

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5829 - L2 Version 5
Chandra X-Ray Center

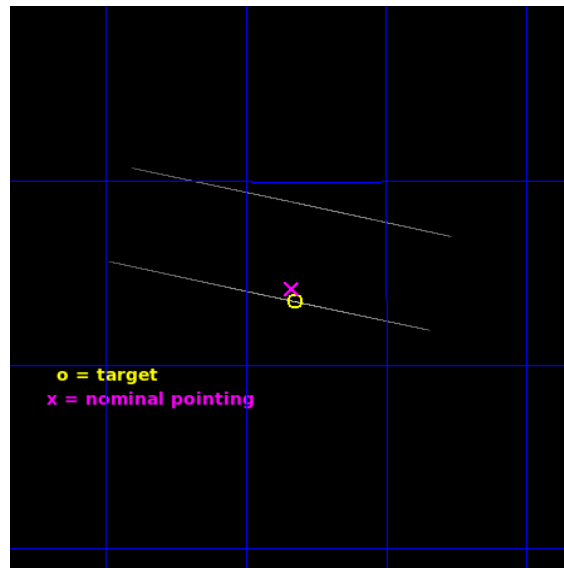
L2 Processing Date : Oct 7 2020

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1 Front

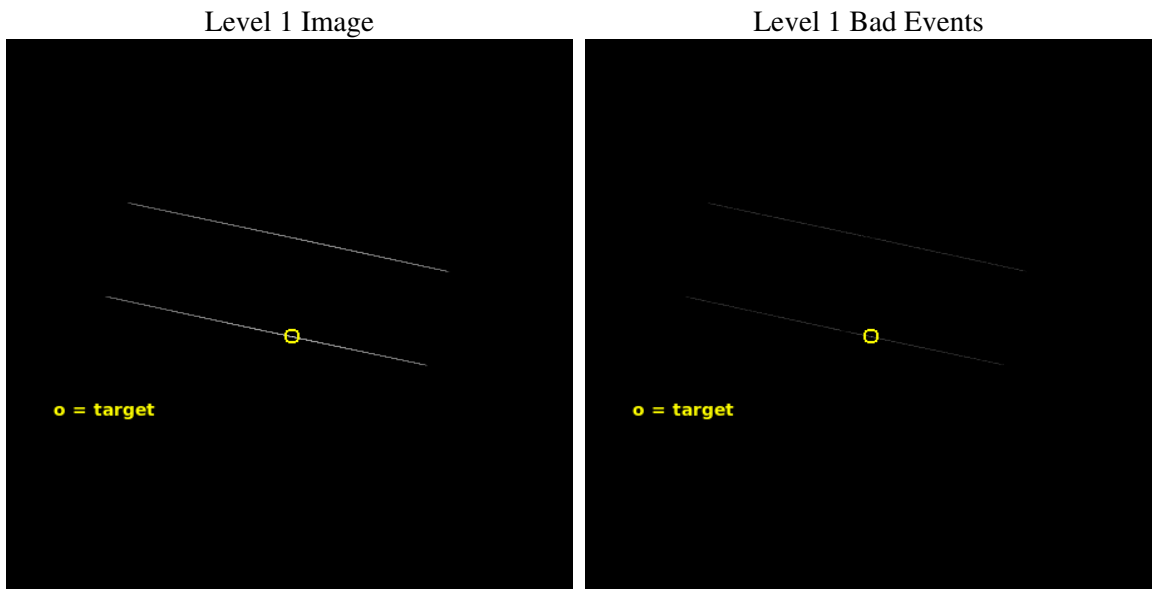
| | | |
|----------|---|---------------------------------------|
| seq_num | 800539 | Sequence number |
| obs_id | 5829 | Observation id |
| title | The History of AGN Activity in M87 and the Interaction of Nuclear Outbursts with the Surrounding Atmosphere | Proposal title |
| observer | William Forman | Principal investigator |
| object | M87 | Source name |
| ra_targ | 187.70625 | Observer's specified target RA [deg] |
| dec_targ | 12.391111 | Observer's specified target Dec [deg] |
| ra_nom | 187.708931821 | Nominal RA [deg] |
| dec_nom | 12.402706061353 | Nominal Dec [deg] |
| roll_nom | 102.60836341405 | Nominal Roll [deg] |
| revision | 5 | Processing version of data |
| ontime | 4131.25 | Sum of GTIs [s] |
| livetime | 4115.1123046875 | Livetime [s] |
| ontime0 | 4131.25 | Sum of GTIs [s] |
| ontime1 | 4131.25 | Sum of GTIs [s] |
| ontime2 | 4131.25 | Sum of GTIs [s] |
| ontime3 | 4131.25 | Sum of GTIs [s] |
| l2events | 171158 | Number of level 2 events |



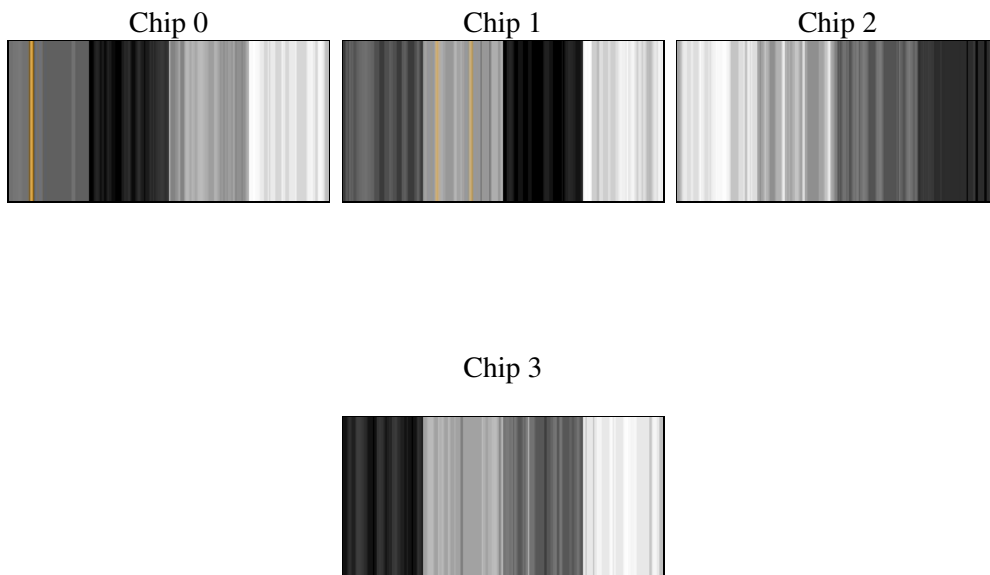
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 4000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 4131.25 | Sum of GTIs [s] |
| caldsver | 4.9.2 | | ontime0 | 4131.25 | Sum of GTIs [s] |
| date | 2020-10-07T03:45:00 | Date and time of file creation | ontime1 | 4131.25 | Sum of GTIs [s] |
| revision | 5 | Processing version of data | ontime2 | 4131.25 | Sum of GTIs [s] |
| | | | ontime3 | 4131.25 | Sum of GTIs [s] |
| | | | l1events | 197138 | Number of level 1 events |

