

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 8031 - L2 Version 4
Chandra X-Ray Center

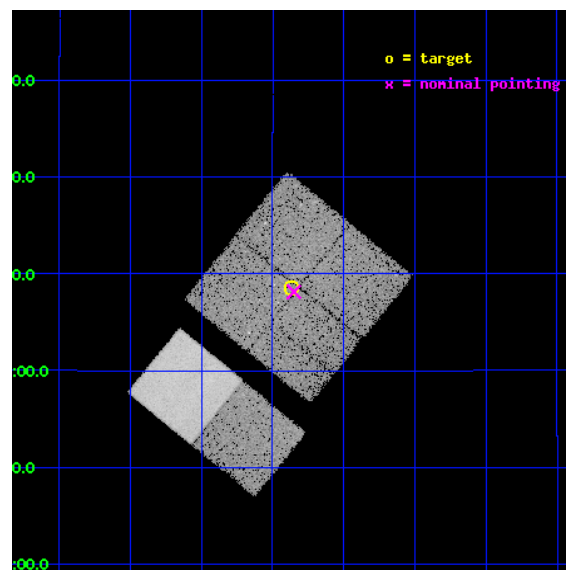
L2 Processing Date : Apr 24 2012

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1 Front

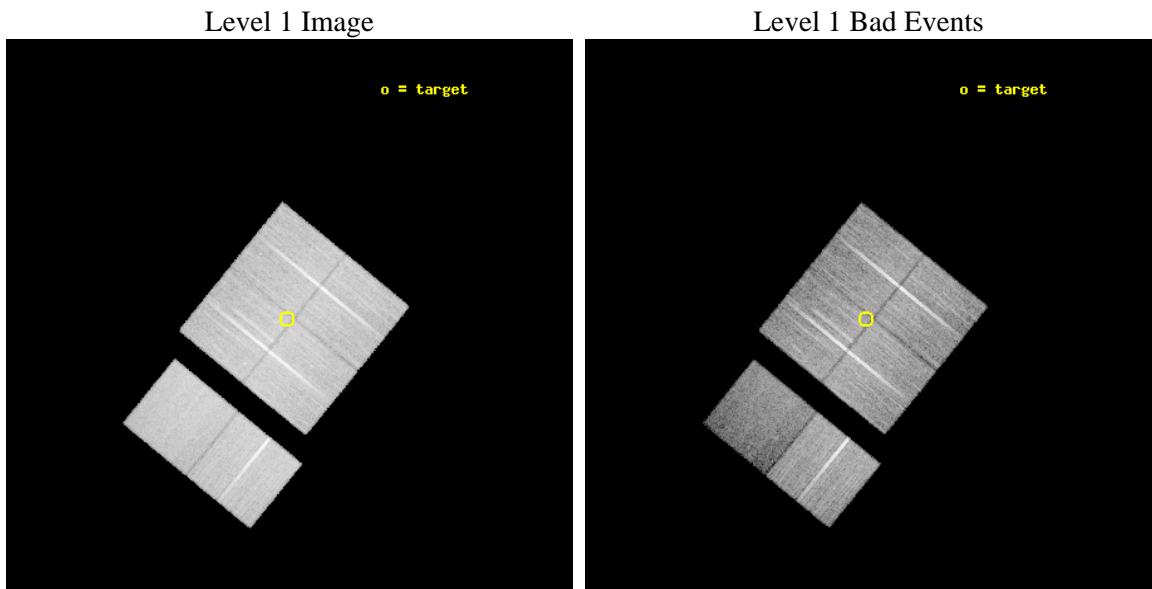
| | | |
|----------|---|---|
| seq_num | 900575 | Sequence number |
| obs_id | 8031 | Observation id |
| title | Discovering the absorbed AGN population responsible for the hard X-ray background | Proposal title |
| observer | Ms Simona Soldi | Principal investigator |
| object | IGR J1335+0710 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 203.967083 | Observer's specified target RA [deg] |
| dec_targ | 7.142389 | Observer's specified target Dec [deg] |
| ra_nom | 203.96258727067 | Nominal RA [deg] |
| dec_nom | 7.1356327812768 | Nominal Dec [deg] |
| roll_nom | 219.19362332839 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 19637.623599529 | Sum of GTIs [s] |
| livetime | 19388.960185155 | Livetime [s] |
| ontime0 | 19640.741479754 | Sum of GTIs [s] |
| ontime1 | 19637.541519523 | Sum of GTIs [s] |
| ontime2 | 19640.823559761 | Sum of GTIs [s] |
| ontime3 | 19637.623599529 | Sum of GTIs [s] |
| ontime6 | 19640.946679771 | Sum of GTIs [s] |
| ontime7 | 19640.905639768 | Sum of GTIs [s] |
| l2events | 126678 | Number of level 2 events |



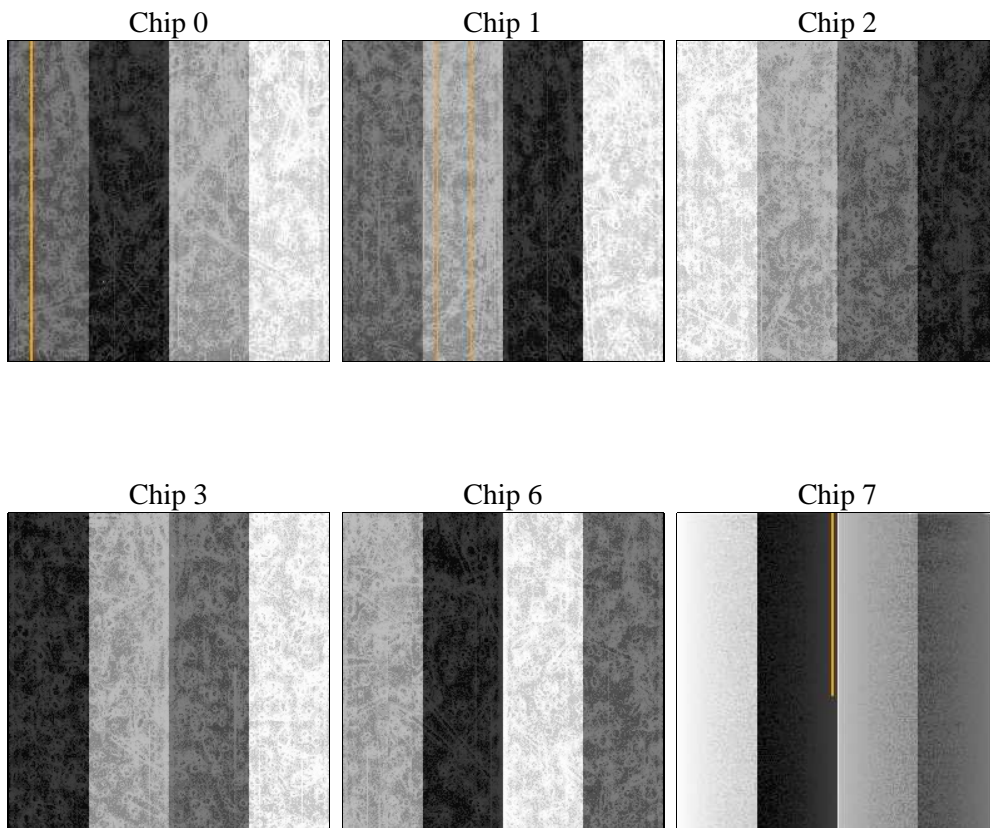
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 19600.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 19637.623599529 | Sum of GTIs [s] |
| caldsver | 4.4.9 | | ontime0 | 19640.741479754 | Sum of GTIs [s] |
| date | 2012-04-24T13:57:00 | Date and time of file creation | ontime1 | 19637.541519523 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime2 | 19640.823559761 | Sum of GTIs [s] |
| | | | ontime3 | 19637.623599529 | Sum of GTIs [s] |
| | | | ontime6 | 19640.946679771 | Sum of GTIs [s] |
| | | | ontime7 | 19640.905639768 | Sum of GTIs [s] |
| | | | l1events | 884097 | Number of level 1 events |

