

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 7229 - L2 Version 3
Chandra X-Ray Center

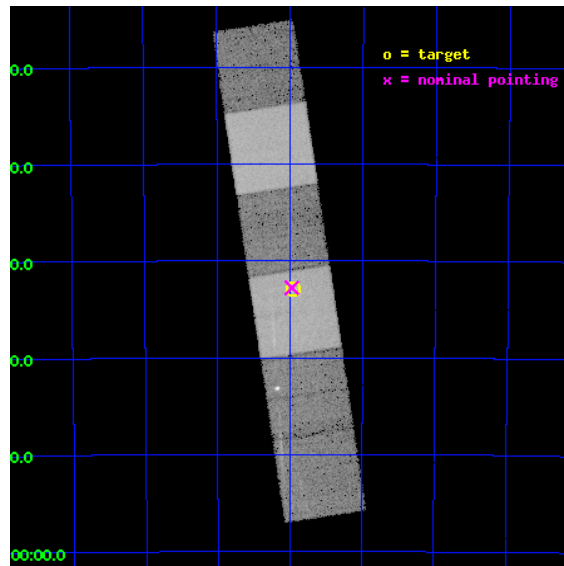
L2 Processing Date : Apr 12 2012

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Bias | 3 |
| 2.1.3 | Parameters | 4 |
| 2.1.4 | Events | 4 |
| 2.2 | Compared Parameters | 5 |
| 2.3 | Aspect | 6 |
| 2.4 | Star Slots | 9 |
| 2.4.1 | Slot 3 | 9 |
| 2.4.2 | Slot 4 | 10 |
| 2.4.3 | Slot 5 | 11 |
| 2.4.4 | Slot 6 | 12 |
| 2.4.5 | Slot 7 | 13 |
| 2.5 | FID Slots | 14 |
| 2.5.1 | Slot 0 | 14 |
| 2.5.2 | Slot 1 | 15 |
| 2.5.3 | Slot 2 | 16 |
| 3 | Gratings | 17 |
| 3.1 | HEG Arm | 17 |
| 3.2 | MEG Arm | 19 |
| A | Summary | 21 |
| A.1 | Status | 21 |
| A.2 | Comments | 21 |

1 Front

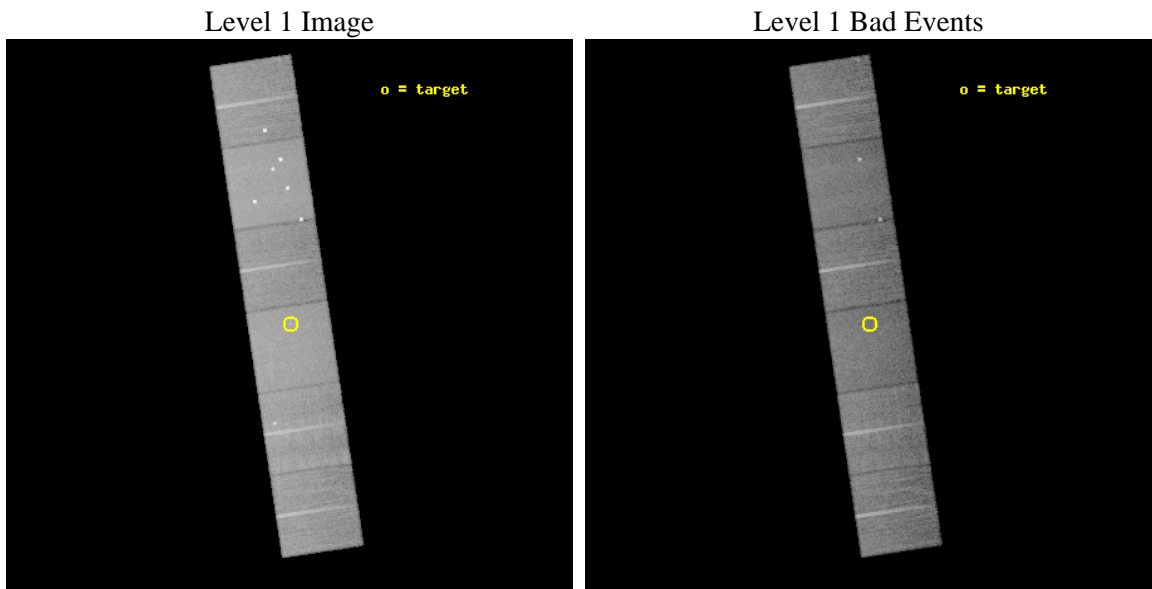
| | | |
|----------|-----------------------------------|---|
| seq_num | 200332 | Sequence number |
| obs_id | 7229 | Observation id |
| title | A Chandra HETGS Survey of O-Stars | Proposal title |
| observer | DR. Wayne Waldron | Principal investigator |
| object | HD93129AB | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 160.989583 | Observer's specified target RA [deg] |
| dec_targ | -59.5475 | Observer's specified target Dec [deg] |
| ra_nom | 160.99321632782 | Nominal RA [deg] |
| dec_nom | -59.546509202205 | Nominal Dec [deg] |
| roll_nom | 81.459750118415 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 19814.399926186 | Sum of GTIs [s] |
| livetime | 19563.498063521 | Livetime [s] |
| ontime4 | 19814.399926186 | Sum of GTIs [s] |
| ontime5 | 19814.399926186 | Sum of GTIs [s] |
| ontime6 | 19814.399926186 | Sum of GTIs [s] |
| ontime7 | 19814.399926186 | Sum of GTIs [s] |
| ontime8 | 19814.399926186 | Sum of GTIs [s] |
| ontime9 | 19814.399926186 | Sum of GTIs [s] |
| l2events | 279427 | Number of level 2 events |



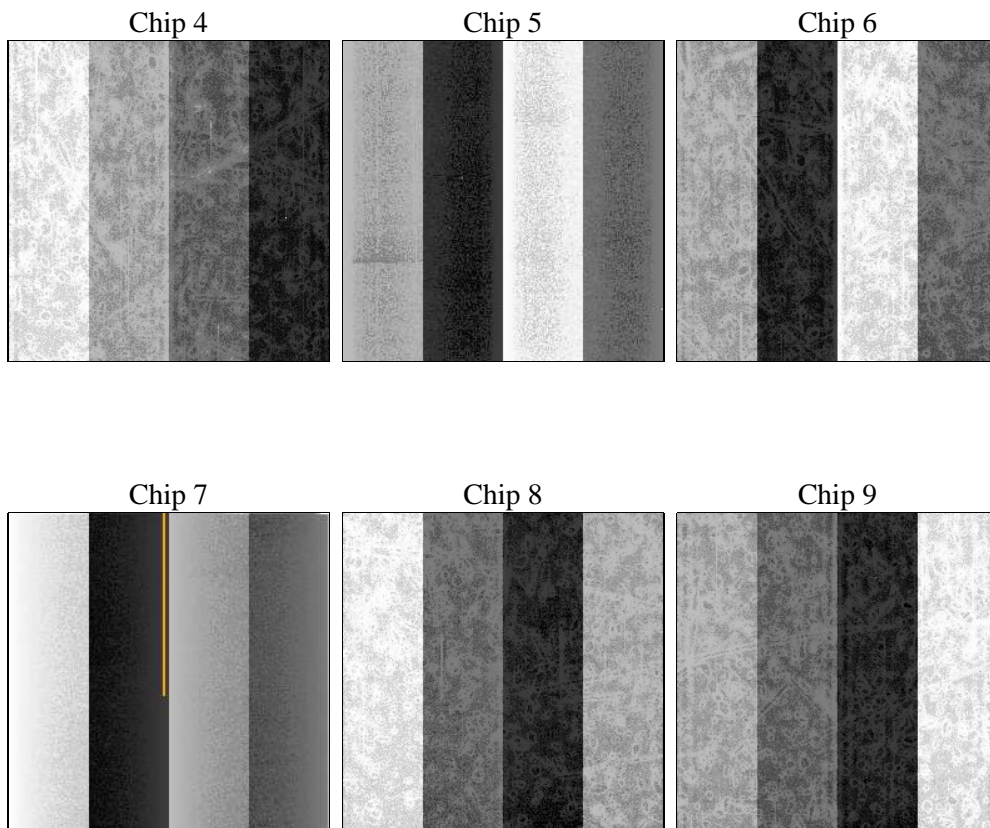
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 19661.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.3 | Processing system revision | ontime | 19814.399926186 | Sum of GTIs [s] |
| caldbver | 4.4.8 | | ontime4 | 19814.399926186 | Sum of GTIs [s] |
| date | 2012-03-18T08:58:30 | Date and time of file creation | ontime5 | 19814.399926186 | Sum of GTIs [s] |
| revision | 2 | Processing version of data | ontime6 | 19814.399926186 | Sum of GTIs [s] |
| | | | ontime7 | 19814.399926186 | Sum of GTIs [s] |
| | | | ontime8 | 19814.399926186 | Sum of GTIs [s] |
| | | | ontime9 | 19814.399926186 | Sum of GTIs [s] |
| | | | l1events | 1203580 | Number of level 1 events |

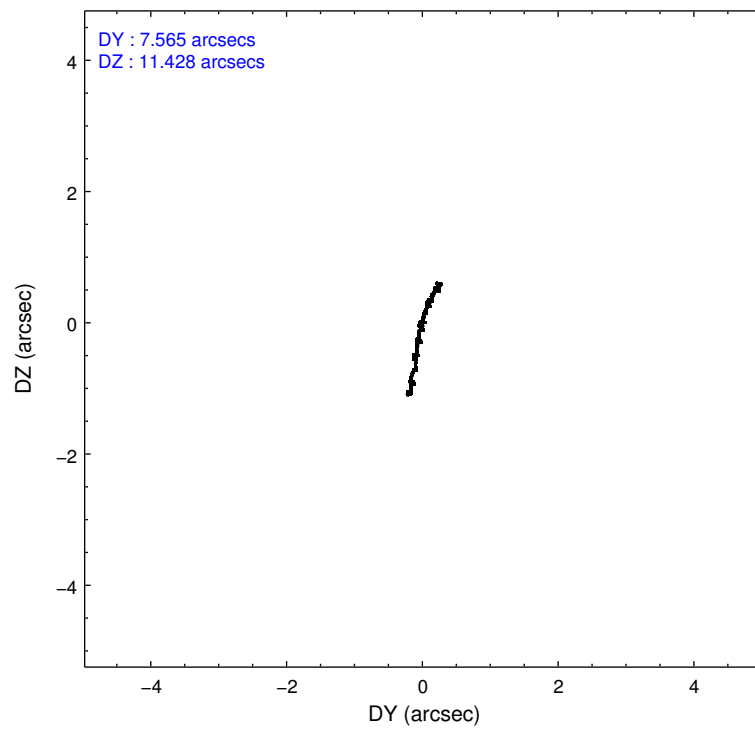
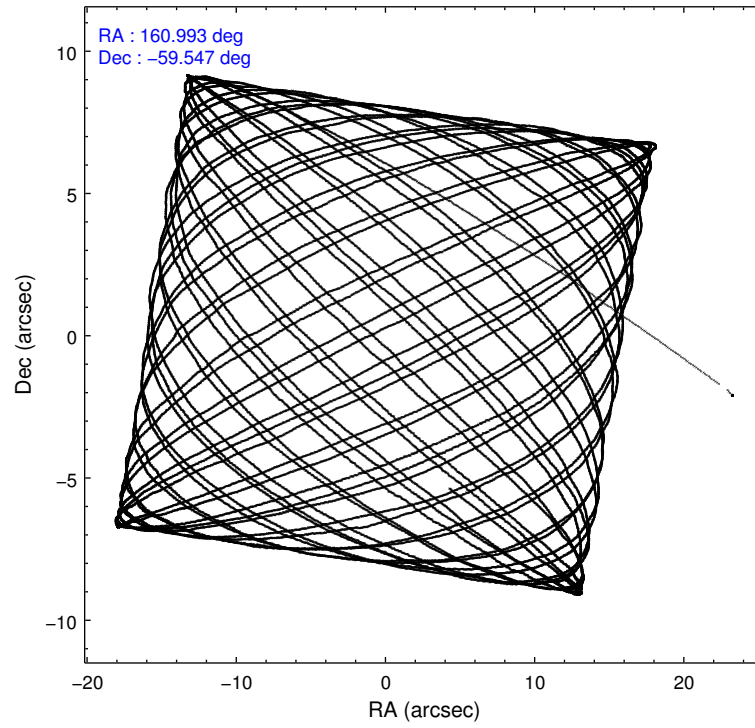
2.1.4 Events

