

V&V Reference Report

L2 ASCDS Version : 10.6.4.1

Observation 21059 - L2 Version 1
Chandra X-Ray Center

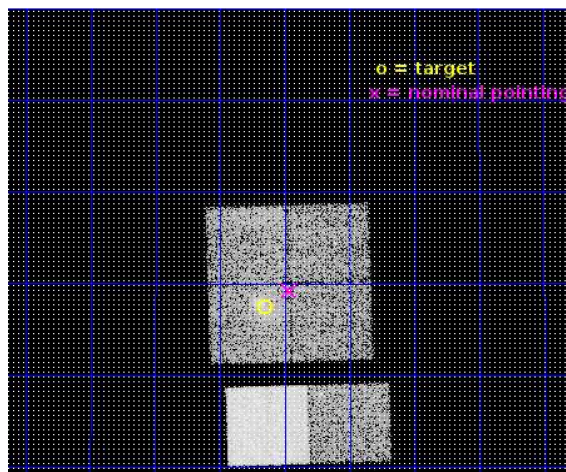
L2 Processing Date : Sep 28 2018

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1 Front

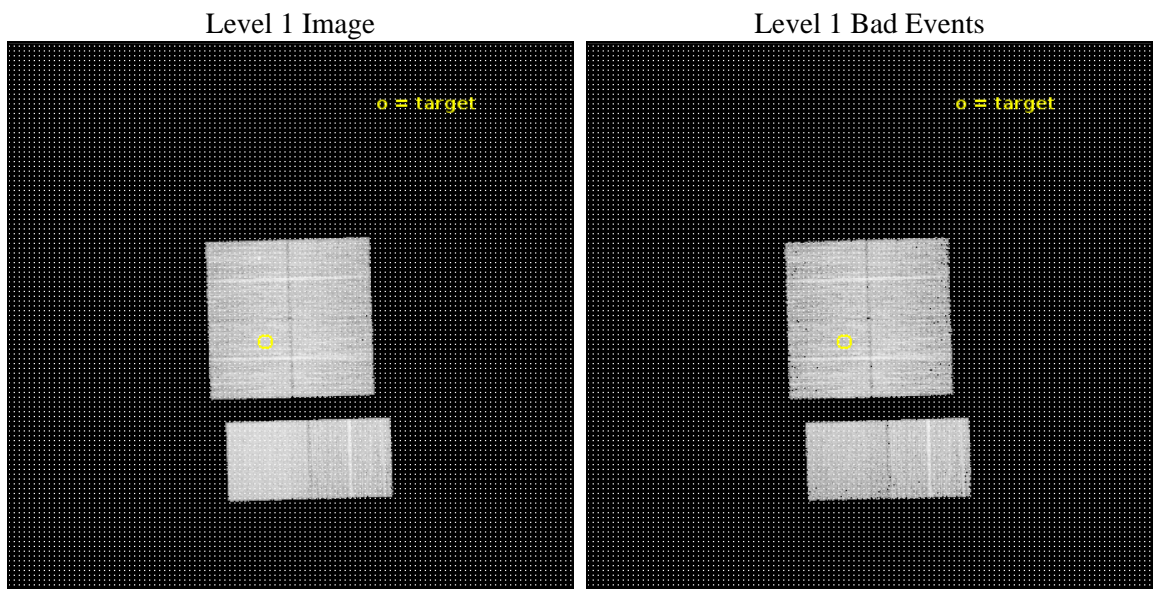
| | | |
|----------|-------------------------------------------------------------------|---------------------------------------------|
| seq_num | 801804 | Sequence number |
| obs_id | 21059 | Observation id |
| title | Witnessing the culmination of structure formation in the Universe | |
| observer | Stefano Etori | Principal investigator |
| object | PSZ2 G113.91-37.01 | Source name |
| dtcycle | 0 | |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 4.9125 | Observer's specified target RA [deg] |
| dec_targ | 25.290833 | Observer's specified target Dec [deg] |
| ra_nom | 4.8661582402667 | Nominal RA [deg] |
| dec_nom | 25.320706044509 | Nominal Dec [deg] |
| roll_nom | 178.2145524844 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 9955.1901202202 | Sum of GTIs [s] |
| livetime | 9829.1315086221 | Livetime [s] |
| ontime0 | 9955.0670002699 | Sum of GTIs [s] |
| ontime1 | 9951.8670598269 | Sum of GTIs [s] |
| ontime2 | 9955.1490802765 | Sum of GTIs [s] |
| ontime3 | 9955.1901202202 | Sum of GTIs [s] |
| ontime6 | 9955.200148344 | Sum of GTIs [s] |
| ontime7 | 9955.200148344 | Sum of GTIs [s] |
| l2events | 78871 | Number of level 2 events |



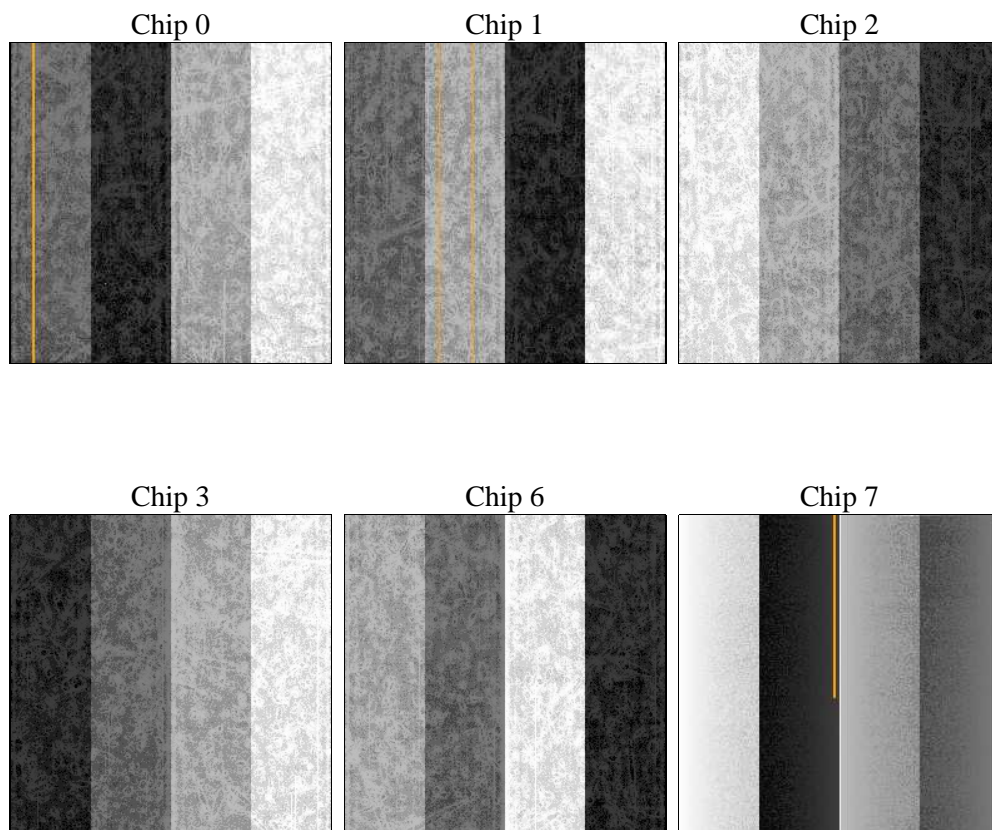
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

| | | | | | |
|----------|---------------------|--------------------------------|----------------|-----------------|-----------------------------------------|
| obi_num | 0 | Obi number | sched_exp_time | 10000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.6.4.1 | Processing system revision | ontime | 9955.1901202202 | Sum of GTIs [s] |
| caldbver | 4.8.0 | | ontime0 | 9955.0670002699 | Sum of GTIs [s] |
| date | 2018-09-28T15:32:39 | Date and time of file creation | ontime1 | 9951.8670598269 | Sum of GTIs [s] |
| revision | 1 | Processing version of data | ontime2 | 9955.1490802765 | Sum of GTIs [s] |
| | | | ontime3 | 9955.1901202202 | Sum of GTIs [s] |
| | | | ontime6 | 9955.200148344 | Sum of GTIs [s] |
| | | | ontime7 | 9955.200148344 | Sum of GTIs [s] |
| | | | l1events | 460163 | Number of level 1 events |

