

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 12561 - L2 Version 2
Chandra X-Ray Center

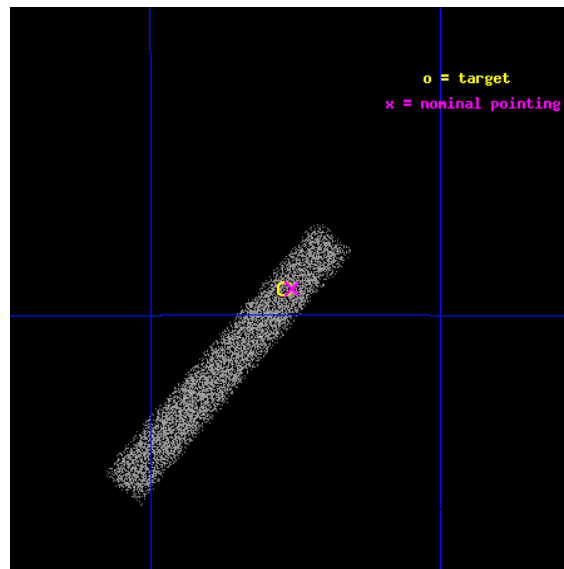
L2 Processing Date : Feb 24 2012

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1 Front

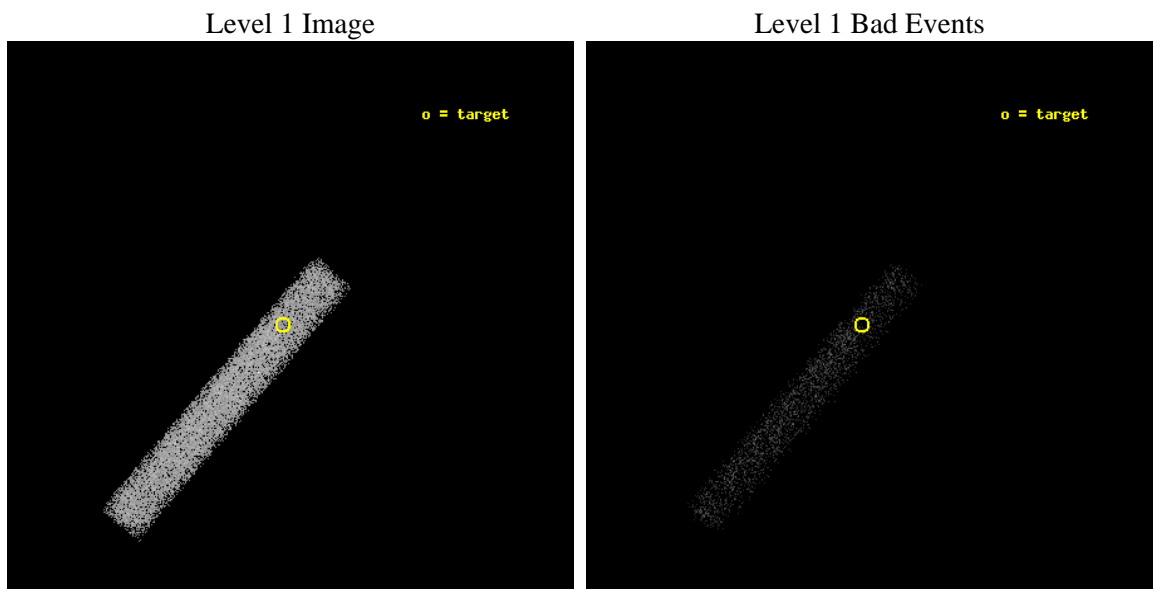
| | | |
|----------|--|---|
| seq_num | 501394 | Sequence number |
| obs_id | 12561 | Observation id |
| title | Grand Unification in Neutron Stars: The High-B Radio Pulsars | Propo |
| observer | Professor Victoria Kaspi | Principal investigator |
| object | PSR J1001-5939 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 150.384167 | Observer's specified target RA [deg] |
| dec_targ | -59.654944 | Observer's specified target Dec [deg] |
| ra_nom | 150.37820938277 | Nominal RA [deg] |
| dec_nom | -59.655349754949 | Nominal Dec [deg] |
| roll_nom | 130.43697992148 | Nominal Roll [deg] |
| revision | 2 | Processing version of data |
| ontime | 19009.126087546 | Sum of GTIs [s] |
| livetime | 17240.273977459 | Livetime [s] |
| ontime7 | 19009.126087546 | Sum of GTIs [s] |
| l2events | 9247 | Number of level 2 events |



2 OBI

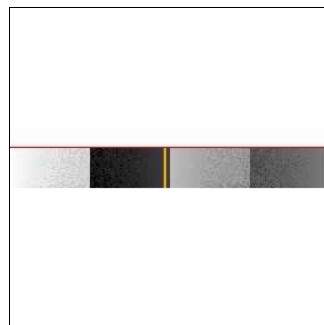
2.1 OBI

2.1.1 Images



2.1.2 Bias

Chip 7



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 19000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.3 | Processing system revision | ontime | 19009.126087546 | Sum of GTIs [s] |
| caldsver | 4.4.8 | | ontime7 | 19009.126087546 | Sum of GTIs [s] |
| date | 2012-02-24T04:53:28 | Date and time of file creation | l1events | 19434 | Number of level 1 events |
| revision | 2 | Processing version of data | | | |

2.1.4 Events

| | |
|-----------------|--------------|
| | ccd 7 |
| level 1 events | 19434 |
| rejected events | 9729 |
| rejected % | 50% |

