

# V&V Reference Report

## L2 ASCDS Version : 7.6.8.1

Observation 3269 - L2 Version 001  
Chandra X-Ray Center

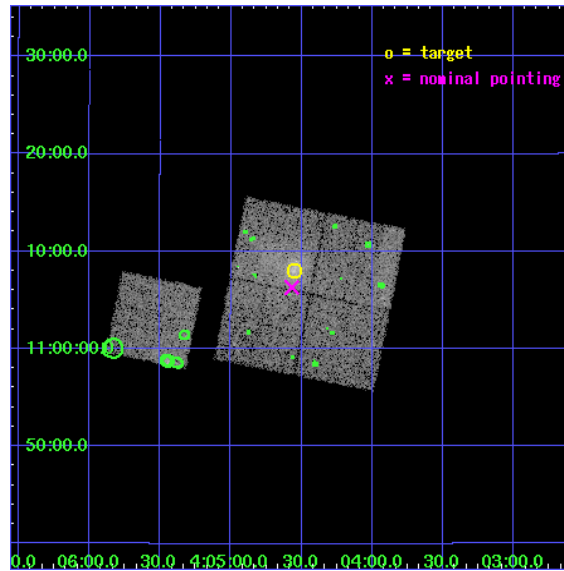
L2 Processing Date : Sep 2 2006

## Contents

|          |                               |           |
|----------|-------------------------------|-----------|
| <b>1</b> | <b>Front</b>                  | <b>2</b>  |
| <b>2</b> | <b>OBI</b>                    | <b>3</b>  |
| 2.1      | OBI . . . . .                 | 3         |
| 2.1.1    | Images . . . . .              | 3         |
| 2.1.2    | Bias . . . . .                | 3         |
| 2.1.3    | Parameters . . . . .          | 4         |
| 2.1.4    | Events . . . . .              | 4         |
| 2.2      | Compared Parameters . . . . . | 5         |
| 2.3      | Aspect . . . . .              | 6         |
| 2.4      | Star Slots . . . . .          | 9         |
| 2.4.1    | Slot 3 . . . . .              | 9         |
| 2.4.2    | Slot 4 . . . . .              | 10        |
| 2.4.3    | Slot 5 . . . . .              | 11        |
| 2.4.4    | Slot 6 . . . . .              | 12        |
| 2.4.5    | Slot 7 . . . . .              | 13        |
| 2.5      | FID Slots . . . . .           | 14        |
| 2.5.1    | Slot 0 . . . . .              | 14        |
| 2.5.2    | Slot 1 . . . . .              | 15        |
| 2.5.3    | Slot 2 . . . . .              | 16        |
| <b>3</b> | <b>Point Sources</b>          | <b>17</b> |
| <b>A</b> | <b>Summary</b>                | <b>18</b> |
| A.1      | Status . . . . .              | 18        |
| A.2      | Comments . . . . .            | 18        |

# 1 Front

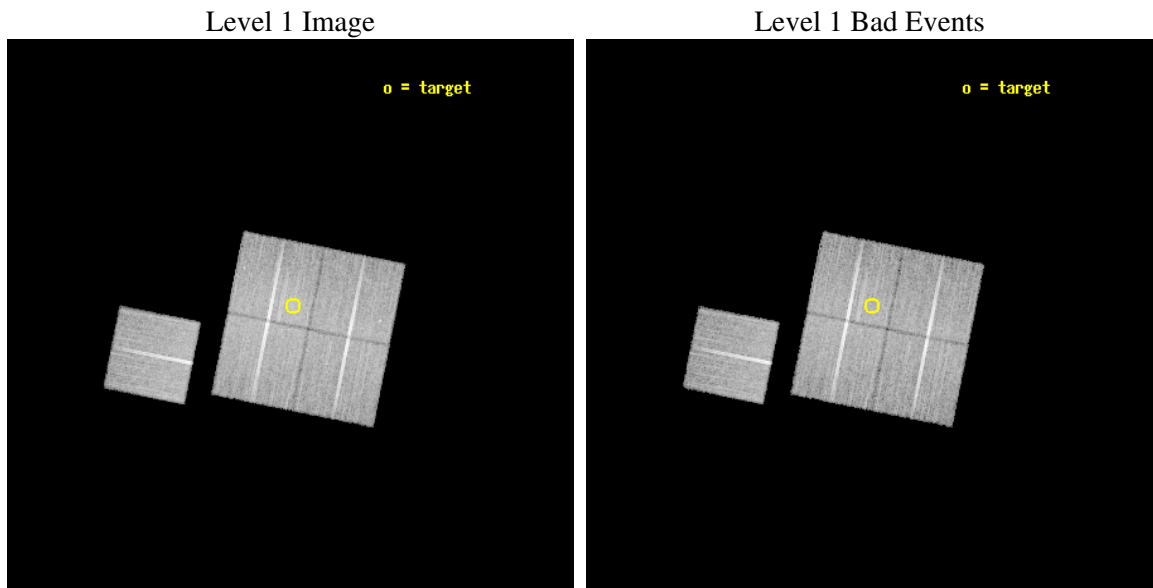
|          |   |
|----------|---|
| seq_num  | 800269  |
| obs_id   | 3269  |
| title    | MACS: THE X-RAY PROPERTIES OF THE MOST MASSIVE GALAXY CLUSTERS AT $Z>0.3$ |
| observer | Dr Harald Ebeling   |
| object   | MACSJ0404.6+1109  |
| dtcycle  | 0   |
| cycle    | P   |
| ra_targ  | 61.138333   |
| dec_targ | 11.132778   |
| ra_nom   | 61.141998570054   |
| dec_nom  | 11.105150443077   |
| roll_nom | 281.39464063877   |
| revision | 2   |
| ontime   | 22099.899957508   |
| livetime | 21811.148494853   |
| ontime0  | 22096.758997262   |
| ontime1  | 22087.336136401   |
| ontime2  | 22096.758997262   |
| ontime3  | 22099.899957508   |
| ontime6  | 22099.899957508   |
| l2events | 56518   |



