

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4452 - L2 Version 4  
Chandra X-Ray Center

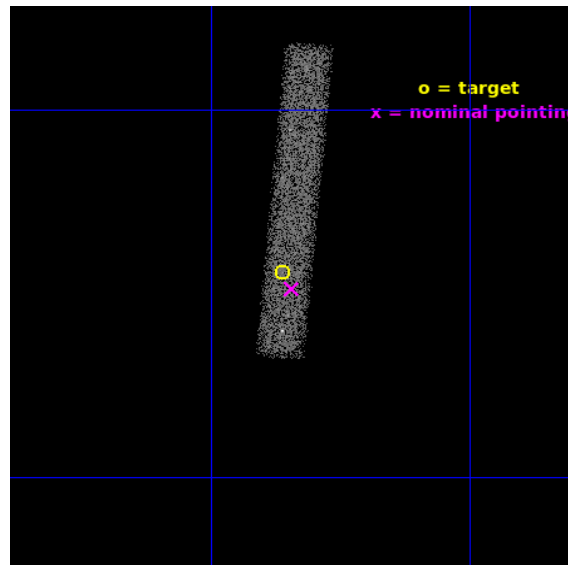
L2 Processing Date : Sep 27 2020

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# 1 Front

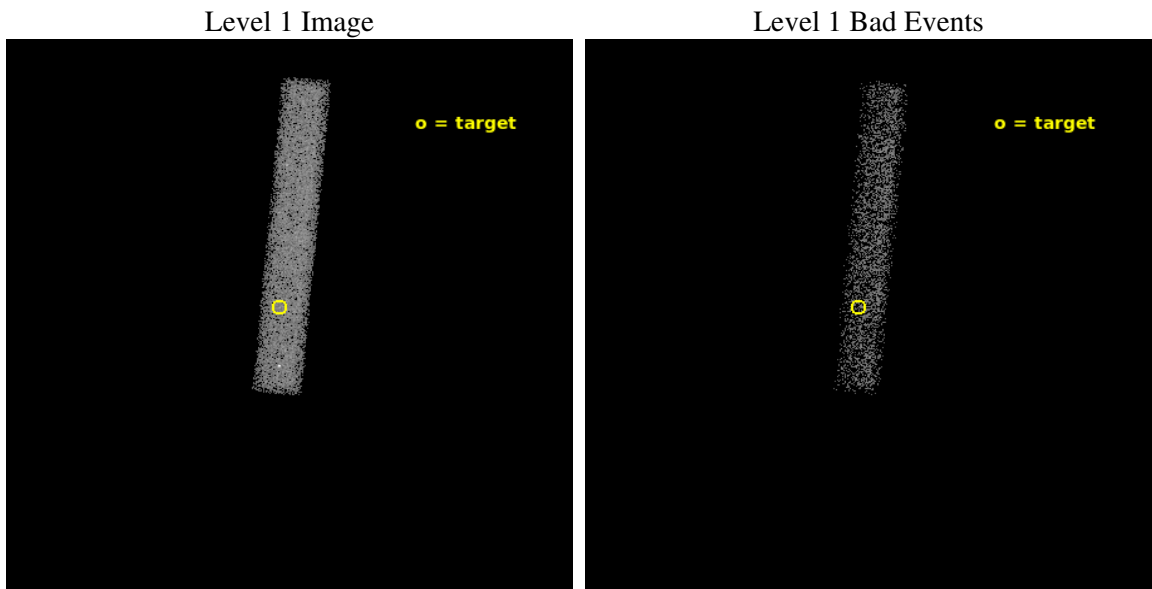
|          |   |   |
|----------|---|---|
| seq_num  | 400329  | Sequence number                             |
| obs_id   | 4452  | Observation id                              |
| title    | Following a black hole candidate soft X-ray transient returning to quiescence | Proposal title                              |
| observer | Peter Jonker  | Principal investigator                      |
| object   | V 4641 Sgr  | Source name                                 |
| dtycycle | 0   | &#160                                       |
| cycle    | P   | events from which exps?<br>Prim/Second/Both |
| ra_targ  | 274.84  | Observer's specified target RA [deg]        |
| dec_targ | -25.407167  | Observer's specified target Dec [deg]       |
| ra_nom   | 274.83572539671   | Nominal RA [deg]                            |
| dec_nom  | -25.414672667192  | Nominal Dec [deg]                           |
| roll_nom | 275.22056088846   | Nominal Roll [deg]                          |
| revision | 4   | Processing version of data                  |
| ontime   | 20160.80030039  | Sum of GTIs [s]                             |
| livetime | 18284.781698159   | Livetime [s]                                |
| ontime7  | 20160.80030039  | Sum of GTIs [s]                             |
| l2events | 12385   | Number of level 2 events                    |



## 2 OBI

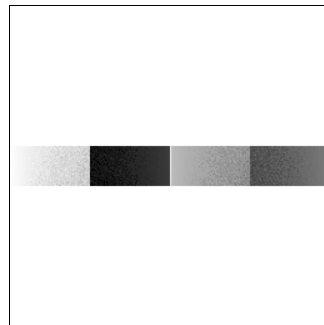
### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 7



### 2.1.3 Parameters

|          |                     |                                |                |                |   |
|----------|---------------------|--------------------------------|----------------|----------------|---|
| obi_num  | 3                   | Obi number                     | sched_exp_time | 20000.000000   | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1              | Processing system revision     | ontime         | 20160.80030039 | Sum of GTIs [s]                         |
| caldbver | 4.9.2               | &#160                          | ontime7        | 20160.80030039 | Sum of GTIs [s]                         |
| date     | 2020-09-27T14:02:06 | Date and time of file creation | l1events       | 27664          | Number of level 1 events                |
| revision | 4                   | Processing version of data     |                |                |   |

### 2.1.4 Events

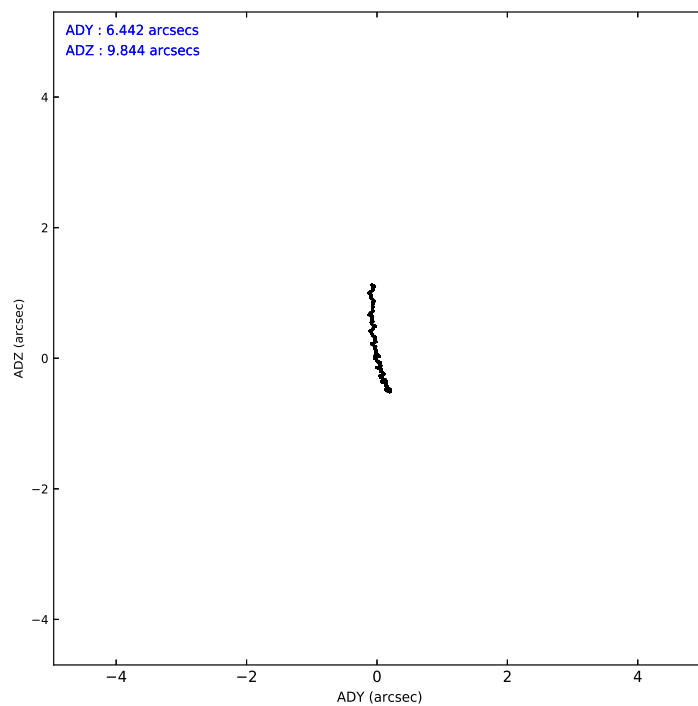
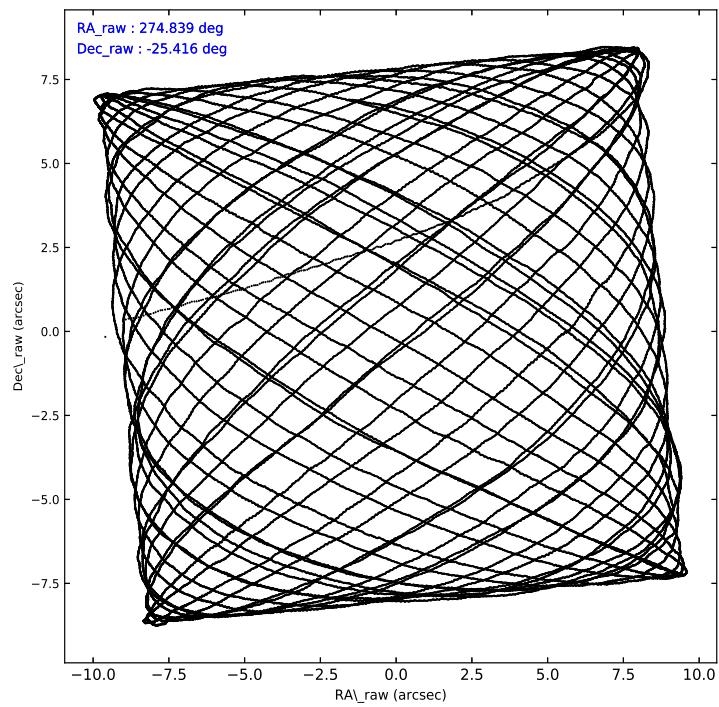
|                 | <b>ccd 7</b> |
|-----------------|--------------|
| level 1 events  | 27664        |
| rejected events | 14814        |
| rejected %      | <b>53%</b>   |

