

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2530 - L2 Version 3
Chandra X-Ray Center

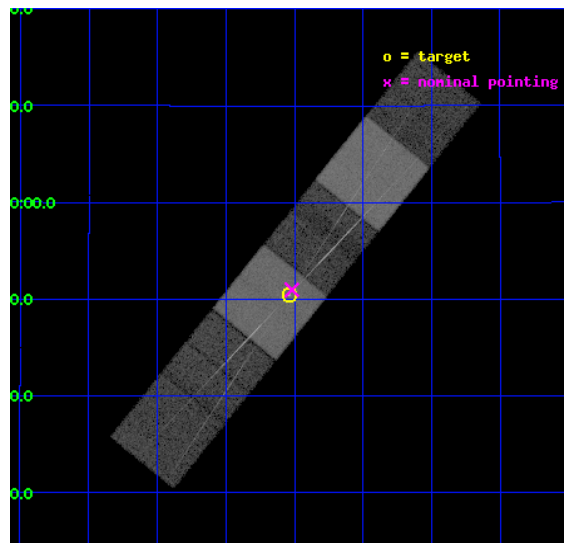
L2 Processing Date : Oct 11 2012

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1 Front

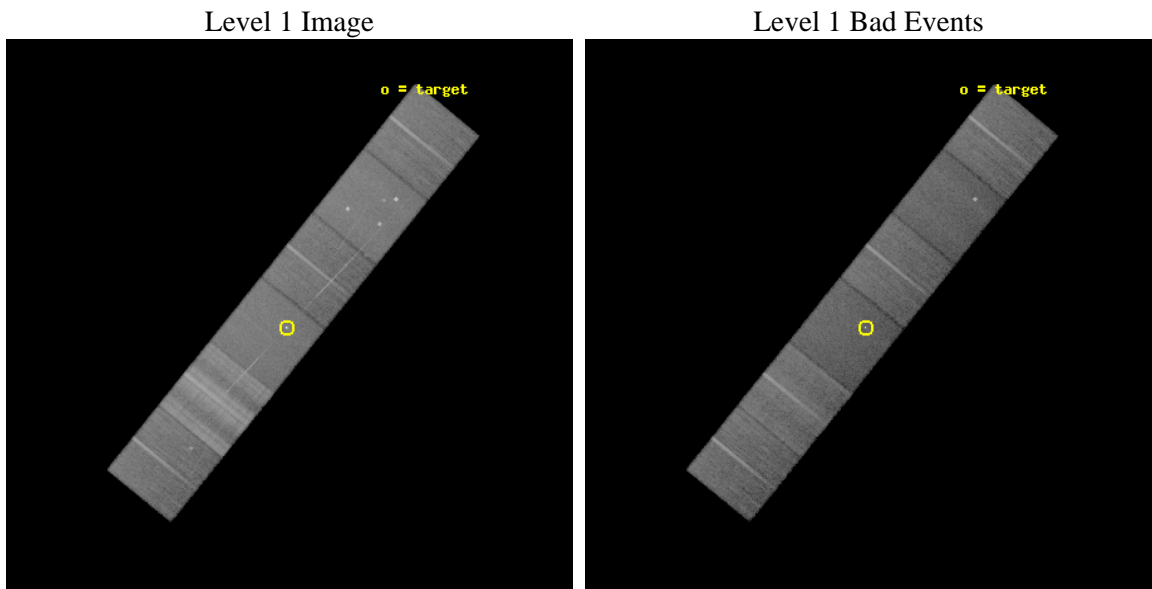
| | | |
|----------|---|---|
| seq_num | 200138 | Sequence number |
| obs_id | 2530 | Observation id |
| title | HETGS SPECTROSCOPY OF THE LONG-PERIOD ACTIVE BINARY, IM PEGASI. | Pr |
| observer | Dr. David Huenemoerder | Principal investigator |
| object | IM PEG | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 343.259583 | Observer's specified target RA [deg] |
| dec_targ | 16.841194 | Observer's specified target Dec [deg] |
| ra_nom | 343.25472135204 | Nominal RA [deg] |
| dec_nom | 16.849685186349 | Nominal Dec [deg] |
| roll_nom | 128.91534454537 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 24159.999909997 | Sum of GTIs [s] |
| livetime | 23854.071443731 | Livetime [s] |
| ontime4 | 24159.999909997 | Sum of GTIs [s] |
| ontime5 | 24159.999909997 | Sum of GTIs [s] |
| ontime6 | 24159.999909997 | Sum of GTIs [s] |
| ontime7 | 24159.999909997 | Sum of GTIs [s] |
| ontime8 | 24159.999909997 | Sum of GTIs [s] |
| ontime9 | 24159.999909997 | Sum of GTIs [s] |
| l2events | 291707 | Number of level 2 events |



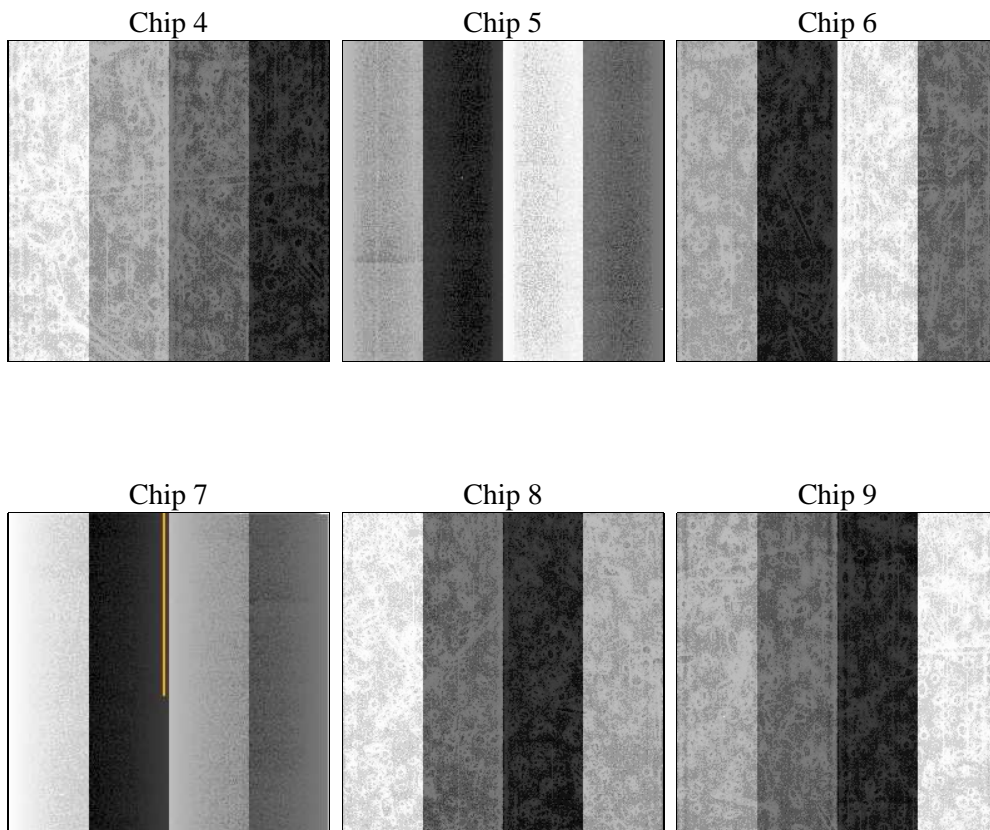
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 1 | Obi number | sched_exp_time | 24000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5 | Processing system revision | ontime | 24159.999909997 | Sum of GTIs [s] |
| caldbver | 4.5.2 | | ontime4 | 24159.999909997 | Sum of GTIs [s] |
| date | 2012-10-11T15:35:16 | Date and time of file creation | ontime5 | 24159.999909997 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime6 | 24159.999909997 | Sum of GTIs [s] |
| | | | ontime7 | 24159.999909997 | Sum of GTIs [s] |
| | | | ontime8 | 24159.999909997 | Sum of GTIs [s] |
| | | | ontime9 | 24159.999909997 | Sum of GTIs [s] |
| | | | l1events | 1448341 | Number of level 1 events |

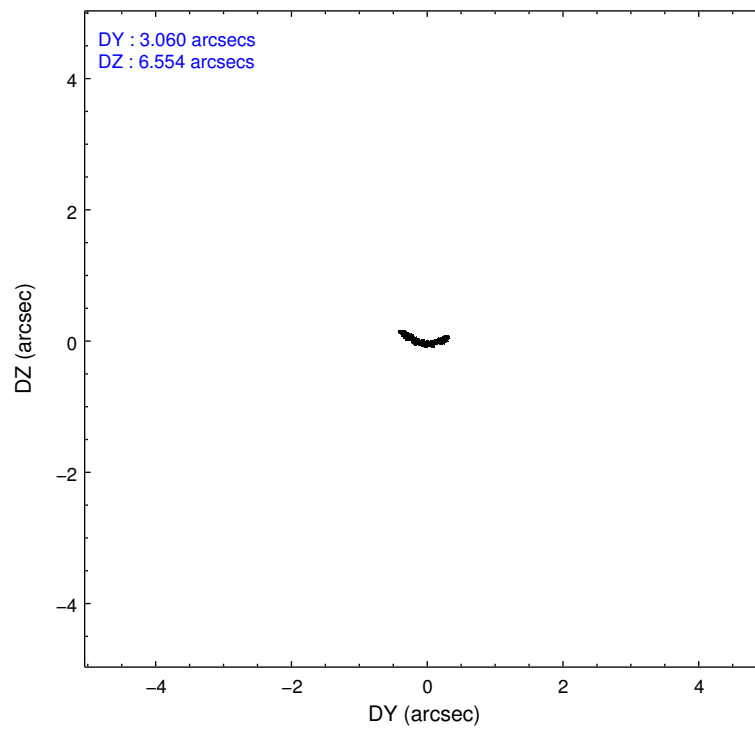
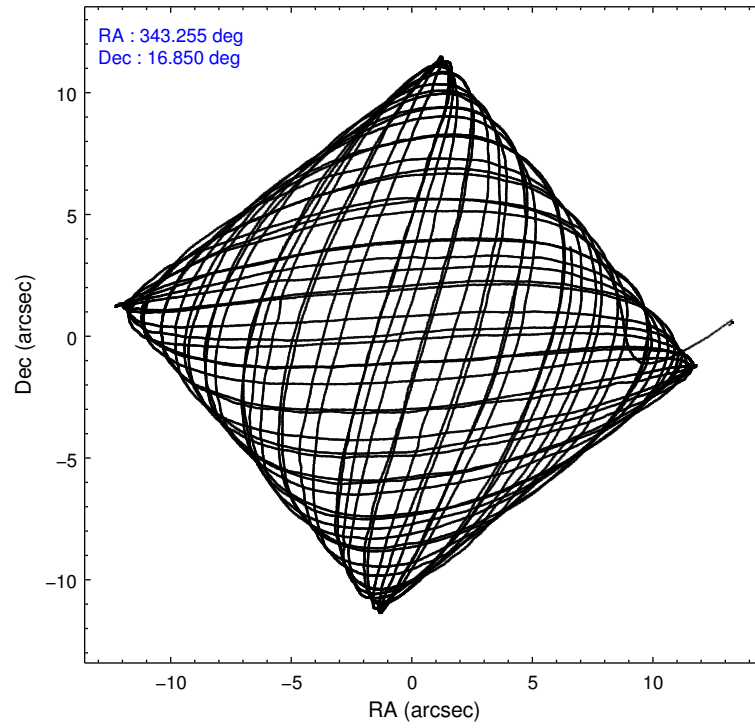
2.1.4 Events

