

V&V Reference Report

L2 ASCDS Version : 10.4.2.1

Observation 18722 - L2 Version 1
Chandra X-Ray Center

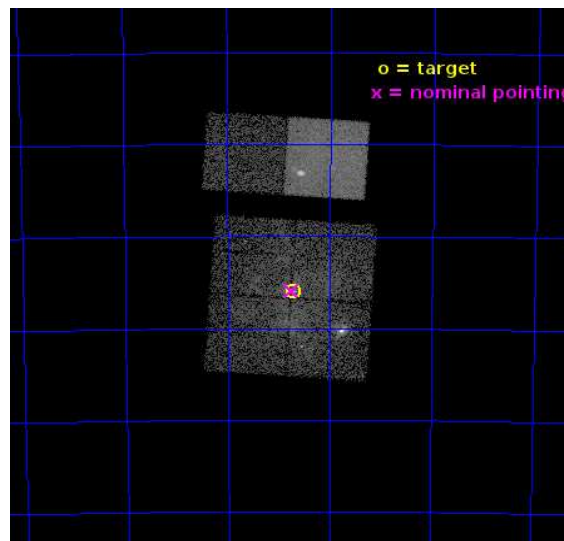
L2 Processing Date : Dec 11 2015

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1 Front

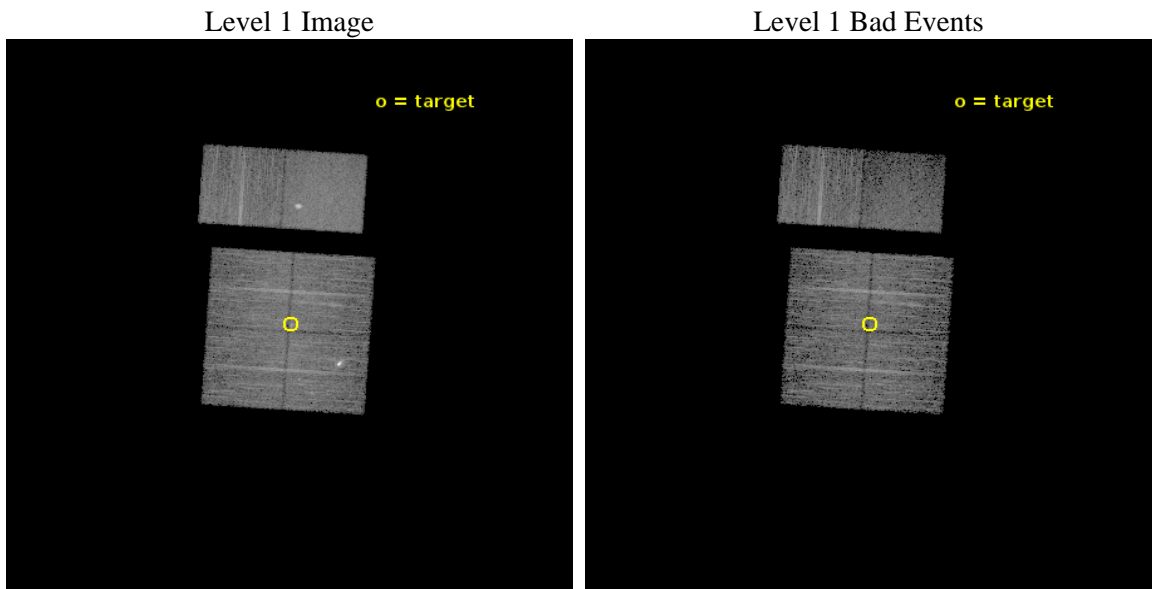
| | | |
|----------|---|---|
| seq_num | 901116 | Sequence number |
| obs_id | 18722 | Observation id |
| title | The Tarantula -- Revealed by X-rays (T-ReX): A Definitive Chandra Investigation of 30 Doradus | Proposal title |
| observer | Dr. Leisa Townsley | Principal investigator |
| object | 30 Doradus | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 84.676667 | Observer's specified target RA [deg] |
| dec_targ | -69.100806 | Observer's specified target Dec [deg] |
| ra_nom | 84.688186501119 | Nominal RA [deg] |
| dec_nom | -69.098912846752 | Nominal Dec [deg] |
| roll_nom | 3.8195013687641 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 9952.0001482964 | Sum of GTIs [s] |
| livetime | 9825.9819300436 | Livetime [s] |
| ontime0 | 9952.0001482964 | Sum of GTIs [s] |
| ontime1 | 9952.0001482964 | Sum of GTIs [s] |
| ontime2 | 9952.0001482964 | Sum of GTIs [s] |
| ontime3 | 9952.0001482964 | Sum of GTIs [s] |
| ontime6 | 9952.0001482964 | Sum of GTIs [s] |
| ontime7 | 9952.0001482964 | Sum of GTIs [s] |
| l2events | 69583 | Number of level 2 events |



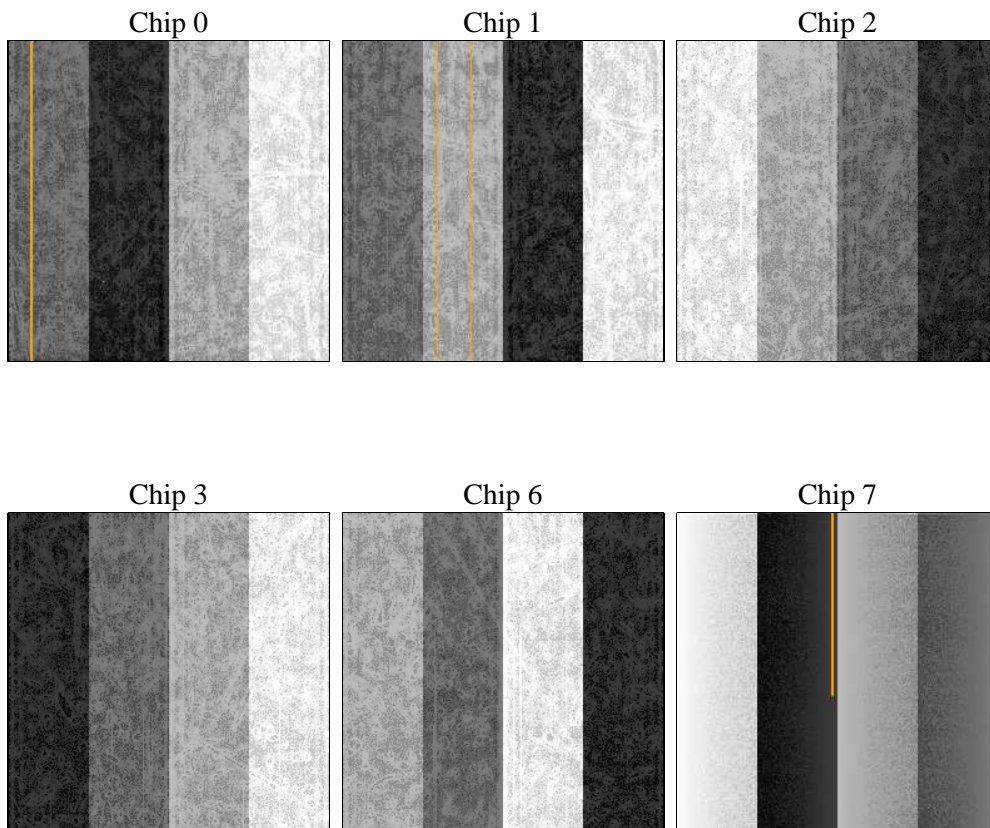
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 2 | Obi number | sched_exp_time | 10000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.4.2.1 | Processing system revision | ontime | 9952.0001482964 | Sum of GTIs [s] |
| caldsver | 4.6.10a | | ontime0 | 9952.0001482964 | Sum of GTIs [s] |
| date | 2015-12-11T20:56:39 | Date and time of file creation | ontime1 | 9952.0001482964 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime2 | 9952.0001482964 | Sum of GTIs [s] |
| | | | ontime3 | 9952.0001482964 | Sum of GTIs [s] |
| | | | ontime6 | 9952.0001482964 | Sum of GTIs [s] |
| | | | ontime7 | 9952.0001482964 | Sum of GTIs [s] |
| | | | l1events | 316178 | Number of level 1 events |

