

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20768 - L2 Version 3
Chandra X-Ray Center

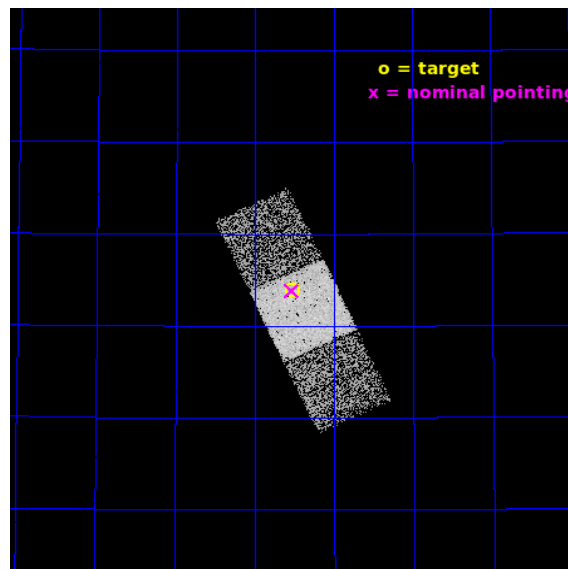
L2 Processing Date : Oct 24 2020

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Bias | 3 |
| 2.1.3 | Parameters | 4 |
| 2.1.4 | Events | 4 |
| 2.2 | Compared Parameters | 5 |
| 2.3 | Aspect | 6 |
| 2.4 | Star Slots | 9 |
| 2.4.1 | Slot 3 | 9 |
| 2.4.2 | Slot 4 | 10 |
| 2.4.3 | Slot 5 | 11 |
| 2.4.4 | Slot 6 | 12 |
| 2.5 | FID Slots | 13 |
| 2.5.1 | Slot 0 | 13 |
| 2.5.2 | Slot 1 | 14 |
| 2.5.3 | Slot 2 | 15 |
| A | Summary | 16 |
| A.1 | Status | 16 |
| A.2 | Comments | 16 |

1 Front

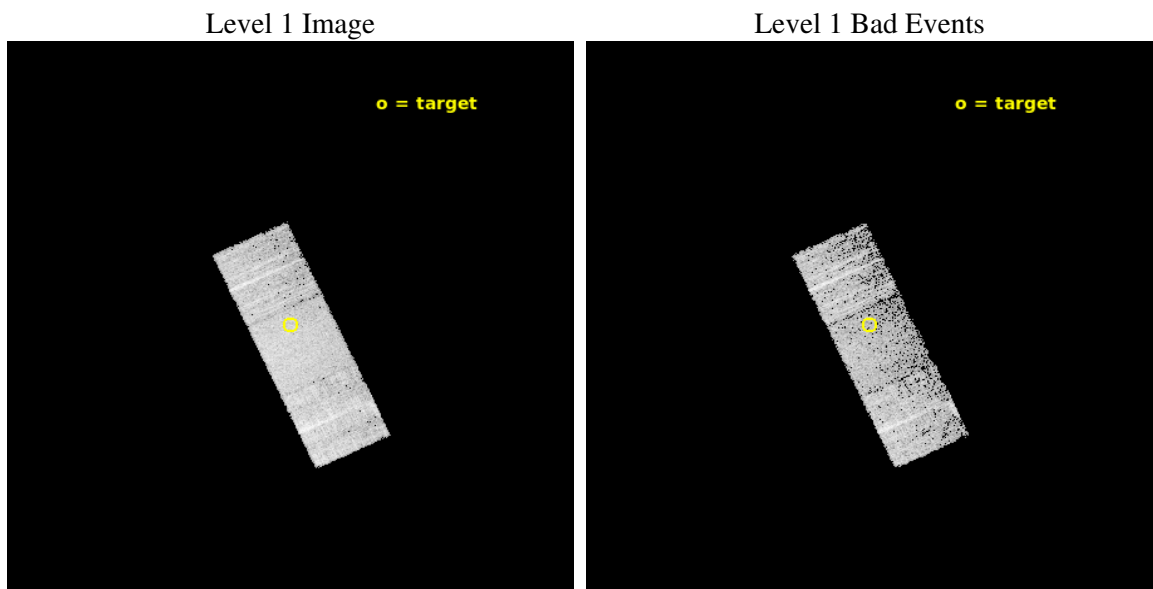
| | | |
|----------|--|---|
| seq_num | 703633 | Sequence number |
| obs_id | 20768 | Observation id |
| title | A Chandra Snapshot Survey of Extremely Red Quasars from SDSS BOSS and WISE | Proposal title |
| observer | Gordon Garmire | Principal investigator |
| object | J1604+5633 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 241.131667 | Observer's specified target RA [deg] |
| dec_targ | 56.565056 | Observer's specified target Dec [deg] |
| ra_nom | 241.13307815395 | Nominal RA [deg] |
| dec_nom | 56.563982438621 | Nominal Dec [deg] |
| roll_nom | 64.976444915172 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 4110.6000317335 | Sum of GTIs [s] |
| livetime | 4056.8920161392 | Livetime [s] |
| ontime6 | 4110.6000317335 | Sum of GTIs [s] |
| ontime7 | 4110.6000317335 | Sum of GTIs [s] |
| ontime8 | 4110.6000317335 | Sum of GTIs [s] |
| l2events | 21882 | Number of level 2 events |



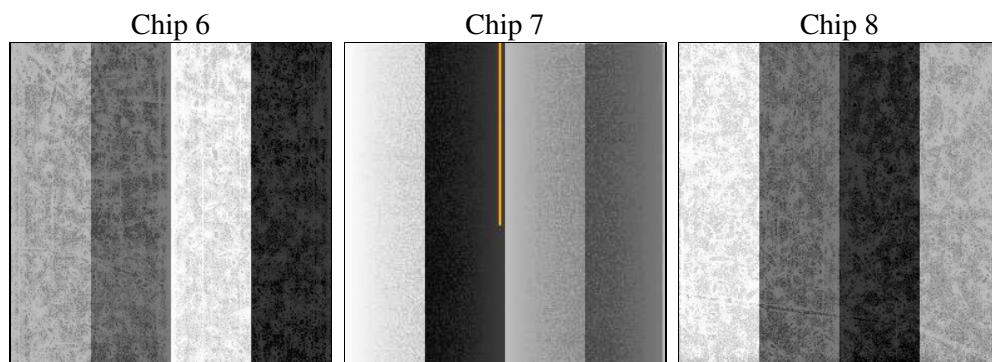
2 OBI

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 | 10.9.2 | Processing system revision | ontime | 4110.6000317335 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime6 | 4110.6000317335 | Sum of GTIs [s] |
| date | 2020-10-24T09:49:28 | Date and time of file creation | ontime7 | 4110.6000317335 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime8 | 4110.6000317335 | Sum of GTIs [s] |
| | | | l1events | 109551 | Number of level 1 events |

2.1.4 Events

| | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|
| level 1 events | 30841 | 37659 | 41051 |
| rejected events | 27462 | 21276 | 30990 |
| rejected % | 89% | 56% | 75% |

