

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 10890 - L2 Version 2  
Chandra X-Ray Center

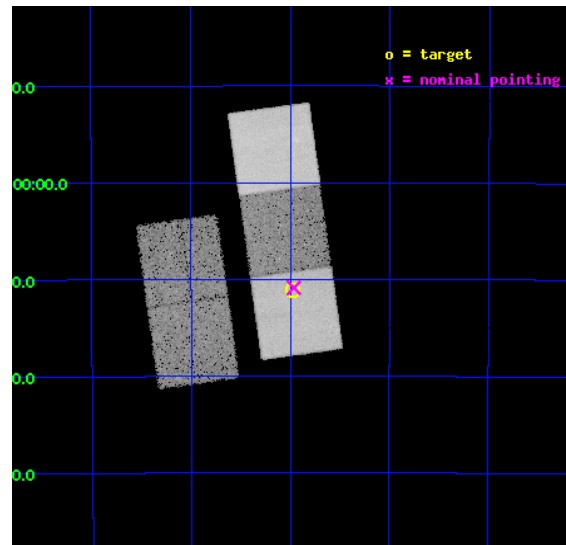
L2 Processing Date : Jun 3 2012

## 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>A</b> | <b>Summary</b>                | <b>17</b> |
| A.1      | Status . . . . .              | 17        |
| A.2      | Comments . . . . .            | 17        |

# 1 Front

|          |  |   |
|----------|--|---|
| seq_num  | 401028   | Sequence number                             |
| obs_id   | 10890  | Observation id                              |
| title    | The cooling neutron star in the super-Eddington accretor XTE J1701-462 | Proposal title                              |
| observer | Dr Jeroen Homan  | Principal investigator                      |
| object   | XTE J1701-462  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 255.24375  | Observer's specified<br>target RA [deg]     |
| dec_targ | -46.185722   | Observer's specified<br>target Dec [deg]    |
| ra_nom   | 255.24091965452  | Nominal RA [deg]                            |
| dec_nom  | -46.181300905441   | Nominal Dec [deg]                           |
| roll_nom | 82.054589393292  | Nominal Roll [deg]                          |
| revision | 2  | Processing version of<br>data               |
| ontime   | 19833.80015254   | Sum of GTIs [s]                             |
| livetime | 19574.656952116  | Livetime [s]                                |
| ontime2  | 19833.80015254   | Sum of GTIs [s]                             |
| ontime3  | 19830.659172177  | Sum of GTIs [s]                             |
| ontime5  | 19833.80015254   | Sum of GTIs [s]                             |
| ontime6  | 19827.518171847  | Sum of GTIs [s]                             |
| ontime7  | 19833.80015254   | Sum of GTIs [s]                             |
| l2events | 244805   | Number of level 2 events                    |

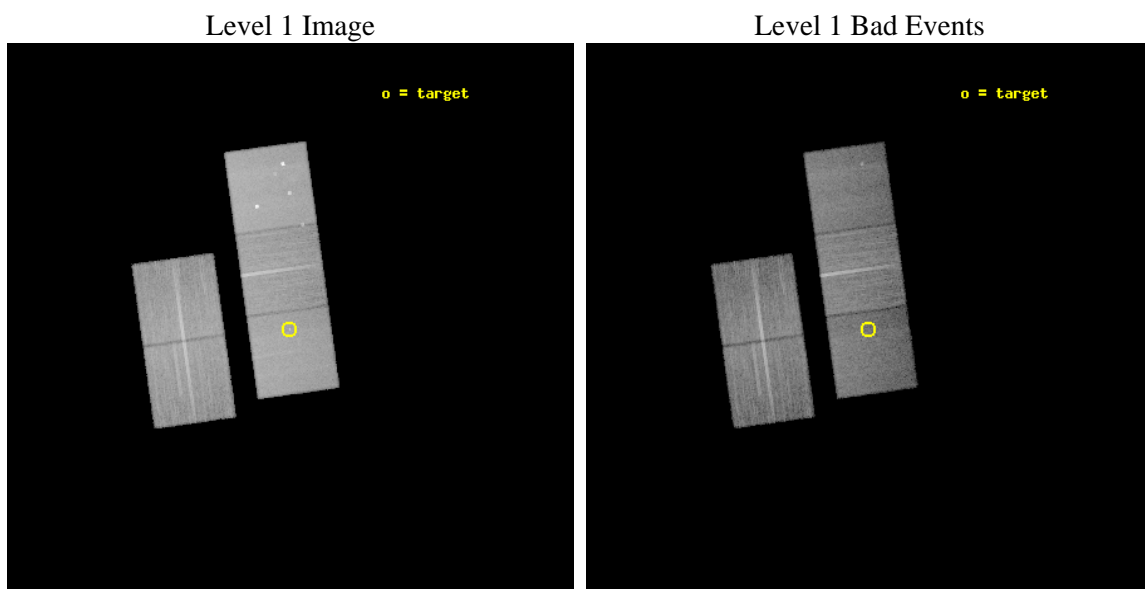




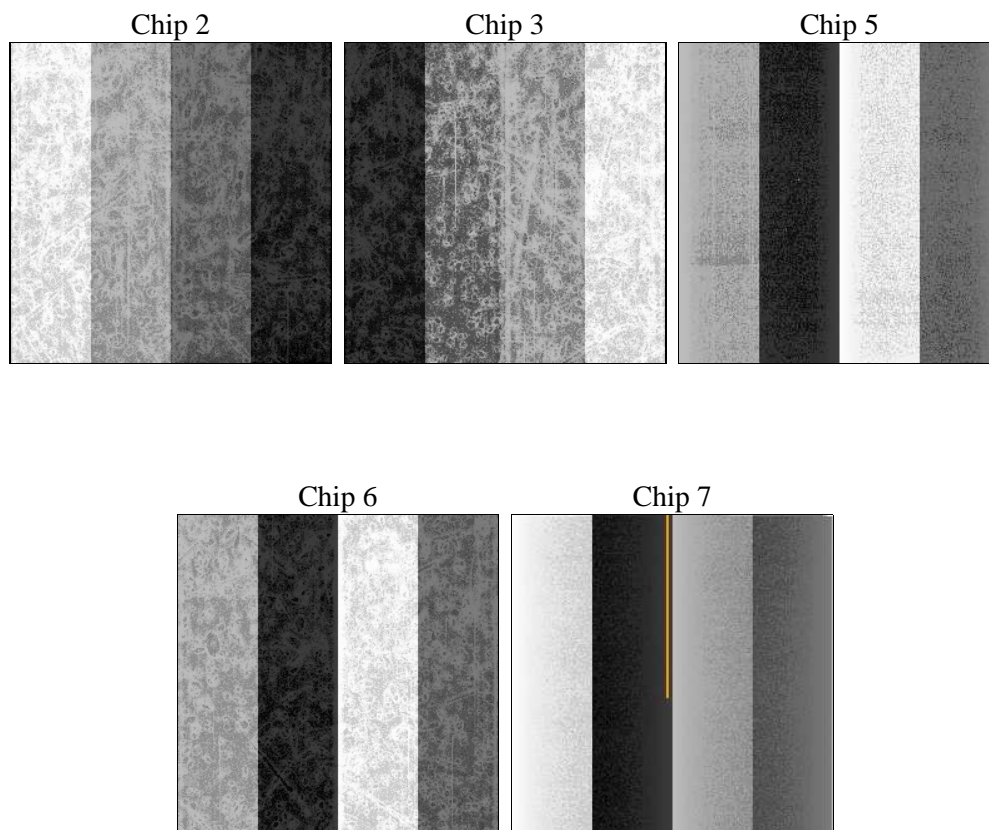
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 19800.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 19833.80015254  | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime2        | 19833.80015254  | Sum of GTIs [s]                         |
| date     | 2012-06-03T06:38:39 | Date and time of file creation | ontime3        | 19830.659172177 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 19833.80015254  | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 19827.518171847 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 19833.80015254  | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 957360          | Number of level 1 events                |

