

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 4733 - L2 Version 4
Chandra X-Ray Center

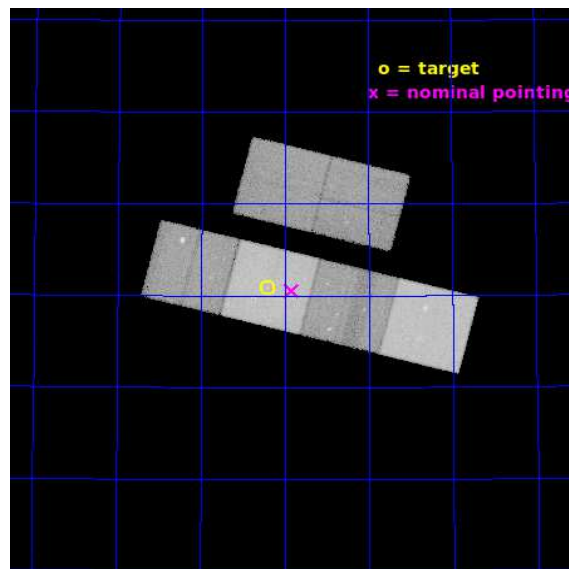
L2 Processing Date : Sep 25 2020

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1 Front

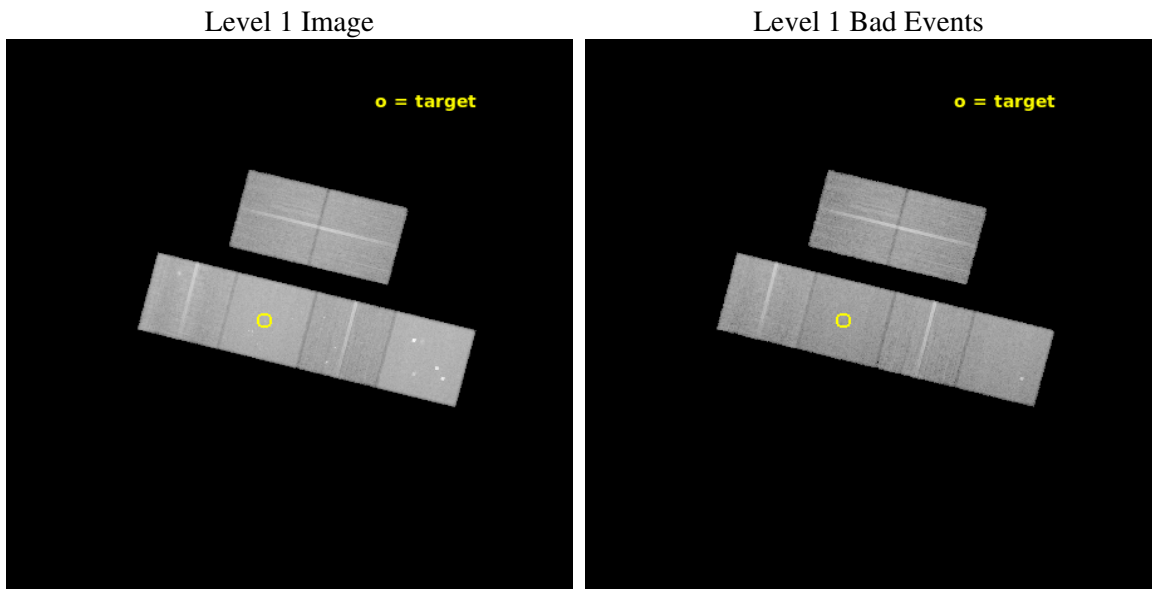
| | | |
|----------|-----------------------------|--|
| seq_num | 600388 | Sequence number |
| obs_id | 4733 | Observation id |
| title | An Ultra-Deep Study of M101 | Proposal title |
| observer | Dr. K.D. Kuntz | Principal investigator |
| object | M101 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 210.80375 | Observer's specified target RA [deg] |
| dec_targ | 54.348778 | Observer's specified target Dec [deg] |
| ra_nom | 210.72913923131 | Nominal RA [deg] |
| dec_nom | 54.342492078257 | Nominal Dec [deg] |
| roll_nom | 194.29130154786 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 25132.799906373 | Sum of GTIs [s] |
| livetime | 24814.553260803 | Livetime [s] |
| ontime2 | 24435.991087615 | Sum of GTIs [s] |
| ontime3 | 24552.66631642 | Sum of GTIs [s] |
| ontime5 | 25132.799906373 | Sum of GTIs [s] |
| ontime6 | 24685.545968413 | Sum of GTIs [s] |
| ontime7 | 25132.799906373 | Sum of GTIs [s] |
| ontime8 | 24727.678591907 | Sum of GTIs [s] |
| l2events | 492050 | Number of level 2 events |



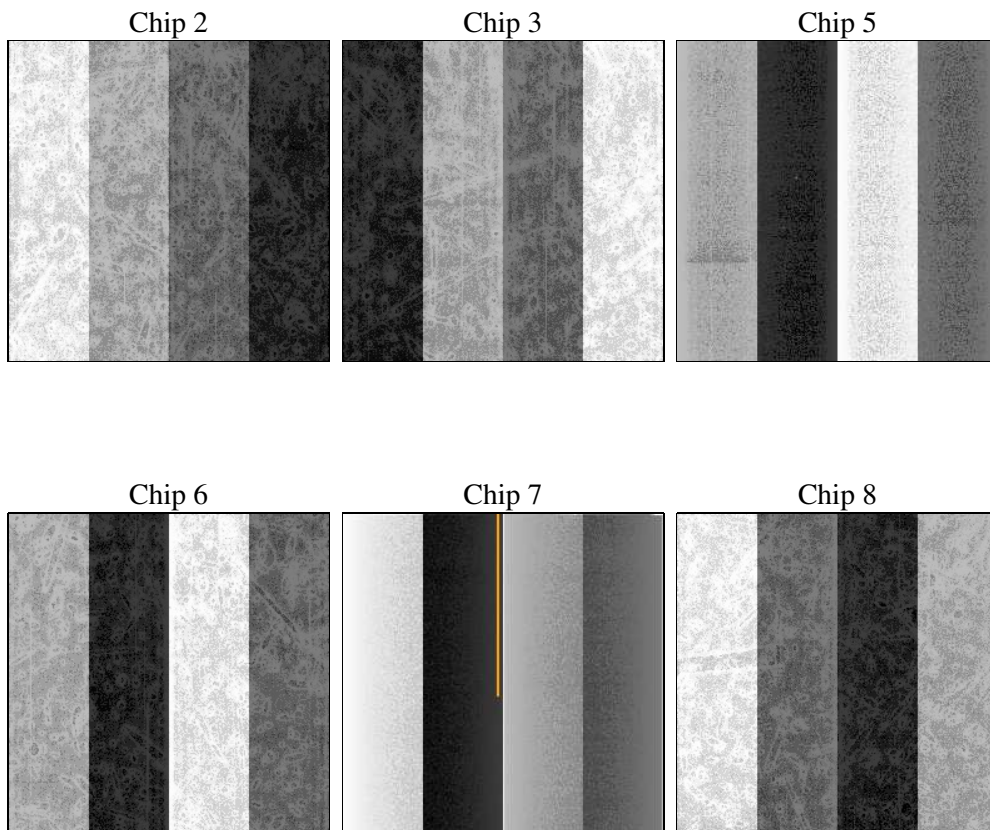
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 25000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 25132.799906373 | Sum of GTIs [s] |
| caldbver | 4.9.2 | | ontime2 | 24435.991087615 | Sum of GTIs [s] |
| date | 2020-09-25T19:34:51 | Date and time of file creation | ontime3 | 24552.66631642 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime5 | 25132.799906373 | Sum of GTIs [s] |
| | | | ontime6 | 24685.545968413 | Sum of GTIs [s] |
| | | | ontime7 | 25132.799906373 | Sum of GTIs [s] |
| | | | ontime8 | 24727.678591907 | Sum of GTIs [s] |
| | | | l1events | 1579380 | Number of level 1 events |

