

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 19409 - L2 Version 3
Chandra X-Ray Center

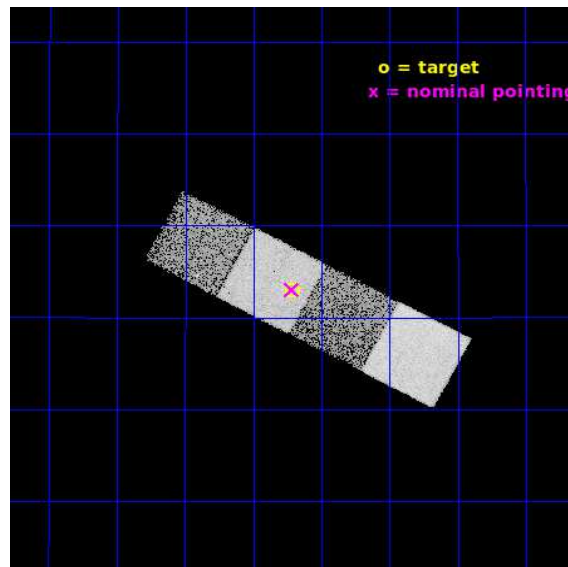
L2 Processing Date : Oct 25 2020

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1 Front

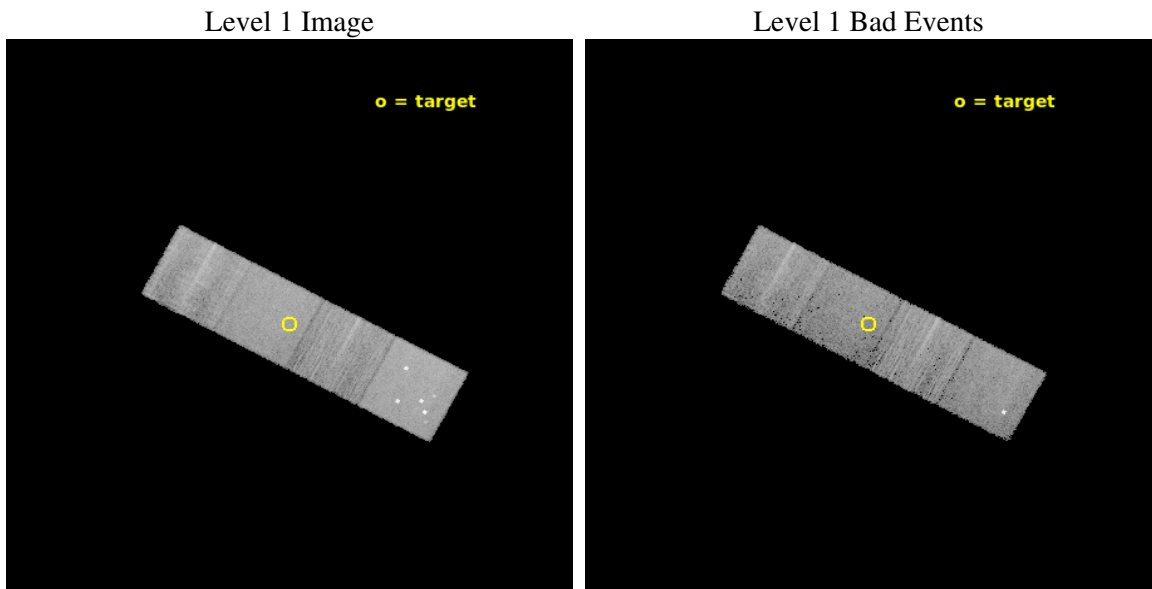
| | | |
|----------|--------------------------------------|---|
| seq_num | 601366 | Sequence number |
| obs_id | 19409 | Observation id |
| title | Spiral galaxies of the Virgo cluster | Proposal title |
| observer | Roberto Soria | Principal investigator |
| object | NGC 4293 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 185.30375 | Observer's specified target RA [deg] |
| dec_targ | 18.382389 | Observer's specified target Dec [deg] |
| ra_nom | 185.3041692551 | Nominal RA [deg] |
| dec_nom | 18.384045998468 | Nominal Dec [deg] |
| roll_nom | 208.13733527695 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 8063.1000621319 | Sum of GTIs [s] |
| livetime | 7957.7497238522 | Livetime [s] |
| ontime5 | 8063.1000621319 | Sum of GTIs [s] |
| ontime6 | 8063.1000621319 | Sum of GTIs [s] |
| ontime7 | 8063.1000621319 | Sum of GTIs [s] |
| ontime8 | 8063.1000621319 | Sum of GTIs [s] |
| l2events | 87048 | Number of level 2 events |



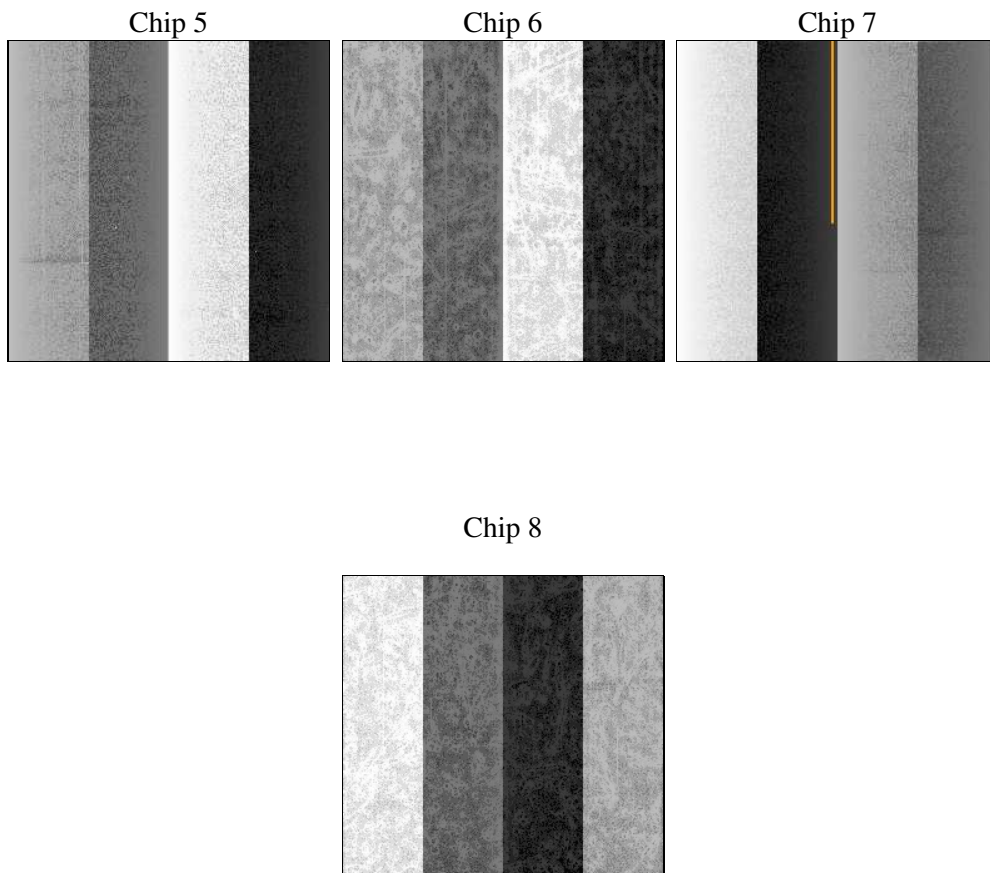
2 OBI

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 | 8063.1000621319 | Sum of GTIs [s] |
| caldsver | 4.9.3 | | ontime5 | 8063.1000621319 | Sum of GTIs [s] |
| date | 2020-10-25T10:37:00 | Date and time of file creation | ontime6 | 8063.1000621319 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime7 | 8063.1000621319 | Sum of GTIs [s] |
| | | | ontime8 | 8063.1000621319 | Sum of GTIs [s] |
| | | | l1events | 317943 | Number of level 1 events |

