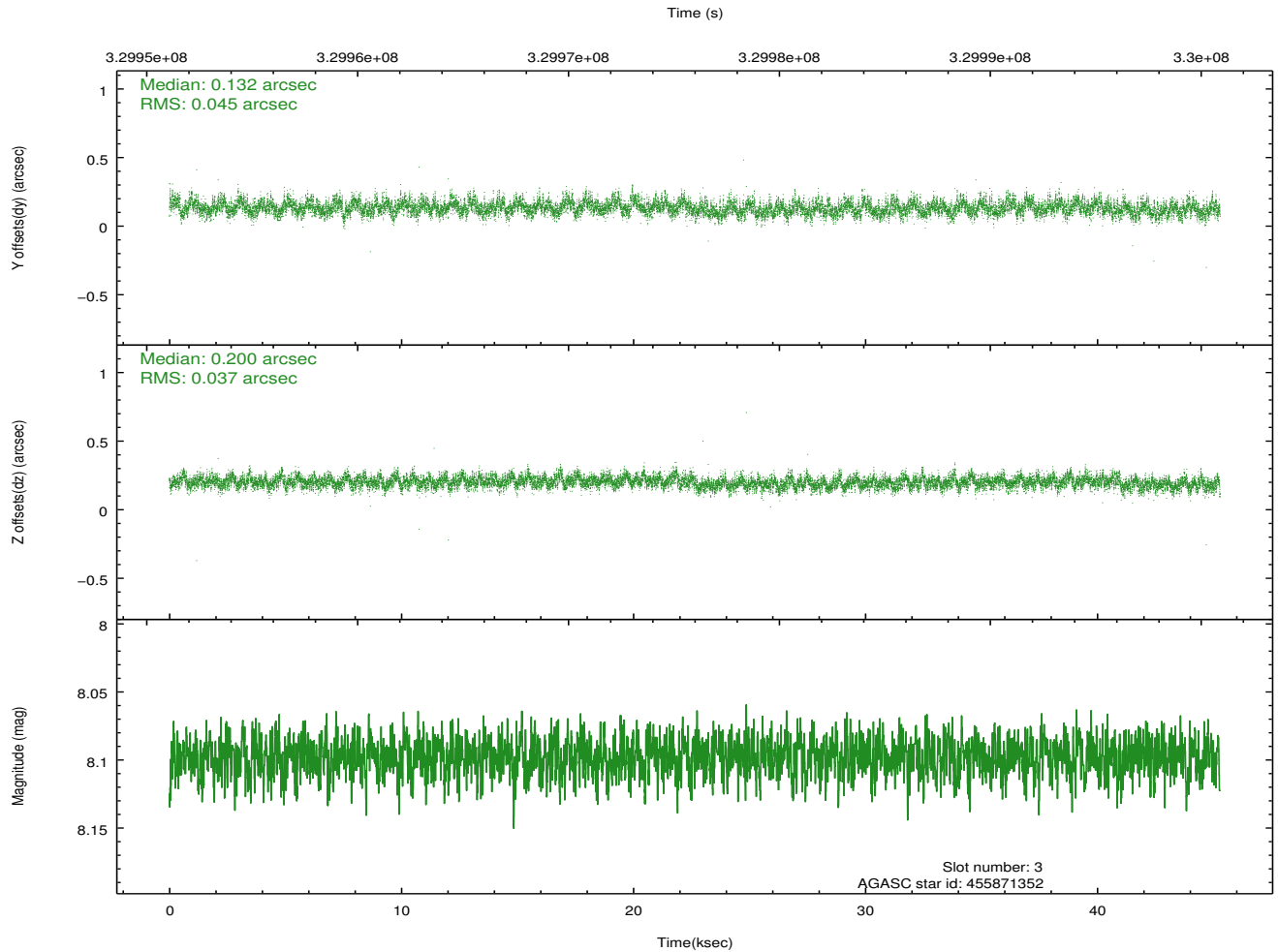
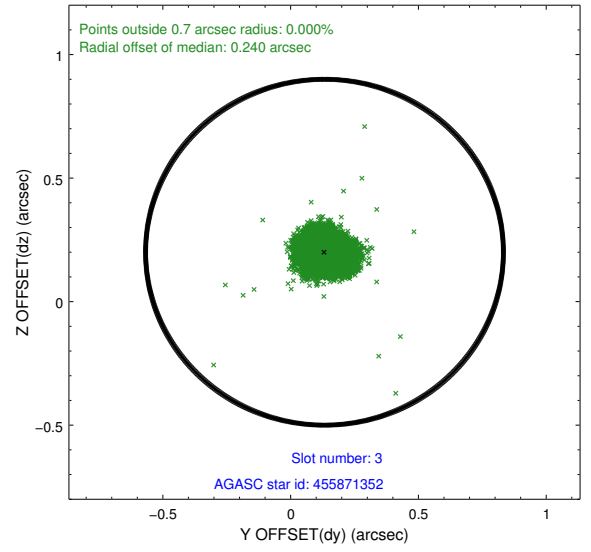
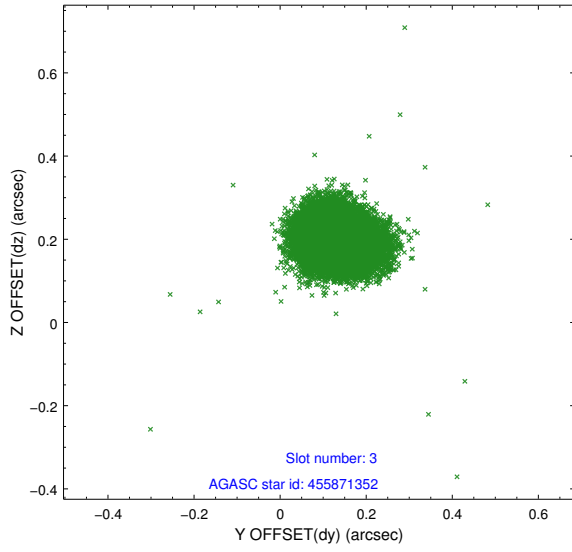


