

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10271 - L2 Version 2  
Chandra X-Ray Center

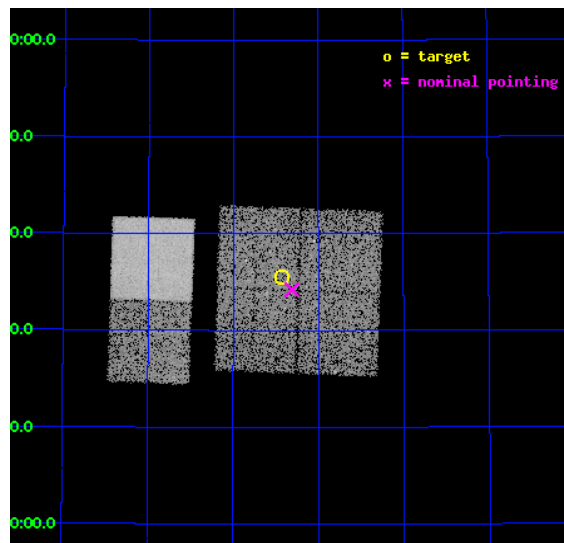
L2 Processing Date : Jun 10 2012

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# 1 Front

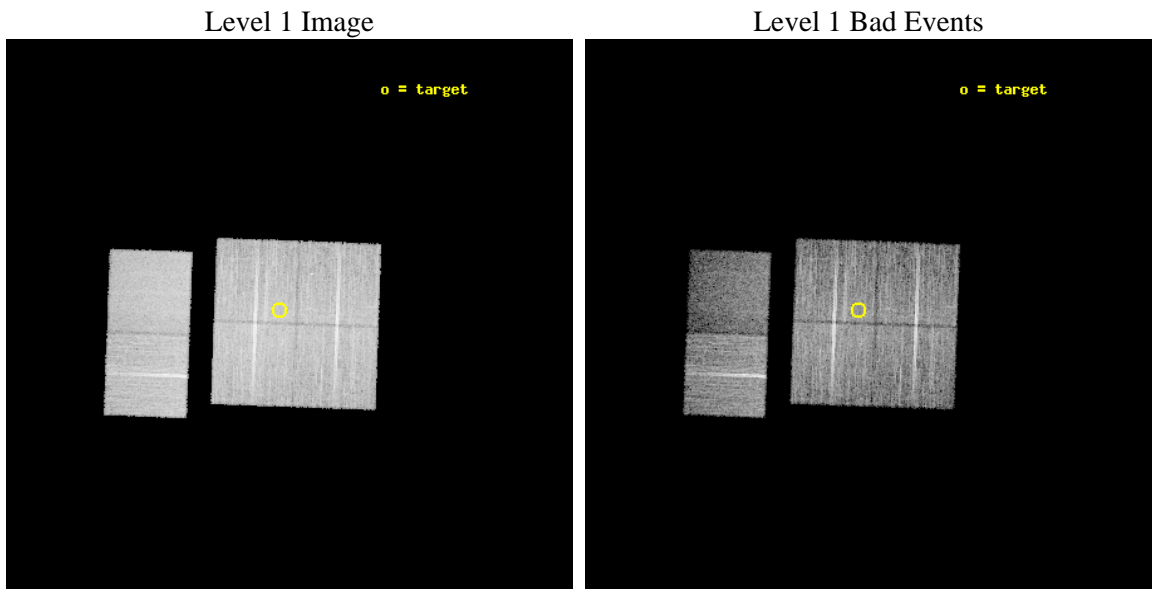
|          |   |   |
|----------|---|---|
| seq_num  | 701814  | Sequence number                             |
| obs_id   | 10271   | Observation id                              |
| title    | Using Chandra and HST to Construct the First Detailed Timeline of Early-Type Galaxy Evolution | Proposal title                              |
| observer | Prof. Ann Zabludoff   | Principal investigator                      |
| object   | SDSSJ130525.83+533530.3   | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 196.3575  | Observer's specified target RA [deg]        |
| dec_targ | 53.59175  | Observer's specified target Dec [deg]       |
| ra_nom   | 196.32773184896   | Nominal RA [deg]                            |
| dec_nom  | 53.570086821149   | Nominal Dec [deg]                           |
| roll_nom | 272.10194992673   | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 10661.804373503   | Sum of GTIs [s]                             |
| livetime | 10526.798186758   | Livetime [s]                                |
| ontime0  | 10661.681253493   | Sum of GTIs [s]                             |
| ontime1  | 10661.722293496   | Sum of GTIs [s]                             |
| ontime2  | 10661.763333499   | Sum of GTIs [s]                             |
| ontime3  | 10661.804373503   | Sum of GTIs [s]                             |
| ontime6  | 10658.645483196   | Sum of GTIs [s]                             |
| ontime7  | 10661.845413506   | Sum of GTIs [s]                             |
| l2events | 75777   | Number of level 2 events                    |



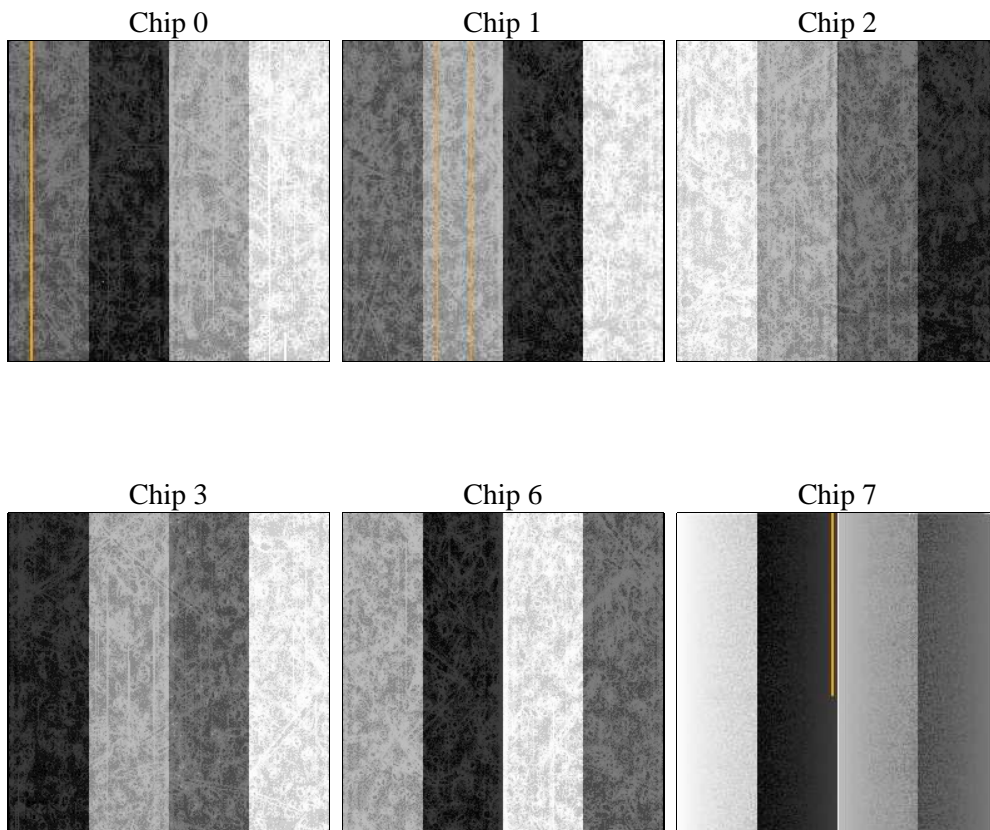
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 10620.434000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 10661.804373503 | Sum of GTIs [s]                         |
| caldbver | 4.4.10              | &#160                          | ontime0        | 10661.681253493 | Sum of GTIs [s]                         |
| date     | 2012-06-10T23:57:53 | Date and time of file creation | ontime1        | 10661.722293496 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime2        | 10661.763333499 | Sum of GTIs [s]                         |
|          |                     |                                | ontime3        | 10661.804373503 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 10658.645483196 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10661.845413506 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 505413          | Number of level 1 events                |

