

V&V Reference Report

L2 ASCDS Version : 7.6.10

Observation 121 - L2 Version 001
Chandra X-Ray Center

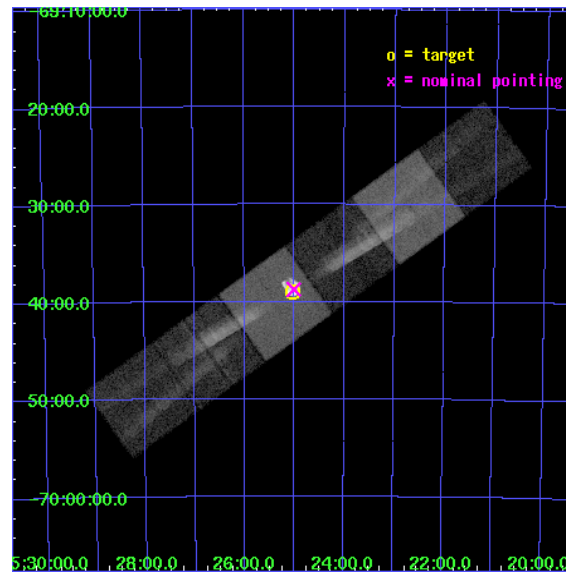
L2 Processing Date : May 31 2007

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1 Front

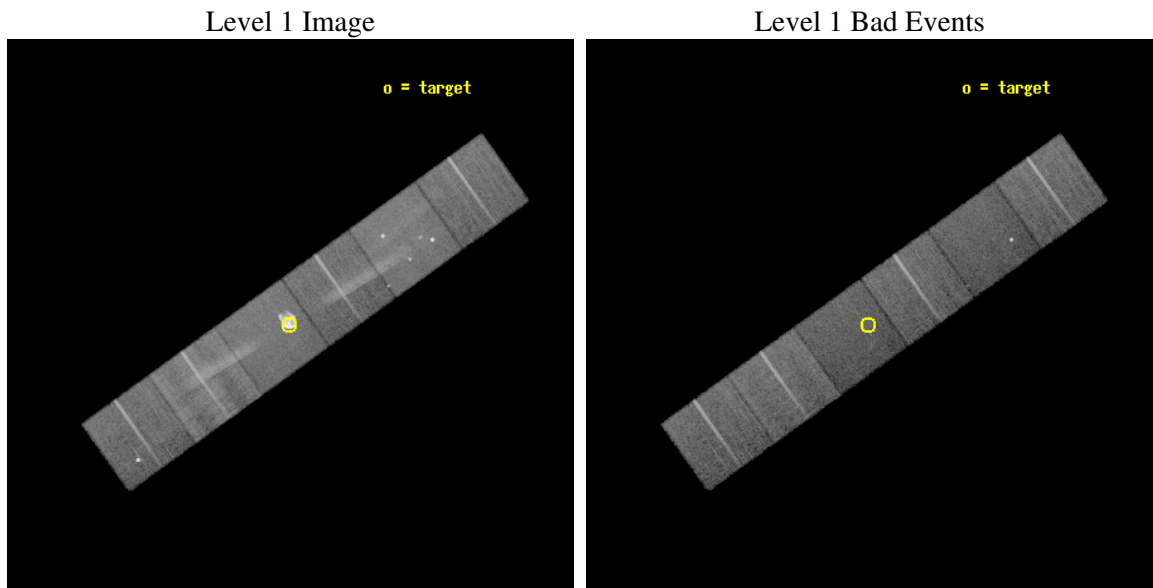
| | |
|----------|---|
| seq_num | 500008 |
| obs_id | 121 |
| title | HIGH RESOLUTION SPECTRA OF EXTRAGALACTIC SUPERNOVA REMNANTS |
| observer | Prof. Claude Canizares |
| object | N132D |
| dtcycle | 0 |
| cycle | P |
| ra_targ | 81.25875 |
| dec_targ | -69.649722 |
| ra_nom | 81.251756737283 |
| dec_nom | -69.645737700891 |
| roll_nom | 144.32406225607 |
| revision | 3 |
| ontime | 21740.800020248 |
| livetime | 21465.504919653 |
| ontime4 | 21740.795573503 |
| ontime5 | 21740.800020248 |
| ontime6 | 21740.800020248 |
| ontime7 | 21740.800020248 |
| ontime8 | 21740.800020248 |
| ontime9 | 21740.800020248 |
| l2events | 339032 |



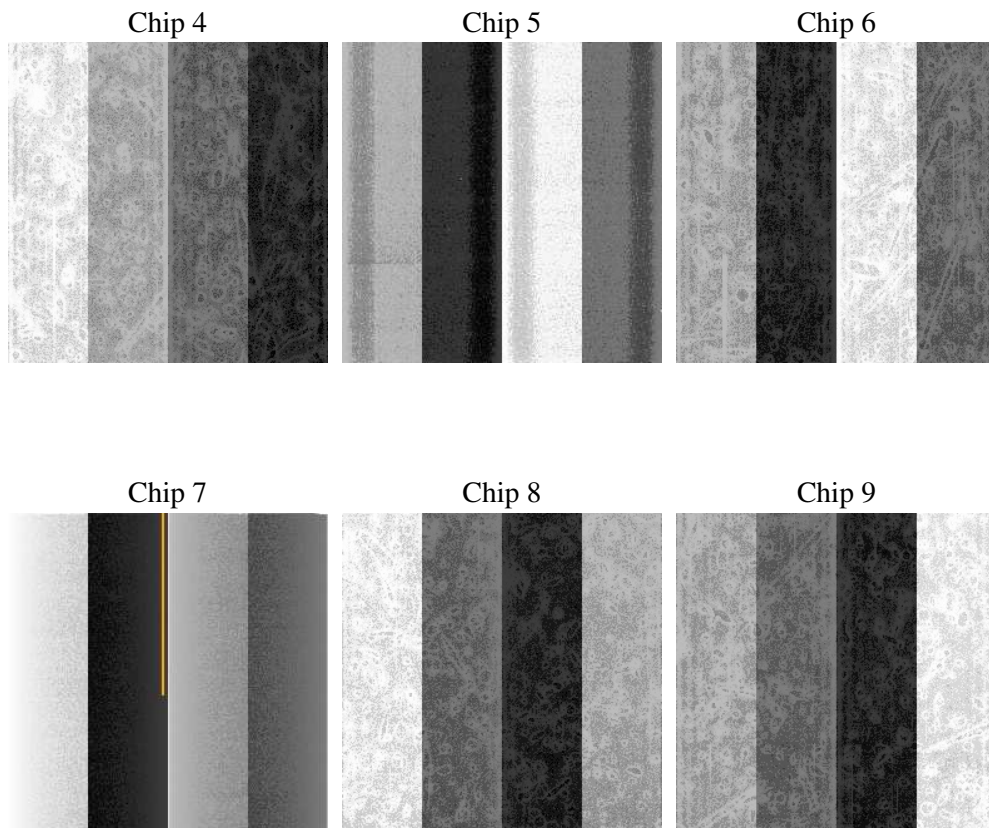
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | |
|----------|---------------------|
| obi_num | 1 |
| ascdsver | 7.6.10 |
| caldsver | 3.4.0 |
| date | 2007-05-31T16:51:24 |
| revision | 3 |

| | |
|----------------|-----------------|
| sched_exp_time | 21986.026000 |
| ontime | 21740.800020248 |
| ontime4 | 21740.795573503 |
| ontime5 | 21740.800020248 |
| ontime6 | 21740.800020248 |
| ontime7 | 21740.800020248 |
| ontime8 | 21740.800020248 |
| ontime9 | 21740.800020248 |
| l1events | 1062059 |

