

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 6438 - L2 Version 4  
Chandra X-Ray Center

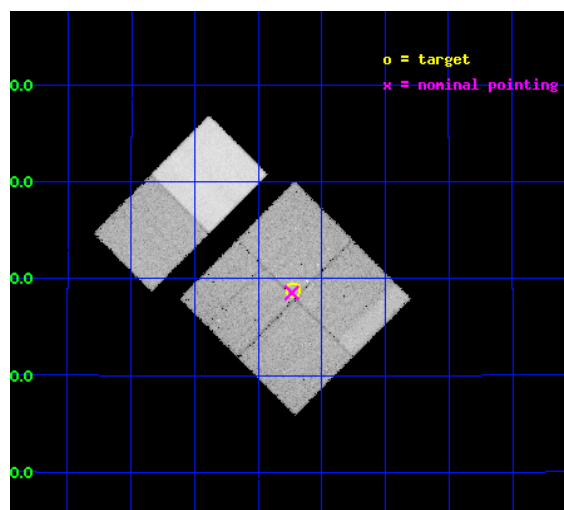
L2 Processing Date : Apr 27 2012

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# 1 Front

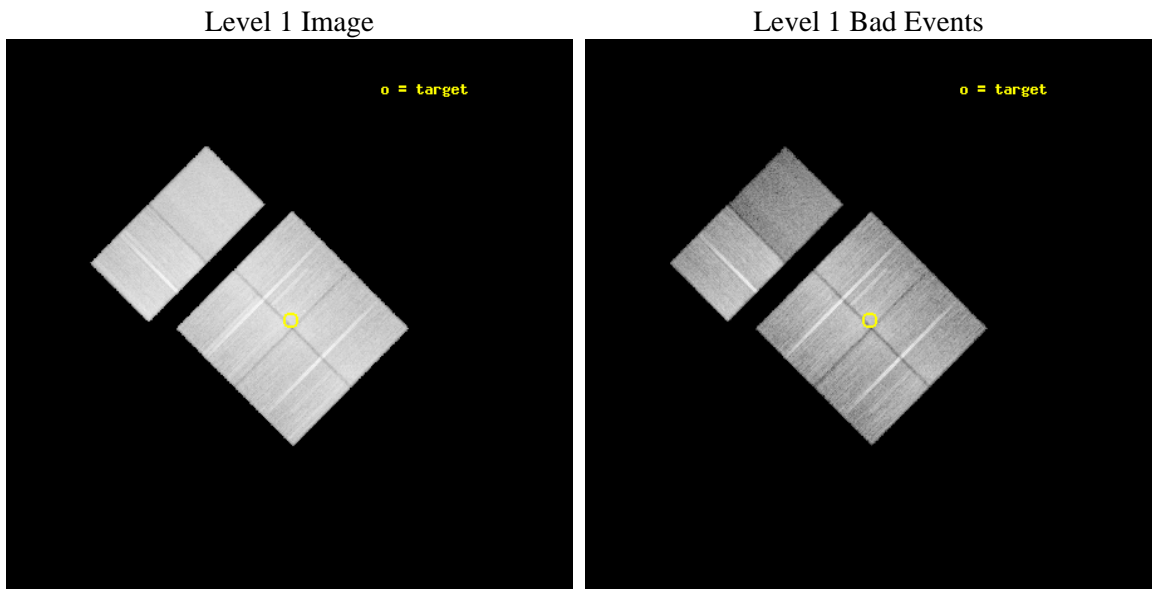
|          |  |   |
|----------|--|---|
| seq_num  | 200412   | Sequence number                             |
| obs_id   | 6438   | Observation id                              |
| title    | The Evolution of Disks, Protostars and the Young Cluster IRAS 20050+2730 | Proposal title                              |
| observer | Dr. Scott Wolk   | Principal investigator                      |
| object   | IRAS 20050+2720  | Source name                                 |
| dtcycle  | 0  | &#160                                       |
| cycle    | P  | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 301.806667   | Observer's specified target RA              |
| dec_targ | 27.480222  | Observer's specified target Dec             |
| ra_nom   | 301.80875898925  | Nominal RA                                  |
| dec_nom  | 27.475888640454  | Nominal Dec                                 |
| roll_nom | 314.91254798039  | Nominal Roll                                |
| revision | 4  | Processing version of data                  |
| ontime   | 22908.144509375  | Sum of GTIs [s]                             |
| livetime | 22618.067789969  | Livetime [s]                                |
| ontime0  | 22959.999914527  | Sum of GTIs [s]                             |
| ontime1  | 22959.999914527  | Sum of GTIs [s]                             |
| ontime2  | 22648.86734426   | Sum of GTIs [s]                             |
| ontime3  | 22908.144509375  | Sum of GTIs [s]                             |
| ontime6  | 22820.638411045  | Sum of GTIs [s]                             |
| ontime7  | 22959.999914527  | Sum of GTIs [s]                             |
| l2events | 288876   | Number of level 2 events                    |



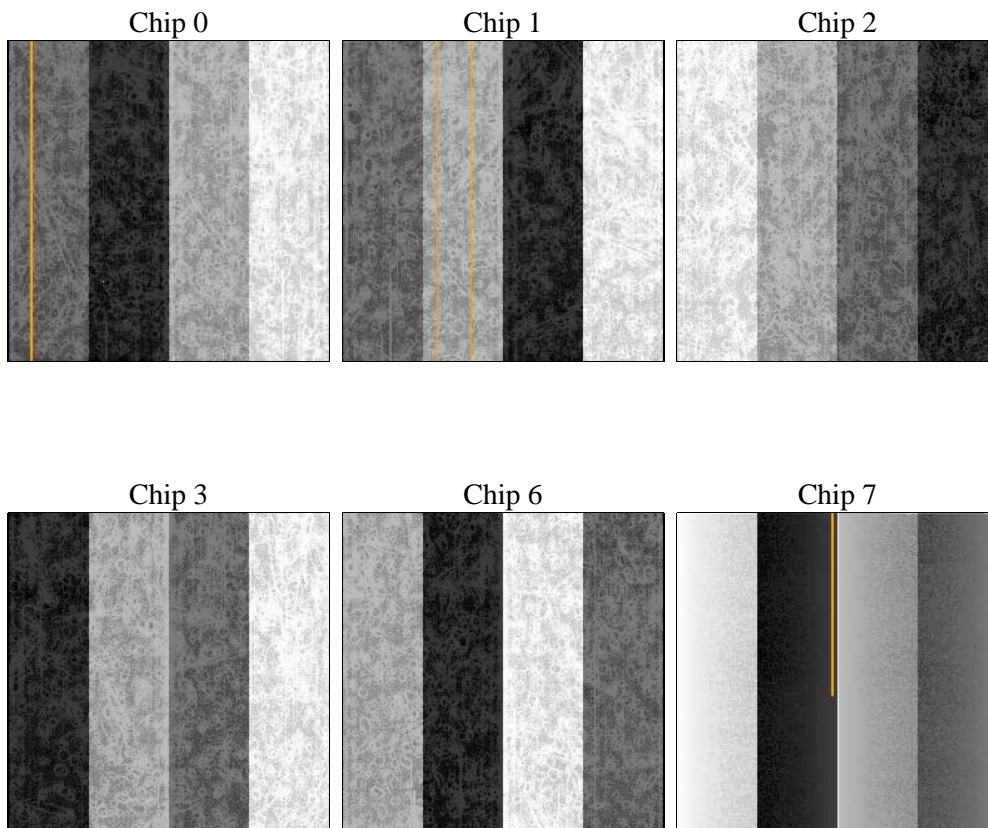
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

|          |                     |                                |                |                 |                                     |
|----------|---------------------|--------------------------------|----------------|-----------------|-------------------------------------|
| obi_num  | 1                   | Obi number                     | sched_exp_time | 35978.329000    | Scheduled observation exposure time |
| ascdsver | 8.4.4               | Processing system revision     | ontime         | 22908.144509375 | Sum of GTIs [s]                     |
| caldbver | 4.4.9               | &#160                          | ontime0        | 22959.999914527 | Sum of GTIs [s]                     |
| date     | 2012-04-27T02:29:19 | Date and time of file creation | ontime1        | 22959.999914527 | Sum of GTIs [s]                     |
| revision | 4                   | Processing version of data     | ontime2        | 22648.86734426  | Sum of GTIs [s]                     |
|          |                     |                                | ontime3        | 22908.144509375 | Sum of GTIs [s]                     |
|          |                     |                                | ontime6        | 22820.638411045 | Sum of GTIs [s]                     |
|          |                     |                                | ontime7        | 22959.999914527 | Sum of GTIs [s]                     |
|          |                     |                                | l1events       | 1545757         | Number of level 1 events            |

