

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 4614 - L2 Version 4
Chandra X-Ray Center

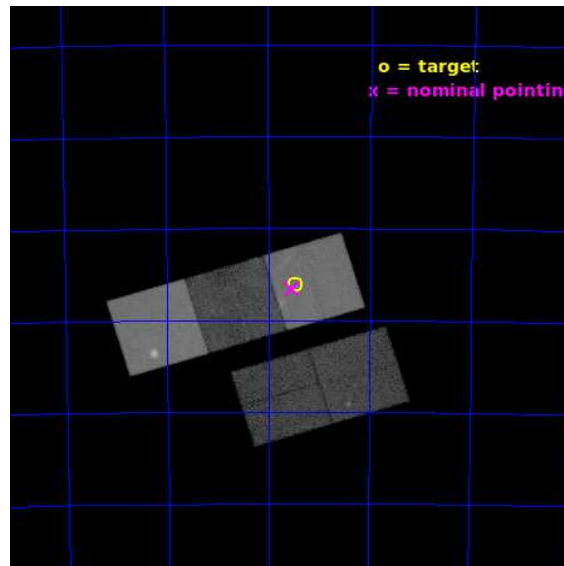
L2 Processing Date : Sep 21 2020

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1 Front

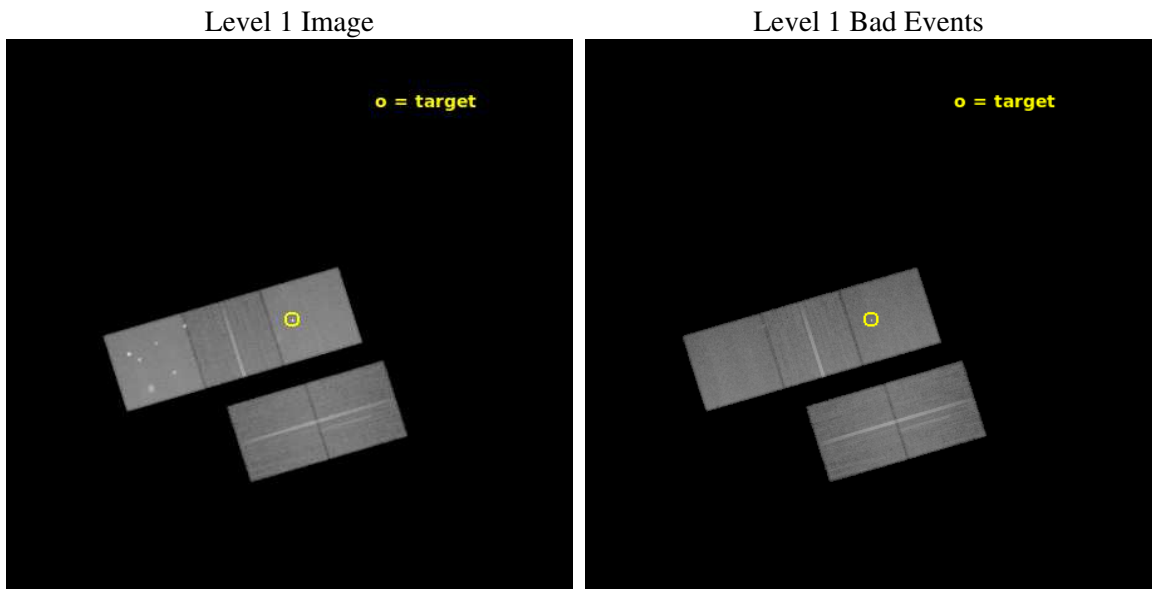
| | | |
|----------|--|---|
| seq_num | 500439 | Sequence number |
| obs_id | 4614 | Observation id |
| title | Chandra AO5 Monitoring Observations of SN1987A | Proposal title |
| observer | David Burrows | Principal investigator |
| object | SN 1987A | Source name |
| dtycycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 83.866667 | Observer's specified target RA [deg] |
| dec_targ | -69.26975 | Observer's specified target Dec [deg] |
| ra_nom | 83.883726354921 | Nominal RA [deg] |
| dec_nom | -69.276393261681 | Nominal Dec [deg] |
| roll_nom | 342.96239484098 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 47104.499909401 | Sum of GTIs [s] |
| livetime | 46489.044940256 | Livetime [s] |
| ontime2 | 47104.499909401 | Sum of GTIs [s] |
| ontime3 | 47104.499909401 | Sum of GTIs [s] |
| ontime5 | 47104.499909401 | Sum of GTIs [s] |
| ontime6 | 47104.499909401 | Sum of GTIs [s] |
| ontime7 | 47104.499909401 | Sum of GTIs [s] |
| l2events | 526270 | Number of level 2 events |



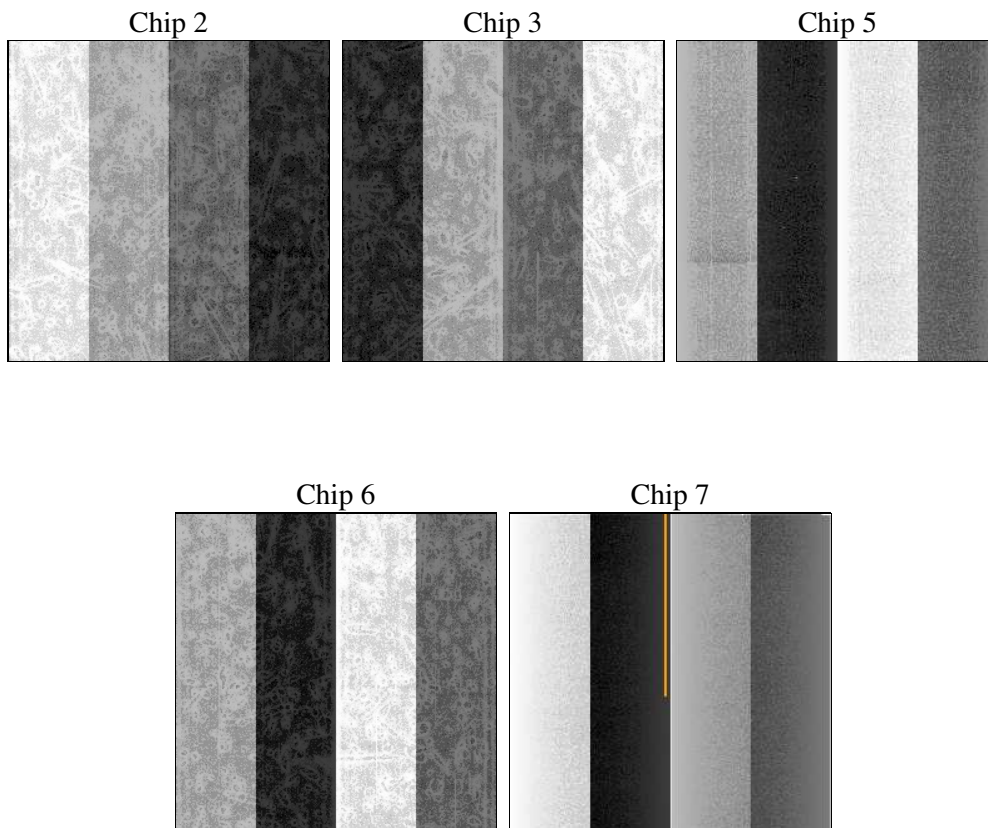
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 47000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 47104.499909401 | Sum of GTIs [s] |
| caldbver | 4.9.2 | | ontime2 | 47104.499909401 | Sum of GTIs [s] |
| date | 2020-09-22T00:07:35 | Date and time of file creation | ontime3 | 47104.499909401 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime5 | 47104.499909401 | Sum of GTIs [s] |
| | | | ontime6 | 47104.499909401 | Sum of GTIs [s] |
| | | | ontime7 | 47104.499909401 | Sum of GTIs [s] |
| | | | l1events | 1823316 | Number of level 1 events |

