

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1704 - L2 Version 5
Chandra X-Ray Center

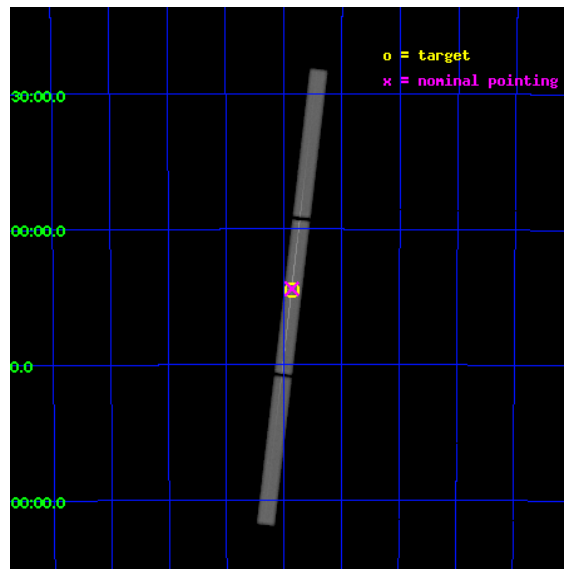
L2 Processing Date : Aug 28 2012

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Parameters | 4 |
| 2.1.3 | Events | 4 |
| 2.2 | Compared Parameters | 5 |
| 2.3 | Aspect | 6 |
| 2.4 | Star Slots | 9 |
| 2.4.1 | Slot 3 | 9 |
| 2.4.2 | Slot 4 | 10 |
| 2.4.3 | Slot 5 | 11 |
| 2.4.4 | Slot 6 | 12 |
| 2.4.5 | Slot 7 | 13 |
| 2.5 | FID Slots | 14 |
| 2.5.1 | Slot 0 | 14 |
| 2.5.2 | Slot 1 | 15 |
| 2.5.3 | Slot 2 | 16 |
| 3 | Gratings | 17 |
| 3.1 | LETG Arm | 17 |
| A | Summary | 19 |
| A.1 | Status | 19 |
| A.2 | Comments | 19 |

1 Front

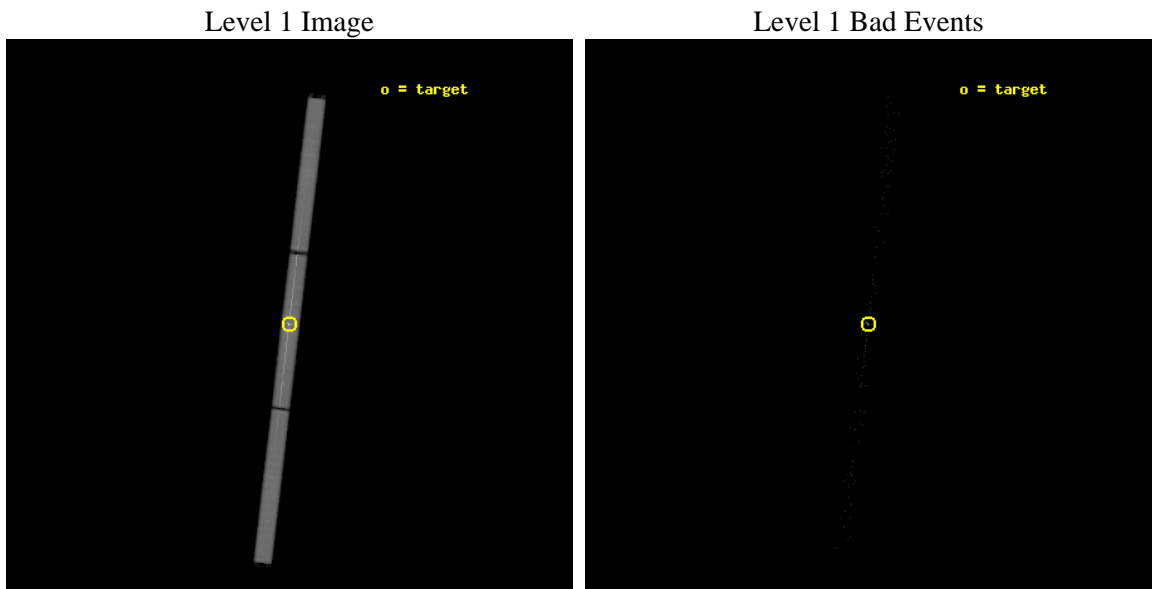
| | | |
|----------|--|---------------------------------------|
| seq_num | 700262 | Sequence number |
| obs_id | 1704 | Observation id |
| title | OBSERVATIONS OF BRIGHT ACTIVE GALACTIC NUCLEI WITH LETGS | Proposal |
| observer | DR. ALBERT BRINKMAN | Principal investigator |
| object | PKS 2155-304 | Source name |
| ra_targ | 329.715417 | Observer's specified target RA [deg] |
| dec_targ | -30.225611 | Observer's specified target Dec [deg] |
| ra_nom | 329.7150483514 | Nominal RA [deg] |
| dec_nom | -30.220613713473 | Nominal Dec [deg] |
| roll_nom | 96.668366711115 | Nominal Roll [deg] |
| revision | 5 | Processing version of data |
| ontime | 26004.50720714 | [s] |
| livetime | 25850.08758773 | Ontime multiplied by DTCOR |
| l2events | 1239095 | Number of level 2 events |



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 26000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5 | Processing system revision | ontime | 26004.50720714 | [s] |
| caldbver | 4.5.1.1 | | l1events | 1726600 | Number of level 1 events |
| date | 2012-08-28T06:25:14 | Date and time of file creation | | | |
| revision | 5 | Processing version of data | | | |

2.1.3 Events

Level 1 Events

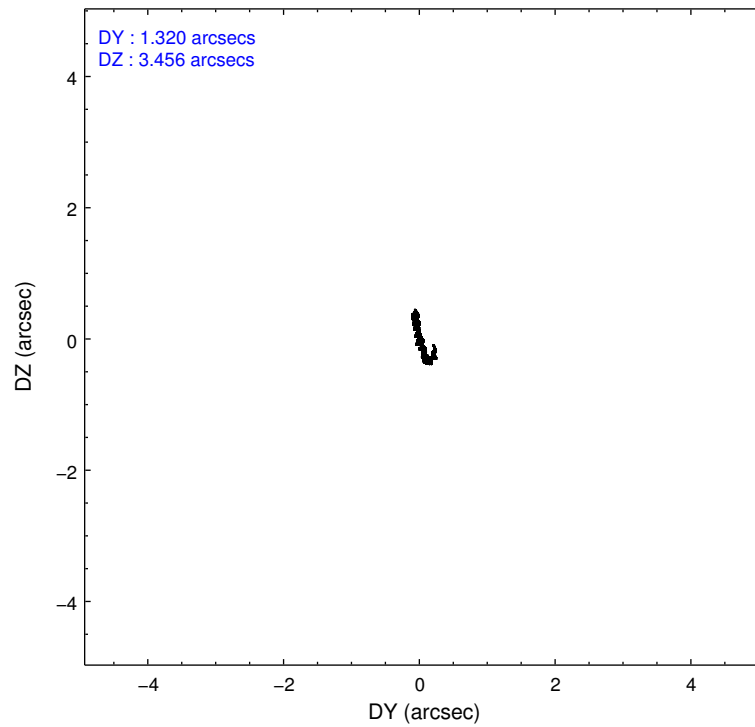
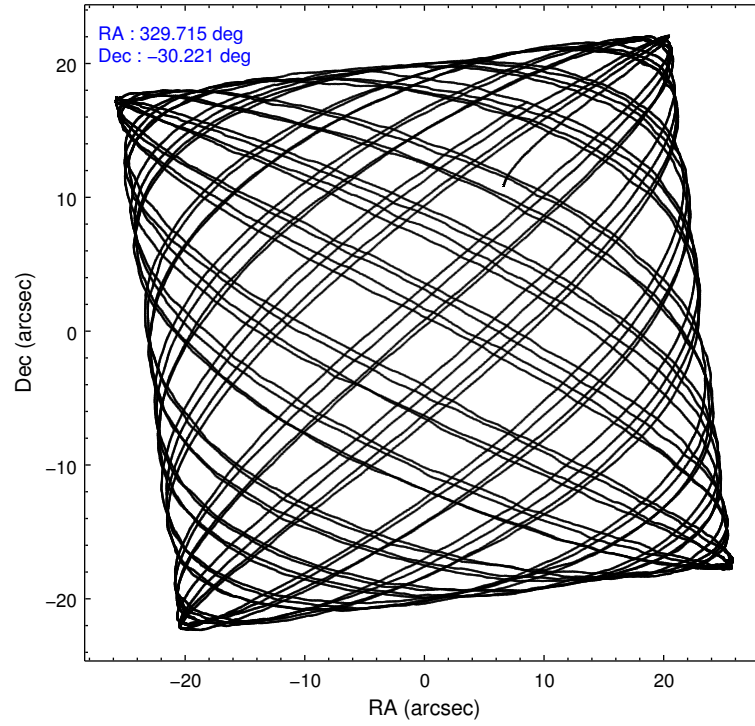
| | segment 1 | segment 2 | segment 3 |
|-----------------|----------------------|----------------------|----------------------|
| level 1 events | 523377 | 668542 | 534681 |
| rejected events | 1476 | 2271 | 1544 |
| rejected % | 0% | 0% | 0% |