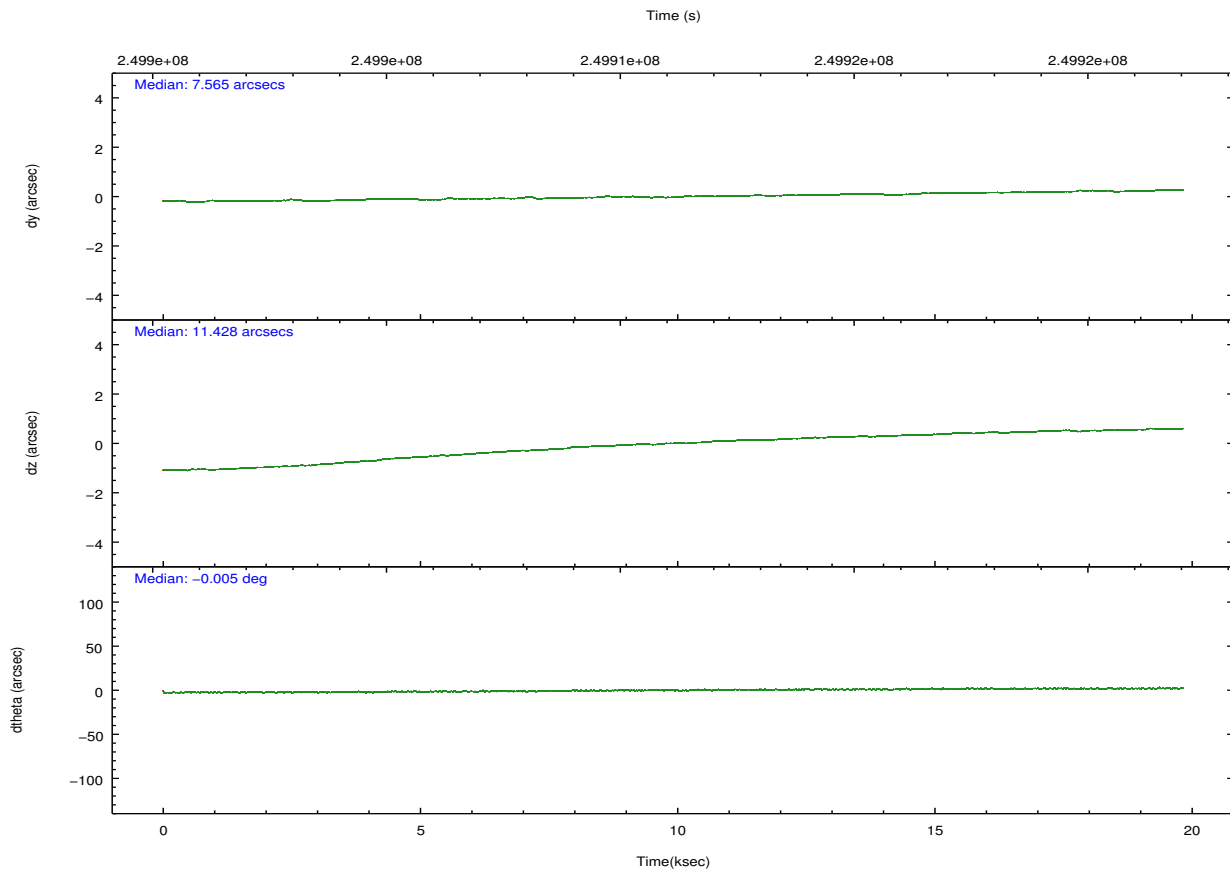
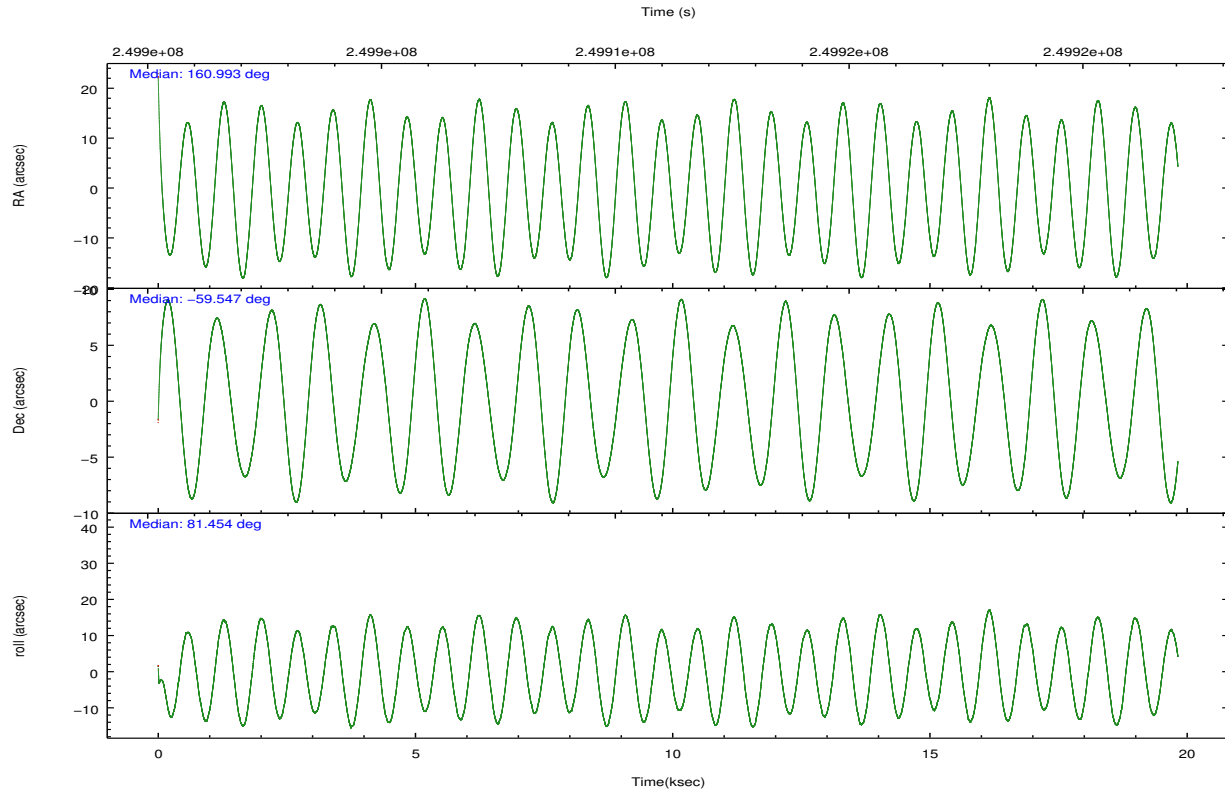
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 | | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 183239 | 260421 | 162382 | 223930 | 207578 | 166030 | grade 0 events | 14763 | 23399 | 10017 | 9831 | 17810 | 10953 |
| rejected events | 157115 | 132553 | 139893 | 126532 | 158627 | 142847 | | 8% | 8% | 6% | 4% | 8% | 6% |
| rejected % | 85% | 50% | 86% | 56% | 76% | 86% | grade 1 events | 223 | 2117 | 86 | 202 | 149 | 116 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 4131 | 36969 | 4464 | 19941 | 10315 | 4193 |
| | | | | | | | | 2% | 14% | 2% | 8% | 4% | 2% |
| | | | | | | | grade 3 events | 2039 | 4520 | 1970 | 8855 | 4690 | 2061 |
| | | | | | | | | 1% | 1% | 1% | 3% | 2% | 1% |
| | | | | | | | grade 4 events | 2032 | 4307 | 1898 | 8623 | 4370 | 1965 |
| | | | | | | | | 1% | 1% | 1% | 3% | 2% | 1% |
| | | | | | | | grade 5 events | 7230 | 17564 | 7292 | 20668 | 9909 | 8021 |
| | | | | | | | | 3% | 6% | 4% | 9% | 4% | 4% |
| | | | | | | | grade 6 events | 3172 | 58736 | 4149 | 50191 | 11829 | 4022 |
| | | | | | | | | 1% | 22% | 2% | 22% | 5% | 2% |
| | | | | | | | grade 7 events | 149649 | 112809 | 132506 | 105619 | 148506 | 134699 |
| | | | | | | | | 81% | 43% | 81% | 47% | 71% | 81% |

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 | 161.013559 | 160.9932163278245 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | -59.571717 | -59.54650920220491 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 81.320669 | 81.45975011841506 | [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 | -190.132523 | -190.1425803651734 | | | |
| [mm] SIM translation stage offset | 0 | 0.01005778216563158 | | | |
| [s] Observation start time (MET) | 249901375.184000 | 249900256.33497 | | | |
| Observation start date | 2005-12-02T09:01:51 | 2005-12-02T08:44:16 | | | |
| [s] Observation end time (MET) | 249921036.184000 | 249921889.47347 | | | |
| Observation end date | 2005-12-02T14:29:32 | 2005-12-02T14:44:49 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



