

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 9860 - L2 Version 3
Chandra X-Ray Center

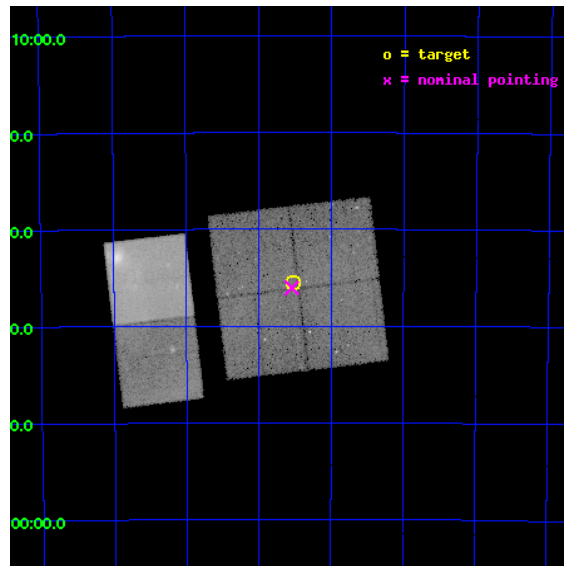
L2 Processing Date : May 15 2012

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1 Front

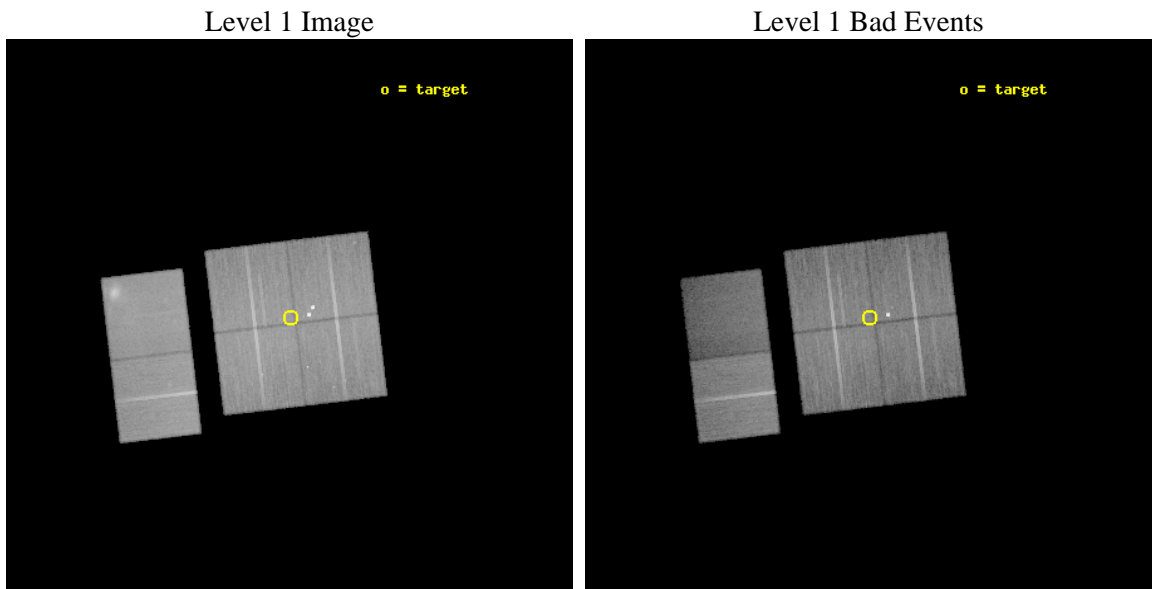
| | | |
|----------|--|---|
| seq_num | 900833 | Sequence number |
| obs_id | 9860 | Observation id |
| title | The Great Nebula in Carina: Protoplanetary Disks to Starburst Galaxies | Proposal title |
| observer | Dr. Leisa Townsley | Principal investigator |
| object | Carina Superbubble Ptg 1 | Source name |
| dtycycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 160.3825 | Observer's specified target RA [deg] |
| dec_targ | -59.593 | Observer's specified target Dec [deg] |
| ra_nom | 160.38540558343 | Nominal RA [deg] |
| dec_nom | -59.600940955921 | Nominal Dec [deg] |
| roll_nom | 263.21119046739 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 32536.219356358 | Sum of GTIs [s] |
| livetime | 32124.226155909 | Livetime [s] |
| ontime0 | 32539.337256491 | Sum of GTIs [s] |
| ontime1 | 32536.13729614 | Sum of GTIs [s] |
| ontime2 | 32542.660316765 | Sum of GTIs [s] |
| ontime3 | 32536.219356358 | Sum of GTIs [s] |
| ontime6 | 32539.542436481 | Sum of GTIs [s] |
| ontime7 | 32542.742396772 | Sum of GTIs [s] |
| l2events | 292133 | Number of level 2 events |



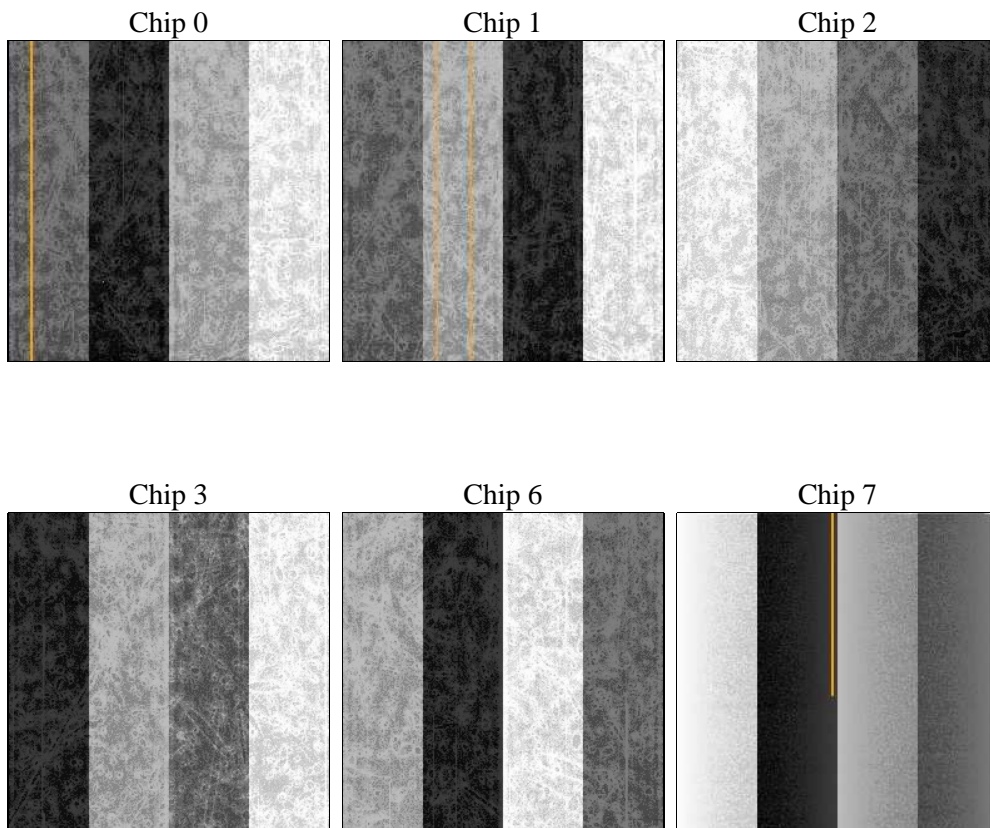
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 32500.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 32536.219356358 | Sum of GTIs [s] |
| caldbver | 4.4.9 | | ontime0 | 32539.337256491 | Sum of GTIs [s] |
| date | 2012-05-15T15:52:53 | Date and time of file creation | ontime1 | 32536.13729614 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime2 | 32542.660316765 | Sum of GTIs [s] |
| | | | ontime3 | 32536.219356358 | Sum of GTIs [s] |
| | | | ontime6 | 32539.542436481 | Sum of GTIs [s] |
| | | | ontime7 | 32542.742396772 | Sum of GTIs [s] |
| | | | l1events | 1520815 | Number of level 1 events |