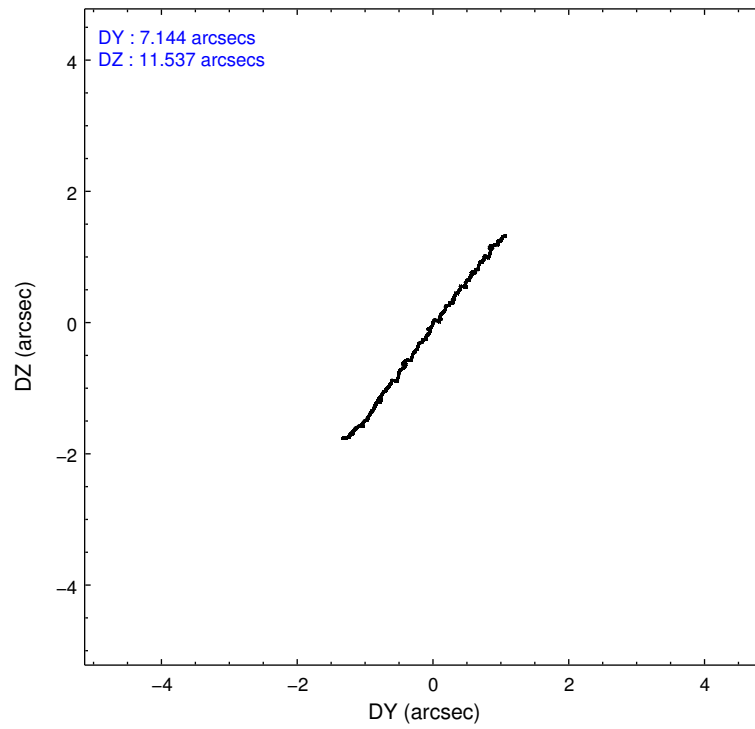
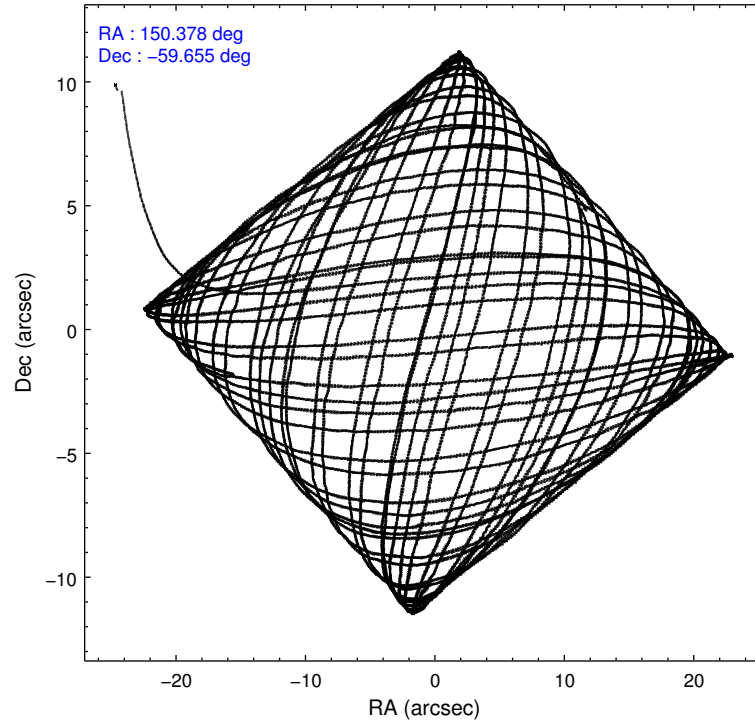
| | |
|----------------|--------------|
| | ccd 7 |
| grade 0 events | 1017 |
| | 5% |
| grade 1 events | 35 |
| | 0% |
| grade 2 events | 1810 |
| | 9% |
| grade 3 events | 1361 |
| | 7% |
| grade 4 events | 1236 |
| | 6% |
| grade 5 events | 1961 |
| | 10% |
| grade 6 events | 4282 |
| | 22% |
| grade 7 events | 7732 |
| | 39% |

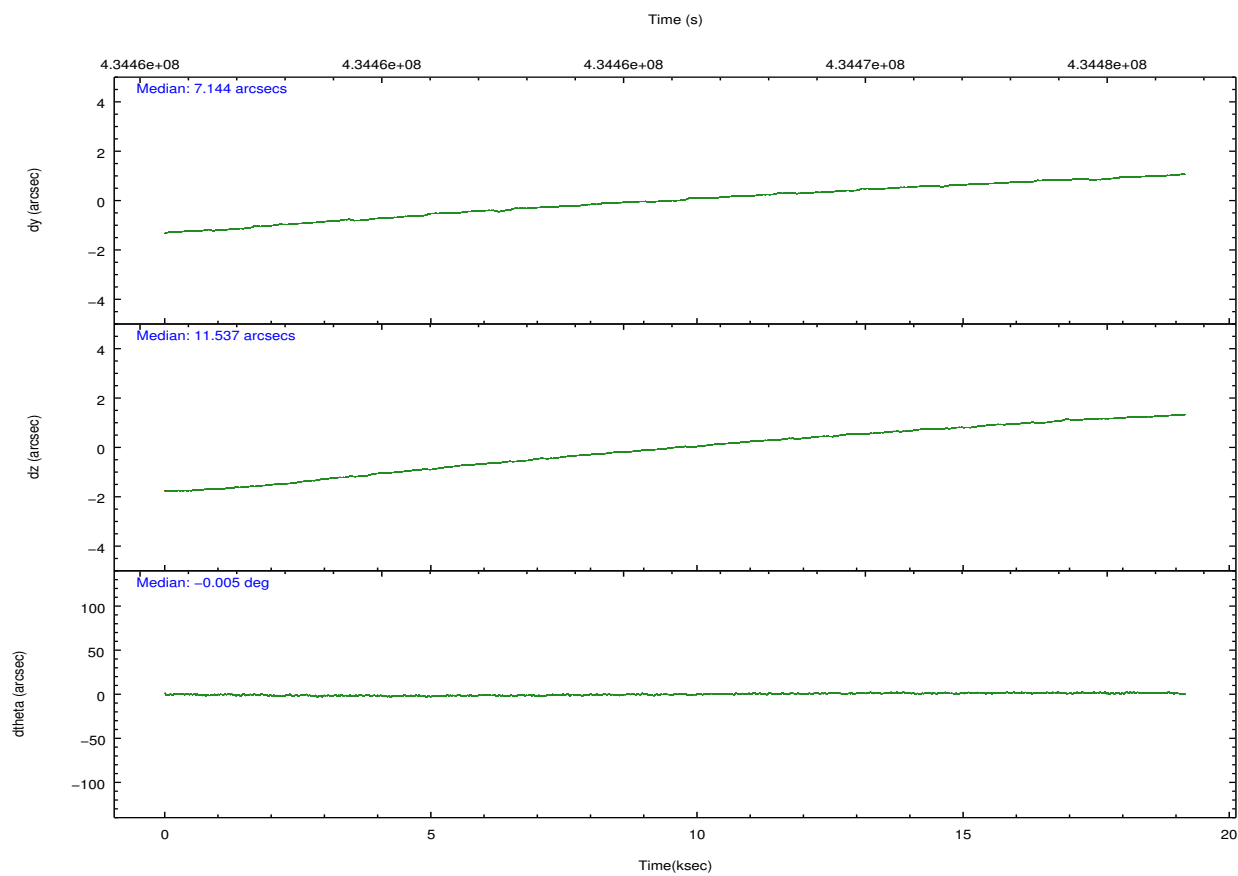
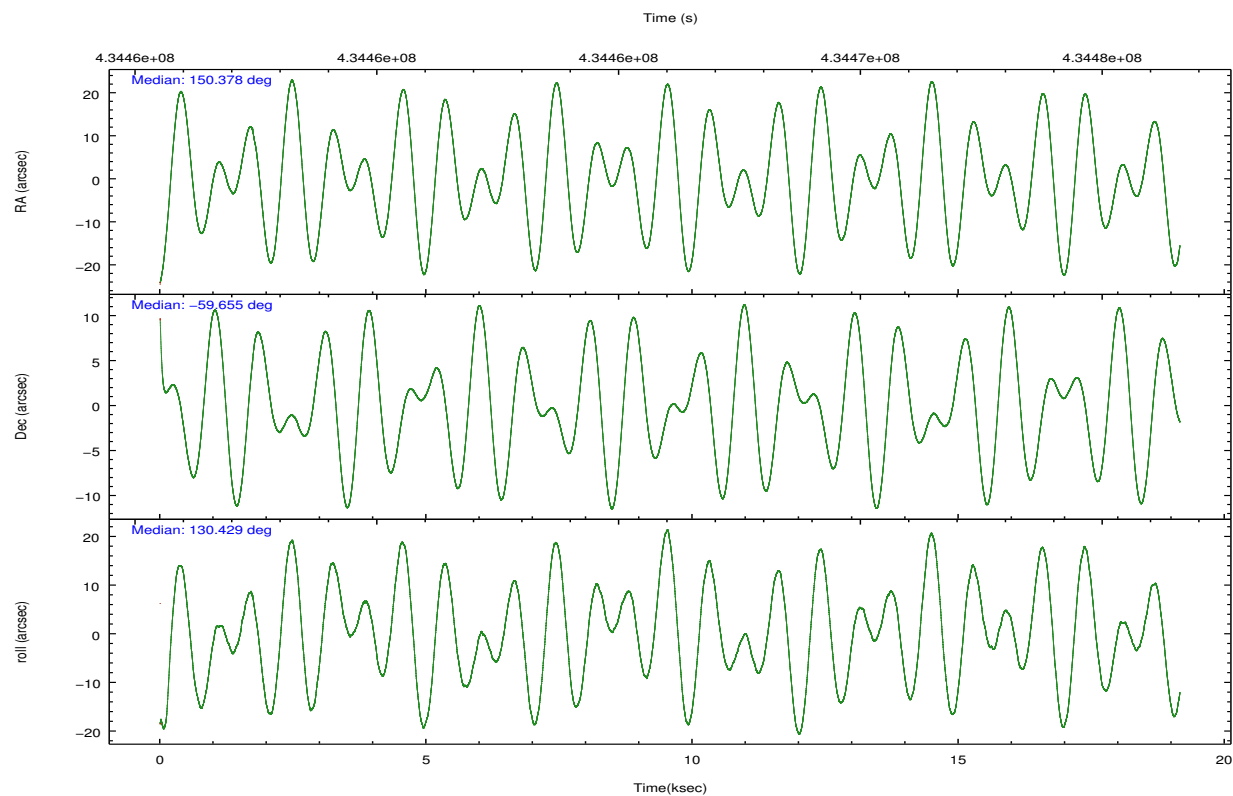
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-7 | ACIS-7 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 150.429491 | 150.3782093827678 |
| [deg] Pointing Dec | -59.664157 | -59.65534975494924 |
| [deg] Pointing Roll | 130.324612 | 130.4369799214847 |
| [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) | 434456648.184000 | 434455692.7361 |
| Observation start date | 2011-10-08T10:23:02 | 2011-10-08T10:08:12 |
| [s] Observation end time (MET) | 434475648.184000 | 434476228.61218 |
| Observation end date | 2011-10-08T15:39:42 | 2011-10-08T15:50:28 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| 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 | CUSTOM | 1/8 |
| Subarray start row | 449 | 449 |
| Subarray row count | 128 | 128 |
| Alternating exposures requested | N | N |
| [s] Primary exposure time | 0.000000 | 0.4 |