2.1.4 Events

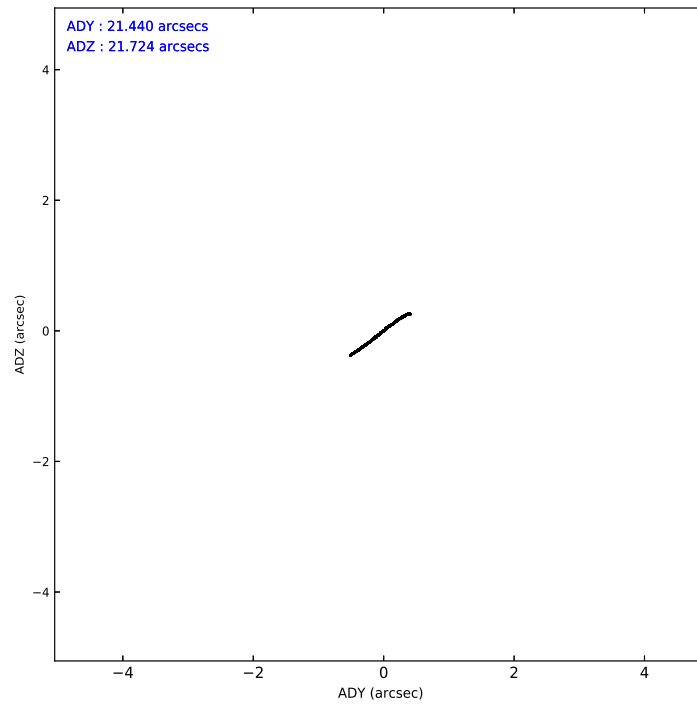
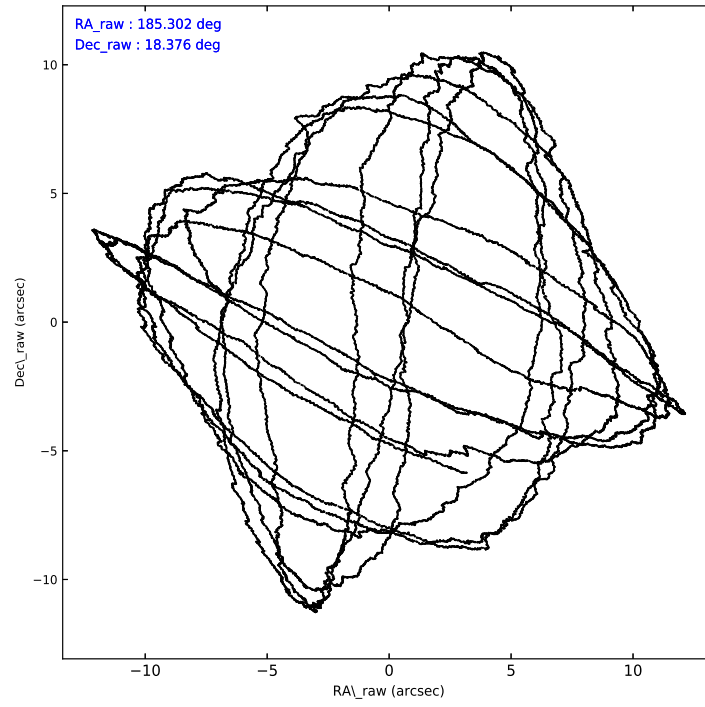
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|--------------|--------------|--------------|--------------|
| level 1 events | 102815 | 60978 | 76285 | 77865 |
| rejected events | 50819 | 54457 | 43296 | 56469 |
| rejected % | 49% | 89% | 56% | 72% |