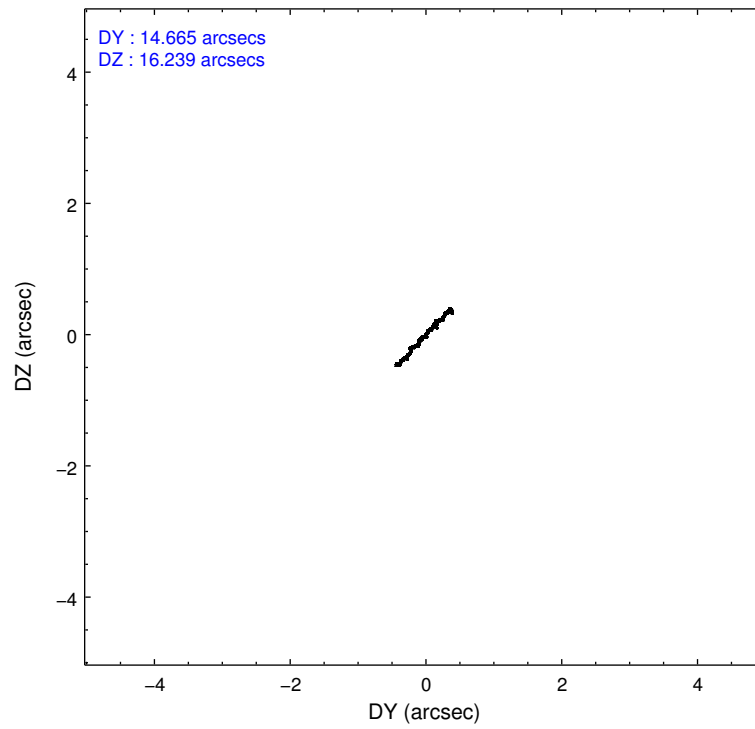
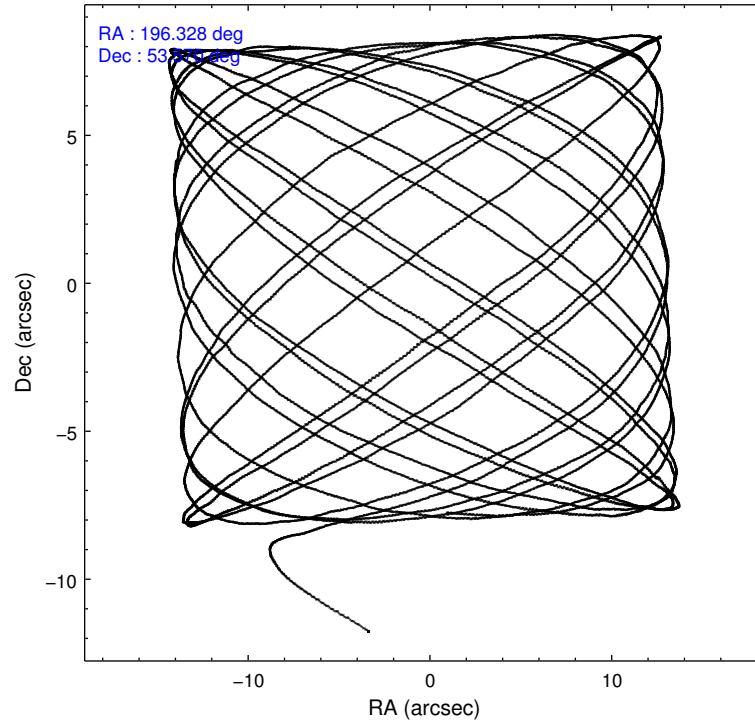
### 2.1.4 Events

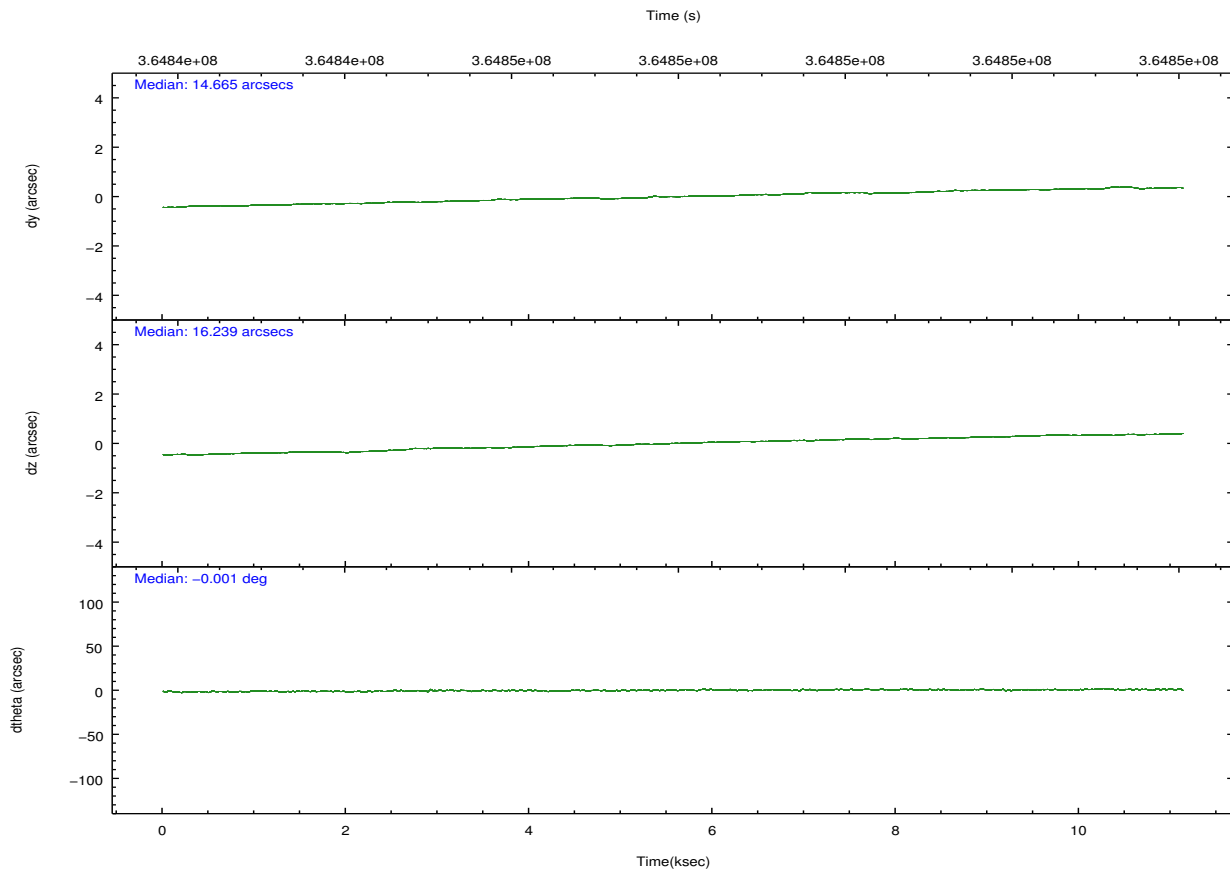
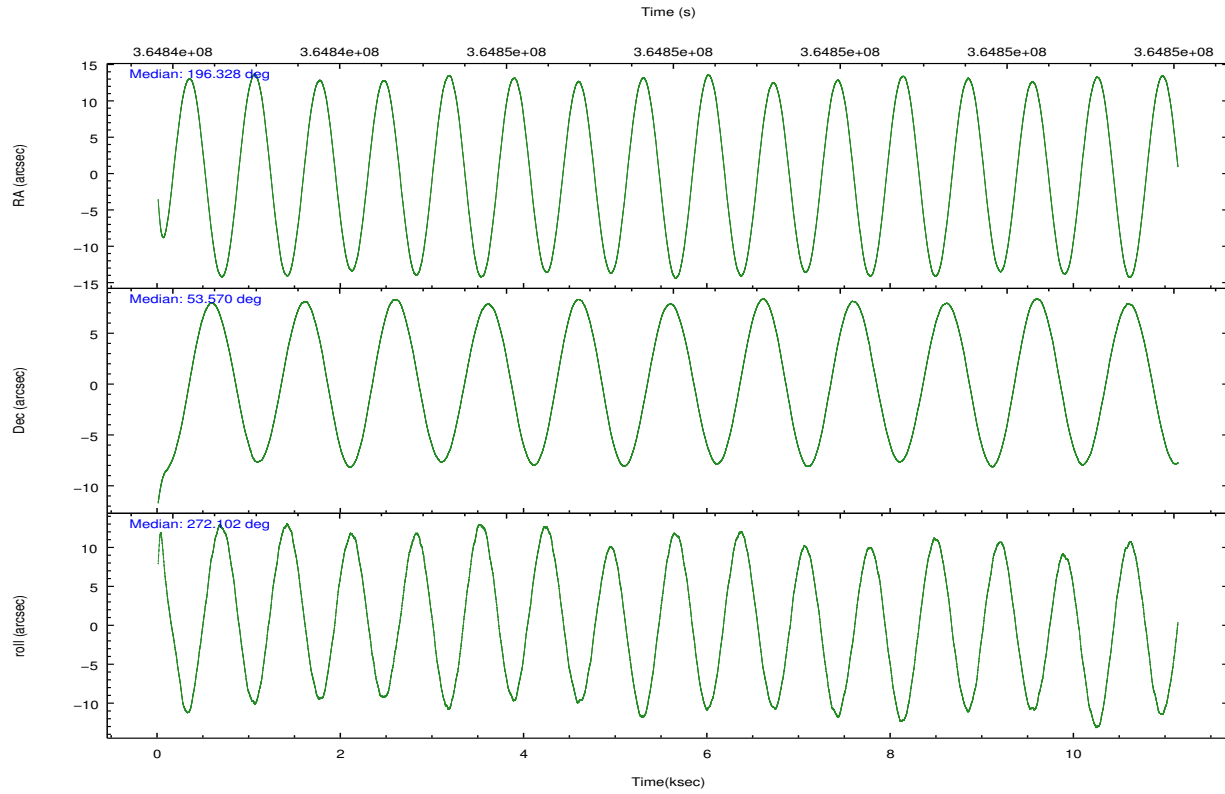
|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 77999 | 78784 | 92708 | 83764 | 87431 | 84727 | grade 0 events | 3228  | 3210  | 3325  | 3242  | 3149  | 4206  |
| rejected events | 69313 | 69658 | 84125 | 75288 | 78576 | 43506 |                | 4%    | 4%    | 3%    | 3%    | 3%    | 4%    |
| rejected %      | 88%   | 88%   | 90%   | 89%   | 89%   | 51%   | grade 1 events | 34    | 46    | 46    | 47    | 51    | 156   |
|                 |       |       |       |       |       |       |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |       |       |       |       | grade 2 events | 2152  | 2050  | 2021  | 1812  | 2009  | 8737  |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 2%    | 2%    | 2%    | 10%   |
|                 |       |       |       |       |       |       | grade 3 events | 900   | 996   | 883   | 905   | 977   | 3843  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 0%    | 1%    | 1%    | 4%    |
|                 |       |       |       |       |       |       | grade 4 events | 841   | 1004  | 914   | 941   | 919   | 3704  |
|                 |       |       |       |       |       |       |                | 1%    | 1%    | 0%    | 1%    | 1%    | 4%    |
|                 |       |       |       |       |       |       | grade 5 events | 2604  | 2818  | 2440  | 3104  | 3159  | 8968  |
|                 |       |       |       |       |       |       |                | 3%    | 3%    | 2%    | 3%    | 3%    | 10%   |
|                 |       |       |       |       |       |       | grade 6 events | 1568  | 1868  | 1442  | 1579  | 1804  | 20744 |
|                 |       |       |       |       |       |       |                | 2%    | 2%    | 1%    | 1%    | 2%    | 24%   |
|                 |       |       |       |       |       |       | grade 7 events | 66672 | 66792 | 81637 | 72134 | 75363 | 34369 |
|                 |       |       |       |       |       |       |                | 85%   | 84%   | 88%   | 86%   | 86%   | 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                         | FAINT               | FAINT                 | CCD I0 on                             | Y         | Y       |
| Observation mode                  | POINTING            | POINTING              | CCD I1 on                             | Y         | Y       |
| [deg] Pointing RA                 | 196.302903          | 196.3277318489584     | CCD I2 on                             | Y         | Y       |
| [deg] Pointing Dec                | 53.593341           | 53.57008682114888     | CCD I3 on                             | Y         | Y       |
| [deg] Pointing Roll               | 271.913239          | 272.1019499267311     | 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                             | O1        | Y       |
| [mm] SIM translation stage pos    | -233.592463         | -233.5874344608287    | CCD S3 on                             | O2        | Y       |
| [mm] SIM translation stage offset | 0                   | -0.005018542100998502 | CCD S4 on                             | N         | N       |
| [s] Observation start time (MET)  | 364842888.184000    | 364841718.81515       | CCD S5 on                             | N         | N       |
| Observation start date            | 2009-07-24T17:13:42 | 2009-07-24T16:55:18   | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 364853508.184000    | 364853736.42825       | On-chip summing requested             | N         | N       |
| Observation end date              | 2009-07-24T20:10:42 | 2009-07-24T20:15:36   | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                 | Alternating exposures requested       | N         | N       |
|                                   |                     |                       | [s] Primary exposure time             | 0.000000  | 3.2     |

