

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20569 - L2 Version 2
Chandra X-Ray Center

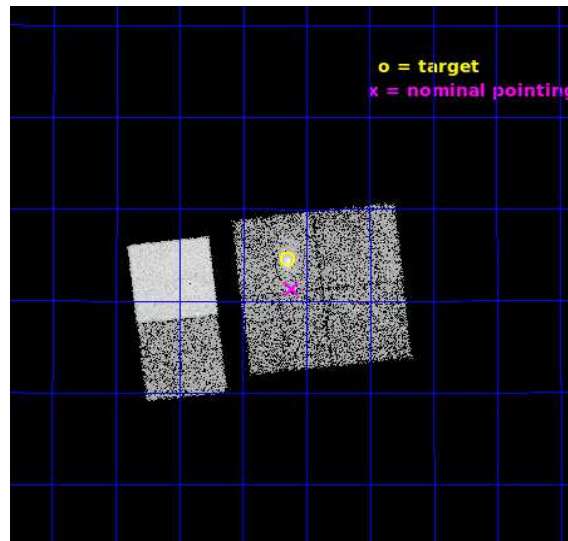
L2 Processing Date : Oct 26 2020

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1 Front

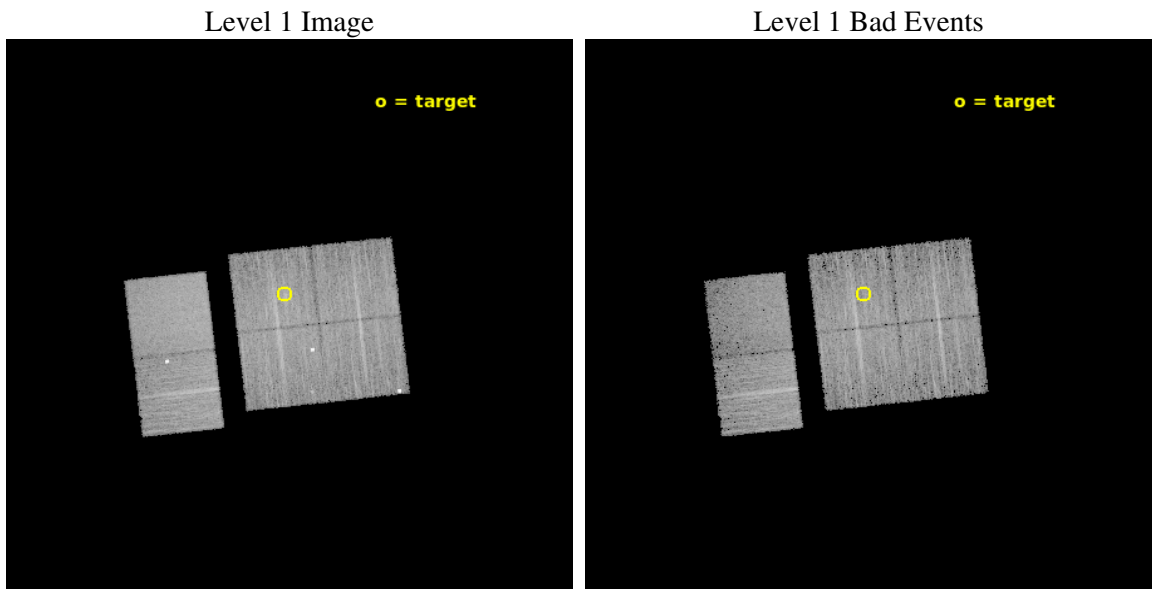
| | | |
|----------|--|---|
| seq_num | 801768 | Sequence number |
| obs_id | 20569 | Observation id |
| title | The Chandra Strong Lens Sample: Revealing Baryonic Physics In Strong Lensing Selected Clusters | Proposal title |
| observer | Matthew Bayliss | Principal investigator |
| object | SDSSJ1138+2754 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 174.5375 | Observer's specified target RA [deg] |
| dec_targ | 27.908611 | Observer's specified target Dec [deg] |
| ra_nom | 174.5285526941 | Nominal RA [deg] |
| dec_nom | 27.855708018085 | Nominal Dec [deg] |
| roll_nom | 263.53052041387 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 8140.7590409517 | Sum of GTIs [s] |
| livetime | 8037.6758481986 | Livetime [s] |
| ontime0 | 8140.7590410709 | Sum of GTIs [s] |
| ontime1 | 8144.0001213551 | Sum of GTIs [s] |
| ontime2 | 8144.0001213551 | Sum of GTIs [s] |
| ontime3 | 8140.7590409517 | Sum of GTIs [s] |
| ontime6 | 8144.0001213551 | Sum of GTIs [s] |
| ontime7 | 8144.0001213551 | Sum of GTIs [s] |
| l2events | 62005 | Number of level 2 events |



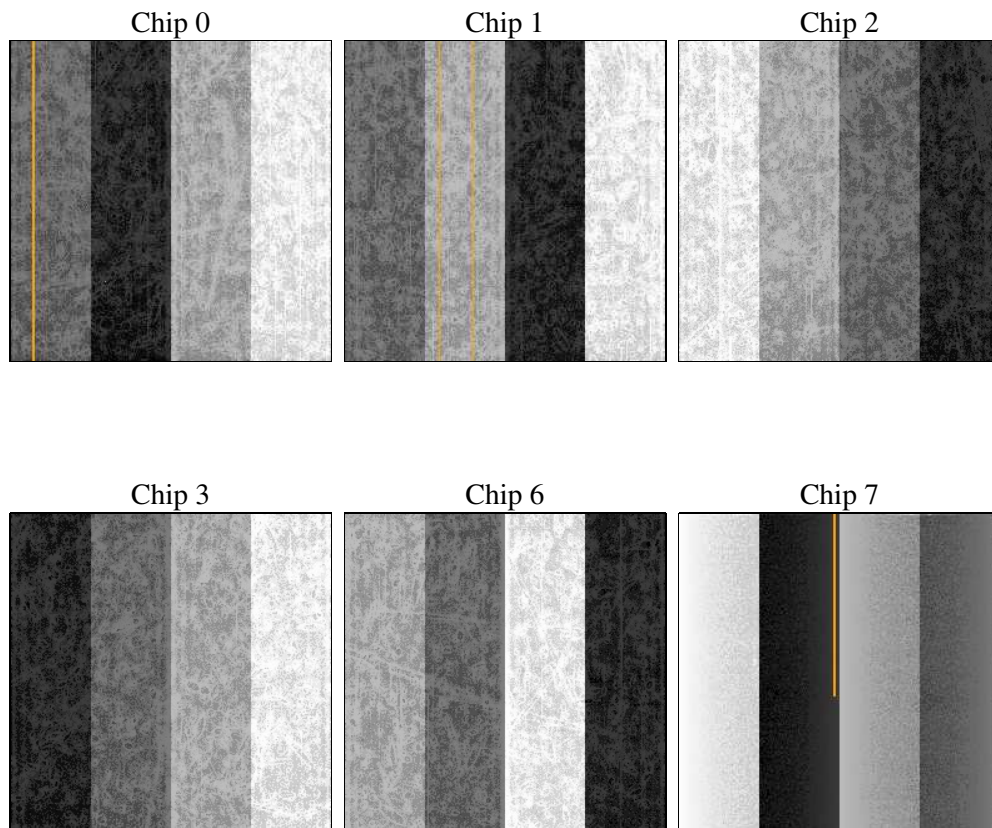
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 8193.361000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.2 | Processing system revision | ontime | 8140.7590409517 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime0 | 8140.7590410709 | Sum of GTIs [s] |
| date | 2020-10-26T19:59:55 | Date and time of file creation | ontime1 | 8144.0001213551 | Sum of GTIs [s] |
| revision | 2 | Processing version of data | ontime2 | 8144.0001213551 | Sum of GTIs [s] |
| | | | ontime3 | 8140.7590409517 | Sum of GTIs [s] |
| | | | ontime6 | 8144.0001213551 | Sum of GTIs [s] |
| | | | ontime7 | 8144.0001213551 | Sum of GTIs [s] |
| | | | l1events | 400650 | Number of level 1 events |

