

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1830 - L2 Version 4
Chandra X-Ray Center

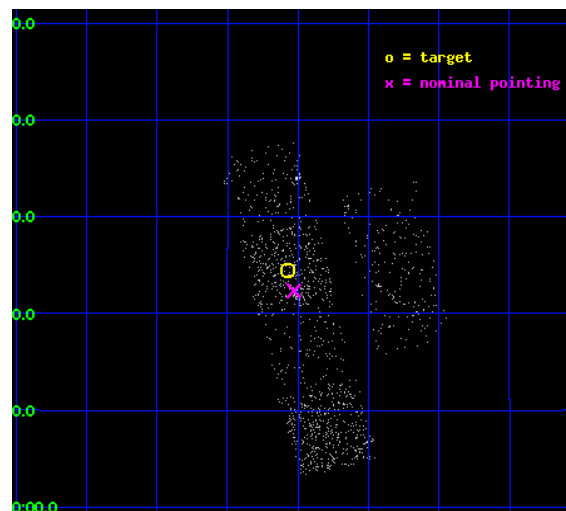
L2 Processing Date : Aug 31 2012

Contents

| | | |
|----------|-------------------------------|-----------|
| 1 | Front | 2 |
| 2 | OBI | 3 |
| 2.1 | OBI | 3 |
| 2.1.1 | Images | 3 |
| 2.1.2 | Bias | 3 |
| 2.1.3 | Parameters | 4 |
| 2.1.4 | 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 |
| A | Summary | 17 |
| A.1 | Status | 17 |
| A.2 | Comments | 17 |

1 Front

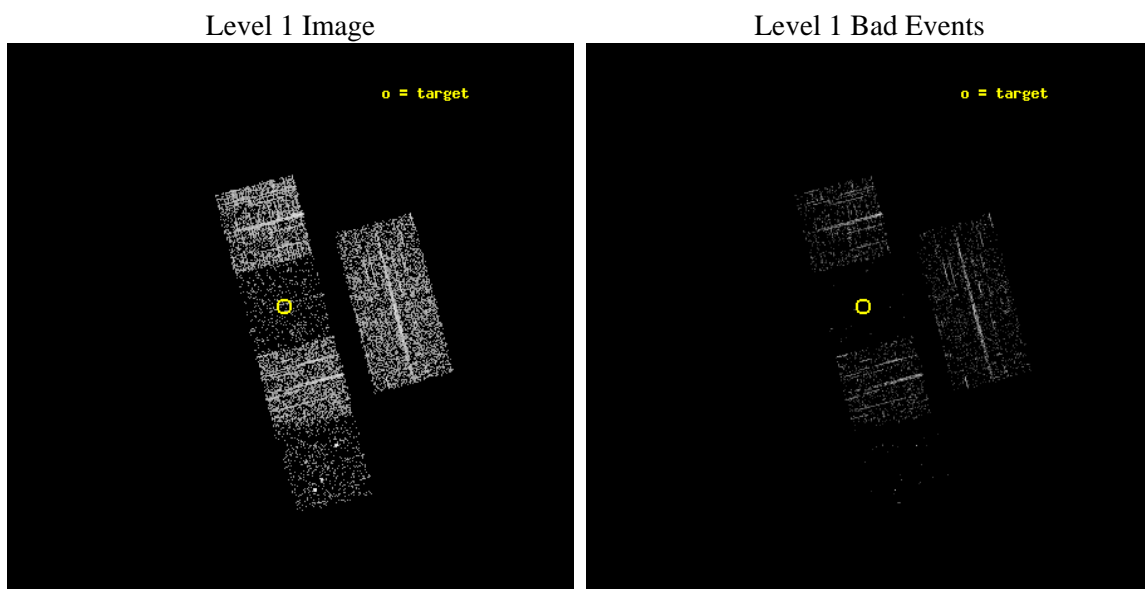
| | | |
|----------|---|---|
| seq_num | 100018 | Sequence number |
| obs_id | 1830 | Observation id |
| title | AXAF LOW ENERGY SPECTROSCOPY AND PHOTOMETRIC IMAGING OF COMETARY X-RAY EMISSION FROM COMET P/TEMPEL 2 | Proposal title |
| observer | Dr. Carey Lisse | Principal investigator |
| object | Comet c/LINEAR 1999 S4 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 182.64325 | Observer's specified target RA [deg] |
| dec_targ | 10.40847 | Observer's specified target Dec [deg] |
| ra_nom | 182.63221470677 | Nominal RA [deg] |
| dec_nom | 10.372478063769 | Nominal Dec [deg] |
| roll_nom | 255.56511812067 | Nominal Roll [deg] |
| revision | 4 | Processing version of data |
| ontime | 1200.0000011027 | Sum of GTIs [s] |
| livetime | 1184.8048785355 | Livetime [s] |
| ontime2 | 1200.0000011027 | Sum of GTIs [s] |
| ontime3 | 1200.0000011027 | Sum of GTIs [s] |
| ontime5 | 1200.0000011027 | Sum of GTIs [s] |
| ontime6 | 1200.0000011027 | Sum of GTIs [s] |
| ontime7 | 1200.0000011027 | Sum of GTIs [s] |
| ontime8 | 1200.0000011027 | Sum of GTIs [s] |
| l2events | 1377 | Number of level 2 events |



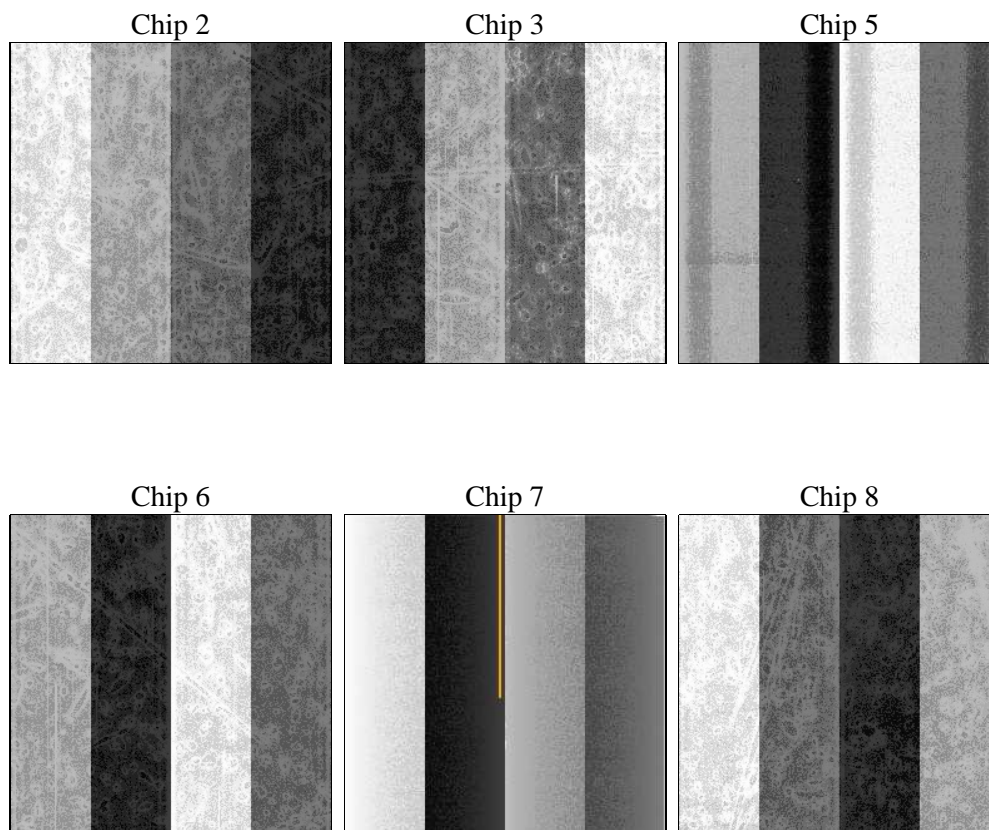
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 1270.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.5 | Processing system revision | ontime | 1200.0000011027 | Sum of GTIs [s] |
| caldsver | 4.5.1.1 | | ontime2 | 1200.0000011027 | Sum of GTIs [s] |
| date | 2012-08-31T12:07:44 | Date and time of file creation | ontime3 | 1200.0000011027 | Sum of GTIs [s] |
| revision | 4 | Processing version of data | ontime5 | 1200.0000011027 | Sum of GTIs [s] |
| | | | ontime6 | 1200.0000011027 | Sum of GTIs [s] |
| | | | ontime7 | 1200.0000011027 | Sum of GTIs [s] |
| | | | ontime8 | 1200.0000011027 | Sum of GTIs [s] |
| | | | l1events | 24560 | Number of level 1 events |

