

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6117 - L2 Version 4
Chandra X-Ray Center

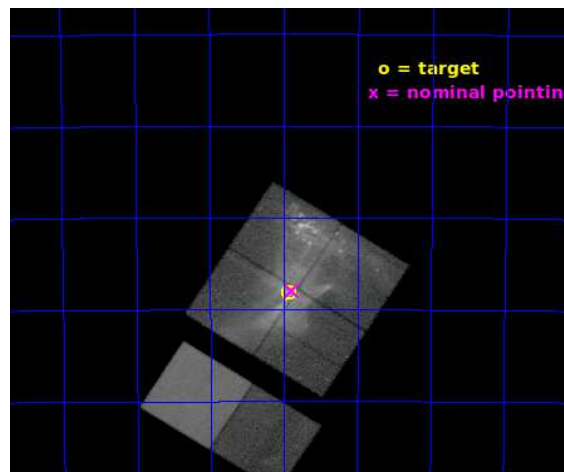
L2 Processing Date : Oct 10 2020

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1 Front

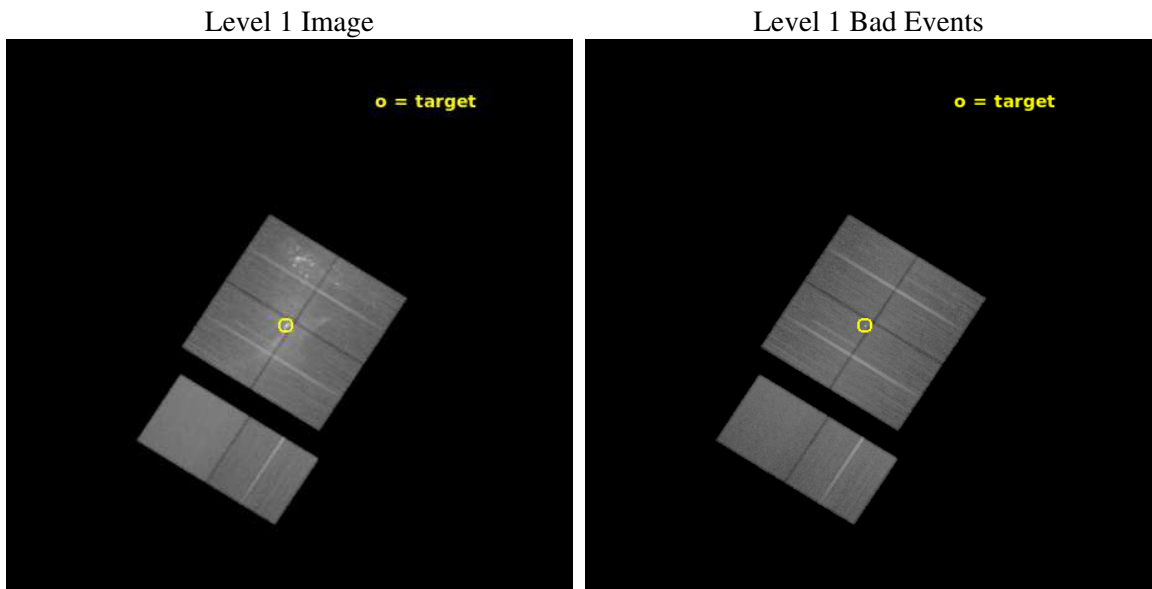
| | | |
|----------|---|--|
| seq_num | 500528 | Sequence number |
| obs_id | 6117 | Observation id |
| title | The Structure and Composition of Pulsar Winds and their Nebulae | Pr |
| observer | Patrick Slane | Principal investigator |
| object | PSR B1509-58 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 228.481667 | Observer's specified target RA [deg] |
| dec_targ | -59.135806 | Observer's specified target Dec [deg] |
| ra_nom | 228.47255400478 | Nominal RA [deg] |
| dec_nom | -59.132656840035 | Nominal Dec [deg] |
| roll_nom | 212.45954971885 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 46137.476917237 | Sum of GTIs [s] |
| livetime | 45553.256403858 | Livetime [s] |
| ontime0 | 46143.958867788 | Sum of GTIs [s] |
| ontime1 | 46147.199828088 | Sum of GTIs [s] |
| ontime2 | 46143.958837897 | Sum of GTIs [s] |
| ontime3 | 46137.476917237 | Sum of GTIs [s] |
| ontime6 | 46140.717817813 | Sum of GTIs [s] |
| ontime7 | 46147.199828088 | Sum of GTIs [s] |
| l2events | 856463 | Number of level 2 events |



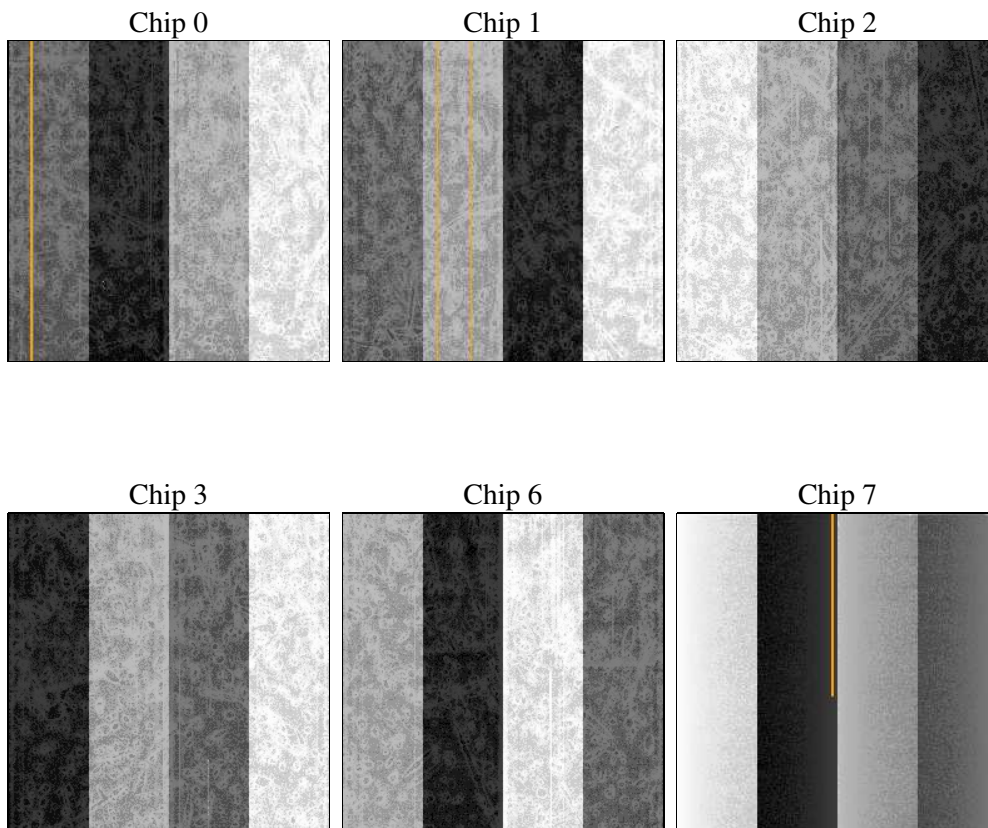
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 46000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 46137.476917237 | Sum of GTIs [s] |
| caldbver | 4.9.2 | | ontime0 | 46143.958867788 | Sum of GTIs [s] |
| date | 2020-10-11T03:15:21 | Date and time of file creation | ontime1 | 46147.199828088 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime2 | 46143.958837897 | Sum of GTIs [s] |
| | | | ontime3 | 46137.476917237 | Sum of GTIs [s] |
| | | | ontime6 | 46140.717817813 | Sum of GTIs [s] |
| | | | ontime7 | 46147.199828088 | Sum of GTIs [s] |
| | | | l1events | 2768721 | Number of level 1 events |