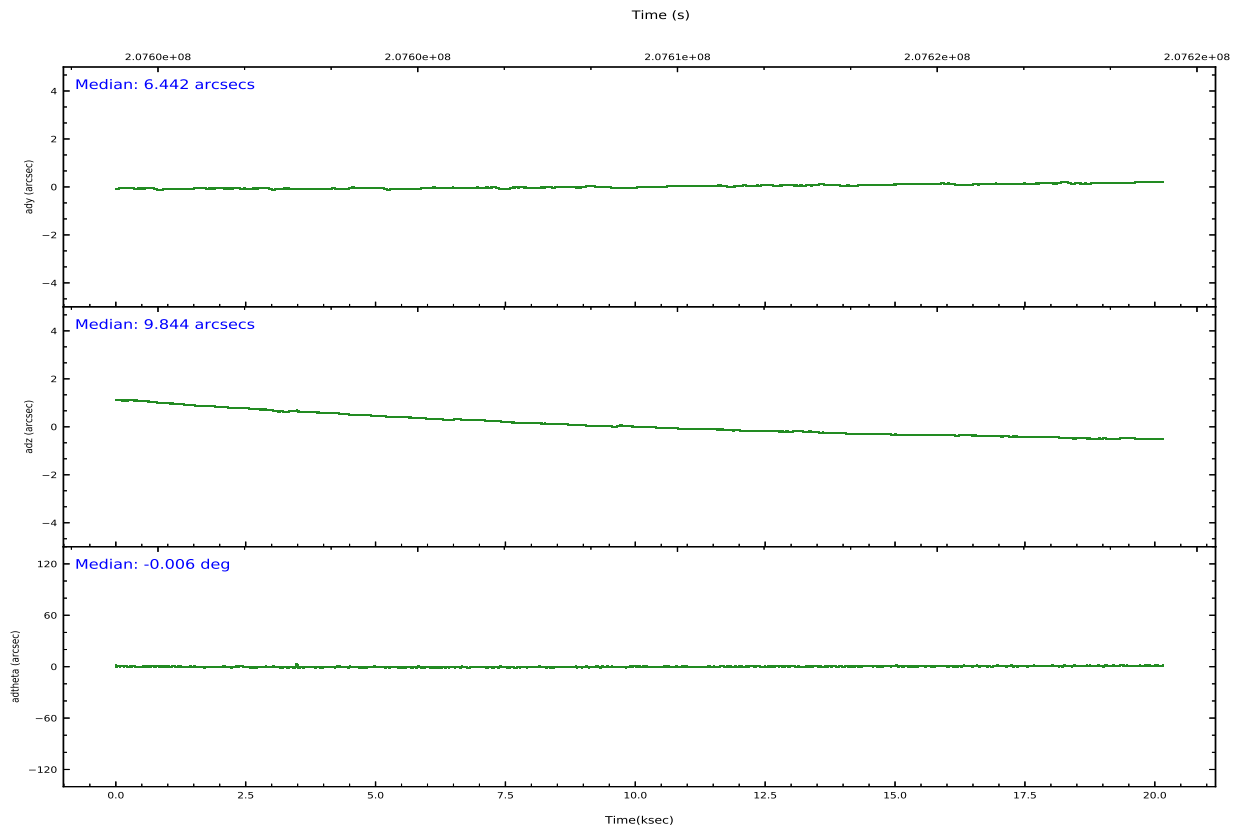
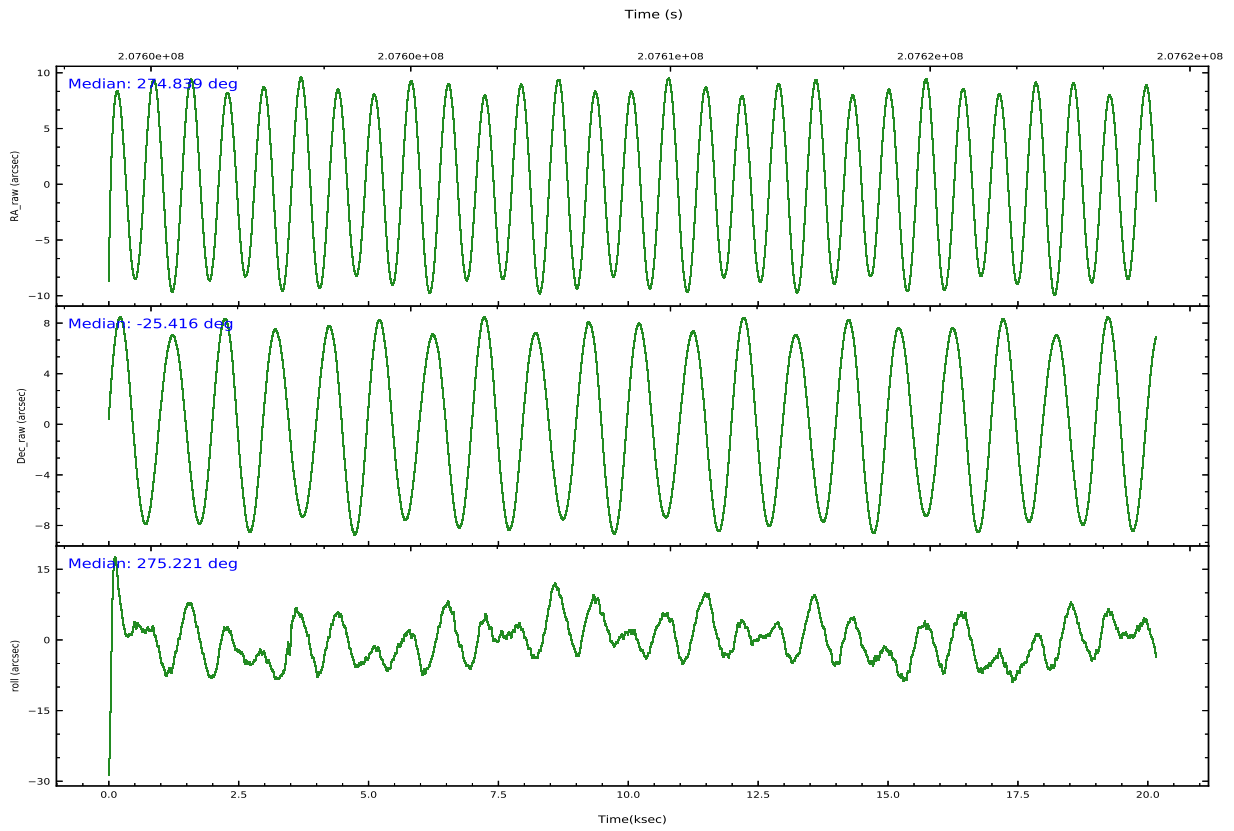
|                | <b>ccd 7</b> |
|----------------|--------------|
| grade 0 events | 1585         |
|                | 5%           |
| grade 1 events | 32           |
|                | 0%           |
| grade 2 events | 2663         |
|                | 9%           |
| grade 3 events | 1715         |
|                | 6%           |
| grade 4 events | 1652         |
|                | 5%           |
| grade 5 events | 2443         |
|                | 8%           |
| grade 6 events | 5801         |
|                | 20%          |
| grade 7 events | 11773        |
|                | 42%          |

## 2.2 Compared Parameters

| Parameter                         | Planned             | Actual               | Parameter                             | Planned   | Actual  |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument                        | ACIS                | ACIS                 | Obspar version number                 | 8         | 8       |
| Detector                          | ACIS-7              | ACIS-7               | 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                 | 274.821322          | 274.83572539671      | Subarray requested                    | CUSTOM    | 1/8     |
| [deg] Pointing Dec                | -25.394271          | -25.414672667192     | Subarray start row                    | 449       | 449     |
| [deg] Pointing Roll               | 275.057409          | 275.22056088846      | Subarray row count                    | 128       | 128     |
| [mm] SIM focus pos                | -0.684267           | -0.6828225247311905  | Alternating exposures requested       | N         | N       |
| [mm] SIM defocus                  | 0                   | 0.001444936568705701 | [s] Primary exposure time             | 0.000000  | 0.4     |
| [mm] SIM translation stage pos    | -190.132523         | -190.1400660498719   |                                       |           |         |
| [mm] SIM translation stage offset | 0                   | 0.00754346686406393  |                                       |           |         |
| [s] Observation start time (MET)  | 207599349.184000    | 207598272.25309      |                                       |           |         |
| Observation start date            | 2004-07-30T18:28:05 | 2004-07-30T18:11:12  |                                       |           |         |
| [s] Observation end time (MET)    | 207619349.184000    | 207619789.05405      |                                       |           |         |
| Observation end date              | 2004-07-31T00:01:25 | 2004-07-31T00:09:49  |                                       |           |         |
| Read mode                         | TIMED               | TIMED                |                                       |           |         |