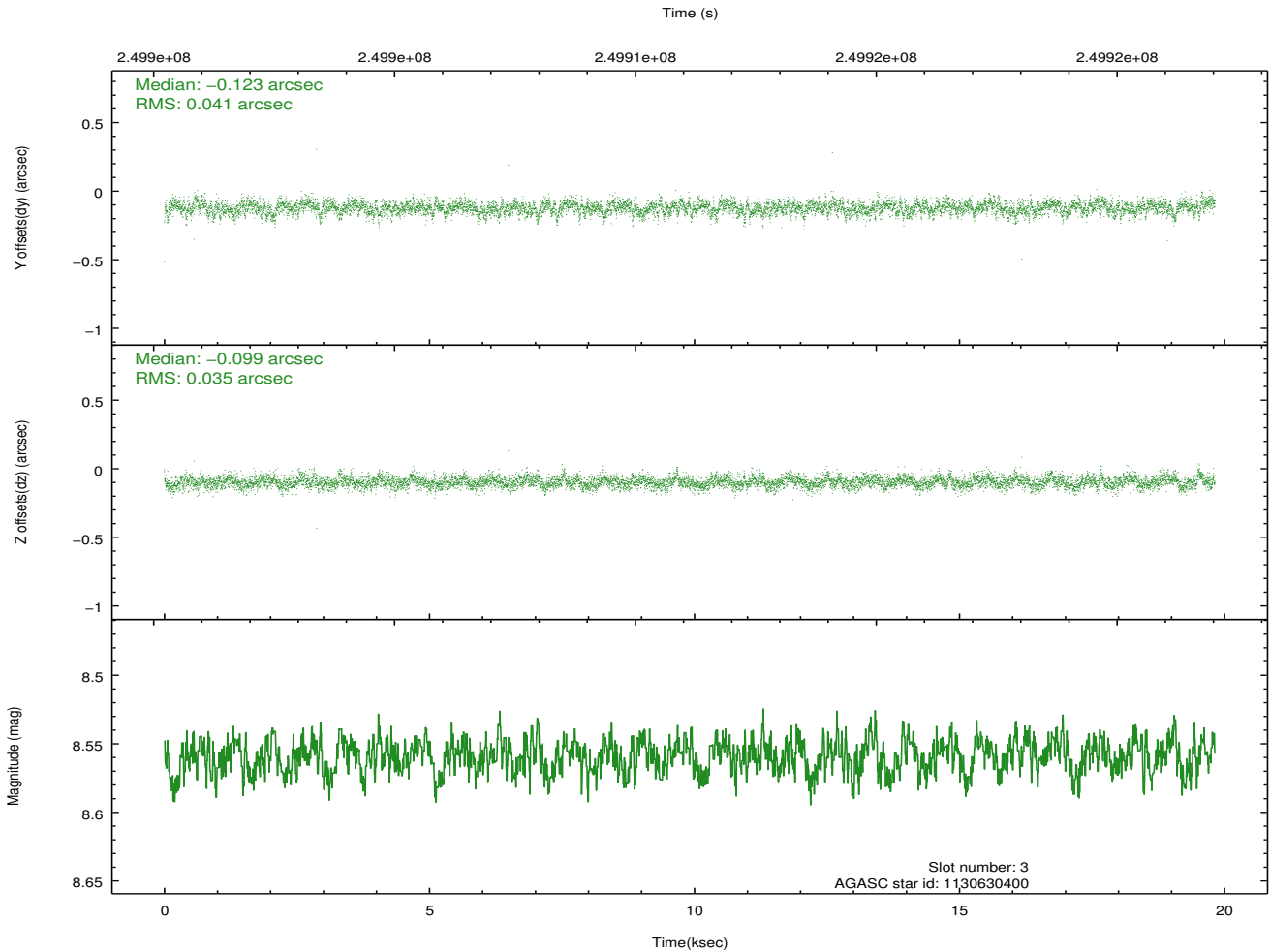
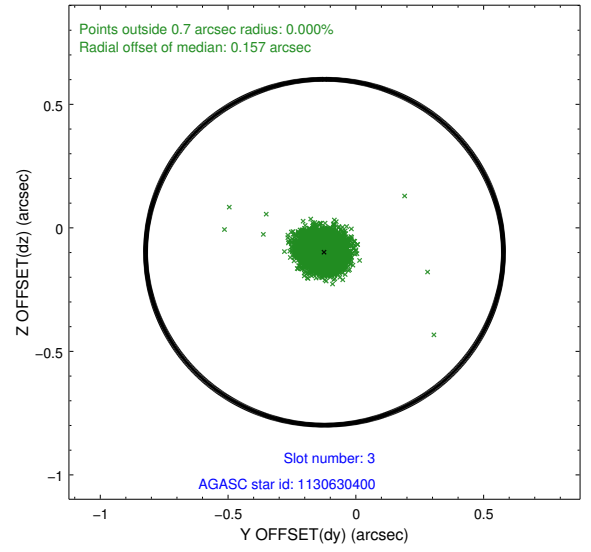
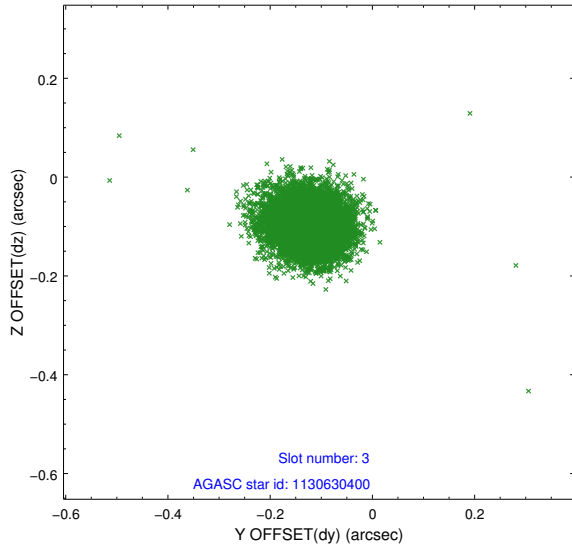


Slot Statistics

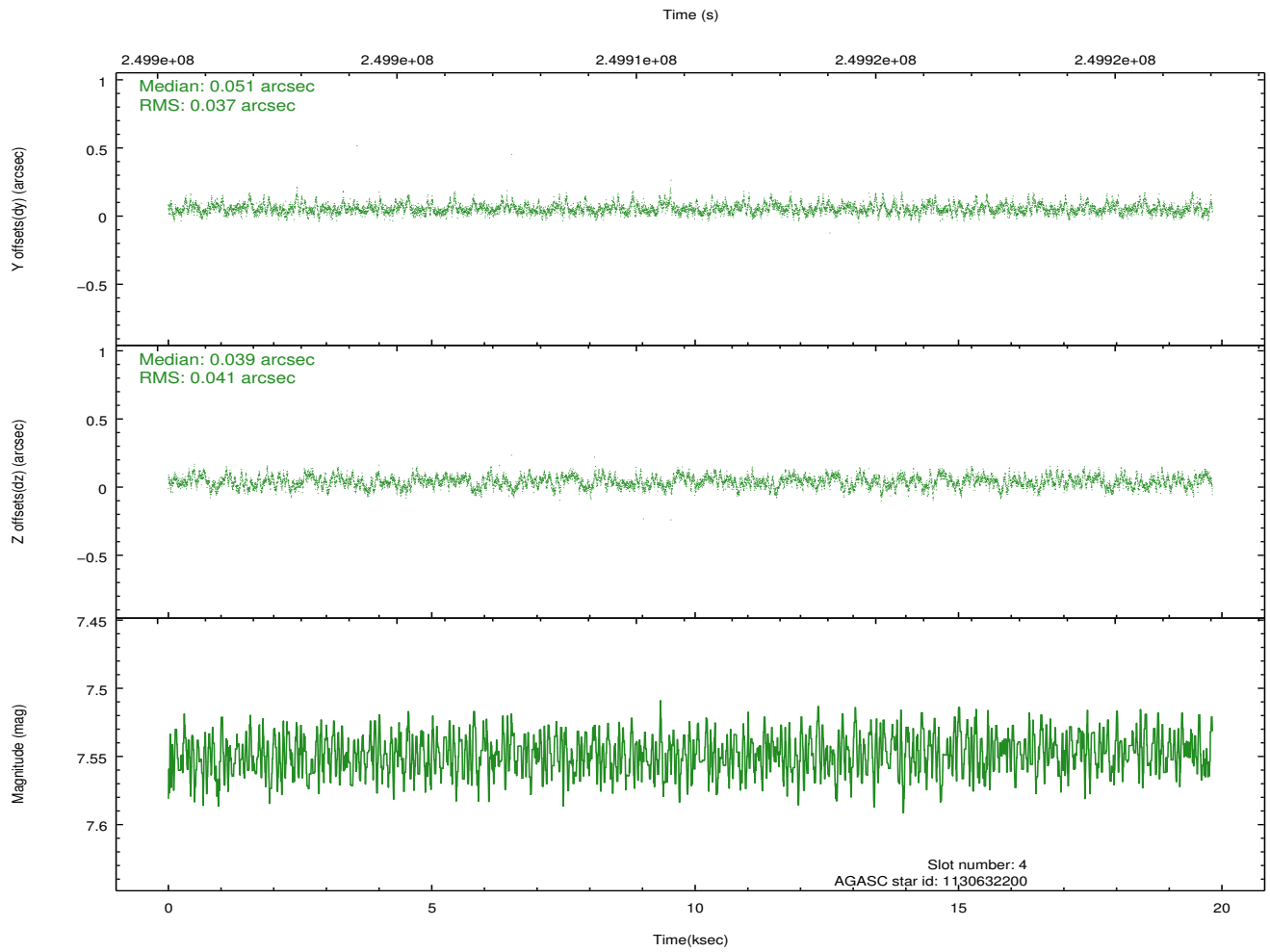
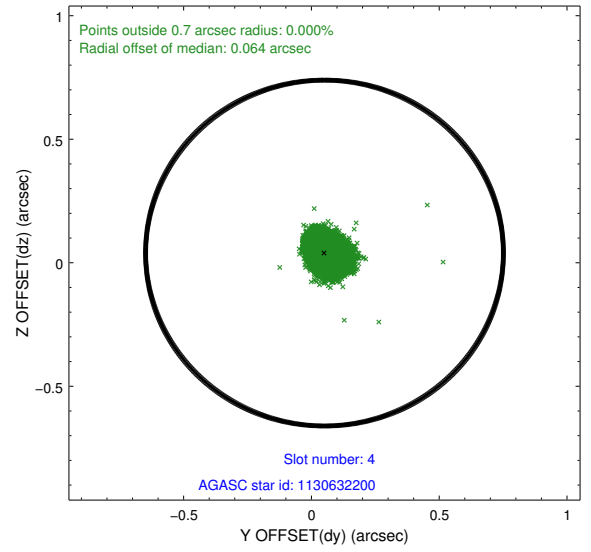
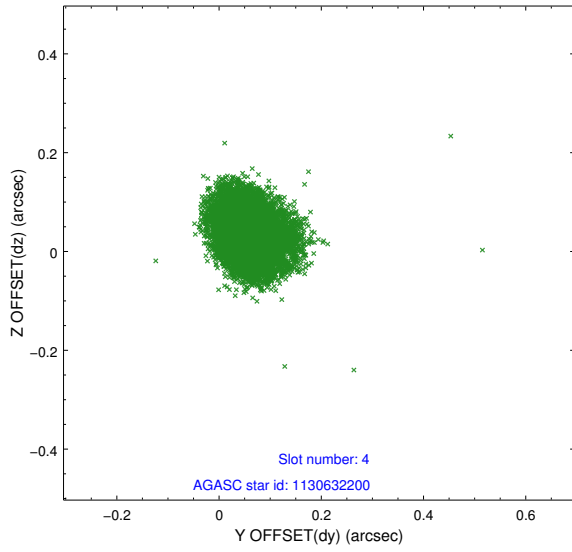
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.11 | 4835 | -0.034 | -0.018 | 0.016 | 0.023 | 0.000000 | 0.000000 | -760.36 | -1732.57 |
| 1 | FID | ACIS-S-4 | 7.21 | 4835 | 0.089 | 0.021 | 0.008 | 0.017 | 0.000000 | 0.000000 | 2152.94 | 175.79 |
| 2 | FID | ACIS-S-5 | 7.23 | 4835 | -0.085 | 0.004 | 0.014 | 0.023 | 0.000000 | 0.000000 | -1813.03 | 169.61 |
| 3 | GUIDE | 1130630400 | 8.56 | 9668 | -0.123 | -0.099 | 0.056 | 0.092 | 160.235909 | -58.888840 | 2203.67 | 1800.11 |
| 4 | GUIDE | 1130632200 | 7.55 | 9669 | 0.051 | 0.039 | 0.058 | 0.095 | 161.433843 | -59.407820 | 697.73 | -672.08 |
| 5 | GUIDE | 1130643264 | 6.64 | 9670 | 0.011 | -0.108 | 0.062 | 0.106 | 160.322990 | -59.676912 | -569.95 | 1182.53 |
| 6 | GUIDE | 1130640672 | 8.27 | 9666 | -0.038 | 0.093 | 0.062 | 0.097 | 162.096044 | -59.540805 | 392.61 | -1937.98 |
| 7 | GUIDE | 1174033144 | 8.43 | 9666 | 0.091 | 0.077 | 0.064 | 0.103 | 161.168741 | -60.059230 | -1692.71 | -540.70 |