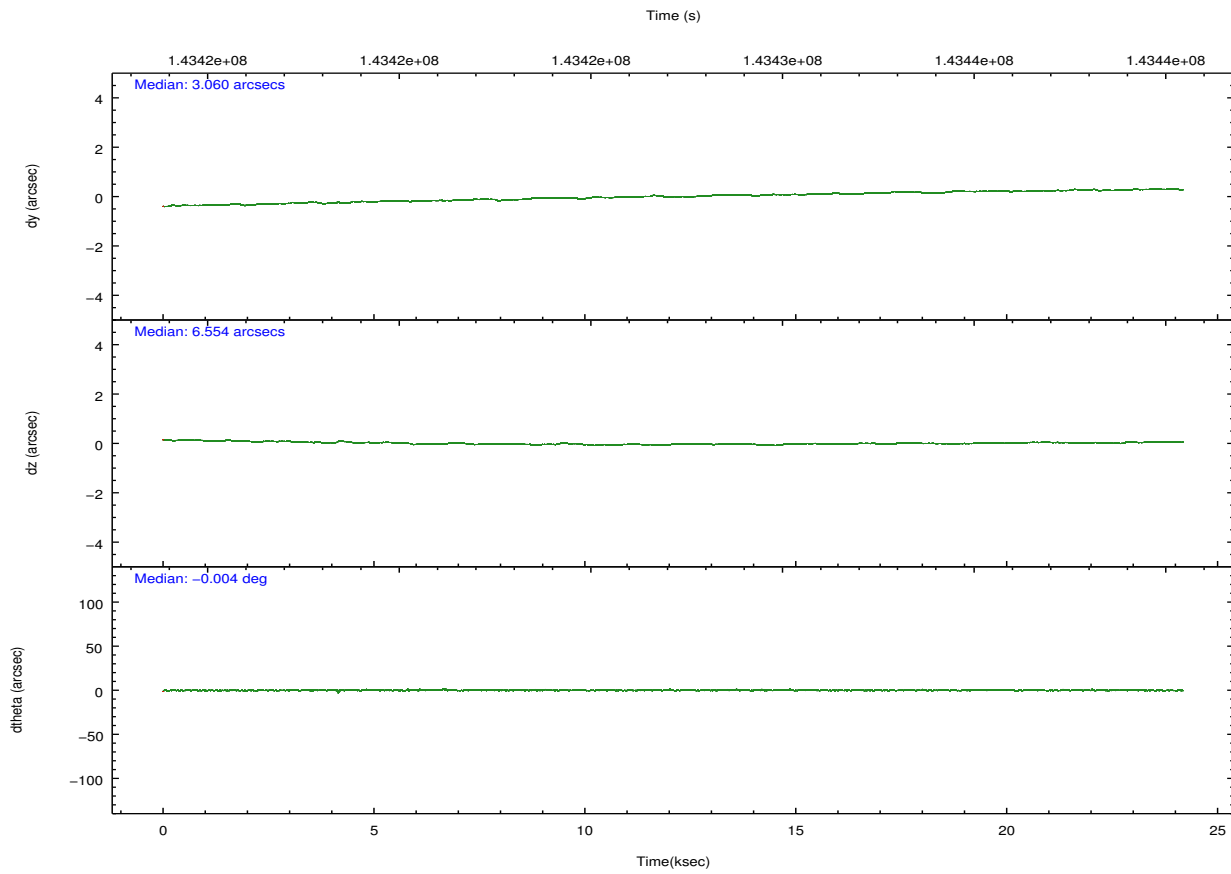
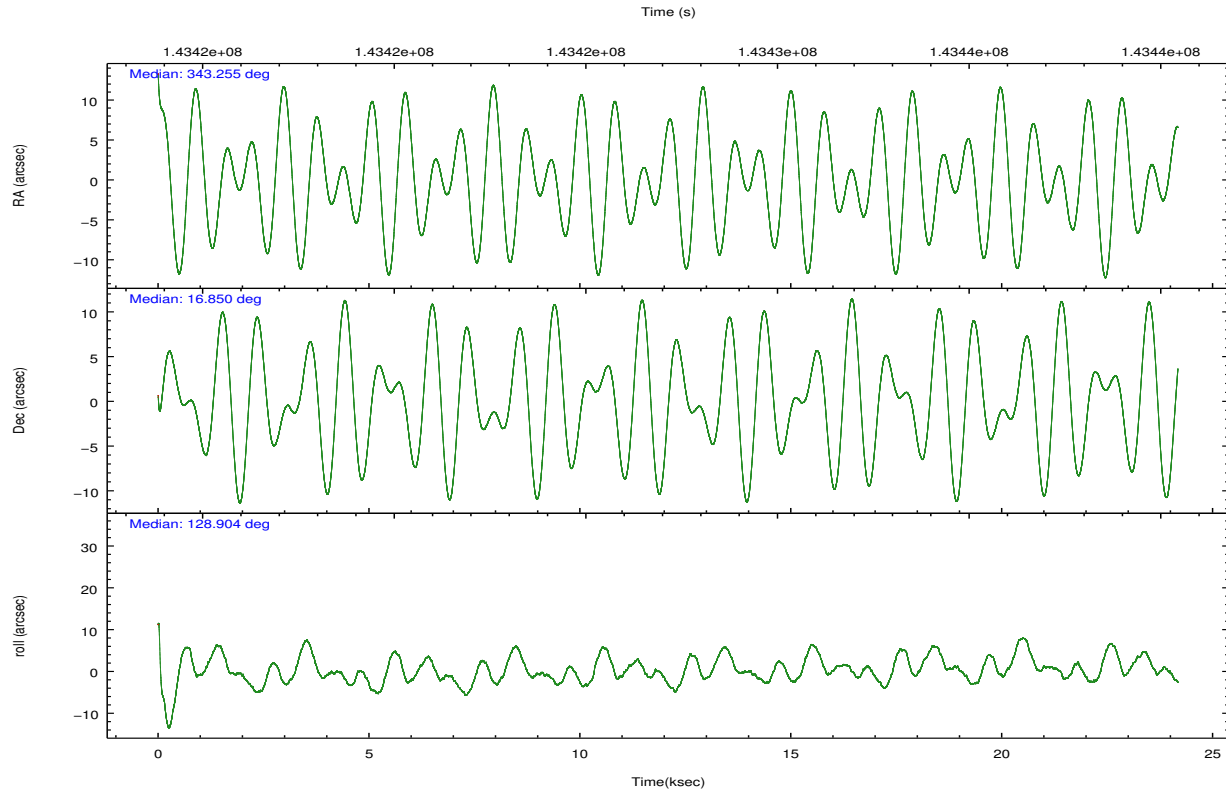
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 | | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 215551 | 251184 | 200011 | 225813 | 367269 | 188513 | grade 0 events | 12708 | 16998 | 14262 | 10131 | 52104 | 10732 |
| rejected events | 184927 | 134393 | 170272 | 127160 | 201250 | 163151 | | 5% | 6% | 7% | 4% | 14% | 5% |
| rejected % | 85% | 53% | 85% | 56% | 54% | 86% | grade 1 events | 142 | 2732 | 105 | 382 | 417 | 103 |
| | | | | | | | | 0% | 1% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 9117 | 33387 | 6795 | 20804 | 25846 | 6044 |
| | | | | | | | | 4% | 13% | 3% | 9% | 7% | 3% |
| | | | | | | | grade 3 events | 2026 | 5461 | 2093 | 9108 | 27702 | 2072 |
| | | | | | | | | 0% | 2% | 1% | 4% | 7% | 1% |
| | | | | | | | grade 4 events | 2014 | 5389 | 1964 | 9175 | 24627 | 1930 |
| | | | | | | | | 0% | 2% | 0% | 4% | 6% | 1% |
| | | | | | | | grade 5 events | 6041 | 17969 | 7133 | 21039 | 10687 | 7374 |
| | | | | | | | | 2% | 7% | 3% | 9% | 2% | 3% |
| | | | | | | | grade 6 events | 5060 | 56795 | 4907 | 50466 | 37842 | 4845 |
| | | | | | | | | 2% | 22% | 2% | 22% | 10% | 2% |
| | | | | | | | grade 7 events | 178443 | 112453 | 162752 | 104708 | 188044 | 155413 |
| | | | | | | | | 82% | 44% | 81% | 46% | 51% | 82% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-456789 | ACIS-456789 | Obspar file type | PREDICTED | ACTUAL |
| Grating | HETG | HETG | Obspar update status | NONE | UPDATED |
| Data mode | FAINT | FAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 343.281391 | 343.254721352042 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 16.840215 | 16.84968518634862 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 128.750982 | 128.9153445453677 | [s] Primary exposure time | 0.000000 | 3.2 |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 | | | |
| [mm] SIM defocus | 0 | 0.001444936568705701 | | | |
| [mm] SIM translation stage pos | -187.132523 | -187.1228876879999 | | | |
| [mm] SIM translation stage offset | -3 | -3.009634895007935 | | | |
| [s] Observation start time (MET) | 143415227.184000 | 143414038.97239 | | | |
| Observation start date | 2002-07-18T21:32:43 | 2002-07-18T21:13:58 | | | |
| [s] Observation end time (MET) | 143439227.184000 | 143439960.19846 | | | |
| Observation end date | 2002-07-19T04:12:43 | 2002-07-19T04:26:00 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



