

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20967 - L2 Version 2
Chandra X-Ray Center

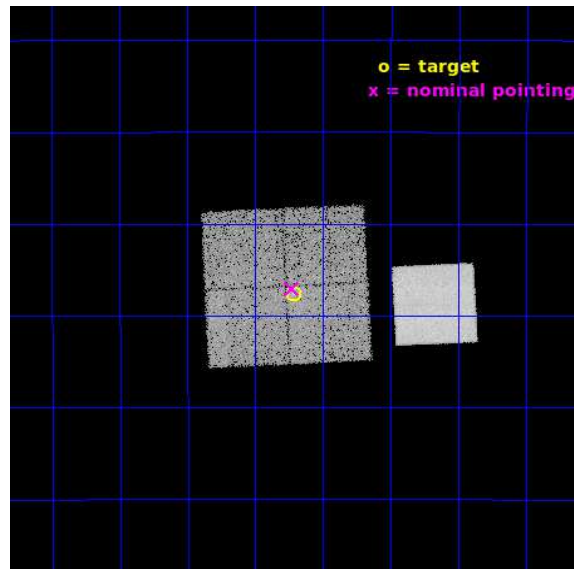
L2 Processing Date : Oct 24 2020

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1 Front

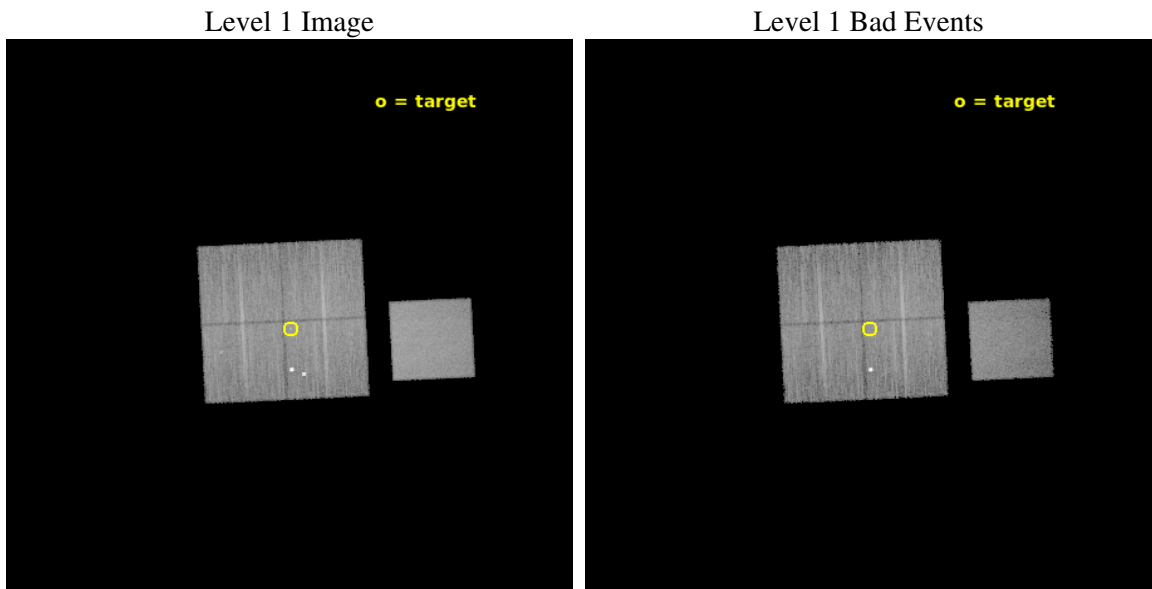
| | | |
|----------|---|---|
| seq_num | 503020 | Sequence number |
| obs_id | 20967 | Observation id |
| title | The wagging jet and the X-ray plerion of PSR J1809-1917 | Proposal t |
| observer | George Pavlov | Principal investigator |
| object | PSR J1809-1917 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 272.429583 | Observer's specified target RA [deg] |
| dec_targ | -19.293917 | Observer's specified target Dec [deg] |
| ra_nom | 272.43246532752 | Nominal RA [deg] |
| dec_nom | -19.284445411001 | Nominal Dec [deg] |
| roll_nom | 87.200907955758 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 15250.593087792 | Sum of GTIs [s] |
| livetime | 15051.332861777 | Livetime [s] |
| ontime0 | 15253.610868692 | Sum of GTIs [s] |
| ontime1 | 15253.651908755 | Sum of GTIs [s] |
| ontime2 | 15253.692948699 | Sum of GTIs [s] |
| ontime3 | 15250.593087792 | Sum of GTIs [s] |
| ontime7 | 15253.775028706 | Sum of GTIs [s] |
| l2events | 108775 | Number of level 2 events |



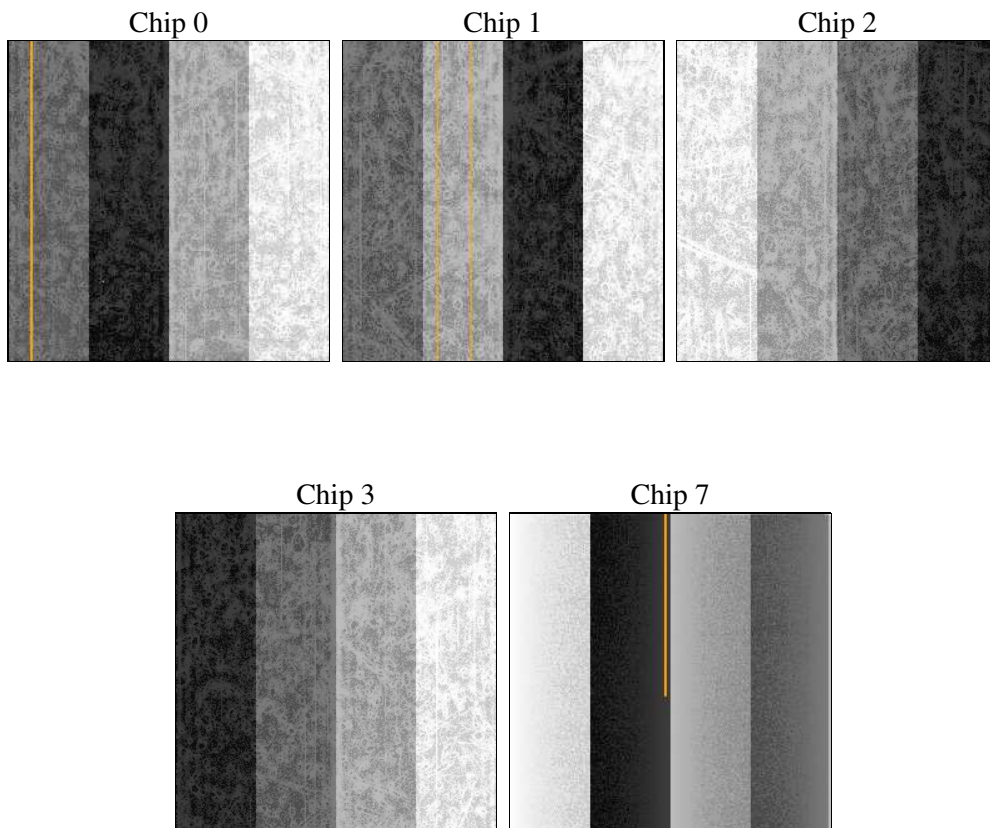
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 15200.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.2 | Processing system revision | ontime | 15250.593087792 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime0 | 15253.610868692 | Sum of GTIs [s] |
| date | 2020-10-24T16:07:14 | Date and time of file creation | ontime1 | 15253.651908755 | Sum of GTIs [s] |
| revision | 2 | Processing version of data | ontime2 | 15253.692948699 | Sum of GTIs [s] |
| | | | ontime3 | 15250.593087792 | Sum of GTIs [s] |
| | | | ontime7 | 15253.775028706 | Sum of GTIs [s] |
| | | | l1events | 608503 | Number of level 1 events |

2.1.4 Events

| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events | 107875 | 110590 | 119062 | 125679 | 145297 |
| rejected events | 94223 | 94790 | 105979 | 105882 | 82153 |
| rejected % | 87% | 85% | 89% | 84% | 56% |