## 2.3 Aspect





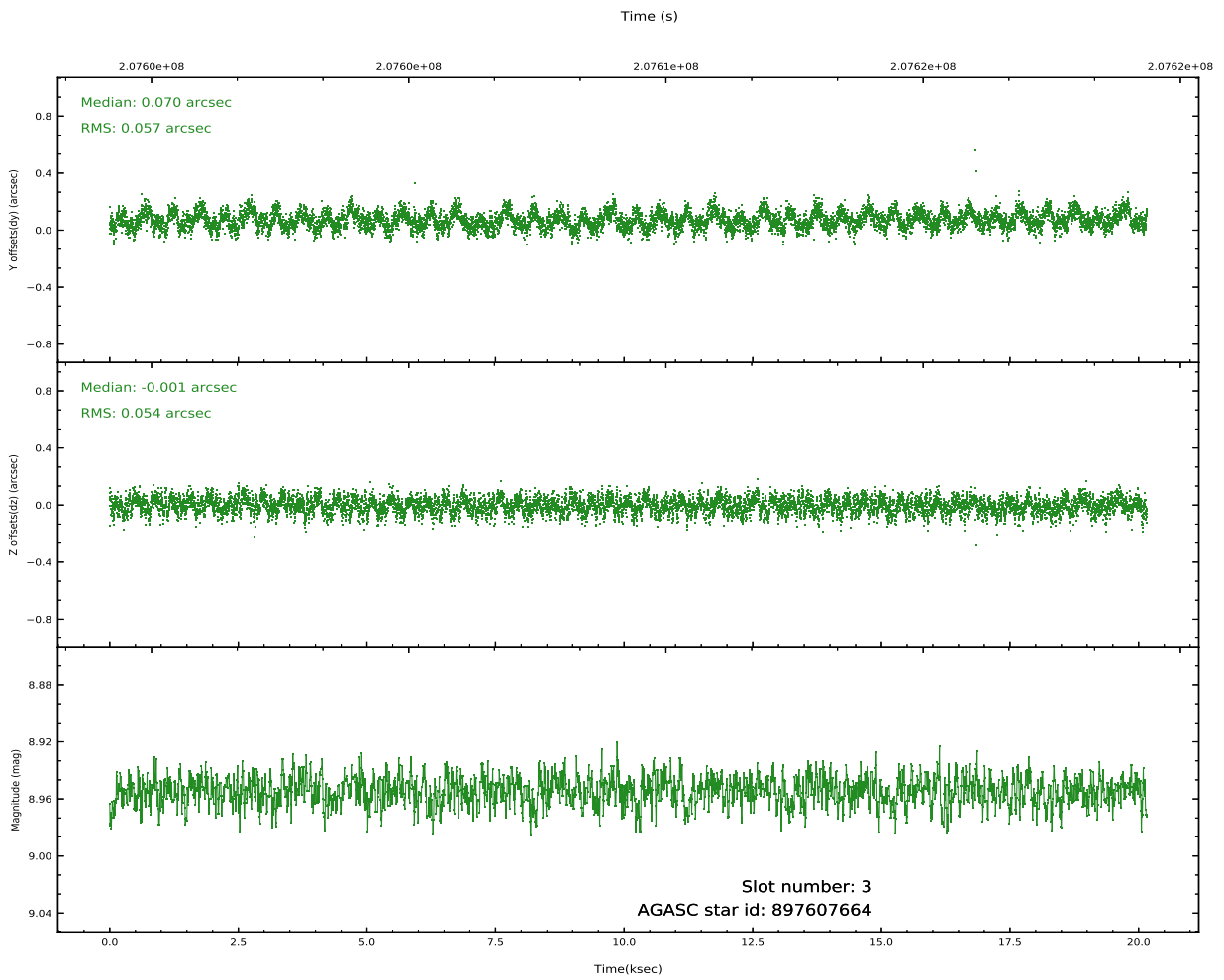
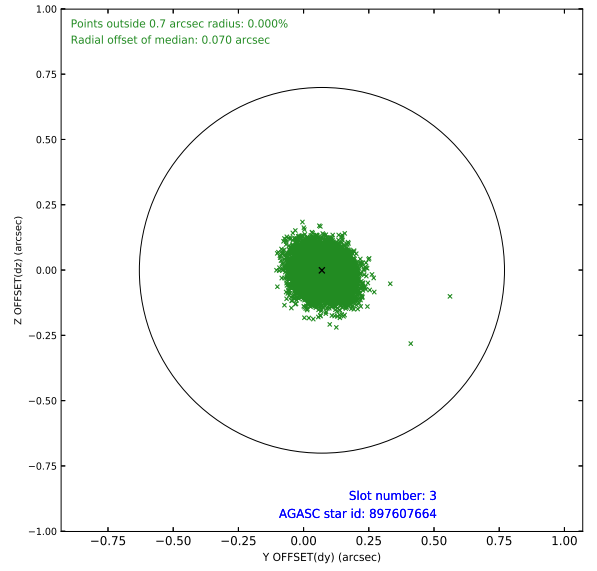
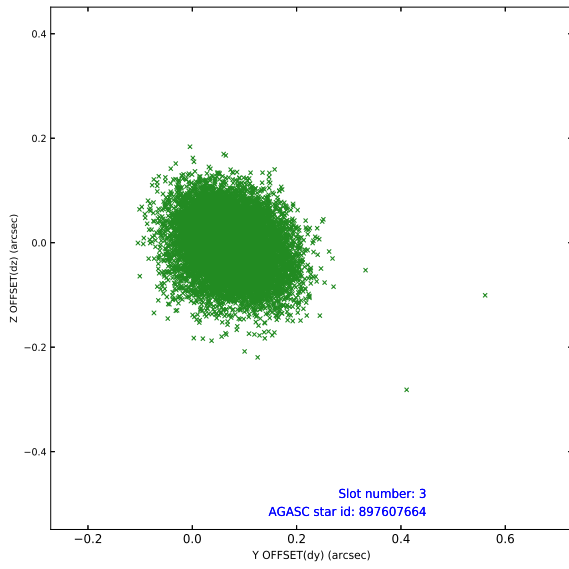
### Slot Statistics

|  | status | used | id        | mag  | n_pts | frac_pts | med_dy | med_dz | dr1   | dr2   | ra         | dec        | mean_y   | m   |
|--|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|------------|----------|-----|
|  | FID    |      | ACIS-S-2  | 7.11 | 4917  | 1.000    | -0.090 | -0.066 | 0.012 | 0.018 | 0.000000   | 0.000000   | -759.23  | -17 |
|  | FID    |      | ACIS-S-4  | 7.20 | 4916  | 1.000    | 0.143  | 0.061  | 0.007 | 0.013 | 0.000000   | 0.000000   | 2154.13  | 1   |
|  | FID    |      | ACIS-S-5  | 7.23 | 4918  | 1.000    | -0.085 | 0.014  | 0.010 | 0.016 | 0.000000   | 0.000000   | -1811.89 | 1   |
|  | GUIDE  | used | 897607664 | 8.95 | 9833  | 1.000    | 0.070  | -0.001 | 0.085 | 0.134 | 274.763984 | -25.327976 | -253.42  | -1  |
|  | GUIDE  | used | 897610120 | 8.48 | 9831  | 1.000    | -0.102 | 0.052  | 0.084 | 0.131 | 275.375820 | -25.427247 | 280.82   | 17  |
|  | GUIDE  | used | 897614272 | 8.74 | 9832  | 1.000    | 0.046  | 0.087  | 0.078 | 0.123 | 275.179042 | -25.471578 | 381.47   | 11  |
|  | BAD    | used | 897607632 | 9.26 | 9202  | 1.000    | 0.076  | -0.001 | 0.104 | 0.188 | 275.528210 | -25.239953 | -344.28  | 23  |
|  | GUIDE  | used | 897601280 | 9.68 | 9828  | 1.000    | -0.081 | -0.141 | 0.127 | 0.199 | 274.221964 | -25.156854 | -1018.87 | -18 |