### 2.1.4 Events

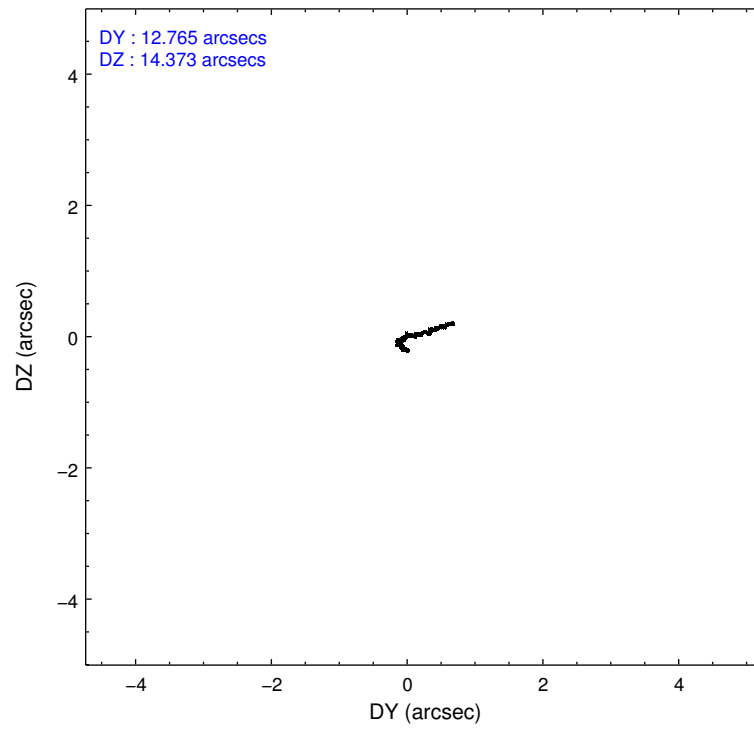
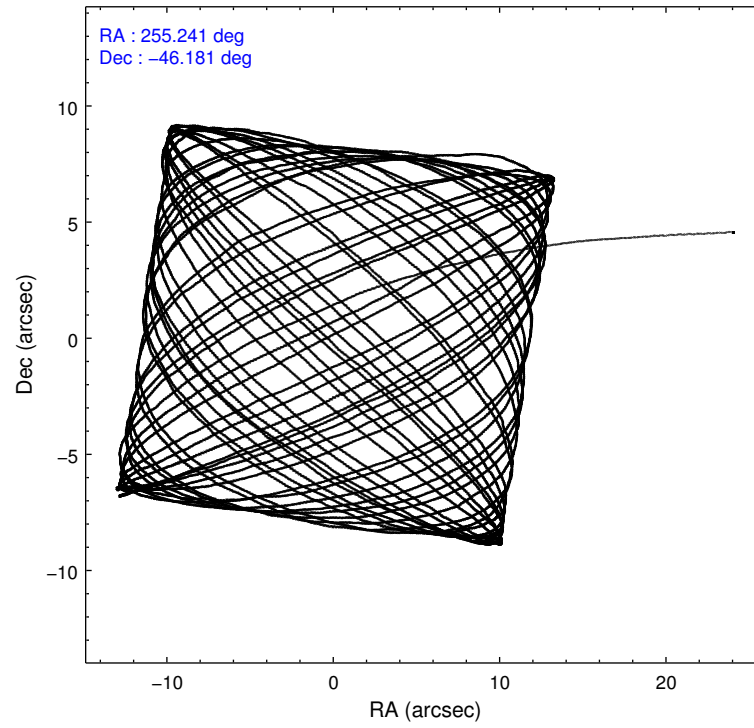
|                 | ccd 2  | ccd 3  | ccd 5  | ccd 6  | ccd 7  |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events  | 172013 | 164612 | 249820 | 175659 | 195256 |
| rejected events | 154702 | 148323 | 121850 | 157226 | 106488 |
| rejected %      | 89%    | 90%    | 48%    | 89%    | 54%    |