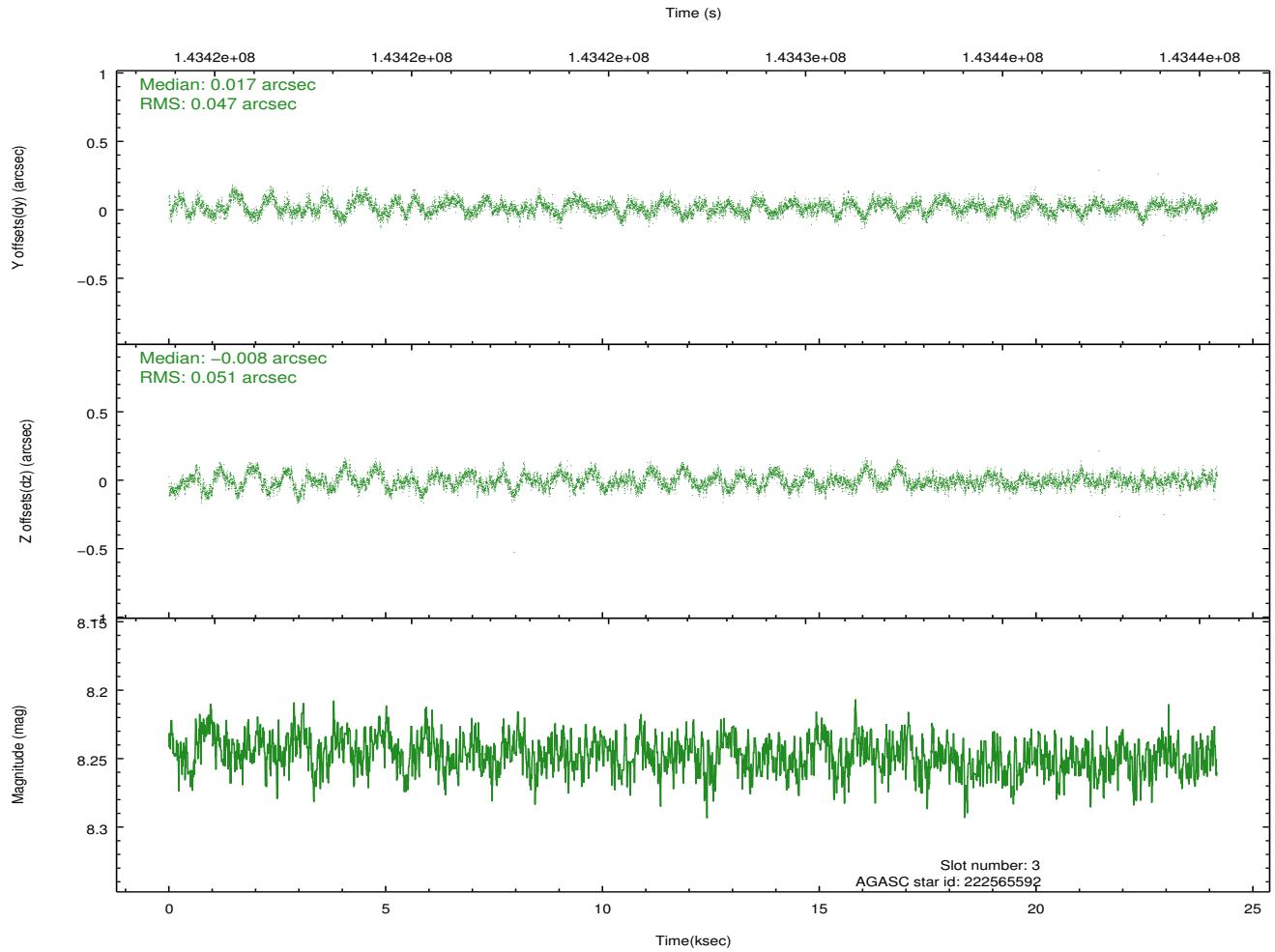
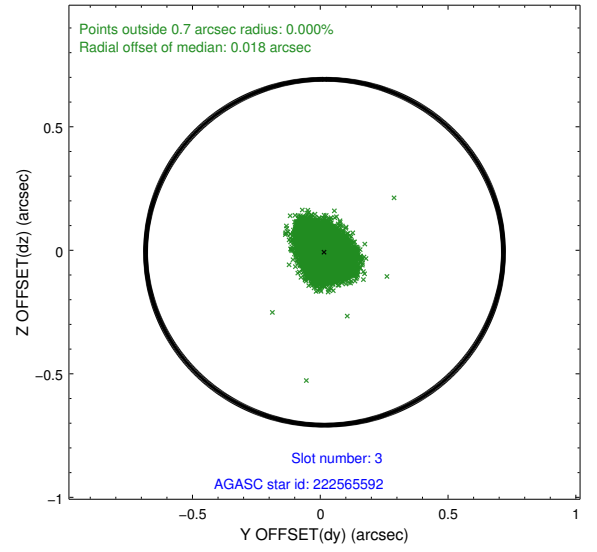
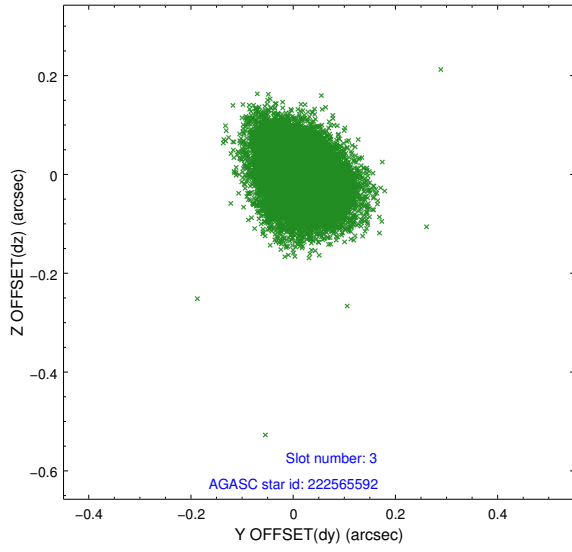


Slot Statistics

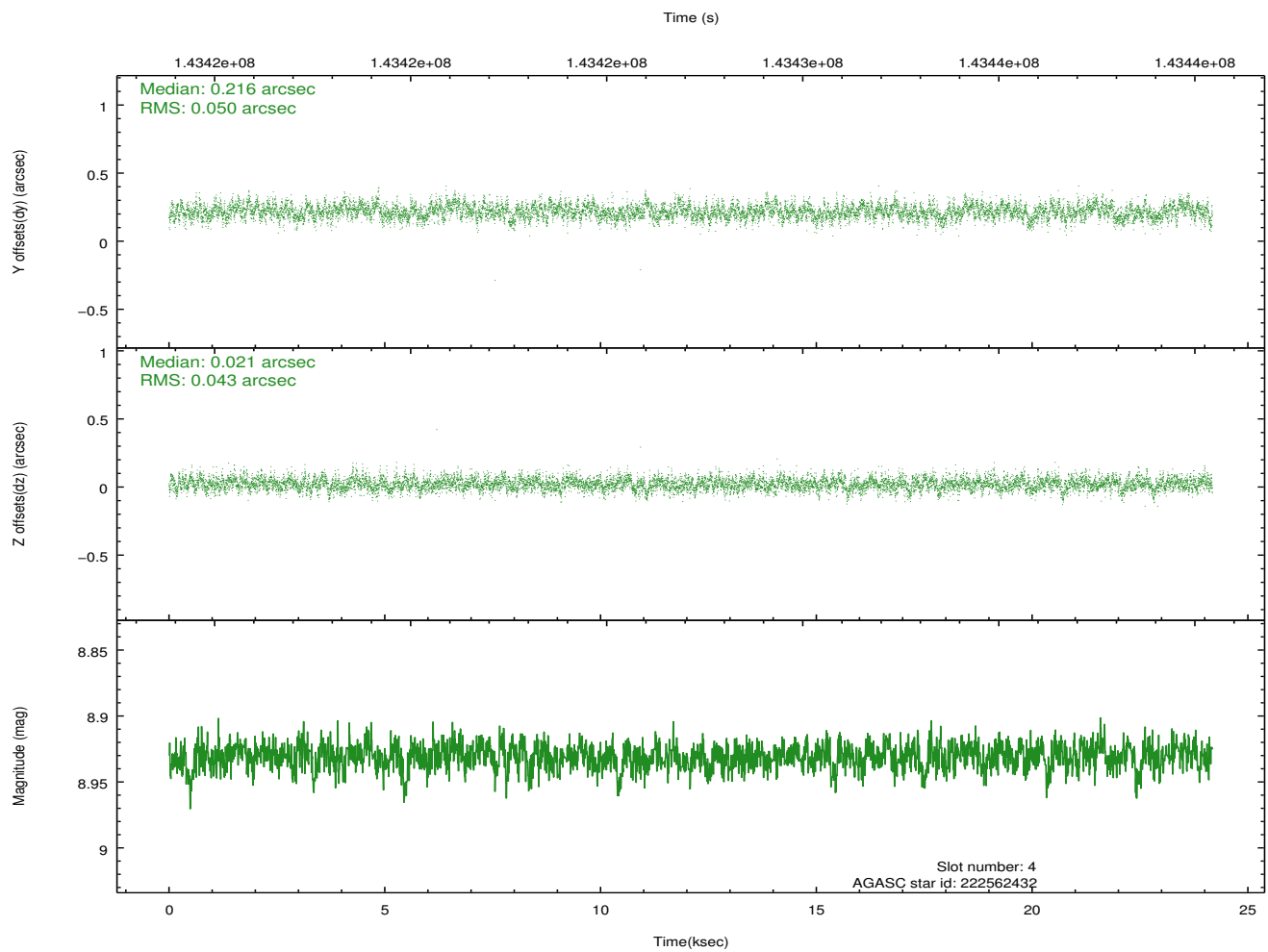
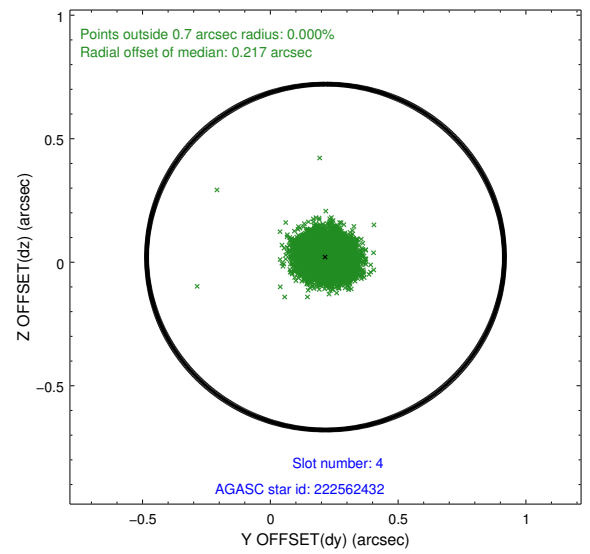
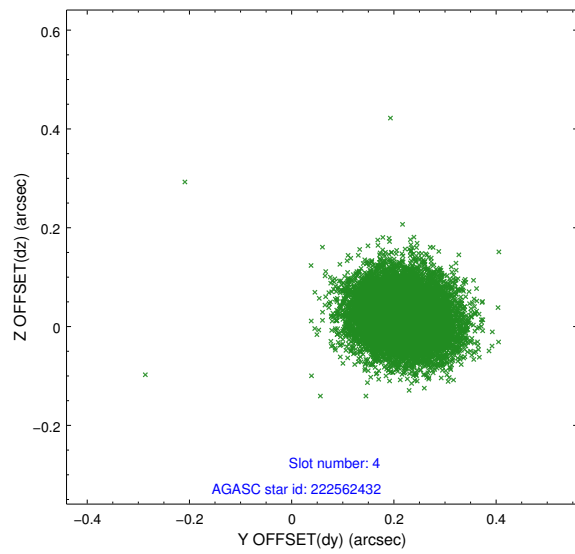
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.10 | 5897 | -0.034 | -0.054 | 0.008 | 0.013 | 0.000000 | 0.000000 | -755.51 | -1789.91 |
| 1 | FID | ACIS-S-4 | 7.19 | 5897 | 0.009 | 0.031 | 0.013 | 0.021 | 0.000000 | 0.000000 | 2157.74 | 118.53 |
| 2 | FID | ACIS-S-5 | 7.23 | 5896 | -0.007 | 0.032 | 0.011 | 0.022 | 0.000000 | 0.000000 | -1808.17 | 112.32 |
| 3 | GUIDE | 222565592 | 8.25 | 11769 | 0.017 | -0.008 | 0.074 | 0.120 | 343.291662 | 16.508291 | -954.63 | 720.70 |
| 4 | GUIDE | 222562432 | 8.93 | 11790 | 0.216 | 0.021 | 0.069 | 0.115 | 343.698150 | 16.309399 | -2390.88 | 72.16 |
| 5 | GUIDE | 222563736 | 8.82 | 11791 | 0.070 | -0.163 | 0.074 | 0.118 | 343.076284 | 16.308502 | -1049.97 | 1750.36 |
| 6 | GUIDE | 223089808 | 9.08 | 11788 | -0.288 | 0.194 | 0.083 | 0.141 | 343.220223 | 17.508272 | 2006.29 | -1340.89 |
| 7 | GUIDE | 222571232 | 9.55 | 11720 | -0.009 | -0.046 | 0.089 | 0.145 | 343.021766 | 16.540282 | -281.27 | 1374.47 |

