

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 8487 - L2 Version 3
Chandra X-Ray Center

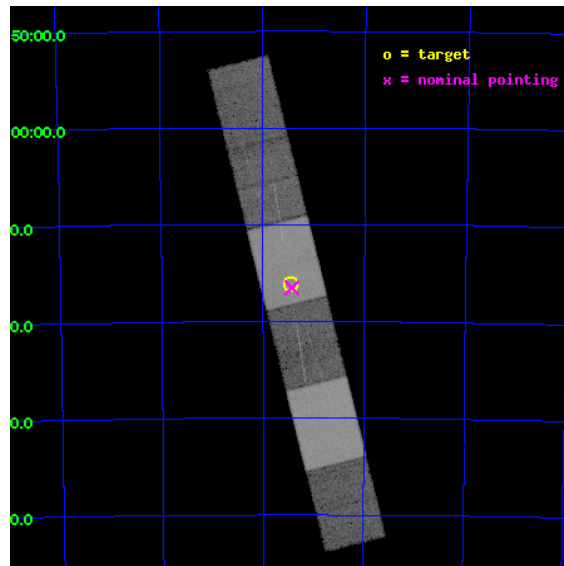
L2 Processing Date : Apr 22 2012

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1 Front

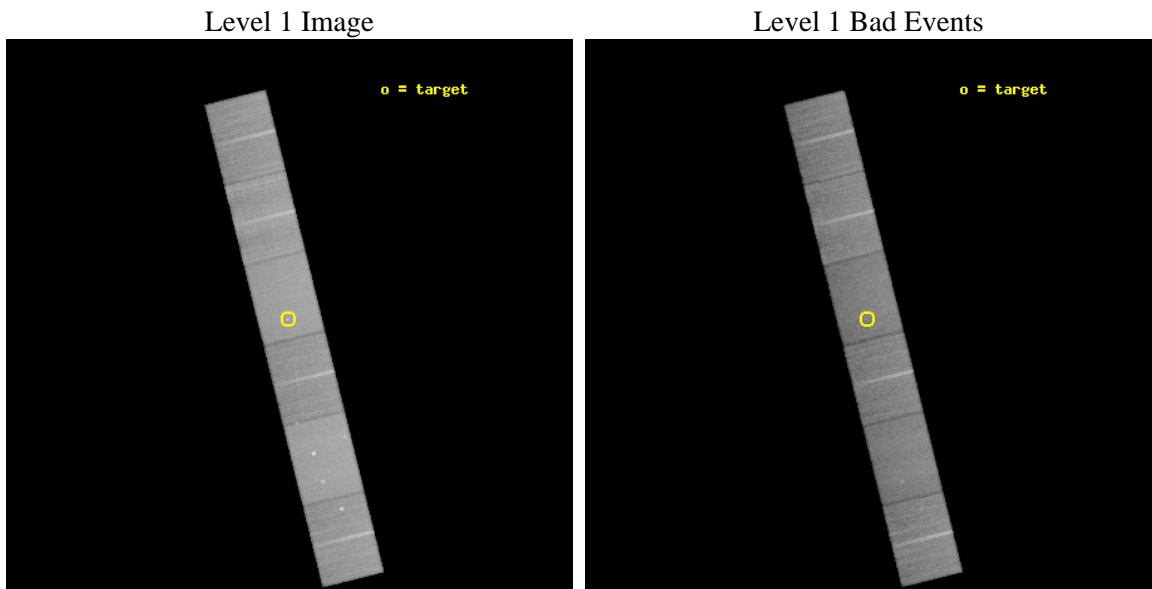
| | | |
|----------|---|---|
| seq_num | 500720 | Sequence number |
| obs_id | 8487 | Observation id |
| title | High resolution spectral imaging of SN 1987A at 20 years: HETG observation | Proposal title |
| observer | Prof Claude Canizares | Principal investigator |
| object | Sn 1987A | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 83.866667 | Observer's specified target RA [deg] |
| dec_targ | -69.269722 | Observer's specified target Dec [deg] |
| ra_nom | 83.857919854658 | Nominal RA [deg] |
| dec_nom | -69.275410972421 | Nominal Dec [deg] |
| roll_nom | 256.04843117005 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 29140.0 | Sum of GTIs [s] |
| livetime | 28669.363725089 | Livetime [s] |
| ontime4 | 29140.0 | Sum of GTIs [s] |
| ontime5 | 29140.0 | Sum of GTIs [s] |
| ontime6 | 29134.91800946 | Sum of GTIs [s] |
| ontime7 | 29140.0 | Sum of GTIs [s] |
| ontime8 | 29140.0 | Sum of GTIs [s] |
| ontime9 | 29140.0 | Sum of GTIs [s] |
| l2events | 354275 | Number of level 2 events |



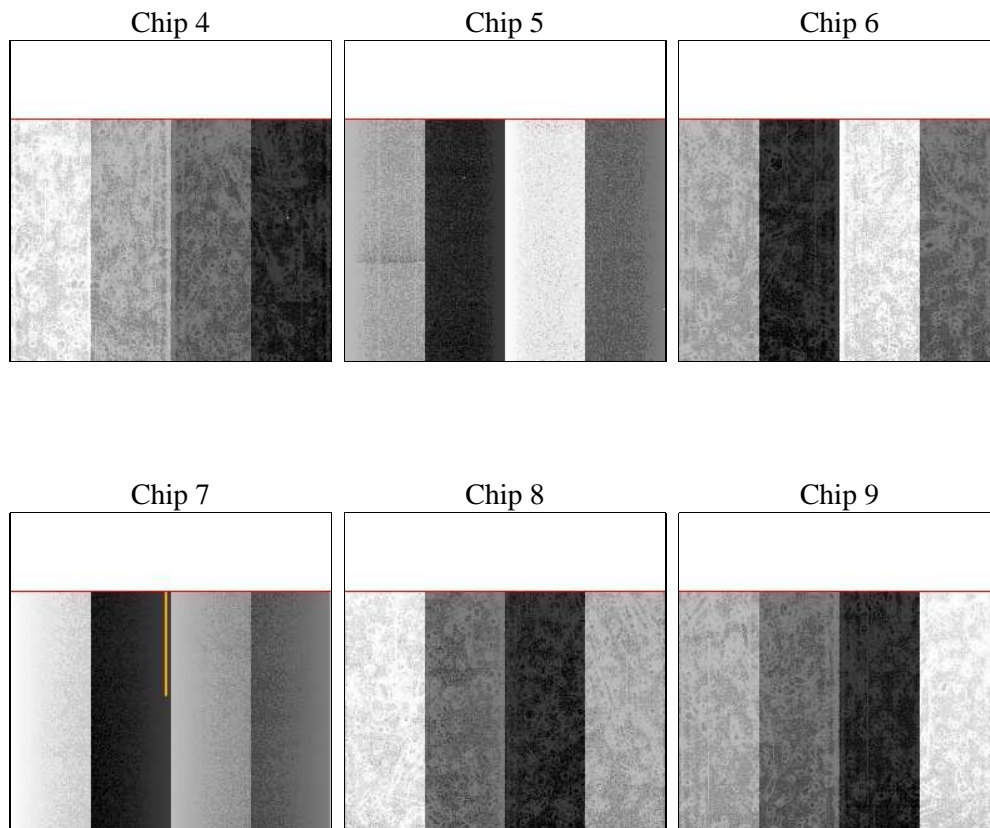
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 29000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 29140.0 | Sum of GTIs [s] |
| caldbver | 4.4.9 | | ontime4 | 29140.0 | Sum of GTIs [s] |
| date | 2012-04-22T05:14:25 | Date and time of file creation | ontime5 | 29140.0 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime6 | 29134.91800946 | Sum of GTIs [s] |
| | | | ontime7 | 29140.0 | Sum of GTIs [s] |
| | | | ontime8 | 29140.0 | Sum of GTIs [s] |
| | | | ontime9 | 29140.0 | Sum of GTIs [s] |
| | | | l1events | 1533378 | Number of level 1 events |

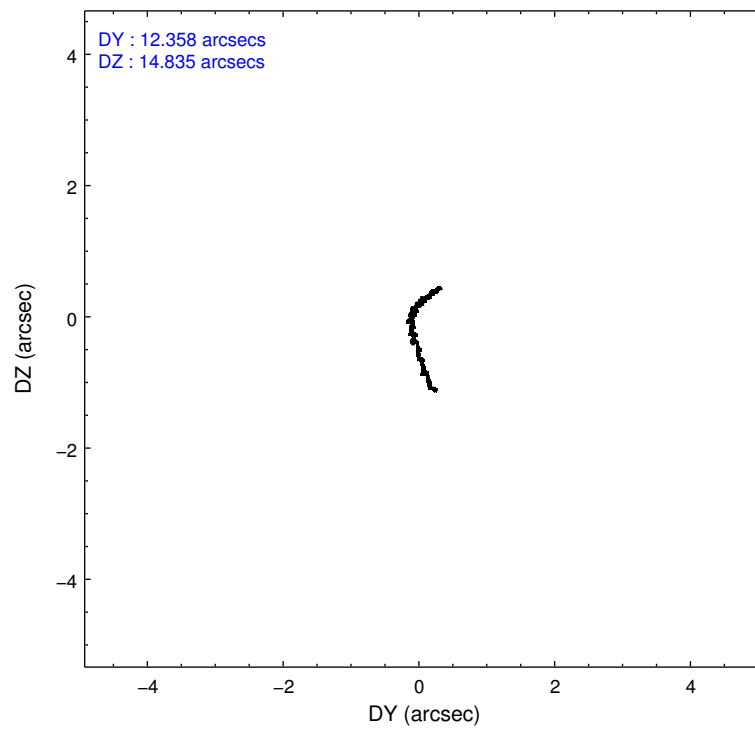
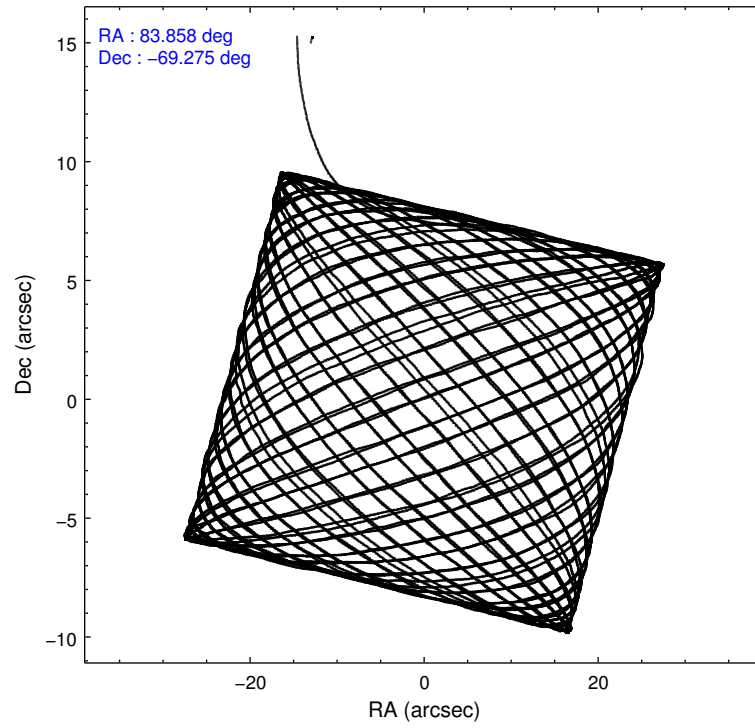
2.1.4 Events

