

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.1

Observation 5606 - L2 Version 002  
Chandra X-Ray Center

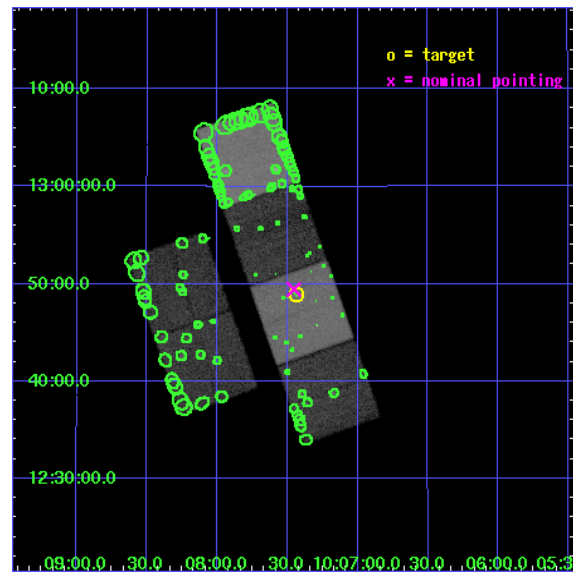
L2 Processing Date : Mar 16 2006

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# 1 Front

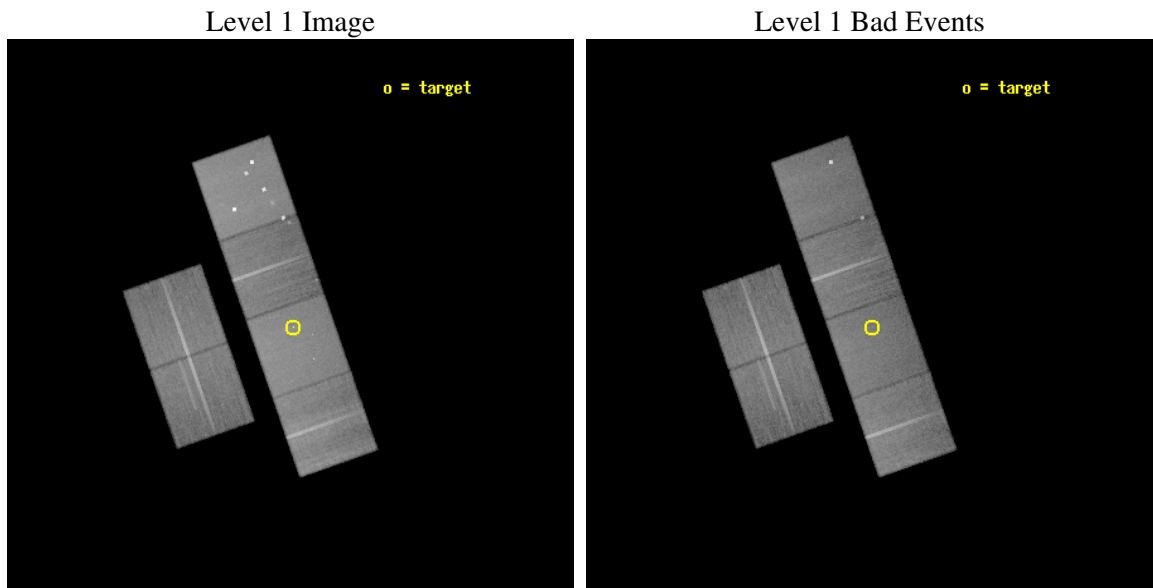
|          |   |
|----------|---|
| seq_num  | 701029  |
| obs_id   | 5606  |
| title    | ACIS Imaging of an X-ray Jet from the Remarkable Quasar PG 1004+130 |
| observer | Prof. Gordon Garmire  |
| object   | PG 1004+130   |
| dtcycle  | 0   |
| cycle    | P   |
| ra_targ  | 151.85875   |
| dec_targ | 12.815556   |
| ra_nom   | 151.86360526194   |
| dec_nom  | 12.823984311158   |
| roll_nom | 70.776351026462   |
| revision | 2   |
| ontime   | 41590.317864478   |
| livetime | 41063.676216995   |
| ontime2  | 41580.594873756   |
| ontime3  | 41583.835963517   |
| ontime5  | 41596.79984504  |
| ontime6  | 41587.076874197   |
| ontime7  | 41590.317864478   |
| ontime8  | 41587.076874197   |
| l2events | 434158  |



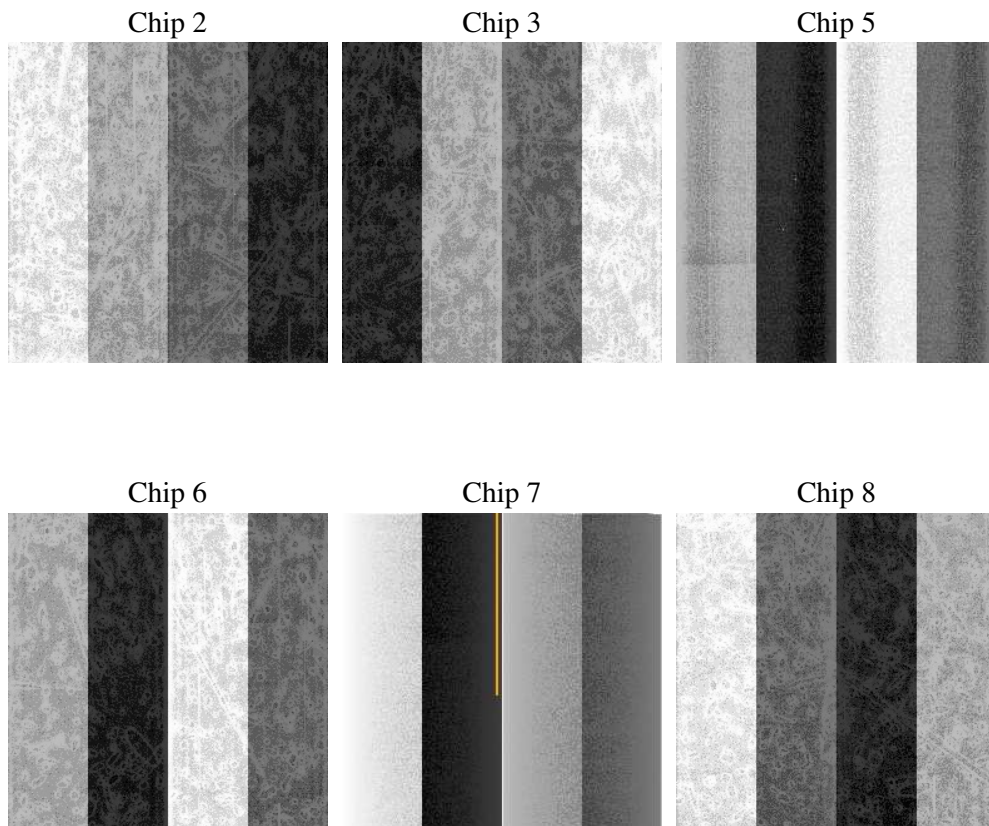
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |
|----------|---------------------|
| obi_num  | 0                   |
| ascdsver | 7.6.7.1             |
| caldsver | 3.2.1               |
| date     | 2006-03-16T18:42:52 |
| revision | 2                   |

|                |                 |
|----------------|-----------------|
| sched_exp_time | 41418.116000    |
| ontime         | 41669.702718019 |
| ontime2        | 41659.979727298 |
| ontime3        | 41663.220807165 |
| ontime5        | 41676.184698582 |
| ontime6        | 41666.461717844 |
| ontime7        | 41669.702718019 |
| ontime8        | 41666.461727738 |
| l1events       | 2037426         |