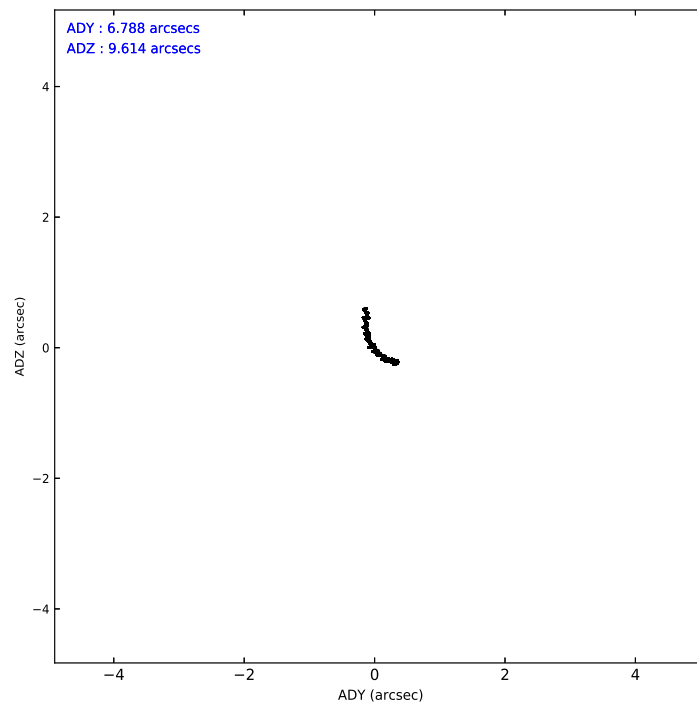
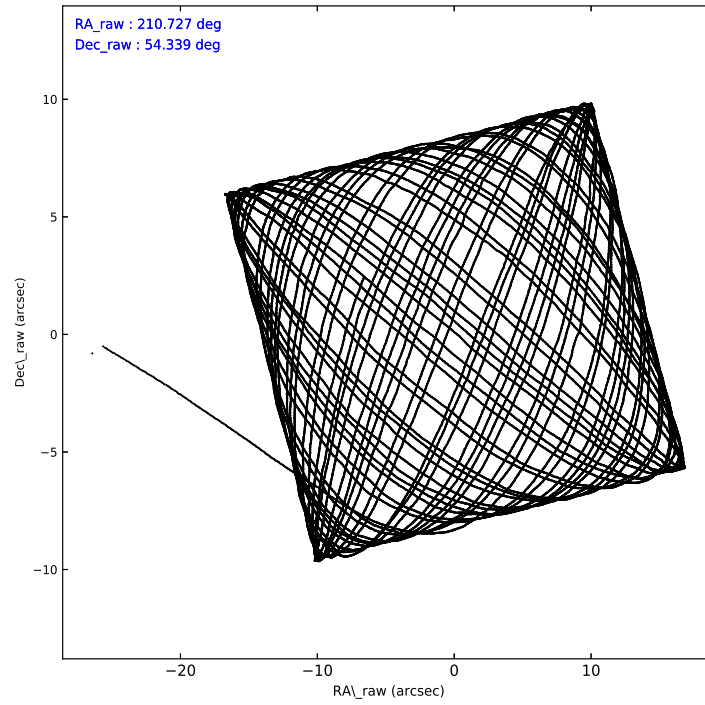
2.1.4 Events

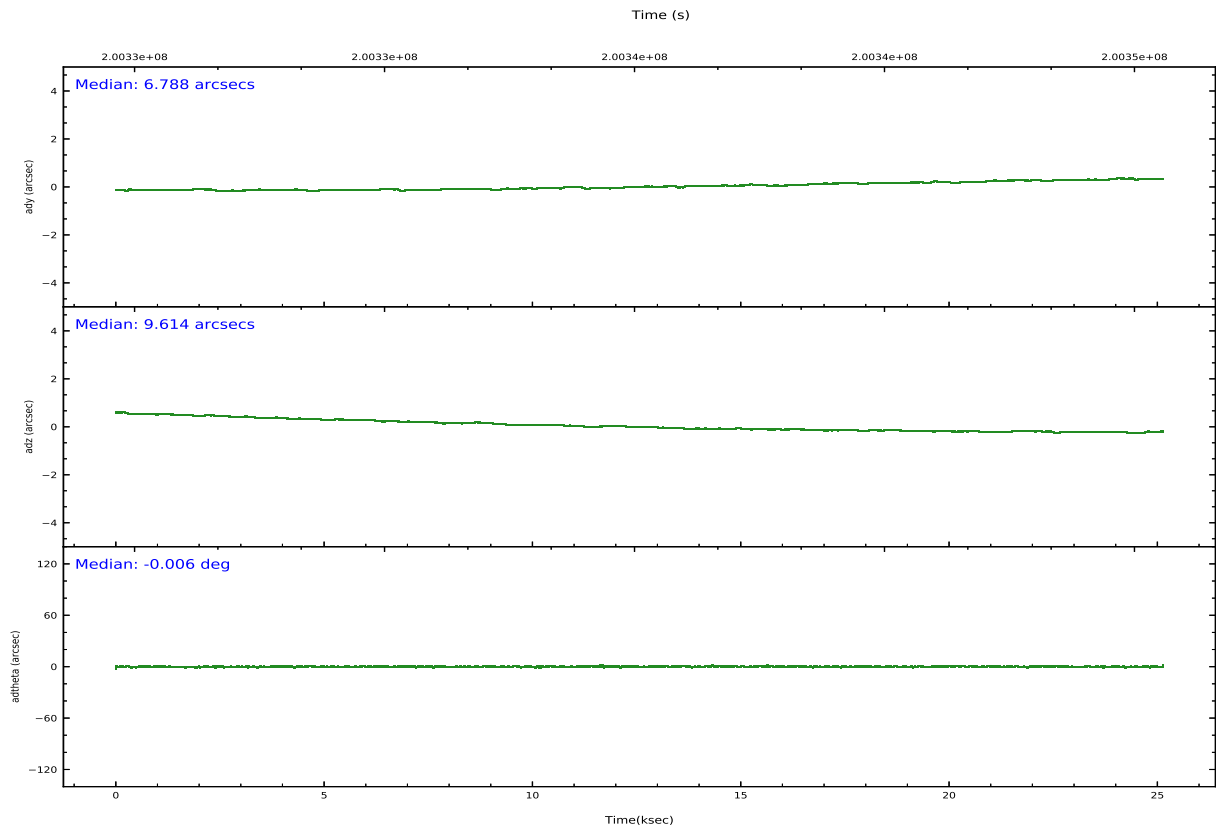
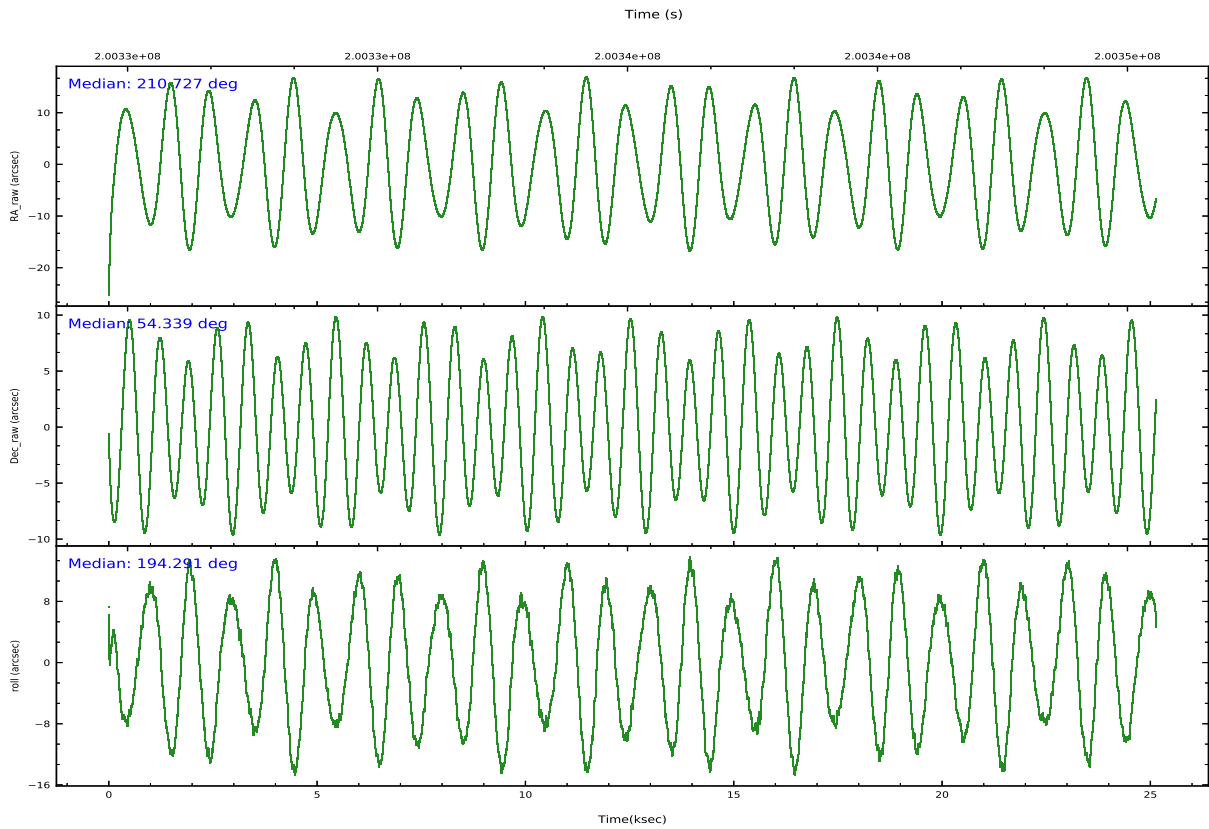
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 219847 | 211680 | 339679 | 222399 | 309630 | 276145 | grade 0 events | 33520 | 32973 | 25007 | 34371 | 15447 | 43602 |
| rejected events | 169698 | 161333 | 170372 | 168394 | 160761 | 193781 | | 15% | 15% | 7% | 15% | 4% | 15% |
| rejected % | 77% | 76% | 50% | 75% | 51% | 70% | grade 1 events | 224 | 223 | 360 | 184 | 227 | 305 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 7017 | 7073 | 51550 | 8167 | 28719 | 14708 |
| | | | | | | | | 3% | 3% | 15% | 3% | 9% | 5% |
| | | | | | | | grade 3 events | 2991 | 3241 | 7309 | 3161 | 12610 | 6409 |
| | | | | | | | | 1% | 1% | 2% | 1% | 4% | 2% |
| | | | | | | | grade 4 events | 3050 | 3215 | 7021 | 3308 | 12245 | 6078 |
| | | | | | | | | 1% | 1% | 2% | 1% | 3% | 2% |
| | | | | | | | grade 5 events | 7515 | 8345 | 22406 | 8720 | 25299 | 11403 |
| | | | | | | | | 3% | 3% | 6% | 3% | 8% | 4% |
| | | | | | | | grade 6 events | 4956 | 5305 | 87312 | 6410 | 86744 | 14690 |
| | | | | | | | | 2% | 2% | 25% | 2% | 28% | 5% |
| | | | | | | | grade 7 events | 160574 | 151305 | 138714 | 158078 | 128339 | 178950 |
| | | | | | | | | 73% | 71% | 40% | 71% | 41% | 64% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| Detector | ACIS-235678 | ACIS-235678 | 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 | 210.760042 | 210.72913923131 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 54.358546 | 54.342492078257 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 194.108366 | 194.29130154786 | [s] Primary exposure time | 0.000000 | 3.2 |
| [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) | 200325689.184000 | 200323778.7685 | | | |
| Observation start date | 2004-05-07T14:00:25 | 2004-05-07T13:29:38 | | | |
| [s] Observation end time (MET) | 200350689.184000 | 200351233.90721 | | | |
| Observation end date | 2004-05-07T20:57:05 | 2004-05-07T21:07:13 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