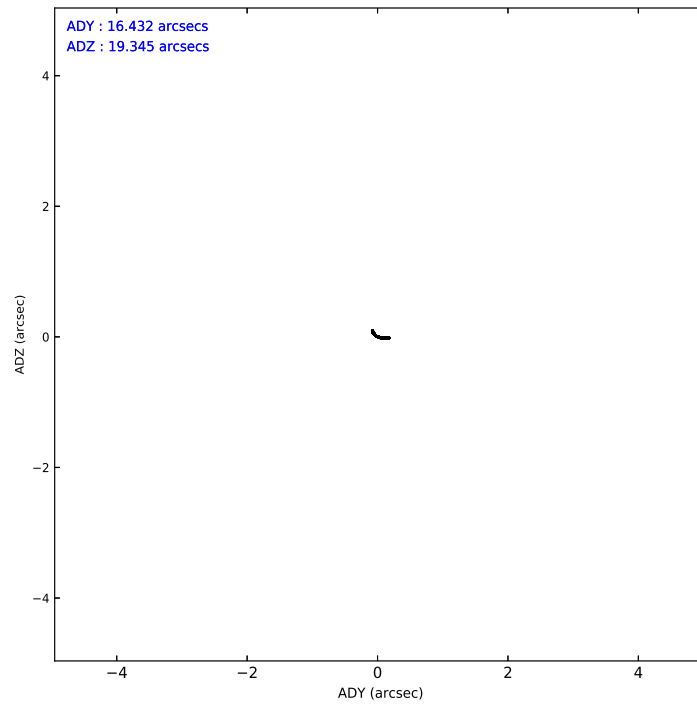
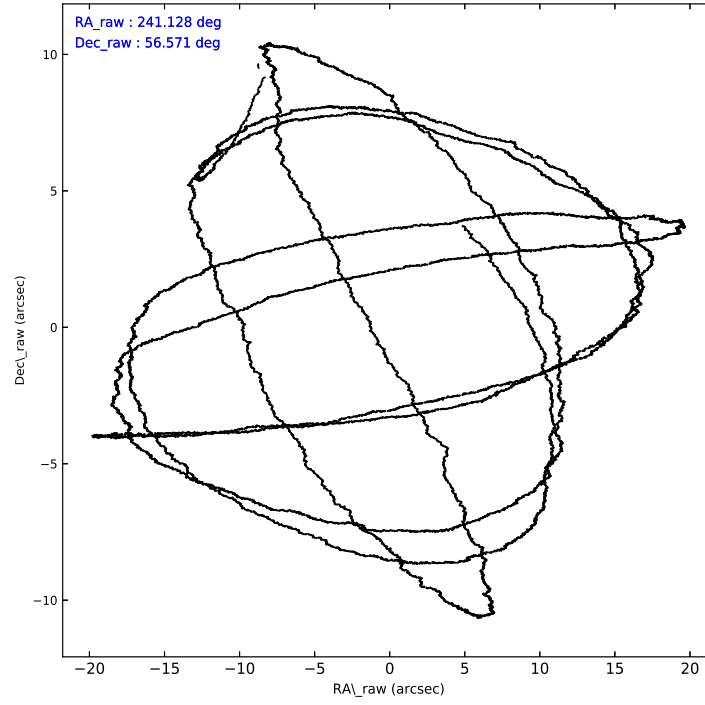
| | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|
| grade 0 events | 1003 | 1400 | 2497 |
| | 3% | 3% | 6% |
| grade 1 events | 12 | 35 | 34 |
| | 0% | 0% | 0% |
| grade 2 events | 870 | 3314 | 2624 |
| | 2% | 8% | 6% |
| grade 3 events | 273 | 1327 | 977 |
| | 0% | 3% | 2% |
| grade 4 events | 289 | 1381 | 900 |
| | 0% | 3% | 2% |
| grade 5 events | 1217 | 3742 | 1985 |
| | 3% | 9% | 4% |
| grade 6 events | 946 | 8972 | 3065 |
| | 3% | 23% | 7% |
| grade 7 events | 26231 | 17488 | 28969 |
| | 85% | 46% | 70% |

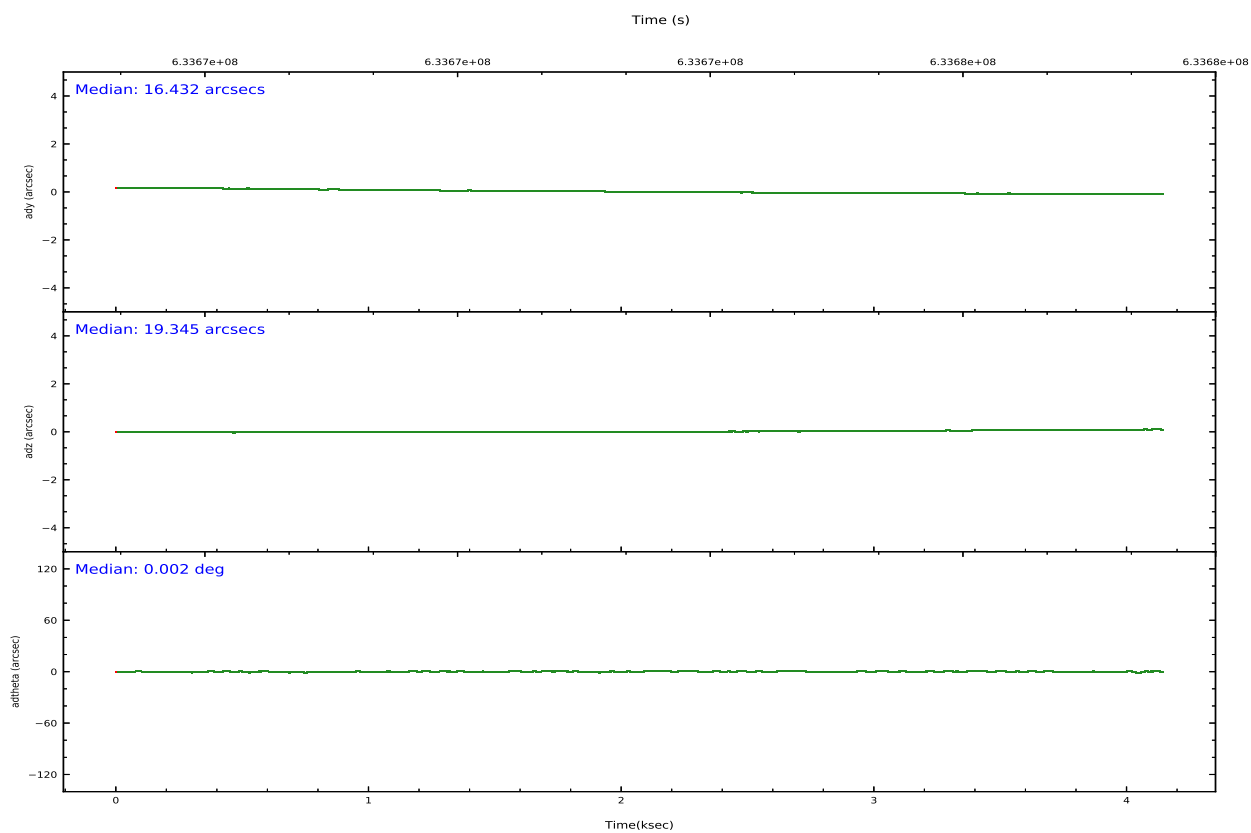
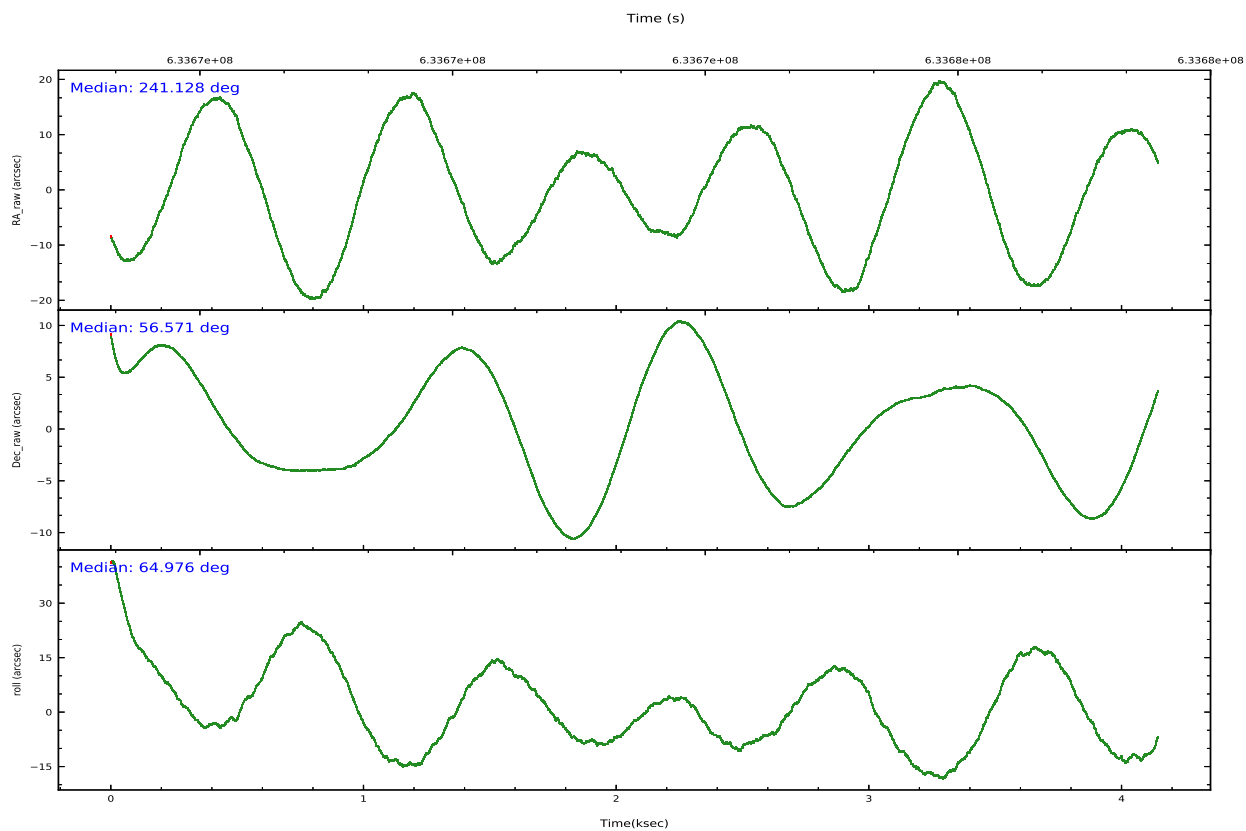
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-678 | ACIS-678 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 241.132437 | 241.13307815395 |
| [deg] Pointing Dec | 56.543368 | 56.563982438621 |
| [deg] Pointing Roll | 64.831291 | 64.976444915172 |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 |
| [mm] SIM defocus | 0 | 0.001444936568705701 |
| [mm] SIM translation stage pos | -190.132523 | -190.1400660498719 |
| [mm] SIM translation stage offset | 0 | 0.00754346686406393 |
| [s] Observation start time (MET) | 633671792.184000 | 633670703.26275 |
| Observation start date | 2018-01-30T03:55:23 | 2018-01-30T03:38:23 |
| [s] Observation end time (MET) | 633675792.184000 | 633676613.9256001 |
| Observation end date | 2018-01-30T05:02:03 | 2018-01-30T05:16:53 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar version number | 8 | 8 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| 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



