

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4576 - L2 Version 3  
Chandra X-Ray Center

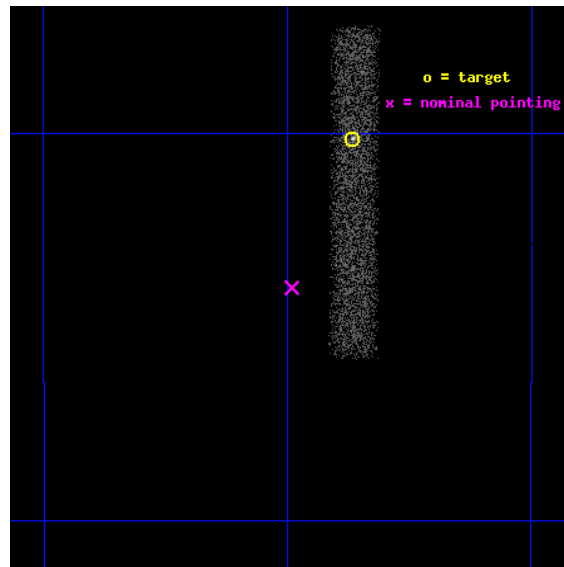
L2 Processing Date : Dec 3 2012

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# 1 Front

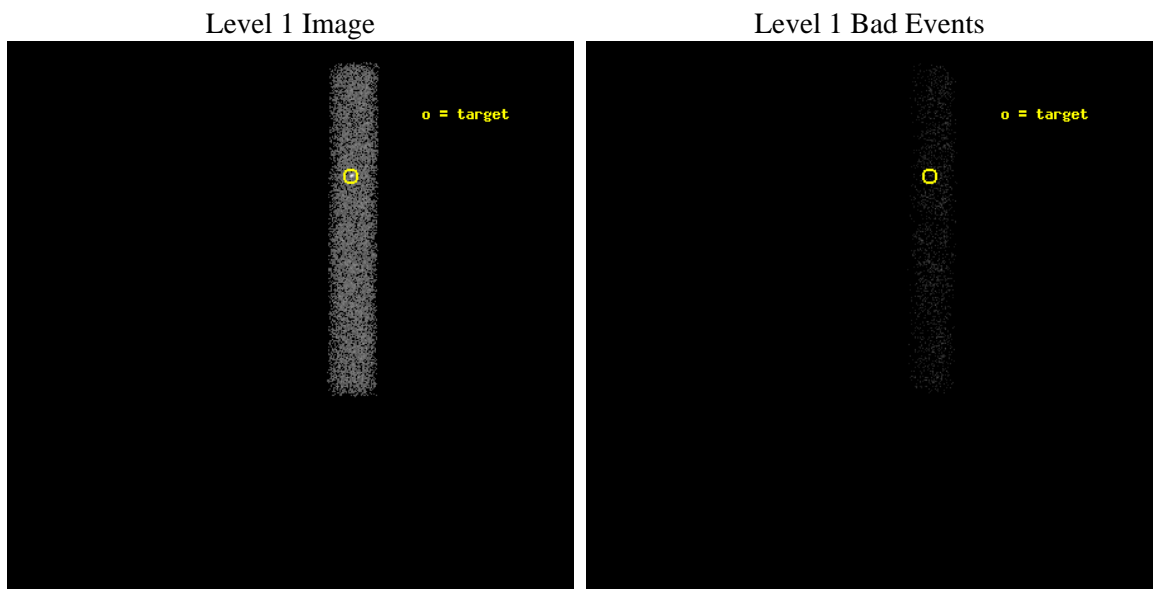
|          |   |   |
|----------|---|---|
| seq_num  | 400358                                      | Sequence number                             |
| obs_id   | 4576  | Observation id                              |
| title    | The Spectral Energy Distribution of Cen X-4 | Proposal title                              |
| observer | Dr. Michael Garcia                          | Principal investigator                      |
| object   | Cen X-4                                     | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 224.591667                                  | Observer's specified target RA [deg]        |
| dec_targ | -31.66875                                   | Observer's specified target Dec [deg]       |
| ra_nom   | 224.62283142495                             | Nominal RA [deg]                            |
| dec_nom  | -31.73317548314                             | Nominal Dec [deg]                           |
| roll_nom | 270.32107348048                             | Nominal Roll [deg]                          |
| revision | 3   | Processing version of data                  |
| ontime   | 11182.000166595                             | Sum of GTIs [s]                             |
| livetime | 10141.483916738                             | Livetime [s]                                |
| ontime7  | 11182.000166595                             | Sum of GTIs [s]                             |
| l2events | 7241  | Number of level 2 events                    |



## 2 OBI

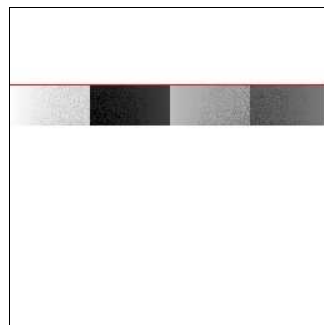
### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 7



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 10999.865000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5               | Processing system revision     | ontime         | 11182.000166595 | Sum of GTIs [s]                         |
| caldsver | 4.5.2               | &#160                          | ontime7        | 11182.000166595 | Sum of GTIs [s]                         |
| date     | 2012-12-03T05:01:04 | Date and time of file creation | l1events       | 16636           | Number of level 1 events                |
| revision | 3                   | Processing version of data     |                |                 |   |

### 2.1.4 Events

|                 |              |
|-----------------|--------------|
|                 | <b>ccd 7</b> |
| level 1 events  | 16636        |
| rejected events | 9138         |
| rejected %      | 54%          |

|                |              |
|----------------|--------------|
|                | <b>ccd 7</b> |
| grade 0 events | 1163         |
|                | 6%           |
| grade 1 events | 24           |
|                | 0%           |
| grade 2 events | 1484         |
|                | 8%           |
| grade 3 events | 1085         |
|                | 6%           |
| grade 4 events | 964          |
|                | 5%           |
| grade 5 events | 1570         |
|                | 9%           |
| grade 6 events | 3298         |
|                | 19%          |
| grade 7 events | 7048         |
|                | 42%          |