2.1.4 Events

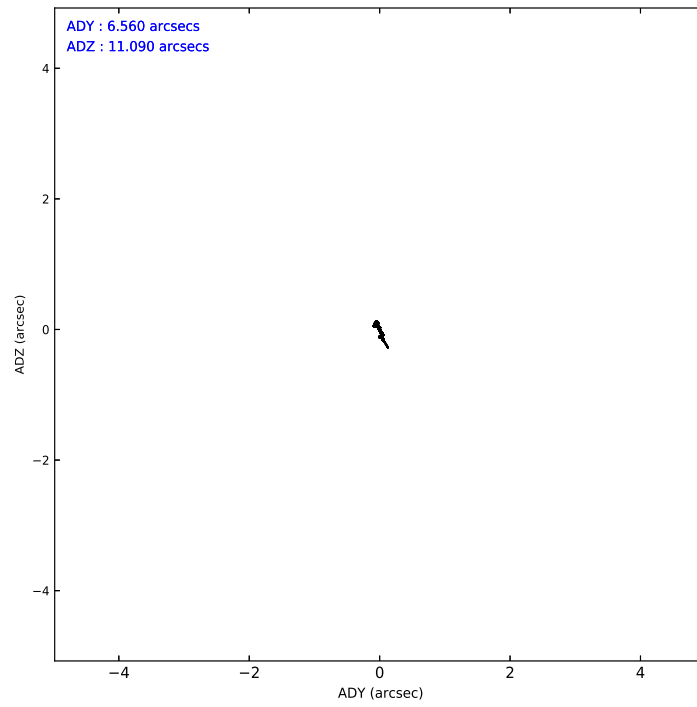
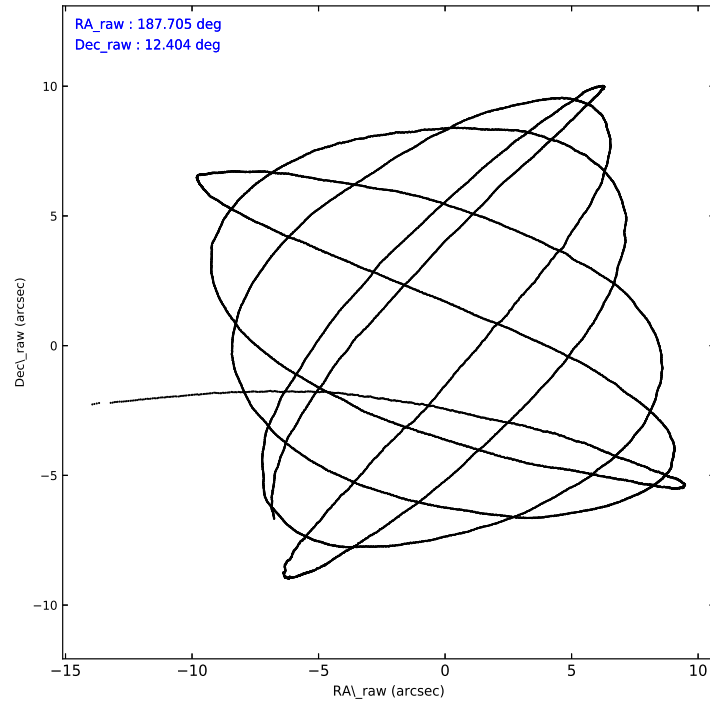
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|-----------------|-------|-------|-------|-------|
| level 1 events | 24793 | 35207 | 39189 | 97949 |
| rejected events | 3233 | 3633 | 3523 | 6756 |
| rejected % | 13% | 10% | 8% | 6% |

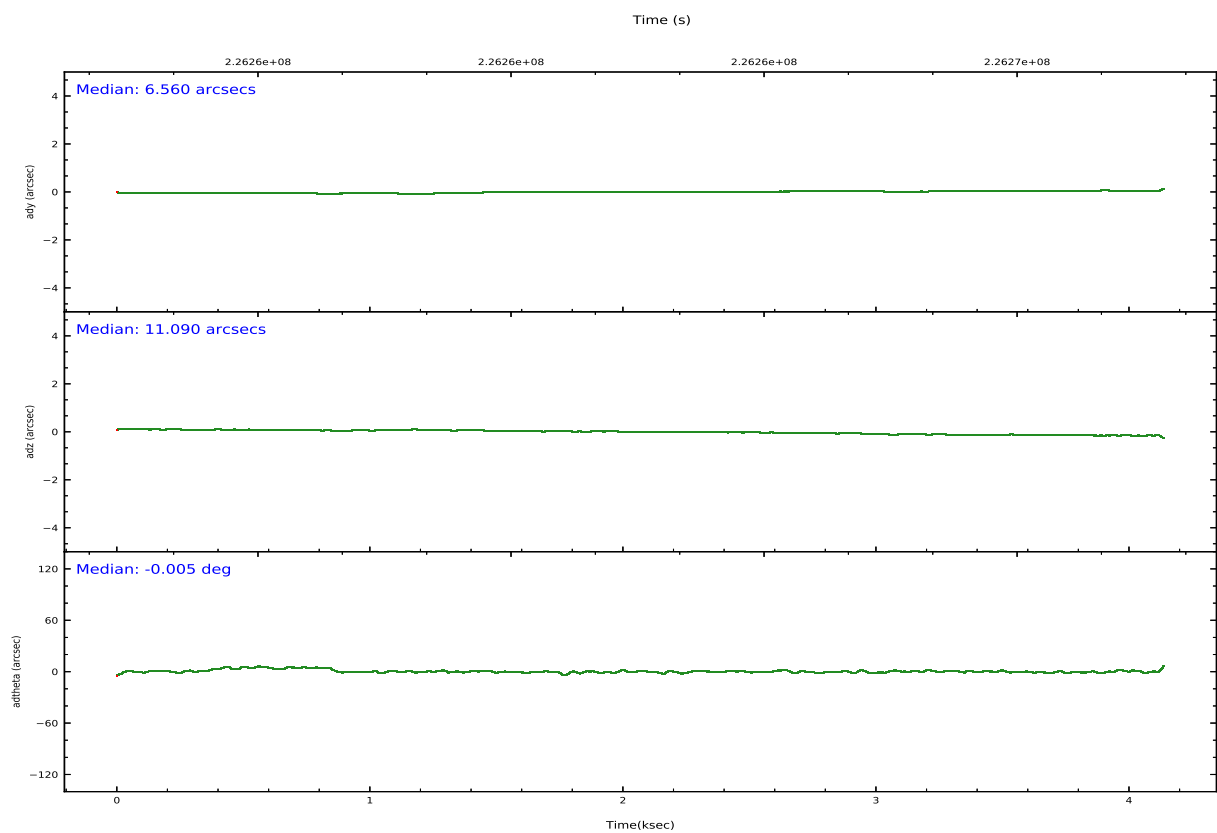
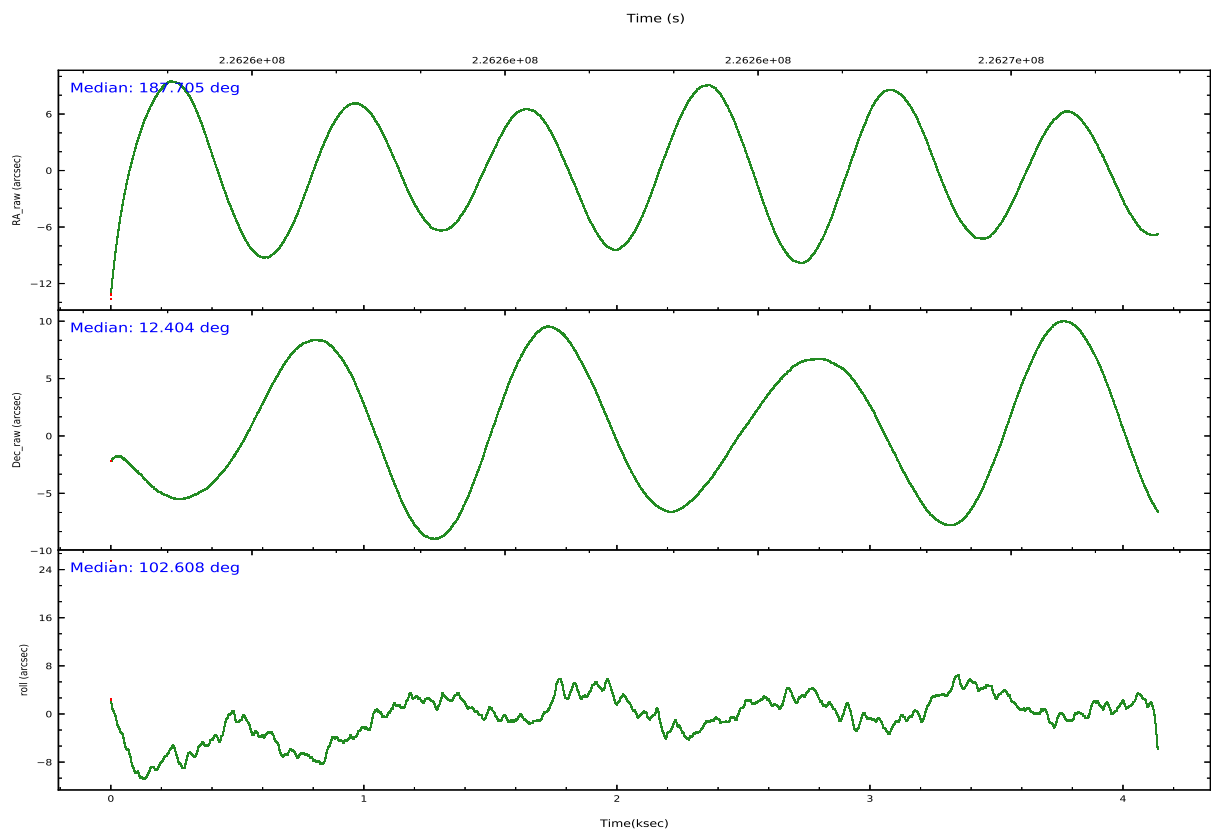
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 4745 | 6174 | 5801 | 7727 |
| | 19% | 17% | 14% | 7% |
| grade 1 events | 25 | 32 | 42 | 52 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 14782 | 23385 | 27843 | 80934 |
| | 59% | 66% | 71% | 82% |
| grade 3 events | 1022 | 878 | 989 | 1196 |
| | 4% | 2% | 2% | 1% |
| grade 4 events | 965 | 862 | 939 | 1040 |
| | 3% | 2% | 2% | 1% |
| grade 5 events | 1302 | 1323 | 1206 | 1652 |
| | 5% | 3% | 3% | 1% |
| grade 6 events | 1946 | 2552 | 2369 | 5348 |
| | 7% | 7% | 6% | 5% |
| grade 7 events | 6 | 1 | 0 | 0 |
| | 0% | 0% | 0% | 0% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-0123 | ACIS-0123 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | CC33_FAINT | CC33_FAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 187.724333 | 187.708931821 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 12.383731 | 12.402706061353 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 102.396126 | 102.60836341405 | [s] Primary exposure time | 0.000000 | 0 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | | | |
| [mm] SIM defocus | 0 | 0.001439871863259334 | | | |
| [mm] SIM translation stage pos | -231.592463 | -231.5960967419932 | | | |
| [mm] SIM translation stage offset | -2 | -1.996356260936523 | | | |
| [s] Observation start time (MET) | 226262581.184000 | 226261496.15314 | | | |
| Observation start date | 2005-03-03T18:41:57 | 2005-03-03T18:24:56 | | | |
| [s] Observation end time (MET) | 226266581.184000 | 226266714.94088 | | | |
| Observation end date | 2005-03-03T19:48:37 | 2005-03-03T19:51:54 | | | |
| Read mode | CONTINUOUS | CONTINUOUS | | | |