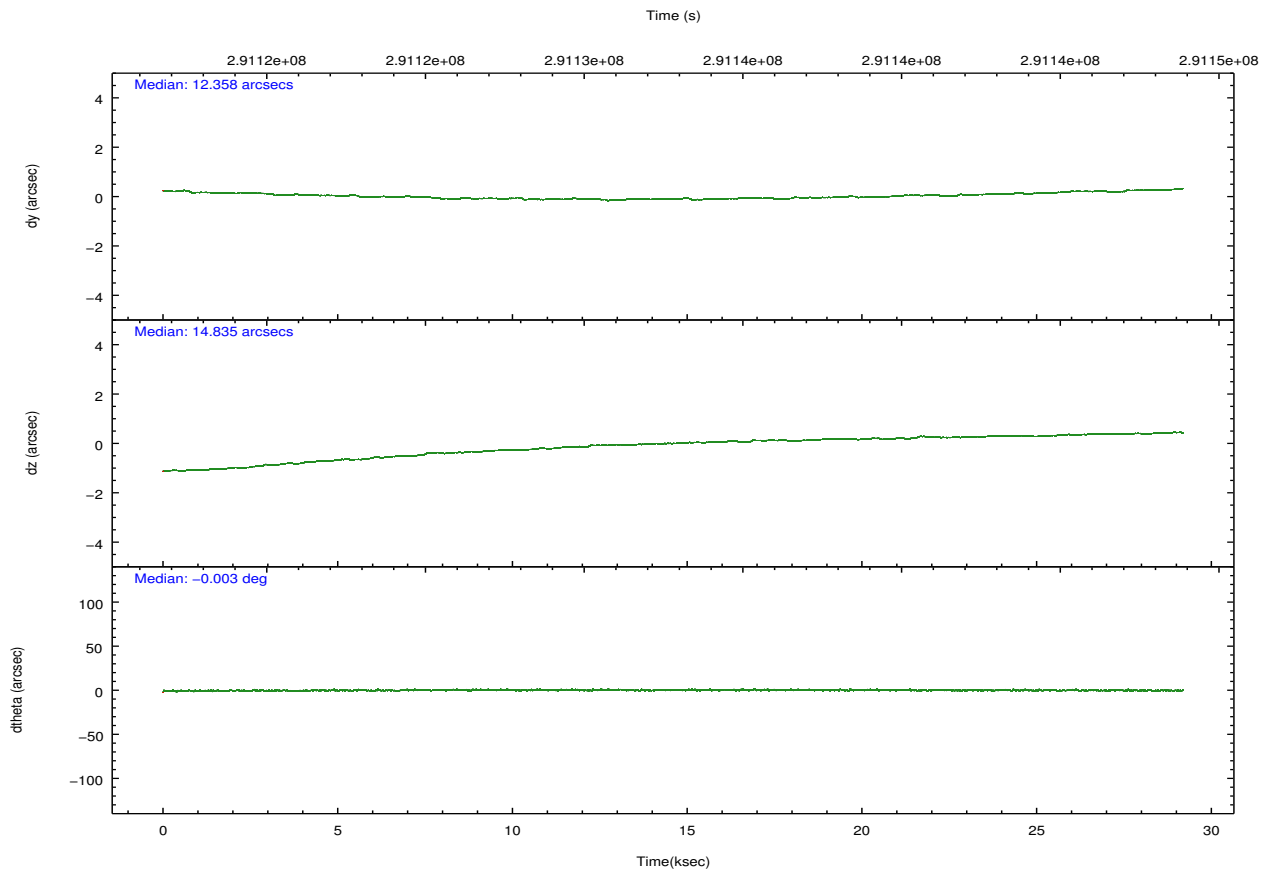
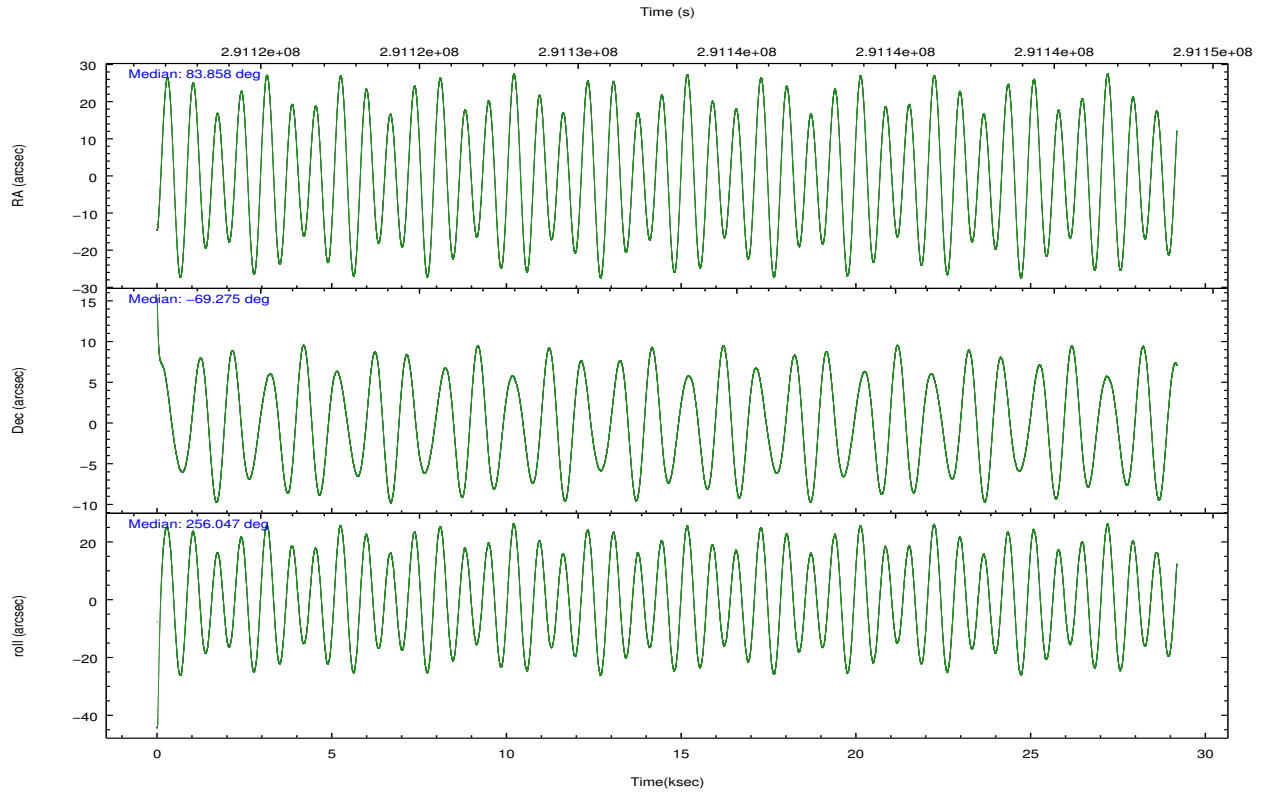
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 | | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|--------|--------|--------|--------|--------|
| level 1 events | 236966 | 319037 | 211675 | 287391 | 271633 | 206676 | grade 0 events | 14948 | 17473 | 11162 | 11286 | 20432 | 10922 |
| rejected events | 206648 | 169501 | 184808 | 164243 | 208592 | 180163 | | 6% | 5% | 5% | 3% | 7% | 5% |
| rejected % | 87% | 53% | 87% | 57% | 76% | 87% | grade 1 events | 213 | 747 | 100 | 304 | 165 | 122 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 5731 | 42884 | 5535 | 25476 | 13560 | 5254 |
| | | | | | | | | 2% | 13% | 2% | 8% | 4% | 2% |
| | | | | | | | grade 3 events | 2771 | 6330 | 2587 | 11181 | 6667 | 2695 |
| | | | | | | | | 1% | 1% | 1% | 3% | 2% | 1% |
| | | | | | | | grade 4 events | 2645 | 6066 | 2525 | 11200 | 6102 | 2626 |
| | | | | | | | | 1% | 1% | 1% | 3% | 2% | 1% |
| | | | | | | | grade 5 events | 9136 | 23837 | 9532 | 26685 | 12804 | 10106 |
| | | | | | | | | 3% | 7% | 4% | 9% | 4% | 4% |
| | | | | | | | grade 6 events | 4225 | 76833 | 5066 | 64026 | 16316 | 5023 |
| | | | | | | | | 1% | 24% | 2% | 22% | 6% | 2% |
| | | | | | | | grade 7 events | 197297 | 144867 | 175168 | 137233 | 195587 | 169928 |
| | | | | | | | | 83% | 45% | 82% | 47% | 72% | 82% |

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 | VFAINT | VFAINT | Number of optional ACIS chips dropped | 0 | 0 |
| Observation mode | POINTING | POINTING | On-chip summing requested | N | N |
| [deg] Pointing RA | 83.835586 | 83.85791985465835 | Subarray requested | CUSTOM | CUSTOM |
| [deg] Pointing Dec | -69.249242 | -69.27541097242052 | Subarray start row | 1 | 1 |
| [deg] Pointing Roll | 255.870938 | 256.0484311700531 | Subarray row count | 774 | 774 |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 | Alternating exposures requested | N | N |
| [mm] SIM defocus | 0 | 0.001444936568705701 | [s] Primary exposure time | 0.000000 | 2.5 |
| [mm] SIM translation stage pos | -187.132523 | -187.1228876879999 | | | |
| [mm] SIM translation stage offset | -3 | -3.009634895007935 | | | |
| [s] Observation start time (MET) | 291118395.184000 | 291117385.04317 | | | |
| Observation start date | 2007-03-24T10:12:10 | 2007-03-24T09:56:25 | | | |
| [s] Observation end time (MET) | 291147395.184000 | 291148884.83217 | | | |
| Observation end date | 2007-03-24T18:15:30 | 2007-03-24T18:41:24 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