2.1.4 Events

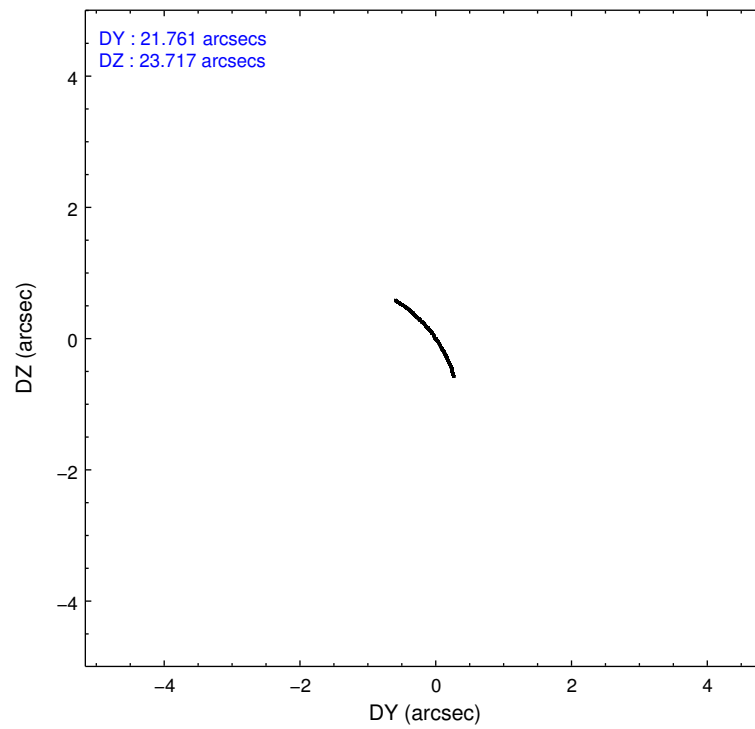
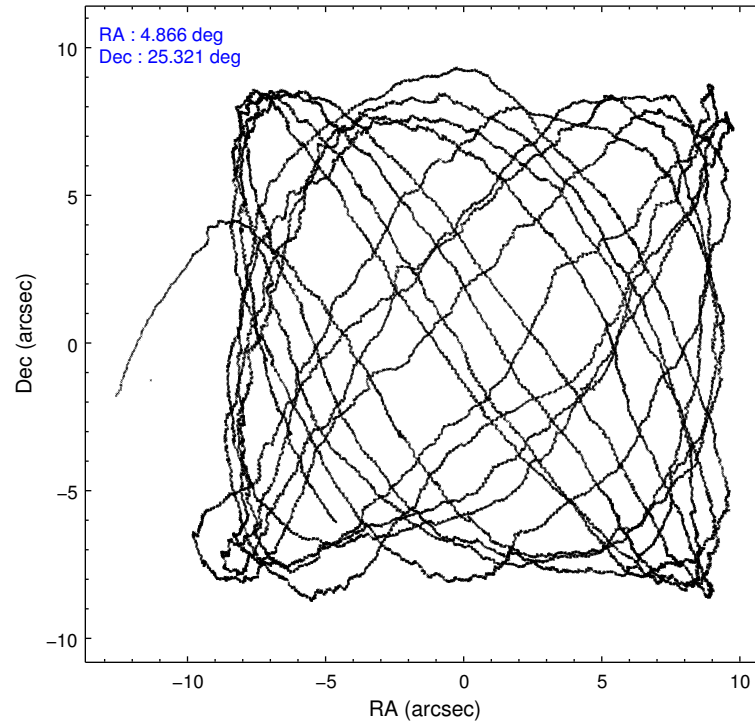
| | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 | | ccd 0 | ccd 1 | ccd 2 | ccd 3 | ccd 6 | ccd 7 |
|-----------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|
| level 1 events | 66010 | 70329 | 74570 | 75349 | 76365 | 97540 | grade 0 events | 2878 | 3502 | 2935 | 4355 | 2839 | 3585 |
| rejected events | 57615 | 60629 | 66264 | 65490 | 67813 | 55298 | | 4% | 4% | 3% | 5% | 3% | 3% |
| rejected % | 87% | 86% | 88% | 86% | 88% | 56% | grade 1 events | 43 | 41 | 52 | 59 | 48 | 158 |
| | | | | | | | | 0% | 0% | 0% | 0% | 0% | 0% |
| | | | | | | | grade 2 events | 2010 | 2363 | 2075 | 2032 | 2072 | 9304 |
| | | | | | | | | 3% | 3% | 2% | 2% | 2% | 9% |
| | | | | | | | grade 3 events | 888 | 883 | 852 | 838 | 847 | 3295 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 3% |
| | | | | | | | grade 4 events | 845 | 871 | 858 | 888 | 773 | 3244 |
| | | | | | | | | 1% | 1% | 1% | 1% | 1% | 3% |
| | | | | | | | grade 5 events | 3094 | 3173 | 2975 | 3664 | 3617 | 9777 |
| | | | | | | | | 4% | 4% | 3% | 4% | 4% | 10% |
| | | | | | | | grade 6 events | 1776 | 2088 | 1588 | 1750 | 2022 | 22824 |
| | | | | | | | | 2% | 2% | 2% | 2% | 2% | 23% |
| | | | | | | | grade 7 events | 54476 | 57408 | 63235 | 61763 | 64147 | 45353 |
| | | | | | | | | 82% | 81% | 84% | 81% | 84% | 46% |