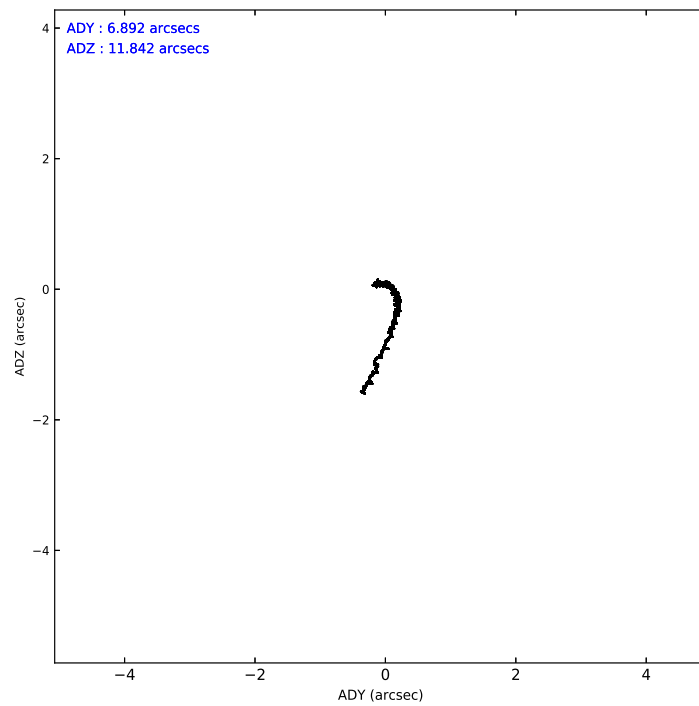
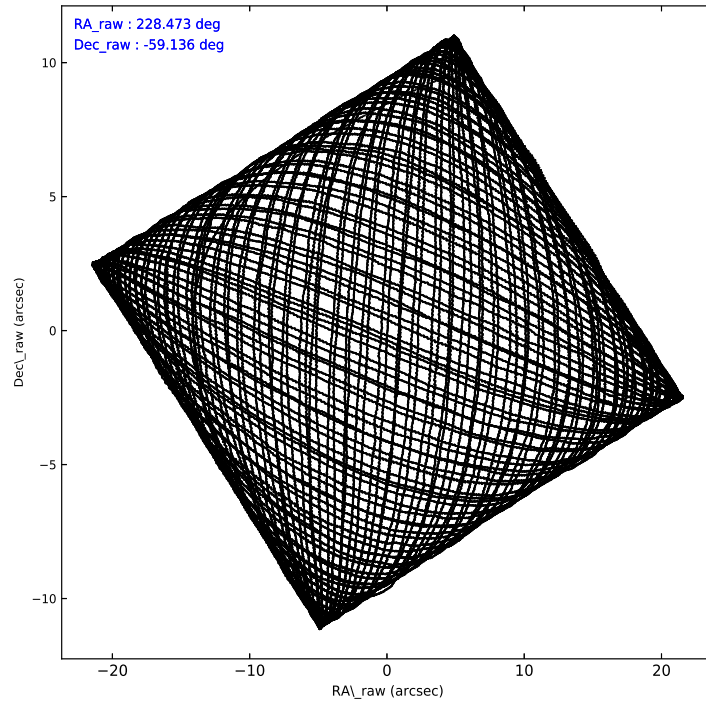
2.1.4 Events

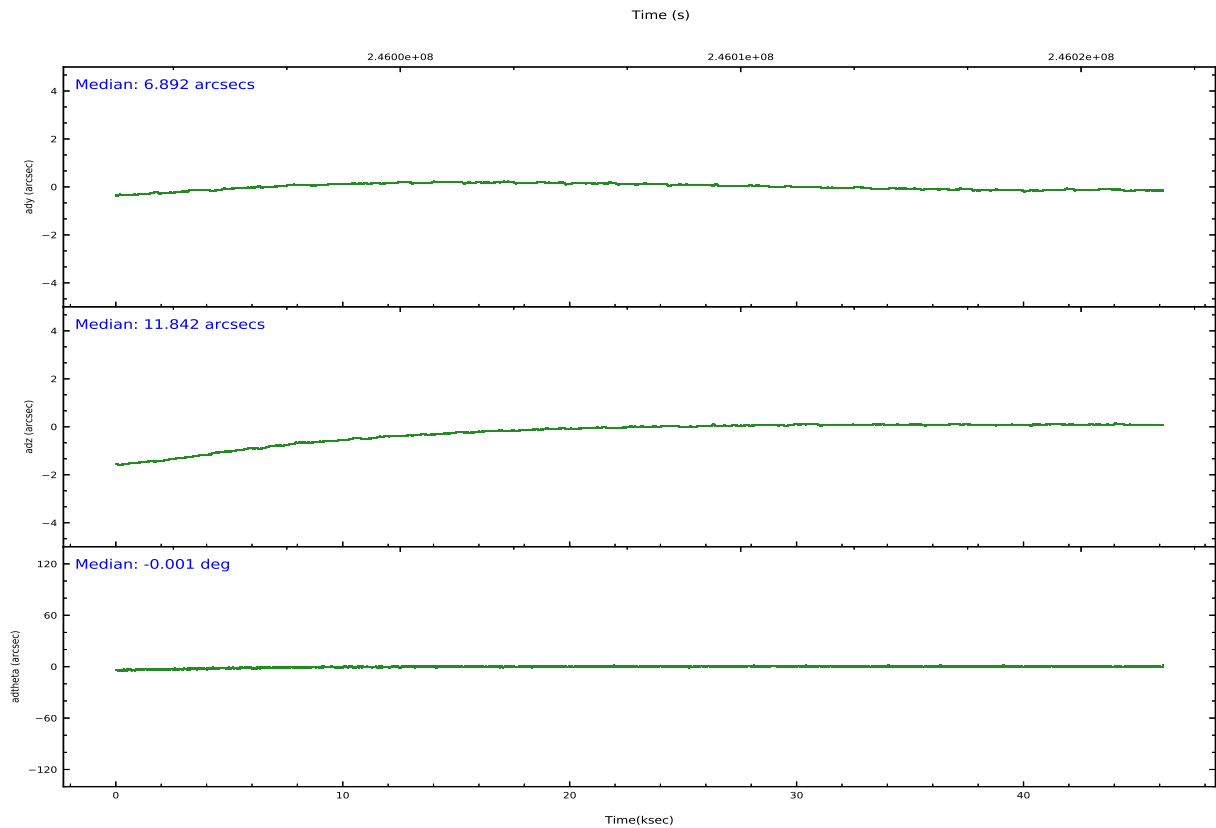
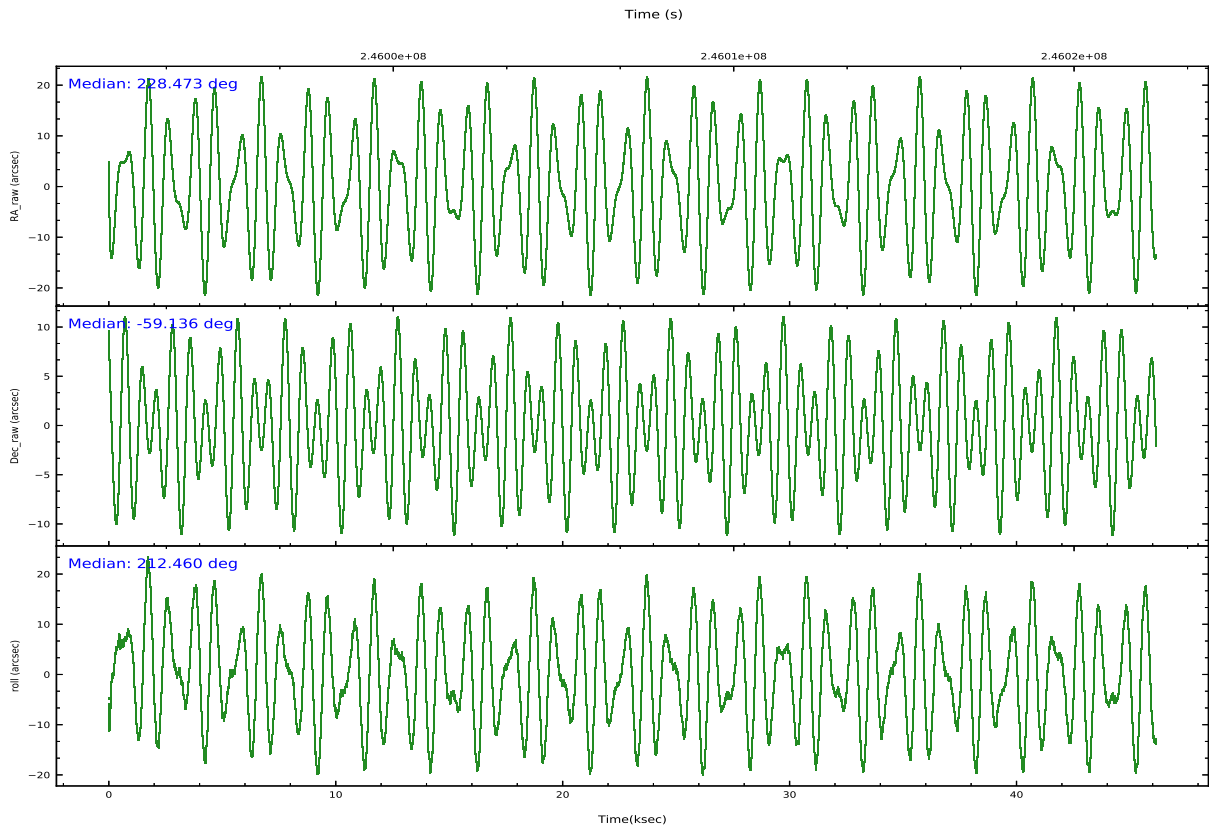
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 412100 | 504607 | 436353 | 514270 | 383922 | 517469 | grade 0 events | 80498 | 158635 | 74583 | 125791 | 22959 | 23779 |
| rejected events | 290663 | 285993 | 322723 | 329002 | 332623 | 291012 | | 19% | 31% | 17% | 24% | 5% | 4% |
| rejected % | 70% | 56% | 73% | 63% | 86% | 56% | grade 1 events | 555 | 853 | 524 | 2425 | 225 | 493 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 17867 | 27722 | 16481 | 25018 | 10180 | 46669 |
| | | | | | | | | 4% | 5% | 3% | 4% | 2% | 9% |
| | | | | | | | grade 3 events | 6894 | 9718 | 6515 | 9752 | 4505 | 20391 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 3% |
| | | | | | | | grade 4 events | 6555 | 9553 | 6652 | 9817 | 4352 | 20212 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 3% |
| | | | | | | | grade 5 events | 14892 | 16511 | 13876 | 19611 | 17186 | 47177 |
| | | | | | | | | 3% | 3% | 3% | 3% | 4% | 9% |
| | | | | | | | grade 6 events | 9631 | 13001 | 9411 | 14899 | 9307 | 115425 |
| | | | | | | | | 2% | 2% | 2% | 2% | 2% | 22% |
| | | | | | | | grade 7 events | 275208 | 268614 | 308311 | 306957 | 315208 | 243323 |
| | | | | | | | | 66% | 53% | 70% | 59% | 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 | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 228.497224 | 228.47255400478 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | -59.112241 | -59.132656840035 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 212.277273 | 212.45954971885 | [s] Primary exposure time | 0.000000 | 3.2 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | | | |
| [mm] SIM defocus | 0 | 0.001439871863259334 | | | |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 | | | |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 | | | |
| [s] Observation start time (MET) | 245982616.184000 | 245981561.22914 | | | |
| Observation start date | 2005-10-18T00:29:12 | 2005-10-18T00:12:41 | | | |
| [s] Observation end time (MET) | 246028616.184000 | 246029276.51884 | | | |
| Observation end date | 2005-10-18T13:15:52 | 2005-10-18T13:27:56 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect





