

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10975 - L2 Version 2  
Chandra X-Ray Center

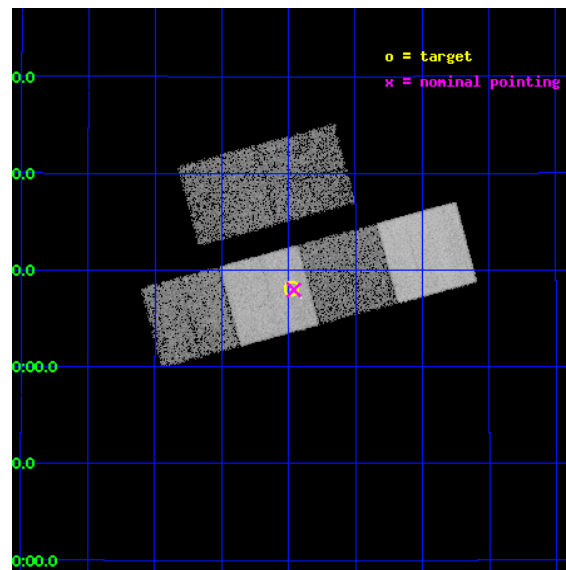
L2 Processing Date : Jun 12 2012

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# 1 Front

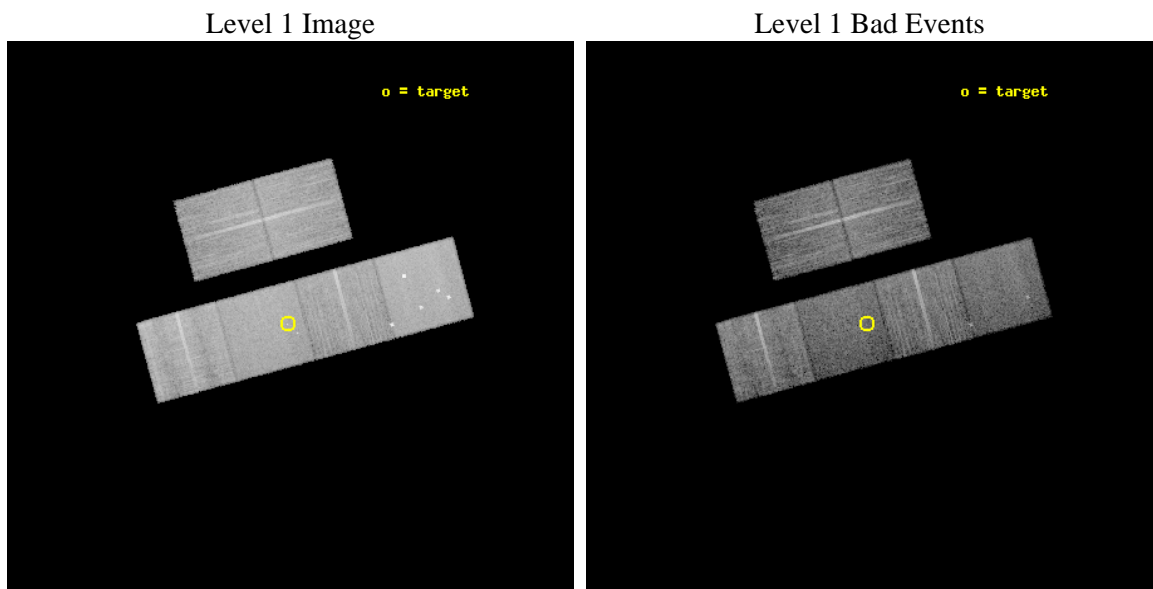
|          |  |   |
|----------|--|---|
| seq_num  | 200607   | Sequence number                             |
| obs_id   | 10975  | Observation id                              |
| title    | X-ray emission from the planet-bearing A-type star HR 8799 ? | Propo                                       |
| observer | Dr. Jan Robrade  | Principal investigator                      |
| object   | HR 8799  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 346.87   | Observer's specified target RA [deg]        |
| dec_targ | 21.134139  | Observer's specified target Dec [deg]       |
| ra_nom   | 346.86505362796  | Nominal RA [deg]                            |
| dec_nom  | 21.132776184467  | Nominal Dec [deg]                           |
| roll_nom | 164.88951560762  | Nominal Roll [deg]                          |
| revision | 2  | Processing version of data                  |
| ontime   | 10111.999962389  | Sum of GTIs [s]                             |
| livetime | 9983.9557301503  | Livetime [s]                                |
| ontime2  | 10111.999962389  | Sum of GTIs [s]                             |
| ontime3  | 10108.759021819  | Sum of GTIs [s]                             |
| ontime5  | 10111.999962389  | Sum of GTIs [s]                             |
| ontime6  | 10111.999962389  | Sum of GTIs [s]                             |
| ontime7  | 10111.999962389  | Sum of GTIs [s]                             |
| ontime8  | 10111.999962389  | Sum of GTIs [s]                             |
| l2events | 133599   | Number of level 2 events                    |



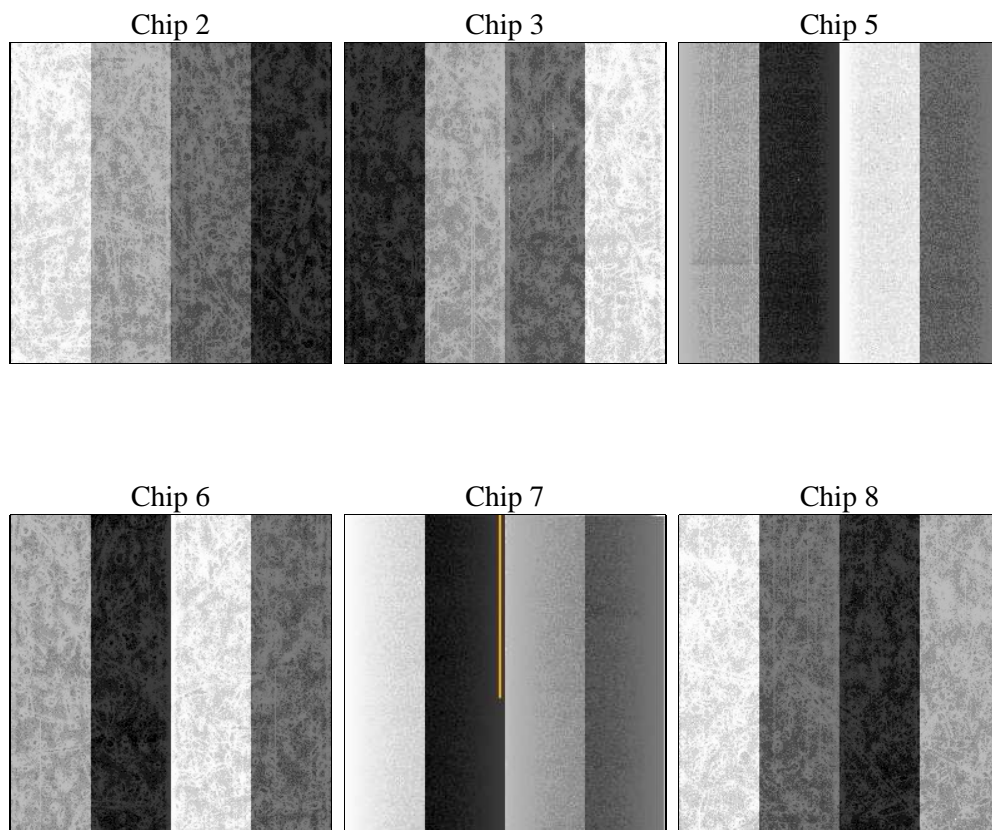
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 2                   | Obi number                     | sched_exp_time | 10054.091000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 10111.999962389 | Sum of GTIs [s]                         |
| caldsver | 4.4.10              | &#160                          | ontime2        | 10111.999962389 | Sum of GTIs [s]                         |
| date     | 2012-06-12T14:06:49 | Date and time of file creation | ontime3        | 10108.759021819 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 10111.999962389 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 10111.999962389 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 10111.999962389 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 10111.999962389 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 602198          | Number of level 1 events                |