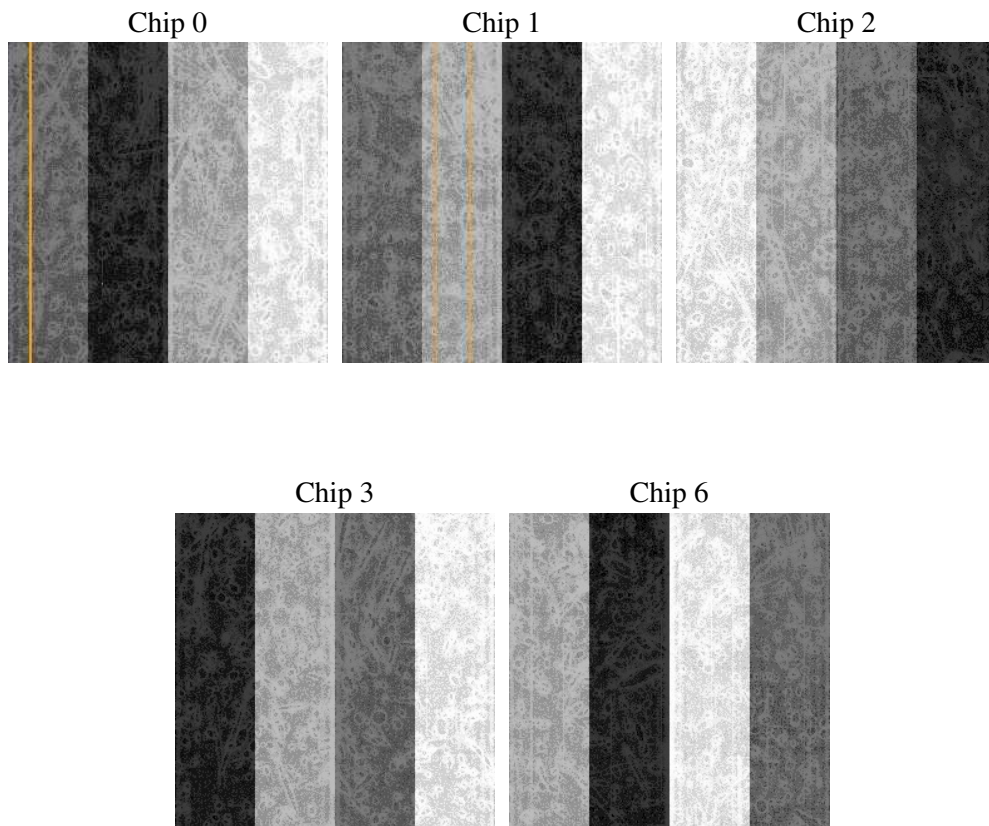
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |
|----------|---------------------|
| obi_num  | 0                   |
| ascdsver | 7.6.8.1             |
| caldsver | 3.2.3               |
| date     | 2006-09-02T14:19:32 |
| revision | 2                   |

|                |                 |
|----------------|-----------------|
| sched_exp_time | 22000.000000    |
| ontime         | 22106.357693166 |
| ontime0        | 22103.216732919 |
| ontime1        | 22093.793872058 |
| ontime2        | 22103.216732919 |
| ontime3        | 22106.357693166 |
| ontime6        | 22106.357693166 |
| l1events       | 645670          |

### 2.1.4 Events

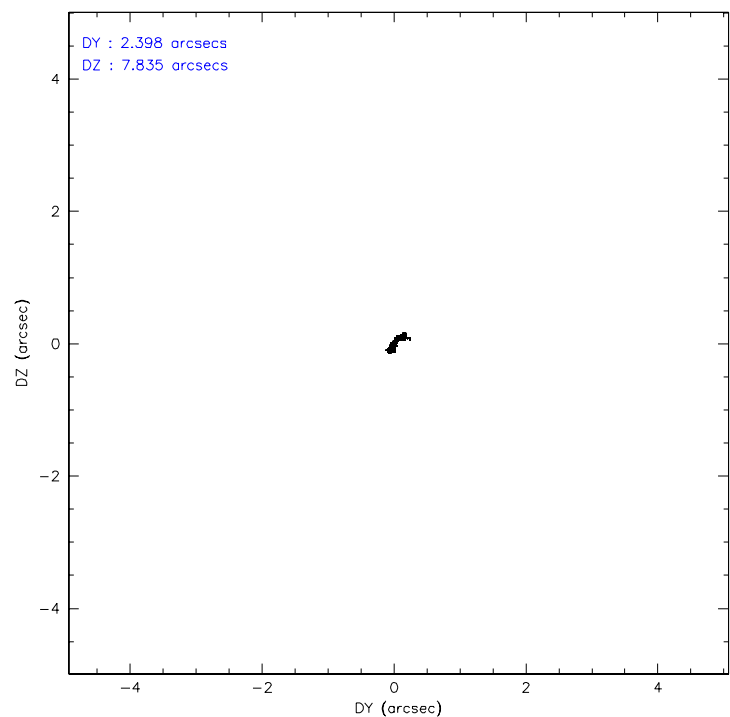
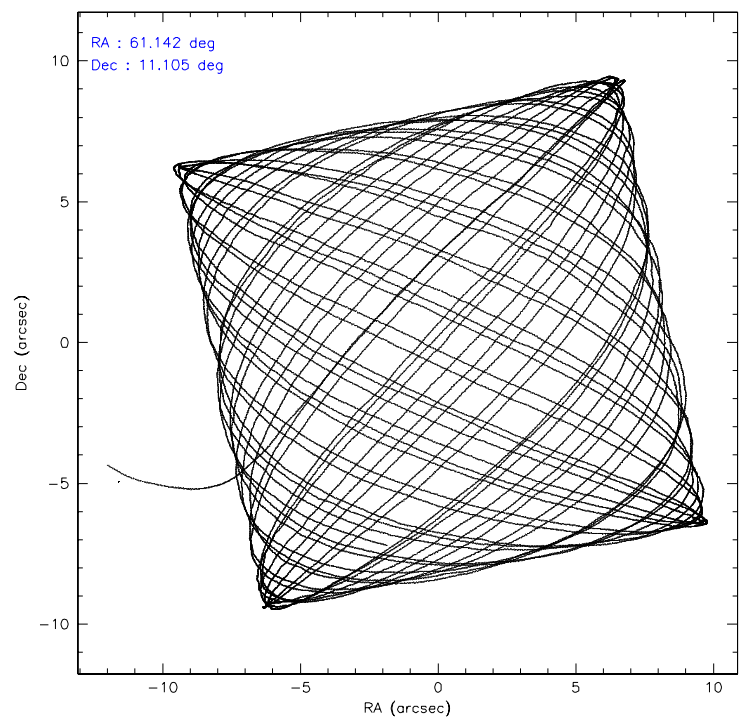
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 123803 | 122886 | 134848 | 134420 | 129713 |
| rejected events | 111465 | 108564 | 121851 | 118265 | 117111 |
| rejected %      | 90%    | 88%    | 90%    | 87%    | 90%    |