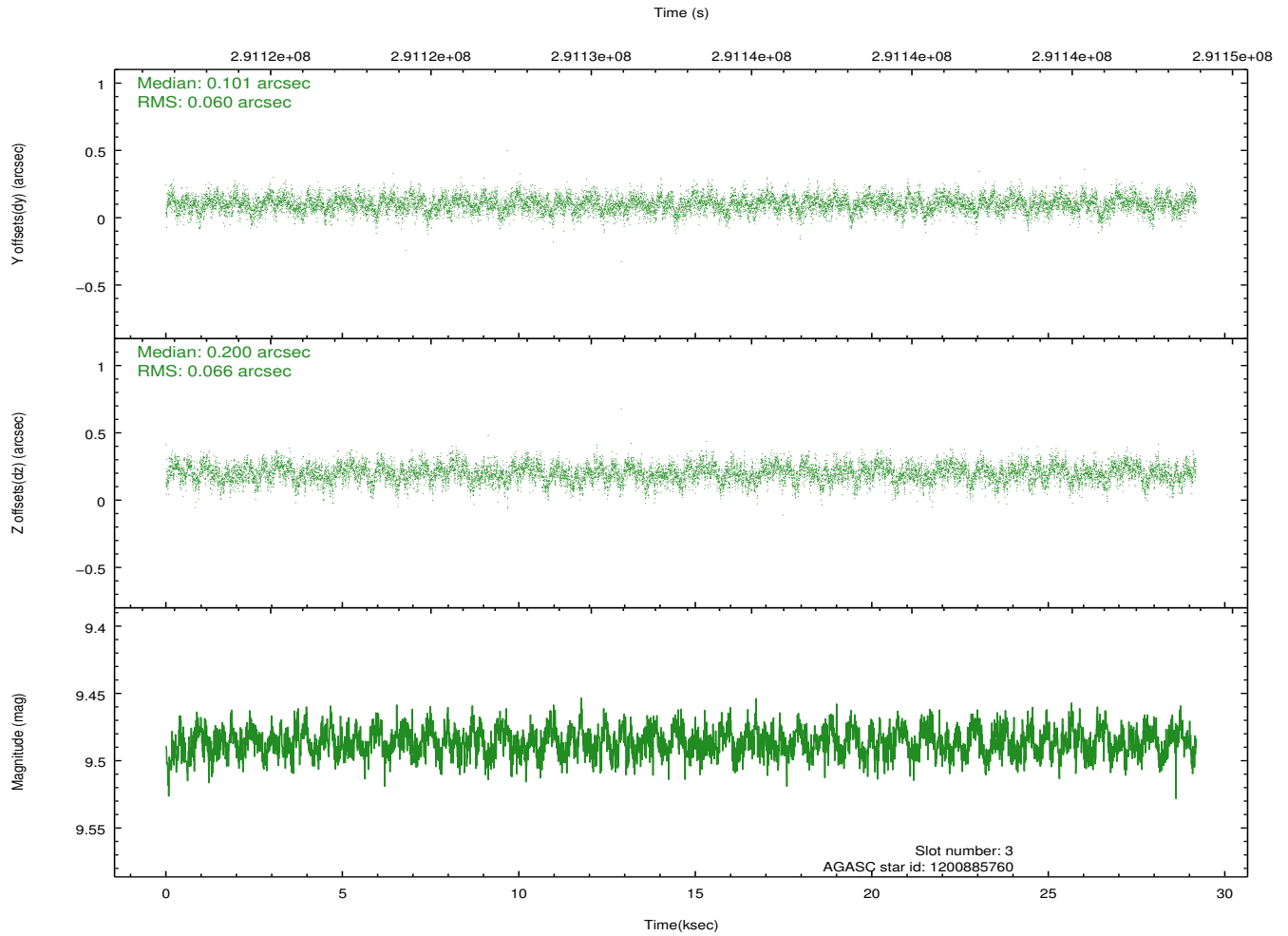
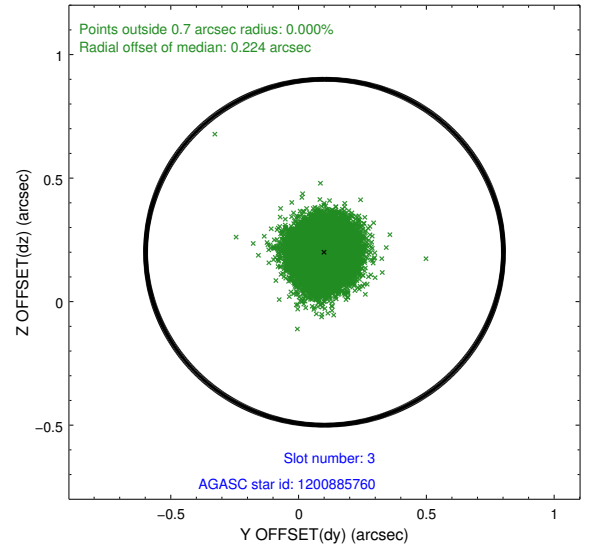
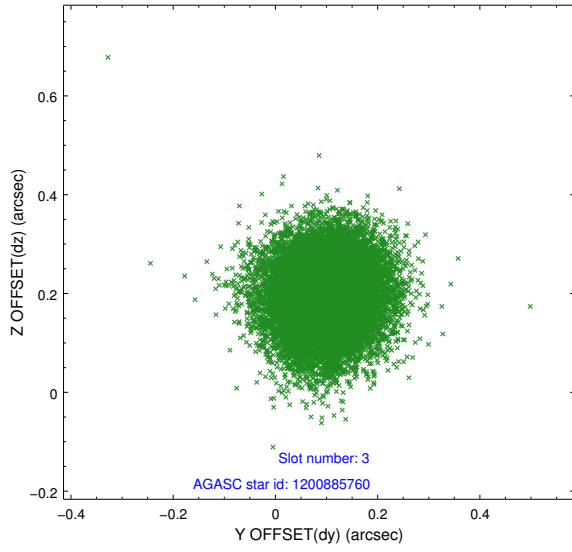


Slot Statistics

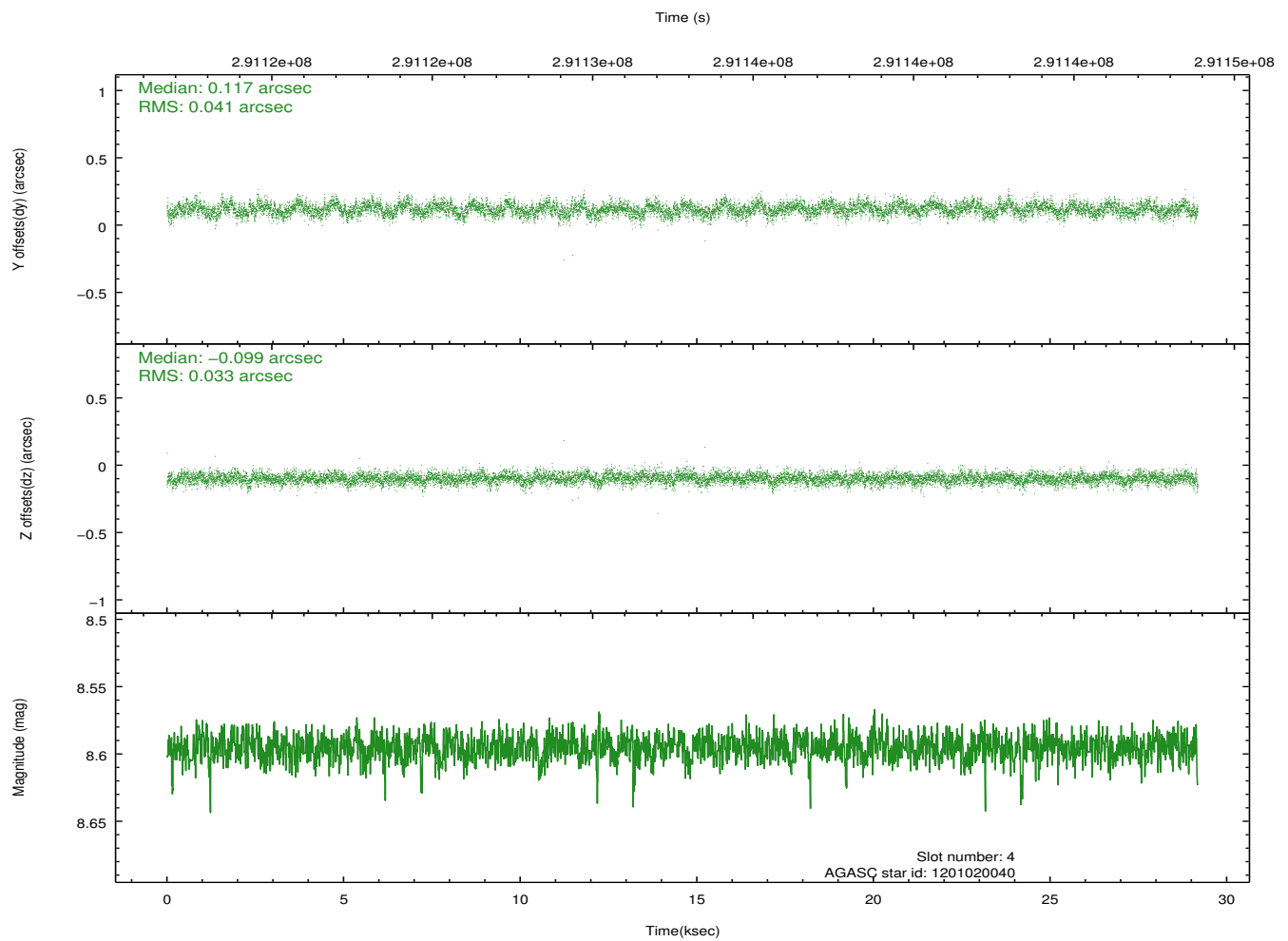
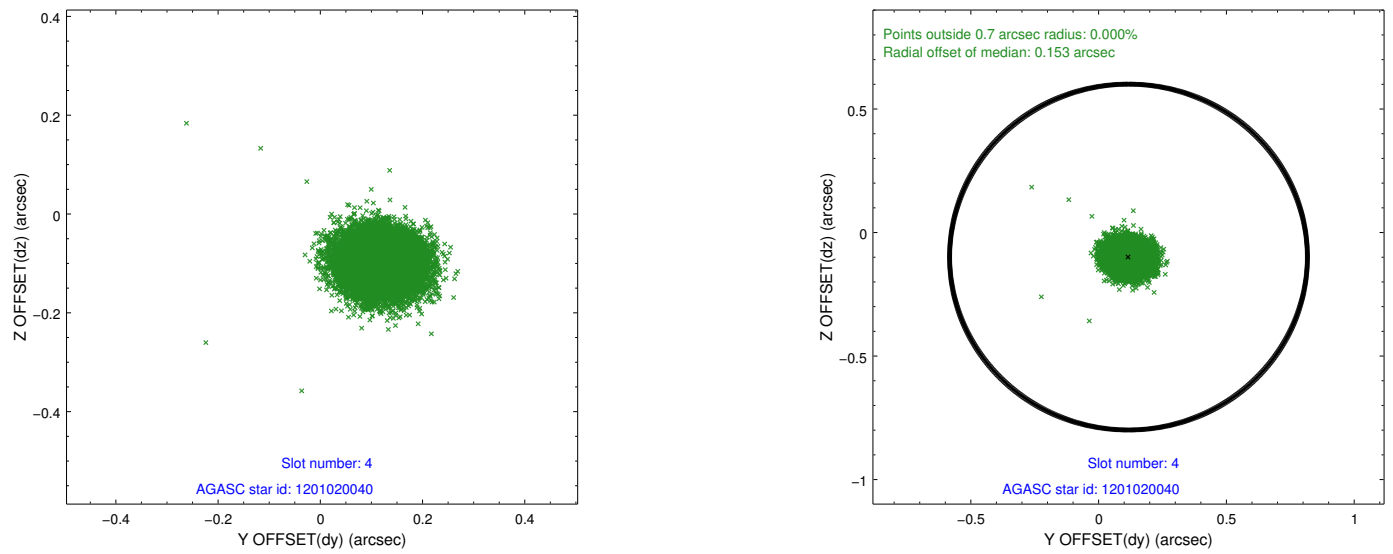
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------------|------|-------|--------|--------|-------|-------|-----------|------------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.08 | 7118 | -0.122 | -0.096 | 0.008 | 0.015 | 0.000000 | 0.000000 | -765.22 | -1798.29 |
| 1 | FID | ACIS-S-4 | 7.18 | 7118 | 0.127 | 0.057 | 0.007 | 0.012 | 0.000000 | 0.000000 | 2148.29 | 110.22 |
| 2 | FID | ACIS-S-6 | 7.36 | 7116 | -0.032 | 0.046 | 0.009 | 0.016 | 0.000000 | 0.000000 | 396.98 | 747.71 |
| 3 | GUIDE | 1200885760 | 9.49 | 14226 | 0.101 | 0.200 | 0.095 | 0.153 | 83.723637 | -68.777667 | -1610.27 | -555.37 |
| 4 | GUIDE | 1201020040 | 8.60 | 14229 | 0.117 | -0.099 | 0.055 | 0.090 | 85.379163 | -68.879396 | -1755.41 | 1622.80 |
| 5 | GUIDE | 1201410616 | 9.33 | 14225 | -0.049 | 0.034 | 0.105 | 0.170 | 82.516808 | -69.784406 | 2285.89 | -1115.80 |
| 6 | GUIDE | 1201542672 | 8.20 | 14235 | -0.079 | -0.063 | 0.059 | 0.094 | 84.492488 | -69.957531 | 2278.00 | 1409.77 |
| 7 | GUIDE | 1201019672 | 6.81 | 14235 | -0.086 | -0.072 | 0.058 | 0.094 | 85.312192 | -68.770187 | -2119.68 | 1451.46 |

