V&V Reference Report
L2 ASCDS Version : 8.4.3

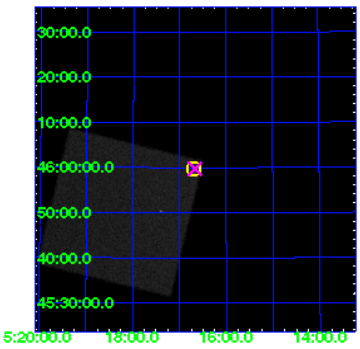
Observation 6558 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Aug 10 2012

Contents

1 Front

seq_num	290651	Sequence number
obs_id	6558	Observation id
title	Improving the De-Gap Corrections for the HRC-I	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
ra_targ	79.1725	Observer's specified target RA [deg]
dec_targ	45.998	Observer's specified target Dec [deg]
ra_nom	79.167792941903	Nominal RA [deg]
dec_nom	45.995754235996	Nominal Dec [deg]
roll_nom	238.76674305237	Nominal Roll [deg]
revision	4	Processing version of data
ontime	5187.7814904749	[s]
livetime	5141.9893370474	Ontime multiplied by DTCOR
l2events	304151	Number of level 2 events

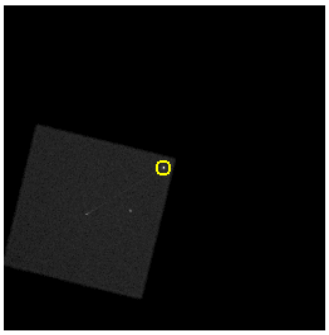


2 OBI

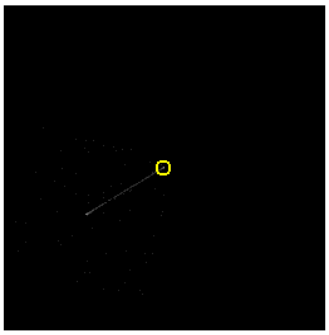
2.1 OBI

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	2012-08-10T23:18:15	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ontime	5187.7814904749	[s]
l1events	436306	Number of level 1 events

2.1.3 Events

Level 1 Events

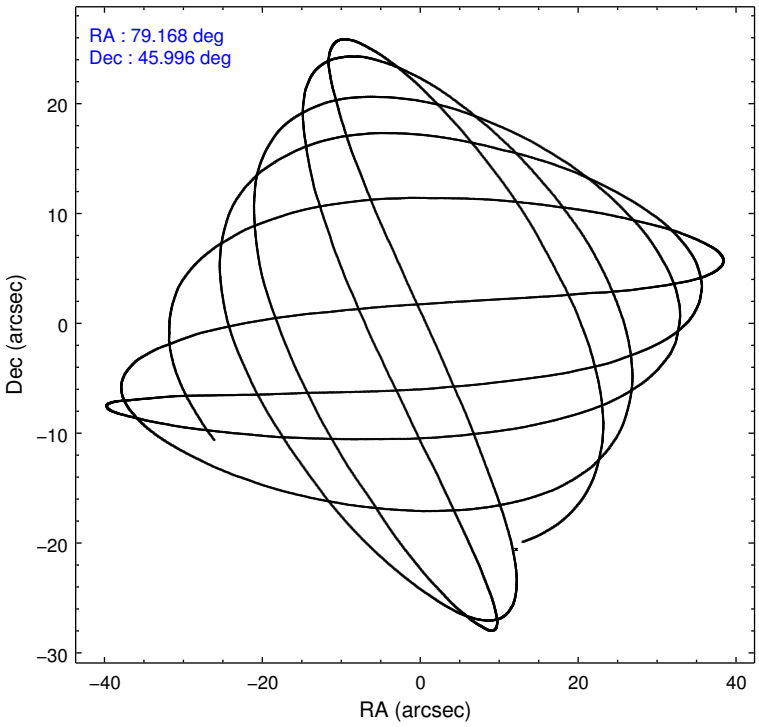
	segment 0
level 1 events	436306
rejected events	25811
rejected %	5%

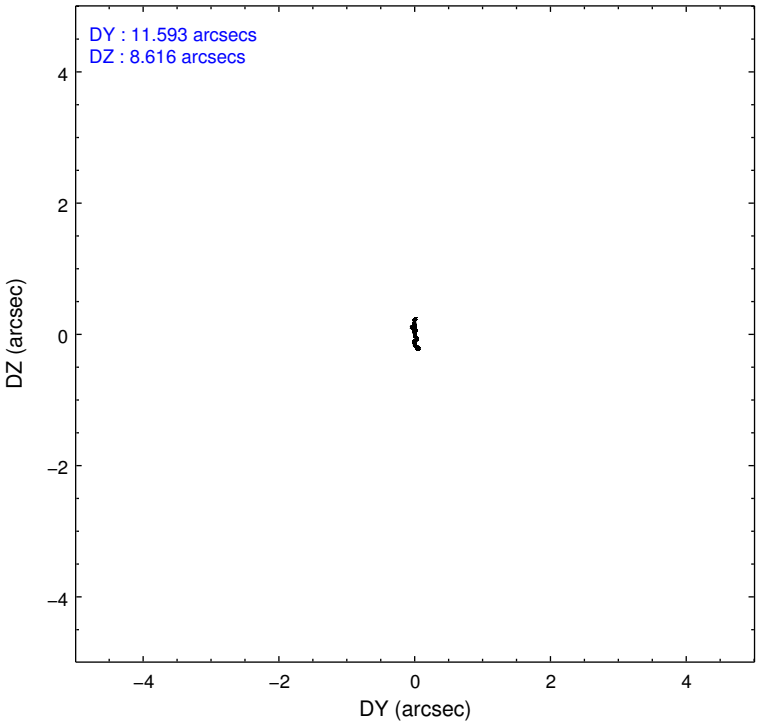
2.2 Compared Parameters

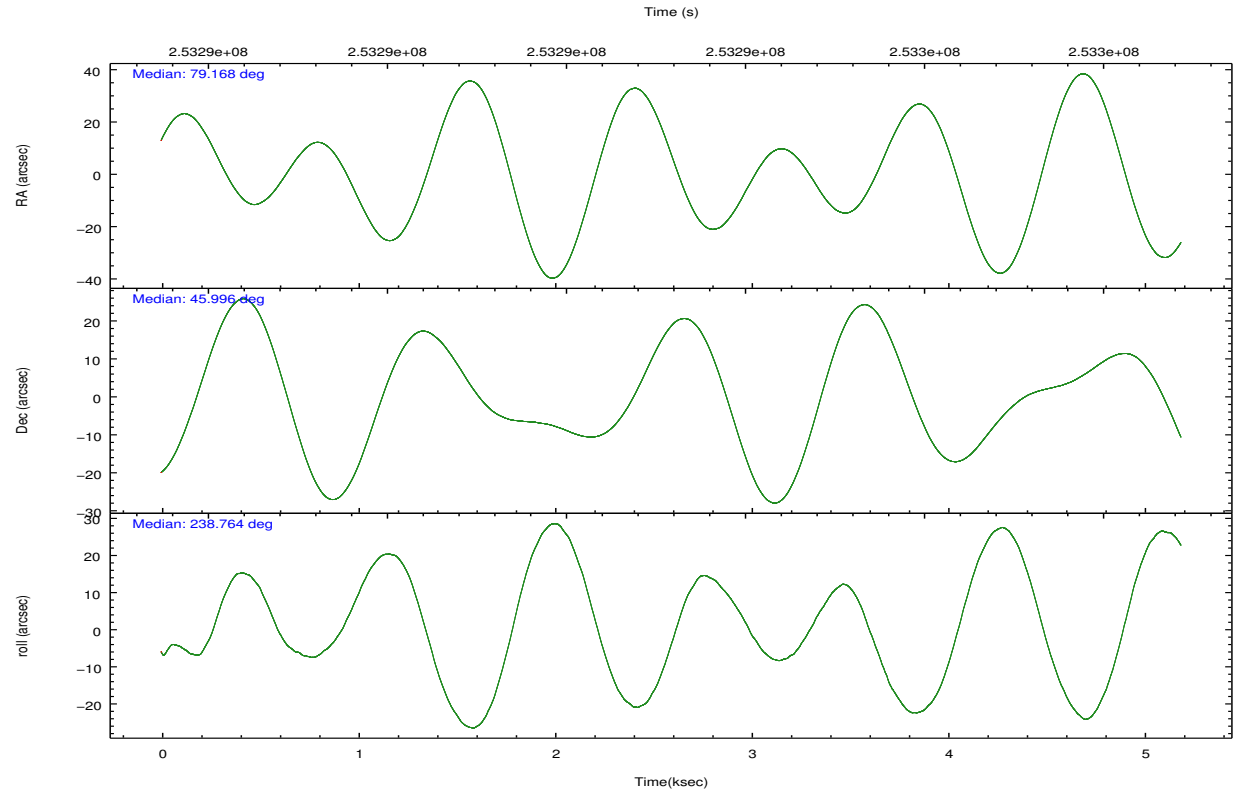
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	79.167584	79.16779294190273
[deg] Pointing Dec	46.022648	45.99575423599647
[deg] Pointing Roll	238.862401	238.7667430523711
[mm] SIM focus pos	-1.040293	-1.038866356238299
[mm] SIM defocus	0	0.001426264420575141
[mm] SIM translation stage pos	69.985494	69.98093778831948
[mm] SIM translation stage offset	57	57.00455110328208
[s] Observation start time (MET)	253291173.184000	253290796.59191
Observation start date	2006-01-10T14:38:28	2006-01-10T14:33:16
[s] Observation end time (MET)	253296173.184000	253296306.47966
Observation end date	2006-01-10T16:01:48	2006-01-10T16:05:06