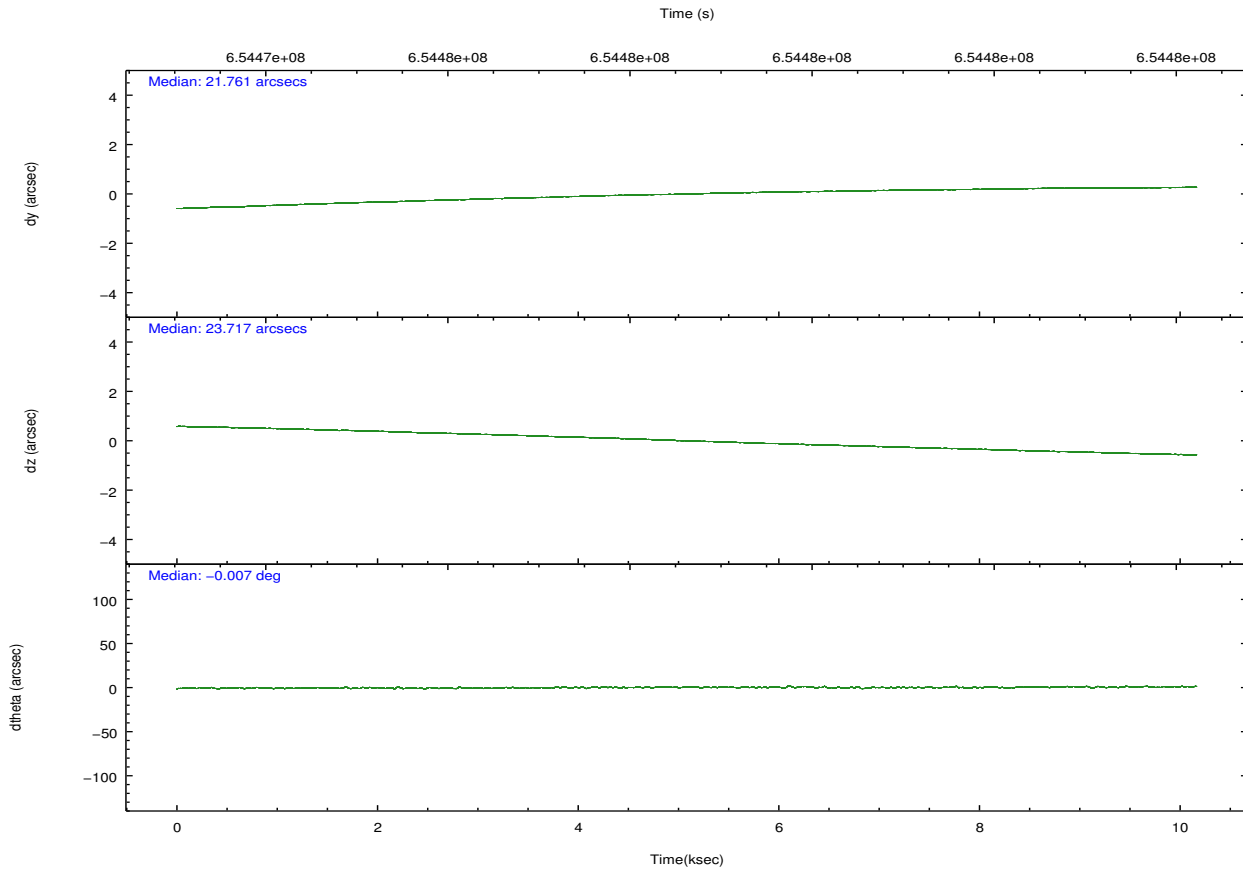
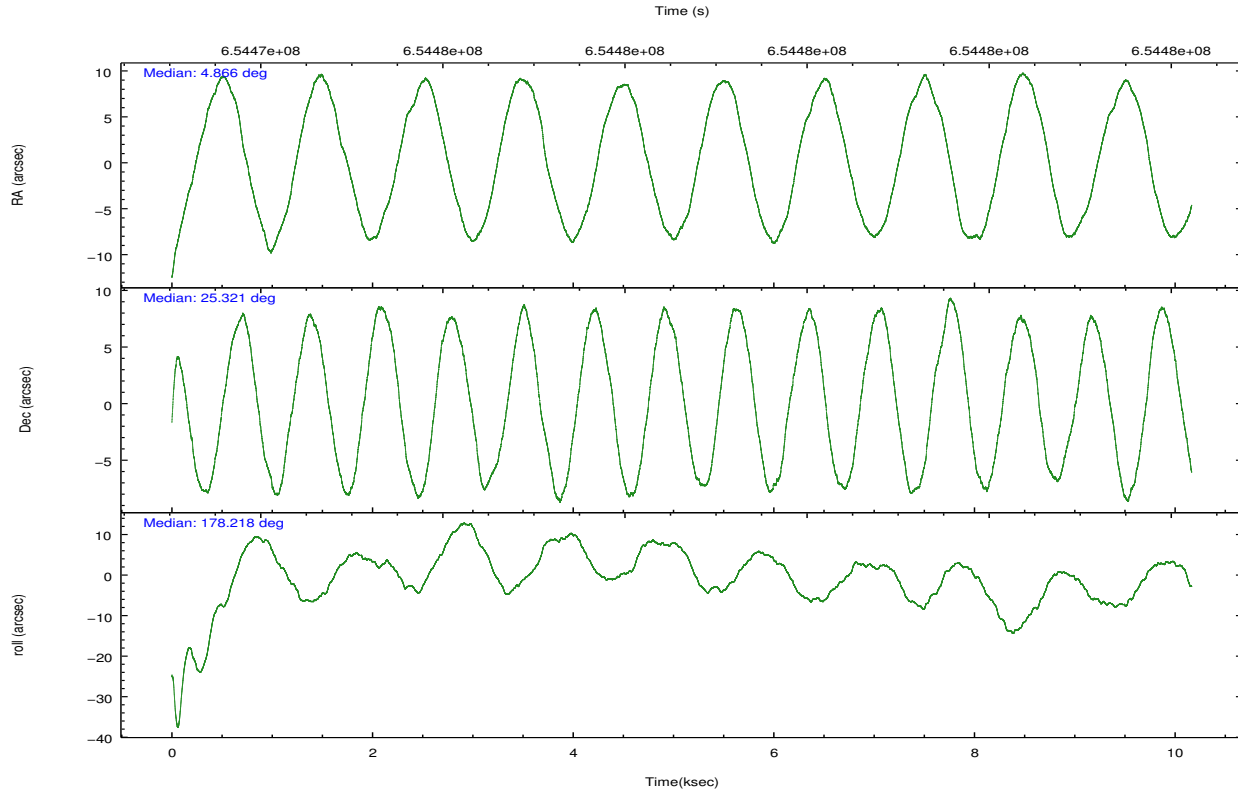
2.2 Compared Parameters

| Parameter | Planned | Actual |
|-----------------------------------|---------------------|-----------------------|
| Instrument | ACIS | ACIS |
| Detector | ACIS-012367 | ACIS-012367 |
| Grating | NONE | NONE |
| Data mode | VFAINT | VFAINT |
| Observation mode | POINTING | POINTING |
| [deg] Pointing RA | 4.893049 | 4.866158240266657 |
| [deg] Pointing Dec | 25.333863 | 25.32070604450867 |
| [deg] Pointing Roll | 177.994359 | 178.2145524844039 |
| [mm] SIM focus pos | -0.782348 | -0.7809083437167272 |
| [mm] SIM defocus | 0 | 0.001439871863259334 |
| [mm] SIM translation stage pos | -233.592463 | -233.5874344608287 |
| [mm] SIM translation stage offset | 0 | -0.005018542100998502 |
| [s] Observation start time (MET) | 654473729.184000 | 654472536.7555799 |
| Observation start date | 2018-09-27T22:14:20 | 2018-09-27T21:55:36 |
| [s] Observation end time (MET) | 654483729.184000 | 654484218.16878 |
| Observation end date | 2018-09-28T01:01:00 | 2018-09-28T01:10:18 |
| Read mode | TIMED | TIMED |

| Parameter | Planned | Actual |
|---------------------------------------|-----------|---------|
| Obspar format version number | 7 | 7 |
| Obspar file type | PREDICTED | ACTUAL |
| Obspar update status | NONE | UPDATED |
| CCD I0 on | Y | Y |
| CCD I1 on | Y | Y |
| CCD I2 on | Y | Y |
| CCD I3 on | Y | Y |
| CCD S0 on | N | N |
| CCD S1 on | N | N |
| CCD S2 on | O1 | Y |
| CCD S3 on | O2 | Y |
| CCD S4 on | N | N |
| CCD S5 on | N | N |
| 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