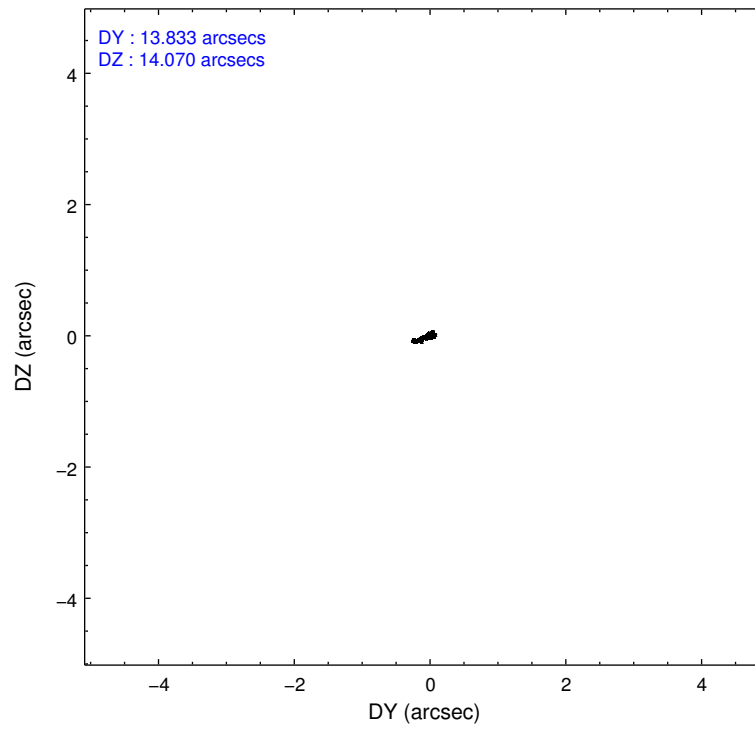
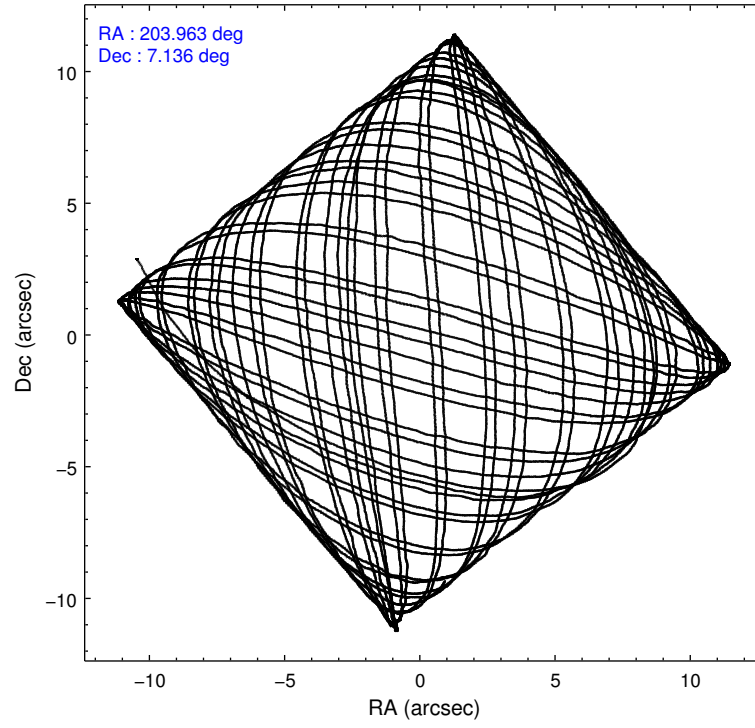
2.1.4 Events