2.3 Aspect



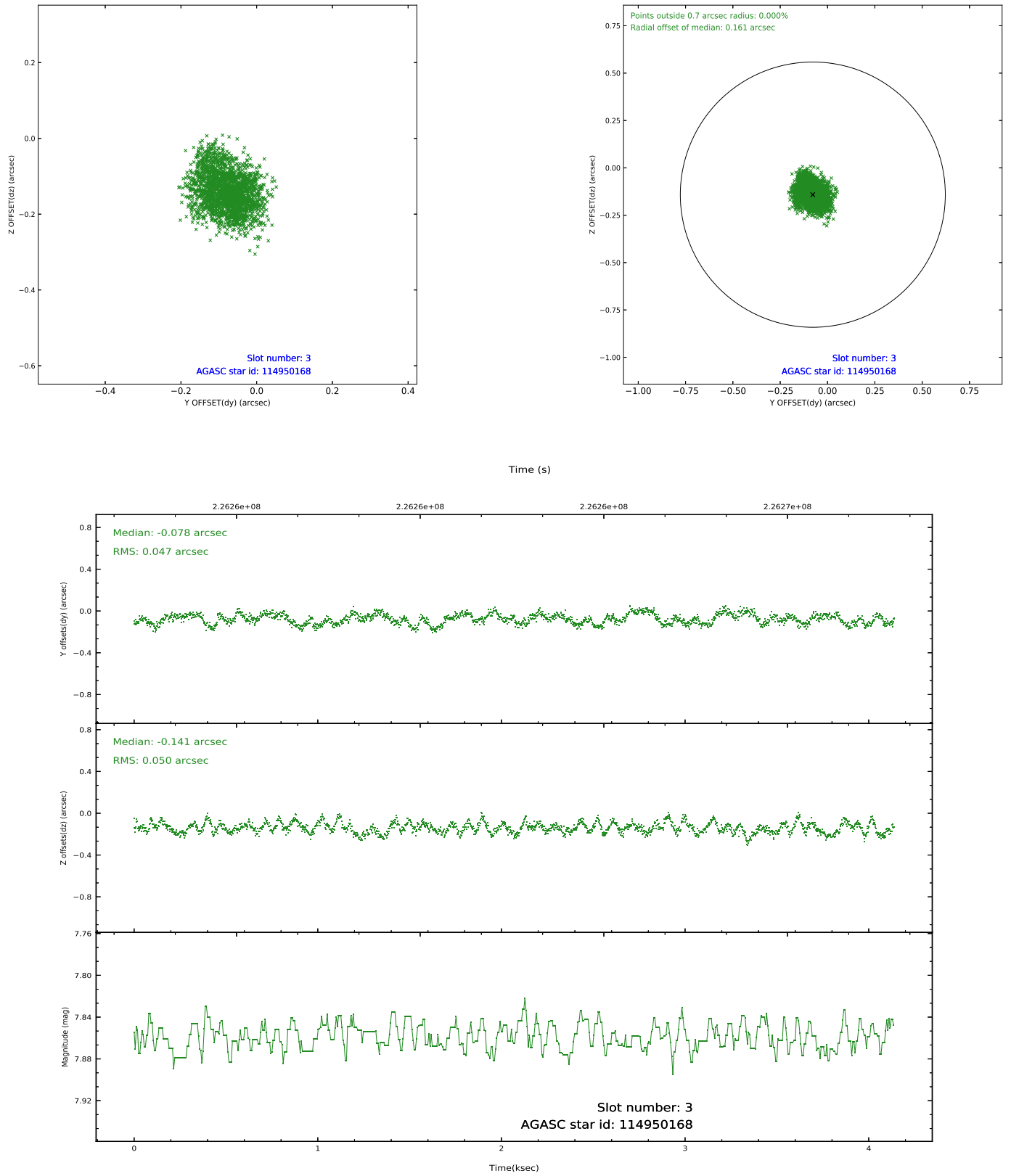


Slot Statistics

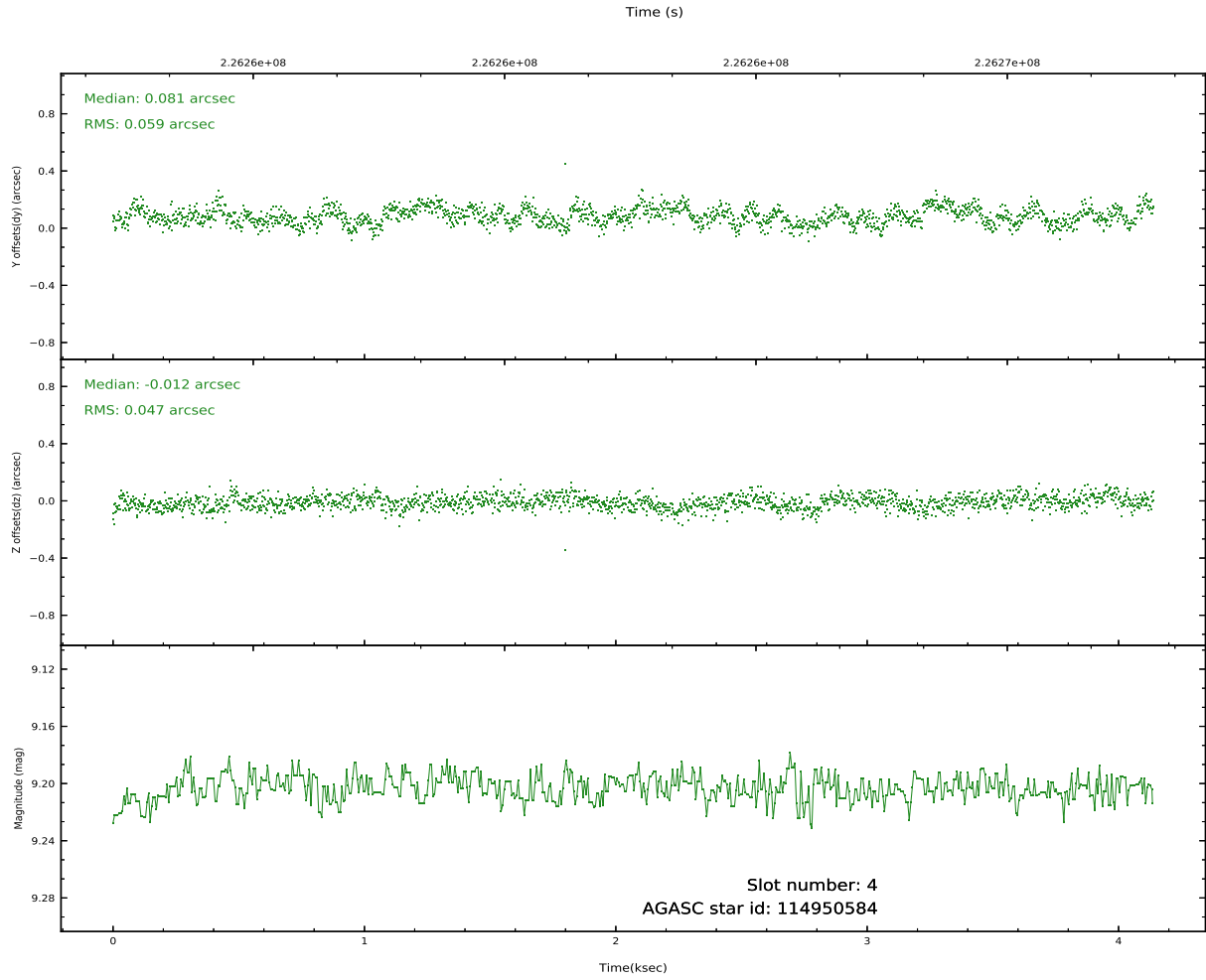
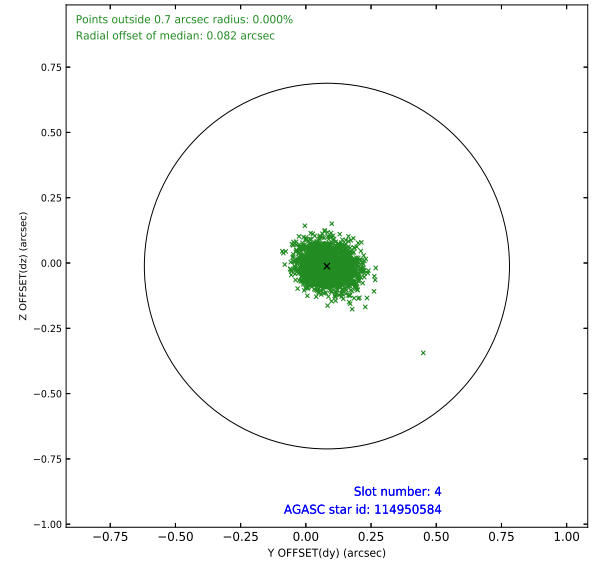
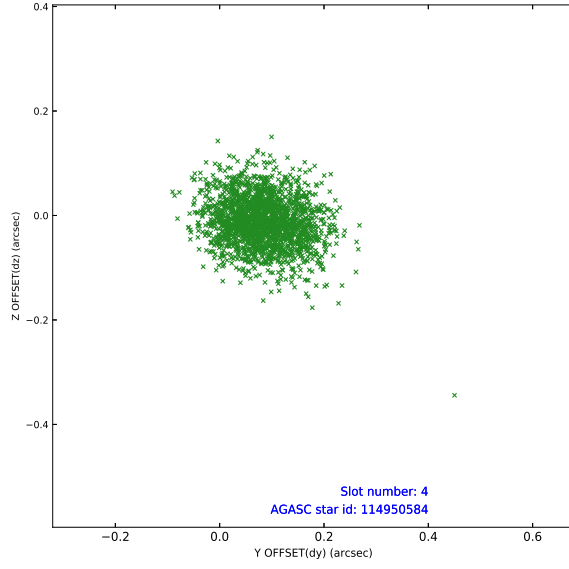
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|------|
| 0 | FID | | ACIS-I-1 | 7.24 | 1010 | 1.000 | -0.049 | -0.063 | 0.011 | 0.036 | 0.000000 | 0.000000 | 933.09 | -875 |
| 1 | FID | | ACIS-I-2 | 7.15 | 1010 | 1.000 | -0.180 | -0.052 | 0.008 | 0.013 | 0.000000 | 0.000000 | -760.39 | -882 |
| 2 | FID | | ACIS-I-4 | 7.16 | 1008 | 1.000 | 0.131 | 0.182 | 0.007 | 0.032 | 0.000000 | 0.000000 | 2152.28 | 1024 |
| 3 | GUIDE | used | 114950168 | 7.86 | 2019 | 1.000 | -0.078 | -0.141 | 0.075 | 0.115 | 187.143398 | 12.117441 | -495.56 | 2202 |