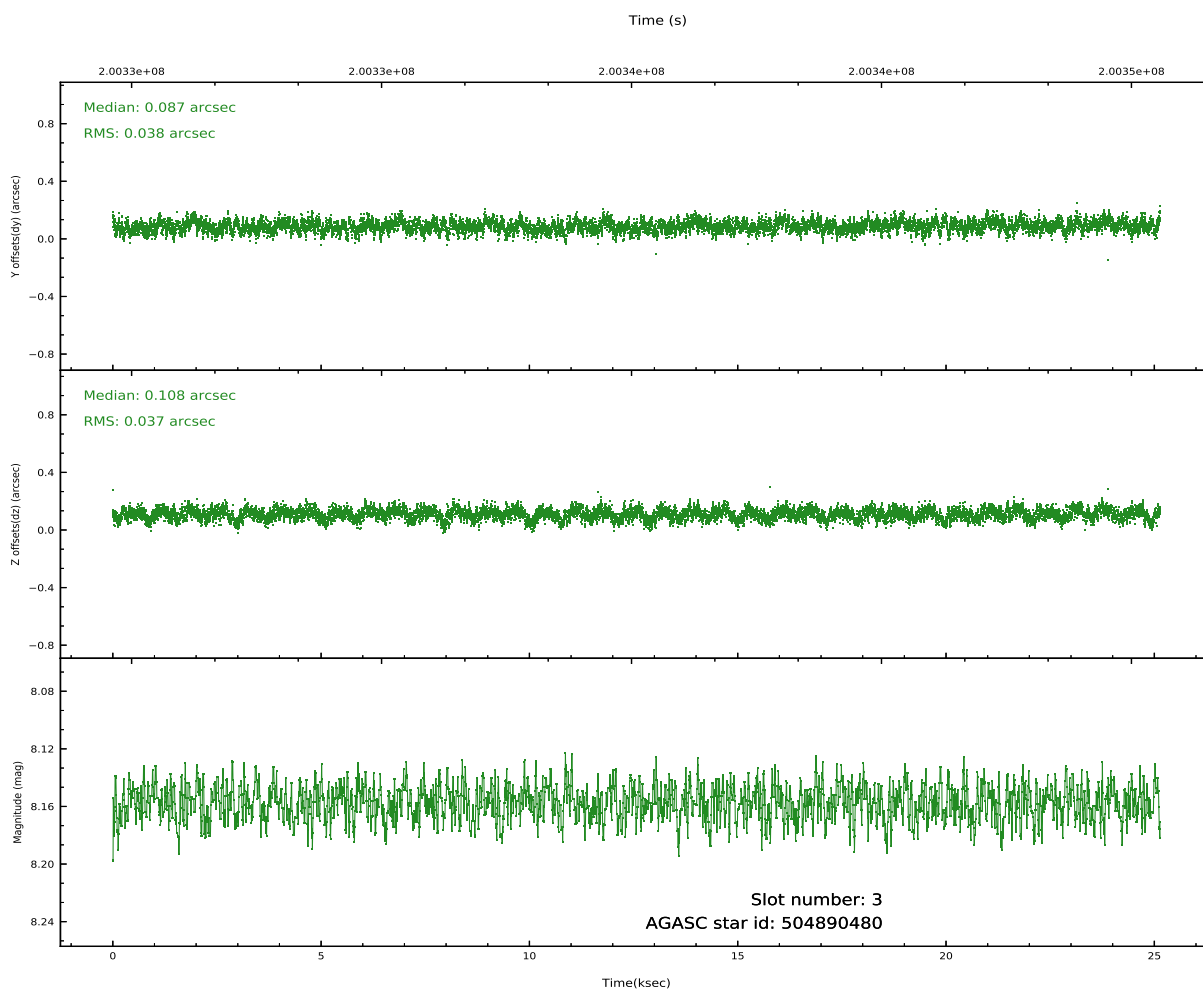
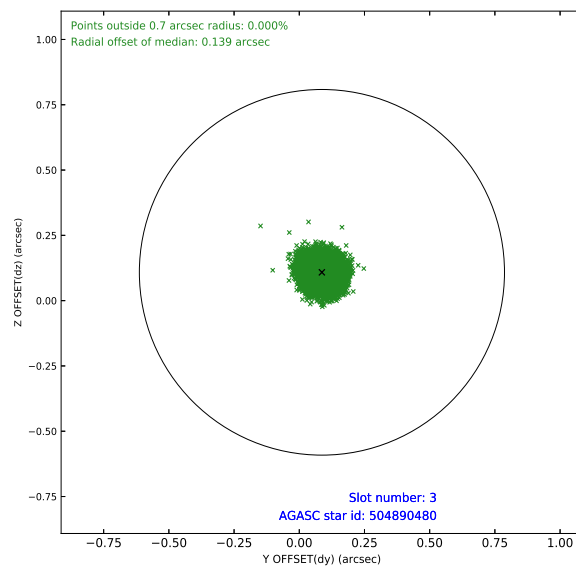
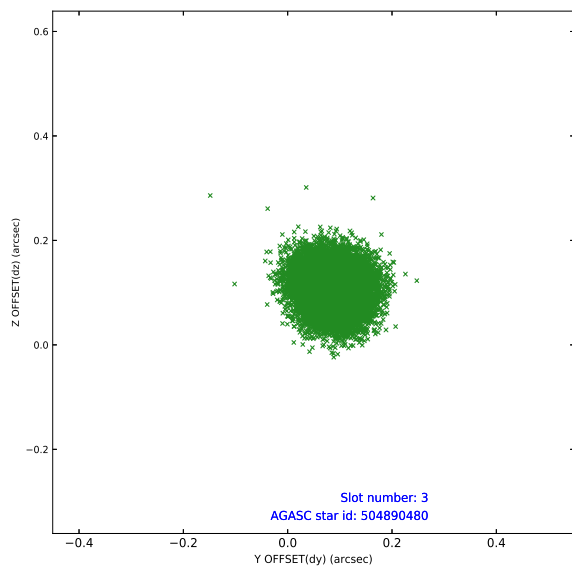


