

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13641 - L2 Version 2  
Chandra X-Ray Center

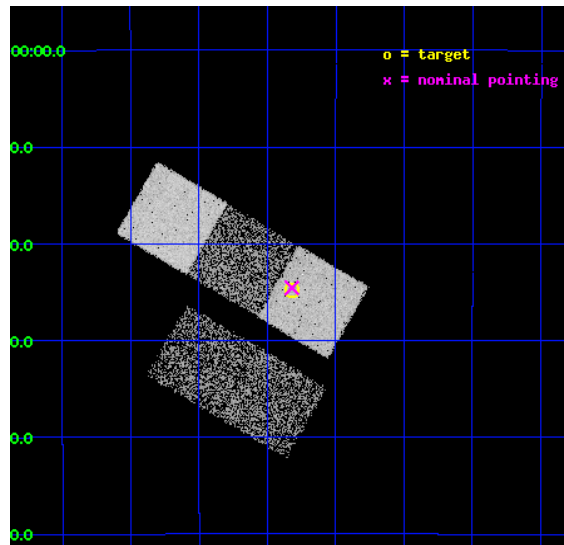
L2 Processing Date : Feb 29 2012

## 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

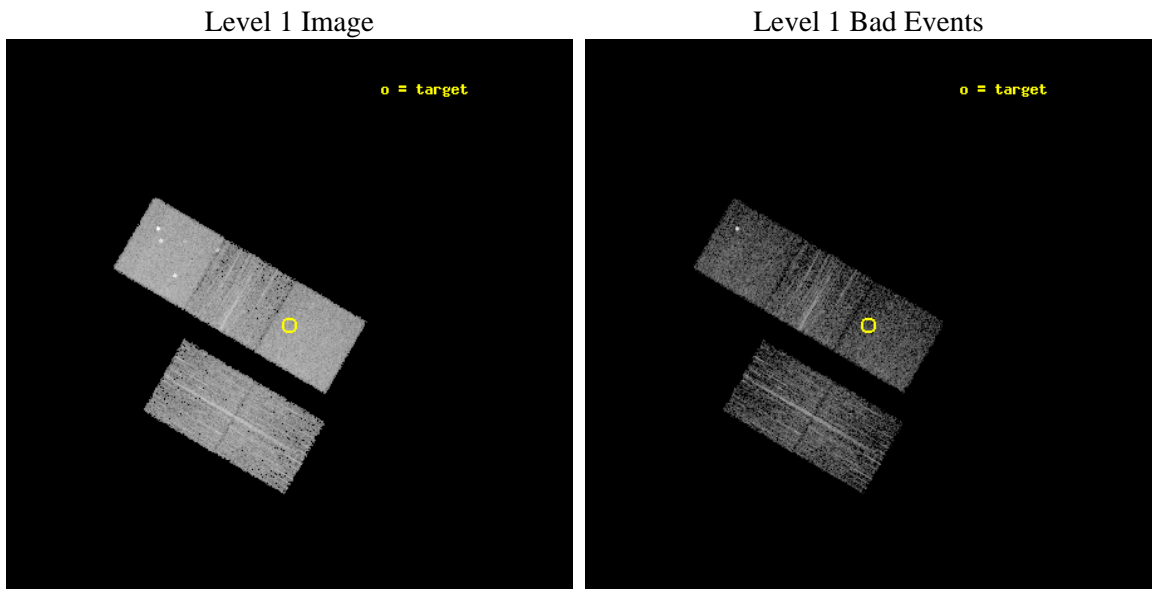
|          |   |   |
|----------|---|---|
| seq_num  | 200795  | Sequence number                             |
| obs_id   | 13641   | Observation id                              |
| title    | LIVING WITH A RED DWARF: MAGNETIC ACTIVITY, XUV IRRADIANCES OF dM STARS - EXOPLANET ATMOSPHERES AND ENVIRONMENT IMPACTS | Proposal titl                               |
| observer | Dr. Edward Guinan   | Principal investigator                      |
| object   | LP 783-2  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 115.08  | Observer's specified target<br>RA [deg]     |
| dec_targ | -17.4125  | Observer's specified target<br>Dec [deg]    |
| ra_nom   | 115.08015121076   | Nominal RA [deg]                            |
| dec_nom  | -17.409397864404  | Nominal Dec [deg]                           |
| roll_nom | 30.278321918378   | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 5045.838026762  | Sum of GTIs [s]                             |
| livetime | 4979.9104382504   | Livetime [s]                                |
| ontime2  | 5045.6738667488   | Sum of GTIs [s]                             |
| ontime3  | 5045.7149067521   | Sum of GTIs [s]                             |
| ontime5  | 5045.7969867587   | Sum of GTIs [s]                             |
| ontime6  | 5045.7559467554   | Sum of GTIs [s]                             |
| ontime7  | 5045.838026762  | Sum of GTIs [s]                             |
| l2events | 50005   | Number of level 2 events                    |



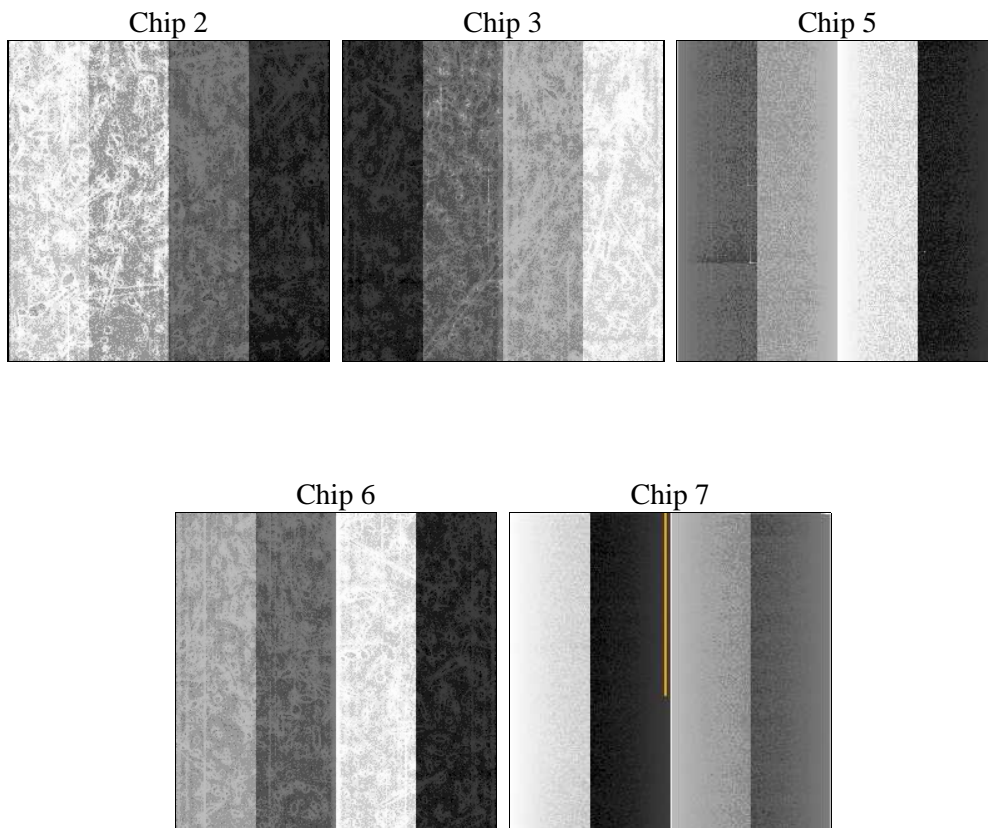
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 5000.000000     | [s] Scheduled observation exposure time |
| ascdsver | 8.4.3               | Processing system revision     | ontime         | 5045.838026762  | Sum of GTIs [s]                         |
| caldbver | 4.4.8               | &#160                          | ontime2        | 5045.6738667488 | Sum of GTIs [s]                         |
| date     | 2012-02-29T12:03:26 | Date and time of file creation | ontime3        | 5045.7149067521 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime5        | 5045.7969867587 | Sum of GTIs [s]                         |
|          |                     |                                | ontime6        | 5045.7559467554 | Sum of GTIs [s]                         |
|          |                     |                                | ontime7        | 5045.838026762  | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 186040          | Number of level 1 events                |

