

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6229 - L2 Version 4
Chandra X-Ray Center

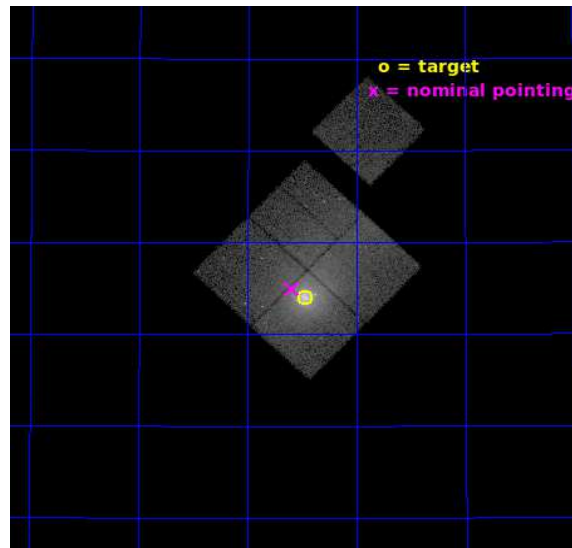
L2 Processing Date : Oct 6 2020

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1 Front

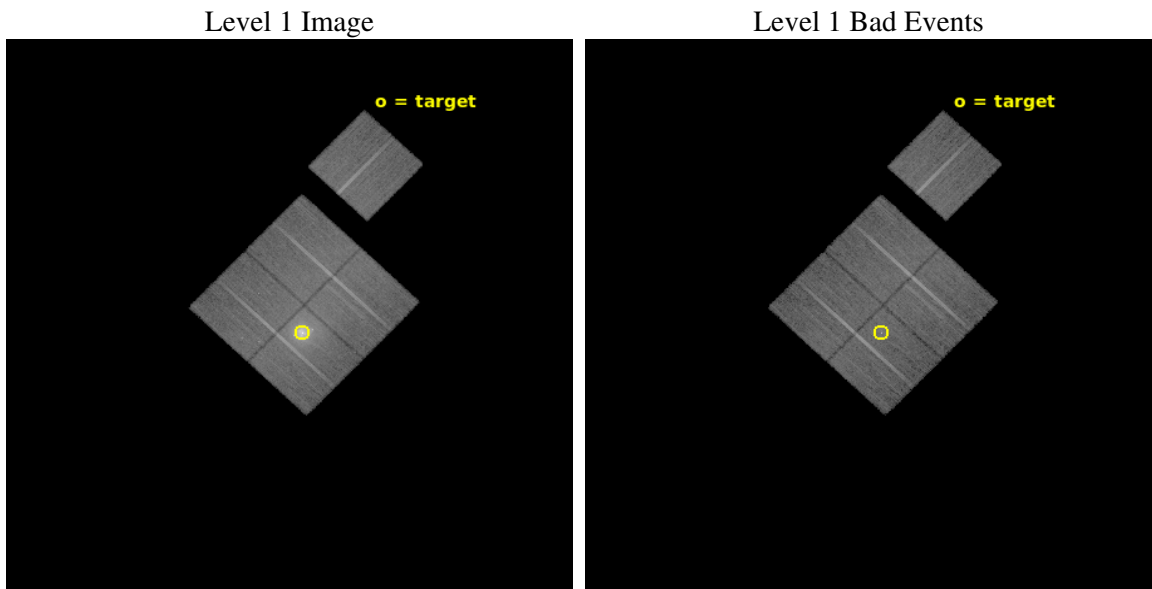
| | | |
|----------|--|---|
| seq_num | 800540 | Sequence number |
| obs_id | 6229 | Observation id |
| title | Cygnus A --- Shock Heating of the Intra-Cluster Medium | Proposal ti |
| observer | Andrew Young | Principal investigator |
| object | Cygnus A | Source name |
| dtycle | 0 | |
| cycle | P | 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 | 299.89861582547 | Nominal RA [deg] |
| dec_nom | 40.749490048498 | Nominal Dec [deg] |
| roll_nom | 43.682632526597 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 23054.699955642 | Sum of GTIs [s] |
| livetime | 22753.473328099 | Livetime [s] |
| ontime0 | 23054.699955642 | Sum of GTIs [s] |
| ontime1 | 23054.699955642 | Sum of GTIs [s] |
| ontime2 | 23051.558975369 | Sum of GTIs [s] |
| ontime3 | 23051.558985382 | Sum of GTIs [s] |
| ontime6 | 23048.418015122 | Sum of GTIs [s] |
| l2events | 210880 | Number of level 2 events |



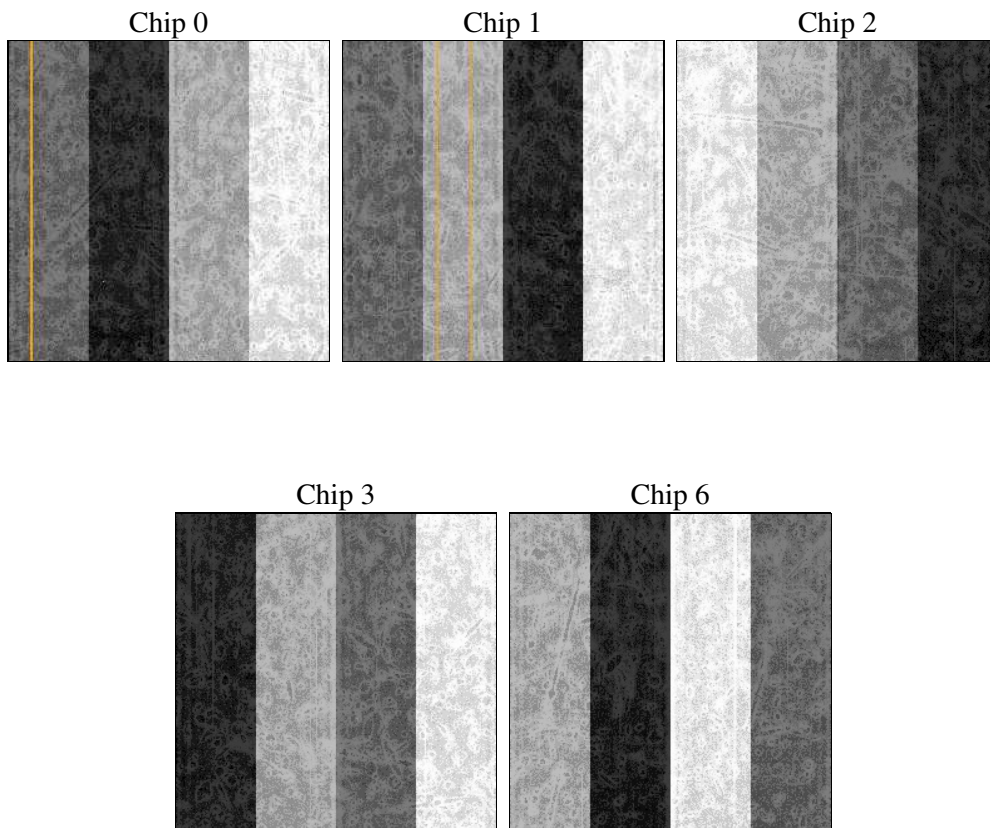
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 22900.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 23054.699955642 | Sum of GTIs [s] |
| caldbver | 4.9.2 | | ontime0 | 23054.699955642 | Sum of GTIs [s] |
| date | 2020-10-06T22:42:02 | Date and time of file creation | ontime1 | 23054.699955642 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime2 | 23051.558975369 | Sum of GTIs [s] |
| | | | ontime3 | 23051.558985382 | Sum of GTIs [s] |
| | | | ontime6 | 23048.418015122 | Sum of GTIs [s] |
| | | | l1events | 865379 | Number of level 1 events |