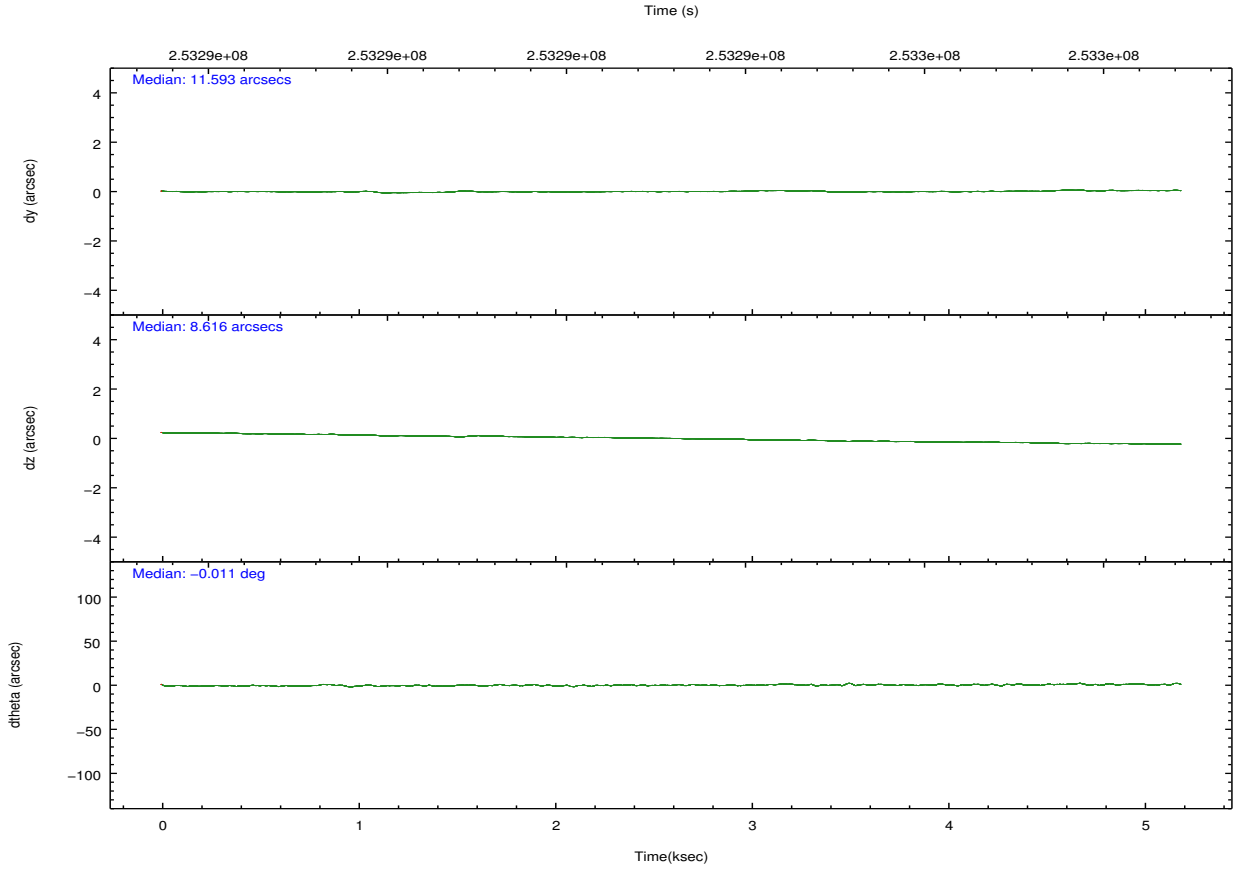
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 79.168 deg
Dec : 45.996 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−30
−40
−20
0
20
40


DY : 11.593 arcsecs
DZ : 8.616 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
2.5329e+08
2.5329e+08
2.5329e+08
2.5329e+08
2.533e+08
2.533e+08
Median: 79.168 deg
RA (arcsec)
Median: 45.996 deg
Dec (arcsec)
Median: 238.764 deg
roll (arcsec)
Time(ksec)

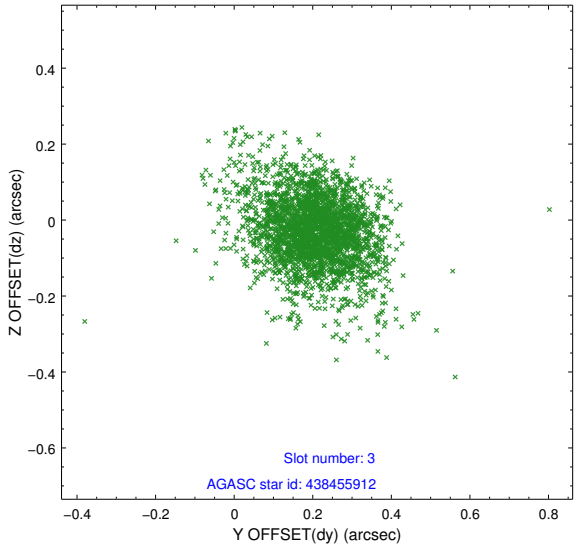

Time (s)
2.5329e+08
2.5329e+08
2.5329e+08
2.5329e+08
2.533e+08
2.533e+08
Median: 11.593 arcsecs
dy (arcsec)
Median: 8.616 arcsecs
dz (arcsec)
Median: −0.011 deg
dtheta (arcsec)
Time(ksec)