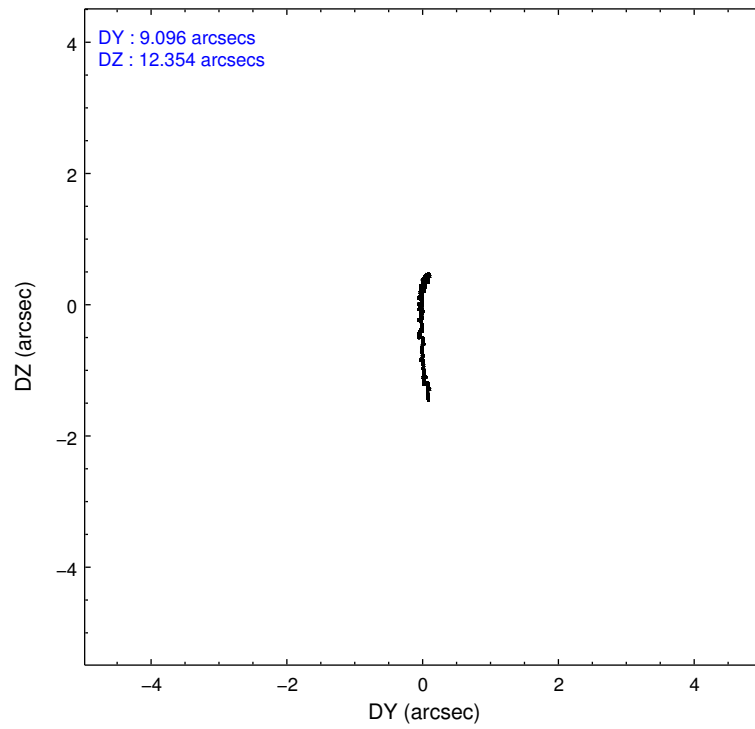
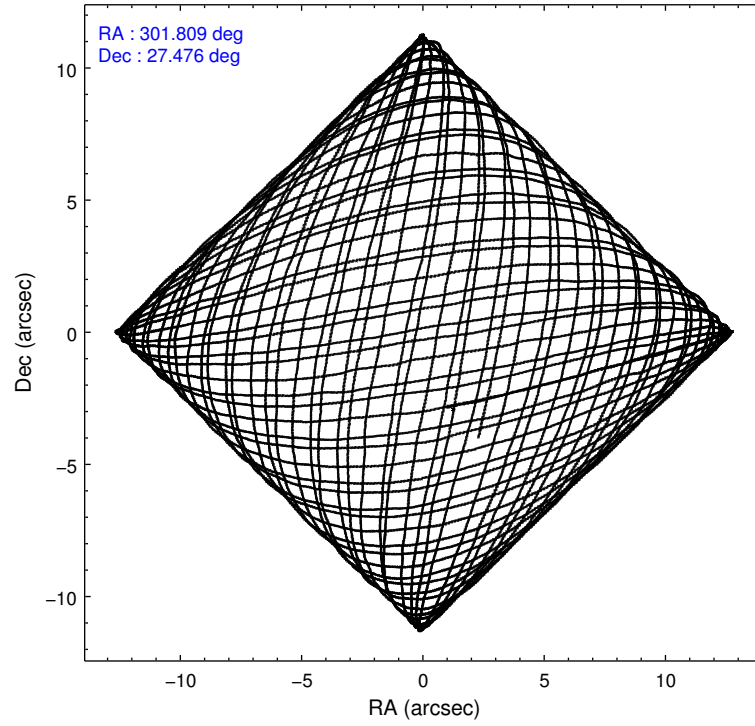
### 2.1.4 Events

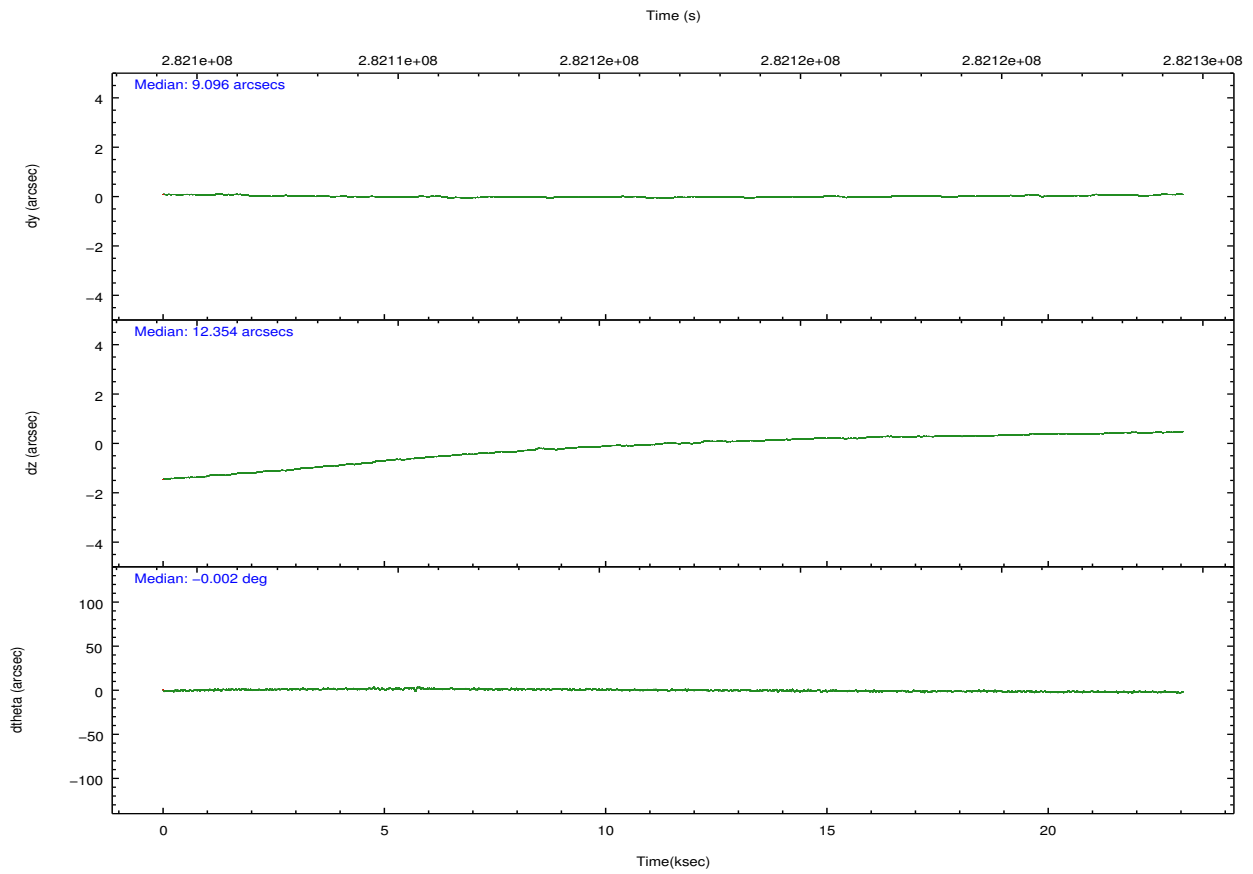
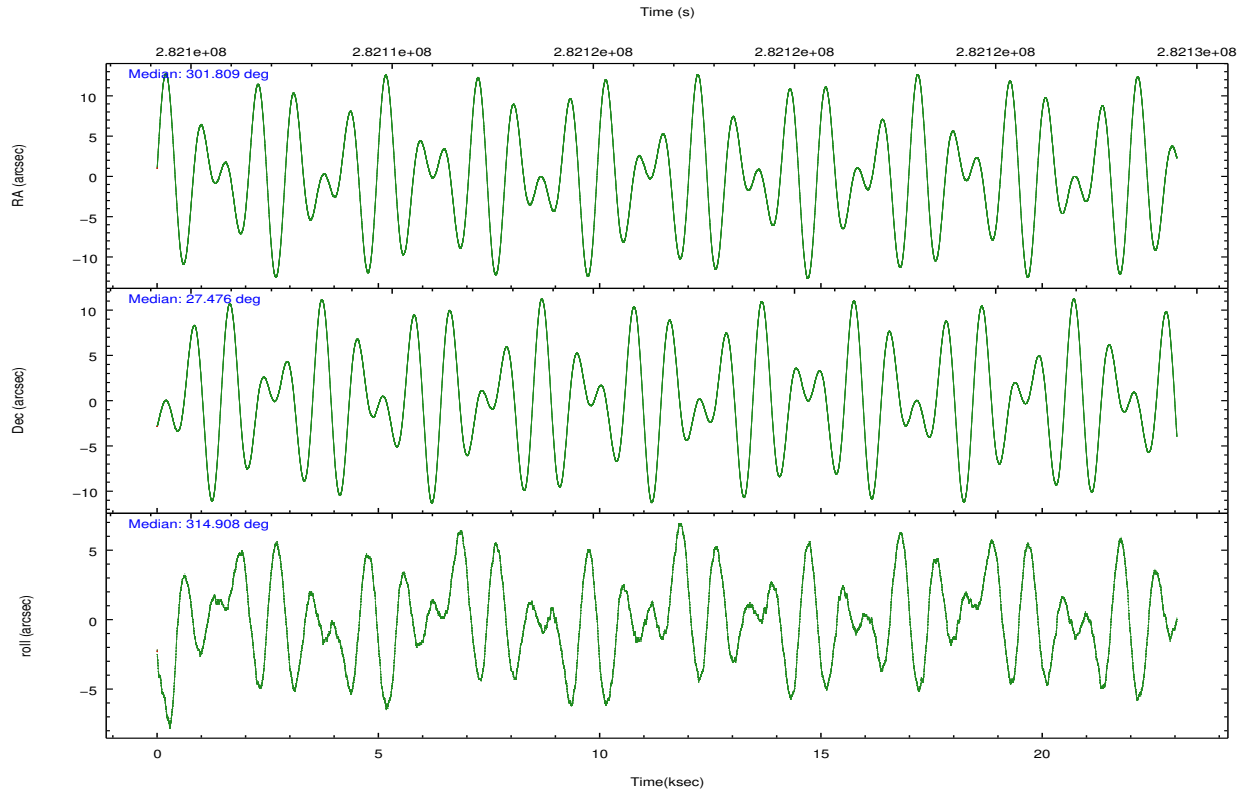
|                 | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7  |                | ccd 0  | ccd 1  | ccd 2  | ccd 3  | ccd 6  | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|-------|
| level 1 events  | 230631 | 236403 | 281804 | 260372 | 289148 | 247399 | grade 0 events | 17219  | 18587  | 18425  | 14867  | 18054  | 16312 |
| rejected events | 192355 | 196060 | 241421 | 227611 | 248708 | 107166 |                | 7%     | 7%     | 6%     | 5%     | 6%     | 6%    |
| rejected %      | 83%    | 82%    | 85%    | 87%    | 86%    | 43%    | grade 1 events | 184    | 185    | 226    | 176    | 171    | 359   |
|                 |        |        |        |        |        |        |                | 0%     | 0%     | 0%     | 0%     | 0%     | 0%    |
|                 |        |        |        |        |        |        | grade 2 events | 9455   | 8676   | 9862   | 6465   | 9537   | 29992 |
|                 |        |        |        |        |        |        |                | 4%     | 3%     | 3%     | 2%     | 3%     | 12%   |
|                 |        |        |        |        |        |        | grade 3 events | 2875   | 3095   | 2487   | 2729   | 2804   | 13224 |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 0%     | 1%     | 0%     | 5%    |
|                 |        |        |        |        |        |        | grade 4 events | 2678   | 3109   | 3469   | 2699   | 2861   | 13077 |
|                 |        |        |        |        |        |        |                | 1%     | 1%     | 1%     | 1%     | 0%     | 5%    |
|                 |        |        |        |        |        |        | grade 5 events | 5526   | 6338   | 5492   | 6520   | 6693   | 21089 |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 1%     | 2%     | 2%     | 8%    |
|                 |        |        |        |        |        |        | grade 6 events | 6184   | 7010   | 6280   | 6147   | 7322   | 68124 |
|                 |        |        |        |        |        |        |                | 2%     | 2%     | 2%     | 2%     | 2%     | 27%   |
|                 |        |        |        |        |        |        | grade 7 events | 186510 | 189403 | 235563 | 220769 | 241706 | 85222 |
|                 |        |        |        |        |        |        |                | 80%    | 80%    | 83%    | 84%    | 83%    | 34%   |