2.4 Star Slots

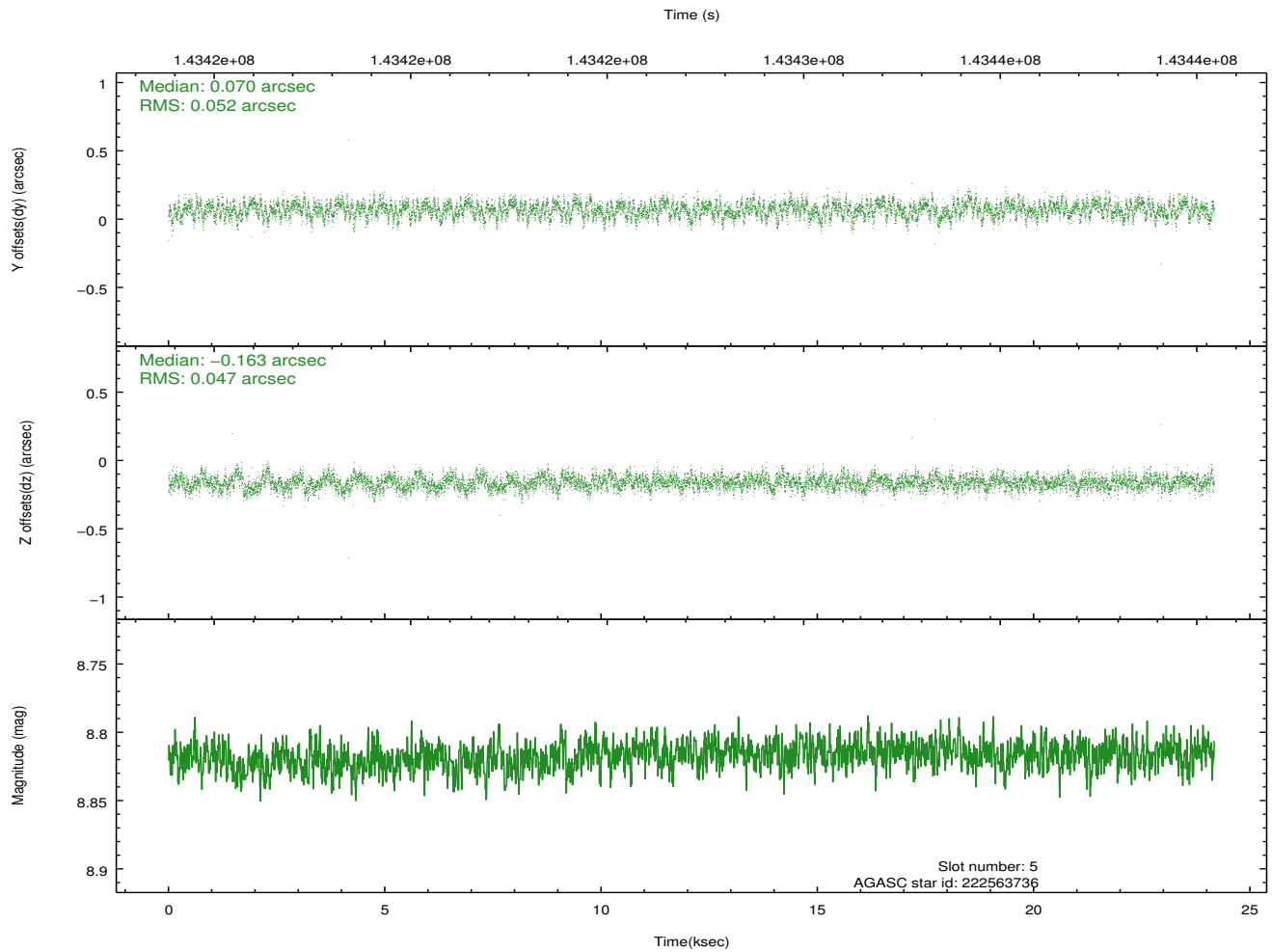
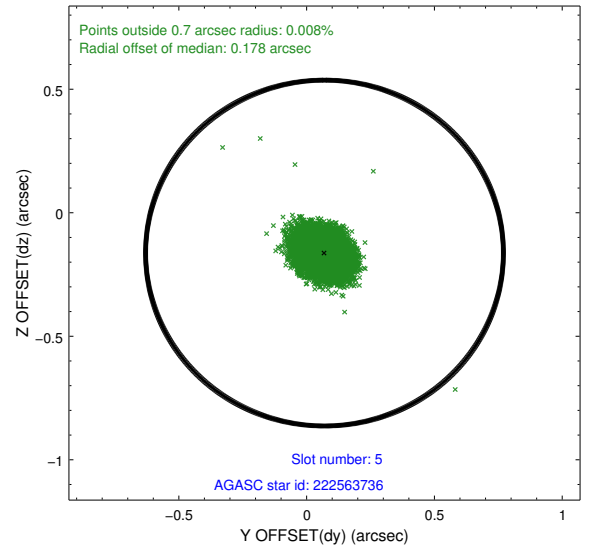
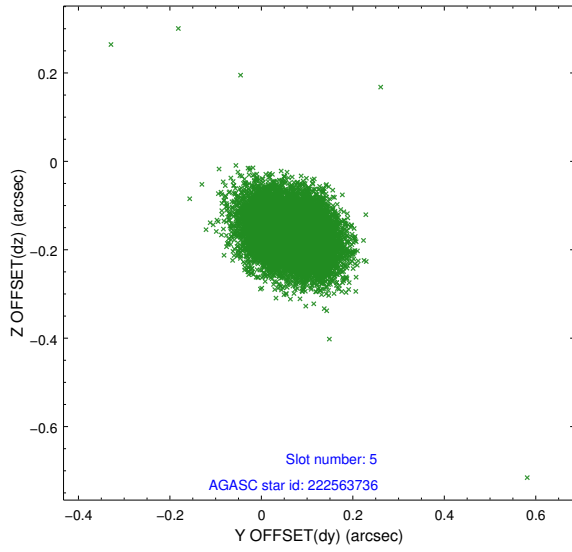
2.4.1 Slot 3