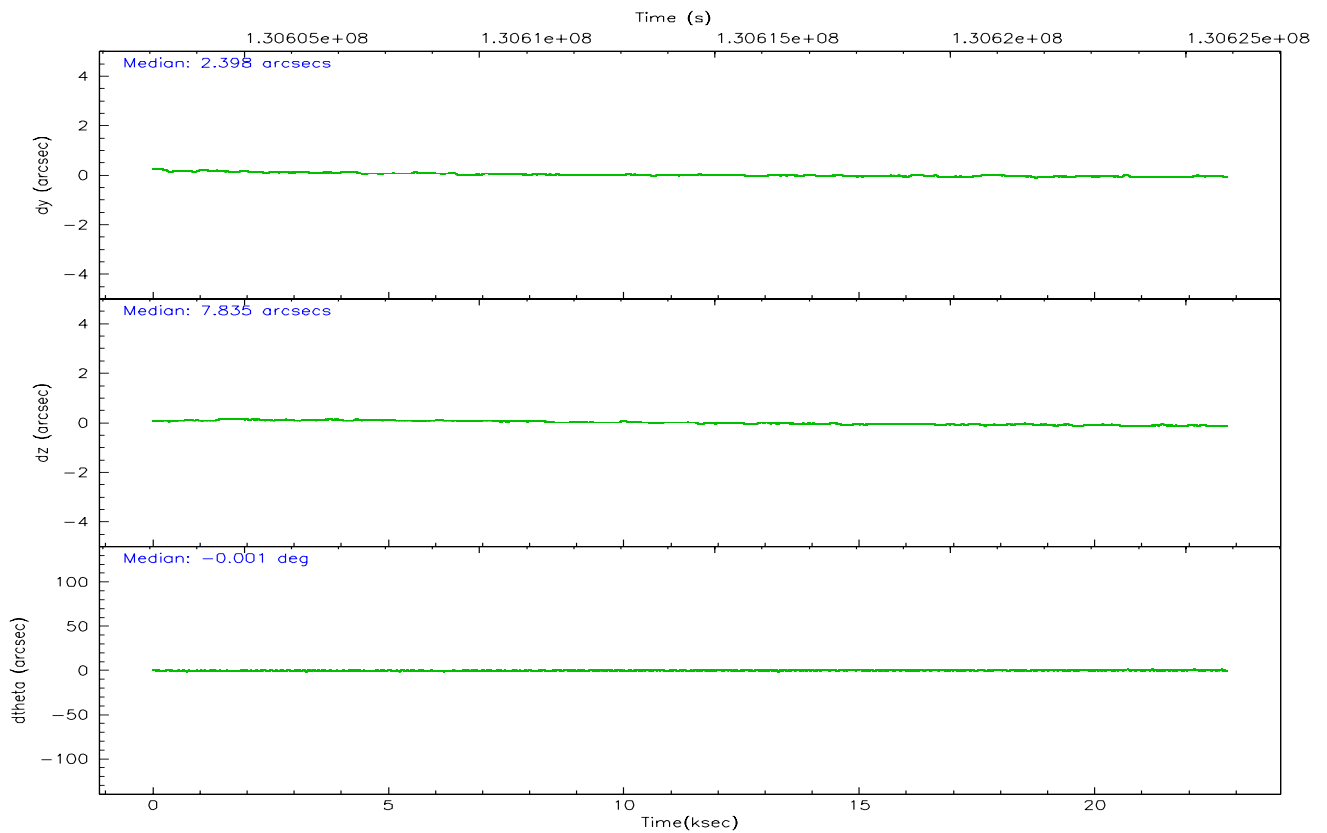
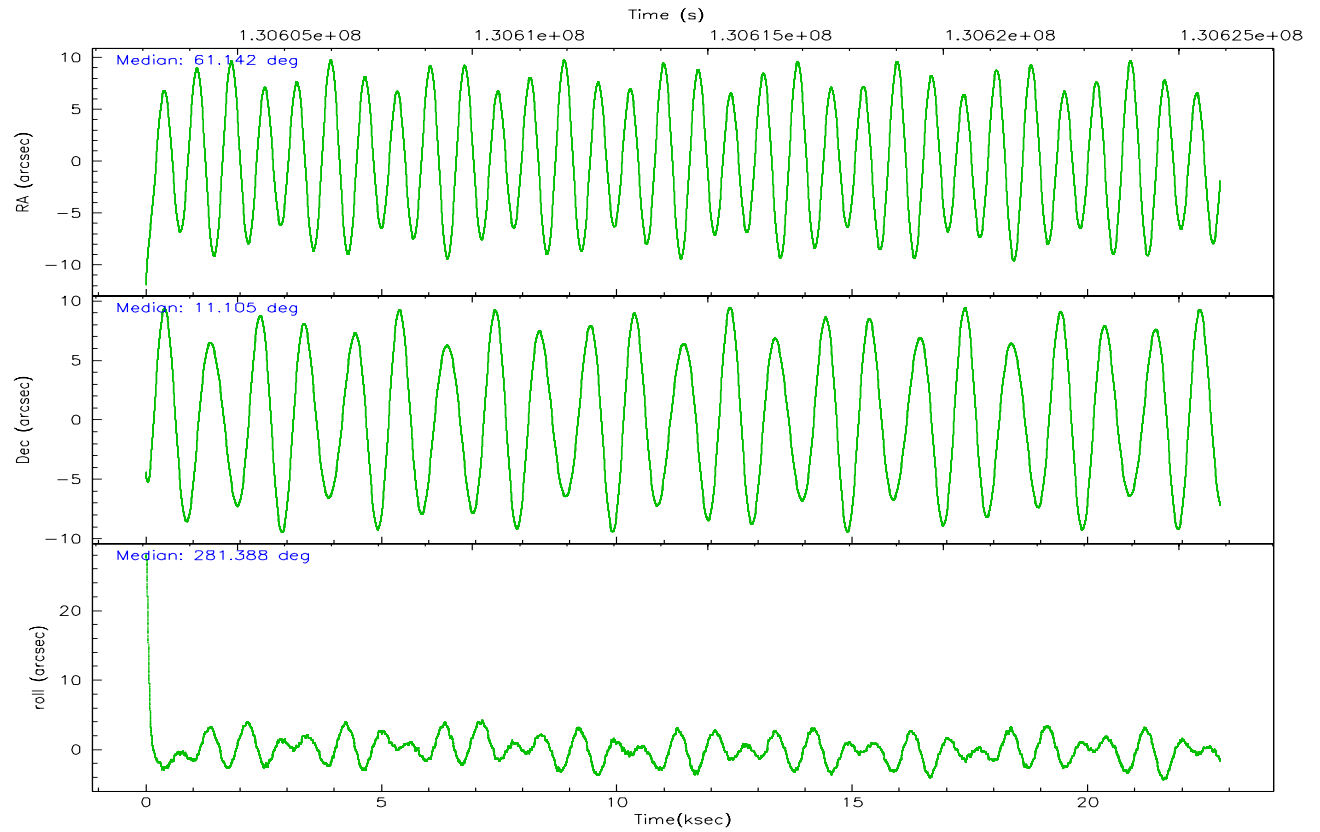
|                | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  |
|----------------|--------|--------|--------|--------|--------|
| grade 0 events | 4362   | 5428   | 5007   | 7873   | 4555   |
|                | 3%     | 4%     | 3%     | 5%     | 3%     |
| grade 1 events | 53     | 56     | 58     | 81     | 71     |
|                | 0%     | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 2877   | 3038   | 2990   | 2915   | 2589   |
|                | 2%     | 2%     | 2%     | 2%     | 1%     |
| grade 3 events | 1415   | 1579   | 1303   | 1486   | 1444   |
|                | 1%     | 1%     | 0%     | 1%     | 1%     |
| grade 4 events | 1284   | 1554   | 1369   | 1501   | 1396   |
|                | 1%     | 1%     | 1%     | 1%     | 1%     |
| grade 5 events | 4055   | 4405   | 3799   | 4581   | 4463   |
|                | 3%     | 3%     | 2%     | 3%     | 3%     |
| grade 6 events | 2401   | 2724   | 2331   | 2387   | 2623   |
|                | 1%     | 2%     | 1%     | 1%     | 2%     |
| grade 7 events | 107356 | 104102 | 117991 | 113596 | 112572 |
|                | 86%    | 84%    | 87%    | 84%    | 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                       | 61.123491           | 61.1419985700538     | Alternating exposures requested | N         | N       |
| Pointing Dec                      | 11.125654           | 11.10515044307675    | Primary exposure time           | 0.000000  | 3.1     |
| Pointing Roll                     | 281.189508          | 281.394640638772     |                                 |           |         |
| SIM focus pos (mm)                | -0.782348           | -0.7809083437167272  |                                 |           |         |
| SIM defocus (mm)                  | 0                   | 0.001439871863259334 |                                 |           |         |
| SIM translation stage pos (mm)    | -229.452463         | -229.4463571591594   |                                 |           |         |
| SIM translation stage offset (mm) | -4.14               | -4.146095843770325   |                                 |           |         |
| Observation start time            | 130603879.184000    | 130602606.50046      |                                 |           |         |
| Observation start date            | 2002-02-20T14:50:15 | 2002-02-20T14:30:06  |                                 |           |         |
| Observation end time              | 130625879.184000    | 130626619.68893      |                                 |           |         |
| Observation end date              | 2002-02-20T20:56:55 | 2002-02-20T21:10:19  |                                 |           |         |
| Read mode                         | TIMED               | TIMED                |                                 |           |         |