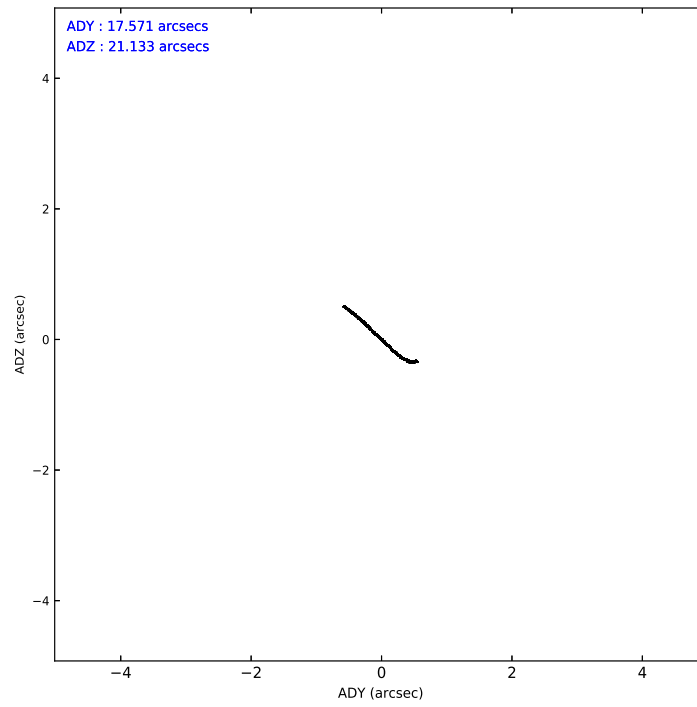
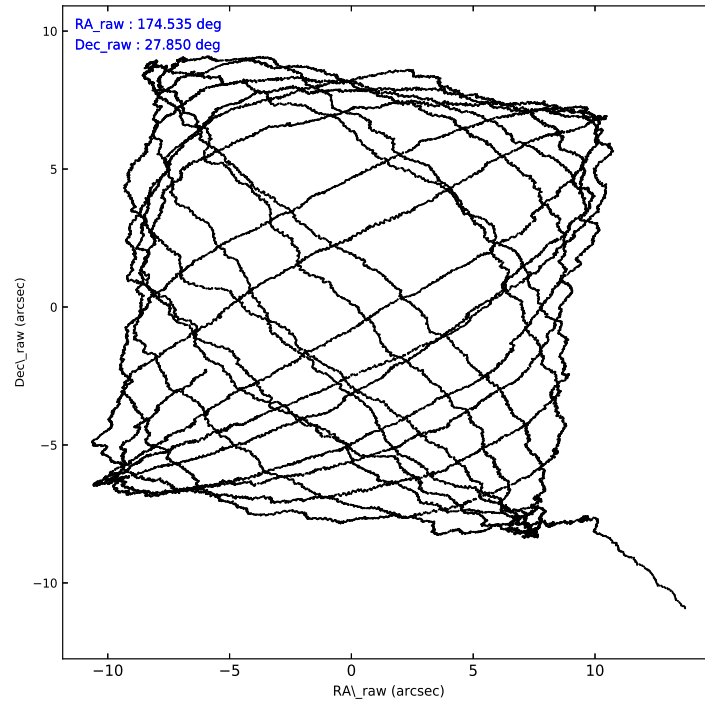
2.1.4 Events

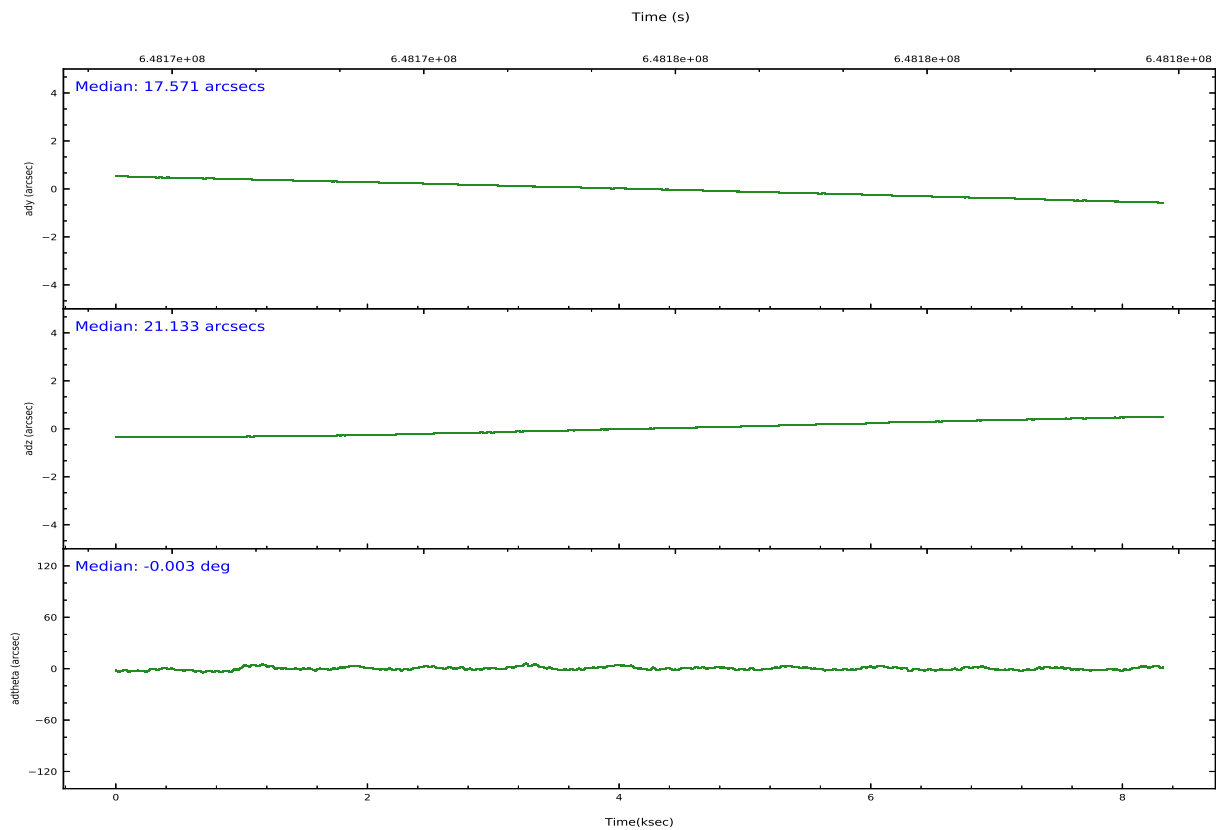
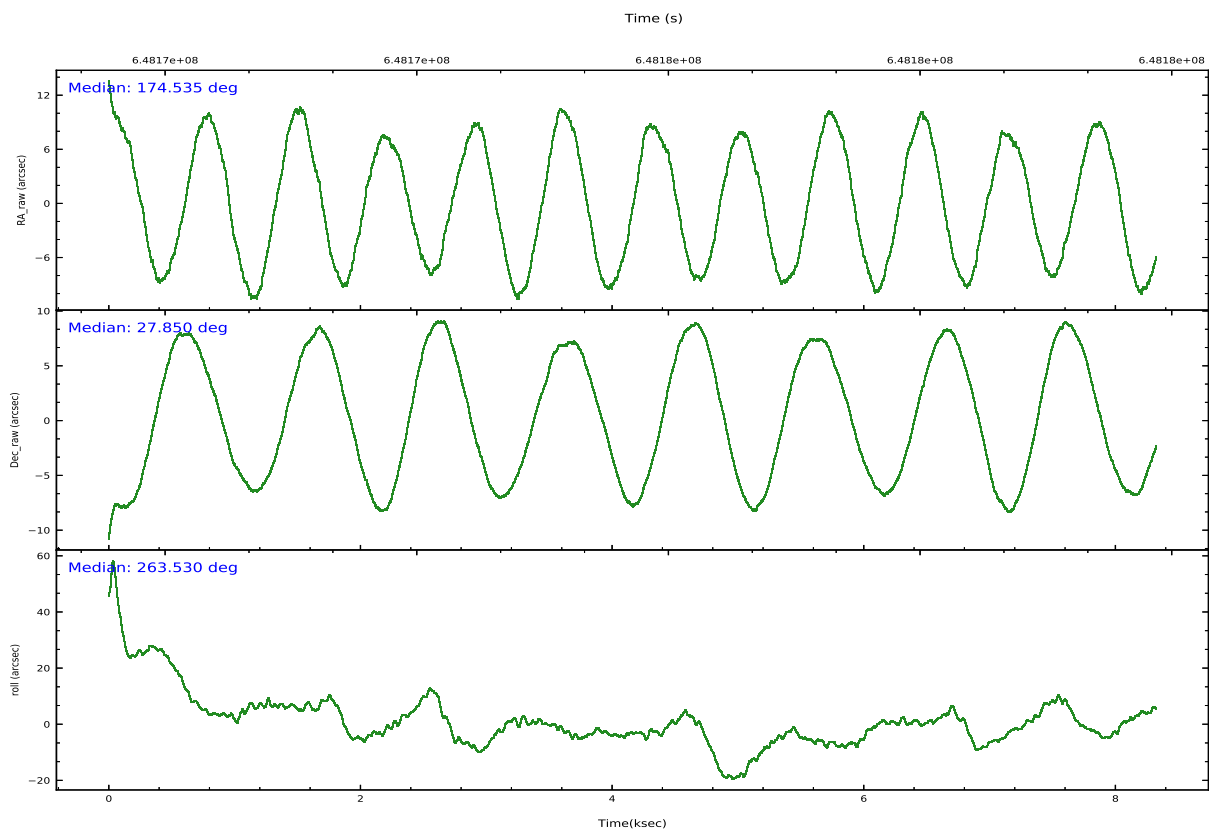
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 61583 | 60211 | 67019 | 63746 | 69744 | 78347 | grade 0 events | 4544 | 2136 | 4738 | 3319 | 4325 | 2741 |
| rejected events | 52810 | 53041 | 58217 | 56057 | 60395 | 44760 | | 7% | 3% | 7% | 5% | 6% | 3% |
| rejected % | 85% | 88% | 86% | 87% | 86% | 57% | grade 1 events | 35 | 35 | 44 | 34 | 51 | 112 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 1576 | 2105 | 1494 | 1521 | 1946 | 7007 |
| | | | | | | | | 2% | 3% | 2% | 2% | 2% | 8% |
| | | | | | | | grade 3 events | 593 | 562 | 618 | 674 | 565 | 2707 |
| | | | | | | | | 0% | 0% | 0% | 1% | 0% | 3% |
| | | | | | | | grade 4 events | 588 | 599 | 631 | 723 | 640 | 2460 |
| | | | | | | | | 0% | 0% | 0% | 1% | 0% | 3% |
| | | | | | | | grade 5 events | 2316 | 2348 | 2338 | 2657 | 2550 | 7422 |
| | | | | | | | | 3% | 3% | 3% | 4% | 3% | 9% |
| | | | | | | | grade 6 events | 1479 | 1772 | 1333 | 1460 | 1878 | 18699 |
| | | | | | | | | 2% | 2% | 1% | 2% | 2% | 23% |
| | | | | | | | grade 7 events | 50452 | 50654 | 55823 | 53358 | 57789 | 37199 |
| | | | | | | | | 81% | 84% | 83% | 83% | 82% | 47% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-012367 | ACIS-012367 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | VFAINT | VFAINT | CCD I0 on | Y | Y |
| Observation mode | POINTING | POINTING | CCD I1 on | Y | Y |
| [deg] Pointing RA | 174.522163 | 174.5285526941 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | 27.875319 | 27.855708018085 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 263.337506 | 263.53052041387 | CCD S0 on | N | N |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | CCD S1 on | N | N |
| [mm] SIM defocus | 0 | 0.001439871863259334 | CCD S2 on | O1 | Y |
| [mm] SIM translation stage pos | -225.840463 | -225.8458576473255 | CCD S3 on | O2 | Y |
| [mm] SIM translation stage offset | -7.752 | -7.746595355604228 | CCD S4 on | N | N |
| [s] Observation start time (MET) | 648171684.184000 | 648170395.63153 | CCD S5 on | N | N |
| Observation start date | 2018-07-16T23:40:15 | 2018-07-16T23:19:55 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 648179877.184000 | 648180902.90715 | On-chip summing requested | N | N |
| Observation end date | 2018-07-17T01:56:48 | 2018-07-17T02:15:02 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



