

# V&V Reference Report

## L2 ASCDS Version : 7.6.9

Observation 4153 - L2 Version 001  
Chandra X-Ray Center

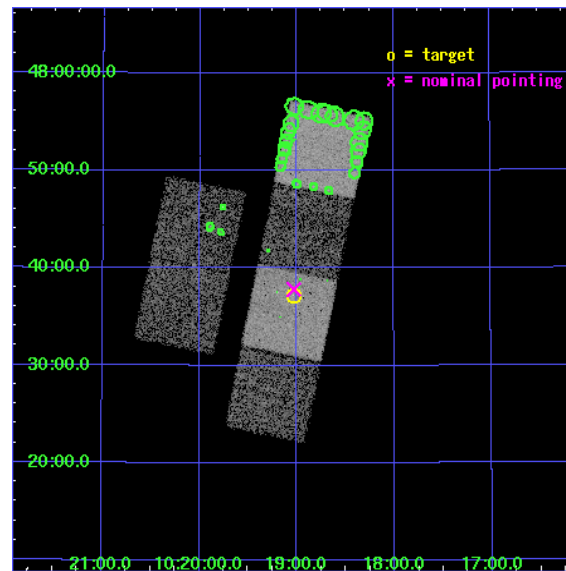
L2 Processing Date : Oct 18 2006

## 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

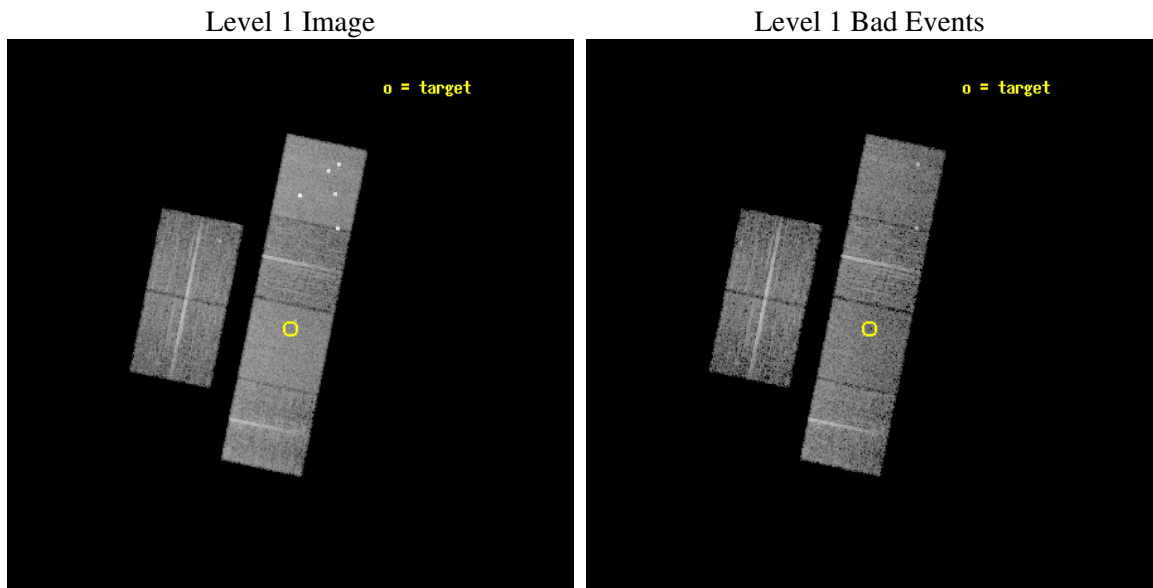
|          |  |
|----------|--|
| seq_num  | 700832   |
| obs_id   | 4153   |
| title    | X-RAY TRACE OF THE EARLY RISE OF THE QUASAR POPULATION |
| observer | Dr. Takamitsu Miyaji                                   |
| object   | PC 1015+4752   |
| dtcycle  | 0  |
| cycle    | P  |
| ra_targ  | 154.757917   |
| dec_targ | 47.620722  |
| ra_nom   | 154.75757648764  |
| dec_nom  | 47.630418211561  |
| roll_nom | 101.63235126067  |
| revision | 2  |
| ontime   | 8083.1999698877  |
| livetime | 7980.8456247503  |
| ontime2  | 8083.1999698877  |
| ontime3  | 8083.1999698877  |
| ontime5  | 8083.1999698877  |
| ontime6  | 8079.9589896202  |
| ontime7  | 8083.1999698877  |
| ontime8  | 8079.9589497745  |
| l2events | 78290  |



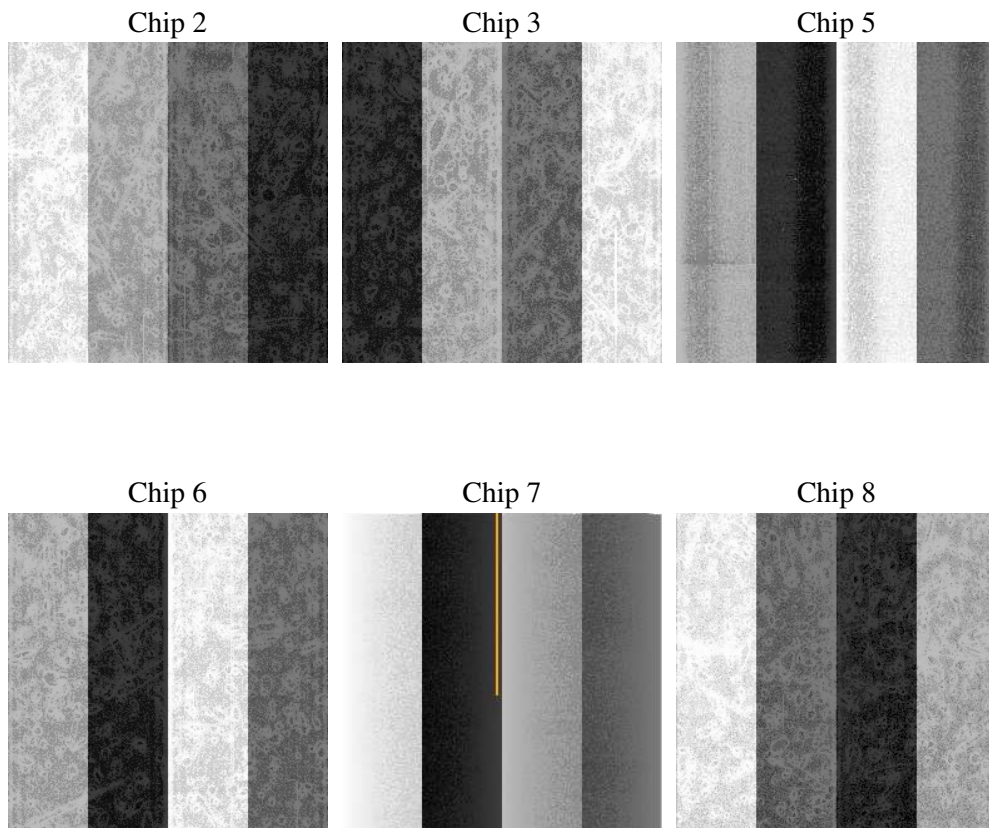
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |
|----------|---------------------|
| obi_num  | 1                   |
| ascdsver | 7.6.9               |
| caldsver | 3.2.3               |
| date     | 2006-10-18T16:37:29 |
| revision | 2                   |

|                |                 |
|----------------|-----------------|
| sched_exp_time | 8000.000000     |
| ontime         | 8089.552808255  |
| ontime2        | 8089.552808255  |
| ontime3        | 8089.552808255  |
| ontime5        | 8089.552808255  |
| ontime6        | 8086.3118279874 |
| ontime7        | 8089.552808255  |
| ontime8        | 8086.3117881417 |
| l1events       | 365198          |