Slot Statistics

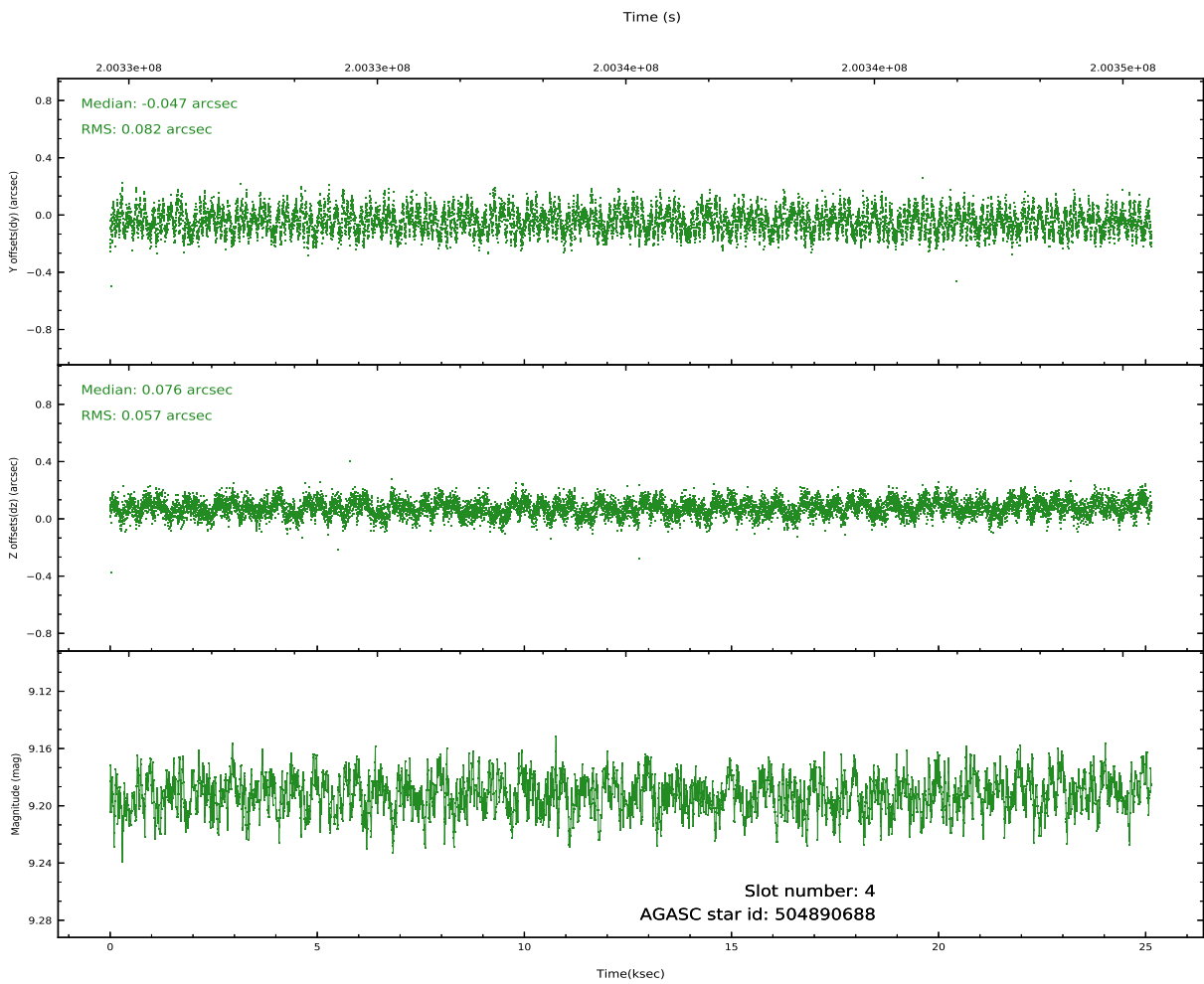
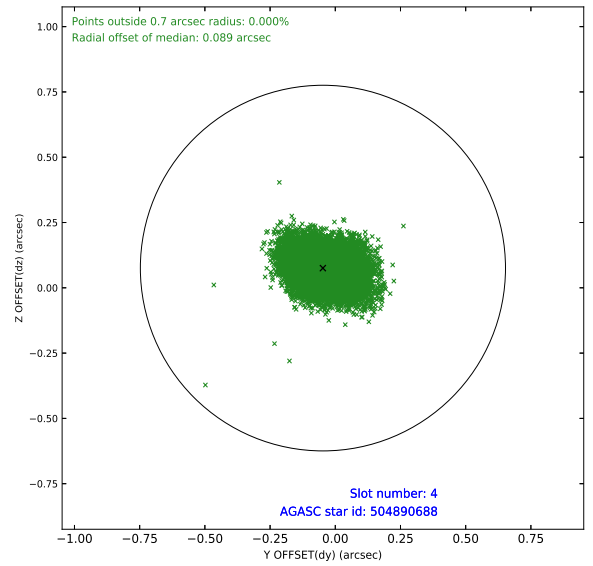
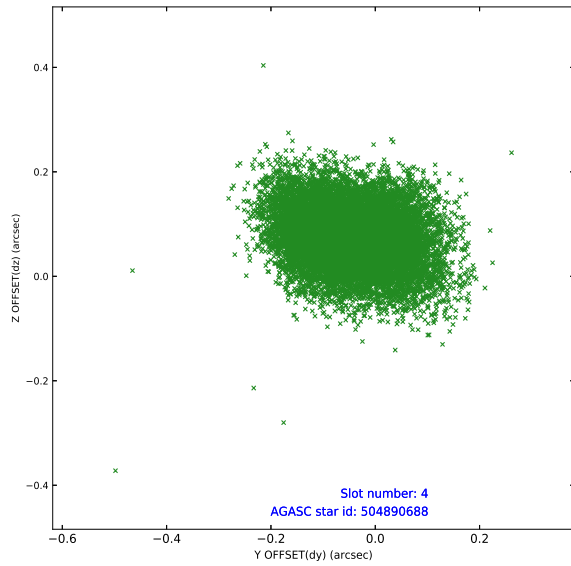
| slot | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_x |
|------|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|-----------|----------|--------|
| 0 | FID | | ACIS-S-1 | 7.18 | 6132 | 1.000 | 0.033 | -0.038 | 0.013 | 0.020 | 0.000000 | 0.000000 | 936.52 | -1726 |
| 1 | FID | | ACIS-S-5 | 7.24 | 6132 | 1.000 | -0.090 | 0.016 | 0.011 | 0.019 | 0.000000 | 0.000000 | -1812.55 | 170 |
| 2 | FID | | ACIS-S-6 | 7.35 | 6132 | 1.000 | 0.035 | 0.030 | 0.015 | 0.029 | 0.000000 | 0.000000 | 401.93 | 815 |
| 3 | GUIDE | used | 504890480 | 8.16 | 12260 | 1.000 | 0.087 | 0.108 | 0.057 | 0.090 | 210.132463 | 53.768436 | 1812.11 | 1729 |
| 4 | GUIDE | used | 504890688 | 9.19 | 12258 | 1.000 | -0.047 | 0.076 | 0.108 | 0.170 | 211.697686 | 53.837149 | -1477.61 | 2293 |
| 5 | GUIDE | used | 504890776 | 9.28 | 12259 | 1.000 | -0.021 | -0.054 | 0.087 | 0.140 | 211.095934 | 54.816966 | -1078.21 | -1432 |
| 6 | GUIDE | used | 504891480 | 8.08 | 12261 | 1.000 | 0.043 | -0.112 | 0.067 | 0.106 | 210.708012 | 54.666096 | -164.51 | -1100 |
| 7 | GUIDE | used | 505292416 | 9.30 | 12256 | 1.000 | -0.067 | -0.011 | 0.133 | 0.204 | 210.920759 | 55.040479 | -919.50 | -2300 |

2.4 Star Slots

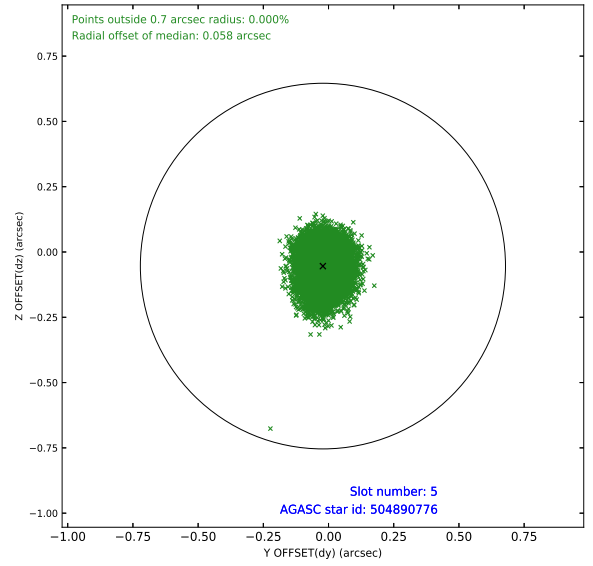
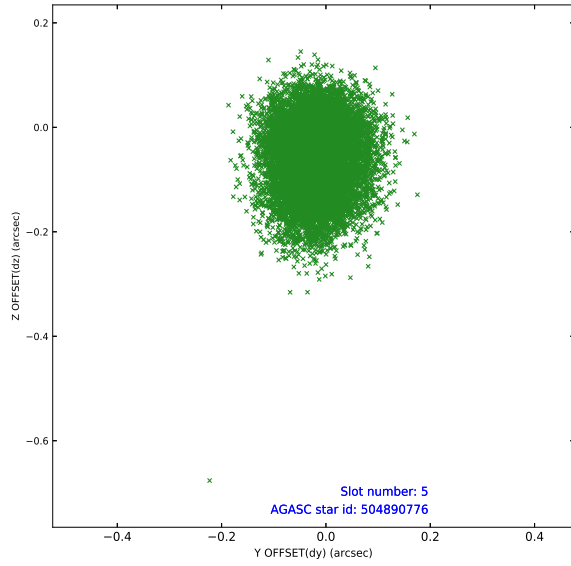
2.4.1 Slot 3