### 2.1.4 Events

|                 | ccd 2  | ccd 3  | ccd 5  | ccd 6  | ccd 7  | ccd 8  |
|-----------------|--------|--------|--------|--------|--------|--------|
| level 1 events  | 287376 | 271119 | 451887 | 285064 | 383500 | 358480 |
| rejected events | 254071 | 238249 | 241868 | 250531 | 239174 | 281829 |
| rejected %      | 88%    | 87%    | 53%    | 87%    | 62%    | 78%    |

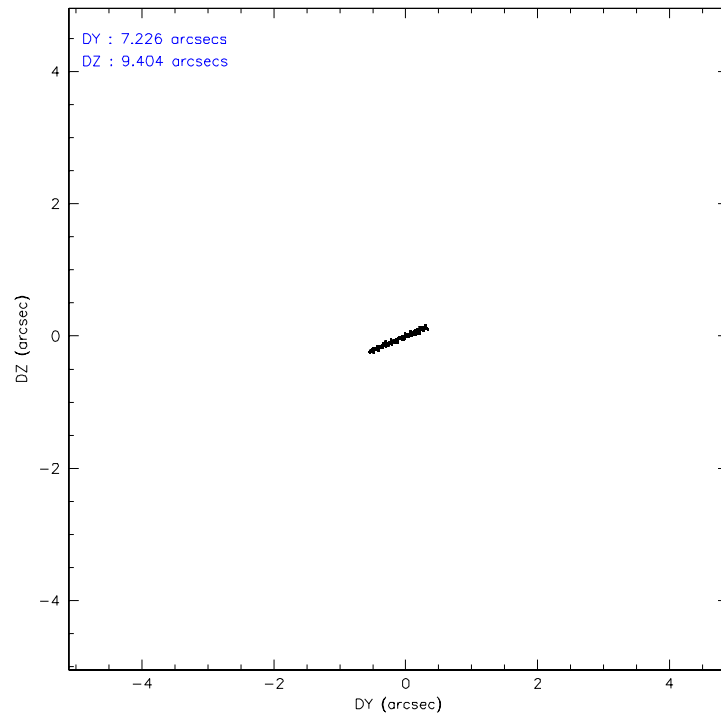
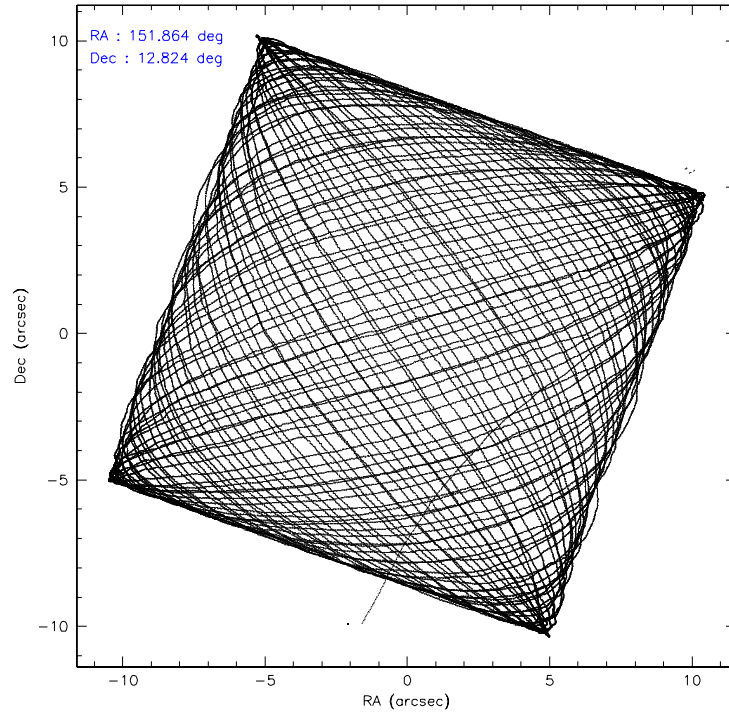
|                | ccd 2  | ccd 3  | ccd 5  | ccd 6  | ccd 7  | ccd 8  |
|----------------|--------|--------|--------|--------|--------|--------|
| grade 0 events | 14575  | 14515  | 35315  | 13758  | 8298   | 23963  |
|                | 5%     | 5%     | 7%     | 4%     | 2%     | 6%     |
| grade 1 events | 180    | 151    | 846    | 120    | 217    | 206    |
|                | 0%     | 0%     | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 6807   | 6212   | 59572  | 7343   | 36094  | 17095  |
|                | 2%     | 2%     | 13%    | 2%     | 9%     | 4%     |
| grade 3 events | 3124   | 3284   | 4401   | 3310   | 6751   | 7982   |
|                | 1%     | 1%     | 0%     | 1%     | 1%     | 2%     |
| grade 4 events | 3194   | 3228   | 4433   | 3171   | 6669   | 7515   |
|                | 1%     | 1%     | 0%     | 1%     | 1%     | 2%     |
| grade 5 events | 11220  | 12068  | 21386  | 12871  | 23209  | 16972  |
|                | 3%     | 4%     | 4%     | 4%     | 6%     | 4%     |
| grade 6 events | 5671   | 5676   | 106697 | 7010   | 86790  | 20195  |
|                | 1%     | 2%     | 23%    | 2%     | 22%    | 5%     |
| grade 7 events | 242605 | 225985 | 219237 | 237481 | 215472 | 264552 |
|                | 84%    | 83%    | 48%    | 83%    | 56%    | 73%    |