### Slot Statistics

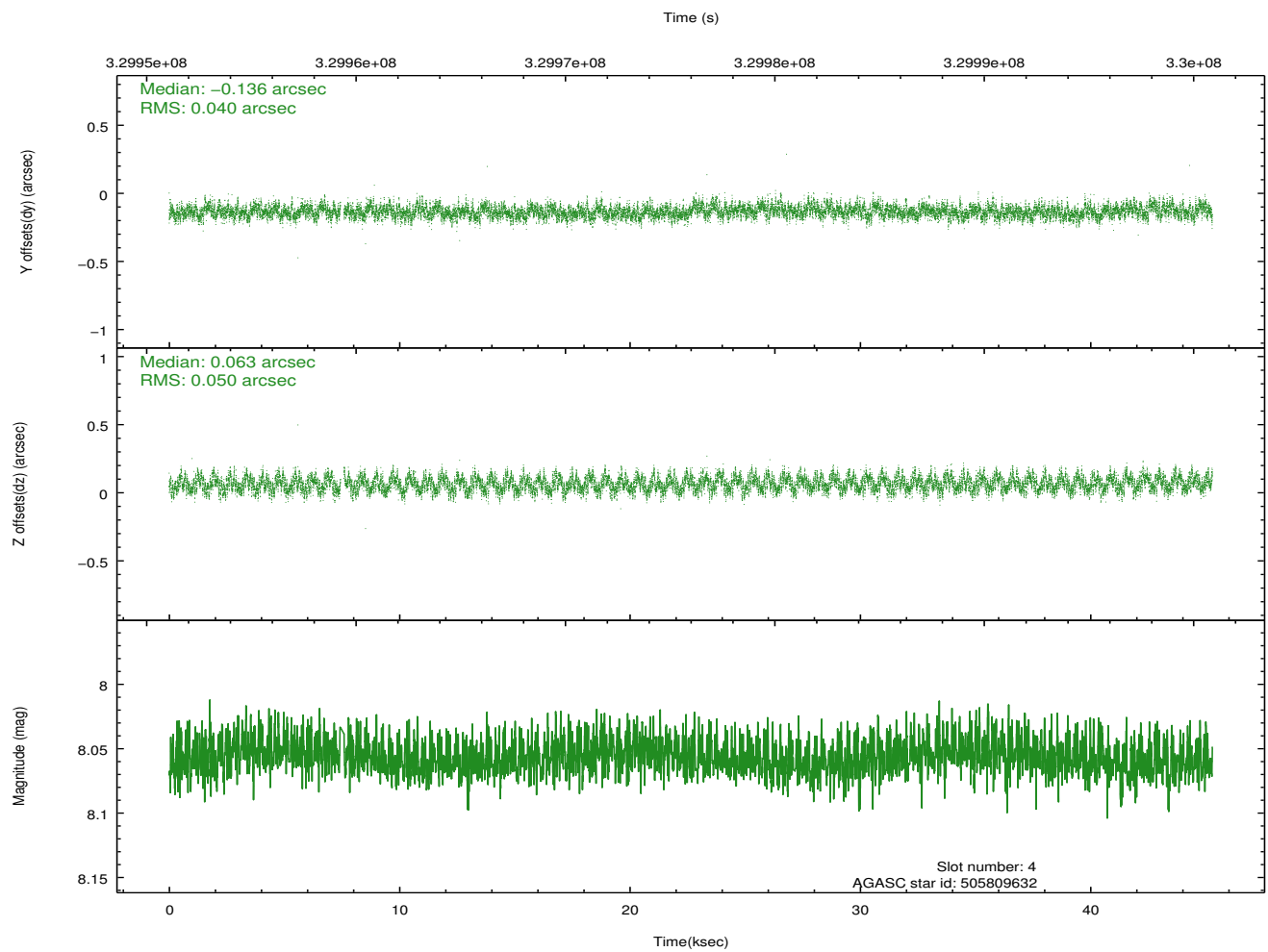
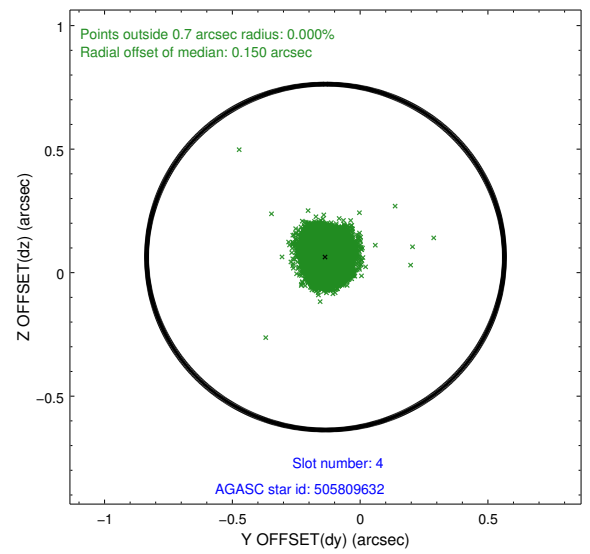
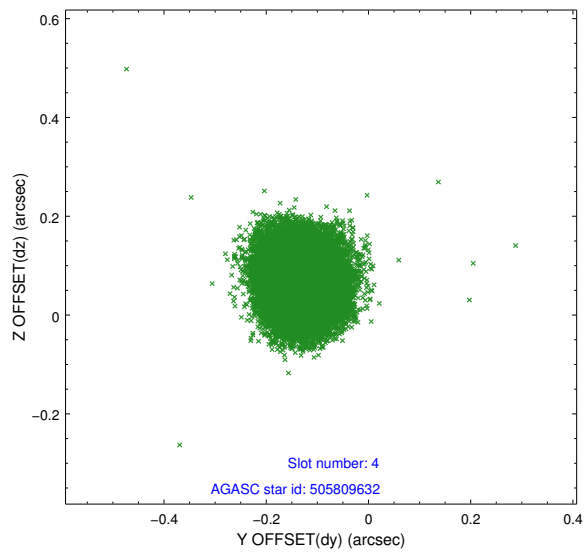
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.01 | 11046 | 0.013  | 0.026  | 0.017 | 0.029 | 0.000000   | 0.000000  | 927.54   | -837.68  |
| 1    | FID    | ACIS-I-5  | 7.00 | 11046 | -0.175 | 0.030  | 0.021 | 0.031 | 0.000000   | 0.000000  | -1820.78 | 1059.78  |
| 2    | FID    | ACIS-I-6  | 7.01 | 11045 | 0.069  | 0.013  | 0.016 | 0.032 | 0.000000   | 0.000000  | 393.12   | 1704.29  |
| 3    | GUIDE  | 455871352 | 8.10 | 22088 | 0.132  | 0.200  | 0.062 | 0.100 | 215.099961 | 52.172669 | 2261.75  | 2061.43  |
| 4    | GUIDE  | 505809632 | 8.06 | 22018 | -0.136 | 0.063  | 0.069 | 0.109 | 215.499426 | 53.521185 | -1963.49 | -482.55  |
| 5    | GUIDE  | 505812088 | 8.14 | 22087 | 0.080  | -0.103 | 0.063 | 0.103 | 214.186617 | 53.263562 | 580.91   | -2008.97 |
| 6    | GUIDE  | 505812376 | 7.65 | 22091 | 0.066  | -0.208 | 0.049 | 0.080 | 214.039537 | 52.937930 | 1681.20  | -1494.43 |
| 7    | GUIDE  | 505815928 | 8.32 | 22086 | -0.146 | 0.048  | 0.062 | 0.099 | 216.234742 | 53.074559 | -1813.55 | 1768.03  |

