

V&V Reference Report

L2 ASCDS Version : 7.6.7.1

Observation 7175 - L2 Version 002
Chandra X-Ray Center

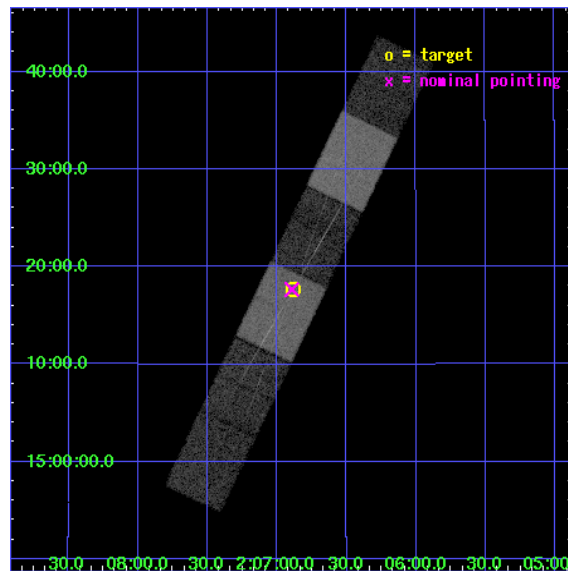
L2 Processing Date : Mar 31 2006

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1 Front

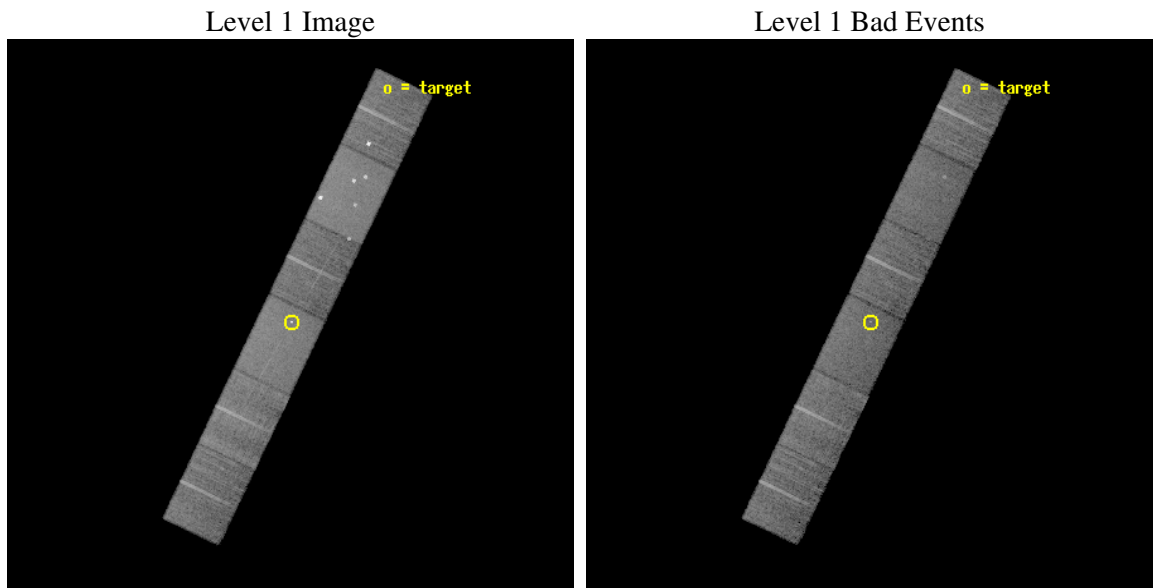
| | |
|----------|--|
| seq_num | 300148 |
| obs_id | 7175 |
| title | Chandra HETG Spectroscopy of the VY Sculptoris Star TT Ari |
| observer | Dr. Christopher Mauche |
| object | TT Ari |
| dtcycle | 0 |
| cycle | P |
| ra_targ | 31.72125 |
| dec_targ | 15.295278 |
| ra_nom | 31.723489333759 |
| dec_nom | 15.294642776951 |
| roll_nom | 115.65603761275 |
| revision | 2 |
| ontime | 15130.0 |
| livetime | 14885.637376822 |
| ontime4 | 15130.0 |
| ontime5 | 15130.0 |
| ontime6 | 15130.0 |
| ontime7 | 15130.0 |
| ontime8 | 15130.0 |
| ontime9 | 15130.0 |
| l2events | 140385 |



2 OBI

2.1 OBI

2.1.1 Images

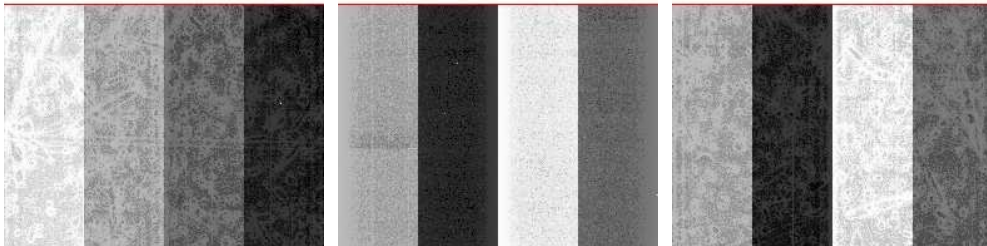


2.1.2 Bias

Chip 4

Chip 5

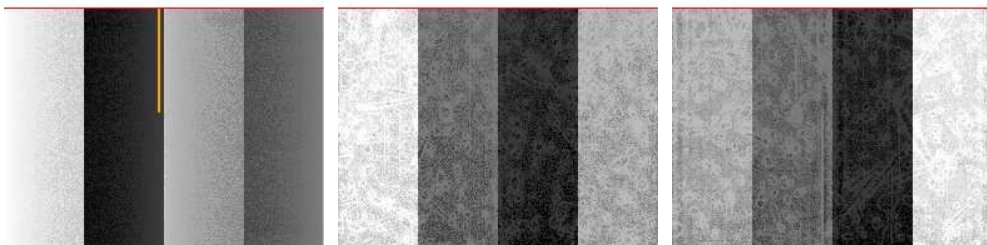
Chip 6



Chip 7

Chip 8

Chip 9



2.1.3 Parameters

| | |
|----------|---------------------|
| obi_num | 0 |
| ascdsver | 7.6.7.1 |
| caldsver | 3.2.1 |
| date | 2006-03-31T22:25:16 |
| revision | 2 |

| | |
|----------------|-----------------|
| sched_exp_time | 15000.000000 |
| ontime | 15139.364177108 |
| ontime4 | 15139.364177108 |
| ontime5 | 15139.364177108 |
| ontime6 | 15139.364177108 |
| ontime7 | 15139.364177108 |
| ontime8 | 15139.364177108 |
| ontime9 | 15139.364177108 |
| l1events | 641556 |

2.1.4 Events

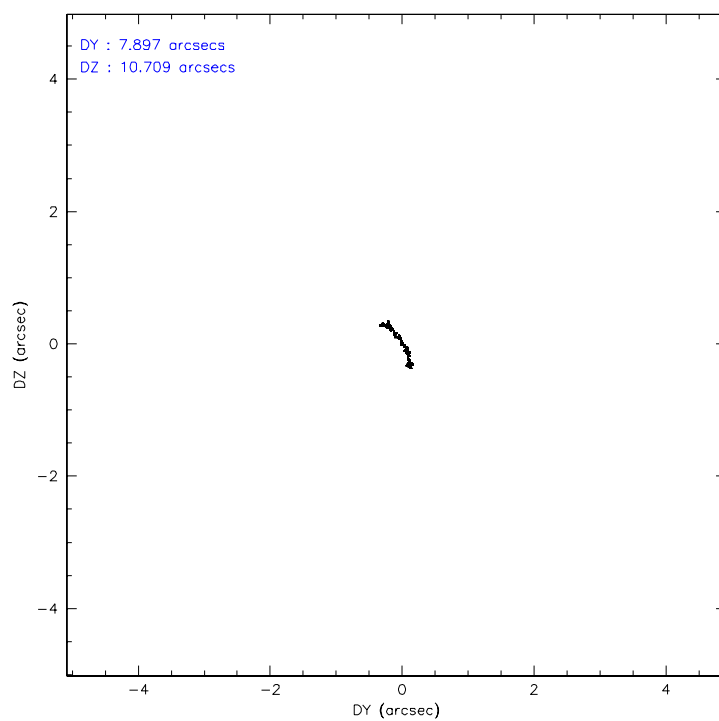
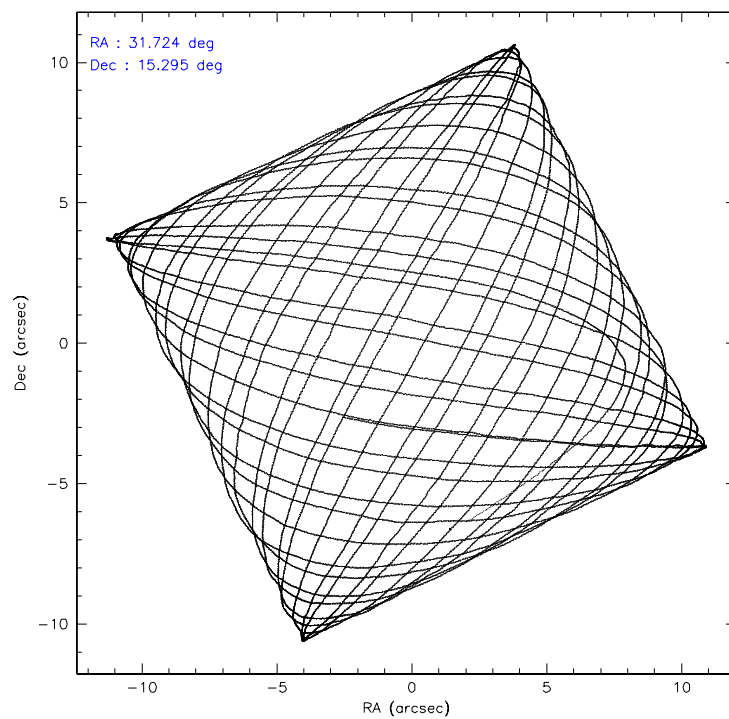
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|-------|--------|-------|--------|--------|-------|
| level 1 events | 99872 | 140338 | 86151 | 120226 | 110349 | 84620 |
| rejected events | 82944 | 73510 | 74825 | 71794 | 85715 | 73837 |
| rejected % | 83% | 52% | 86% | 59% | 77% | 87% |

