

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 21057 - L2 Version 3
Chandra X-Ray Center

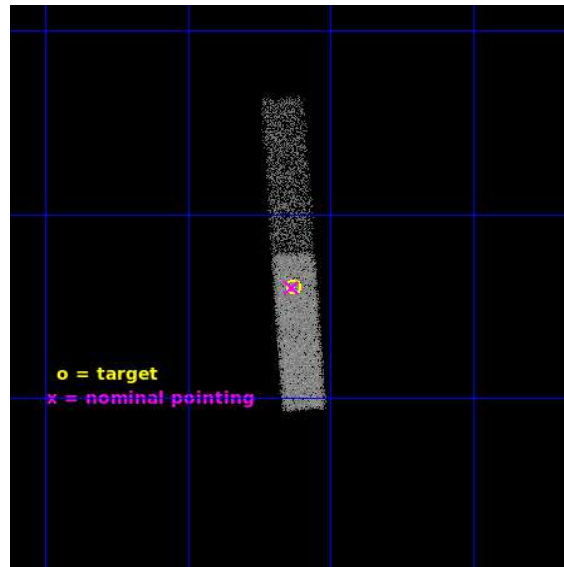
L2 Processing Date : Oct 25 2020

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1 Front

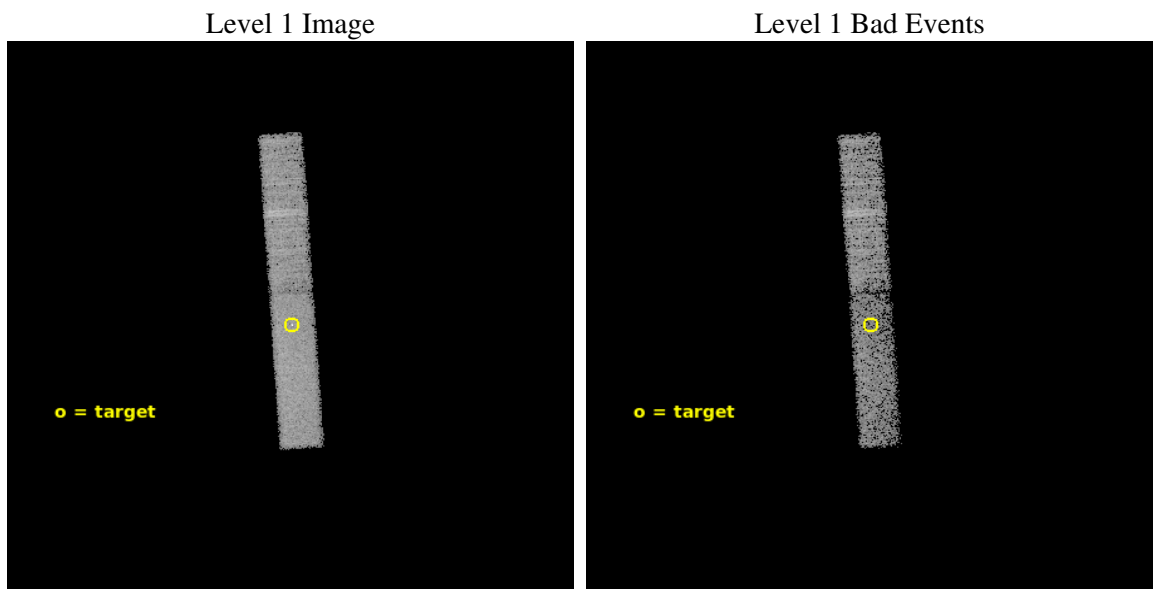
| | | |
|----------|--|---|
| seq_num | 703550 | Sequence number |
| obs_id | 21057 | Observation id |
| title | The X-ray-radio morphology anomaly in a high-redshift quasar jet | P |
| observer | Diana Worrall | Principal investigator |
| object | J1421-0643 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 215.2825 | Observer's specified target RA [deg] |
| dec_targ | -6.732306 | Observer's specified target Dec [deg] |
| ra_nom | 215.28379123376 | Nominal RA [deg] |
| dec_nom | -6.7333064857253 | Nominal Dec [deg] |
| roll_nom | 86.153715440038 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 12303.491977215 | Sum of GTIs [s] |
| livetime | 11766.920406671 | Livetime [s] |
| ontime6 | 12303.450937271 | Sum of GTIs [s] |
| ontime7 | 12303.491977215 | Sum of GTIs [s] |
| l2events | 16238 | Number of level 2 events |



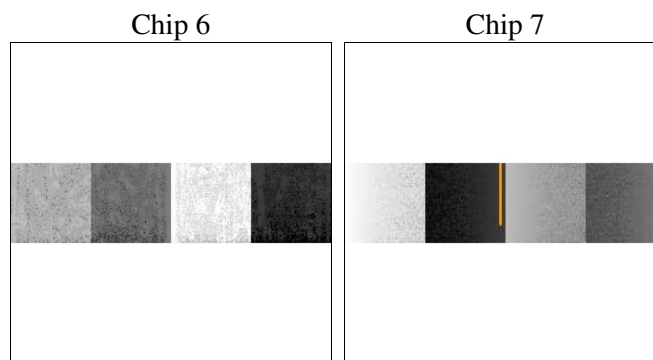
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 12200.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.2 | Processing system revision | ontime | 12303.491977215 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime6 | 12303.450937271 | Sum of GTIs [s] |
| date | 2020-10-25T10:55:17 | Date and time of file creation | ontime7 | 12303.491977215 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | l1events | 57519 | Number of level 1 events |

2.1.4 Events

| | ccd 6 | ccd 7 |
|-----------------|--------------|--------------|
| level 1 events | 27017 | 30502 |
| rejected events | 24057 | 16206 |
| rejected % | 89% | 53% |

