

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 20020 - L2 Version 1
Chandra X-Ray Center

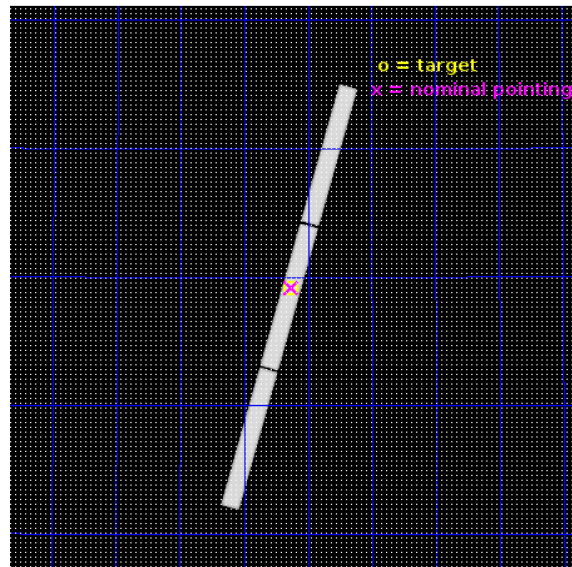
L2 Processing Date : Mar 6 2017

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1 Front

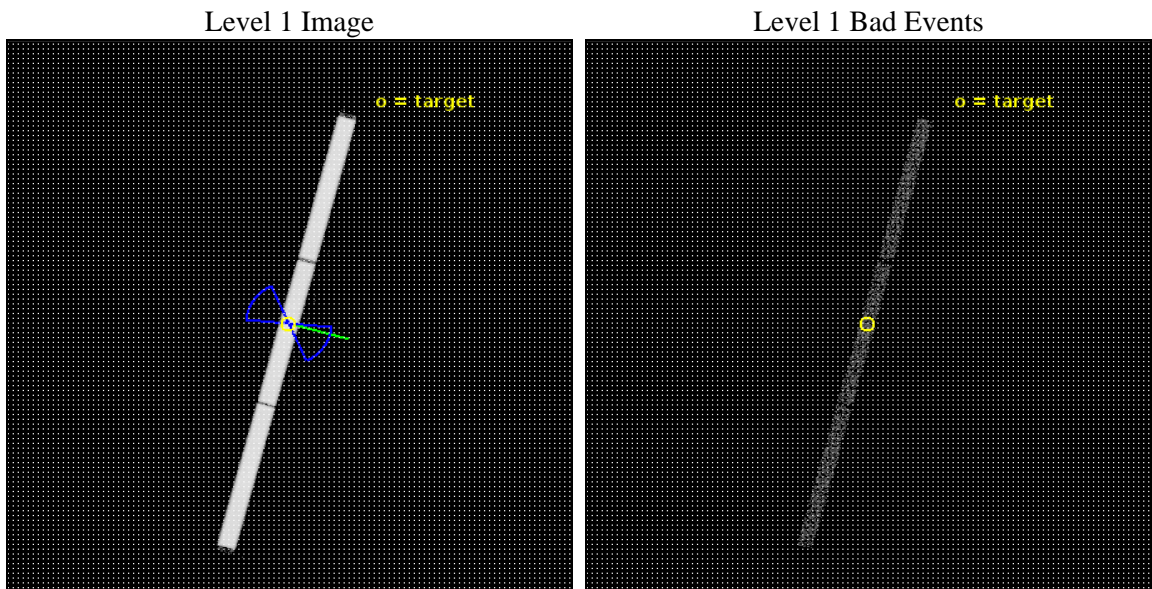
| | | |
|----------|--|---------------------------------------|
| seq_num | 201027 | Sequence number |
| obs_id | 20020 | Observation id |
| title | Can Planets Affect Coronal Abundances? | Proposal title |
| observer | Brian Wood | Principal investigator |
| object | Tau Boo | Source name |
| ra_targ | 206.815417 | Observer's specified target RA [deg] |
| dec_targ | 17.456889 | Observer's specified target Dec [deg] |
| ra_nom | 206.81454281322 | Nominal RA [deg] |
| dec_nom | 17.459086179562 | Nominal Dec [deg] |
| roll_nom | 105.06759109962 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 15122.082127452 | [s] |
| livetime | 14978.399028628 | Ontime multiplied by DTCOR |
| l2events | 1266384 | 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 | 15000.000000 | [s] Scheduled observation exposure time |
| ascdsver | 10.5.2 | Processing system revision | ontime | 15122.082127452 | [s] |
| caldsver | 4.7.3 | | l1events | 1673866 | Number of level 1 events |
| date | 2017-03-06T05:20:59 | Date and time of file creation | tgmethod | TGDETECT | Method used to create src1a file |
| revision | 1 | Processing version of data | zo_pos | (32797.80, 32713.50) | src1a sky pixel position |

2.1.3 Events

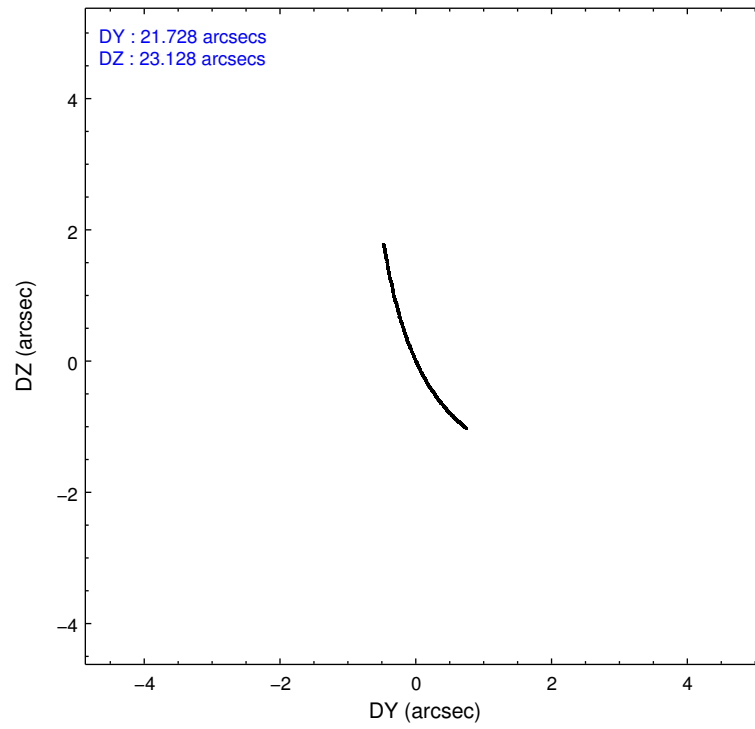
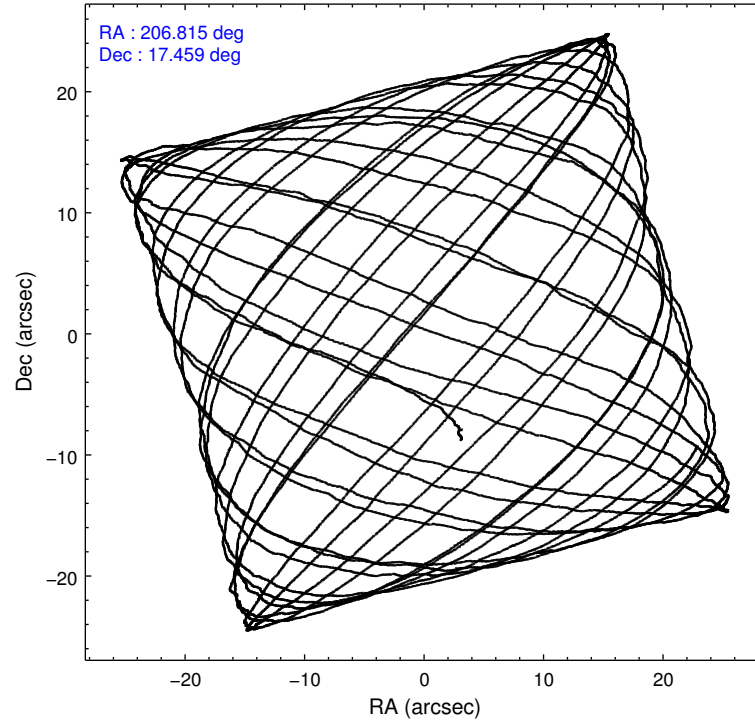
Level 1 Events

