V&V Reference Report
L2 ASCDS Version : 8.4.5

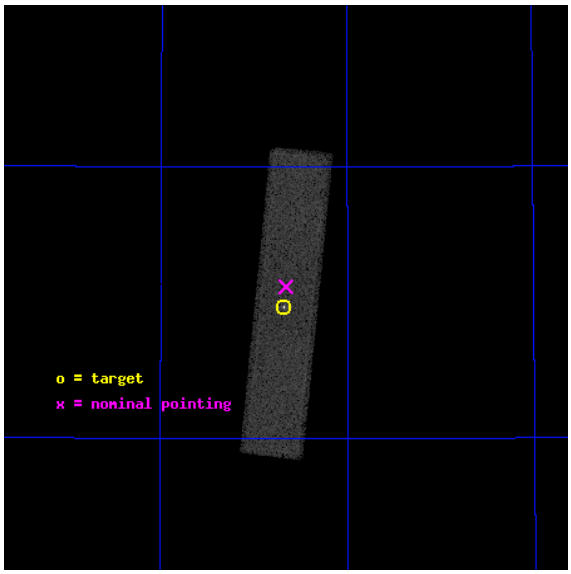
Observation 2436 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Sep 18 2012

Contents

1 Front

seq_num	290078	Sequence number
obs_id	2436	Observation id
title	HRC-I CALIBRATION OBSERVATIONS OF ARLAC	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	ARLAC	Source name
ra_targ	332.17	Observer's specified target RA [deg]
dec_targ	45.742306	Observer's specified target Dec [deg]
ra_nom	332.16496368396	Nominal RA [deg]
dec_nom	45.779682249605	Nominal Dec [deg]
roll_nom	95.663182757841	Nominal Roll [deg]
revision	5	Processing version of data
ontime	1376.8313034922	[s]
livetime	1368.786752883	Ontime multiplied by DTCOR
l2events	56243	Number of level 2 events

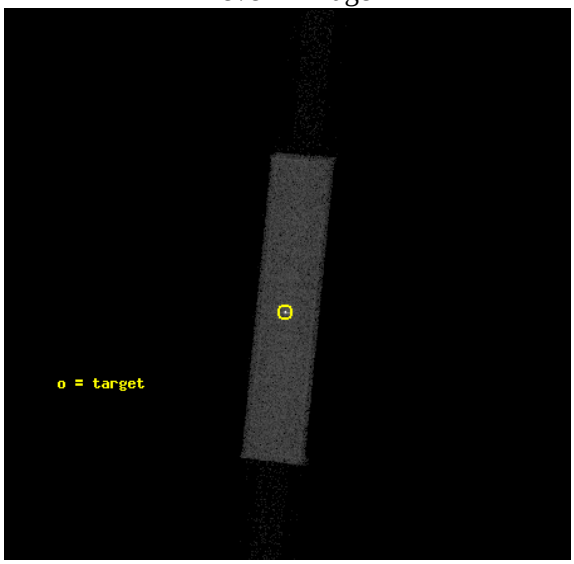


2 OBI

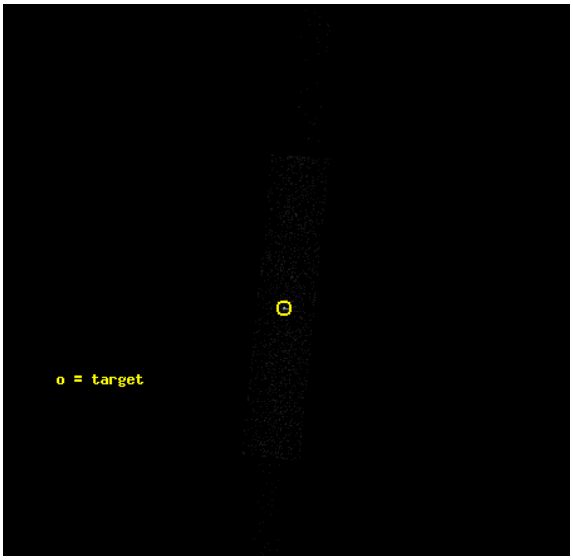
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	0	Obi number
ascdsver	8.4.5	Processing system revision
caldbver	4.5.1.1	
date	2012-09-18T22:54:16	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	1234.000000	[s] Scheduled observation exposure time
ontime	1376.8313034922	[s]
l1events	86280	Number of level 1 events

2.1.3 Events

Level 1 Events

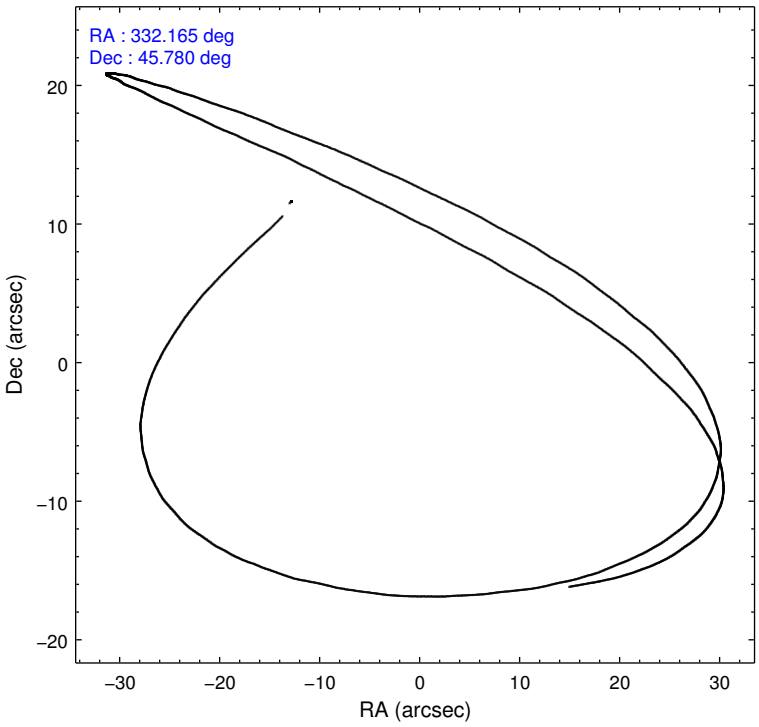
	segment 1	**segment 2**	**segment 3**
level 1 events	1059	84103	1118
rejected events	1059	15936	1118
rejected %	100%	18%	100%

