

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 19430 - L2 Version 3
Chandra X-Ray Center

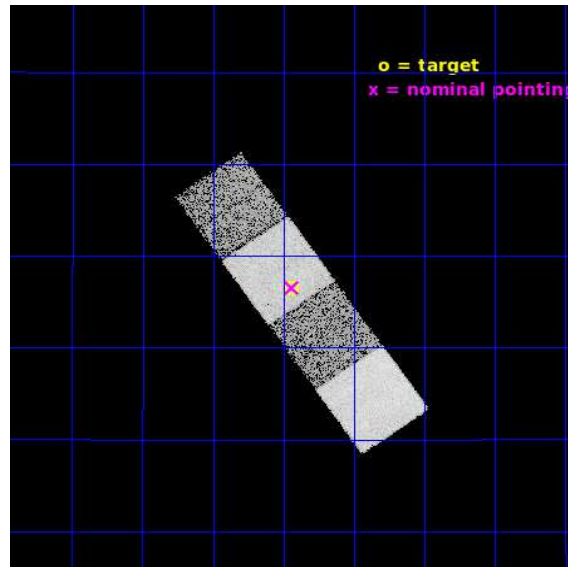
L2 Processing Date : Oct 25 2020

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1 Front

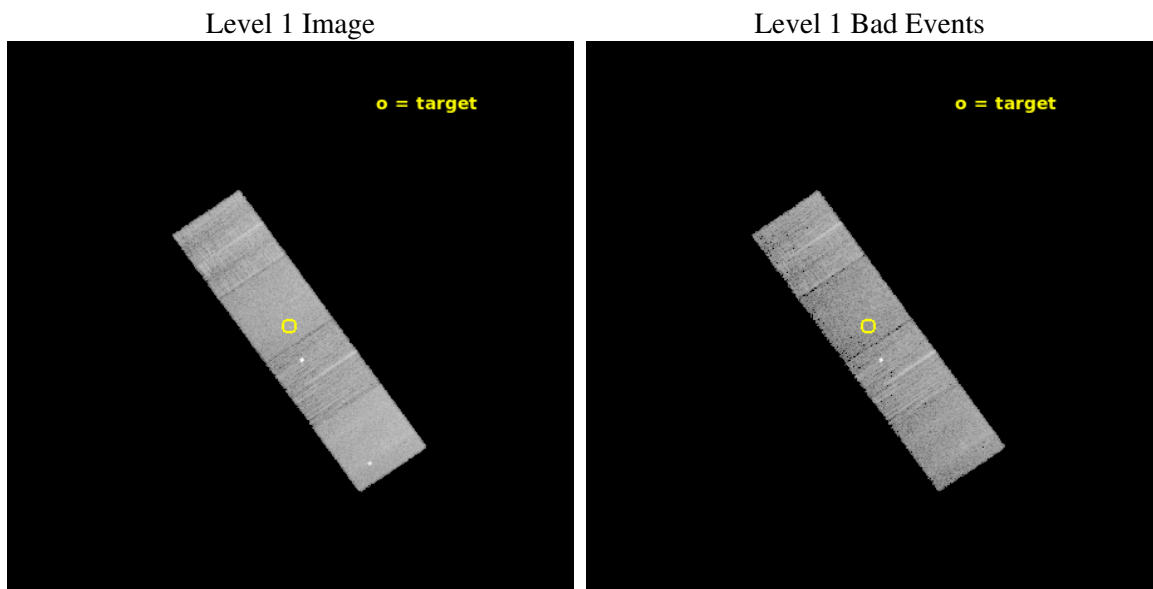
| | | |
|----------|--------------------------------------|---|
| seq_num | 601387 | Sequence number |
| obs_id | 19430 | Observation id |
| title | Spiral galaxies of the Virgo cluster | Proposal title |
| observer | Roberto Soria | Principal investigator |
| object | NGC 4429 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 186.860417 | Observer's specified target RA [deg] |
| dec_targ | 11.107722 | Observer's specified target Dec [deg] |
| ra_nom | 186.85996531192 | Nominal RA [deg] |
| dec_nom | 11.109038107698 | Nominal Dec [deg] |
| roll_nom | 234.98076399619 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 7911.2000609636 | Sum of GTIs [s] |
| livetime | 7807.8344080264 | Livetime [s] |
| ontime5 | 7911.2000609636 | Sum of GTIs [s] |
| ontime6 | 7911.2000609636 | Sum of GTIs [s] |
| ontime7 | 7911.2000609636 | Sum of GTIs [s] |
| ontime8 | 7901.7768802643 | Sum of GTIs [s] |
| l2events | 85594 | Number of level 2 events |



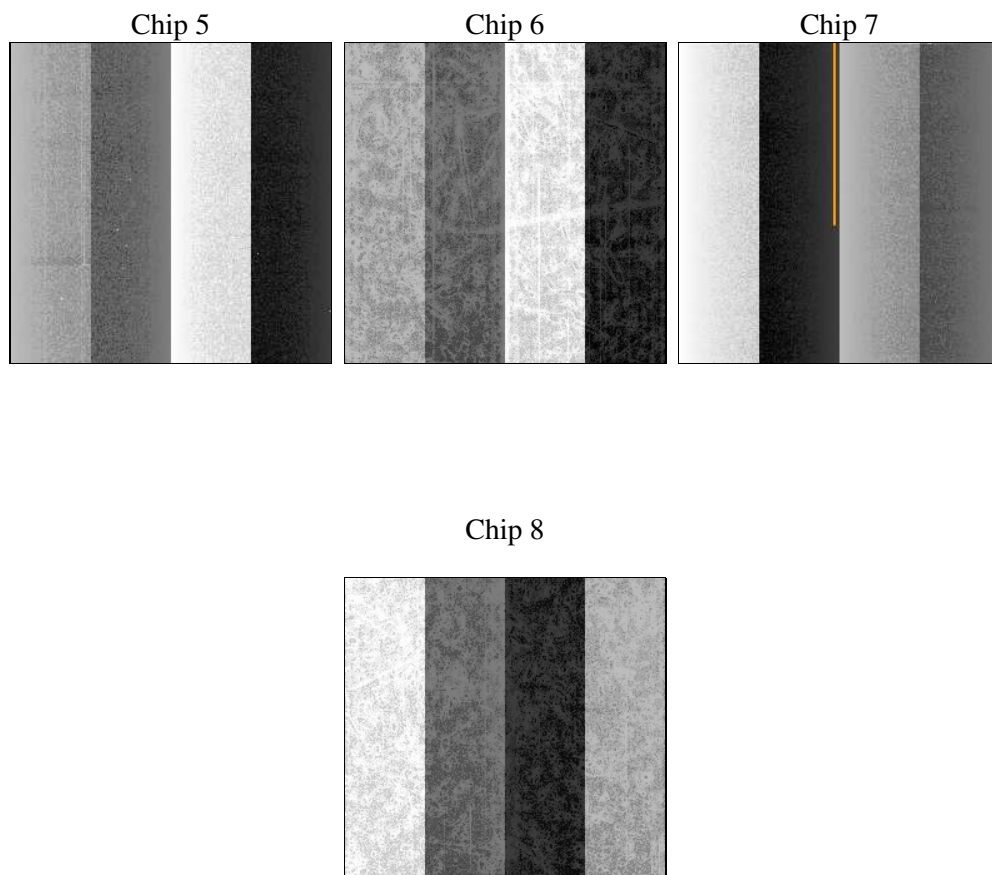
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 8000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.2 | Processing system revision | ontime | 7911.2000609636 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime5 | 7911.2000609636 | Sum of GTIs [s] |
| date | 2020-10-25T22:00:17 | Date and time of file creation | ontime6 | 7911.2000609636 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime7 | 7911.2000609636 | Sum of GTIs [s] |
| | | | ontime8 | 7901.7768802643 | Sum of GTIs [s] |
| | | | l1events | 309521 | Number of level 1 events |

