

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 19396 - L2 Version 3
Chandra X-Ray Center

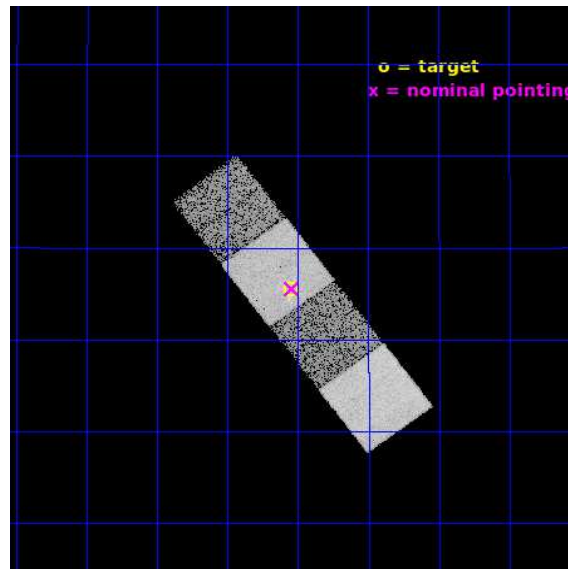
L2 Processing Date : Oct 25 2020

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1 Front

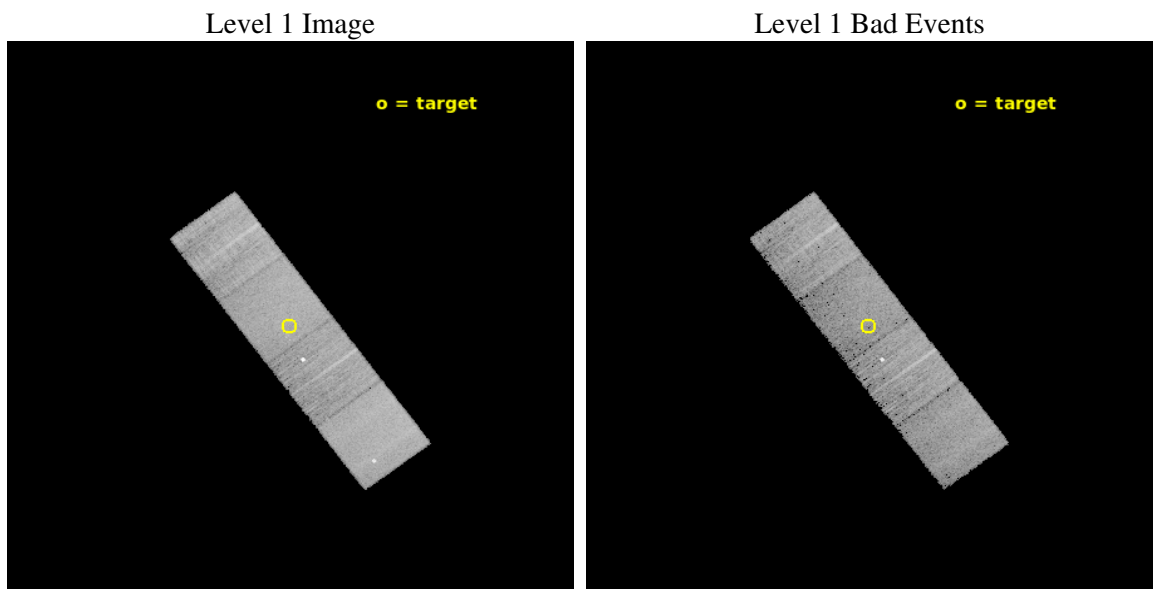
| | | |
|----------|--------------------------------------|---|
| seq_num | 601353 | Sequence number |
| obs_id | 19396 | Observation id |
| title | Spiral galaxies of the Virgo cluster | Proposal title |
| observer | Roberto Soria | Principal investigator |
| object | NGC 4567 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 189.13625 | Observer's specified target RA [deg] |
| dec_targ | 11.258 | Observer's specified target Dec [deg] |
| ra_nom | 189.13594315757 | Nominal RA [deg] |
| dec_nom | 11.2592942035 | Nominal Dec [deg] |
| roll_nom | 233.23020734173 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 7908.1000609398 | Sum of GTIs [s] |
| livetime | 7804.774911785 | Livetime [s] |
| ontime5 | 7908.1000609398 | Sum of GTIs [s] |
| ontime6 | 7908.1000609398 | Sum of GTIs [s] |
| ontime7 | 7908.1000609398 | Sum of GTIs [s] |
| ontime8 | 7895.5358301401 | Sum of GTIs [s] |
| l2events | 86400 | Number of level 2 events |



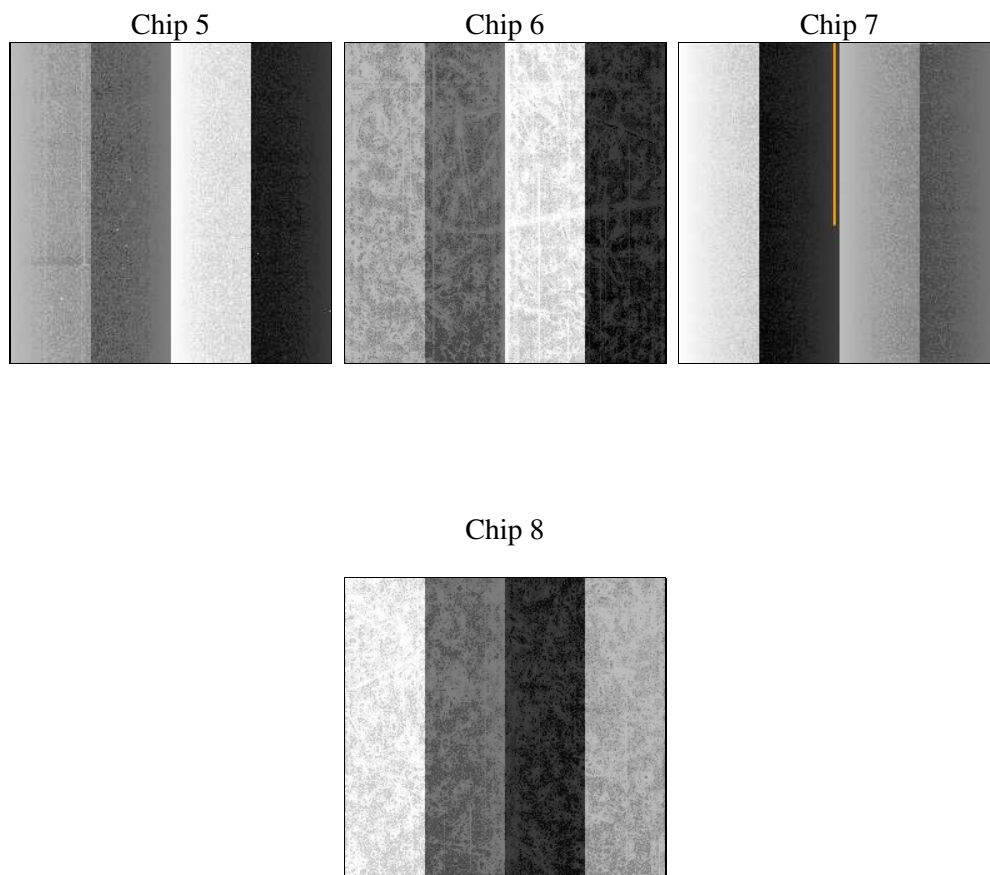
2 OBI

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 | 7908.1000609398 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime5 | 7908.1000609398 | Sum of GTIs [s] |
| date | 2020-10-25T22:00:08 | Date and time of file creation | ontime6 | 7908.1000609398 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime7 | 7908.1000609398 | Sum of GTIs [s] |
| | | | ontime8 | 7895.5358301401 | Sum of GTIs [s] |
| | | | l1events | 312595 | Number of level 1 events |

