

V&V Reference Report

L2 ASCDS Version : 7.6.9

Observation 1907 - L2 Version 001
Chandra X-Ray Center

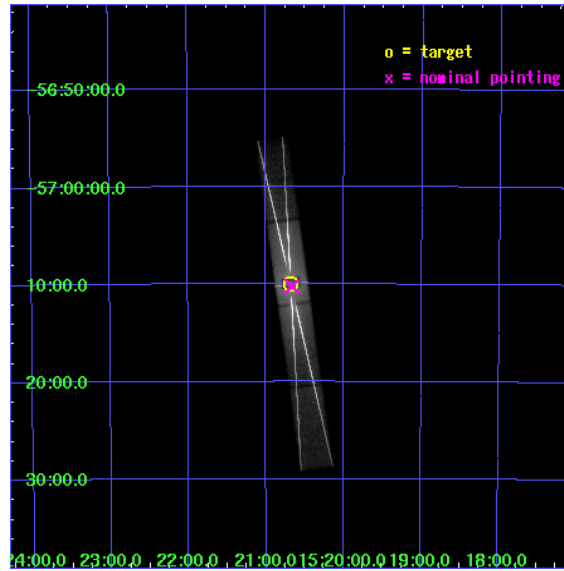
L2 Processing Date : Dec 27 2006

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1 Front

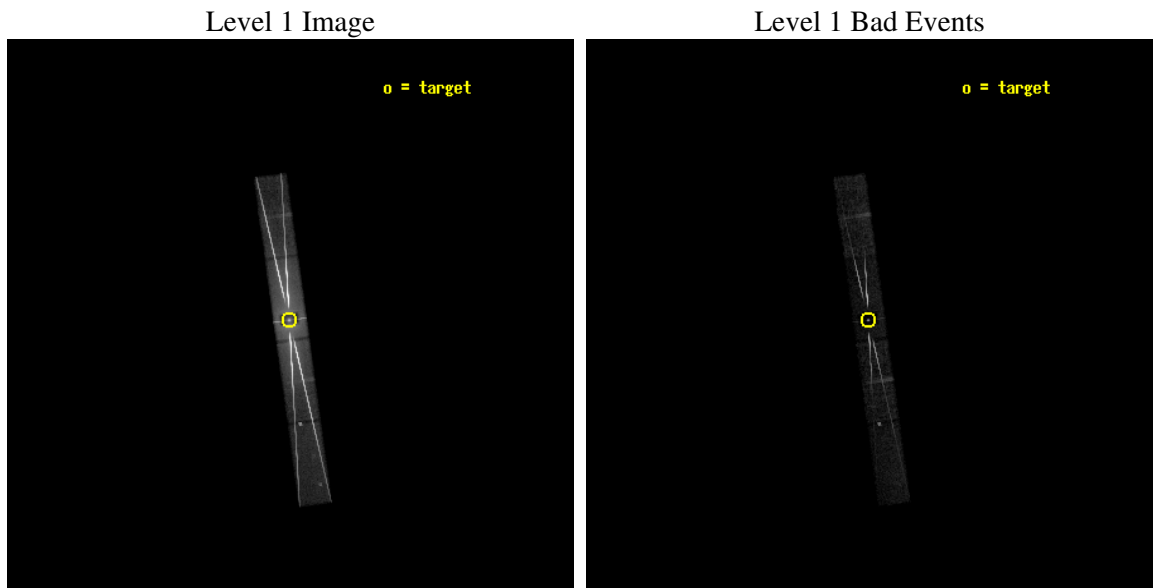
| | |
|----------|---|
| seq_num | 400120 |
| obs_id | 1907 |
| title | PHASE RESOLVED SPECTROSCOPY OF THE X-RAY P-CYGNI PROFILES FROM CIRCINUS X-1 |
| observer | Prof. William Brandt |
| object | CIR X-1 |
| dtcycle | 0 |
| cycle | P |
| ra_targ | 230.170833 |
| dec_targ | -57.166667 |
| ra_nom | 230.16668952697 |
| dec_nom | -57.17055361166 |
| roll_nom | 262.03948819461 |
| revision | 3 |
| ontime | 8213.3999811709 |
| livetime | 7962.0443652107 |
| ontime5 | 8213.3999811709 |
| ontime6 | 8213.3999811709 |
| ontime7 | 8213.3999811709 |
| ontime8 | 8213.3999811709 |
| l2events | 1181150 |



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 | 2006-12-19T10:50:44 |
| revision | 3 |

| | |
|----------------|-----------------|
| sched_exp_time | 7634.319000 |
| ontime | 8215.1060636044 |
| ontime5 | 8215.1060636044 |
| ontime6 | 8215.1060636044 |
| ontime7 | 8215.1060636044 |
| ontime8 | 8215.1060636044 |
| l1events | 1376087 |

2.1.3 Events

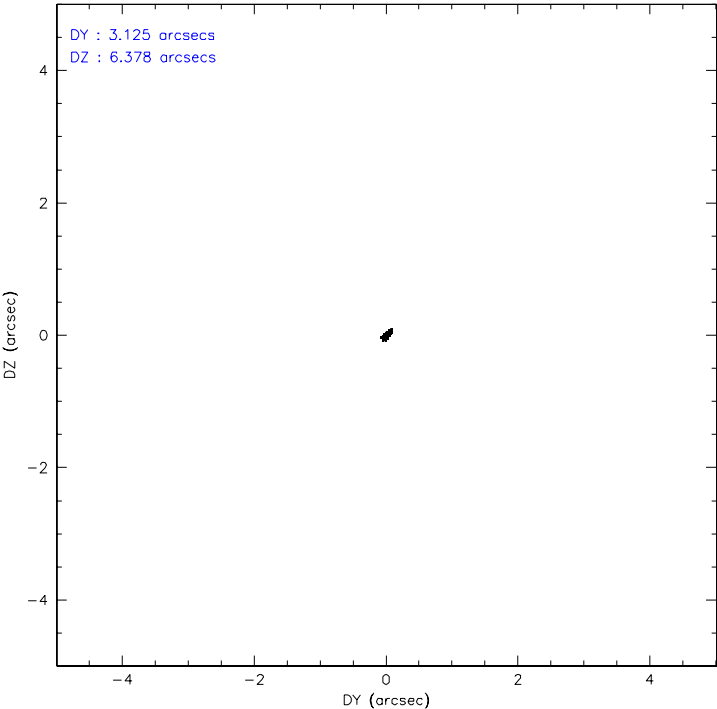
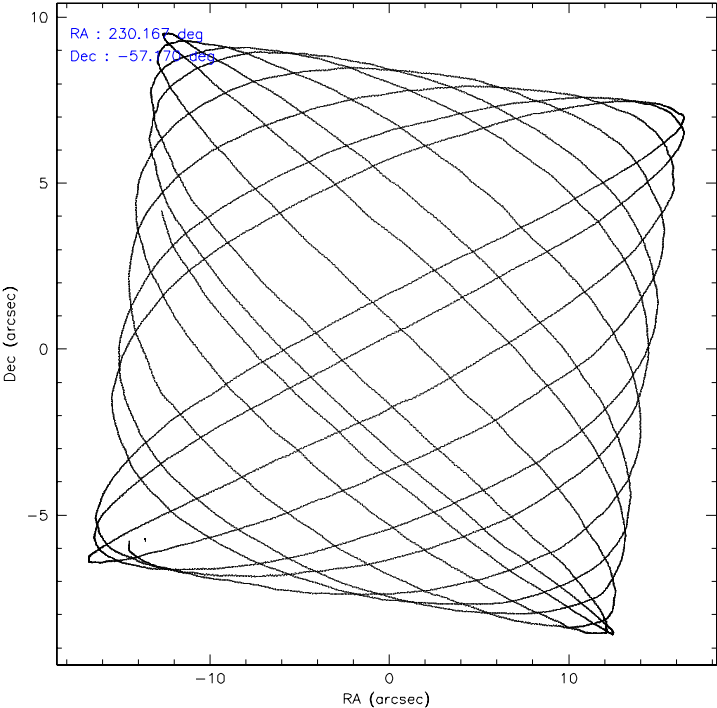
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|--------|--------|--------|
| level 1 events | 85725 | 507538 | 630564 | 152260 |
| rejected events | 20121 | 44241 | 58624 | 27726 |
| rejected % | 23% | 8% | 9% | 18% |

