V&V Reference Report
L2 ASCDS Version : 8.4.5

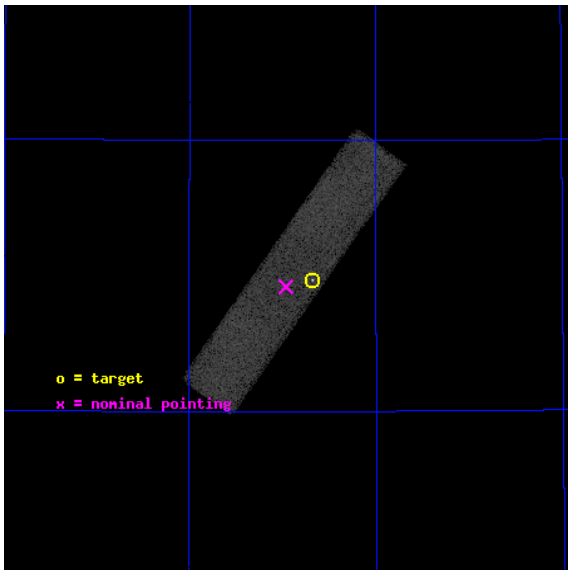
Observation 2369 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Sep 4 2012

Contents

1 Front

seq_num	290115	Sequence number
obs_id	2369	Observation id
title	HRC-I CALIBRATION OBSERVATIONS OF ARLAC	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	ARLAC,HRC-S,AO2	Source name
ra_targ	332.17	Observer's specified target RA [deg]
dec_targ	45.742306	Observer's specified target Dec [deg]
ra_nom	332.24125993064	Nominal RA [deg]
dec_nom	45.730232088416	Nominal Dec [deg]
roll_nom	305.10095727228	Nominal Roll [deg]
revision	5	Processing version of data
ontime	1142.1062937081	[s]
livetime	1134.6545532361	Ontime multiplied by DTCOR
l2events	53664	Number of level 2 events

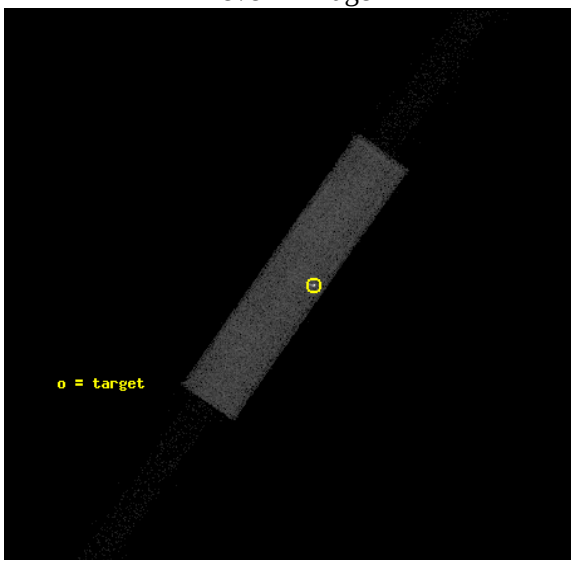


2 OBI

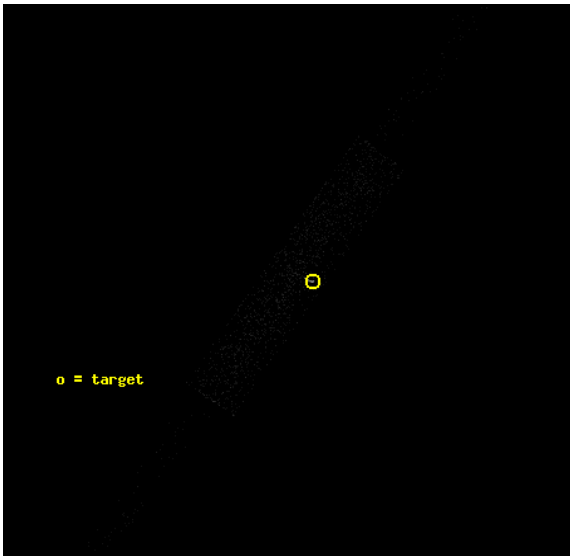
2.1 OBI

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	2012-09-05T01:20:51	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	1000.000000	[s] Scheduled observation exposure time
ontime	1142.1062937081	[s]
l1events	82272	Number of level 1 events

2.1.3 Events

Level 1 Events

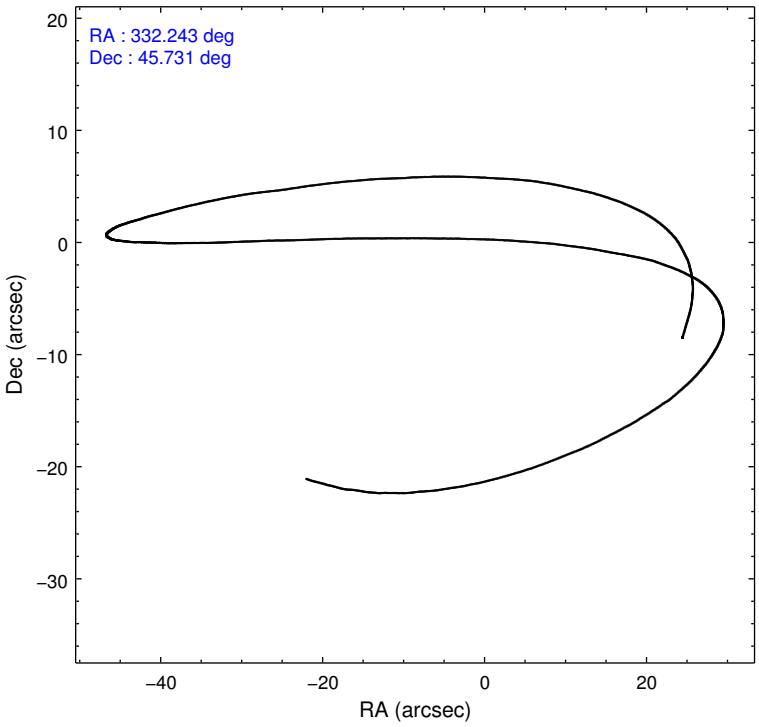
	segment 1	**segment 2**	**segment 3**
level 1 events	1346	79696	1230
rejected events	1346	16523	1230
rejected %	100%	20%	100%