### 2.1.4 Events

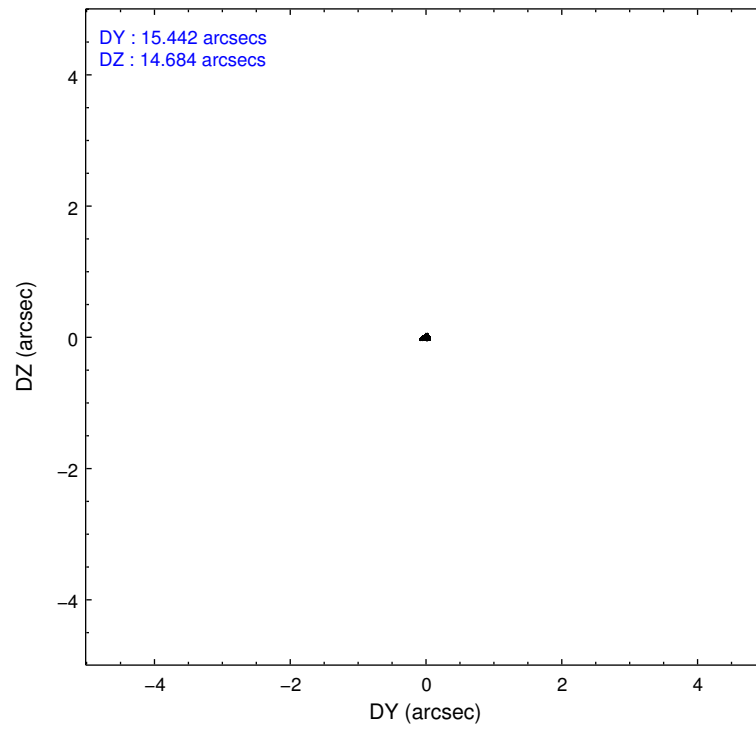
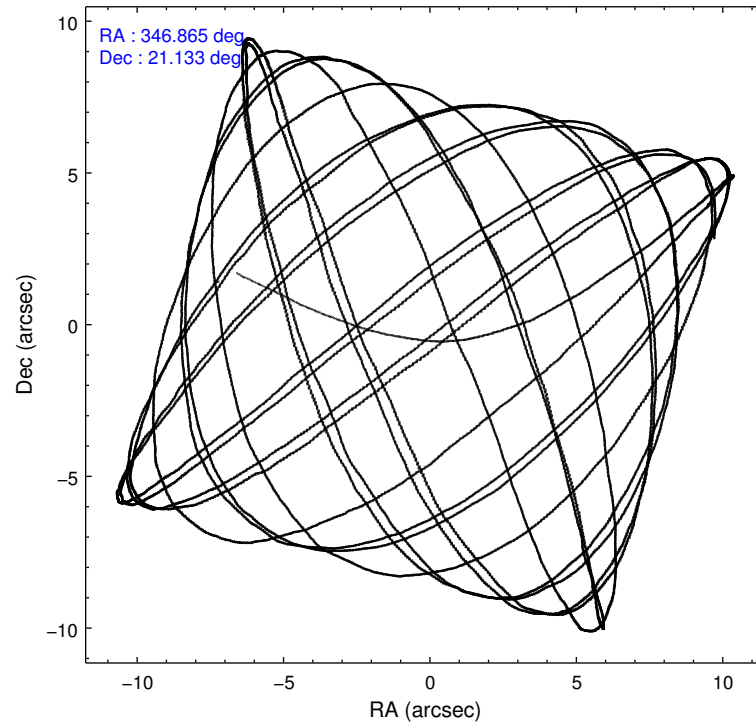
|                 | ccd 2 | ccd 3 | ccd 5  | ccd 6 | ccd 7  | ccd 8  |                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|--------|-------|--------|--------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 92126 | 82992 | 128778 | 86970 | 101252 | 110080 | grade 0 events | 3135  | 2800  | 9519  | 3188  | 4203  | 8276  |
| rejected events | 83356 | 74876 | 62848  | 78041 | 55471  | 81910  |                | 3%    | 3%    | 7%    | 3%    | 4%    | 7%    |
| rejected %      | 90%   | 90%   | 48%    | 89%   | 54%    | 74%    | grade 1 events | 69    | 55    | 447   | 47    | 126   | 109   |
|                 |       |       |        |       |        |        |                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
|                 |       |       |        |       |        |        | grade 2 events | 2250  | 1810  | 18970 | 1902  | 9317  | 6684  |
|                 |       |       |        |       |        |        |                | 2%    | 2%    | 14%   | 2%    | 9%    | 6%    |
|                 |       |       |        |       |        |        | grade 3 events | 899   | 895   | 2479  | 937   | 4075  | 3028  |
|                 |       |       |        |       |        |        |                | 0%    | 1%    | 1%    | 1%    | 4%    | 2%    |
|                 |       |       |        |       |        |        | grade 4 events | 855   | 952   | 2362  | 923   | 4146  | 2788  |
|                 |       |       |        |       |        |        |                | 0%    | 1%    | 1%    | 1%    | 4%    | 2%    |
|                 |       |       |        |       |        |        | grade 5 events | 2997  | 3592  | 9688  | 3570  | 10529 | 5269  |
|                 |       |       |        |       |        |        |                | 3%    | 4%    | 7%    | 4%    | 10%   | 4%    |
|                 |       |       |        |       |        |        | grade 6 events | 1634  | 1664  | 32648 | 1981  | 24064 | 7404  |
|                 |       |       |        |       |        |        |                | 1%    | 2%    | 25%   | 2%    | 23%   | 6%    |
|                 |       |       |        |       |        |        | grade 7 events | 80287 | 71224 | 52665 | 74422 | 44792 | 76522 |
|                 |       |       |        |       |        |        |                | 87%   | 85%   | 40%   | 85%   | 44%   | 69%   |