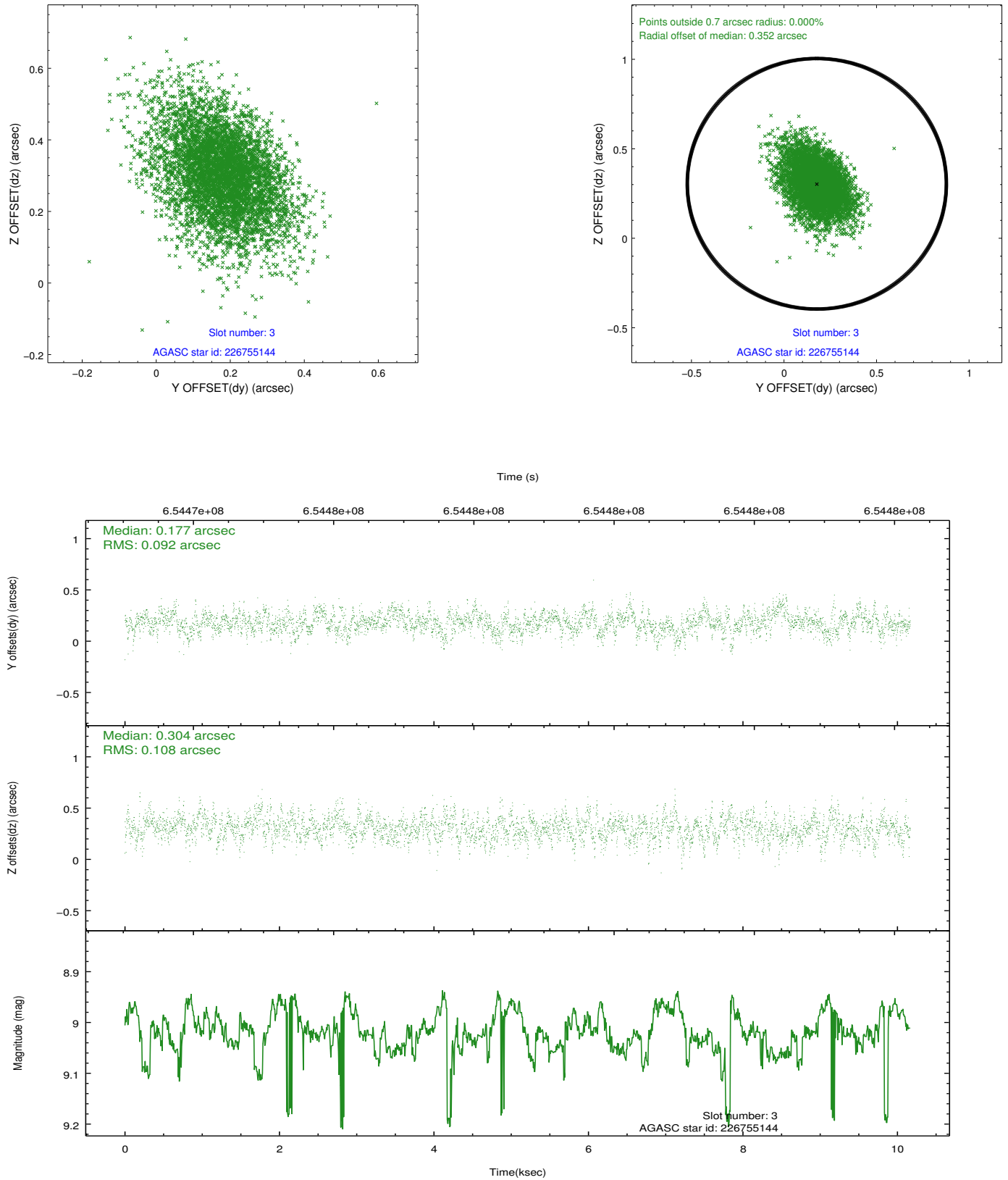


Slot Statistics

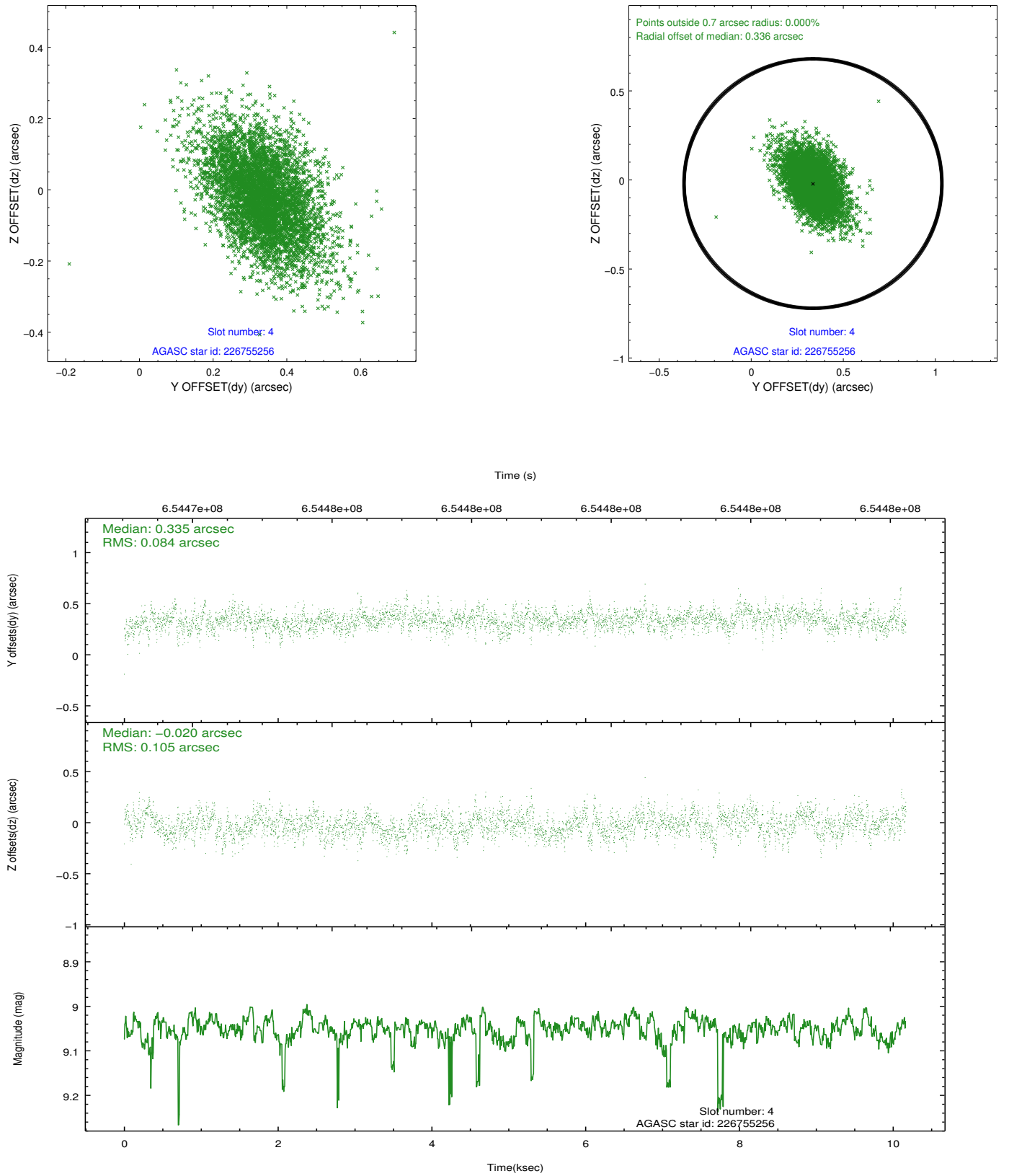
| pt | status | used | id | mag | n_pts | frac_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mea |
|----|--------|------|-----------|------|-------|----------|--------|--------|-------|-------|----------|-----------|----------|------|
| 0 | FID | | ACIS-I-1 | 7.12 | 2480 | 1.000 | 0.029 | 0.038 | 0.009 | 0.015 | 0.000000 | 0.000000 | 917.68 | -847 |
| 1 | FID | | ACIS-I-5 | 7.09 | 2479 | 1.000 | -0.376 | -0.004 | 0.012 | 0.020 | 0.000000 | 0.000000 | -1830.73 | 1049 |
| 2 | FID | | ACIS-I-6 | 7.13 | 2480 | 1.000 | 0.254 | 0.037 | 0.009 | 0.015 | 0.000000 | 0.000000 | 382.64 | 1694 |
| 3 | GUIDE | used | 226755144 | 9.02 | 4955 | 1.000 | 0.177 | 0.304 | 0.147 | 0.252 | 5.263892 | 24.965397 | -1257.07 | 1281 |
| 4 | GUIDE | used | 226755256 | 9.05 | 4957 | 1.000 | 0.335 | -0.020 | 0.138 | 0.244 | 5.468766 | 24.814401 | -1945.67 | 1799 |
| 5 | GUIDE | used | 226762104 | 8.55 | 4958 | 1.000 | -0.334 | -0.078 | 0.125 | 0.218 | 4.842320 | 24.764723 | 92.57 | 2053 |
| 6 | GUIDE | used | 226754840 | 7.36 | 4959 | 1.000 | -0.190 | -0.243 | 0.140 | 0.246 | 5.060263 | 24.665888 | -631.03 | 2383 |
| 7 | GUIDE | used | 226755864 | 8.16 | 4958 | 1.000 | 0.018 | 0.038 | 0.150 | 0.264 | 5.571047 | 24.679403 | -2299.44 | 2272 |