## 2.3 Aspect



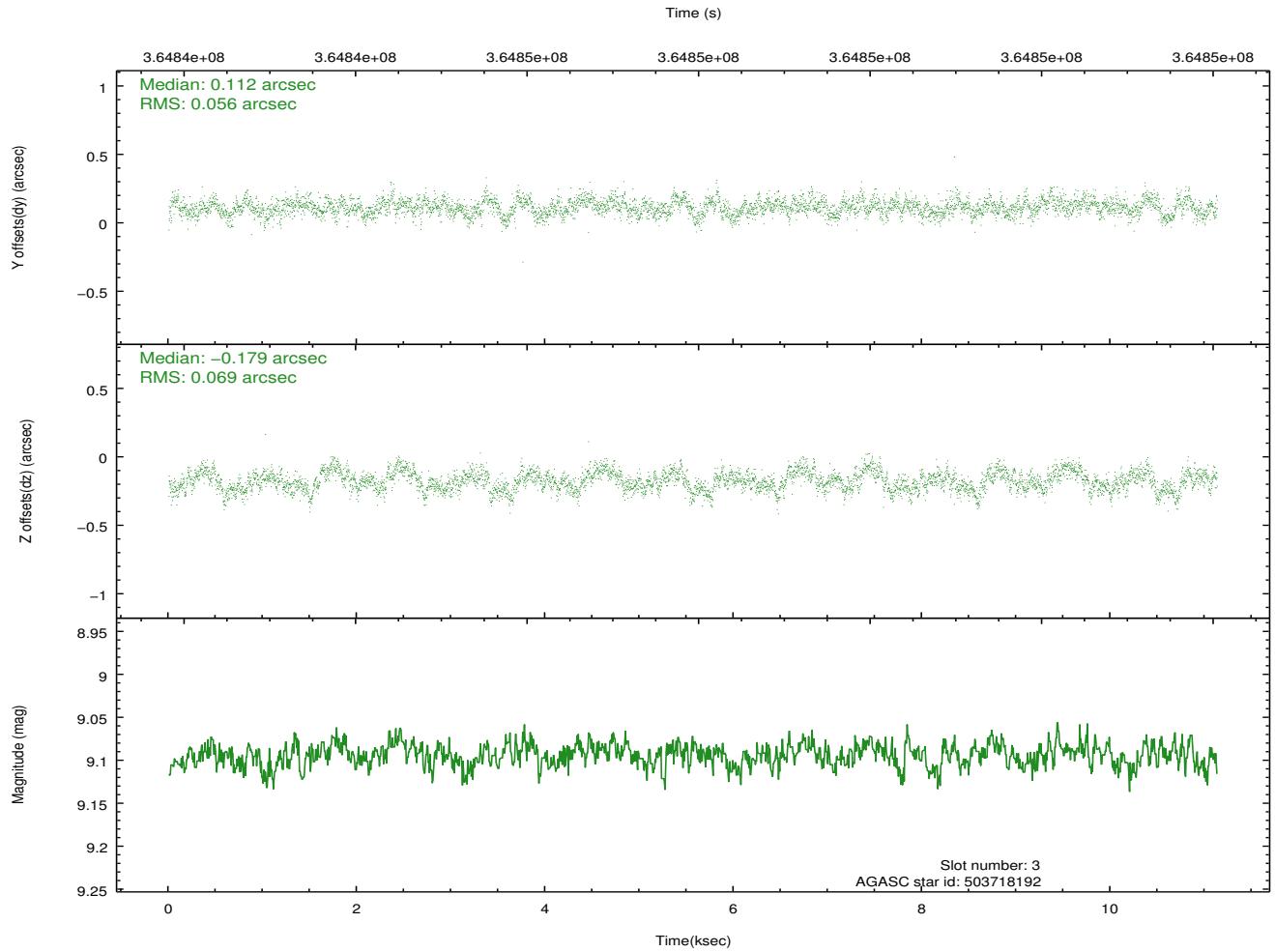
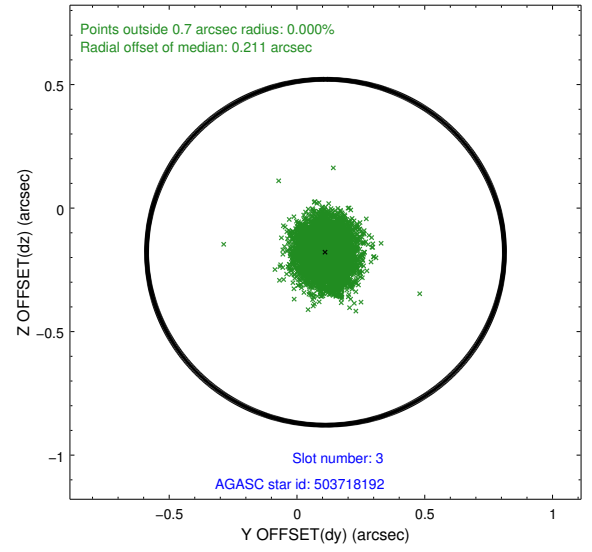
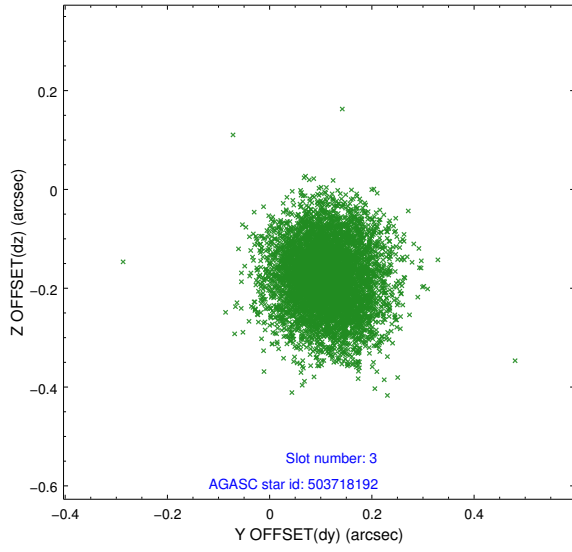