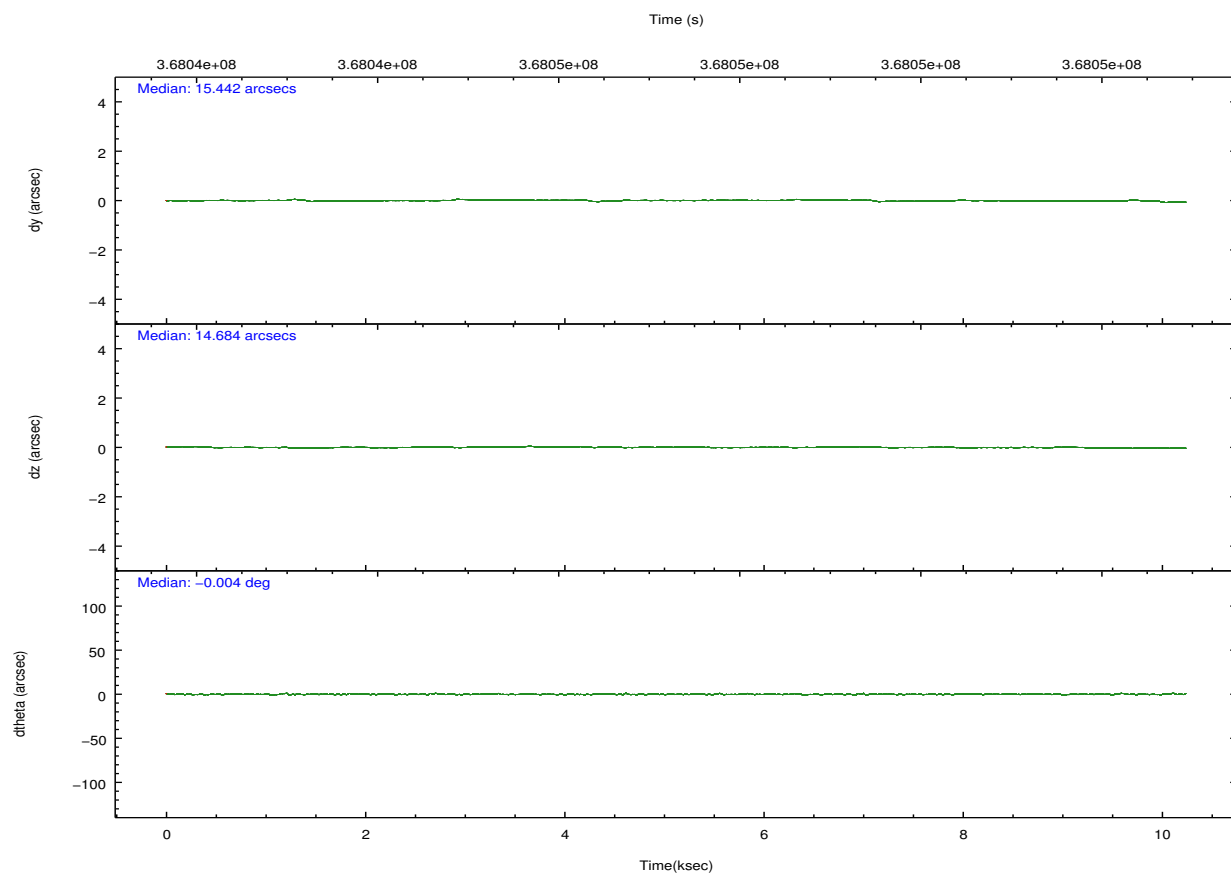
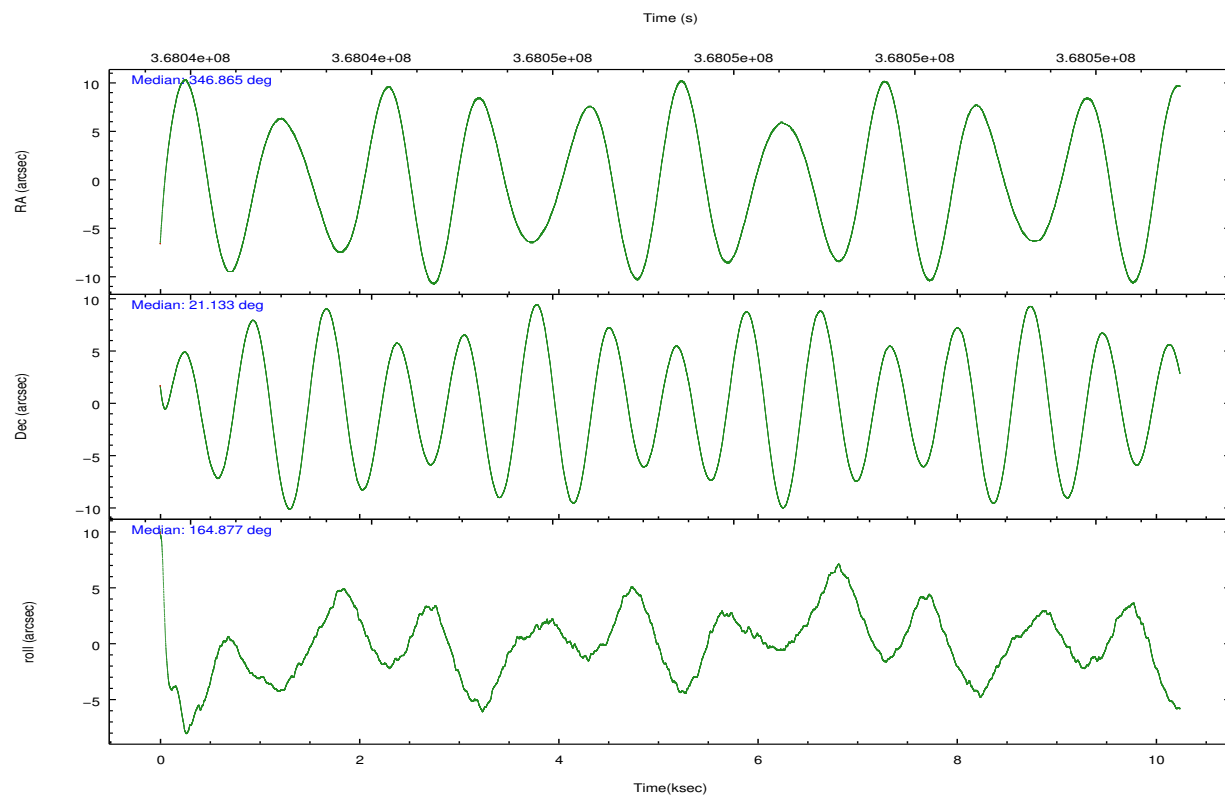


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-235678         | ACIS-235678          | 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                 | 346.893240          | 346.8650536279598    | CCD I2 on                             | O1        | Y       |
| [deg] Pointing Dec                | 21.140147           | 21.13277618446671    | CCD I3 on                             | O2        | Y       |
| [deg] Pointing Roll               | 164.722703          | 164.8895156076218    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | Y         | Y       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | Y         | 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                             | Y         | Y       |
| [s] Observation start time (MET)  | 368042358.184000    | 368041342.57538      | CCD S5 on                             | N         | N       |
| Observation start date            | 2009-08-30T17:58:12 | 2009-08-30T17:42:22  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 368052412.184000    | 368052629.87594      | On-chip summing requested             | N         | N       |
| Observation end date              | 2009-08-30T20:45:46 | 2009-08-30T20:50:29  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.2     |