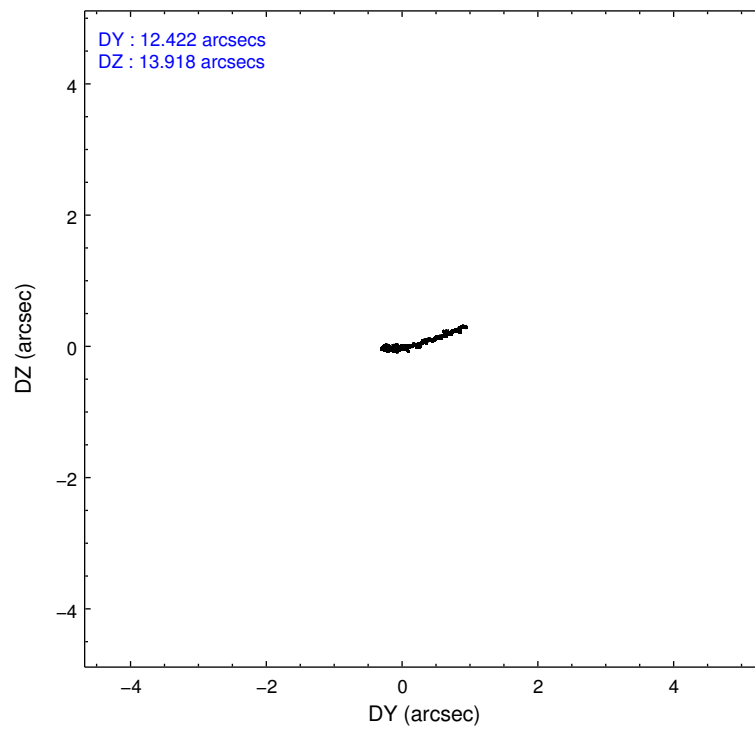
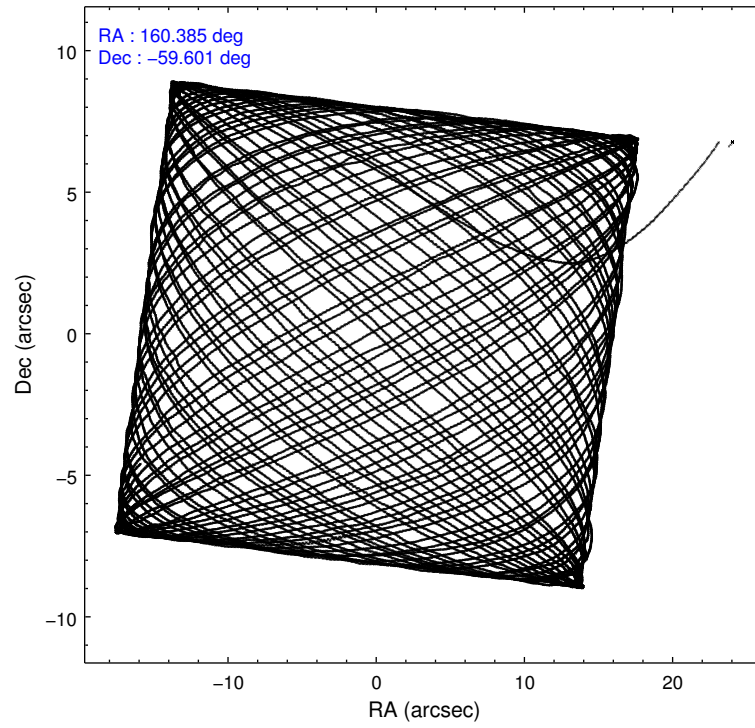
2.1.4 Events

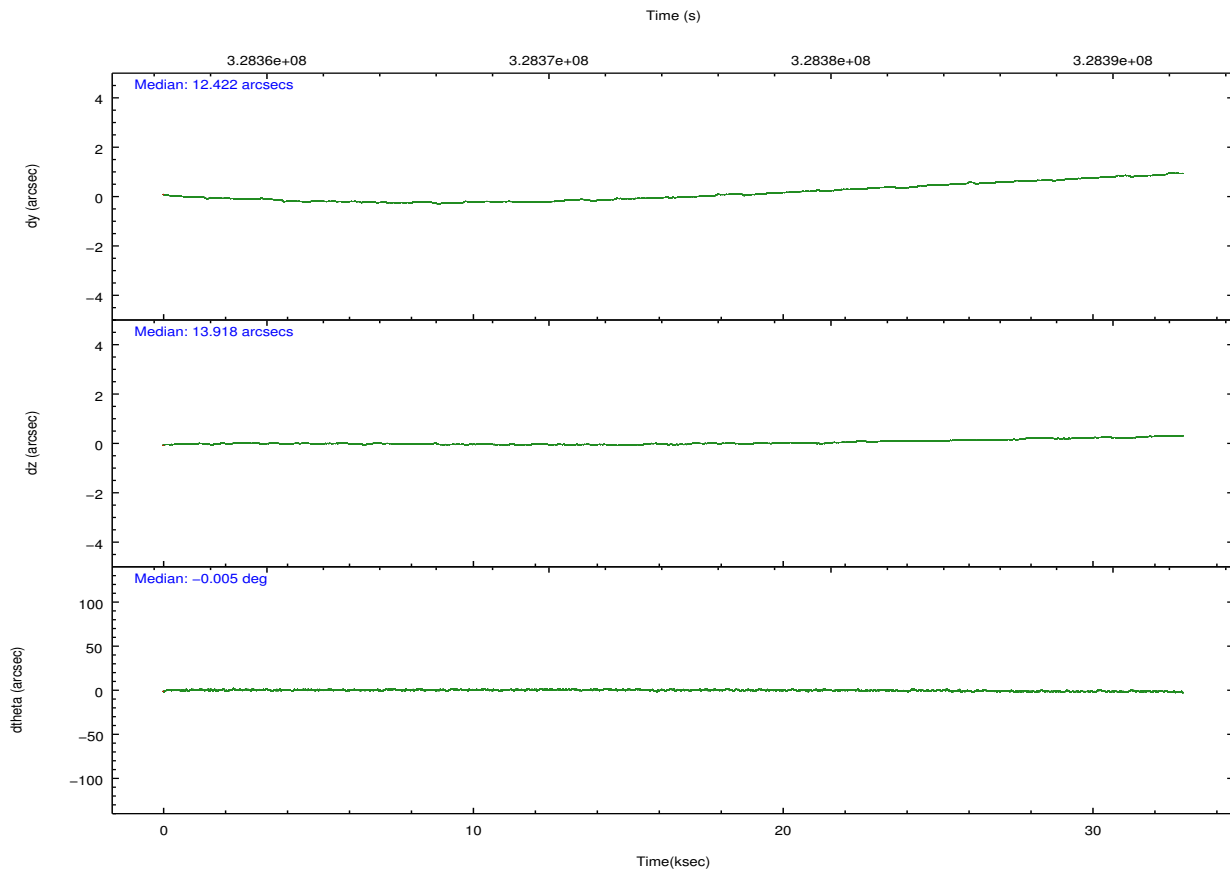
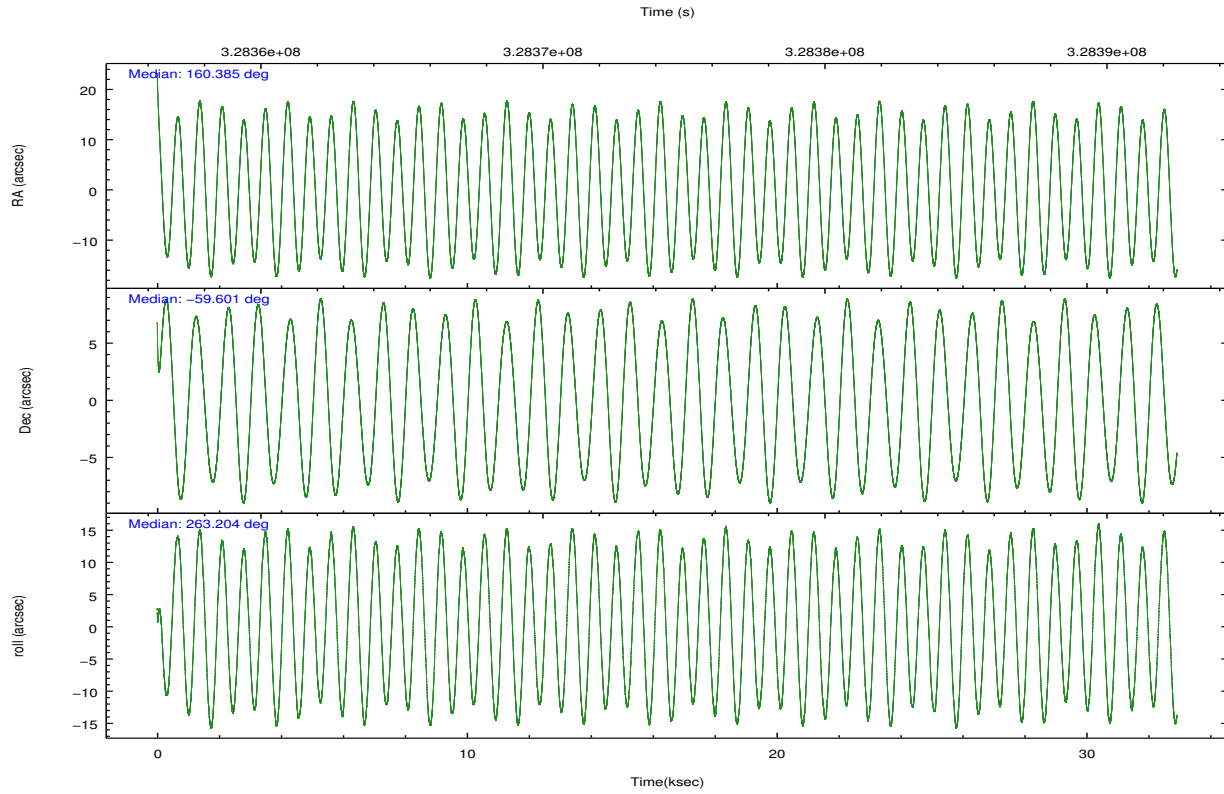
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|-------|
| level 1 events | 233742 | 248279 | 259677 | 237470 | 267104 | 274543 | grade 0 events | 17013 | 26192 | 16124 | 11357 | 23541 | 24753 |
| rejected events | 200310 | 205242 | 228094 | 211629 | 225820 | 117600 | | 7% | 10% | 6% | 4% | 8% | 9% |
| rejected % | 85% | 82% | 87% | 89% | 84% | 42% | grade 1 events | 159 | 8221 | 178 | 170 | 211 | 372 |
| | | | | | | | | 0% | 3% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 6561 | 5891 | 6152 | 5120 | 6725 | 35843 |
| | | | | | | | | 2% | 2% | 2% | 2% | 2% | 13% |
| | | | | | | | grade 3 events | 2804 | 2960 | 2592 | 2513 | 2949 | 16101 |
| | | | | | | | | 1% | 1% | 0% | 1% | 1% | 5% |
| | | | | | | | grade 4 events | 2610 | 2887 | 2654 | 2526 | 2847 | 15829 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 5% |
| | | | | | | | grade 5 events | 7153 | 8107 | 6778 | 8316 | 8716 | 25232 |
| | | | | | | | | 3% | 3% | 2% | 3% | 3% | 9% |
| | | | | | | | grade 6 events | 4447 | 5112 | 4064 | 4328 | 5228 | 64430 |
| | | | | | | | | 1% | 2% | 1% | 1% | 1% | 23% |
| | | | | | | | grade 7 events | 192995 | 188909 | 221135 | 203140 | 216887 | 91983 |
| | | | | | | | | 82% | 76% | 85% | 85% | 81% | 33% |