2.1.4 Events

| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|
| level 1 events | 93065 | 65537 | 74679 | 76240 |
| rejected events | 49039 | 57873 | 42183 | 57450 |
| rejected % | 52% | 88% | 56% | 75% |

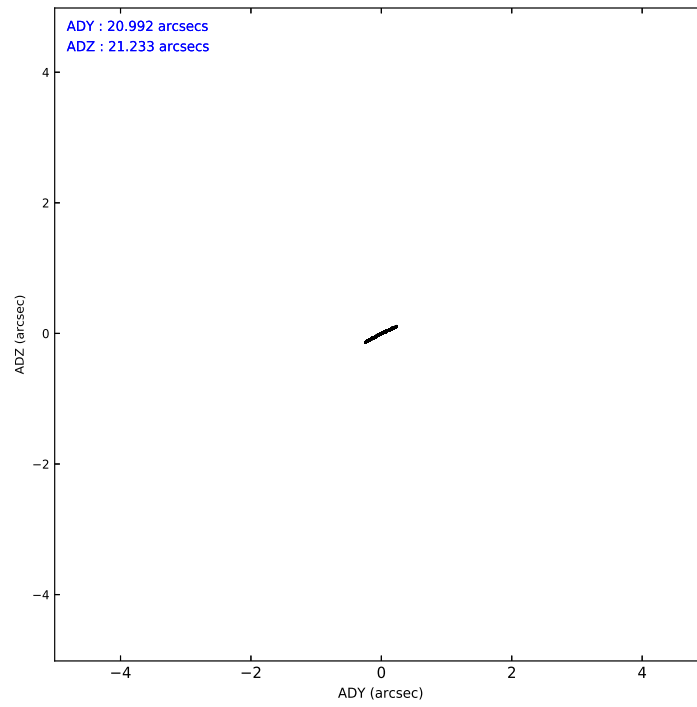
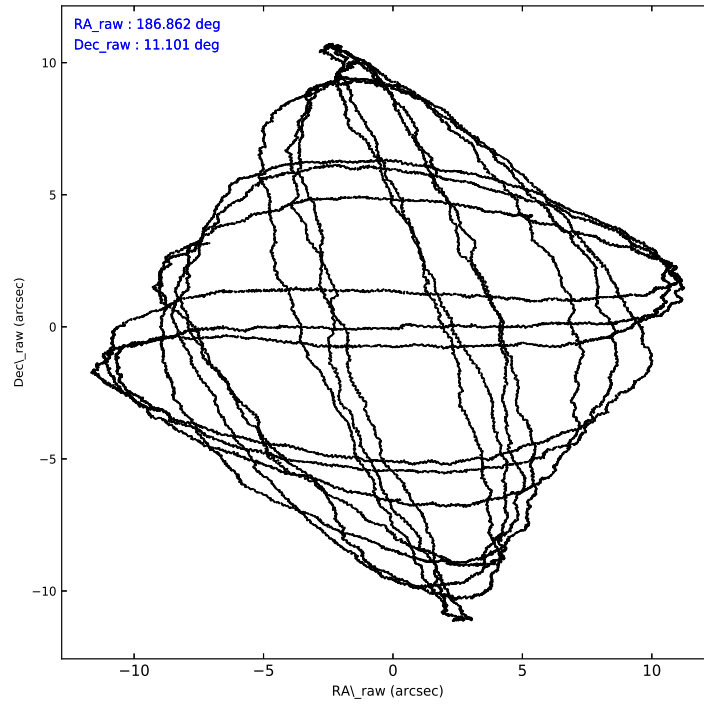
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 2924 | 2903 | 2822 | 5234 |
| | 3% | 4% | 3% | 6% |
| grade 1 events | 214 | 1427 | 102 | 67 |
| | 0% | 2% | 0% | 0% |
| grade 2 events | 13726 | 1805 | 6673 | 4539 |
| | 14% | 2% | 8% | 5% |
| grade 3 events | 1240 | 619 | 2660 | 2039 |
| | 1% | 0% | 3% | 2% |
| grade 4 events | 1246 | 642 | 2565 | 1882 |
| | 1% | 0% | 3% | 2% |
| grade 5 events | 5964 | 2532 | 7124 | 3935 |
| | 6% | 3% | 9% | 5% |
| grade 6 events | 24905 | 1700 | 17796 | 5140 |
| | 26% | 2% | 23% | 6% |
| grade 7 events | 42846 | 53909 | 34937 | 53404 |
| | 46% | 82% | 46% | 70% |

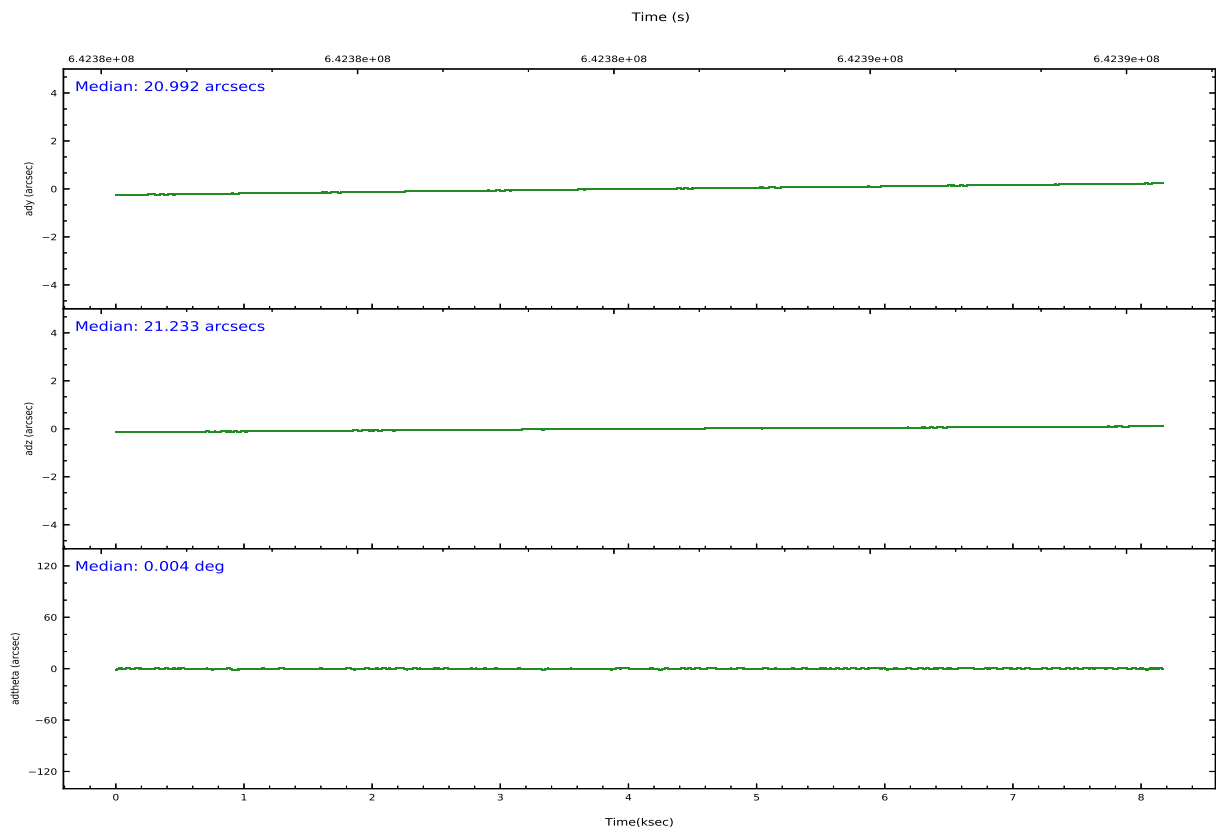
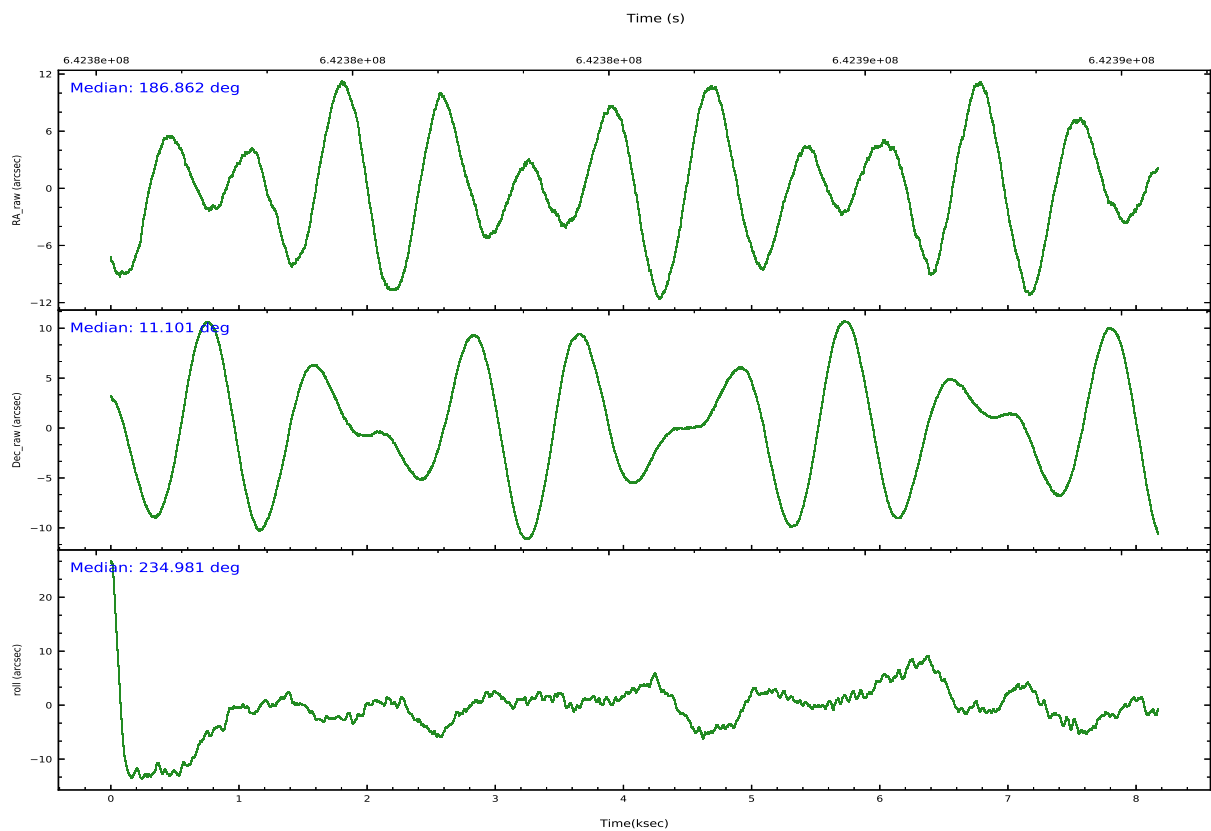
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-5678 | ACIS-5678 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 186.863649 | 186.85996531192 |
| [deg] Pointing Dec | 11.127891 | 11.109038107698 |
| [deg] Pointing Roll | 234.837463 | 234.98076399619 |
| [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) | 642380285.184000 | 642379852.5389301 |
| Observation start date | 2018-05-10T22:56:56 | 2018-05-10T22:50:52 |
| [s] Observation end time (MET) | 642388285.184000 | 642388446.65194 |
| Observation end date | 2018-05-11T01:10:16 | 2018-05-11T01:14:06 |
| 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