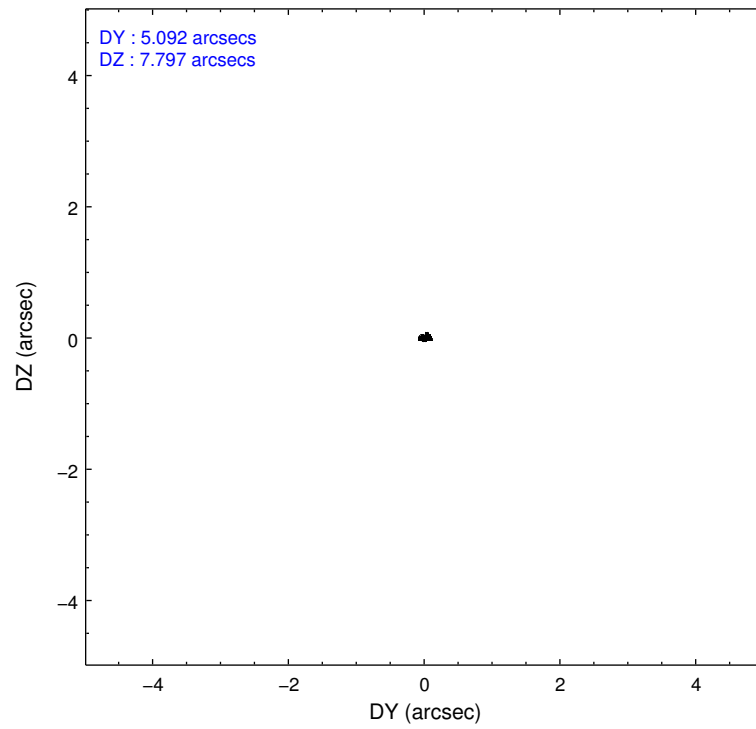
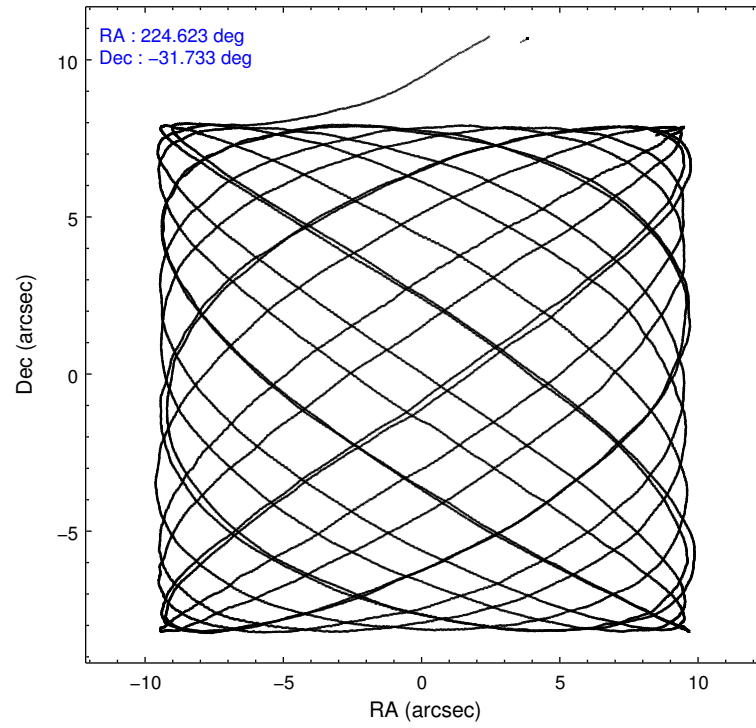


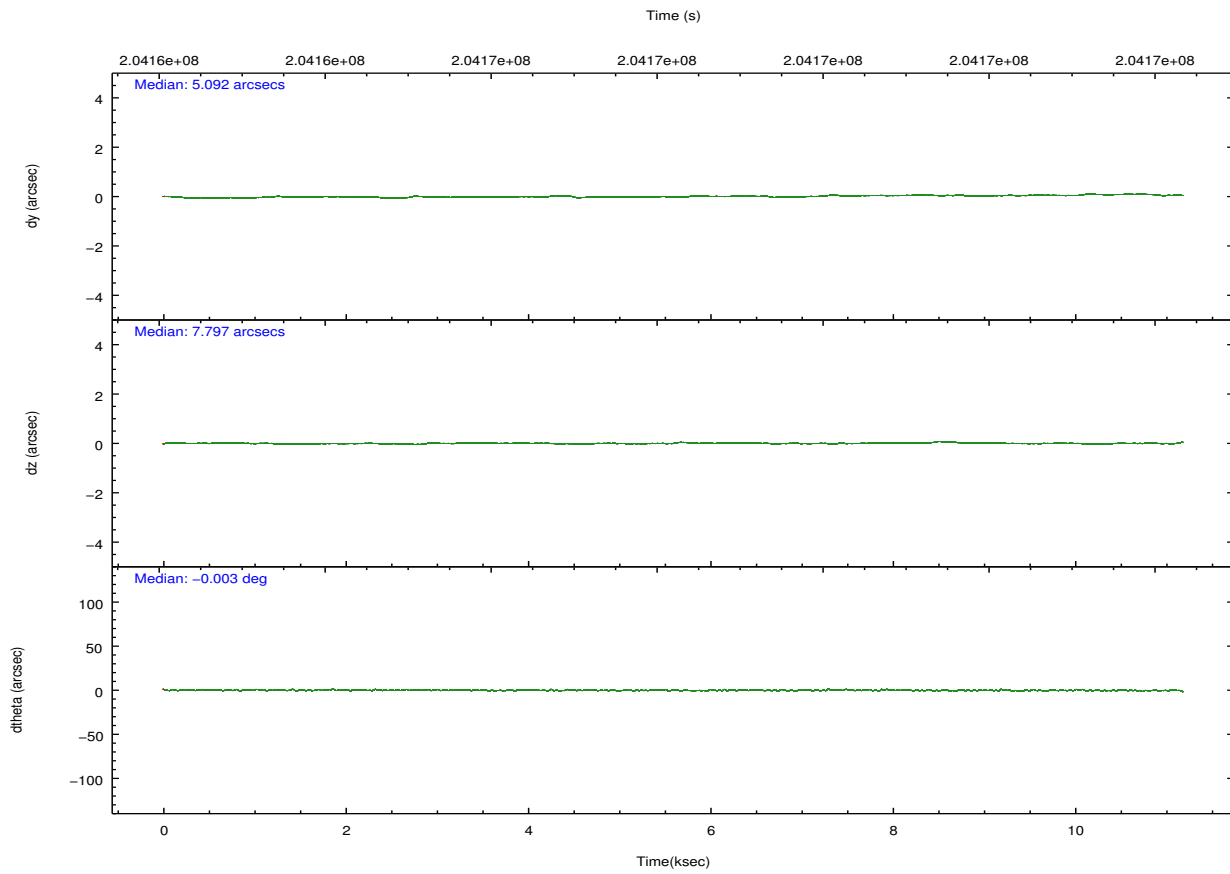
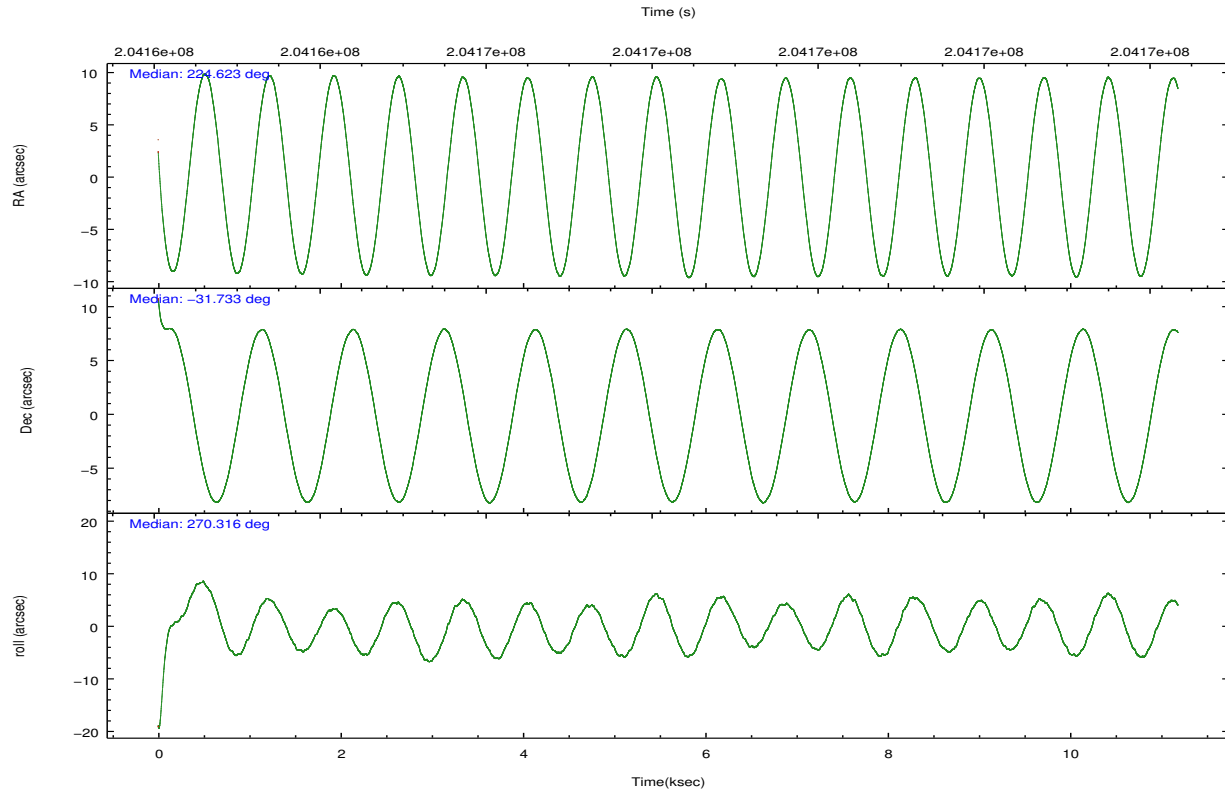
## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               |
|-----------------------------------|---------------------|----------------------|
| Instrument                        | ACIS                | ACIS                 |
| Detector                          | ACIS-7              | ACIS-7               |
| Grating                           | NONE                | NONE                 |
| Data mode                         | VFAINT              | VFAINT               |
| Observation mode                  | POINTING            | POINTING             |
| [deg] Pointing RA                 | 224.606287          | 224.6228314249481    |
| [deg] Pointing Dec                | -31.709886          | -31.7331754831404    |
| [deg] Pointing Roll               | 270.155774          | 270.3210734804771    |
| [s] Window start time (MET)       | 204078484.184000    | 204078484.184000     |
| [s] Window stop time (MET)        | 204100264.184000    | 204100264.184000     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |
| [mm] SIM translation stage pos    | -190.132523         | -190.1425803651734   |
| [mm] SIM translation stage offset | 0                   | 0.01005778216563158  |
| [s] Observation start time (MET)  | 204162784.184000    | 204161728.9756       |
| Observation start date            | 2004-06-20T23:52:00 | 2004-06-20T23:35:28  |
| [s] Observation end time (MET)    | 204173784.184000    | 204174544.55117      |
| Observation end date              | 2004-06-21T02:55:20 | 2004-06-21T03:09:04  |
| Read mode                         | TIMED               | TIMED                |