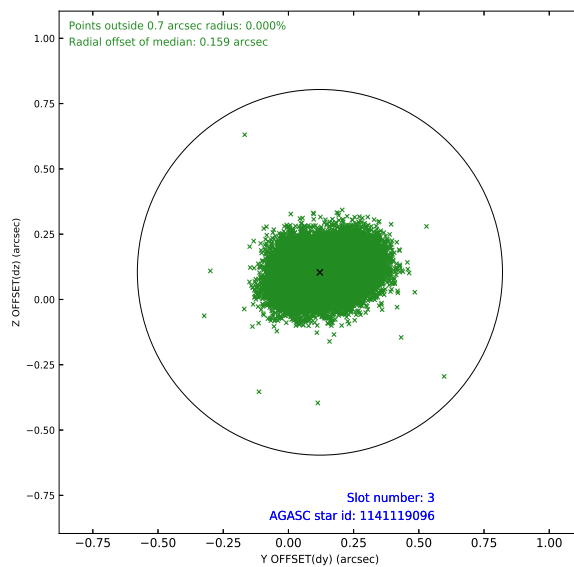
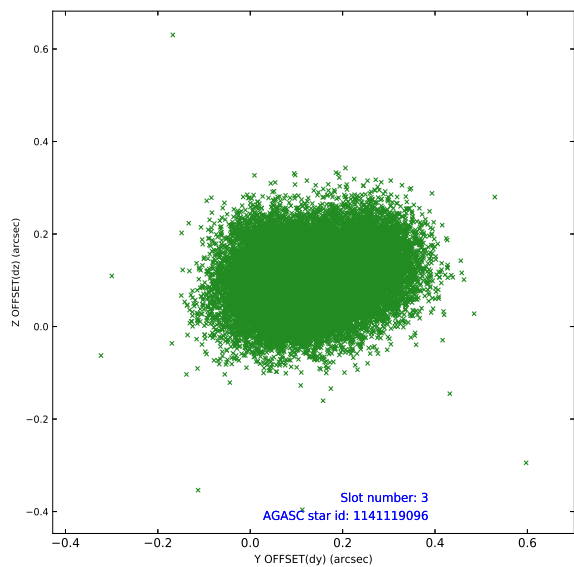
Slot Statistics

| slot | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|------|--------|------|------------|------|-------|----------|--------|--------|-------|-------|------------|------------|----------|-------|
| 0 | FID | | ACIS-I-1 | 7.24 | 11256 | 1.000 | 0.056 | -0.043 | 0.010 | 0.028 | 0.000000 | 0.000000 | 932.83 | -835 |
| 1 | FID | | ACIS-I-5 | 7.23 | 11257 | 1.000 | -0.199 | 0.058 | 0.009 | 0.027 | 0.000000 | 0.000000 | -1815.51 | 1062 |
| 2 | FID | | ACIS-I-6 | 7.25 | 11257 | 1.000 | 0.053 | 0.056 | 0.012 | 0.026 | 0.000000 | 0.000000 | 398.42 | 1706 |
| 3 | GUIDE | used | 1141119096 | 9.45 | 22484 | 1.000 | 0.121 | 0.104 | 0.130 | 0.208 | 228.052751 | -59.529718 | 1490.62 | 840 |
| 4 | GUIDE | used | 1141121072 | 9.09 | 22507 | 1.000 | 0.184 | -0.042 | 0.082 | 0.130 | 227.898628 | -59.420815 | 1523.53 | 358 |
| 5 | GUIDE | used | 1141116568 | 8.51 | 22510 | 1.000 | -0.009 | -0.059 | 0.160 | 0.225 | 228.578452 | -58.520066 | -1267.17 | -1720 |
| 6 | GUIDE | used | 1141113152 | 8.72 | 22507 | 1.000 | -0.138 | -0.054 | 0.070 | 0.113 | 228.952453 | -58.305202 | -2277.72 | -1994 |
| 7 | GUIDE | used | 1141119896 | 8.39 | 22506 | 1.000 | -0.142 | 0.063 | 0.077 | 0.129 | 229.637327 | -59.405643 | -1192.74 | 2023 |

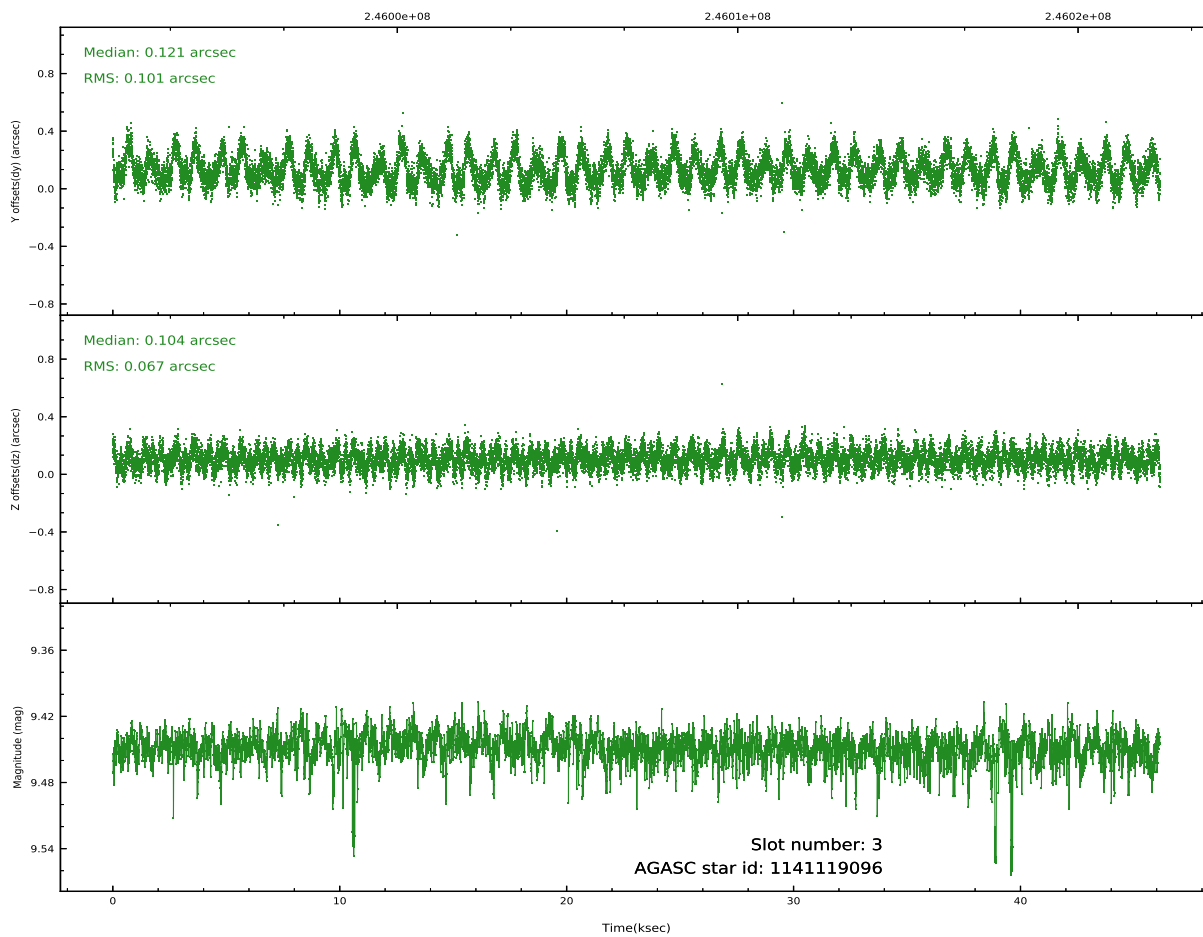
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2.4 Star Slots