2.3 Aspect



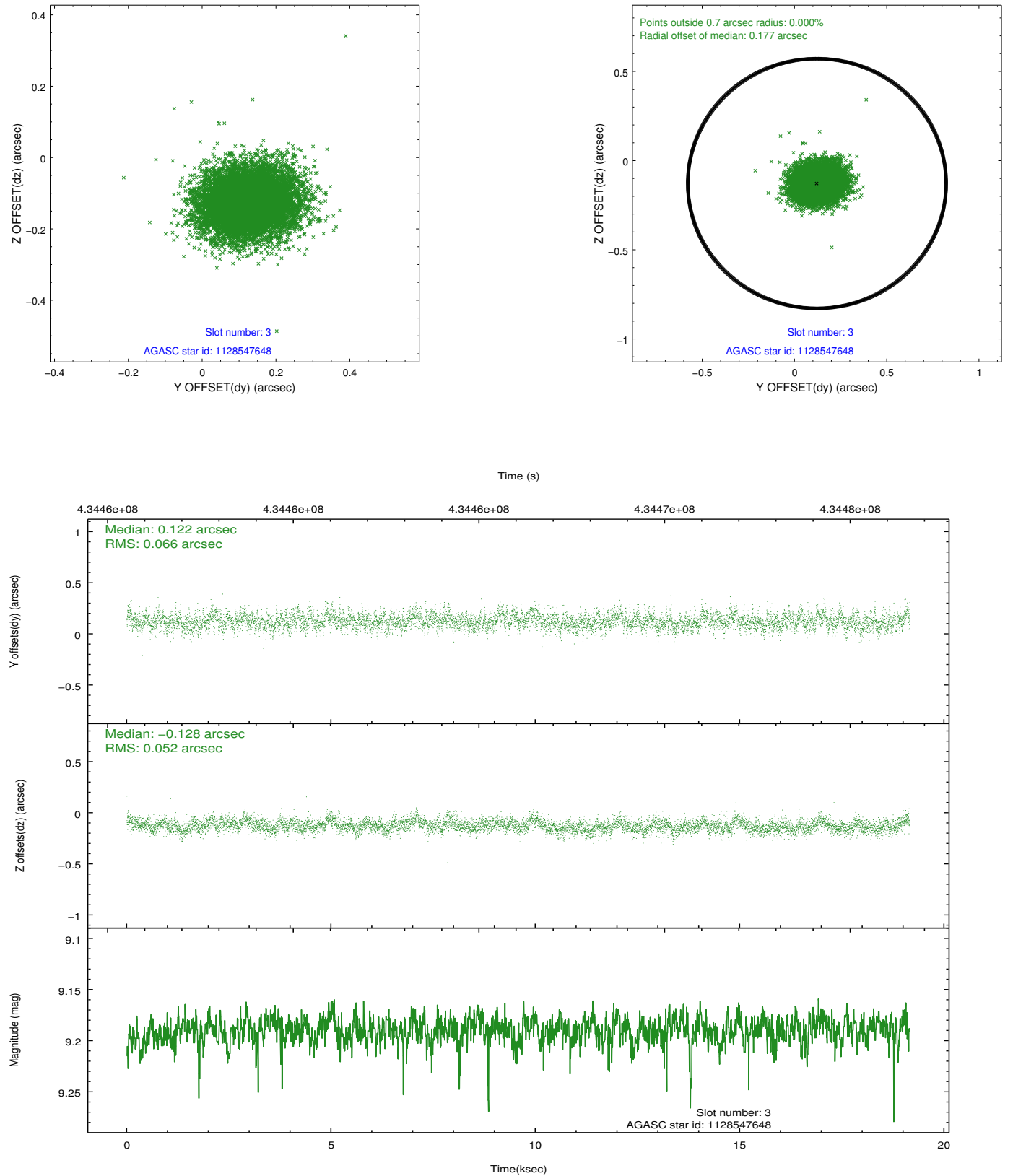


Slot Statistics

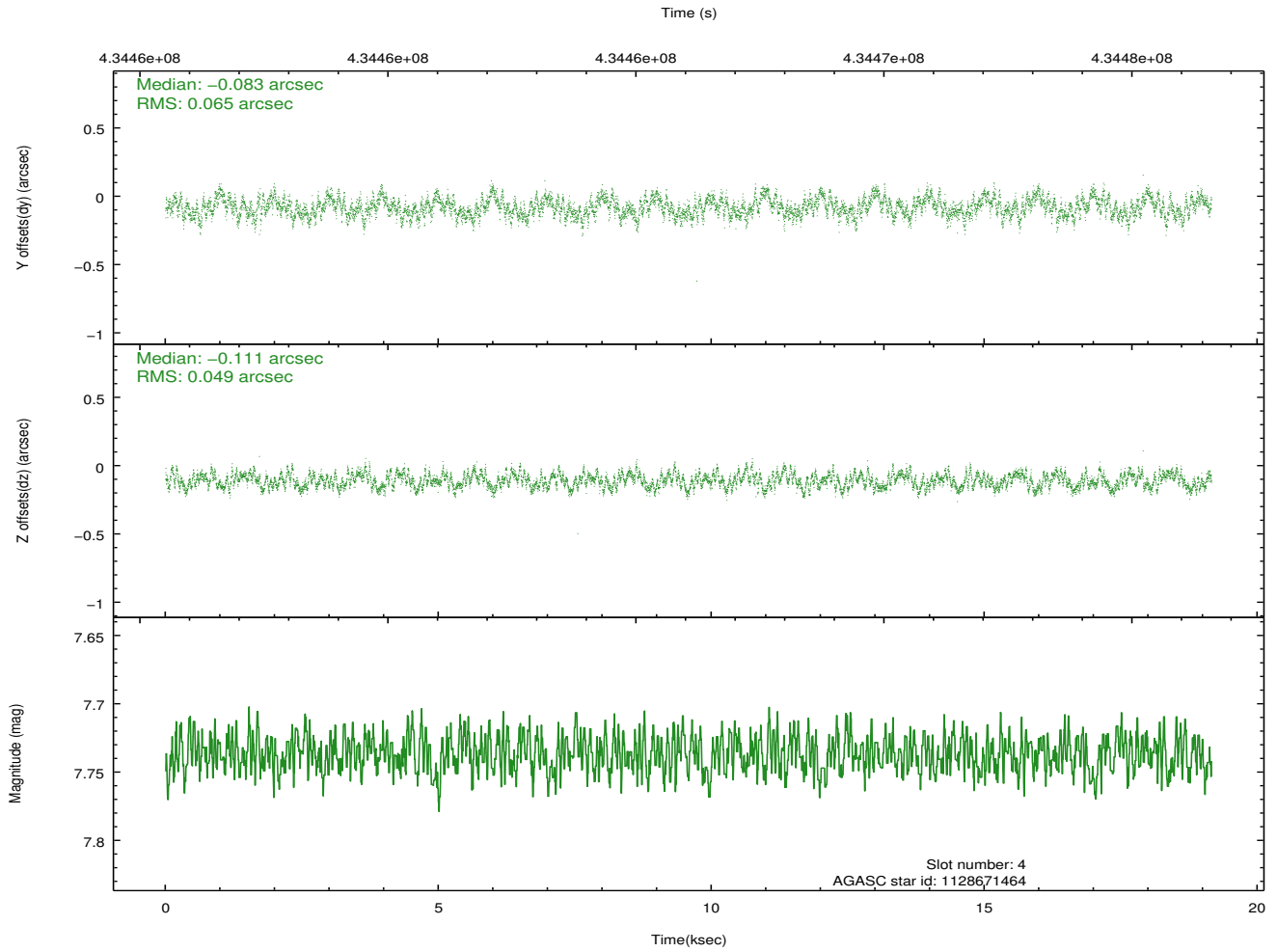
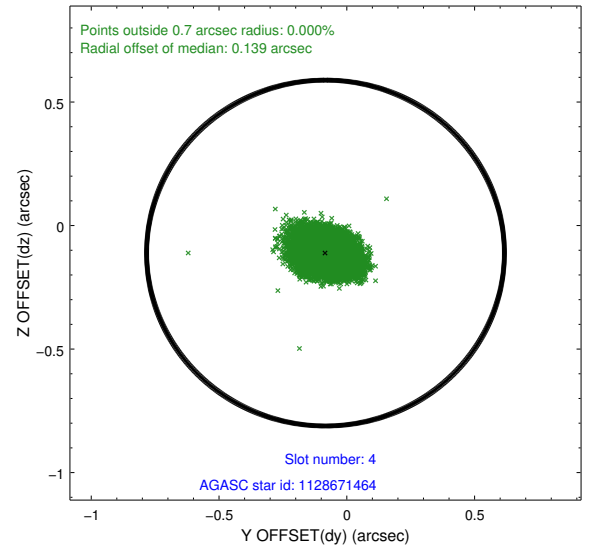
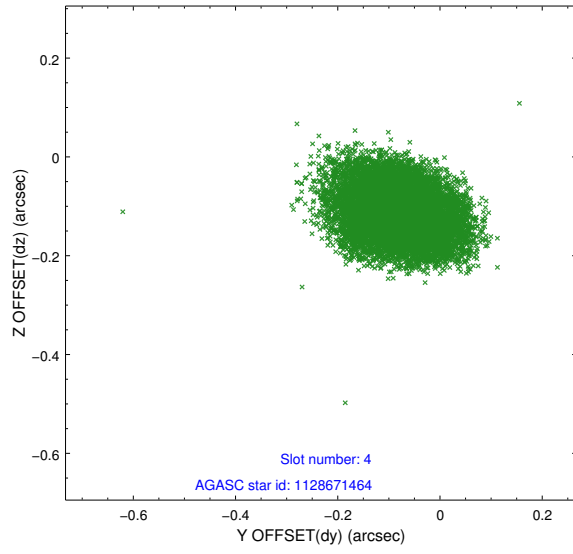
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | ACIS-S-1 | 7.03 | 4674 | 0.096 | -0.110 | 0.033 | 0.080 | 0.000000 | 0.000000 | 936.24 | -1728.40 |
| 1 | FID | ACIS-S-5 | 7.08 | 4673 | -0.120 | 0.058 | 0.030 | 0.043 | 0.000000 | 0.000000 | -1812.84 | 169.13 |
| 2 | FID | ACIS-S-6 | 7.18 | 4673 | 0.007 | 0.057 | 0.034 | 0.051 | 0.000000 | 0.000000 | 401.52 | 813.30 |
| 3 | GUIDE | 1128547648 | 9.19 | 9344 | 0.122 | -0.128 | 0.087 | 0.146 | 149.491075 | -59.245119 | 2258.87 | 349.11 |
| 4 | GUIDE | 1128671464 | 7.74 | 9346 | -0.083 | -0.111 | 0.088 | 0.137 | 150.837874 | -59.948235 | -1257.48 | 101.94 |
| 5 | GUIDE | 1172183768 | 7.47 | 9344 | -0.061 | 0.006 | 0.068 | 0.109 | 150.264396 | -60.293226 | -1536.48 | 1690.32 |
| 6 | GUIDE | 1128677472 | 9.32 | 9327 | 0.248 | -0.018 | 0.138 | 0.218 | 150.730488 | -58.830224 | 1925.50 | -2368.98 |
| 7 | GUIDE | 1128676176 | 9.14 | 9325 | -0.235 | 0.252 | 0.082 | 0.131 | 151.283878 | -59.197213 | 255.02 | -2281.83 |