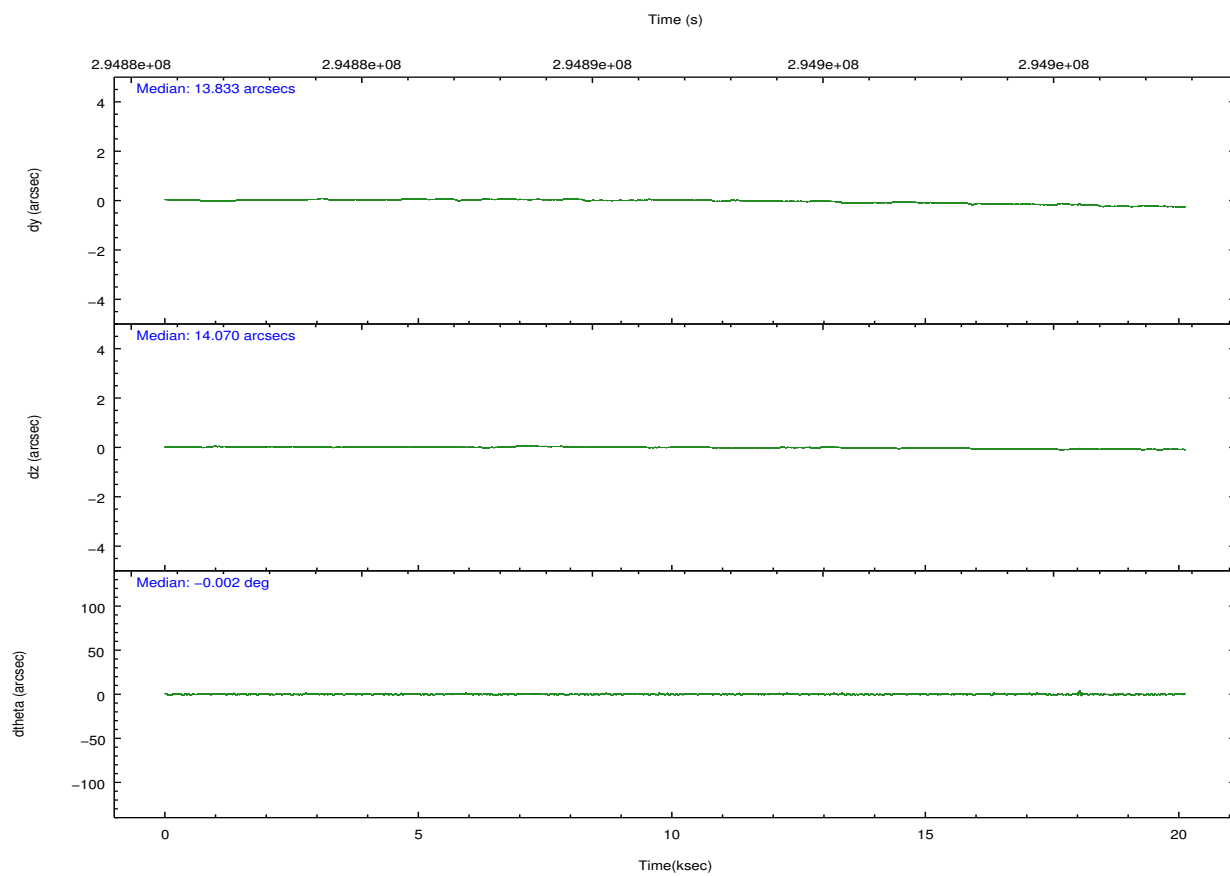
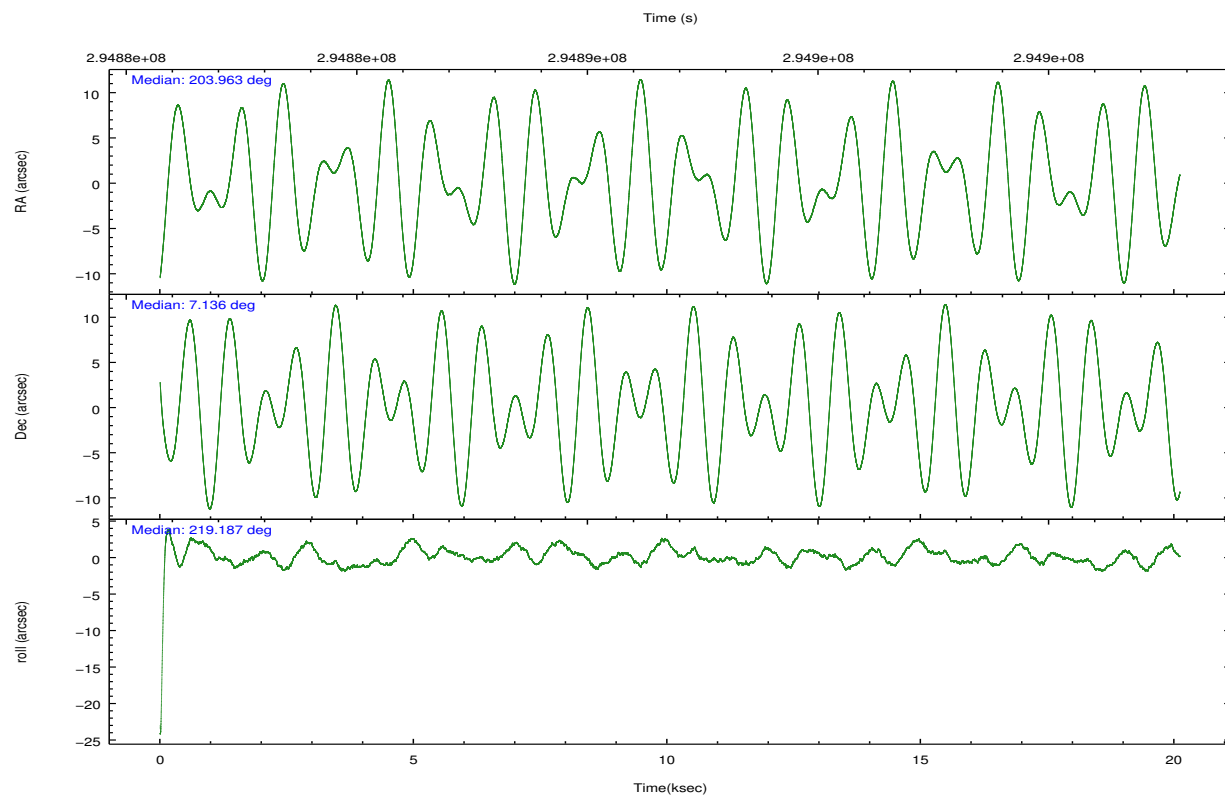
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|-------|
| level 1 events | 142146 | 137529 | 159017 | 147065 | 157098 | 141242 | grade 0 events | 5353 | 5539 | 5404 | 5355 | 5265 | 7156 |
| rejected events | 127547 | 122060 | 144951 | 133199 | 142219 | 72114 | | 3% | 4% | 3% | 3% | 3% | 5% |
| rejected % | 89% | 88% | 91% | 90% | 90% | 51% | grade 1 events | 90 | 89 | 92 | 101 | 79 | 221 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 3419 | 3396 | 3226 | 2927 | 3391 | 14362 |
| | | | | | | | | 2% | 2% | 2% | 1% | 2% | 10% |
| | | | | | | | grade 3 events | 1648 | 1716 | 1452 | 1524 | 1599 | 6410 |
| | | | | | | | | 1% | 1% | 0% | 1% | 1% | 4% |
| | | | | | | | grade 4 events | 1541 | 1745 | 1593 | 1541 | 1608 | 6518 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 4% |
| | | | | | | | grade 5 events | 4203 | 4821 | 3808 | 5021 | 4986 | 15113 |
| | | | | | | | | 2% | 3% | 2% | 3% | 3% | 10% |
| | | | | | | | grade 6 events | 2643 | 3077 | 2400 | 2525 | 3020 | 34701 |
| | | | | | | | | 1% | 2% | 1% | 1% | 1% | 24% |
| | | | | | | | grade 7 events | 123249 | 117146 | 141042 | 128071 | 137150 | 56761 |
| | | | | | | | | 86% | 85% | 88% | 87% | 87% | 40% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-012367 | ACIS-012367 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | FAINT | FAINT | CCD I0 on | Y | Y |
| Observation mode | POINTING | POINTING | CCD I1 on | Y | Y |
| [deg] Pointing RA | 203.972322 | 203.962587270674 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | 7.161392 | 7.135632781276826 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 218.983741 | 219.1936233283929 | CCD S0 on | N | N |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 | CCD S1 on | N | N |
| [mm] SIM defocus | 0 | 0.001439871863259334 | CCD S2 on | O2 | Y |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 | CCD S3 on | O1 | Y |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 | CCD S4 on | N | N |
| [s] Observation start time (MET) | 294882248.184000 | 294881078.11008 | CCD S5 on | N | N |
| Observation start date | 2007-05-06T23:43:03 | 2007-05-06T23:24:38 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 294901848.184000 | 294902236.16109 | On-chip summing requested | N | N |
| Observation end date | 2007-05-07T05:09:43 | 2007-05-07T05:17:16 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



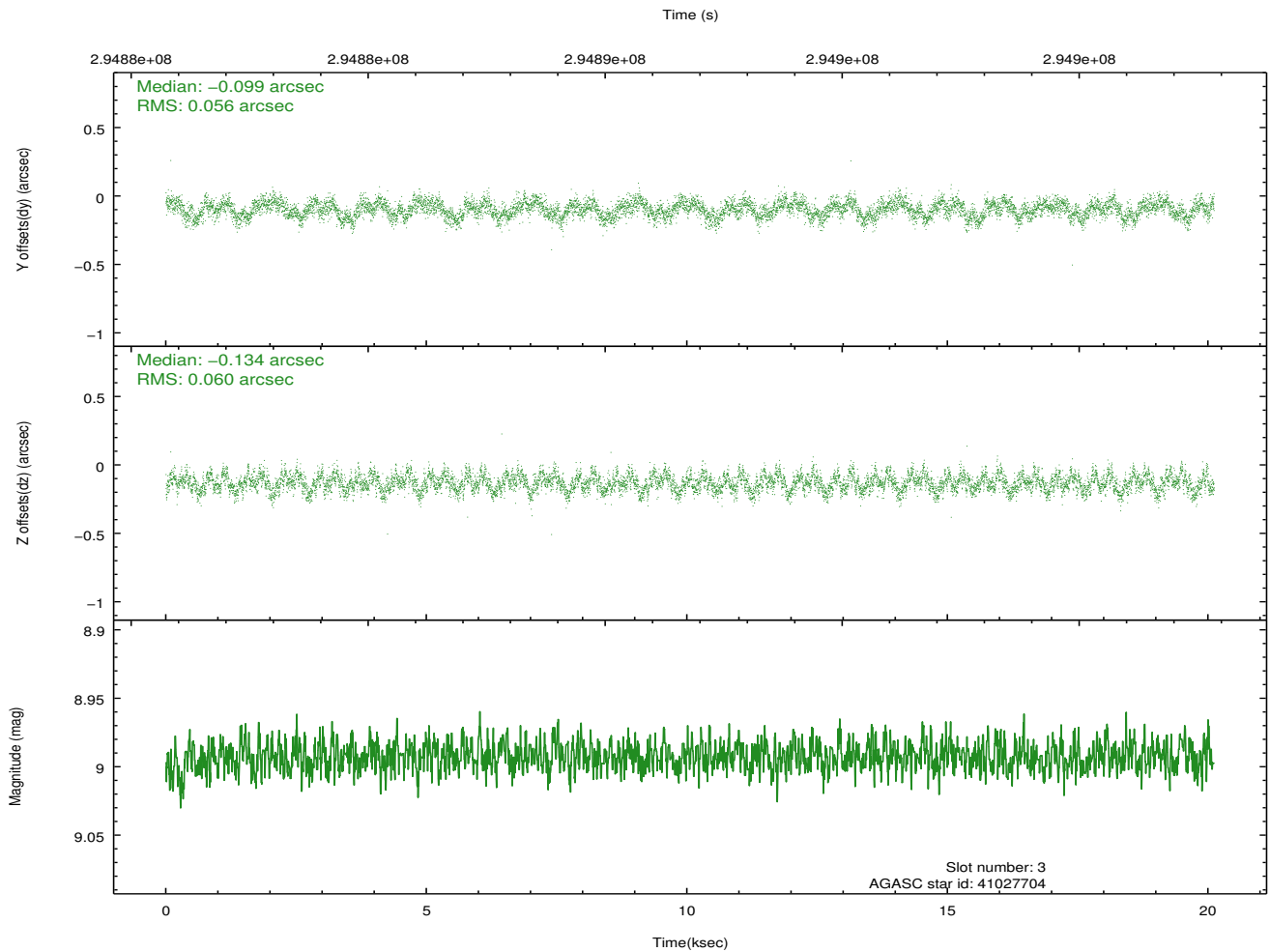
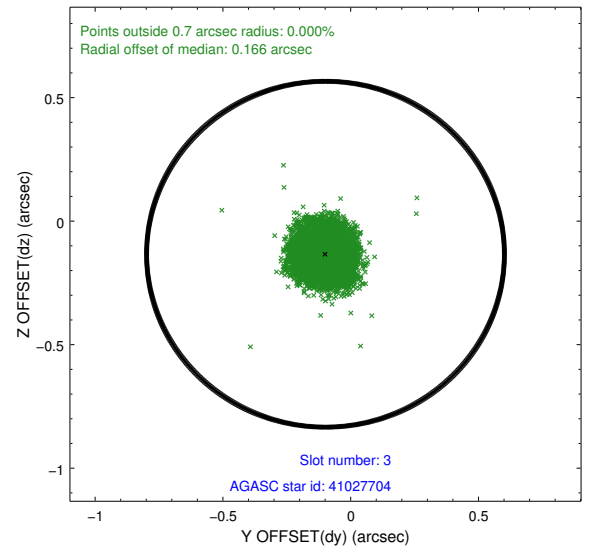
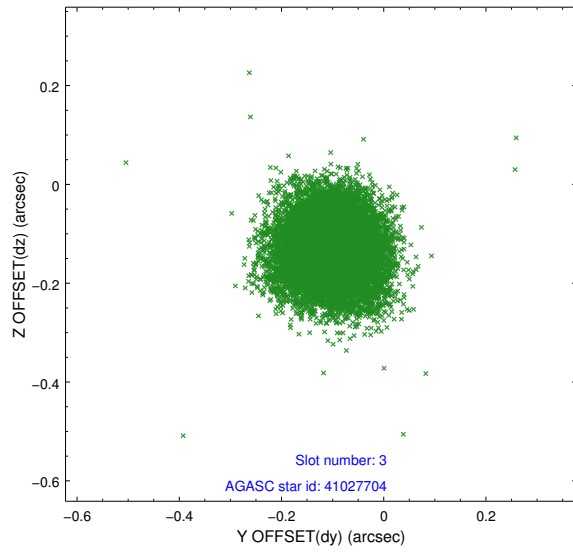


