

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 19309 - L2 Version 1
Chandra X-Ray Center

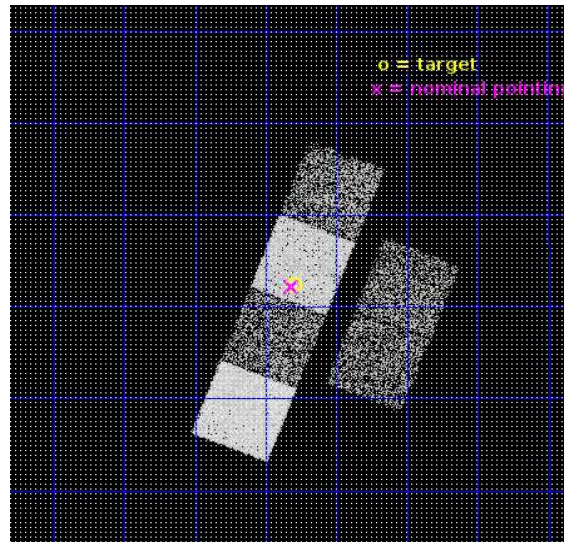
L2 Processing Date : Nov 23 2016

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Bias | 3 |
| 2.1.3 | Parameters | 4 |
| 2.1.4 | Events | 4 |
| 2.2 | Compared Parameters | 5 |
| 2.3 | Aspect | 6 |
| 2.4 | Star Slots | 9 |
| 2.4.1 | Slot 3 | 9 |
| 2.4.2 | Slot 4 | 10 |
| 2.4.3 | Slot 5 | 11 |
| 2.4.4 | Slot 6 | 12 |
| 2.4.5 | Slot 7 | 13 |
| 2.5 | FID Slots | 14 |
| 2.5.1 | Slot 0 | 14 |
| 2.5.2 | Slot 1 | 15 |
| 2.5.3 | Slot 2 | 16 |
| A | Summary | 17 |
| A.1 | Status | 17 |
| A.2 | Comments | 17 |

1 Front

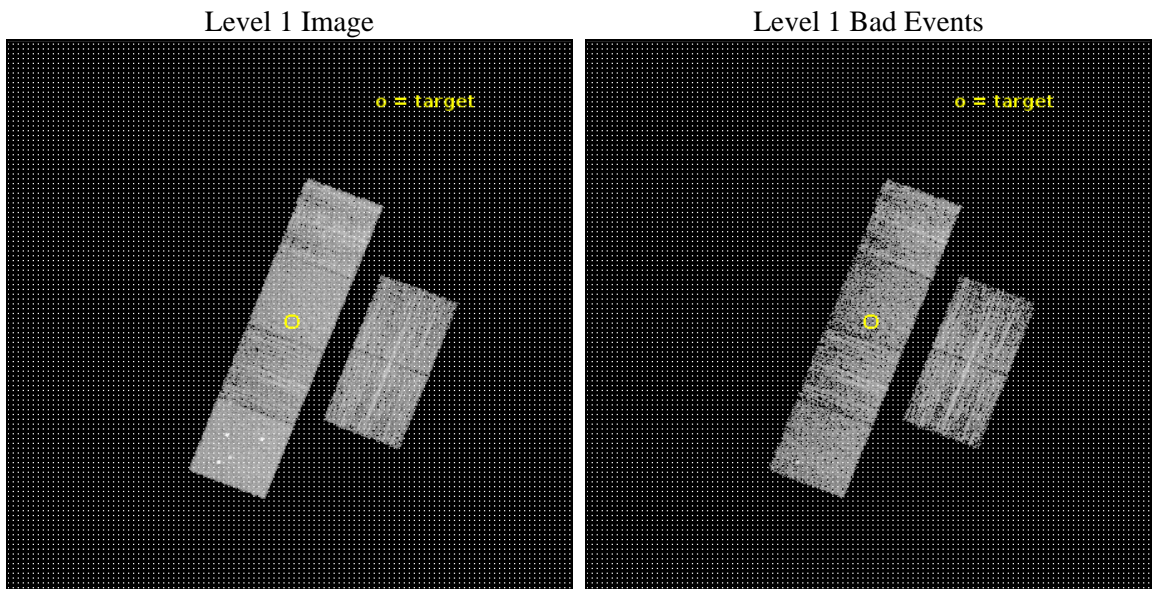
| | | |
|----------|--|---|
| seq_num | 601266 | Sequence number |
| obs_id | 19309 | Observation id |
| title | A homogeneous view of X-ray halos in massive early-type galaxies | P |
| observer | Andy Goulding | Principal investigator |
| object | NGC0524 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 21.19875 | Observer's specified target RA [deg] |
| dec_targ | 9.538889 | Observer's specified target Dec [deg] |
| ra_nom | 21.204578153318 | Nominal RA [deg] |
| dec_nom | 9.5365703973066 | Nominal Dec [deg] |
| roll_nom | 291.21170845887 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 3935.9912713766 | Sum of GTIs [s] |
| livetime | 3886.151379929 | Livetime [s] |
| ontime2 | 3936.000058651 | Sum of GTIs [s] |
| ontime3 | 3935.8681513071 | Sum of GTIs [s] |
| ontime5 | 3935.9502313137 | Sum of GTIs [s] |
| ontime6 | 3935.90919137 | Sum of GTIs [s] |
| ontime7 | 3935.9912713766 | Sum of GTIs [s] |
| ontime8 | 3935.8271113634 | Sum of GTIs [s] |
| l2events | 44302 | Number of level 2 events |



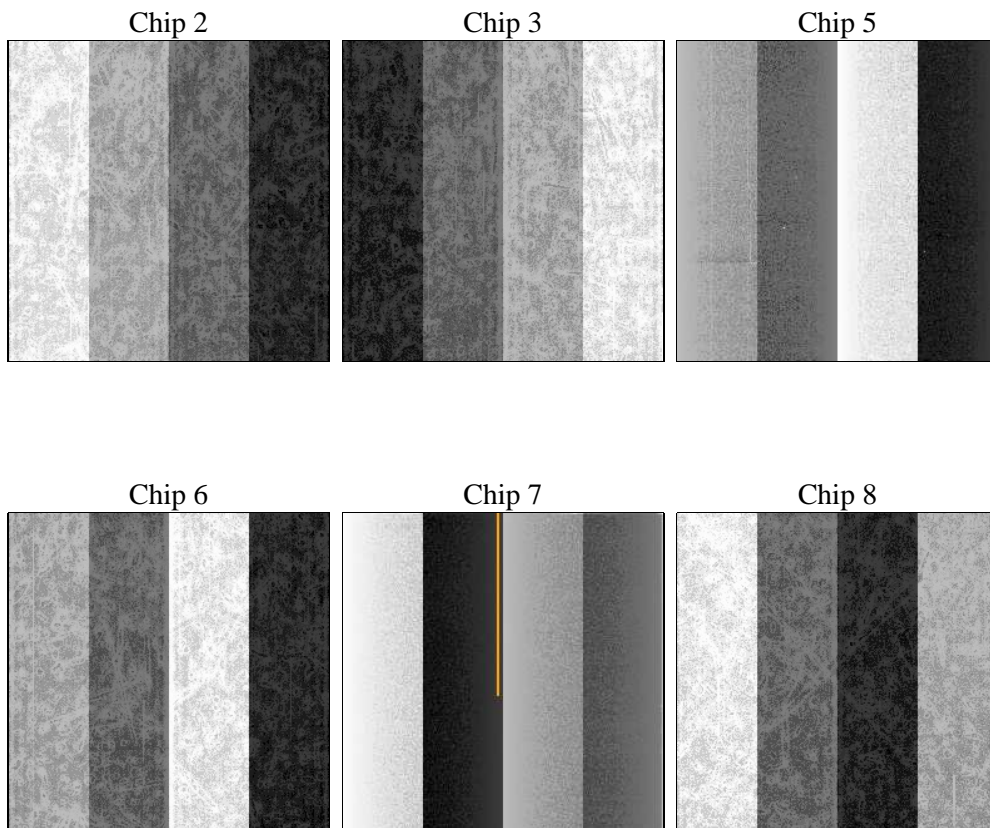
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 1 | Obi number | sched_exp_time | 4000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.5.2 | Processing system revision | ontime | 3935.9912713766 | Sum of GTIs [s] |
| caldsver | 4.7.2 | | ontime2 | 3936.000058651 | Sum of GTIs [s] |
| date | 2016-11-23T14:37:27 | Date and time of file creation | ontime3 | 3935.8681513071 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime5 | 3935.9502313137 | Sum of GTIs [s] |
| | | | ontime6 | 3935.90919137 | Sum of GTIs [s] |
| | | | ontime7 | 3935.9912713766 | Sum of GTIs [s] |
| | | | ontime8 | 3935.8271113634 | Sum of GTIs [s] |
| | | | l1events | 197615 | Number of level 1 events |