2.1.4 Events

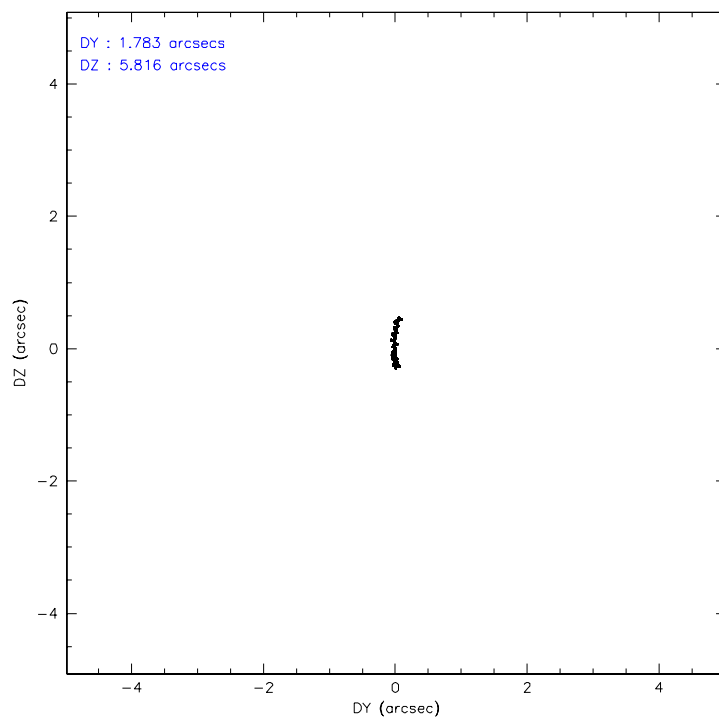
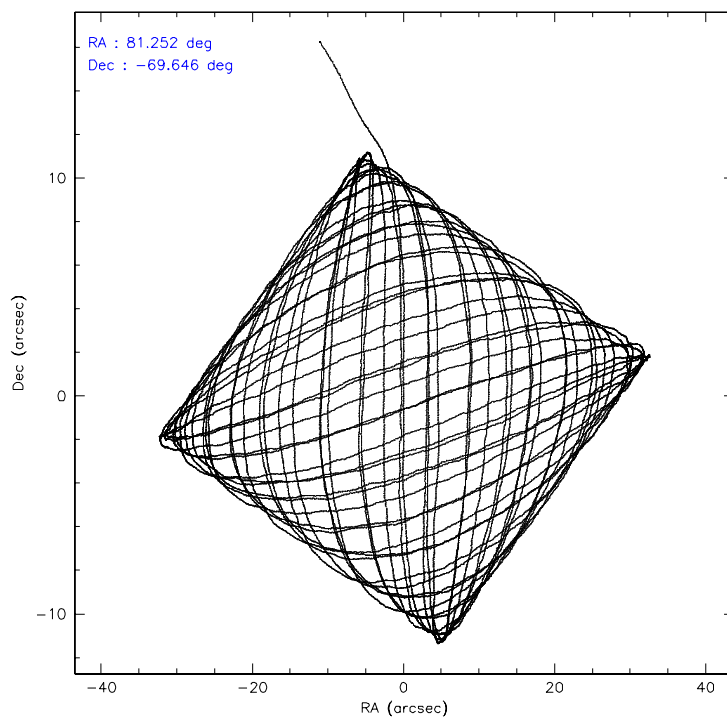
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 150467 | 191633 | 156628 | 224236 | 202660 | 136435 |
| rejected events | 128757 | 89512 | 118936 | 83962 | 131103 | 110520 |
| rejected % | 85% | 46% | 75% | 37% | 64% | 81% |

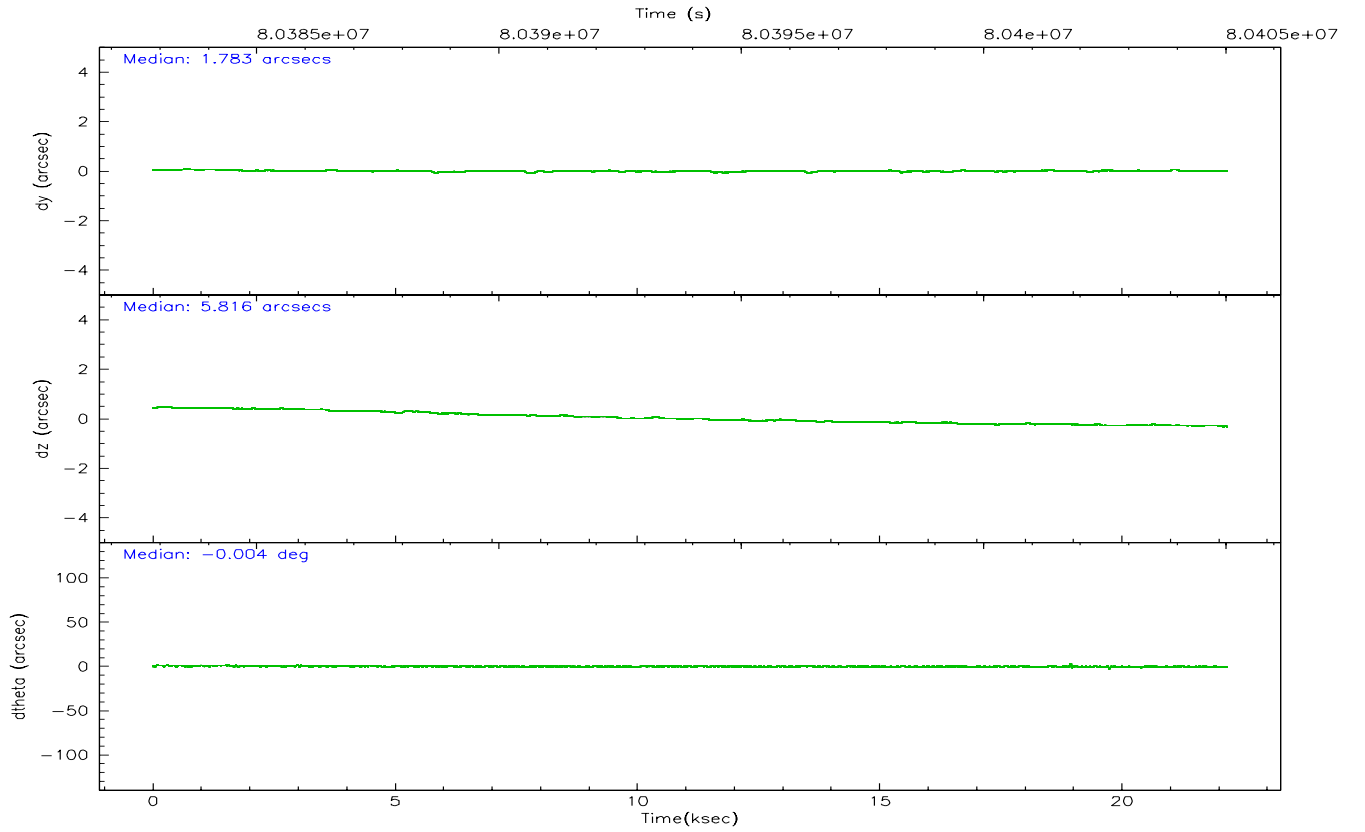
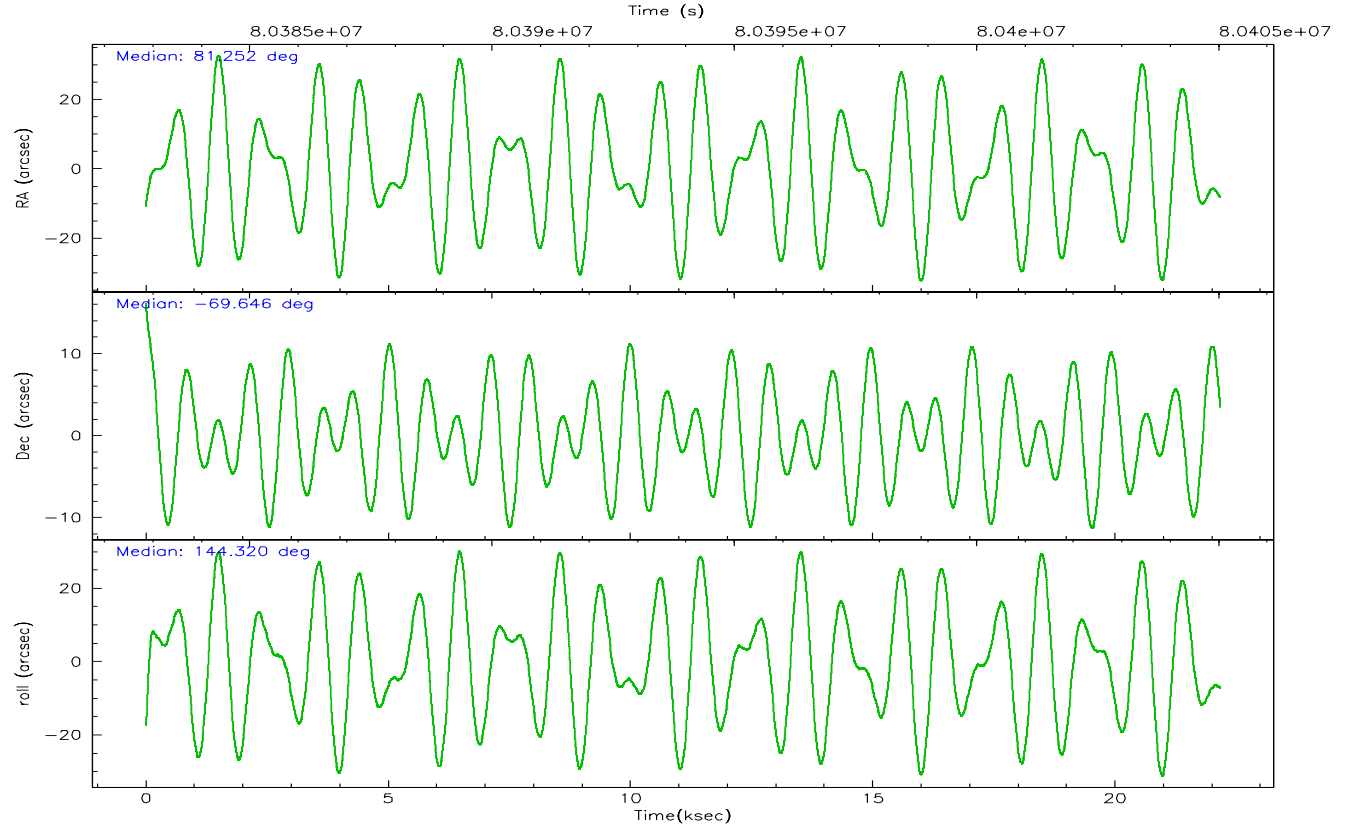
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|----------------|--------|-------|--------|-------|--------|--------|
| grade 0 events | 11249 | 19985 | 25382 | 30158 | 34579 | 15799 |
| | 7% | 10% | 16% | 13% | 17% | 11% |
| grade 1 events | 111 | 2320 | 104 | 191 | 209 | 81 |
| | 0% | 1% | 0% | 0% | 0% | 0% |
| grade 2 events | 4506 | 28528 | 5114 | 33502 | 10613 | 3732 |
| | 2% | 14% | 3% | 14% | 5% | 2% |
| grade 3 events | 1585 | 5585 | 1939 | 15098 | 7295 | 1630 |
| | 1% | 2% | 1% | 6% | 3% | 1% |
| grade 4 events | 1488 | 5620 | 1971 | 14951 | 6765 | 1553 |
| | 0% | 2% | 1% | 6% | 3% | 1% |
| grade 5 events | 4164 | 13029 | 4808 | 14635 | 6443 | 4920 |
| | 2% | 6% | 3% | 6% | 3% | 3% |
| grade 6 events | 2885 | 42431 | 3294 | 46605 | 12307 | 3208 |
| | 1% | 22% | 2% | 20% | 6% | 2% |
| grade 7 events | 124479 | 74135 | 114016 | 69096 | 124449 | 105512 |
| | 82% | 38% | 72% | 30% | 61% | 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 | FAINT | FAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| Pointing RA | 81.330194 | 81.25175673728285 | Subarray requested | NONE | NONE |
| Pointing Dec | -69.648322 | -69.64573770089144 | Alternating exposures requested | N | N |
| Pointing Roll | 144.240981 | 144.3240622560659 | Primary exposure time | 3.200000 | 3.2 |
| SIM focus pos (mm) | -0.684267 | -0.6828225247311905 | | | |
| SIM defocus (mm) | 0 | 0.001444936568705701 | | | |
| SIM translation stage pos (mm) | -190.132523 | -190.1400660498719 | | | |
| SIM translation stage offset (mm) | 0 | 0.00754346686406393 | | | |
| Observation start time | 80383048.184000 | 80382277.01077101 | | | |
| Observation start date | 2000-07-19T08:36:24 | 2000-07-19T08:24:37 | | | |
| Observation end time | 80405034.184000 | 80405344.124127 | | | |
| Observation end date | 2000-07-19T14:42:50 | 2000-07-19T14:49:04 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