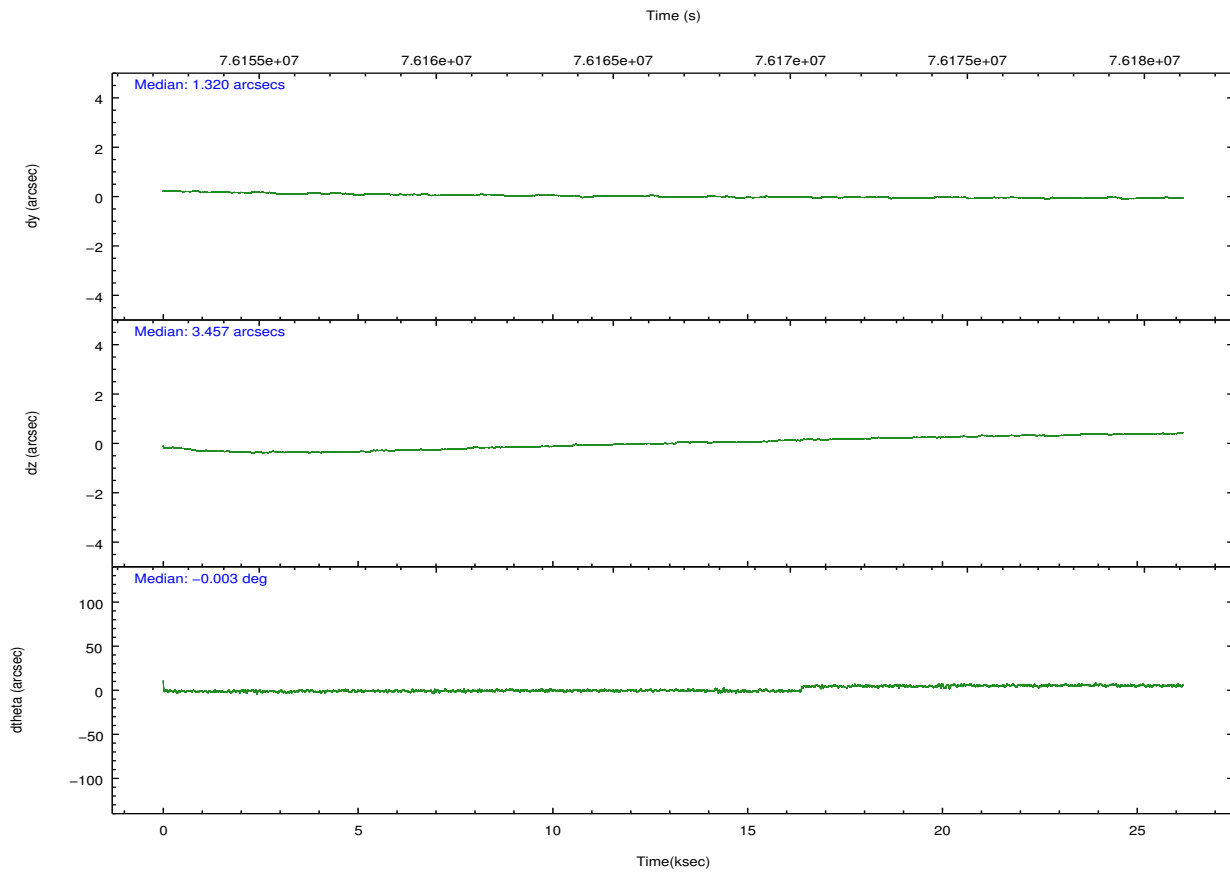
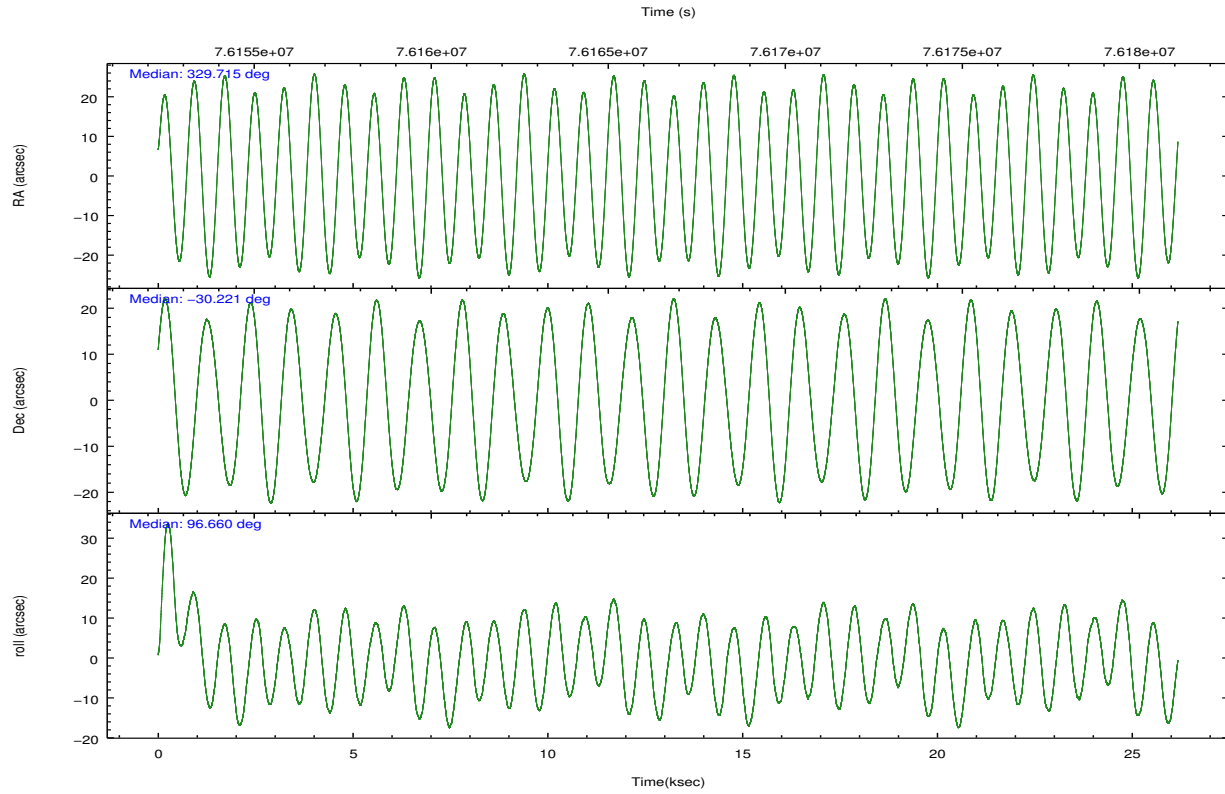
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | HRC | HRC |
| Detector | HRC-S | HRC-S |
| Grating | LETG | LETG |
| Data mode | OBSERVING | OBSERVING |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 329.736004 | 329.7150483514042 |
| [deg] Pointing Dec | -30.243018 | -30.22061371347266 |
| [deg] Pointing Roll | 96.611582 | 96.6683667111148 |
| [mm] SIM focus pos | -1.429586 | -1.428180813131781 |
| [mm] SIM defocus | 0.1037507710433287 | 0.1051558262725154 |
| [mm] SIM translation stage pos | 250.455976 | 250.466033080201 |
| [mm] SIM translation stage offset | 0 | -0.01005468664627074 |
| [s] Observation start time (MET) | 76153773.184000 | 76153334.929859 |
| Observation start date | 2000-05-31T09:48:29 | 2000-05-31T09:42:14 |
| [s] Observation end time (MET) | 76179773.184000 | 76180317.030852 |
| Observation end date | 2000-05-31T17:01:49 | 2000-05-31T17:11:57 |

| Parameter | Planned | Actual |
|------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |