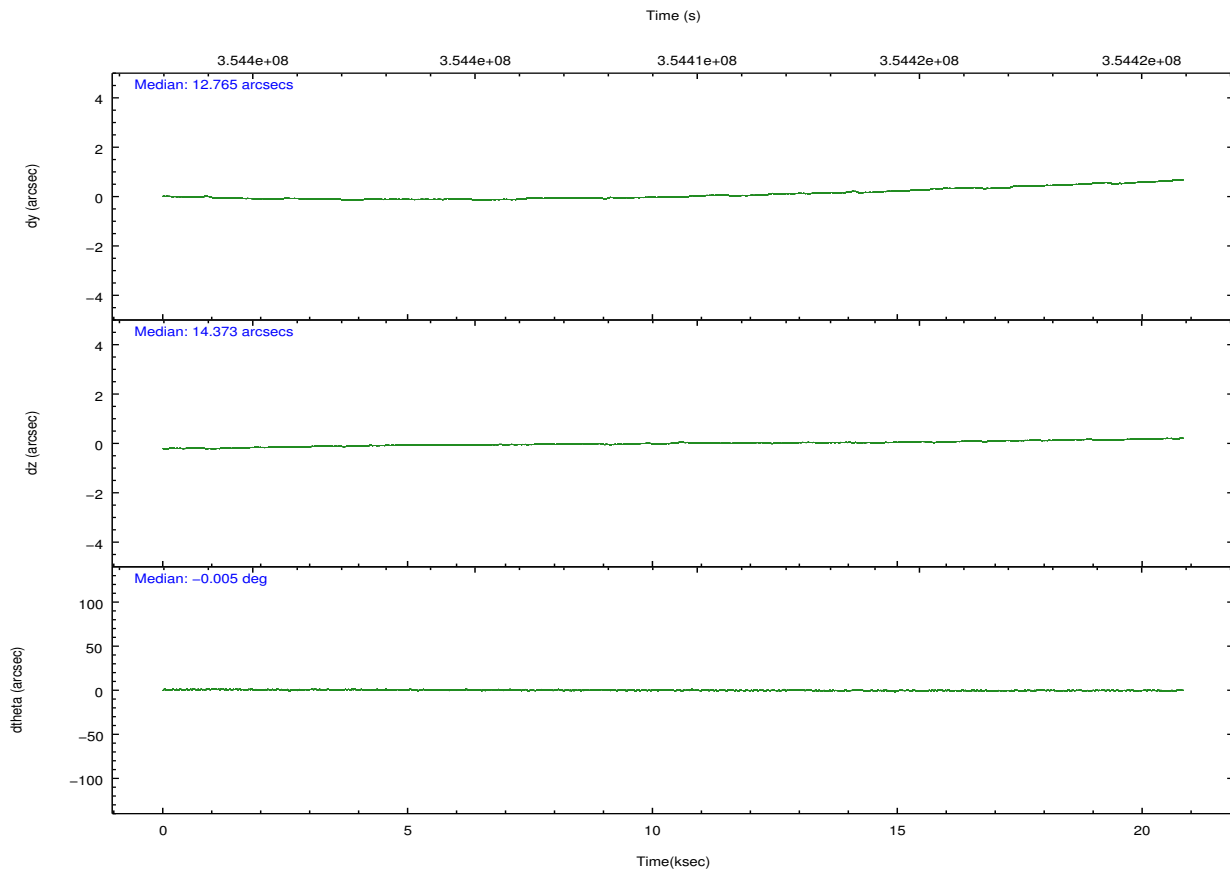
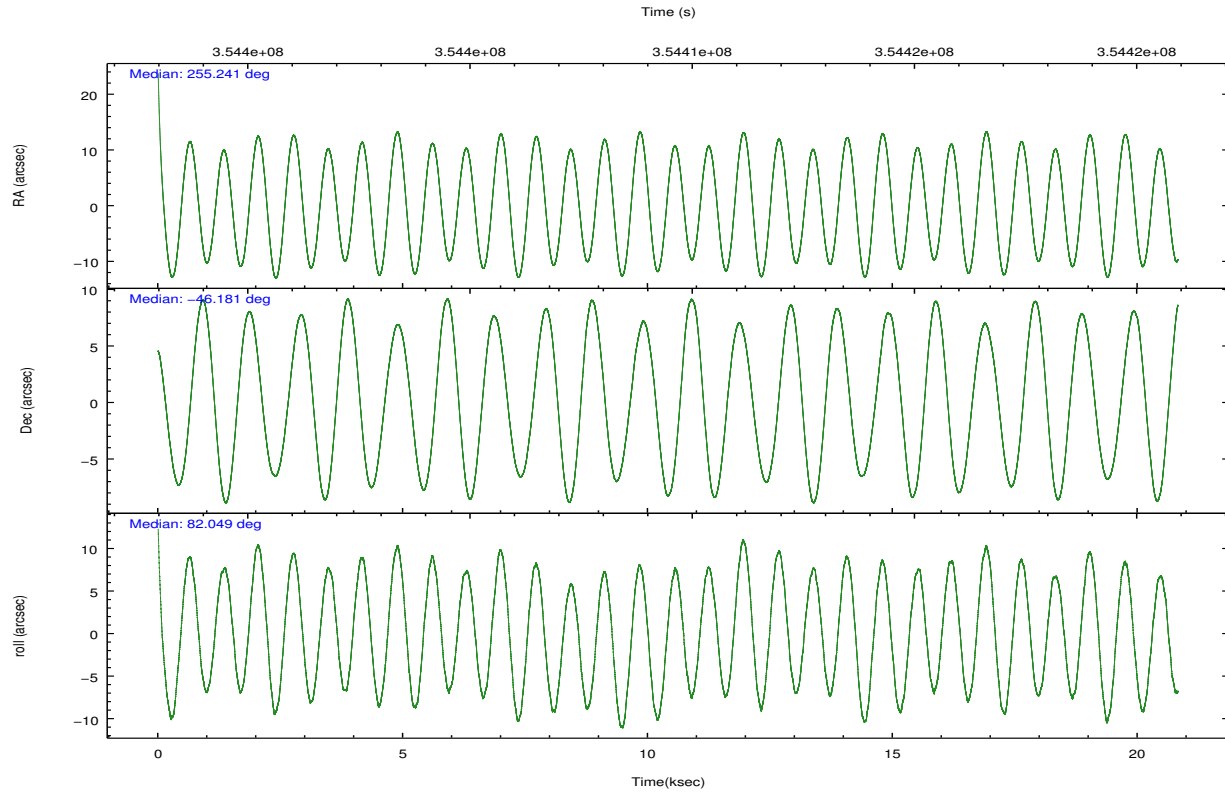
|                | ccd 2  | ccd 3  | ccd 5  | ccd 6  | ccd 7 |
|----------------|--------|--------|--------|--------|-------|
| grade 0 events | 6267   | 5743   | 18483  | 6624   | 8209  |
|                | 3%     | 3%     | 7%     | 3%     | 4%    |
| grade 1 events | 104    | 109    | 735    | 81     | 252   |
|                | 0%     | 0%     | 0%     | 0%     | 0%    |
| grade 2 events | 4094   | 3485   | 36661  | 4022   | 18235 |
|                | 2%     | 2%     | 14%    | 2%     | 9%    |
| grade 3 events | 1879   | 1859   | 4951   | 1945   | 8123  |
|                | 1%     | 1%     | 1%     | 1%     | 4%    |
| grade 4 events | 1848   | 1830   | 4880   | 1878   | 7905  |
|                | 1%     | 1%     | 1%     | 1%     | 4%    |
| grade 5 events | 5898   | 7052   | 19136  | 7118   | 20404 |
|                | 3%     | 4%     | 7%     | 4%     | 10%   |
| grade 6 events | 3228   | 3373   | 63014  | 3967   | 46311 |
|                | 1%     | 2%     | 25%    | 2%     | 23%   |
| grade 7 events | 148695 | 141161 | 101960 | 150024 | 85817 |
|                | 86%    | 85%    | 40%    | 85%    | 43%   |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-23567          | ACIS-23567           | 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       |
| [deg] Pointing RA                 | 255.256255          | 255.2409196545187    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -46.206484          | -46.18130090544149   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 81.909033           | 82.05458939329169    | [s] Primary exposure time             | 0.000000  | 3.1     |
| [s] Window start time (MET)       | 354196866.184000    | 354196866.184000     |                                       |           |         |
| [s] Window stop time (MET)        | 354801666.184000    | 354801666.184000     |                                       |           |         |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  |                                       |           |         |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 |                                       |           |         |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 354400073.184000    | 354398295.66929      |                                       |           |         |
| Observation start date            | 2009-03-25T20:26:47 | 2009-03-25T19:58:15  |                                       |           |         |
| [s] Observation end time (MET)    | 354419873.184000    | 354420707.2954       |                                       |           |         |
| Observation end date              | 2009-03-26T01:56:47 | 2009-03-26T02:11:47  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