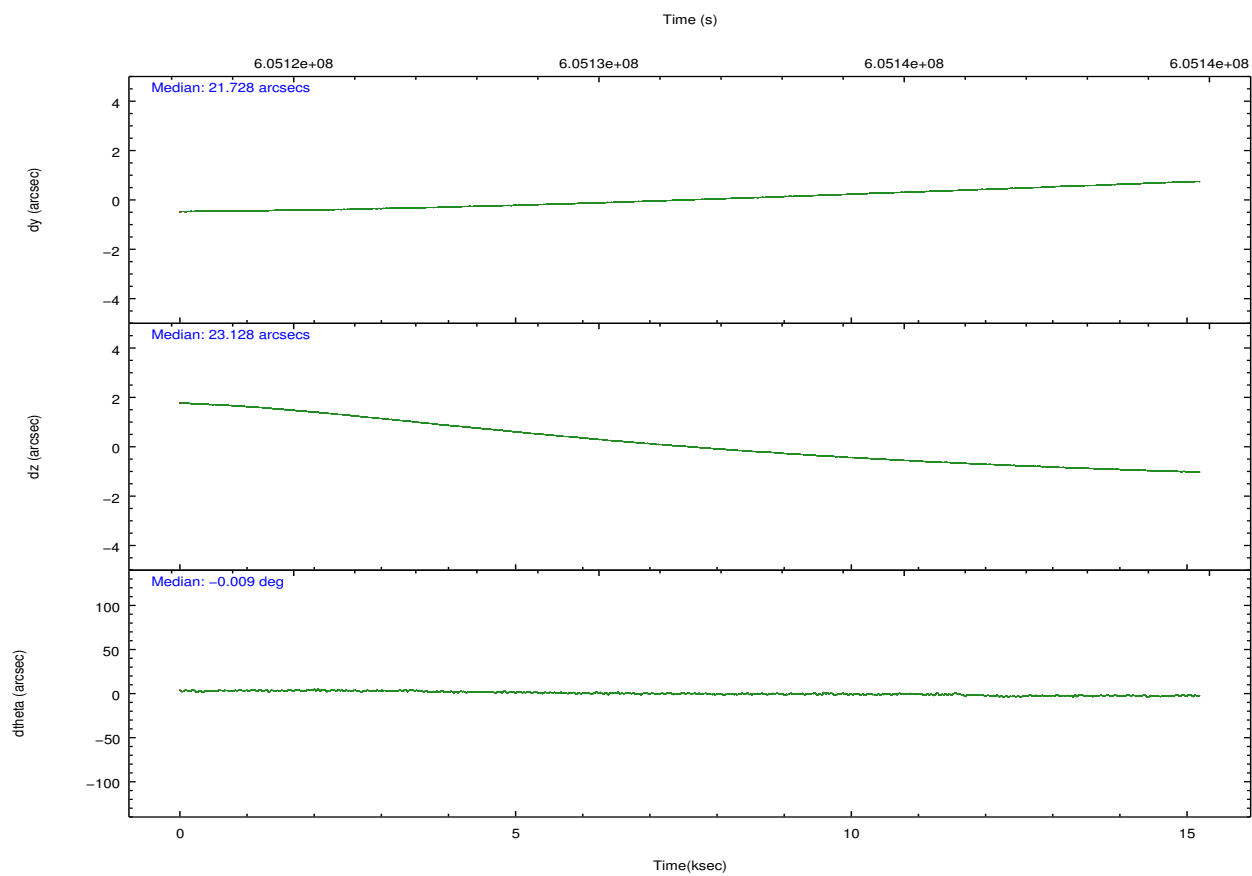
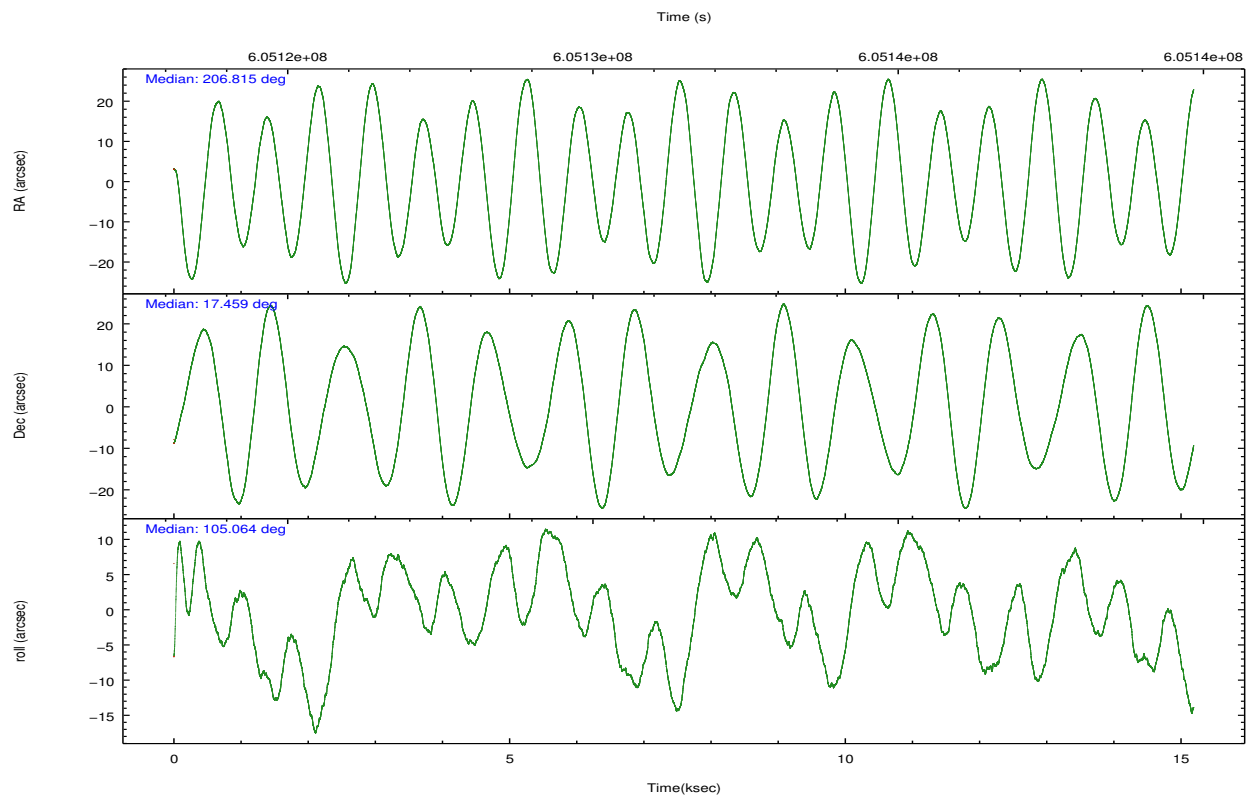
| | segment 1 | segment 2 | segment 3 |
|-----------------|--------------|--------------|--------------|
| level 1 events | 559280 | 557884 | 556702 |
| rejected events | 38369 | 38321 | 38365 |
| rejected % | 6% | 6% | 6% |

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 | 206.837048 | 206.8145428132203 | | | |
| [deg] Pointing Dec | 17.439712 | 17.45908617956156 | | | |
| [deg] Pointing Roll | 104.993520 | 105.0675910996207 | | | |
| [deg] Roll angle | 305.000000 | 305.000000 | | | |
| [deg] Roll tolerance | 30.000000 | 30.000000 | | | |
| Roll constraint allows 180D rotation | Y | Y | | | |
| [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) | 605124105.184000 | 605122874.11989 | | | |
| Observation start date | 2017-03-05T18:00:36 | 2017-03-05T17:41:14 | | | |
| [s] Observation end time (MET) | 605139105.184000 | 605140094.12089 | | | |
| Observation end date | 2017-03-05T22:10:36 | 2017-03-05T22:28:14 | | | |