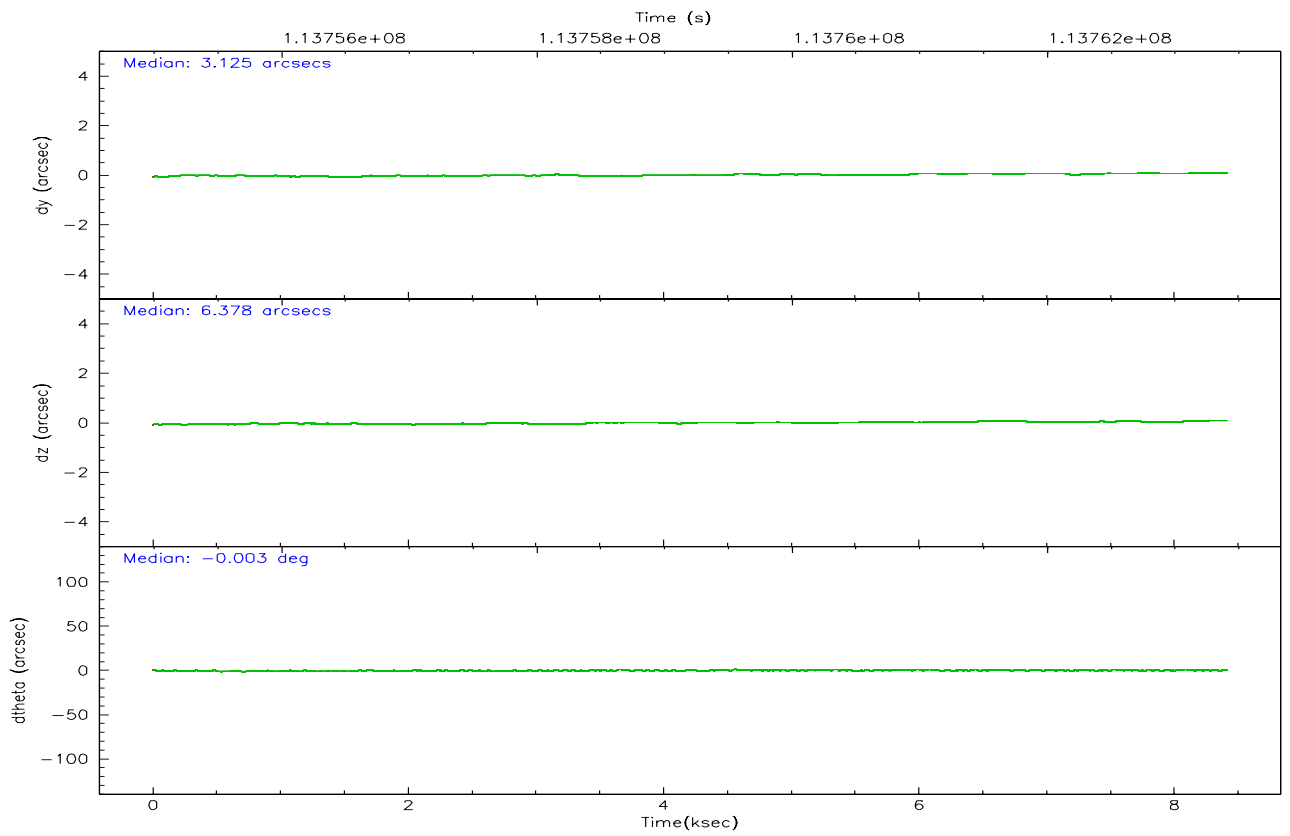
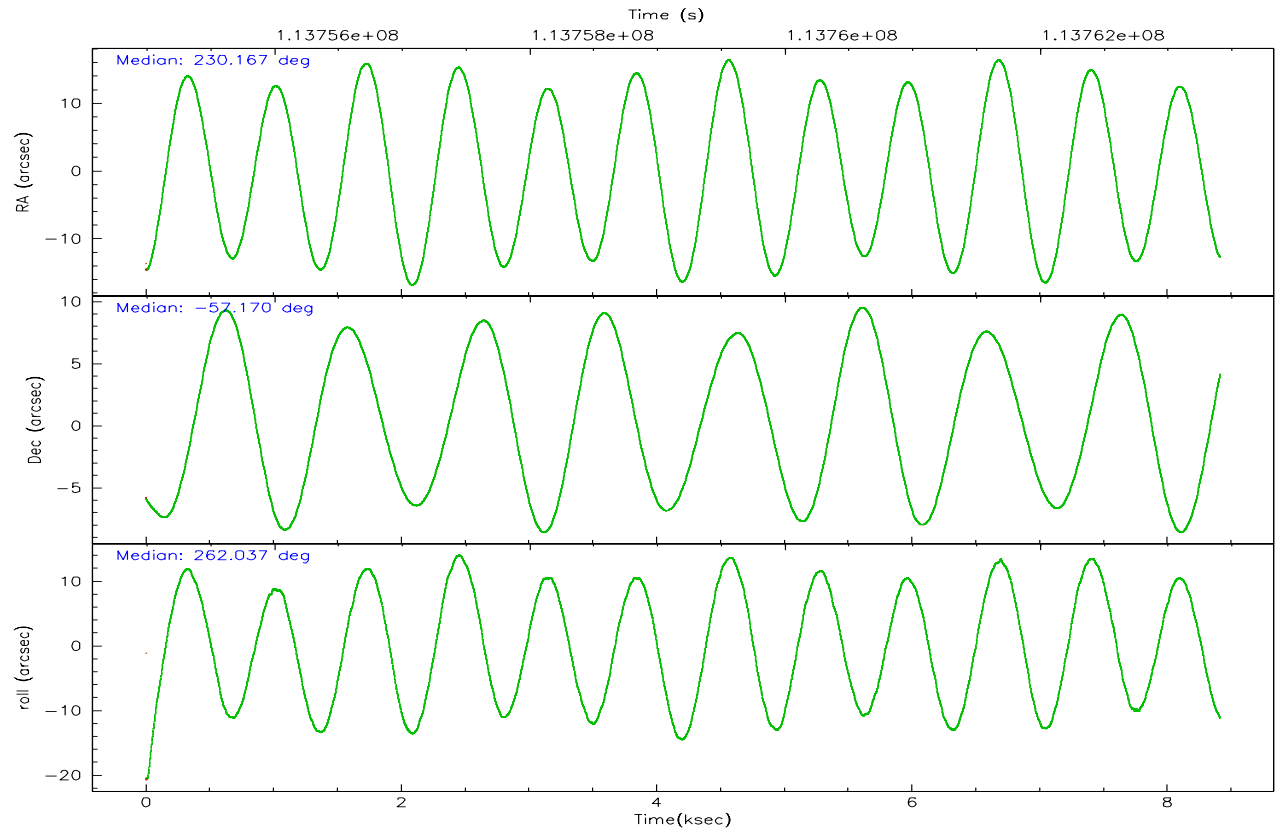
| | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|--------|--------|-------|
| grade 0 events | 15109 | 320870 | 95980 | 92993 |
| | 17% | 63% | 15% | 61% |
| grade 1 events | 1109 | 8322 | 2662 | 620 |
| | 1% | 1% | 0% | 0% |
| grade 2 events | 21892 | 65182 | 145205 | 14959 |
| | 25% | 12% | 23% | 9% |
| grade 3 events | 4759 | 23336 | 55261 | 5405 |
| | 5% | 4% | 8% | 3% |
| grade 4 events | 4653 | 22853 | 54682 | 5392 |
| | 5% | 4% | 8% | 3% |
| grade 5 events | 2686 | 8383 | 16842 | 1498 |
| | 3% | 1% | 2% | 0% |
| grade 6 events | 19206 | 31153 | 220930 | 5804 |
| | 22% | 6% | 35% | 3% |
| grade 7 events | 16311 | 27439 | 39002 | 25589 |
| | 19% | 5% | 6% | 16% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 6 | 6 |
| Detector | ACIS-5678 | ACIS-5678 | 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 | 230.147282 | 230.1666895269704 | Subarray requested | CUSTOM | CUSTOM |
| Pointing Dec | -57.145318 | -57.17055361165989 | Subarray start row | 15 | 15 |
| Pointing Roll | 261.866556 | 262.0394881946116 | 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 | 1.3 |
| SIM translation stage pos (mm) | -182.832523 | -182.8384944141416 | | | |
| SIM translation stage offset (mm) | -7.3 | -7.294028168866163 | | | |
| Phase constraints | Y | Y | | | |
| Phase period | 16.536700 | 16.536700 | | | |
| Phase epoch | 52100.241000 | 52100.241000 | | | |
| Phase start | 0.830000 | 0.830000 | | | |
| Phase end | 0.870000 | 0.870000 | | | |
| Phase start error | 0.020000 | 0.020000 | | | |
| Phase end error | 0.020000 | 0.020000 | | | |
| Observation start time | 113755772.184000 | 113754516.82833 | | | |
| Observation start date | 2001-08-09T14:48:28 | 2001-08-09T14:28:36 | | | |
| Observation end time | 113763406.184000 | 113763720.81619 | | | |
| Observation end date | 2001-08-09T16:55:42 | 2001-08-09T17:02:00 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