## 2.2 Compared Parameters

| Parameter                         | Planned               | Actual                | Parameter                             | Planned   | Actual   |
|-----------------------------------|-----------------------|-----------------------|---------------------------------------|-----------|----------|
| Instrument                        | ACIS                  | ACIS                  | Obspar format version number          | 7         | 7        |
| Detector                          | ACIS-012367           | ACIS-012367           | Obspar file type                      | PREDICTED | ACTUAL   |
| Grating                           | NONE                  | NONE                  | Obspar update status                  | OVERRIDE  | OVERRIDE |
| Data mode                         | VFAINT                | VFAINT                | Number of optional ACIS chips dropped | 0         | 0        |
| Observation mode                  | POINTING              | POINTING              | On-chip summing requested             | N         | N        |
| Pointing RA                       | 301.778787            | 301.8087589892456     | Subarray requested                    | NONE      | NONE     |
| Pointing Dec                      | 27.482937             | 27.47588864045444     | Alternating exposures requested       | N         | N        |
| Pointing Roll                     | 314.717681            | 314.9125479803887     | Primary exposure time                 | 3.2       | 3.2      |
| [mm] SIM focus pos                | -0.7809083437167272   | -0.7809083437167272   |                                       |           |          |
| SIM defocus (mm)                  | 0.001439854621705816  | 0.001439854621705816  |                                       |           |          |
| [mm] SIM translation stage pos    | -233.5874344608287    | -233.5874344608287    |                                       |           |          |
| SIM translation stage offset (mm) | -0.005028630603106876 | -0.005028630603106876 |                                       |           |          |
| Observation start time            | 282105313.184000      | 282105313.184         |                                       |           |          |
| Observation start date            | 2006-12-10T02:34:08   | 2006-12-10T02:35:13   |                                       |           |          |
| Observation end time              | 282128357.130000      | 282128357.13          |                                       |           |          |
| Observation end date              | 2006-12-10T08:59:17   | 2006-12-10T08:59:17   |                                       |           |          |
| Read mode                         | TIMED                 | TIMED                 |                                       |           |          |