2.4 Star Slots

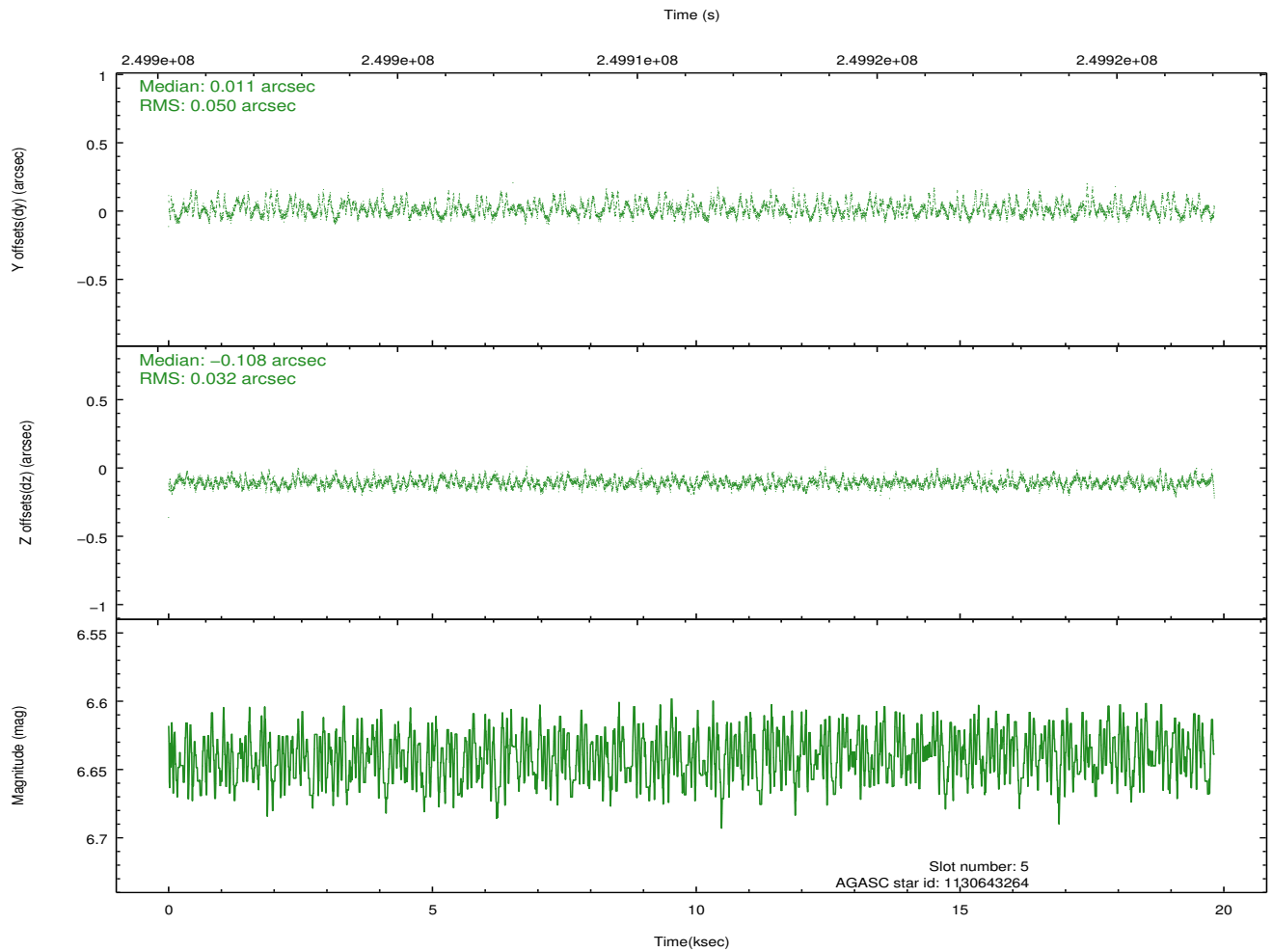
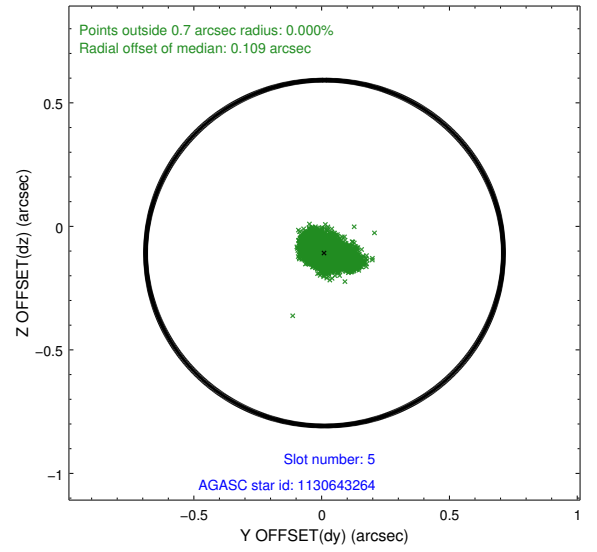
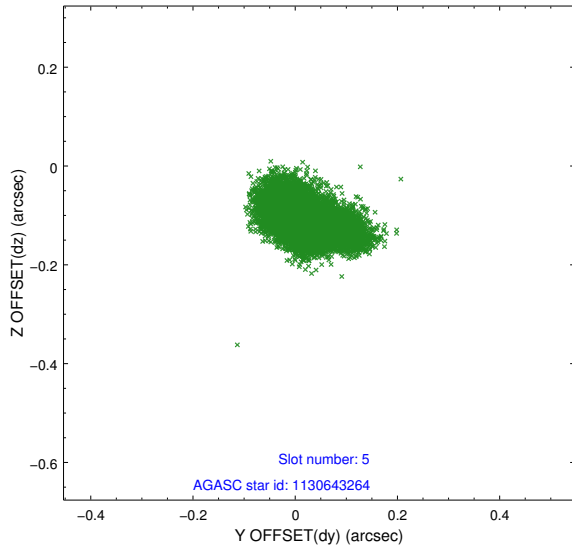
2.4.1 Slot 3



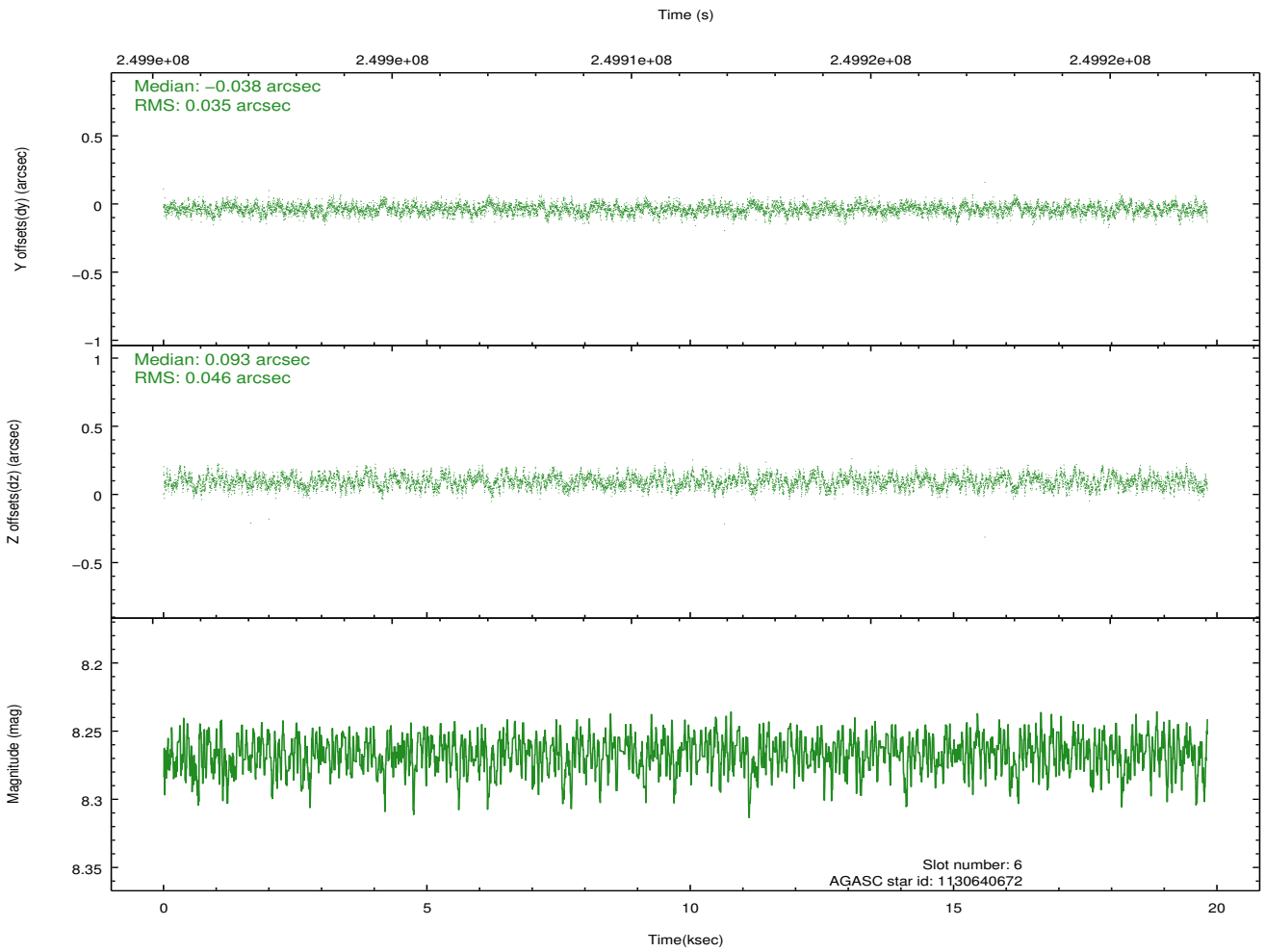
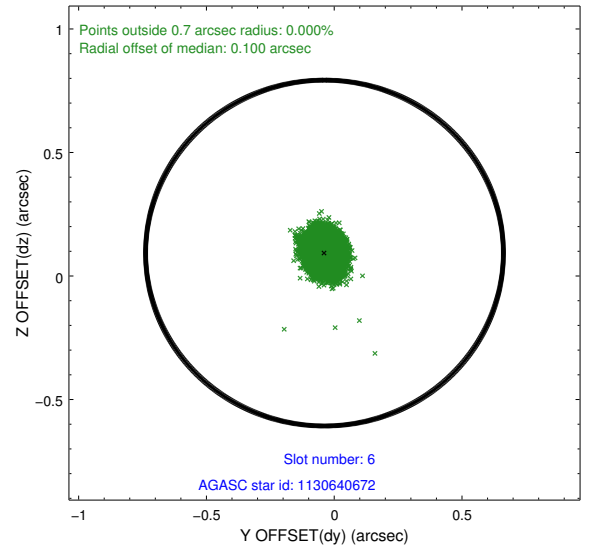
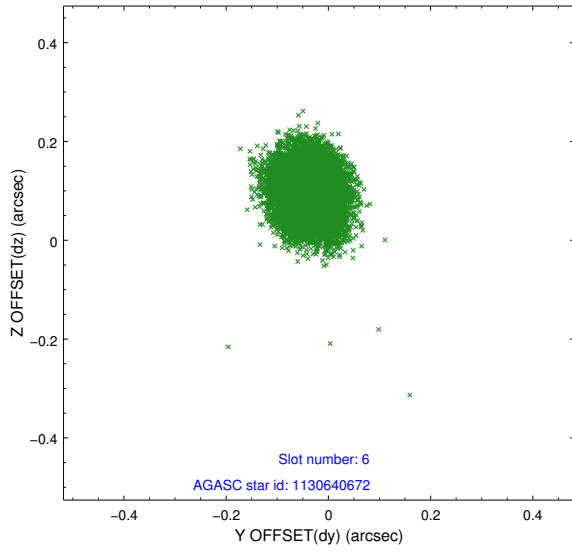
2.4.2 Slot 4



