

V&V Reference Report

L2 ASCDS Version : 10.5.4

Observation 20076 - L2 Version 1
Chandra X-Ray Center

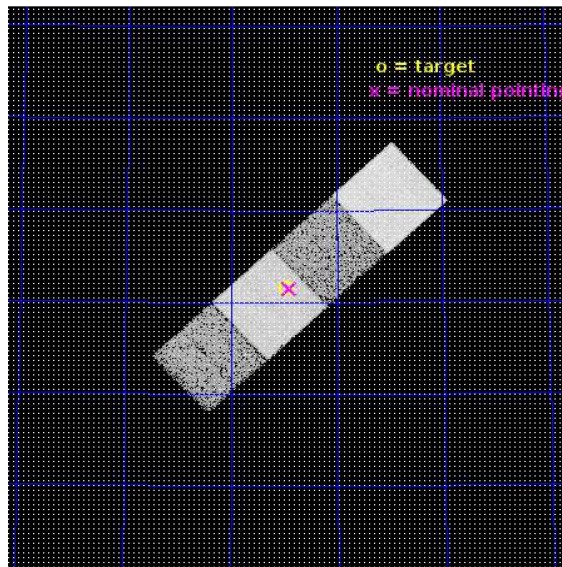
L2 Processing Date : May 10 2017

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1 Front

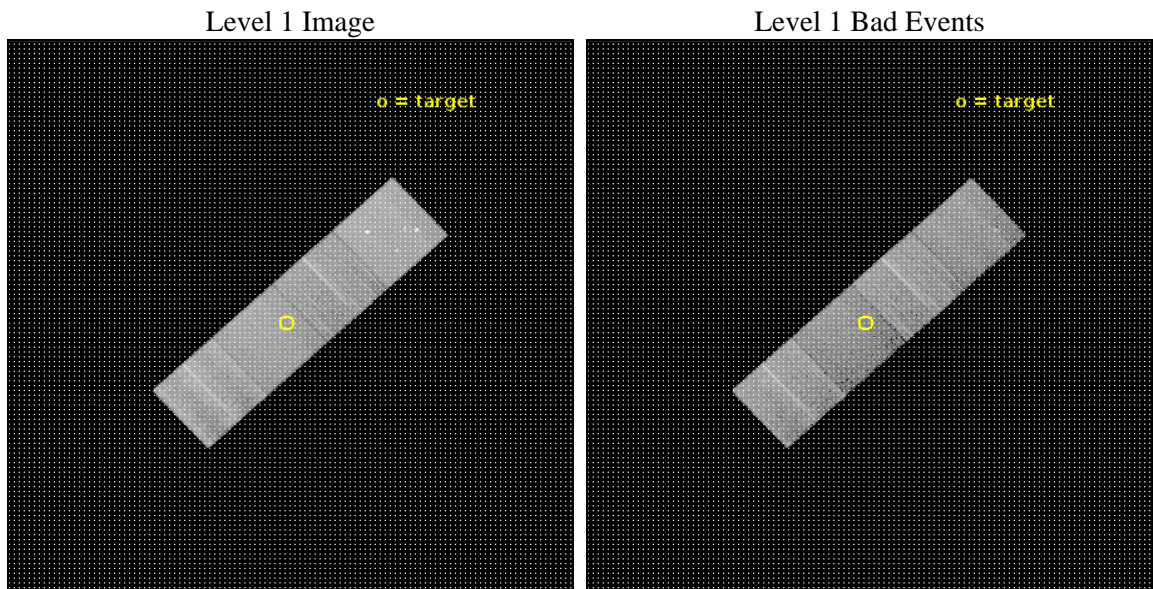
| | | |
|----------|--|---|
| seq_num | 601227 | Sequence number |
| obs_id | 20076 | Observation id |
| title | The X-Ray Population of the Colliding Galaxy Pair Arp 81 | Proposal |
| observer | Saul Rappaport | Principal investigator |
| object | Arp 81 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 273.24 | Observer's specified target RA [deg] |
| dec_targ | 68.358889 | Observer's specified target Dec [deg] |
| ra_nom | 273.22638936199 | Nominal RA [deg] |
| dec_nom | 68.358386916908 | Nominal Dec [deg] |
| roll_nom | 137.16933119054 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 13066.212495804 | Sum of GTIs [s] |
| livetime | 12895.49281034 | Livetime [s] |
| ontime5 | 13066.17145586 | Sum of GTIs [s] |
| ontime6 | 13066.130415797 | Sum of GTIs [s] |
| ontime7 | 13066.212495804 | Sum of GTIs [s] |
| ontime8 | 13066.089375854 | Sum of GTIs [s] |
| l2events | 122392 | Number of level 2 events |



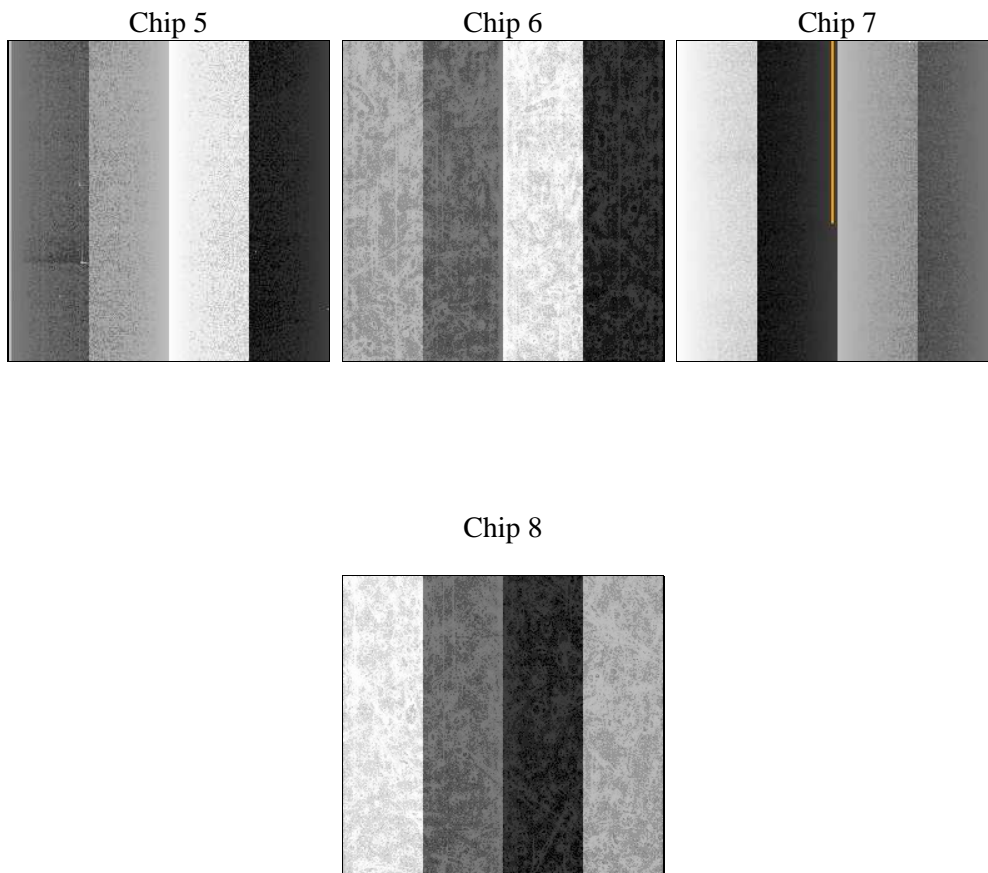
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 13000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.5.4 | Processing system revision | ontime | 13066.212495804 | Sum of GTIs [s] |
| caldsver | 4.7.4 | | ontime5 | 13066.17145586 | Sum of GTIs [s] |
| date | 2017-05-10T22:14:43 | Date and time of file creation | ontime6 | 13066.130415797 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime7 | 13066.212495804 | Sum of GTIs [s] |
| | | | ontime8 | 13066.089375854 | Sum of GTIs [s] |
| | | | l1events | 423717 | Number of level 1 events |

