

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9254 - L2 Version 2  
Chandra X-Ray Center

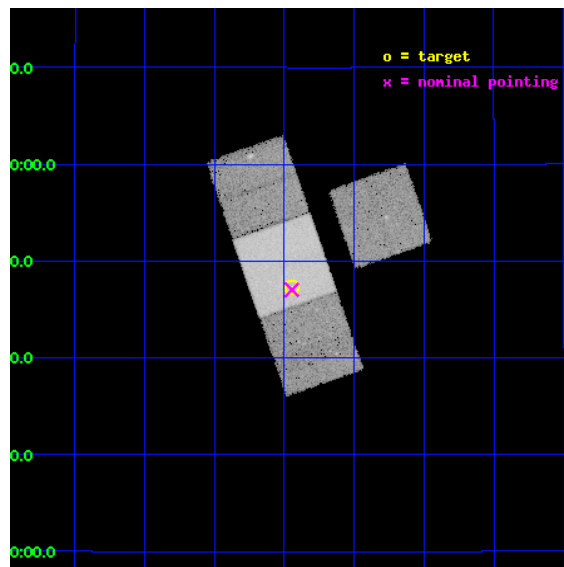
L2 Processing Date : May 17 2012

## 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

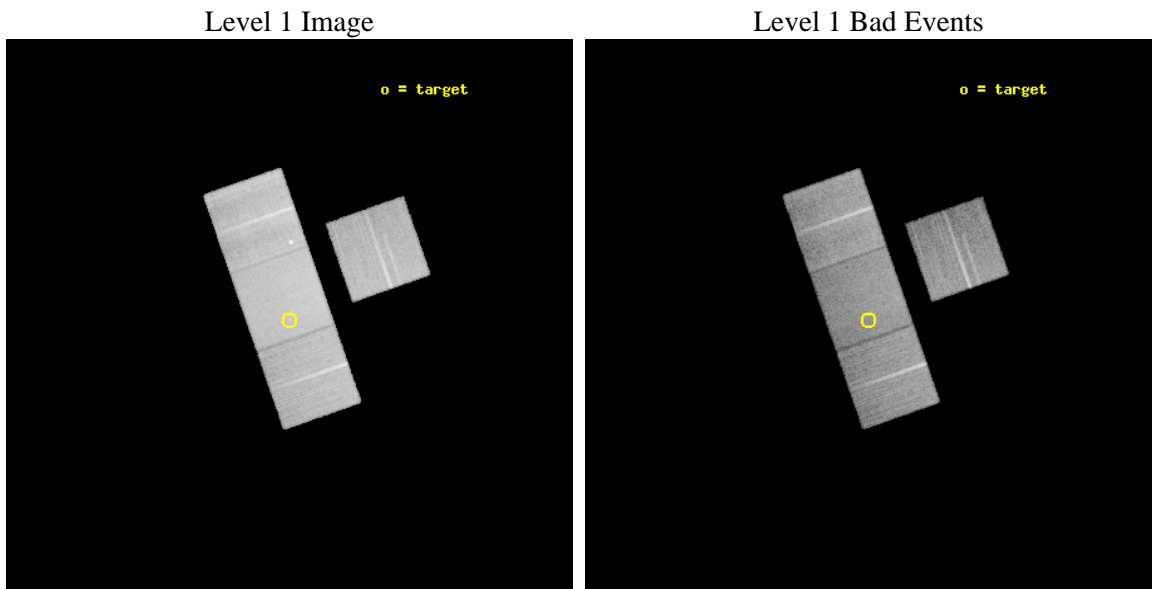
|          |   |   |
|----------|---|---|
| seq_num  | 701695  | Sequence number                             |
| obs_id   | 9254  | Observation id                              |
| title    | Orientation effects in the X-ray and multi-wavelength properties of high-z, 3CRR quasars. | Proposal title                              |
| observer | Dr. Belinda Wilkes  | Principal investigator                      |
| object   | 3CRR 267  | Source name                                 |
| dtcycle  | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 177.485417  | Observer's specified target RA [deg]        |
| dec_targ | 12.788639   | Observer's specified target Dec [deg]       |
| ra_nom   | 177.48650121352   | Nominal RA [deg]                            |
| dec_nom  | 12.78394409779  | Nominal Dec [deg]                           |
| roll_nom | 250.83923469902   | Nominal Roll [deg]                          |
| revision | 2   | Processing version of data                  |
| ontime   | 19430.800149441   | Sum of GTIs [s]                             |
| livetime | 19176.922440741   | Livetime [s]                                |
| ontime3  | 19430.800149441   | Sum of GTIs [s]                             |
| ontime6  | 19430.800149441   | Sum of GTIs [s]                             |
| ontime7  | 19430.800149441   | Sum of GTIs [s]                             |
| ontime8  | 19430.800149441   | Sum of GTIs [s]                             |
| l2events | 172229  | Number of level 2 events                    |



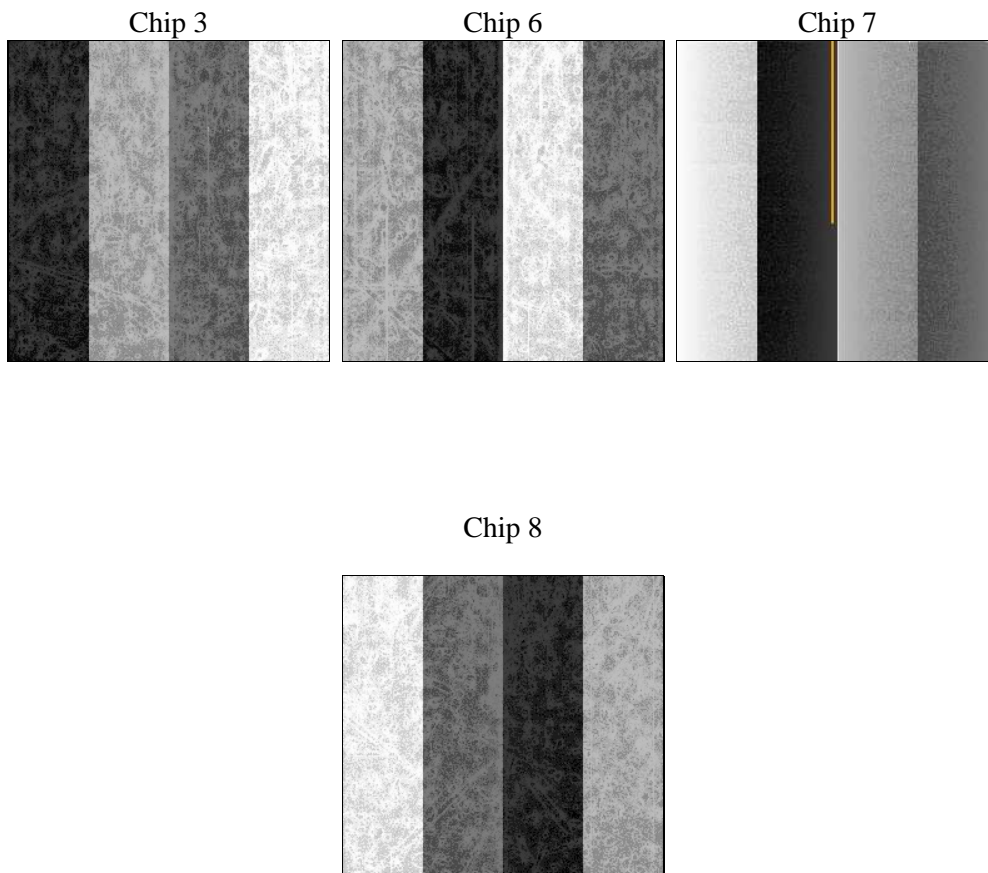
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |   |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num  | 0                   | Obi number                     | sched_exp_time | 19300.000000    | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 19430.800149441 | Sum of GTIs [s]                         |
| caldsver | 4.4.9               | &#160                          | ontime3        | 19430.800149441 | Sum of GTIs [s]                         |
| date     | 2012-05-17T16:11:19 | Date and time of file creation | ontime6        | 19430.800149441 | Sum of GTIs [s]                         |
| revision | 2                   | Processing version of data     | ontime7        | 19430.800149441 | Sum of GTIs [s]                         |
|          |                     |                                | ontime8        | 19430.800149441 | Sum of GTIs [s]                         |
|          |                     |                                | l1events       | 899610          | Number of level 1 events                |

