V&V Reference Report
L2 ASCDS Version : 8.4.5

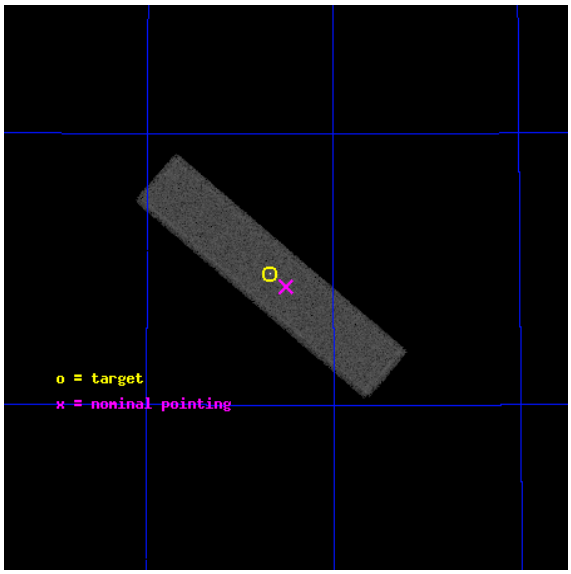
Observation 10604 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Aug 13 2012

Contents

1 Front

seq_num	290840	Sequence number
obs_id	10604	Observation id
title	AO-10 Calibration Observations to Monitor the Spatial Variations in the HRC-S Gain	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	332.12760349983	Nominal RA [deg]
dec_nom	45.718515350073	Nominal Dec [deg]
roll_nom	220.19954501374	Nominal Roll [deg]
revision	3	Processing version of data
ontime	1179.7750592828	[s]
livetime	1168.3661658942	Ontime multiplied by DTCOR
l2events	82263	Number of level 2 events

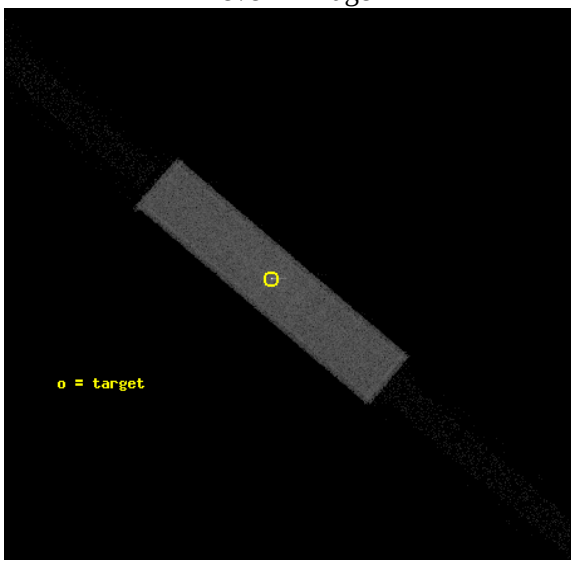


2 OBI

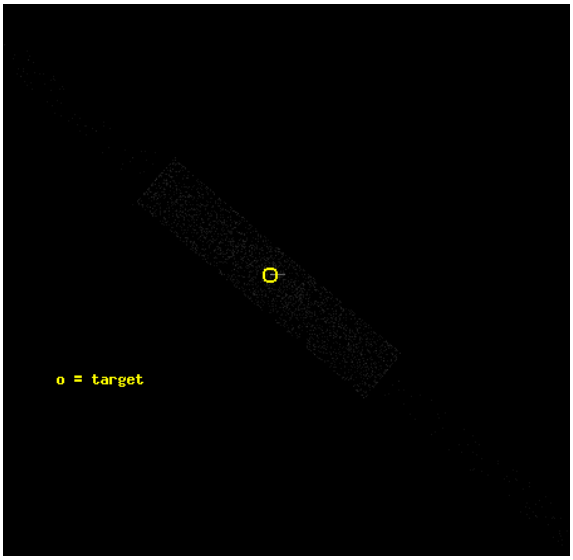
2.1 OBI

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	2012-08-13T14:55:51	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	1000.000000	[s] Scheduled observation exposure time
ontime	1179.7750592828	[s]
l1events	126596	Number of level 1 events

2.1.3 Events

Level 1 Events

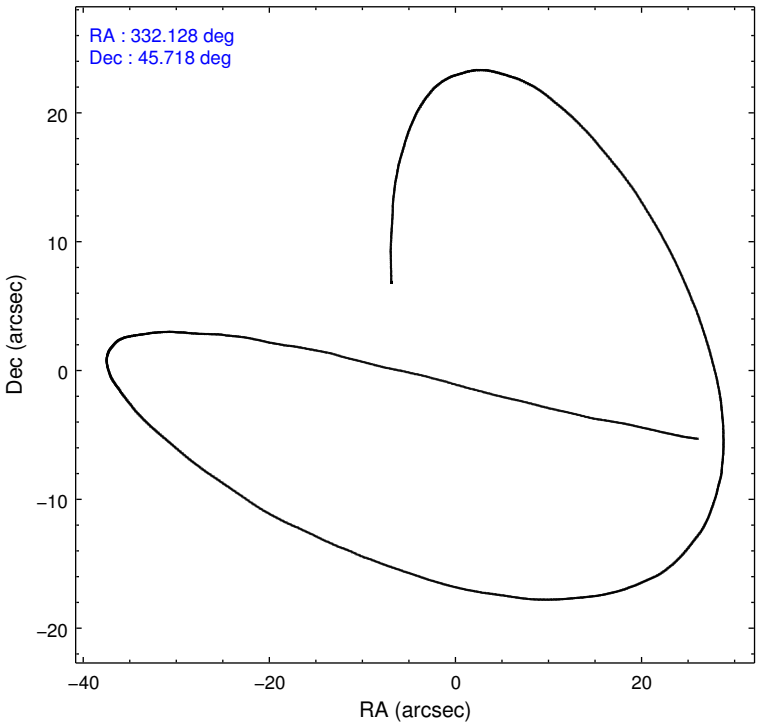
	segment 1	**segment 2**	**segment 3**
level 1 events	1195	124225	1176
rejected events	1195	26189	1176
rejected %	100%	21%	100%

