V&V Reference Report
L2 ASCDS Version : 7.6.7.2

Observation 5096 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jun 4 2006

Contents

1 Front **2**

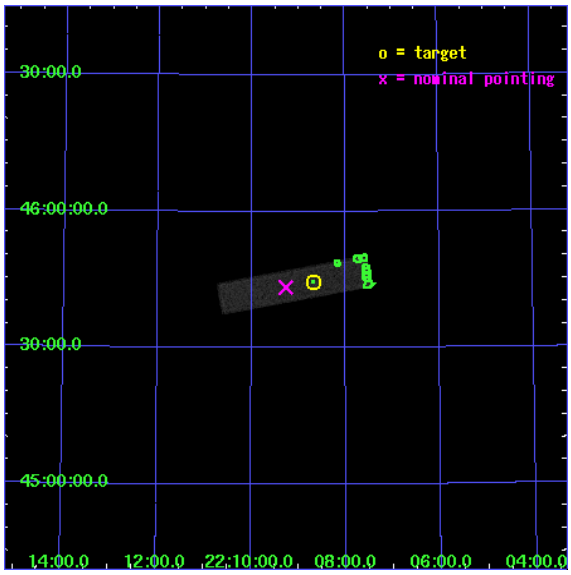
2 OBI **3**
2.1 OBI . . . 3
2.1.1 Images . . . 3
2.1.2 Parameters . . . 4
2.1.3 Events . . . 4
2.2 Compared Parameters . . . 5
2.3 Aspect . . . 6
2.4 Star Slots . . . 9
2.4.1 Slot 3 . . . 9
2.4.2 Slot 4 . . . 10
2.4.3 Slot 5 . . . 11
2.4.4 Slot 6 . . . 12
2.4.5 Slot 7 . . . 13
2.5 FID Slots . . . 14
2.5.1 Slot 0 . . . 14
2.5.2 Slot 1 . . . 15
2.5.3 Slot 2 . . . 16

3 Point Sources **17**

A Summary **18**
A.1 Status . . . 18
A.2 Comments . . . 18

1 Front

seq_num	290369
obs_id	5096
title	AO5A Calibration Observations to Monitor the Spatial Variations in the HRC-S Gain
observer	Dr. CXC Calibration
object	ArLac
ra_targ	332.17
dec_targ	45.742306
ra_nom	332.31696957228
dec_nom	45.722170160539
roll_nom	349.5138130508
revision	2
ontime	1088.8062976003
livetime	1082.8004307823
l2events	38478

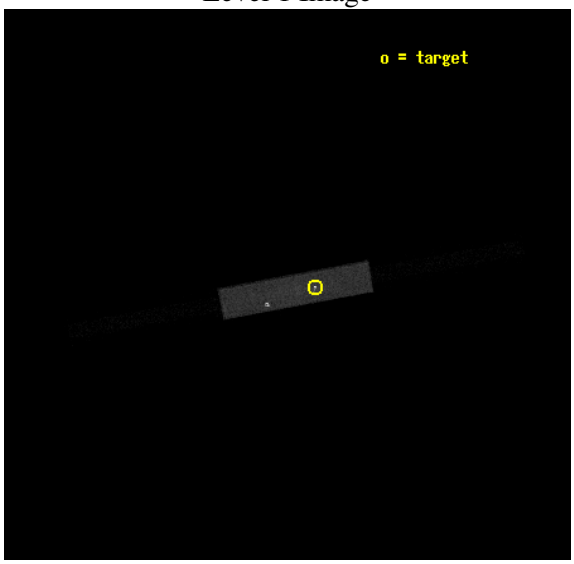


2 OBI

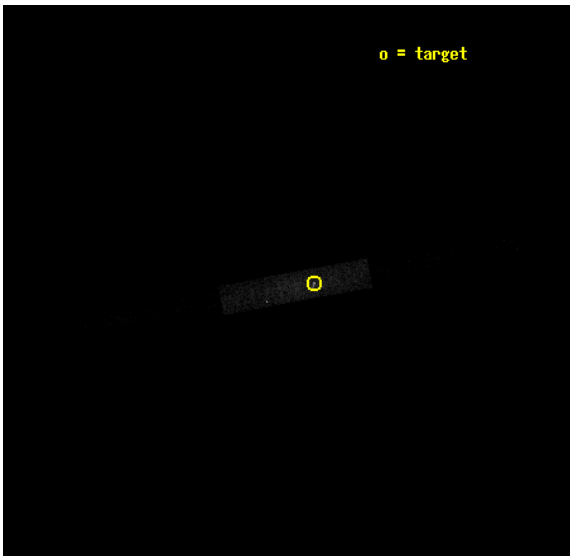
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	0
ascdsver	7.6.7.2
caldbver	3.2.2
date	2006-06-04T19:36:50
revision	2