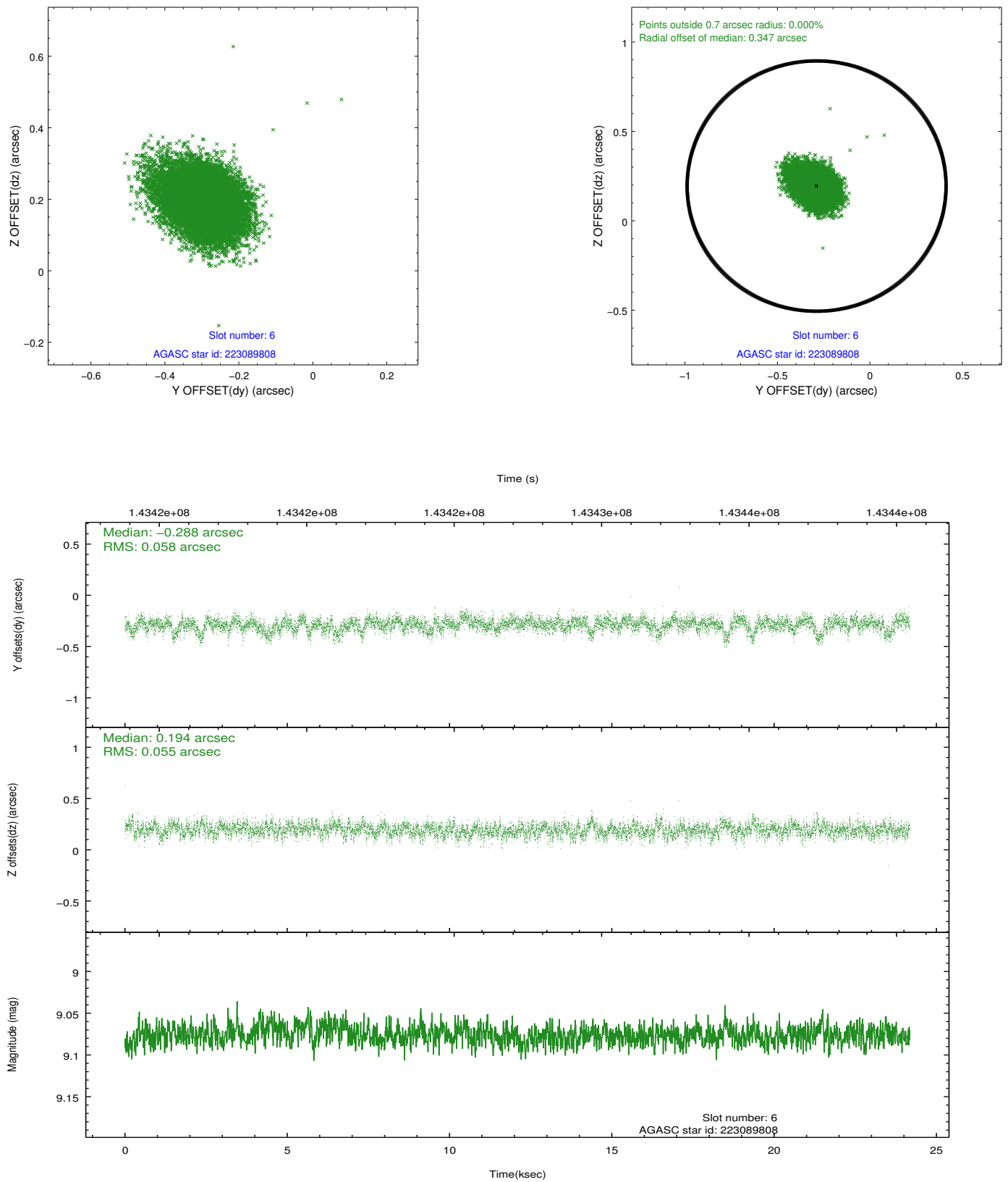
2.4.2 Slot 4



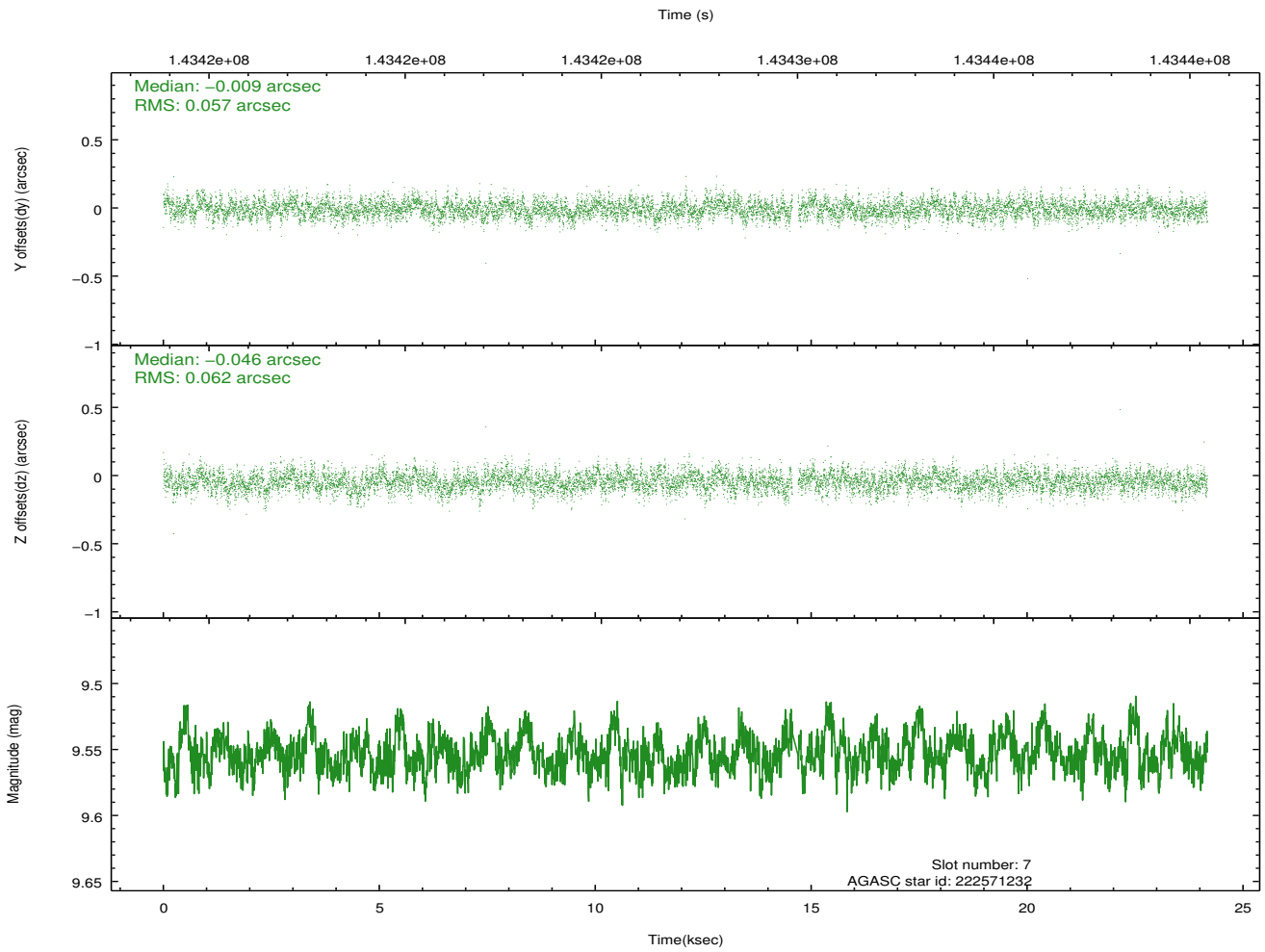
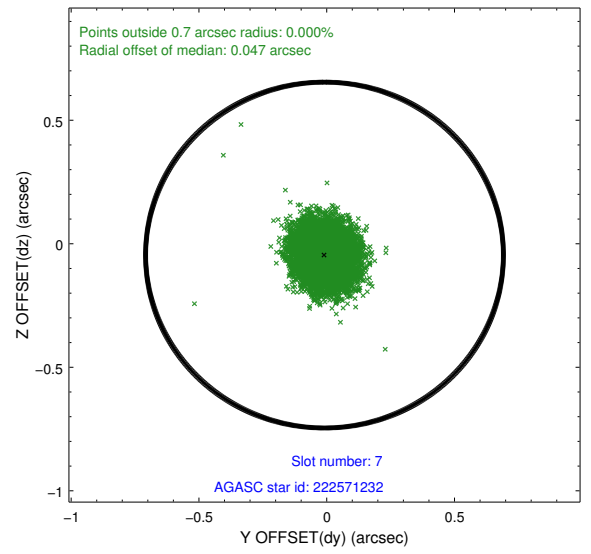
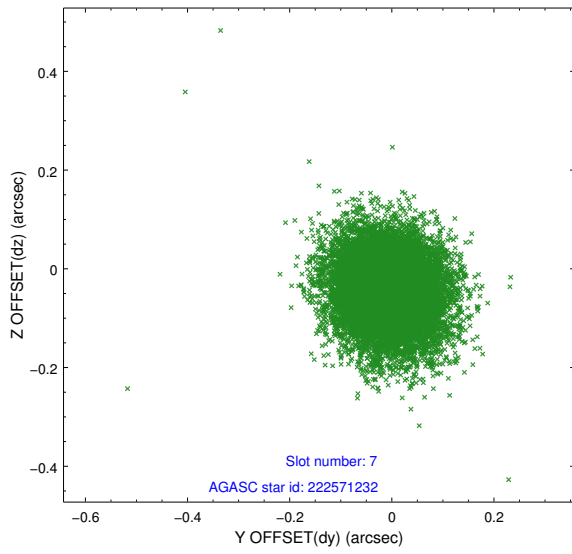
2.4.3 Slot 5