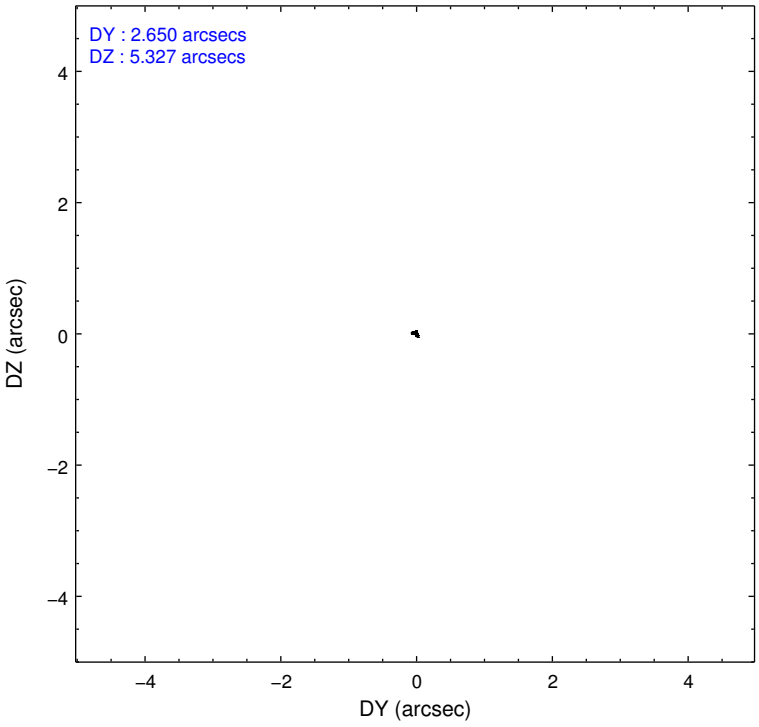
2.2 Compared Parameters

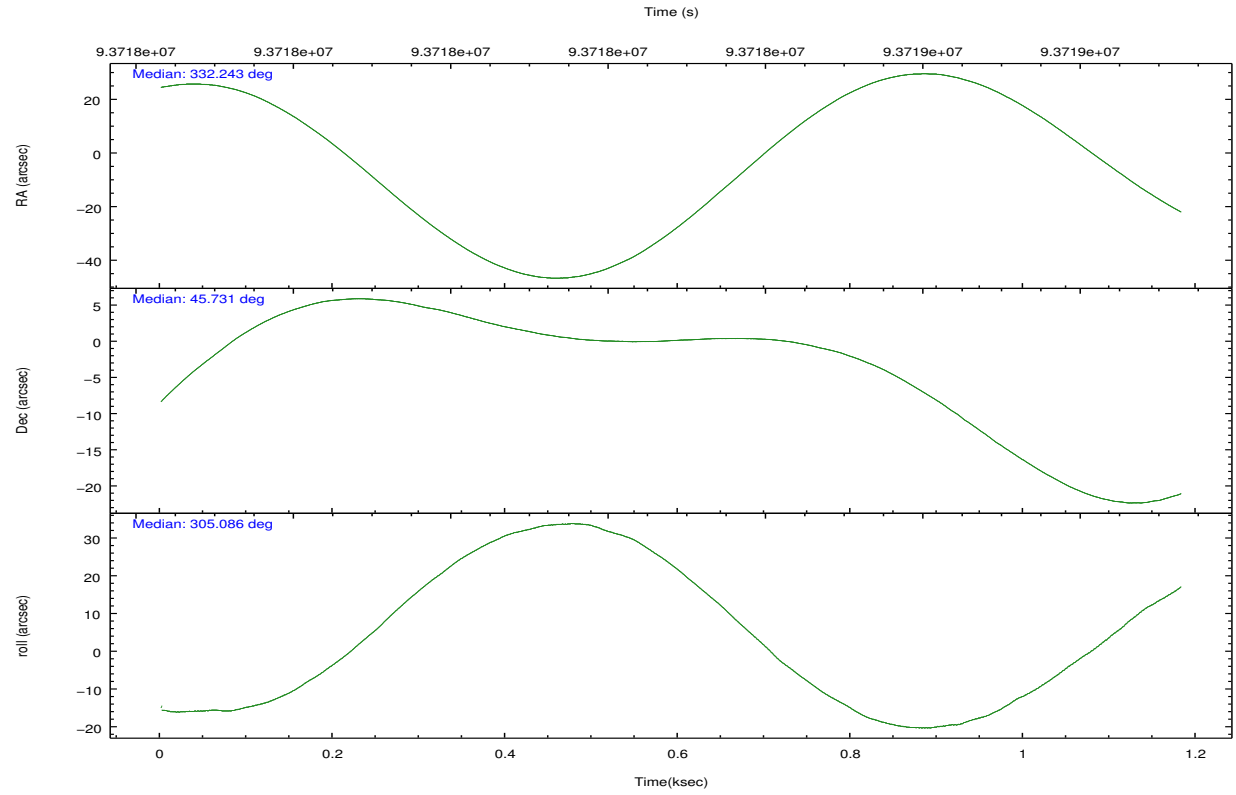
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	332.202248	332.2412599306439
[deg] Pointing Dec	45.740993	45.73023208841622
[deg] Pointing Roll	305.061570	305.1009572722845
[mm] SIM focus 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)	93717872.184000	93717495.738874
Observation start date	2000-12-20T16:43:28	2000-12-20T16:38:15
[s] Observation end time (MET)	93718872.184000	93719005.563932
Observation end date	2000-12-20T17:00:08	2000-12-20T17:03:25

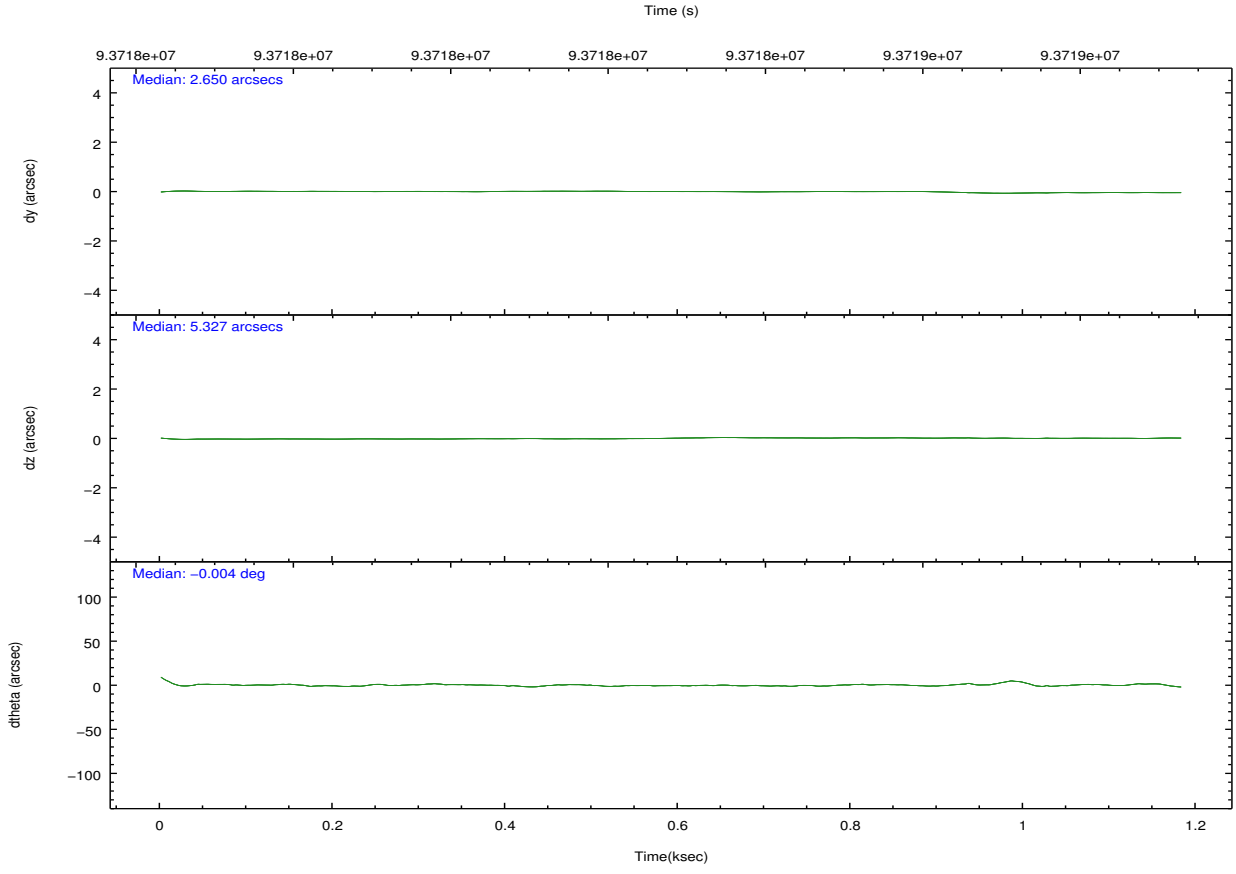
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.243 deg
Dec : 45.731 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−30
−40
−20
0
20


DY : 2.650 arcsecs
DZ : 5.327 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
9.3718e+07
9.3718e+07
9.3718e+07
9.3718e+07
9.3718e+07
9.3719e+07
9.3719e+07
Median: 332.243 deg
RA (arcsec)
Median: 45.731 deg
Dec (arcsec)
Median: 305.086 deg
roll (arcsec)
Time(ksec)

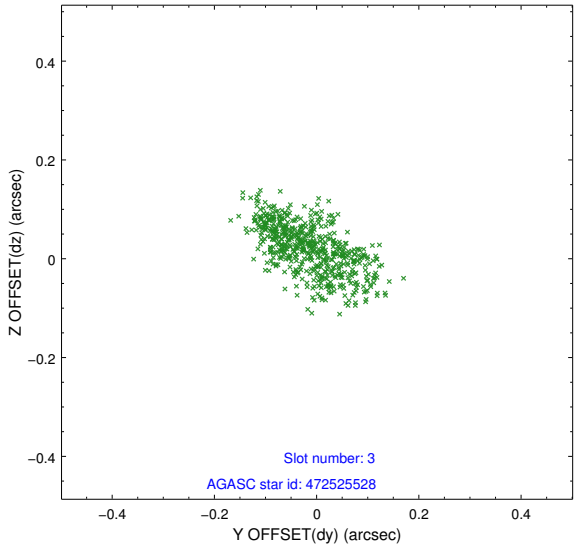

Time (s)
9.3718e+07
9.3718e+07
9.3718e+07
9.3718e+07
9.3718e+07
9.3719e+07
9.3719e+07
Median: 2.650 arcsecs
dy (arcsec)
Median: 5.327 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

