

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3831 - L2 Version 3
Chandra X-Ray Center

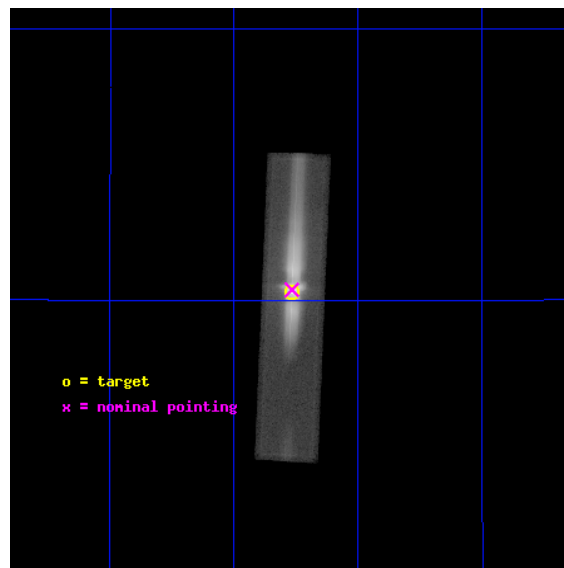
L2 Processing Date : Nov 4 2012

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 1 | 14 |
| 2.5.2 | Slot 2 | 15 |
| 3 | Gratings | 16 |
| 3.1 | LETG Arm | 16 |
| A | Summary | 18 |
| A.1 | Status | 18 |
| A.2 | Comments | 18 |

1 Front

| | | |
|-----------|---|---------------------------------------|
| seq_num | 500310 | Sequence number |
| obs_id | 3831 | Observation id |
| title | SIMULTANEOUS X-RAY AND OPTICAL HIGH SPEED PHOTOMETRY OF THE CRAB PULSAR | Proposal title |
| observer | Dr. Peter Predehl | Principal investigator |
| object | CRAB PULSAR | Source name |
| ra_targ | 83.633333 | Observer's specified target RA [deg] |
| dec_targ | 22.014444 | Observer's specified target Dec [deg] |
| ra_nom | 83.633226863037 | Nominal RA [deg] |
| dec_nom | 22.019291779197 | Nominal Dec [deg] |
| roll_nom | 92.370609504846 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 8852.15662992 | [s] |
| liveltime | 6385.1149373965 | Ontime multiplied by DTCOR |
| l2events | 1528465 | Number of level 2 events |

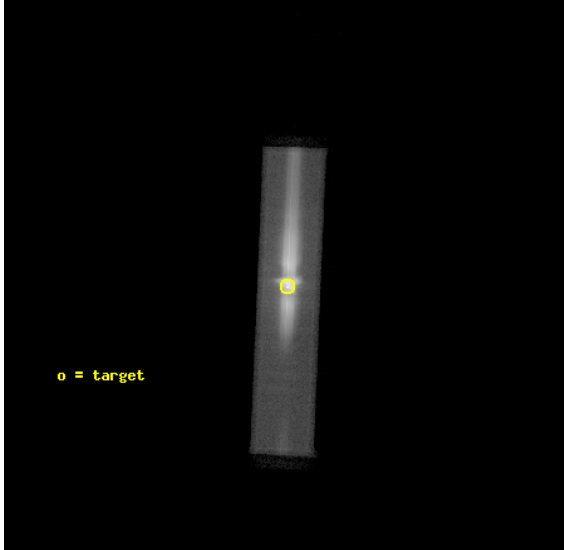


2 OBI

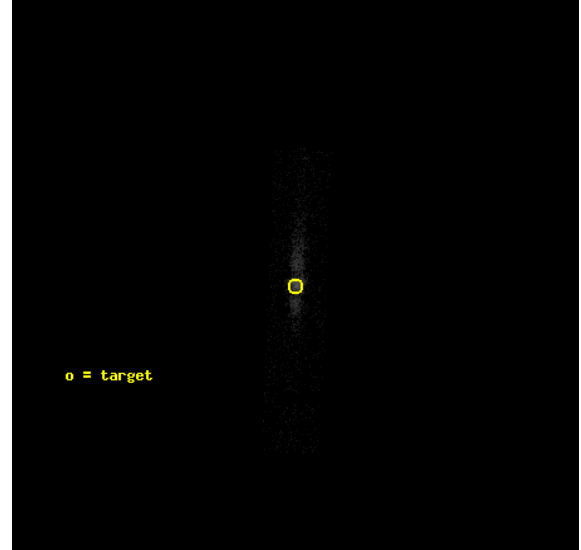
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|---------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 9000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5 | Processing system revision | ontime | 8852.15662992 | [s] |
| caldbver | 4.5.2 | | l1events | 1640968 | Number of level 1 events |
| date | 2012-11-04T11:42:42 | Date and time of file creation | | | |
| revision | 3 | Processing version of data | | | |

2.1.3 Events

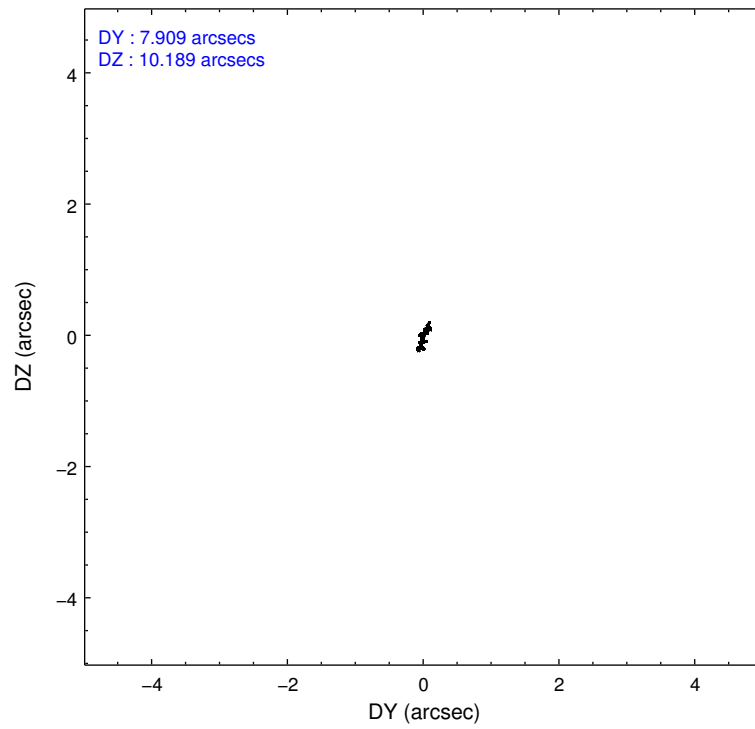
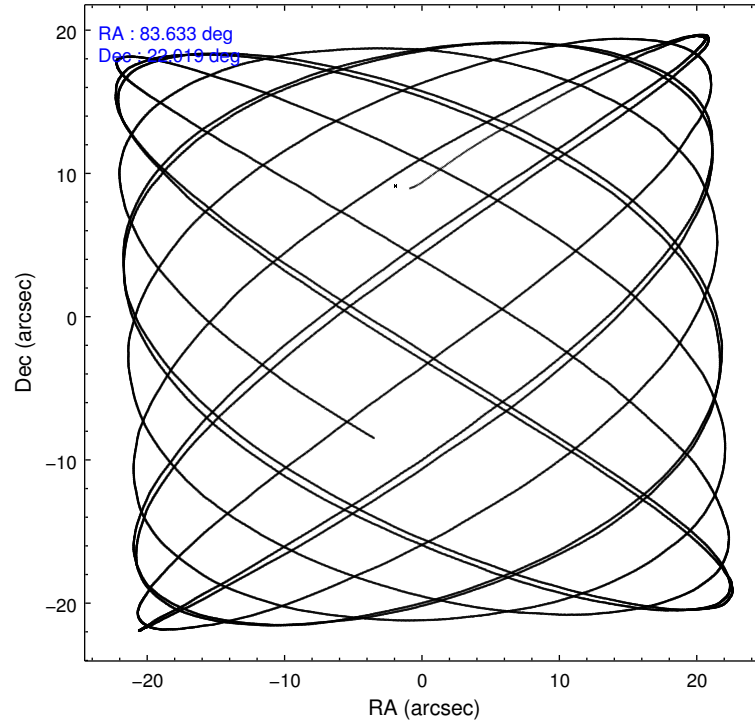
Level 1 Events

