

# V&V Reference Report

## L2 ASCDS Version : 7.6.7

Observation 5813 - L2 Version 002  
Chandra X-Ray Center

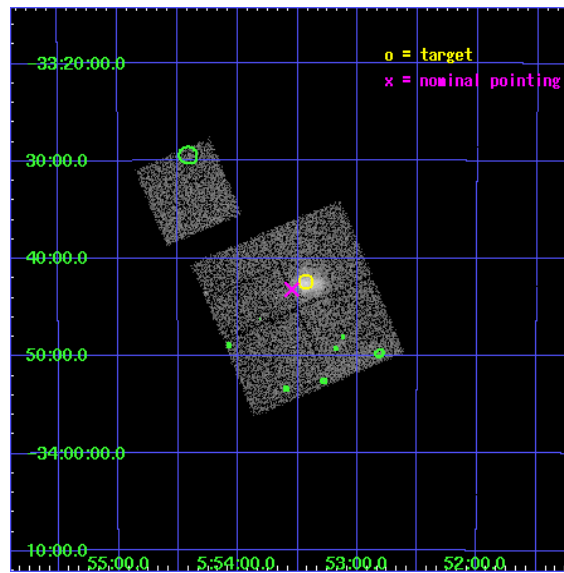
L2 Processing Date: Feb 15 2006

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# 1 Front

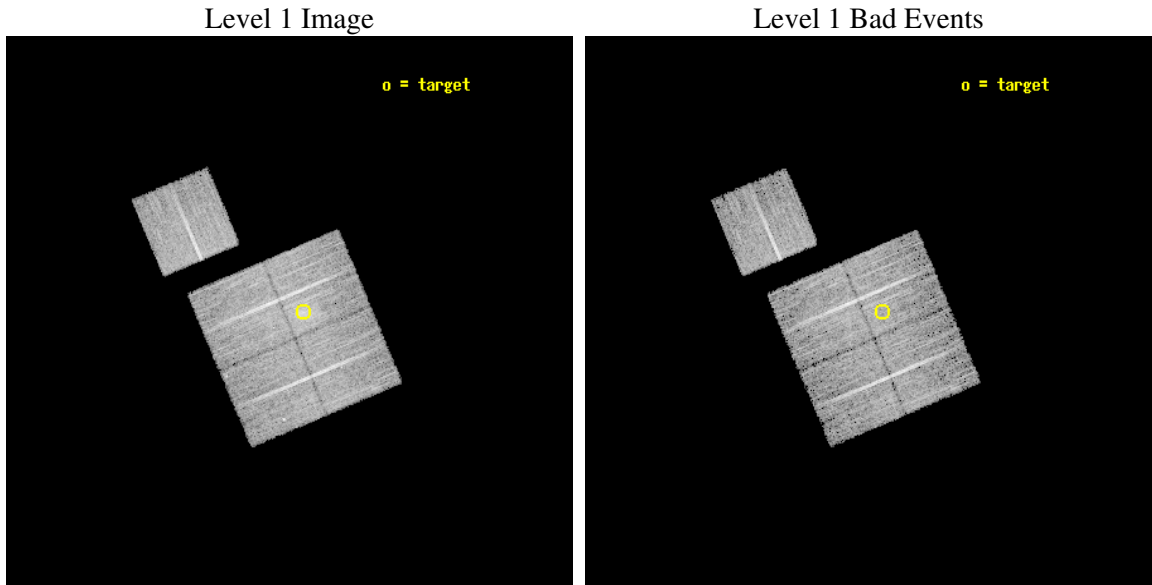
|           |   |
|-----------|---|
| seq_num   | 800526  |
| obs_id    | 5813  |
| title     | MACS: The most massive galaxy clusters at $z>0.3$ |
| observer  | Dr. Harald Ebeling                                |
| object    | MACSJ0553.4-3342                                  |
| dtcycle   | 0   |
| cycle     | P   |
| ra_targ   | 88.357417   |
| dec_targ  | -33.707806  |
| ra_nom    | 88.387076533666                                   |
| dec_nom   | -33.720266340811                                  |
| roll_nom  | 337.09121907075                                   |
| revision  | 2   |
| ontime    | 10074.999980628                                   |
| liveltime | 9943.3626887745                                   |
| ontime0   | 10071.858970433                                   |
| ontime1   | 10074.999980628                                   |
| ontime2   | 10074.999980628                                   |
| ontime3   | 10074.999980628                                   |
| ontime6   | 10074.999980628                                   |
| l2events  | 29538   |



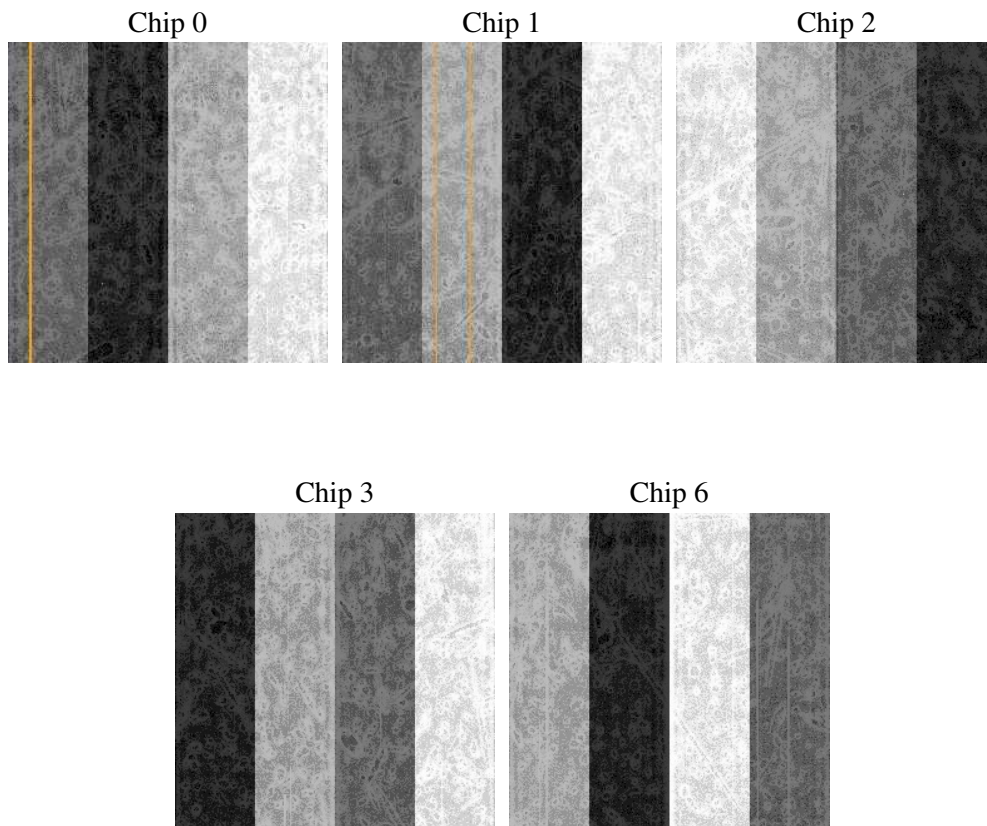
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |
|----------|---------------------|
| obi_num  | 0                   |
| ascdsver | 7.6.7               |
| caldbver | 3.2.1               |
| date     | 2006-02-16T01:51:26 |
| revision | 2                   |

|                |                 |
|----------------|-----------------|
| sched_exp_time | 10300.000000    |
| ontime         | 10079.51062429  |
| ontime0        | 10079.510644168 |
| ontime1        | 10082.651654363 |
| ontime2        | 10079.51062429  |
| ontime3        | 10079.51062429  |
| ontime6        | 10082.651654363 |
| l1events       | 294006          |