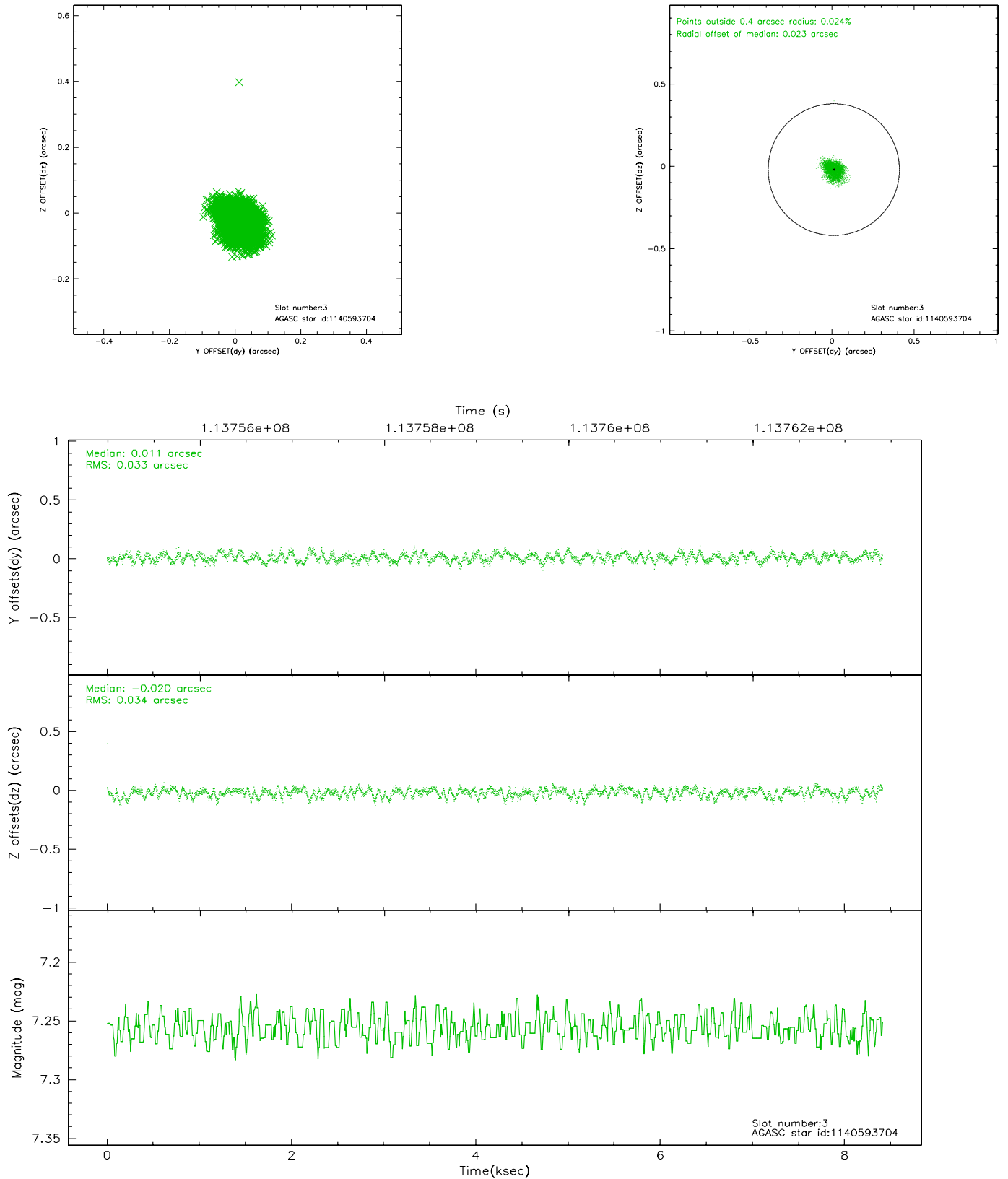


Slot Statistics

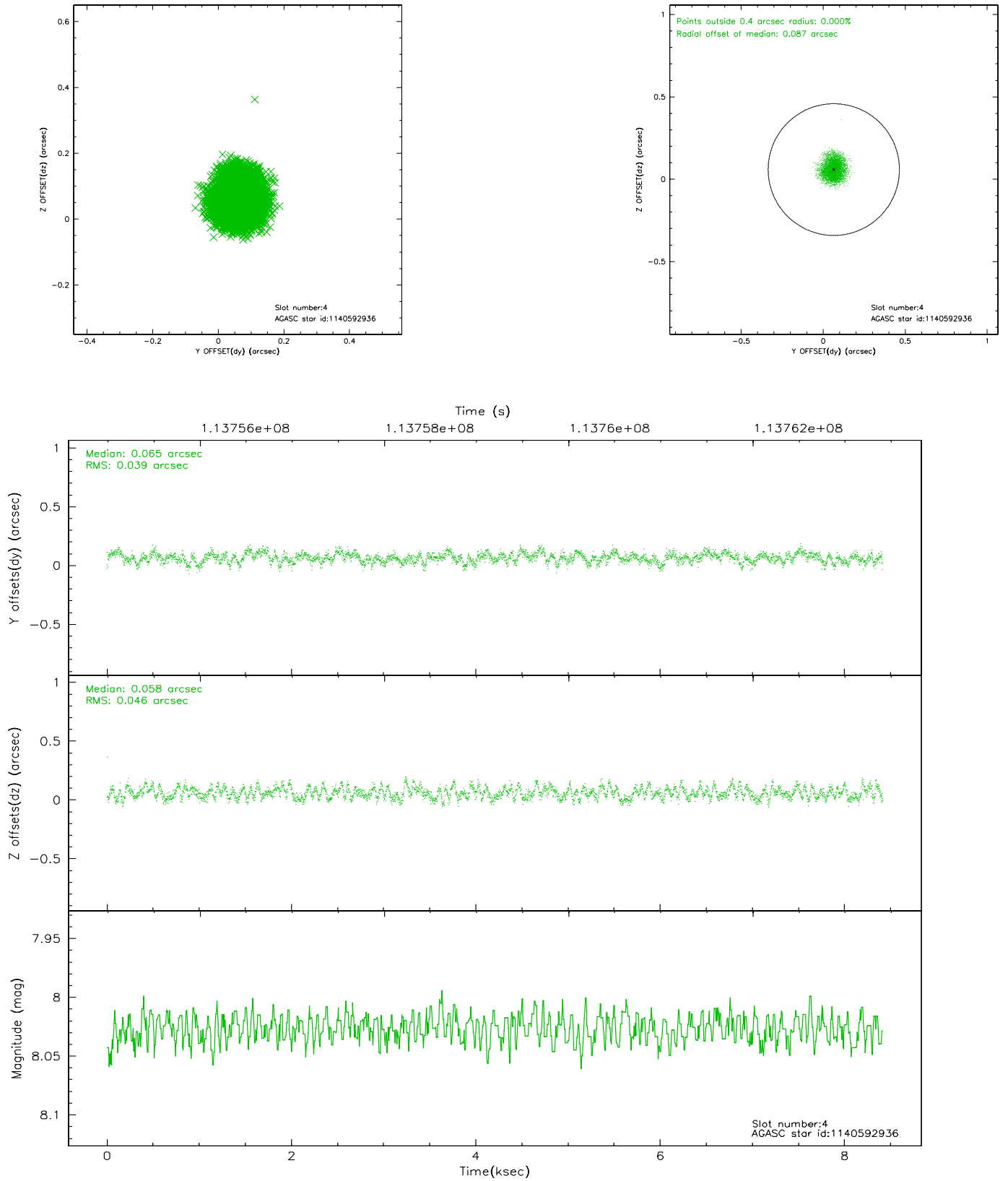
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|------------|------------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.09 | 2053 | -0.021 | -0.068 | 0.009 | 0.014 | 0.000000 | 0.000000 | -755.31 | -1877.87 |
| 1 | FID | ACIS-S-4 | 7.19 | 2053 | -0.062 | 0.028 | 0.006 | 0.009 | 0.000000 | 0.000000 | 2157.66 | 29.89 |
| 2 | FID | ACIS-S-5 | 7.23 | 2053 | 0.051 | 0.048 | 0.007 | 0.012 | 0.000000 | 0.000000 | -1807.20 | 24.41 |
| 3 | GUIDE | 1140593704 | 7.26 | 4105 | 0.011 | -0.020 | 0.051 | 0.078 | 229.741417 | -57.540991 | 1524.52 | -574.82 |
| 4 | GUIDE | 1140592936 | 8.03 | 4104 | 0.065 | 0.058 | 0.066 | 0.099 | 228.953111 | -57.013969 | -114.99 | -2381.43 |
| 5 | GUIDE | 1140722888 | 8.10 | 4105 | -0.005 | -0.048 | 0.053 | 0.086 | 230.457489 | -57.599243 | 1535.44 | 822.80 |
| 6 | GUIDE | 1140723840 | 8.58 | 4103 | -0.001 | -0.090 | 0.064 | 0.106 | 230.379592 | -56.994965 | -598.03 | 374.15 |
| 7 | GUIDE | 1140726312 | 8.88 | 4104 | -0.071 | 0.103 | 0.074 | 0.118 | 231.010622 | -56.676215 | -1901.80 | 1452.49 |