## 2.3 Aspect



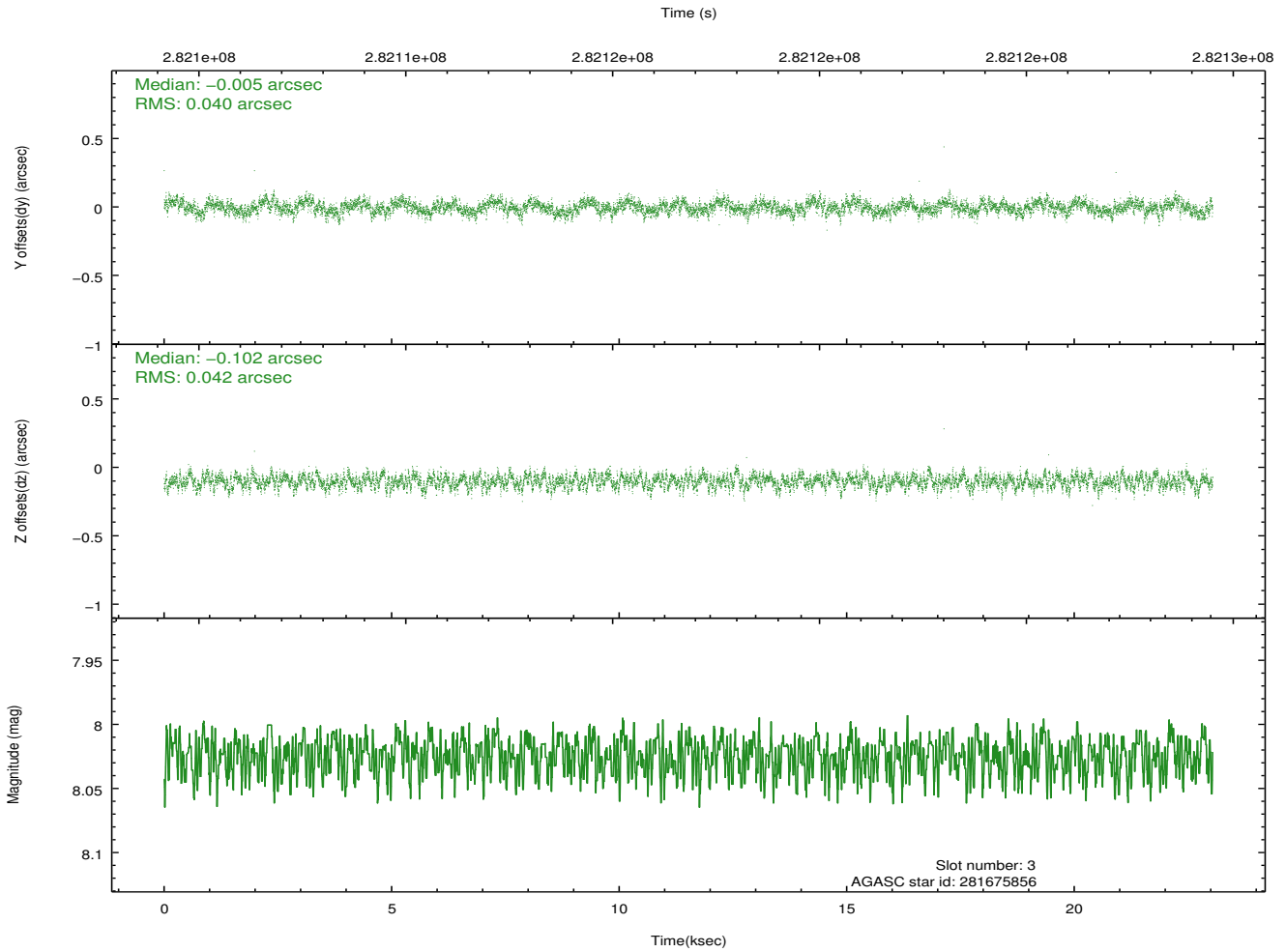
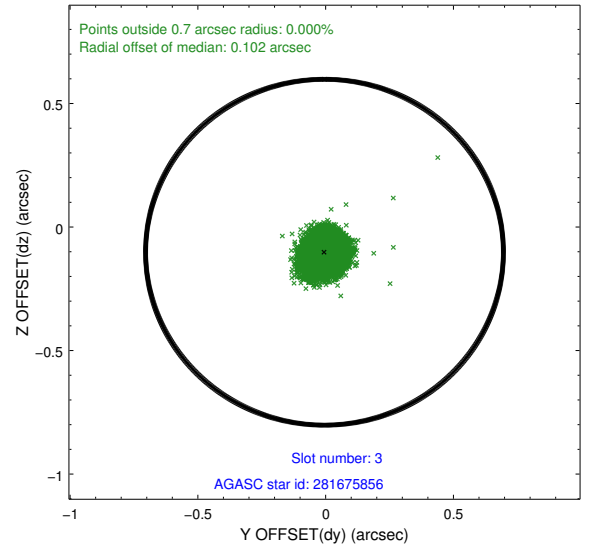
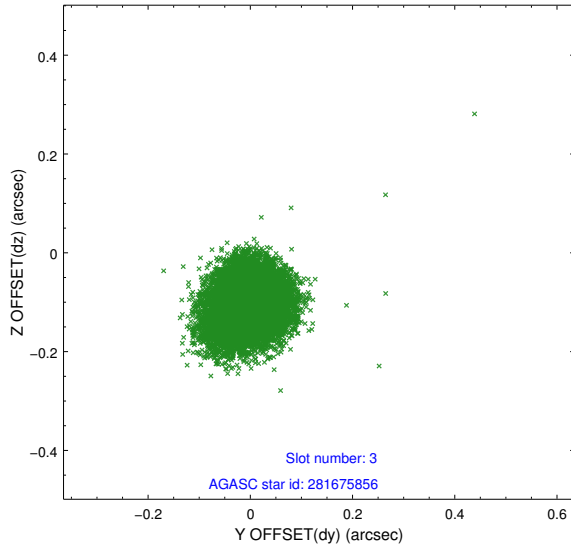


### Slot Statistics

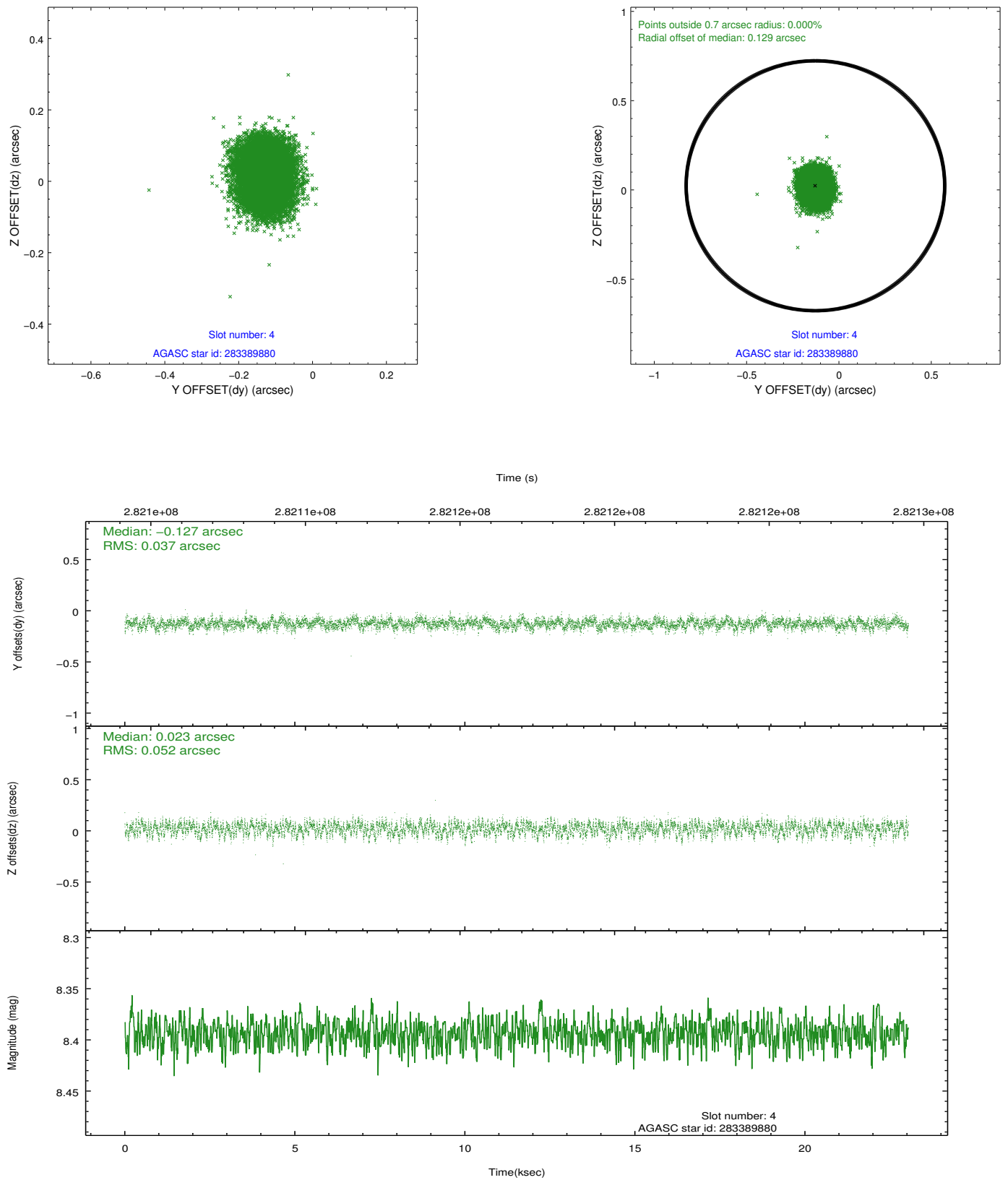
| slot | status | id        | mag  | n_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec       | mean_y   | mean_z   |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0    | FID    | ACIS-I-1  | 7.24 | 5620  | 0.103  | -0.017 | 0.009 | 0.015 | 0.000000   | 0.000000  | 930.62   | -835.70  |
| 1    | FID    | ACIS-I-2  | 7.14 | 5619  | -0.056 | -0.064 | 0.011 | 0.018 | 0.000000   | 0.000000  | -763.54  | -842.27  |
| 2    | FID    | ACIS-I-5  | 7.22 | 5620  | -0.140 | 0.153  | 0.010 | 0.018 | 0.000000   | 0.000000  | -1817.96 | 1061.87  |
| 3    | GUIDE  | 281675856 | 8.02 | 11239 | -0.005 | -0.102 | 0.061 | 0.098 | 301.358026 | 27.424410 | -797.50  | -1101.73 |
| 4    | GUIDE  | 283389880 | 8.39 | 11237 | -0.127 | 0.023  | 0.069 | 0.109 | 302.301614 | 27.648031 | 748.24   | 1605.51  |
| 5    | GUIDE  | 283905072 | 7.53 | 11240 | -0.049 | 0.107  | 0.061 | 0.096 | 301.533862 | 28.125916 | -2192.31 | 1076.91  |
| 6    | GUIDE  | 281679136 | 9.08 | 11234 | -0.016 | -0.036 | 0.089 | 0.143 | 301.370499 | 26.962508 | 408.49   | -2247.60 |
| 7    | GUIDE  | 283380704 | 8.94 | 11198 | 0.196  | 0.010  | 0.068 | 0.111 | 302.277525 | 27.210808 | 1817.83  | 447.69   |