2.1.4 Events

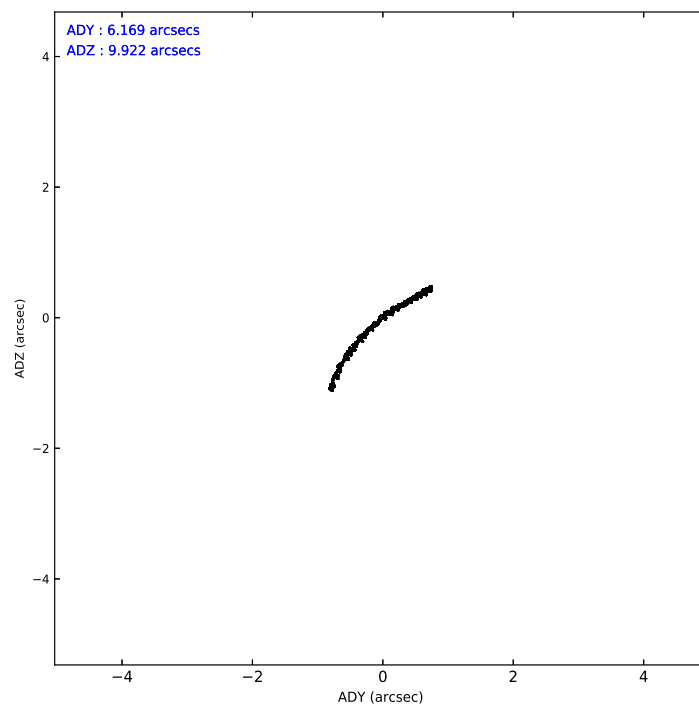
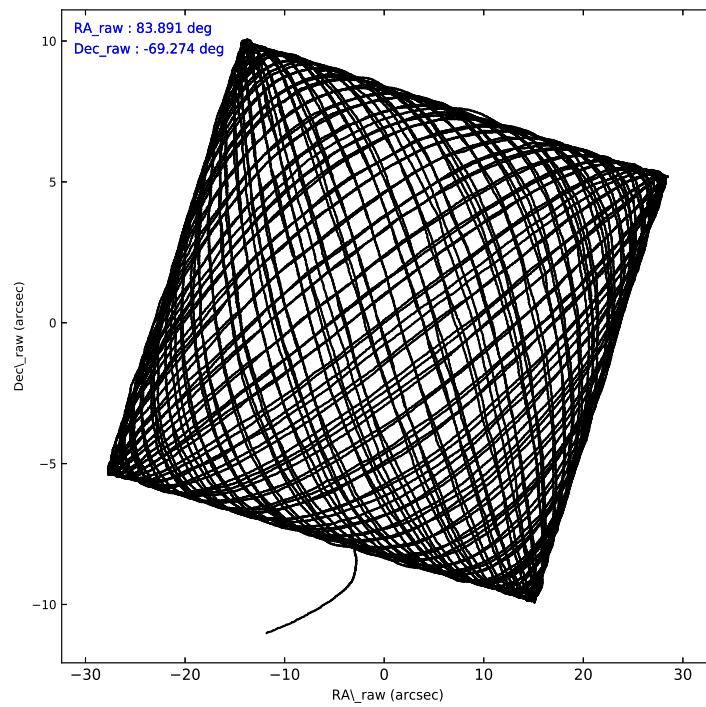
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|
| level 1 events | 289777 | 292377 | 486796 | 312497 | 441869 |
| rejected events | 249997 | 252516 | 243903 | 262415 | 241717 |
| rejected % | 86% | 86% | 50% | 83% | 54% |

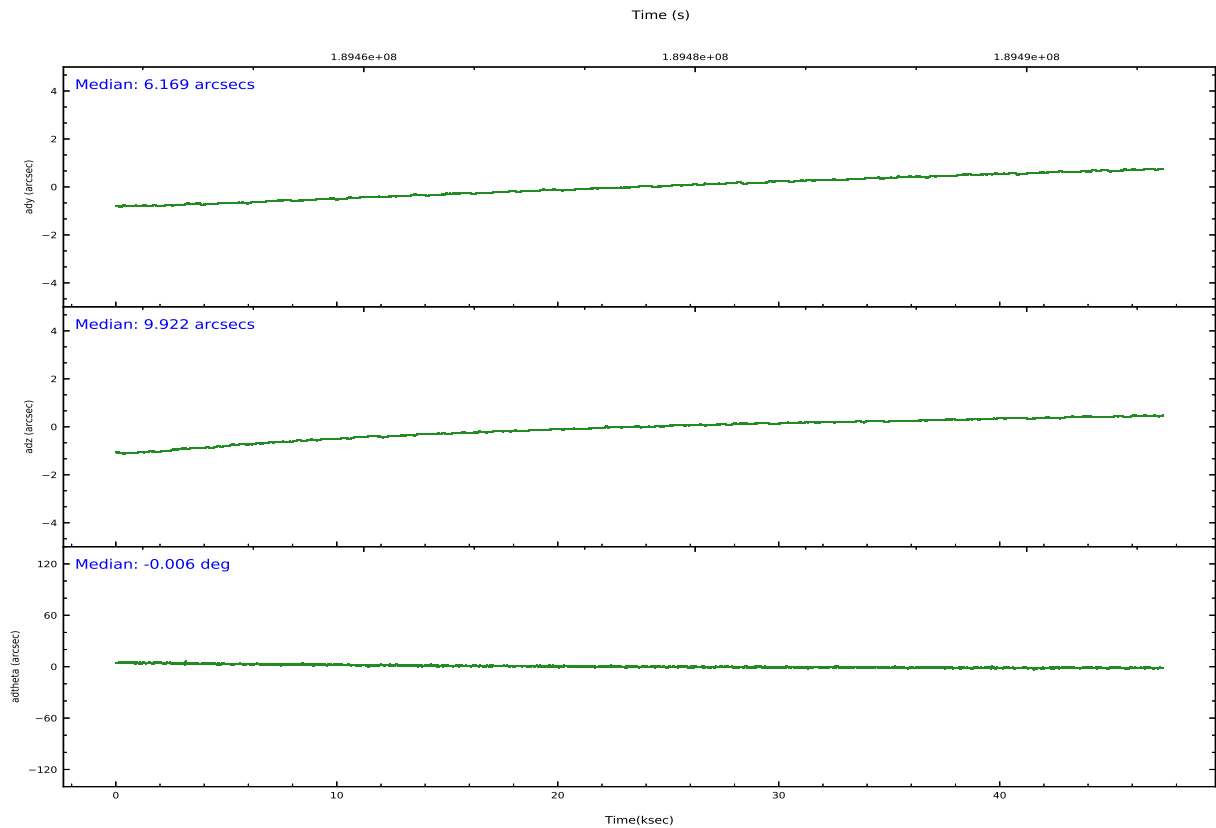
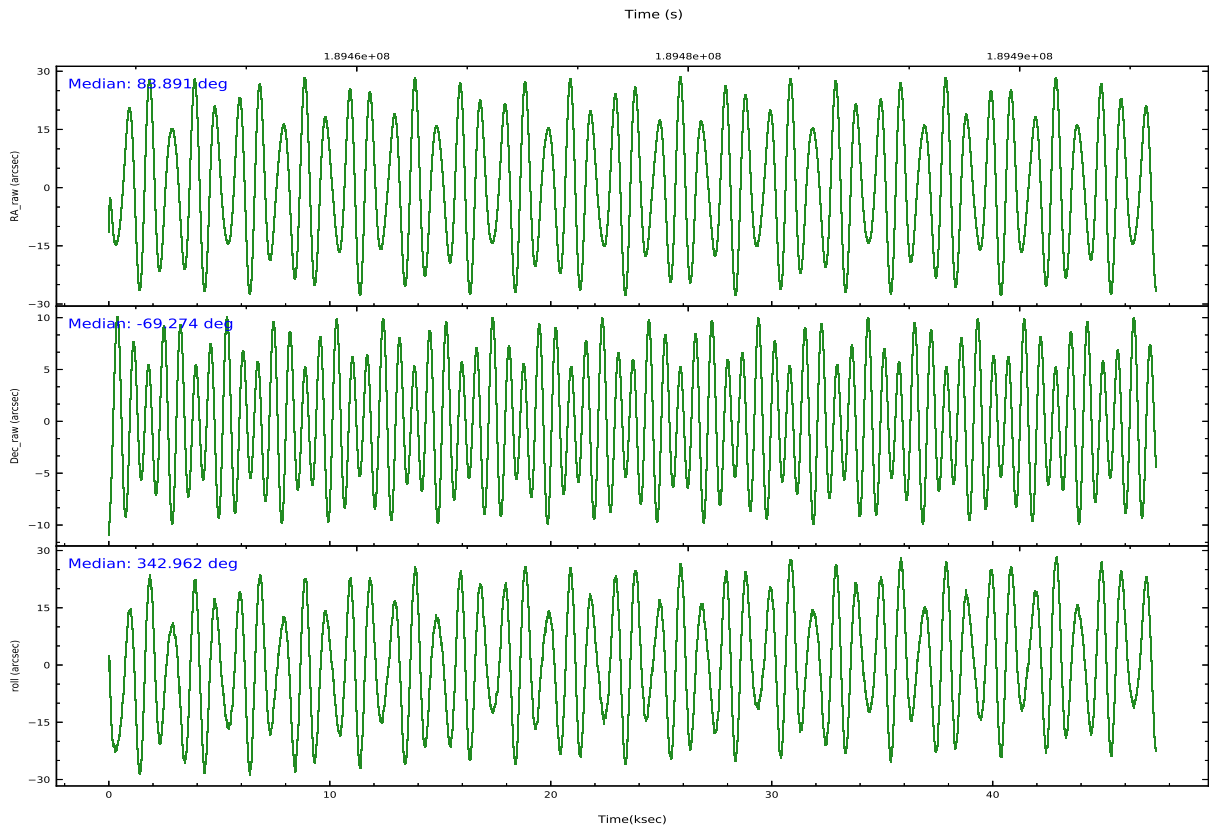
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 |
|----------------|--------|--------|--------|--------|--------|
| grade 0 events | 20003 | 19733 | 42644 | 26758 | 26180 |
| | 6% | 6% | 8% | 8% | 5% |
| grade 1 events | 158 | 193 | 732 | 187 | 684 |
| | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 7341 | 6912 | 69730 | 8302 | 41833 |
| | 2% | 2% | 14% | 2% | 9% |
| grade 3 events | 3318 | 3606 | 10805 | 3745 | 18926 |
| | 1% | 1% | 2% | 1% | 4% |
| grade 4 events | 3342 | 3619 | 10683 | 3797 | 18693 |
| | 1% | 1% | 2% | 1% | 4% |
| grade 5 events | 11510 | 13316 | 33708 | 13908 | 40043 |
| | 3% | 4% | 6% | 4% | 9% |
| grade 6 events | 5785 | 5998 | 109085 | 7484 | 94554 |
| | 1% | 2% | 22% | 2% | 21% |
| grade 7 events | 238320 | 239000 | 209409 | 248316 | 200956 |
| | 82% | 81% | 43% | 79% | 45% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-23567 | ACIS-23567 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | FAINT | FAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 83.816206 | 83.883726354921 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | -69.280608 | -69.27639326168099 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 342.741111 | 342.96239484098 | [s] Primary exposure time | 0.000000 | 3.1 |
| [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) | 189449175.184000 | 189448109.57929 | | | |
| Observation start date | 2004-01-02T16:45:11 | 2004-01-02T16:28:29 | | | |
| [s] Observation end time (MET) | 189496175.184000 | 189496770.94391 | | | |
| Observation end date | 2004-01-03T05:48:31 | 2004-01-03T05:59:30 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect





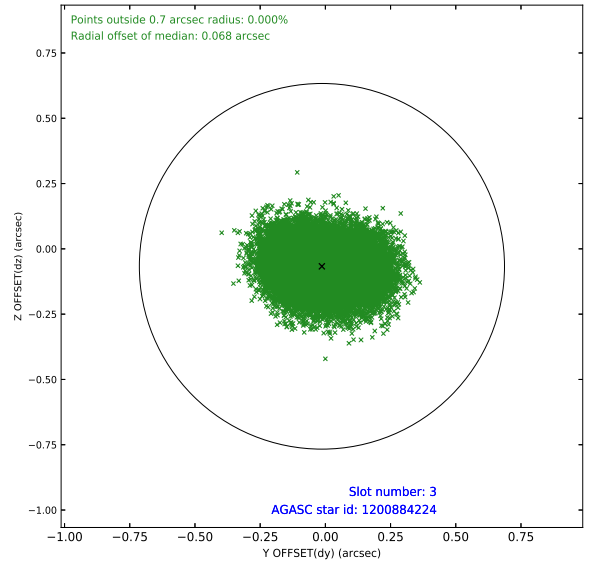
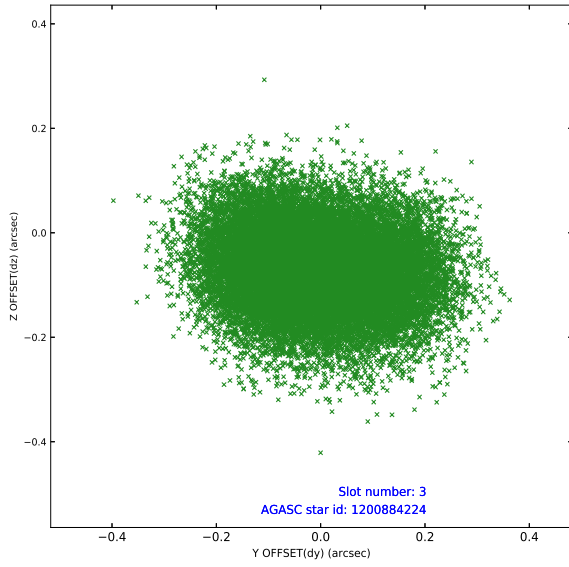
Slot Statistics

| slot | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|------|--------|------|------------|-------|-------|----------|--------|--------|-------|-------|-----------|------------|----------|-------|
| 0 | FID | | ACIS-S-1 | 7.18 | 11561 | 1.000 | 0.026 | -0.038 | 0.025 | 0.039 | 0.000000 | 0.000000 | 937.18 | -1726 |
| 1 | FID | | ACIS-S-5 | 7.23 | 11561 | 1.000 | -0.092 | 0.006 | 0.013 | 0.034 | 0.000000 | 0.000000 | -1811.94 | 170 |
| 2 | FID | | ACIS-S-6 | 7.35 | 11559 | 1.000 | 0.048 | 0.048 | 0.029 | 0.038 | 0.000000 | 0.000000 | 402.77 | 814 |
| 3 | GUIDE | used | 1200884224 | 10.02 | 23095 | 1.000 | -0.013 | -0.067 | 0.148 | 0.235 | 83.314443 | -68.577335 | -1380.68 | 2219 |
| 4 | GUIDE | used | 1200885760 | 9.48 | 23106 | 1.000 | 0.014 | 0.025 | 0.093 | 0.150 | 83.723637 | -68.777667 | -652.48 | 1693 |
| 5 | GUIDE | used | 1201019200 | 9.47 | 23105 | 1.000 | 0.023 | 0.005 | 0.108 | 0.174 | 84.213591 | -68.777384 | -42.59 | 1882 |
| 6 | GUIDE | used | 1201410616 | 9.34 | 23111 | 1.000 | 0.028 | 0.019 | 0.119 | 0.190 | 82.516808 | -69.784406 | -999.80 | -2227 |
| 7 | GUIDE | used | 1201542672 | 8.20 | 23115 | 1.000 | -0.056 | 0.033 | 0.079 | 0.125 | 84.492488 | -69.957531 | 1521.74 | -2082 |

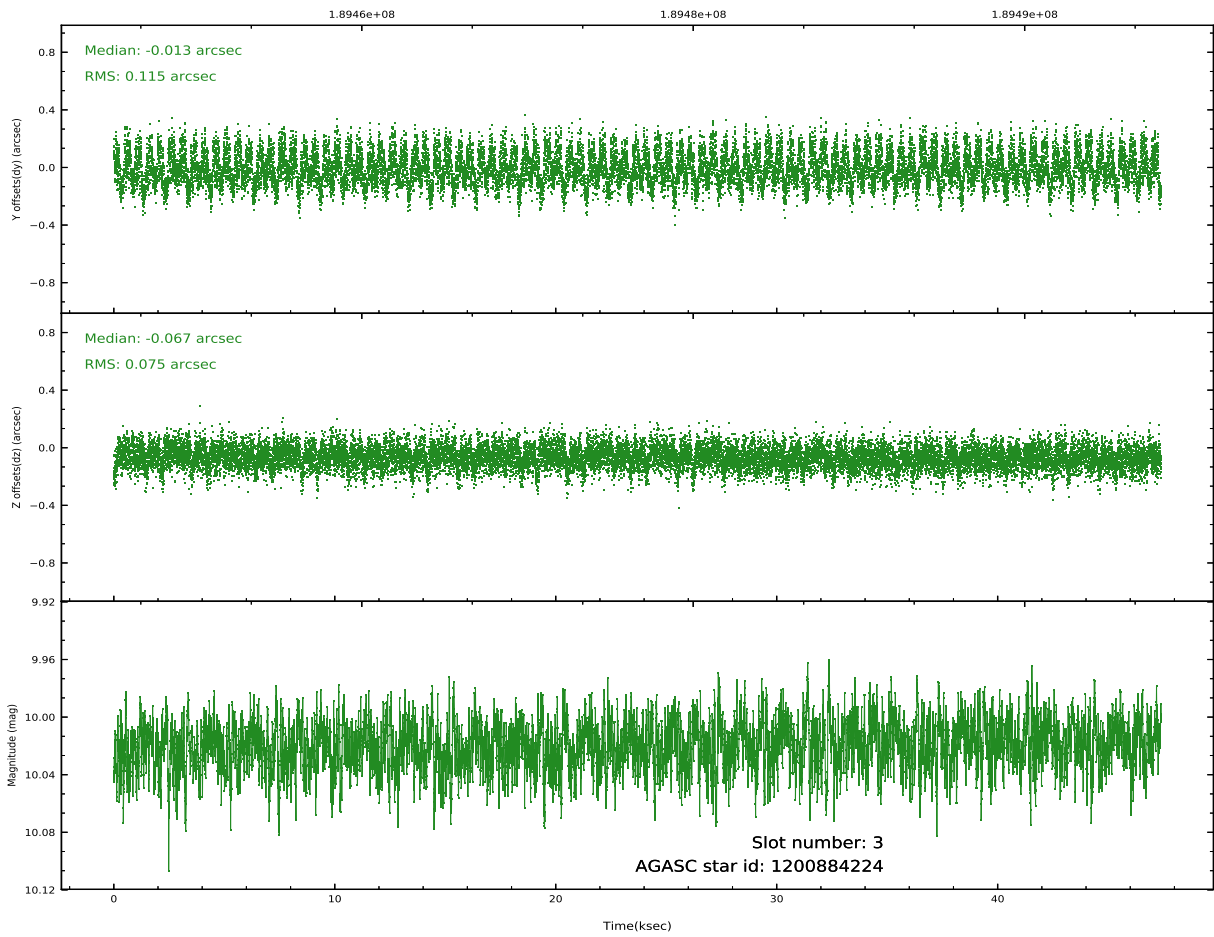
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2.4 Star Slots