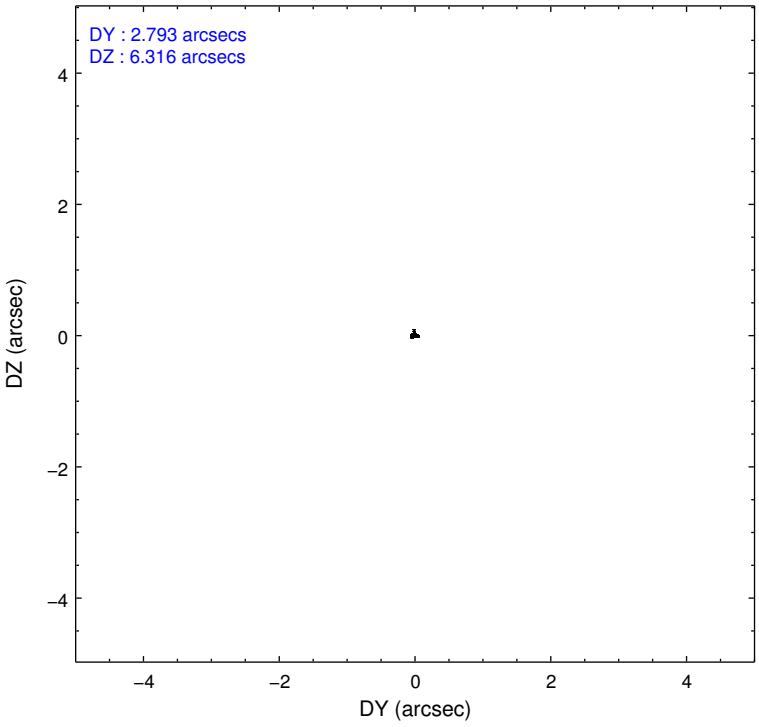
2.2 Compared Parameters

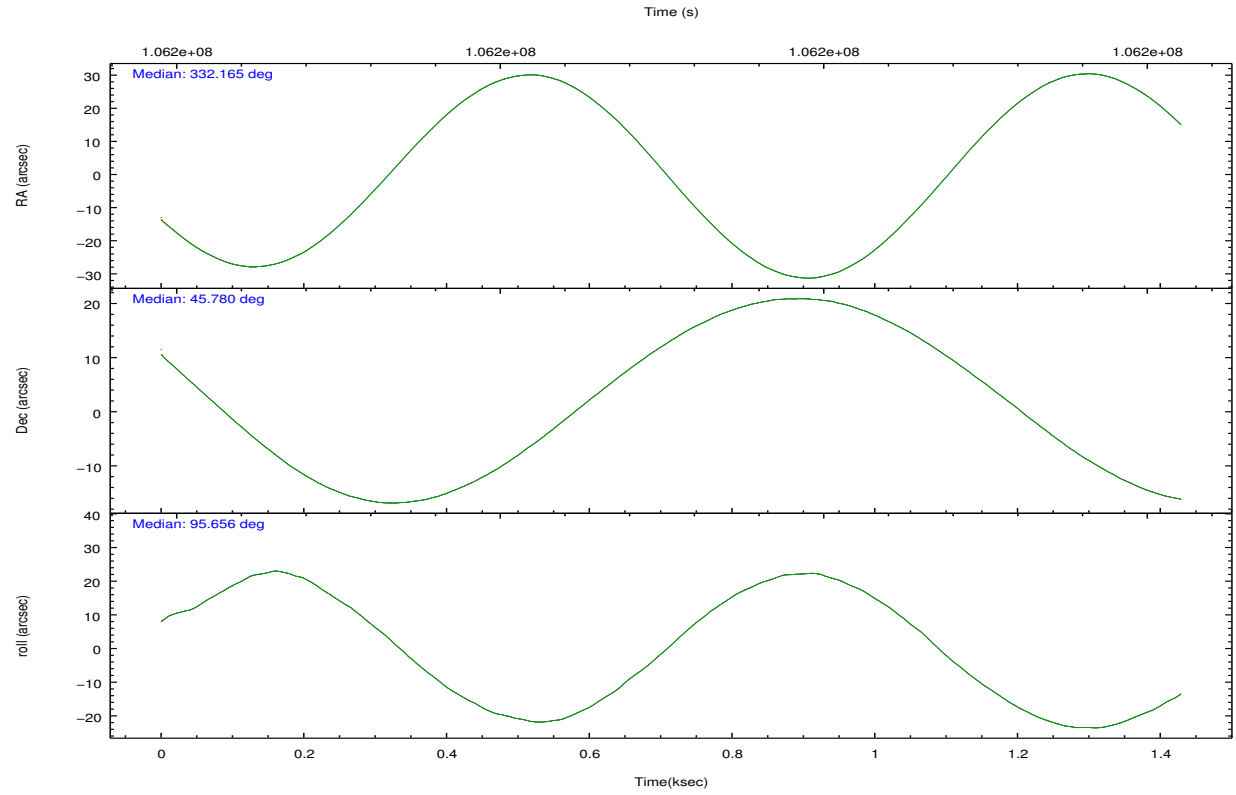
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	332.190400	332.1649636839605
[deg] Pointing Dec	45.757763	45.77968224960487
[deg] Pointing Roll	95.577620	95.66318275784137
[mm] SIM focus 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)	106195243.184000	106194866.83296
Observation start date	2001-05-14T02:39:39	2001-05-14T02:34:26
[s] Observation end time (MET)	106196477.184000	106196610.87052
Observation end date	2001-05-14T03:00:13	2001-05-14T03:03:30

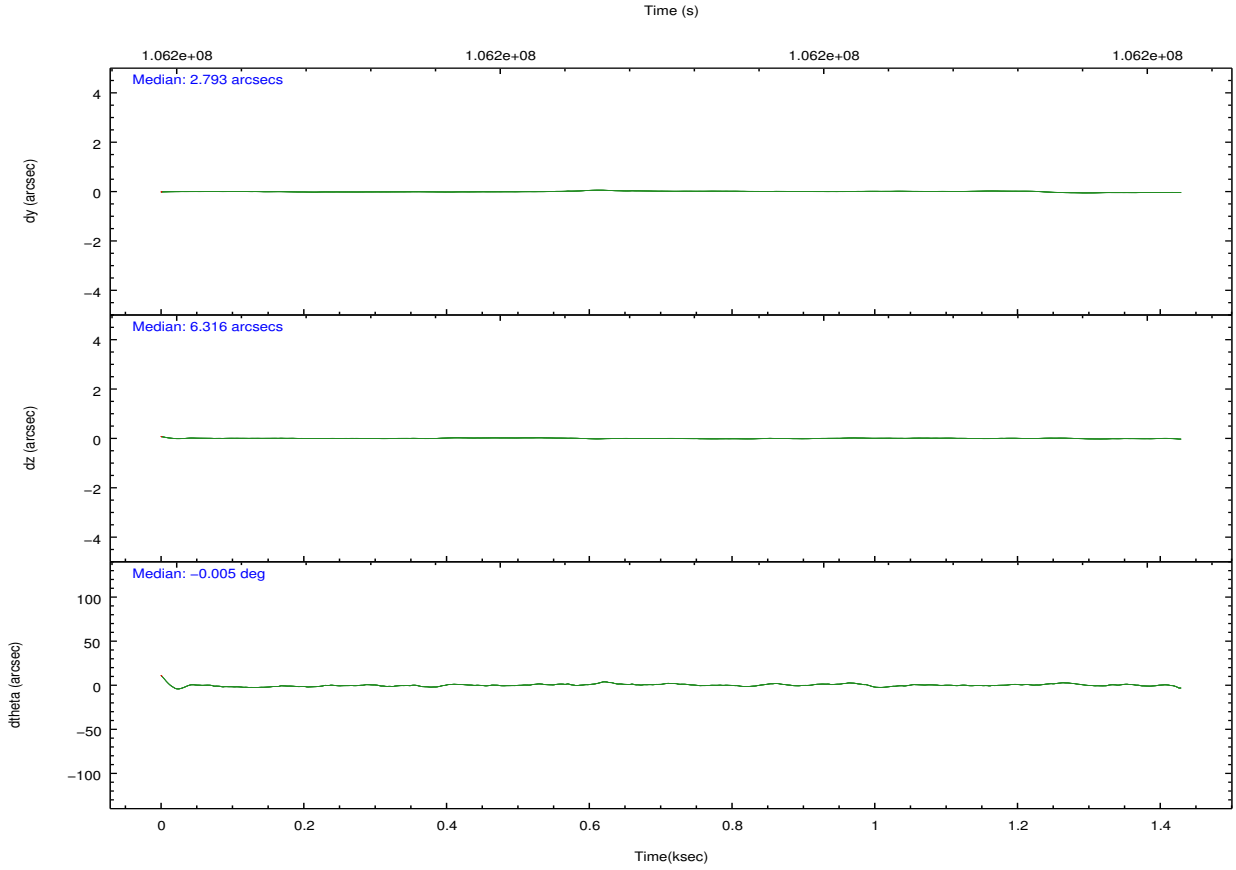
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.165 deg
Dec : 45.780 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−30
−20
−10
0
10
20
30


DY : 2.793 arcsecs
DZ : 6.316 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.062e+08
1.062e+08
1.062e+08
1.062e+08
Median: 332.165 deg
RA (arcsec)
Median: 45.780 deg
Dec (arcsec)
Median: 95.656 deg
roll (arcsec)
Time(ksec)

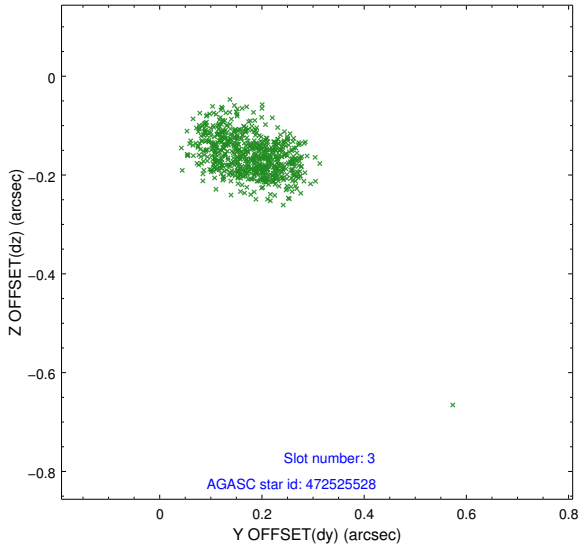

Time (s)
1.062e+08
1.062e+08
1.062e+08
1.062e+08
Median: 2.793 arcsecs
dy (arcsec)
Median: 6.316 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