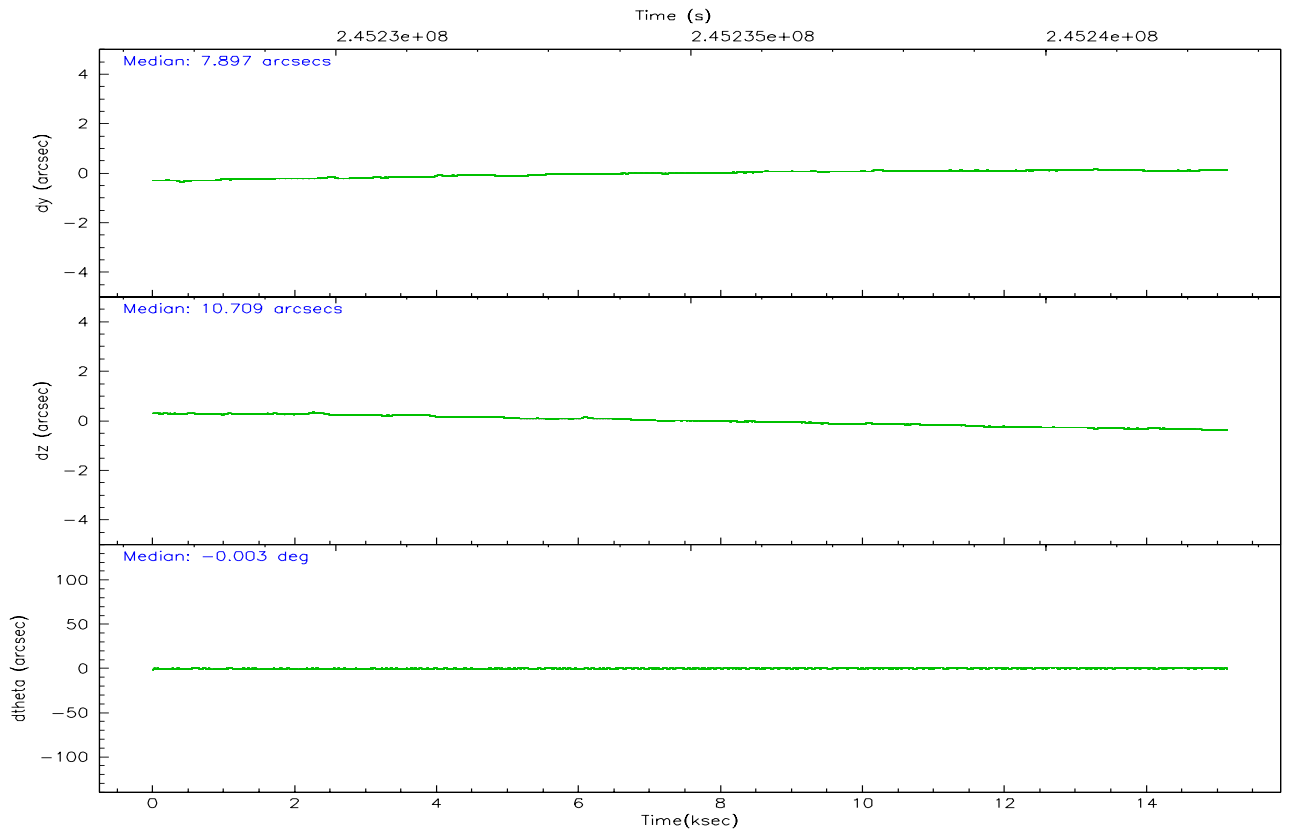
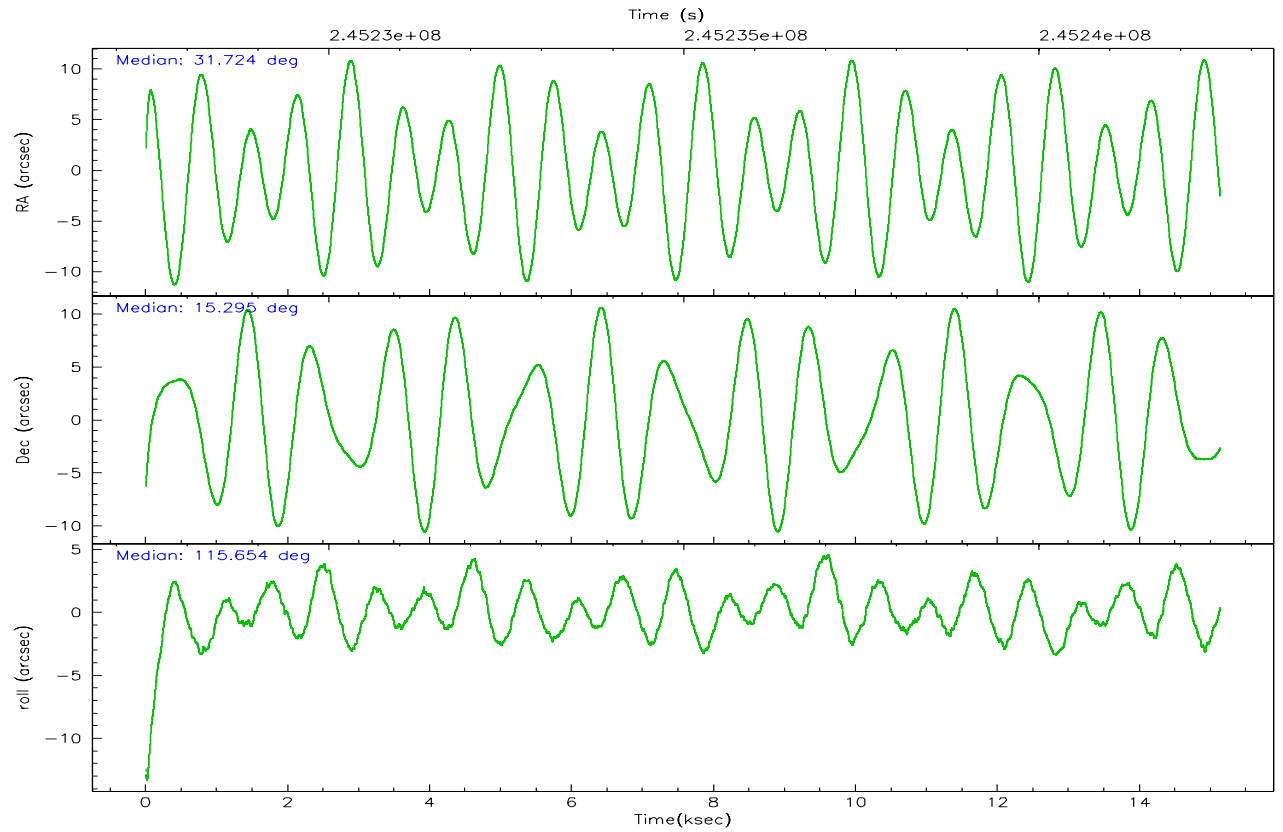
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|----------------|-------|-------|-------|-------|-------|-------|
| grade 0 events | 10405 | 12482 | 4718 | 3005 | 7811 | 4377 |
| | 10% | 8% | 5% | 2% | 7% | 5% |
| grade 1 events | 94 | 200 | 39 | 89 | 75 | 42 |
| | 0% | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 2430 | 18795 | 2230 | 11857 | 5304 | 2100 |
| | 2% | 13% | 2% | 9% | 4% | 2% |
| grade 3 events | 1205 | 1592 | 1114 | 2821 | 2698 | 1148 |
| | 1% | 1% | 1% | 2% | 2% | 1% |
| grade 4 events | 1087 | 1430 | 1097 | 2830 | 2526 | 1050 |
| | 1% | 1% | 1% | 2% | 2% | 1% |
| grade 5 events | 3736 | 6937 | 4067 | 8324 | 5208 | 4073 |
| | 3% | 4% | 4% | 6% | 4% | 4% |
| grade 6 events | 1811 | 32570 | 2169 | 27954 | 6299 | 2116 |
| | 1% | 23% | 2% | 23% | 5% | 2% |
| grade 7 events | 79104 | 66332 | 70717 | 63346 | 80428 | 69714 |
| | 79% | 47% | 82% | 52% | 72% | 82% |