2.3 Aspect



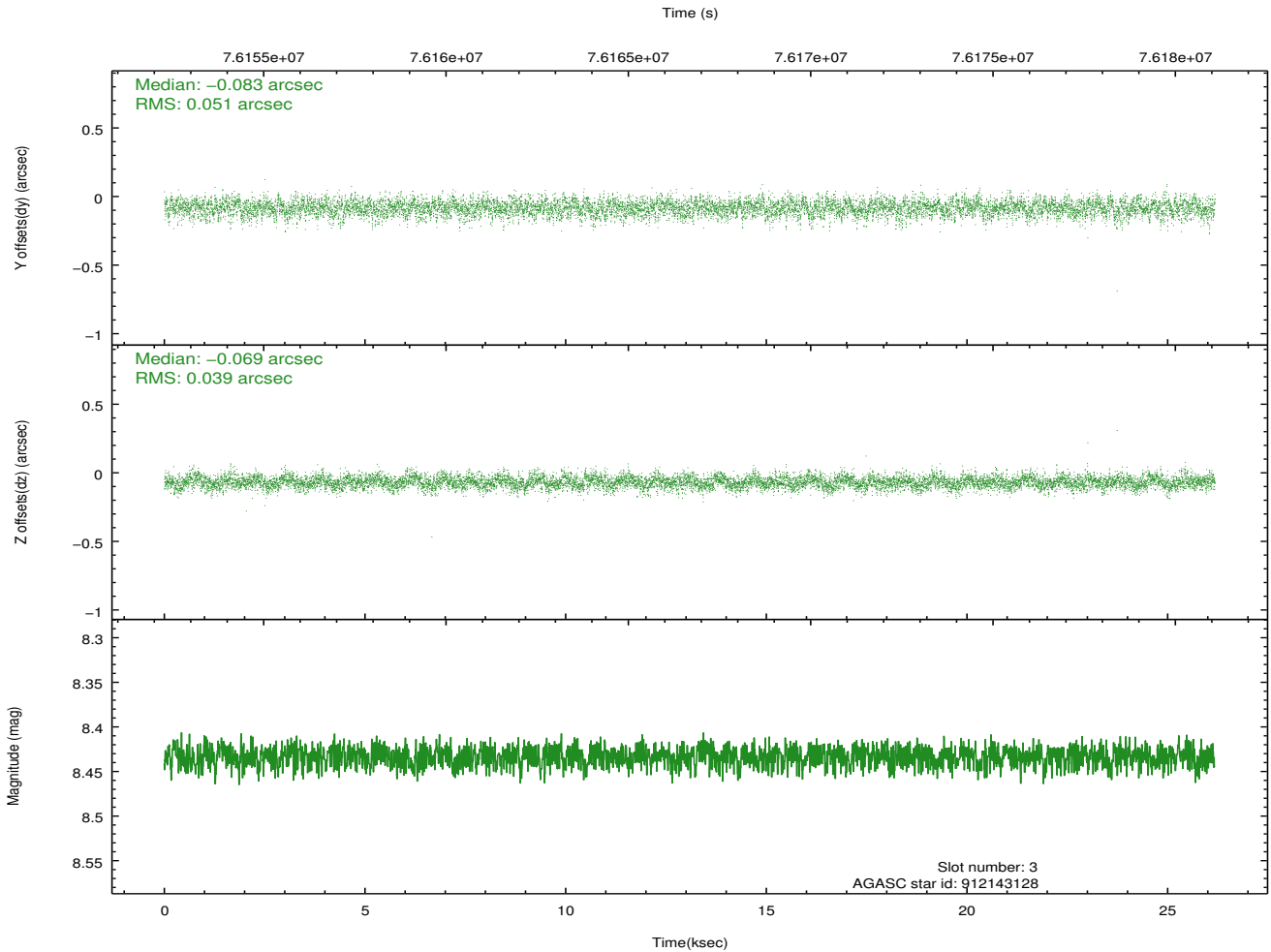
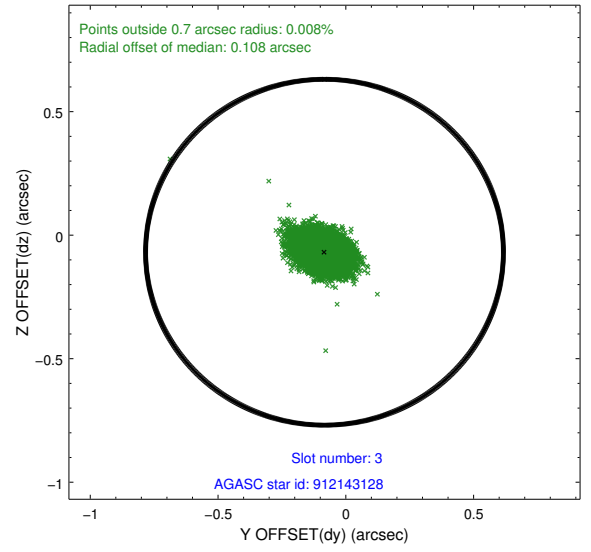
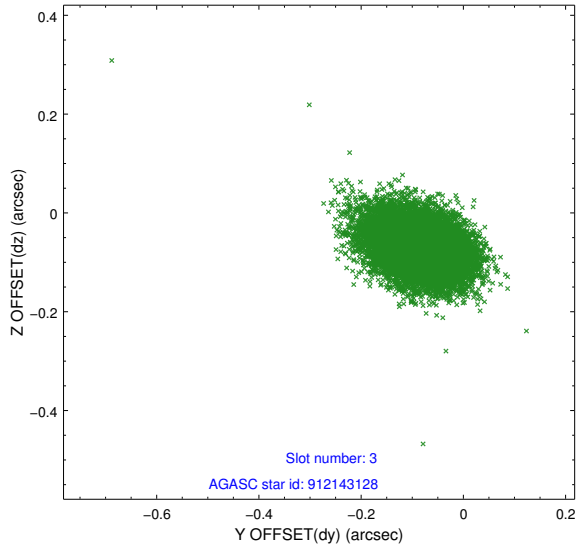


Slot Statistics

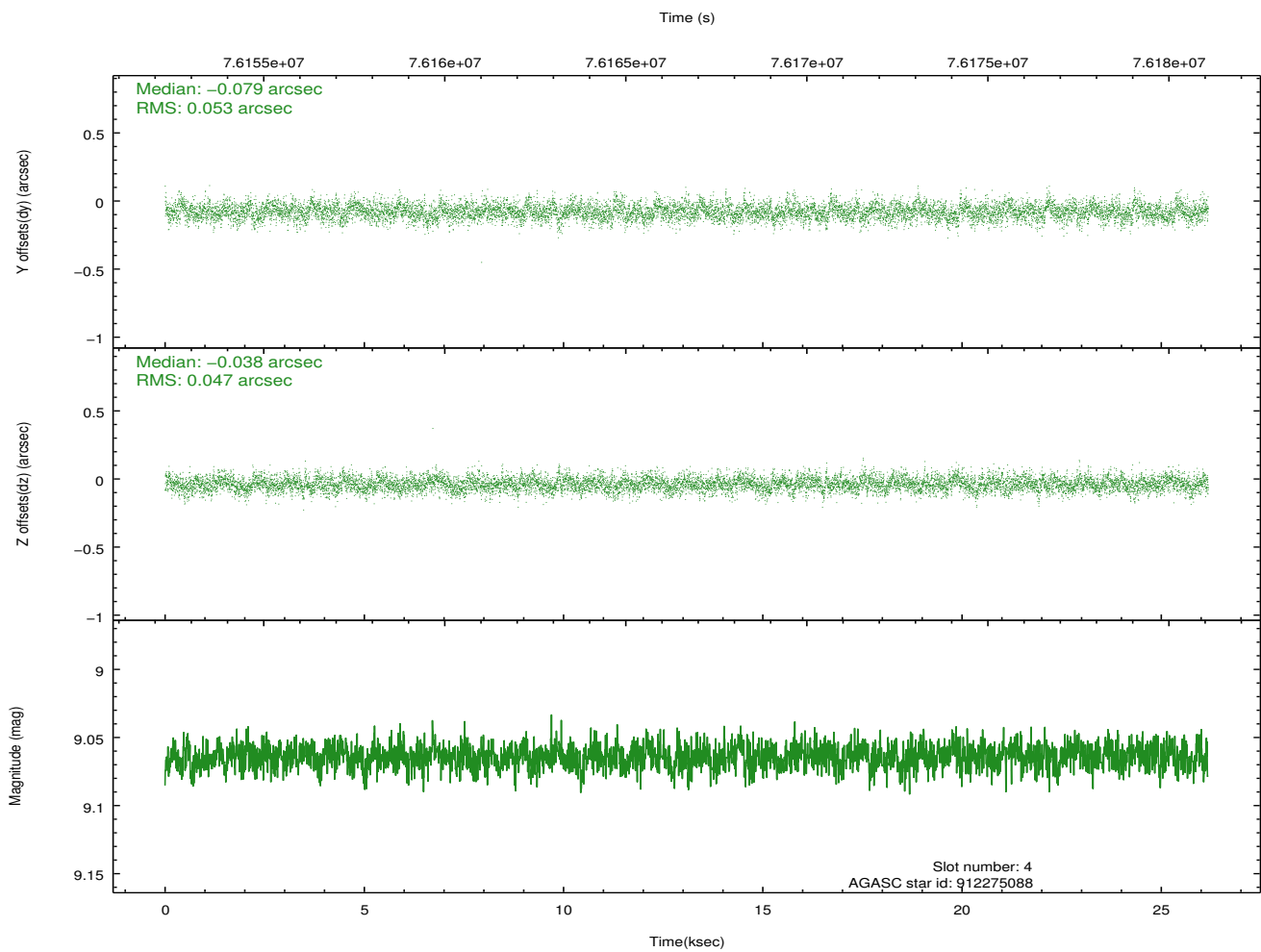
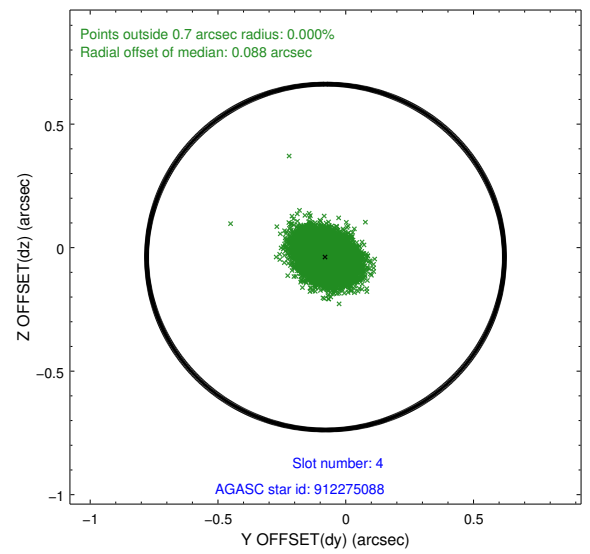
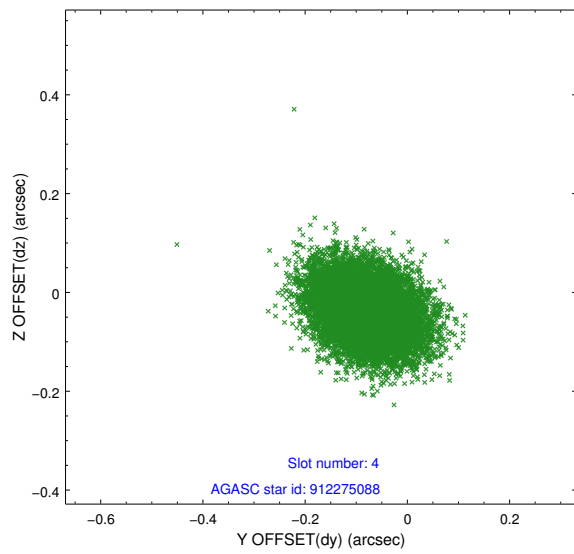
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|------------|----------|---------|
| 0 | FID | HRC-S-1 | 6.97 | 6385 | 0.116 | -0.085 | 0.016 | 0.023 | 0.000000 | 0.000000 | -1155.37 | -451.86 |
| 1 | FID | HRC-S-3 | 7.00 | 6385 | 0.162 | -0.117 | 0.016 | 0.025 | 0.000000 | 0.000000 | -1158.22 | 577.57 |
| 2 | FID | HRC-S-4 | 6.94 | 6385 | 0.106 | -0.094 | 0.010 | 0.017 | 0.000000 | 0.000000 | 1242.70 | 580.30 |
| 3 | GUIDE | 912143128 | 8.43 | 12769 | -0.083 | -0.069 | 0.066 | 0.111 | 328.924992 | -29.706140 | 2203.25 | 2297.96 |
| 4 | GUIDE | 912275088 | 9.06 | 12768 | -0.079 | -0.038 | 0.074 | 0.125 | 329.619228 | -29.738698 | 1846.08 | 154.05 |
| 5 | GUIDE | 981478152 | 9.41 | 12760 | 0.047 | -0.064 | 0.089 | 0.148 | 329.415589 | -30.057192 | 778.83 | 915.00 |
| 6 | GUIDE | 981468128 | 9.36 | 12765 | 0.168 | 0.229 | 0.087 | 0.149 | 329.756350 | -30.158334 | 296.46 | -97.62 |
| 7 | GUIDE | 981469488 | 9.60 | 12763 | -0.052 | -0.059 | 0.097 | 0.161 | 329.261199 | -30.045155 | 875.34 | 1388.25 |