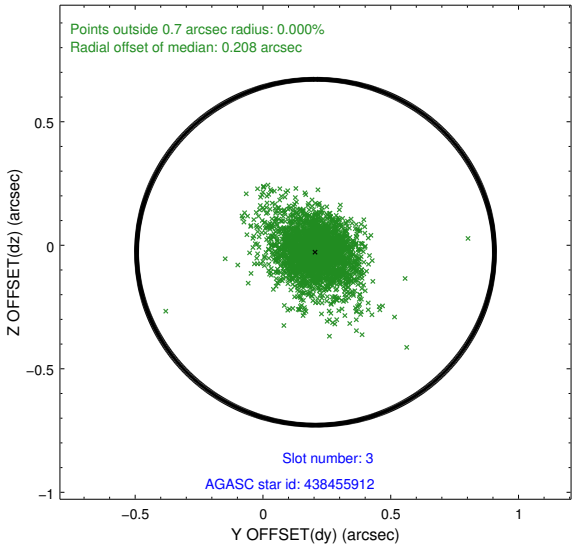
Slot Statistics

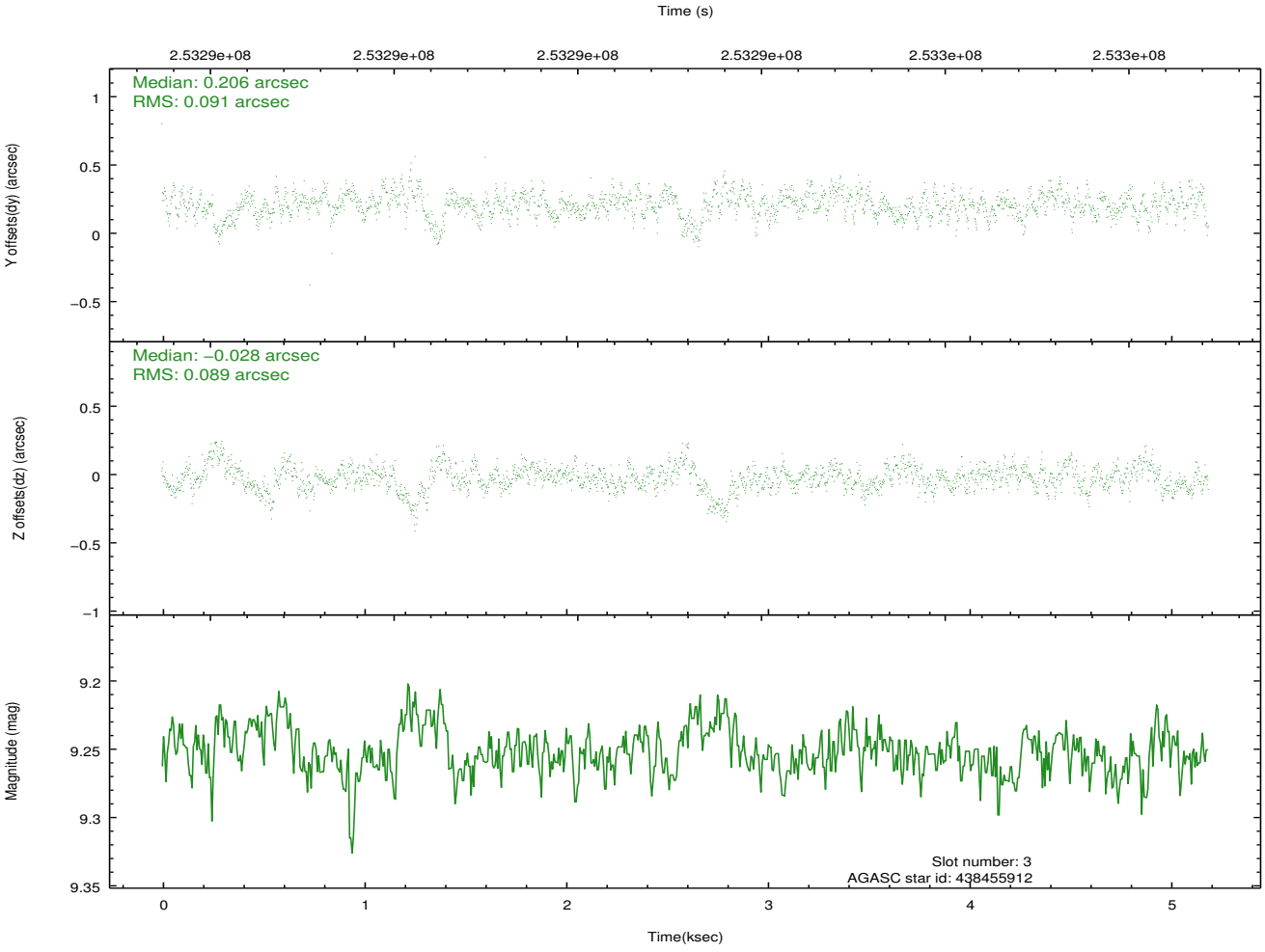
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-1	7.03	1266	-0.526	-0.467	0.007	0.011	0.000000	0.000000	-765.76	-130.41
1	FID	HRC-I-3	7.09	1266	0.269	-0.196	0.008	0.013	0.000000	0.000000	-1197.94	2179.26
2	FID	HRC-I-4	6.98	1266	0.373	0.567	0.006	0.011	0.000000	0.000000	1273.11	2180.30
3	GUIDE	438455912	9.25	2530	0.206	-0.028	0.127	0.230	78.251946	45.690923	2203.04	-1359.83
4	GUIDE	440140240	9.99	2531	-0.223	0.033	0.136	0.240	78.889349	46.726437	-1812.64	-1898.85
5	GUIDE	440150048	7.12	2532	-0.129	-0.058	0.081	0.131	79.112838	46.416060	-1141.56	-849.30
6	GUIDE	440163960	8.88	2529	0.015	-0.033	0.079	0.129	79.298370	45.827072	433.44	644.70
7	GUIDE	438460832	9.00	2530	0.137	0.097	0.103	0.168	78.414614	45.554782	2417.24	-757.49