2.4 Star Slots

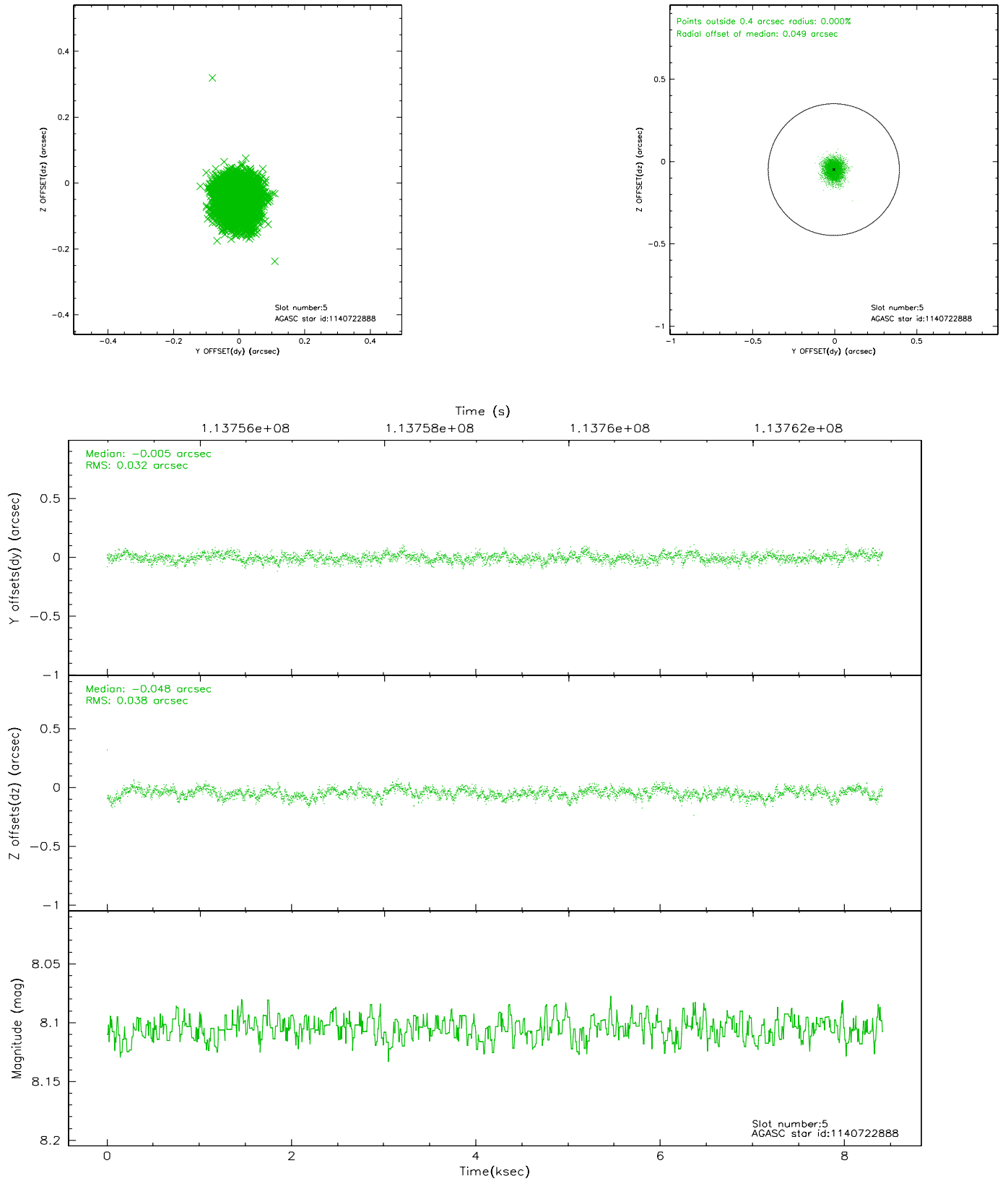
2.4.1 Slot 3



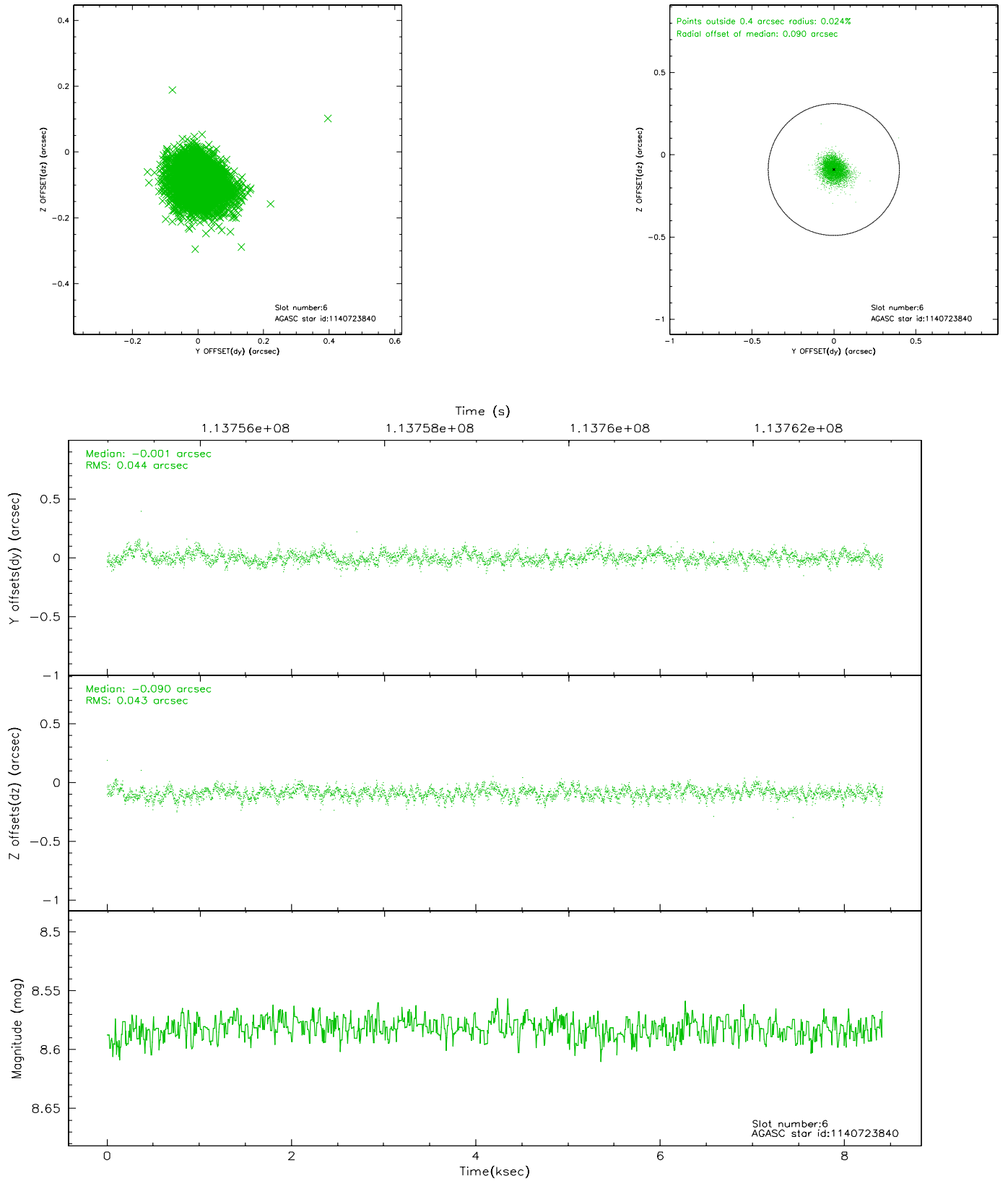
2.4.2 Slot 4