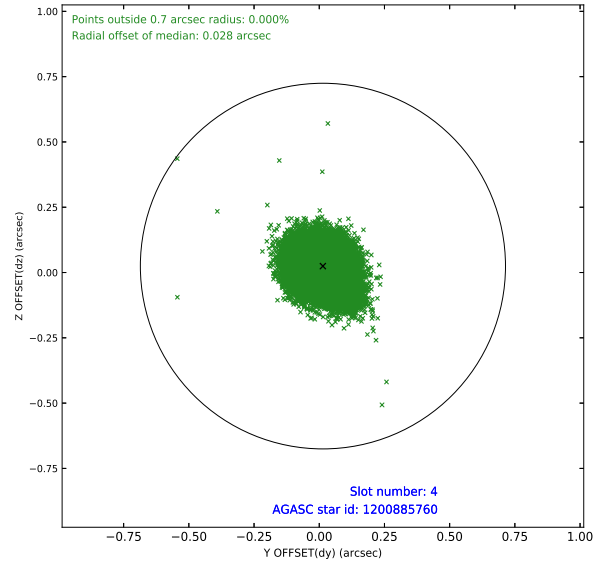
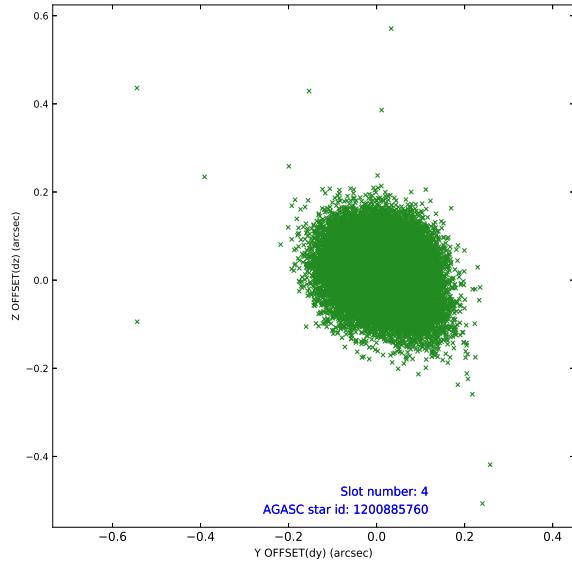
2.4.1 Slot 3



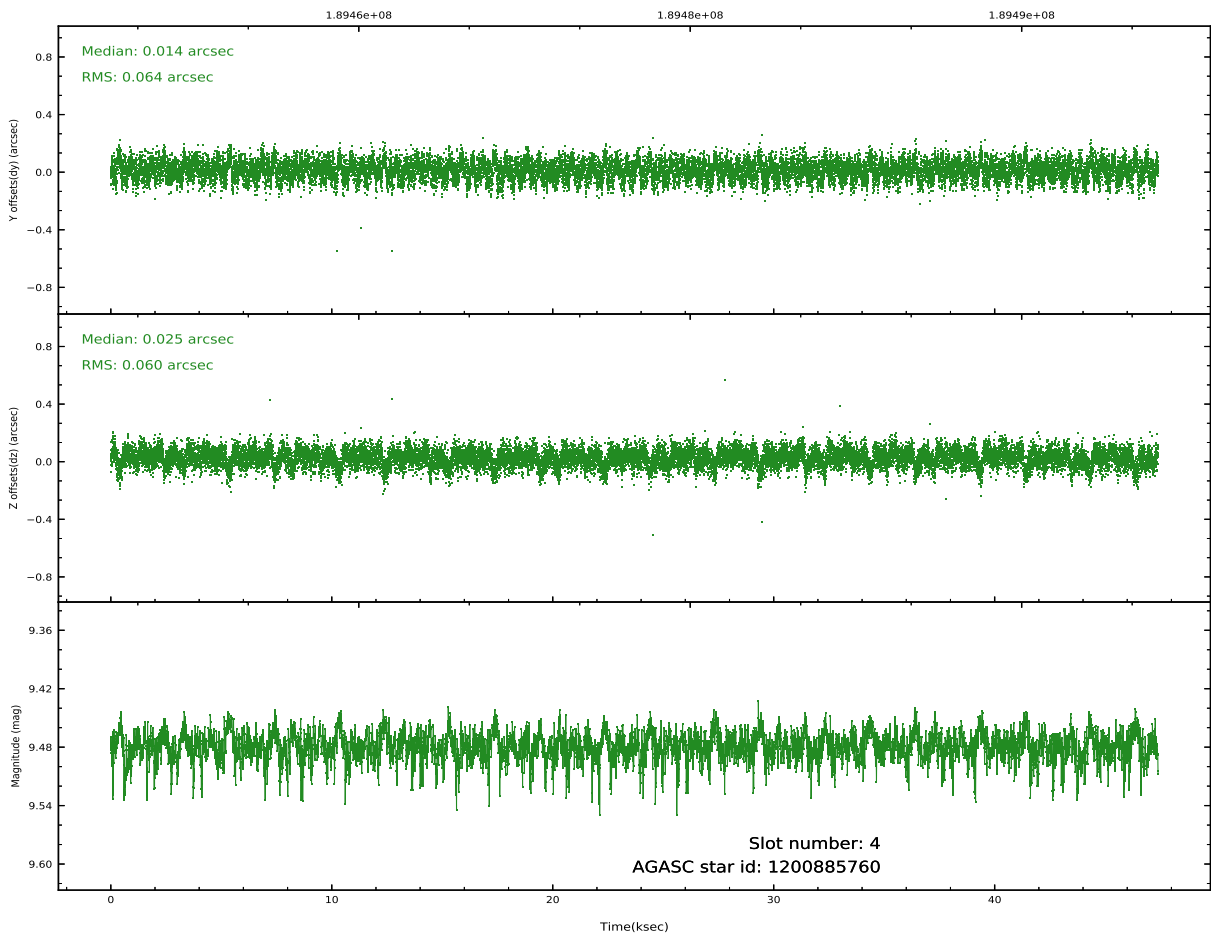
Time (s)



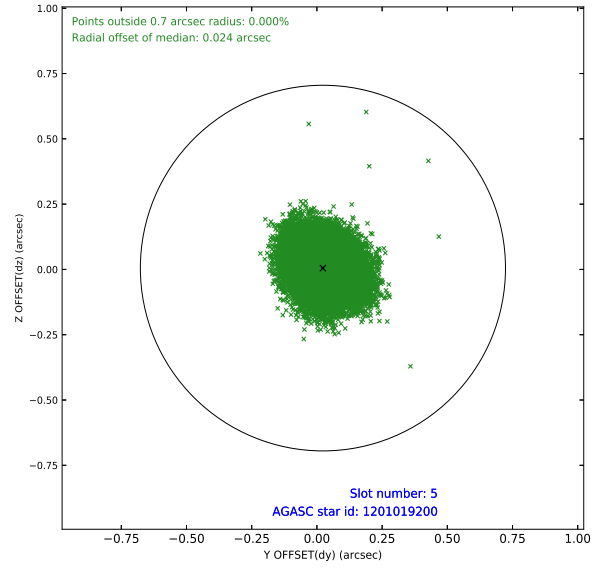
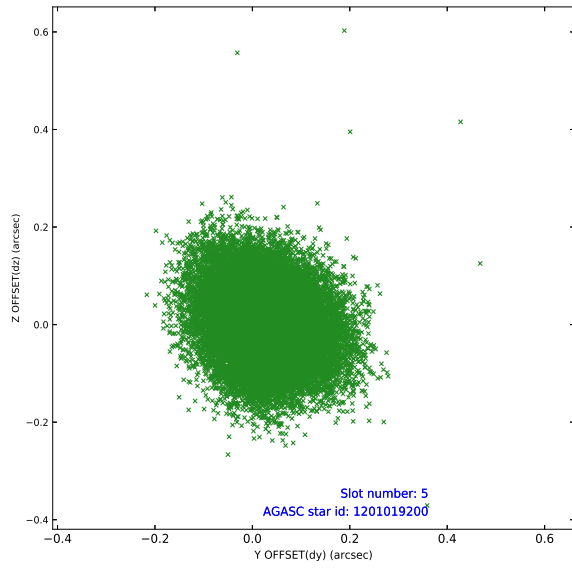
2.4.2 Slot 4