## 2.4 Star Slots

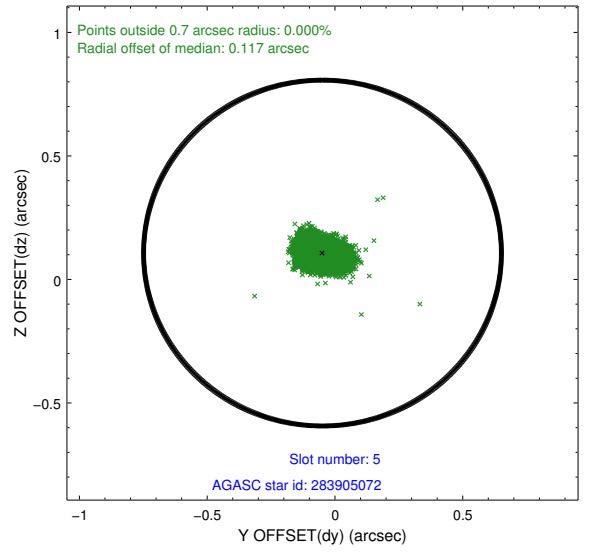
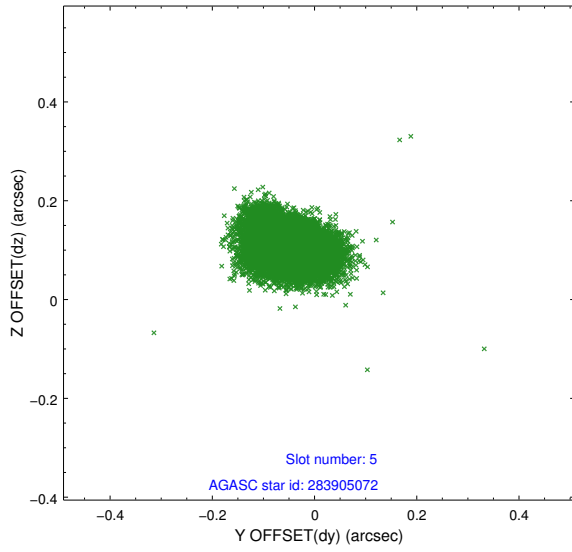
### 2.4.1 Slot 3



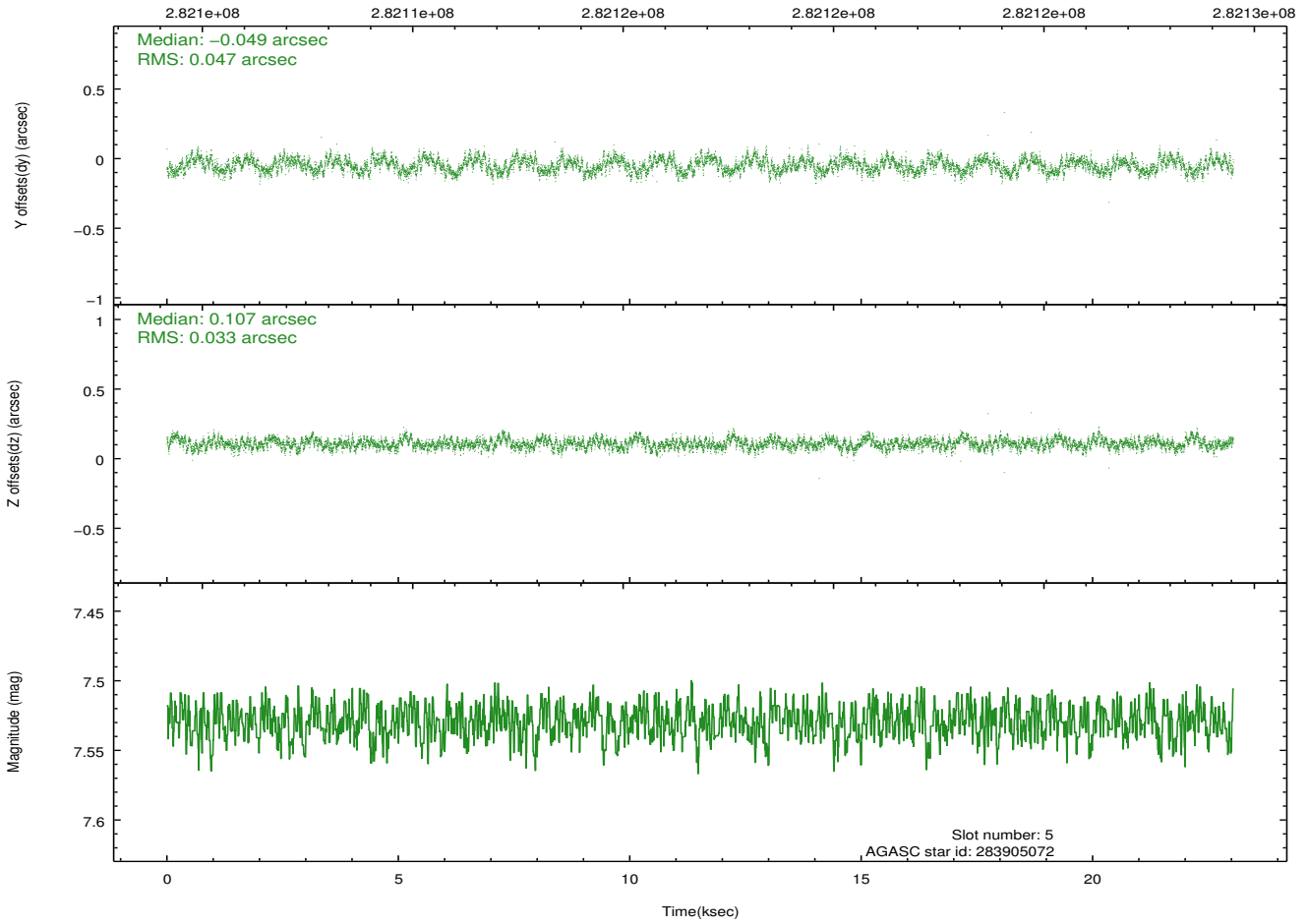
## 2.4.2 Slot 4



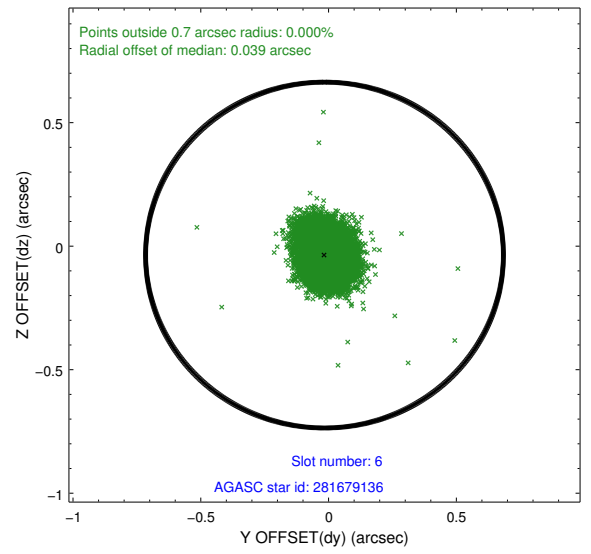
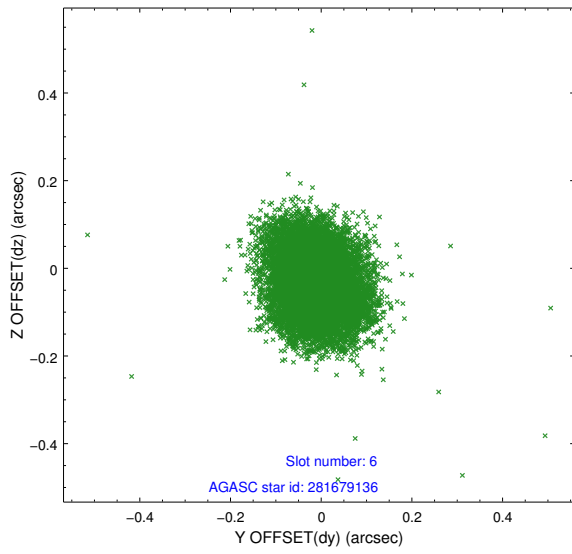
### 2.4.3 Slot 5



