

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 8070 - L2 Version 3
Chandra X-Ray Center

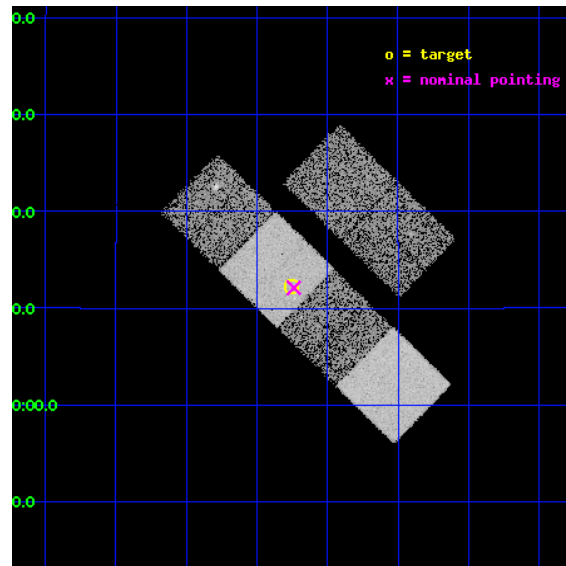
L2 Processing Date : Apr 23 2012

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1 Front

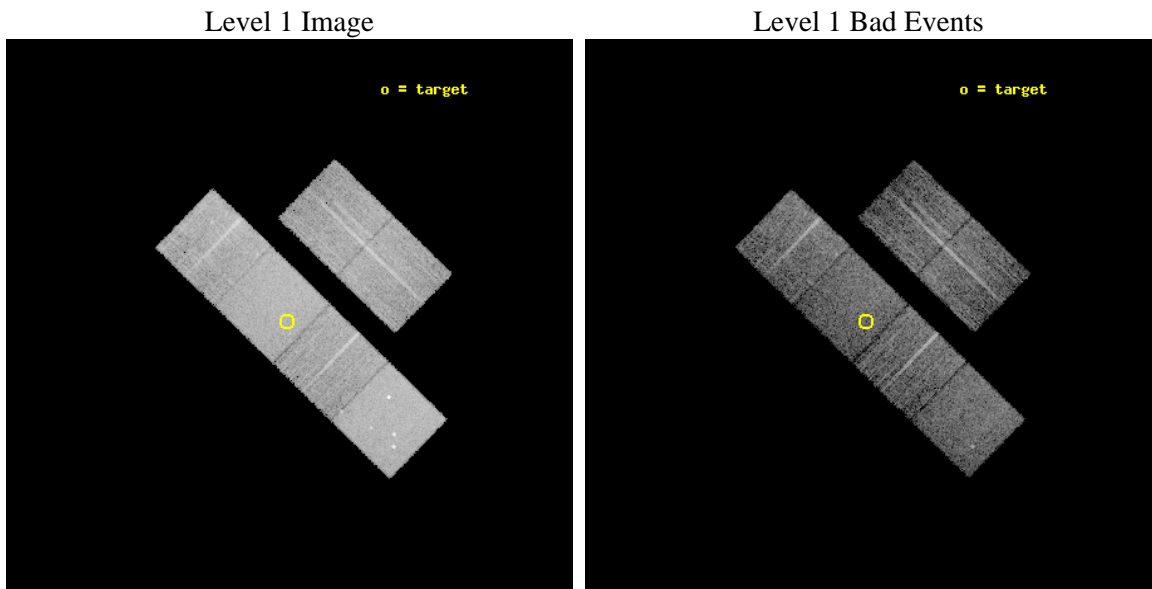
| | | |
|----------|---|---|
| seq_num | 900611 | Sequence number |
| obs_id | 8070 | Observation id |
| title | The Duty Cycle of Supermassive Black Holes: X-raying Virgo | Proposa |
| observer | Prof Tommaso Treu | Principal investigator |
| object | 2048 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 191.81375 | Observer's specified target RA [deg] |
| dec_targ | 10.203611 | Observer's specified target Dec [deg] |
| ra_nom | 191.80955690651 | Nominal RA [deg] |
| dec_nom | 10.201805363758 | Nominal Dec [deg] |
| roll_nom | 224.22958995916 | Nominal Roll [deg] |
| revision | 3 | Processing version of data |
| ontime | 5350.3999801278 | Sum of GTIs [s] |
| livetime | 5282.6499939553 | Livetime [s] |
| ontime2 | 5350.3999801278 | Sum of GTIs [s] |
| ontime3 | 5350.3999801278 | Sum of GTIs [s] |
| ontime5 | 5350.3999801278 | Sum of GTIs [s] |
| ontime6 | 5350.3999801278 | Sum of GTIs [s] |
| ontime7 | 5350.3999801278 | Sum of GTIs [s] |
| ontime8 | 5350.3999801278 | Sum of GTIs [s] |
| l2events | 83117 | Number of level 2 events |



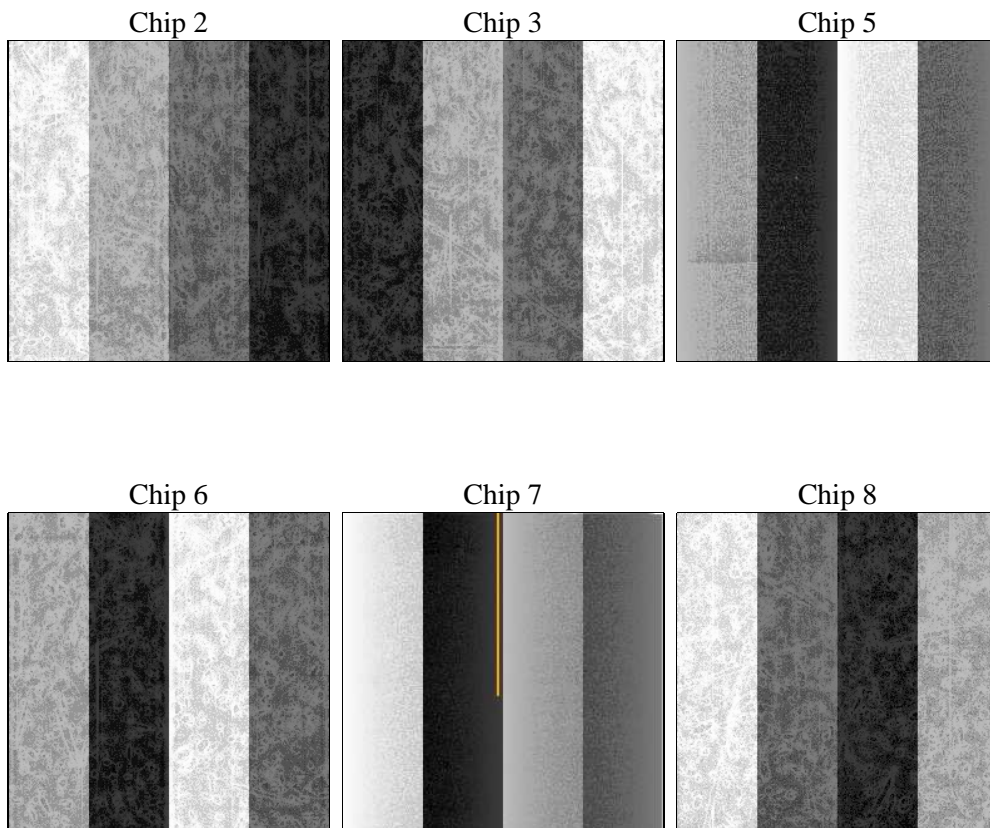
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|---|
| obi_num | 0 | Obi number | sched_exp_time | 5400.000000 | [s] Scheduled observation exposure time |
| ascdsver | 8.4.4 | Processing system revision | ontime | 5350.3999801278 | Sum of GTIs [s] |
| caldsver | 4.4.9 | | ontime2 | 5350.3999801278 | Sum of GTIs [s] |
| date | 2012-04-23T20:46:48 | Date and time of file creation | ontime3 | 5350.3999801278 | Sum of GTIs [s] |
| revision | 3 | Processing version of data | ontime5 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime6 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime7 | 5350.3999801278 | Sum of GTIs [s] |
| | | | ontime8 | 5350.3999801278 | Sum of GTIs [s] |
| | | | l1events | 360010 | Number of level 1 events |