### 2.1.4 Events

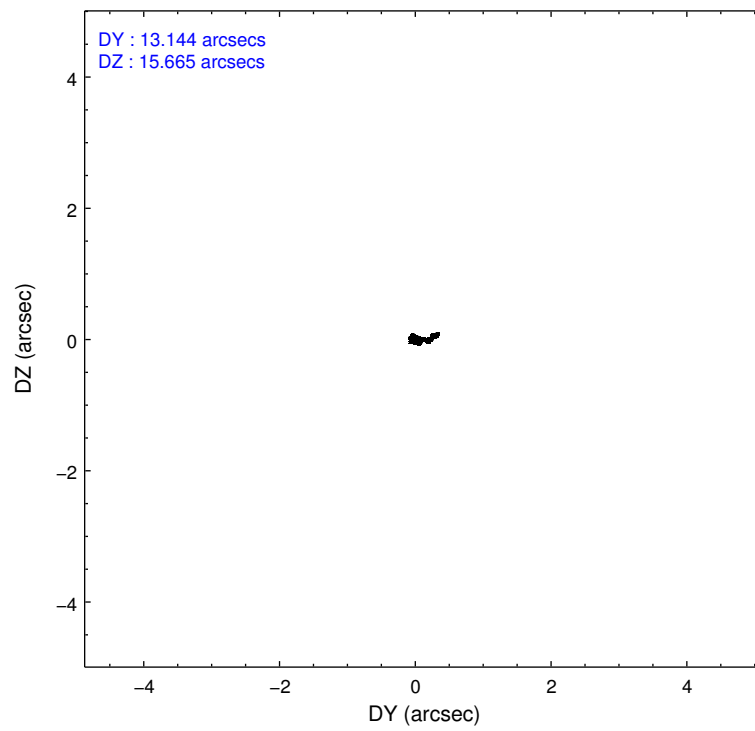
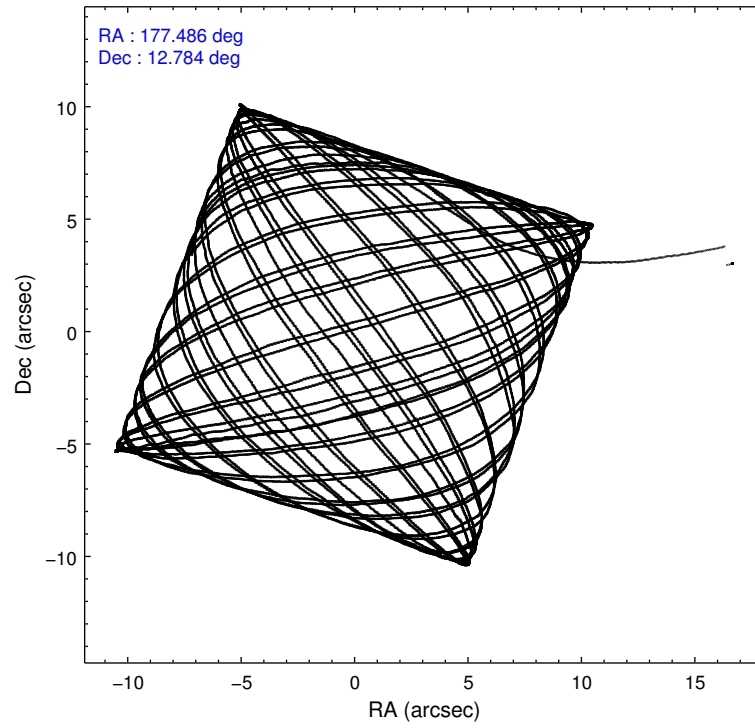
|                 | ccd 3  | ccd 6  | ccd 7  | ccd 8  |
|-----------------|--------|--------|--------|--------|
| level 1 events  | 184931 | 195528 | 268721 | 250430 |
| rejected events | 162220 | 171904 | 157966 | 192411 |
| rejected %      | 87%    | 87%    | 58%    | 76%    |

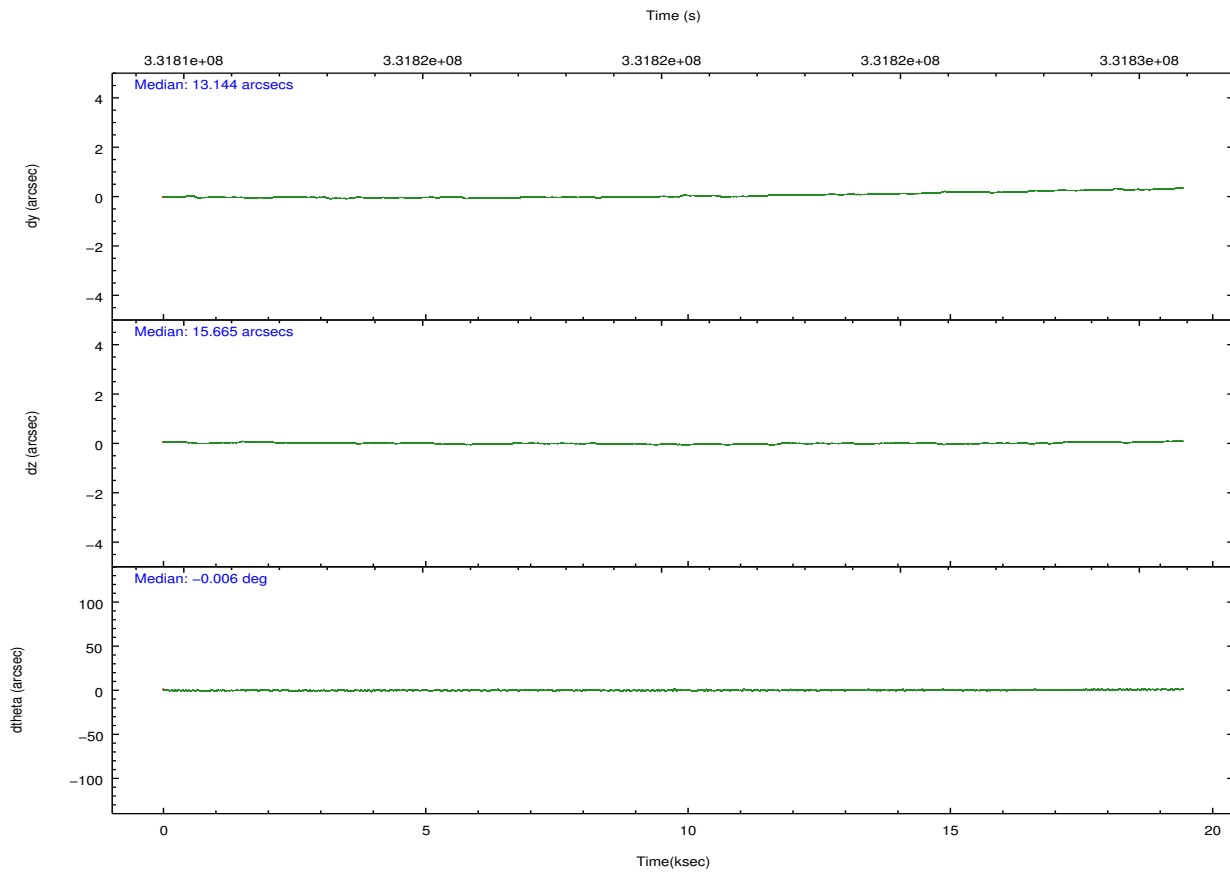
|                | ccd 3  | ccd 6  | ccd 7  | ccd 8  |
|----------------|--------|--------|--------|--------|
| grade 0 events | 10010  | 9348   | 9599   | 19948  |
|                | 5%     | 4%     | 3%     | 7%     |
| grade 1 events | 135    | 106    | 300    | 185    |
|                | 0%     | 0%     | 0%     | 0%     |
| grade 2 events | 4618   | 5280   | 23095  | 12715  |
|                | 2%     | 2%     | 8%     | 5%     |
| grade 3 events | 2164   | 2218   | 9554   | 6010   |
|                | 1%     | 1%     | 3%     | 2%     |
| grade 4 events | 2174   | 2232   | 9365   | 5500   |
|                | 1%     | 1%     | 3%     | 2%     |
| grade 5 events | 9207   | 9263   | 25366  | 12610  |
|                | 4%     | 4%     | 9%     | 5%     |
| grade 6 events | 4066   | 4869   | 60601  | 14587  |
|                | 2%     | 2%     | 22%    | 5%     |
| grade 7 events | 152557 | 162212 | 130841 | 178875 |
|                | 82%    | 82%    | 48%    | 71%    |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar format version number          | 7         | 7       |
| Detector                          | ACIS-3678           | ACIS-3678            | Obspar file type                      | PREDICTED | ACTUAL  |
| Grating                           | NONE                | NONE                 | Obspar update status                  | NONE      | UPDATED |
| Data mode                         | FAINT               | FAINT                | CCD I0 on                             | N         | N       |
| Observation mode                  | POINTING            | POINTING             | CCD I1 on                             | N         | N       |
| [deg] Pointing RA                 | 177.480840          | 177.4865012135238    | CCD I2 on                             | N         | N       |
| [deg] Pointing Dec                | 12.810689           | 12.7839440977897     | CCD I3 on                             | O1        | Y       |
| [deg] Pointing Roll               | 250.683843          | 250.8392346990223    | CCD S0 on                             | N         | N       |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | CCD S1 on                             | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | CCD S2 on                             | O3        | Y       |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   | CCD S3 on                             | Y         | Y       |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  | CCD S4 on                             | O2        | Y       |
| [s] Observation start time (MET)  | 331810660.184000    | 331809613.84511      | CCD S5 on                             | N         | N       |
| Observation start date            | 2008-07-07T09:36:35 | 2008-07-07T09:20:13  | Number of optional ACIS chips dropped | 0         | 0       |
| [s] Observation end time (MET)    | 331829960.184000    | 331830415.70862      | On-chip summing requested             | N         | N       |
| Observation end date              | 2008-07-07T14:58:15 | 2008-07-07T15:06:55  | Subarray requested                    | NONE      | NONE    |
| Read mode                         | TIMED               | TIMED                | Alternating exposures requested       | N         | N       |
|                                   |                     |                      | [s] Primary exposure time             | 0.000000  | 3.1     |