2.1.4 Events

| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|
| level 1 events | 92634 | 64022 | 76009 | 79930 |
| rejected events | 48491 | 56478 | 42841 | 59841 |
| rejected % | 52% | 88% | 56% | 74% |

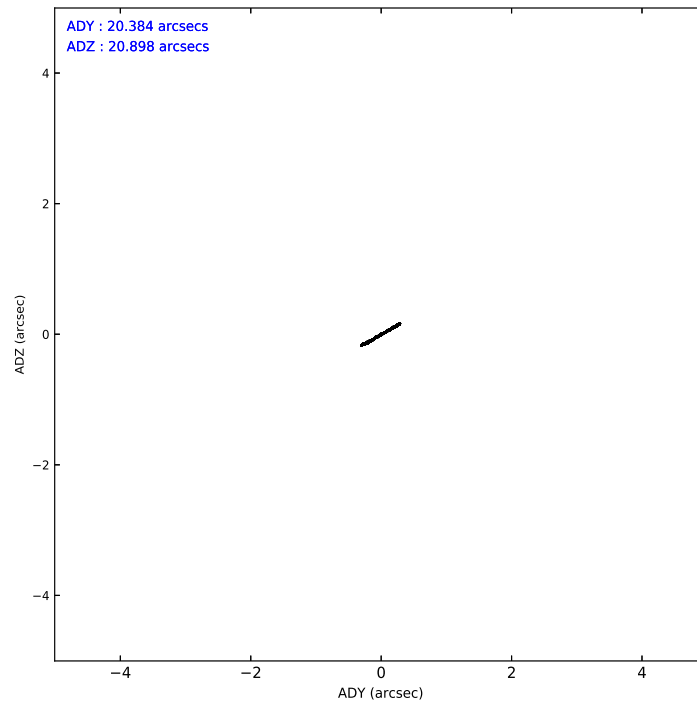
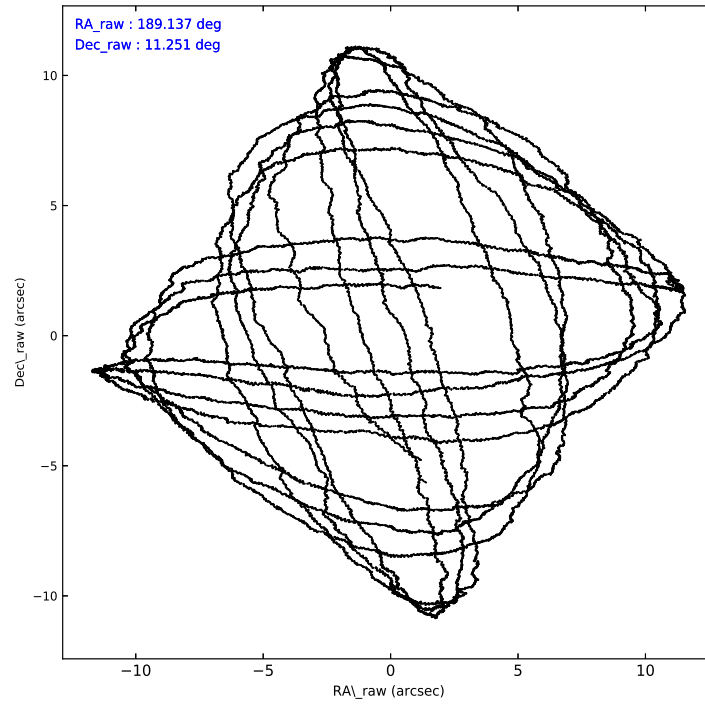
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 3166 | 2936 | 2940 | 5413 |
| | 3% | 4% | 3% | 6% |
| grade 1 events | 245 | 1466 | 105 | 63 |
| | 0% | 2% | 0% | 0% |
| grade 2 events | 13563 | 1742 | 6931 | 4959 |
| | 14% | 2% | 9% | 6% |
| grade 3 events | 1211 | 556 | 2641 | 2105 |
| | 1% | 0% | 3% | 2% |
| grade 4 events | 1258 | 621 | 2597 | 1958 |
| | 1% | 0% | 3% | 2% |
| grade 5 events | 5897 | 2578 | 7459 | 4056 |
| | 6% | 4% | 9% | 5% |
| grade 6 events | 24964 | 1692 | 18066 | 5656 |
| | 26% | 2% | 23% | 7% |
| grade 7 events | 42330 | 52431 | 35270 | 55720 |
| | 45% | 81% | 46% | 69% |

