

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6336 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Oct 9 2020

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1 Front

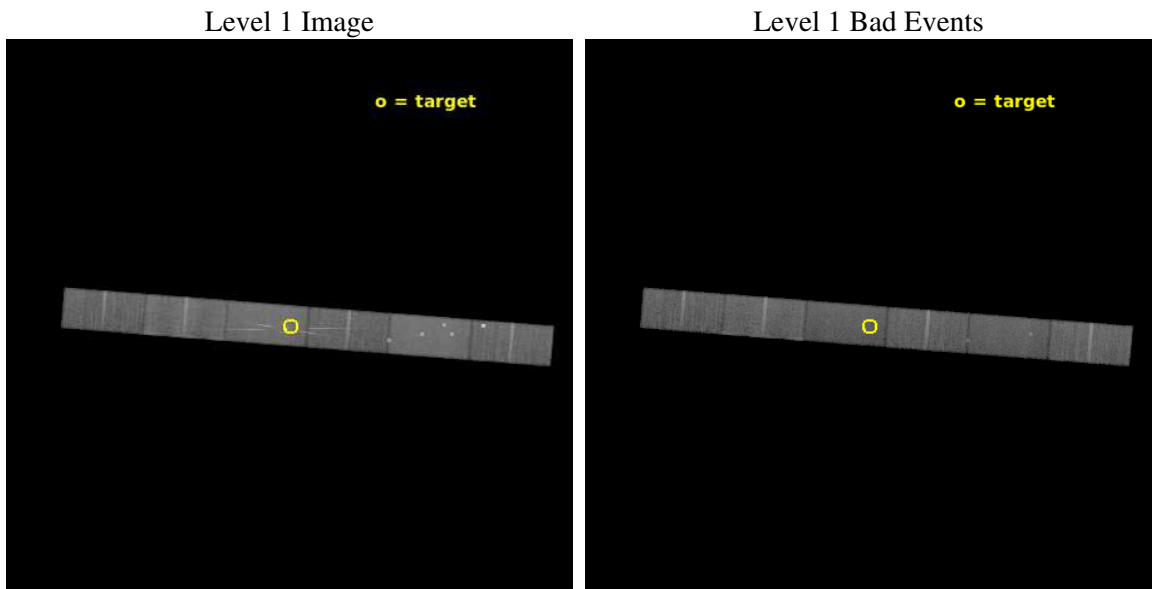
| | | |
|----------|--|---|
| seq_num | 400406 | Sequence number |
| obs_id | 6336 | Observation id |
| title | X-RAY DIAGNOSTICS OF THE WIND OF HMXB X1908+075: POSSIBLE PROGENITOR BH-NS SYSTEM | Proposal title |
| observer | Saul Rappaport | Principal investigator |
| object | 4U 1908+075 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 287.691667 | Observer's specified target RA [deg] |
| dec_targ | 7.601944 | Observer's specified target Dec [deg] |
| ra_nom | 287.69522457335 | Nominal RA [deg] |
| dec_nom | 7.6066815749024 | Nominal Dec [deg] |
| roll_nom | 184.65299384344 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 32179.299774349 | Sum of GTIs [s] |
| livetime | 31420.765528875 | Livetime [s] |
| ontime4 | 32179.299774349 | Sum of GTIs [s] |
| ontime5 | 32179.299774349 | Sum of GTIs [s] |
| ontime6 | 32179.299774349 | Sum of GTIs [s] |
| ontime7 | 32179.299774349 | Sum of GTIs [s] |
| ontime8 | 32179.299774349 | Sum of GTIs [s] |
| ontime9 | 32179.299774349 | Sum of GTIs [s] |
| l2events | 234686 | Number of level 2 events |



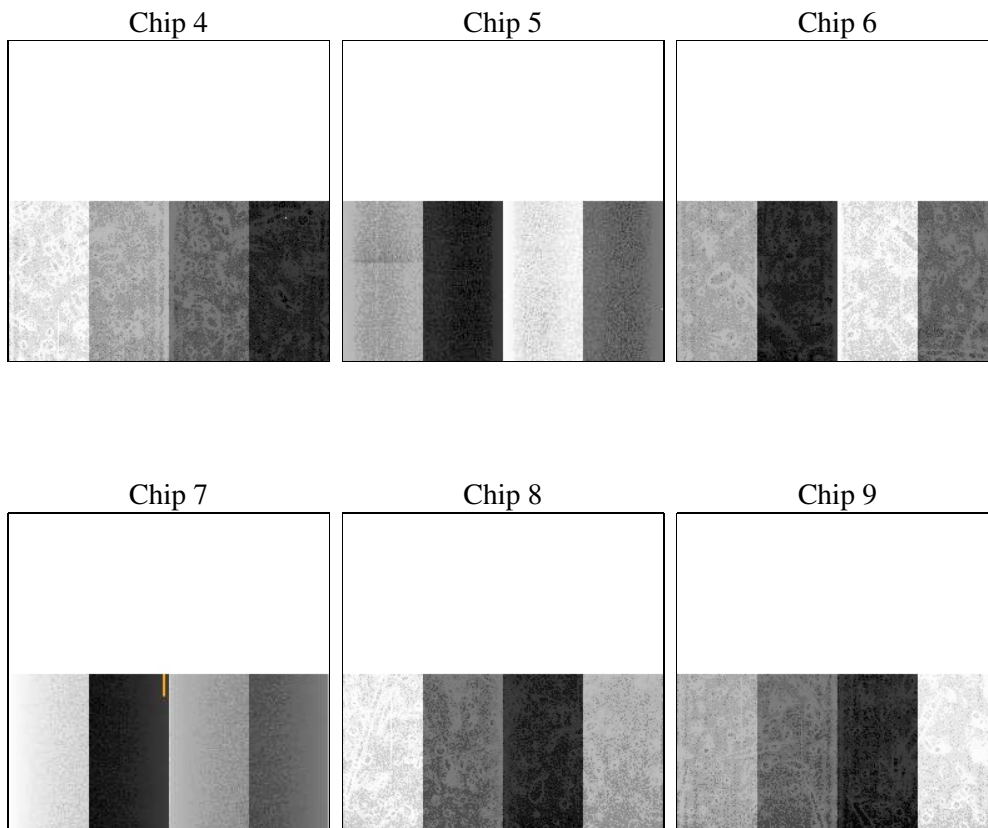
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-------------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 32000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.9.1 | Processing system revision | ontime | 32179.299774349 | Sum of GTIs [s] |
| caldsver | 4.9.2 | | ontime4 | 32179.299774349 | Sum of GTIs [s] |
| date | 2020-10-09T08:49:47 | Date and time of file creation | ontime5 | 32179.299774349 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime6 | 32179.299774349 | Sum of GTIs [s] |
| | | | ontime7 | 32179.299774349 | Sum of GTIs [s] |
| | | | ontime8 | 32179.299774349 | Sum of GTIs [s] |
| | | | ontime9 | 32179.299774349 | Sum of GTIs [s] |
| | | | l1events | 989316 | Number of level 1 events |
| | | | tgmethod | TGDETECT | Method used to create src1a file |
| | | | z0_pos | (4055.24 4031.00) | src1a sky pixel position |

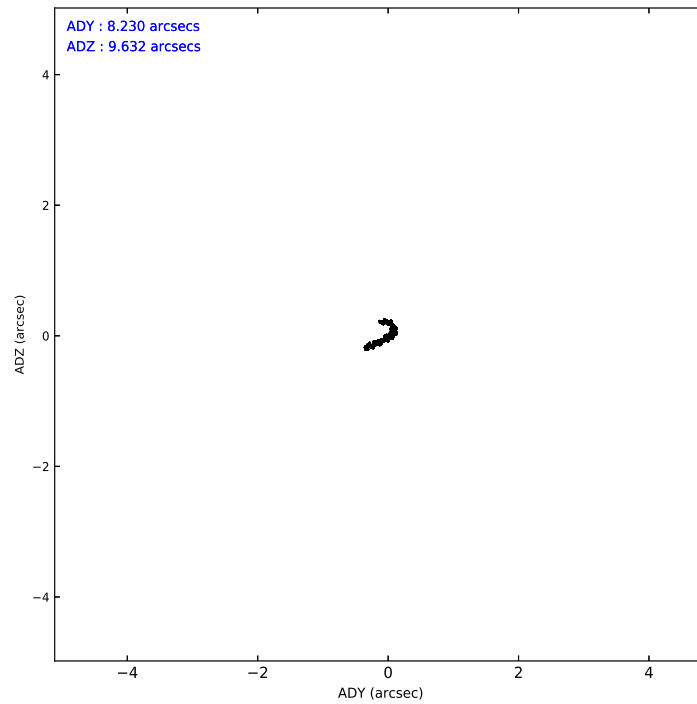
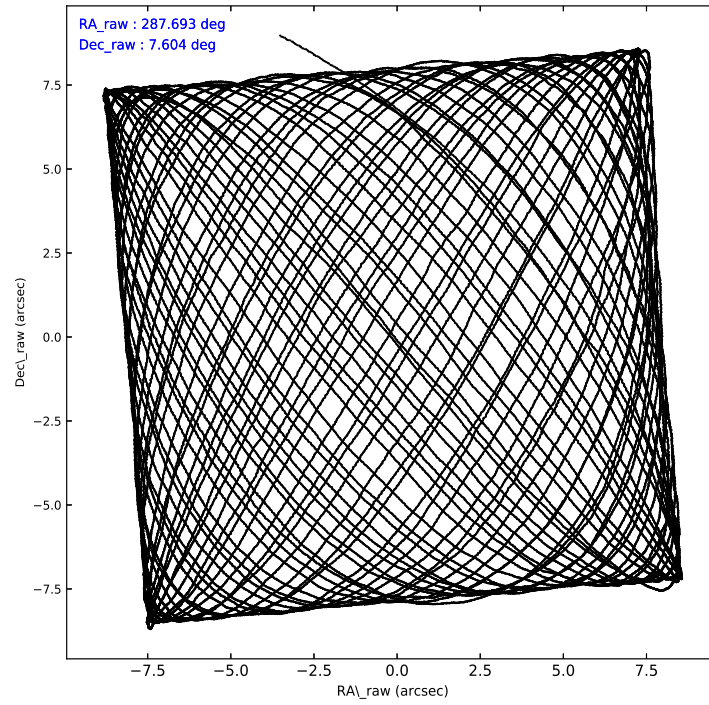
2.1.4 Events