### 2.1.4 Events

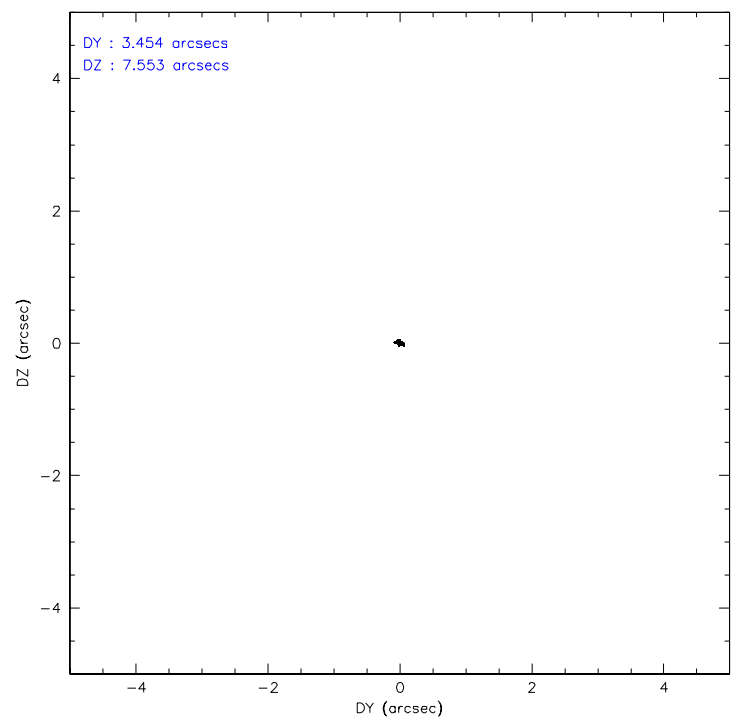
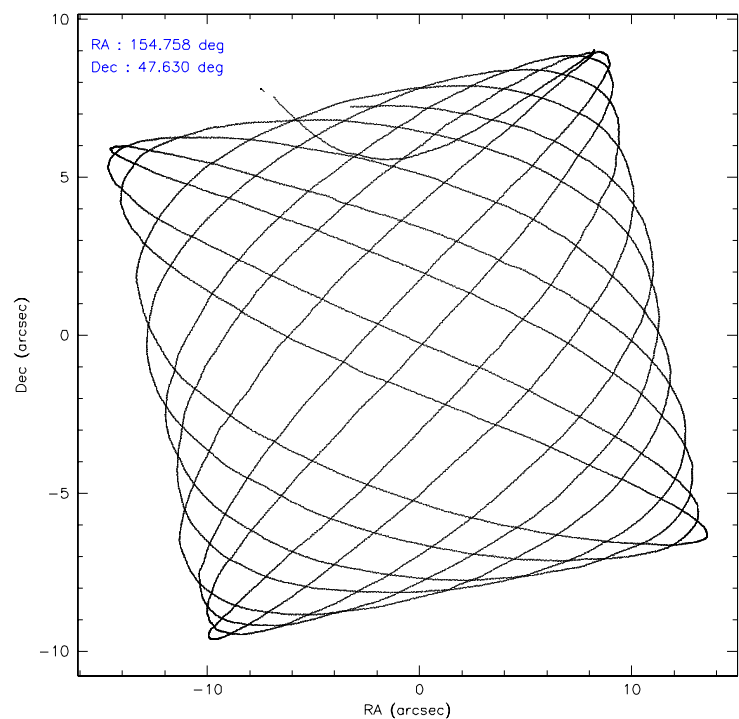
|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|
| level 1 events  | 52001 | 48391 | 81012 | 52416 | 68323 | 63055 |
| rejected events | 45848 | 42512 | 42625 | 46213 | 42080 | 49902 |
| rejected %      | 88%   | 87%   | 52%   | 88%   | 61%   | 79%   |