2.4.4 Slot 6

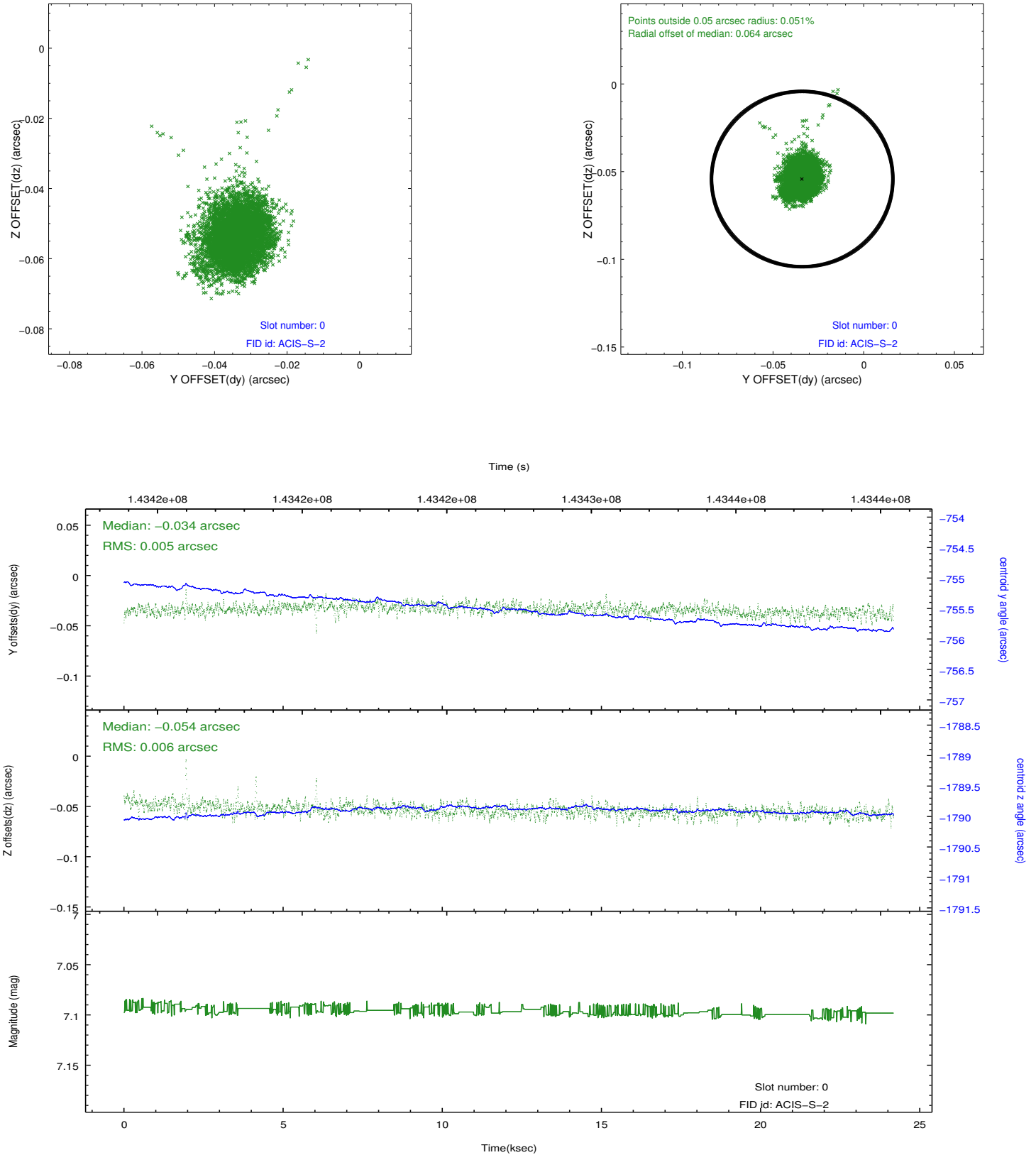


2.4.5 Slot 7

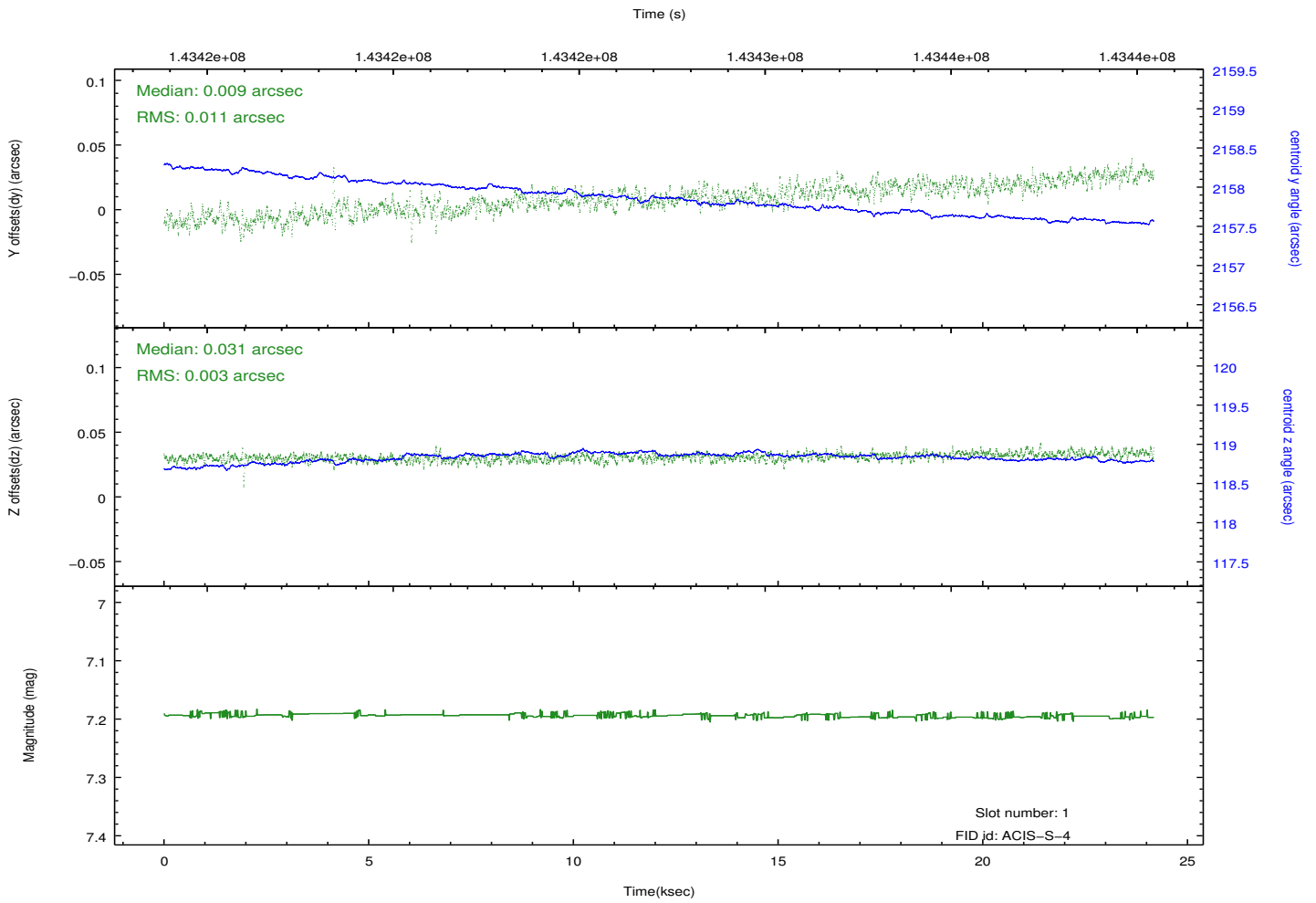
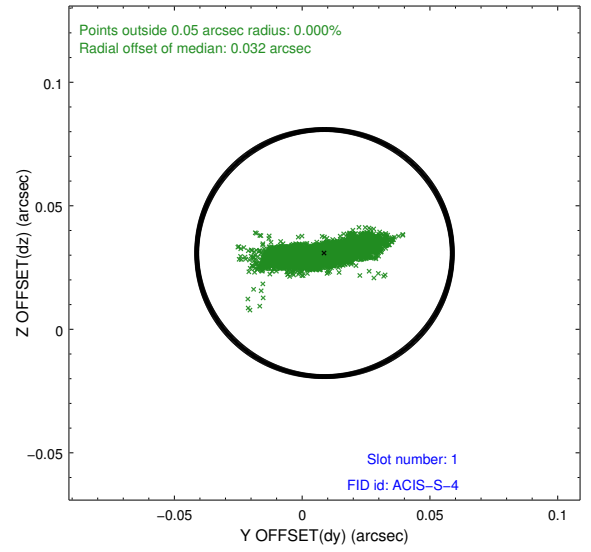
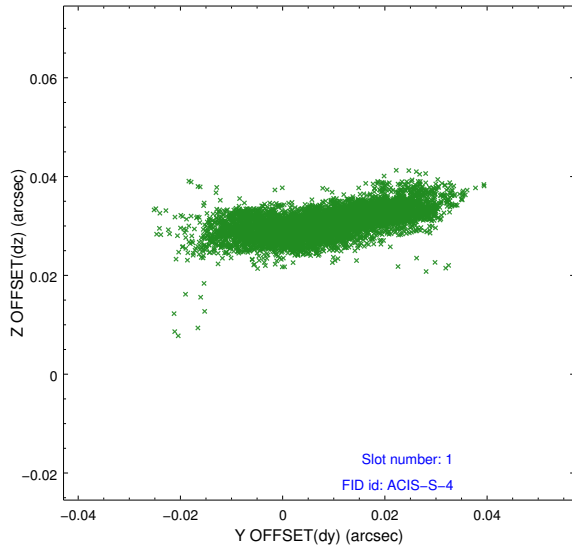


2.5 FID Slots

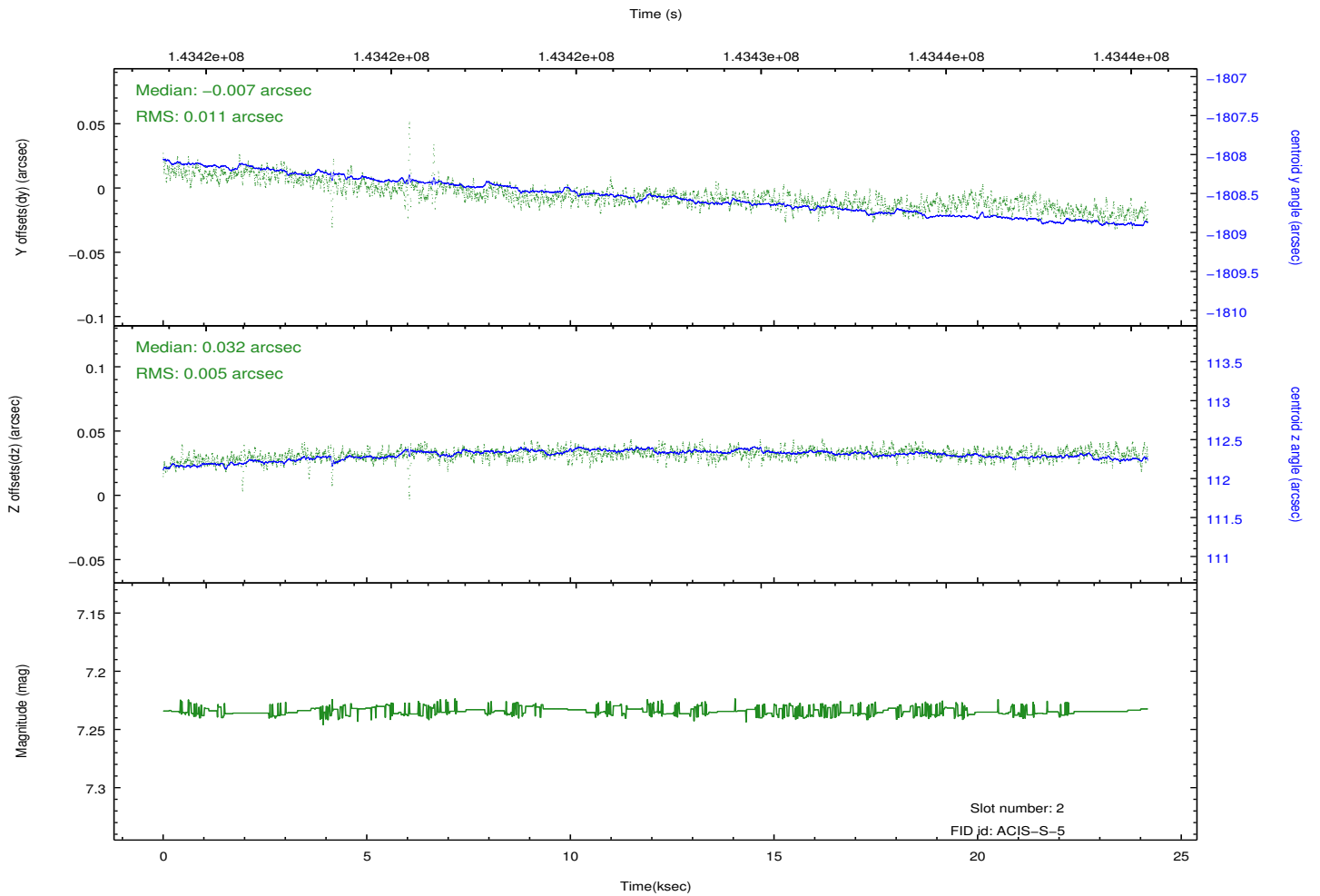
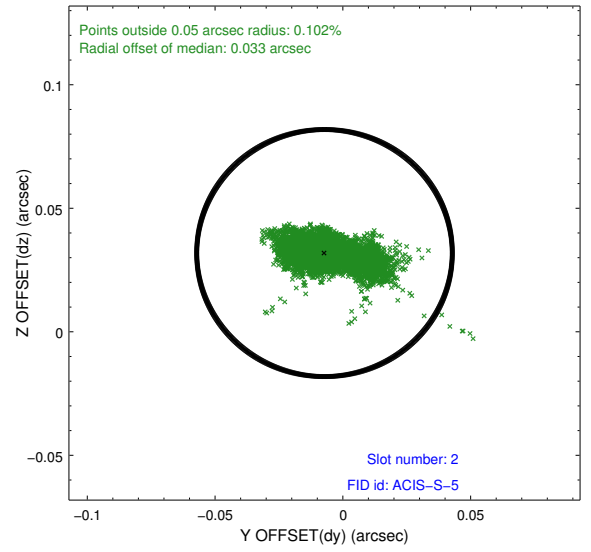
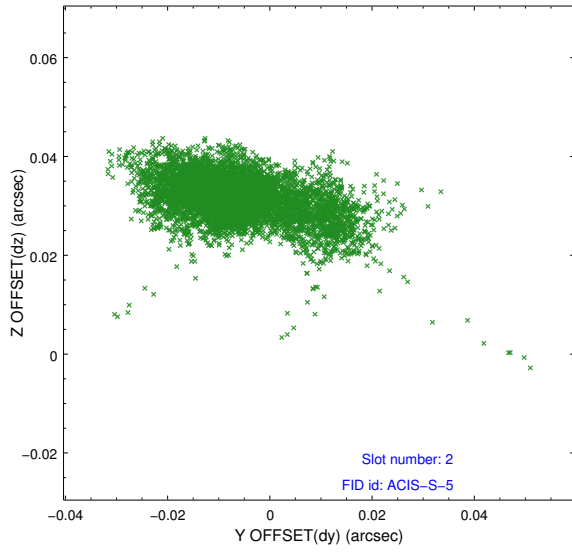
2.5.1 Slot 0



