

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6225 - L2 Version 4
Chandra X-Ray Center

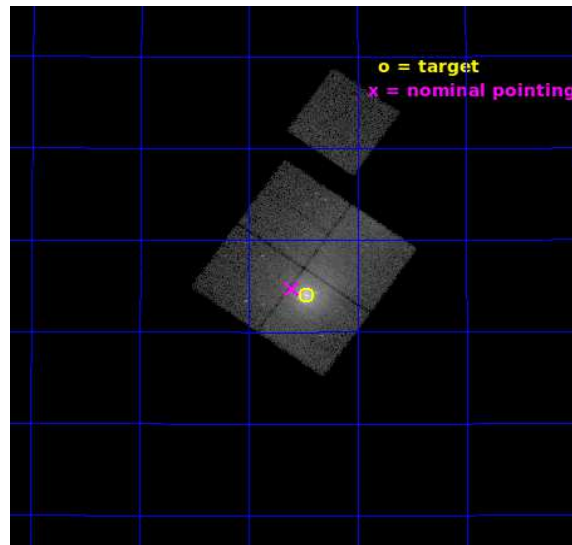
L2 Processing Date : Oct 6 2020

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1 Front

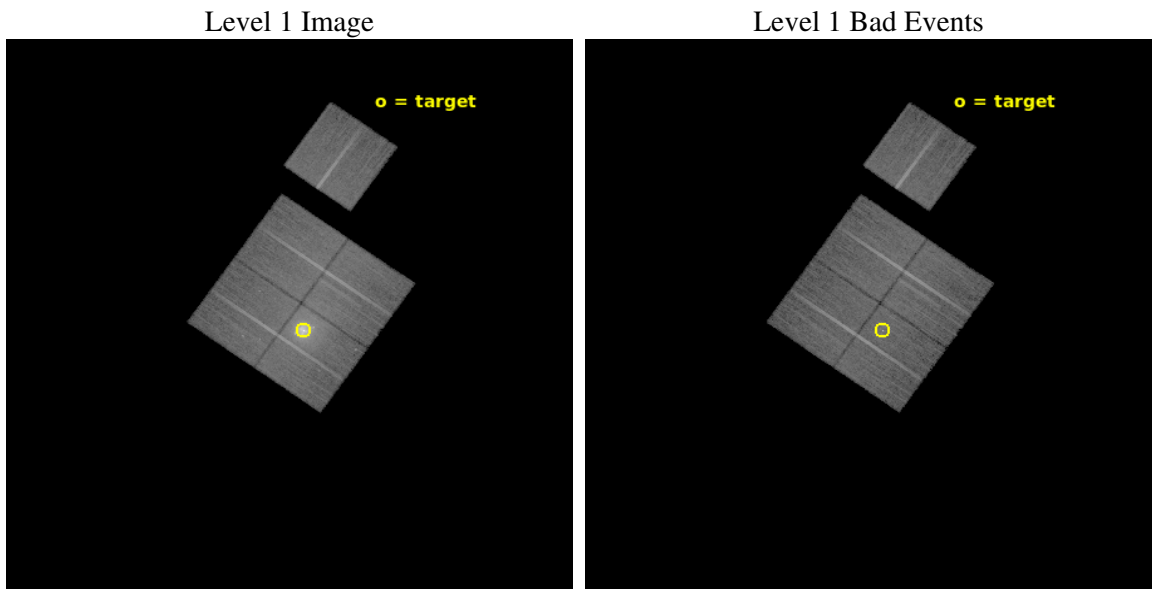
| | | |
|----------|--|---|
| seq_num | 800540 | Sequence number |
| obs_id | 6225 | Observation id |
| title | Cygnus A --- Shock Heating of the Intra-Cluster Medium | Proposal ti |
| observer | Andrew Young | Principal investigator |
| object | Cygnus A | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 299.867917 | Observer's specified target RA [deg] |
| dec_targ | 40.733889 | Observer's specified target Dec [deg] |
| ra_nom | 299.90107874505 | Nominal RA [deg] |
| dec_nom | 40.745431018502 | Nominal Dec [deg] |
| roll_nom | 35.184186160064 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 24629.37705183 | Sum of GTIs [s] |
| livetime | 24307.576108765 | Livetime [s] |
| ontime0 | 24635.658982366 | Sum of GTIs [s] |
| ontime1 | 24629.37705183 | Sum of GTIs [s] |
| ontime2 | 24638.799952596 | Sum of GTIs [s] |
| ontime3 | 24635.658962429 | Sum of GTIs [s] |
| ontime6 | 24632.518002182 | Sum of GTIs [s] |
| l2events | 223650 | Number of level 2 events |



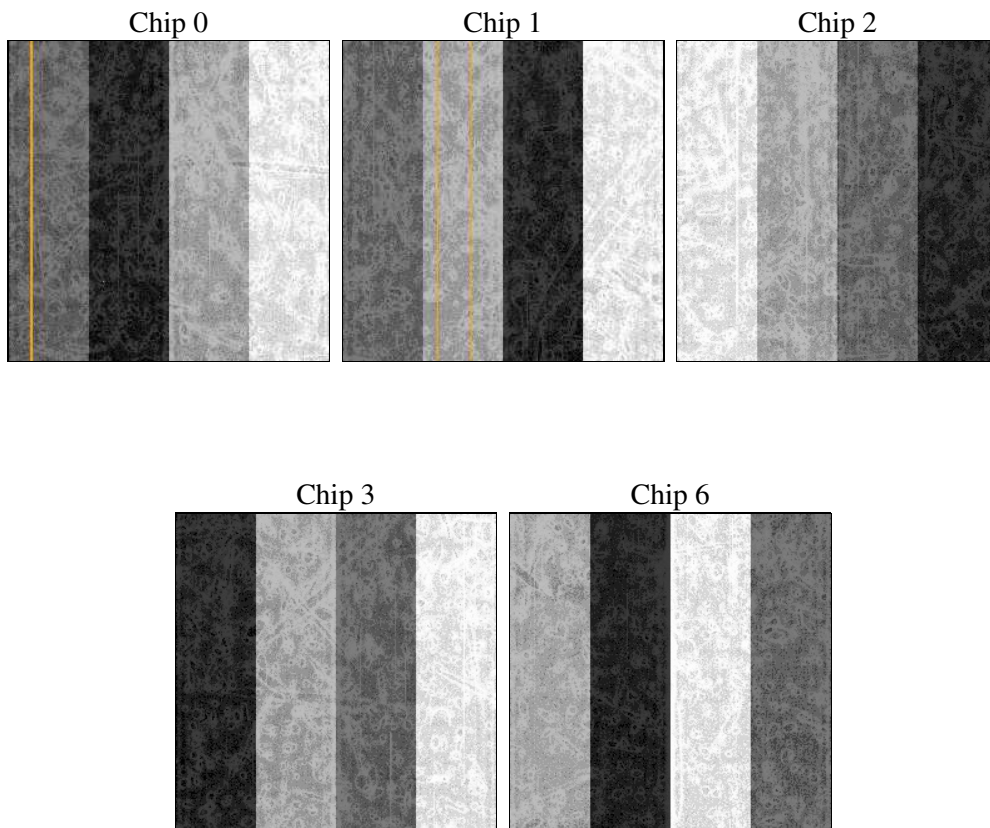
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 24500.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 24629.37705183 | Sum of GTIs [s] |
| caldbver | 4.9.2 | | ontime0 | 24635.658982366 | Sum of GTIs [s] |
| date | 2020-10-06T21:33:01 | Date and time of file creation | ontime1 | 24629.37705183 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime2 | 24638.799952596 | Sum of GTIs [s] |
| | | | ontime3 | 24635.658962429 | Sum of GTIs [s] |
| | | | ontime6 | 24632.518002182 | Sum of GTIs [s] |
| | | | l1events | 963353 | Number of level 1 events |