2.4 Star Slots

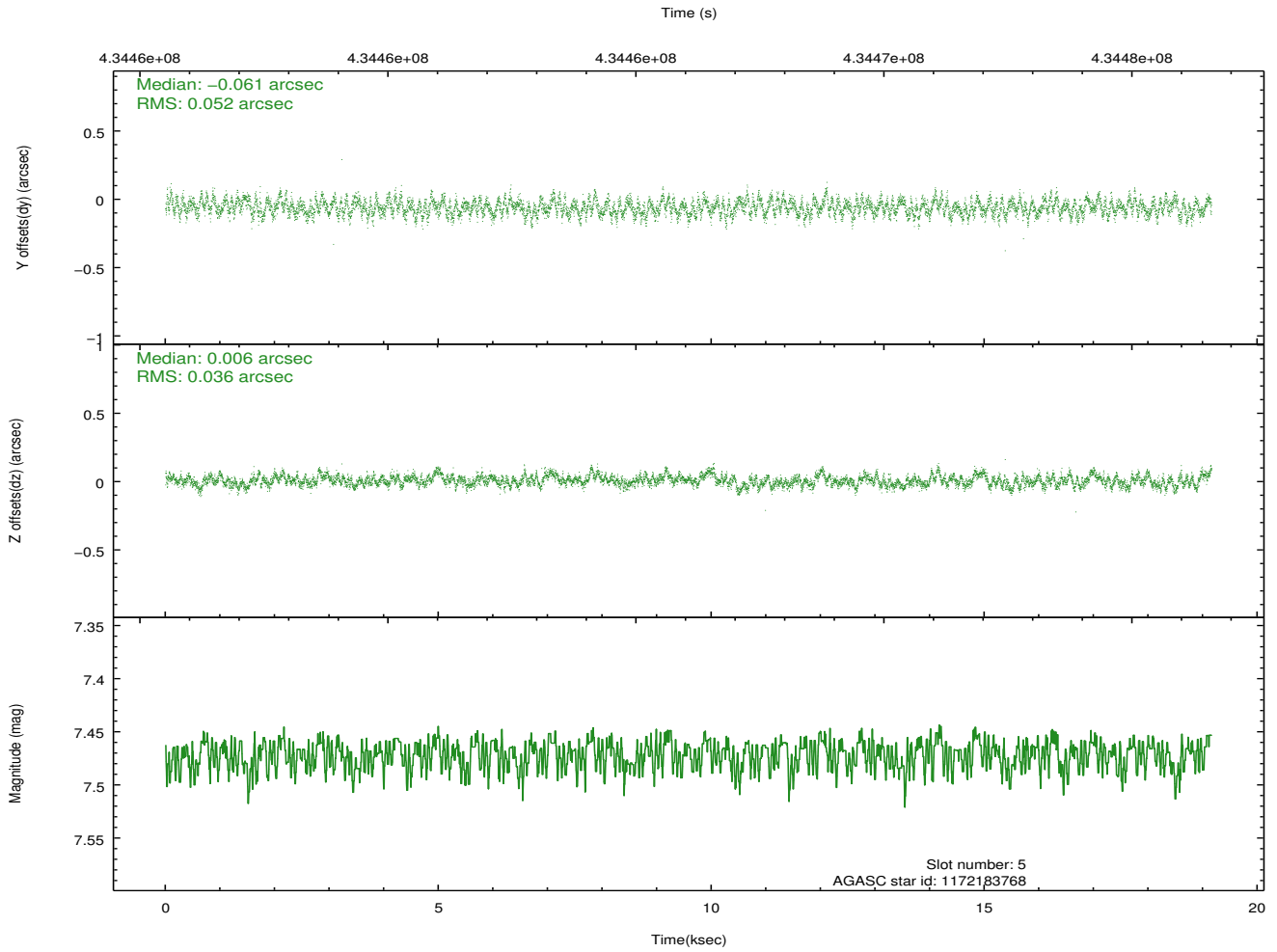
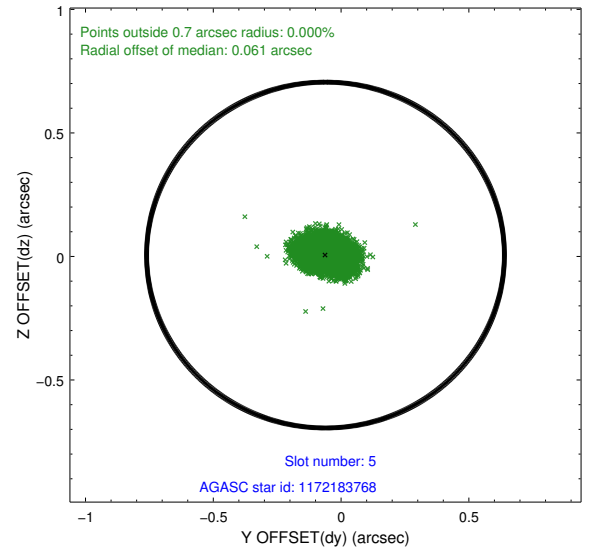
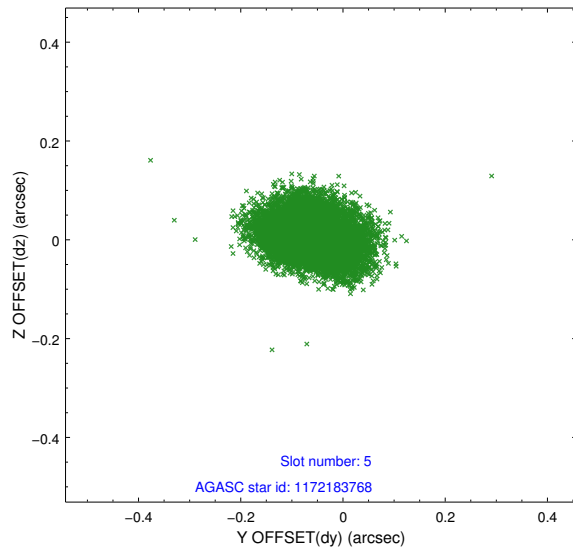
2.4.1 Slot 3