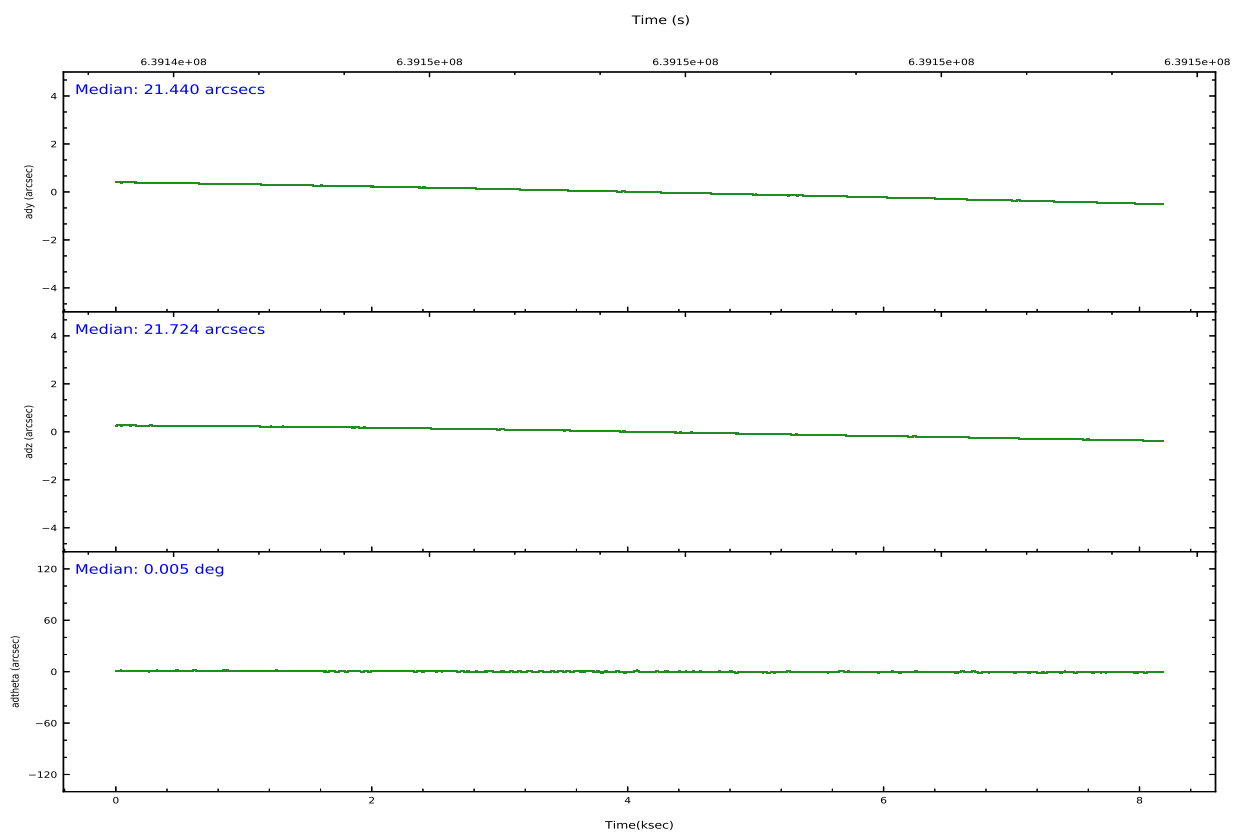
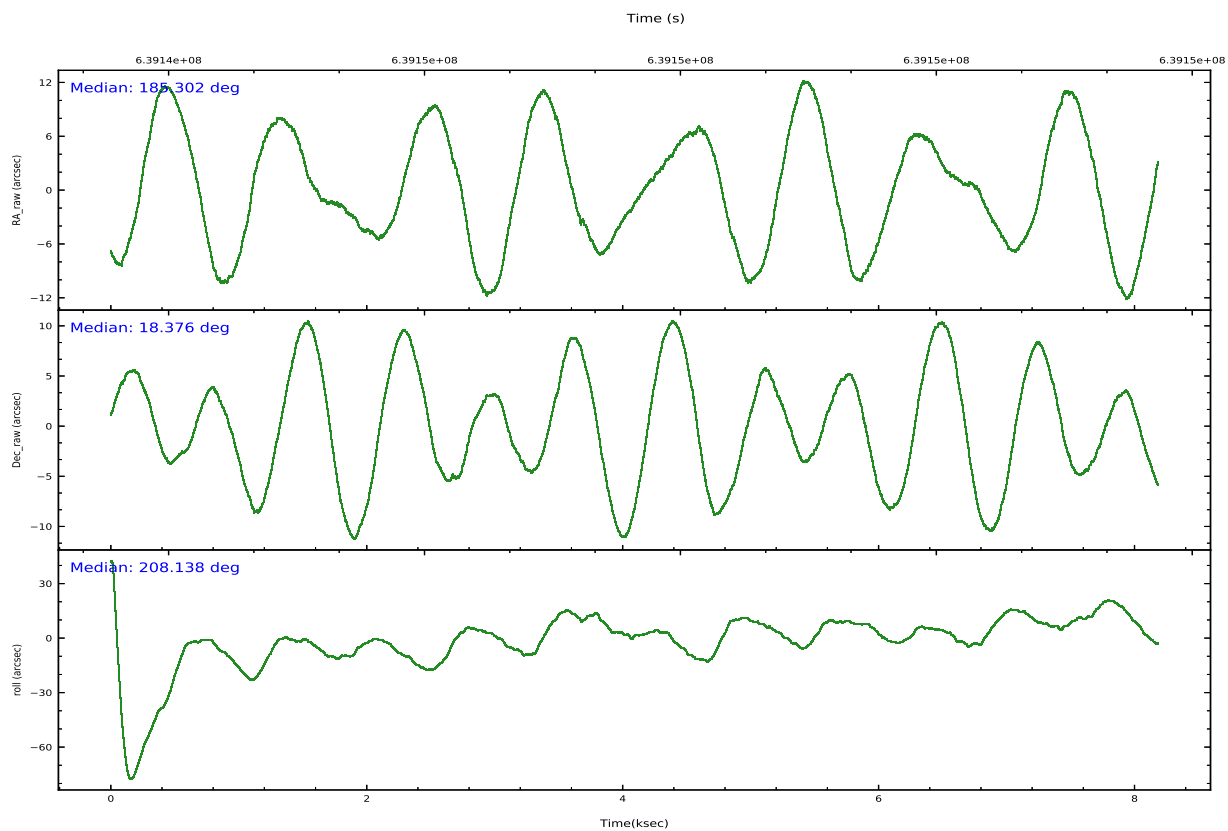
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|--------------|--------------|--------------|--------------|
| grade 0 events | 9574 | 2106 | 2791 | 5931 |
| | 9% | 3% | 3% | 7% |
| grade 1 events | 204 | 33 | 87 | 53 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 14820 | 1500 | 6912 | 5132 |
| | 14% | 2% | 9% | 6% |
| grade 3 events | 1327 | 636 | 2563 | 2254 |
| | 1% | 1% | 3% | 2% |
| grade 4 events | 1311 | 637 | 2483 | 2178 |
| | 1% | 1% | 3% | 2% |
| grade 5 events | 6482 | 2683 | 7421 | 4037 |
| | 6% | 4% | 9% | 5% |
| grade 6 events | 24997 | 1652 | 18256 | 5950 |
| | 24% | 2% | 23% | 7% |
| grade 7 events | 44100 | 51731 | 35772 | 52330 |
| | 42% | 84% | 46% | 67% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-5678 | ACIS-5678 | 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 | 185.316469 | 185.3041692551 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 18.399162 | 18.384045998468 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 207.995990 | 208.13733527695 | [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 | -190.1425803651734 | | | |
| [mm] SIM translation stage offset | 0 | 0.01005778216563158 | | | |
| [s] Observation start time (MET) | 639143734.184000 | 639142419.06027 | | | |
| Observation start date | 2018-04-03T11:54:25 | 2018-04-03T11:33:39 | | | |
| [s] Observation end time (MET) | 639151734.184000 | 639152181.67335 | | | |
| Observation end date | 2018-04-03T14:07:45 | 2018-04-03T14:16:21 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