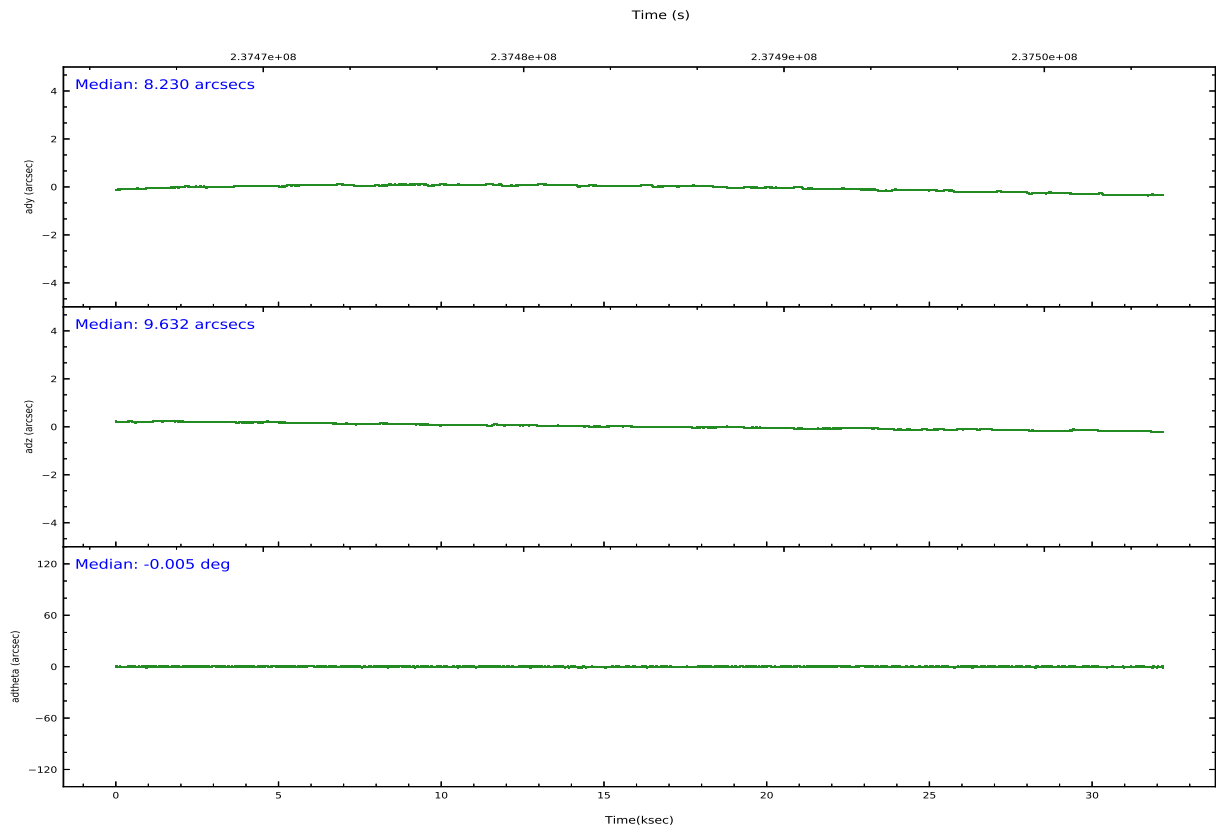
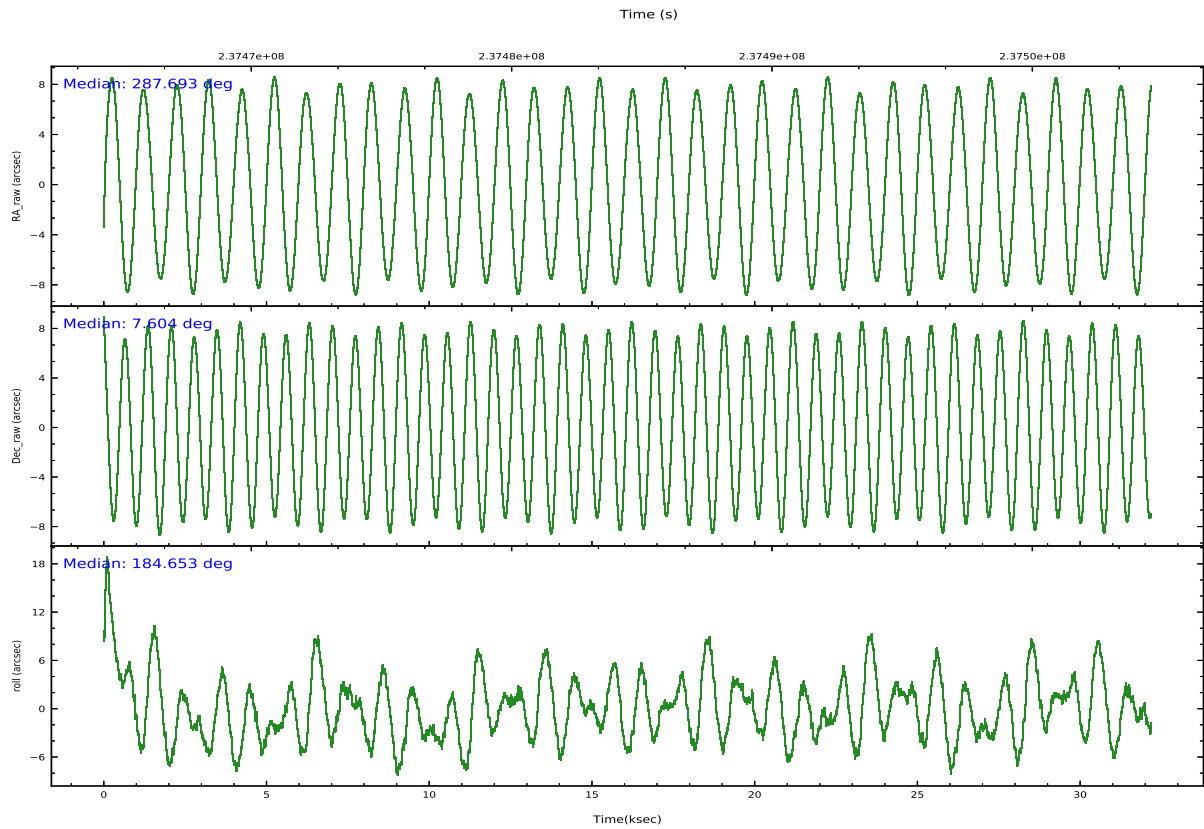
| | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 | | ccd 4 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | ccd 9 |
|-----------------|--------|--------|--------|--------|--------|--------|----------------|--------|-------|--------|-------|--------|--------|
| level 1 events | 162009 | 198184 | 136284 | 198334 | 169514 | 124991 | grade 0 events | 24954 | 18046 | 11008 | 11301 | 12833 | 6299 |
| rejected events | 127762 | 102678 | 112927 | 101722 | 130323 | 109203 | | 15% | 9% | 8% | 5% | 7% | 5% |
| rejected % | 78% | 51% | 82% | 51% | 76% | 87% | grade 1 events | 142 | 792 | 74 | 456 | 105 | 51 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 3651 | 25798 | 4505 | 20192 | 8115 | 3027 |
| | | | | | | | | 2% | 13% | 3% | 10% | 4% | 2% |
| | | | | | | | grade 3 events | 1852 | 4921 | 2197 | 9390 | 4944 | 1890 |
| | | | | | | | | 1% | 2% | 1% | 4% | 2% | 1% |
| | | | | | | | grade 4 events | 1802 | 4686 | 2149 | 9111 | 4438 | 1762 |
| | | | | | | | | 1% | 2% | 1% | 4% | 2% | 1% |
| | | | | | | | grade 5 events | 5335 | 15290 | 5627 | 17208 | 7315 | 5645 |
| | | | | | | | | 3% | 7% | 4% | 8% | 4% | 4% |
| | | | | | | | grade 6 events | 2674 | 43794 | 3868 | 48237 | 9998 | 3165 |
| | | | | | | | | 1% | 22% | 2% | 24% | 5% | 2% |
| | | | | | | | grade 7 events | 121599 | 84857 | 106856 | 82439 | 121766 | 103152 |
| | | | | | | | | 75% | 42% | 78% | 41% | 71% | 82% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar version number | 8 | 8 |
| 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 |
| [deg] Pointing RA | 287.715401 | 287.69522457335 | Subarray requested | CUSTOM | 1/2 |
| [deg] Pointing Dec | 7.619508 | 7.6066815749024 | Subarray start row | 1 | 1 |
| [deg] Pointing Roll | 184.496853 | 184.65299384344 | Subarray row count | 512 | 512 |
| [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 | 1.7 |
| [mm] SIM translation stage pos | -183.992523 | -183.9875365069546 | | | |
| [mm] SIM translation stage offset | -6.14 | -6.144986076053243 | | | |
| Phase constraints | Y | Y | | | |
| [d] Phase period | 4.400700 | 4.400700 | | | |
| [d] Phase epoch (MJD) | 52631.383000 | 52631.383000 | | | |
| Phase start | 0.434200 | 0.434200 | | | |
| Phase end | 0.565800 | 0.565800 | | | |
| Phase start error | 0.134200 | 0.134200 | | | |
| Phase end error | 0.134200 | 0.134200 | | | |
| [s] Observation start time (MET) | 237467649.184000 | 237466437.40077 | | | |
| Observation start date | 2005-07-11T11:13:05 | 2005-07-11T10:53:57 | | | |
| [s] Observation end time (MET) | 237499649.184000 | 237501177.72736 | | | |
| Observation end date | 2005-07-11T20:06:25 | 2005-07-11T20:32:57 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect





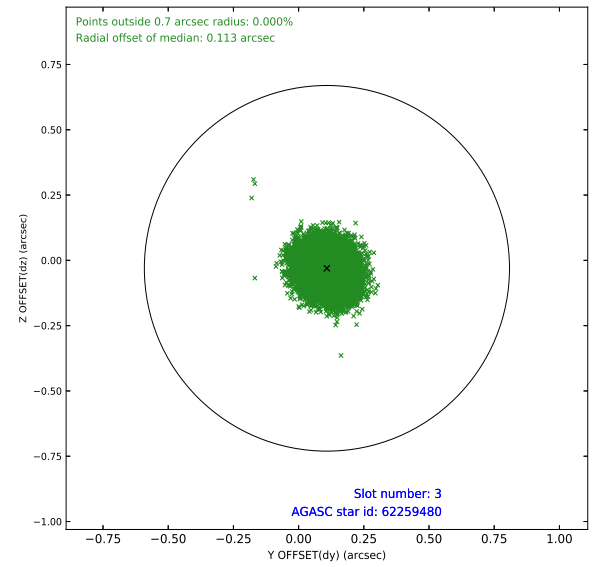
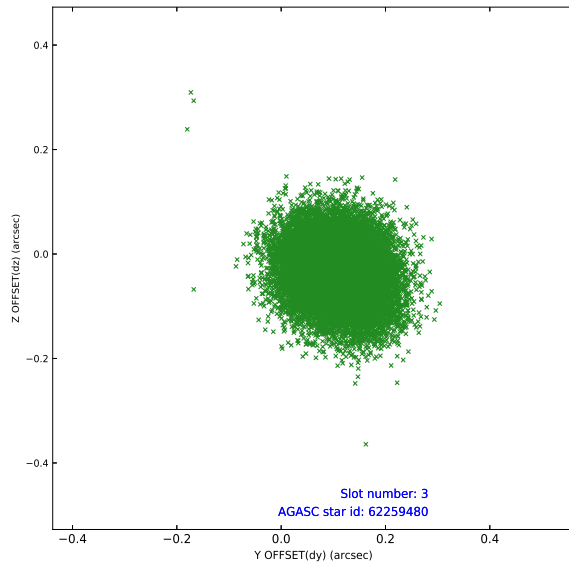
Slot Statistics

| slot | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_x |
|------|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|------------|----------|----------|--------|
| 0 | FID | | ACIS-S-2 | 7.08 | 7850 | 1.000 | -0.081 | -0.149 | 0.009 | 0.015 | 0.000000 | 0.000000 | -760.58 | -1857 |
| 1 | FID | | ACIS-S-4 | 7.18 | 7850 | 1.000 | 0.175 | 0.079 | 0.008 | 0.016 | 0.000000 | 0.000000 | 2152.89 | 50 |
| 2 | FID | | ACIS-S-5 | 7.23 | 7850 | 1.000 | -0.125 | 0.078 | 0.010 | 0.016 | 0.000000 | 0.000000 | -1813.42 | 44 |
| 3 | GUIDE | used | 62259480 | 9.22 | 15689 | 1.000 | 0.109 | -0.030 | 0.083 | 0.133 | 288.069646 | 7.483083 | -1221.67 | 588 |
| 4 | GUIDE | used | 62264256 | 9.26 | 15691 | 1.000 | -0.041 | 0.008 | 0.098 | 0.153 | 287.525458 | 7.120381 | 817.34 | 1738 |
| 5 | GUIDE | used | 136318600 | 9.18 | 15689 | 1.000 | -0.075 | -0.010 | 0.092 | 0.147 | 287.193672 | 7.971966 | 1755.38 | -1411 |
| 6 | GUIDE | used | 136451568 | 9.67 | 15684 | 1.000 | 0.036 | 0.006 | 0.129 | 0.208 | 287.608270 | 8.059160 | 257.36 | -1607 |
| 7 | GUIDE | used | 136446056 | 9.38 | 15685 | 1.000 | -0.025 | 0.032 | 0.074 | 0.122 | 287.496360 | 7.664883 | 766.63 | -224 |