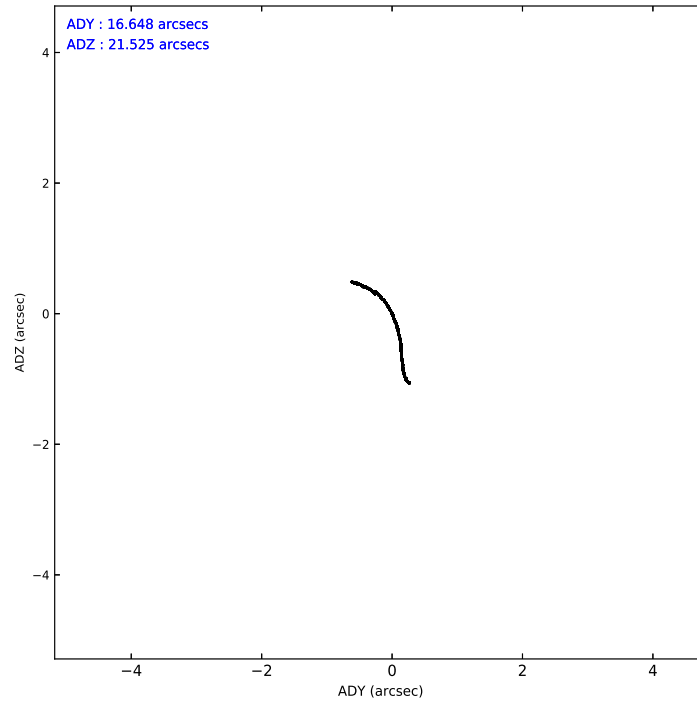
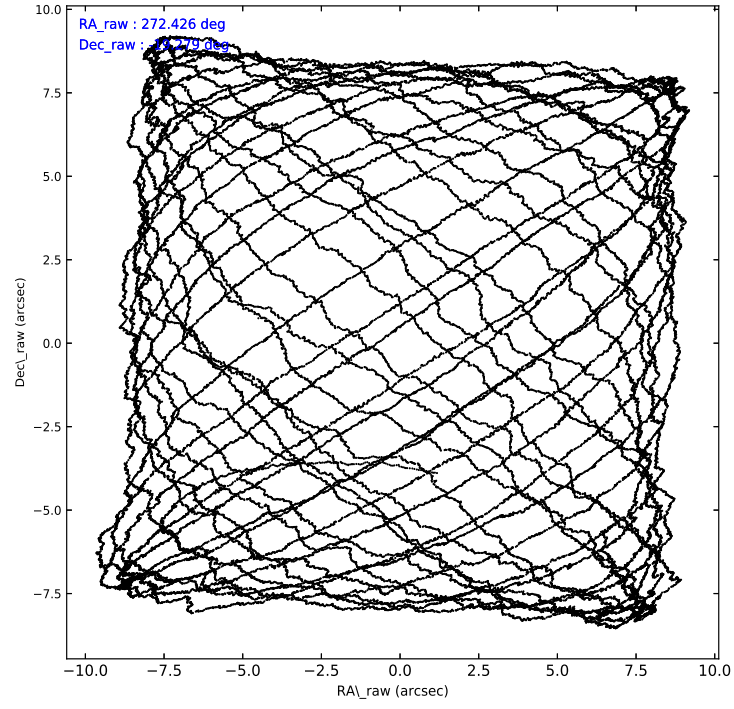
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 7 |
|----------------|-------|-------|--------|-------|-------|
| grade 0 events | 5142 | 6045 | 5287 | 11639 | 5419 |
| | 4% | 5% | 4% | 9% | 3% |
| grade 1 events | 67 | 48 | 70 | 6020 | 190 |
| | 0% | 0% | 0% | 4% | 0% |
| grade 2 events | 3241 | 3881 | 3025 | 2877 | 13150 |
| | 3% | 3% | 2% | 2% | 9% |
| grade 3 events | 1301 | 1370 | 1203 | 1306 | 5279 |
| | 1% | 1% | 1% | 1% | 3% |
| grade 4 events | 1250 | 1273 | 1255 | 1344 | 5058 |
| | 1% | 1% | 1% | 1% | 3% |
| grade 5 events | 4581 | 4786 | 4221 | 5355 | 14131 |
| | 4% | 4% | 3% | 4% | 9% |
| grade 6 events | 2723 | 3246 | 2317 | 2641 | 34265 |
| | 2% | 2% | 1% | 2% | 23% |
| grade 7 events | 89570 | 89941 | 101684 | 94497 | 67805 |
| | 83% | 81% | 85% | 75% | 46% |

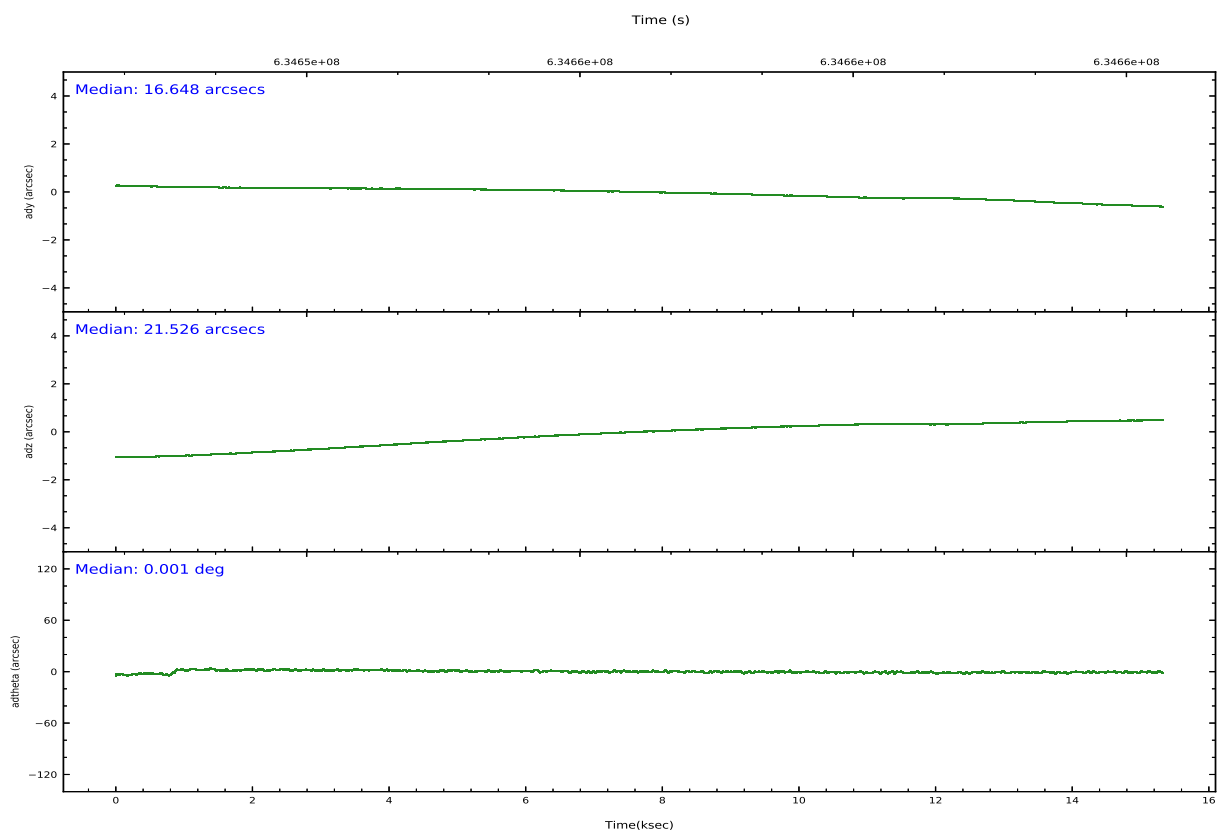
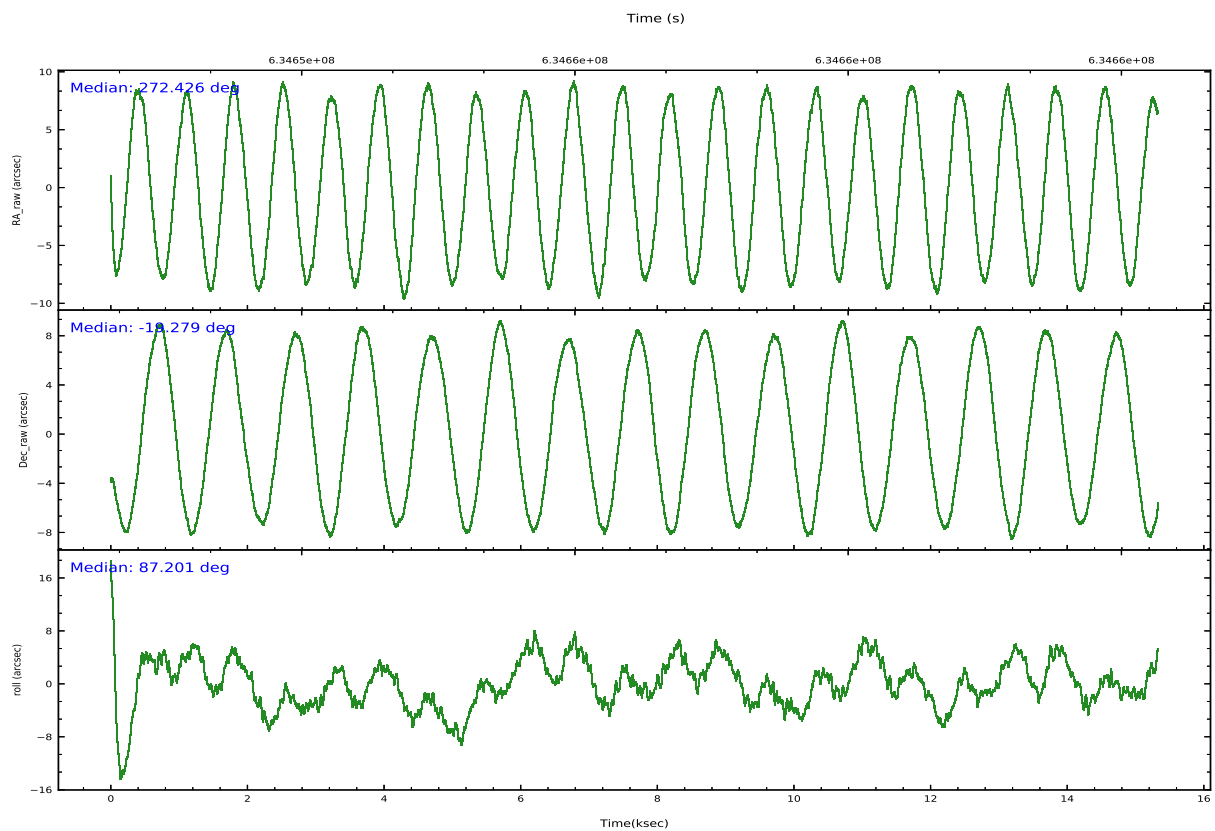
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-01237 | ACIS-01237 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 272.439631 | 272.43246532752 |
| [deg] Pointing Dec | -19.303852 | -19.284445411001 |
| [deg] Pointing Roll | 87.003321 | 87.200907955758 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 |
| [mm] SIM defocus | 0 | 0.001439871863259334 |
| [mm] SIM translation stage pos | -233.007463 | -233.0041133108668 |
| [mm] SIM translation stage offset | -0.585 | -0.5883396920629309 |
| [s] Observation start time (MET) | 634649337.184000 | 634648029.0328 |
| Observation start date | 2018-02-10T11:27:48 | 2018-02-10T11:07:09 |
| [s] Observation end time (MET) | 634664537.184000 | 634665602.6588399 |
| Observation end date | 2018-02-10T15:41:08 | 2018-02-10T16:00:02 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar version number | 8 | 8 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| CCD I0 on | Y | Y |
| CCD I1 on | Y | Y |
| CCD I2 on | Y | Y |
| CCD I3 on | Y | Y |
| CCD S0 on | N | N |
| CCD S1 on | N | N |
| CCD S2 on | N | N |
| CCD S3 on | O1 | Y |
| CCD S4 on | N | N |
| CCD S5 on | N | N |
| Number of optional ACIS chips dropped | 0 | 0 |
| On-chip summing requested | N | N |
| Subarray requested | NONE | NONE |
| Alternating exposures requested | N | N |
| [s] Primary exposure time | 0.000000 | 3.1 |