### 2.1.4 Events

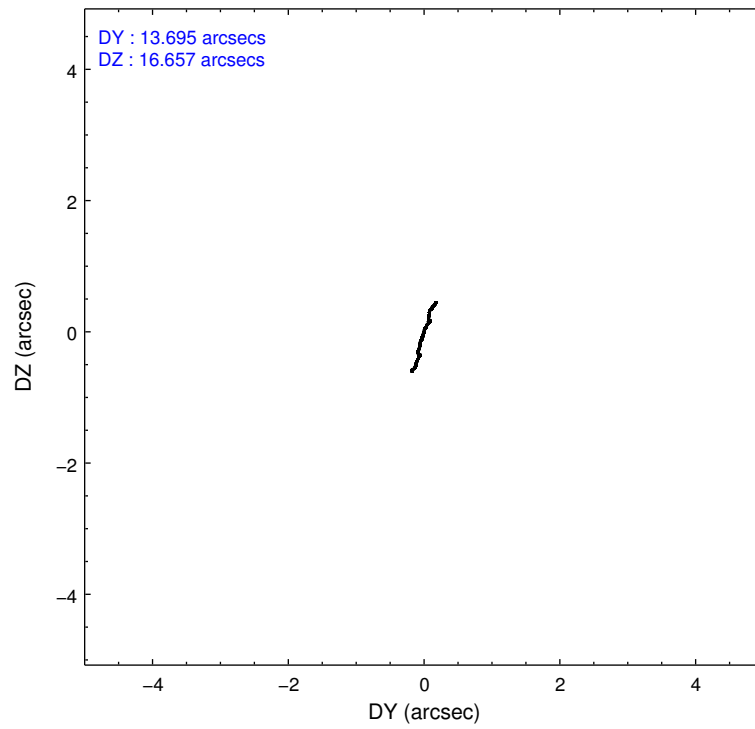
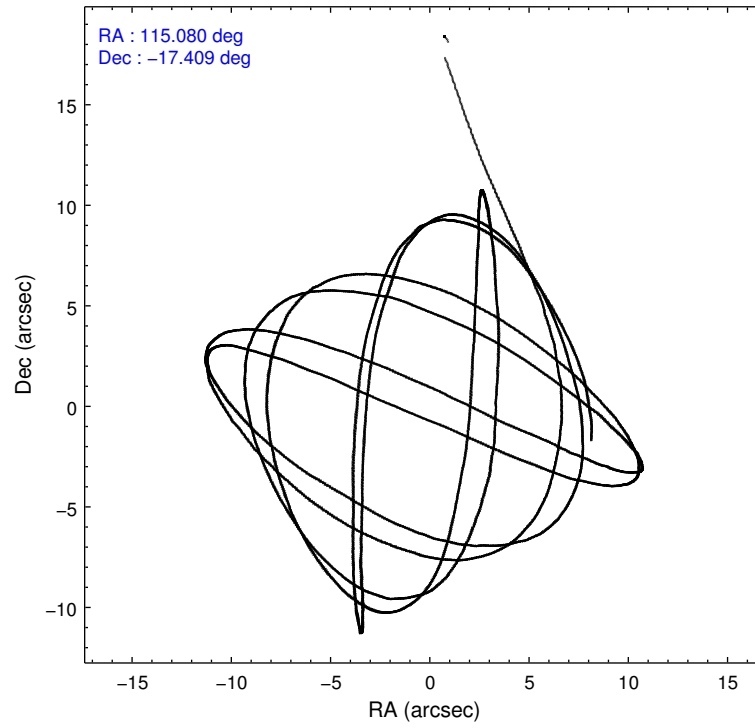
|                 | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|
| level 1 events  | 30398 | 29408 | 52426 | 32402 | 41406 |
| rejected events | 27026 | 26112 | 26308 | 28522 | 23103 |
| rejected %      | 88%   | 88%   | 50%   | 88%   | 55%   |

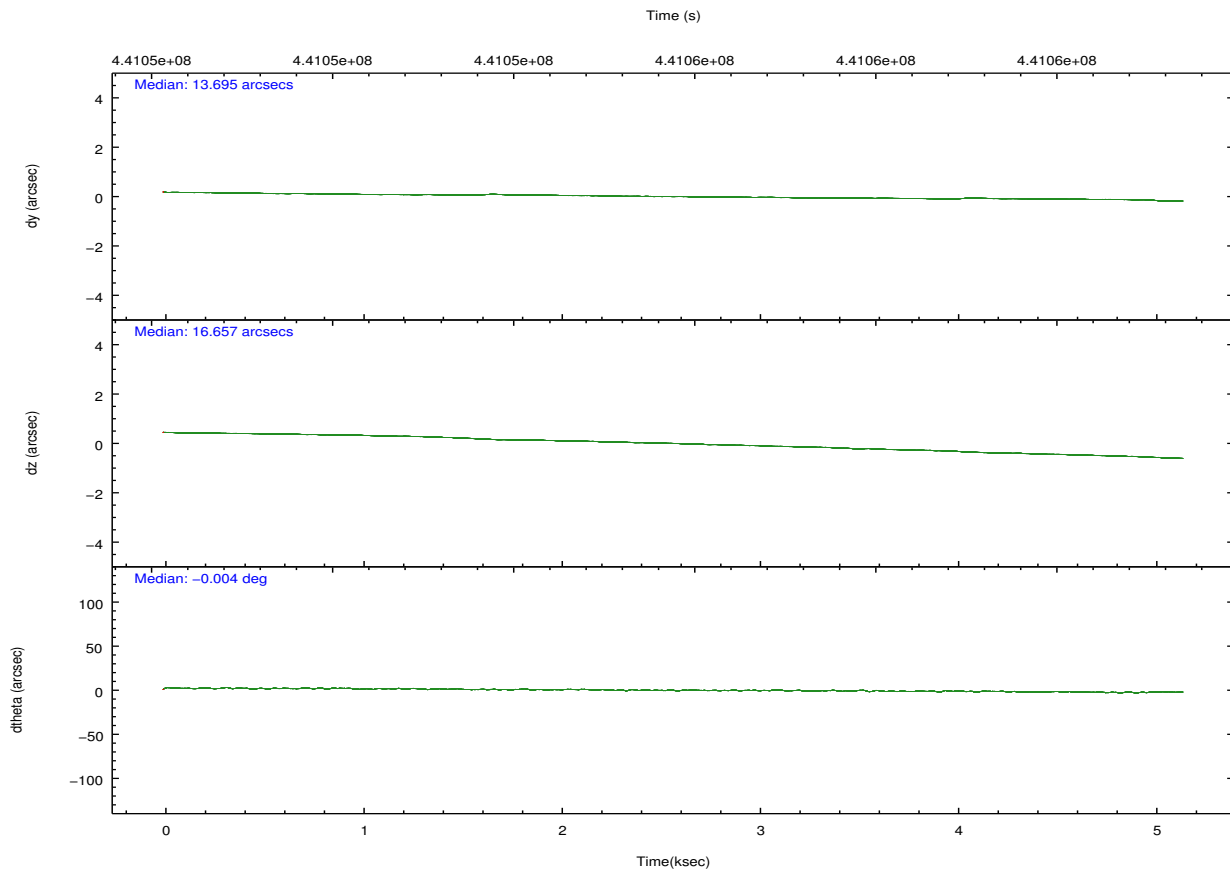
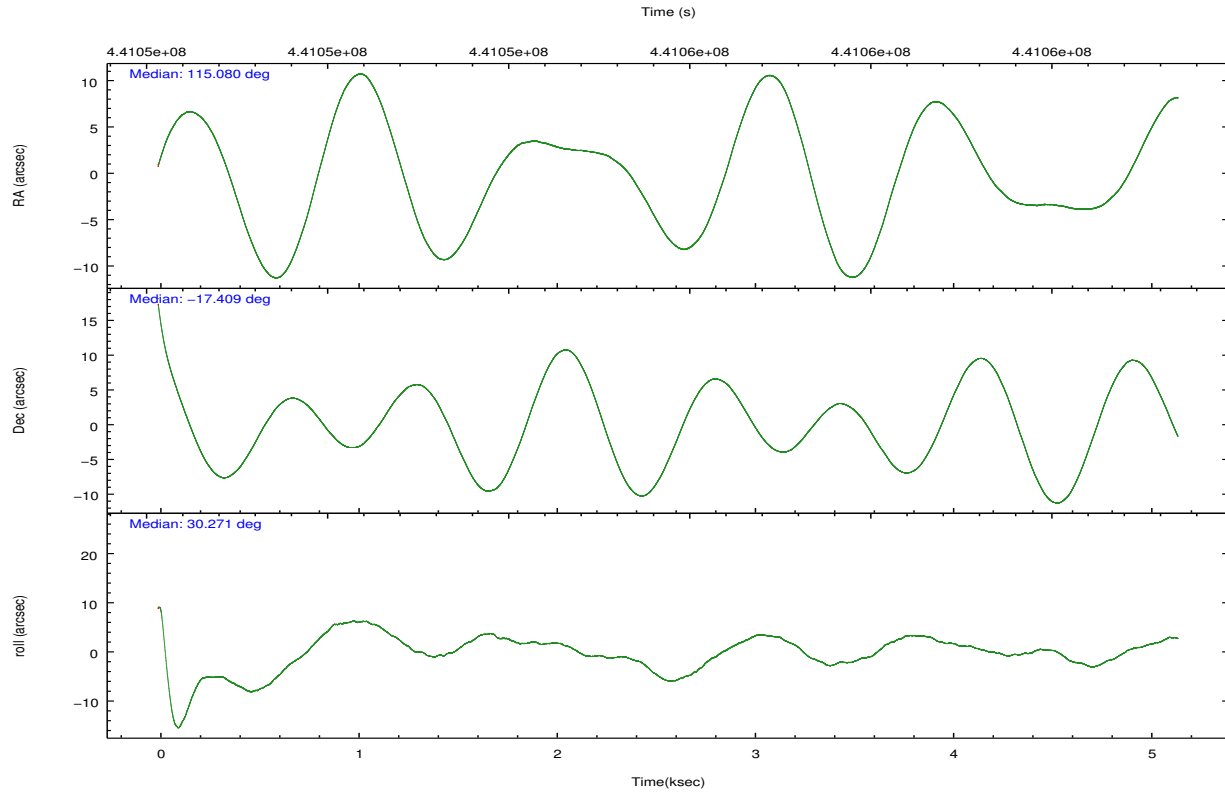
|                | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|----------------|-------|-------|-------|-------|-------|
| grade 0 events | 1212  | 1152  | 3265  | 1327  | 1571  |
|                | 3%    | 3%    | 6%    | 4%    | 3%    |
| grade 1 events | 16    | 12    | 99    | 20    | 52    |
|                | 0%    | 0%    | 0%    | 0%    | 0%    |
| grade 2 events | 778   | 732   | 8059  | 908   | 3808  |
|                | 2%    | 2%    | 15%   | 2%    | 9%    |
| grade 3 events | 324   | 351   | 886   | 403   | 1611  |
|                | 1%    | 1%    | 1%    | 1%    | 3%    |
| grade 4 events | 373   | 341   | 888   | 395   | 1499  |
|                | 1%    | 1%    | 1%    | 1%    | 3%    |
| grade 5 events | 1262  | 1519  | 4000  | 1564  | 4321  |
|                | 4%    | 5%    | 7%    | 4%    | 10%   |
| grade 6 events | 686   | 723   | 13050 | 850   | 9835  |
|                | 2%    | 2%    | 24%   | 2%    | 23%   |
| grade 7 events | 25747 | 24578 | 22179 | 26935 | 18709 |
|                | 84%   | 83%   | 42%   | 83%   | 45%   |