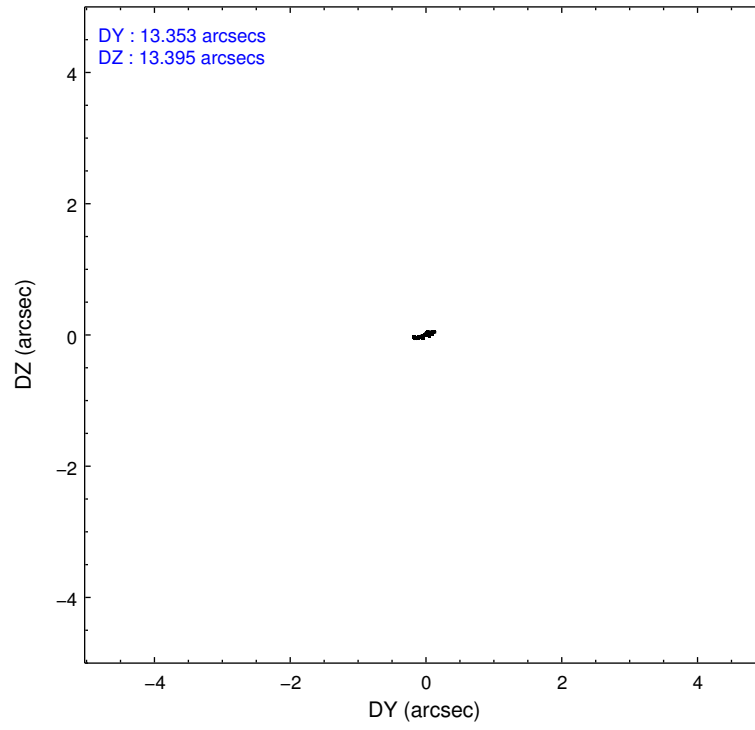
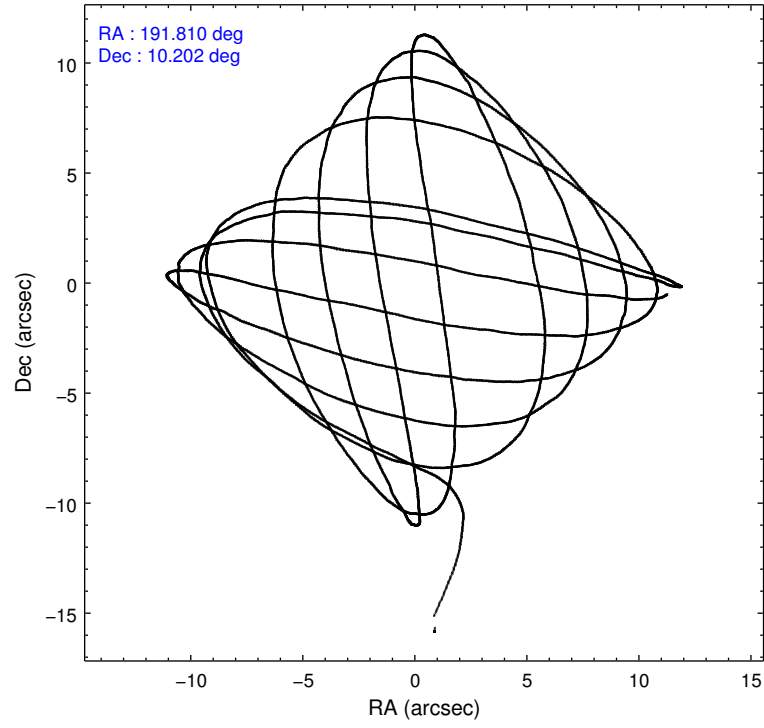
2.1.4 Events