2.3 Aspect



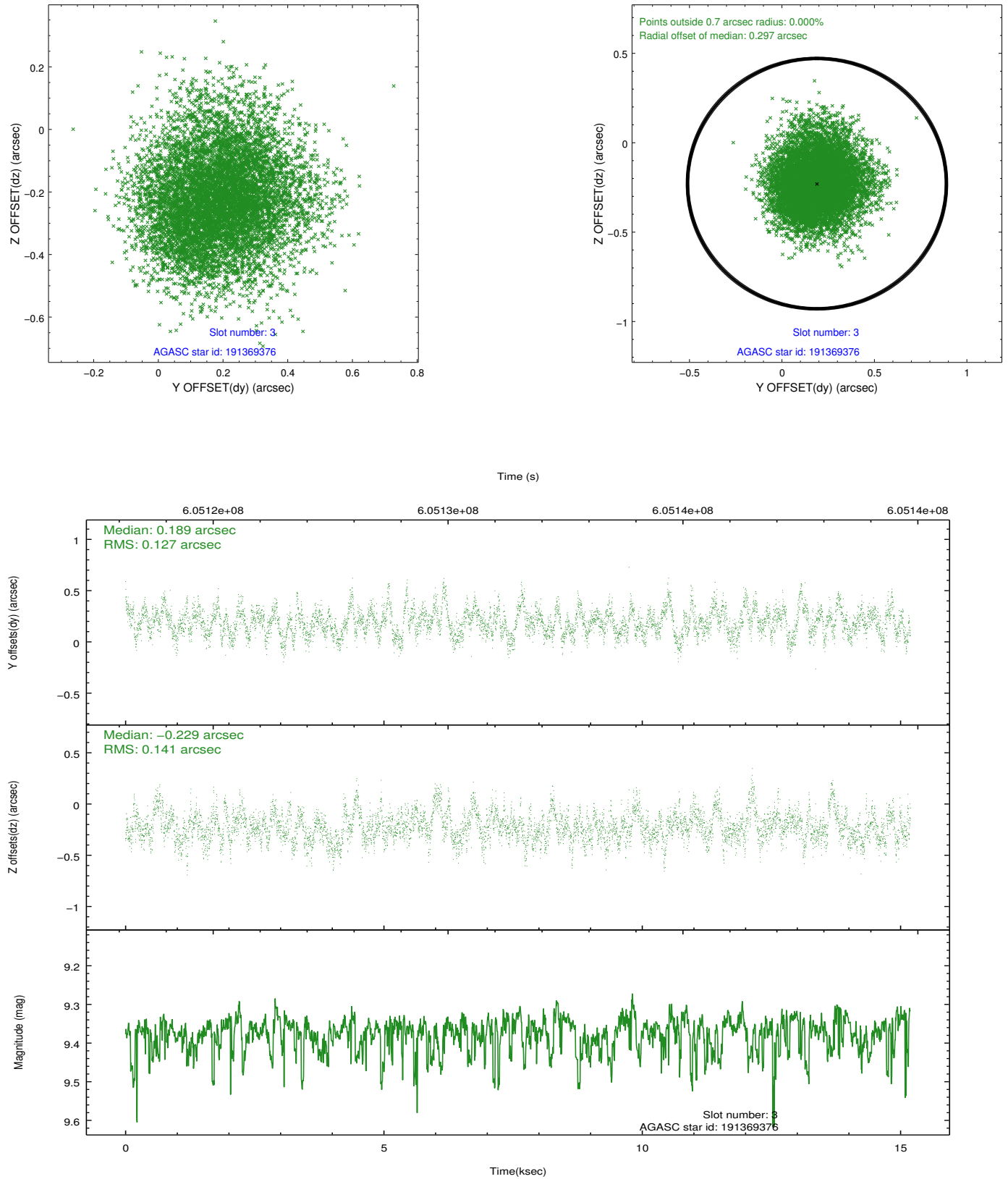


Slot Statistics

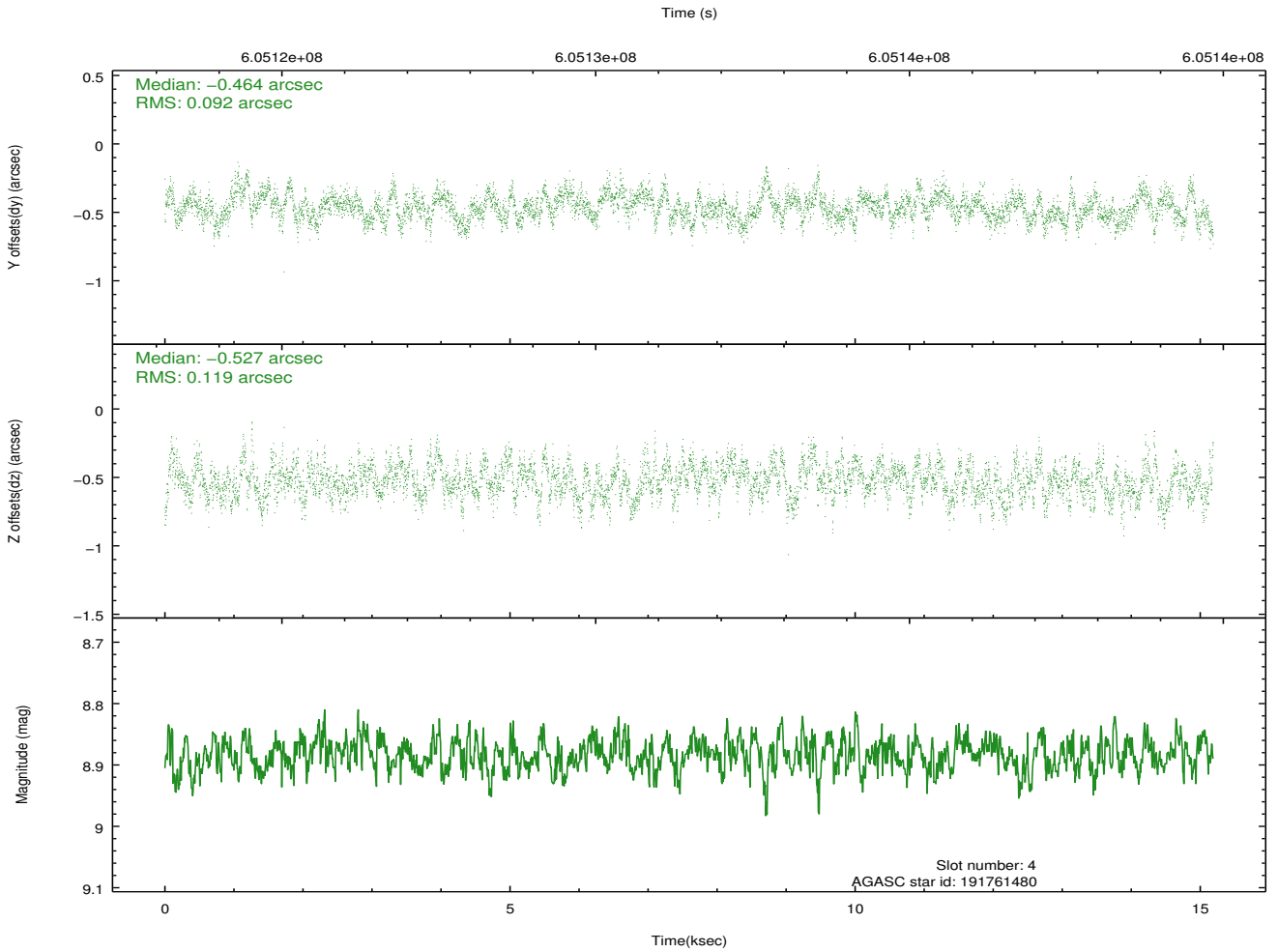
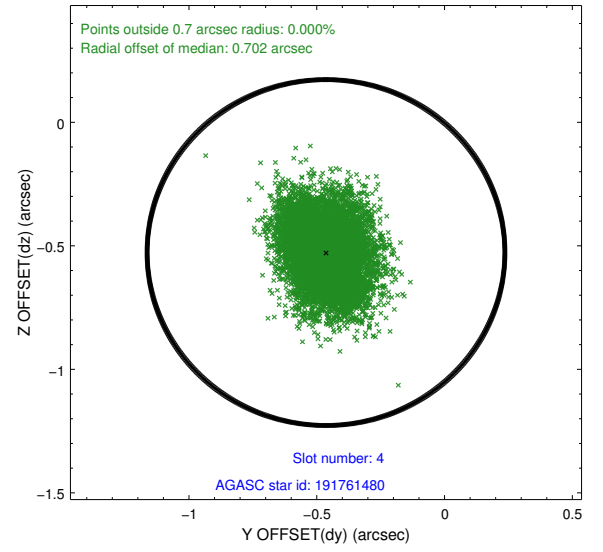
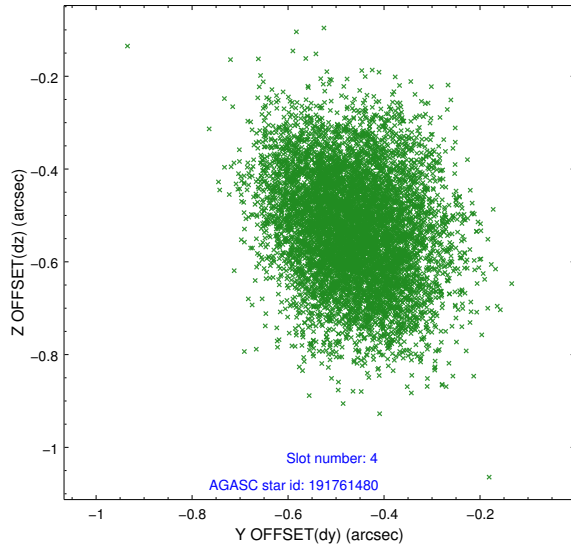
| slot | status | used | id | mag | n_pts | med_dy | med_dz | dr1 | dr2 | ra | dec | mean_y | mean_z |
|------|--------|------|-----------|------|-------|--------|--------|-------|-------|------------|-----------|----------|----------|
| 0 | FID | | HRC-S-1 | 7.07 | 3704 | -0.053 | -0.174 | 0.027 | 0.041 | 0.000000 | 0.000000 | -1176.42 | -472.54 |
| 1 | FID | | HRC-S-2 | 7.04 | 3705 | 0.415 | -0.144 | 0.008 | 0.019 | 0.000000 | 0.000000 | 1223.40 | -465.05 |
| 2 | FID | | HRC-S-3 | 7.06 | 3705 | 0.027 | 0.015 | 0.030 | 0.044 | 0.000000 | 0.000000 | -1178.83 | 557.07 |