### 2.1.4 Events

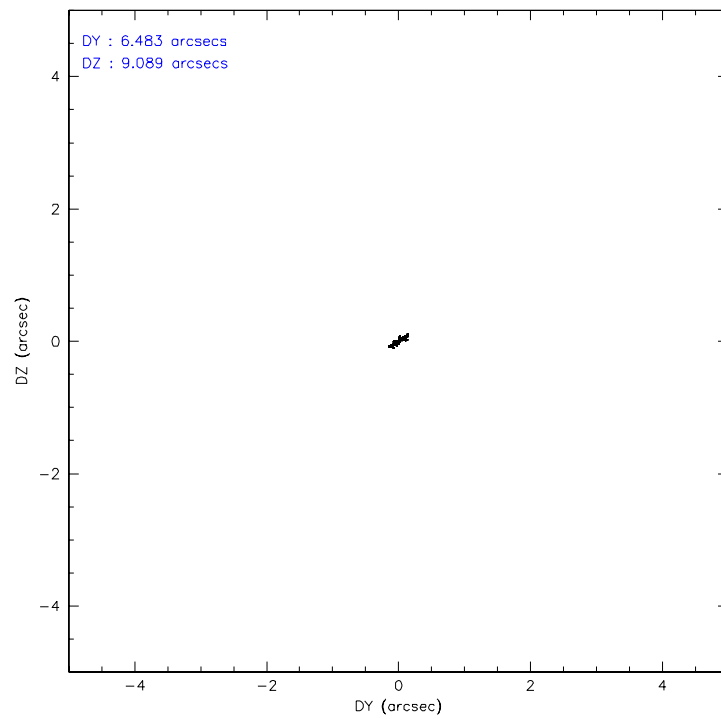
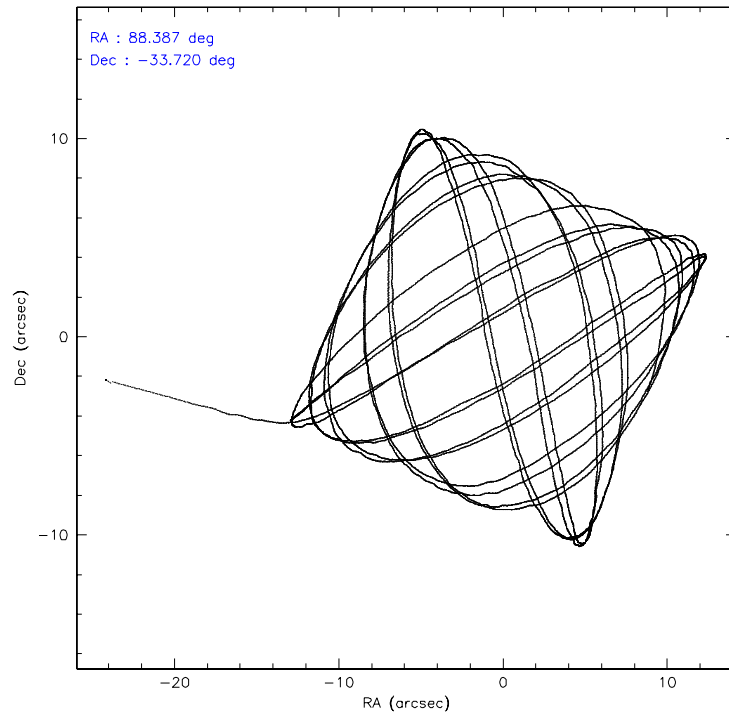
|                 | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 53920 | 56144 | 61066 | 63620 | 59256 |
| rejected events | 47588 | 49356 | 54947 | 53875 | 53394 |
| rejected %      | 88%   | 87%   | 89%   | 84%   | 90%   |

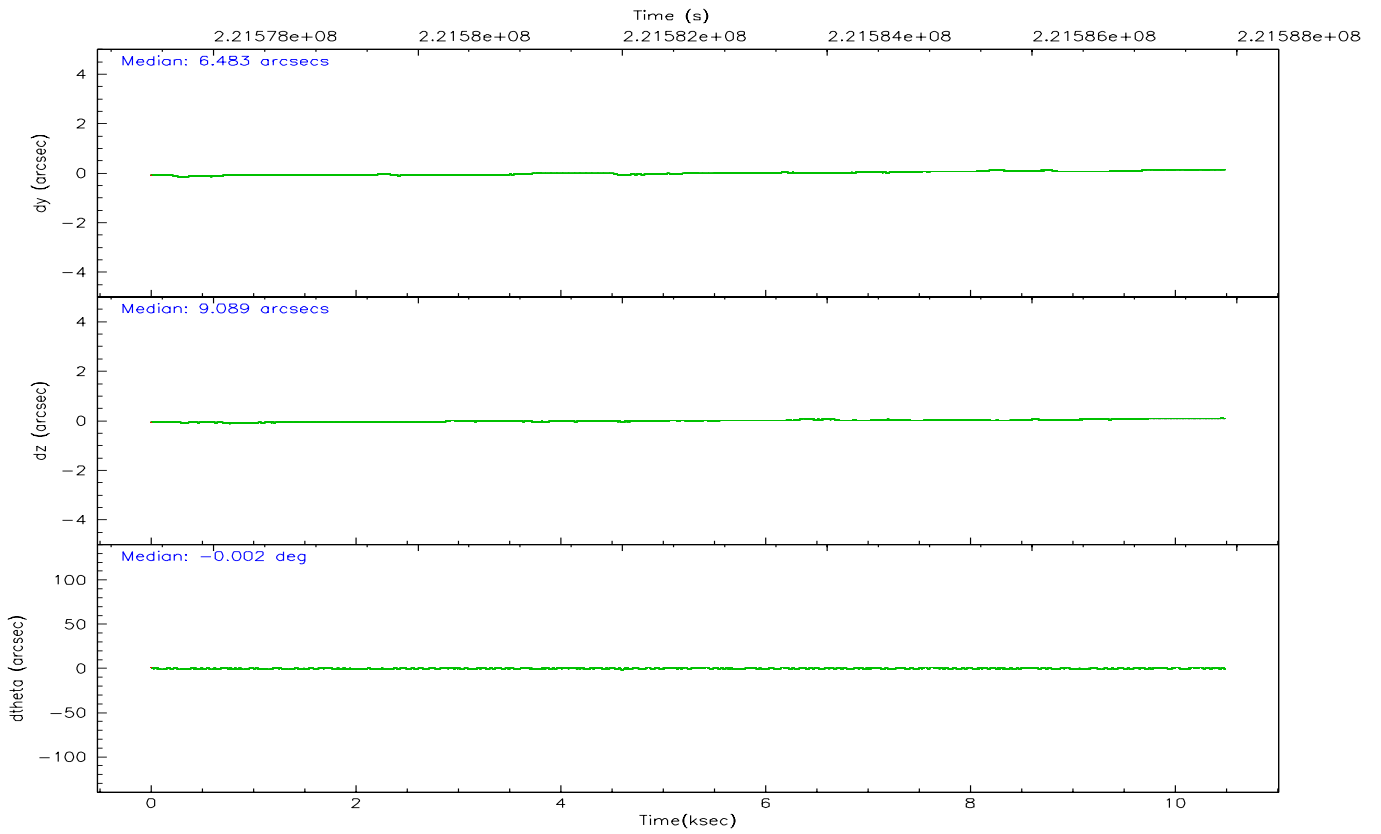
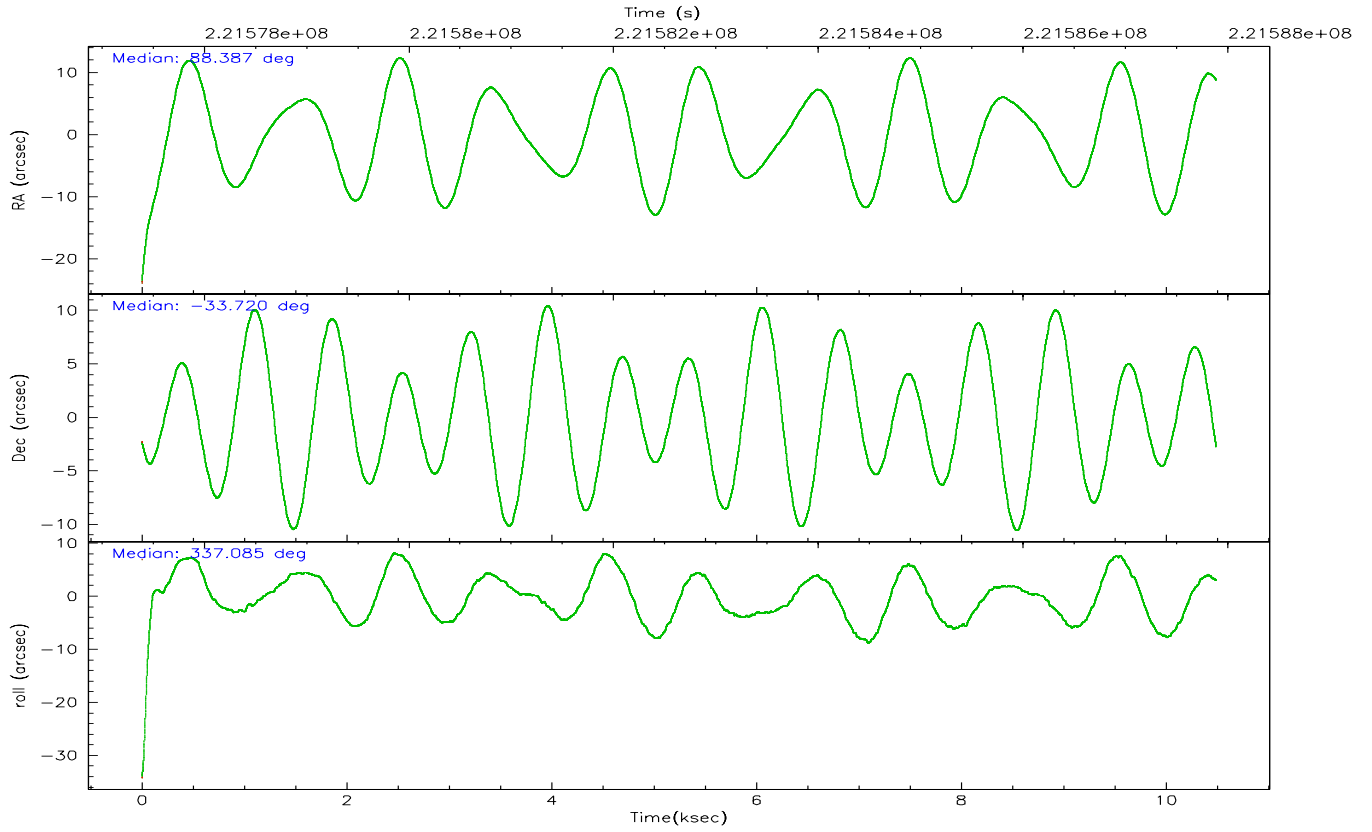
|                | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 2387  | 2490  | 2303  | 5385  | 2102  |
|                | 4%    | 4%    | 3%    | 8%    | 3%    |
| grade 1 events | 21    | 31    | 23    | 55    | 15    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1417  | 1444  | 1389  | 1645  | 1218  |
|                | 2%    | 2%    | 2%    | 2%    | 2%    |
| grade 3 events | 689   | 761   | 710   | 772   | 668   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 4 events | 662   | 736   | 641   | 738   | 668   |
|                | 1%    | 1%    | 1%    | 1%    | 1%    |
| grade 5 events | 2070  | 2168  | 2023  | 2373  | 2232  |
|                | 3%    | 3%    | 3%    | 3%    | 3%    |
| grade 6 events | 1179  | 1368  | 1080  | 1210  | 1210  |
|                | 2%    | 2%    | 1%    | 1%    | 2%    |
| grade 7 events | 45495 | 47146 | 52897 | 51442 | 51143 |
|                | 84%   | 83%   | 86%   | 80%   | 86%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                       | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number    | 6         | 6       |
| Detector                          | ACIS-01236          | ACIS-01236           | Obspar file type                | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status            | NONE      | UPDATED |
| Data mode                         | VFAINT              | VFAINT               | On-chip summing requested       | N         | N       |
| Observation mode                  | POINTING            | POINTING             | Subarray requested              | NONE      | NONE    |
| Pointing RA                       | 88.354438           | 88.38707653366602    | Alternating exposures requested | N         | N       |
| Pointing Dec                      | -33.723793          | -33.72026634081124   | Primary exposure time           | 0.000000  | 3.1     |
| Pointing Roll                     | 336.864446          | 337.0912190707518    |                                 |           |         |
| SIM focus pos (mm)                | -0.782348           | -0.7809083437167272  |                                 |           |         |
| SIM defocus (mm)                  | 0                   | 0.001439871863259334 |                                 |           |         |
| SIM translation stage pos (mm)    | -229.442463         | -229.4438428438578   |                                 |           |         |
| SIM translation stage offset (mm) | -4.15               | -4.148610159071865   |                                 |           |         |
| Observation start time            | 221577582.184000    | 221576627.86638      |                                 |           |         |
| Observation start date            | 2005-01-08T13:18:38 | 2005-01-08T13:03:47  |                                 |           |         |
| Observation end time              | 221587882.184000    | 221588887.37943      |                                 |           |         |
| Observation end date              | 2005-01-08T16:10:18 | 2005-01-08T16:28:07  |                                 |           |         |
| Read mode                         | TIMED               | TIMED                |                                 |           |         |