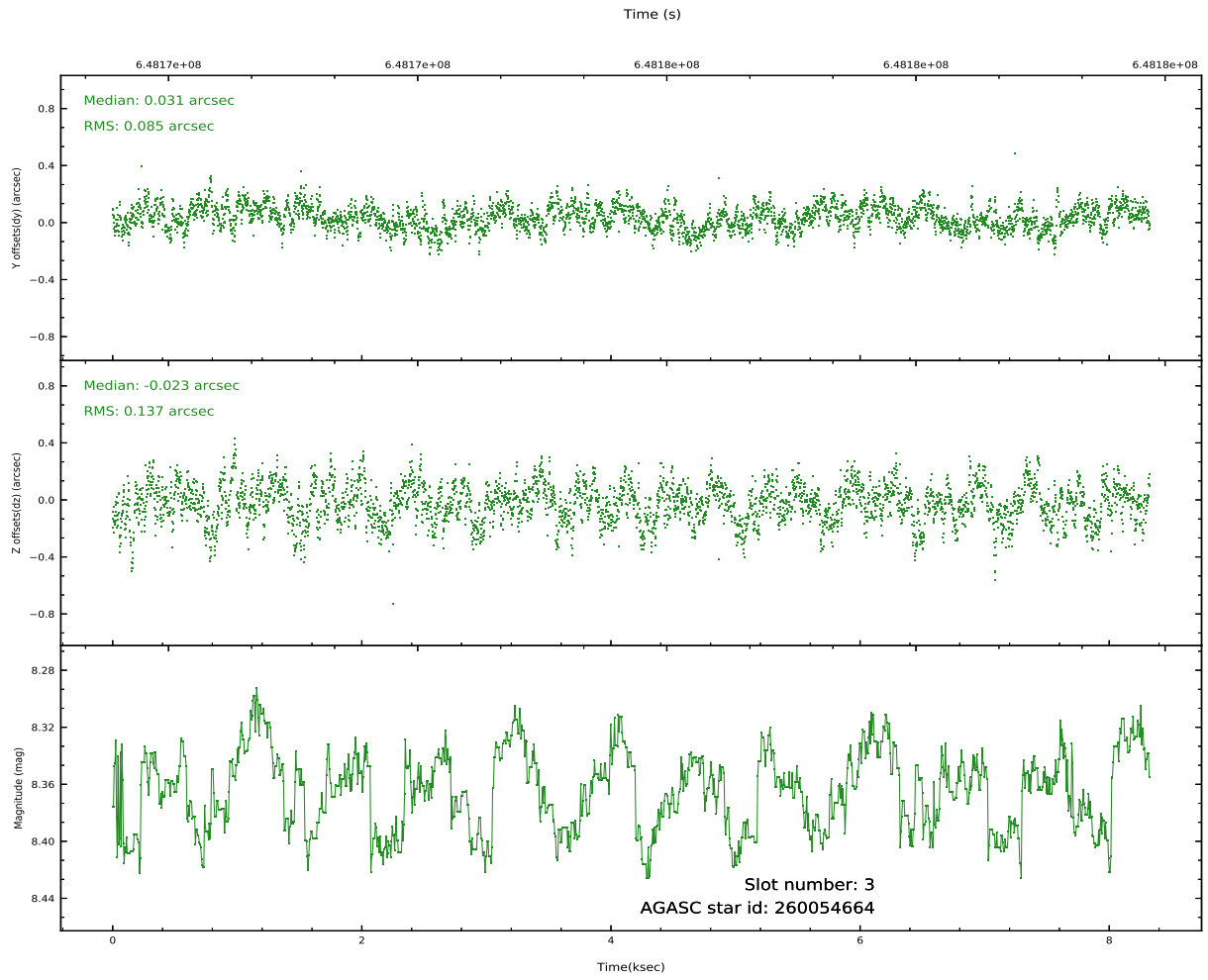
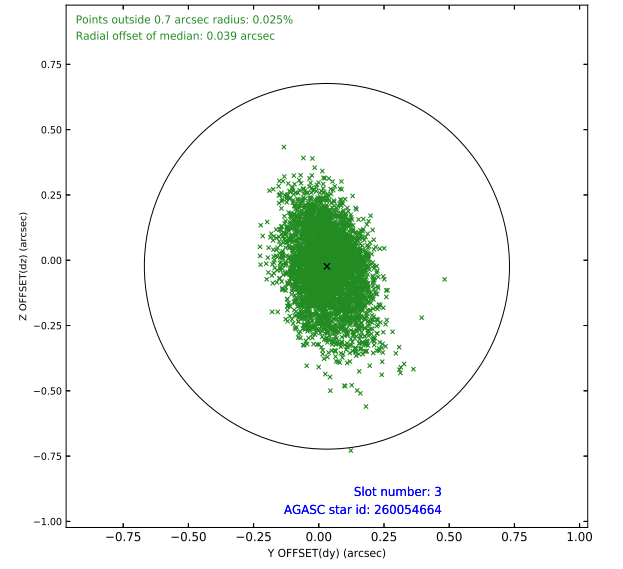
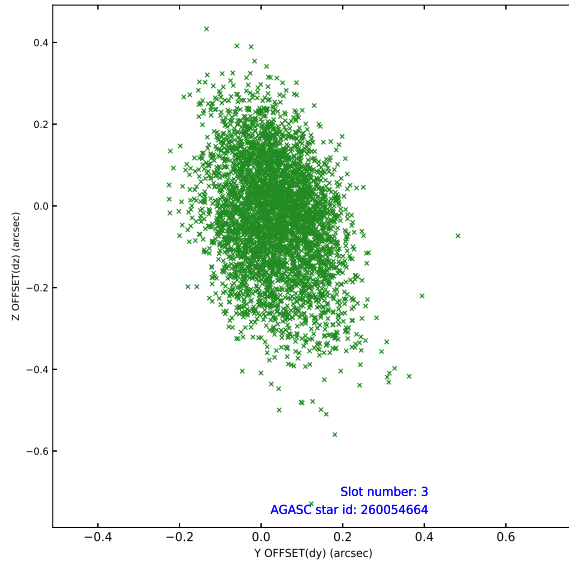