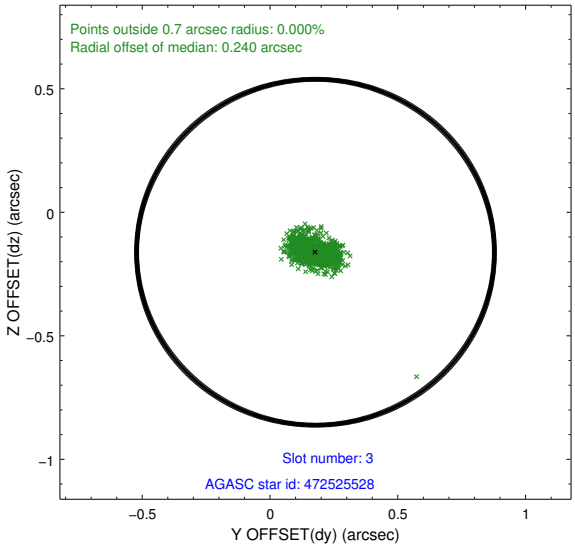
Slot Statistics

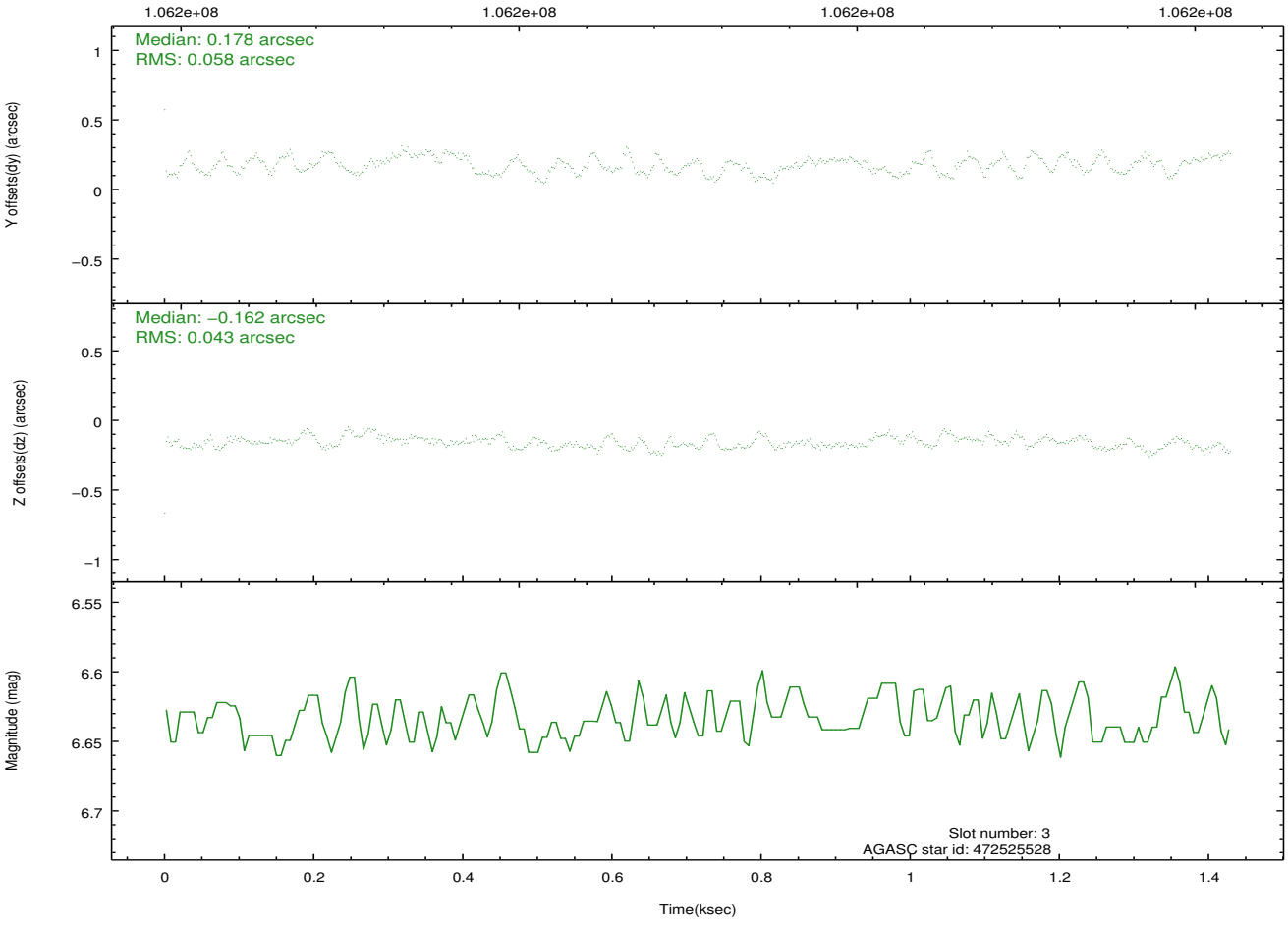
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.97	349	0.109	-0.115	0.006	0.010	0.000000	0.000000	-1156.83	-454.88
1	FID	HRC-S-3	7.00	349	0.148	-0.091	0.008	0.013	0.000000	0.000000	-1162.87	573.37
2	FID	HRC-S-4	6.93	349	0.131	-0.091	0.005	0.009	0.000000	0.000000	1238.08	578.96
3	GUIDE	472525528	6.64	698	0.178	-0.162	0.075	0.112	331.551102	45.248694	-1658.51	1789.23
4	GUIDE	472527720	7.00	698	0.160	-0.080	0.092	0.140	331.460205	45.112509	-2124.11	2073.01
5	GUIDE	472535576	7.85	698	-0.163	-0.114	0.046	0.073	331.438373	46.291802	2102.31	1676.77
6	GUIDE	472665256	9.00	698	-0.103	0.240	0.071	0.116	332.808125	46.195041	1427.90	-1683.37
7	GUIDE	472659832	9.46	696	-0.067	0.121	0.088	0.141	332.780399	46.098139	1085.68	-1588.19