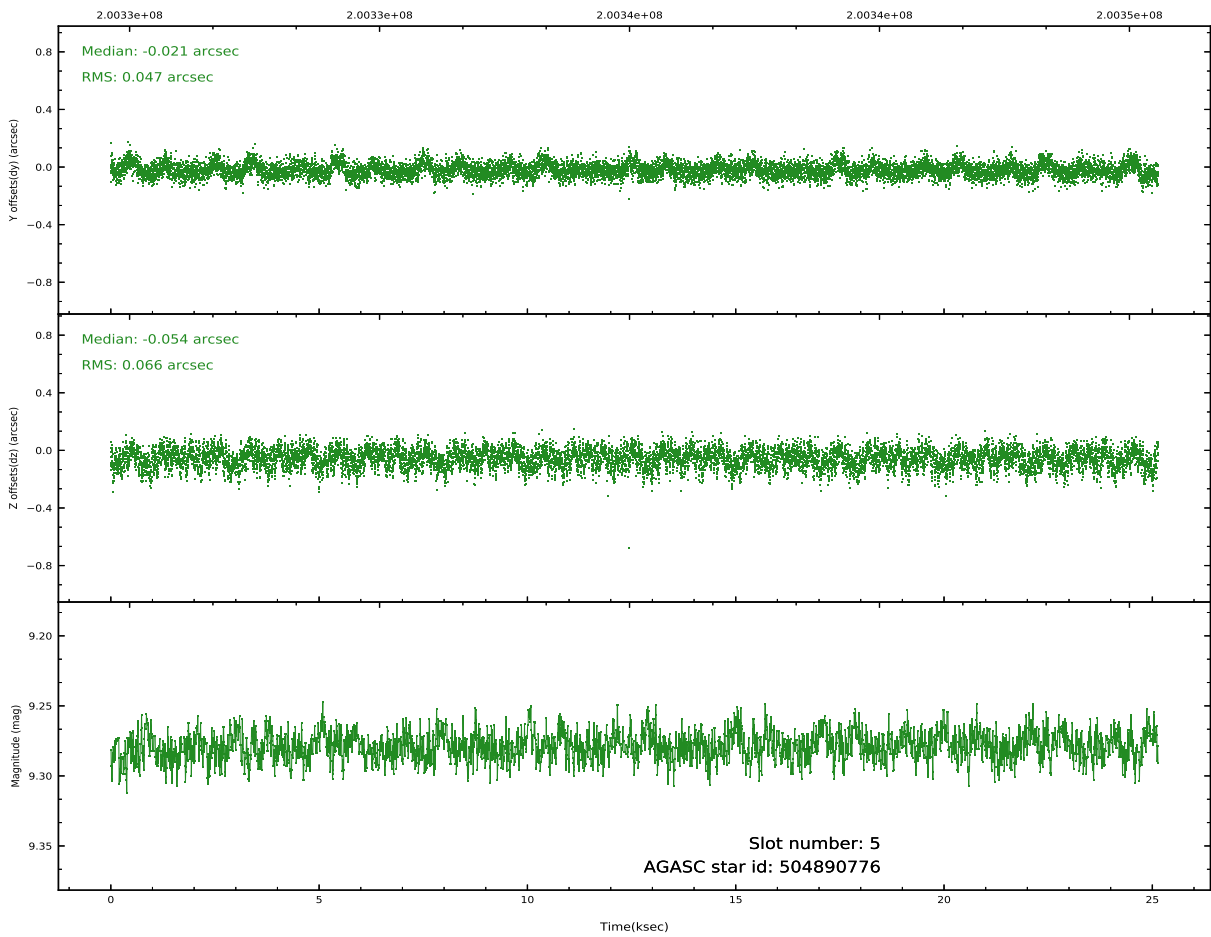
2.4.2 Slot 4



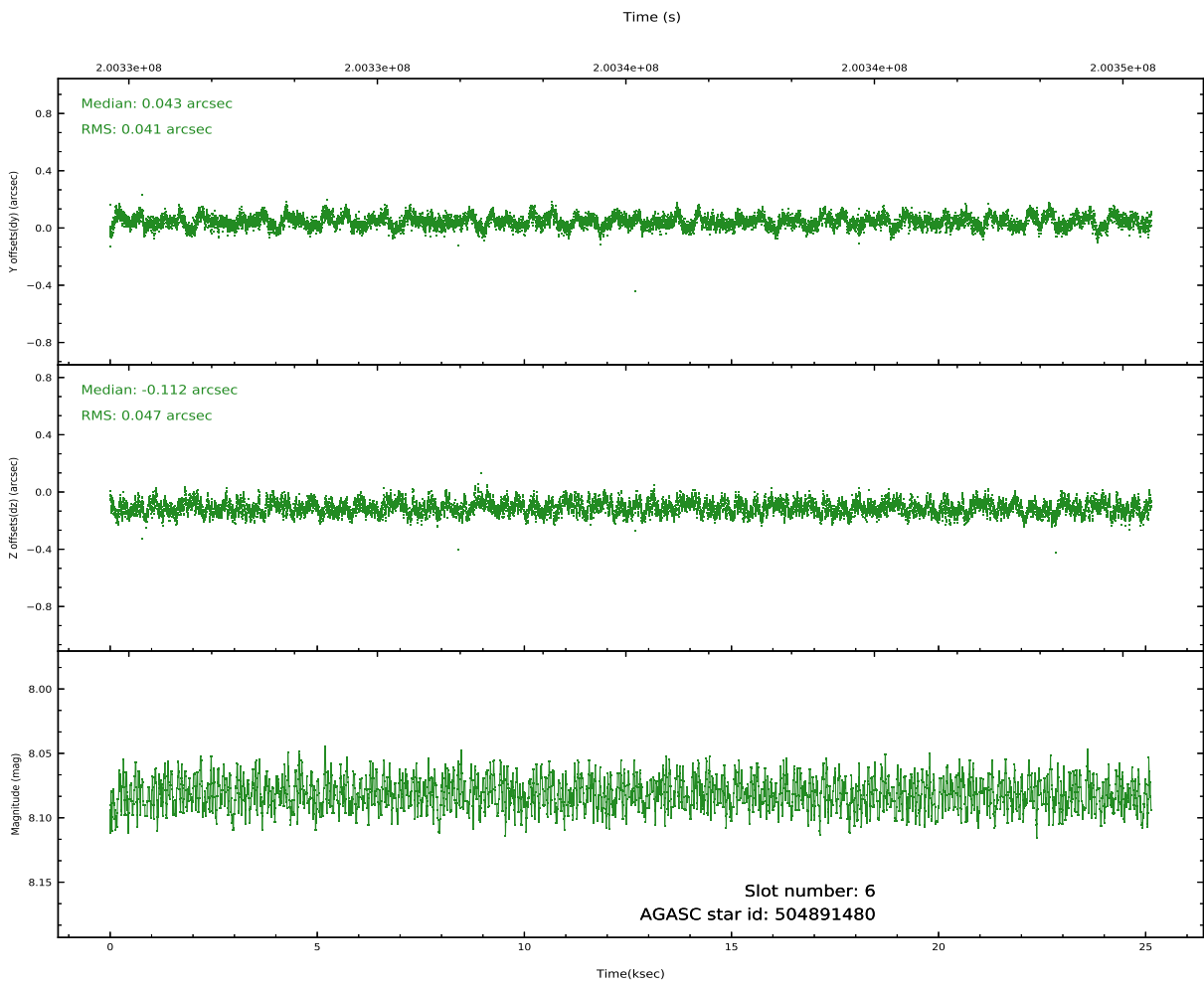
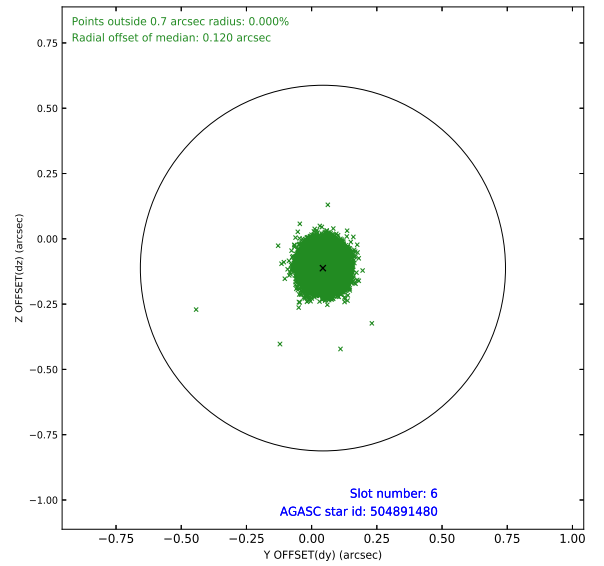
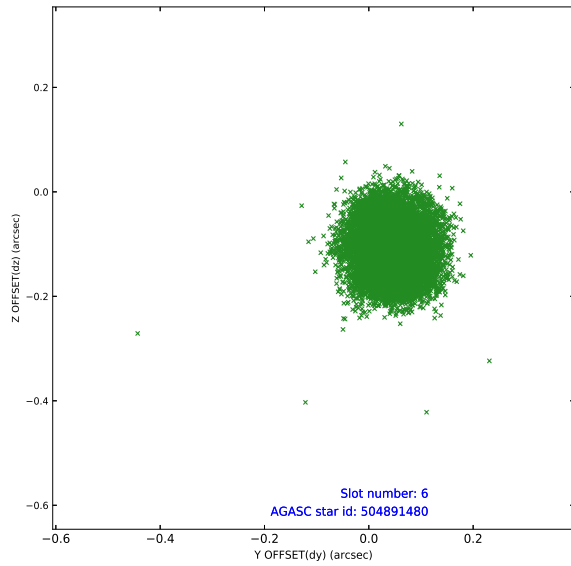
2.4.3 Slot 5