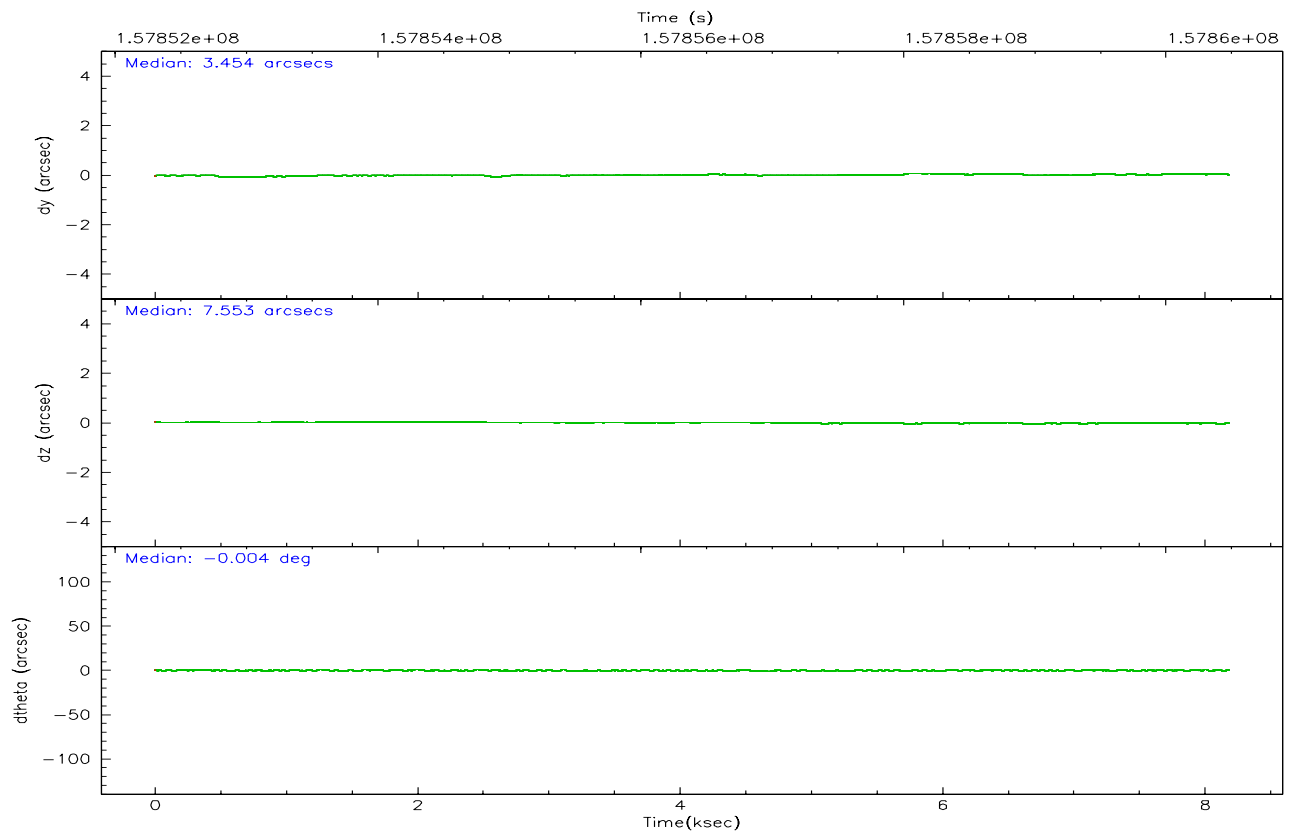
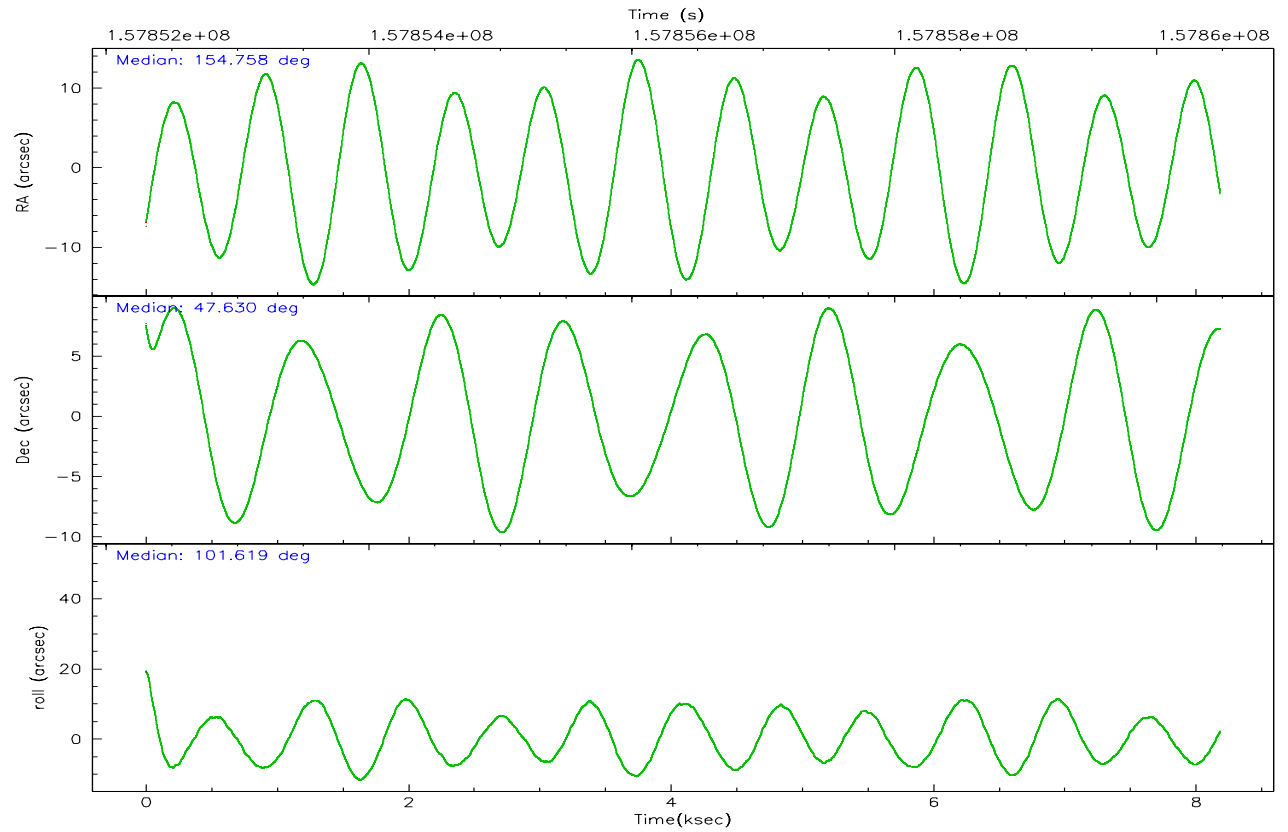
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|-------|
| grade 0 events | 2764  | 2575  | 7087  | 2543  | 1725  | 4251  |
|                | 5%    | 5%    | 8%    | 4%    | 2%    | 6%    |
| grade 1 events | 33    | 30    | 234   | 28    | 31    | 32    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 1257  | 1086  | 10808 | 1232  | 6499  | 2661  |
|                | 2%    | 2%    | 13%   | 2%    | 9%    | 4%    |
| grade 3 events | 548   | 623   | 757   | 593   | 1385  | 1548  |
|                | 1%    | 1%    | 0%    | 1%    | 2%    | 2%    |
| grade 4 events | 570   | 540   | 792   | 612   | 1361  | 1444  |
|                | 1%    | 1%    | 0%    | 1%    | 1%    | 2%    |
| grade 5 events | 1976  | 2257  | 3645  | 2288  | 4527  | 2861  |
|                | 3%    | 4%    | 4%    | 4%    | 6%    | 4%    |
| grade 6 events | 1019  | 1057  | 18970 | 1226  | 15287 | 3258  |
|                | 1%    | 2%    | 23%   | 2%    | 22%   | 5%    |
| grade 7 events | 43834 | 40223 | 38719 | 43894 | 37508 | 47000 |
|                | 84%   | 83%   | 47%   | 83%   | 54%   | 74%   |

## 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                         | VFAINT              | VFAINT               | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| Pointing RA                       | 154.784772          | 154.7575764876364    | Subarray requested                    | NONE      | NONE    |
| Pointing Dec                      | 47.610278           | 47.6304182115611     | Alternating exposures requested       | N         | N       |
| Pointing Roll                     | 101.455614          | 101.6323512606681    | Primary exposure time                 | 0.000000  | 3.2     |
| SIM focus pos (mm)                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| SIM defocus (mm)                  | 0                   | 0.001444936568705701 |                                       |           |         |
| SIM translation stage pos (mm)    | -190.132523         | -190.1400660498719   |                                       |           |         |
| SIM translation stage offset (mm) | 0                   | 0.00754346686406393  |                                       |           |         |
| Observation start time            | 157852487.184000    | 157851465.40834      |                                       |           |         |
| Observation start date            | 2003-01-01T23:53:43 | 2003-01-01T23:37:45  |                                       |           |         |
| Observation end time              | 157860487.184000    | 157861272.09625      |                                       |           |         |
| Observation end date              | 2003-01-02T02:07:03 | 2003-01-02T02:21:12  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