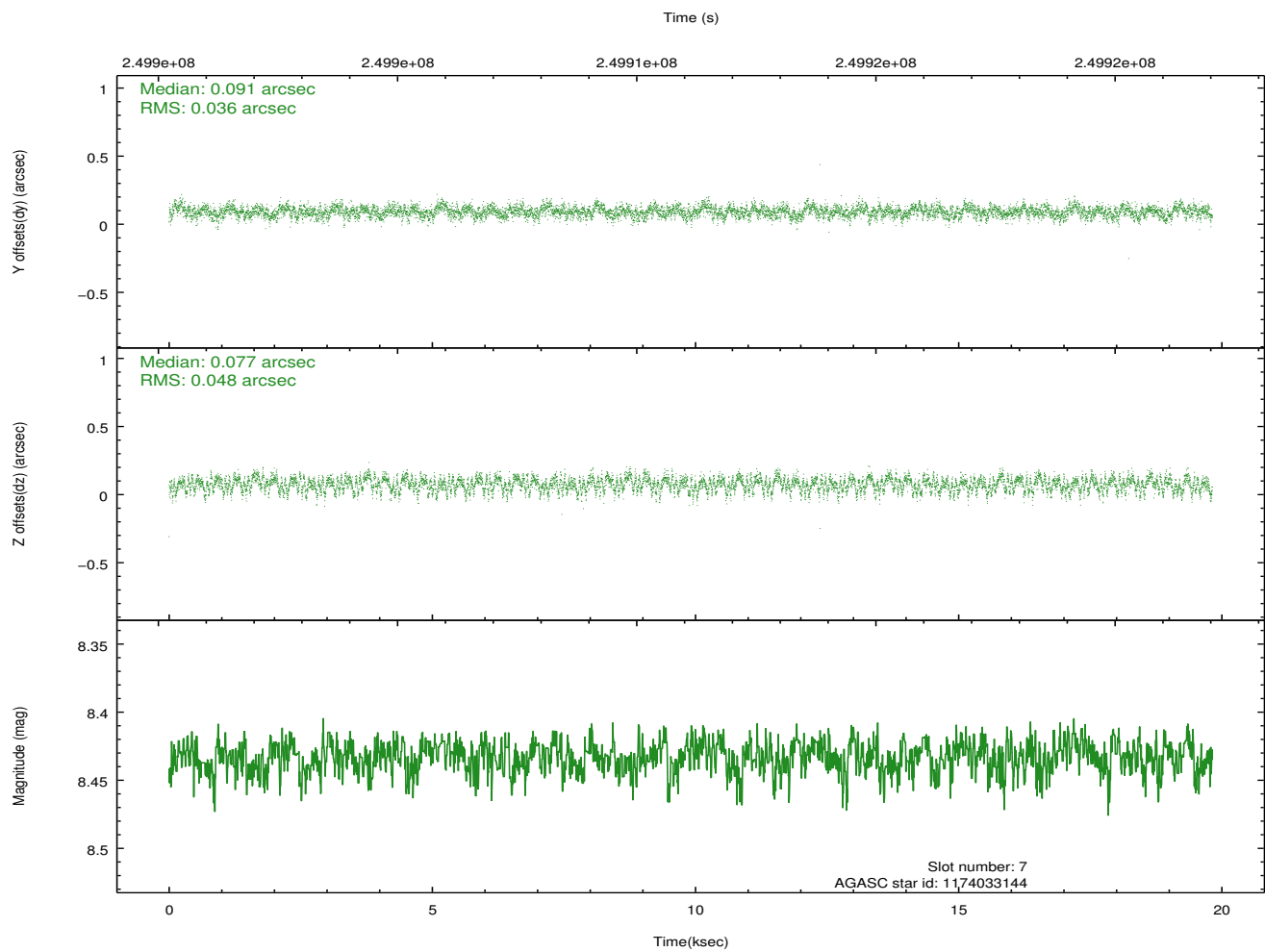
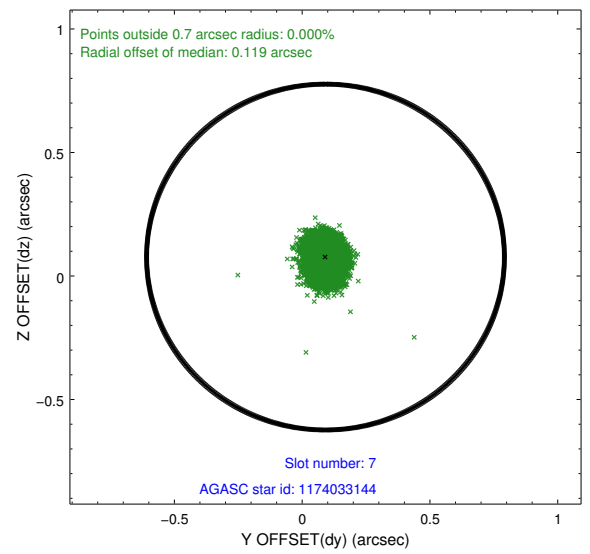
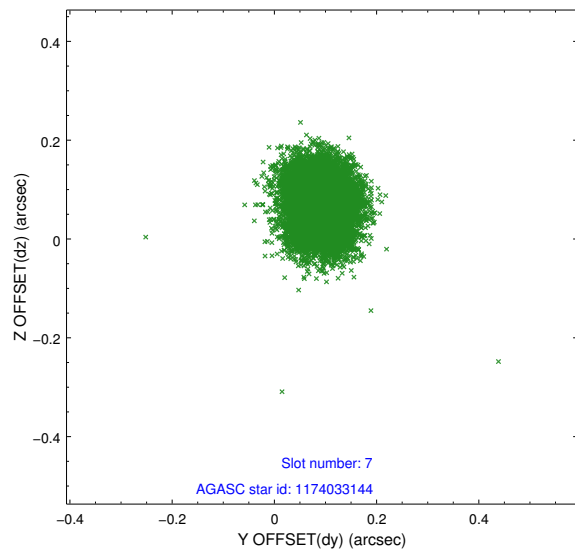
2.4.3 Slot 5



2.4.4 Slot 6

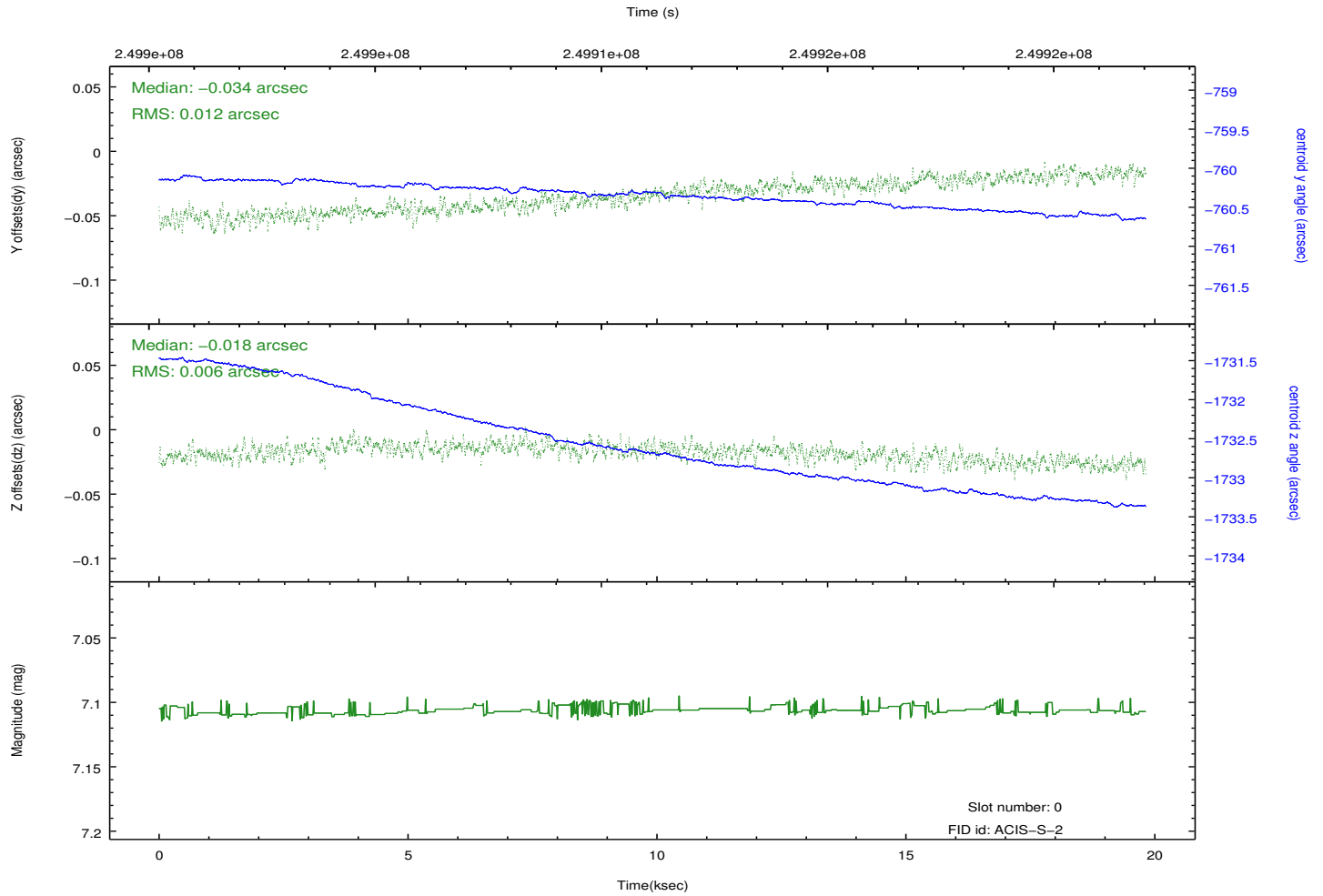
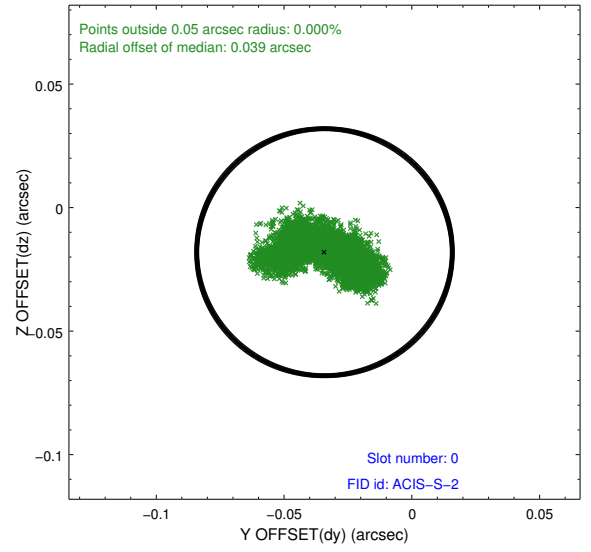
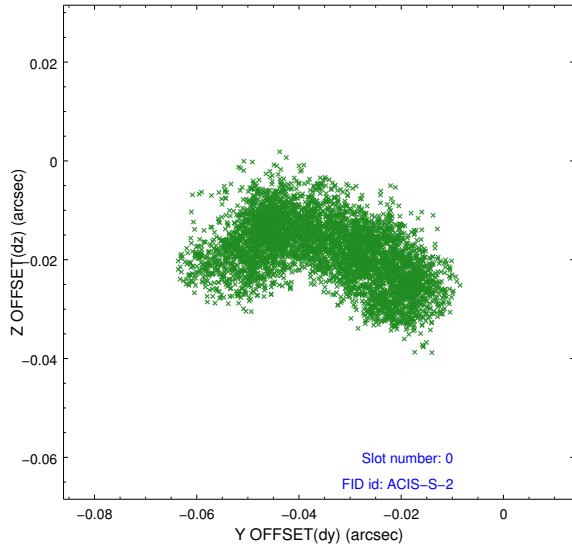