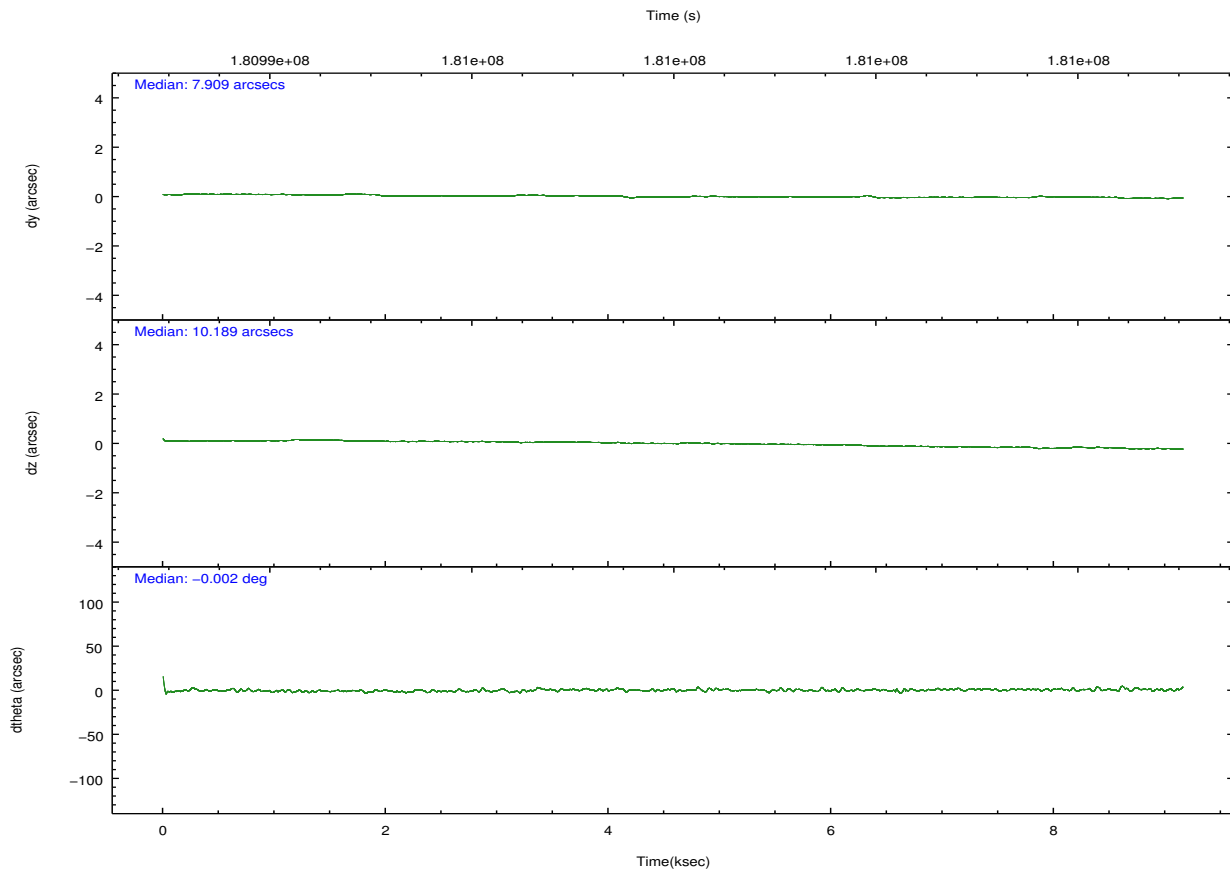
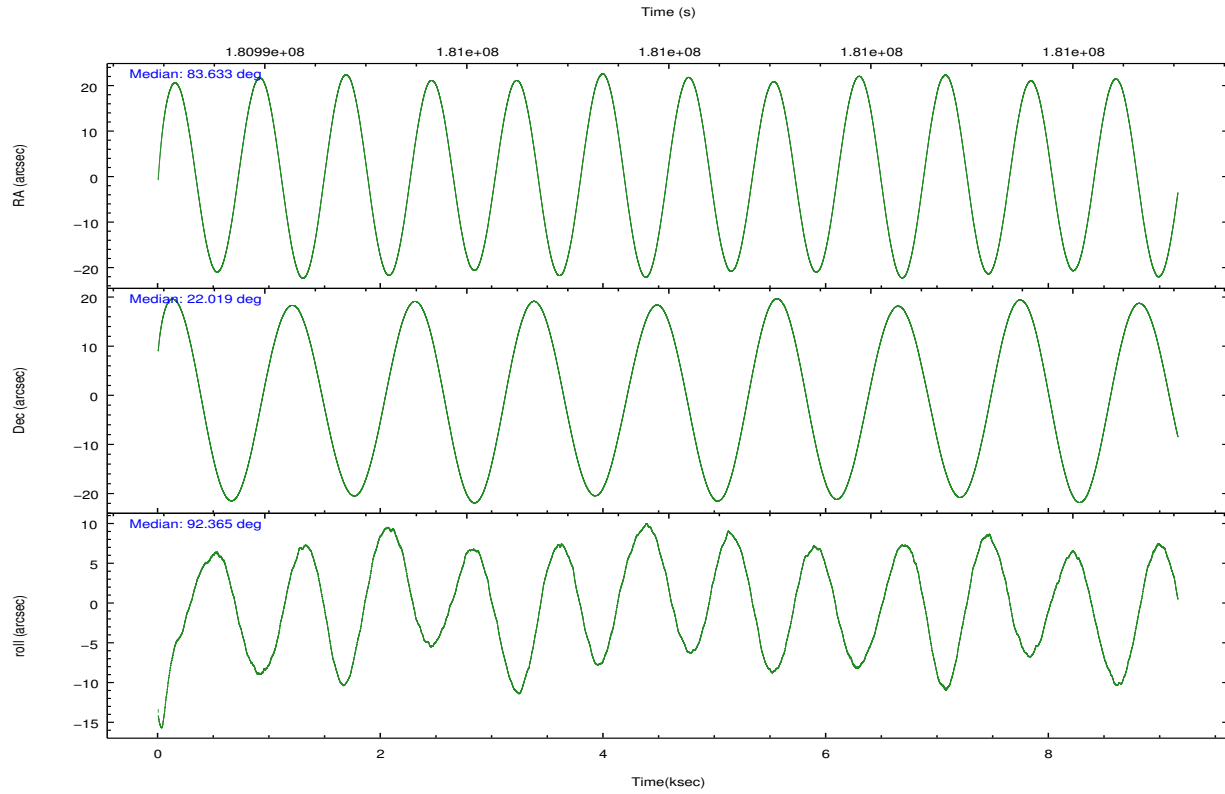
| | segment 1 | segment 2 | segment 3 |
|-----------------|----------------------|----------------------|----------------------|
| level 1 events | 379 | 1640581 | 8 |
| rejected events | 11 | 8704 | 7 |
| rejected % | 2% | 0% | 87% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|------------------------------|-----------|---------|
| Instrument | HRC | HRC | Obspar format version number | 7 | 7 |
| Detector | HRC-S | HRC-S | Obspar file type | PREDICTED | ACTUAL |
| Grating | LETG | LETG | Obspar update status | NONE | UPDATED |
| Data mode | OBSERVING | OBSERVING | | | |
| Observation mode | POINTING | POINTING | | | |
| [deg] Pointing RA | 83.651052 | 83.63322686303704 | | | |
| [deg] Pointing Dec | 21.995758 | 22.01929177919736 | | | |
| [deg] Pointing Roll | 92.296606 | 92.3706095048461 | | | |
| [mm] SIM focus pos | -1.429586 | -1.428180813131781 | | | |
| [mm] SIM defocus | 0.1037507710433287 | 0.1051558262725154 | | | |
| [mm] SIM translation stage pos | 250.455976 | 250.4635187648994 | | | |
| [mm] SIM translation stage offset | 0 | -0.007540371344731511 | | | |
| [s] Observation start time (MET) | 180993573.184000 | 180992682.80114 | | | |
| Observation start date | 2003-09-26T19:58:29 | 2003-09-26T19:44:42 | | | |
| [s] Observation end time (MET) | 181002573.184000 | 181003616.98911 | | | |
| Observation end date | 2003-09-26T22:28:29 | 2003-09-26T22:46:56 | | | |