2.1.4 Events

| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 5431 | 4987 | 1307 | 5203 | 726 | 6906 |
| rejected events | 5230 | 4829 | 444 | 5040 | 249 | 5920 |
| rejected % | 96% | 96% | 33% | 96% | 34% | 85% |

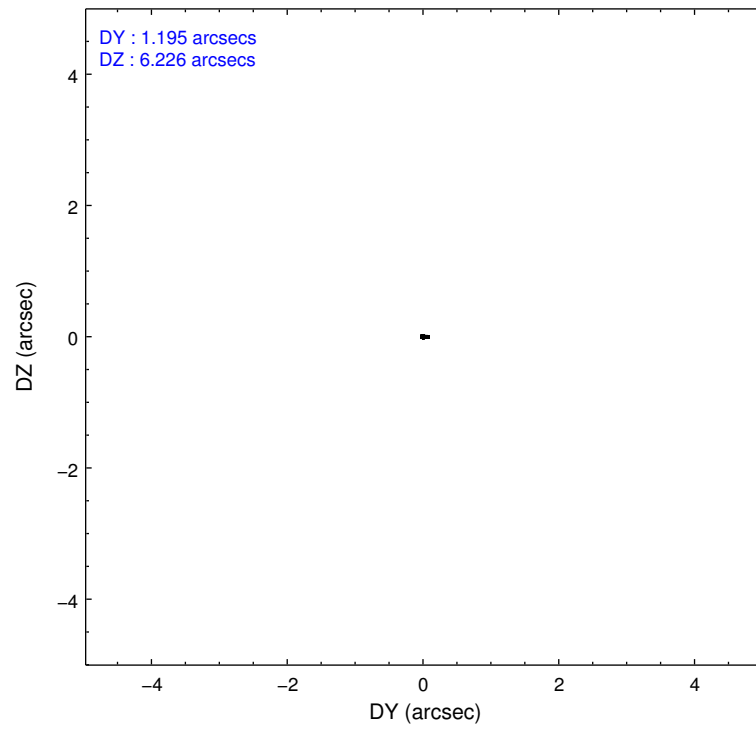
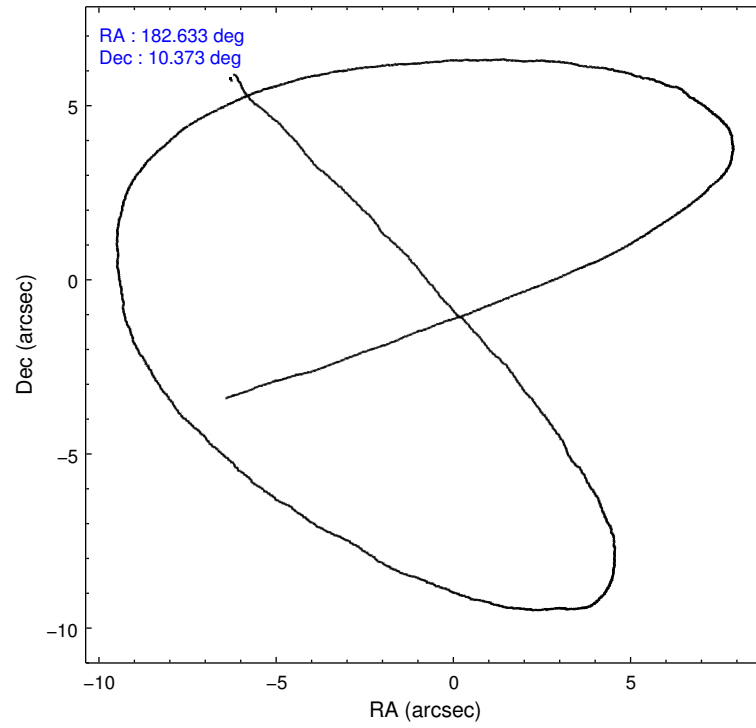
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|----------------|-------|-------|-------|-------|-------|-------|
| grade 0 events | 116 | 97 | 559 | 104 | 220 | 413 |
| | 2% | 1% | 42% | 1% | 30% | 5% |
| grade 1 events | 4 | 2 | 7 | 1 | 3 | 7 |
| | 0% | 0% | 0% | 0% | 0% | 0% |
| grade 2 events | 56 | 22 | 340 | 33 | 164 | 247 |
| | 1% | 0% | 26% | 0% | 22% | 3% |
| grade 3 events | 30 | 28 | 76 | 34 | 86 | 136 |
| | 0% | 0% | 5% | 0% | 11% | 1% |
| grade 4 events | 41 | 29 | 83 | 30 | 82 | 146 |
| | 0% | 0% | 6% | 0% | 11% | 2% |
| grade 5 events | 2 | 3 | 35 | 3 | 20 | 39 |
| | 0% | 0% | 2% | 0% | 2% | 0% |
| grade 6 events | 27 | 22 | 57 | 24 | 57 | 296 |
| | 0% | 0% | 4% | 0% | 7% | 4% |
| grade 7 events | 5155 | 4784 | 150 | 4974 | 94 | 5622 |
| | 94% | 95% | 11% | 95% | 12% | 81% |