2.1.4 Events

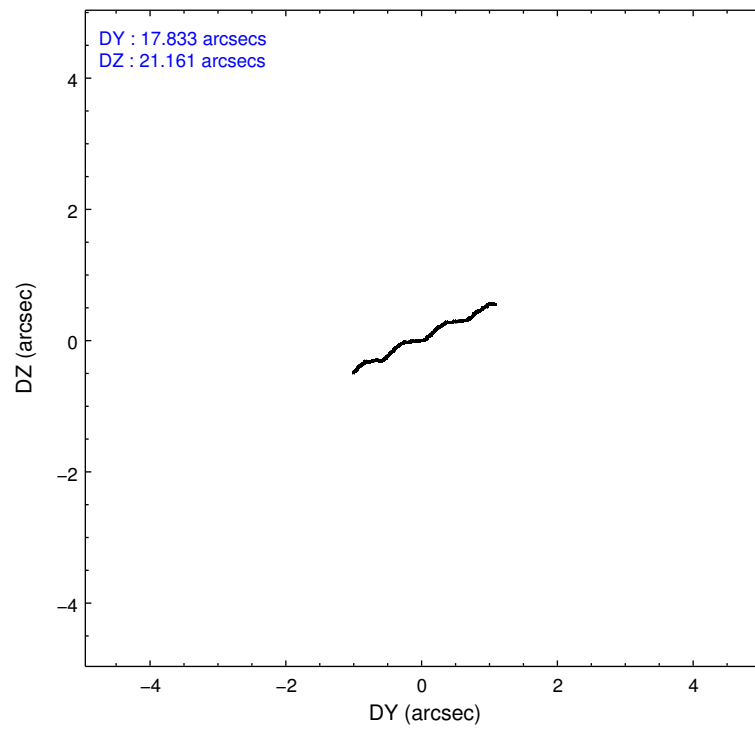
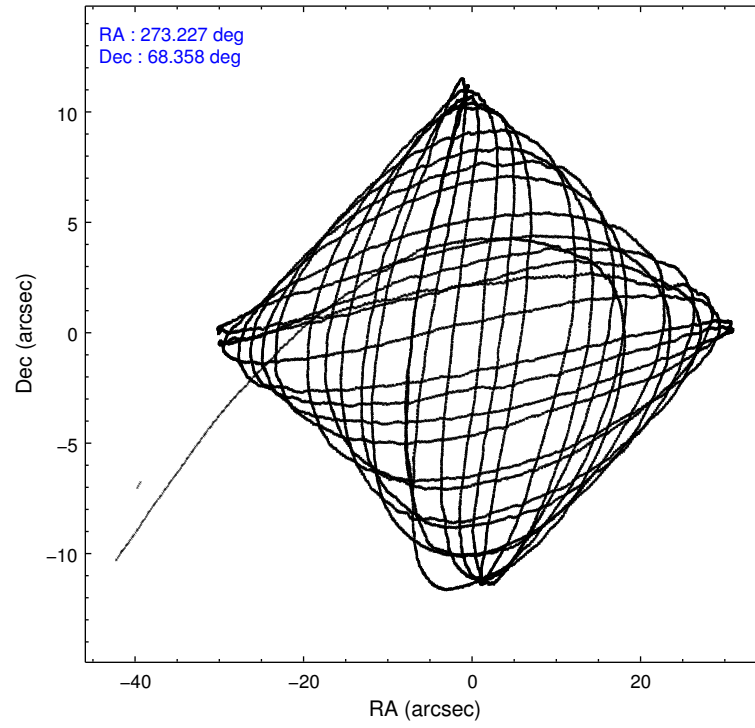
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|--------|-------|-------|--------|
| level 1 events | 129575 | 87287 | 94489 | 112366 |
| rejected events | 60882 | 77473 | 49469 | 79910 |
| rejected % | 46% | 88% | 52% | 71% |

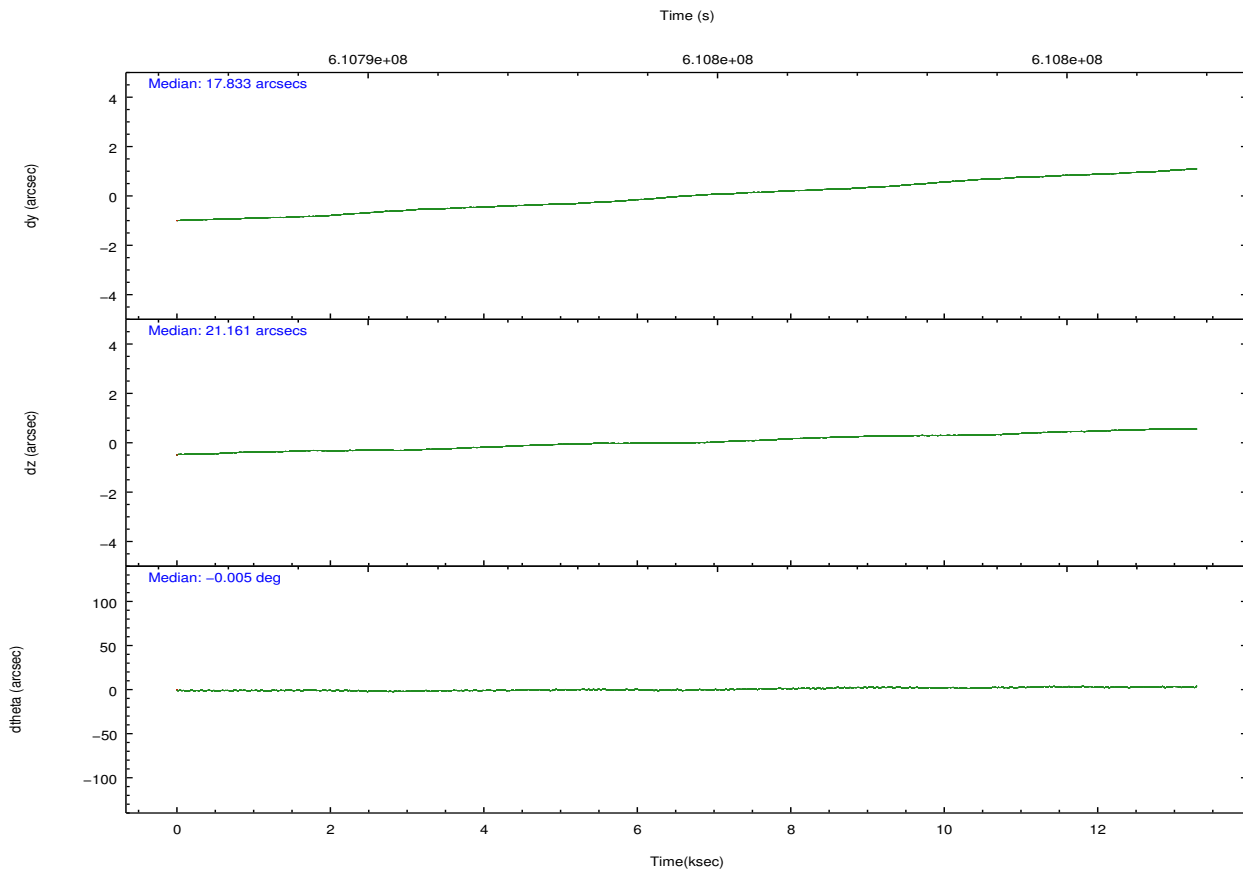
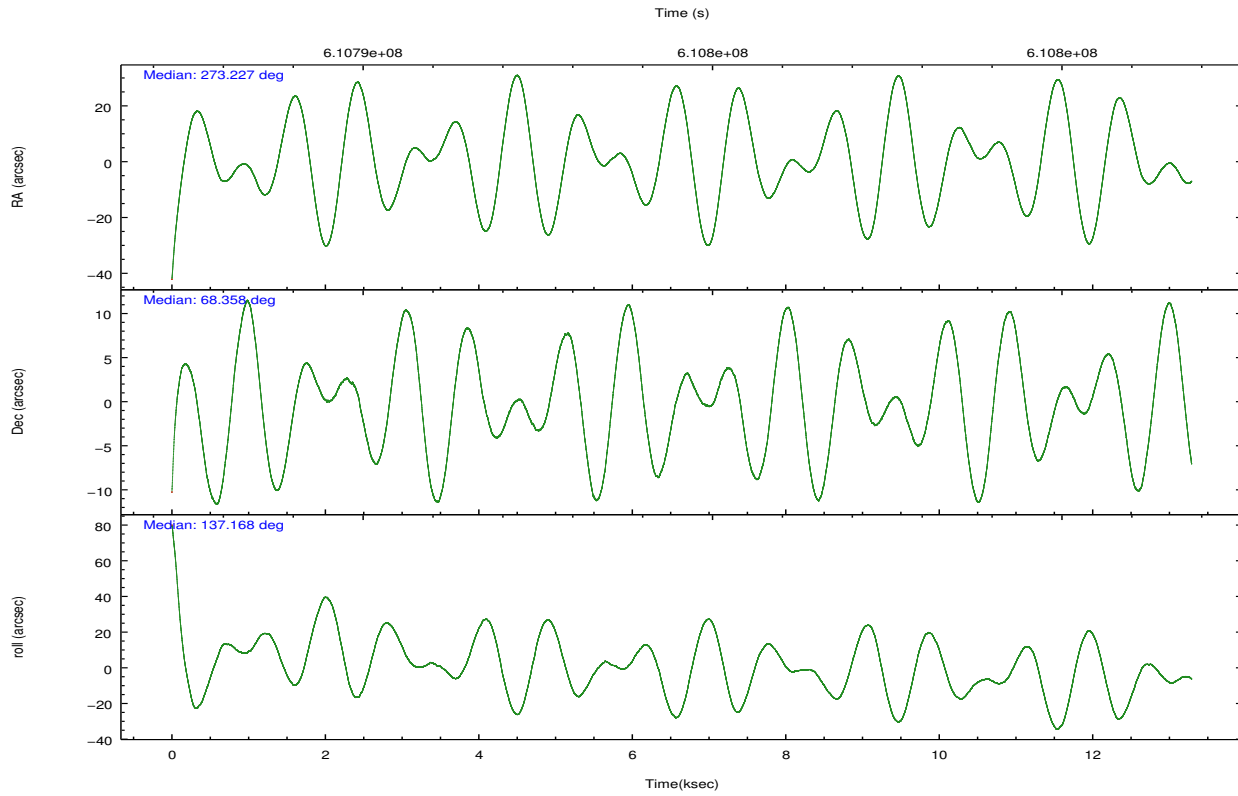
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|
| grade 0 events | 9240 | 3398 | 4388 | 8768 |
| | 7% | 3% | 4% | 7% |
| grade 1 events | 593 | 37 | 162 | 103 |
| | 0% | 0% | 0% | 0% |
| grade 2 events | 21091 | 2331 | 10148 | 8105 |
| | 16% | 2% | 10% | 7% |
| grade 3 events | 2384 | 1012 | 3816 | 3430 |
| | 1% | 1% | 4% | 3% |
| grade 4 events | 2273 | 972 | 3836 | 3122 |
| | 1% | 1% | 4% | 2% |
| grade 5 events | 9440 | 3473 | 9859 | 5540 |
| | 7% | 3% | 10% | 4% |
| grade 6 events | 33720 | 2103 | 22842 | 9037 |
| | 26% | 2% | 24% | 8% |
| grade 7 events | 50834 | 73961 | 39438 | 74261 |
| | 39% | 84% | 41% | 66% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-5678 | ACIS-5678 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | Obspar update status | NONE | UPDATED |
| Data mode | VFAINT | VFAINT | CCD I0 on | N | N |
| Observation mode | POINTING | POINTING | CCD I1 on | N | N |
| [deg] Pointing RA | 273.299160 | 273.2263893619916 | CCD I2 on | N | N |
| [deg] Pointing Dec | 68.352617 | 68.35838691690795 | CCD I3 on | N | N |
| [deg] Pointing Roll | 136.945007 | 137.1693311905423 | CCD S0 on | N | N |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 | CCD S1 on | O1 | Y |
| [mm] SIM defocus | 0 | 0.001444936568705701 | CCD S2 on | Y | Y |
| [mm] SIM translation stage pos | -190.132523 | -190.1425803651734 | CCD S3 on | Y | Y |
| [mm] SIM translation stage offset | 0 | 0.01005778216563158 | CCD S4 on | O2 | Y |
| [s] Observation start time (MET) | 610788212.184000 | 610787249.94877 | CCD S5 on | N | N |
| Observation start date | 2017-05-10T07:22:23 | 2017-05-10T07:07:29 | Number of optional ACIS chips dropped | 0 | 0 |
| [s] Observation end time (MET) | 610801212.184000 | 610802291.82464 | On-chip summing requested | N | N |
| Observation end date | 2017-05-10T10:59:03 | 2017-05-10T11:18:11 | Subarray requested | NONE | NONE |
| Read mode | TIMED | TIMED | Alternating exposures requested | N | N |
| | | | [s] Primary exposure time | 0.000000 | 3.1 |