## 2.3 Aspect



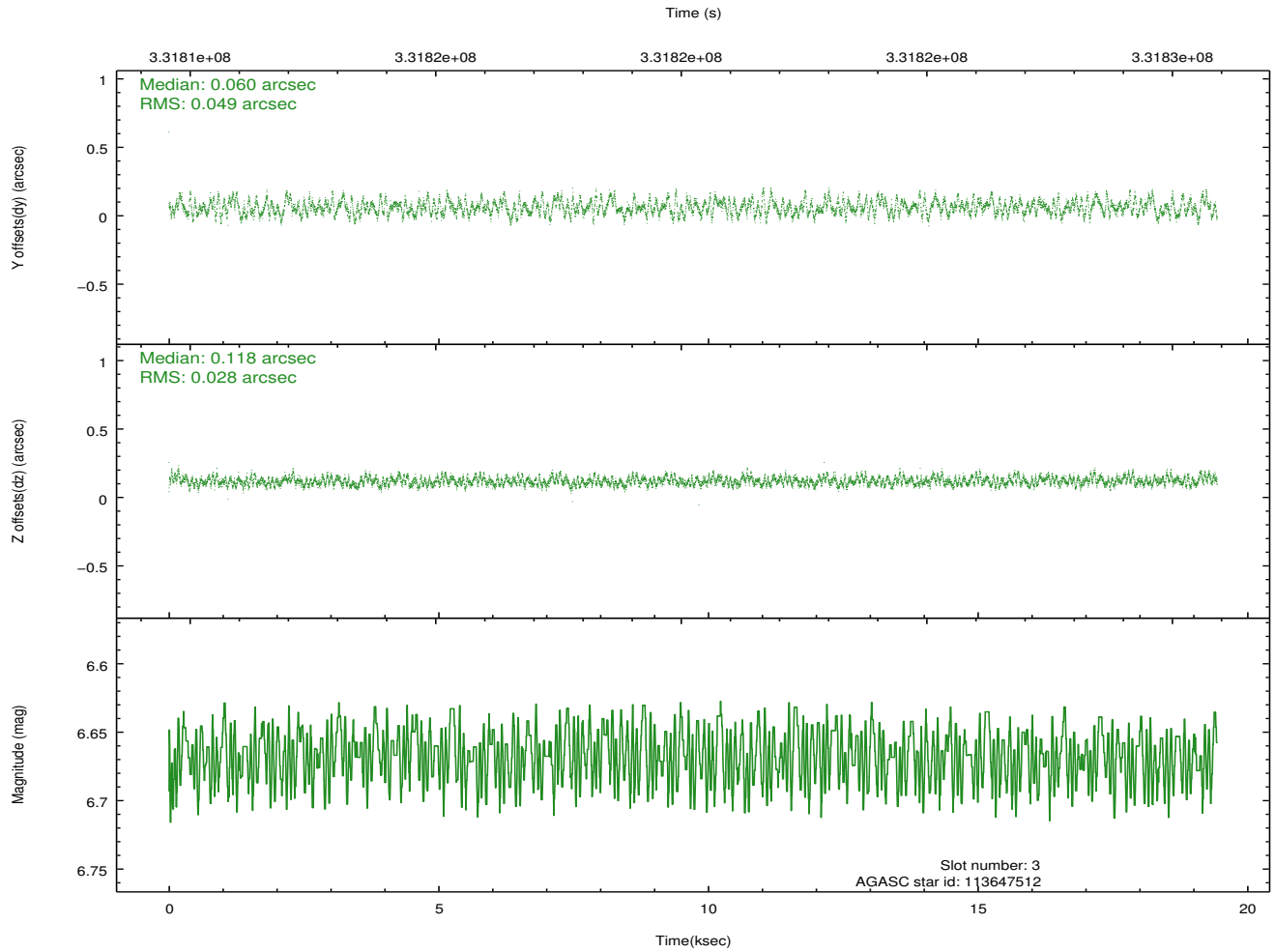
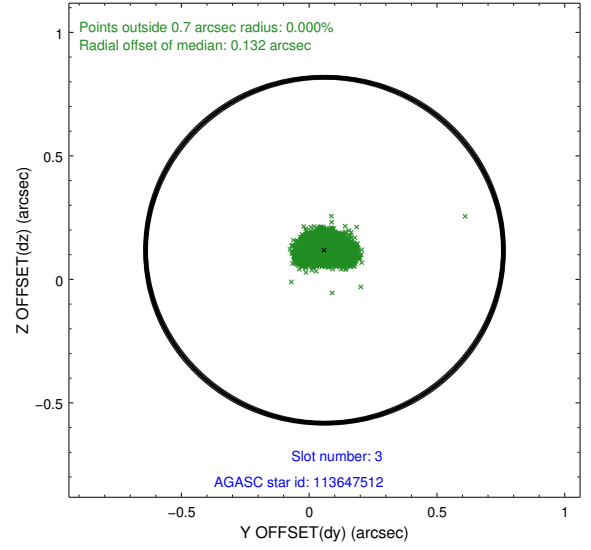
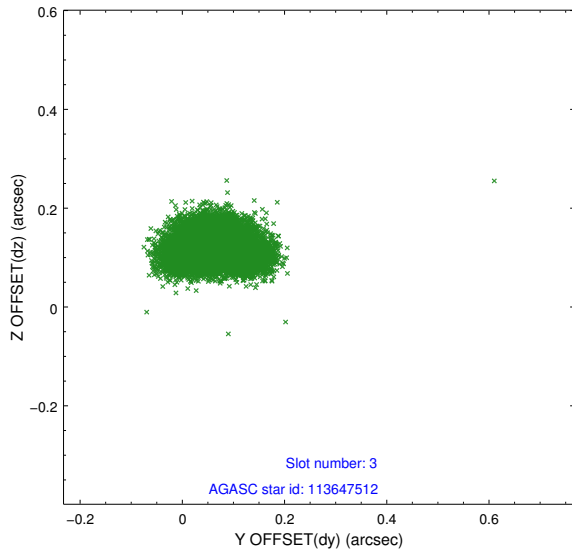