2.4 Star Slots

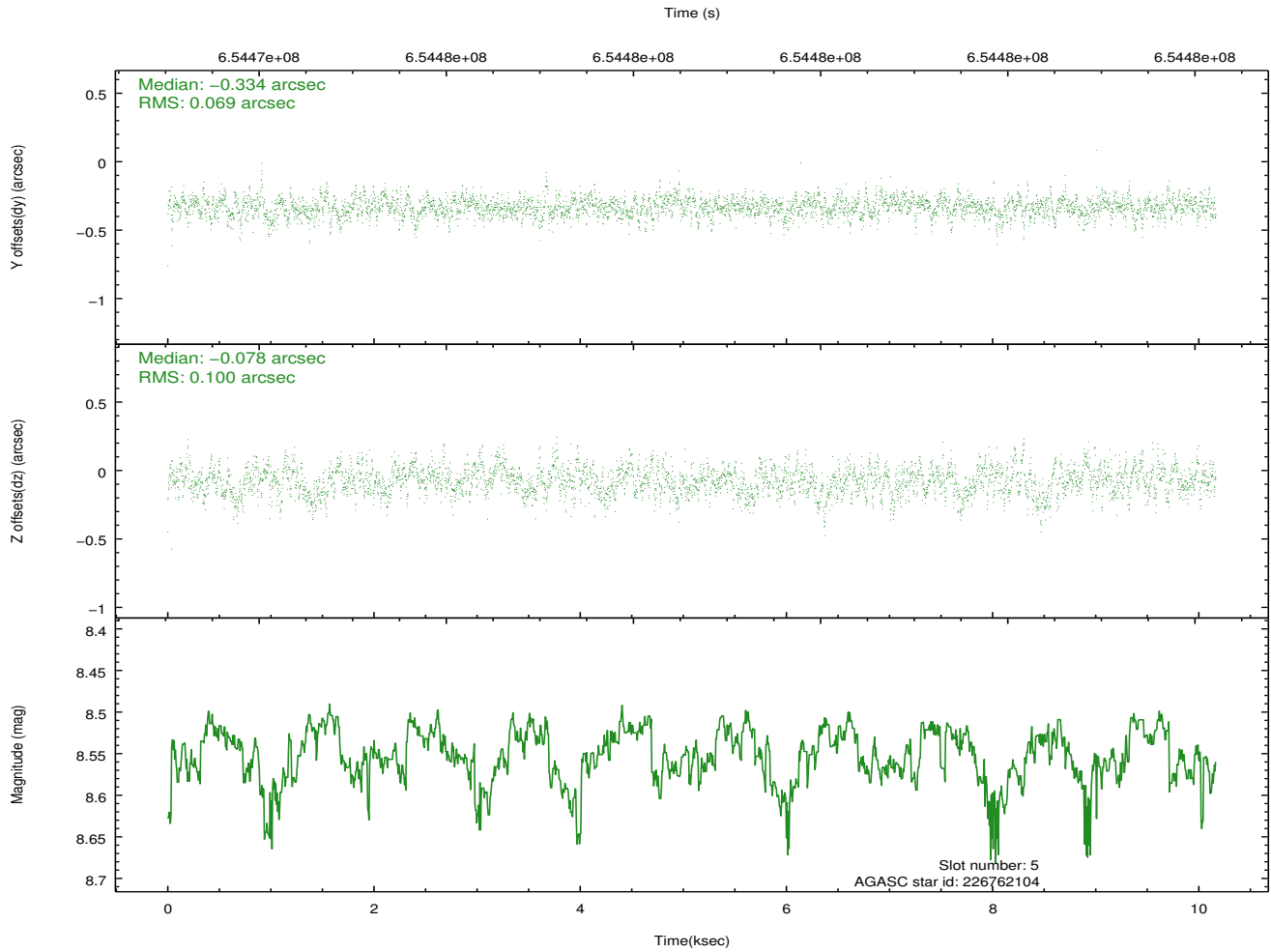
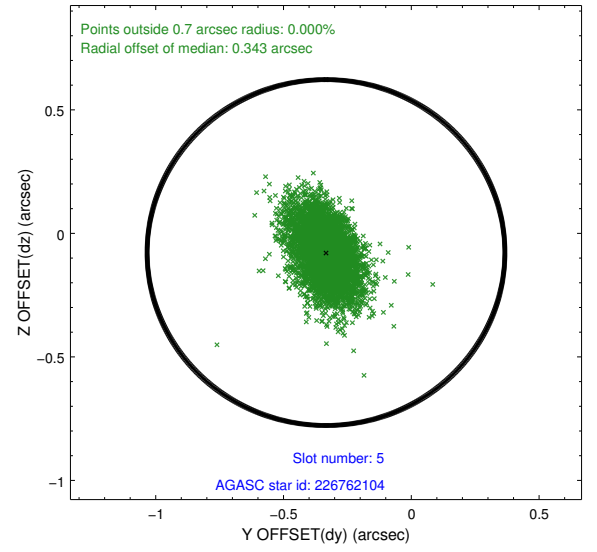
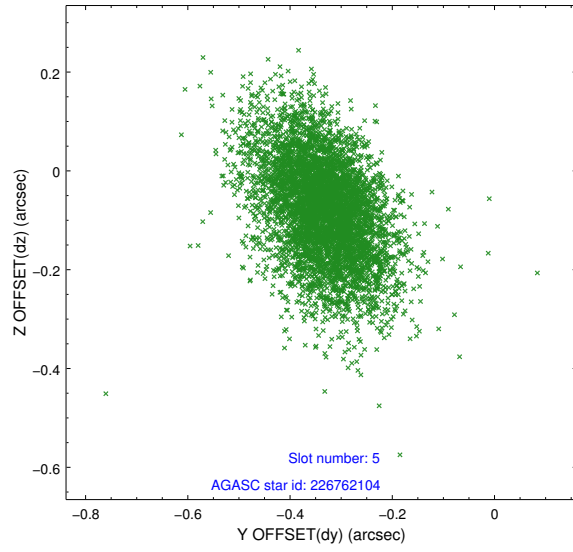
2.4.1 Slot 3