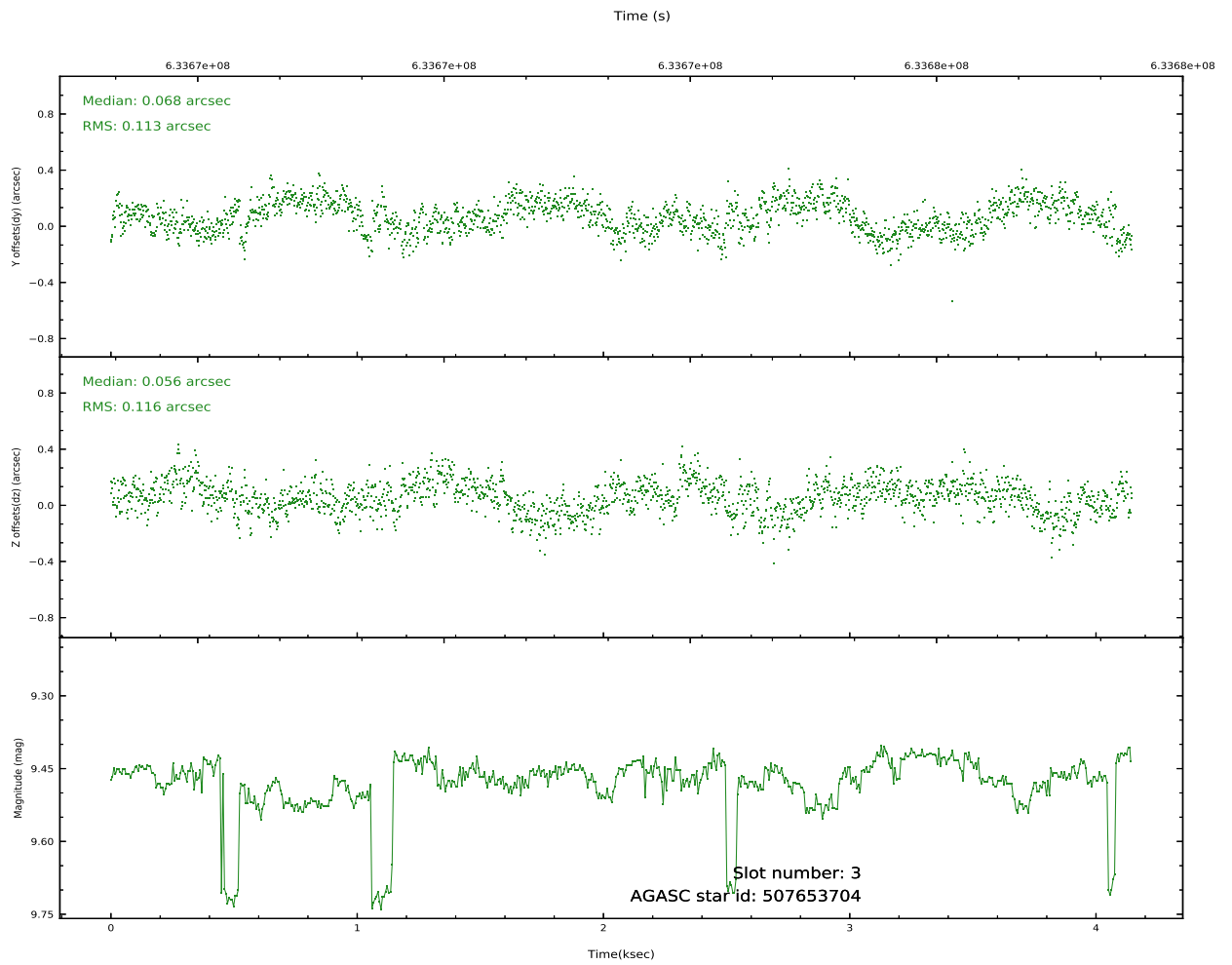
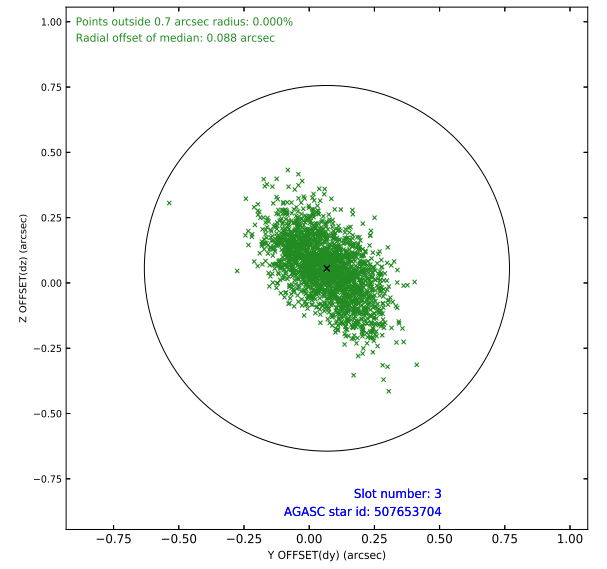
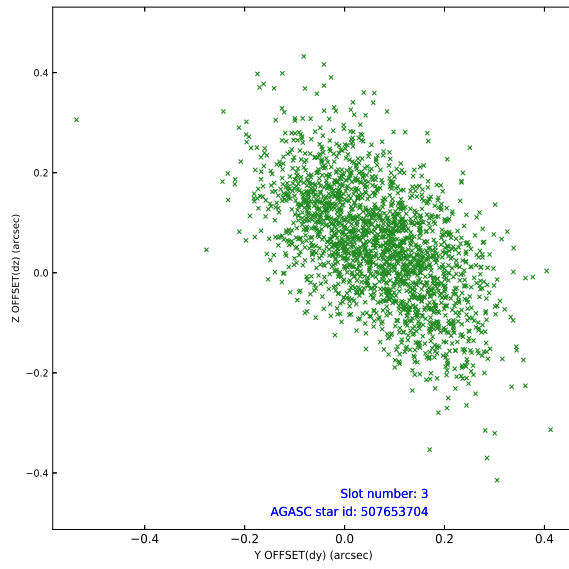