## 2.4 Star Slots

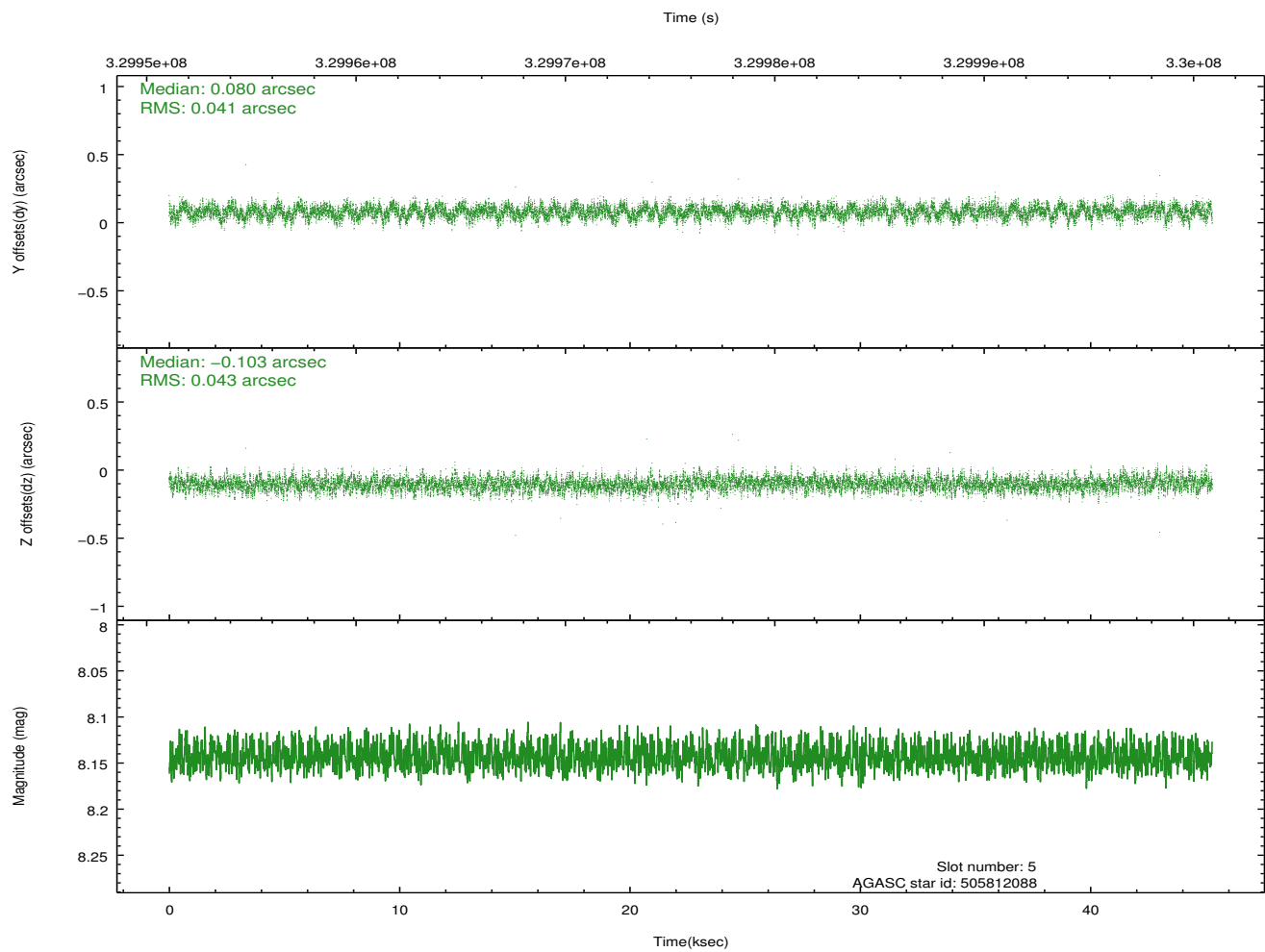
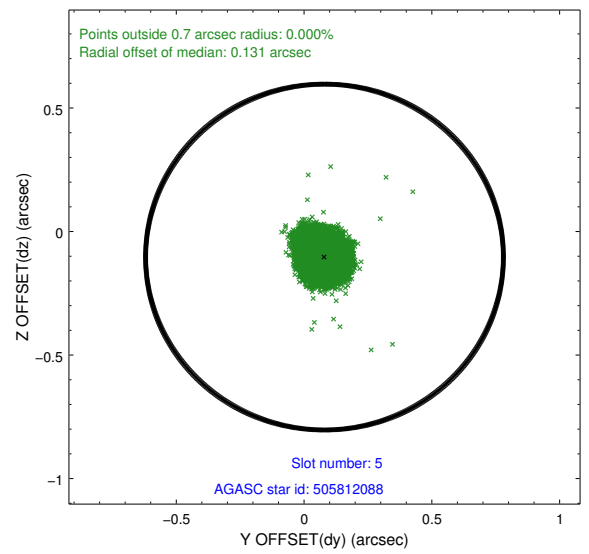
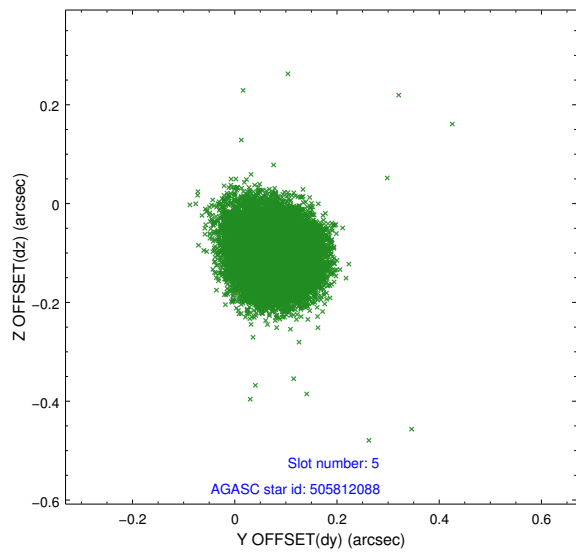
### 2.4.1 Slot 3