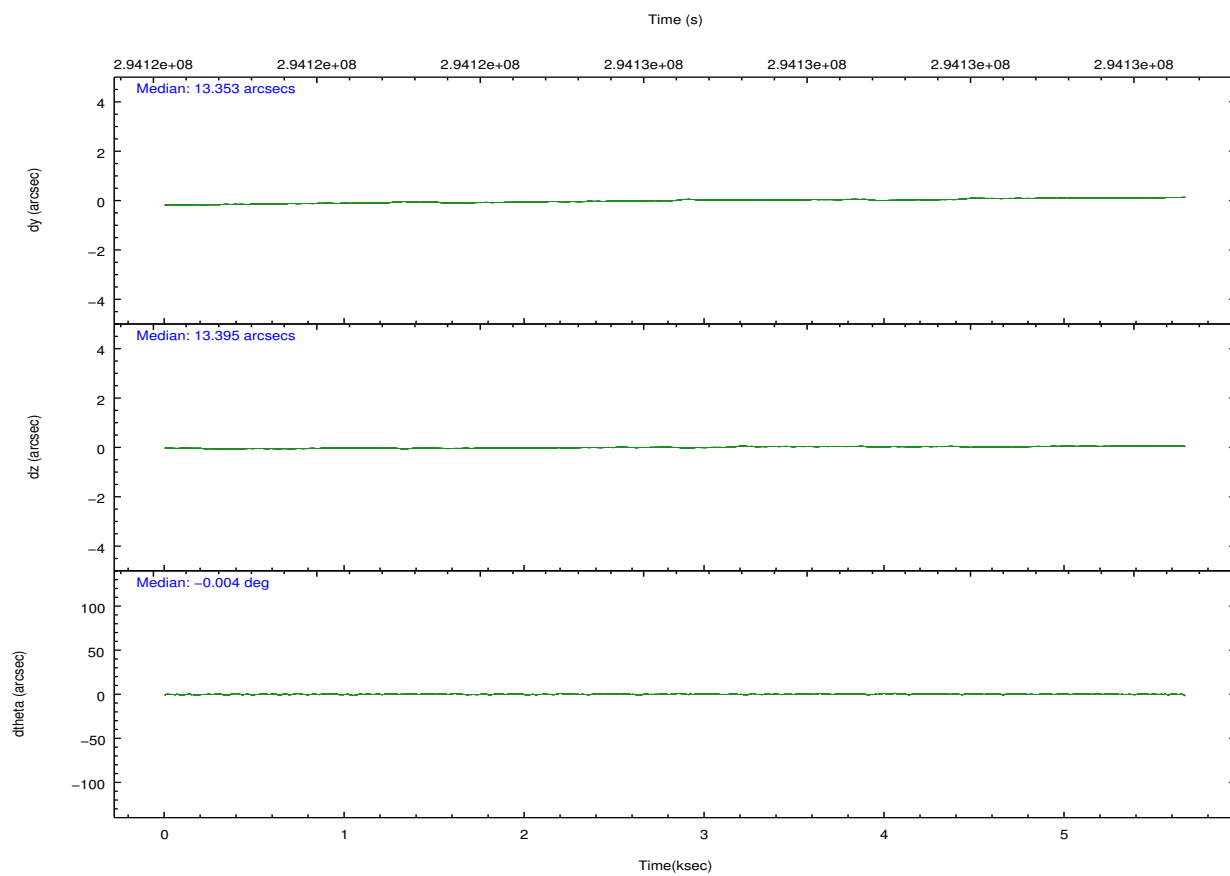
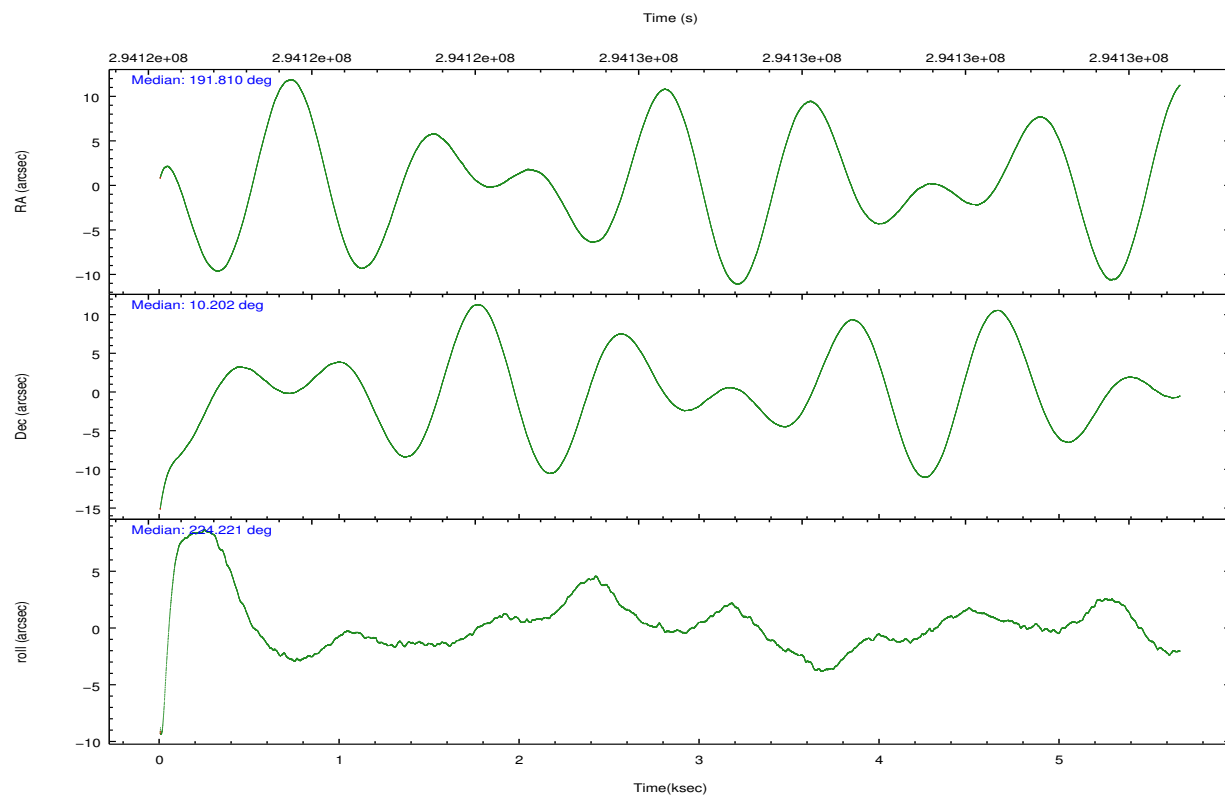
| | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 | | ccd 2 | ccd 3 | ccd 5 | ccd 6 | ccd 7 | ccd 8 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 51238 | 48409 | 78203 | 49665 | 69347 | 63148 | grade 0 events | 2594 | 2681 | 4173 | 2346 | 2603 | 4717 |
| rejected events | 45274 | 42382 | 41815 | 43606 | 40405 | 48762 | | 5% | 5% | 5% | 4% | 3% | 7% |
| rejected % | 88% | 87% | 53% | 87% | 58% | 77% | grade 1 events | 26 | 27 | 131 | 27 | 72 | 49 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 1264 | 1186 | 10981 | 1352 | 5748 | 3238 |
| | | | | | | | | 2% | 2% | 14% | 2% | 8% | 5% |
| | | | | | | | grade 3 events | 559 | 609 | 1248 | 538 | 2576 | 1480 |
| | | | | | | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 4 events | 544 | 554 | 1230 | 554 | 2531 | 1284 |
| | | | | | | | | 1% | 1% | 1% | 1% | 3% | 2% |
| | | | | | | | grade 5 events | 1942 | 2388 | 5527 | 2353 | 6448 | 3083 |
| | | | | | | | | 3% | 4% | 7% | 4% | 9% | 4% |
| | | | | | | | grade 6 events | 1007 | 1006 | 18800 | 1282 | 15519 | 3680 |
| | | | | | | | | 1% | 2% | 24% | 2% | 22% | 5% |
| | | | | | | | grade 7 events | 43302 | 39958 | 36113 | 41213 | 33850 | 45617 |
| | | | | | | | | 84% | 82% | 46% | 82% | 48% | 72% |

2.2 Compared Parameters

| Parameter | Planned | Actual | Parameter | Planned | Actual |
|-----------------------------------|---------------------|----------------------|---------------------------------------|-----------|---------|
| Instrument | ACIS | ACIS | Obspar format version number | 7 | 7 |
| Detector | ACIS-235678 | ACIS-235678 | Obspar file type | PREDICTED | ACTUAL |
| Grating | NONE | NONE | 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 | 191.816783 | 191.8095569065073 | Subarray requested | NONE | NONE |
| [deg] Pointing Dec | 10.228318 | 10.20180536375777 | Alternating exposures requested | N | N |
| [deg] Pointing Roll | 224.071718 | 224.2295899591557 | [s] Primary exposure time | 0.000000 | 3.2 |
| [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) | 294123632.184000 | 294122624.19889 | | | |
| Observation start date | 2007-04-28T04:59:27 | 2007-04-28T04:43:44 | | | |
| [s] Observation end time (MET) | 294129032.184000 | 294129209.82421 | | | |
| Observation end date | 2007-04-28T06:29:27 | 2007-04-28T06:33:29 | | | |
| Read mode | TIMED | TIMED | | | |