Slot Statistics

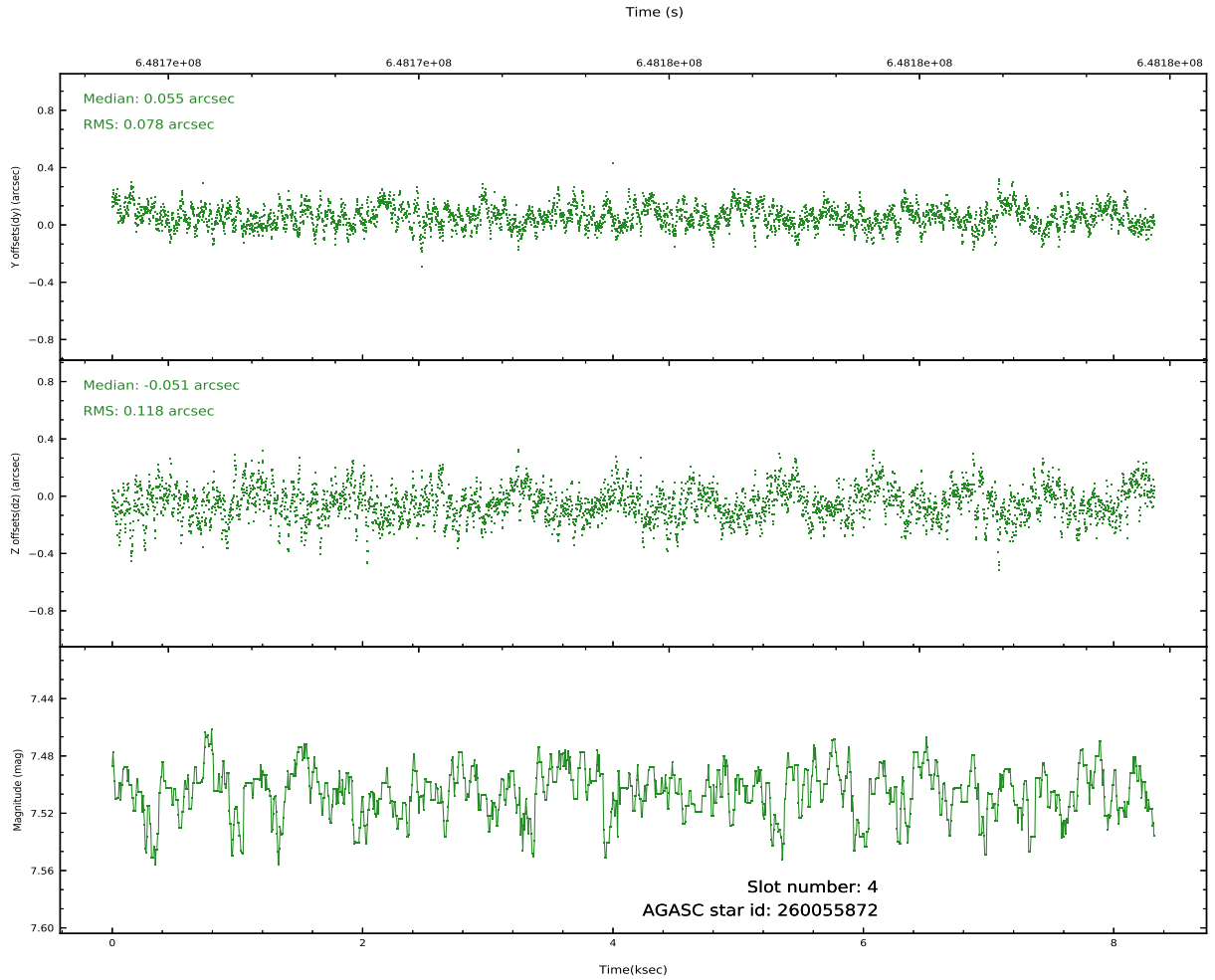
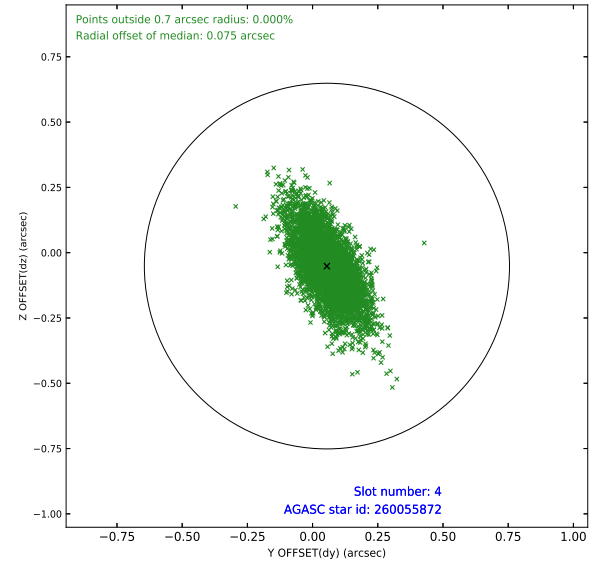
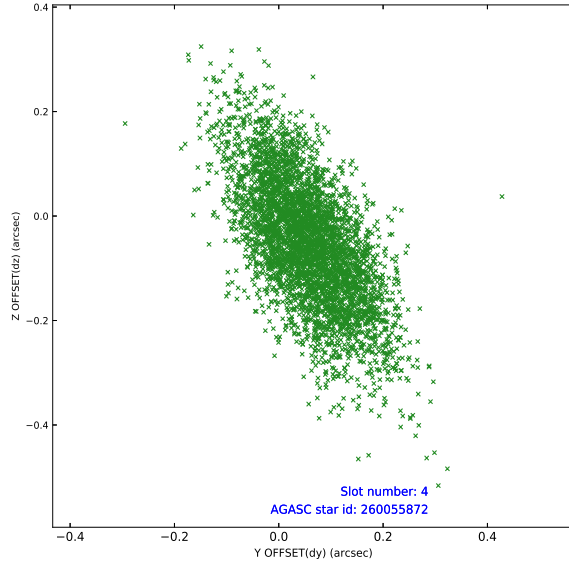
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-I-1 | 7.26 | 2030 | 1.000 | 0.053 | -0.140 | 0.018 | 0.033 | 0.000000 | 0.000000 | 921.75 | -1004 |
| 1 | FID | | ACIS-I-4 | 7.17 | 2031 | 1.000 | -0.085 | -0.030 | 0.021 | 0.039 | 0.000000 | 0.000000 | 2141.55 | 896 |
| 2 | FID | | ACIS-I-6 | 7.28 | 2031 | 1.000 | -0.063 | 0.236 | 0.017 | 0.031 | 0.000000 | 0.000000 | 388.35 | 1538 |
| 3 | GUIDE | used | 260054664 | 8.36 | 4062 | 1.000 | 0.031 | -0.023 | 0.166 | 0.292 | 174.013801 | 27.902463 | 88.48 | -1617 |
| 4 | GUIDE | used | 260055872 | 7.50 | 4061 | 1.000 | 0.055 | -0.051 | 0.144 | 0.261 | 174.307819 | 27.773873 | 441.97 | -635 |
| 5 | GUIDE | used | 260061416 | 9.17 | 4056 | 1.000 | -0.230 | 0.032 | 0.154 | 0.267 | 174.955284 | 28.177964 | -1243.66 | 1237 |
| 6 | GUIDE | used | 260061752 | 9.41 | 4051 | 1.000 | 0.171 | 0.009 | 0.188 | 0.316 | 175.045860 | 27.905524 | -304.09 | 1643 |
| 7 | GUIDE | used | 260054584 | 9.43 | 4056 | 1.000 | -0.033 | 0.047 | 0.196 | 0.366 | 173.745505 | 27.752896 | 717.84 | -2406 |