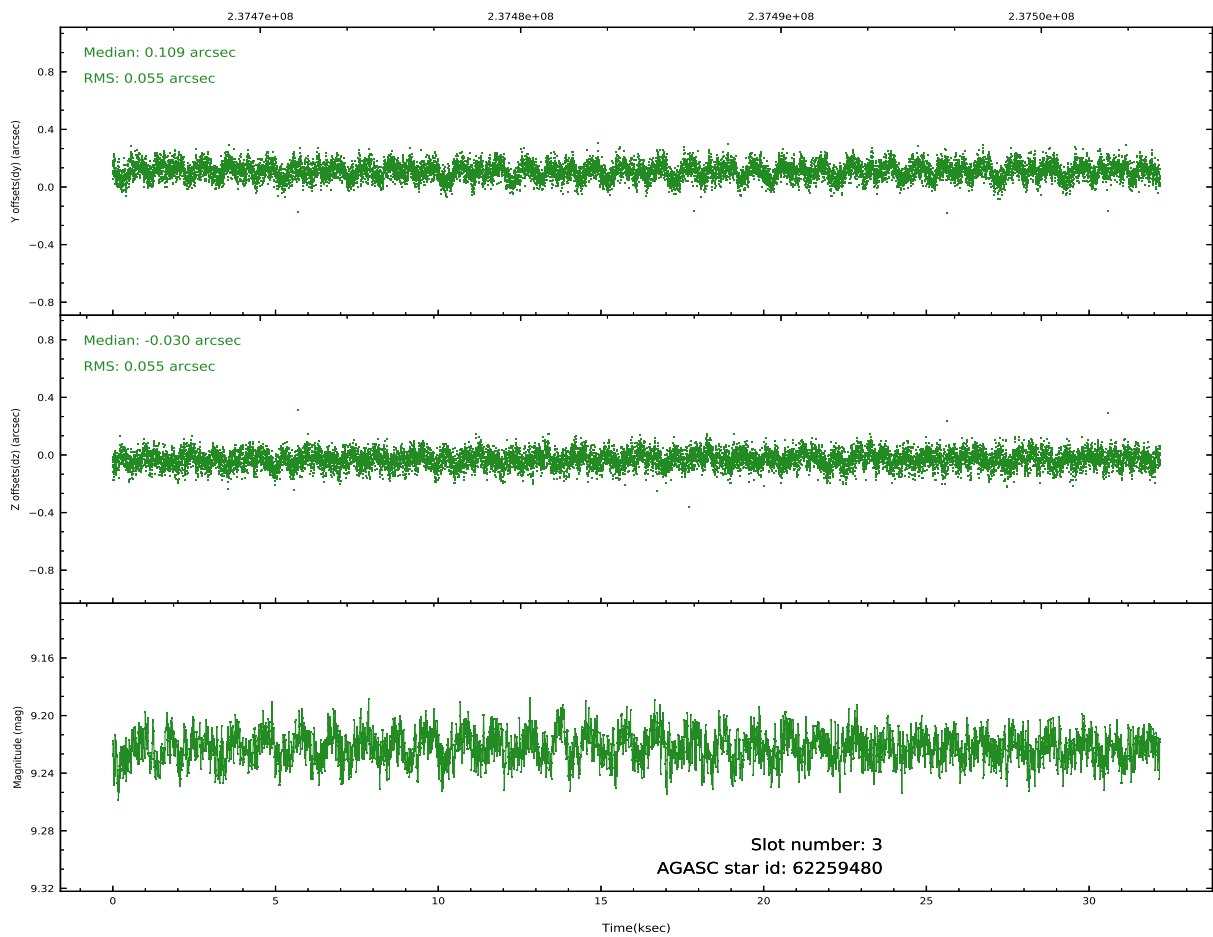
∞

2.4 Star Slots

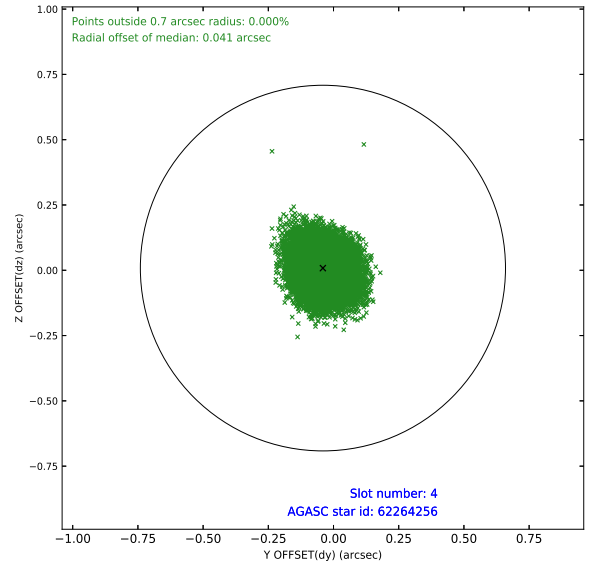
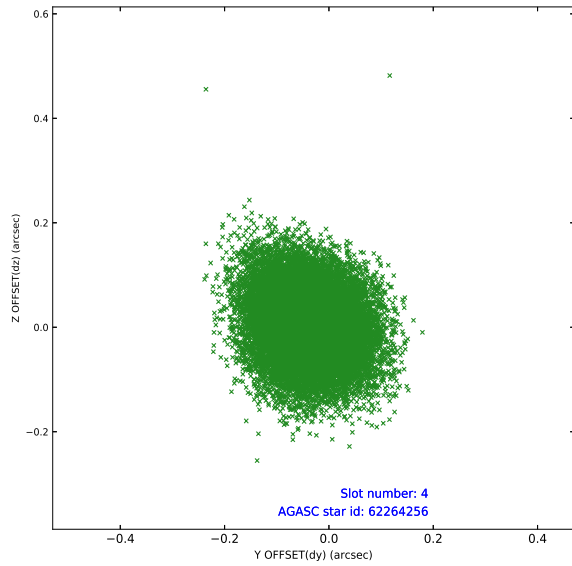
2.4.1 Slot 3



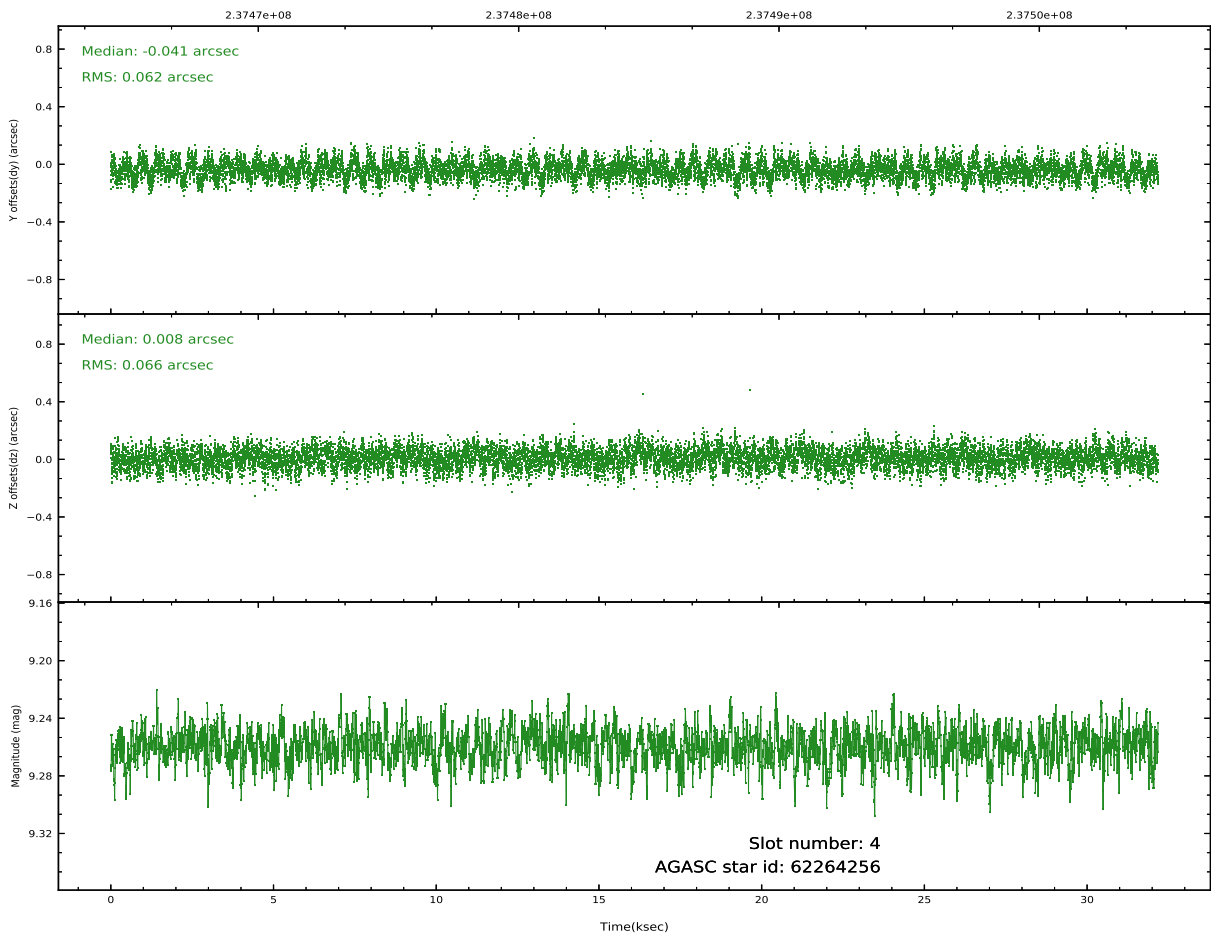
Time (s)