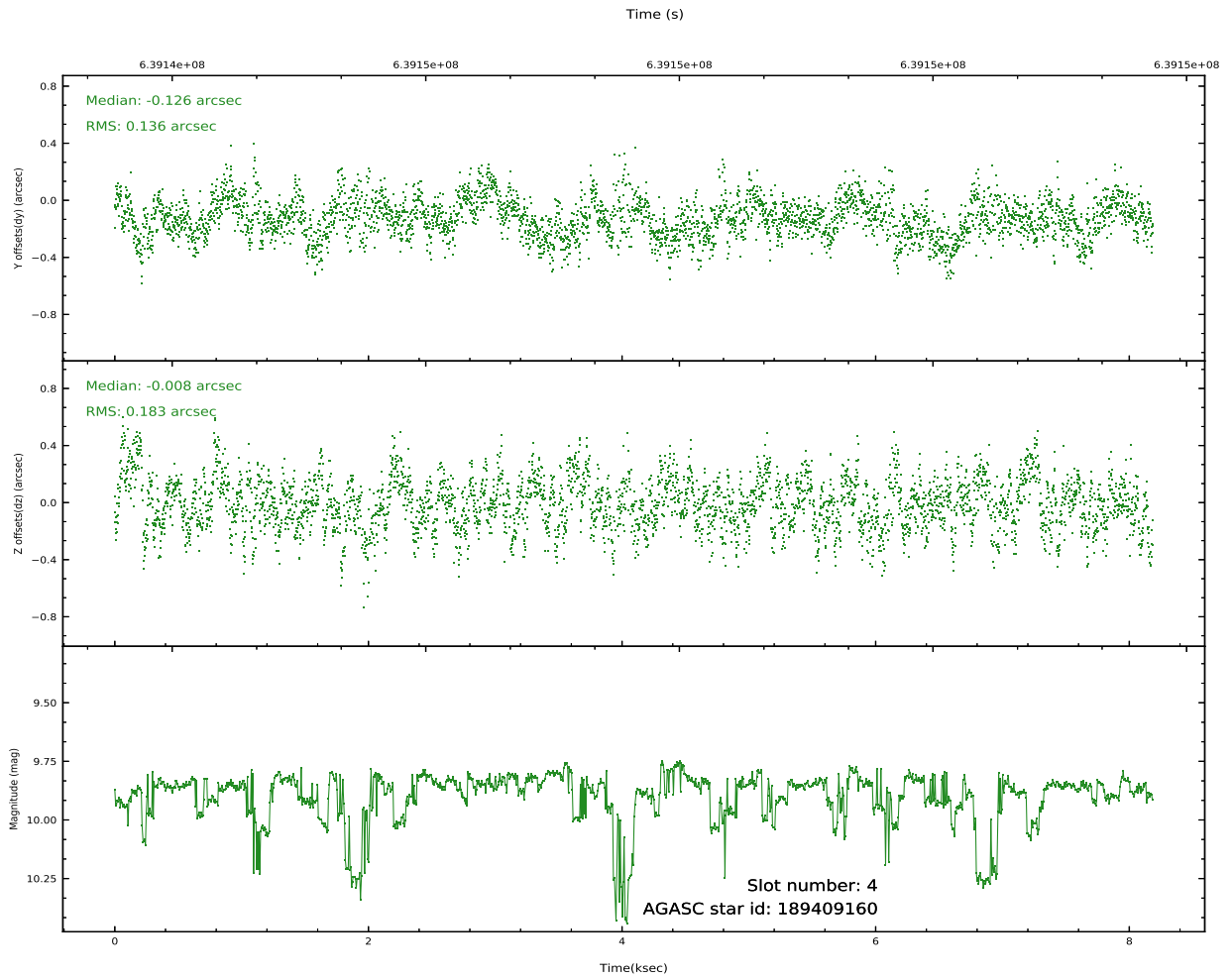
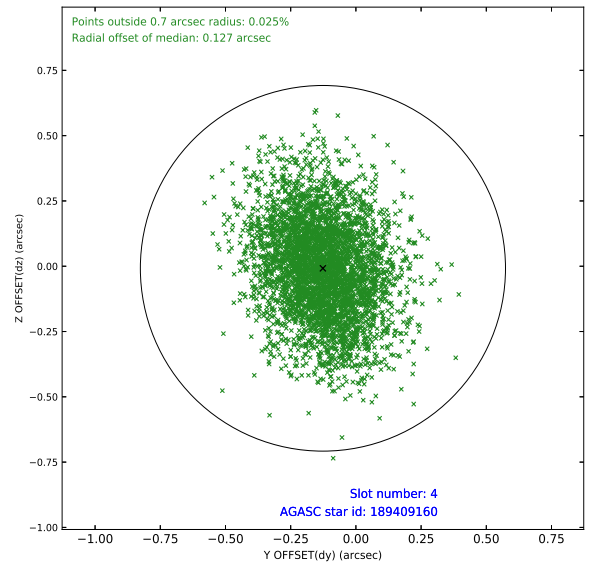
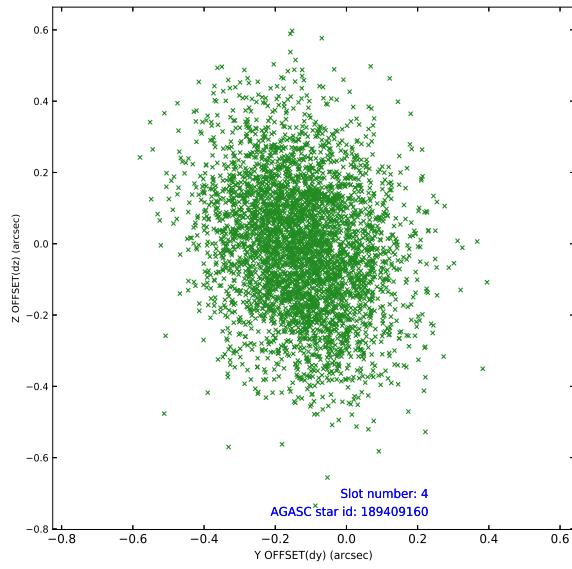