2.1.4 Events

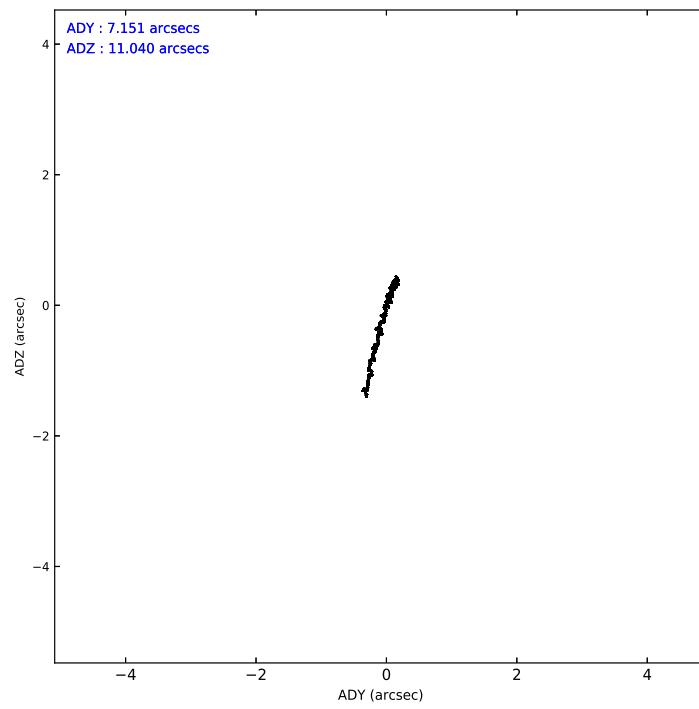
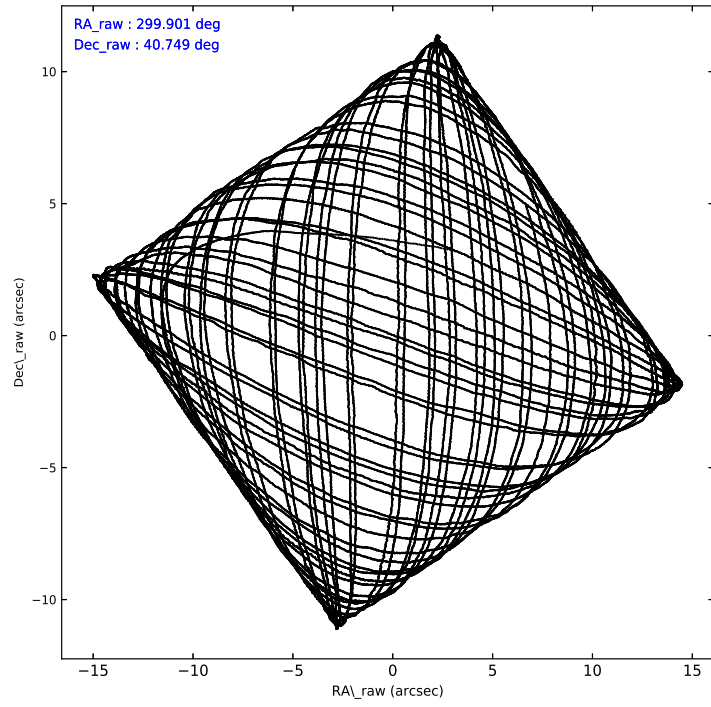
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events | 163853 | 269308 | 180486 | 188058 | 161648 |
| rejected events | 134346 | 140310 | 151509 | 146274 | 144619 |
| rejected % | 81% | 52% | 83% | 77% | 89% |

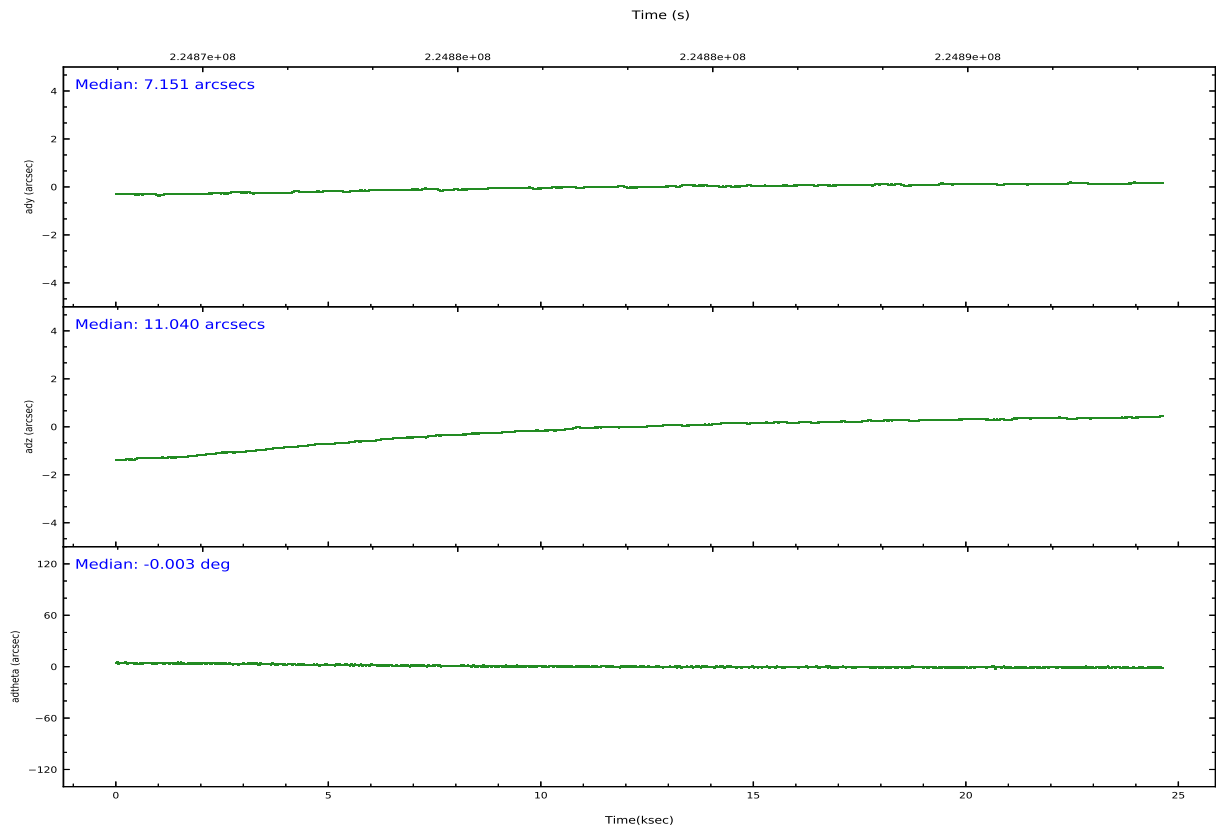
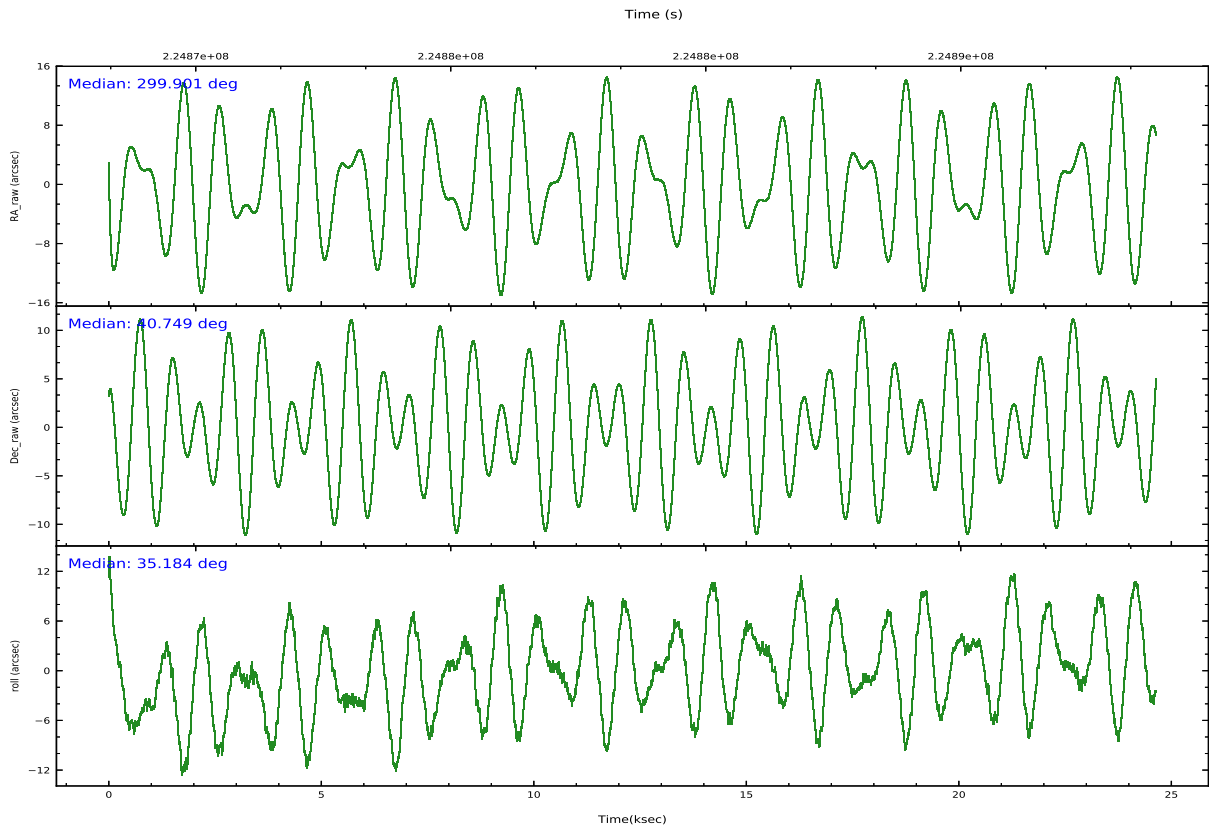
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|--------|--------|--------|--------|--------|
| grade 0 events | 17150 | 94369 | 16997 | 27555 | 7103 |
| | 10% | 35% | 9% | 14% | 4% |
| grade 1 events | 146 | 822 | 144 | 228 | 77 |
| | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 5386 | 16776 | 5269 | 6229 | 3637 |
| | 3% | 6% | 2% | 3% | 2% |
| grade 3 events | 2311 | 5810 | 2172 | 2625 | 1812 |
| | 1% | 2% | 1% | 1% | 1% |
| grade 4 events | 2219 | 5904 | 2197 | 2598 | 1879 |
| | 1% | 2% | 1% | 1% | 1% |
| grade 5 events | 5850 | 6928 | 5419 | 6450 | 6232 |
| | 3% | 2% | 3% | 3% | 3% |
| grade 6 events | 3690 | 8020 | 3428 | 3820 | 3587 |
| | 2% | 2% | 1% | 2% | 2% |
| grade 7 events | 127101 | 130679 | 144860 | 138553 | 137321 |
| | 77% | 48% | 80% | 73% | 84% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-01236 | ACIS-01236 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | VFAINT | VFAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 299.885900 | 299.90107874505 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 40.724309 | 40.745431018502 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 34.988265 | 35.184186160064 | [s] Primary exposure time | 0.000000 | 3.1 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | | | |
| [mm] SIM defocus | 0 | 0.001439871863259334 | | | |
| [mm] SIM translation stage pos | -242.392463 | -242.3975952774949 | | | |
| [mm] SIM translation stage offset | 8.800000000000001 | 8.805142274565242 | | | |
| [s] Observation start time (MET) | 224870098.184000 | 224868369.39007 | | | |
| Observation start date | 2005-02-15T15:53:54 | 2005-02-15T15:26:09 | | | |
| [s] Observation end time (MET) | 224894598.184000 | 224895271.54129 | | | |
| Observation end date | 2005-02-15T22:42:14 | 2005-02-15T22:54:31 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect





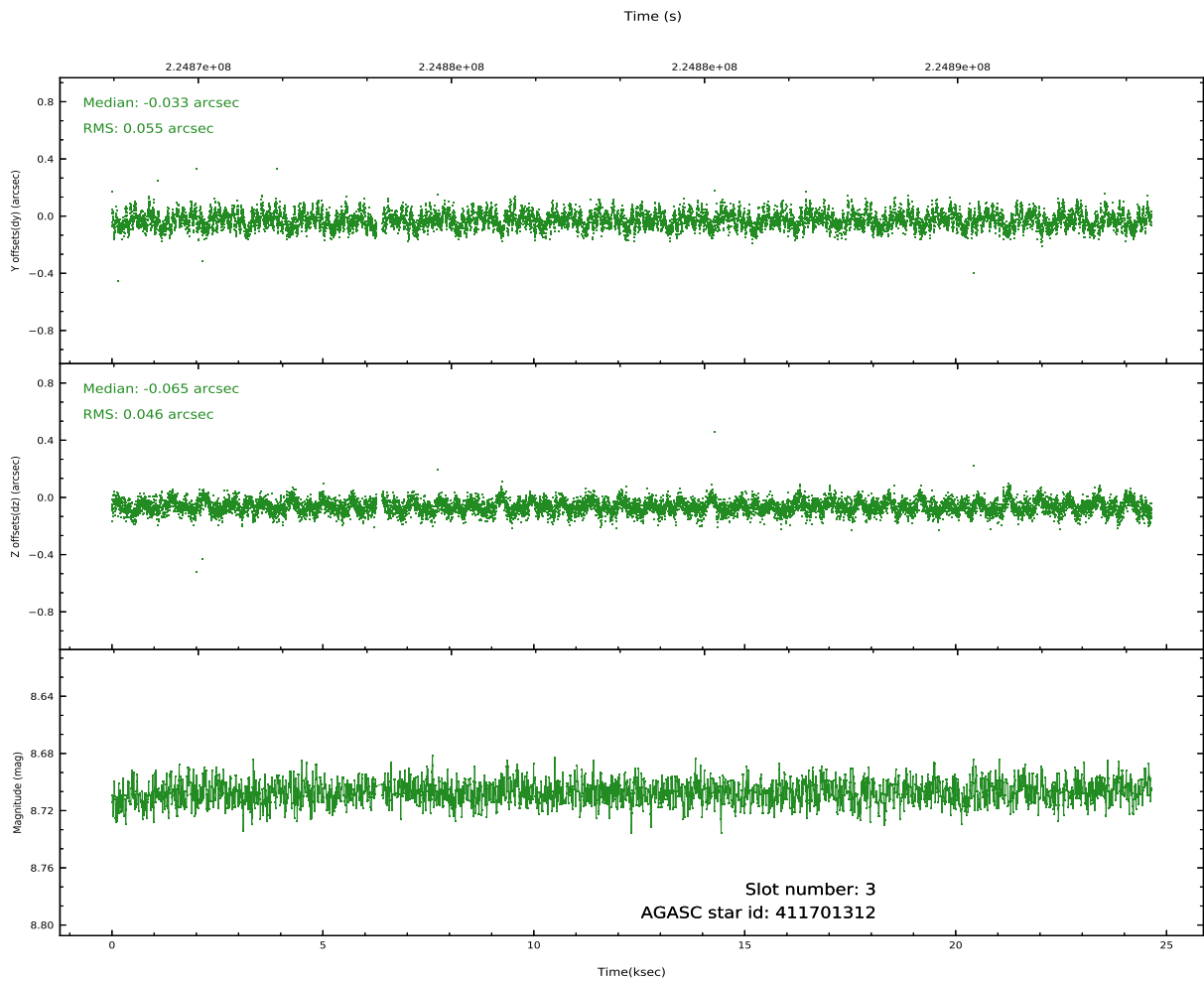
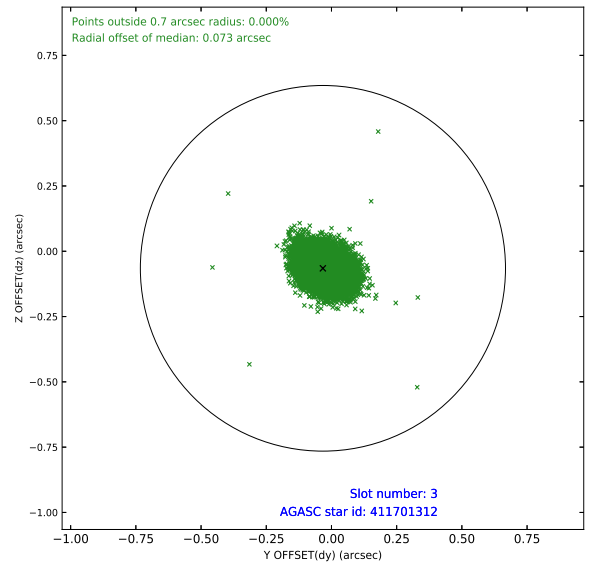
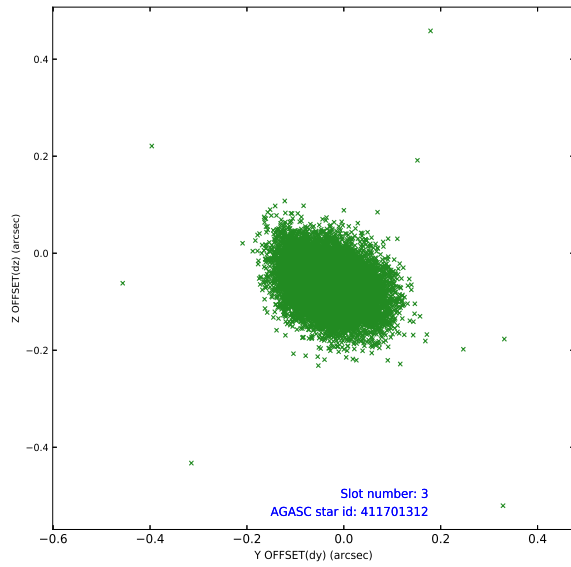
Slot Statistics