2.3 Aspect



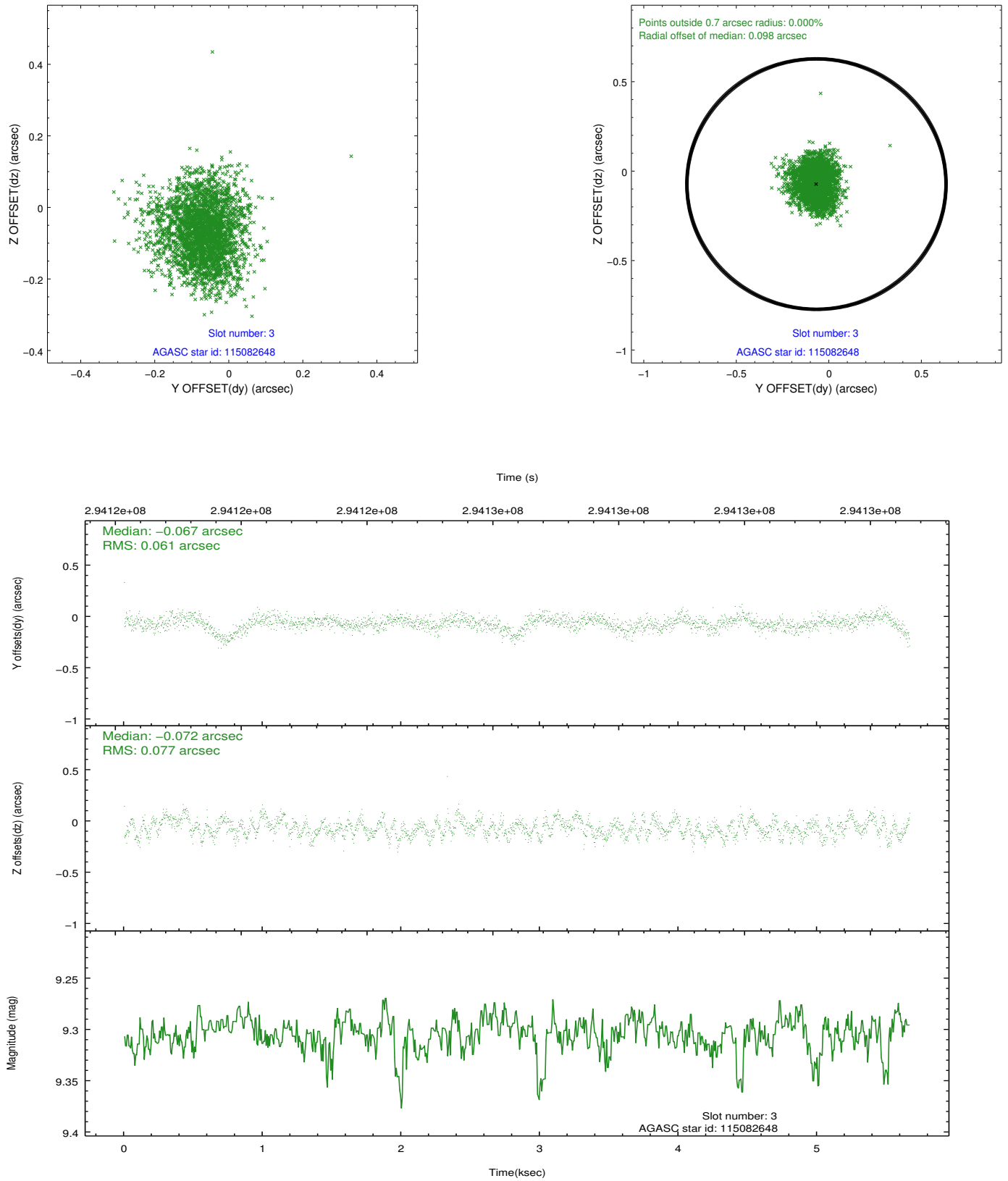


Slot Statistics

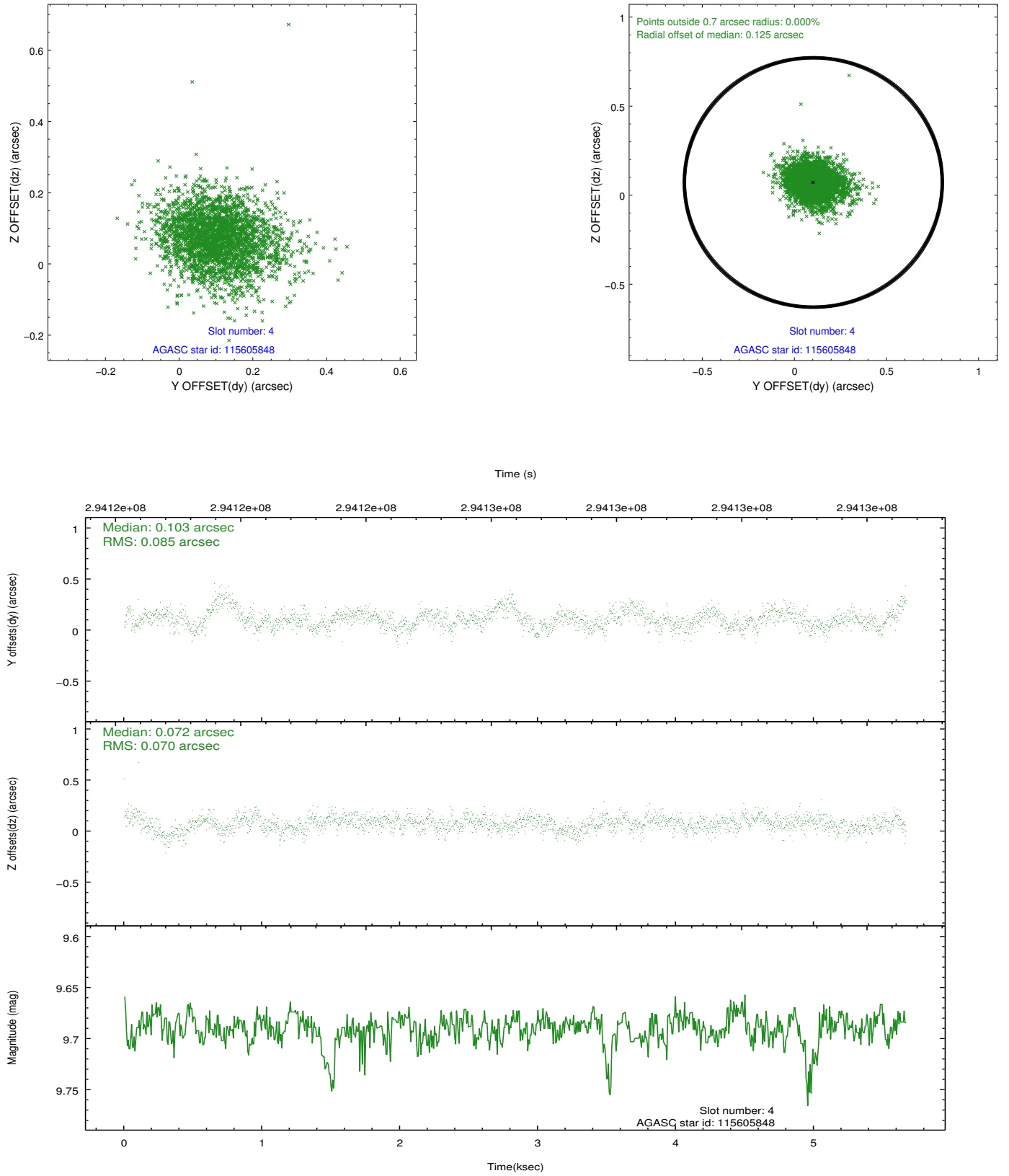
| slot | status | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | ACIS-S-2 | 7.10 | 1383 | -0.028 | -0.064 | 0.007 | 0.012 | 0.000000 | 0.000000 | -766.30 | -1734.74 |
| 1 | FID | ACIS-S-4 | 7.19 | 1383 | 0.167 | 0.031 | 0.009 | 0.015 | 0.000000 | 0.000000 | 2146.70 | 172.73 |
| 2 | FID | ACIS-S-5 | 7.22 | 1383 | -0.170 | 0.042 | 0.007 | 0.012 | 0.000000 | 0.000000 | -1817.92 | 167.63 |
| 3 | GUIDE | 115082648 | 9.30 | 2754 | -0.067 | -0.072 | 0.106 | 0.172 | 191.382029 | 10.575431 | 236.31 | -1968.88 |
| 4 | GUIDE | 115605848 | 9.69 | 2760 | 0.103 | 0.072 | 0.114 | 0.192 | 191.764767 | 9.722093 | 1400.62 | 1179.64 |
| 5 | GUIDE | 115608184 | 8.96 | 2764 | -0.084 | 0.048 | 0.076 | 0.124 | 191.768572 | 9.543776 | 1837.35 | 1652.25 |
| 6 | GUIDE | 115999424 | 8.89 | 2764 | 0.014 | -0.039 | 0.083 | 0.134 | 191.505926 | 10.565661 | -53.89 | -1637.55 |
| 7 | GUIDE | 116002016 | 9.66 | 2762 | 0.036 | -0.009 | 0.111 | 0.176 | 192.497030 | 10.082578 | -1369.38 | 2051.00 |