sched_exp_time	946.000000
ontime	1128.7812993228
l1events	72343

2.1.3 Events

Level 1 Events

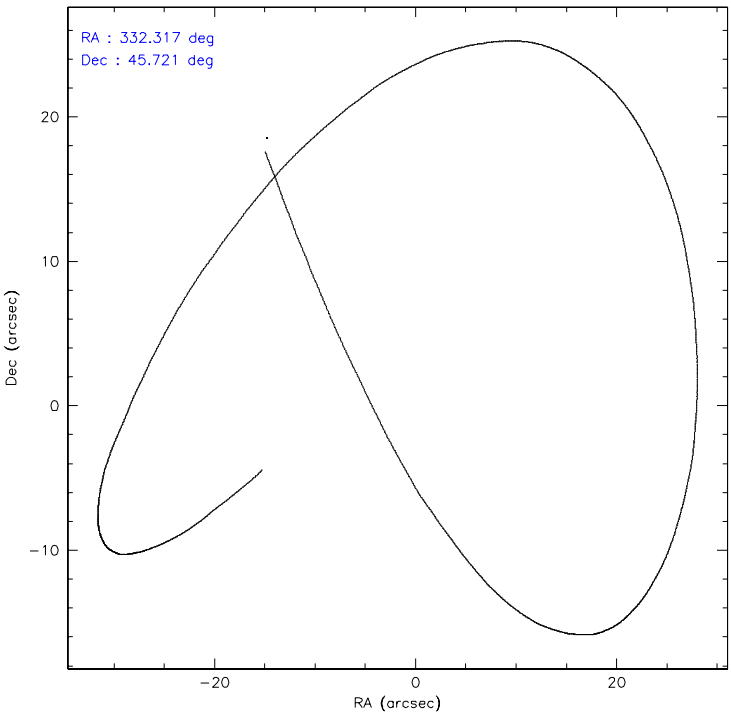
	segment 1	**segment 2**	**segment 3**
level 1 events	1046	70173	1124
rejected events	1046	25232	1124
rejected %	100%	35%	100%