| 3 | GUIDE | used | 191369376 | 9.37 | 7397 | 0.189 | -0.229 | 0.204 | 0.329 | 206.887864 | 16.920737 | -1849.39 | 313.98 |
| 4 | GUIDE | used | 191761480 | 8.88 | 7404 | -0.464 | -0.527 | 0.160 | 0.258 | 206.398691 | 17.742440 | 1442.88 | 1169.11 |
| 5 | GUIDE | used | 191765024 | 9.04 | 7328 | -0.011 | 0.097 | 0.161 | 0.266 | 207.333670 | 17.693483 | 444.95 | -1880.82 |
| 6 | GUIDE | used | 191766032 | 8.13 | 7406 | -0.072 | 0.176 | 0.138 | 0.231 | 207.355598 | 17.879340 | 1072.27 | -2125.93 |
| 7 | GUIDE | used | 191366584 | 9.58 | 7398 | 0.348 | 0.476 | 0.273 | 0.414 | 207.678300 | 17.016937 | -2213.16 | -2405.19 |

2.4 Star Slots

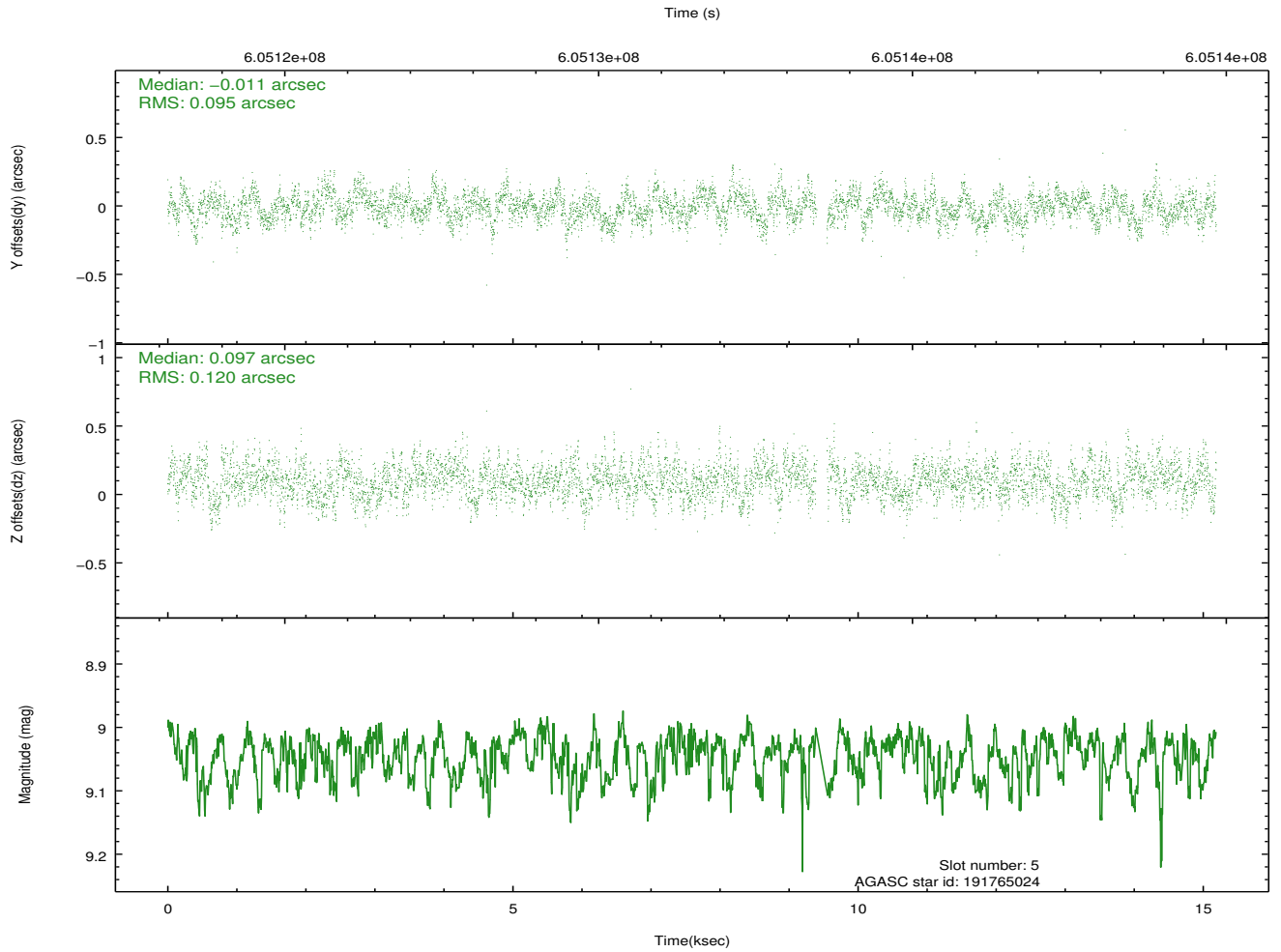
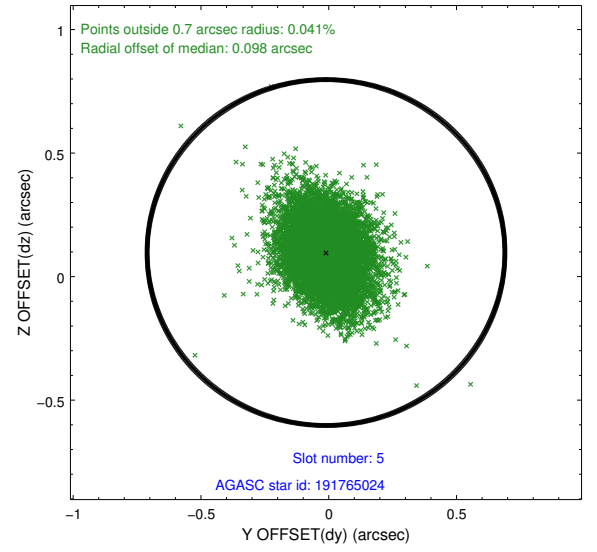
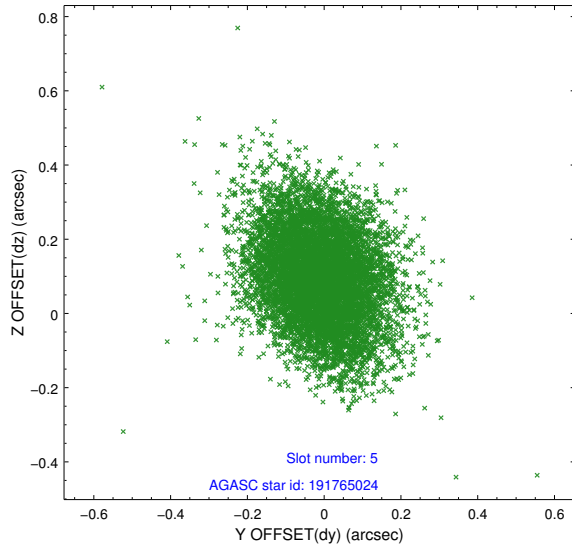
2.4.1 Slot 3