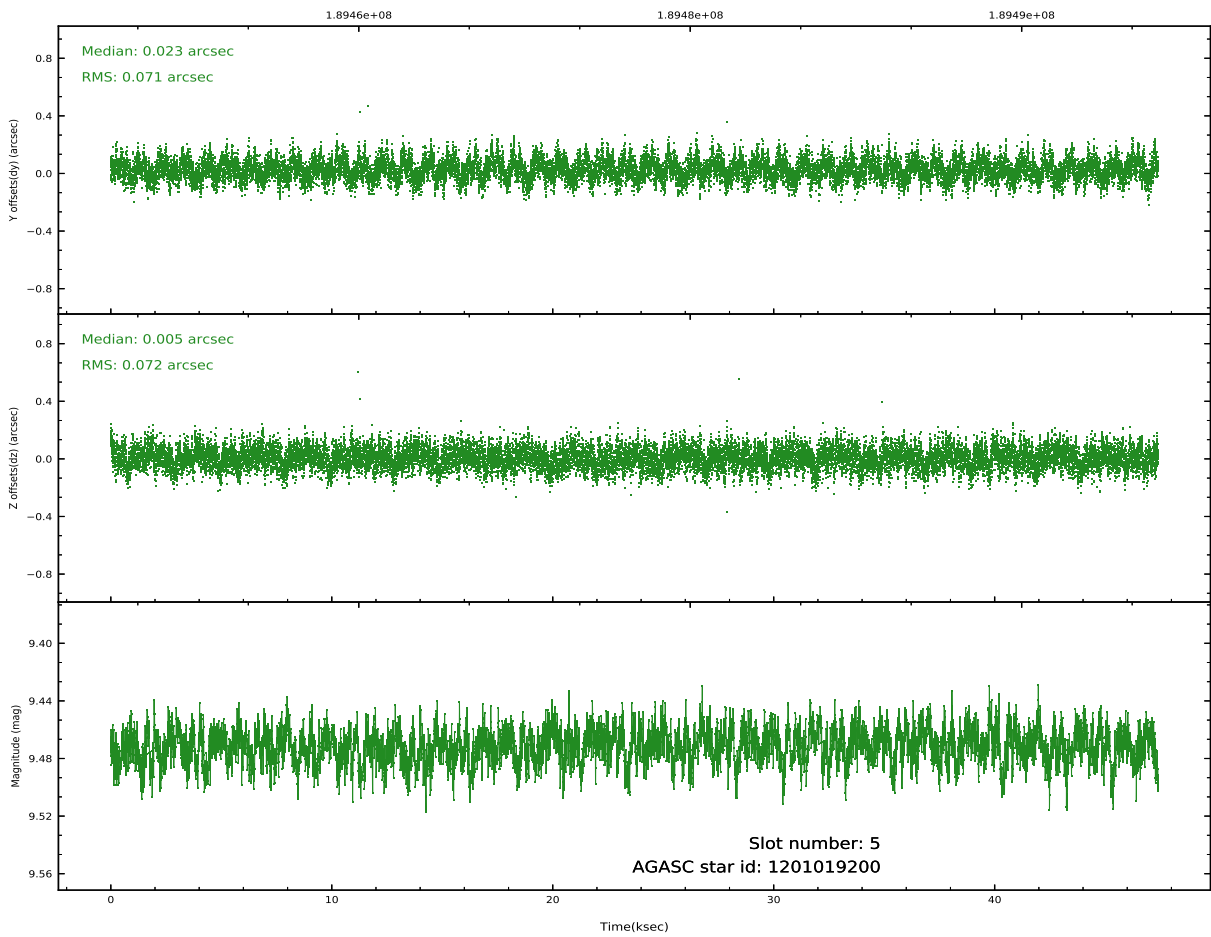
Time (s)



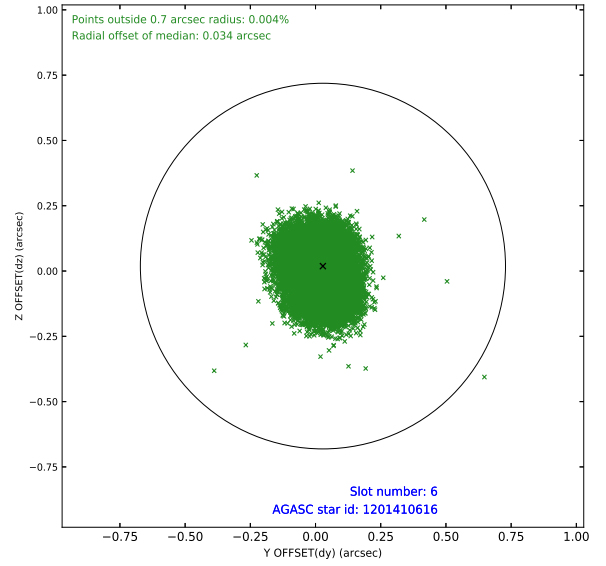
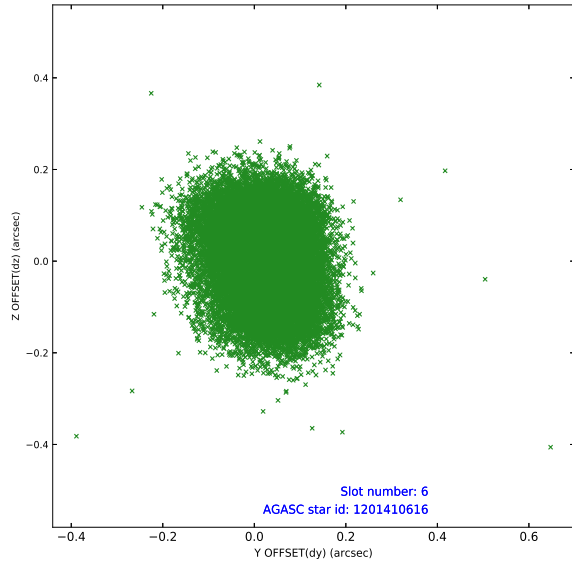
2.4.3 Slot 5



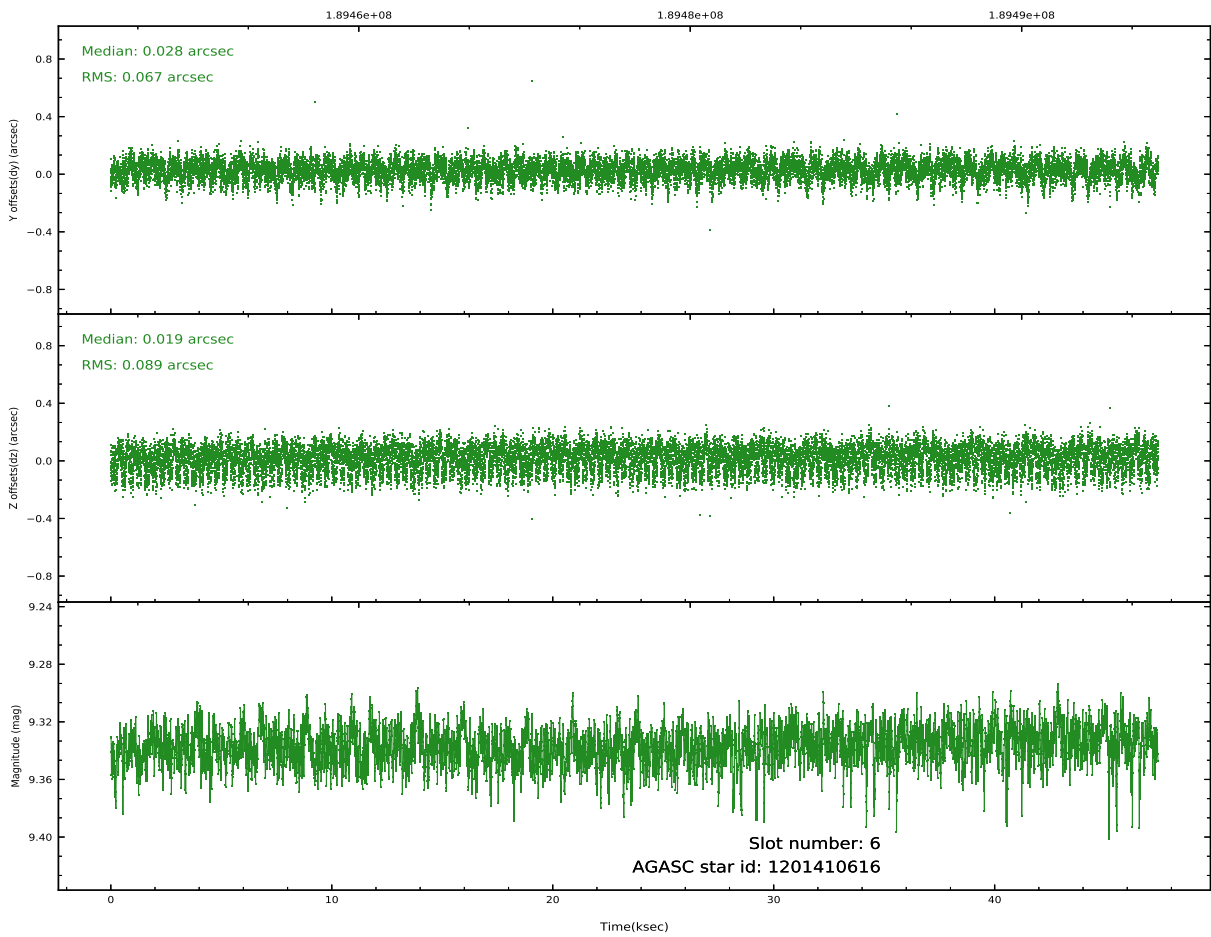
Time (s)