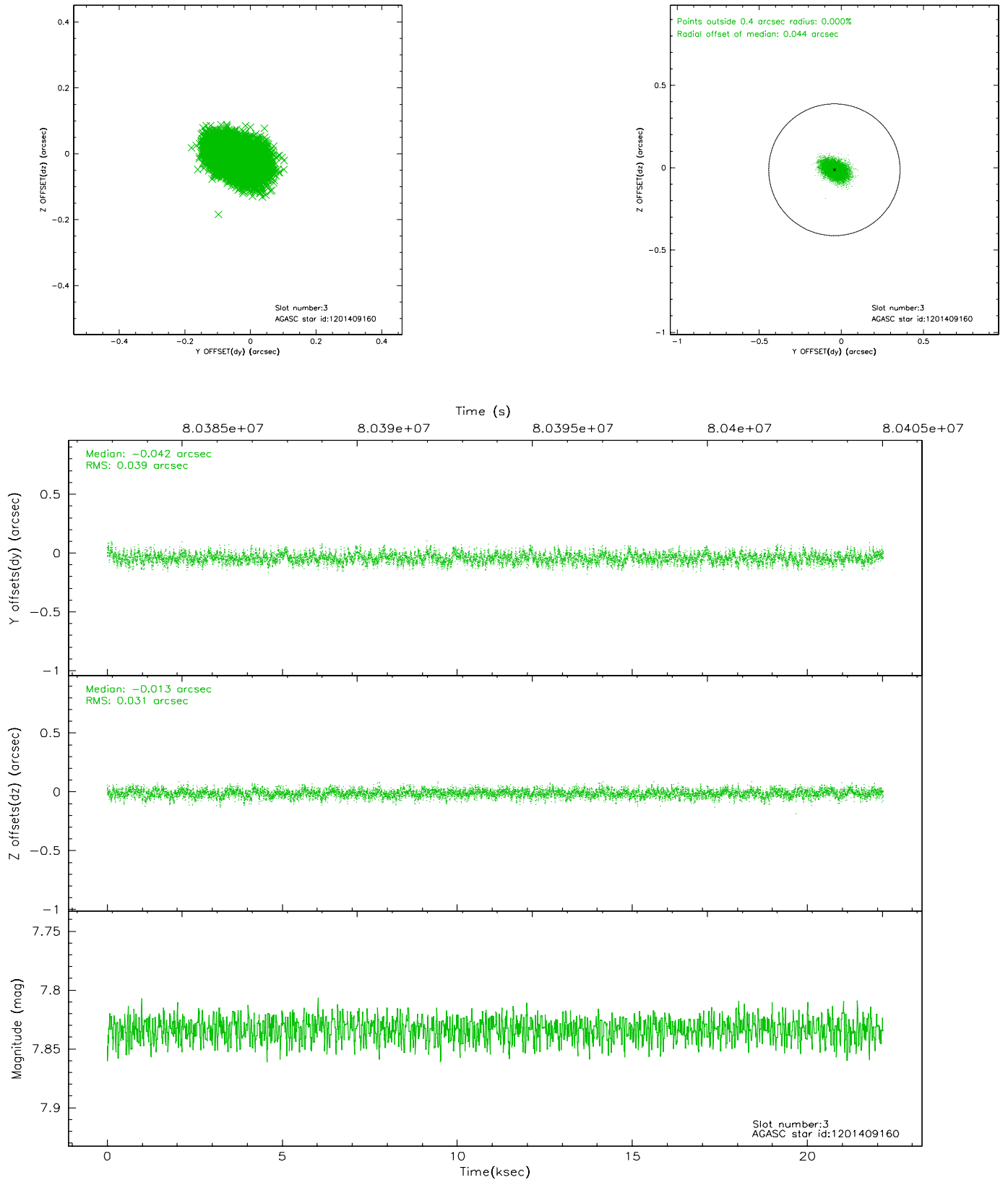


Slot Statistics

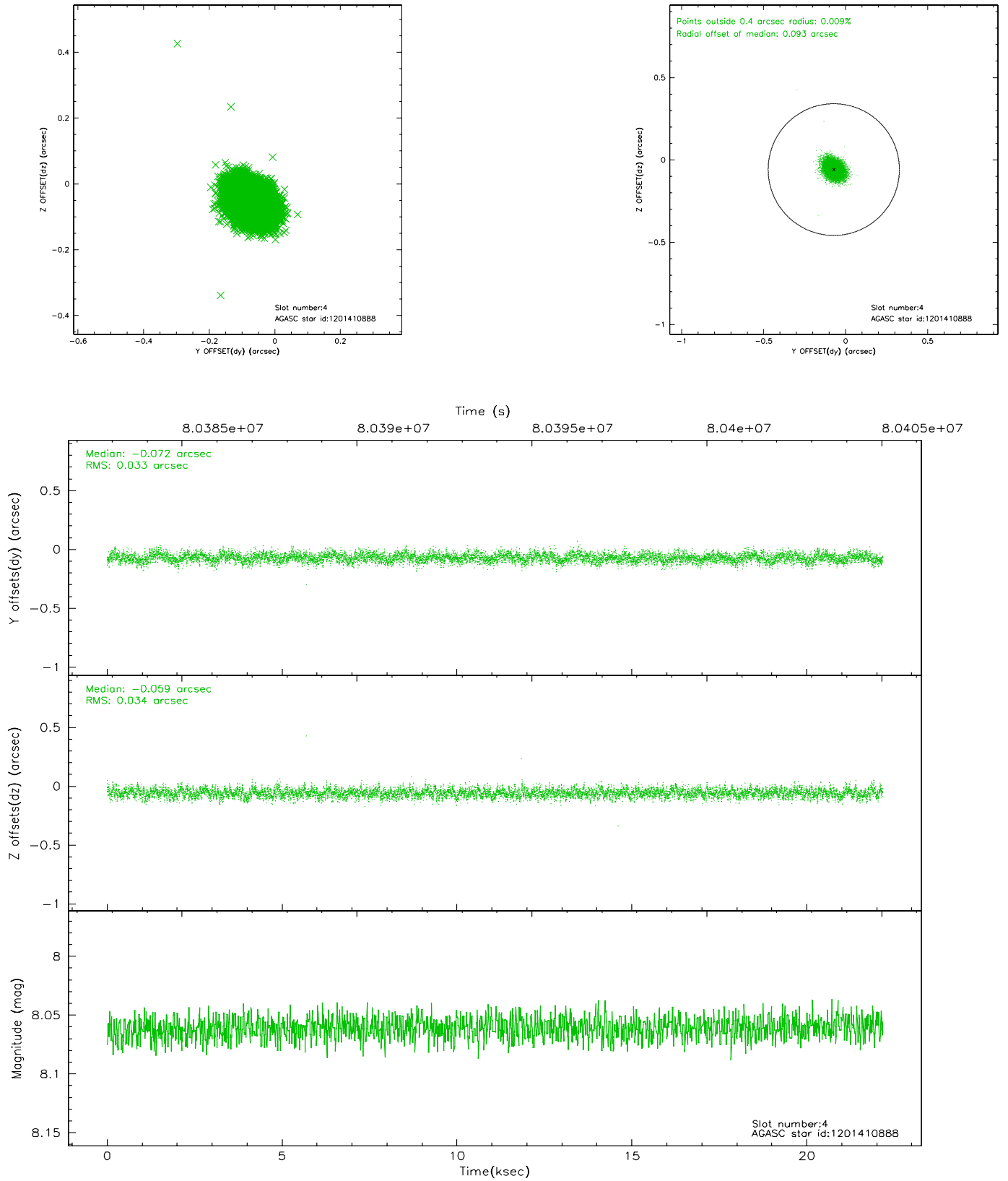
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|-------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.11 | 5408 | 0.009 | 0.001 | 0.006 | 0.012 | 0.000000 | 0.000000 | -754.38 | -1726.99 |
| 1 | FID | ACIS-S-4 | 7.21 | 5407 | -0.027 | -0.014 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2158.79 | 181.32 |
| 2 | FID | ACIS-S-6 | 7.35 | 5407 | -0.010 | 0.020 | 0.007 | 0.012 | 0.000000 | 0.000000 | 407.78 | 818.93 |
| 3 | GUIDE | 1201409160 | 7.83 | 10816 | -0.042 | -0.013 | 0.052 | 0.089 | 81.660661 | -70.063595 | -1203.34 | 976.43 |
| 4 | GUIDE | 1201410888 | 8.06 | 10817 | -0.072 | -0.059 | 0.050 | 0.082 | 81.046858 | -70.018210 | -495.84 | 1284.46 |
| 5 | GUIDE | 1201410616 | 9.34 | 10815 | 0.028 | 0.035 | 0.081 | 0.131 | 82.516808 | -69.784406 | -1492.21 | -453.81 |
| 6 | GUIDE | 1201411088 | 10.07 | 10815 | 0.102 | 0.025 | 0.127 | 0.205 | 79.219940 | -69.586806 | 2252.58 | 1405.29 |
| 7 | GUIDE | 1201406992 | 9.27 | 10775 | -0.017 | 0.012 | 0.093 | 0.150 | 83.682859 | -69.471866 | -2071.21 | -2204.84 |