| slot | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_x |
|------|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|--------|
| 0 | FID | | ACIS-I-1 | 7.28 | 6010 | 1.000 | -0.039 | 0.092 | 0.012 | 0.052 | 0.000000 | 0.000000 | 932.70 | -653 |
| 1 | FID | | ACIS-I-5 | 7.24 | 6011 | 1.000 | -0.138 | 0.001 | 0.009 | 0.018 | 0.000000 | 0.000000 | -1815.47 | 1244 |
| 2 | FID | | ACIS-I-6 | 7.24 | 6010 | 1.000 | 0.084 | -0.022 | 0.011 | 0.041 | 0.000000 | 0.000000 | 398.19 | 1888 |
| 3 | GUIDE | used | 411701312 | 8.71 | 11955 | 1.000 | -0.033 | -0.065 | 0.075 | 0.123 | 298.889956 | 40.820220 | -2016.00 | 1851 |
| 4 | GUIDE | used | 411707968 | 7.24 | 12021 | 1.000 | 0.021 | 0.012 | 0.055 | 0.084 | 299.509933 | 40.926839 | -418.37 | 1185 |
| 5 | GUIDE | used | 413421016 | 8.70 | 12018 | 1.000 | -0.080 | 0.095 | 0.062 | 0.100 | 300.612426 | 40.446254 | 1061.74 | -1954 |
| 6 | GUIDE | used | 413405352 | 8.36 | 12019 | 1.000 | 0.056 | -0.125 | 0.066 | 0.106 | 300.290830 | 41.091941 | 1660.82 | 456 |
| 7 | GUIDE | used | 413421624 | 8.71 | 12017 | 1.000 | 0.031 | 0.084 | 0.058 | 0.094 | 300.399768 | 40.893051 | 1496.91 | -300 |

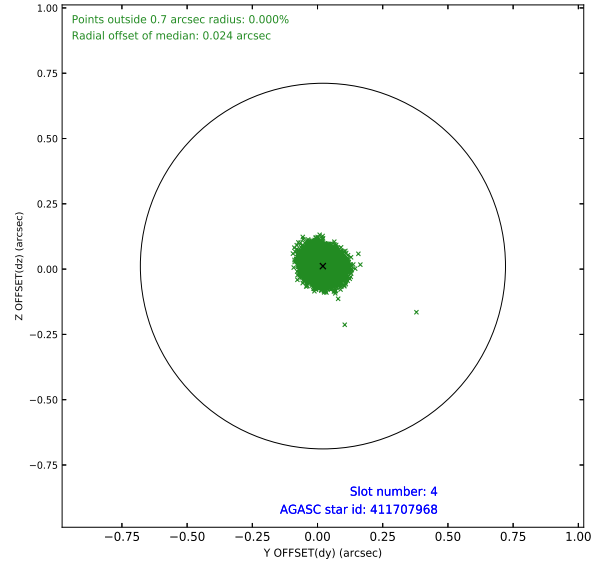
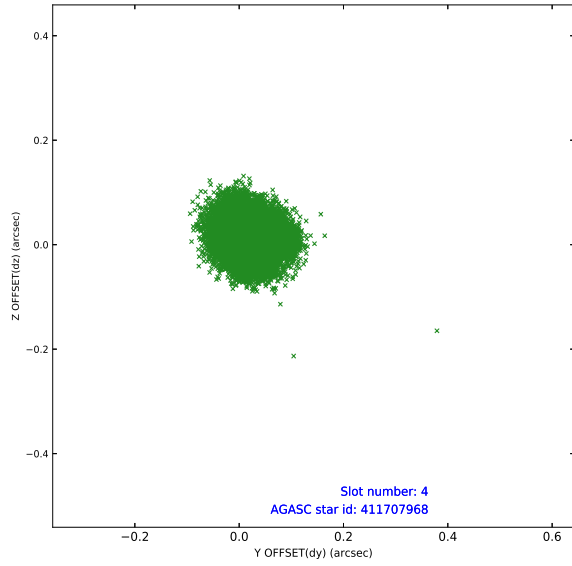
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2.4 Star Slots

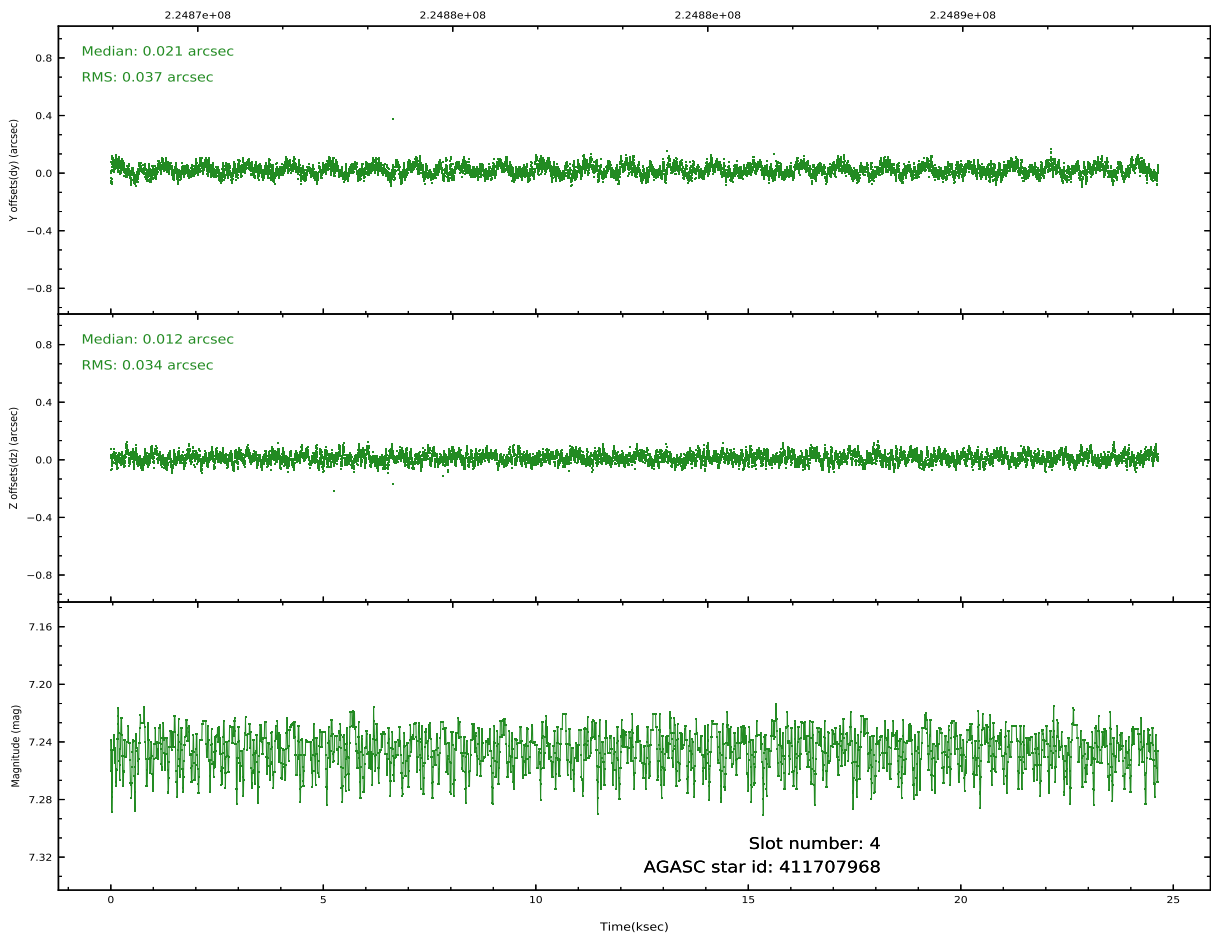
2.4.1 Slot 3



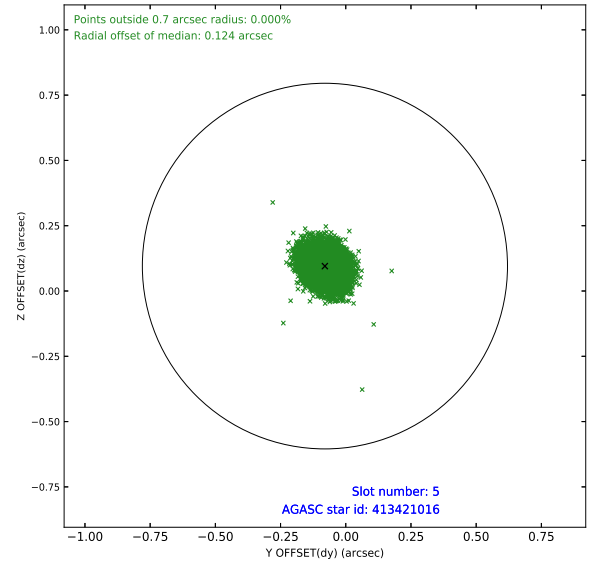
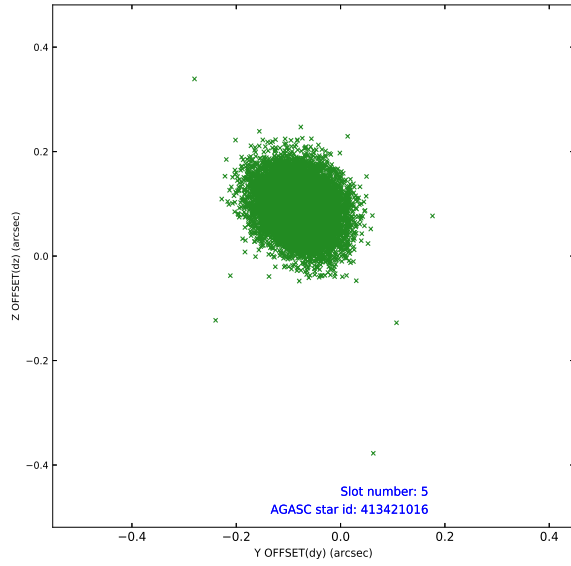
2.4.2 Slot 4