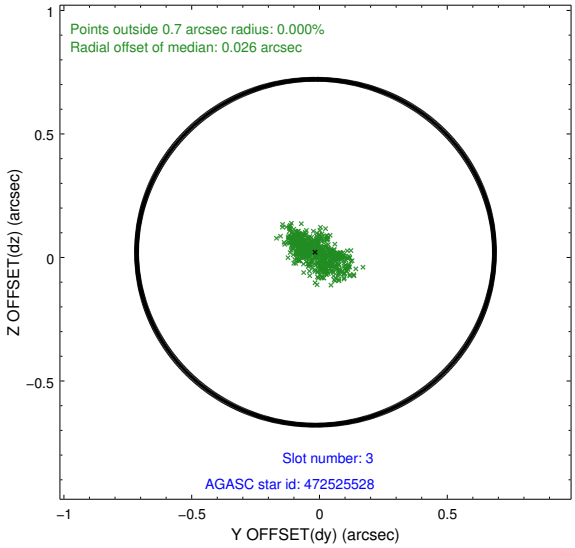
Slot Statistics

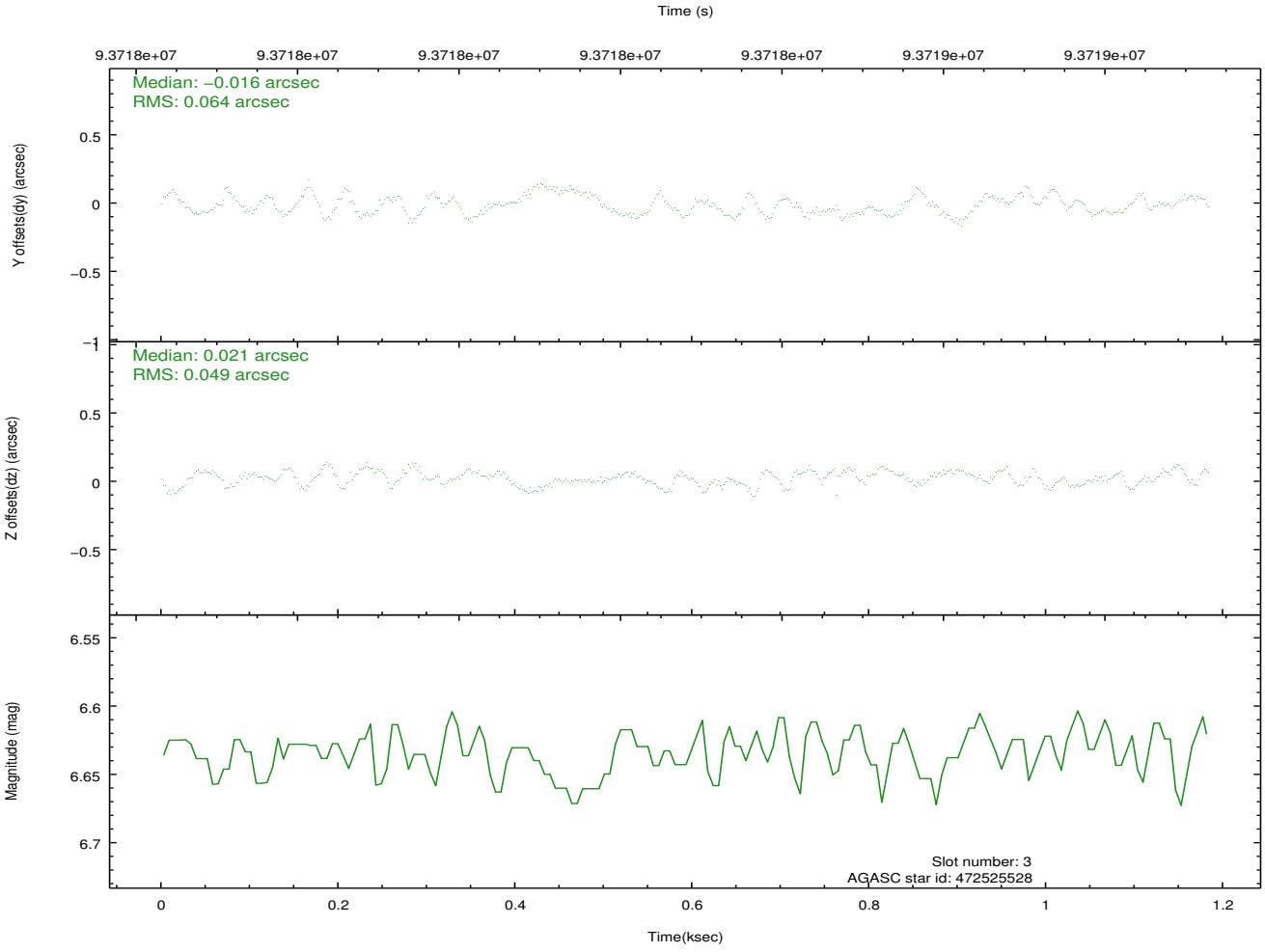
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.97	289	0.130	-0.106	0.005	0.011	0.000000	0.000000	-1156.67	-453.82
1	FID	HRC-S-2	6.98	289	0.129	-0.148	0.010	0.018	0.000000	0.000000	1239.00	-448.04
2	FID	HRC-S-4	6.93	288	0.144	-0.050	0.008	0.016	0.000000	0.000000	1245.89	576.80
3	GUIDE	472525528	6.63	578	-0.016	0.021	0.089	0.141	331.551102	45.248694	496.48	-2368.17
4	GUIDE	472523760	8.23	578	-0.014	-0.123	0.060	0.097	331.645363	45.403260	182.67	-1855.18
5	GUIDE	472665256	9.02	578	-0.093	-0.086	0.086	0.142	332.808125	46.195041	-476.87	2171.52
6	GUIDE	472659832	9.47	576	0.048	0.081	0.086	0.132	332.780399	46.098139	-230.04	1923.61
7	GUIDE	472655152	9.43	577	0.070	0.120	0.078	0.132	332.504239	45.862991	72.50	873.05