2.4 Star Slots

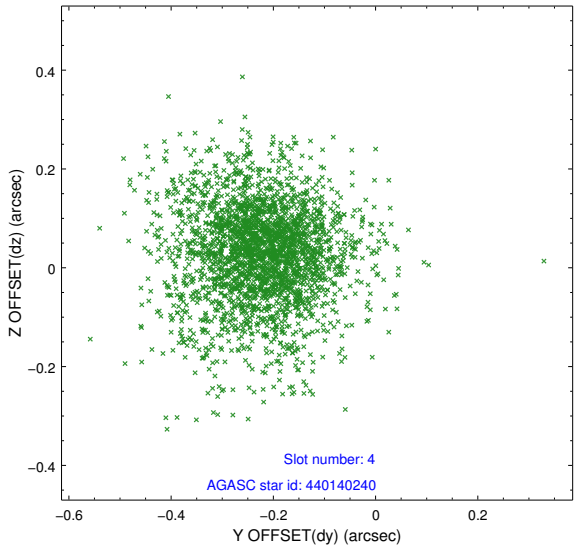
2.4.1 Slot 3

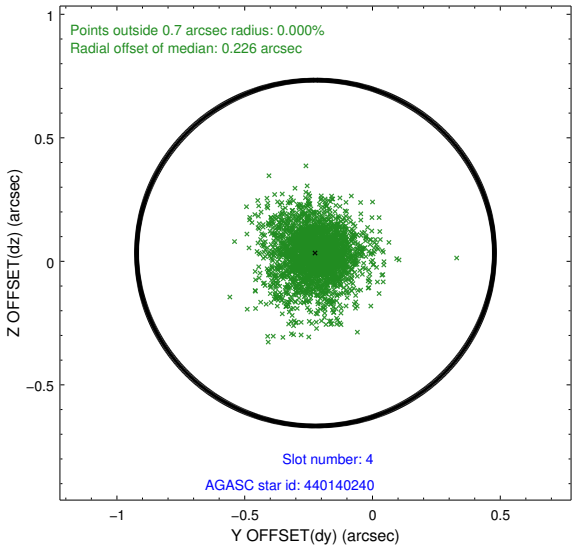


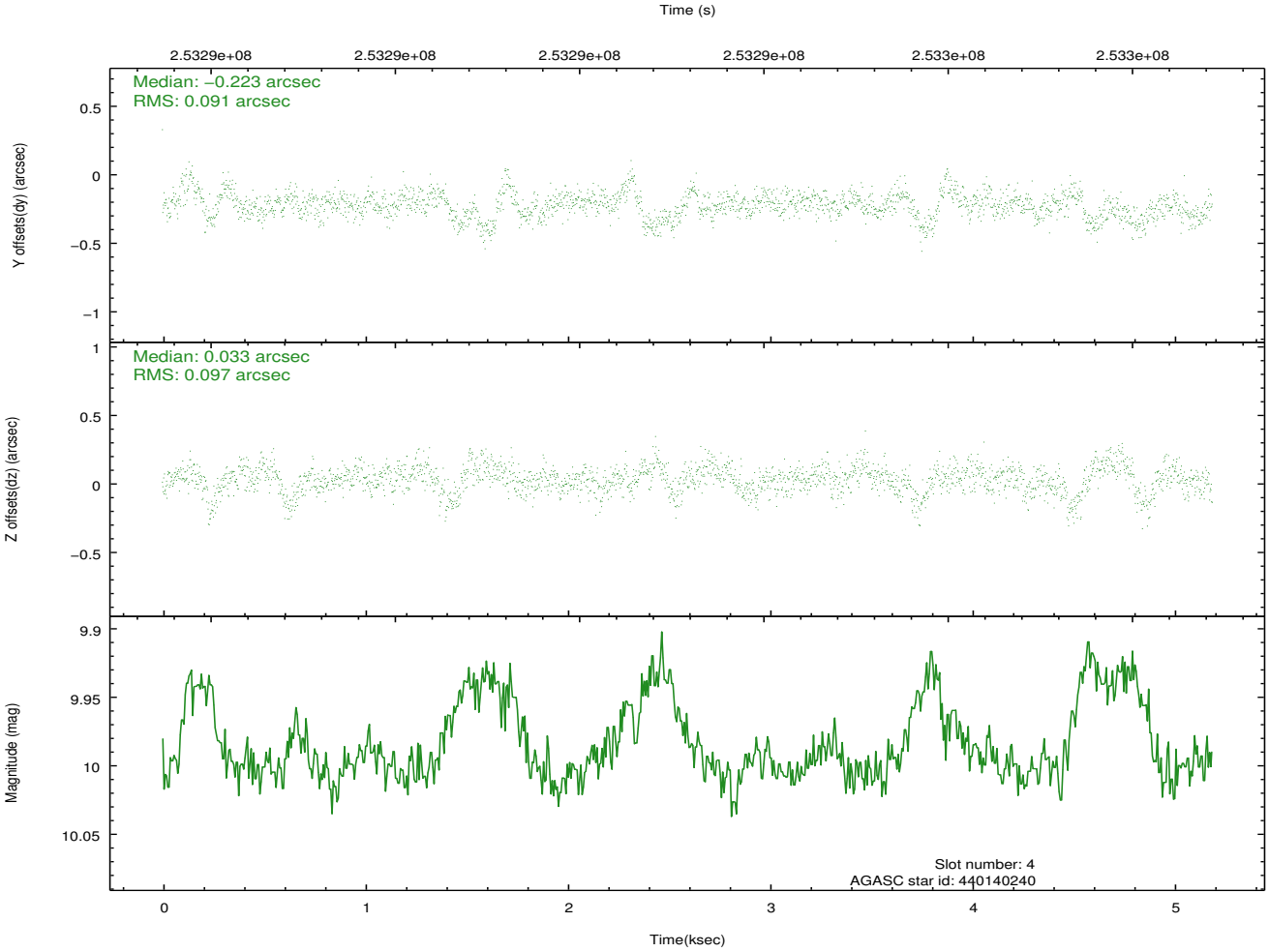




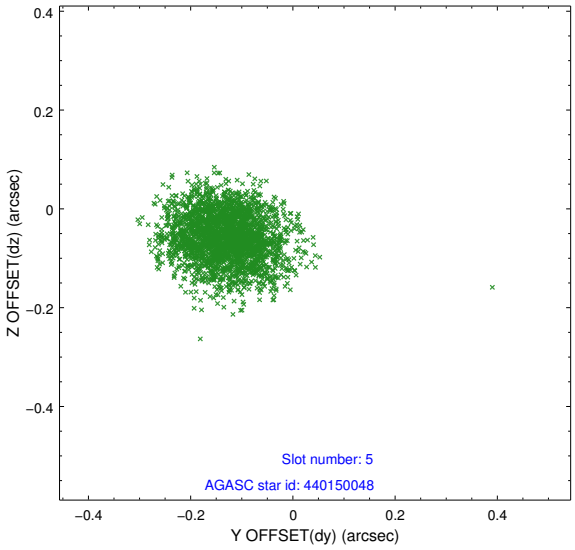
2.4.2 Slot 4

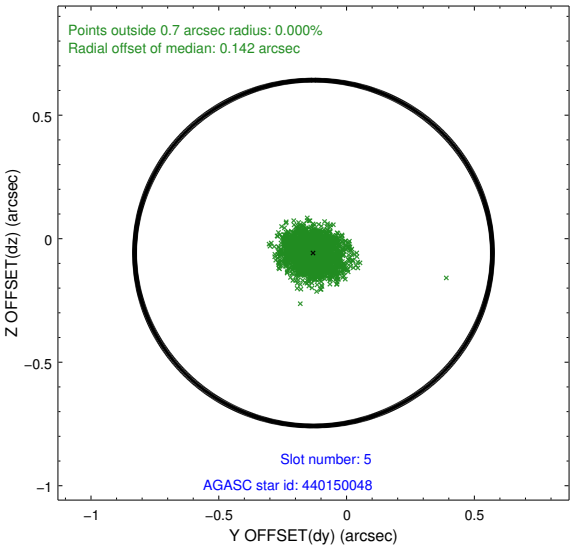

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 440140240

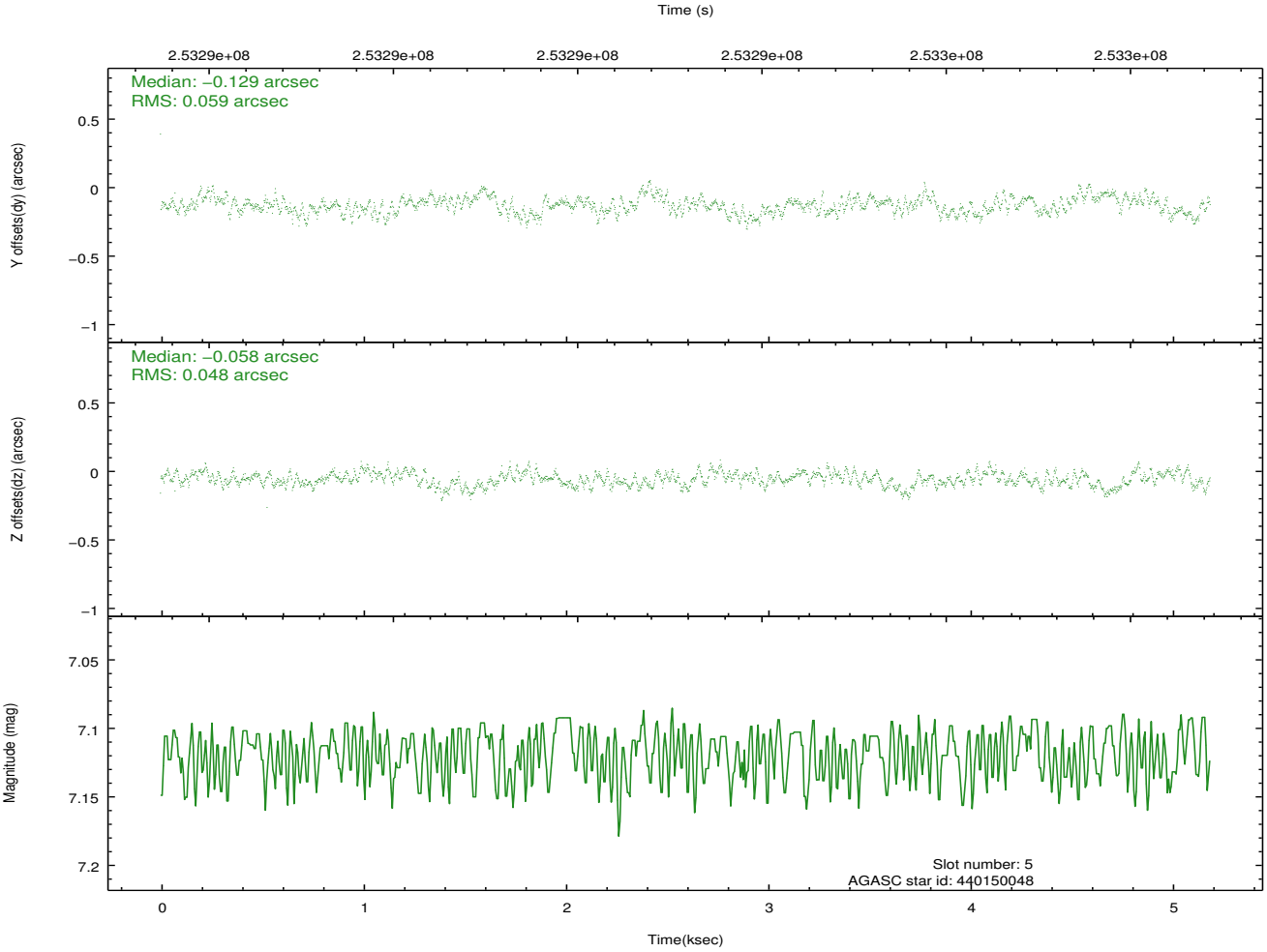

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.226 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 440140240