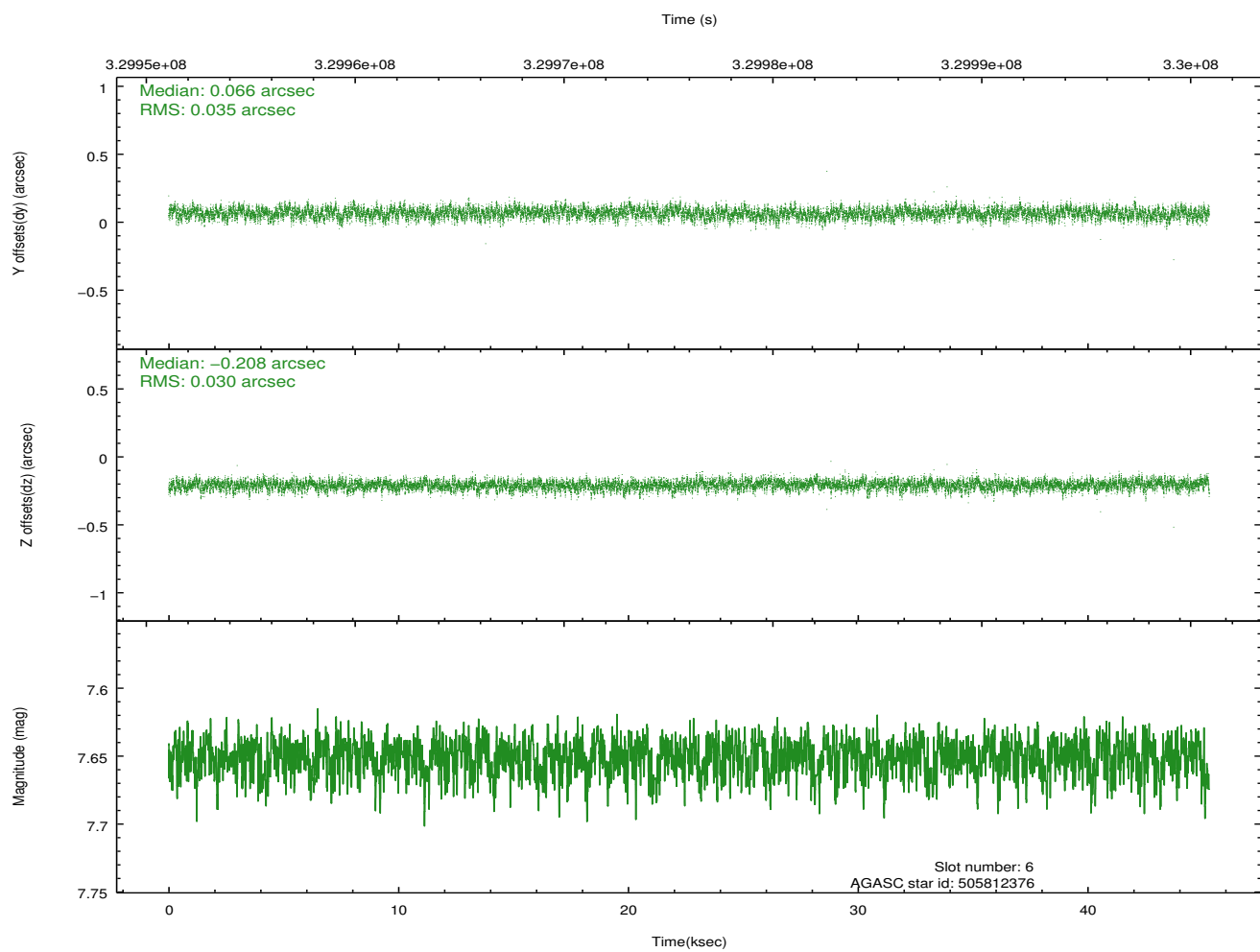
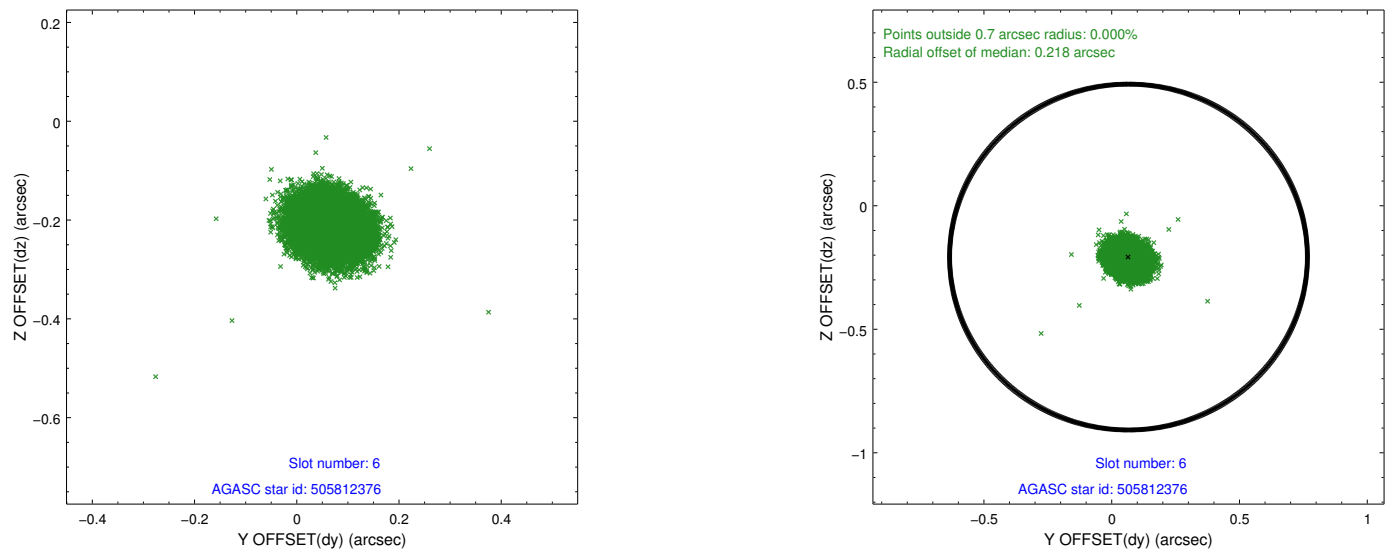
## 2.4.2 Slot 4