Slot Statistics

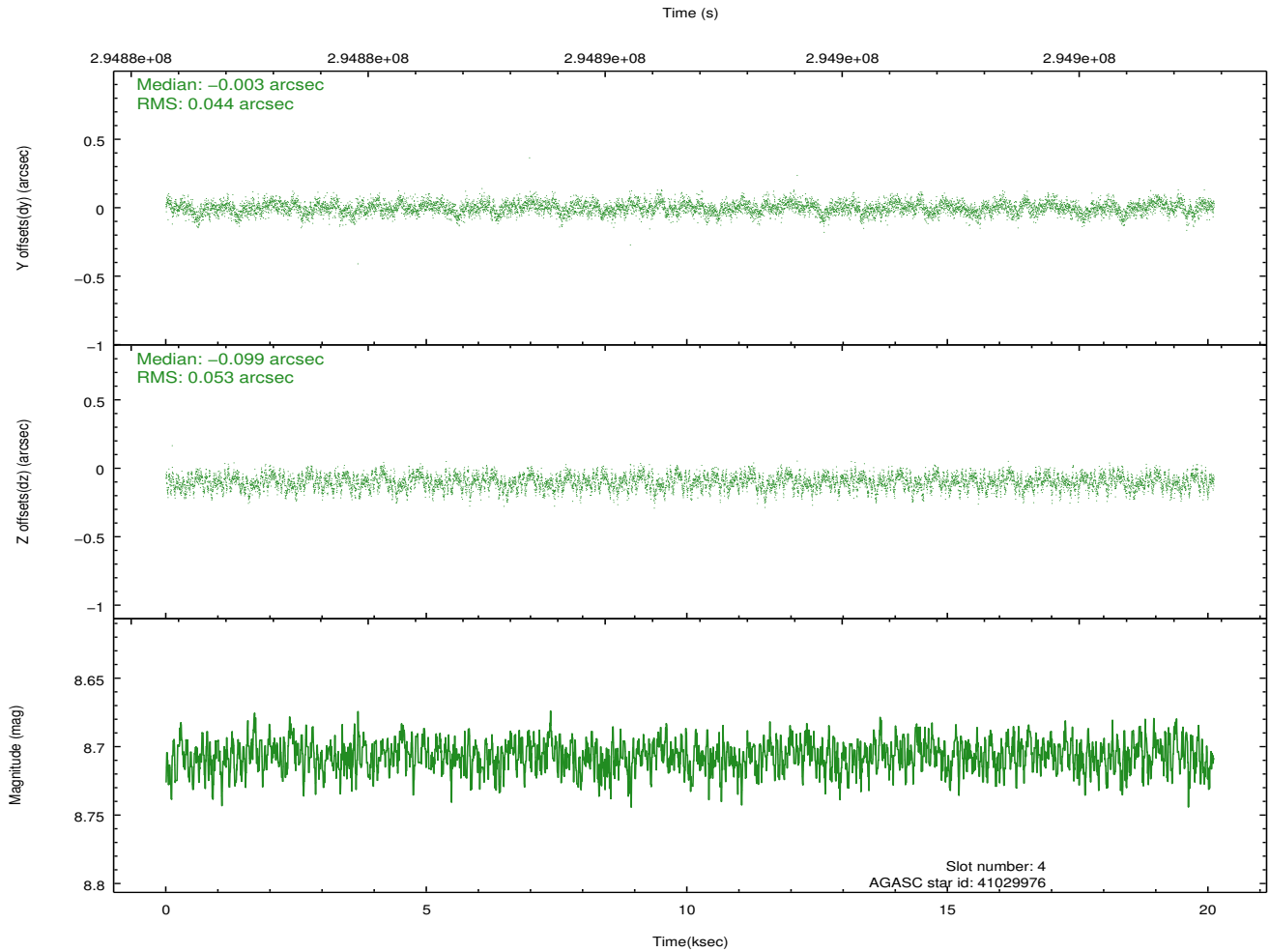
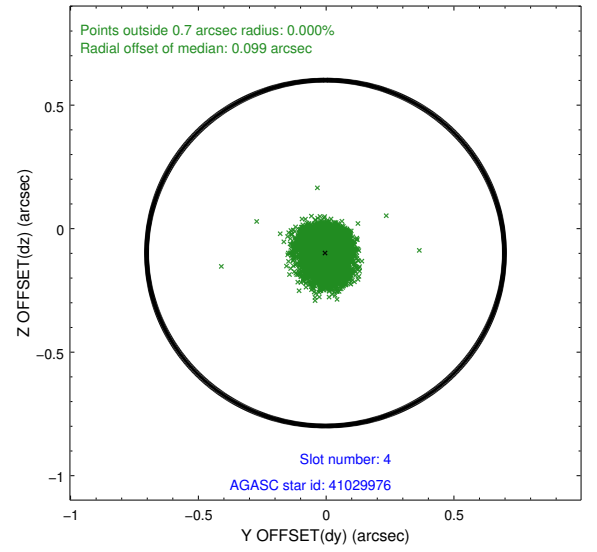
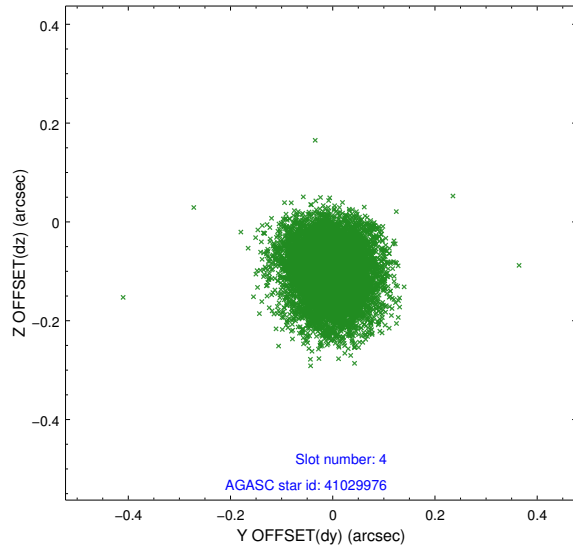
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|----------|------|-------|--------|--------|-------|-------|------------|----------|----------|---------|
| 0 | FID | ACIS-I-1 | 7.23 | 4906 | 0.033 | 0.013 | 0.006 | 0.011 | 0.000000 | 0.000000 | 925.74 | -837.61 |
| 1 | FID | ACIS-I-5 | 7.23 | 4906 | -0.222 | 0.039 | 0.006 | 0.011 | 0.000000 | 0.000000 | -1822.54 | 1059.79 |
| 2 | FID | ACIS-I-6 | 7.24 | 4906 | 0.098 | 0.019 | 0.007 | 0.011 | 0.000000 | 0.000000 | 391.12 | 1704.50 |
| 3 | GUIDE | 41027704 | 8.99 | 9806 | -0.099 | -0.134 | 0.088 | 0.137 | 203.902825 | 7.055395 | 433.18 | 140.20 |
| 4 | GUIDE | 41029976 | 8.71 | 9804 | -0.003 | -0.099 | 0.073 | 0.118 | 203.776342 | 6.841011 | 1271.13 | 455.64 |
| 5 | GUIDE | 41030568 | 8.82 | 9807 | 0.114 | 0.062 | 0.071 | 0.115 | 203.736283 | 6.452363 | 2262.55 | 1453.05 |
| 6 | GUIDE | 41034384 | 9.09 | 9806 | 0.069 | 0.025 | 0.089 | 0.137 | 203.812478 | 6.509624 | 1920.88 | 1464.44 |
| 7 | GUIDE | 41034688 | 9.70 | 9801 | -0.083 | 0.144 | 0.137 | 0.218 | 204.211948 | 6.618630 | 563.08 | 2058.62 |