Time (s)
Median: −0.223 arcsec
RMS: 0.091 arcsec
Y offsets(dy) (arcsec)
Median: 0.033 arcsec
RMS: 0.097 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 440140240
Time(ksec)

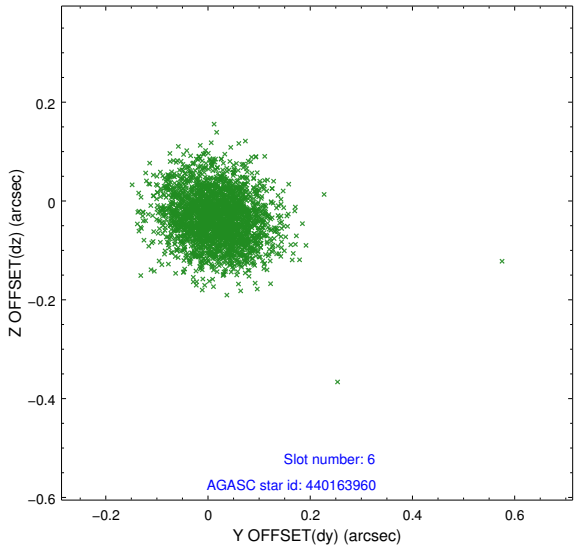
2.4.3 Slot 5

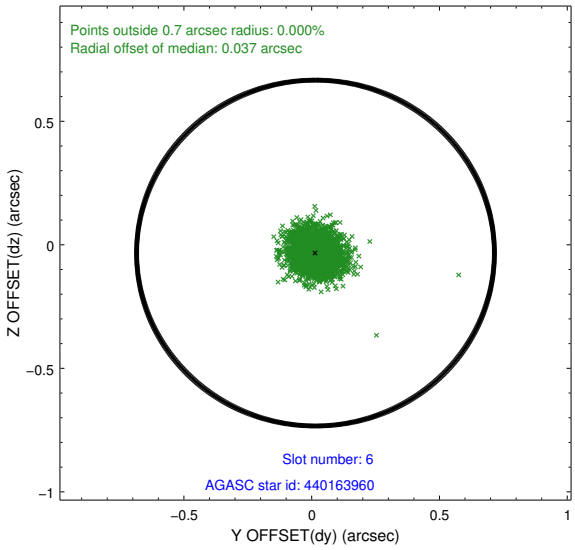

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 440150048

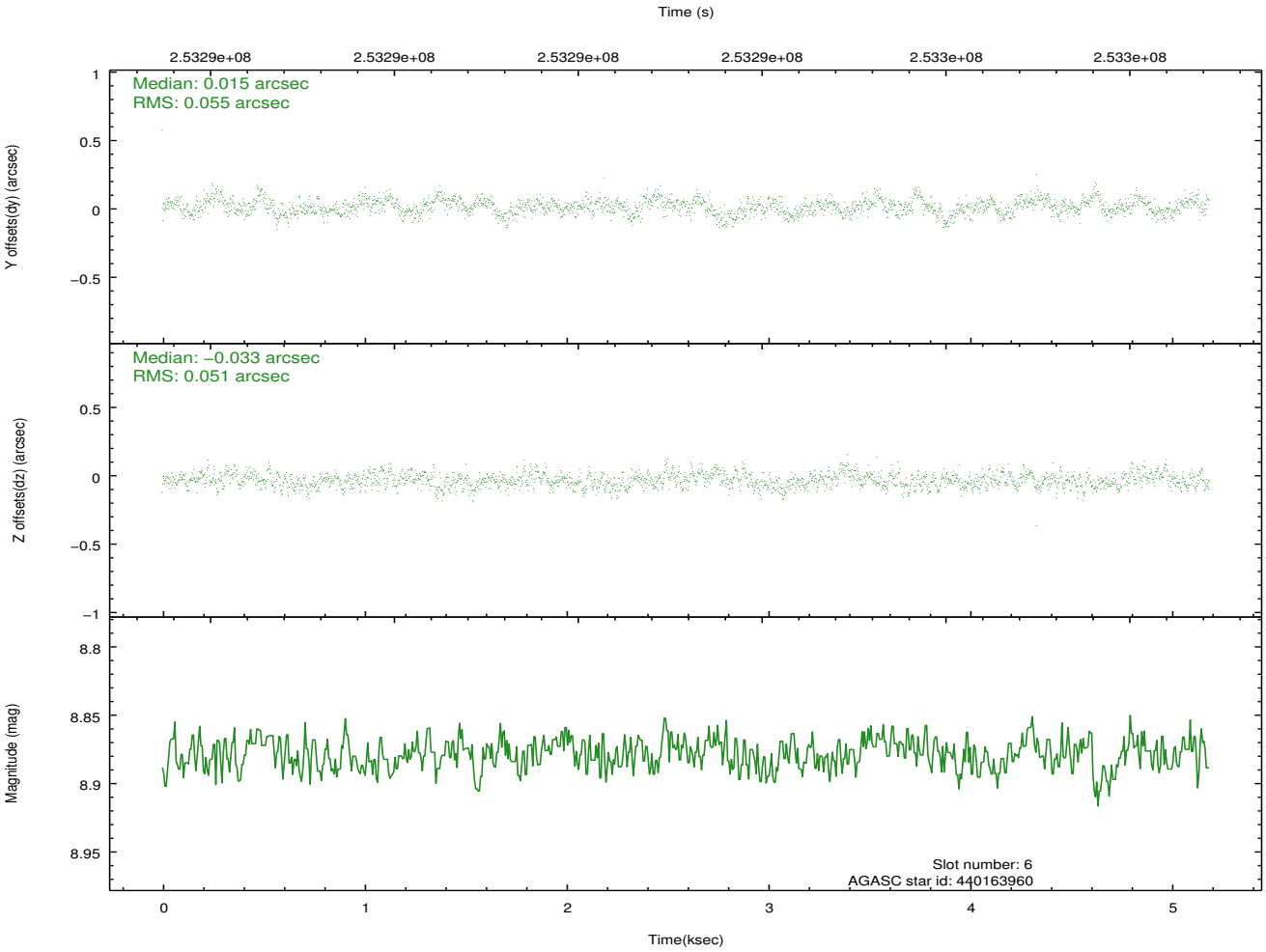

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.142 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 440150048


Time (s)
Median: −0.129 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.058 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 440150048
Time(ksec)