| Parameter                             | Planned   | Actual  |
|---------------------------------------|-----------|---------|
| Obspar format version number          | 7         | 7       |
| Obspar file type                      | PREDICTED | ACTUAL  |
| Obspar update status                  | NONE      | UPDATED |
| Number of optional ACIS chips dropped | 0         | 0       |
| On-chip summing requested             | N         | N       |
| Subarray requested                    | CUSTOM    | 1/8     |
| Subarray start row                    | 650       | 650     |
| Subarray row count                    | 128       | 128     |
| Alternating exposures requested       | N         | N       |
| [s] Primary exposure time             | 0.000000  | 0.4     |

## 2.3 Aspect



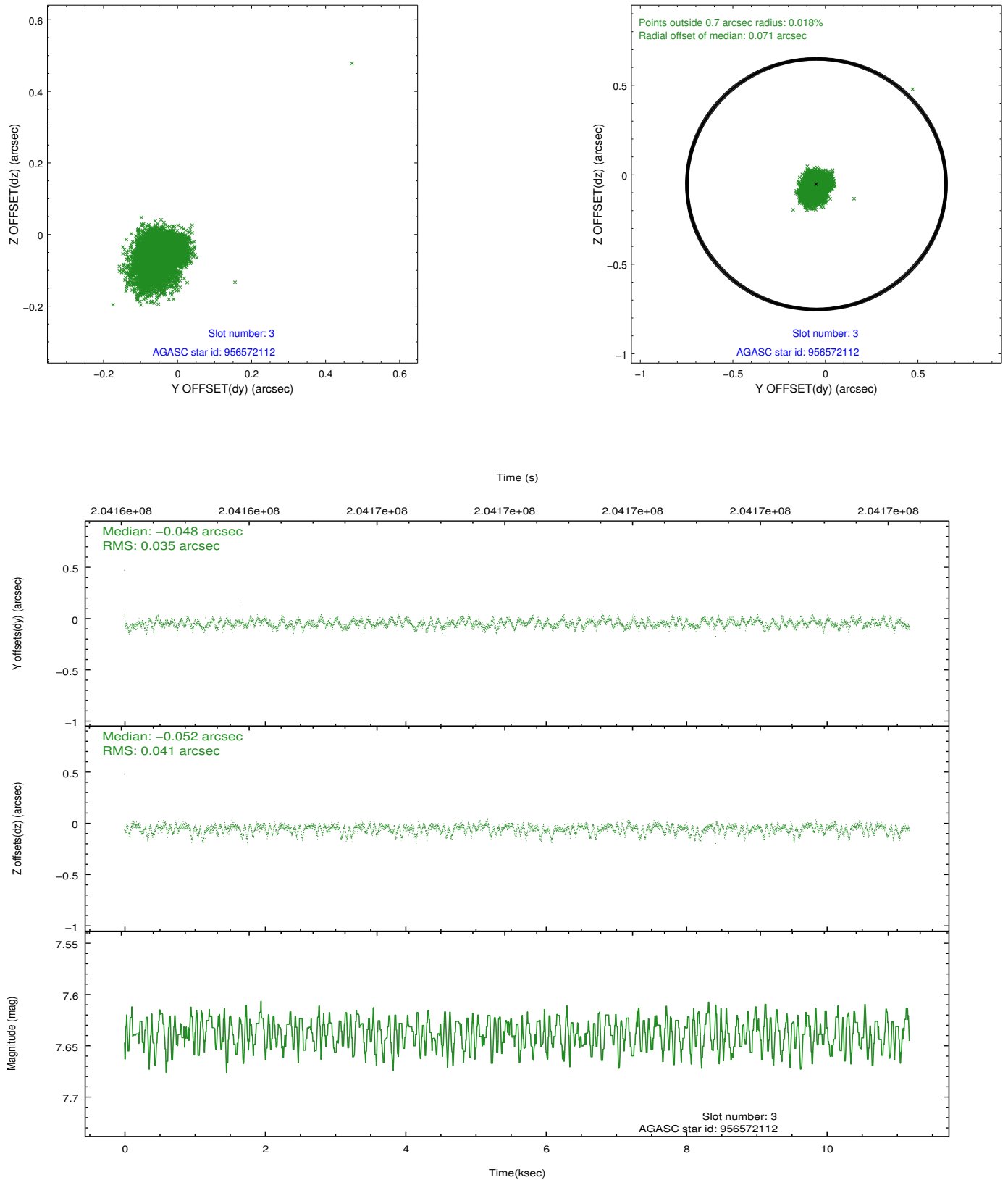


### Slot Statistics

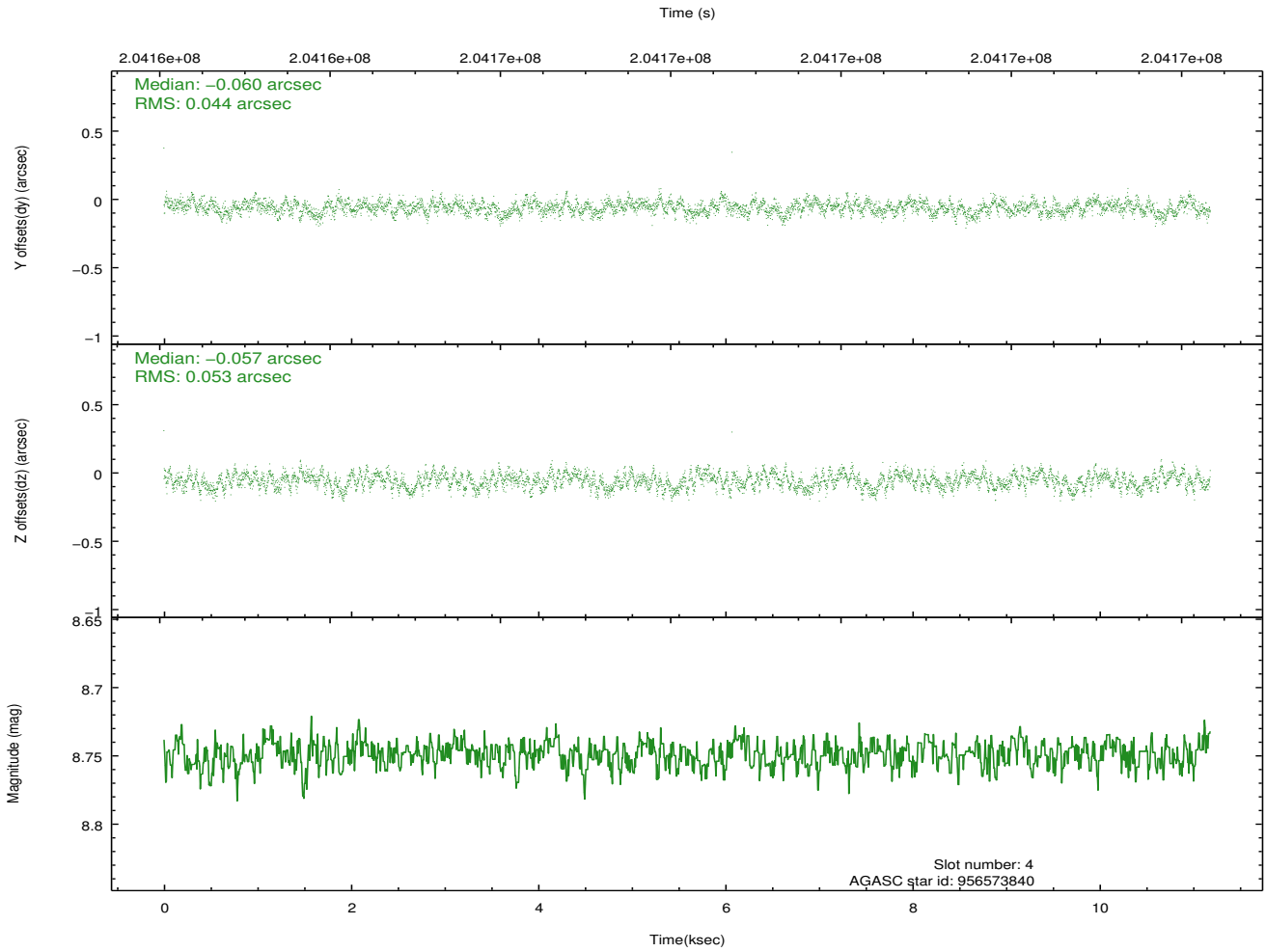
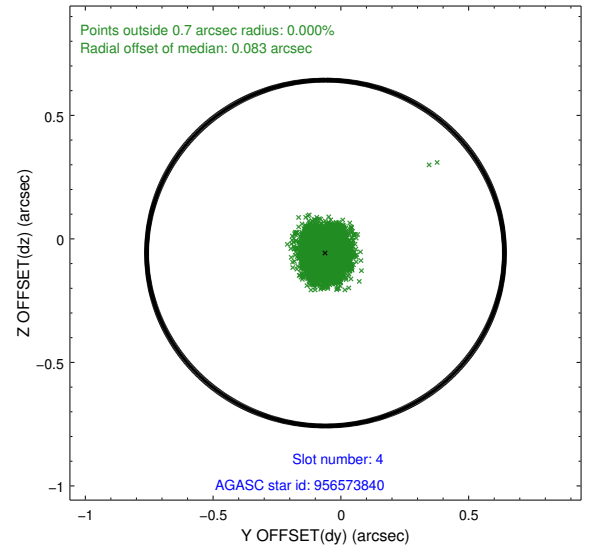
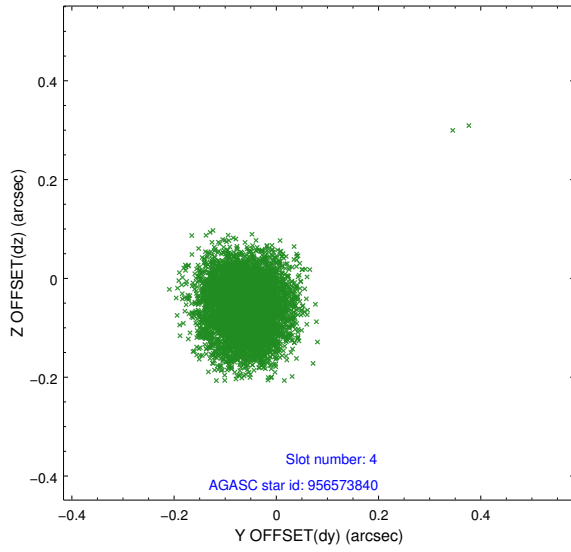