2.4 Star Slots

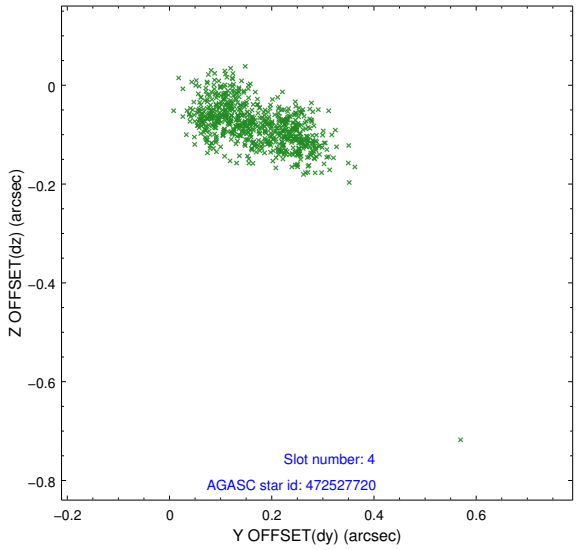
2.4.1 Slot 3

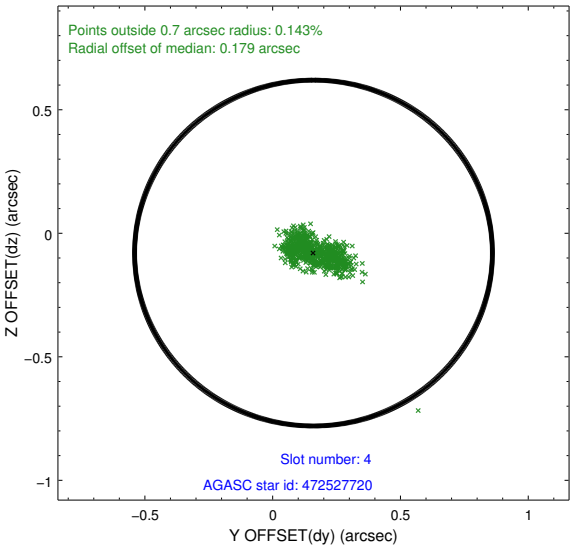


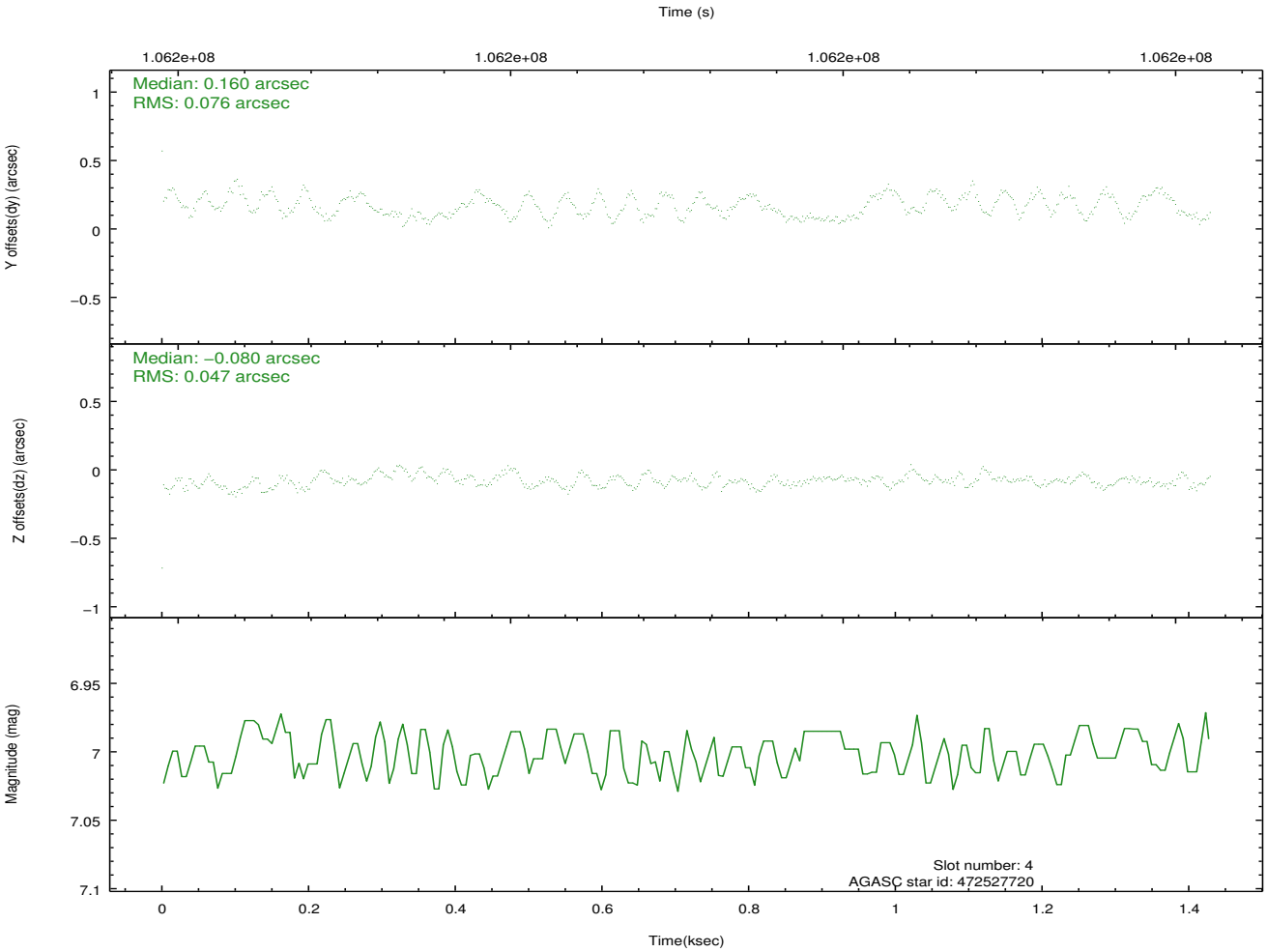




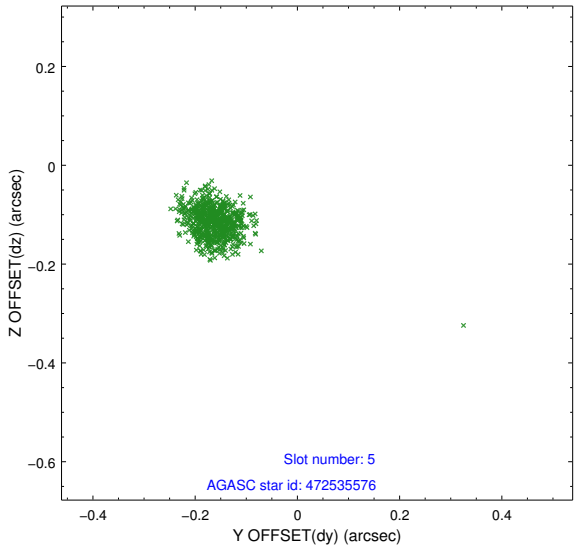
2.4.2 Slot 4

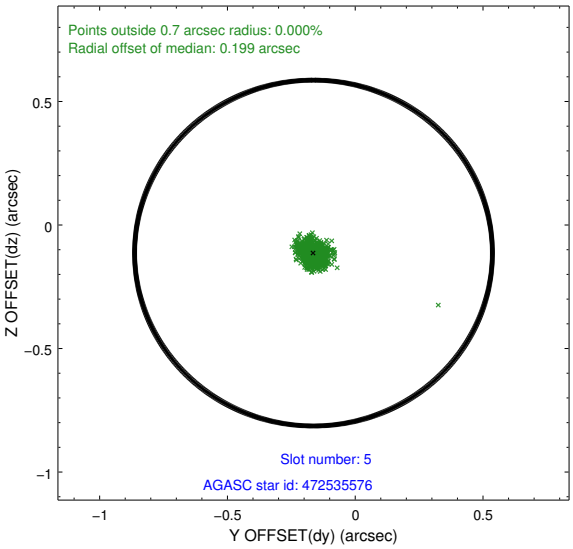

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472527720

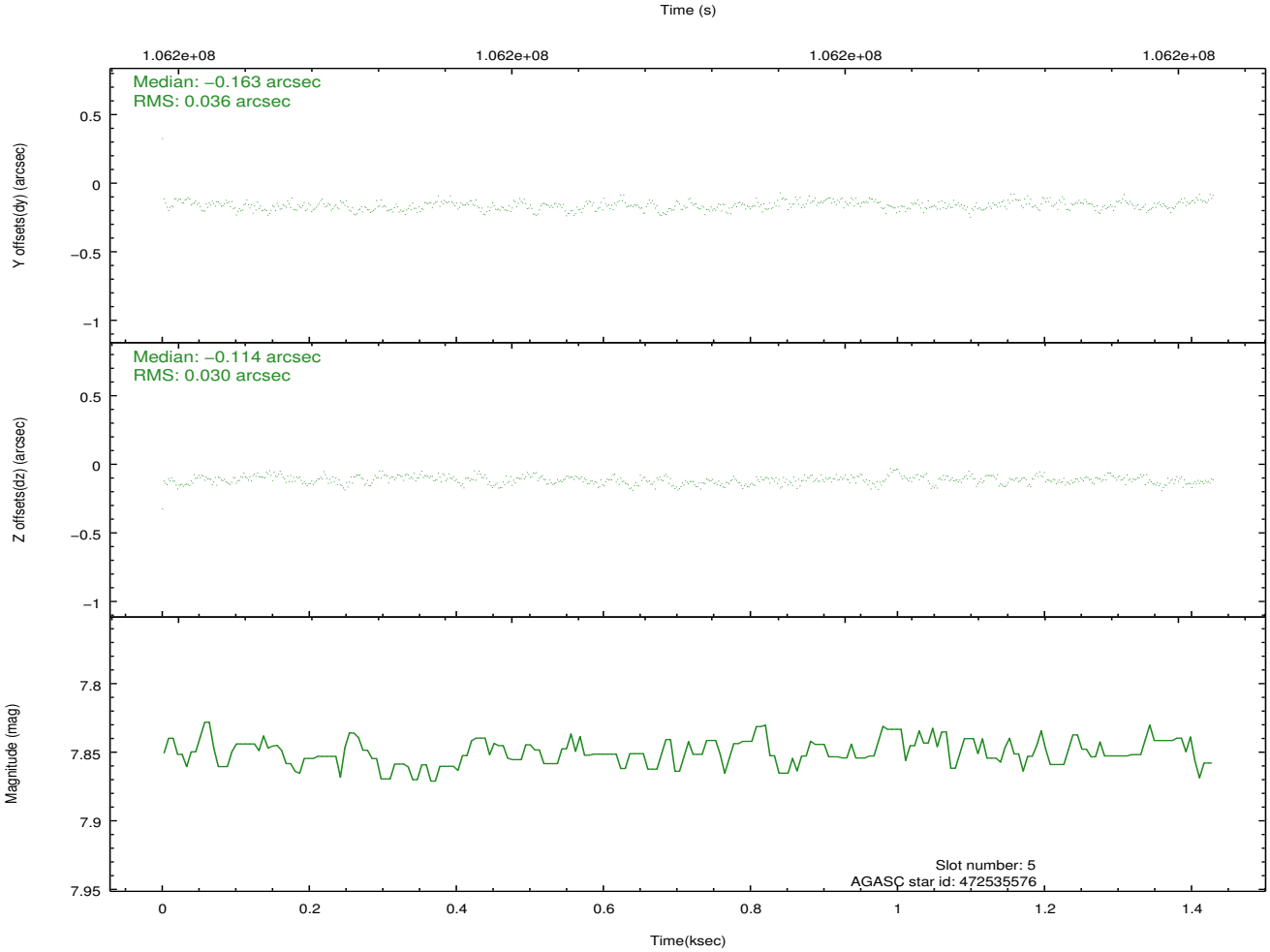

Points outside 0.7 arcsec radius: 0.143%
Radial offset of median: 0.179 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472527720


Time (s)
1.062e+08
Median: 0.160 arcsec
RMS: 0.076 arcsec
Y offsets(dy) (arcsec)