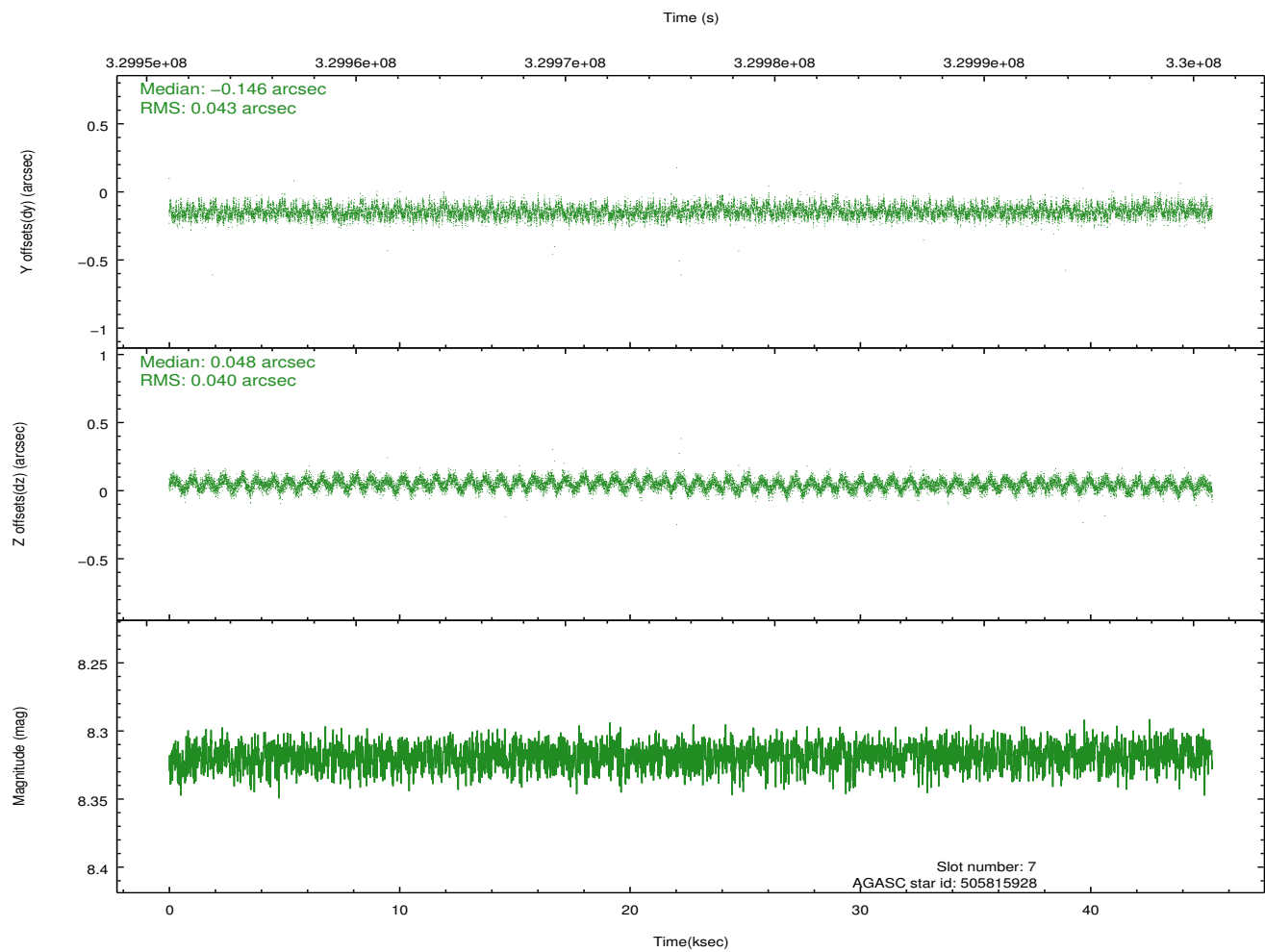
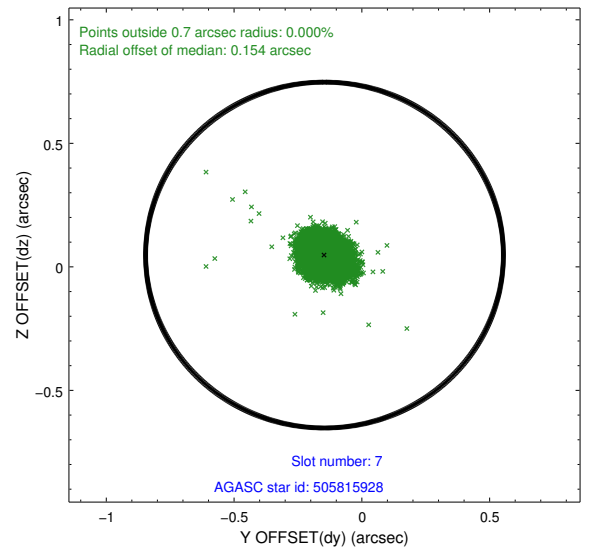
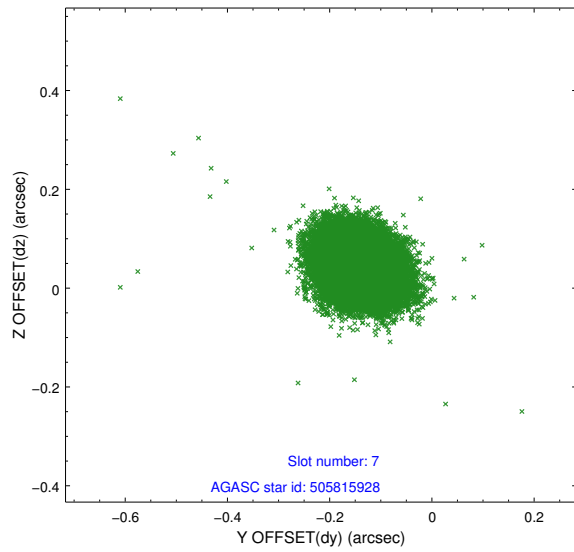
### 2.4.3 Slot 5