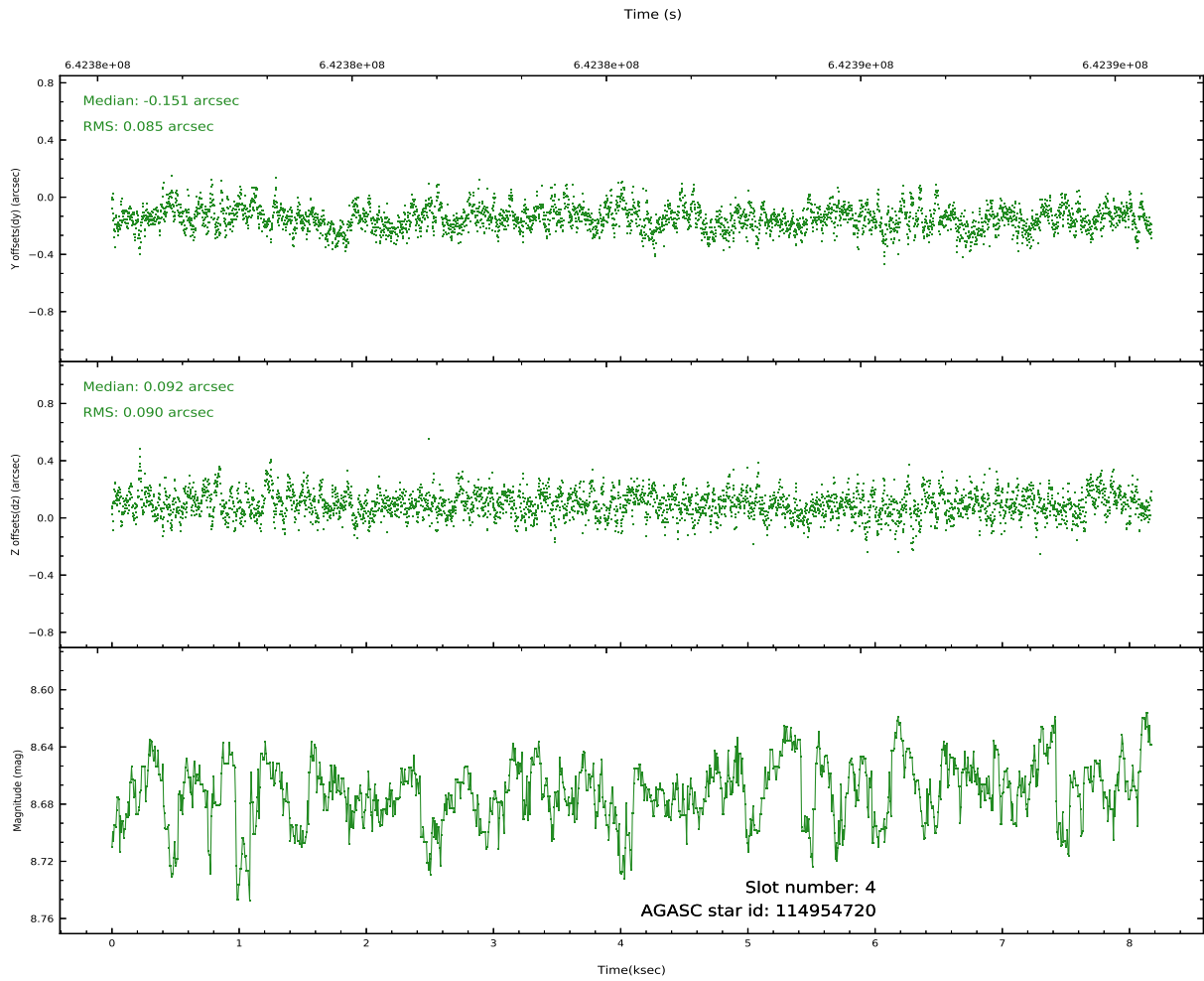
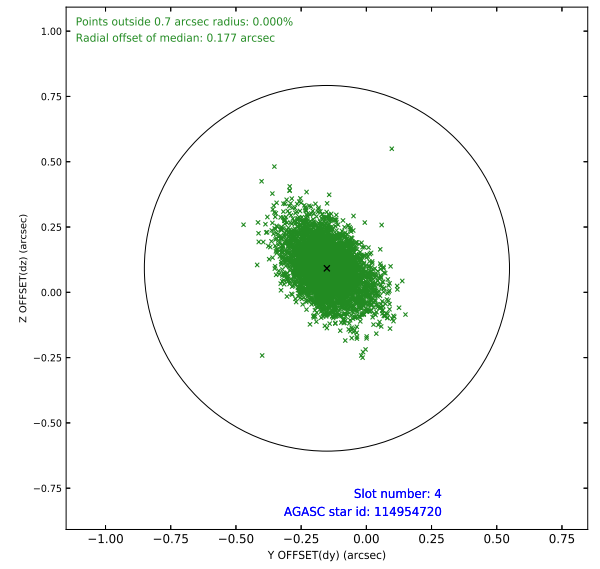
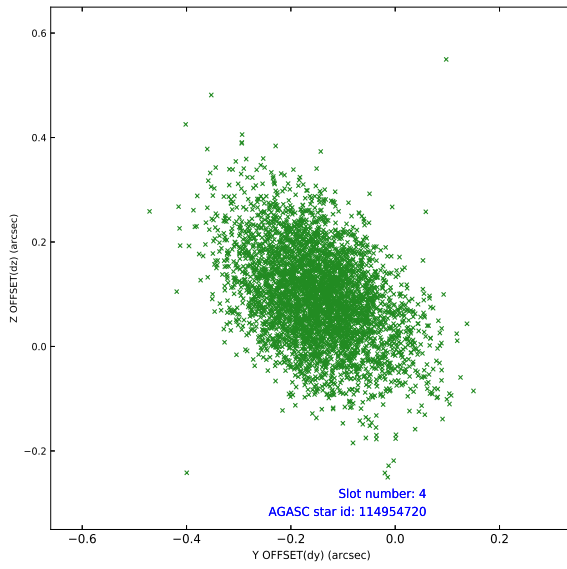