2.4 Star Slots

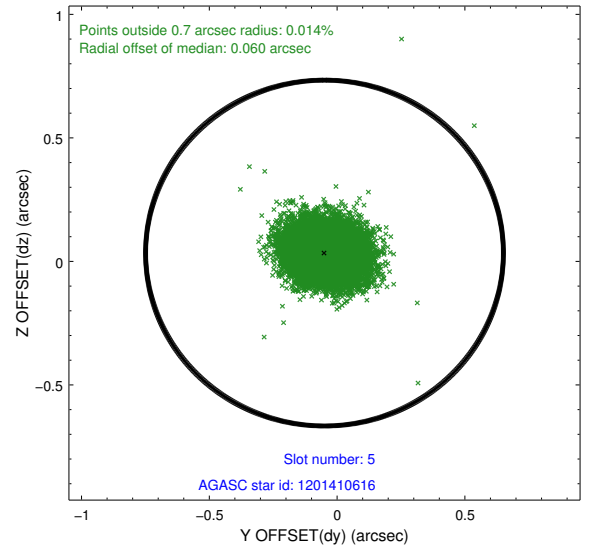
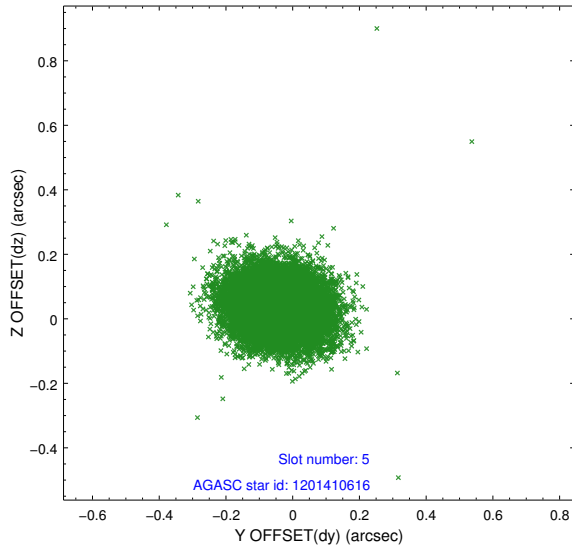
2.4.1 Slot 3



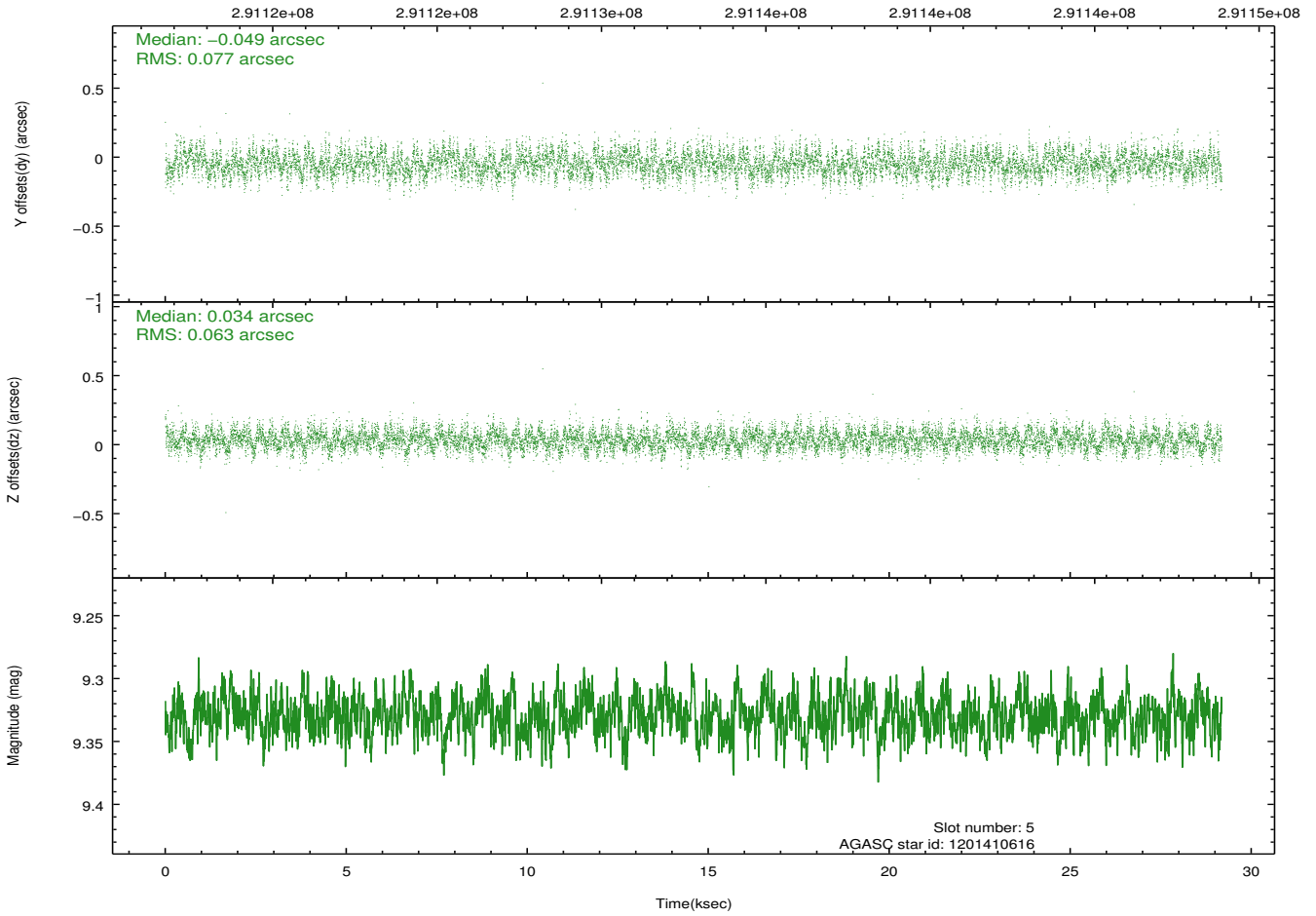
2.4.2 Slot 4



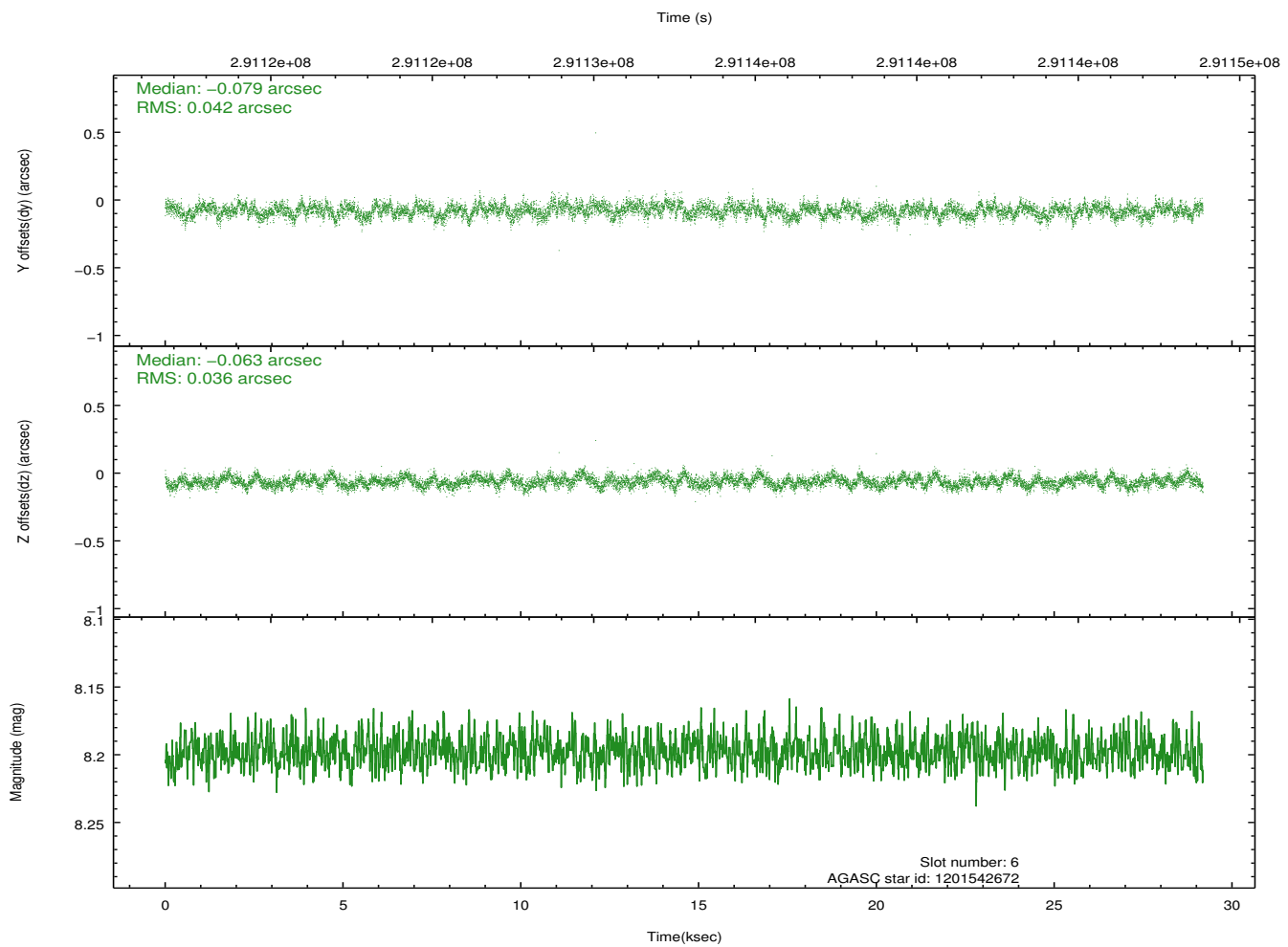
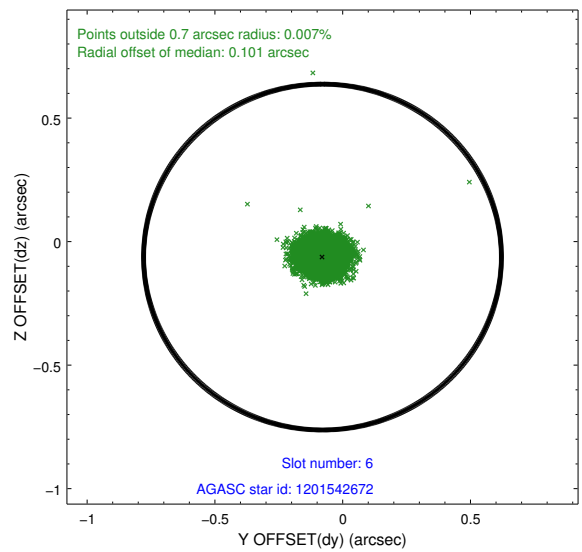
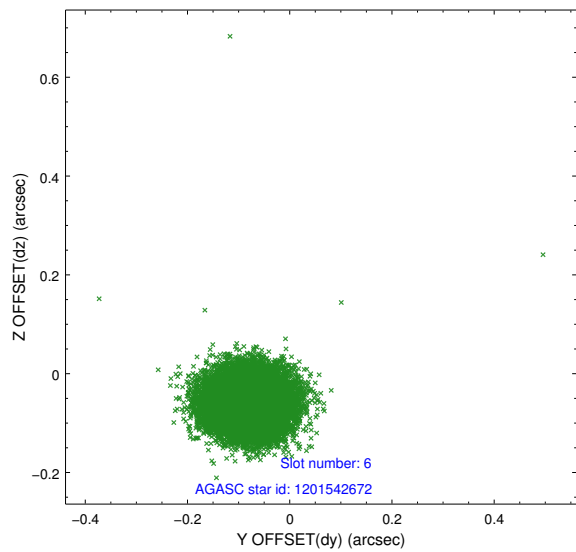
2.4.3 Slot 5