Slot Statistics

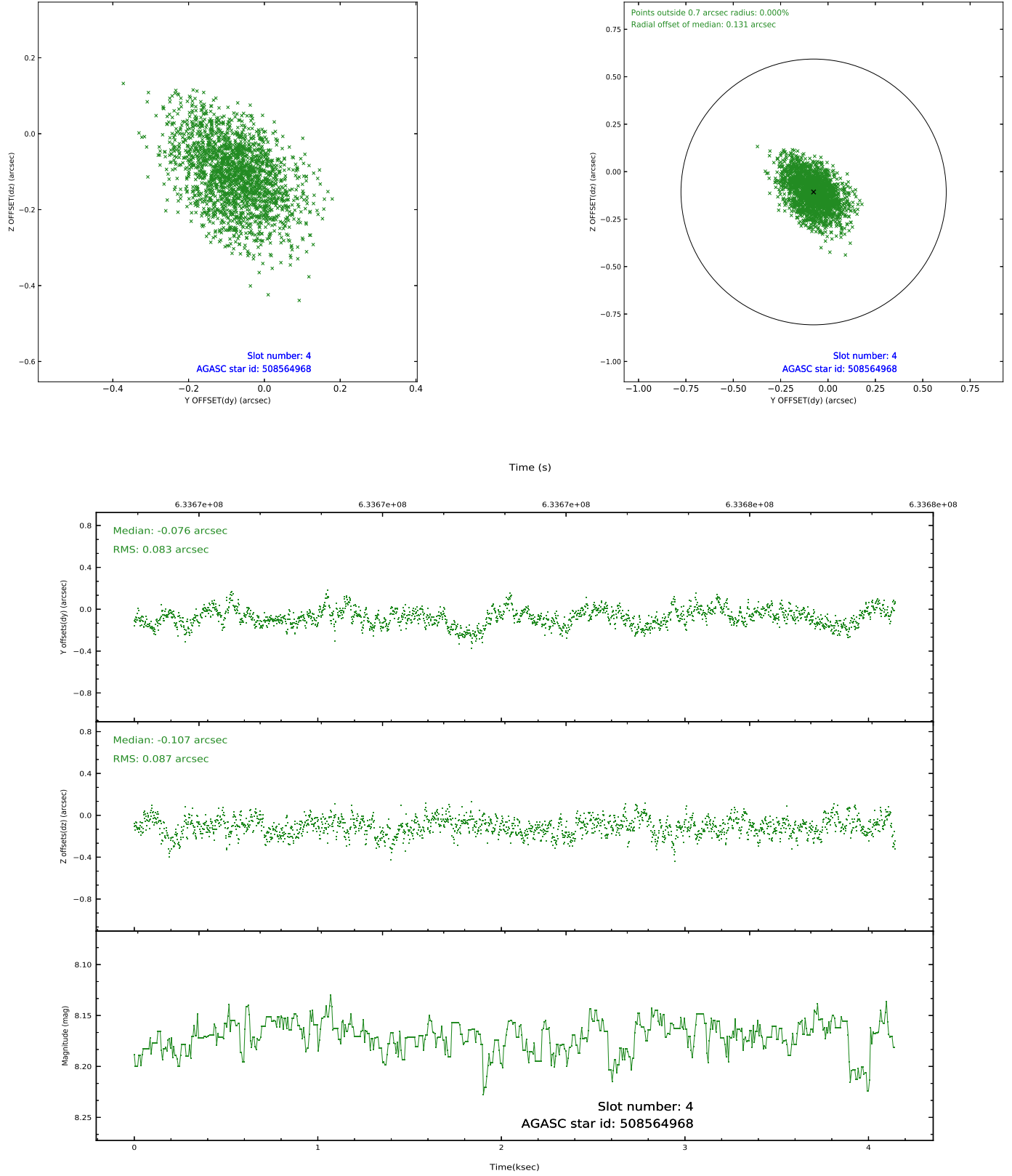
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|---------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-S-2 | 7.14 | 1011 | 1.000 | 0.094 | -0.111 | 0.007 | 0.012 | 0.000000 | 0.000000 | -769.55 | -1740 |
| 1 | FID | | ACIS-S-4 | 7.26 | 1012 | 1.000 | 0.158 | -0.015 | 0.005 | 0.010 | 0.000000 | 0.000000 | 2143.30 | 165 |
| 2 | FID | | ACIS-S-5 | 7.24 | 1011 | 1.000 | -0.283 | 0.135 | 0.007 | 0.011 | 0.000000 | 0.000000 | -1820.65 | 161 |
| 3 | GUIDE | used | 507653704 | 9.47 | 2021 | 1.000 | 0.068 | 0.056 | 0.169 | 0.284 | 239.964296 | 56.229823 | -1998.01 | 1643 |
| 4 | GUIDE | used | 508564968 | 8.17 | 2022 | 1.000 | -0.076 | -0.107 | 0.126 | 0.208 | 240.290785 | 56.439730 | -1042.96 | 1363 |
| 5 | GUIDE | used | 508570496 | 7.76 | 2022 | 1.000 | -0.093 | 0.026 | 0.105 | 0.184 | 241.910267 | 56.243451 | -307.42 | -1862 |
| 6 | GUIDE | used | 508566416 | 9.06 | 2023 | 1.000 | 0.100 | 0.031 | 0.141 | 0.241 | 241.890123 | 56.271710 | -233.27 | -1783 |
| 7 | OMITTED | | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0 |