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 | VFAINT | VFAINT | CCD I0 on | Y | Y |
| Observation mode | POINTING | POINTING | CCD I1 on | Y | Y |
| [deg] Pointing RA | 160.363812 | 160.3854055834347 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | -59.575724 | -59.60094095592095 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 262.983886 | 263.2111904673943 | 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 | O1 | Y |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 | CCD S3 on | O2 | Y |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 | CCD S4 on | N | N |
| [s] Observation start time (MET) | 328358356.184000 | 328357231.22634 | CCD S5 on | N | N |
| Observation start date | 2008-05-28T10:38:11 | 2008-05-28T10:20:31 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 328390856.184000 | 328391539.51551 | On-chip summing requested | N | N |
| Observation end date | 2008-05-28T19:39:51 | 2008-05-28T19:52:19 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



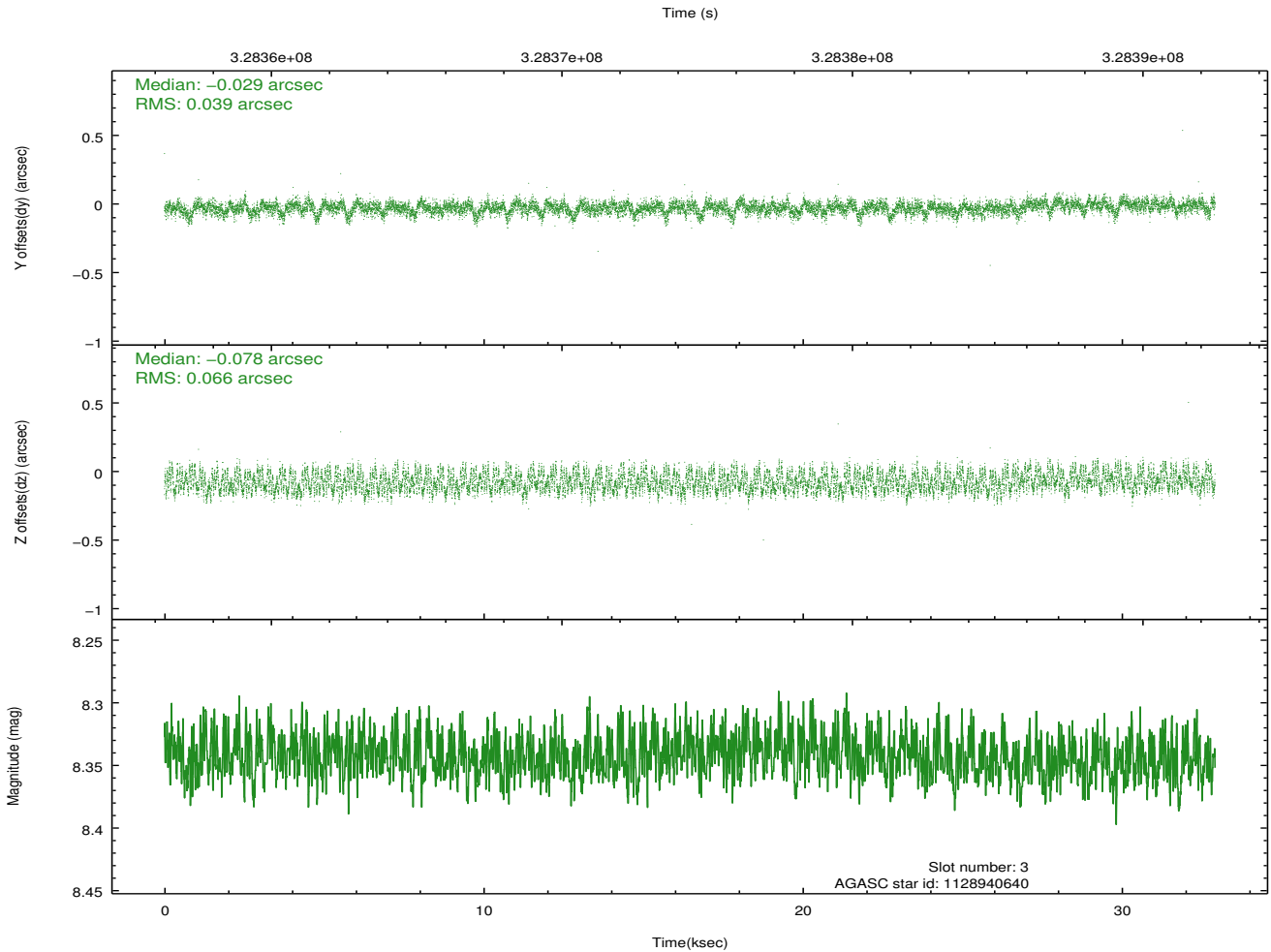
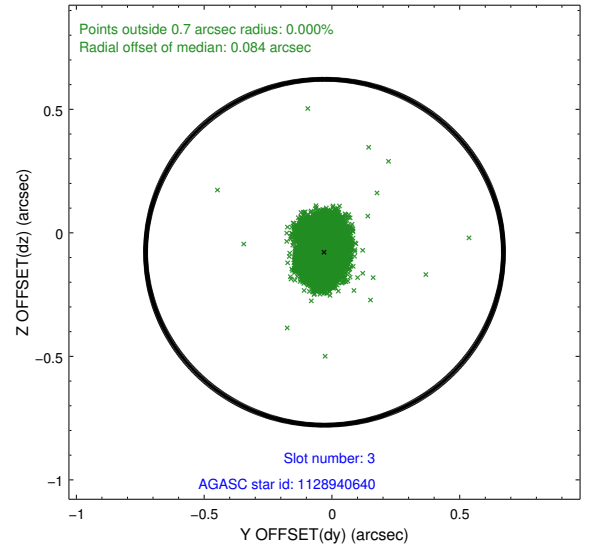
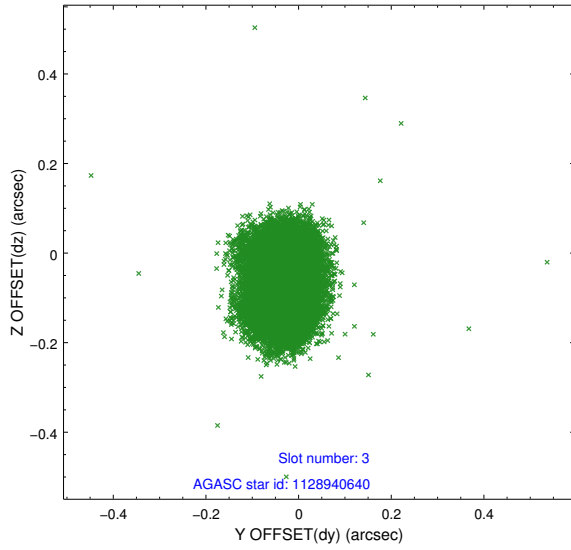