Slot Statistics

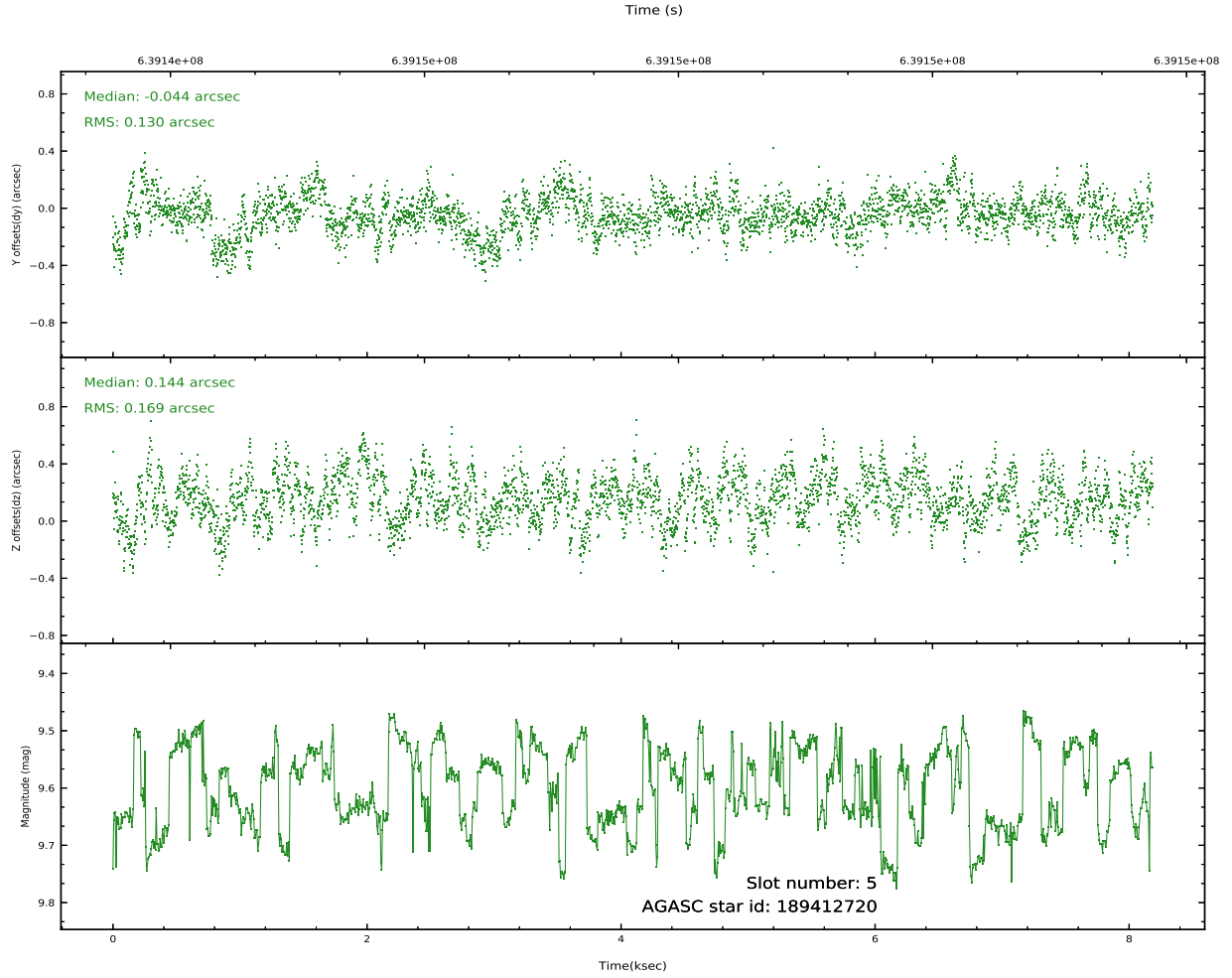
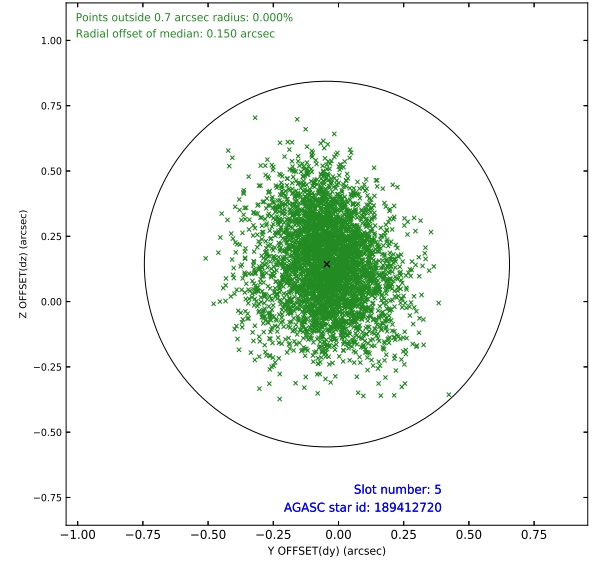
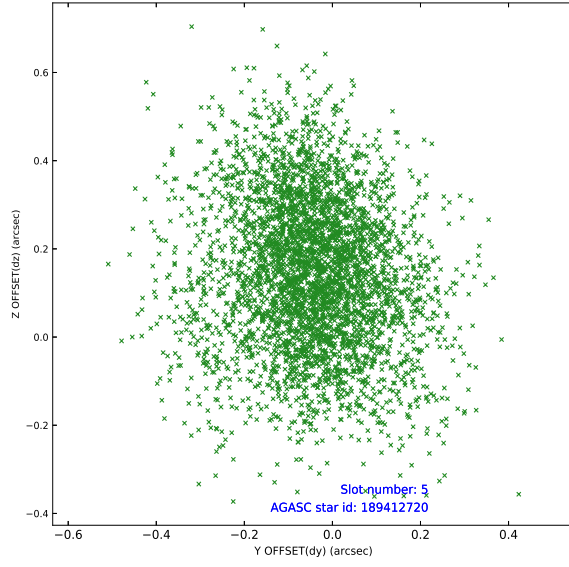
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|---------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|-------|
| 0 | FID | | ACIS-S-2 | 7.00 | 1997 | 1.000 | 0.154 | -0.099 | 0.014 | 0.022 | 0.000000 | 0.000000 | -774.68 | -1743 |
| 1 | FID | | ACIS-S-4 | 7.13 | 1997 | 1.000 | 0.057 | -0.047 | 0.008 | 0.014 | 0.000000 | 0.000000 | 2138.47 | 164 |
| 2 | FID | | ACIS-S-5 | 7.12 | 1997 | 1.000 | -0.243 | 0.156 | 0.014 | 0.023 | 0.000000 | 0.000000 | -1826.76 | 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 | 189409160 | 9.87 | 3939 | 1.000 | -0.126 | -0.008 | 0.240 | 0.405 | 185.242291 | 17.697963 | 1409.30 | 2110 |
| 5 | GUIDE | used | 189412720 | 9.60 | 3989 | 1.000 | -0.044 | 0.144 | 0.227 | 0.377 | 185.563060 | 18.600040 | -1081.39 | -243 |
| 6 | GUIDE | used | 189417400 | 7.75 | 3992 | 1.000 | 0.167 | -0.138 | 0.144 | 0.257 | 184.517250 | 18.435045 | 2347.57 | -1400 |
| 7 | OMITTED | | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0 |