Slot Statistics

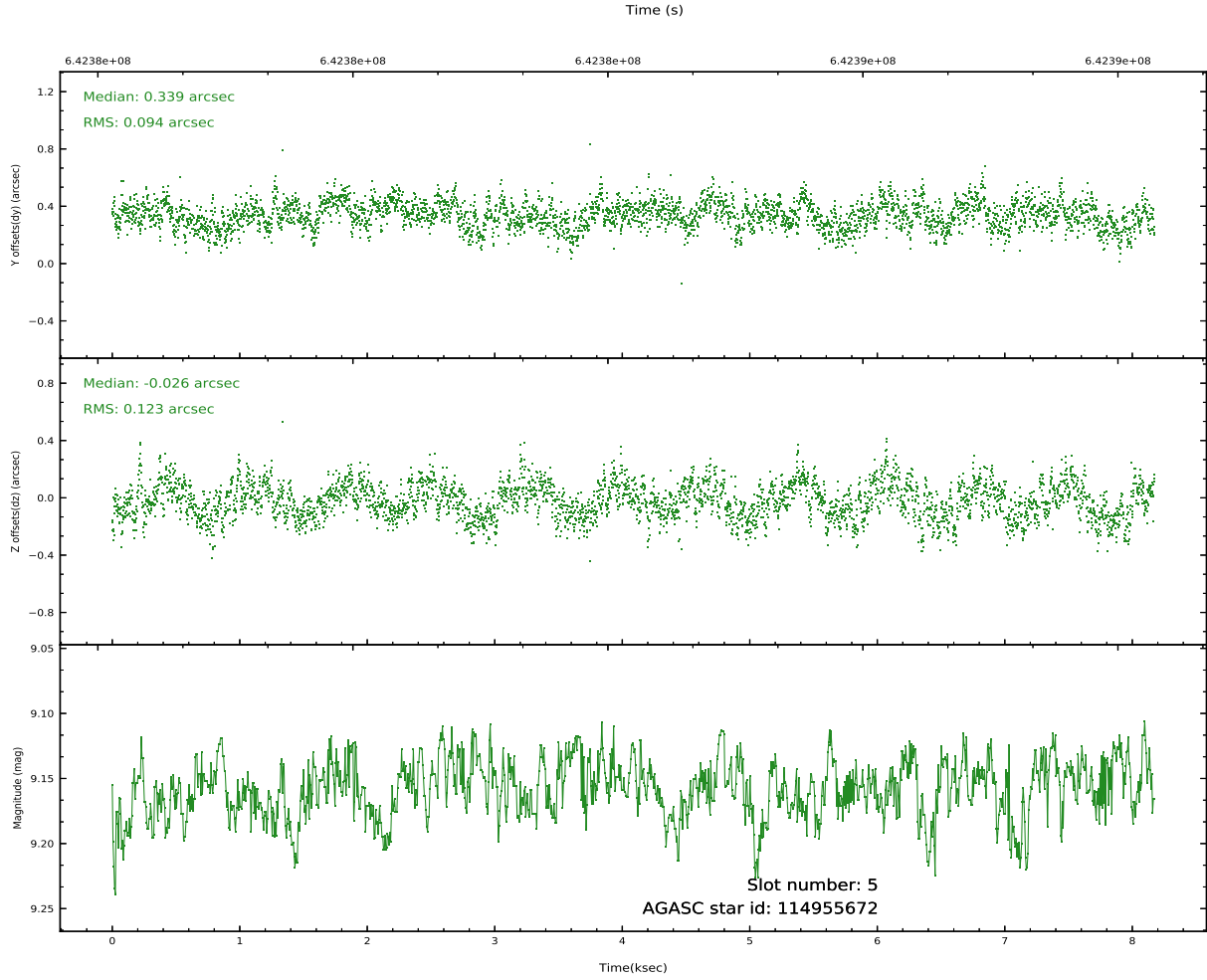
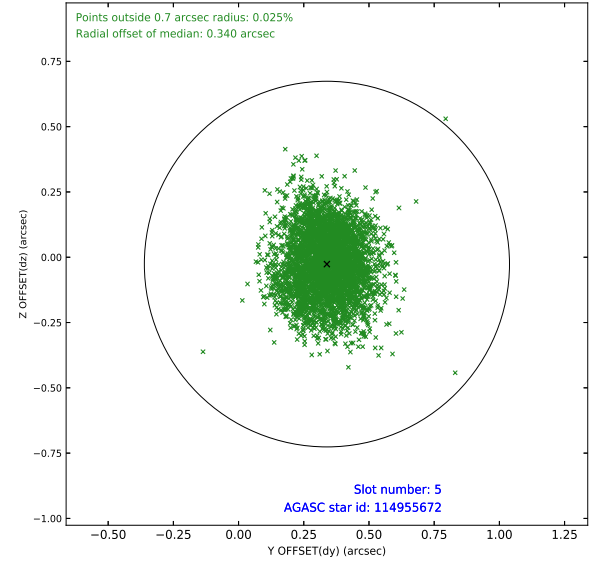
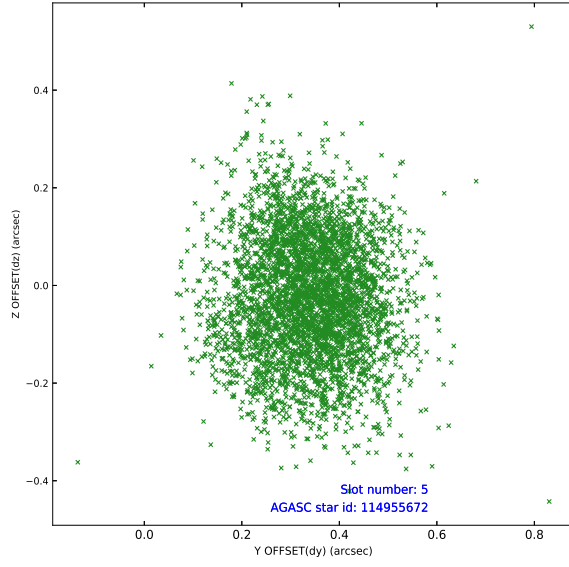
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|---------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-S-2 | 7.13 | 1994 | 1.000 | 0.140 | -0.127 | 0.010 | 0.017 | 0.000000 | 0.000000 | -774.24 | -1742 |
| 1 | FID | | ACIS-S-4 | 7.25 | 1993 | 1.000 | 0.077 | -0.033 | 0.006 | 0.013 | 0.000000 | 0.000000 | 2138.94 | 164 |
| 2 | FID | | ACIS-S-5 | 7.25 | 1994 | 1.000 | -0.248 | 0.169 | 0.009 | 0.016 | 0.000000 | 0.000000 | -1826.32 | 159 |
| 3 | OMITTED | | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0 |
| 4 | GUIDE | used | 114954720 | 8.67 | 3984 | 1.000 | -0.151 | 0.092 | 0.128 | 0.220 | 187.384636 | 11.492566 | -2133.23 | 745 |
| 5 | GUIDE | used | 114955672 | 9.16 | 3983 | 1.000 | 0.339 | -0.026 | 0.165 | 0.261 | 186.876368 | 11.136298 | -50.25 | 20 |
| 6 | GUIDE | used | 114955752 | 9.00 | 3985 | 1.000 | -0.014 | -0.177 | 0.150 | 0.249 | 186.882211 | 11.026969 | 259.34 | 262 |
| 7 | GUIDE | used | 114957272 | 8.83 | 3983 | 1.000 | -0.175 | 0.104 | 0.121 | 0.213 | 187.367706 | 11.138889 | -1058.68 | 1431 |