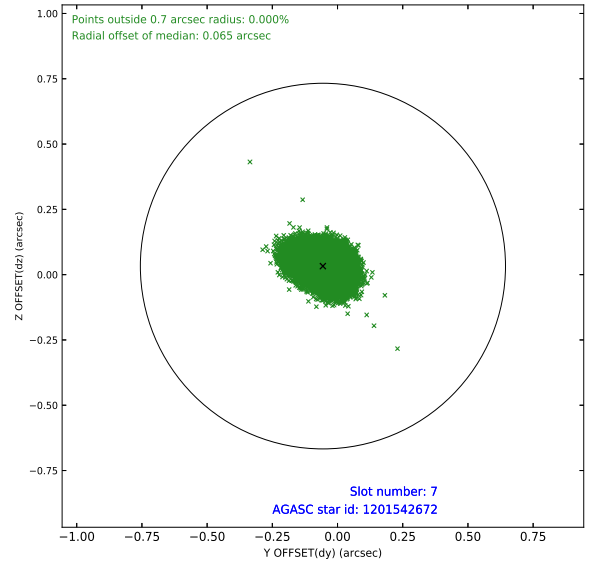
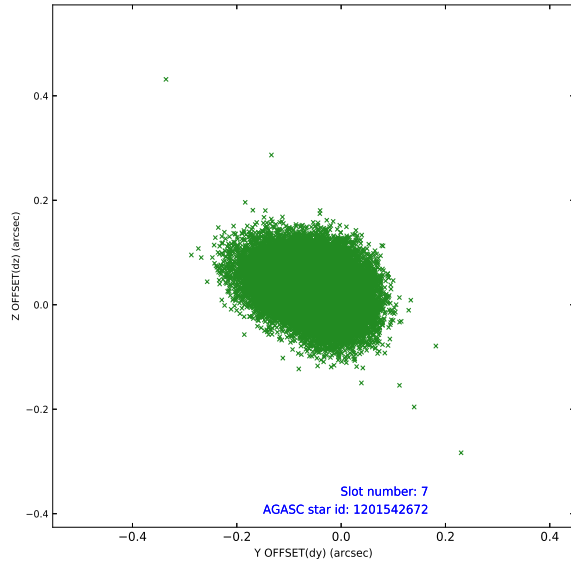
2.4.4 Slot 6



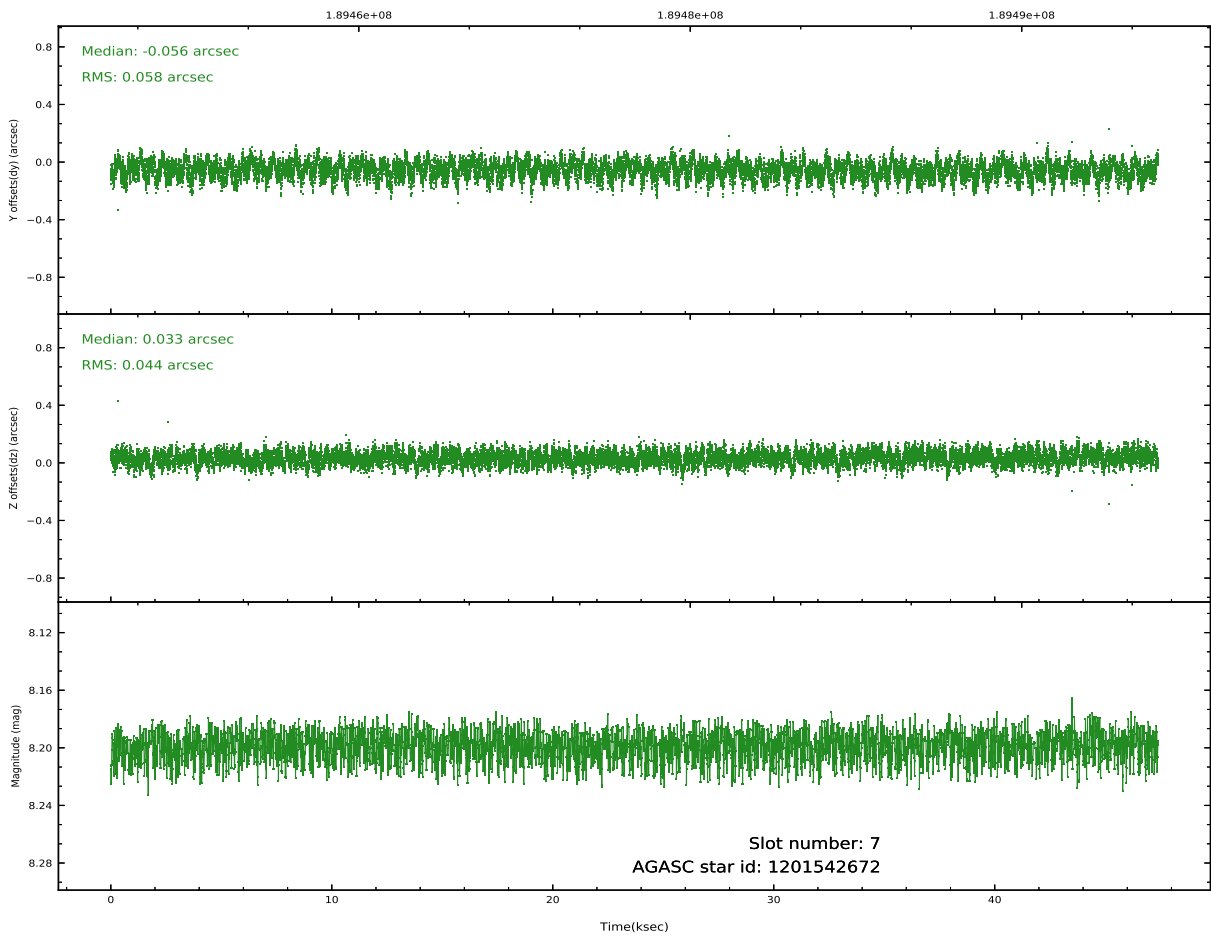
Time (s)