Median: −0.080 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 472527720
Time(ksec)

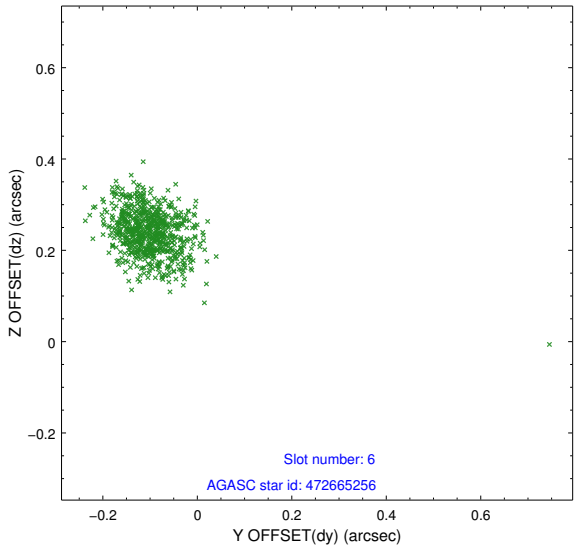
2.4.3 Slot 5

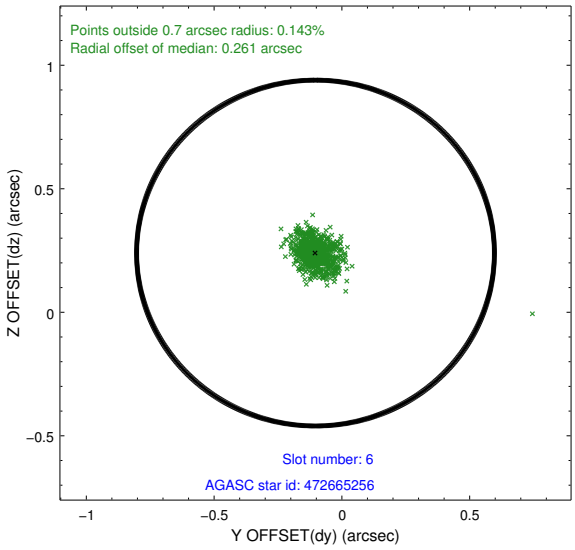

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472535576

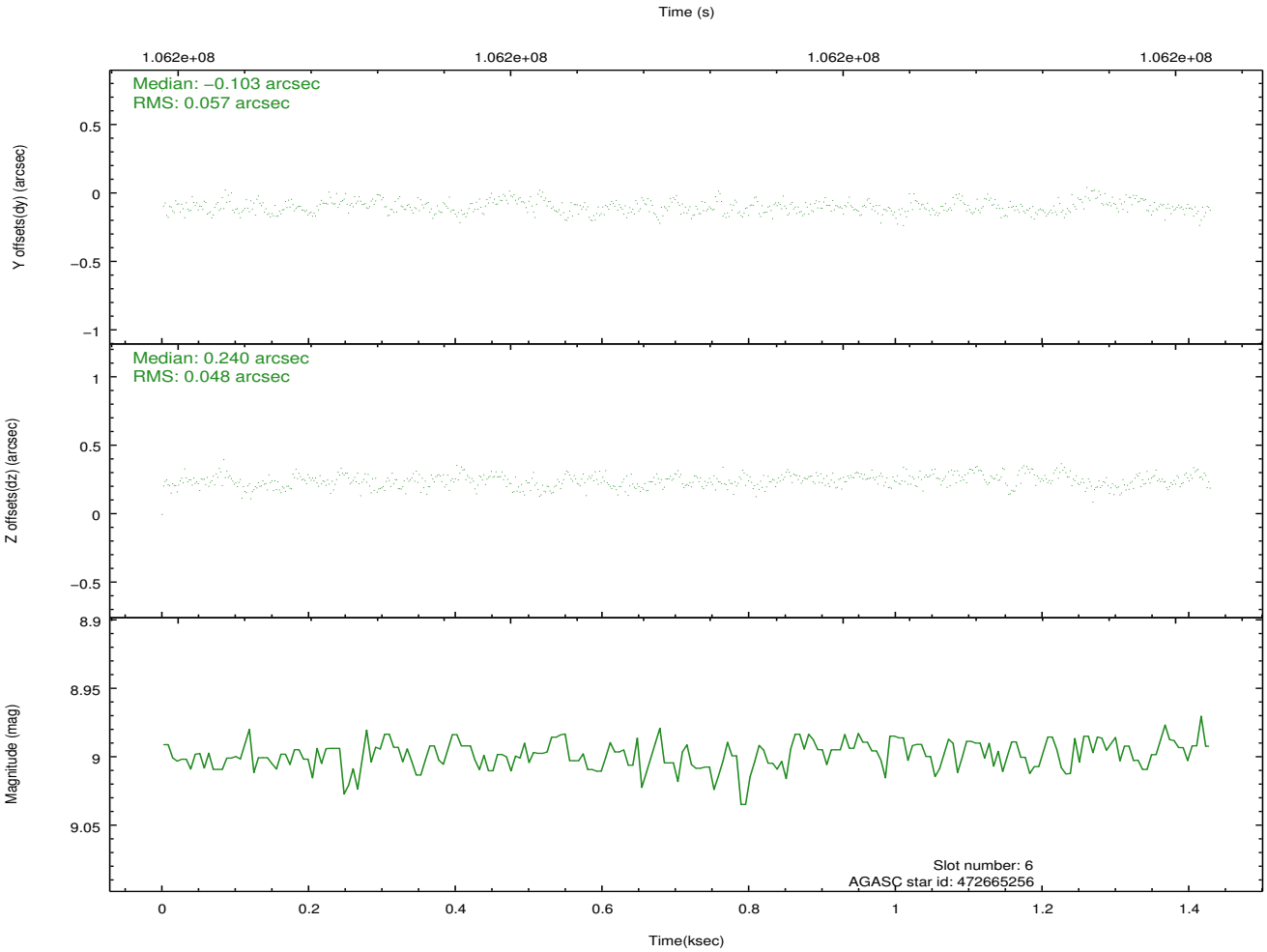

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.199 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472535576


Time (s)
1.062e+08
Median: −0.163 arcsec
RMS: 0.036 arcsec
Y offsets(dy) (arcsec)
Median: −0.114 arcsec
RMS: 0.030 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 472535576
Time(ksec)