2.4 Star Slots

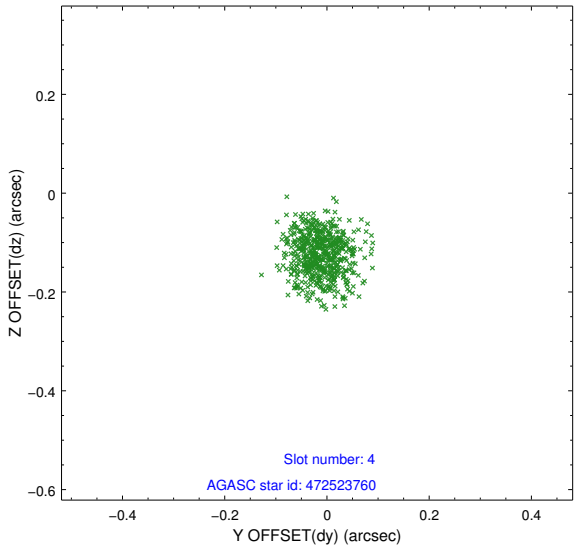
2.4.1 Slot 3

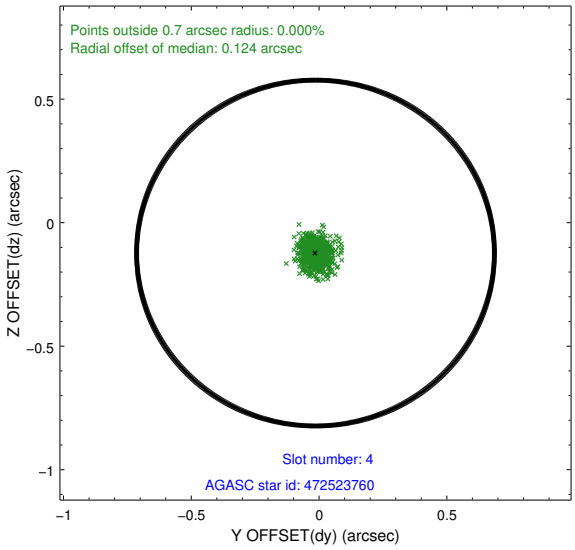


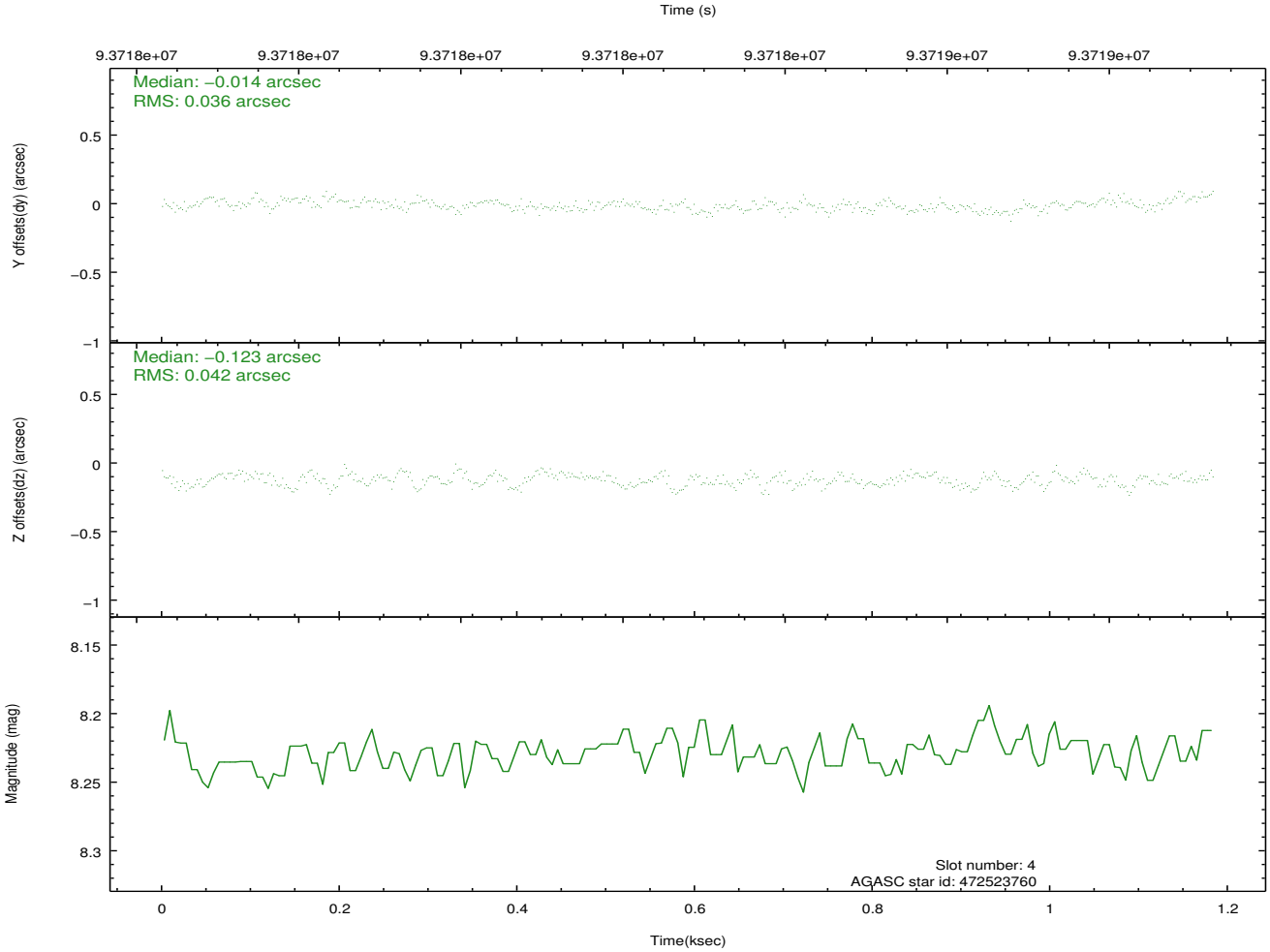




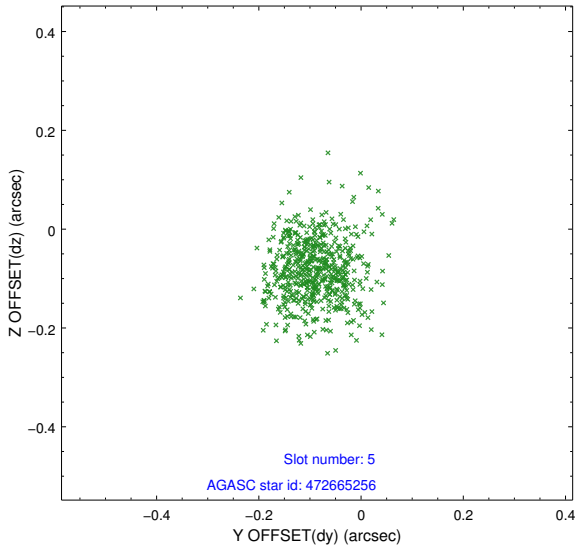
2.4.2 Slot 4

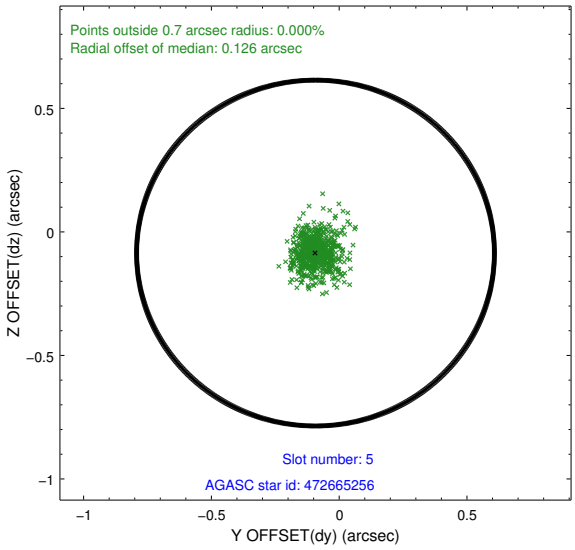

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472523760

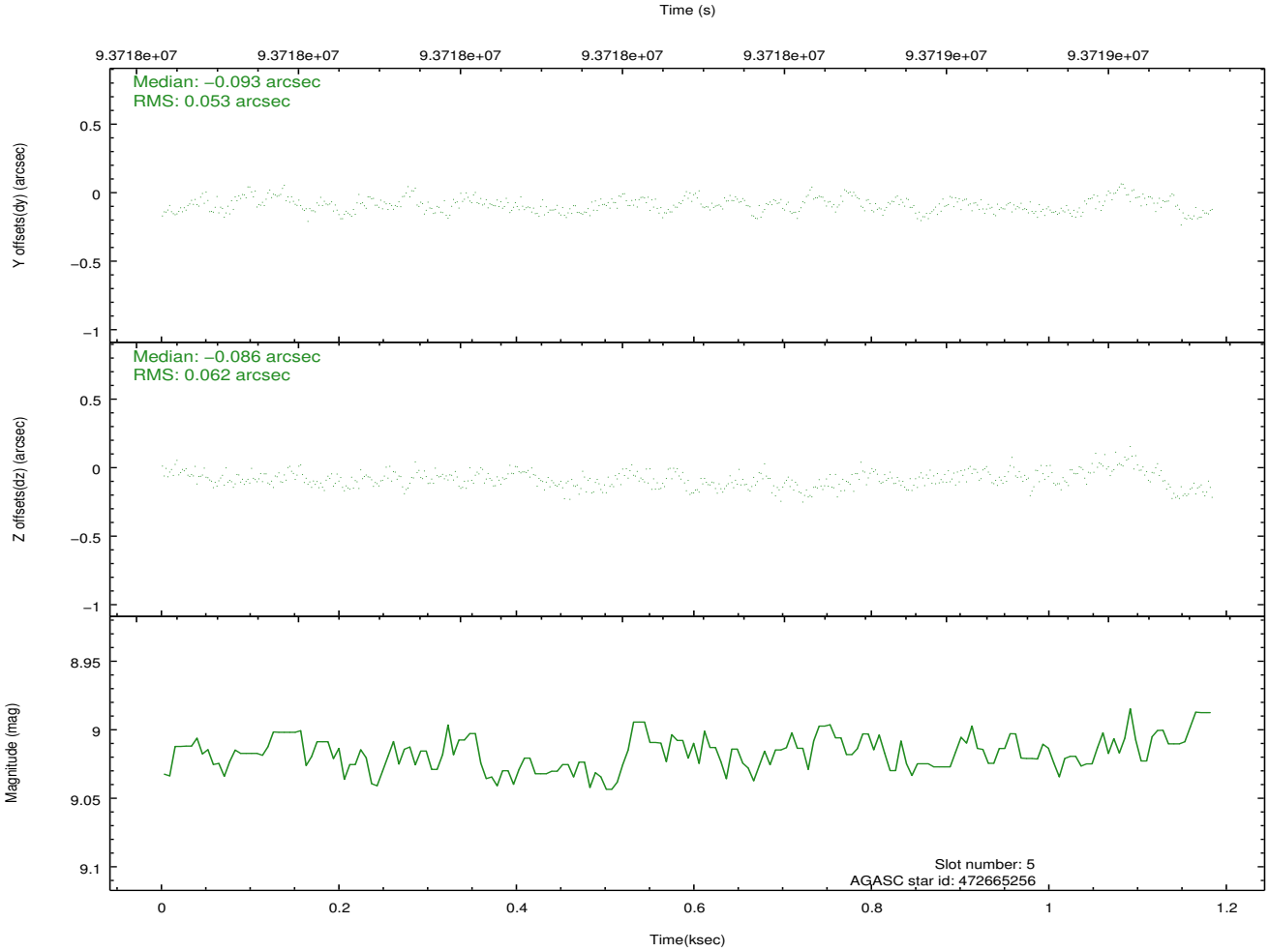

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.124 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472523760


Time (s)
Median: −0.014 arcsec
RMS: 0.036 arcsec
Y offsets(dy) (arcsec)