2.4.5 Slot 7

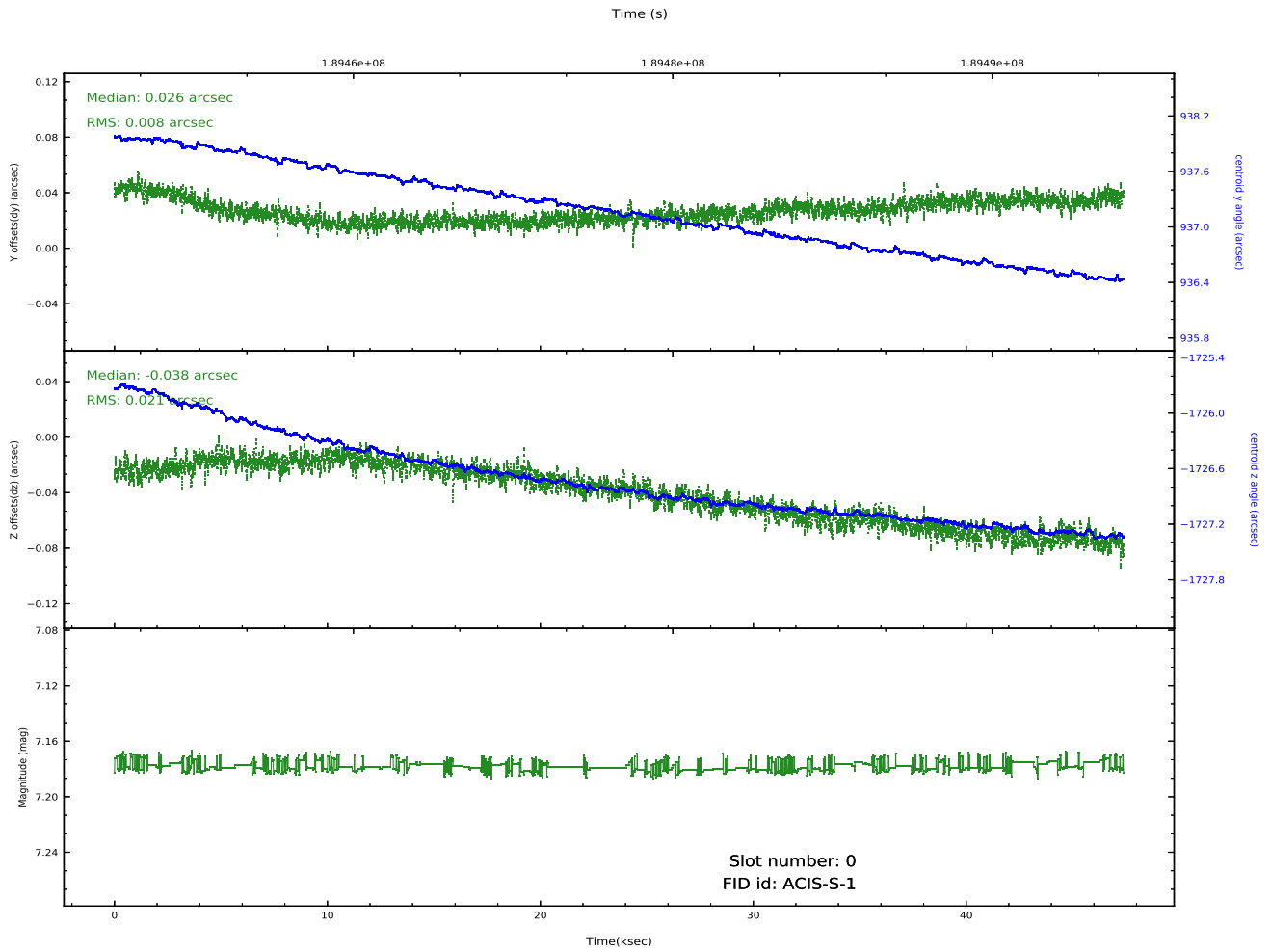
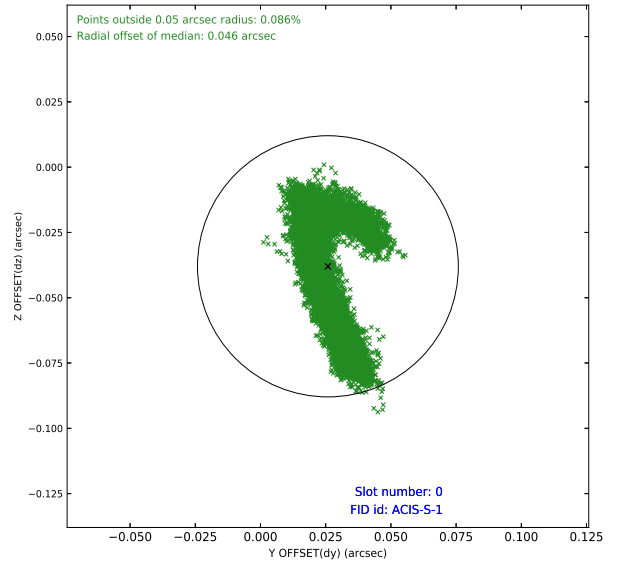
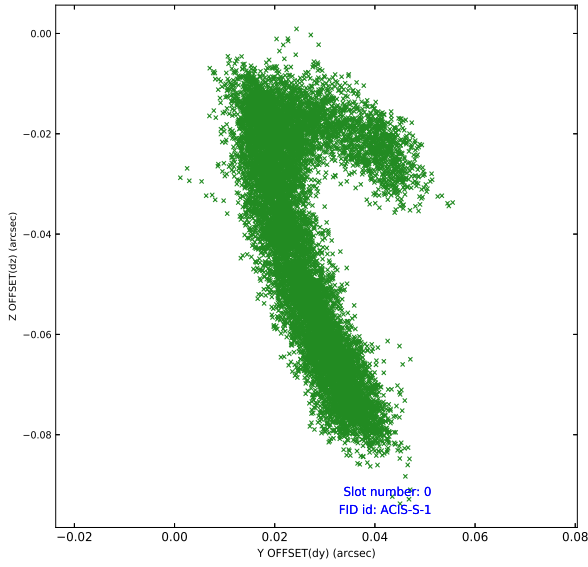


Time (s)

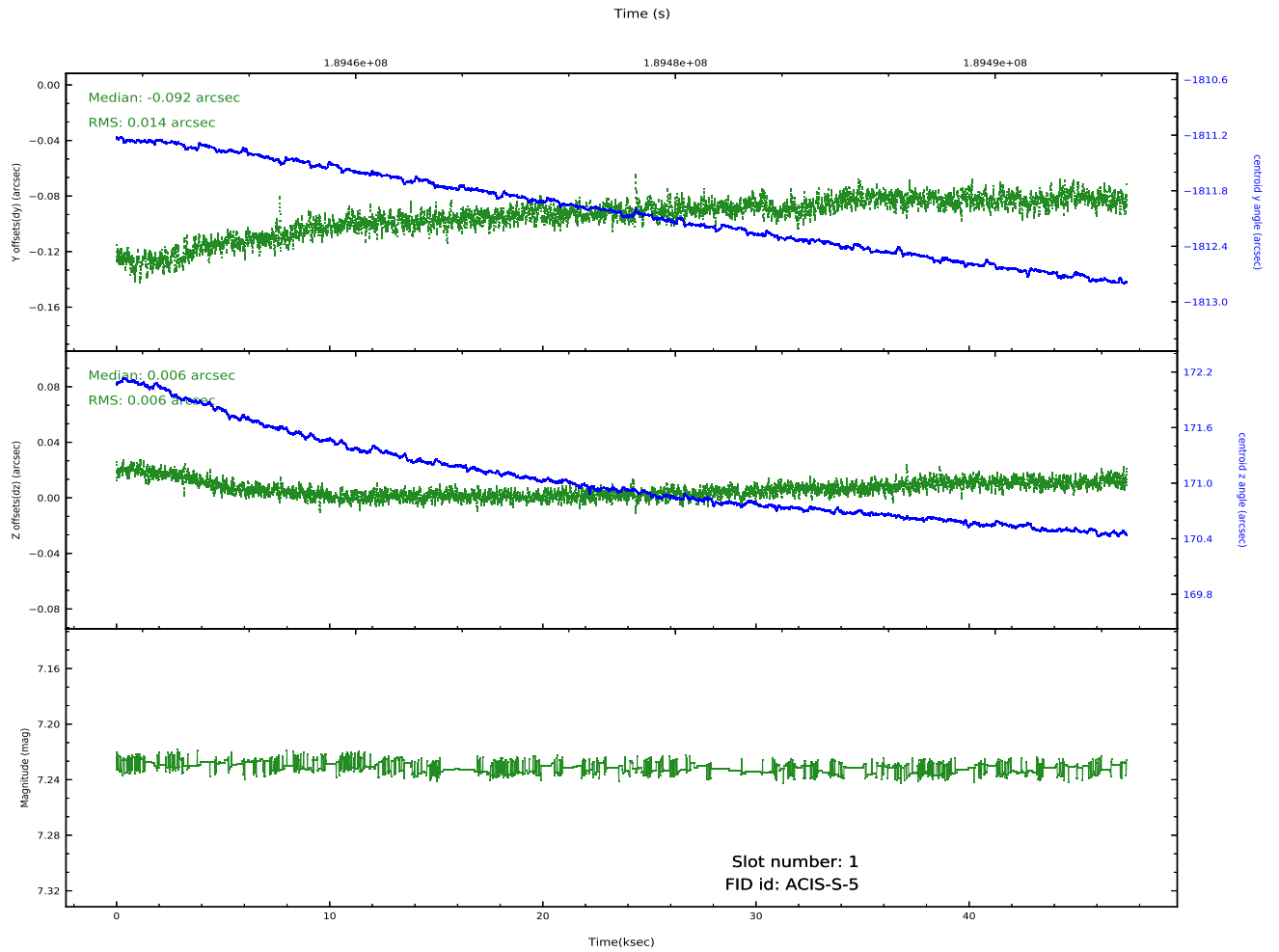
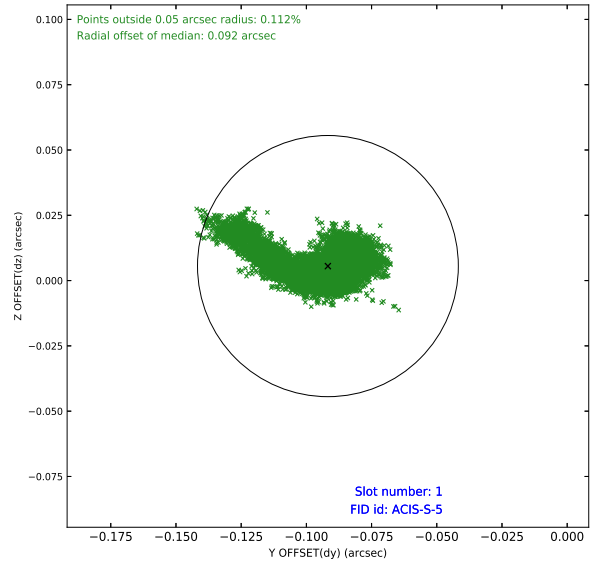
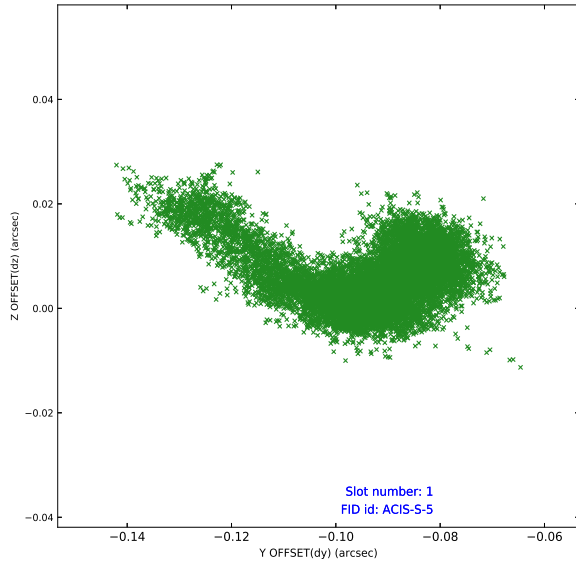