2.3 Aspect



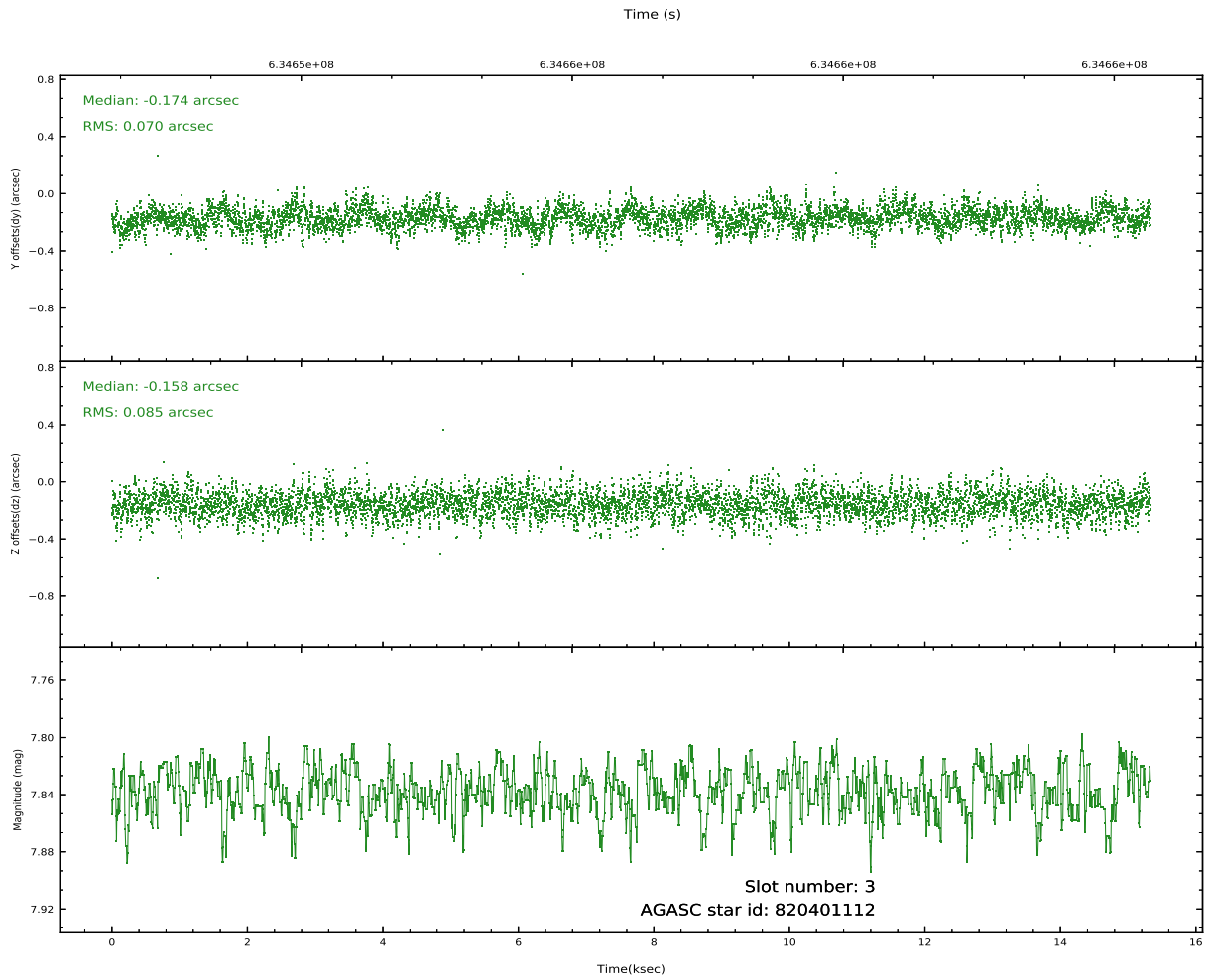
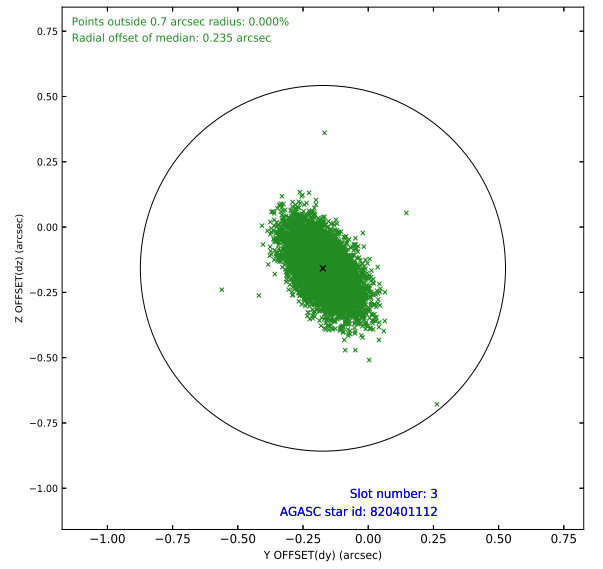
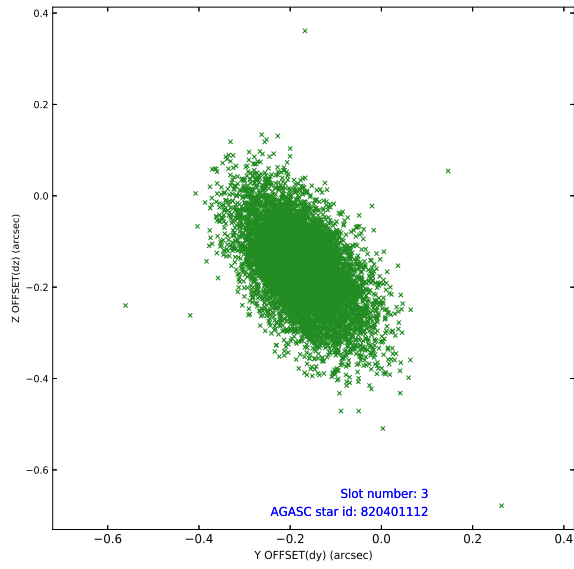