2.4 Star Slots

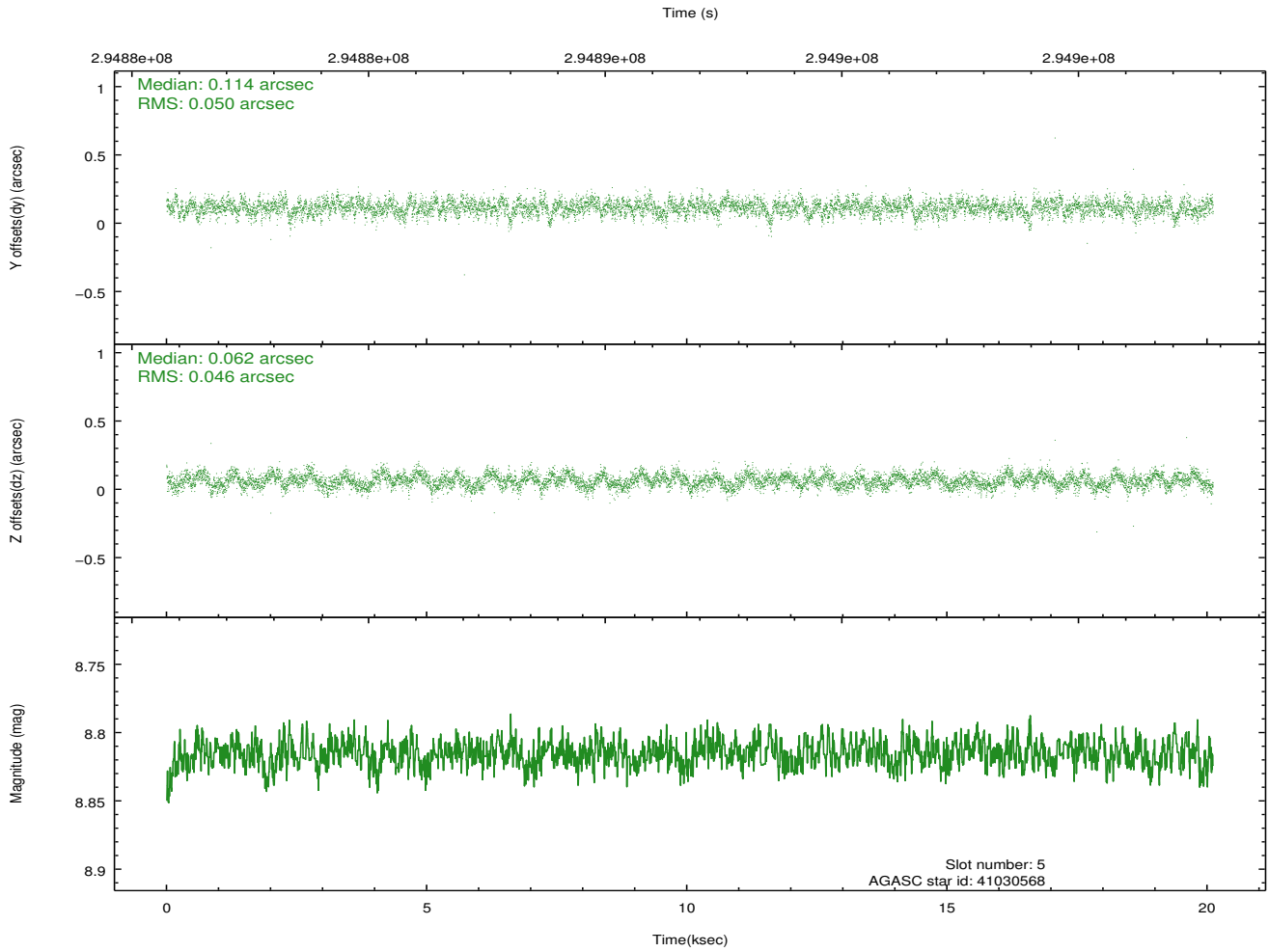
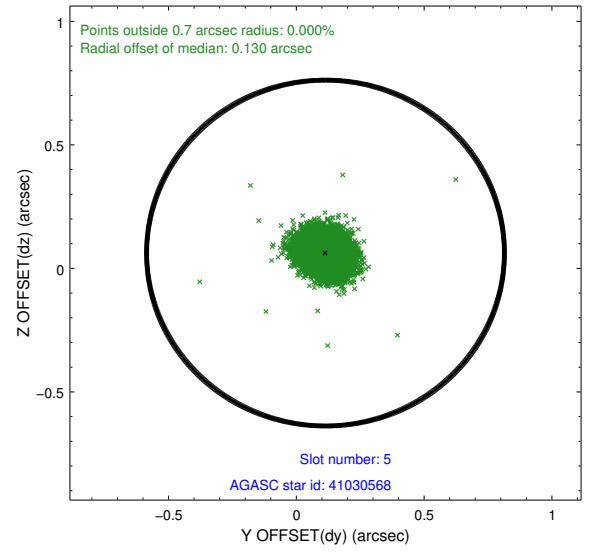
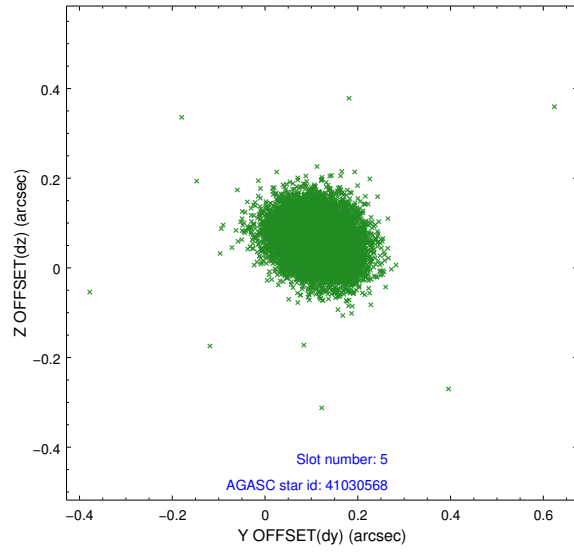
2.4.1 Slot 3