2.3 Aspect





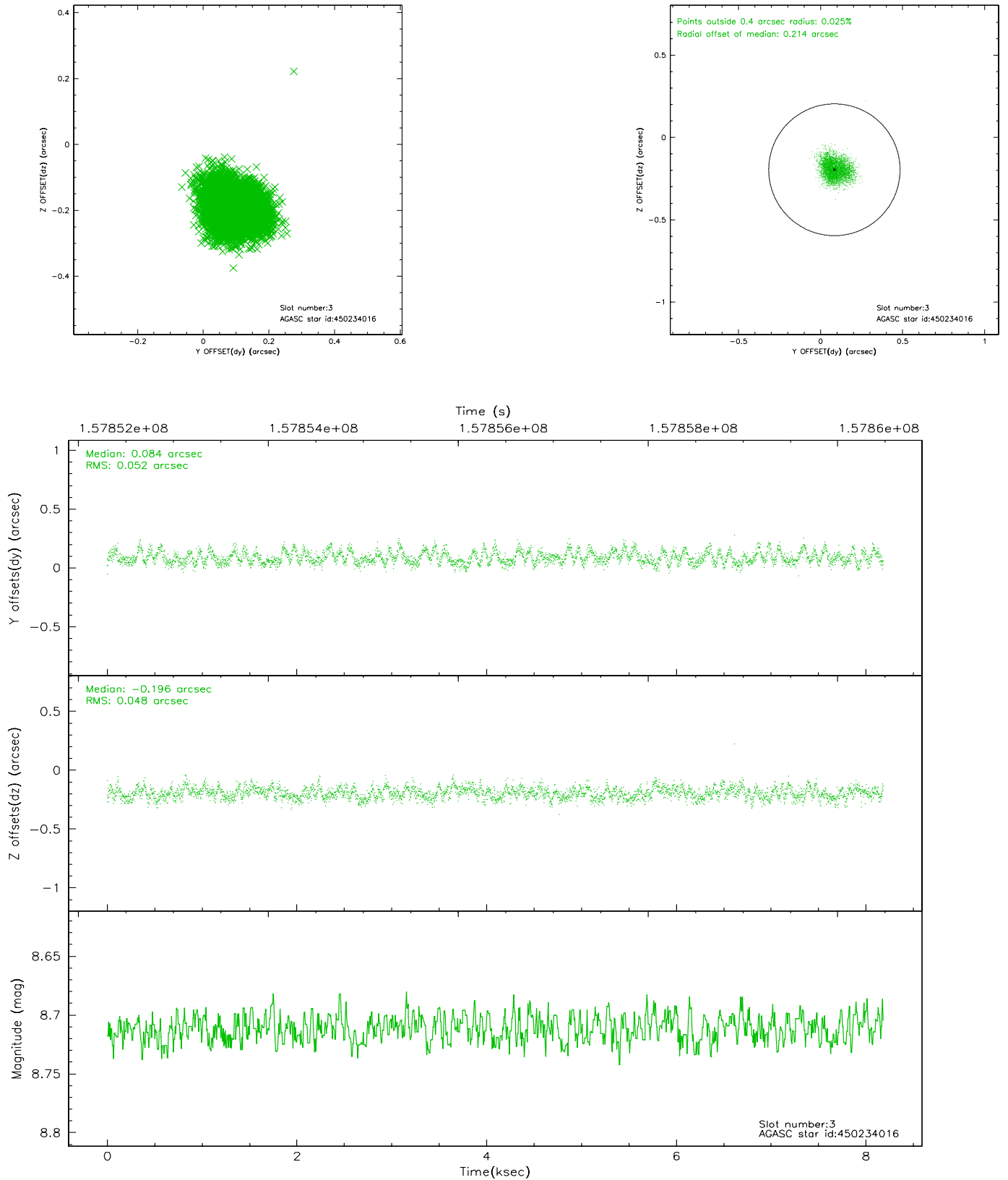
### Slot Statistics

| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.12 | 1997  | 0.009  | 0.029  | 0.007 | 0.011 | 0.000000   | 0.000000  | -756.11  | -1728.70 |
| 1    | FID    | ACIS-S-4  | 7.21 | 1997  | -0.048 | -0.012 | 0.005 | 0.010 | 0.000000   | 0.000000  | 2156.81  | 179.02   |
| 2    | FID    | ACIS-S-5  | 7.24 | 1996  | 0.008  | -0.008 | 0.007 | 0.011 | 0.000000   | 0.000000  | -1808.06 | 173.49   |
| 3    | GUIDE  | 450234016 | 8.71 | 3992  | 0.084  | -0.196 | 0.075 | 0.118 | 153.913885 | 47.313910 | -612.22  | 2292.62  |
| 4    | GUIDE  | 450631768 | 9.17 | 3990  | 0.014  | 0.141  | 0.090 | 0.144 | 155.362295 | 47.870739 | 647.38   | -1552.96 |
| 5    | GUIDE  | 450631944 | 8.95 | 3991  | -0.062 | 0.150  | 0.092 | 0.154 | 155.513728 | 48.292028 | 2067.49  | -2199.90 |
| 6    | GUIDE  | 450633048 | 7.70 | 3992  | -0.151 | 0.187  | 0.057 | 0.093 | 155.424410 | 48.041995 | 1224.77  | -1818.04 |
| 7    | GUIDE  | 450237224 | 7.84 | 3991  | 0.108  | -0.283 | 0.061 | 0.097 | 153.887796 | 47.369432 | -403.41  | 2312.49  |