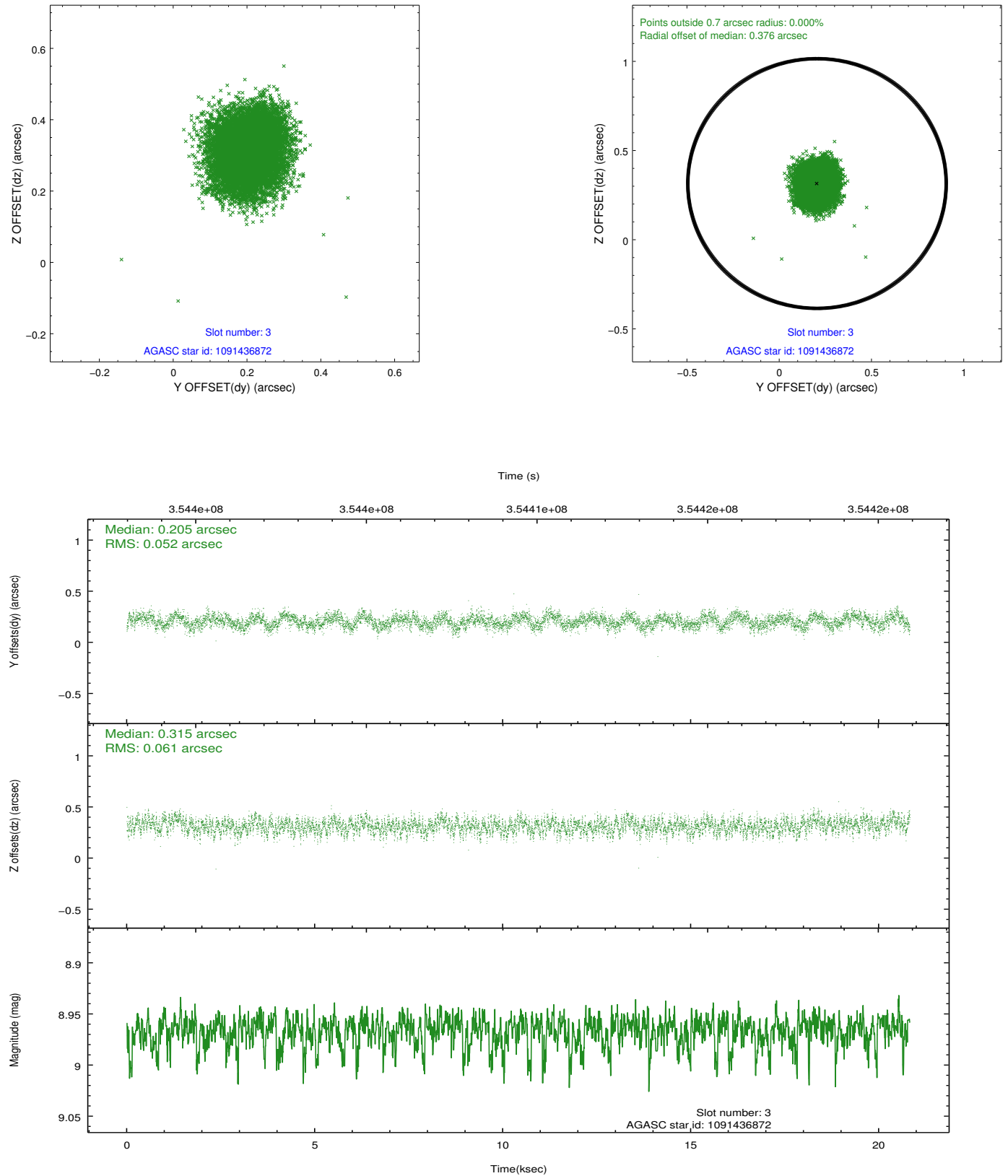


### Slot Statistics

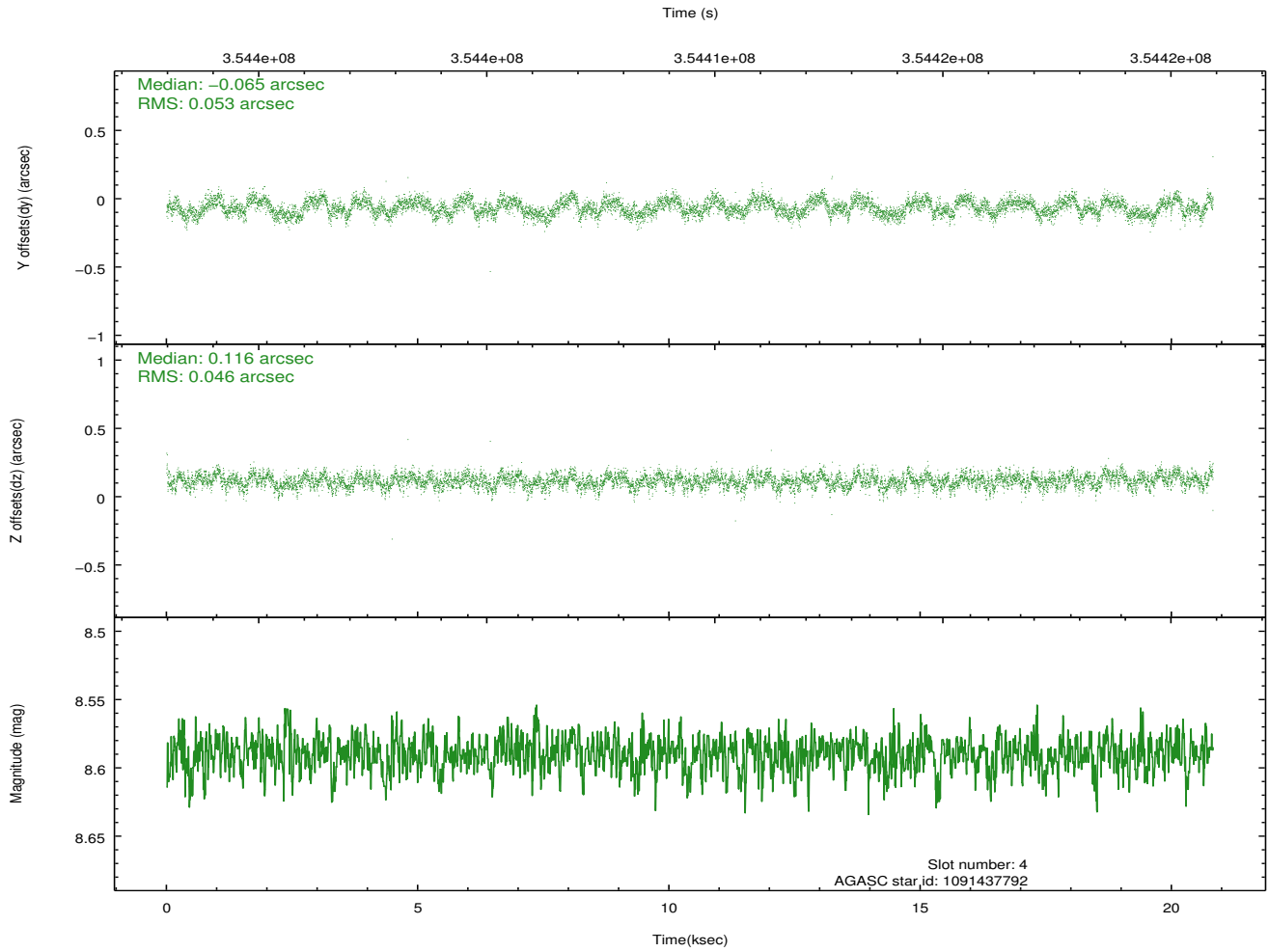
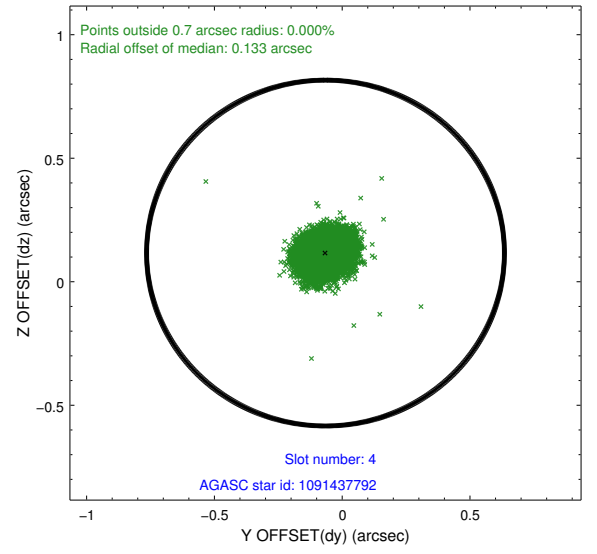
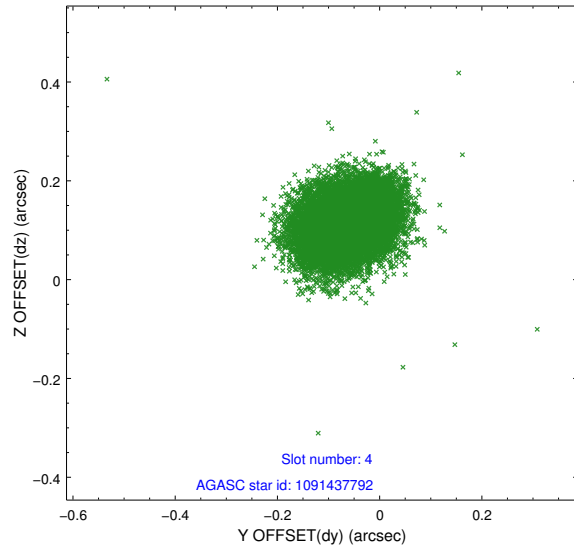
| slot | status | id         | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-S-2   | 6.90 | 5080  | -0.040 | -0.032 | 0.009 | 0.015 | 0.000000   | 0.000000   | -765.80  | -1735.77 |
| 1    | FID    | ACIS-S-4   | 6.99 | 5080  | 0.154  | 0.028  | 0.009 | 0.021 | 0.000000   | 0.000000   | 2147.57  | 172.62   |
| 2    | FID    | ACIS-S-5   | 7.02 | 5080  | -0.144 | 0.013  | 0.009 | 0.016 | 0.000000   | 0.000000   | -1818.55 | 166.43   |
| 3    | GUIDE  | 1091436872 | 8.97 | 10143 | 0.205  | 0.315  | 0.085 | 0.135 | 255.728542 | -46.511740 | -926.29  | -1313.36 |
| 4    | GUIDE  | 1091437792 | 8.59 | 10157 | -0.065 | 0.116  | 0.074 | 0.117 | 255.565973 | -46.167515 | 246.04   | -744.80  |
| 5    | GUIDE  | 1091440288 | 8.54 | 10155 | 0.304  | -0.073 | 0.059 | 0.097 | 254.504918 | -46.709153 | -2061.26 | 1580.12  |
| 6    | GUIDE  | 1091443112 | 7.91 | 10157 | -0.237 | -0.116 | 0.060 | 0.094 | 254.637652 | -45.920353 | 795.37   | 1678.08  |
| 7    | GUIDE  | 1091443144 | 8.22 | 10153 | -0.206 | -0.240 | 0.062 | 0.099 | 254.556494 | -45.731344 | 1438.21  | 1980.71  |