## 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                         | FAINT               | FAINT                | Number of optional ACIS chips dropped | 0         | 0       |
| Observation mode                  | POINTING            | POINTING             | On-chip summing requested             | N         | N       |
| [deg] Pointing RA                 | 115.066255          | 115.0801512107613    | Subarray requested                    | NONE      | NONE    |
| [deg] Pointing Dec                | -17.433399          | -17.40939786440432   | Alternating exposures requested       | N         | N       |
| [deg] Pointing Roll               | 30.117455           | 30.2783219183785     | [s] Primary exposure time             | 0.000000  | 3.1     |
| [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)  | 441052452.184000    | 441051187.59571      |                                       |           |         |
| Observation start date            | 2011-12-23T18:33:06 | 2011-12-23T18:13:07  |                                       |           |         |
| [s] Observation end time (MET)    | 441057452.184000    | 441058283.67108      |                                       |           |         |
| Observation end date              | 2011-12-23T19:56:26 | 2011-12-23T20:11:23  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect



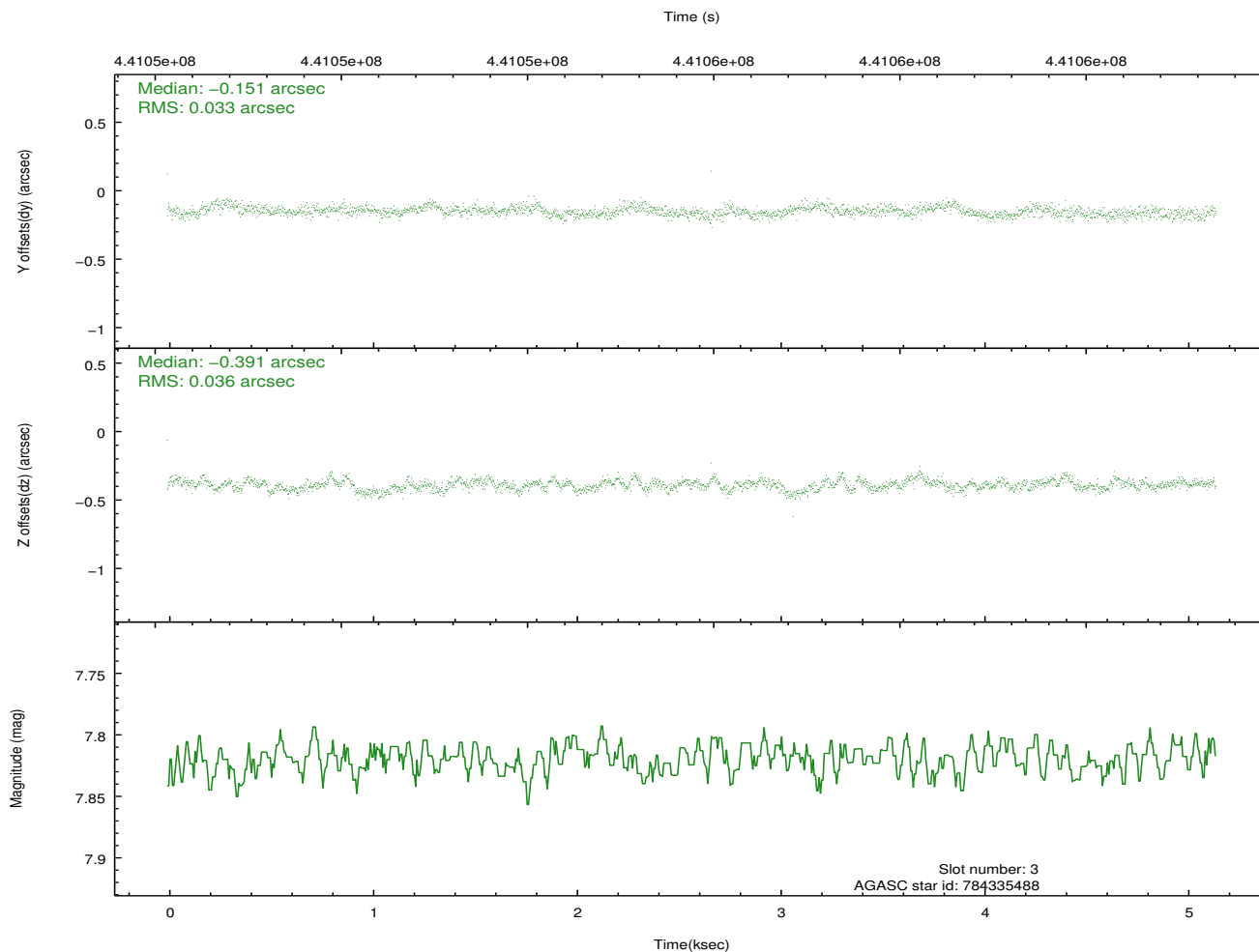
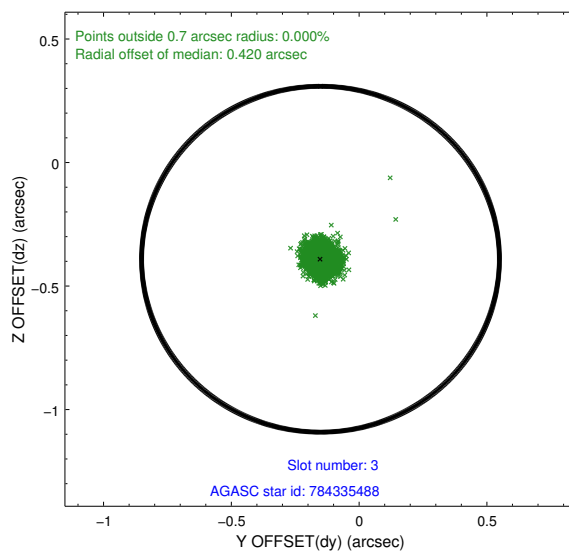
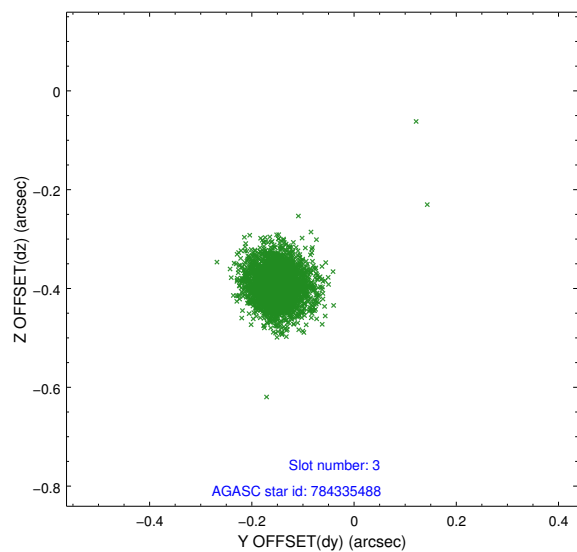