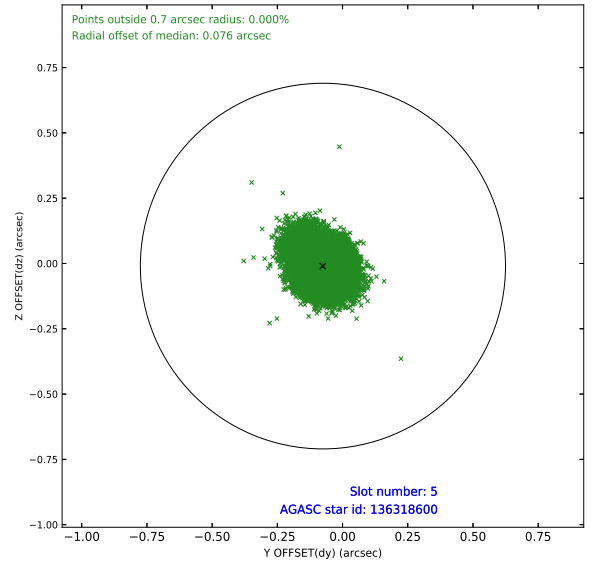
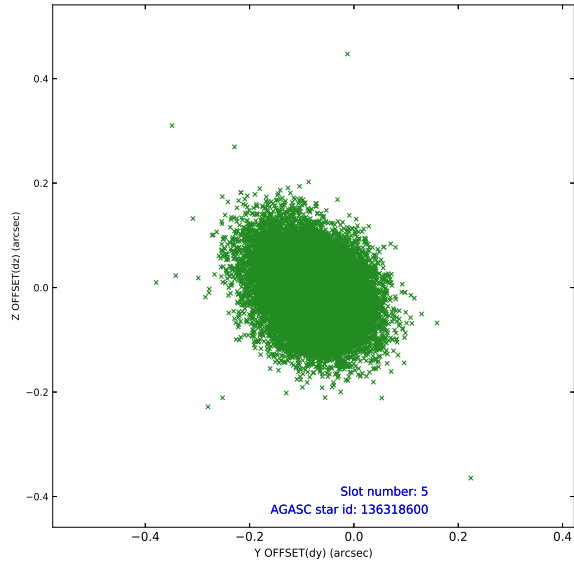
2.4.2 Slot 4



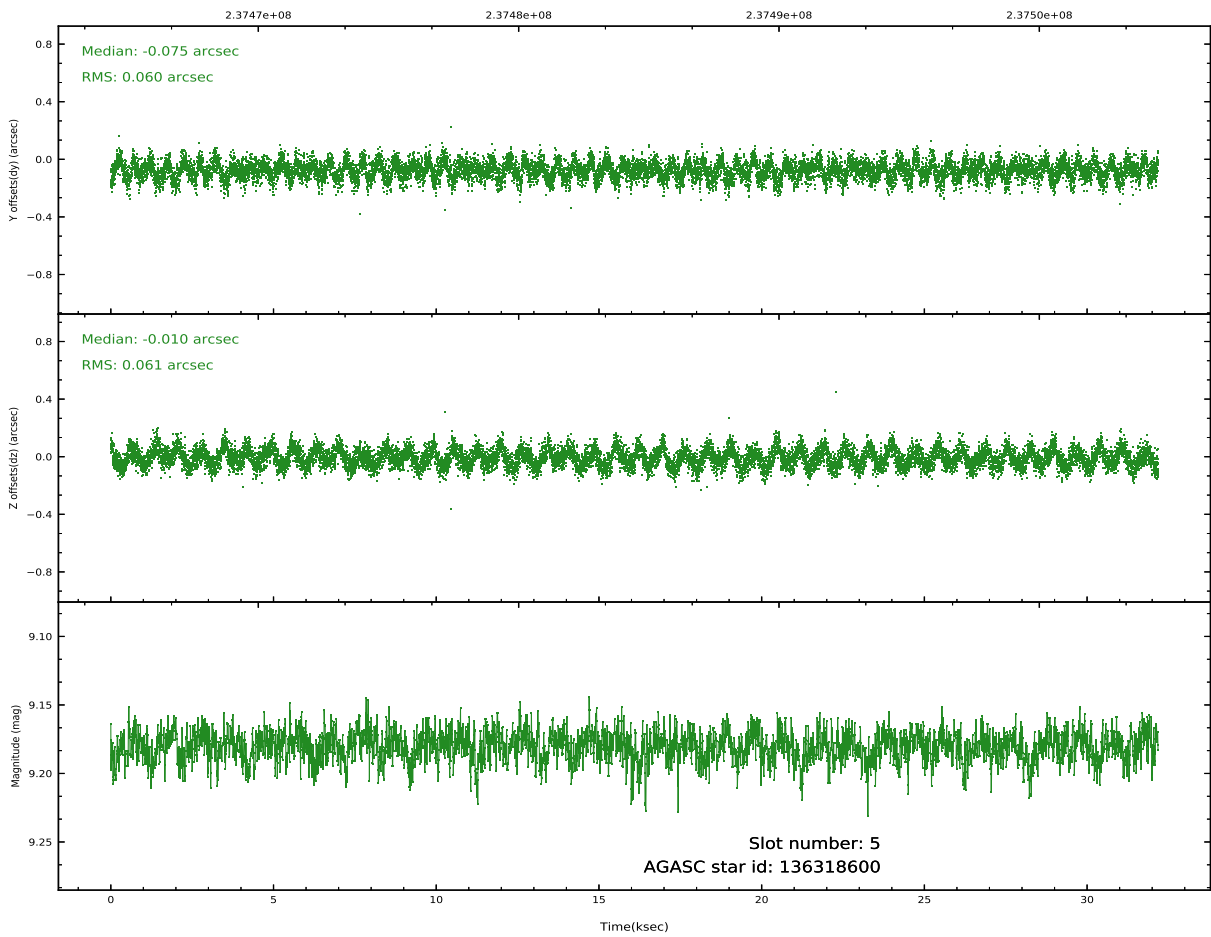
Time (s)



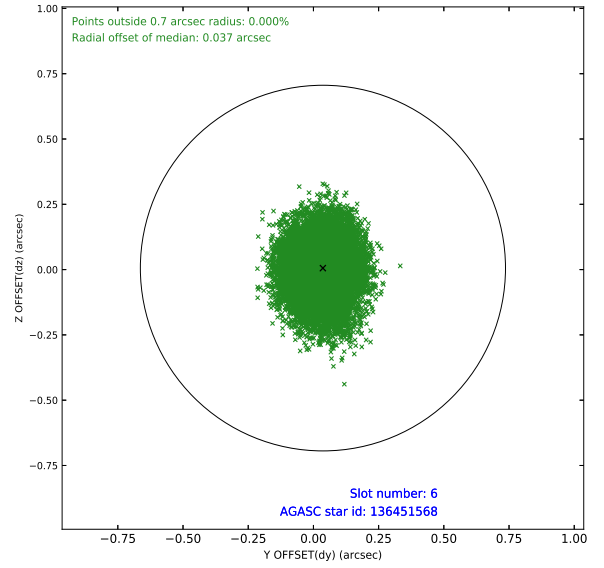
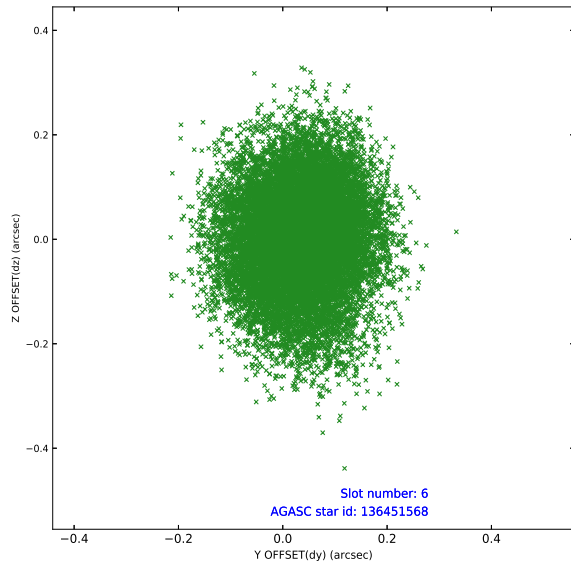
2.4.3 Slot 5



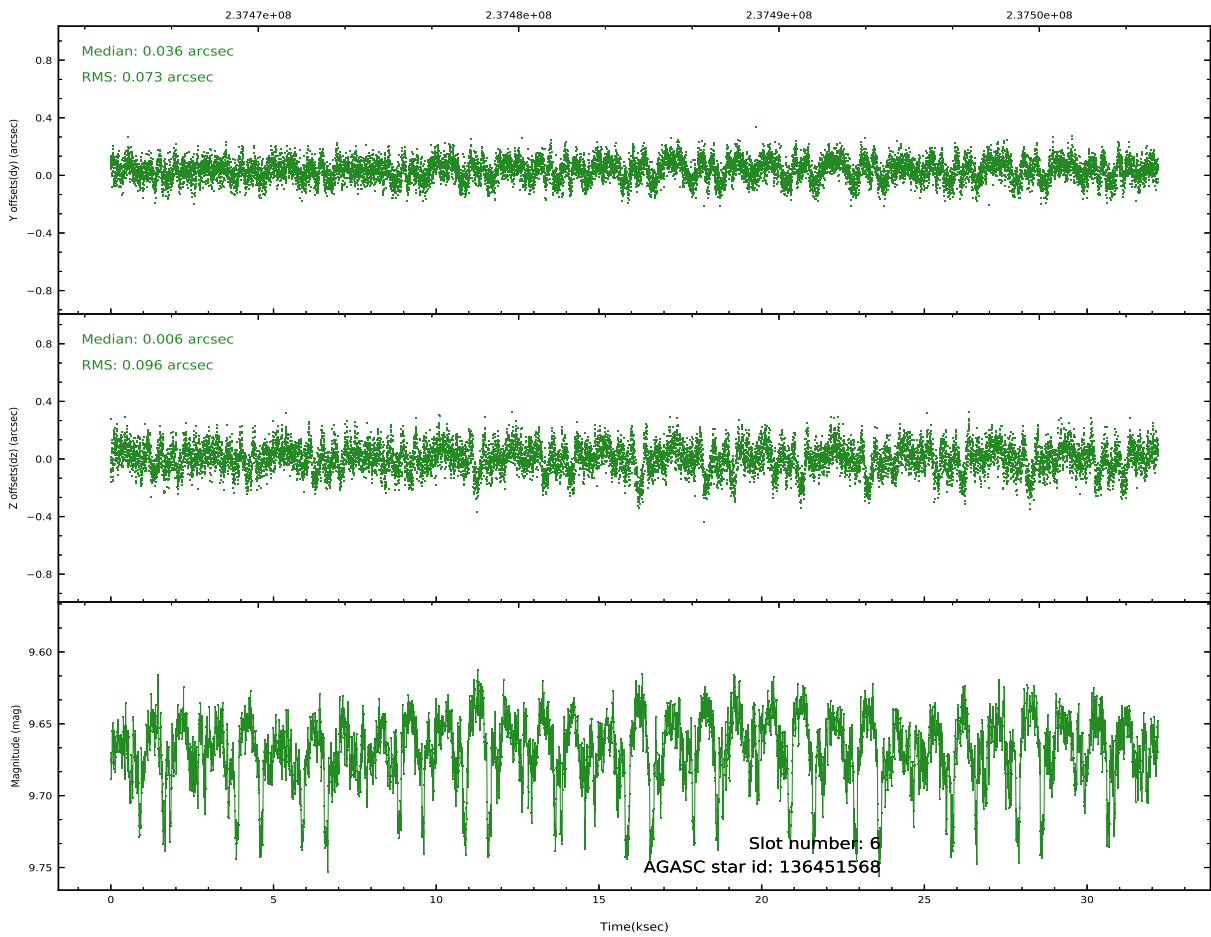
Time (s)