2.4 Star Slots

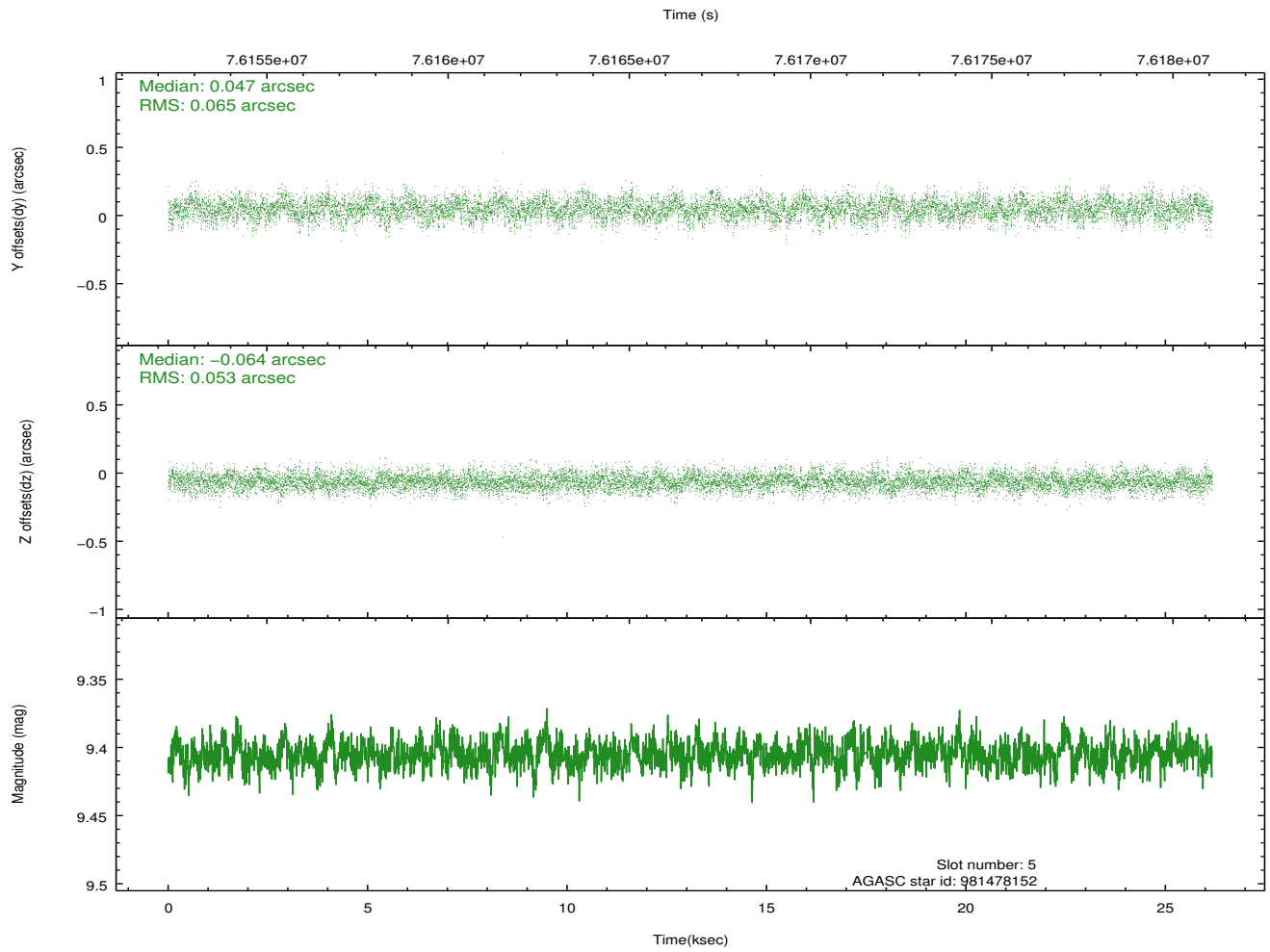
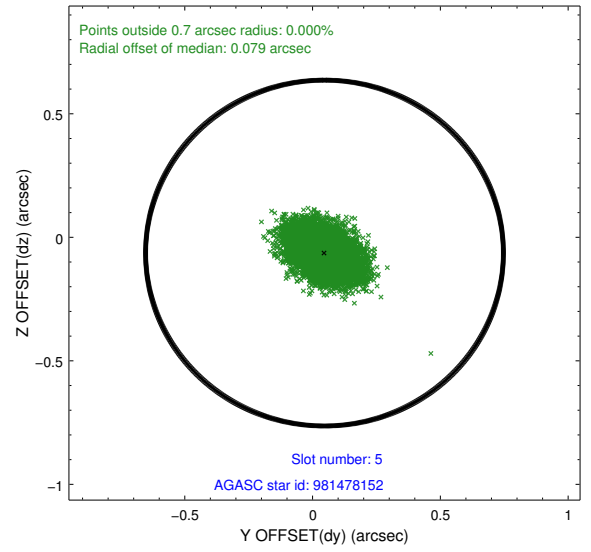
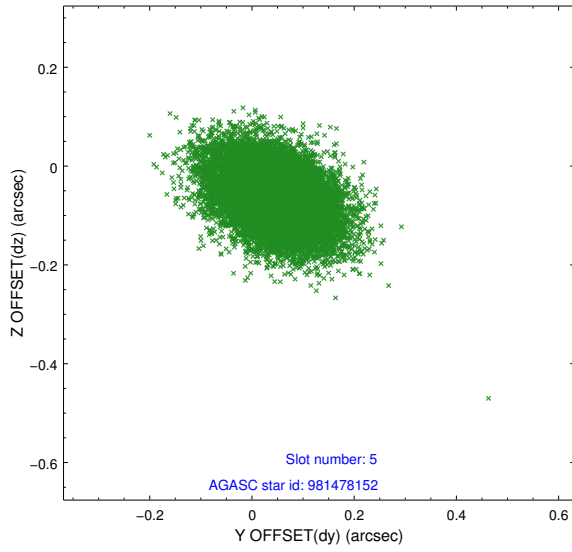
2.4.1 Slot 3