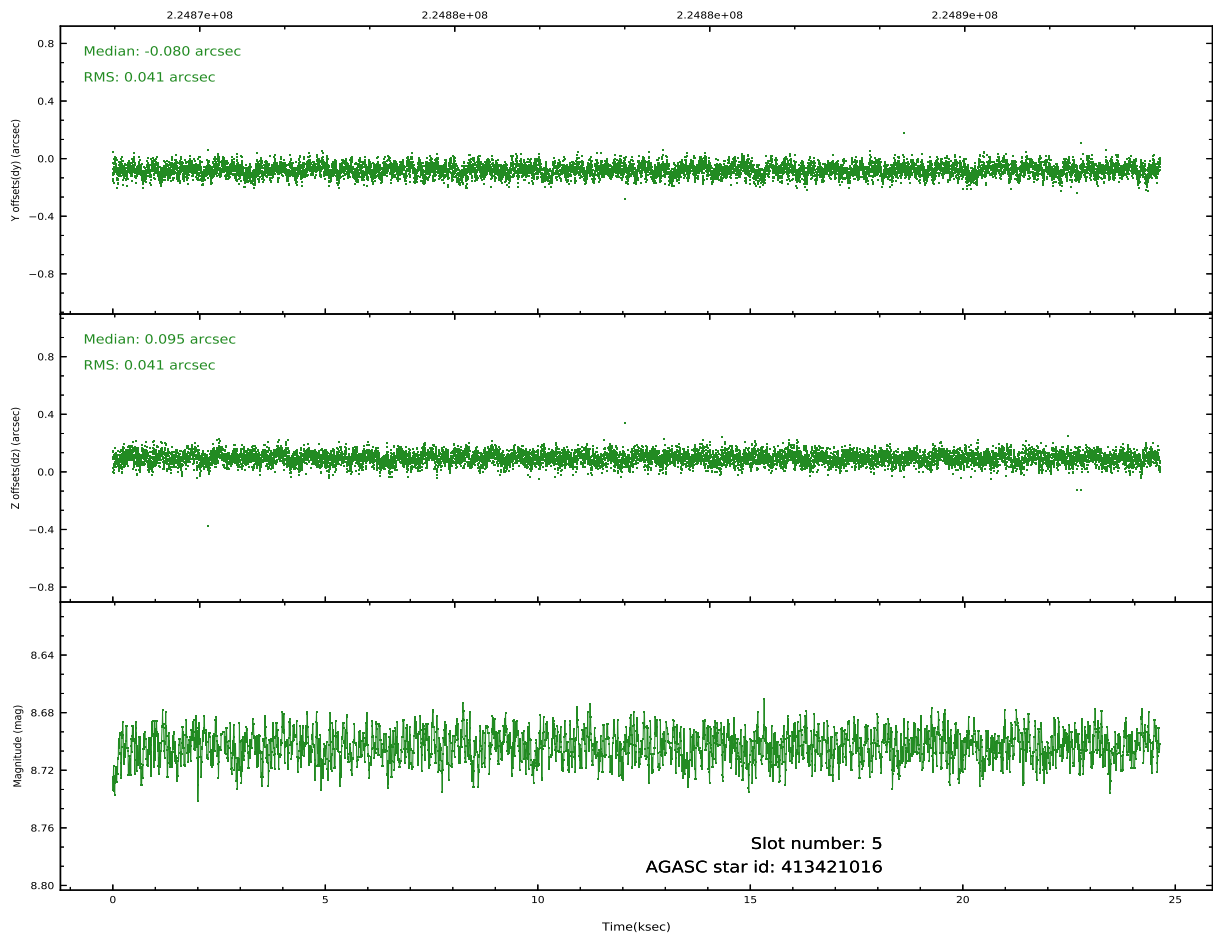
Time (s)



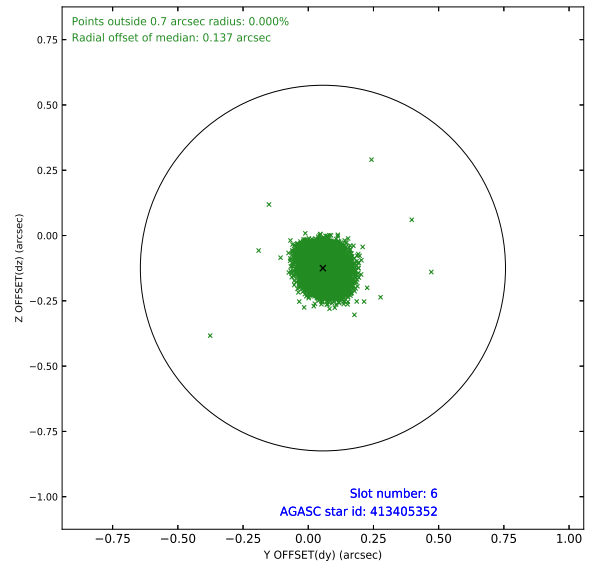
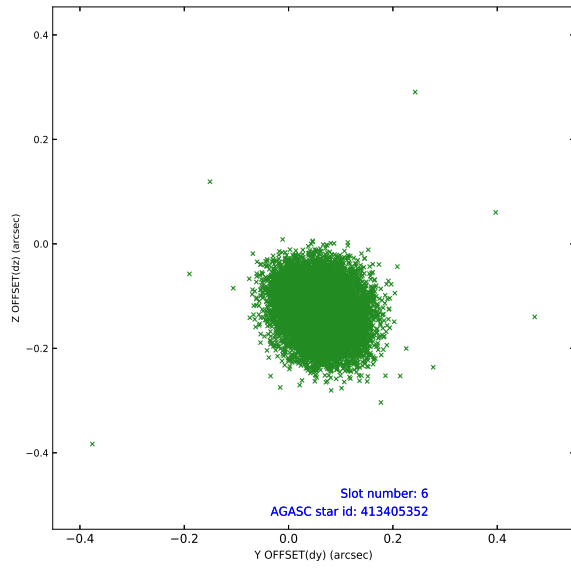
2.4.3 Slot 5



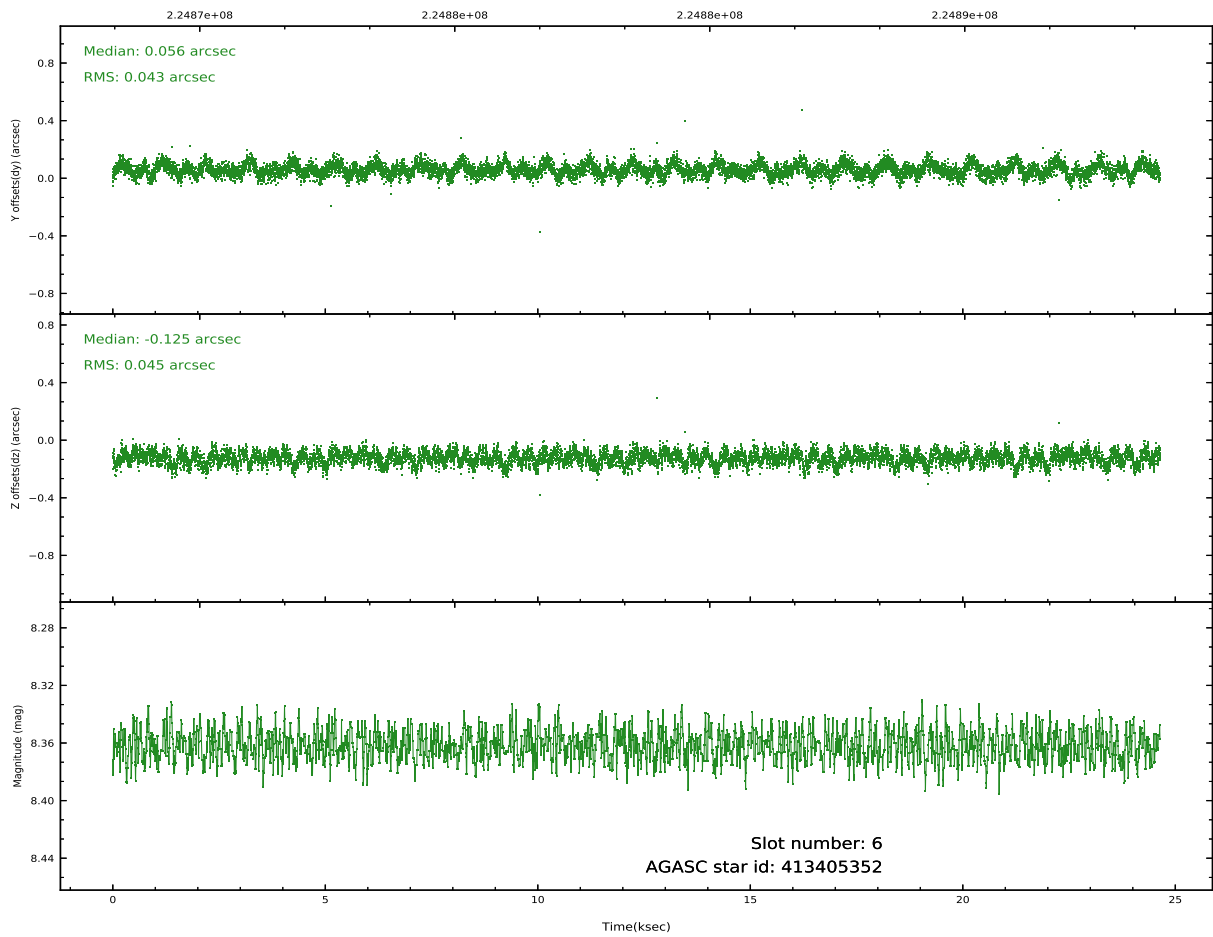
Time (s)