## 2.3 Aspect



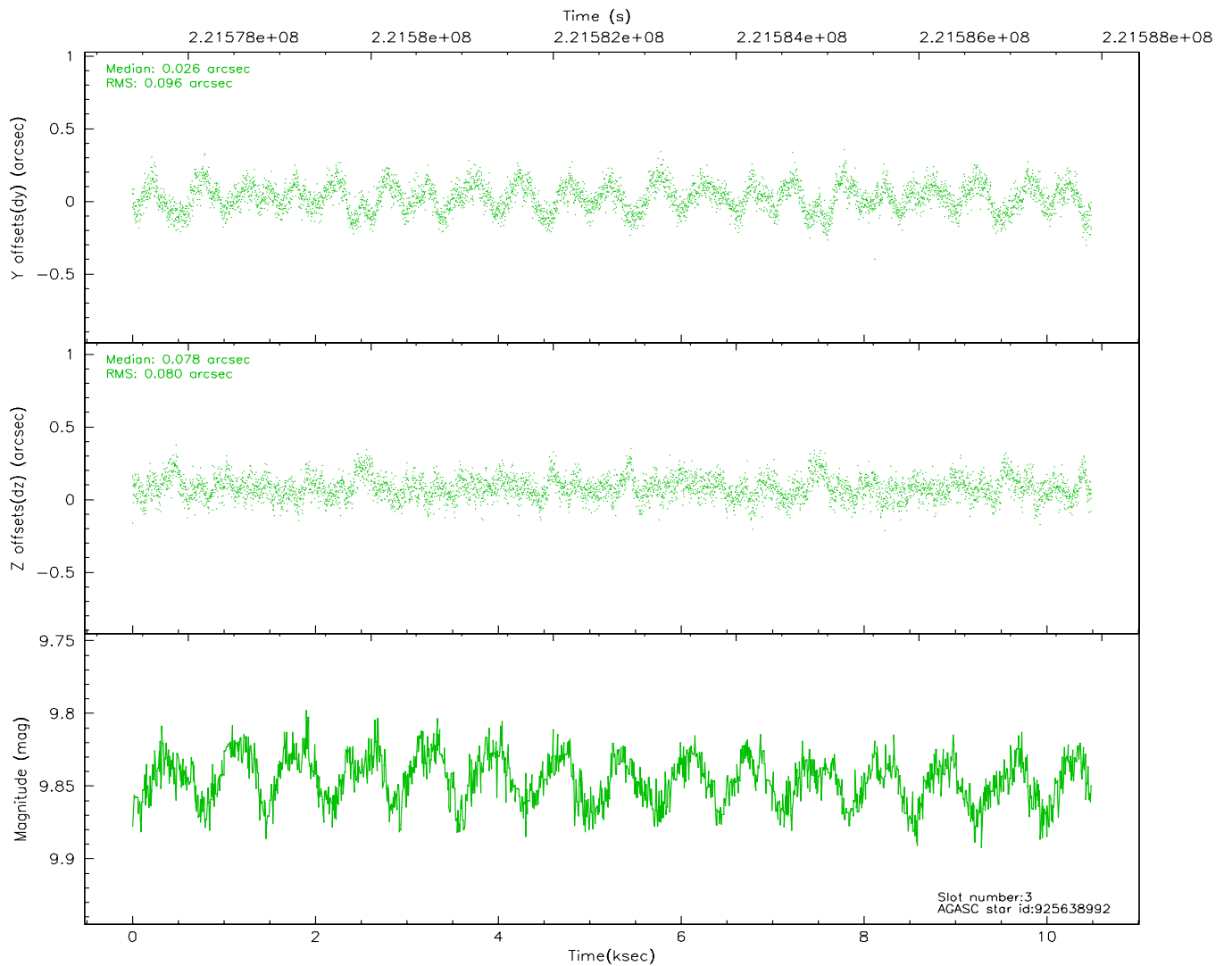
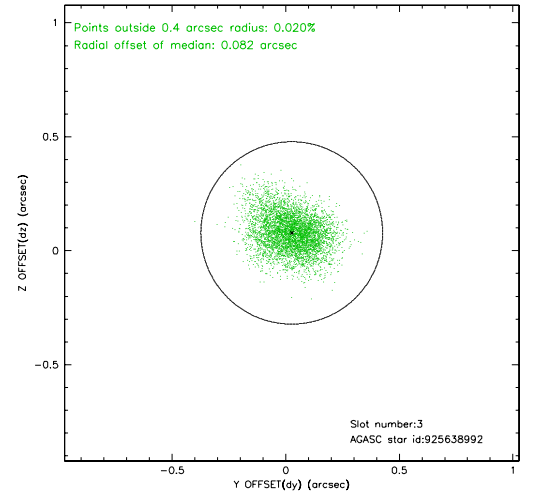
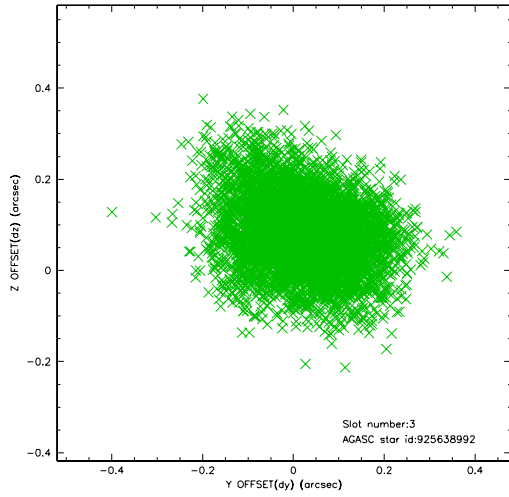