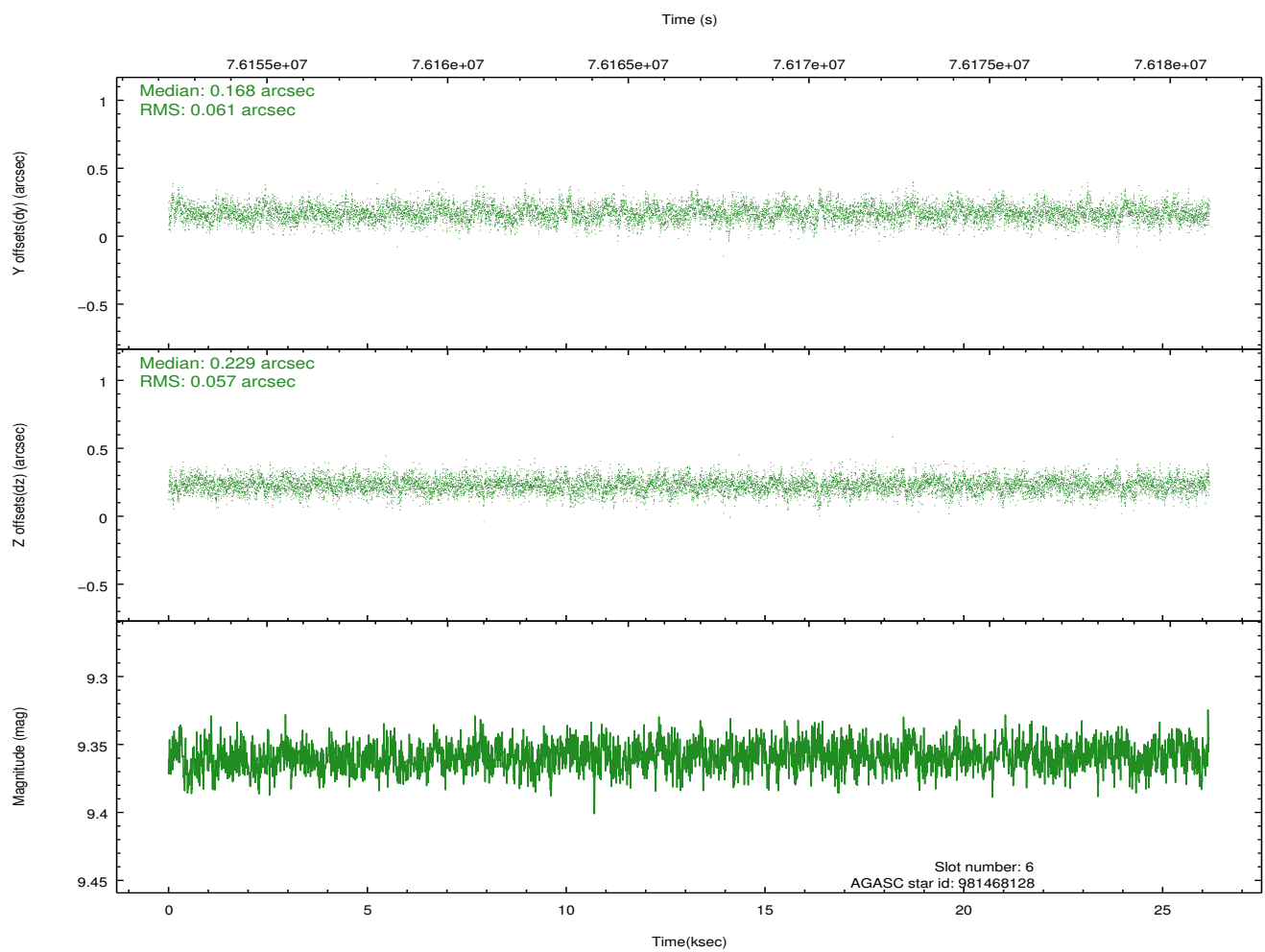
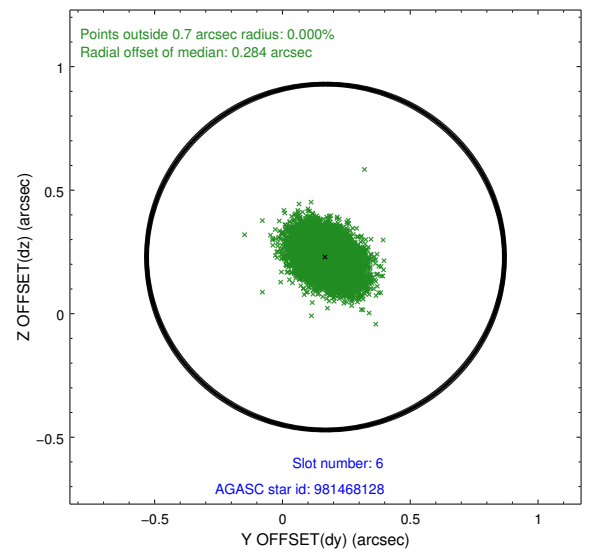
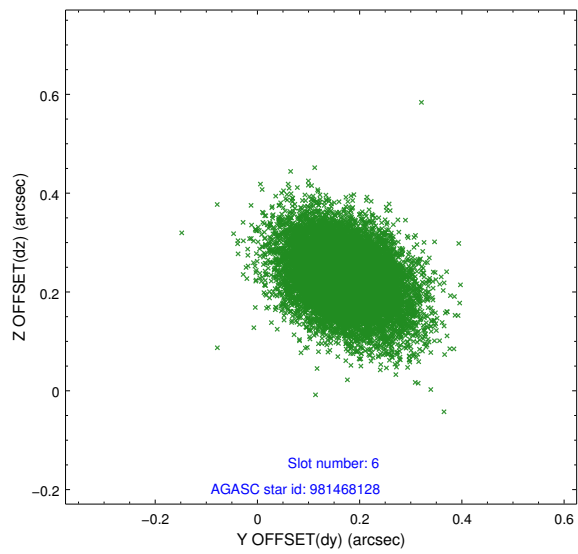
2.4.2 Slot 4



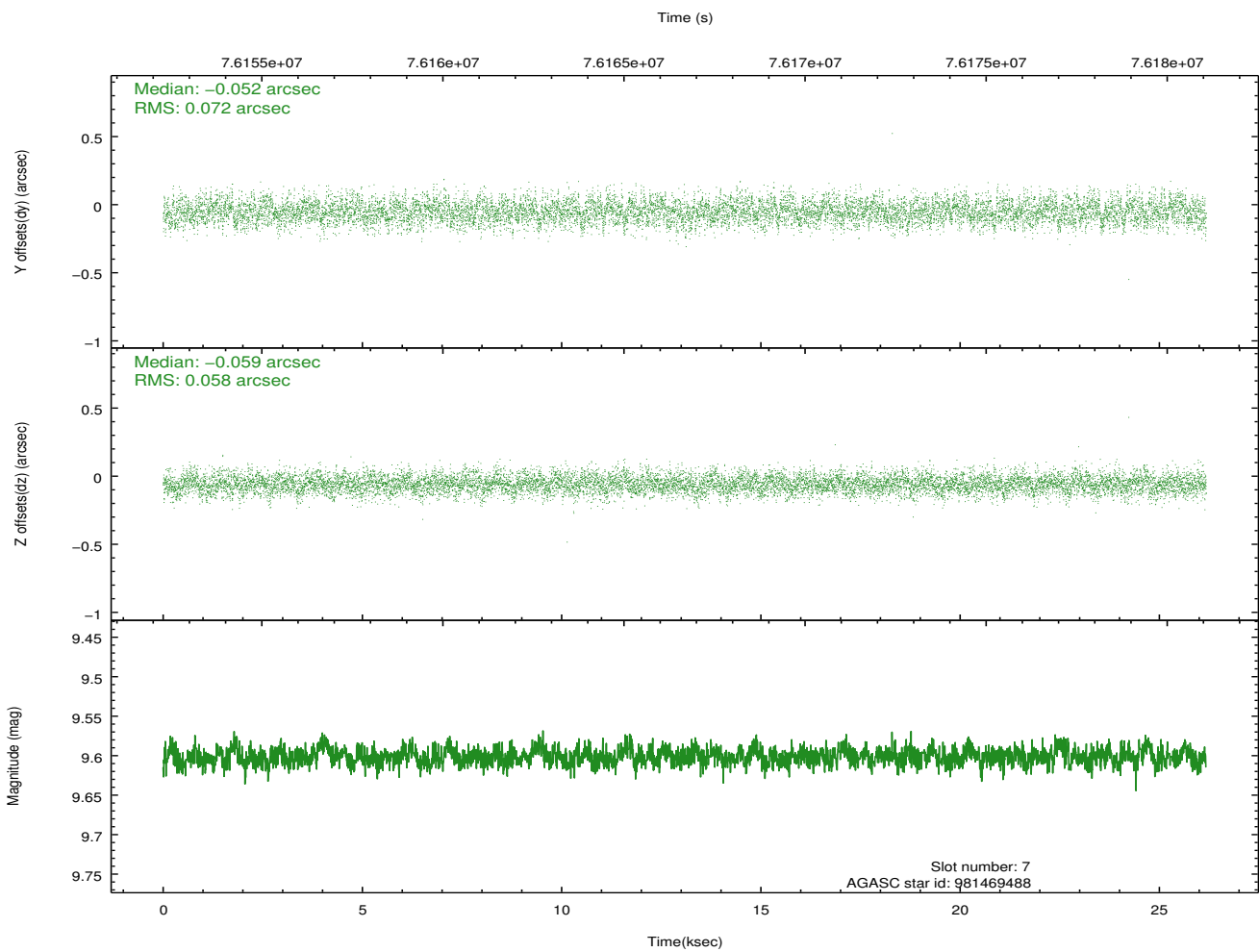
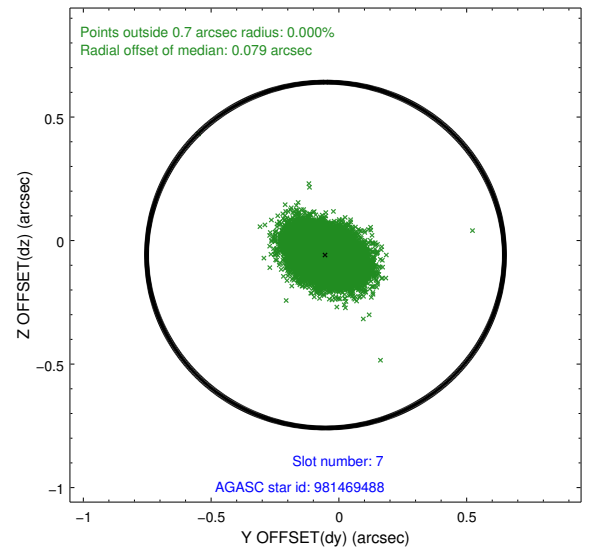
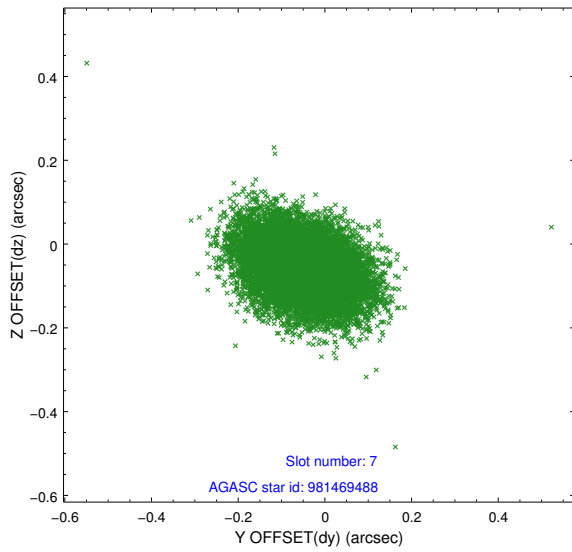
2.4.3 Slot 5