2.4 Star Slots

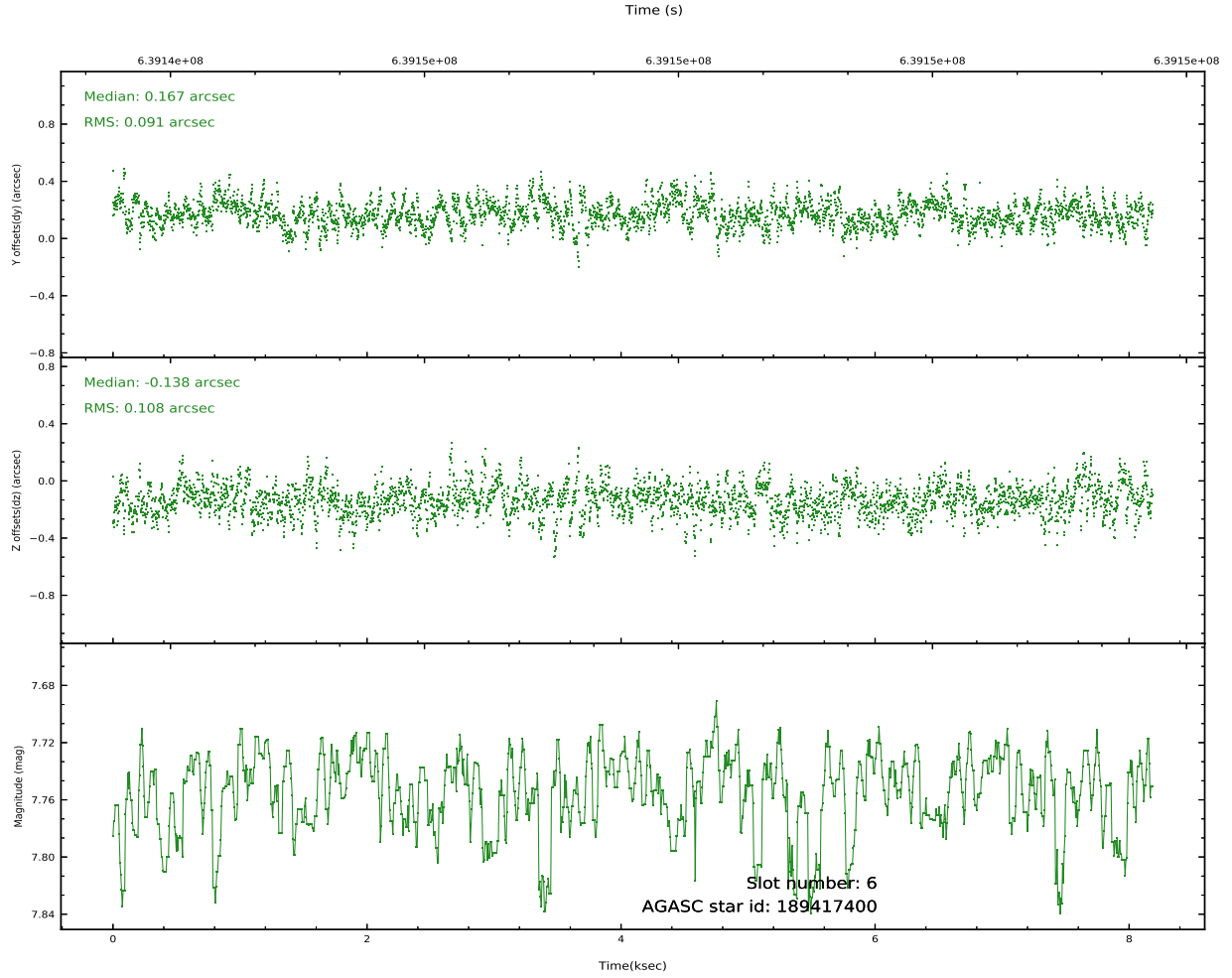
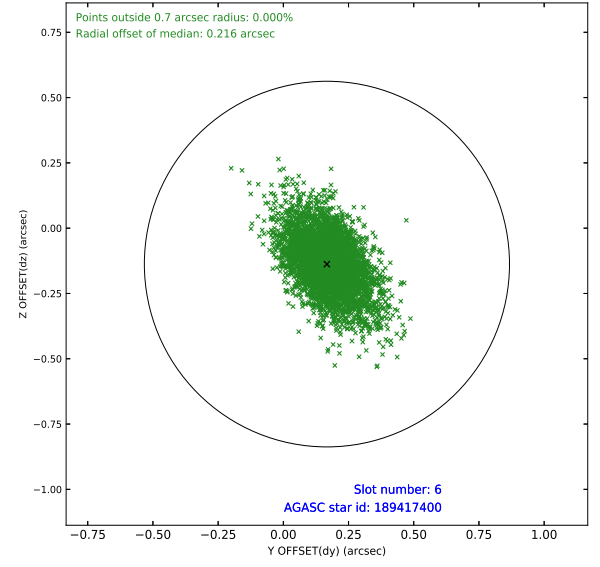
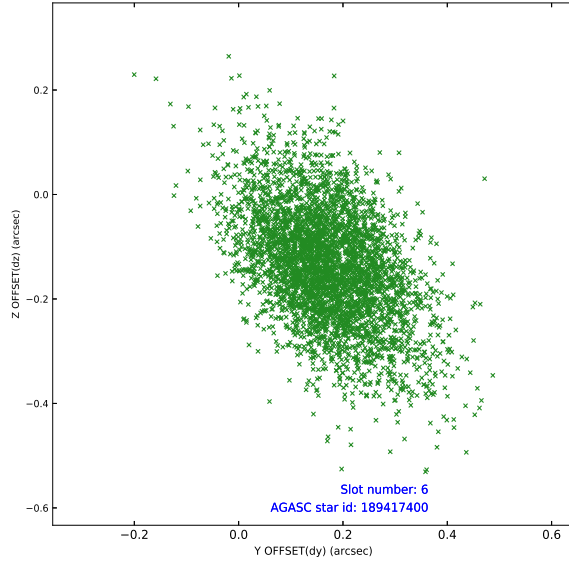
2.4.1 Slot 4



2.4.2 Slot 5

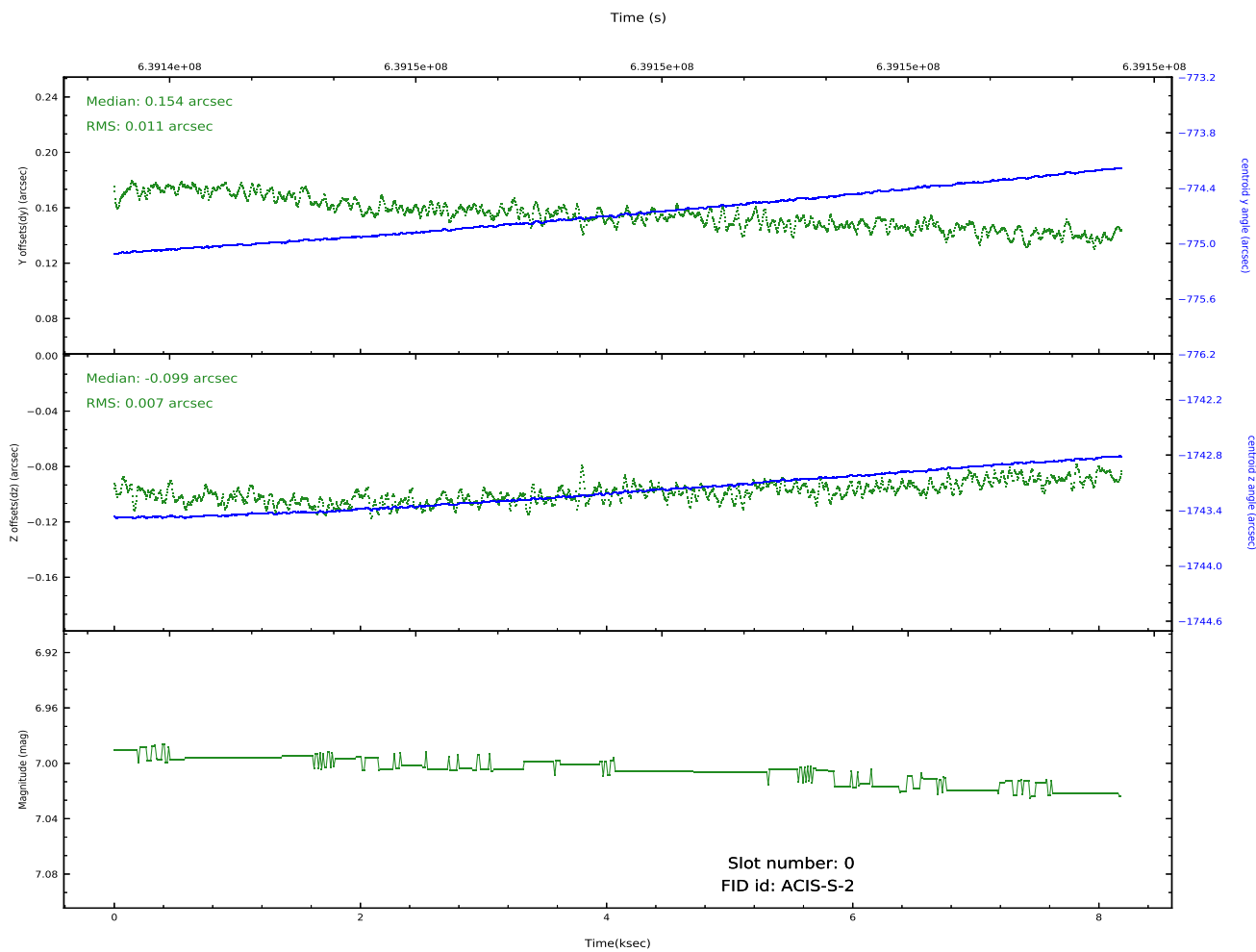
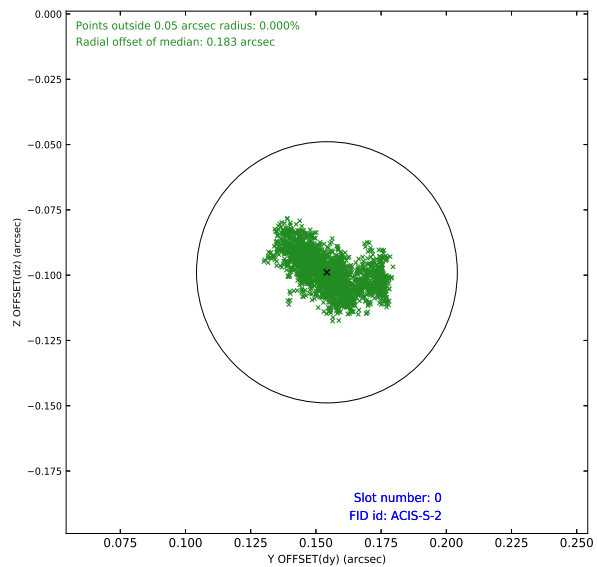
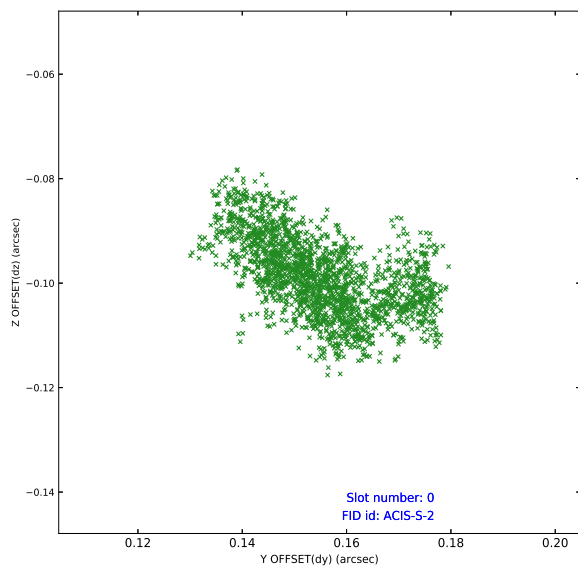


