

V&V Reference Report

L2 ASCDS Version : 7.6.9

Observation 1921 - L2 Version 001
Chandra X-Ray Center

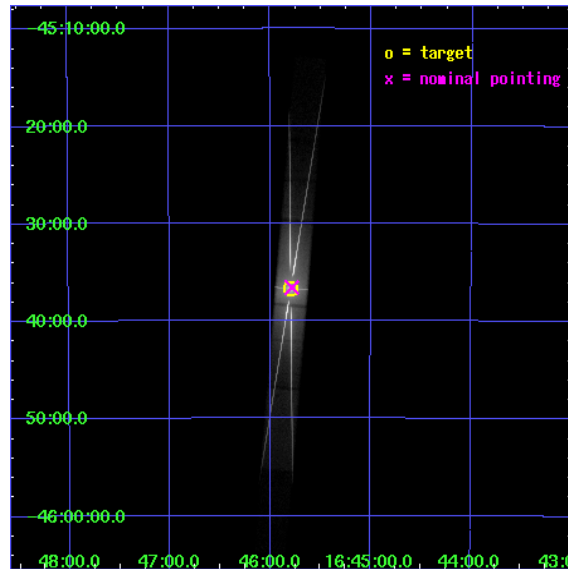
L2 Processing Date : Dec 27 2006

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1 Front

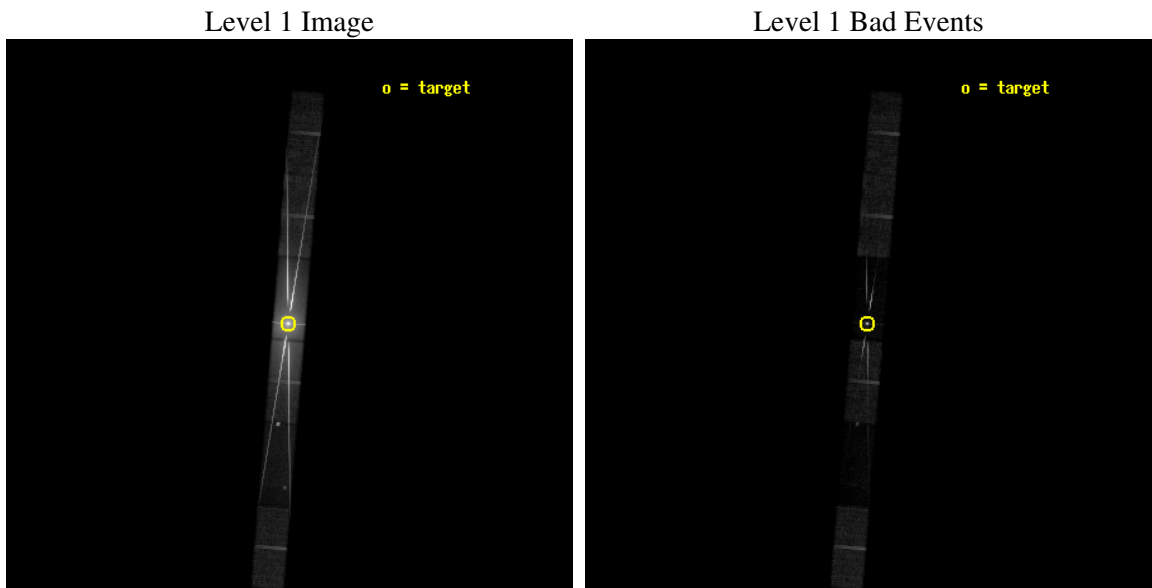
| | |
|----------|--|
| seq_num | 400134 |
| obs_id | 1921 |
| title | DETAILED STUDY OF THE IRON LINE AND LOW ENERGY FEATURES IN Z AND ATOLL SOURCES |
| observer | Prof. Natale Robba |
| object | GX340+0 |
| dtcycle | 0 |
| cycle | P |
| ra_targ | 251.448333 |
| dec_targ | -45.610833 |
| ra_nom | 251.44574870718 |
| dec_nom | -45.609571120253 |
| roll_nom | 274.6838005931 |
| revision | 3 |
| ontime | 24043.600102365 |
| livetime | 23358.852039715 |
| ontime4 | 24043.600102365 |
| ontime5 | 24043.600102365 |
| ontime6 | 24043.600102365 |
| ontime7 | 24043.600102365 |
| ontime8 | 24043.600102365 |
| ontime9 | 24043.600102365 |
| l2events | 1672223 |



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

| | |
|----------|---------------------|
| obi_num | 0 |
| ascdsver | 7.6.9 |
| caldbver | 3.2.4 |
| date | 2006-12-19T10:40:09 |
| revision | 3 |

| | |
|----------------|-----------------|
| sched_exp_time | 23856.000000 |
| ontime | 24707.761873275 |
| ontime4 | 24596.801793277 |
| ontime5 | 24707.761893198 |
| ontime6 | 24616.979852796 |
| ontime7 | 24707.761873275 |
| ontime8 | 24615.535313278 |
| ontime9 | 24608.330113277 |
| l1events | 2030704 |

2.1.3 Events

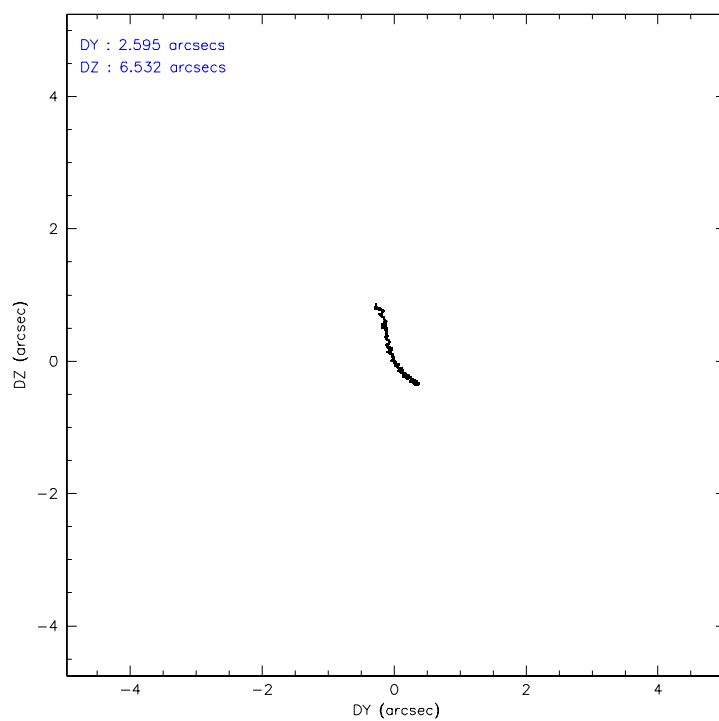
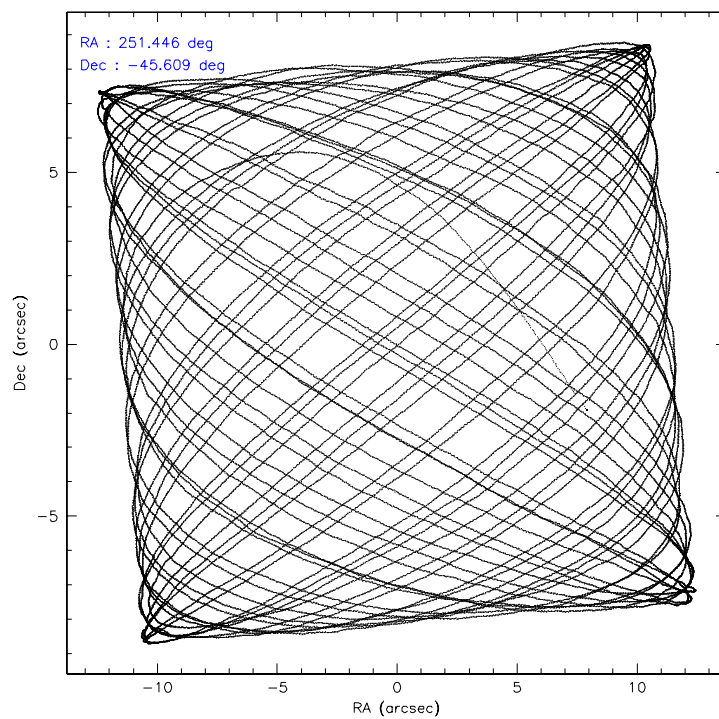
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|-------|-------|--------|---------|--------|-------|
| level 1 events | 68123 | 74775 | 639342 | 1039861 | 148869 | 59734 |
| rejected events | 61163 | 15538 | 69345 | 53870 | 54614 | 47035 |
| rejected % | 89% | 20% | 10% | 5% | 36% | 78% |