2.5.2 Slot 1

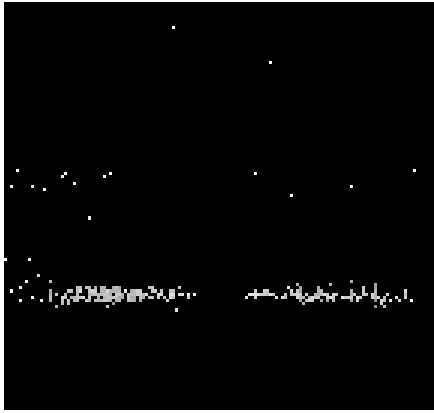


2.5.3 Slot 2

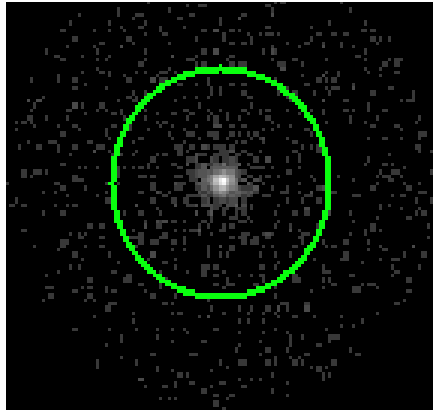


3 Gratings

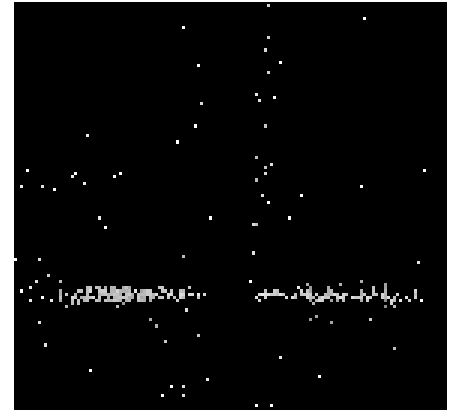
3.1 HEG Arm



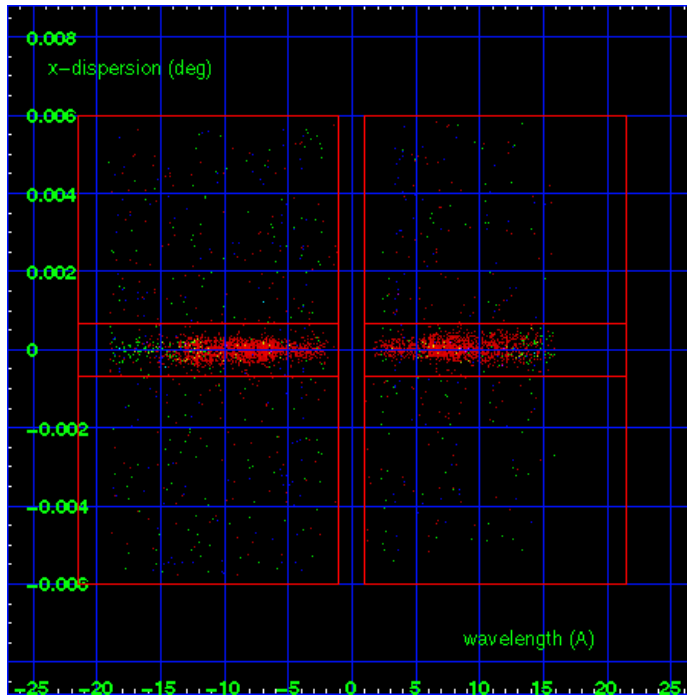
HEG Order Sort 123



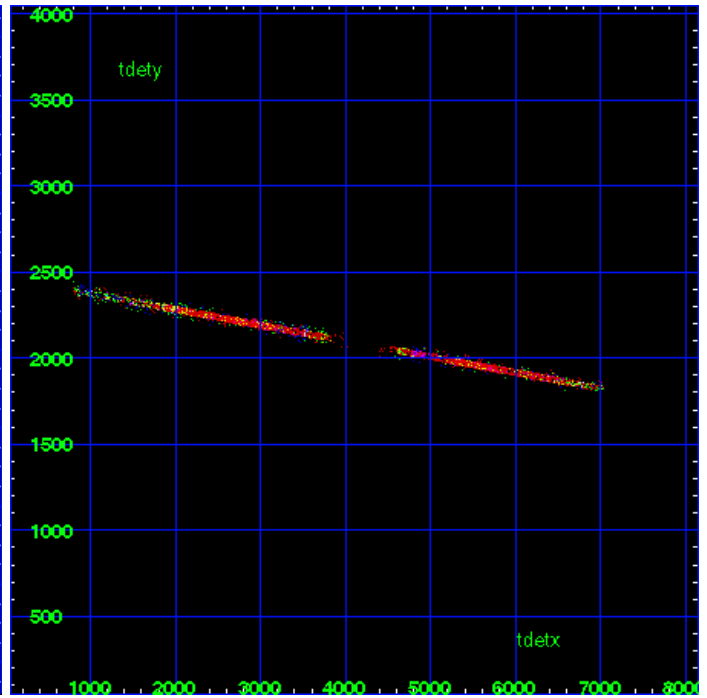
HEG Zero Order



HEG Order Sort ALL

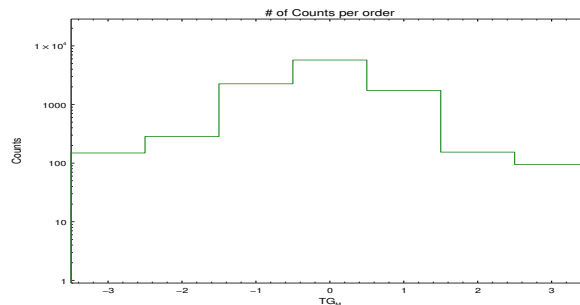


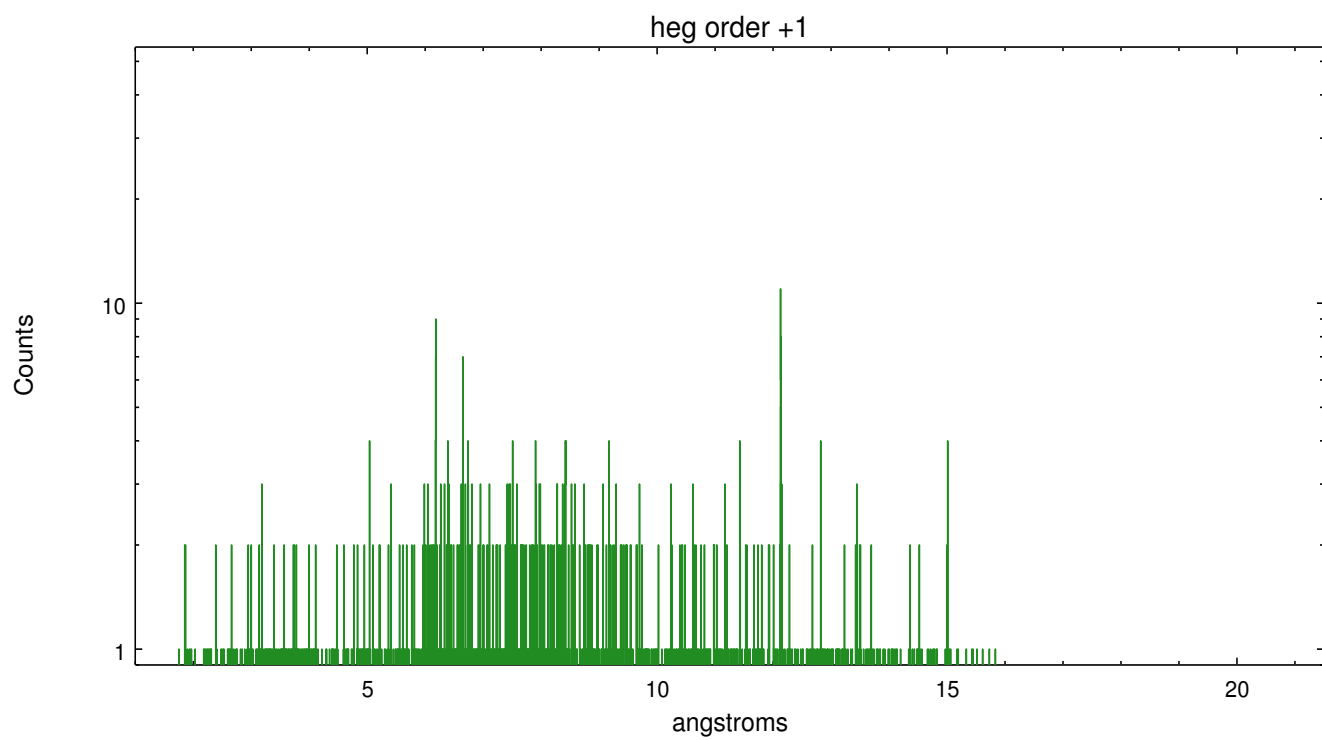
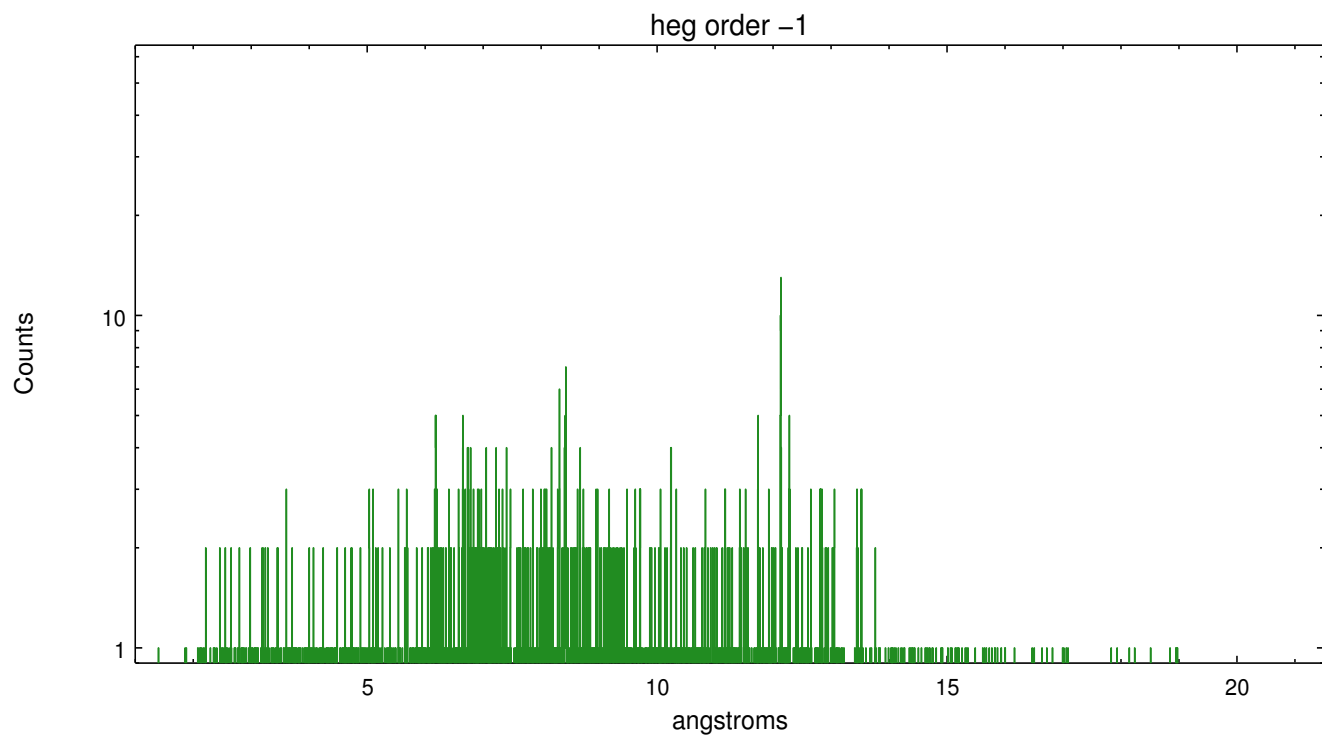
Spot Image HEG



Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 149 | 285 | 2253 | 5737 | 1738 | 154 | 95 |