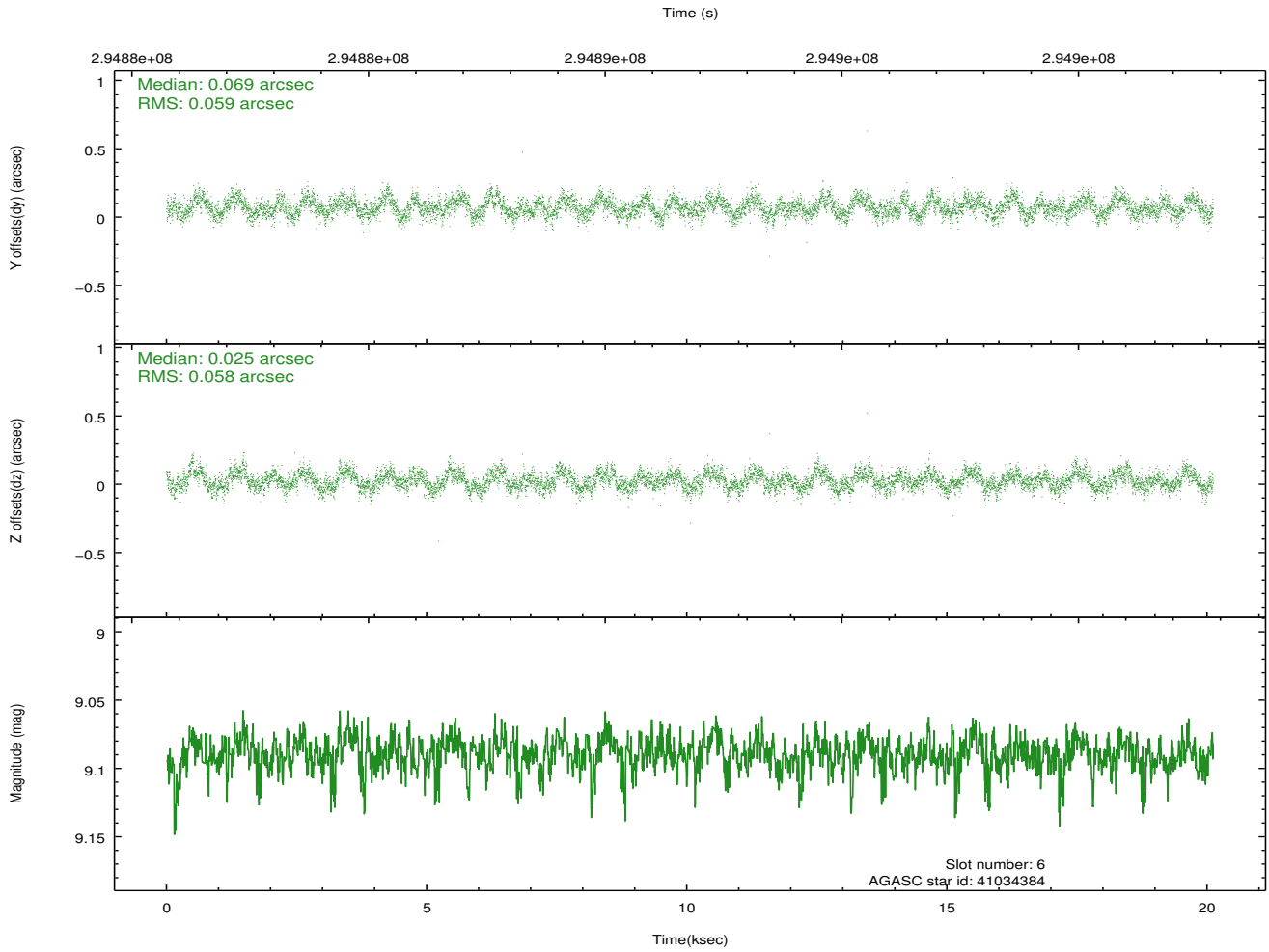
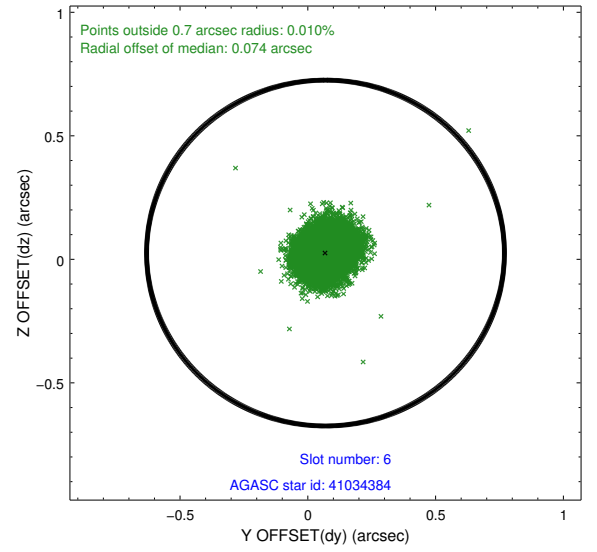
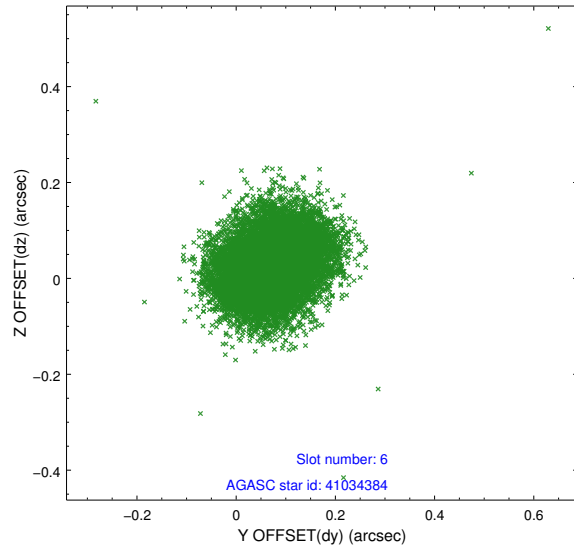
2.4.2 Slot 4