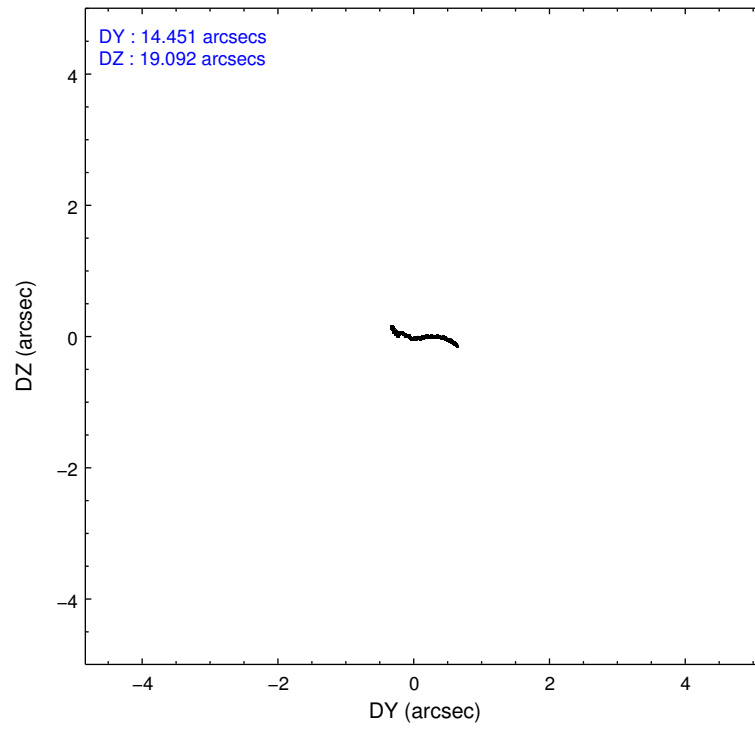
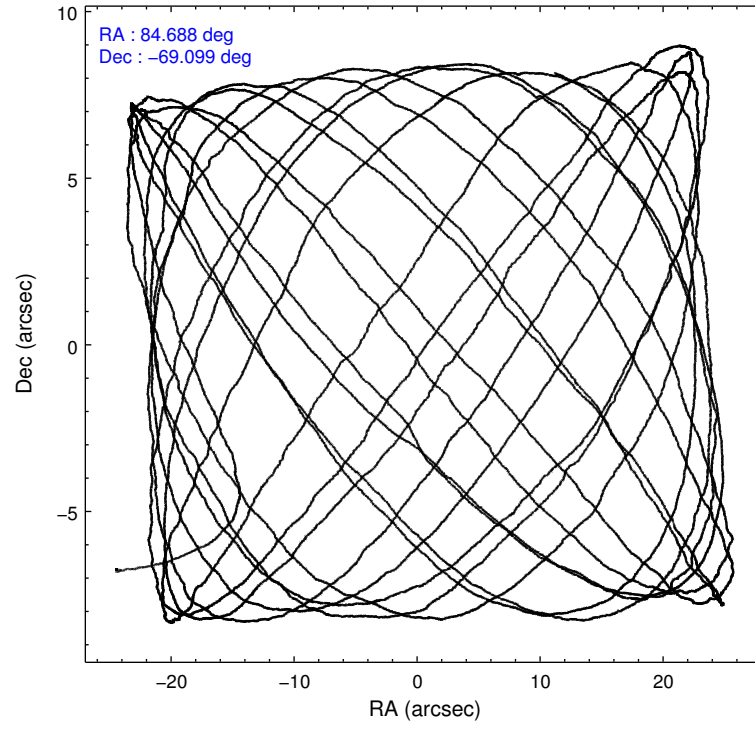
2.1.4 Events

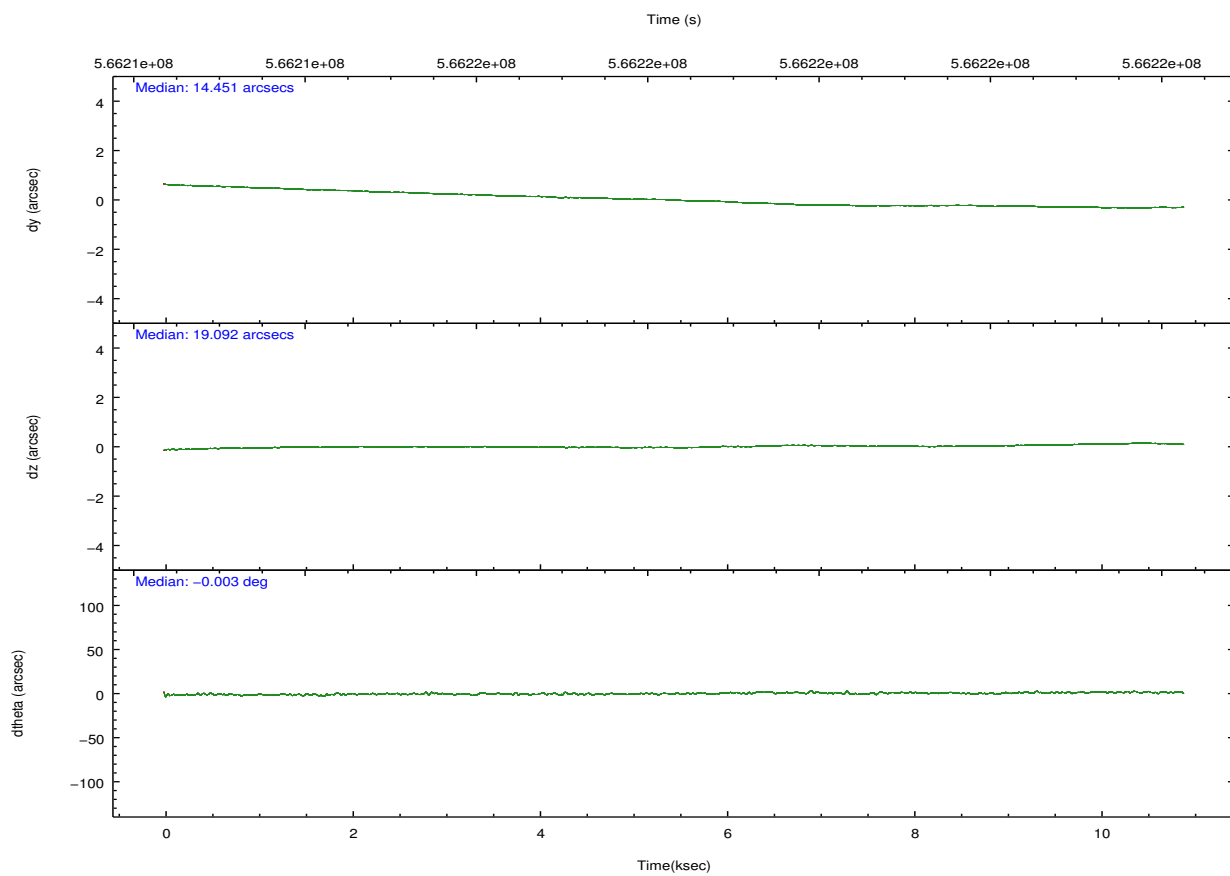
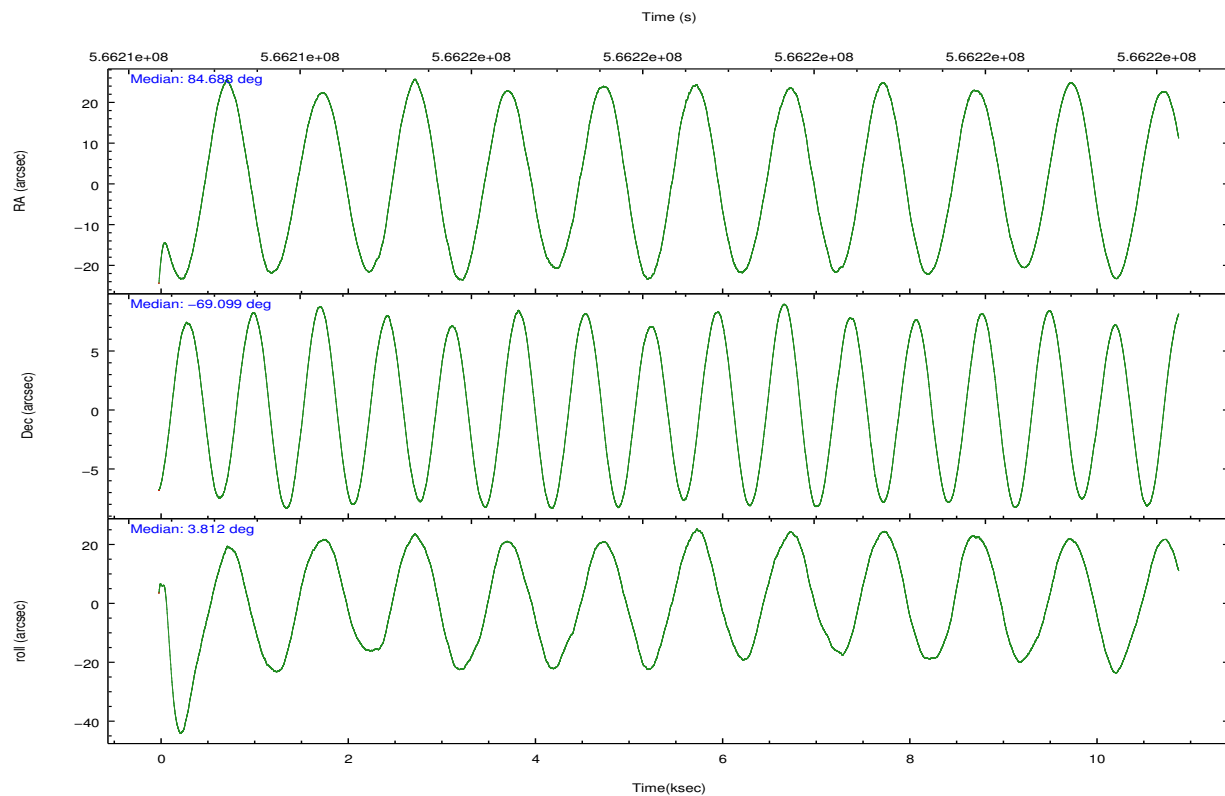
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 47300 | 54455 | 50591 | 50316 | 50801 | 62715 | grade 0 events | 3574 | 8639 | 3942 | 4624 | 2357 | 3674 |
| rejected events | 39933 | 40509 | 43118 | 41911 | 44597 | 30221 | | 7% | 15% | 7% | 9% | 4% | 5% |
| rejected % | 84% | 74% | 85% | 83% | 87% | 48% | grade 1 events | 35 | 61 | 33 | 40 | 35 | 92 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 1508 | 2292 | 1426 | 1454 | 1405 | 7332 |
| | | | | | | | | 3% | 4% | 2% | 2% | 2% | 11% |
| | | | | | | | grade 3 events | 588 | 806 | 543 | 627 | 531 | 2725 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 4% |
| | | | | | | | grade 4 events | 559 | 770 | 604 | 616 | 562 | 2729 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 4% |
| | | | | | | | grade 5 events | 1859 | 1993 | 1681 | 2118 | 2145 | 5771 |
| | | | | | | | | 3% | 3% | 3% | 4% | 4% | 9% |
| | | | | | | | grade 6 events | 1142 | 1447 | 966 | 1094 | 1357 | 16062 |
| | | | | | | | | 2% | 2% | 1% | 2% | 2% | 25% |
| | | | | | | | grade 7 events | 38035 | 38447 | 41396 | 39743 | 42409 | 24330 |
| | | | | | | | | 80% | 70% | 81% | 78% | 83% | 38% |