2.1.4 Events

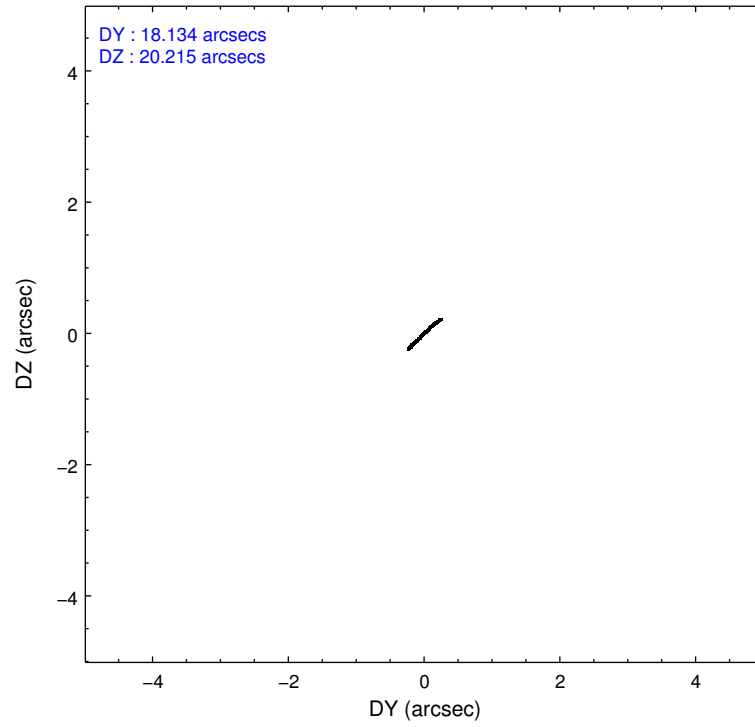
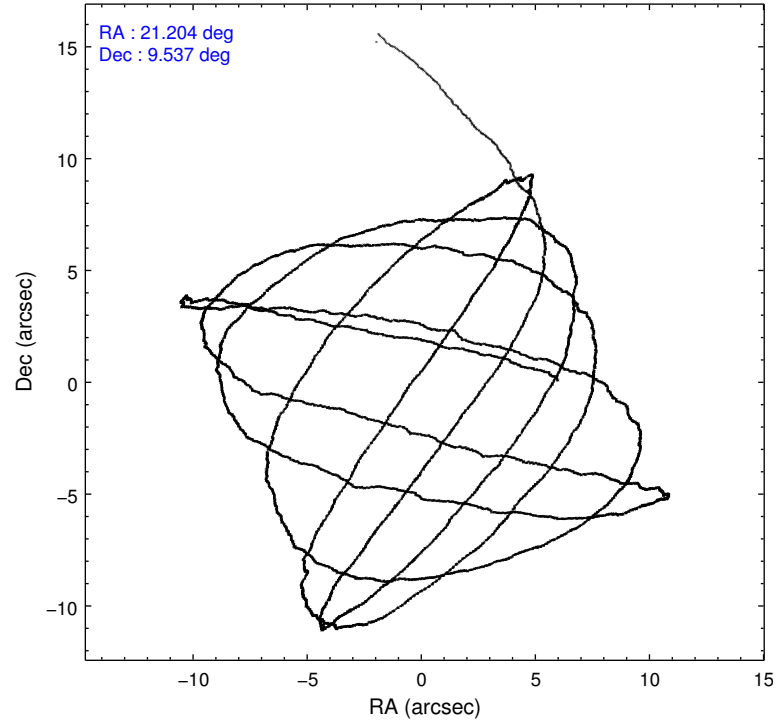
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 28052 | 25918 | 45749 | 26501 | 34877 | 36518 | grade 0 events | 1015 | 917 | 4218 | 1056 | 1337 | 2658 |
| rejected events | 25206 | 23233 | 22229 | 23515 | 19823 | 26992 | | 3% | 3% | 9% | 3% | 3% | 7% |
| rejected % | 89% | 89% | 48% | 88% | 56% | 73% | grade 1 events | 13 | 15 | 119 | 12 | 42 | 29 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 709 | 620 | 6878 | 671 | 3228 | 2313 |
| | | | | | | | | 2% | 2% | 15% | 2% | 9% | 6% |
| | | | | | | | grade 3 events | 271 | 275 | 669 | 271 | 1175 | 1027 |
| | | | | | | | | 0% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 4 events | 296 | 294 | 678 | 287 | 1205 | 1011 |
| | | | | | | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 5 events | 1164 | 1245 | 3083 | 1281 | 3494 | 1921 |
| | | | | | | | | 4% | 4% | 6% | 4% | 10% | 5% |
| | | | | | | | grade 6 events | 560 | 580 | 11124 | 705 | 8134 | 2553 |
| | | | | | | | | 1% | 2% | 24% | 2% | 23% | 6% |
| | | | | | | | grade 7 events | 24024 | 21972 | 18980 | 22218 | 16262 | 25006 |
| | | | | | | | | 85% | 84% | 41% | 83% | 46% | 68% |