2.1.4 Events

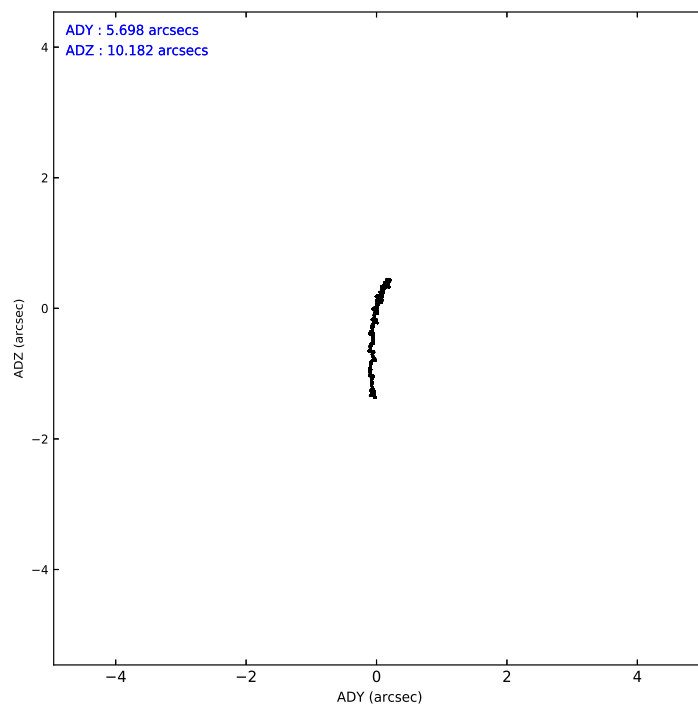
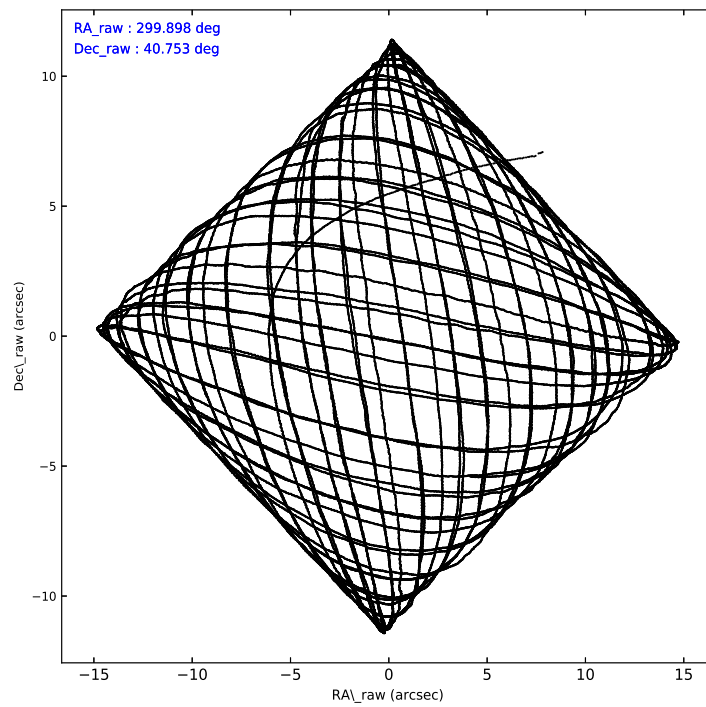
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events | 147862 | 242633 | 161933 | 165871 | 147080 |
| rejected events | 119638 | 121630 | 133204 | 128661 | 130173 |
| rejected % | 80% | 50% | 82% | 77% | 88% |

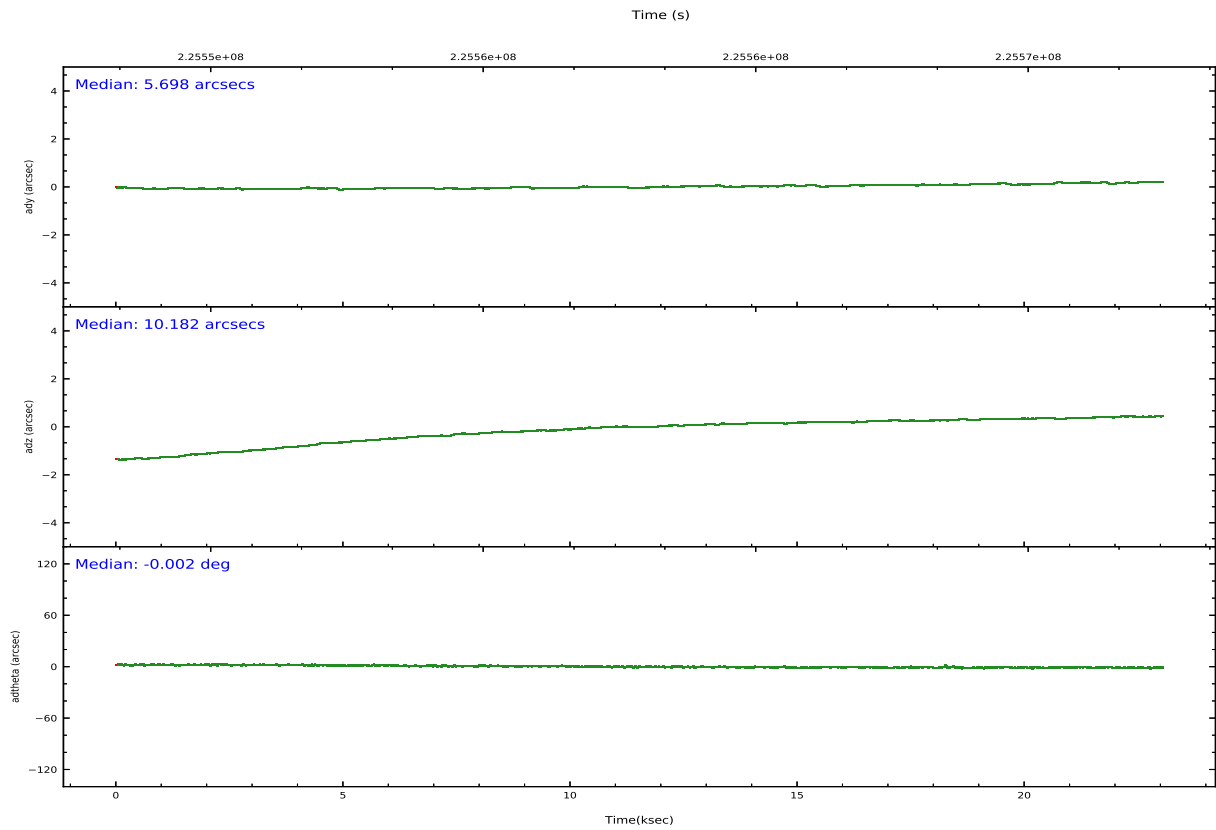
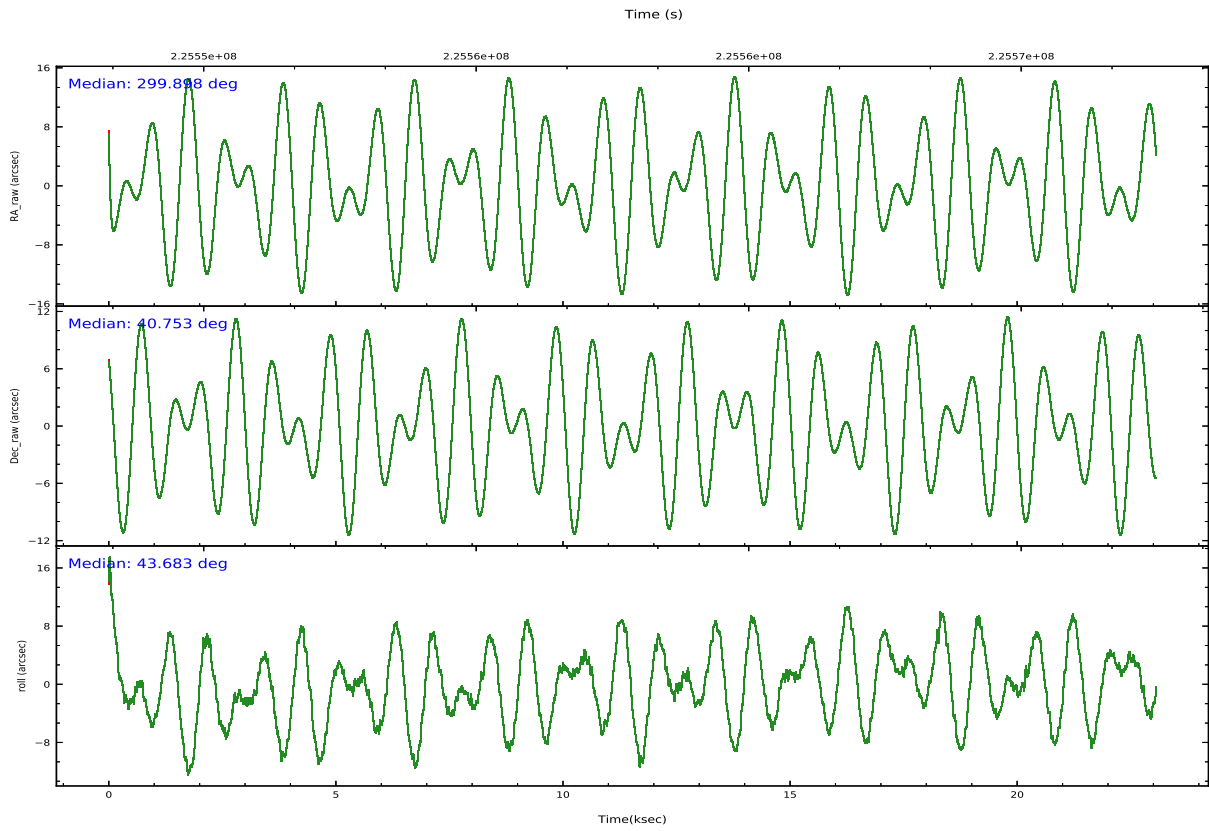
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 |
|----------------|--------|--------|--------|--------|--------|
| grade 0 events | 16363 | 88402 | 17529 | 23886 | 7297 |
| | 11% | 36% | 10% | 14% | 4% |
| grade 1 events | 131 | 812 | 136 | 159 | 70 |
| | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 4976 | 15766 | 4642 | 5577 | 3413 |
| | 3% | 6% | 2% | 3% | 2% |
| grade 3 events | 2065 | 5501 | 2005 | 2380 | 1695 |
| | 1% | 2% | 1% | 1% | 1% |
| grade 4 events | 1988 | 5482 | 2100 | 2458 | 1741 |
| | 1% | 2% | 1% | 1% | 1% |
| grade 5 events | 5146 | 6301 | 4926 | 5944 | 5662 |
| | 3% | 2% | 3% | 3% | 3% |
| grade 6 events | 3387 | 7162 | 2969 | 3512 | 3197 |
| | 2% | 2% | 1% | 2% | 2% |
| grade 7 events | 113806 | 113207 | 127626 | 121955 | 124005 |
| | 76% | 46% | 78% | 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 | 299.887572 | 299.89861582547 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 40.726424 | 40.749490048498 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 43.487167 | 43.682632526597 | [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) | 225548071.184000 | 225546756.44577 | | | |
| Observation start date | 2005-02-23T12:13:27 | 2005-02-23T11:52:36 | | | |
| [s] Observation end time (MET) | 225570971.184000 | 225572567.99694 | | | |
| Observation end date | 2005-02-23T18:35:07 | 2005-02-23T19:02:47 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect





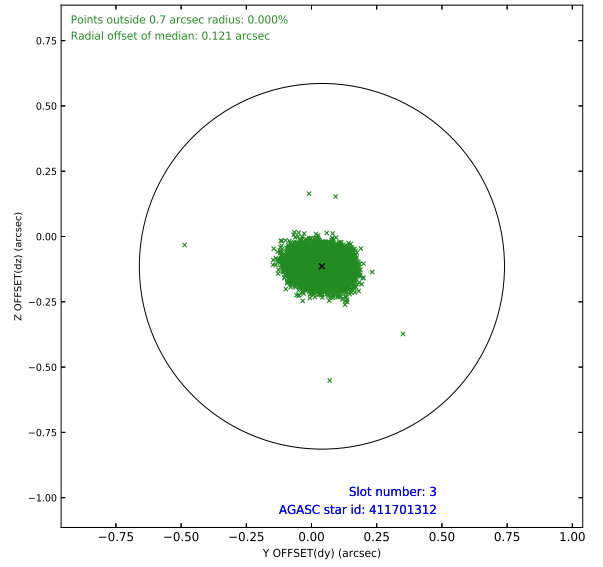
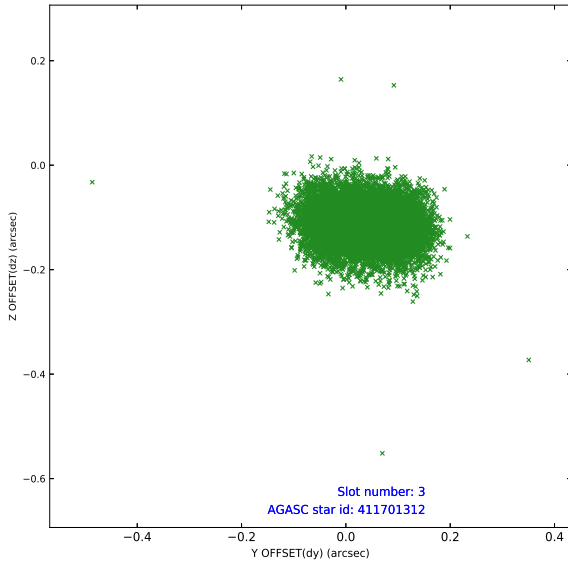
Slot Statistics

| 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 | 5625 | 1.000 | -0.030 | 0.075 | 0.029 | 0.065 | 0.000000 | 0.000000 | 934.14 | -652 |
| 1 | FID | | ACIS-I-5 | 7.24 | 5625 | 1.000 | -0.136 | 0.006 | 0.011 | 0.017 | 0.000000 | 0.000000 | -1814.00 | 1244 |
| 2 | FID | | ACIS-I-6 | 7.24 | 5625 | 1.000 | 0.075 | -0.013 | 0.022 | 0.064 | 0.000000 | 0.000000 | 399.63 | 1889 |
| 3 | GUIDE | used | 411701312 | 8.72 | 11246 | 1.000 | 0.040 | -0.114 | 0.074 | 0.119 | 298.889956 | 40.820220 | -1728.85 | 2126 |
| 4 | GUIDE | used | 411707968 | 7.26 | 11249 | 1.000 | 0.032 | 0.015 | 0.050 | 0.081 | 299.509933 | 40.926839 | -247.17 | 1232 |
| 5 | GUIDE | used | 413405352 | 8.35 | 11247 | 1.000 | 0.029 | -0.192 | 0.057 | 0.089 | 300.290830 | 41.091941 | 1701.31 | 203 |
| 6 | GUIDE | used | 413418680 | 9.30 | 11240 | 1.000 | 0.053 | 0.220 | 0.094 | 0.154 | 300.860298 | 40.740057 | 1969.30 | -1779 |
| 7 | GUIDE | used | 413421016 | 8.71 | 11246 | 1.000 | -0.151 | 0.070 | 0.068 | 0.109 | 300.612426 | 40.446254 | 752.83 | -2092 |

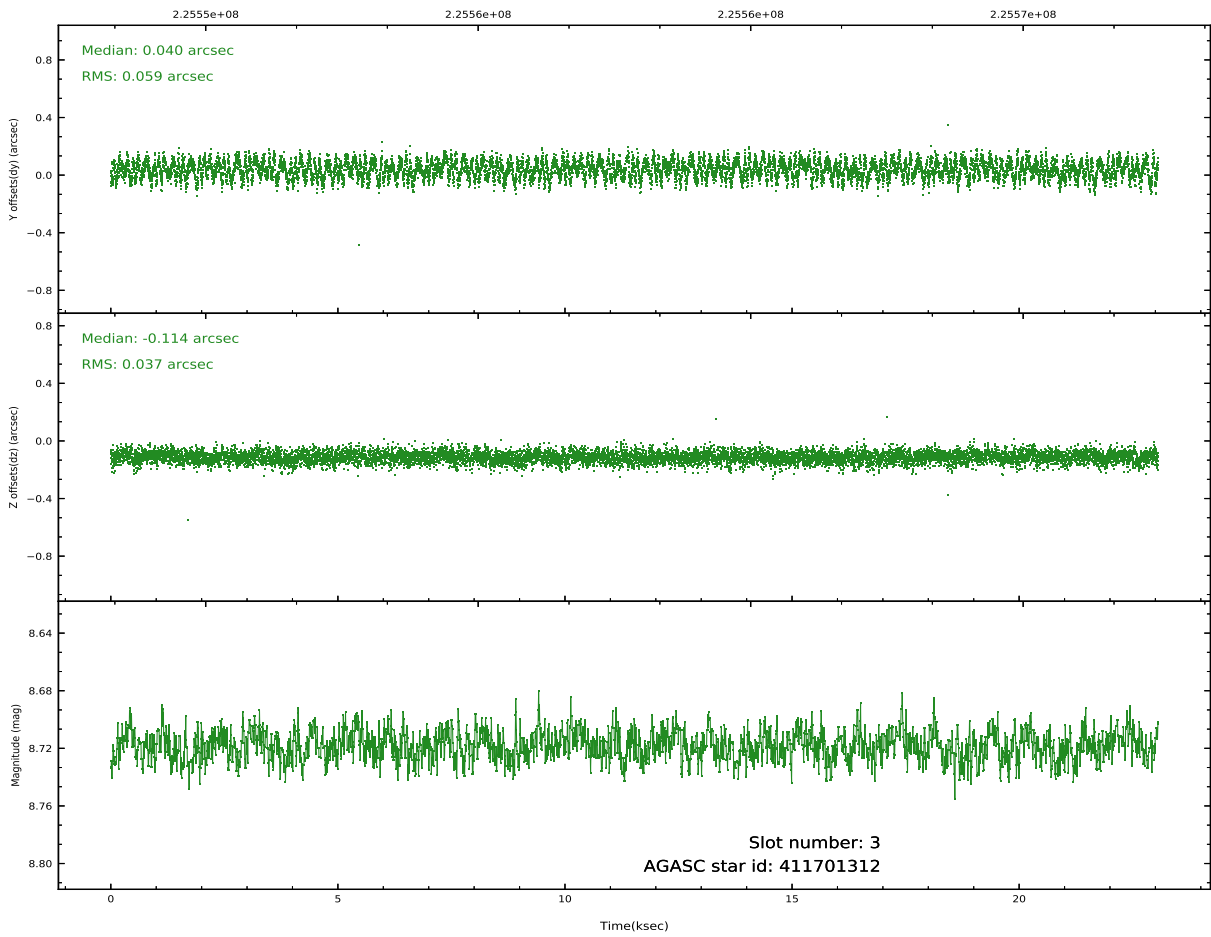
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2.4 Star Slots