## 2.3 Aspect



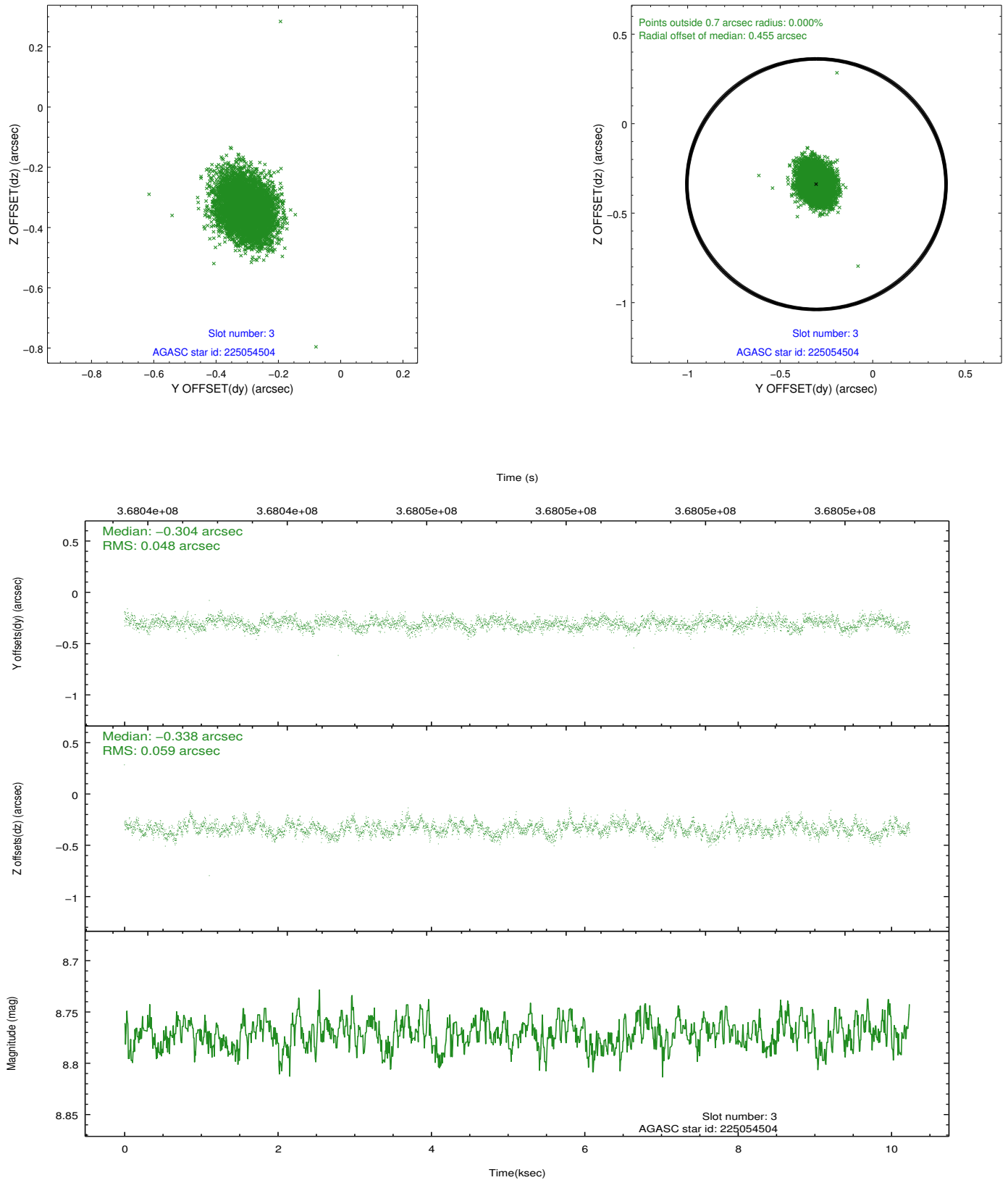


### Slot Statistics

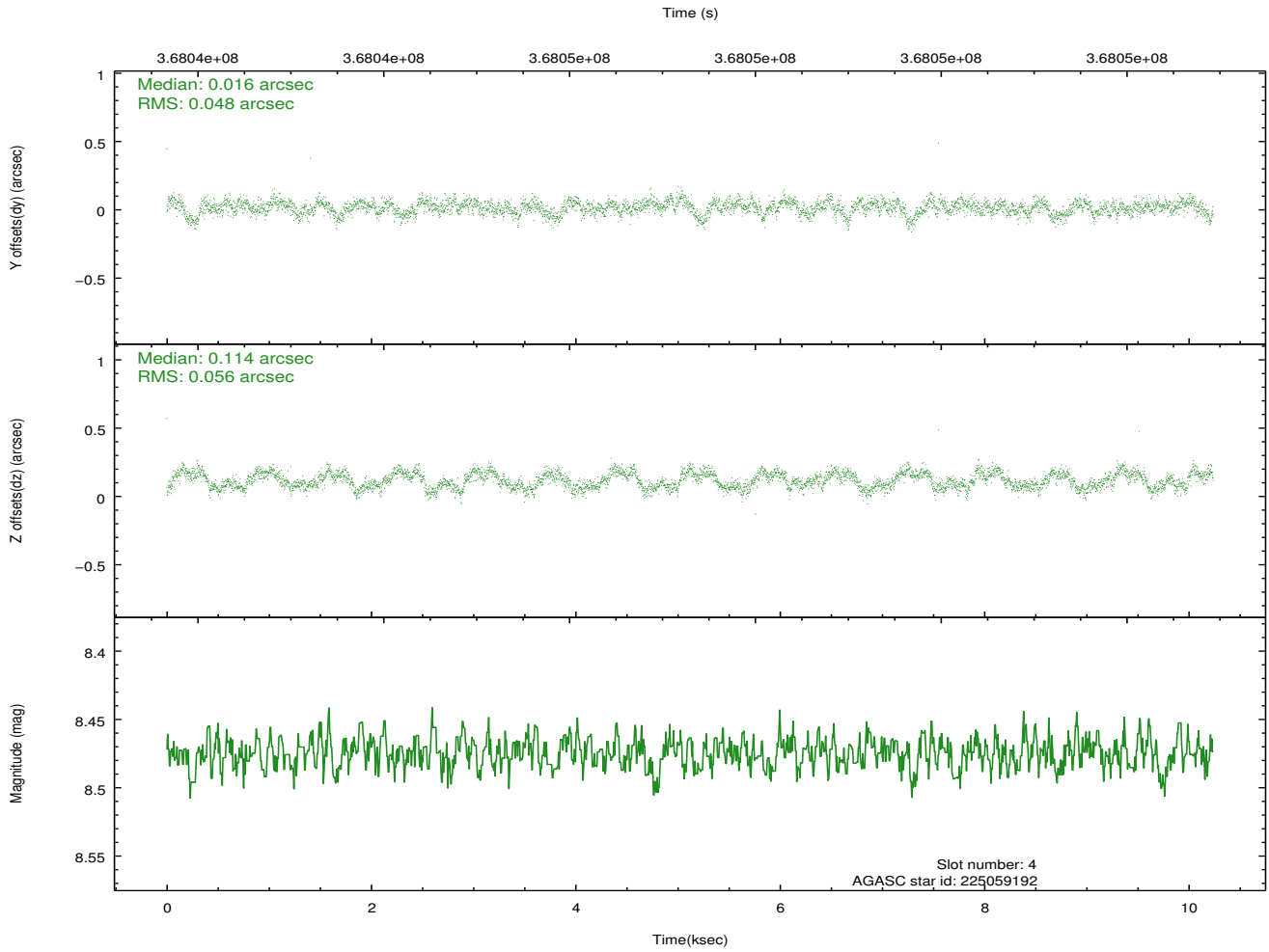
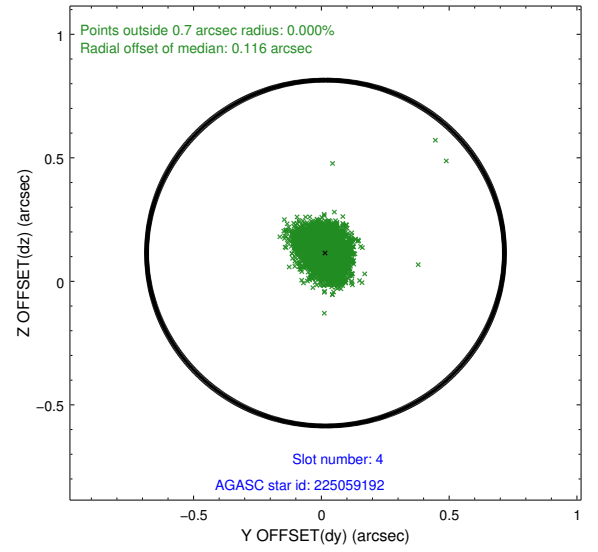
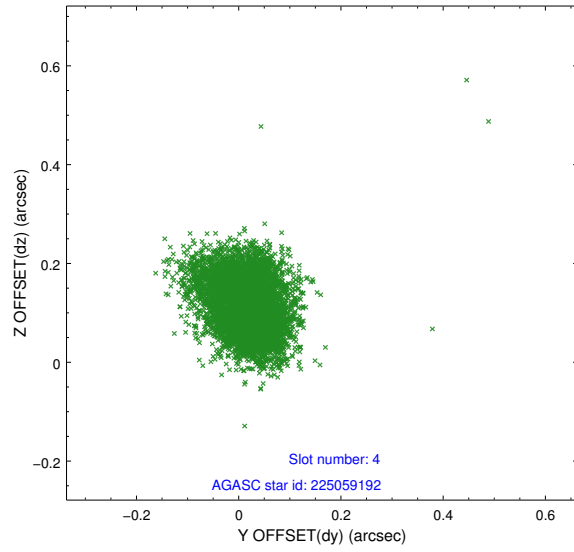
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 6.94 | 2498  | -0.099 | -0.038 | 0.006 | 0.011 | 0.000000   | 0.000000  | -768.51  | -1736.05 |
| 1    | FID    | ACIS-S-4  | 7.03 | 2498  | 0.205  | 0.058  | 0.006 | 0.011 | 0.000000   | 0.000000  | 2144.83  | 172.02   |
| 2    | FID    | ACIS-S-5  | 7.05 | 2498  | -0.137 | -0.011 | 0.006 | 0.011 | 0.000000   | 0.000000  | -1820.74 | 166.18   |
| 3    | GUIDE  | 225054504 | 8.77 | 4993  | -0.304 | -0.338 | 0.080 | 0.128 | 346.273176 | 20.856067 | 1743.56  | 1532.49  |
| 4    | GUIDE  | 225059192 | 8.48 | 4995  | 0.016  | 0.114  | 0.078 | 0.123 | 346.465816 | 21.491066 | 1715.40  | -842.36  |
| 5    | GUIDE  | 225182240 | 9.24 | 4990  | 0.184  | 0.051  | 0.159 | 0.253 | 347.179254 | 21.621589 | -464.72  | -1924.51 |
| 6    | GUIDE  | 225182280 | 8.24 | 4996  | -0.144 | 0.102  | 0.081 | 0.131 | 346.669771 | 21.818613 | 1364.57  | -2159.88 |
| 7    | GUIDE  | 225182632 | 9.03 | 4992  | 0.228  | 0.081  | 0.094 | 0.149 | 346.905858 | 20.805601 | -357.75  | 1150.34  |