2.4 Star Slots

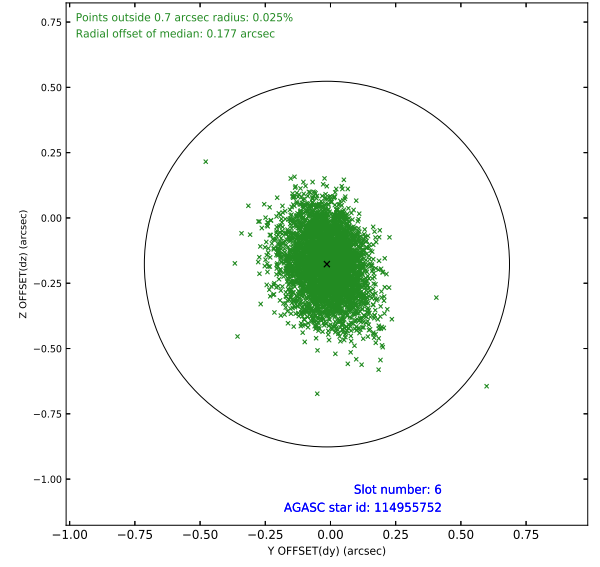
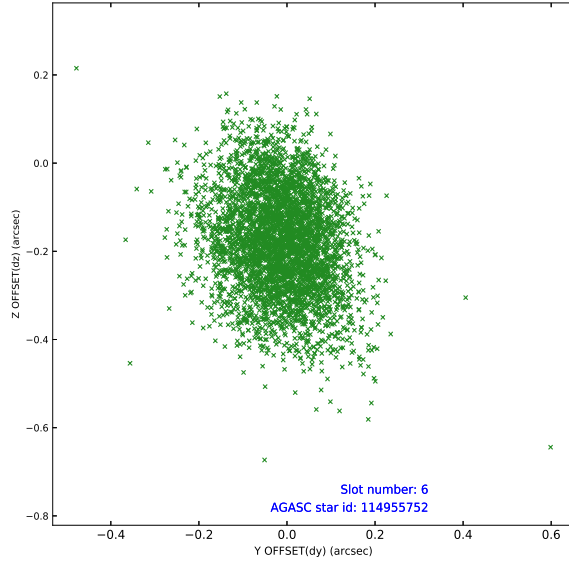
2.4.1 Slot 4