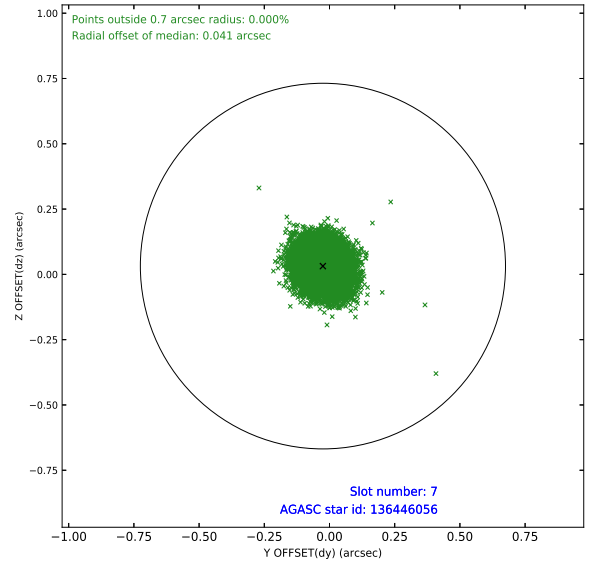
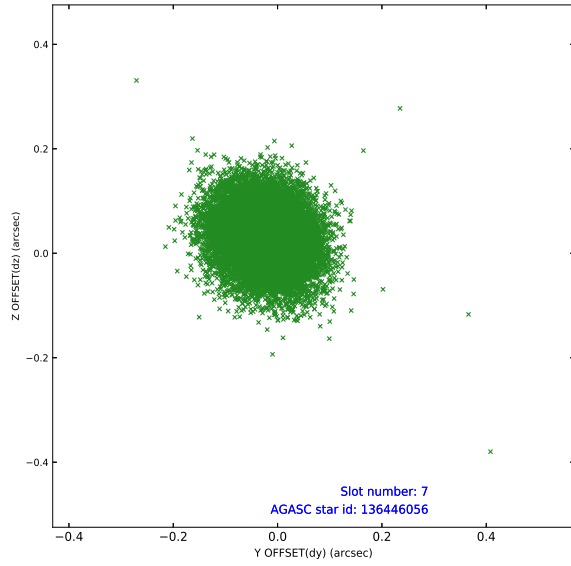
2.4.4 Slot 6



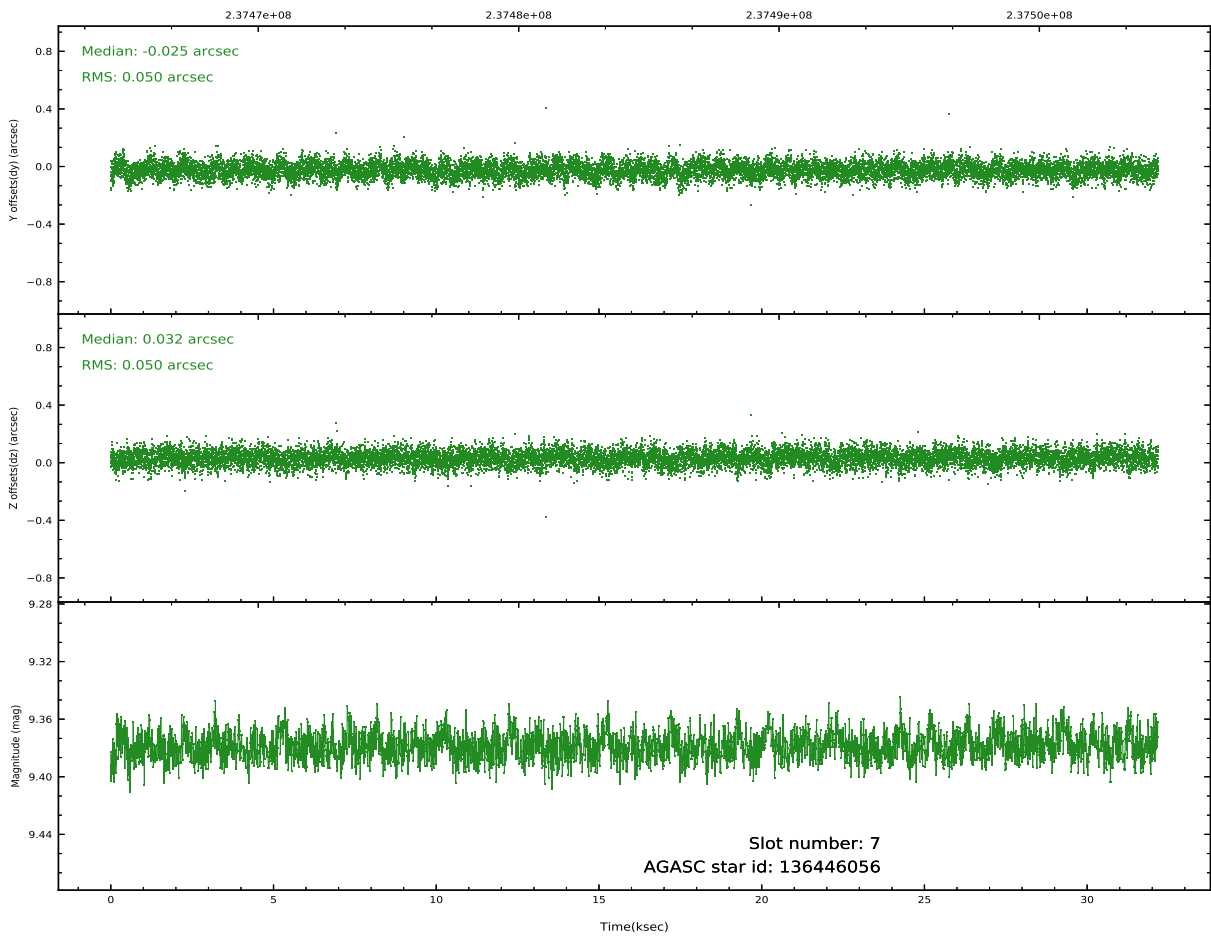
Time (s)



2.4.5 Slot 7

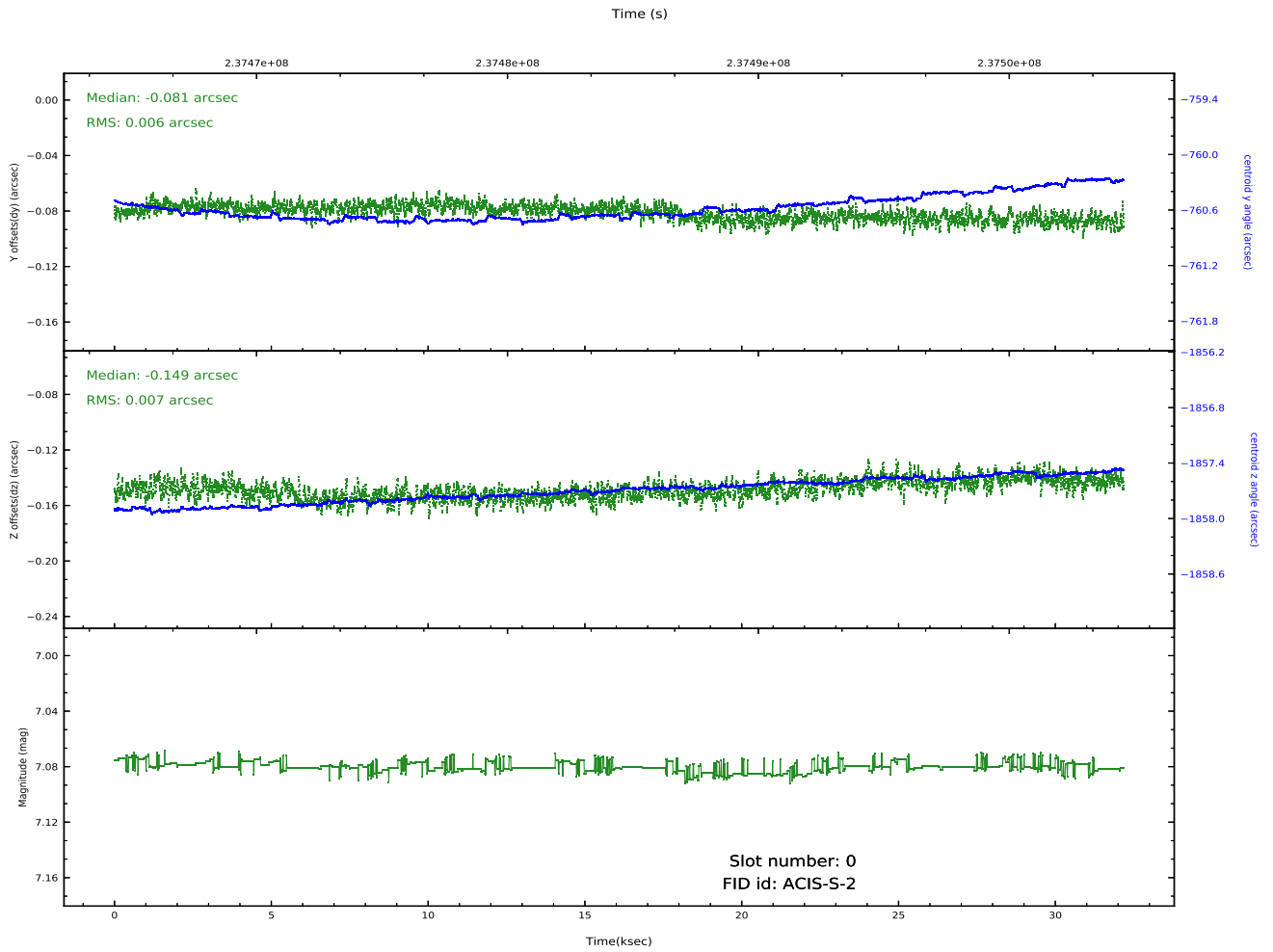
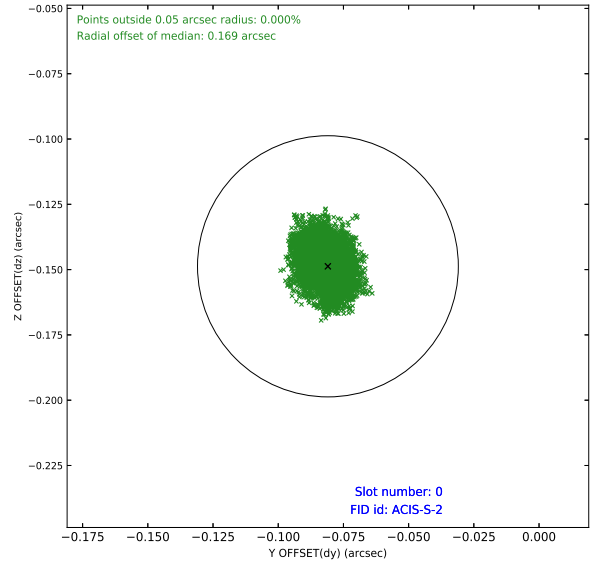
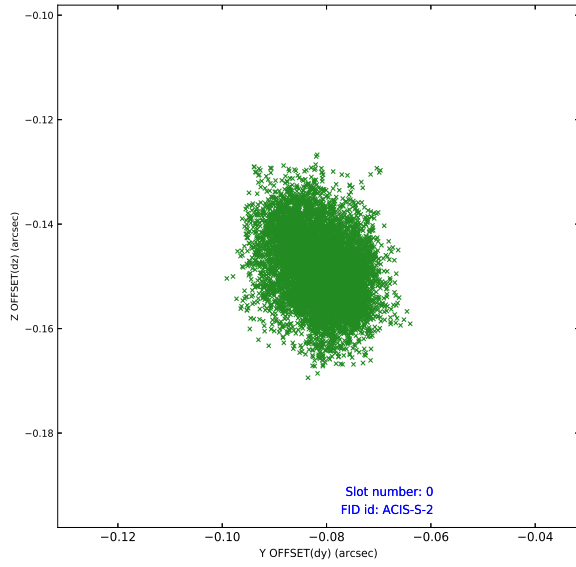


Time (s)