### Slot Statistics

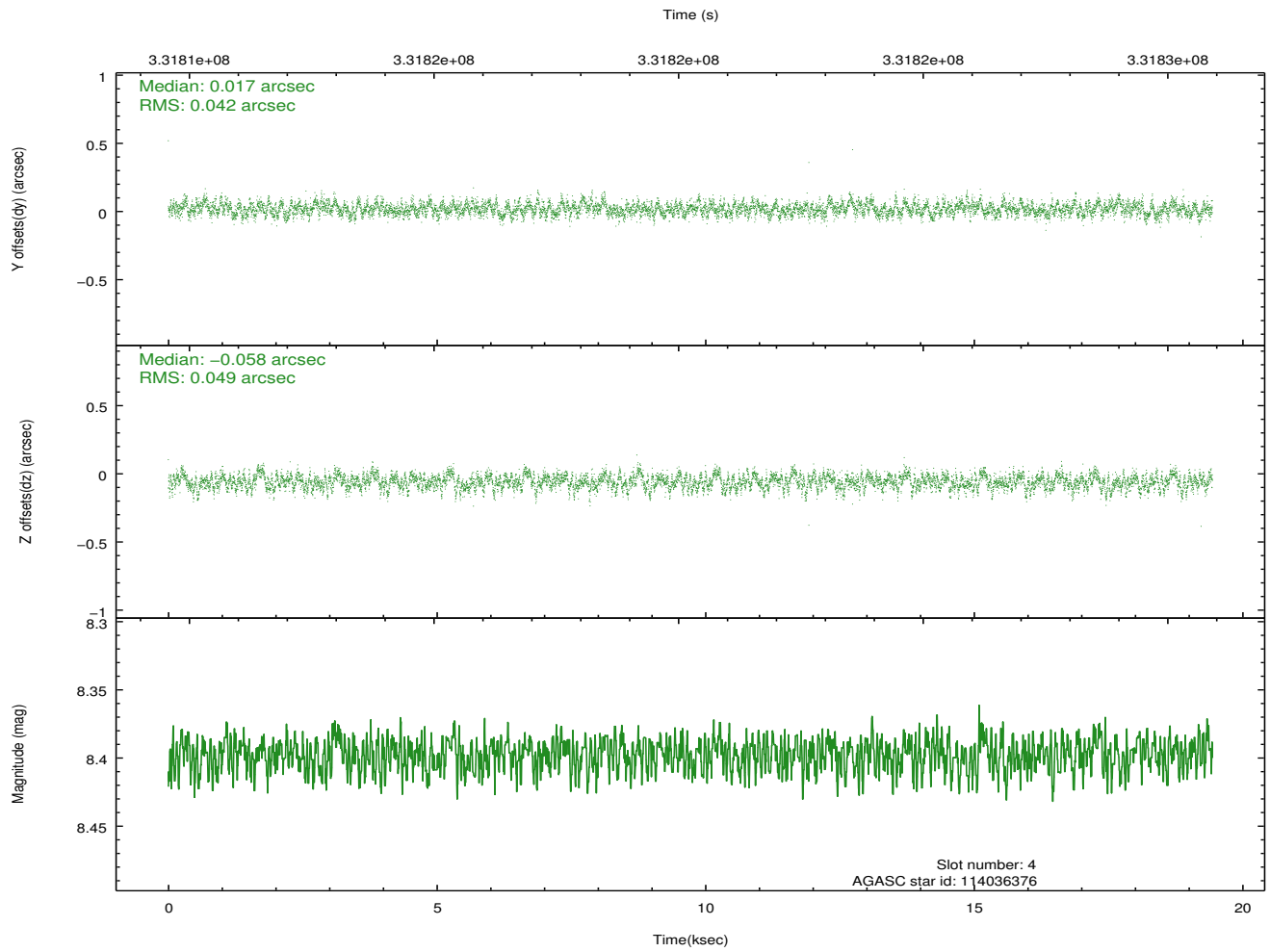
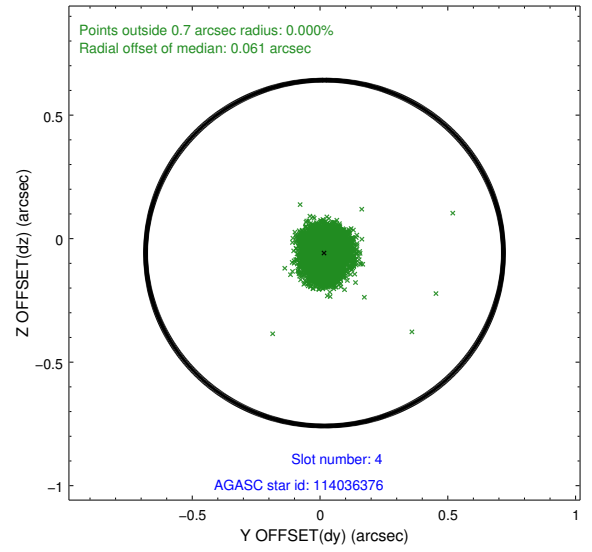
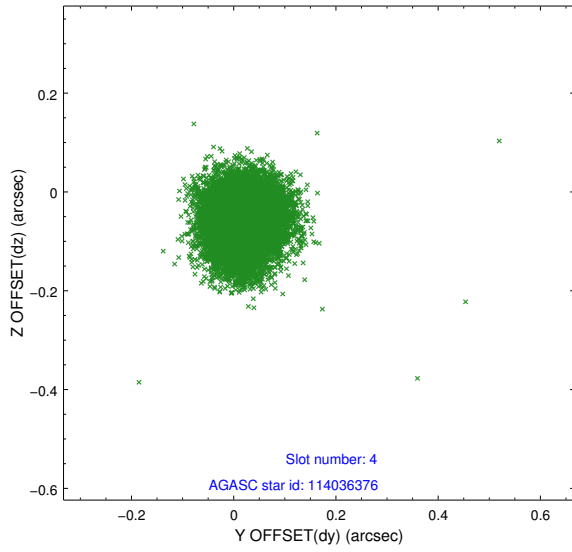
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-S-1  | 6.94 | 4740  | 0.047  | -0.049 | 0.006 | 0.011 | 0.000000   | 0.000000  | 929.98   | -1732.73 |
| 1    | FID    | ACIS-S-5  | 6.96 | 4742  | -0.087 | 0.029  | 0.008 | 0.014 | 0.000000   | 0.000000  | -1819.06 | 164.66   |
| 2    | FID    | ACIS-S-6  | 7.06 | 4742  | 0.019  | 0.032  | 0.008 | 0.012 | 0.000000   | 0.000000  | 395.27   | 808.88   |
| 3    | GUIDE  | 113647512 | 6.67 | 9482  | 0.060  | 0.118  | 0.060 | 0.098 | 177.730587 | 12.279036 | 1515.77  | 1461.41  |
| 4    | GUIDE  | 114036376 | 8.40 | 9471  | 0.017  | -0.058 | 0.069 | 0.109 | 176.949100 | 12.944682 | 161.31   | -1920.94 |
| 5    | GUIDE  | 114037536 | 8.79 | 9481  | -0.011 | -0.117 | 0.102 | 0.152 | 177.560399 | 13.013670 | -781.45  | 21.56    |
| 6    | GUIDE  | 114039232 | 8.23 | 9477  | 0.073  | 0.027  | 0.072 | 0.113 | 176.814178 | 12.664456 | 1269.55  | -2036.39 |
| 7    | GUIDE  | 114037456 | 9.05 | 9478  | -0.142 | 0.030  | 0.102 | 0.158 | 176.966223 | 13.456254 | -1598.32 | -2469.83 |