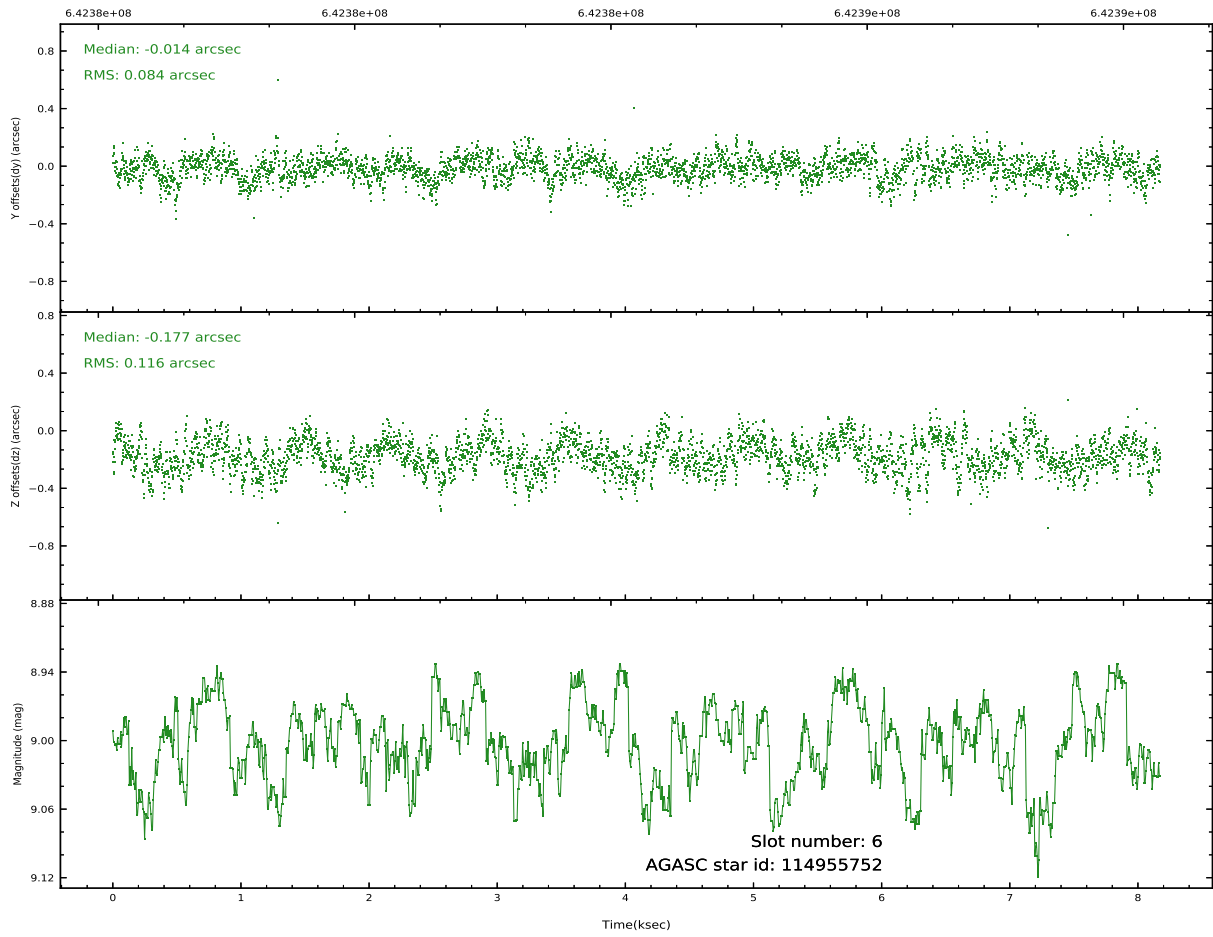
2.4.2 Slot 5



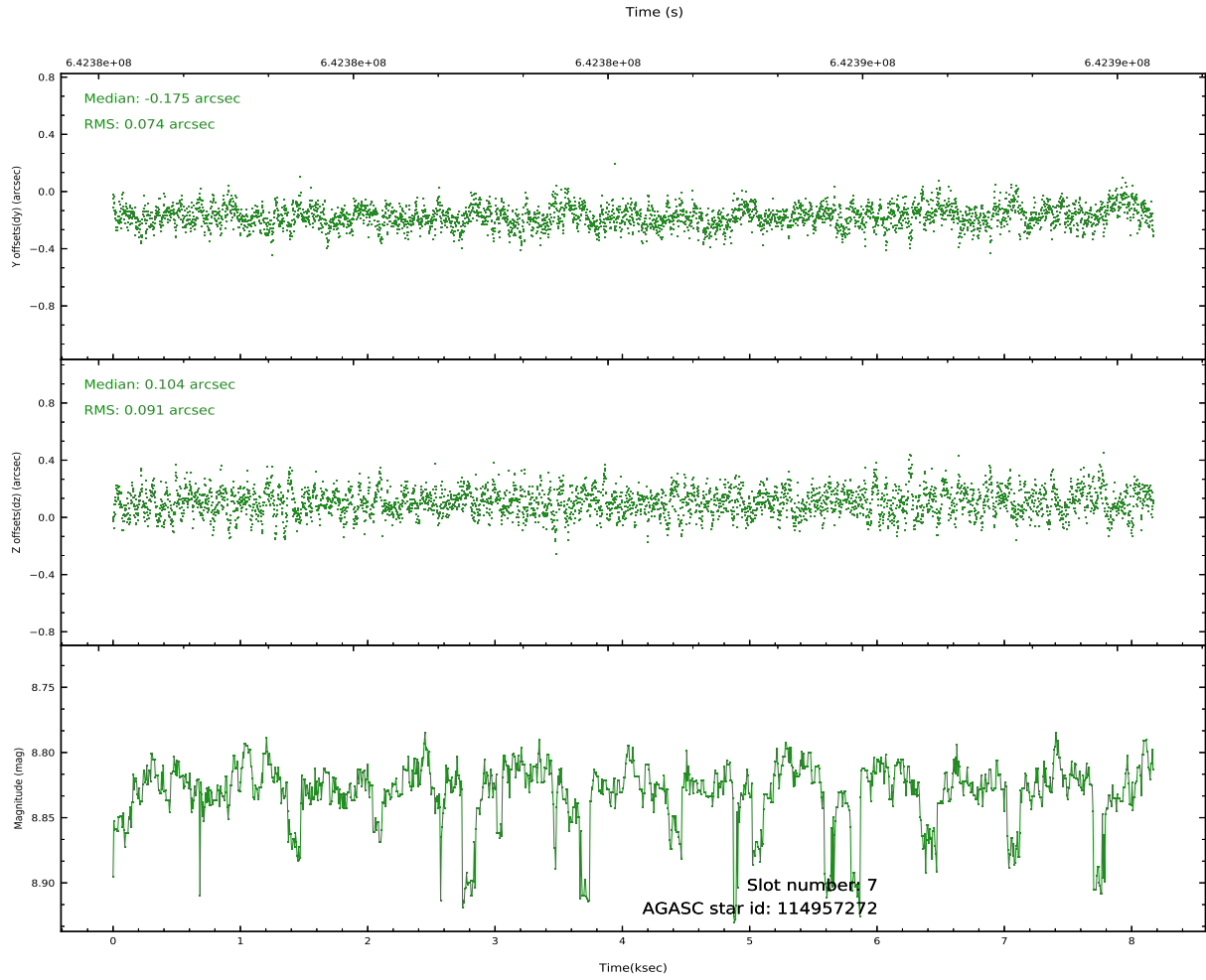
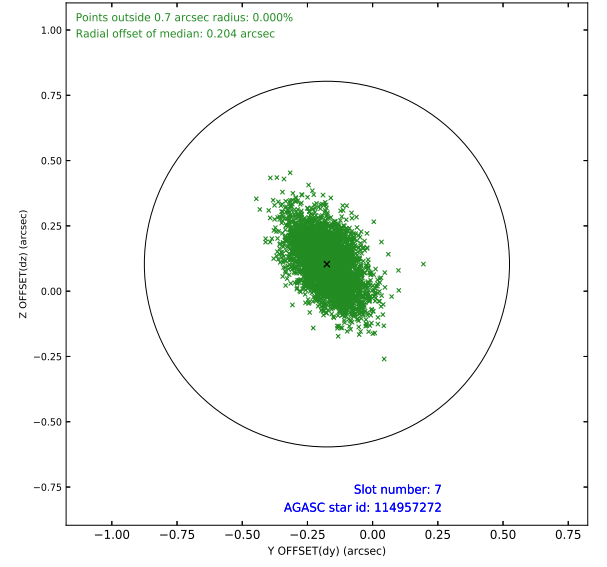
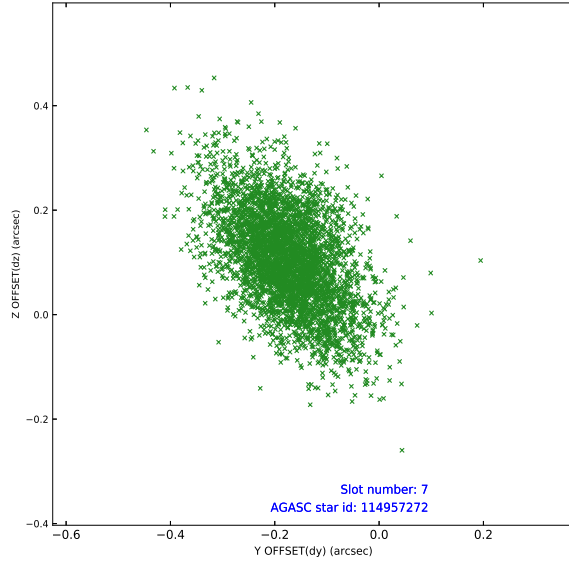
2.4.3 Slot 6



Time (s)