2.4.4 Slot 6

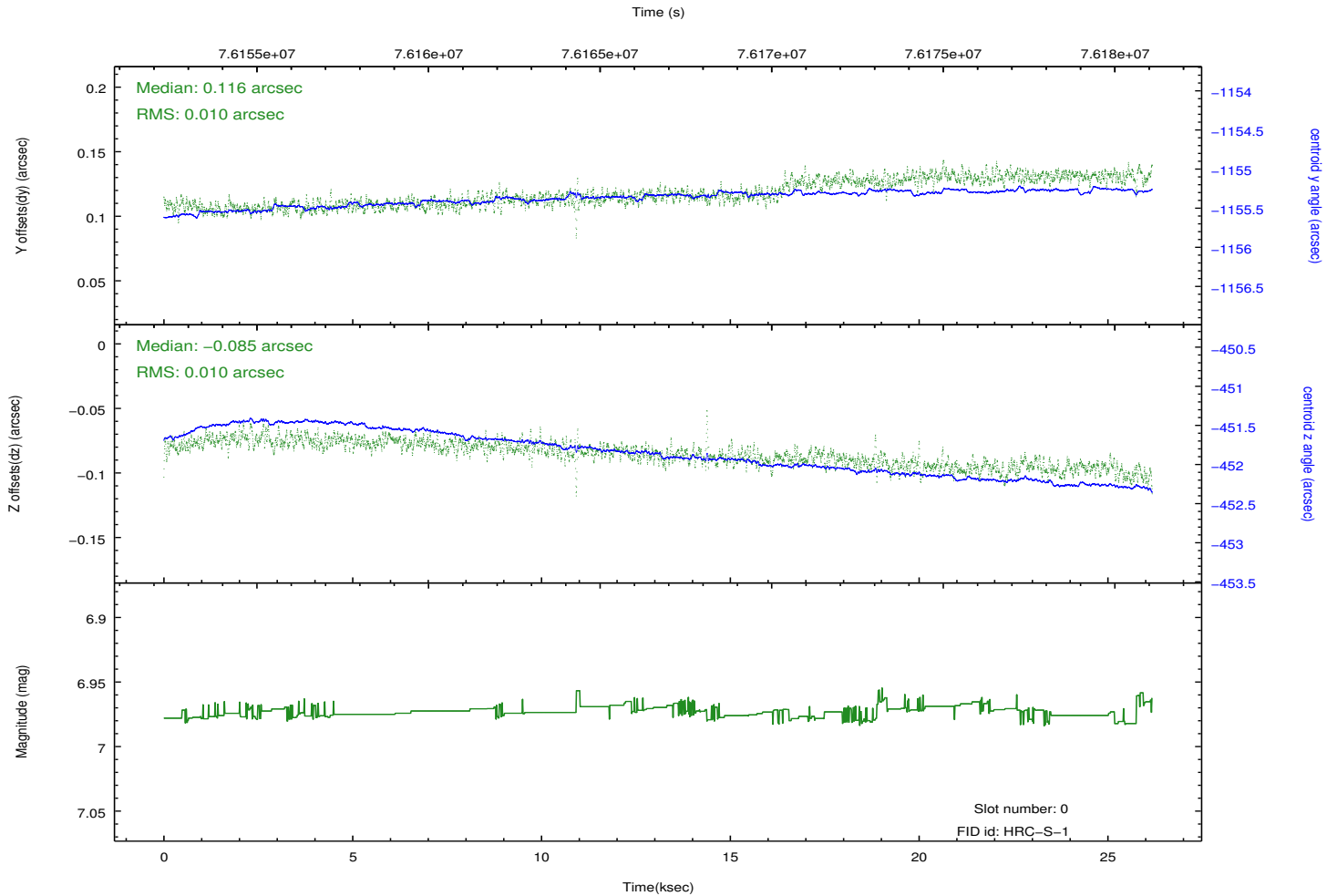
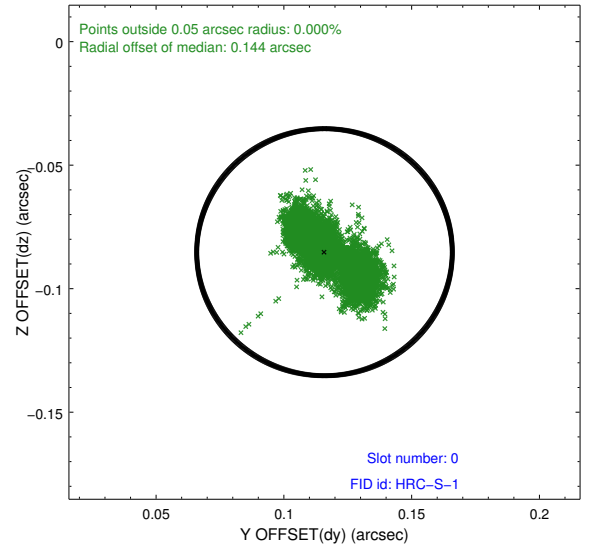
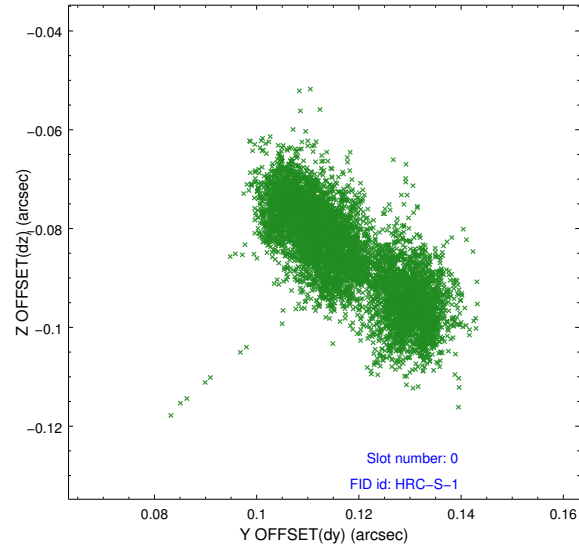