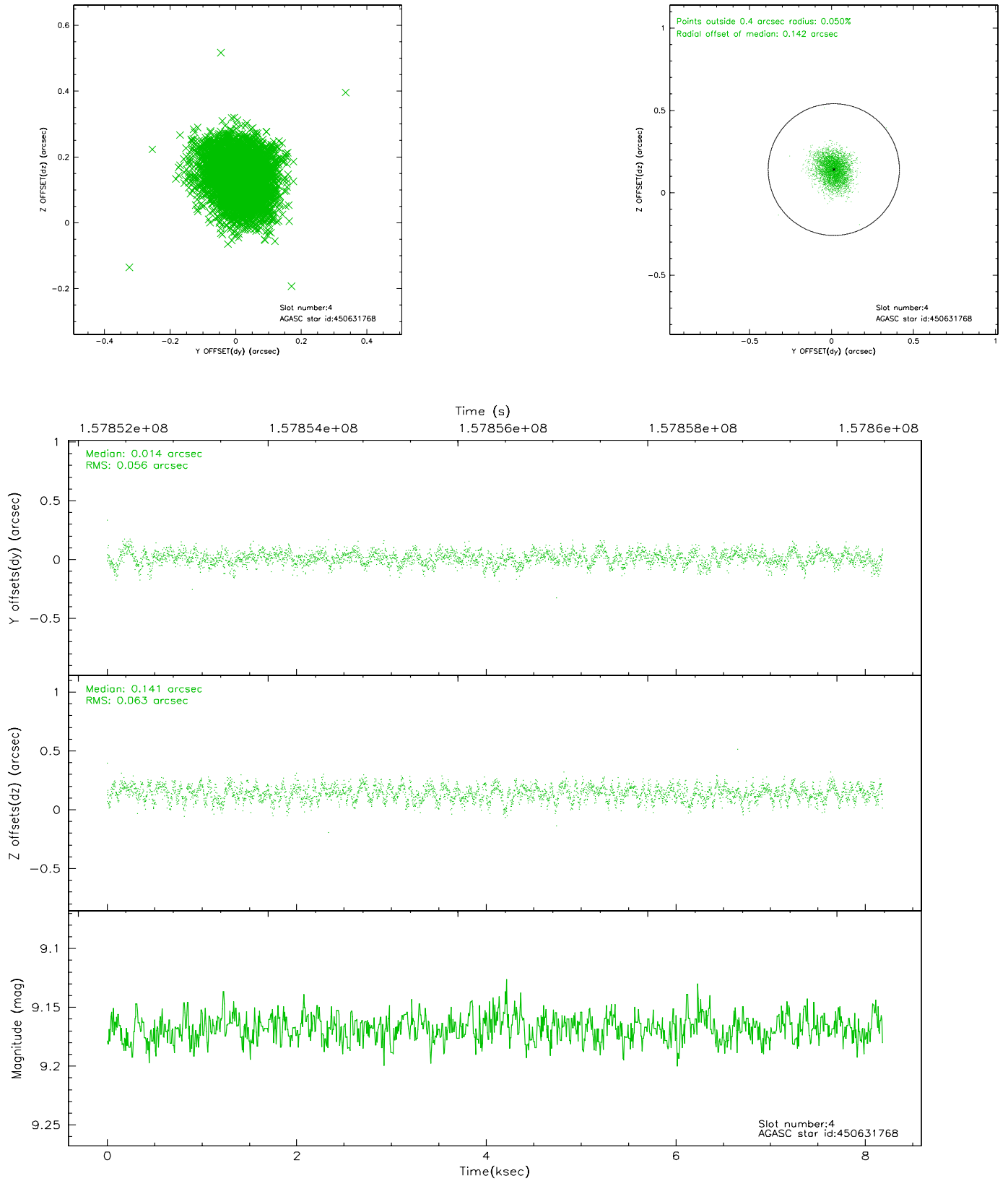


## 2.4 Star Slots

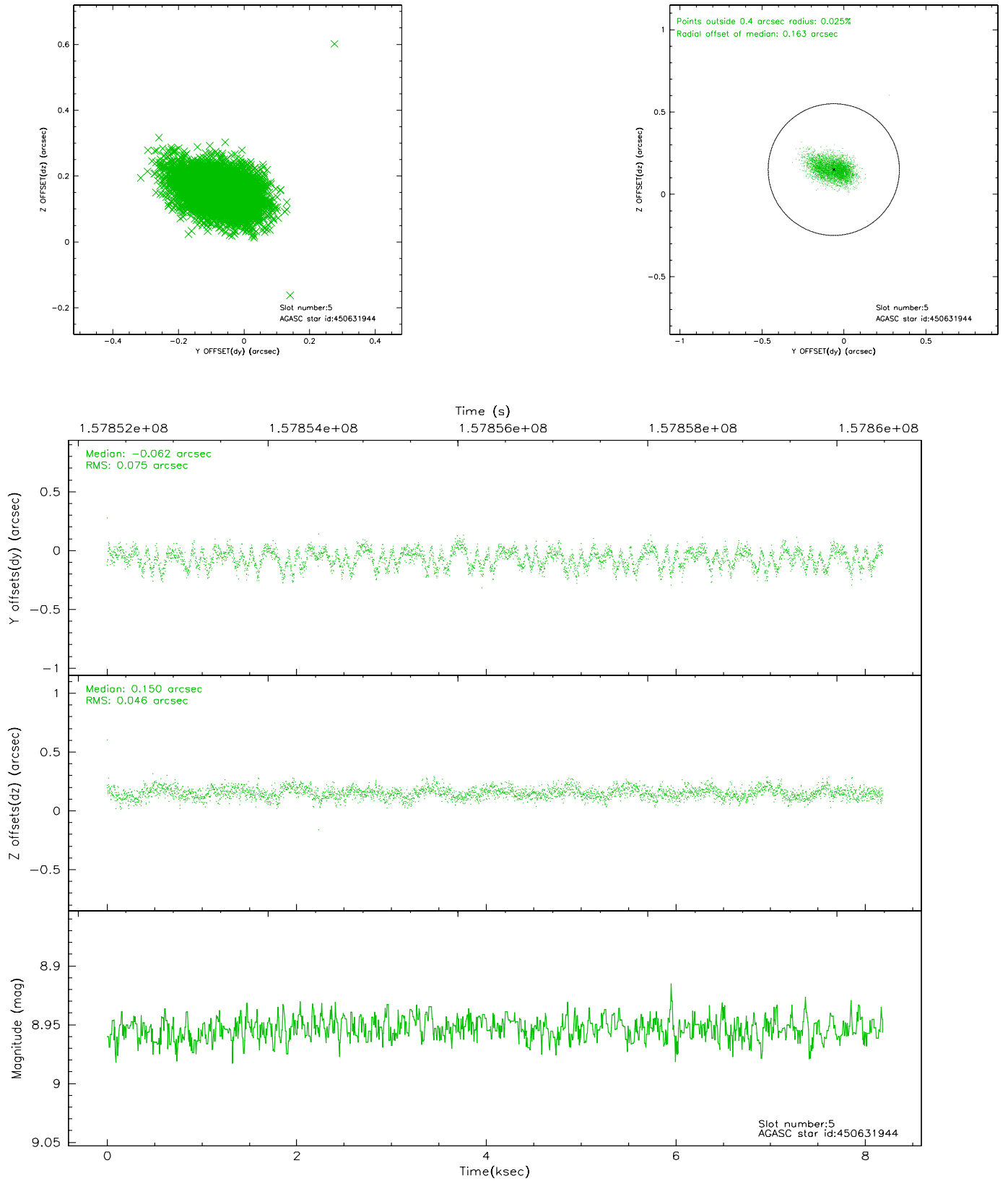
### 2.4.1 Slot 3



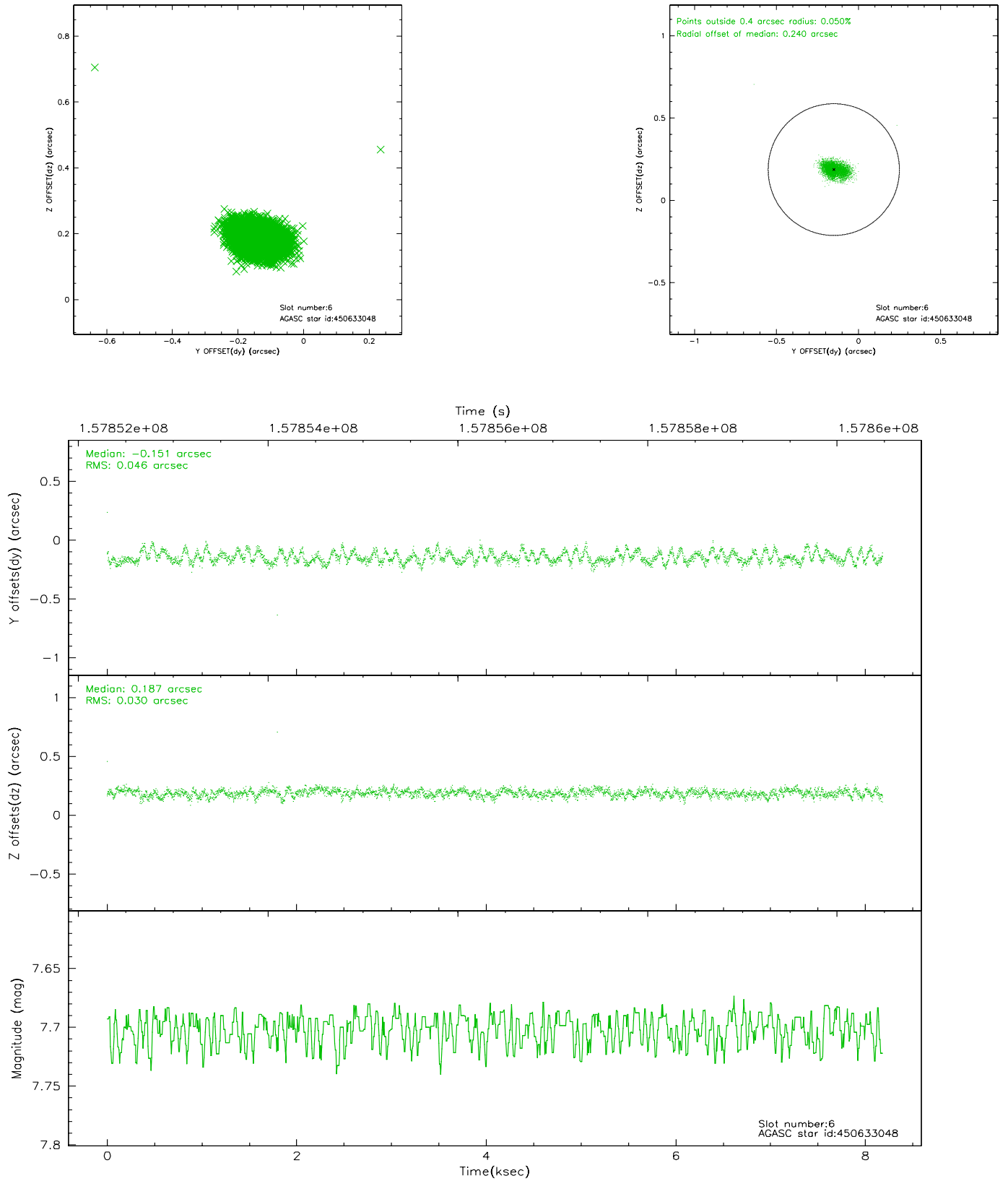