2.4 Star Slots

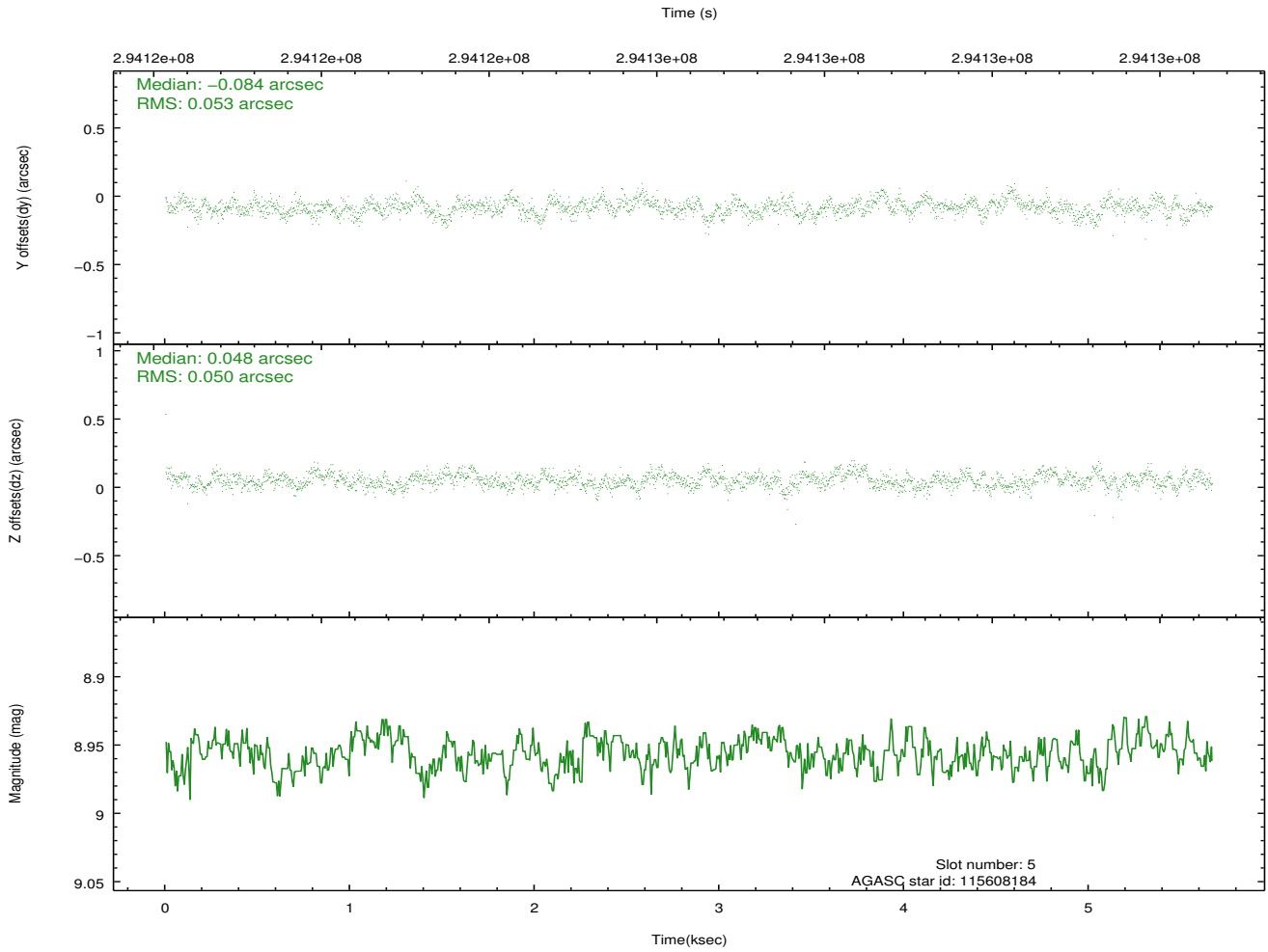
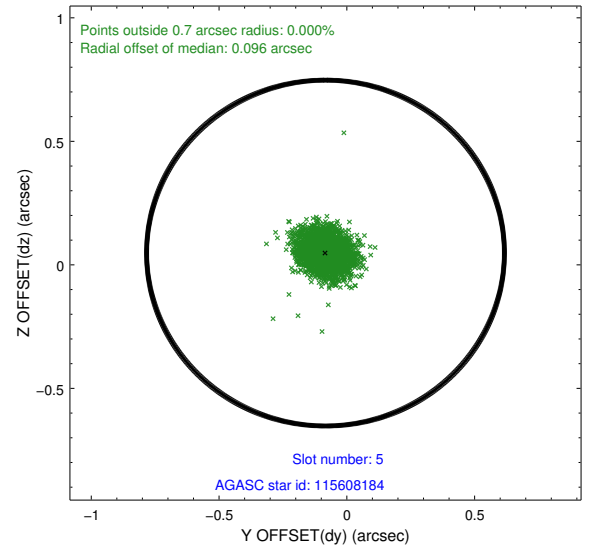
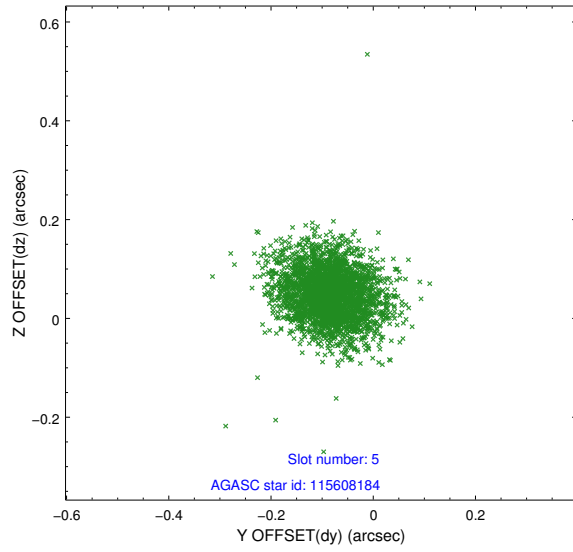
2.4.1 Slot 3