### Slot Statistics

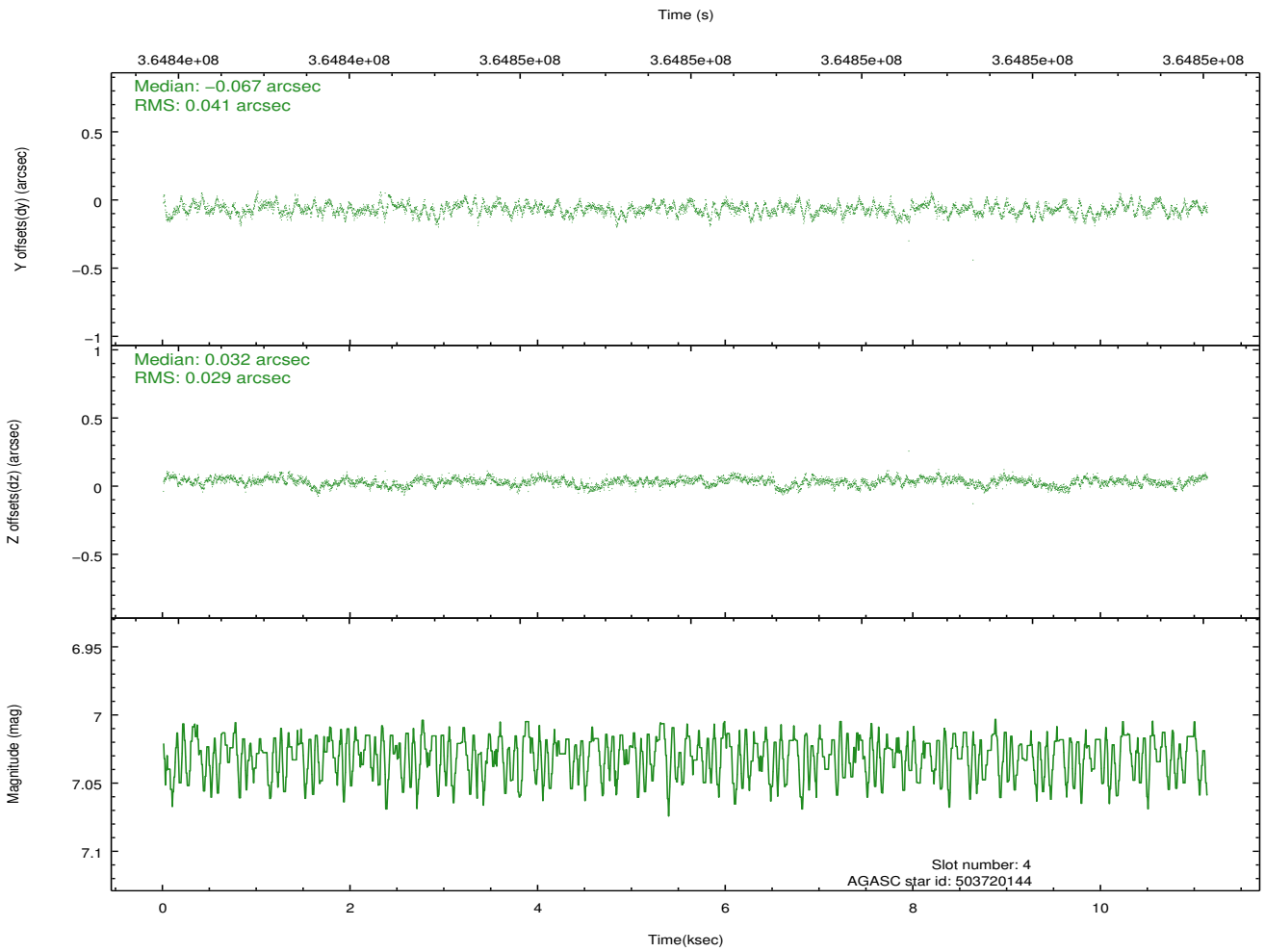
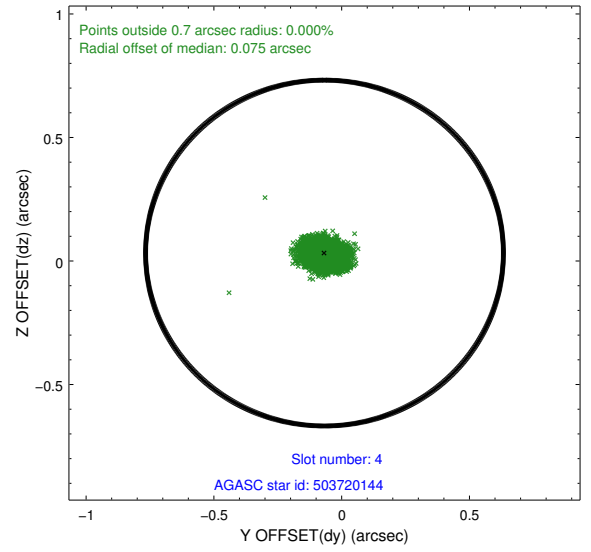
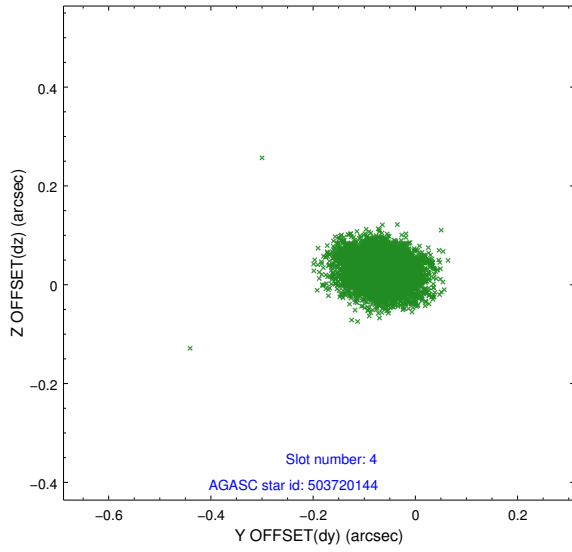
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z  |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|---------|
| 0    | FID    | ACIS-I-1  | 7.04 | 2715  | 0.063  | -0.041 | 0.011 | 0.020 | 0.000000   | 0.000000  | 924.86   | -839.91 |
| 1    | FID    | ACIS-I-5  | 7.04 | 2715  | -0.218 | 0.062  | 0.009 | 0.015 | 0.000000   | 0.000000  | -1823.25 | 1057.49 |
| 2    | FID    | ACIS-I-6  | 7.04 | 2715  | 0.064  | 0.049  | 0.008 | 0.013 | 0.000000   | 0.000000  | 389.94   | 1702.47 |
| 3    | GUIDE  | 503718192 | 9.09 | 5425  | 0.112  | -0.179 | 0.095 | 0.153 | 196.452799 | 53.441921 | 555.69   | 303.20  |
| 4    | GUIDE  | 503720144 | 7.03 | 5429  | -0.067 | 0.032  | 0.053 | 0.088 | 196.083087 | 53.954232 | -1314.43 | -422.08 |
| 5    | GUIDE  | 503720216 | 7.07 | 5430  | -0.063 | 0.034  | 0.060 | 0.096 | 196.166646 | 53.857588 | -960.98  | -257.51 |
| 6    | GUIDE  | 503720320 | 8.48 | 5425  | -0.058 | 0.020  | 0.063 | 0.101 | 197.031330 | 53.560576 | 161.63   | 1553.39 |
| 7    | GUIDE  | 503715480 | 8.87 | 5425  | 0.075  | 0.093  | 0.083 | 0.129 | 196.715607 | 52.934260 | 2398.99  | 816.35  |