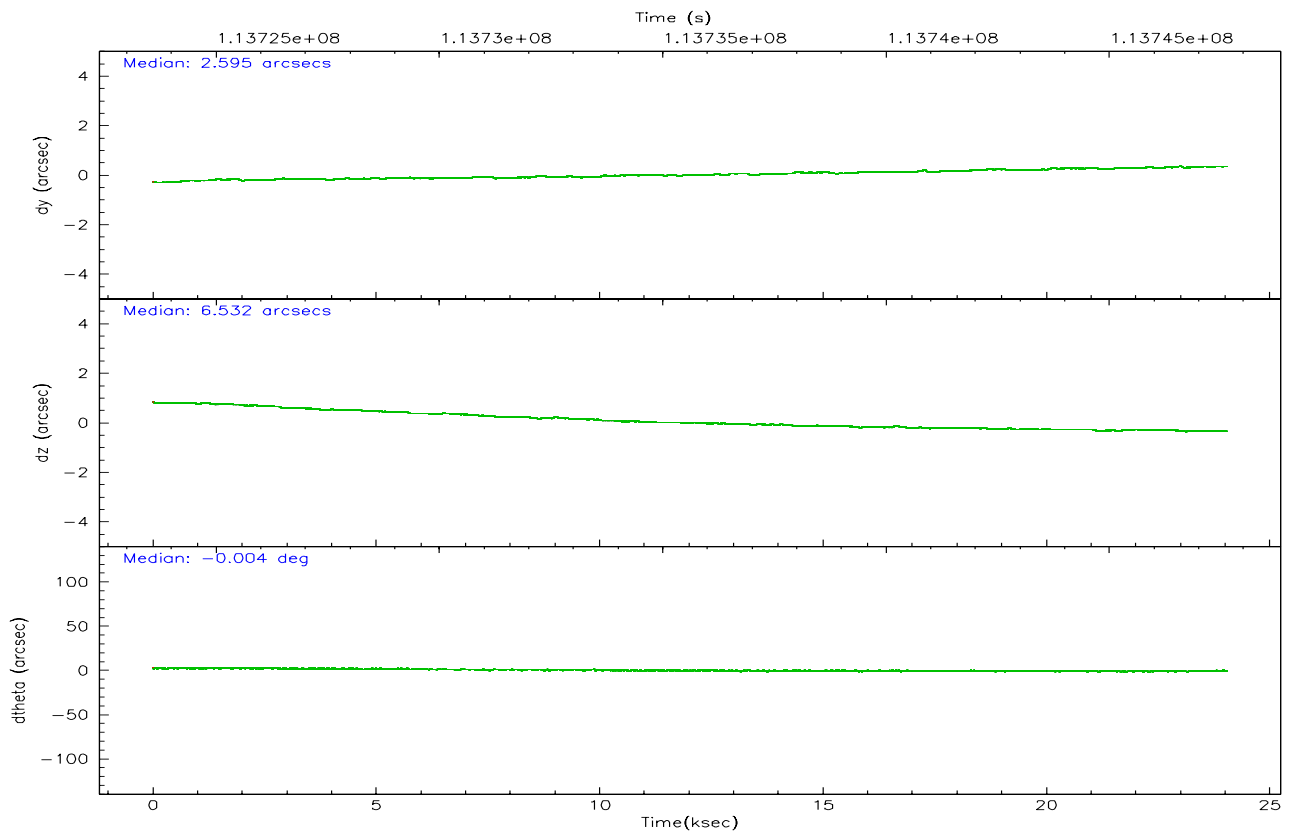
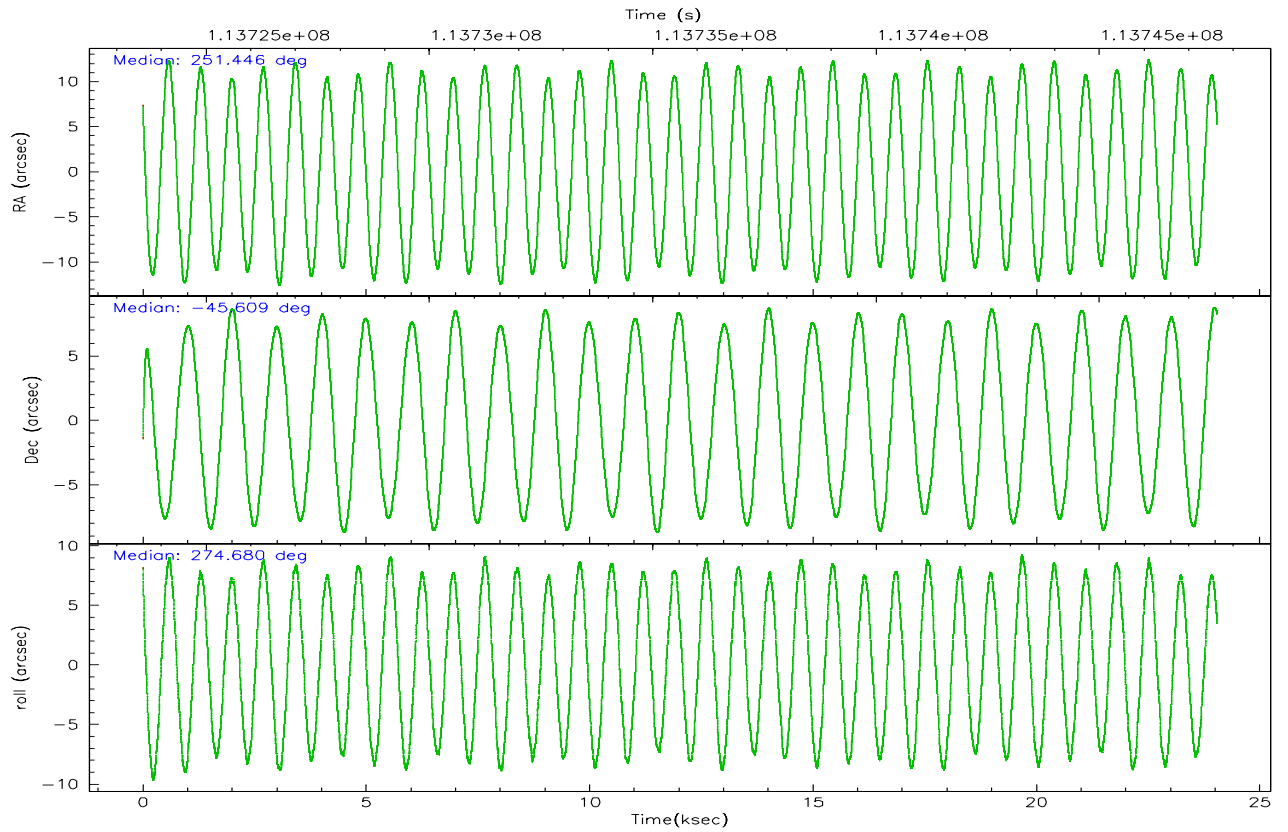
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|----------------|-------|-------|--------|--------|-------|-------|
| grade 0 events | 3262 | 11159 | 375501 | 169290 | 62599 | 7681 |
| | 4% | 14% | 58% | 16% | 42% | 12% |
| grade 1 events | 16 | 327 | 5260 | 2946 | 201 | 25 |
| | 0% | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 1405 | 22087 | 86314 | 247887 | 13574 | 1810 |
| | 2% | 29% | 13% | 23% | 9% | 3% |
| grade 3 events | 831 | 4035 | 29793 | 95263 | 5311 | 1099 |
| | 1% | 5% | 4% | 9% | 3% | 1% |
| grade 4 events | 844 | 3834 | 30115 | 94441 | 5026 | 1127 |
| | 1% | 5% | 4% | 9% | 3% | 1% |
| grade 5 events | 564 | 3085 | 5751 | 16613 | 1261 | 681 |
| | 0% | 4% | 0% | 1% | 0% | 1% |
| grade 6 events | 719 | 19185 | 49888 | 385312 | 8261 | 1113 |
| | 1% | 25% | 7% | 37% | 5% | 1% |
| grade 7 events | 60482 | 11063 | 56720 | 28109 | 52636 | 46198 |
| | 88% | 14% | 8% | 2% | 35% | 77% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 6 | 6 |
| Detector | ACIS-456789 | ACIS-456789 | Obspar file type | PREDICTED | ACTUAL |
| Grating | HETG | HETG | Obspar update status | NONE | UPDATED |
| Data mode | GRADED | GRADED | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| Pointing RA | 251.423215 | 251.445748707179 | Subarray requested | CUSTOM | CUSTOM |
| Pointing Dec | -45.587312 | -45.60957112025311 | Subarray start row | 1 | 1 |
| Pointing Roll | 274.511066 | 274.6838005930968 | Subarray row count | 400 | 400 |
| SIM focus pos (mm) | -0.684267 | -0.6828225247311905 | Alternating exposures requested | N | N |
| SIM defocus (mm) | 0 | 0.001444936568705701 | Primary exposure time | 0.000000 | 1.4 |
| SIM translation stage pos (mm) | -182.642523 | -182.6398635053184 | | | |
| SIM translation stage offset (mm) | -7.49 | -7.49265907768941 | | | |
| Observation start time | 113723785.184000 | 113722643.42707 | | | |
| Observation start date | 2001-08-09T05:55:21 | 2001-08-09T05:37:23 | | | |
| Observation end time | 113747641.184000 | 113747774.89056 | | | |
| Observation end date | 2001-08-09T12:32:57 | 2001-08-09T12:36:14 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