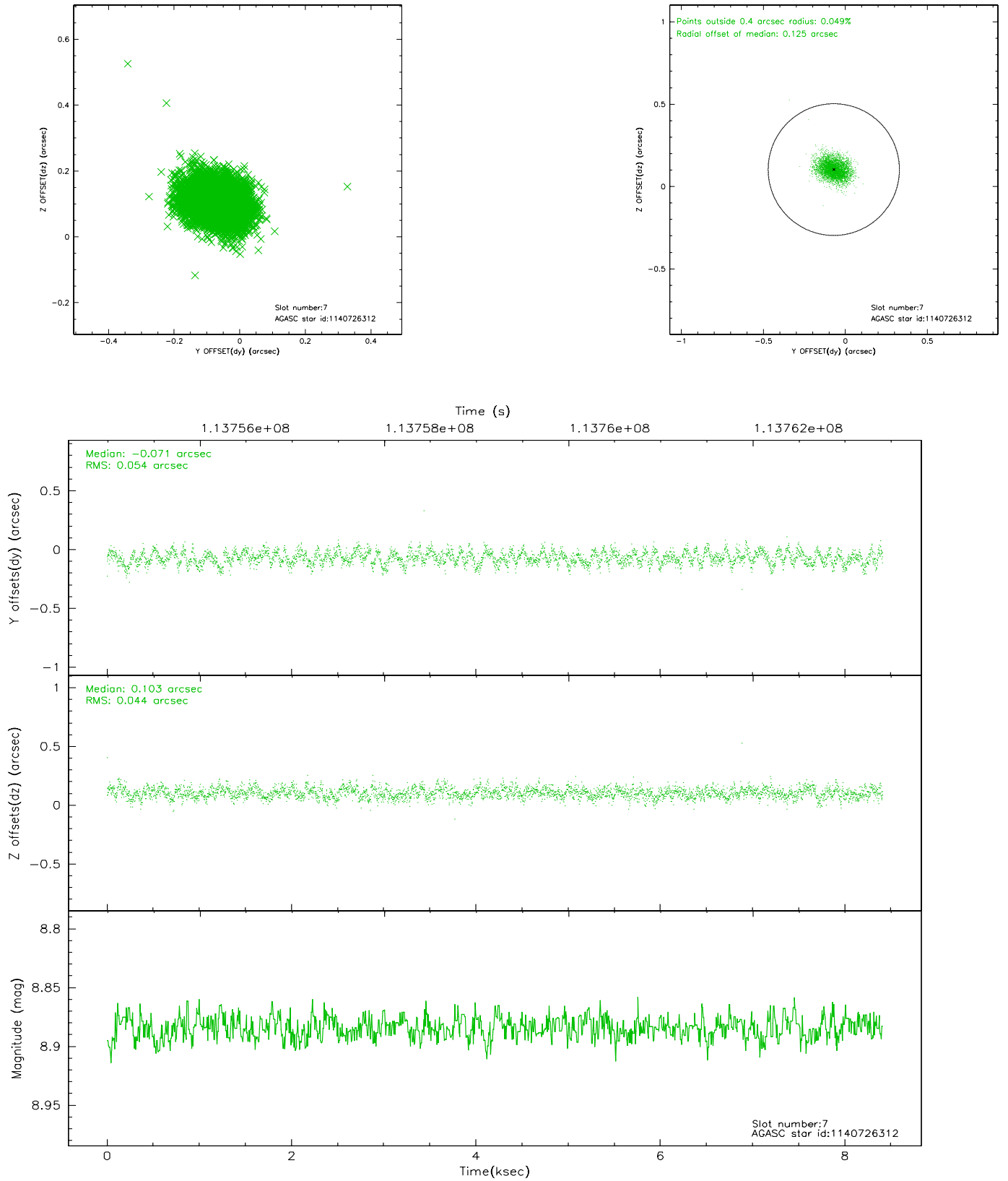
2.4.3 Slot 5



2.4.4 Slot 6

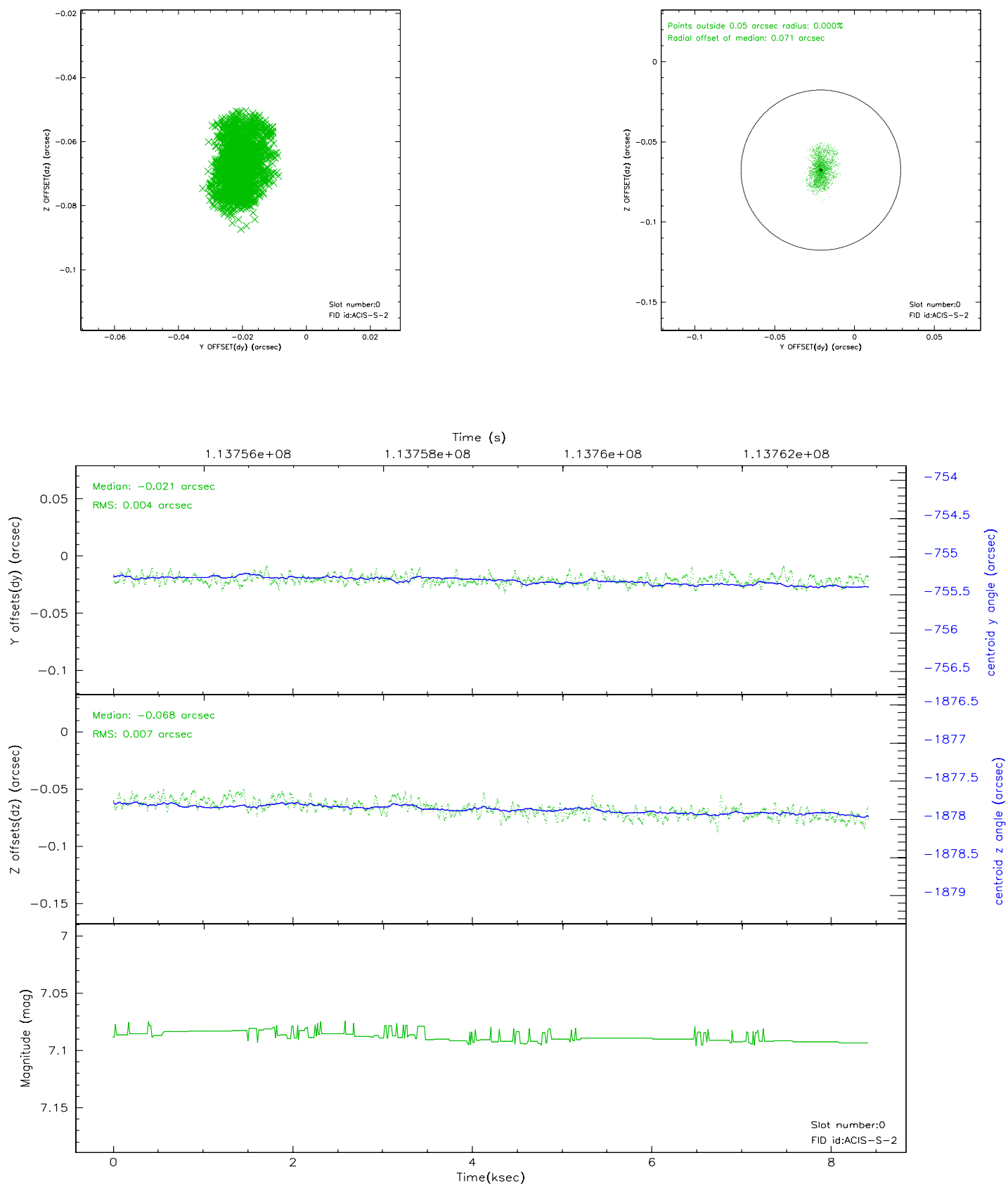


2.4.5 Slot 7