2.3 Aspect



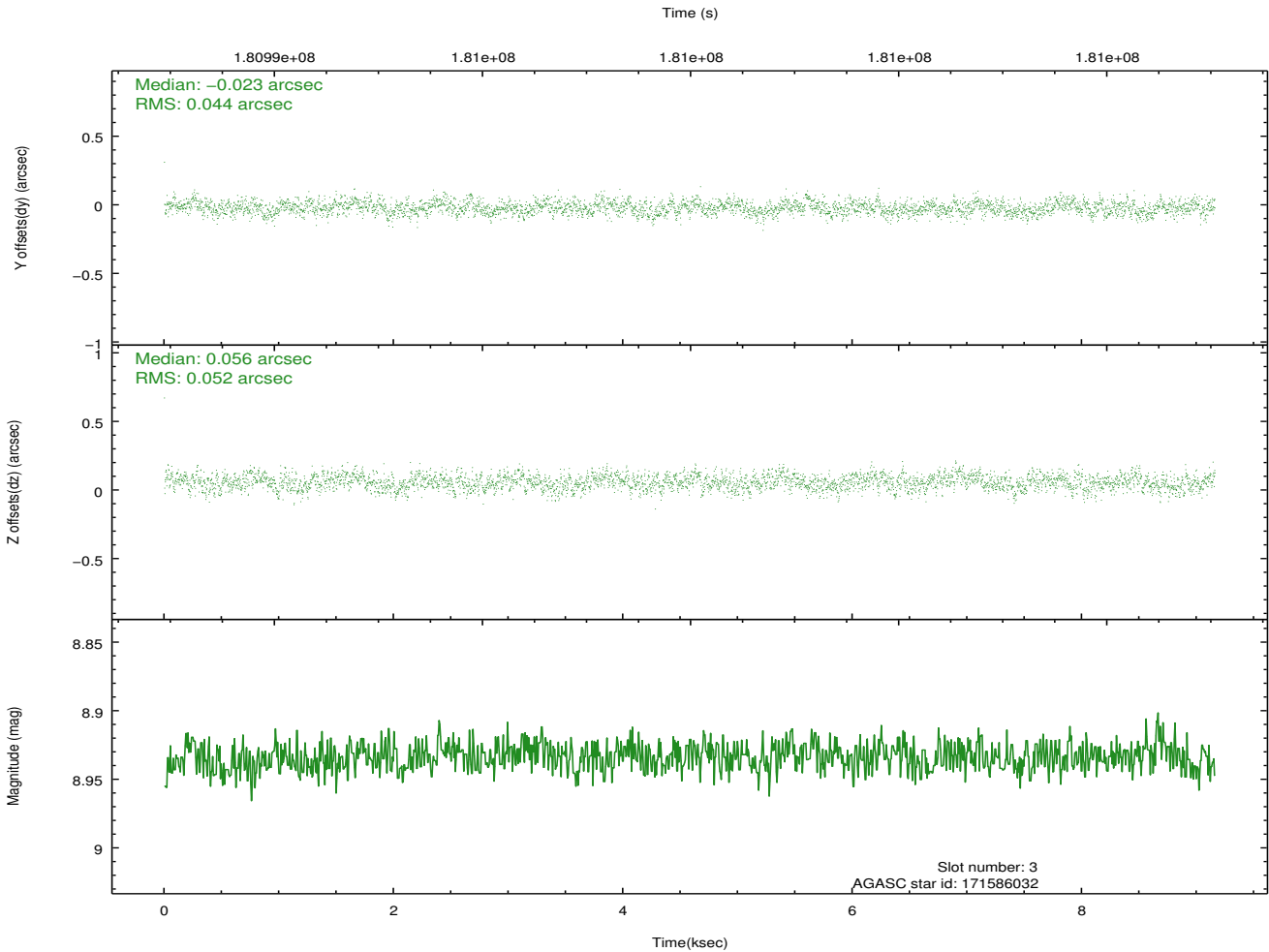
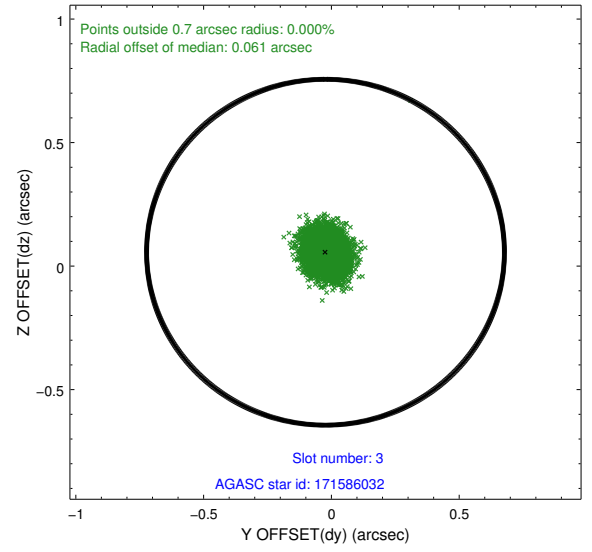
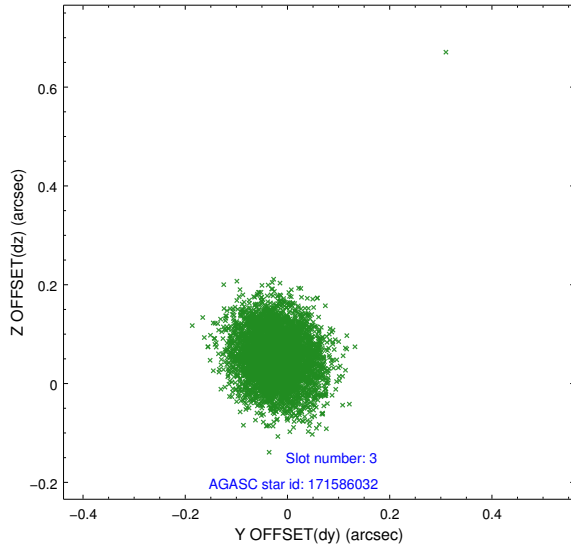