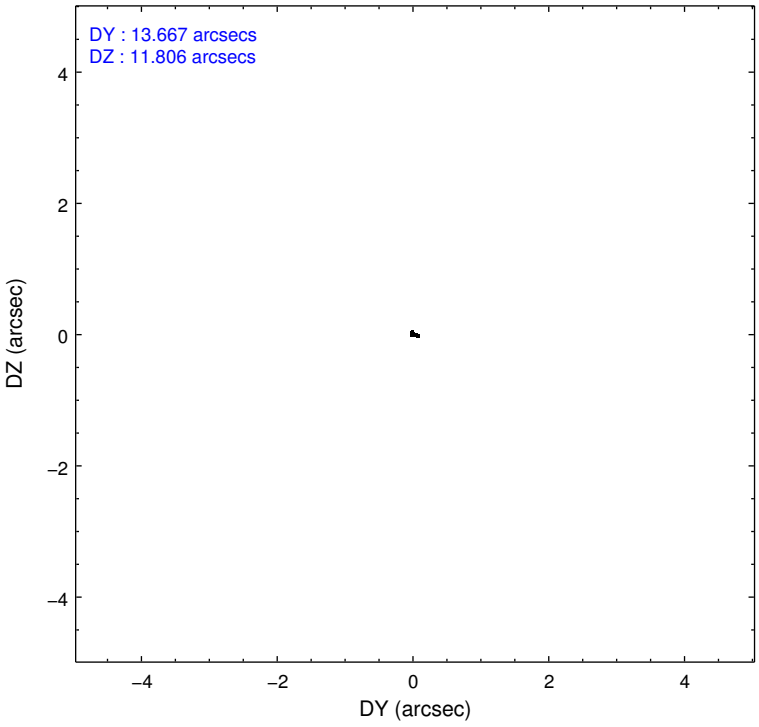
2.2 Compared Parameters

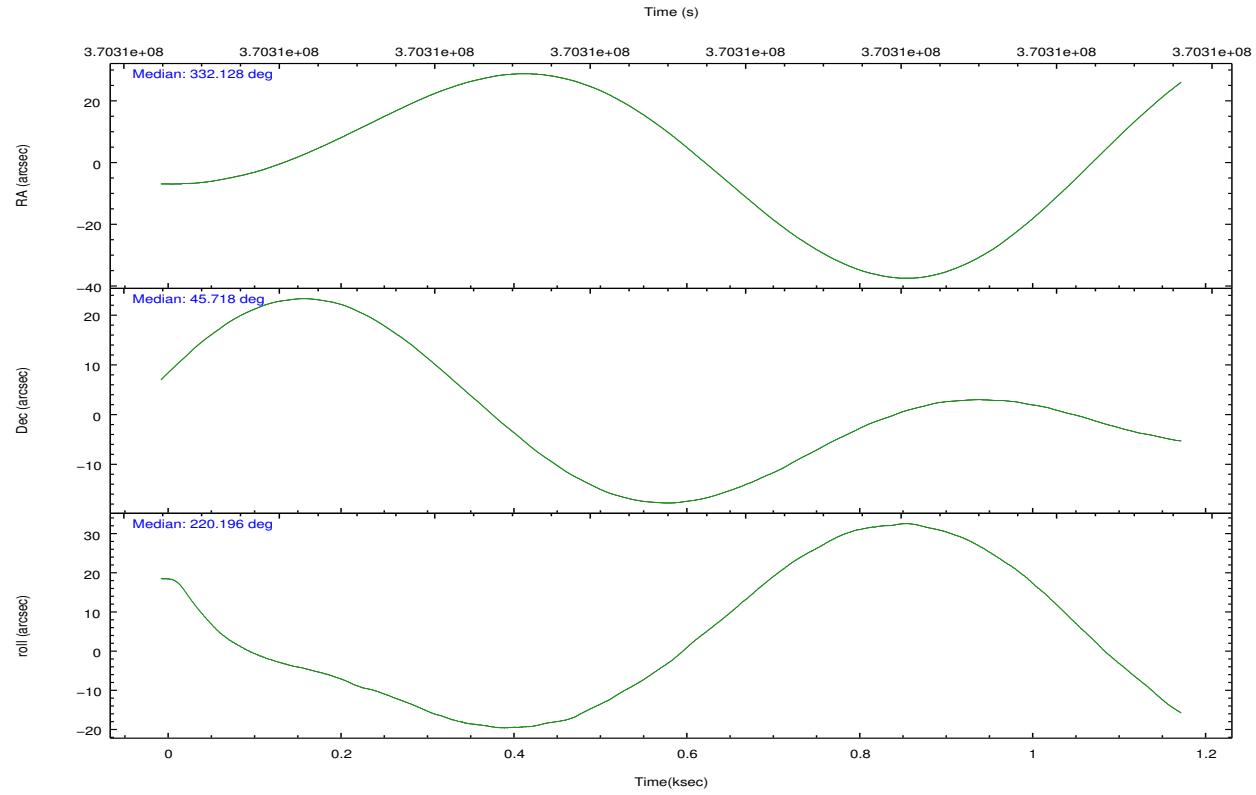
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	332.140195	332.1276034998324
[deg] Pointing Dec	45.745263	45.71851535007311
[deg] Pointing Roll	220.123119	220.1995450137431
[mm] SIM focus pos	-1.533336	-1.526339935833849
[mm] SIM defocus	7.710433287538843e-07	0.006996703570447904
[mm] SIM translation stage pos	250.455976	250.466033080201
[mm] SIM translation stage offset	0	-0.01005468664627074
[s] Observation start time (MET)	370310283.184000	370309907.02671
Observation start date	2009-09-25T23:56:57	2009-09-25T23:51:47
[s] Observation end time (MET)	370311283.184000	370311417.36428
Observation end date	2009-09-26T00:13:37	2009-09-26T00:16:57

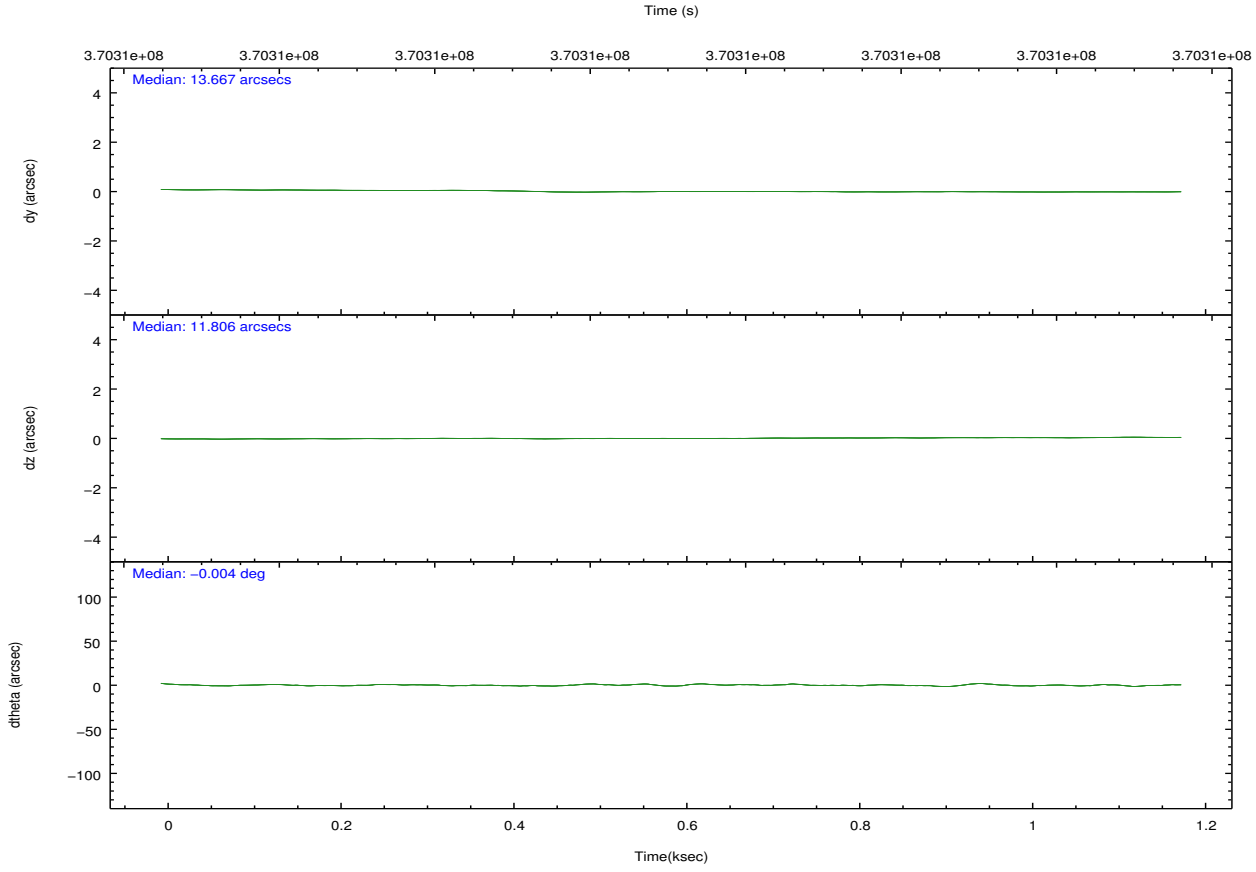
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.128 deg
Dec : 45.718 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−40
−20
0
20


DY : 13.667 arcsecs
DZ : 11.806 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
Median: 332.128 deg
RA (arcsec)
Median: 45.718 deg
Dec (arcsec)
Median: 220.196 deg
roll (arcsec)
Time(ksec)

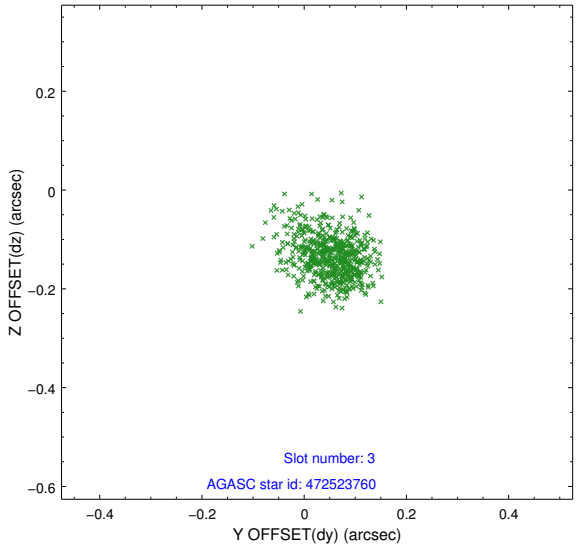

Time (s)
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
3.7031e+08
Median: 13.667 arcsecs
dy (arcsec)
Median: 11.806 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