### Slot Statistics

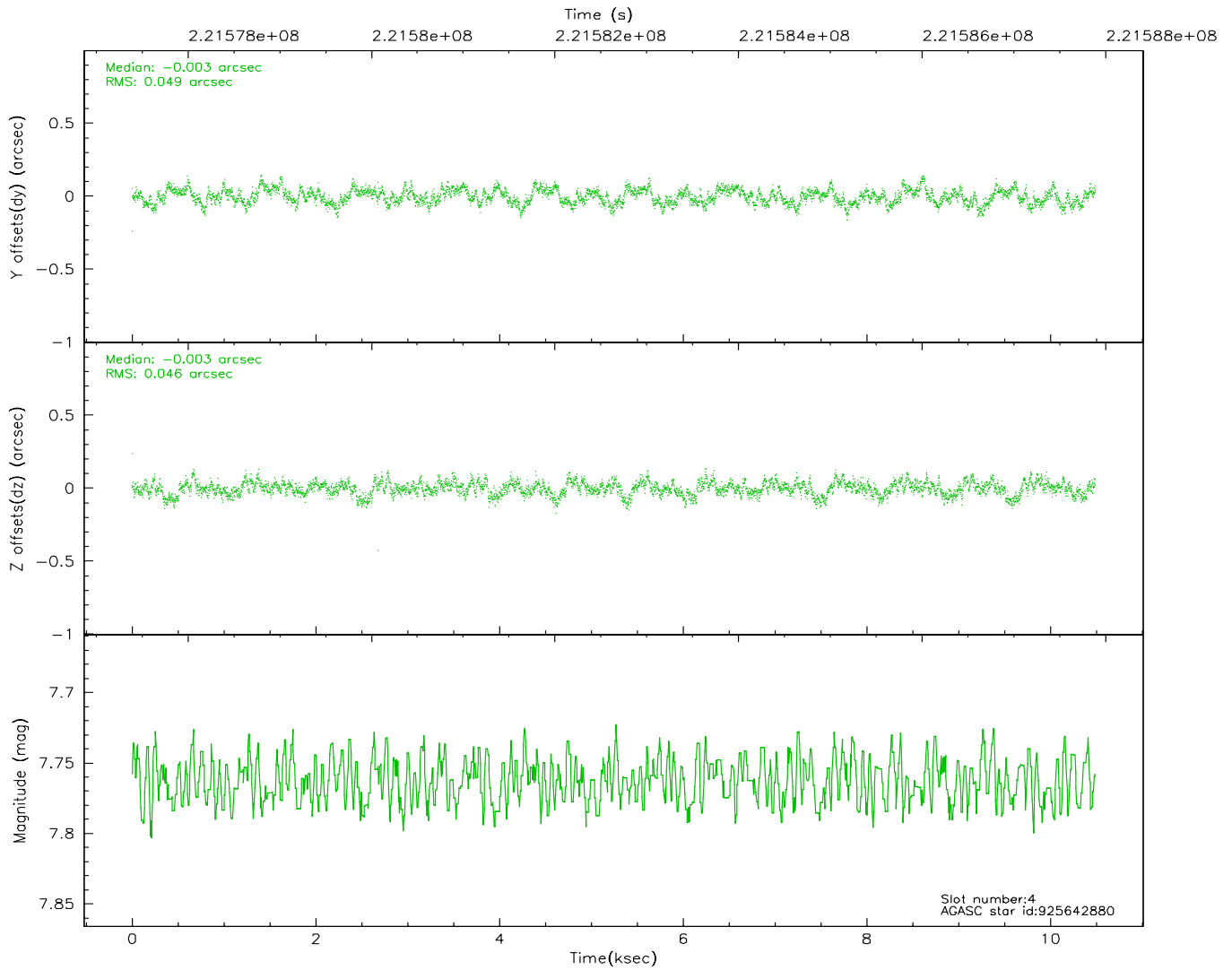
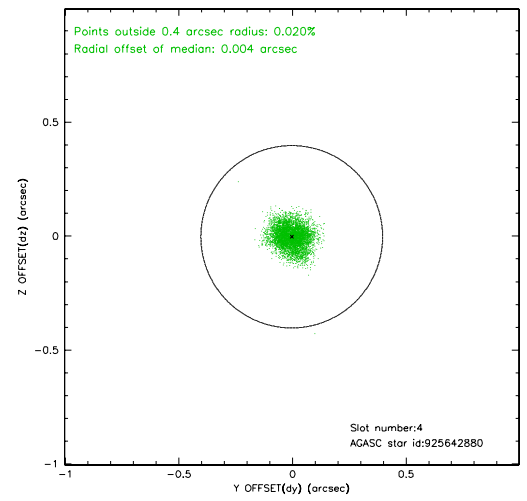
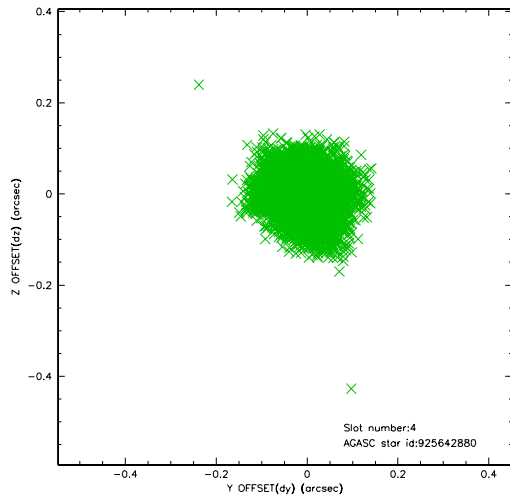
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra        | dec        | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.24 | 2559  | 0.025  | 0.027  | 0.007 | 0.013 | 0.000000  | 0.000000   | 933.16   | -917.62  |
| 1    | FID    | ACIS-I-5  | 7.23 | 2559  | -0.170 | 0.048  | 0.006 | 0.010 | 0.000000  | 0.000000   | -1814.87 | 979.59   |
| 2    | FID    | ACIS-I-6  | 7.25 | 2559  | 0.054  | -0.004 | 0.007 | 0.013 | 0.000000  | 0.000000   | 398.19   | 1624.62  |
| 3    | GUIDE  | 925638992 | 9.85 | 5113  | 0.026  | 0.078  | 0.134 | 0.215 | 87.997656 | -33.668779 | -1059.67 | -239.67  |
| 4    | GUIDE  | 925642880 | 7.76 | 5117  | -0.003 | -0.003 | 0.072 | 0.114 | 89.133148 | -33.434507 | 1745.57  | 1868.95  |
| 5    | GUIDE  | 926155024 | 9.33 | 5114  | 0.026  | -0.067 | 0.088 | 0.141 | 87.823438 | -33.822879 | -1317.78 | -955.66  |
| 6    | GUIDE  | 926158216 | 8.89 | 5116  | -0.017 | 0.024  | 0.075 | 0.122 | 88.538121 | -34.303744 | 1323.13  | -1705.85 |
| 7    | GUIDE  | 926159088 | 8.02 | 5116  | -0.028 | -0.030 | 0.063 | 0.101 | 88.577460 | -33.879562 | 834.19   | -254.77  |