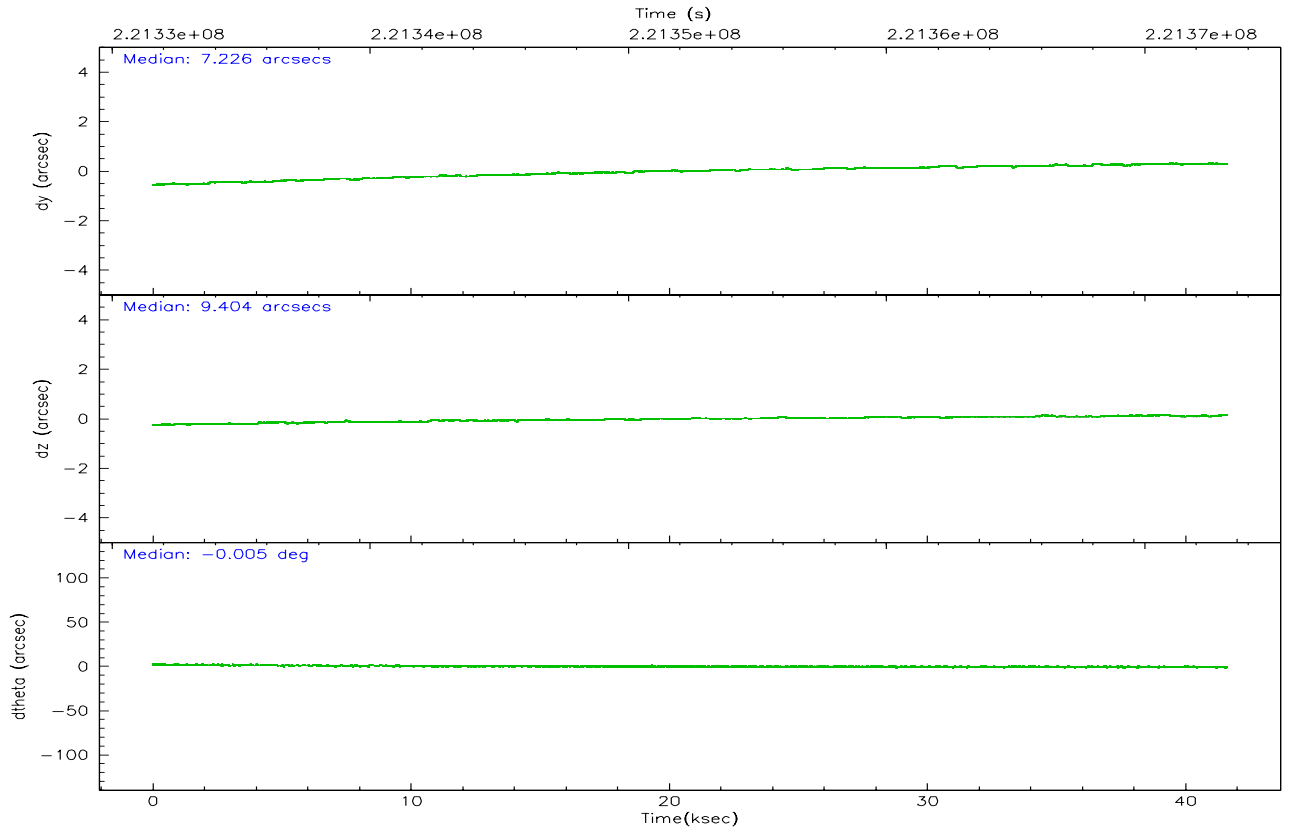
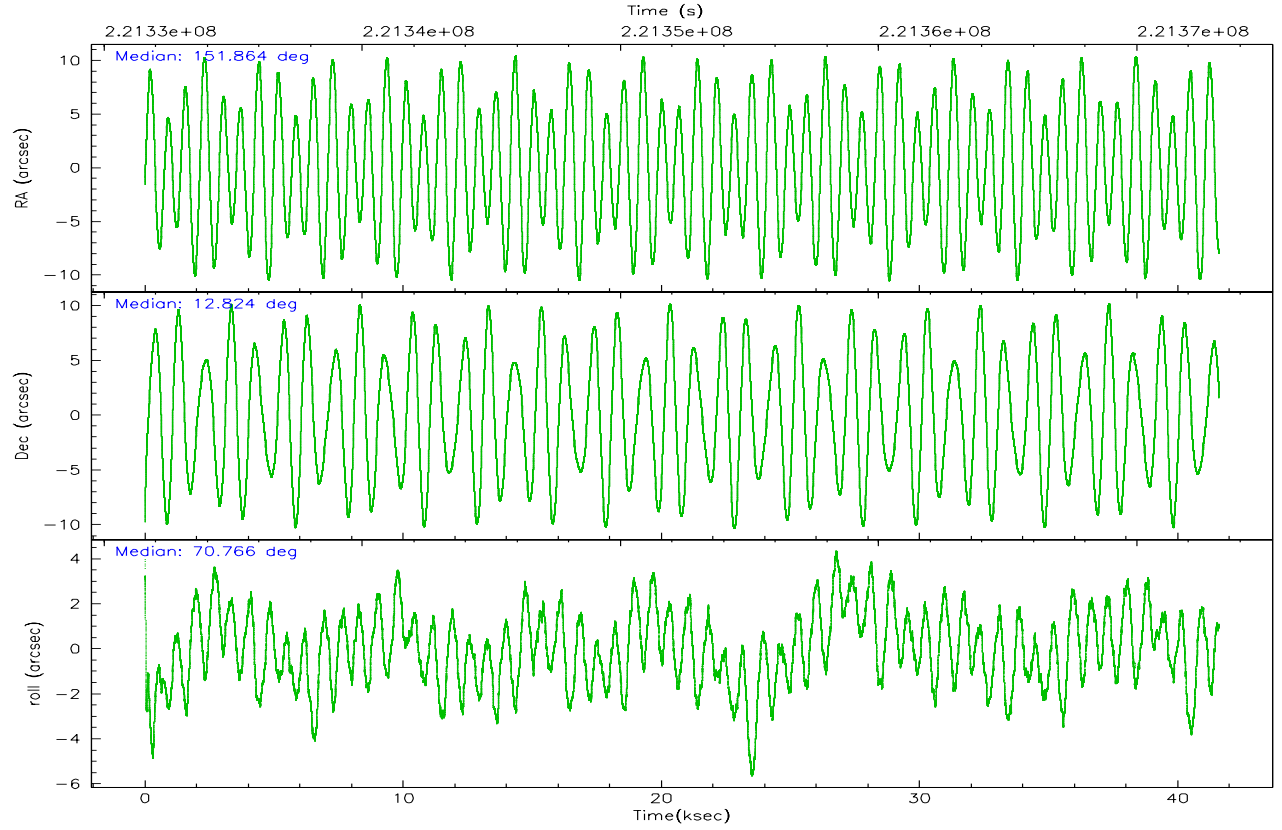


## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                       | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number    | 6         | 6       |
| Detector                          | ACIS-235678         | ACIS-235678          | Obspar file type                | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status            | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | On-chip summing requested       | N         | N       |
| Observation mode                  | POINTING            | POINTING             | Subarray requested              | NONE      | NONE    |
| Pointing RA                       | 151.869200          | 151.8636052619437    | Alternating exposures requested | N         | N       |
| Pointing Dec                      | 12.797308           | 12.82398431115815    | Primary exposure time           | 0.000000  | 3.2     |
| Pointing Roll                     | 70.618478           | 70.77635102646185    |                                 |           |         |
| SIM focus pos (mm)                | -0.684267           | -0.6828225247311905  |                                 |           |         |
| SIM defocus (mm)                  | 0                   | 0.001444936568705701 |                                 |           |         |
| SIM translation stage pos (mm)    | -190.132523         | -190.1425803651734   |                                 |           |         |
| SIM translation stage offset (mm) | 0                   | 0.01005778216563158  |                                 |           |         |
| Observation start time            | 221331775.184000    | 221330667.3178       |                                 |           |         |
| Observation start date            | 2005-01-05T17:01:51 | 2005-01-05T16:44:27  |                                 |           |         |
| Observation end time              | 221373194.184000    | 221373416.99472      |                                 |           |         |
| Observation end date              | 2005-01-06T04:32:10 | 2005-01-06T04:36:56  |                                 |           |         |
| Read mode                         | TIMED               | TIMED                |                                 |           |         |