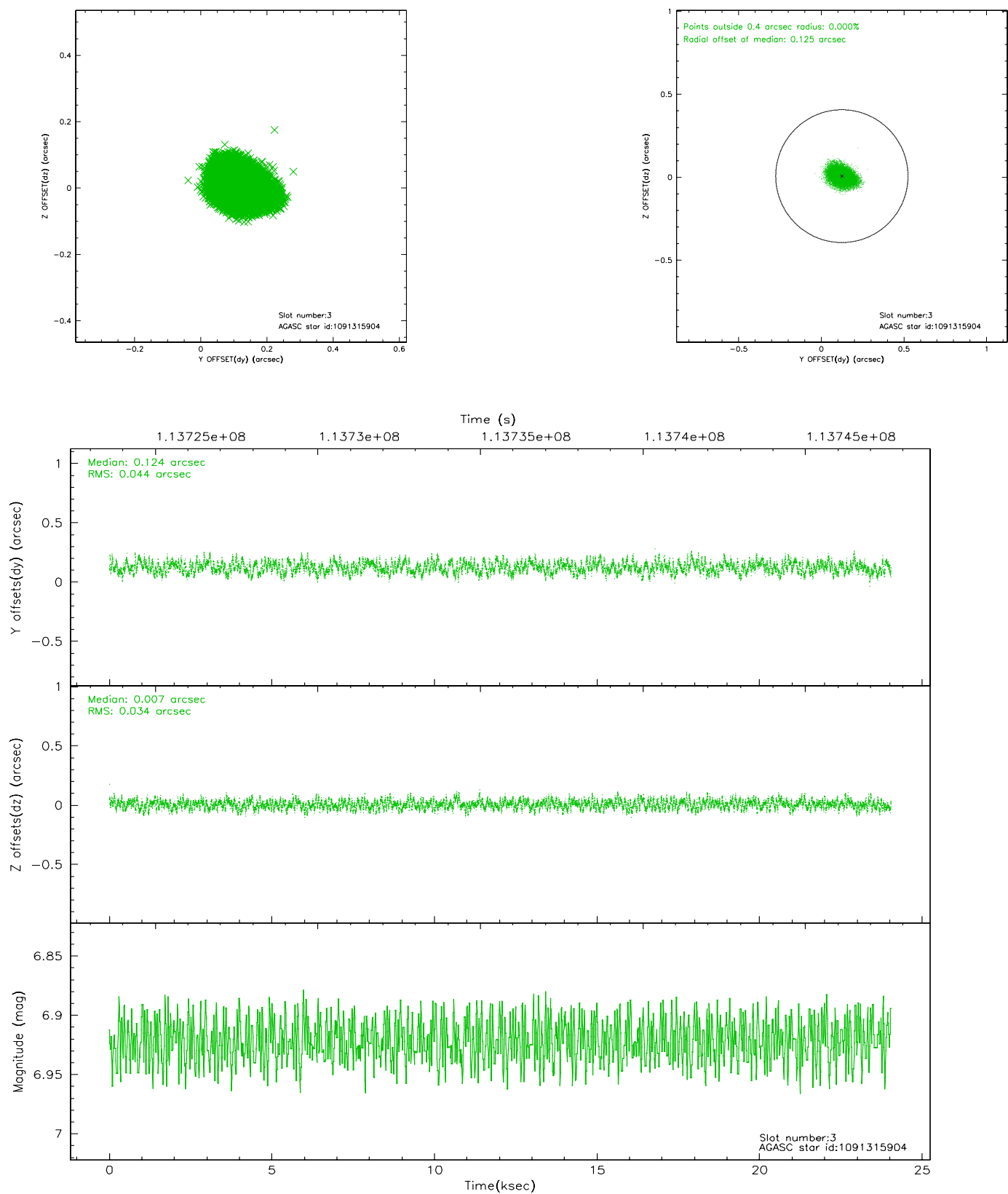


Slot Statistics

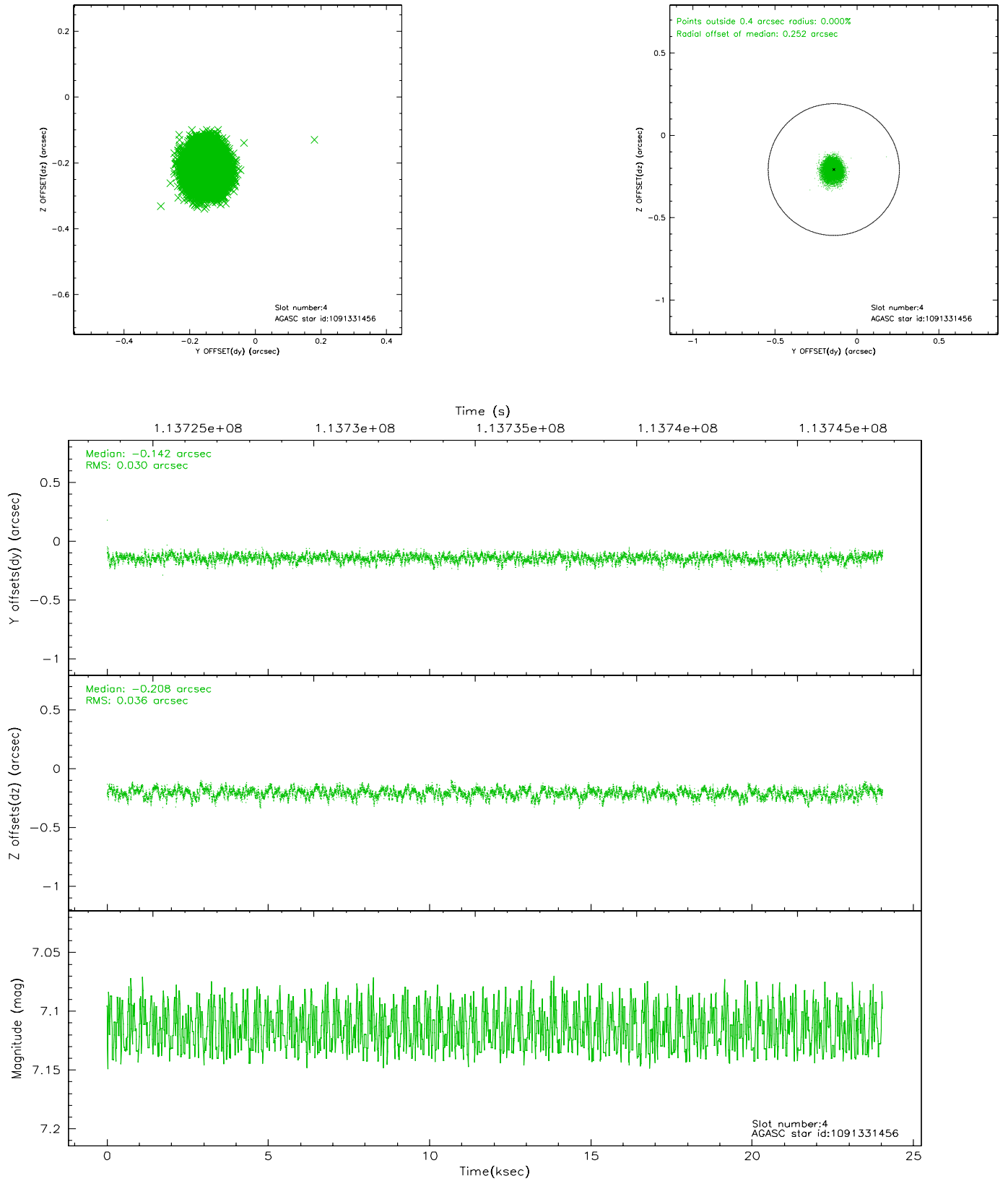
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.09 | 5865 | -0.042 | -0.055 | 0.015 | 0.027 | 0.000000 | 0.000000 | -754.77 | -1882.21 |
| 1 | FID | ACIS-S-4 | 7.18 | 5864 | -0.040 | 0.035 | 0.008 | 0.016 | 0.000000 | 0.000000 | 2158.46 | 26.18 |
| 2 | FID | ACIS-S-5 | 7.23 | 5864 | 0.050 | 0.027 | 0.014 | 0.024 | 0.000000 | 0.000000 | -1807.34 | 20.01 |
| 3 | GUIDE | 1091315904 | 6.92 | 11728 | 0.124 | 0.007 | 0.060 | 0.095 | 252.023077 | -45.944918 | 1408.20 | 1395.46 |
| 4 | GUIDE | 1091331456 | 7.11 | 11729 | -0.142 | -0.208 | 0.050 | 0.082 | 250.457488 | -45.368726 | -960.65 | -2374.10 |
| 5 | GUIDE | 1032728728 | 7.57 | 11727 | -0.225 | 0.109 | 0.056 | 0.089 | 252.061735 | -44.936530 | -2200.55 | 1805.81 |
| 6 | GUIDE | 1091318704 | 7.62 | 11658 | -0.047 | 0.106 | 0.062 | 0.099 | 251.955714 | -45.390313 | -595.93 | 1397.81 |
| 7 | GUIDE | 1091341680 | 8.44 | 11727 | 0.286 | -0.014 | 0.060 | 0.095 | 251.240217 | -46.114317 | 1857.26 | -604.25 |