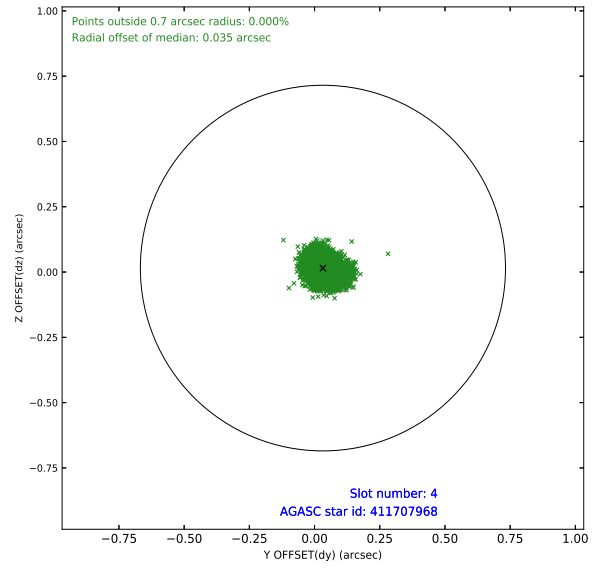
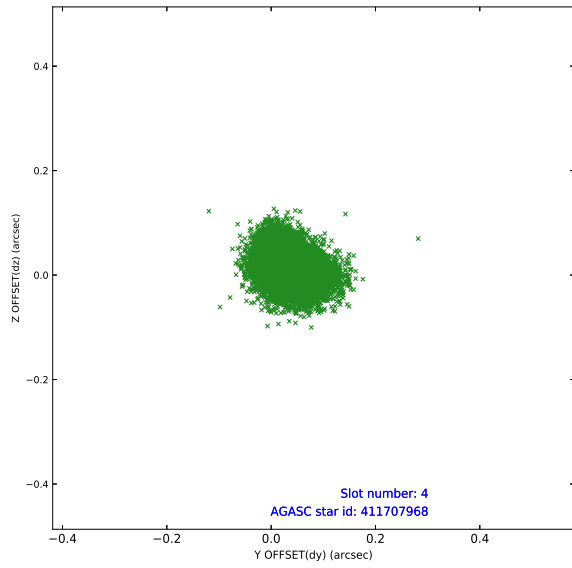
2.4.1 Slot 3



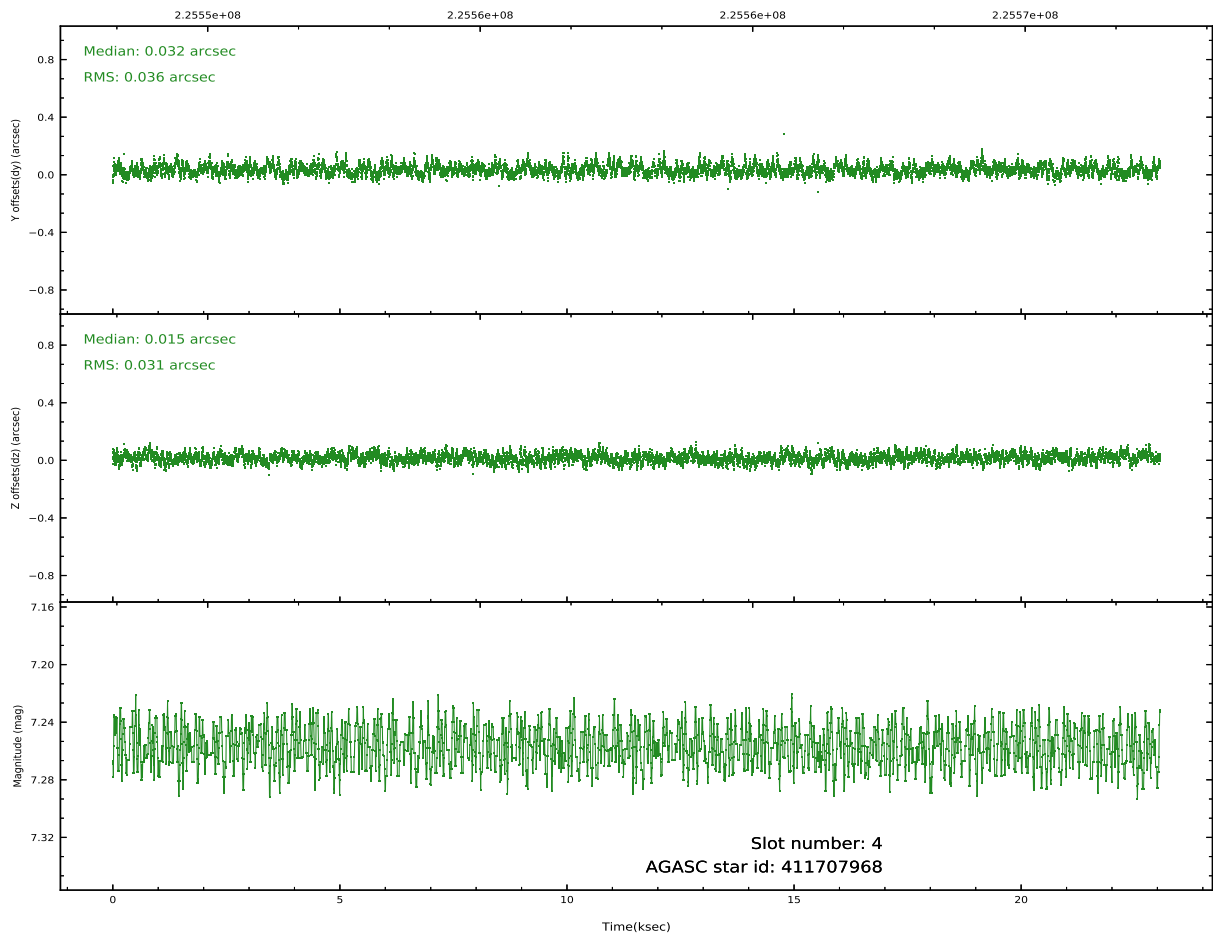
Time (s)



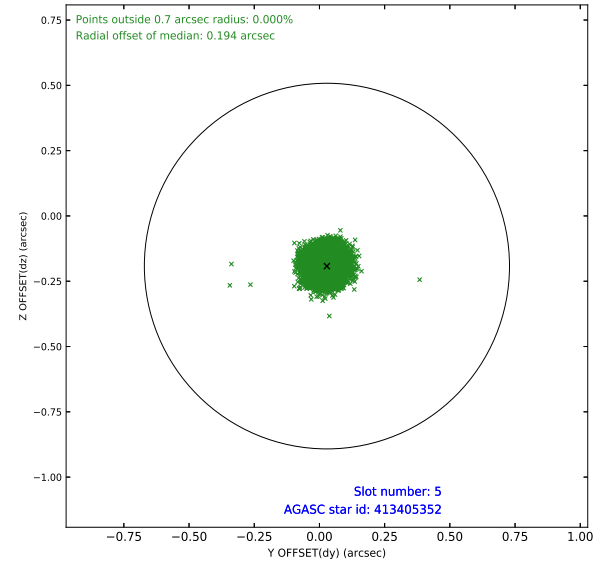
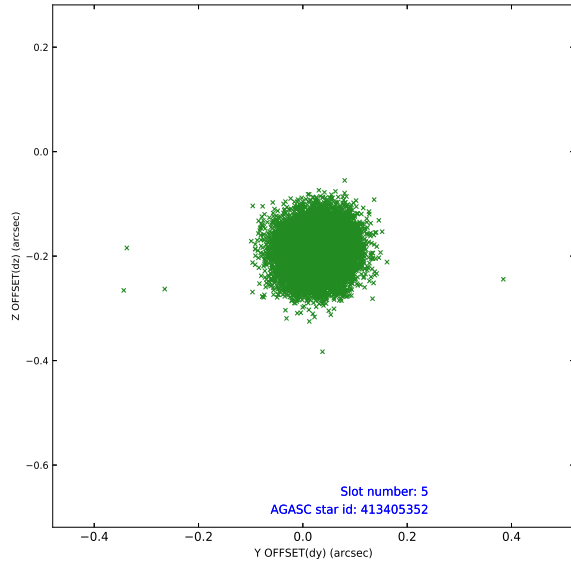
2.4.2 Slot 4