Median: −0.123 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 472523760
Time(ksec)

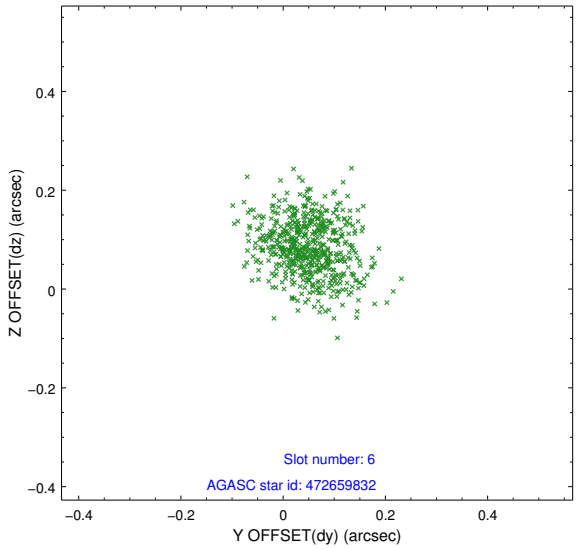
2.4.3 Slot 5

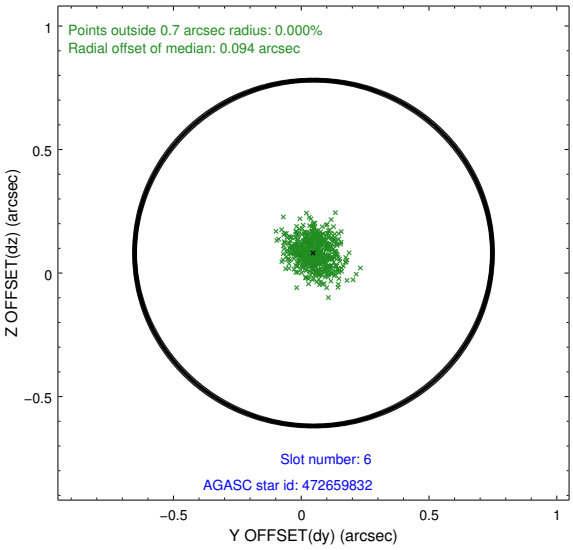

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472665256

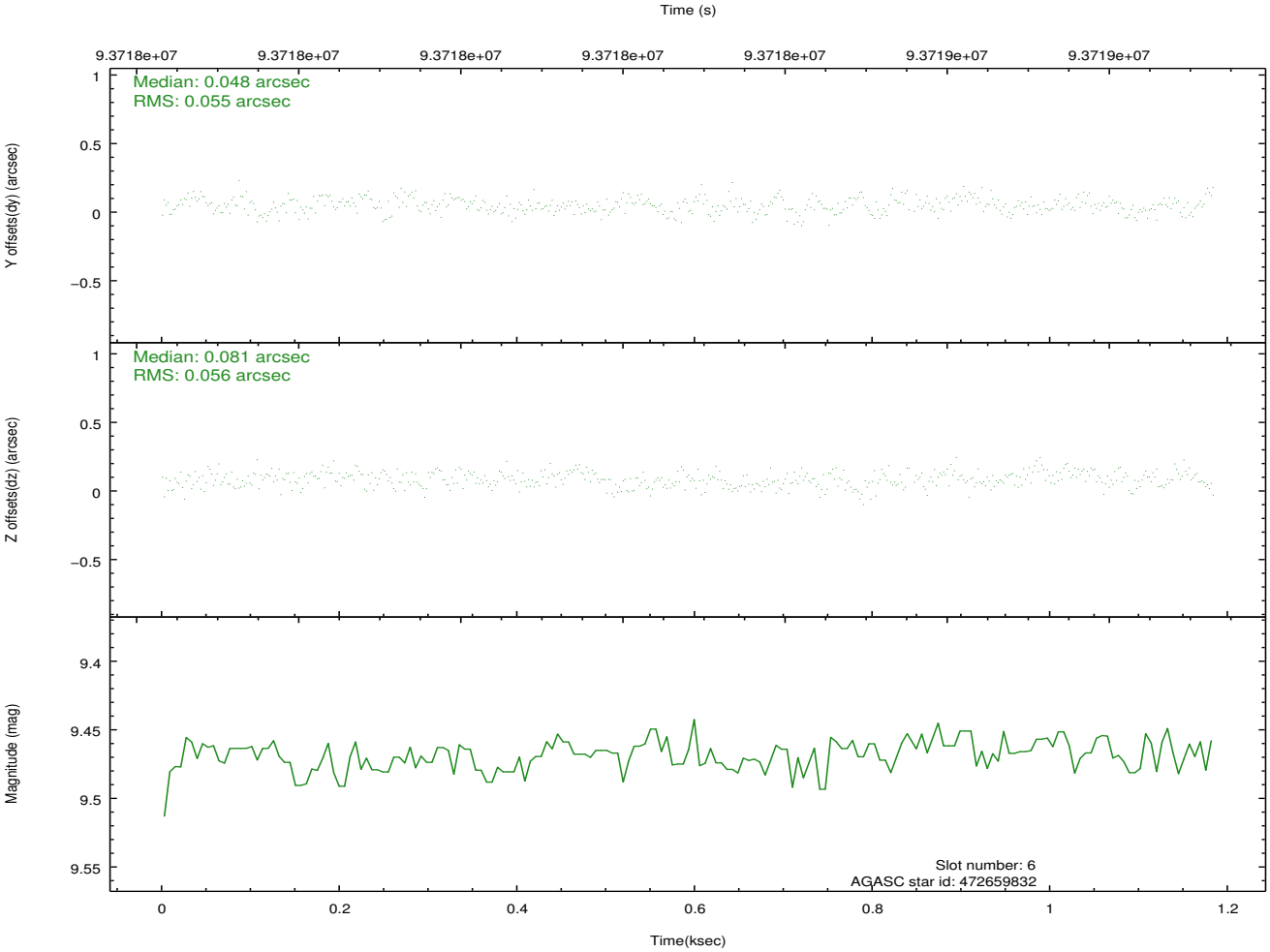

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.126 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472665256


Time (s)
Median: −0.093 arcsec
RMS: 0.053 arcsec
Y offsets(dy) (arcsec)
Median: −0.086 arcsec
RMS: 0.062 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 472665256
Time(ksec)