Slot Statistics

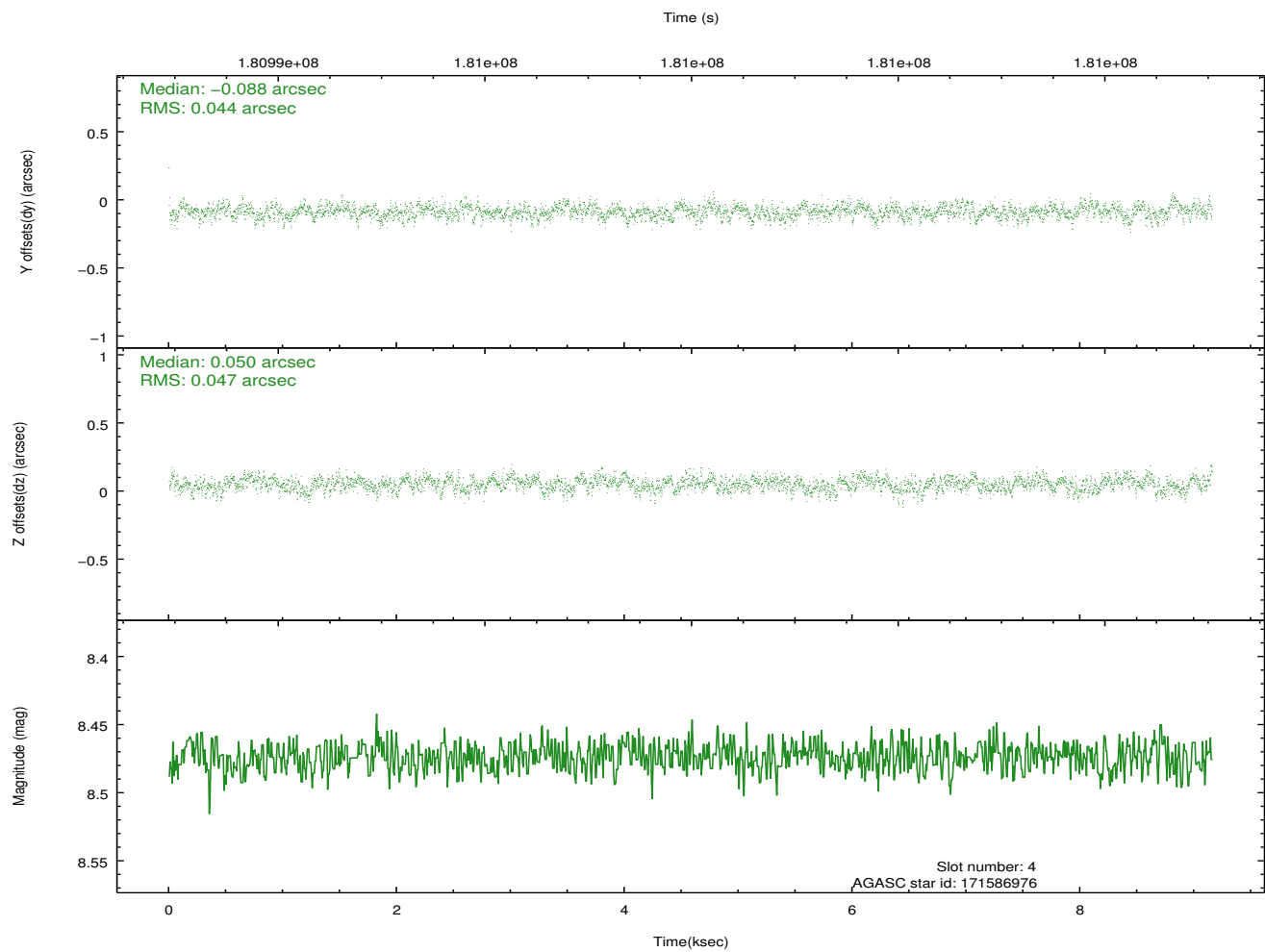
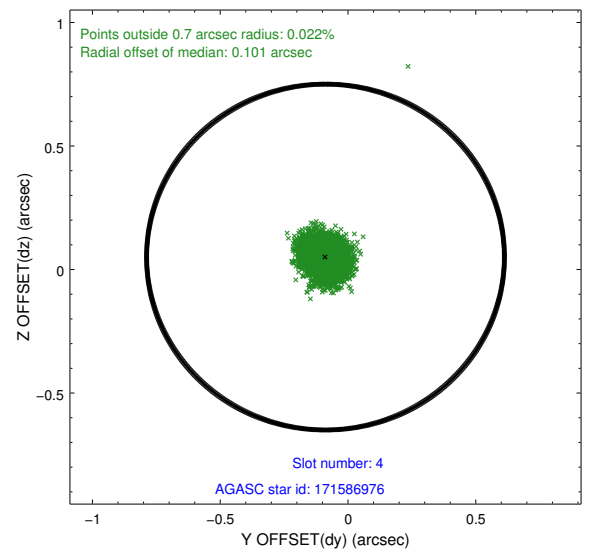
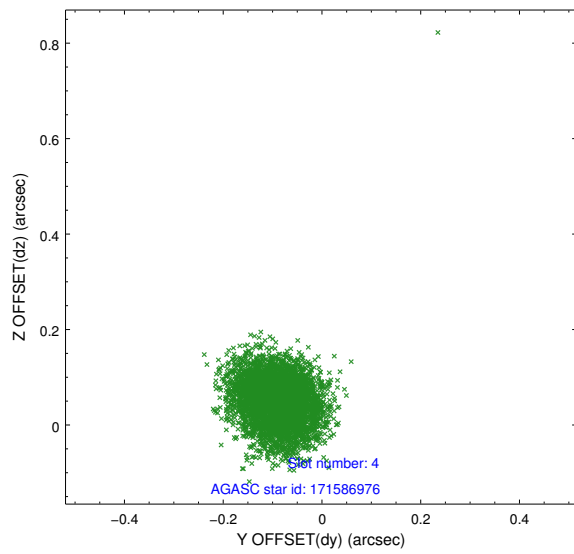
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|-----------|-----------|----------|----------|
| 0 | UNUSED | | 0.00 | 0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000000 | 0.000000 | 0.00 | 0.00 |
| 1 | FID | HRC-S-3 | 7.02 | 2234 | 0.086 | -0.096 | 0.004 | 0.008 | 0.000000 | 0.000000 | -1164.84 | 570.82 |
| 2 | FID | HRC-S-4 | 6.98 | 2234 | 0.178 | -0.097 | 0.004 | 0.008 | 0.000000 | 0.000000 | 1235.71 | 573.56 |
| 3 | GUIDE | 171586032 | 8.93 | 4468 | -0.023 | 0.056 | 0.072 | 0.114 | 83.950197 | 22.083225 | 275.42 | -1009.59 |
| 4 | GUIDE | 171586976 | 8.47 | 4468 | -0.088 | 0.050 | 0.068 | 0.109 | 83.857953 | 22.438065 | 1563.58 | -751.77 |
| 5 | GUIDE | 171597832 | 9.16 | 4468 | 0.321 | -0.248 | 0.086 | 0.139 | 83.183230 | 21.366702 | -2197.37 | 1657.37 |
| 6 | GUIDE | 171721904 | 9.20 | 4466 | -0.046 | 0.089 | 0.105 | 0.167 | 84.272676 | 22.116922 | 356.37 | -2088.56 |
| 7 | GUIDE | 243941560 | 8.30 | 4468 | -0.165 | 0.051 | 0.061 | 0.100 | 83.733264 | 22.568598 | 2049.30 | -355.80 |

2.4 Star Slots

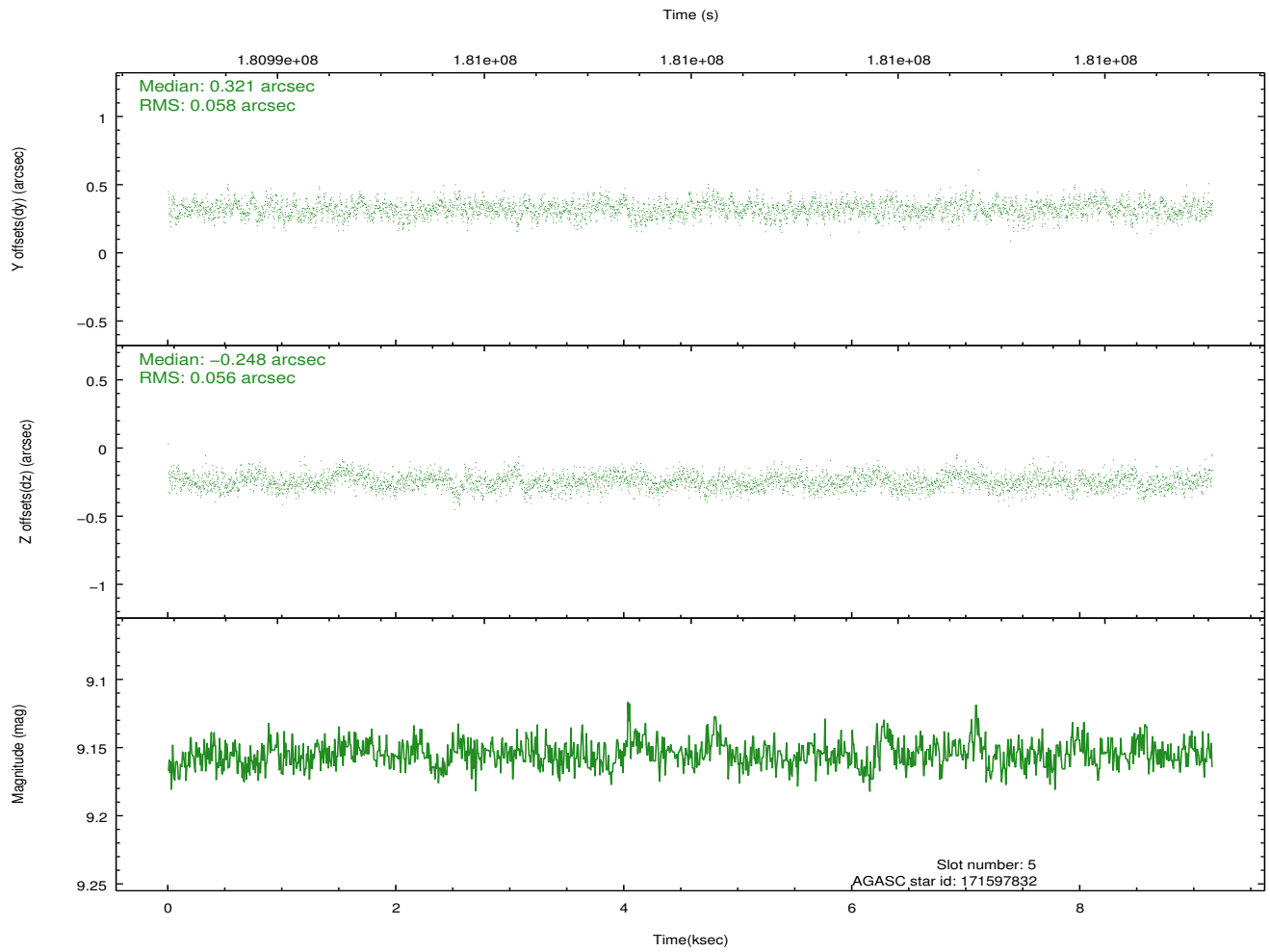
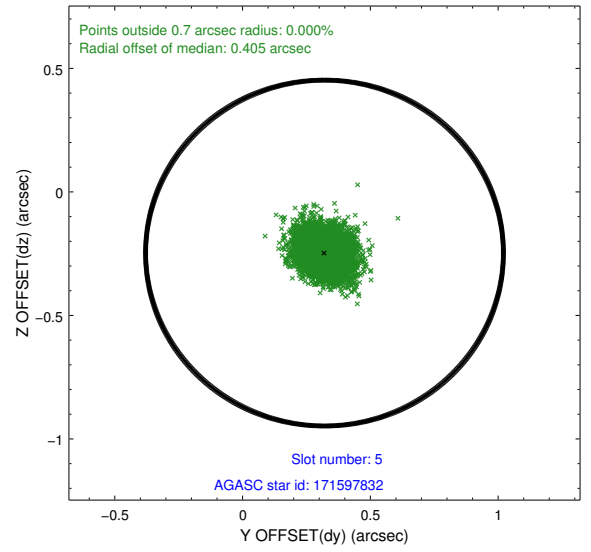
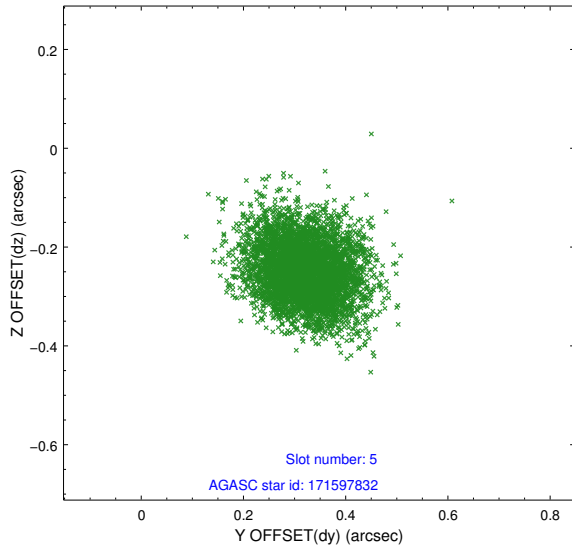
2.4.1 Slot 3