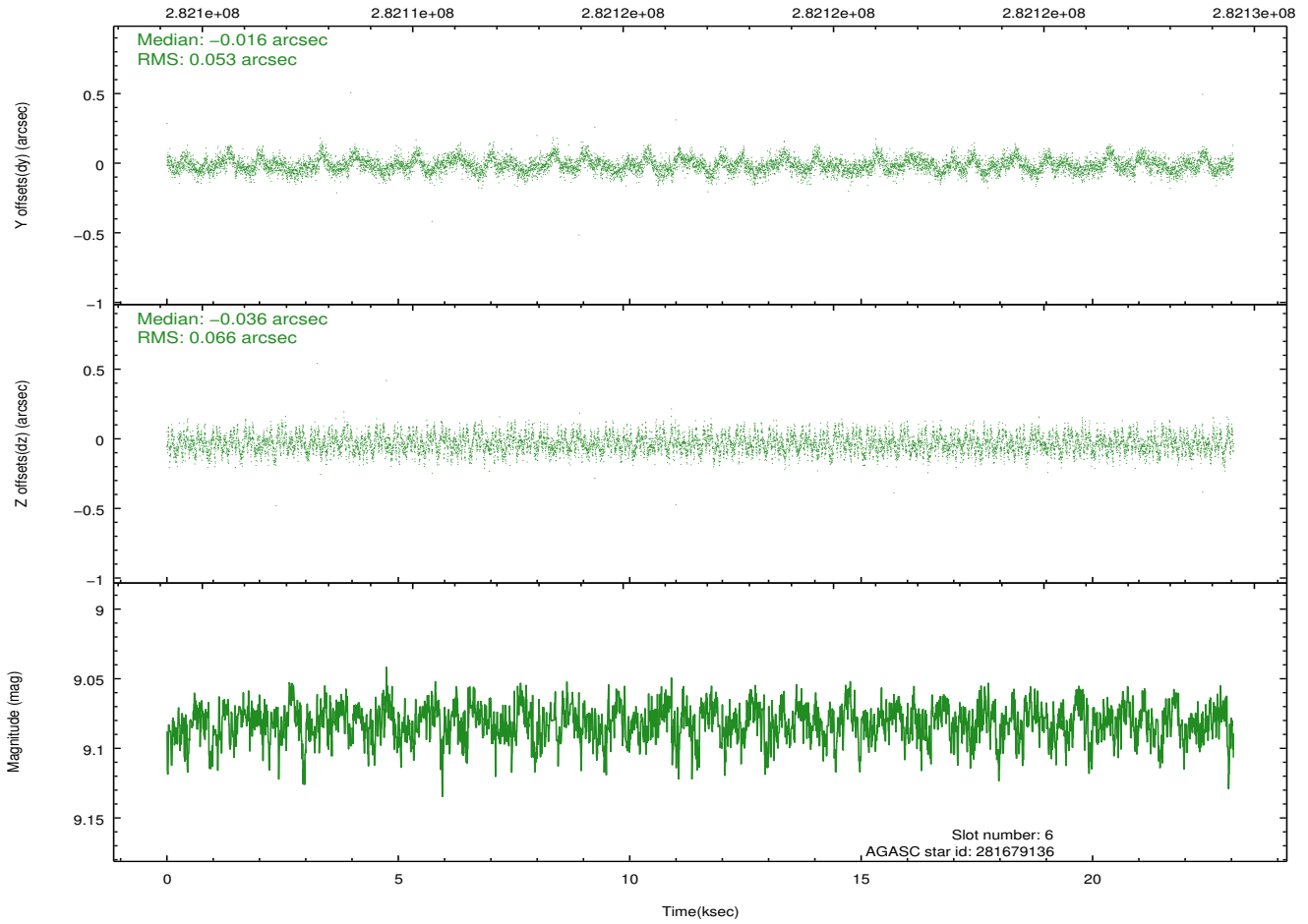
Time (s)



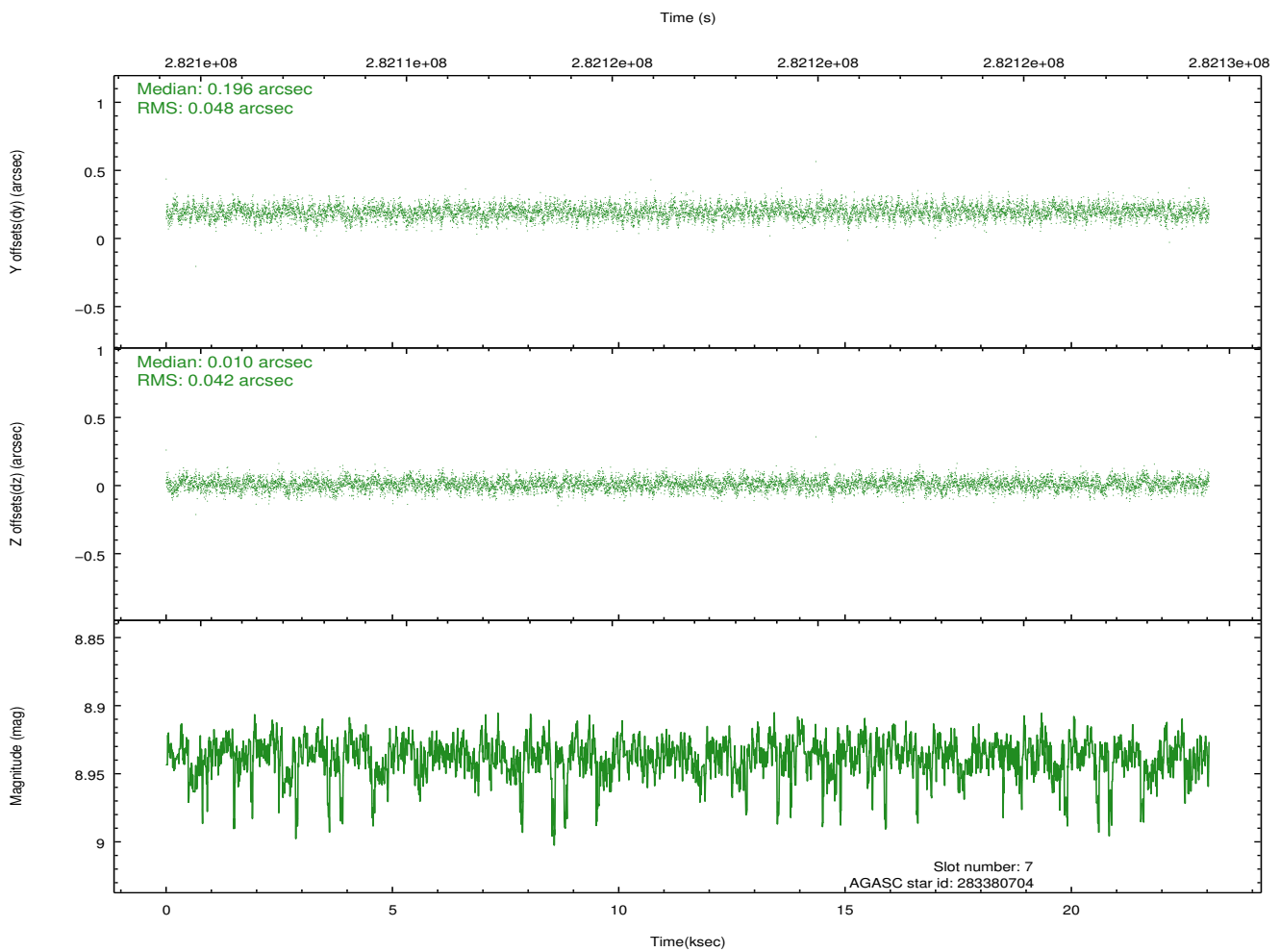
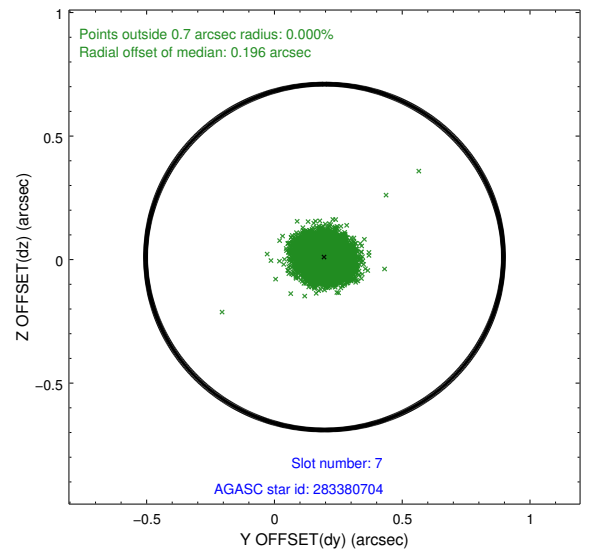
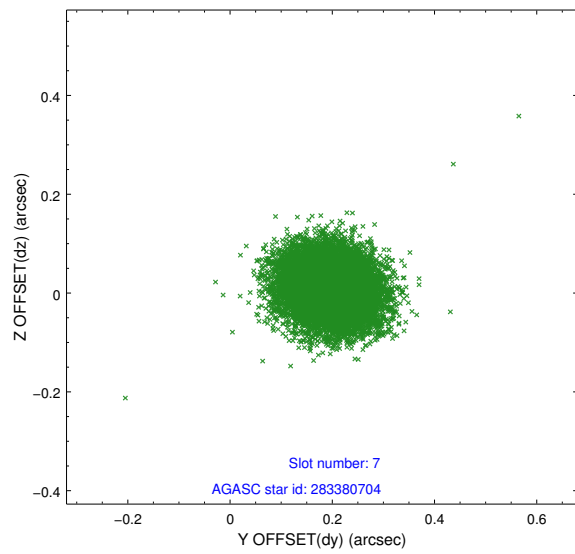
### 2.4.4 Slot 6