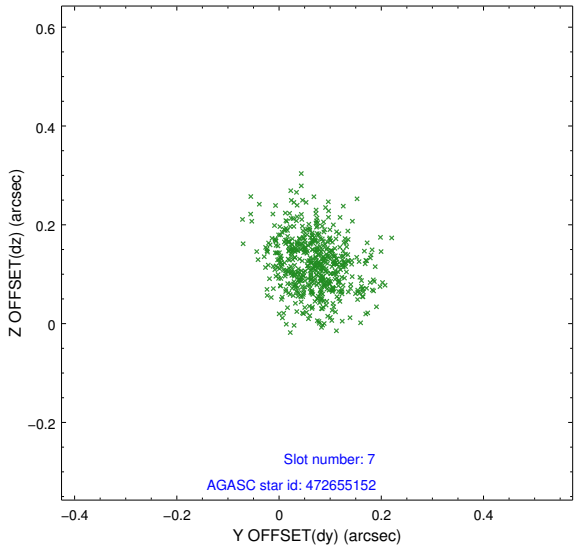
2.4.4 Slot 6

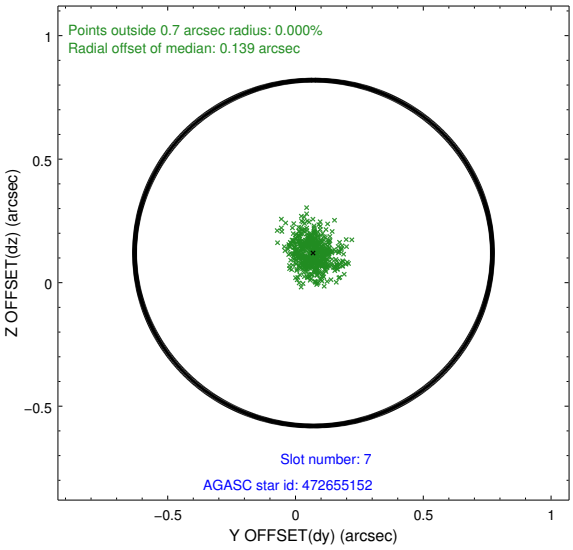

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472659832

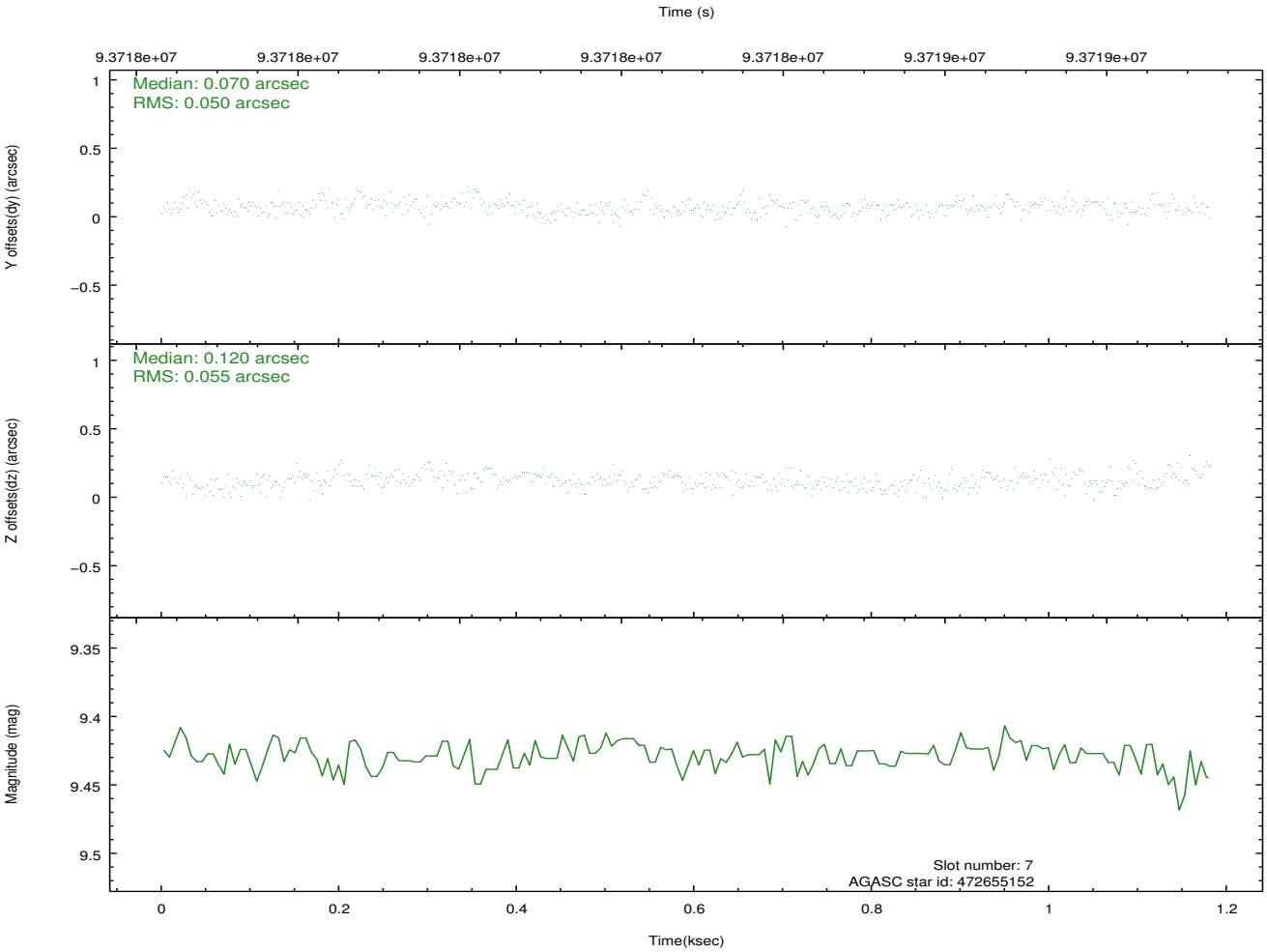

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.094 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472659832


Time (s)
Median: 0.048 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: 0.081 arcsec
RMS: 0.056 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 472659832
Time(ksec)

2.4.5 Slot 7

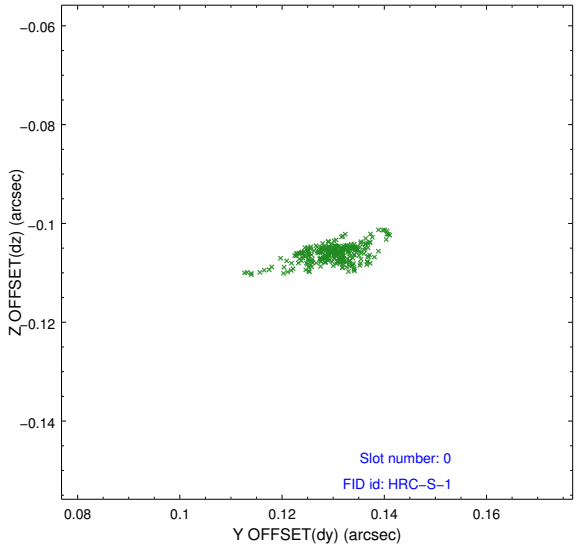

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472655152

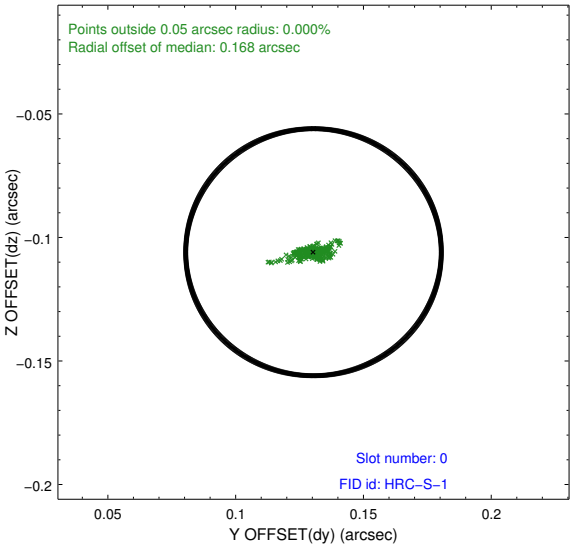

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.139 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472655152