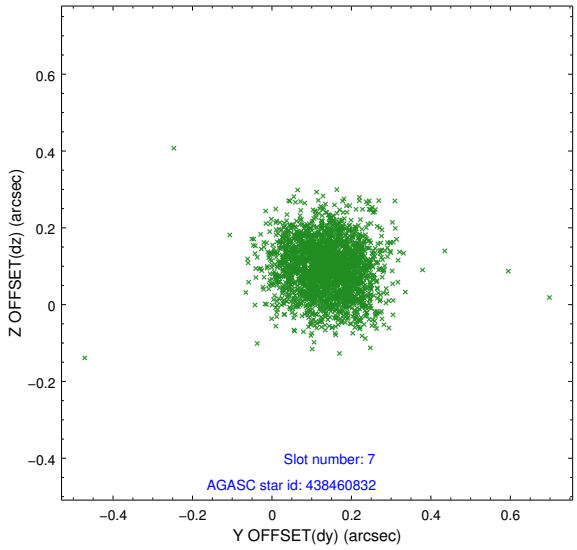
2.4.4 Slot 6

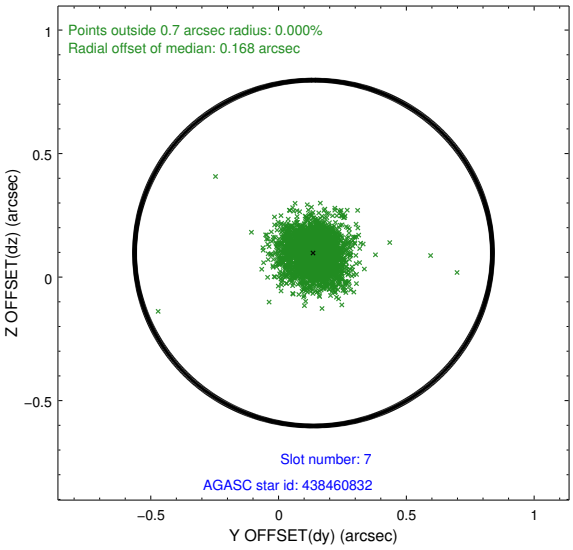

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 440163960

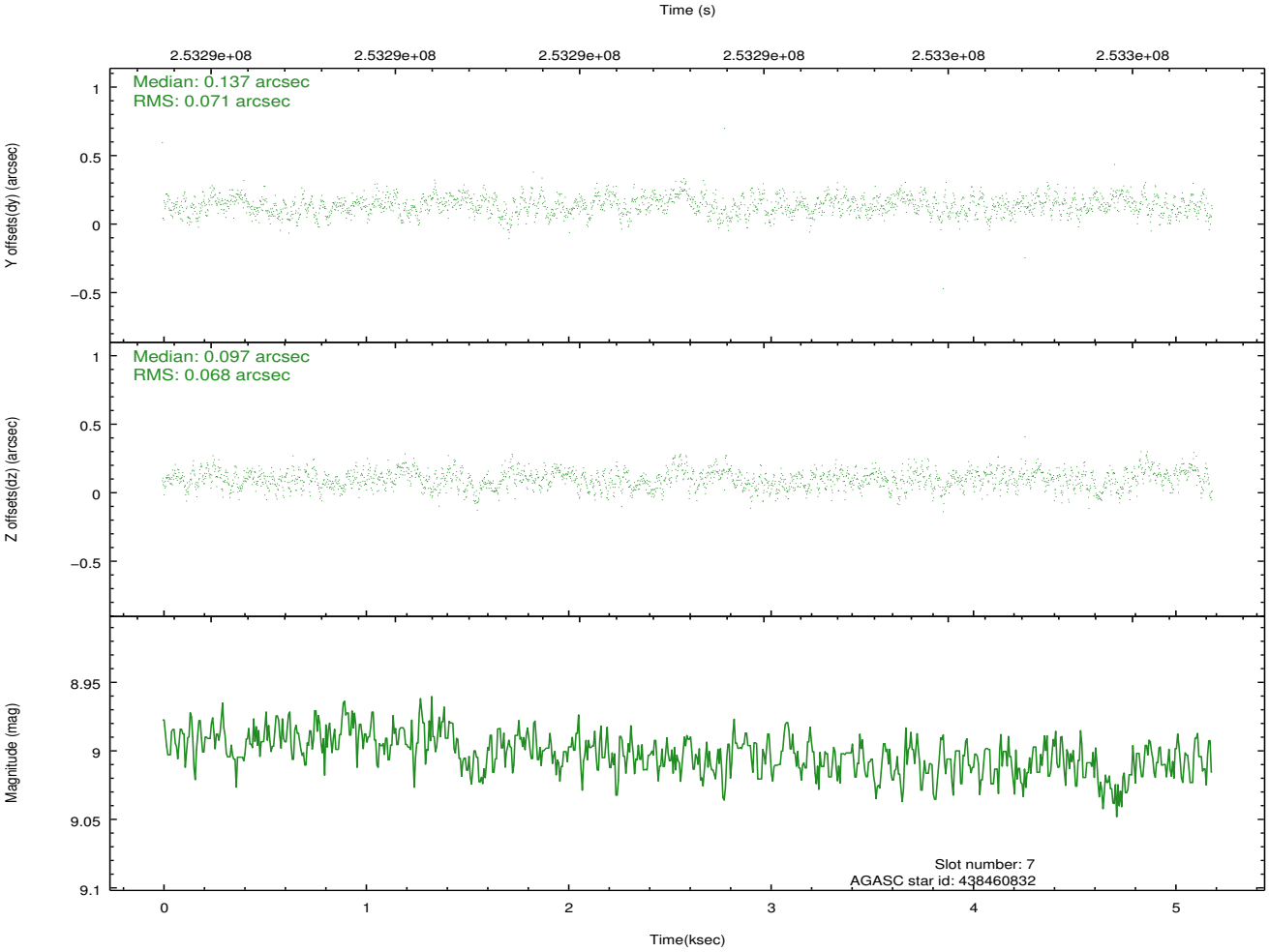

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.037 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 440163960


Time (s)
Median: 0.015 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: −0.033 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 440163960
Time(ksec)

2.4.5 Slot 7

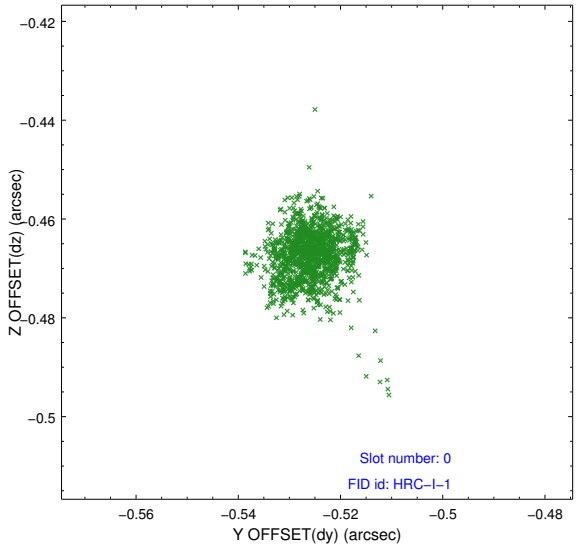

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 438460832

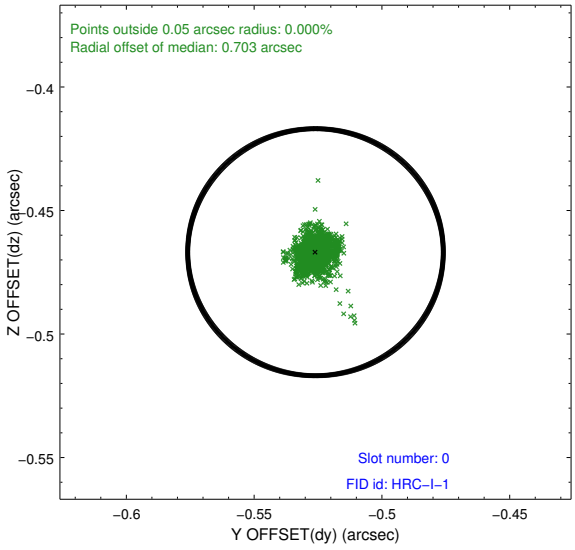

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.168 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 438460832