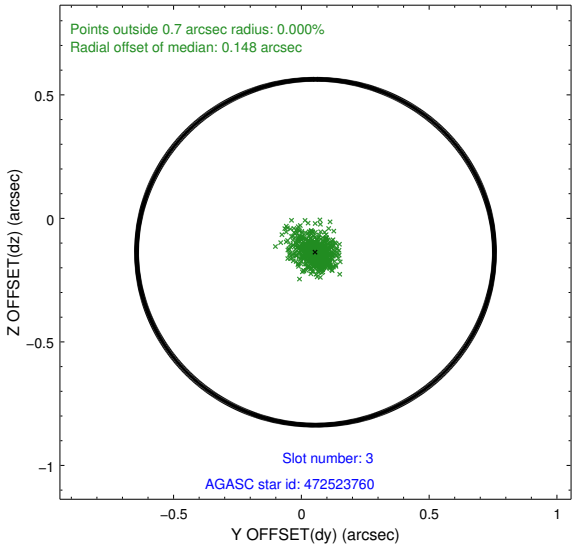
Slot Statistics

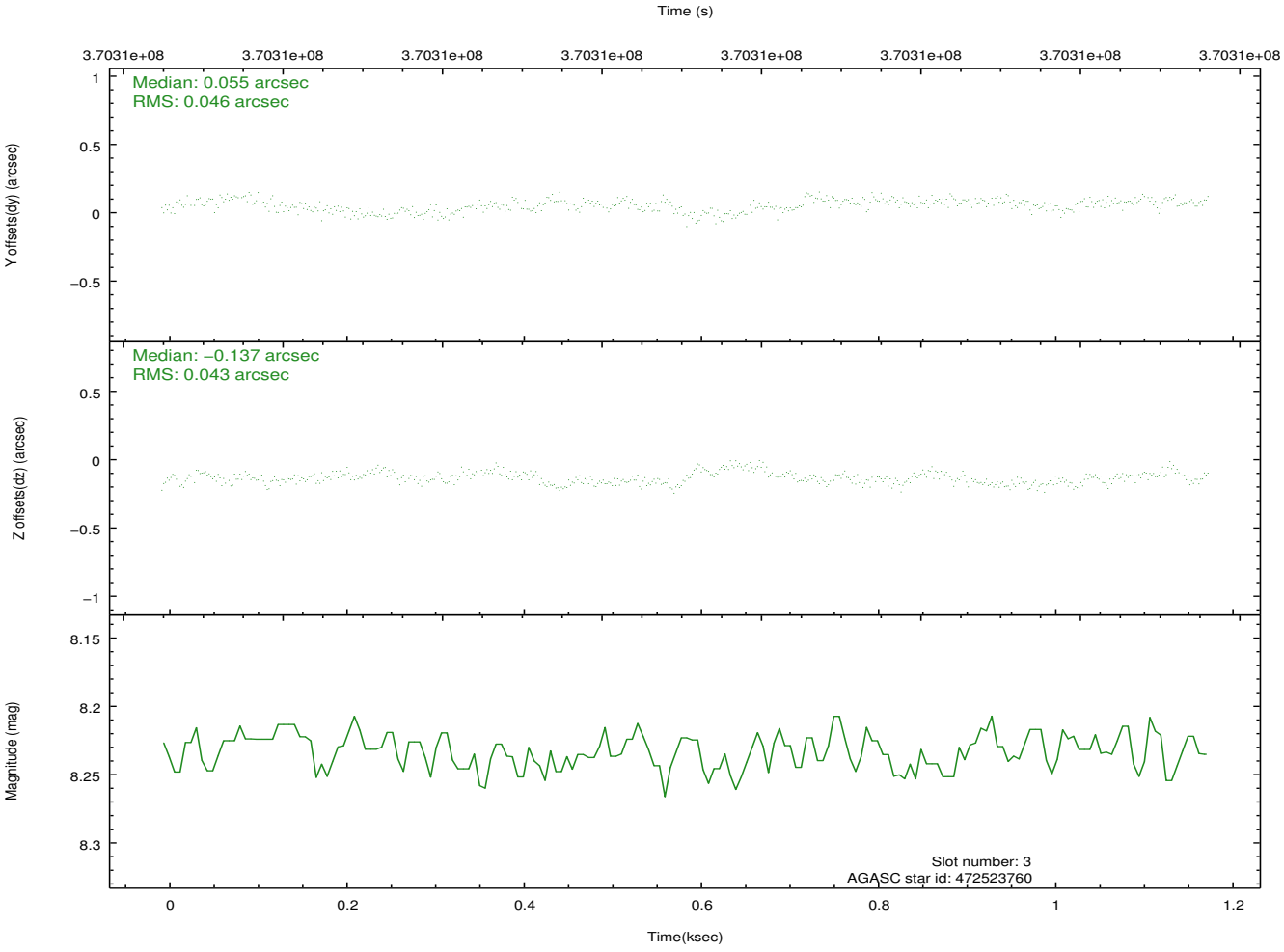
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.98	288	0.078	-0.132	0.007	0.012	0.000000	0.000000	-1168.04	-460.56
1	FID	HRC-S-2	6.96	288	0.213	-0.113	0.004	0.008	0.000000	0.000000	1227.70	-454.74
2	FID	HRC-S-3	6.99	288	0.100	-0.056	0.006	0.012	0.000000	0.000000	-1166.49	567.46
3	GUIDE	472523760	8.23	577	0.055	-0.137	0.065	0.110	331.645363	45.403260	1748.33	135.67
4	GUIDE	472525528	6.65	577	-0.265	0.055	0.073	0.129	331.551102	45.248694	2293.76	404.23
5	GUIDE	472533912	9.15	576	0.096	0.056	0.125	0.209	331.791136	46.368695	-779.57	-2272.48
6	GUIDE	472655152	9.42	577	-0.015	-0.119	0.112	0.175	332.504239	45.862991	-972.86	261.73
7	GUIDE	472665256	9.03	576	0.132	0.133	0.076	0.122	332.808125	46.195041	-2321.42	-167.12