2.4.3 Slot 6

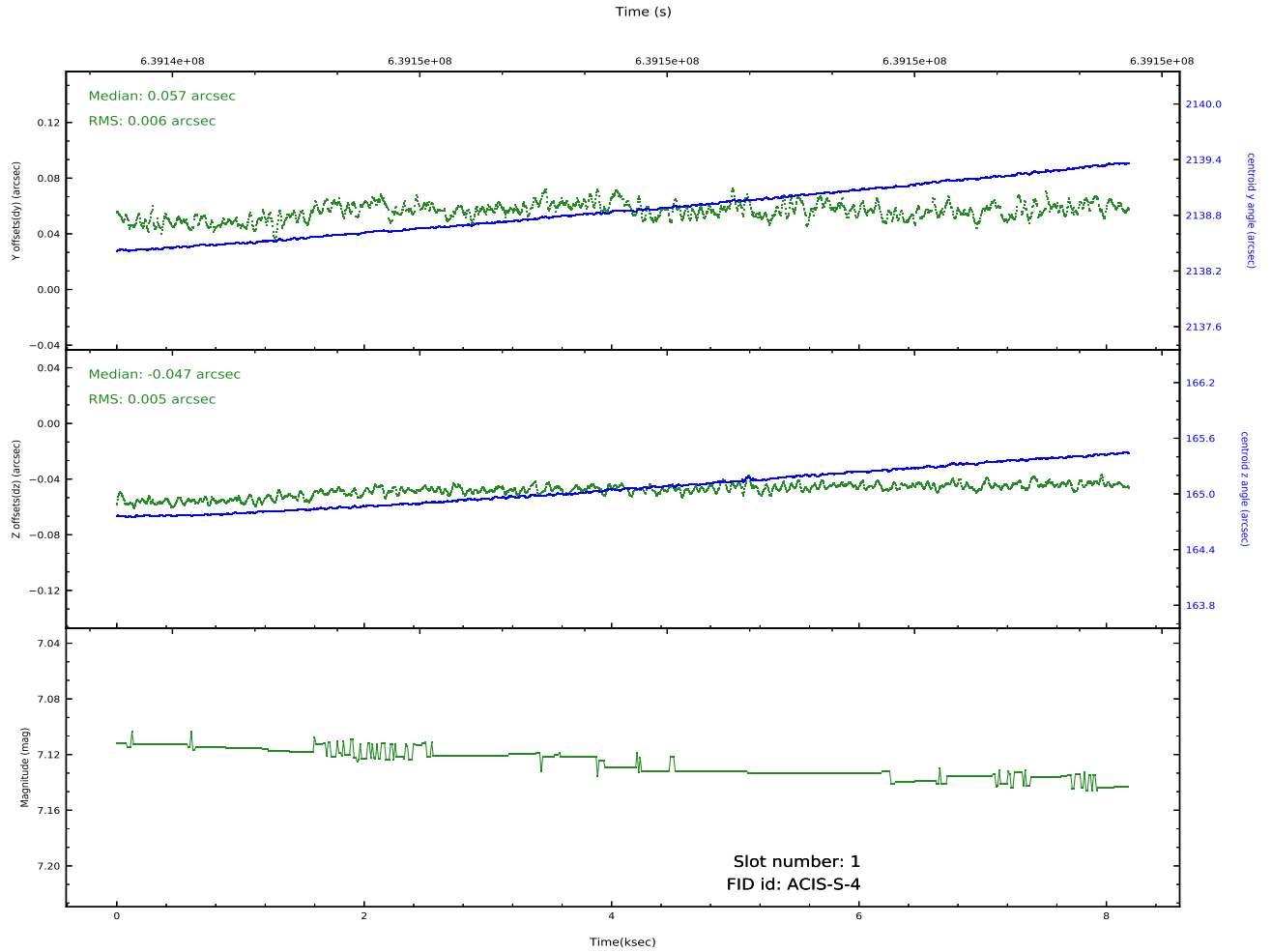
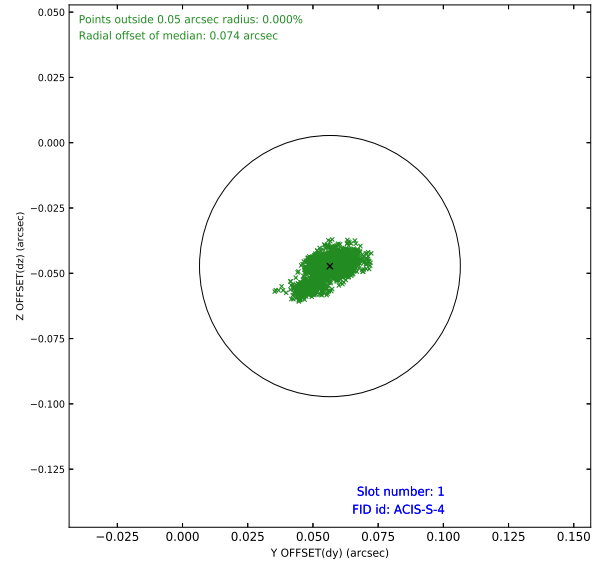
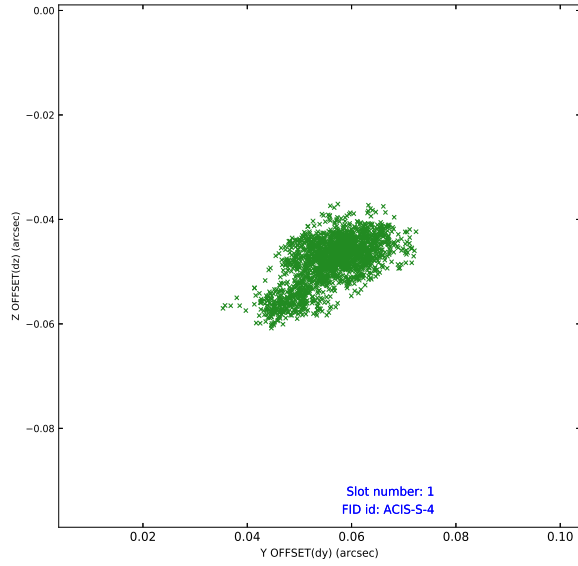