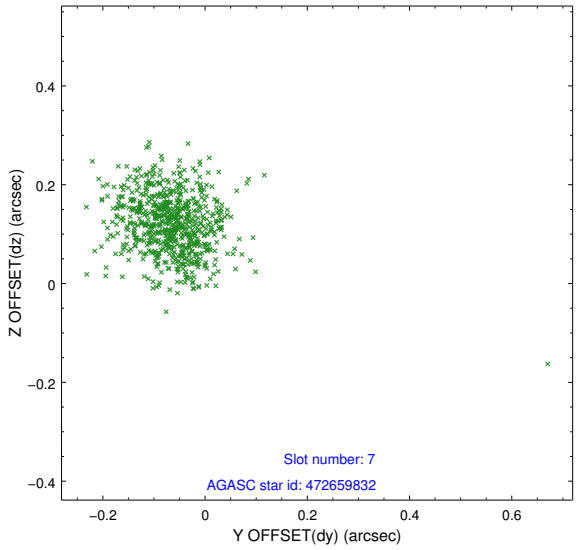
2.4.4 Slot 6

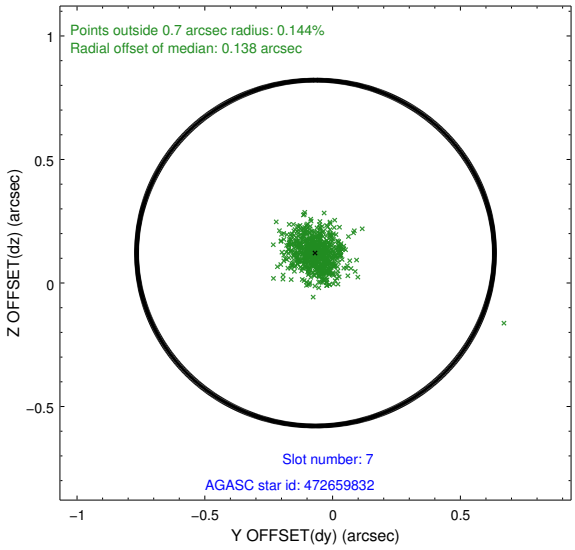

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472665256

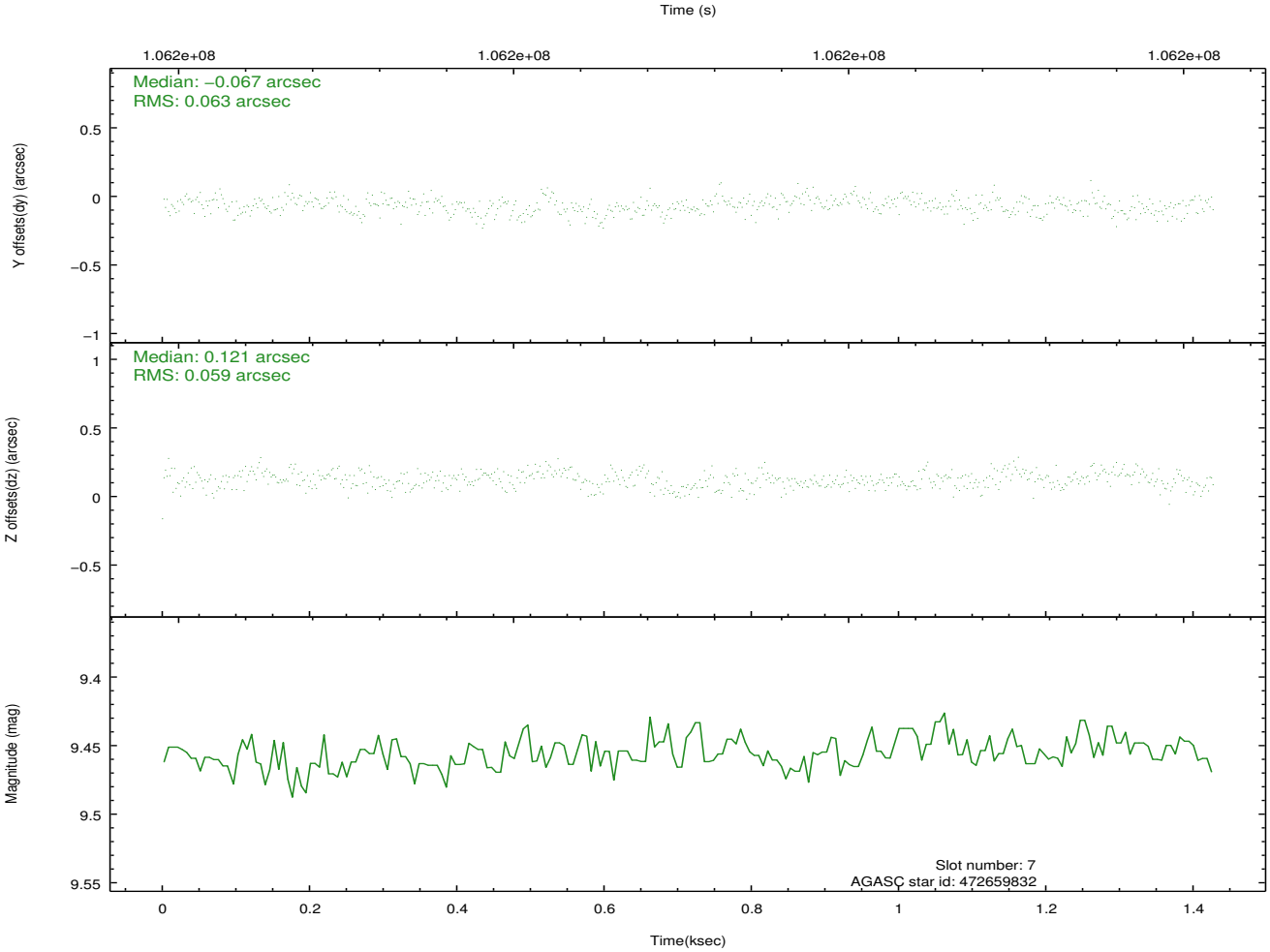

Points outside 0.7 arcsec radius: 0.143%
Radial offset of median: 0.261 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472665256


Time (s)
1.062e+08
Median: −0.103 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.240 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 472665256
Time(ksec)

2.4.5 Slot 7

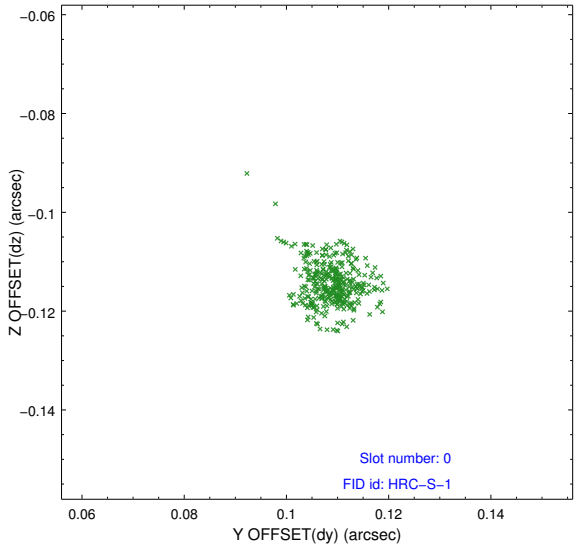

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472659832

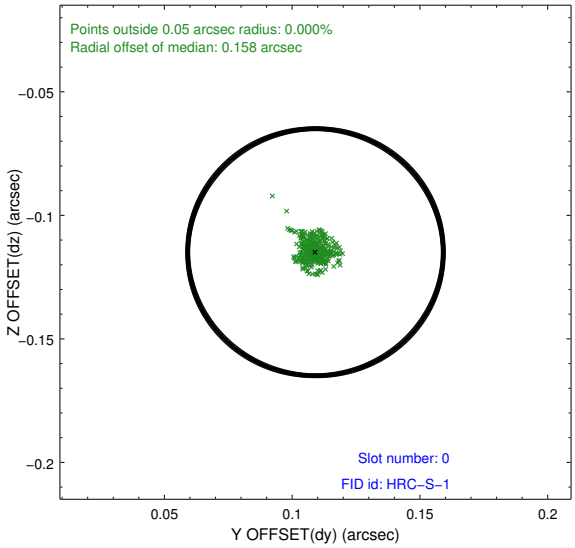

Points outside 0.7 arcsec radius: 0.144%
Radial offset of median: 0.138 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472659832