2.4.5 Slot 7

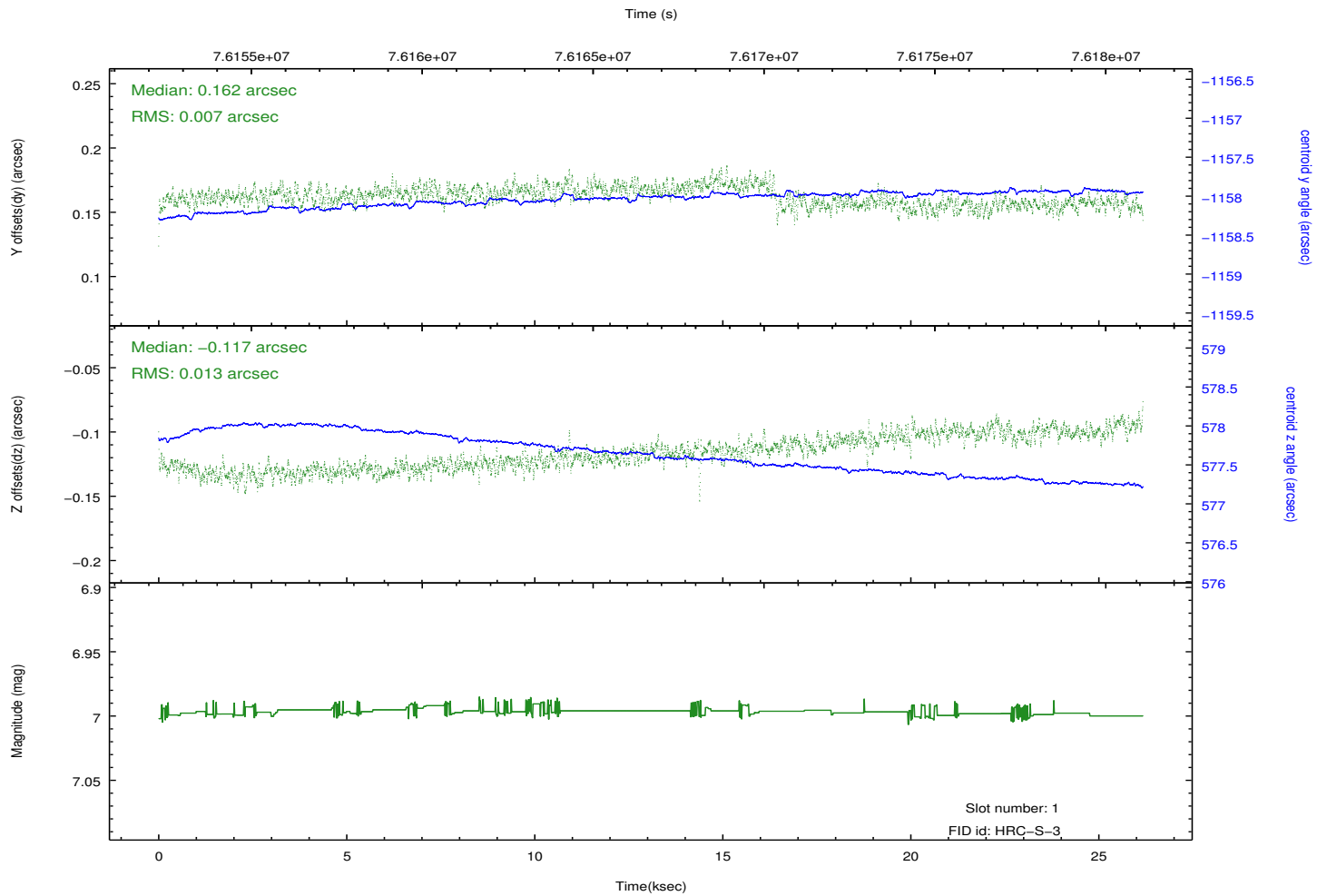
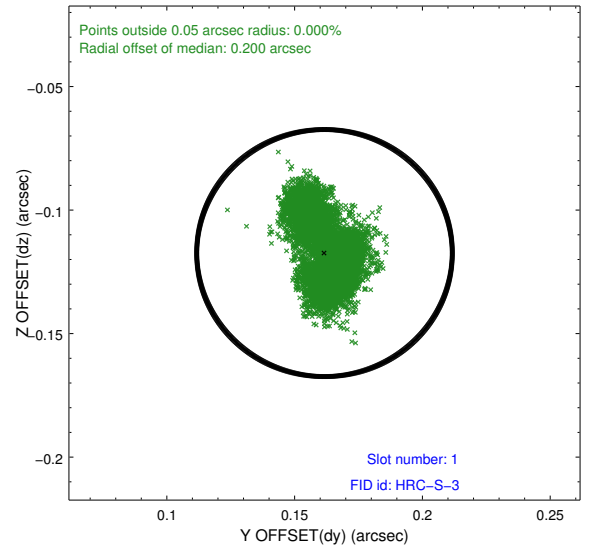
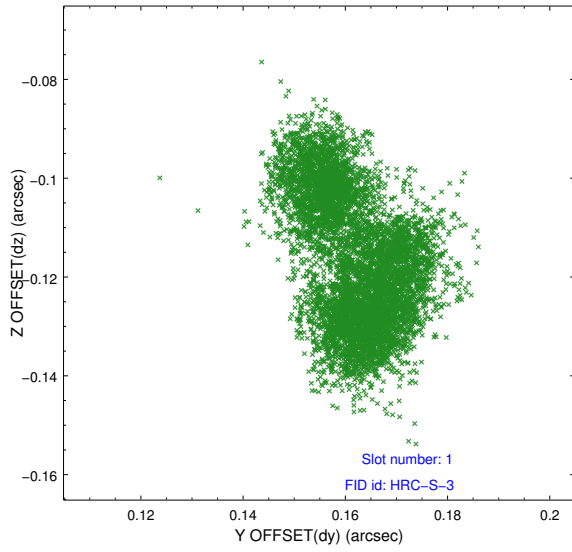


2.5 FID Slots

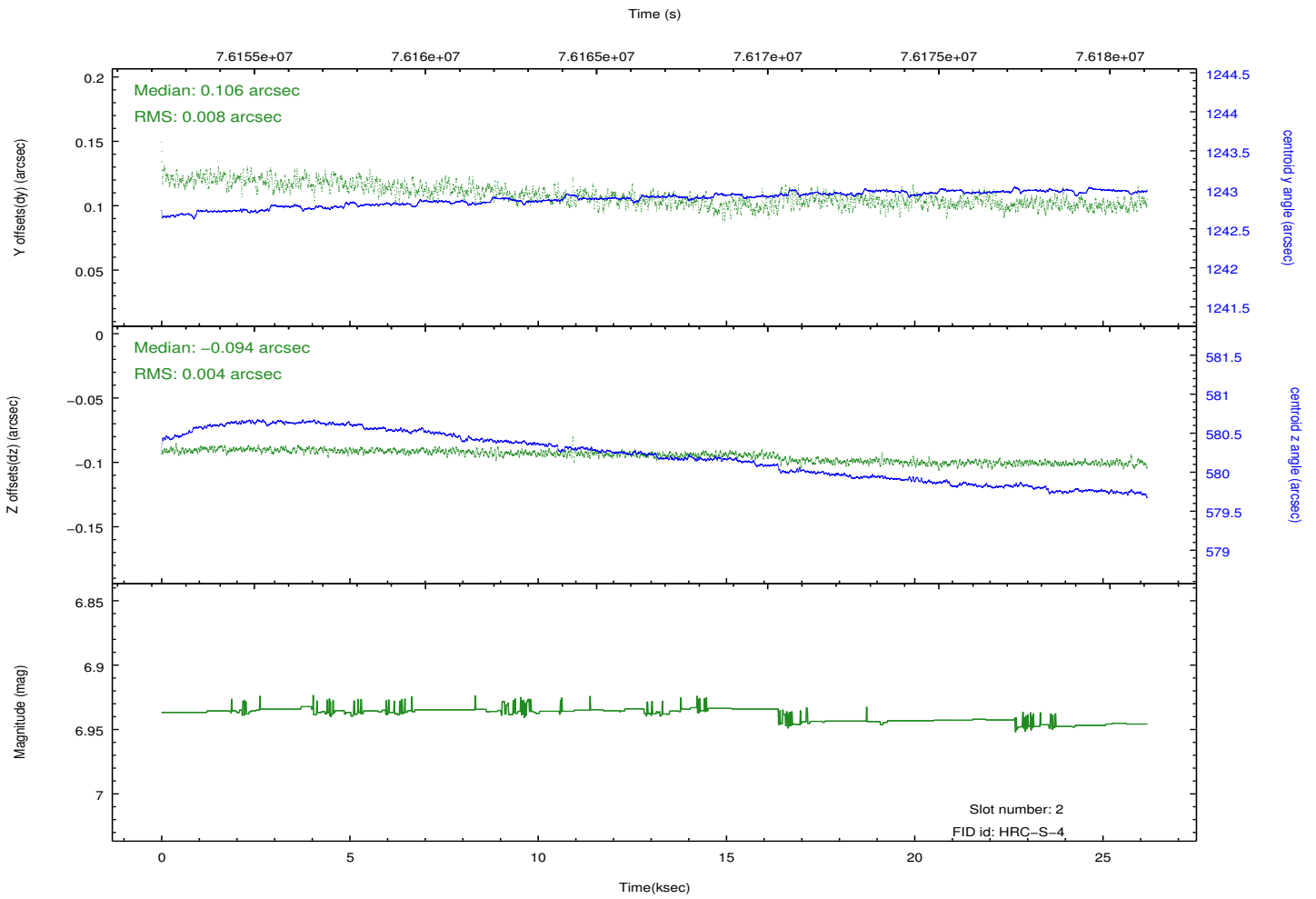
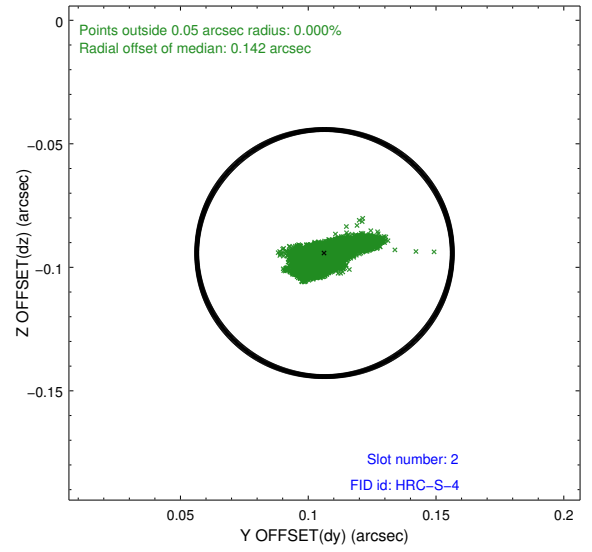
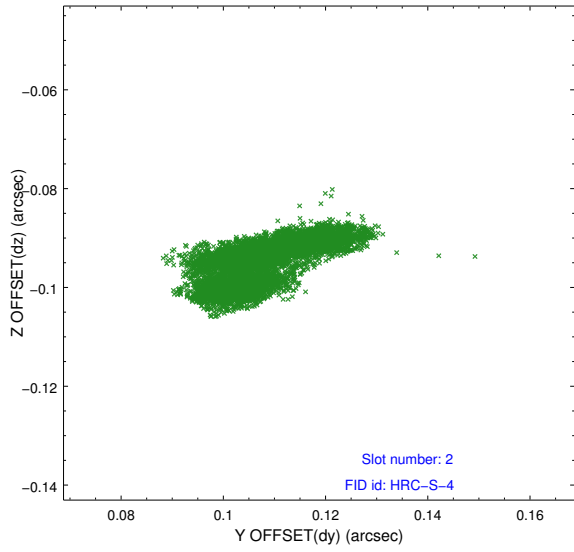
2.5.1 Slot 0