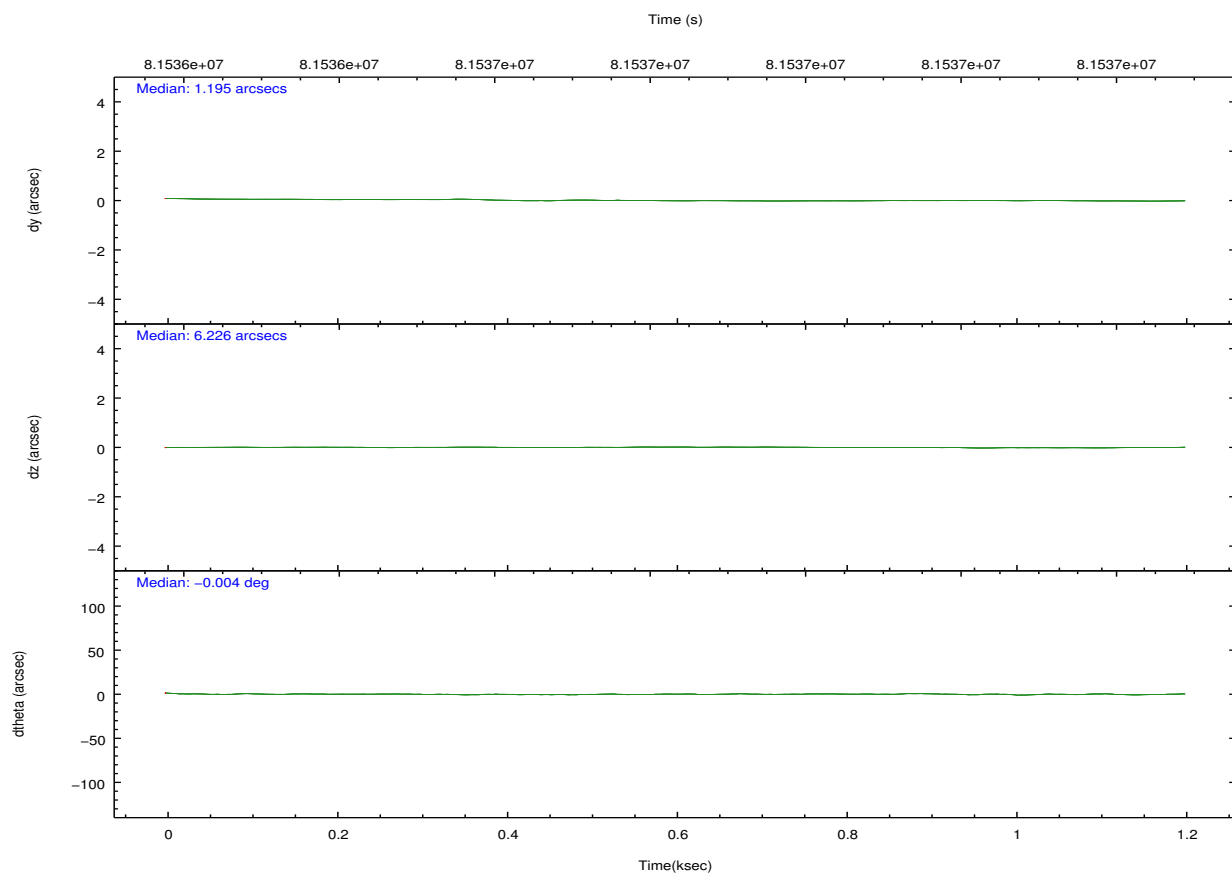
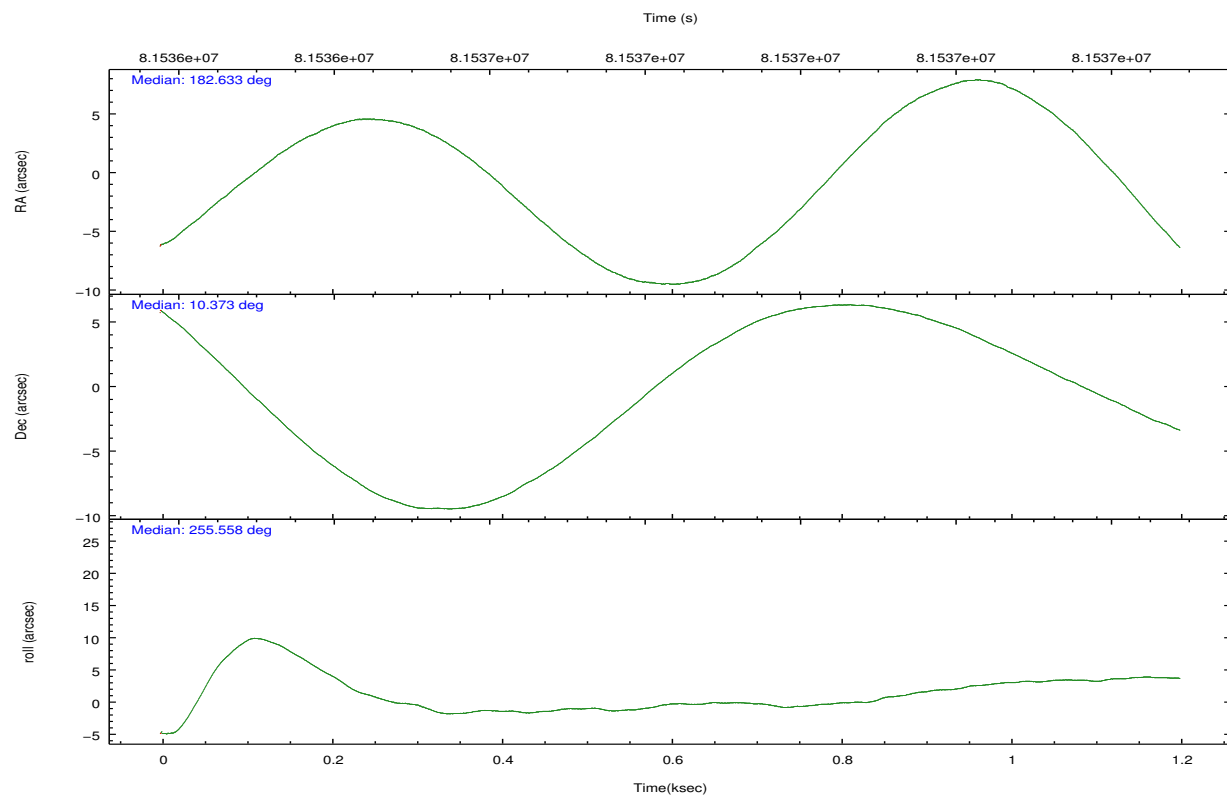
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-235678 | ACIS-235678 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 182.624244 | 182.6322147067749 |
| [deg] Pointing Dec | 10.398866 | 10.37247806376866 |
| [deg] Pointing Roll | 255.409969 | 255.5651181206745 |
| [mm] SIM focus pos | -0.684267 | -0.6828225247311905 |
| [mm] SIM defocus | 0 | 0.001444936568705701 |
| [mm] SIM translation stage pos | -190.132523 | -190.1425803651734 |
| [mm] SIM translation stage offset | 0 | 0.01005778216563158 |
| [s] Observation start time (MET) | 81536160.184000 | 81536054.466171 |
| Observation start date | 2000-08-01T16:54:56 | 2000-08-01T16:54:14 |
| [s] Observation end time (MET) | 81537430.184000 | 81537564.803727 |
| Observation end date | 2000-08-01T17:16:06 | 2000-08-01T17:19:24 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| Number of optional ACIS chips dropped | 0 | 0 |
| On-chip summing requested | N | N |
| Subarray requested | NONE | NONE |
| Alternating exposures requested | N | N |
| [s] Primary exposure time | 0.000000 | 3.2 |