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 | 84.624056 | 84.6881865011193 | CCD I2 on | Y | Y |
| [deg] Pointing Dec | -69.114336 | -69.09891284675169 | CCD I3 on | Y | Y |
| [deg] Pointing Roll | 3.550853 | 3.819501368764072 | 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) | 566213736.184000 | 566212179.1638 | CCD S5 on | N | N |
| Observation start date | 2015-12-11T09:34:28 | 2015-12-11T09:09:39 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 566223736.184000 | 566224826.12702 | On-chip summing requested | N | N |
| Observation end date | 2015-12-11T12:21:08 | 2015-12-11T12:40:26 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



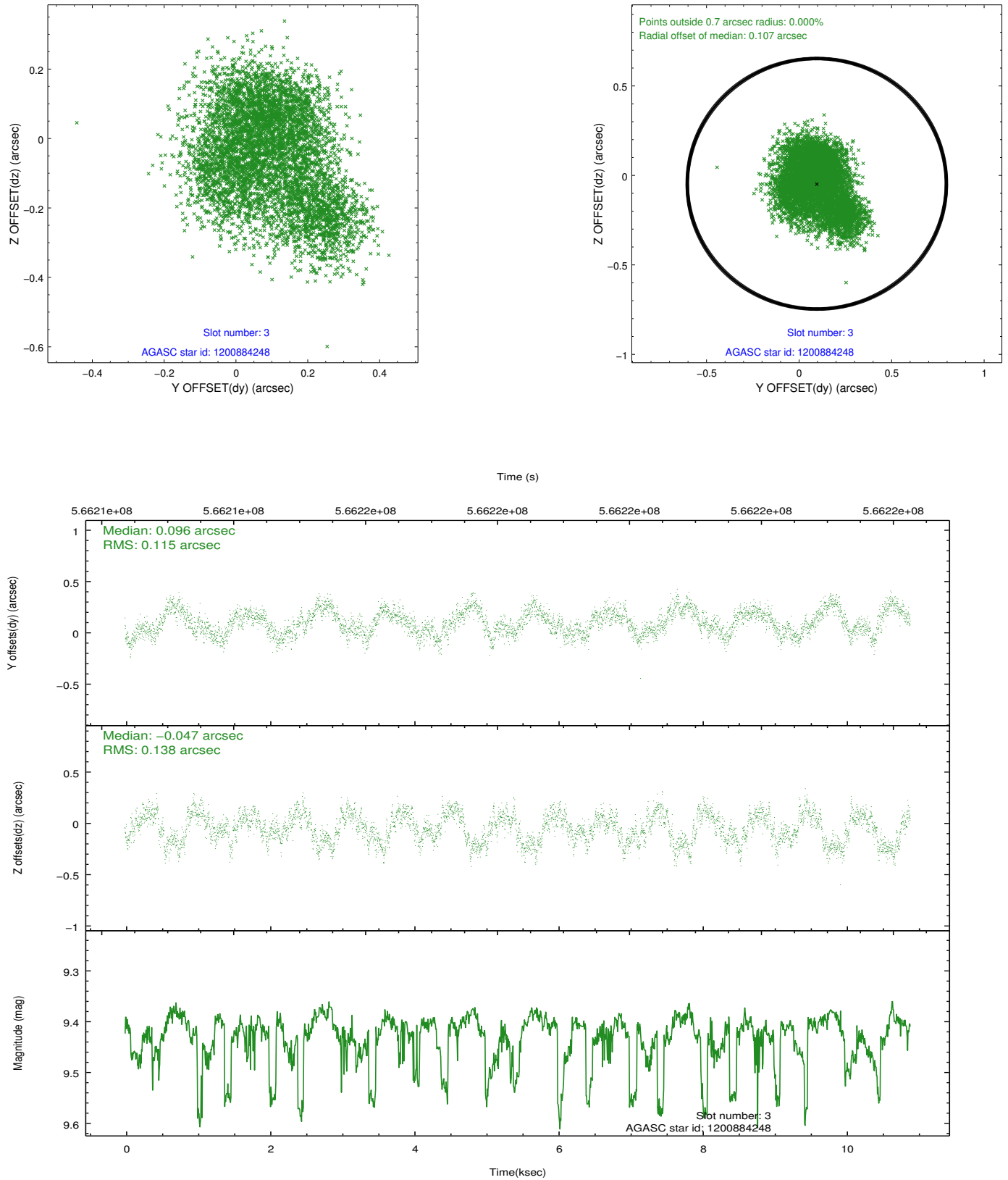


Slot Statistics

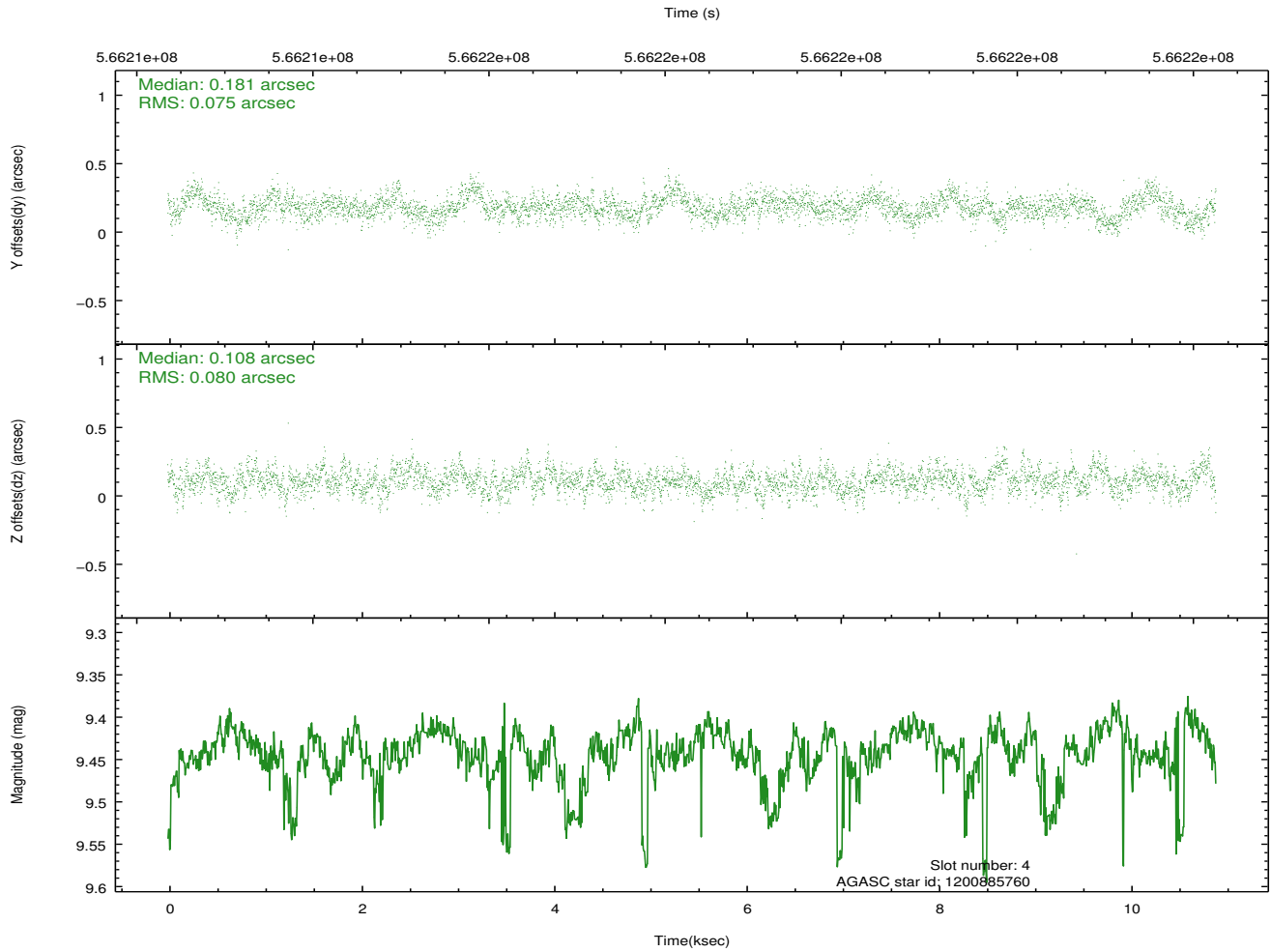
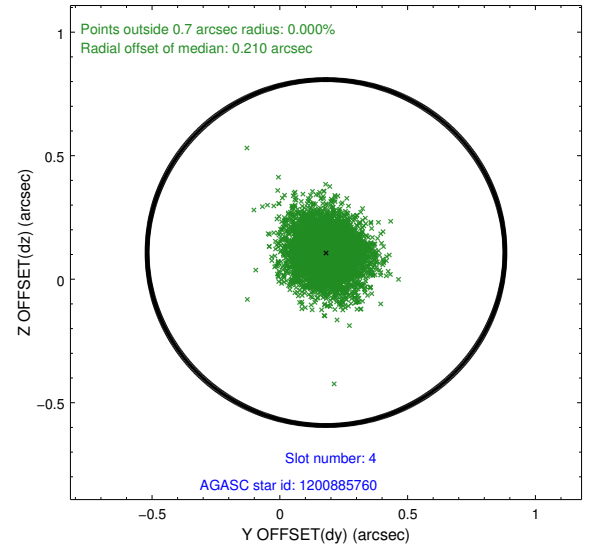
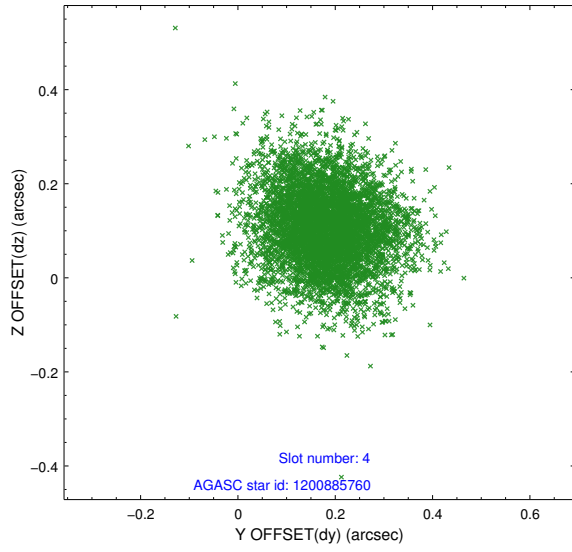
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|------------|------|-------|--------|--------|-------|-------|-----------|------------|----------|---------|