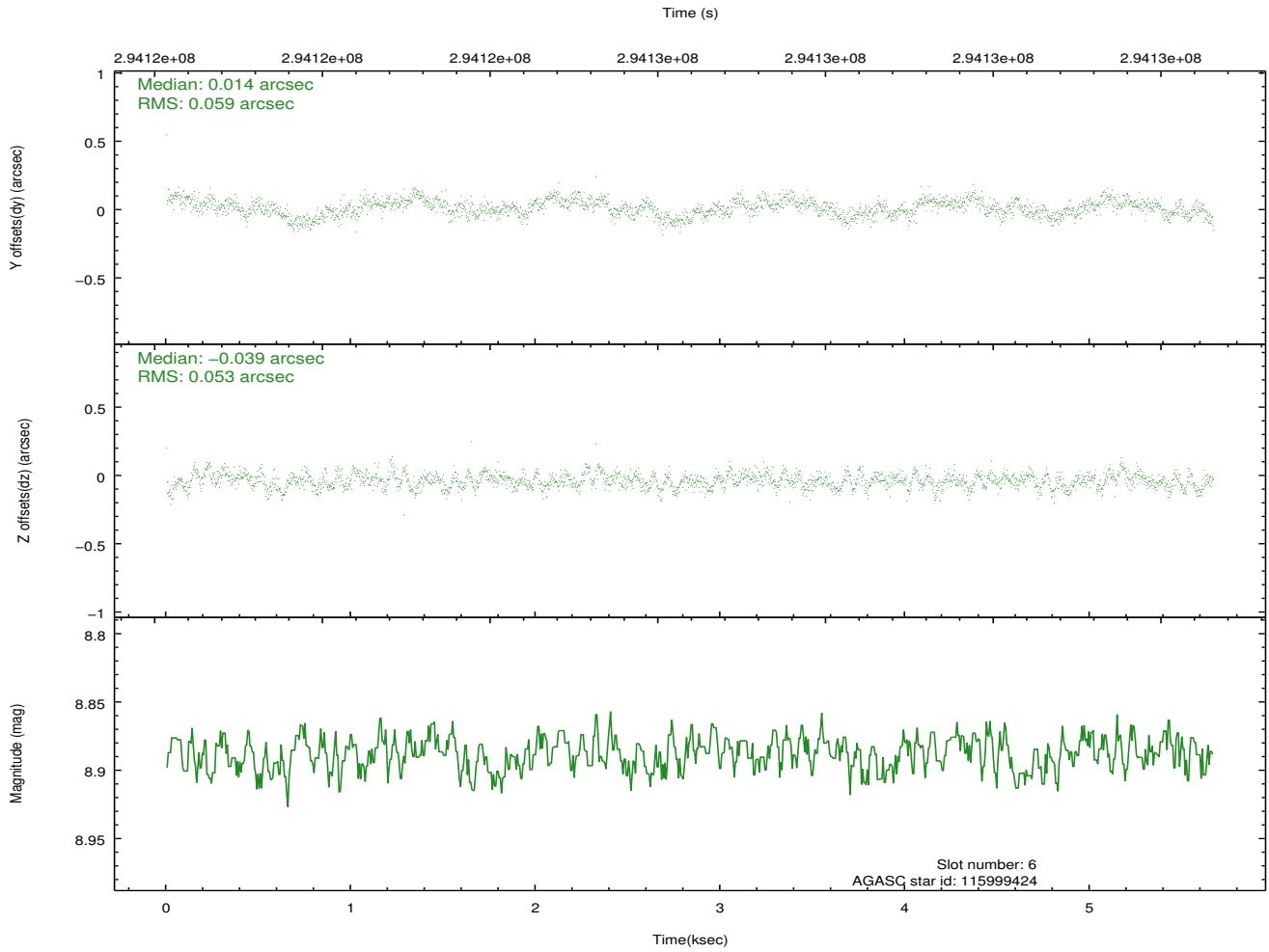
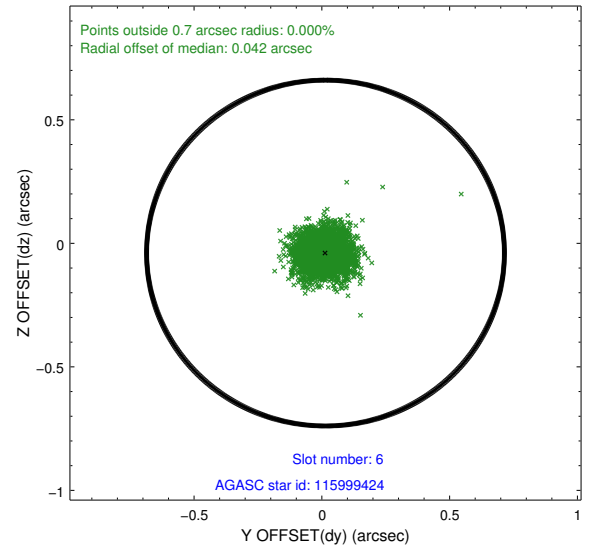
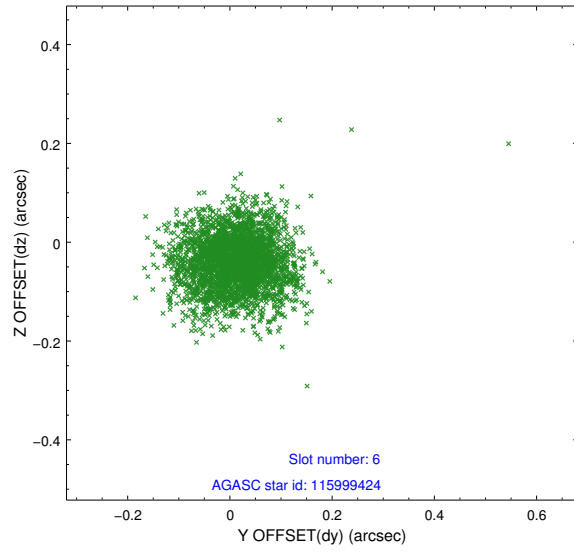
2.4.2 Slot 4