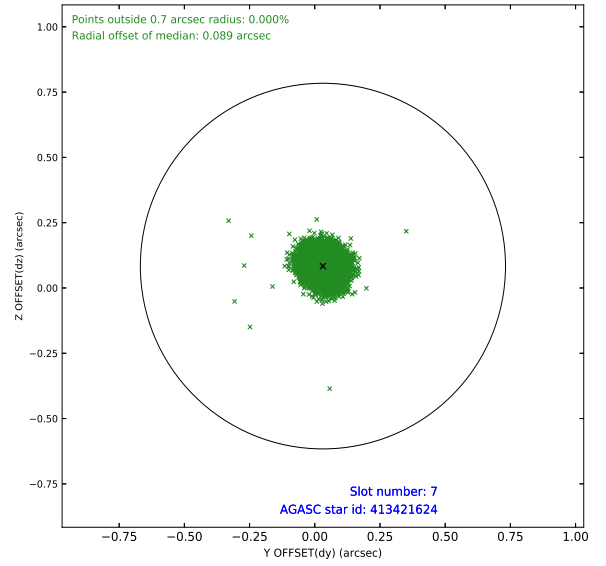
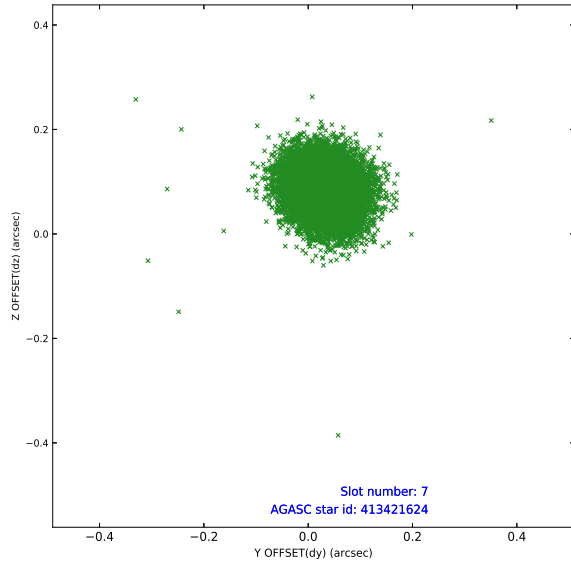
2.4.4 Slot 6



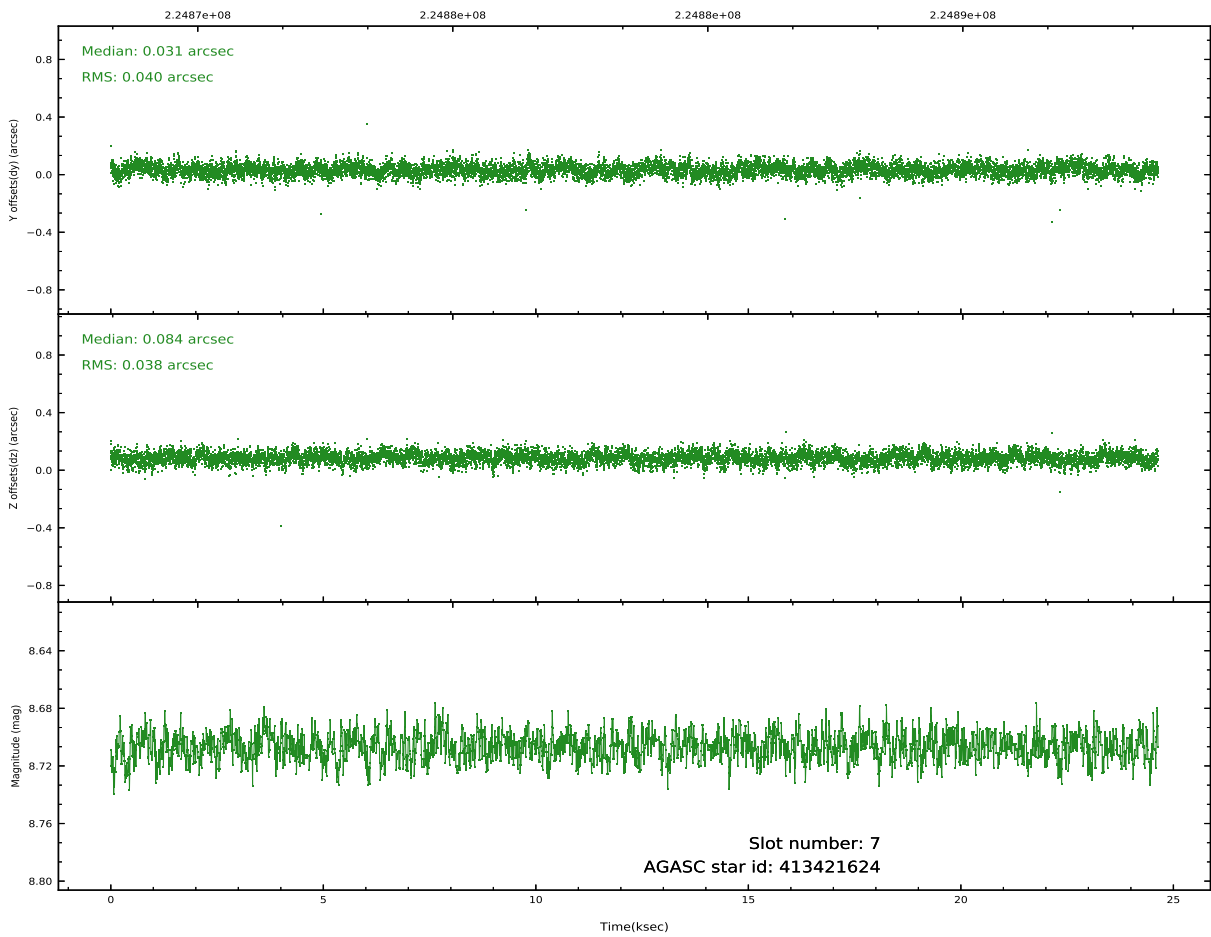
Time (s)