## 2.3 Aspect



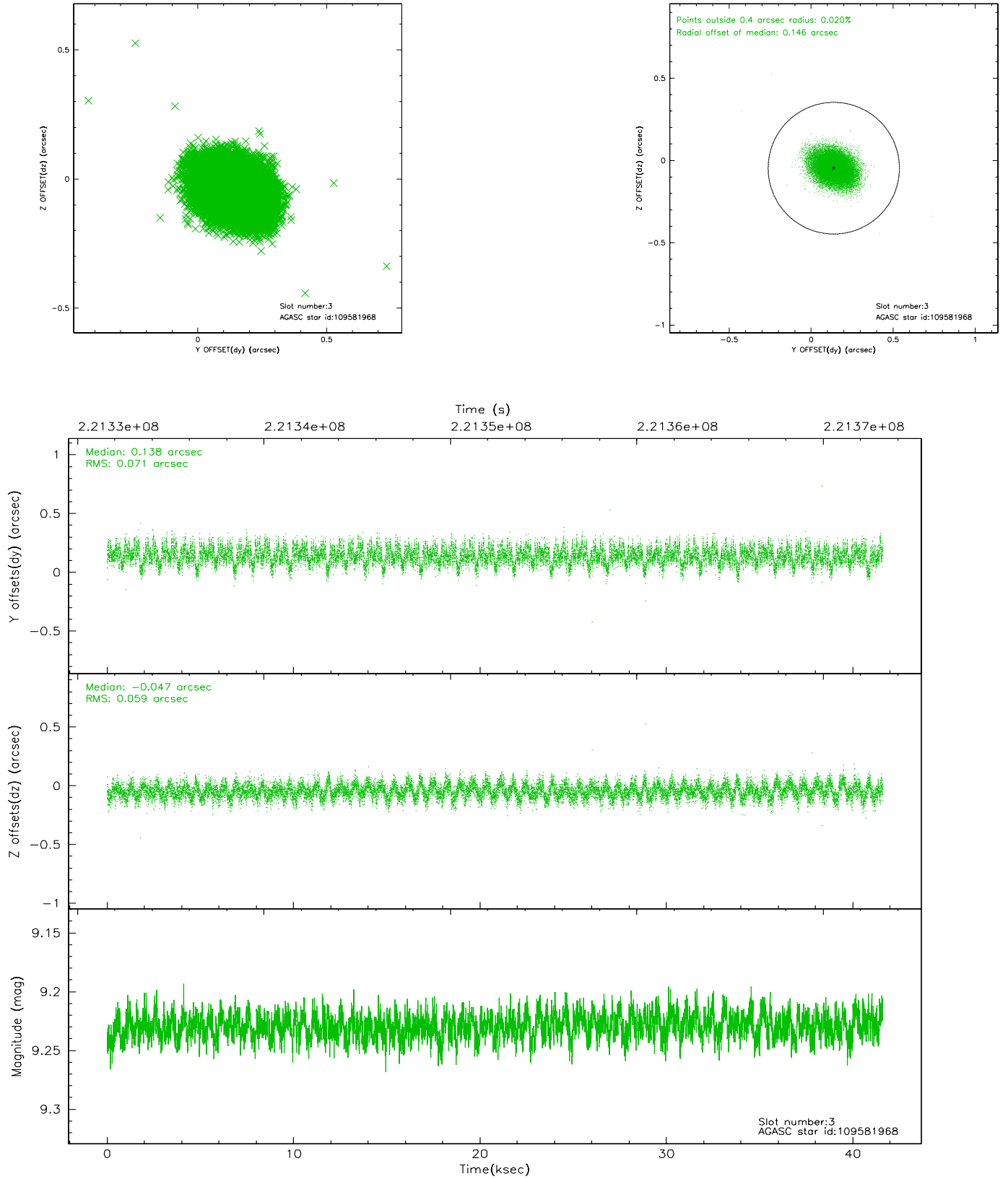


### Slot Statistics

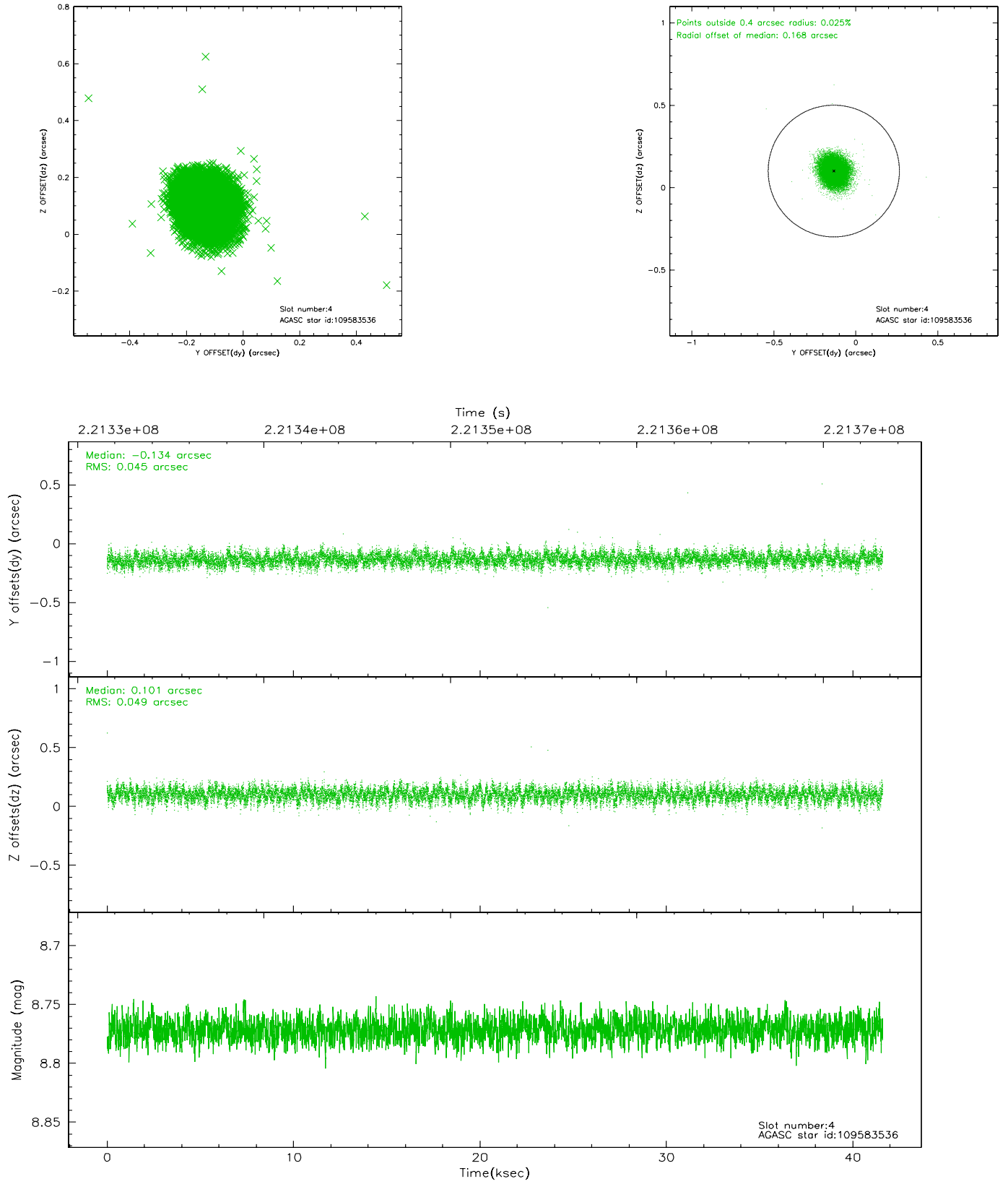
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-1  | 7.19 | 10142 | 0.012  | 0.003  | 0.008 | 0.014 | 0.000000   | 0.000000  | 936.09   | -1726.19 |
| 1    | FID    | ACIS-S-4  | 7.21 | 10138 | 0.037  | -0.003 | 0.010 | 0.015 | 0.000000   | 0.000000  | 2153.53  | 177.95   |
| 2    | FID    | ACIS-S-5  | 7.23 | 10139 | -0.075 | 0.013  | 0.011 | 0.019 | 0.000000   | 0.000000  | -1812.85 | 171.56   |
| 3    | GUIDE  | 109581968 | 9.23 | 20273 | 0.138  | -0.047 | 0.098 | 0.159 | 151.370541 | 12.539307 | -1456.07 | 1345.20  |
| 4    | GUIDE  | 109583536 | 8.77 | 20283 | -0.134 | 0.101  | 0.070 | 0.112 | 152.151485 | 13.126373 | 1446.50  | -539.76  |
| 5    | GUIDE  | 109583824 | 8.80 | 20277 | 0.038  | -0.180 | 0.074 | 0.119 | 151.226198 | 12.847685 | -575.36  | 2189.88  |
| 6    | GUIDE  | 109584104 | 7.72 | 20282 | 0.048  | -0.068 | 0.064 | 0.102 | 151.655187 | 12.782068 | -300.81  | 690.69   |
| 7    | GUIDE  | 109580360 | 9.39 | 20279 | -0.091 | 0.192  | 0.101 | 0.162 | 152.643604 | 12.921249 | 1327.01  | -2413.12 |