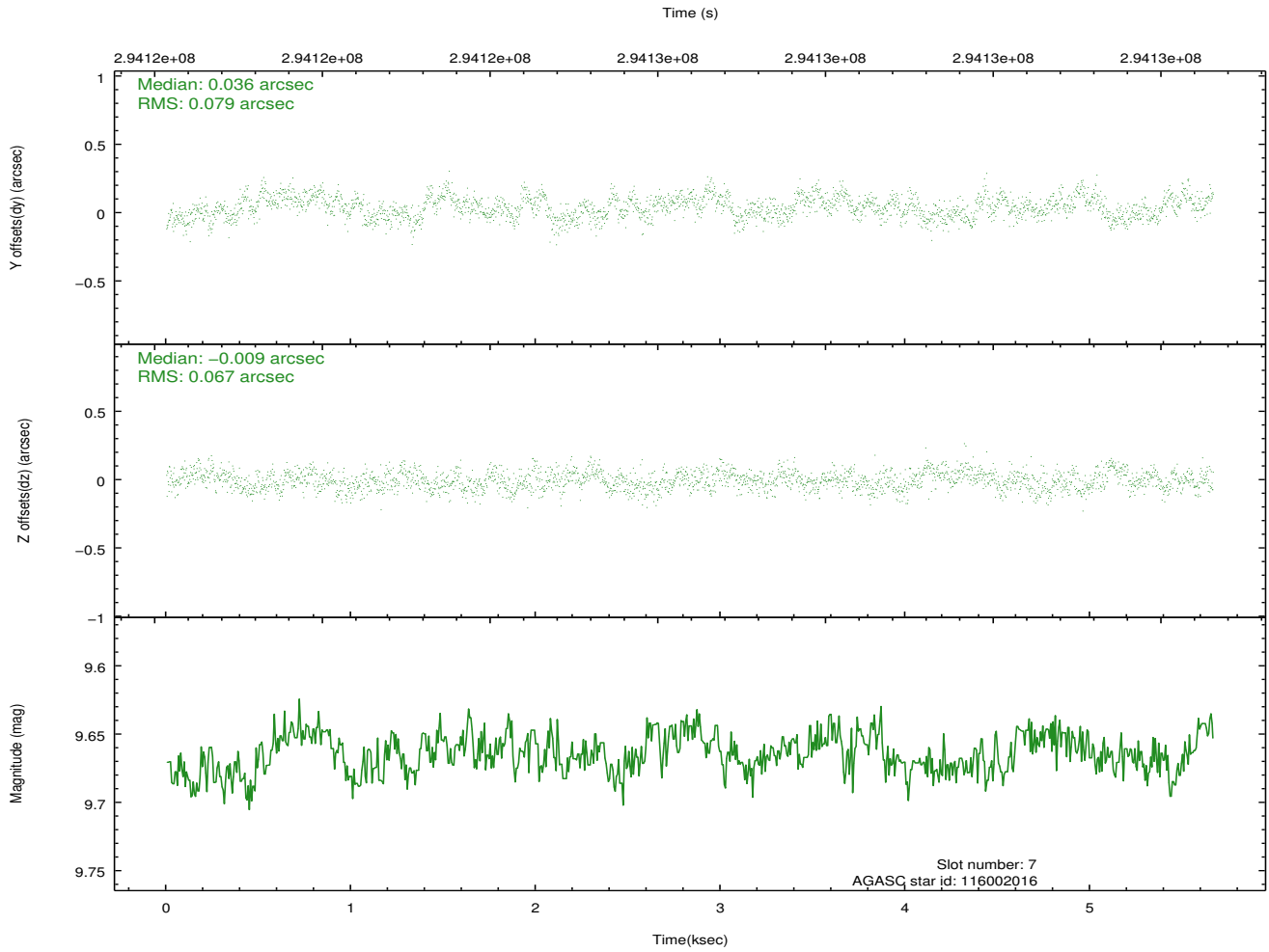
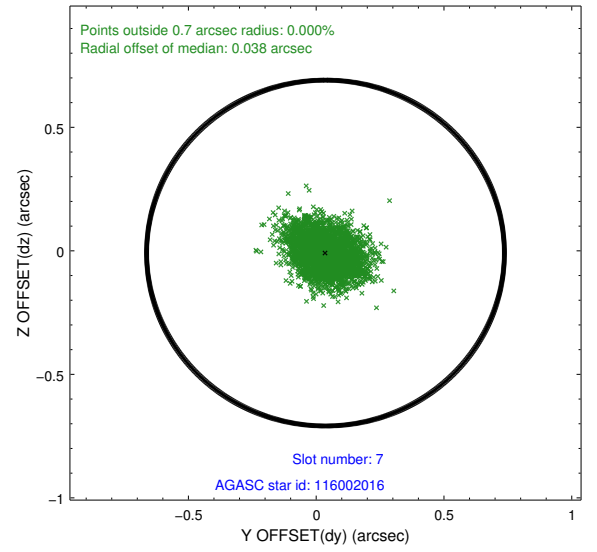
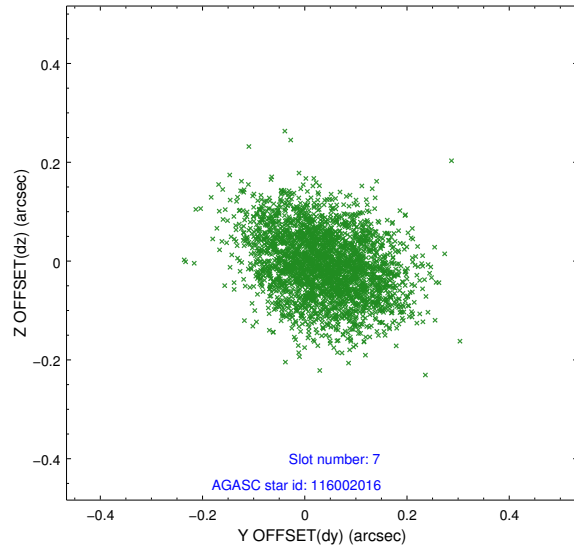
2.4.3 Slot 5