2.3 Aspect



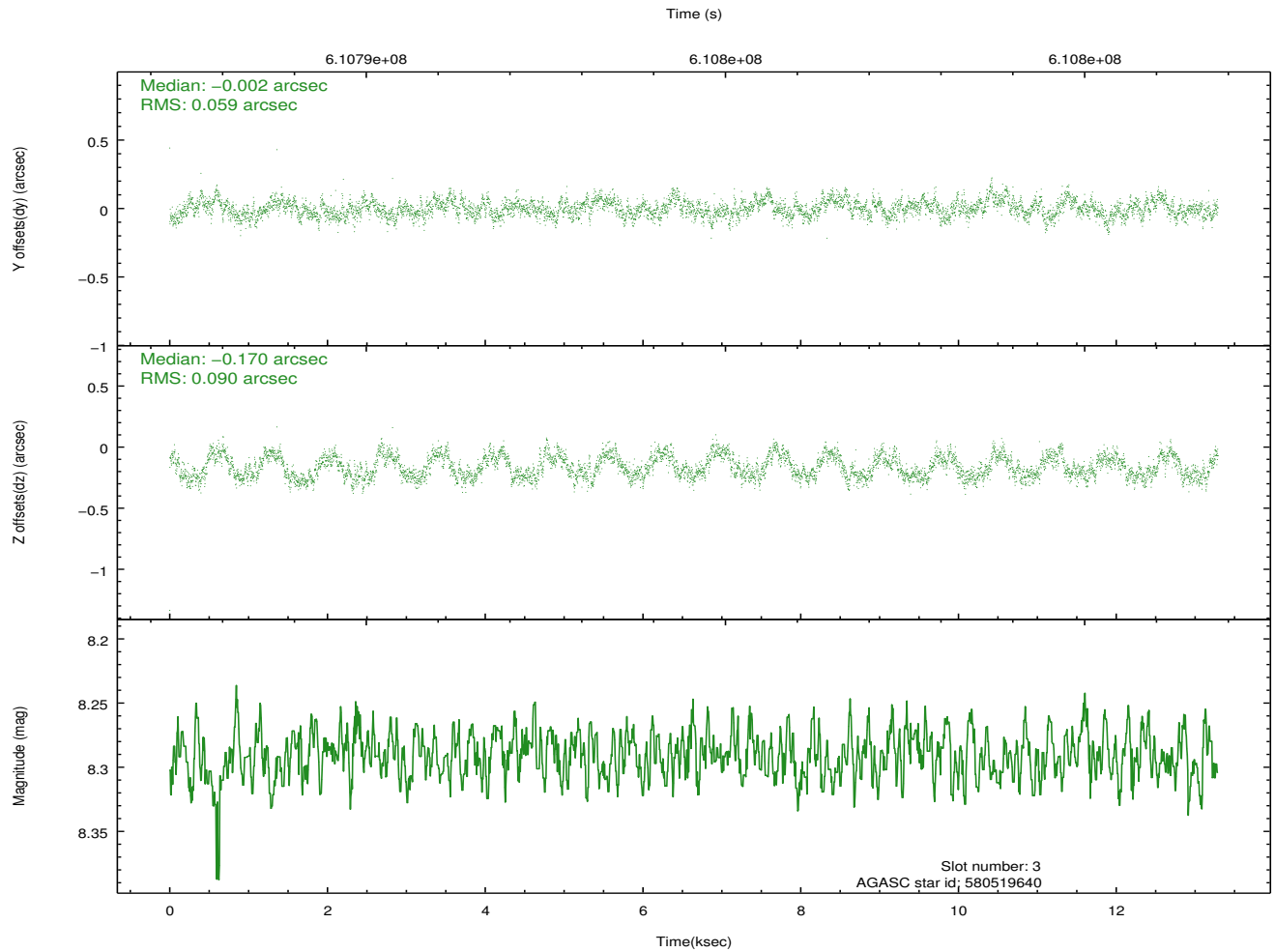
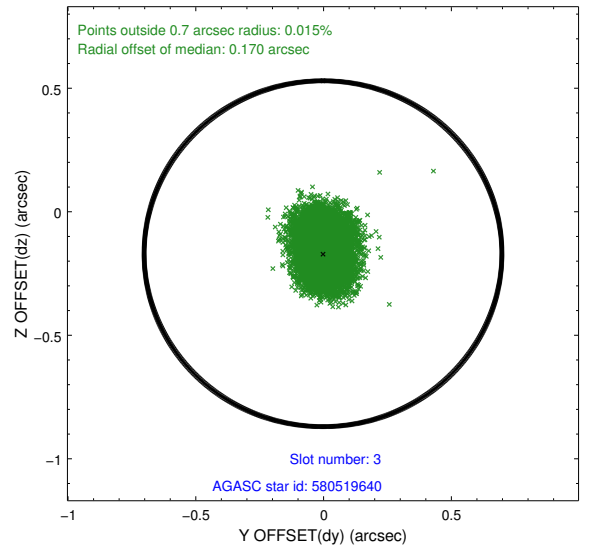
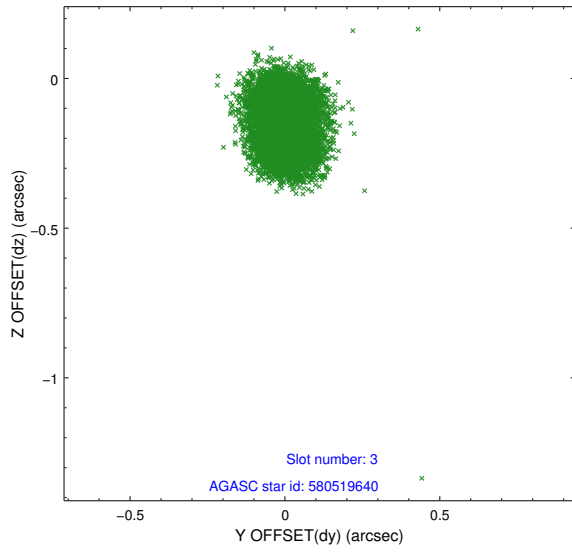