| 4 | GUIDE | used | 114950584 | 9.20 | 2020 | 1.000 | 0.081 | -0.012 | 0.080 | 0.129 | 187.487323 | 11.827248 | -1777.27 | 1247 |
| 5 | GUIDE | used | 114955056 | 8.34 | 2020 | 1.000 | 0.031 | 0.079 | 0.073 | 0.115 | 187.914001 | 12.127854 | -1043.47 | -453 |
| 6 | GUIDE | used | 114956608 | 9.65 | 2017 | 1.000 | 0.061 | 0.102 | 0.130 | 0.195 | 187.452443 | 11.725979 | -2107.18 | 1444 |
| 7 | GUIDE | used | 114952792 | 9.51 | 2015 | 1.000 | -0.093 | -0.029 | 0.112 | 0.181 | 187.070263 | 12.344747 | 358.02 | 2277 |

2.4 Star Slots

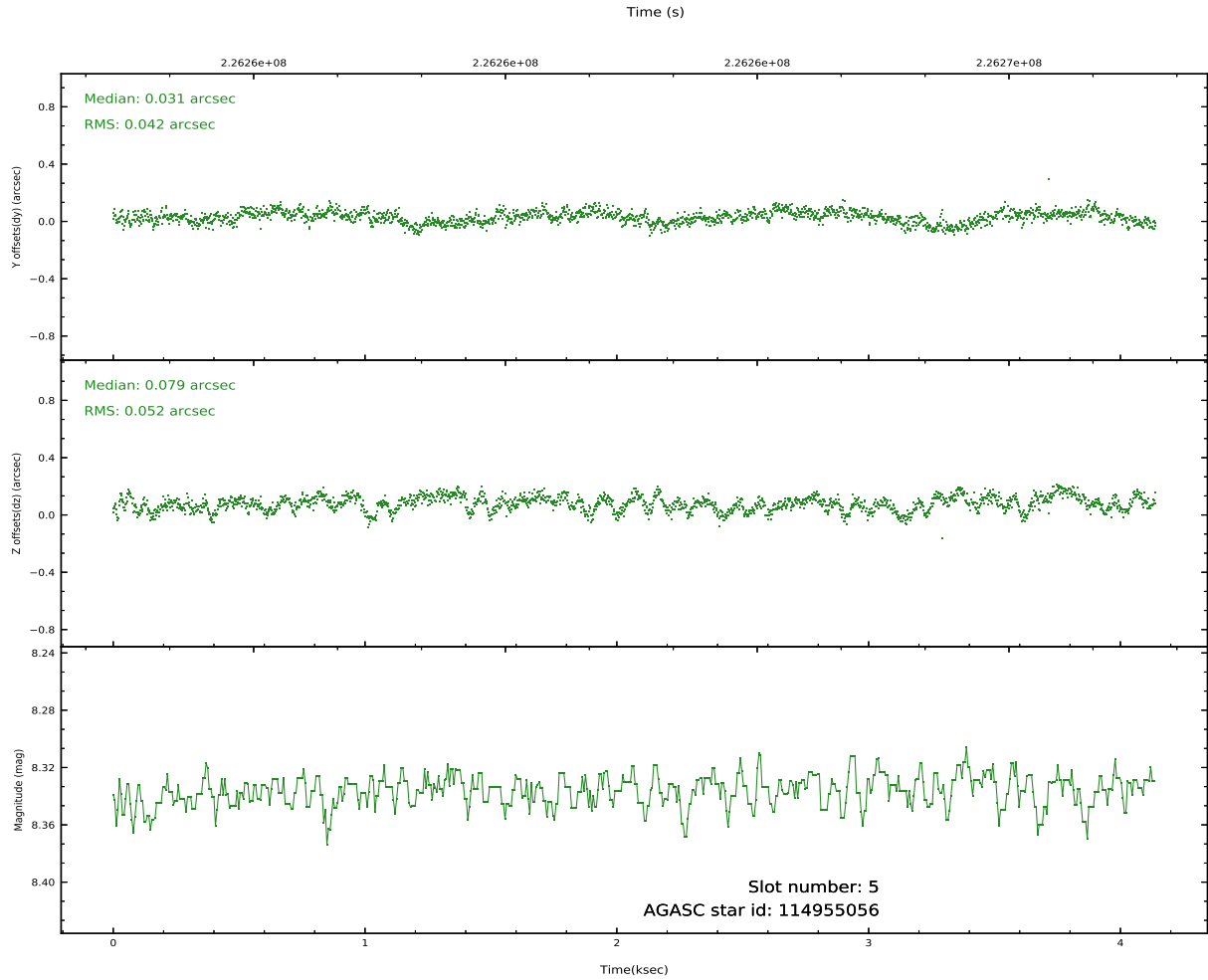
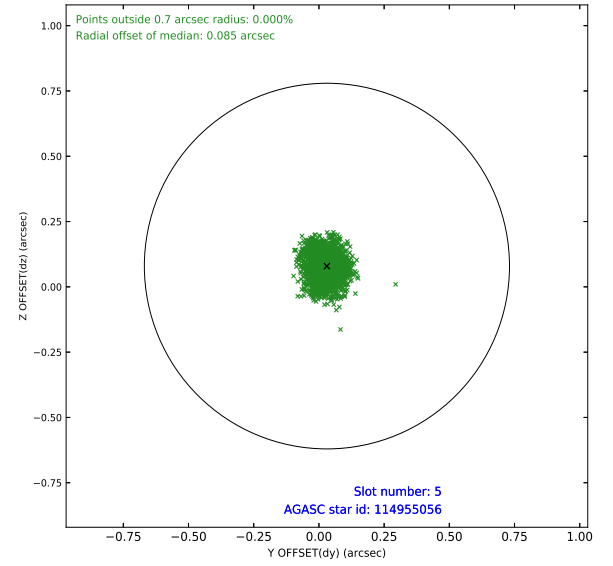
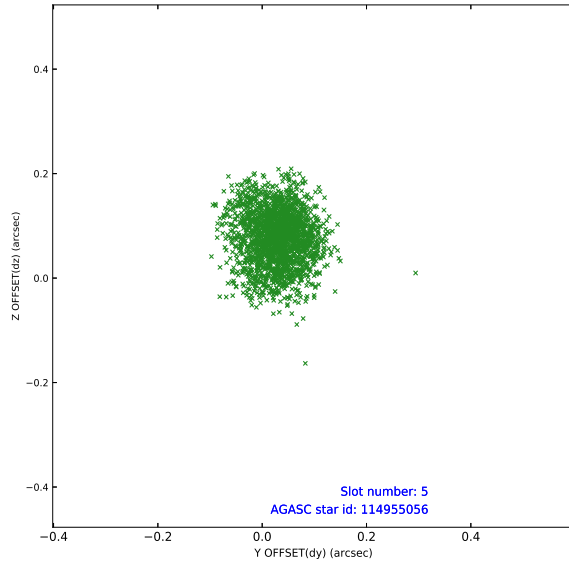
2.4.1 Slot 3