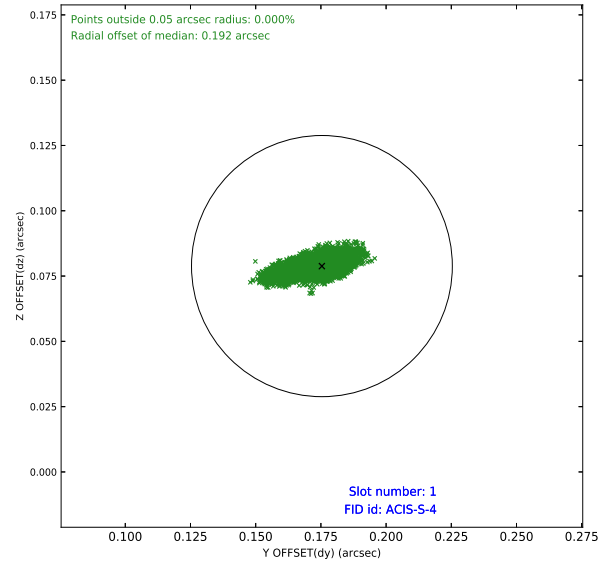
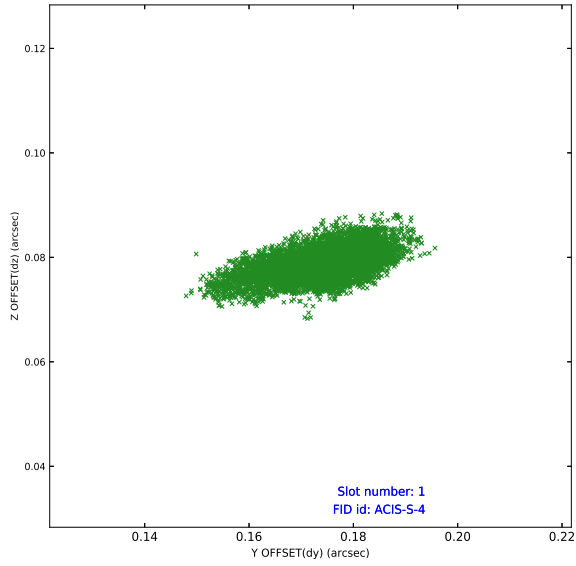


2.5 FID Slots

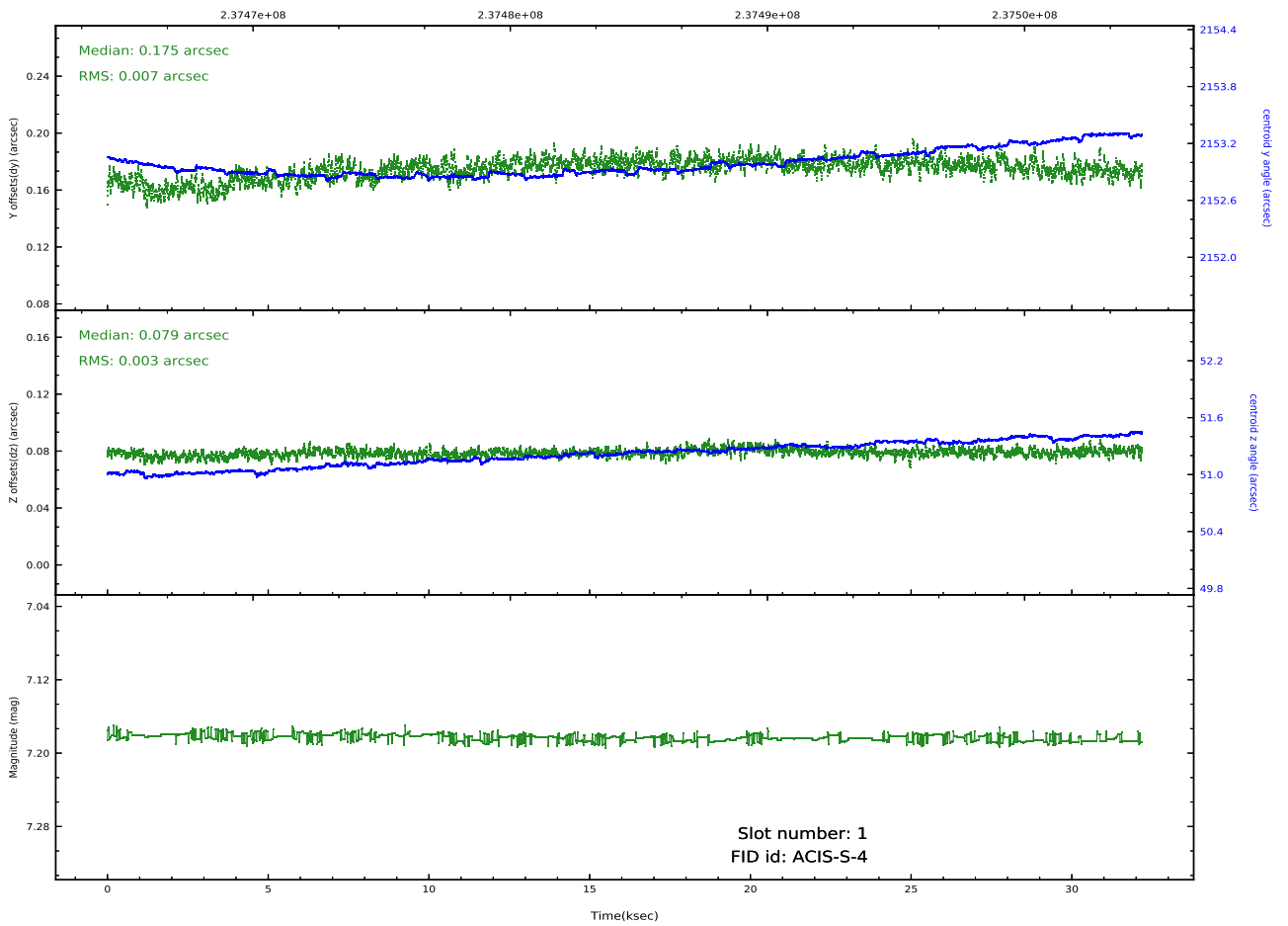
2.5.1 Slot 0



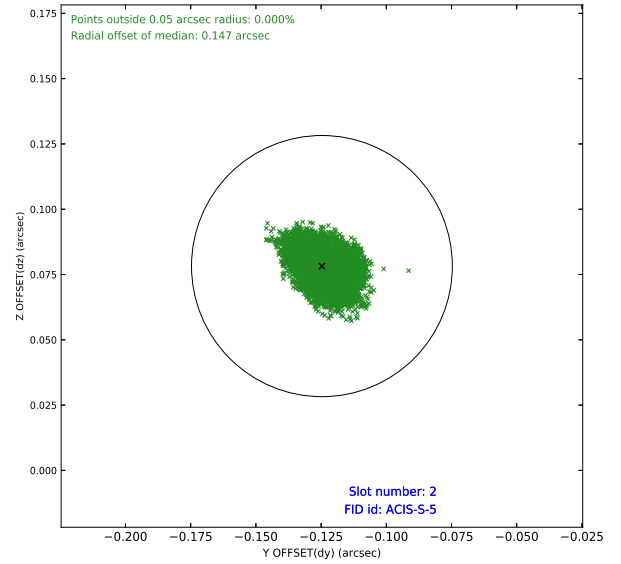
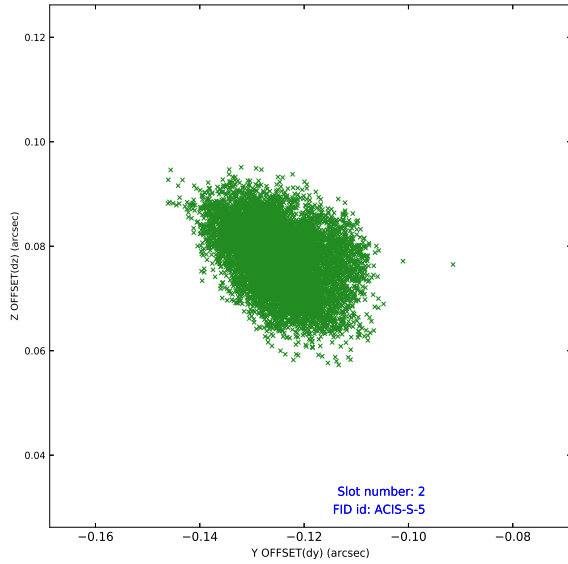
2.5.2 Slot 1



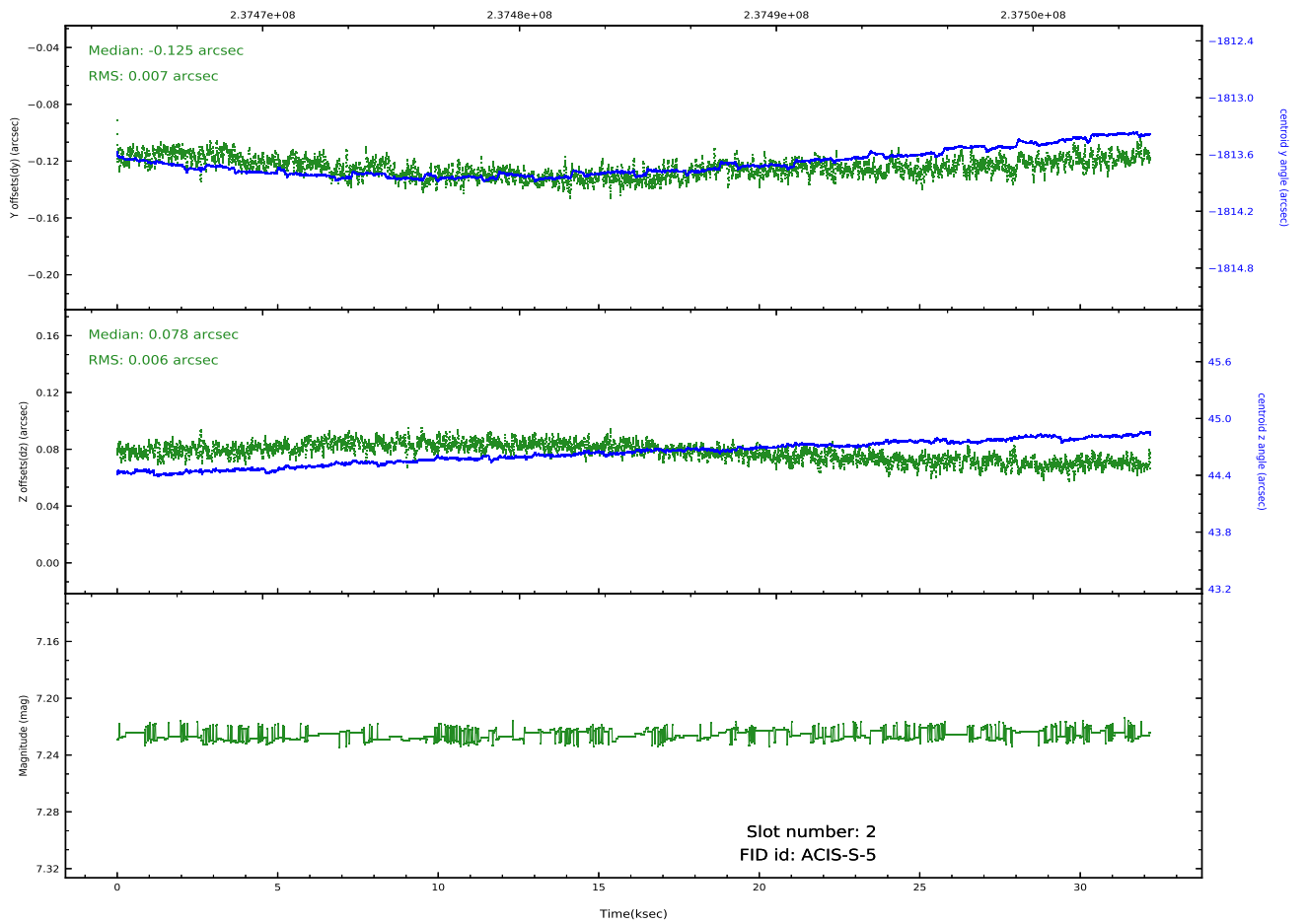
Time (s)