### Slot Statistics

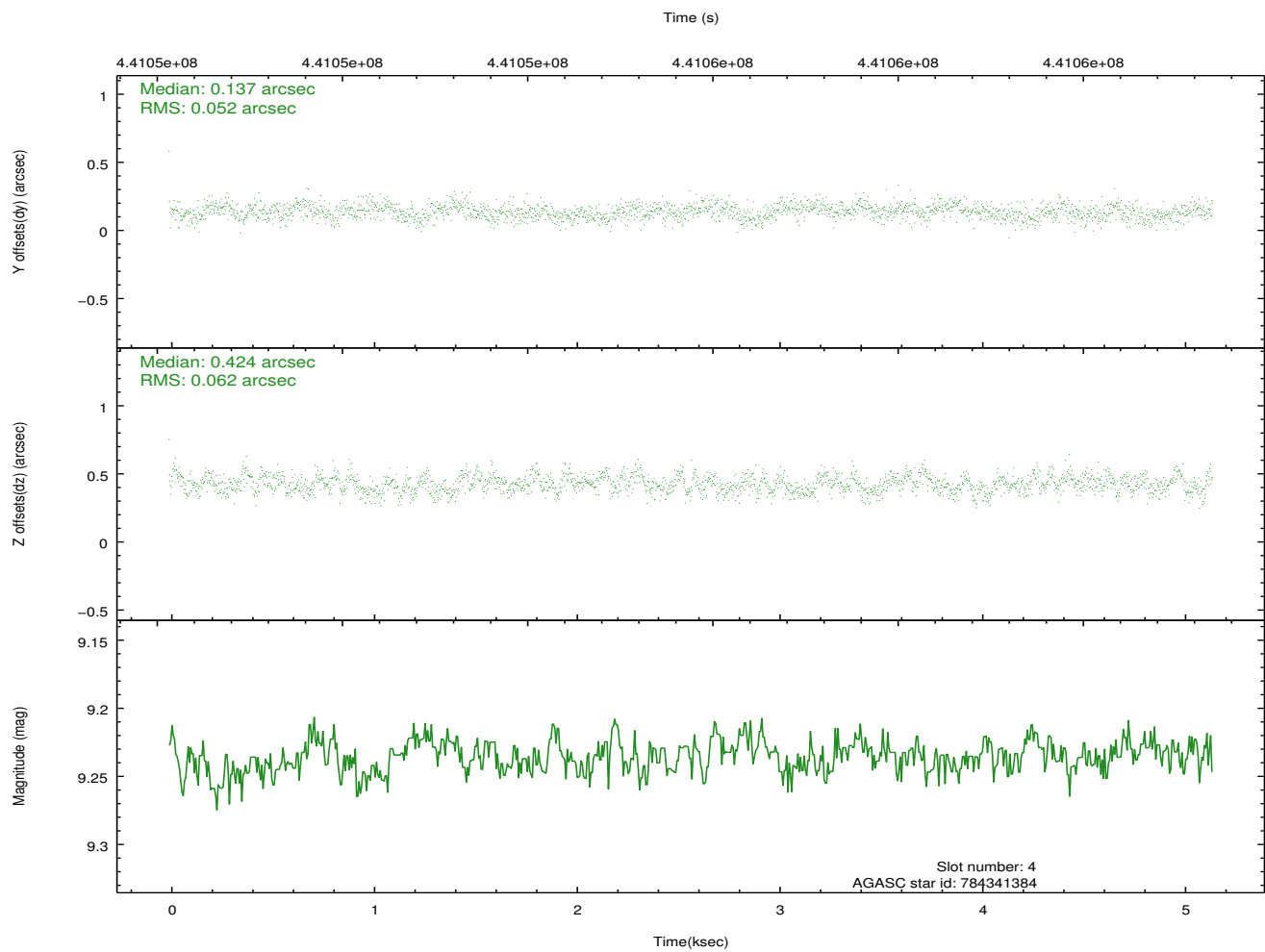
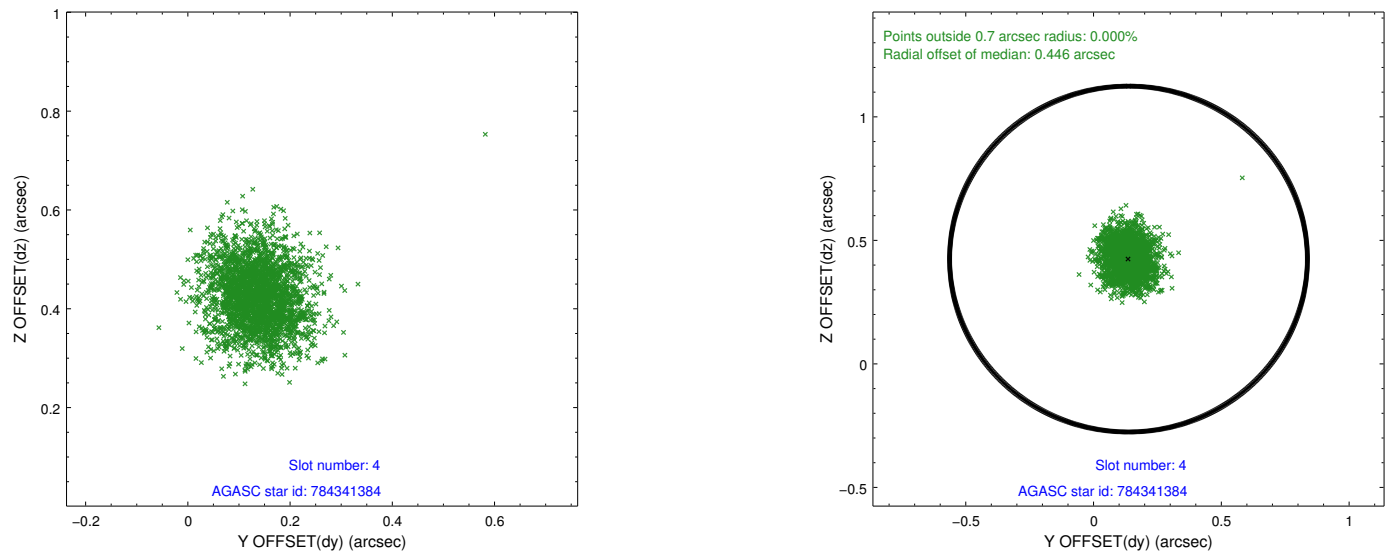
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0    | FID    | ACIS-S-1  | 6.98 | 1256  | 0.073  | -0.067 | 0.012 | 0.018 | 0.000000   | 0.000000   | 929.44   | -1733.72 |
| 1    | FID    | ACIS-S-4  | 6.98 | 1256  | 0.153  | 0.017  | 0.009 | 0.013 | 0.000000   | 0.000000   | 2147.61  | 169.29   |
| 2    | FID    | ACIS-S-5  | 7.01 | 1255  | -0.251 | 0.064  | 0.011 | 0.019 | 0.000000   | 0.000000   | -1818.22 | 164.32   |
| 3    | GUIDE  | 784335488 | 7.82 | 2511  | -0.151 | -0.391 | 0.051 | 0.083 | 114.644744 | -16.965404 | -411.39  | 2183.93  |
| 4    | GUIDE  | 784341384 | 9.24 | 2511  | 0.137  | 0.424  | 0.086 | 0.141 | 114.719188 | -18.062548 | -2164.51 | -1362.96 |
| 5    | GUIDE  | 784348744 | 9.69 | 2509  | 0.136  | -0.006 | 0.105 | 0.170 | 114.448311 | -17.420696 | -1815.73 | 1101.01  |
| 6    | GUIDE  | 784352072 | 9.54 | 2500  | 0.075  | -0.302 | 0.126 | 0.195 | 114.551754 | -17.326924 | -1339.21 | 1216.82  |
| 7    | GUIDE  | 784346136 | 9.43 | 2498  | -0.196 | 0.279  | 0.104 | 0.172 | 115.699171 | -17.665673 | 1456.04  | -1814.76 |