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-S-2  | 7.11 | 2728  | -0.084 | -0.057 | 0.006 | 0.010 | 0.000000   | 0.000000   | -757.92  | -1728.97 |
| 1    | FID    | ACIS-S-4  | 7.21 | 2727  | 0.058  | 0.051  | 0.006 | 0.010 | 0.000000   | 0.000000   | 2155.33  | 179.09   |
| 2    | FID    | ACIS-S-6  | 7.35 | 2728  | -0.002 | 0.014  | 0.007 | 0.011 | 0.000000   | 0.000000   | 404.79   | 817.00   |
| 3    | GUIDE  | 956572112 | 7.64 | 5456  | -0.048 | -0.052 | 0.055 | 0.095 | 223.861077 | -31.418161 | -1048.27 | -2286.67 |
| 4    | GUIDE  | 956573840 | 8.75 | 5456  | -0.060 | -0.057 | 0.074 | 0.115 | 223.997560 | -31.088122 | -2237.95 | -1871.20 |
| 5    | GUIDE  | 956575352 | 8.54 | 5453  | 0.052  | -0.022 | 0.069 | 0.107 | 223.873030 | -31.529443 | -647.99  | -2248.44 |
| 6    | GUIDE  | 958277040 | 8.92 | 5452  | 0.036  | 0.084  | 0.070 | 0.117 | 225.059014 | -31.205389 | -1809.38 | 1398.63  |
| 7    | GUIDE  | 957091448 | 7.82 | 5455  | 0.025  | 0.055  | 0.051 | 0.083 | 224.977023 | -32.370724 | 2384.05  | 1121.66  |