## 2.3 Aspect





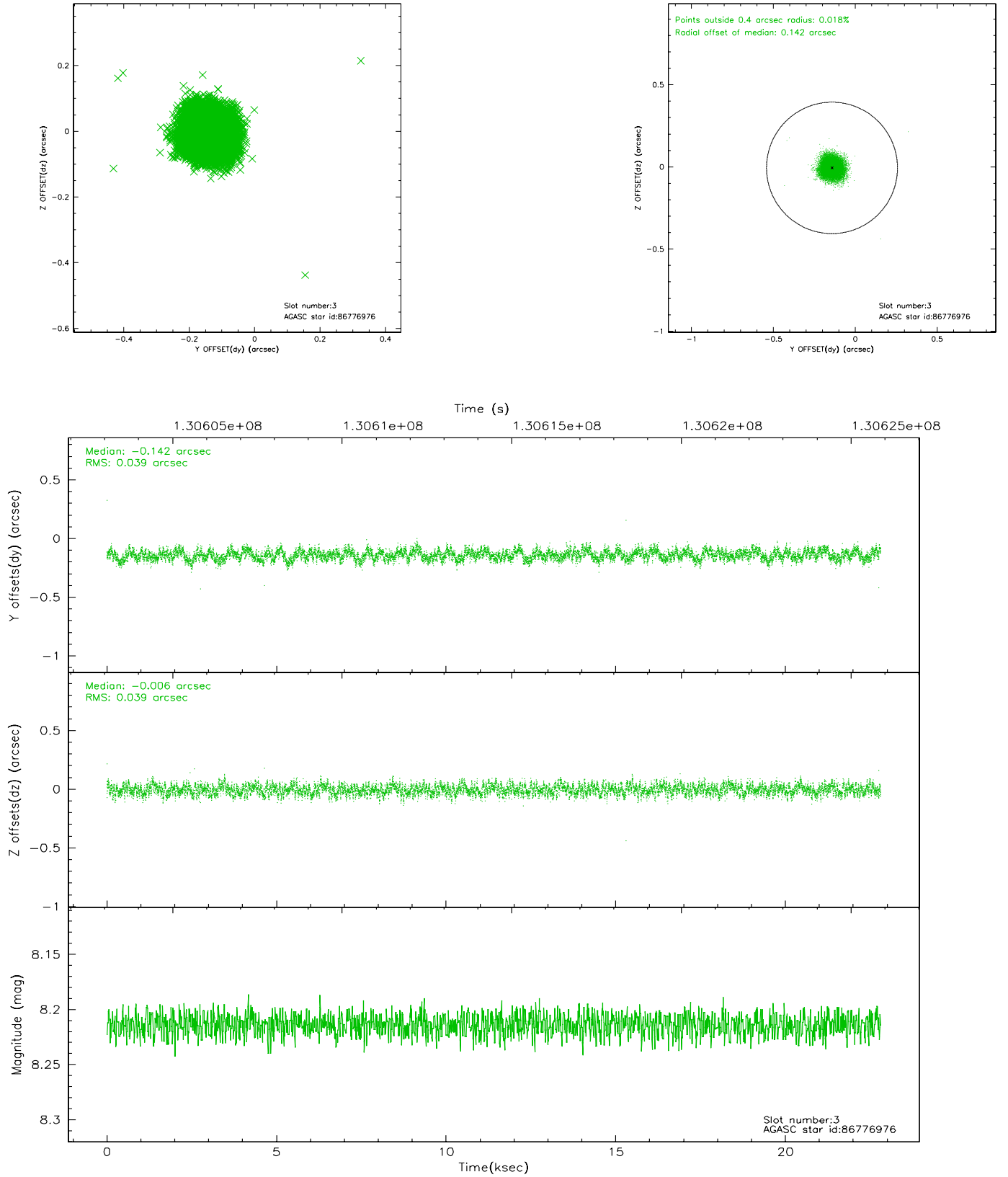
### Slot Statistics

| 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 | 5563  | -0.020 | 0.079  | 0.007 | 0.012 | 0.000000  | 0.000000  | 937.28   | -916.26  |
| 1    | FID    | ACIS-I-5 | 7.23 | 5564  | -0.071 | 0.038  | 0.006 | 0.011 | 0.000000  | 0.000000  | -1810.77 | 981.14   |
| 2    | FID    | ACIS-I-6 | 7.26 | 5564  | -0.001 | -0.046 | 0.007 | 0.011 | 0.000000  | 0.000000  | 402.72   | 1625.70  |
| 3    | GUIDE  | 86776976 | 8.21 | 11128 | -0.142 | -0.006 | 0.059 | 0.092 | 60.870326 | 11.495844 | -1480.34 | -617.87  |
| 4    | GUIDE  | 87820296 | 8.15 | 11126 | 0.115  | 0.111  | 0.069 | 0.103 | 61.786393 | 10.799685 | 1604.20  | 2072.45  |
| 5    | GUIDE  | 86779328 | 8.49 | 11127 | -0.094 | -0.135 | 0.077 | 0.126 | 60.514440 | 11.301517 | -1039.54 | -1986.28 |
| 6    | GUIDE  | 87823712 | 8.94 | 11116 | -0.008 | 0.058  | 0.076 | 0.121 | 61.454612 | 11.070354 | 422.12   | 1108.77  |
| 7    | GUIDE  | 86773384 | 8.99 | 11122 | 0.128  | -0.026 | 0.081 | 0.134 | 60.792404 | 10.571699 | 1729.38  | -1536.33 |