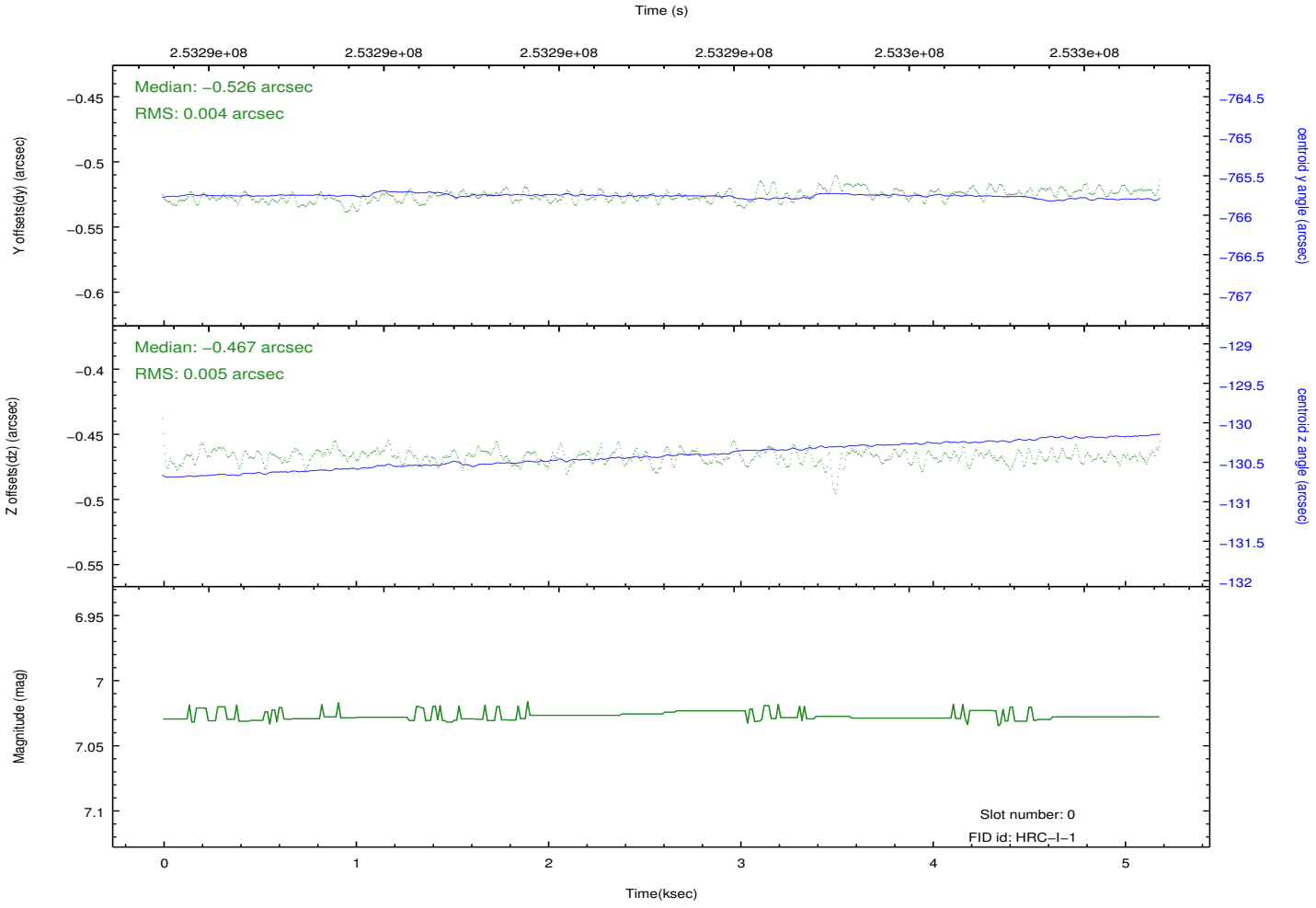

Time (s)
Median: 0.137 arcsec
RMS: 0.071 arcsec
Y offsets(dy) (arcsec)
Median: 0.097 arcsec
RMS: 0.068 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 438460832
Time(ksec)