2.4.5 Slot 7

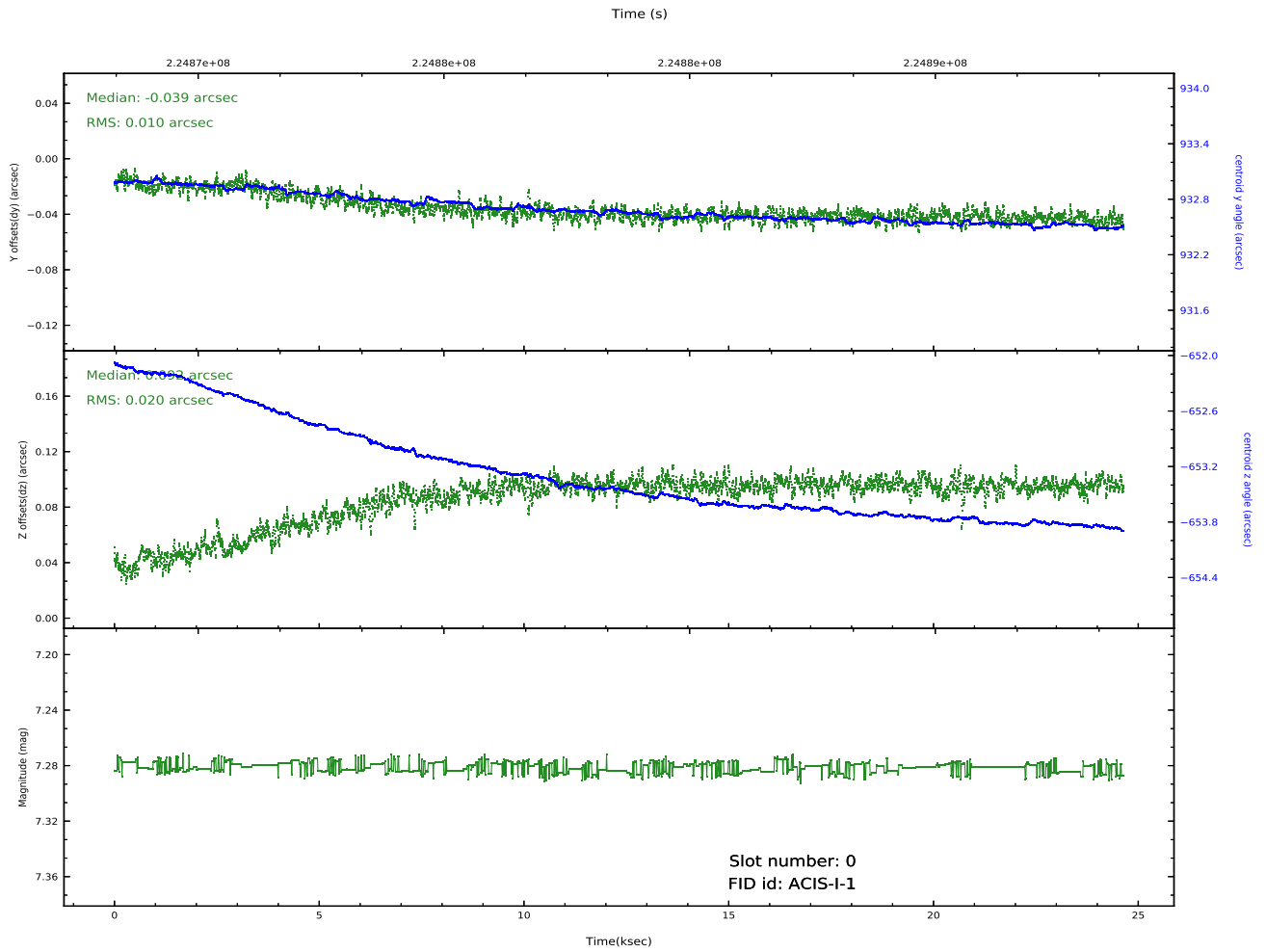
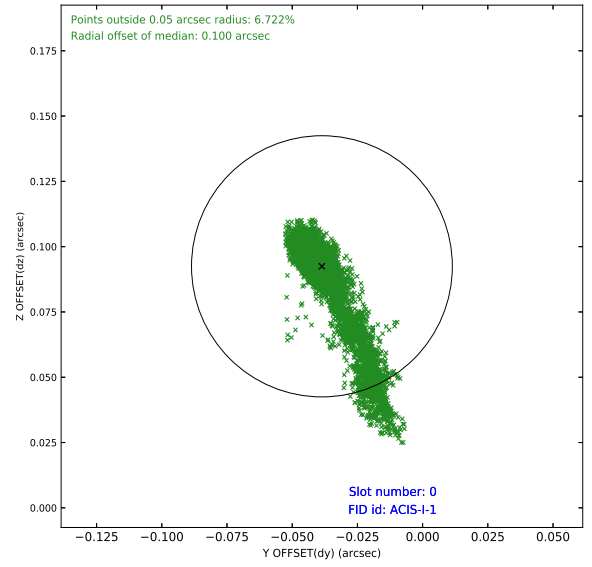
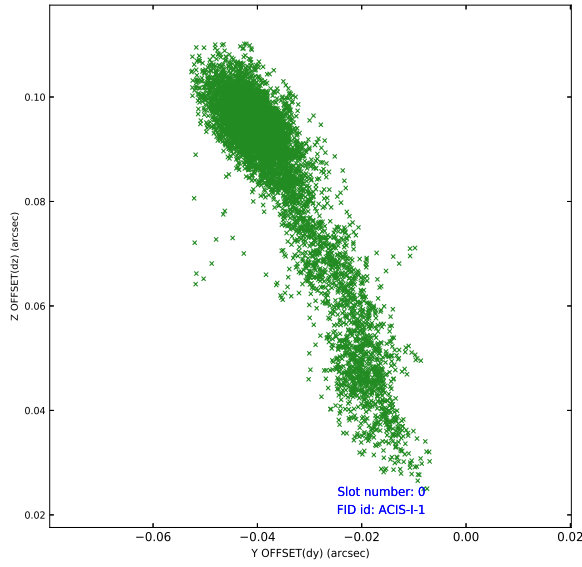


Time (s)

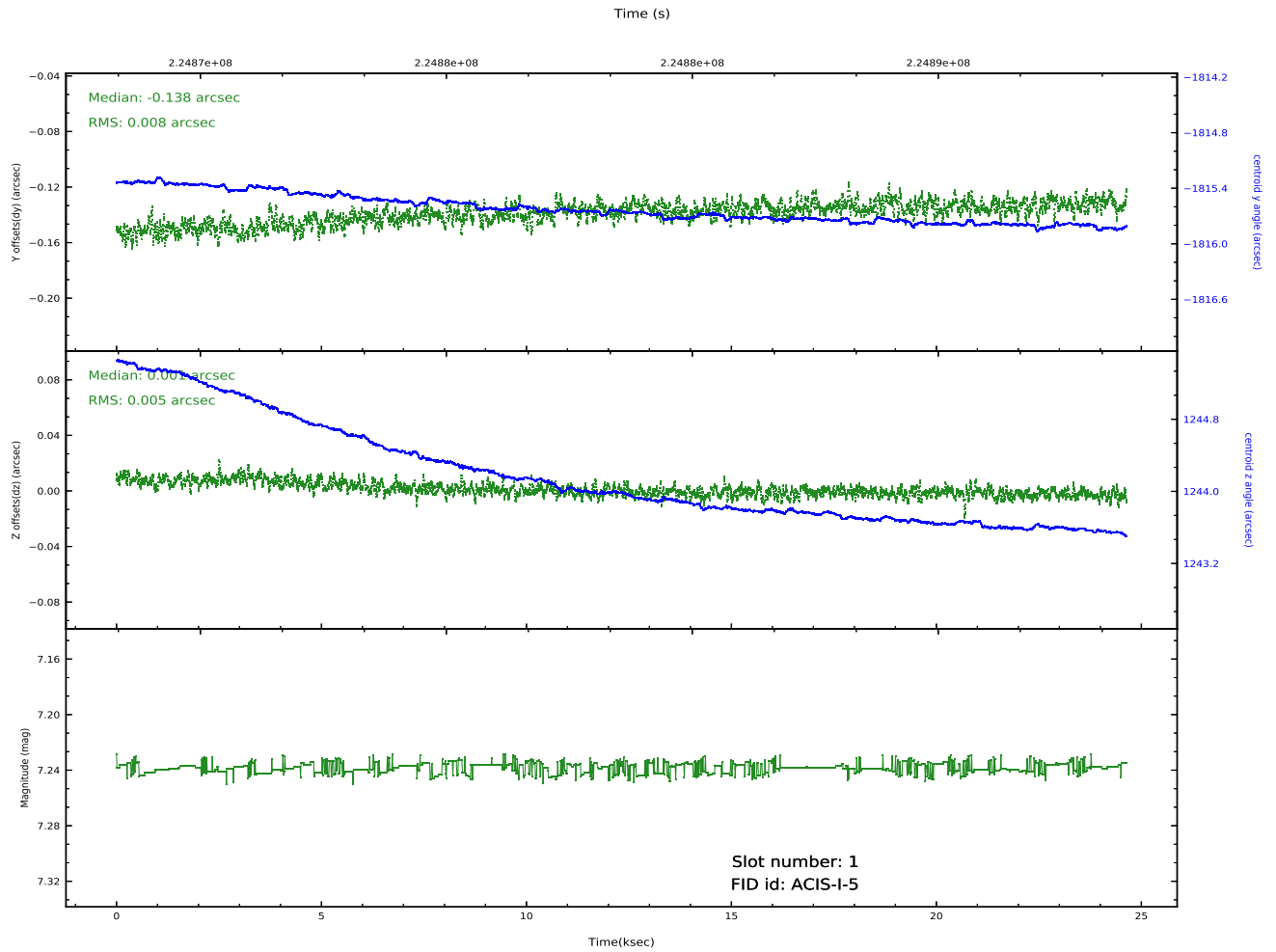
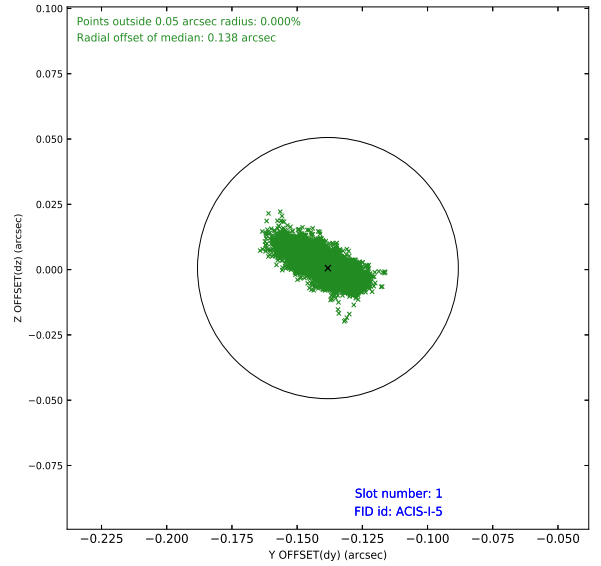
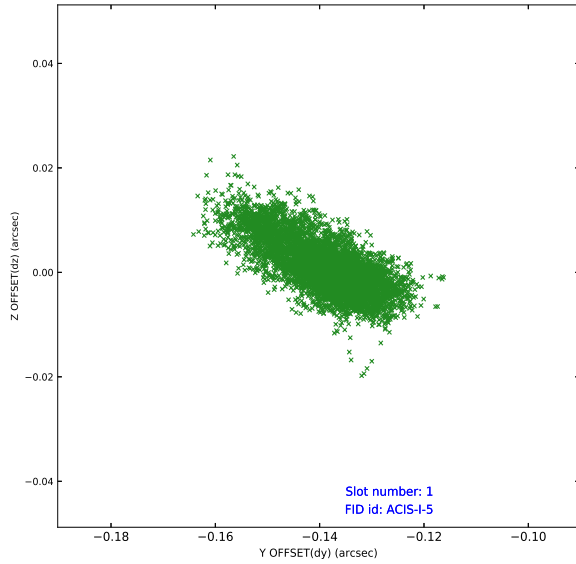