## 2.4 Star Slots

### 2.4.1 Slot 3

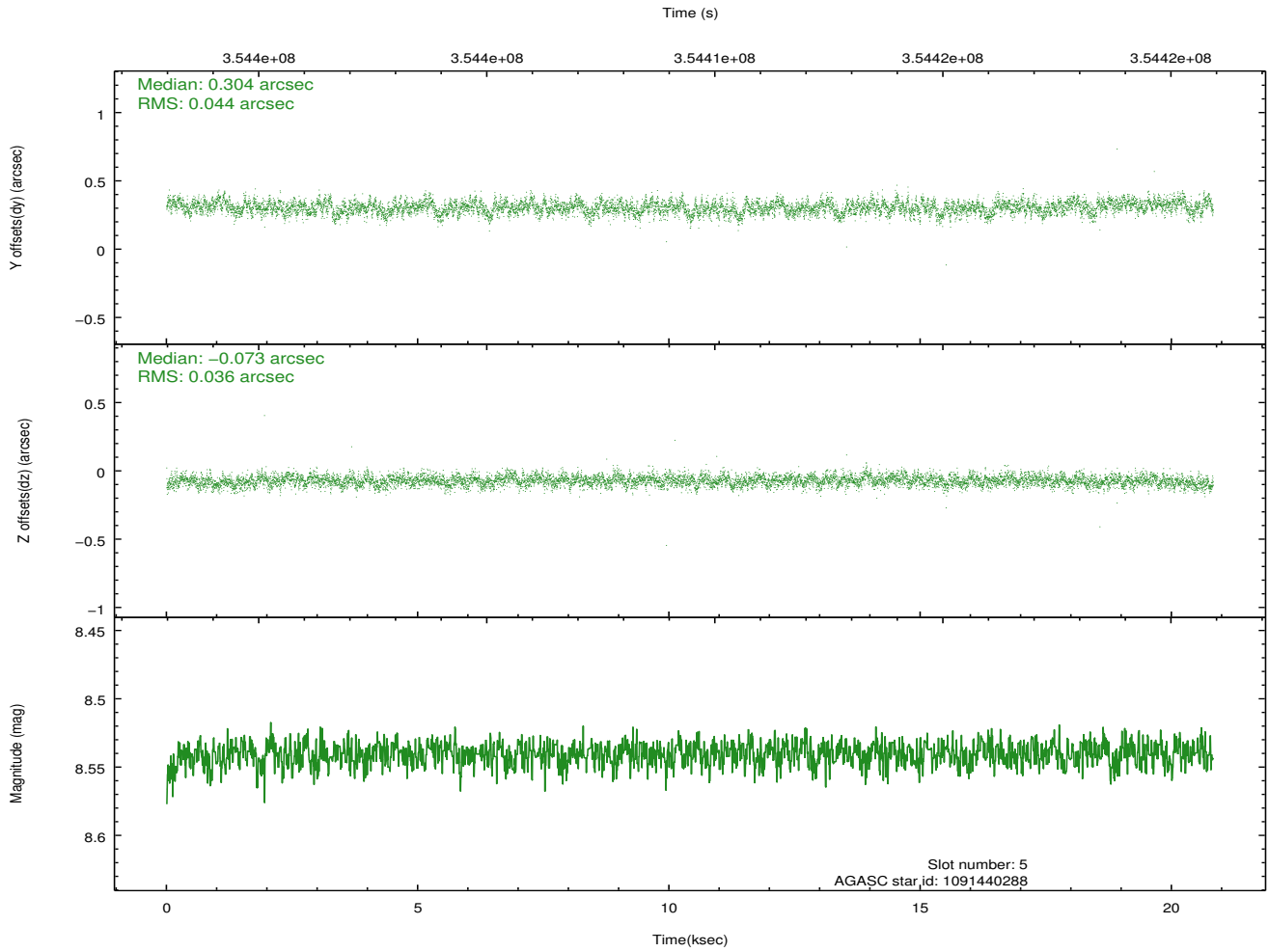
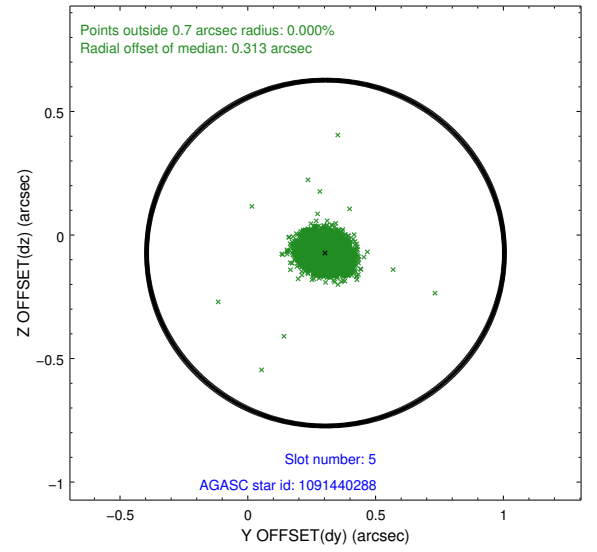
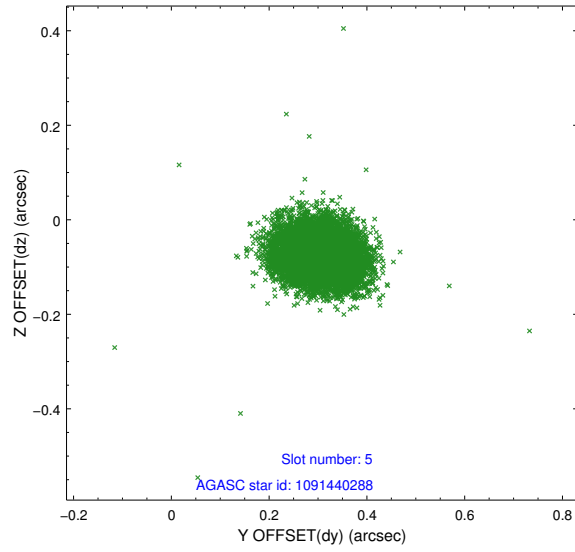