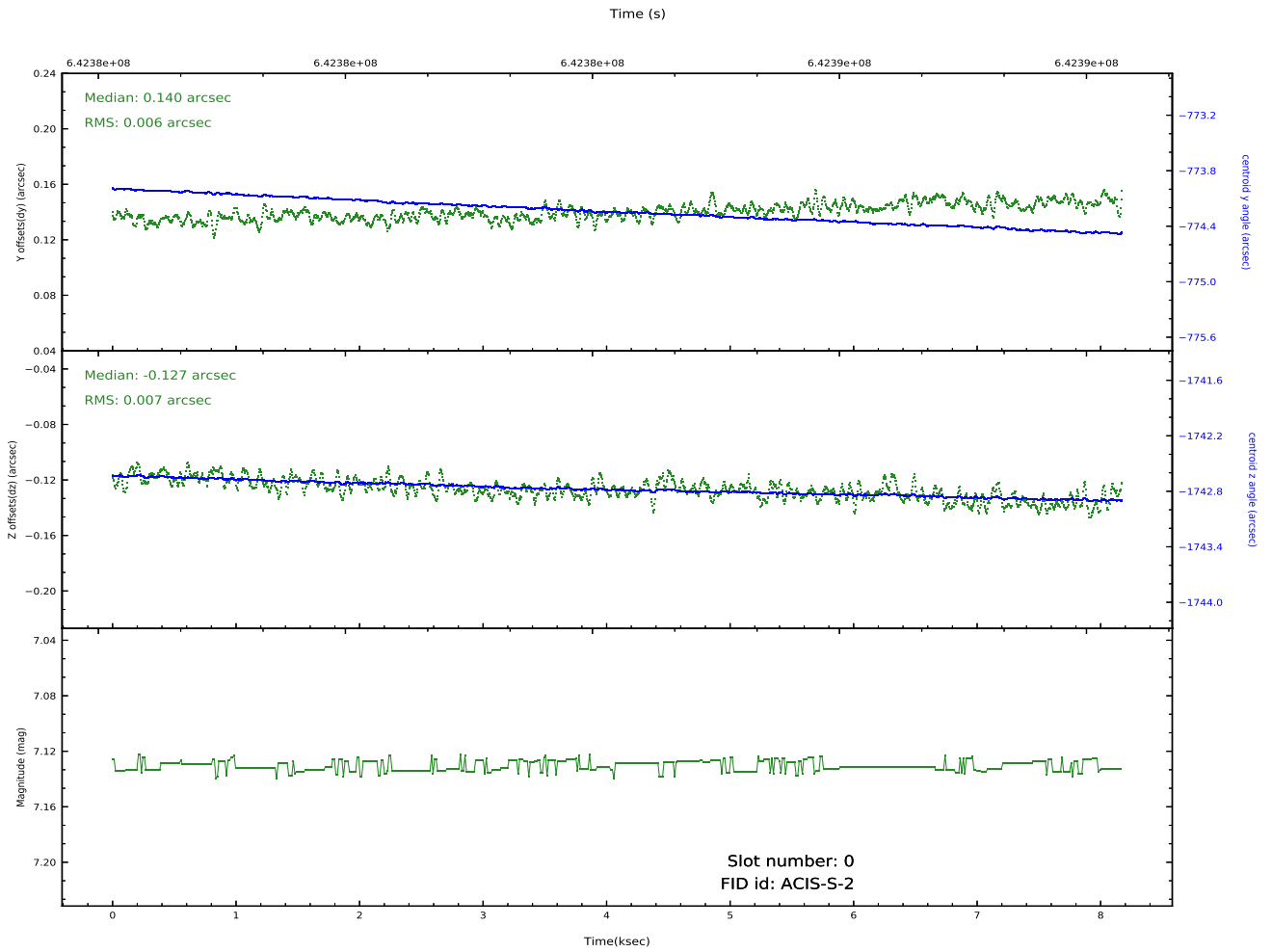
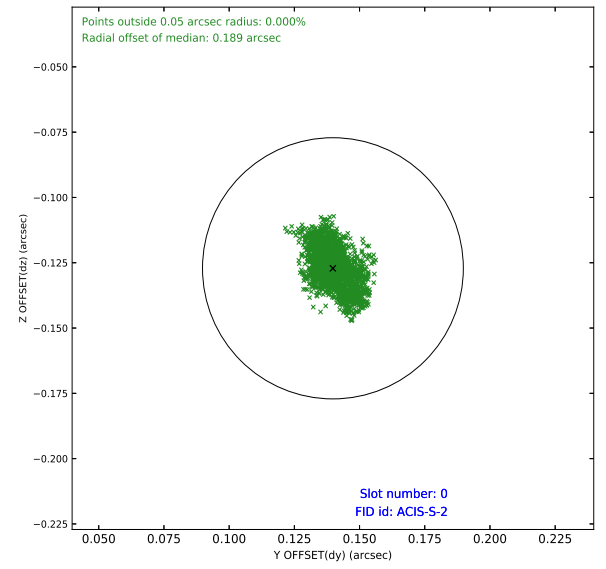
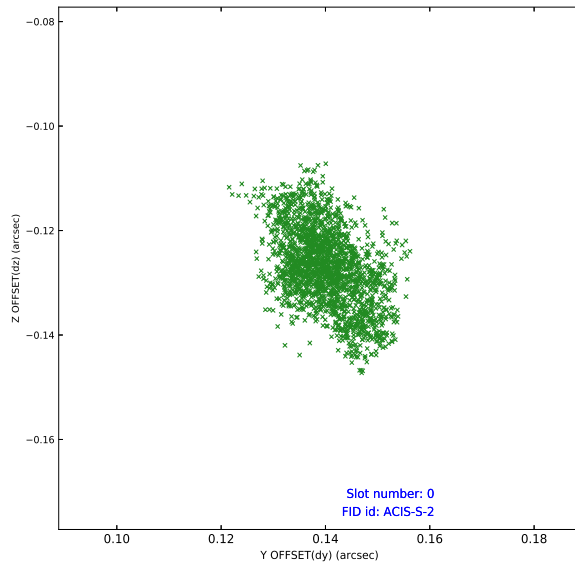


2.4.4 Slot 7

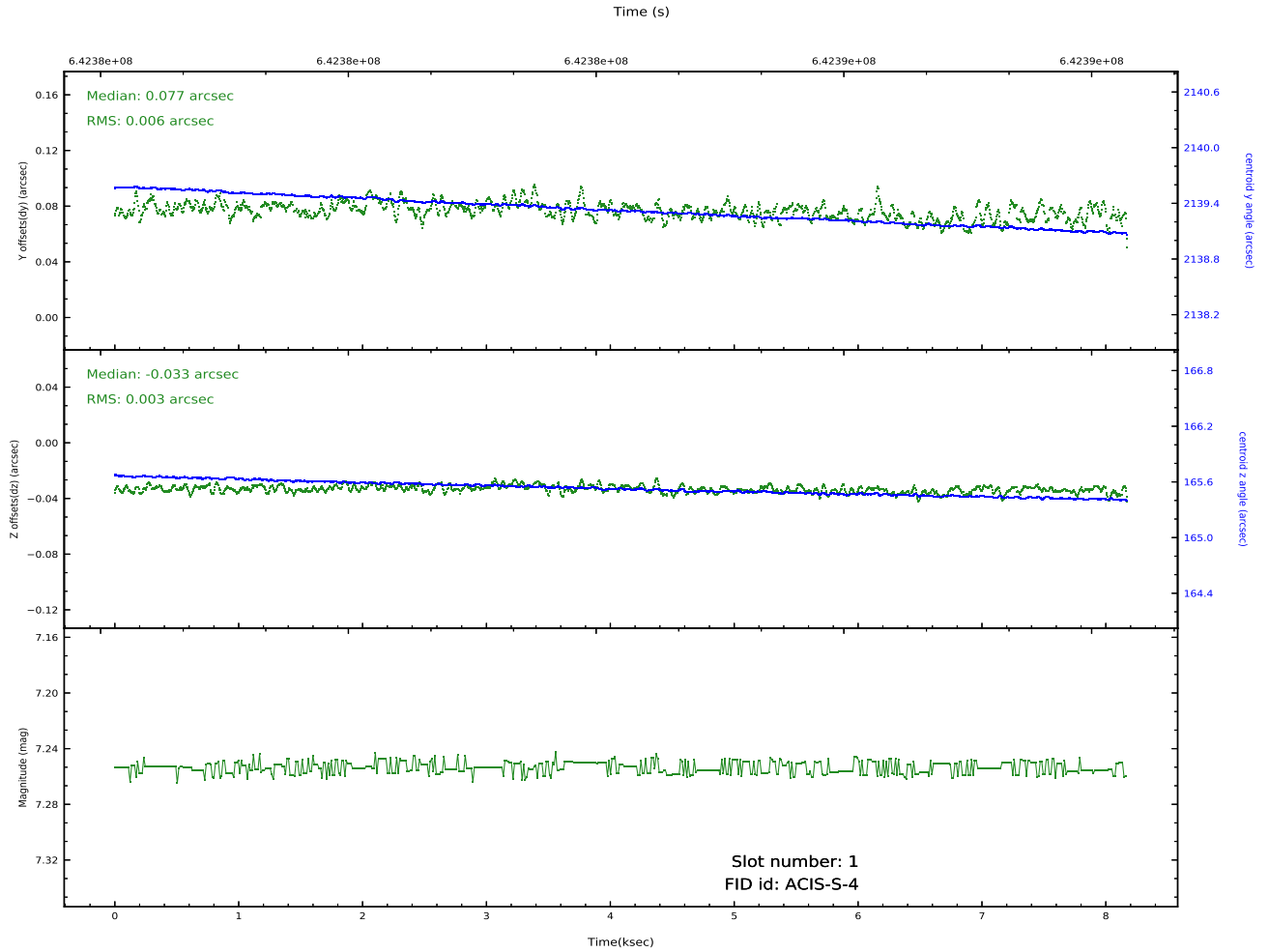
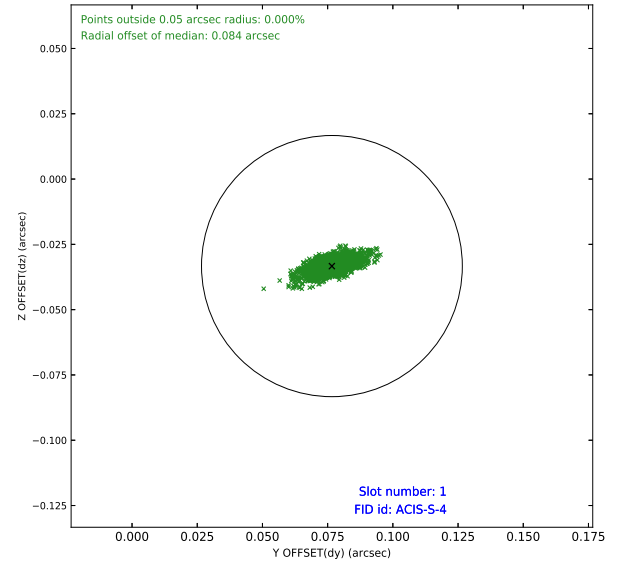
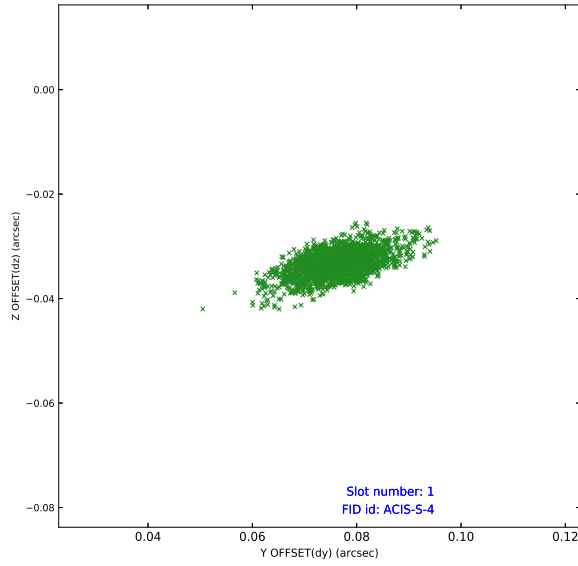