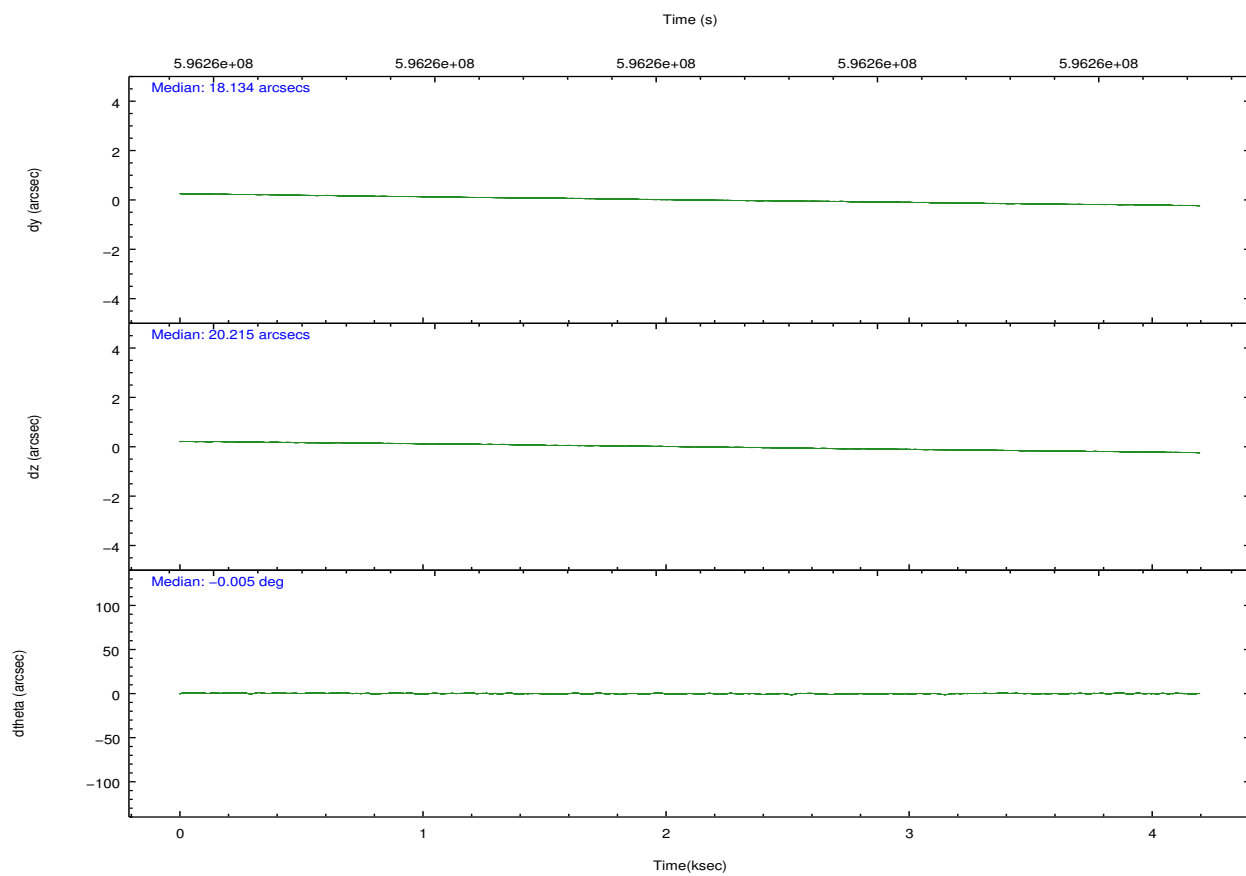
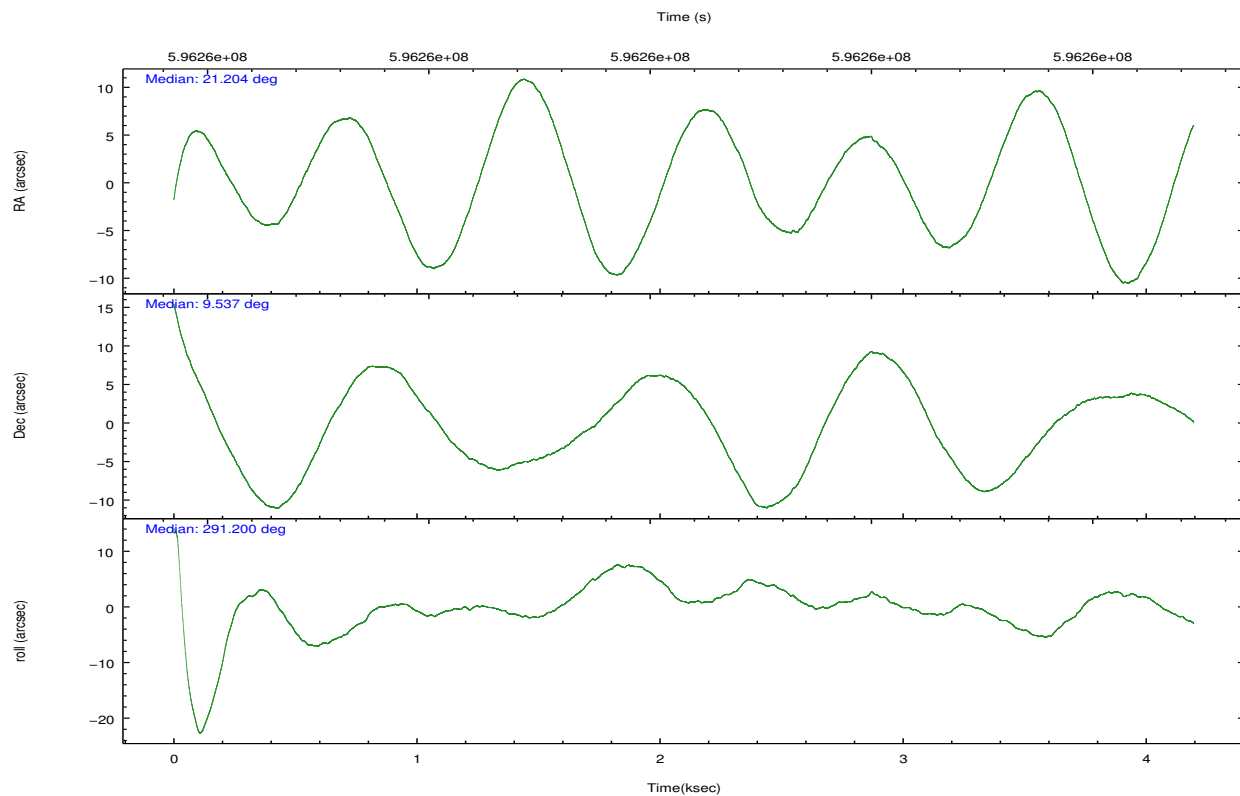
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-235678 | ACIS-235678 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 21.182668 | 21.20457815331837 |
| [deg] Pointing Dec | 9.553406 | 9.53657039730661 |
| [deg] Pointing Roll | 291.058577 | 291.2117084588675 |
| [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) | 596255225.184000 | 596254256.3690701 |
| Observation start date | 2016-11-23T02:25:57 | 2016-11-23T02:10:56 |
| [s] Observation end time (MET) | 596259225.184000 | 596260066.06941 |
| Observation end date | 2016-11-23T03:32:37 | 2016-11-23T03:47:46 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| CCD I0 on | N | N |
| CCD I1 on | N | N |
| CCD I2 on | O1 | Y |
| CCD I3 on | O2 | Y |
| CCD S0 on | N | N |
| CCD S1 on | Y | Y |
| CCD S2 on | Y | Y |
| CCD S3 on | Y | Y |
| CCD S4 on | Y | Y |
| CCD S5 on | N | N |
| 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 | 3.2 |