2.5 FID Slots

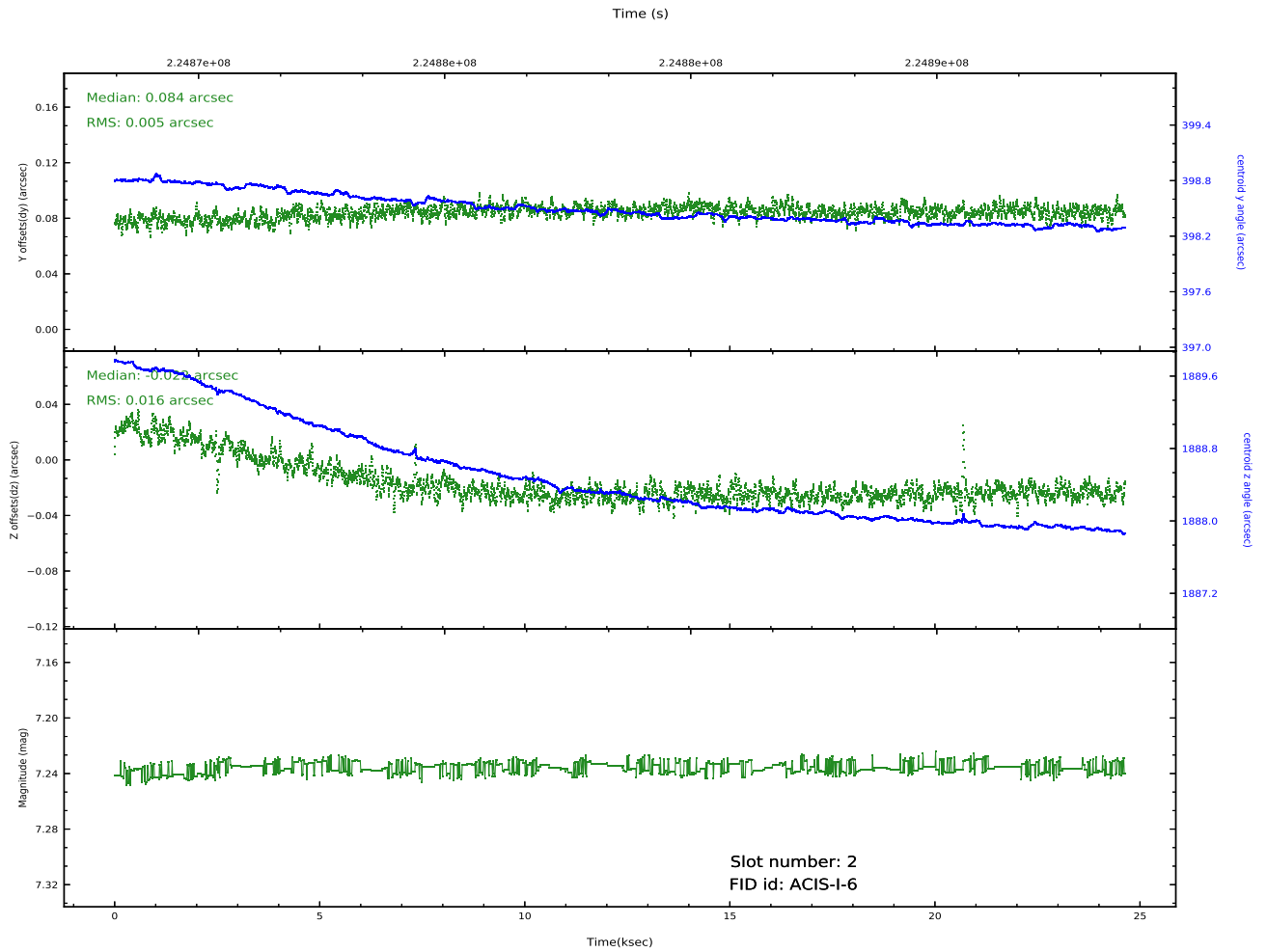
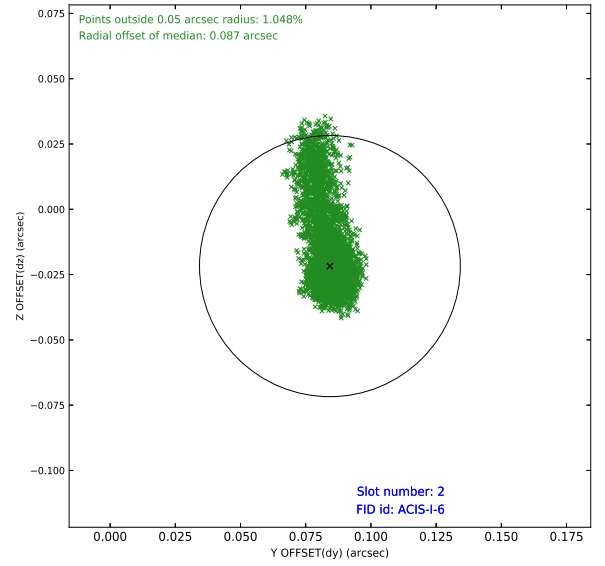
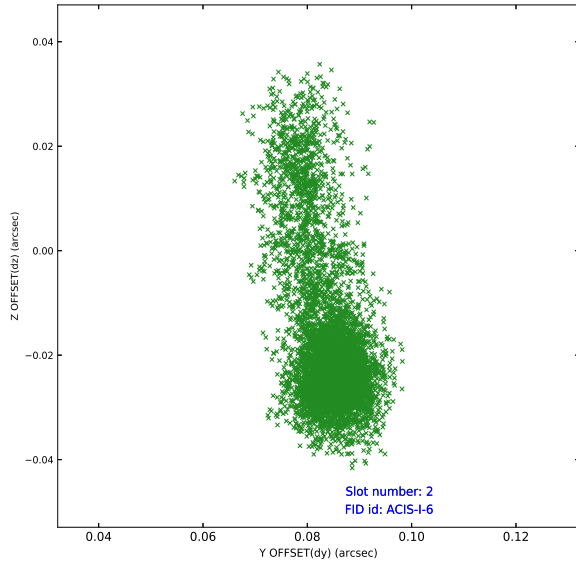
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|---------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2020.10.07 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 24.62937 |

A.2 Comments