2.4 Star Slots

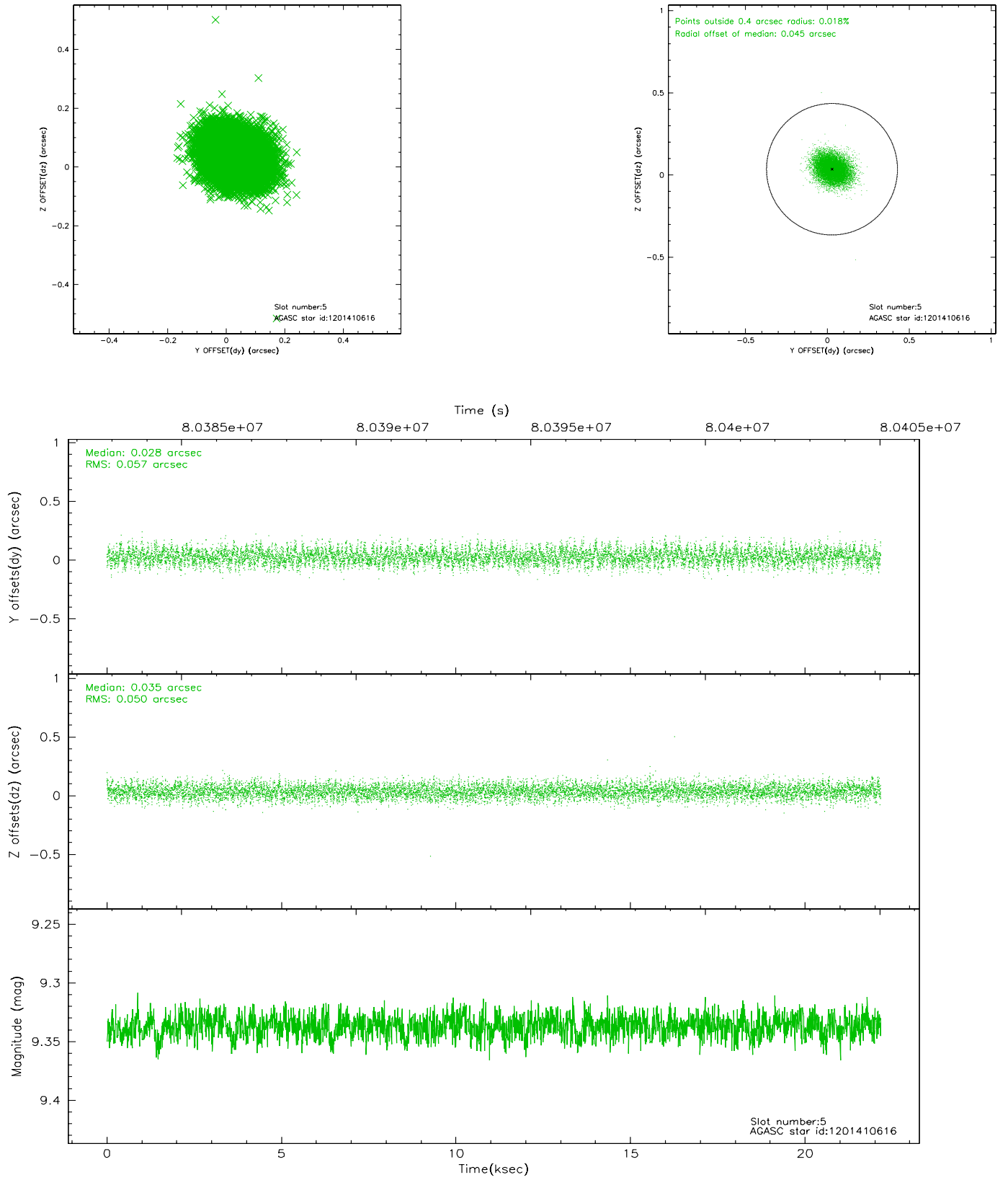
2.4.1 Slot 3



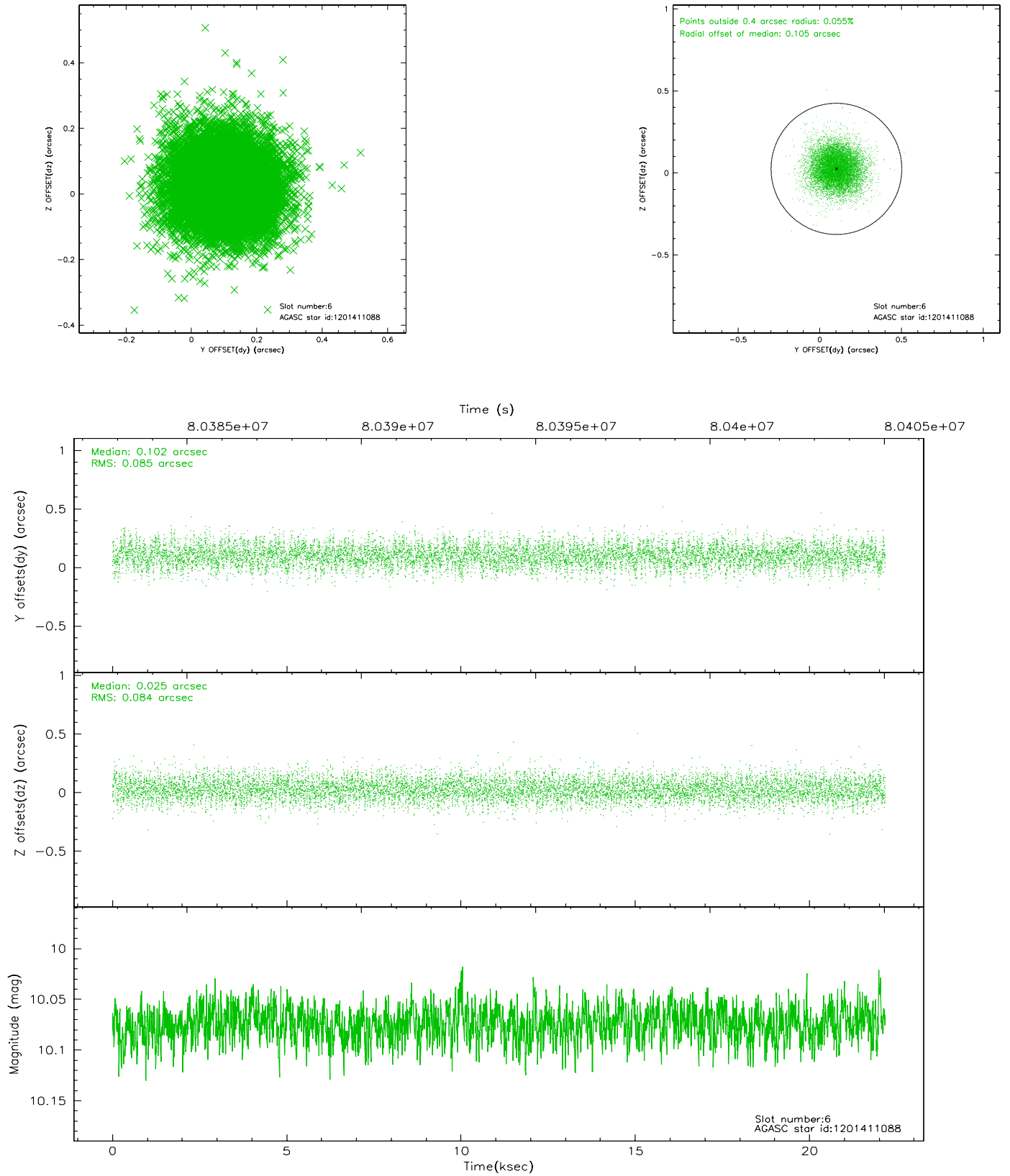
2.4.2 Slot 4



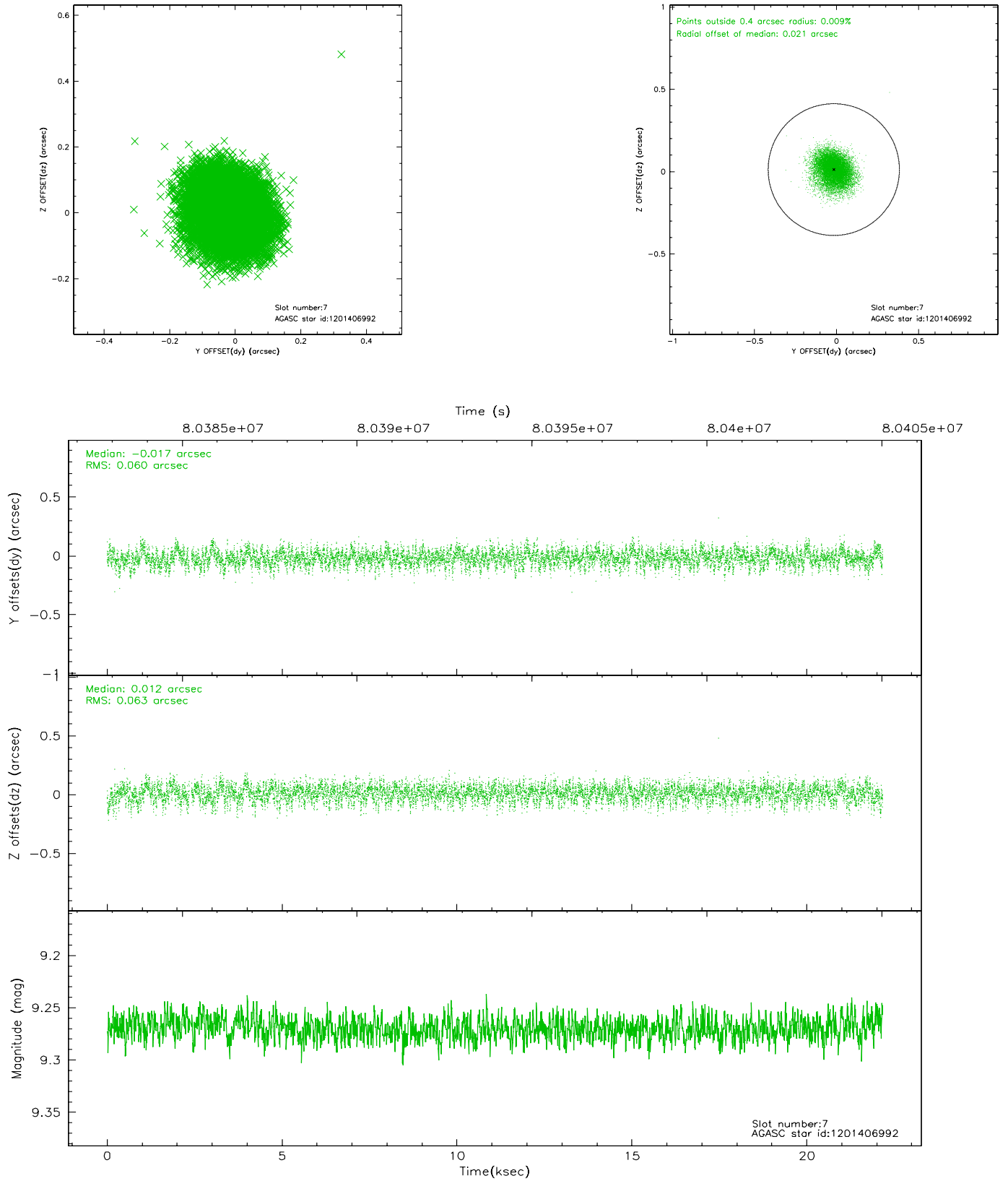