2.4 Star Slots

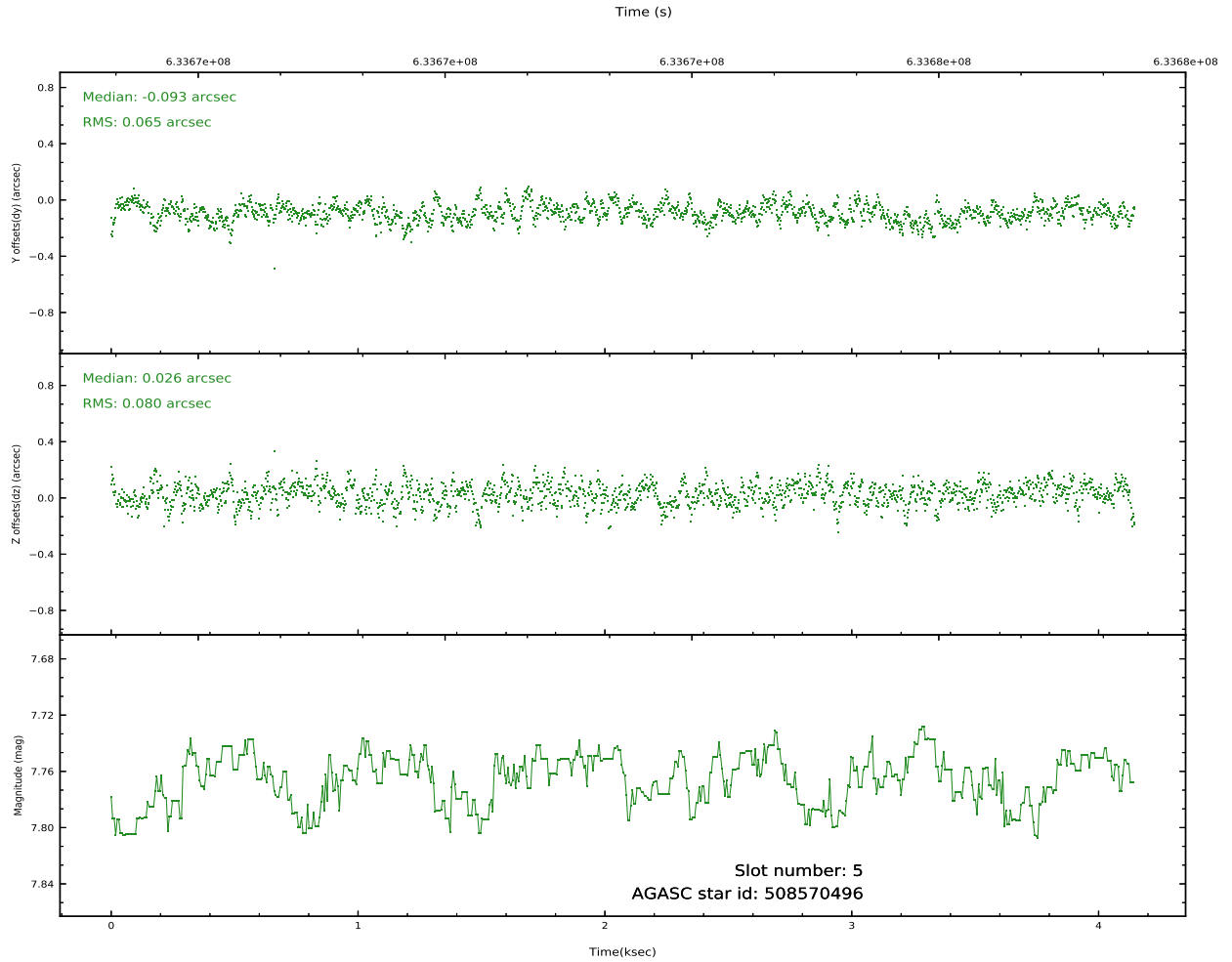
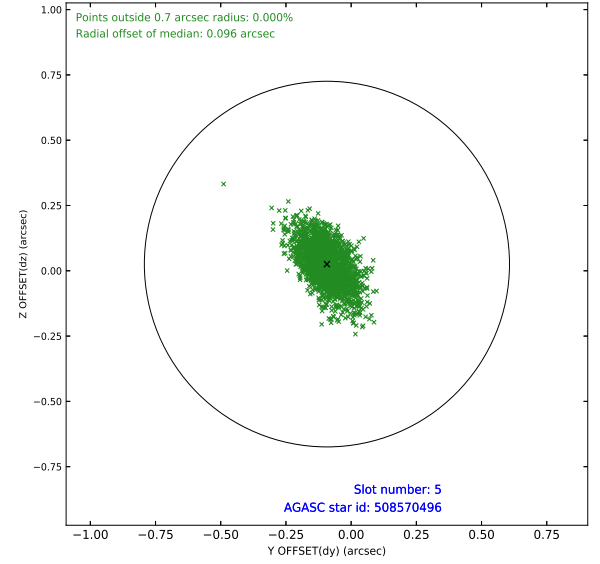
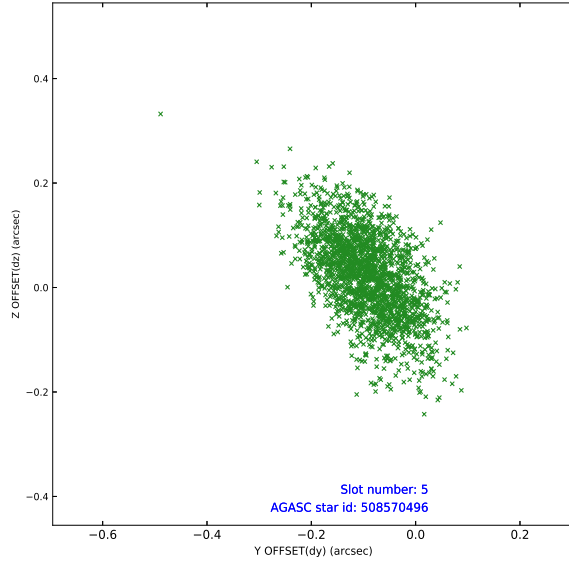
2.4.1 Slot 3