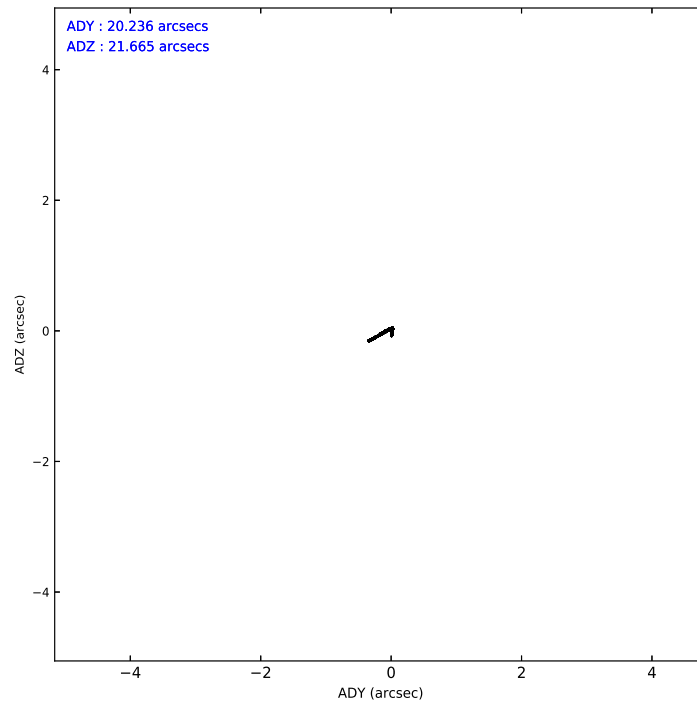
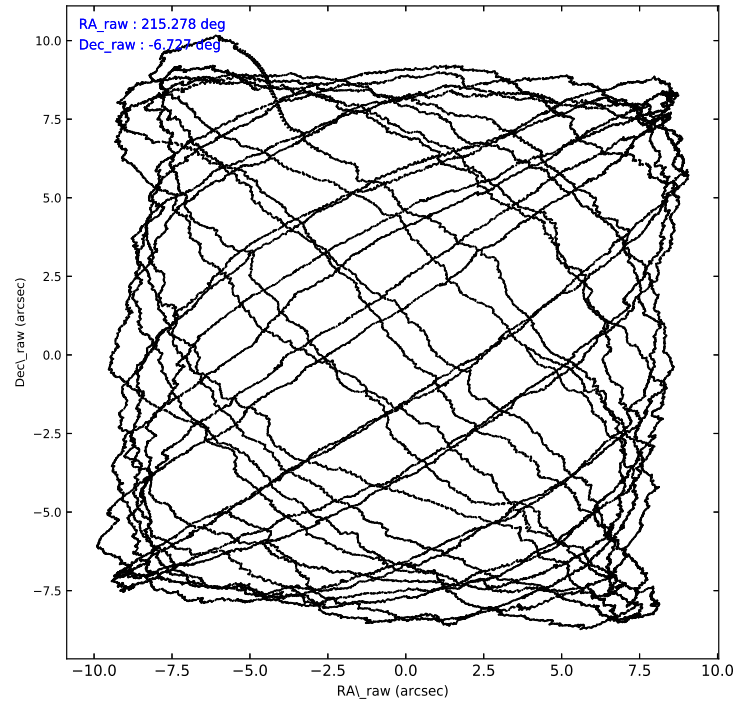
| | ccd 6 | ccd 7 |
|----------------|--------------|--------------|
| grade 0 events | 825 | 1481 |
| | 3% | 4% |
| grade 1 events | 6 | 42 |
| | 0% | 0% |
| grade 2 events | 596 | 2856 |
| | 2% | 9% |
| grade 3 events | 448 | 1566 |
| | 1% | 5% |
| grade 4 events | 421 | 1531 |
| | 1% | 5% |
| grade 5 events | 922 | 3080 |
| | 3% | 10% |
| grade 6 events | 671 | 6865 |
| | 2% | 22% |
| grade 7 events | 23128 | 13081 |
| | 85% | 42% |

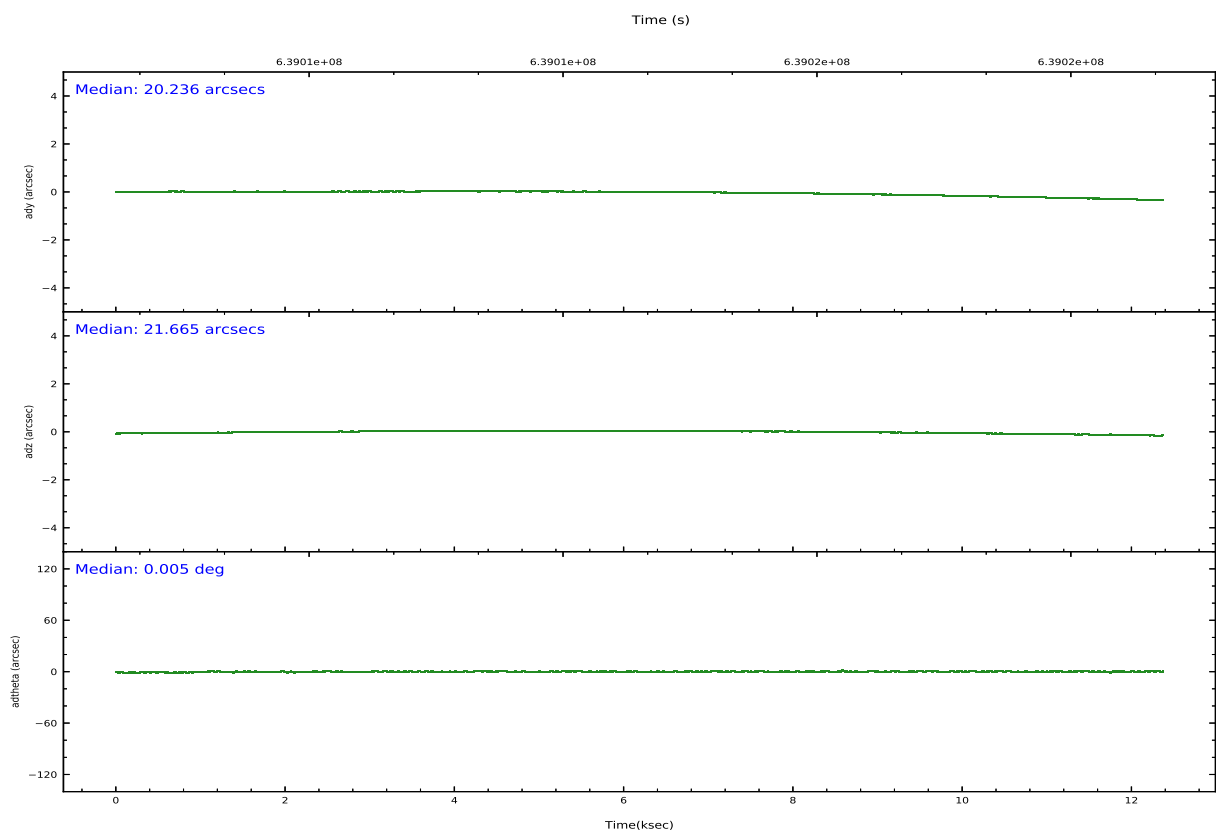
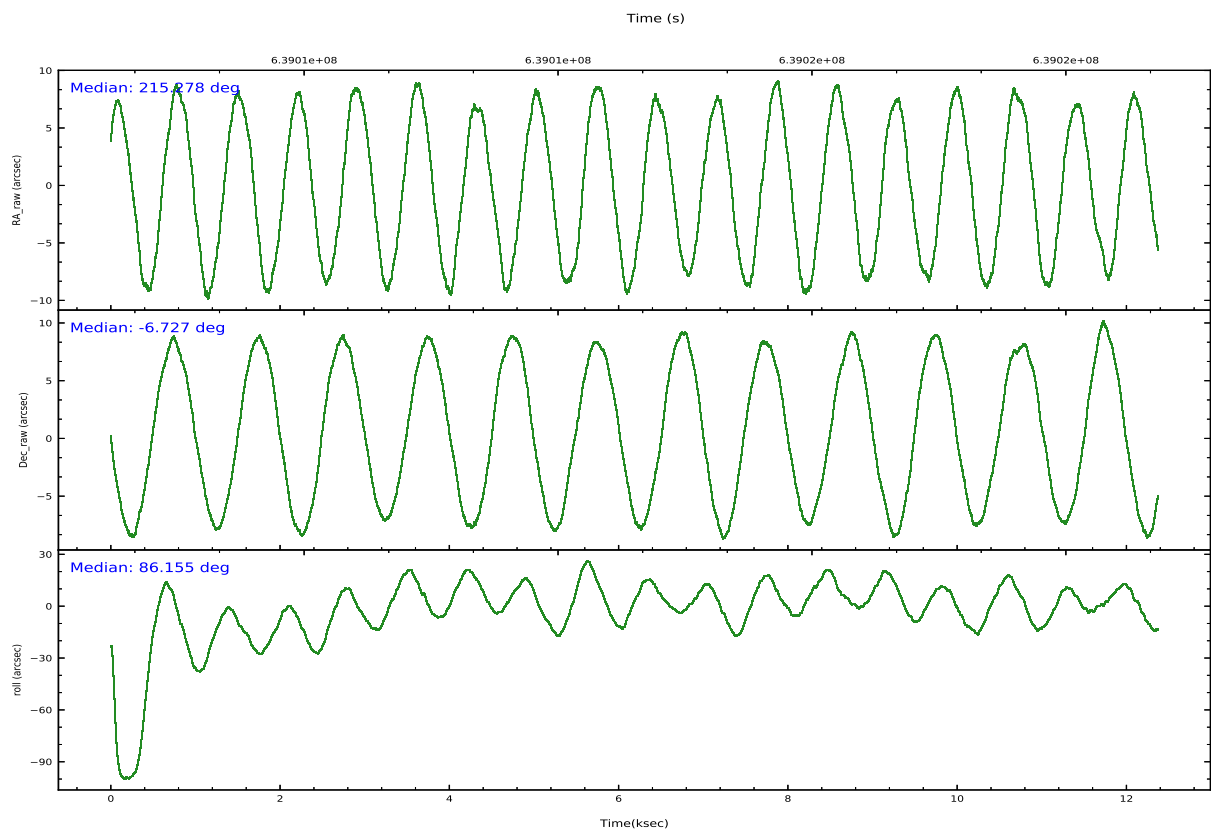
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-67 | ACIS-67 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 215.290426 | 215.28379123376 |
| [deg] Pointing Dec | -6.751536 | -6.7333064857253 |
| [deg] Pointing Roll | 86.000930 | 86.153715440038 |
| [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) | 639007891.184000 | 639007187.7273 |
| Observation start date | 2018-04-01T22:10:22 | 2018-04-01T21:59:47 |
| [s] Observation end time (MET) | 639020091.184000 | 639020829.4531 |
| Observation end date | 2018-04-02T01:33:42 | 2018-04-02T01:47:09 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar version number | 8 | 8 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| CCD I0 on | N | N |
| CCD I1 on | N | N |
| CCD I2 on | N | N |
| CCD I3 on | N | N |
| CCD S0 on | N | N |
| CCD S1 on | N | N |
| CCD S2 on | O1 | Y |
| CCD S3 on | Y | Y |
| CCD S4 on | N | N |
| CCD S5 on | N | N |
| Number of optional ACIS chips dropped | 0 | 0 |
| On-chip summing requested | N | N |
| Subarray requested | CUSTOM | 1/4 |
| Subarray start row | 385 | 385 |
| Subarray row count | 256 | 256 |
| Alternating exposures requested | N | N |
| [s] Primary exposure time | 0.000000 | 0.9 |