## 2.4 Star Slots

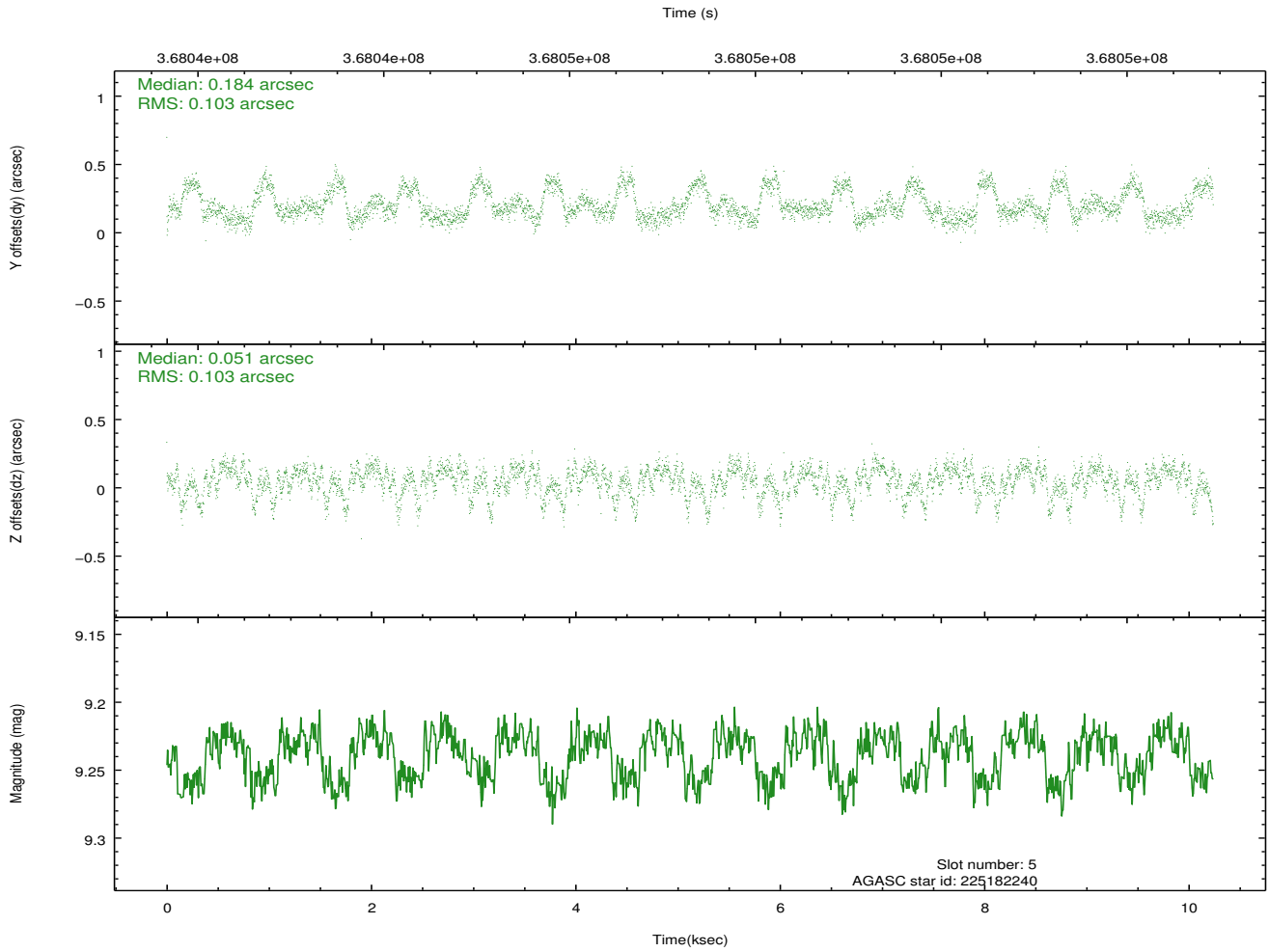
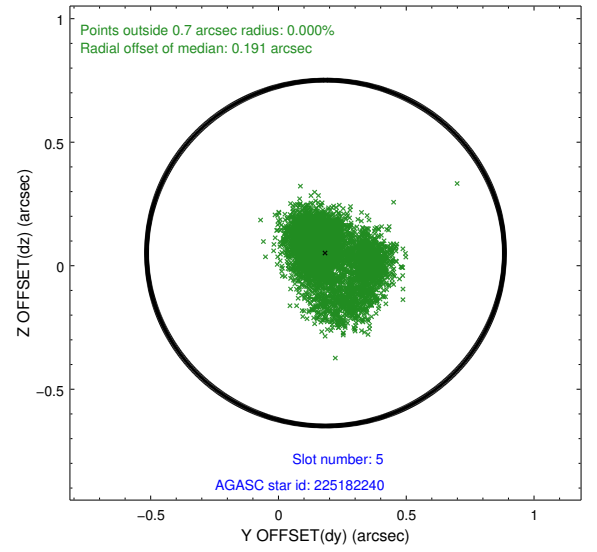
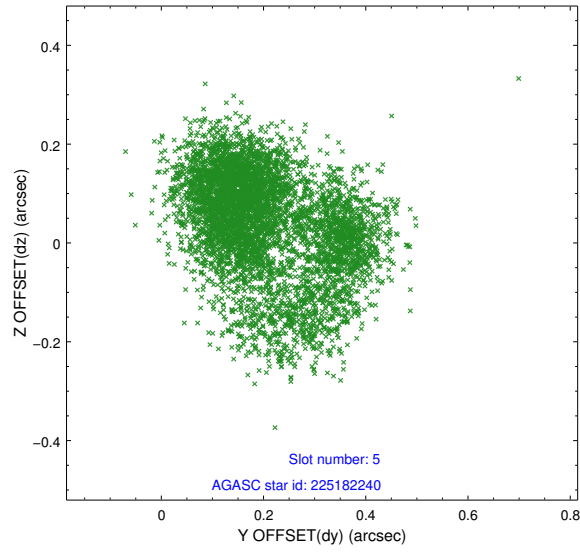
### 2.4.1 Slot 3