| 0 | FID | | ACIS-I-2 | 7.14 | 2658 | -0.201 | -0.030 | 0.012 | 0.020 | 0.000000 | 0.000000 | -769.38 | -849.22 |
| 1 | FID | | ACIS-I-4 | 7.19 | 2658 | 0.444 | 0.116 | 0.007 | 0.013 | 0.000000 | 0.000000 | 2145.08 | 1056.90 |
| 2 | FID | | ACIS-I-5 | 7.25 | 2658 | -0.345 | -0.018 | 0.011 | 0.019 | 0.000000 | 0.000000 | -1822.76 | 1055.10 |
| 3 | GUIDE | used | 1200884248 | 9.42 | 5312 | 0.096 | -0.047 | 0.195 | 0.299 | 83.880915 | -68.565170 | -853.24 | 2028.04 |
| 4 | GUIDE | used | 1200885760 | 9.44 | 5313 | 0.181 | 0.108 | 0.116 | 0.193 | 83.723637 | -68.777667 | -1096.40 | 1273.94 |
| 5 | GUIDE | used | 1201018312 | 9.58 | 5313 | -0.049 | 0.383 | 0.217 | 0.331 | 86.298231 | -69.115627 | 2142.00 | -166.05 |
| 6 | GUIDE | used | 1201018384 | 9.02 | 5315 | -0.093 | -0.204 | 0.118 | 0.184 | 85.801362 | -68.593260 | 1660.17 | 1761.81 |
| 7 | GUIDE | used | 1201020040 | 8.58 | 5312 | -0.151 | -0.230 | 0.094 | 0.157 | 85.379163 | -68.879396 | 1029.88 | 777.75 |