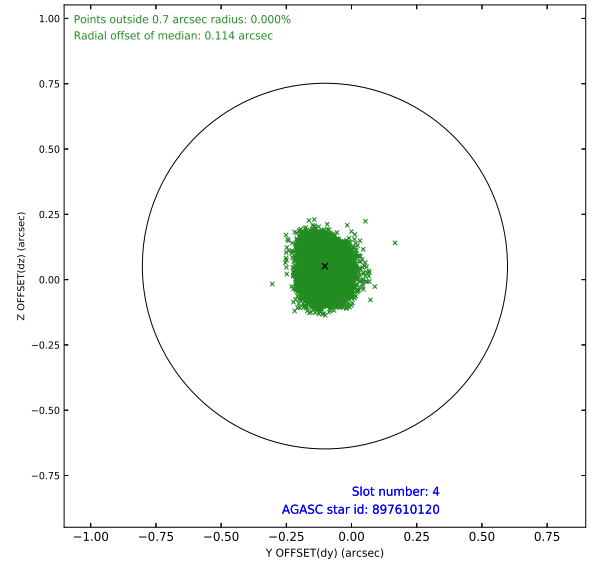
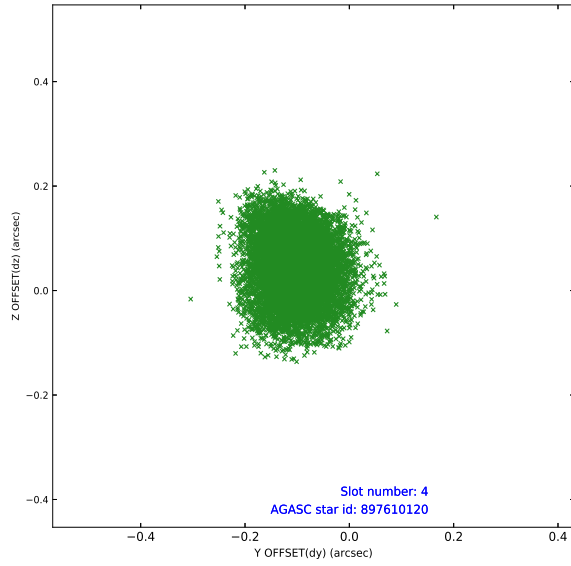
∞

## 2.4 Star Slots

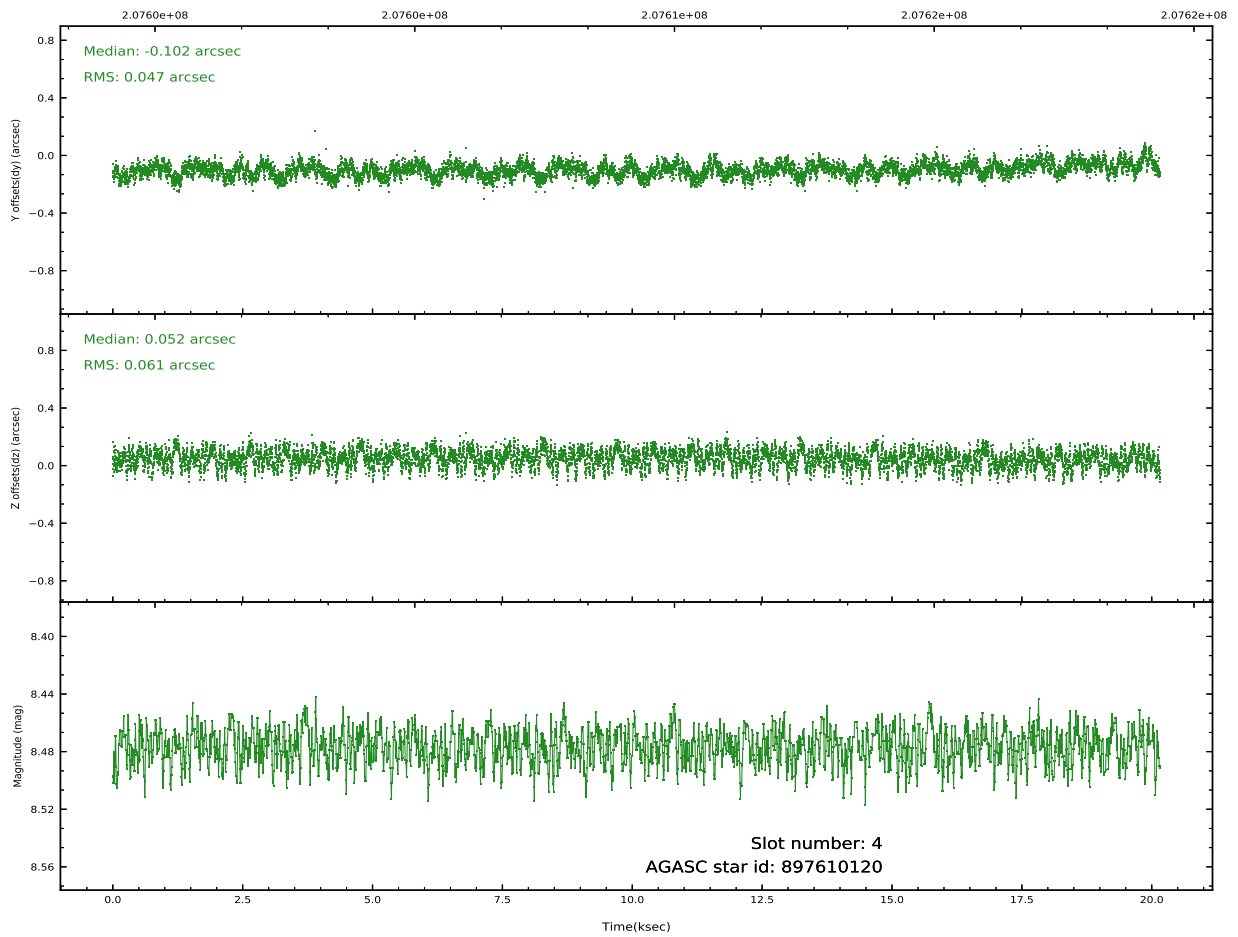
### 2.4.1 Slot 3



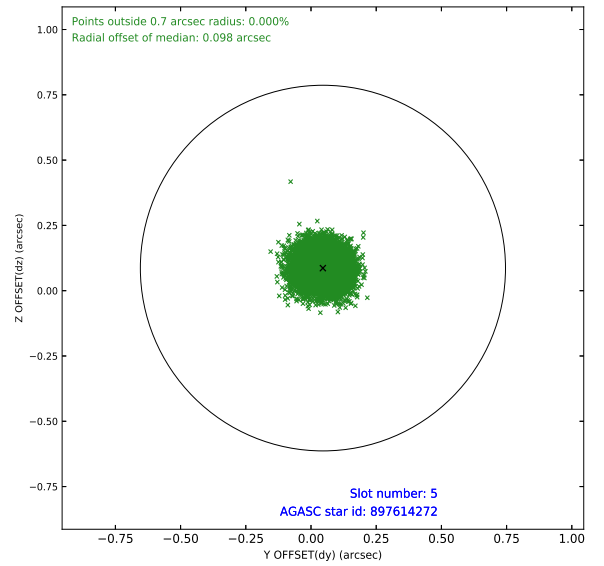
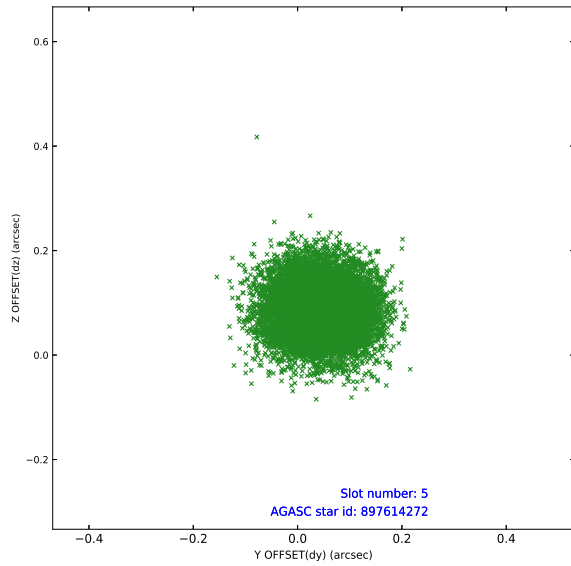
## 2.4.2 Slot 4