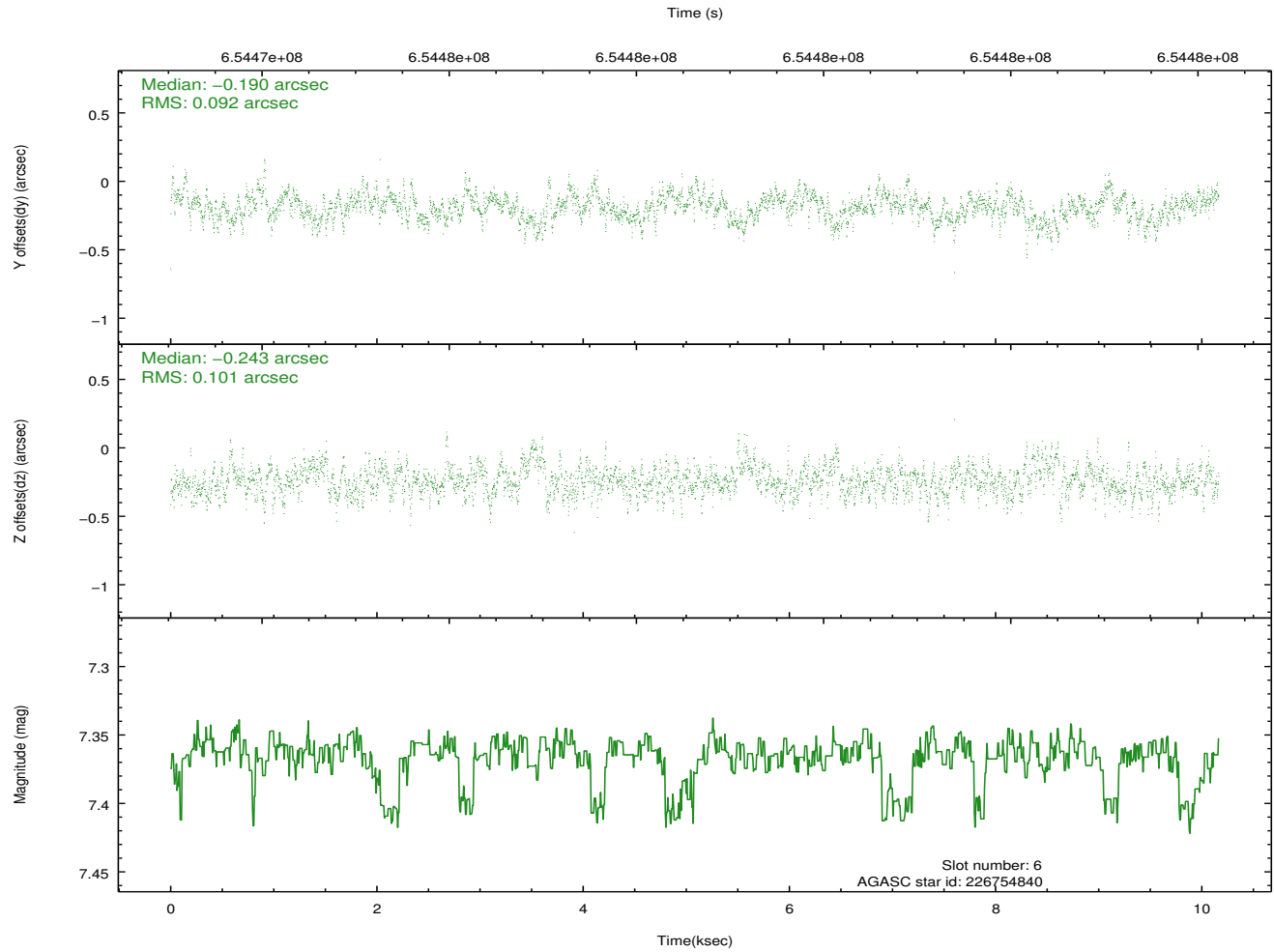
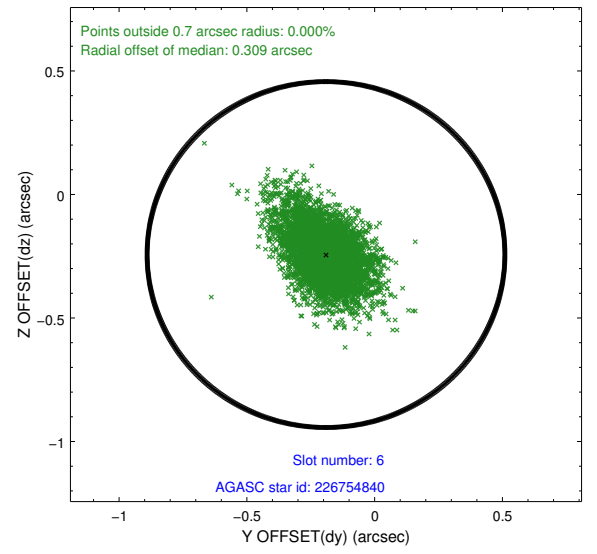
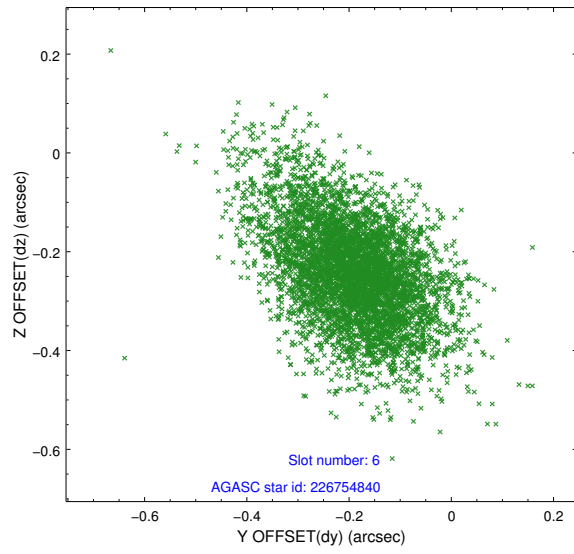
2.4.2 Slot 4