2.3 Aspect



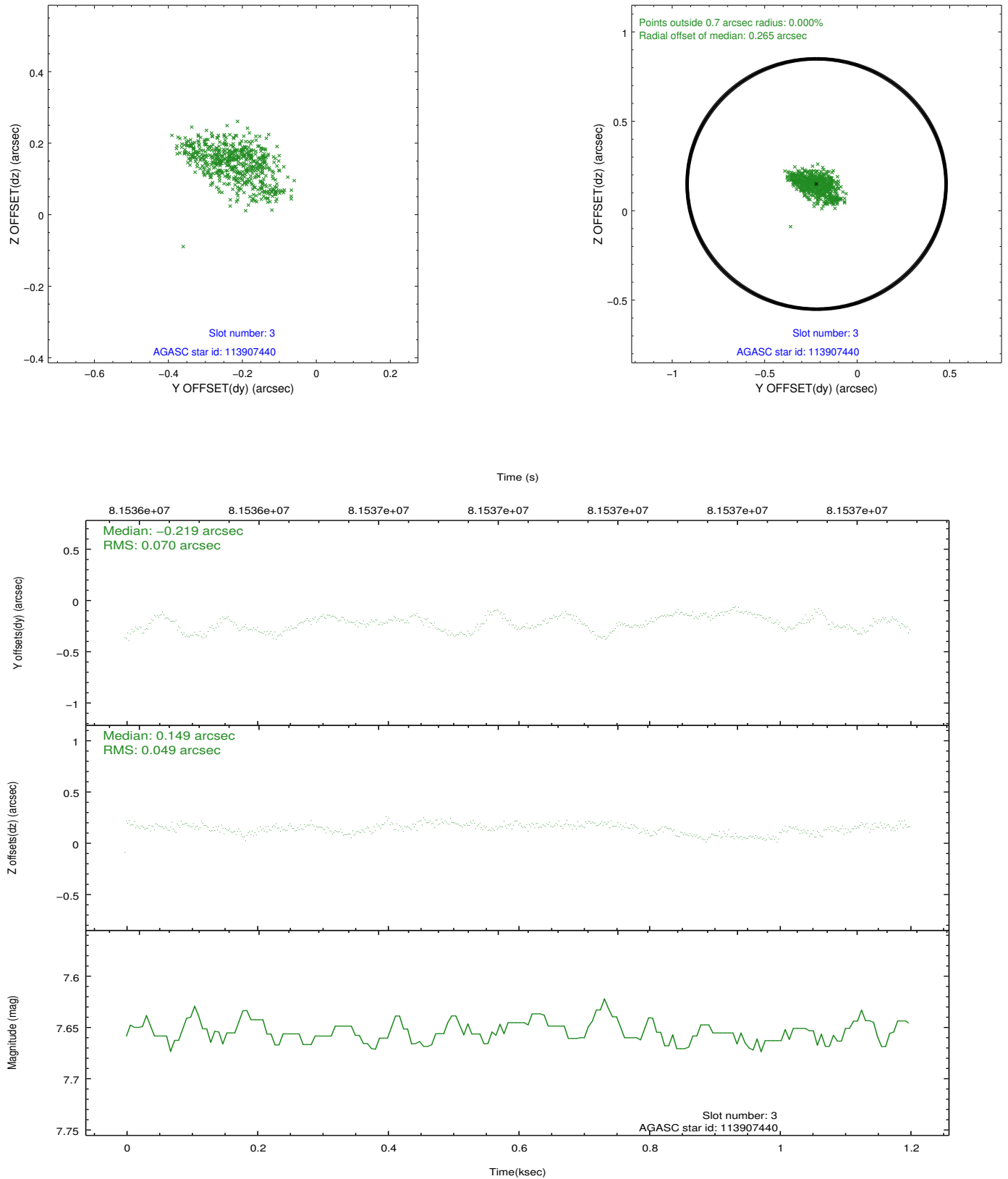


Slot Statistics

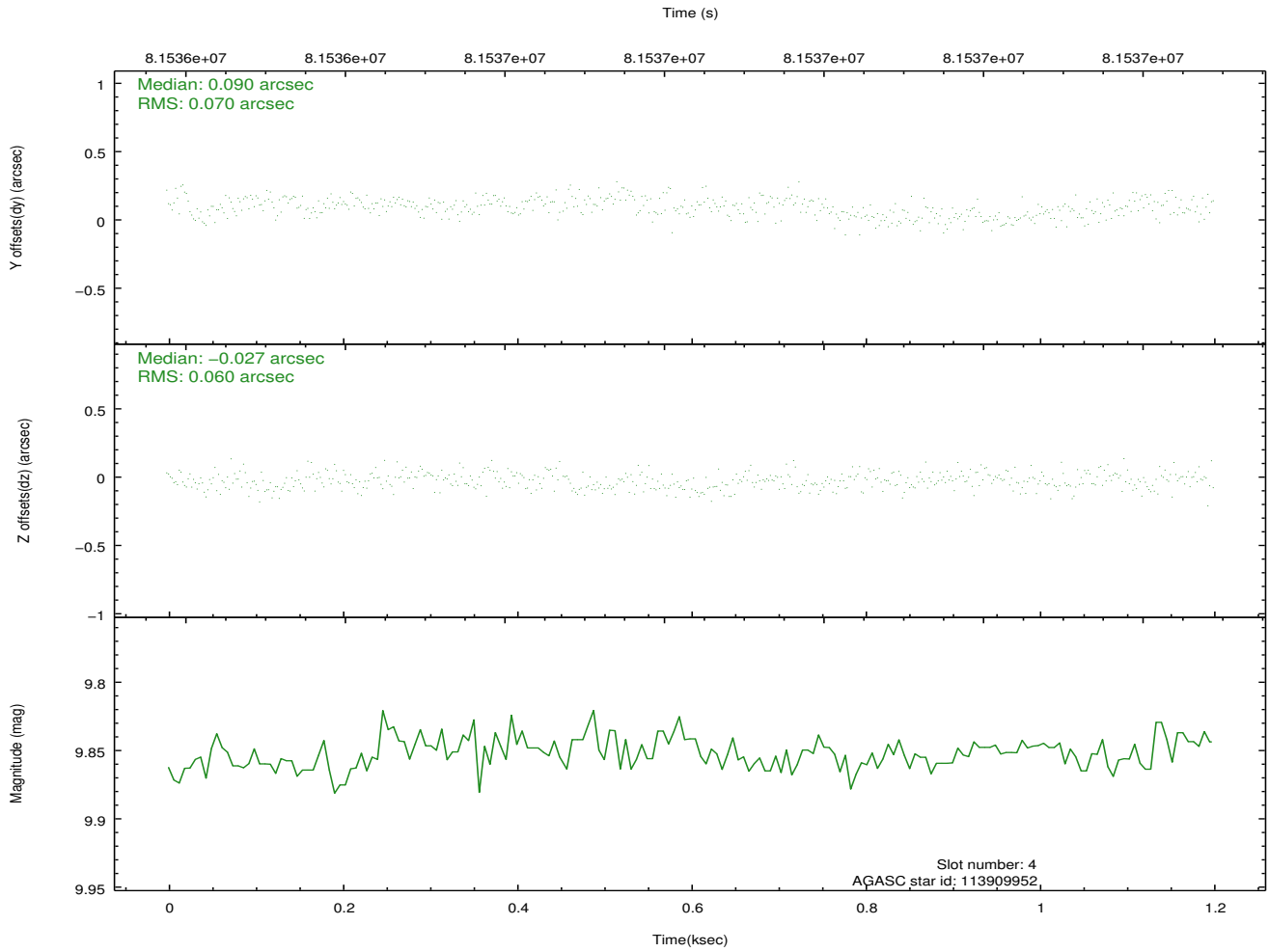
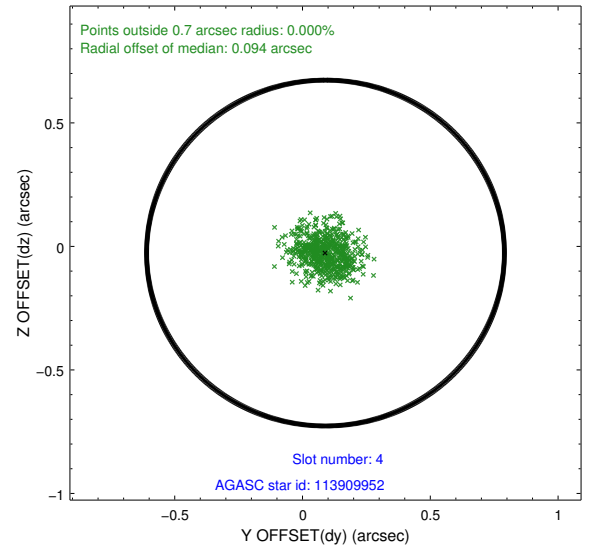
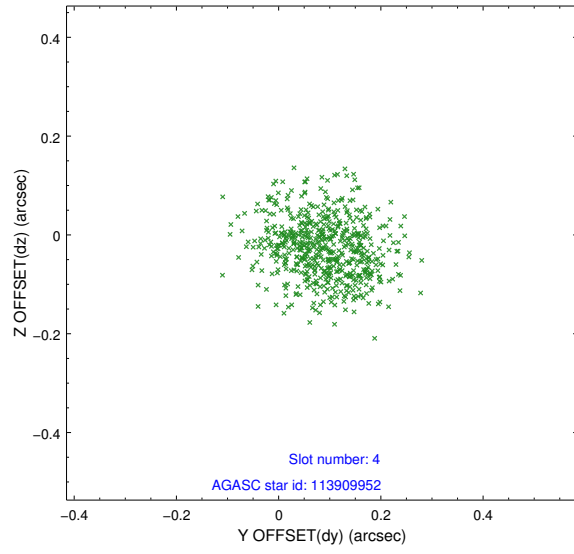
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|-------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.11 | 294 | -0.045 | -0.005 | 0.007 | 0.011 | 0.000000 | 0.000000 | -753.84 | -1727.33 |
| 1 | FID | ACIS-S-4 | 7.21 | 294 | 0.008 | 0.023 | 0.006 | 0.011 | 0.000000 | 0.000000 | 2156.99 | 175.48 |
| 2 | FID | ACIS-S-5 | 7.23 | 294 | 0.006 | -0.008 | 0.006 | 0.012 | 0.000000 | 0.000000 | -1799.50 | 175.40 |
| 3 | GUIDE | 113907440 | 7.66 | 587 | -0.219 | 0.149 | 0.092 | 0.143 | 183.304663 | 10.821652 | -2080.80 | 1942.35 |
| 4 | GUIDE | 113909952 | 9.85 | 586 | 0.090 | -0.027 | 0.100 | 0.154 | 182.703120 | 10.082649 | 1028.63 | 558.69 |
| 5 | GUIDE | 113905264 | 10.18 | 587 | 0.030 | -0.090 | 0.110 | 0.185 | 182.445692 | 10.343633 | 354.32 | -563.03 |
| 6 | GUIDE | 113511280 | 10.48 | 587 | 0.135 | 0.005 | 0.161 | 0.262 | 182.700155 | 9.746408 | 2206.82 | 849.62 |
| 7 | GUIDE | 113906616 | 7.94 | 586 | -0.038 | -0.036 | 0.091 | 0.147 | 183.239714 | 10.037718 | 711.17 | 2438.05 |