## 2.4.4 Slot 6

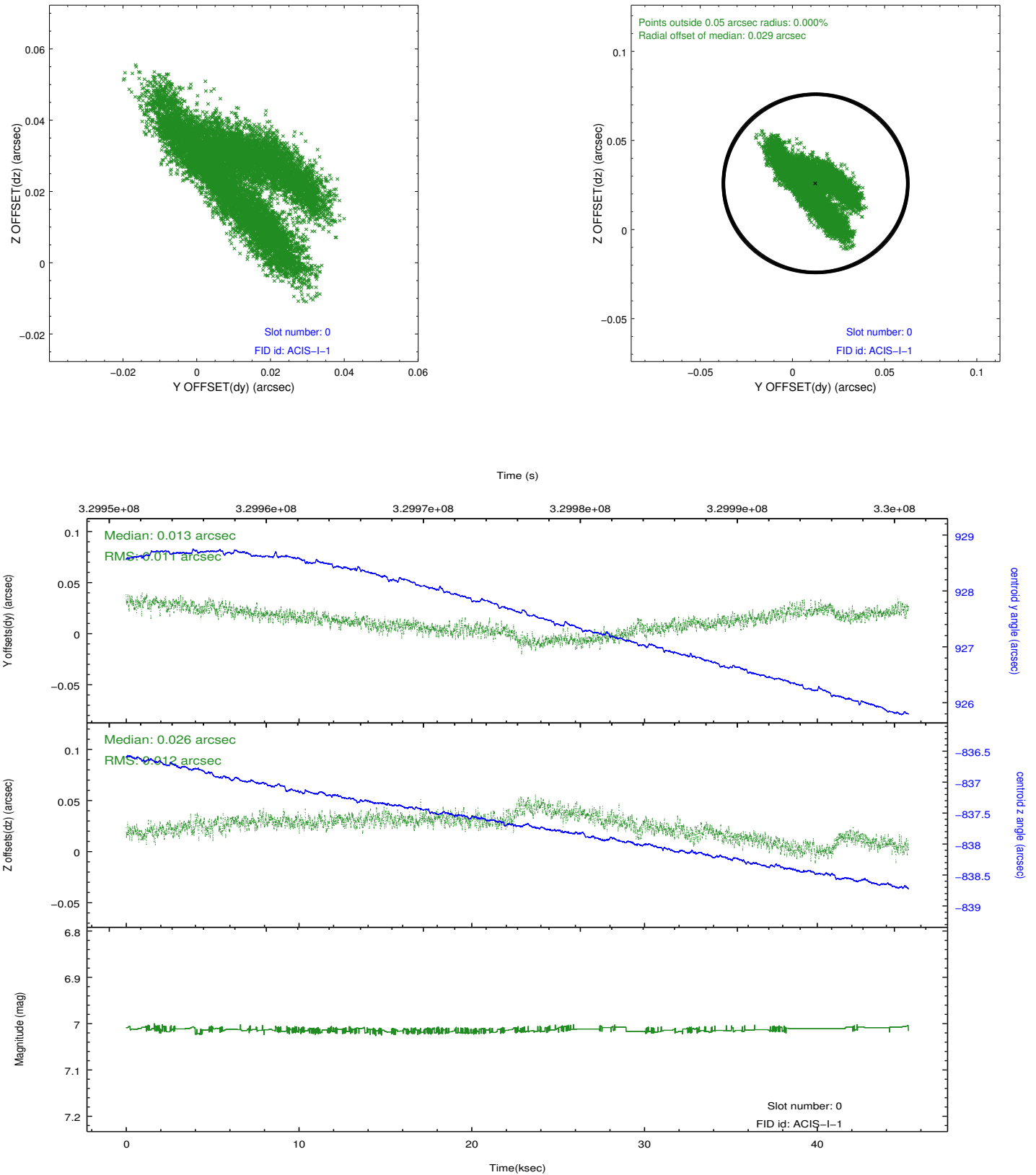


## 2.4.5 Slot 7

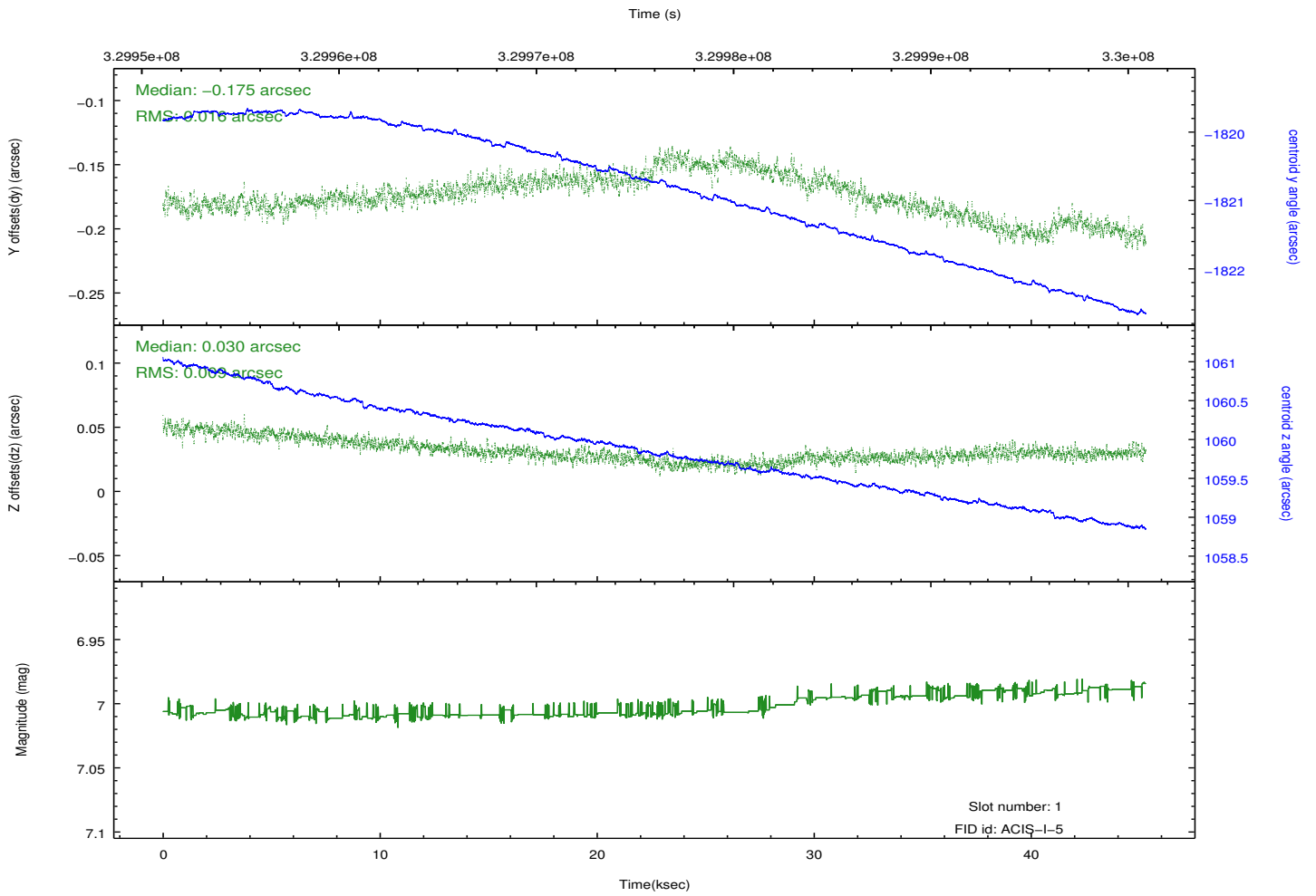