Slot Statistics

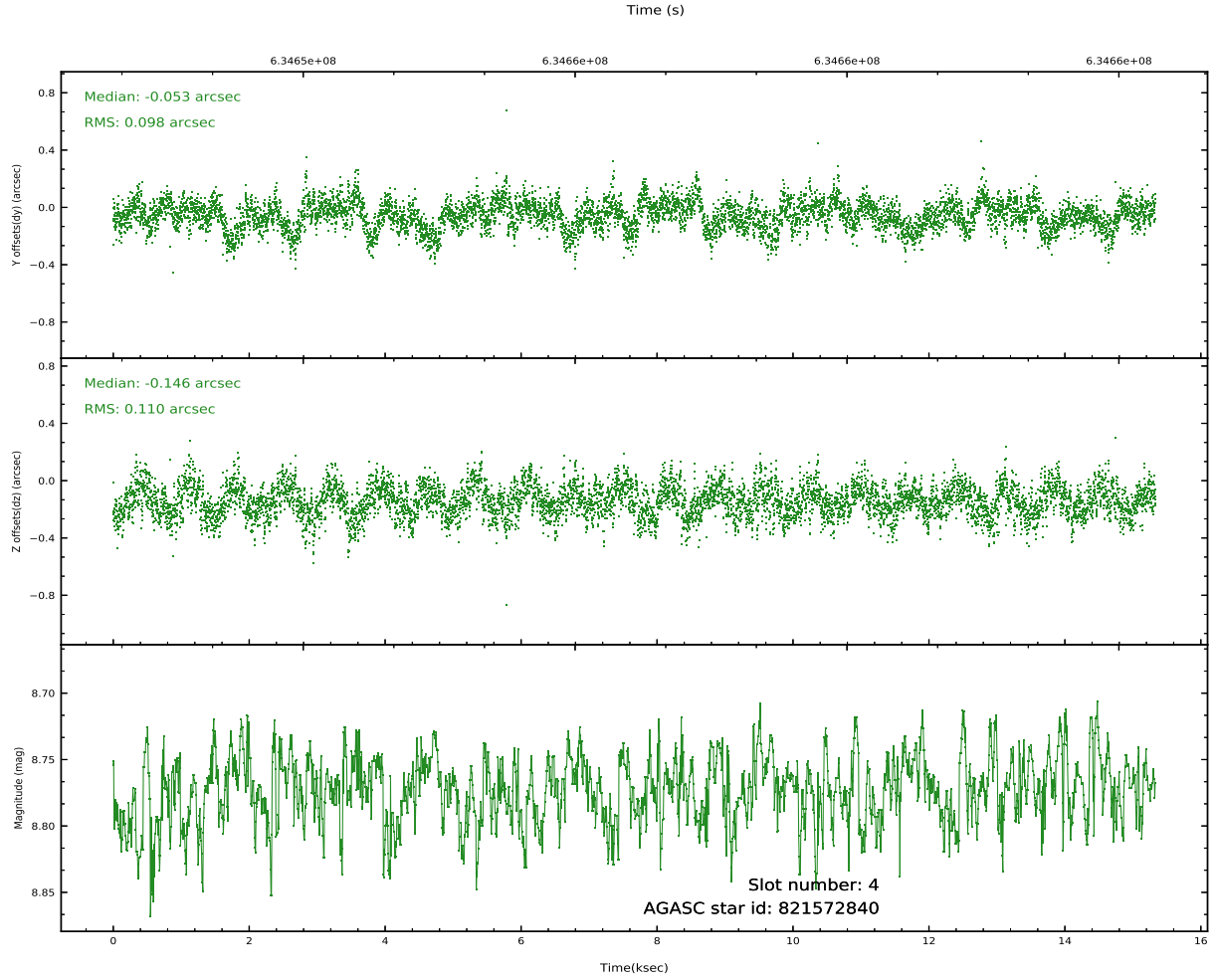
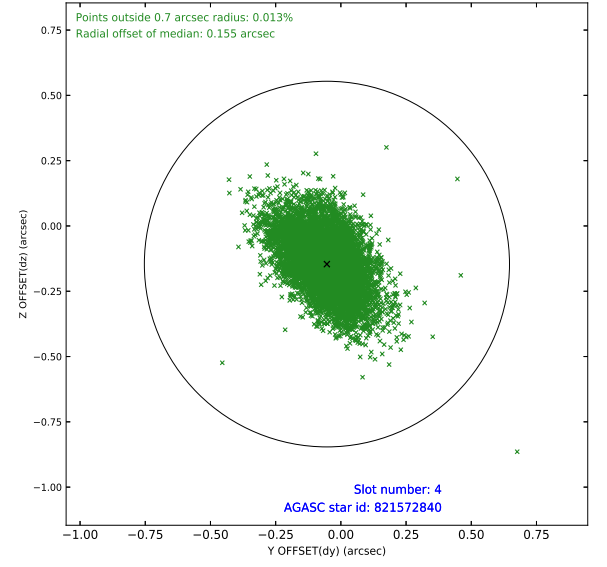
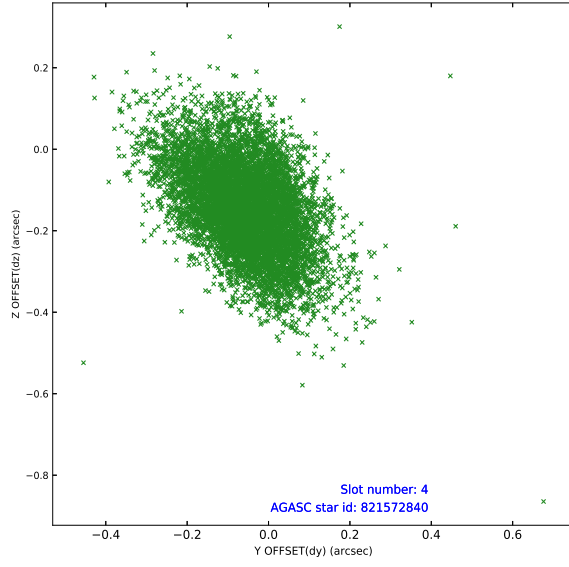
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|------------|----------|------|
| 0 | FID | | ACIS-I-1 | 7.20 | 3740 | 1.000 | -0.017 | 0.064 | 0.011 | 0.057 | 0.000000 | 0.000000 | 922.75 | -857 |
| 1 | FID | | ACIS-I-4 | 7.16 | 3737 | 1.000 | 0.060 | -0.043 | 0.017 | 0.037 | 0.000000 | 0.000000 | 2143.11 | 1042 |
| 2 | FID | | ACIS-I-6 | 7.21 | 3740 | 1.000 | -0.138 | 0.044 | 0.021 | 0.035 | 0.000000 | 0.000000 | 389.06 | 1685 |
| 3 | GUIDE | used | 820401112 | 7.84 | 7479 | 1.000 | -0.174 | -0.158 | 0.113 | 0.201 | 271.884761 | -19.293988 | -66.17 | 1884 |
| 4 | GUIDE | used | 821572840 | 8.77 | 7476 | 1.000 | -0.053 | -0.146 | 0.153 | 0.262 | 272.287378 | -18.702558 | 2134.31 | 632 |
| 5 | GUIDE | used | 822088160 | 6.46 | 7480 | 1.000 | -0.153 | 0.266 | 0.113 | 0.205 | 272.729284 | -18.869551 | 1612.64 | -902 |
| 6 | GUIDE | used | 822098736 | 8.44 | 7474 | 1.000 | 0.182 | 0.002 | 0.150 | 0.259 | 272.269355 | -19.875225 | -2084.03 | 468 |
| 7 | GUIDE | used | 822100176 | 8.58 | 7409 | 1.000 | 0.195 | 0.037 | 0.124 | 0.219 | 272.112888 | -19.868886 | -2090.07 | 998 |