Time (s)

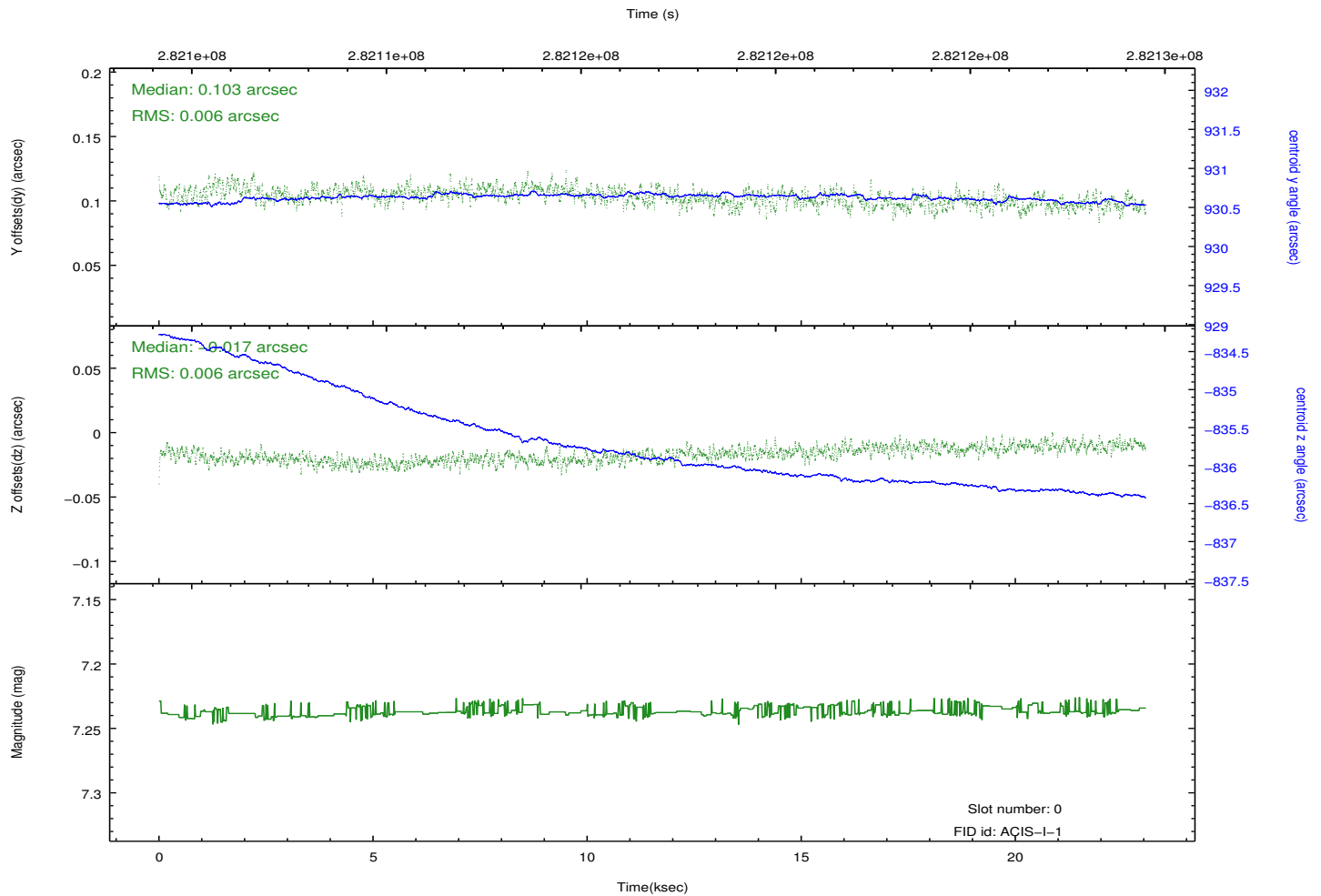
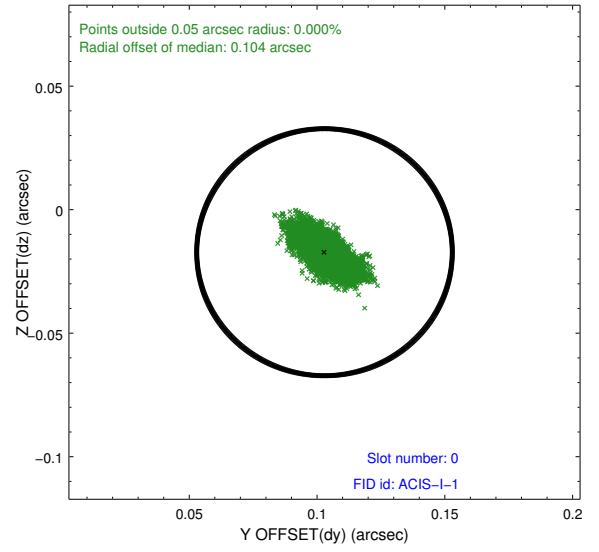
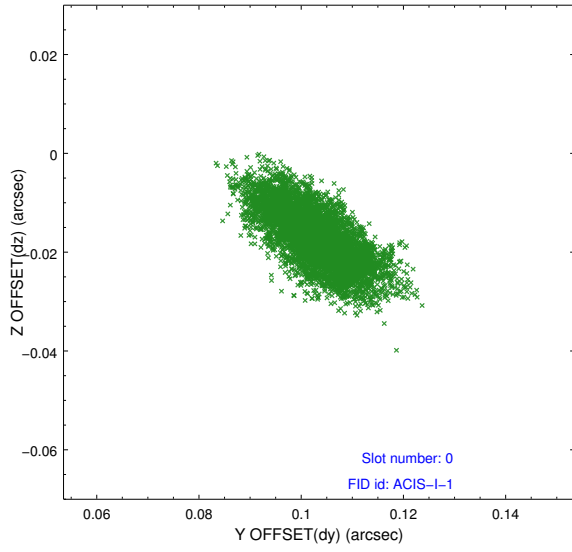