2.5 FID Slots

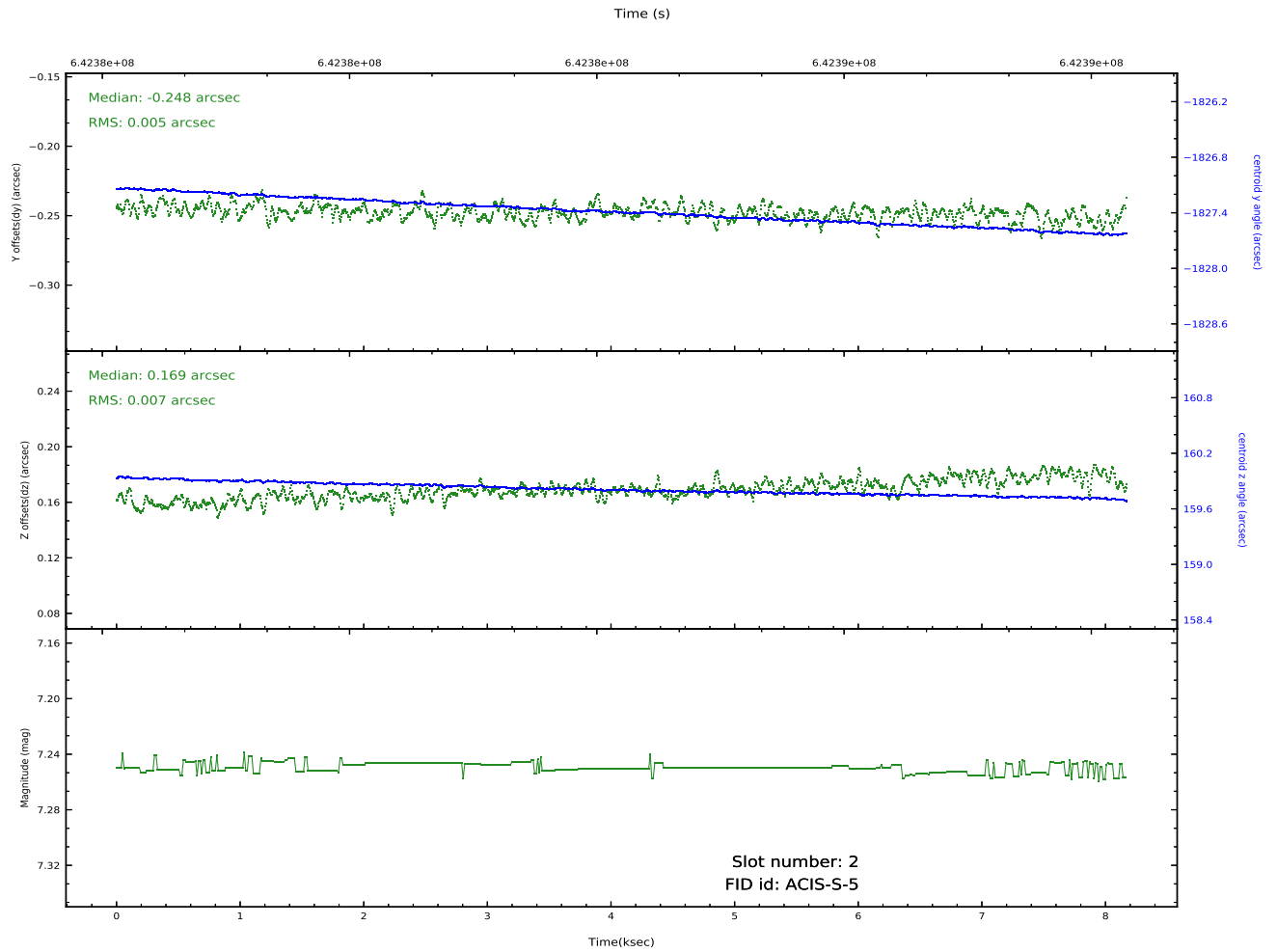
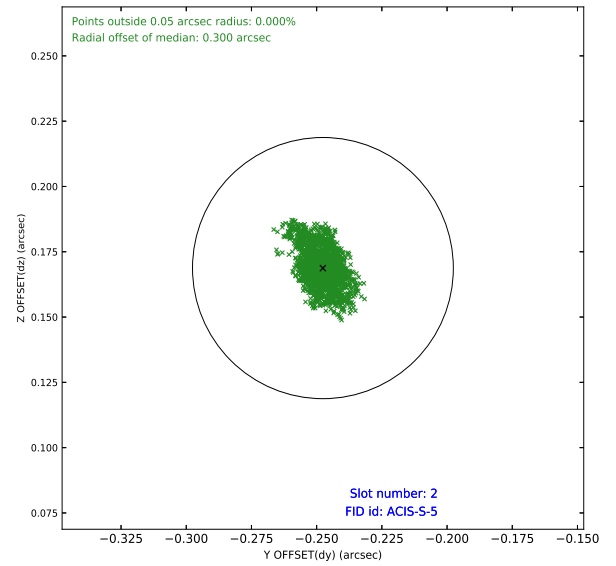
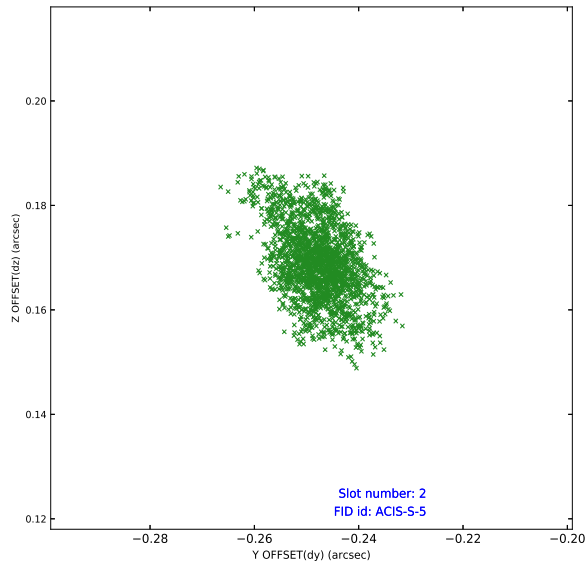
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|-----------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2020.10.27 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 7.9112000609636 |

A.2 Comments

The guide star in slot 3 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.