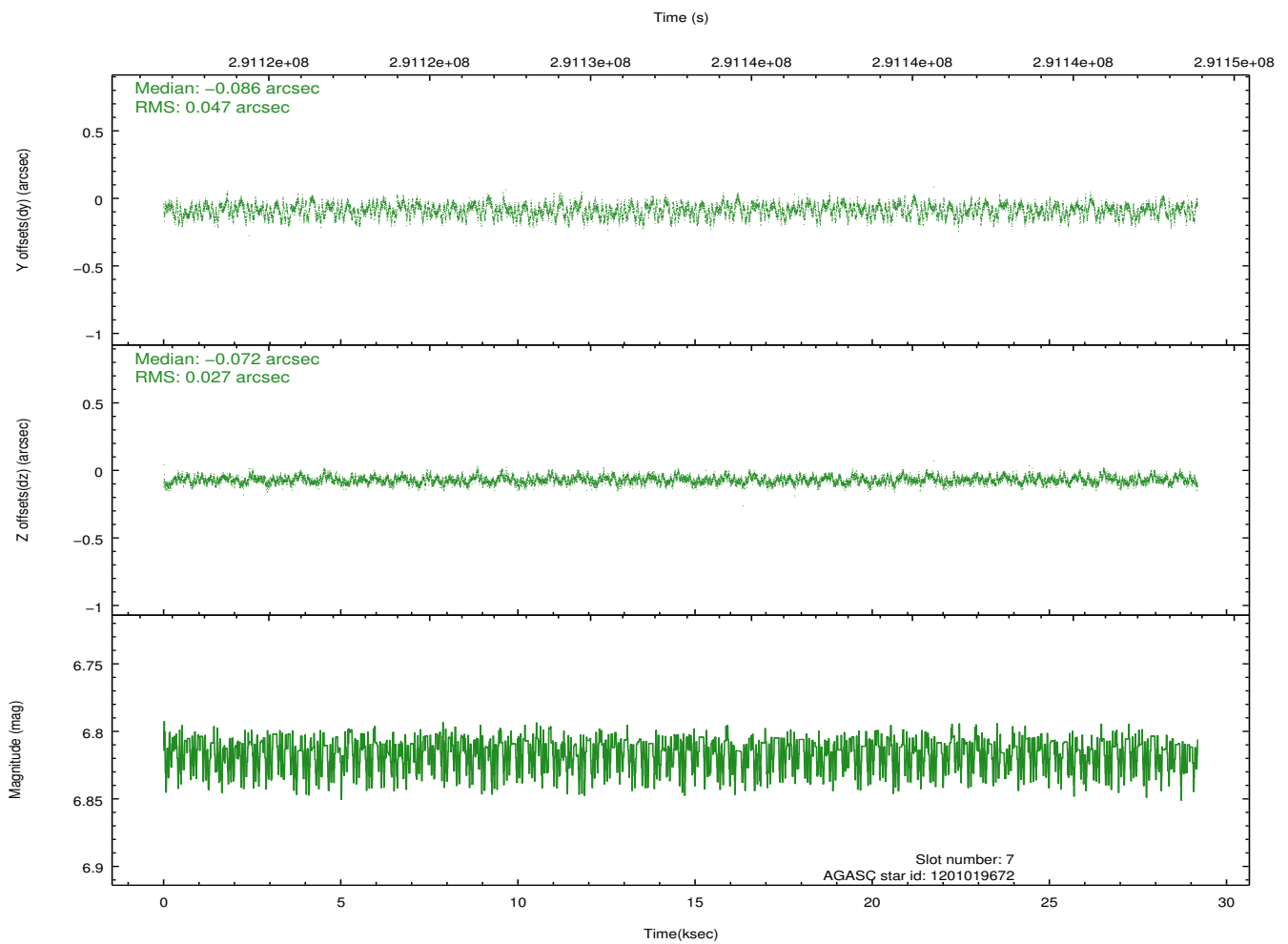
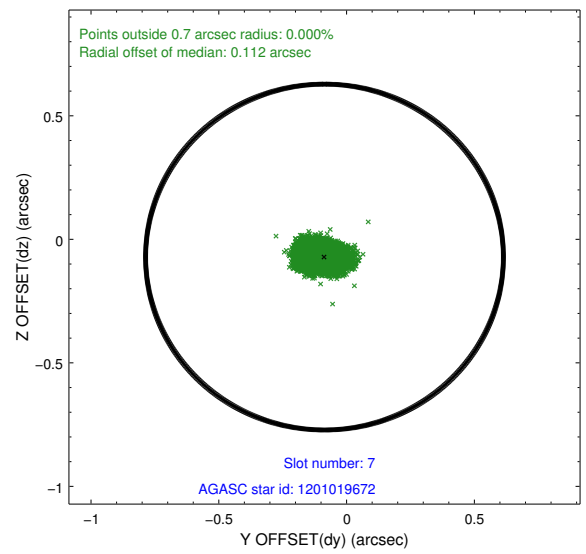
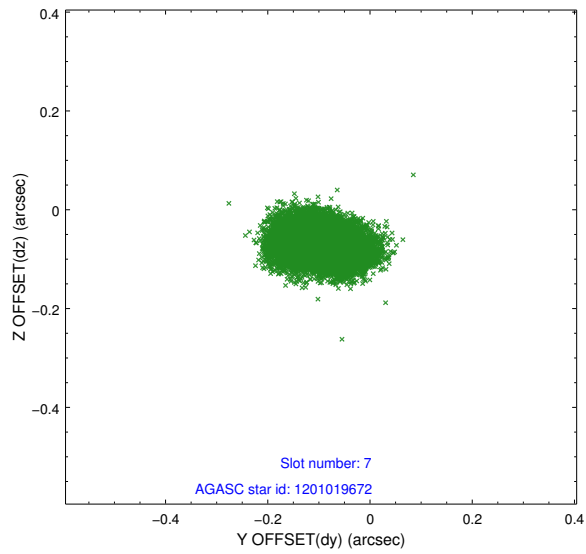
Time (s)



2.4.4 Slot 6

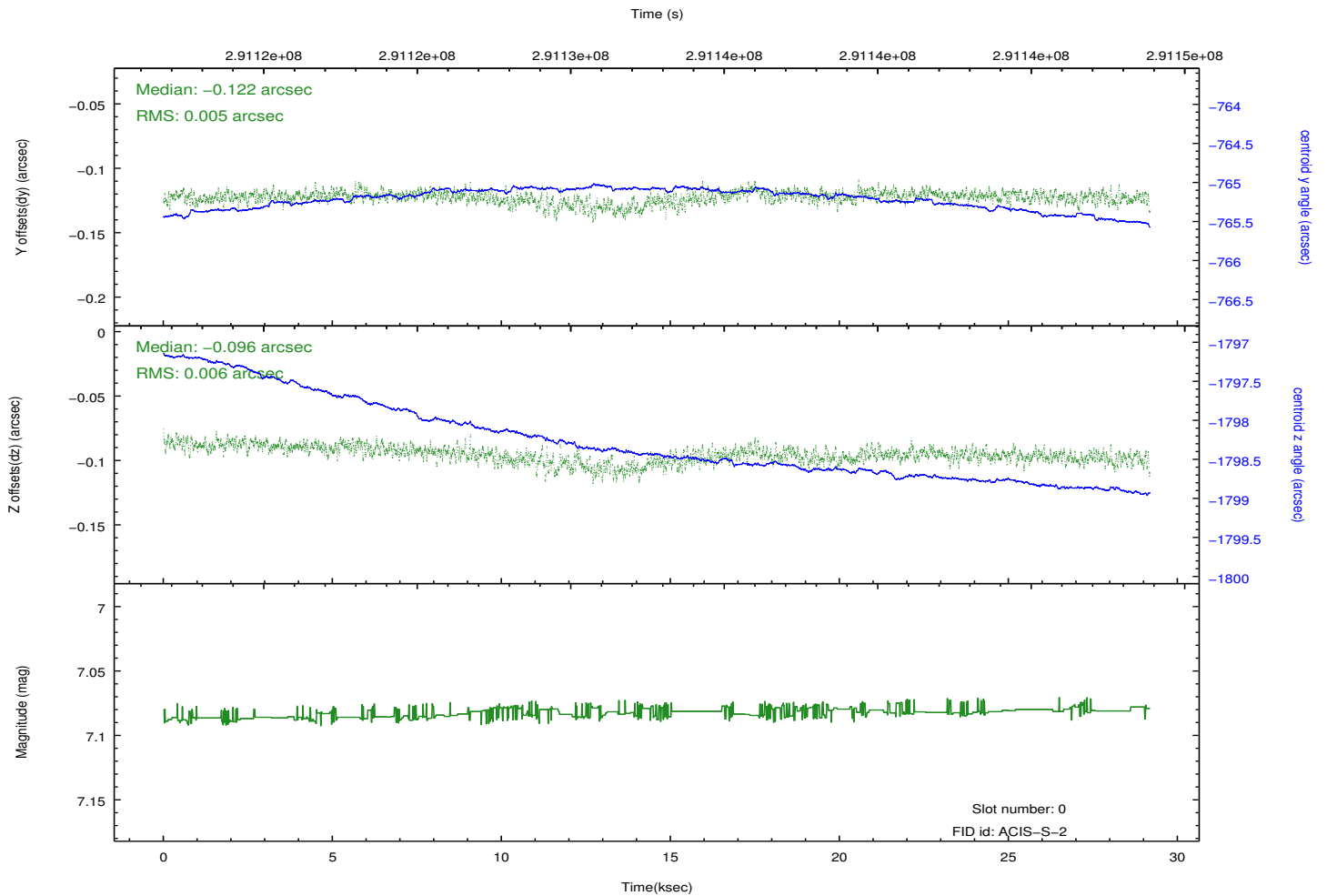
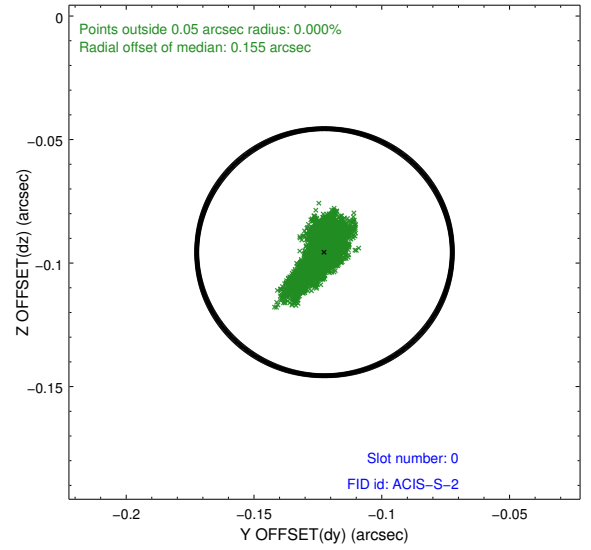
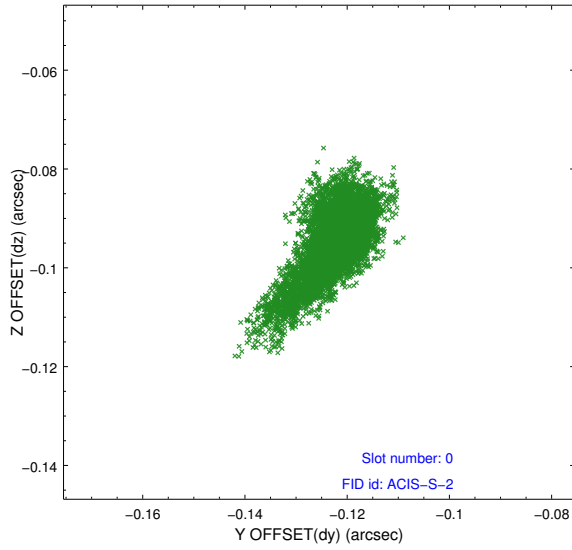