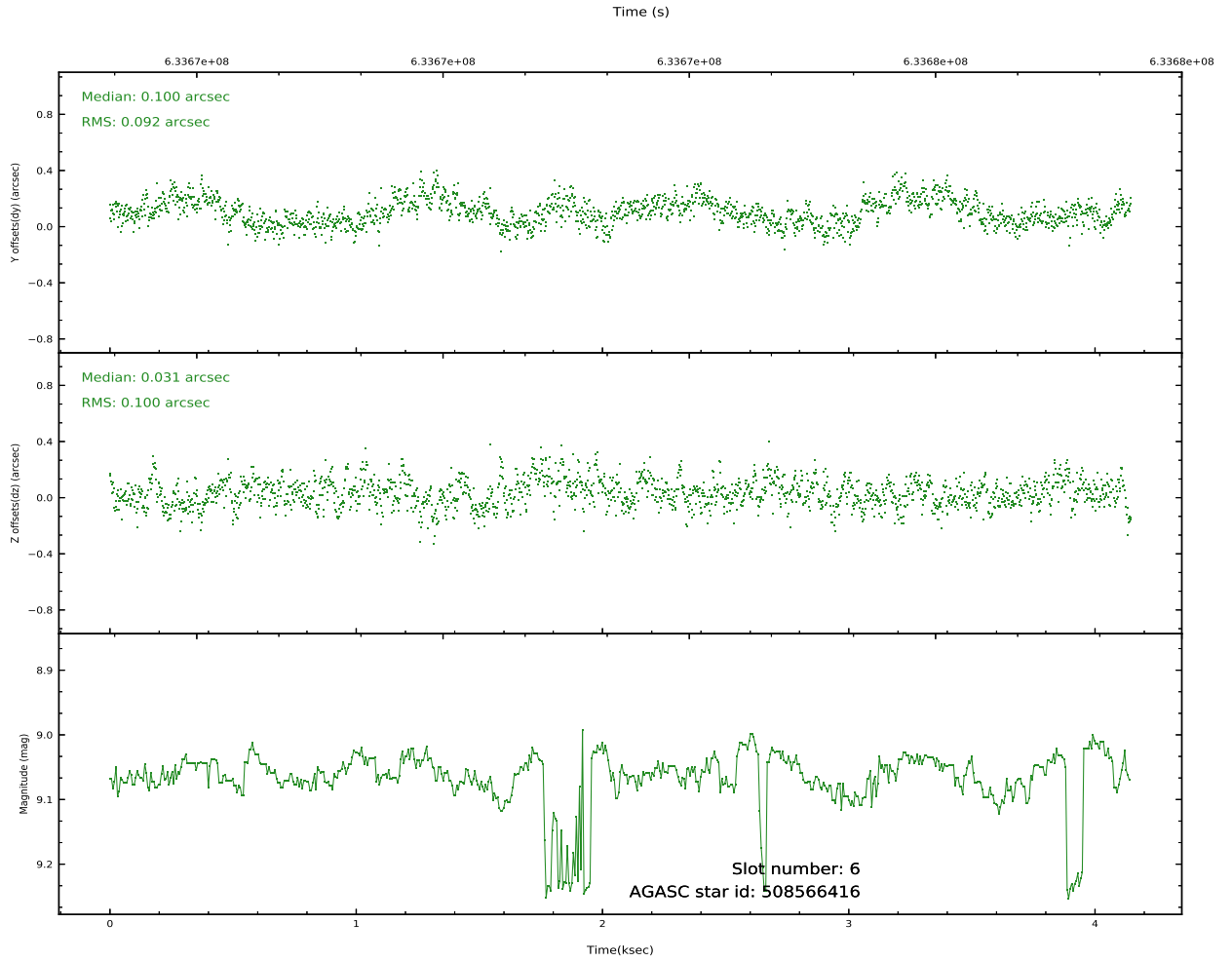
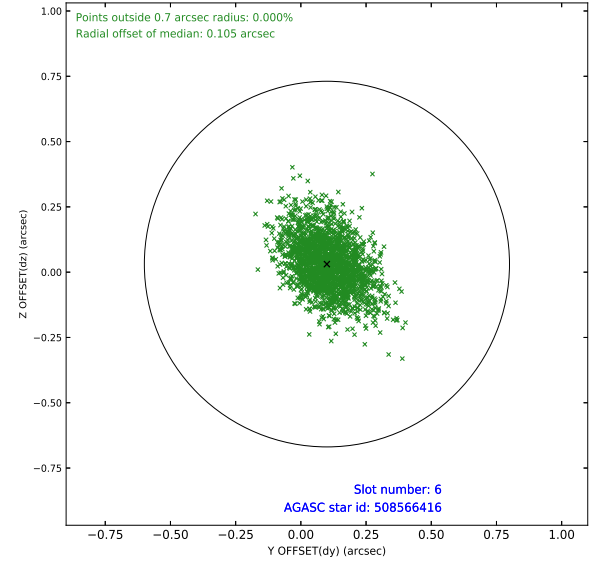
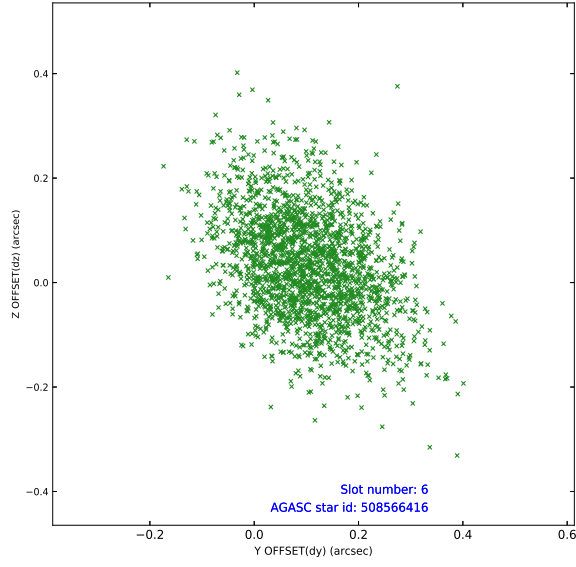
2.4.2 Slot 4



2.4.3 Slot 5

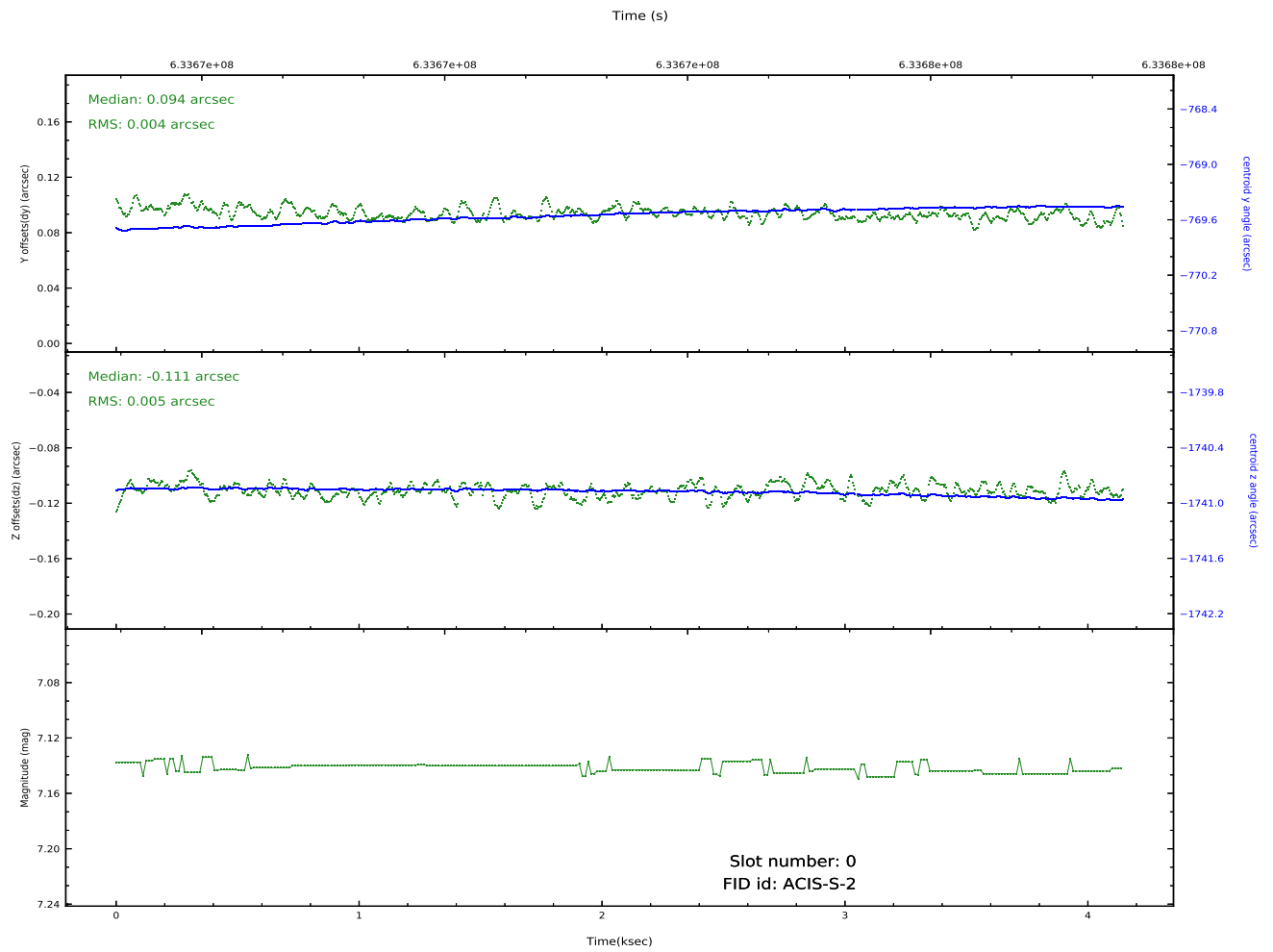
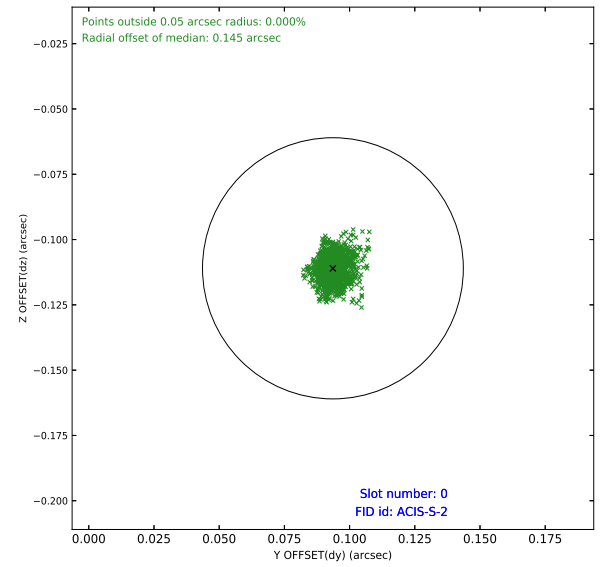
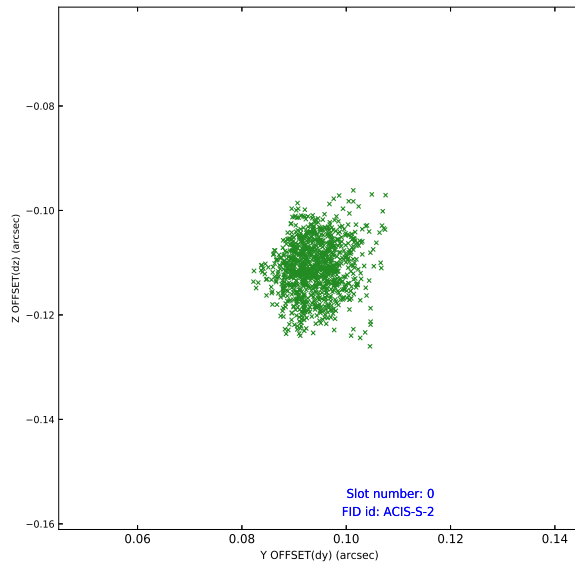