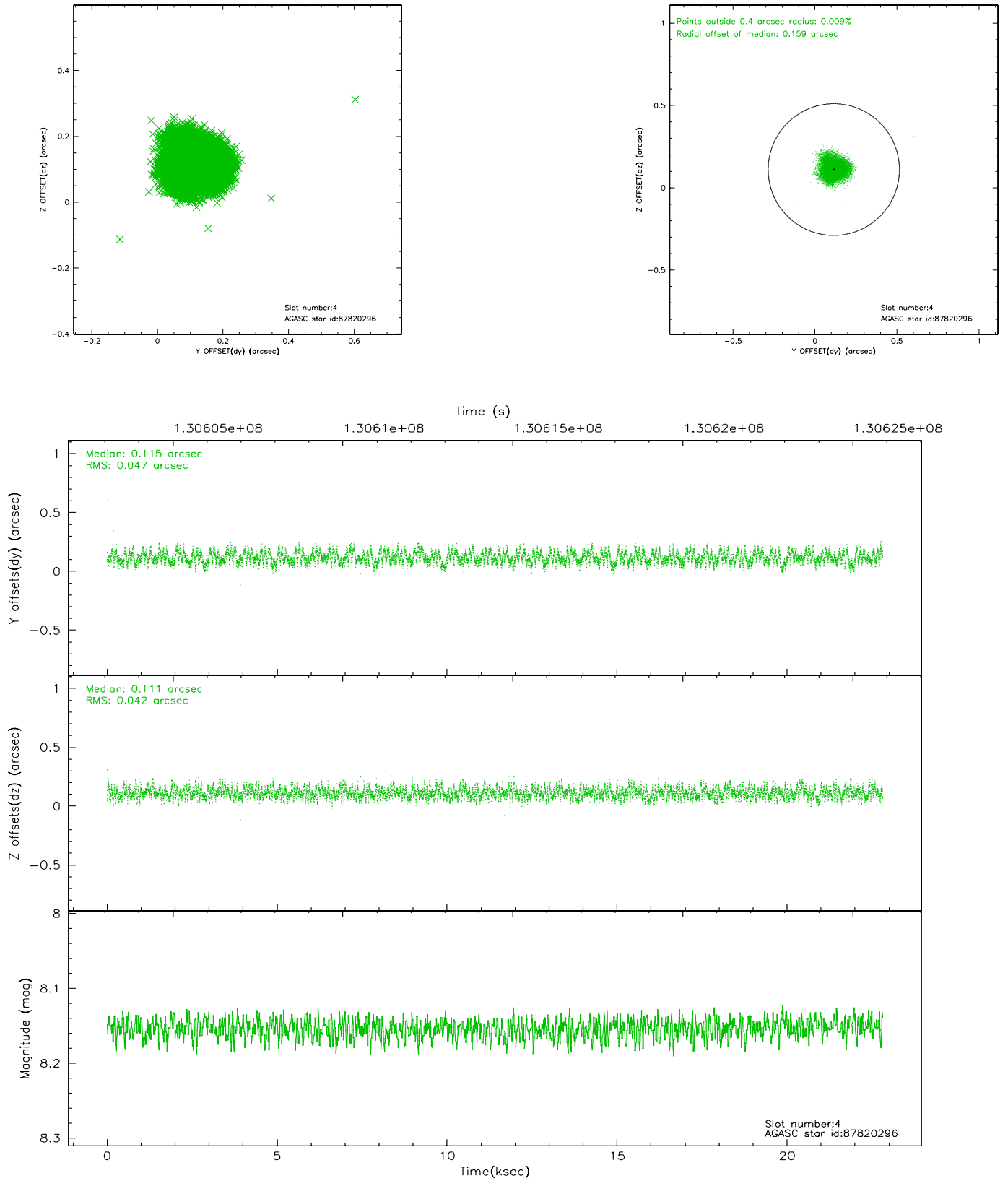


## 2.4 Star Slots

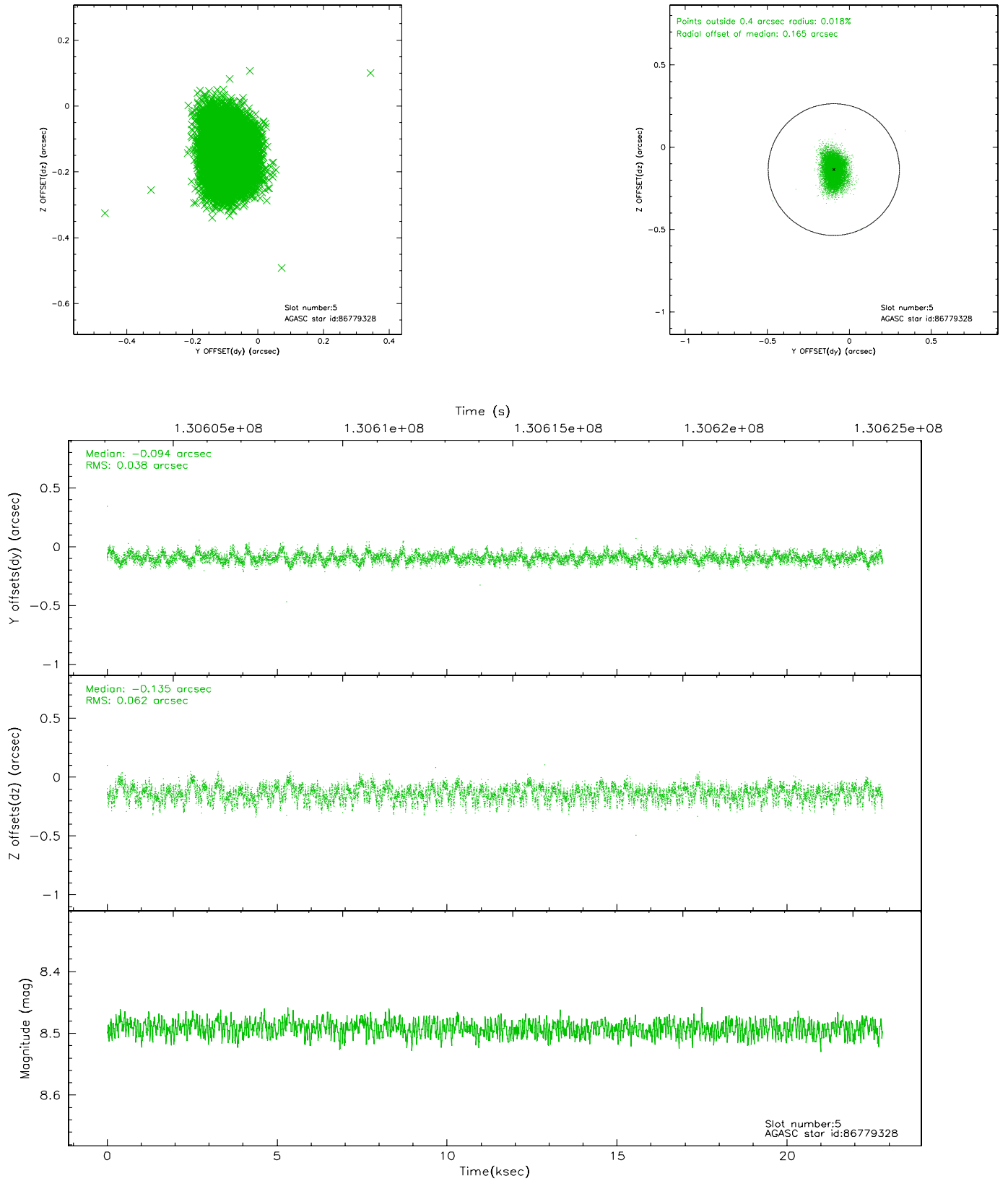
### 2.4.1 Slot 3



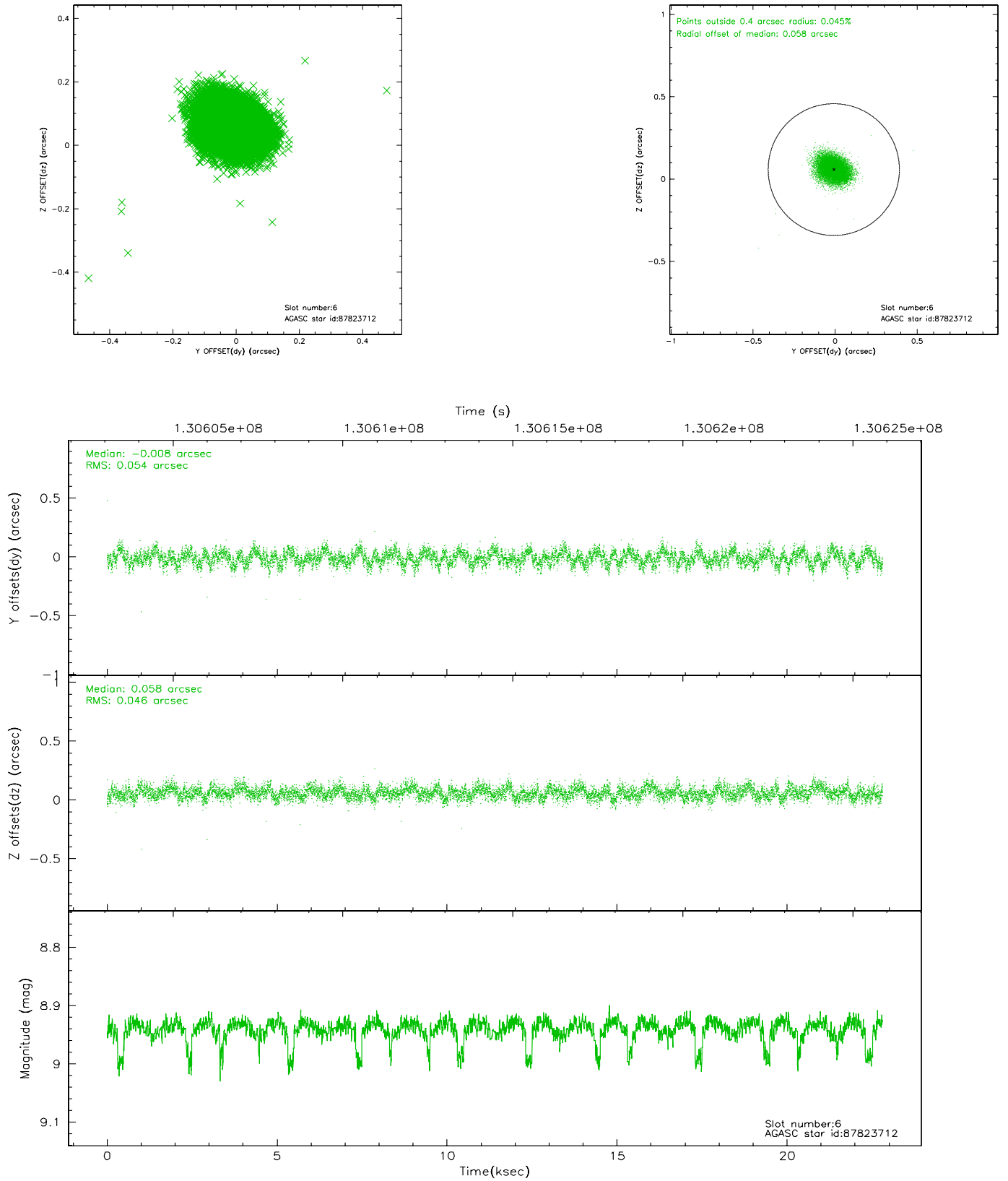
## 2.4.2 Slot 4



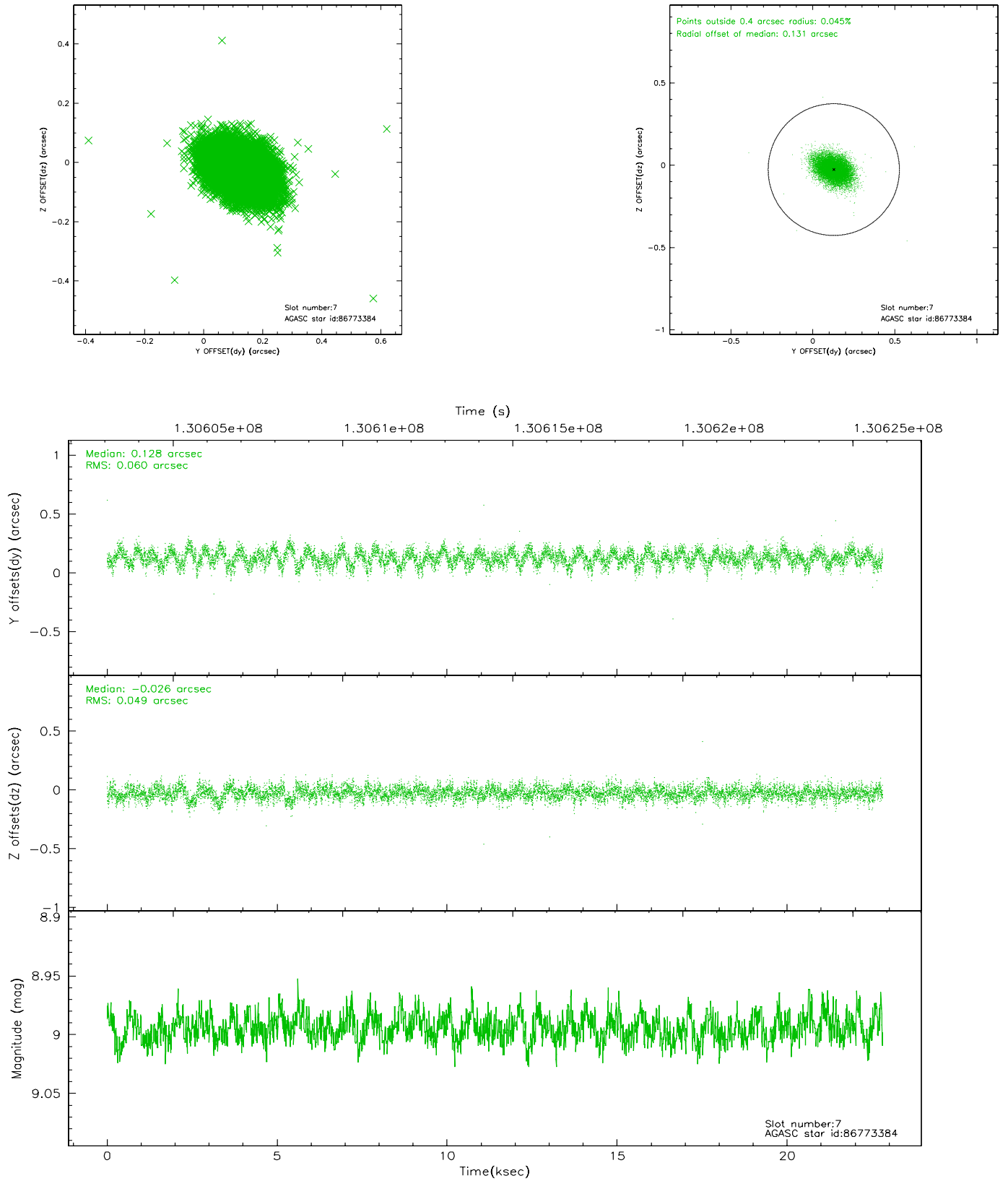