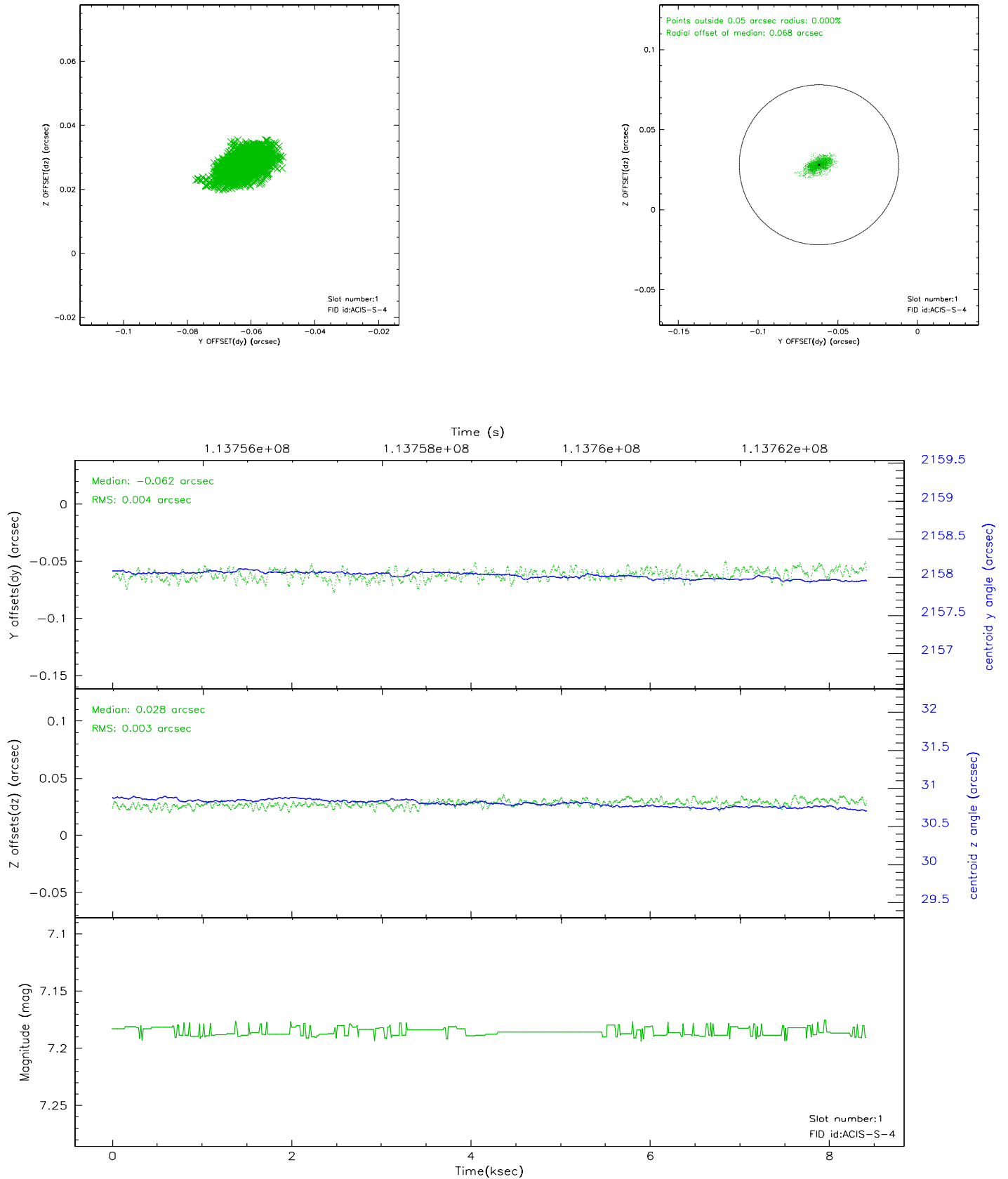


2.5 FID Slots

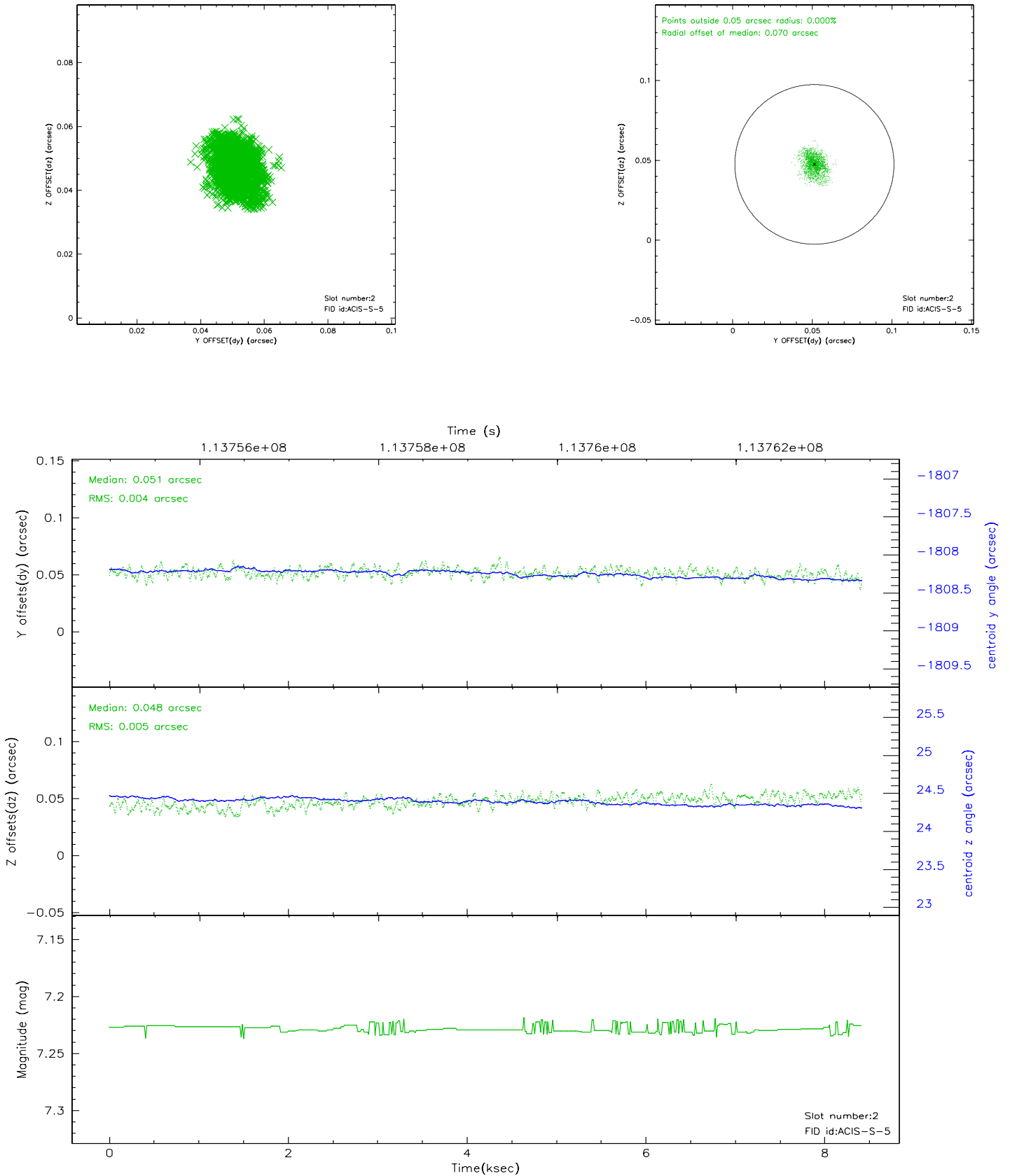
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