2.4 Star Slots

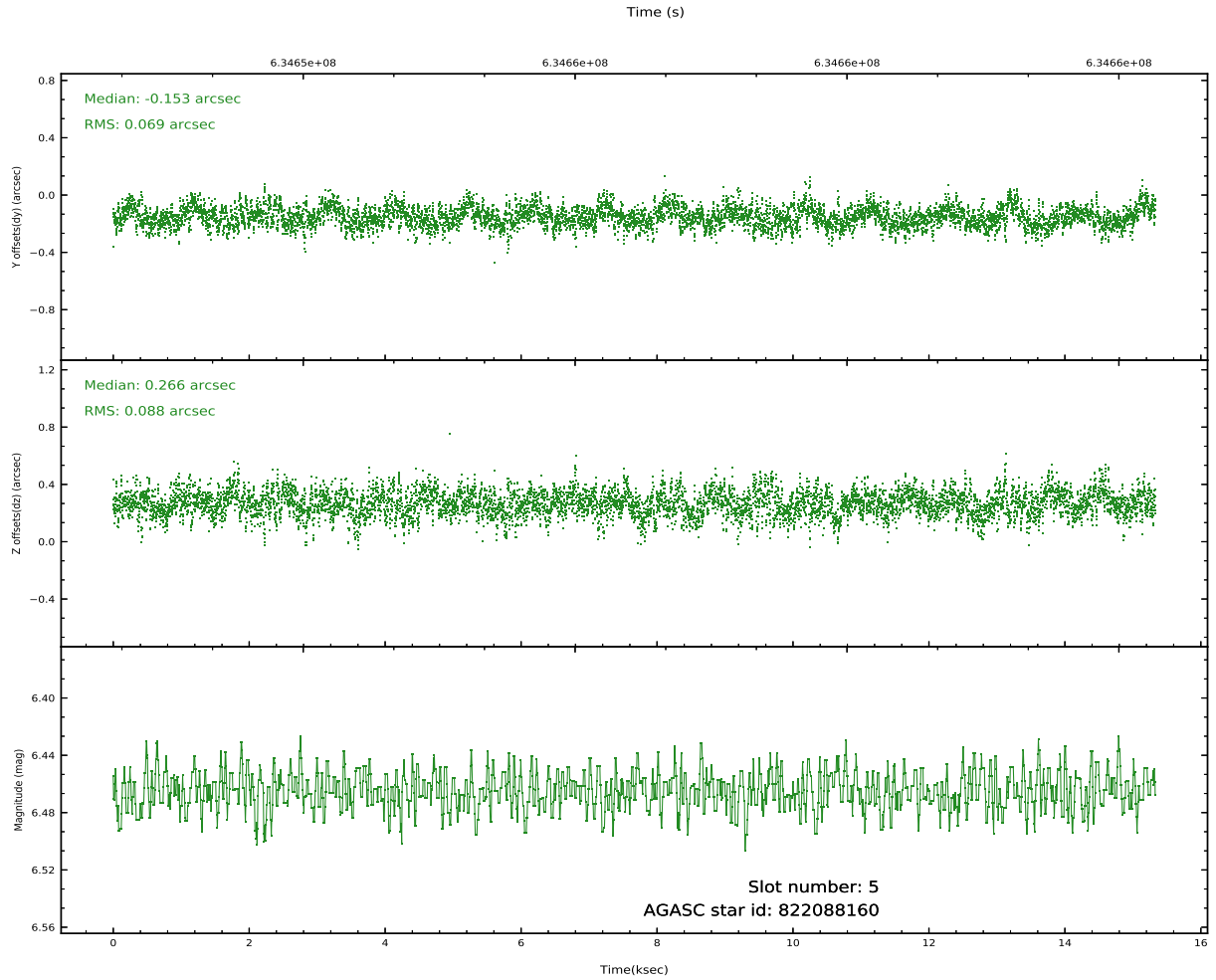
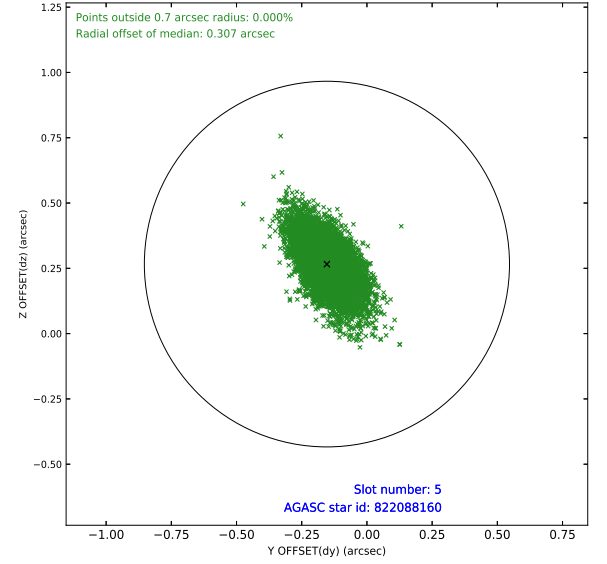
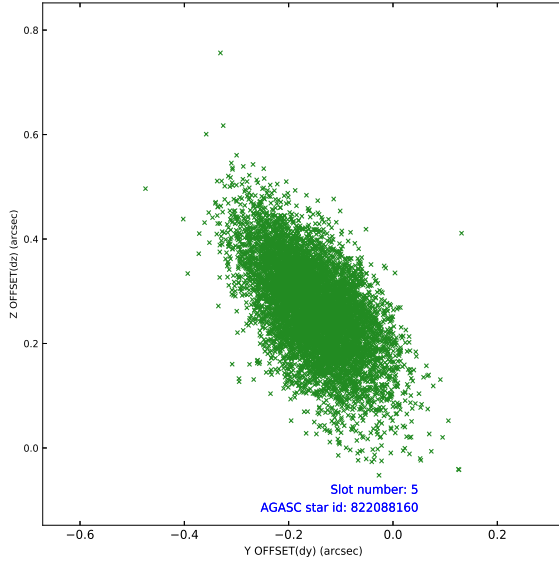
2.4.1 Slot 3