## 2.4 Star Slots

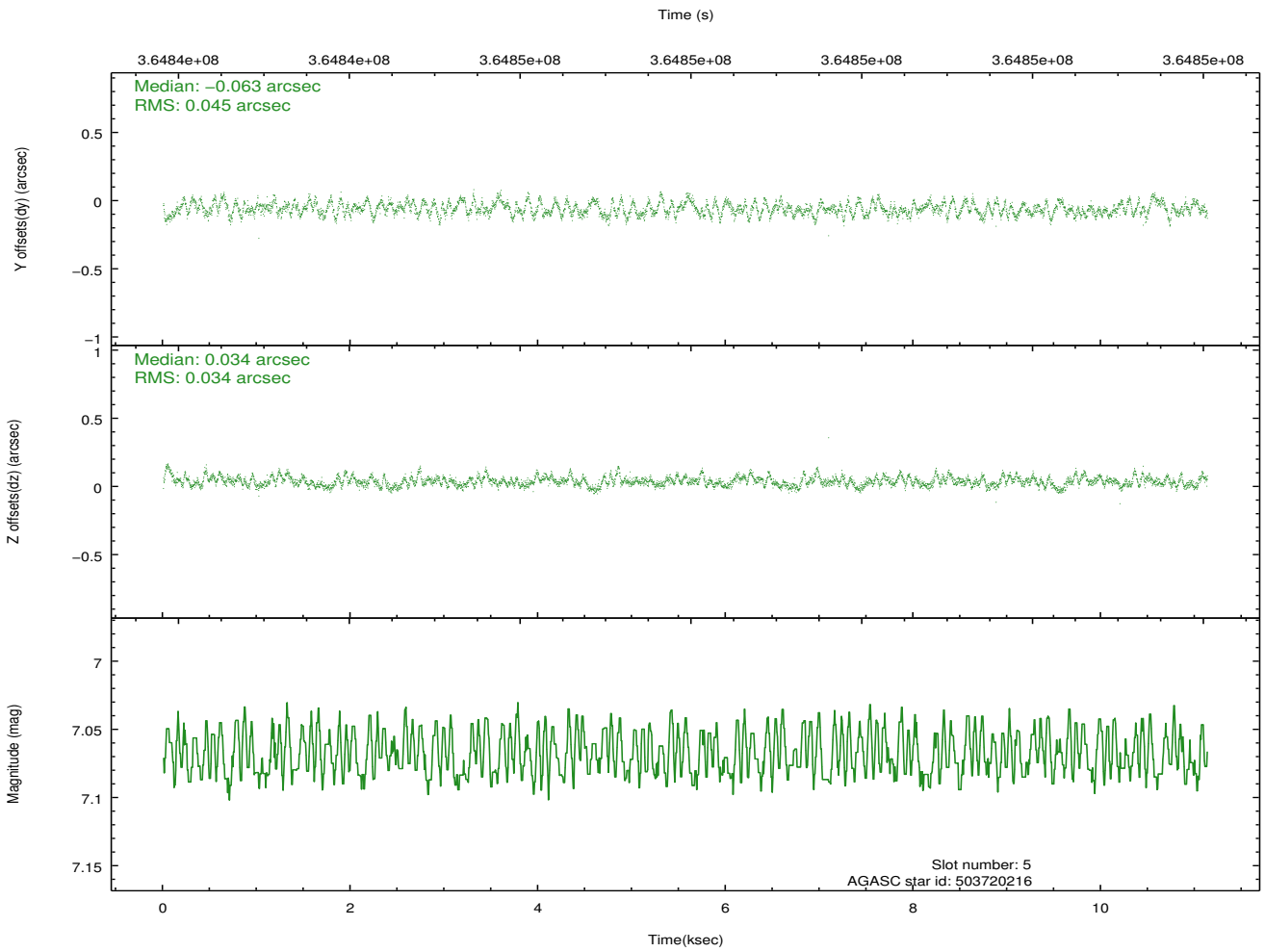
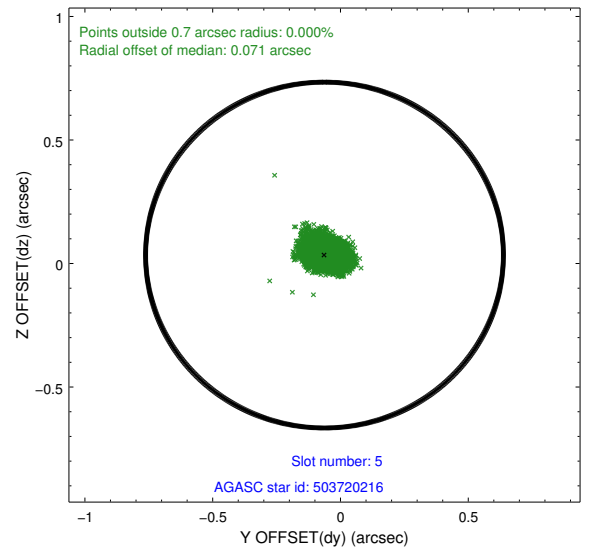
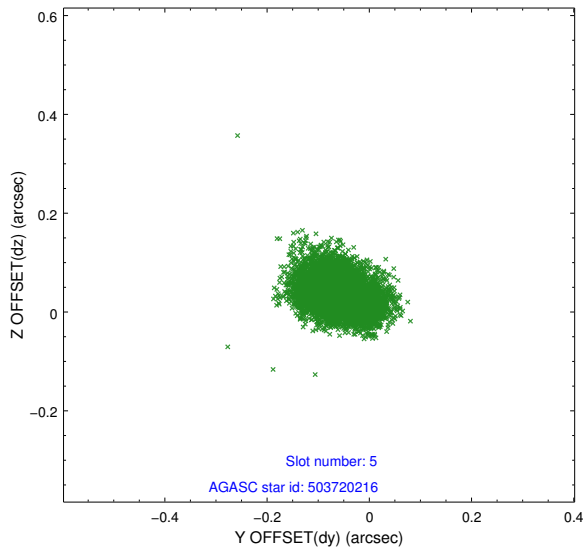
### 2.4.1 Slot 3



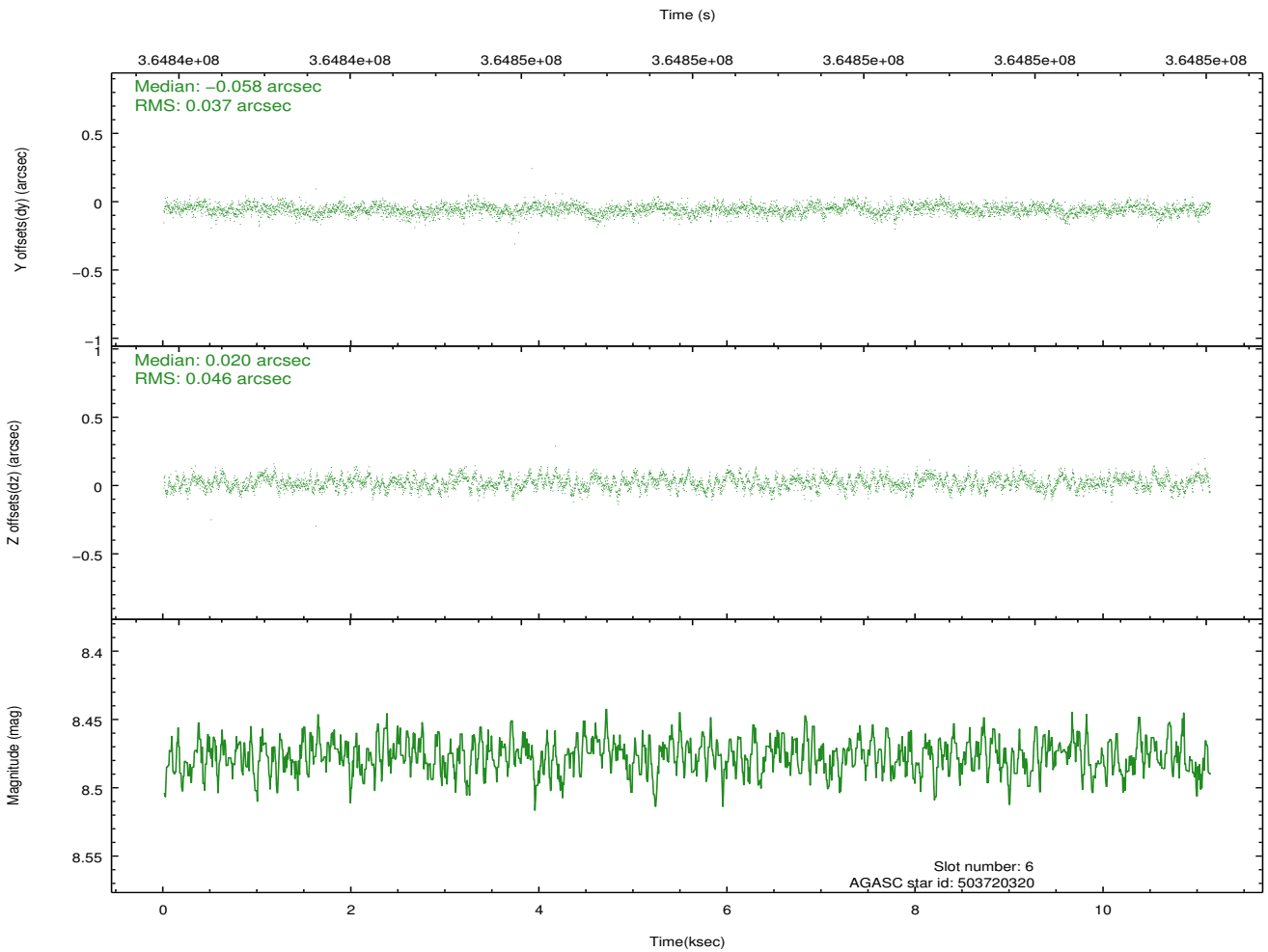
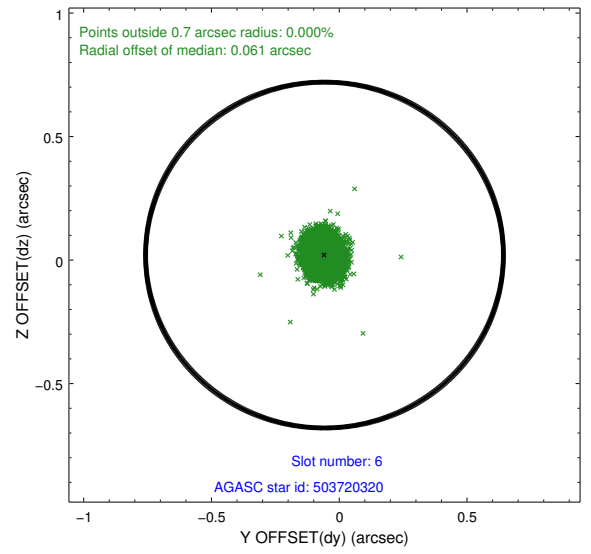
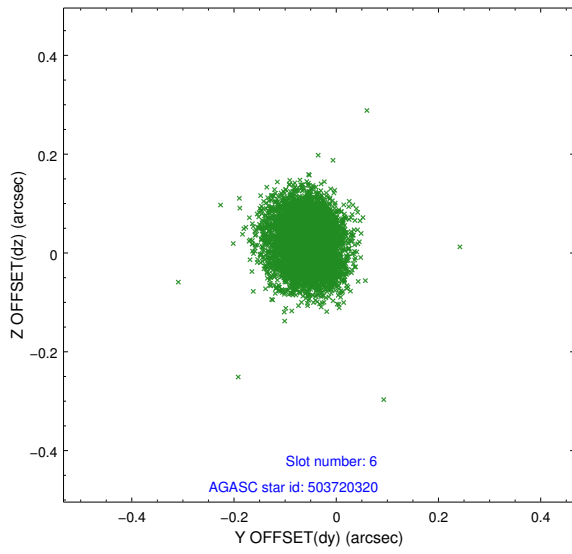
### 2.4.2 Slot 4