## 2.4 Star Slots

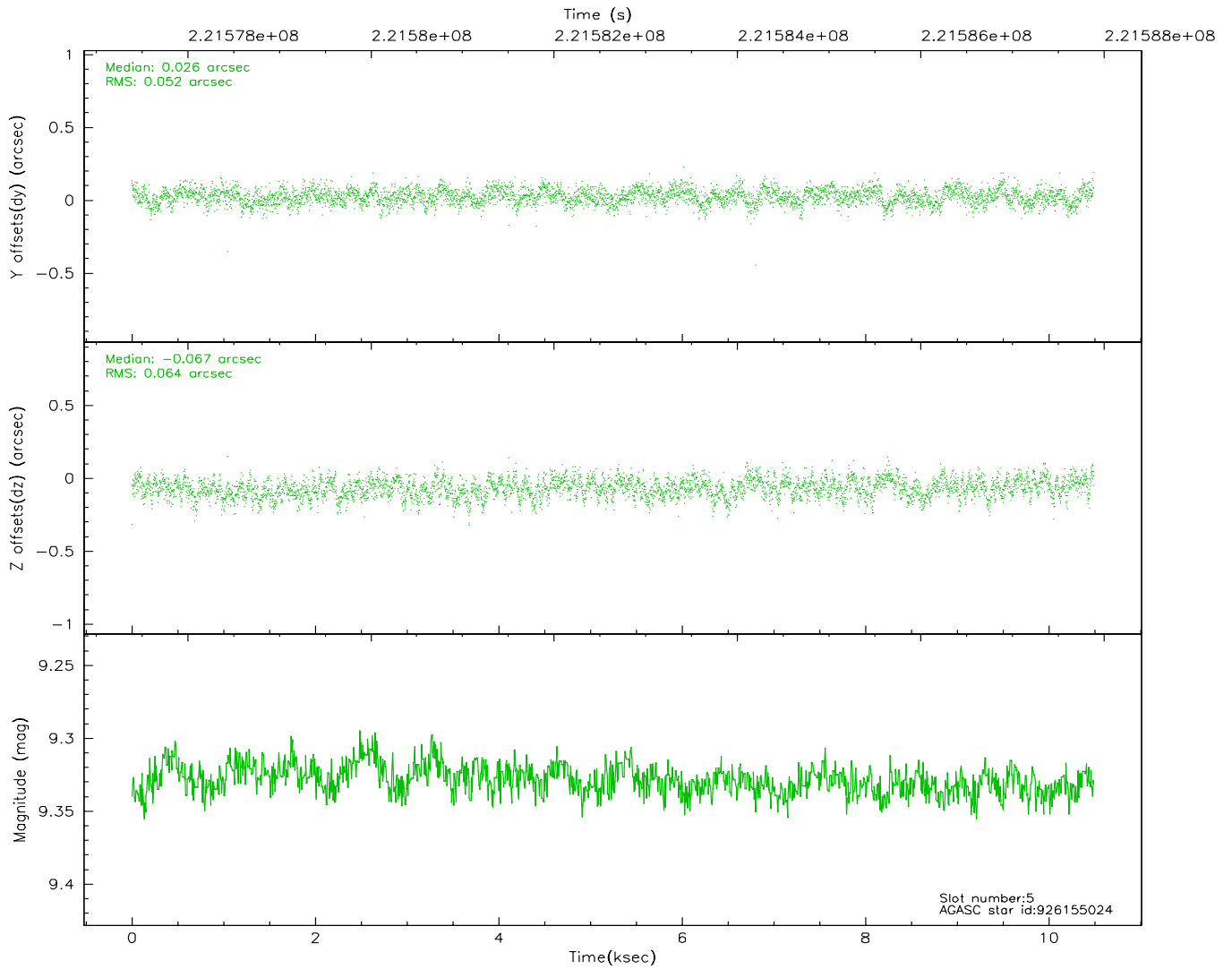
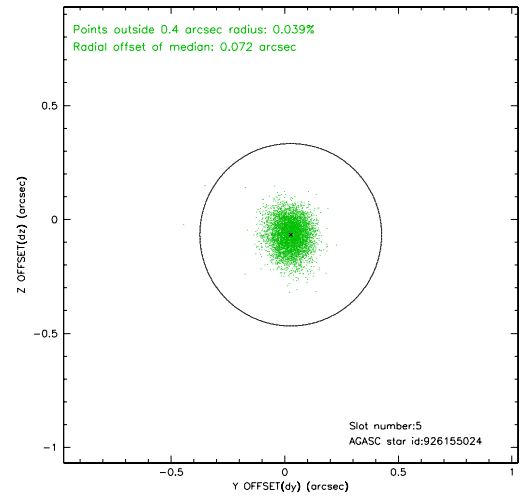
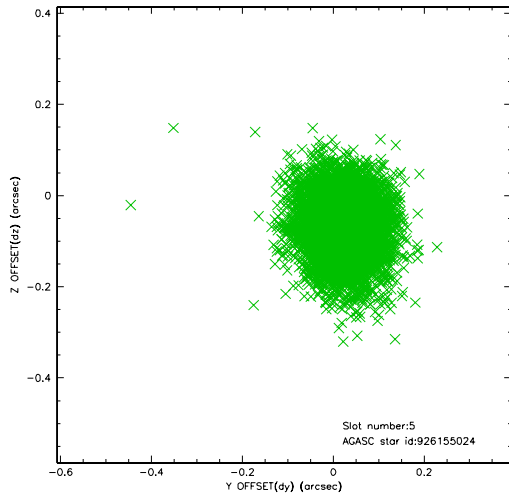
### 2.4.1 Slot 3



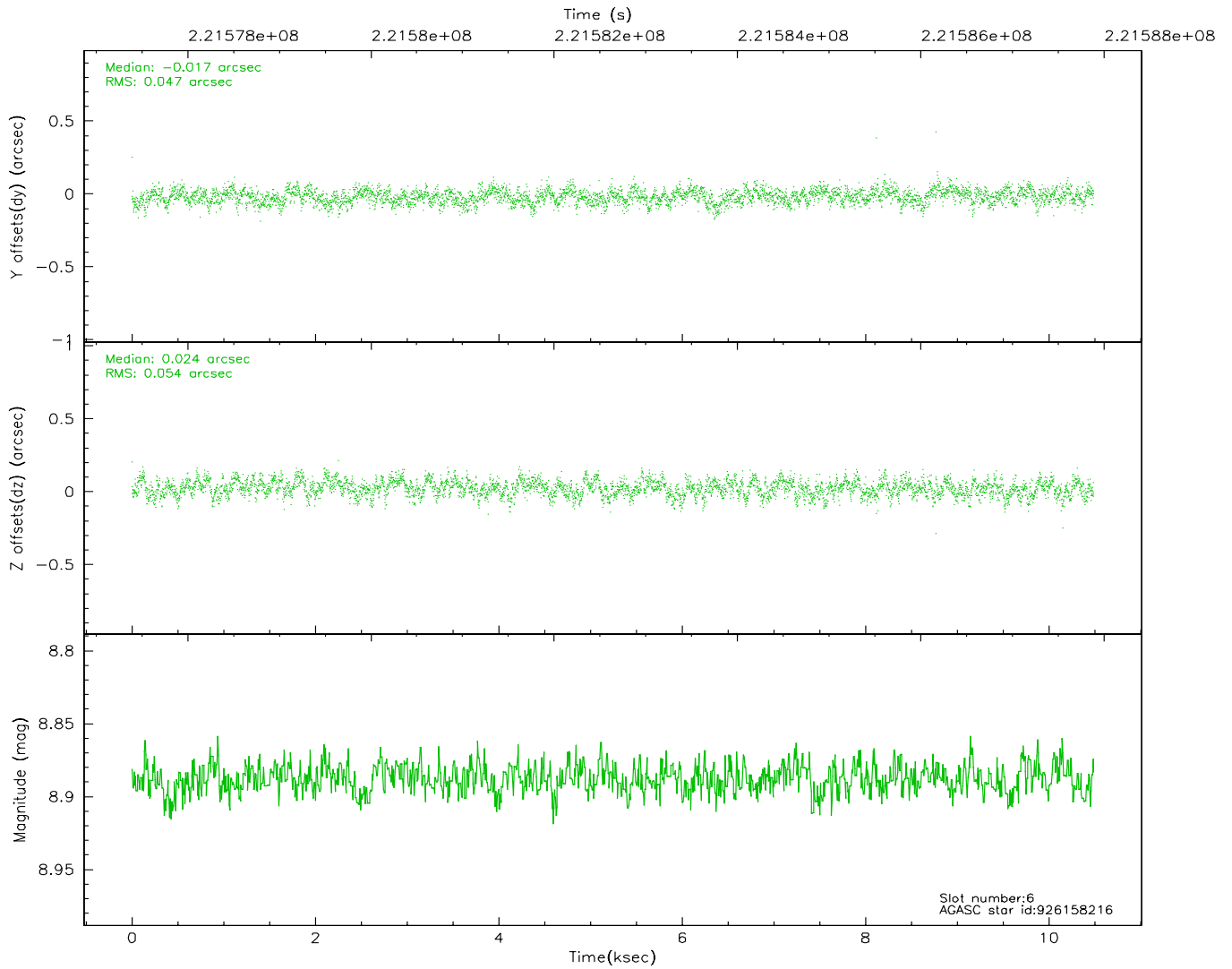
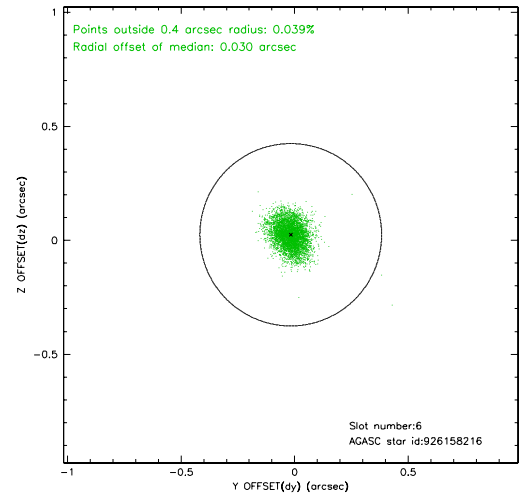
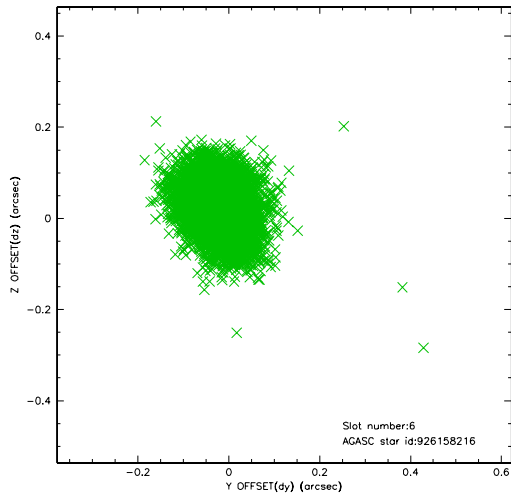
### 2.4.2 Slot 4