2.4 Star Slots

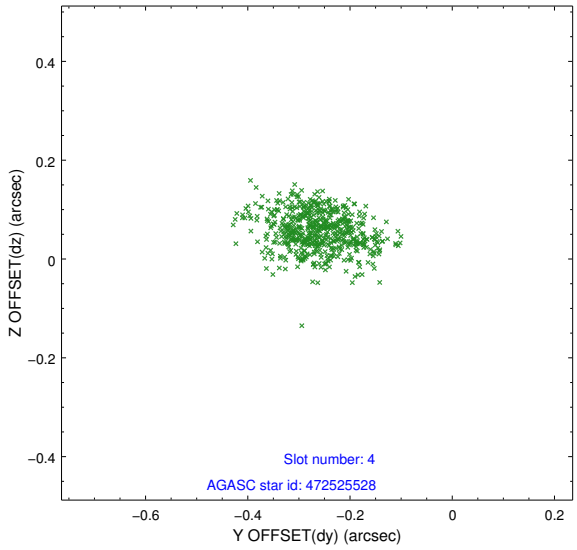
2.4.1 Slot 3

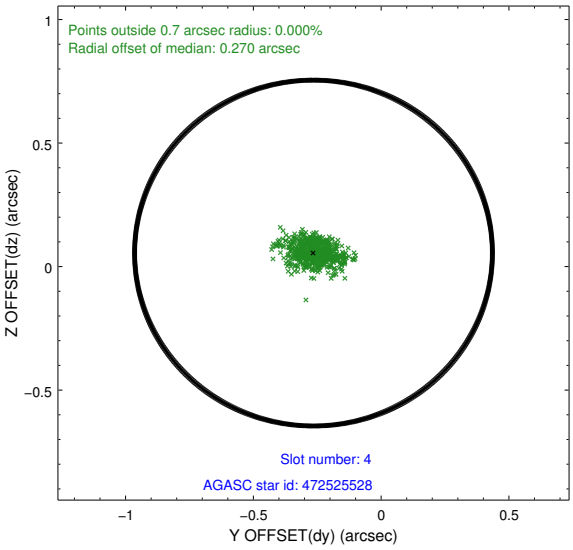


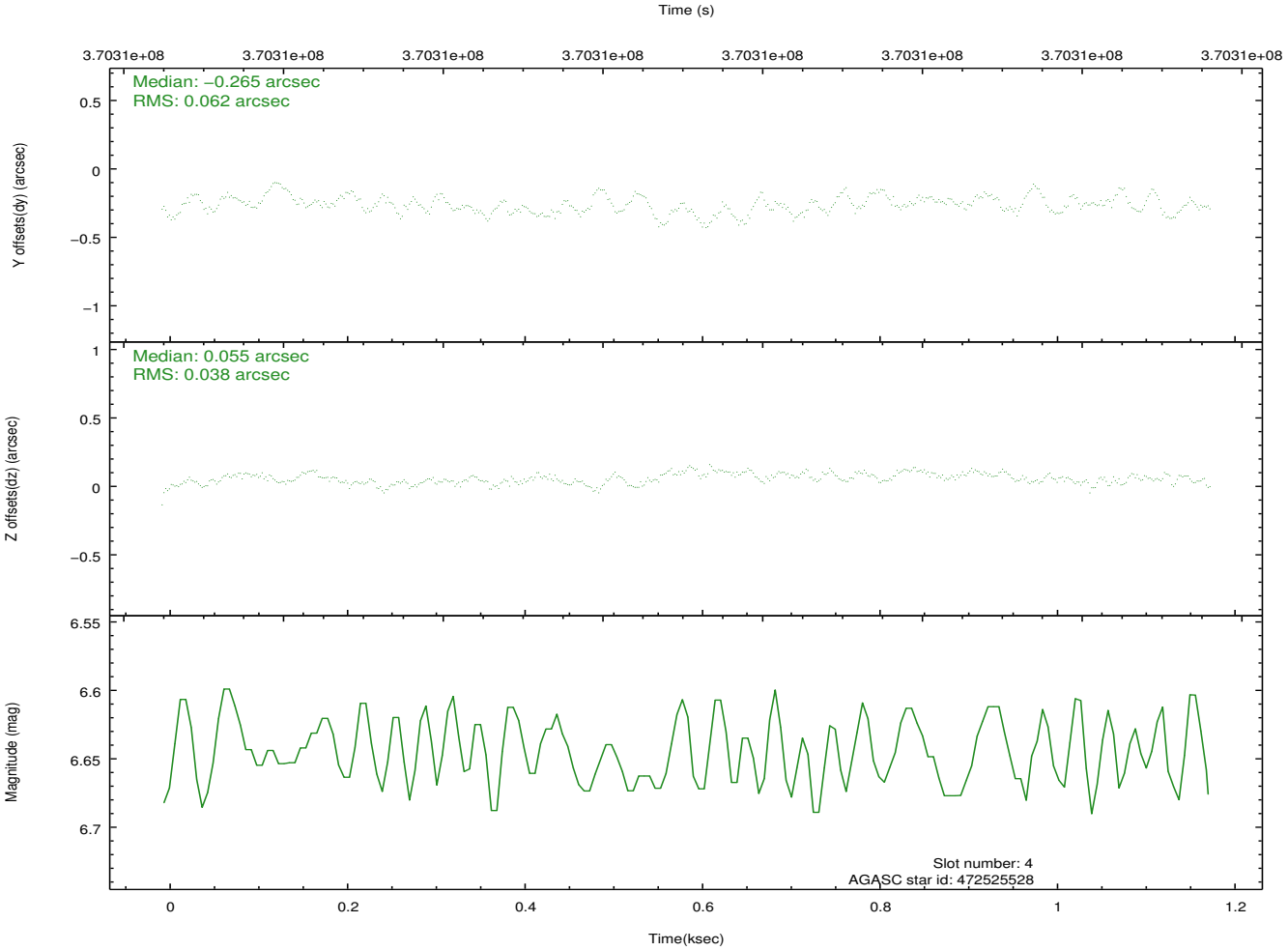




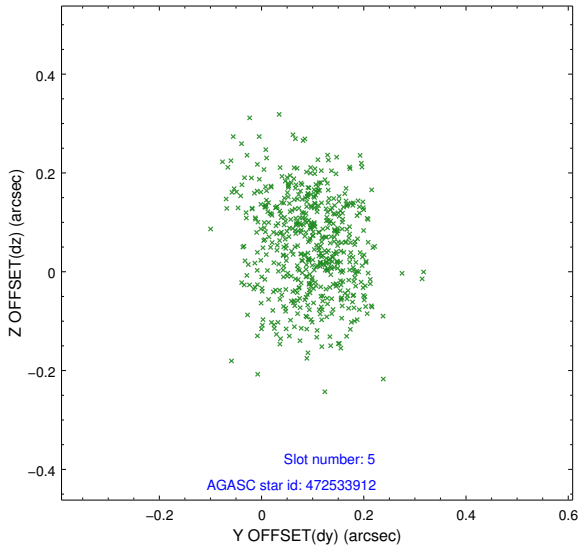
2.4.2 Slot 4

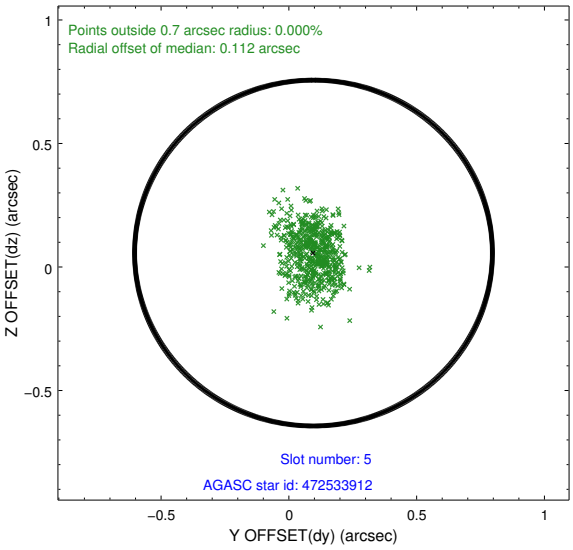

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472525528

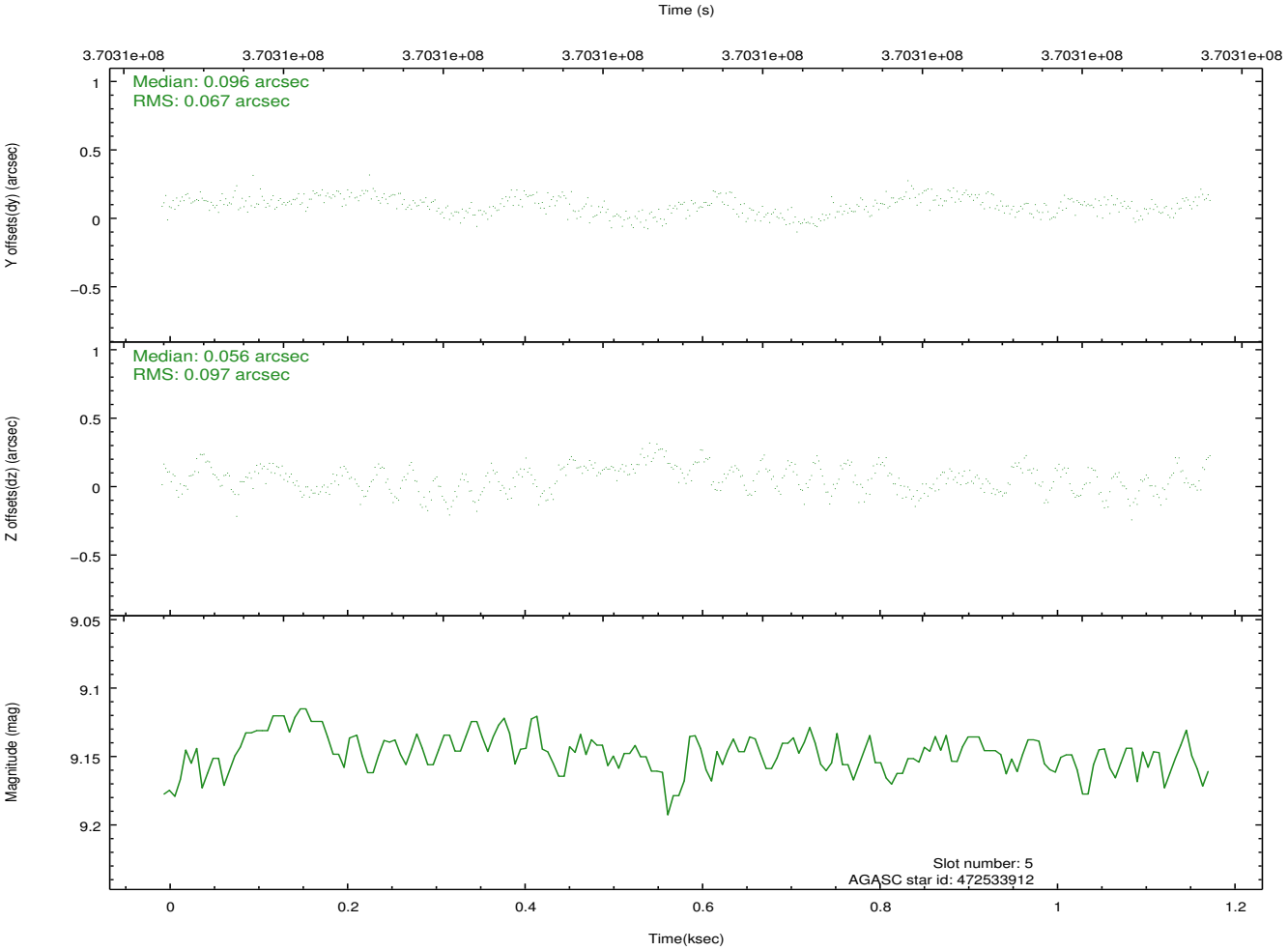

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.270 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 472525528


Time (s)