## 2.4.2 Slot 4



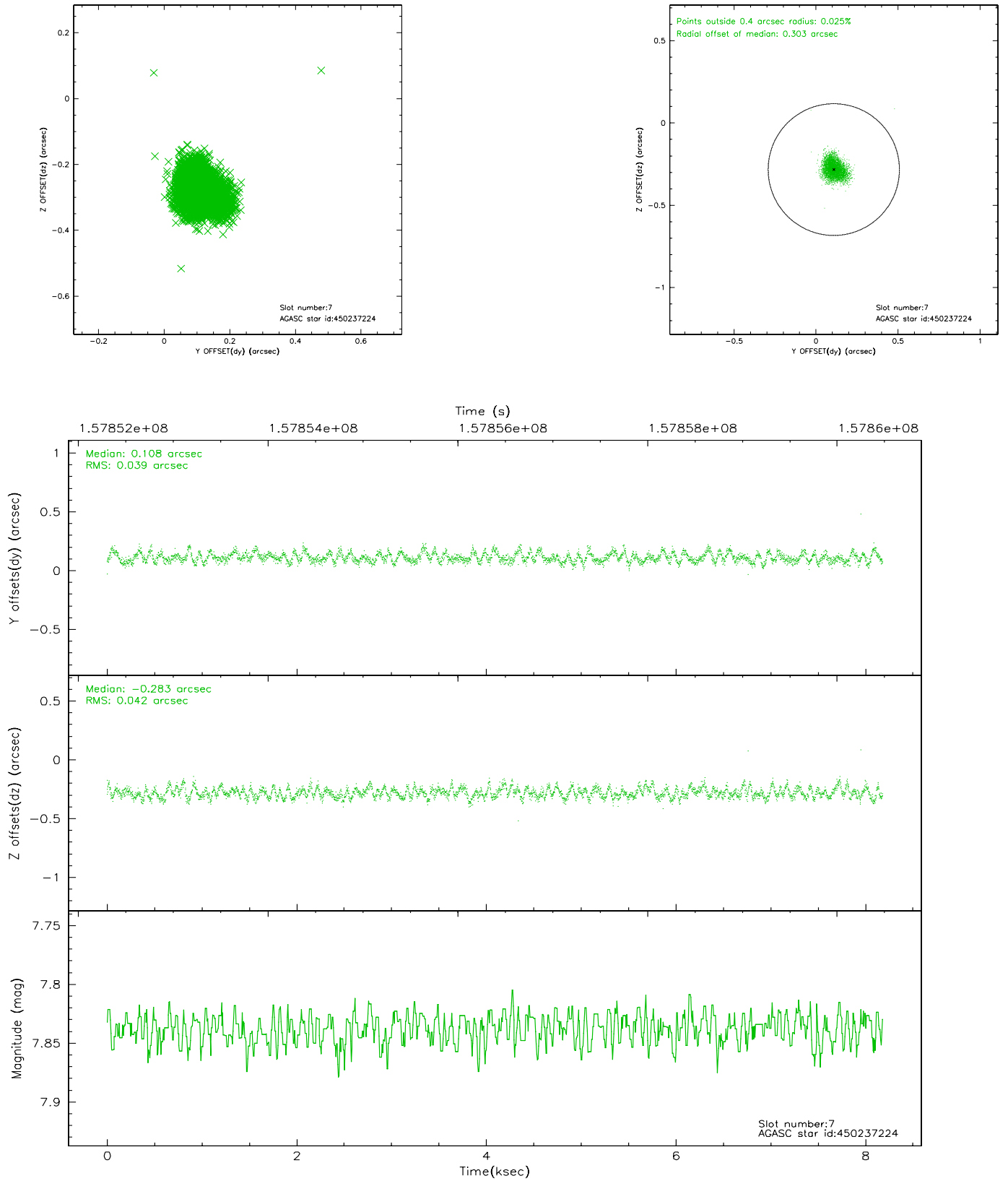
### 2.4.3 Slot 5



## 2.4.4 Slot 6

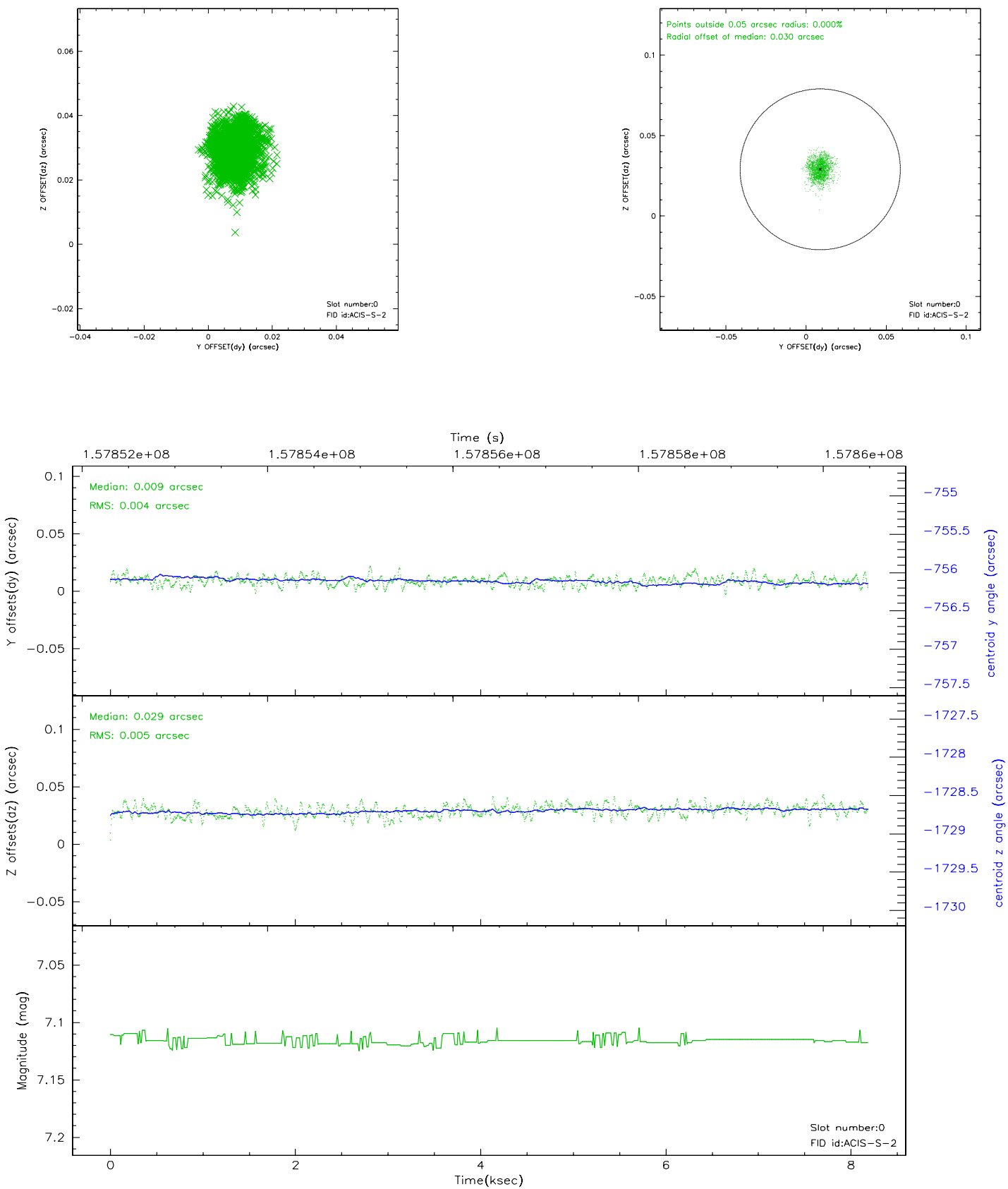