2.4 Star Slots

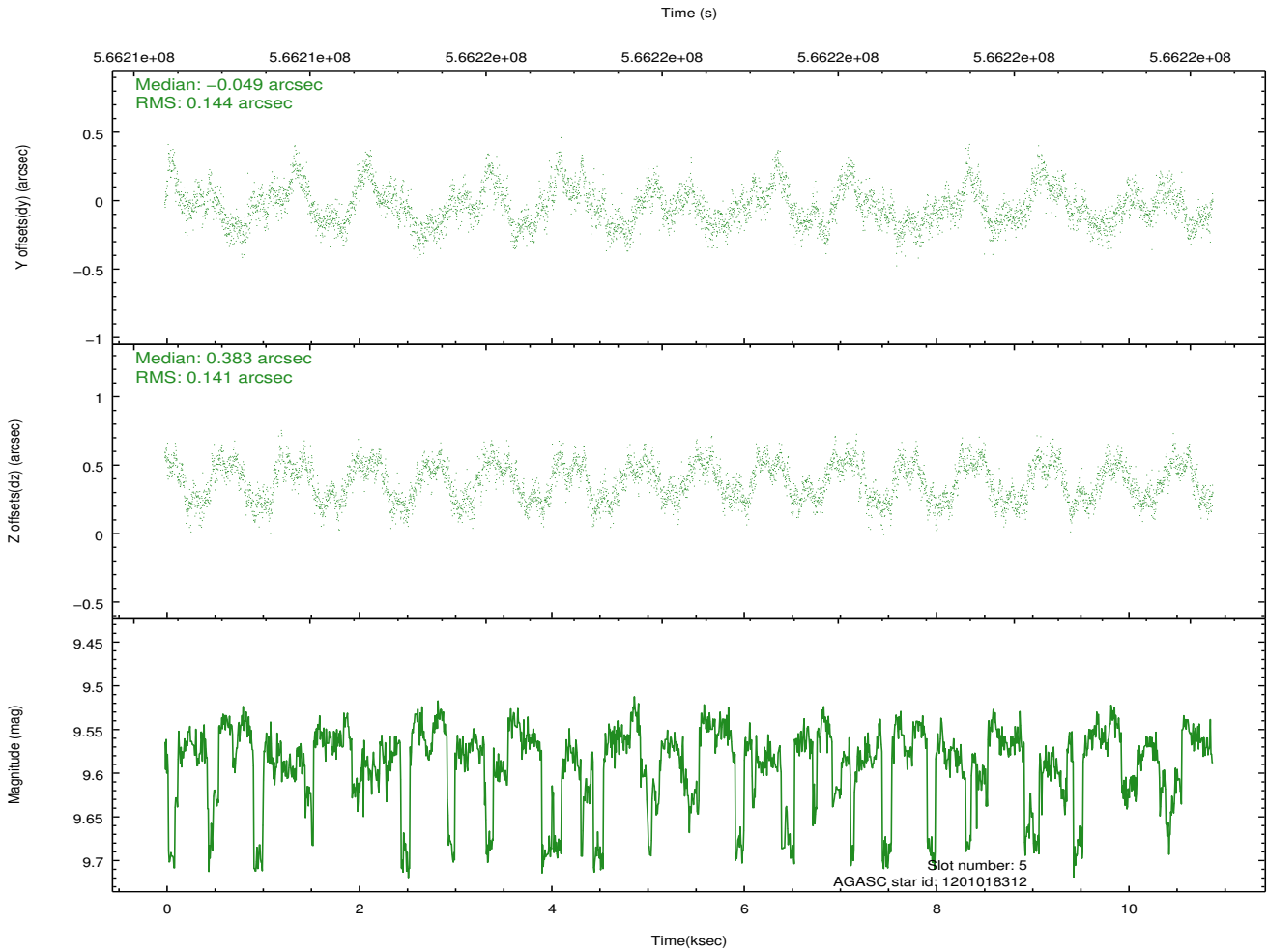
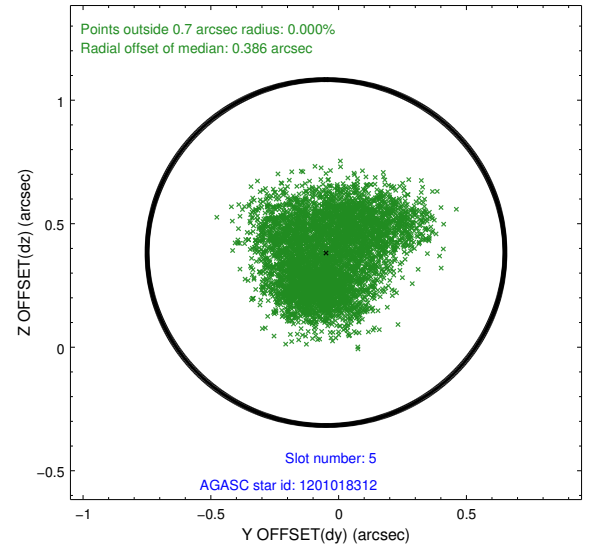
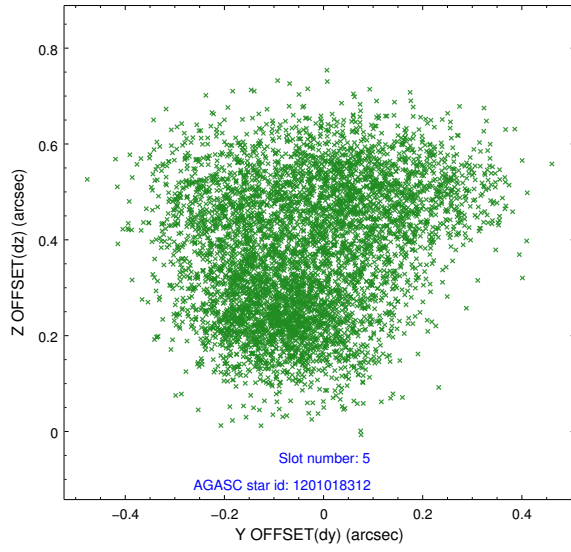
2.4.1 Slot 3