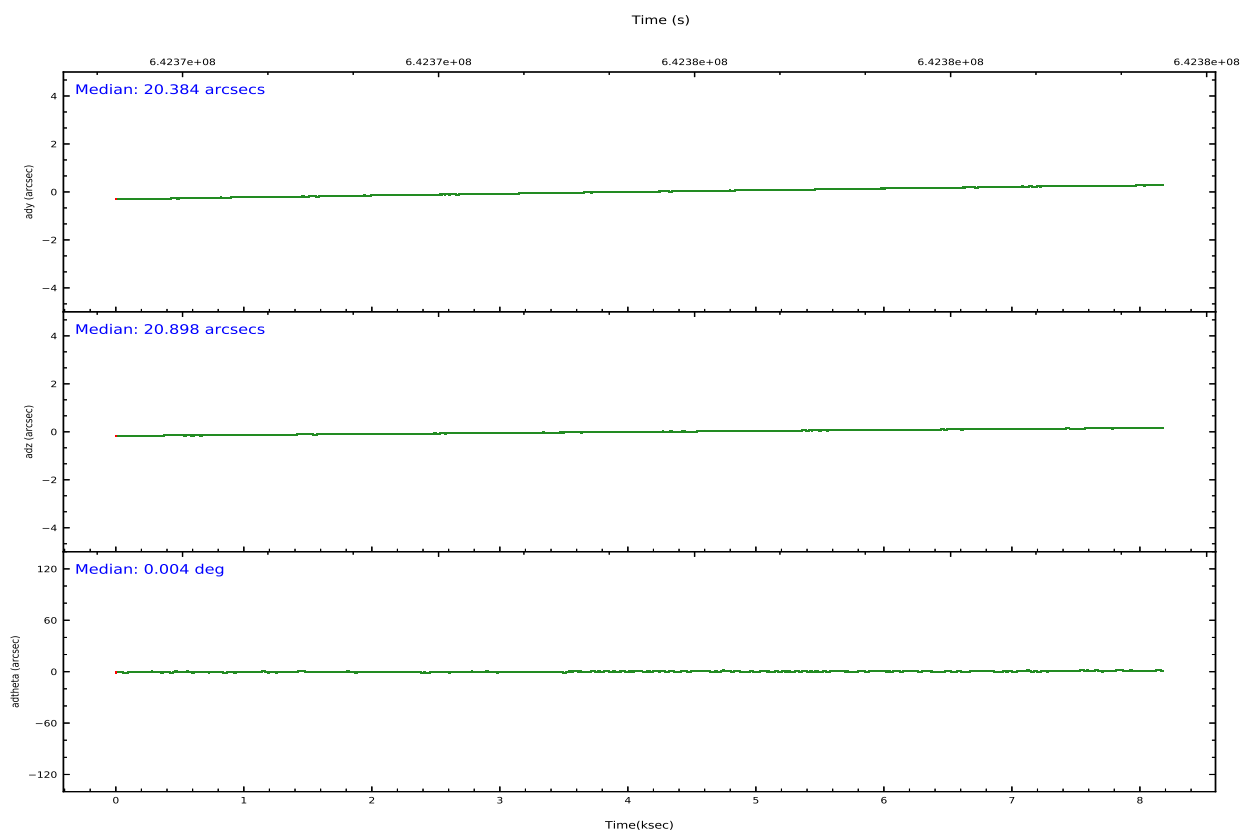
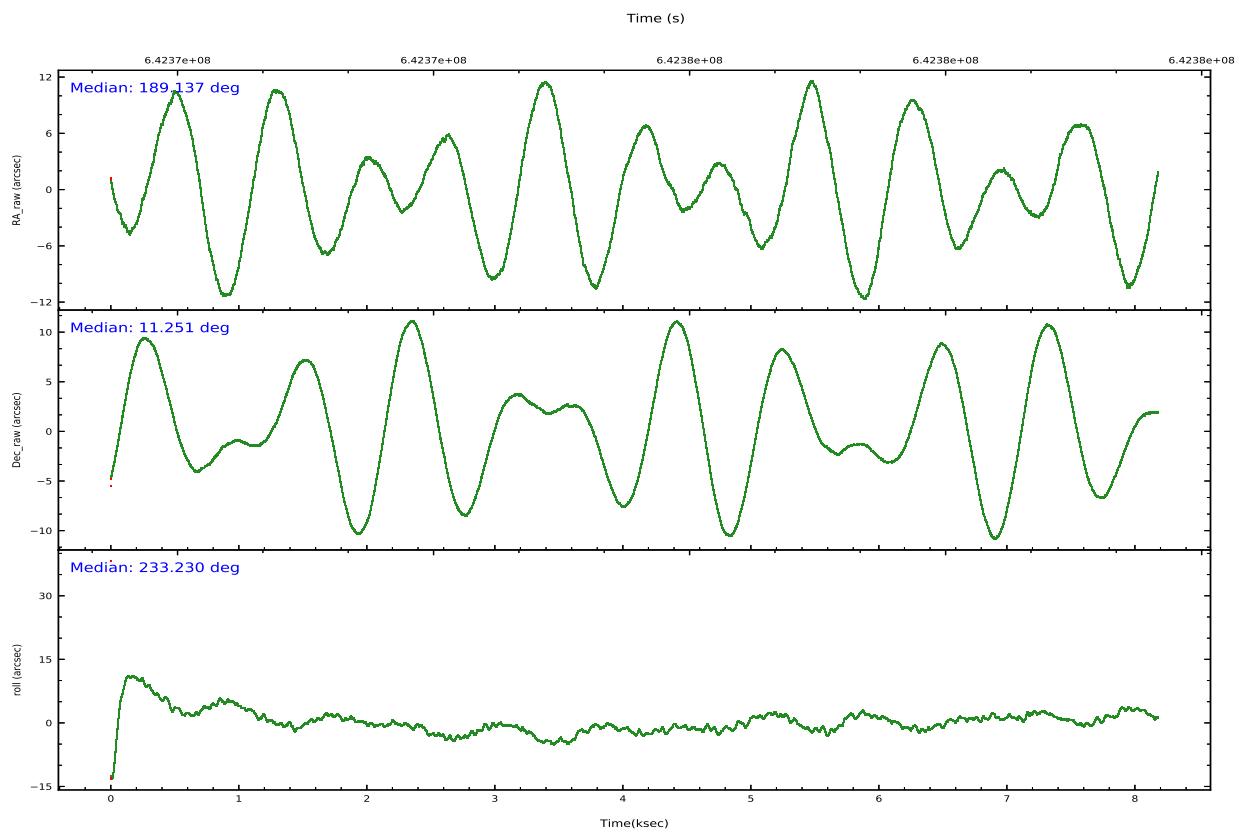
2.2 Compared Parameters

| 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 | 189.140144 | 189.13594315757 |
| [deg] Pointing Dec | 11.278268 | 11.2592942035 |
| [deg] Pointing Roll | 233.087335 | 233.23020734173 |
| [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) | 642371661.184000 | 642371222.55092 |
| Observation start date | 2018-05-10T20:33:12 | 2018-05-10T20:27:02 |
| [s] Observation end time (MET) | 642379661.184000 | 642379852.5389301 |
| Observation end date | 2018-05-10T22:46:32 | 2018-05-10T22:50:52 |
| 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



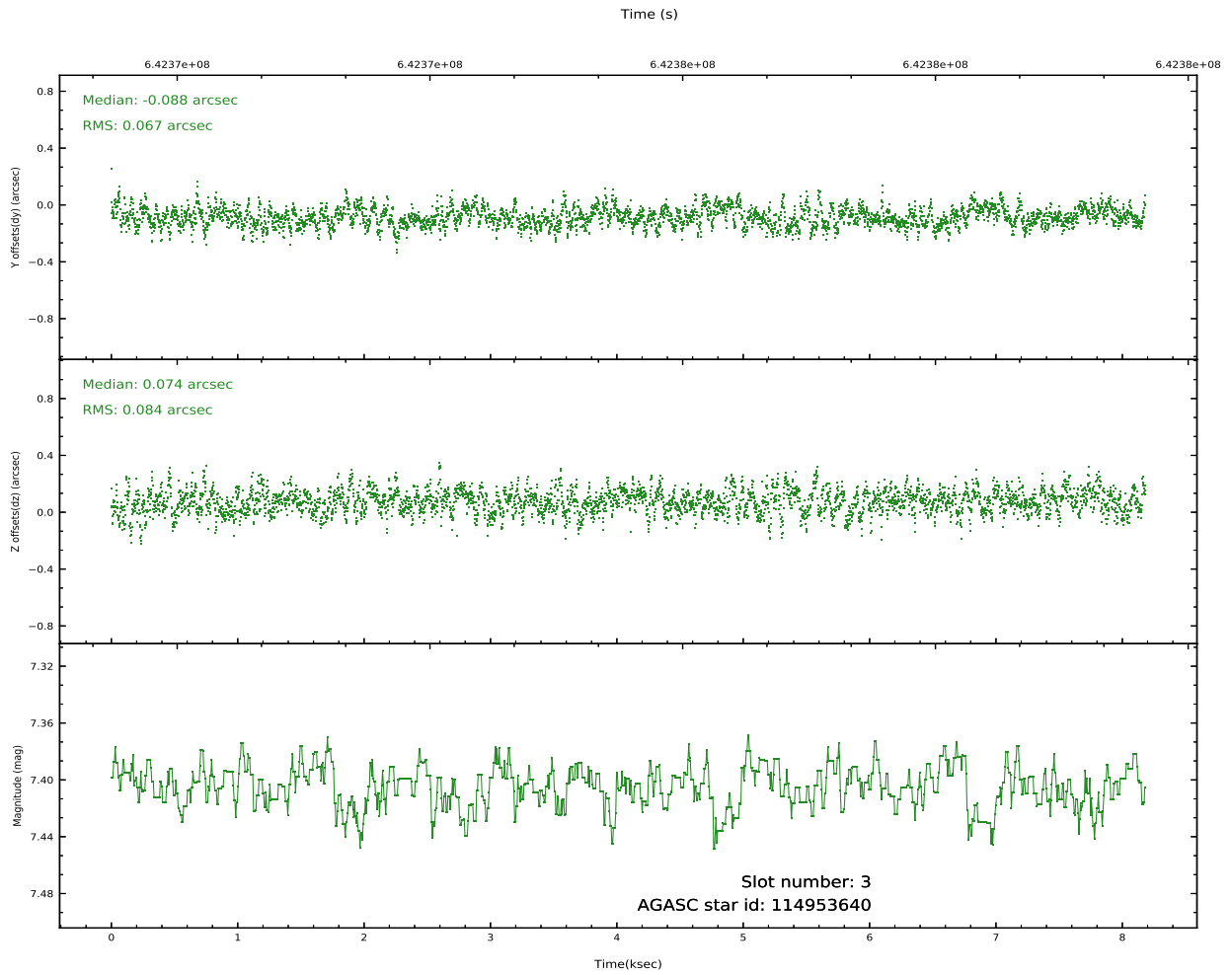
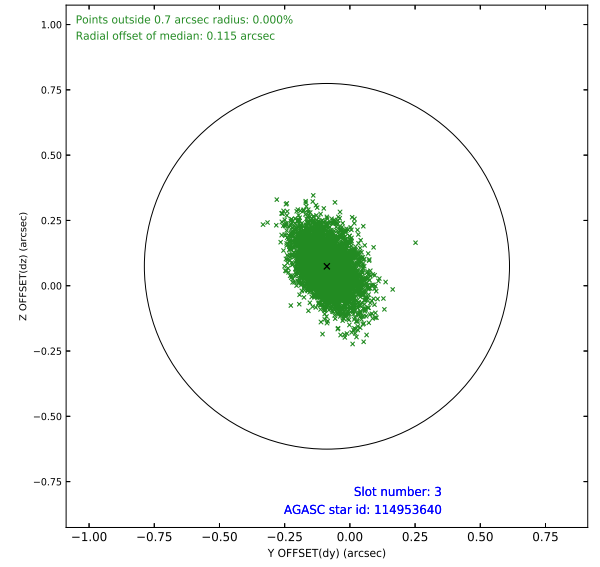
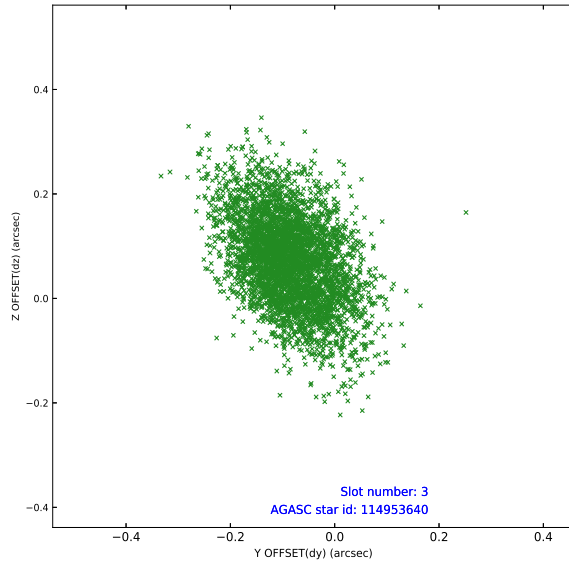