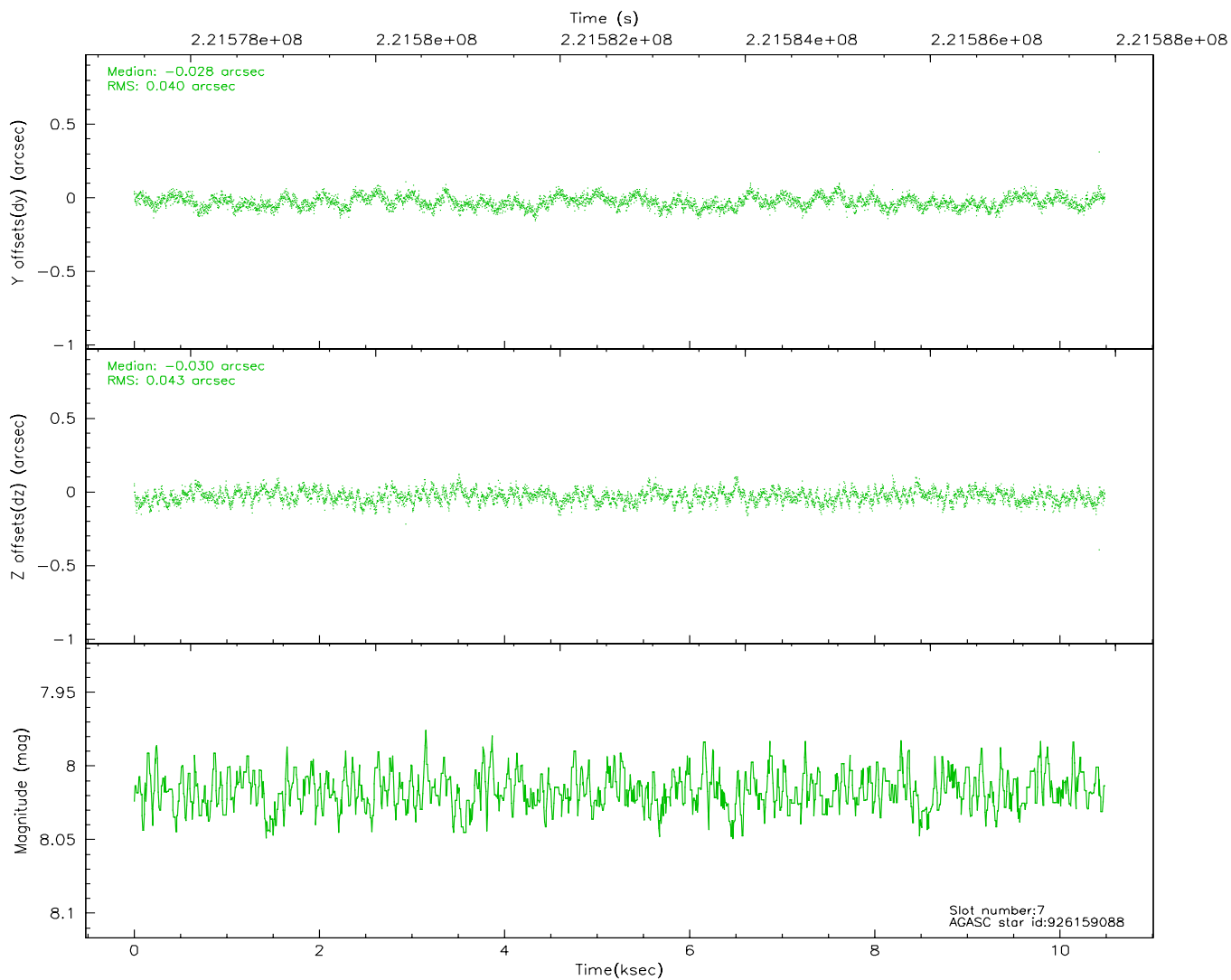
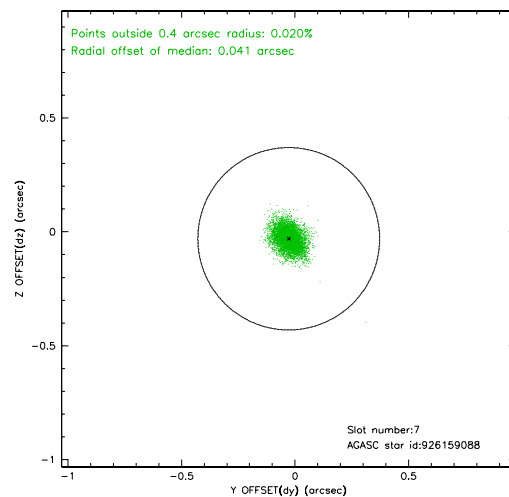
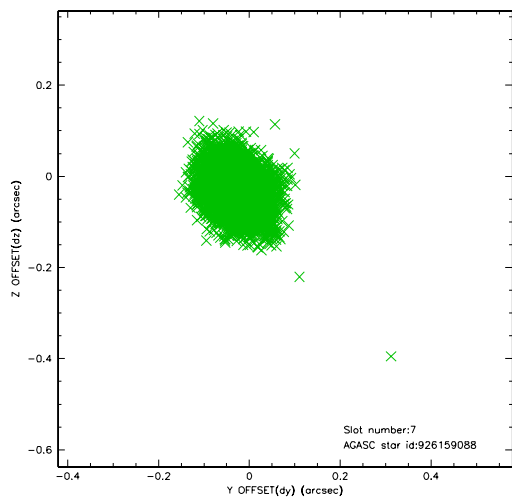
### 2.4.3 Slot 5