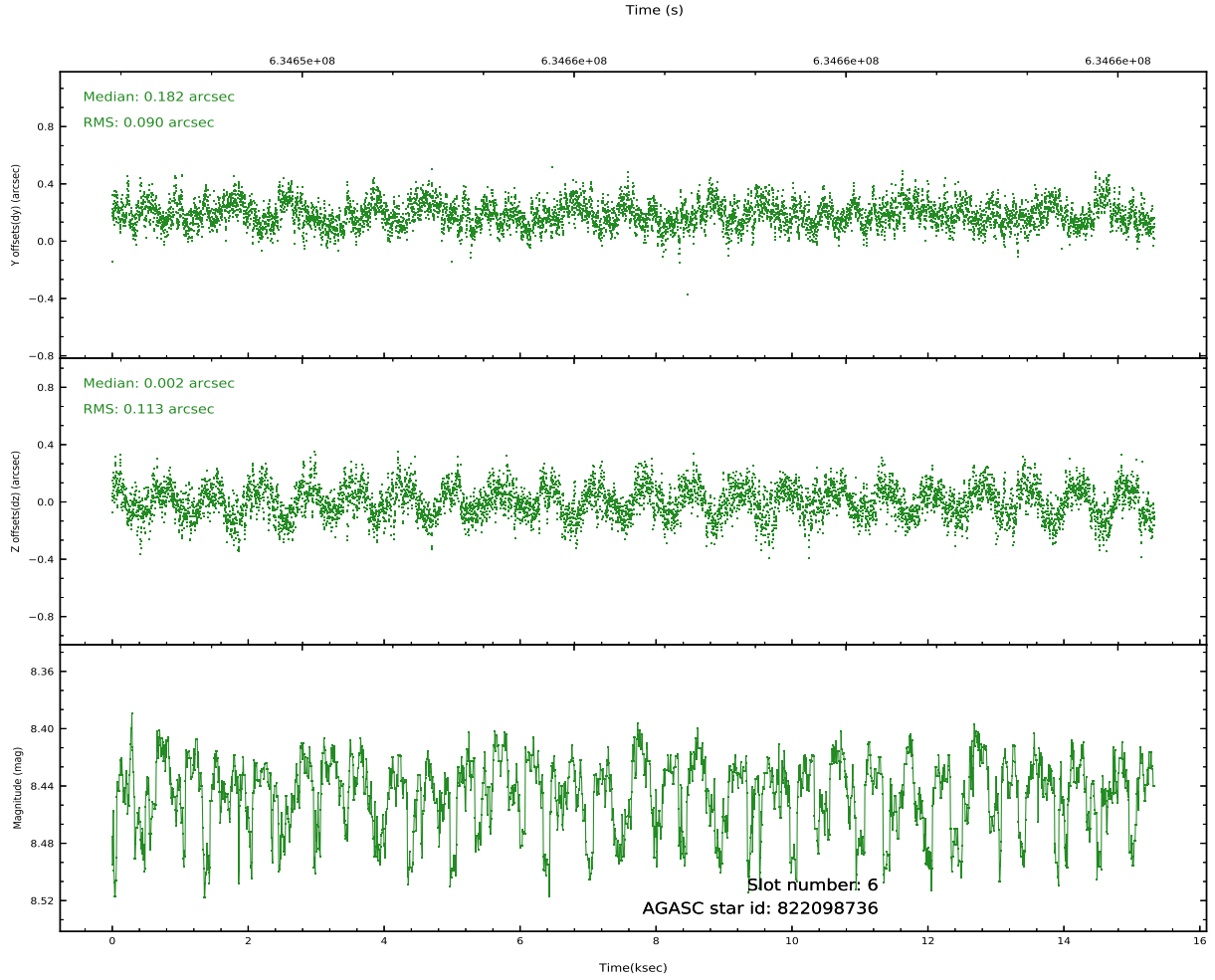
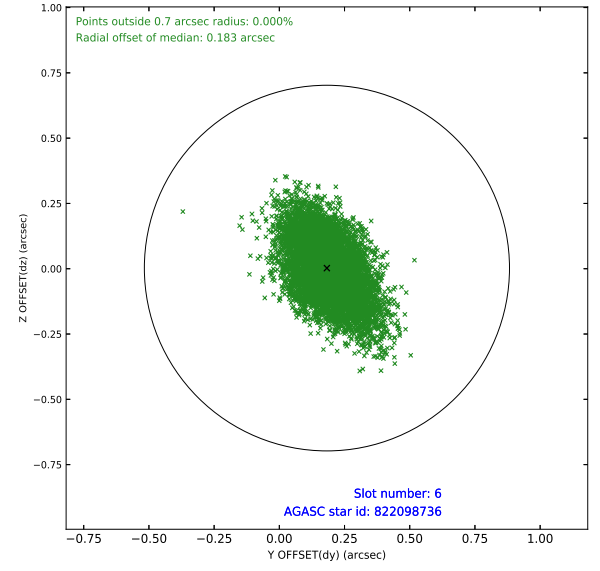
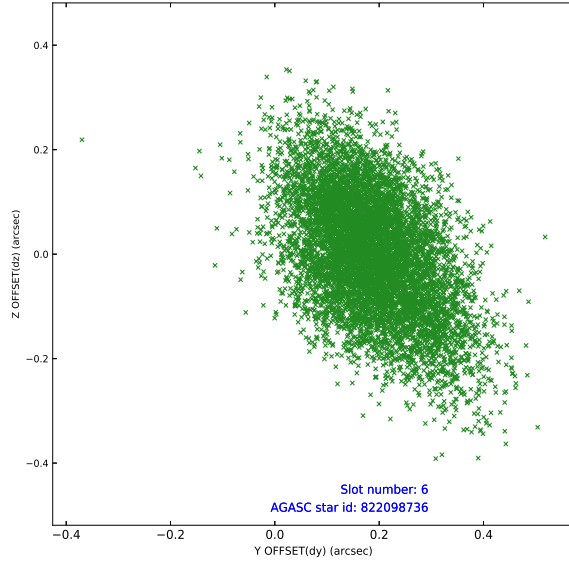
2.4.2 Slot 4



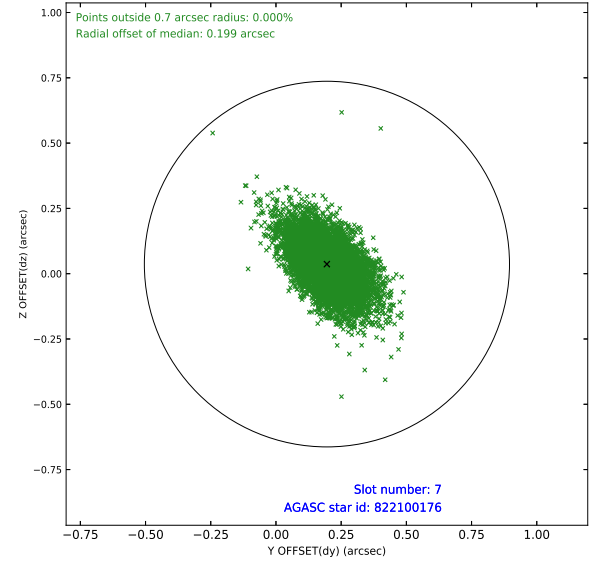
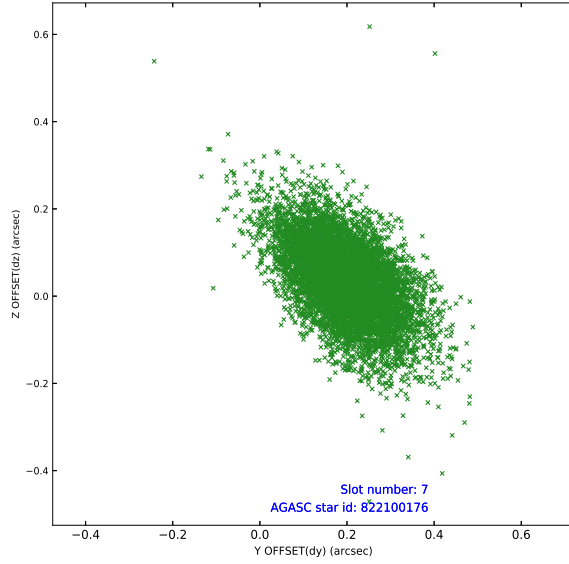
2.4.3 Slot 5