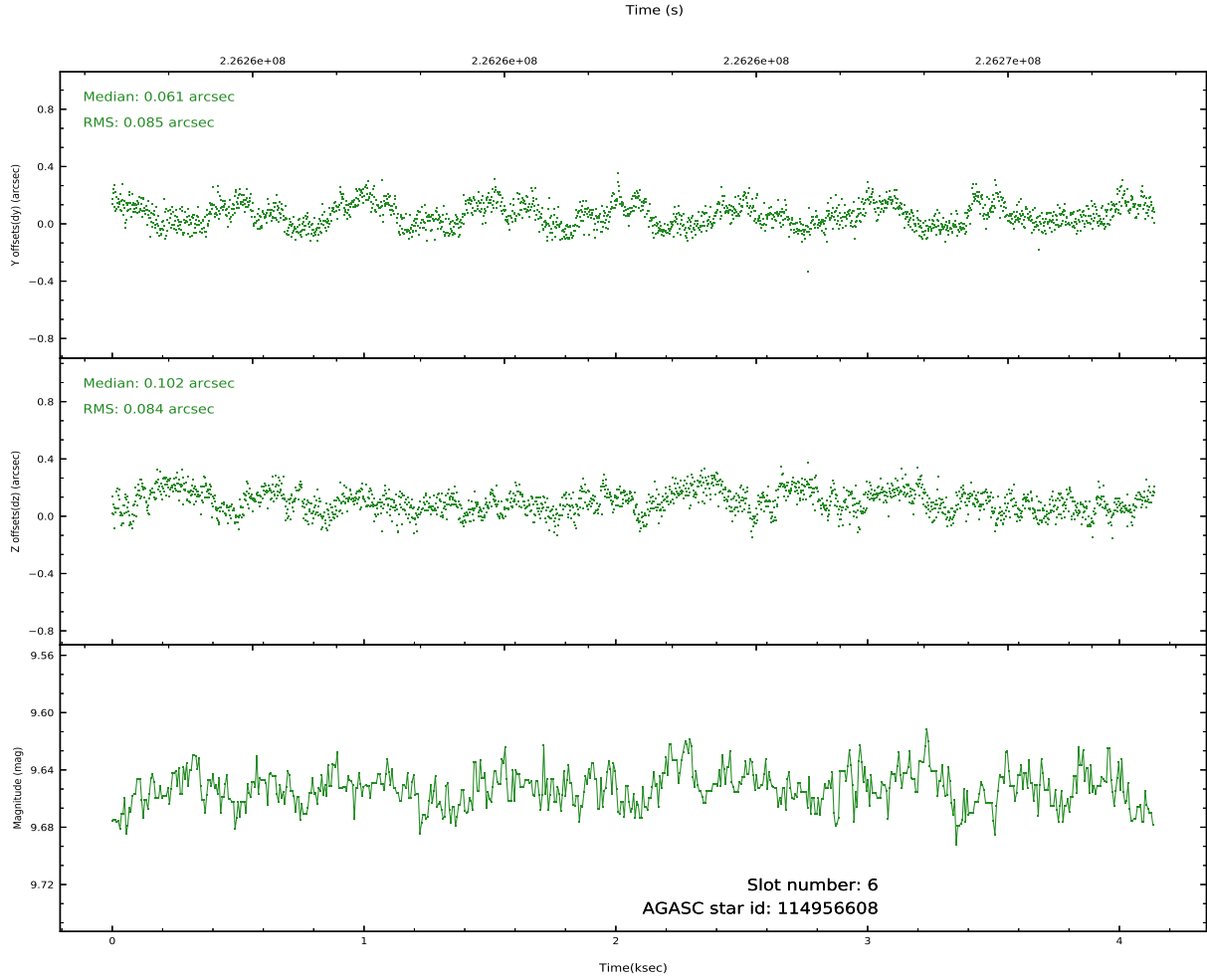
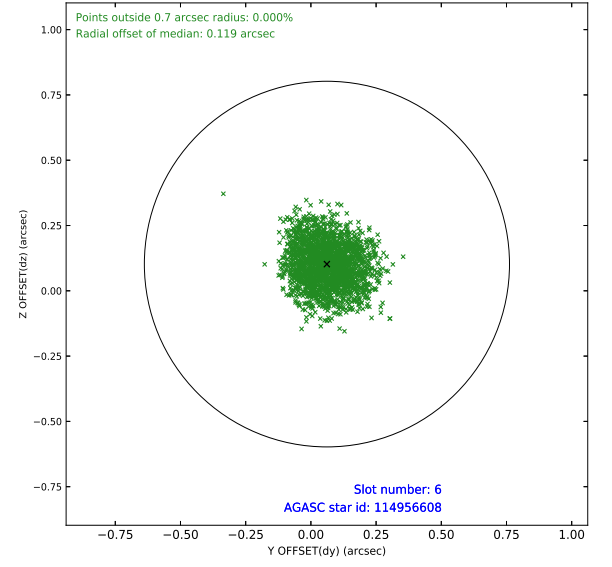
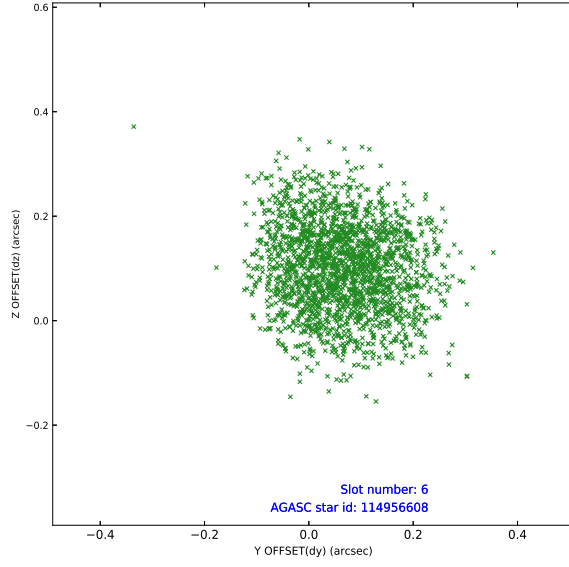
2.4.2 Slot 4