2.3 Aspect



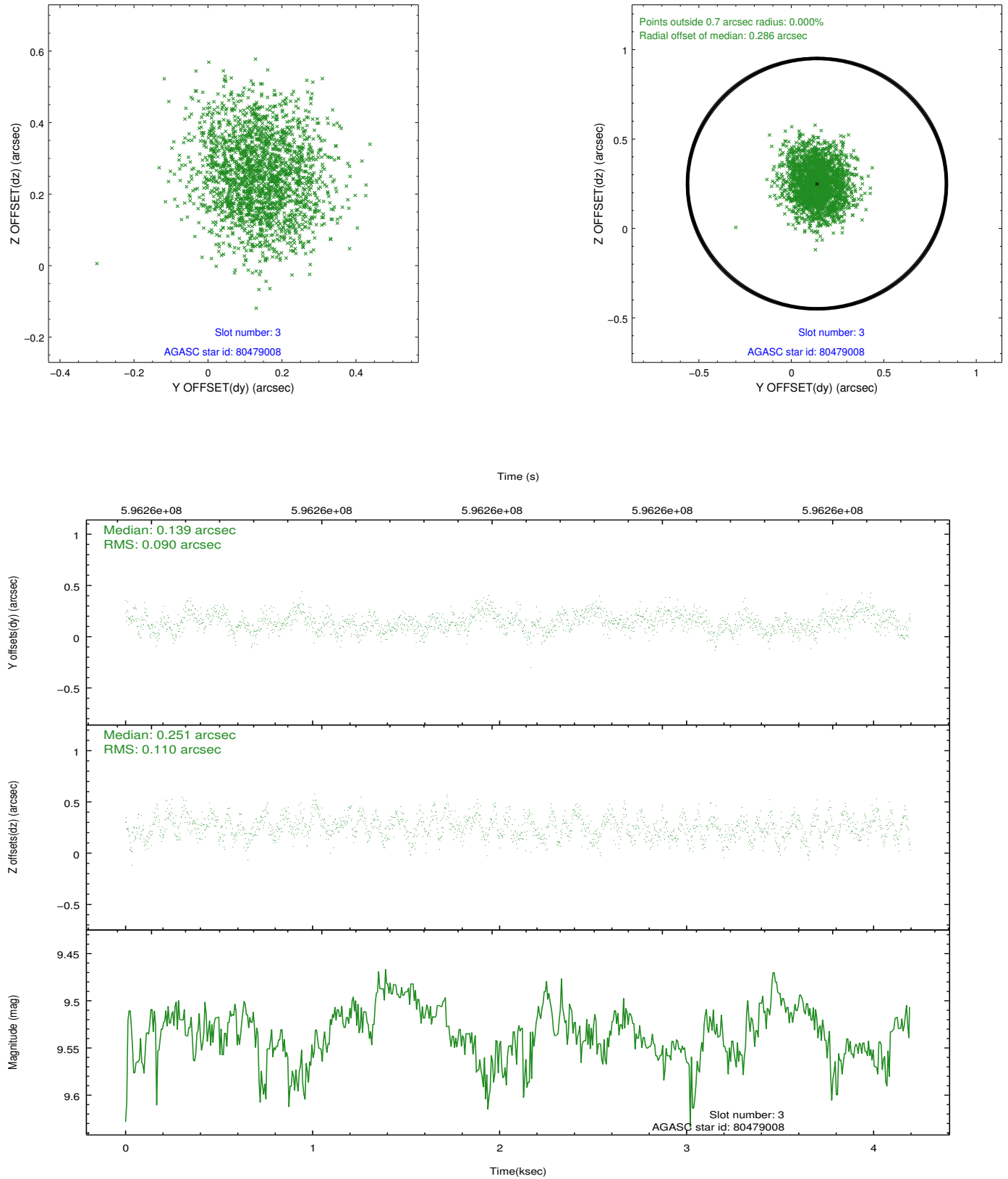


Slot Statistics

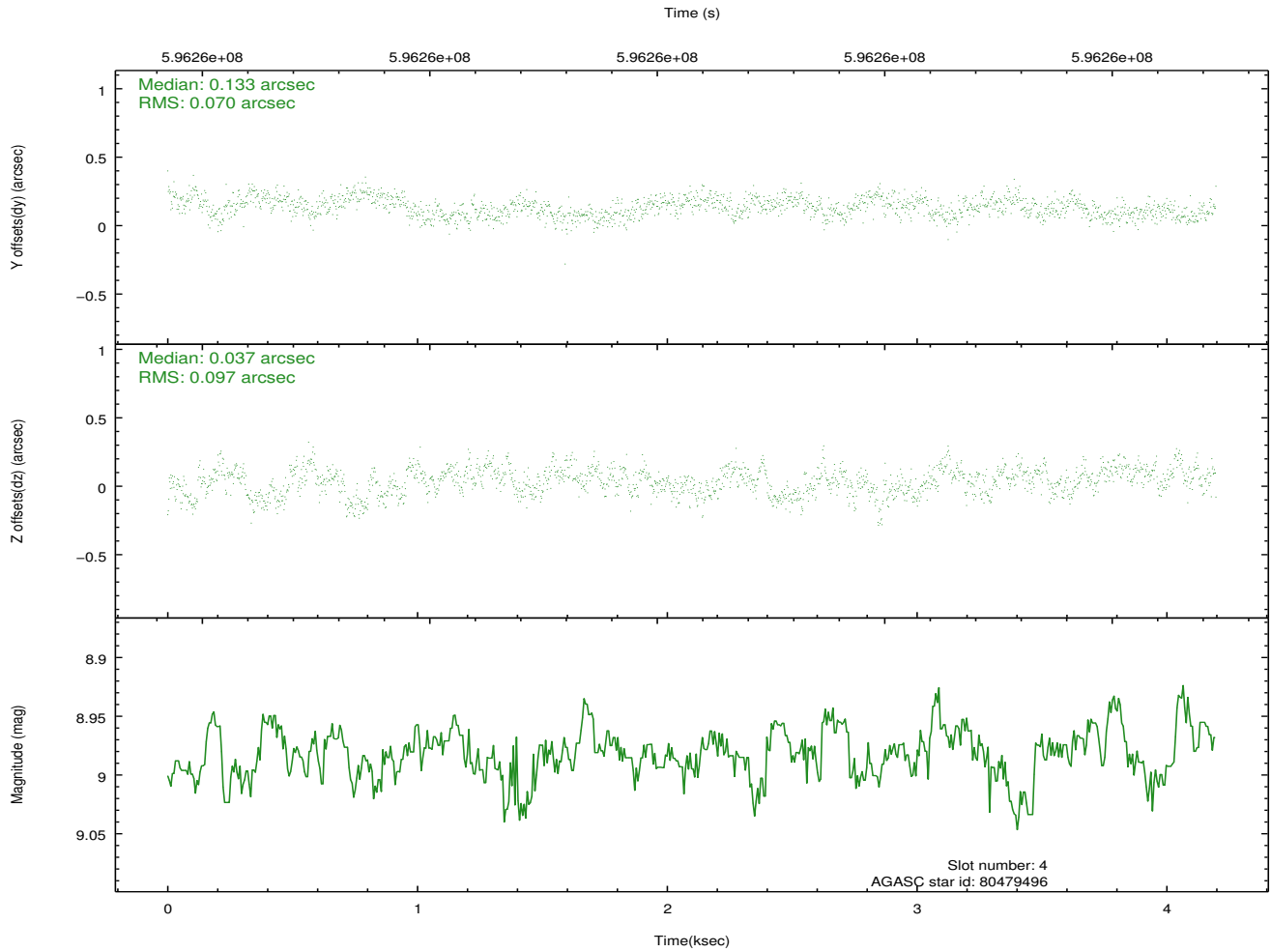
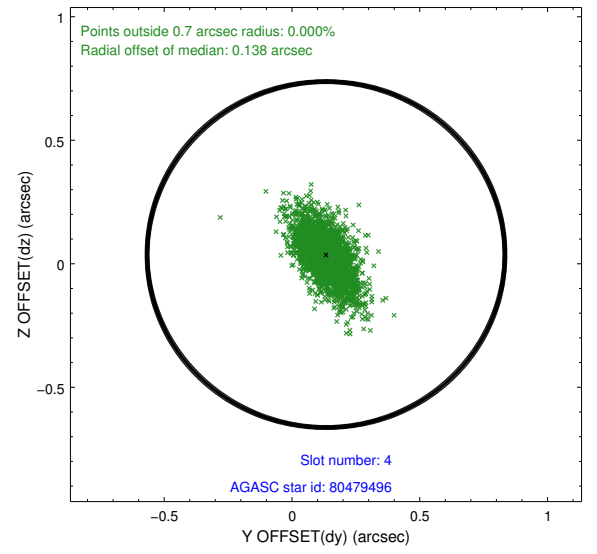
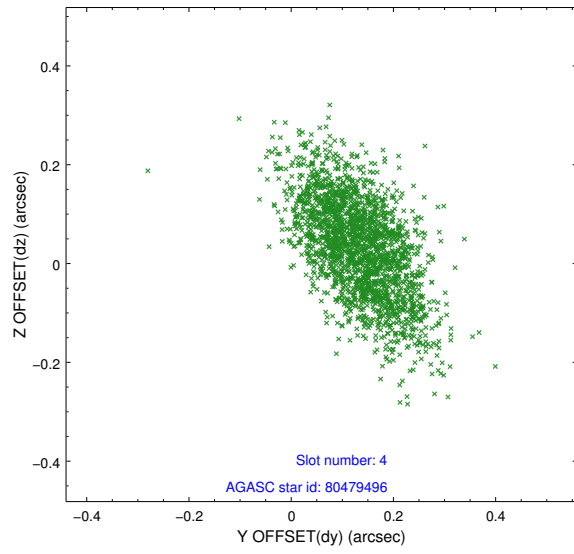
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|----------|------|-------|--------|--------|-------|-------|-----------|----------|----------|----------|
| 0 | FID | | ACIS-S-2 | 7.03 | 1024 | -0.217 | -0.097 | 0.009 | 0.016 | 0.000000 | 0.000000 | -771.37 | -1741.84 |
| 1 | FID | | ACIS-S-4 | 7.14 | 1024 | 0.504 | 0.131 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2141.90 | 165.38 |
| 2 | FID | | ACIS-S-5 | 7.14 | 1024 | -0.319 | -0.026 | 0.008 | 0.015 | 0.000000 | 0.000000 | -1822.46 | 160.51 |
| 3 | GUIDE | used | 80479008 | 9.53 | 2048 | 0.139 | 0.251 | 0.152 | 0.241 | 20.851568 | 9.821582 | -1321.84 | -748.37 |
| 4 | GUIDE | used | 80479496 | 8.98 | 2048 | 0.133 | 0.037 | 0.122 | 0.217 | 21.360602 | 9.709567 | -297.64 | 791.10 |
| 5 | GUIDE | used | 80486200 | 9.47 | 2047 | -0.317 | -0.289 | 0.185 | 0.291 | 21.620104 | 9.531096 | 631.93 | 1421.62 |
| 6 | GUIDE | used | 80488328 | 7.70 | 2048 | 0.032 | 0.029 | 0.119 | 0.184 | 20.778363 | 9.187625 | 714.10 | -1812.41 |
| 7 | GUIDE | used | 80483632 | 8.52 | 2047 | 0.012 | -0.026 | 0.113 | 0.188 | 20.803064 | 9.191073 | 733.43 | -1728.33 |