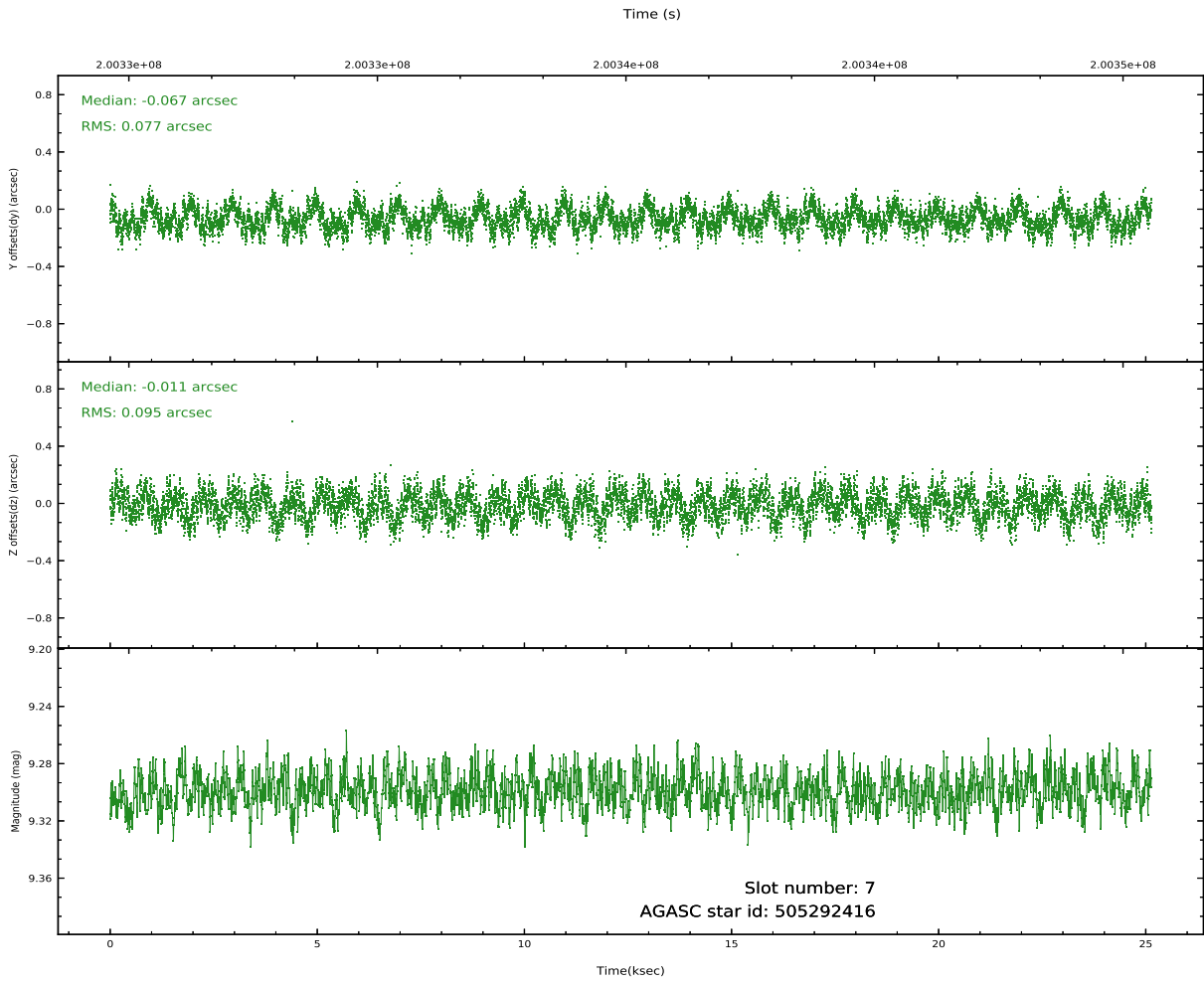
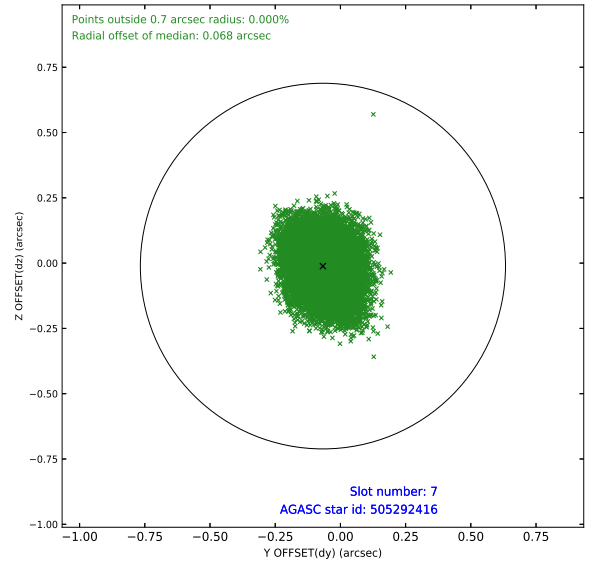
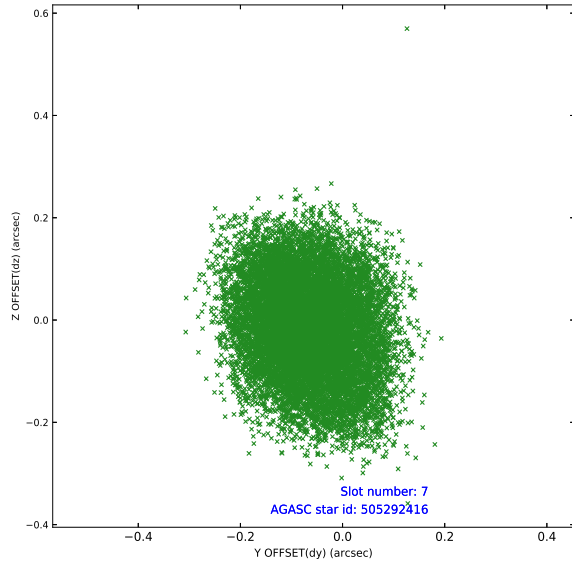
Time (s)