## 2.4.5 Slot 7

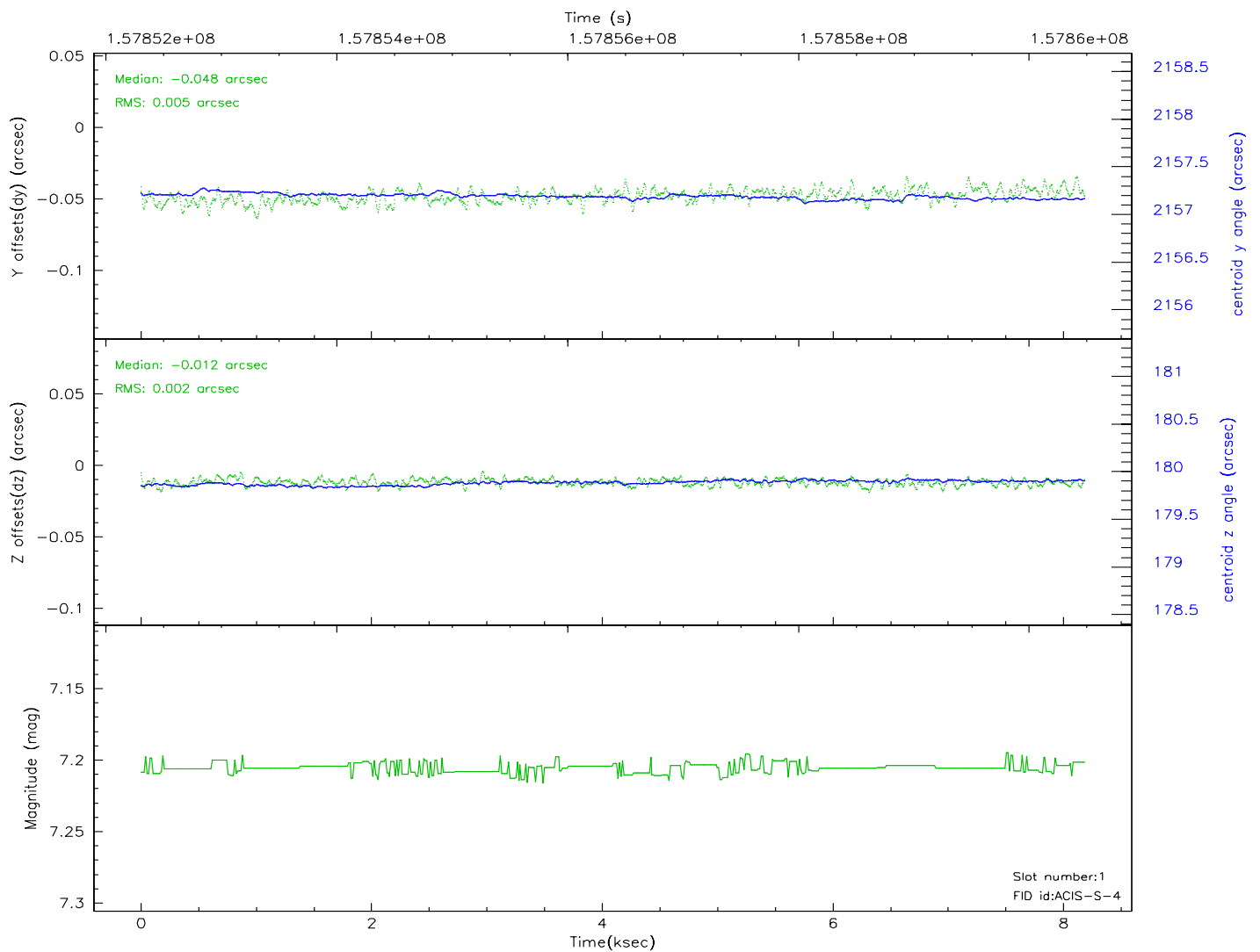
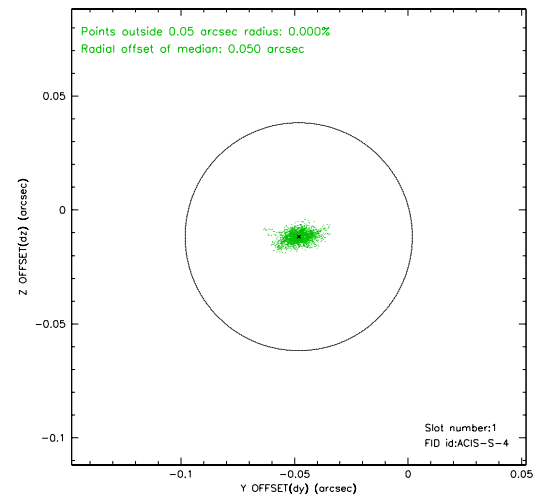
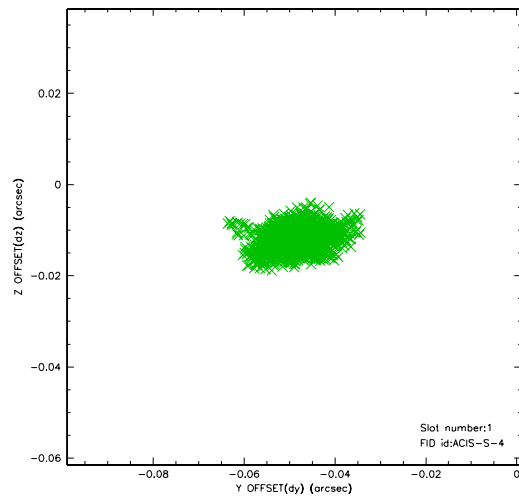