Slot Statistics

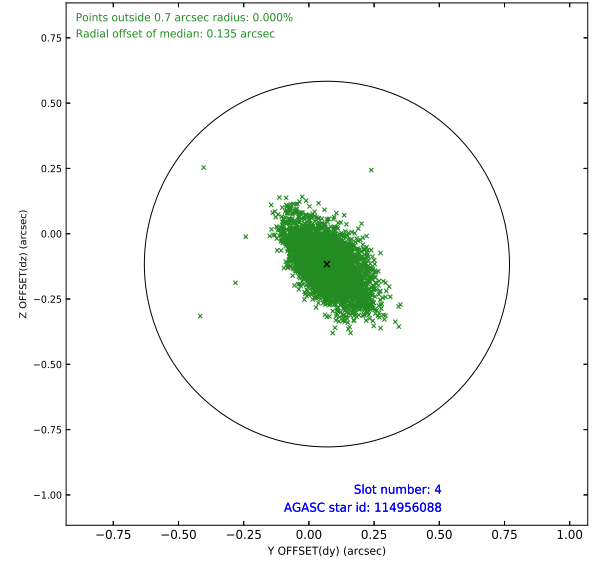
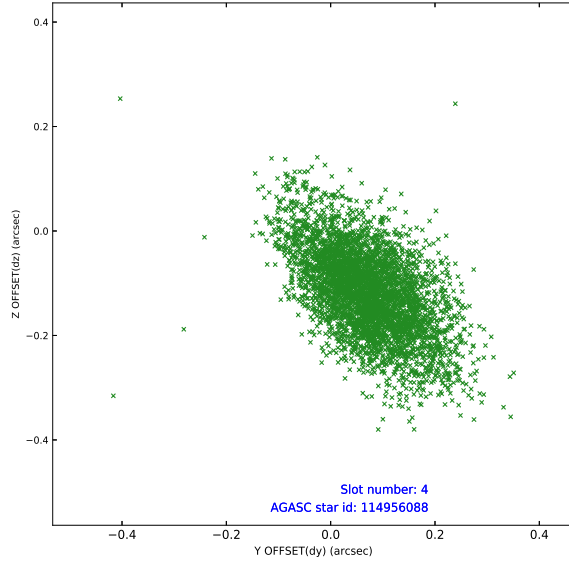
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|---------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-S-2 | 7.14 | 1996 | 1.000 | 0.112 | -0.128 | 0.010 | 0.018 | 0.000000 | 0.000000 | -773.64 | -1742 |
| 1 | FID | | ACIS-S-4 | 7.26 | 1996 | 1.000 | 0.109 | -0.019 | 0.013 | 0.027 | 0.000000 | 0.000000 | 2139.58 | 165 |
| 2 | FID | | ACIS-S-5 | 7.25 | 1996 | 1.000 | -0.251 | 0.156 | 0.009 | 0.014 | 0.000000 | 0.000000 | -1825.70 | 160 |
| 3 | GUIDE | used | 114953640 | 7.40 | 3989 | 1.000 | -0.088 | 0.074 | 0.112 | 0.190 | 188.794711 | 11.547726 | -43.54 | -1557 |
| 4 | GUIDE | used | 114956088 | 7.80 | 3992 | 1.000 | 0.069 | -0.116 | 0.114 | 0.208 | 188.583972 | 10.921101 | 2209.78 | -801 |
| 5 | GUIDE | used | 114956456 | 8.17 | 3990 | 1.000 | 0.085 | 0.104 | 0.151 | 0.256 | 188.716512 | 10.836292 | 2172.64 | -242 |
| 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 | 115087152 | 7.16 | 3989 | 1.000 | -0.073 | -0.059 | 0.118 | 0.198 | 189.409753 | 10.584138 | 1424.69 | 2264 |