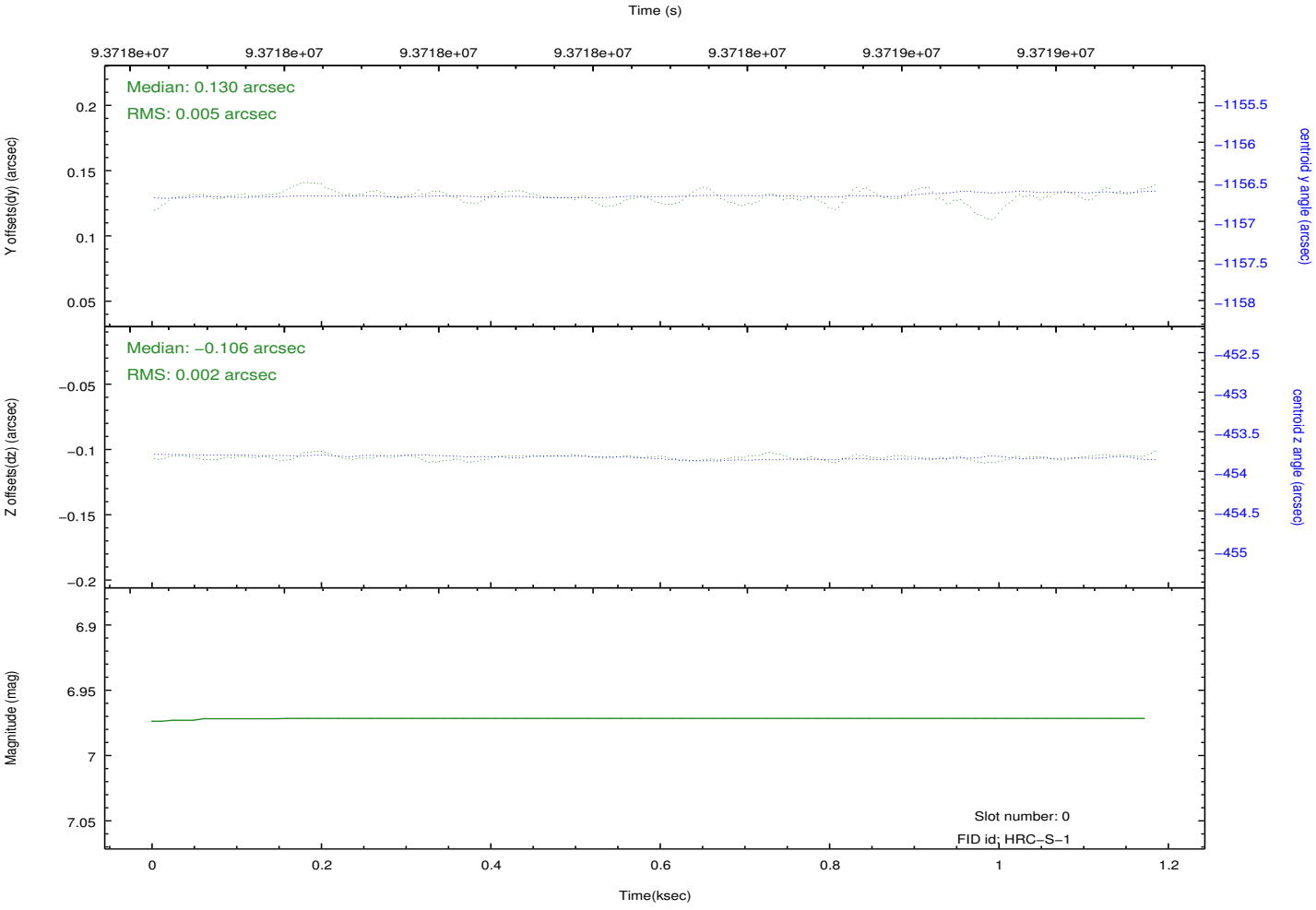

Time (s)
Median: 0.070 arcsec
RMS: 0.050 arcsec
Y offsets(dy) (arcsec)
Median: 0.120 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 472655152
Time(ksec)