2.4 Star Slots

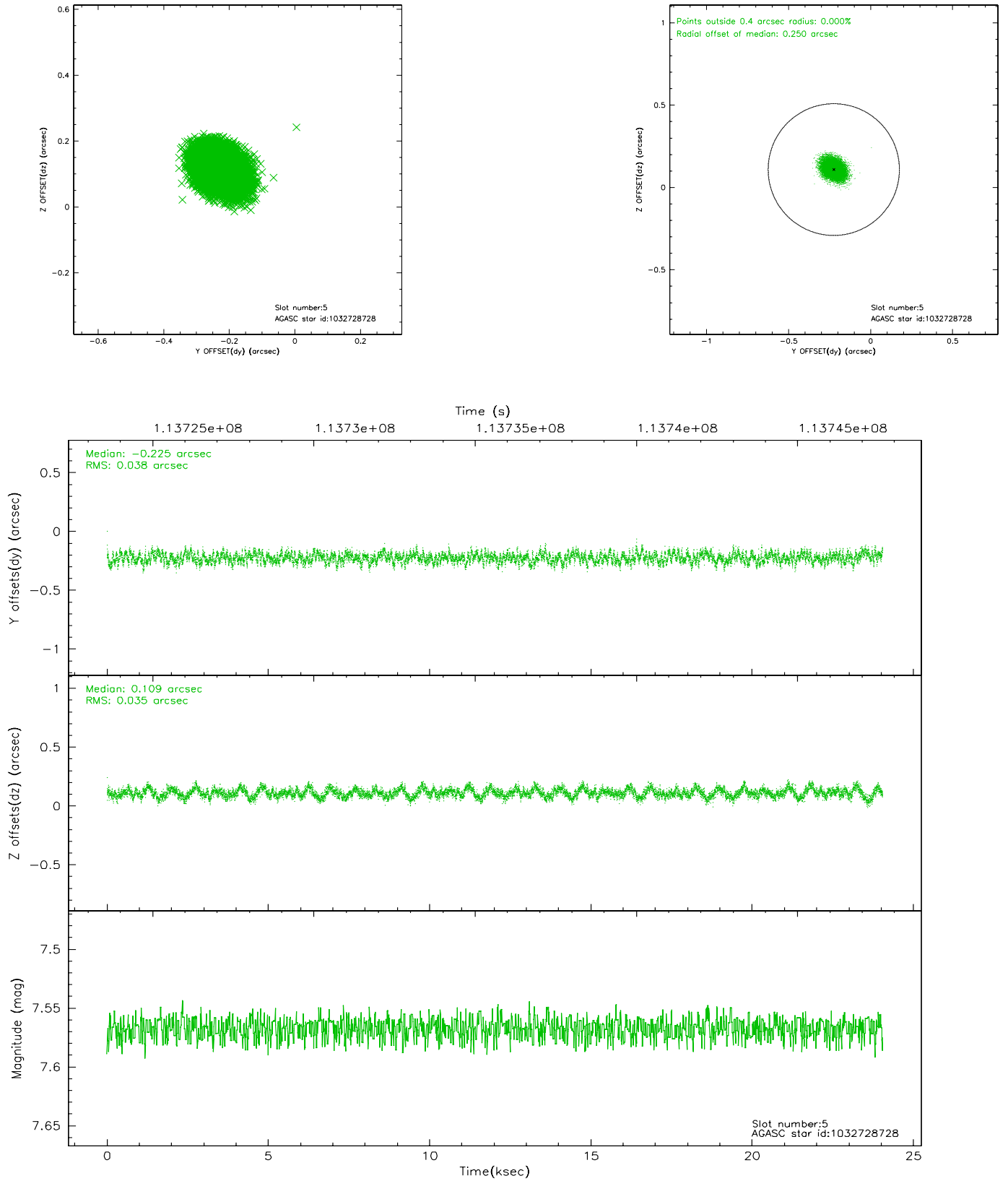
2.4.1 Slot 3



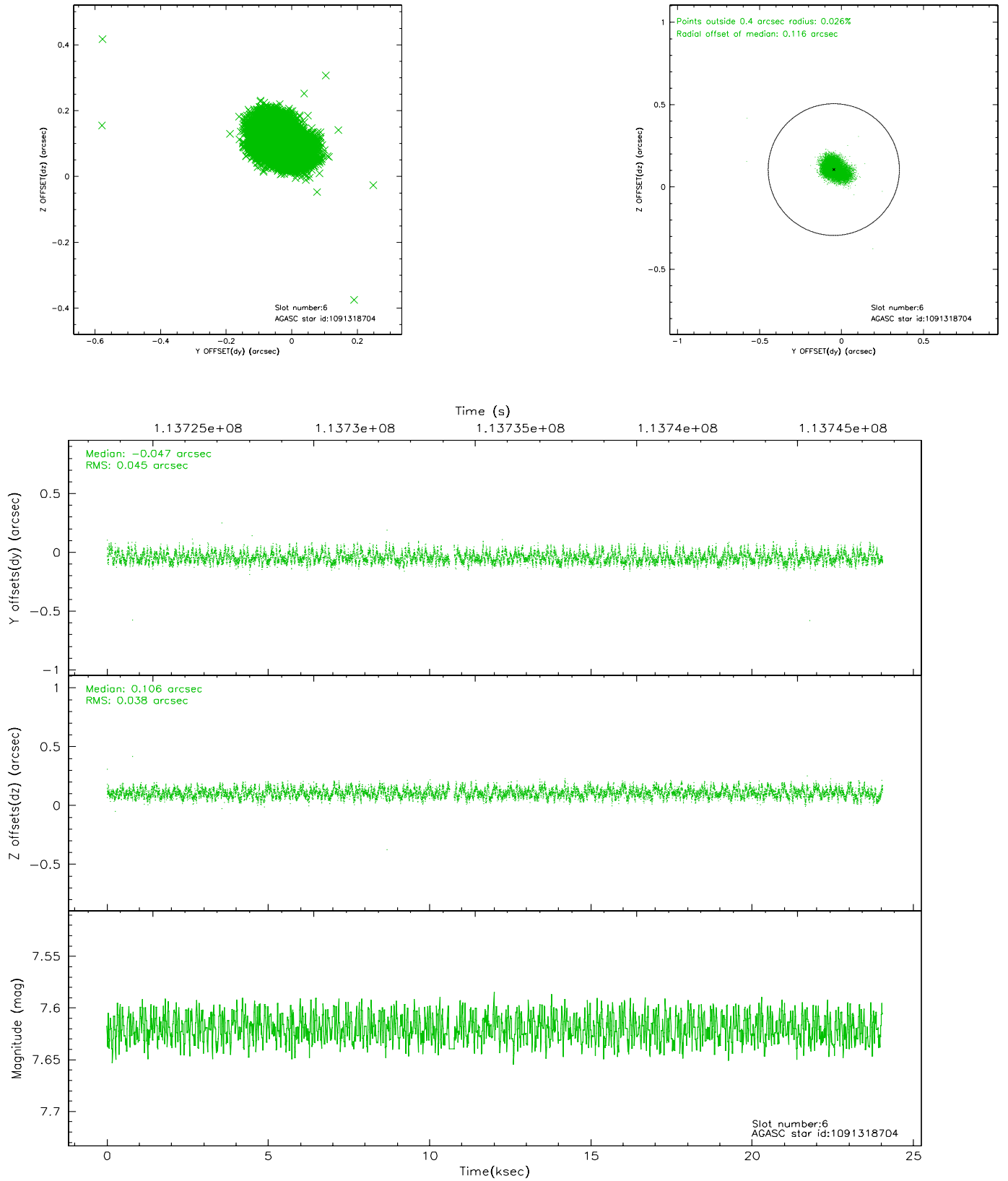
2.4.2 Slot 4