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 | FAINT | FAINT | On-chip summing requested | N | N |
| Observation mode | POINTING | POINTING | Subarray requested | CUSTOM | CUSTOM |
| Pointing RA | 31.746992 | 31.72348933375932 | Subarray start row | 1 | 1 |
| Pointing Dec | 15.279613 | 15.29464277695054 | Subarray row count | 774 | 774 |
| Pointing Roll | 115.493208 | 115.6560376127542 | Alternating exposures requested | N | N |
| SIM focus pos (mm) | -0.684267 | -0.6828225247311905 | Primary exposure time | 0.000000 | 2.5 |
| SIM defocus (mm) | 0 | 0.001444936568705701 | | | |
| SIM translation stage pos (mm) | -187.132523 | -187.1228876879999 | | | |
| SIM translation stage offset (mm) | -3 | -3.009634895007935 | | | |
| Observation start time | 245227564.184000 | 245226447.28187 | | | |
| Observation start date | 2005-10-09T06:45:00 | 2005-10-09T06:27:27 | | | |
| Observation end time | 245242564.184000 | 245244173.12019 | | | |
| Observation end date | 2005-10-09T10:55:00 | 2005-10-09T11:22:53 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



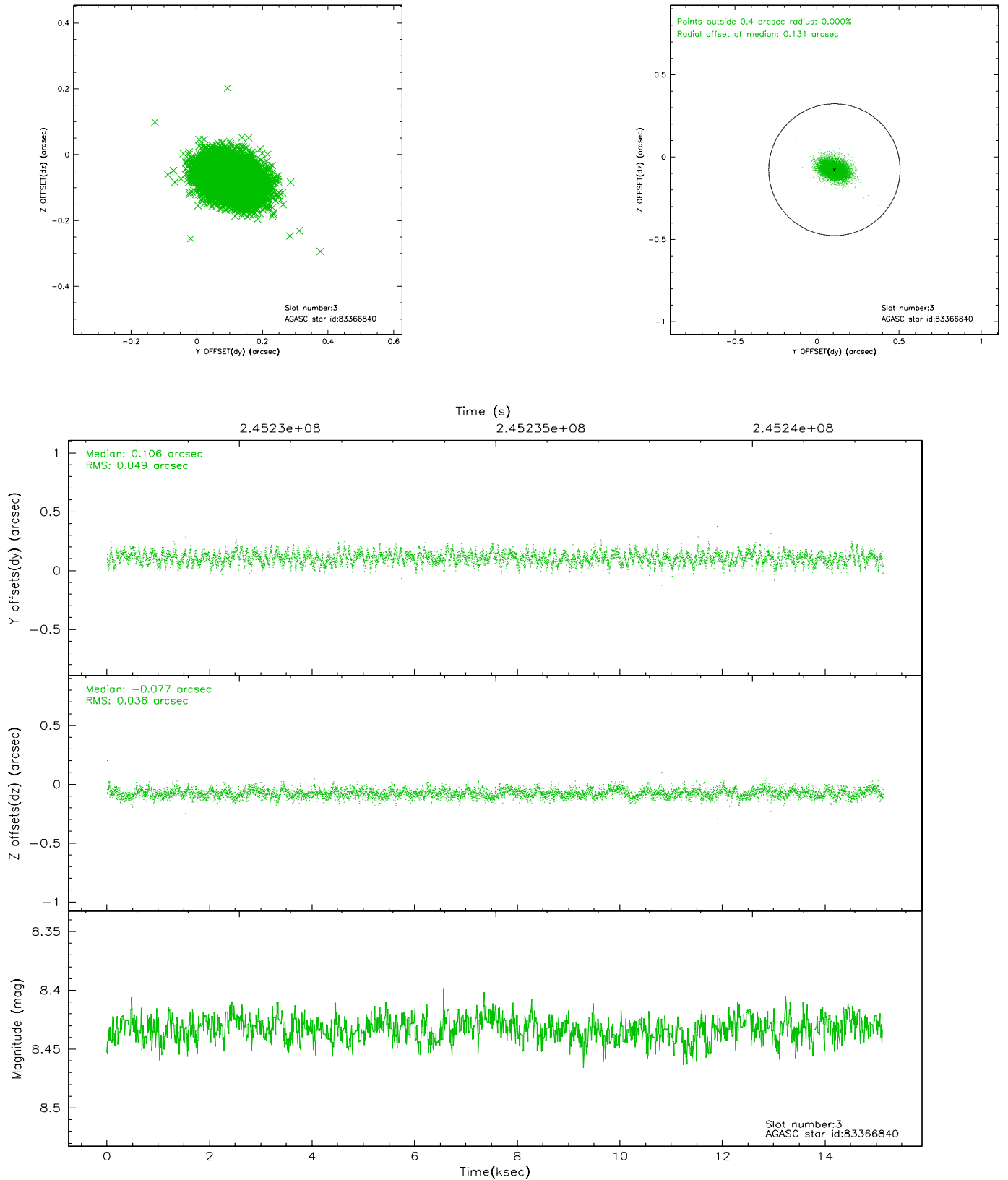


Slot Statistics

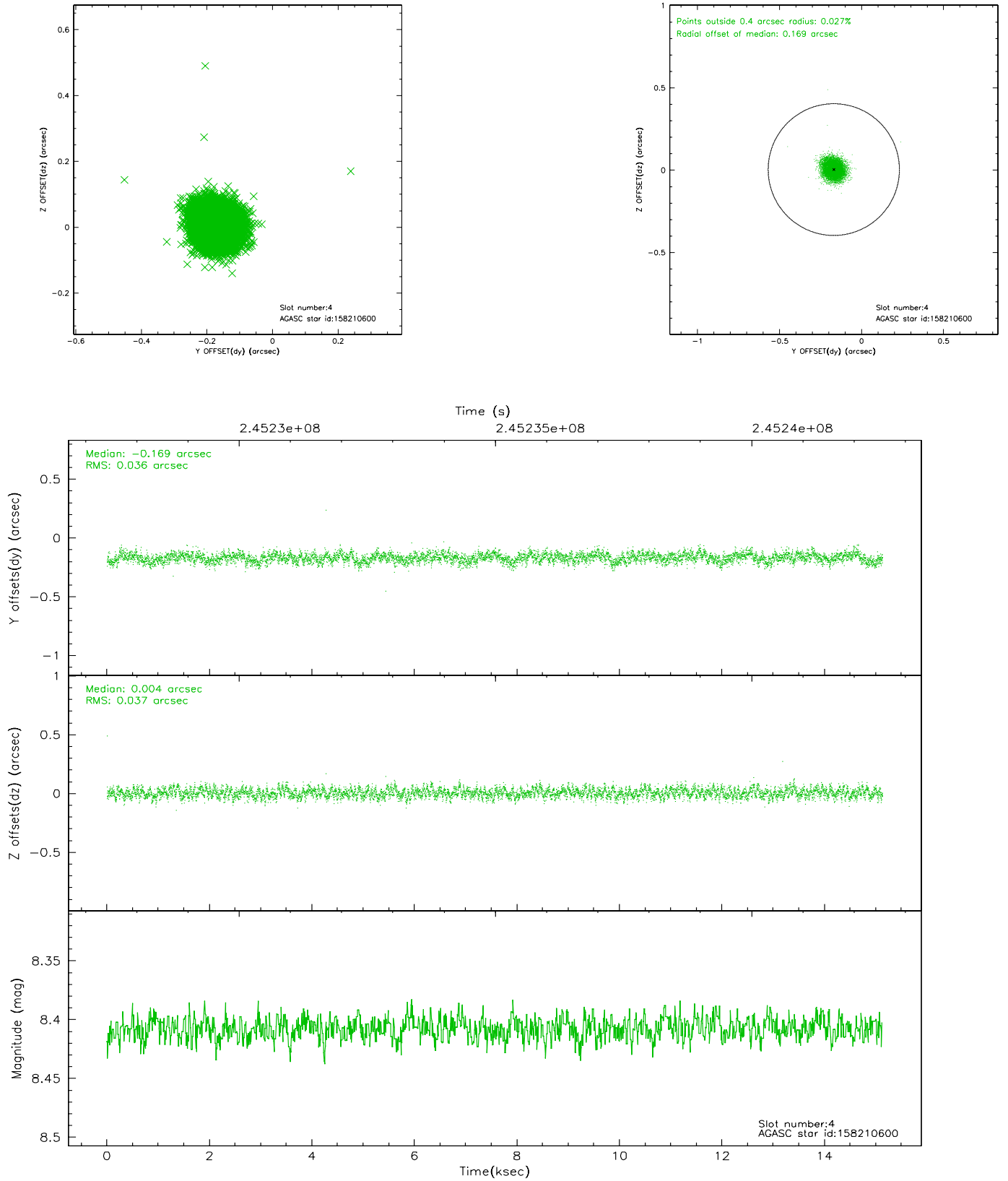
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.09 | 3690 | -0.029 | -0.069 | 0.006 | 0.010 | 0.000000 | 0.000000 | -760.49 | -1794.17 |
| 1 | FID | ACIS-S-4 | 7.19 | 3690 | 0.061 | 0.032 | 0.008 | 0.013 | 0.000000 | 0.000000 | 2152.76 | 114.06 |
| 2 | FID | ACIS-S-5 | 7.23 | 3691 | -0.063 | 0.045 | 0.010 | 0.017 | 0.000000 | 0.000000 | -1812.96 | 108.12 |
| 3 | GUIDE | 83366840 | 8.43 | 7383 | 0.106 | -0.077 | 0.064 | 0.105 | 31.673303 | 14.583774 | -2150.44 | 1309.96 |
| 4 | GUIDE | 158210600 | 8.41 | 7377 | -0.169 | 0.004 | 0.055 | 0.086 | 31.131603 | 15.630068 | 2059.45 | 1381.83 |
| 5 | GUIDE | 158211640 | 9.28 | 7379 | 0.076 | -0.005 | 0.079 | 0.129 | 31.349537 | 15.537415 | 1432.58 | 844.56 |
| 6 | GUIDE | 158215416 | 9.23 | 7379 | -0.035 | -0.050 | 0.098 | 0.157 | 31.249092 | 15.295299 | 797.15 | 1535.65 |
| 7 | GUIDE | 159131712 | 7.91 | 7378 | 0.024 | 0.132 | 0.062 | 0.102 | 32.565244 | 15.023039 | -2053.20 | -2172.57 |