2.3 Aspect



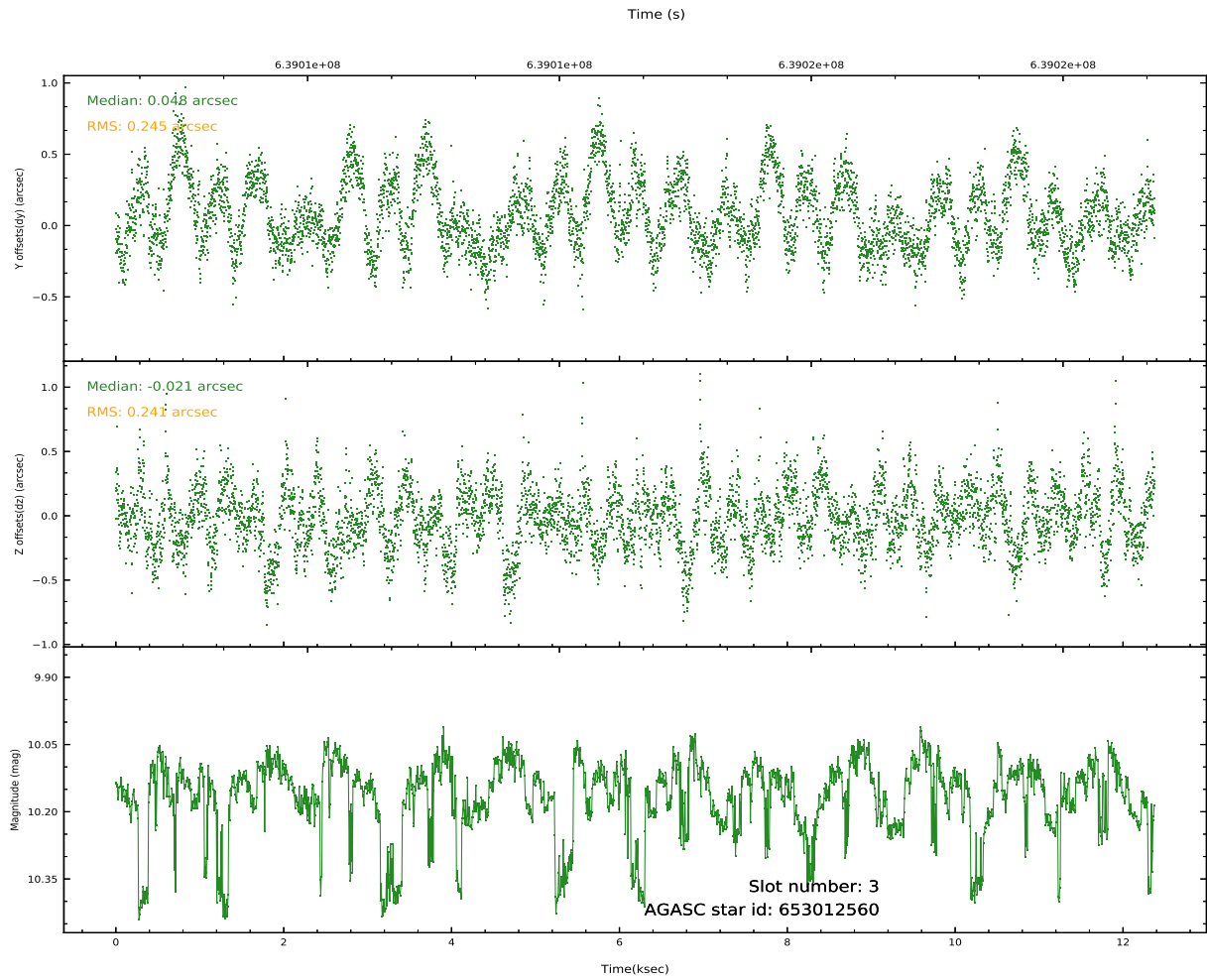
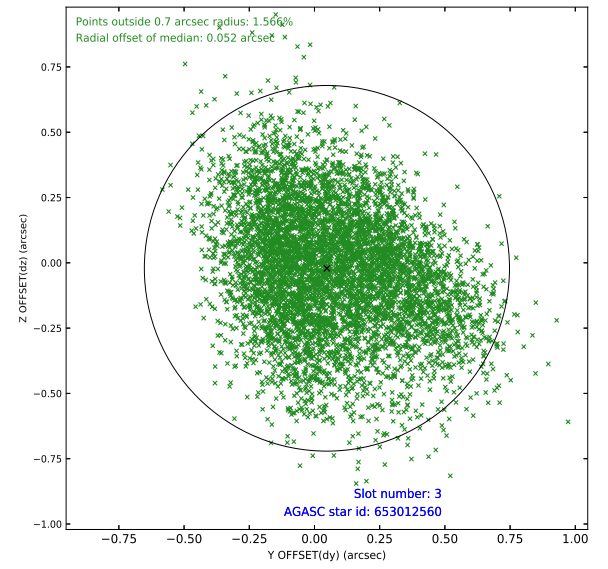
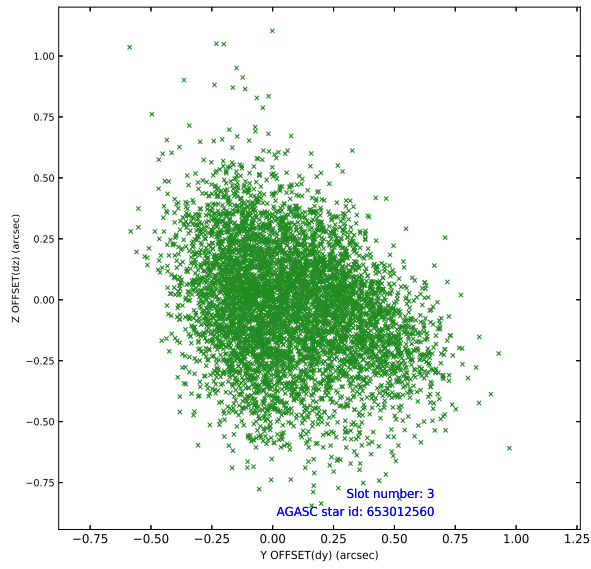