2.4 Star Slots

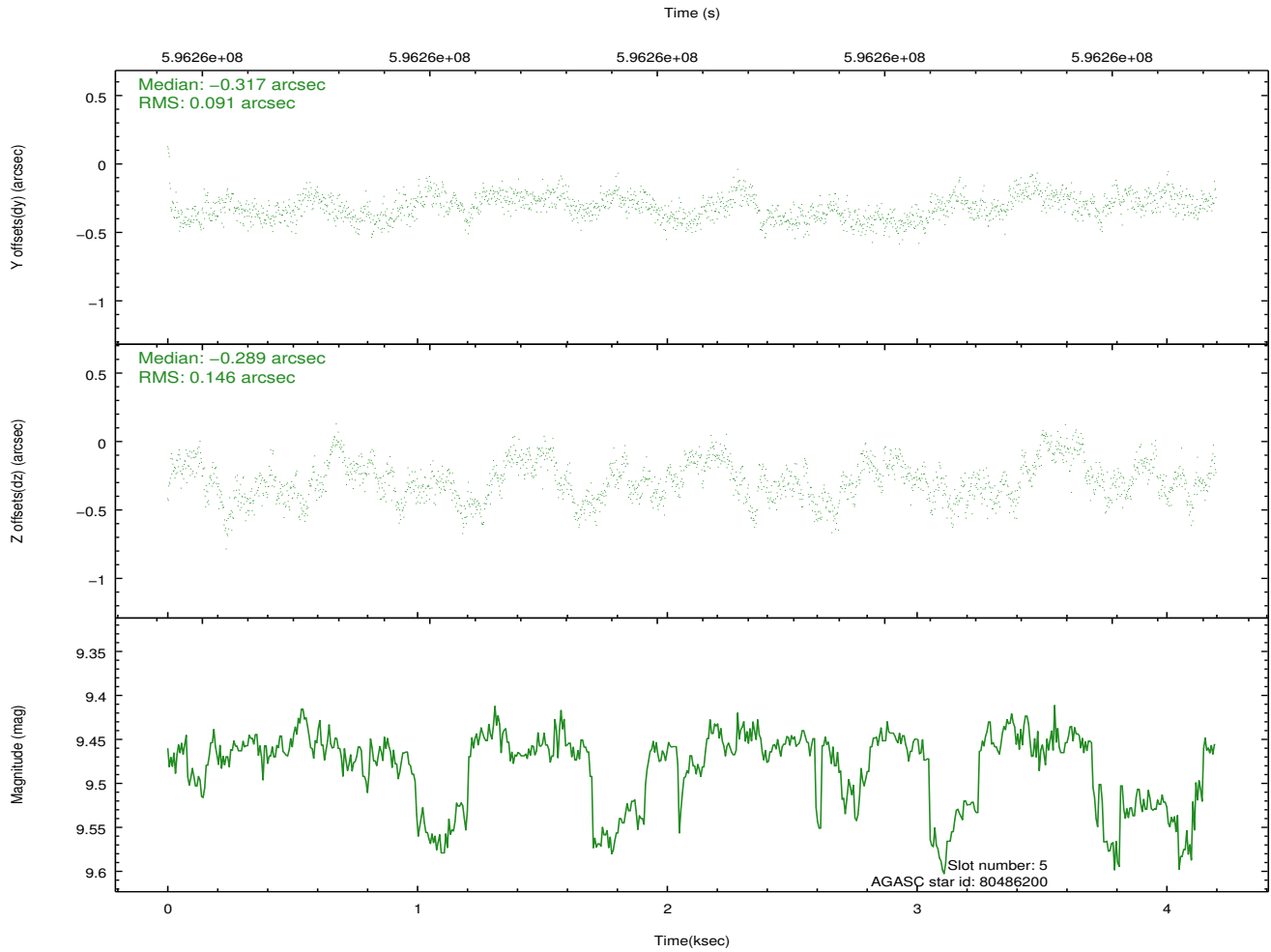
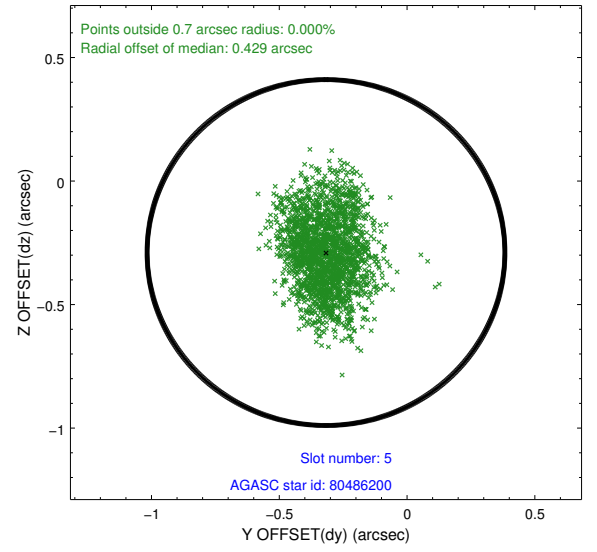
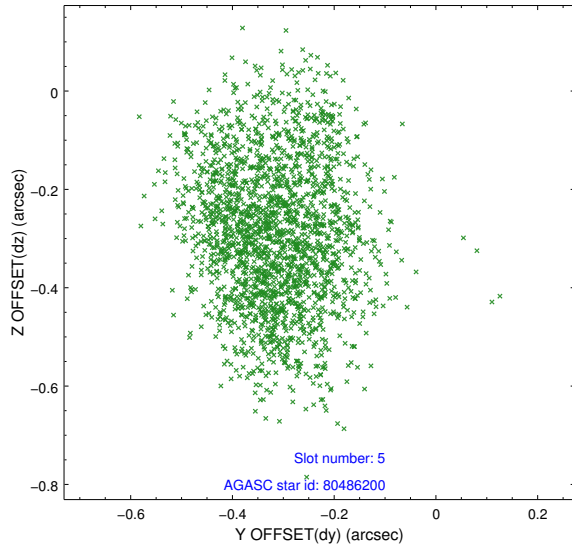
2.4.1 Slot 3