Median: −0.265 arcsec
RMS: 0.062 arcsec
Y offsets(dy) (arcsec)
Median: 0.055 arcsec
RMS: 0.038 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 472525528
Time(ksec)

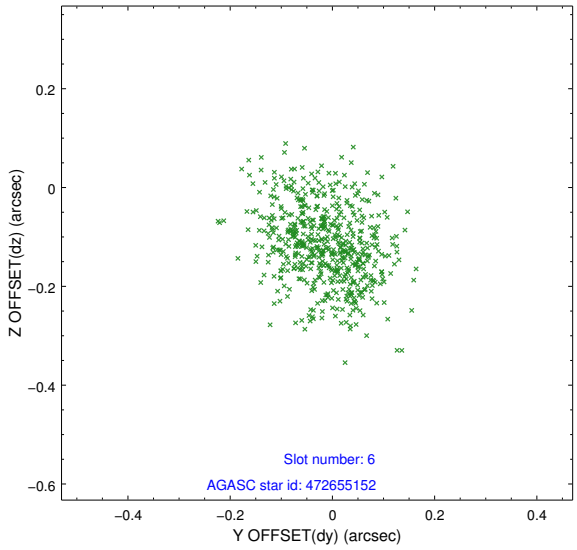
2.4.3 Slot 5

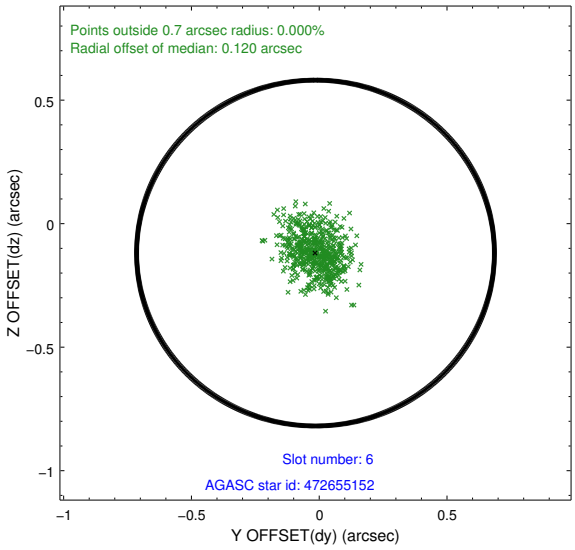

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472533912

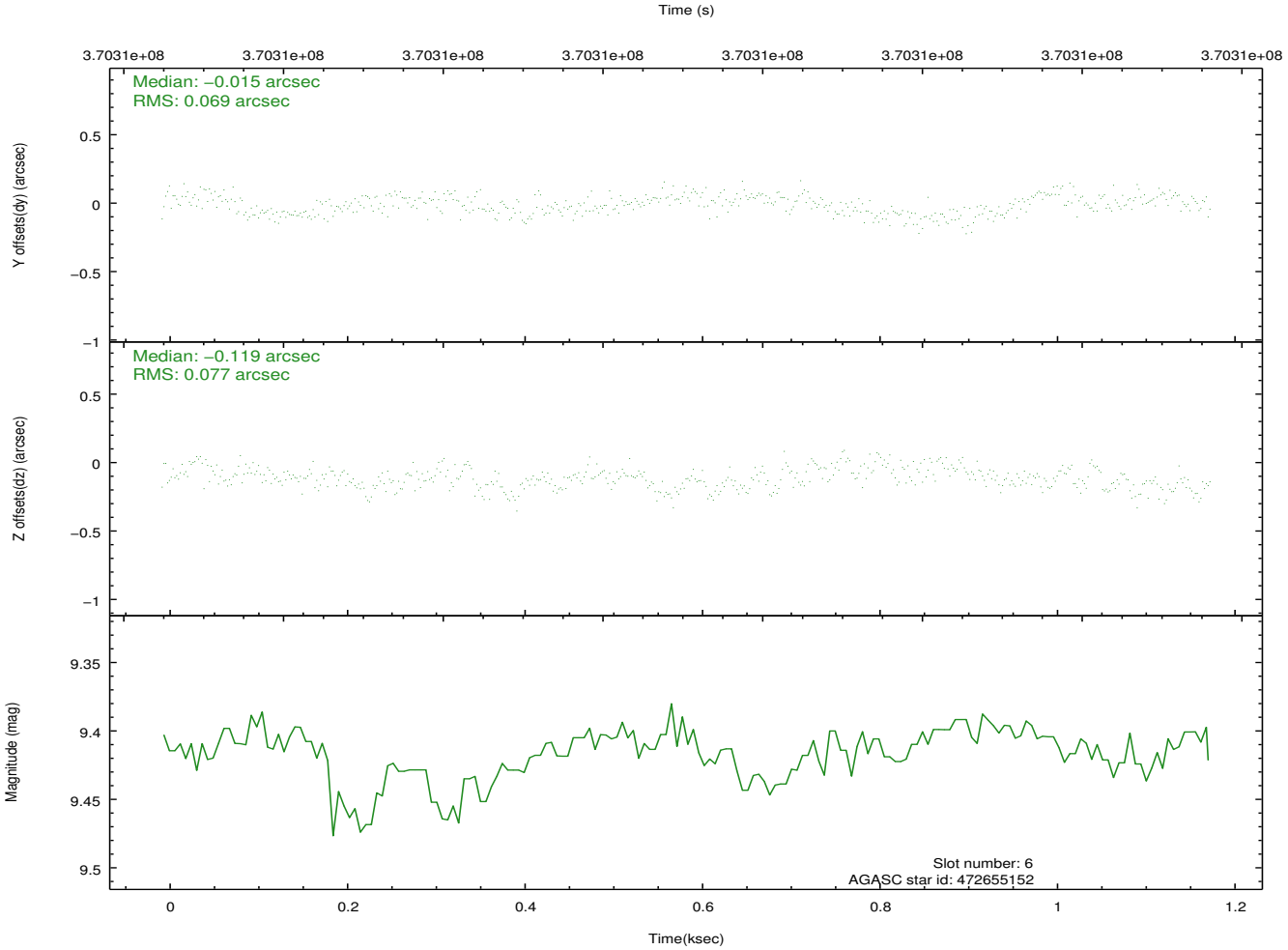

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.112 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 472533912