2.4 Star Slots

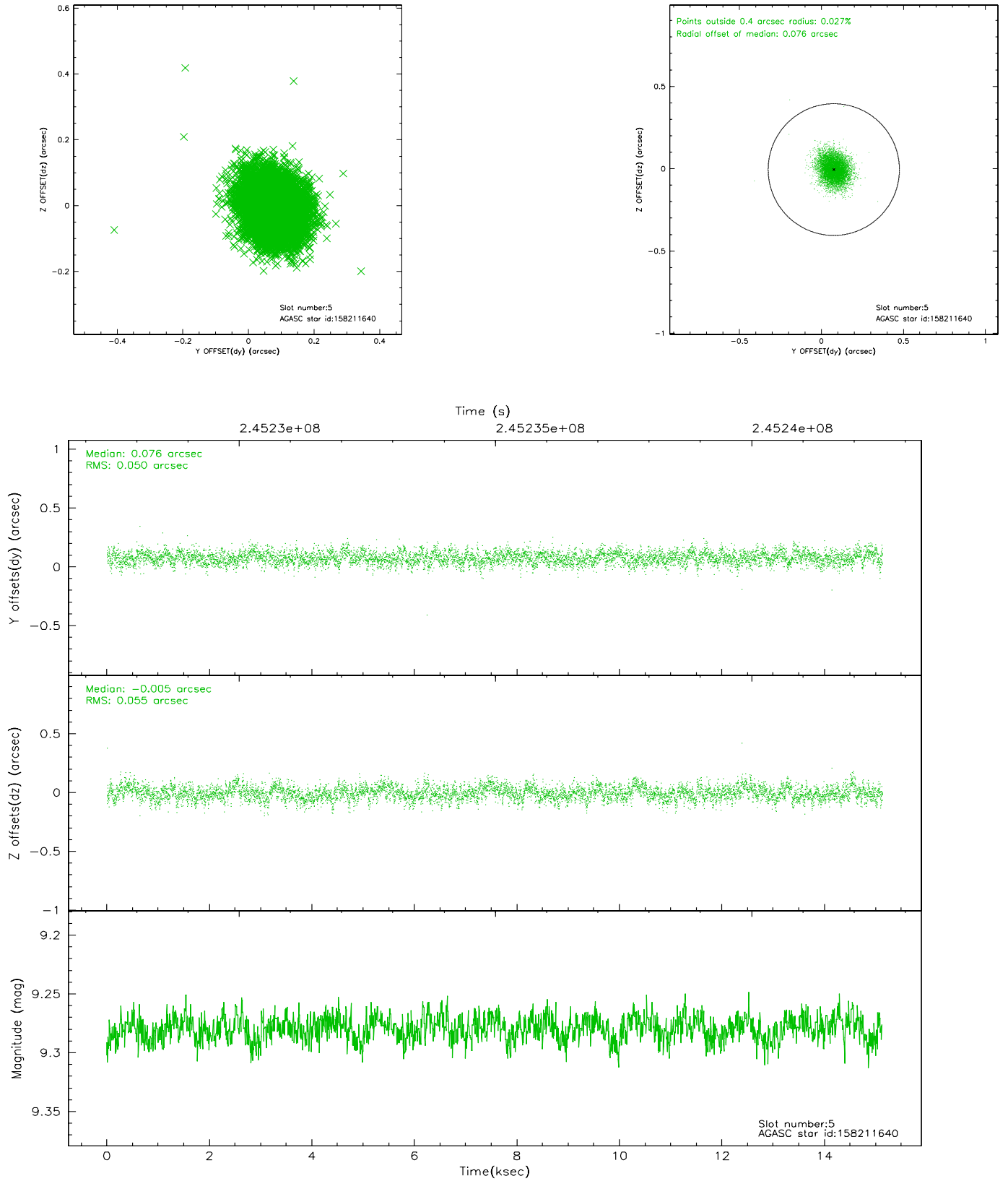
2.4.1 Slot 3



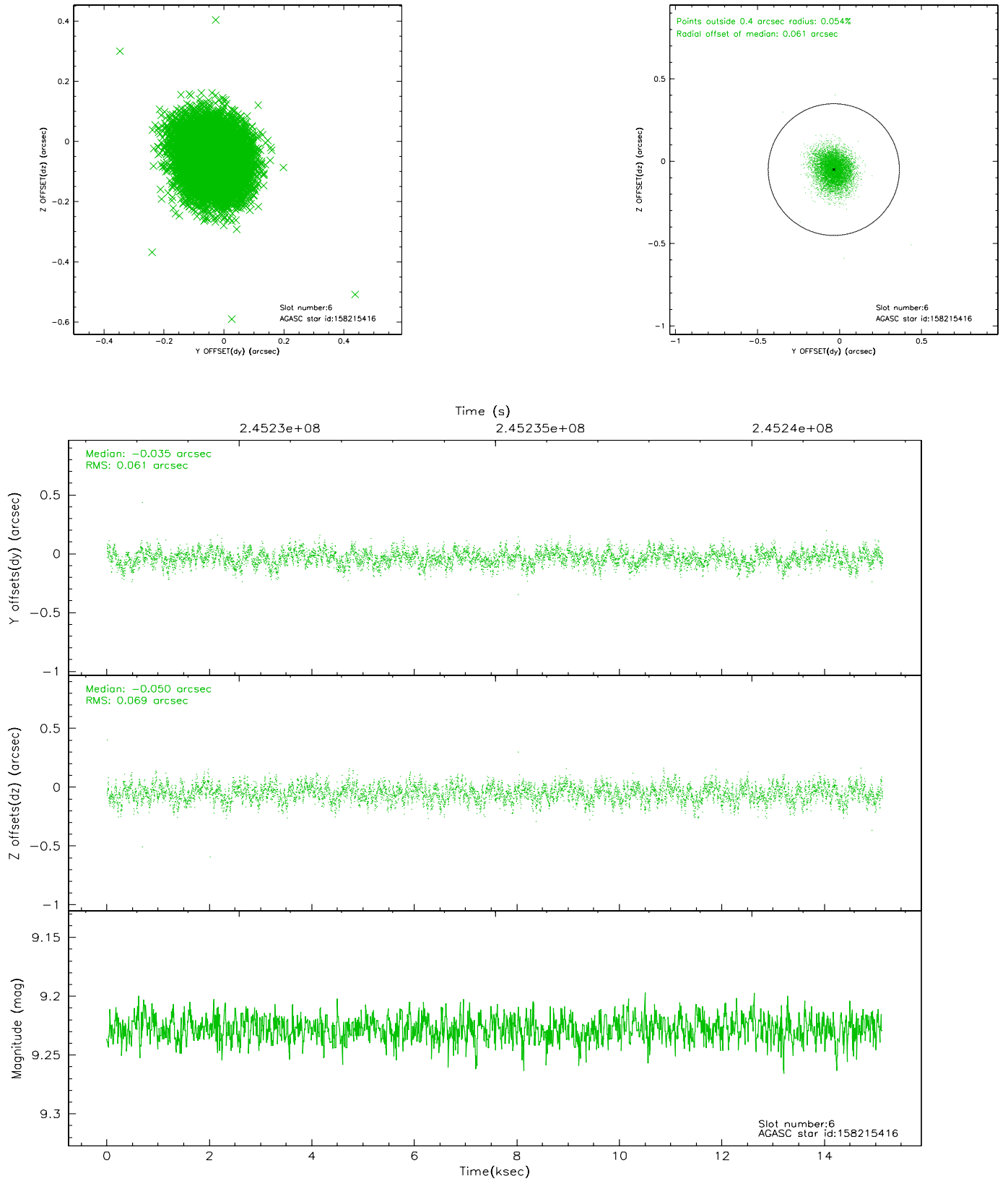
2.4.2 Slot 4



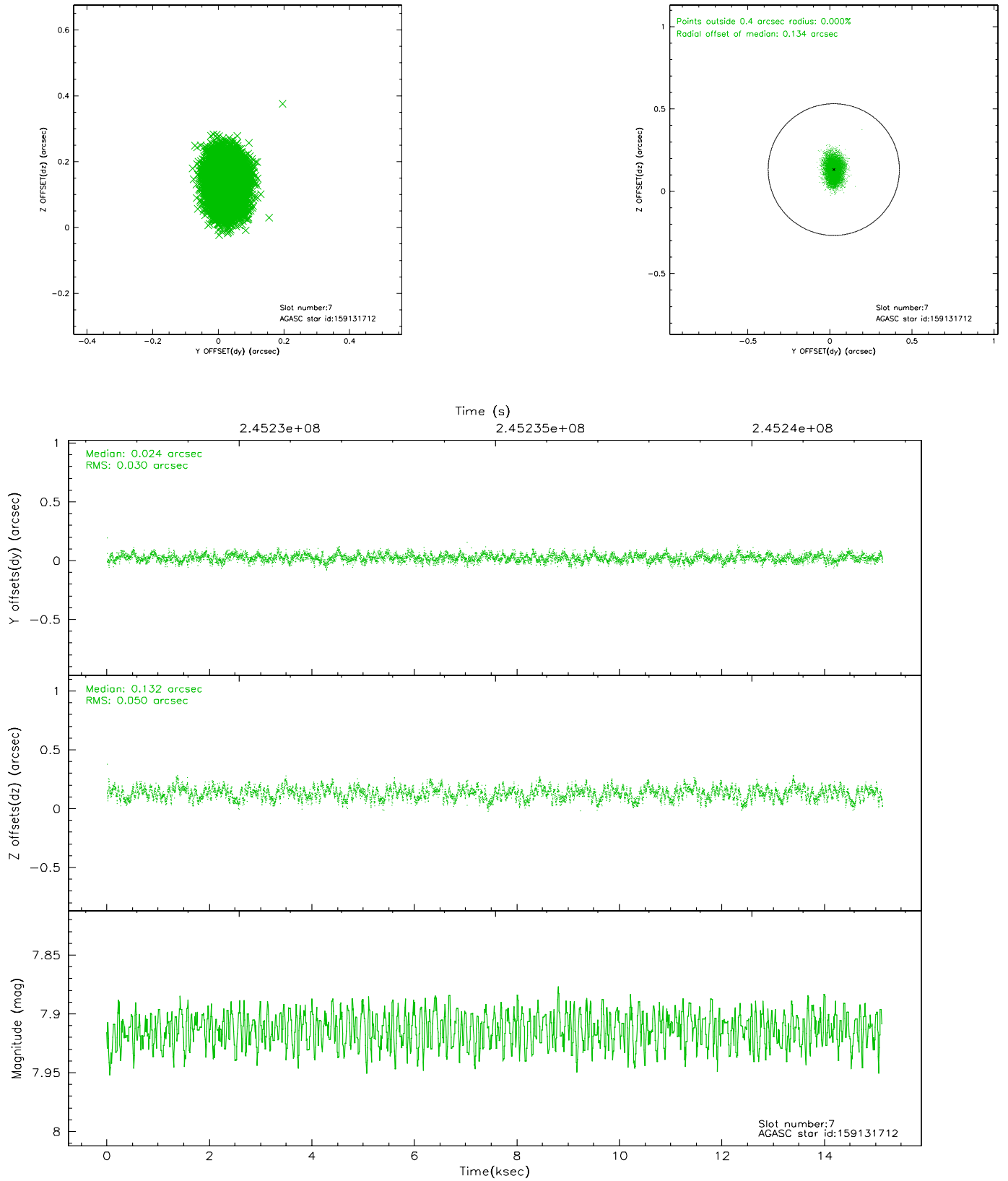