## 2.4 Star Slots

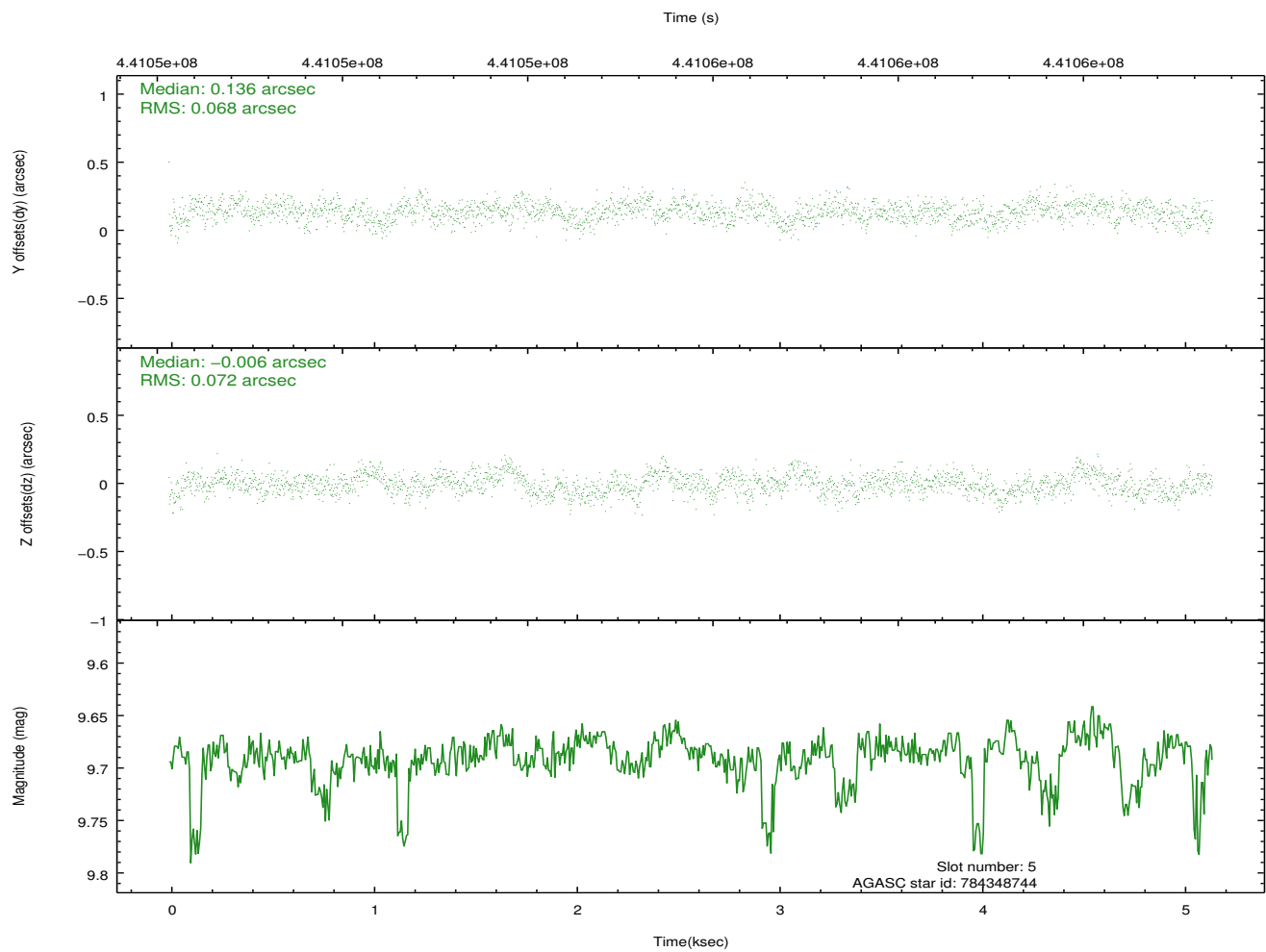
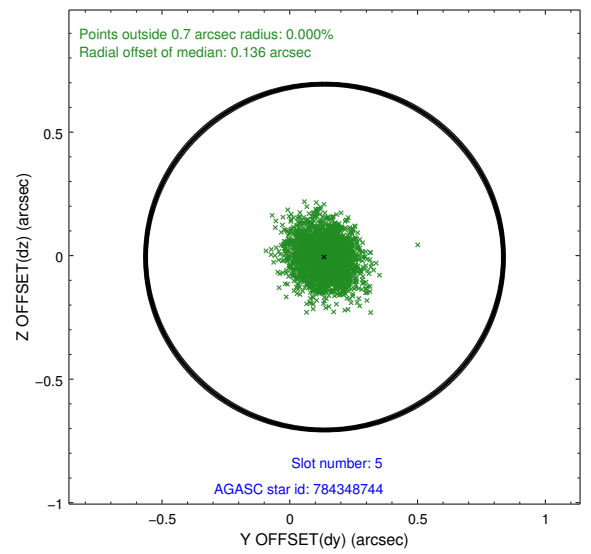
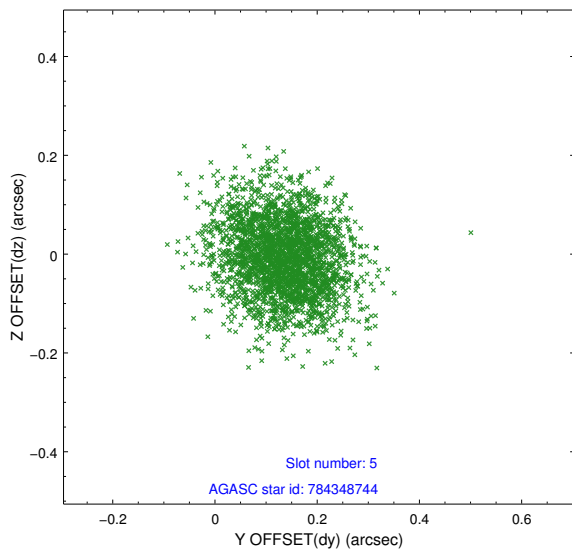
### 2.4.1 Slot 3



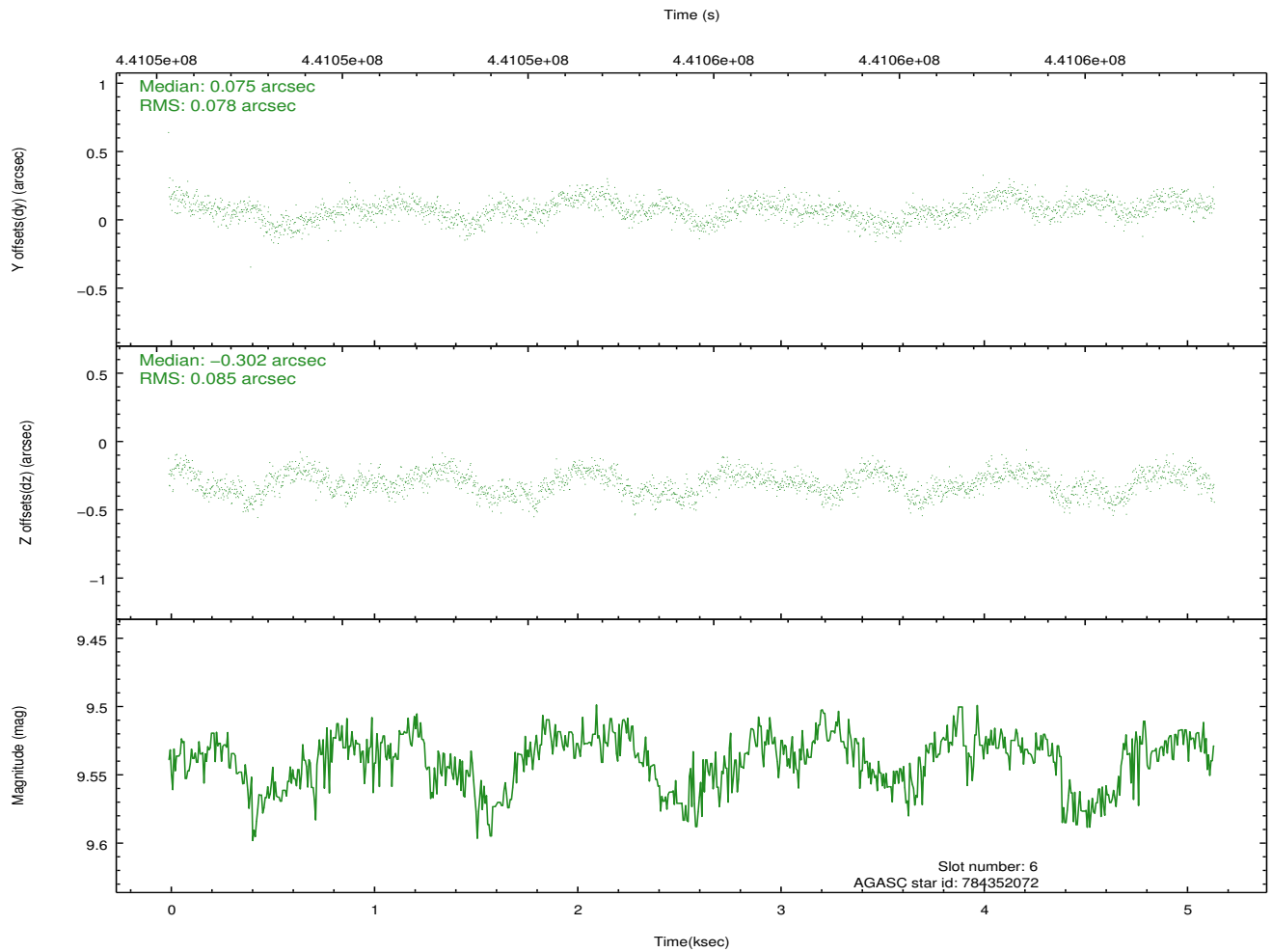
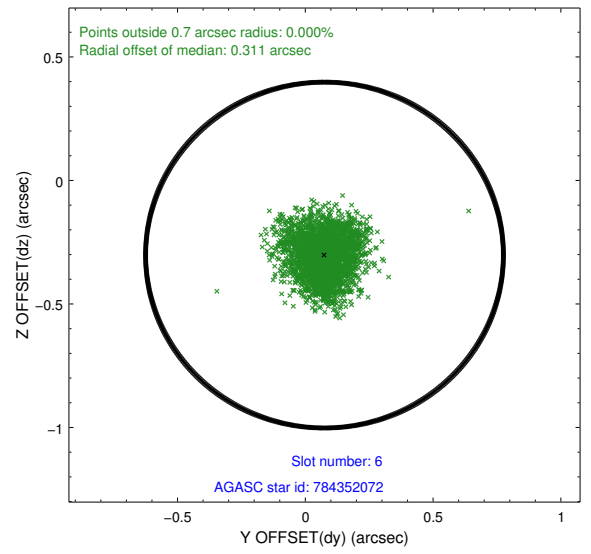
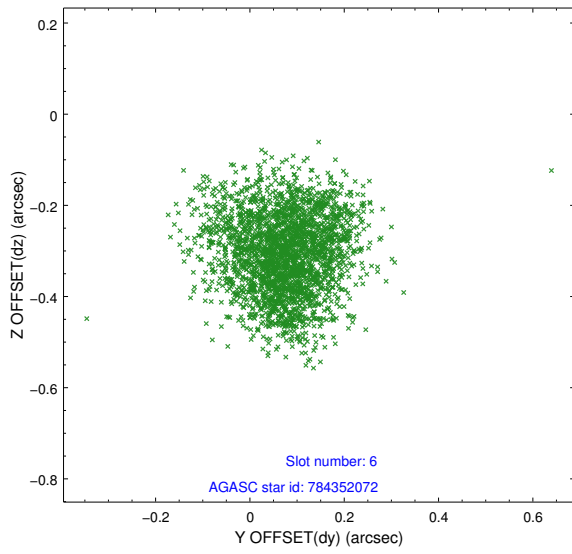
## 2.4.2 Slot 4