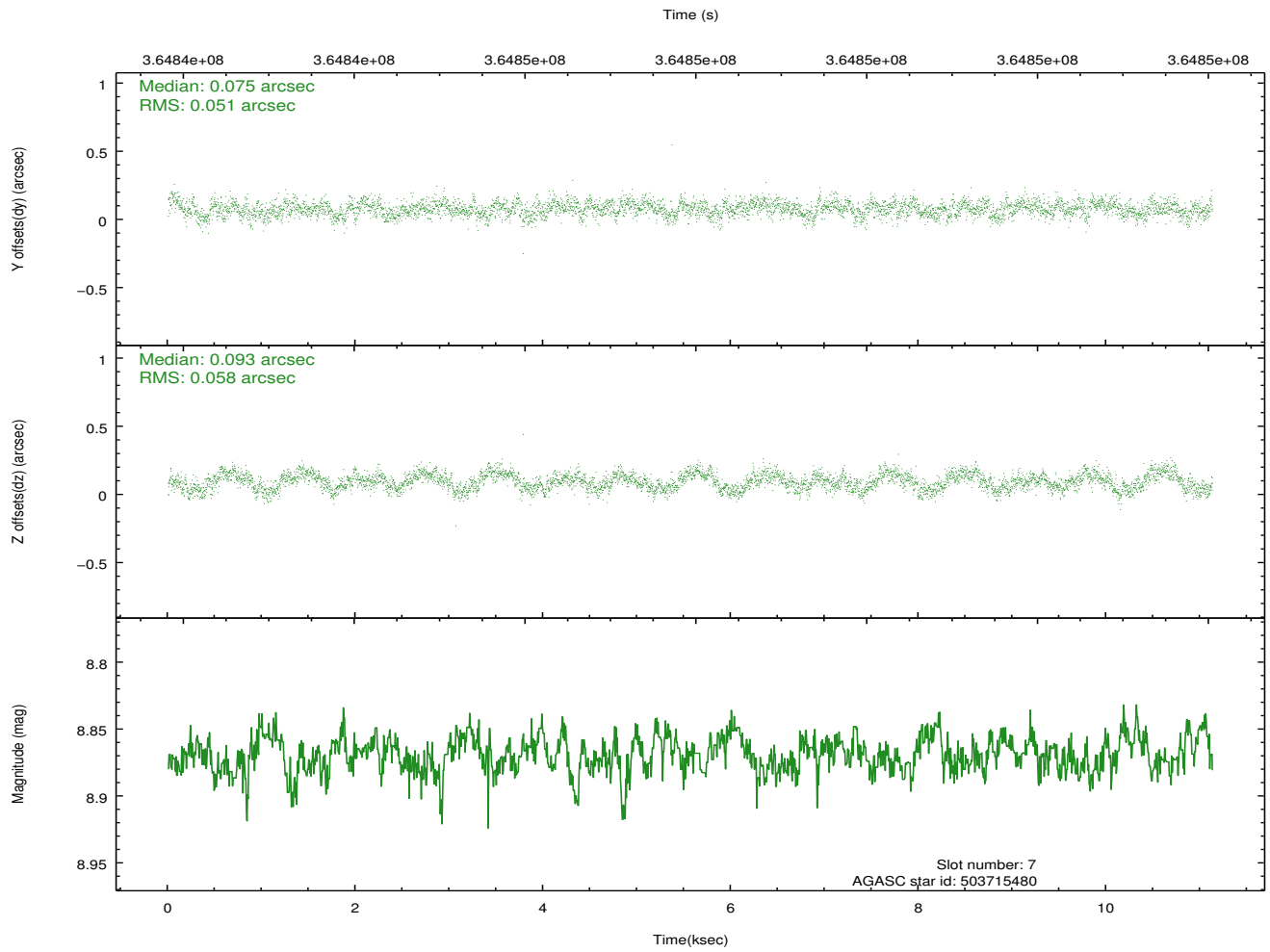
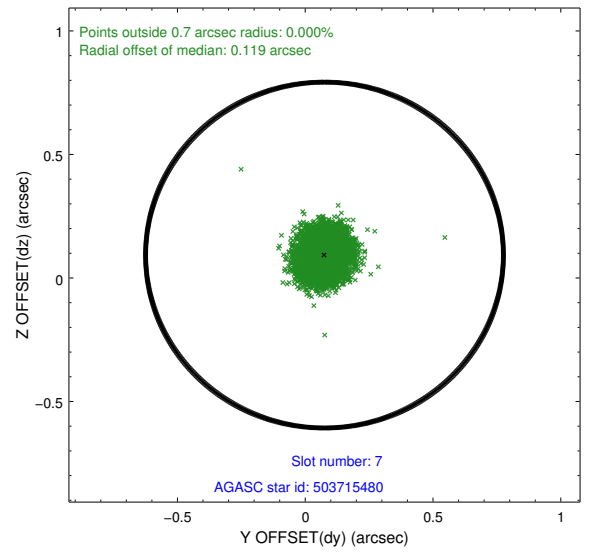
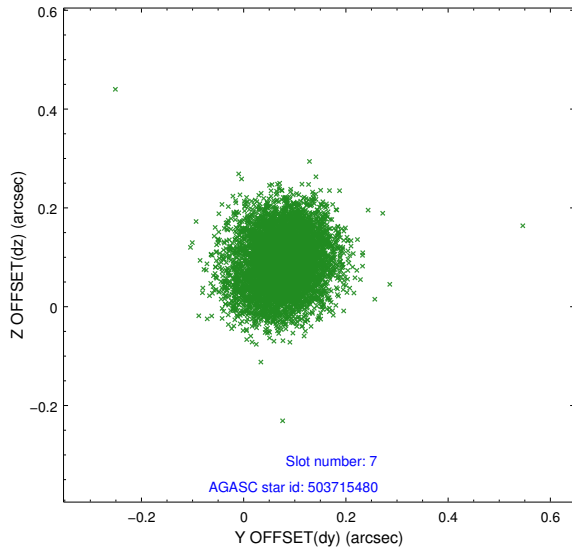
### 2.4.3 Slot 5