2.4.3 Slot 5



2.4.4 Slot 6

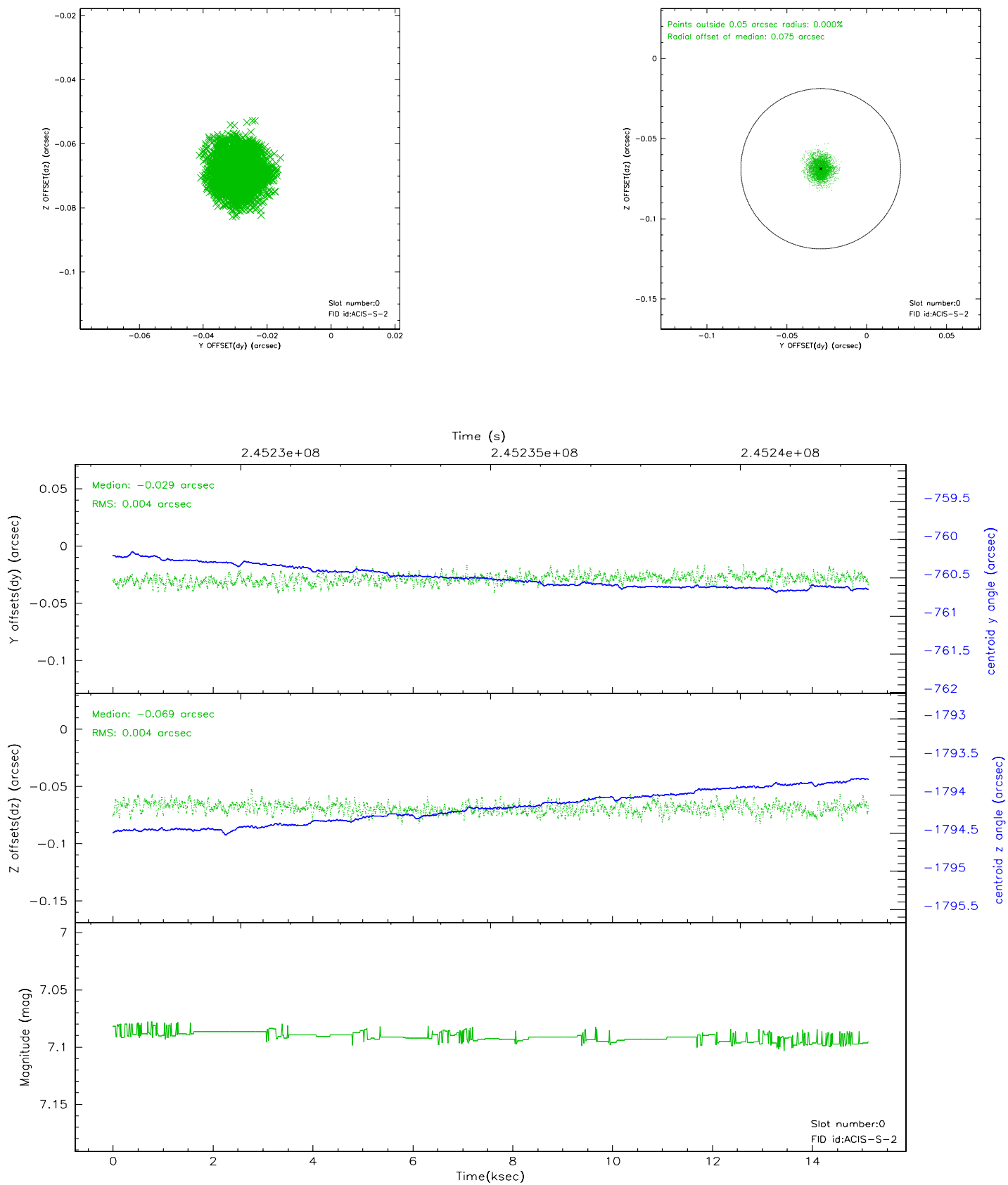


2.4.5 Slot 7

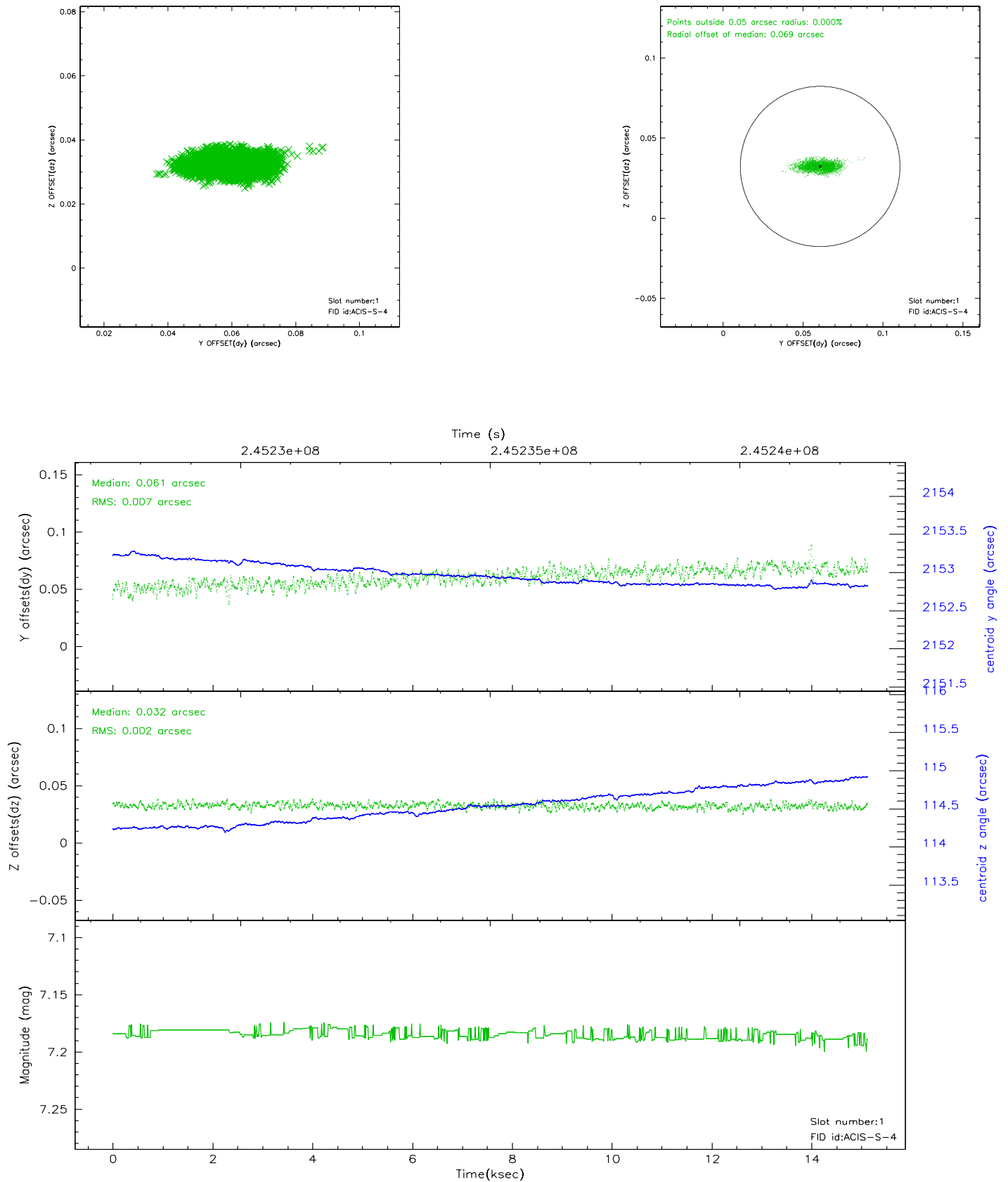


2.5 FID Slots