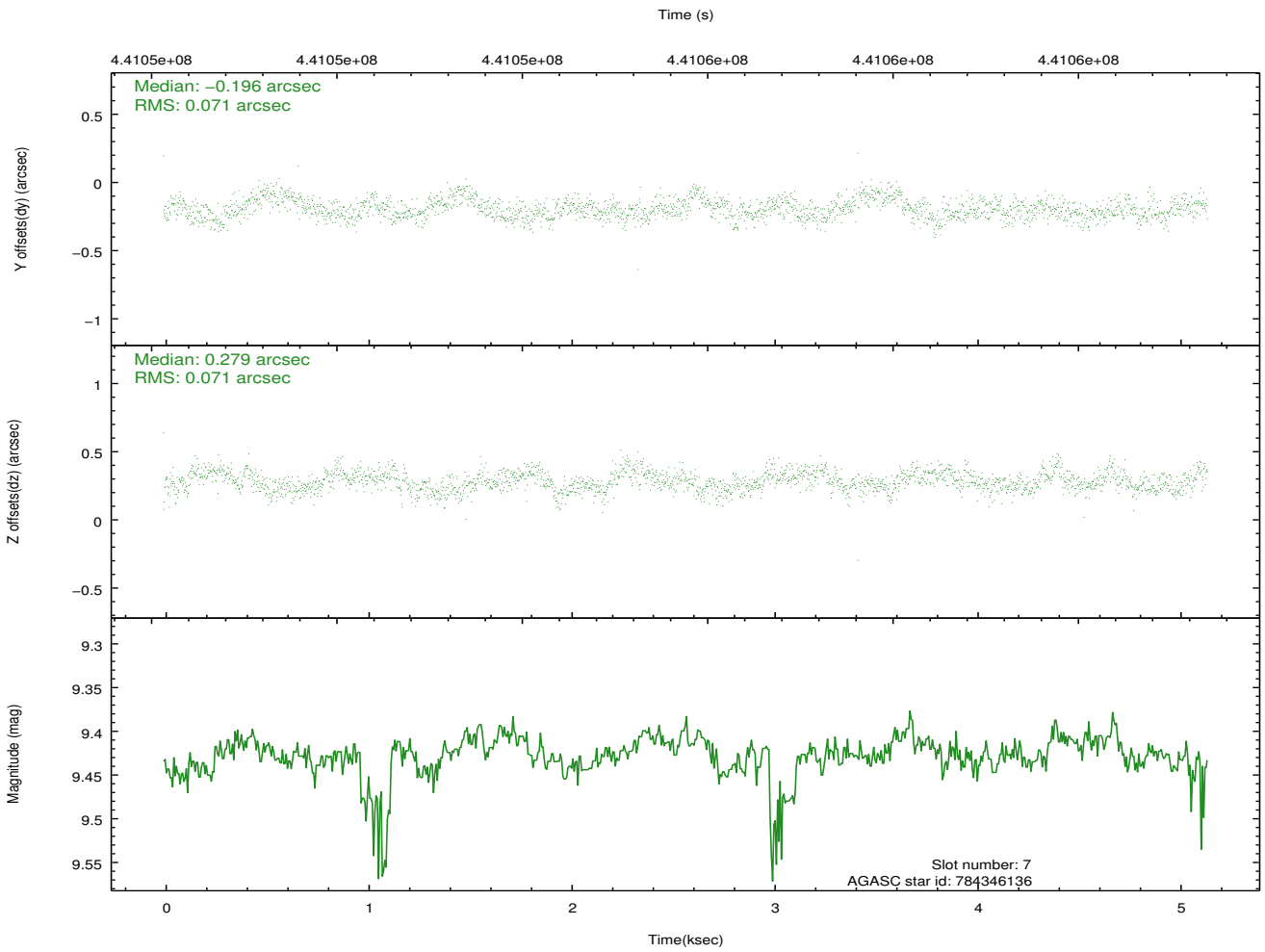
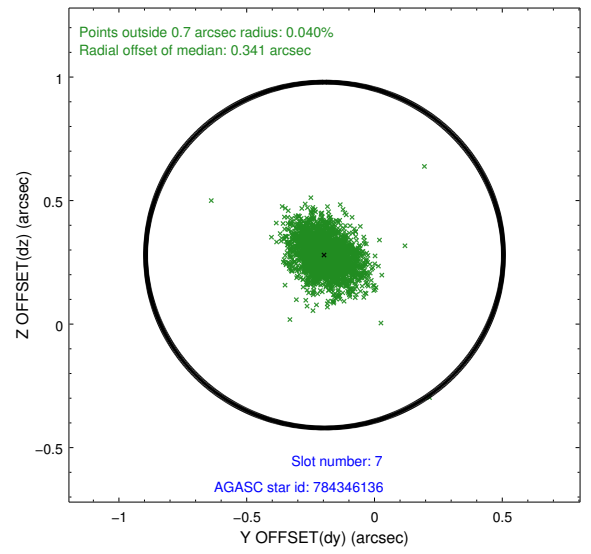
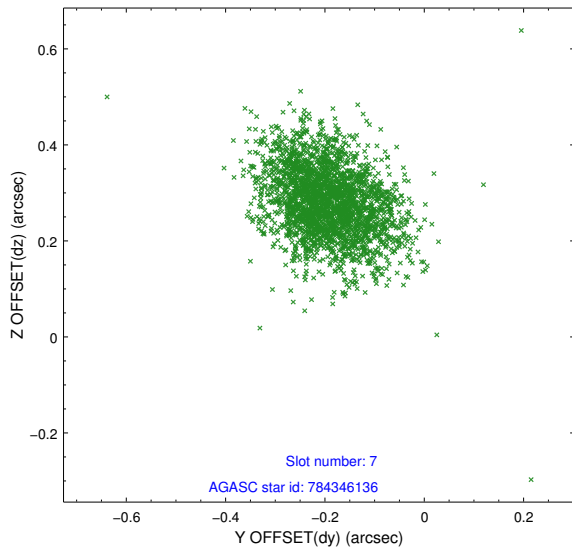
### 2.4.3 Slot 5