Slot Statistics

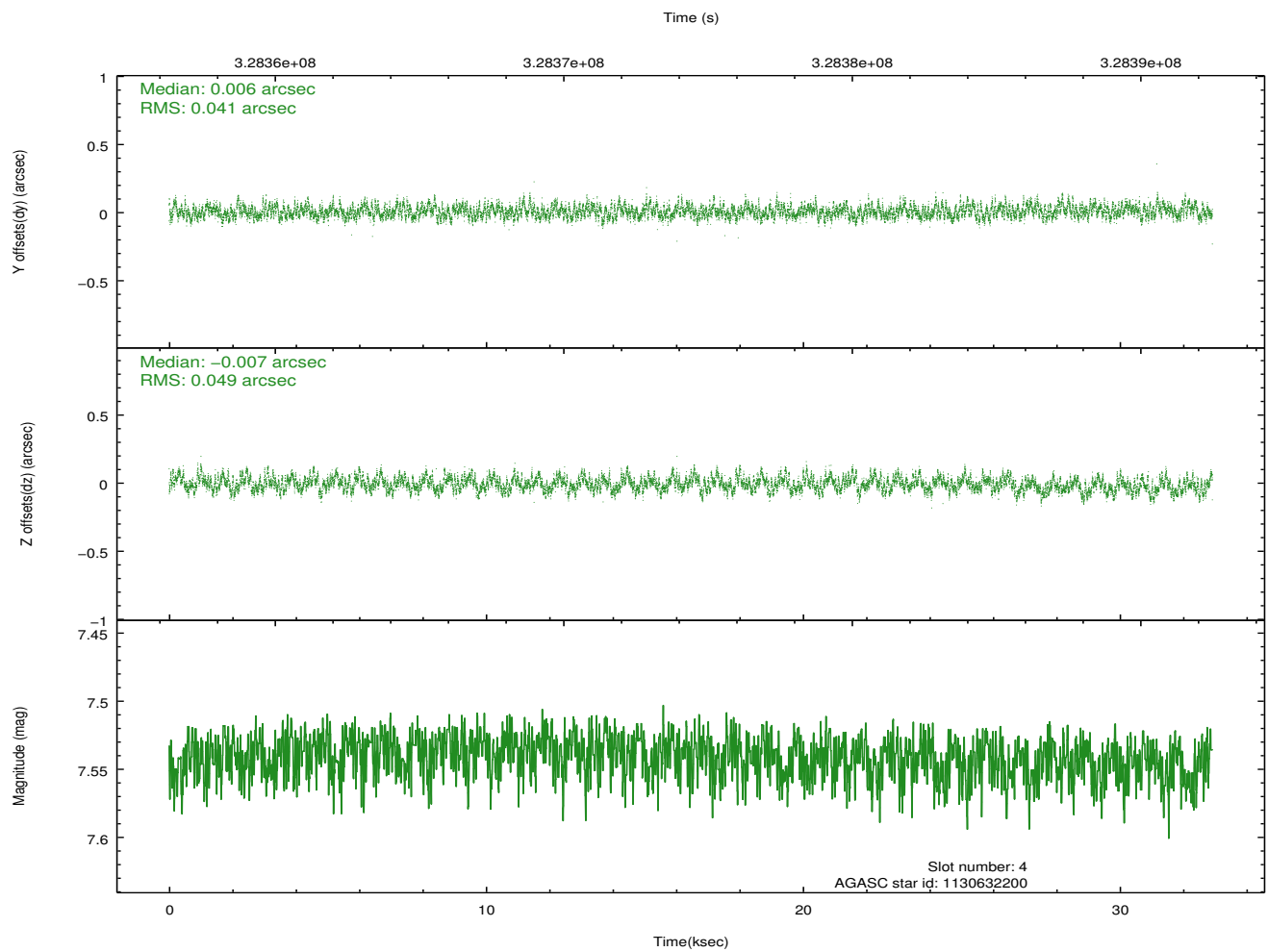
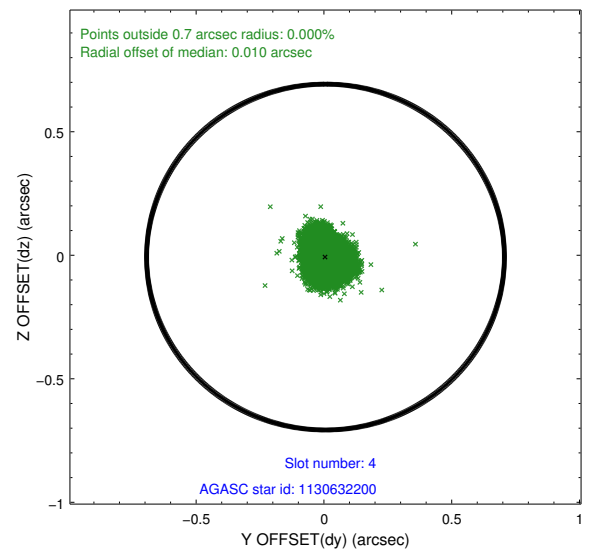
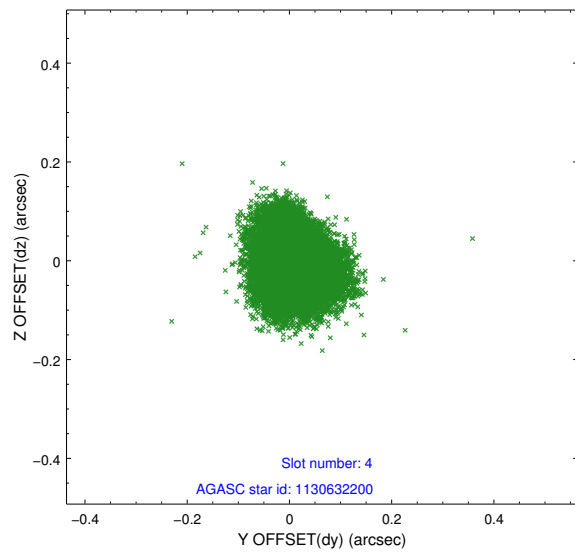
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | ACIS-I-1 | 7.01 | 8030 | 0.026 | 0.014 | 0.011 | 0.019 | 0.000000 | 0.000000 | 927.03 | -837.48 |
| 1 | FID | ACIS-I-2 | 6.93 | 8030 | -0.034 | -0.045 | 0.019 | 0.031 | 0.000000 | 0.000000 | -767.09 | -844.08 |
| 2 | FID | ACIS-I-5 | 6.99 | 8028 | -0.084 | 0.105 | 0.015 | 0.025 | 0.000000 | 0.000000 | -1821.46 | 1059.95 |
| 3 | GUIDE | 1128940640 | 8.34 | 16056 | -0.029 | -0.078 | 0.082 | 0.129 | 159.517239 | -59.074495 | -1589.24 | -1773.90 |
| 4 | GUIDE | 1130632200 | 7.54 | 16058 | 0.006 | -0.007 | 0.069 | 0.109 | 161.433843 | -59.407820 | -823.75 | 1873.67 |
| 5 | GUIDE | 1174013928 | 7.04 | 16058 | -0.096 | -0.009 | 0.056 | 0.094 | 158.968200 | -60.039977 | 1991.98 | -2282.36 |
| 6 | GUIDE | 1174020184 | 8.15 | 16057 | 0.072 | 0.067 | 0.075 | 0.117 | 159.502388 | -60.147833 | 2243.45 | -1279.09 |
| 7 | GUIDE | 1174033144 | 8.69 | 16050 | 0.051 | 0.025 | 0.123 | 0.178 | 161.168741 | -60.059230 | 1559.98 | 1649.39 |