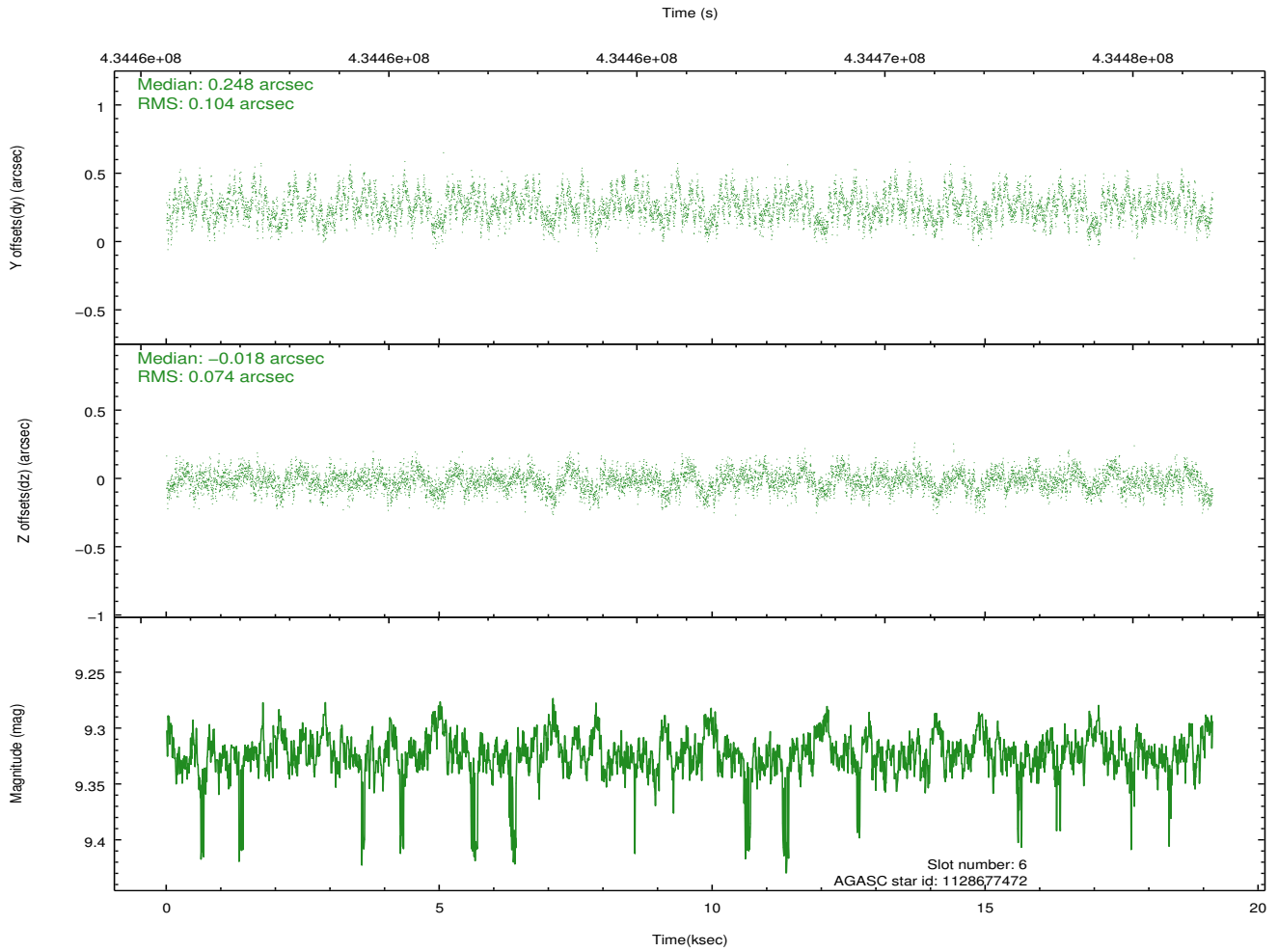
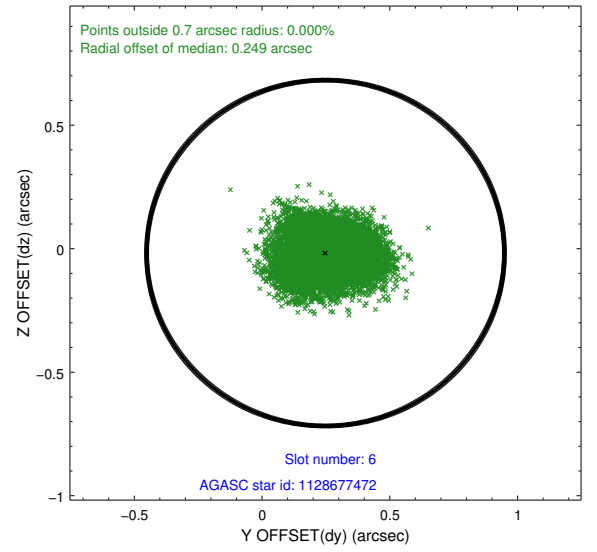
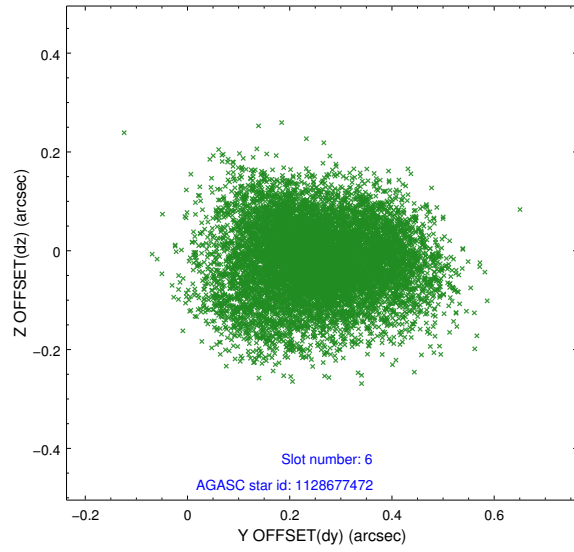
2.4.2 Slot 4