2.4.3 Slot 5



2.4.4 Slot 6

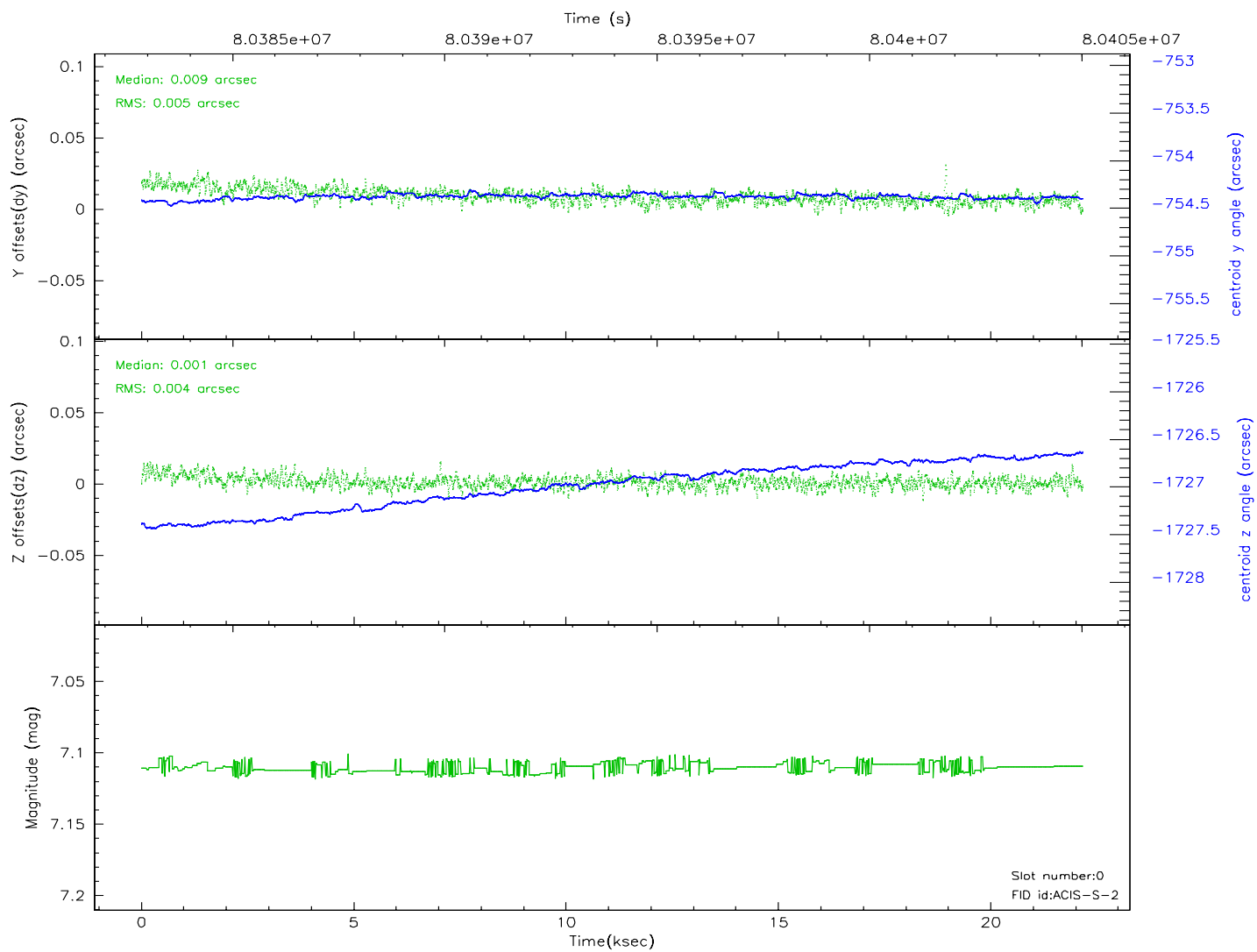
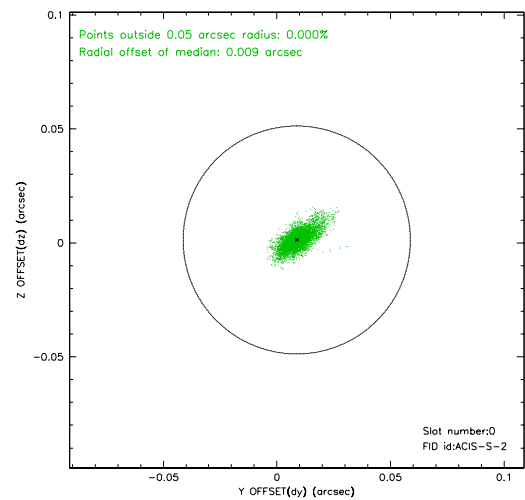
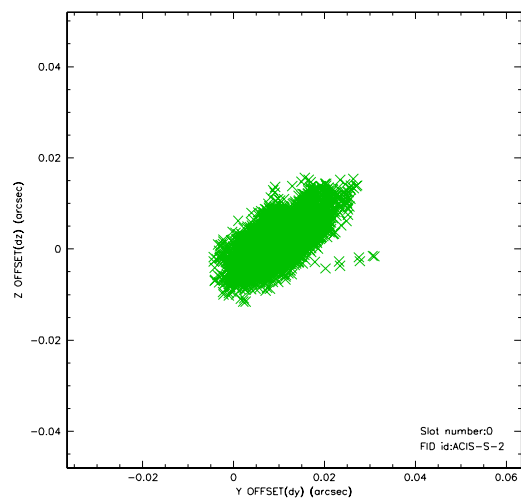