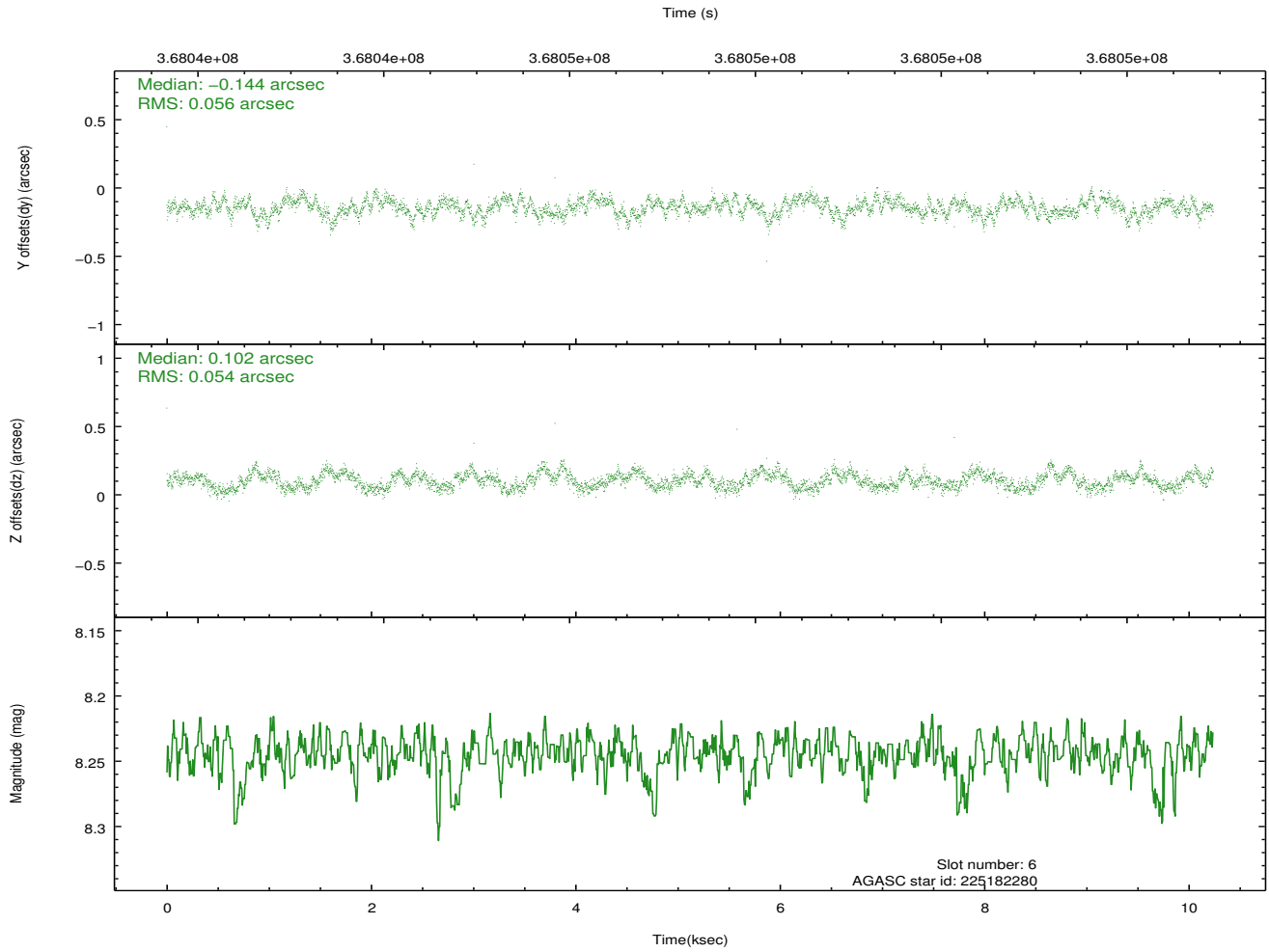
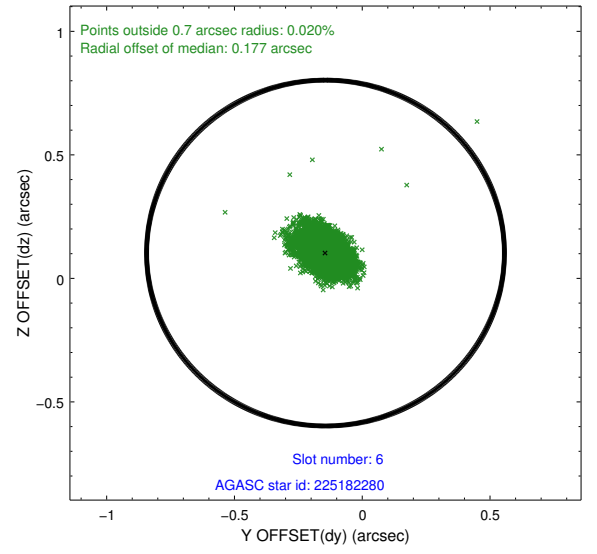
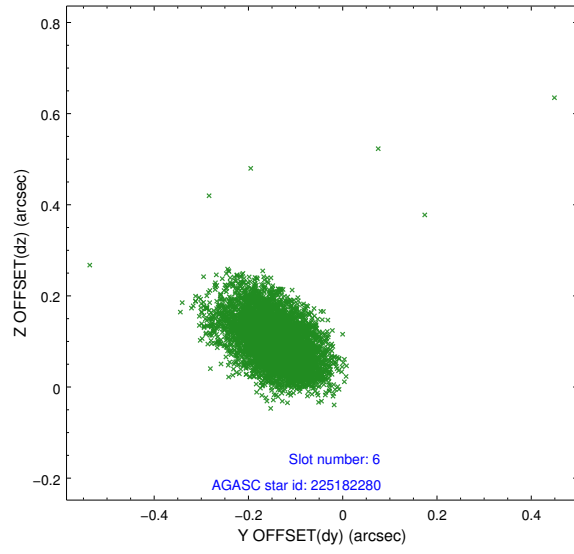
## 2.4.2 Slot 4



### 2.4.3 Slot 5

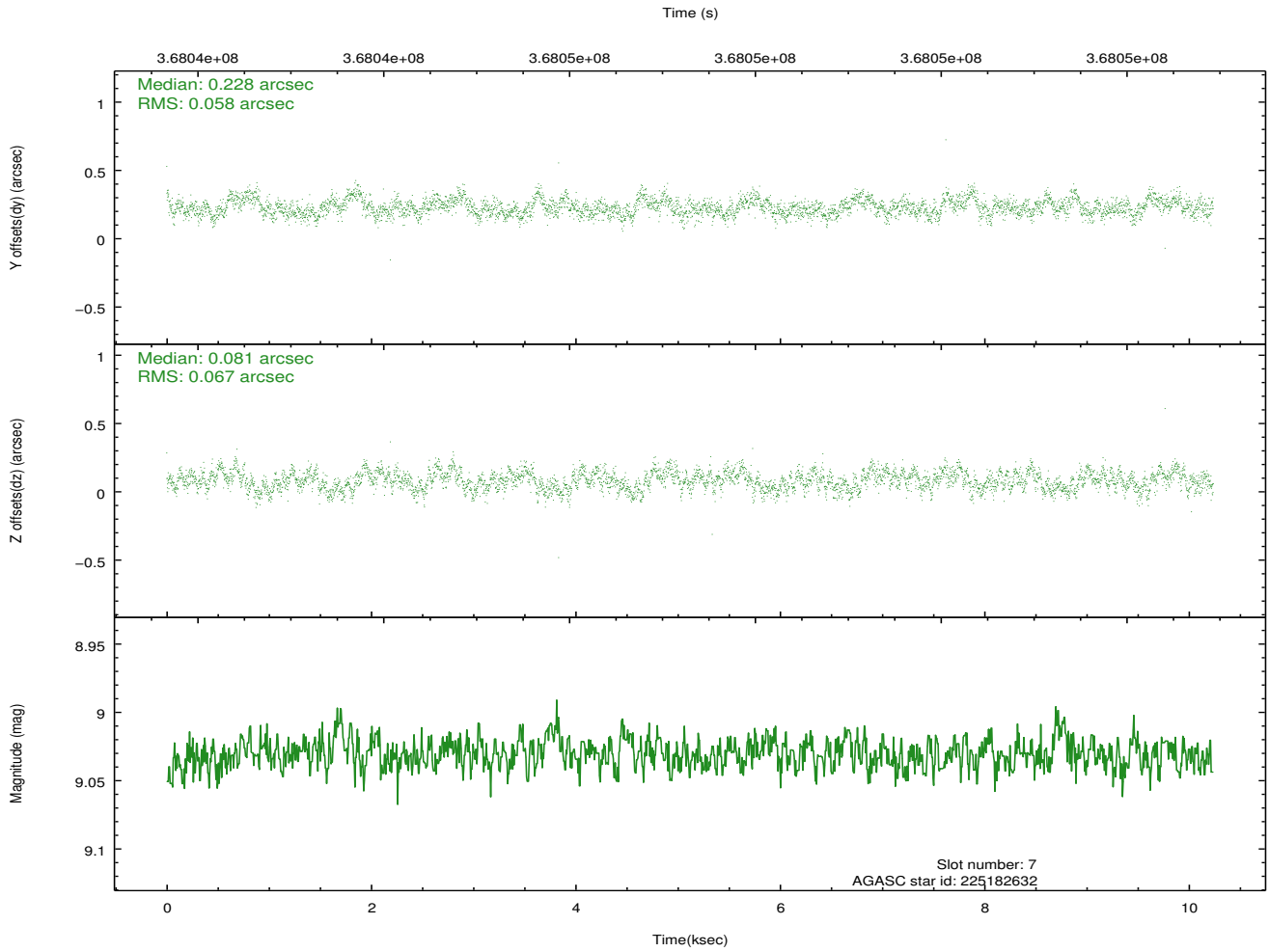
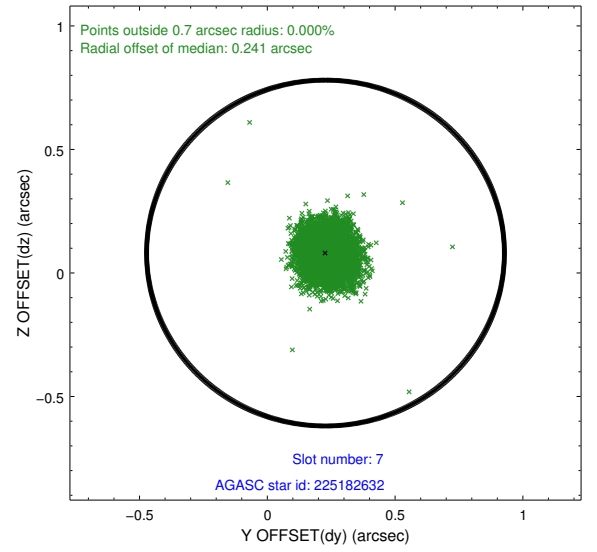
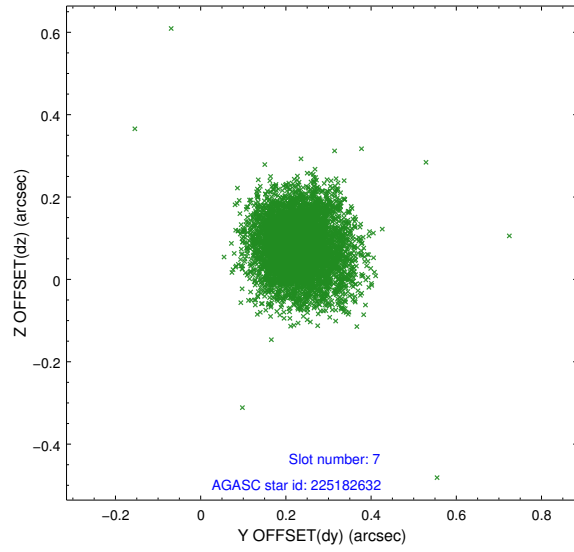