2.4 Star Slots

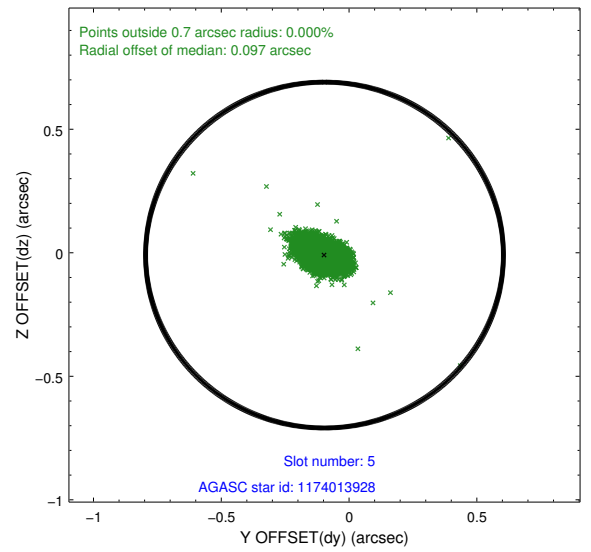
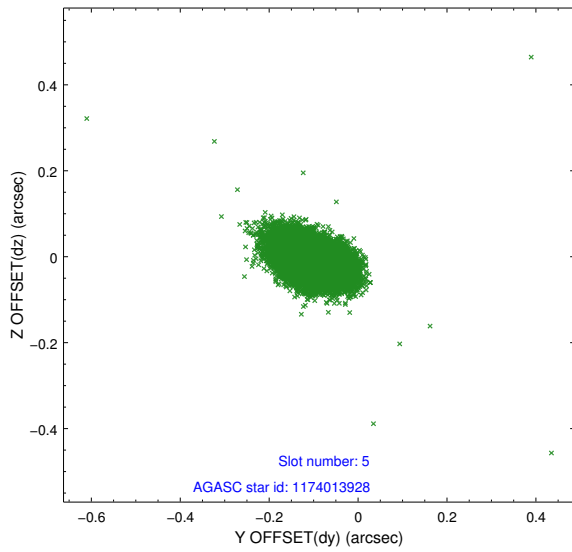
2.4.1 Slot 3