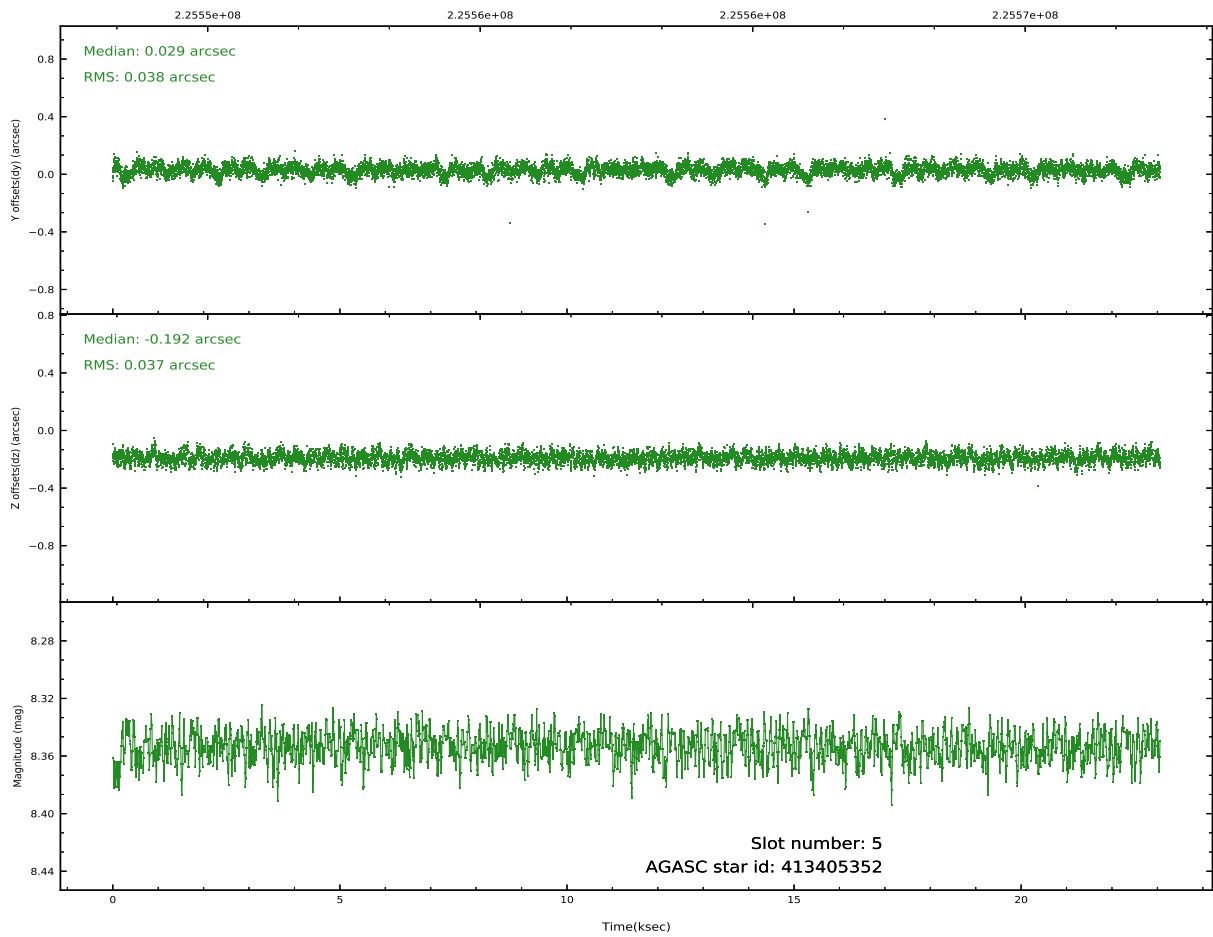
Time (s)



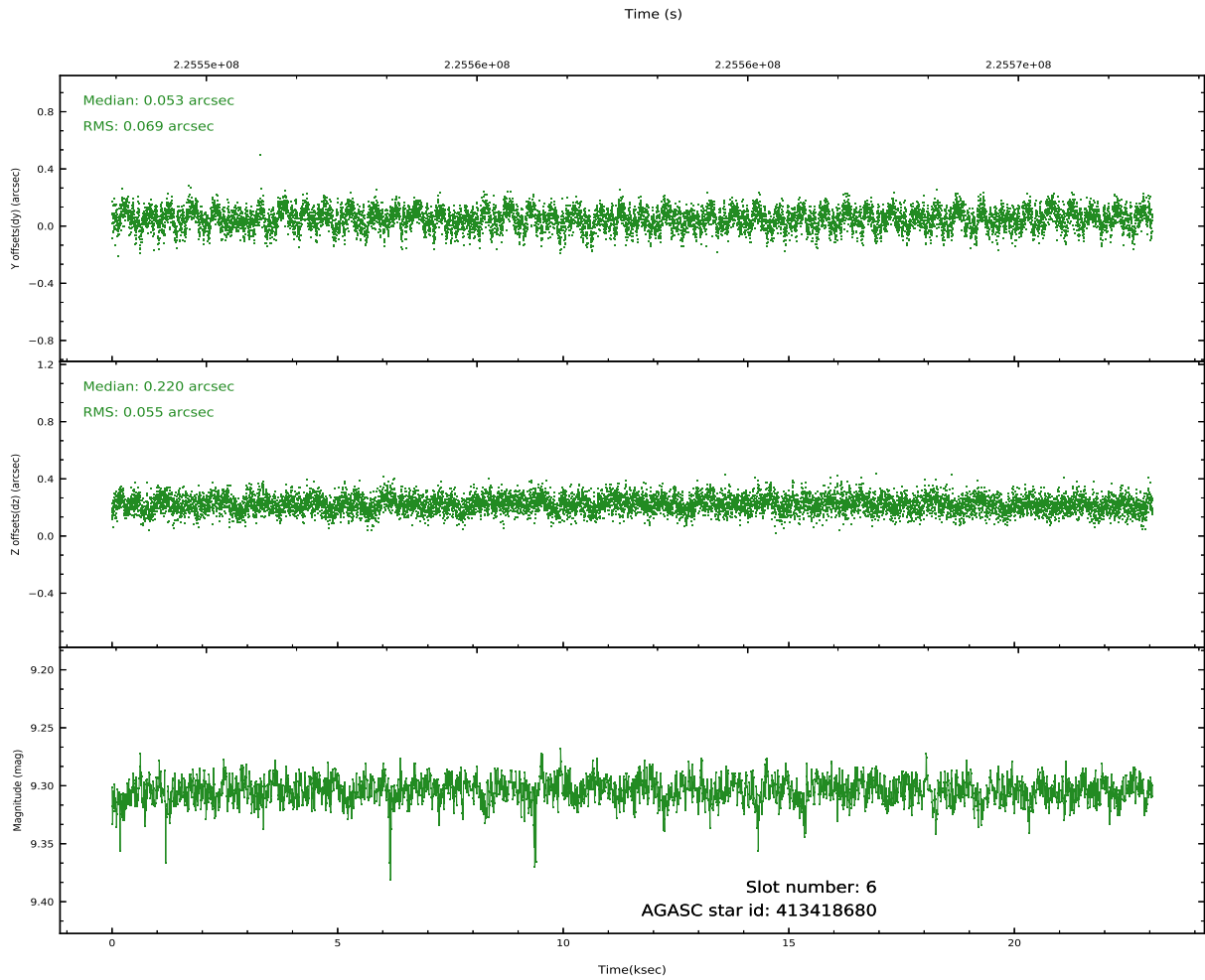
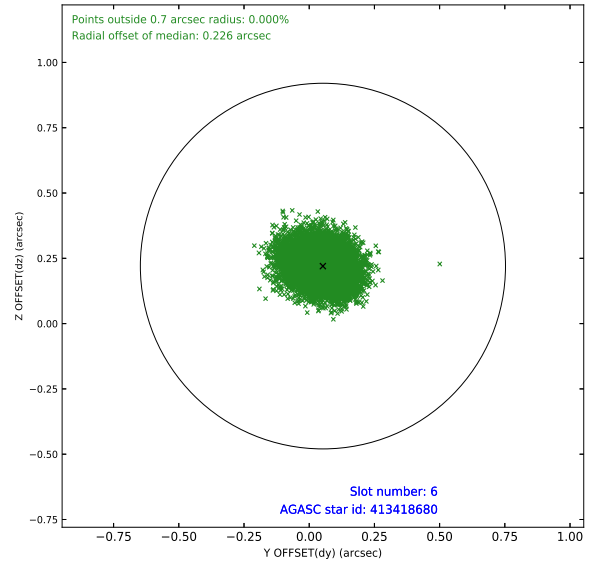
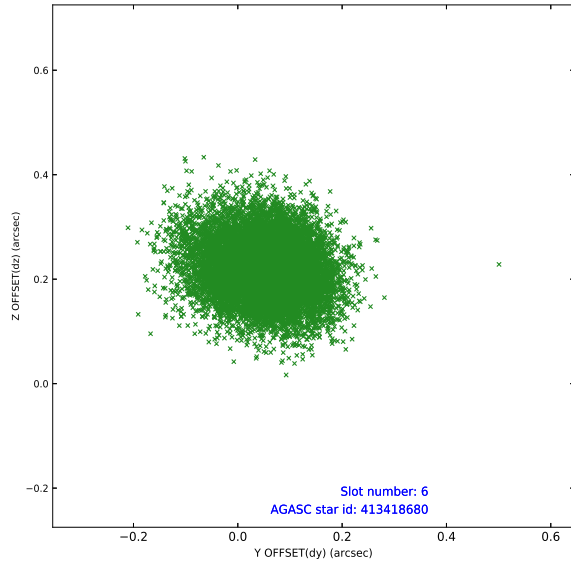
2.4.3 Slot 5