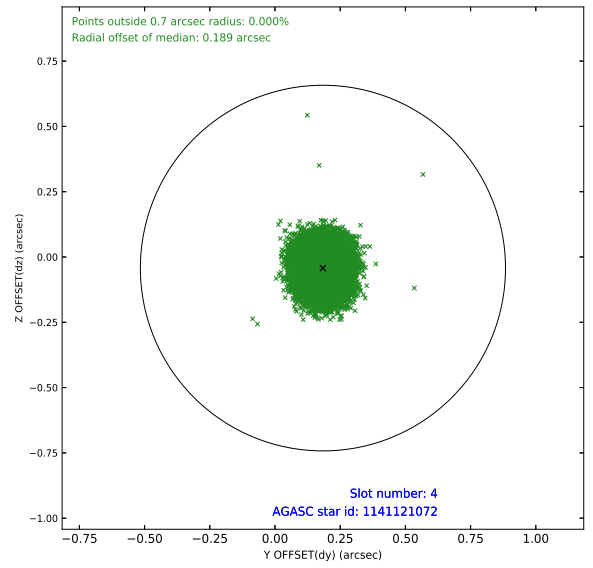
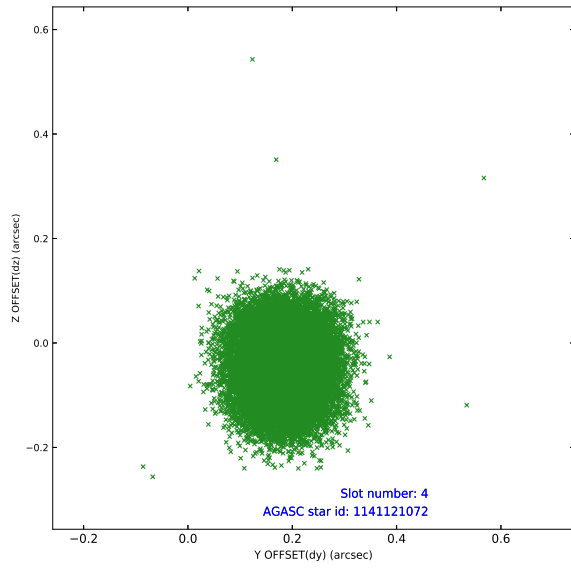
2.4.1 Slot 3



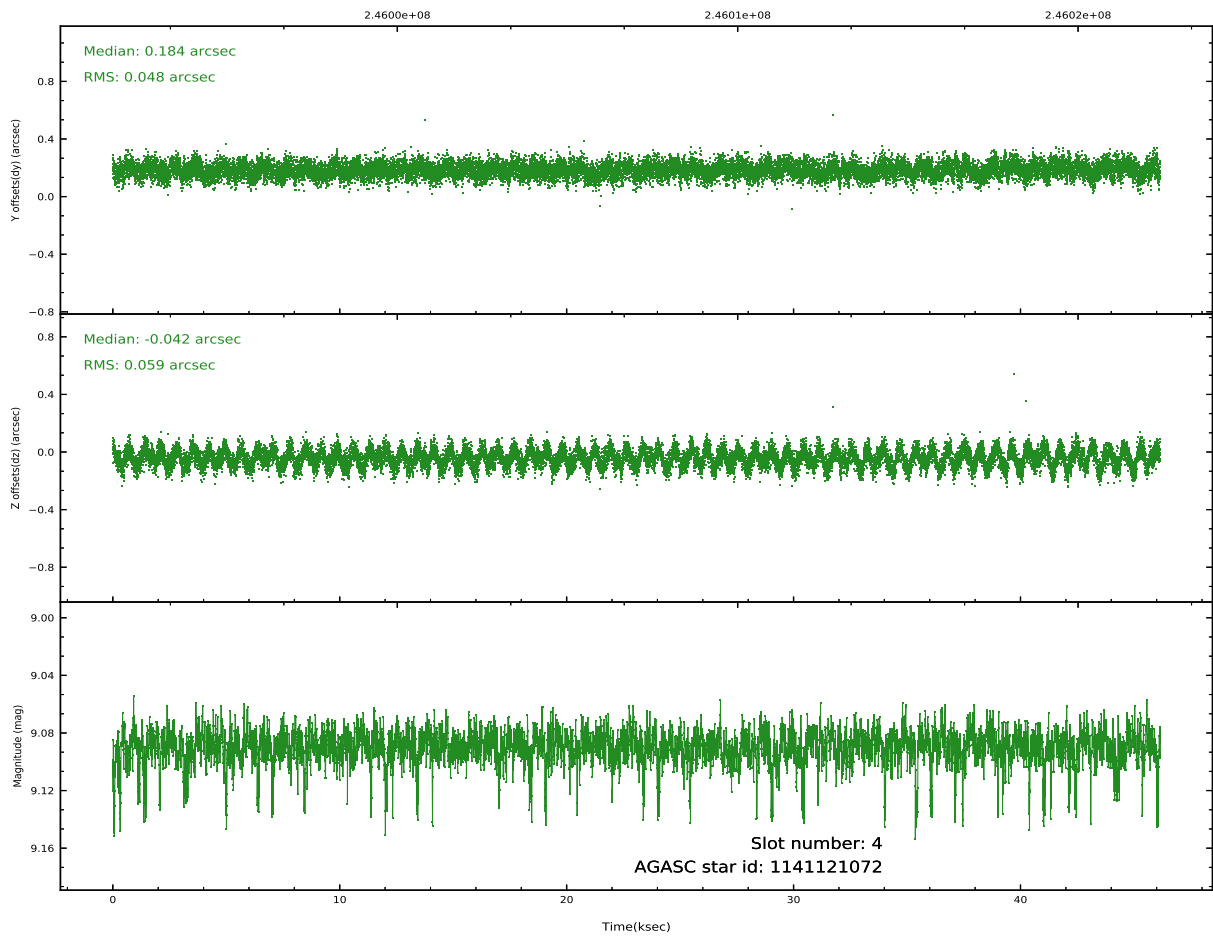
Time (s)



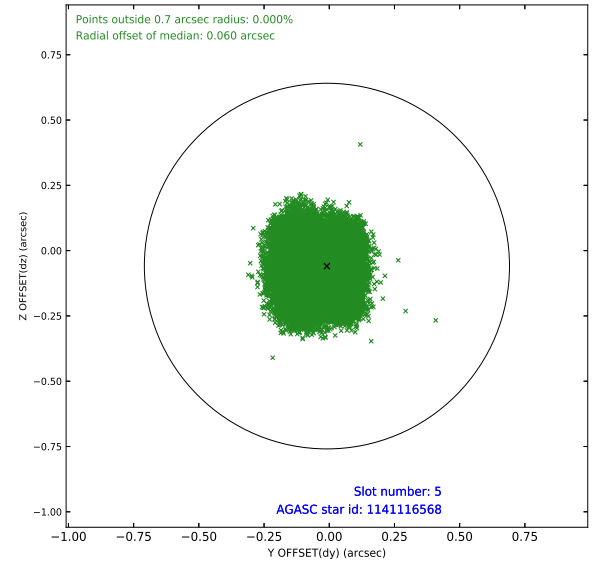
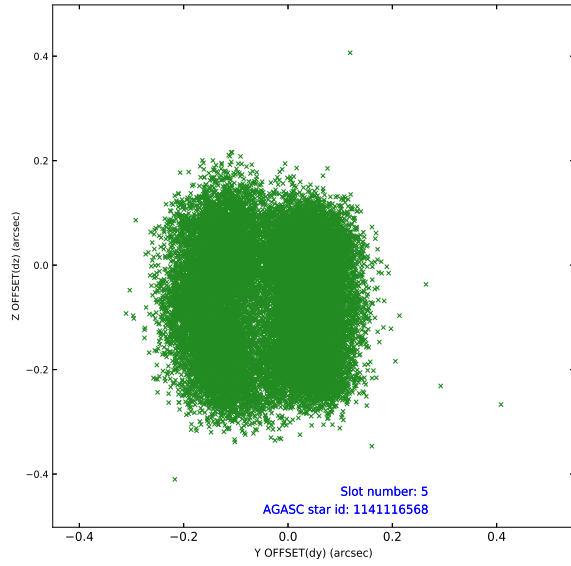
2.4.2 Slot 4