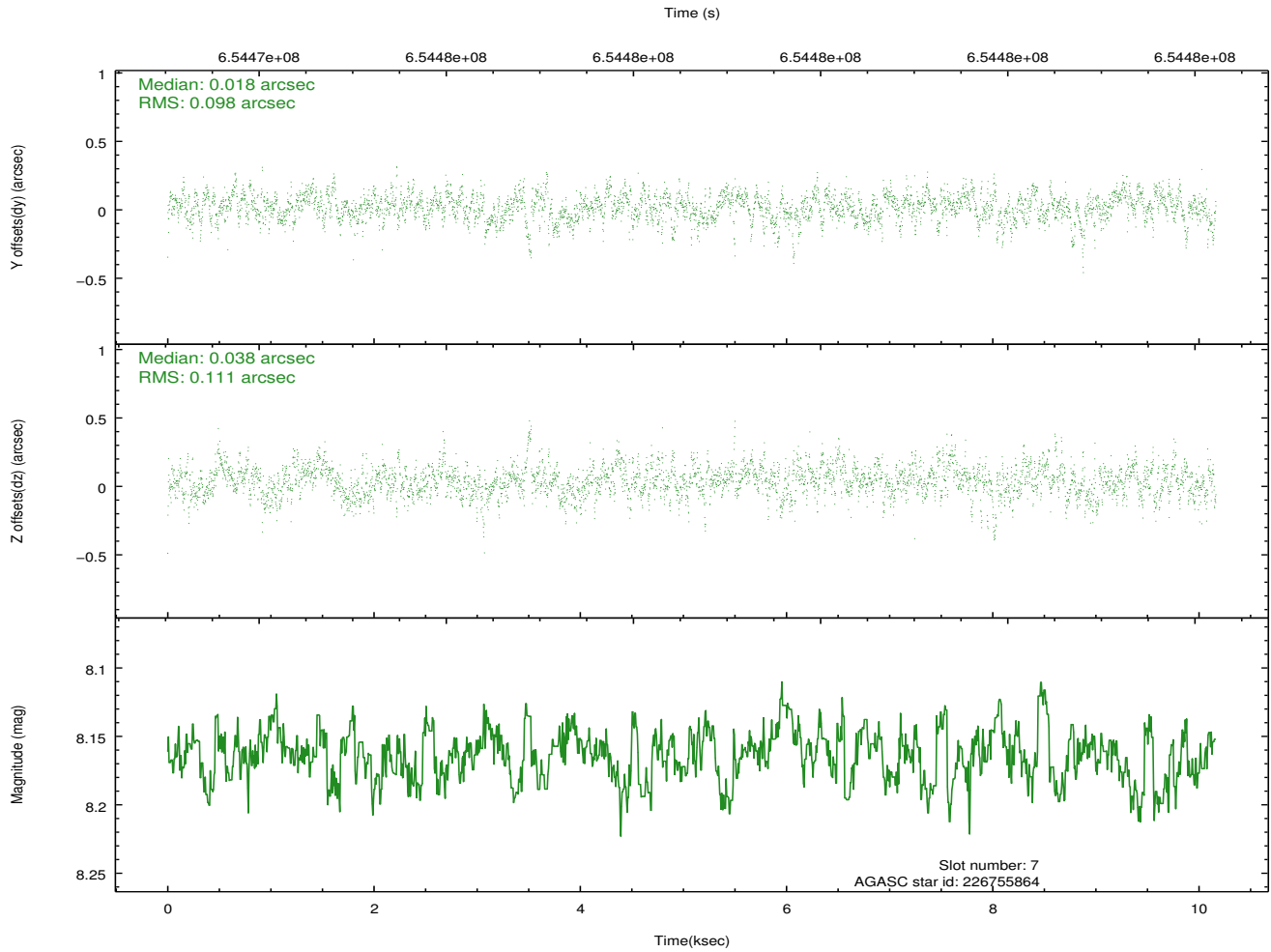
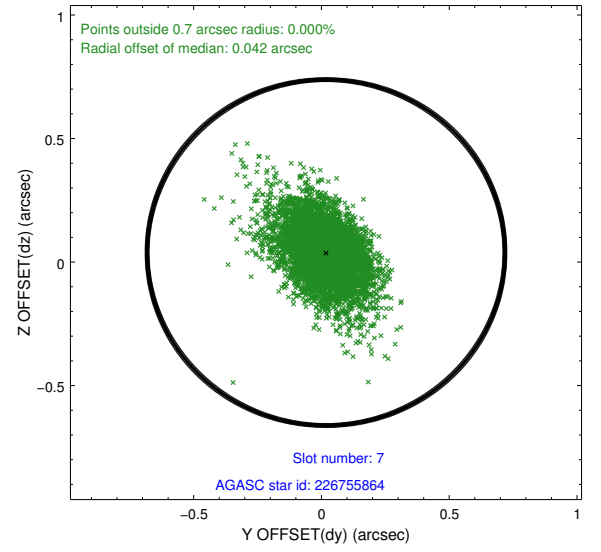
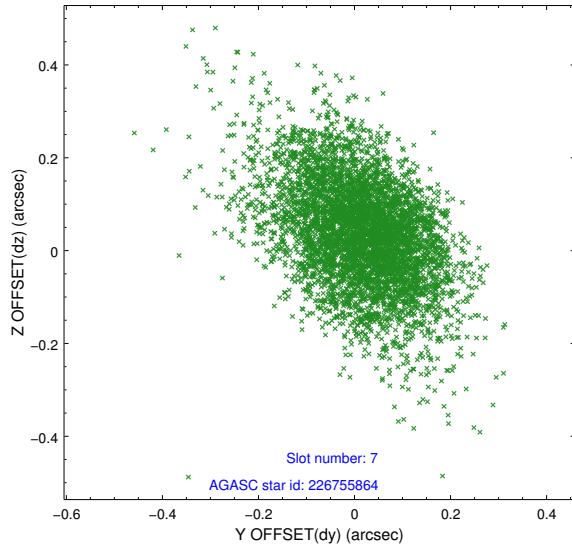
2.4.3 Slot 5