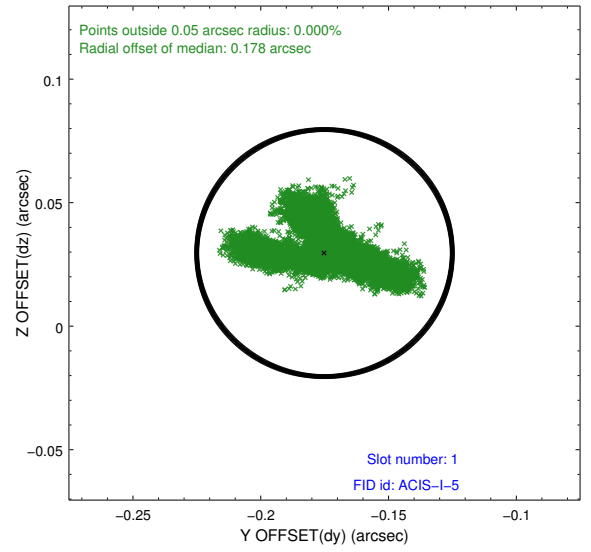
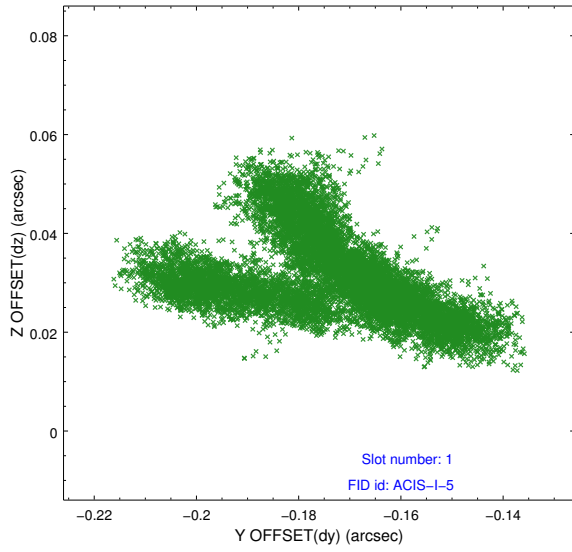