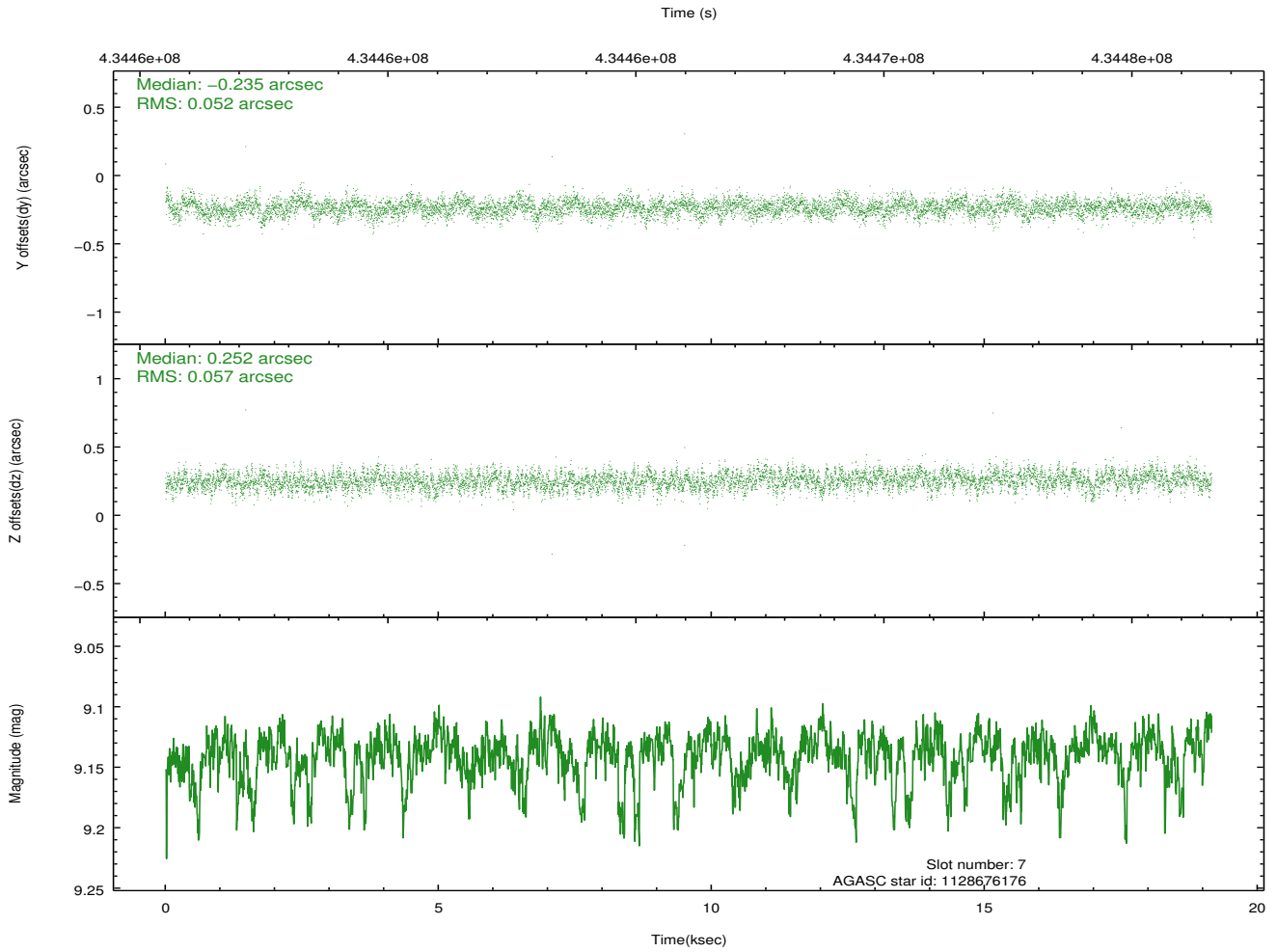
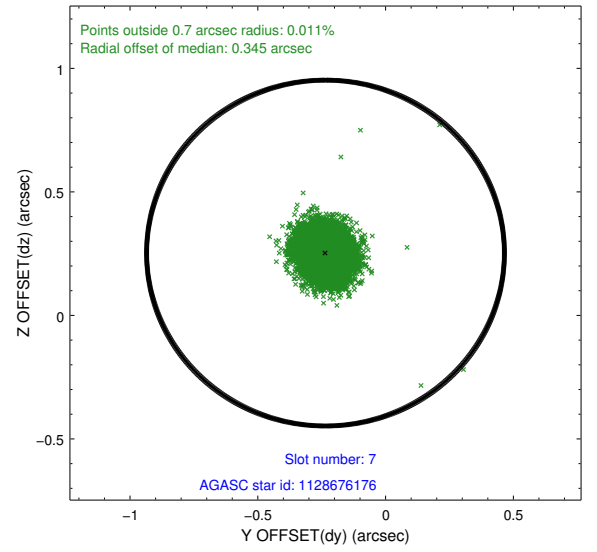
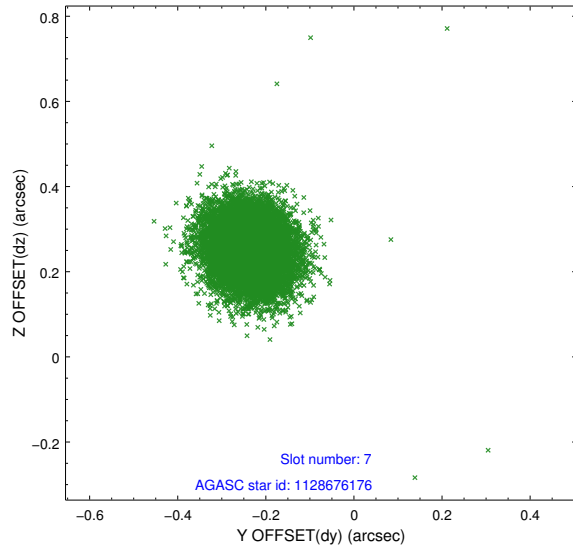
2.4.3 Slot 5