2.4.5 Slot 7

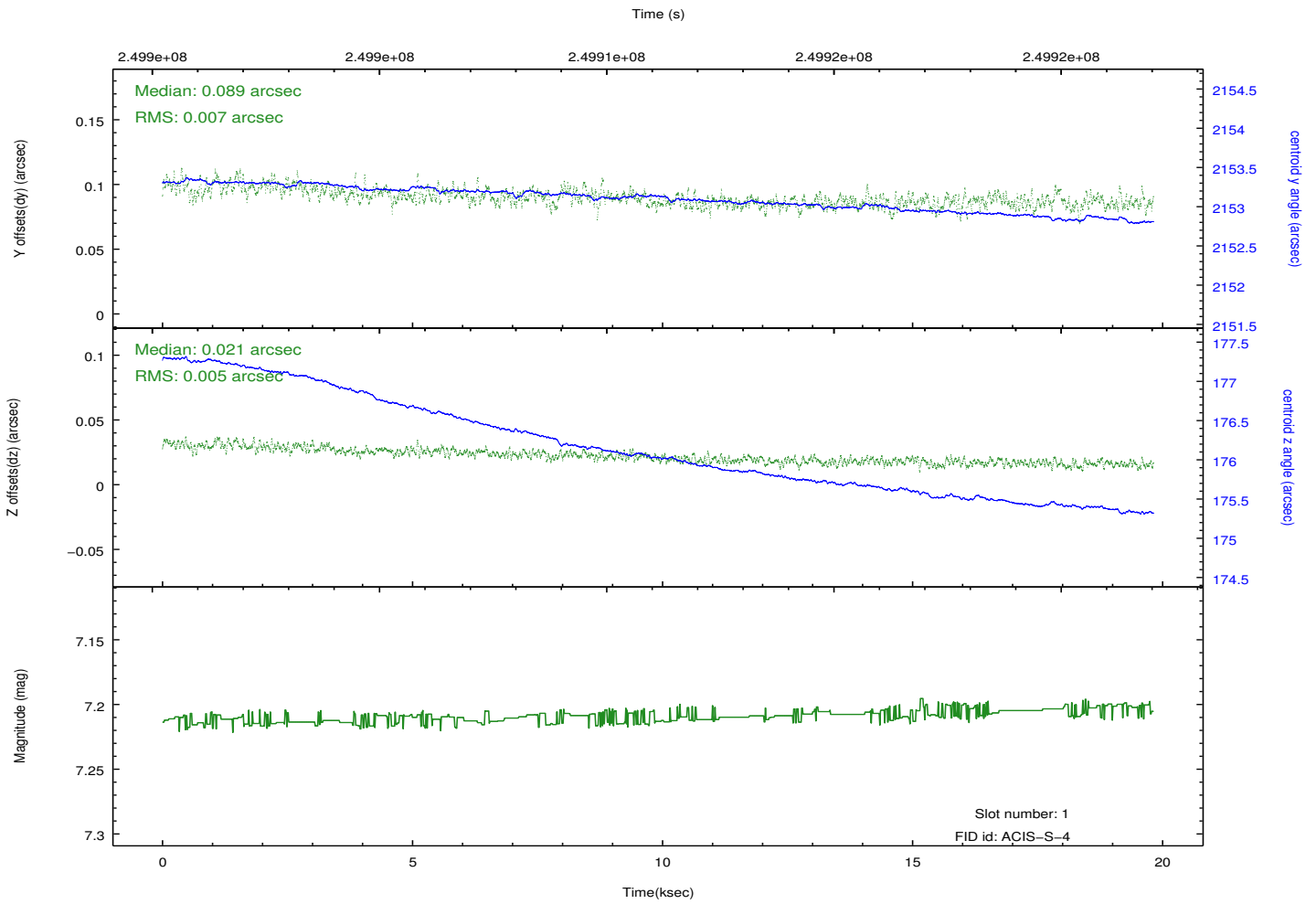
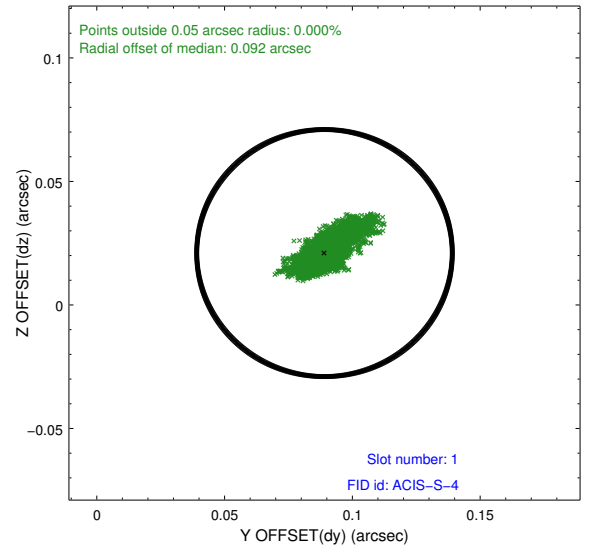
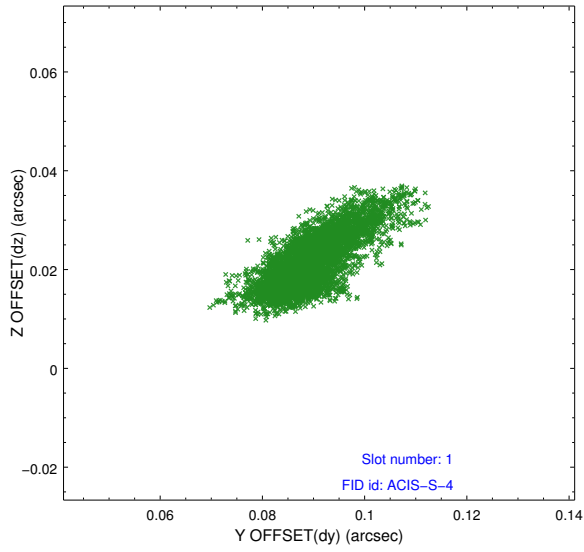


2.5 FID Slots

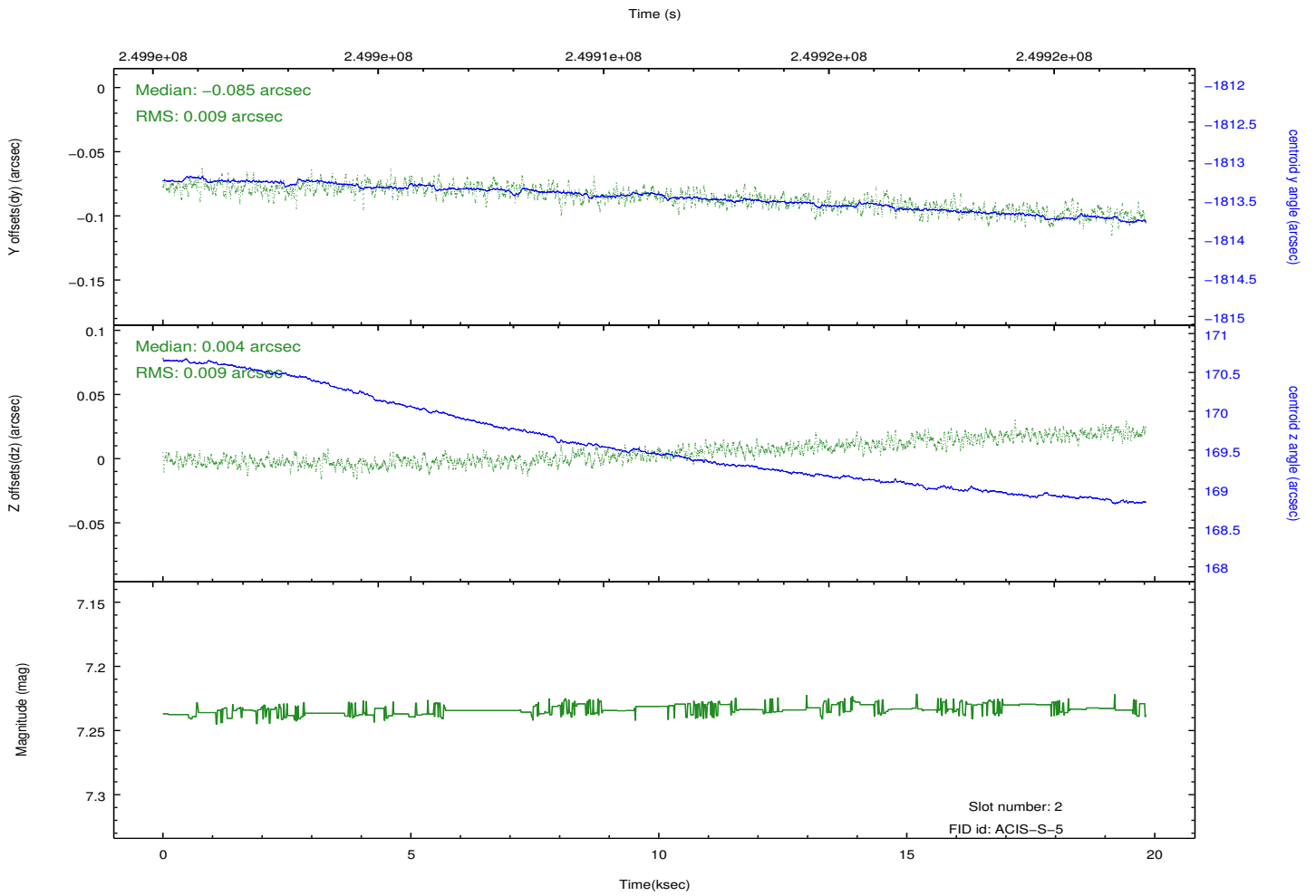
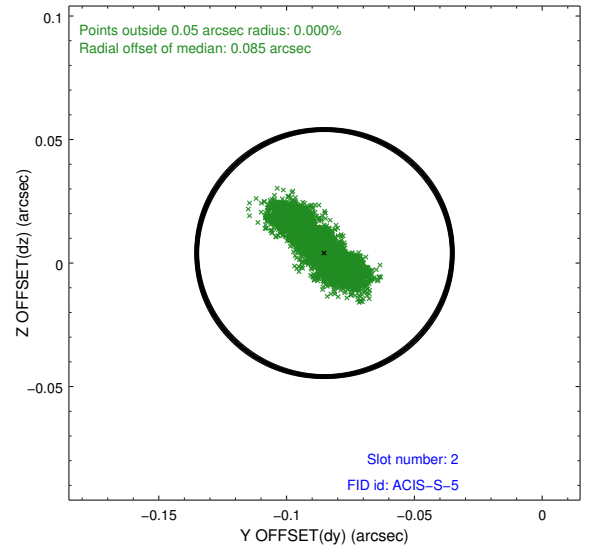
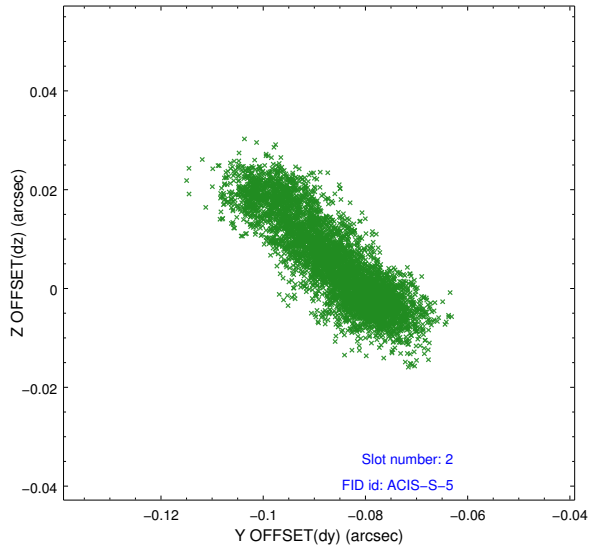
2.5.1 Slot 0