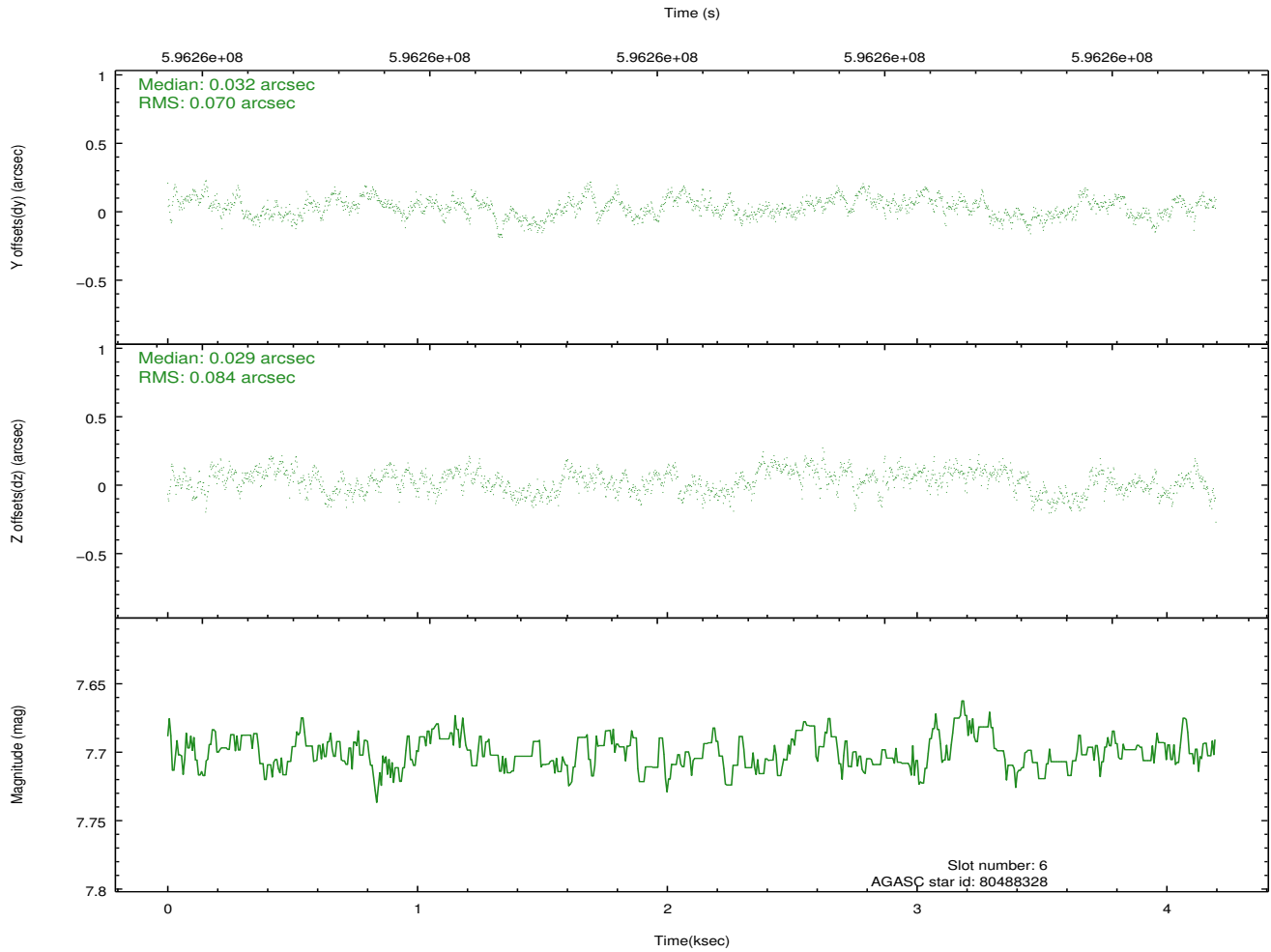
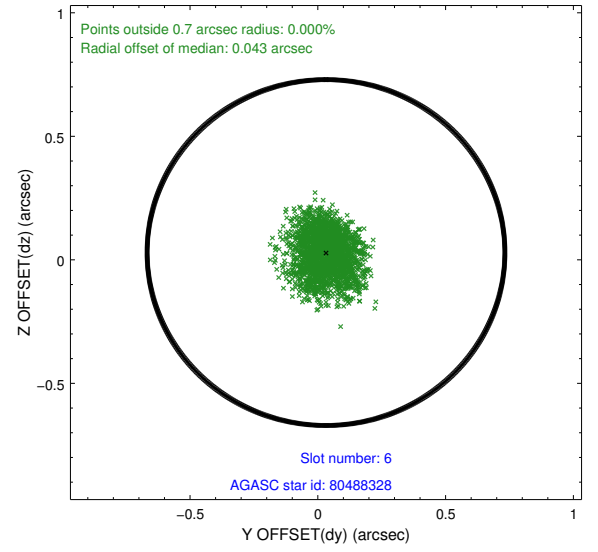
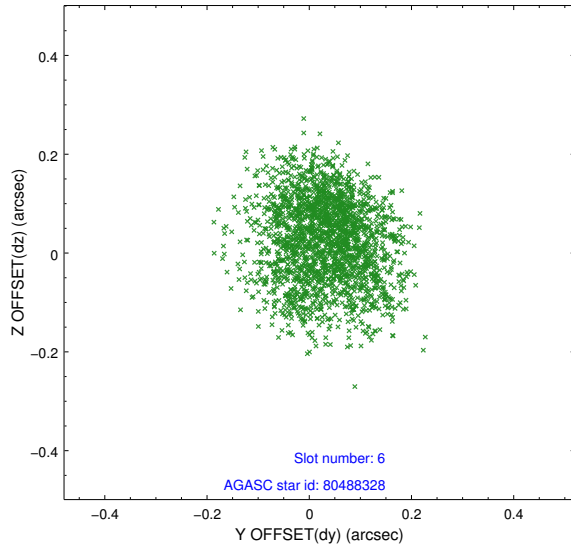
2.4.2 Slot 4



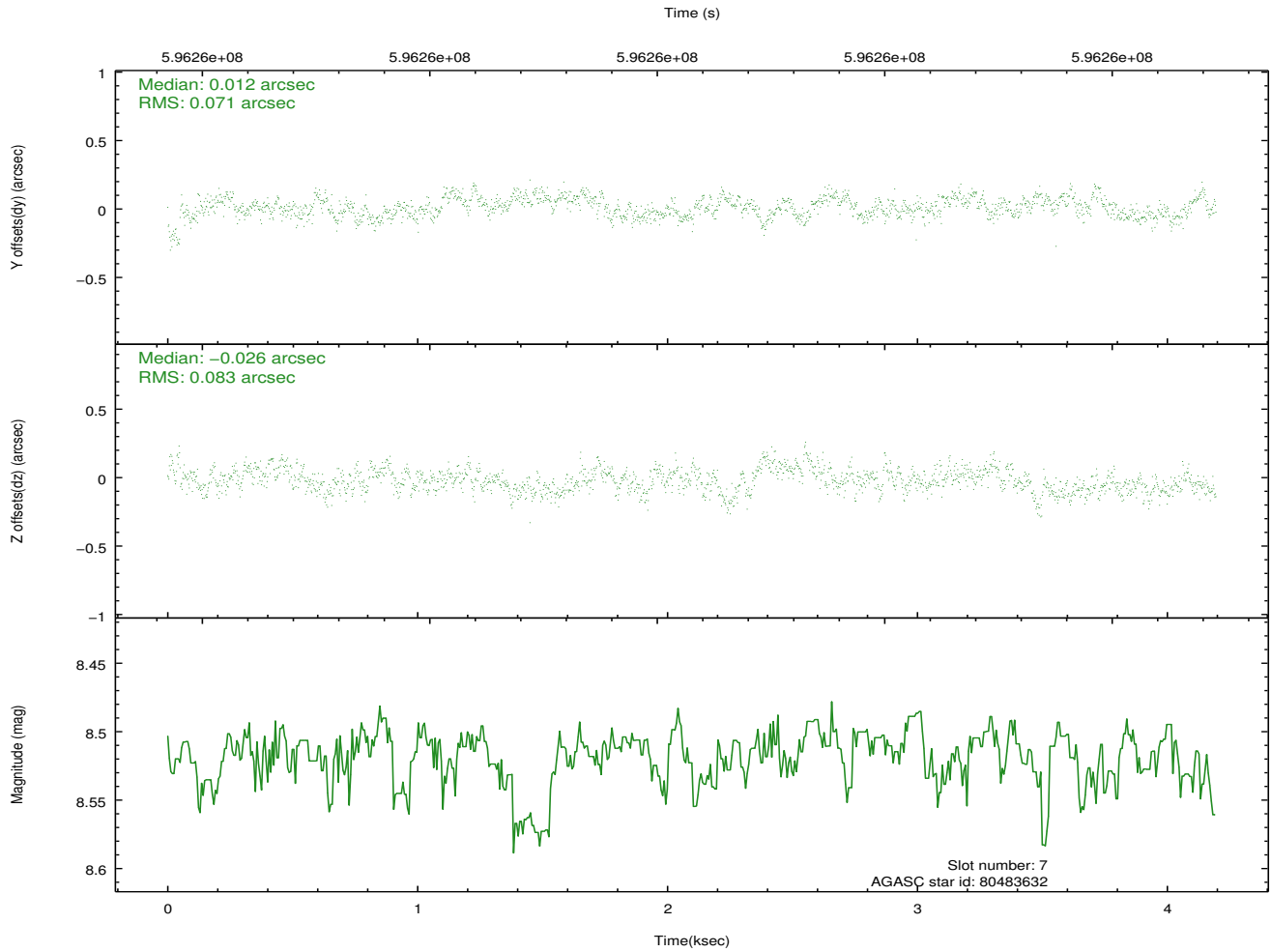
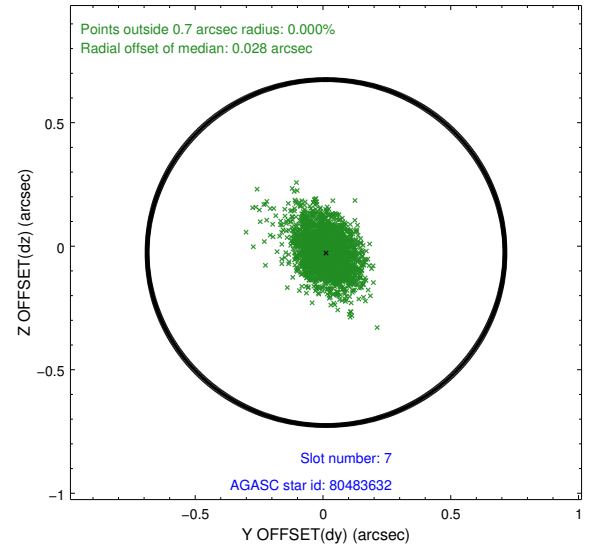
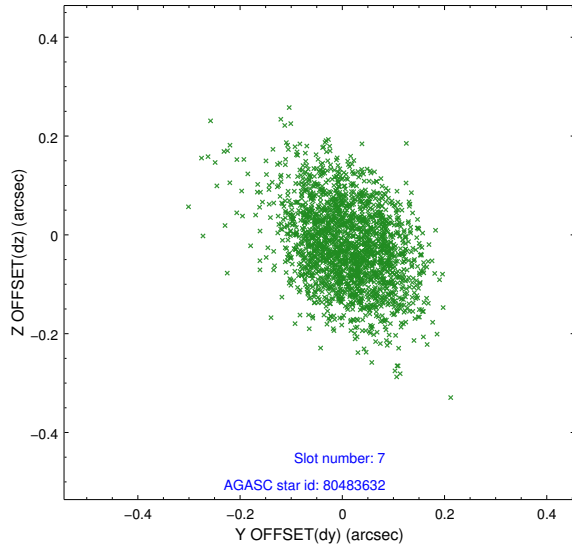
2.4.3 Slot 5