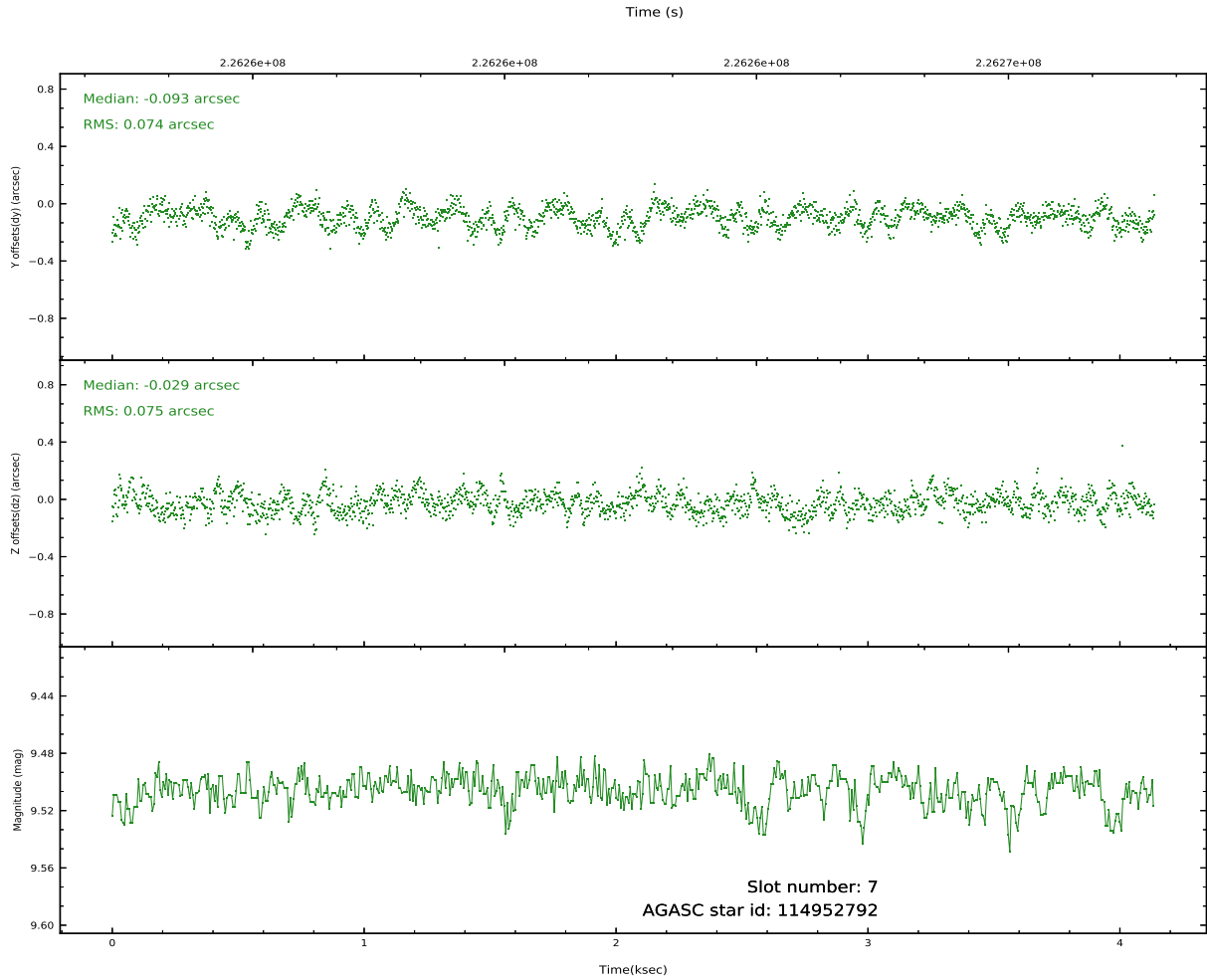
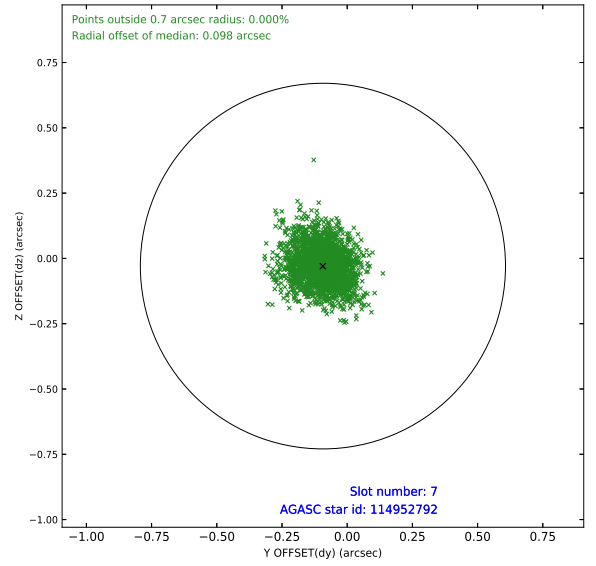
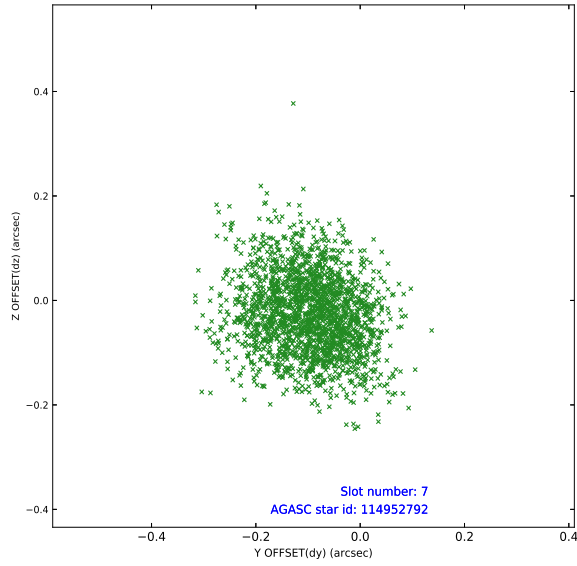
2.4.3 Slot 5