2.5.3 Slot 2

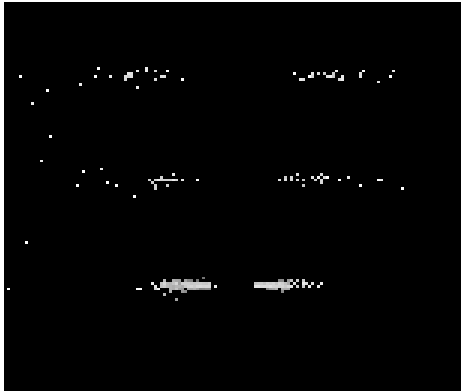


Time (s)

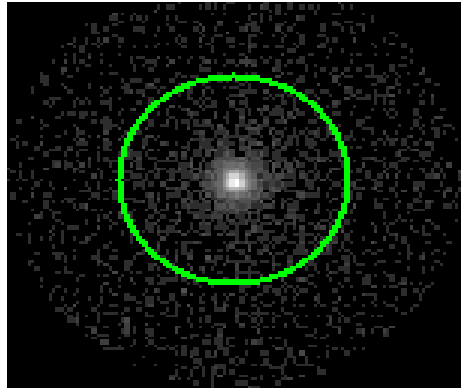


3 Gratings

3.1 HEG Arm



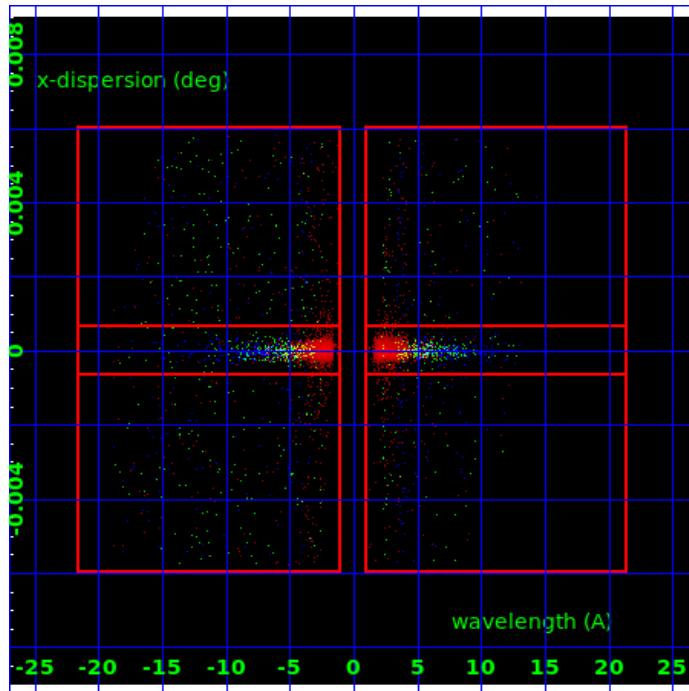
HEG Order Sort 123



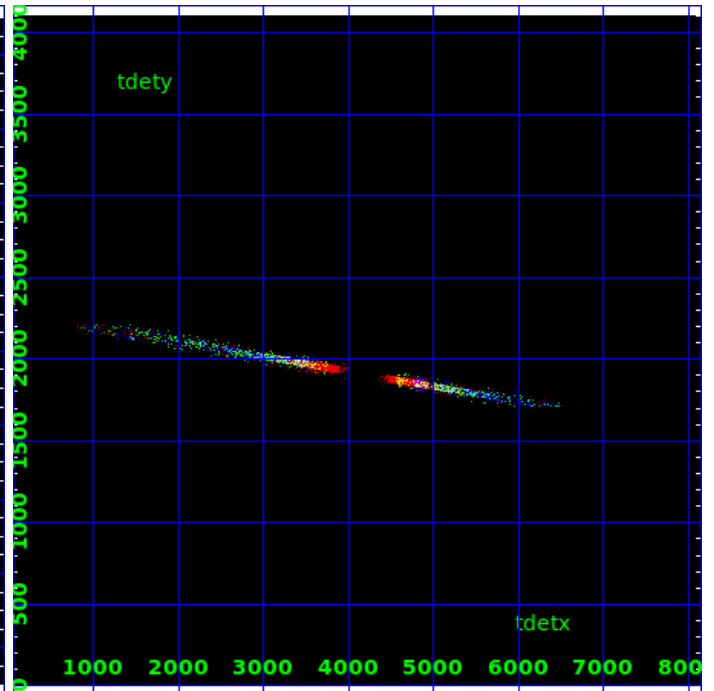
HEG Zero Order



HEG Order Sort ALL

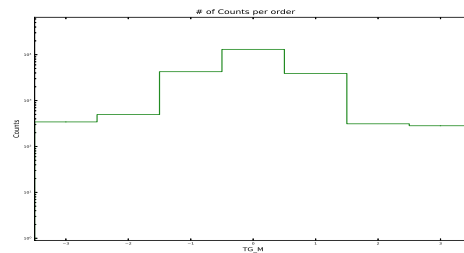


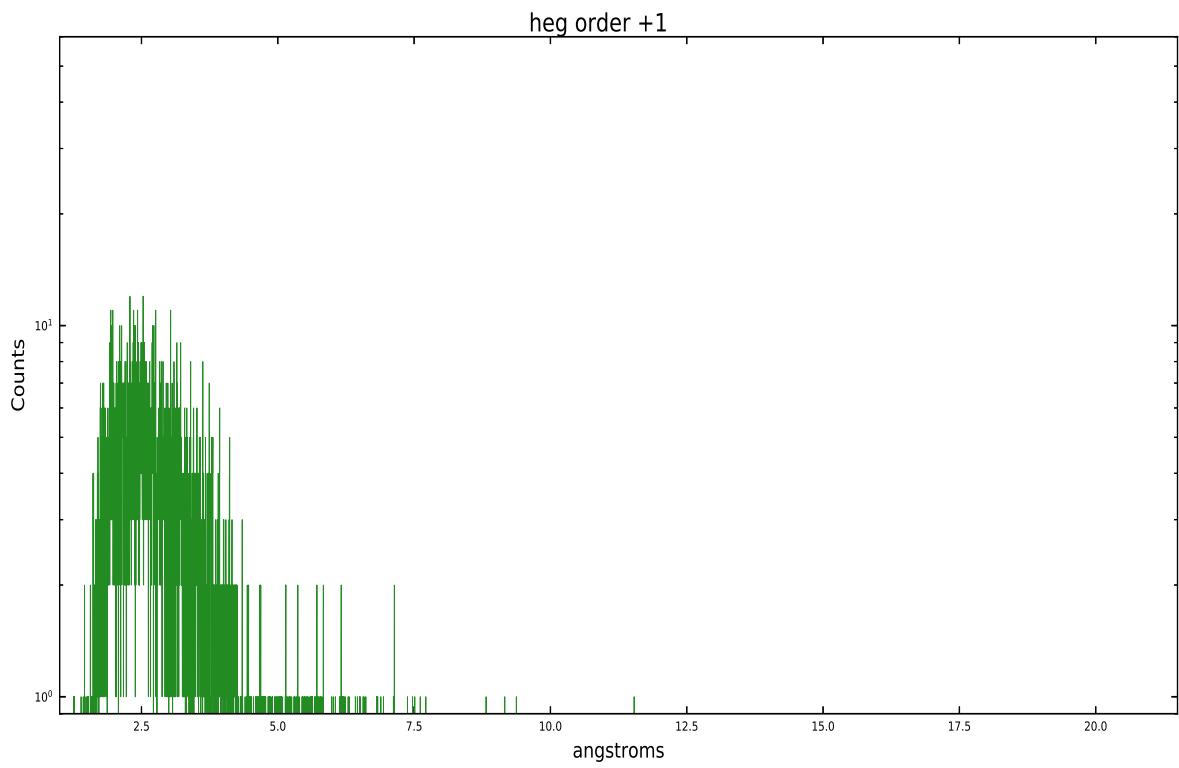
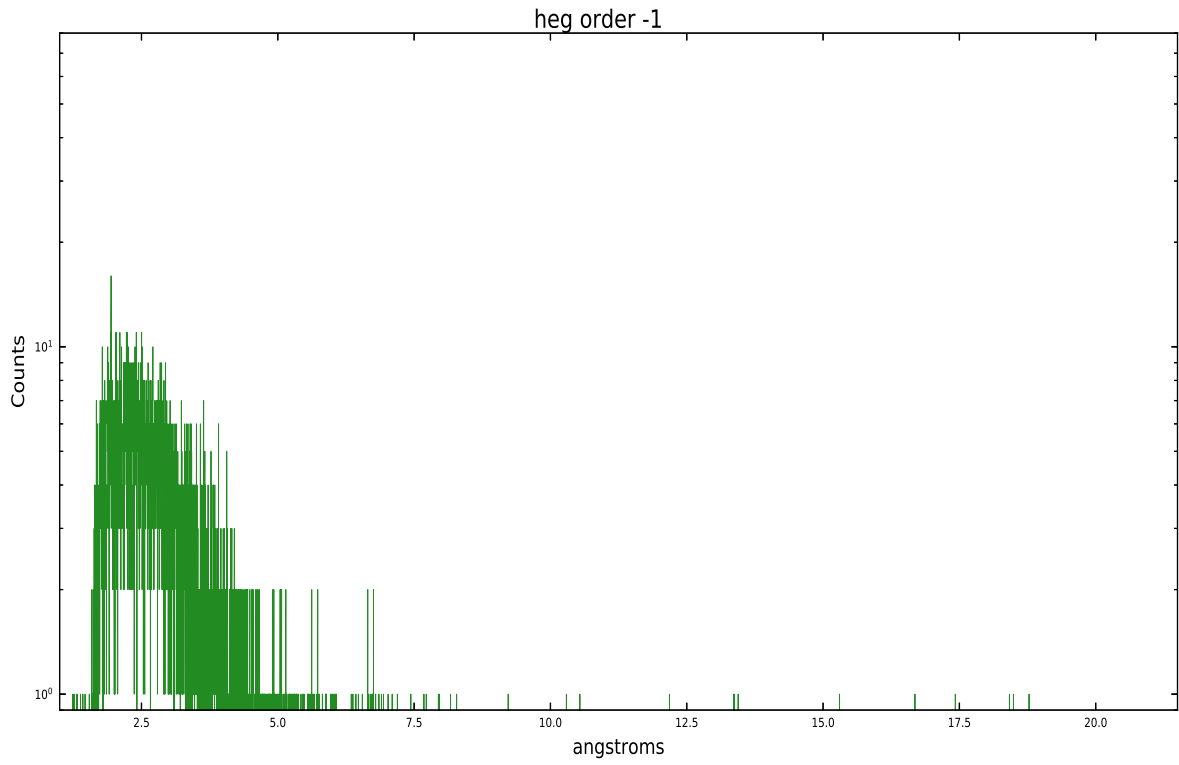
Spot Image HEG