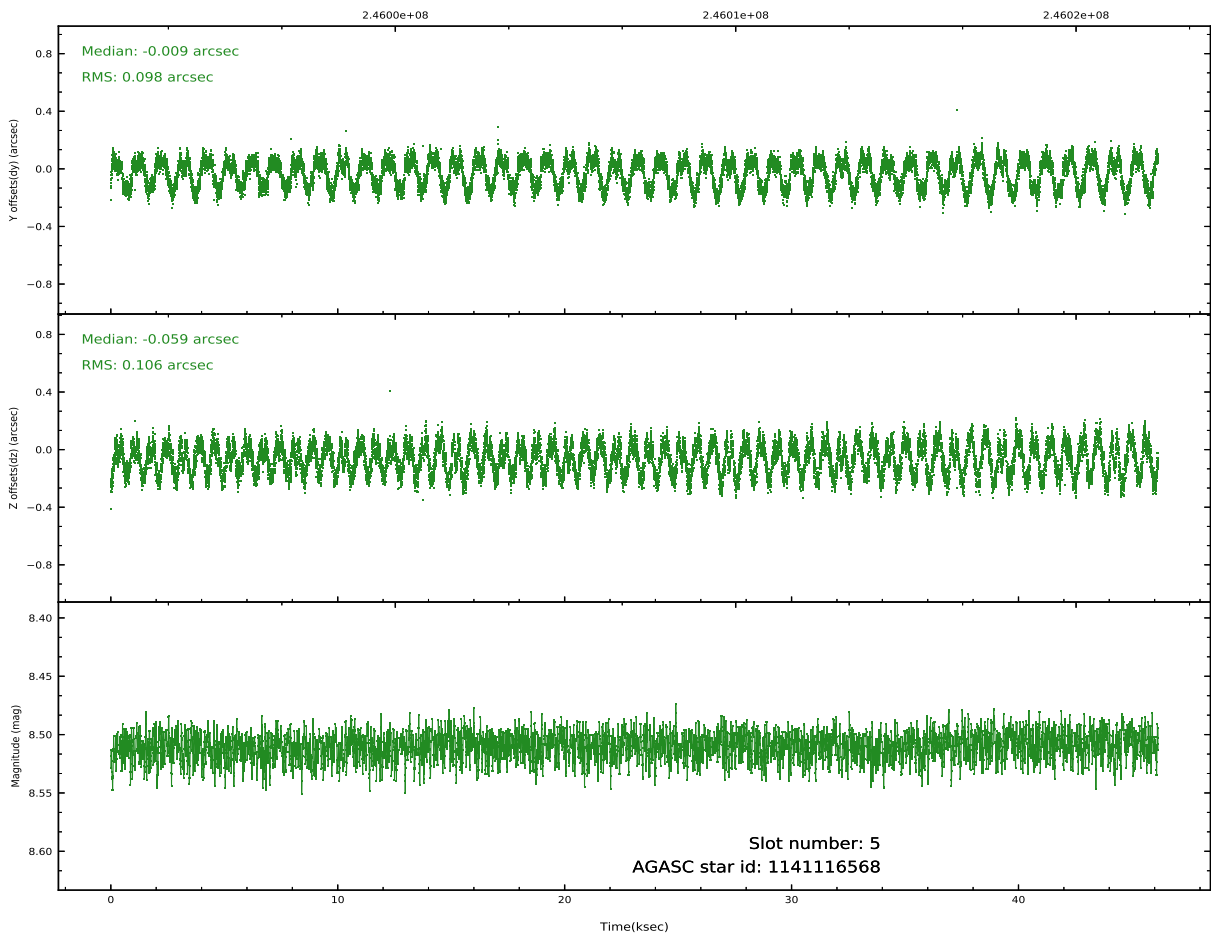
Time (s)



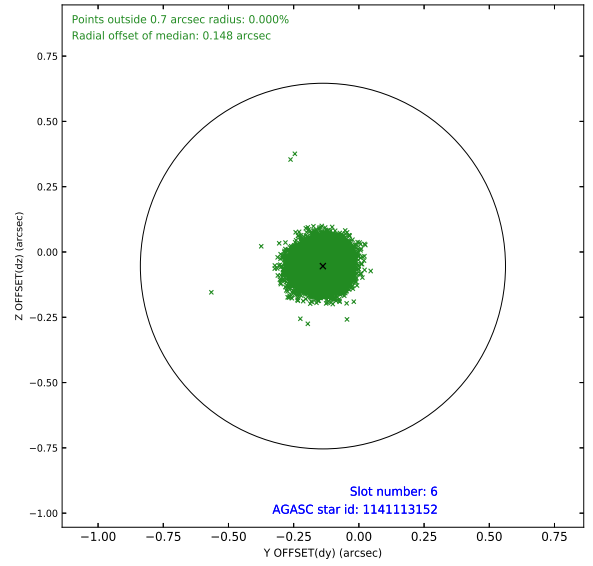
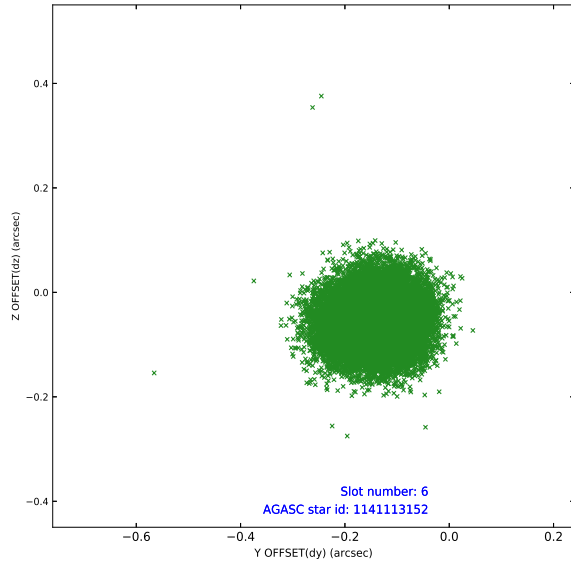
2.4.3 Slot 5



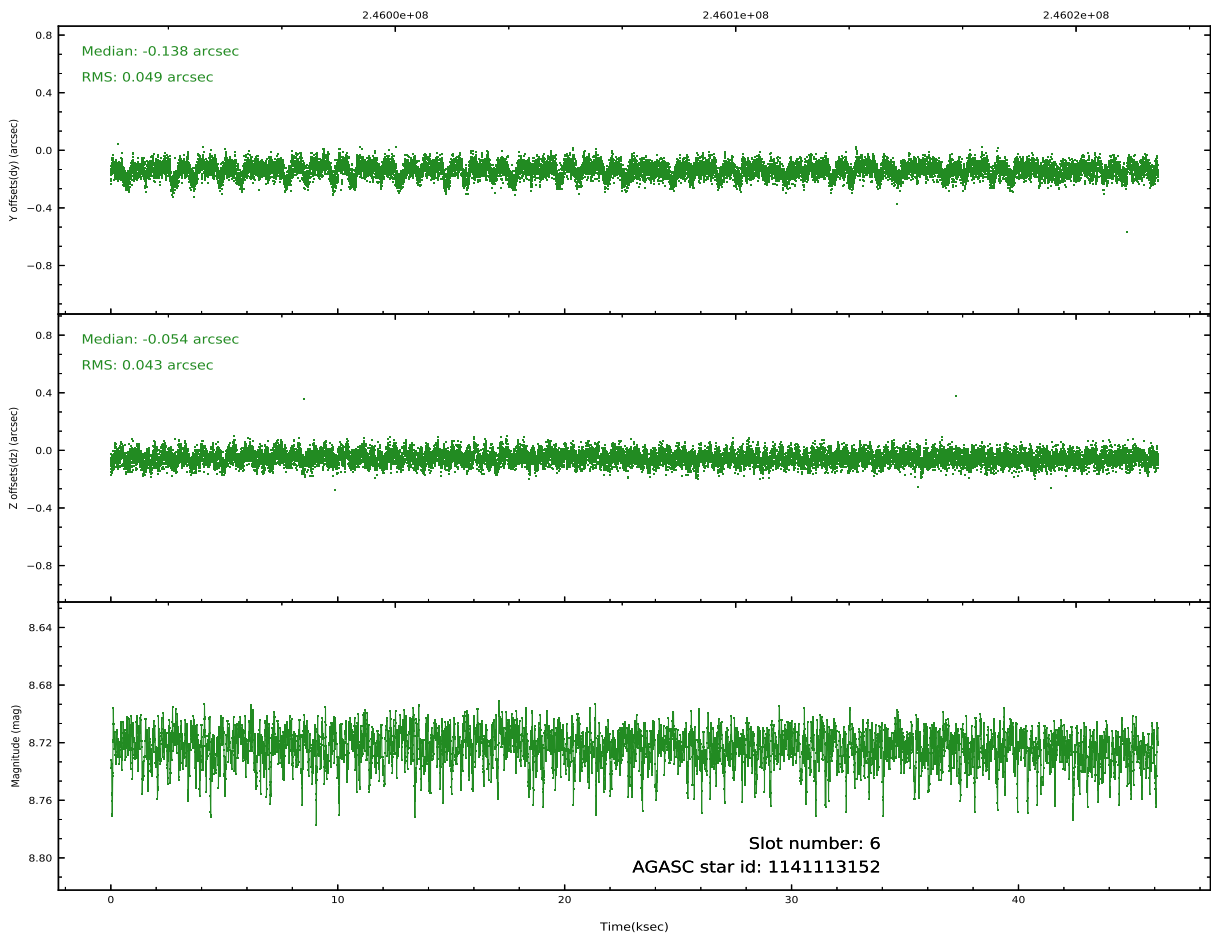
Time (s)