2.4.4 Slot 6

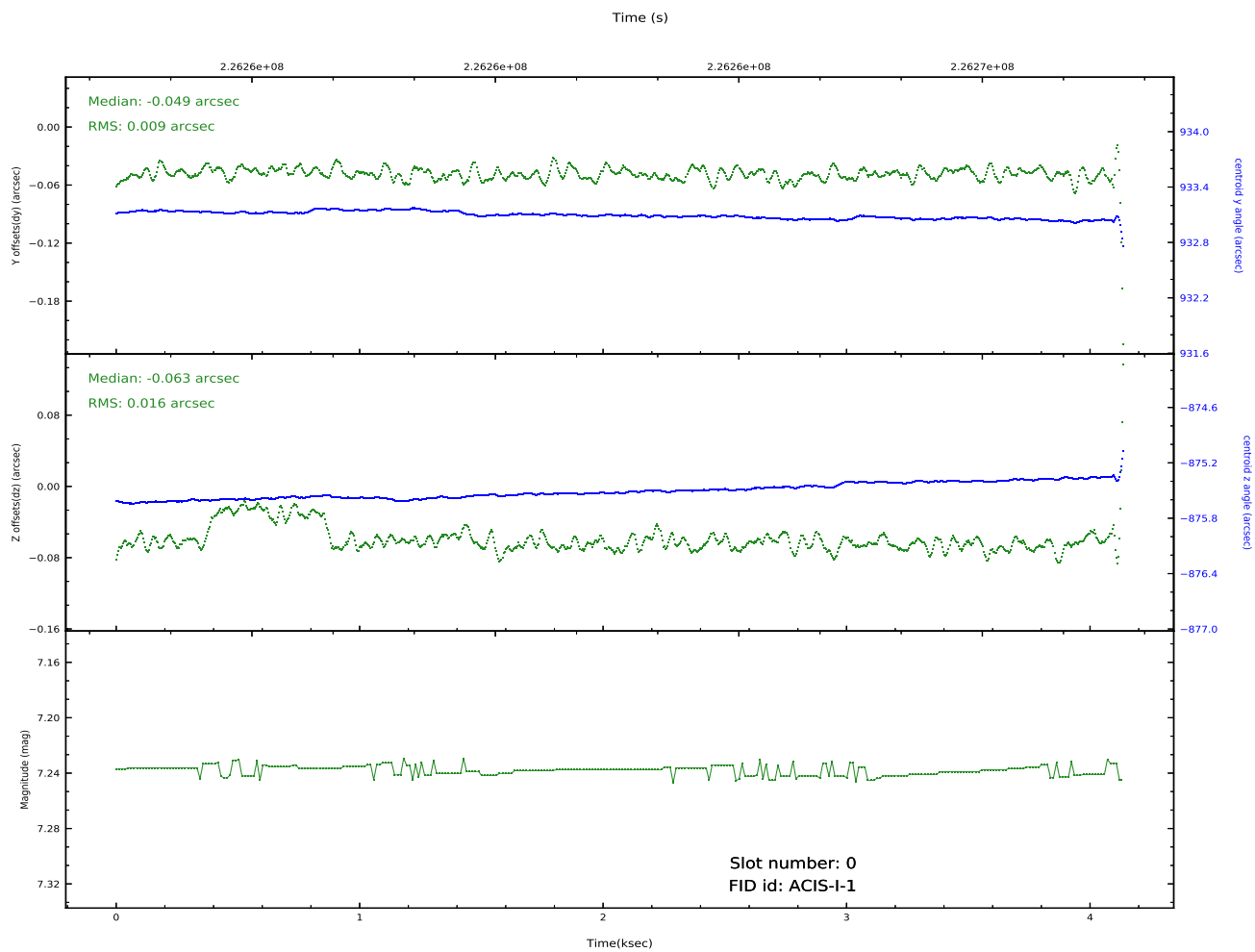
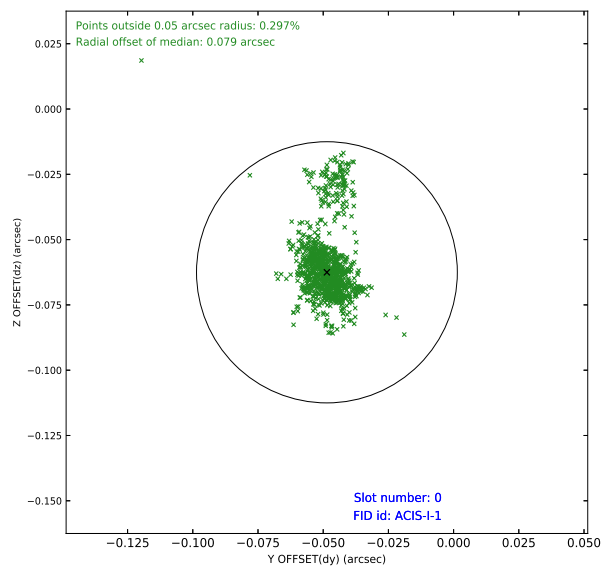
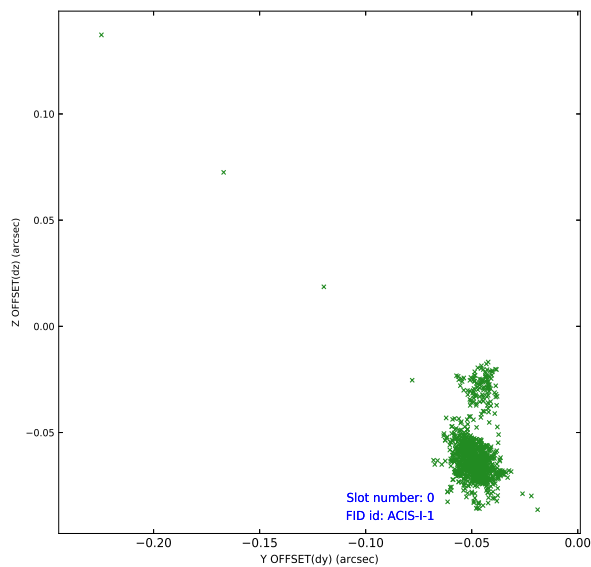


2.4.5 Slot 7

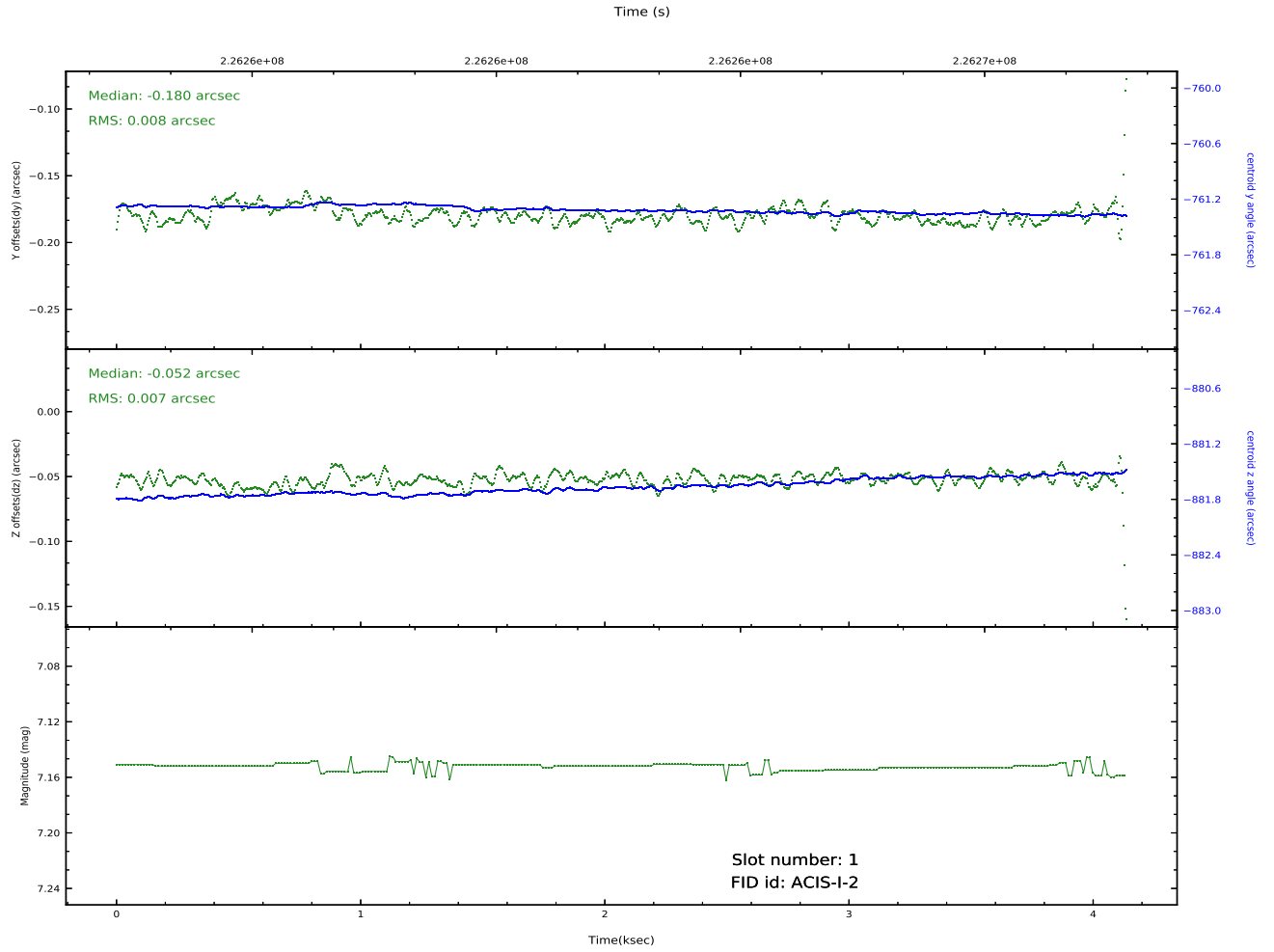
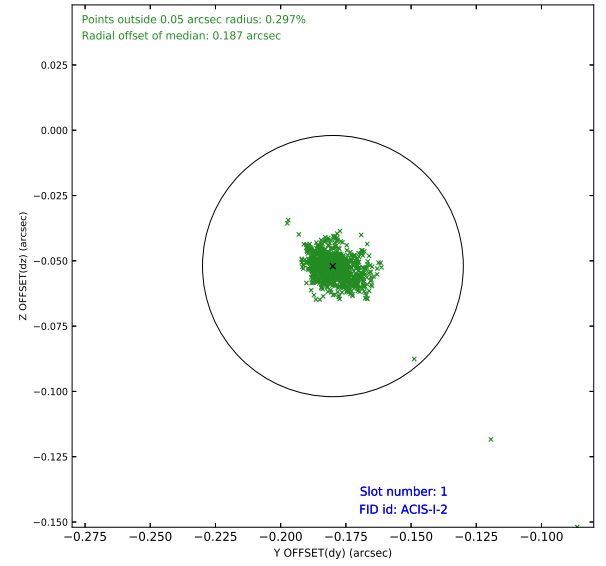
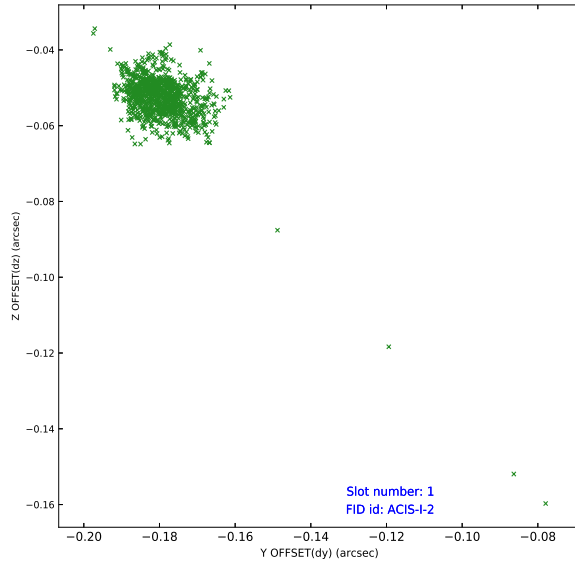