2.4 Star Slots

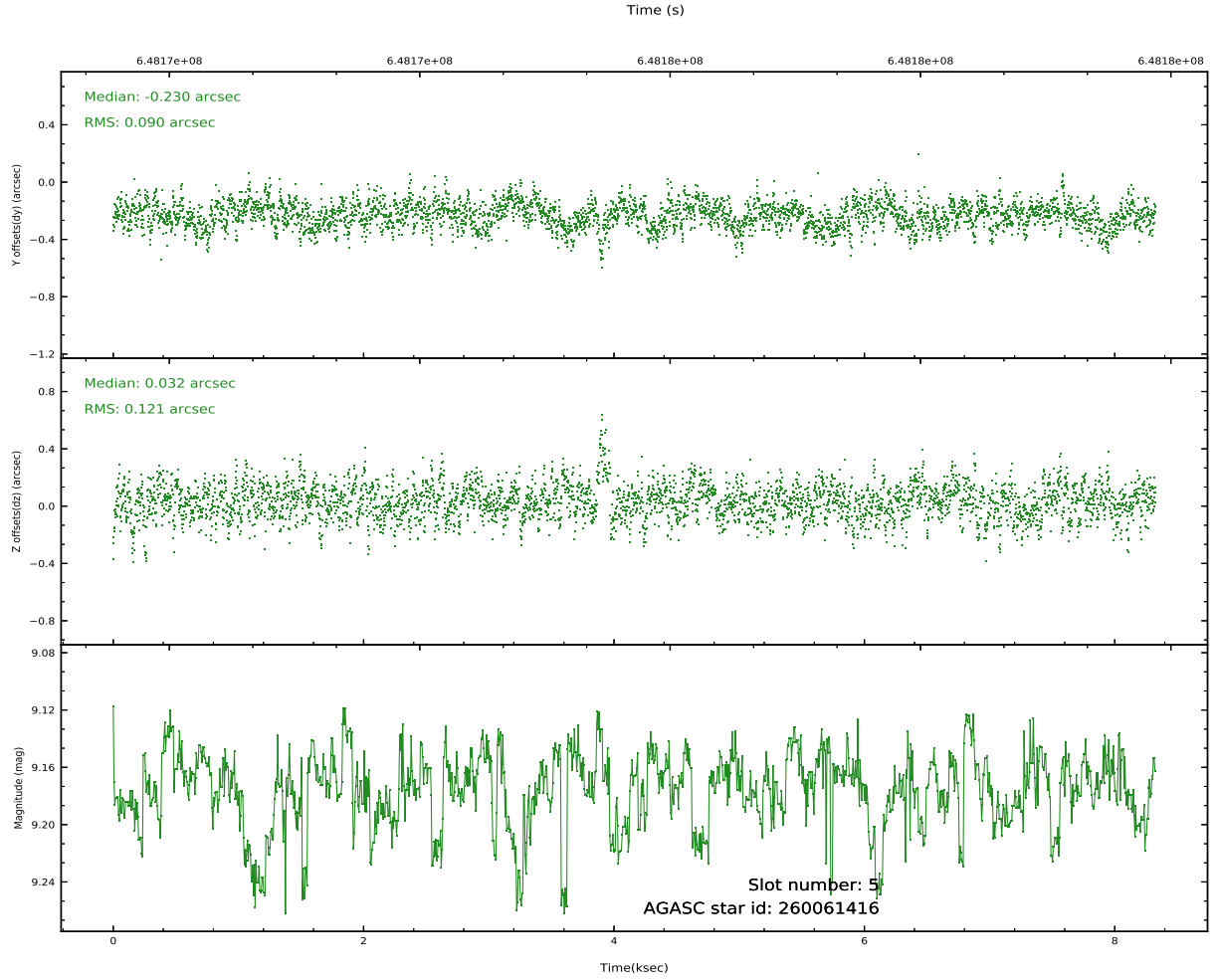
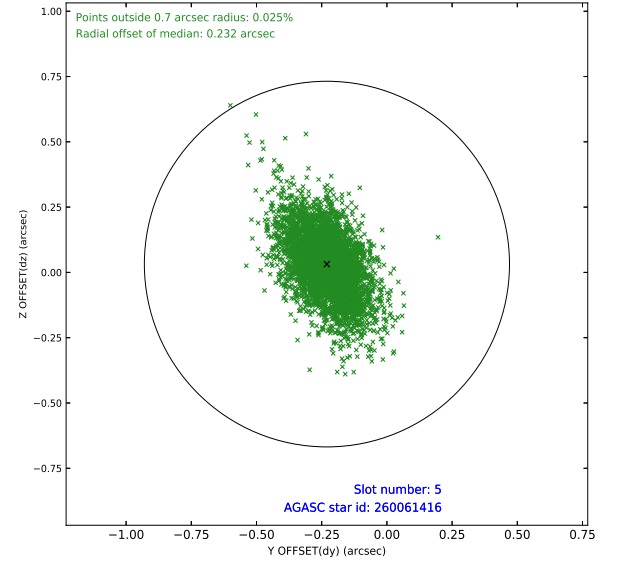
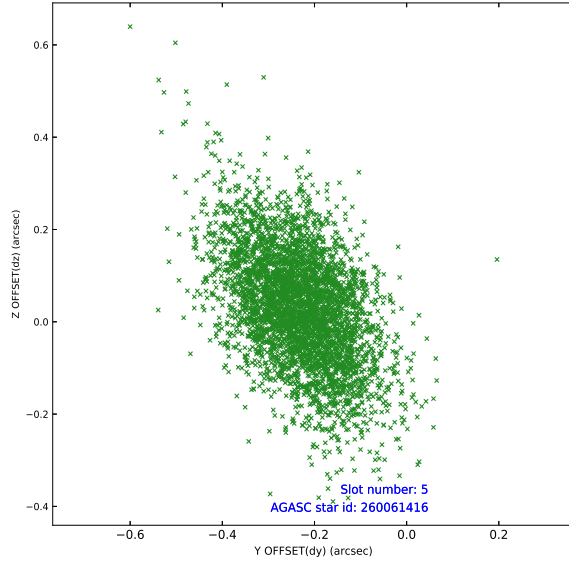
2.4.1 Slot 3



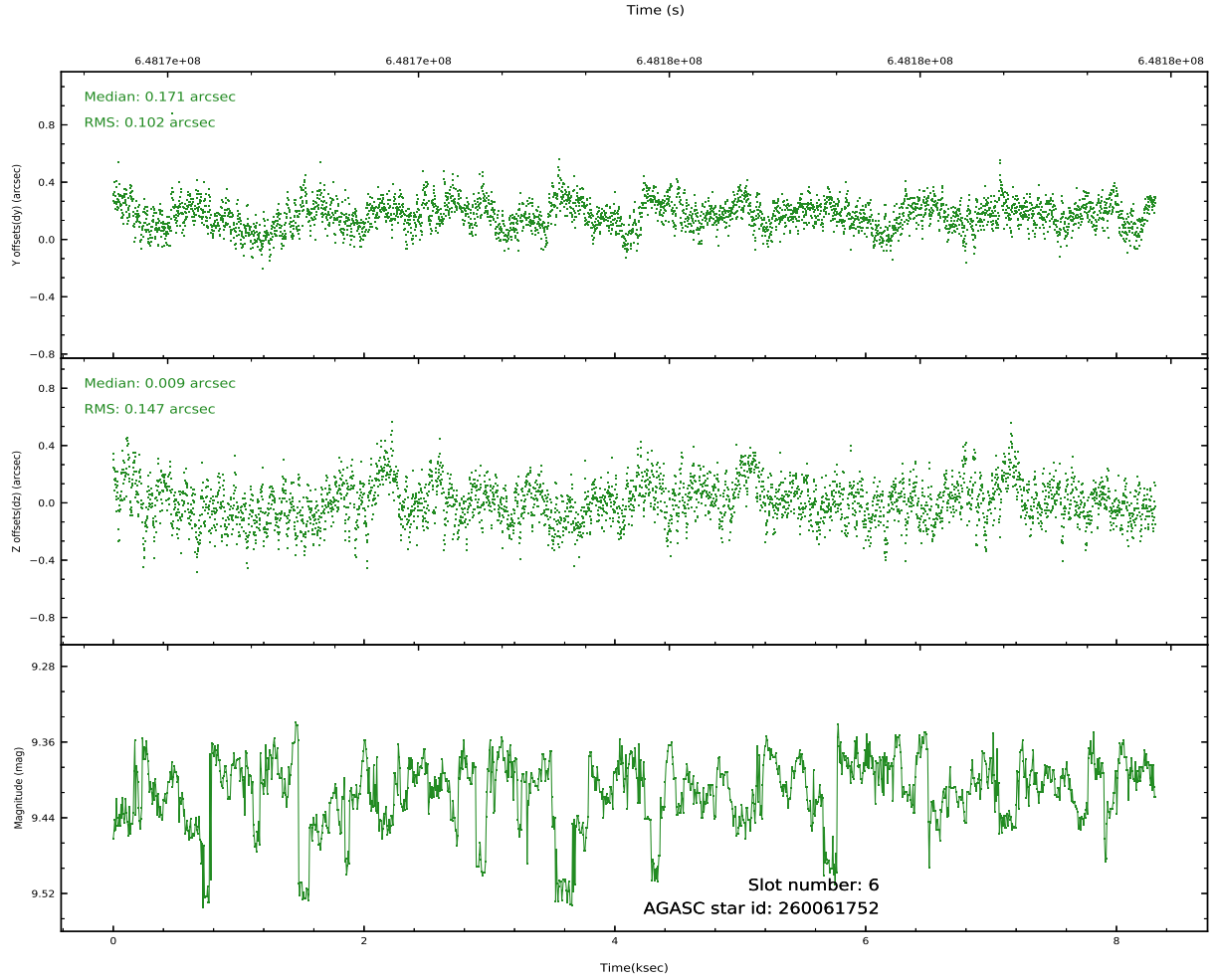
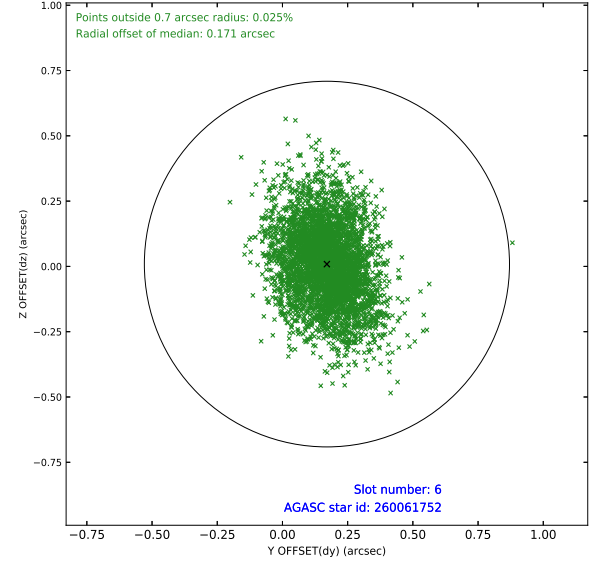
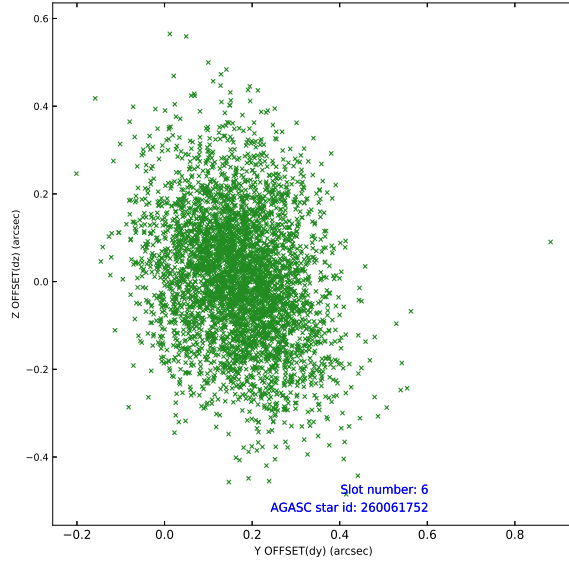
2.4.2 Slot 4