2.4 Star Slots

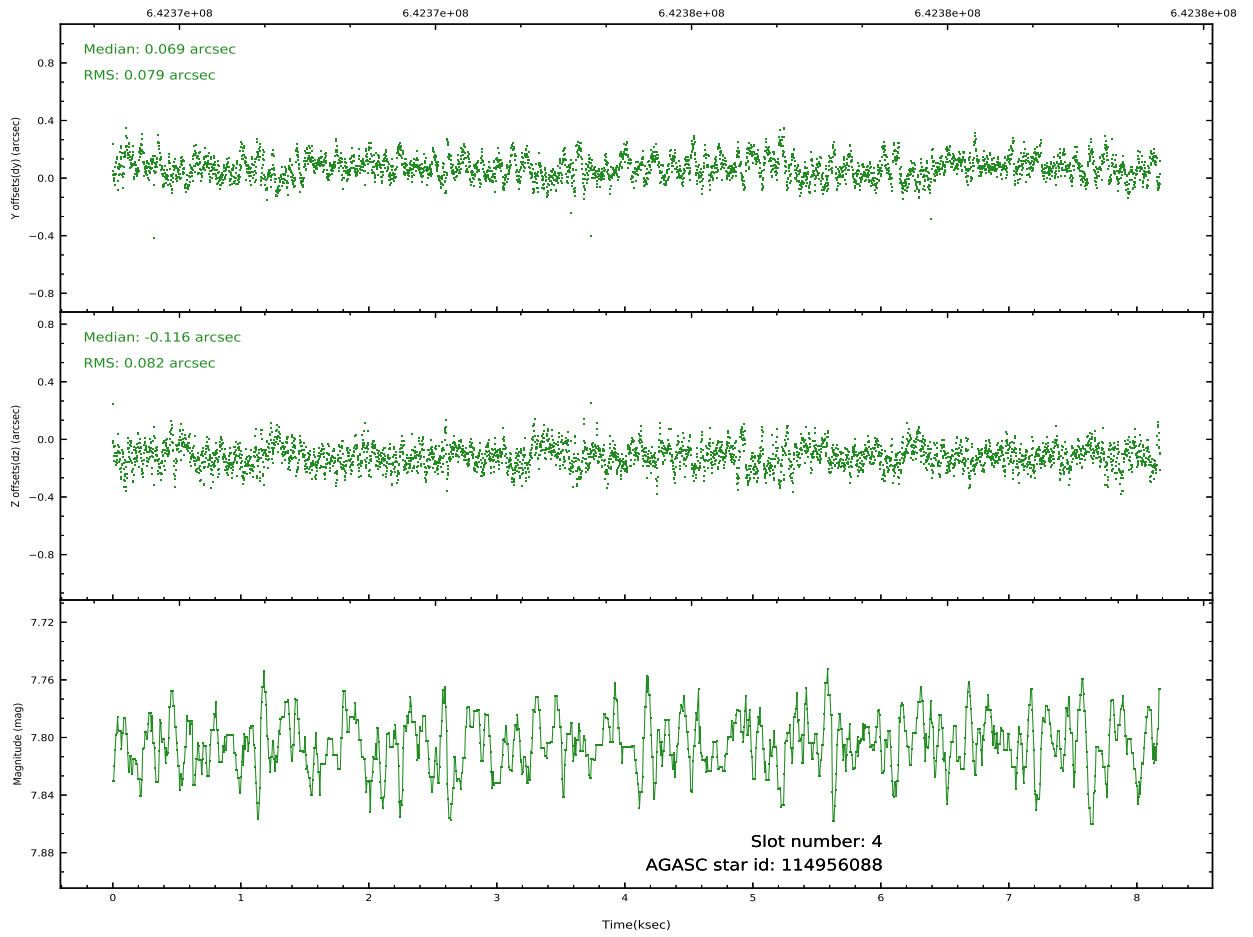
2.4.1 Slot 3



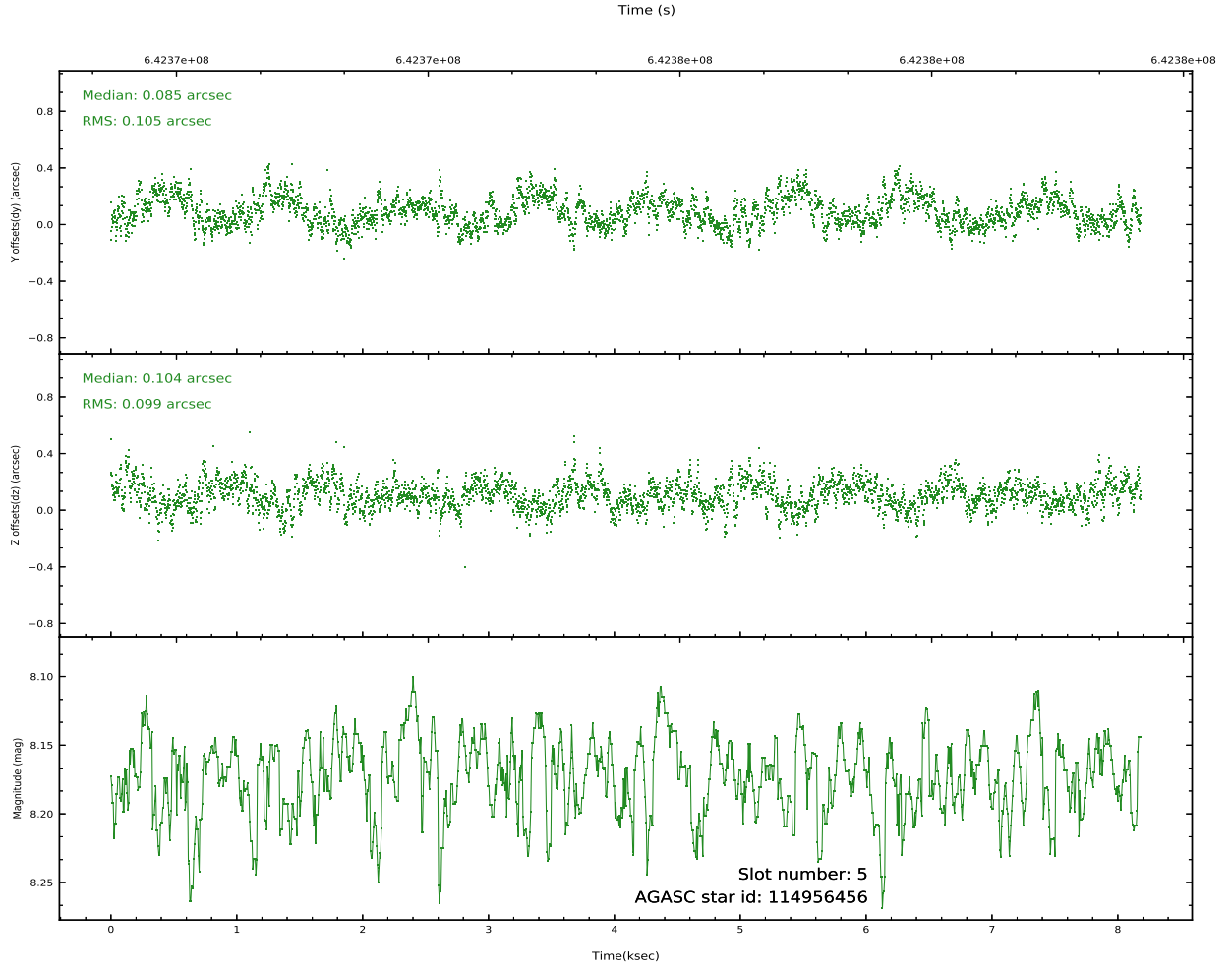
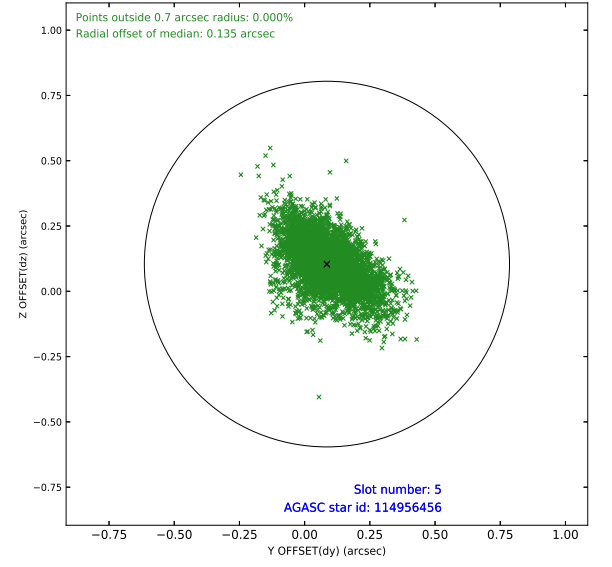
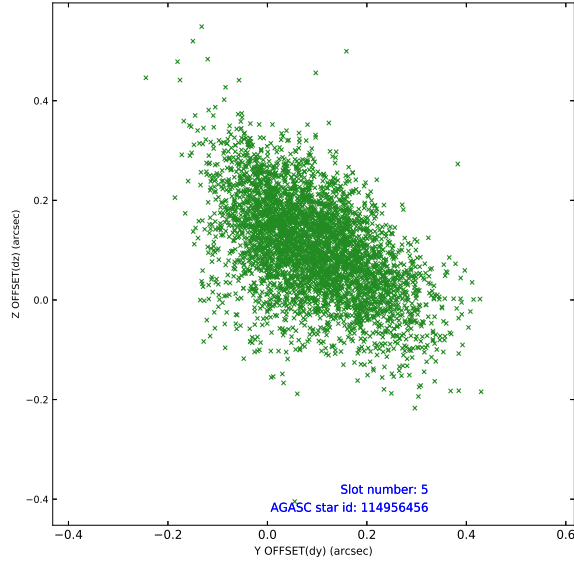
2.4.2 Slot 4