## 2.4 Star Slots

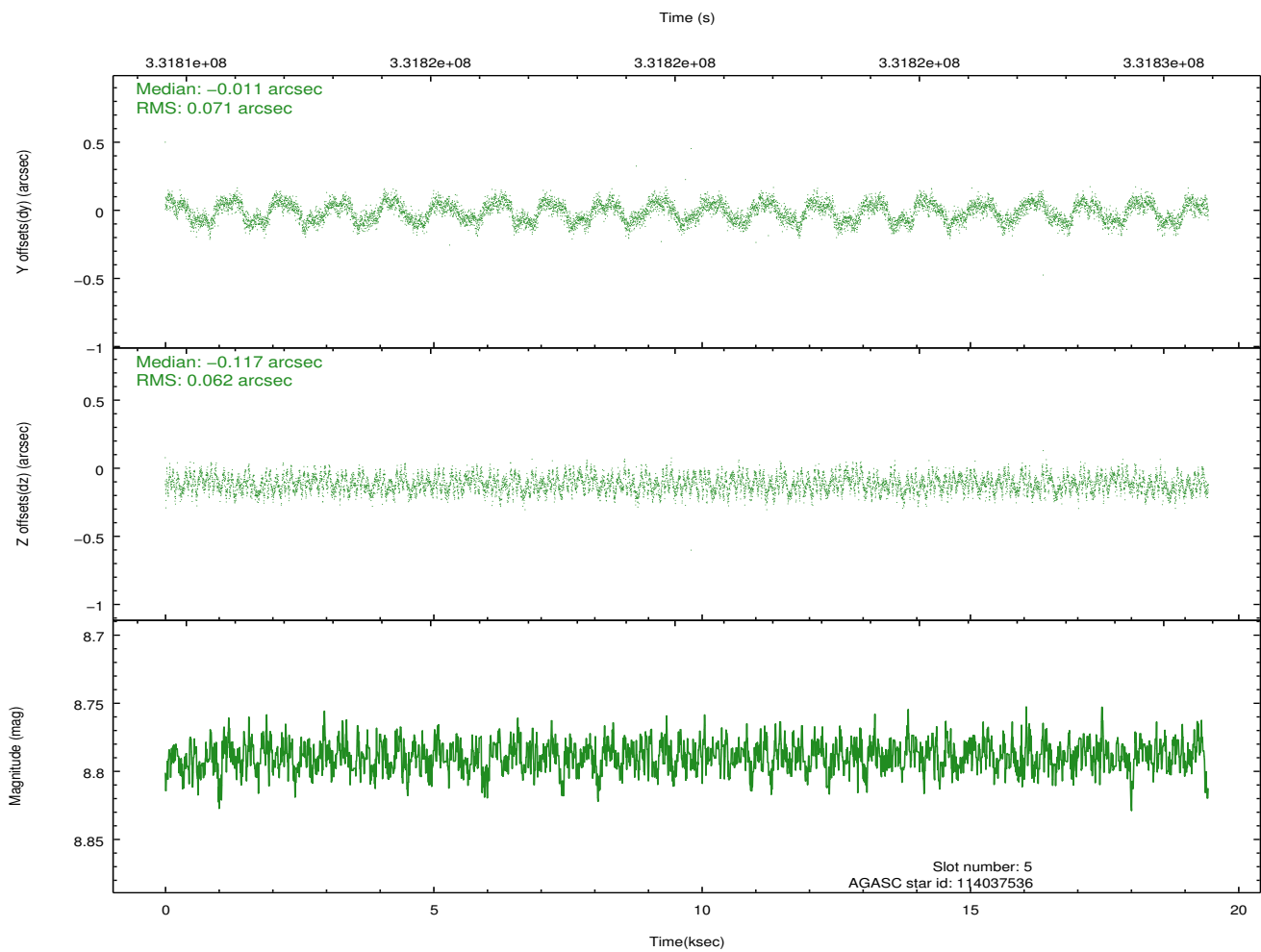
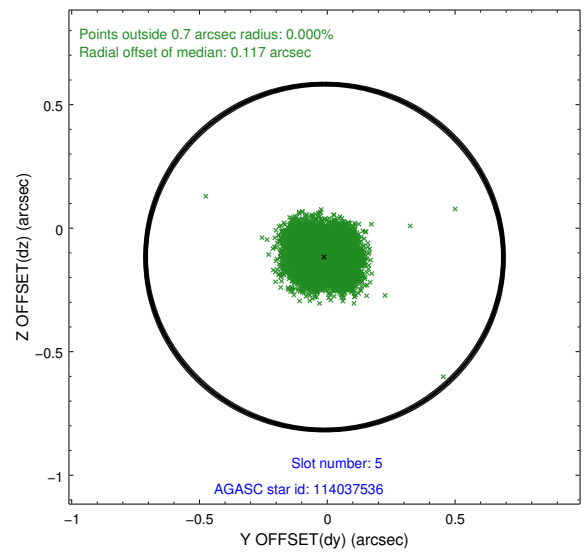
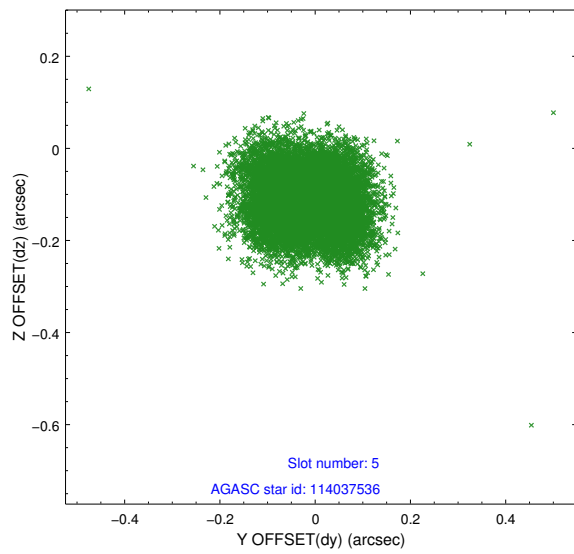
### 2.4.1 Slot 3



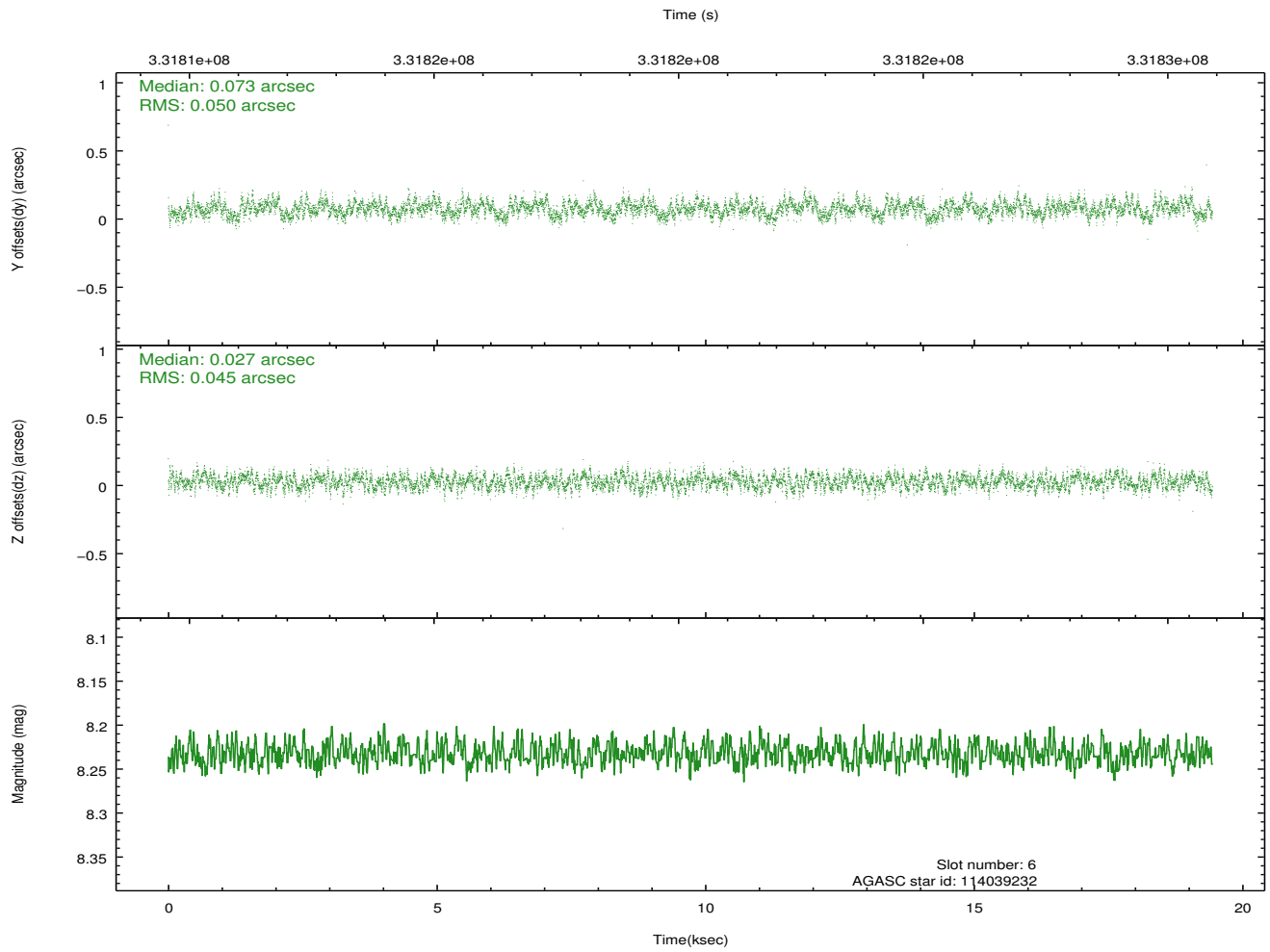
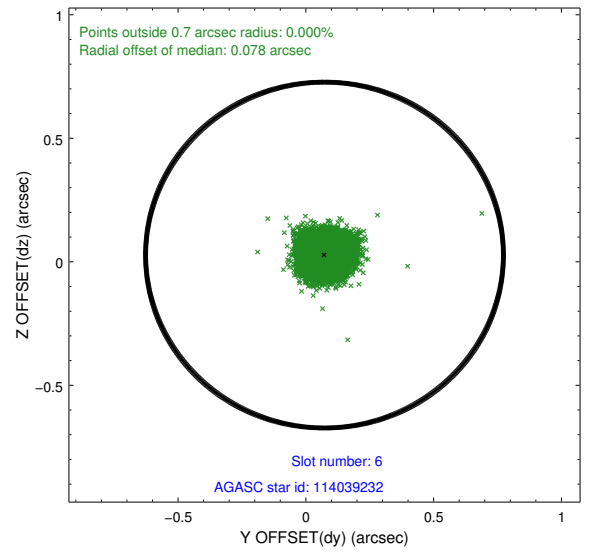
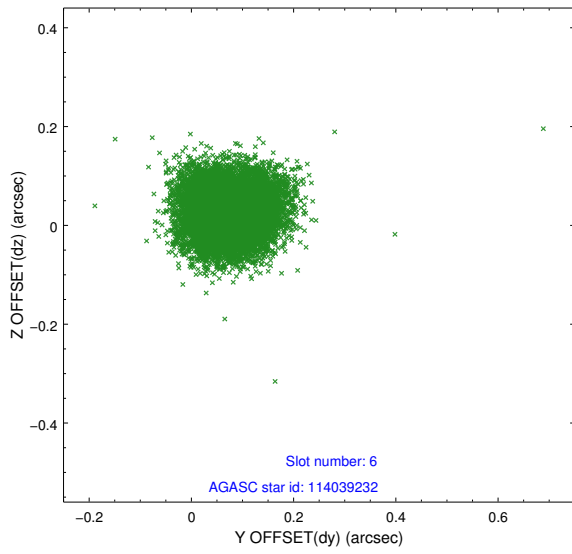
### 2.4.2 Slot 4