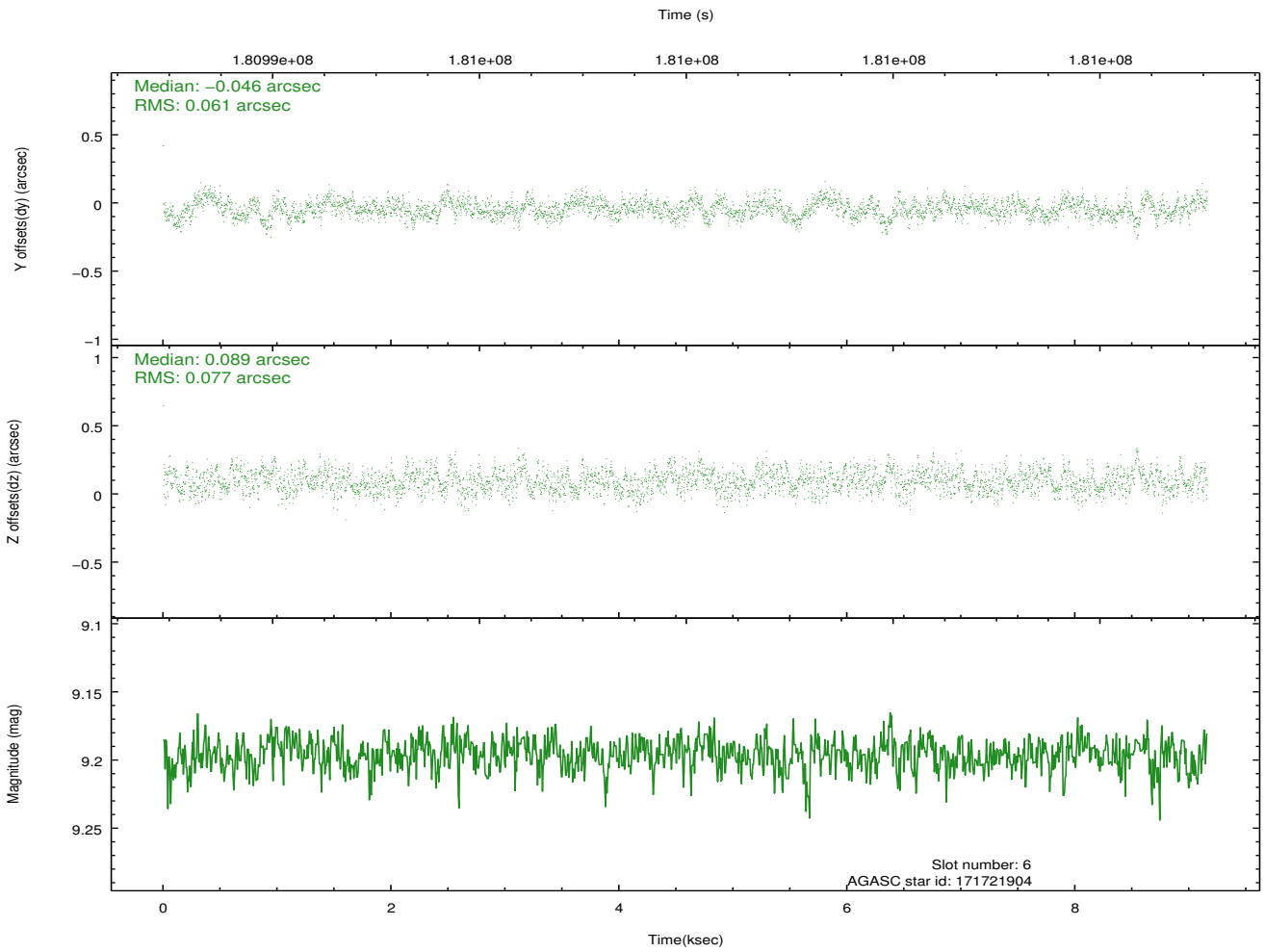
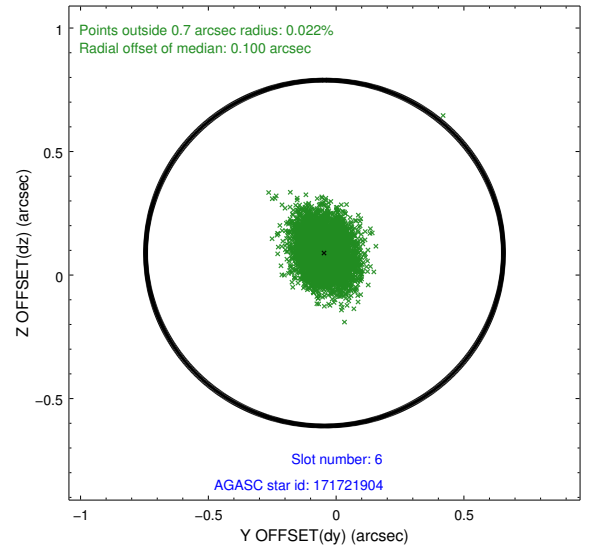
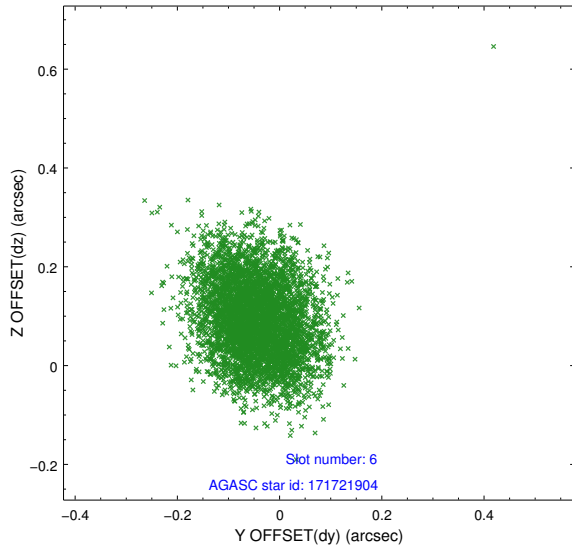
2.4.2 Slot 4