## 2.4.2 Slot 4

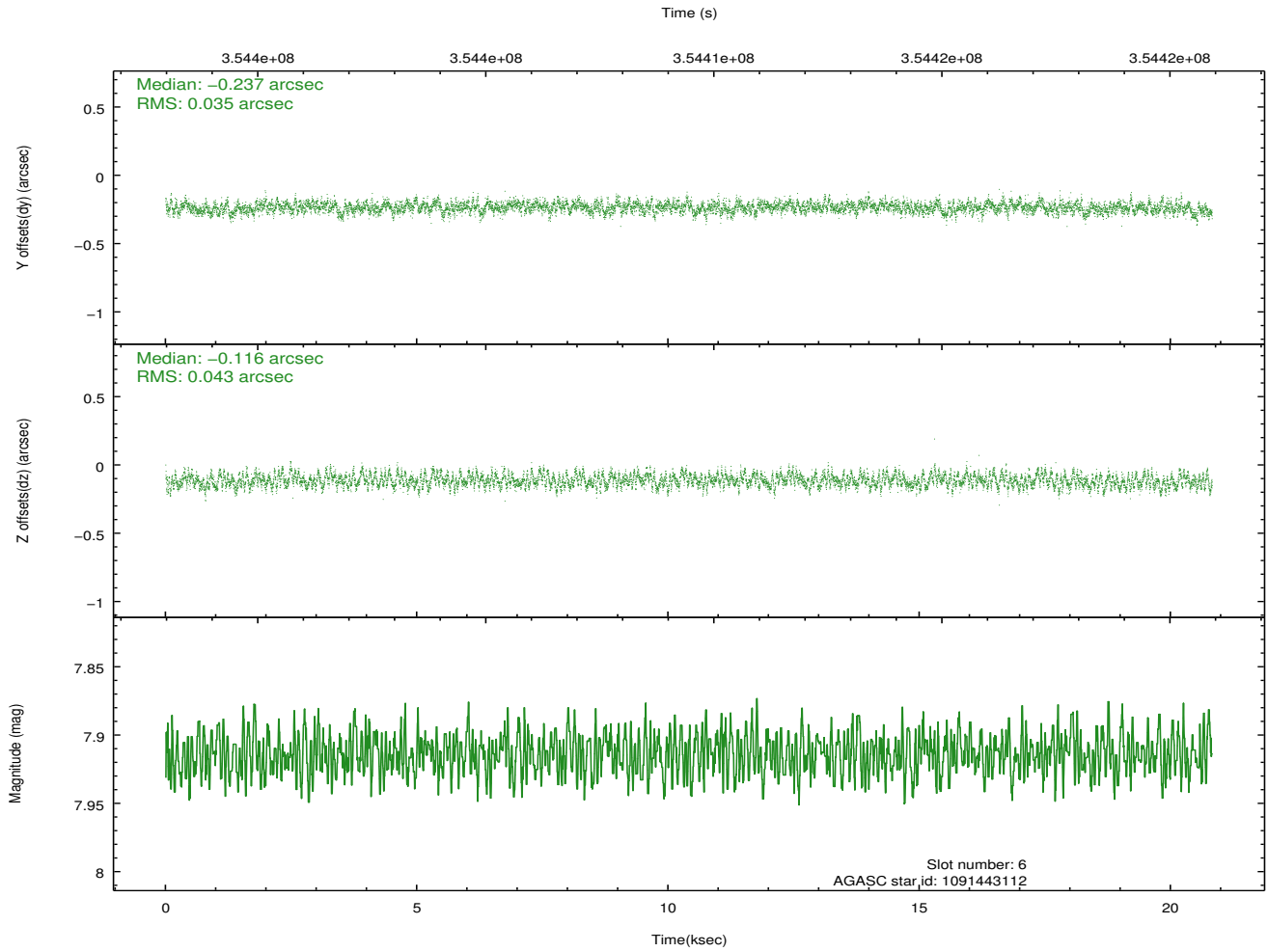
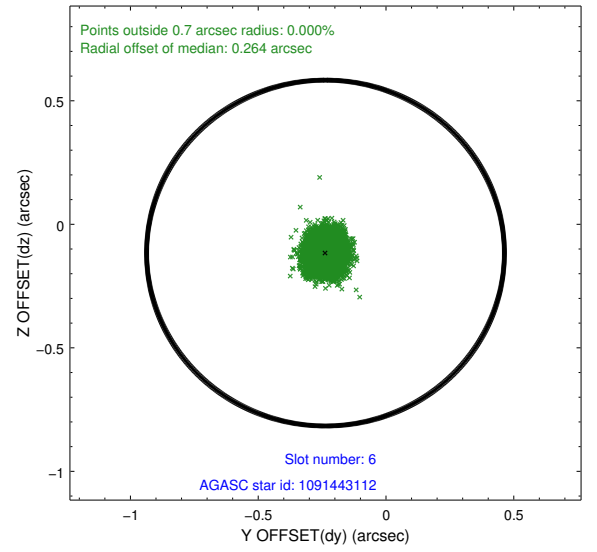
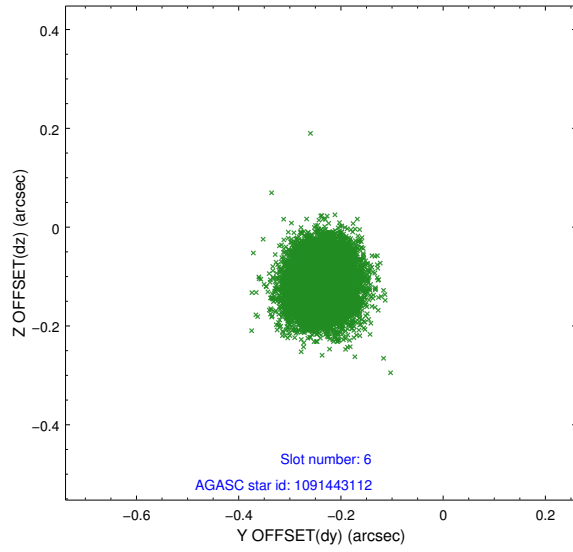