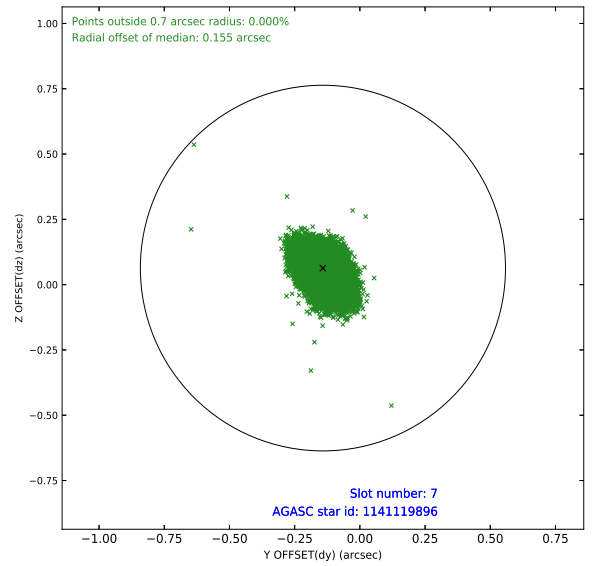
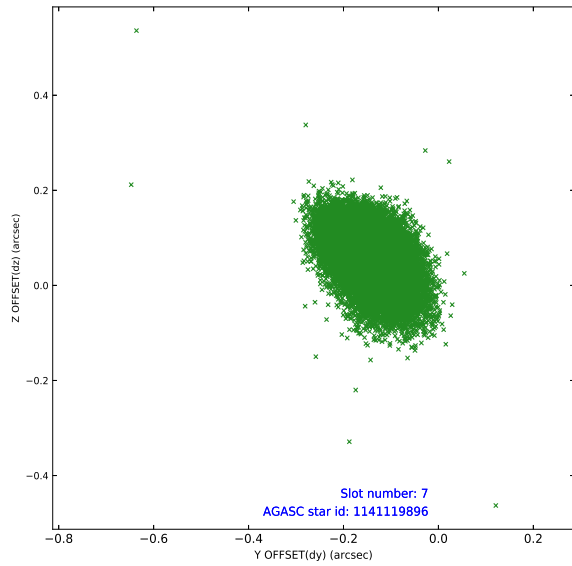
2.4.4 Slot 6



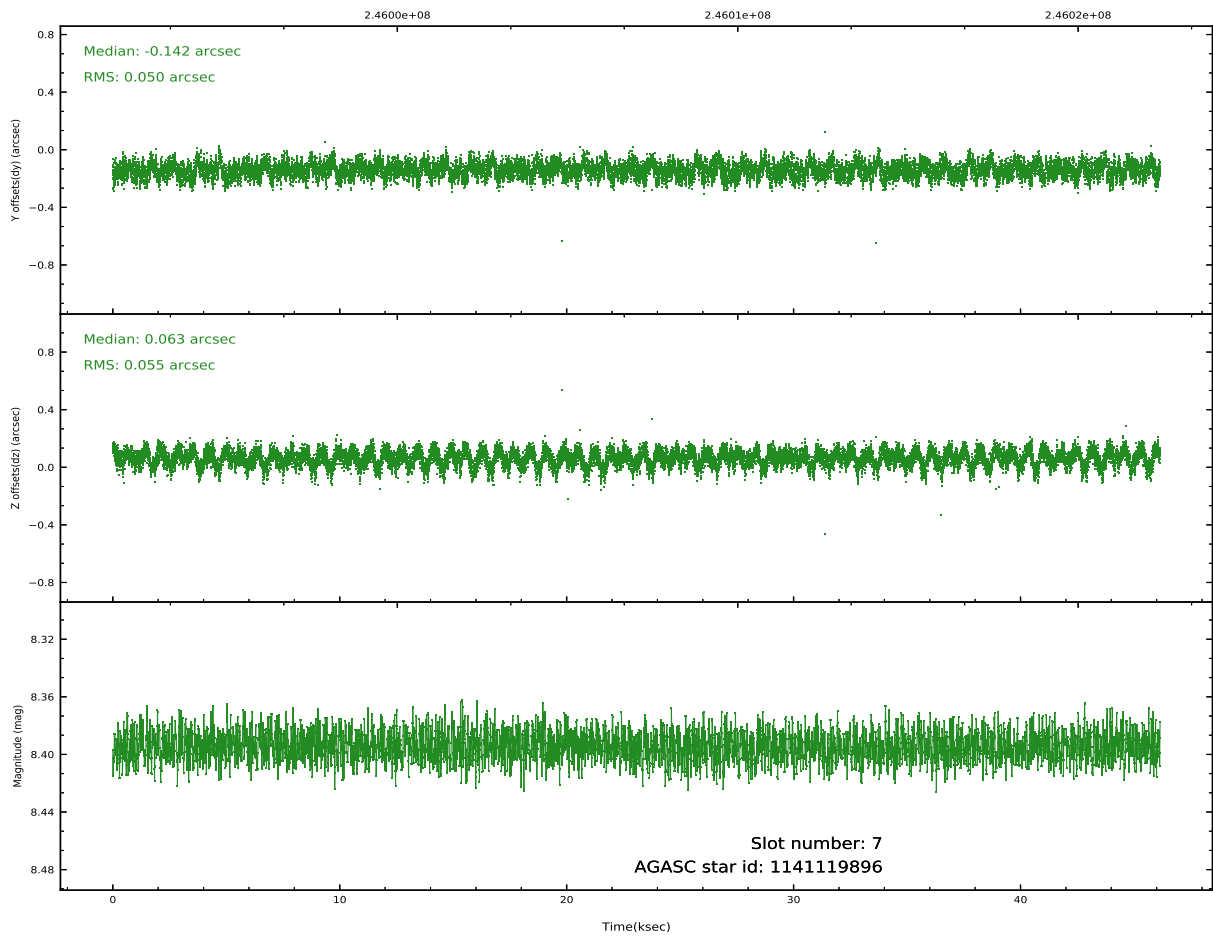
Time (s)