2.4.5 Slot 7

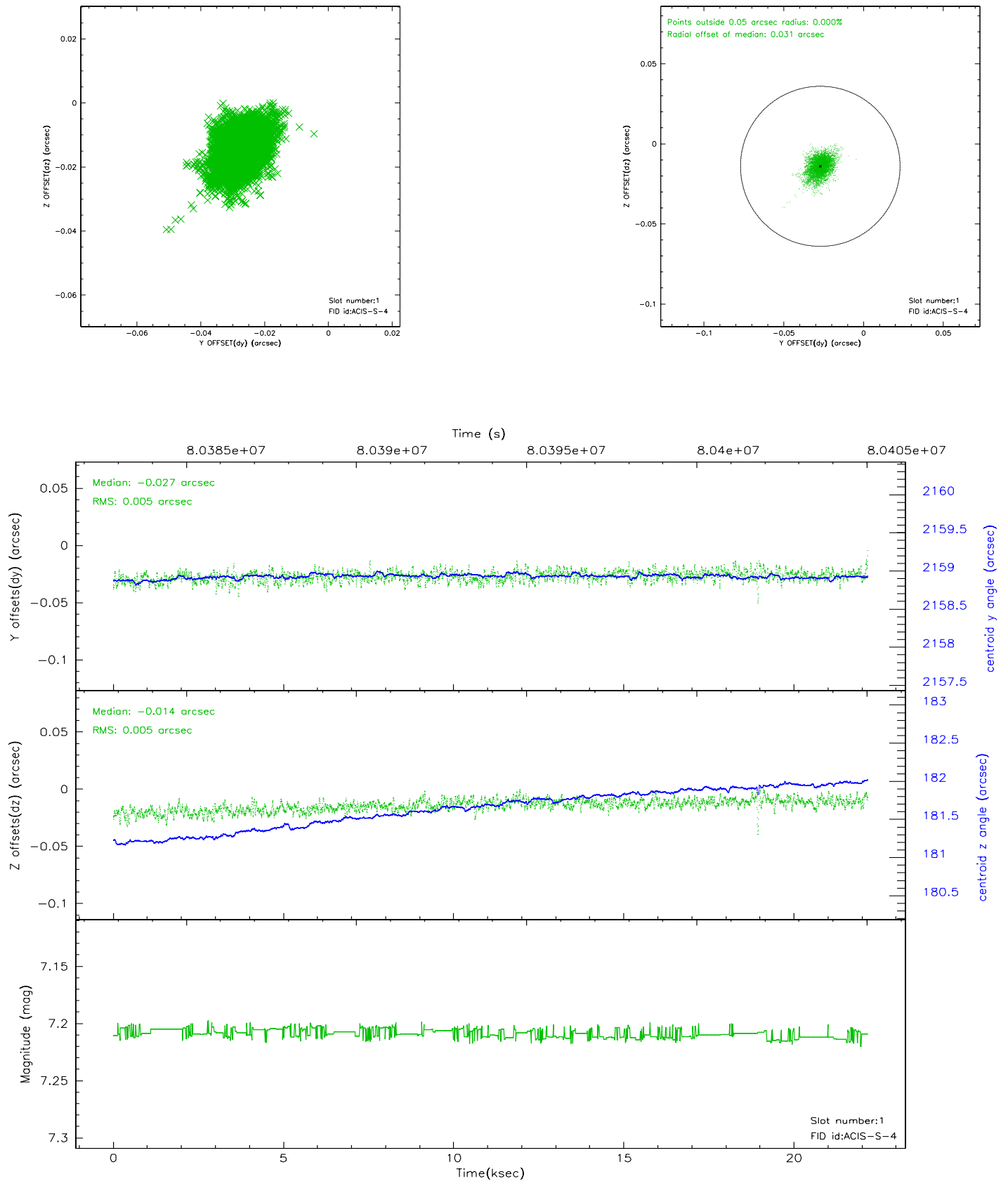


2.5 FID Slots

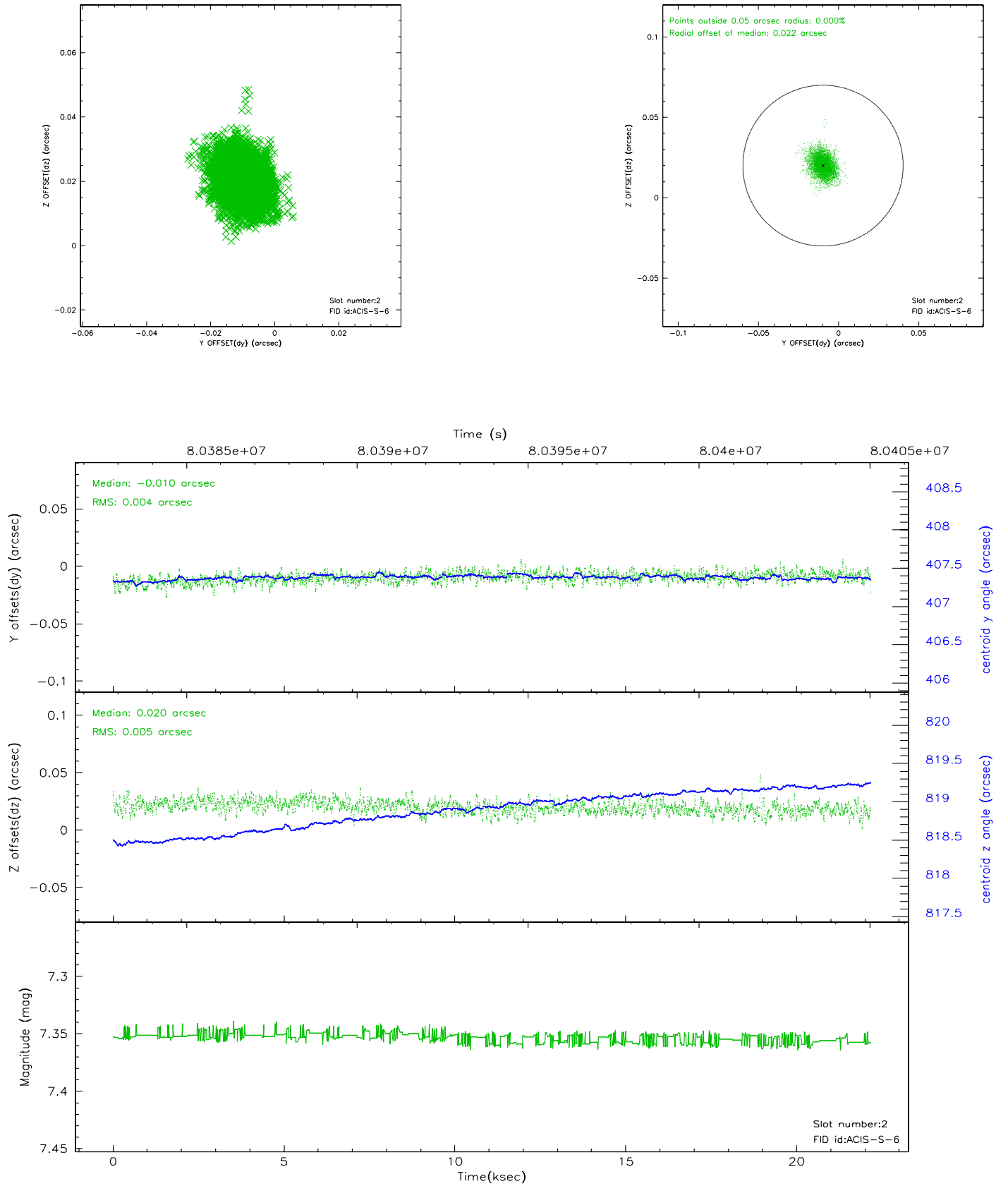
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