2.4.5 Slot 7

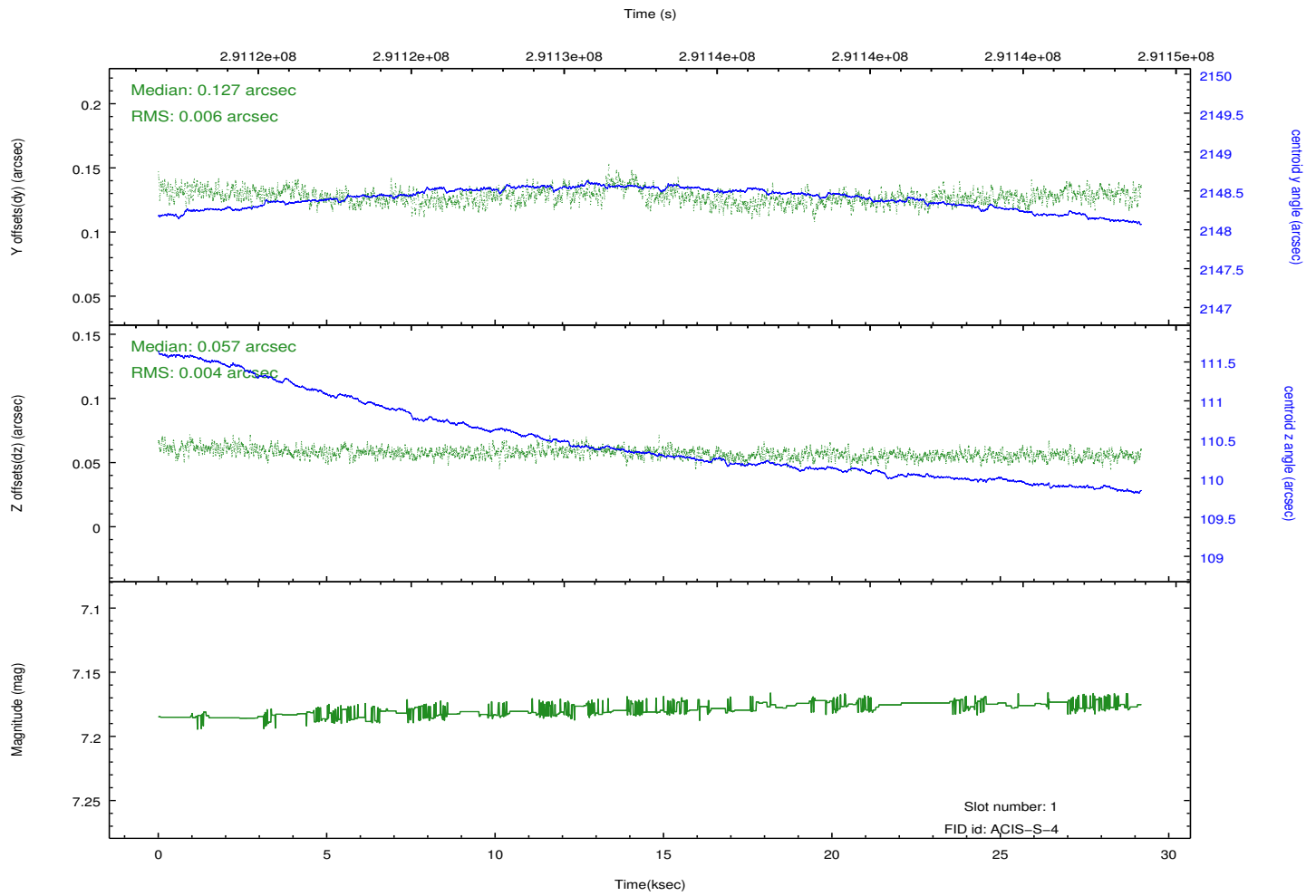
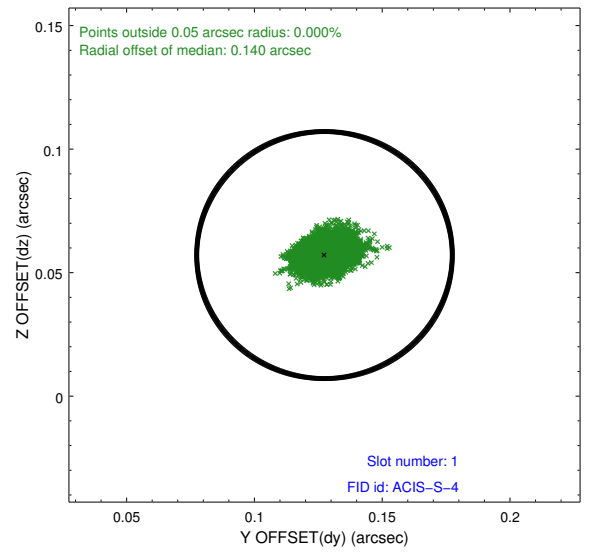
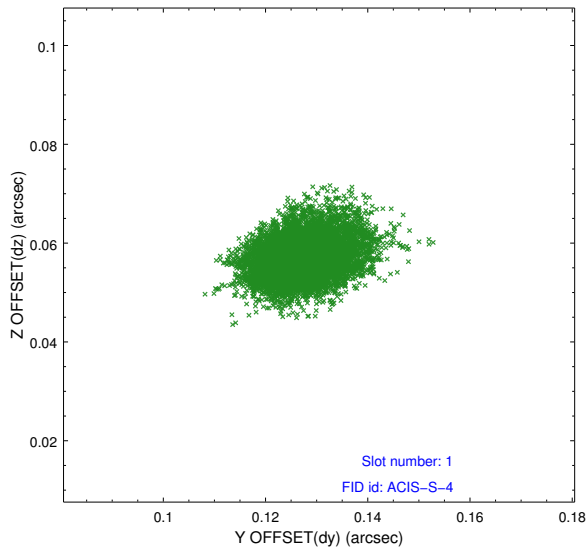


2.5 FID Slots

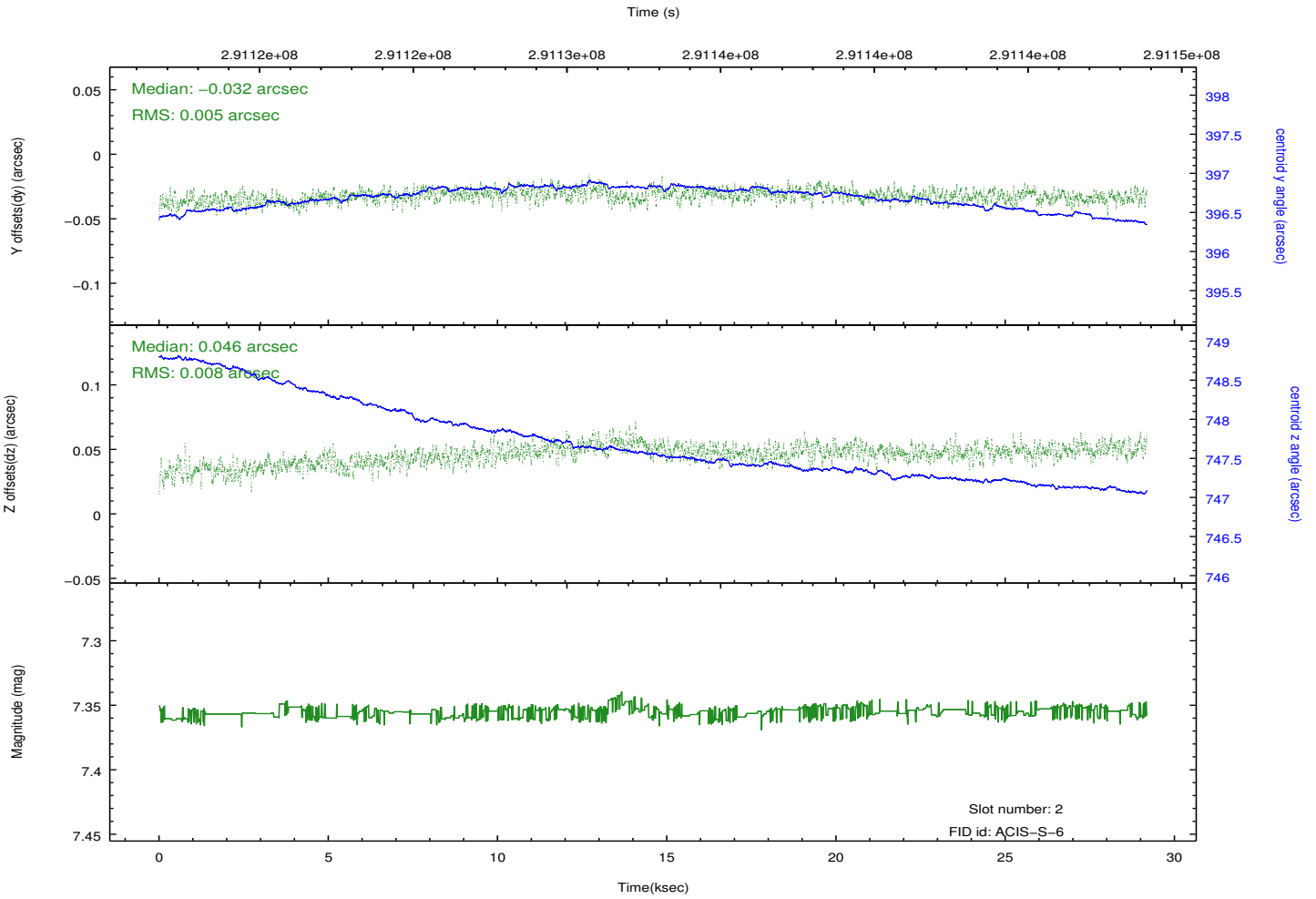
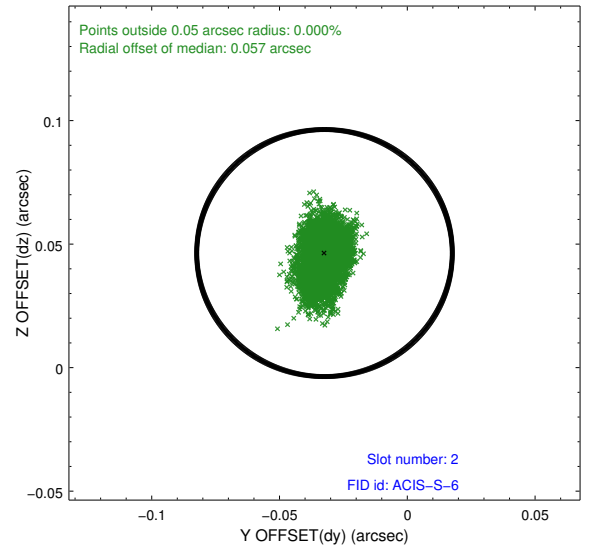
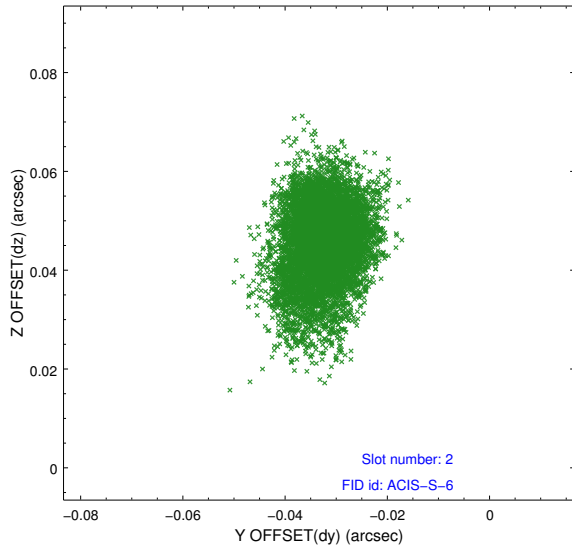
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