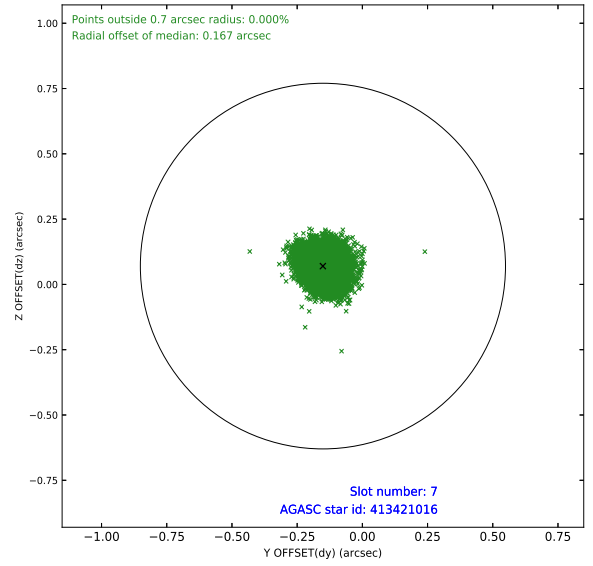
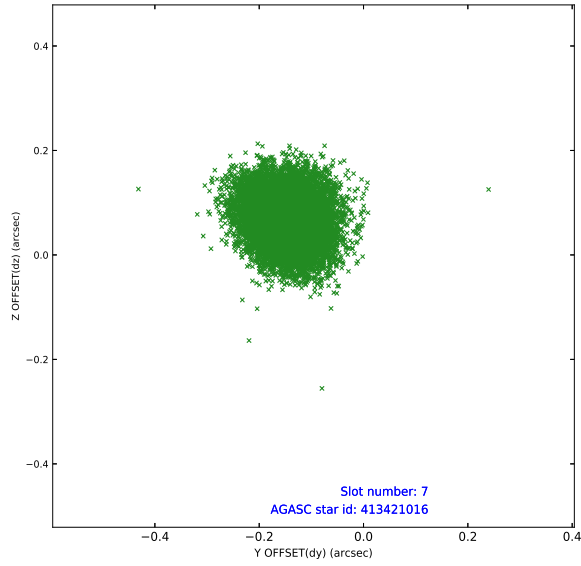
Time (s)



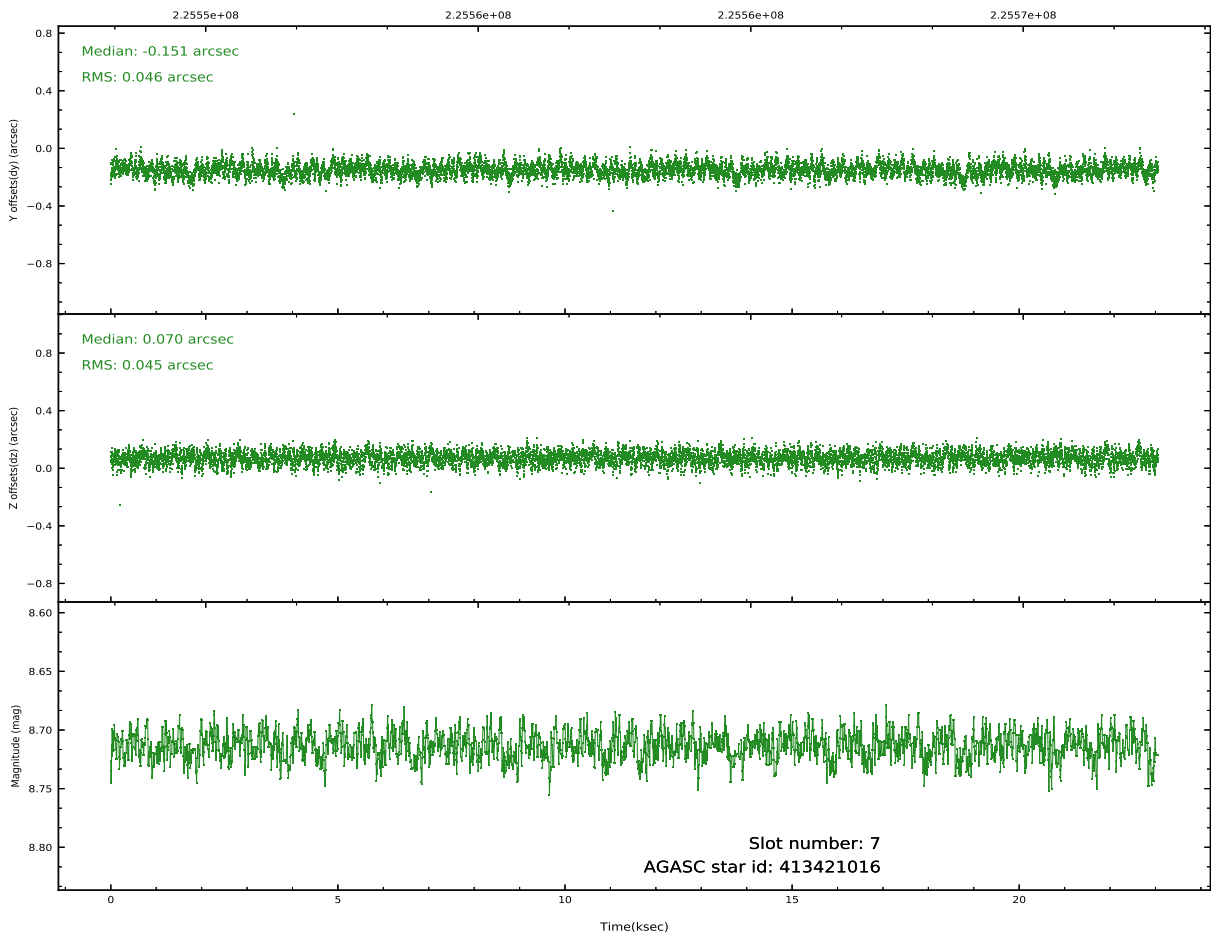
2.4.4 Slot 6



2.4.5 Slot 7

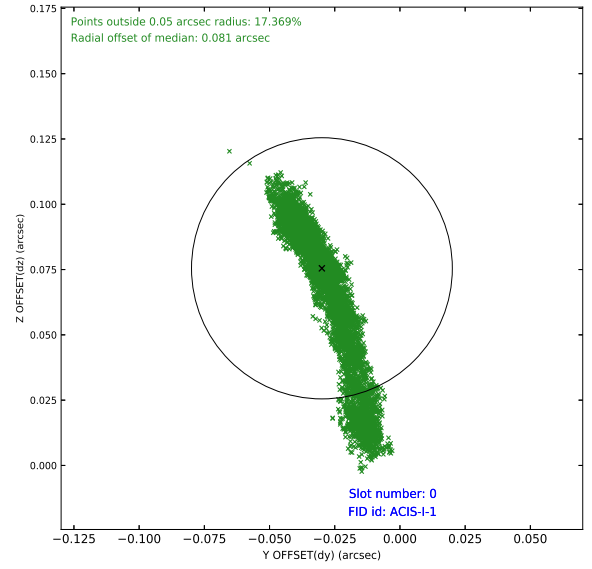
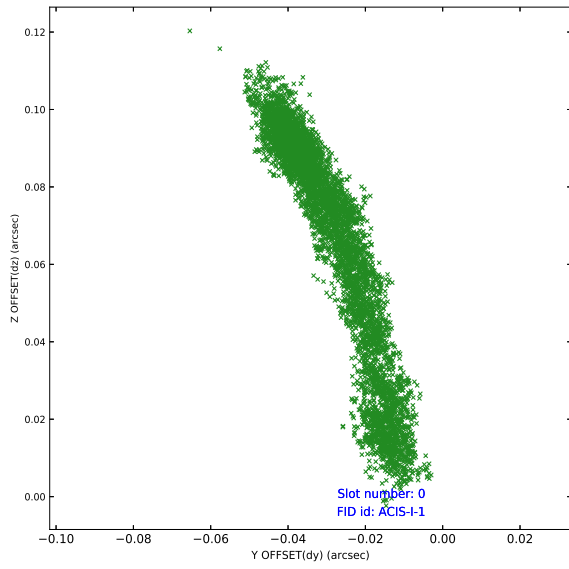