2.4 Star Slots

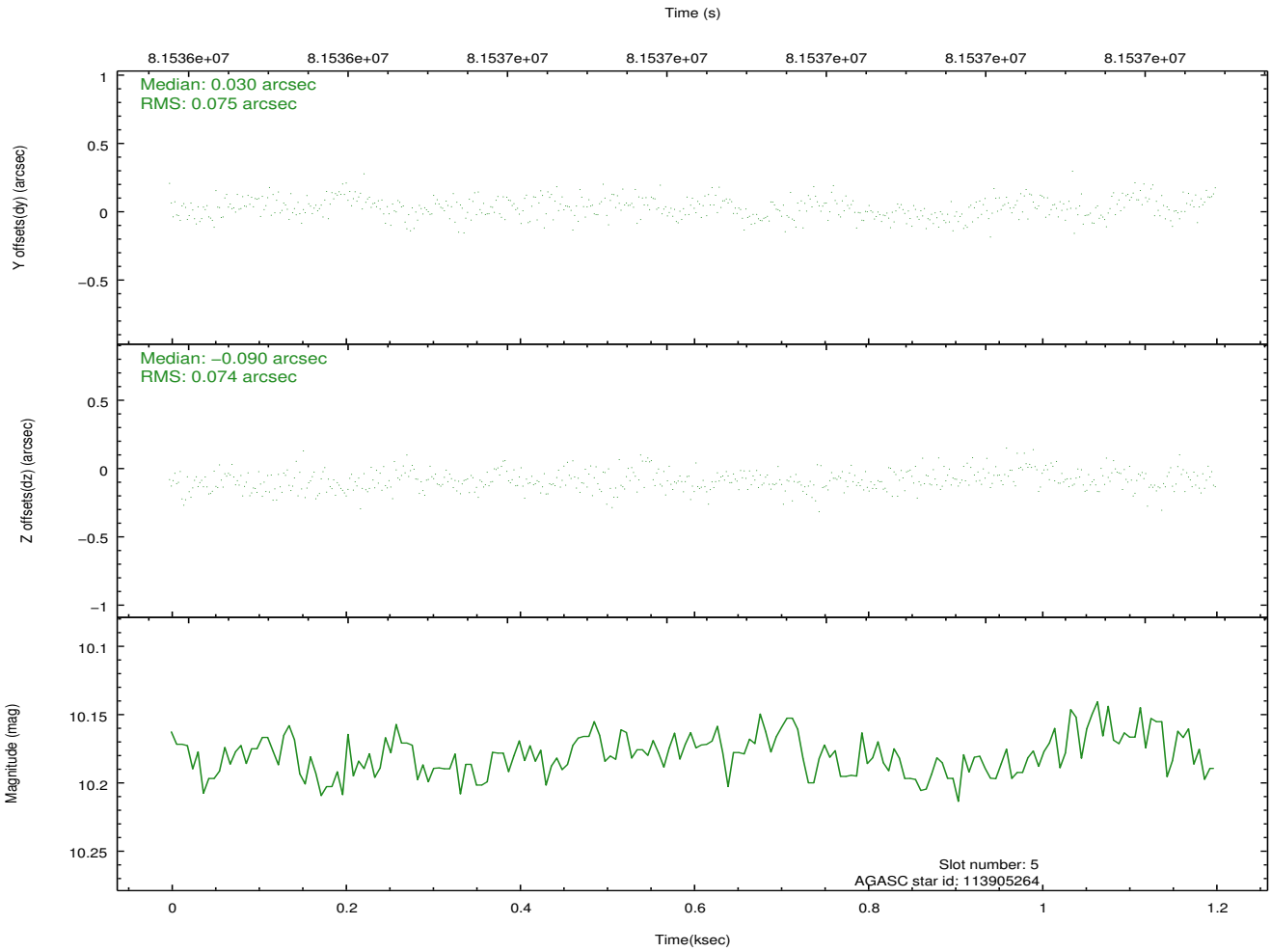
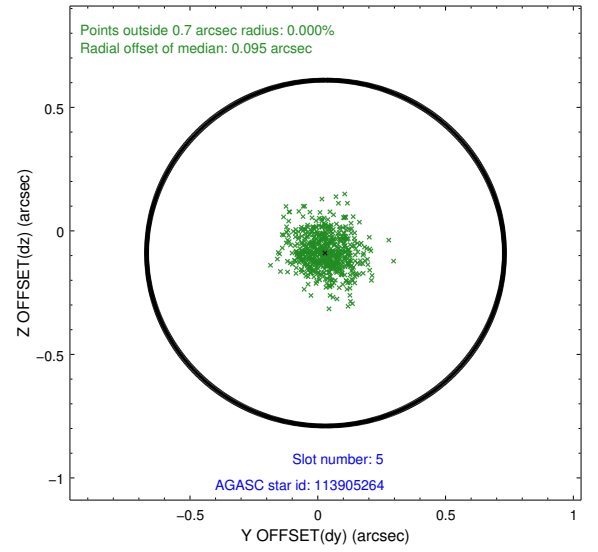
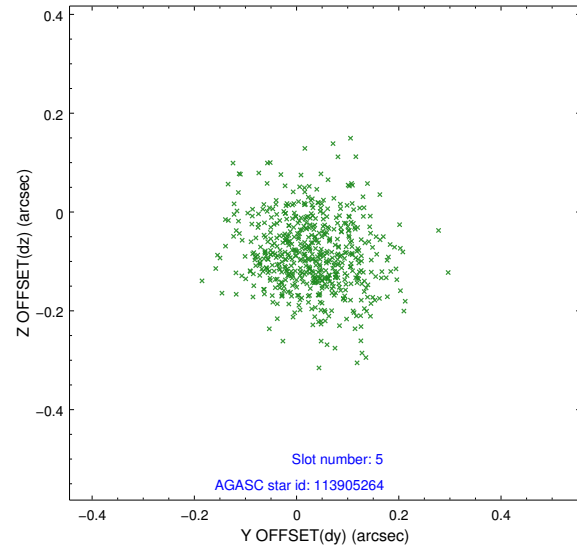
2.4.1 Slot 3