2.5 FID Slots

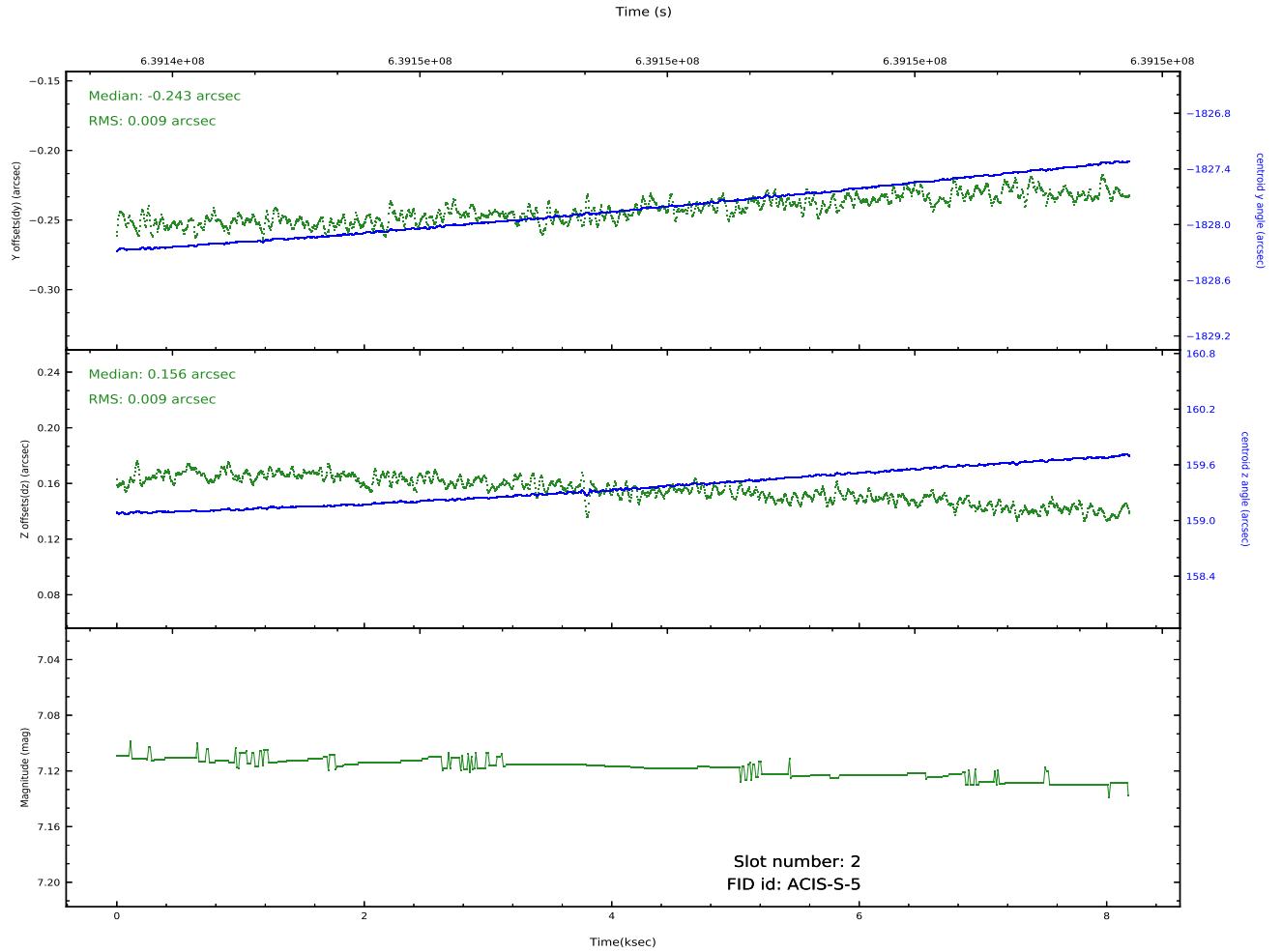
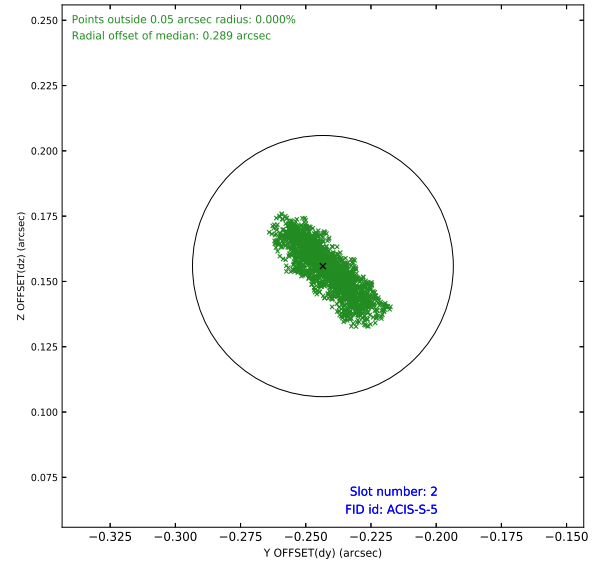
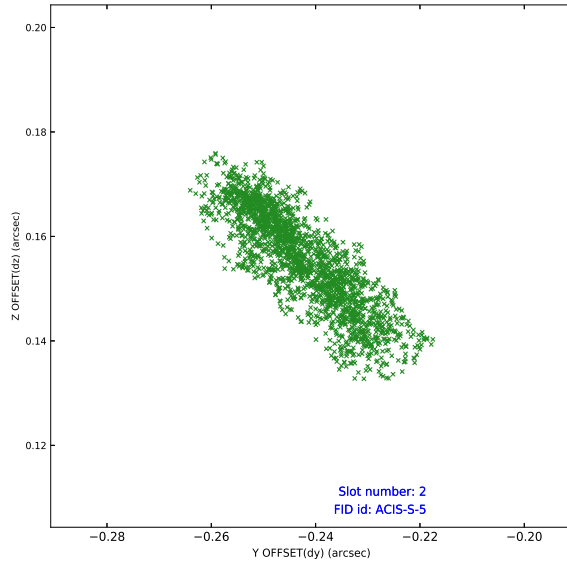
2.5.1 Slot 0



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 | 8.0631000621319 |

A.2 Comments

The guide stars in slot 3 and 7 were removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of these guide stars from the solution.