2.4.4 Slot 6

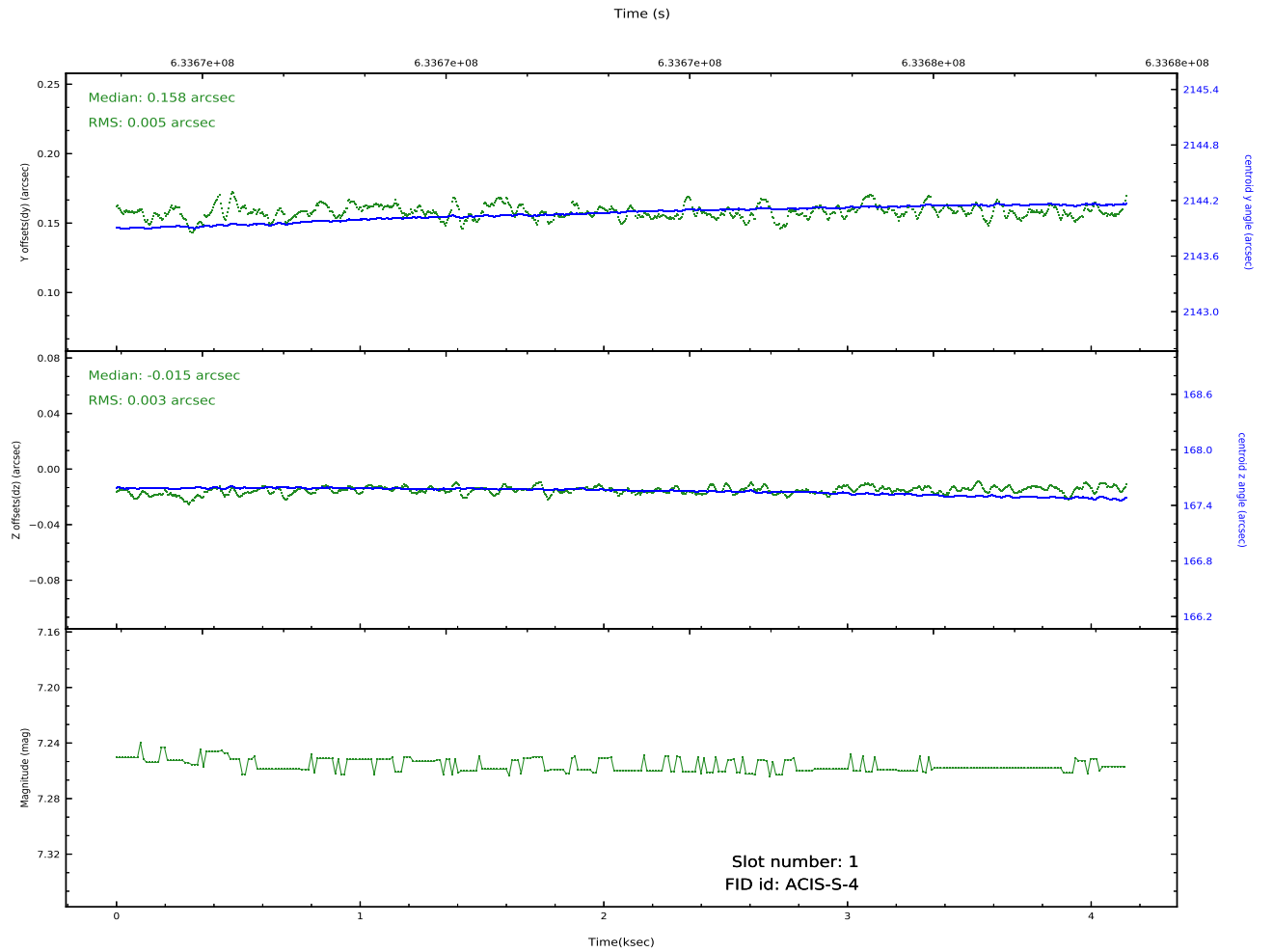
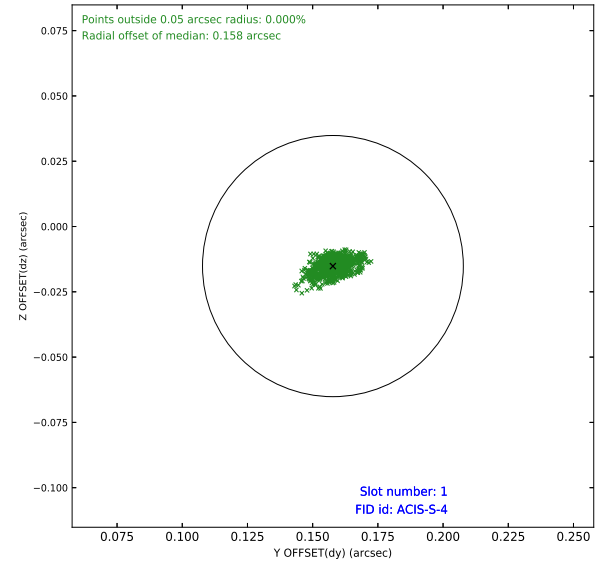
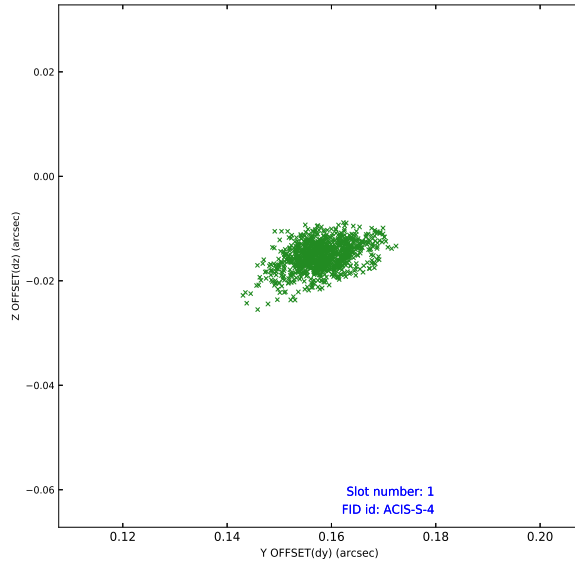