## 2.4.4 Slot 6



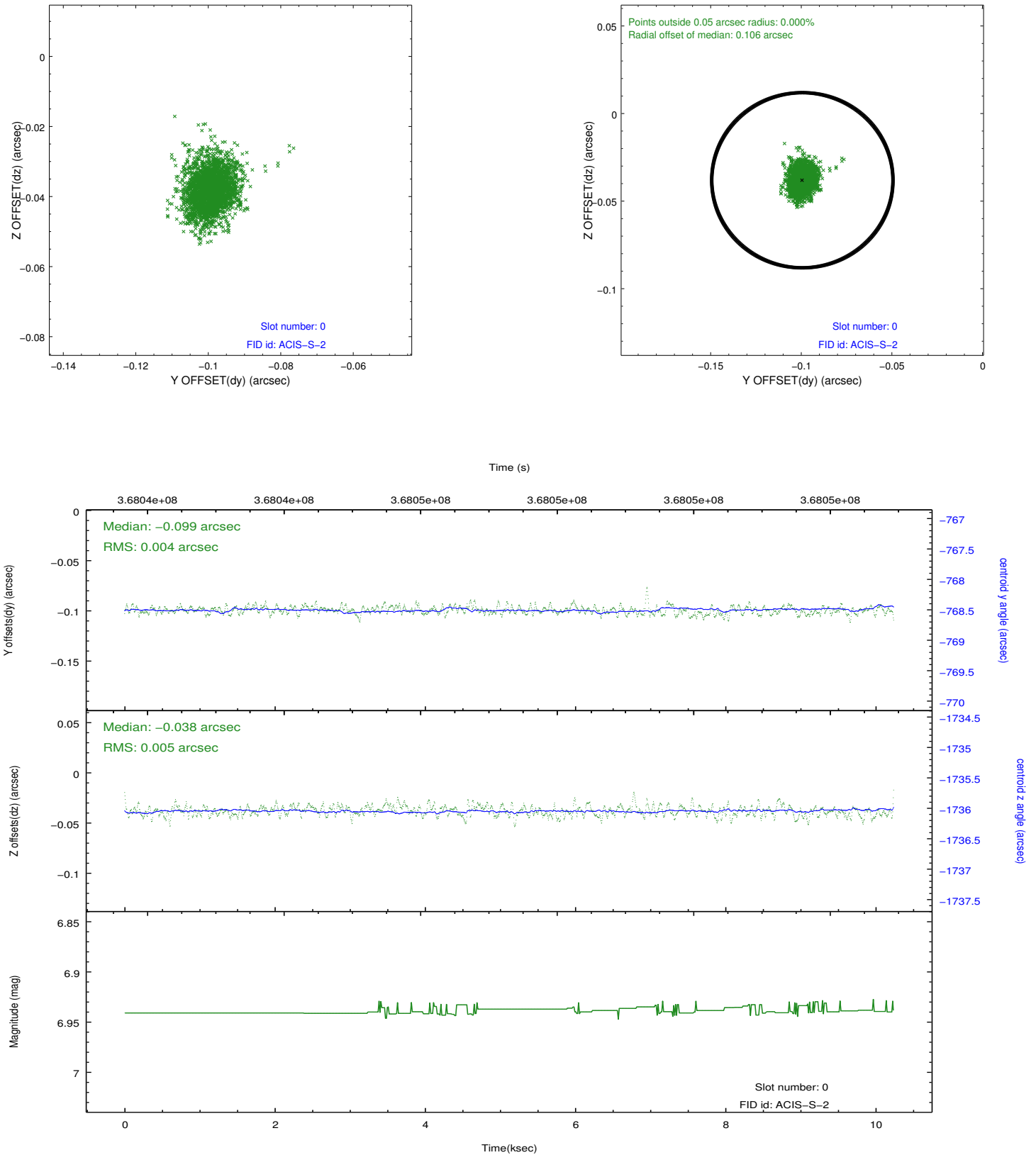


## 2.4.5 Slot 7

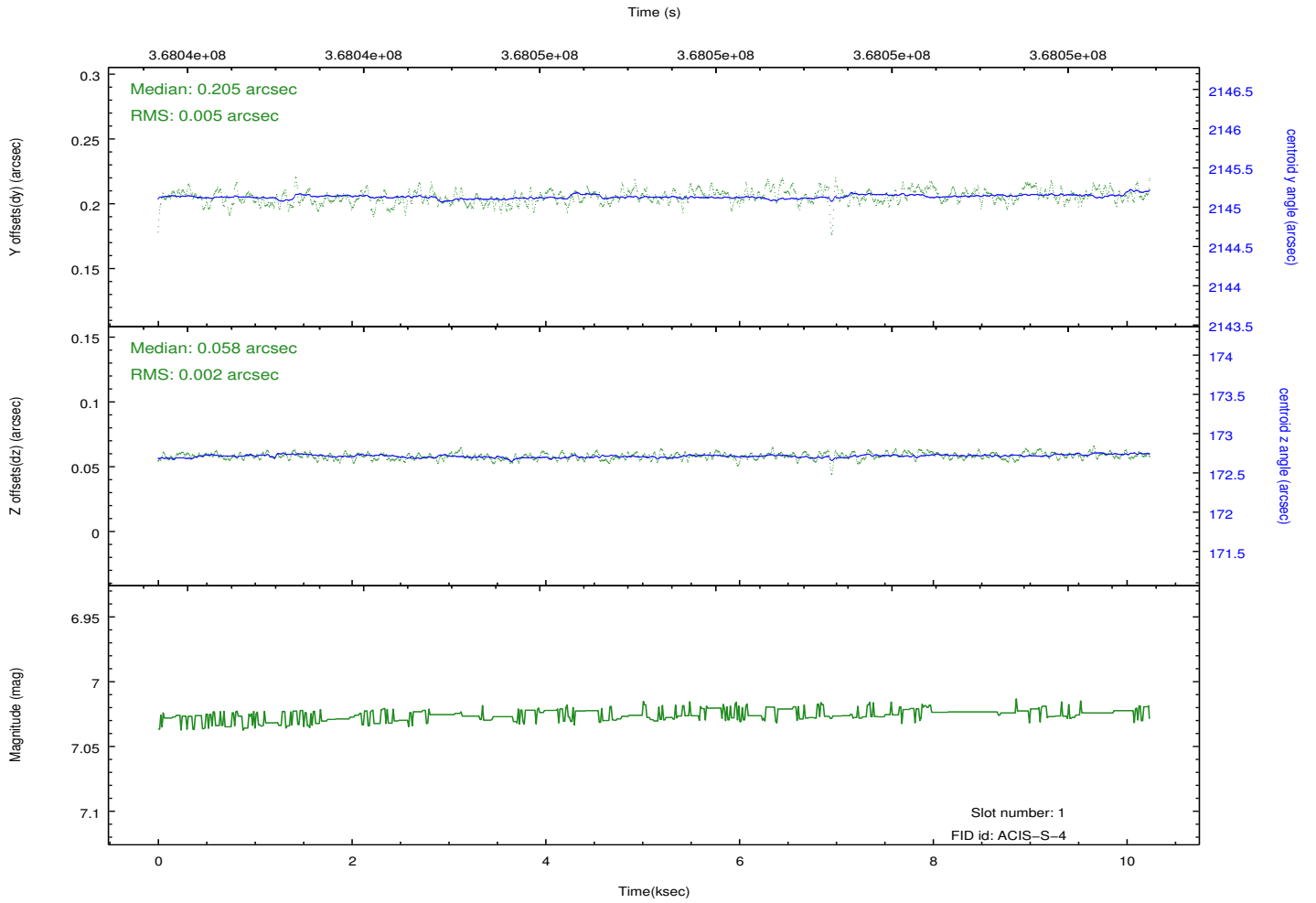
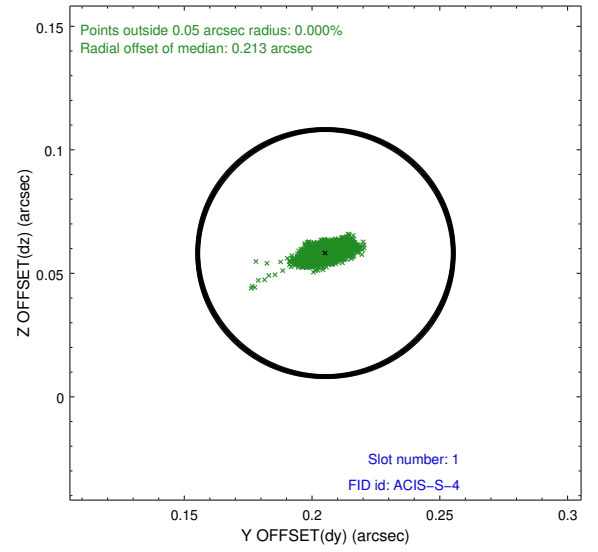
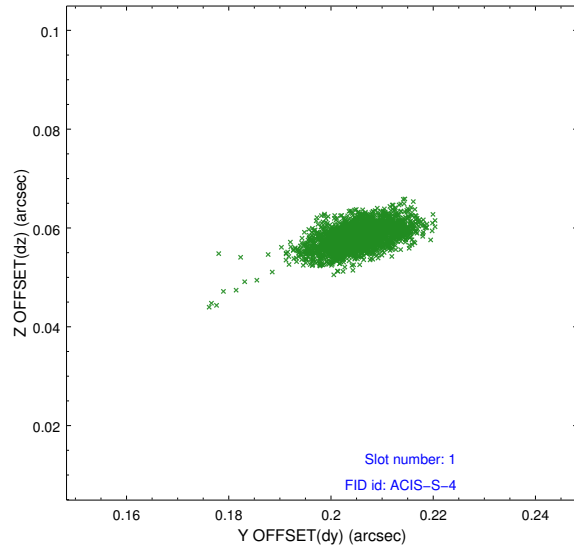