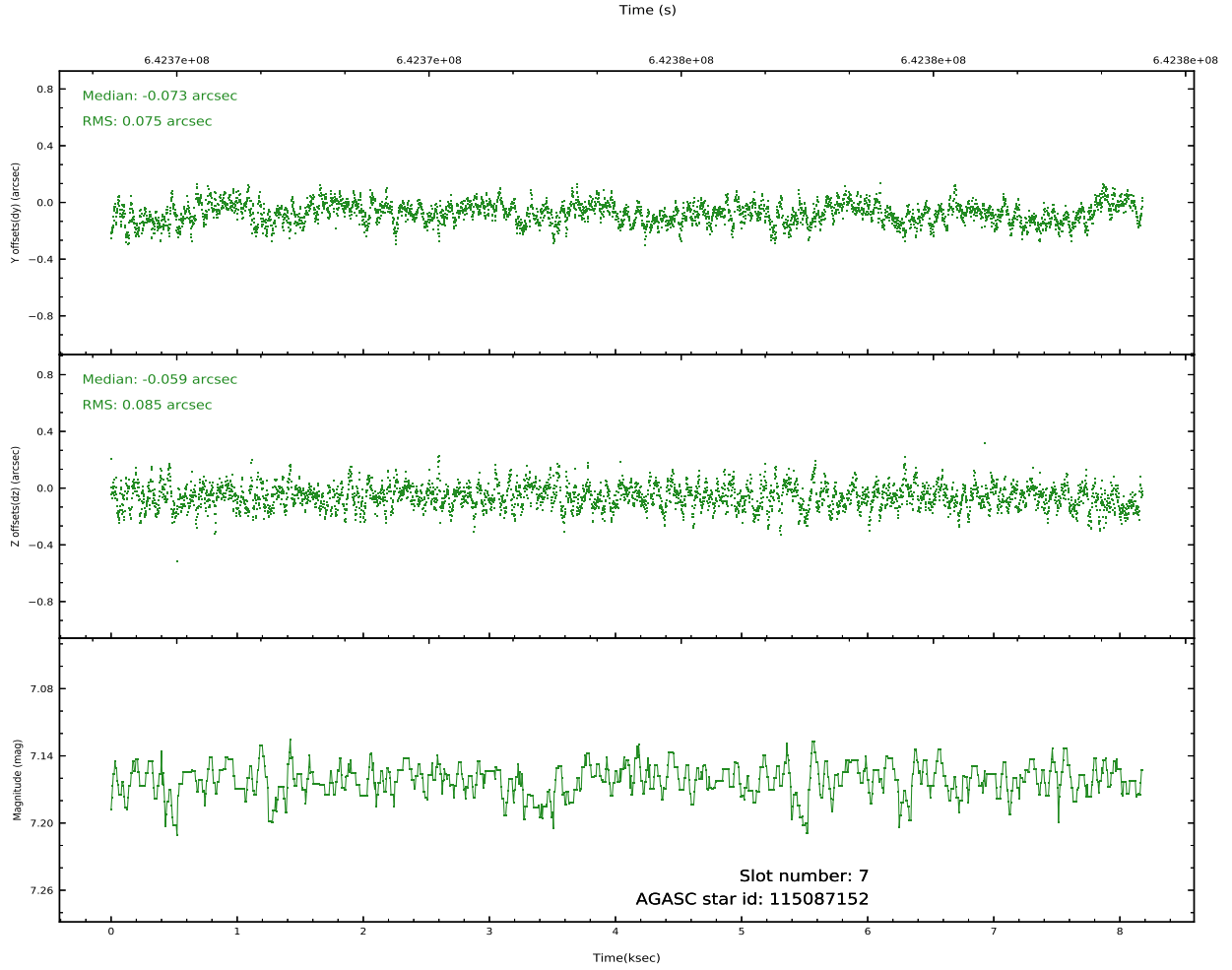
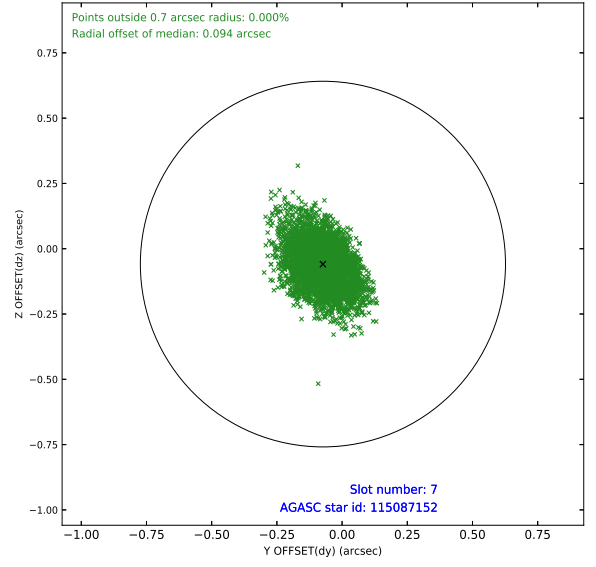
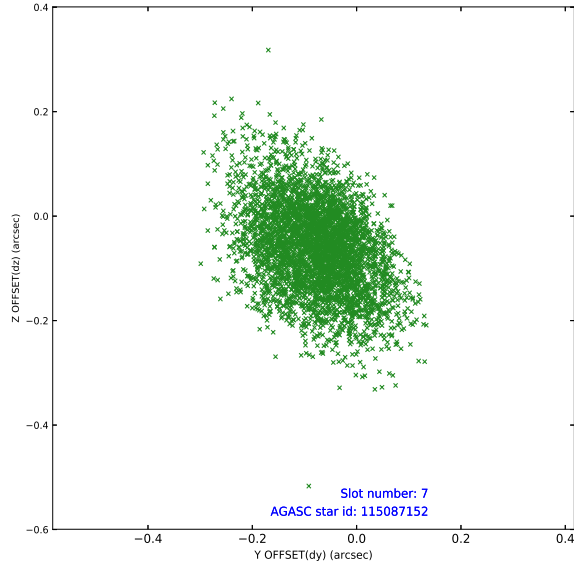
Time (s)