## 2.4.4 Slot 6

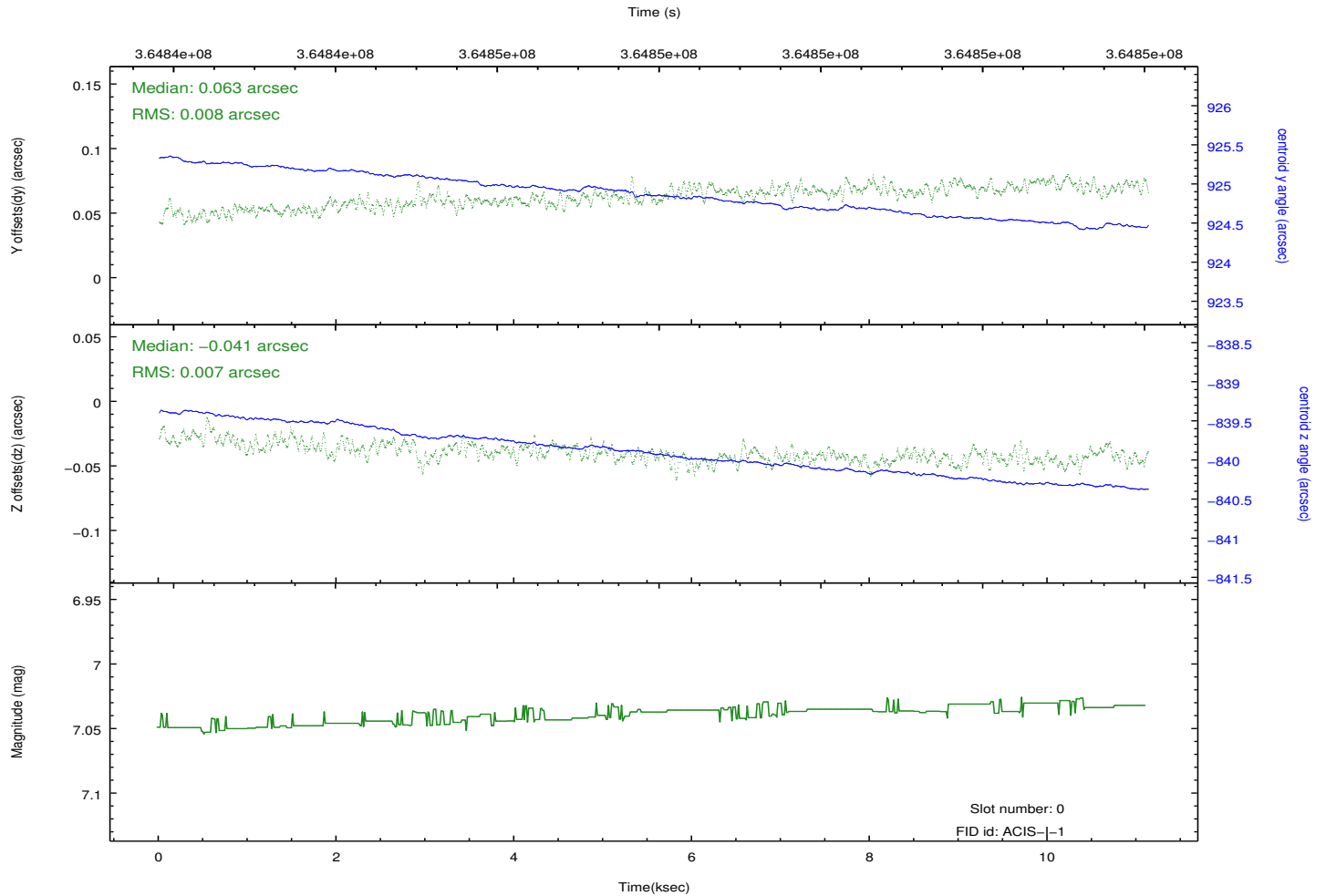
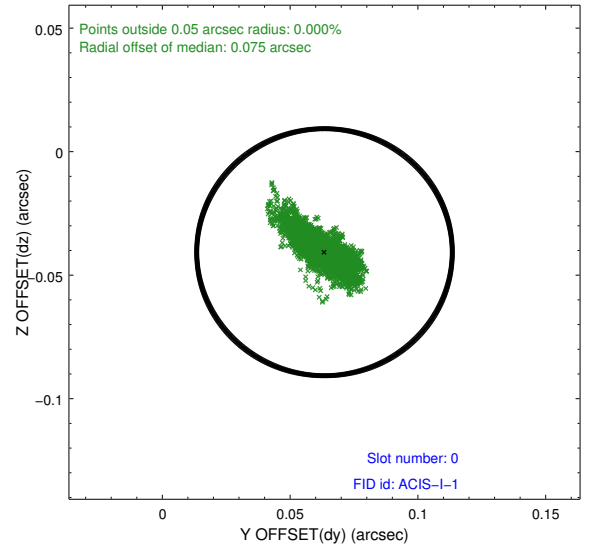
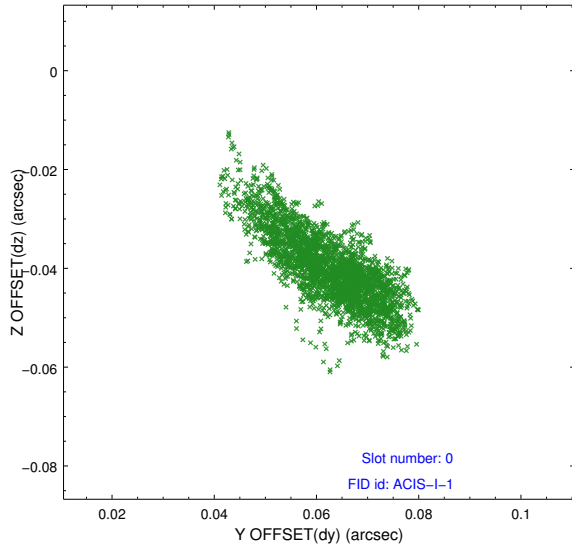


## 2.4.5 Slot 7

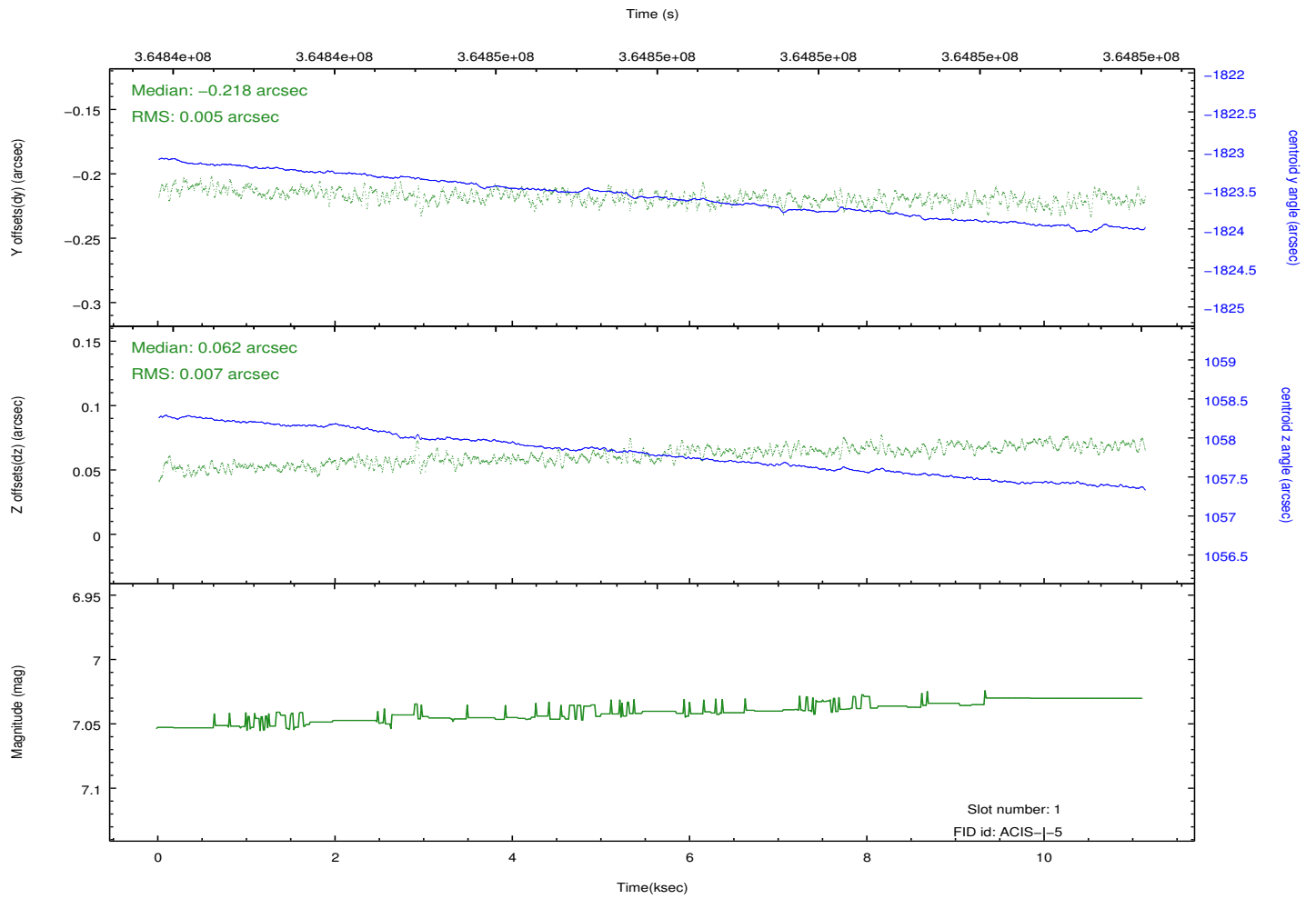
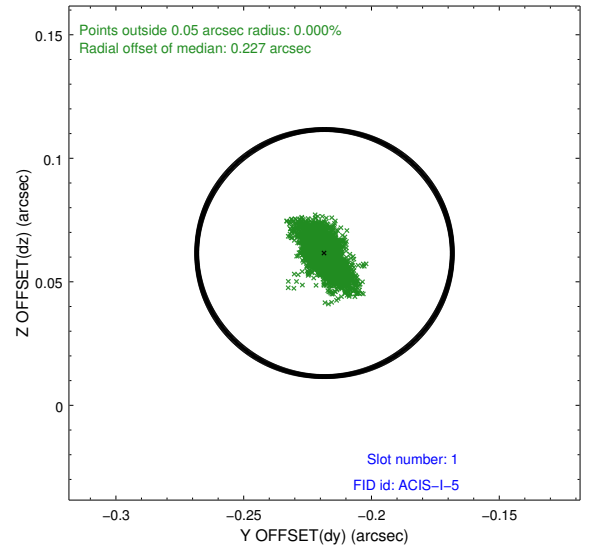
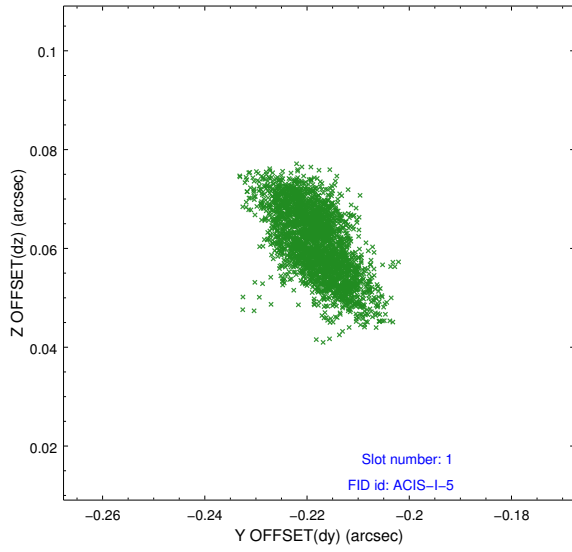