2.5.2 Slot 1

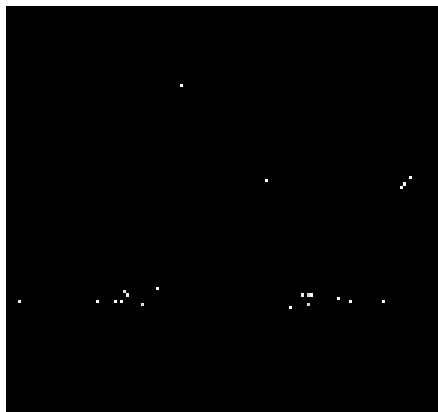


2.5.3 Slot 2

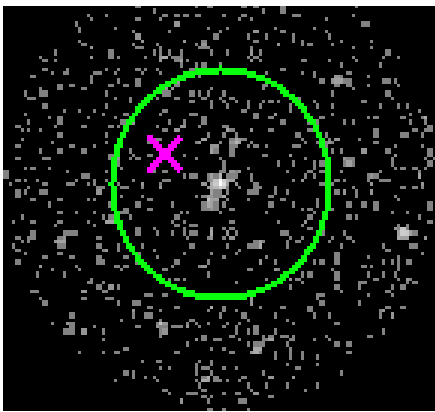


3 Gratings

3.1 HEG Arm



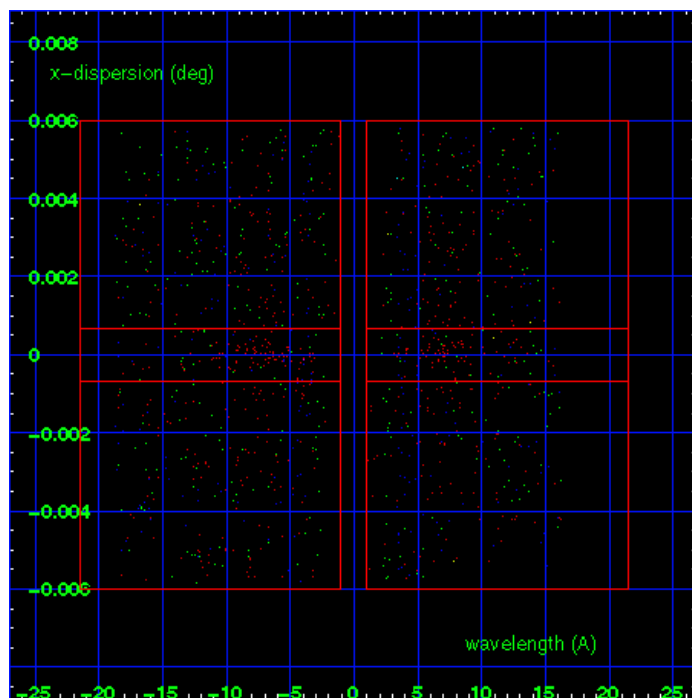
HEG Order Sort 123



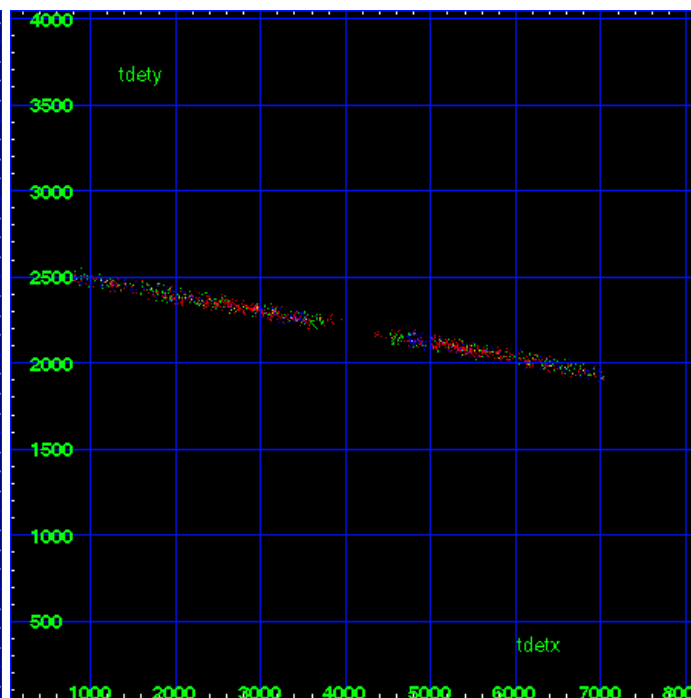
HEG Zero Order



HEG Order Sort ALL

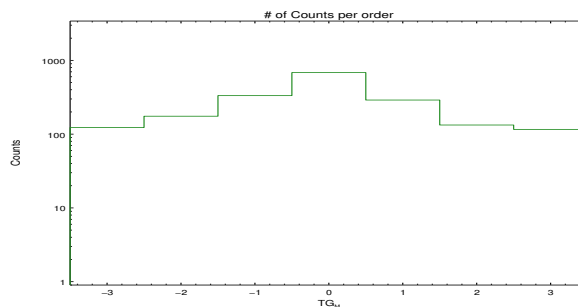


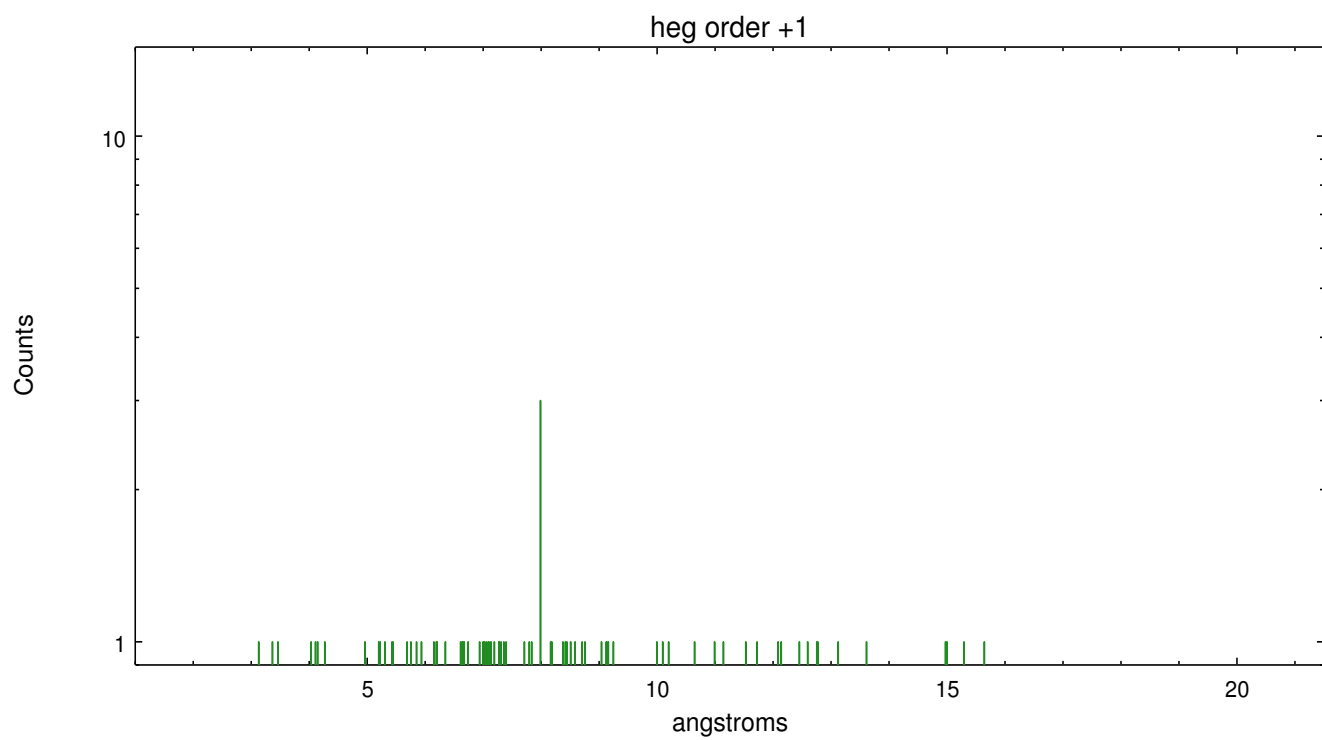
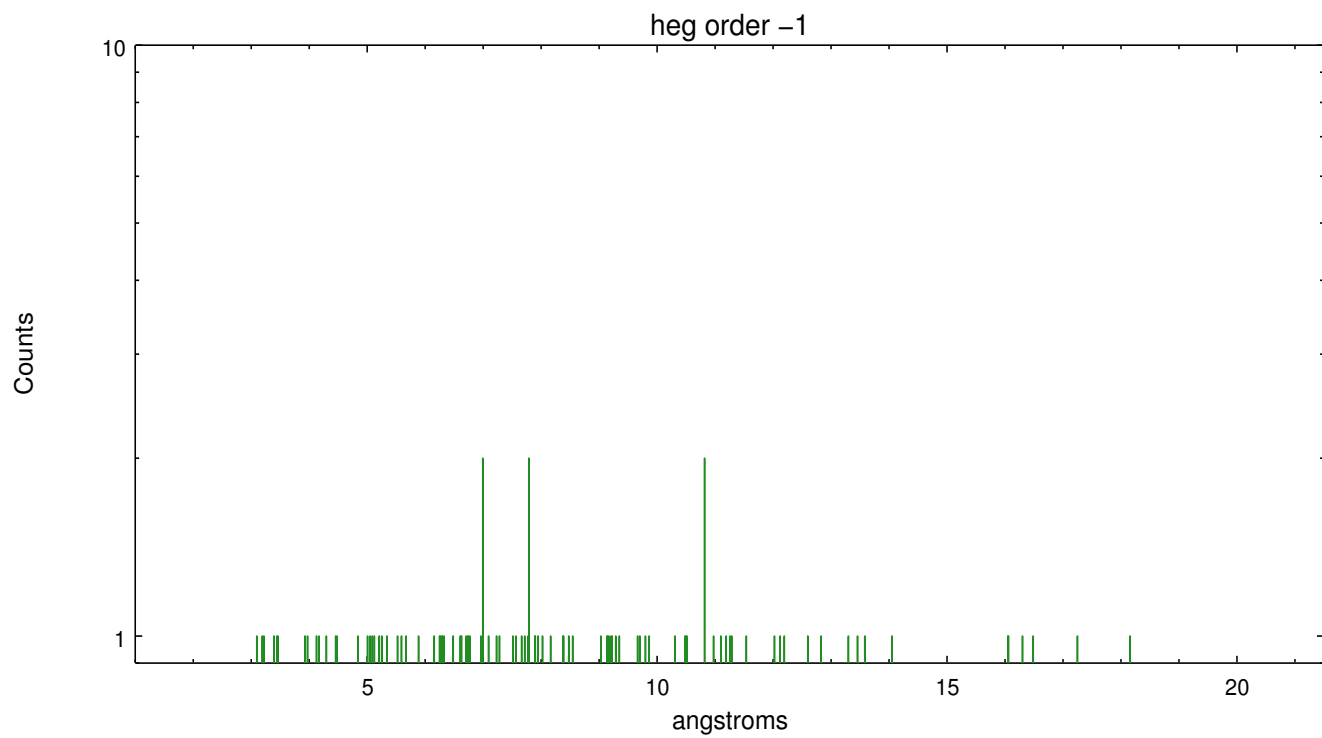
Spot Image HEG



Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 123 | 175 | 333 | 683 | 290 | 133 | 116 |