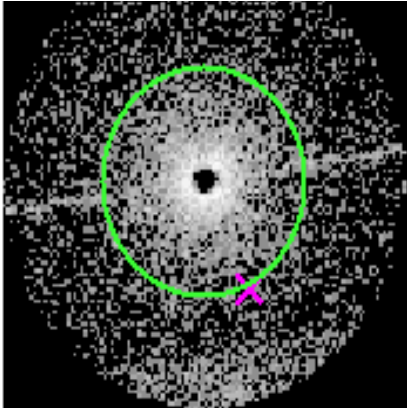


3 Gratings

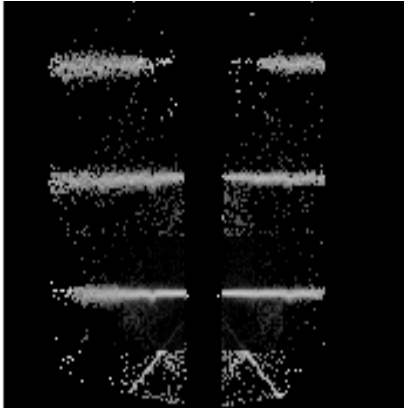
3.1 HEG Arm



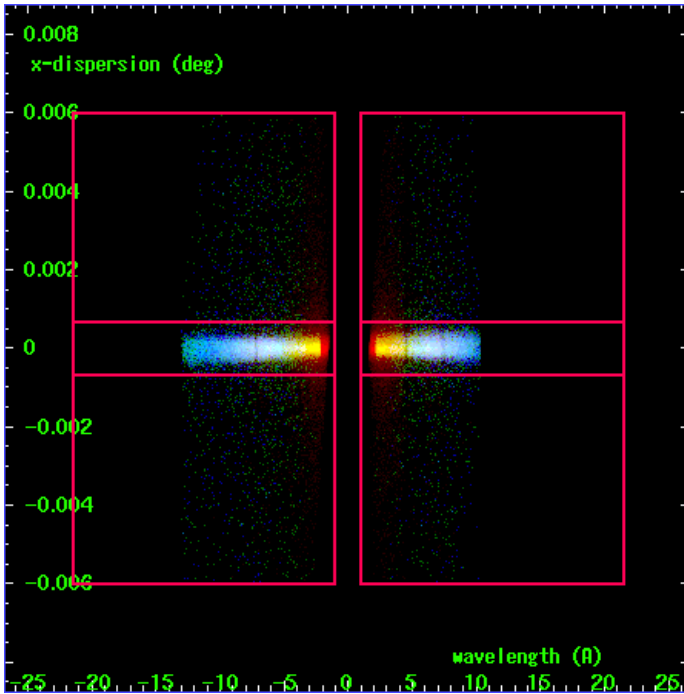
HEG Order Sort 123



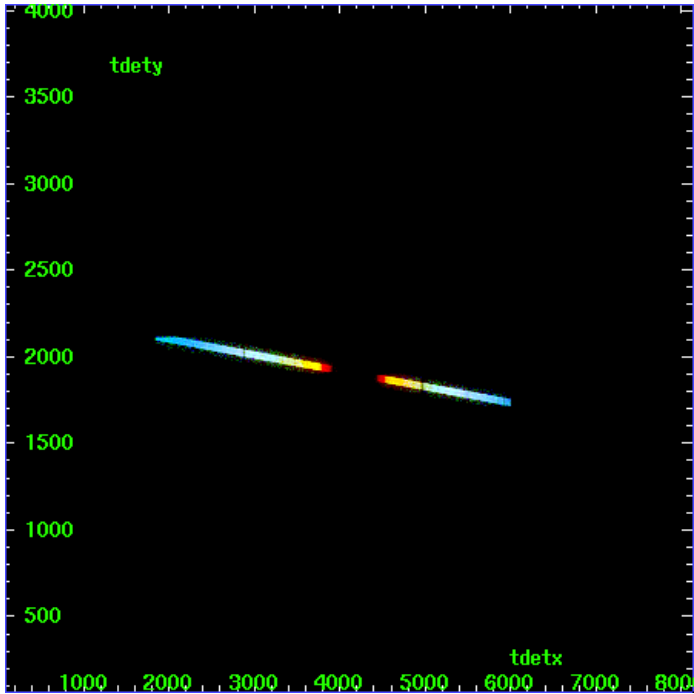
HEG Zero Order



HEG Order Sort ALL

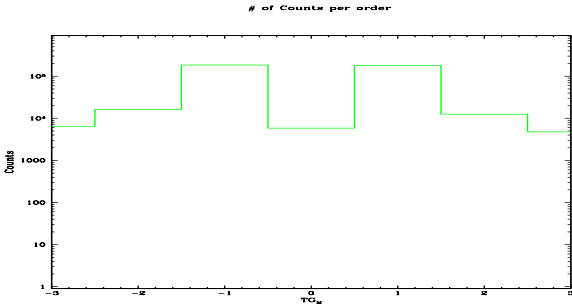


Spot Image HEG

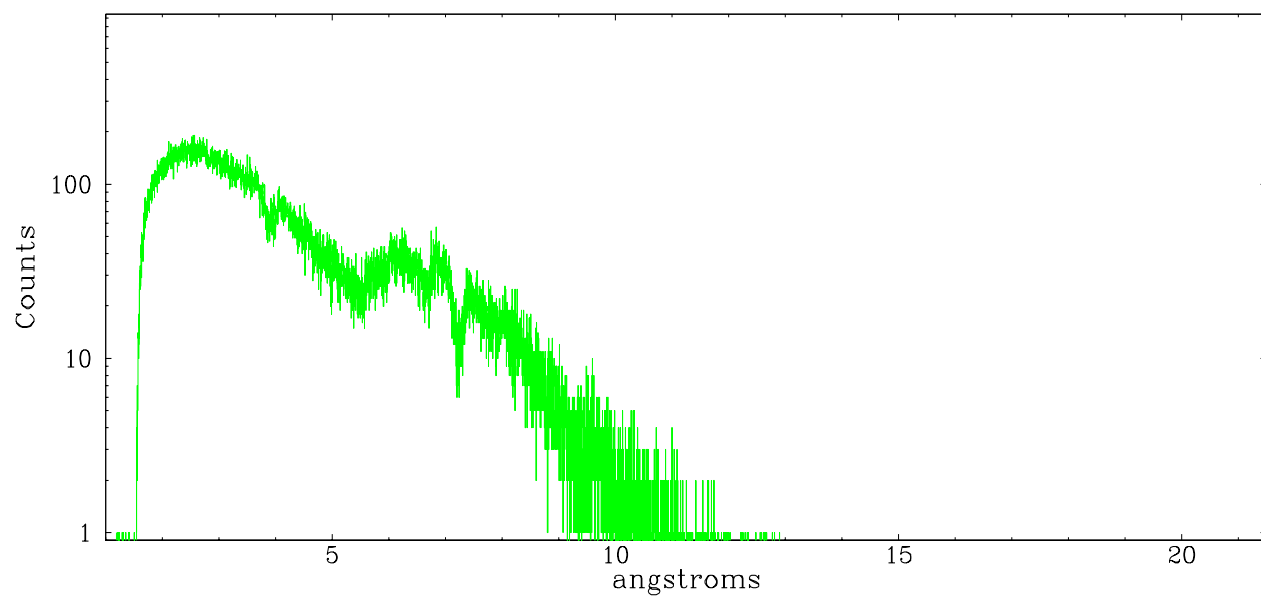


Full Detector HEG

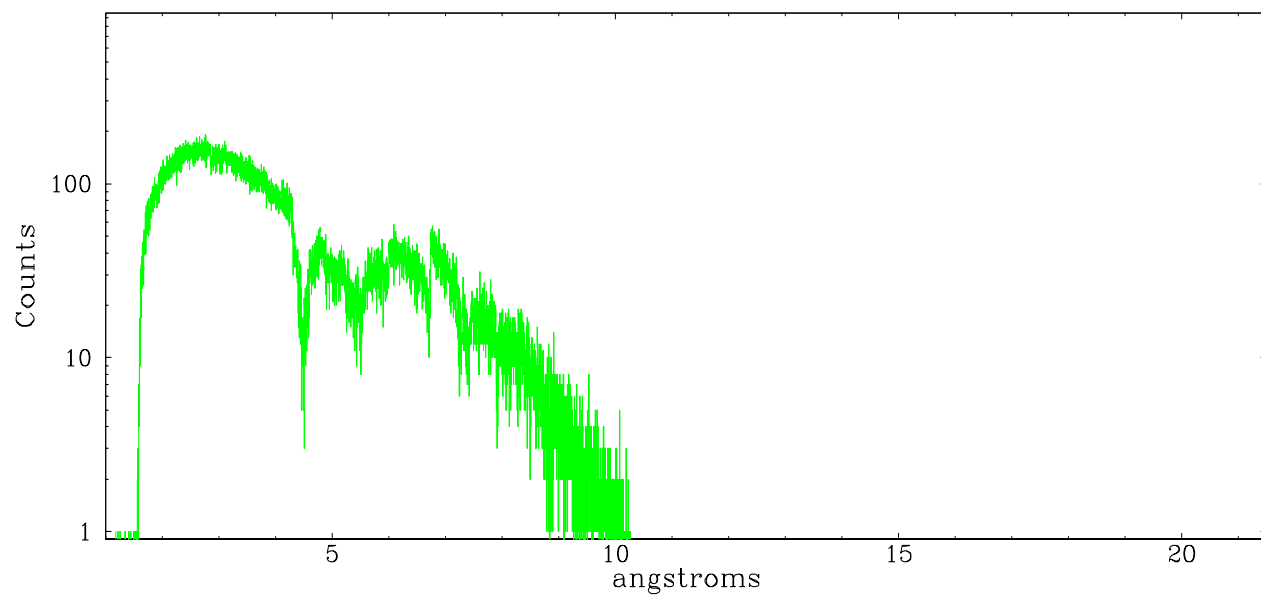
| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|---------|---------|---------|
| Events | 6488 | 16252 | 184231 | 5874 | 178969 | 12538 | 4767 |