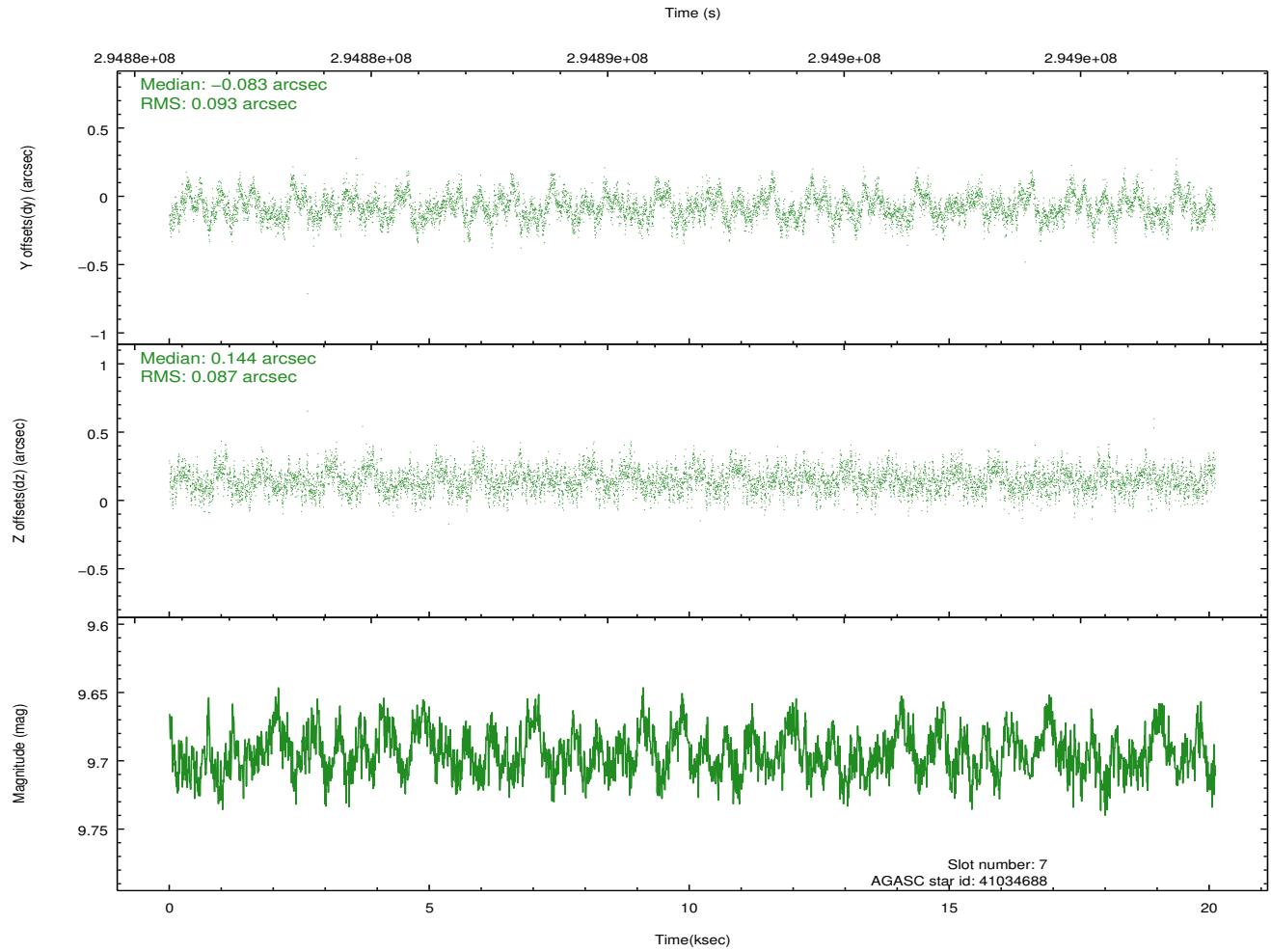
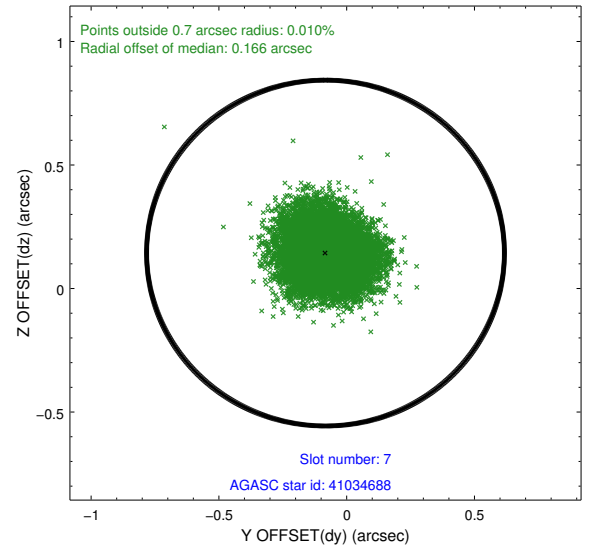
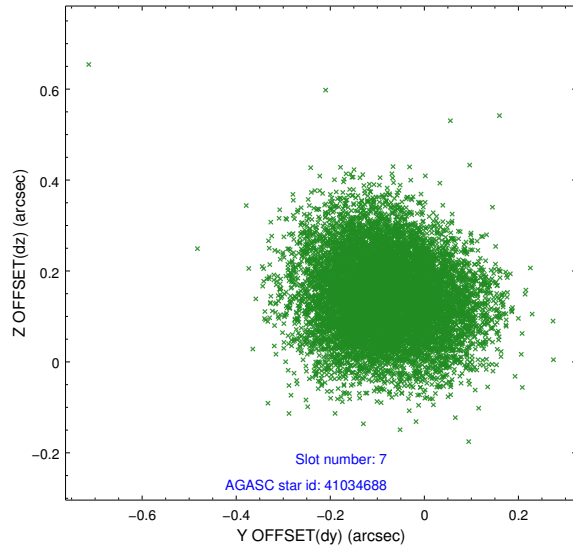
2.4.3 Slot 5