### 2.4.3 Slot 5



## 2.4.4 Slot 6

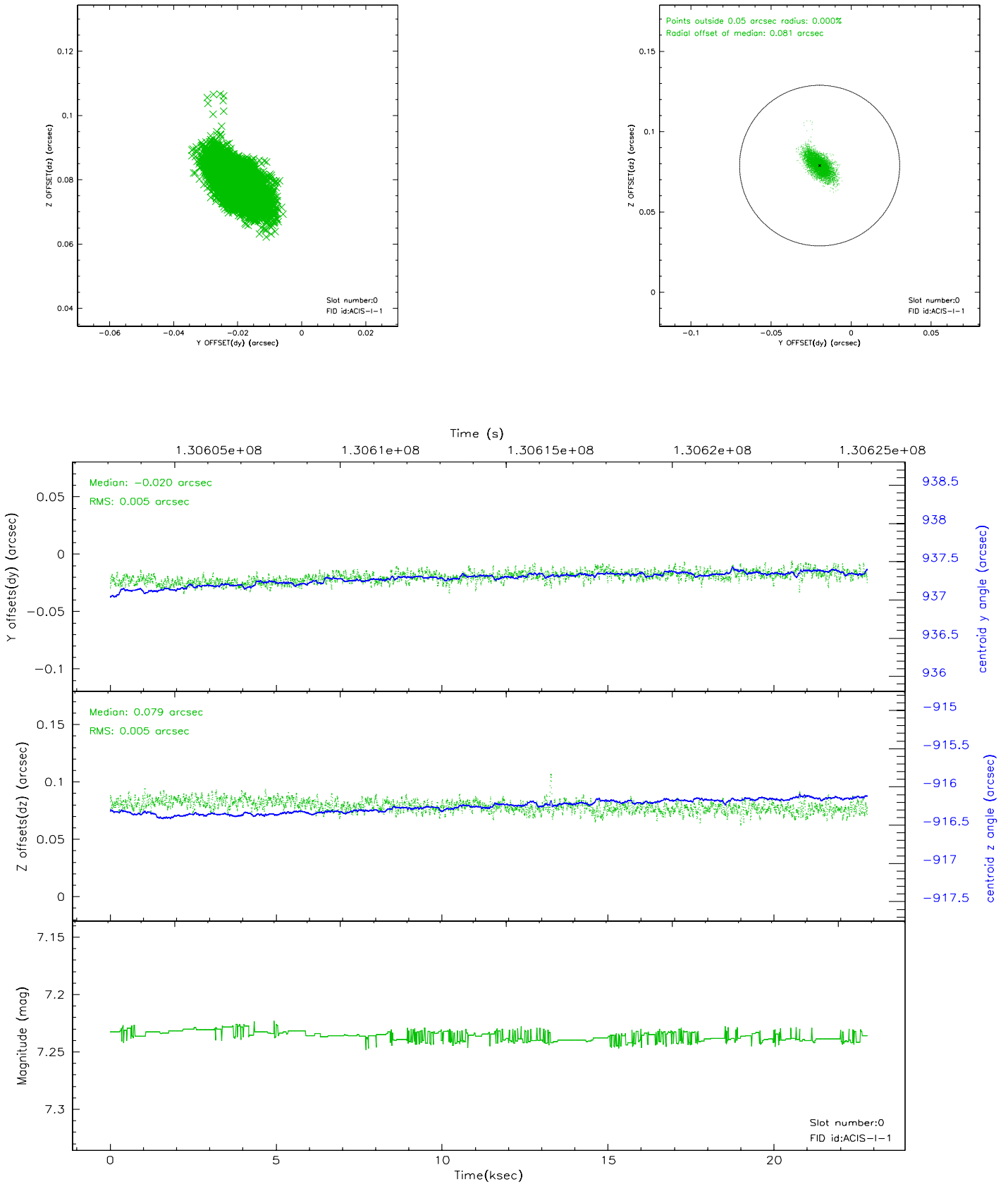


## 2.4.5 Slot 7

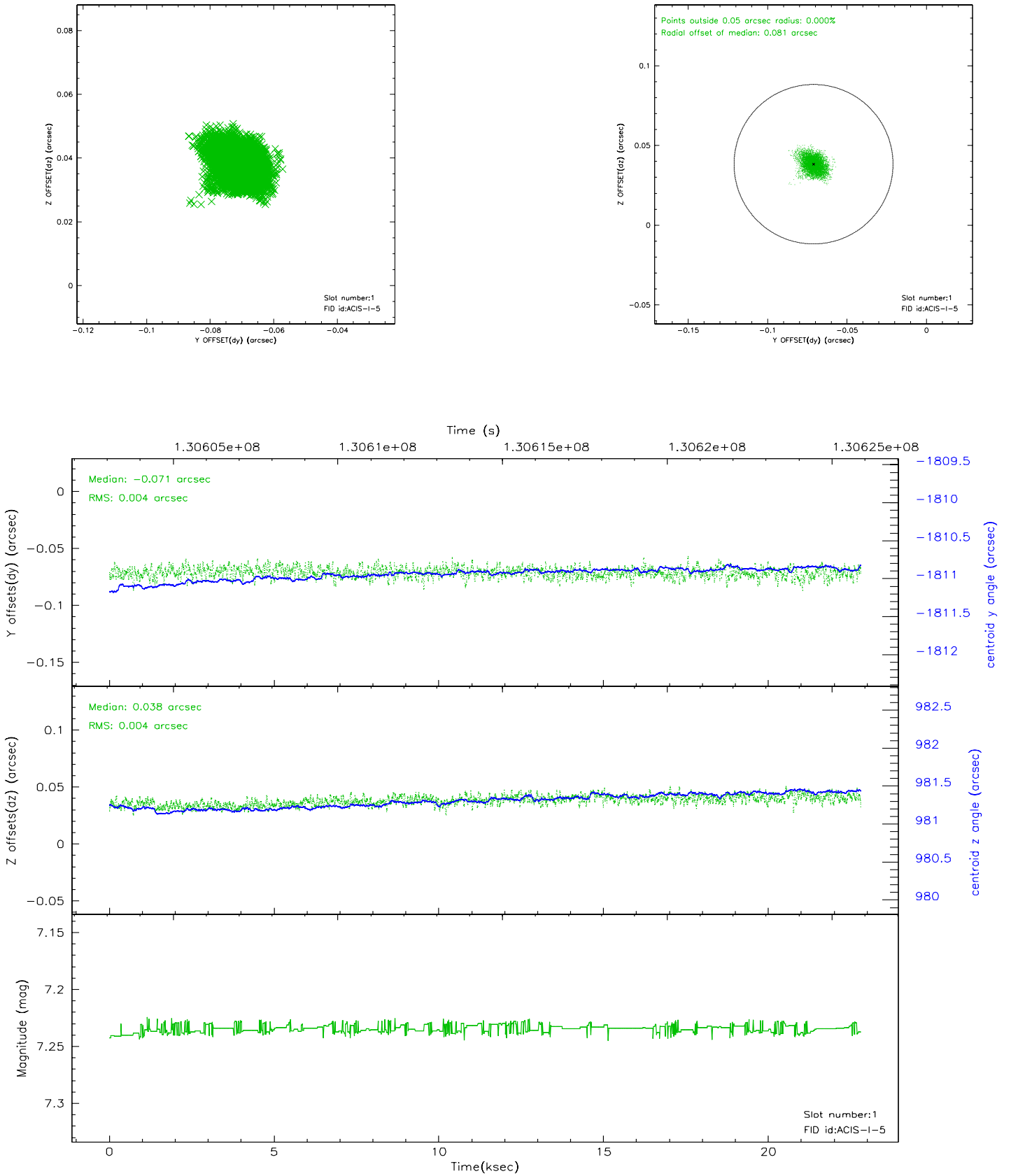


## 2.5 FID Slots

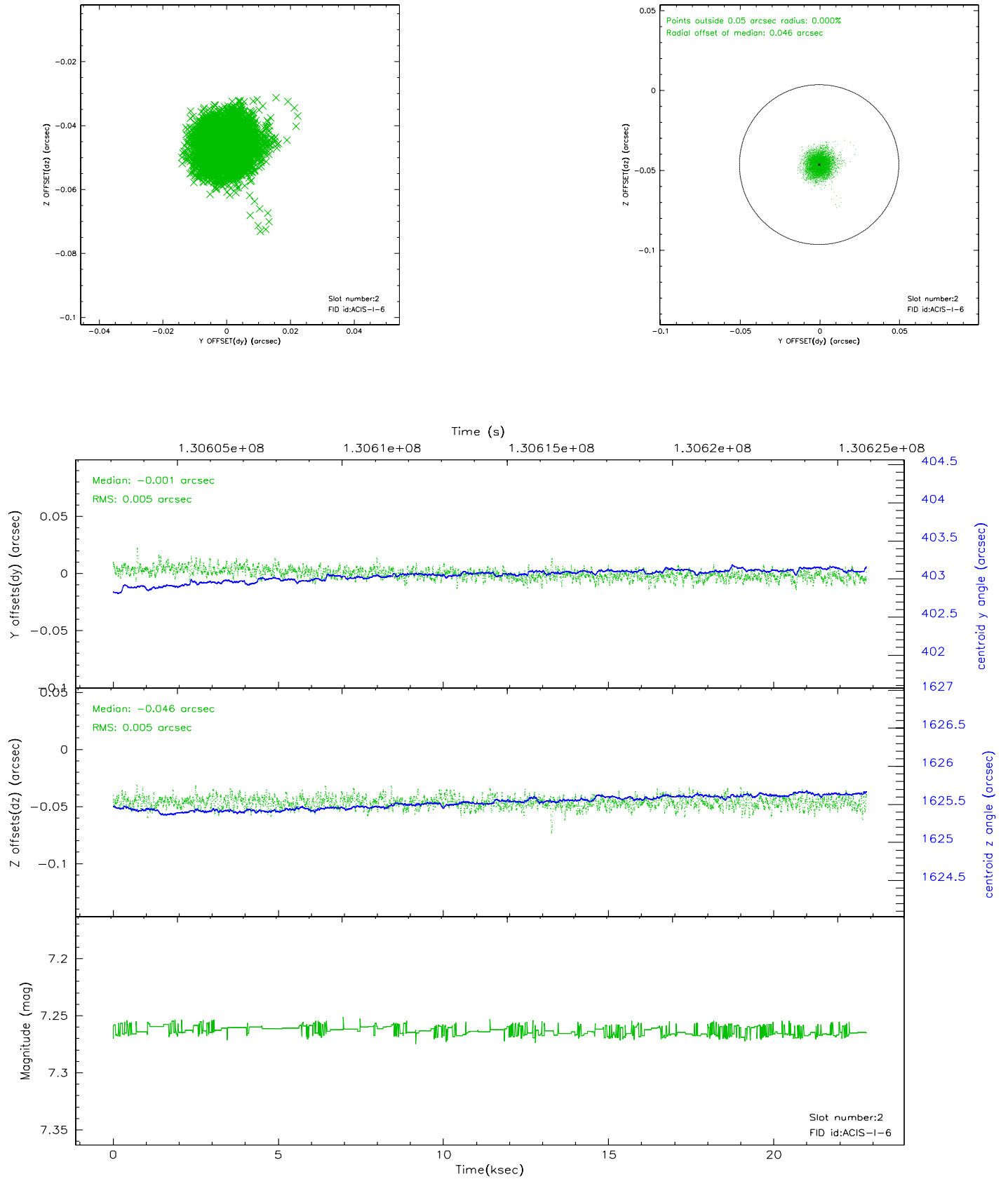