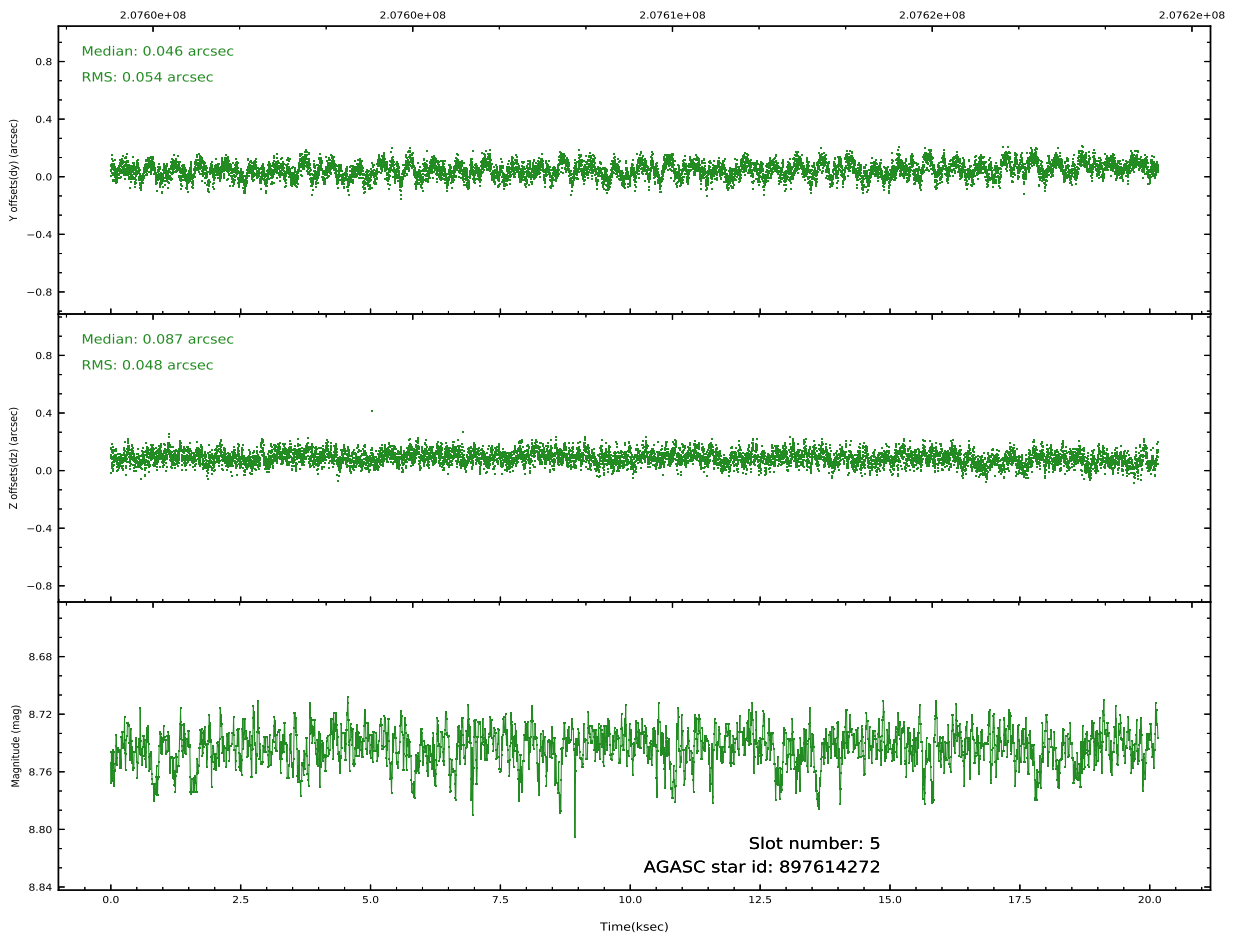
Time (s)



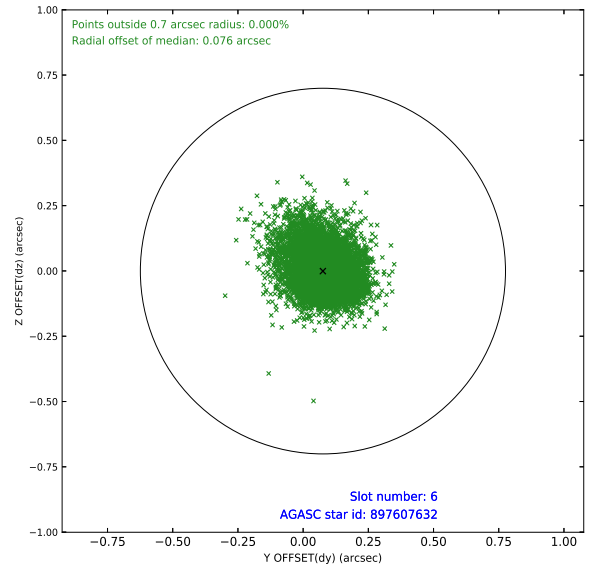
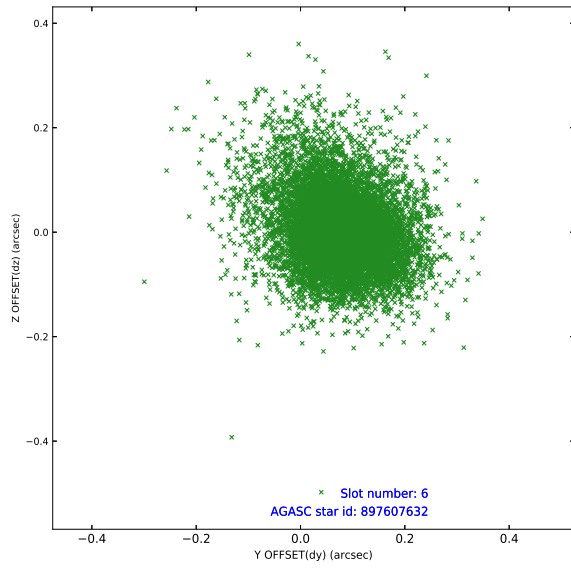
### 2.4.3 Slot 5



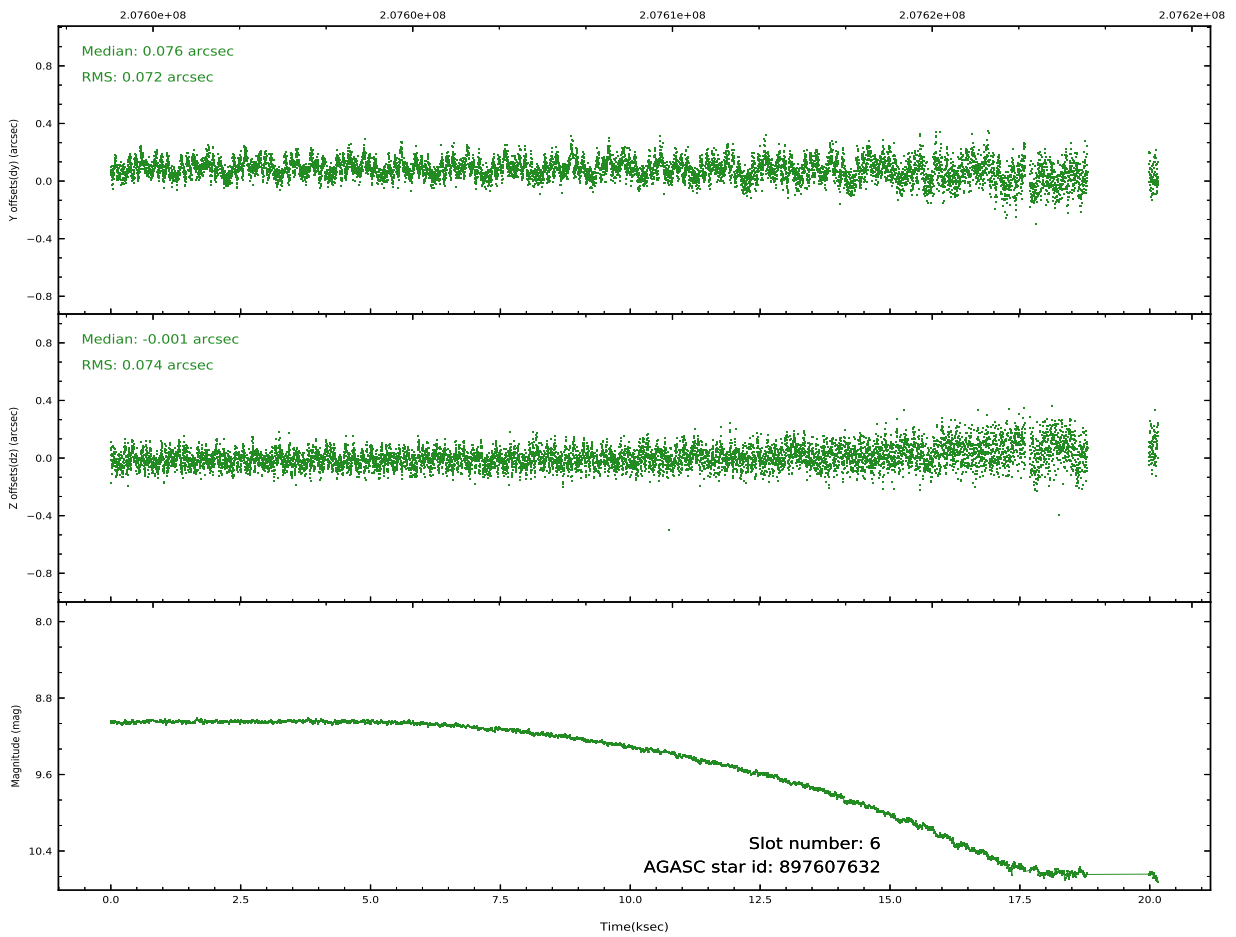
Time (s)