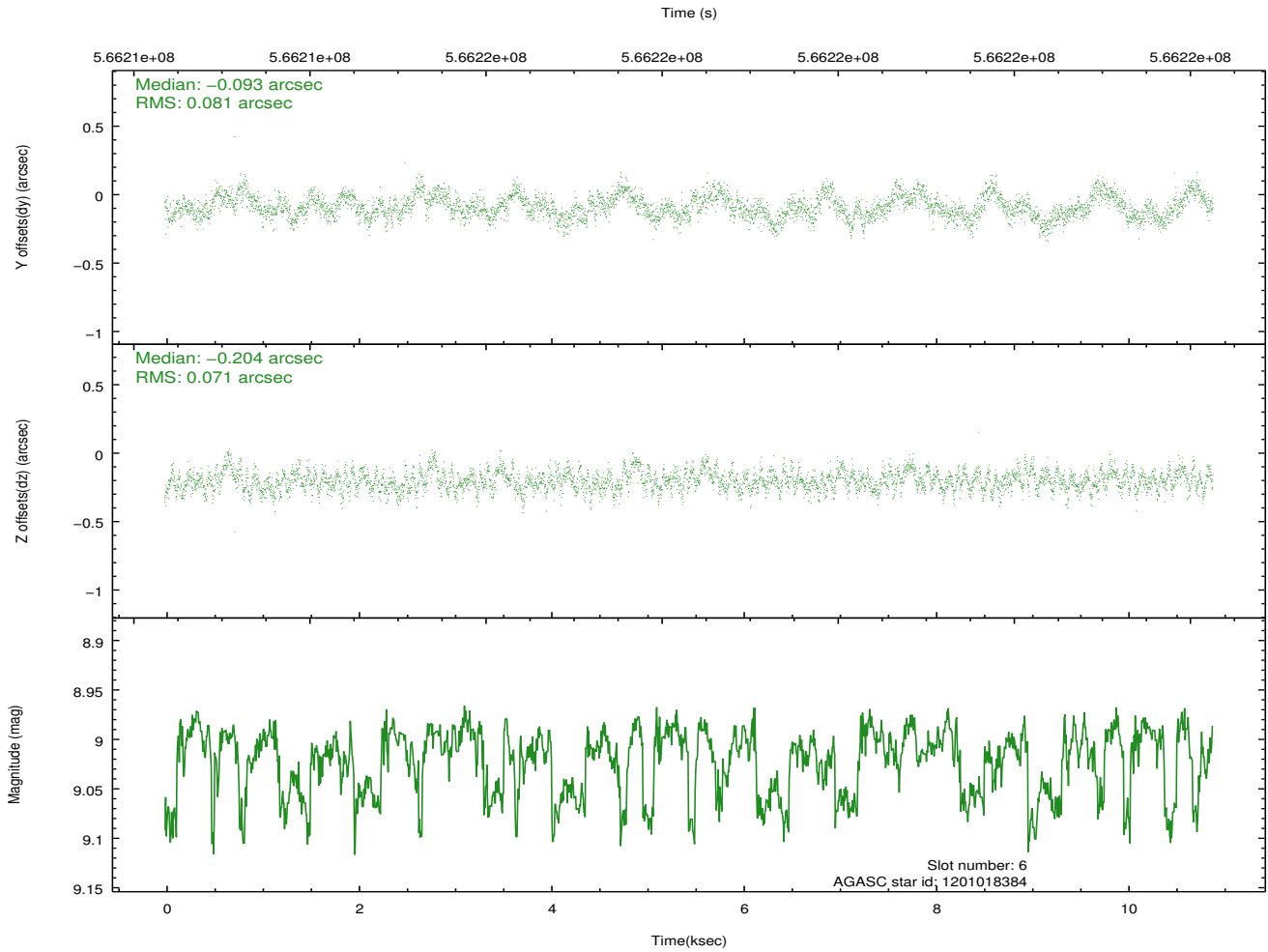
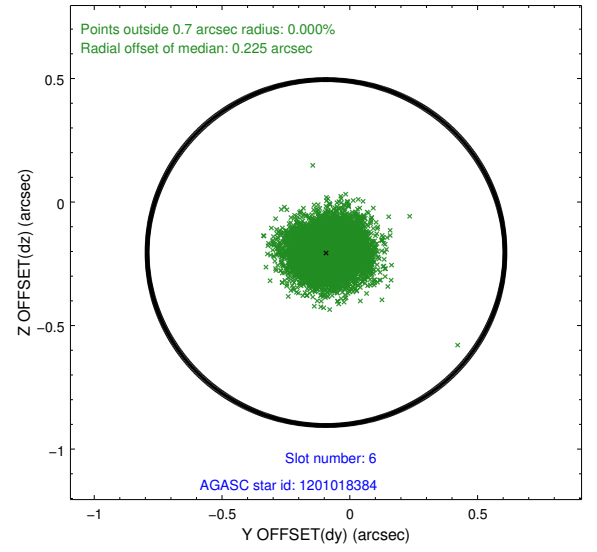
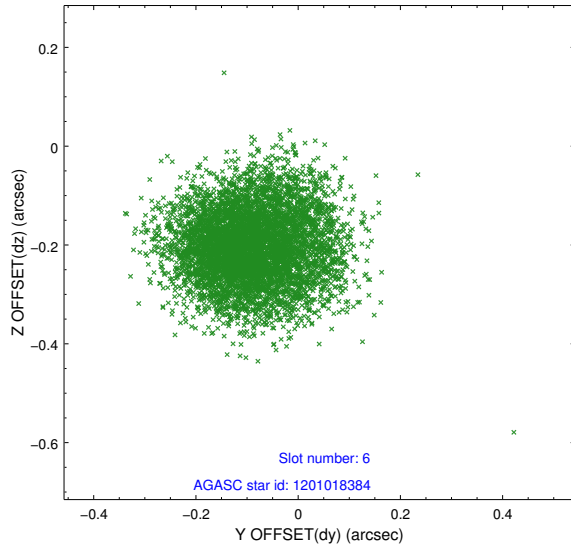
2.4.2 Slot 4



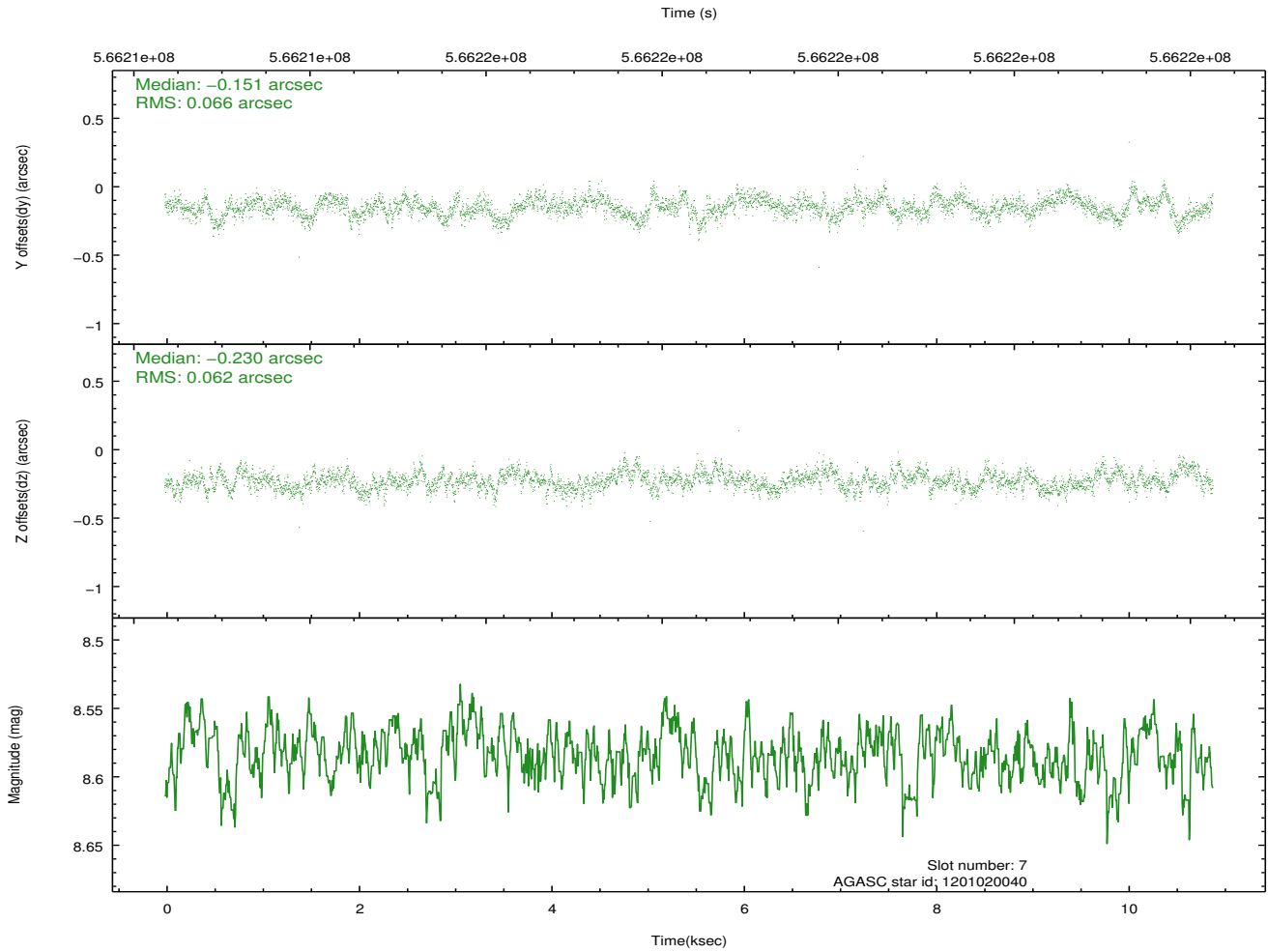
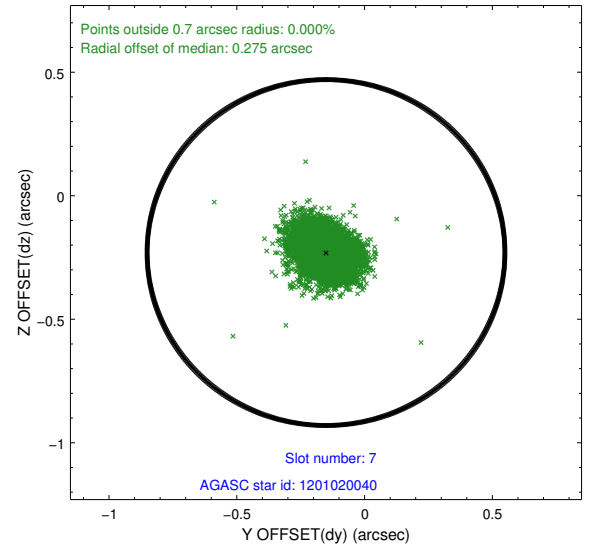
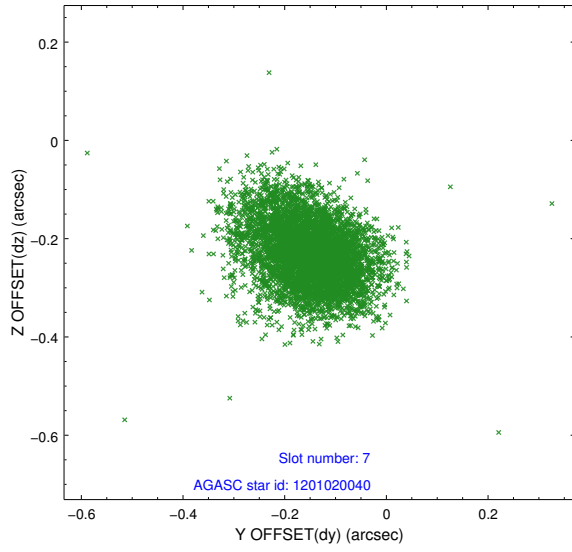
2.4.3 Slot 5