## 2.5 FID Slots

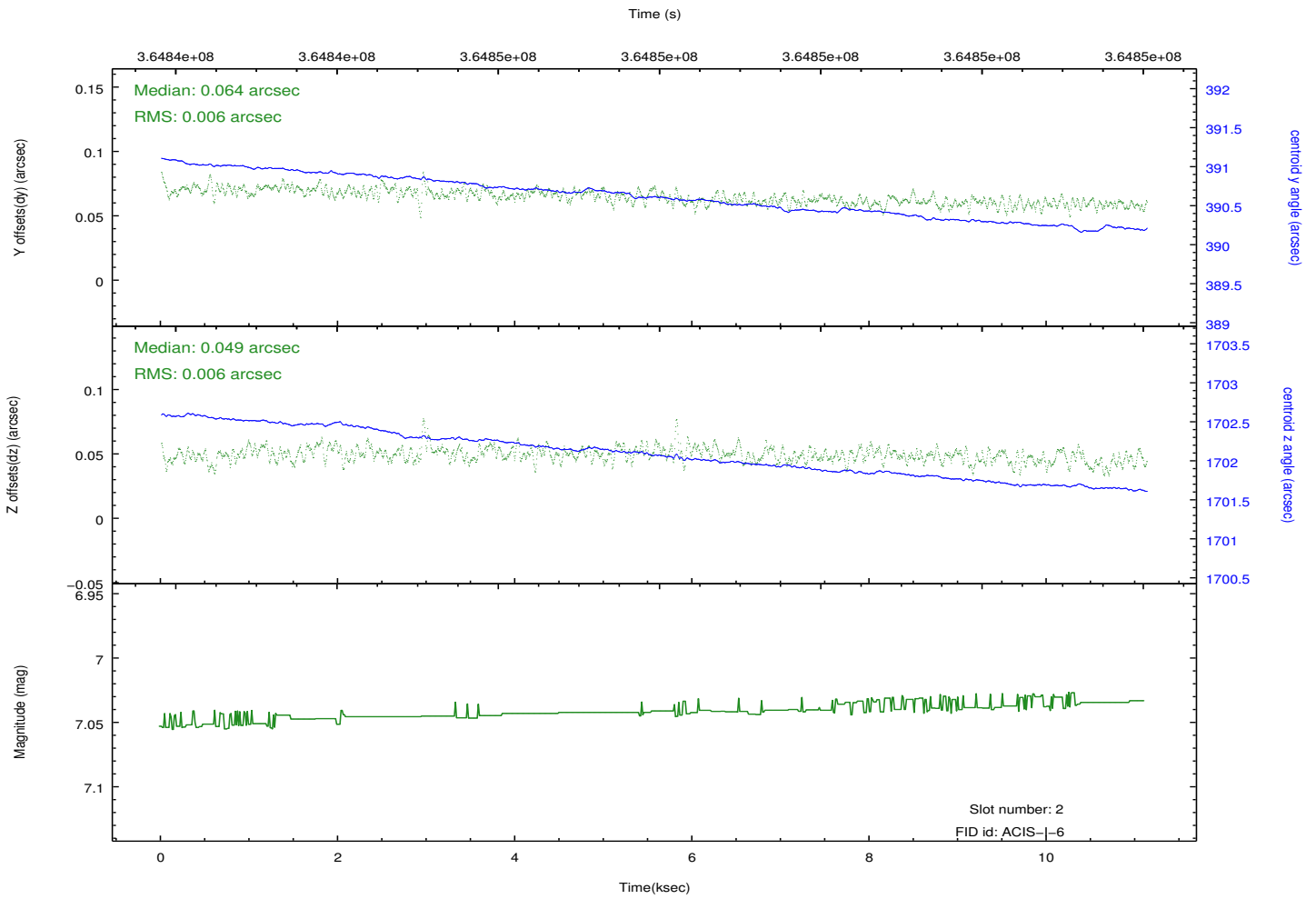
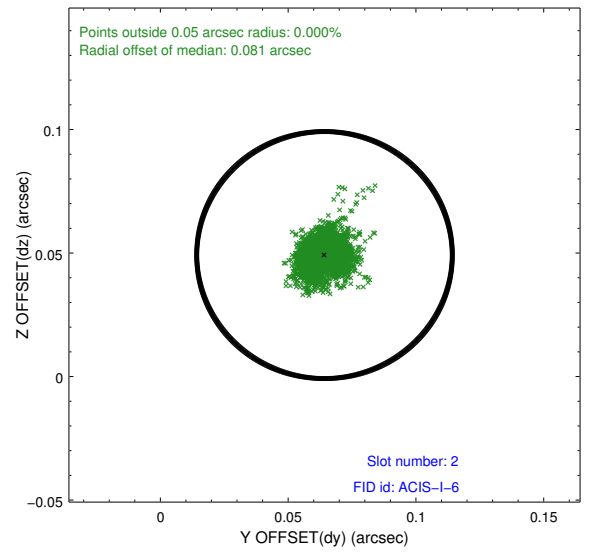
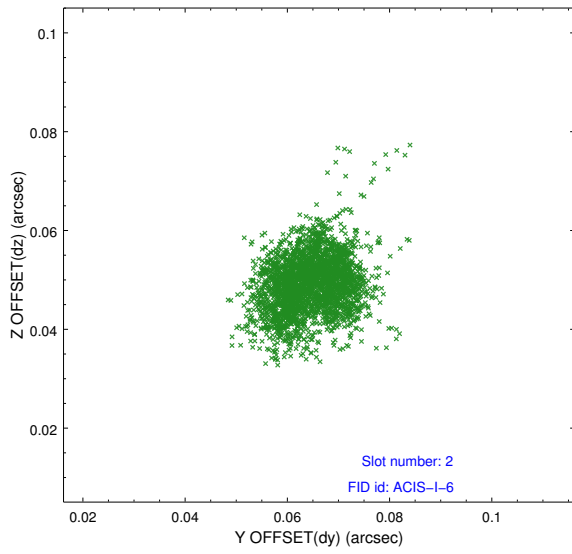
### 2.5.1 Slot 0



## 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)      | 2012.06.13 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 10.6618043 |

## A.2 Comments

Joint proposal with HST.