2.5 FID Slots

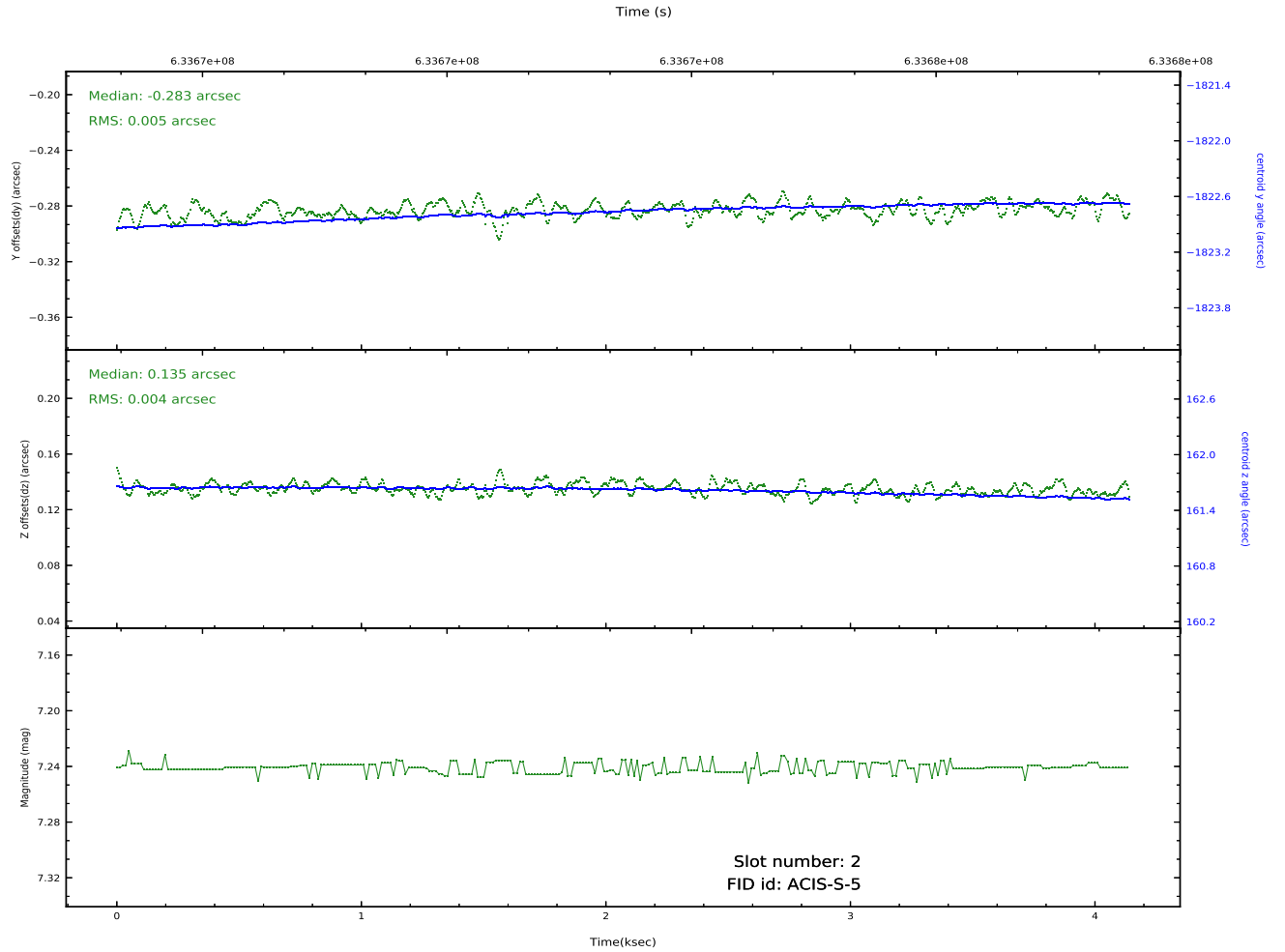
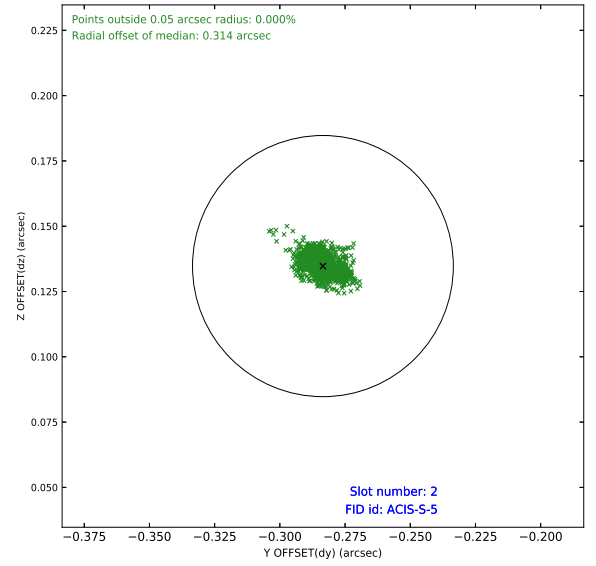
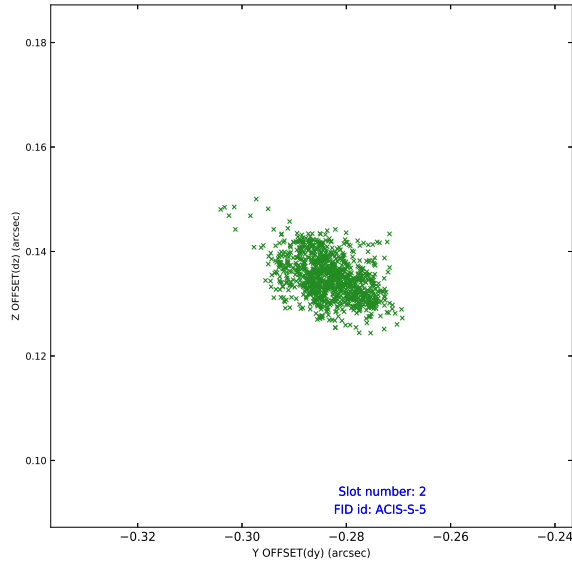
2.5.1 Slot 0



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) | 2020.10.27 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 4.1106000317335 |

A.2 Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.