## 2.5 FID Slots

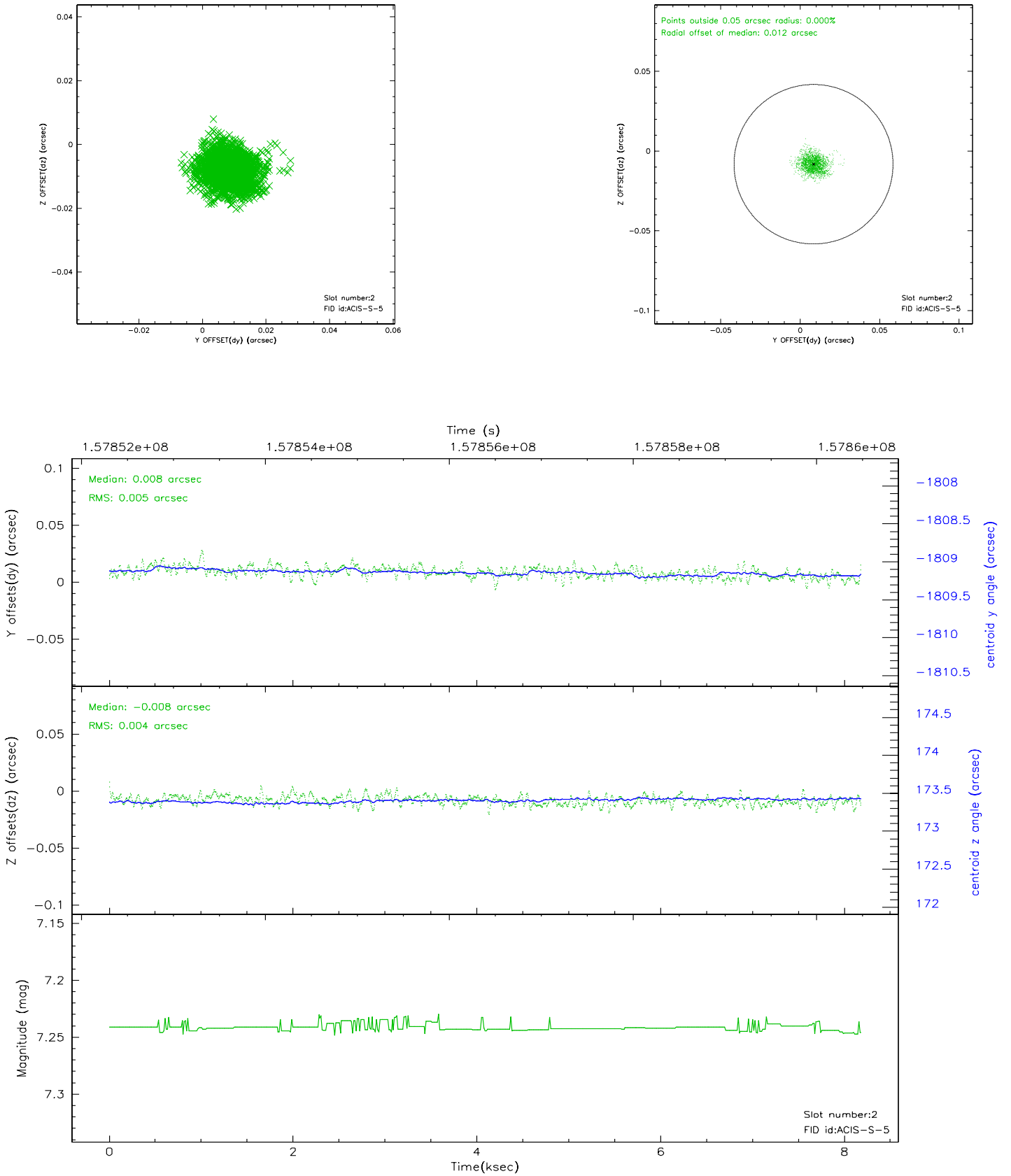
### 2.5.1 Slot 0



## 2.5.2 Slot 1

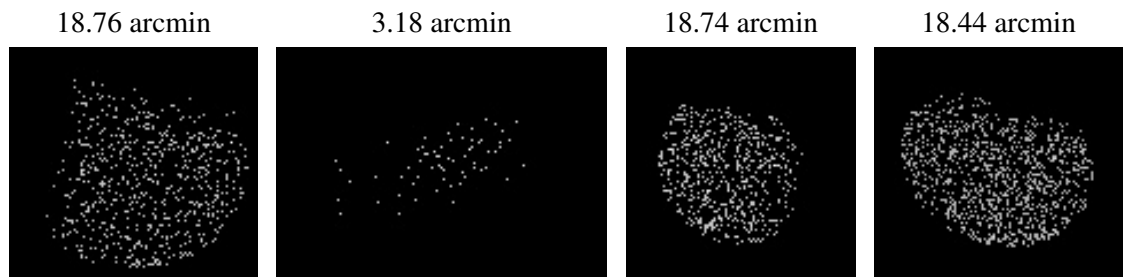


### 2.5.3 Slot 2





### 3 Point Sources



## A Summary

### A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2006.10.18    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 8.086         |

### A.2 Comments