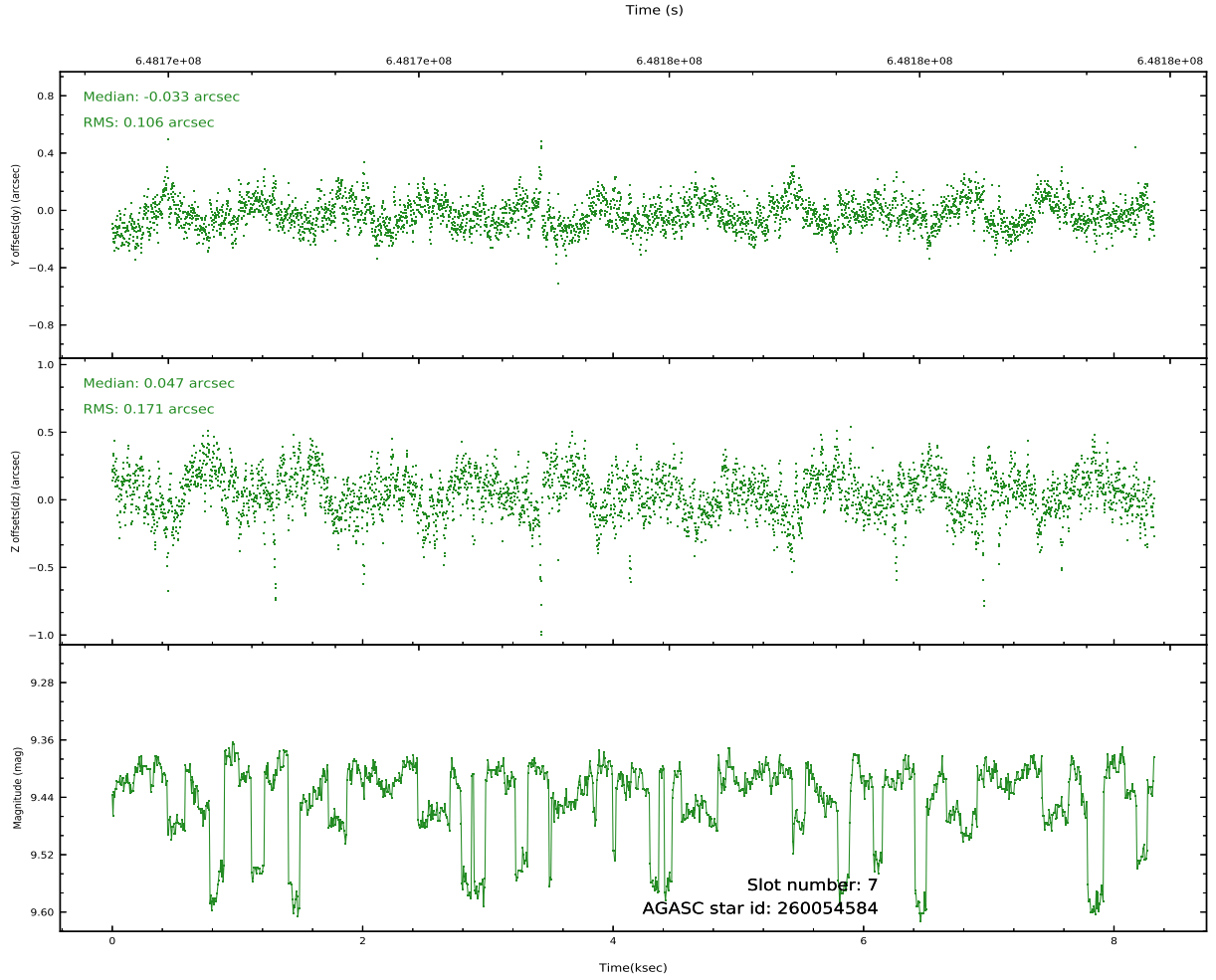
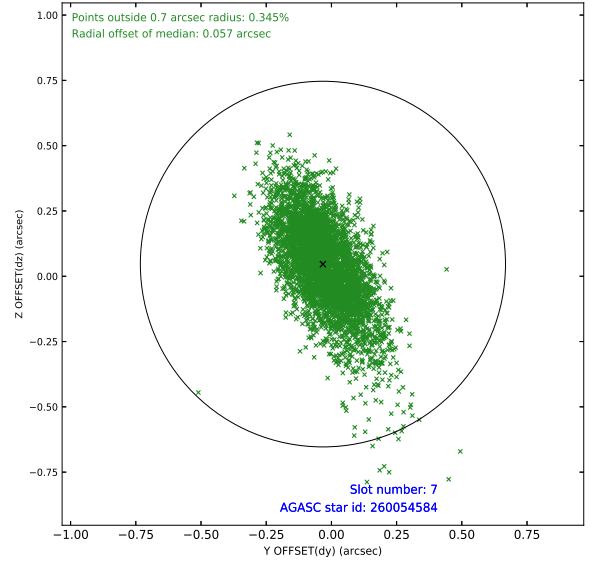
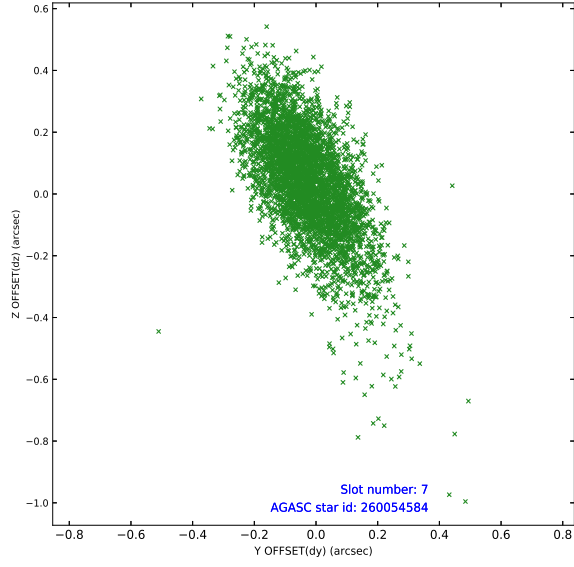
2.4.3 Slot 5