### 2.4.4 Slot 6

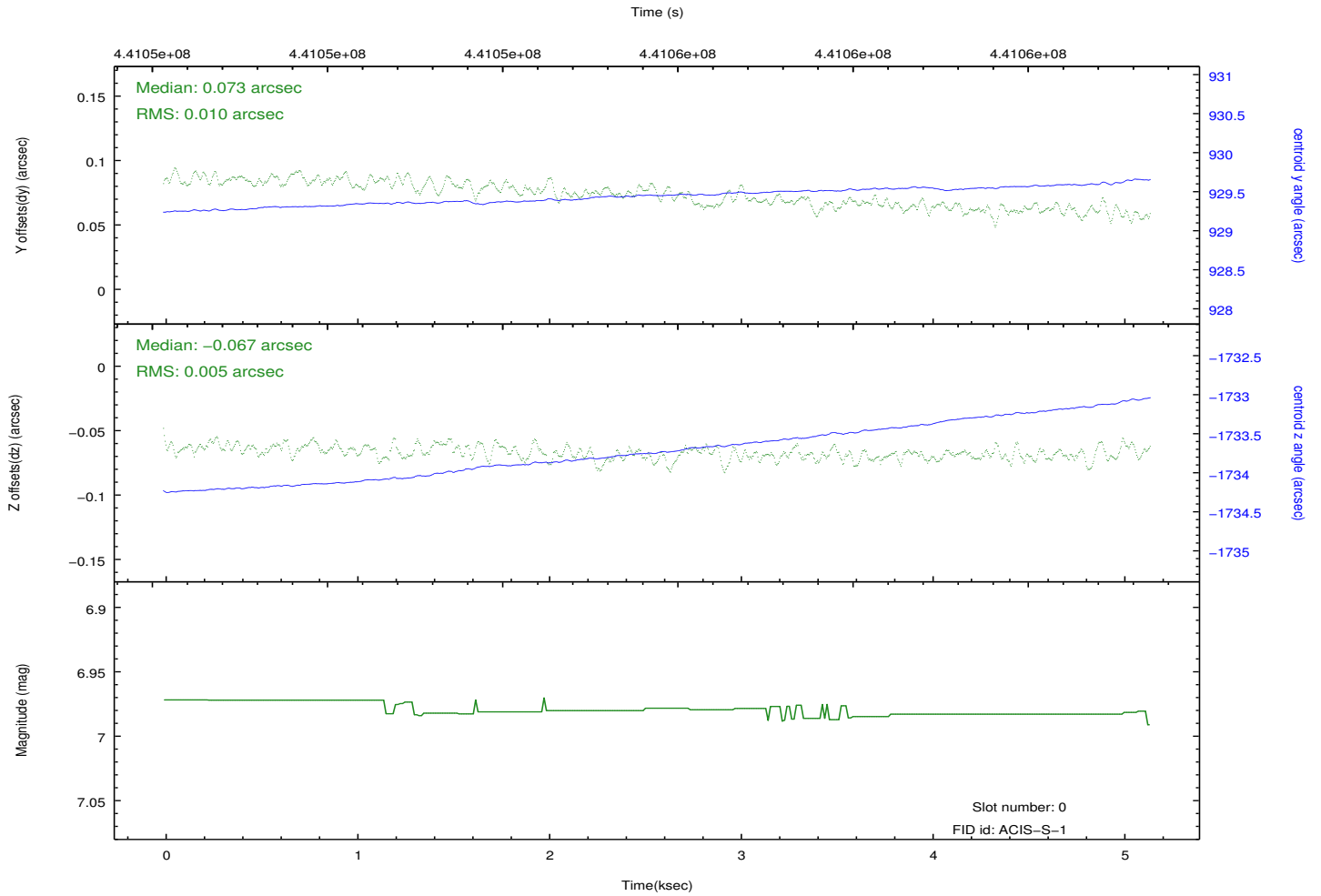
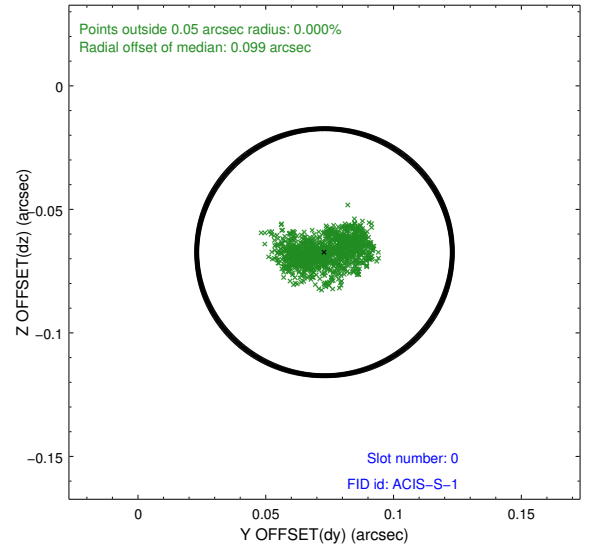
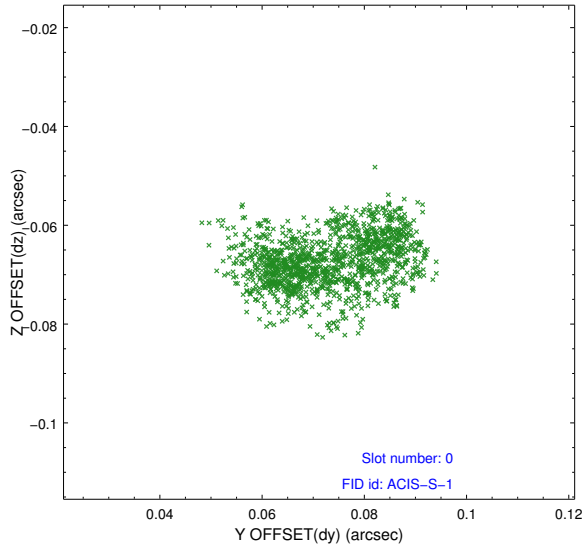


### 2.4.5 Slot 7

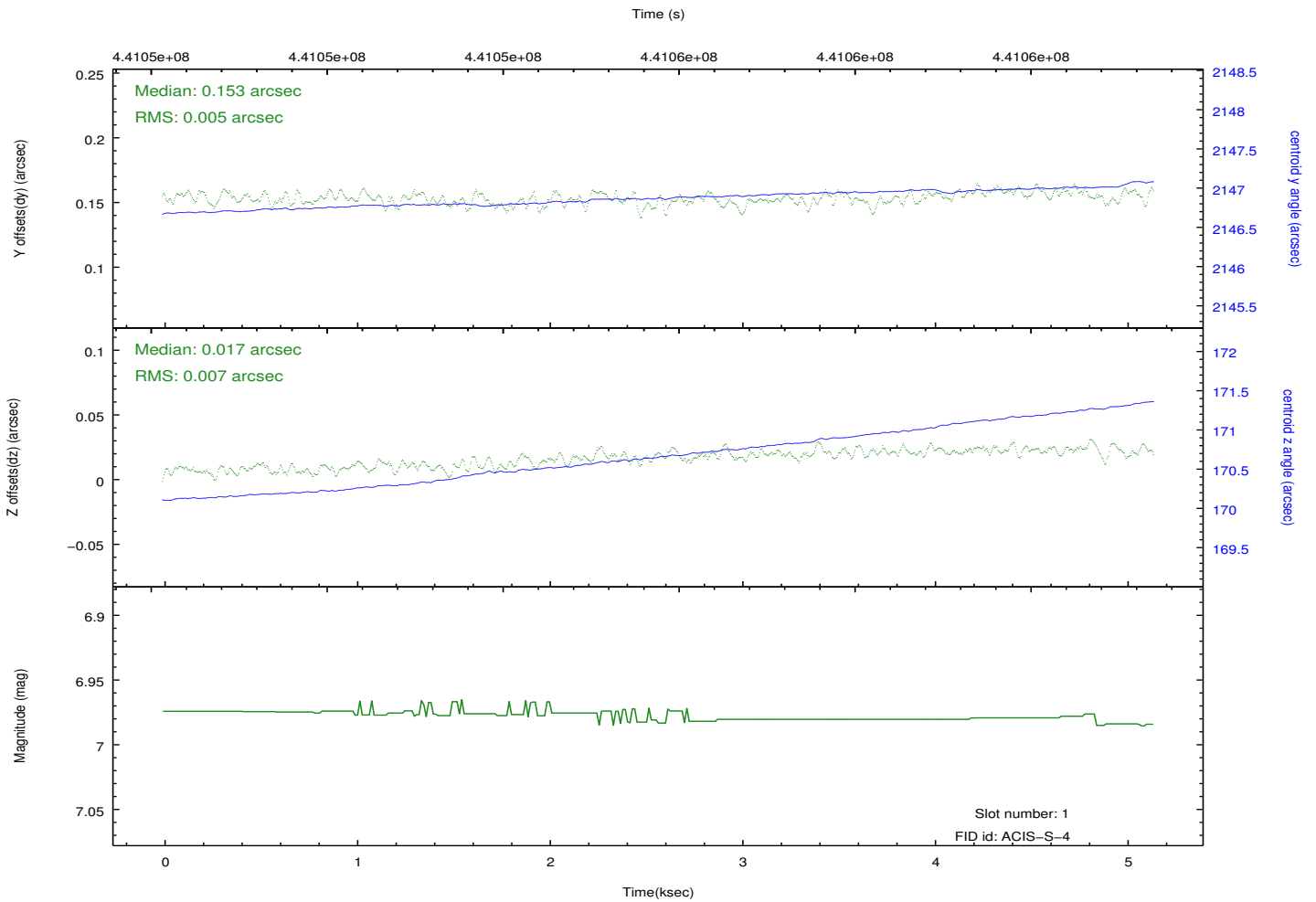
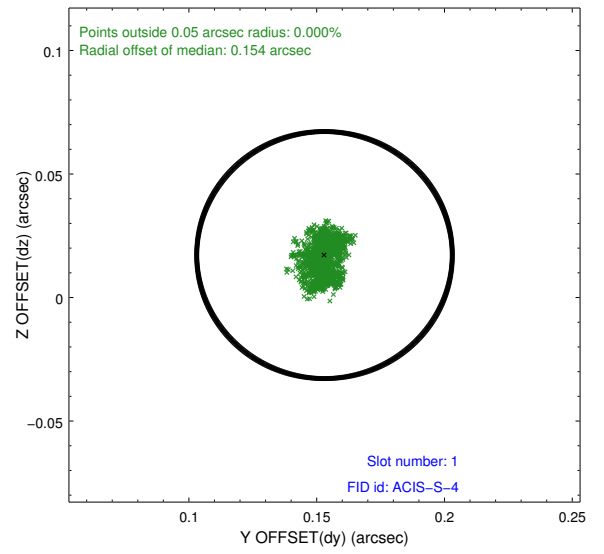
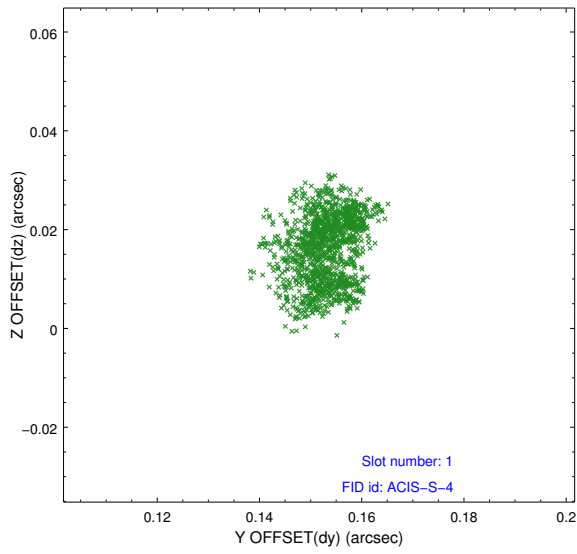