2.4.4 Slot 6

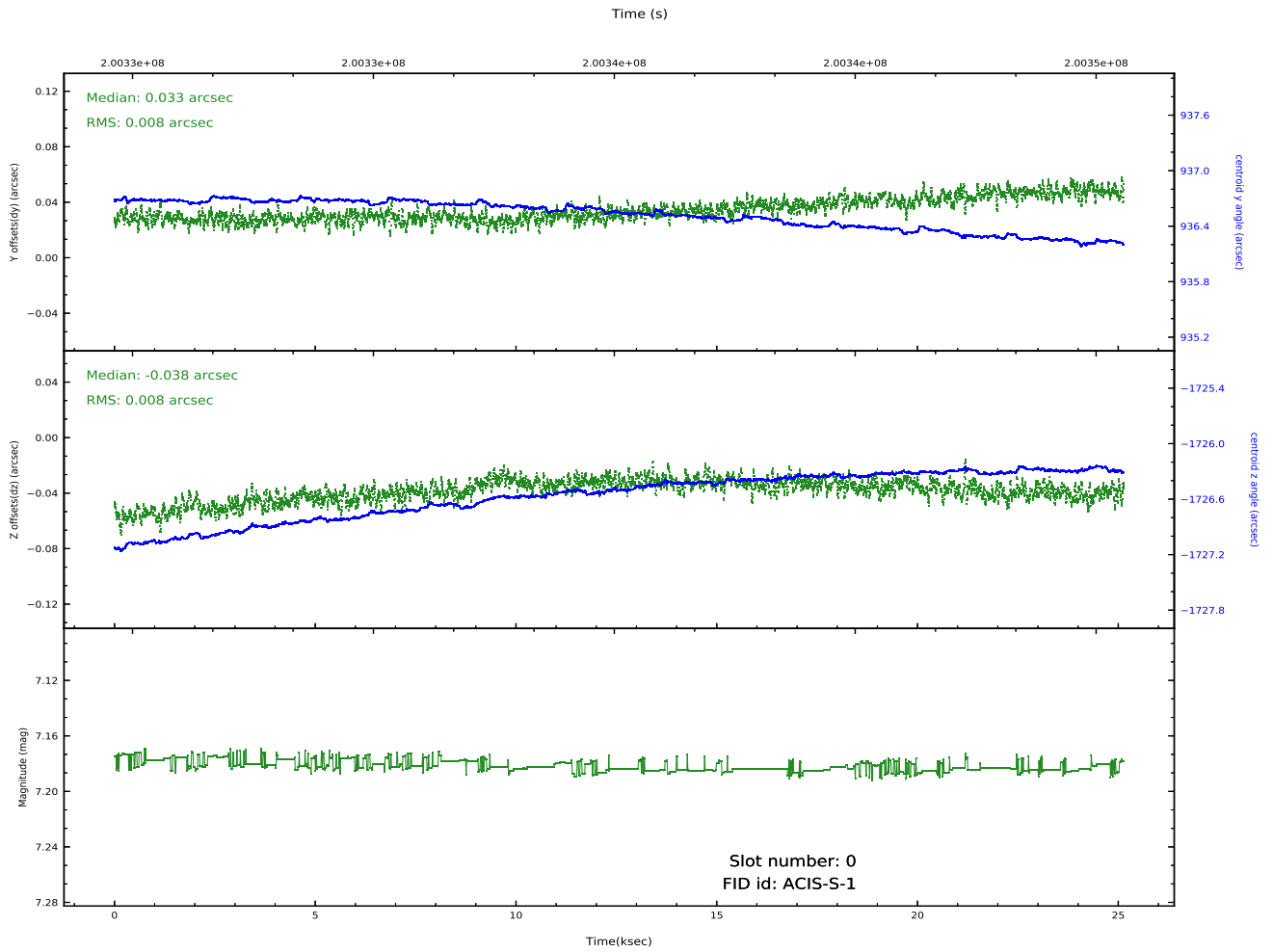
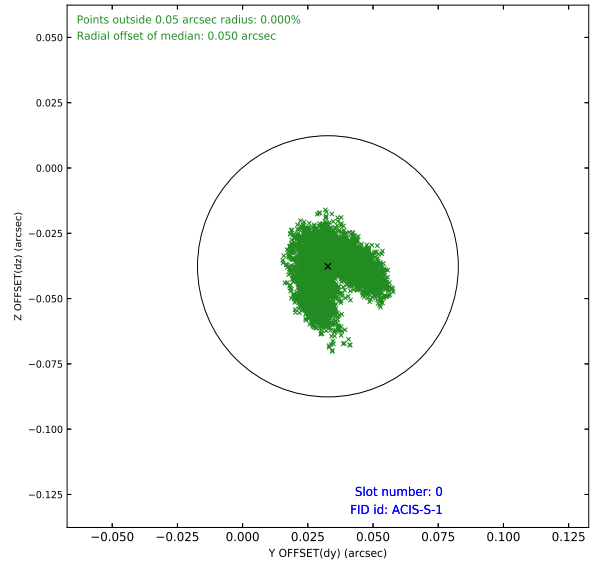
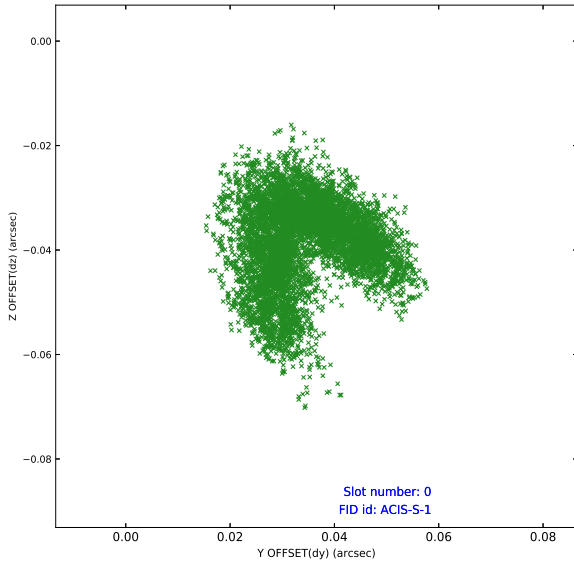


2.4.5 Slot 7

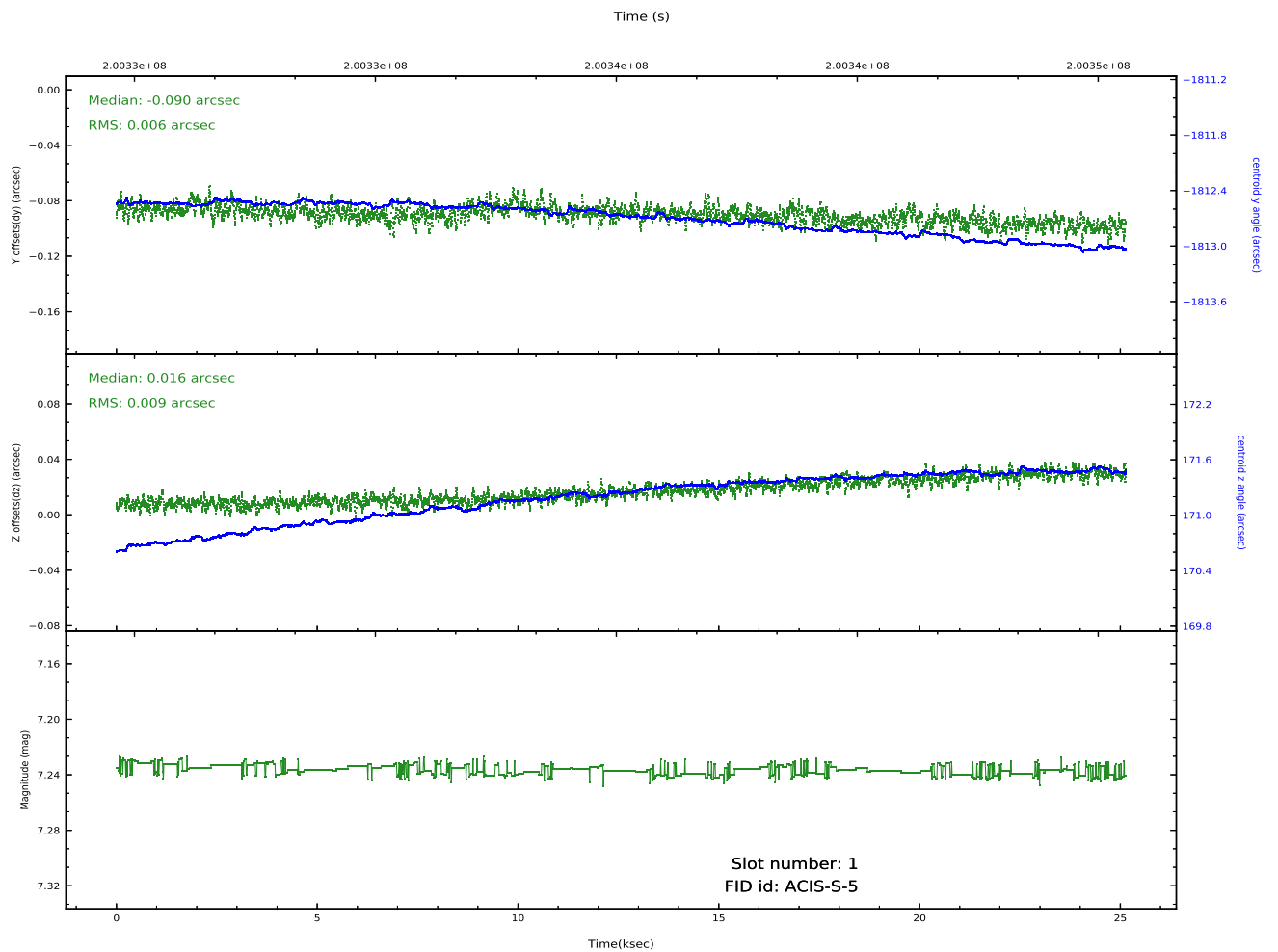
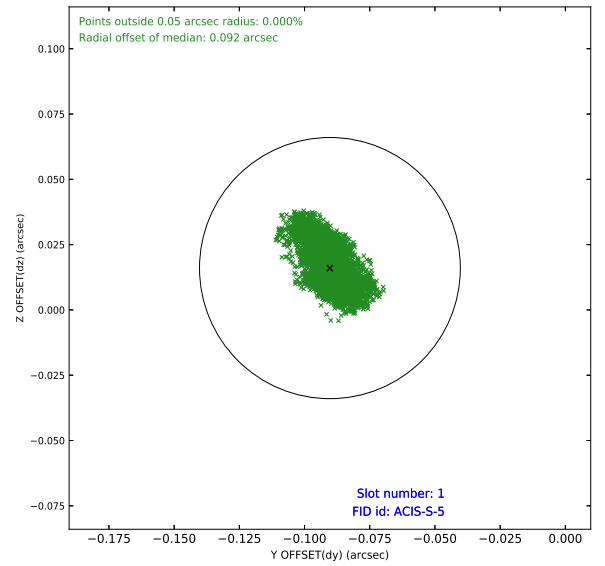
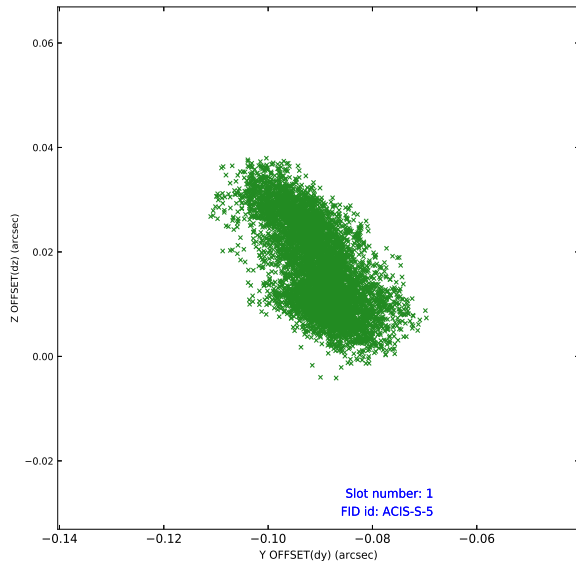