## 2.4 Star Slots

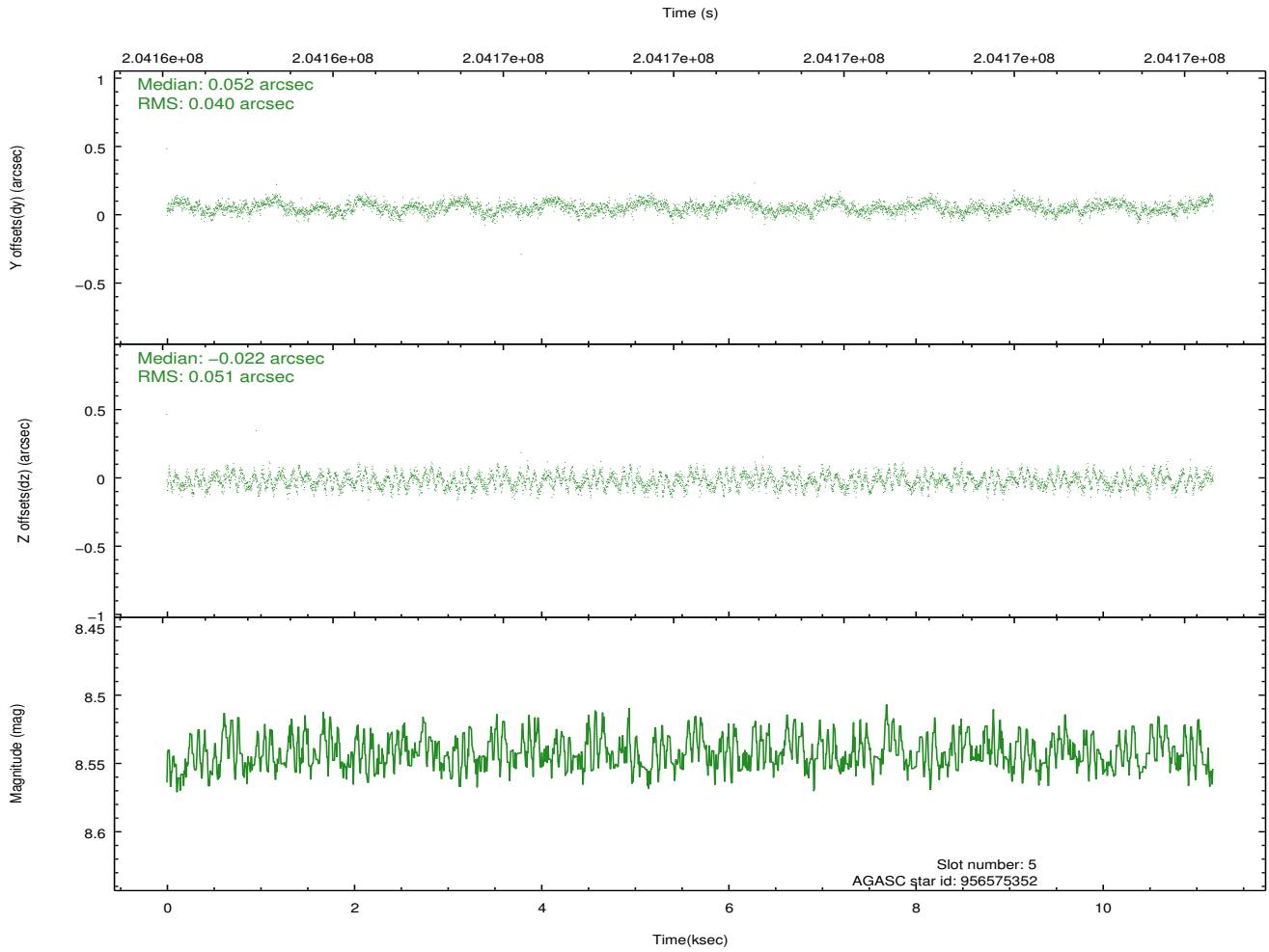
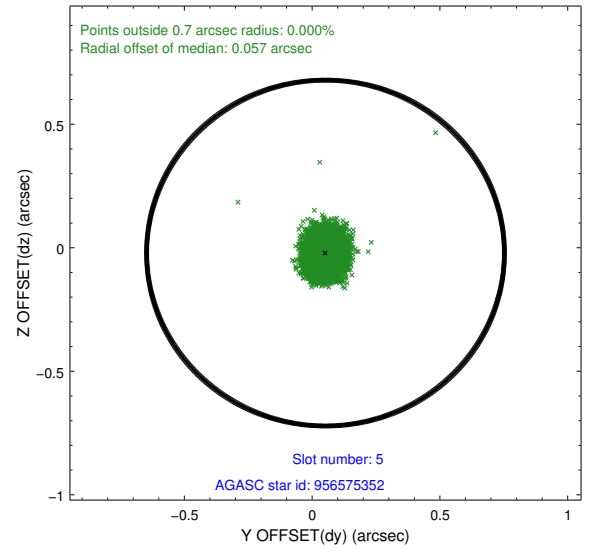
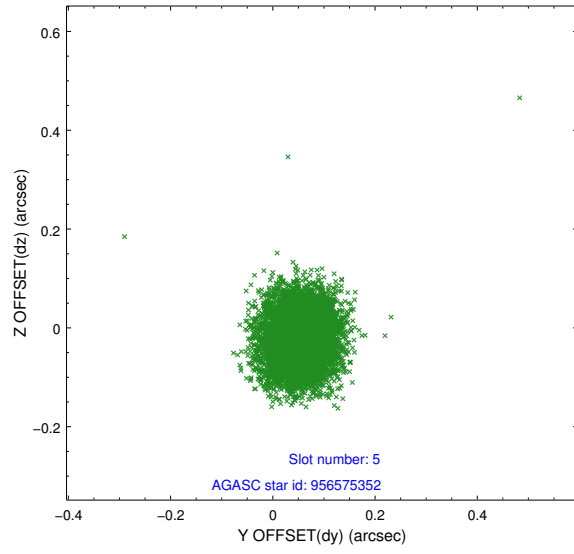
### 2.4.1 Slot 3