Slot Statistics

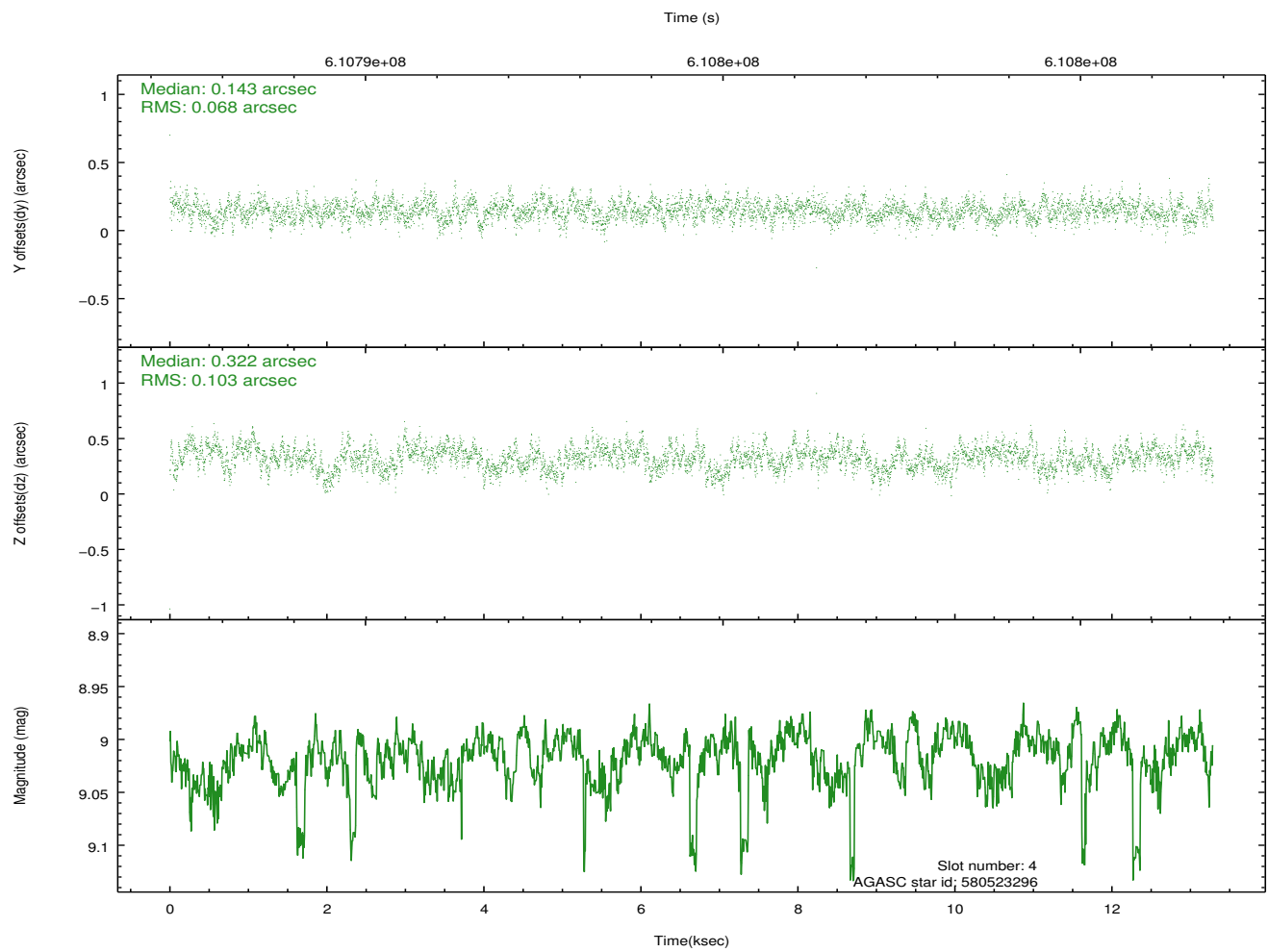
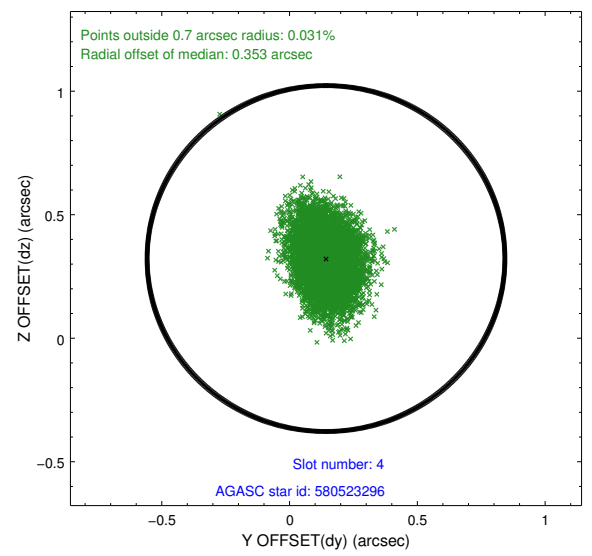
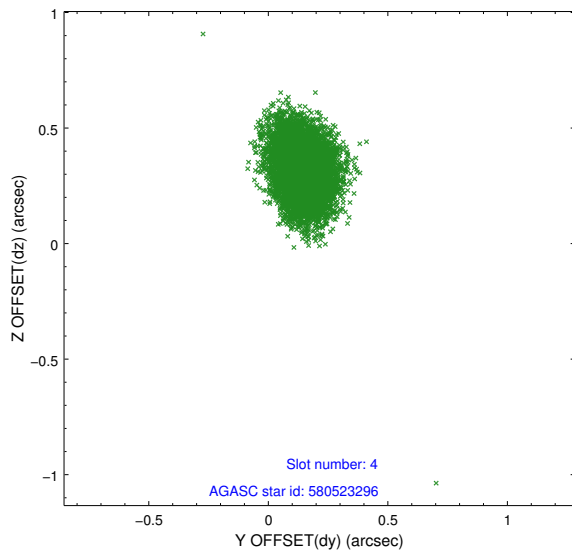
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | | ACIS-S-2 | 6.96 | 3241 | -0.214 | -0.106 | 0.023 | 0.034 | 0.000000 | 0.000000 | -771.06 | -1742.82 |
| 1 | FID | | ACIS-S-4 | 7.07 | 3242 | 0.512 | 0.130 | 0.016 | 0.032 | 0.000000 | 0.000000 | 2142.75 | 165.57 |
| 2 | FID | | ACIS-S-5 | 7.06 | 3241 | -0.333 | -0.014 | 0.019 | 0.034 | 0.000000 | 0.000000 | -1823.59 | 159.45 |
| 3 | GUIDE | used | 580519640 | 8.29 | 6477 | -0.002 | -0.170 | 0.116 | 0.176 | 272.207004 | 68.580455 | 1617.84 | 372.53 |
| 4 | GUIDE | used | 580523296 | 9.02 | 6473 | 0.143 | 0.322 | 0.129 | 0.214 | 273.398543 | 68.638971 | 609.17 | -841.62 |
| 5 | GUIDE | used | 580527528 | 8.59 | 6483 | -0.158 | -0.192 | 0.088 | 0.145 | 272.064476 | 68.419932 | 1370.74 | 926.00 |
| 6 | GUIDE | used | 580529216 | 8.37 | 6478 | -0.151 | -0.308 | 0.101 | 0.166 | 272.505547 | 67.781931 | -609.52 | 2234.66 |
| 7 | GUIDE | used | 580532080 | 9.00 | 6480 | 0.163 | 0.340 | 0.107 | 0.175 | 274.203828 | 68.121720 | -1447.73 | -226.74 |