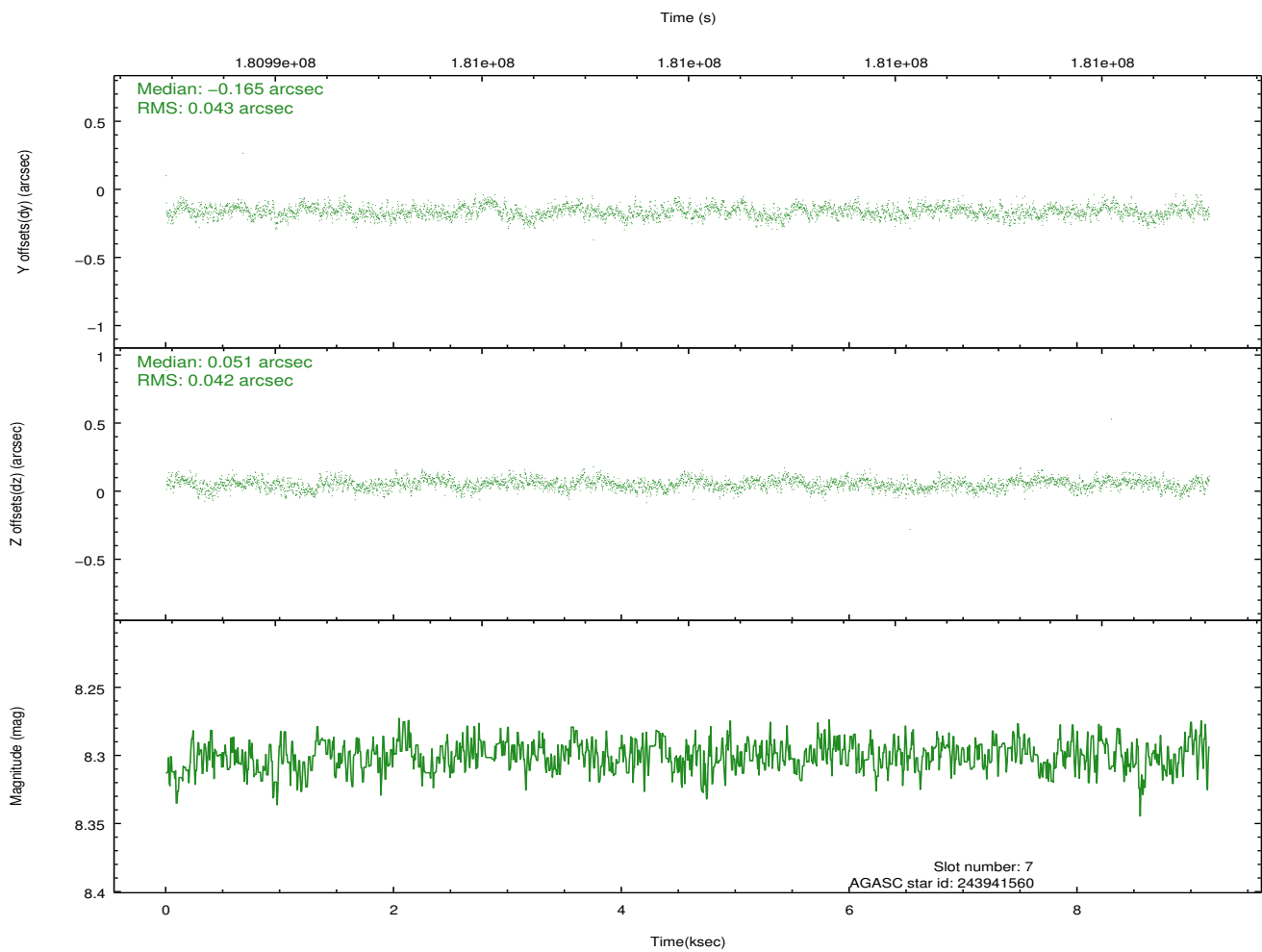
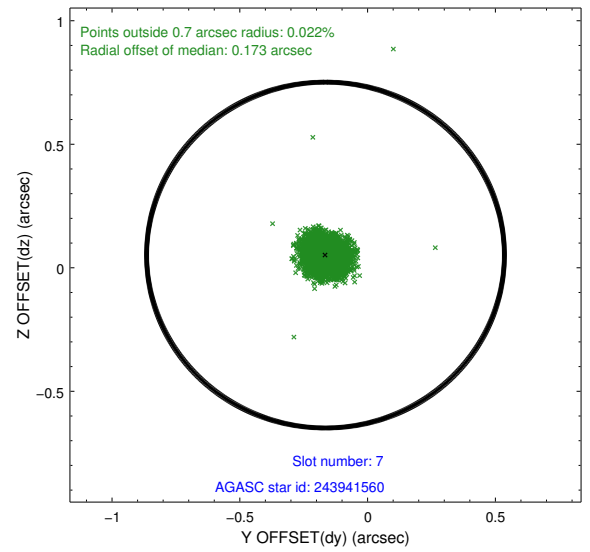
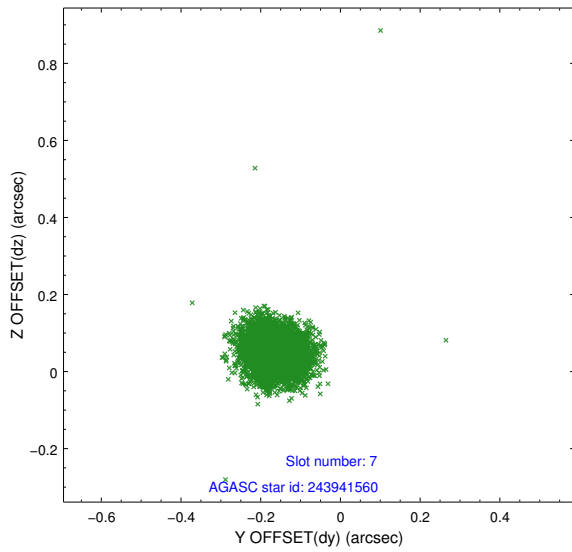
2.4.3 Slot 5