2.4.4 Slot 6

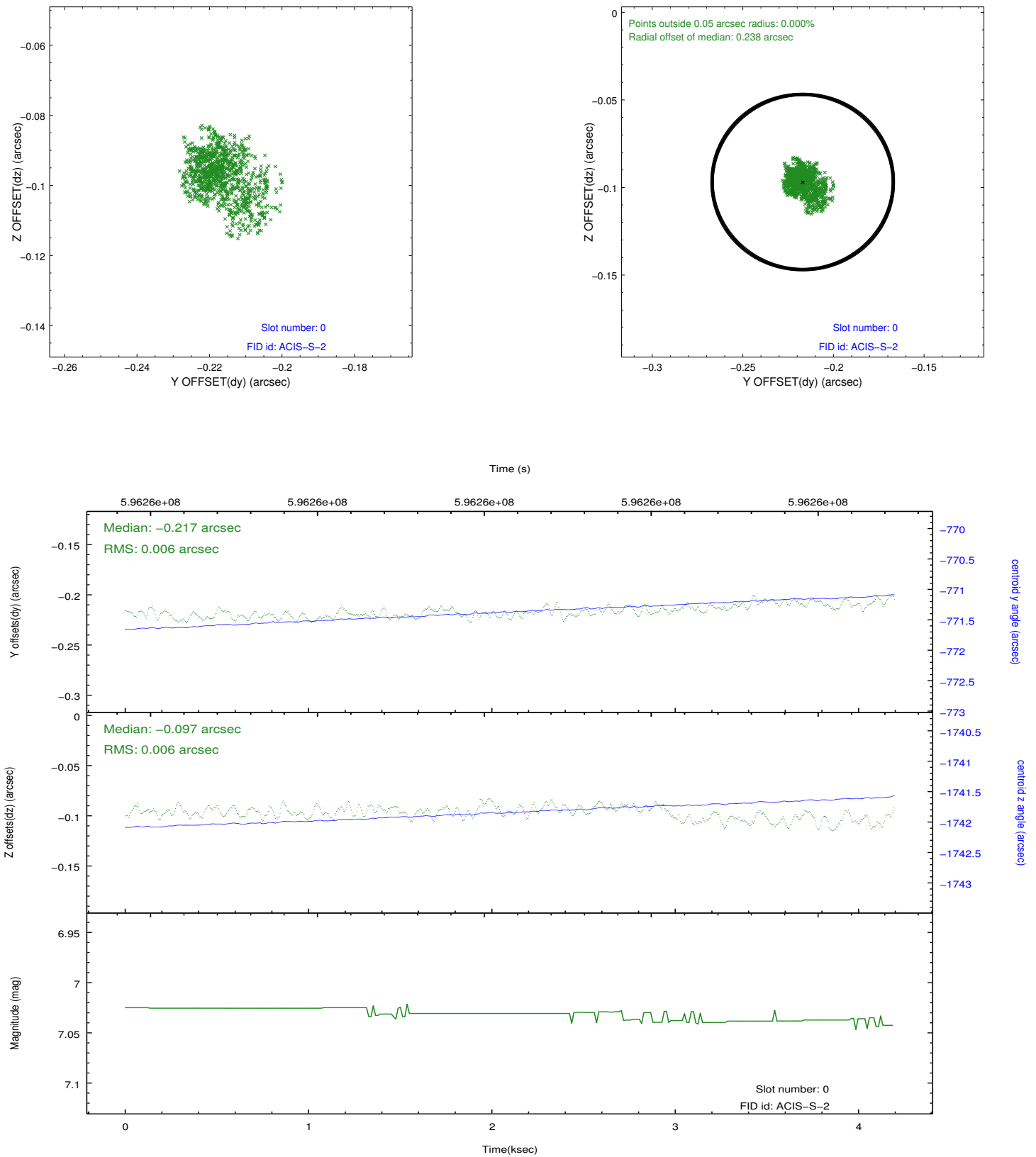


2.4.5 Slot 7

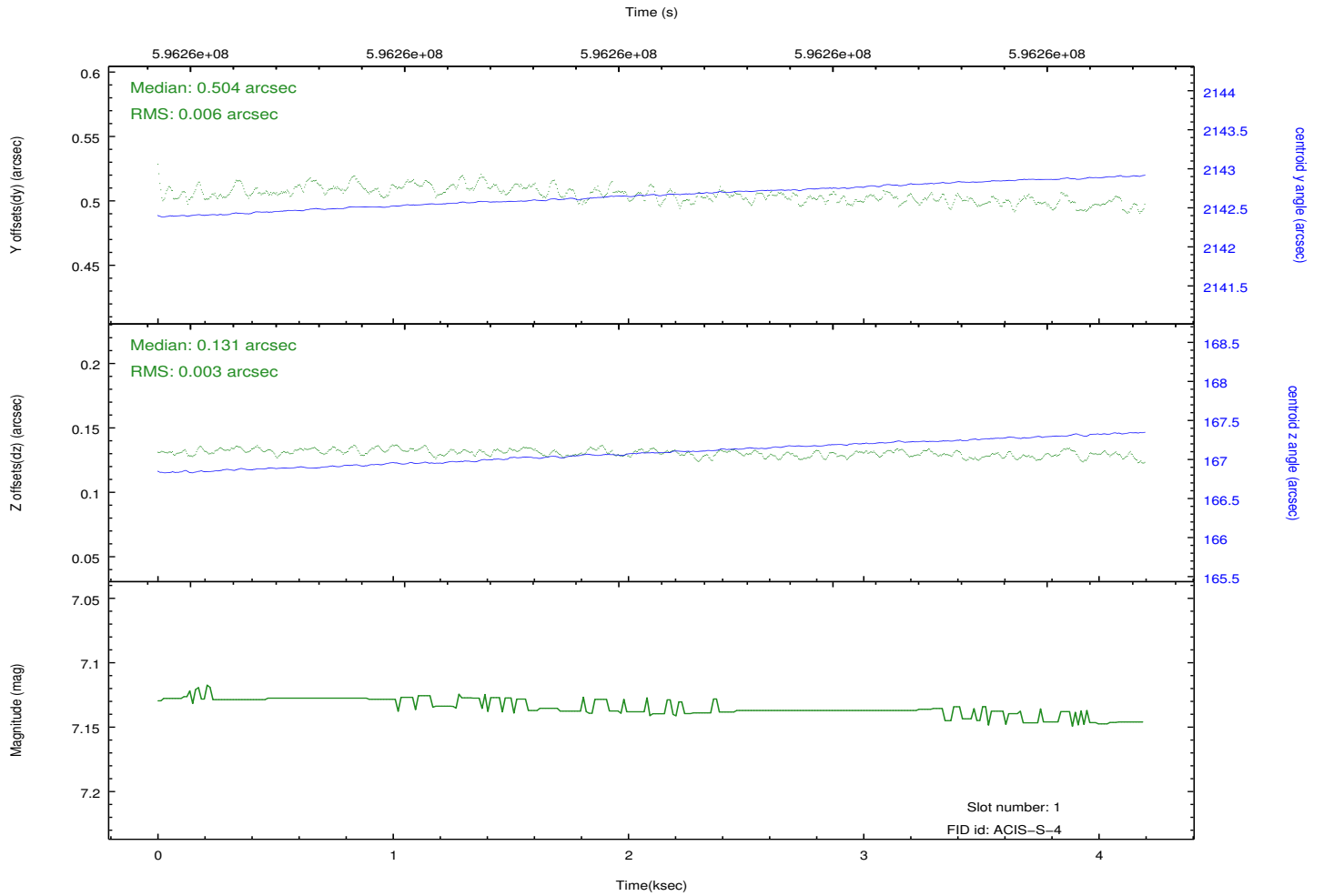
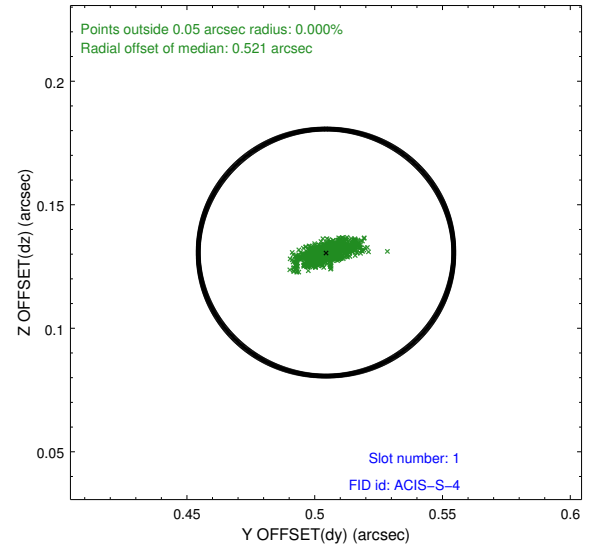
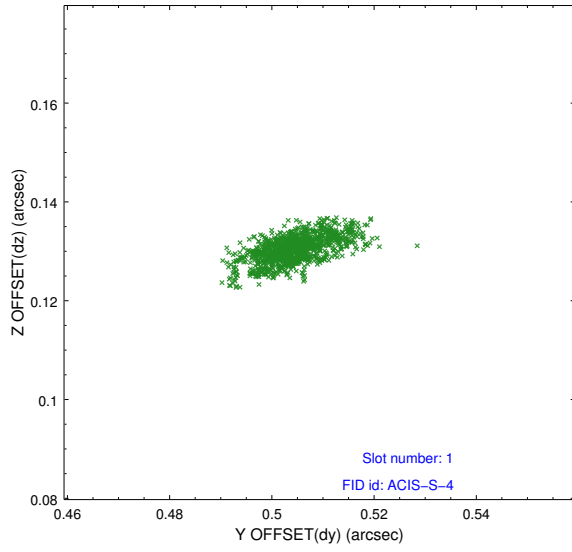