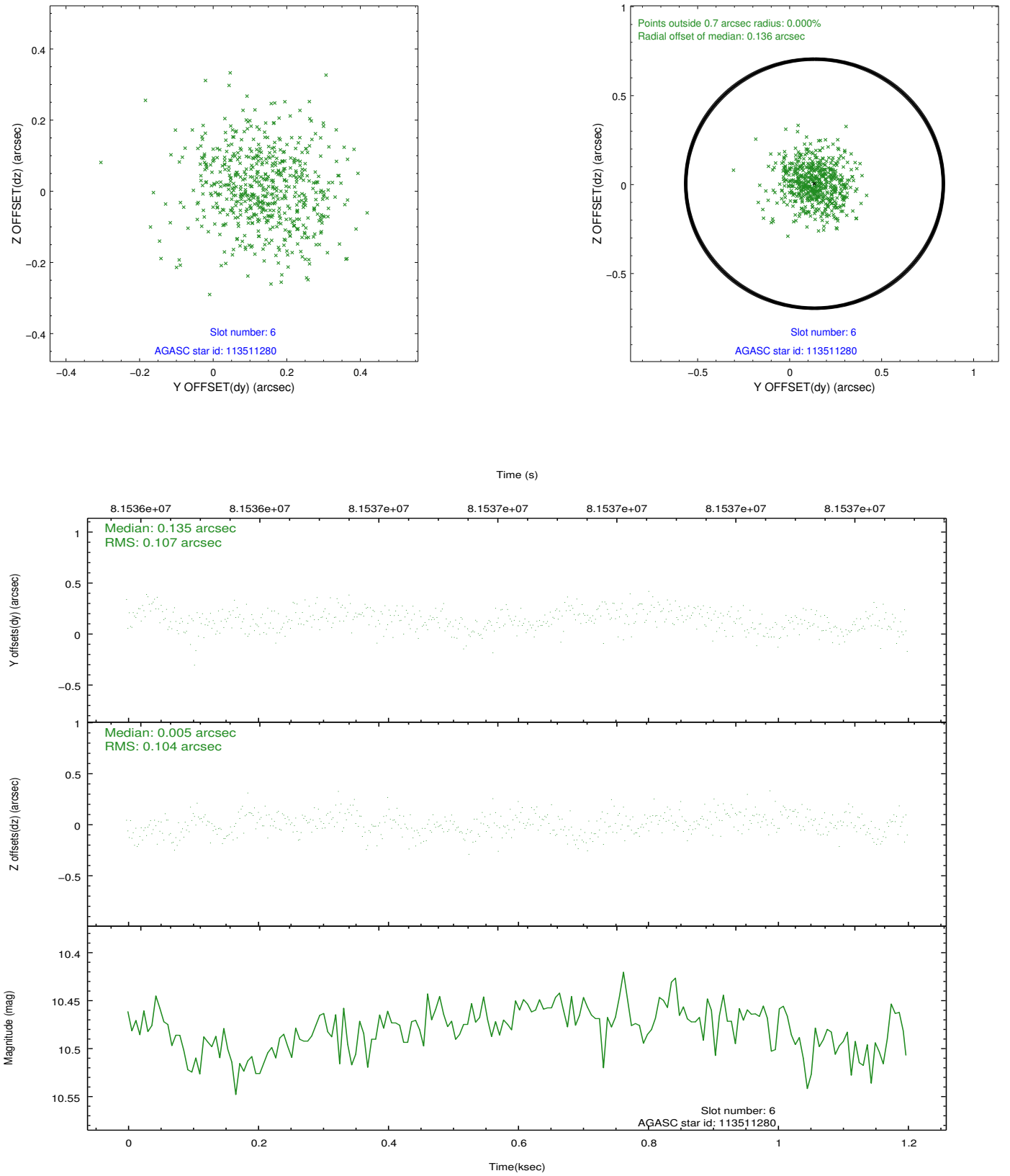
2.4.2 Slot 4



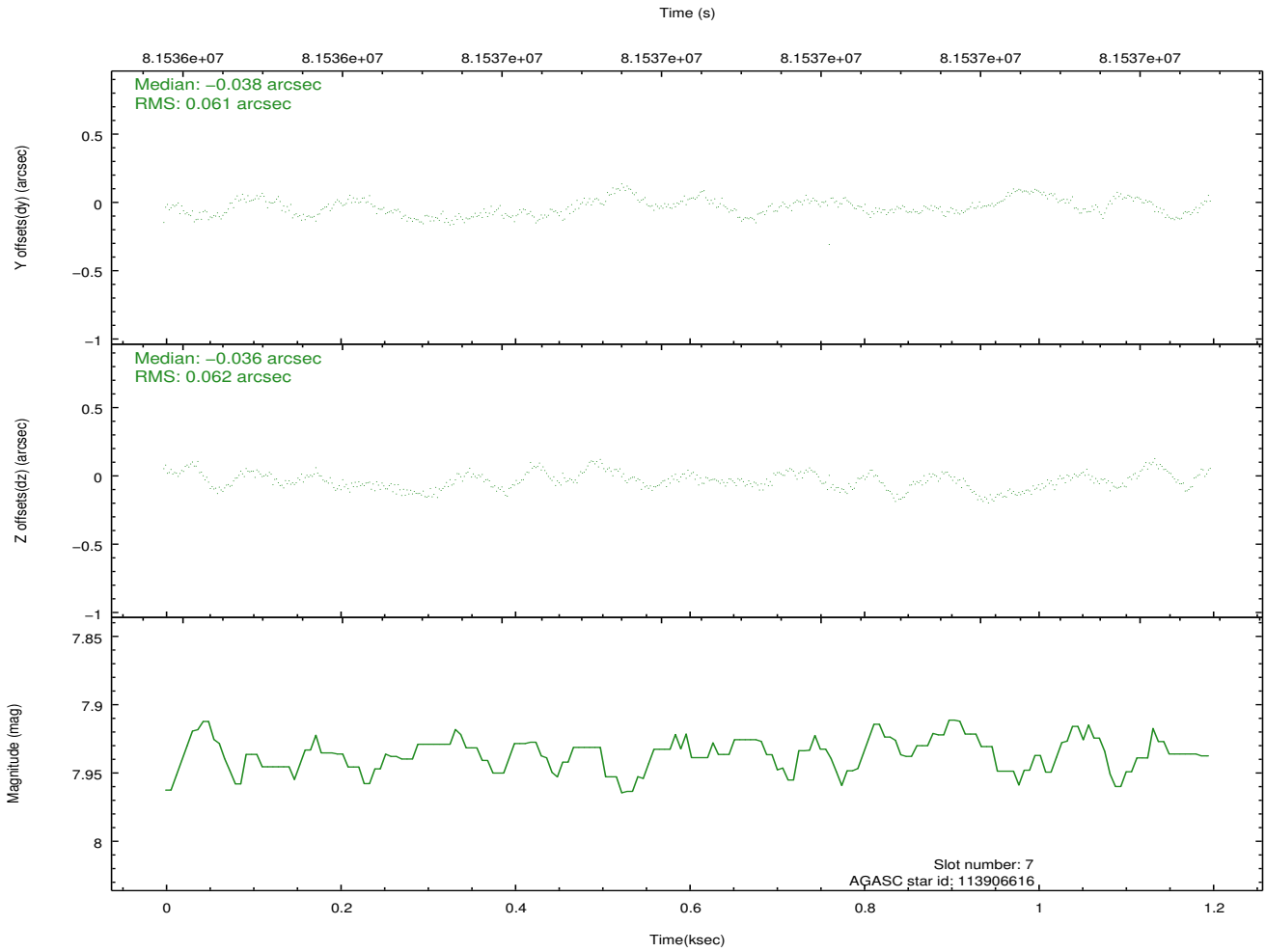
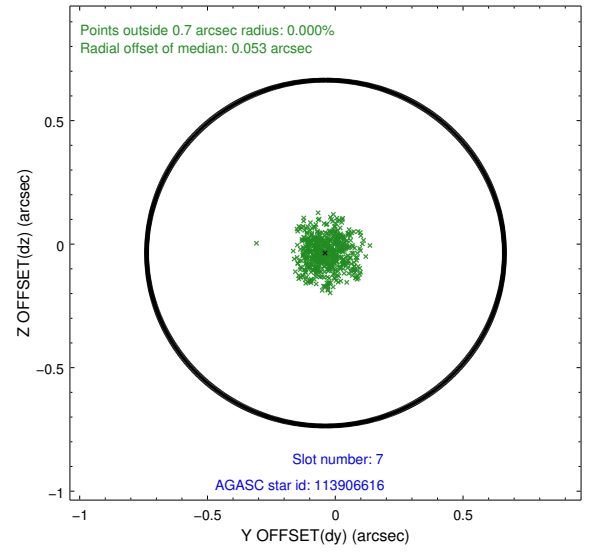
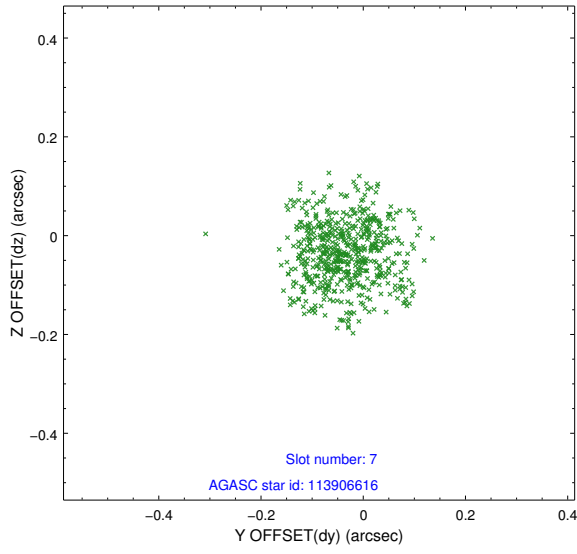
2.4.3 Slot 5