2.4.4 Slot 6

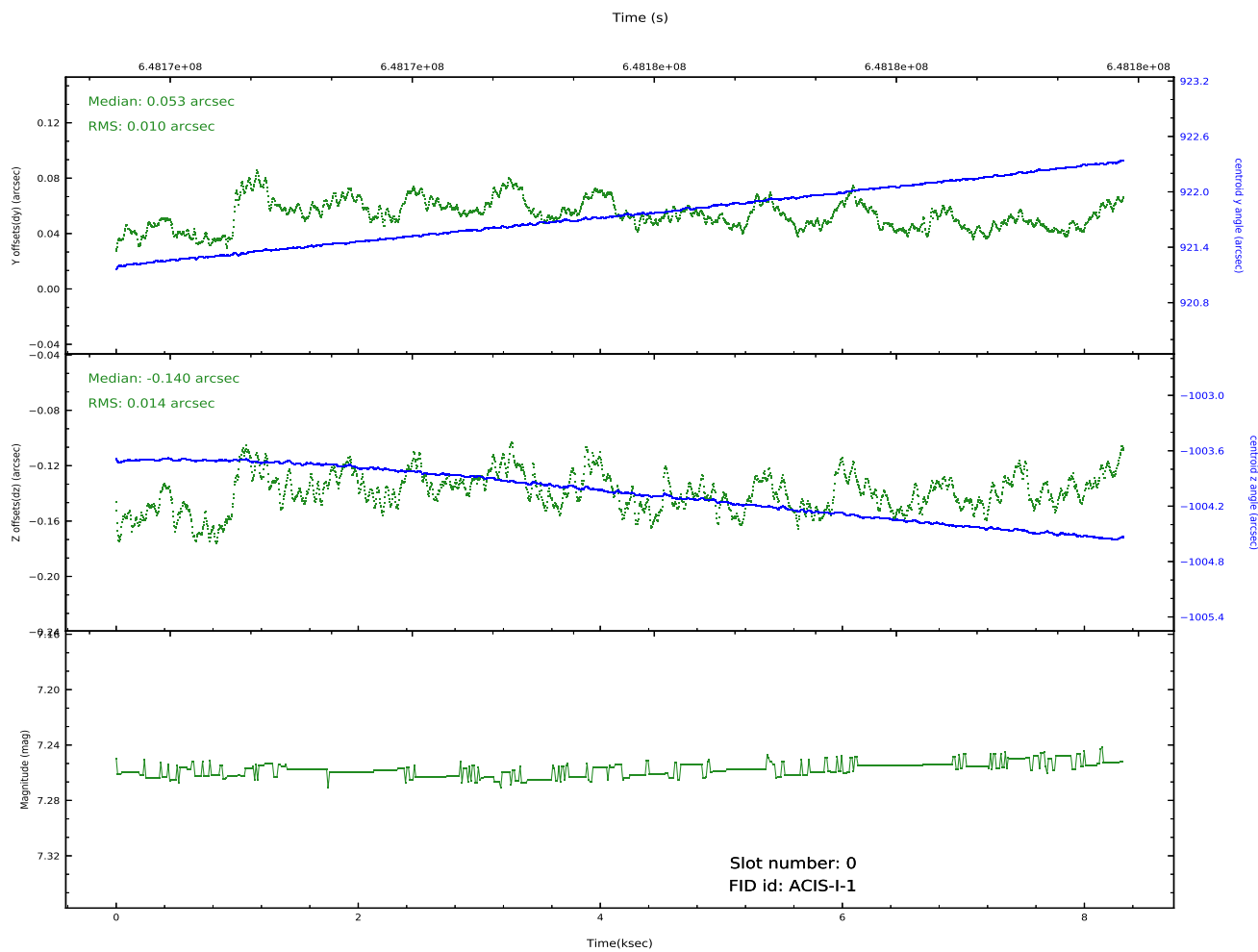
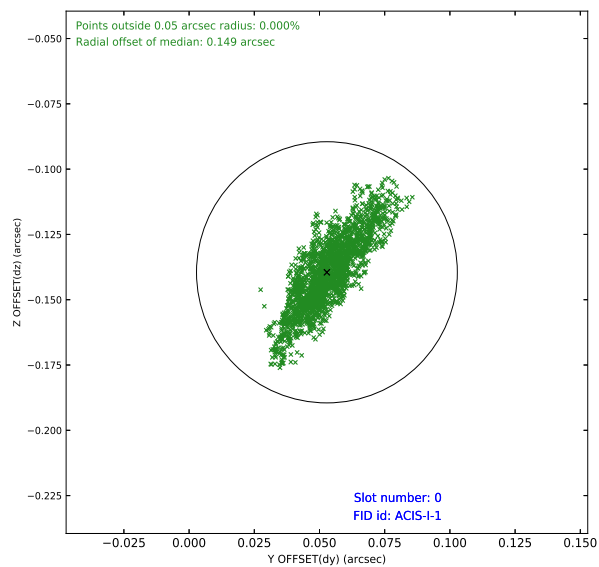
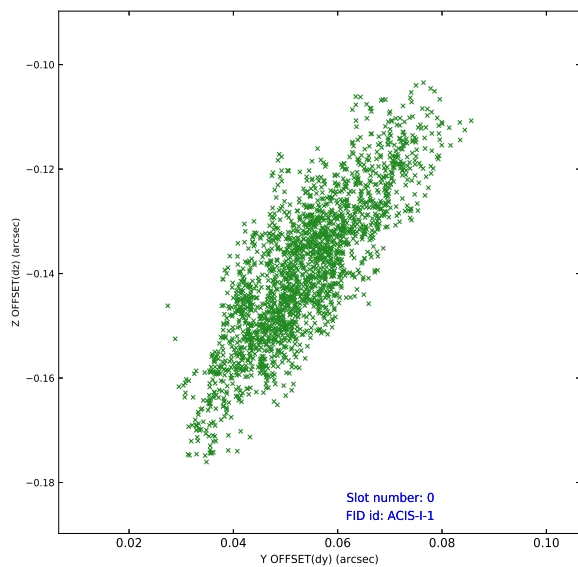


2.4.5 Slot 7

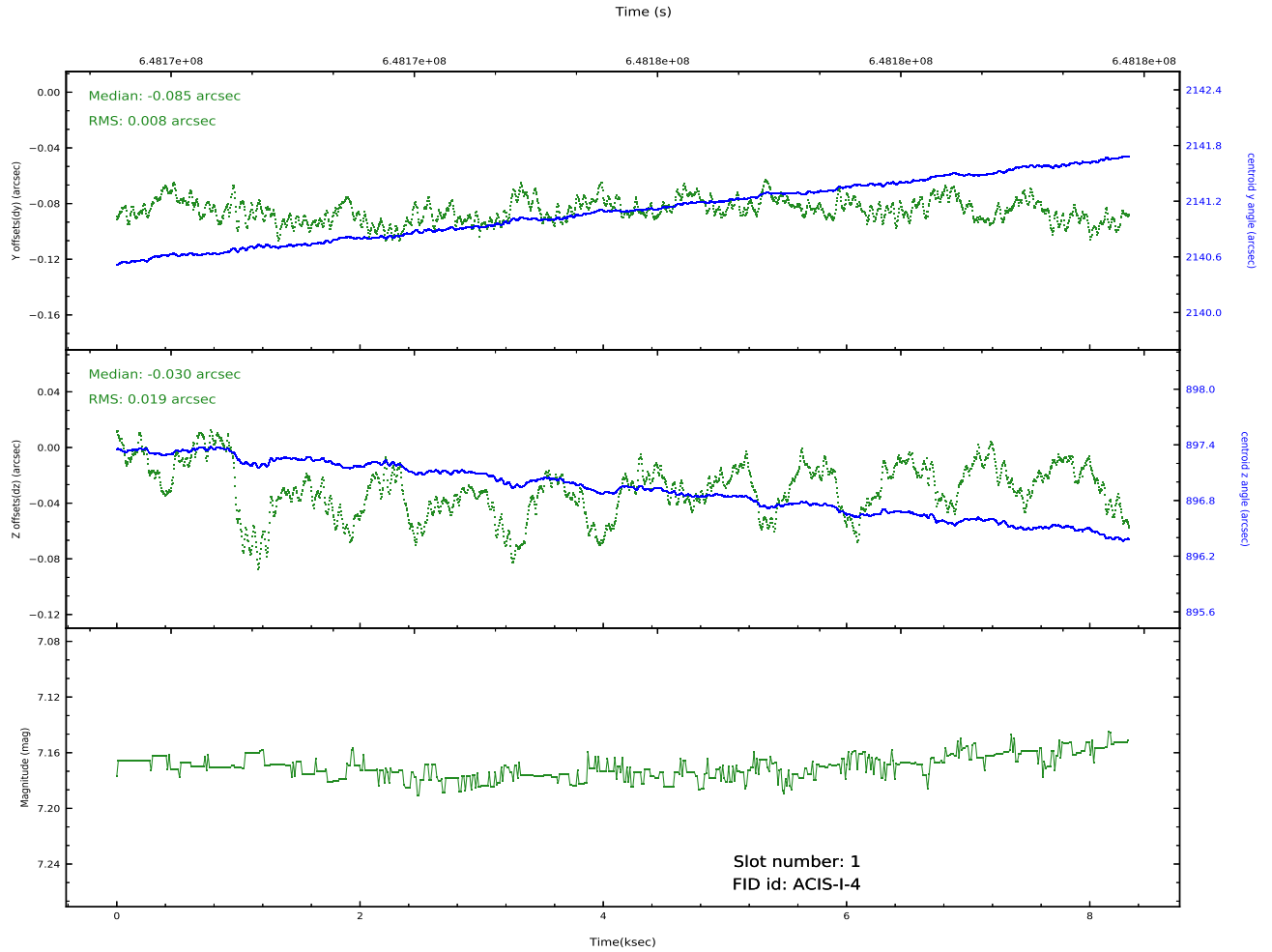
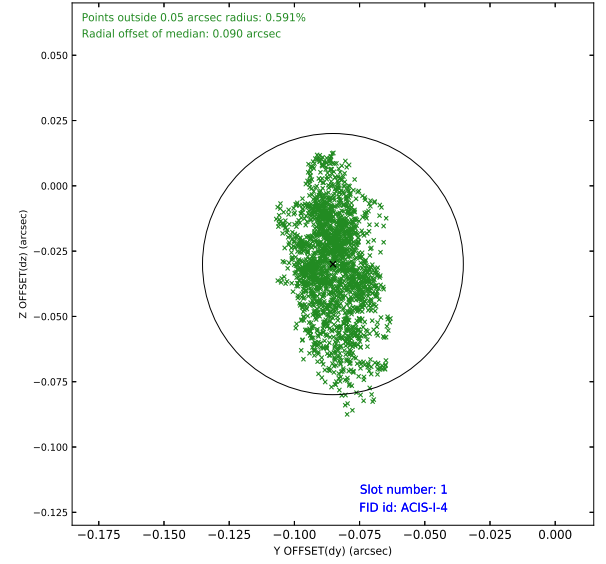
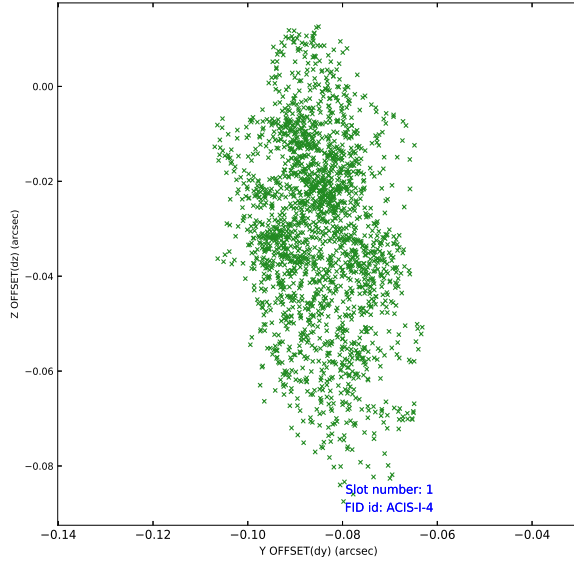