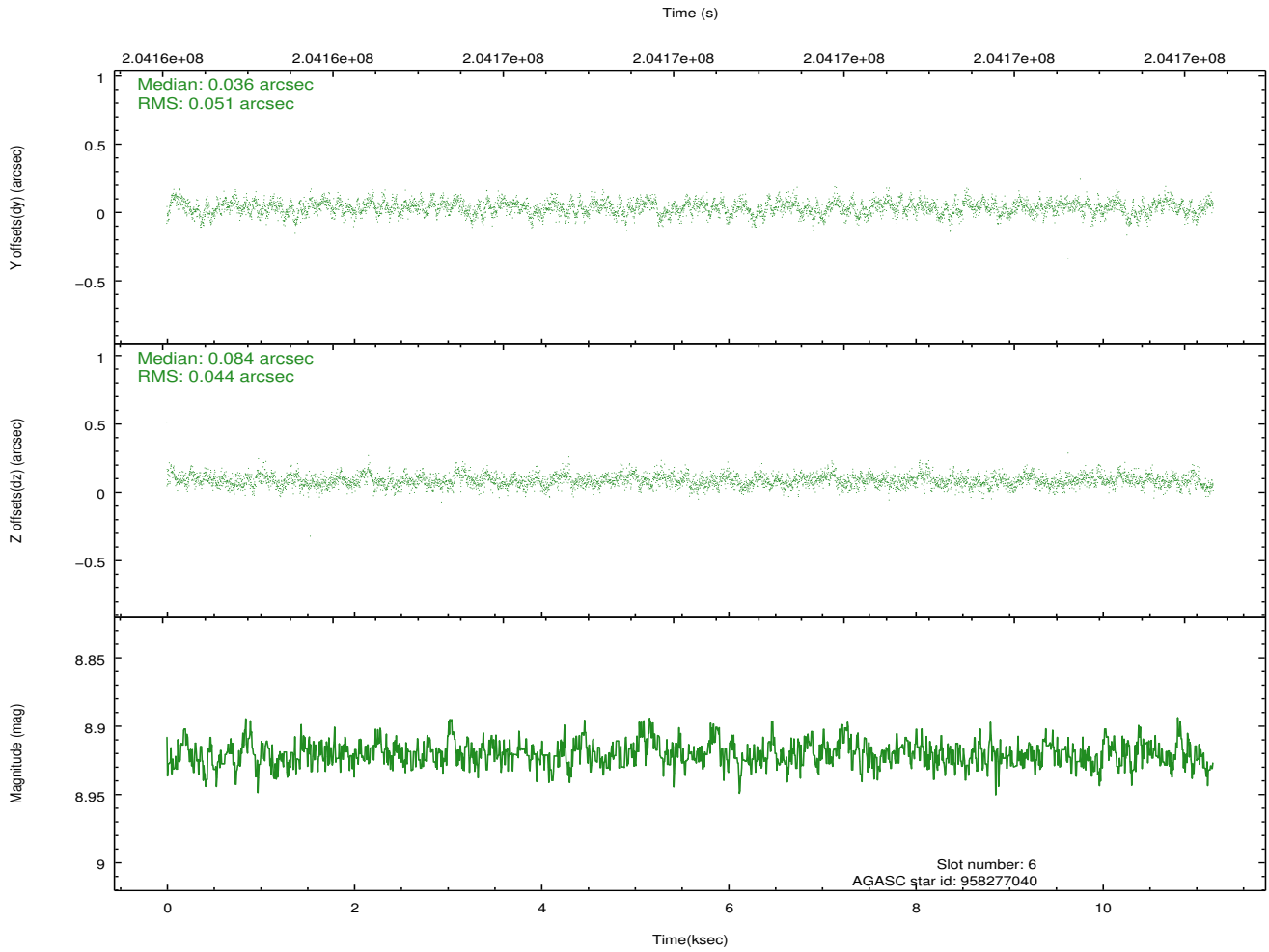
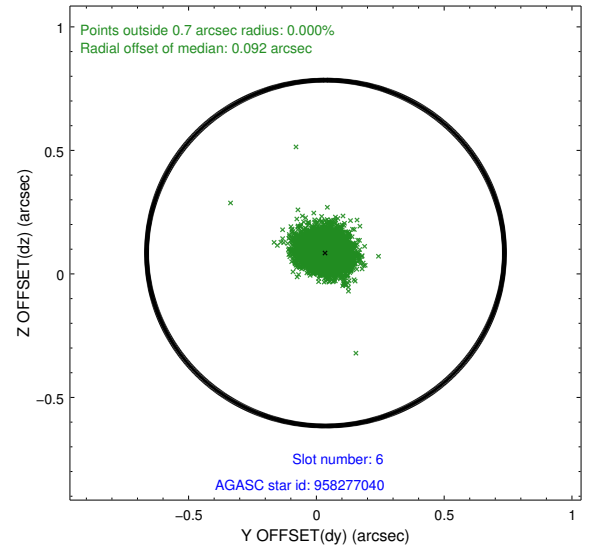
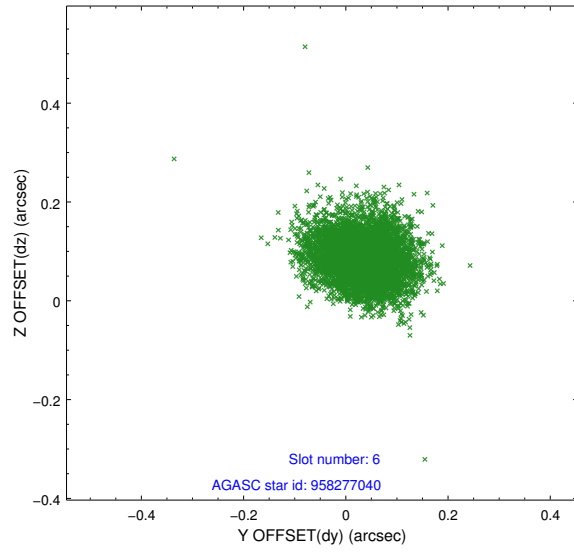
## 2.4.2 Slot 4