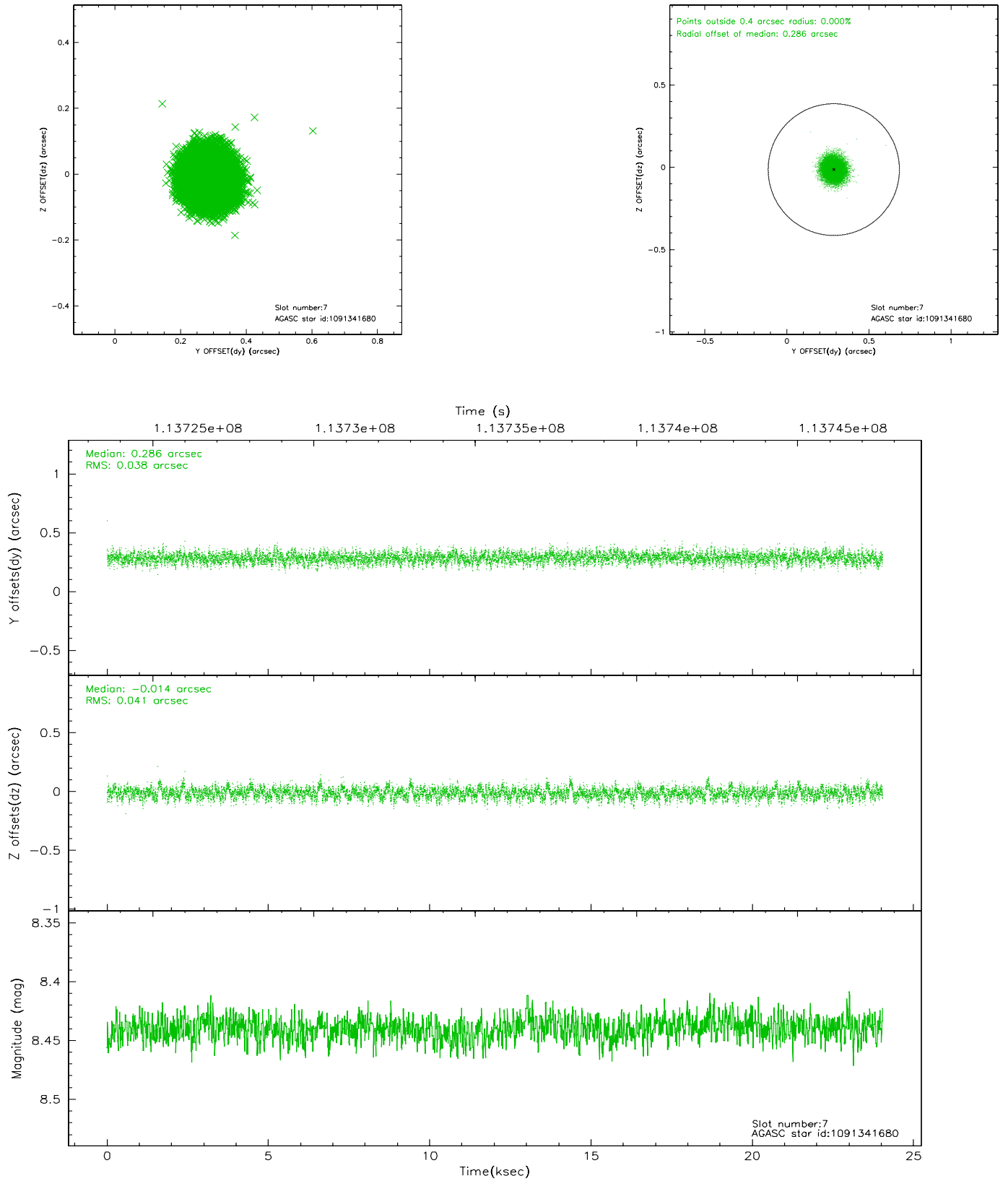
2.4.3 Slot 5



2.4.4 Slot 6

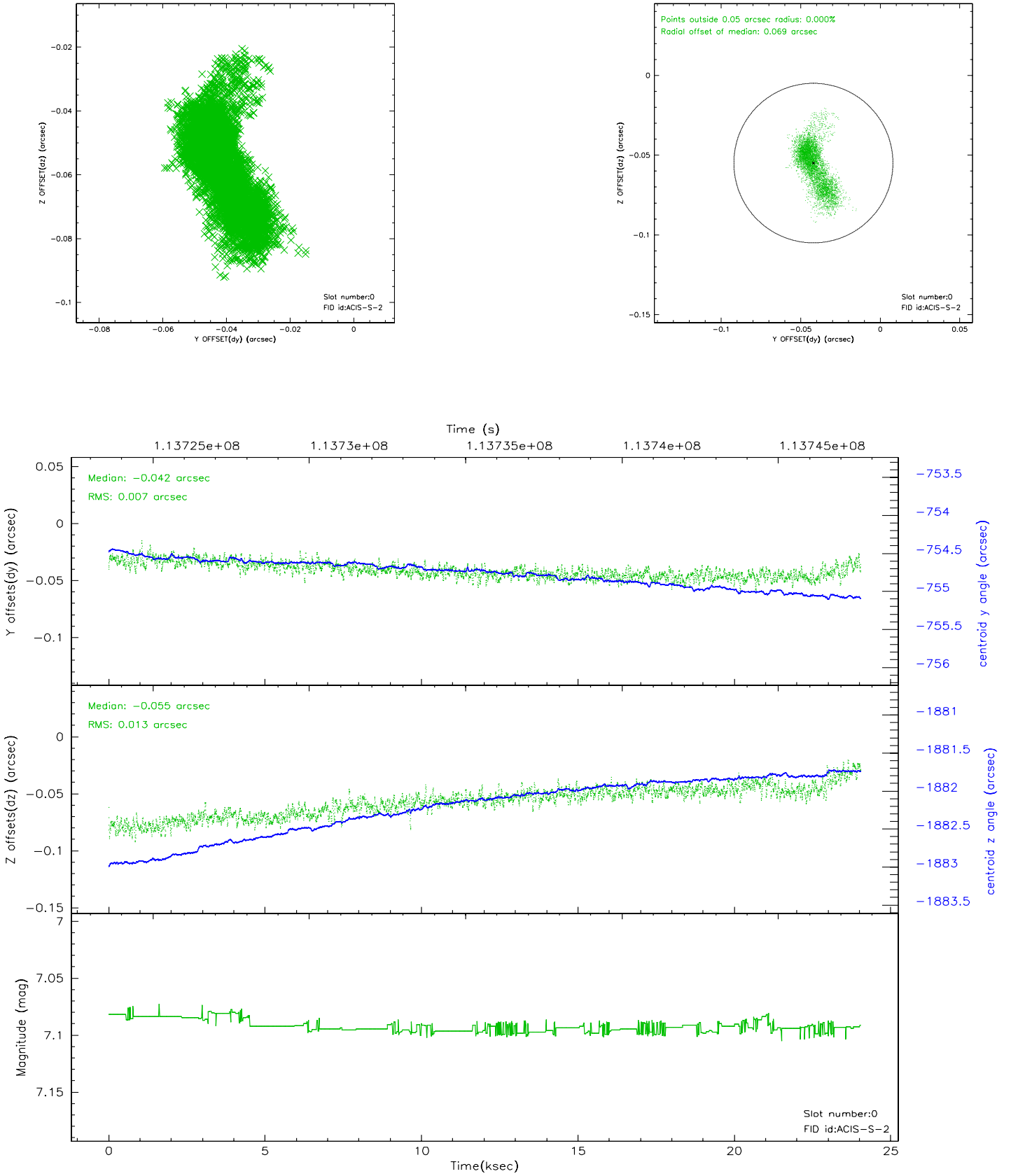


2.4.5 Slot 7