Slot Statistics

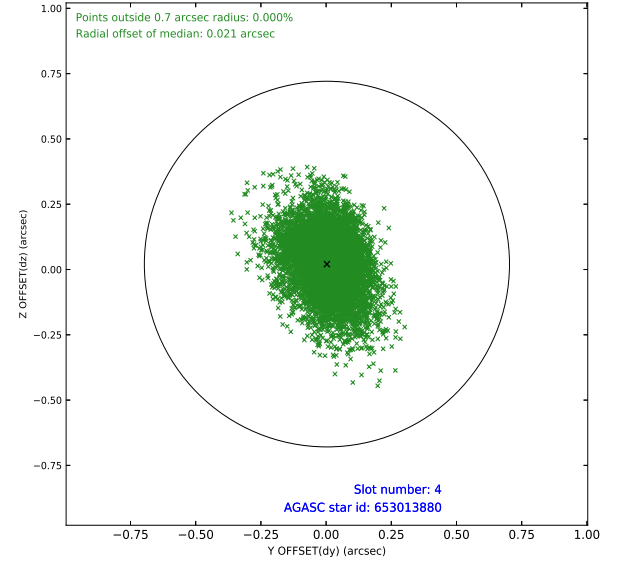
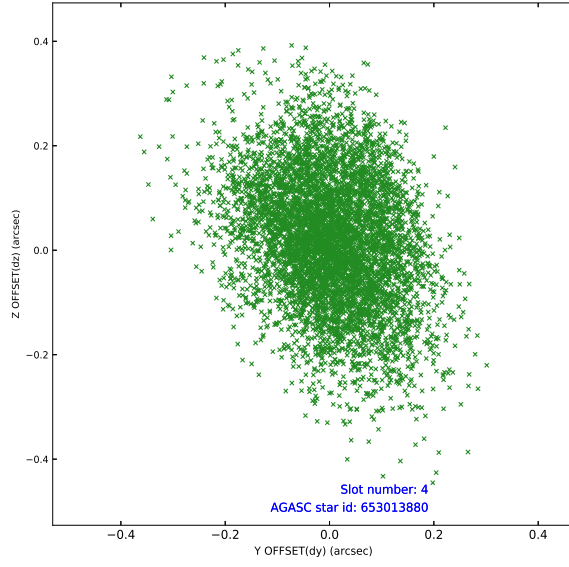
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|---------|------|-----------|-------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-S-2 | 7.12 | 3019 | 1.000 | 0.118 | -0.130 | 0.009 | 0.016 | 0.000000 | 0.000000 | -773.44 | -1743 |
| 1 | FID | | ACIS-S-4 | 7.25 | 3019 | 1.000 | 0.089 | -0.022 | 0.008 | 0.013 | 0.000000 | 0.000000 | 2139.91 | 164 |
| 2 | FID | | ACIS-S-5 | 7.24 | 3019 | 1.000 | -0.239 | 0.160 | 0.008 | 0.014 | 0.000000 | 0.000000 | -1825.84 | 159 |
| 3 | GUIDE | used | 653012560 | 10.15 | 6004 | 1.000 | 0.048 | -0.021 | 0.364 | 0.587 | 214.983808 | -6.848787 | -425.38 | 1069 |
| 4 | GUIDE | used | 653013880 | 6.37 | 6038 | 1.000 | 0.003 | 0.021 | 0.162 | 0.273 | 214.971669 | -6.746165 | -60.77 | 1140 |
| 5 | GUIDE | used | 653013888 | 7.79 | 6038 | 1.000 | -0.014 | 0.018 | 0.180 | 0.297 | 214.671610 | -7.013692 | -1097.03 | 2140 |
| 6 | OMITTED | | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0 |
| 7 | GUIDE | used | 653141776 | 9.29 | 6031 | 1.000 | -0.048 | -0.006 | 0.215 | 0.362 | 215.017653 | -6.536026 | 705.92 | 1027 |