2.4.5 Slot 7

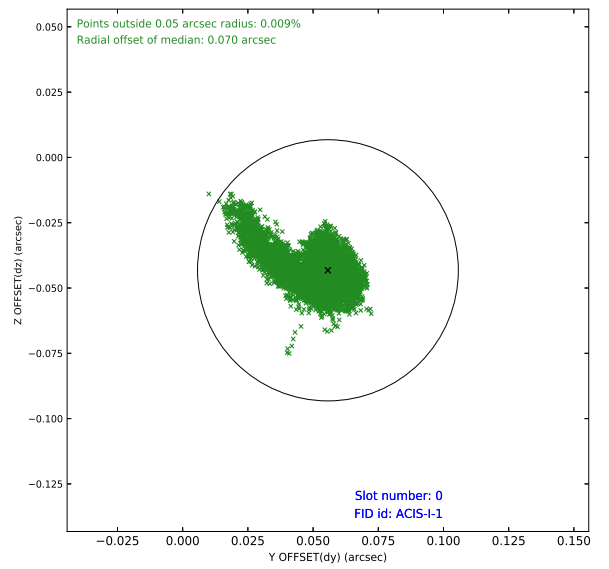
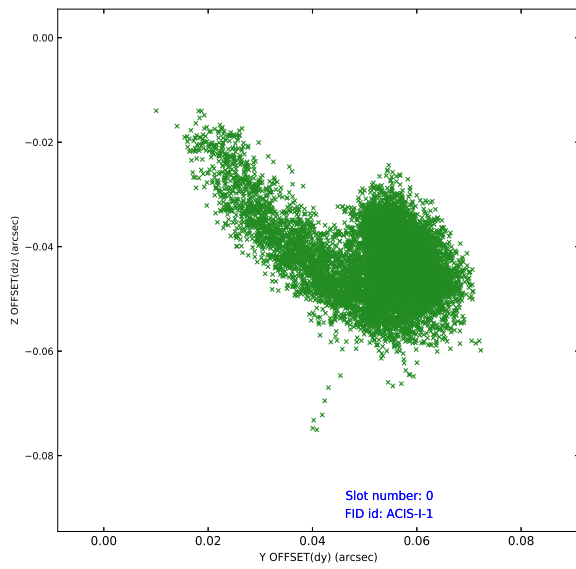


Time (s)

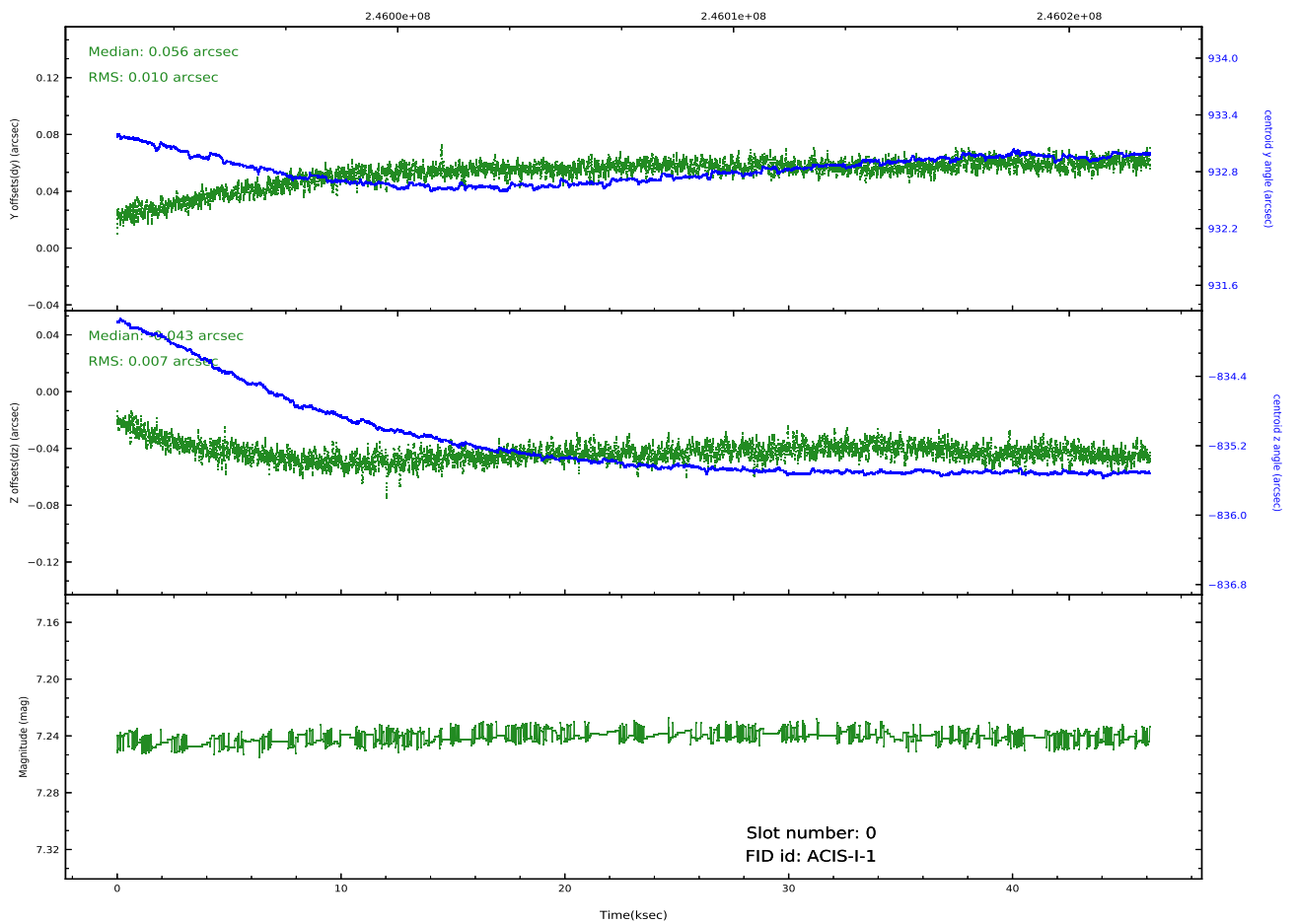


2.5 FID Slots

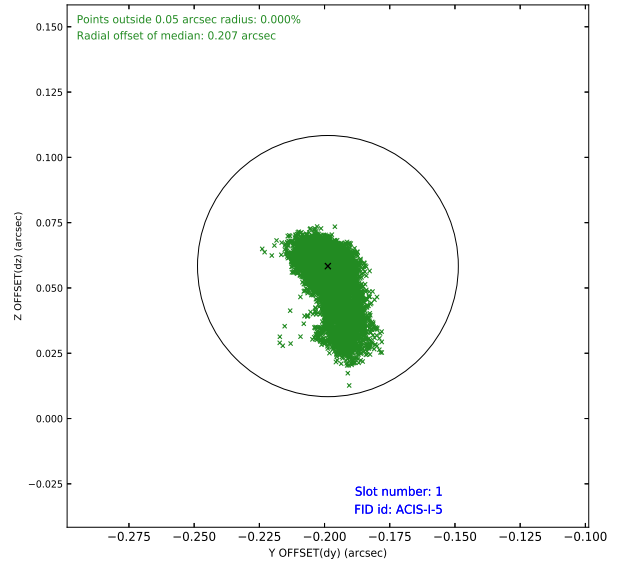
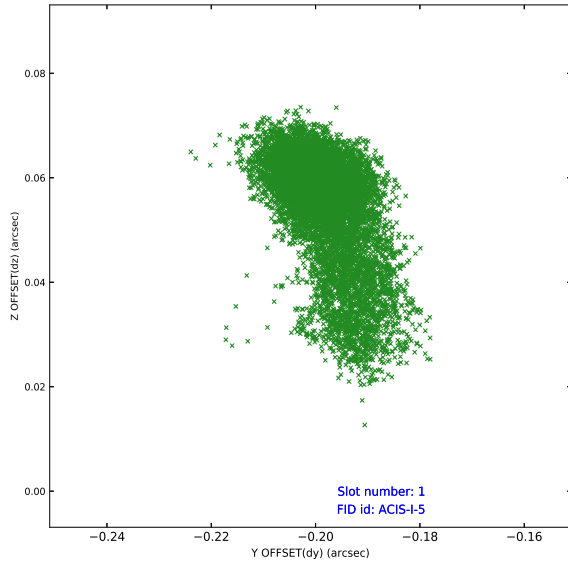
2.5.1 Slot 0