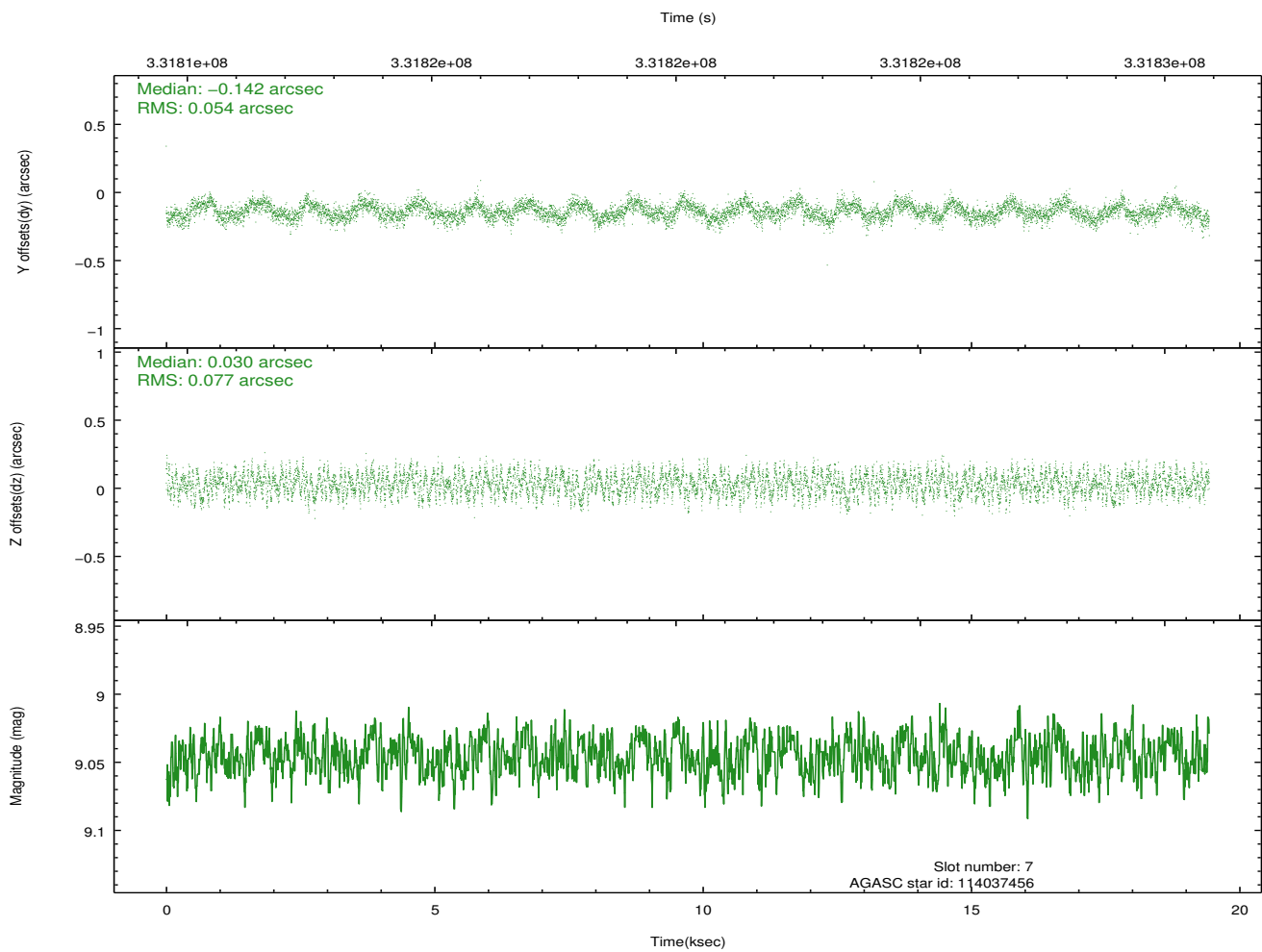
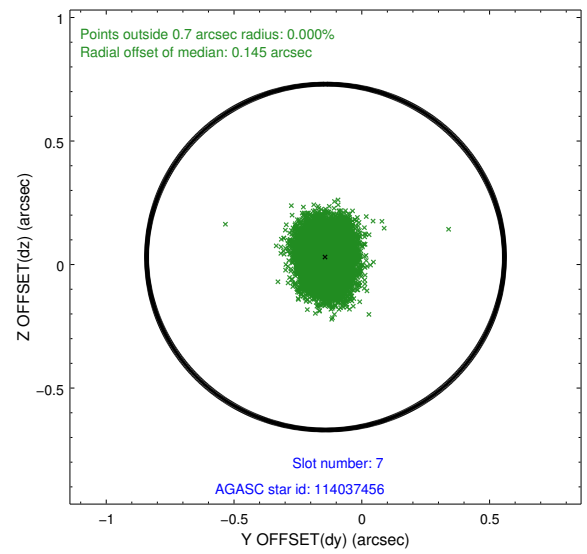
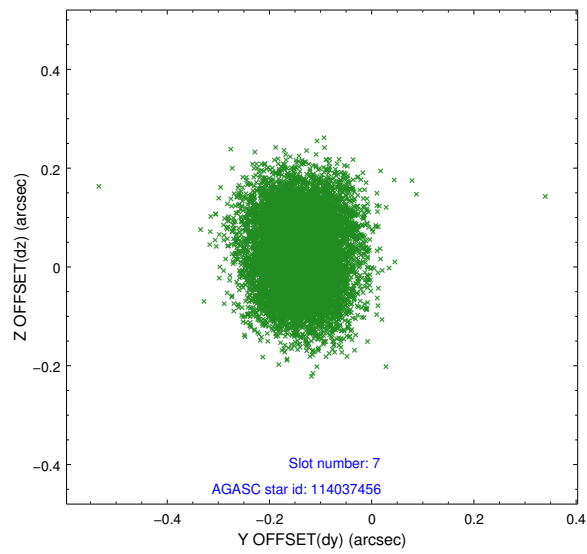
### 2.4.3 Slot 5