2.4 Star Slots

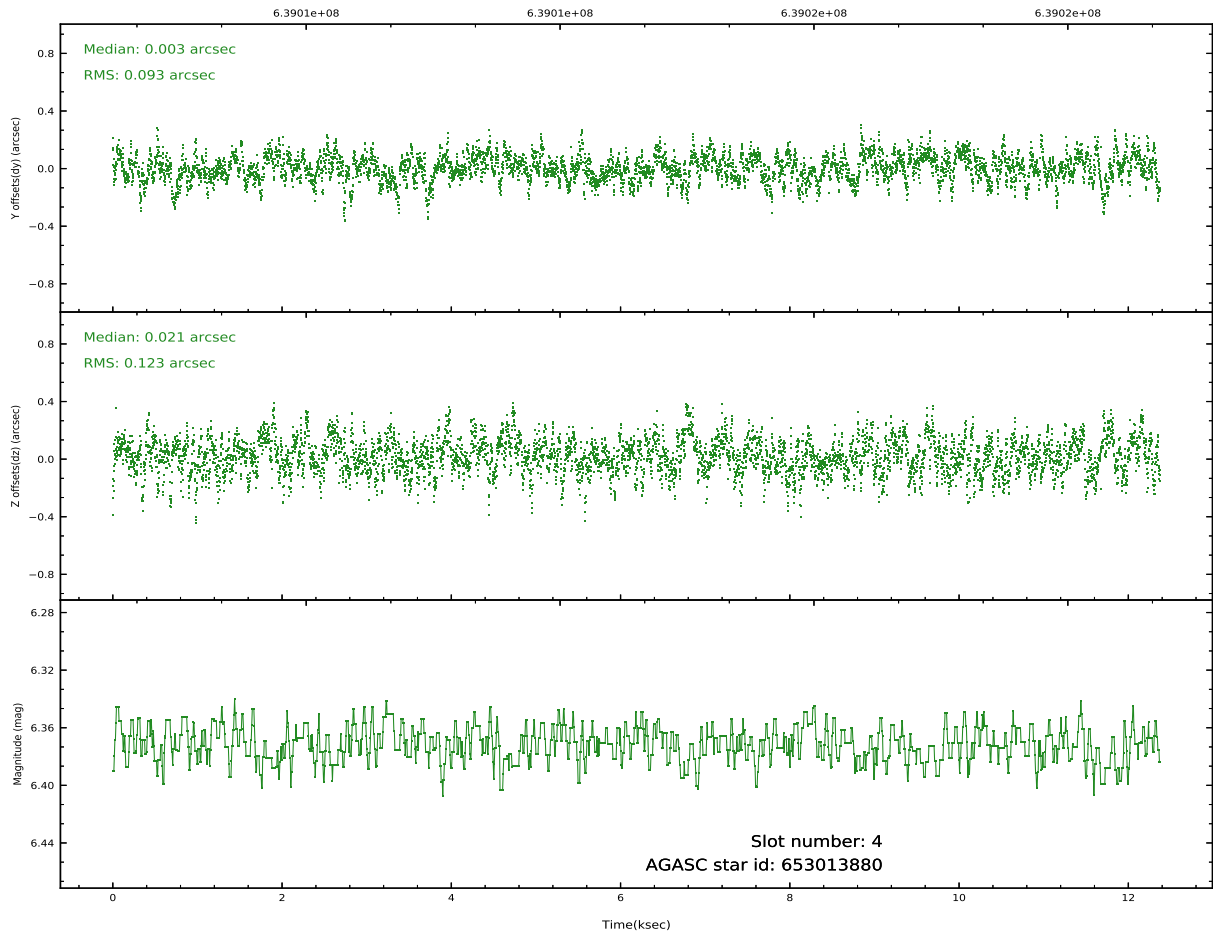
2.4.1 Slot 3



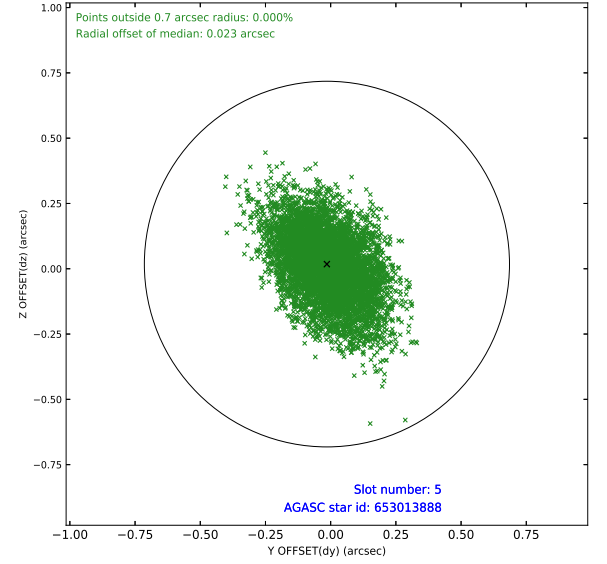
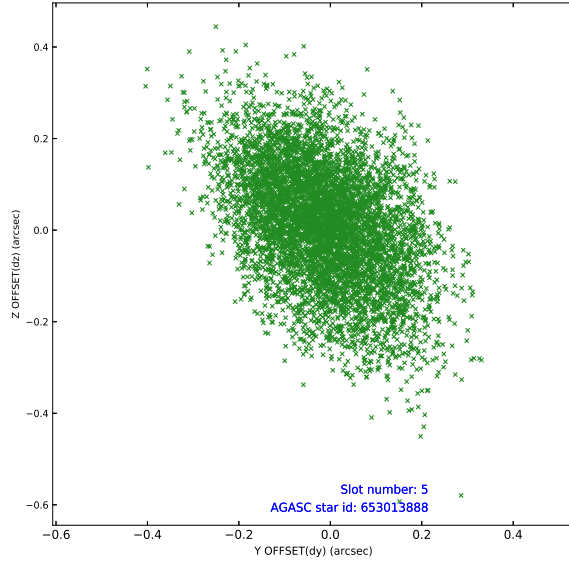
2.4.2 Slot 4



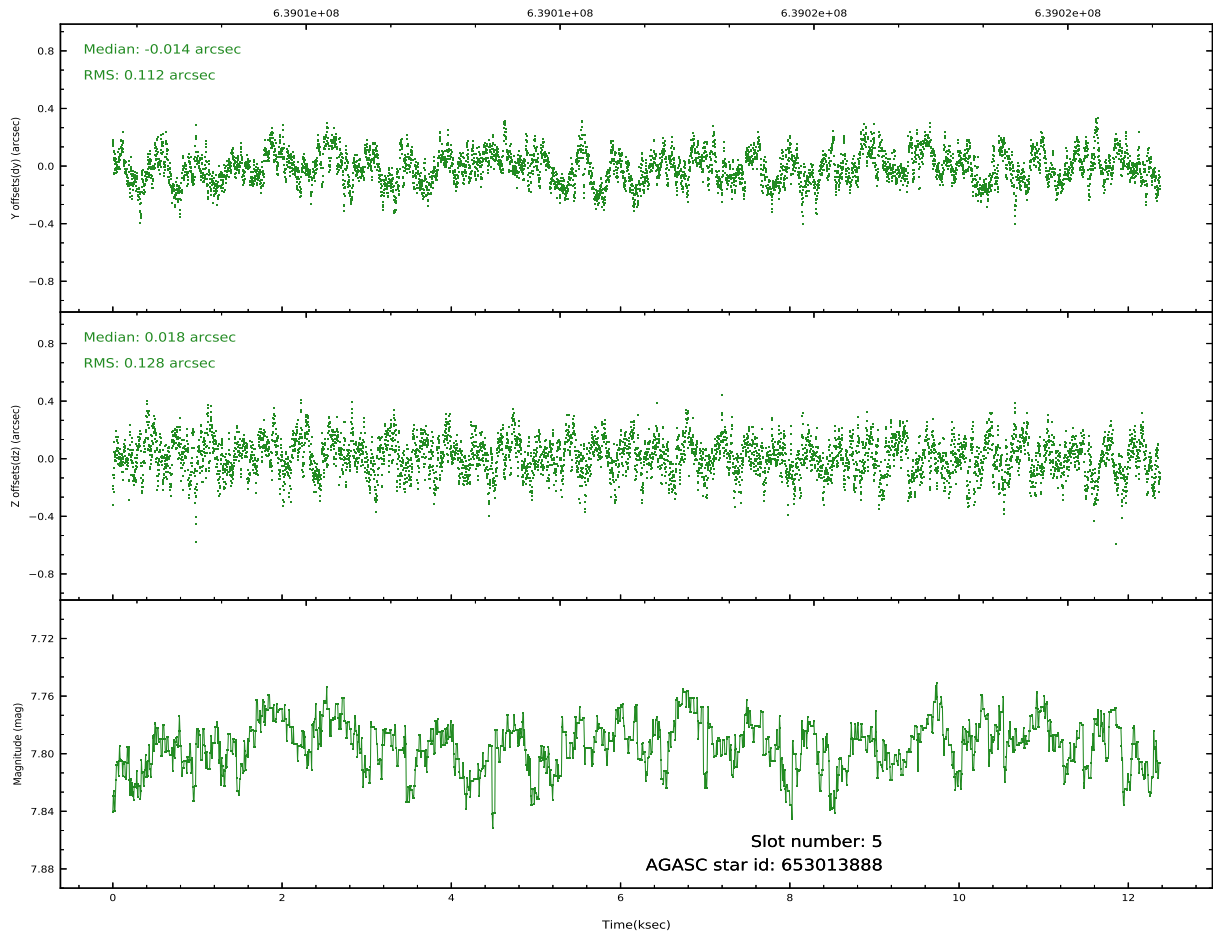
Time (s)