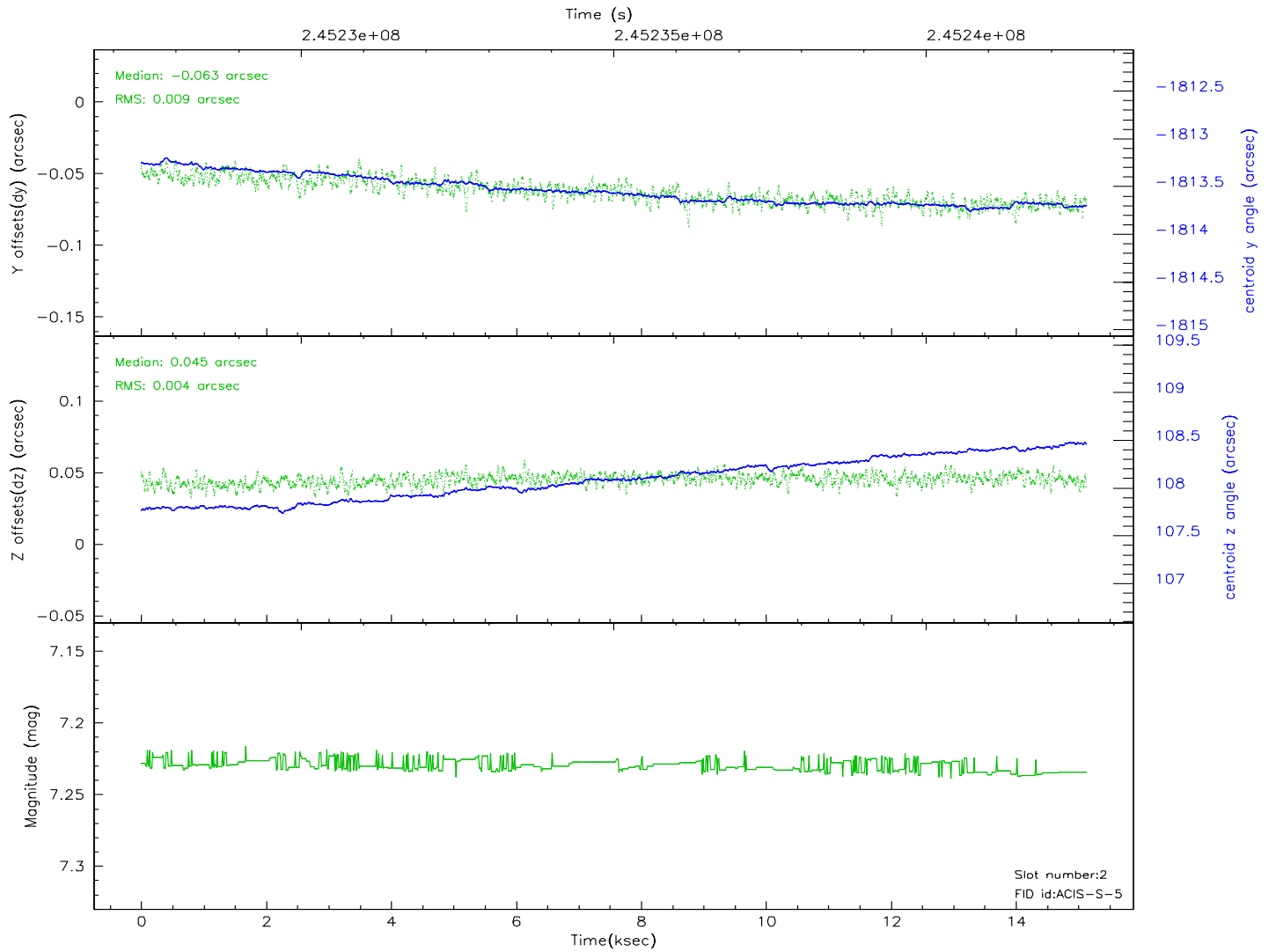
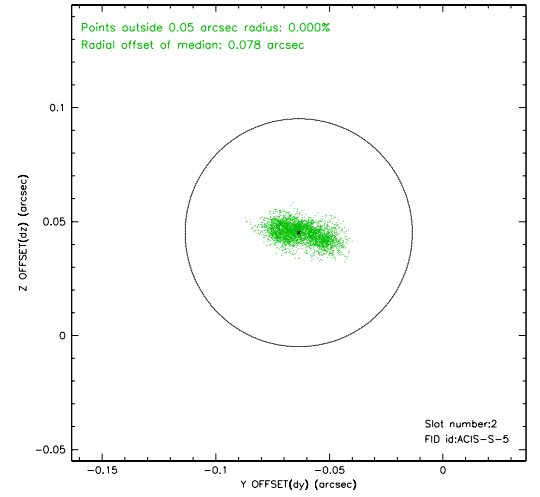
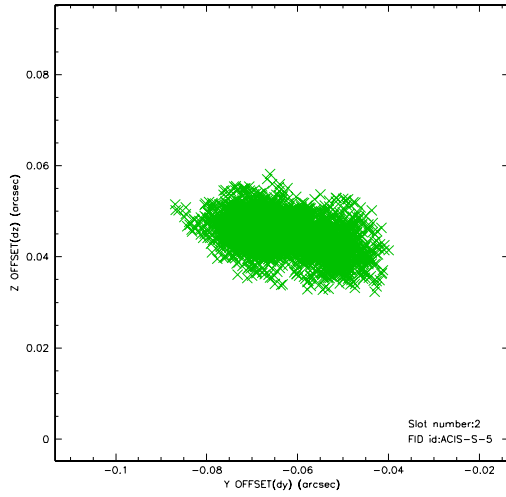
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