2.4.4 Slot 6

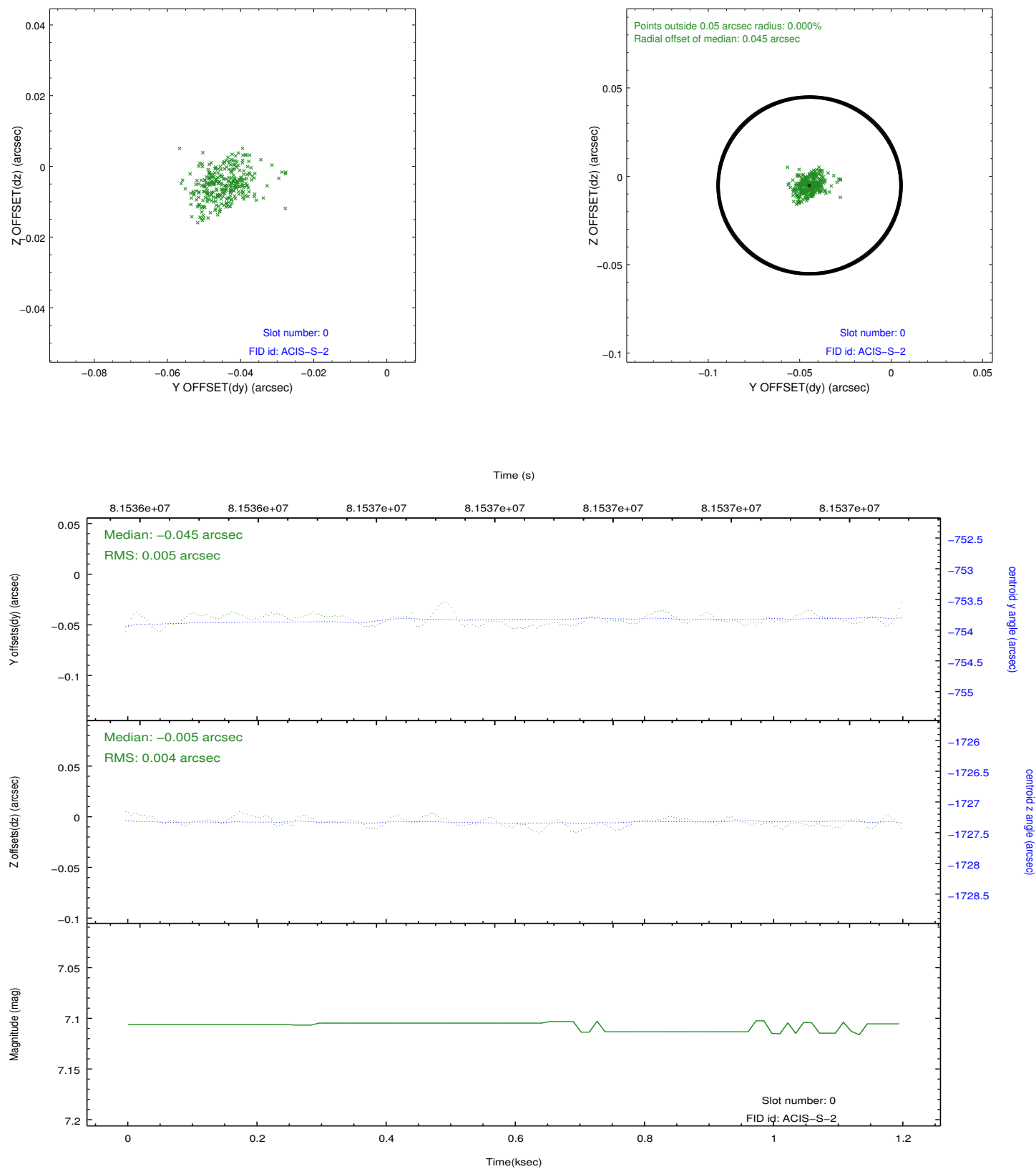


2.4.5 Slot 7

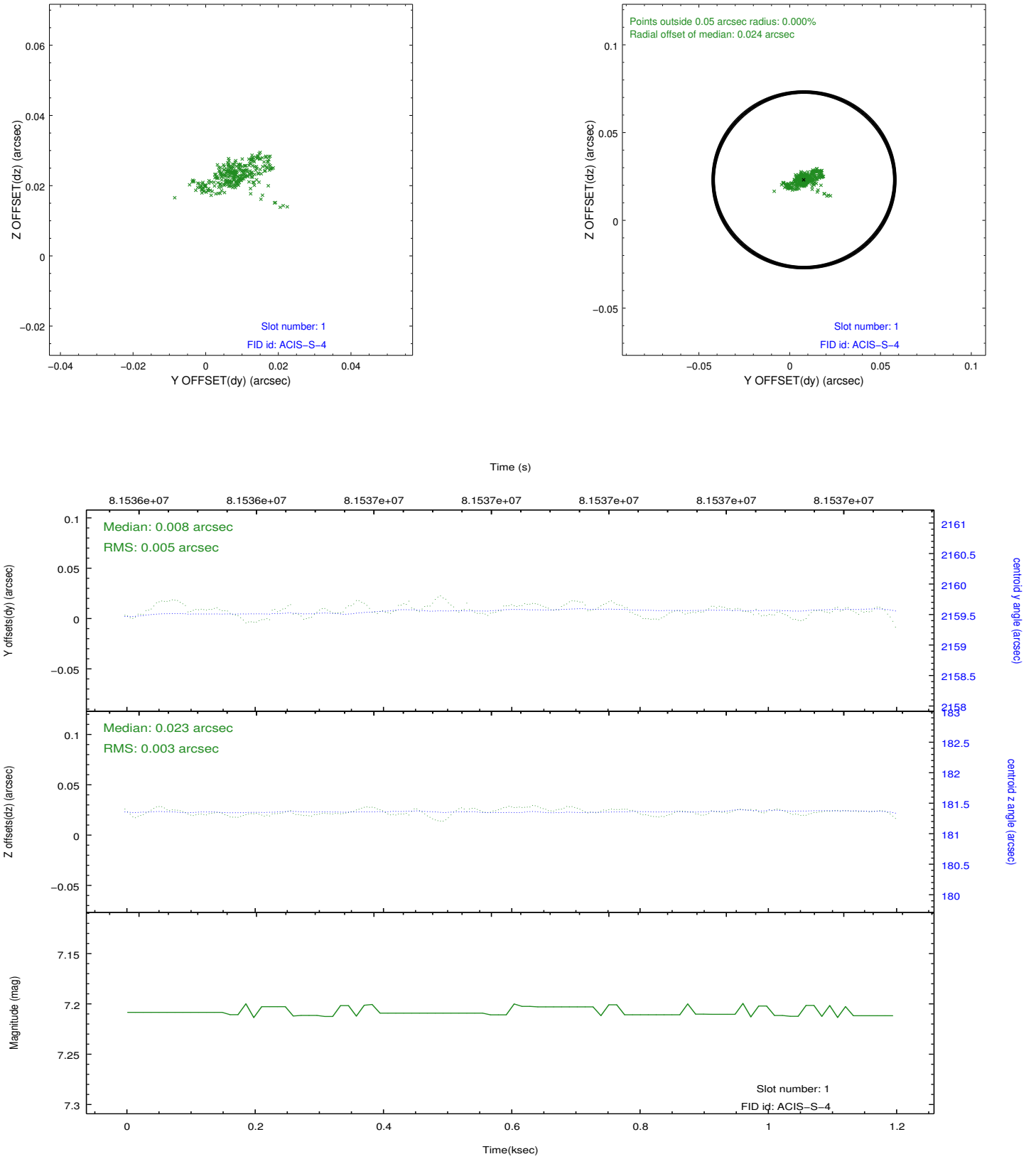


2.5 FID Slots

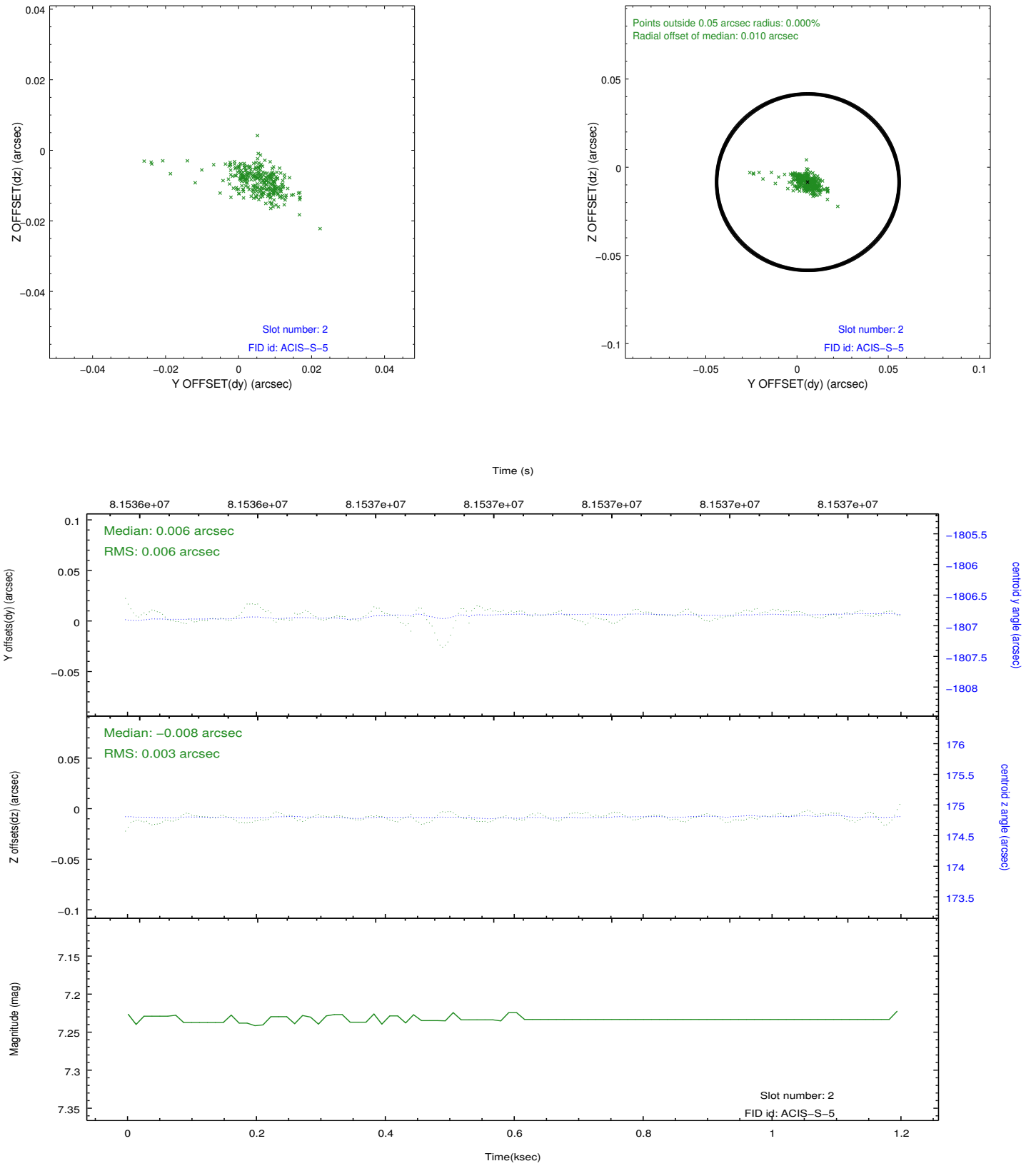
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|---------------|
| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2012.10.11 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 1.2 |

A.2 Comments

This is an observation of a moving target. Event positions are in the reference frame of Chandra, not of the comet. Users should run a software tool such as sso_freeze to reposition the events in the reference frame of the comet, then run normal data analysis tools.