## 2.5 FID Slots

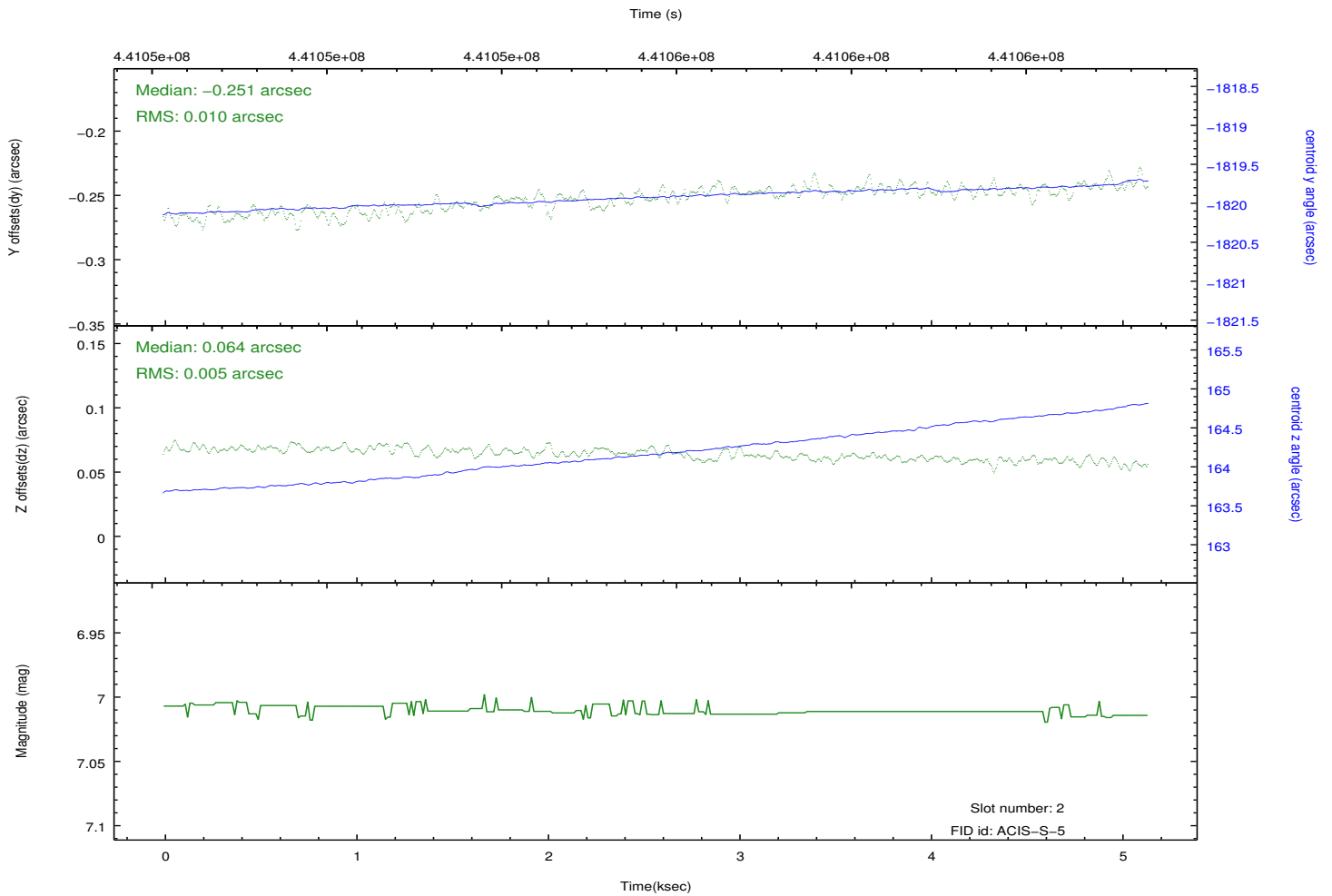
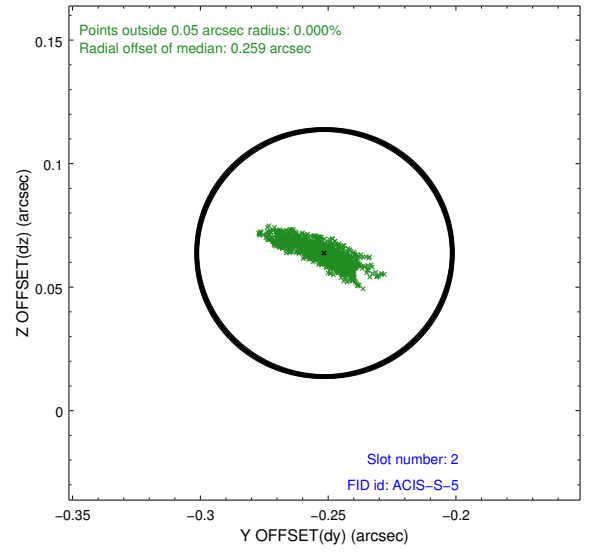
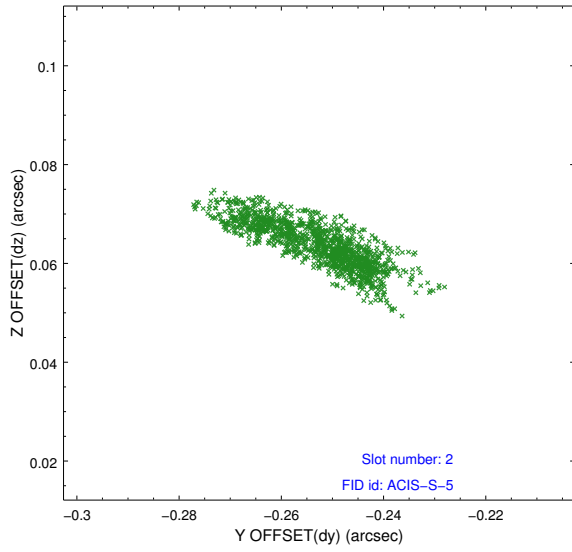
### 2.5.1 Slot 0



## 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)      | 2012.02.29      |
| V&V Edition                | 1               |
| V&V Disposition and Status | OK              |
| V&V Charge Time            | 5.0458380284905 |

## A.2 Comments