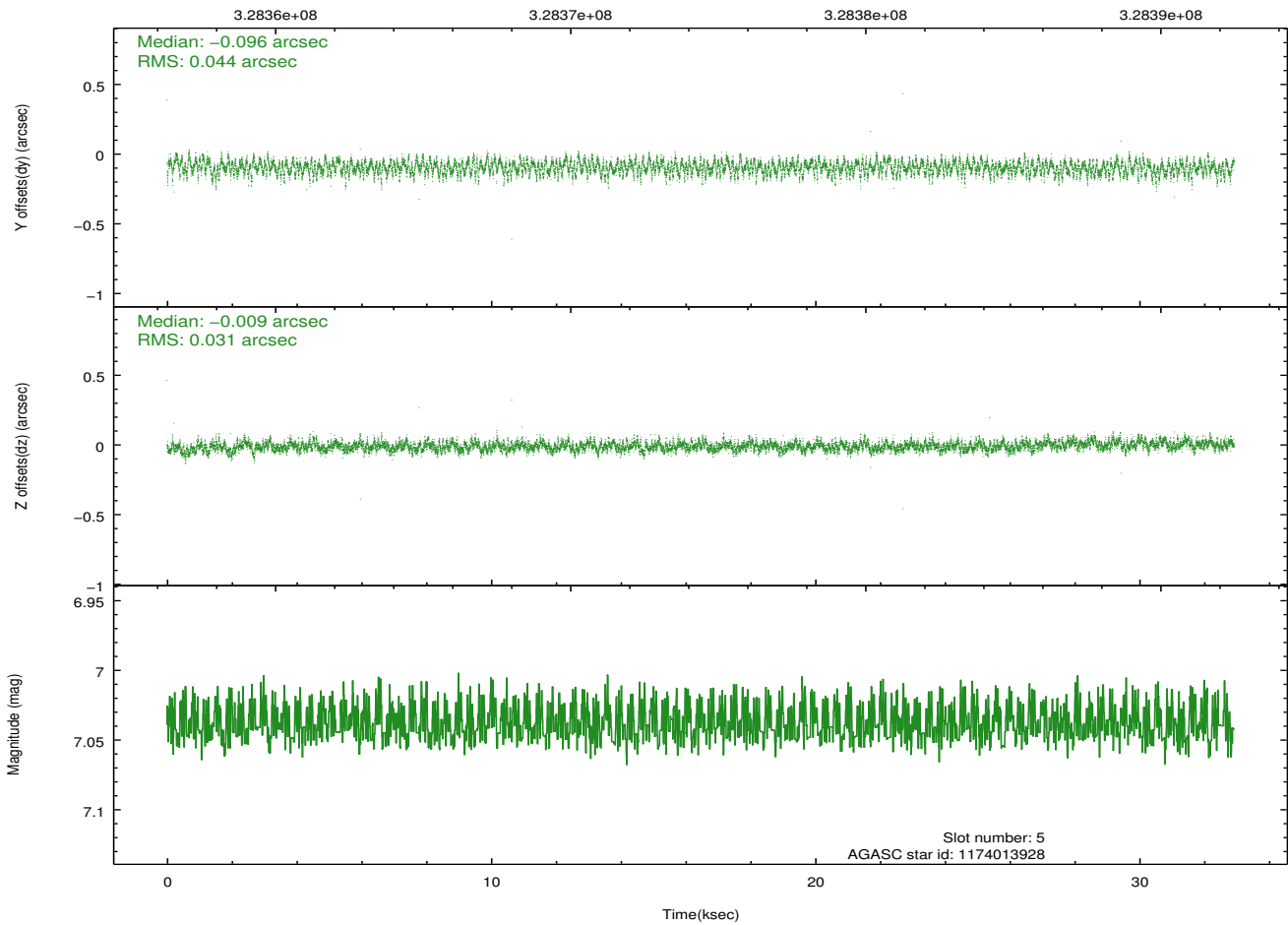
2.4.2 Slot 4



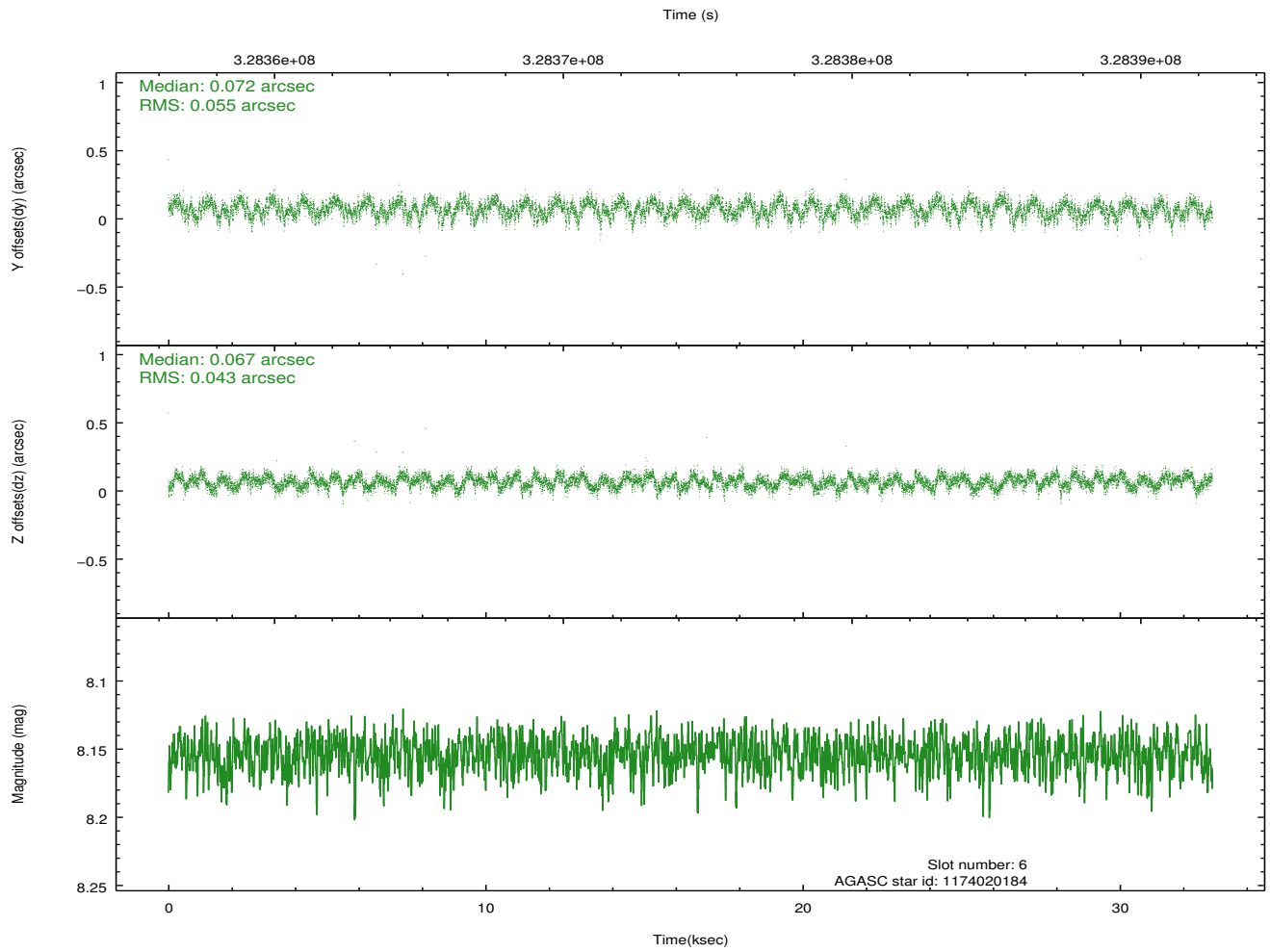
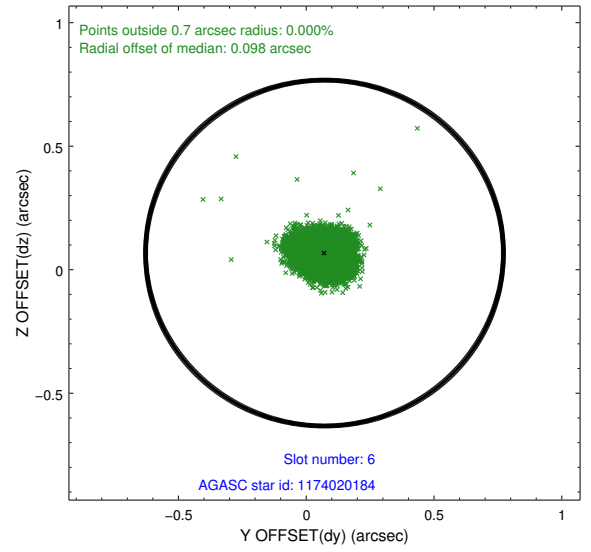
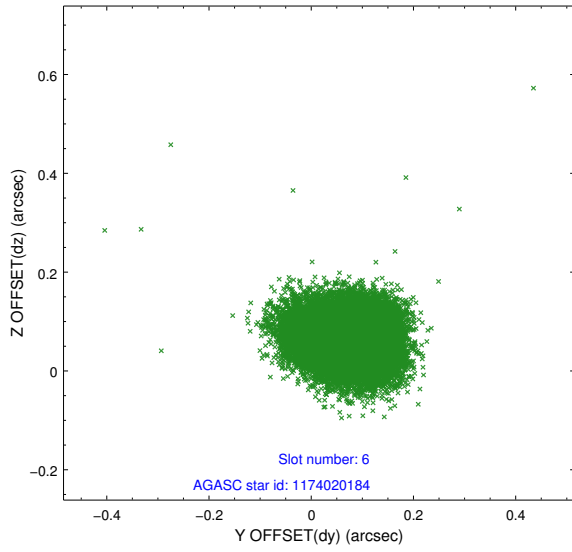
2.4.3 Slot 5



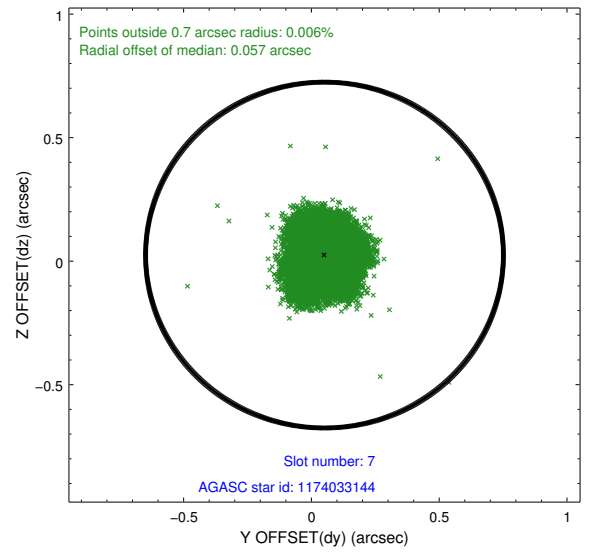
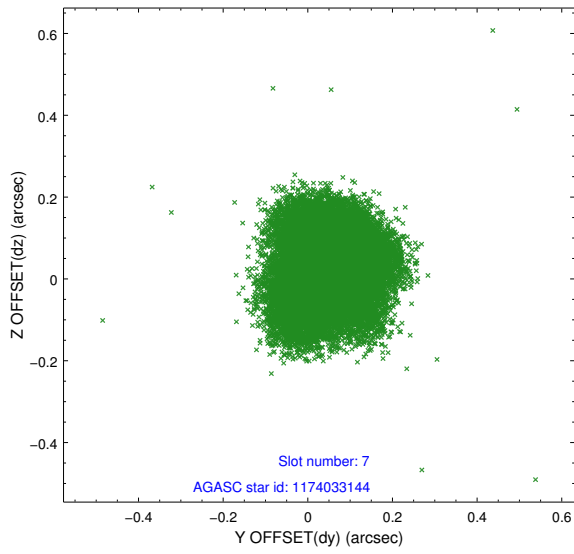
Time (s)