2.4.4 Slot 6

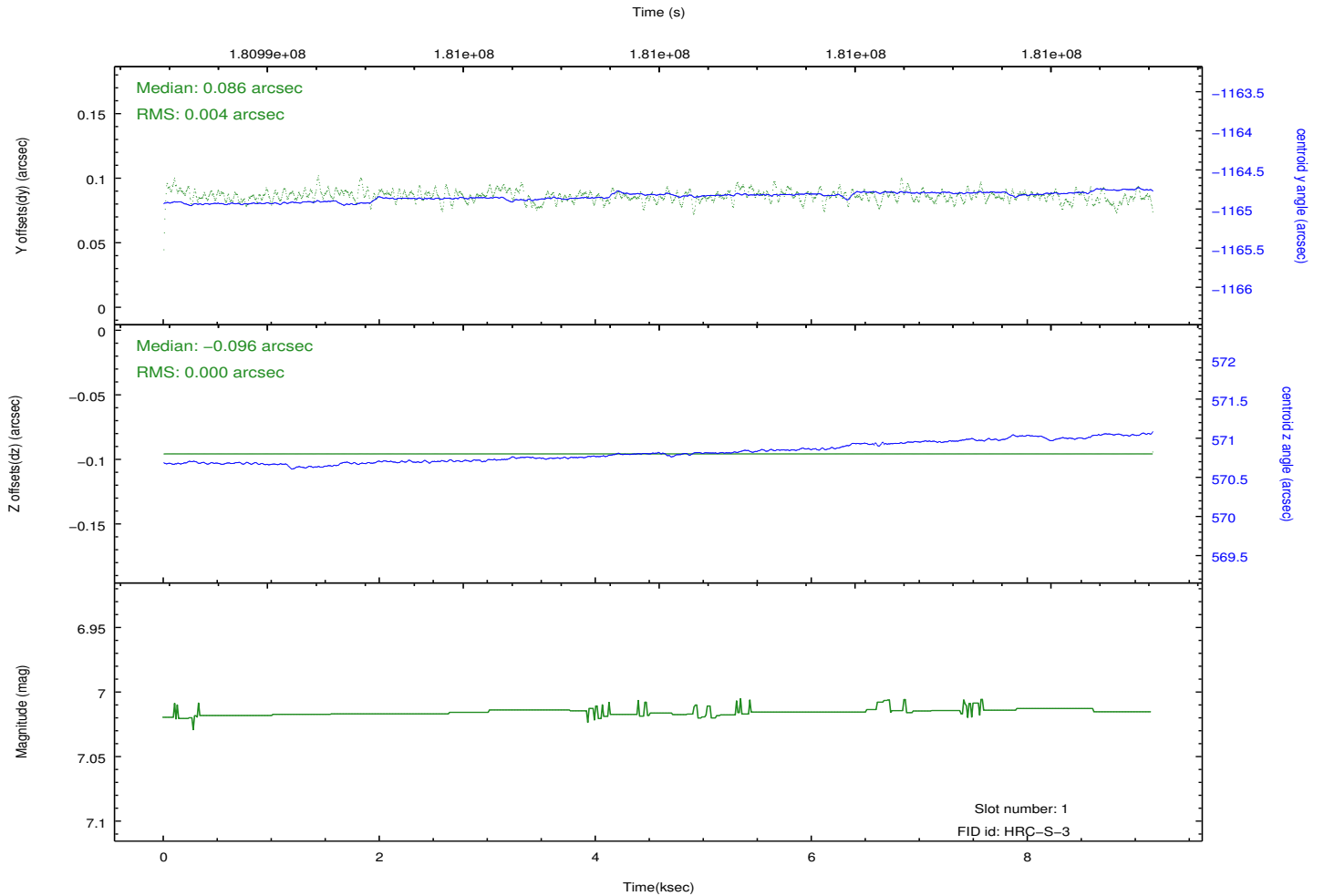
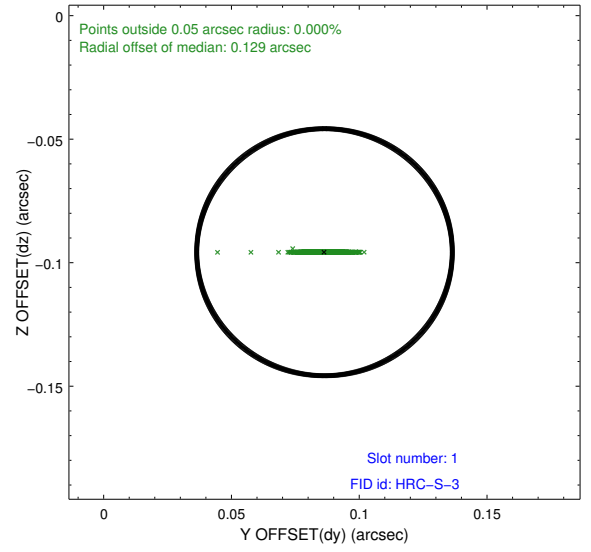
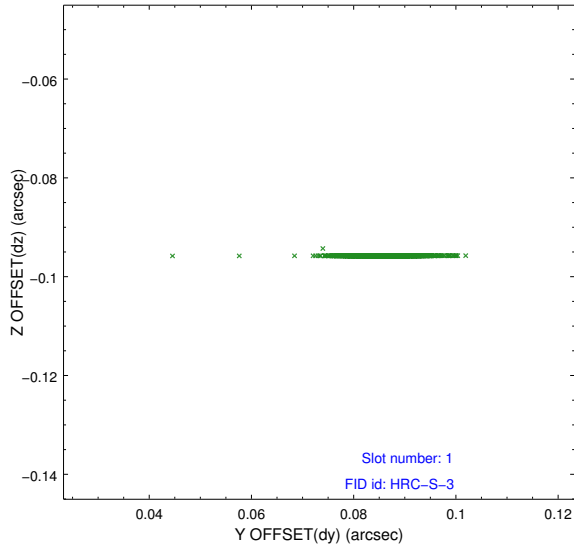


2.4.5 Slot 7

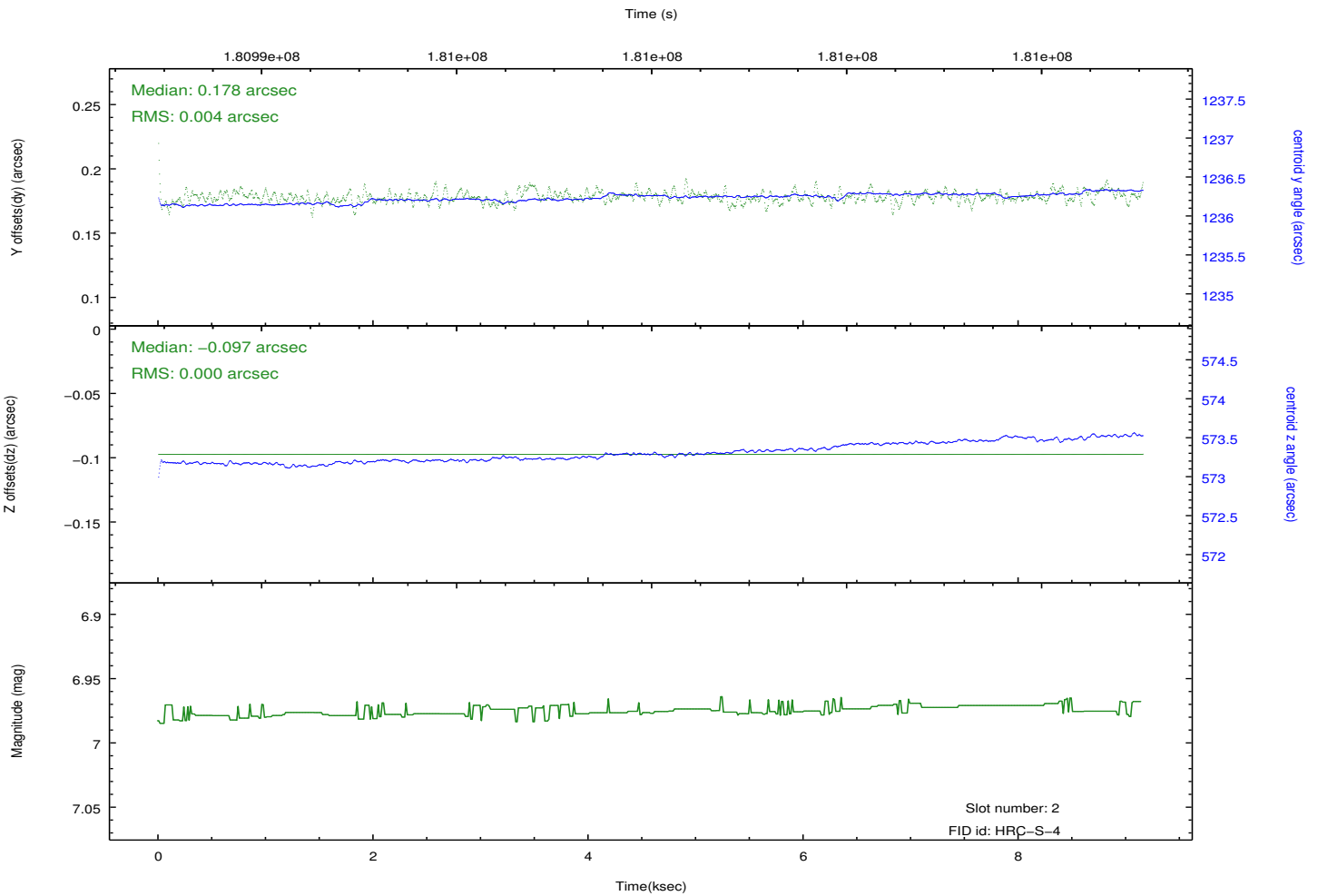
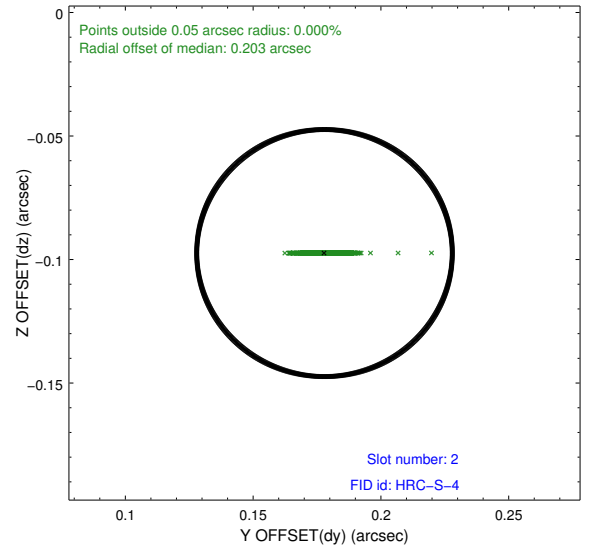
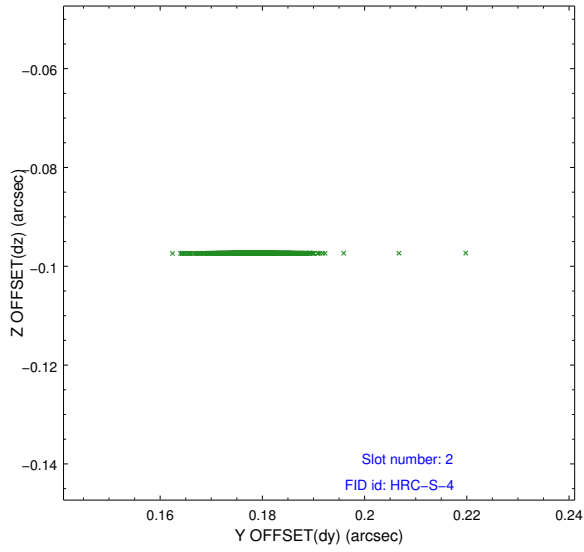