2.4.4 Slot 6

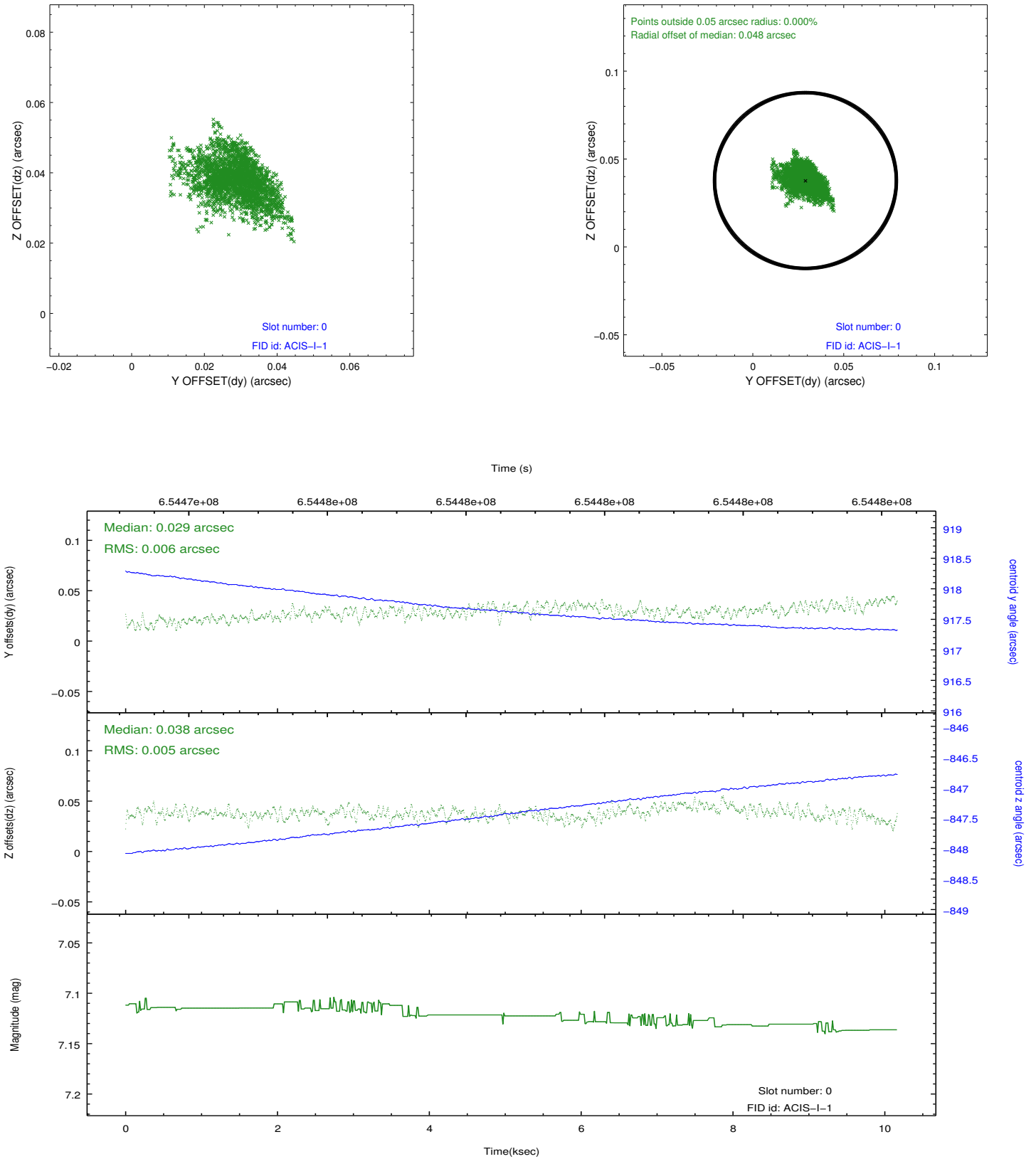


2.4.5 Slot 7

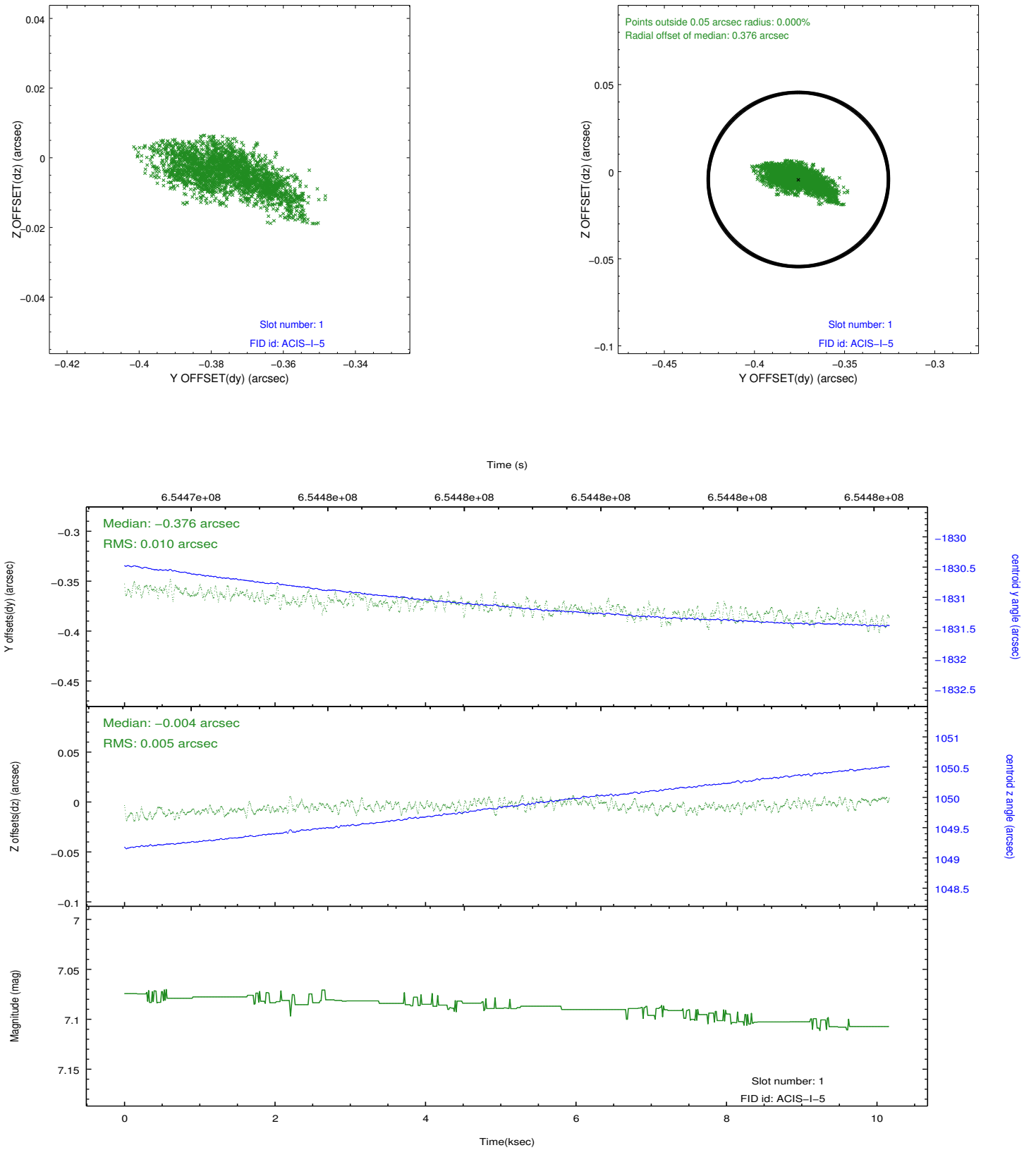


2.5 FID Slots

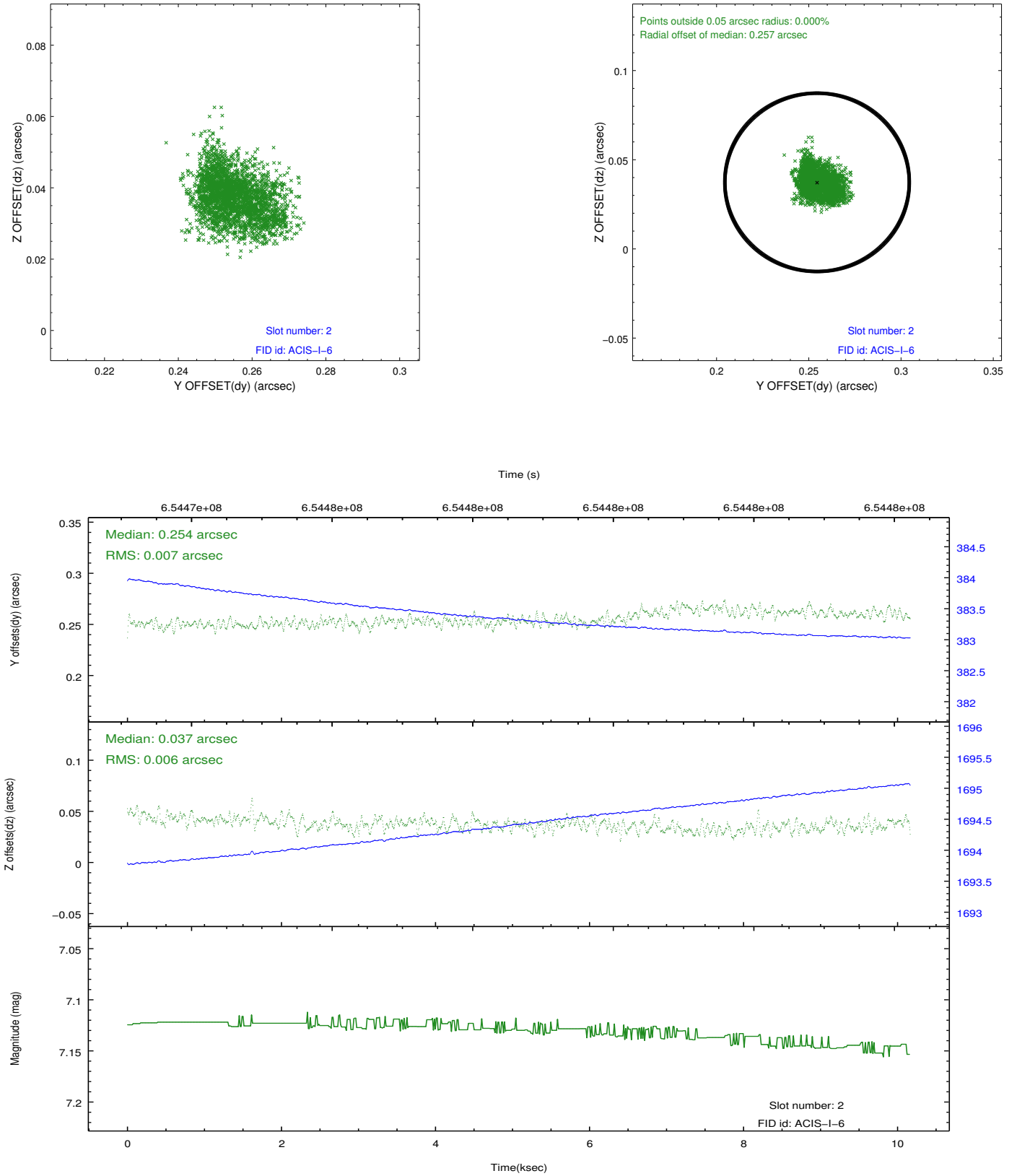
2.5.1 Slot 0



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) | 2018.09.28 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 9.9551901202202 |

A.2 Comments

Joint proposal with XMM.