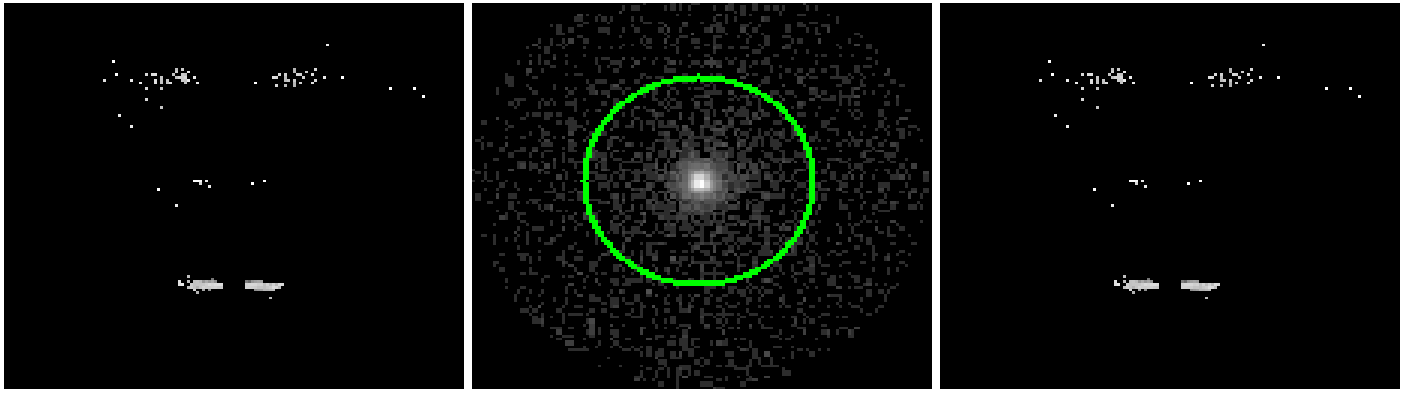
Full Detector HEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 343 | 495 | 4262 | 13034 | 3898 | 312 | 283 |





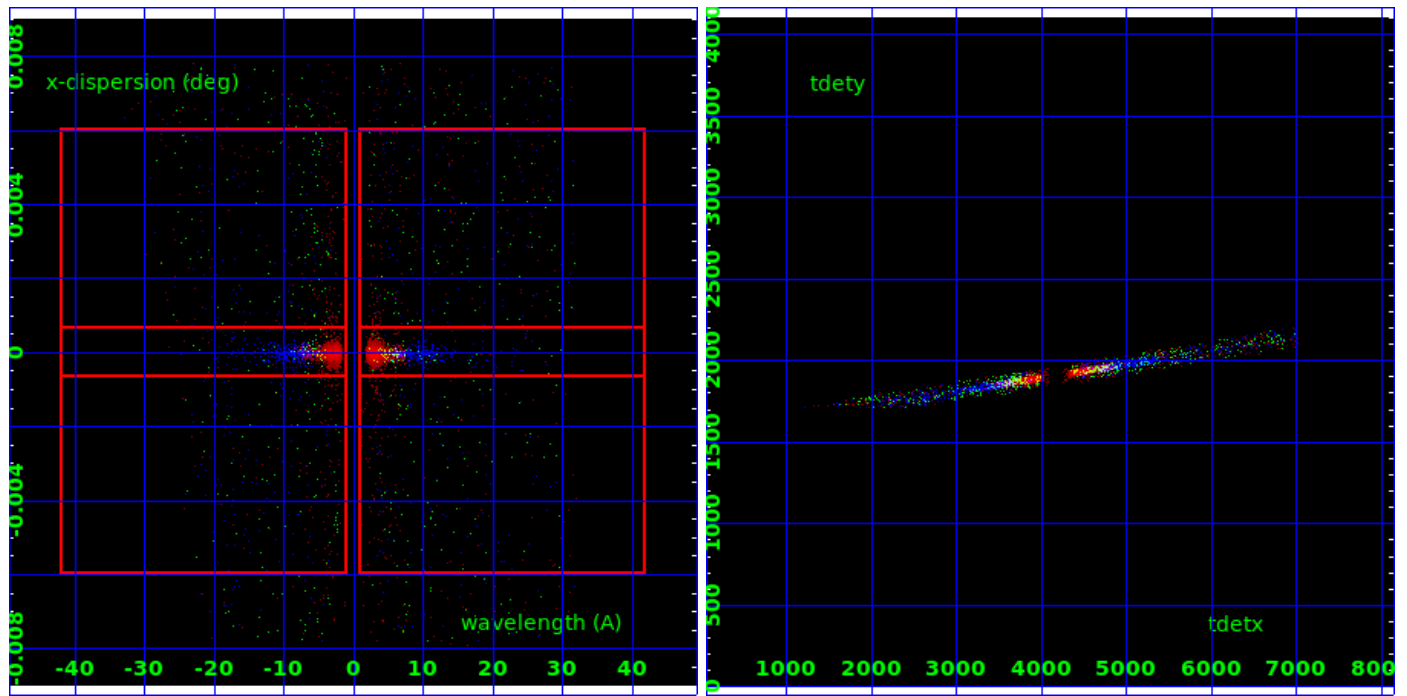
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

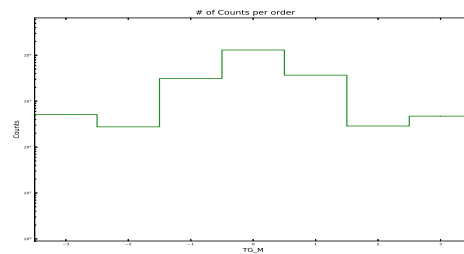
MEG Order Sort ALL

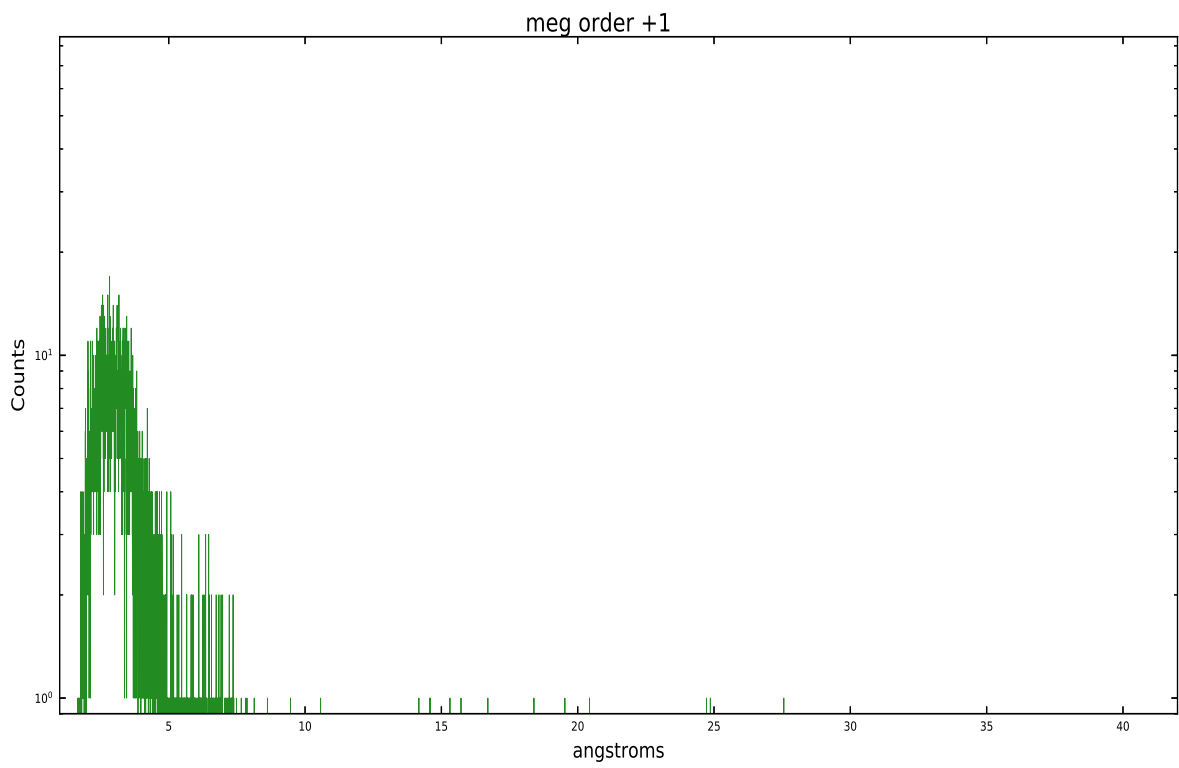
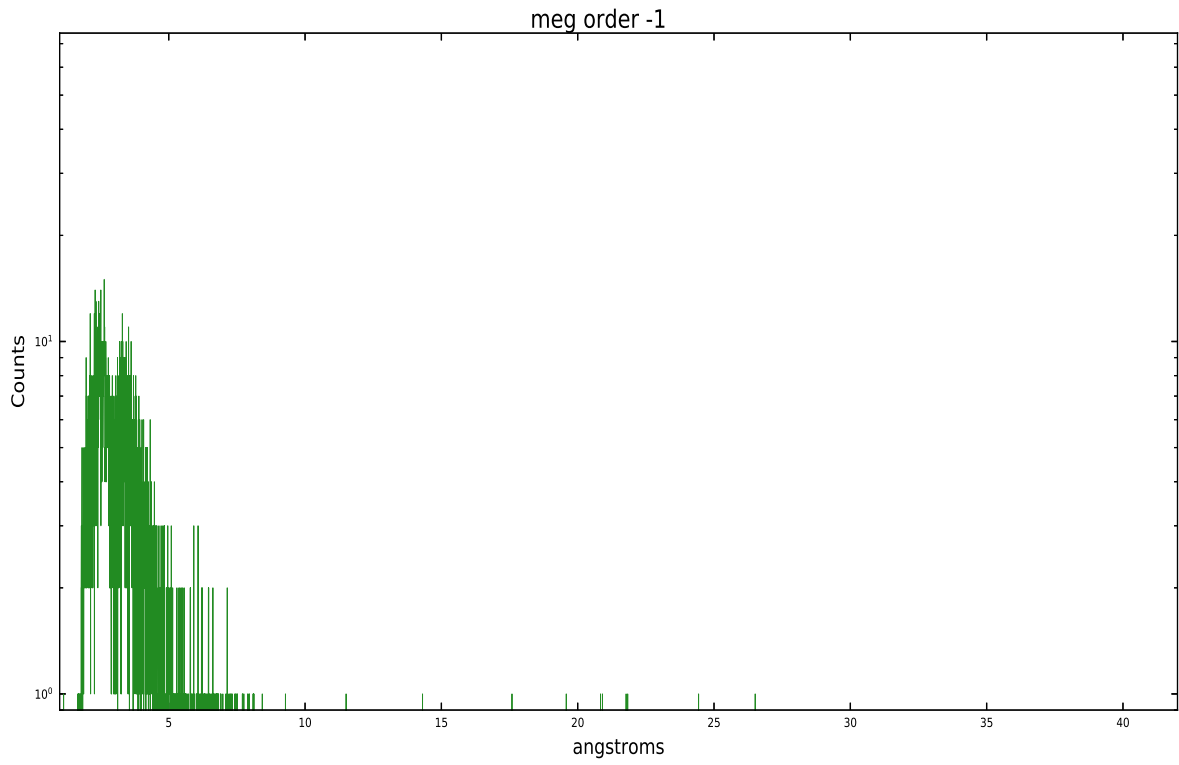


Spot Image MEG

Full Detector MEG

| | order -3 | order -2 | order -1 | order 0 | order 1 | order 2 | order 3 |
|--------|-------------|-------------|-------------|------------|------------|------------|------------|
| Events | 512 | 276 | 3117 | 13034 | 3680 | 288 | 472 |





A Summary

A.1 Status

| | |
|----------------------------|--------------------|
| V&V Scientist | David Huenemoerder |
| V&V Date (YYYY-MM-DD) | 2020.10.09 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 32.17929 |

A.2 Comments