2.4 Star Slots

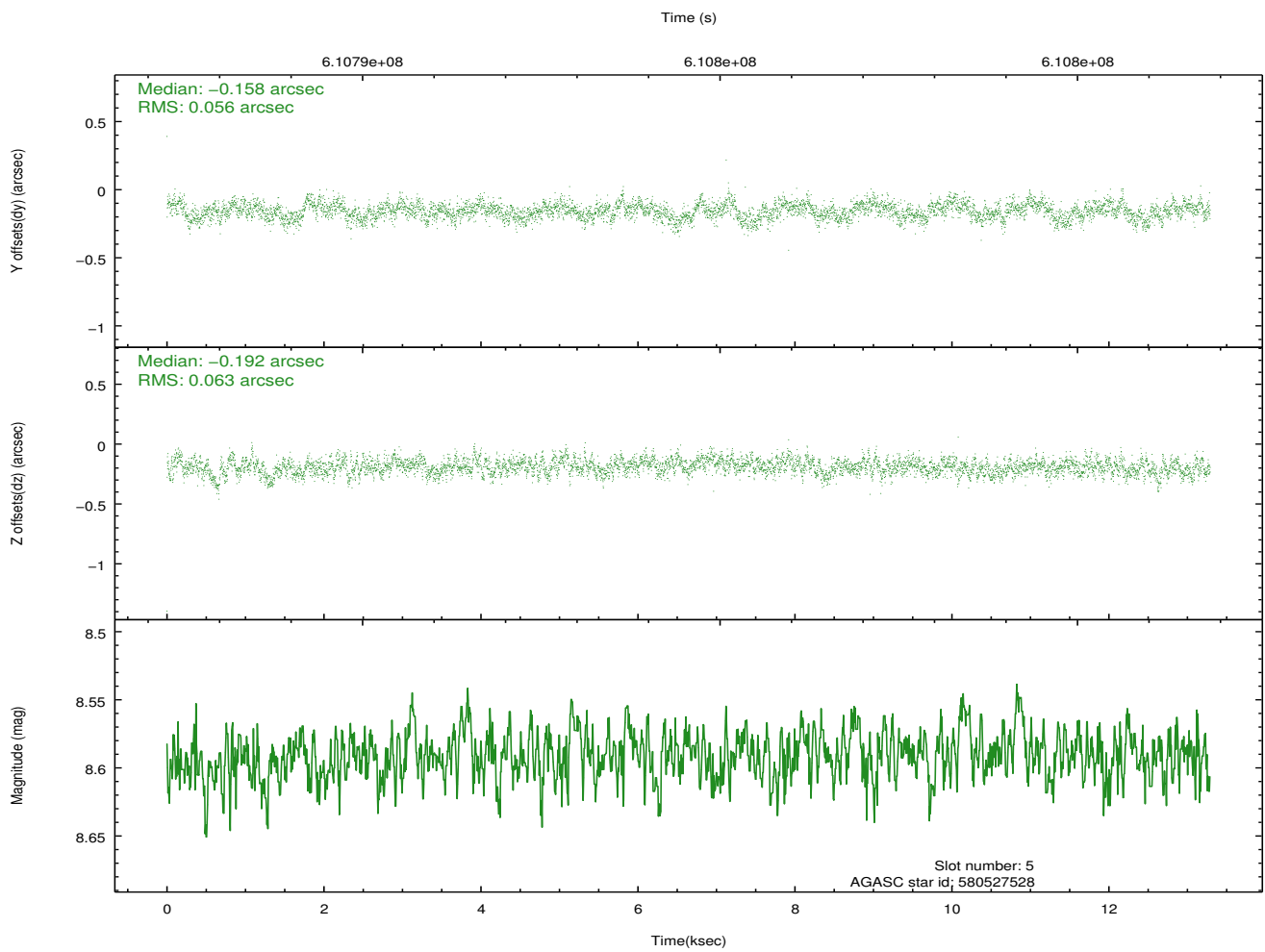
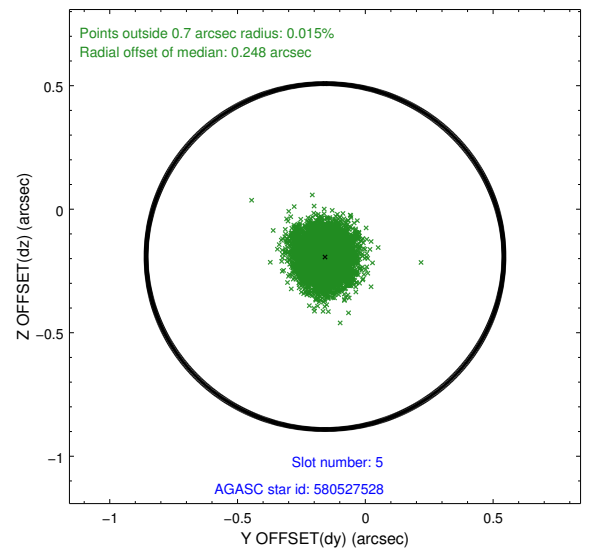
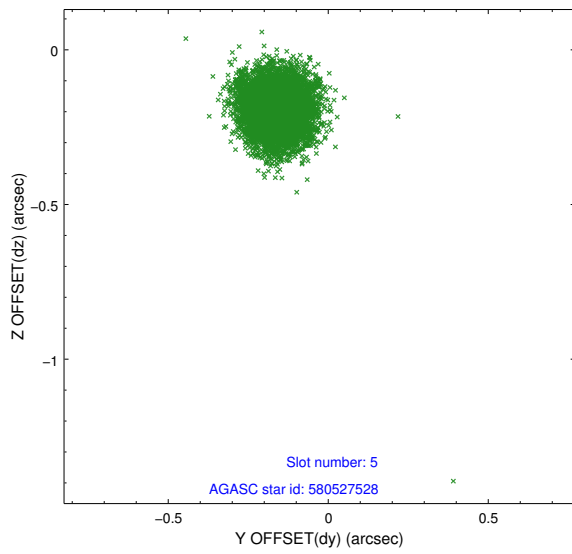
2.4.1 Slot 3



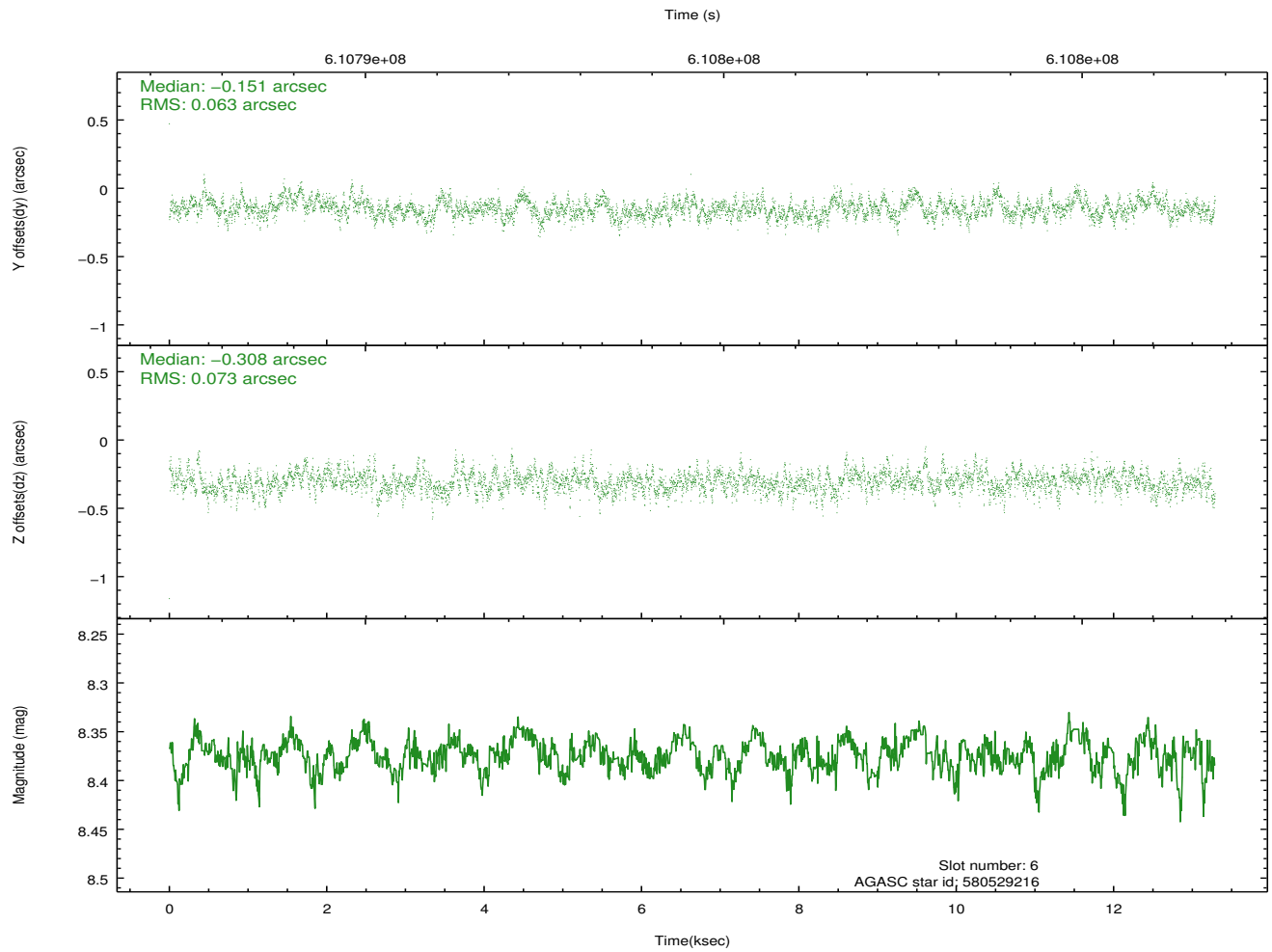
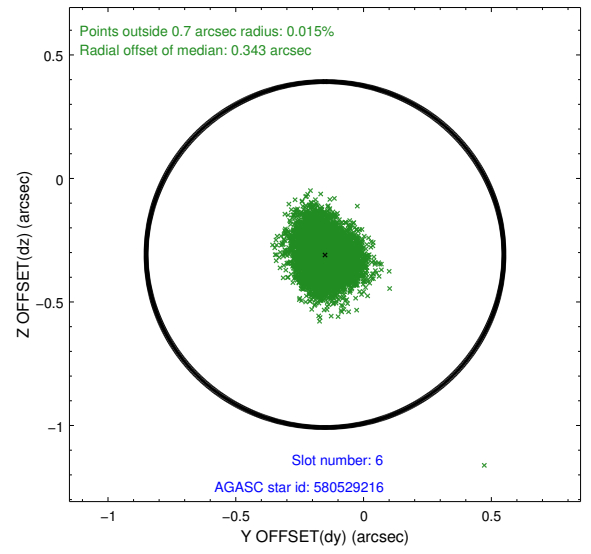
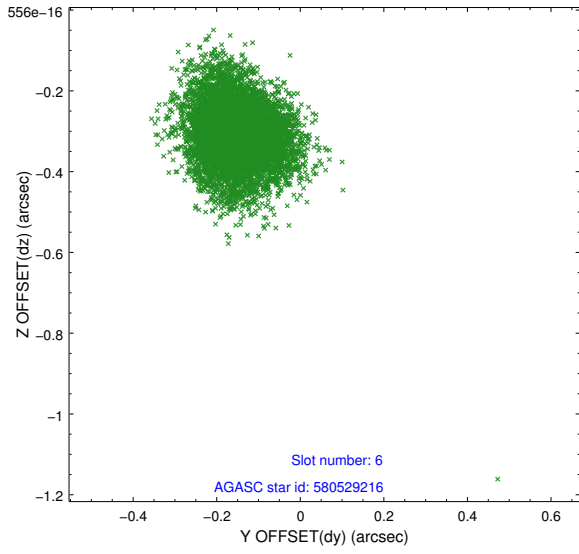
2.4.2 Slot 4