### 2.4.3 Slot 5

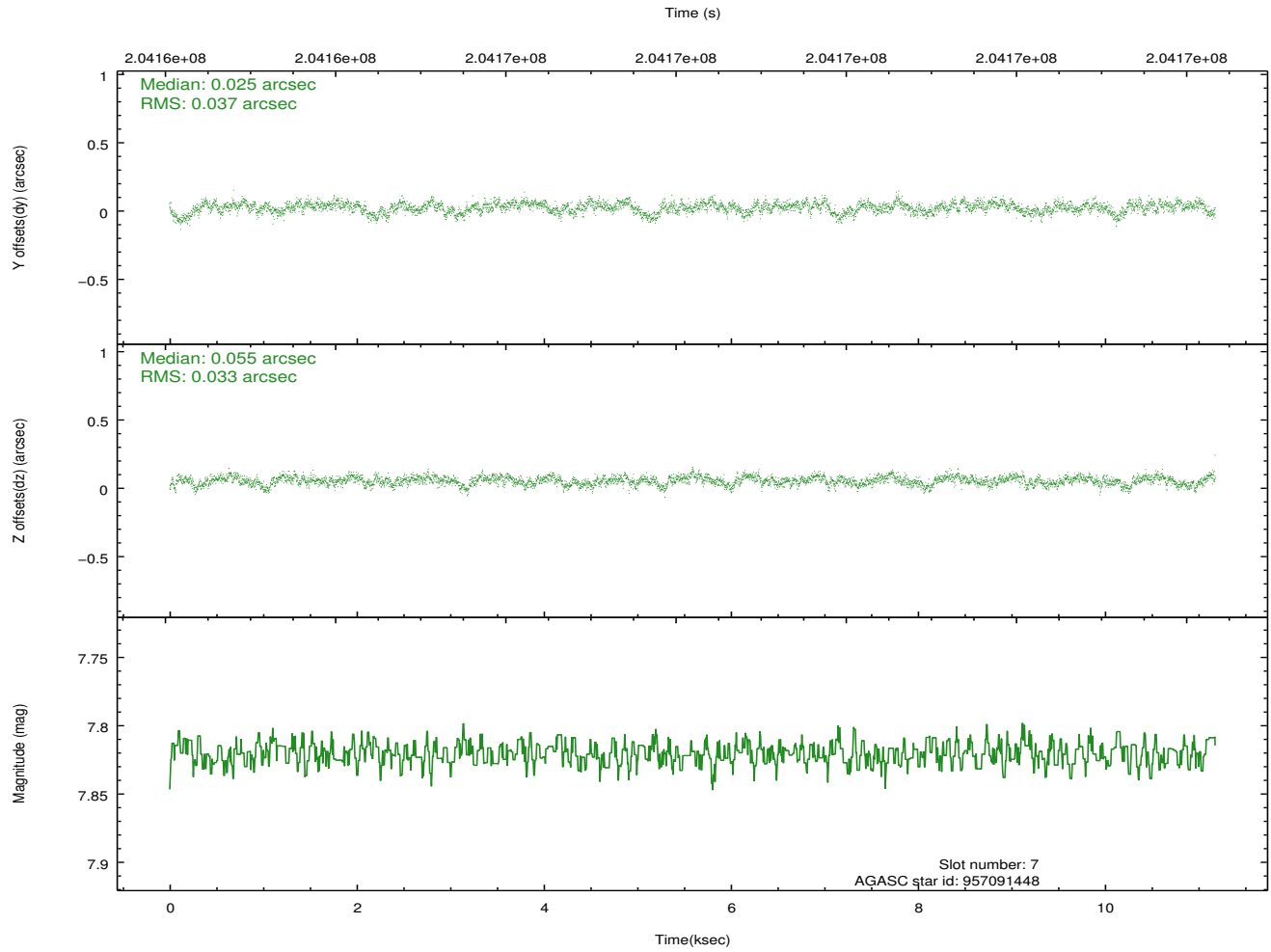
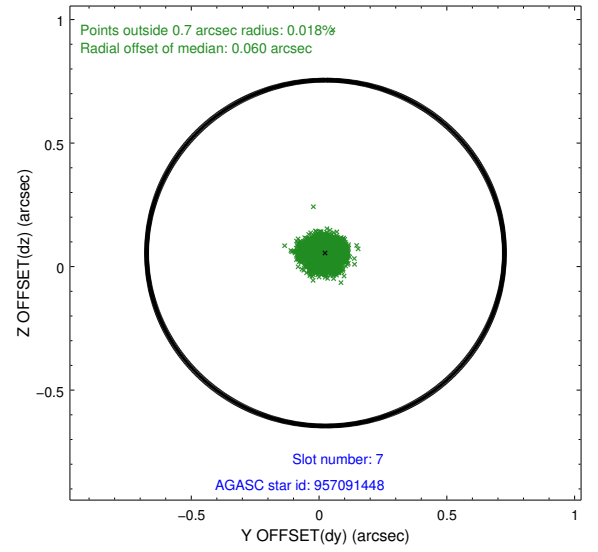
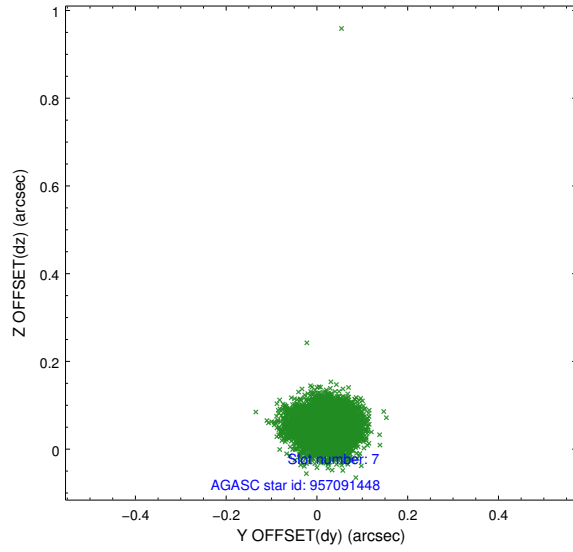