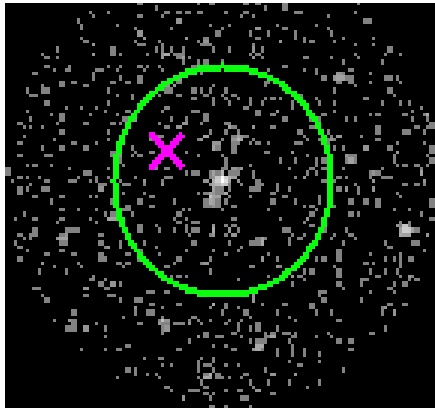




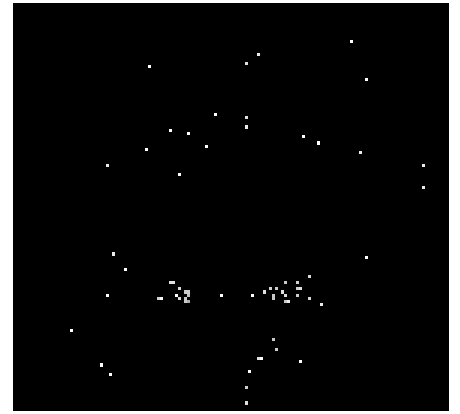
3.2 MEG Arm



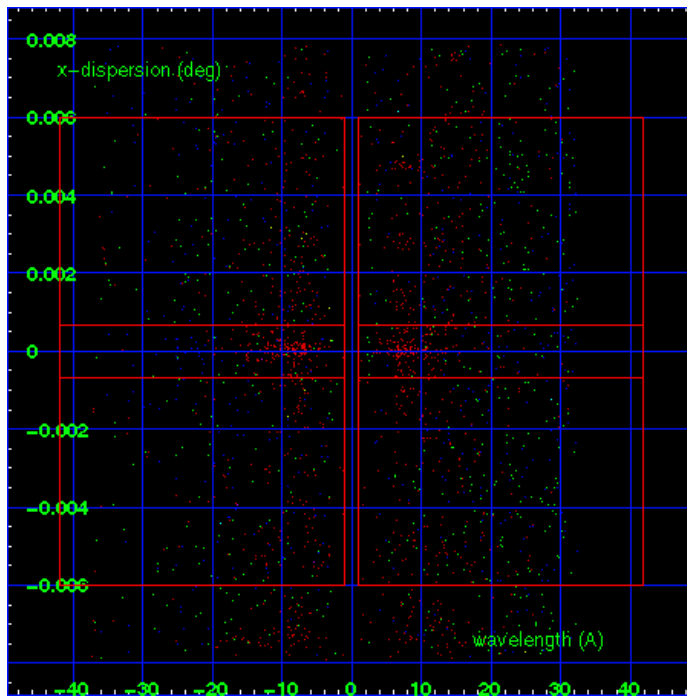
MEG Order Sort 123



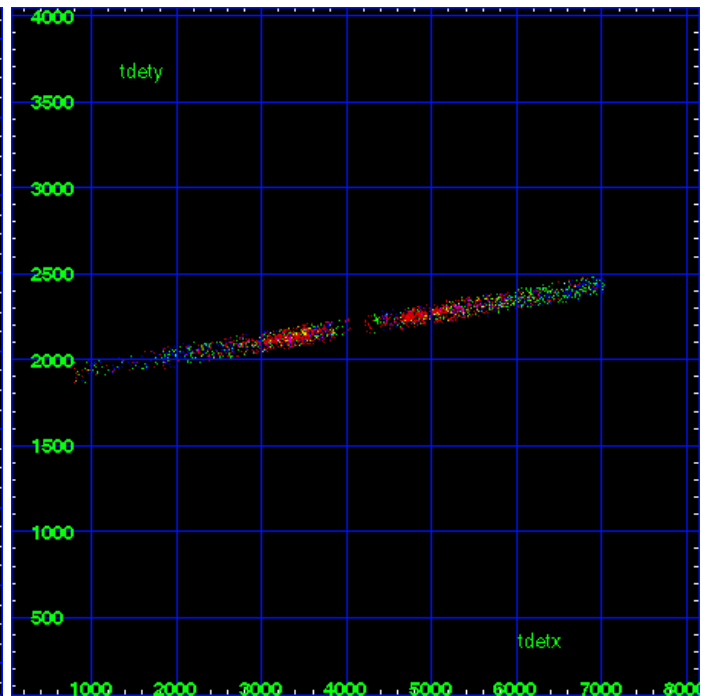
MEG Zero Order



MEG Order Sort ALL

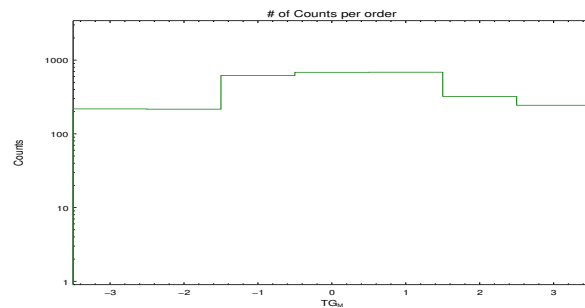


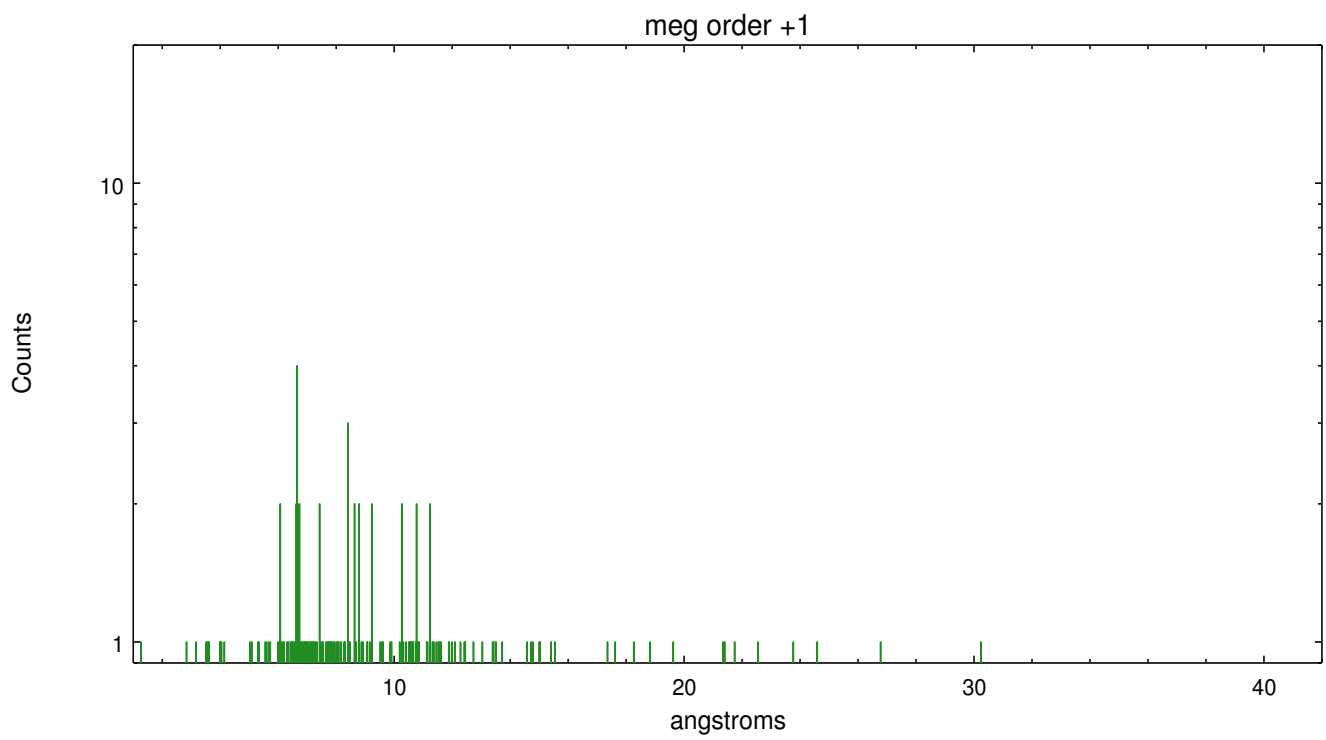
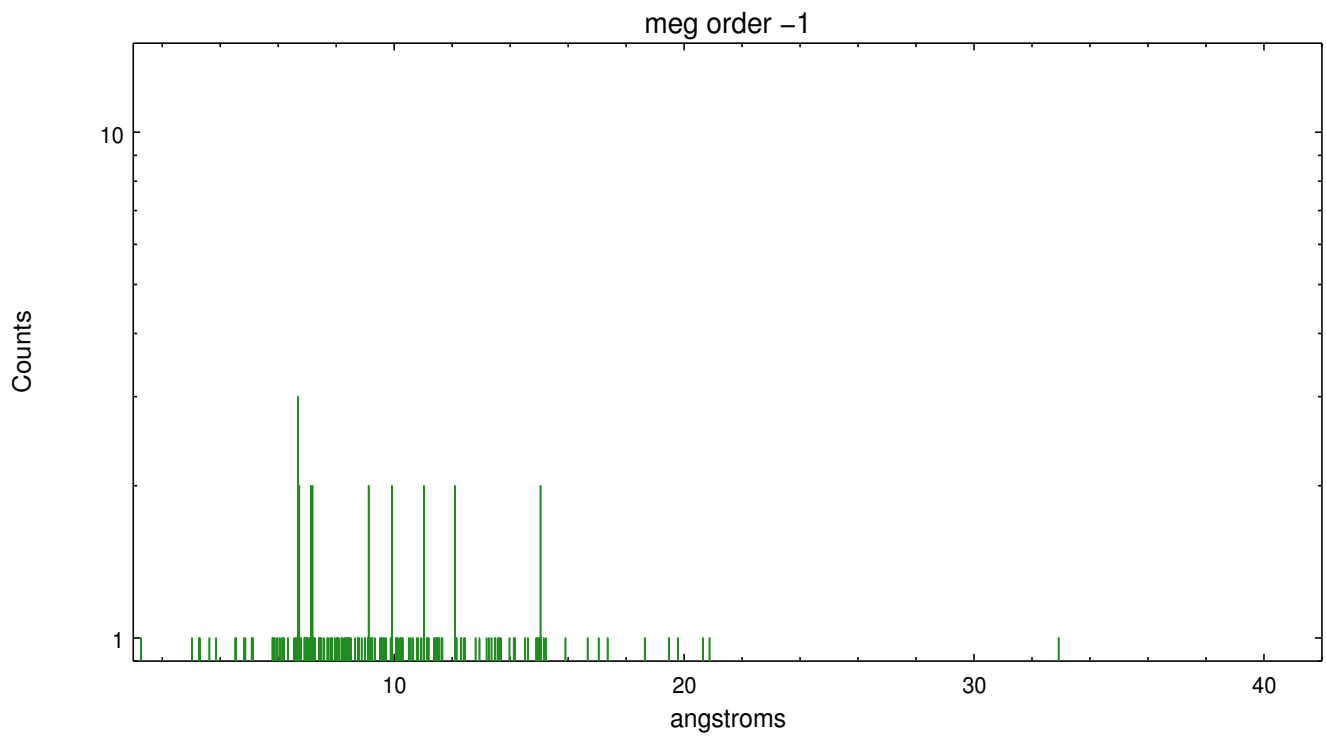
Spot Image MEG



Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 218 | 216 | 619 | 683 | 685 | 322 | 244 |





A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2012.04.16 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 19.81439 |

A.2 Comments

his is one of 7 obsids of this target. The zeroth order has been set to $x=4110.61$, $y=4088.60$ for this obsid. The zeroth order positions are based on $ra=10:43:57.457$, $dec=-59:32:51.32$ for all of these obsids, which is the mean position of the peak of the X-ray source. `tgdetect` does not give a good position for the zeroth order because of flaring nearby sources that influence the source finding software. === Multiple sources in the field may cause contamination of the primary extraction at some wavelengths. Extraction is of HD 93129A. Comment: Complex source: [ESW2004] is within 2 arcsec of the target in the dispersion direction. Extraction probably includes both sources with offset in wavelength. These two spectra cannot be extracted separately.