2.5 FID Slots

2.5.1 Slot 1

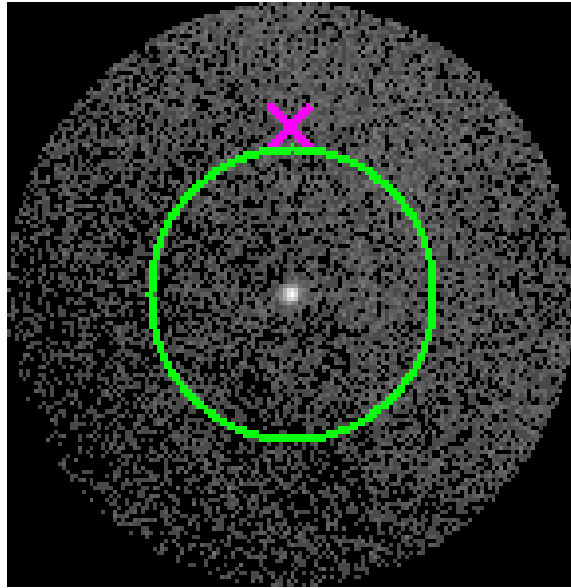


2.5.2 Slot 2

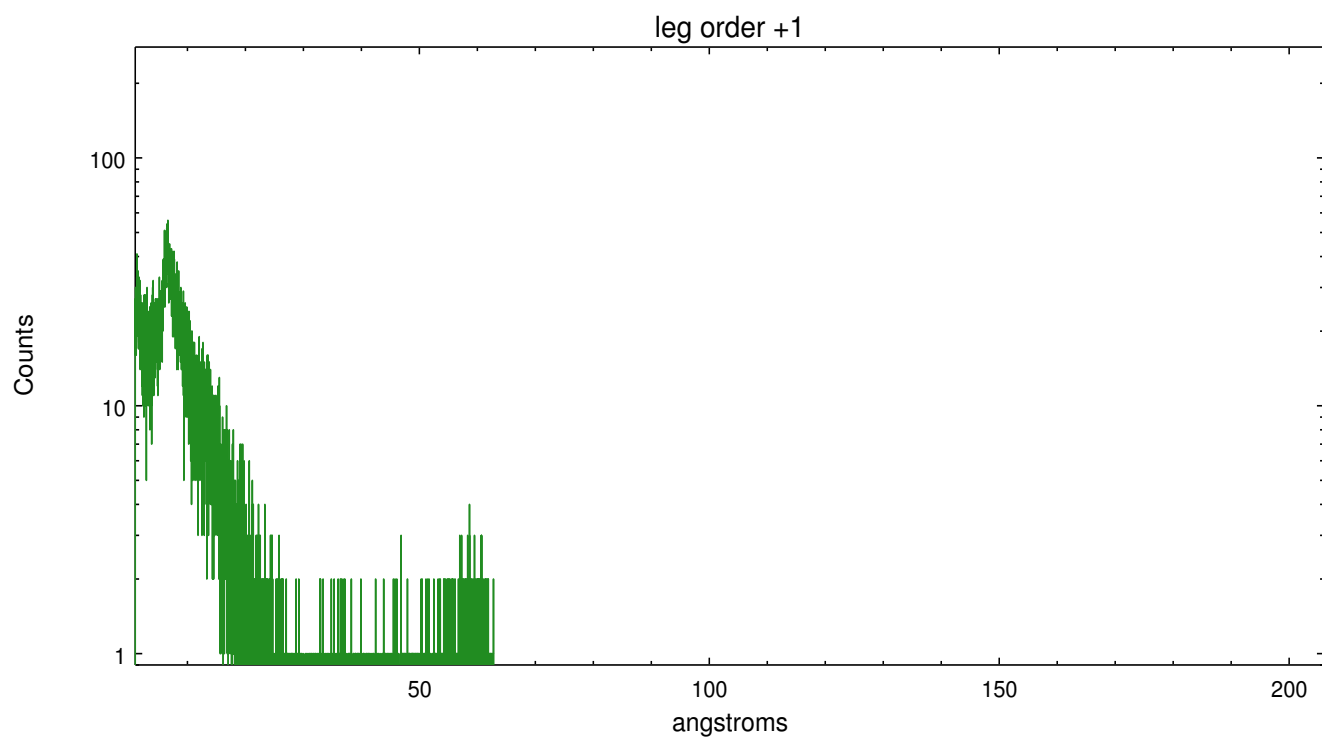
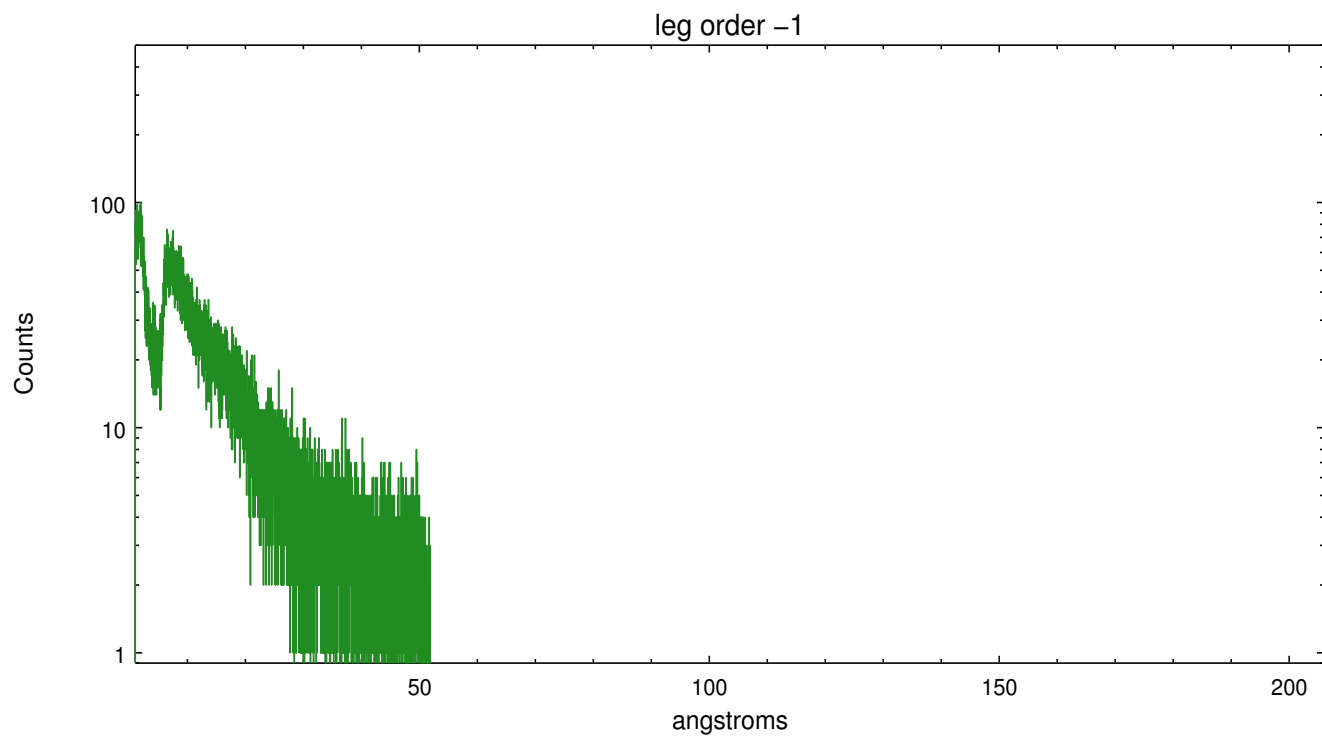


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2012.12.18 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 8.828 |

A.2 Comments

Charge time for this ObsId remains at previous value of 8.828 ks, although with the current processing the charge time would have been 8.852 ks.

===

For this Crab pulsar observation the set-up put the HRC shutters in front of the detector, such that a fid light was blocked.

===

This observation was not taken in HRC high accuracy timing mode.