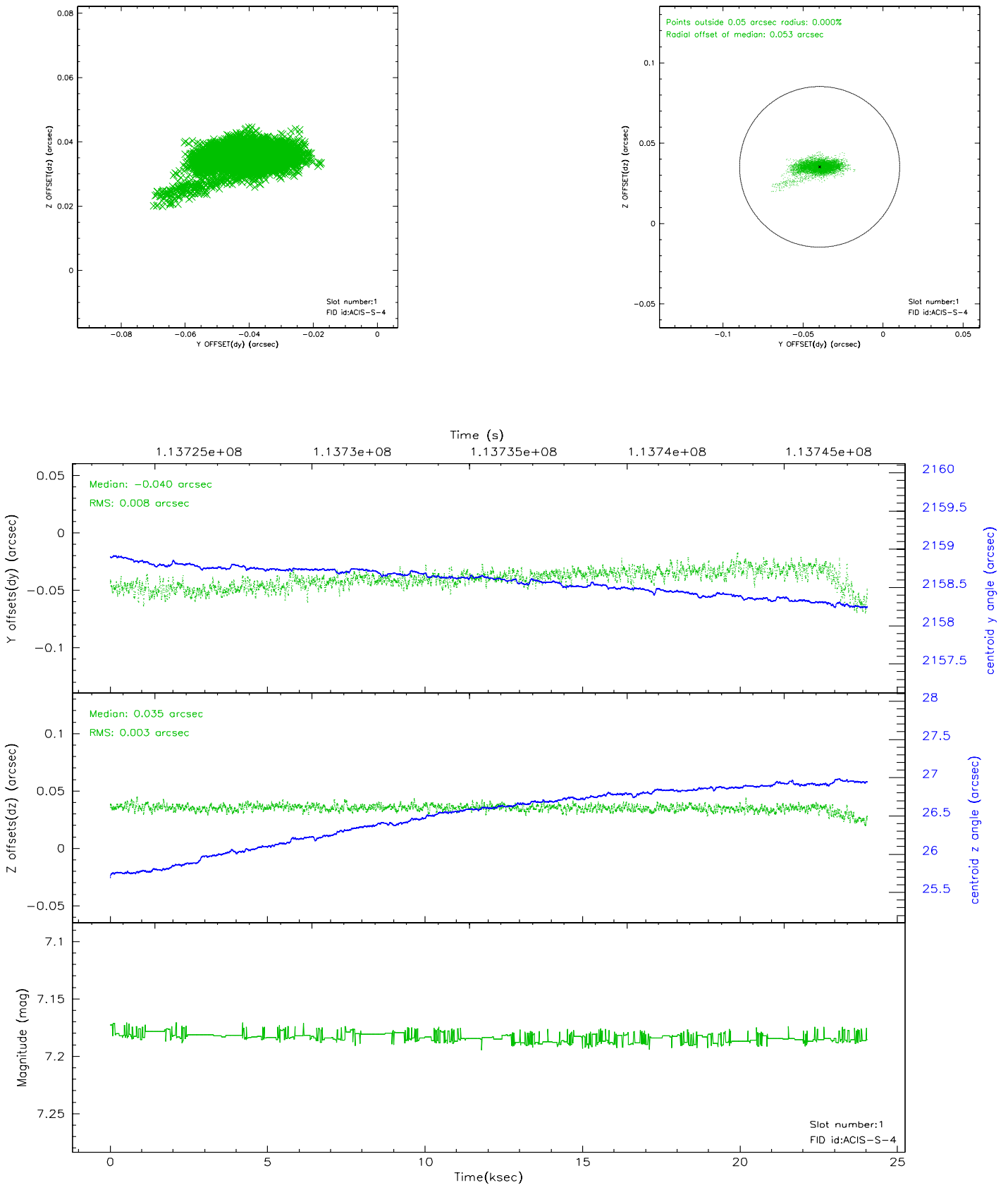


2.5 FID Slots

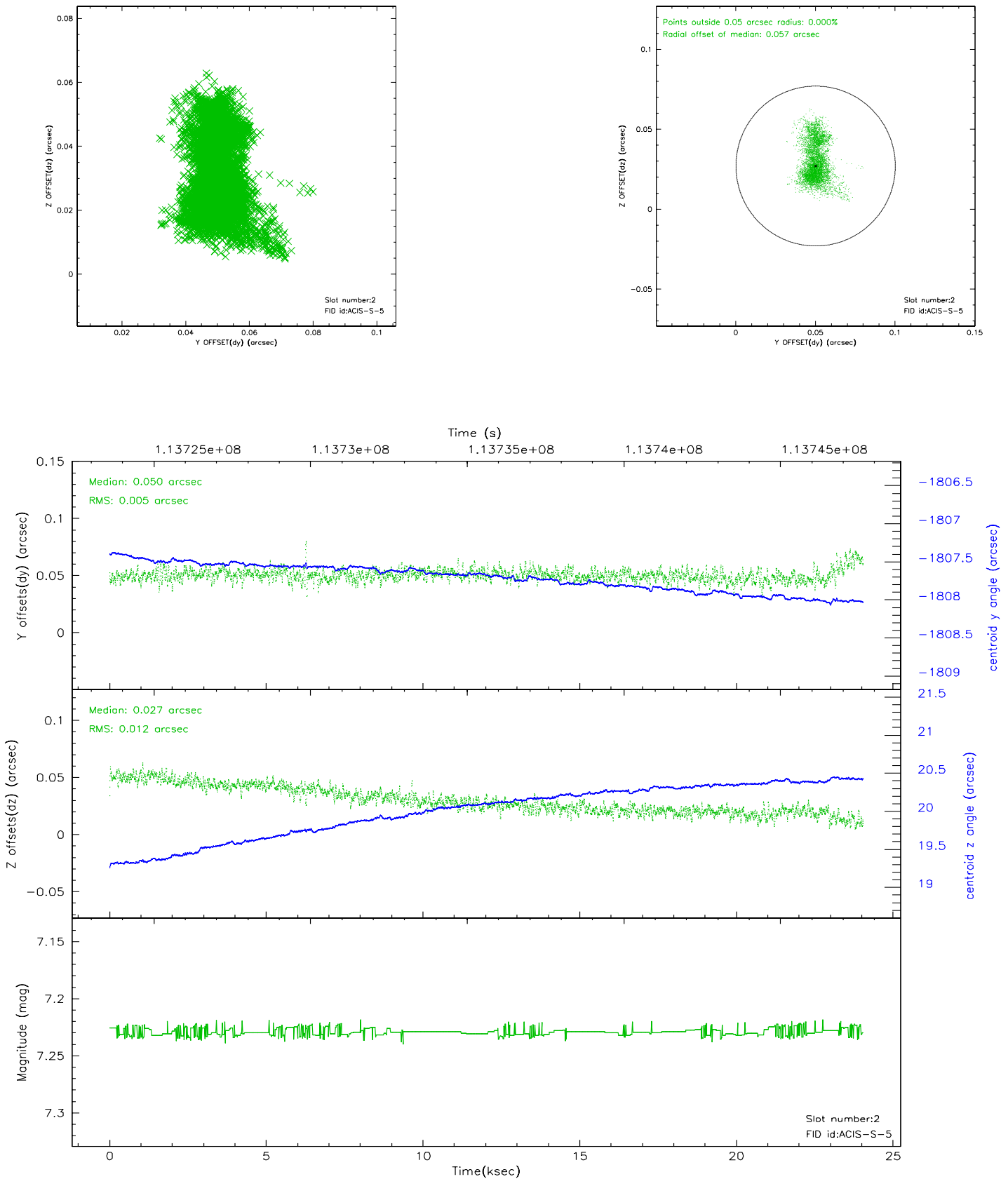
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