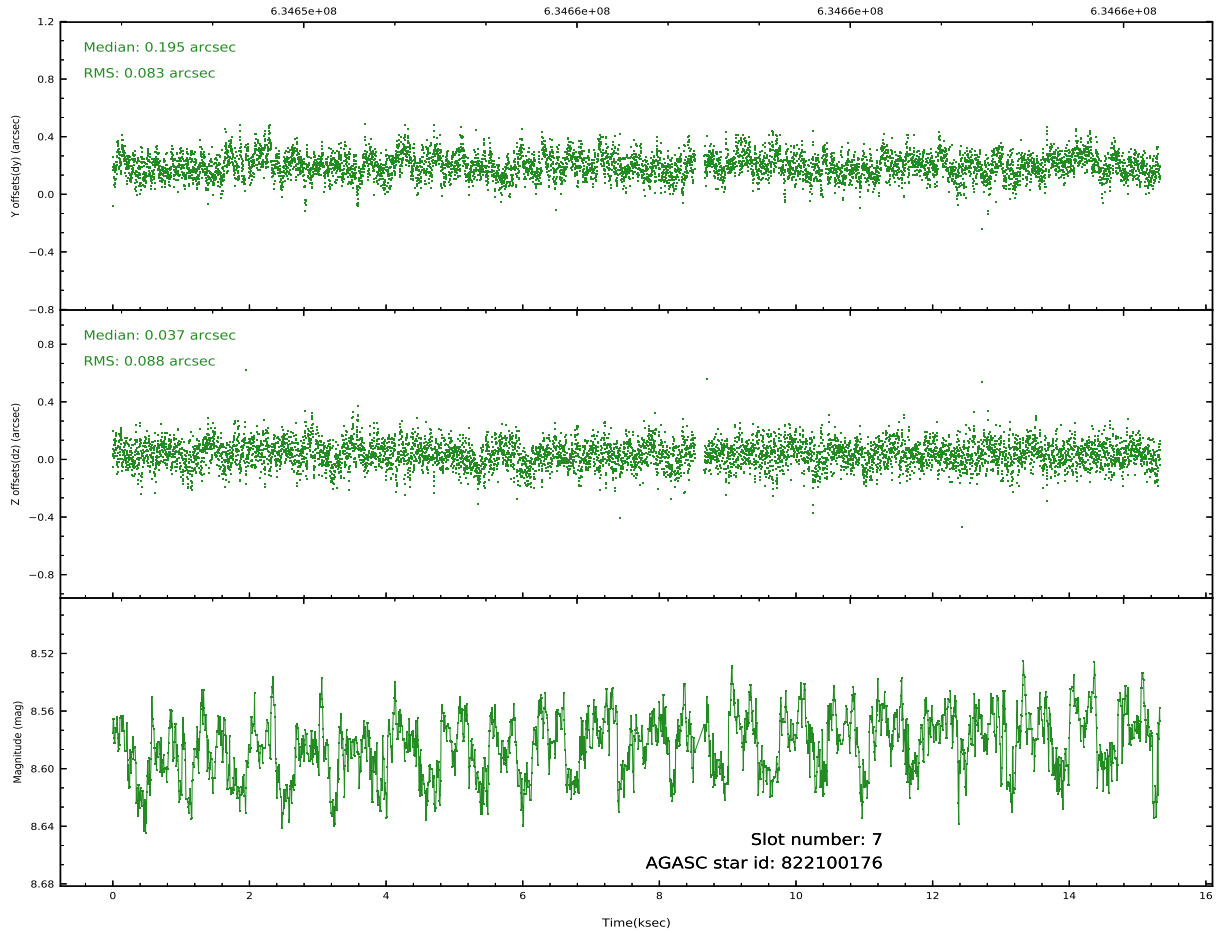
2.4.4 Slot 6



2.4.5 Slot 7

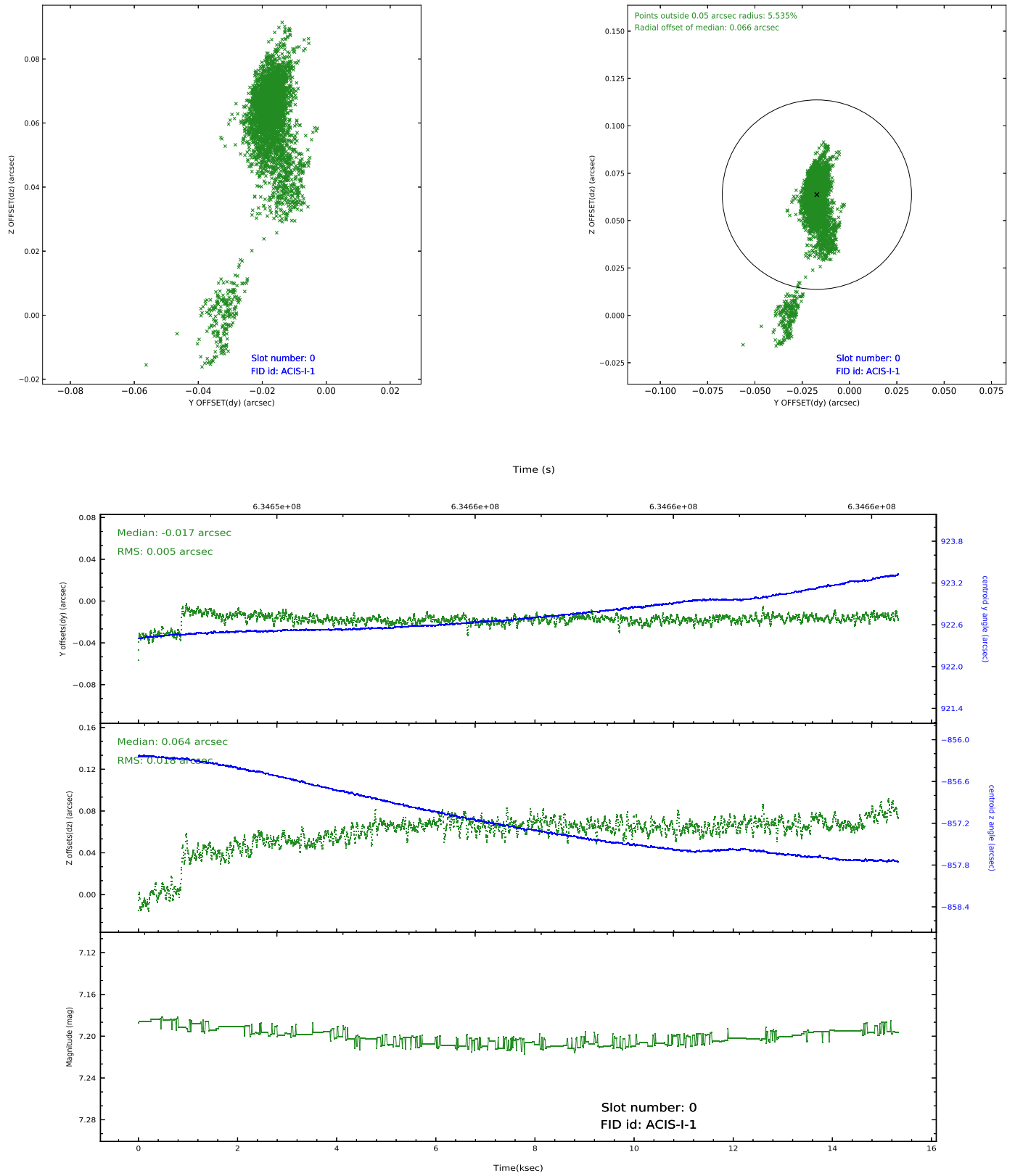


Time (s)

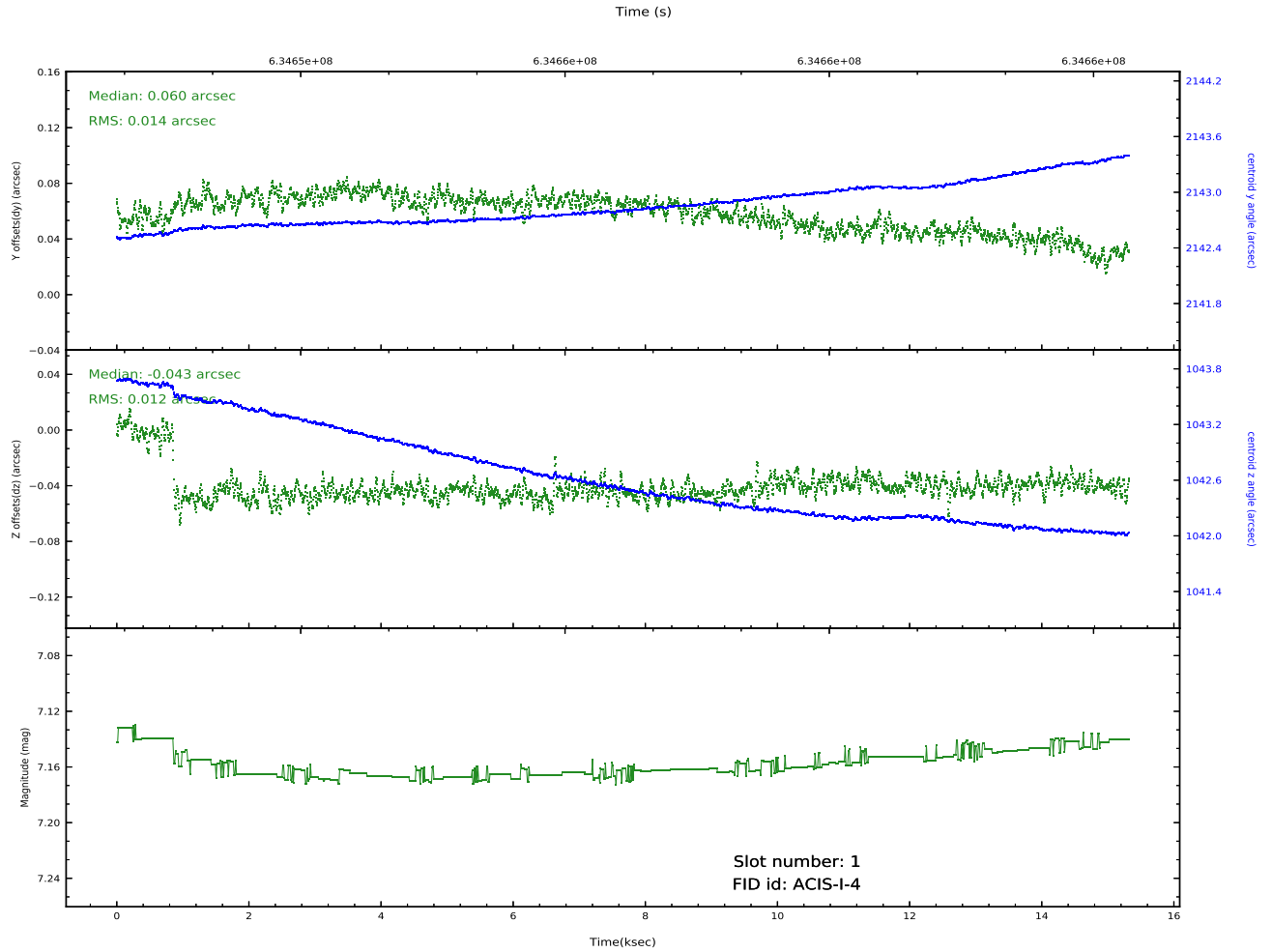
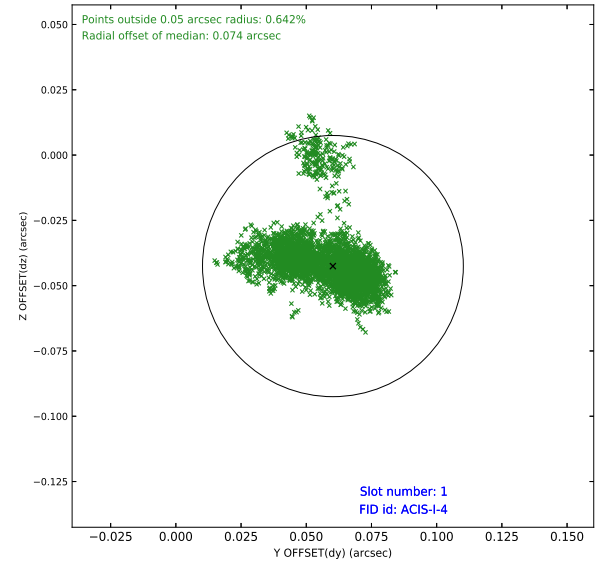
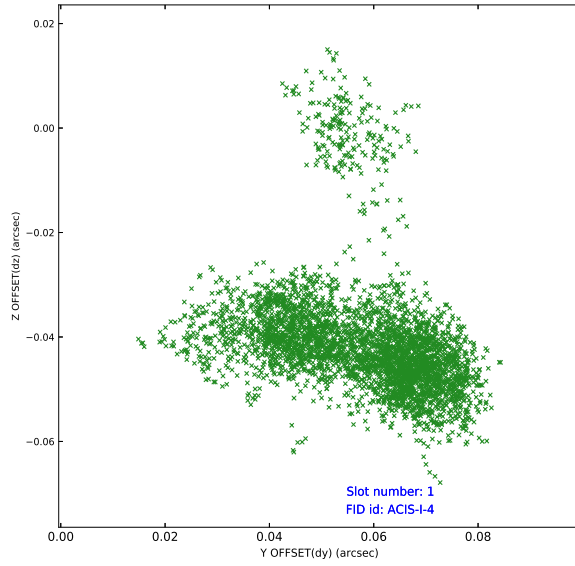