2.4.4 Slot 6

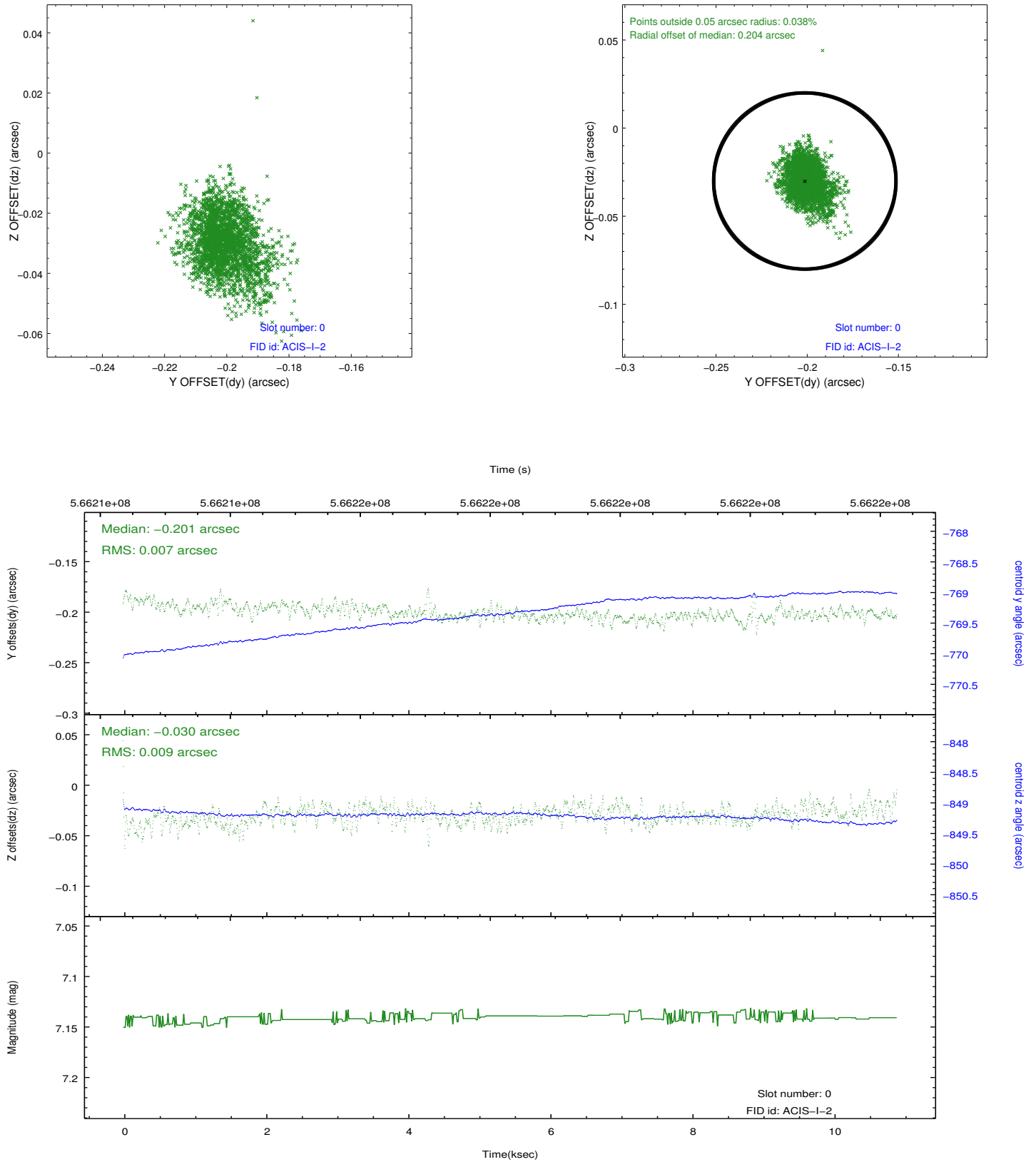


2.4.5 Slot 7

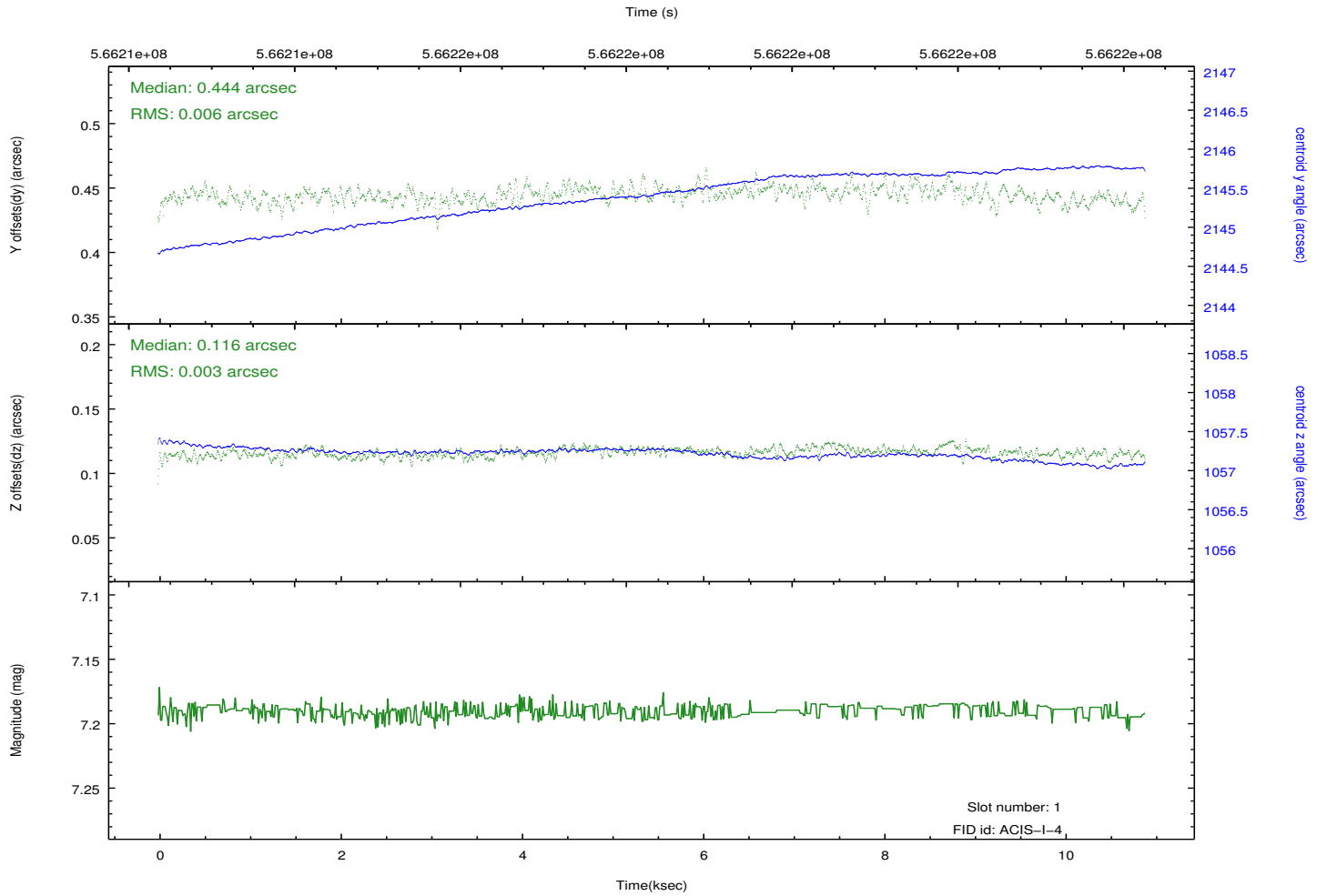
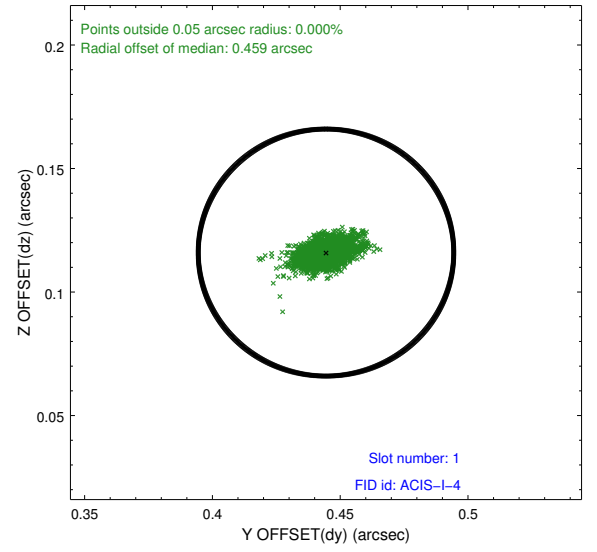
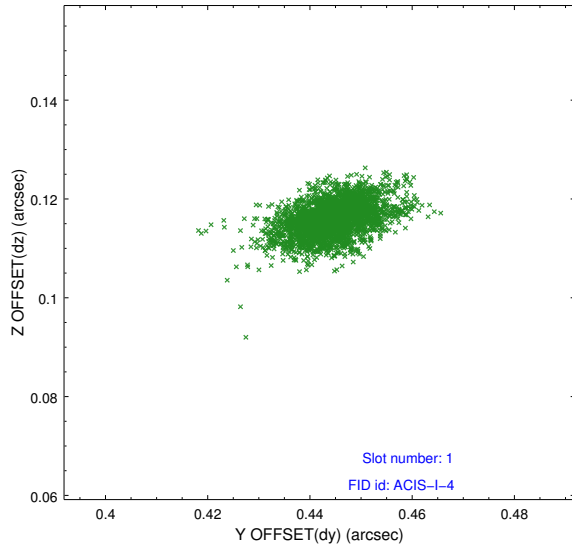


2.5 FID Slots