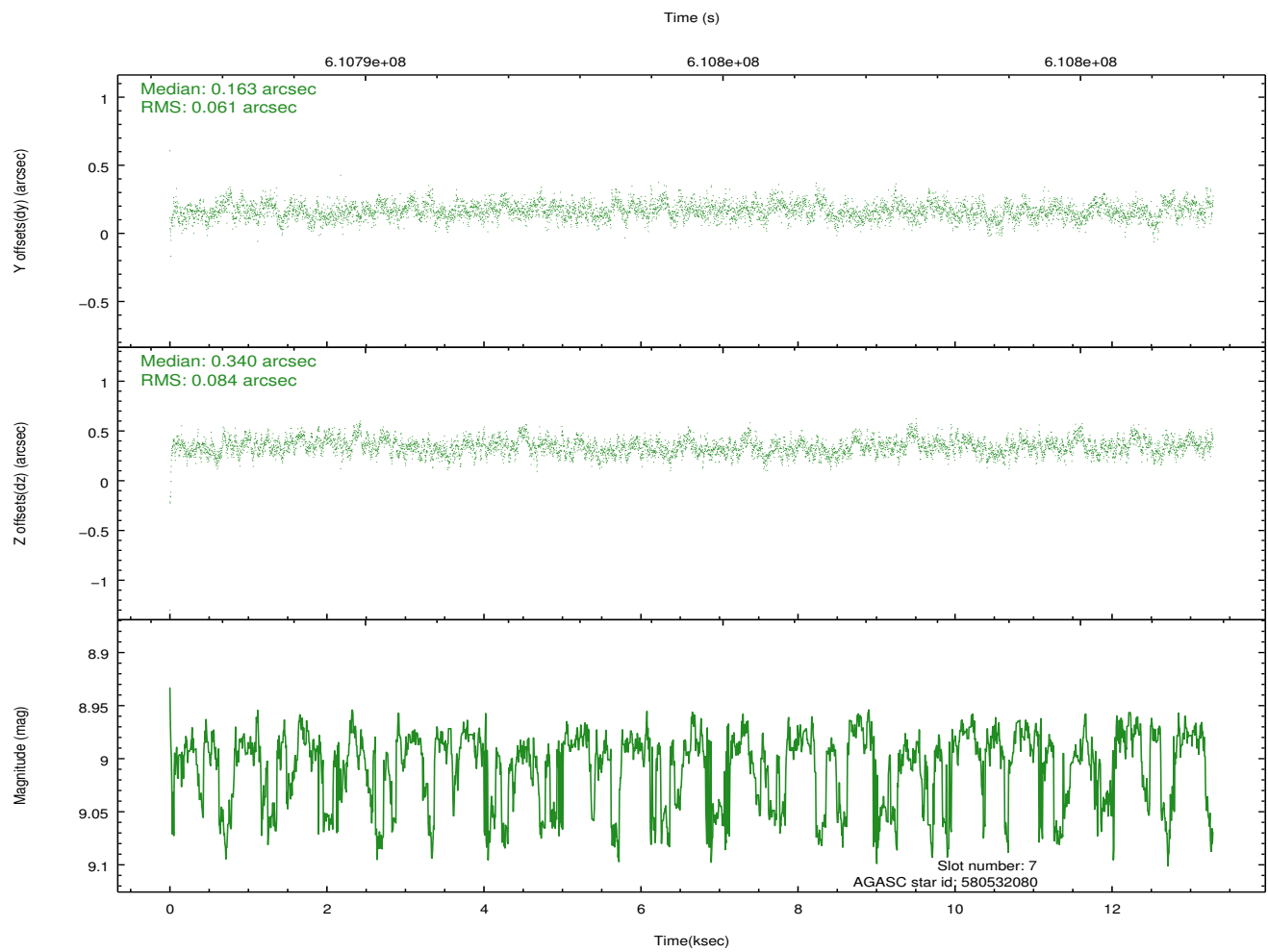
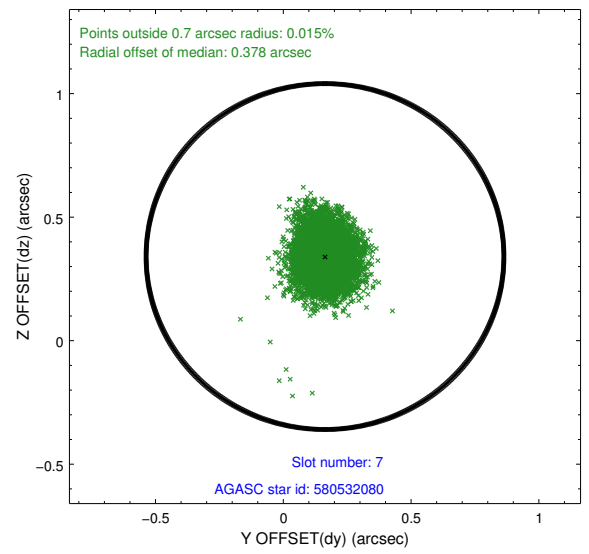
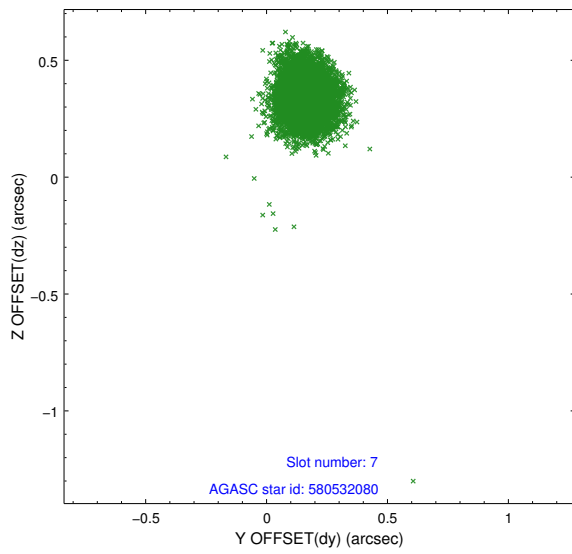
2.4.3 Slot 5