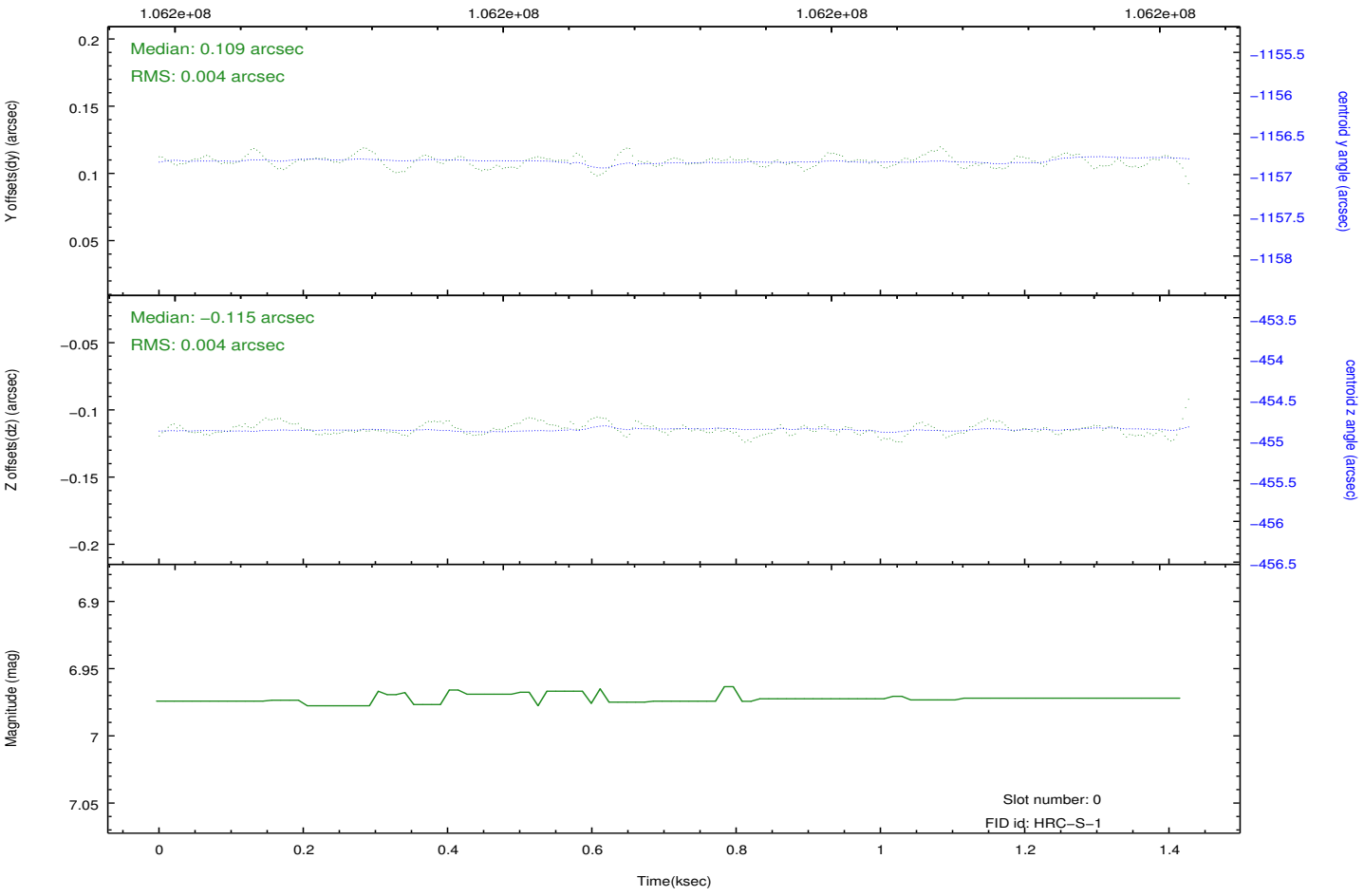

Time (s)
Median: −0.067 arcsec
RMS: 0.063 arcsec
Y offsets(dy) (arcsec)
Median: 0.121 arcsec
RMS: 0.059 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 472659832
Time(ksec)