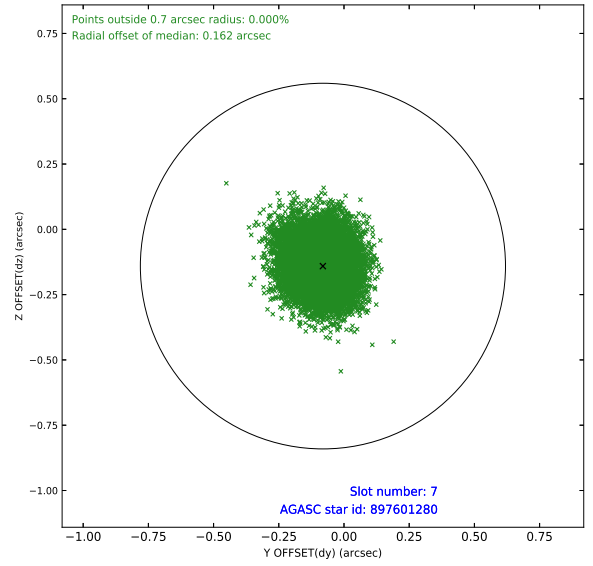
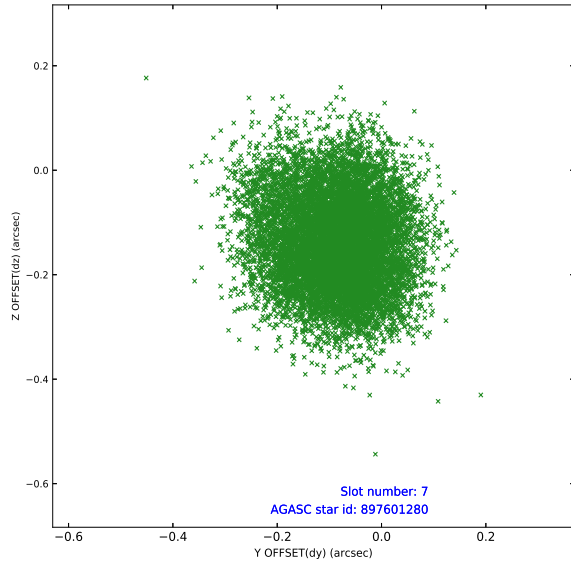
## 2.4.4 Slot 6



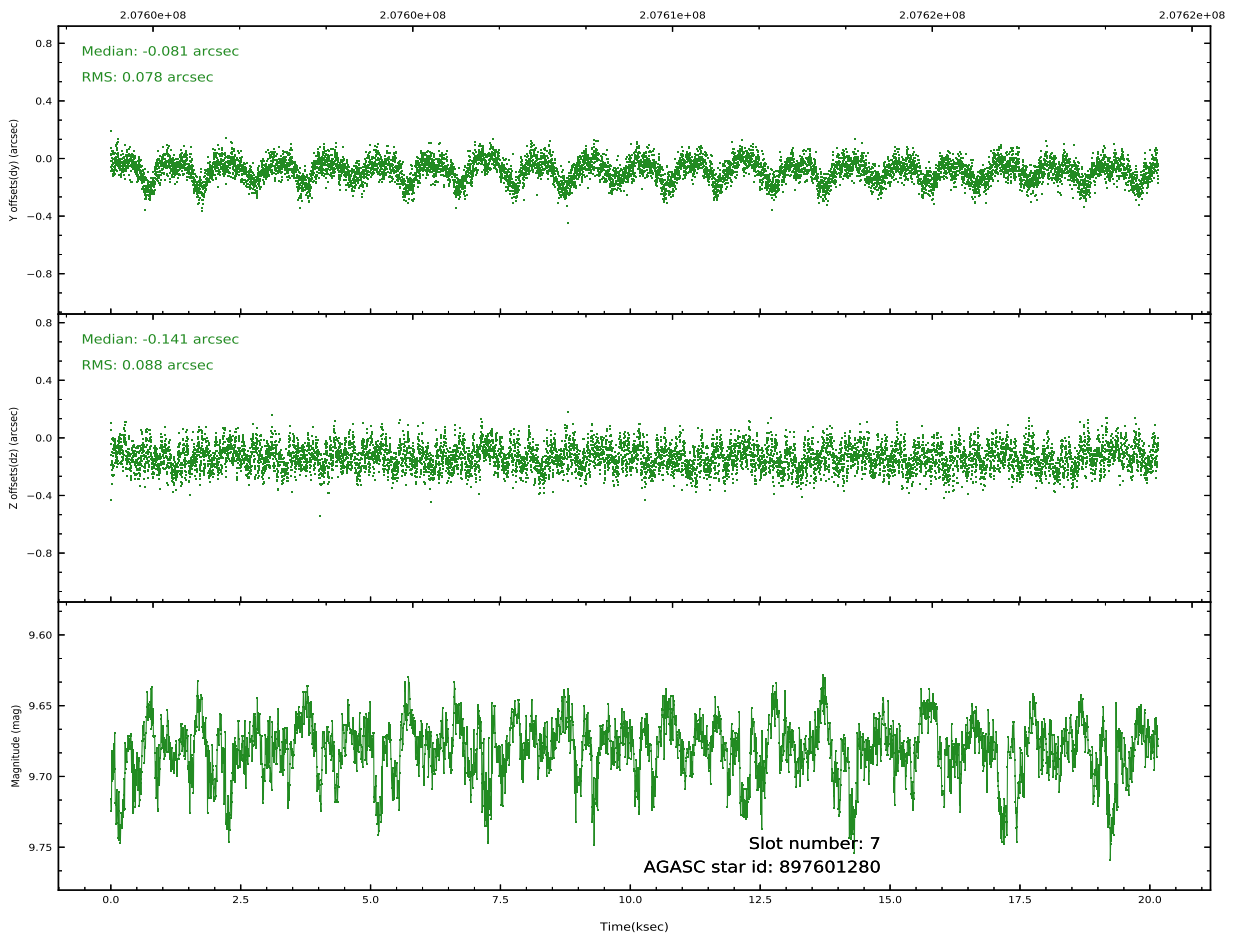
Time (s)