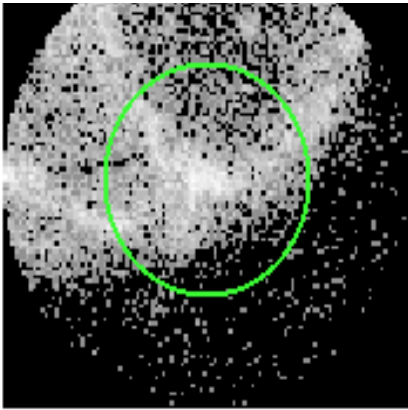


3 Gratings

3.1 HEG Arm



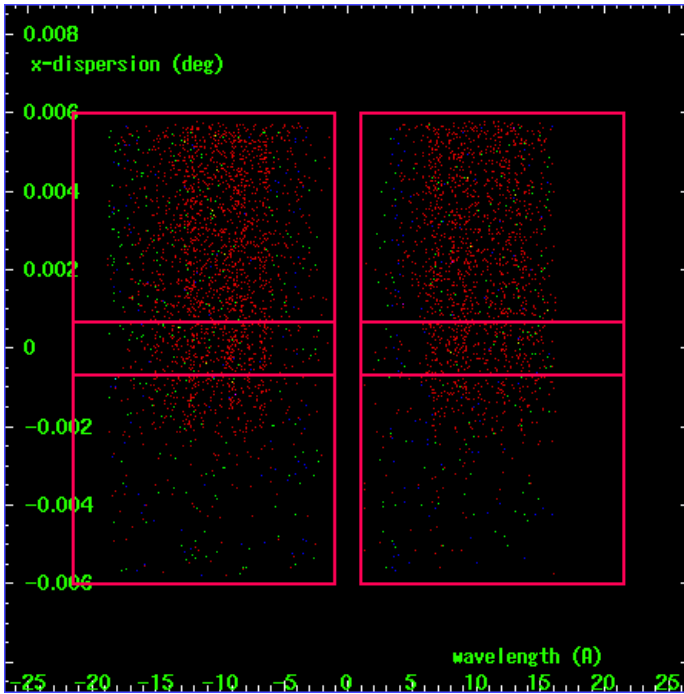
HEG Order Sort 123



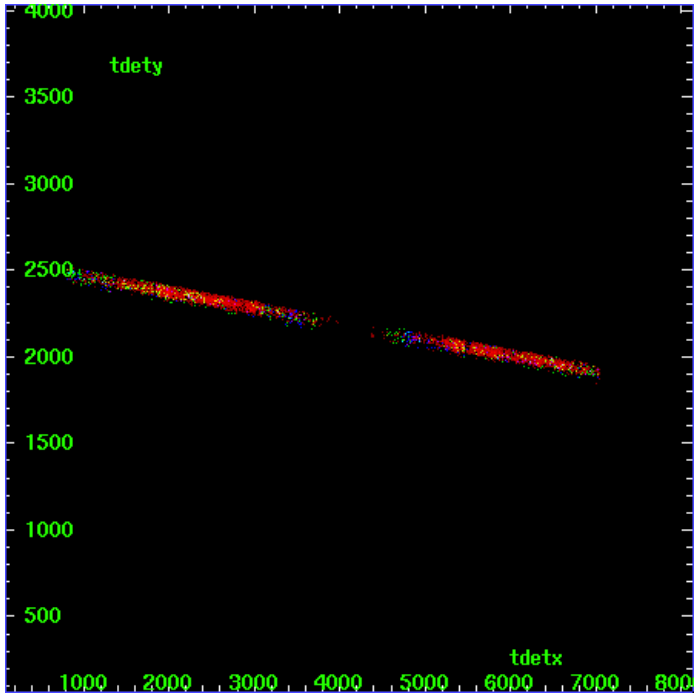
HEG Zero Order



HEG Order Sort ALL

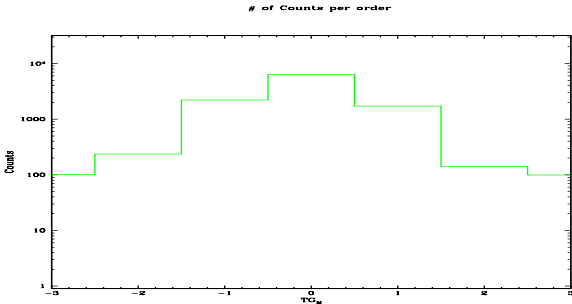


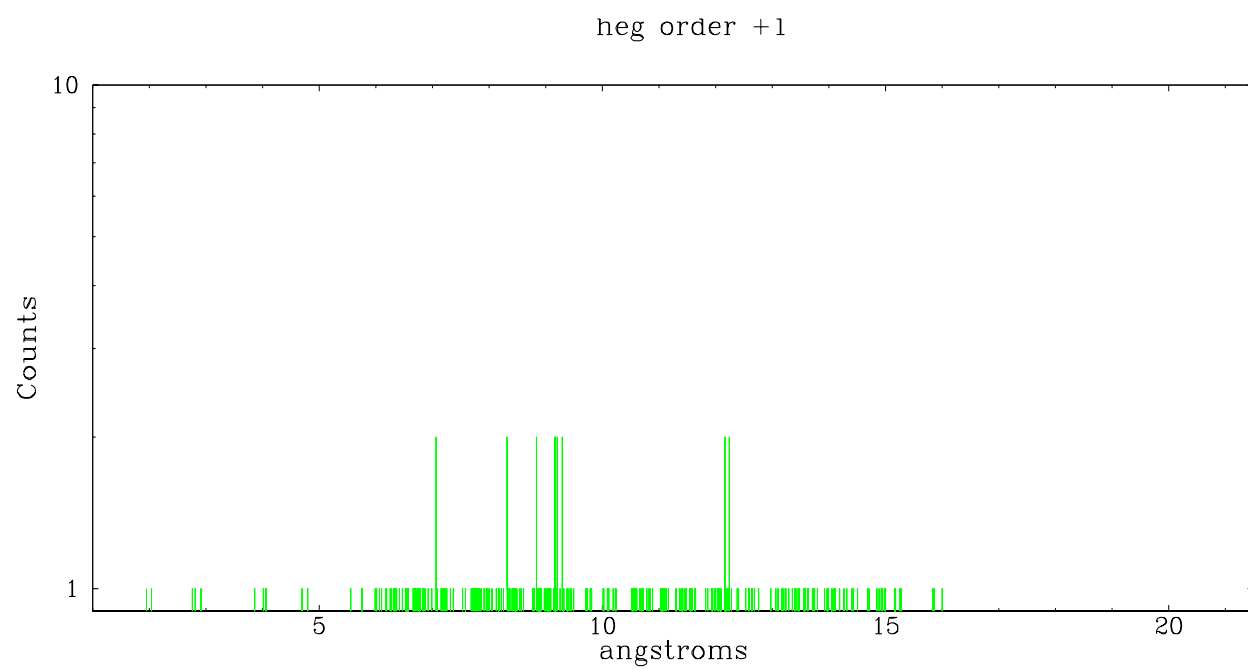
Spot Image HEG



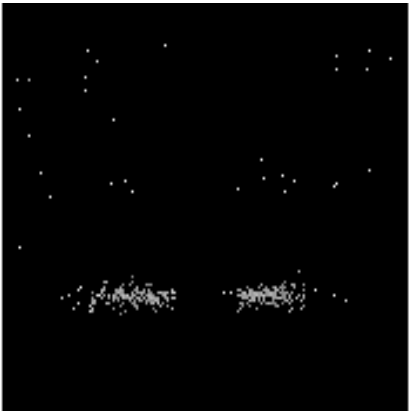
Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 101 | 236 | 2206 | 6337 | 1717 | 141 | 99 |