## 2.4.5 Slot 7

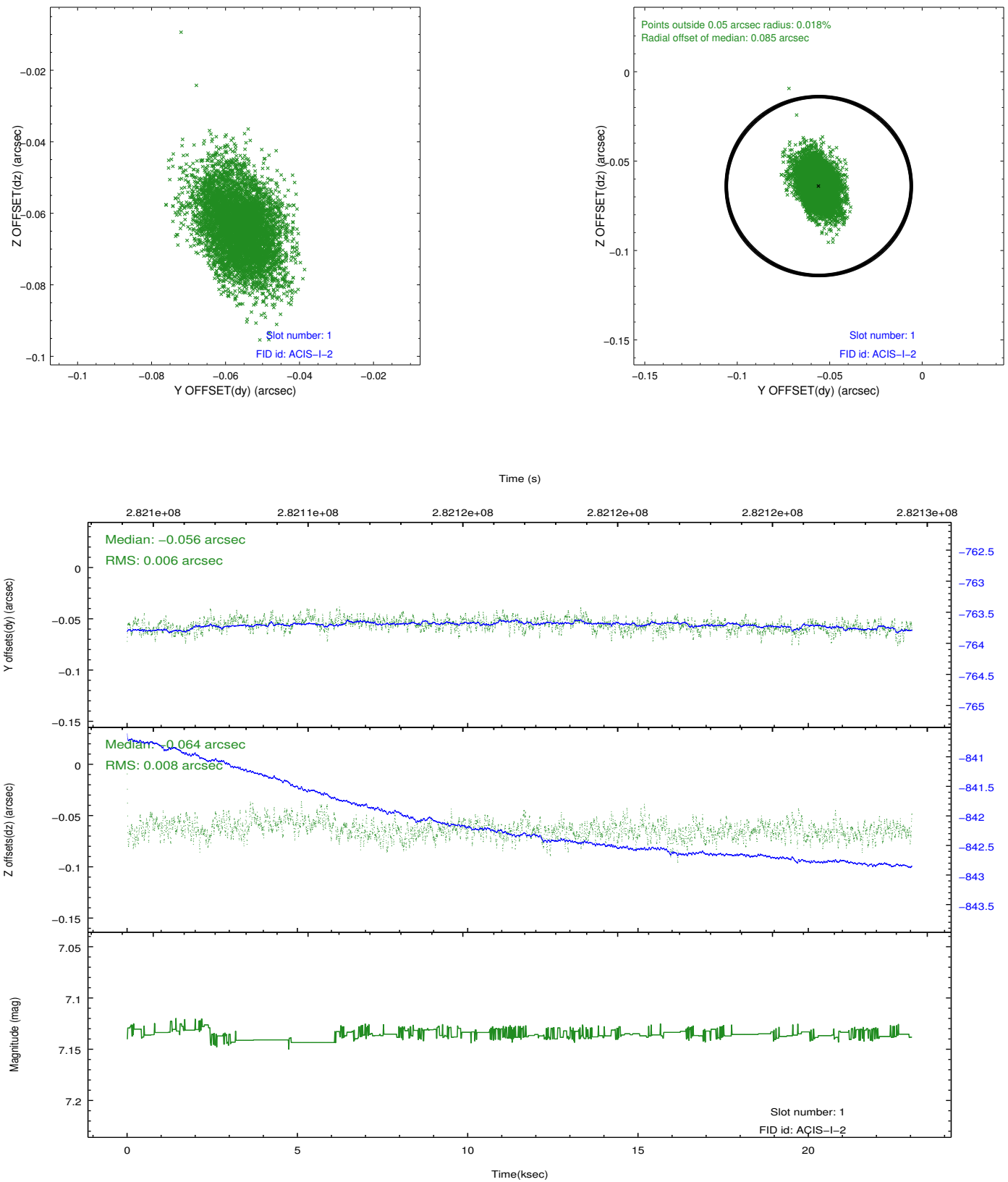


## 2.5 FID Slots

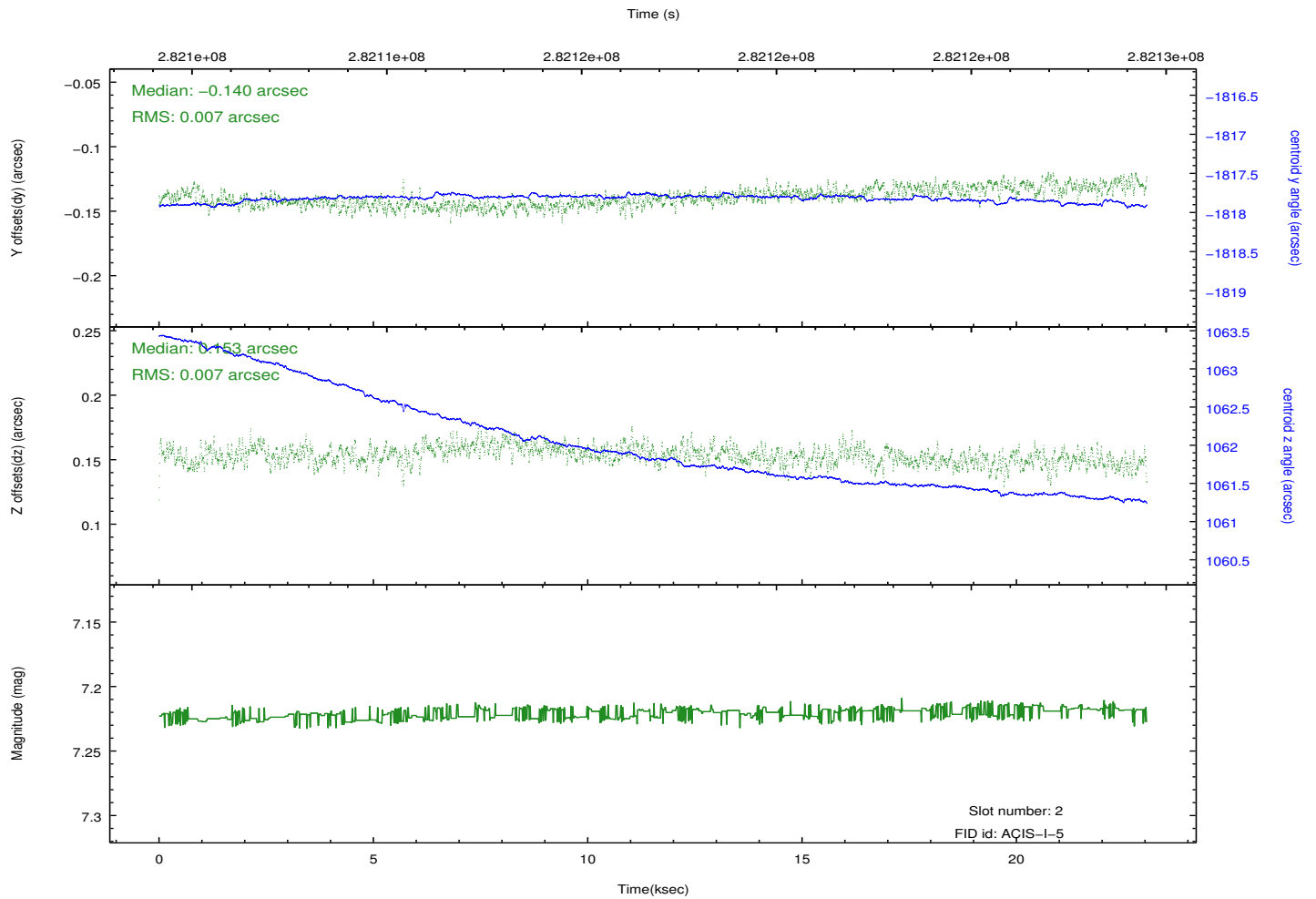
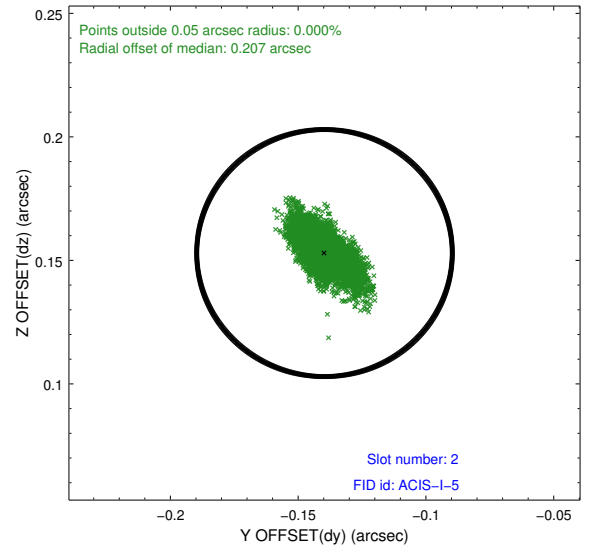
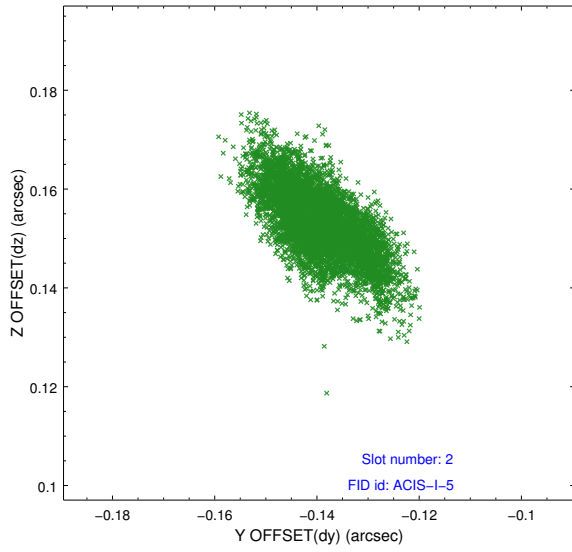
### 2.5.1 Slot 0



## 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)      | 2012.04.27 |
| V&V Edition                | 1          |
| V&V Disposition and Status | OK         |
| V&V Charge Time            | 23.1929445 |

## A.2 Comments

Charge time:

Charge time for this ObsId remains at previous value of 23.1929445 ksec although with the current processing it would have been 22.908 ksec.

=====

This observation was interrupted by safing of the science instruments onboard Chandra due to high solar radiation environment. The observation was interrupted at 2006:344:08:58 GMT. Due to a high radiation environment, the instruments were safed and the observation terminated early. This observation has been reprocessed so that the aspect solution correctly handles the instrument safing and maneuver activities at the end of the observation.