### 2.5.1 Slot 0



## 2.5.2 Slot 1

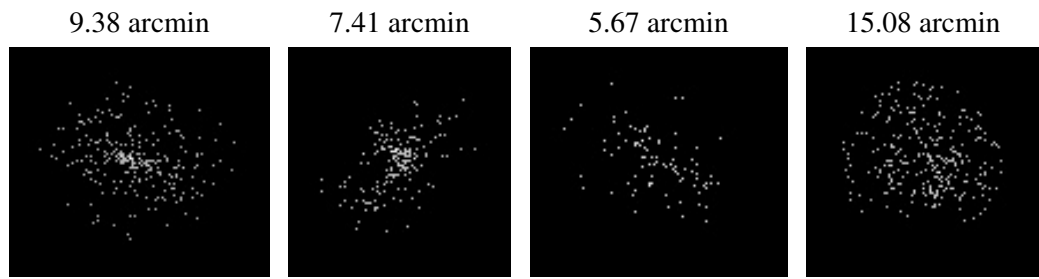


### 2.5.3 Slot 2





### 3 Point Sources



## A Summary

### A.1 Status

|                            |            |
|----------------------------|------------|
| V&V Scientist              | Jen Lauer  |
| V&V Date (YYYY-MM-DD)      | 2006.09.05 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 22.102     |

### A.2 Comments