2.5 FID Slots

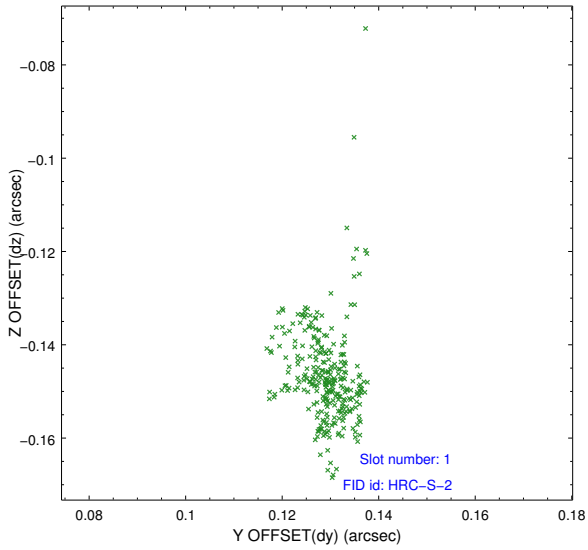
2.5.1 Slot 0

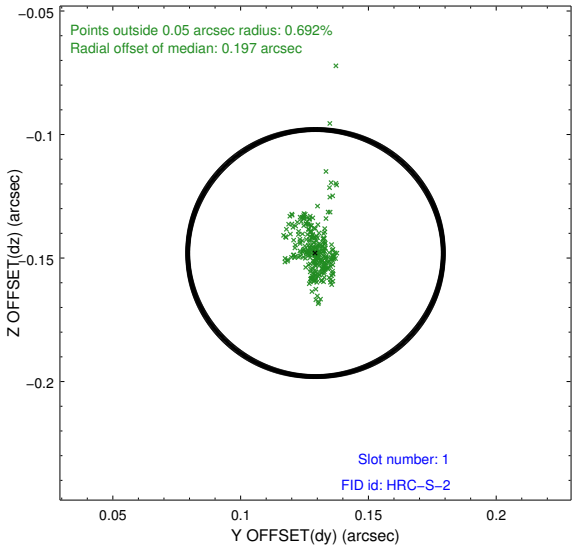


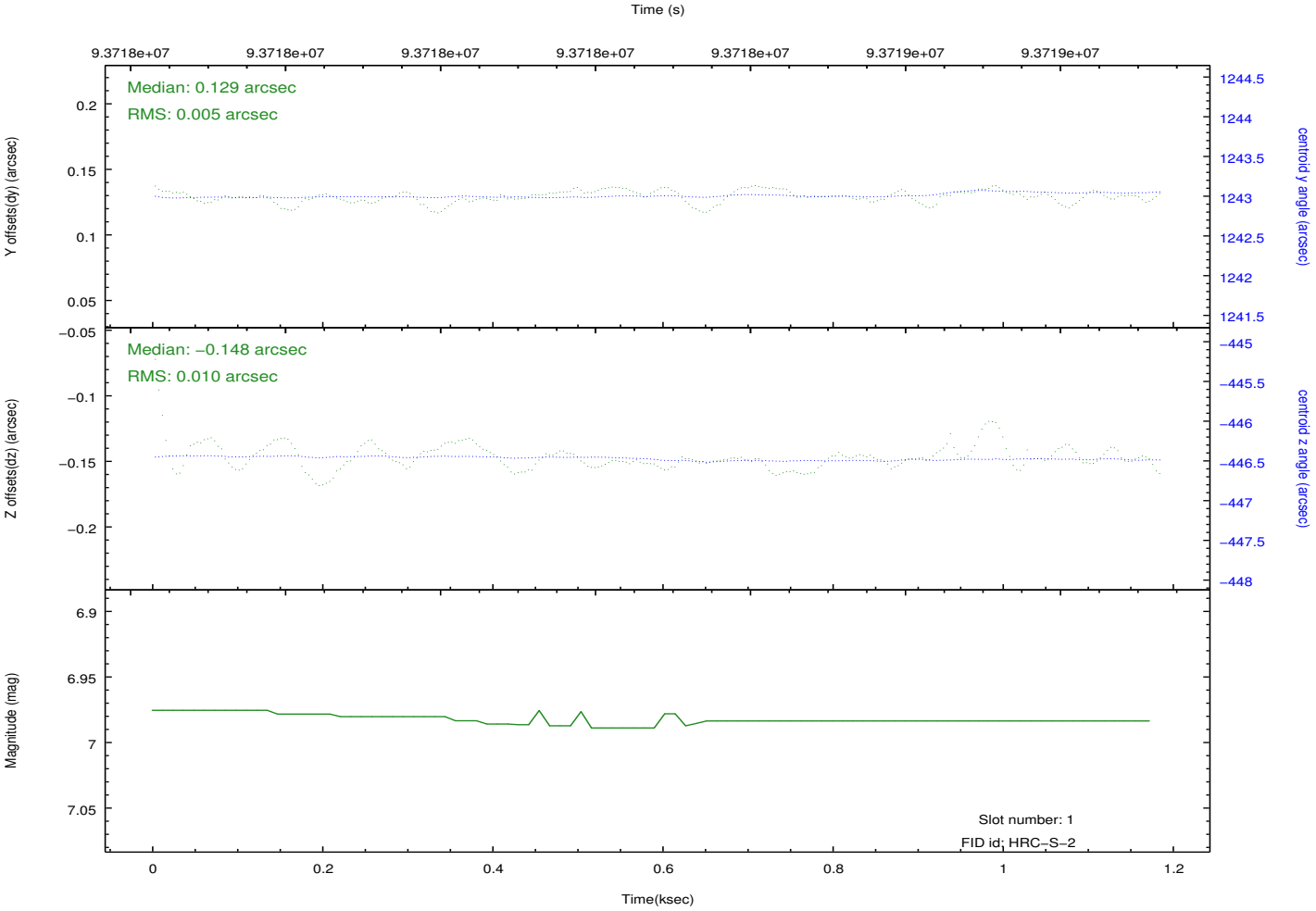




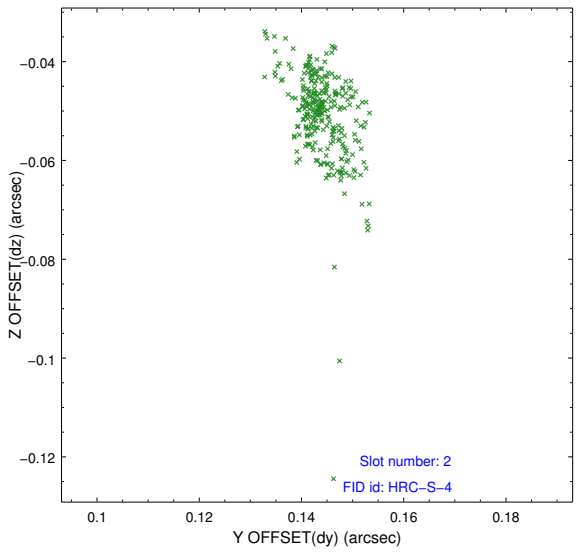
2.5.2 Slot 1

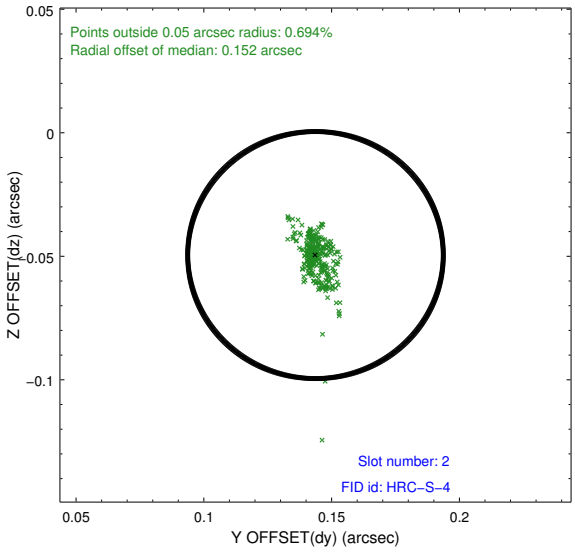

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−2

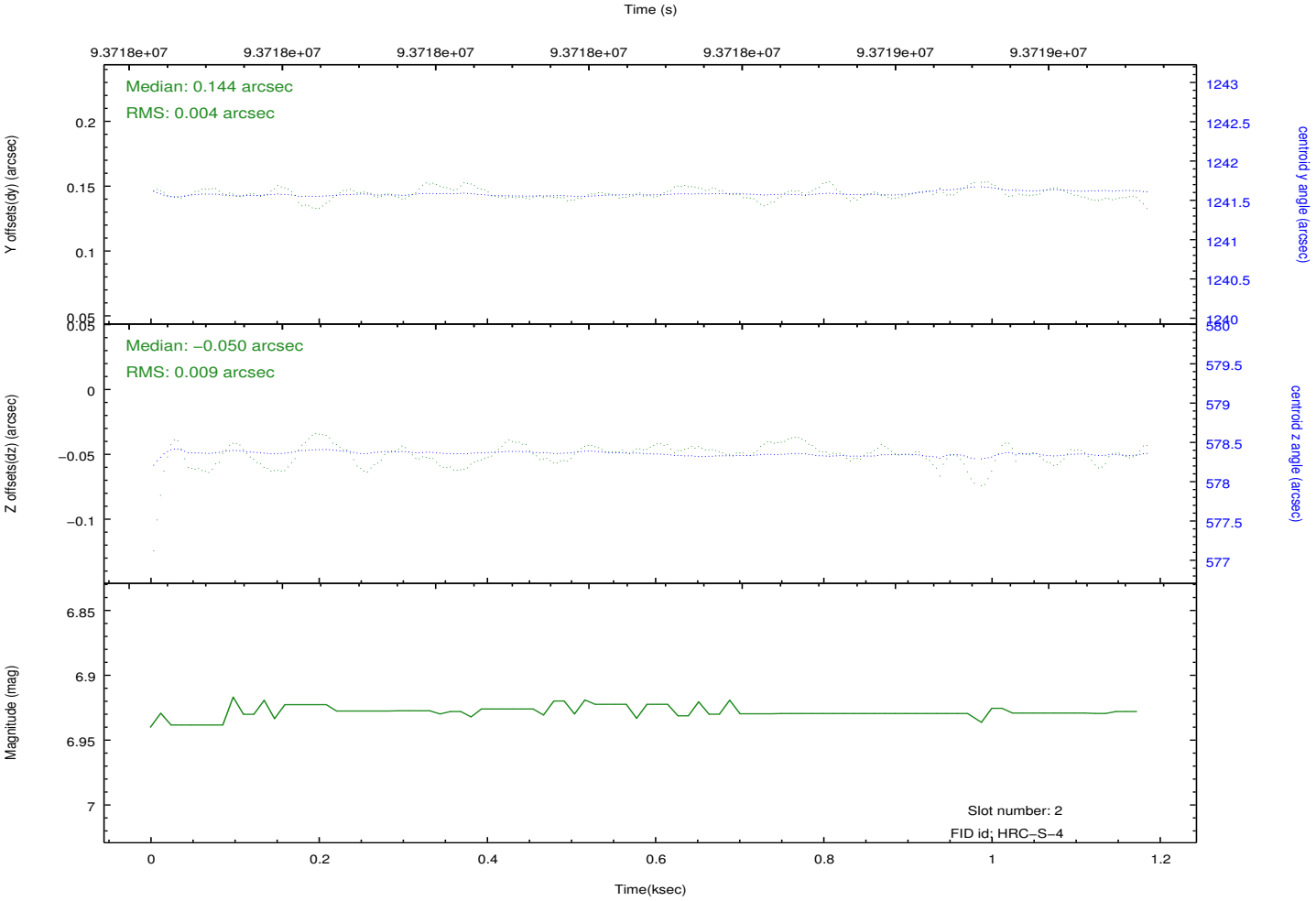

Points outside 0.05 arcsec radius: 0.692%
Radial offset of median: 0.197 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−2


Time (s)
Median: 0.129 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.148 arcsec
RMS: 0.010 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: HRC−S−2
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: 0.694%
Radial offset of median: 0.152 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: HRC−S−4


Time (s)
Median: 0.144 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.050 arcsec
RMS: 0.009 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)	2012.09.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.181

A.2 Comments

```
Charge time for this ObsId remains at previous value of 1.181 ks
although with the current processing the charge time would have been
1.14 ksec.
```