## 2.4 Star Slots

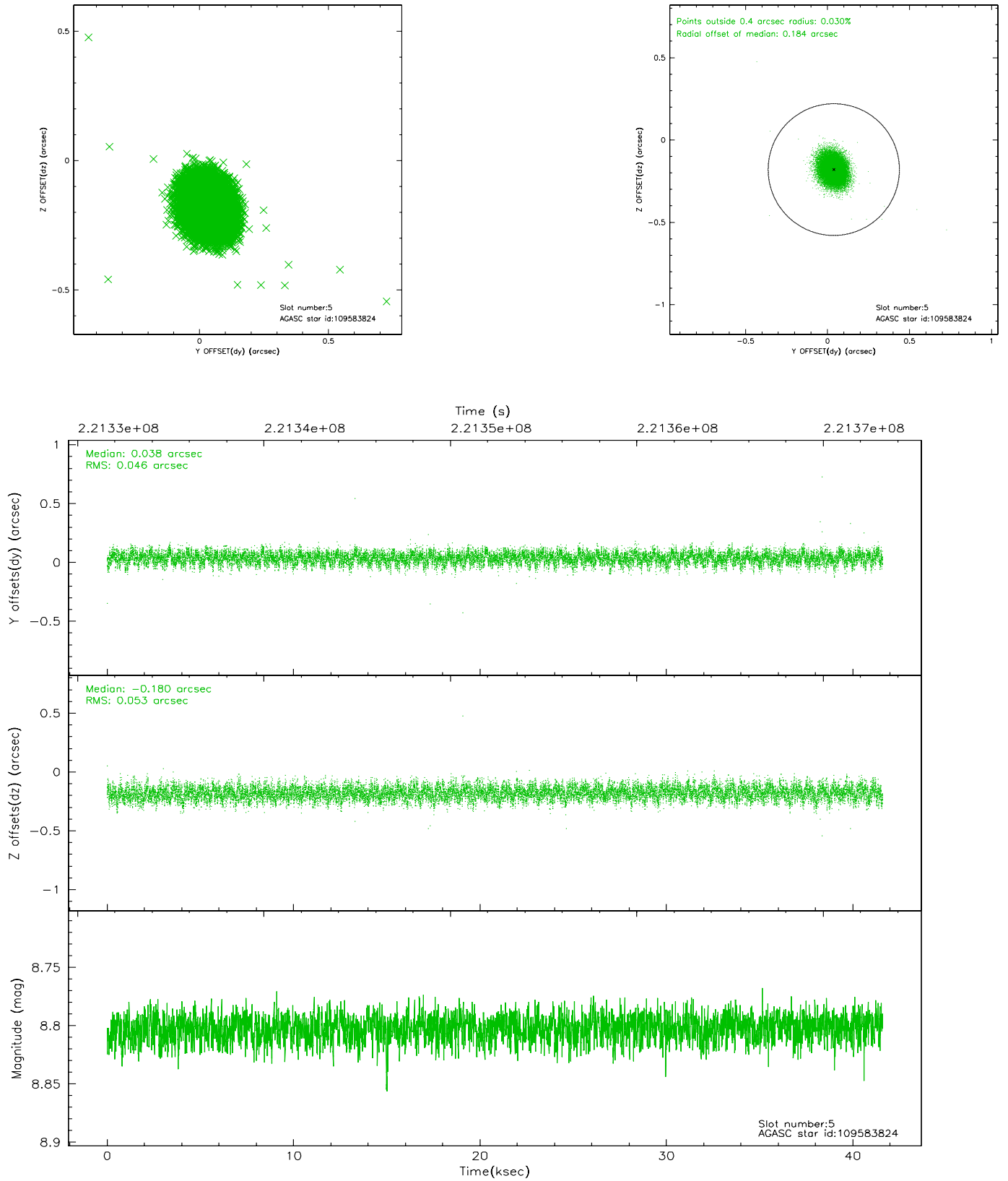
### 2.4.1 Slot 3



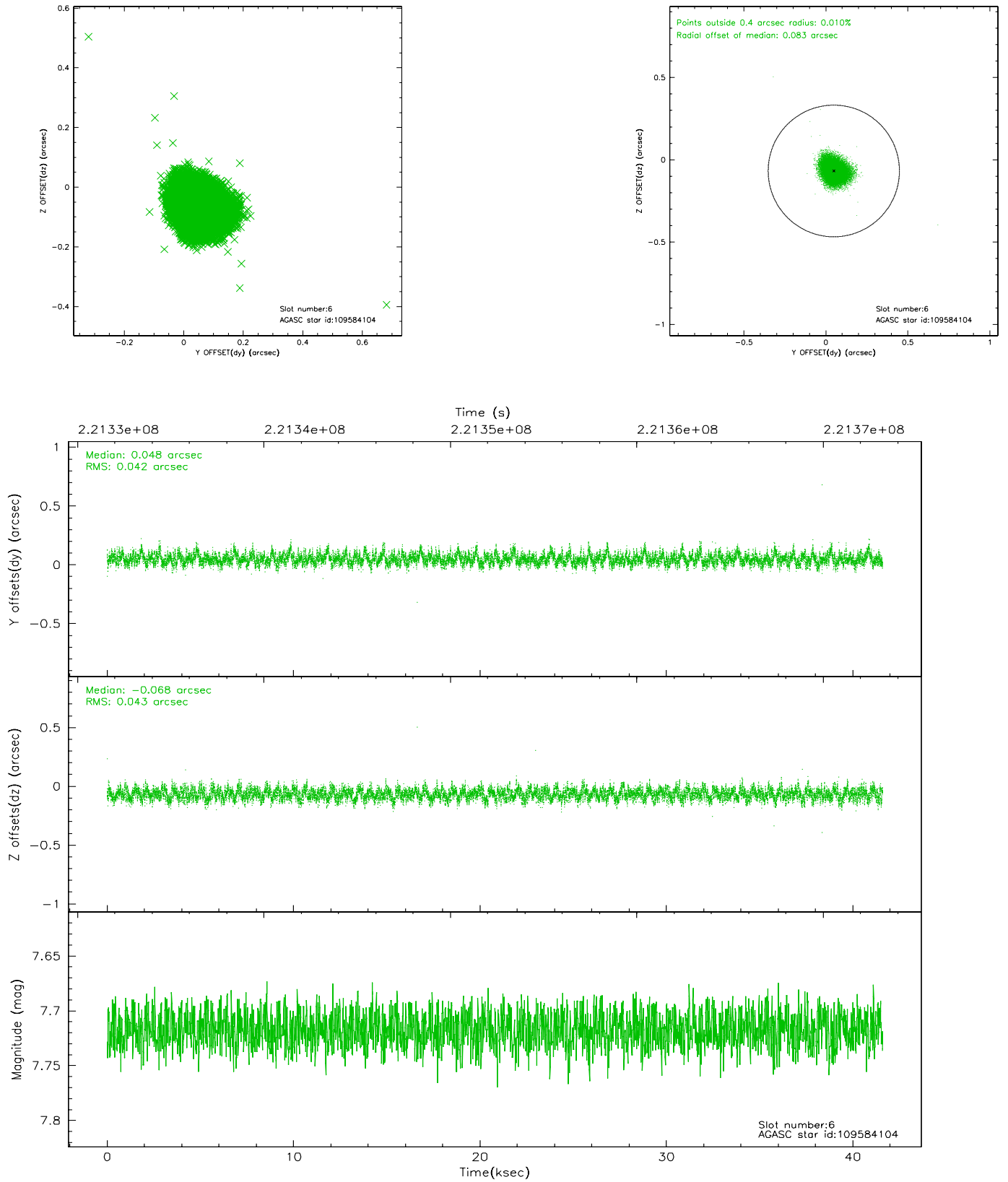
## 2.4.2 Slot 4



### 2.4.3 Slot 5

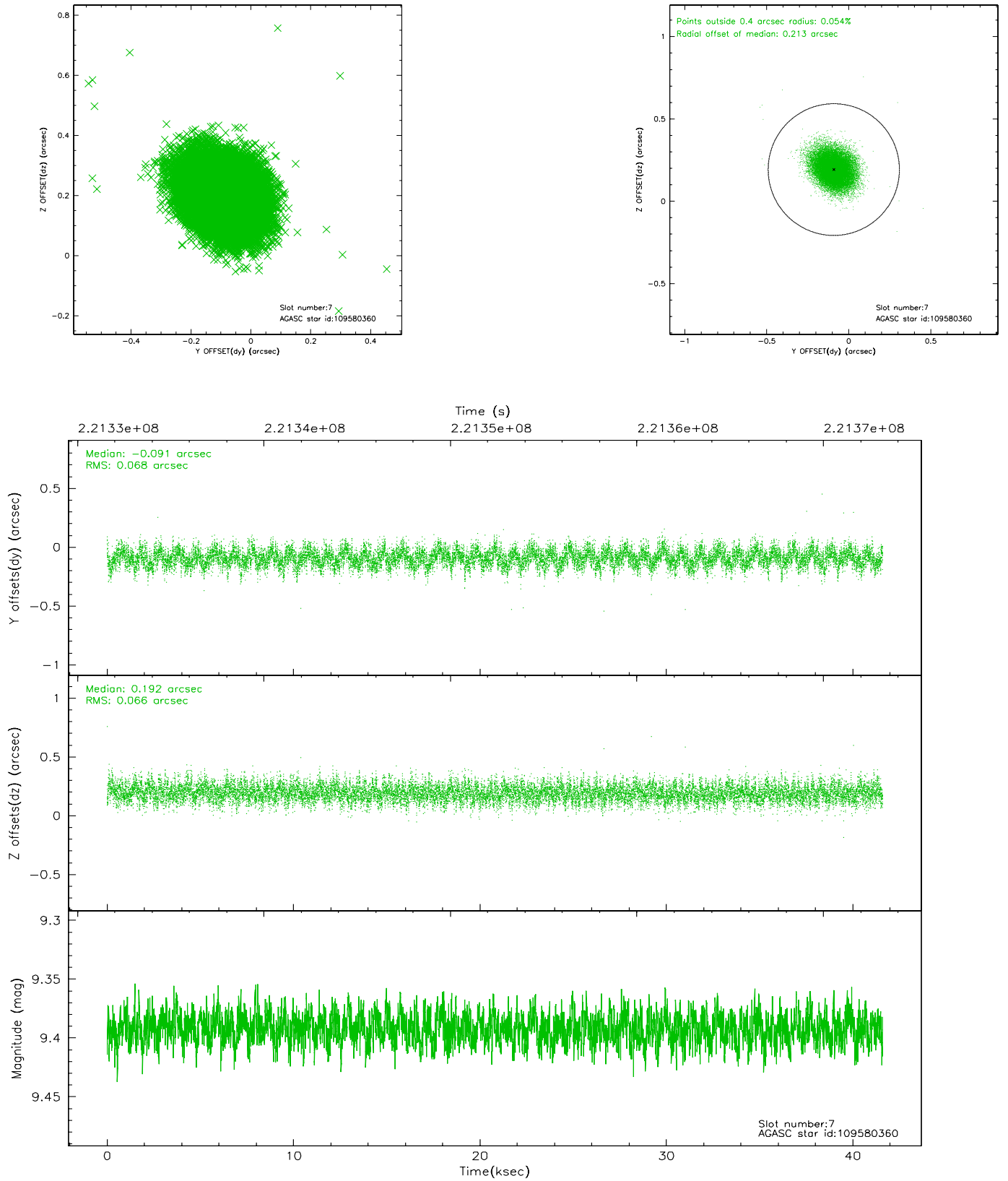


## 2.4.4 Slot 6



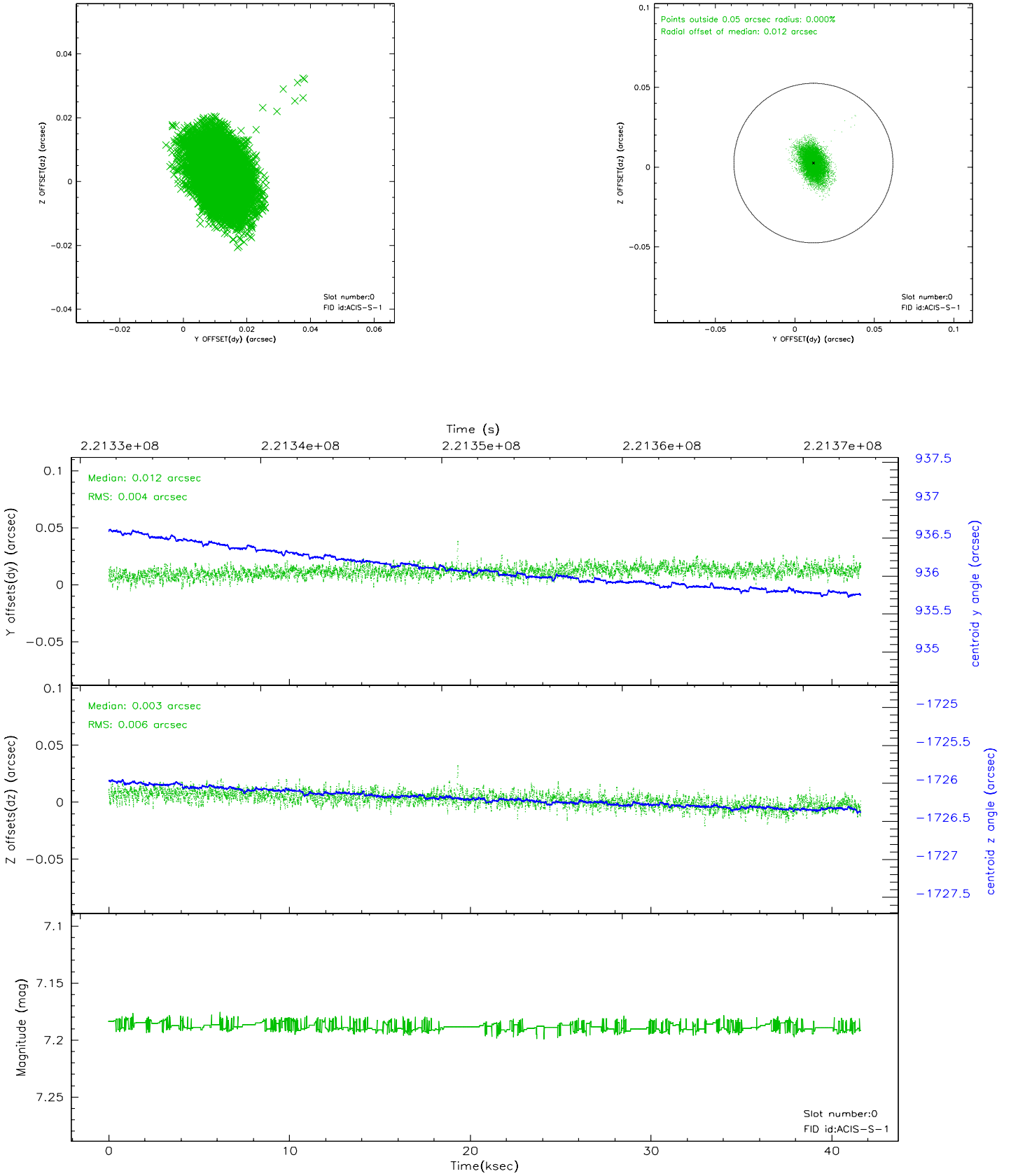