### 2.4.4 Slot 6

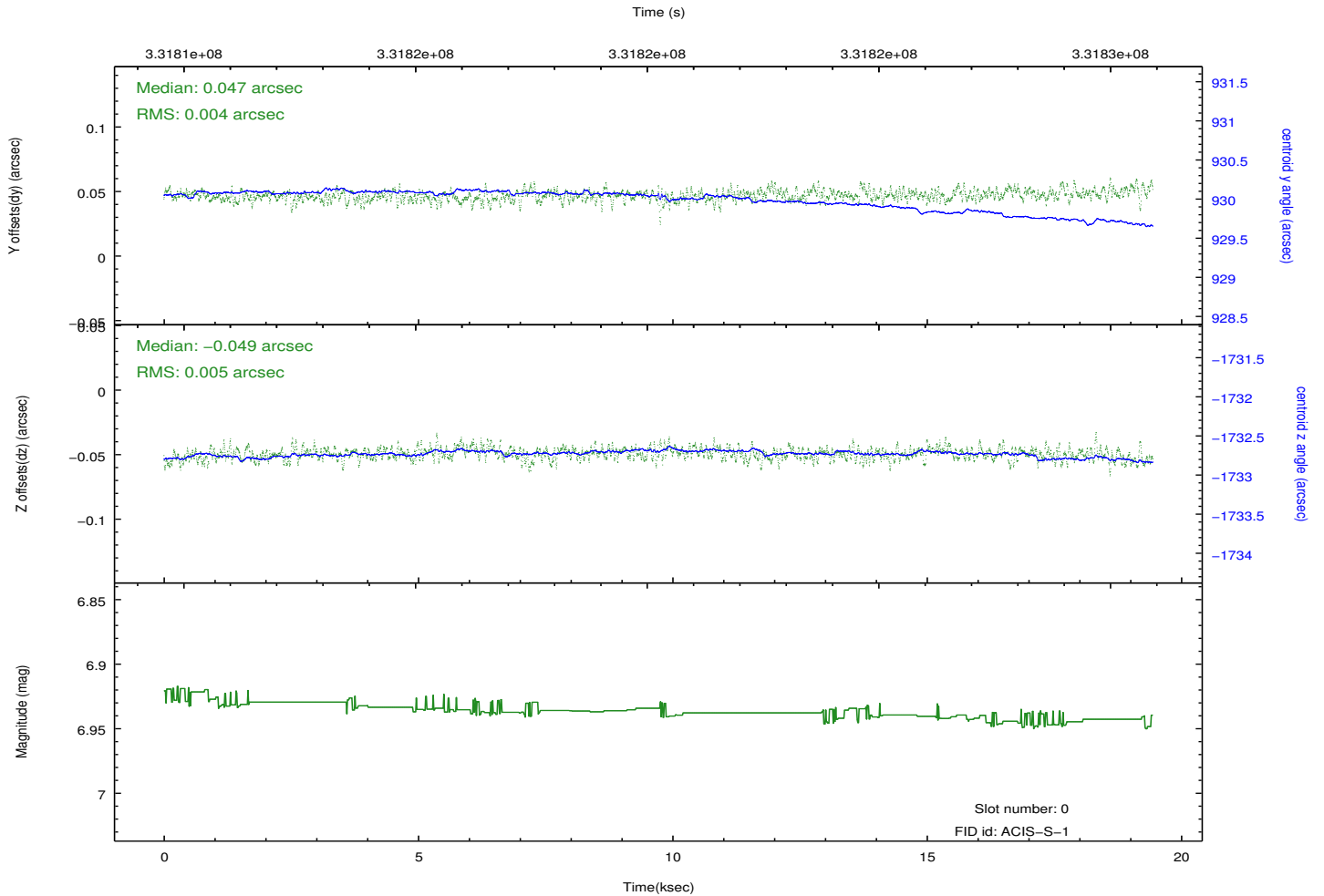
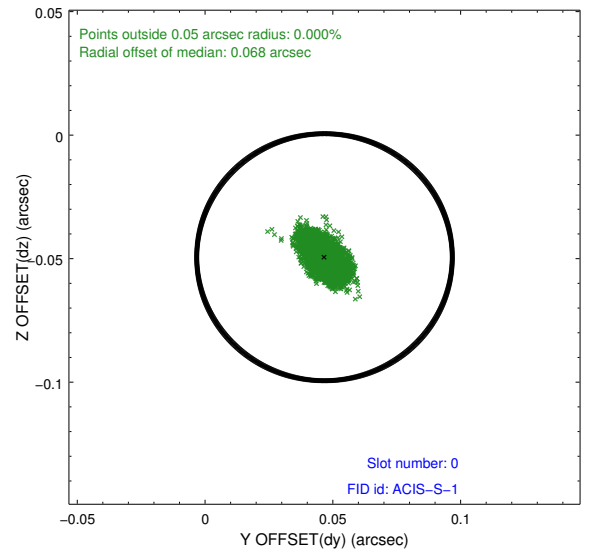
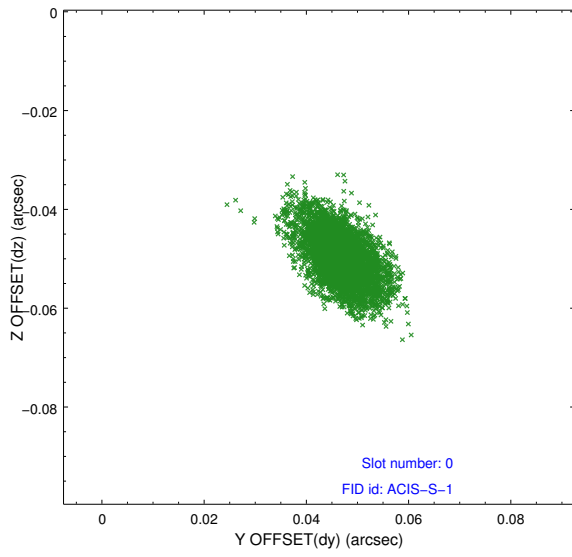


## 2.4.5 Slot 7

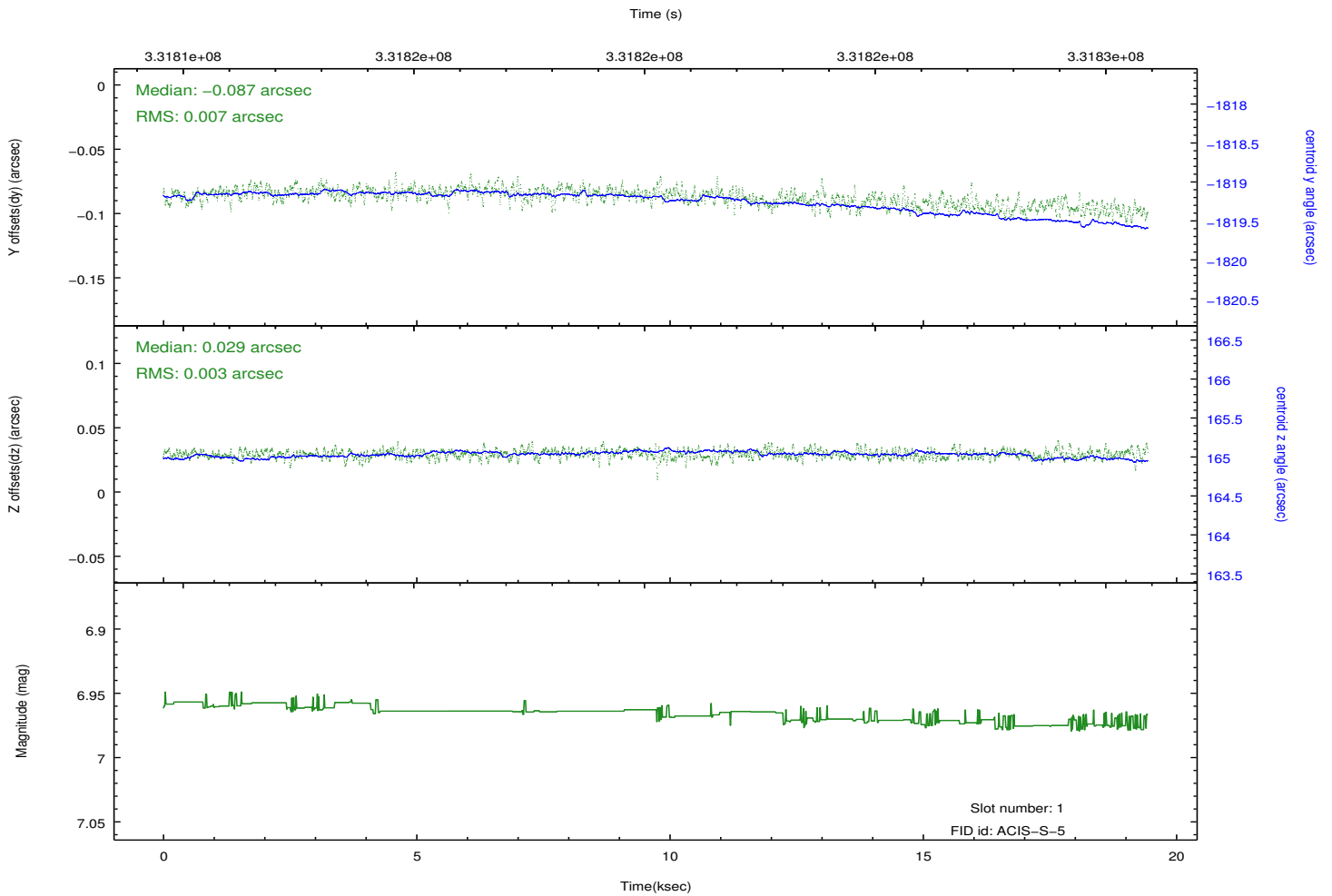
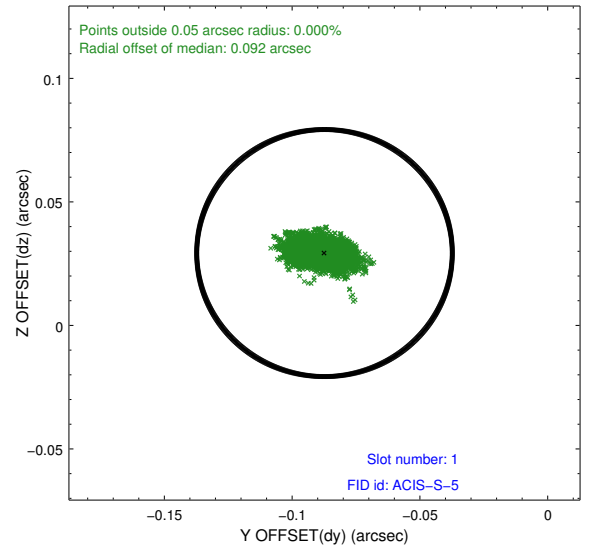
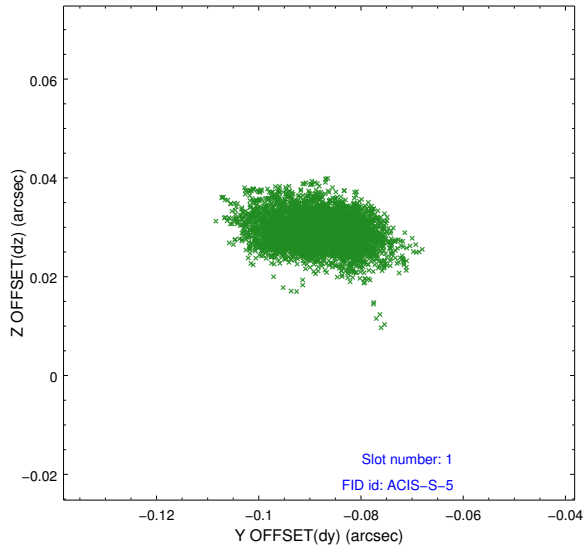