2.5 FID Slots

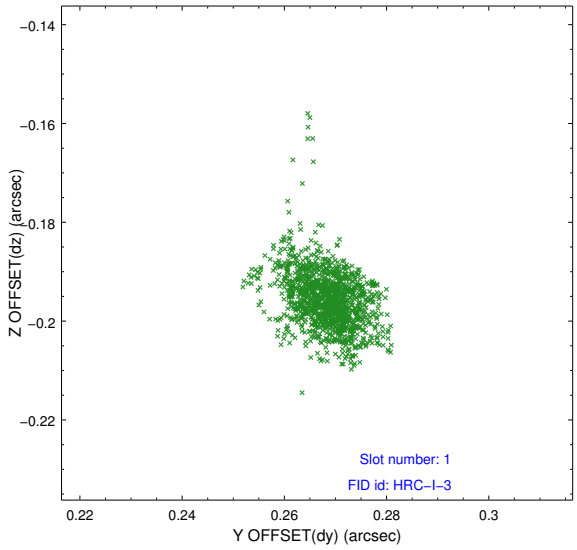
2.5.1 Slot 0

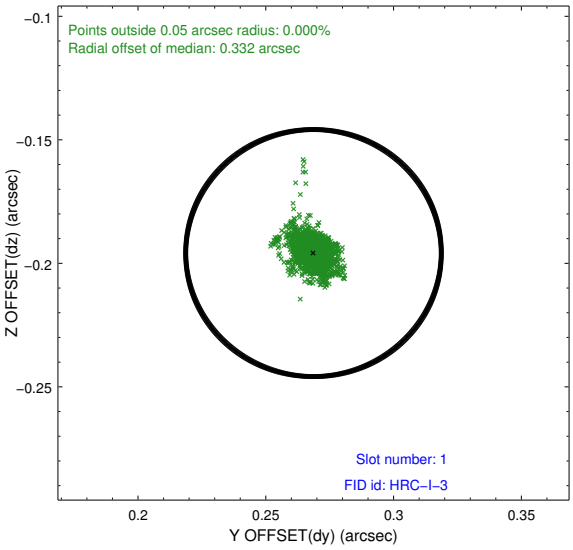


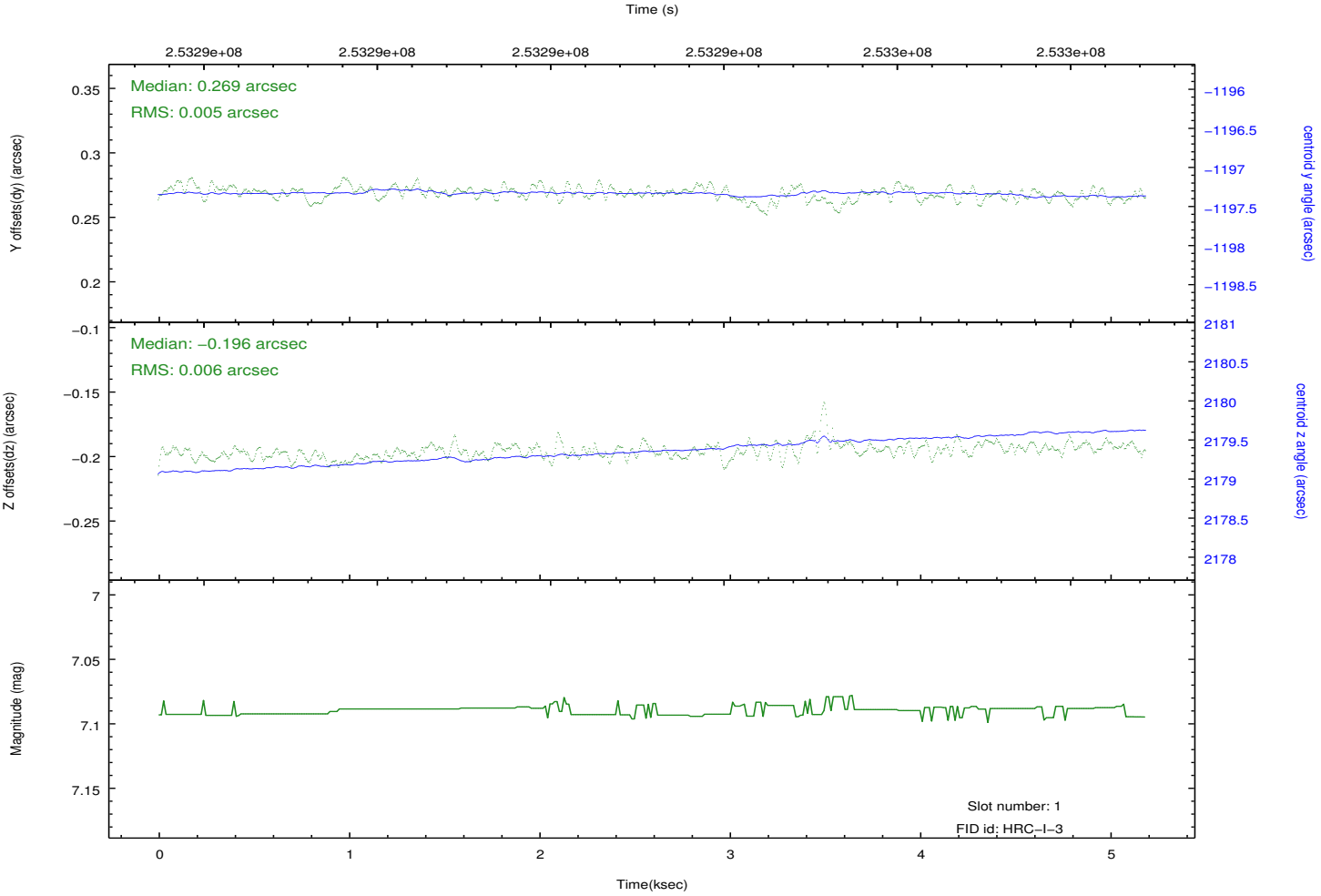




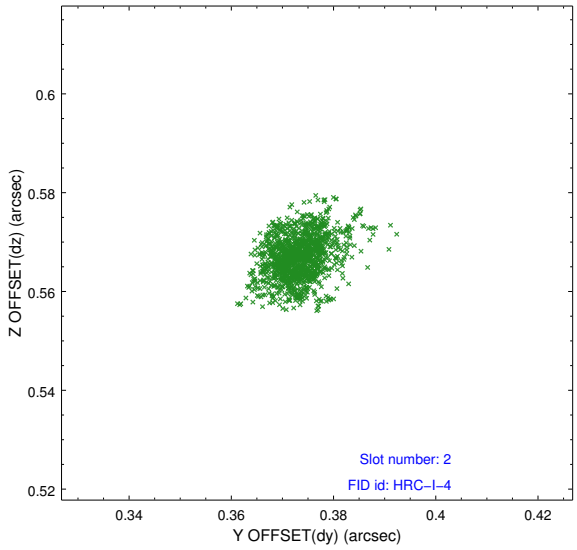
2.5.2 Slot 1

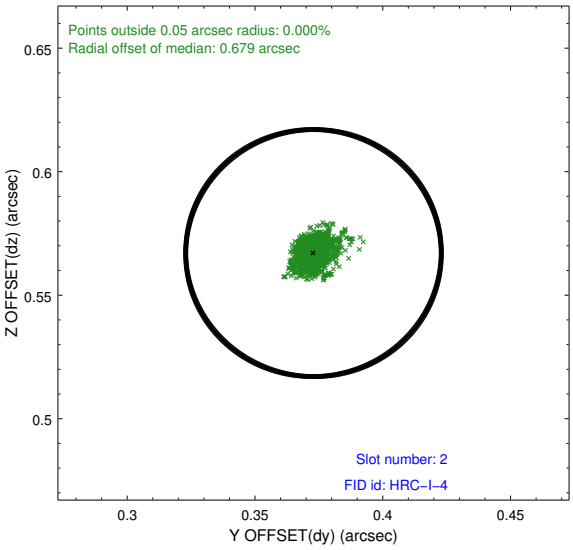

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC–I–3

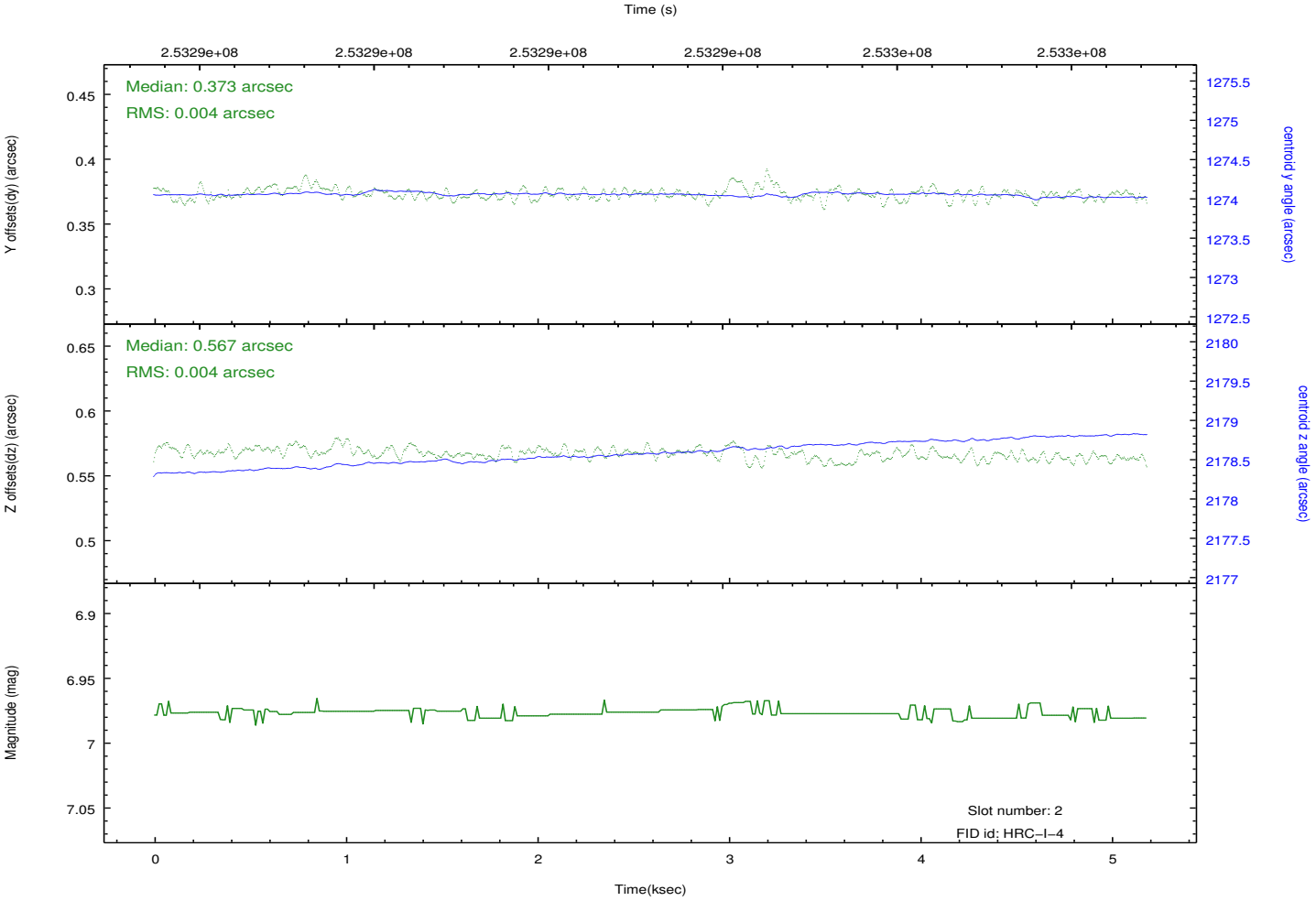

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.332 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: HRC–I–3


Time (s)
Median: 0.269 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: –0.196 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: HRC–I–3
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.679 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: HRC–I–4


Time (s)
Median: 0.373 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.567 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: HRC–I–4
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.08.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.1877815

A.2 Comments

```
Large SIM offset selected for calibration purposes. The fid light
positions are offset beyond normally expected ranges, but the fid light
position correction has compensated for this offset.
```