2.4.4 Slot 6

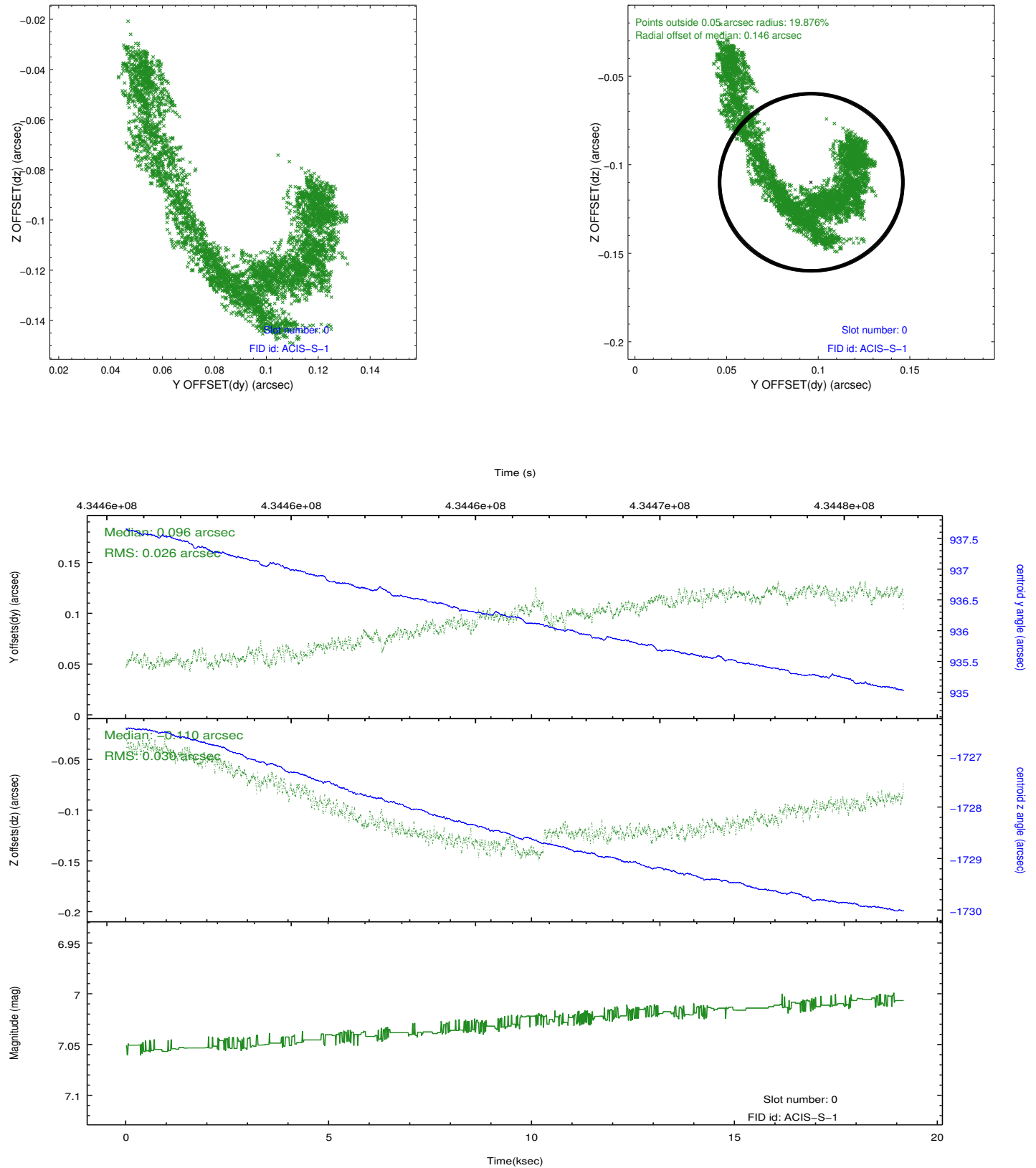


2.4.5 Slot 7

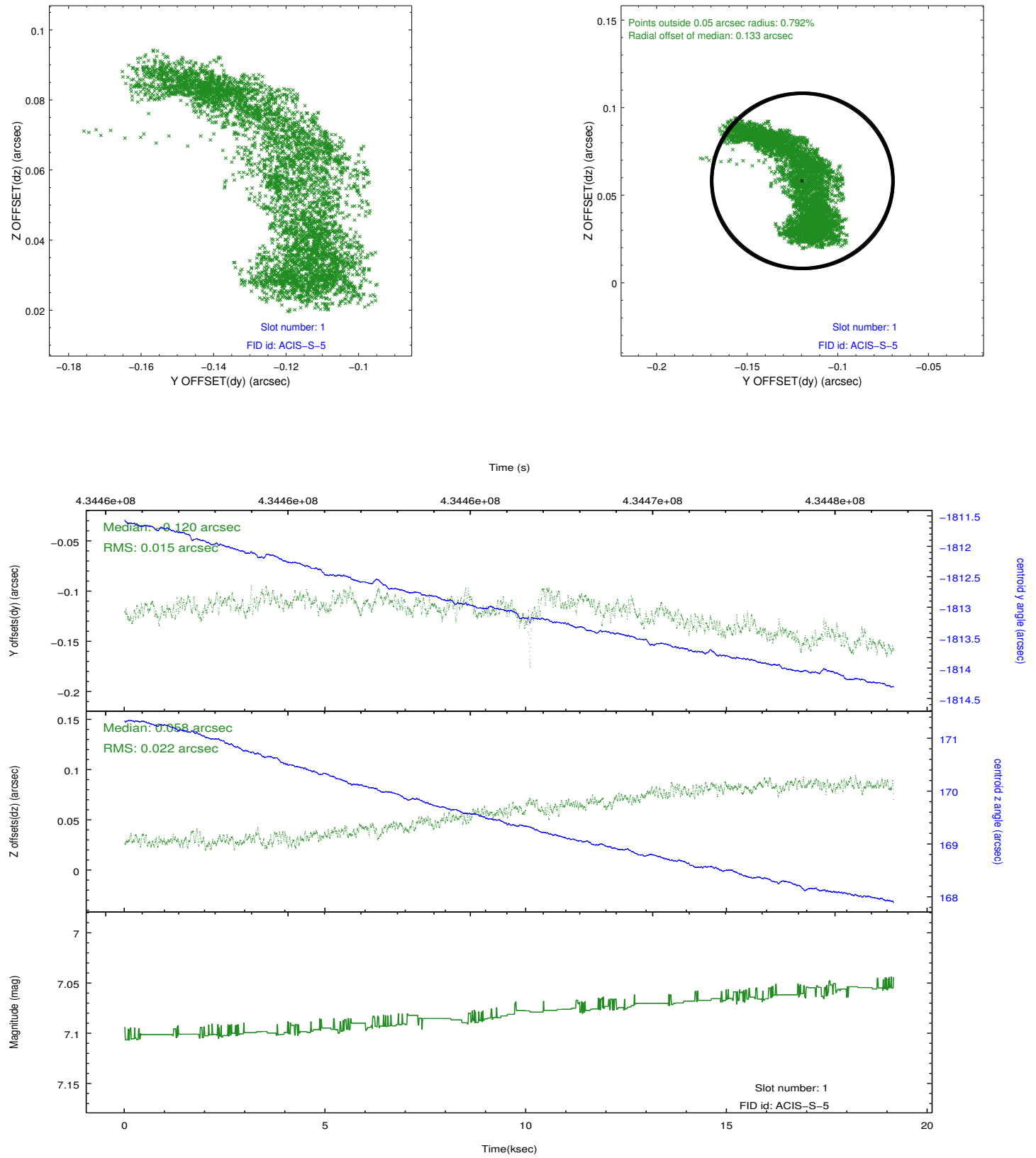


2.5 FID Slots

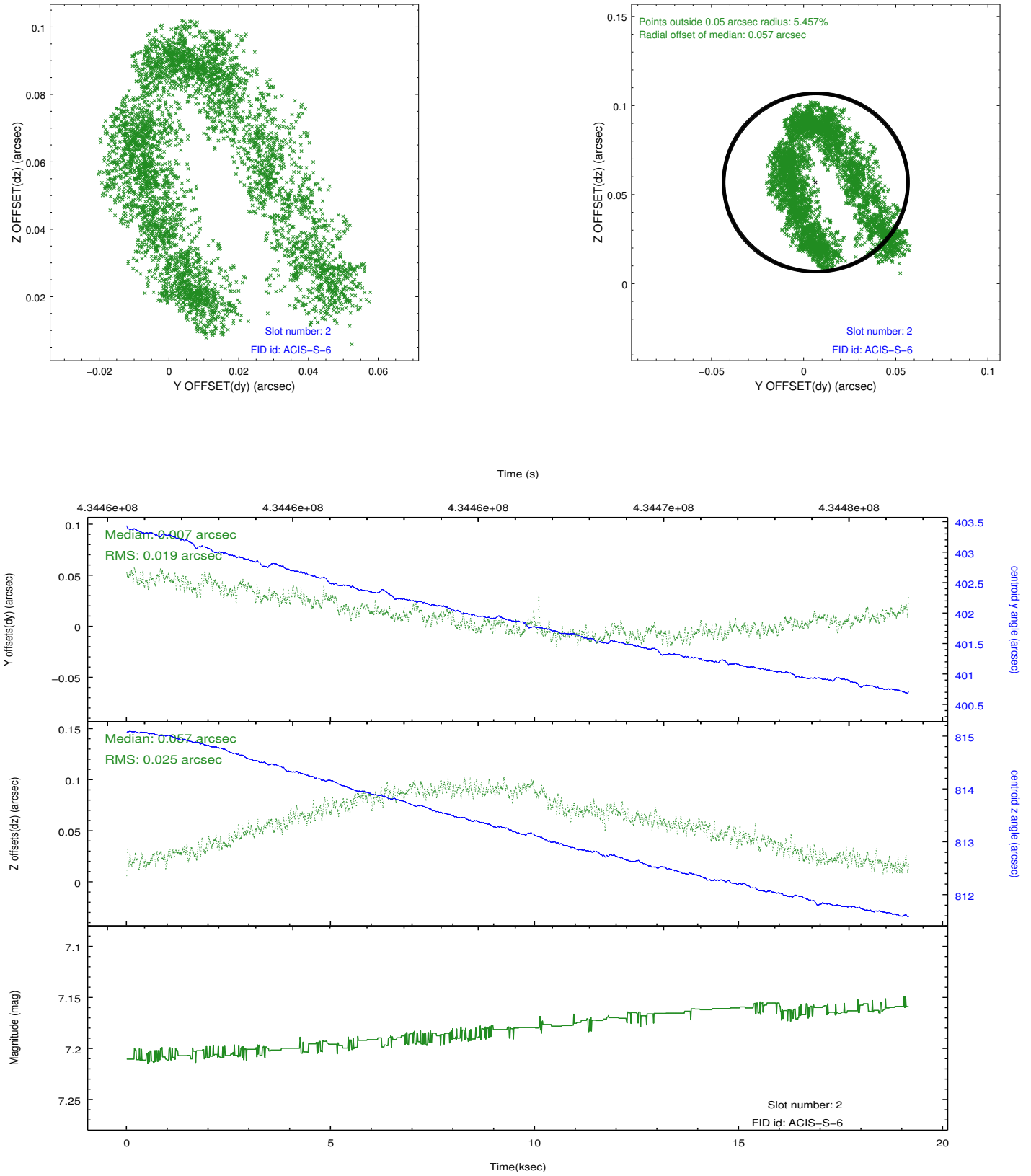
2.5.1 Slot 0



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) | 2012.02.24 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 19.009126090407 |

A.2 Comments

The EXPOSURE (and LIVETIME) are 17241.4 s, which is 90.6947% (DTCOR) of the ONTIME of 19010.3 s. The reason that DTCOR is about 0.91 instead of about 0.99

is that the frame time is only 0.4 s. Since the frame transfer time is 0.04104 s,

the fraction of the time spent in the static exposure is $0.4 / (0.4 + 0.04104) =$

0.906947. The EXPOSURE is consistent with the exposure expected if one counts

the total number of valid frames (43104) and multiplies by the static exposure

time (43104 axaff12561N002_VV001_vv2.txt vrc.19228.axaff12561N002_VV001_vv2.txt vrc.19228.a