Time (s)

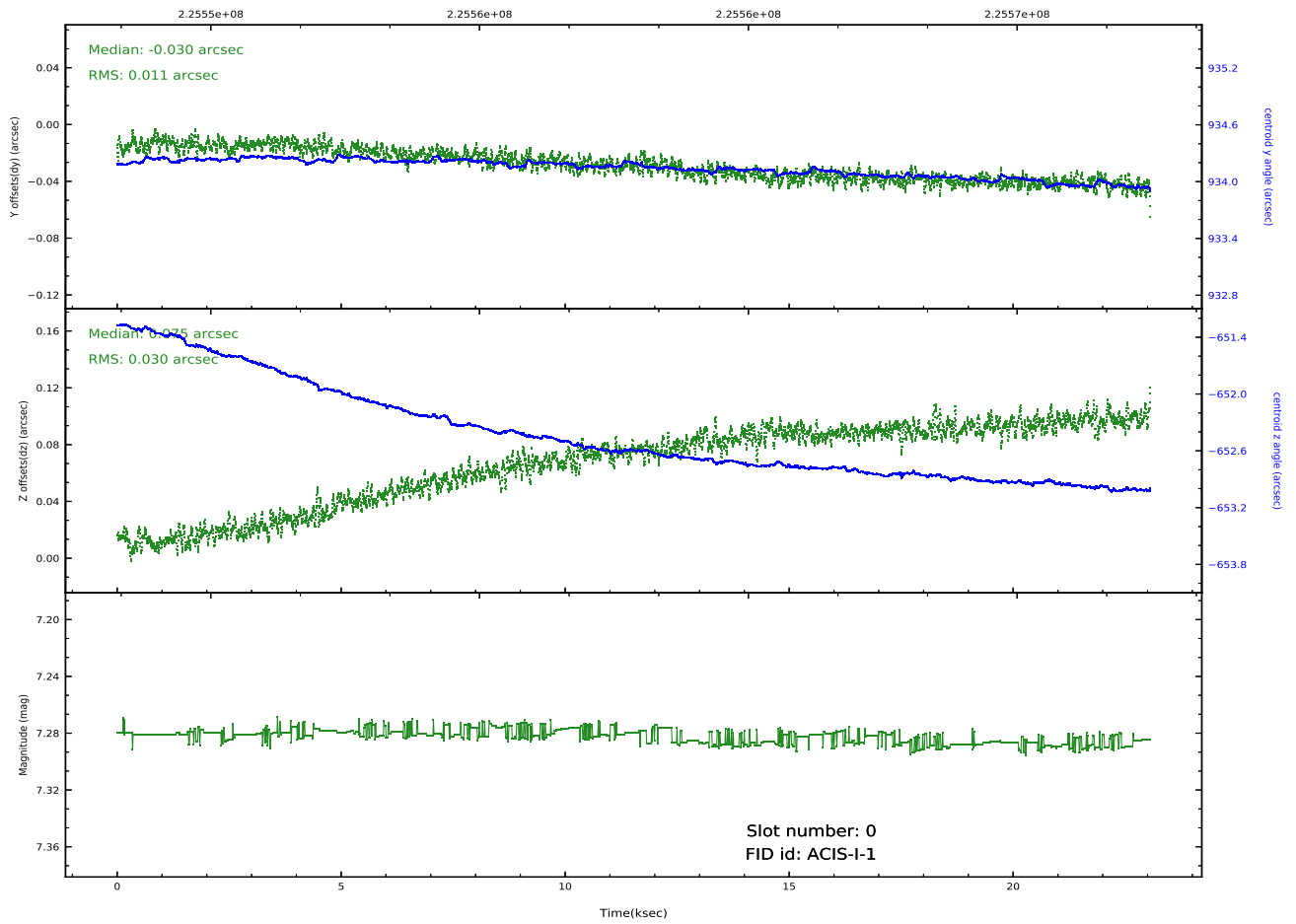


2.5 FID Slots

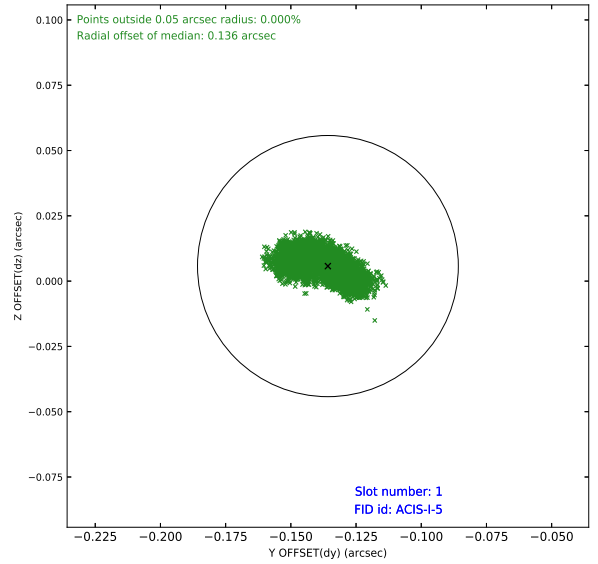
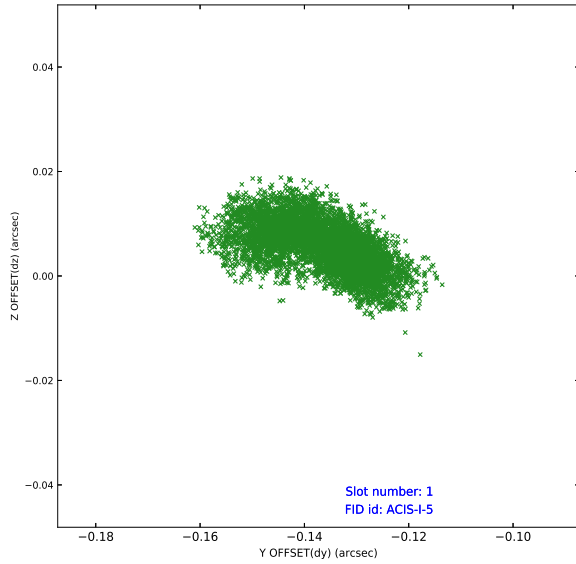
2.5.1 Slot 0