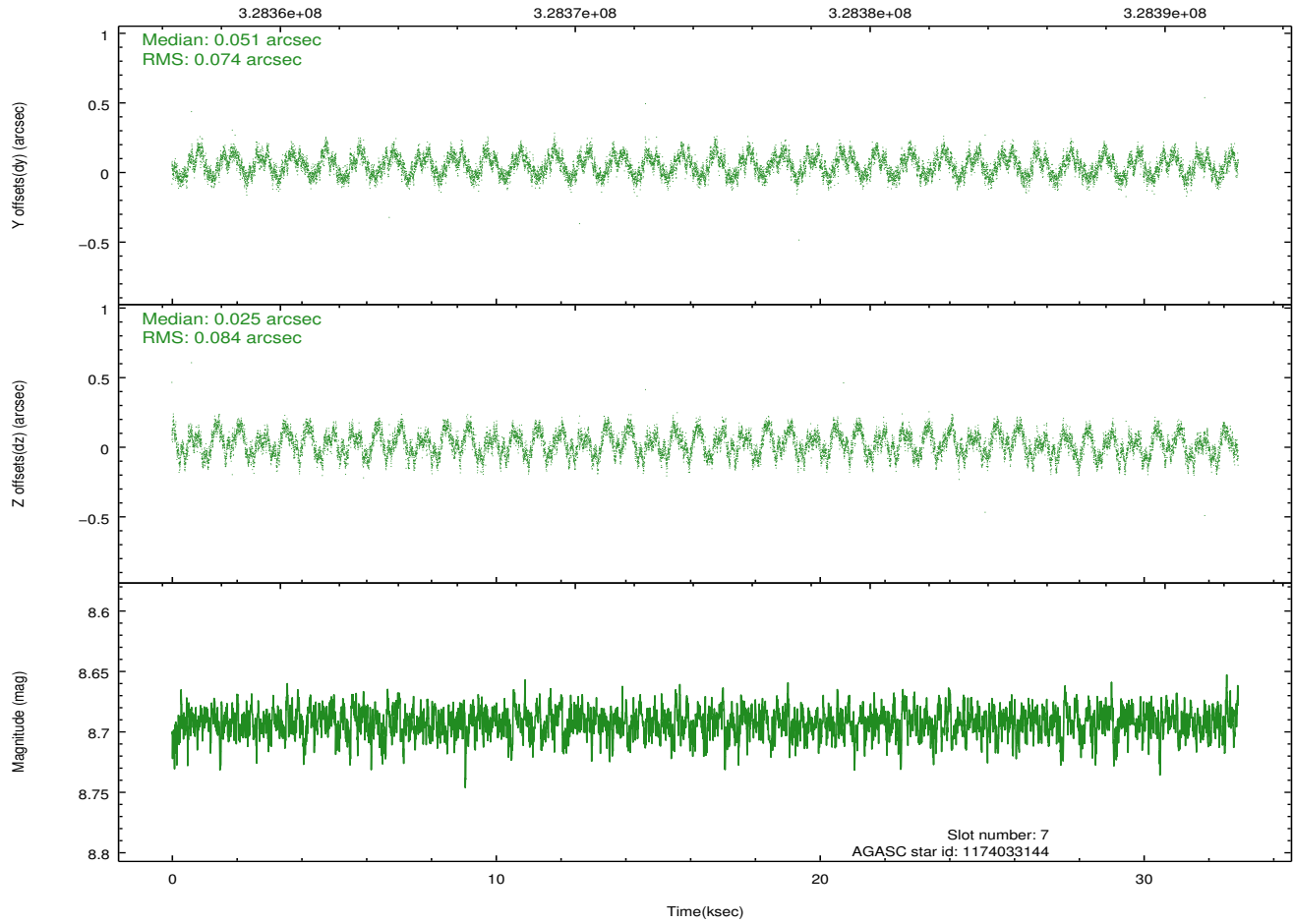
2.4.4 Slot 6



2.4.5 Slot 7

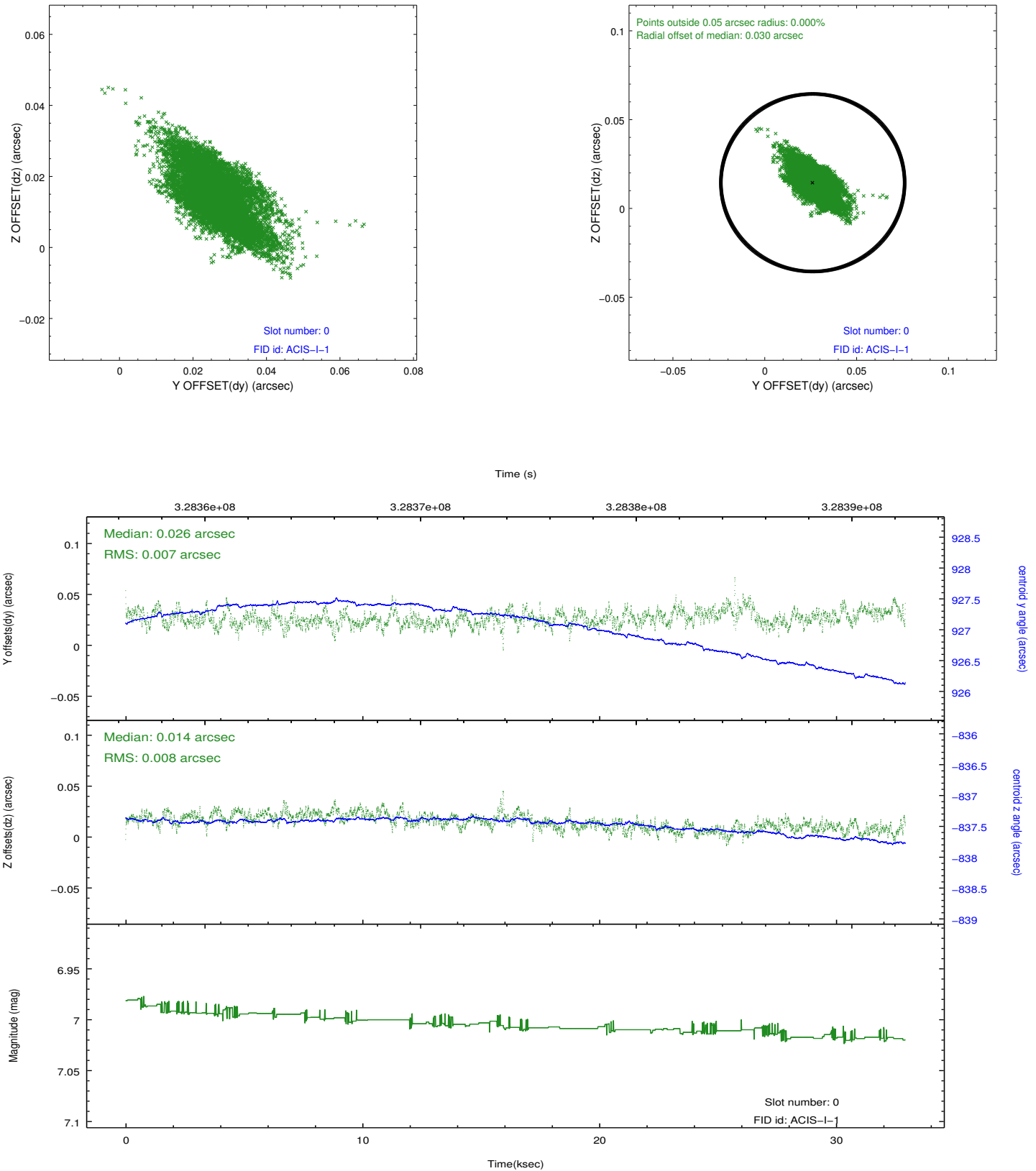


Time (s)