2.4.3 Slot 5

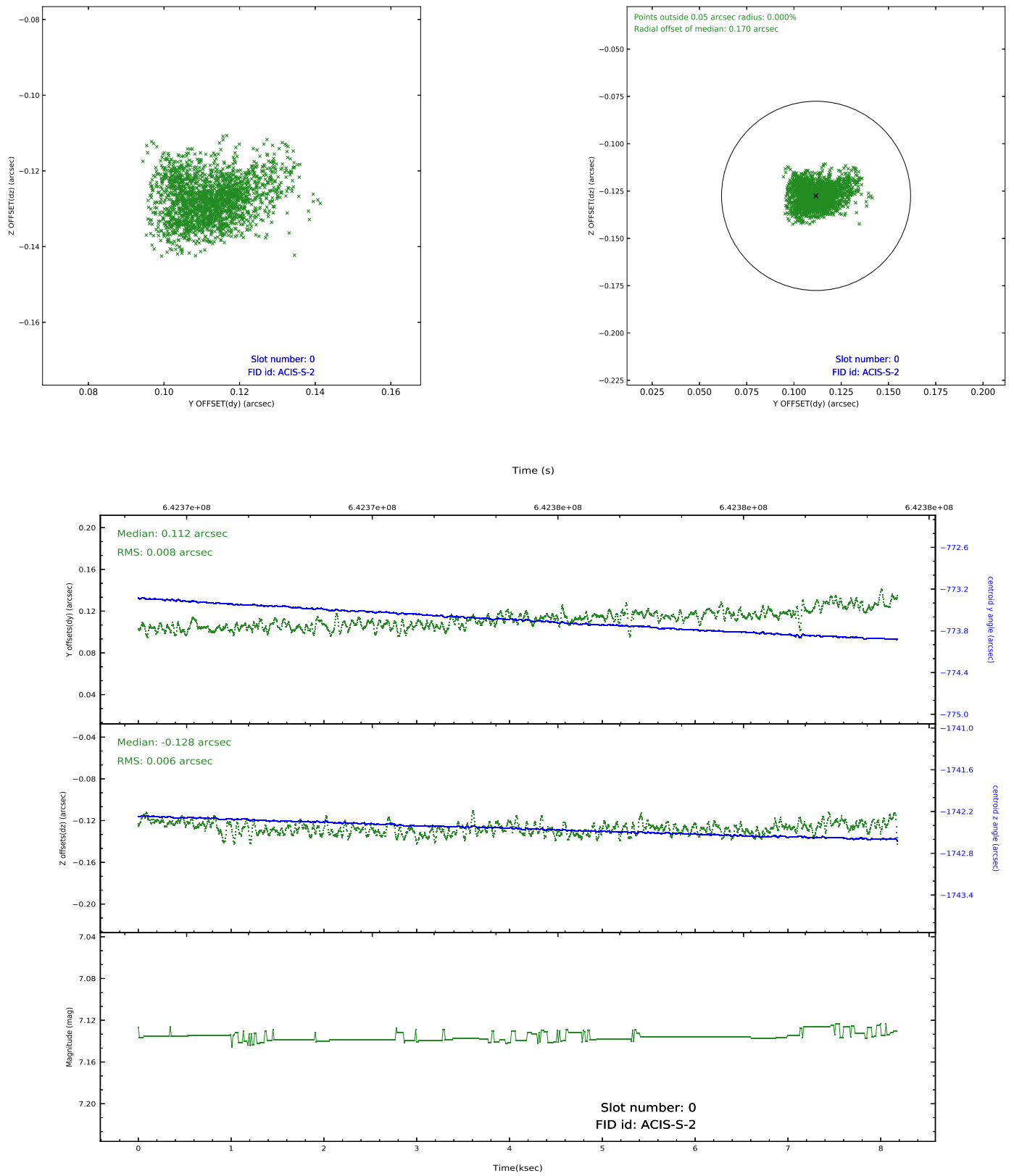


2.4.4 Slot 7

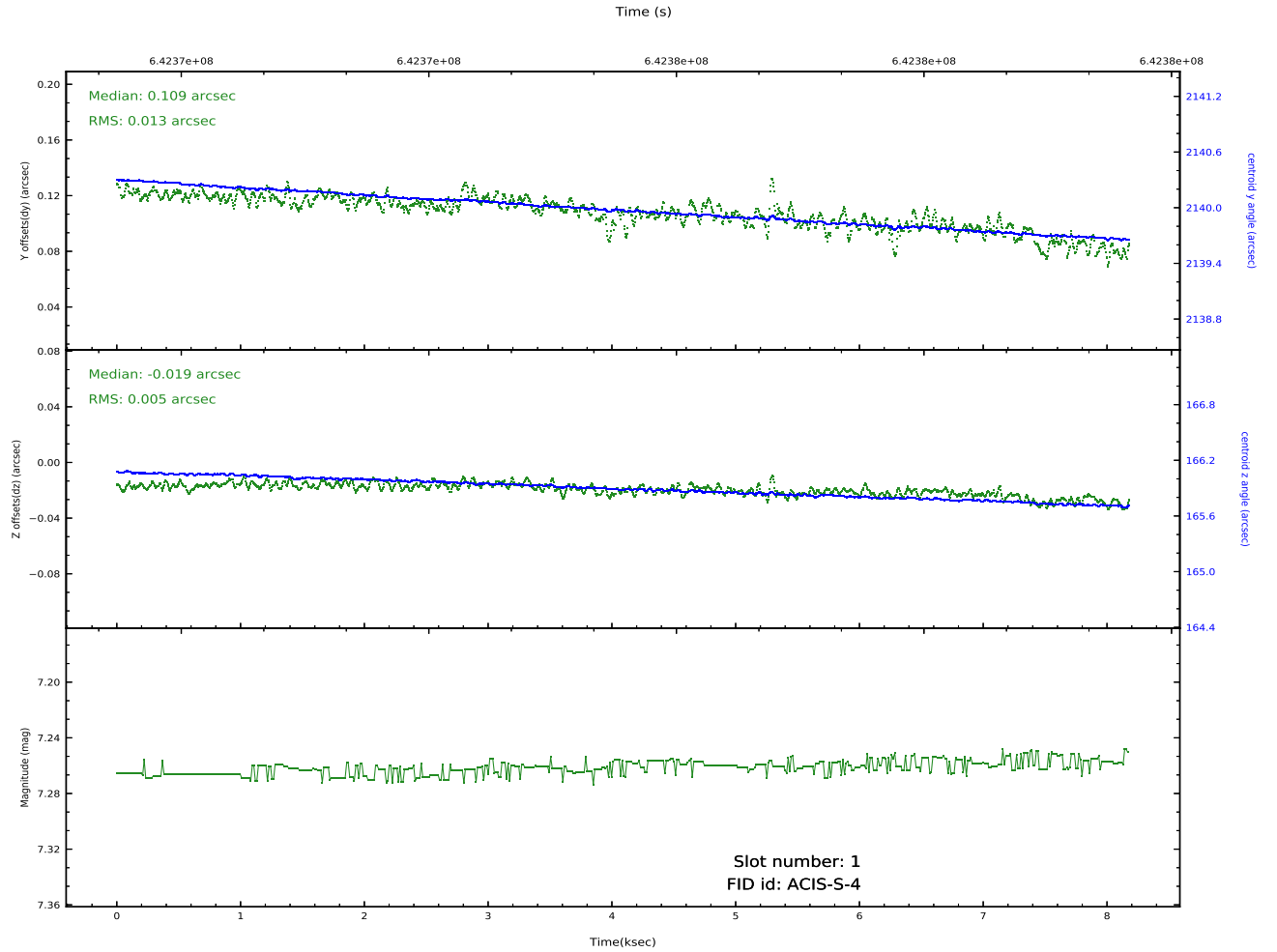
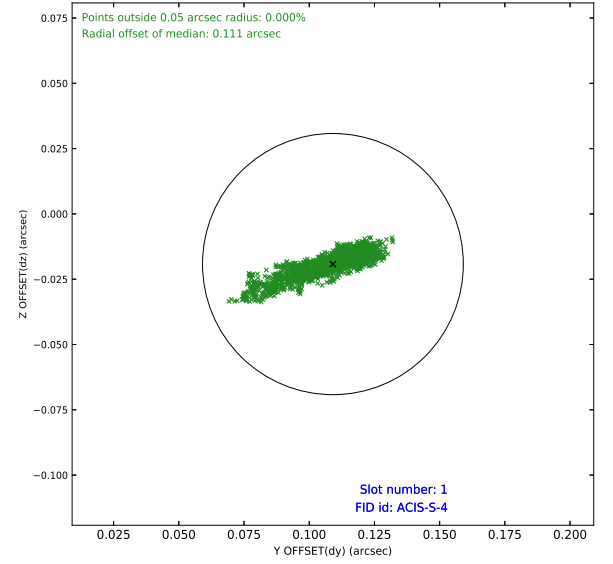
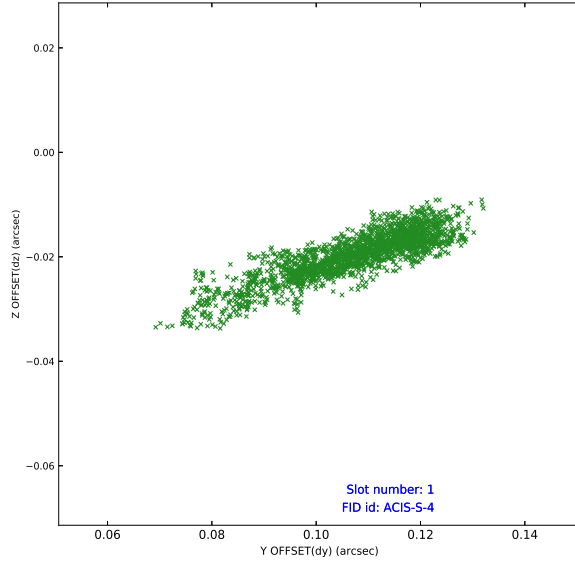