2.5.2 Slot 1

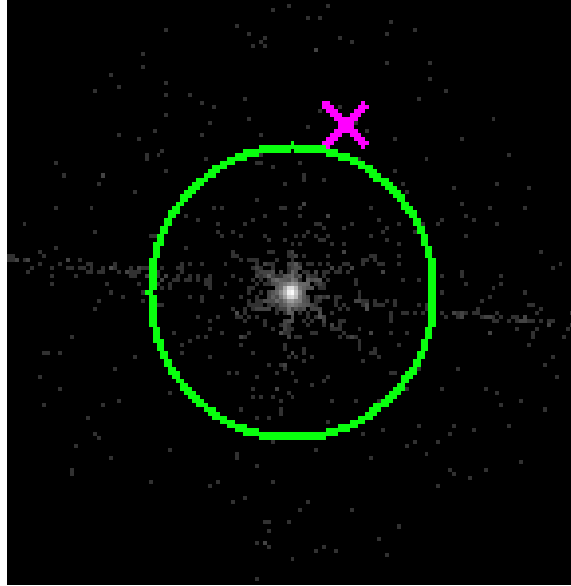


2.5.3 Slot 2

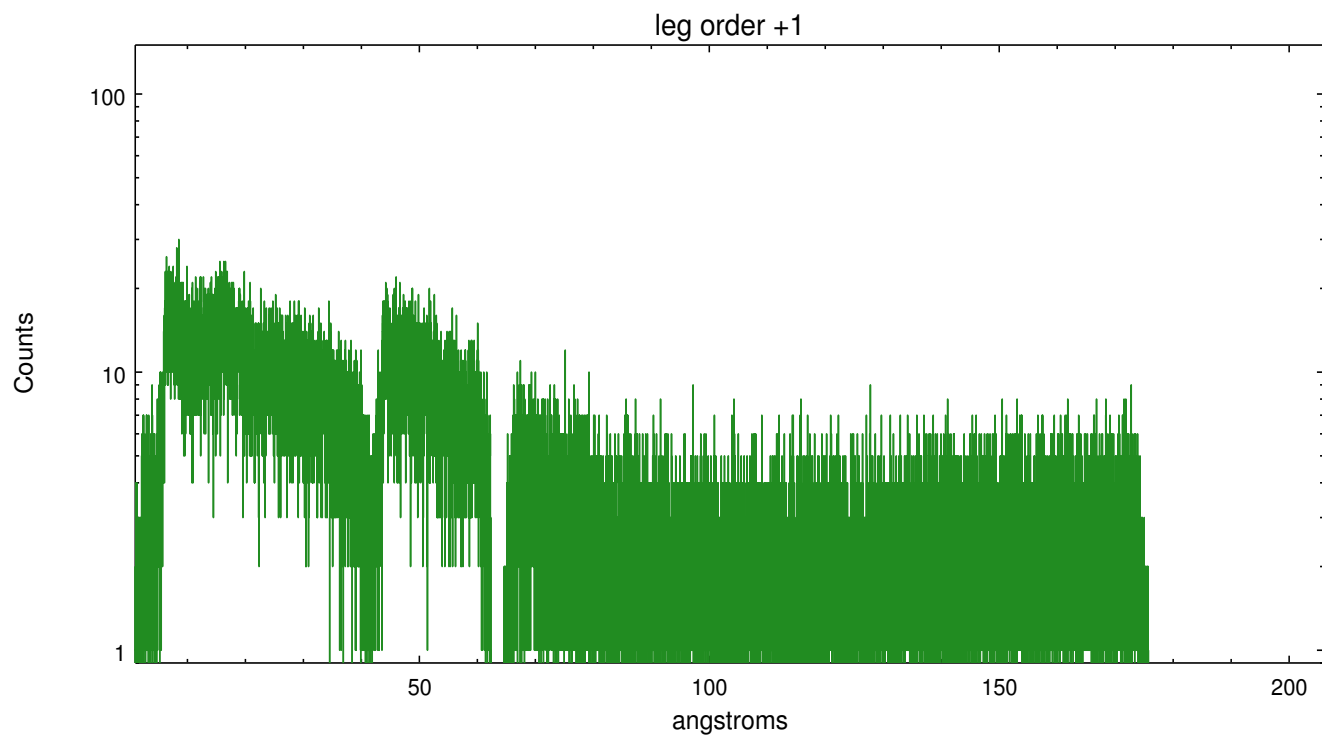
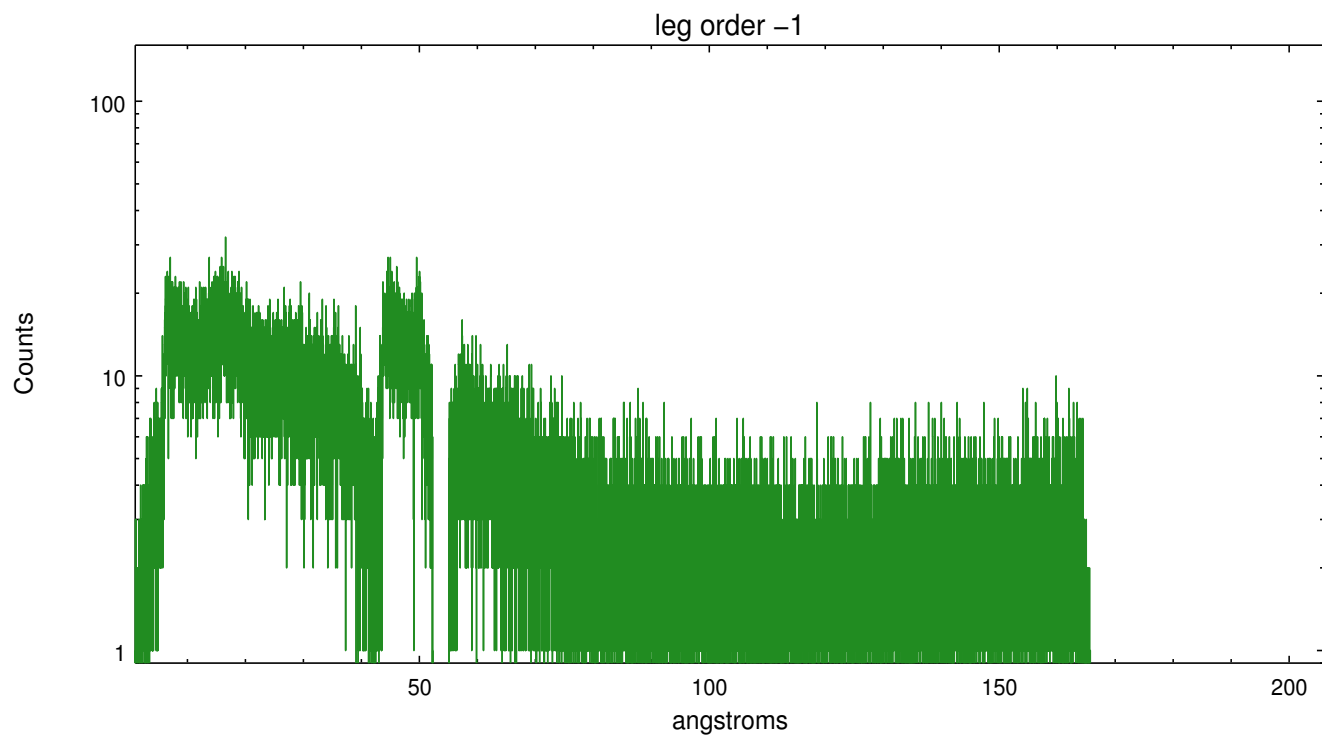


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2012.08.29 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 25.981 |

A.2 Comments

HRC-S source not at geometric cross-dispersion center of detector: The zeroth order of the source is not at the precise center of the HRC-S detector in the cross-dispersion direction. This placement does not affect the quality of spectral extraction of the source data. However, the background spectrum in this standard processing is the combination of the background on either side of the source spectrum. The effective area is not identical in the background region above and below the spectral extraction region, because one of these background regions includes only portions of the dither-pattern distribution for some events, not full coverage. The user is advised to use exposure-corrected data for analysis, and narrower extraction regions for at least the background, as well as possibly for the source extraction region.