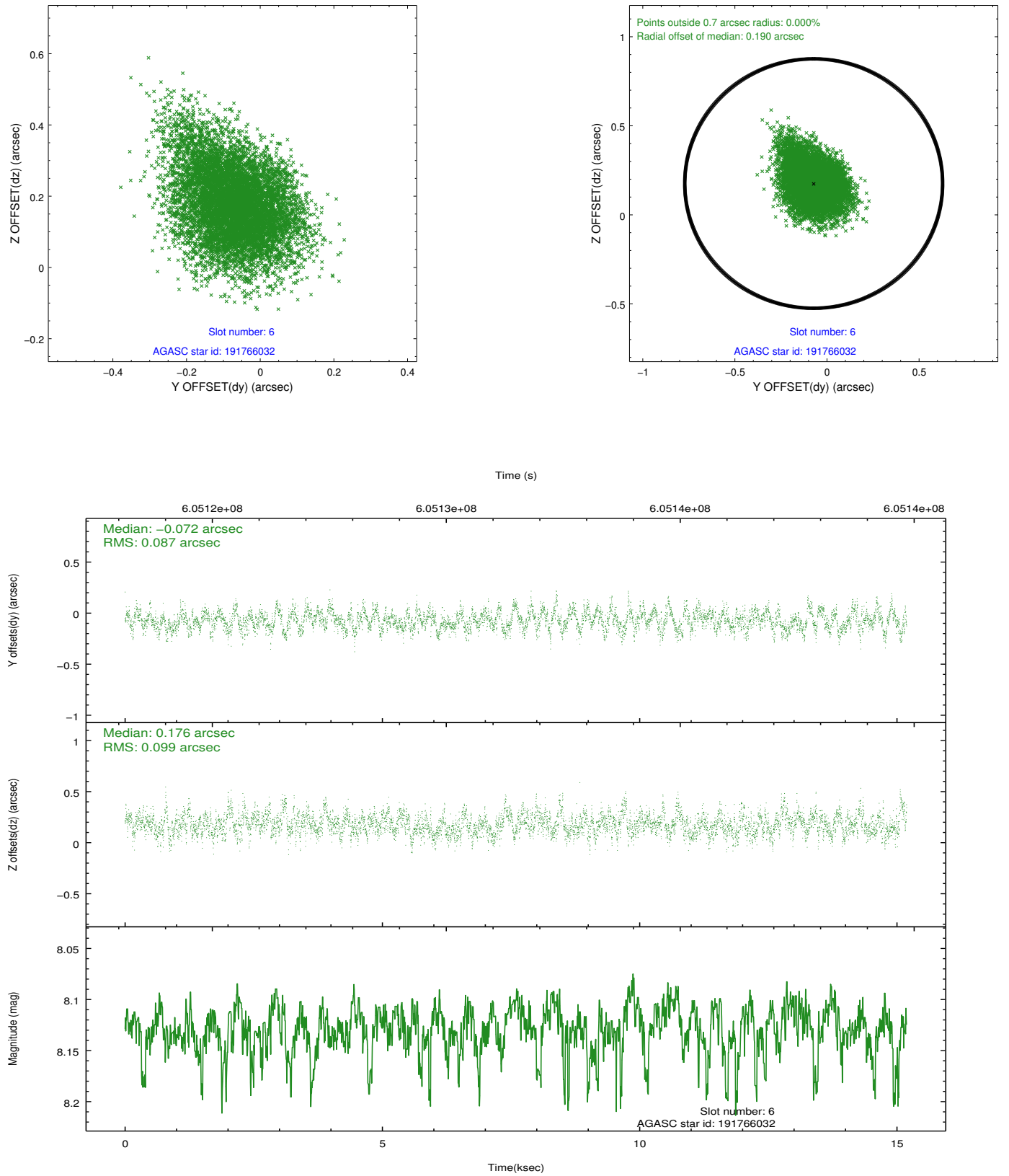
2.4.2 Slot 4



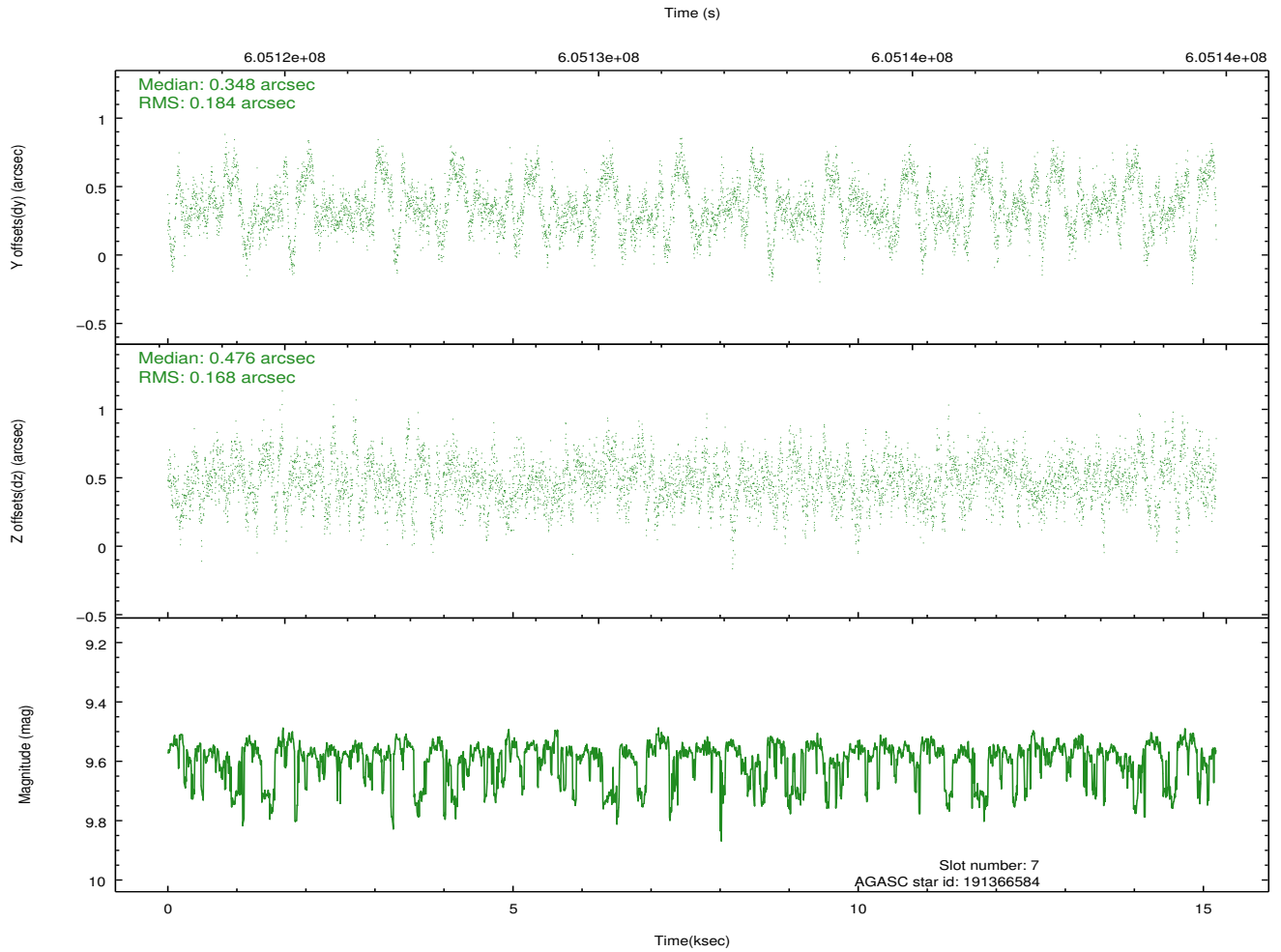
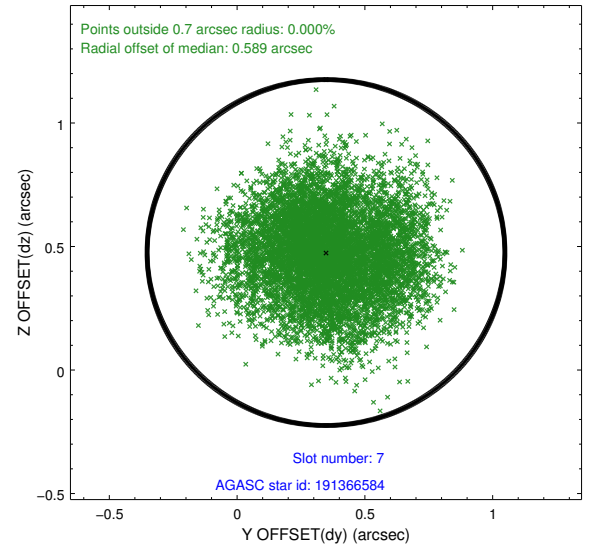
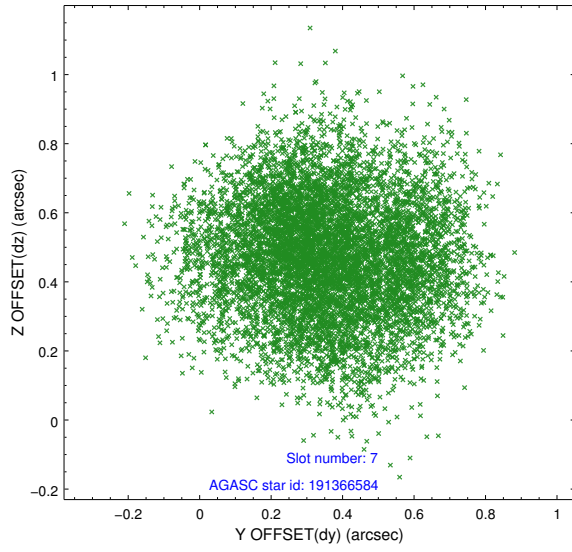
2.4.3 Slot 5