Time (s)
Median: 0.096 arcsec
RMS: 0.067 arcsec
Y offsets(dy) (arcsec)
Median: 0.056 arcsec
RMS: 0.097 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 472533912
Time(ksec)

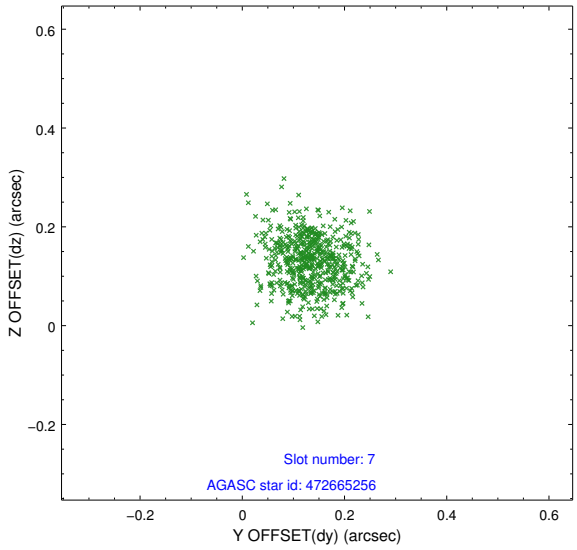
2.4.4 Slot 6

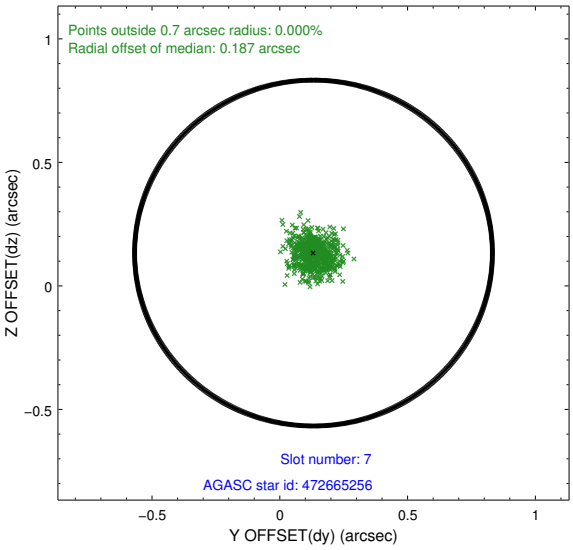

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472655152

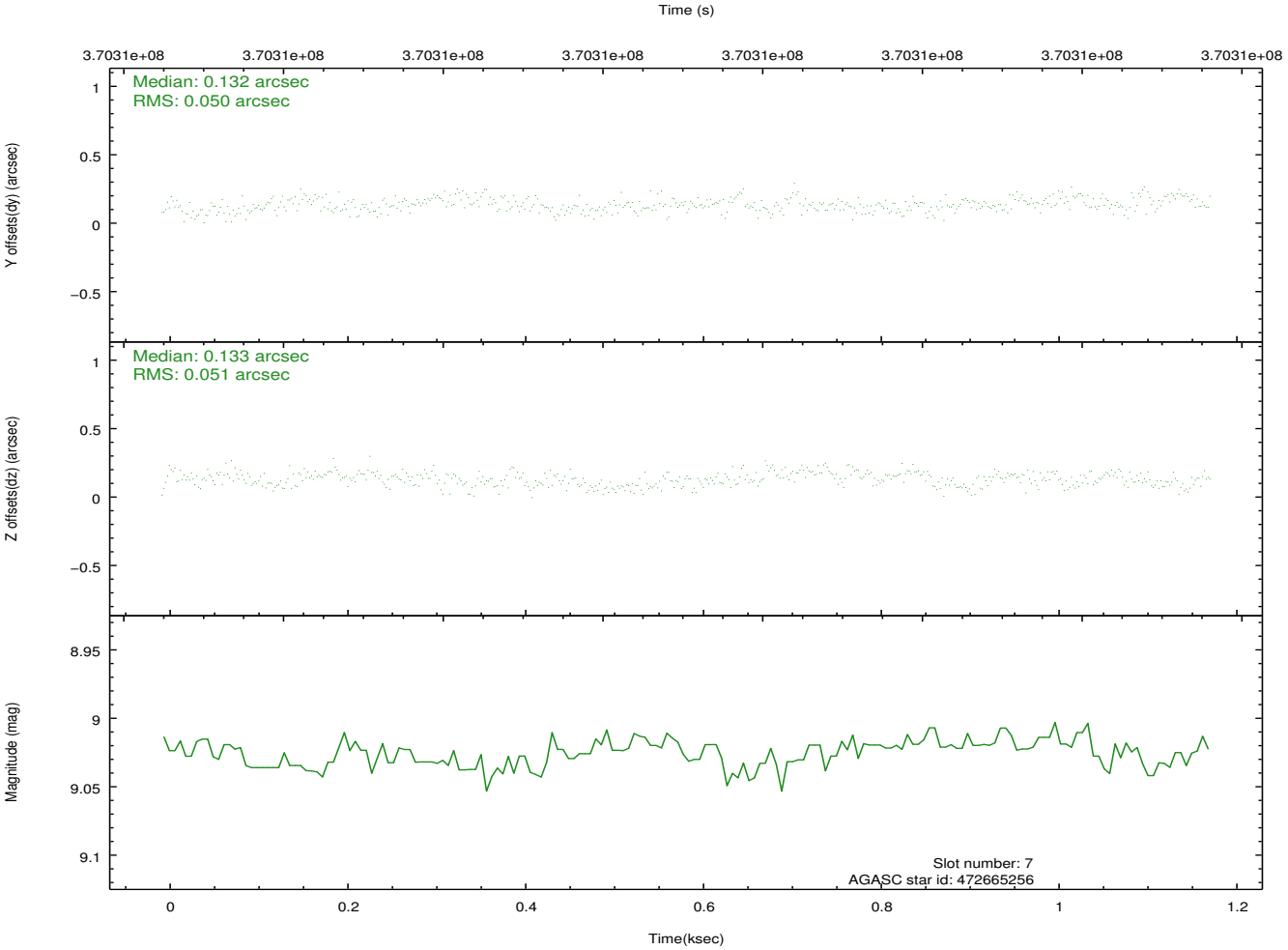

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.120 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 472655152


Time (s)
Median: −0.015 arcsec
RMS: 0.069 arcsec
Y offsets(dy) (arcsec)
Median: −0.119 arcsec
RMS: 0.077 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 472655152
Time(ksec)

2.4.5 Slot 7

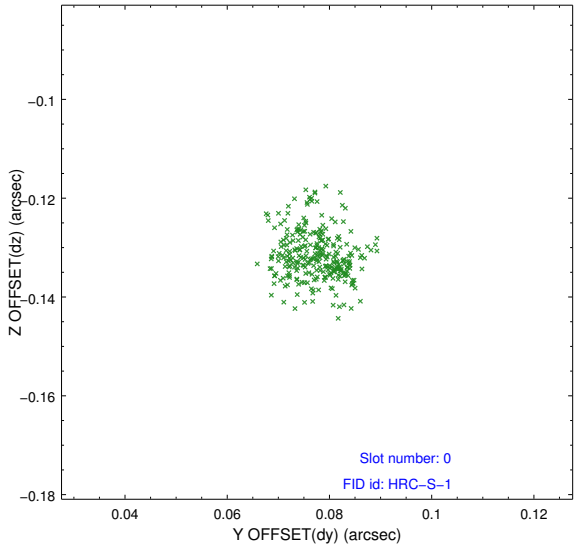

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472665256

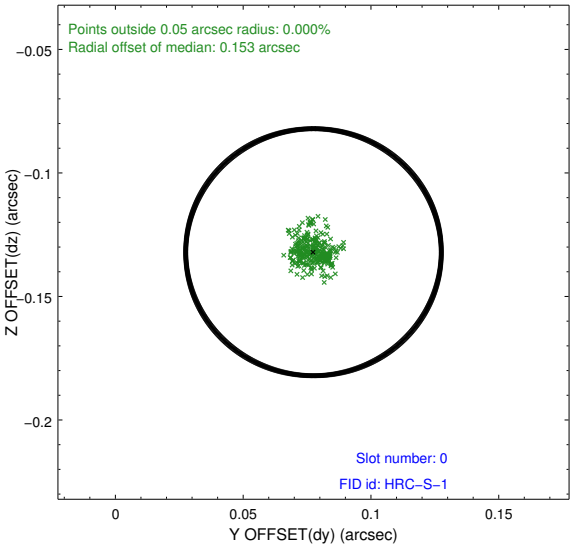

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.187 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 472665256