## 2.5 FID Slots

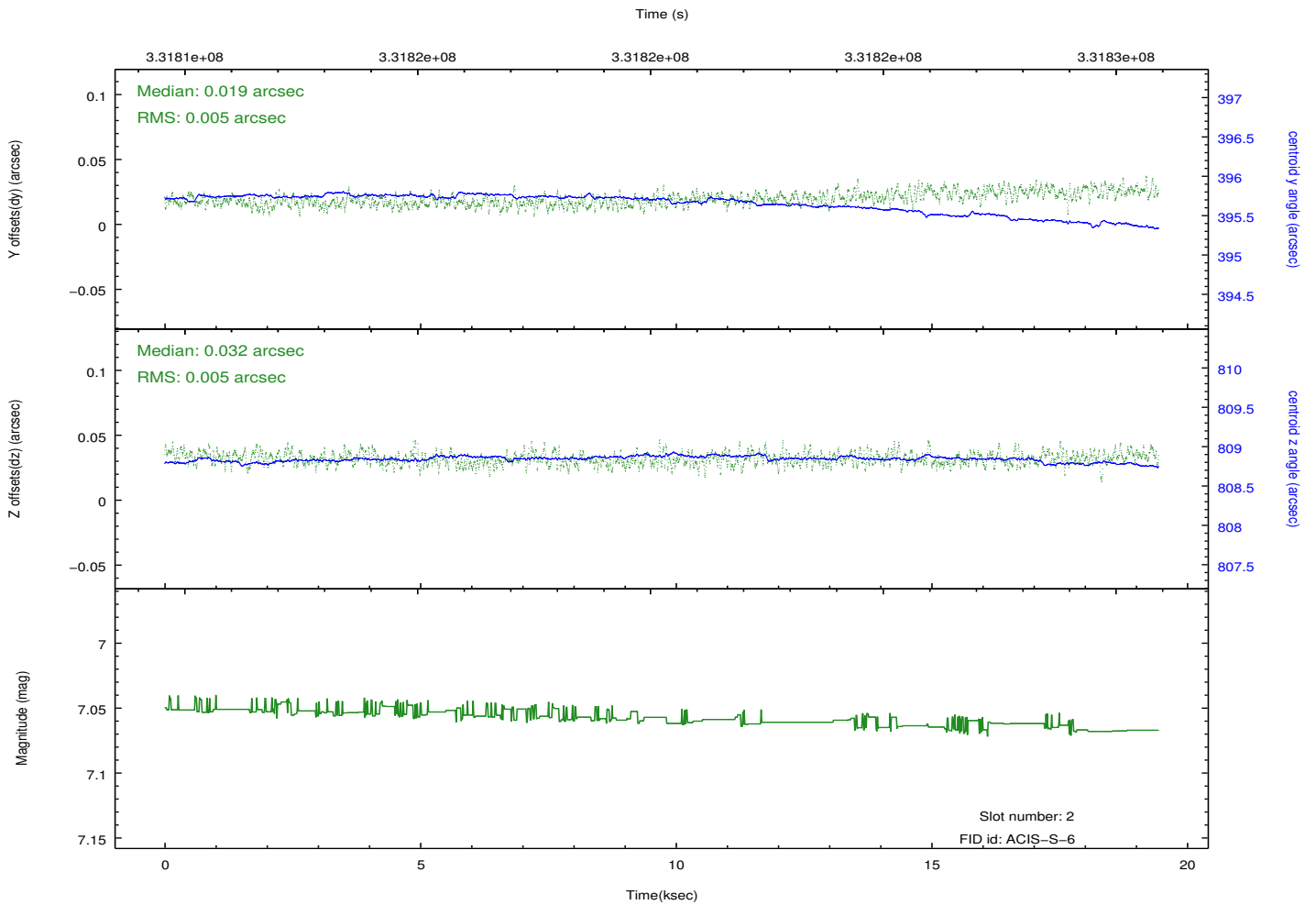
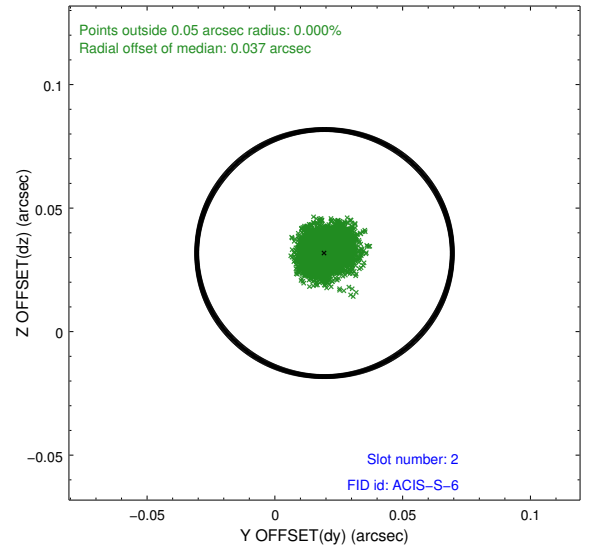
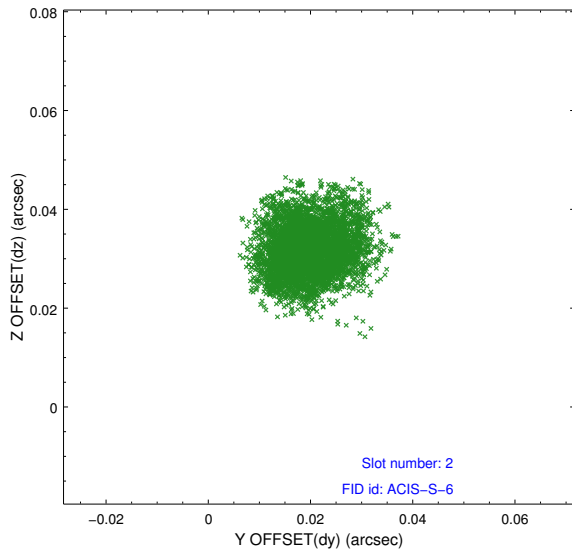
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2012.05.23    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 19.4308001    |

## A.2 Comments