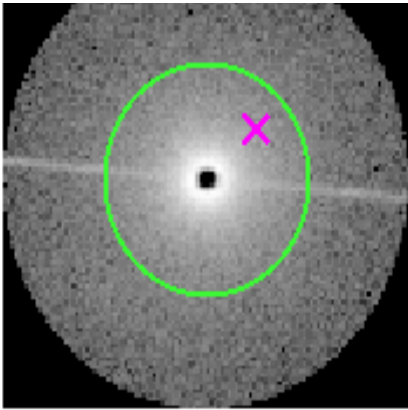


3 Gratings

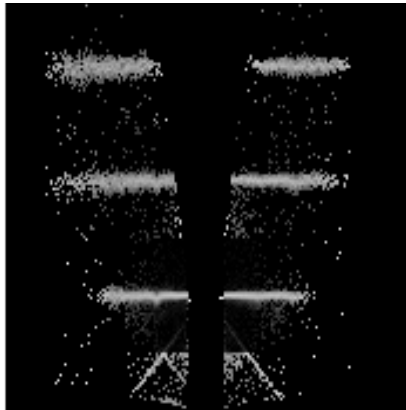
3.1 HEG Arm



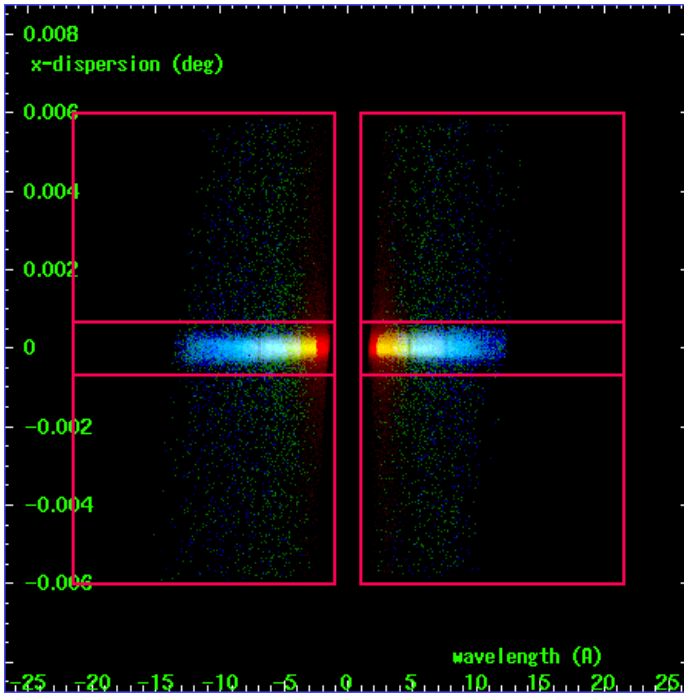
HEG Order Sort 123



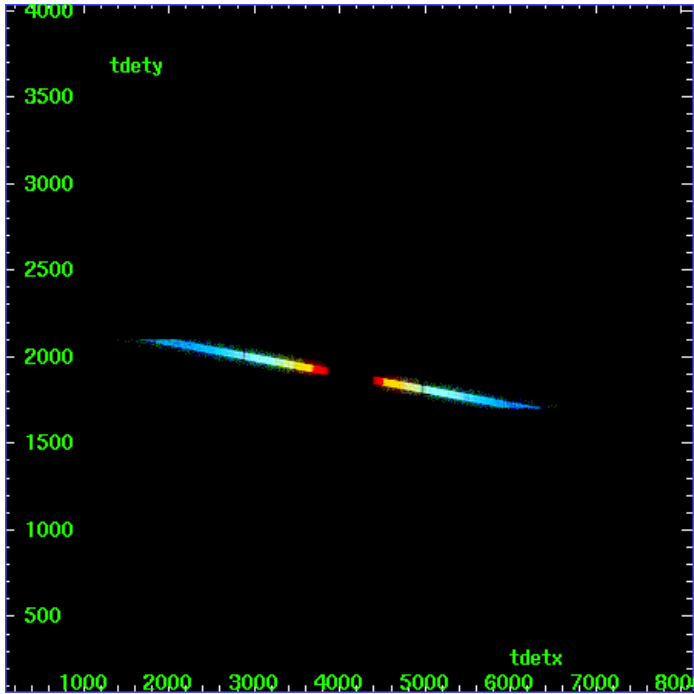
HEG Zero Order



HEG Order Sort ALL

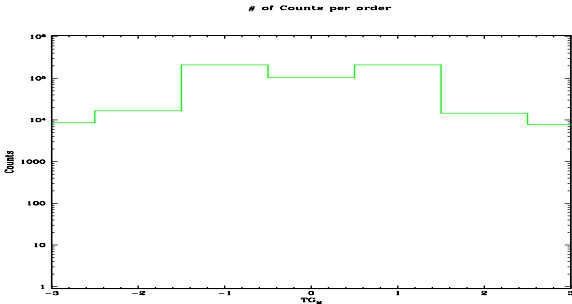


Spot Image HEG

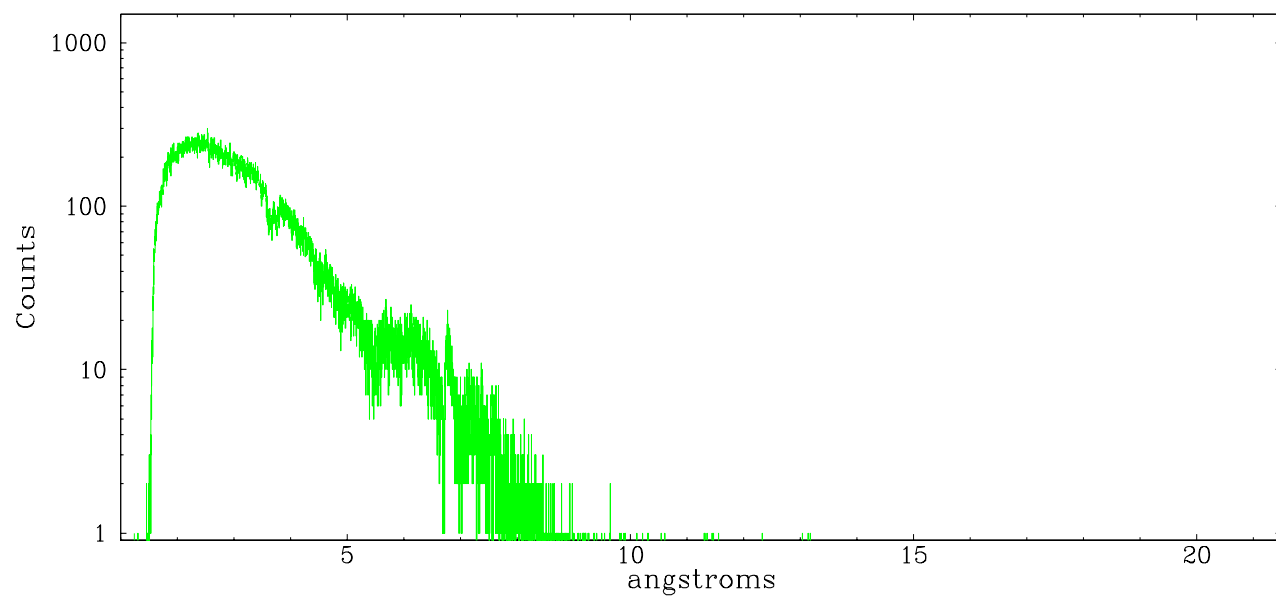


Full Detector HEG

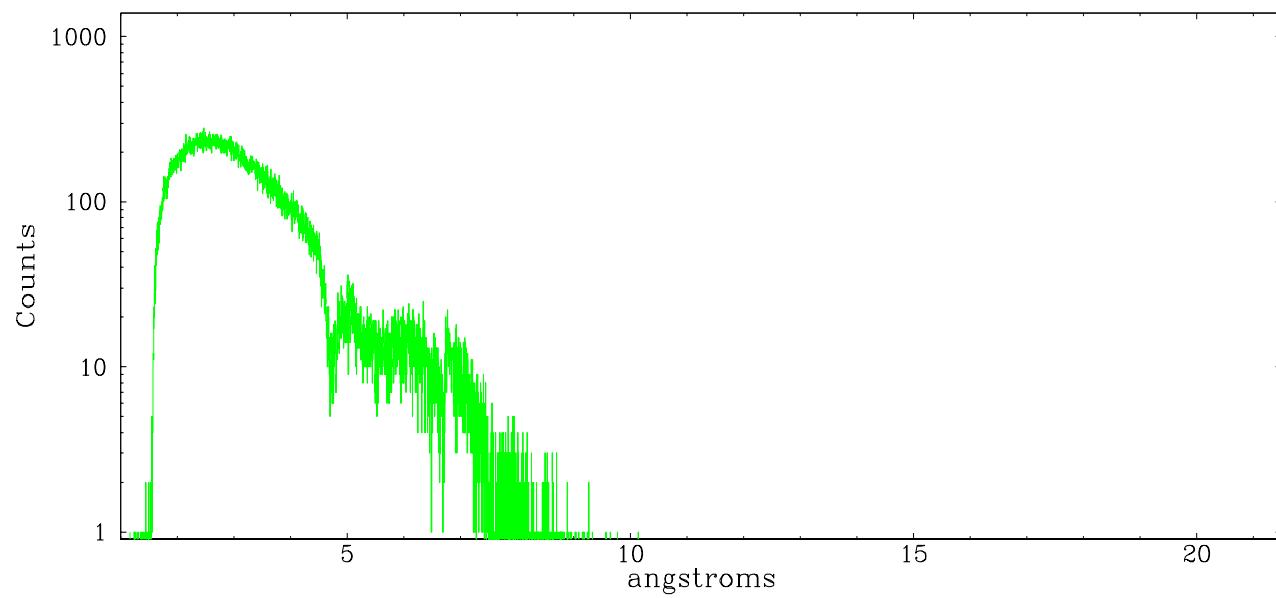
| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|---------|---------|------------|------------|
| Events | 8696 | 16525 | 210479 | 102580 | 209372 | 14547 | 7741 |