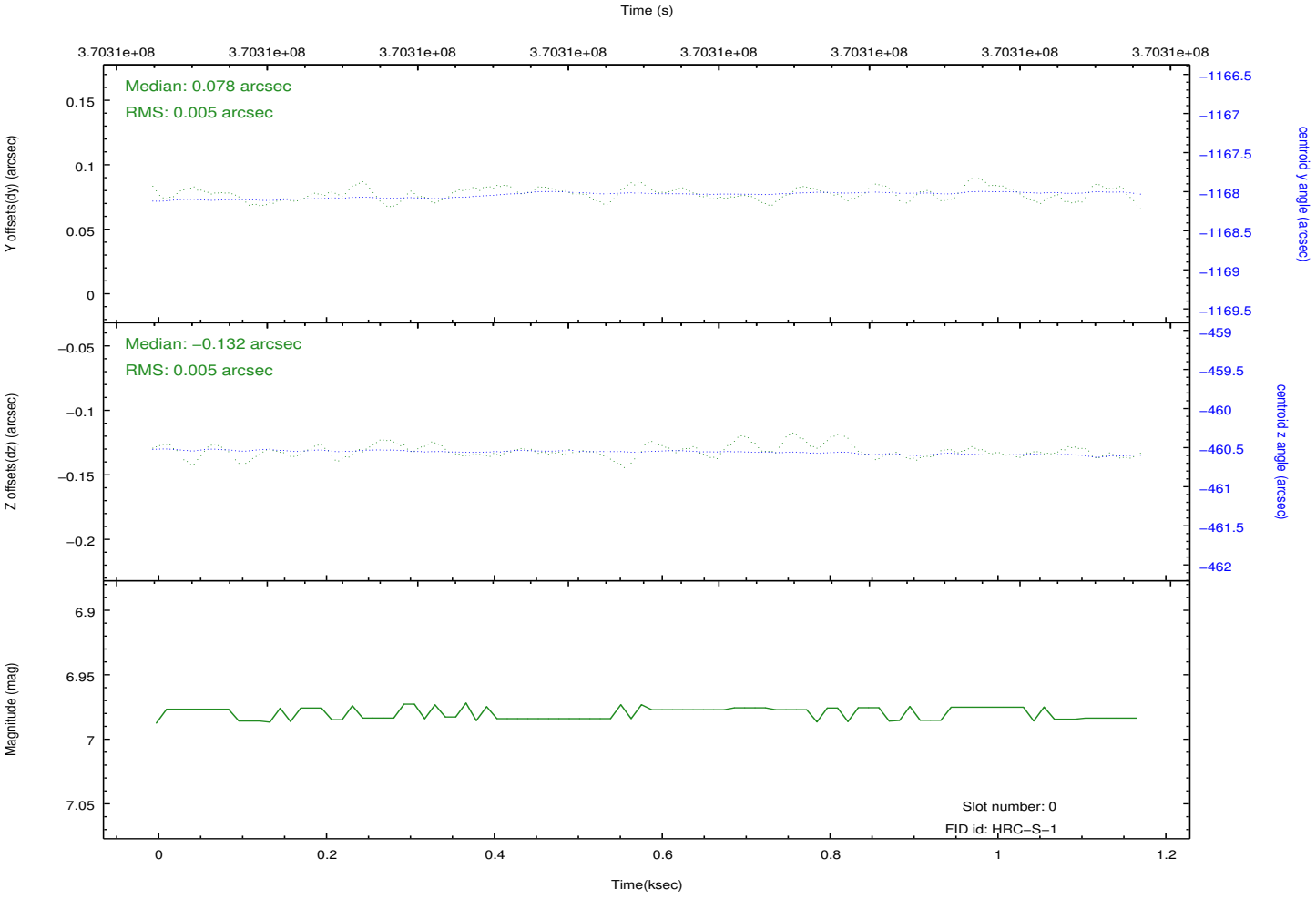

Time (s)
Median: 0.132 arcsec
RMS: 0.050 arcsec
Y offsets(dy) (arcsec)
Median: 0.133 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 472665256
Time(ksec)