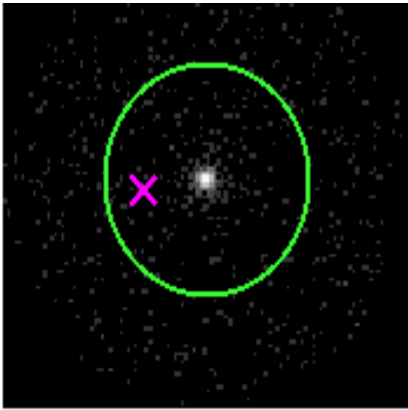


3 Gratings

3.1 HEG Arm



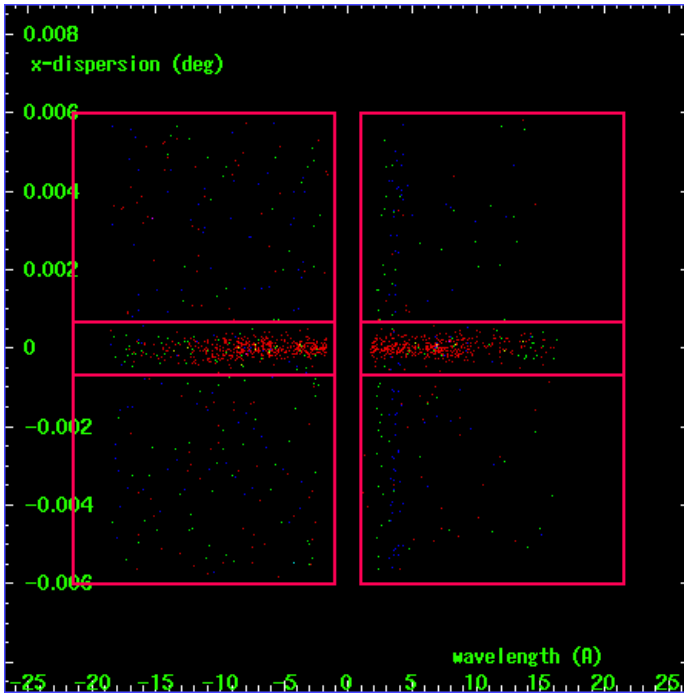
HEG Order Sort 123



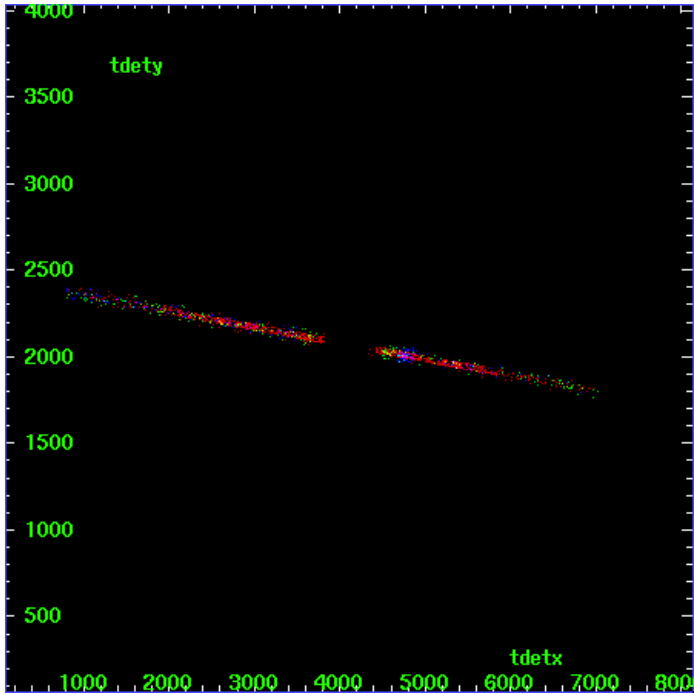
HEG Zero Order



HEG Order Sort ALL

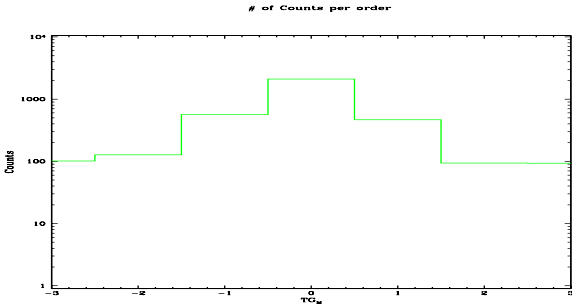


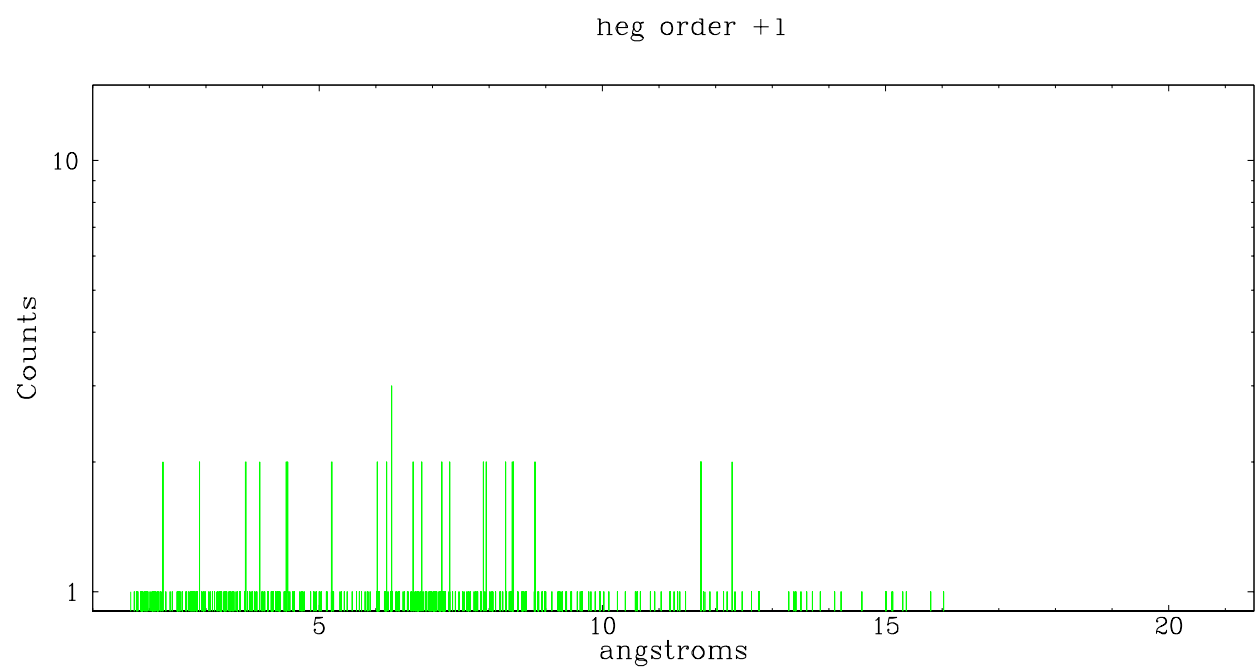
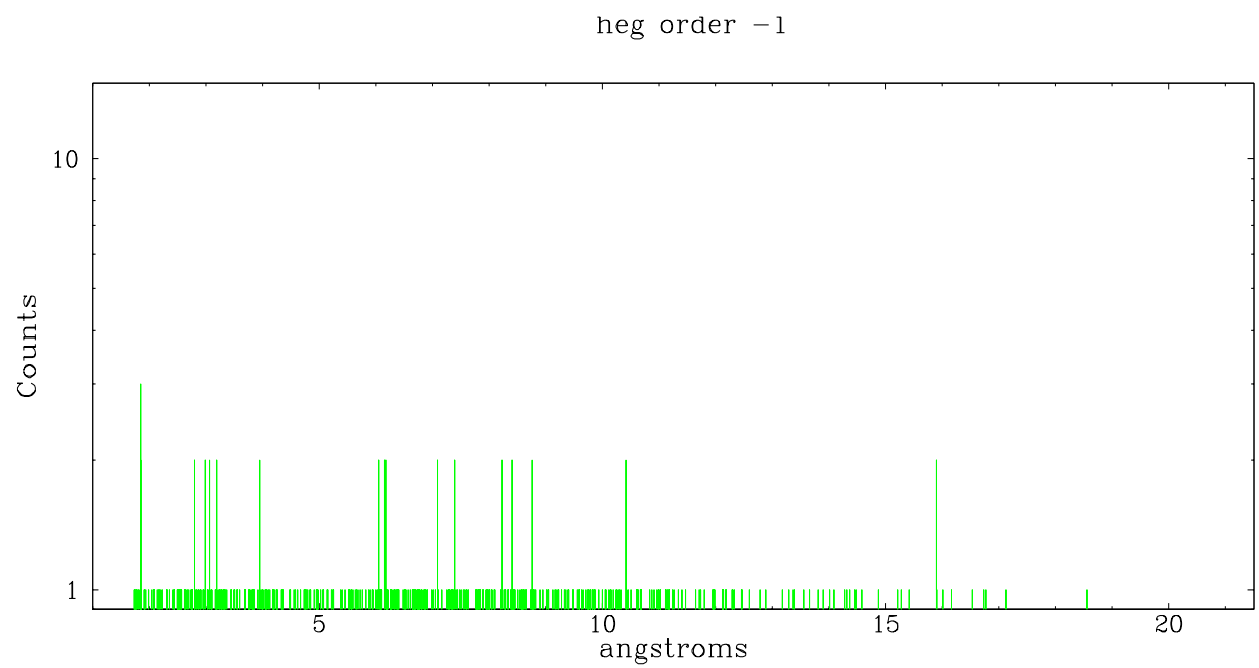
Spot Image HEG



Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 101 | 127 | 566 | 2095 | 467 | 94 | 93 |