2.5 FID Slots

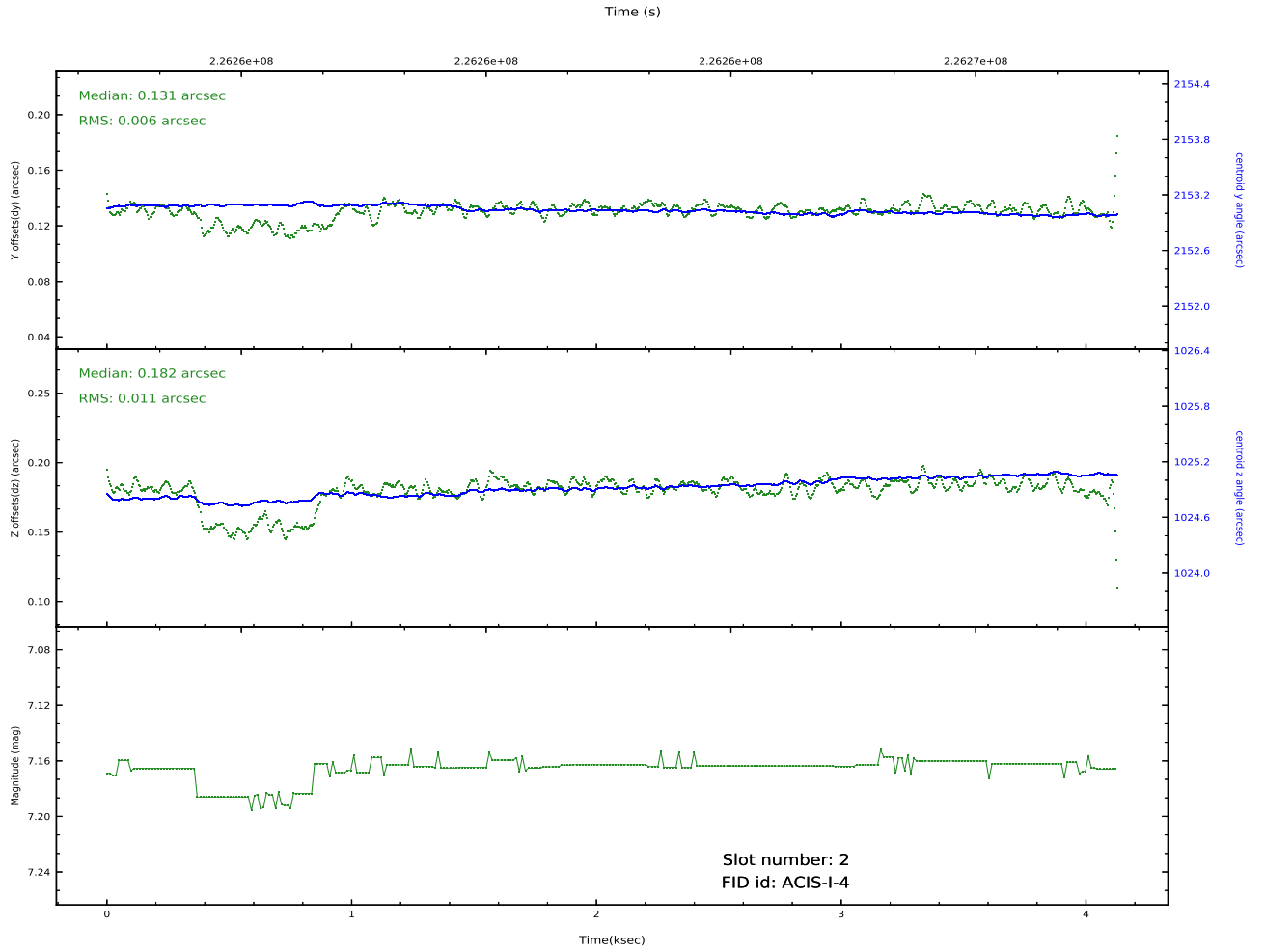
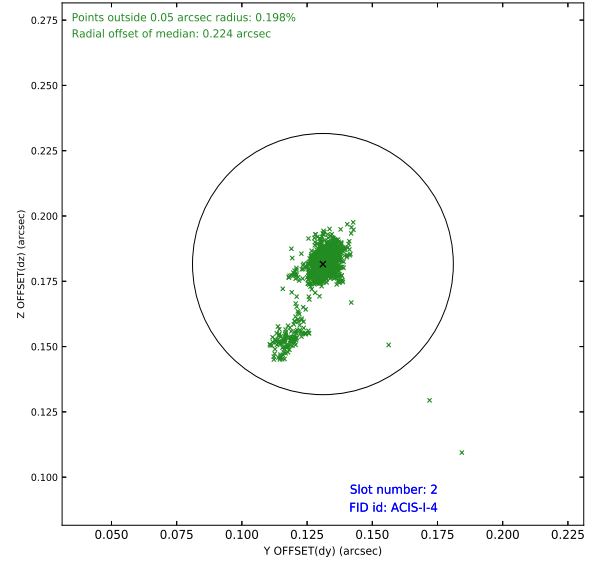
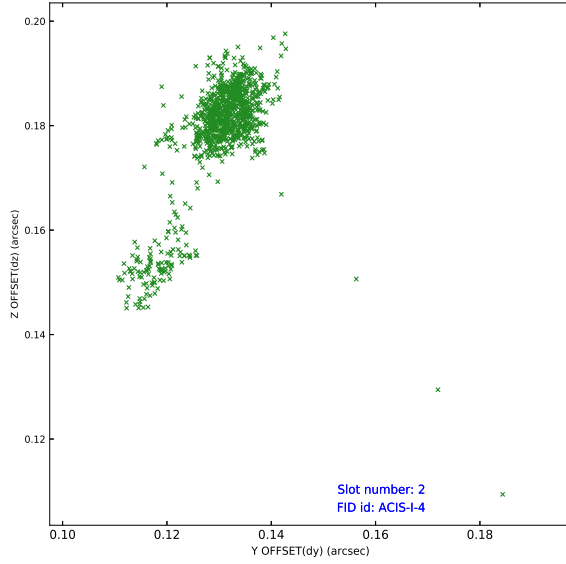
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|--------------------|
| V&V Scientist | David Huenemoerder |
| V&V Date (YYYY-MM-DD) | 2020.10.07 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 4.131 |

A.2 Comments