2.5 FID Slots

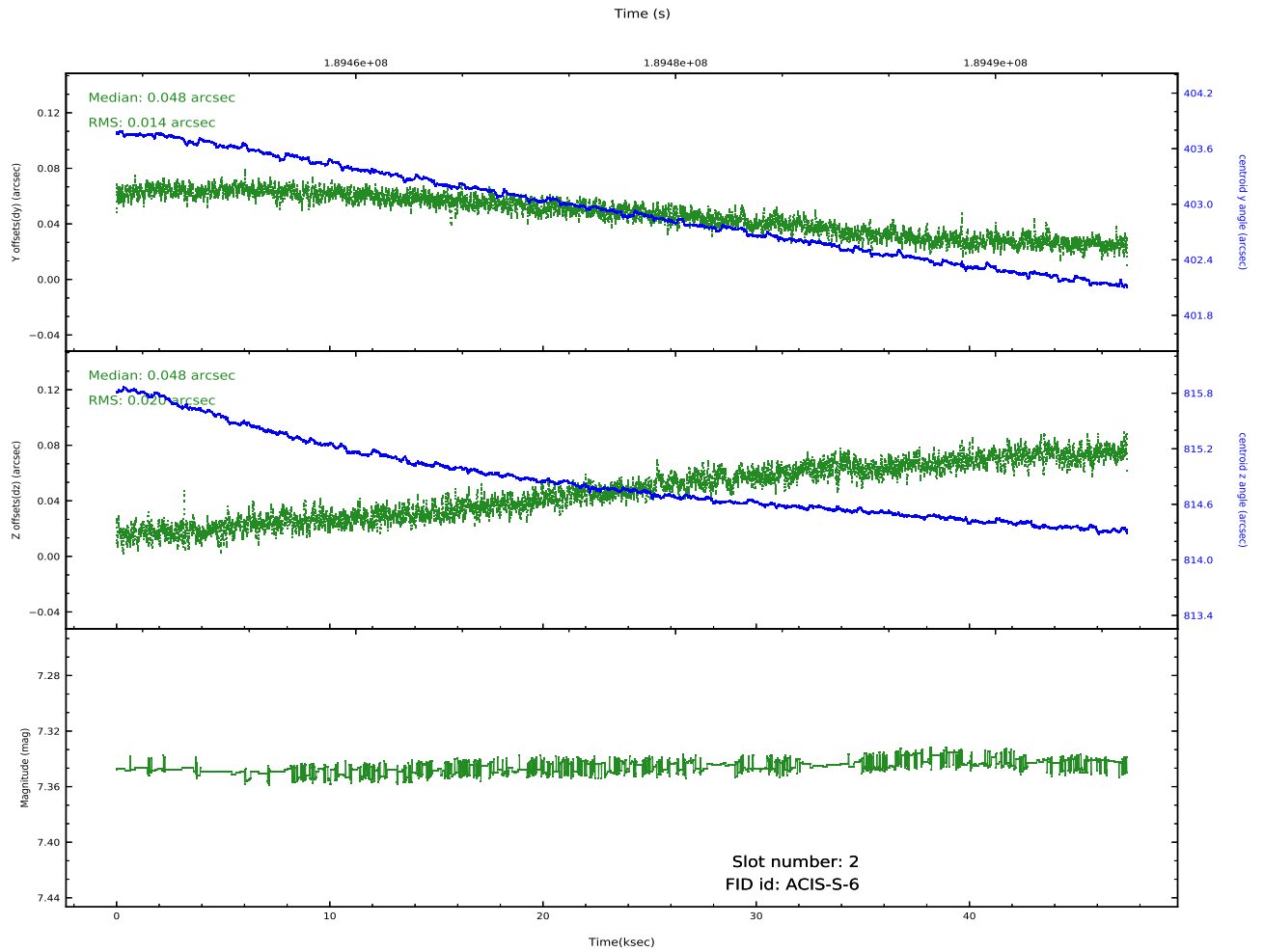
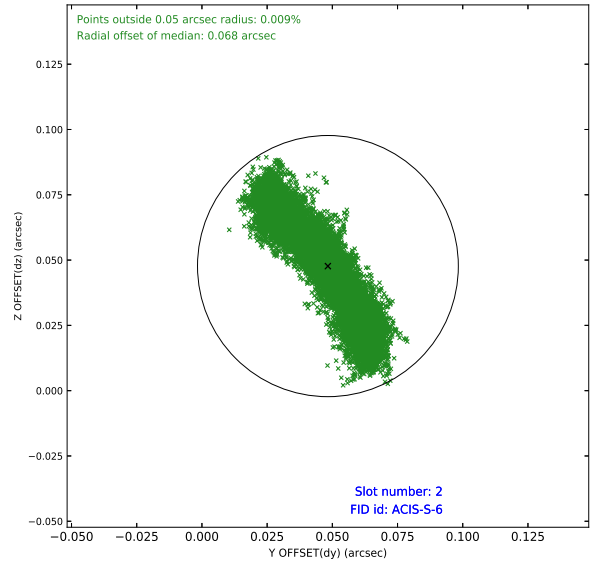
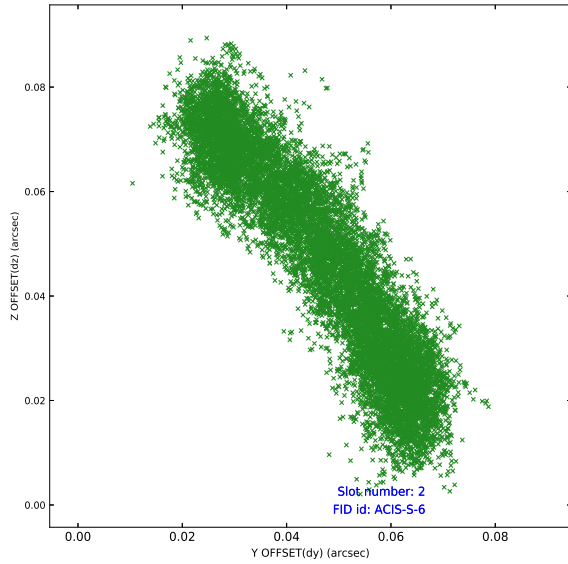
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2020.09.22 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 47.107 |

A.2 Comments

Window preference met.

=====

On day 356 at about 00:30, the OBA heater stuck in the "on" position. This situation affected obsid 4901 and all subsequent observations to this point. The result of this anomaly could be a displacement of the target on the chip in the z direction. The displacement will be small because everything is still within spec, but the target may be spatially displaced, have a different point spread function, or trail across the chip.