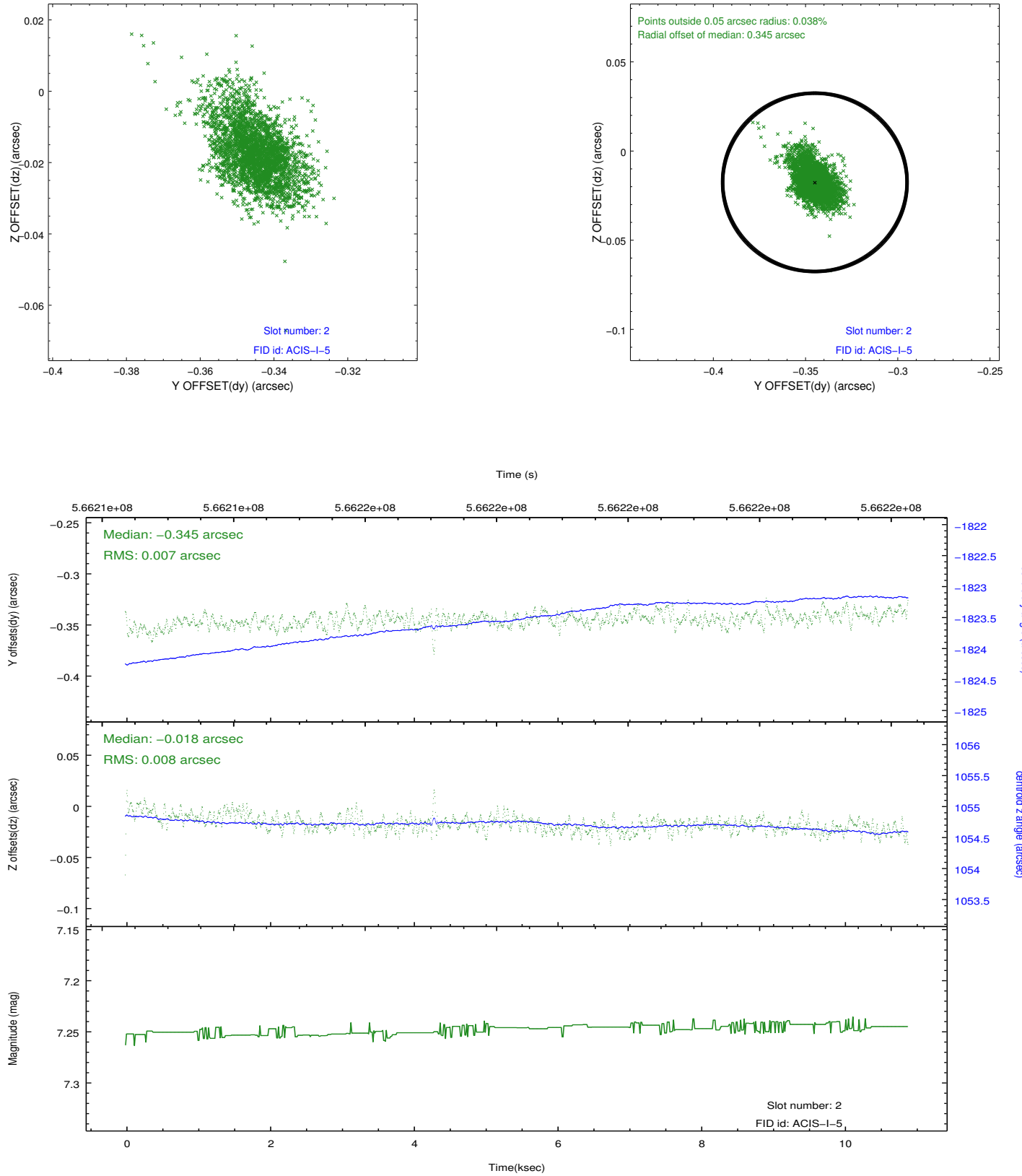
2.5.1 Slot 0



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) | 2015.12.13 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 9.9520001482964 |

A.2 Comments