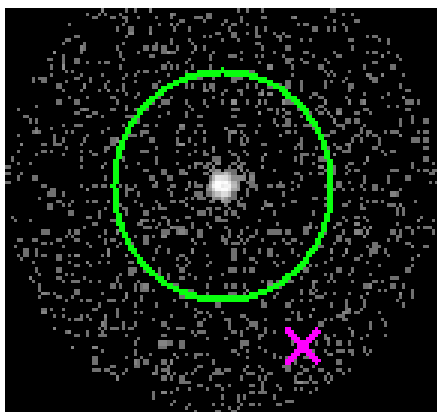


3 Gratings

3.1 HEG Arm



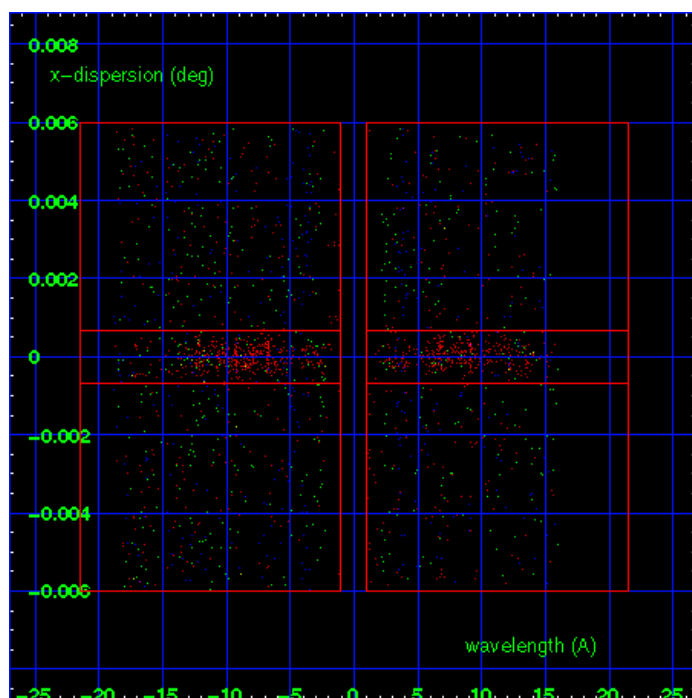
HEG Order Sort 123



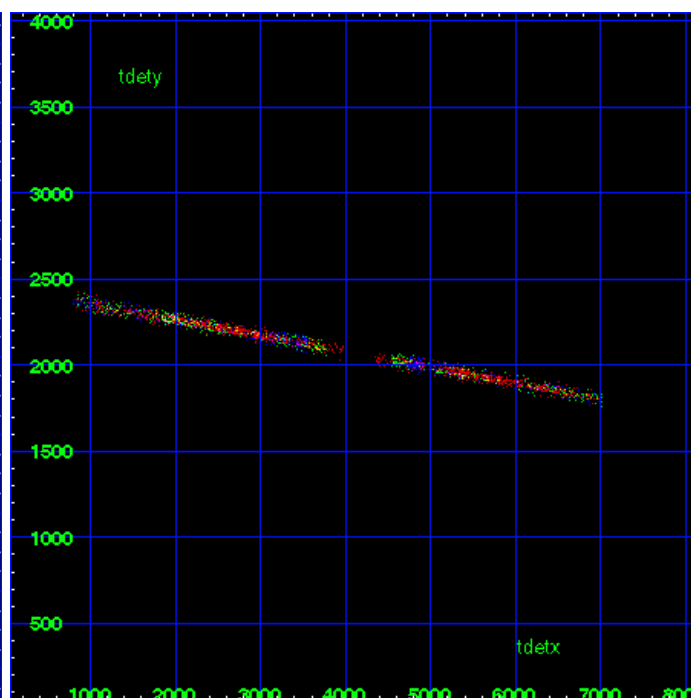
HEG Zero Order



HEG Order Sort ALL

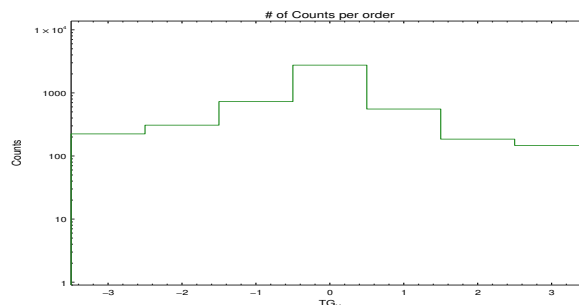


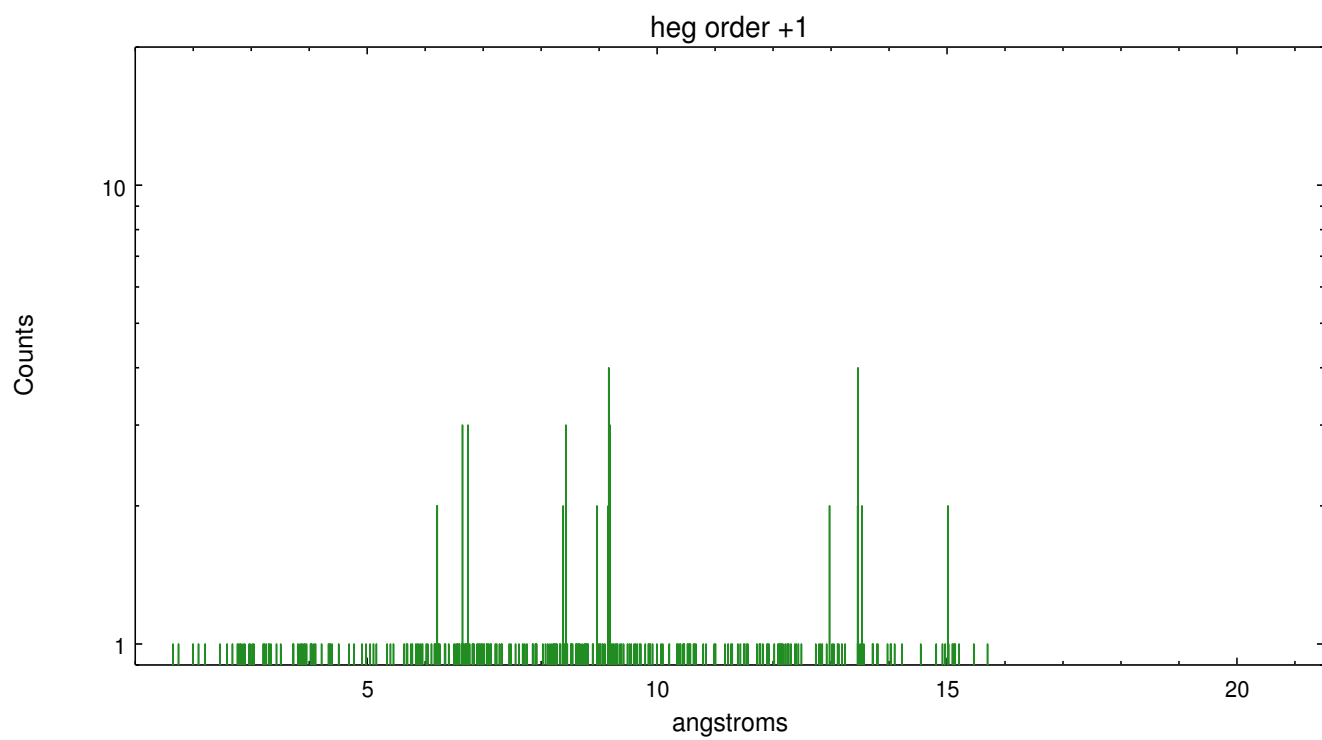
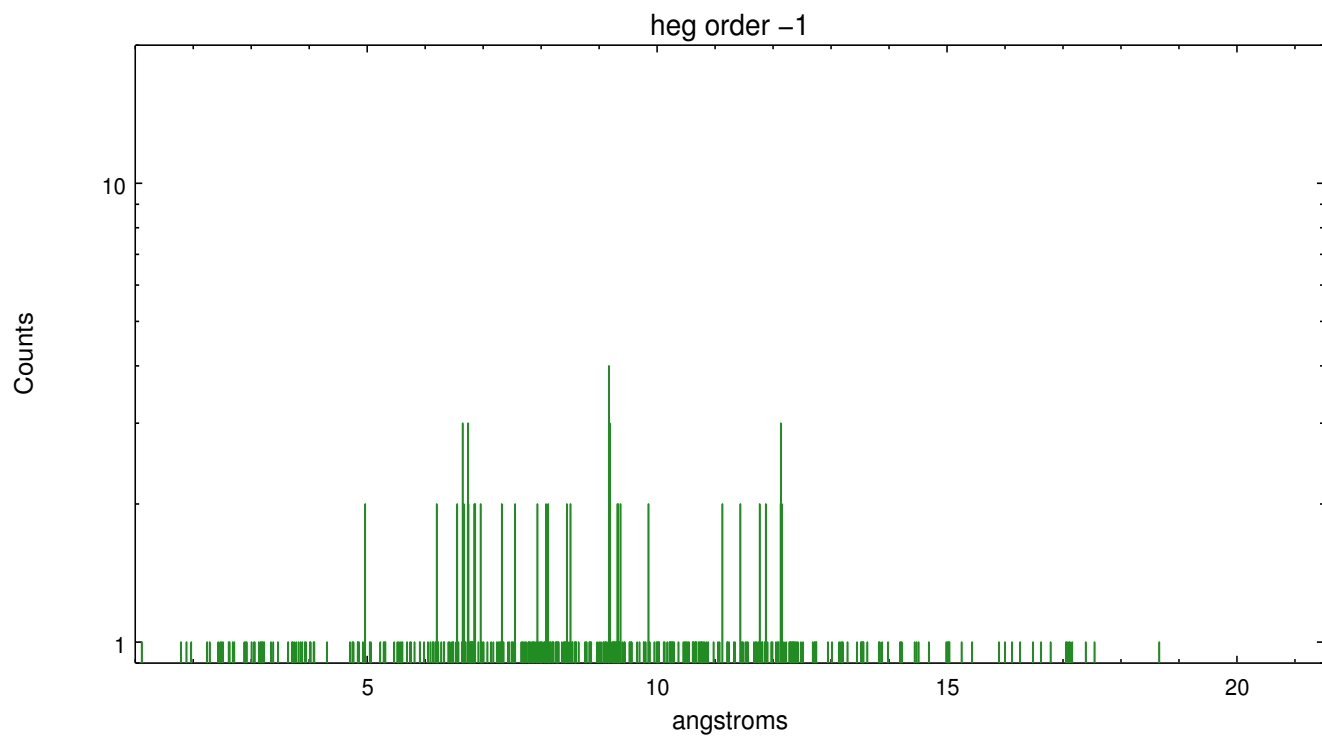
Spot Image HEG



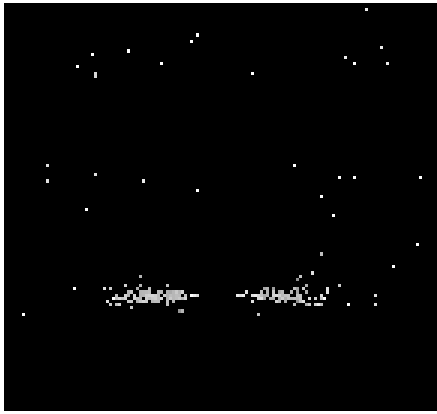
Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 224 | 308 | 728 | 2755 | 555 | 185 | 147 |