2.4.4 Slot 6

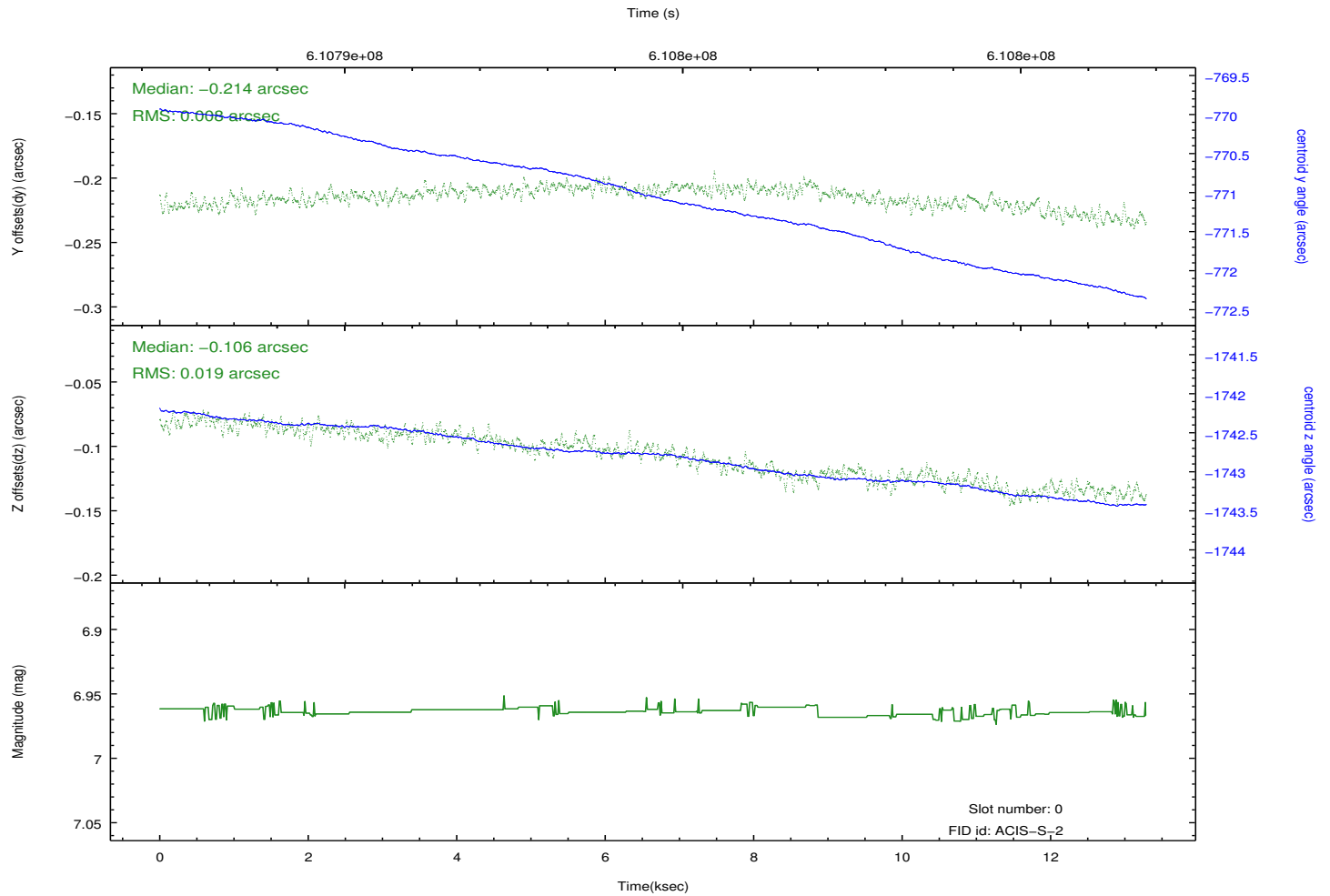
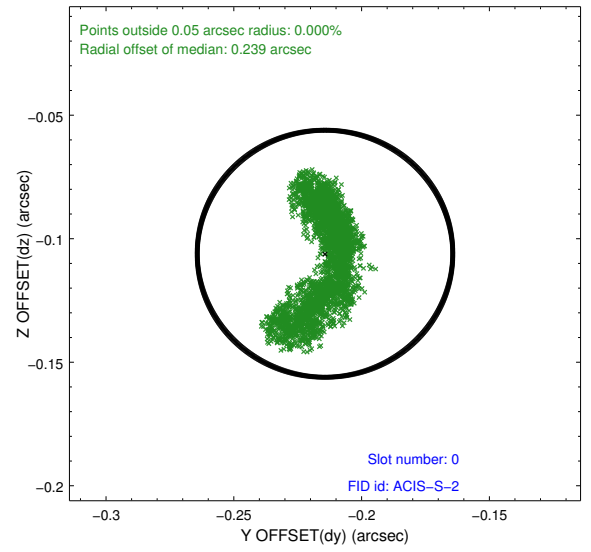
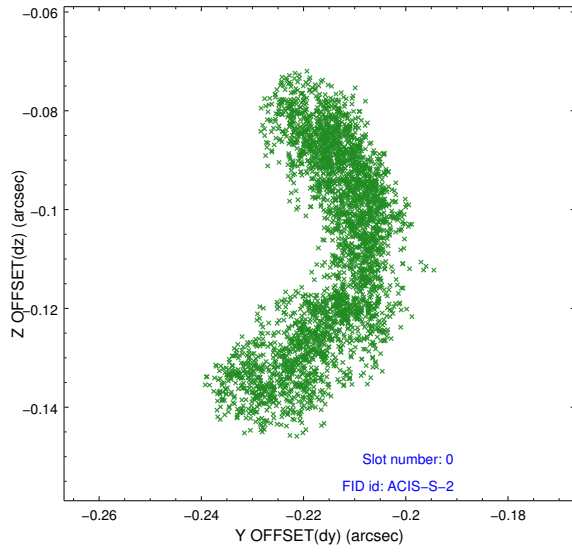


2.4.5 Slot 7

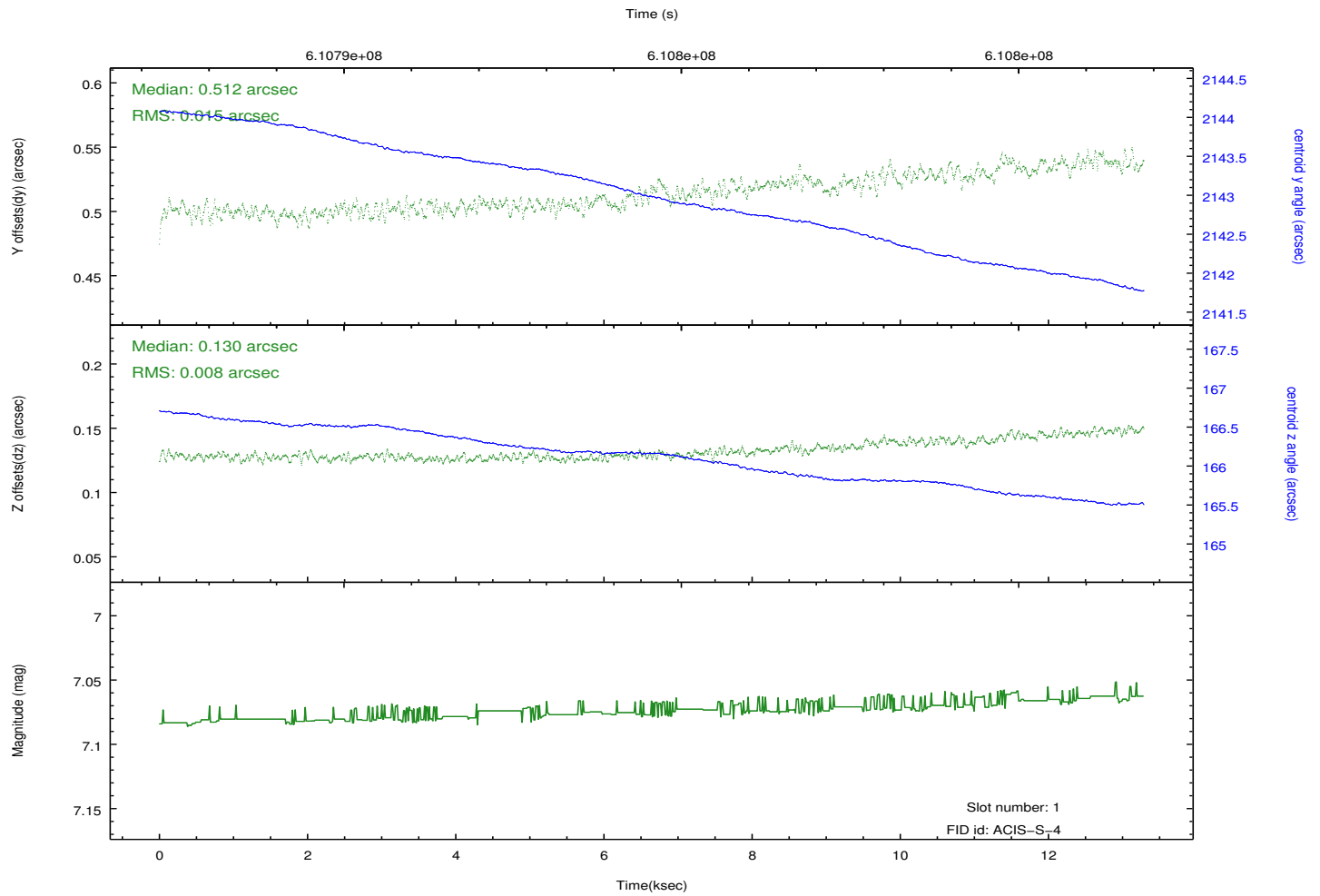
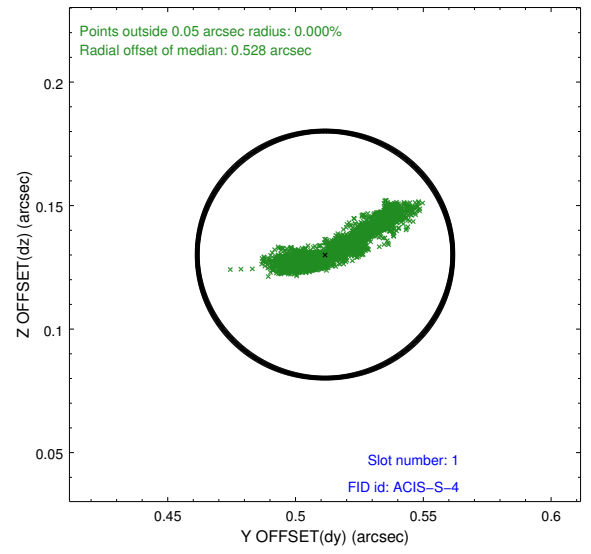
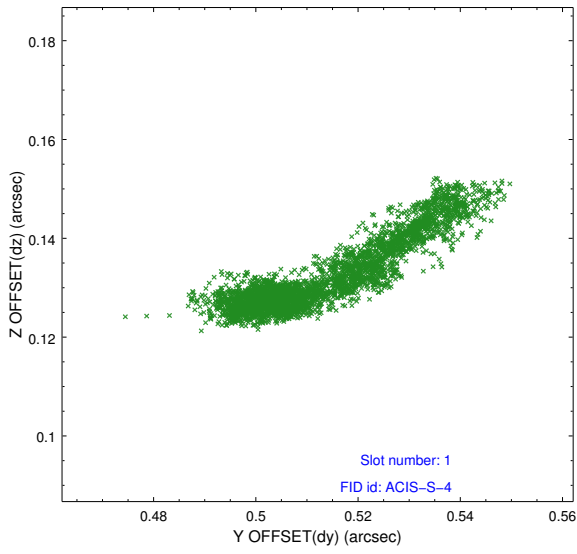