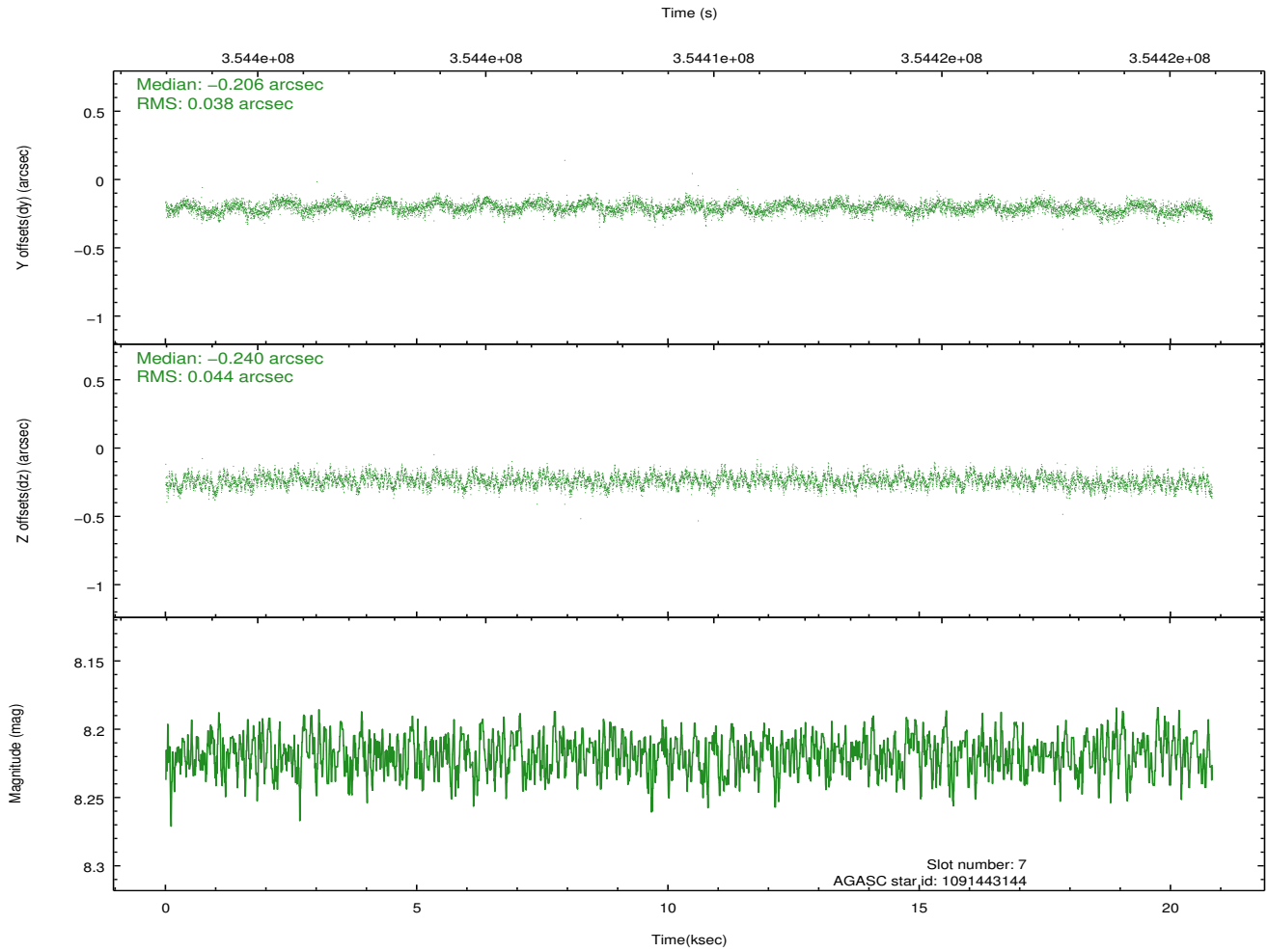
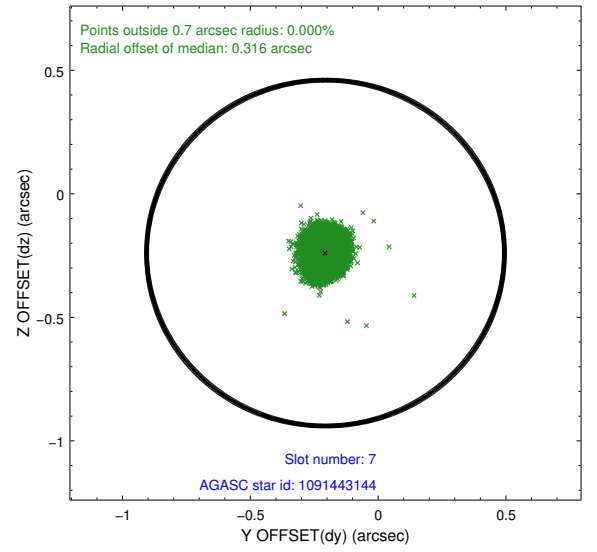
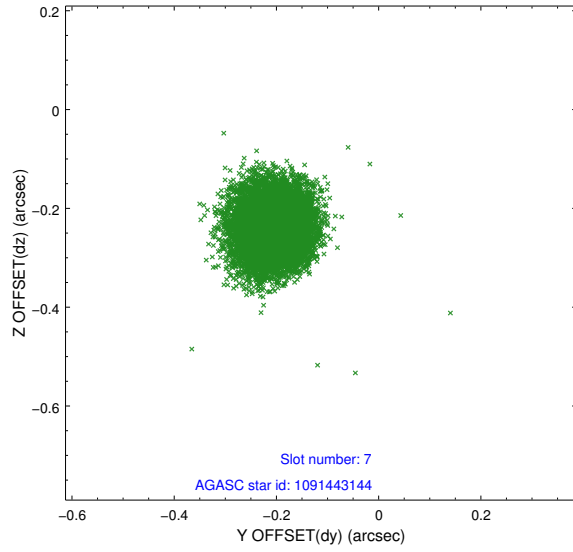
### 2.4.3 Slot 5