## 2.4.5 Slot 7

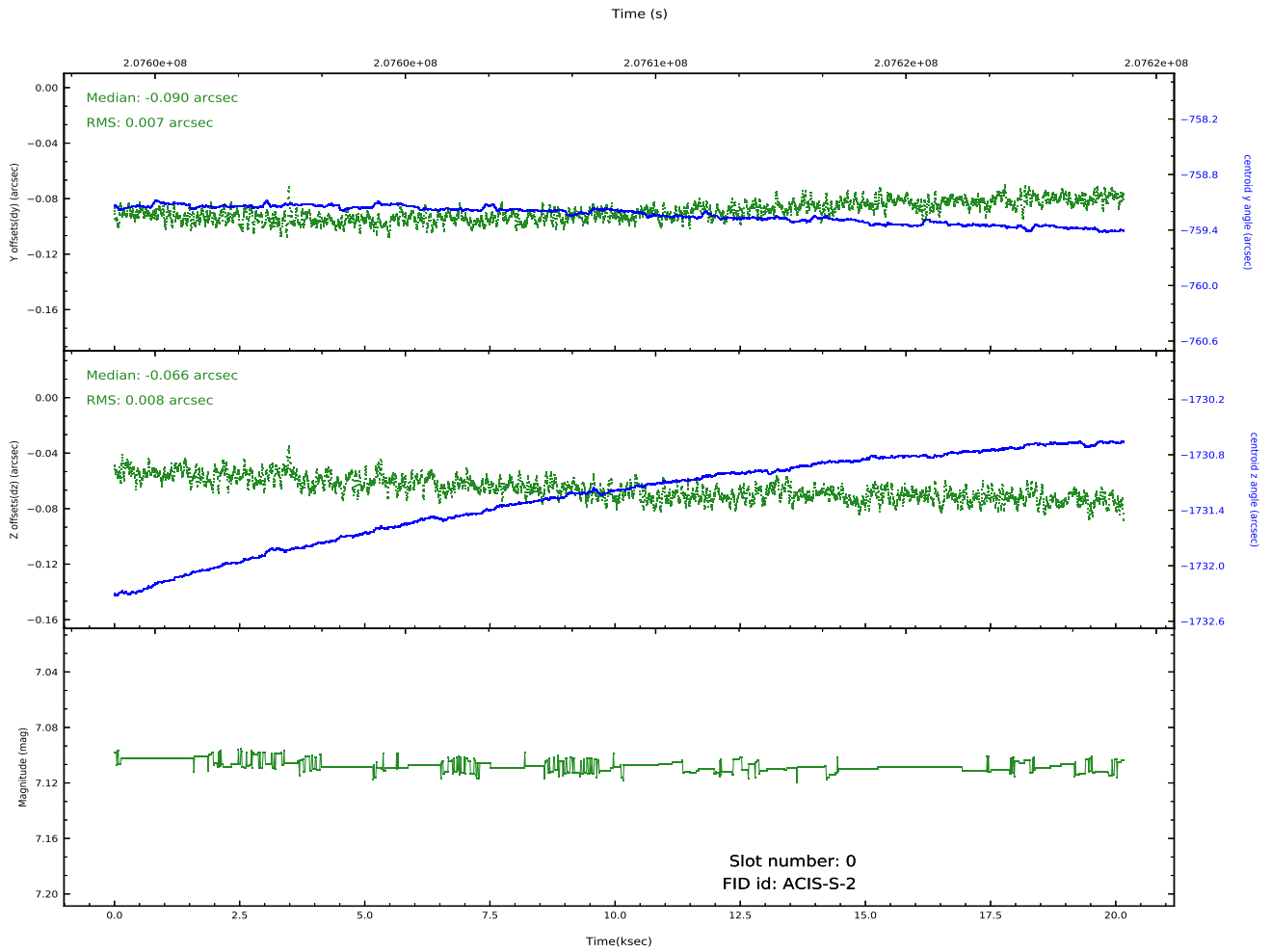
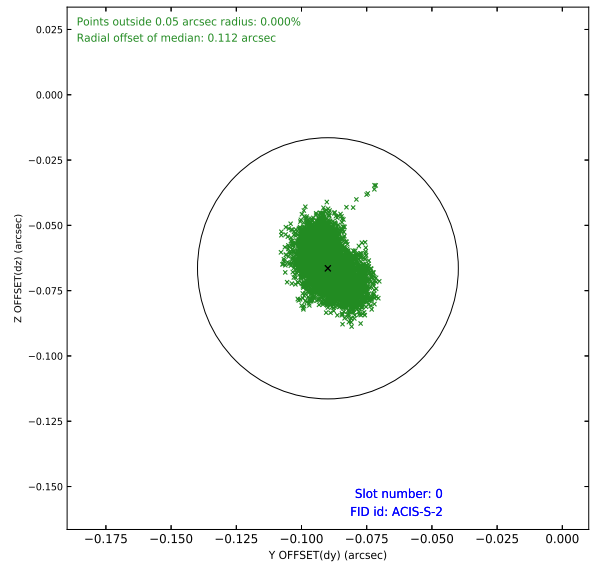
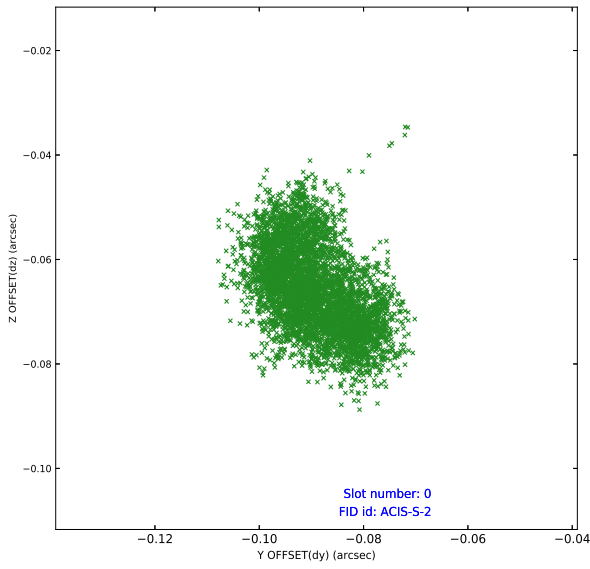


Time (s)

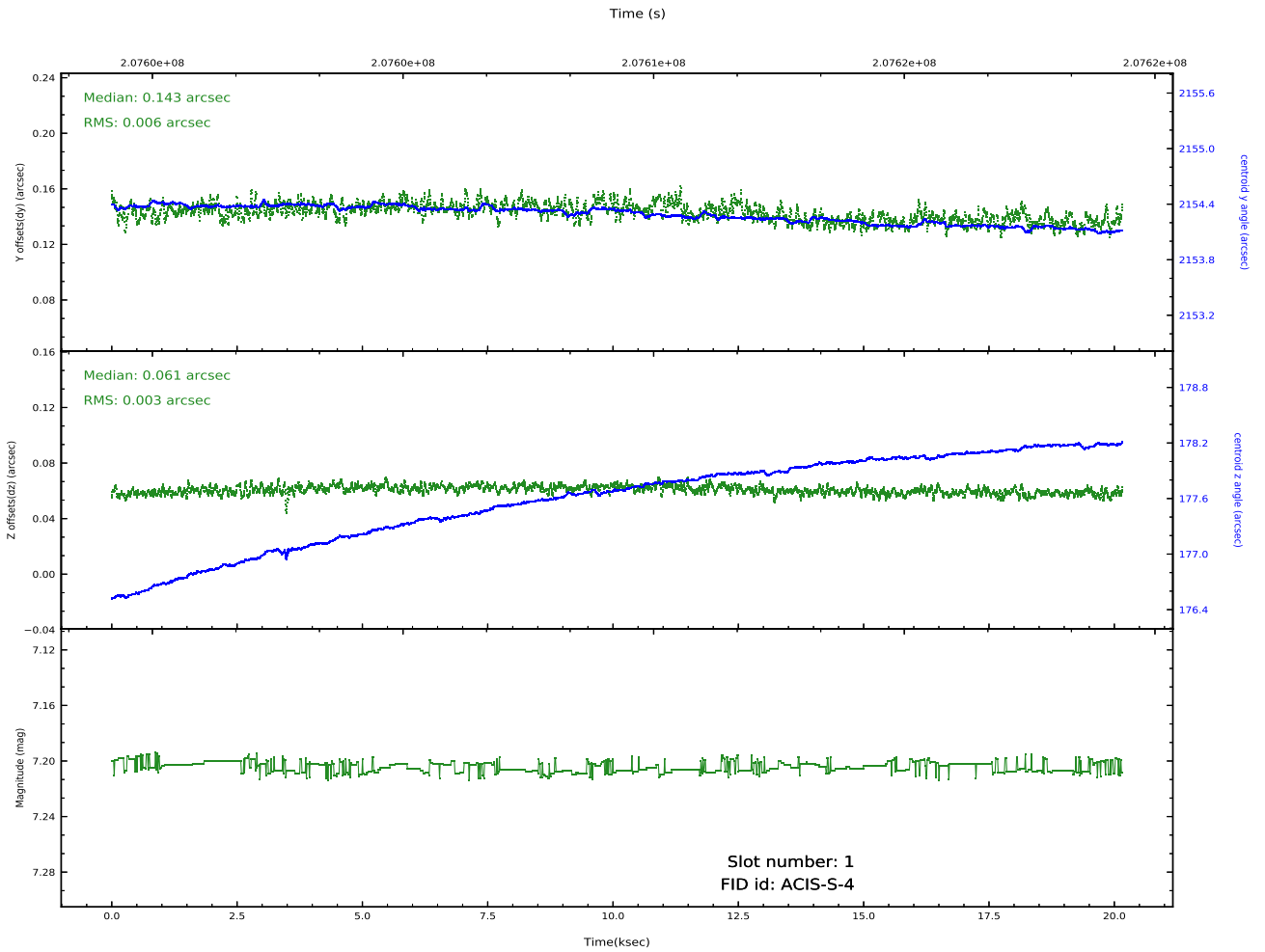
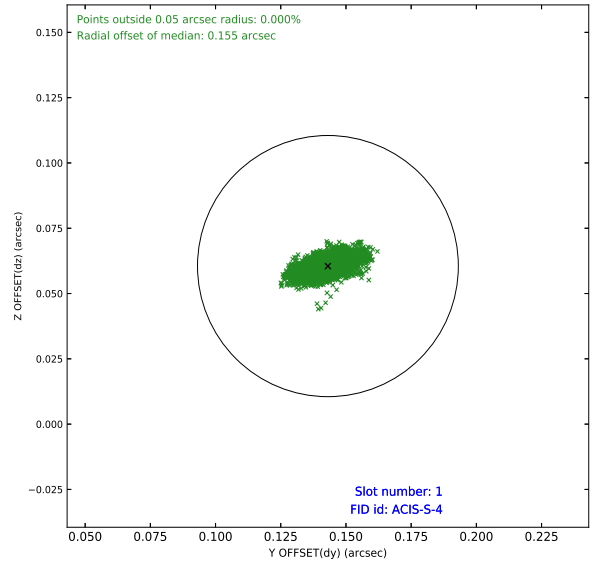
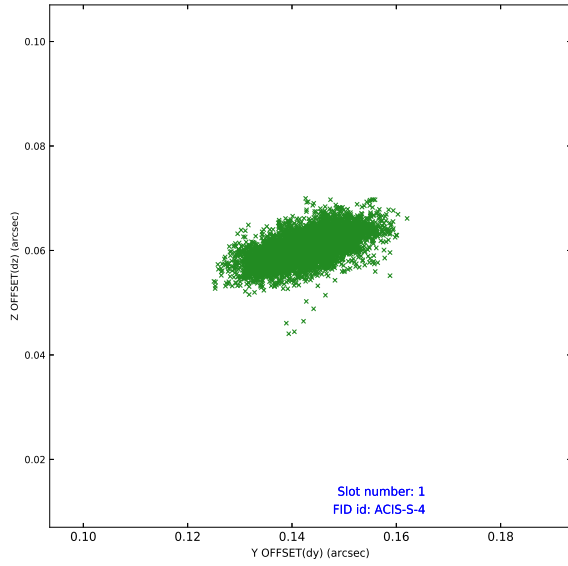