2.5 FID Slots

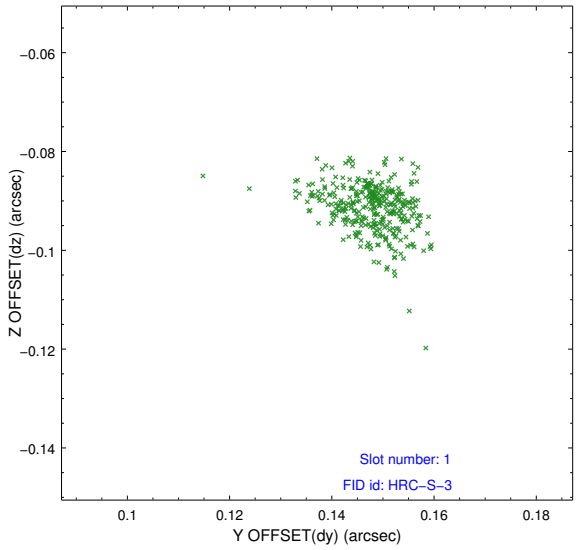
2.5.1 Slot 0

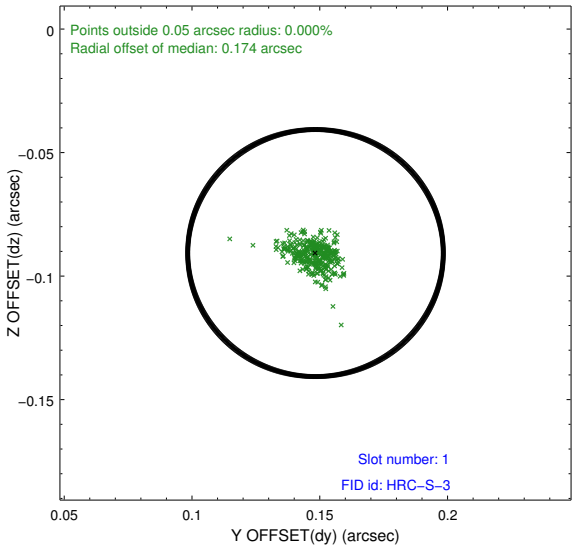


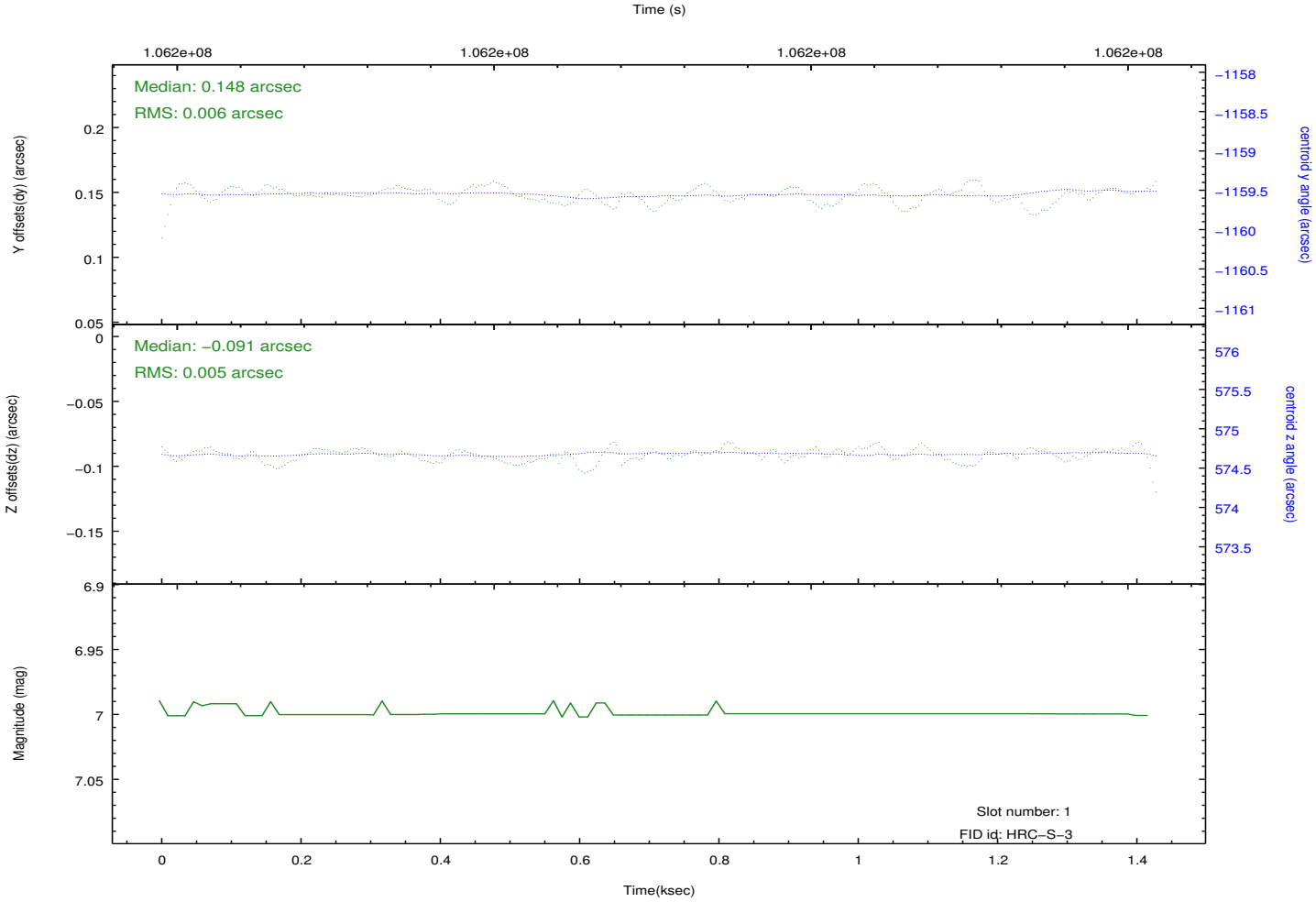




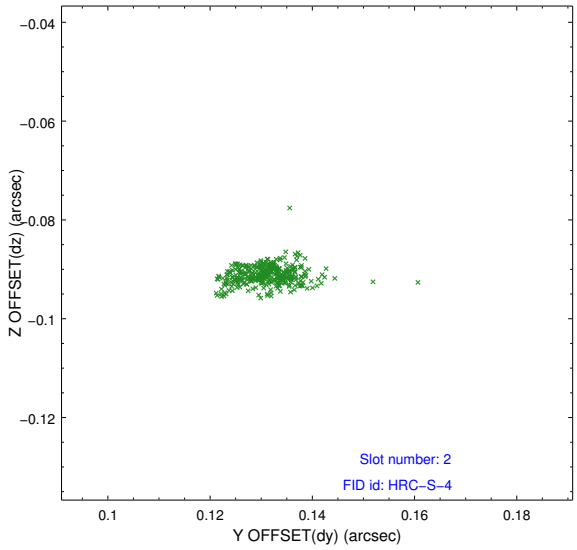
2.5.2 Slot 1

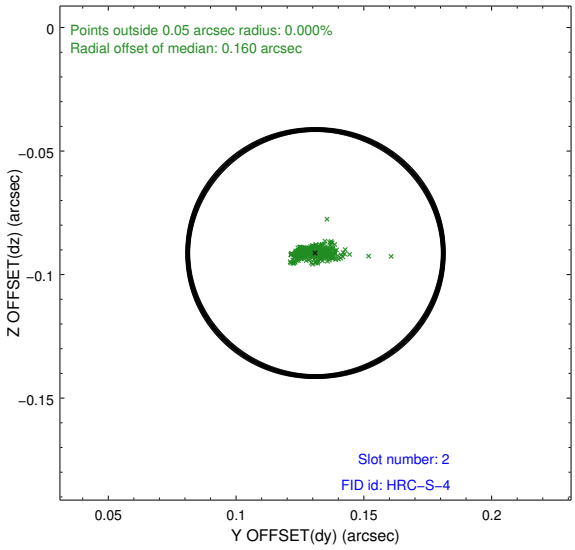

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−3

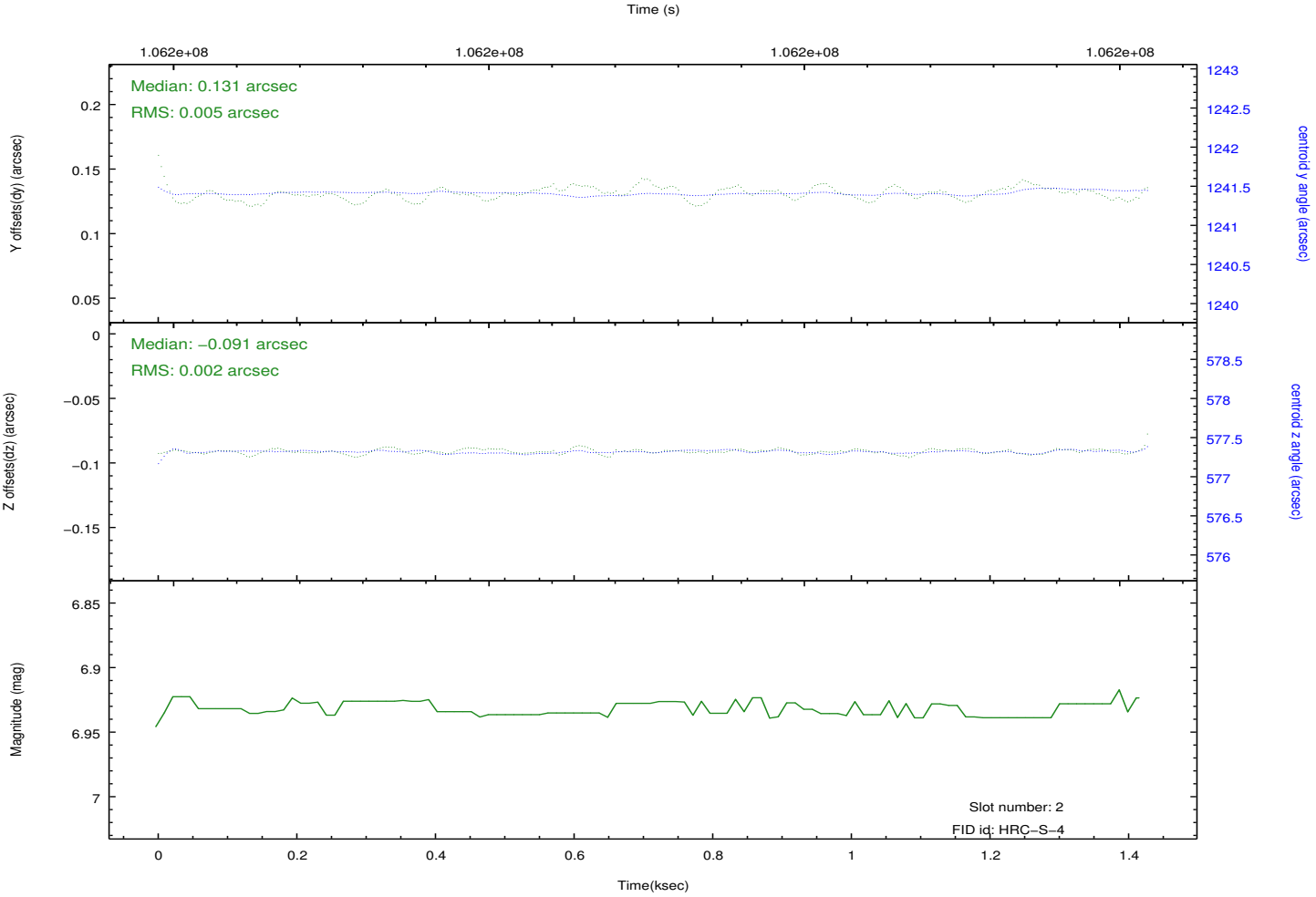

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.174 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−3


Time (s)
Median: 0.148 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.091 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: HRC−S−3
Time(ksec)

2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: HRC−S−4


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.160 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: HRC−S−4


Time (s)
Median: 0.131 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.091 arcsec
RMS: 0.002 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: HRC−S−4
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.428

A.2 Comments

```
Charge time for this ObsId remains at previous value of 1.428 ks
although with the current processing the charge time would have been
1.38 ksec.
```