2.4.4 Slot 6

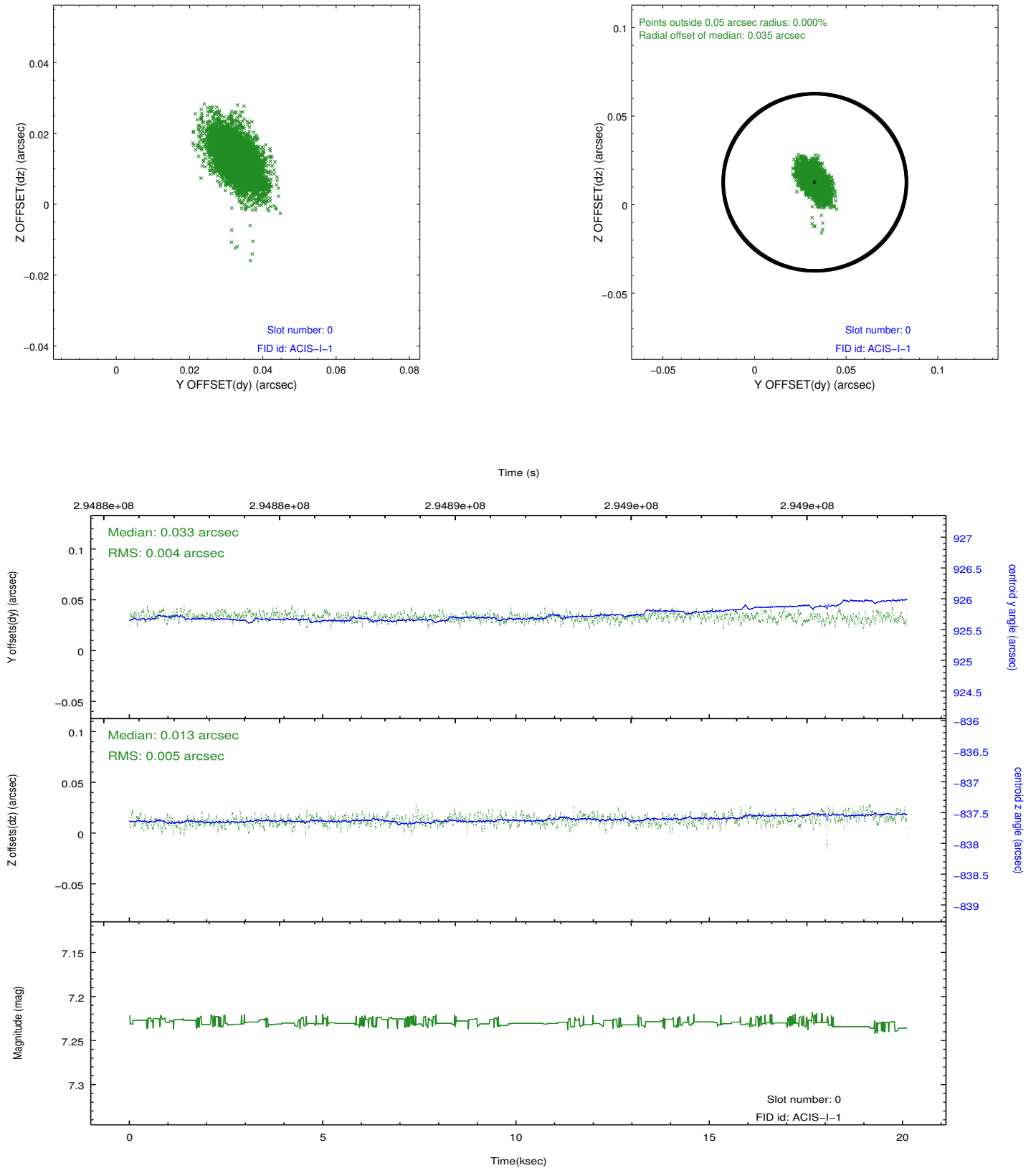


2.4.5 Slot 7

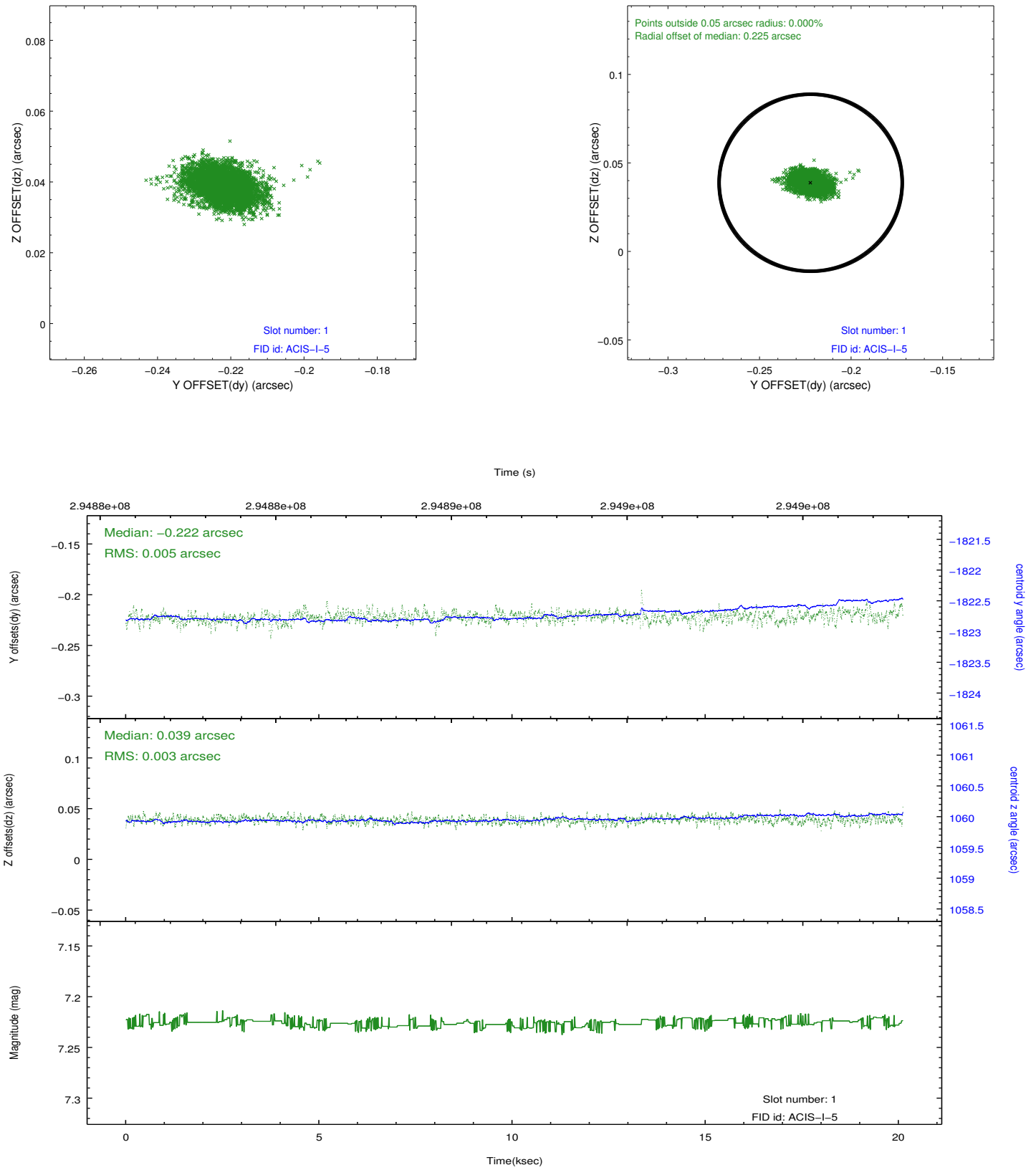


2.5 FID Slots

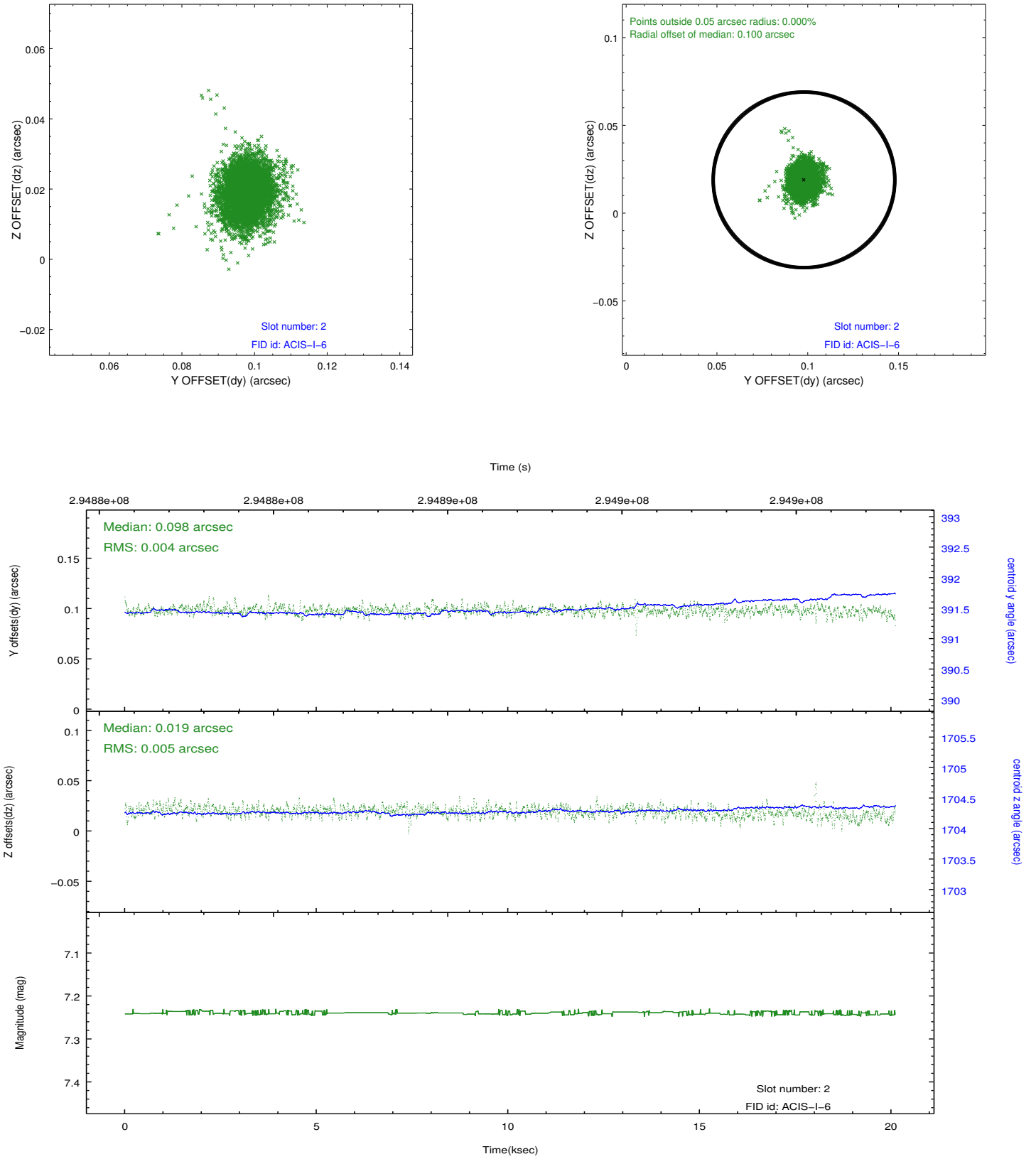
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2012.04.25 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 19.6383589 |

A.2 Comments

Monitor constraint met.

=====

Spatial regions of the original bias maps for CCDs = 2 and 6 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias maps for CCD = 2 and 6 have been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:

CCD 2:

(203.91792,6.97413),(203.92062,6.97086),(203.99758,7.03316),(203.99818,7.03910)

CCD 6:

(204.04714,6.79662),(204.05534,6.80327),(203.99230,6.87991),(203.99419,6.86100)