### 2.4.4 Slot 6

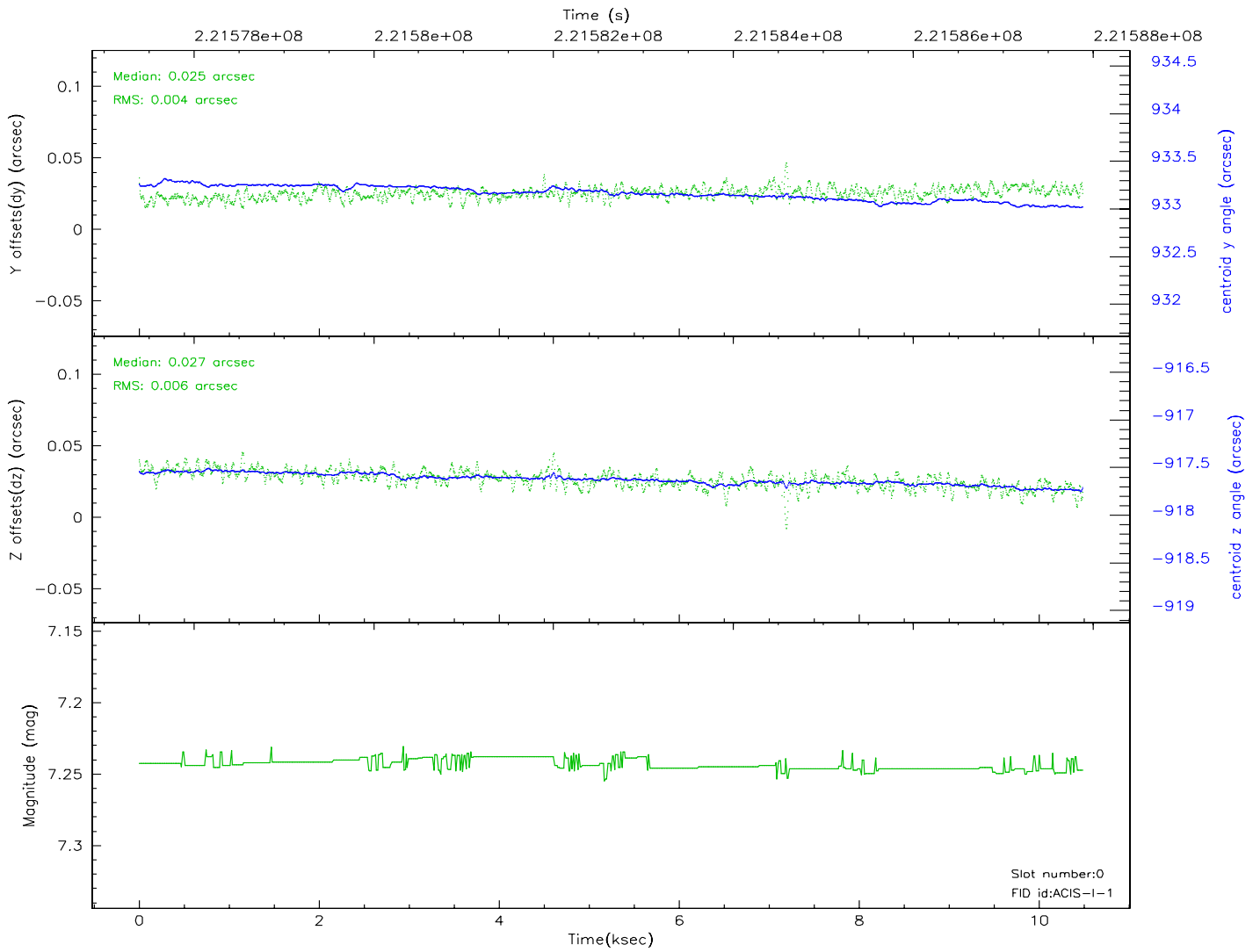
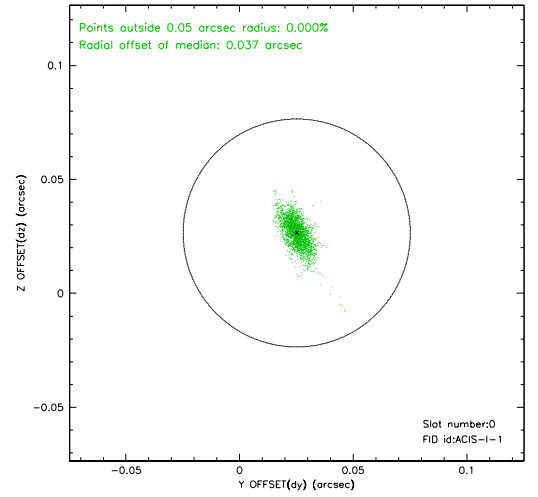
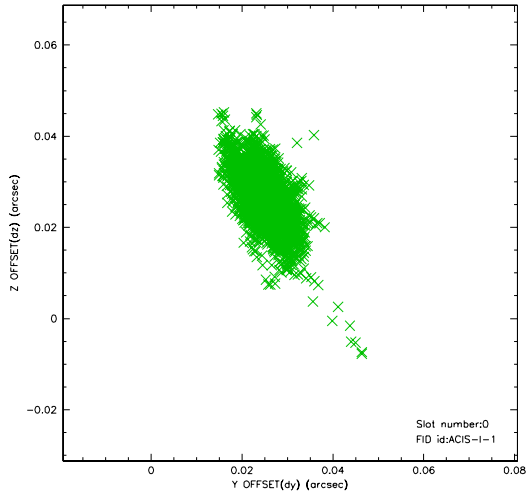


## 2.4.5 Slot 7

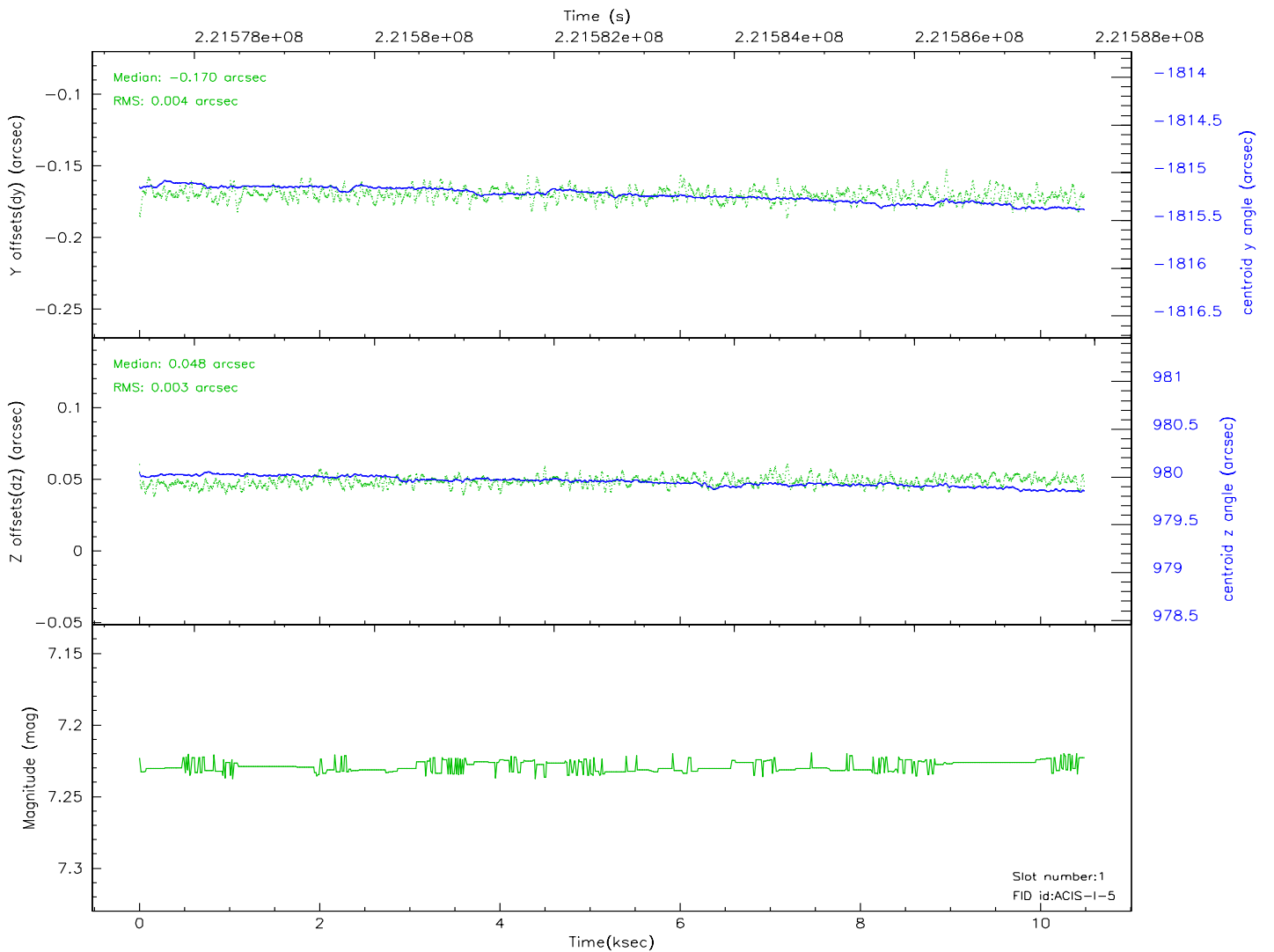
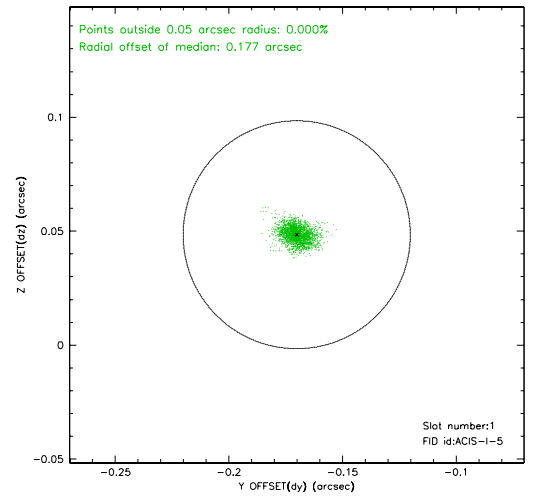
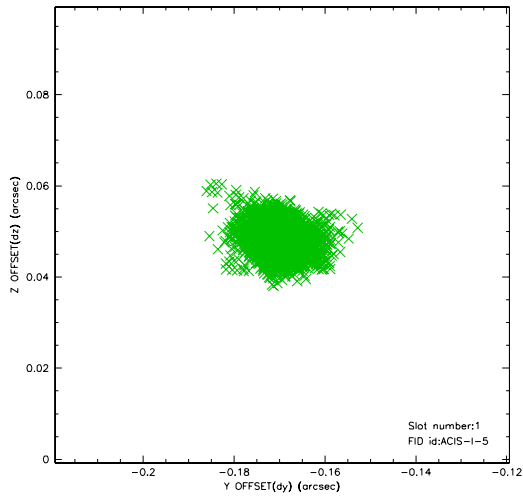