2.5 FID Slots

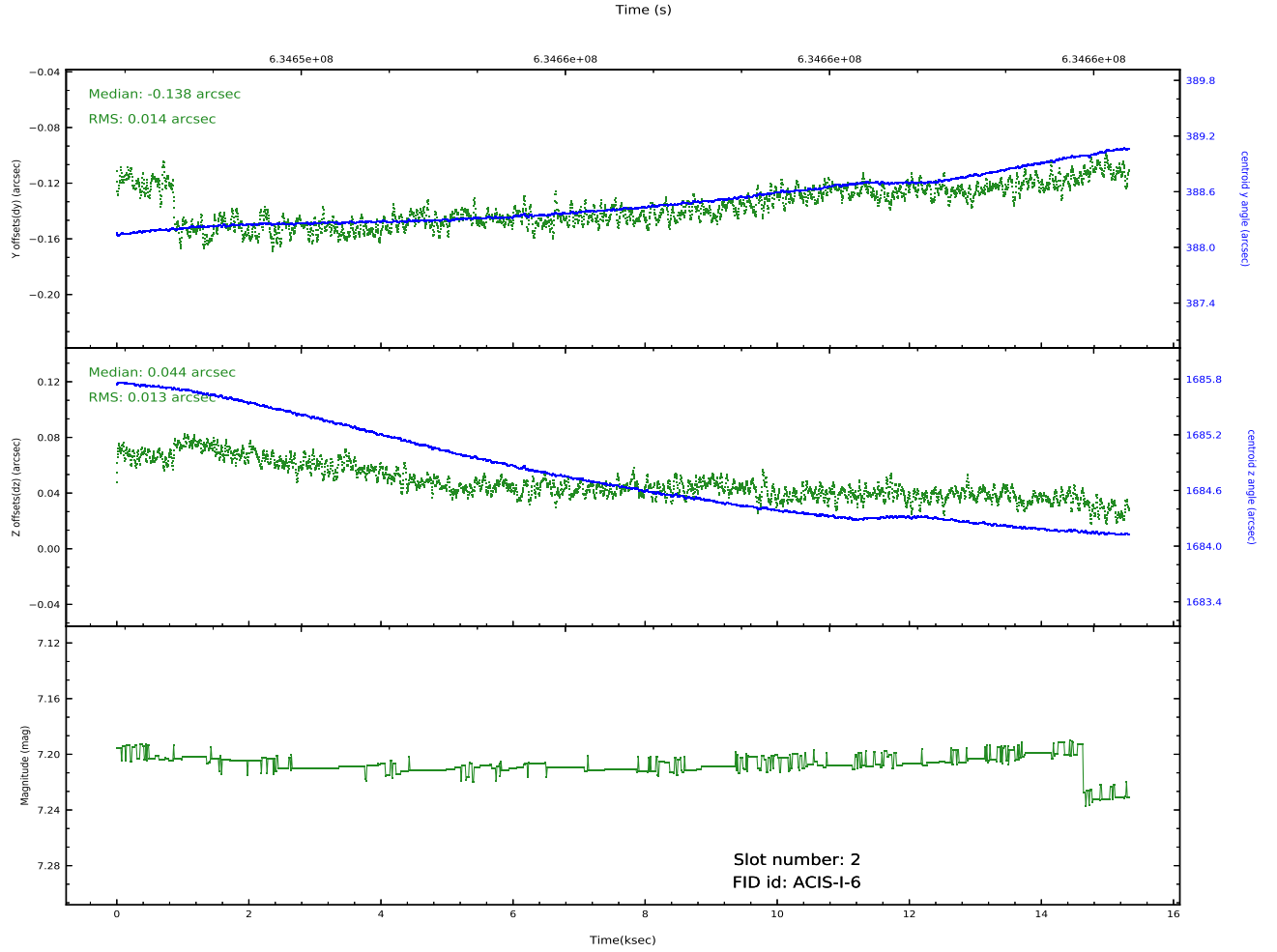
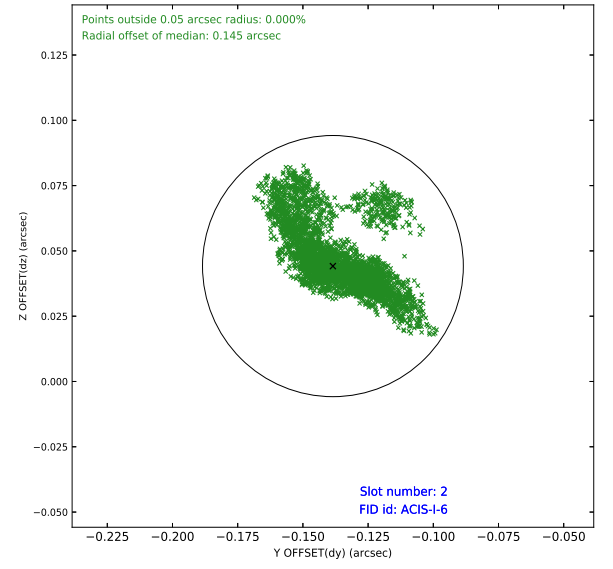
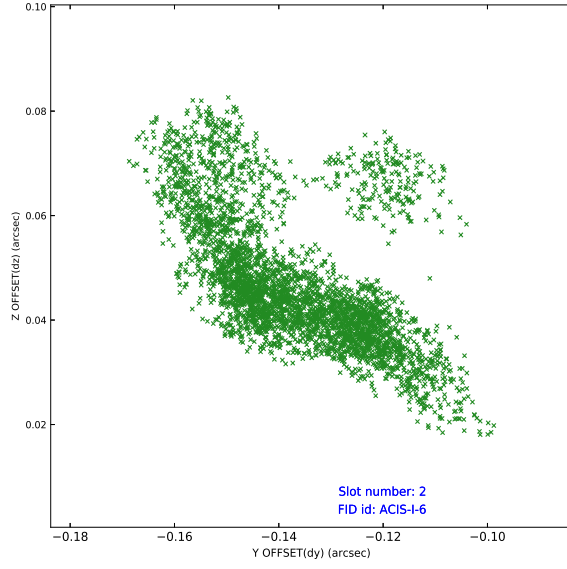
2.5.1 Slot 0



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) | 2020.10.28 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 15.250593089223 |

A.2 Comments