## 2.5 FID Slots

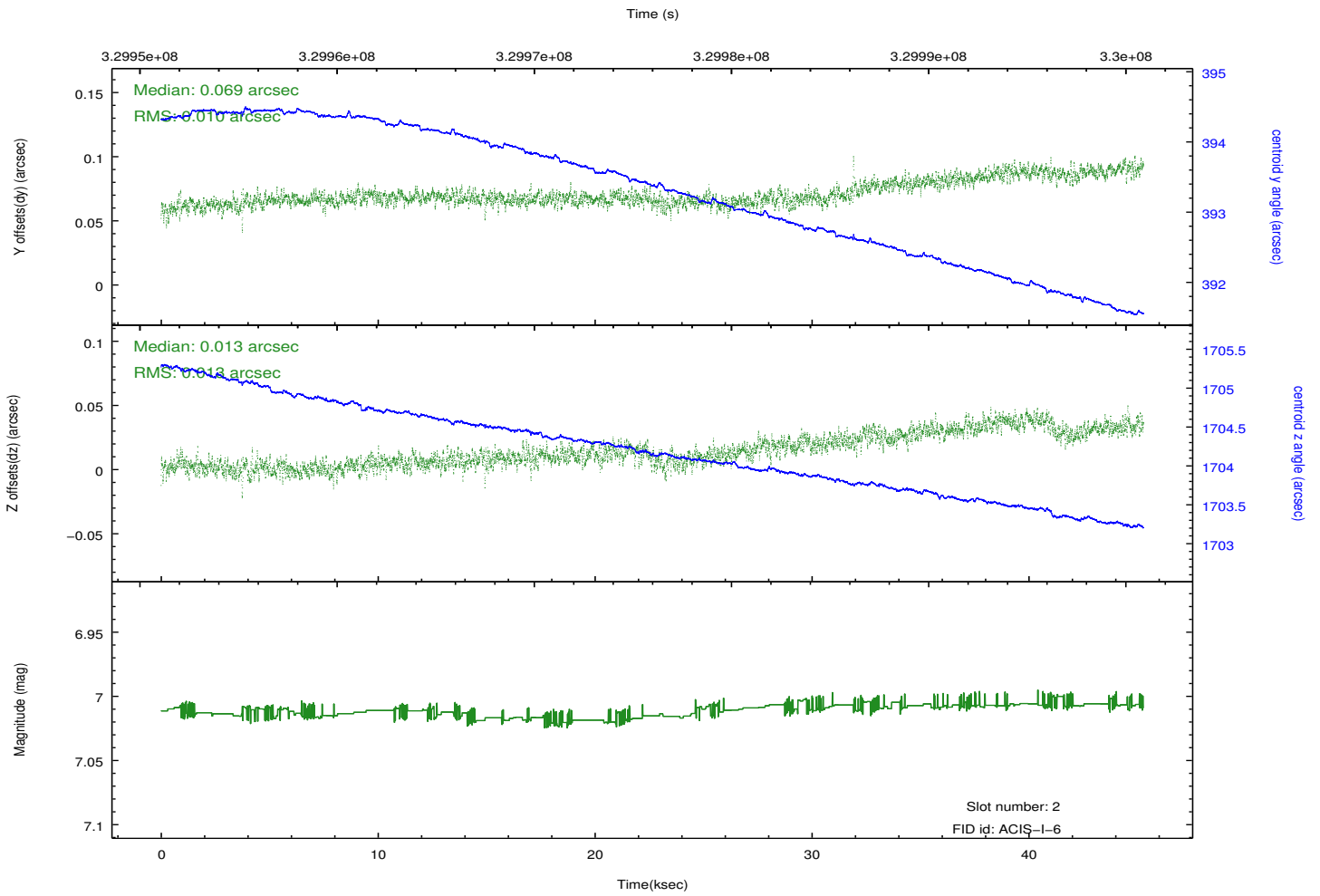
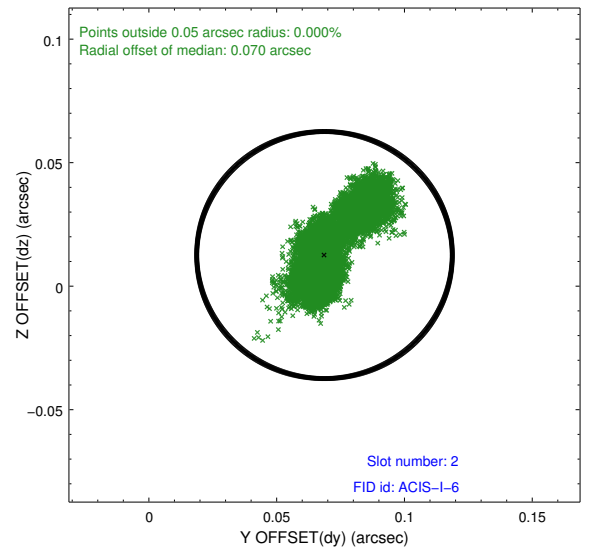
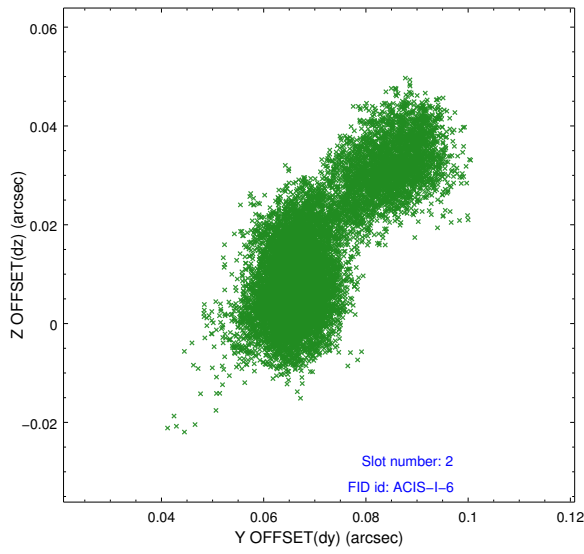
### 2.5.1 Slot 0



## 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)      | 2012.05.22 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 45.2848003 |

## A.2 Comments

Joint proposal with Spitzer. Roll constraint met.