2.4.4 Slot 6

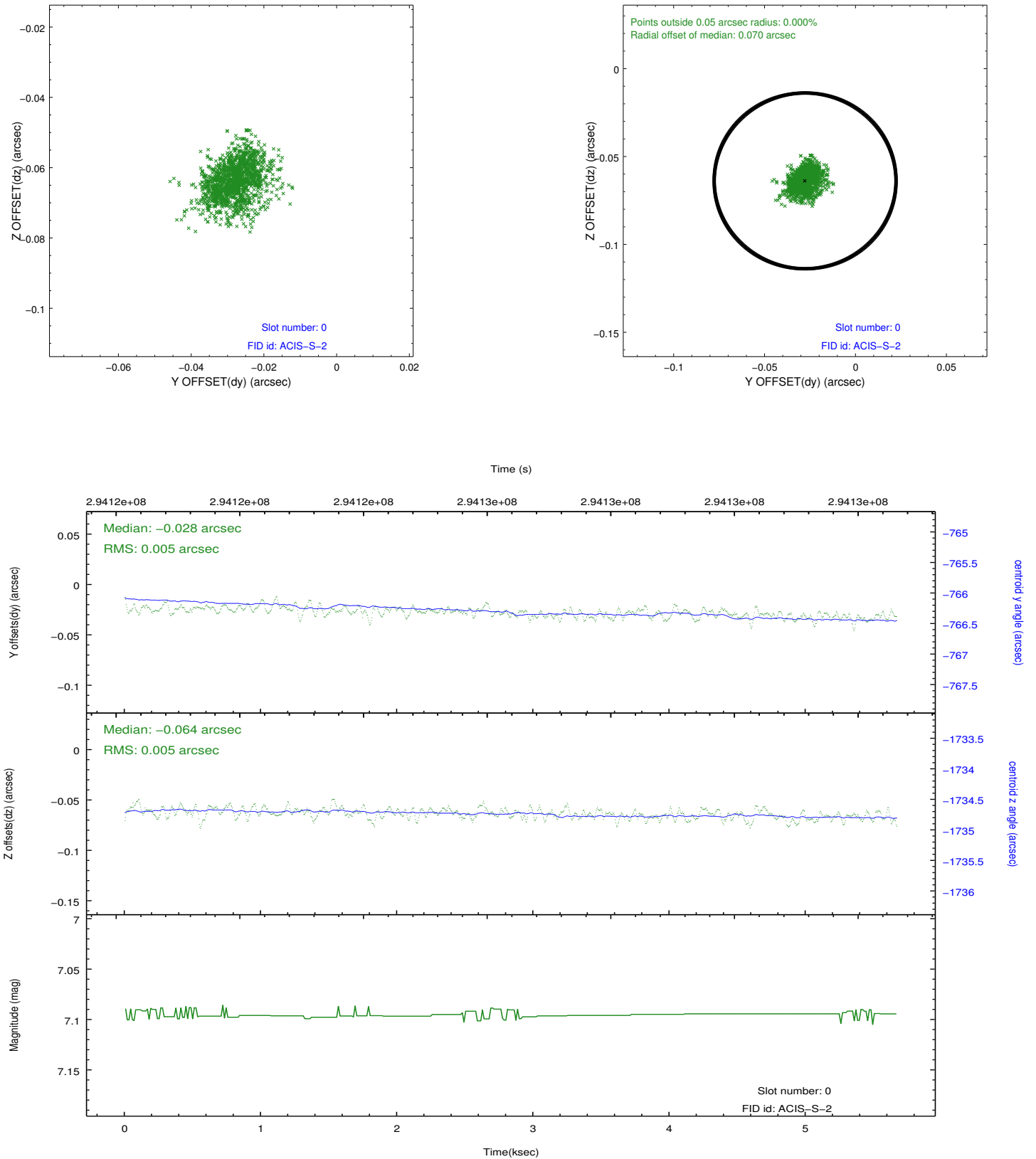


2.4.5 Slot 7

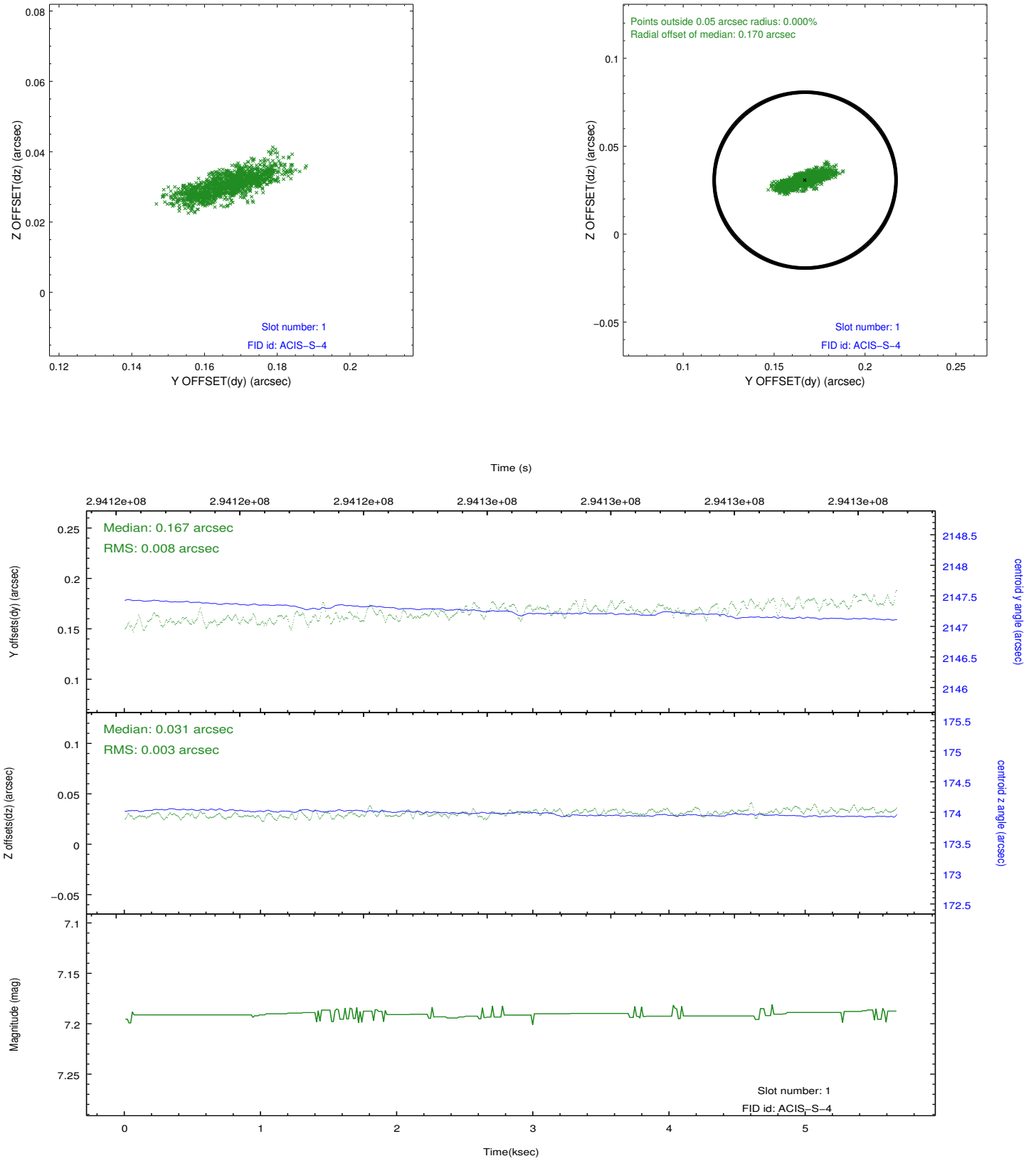


2.5 FID Slots

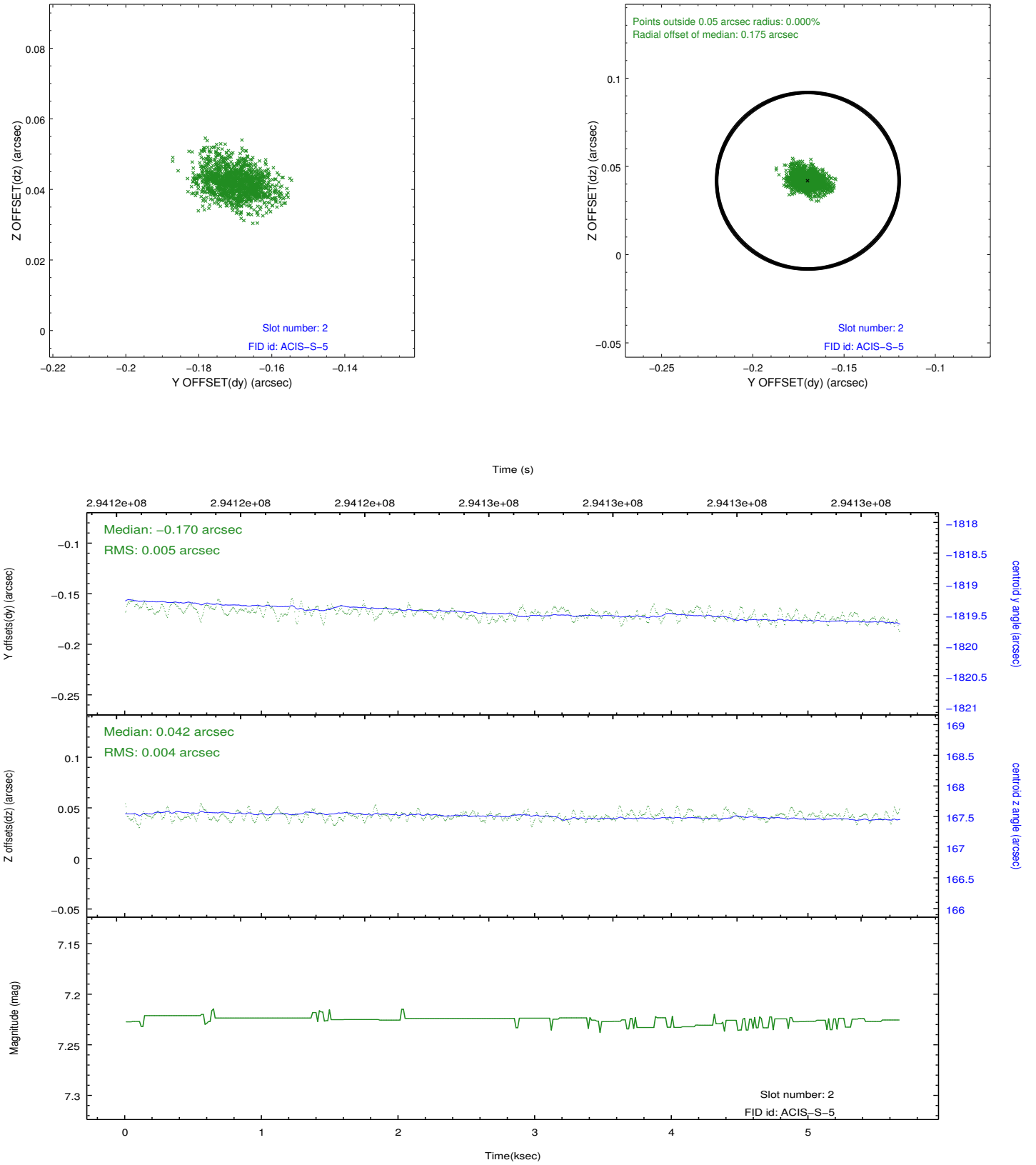
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

| | |
|----------------------------|-------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2012.04.24 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 5.35039998 |

A.2 Comments