2.5 FID Slots

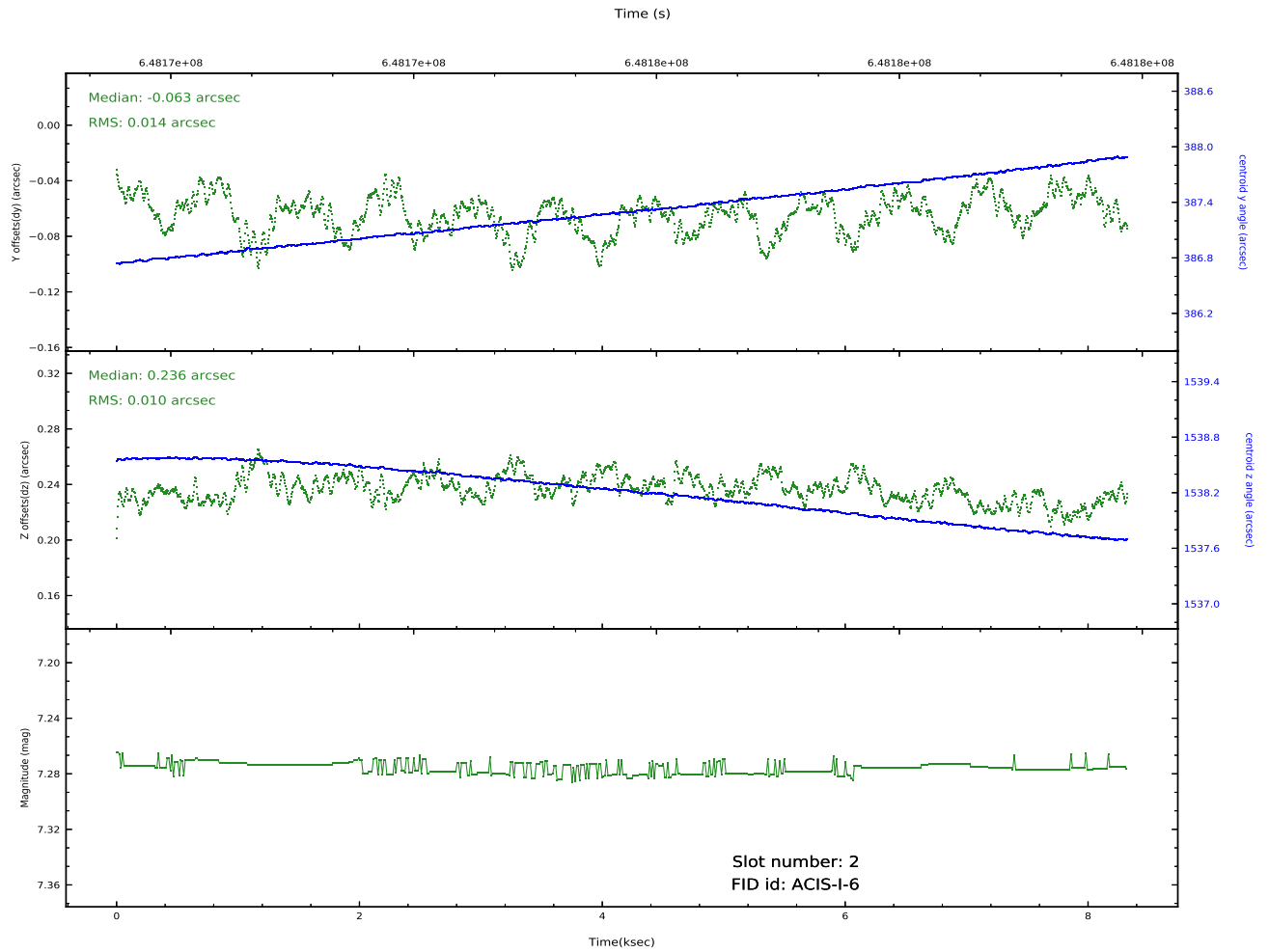
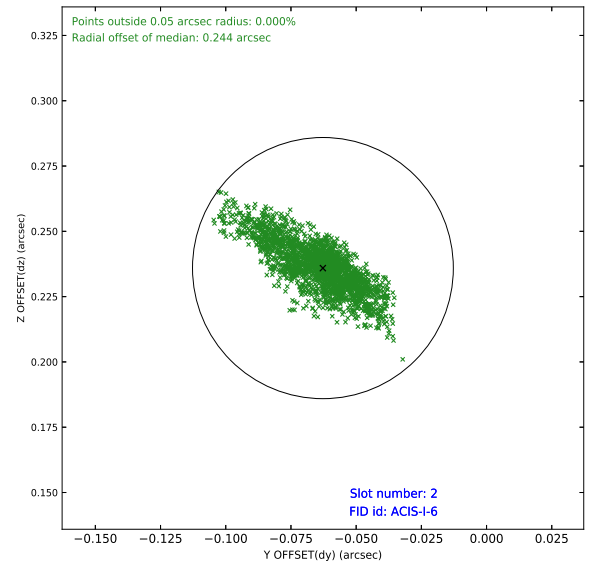
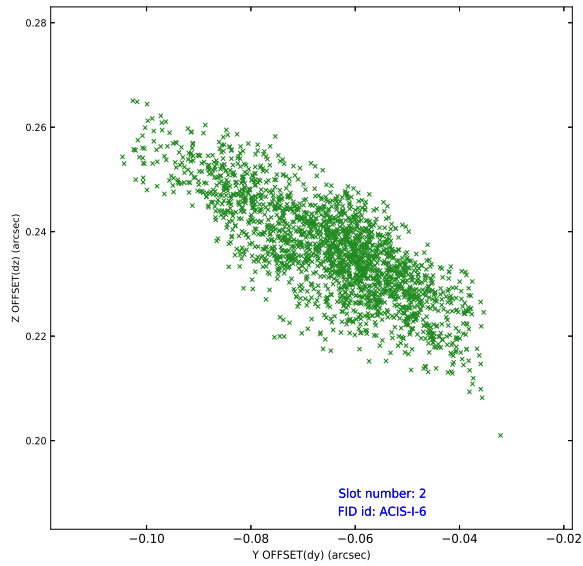
2.5.1 Slot 0



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 | 8.1407590409517 |

A.2 Comments

Joint proposal with HST.