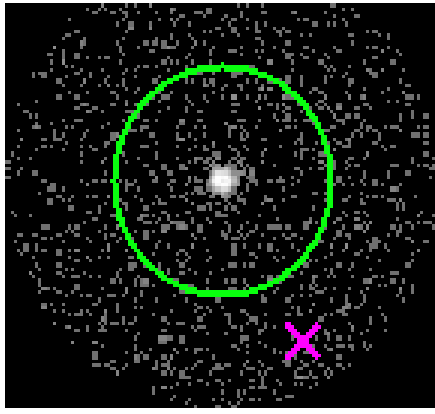




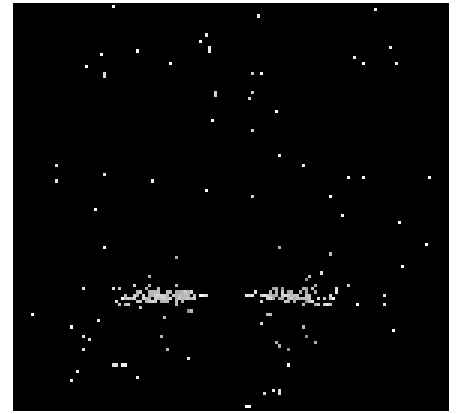
3.2 MEG Arm



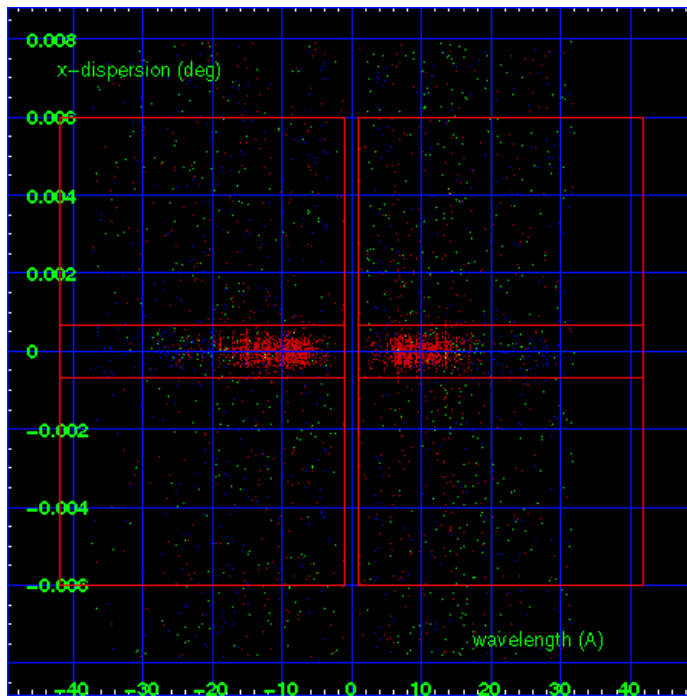
MEG Order Sort 123



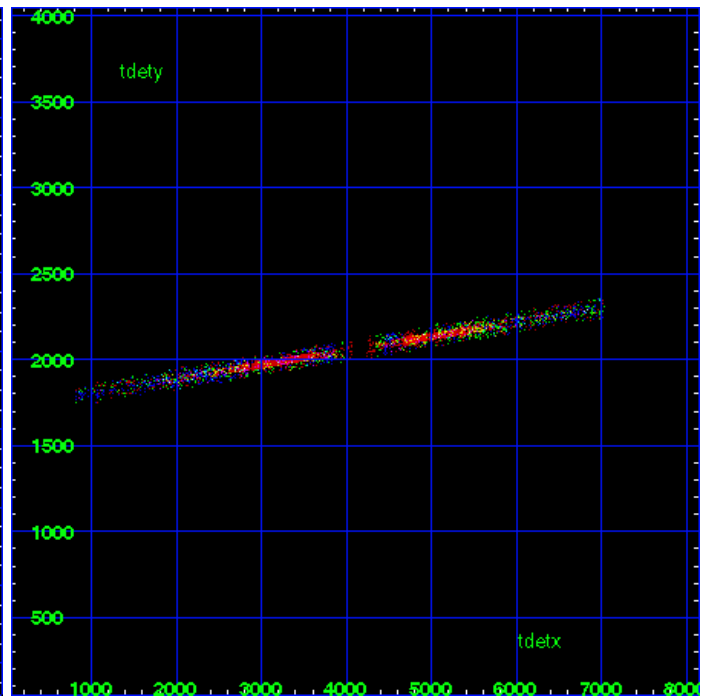
MEG Zero Order



MEG Order Sort ALL

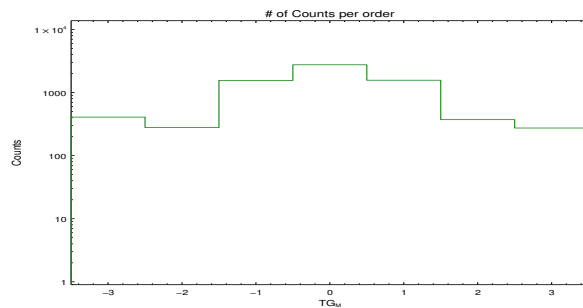


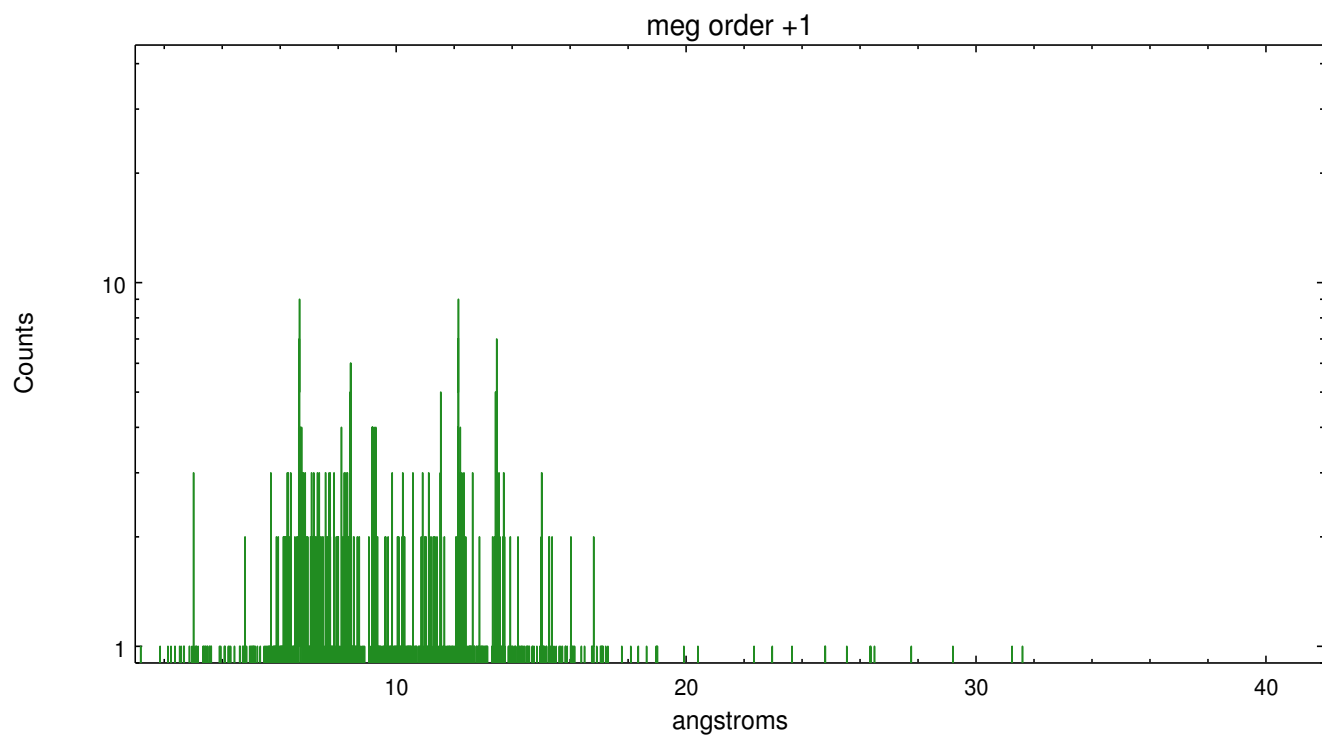
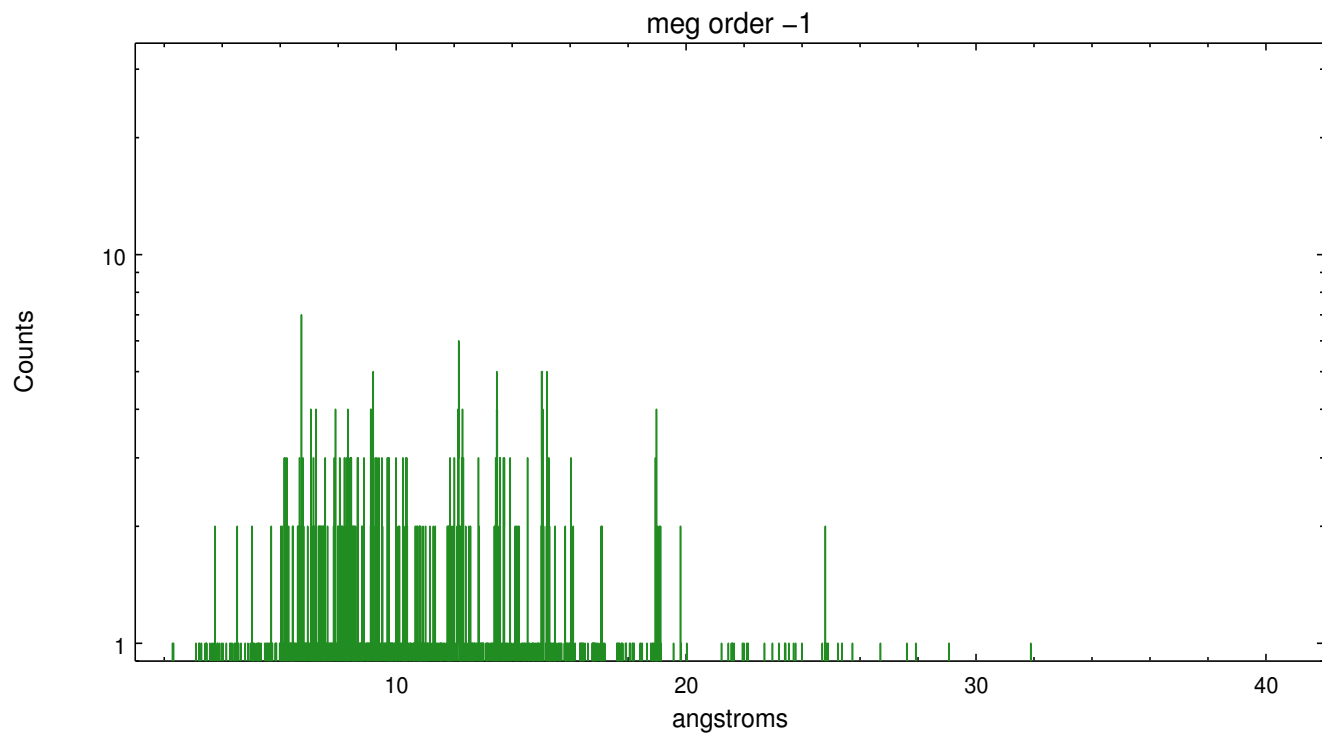
Spot Image MEG



Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 408 | 279 | 1558 | 2755 | 1567 | 372 | 274 |





A Summary

A.1 Status

| | |
|----------------------------|--------------------|
| V&V Scientist | David Huenemoerder |
| V&V Date (YYYY-MM-DD) | 2012.04.30 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 29.14 |

A.2 Comments