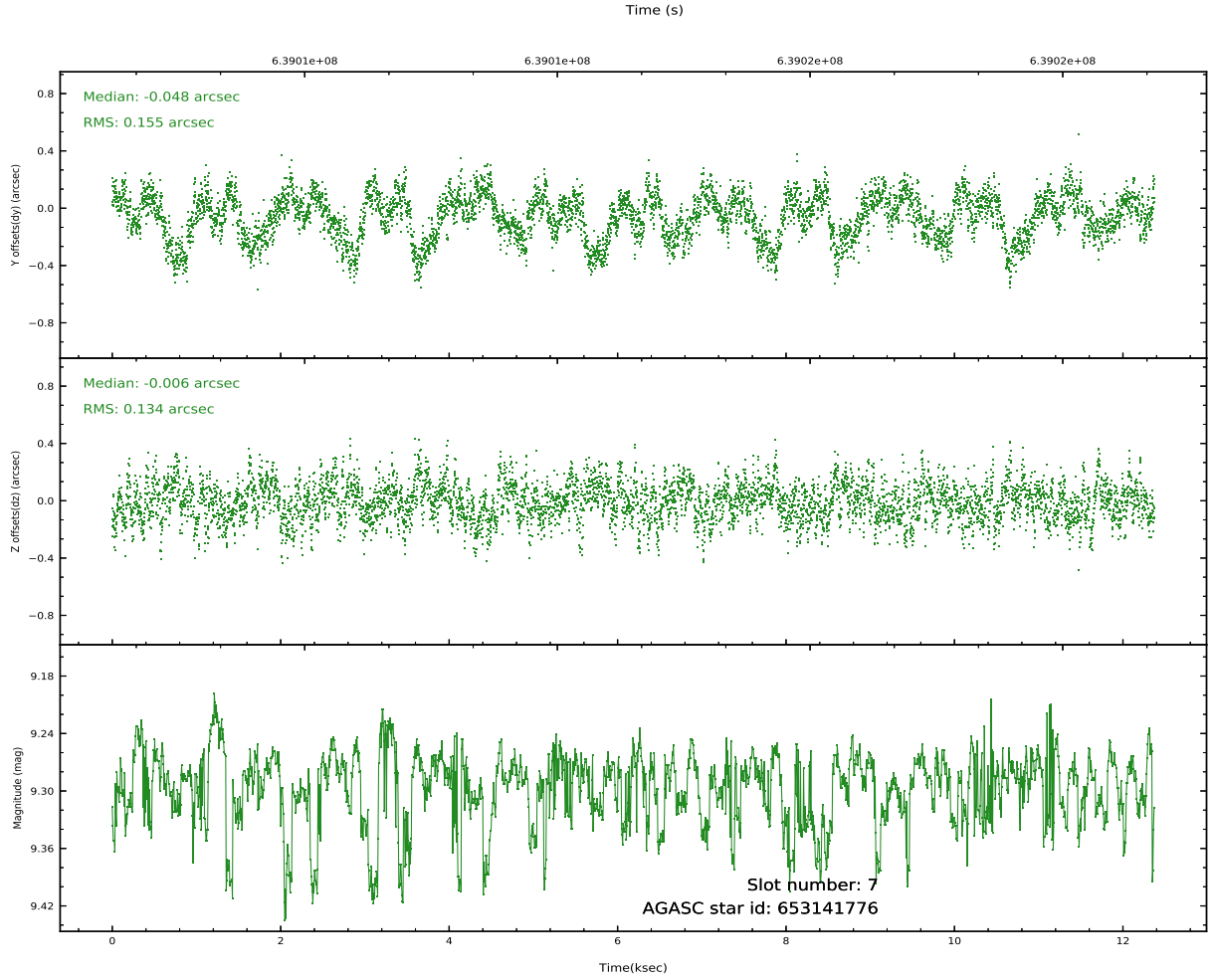
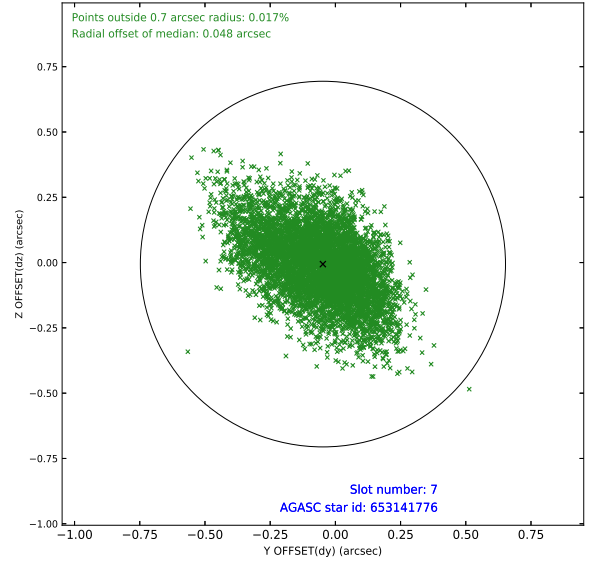
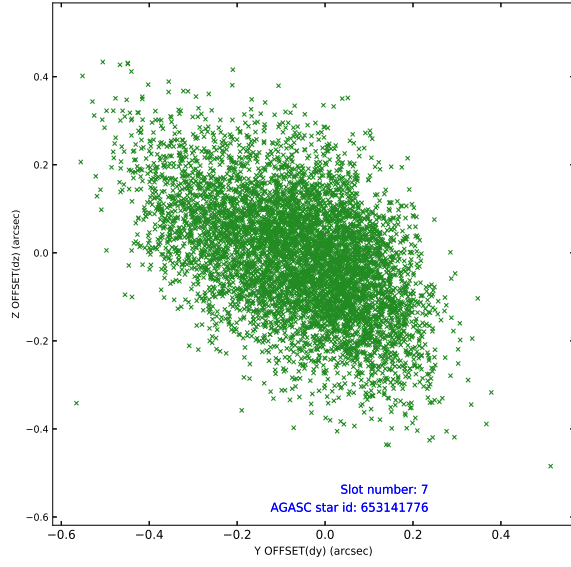
2.4.3 Slot 5



Time (s)