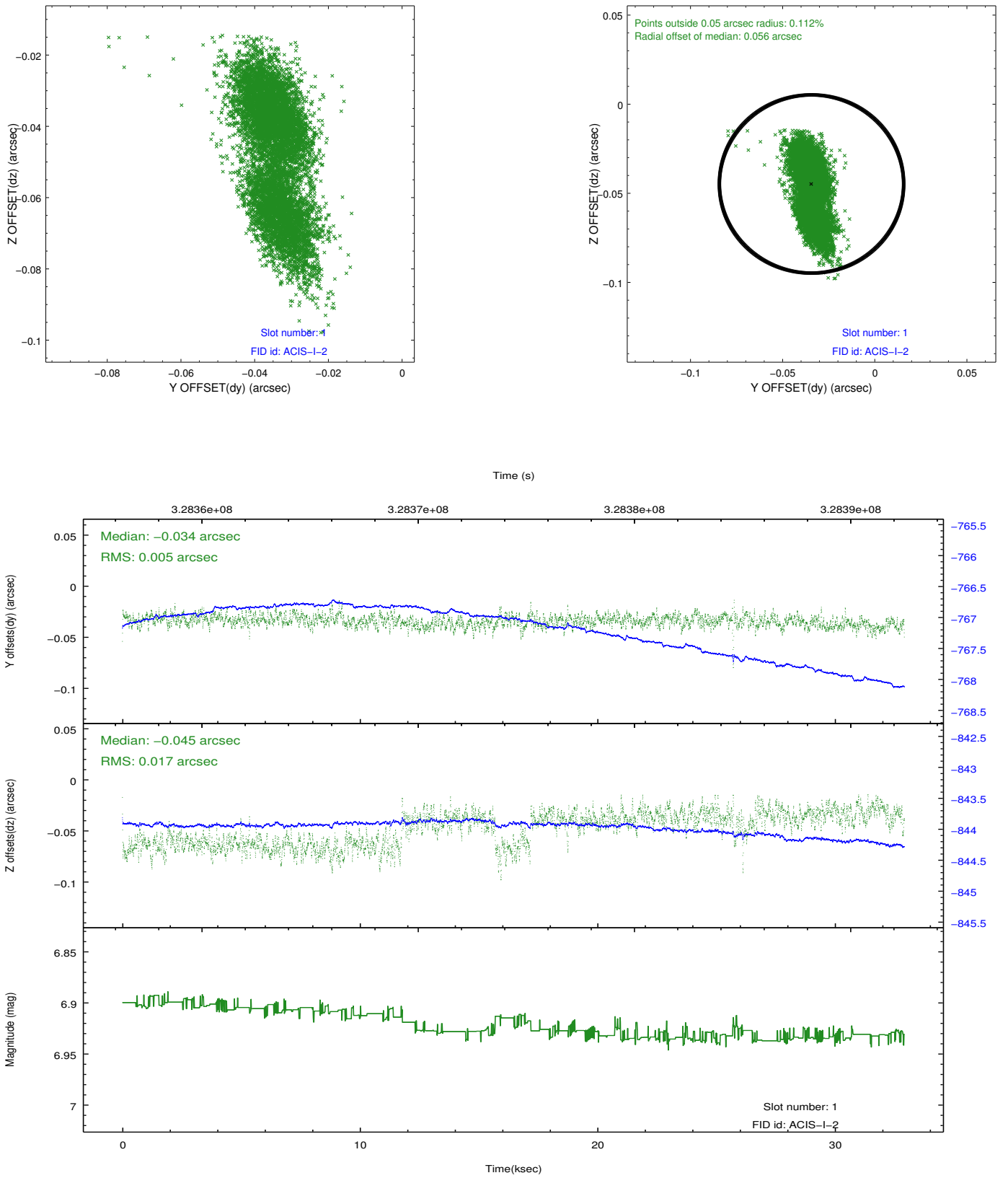


2.5 FID Slots

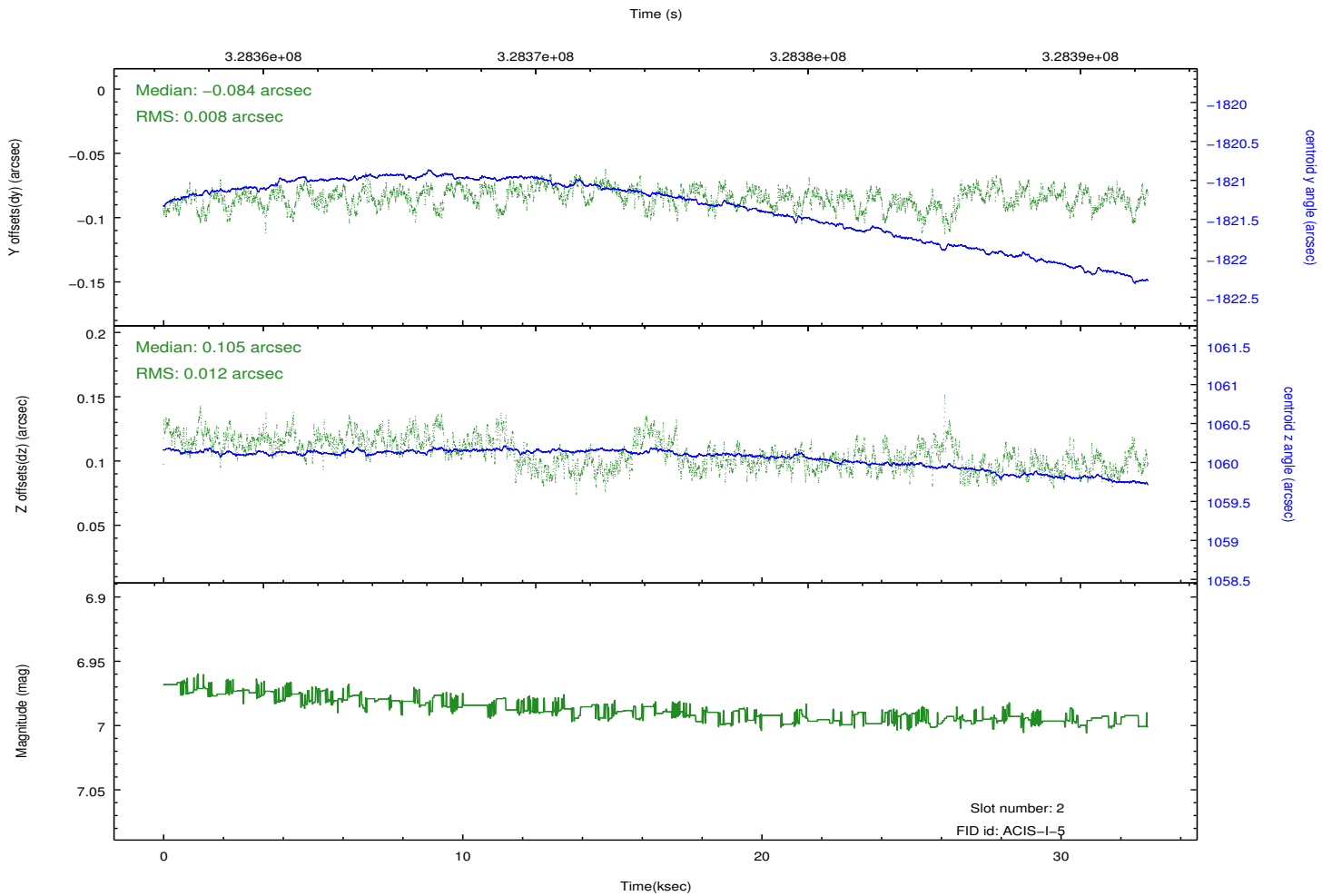
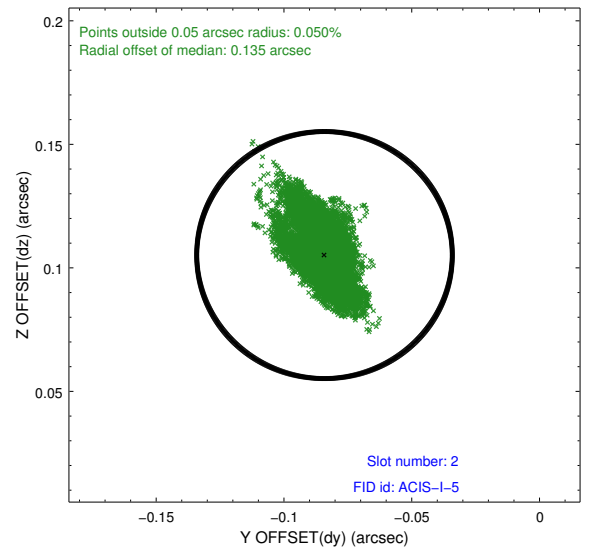
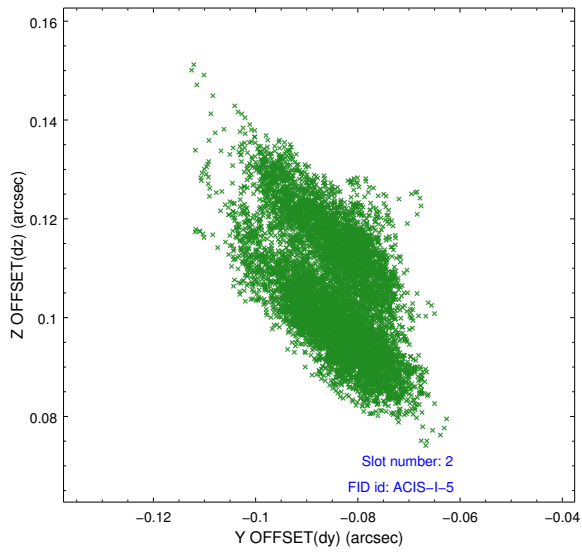
2.5.1 Slot 0



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) | 2012.05.21 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 32.5375178 |

A.2 Comments

A spatial region of the original bias map for CCD = 1 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 map for CCD = 1 has 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:

(160.20780, -59.45023), (160.19687, -59.44957), (160.19379, -59.46243), (160.20339, -59.46864)