2.5 FID Slots

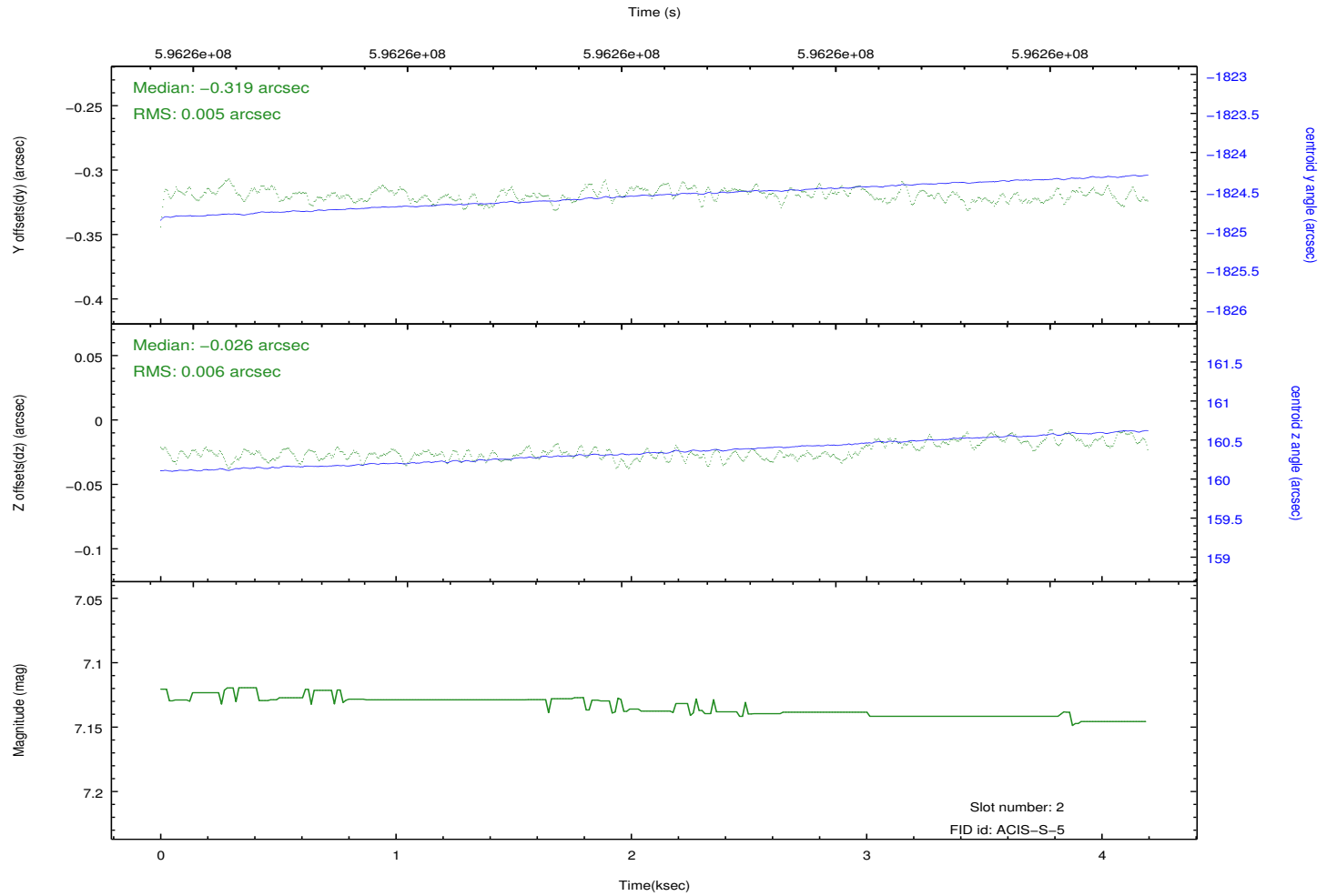
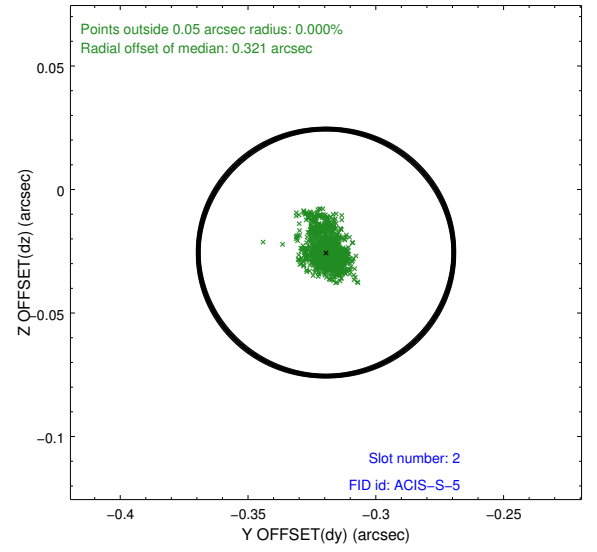
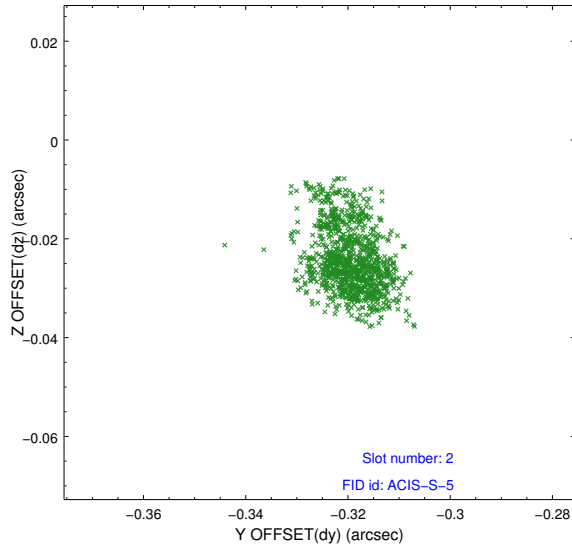
2.5.1 Slot 0



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) | 2016.11.23 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 3.9359912713766 |

A.2 Comments