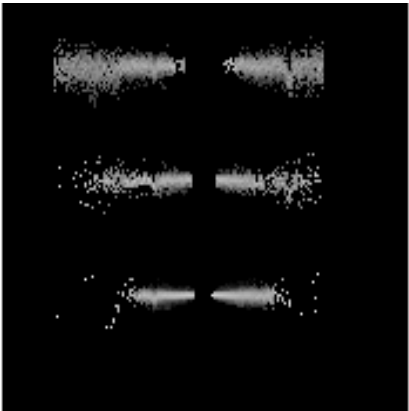
heg order -1



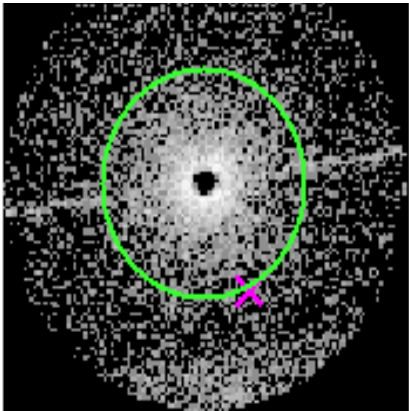
heg order +1



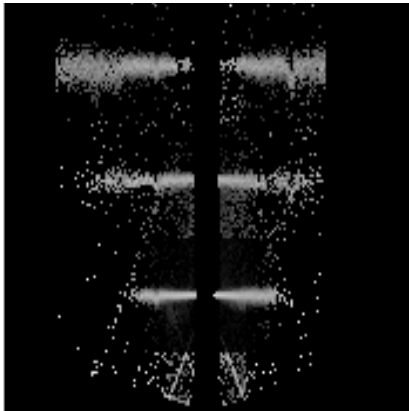
3.2 MEG Arm



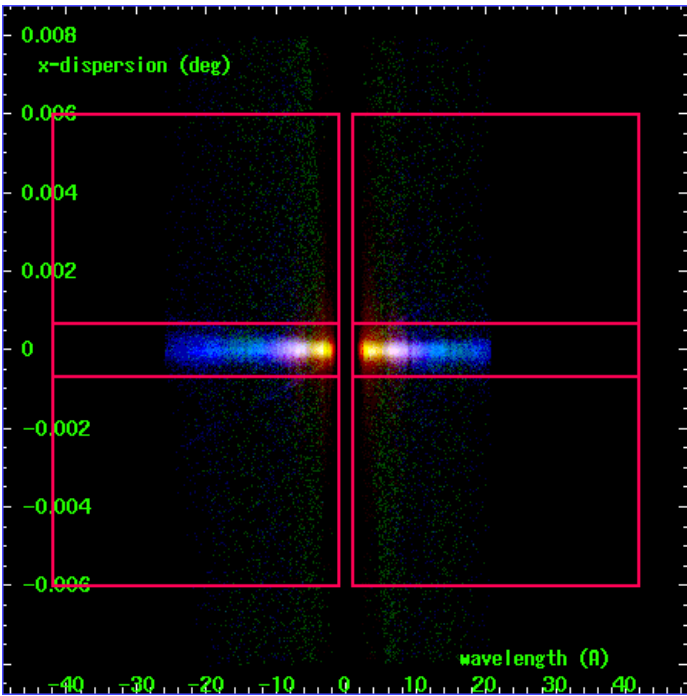
MEG Order Sort 123



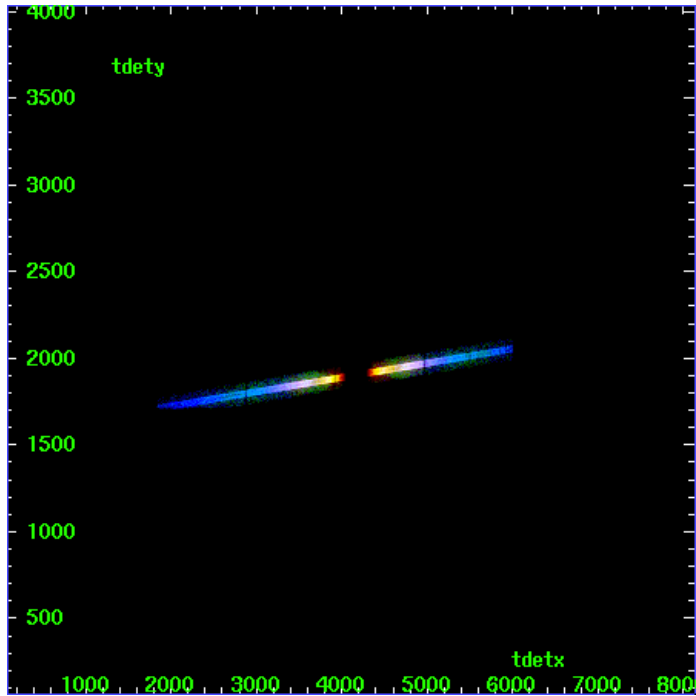
MEG Zero Order



MEG Order Sort ALL

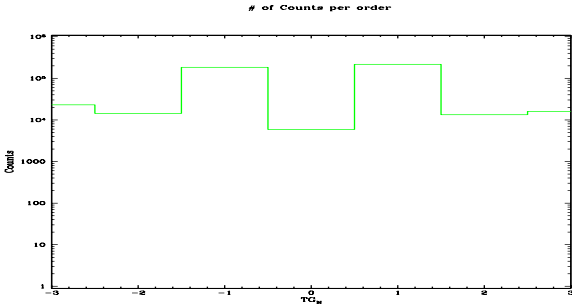


Spot Image MEG

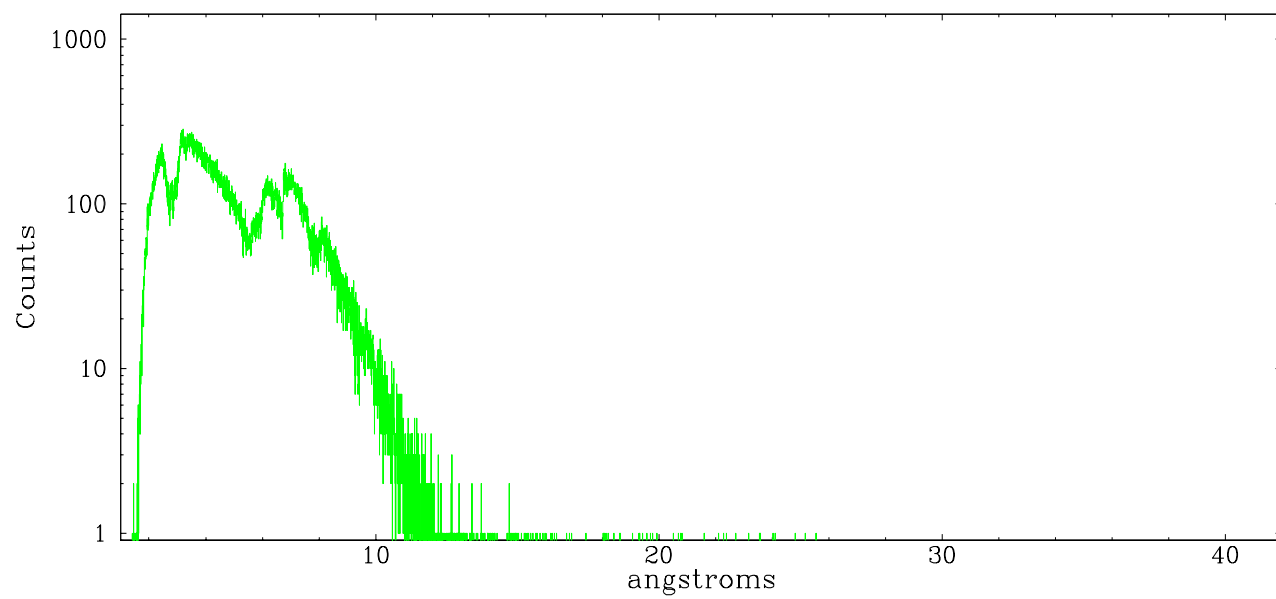


Full Detector MEG

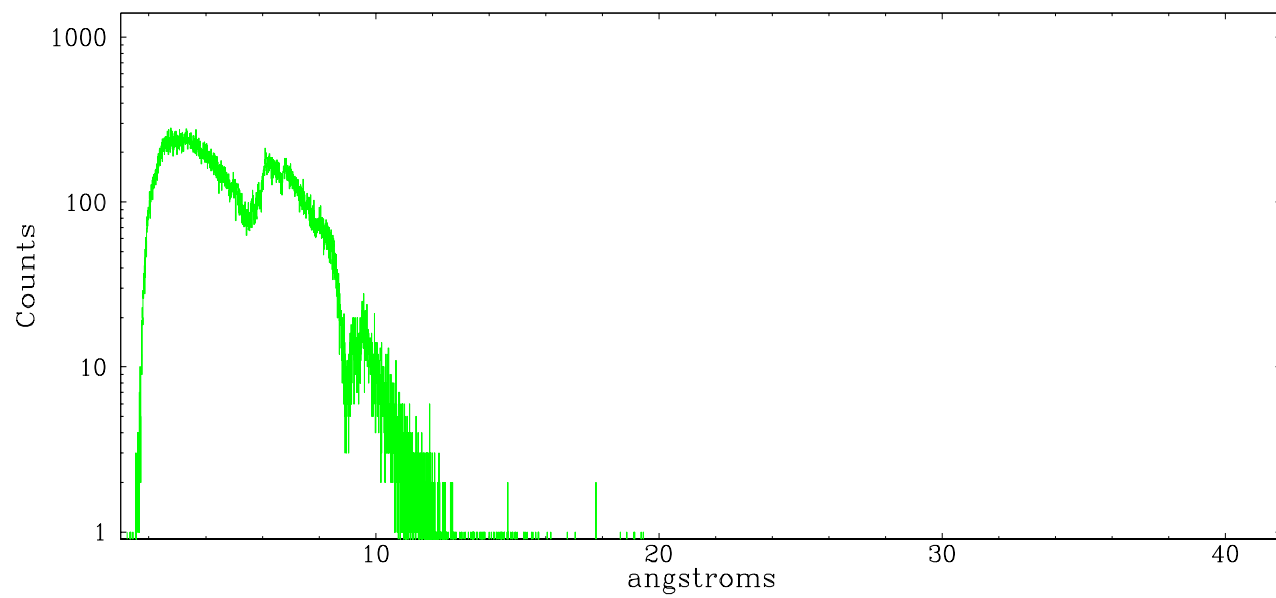
| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|---------|------------|------------|
| Events | 23098 | 14285 | 184103 | 5874 | 215659 | 13270 | 16020 |



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 | 8.213 |

A.2 Comments

Due to pileup of the zeroth order, tgdetect did not appear to give the correct position. Findzero results for meg of $x_0=4082.41$; $y_0=4124.74$ were used as the zeroth order position.

The grating spectra are probably piled, since they show in an image of bad events.

Phase constraint: met; observed $0.836 - 0.842$