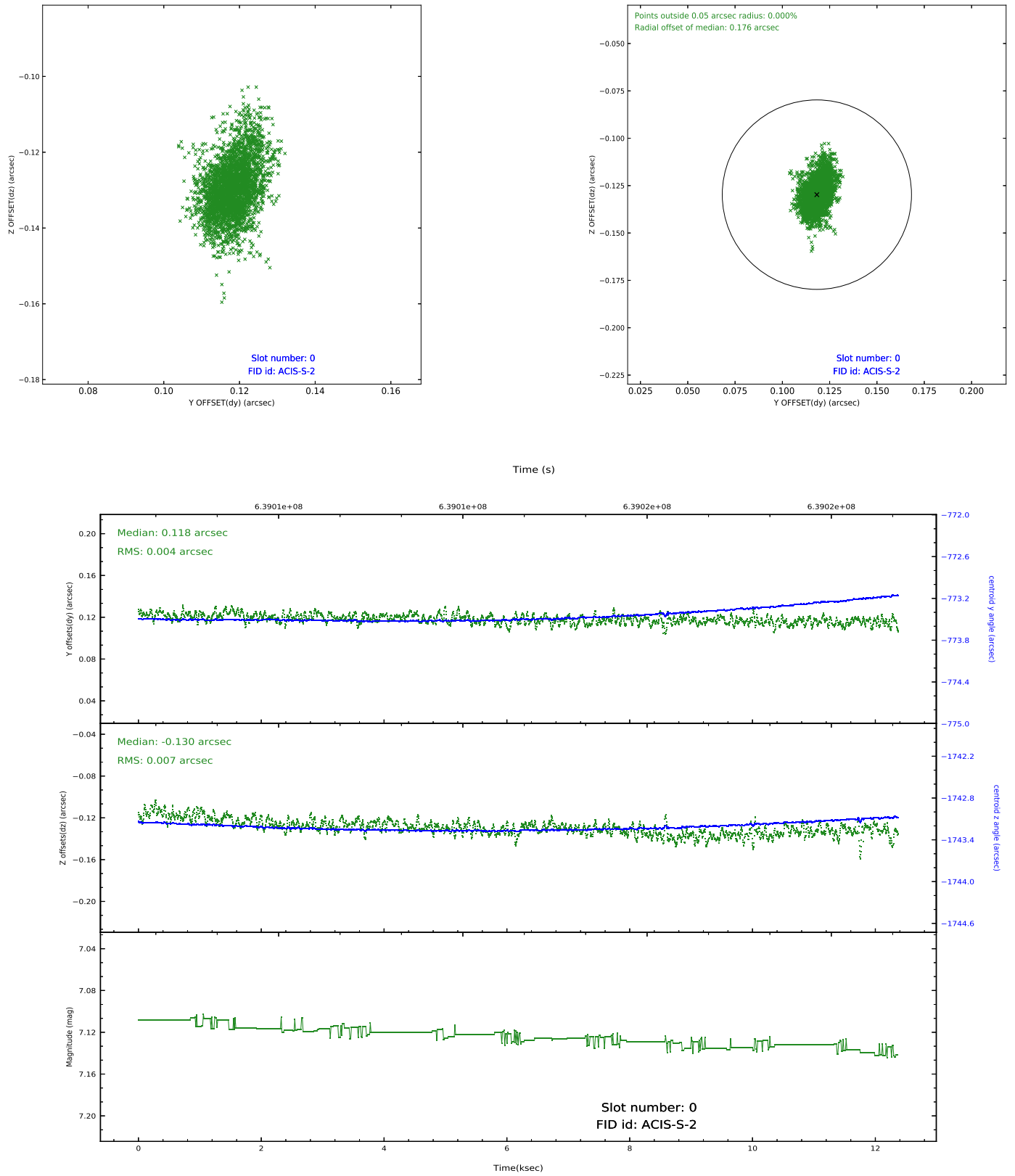


2.4.4 Slot 7

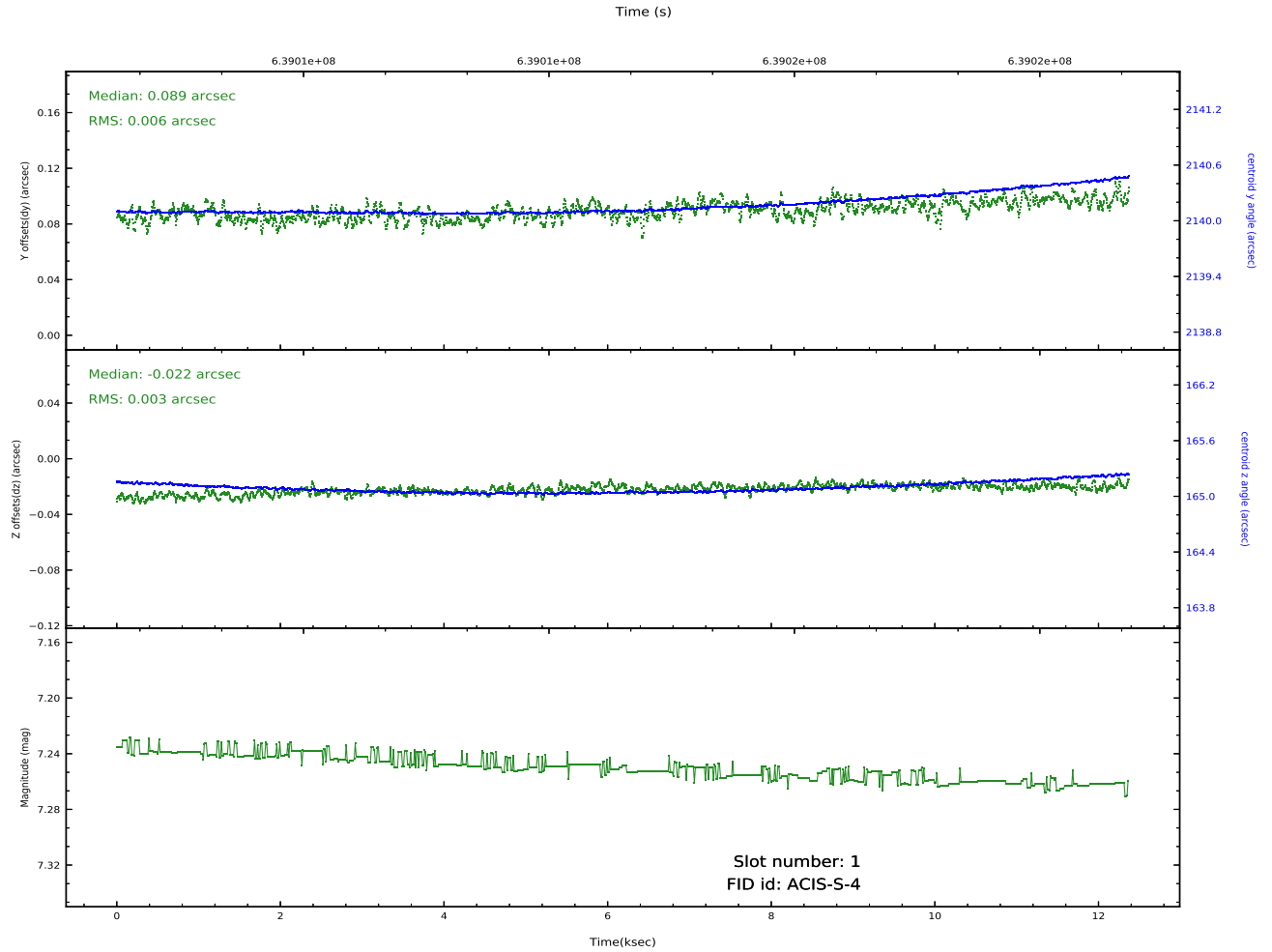
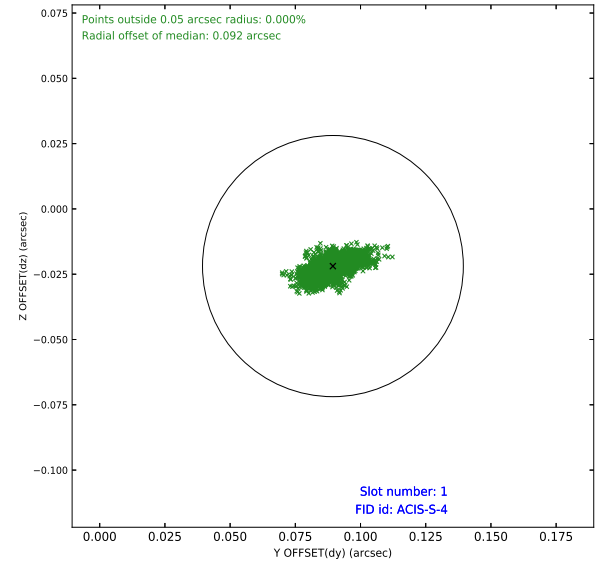
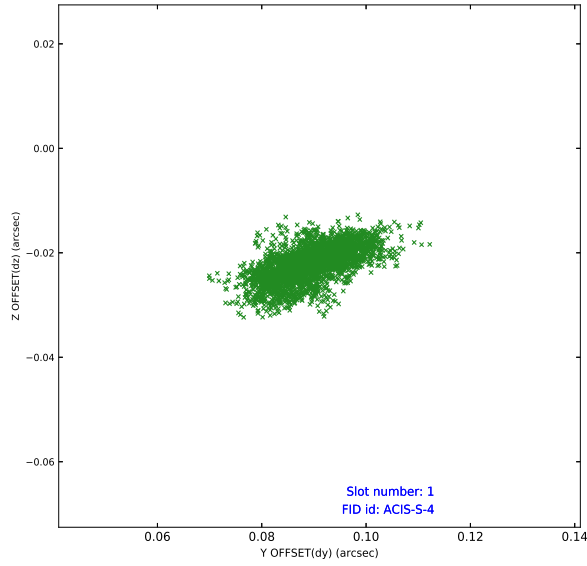