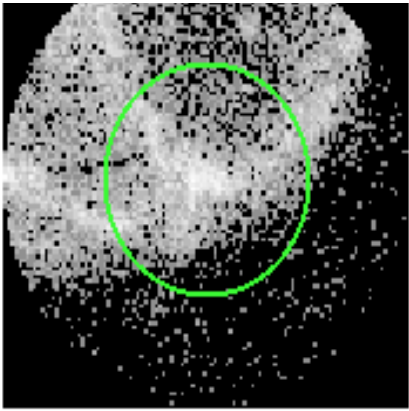




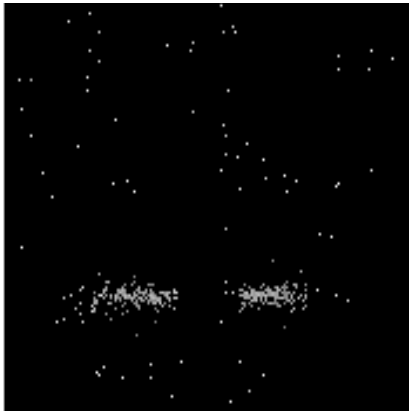
3.2 MEG Arm



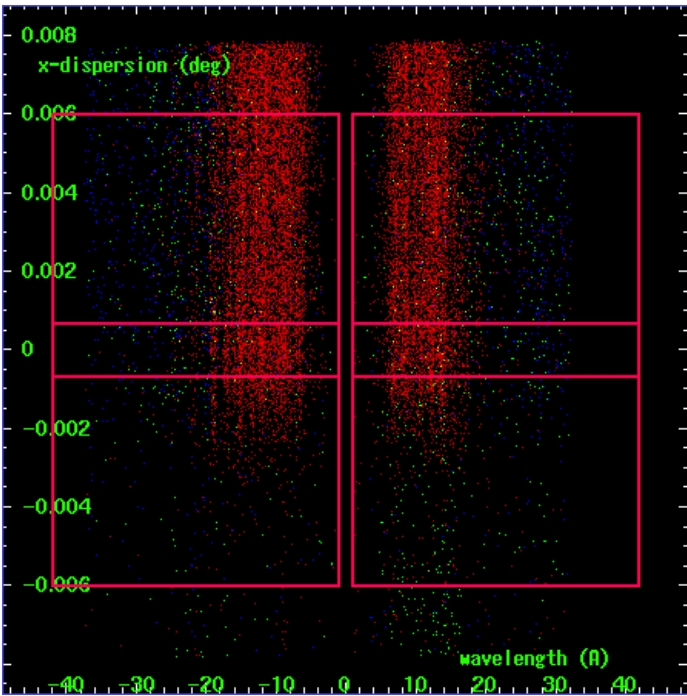
MEG Order Sort 123



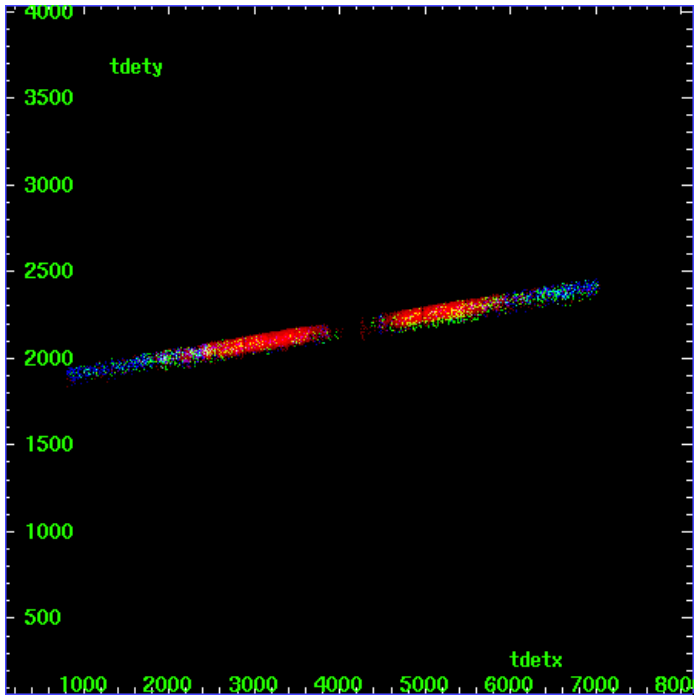
MEG Zero Order



MEG Order Sort ALL

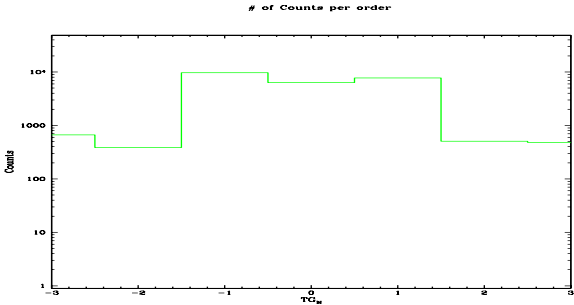


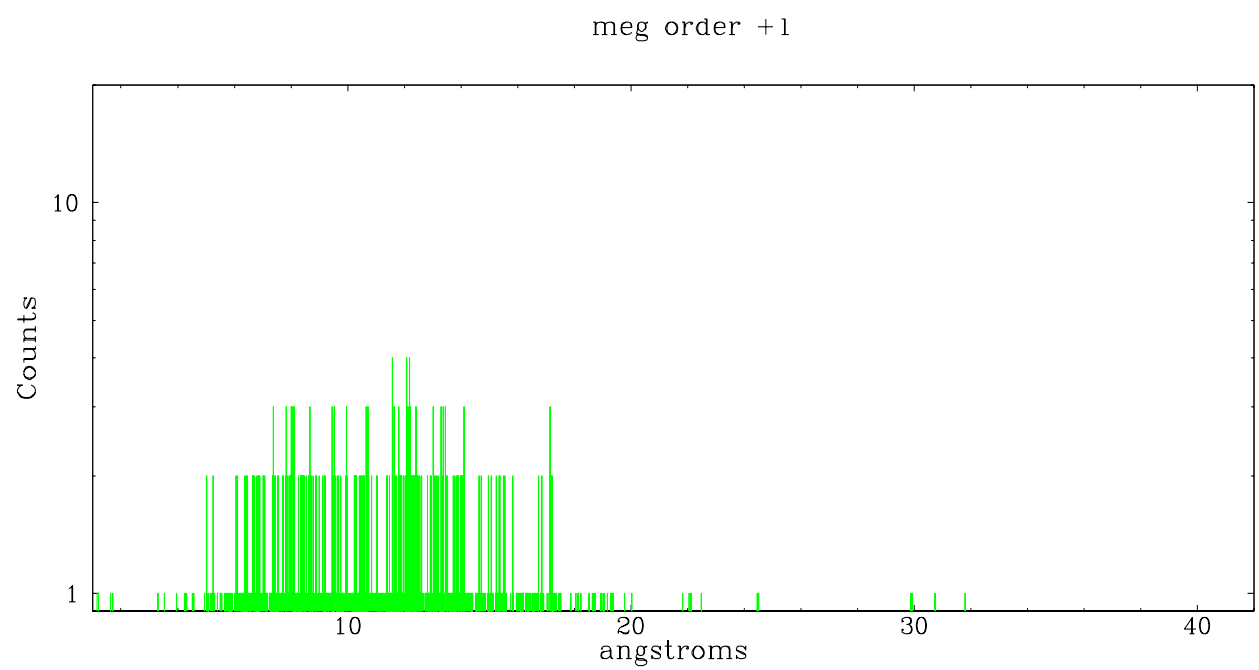
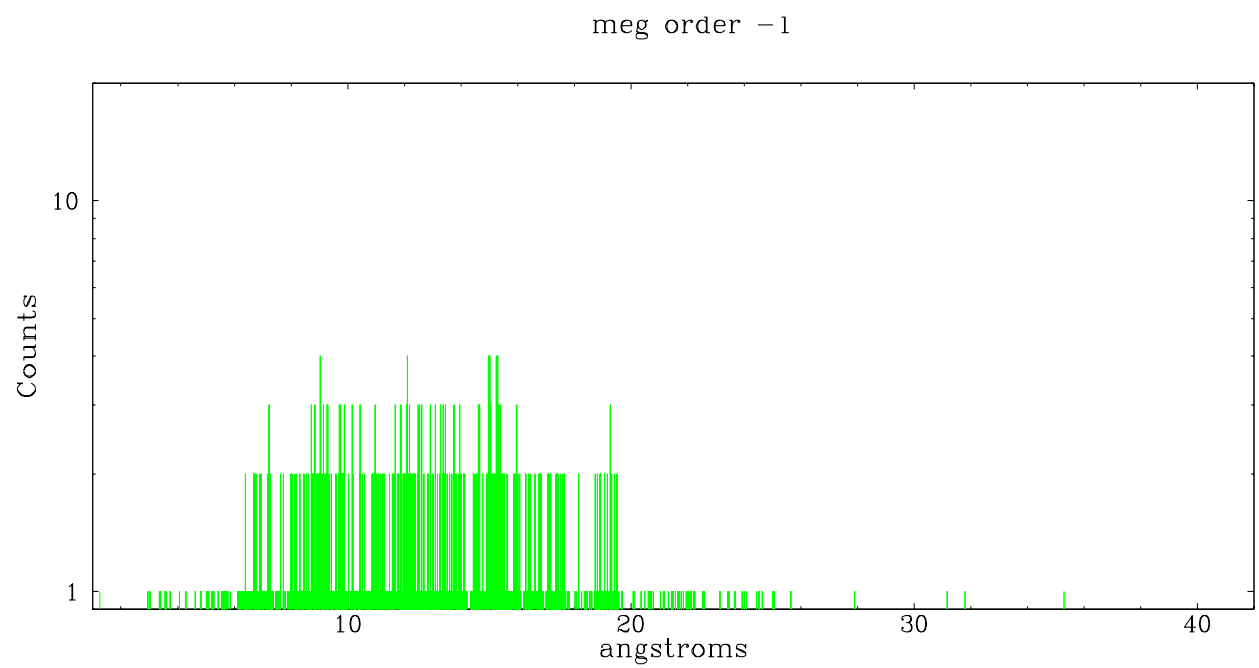
Spot Image MEG



Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 665 | 386 | 9728 | 6337 | 7720 | 506 | 485 |





A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2007.06.06 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 21.744 |

A.2 Comments

Roll constraint met.

WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle. WARNING::Zeroth order selected by pipeline tools is on a bright outer filament southwest of the center of the supernova remnant. The user will need to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the particular emission knot selected. However, it should be noted that the emission knot that has been selected as the zeroth order source is filamentary and curved, so the energy assignments to the events should take the spatial information into account. The zeroth order used for extracting the spectral data in this processing is not located at the position of the brightest X-ray emission in the filament.