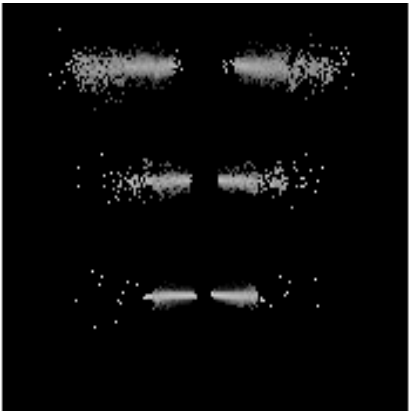
heg order -1



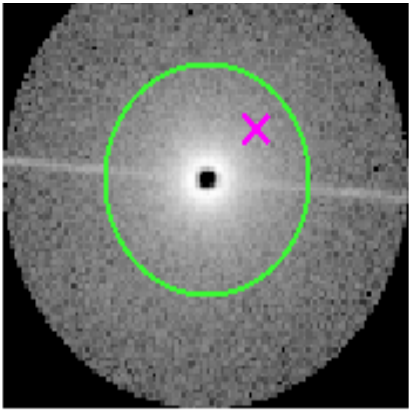
heg order +1



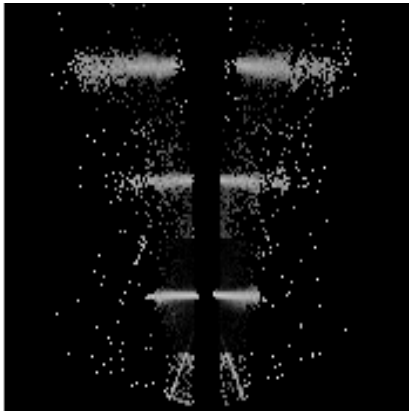
3.2 MEG Arm



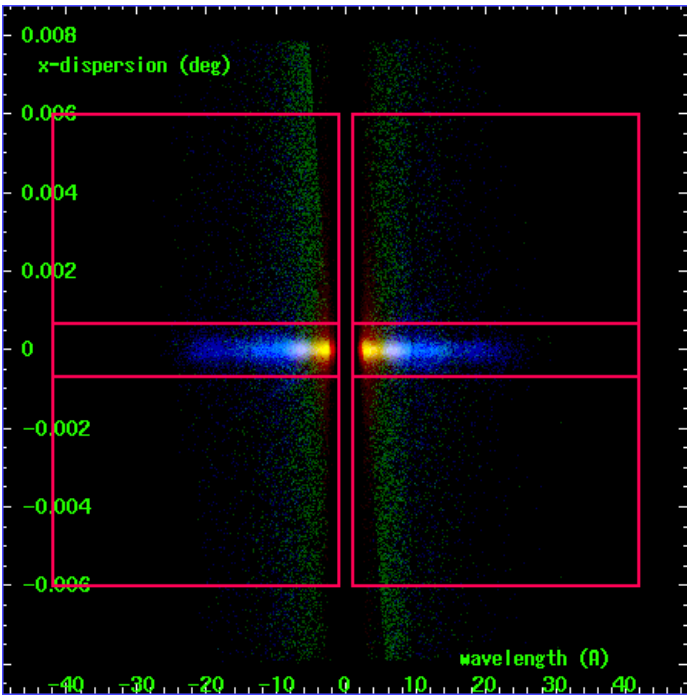
MEG Order Sort 123



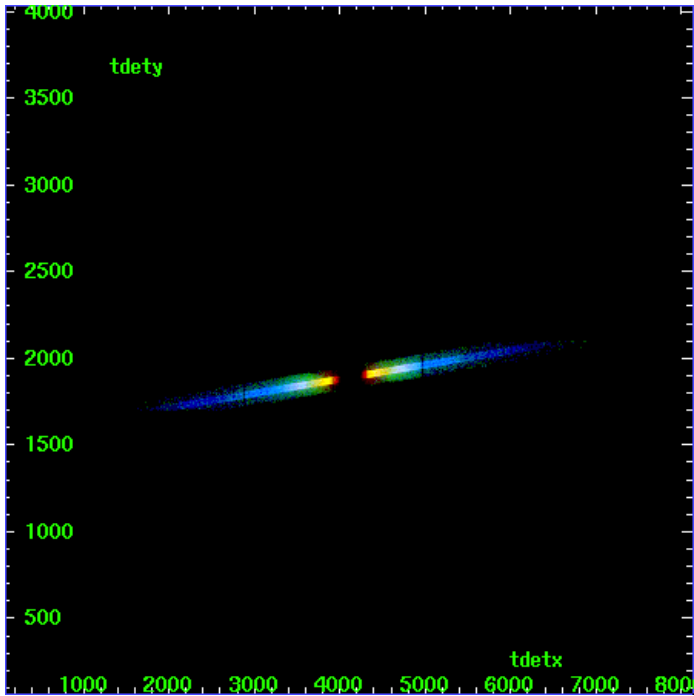
MEG Zero Order



MEG Order Sort ALL

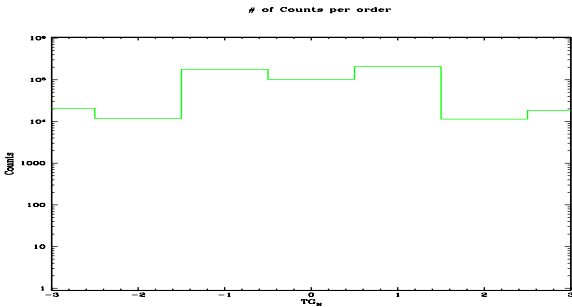


Spot Image MEG

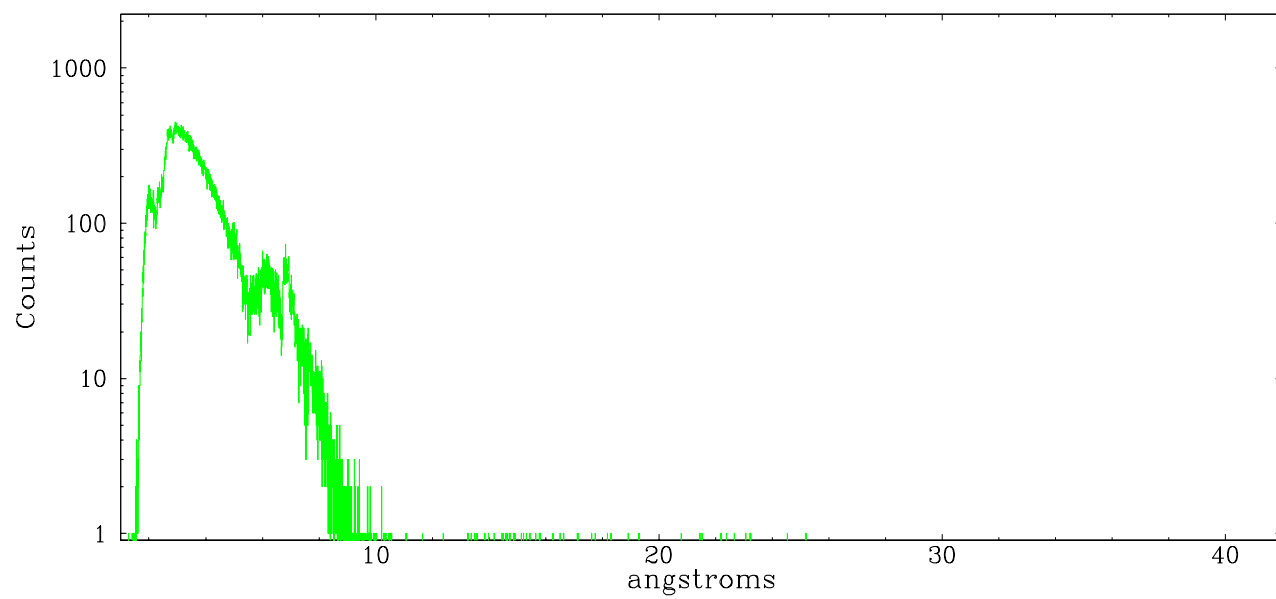


Full Detector MEG

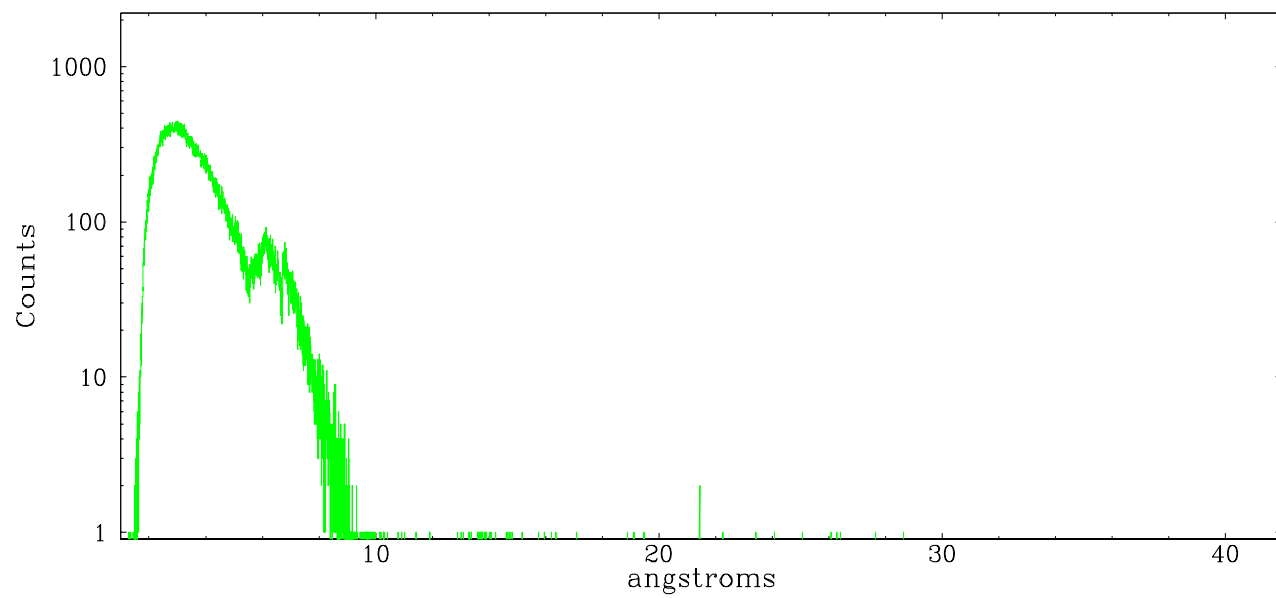
| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|---------|---------|------------|------------|
| Events | 20735 | 11828 | 178472 | 102580 | 208609 | 11342 | 18453 |



meg order -1



meg order +1



A Summary

A.1 Status

| | |
|----------------------------|--------------------|
| V&V Scientist | David Huenemoerder |
| V&V Date (YYYY-MM-DD) | 2006.12.29 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 24.043 |

A.2 Comments

Due to pileup of the zeroth order, tgdetect did not appear to give the correct position. Findzero results for meg of x0=4082.00; y0=4083.55 were used as the zeroth order position.

Grating spectra are probably slightly piled, since they show faintly in an image made from bad events.