## 2.5 FID Slots

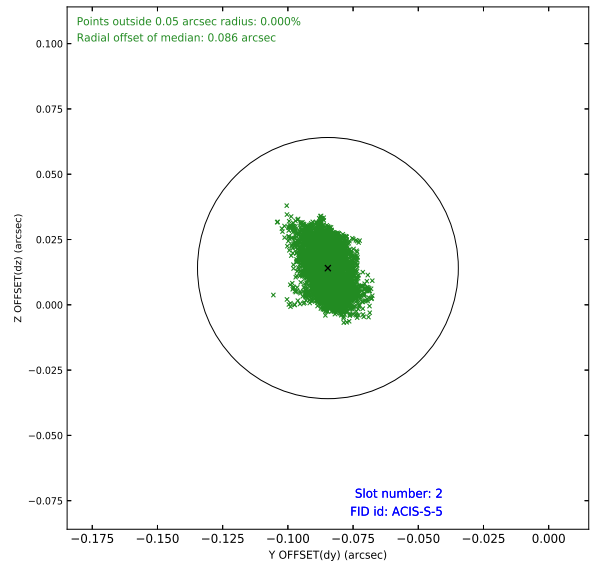
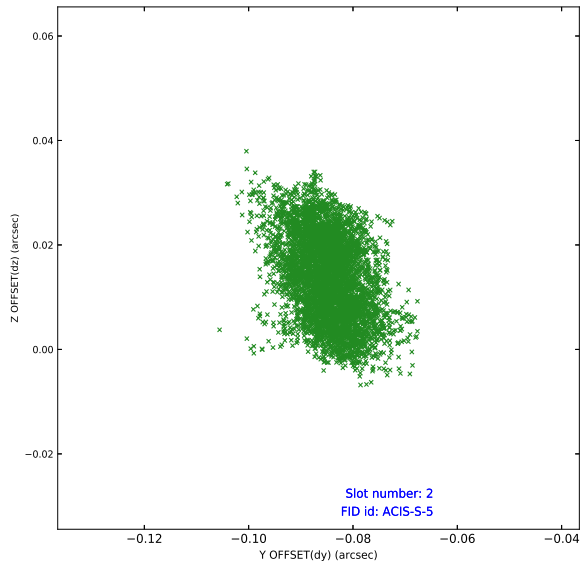
### 2.5.1 Slot 0



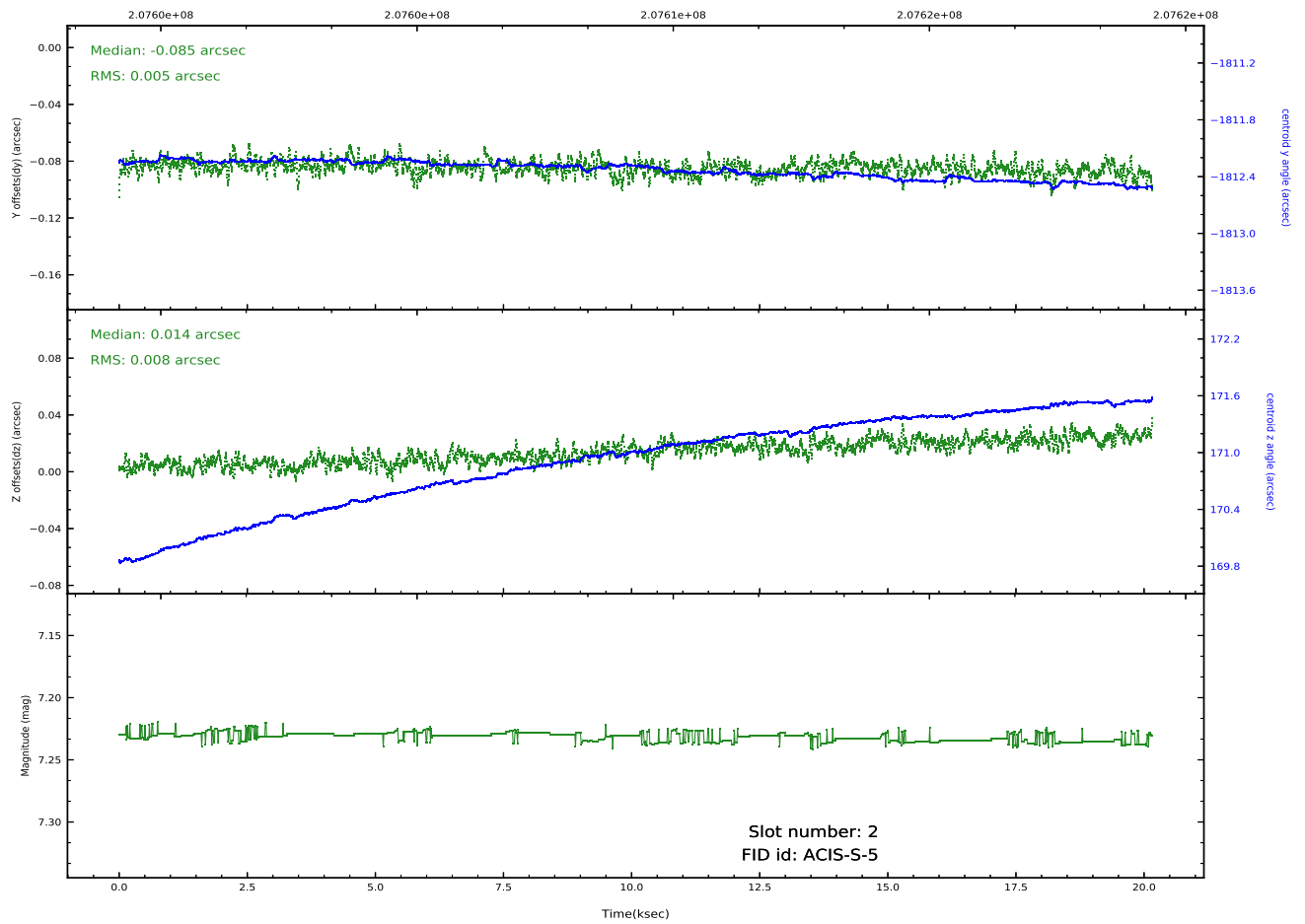
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

|                            |               |
|----------------------------|---------------|
| V&V Scientist              | Beth Sundheim |
| V&V Date (YYYY-MM-DD)      | 2020.09.28    |
| V&V Edition                | 1             |
| V&V Disposition and Status | OK            |
| V&V Charge Time            | 20.16         |

## A.2 Comments