## 2.4.4 Slot 6



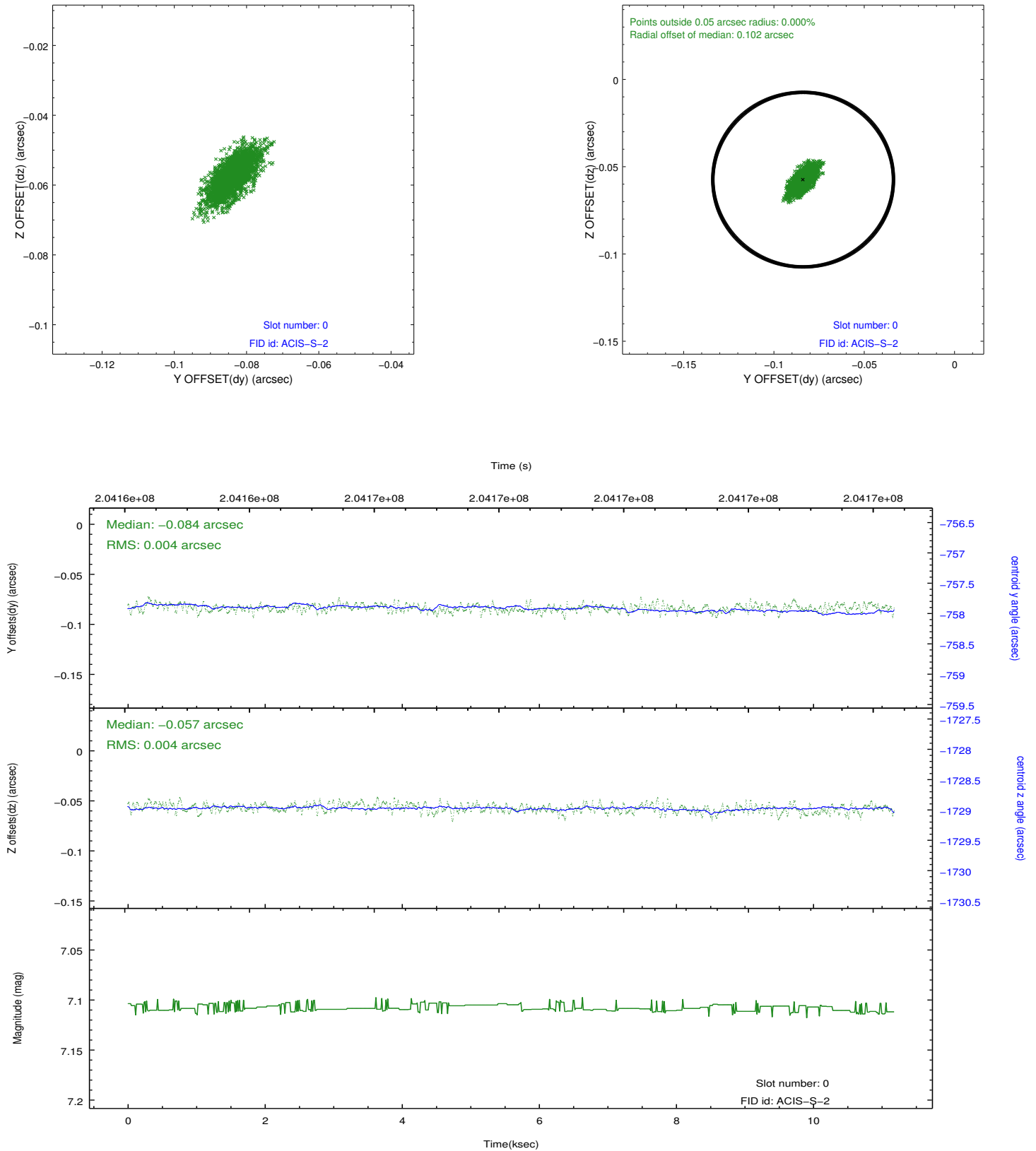


## 2.4.5 Slot 7

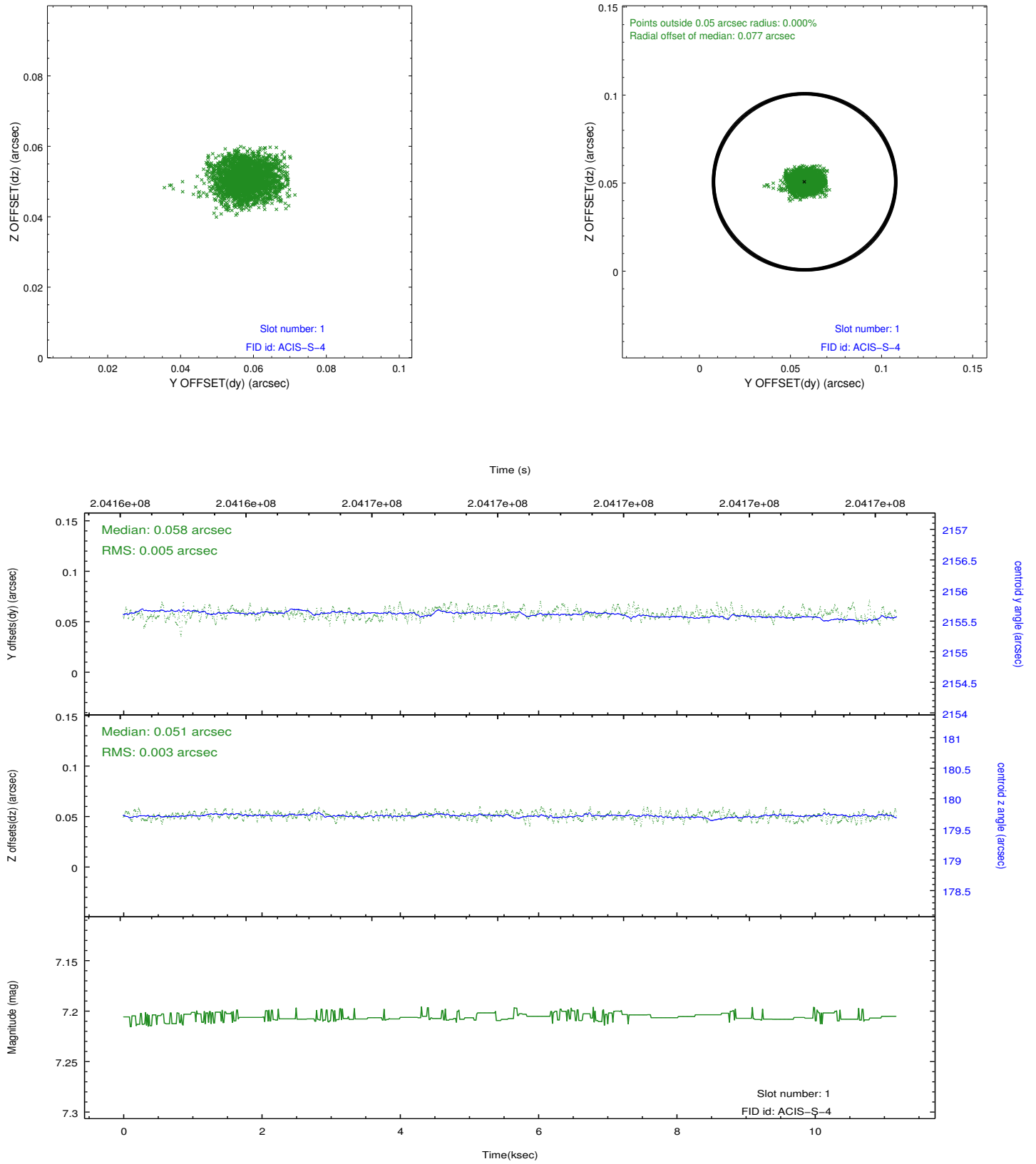


## 2.5 FID Slots

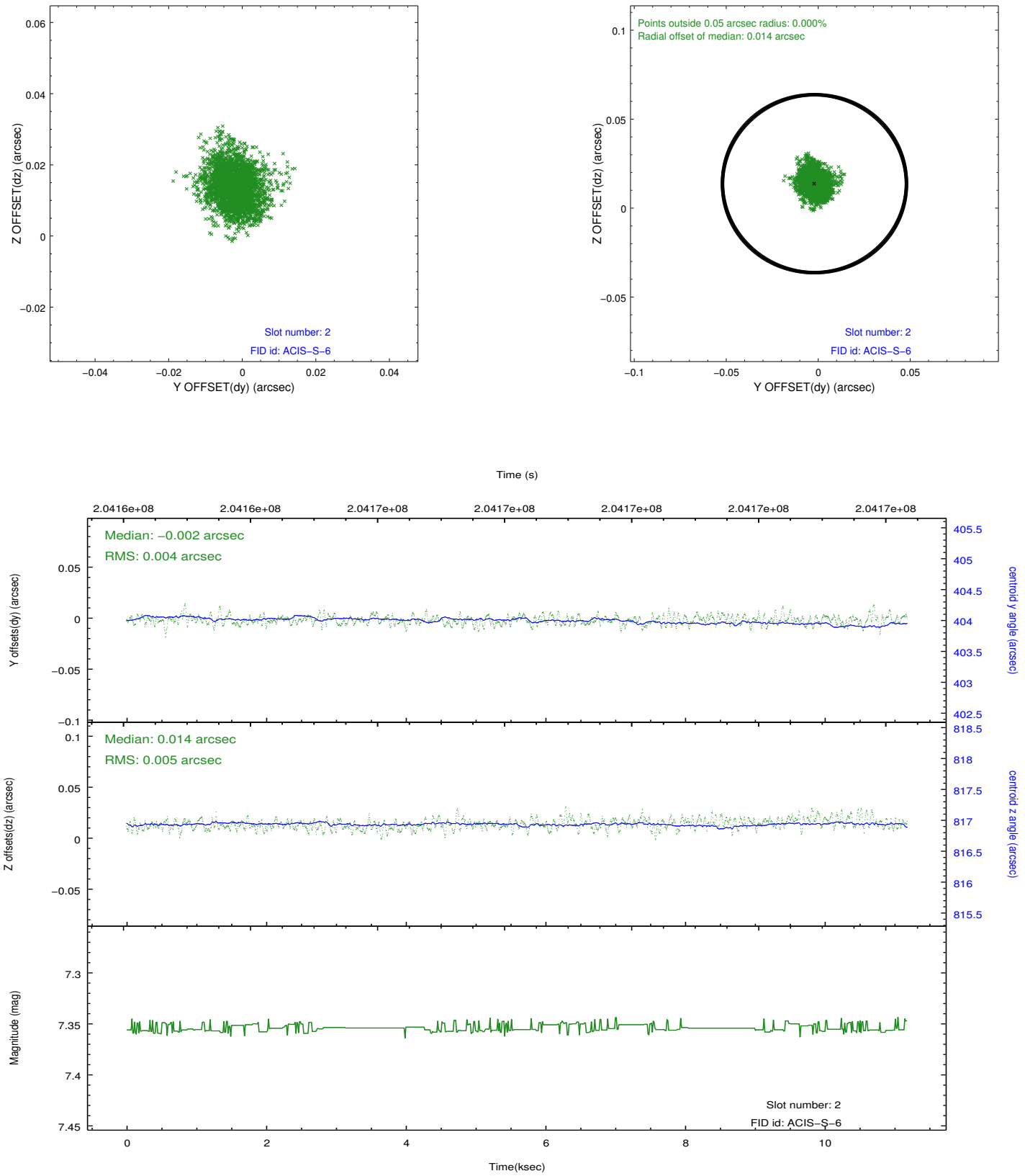
### 2.5.1 Slot 0



## 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)      | 2012.12.18 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 11.182     |

### A.2 Comments

Window constraint met. Joint Proposal: HST