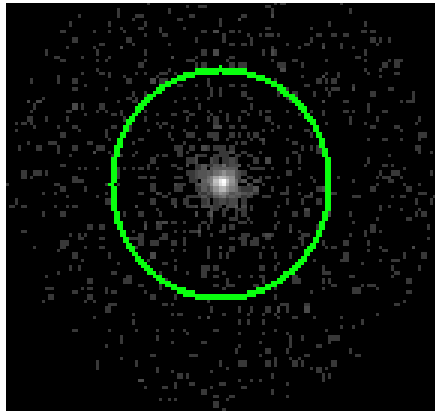




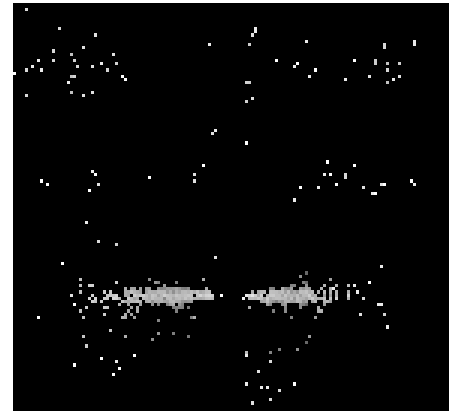
3.2 MEG Arm



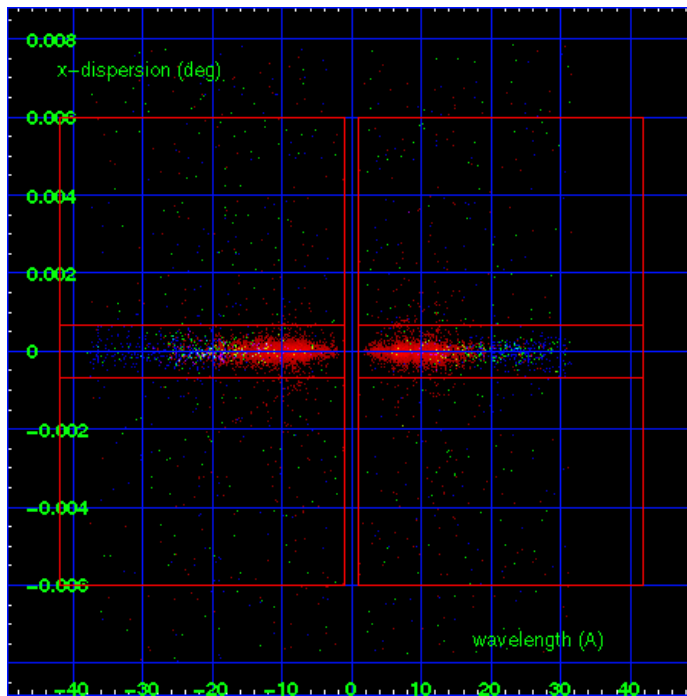
MEG Order Sort 123



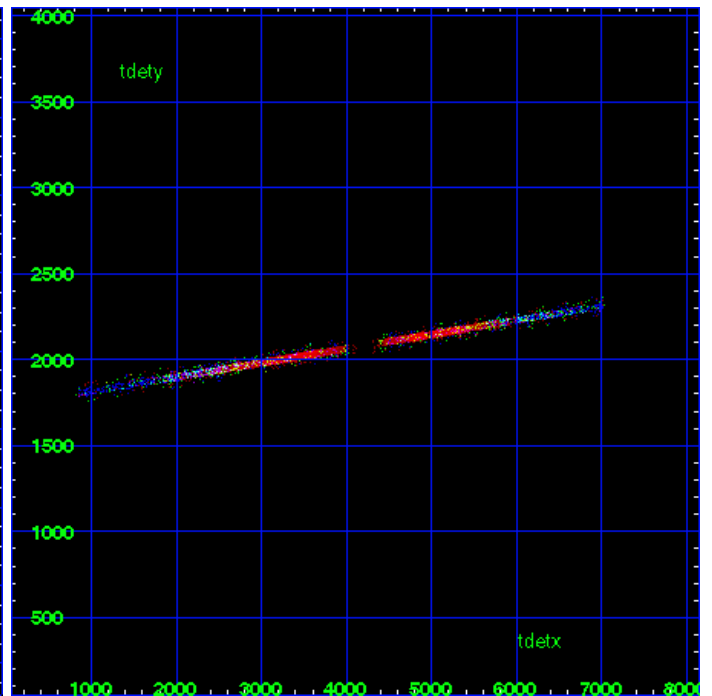
MEG Zero Order



MEG Order Sort ALL

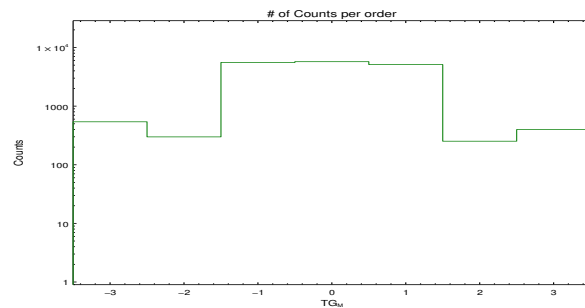


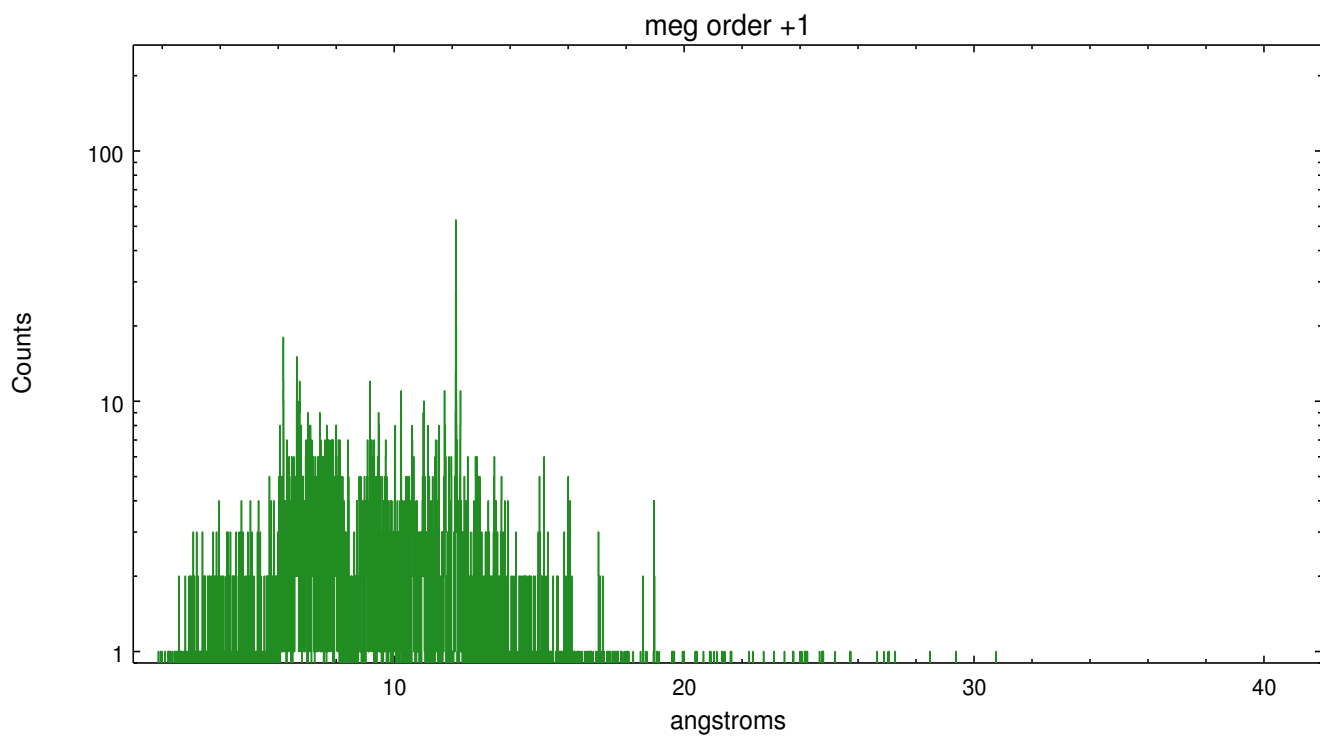
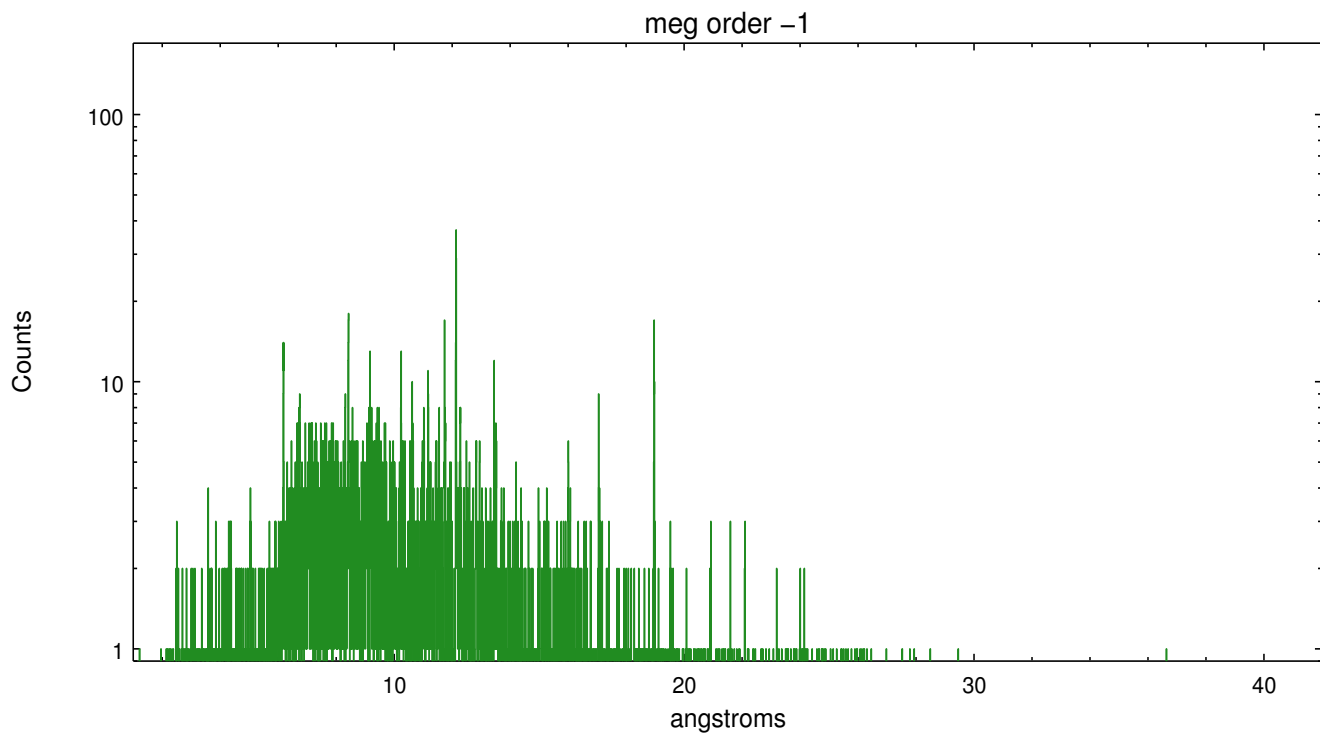
Spot Image MEG



Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 541 | 299 | 5559 | 5737 | 5116 | 252 | 398 |





A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2012.10.17 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 24.159 |

A.2 Comments