2.5 FID Slots

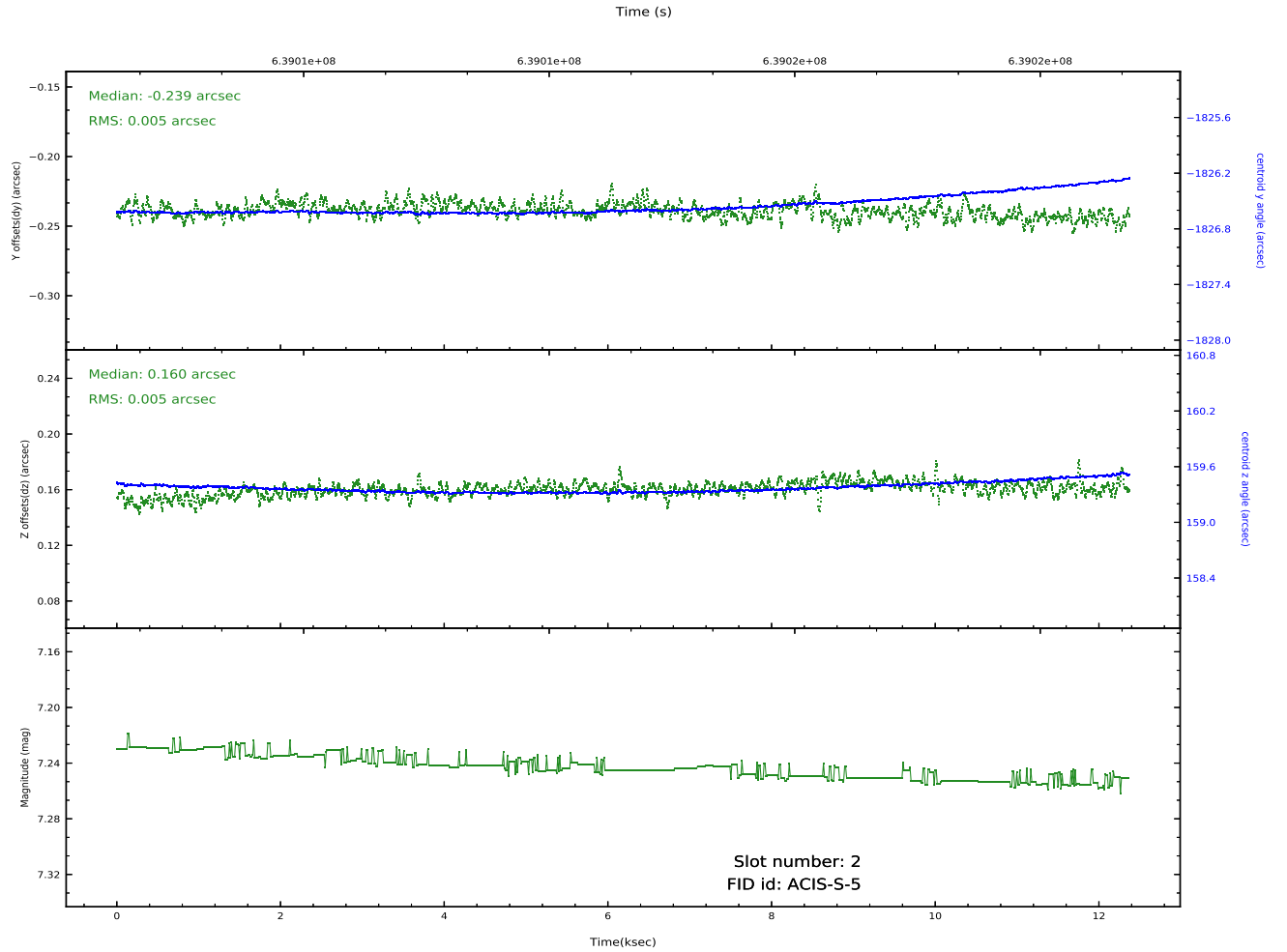
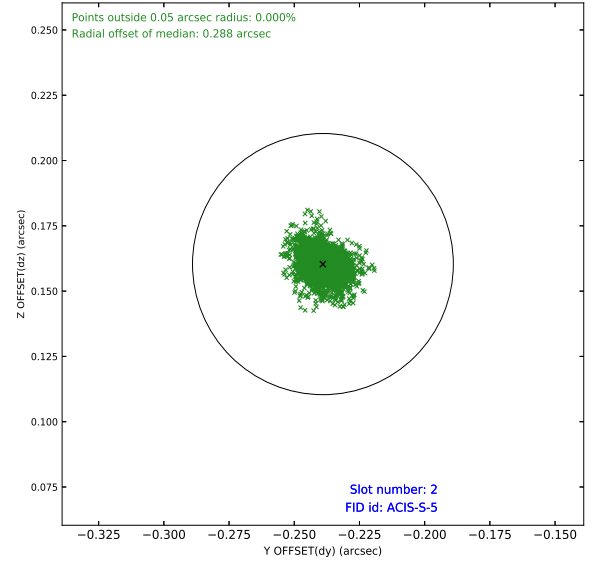
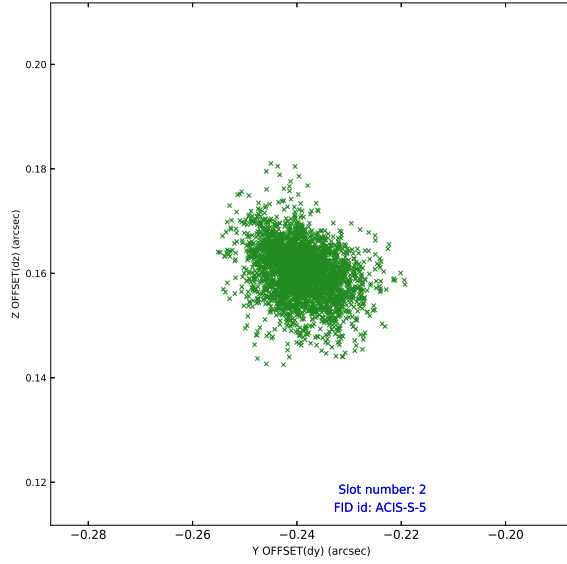
2.5.1 Slot 0



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) | 2020.10.29 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 12.303491975546 |

A.2 Comments

Joint proposal with HST and NRAO.

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The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.