2.5 FID Slots

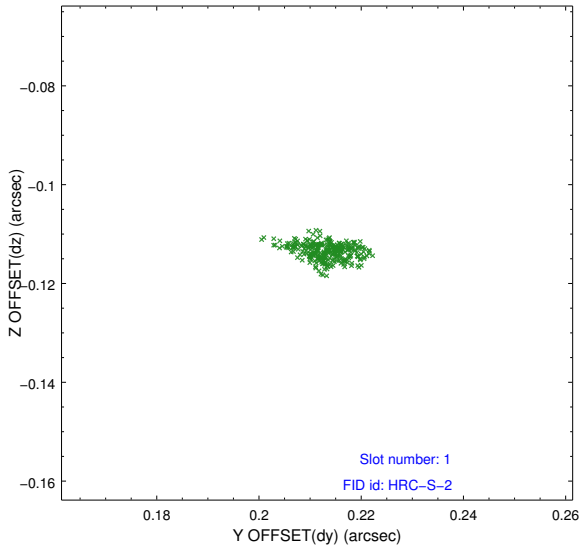
2.5.1 Slot 0

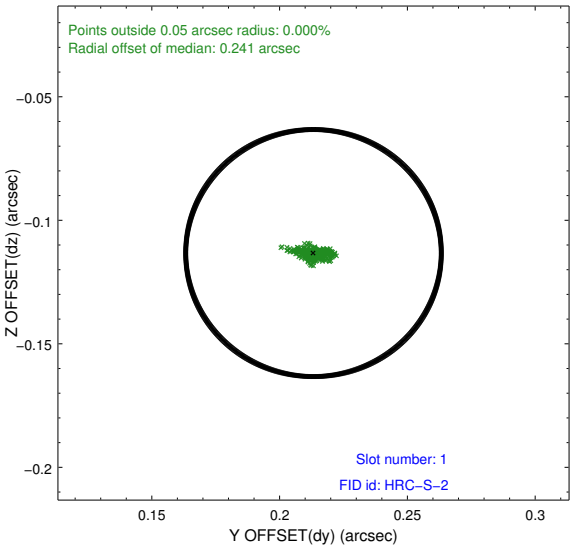


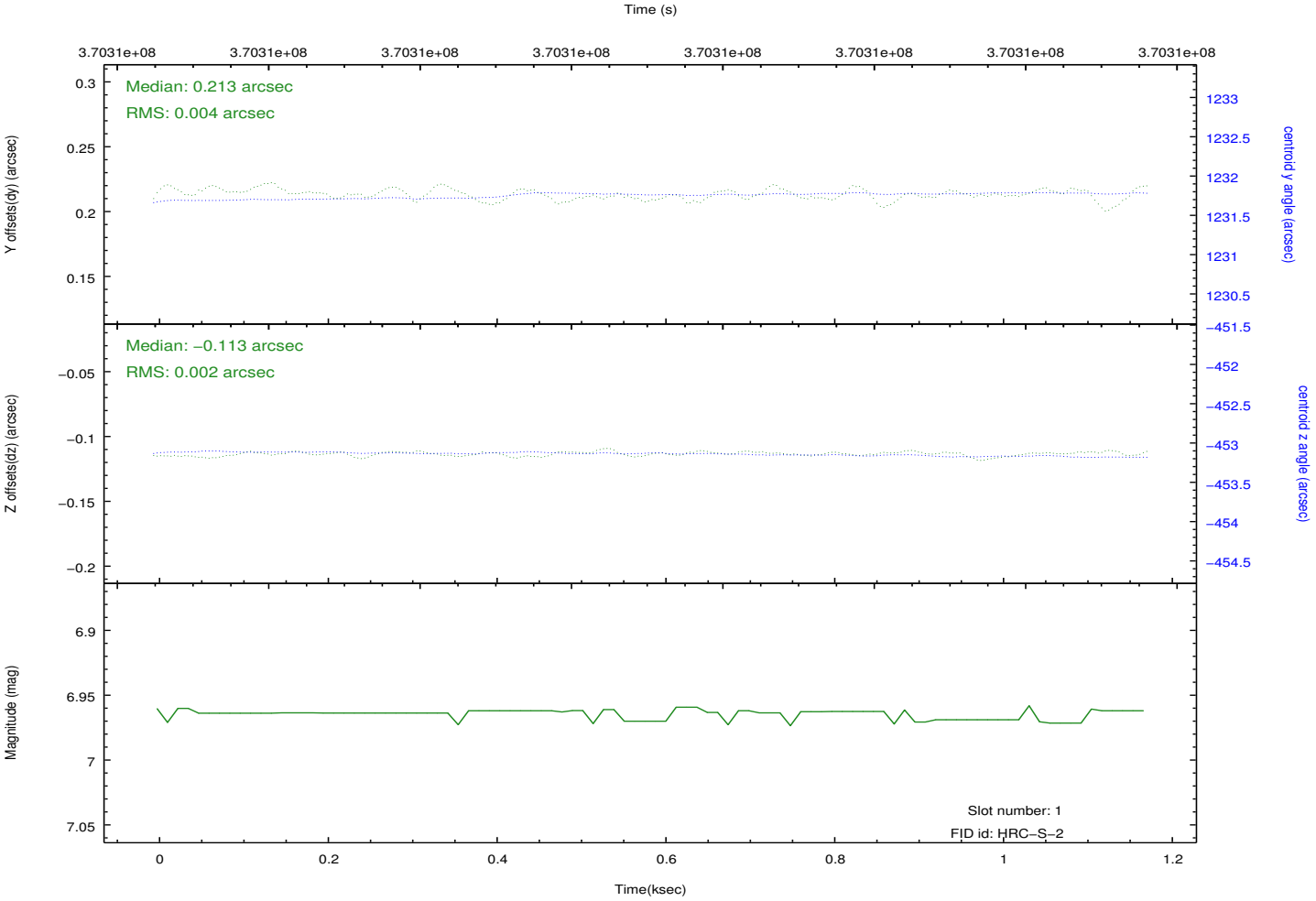




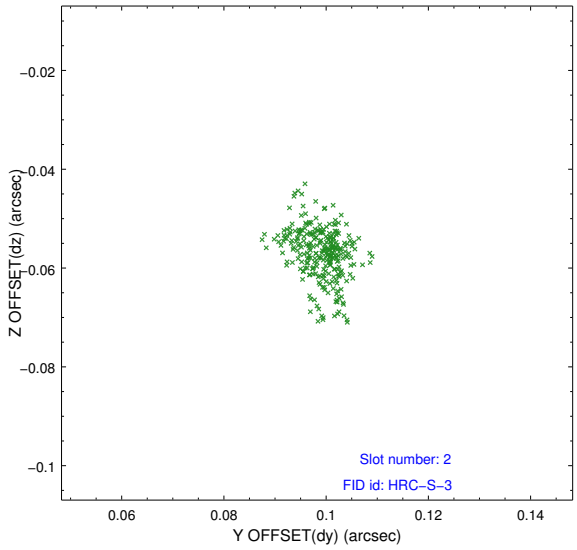
2.5.2 Slot 1

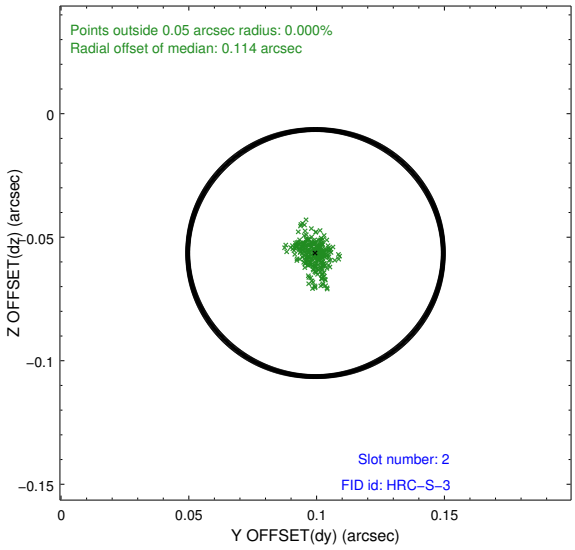

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−2

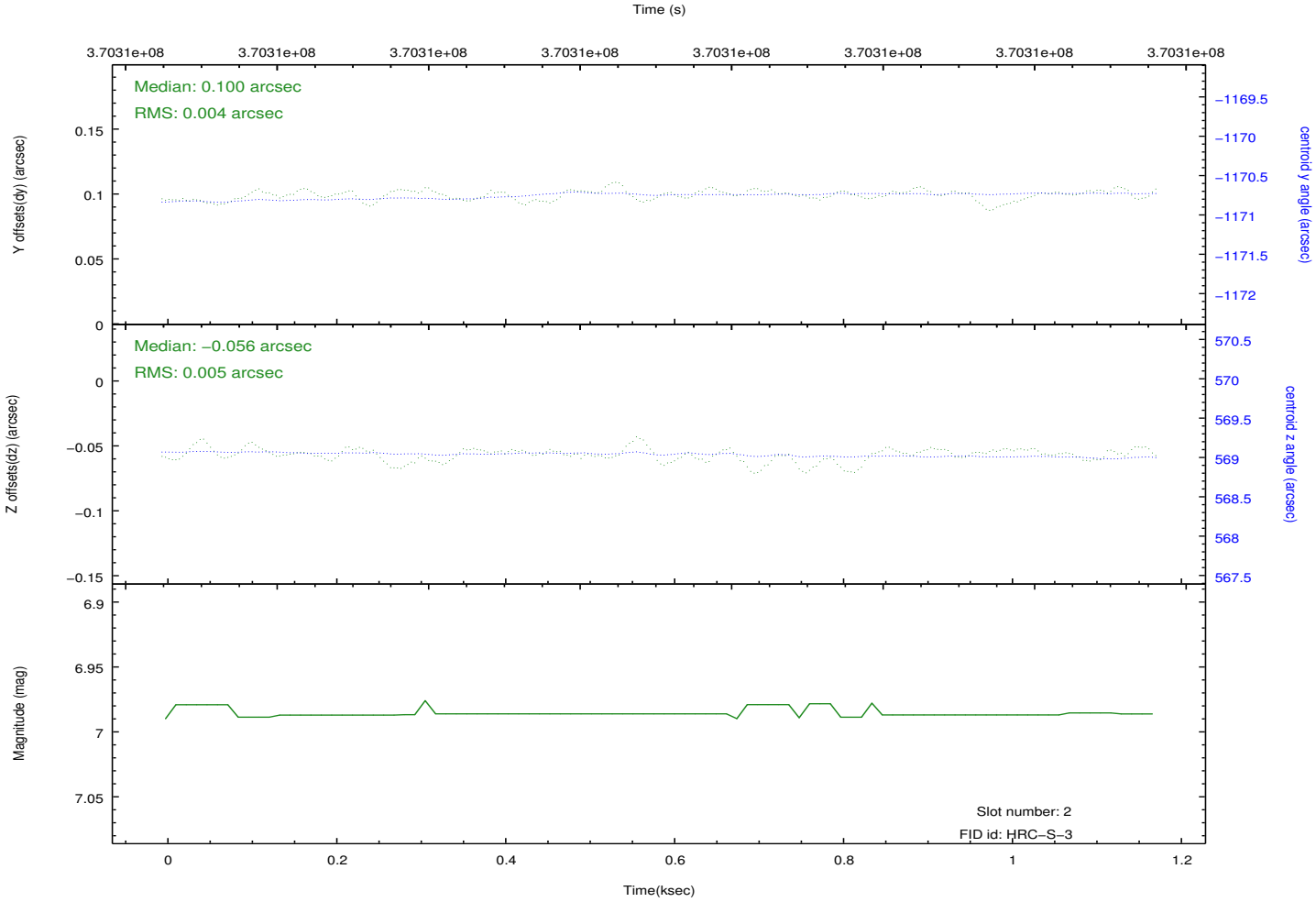

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.241 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC−S−2


Time (s)
Median: 0.213 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.113 arcsec
RMS: 0.002 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−3


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.114 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: HRC−S−3


Time (s)
Median: 0.100 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.056 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: HRC−S−3
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.08.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.1800313093066

A.2 Comments