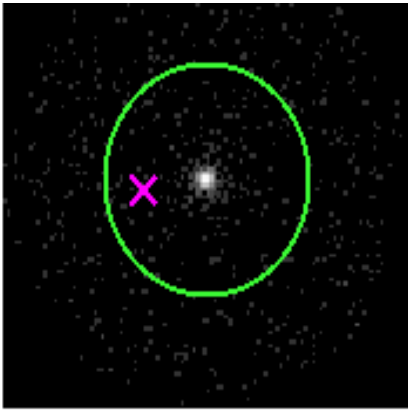




3.2 MEG Arm



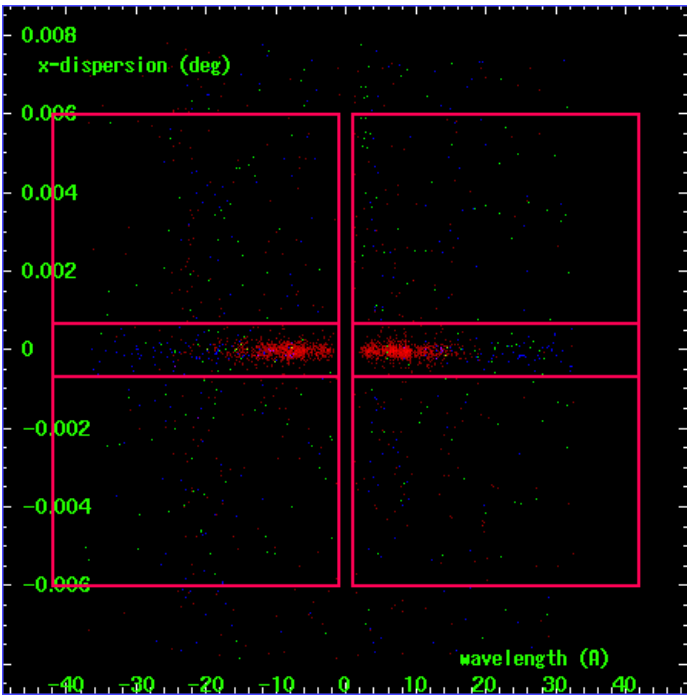
MEG Order Sort 123



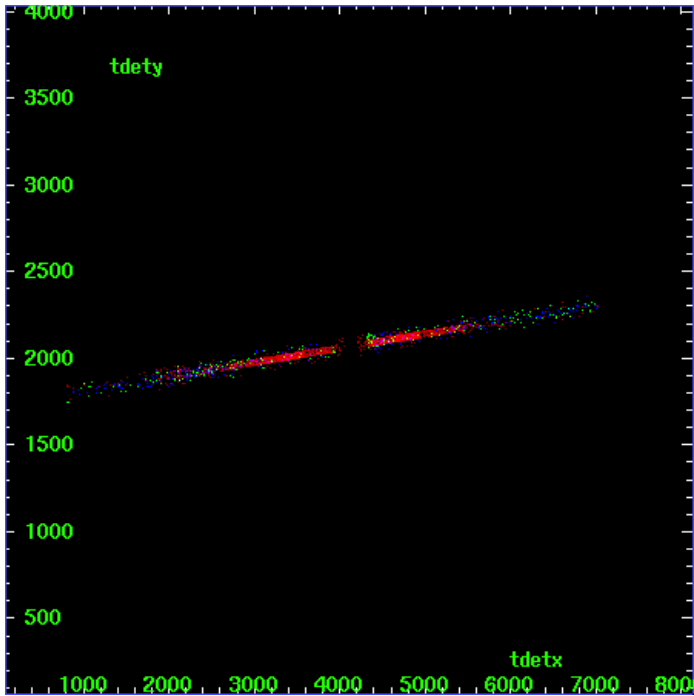
MEG Zero Order



MEG Order Sort ALL

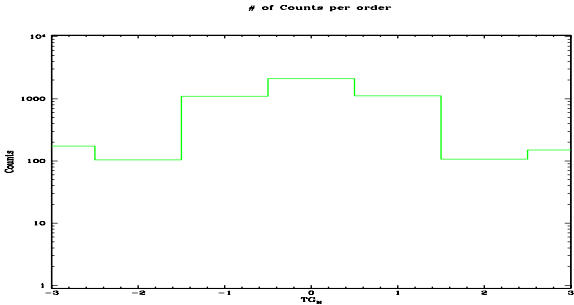


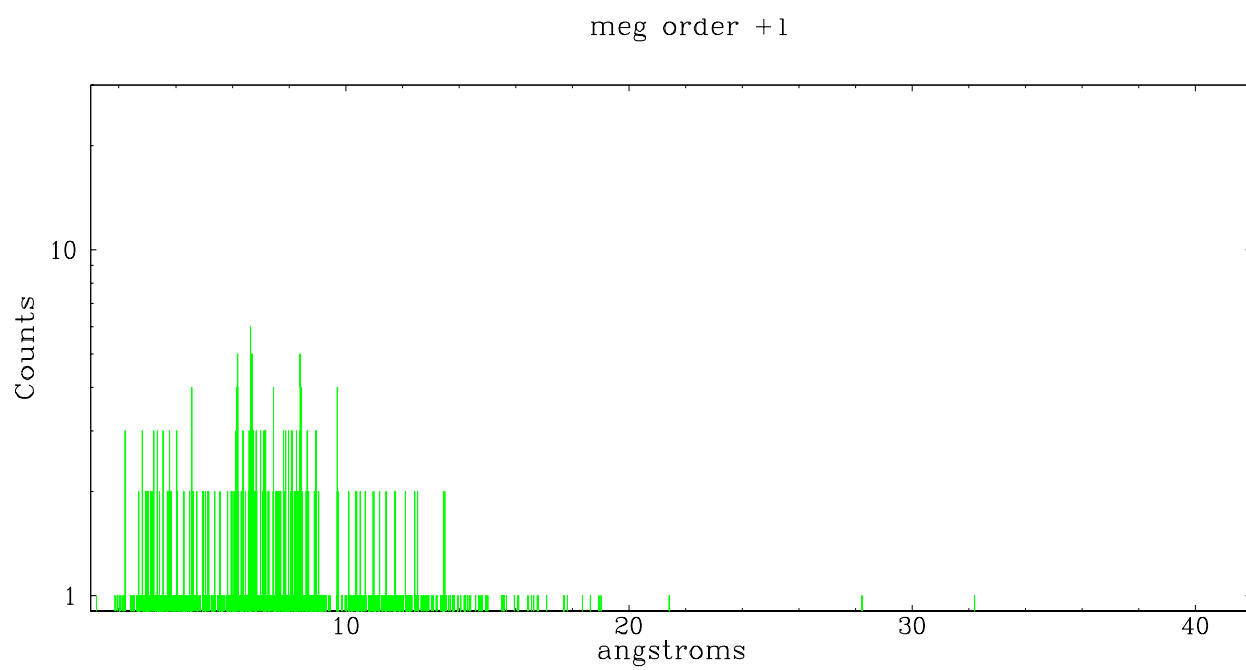
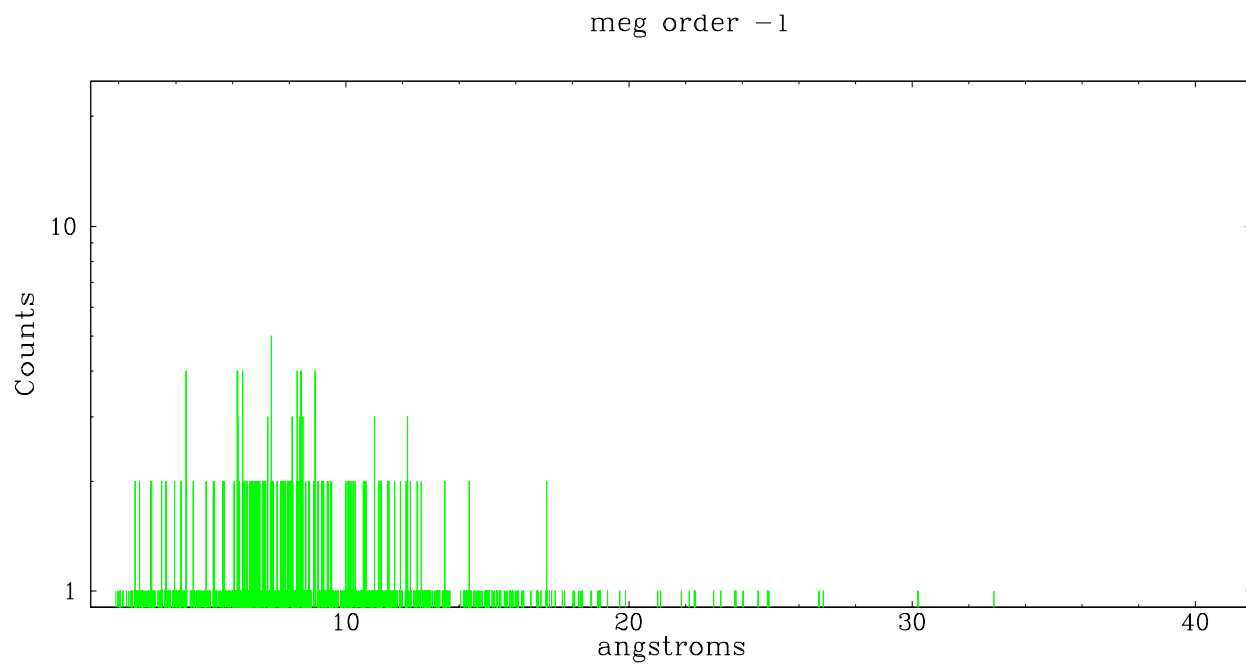
Spot Image MEG



Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 173 | 104 | 1094 | 2095 | 1115 | 107 | 150 |





A Summary

A.1 Status

| | |
|----------------------------|------------|
| V&V Scientist | Jen Lauer |
| V&V Date (YYYY-MM-DD) | 2006.04.03 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 15.13 |

A.2 Comments

As a consequence of the DEA-A shutdown anomaly on Sep 15th (DOY258), the the reported value of the ACIS FP temperature was ~1.3 degrees warmer than the actual temperature. GOs should subtract 1.3 degrees from the reported temperature to determine the true temperature.