2.4.4 Slot 6

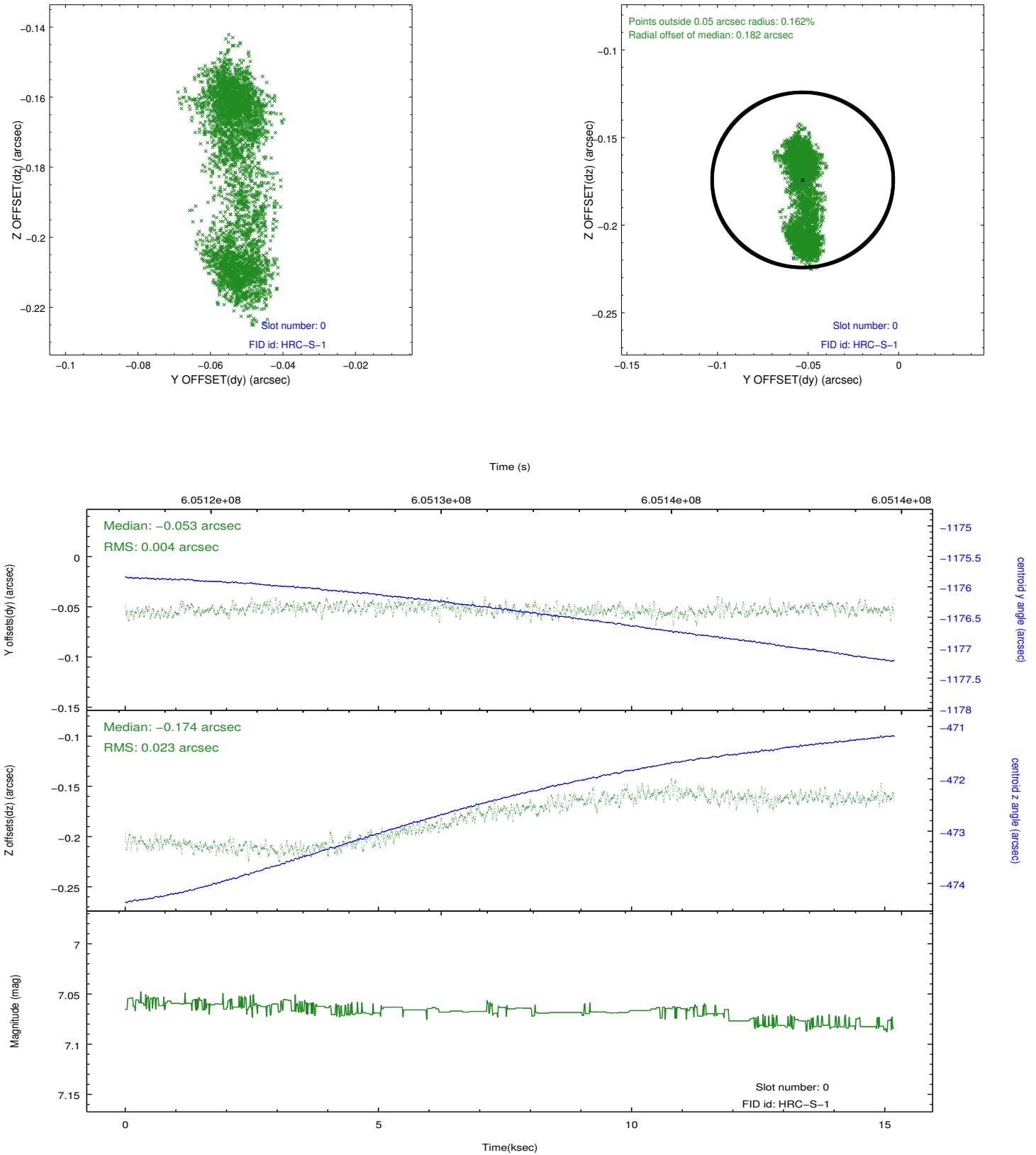


2.4.5 Slot 7

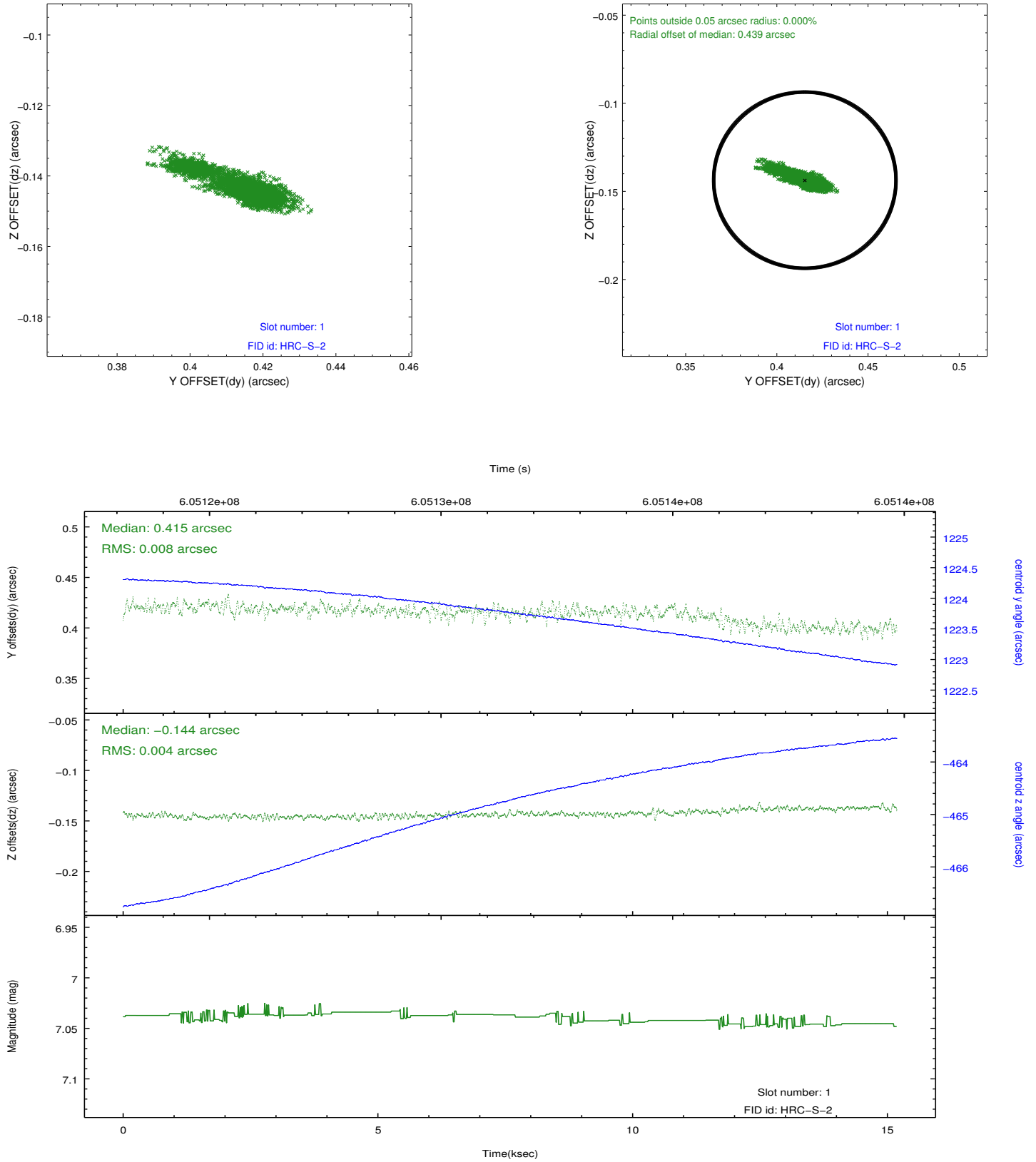


2.5 FID Slots

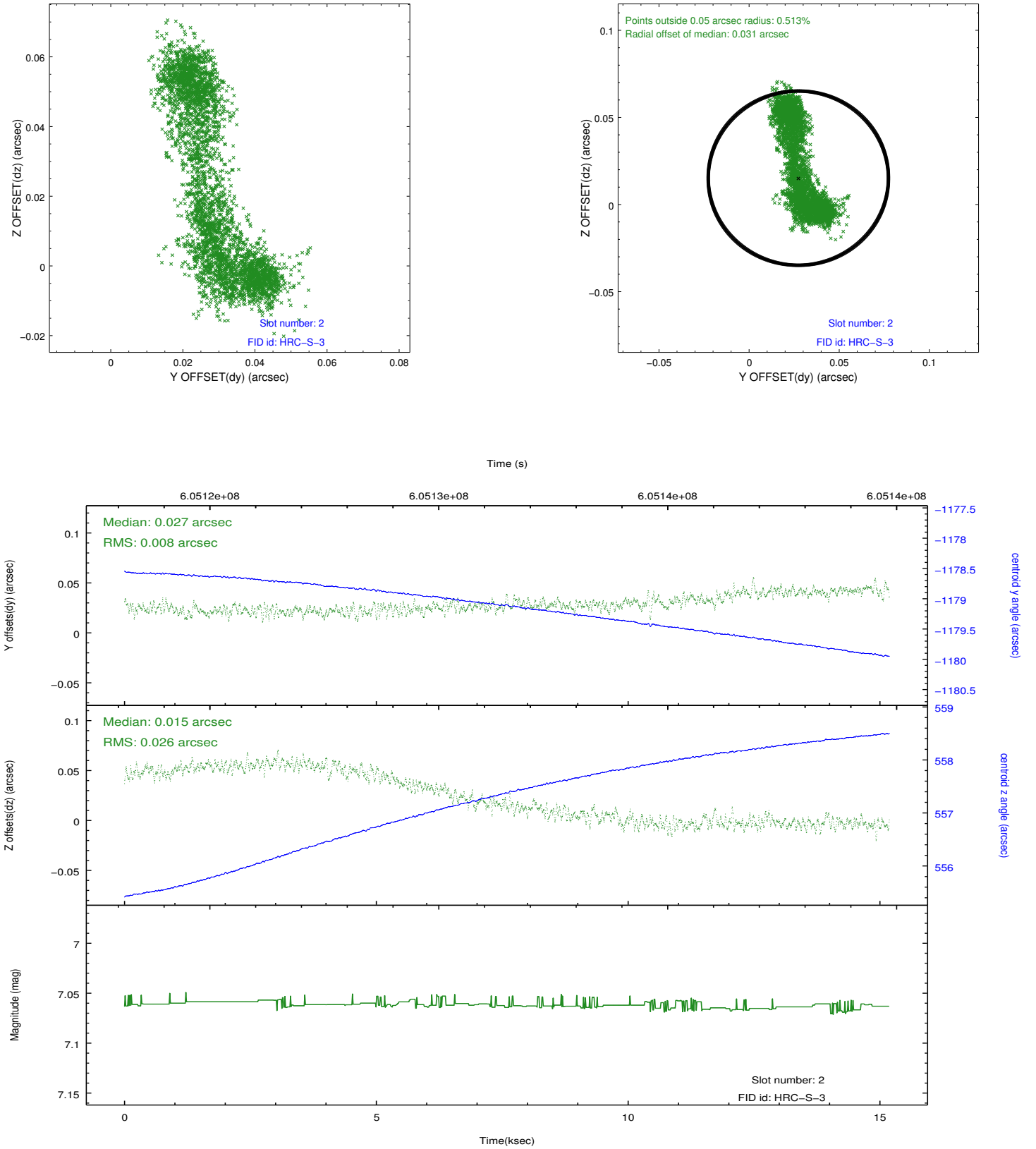
2.5.1 Slot 0



2.5.2 Slot 1

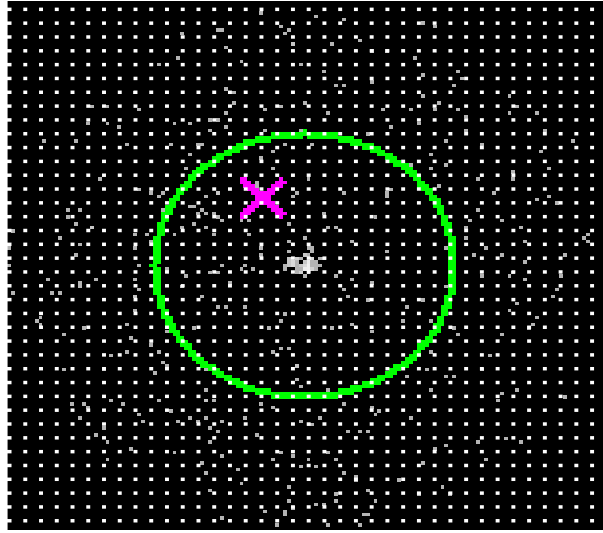


2.5.3 Slot 2

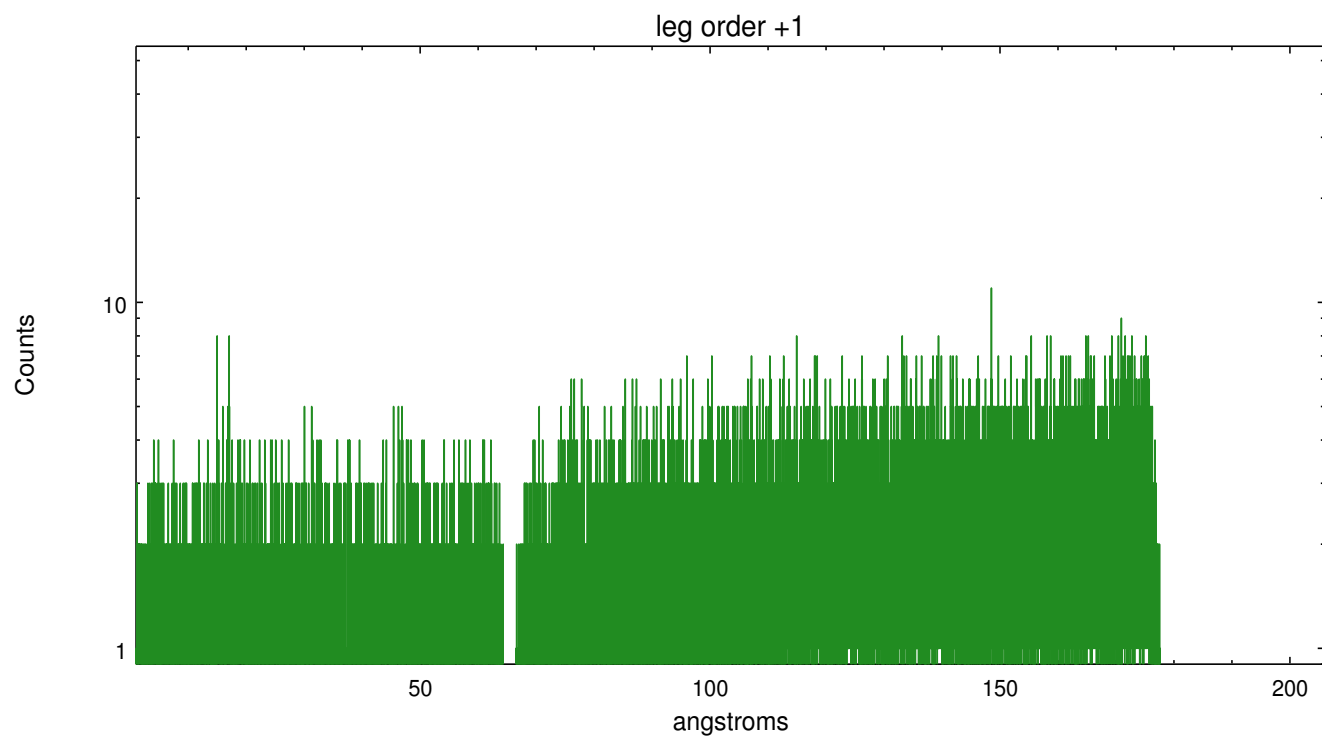
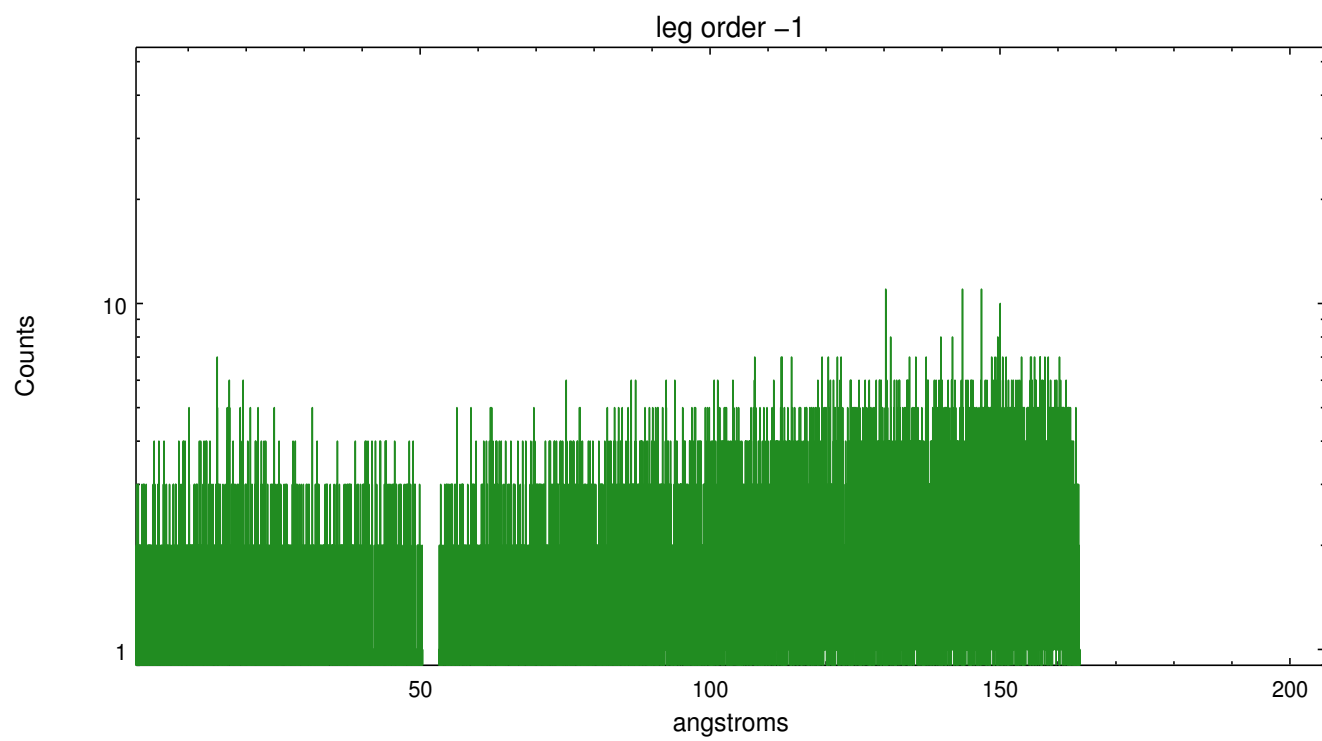


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

| | |
|----------------------------|-----------------|
| V&V Scientist | Joy Nichols |
| V&V Date (YYYY-MM-DD) | 2017.03.06 |
| V&V Edition | 1 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 15.122082127452 |

A.2 Comments

Roll constraint met.

===

Zeroth order selected by pipeline tools is not well-centered on the brighter source, which is extended. The user may want to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events.

===

WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.

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Due to corruption of the secondary science data near the end of this observation, some instrument parameters have bogus values. PLEASE NOTE: All the event data in this observation are good. The short gaps in the GTI intervals can be eliminated (i.e., use the first START and last STOP). THE DTF values during this observation can be estimated by dropping all the low values and averaging the remaining values near 1.0.