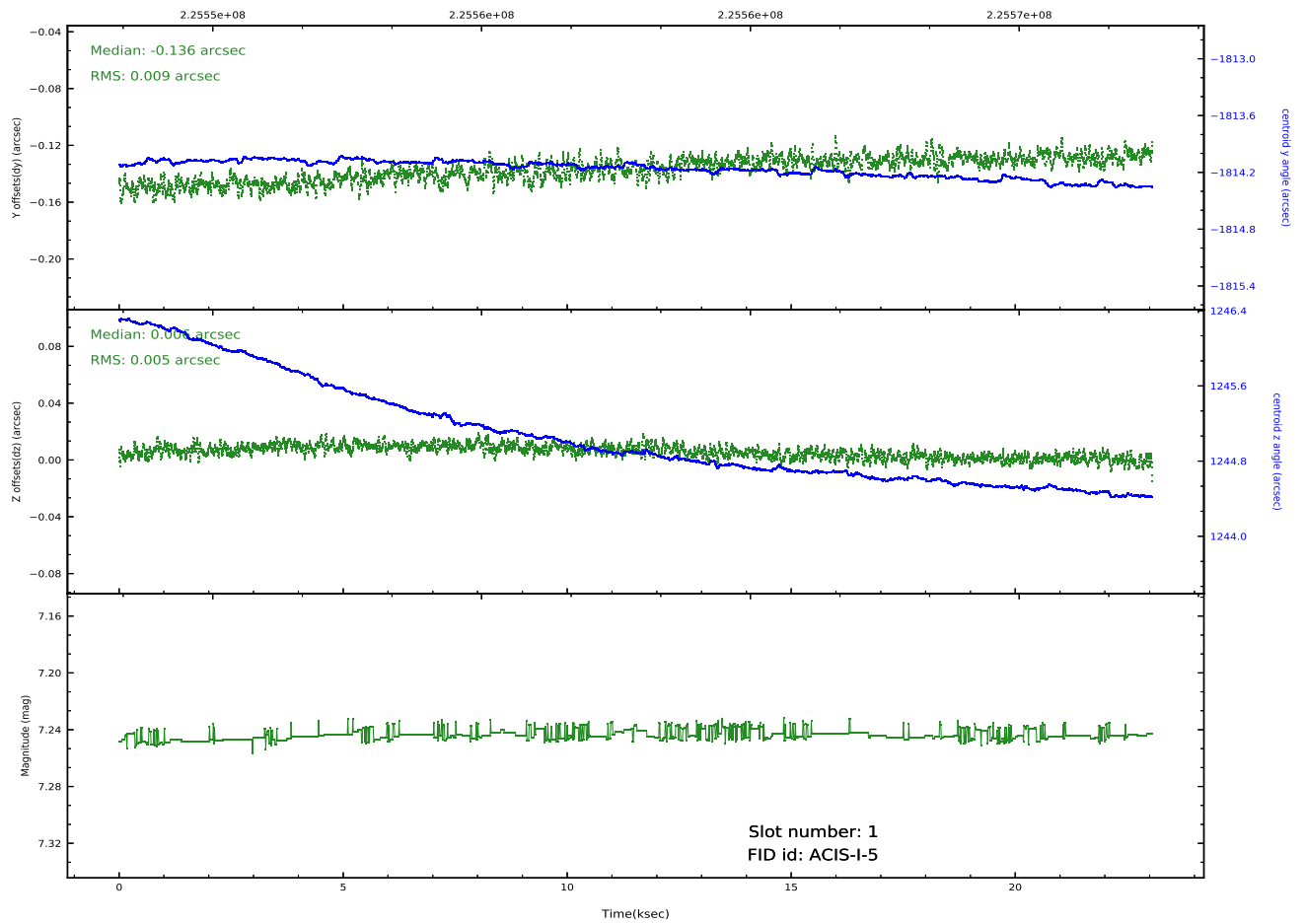
Time (s)



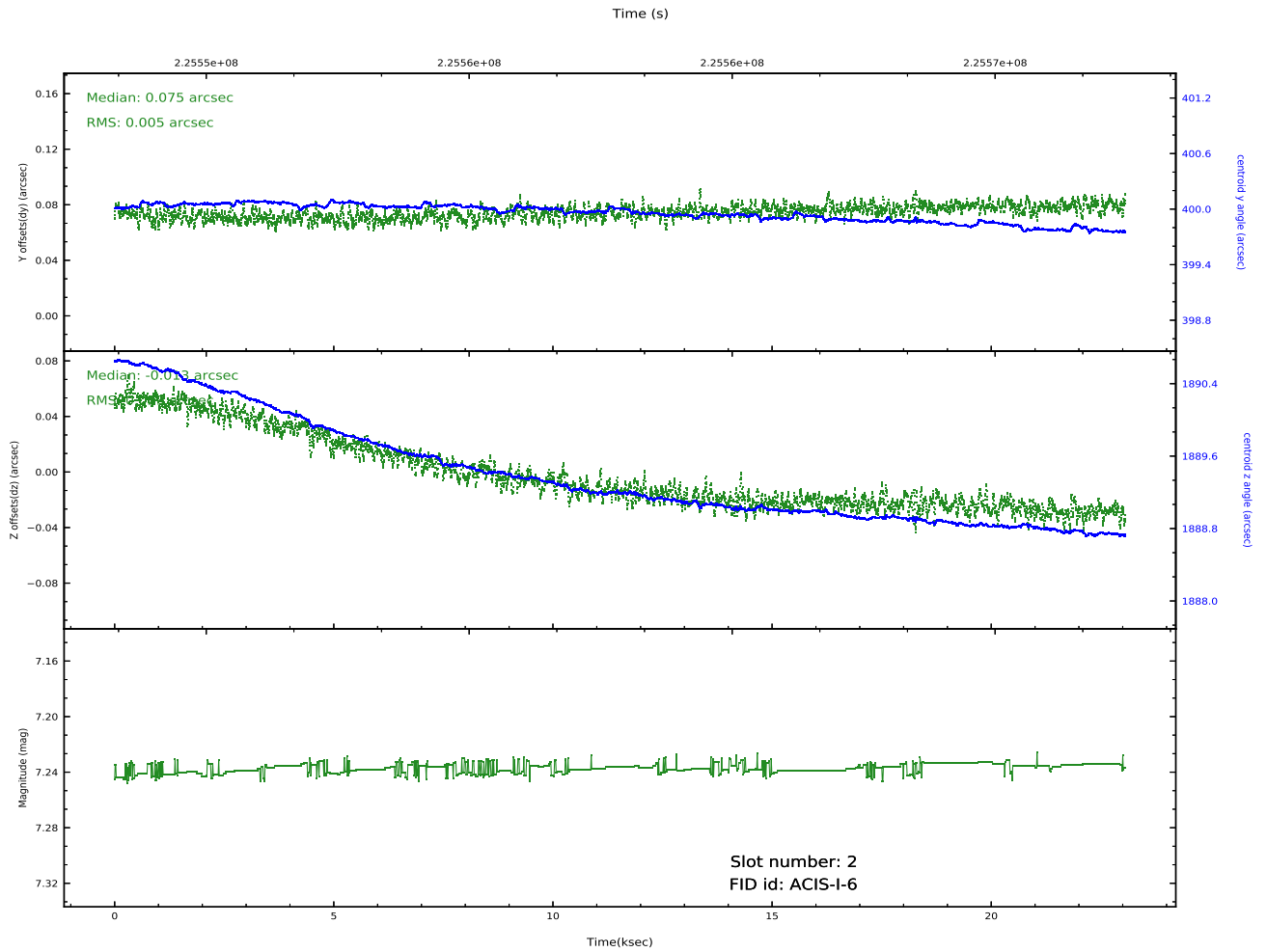
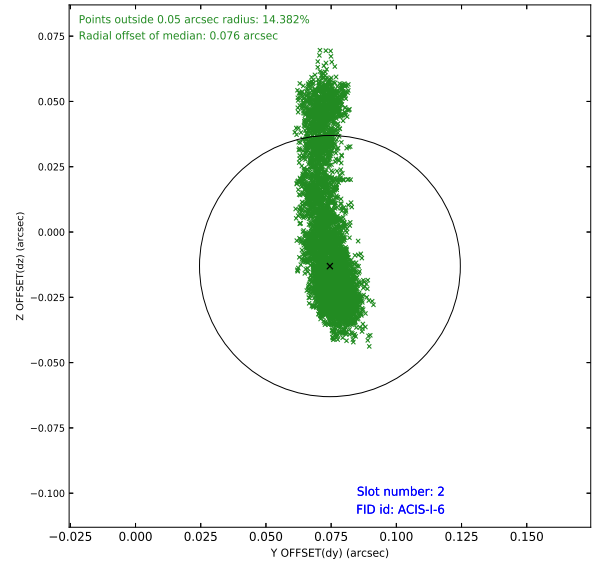
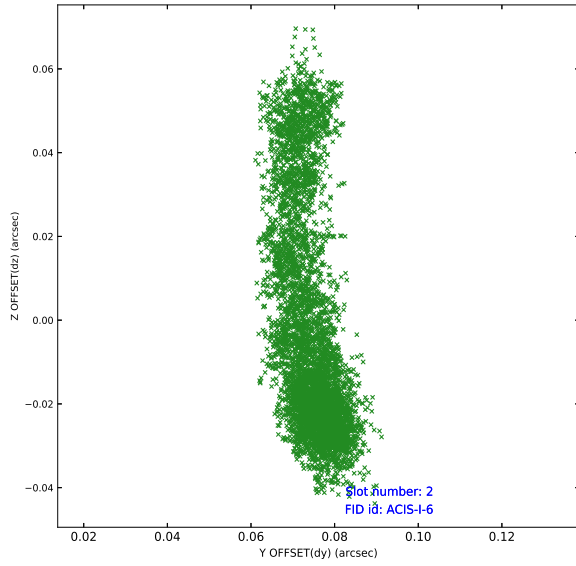
2.5.2 Slot 1



Time (s)



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|---------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2020.10.08 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 23.05469 |

A.2 Comments