2.5 FID Slots

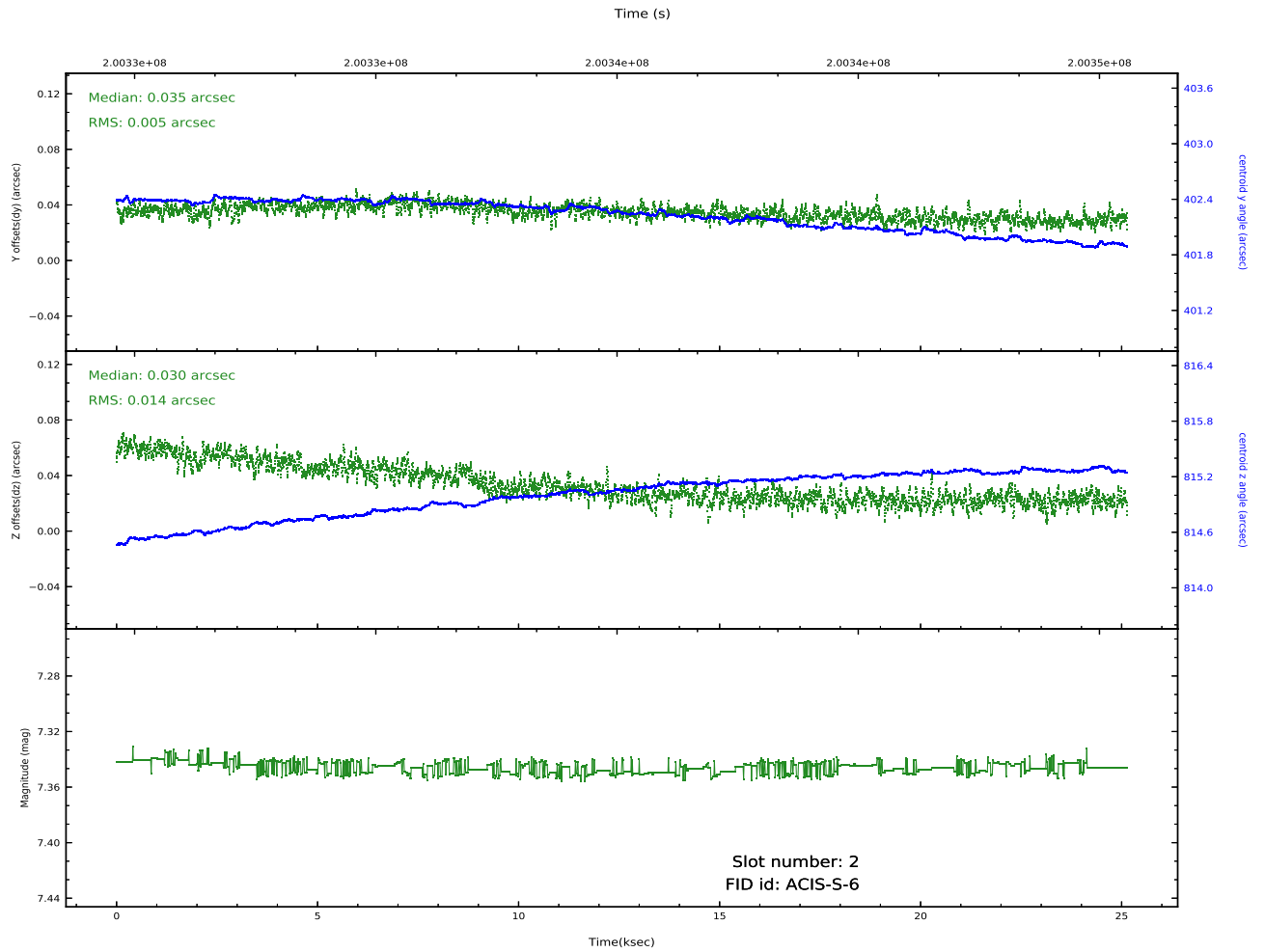
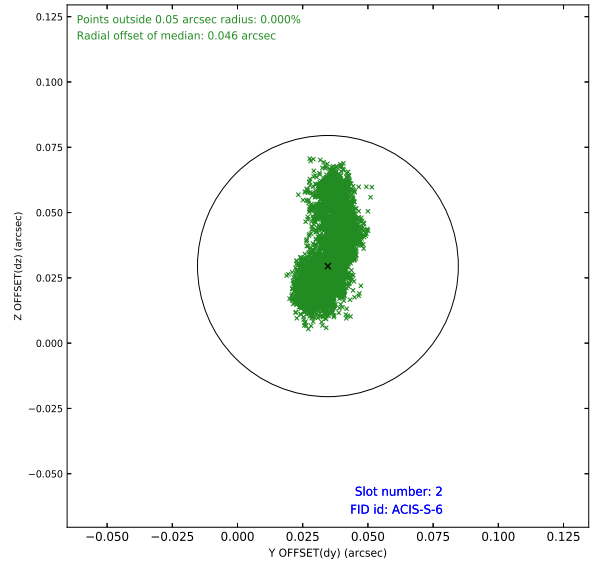
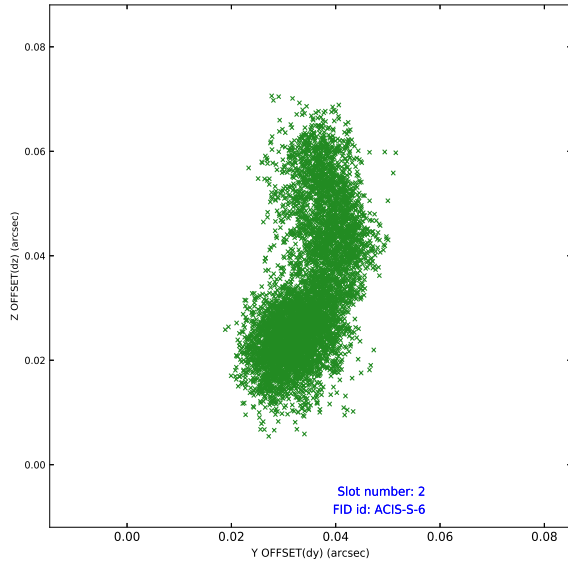
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|---------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2020.09.25 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 25.132 |

A.2 Comments