2.5 FID Slots

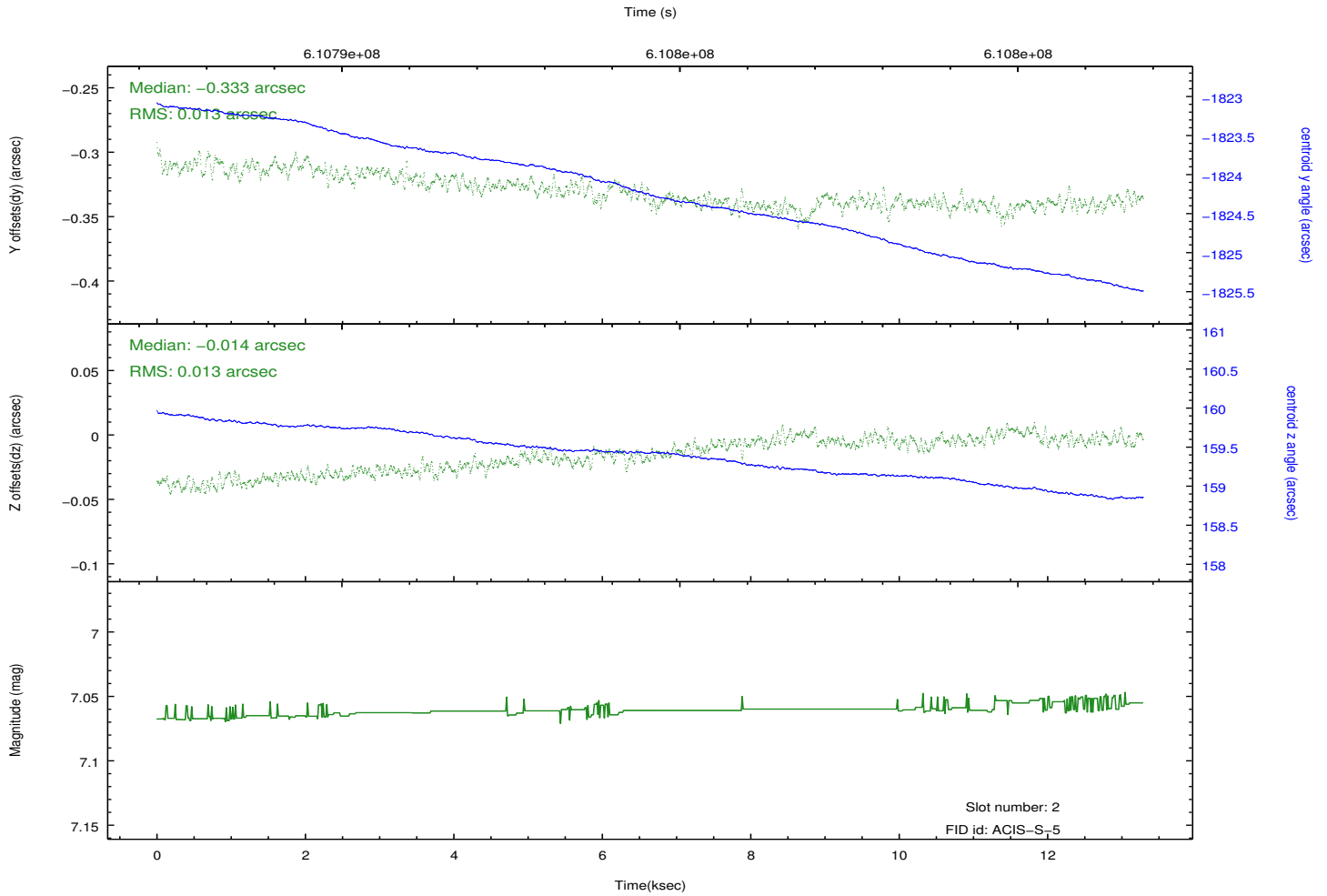
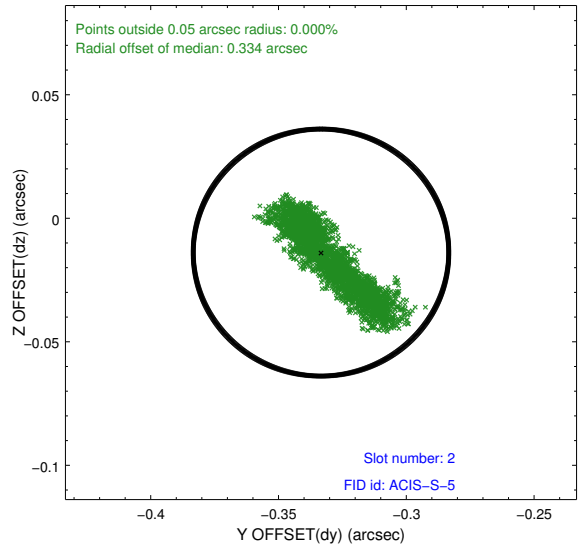
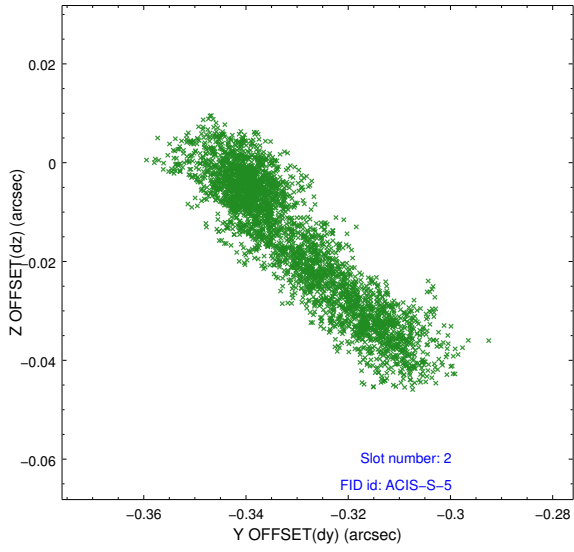
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|-----------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2017.05.11 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 13.066212495804 |

A.2 Comments