## 2.5 FID Slots

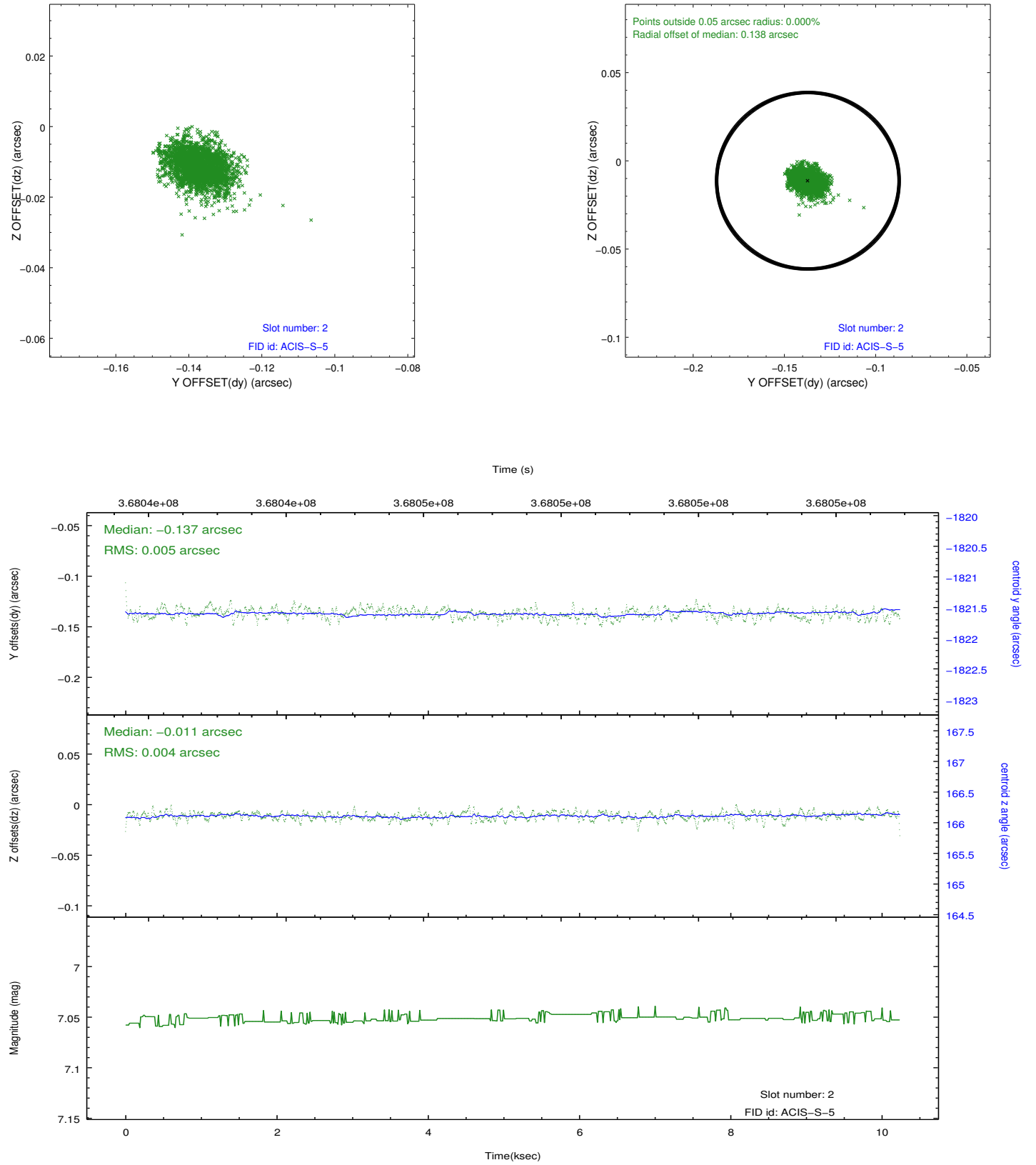
### 2.5.1 Slot 0



## 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)      | 2012.06.15 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 10.1119999 |

### A.2 Comments