## 2.5 FID Slots

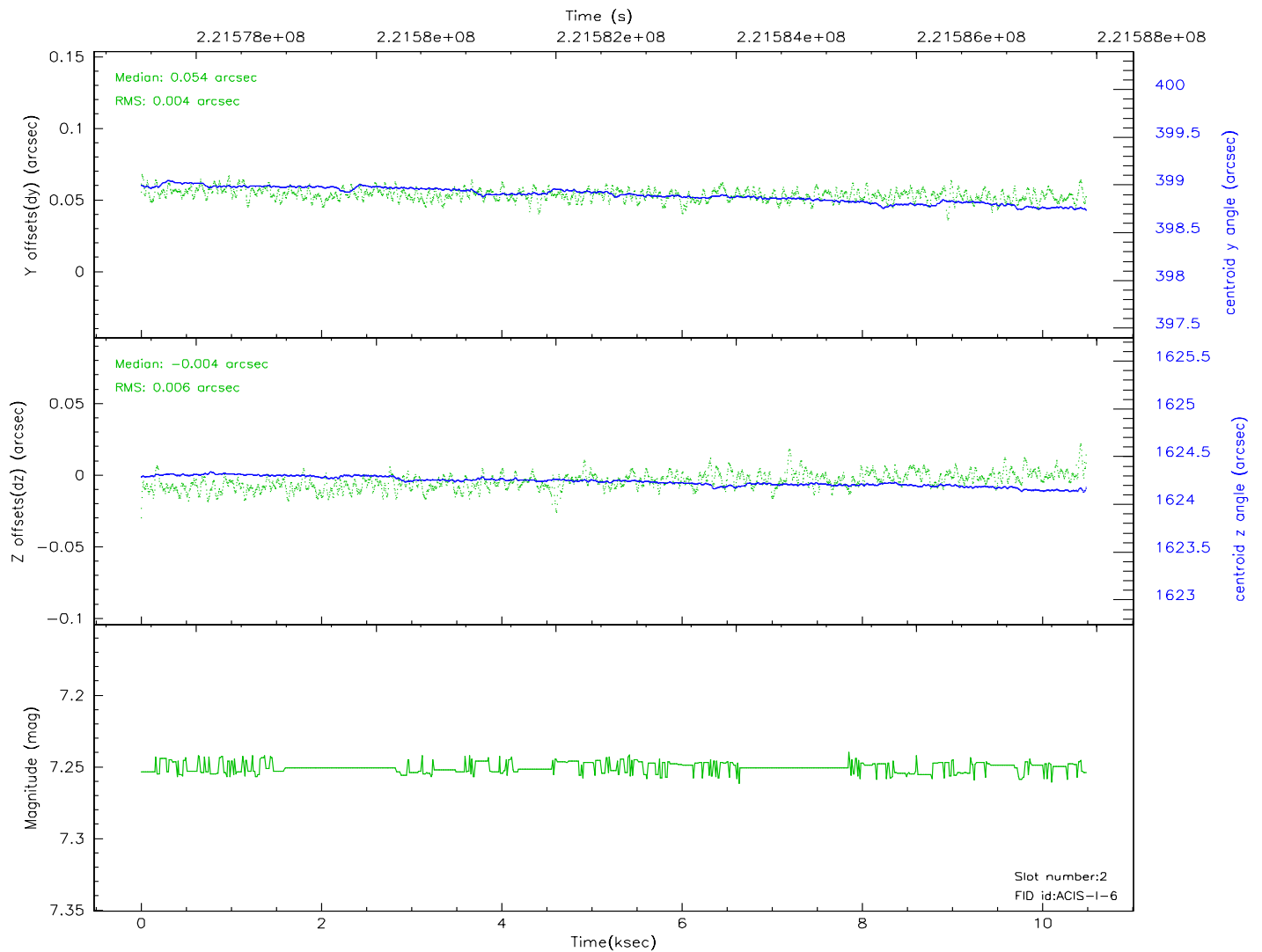
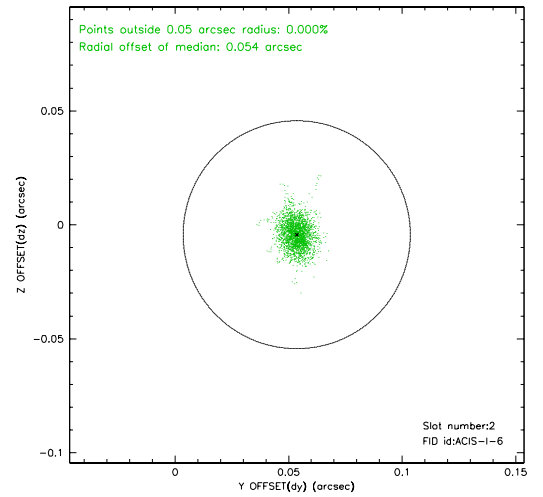
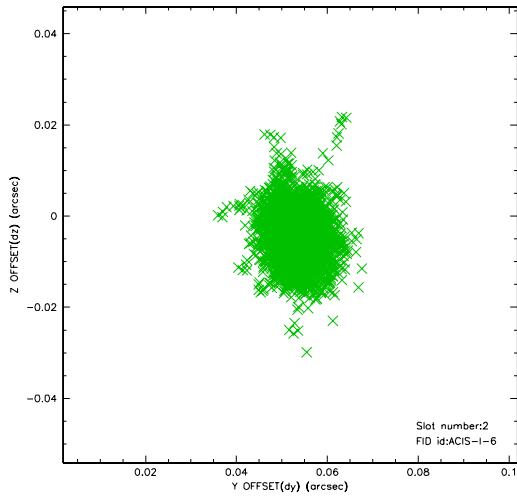
### 2.5.1 Slot 0



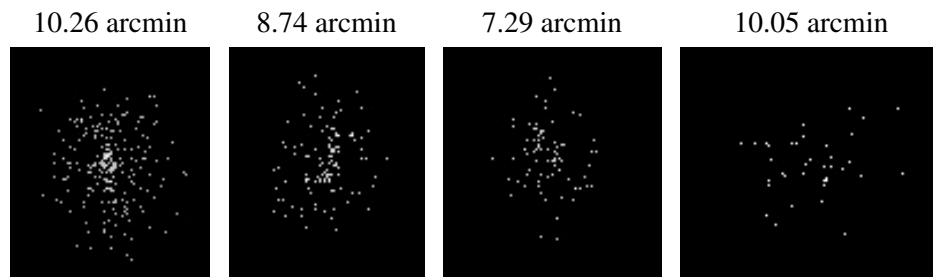
## 2.5.2 Slot 1



### 2.5.3 Slot 2



### 3 Point Sources



# A Summary

## A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2006.02.16    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 10.07499      |

## A.2 Comments

Charge time:

Using existing charge time of 10.07499.