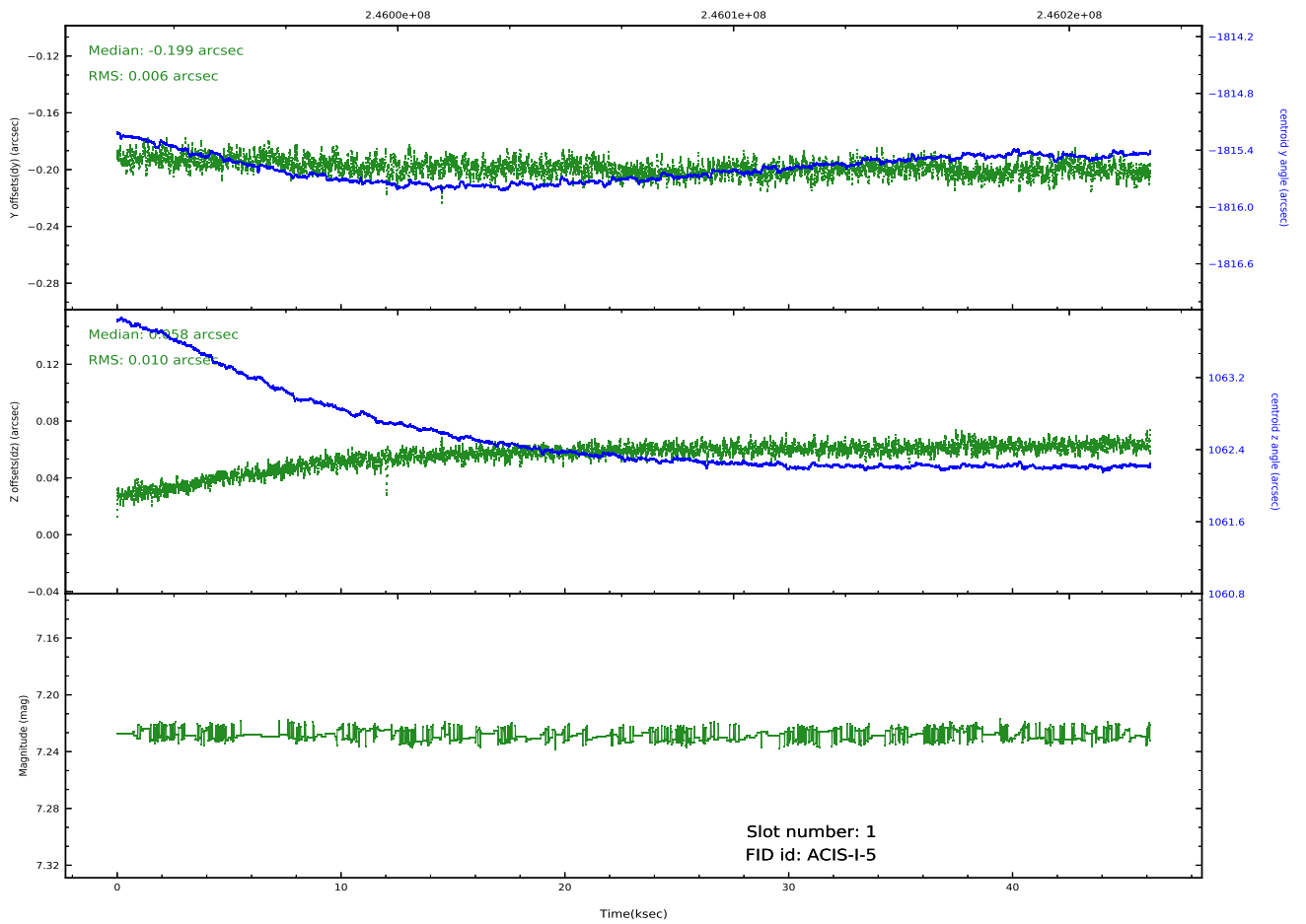
Time (s)



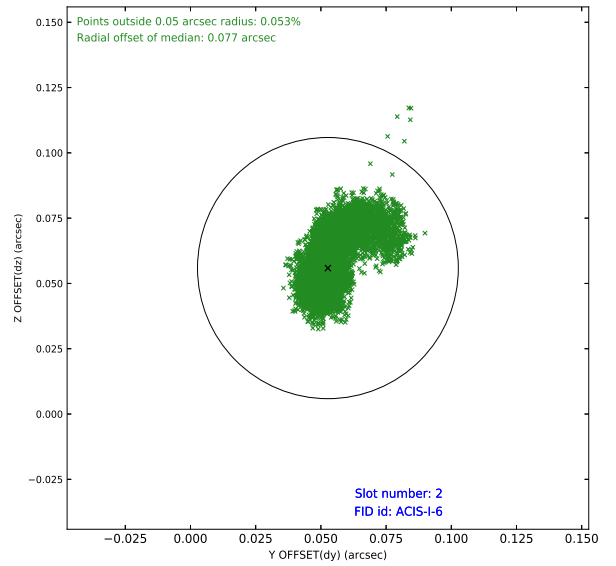
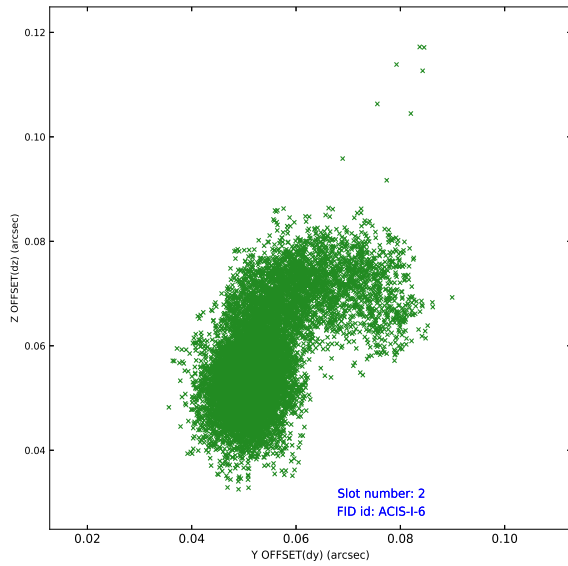
2.5.2 Slot 1



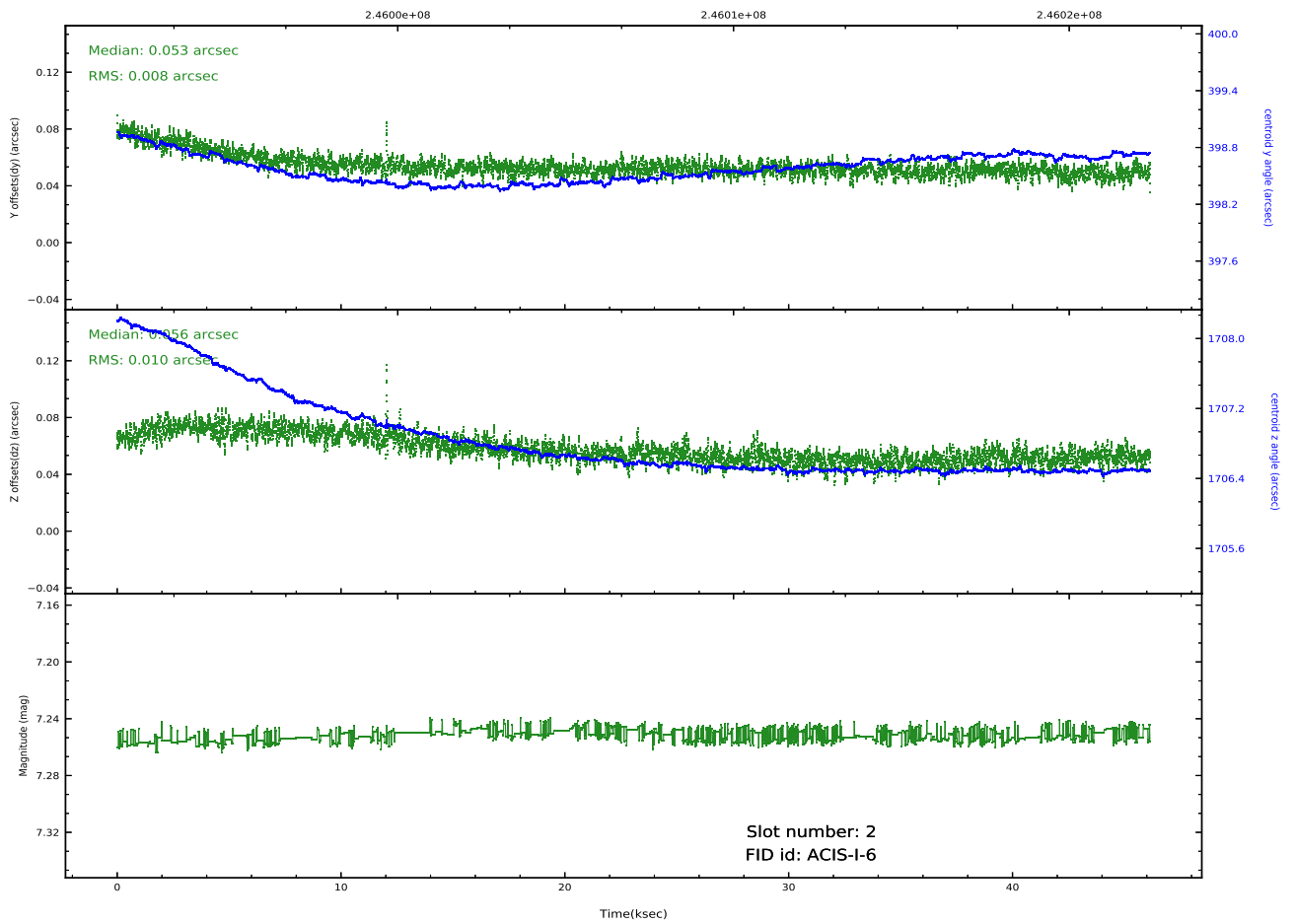
Time (s)



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

| | |
|----------------------------|------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2020.10.16 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 46.13747 |

A.2 Comments

Monitor constraint met.