## 2.4.5 Slot 7

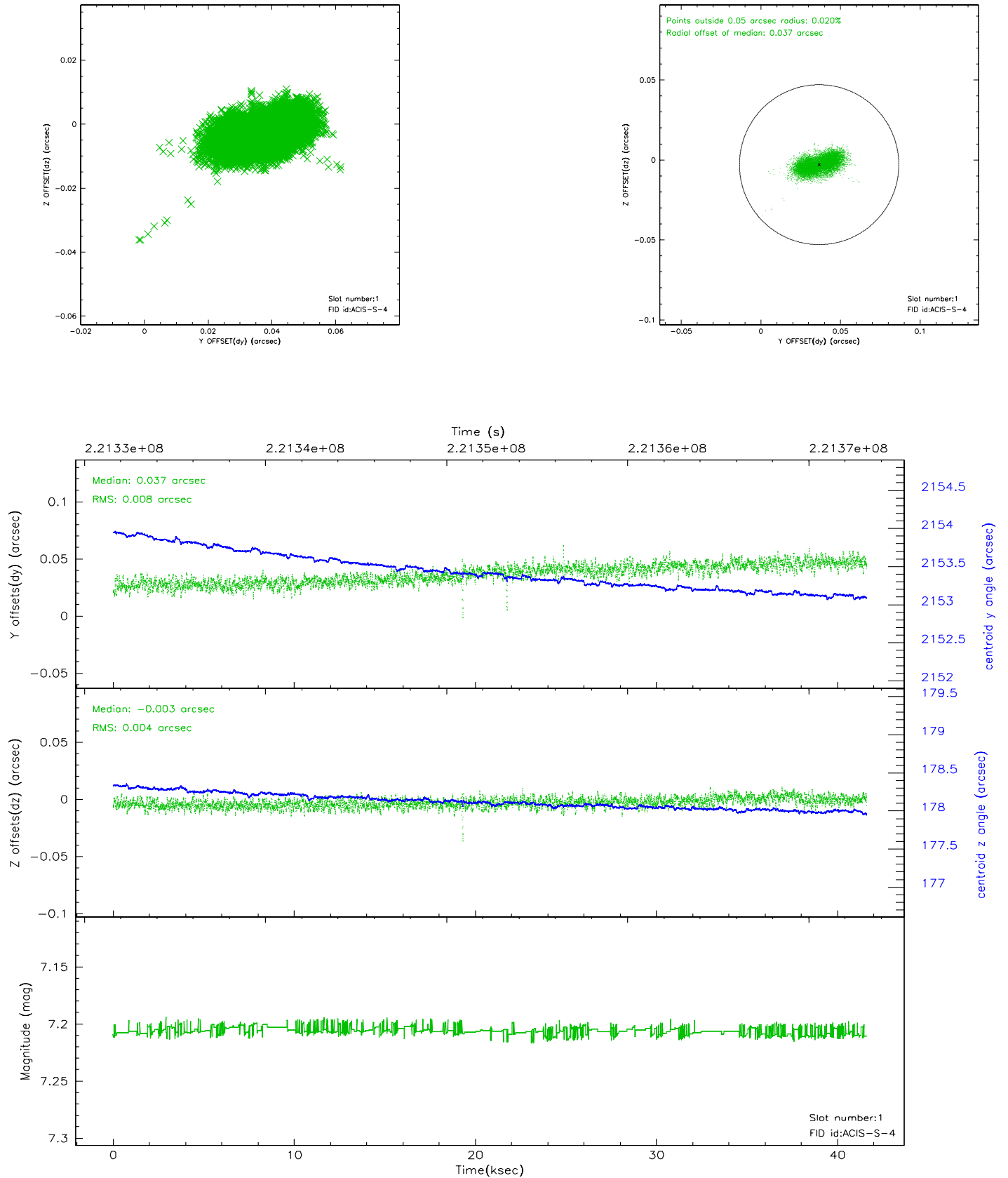


## 2.5 FID Slots

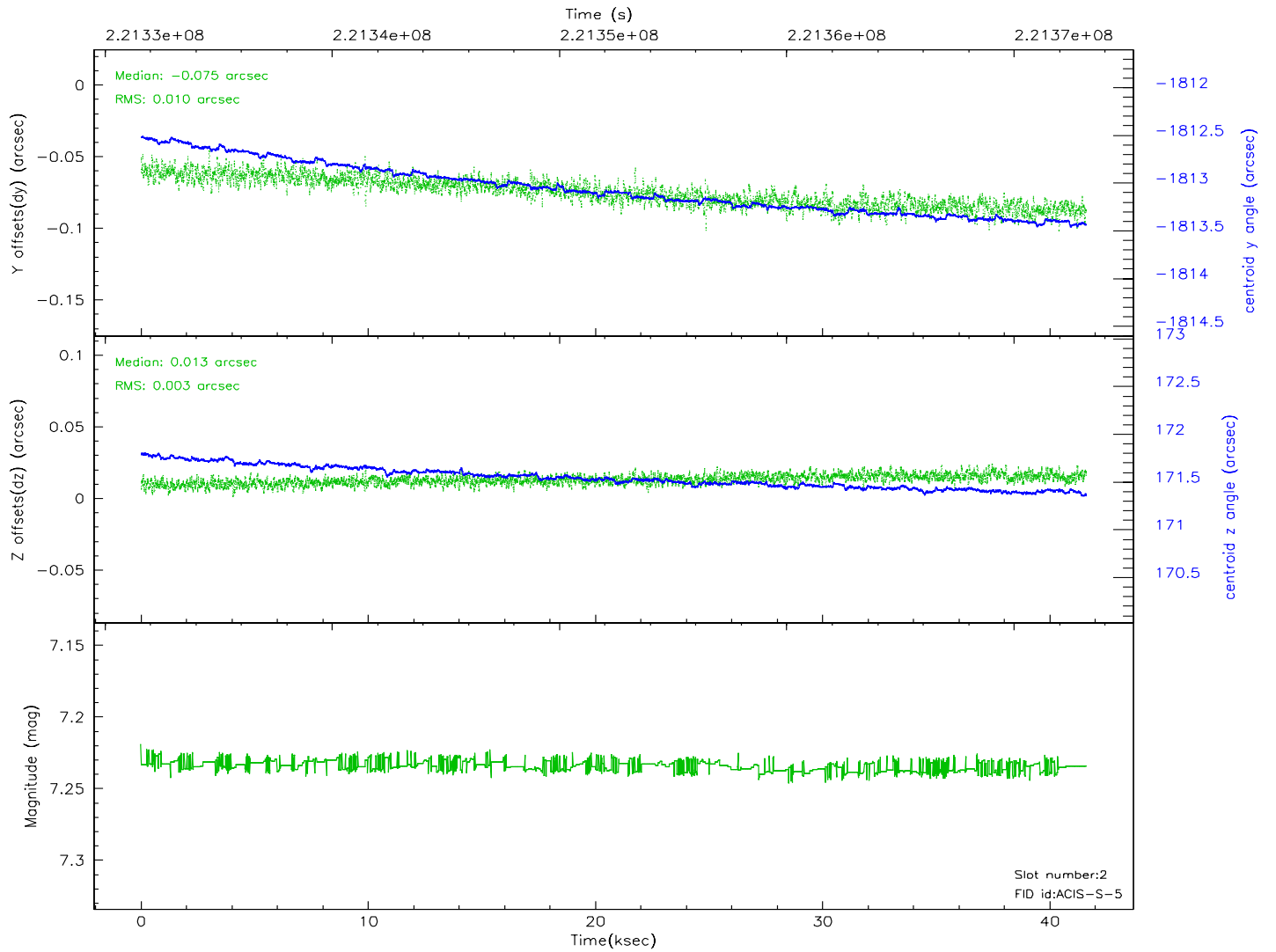
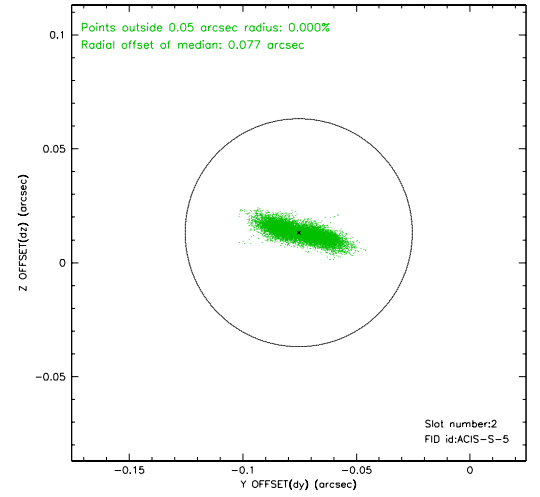
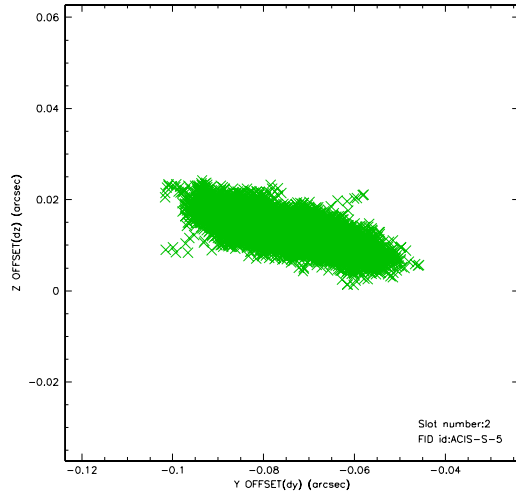
### 2.5.1 Slot 0



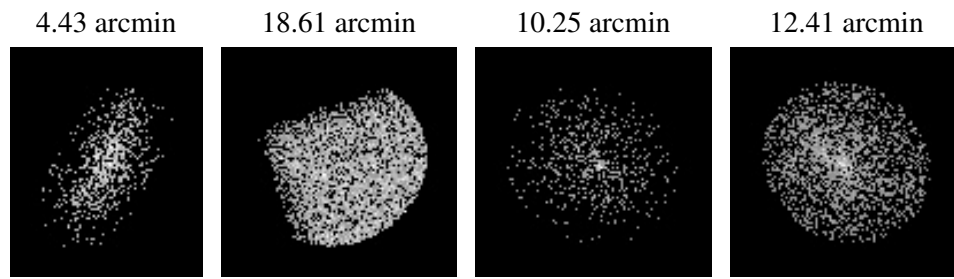
## 2.5.2 Slot 1



### 2.5.3 Slot 2



### 3 Point Sources



## A Summary

### A.1 Status

|                            |             |
|----------------------------|-------------|
| V&V Scientist              | Joy Nichols |
| V&V Date (YYYY-MM-DD)      | 2006.03.17  |
| V&V Edition                | 1           |
| V&V Disposition and Status | OK          |
| V&V Charge Time            | 41.59031    |

### A.2 Comments

ACIS focal plane temperature is above -118 degrees C for the last 2 ksec of the observation. ACIS calibration is not verified for data with focal plane temperature above 118 degrees C.