## 2.4.4 Slot 6

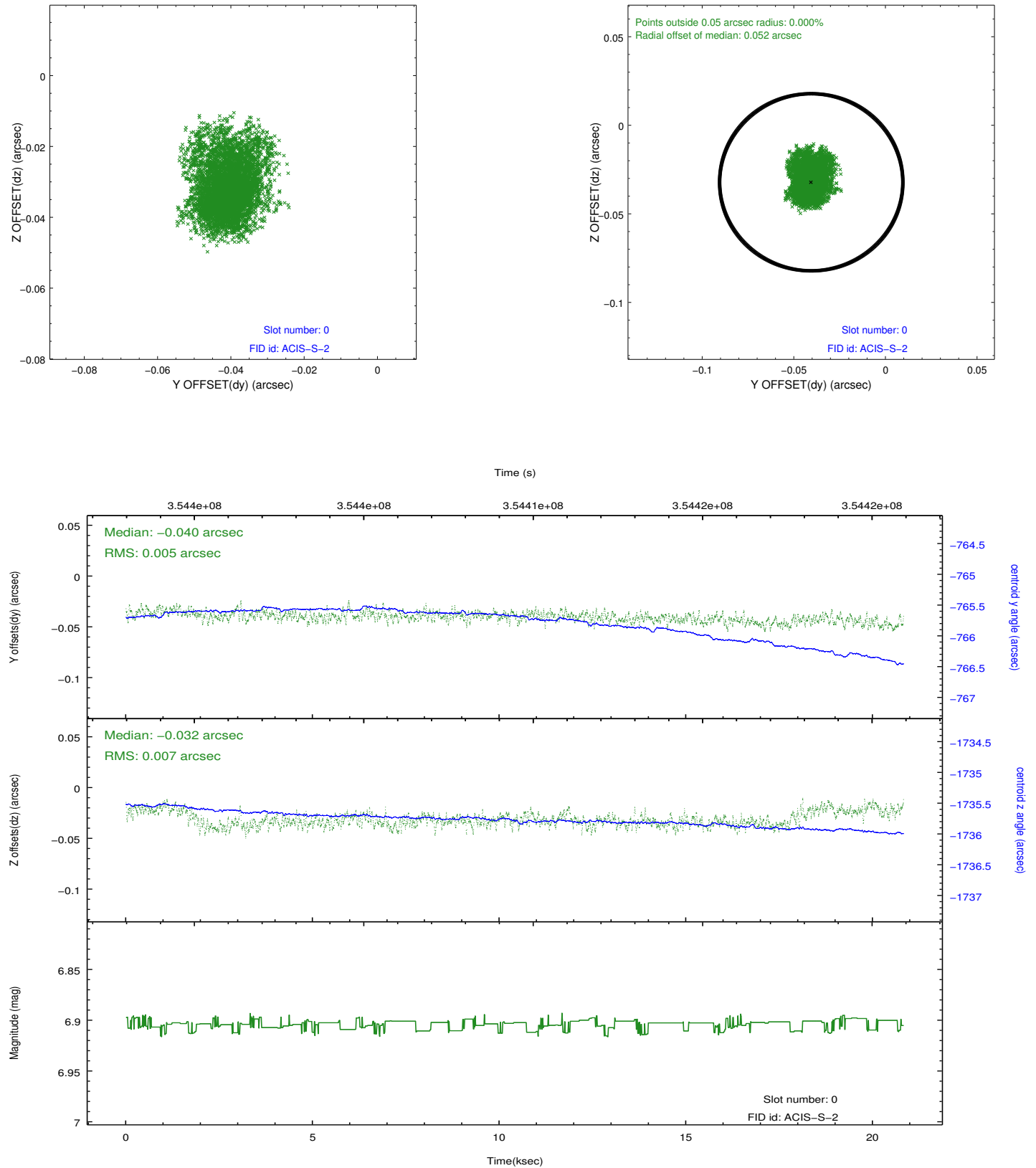


## 2.4.5 Slot 7

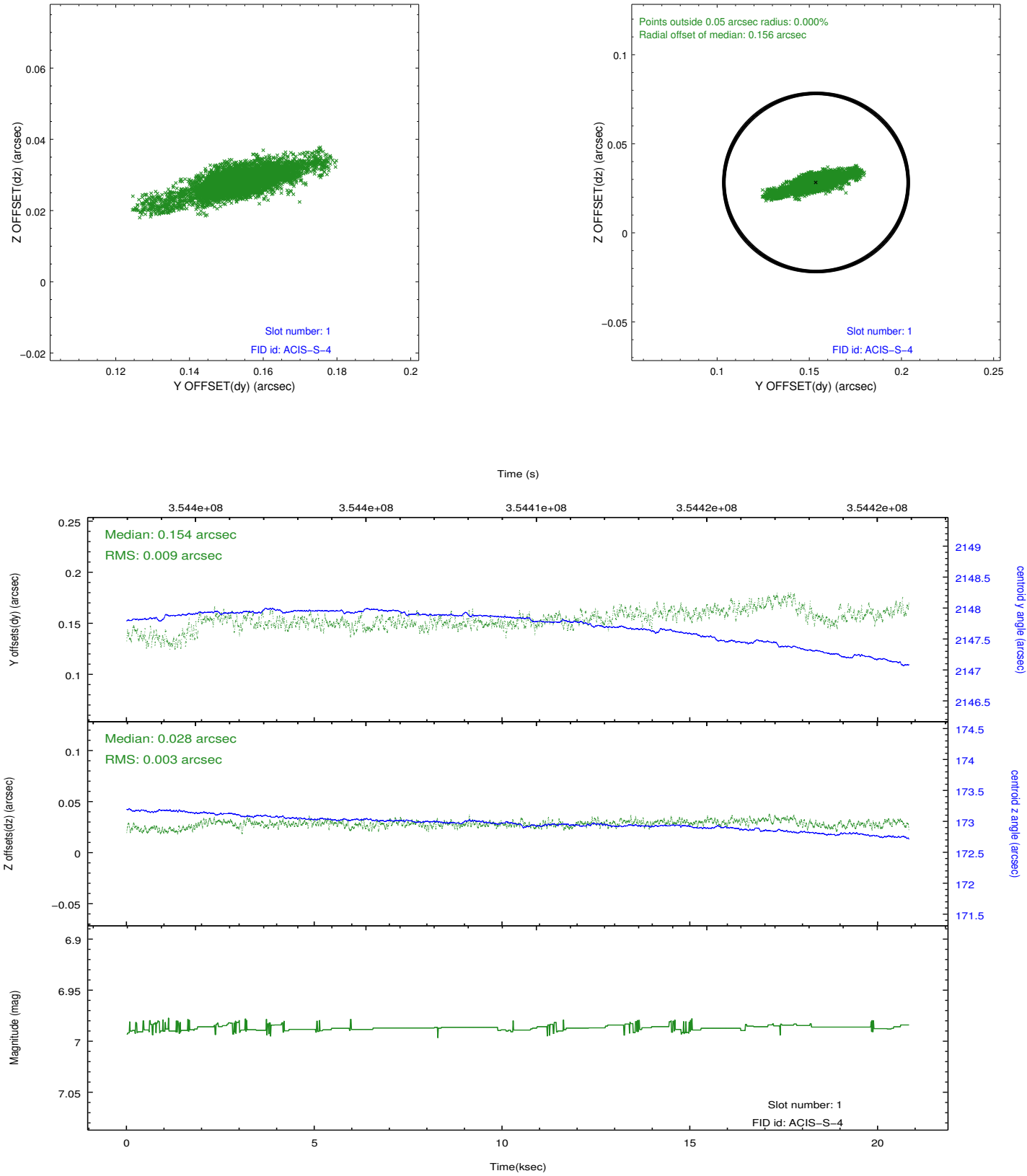


## 2.5 FID Slots

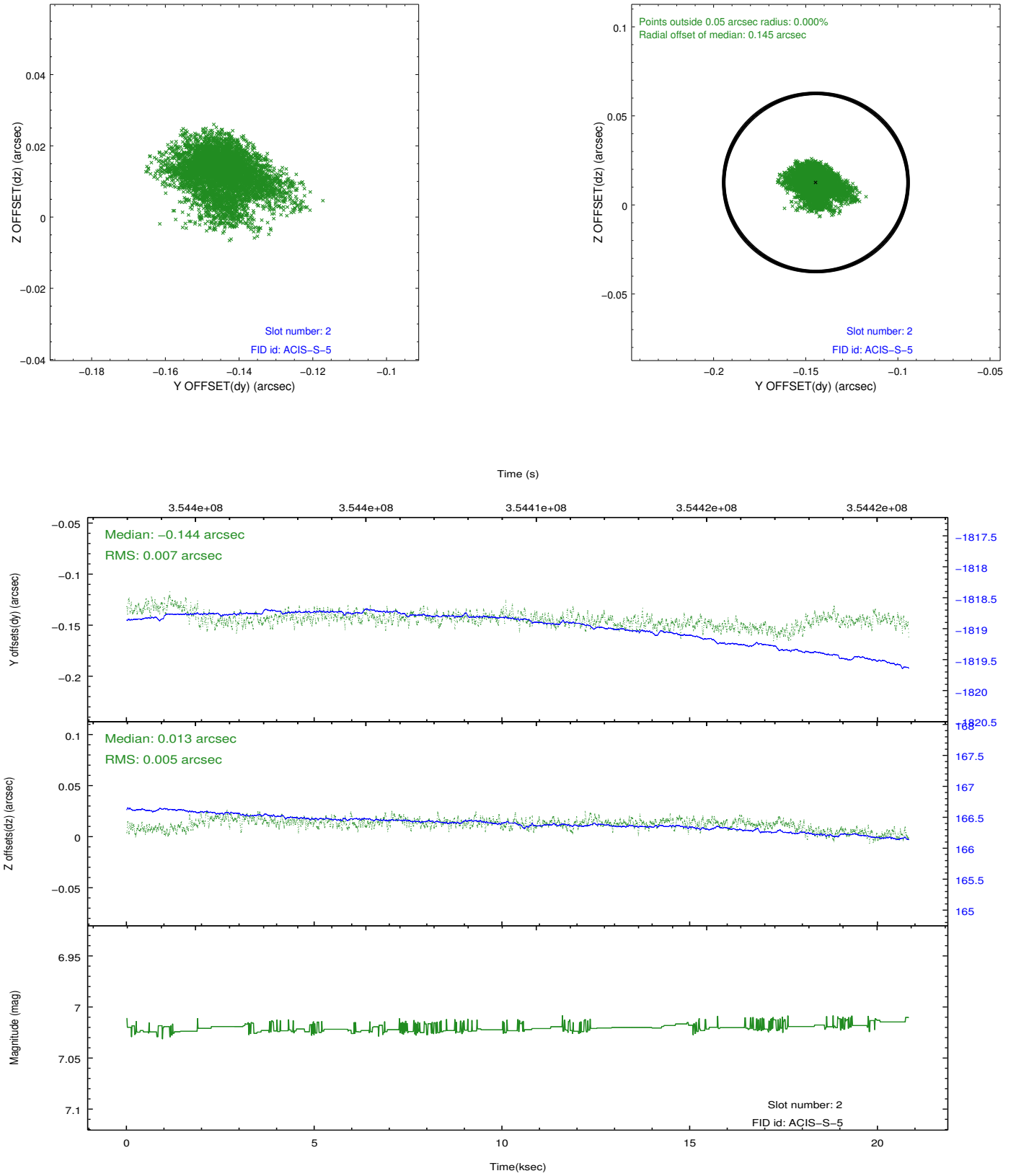
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

|                            |             |
|----------------------------|-------------|
| V&V Scientist              | Joy Nichols |
| V&V Date (YYYY-MM-DD)      | 2012.06.07  |
| V&V Edition                | 1           |
| V&V Disposition and Status | OK          |
| V&V Charge Time            | 19.8338001  |

### A.2 Comments

Window constraint satisfied.