2.5 FID Slots

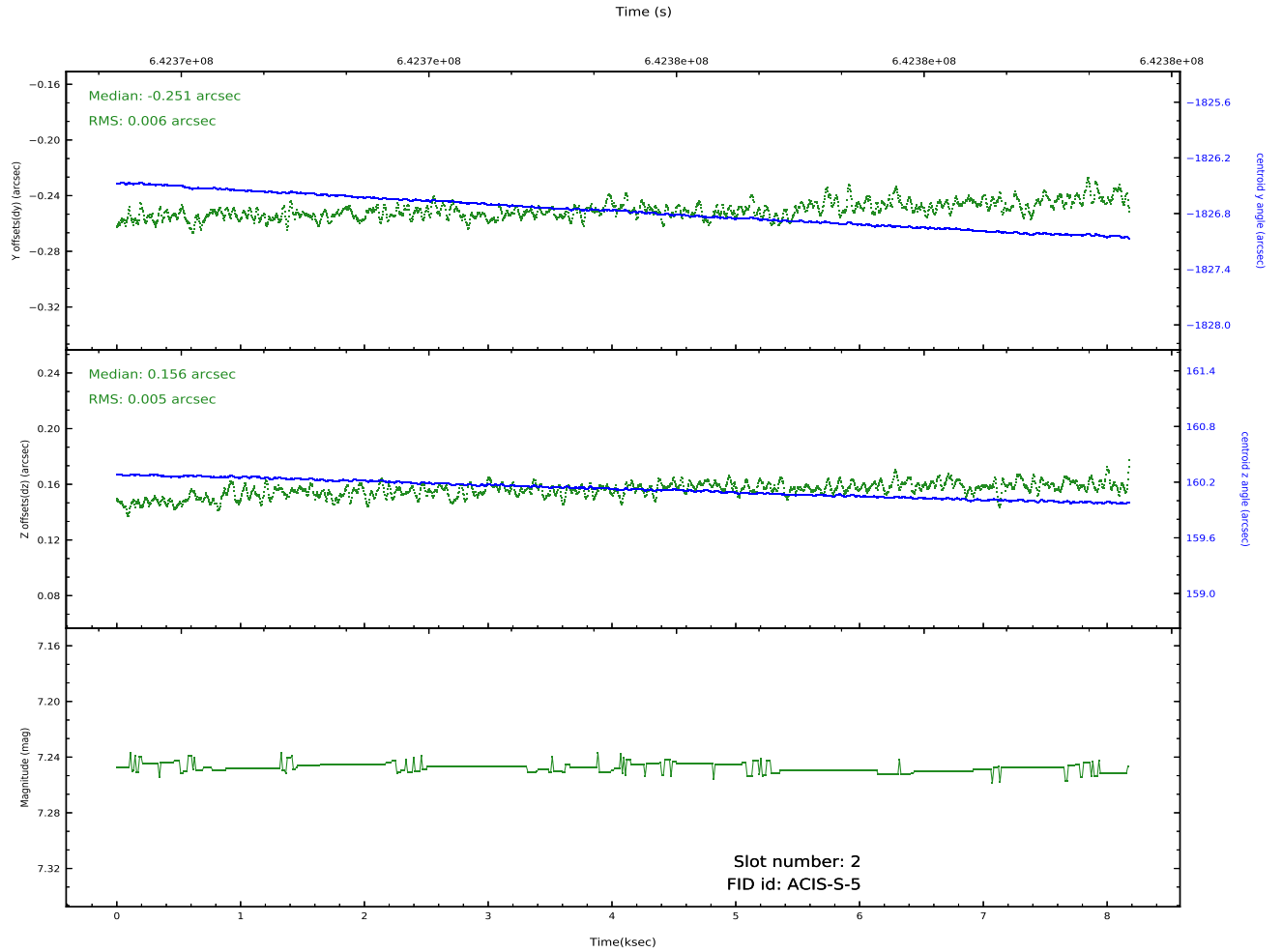
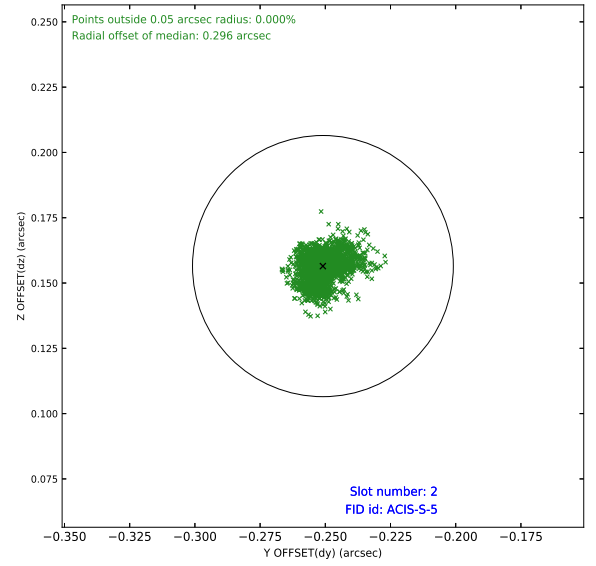
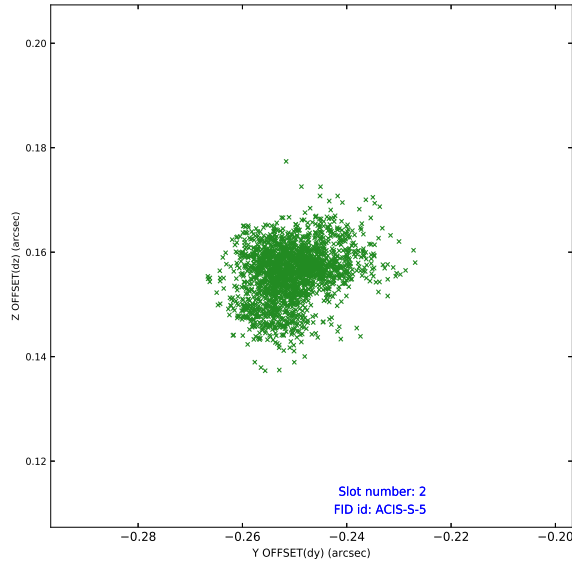
2.5.1 Slot 0



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) | 2020.10.26 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 7.9081000609398 |

A.2 Comments

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.