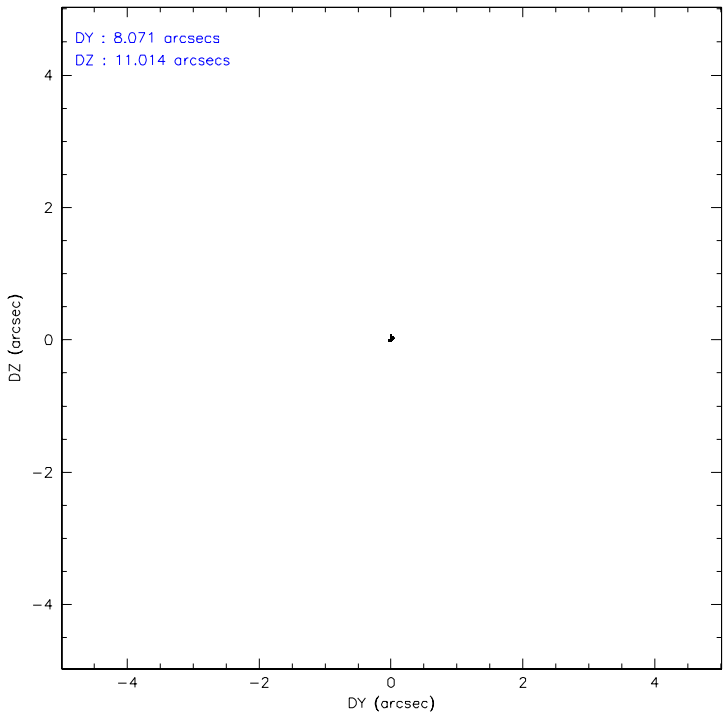
2.2 Compared Parameters

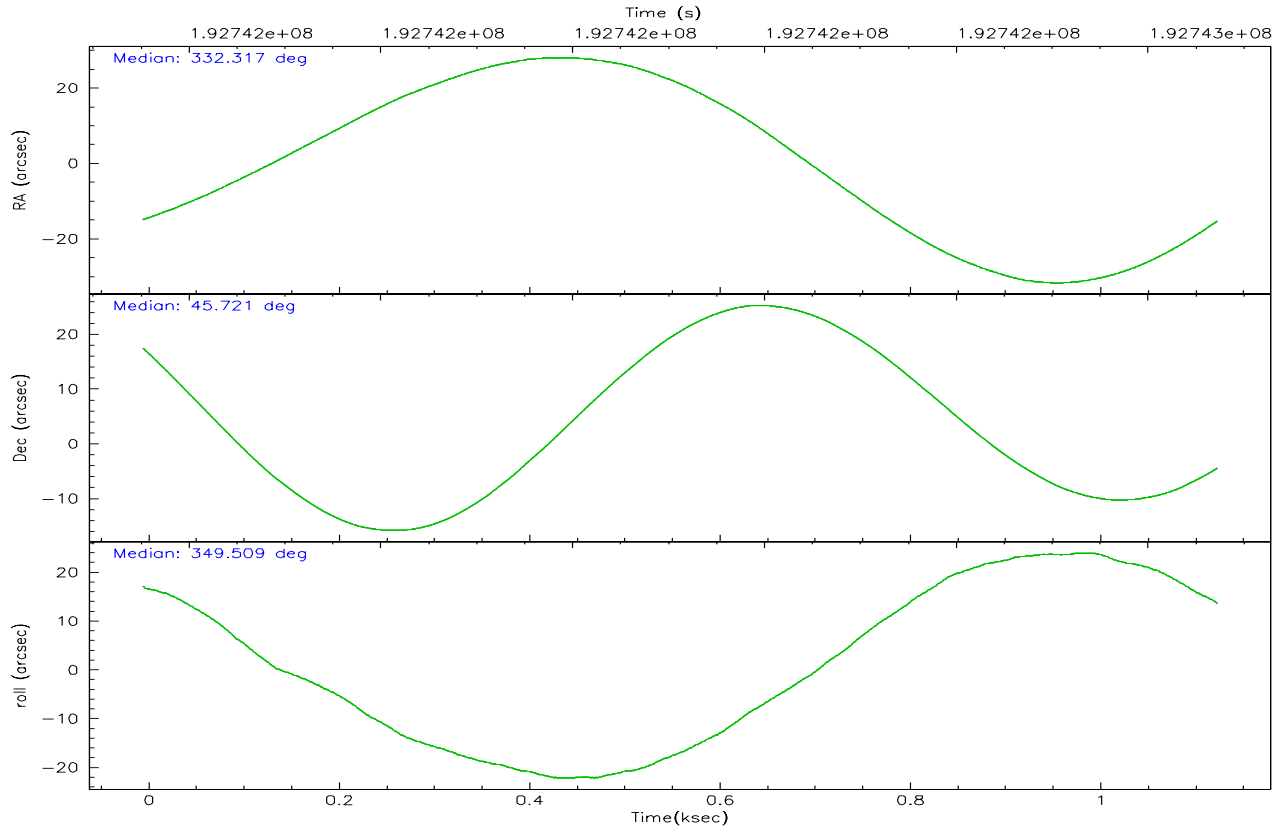
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.279541	332.3169695722767
Pointing Dec	45.712225	45.72217016053899
Pointing Roll	349.473288	349.5138130507992
SIM focus pos (mm)	-1.429586	-1.428180813131781
SIM defocus (mm)	0.1037507710433287	0.1051558262725154
SIM translation stage pos (mm)	250.455976	250.466033080201
SIM translation stage offset (mm)	0	-0.01005468664627074
Observation start time	192741729.184000	192741352.72296
Observation start date	2004-02-09T19:21:05	2004-02-09T19:15:52
Observation end time	192742675.184000	192742809.24802
Observation end date	2004-02-09T19:36:51	2004-02-09T19:40:09

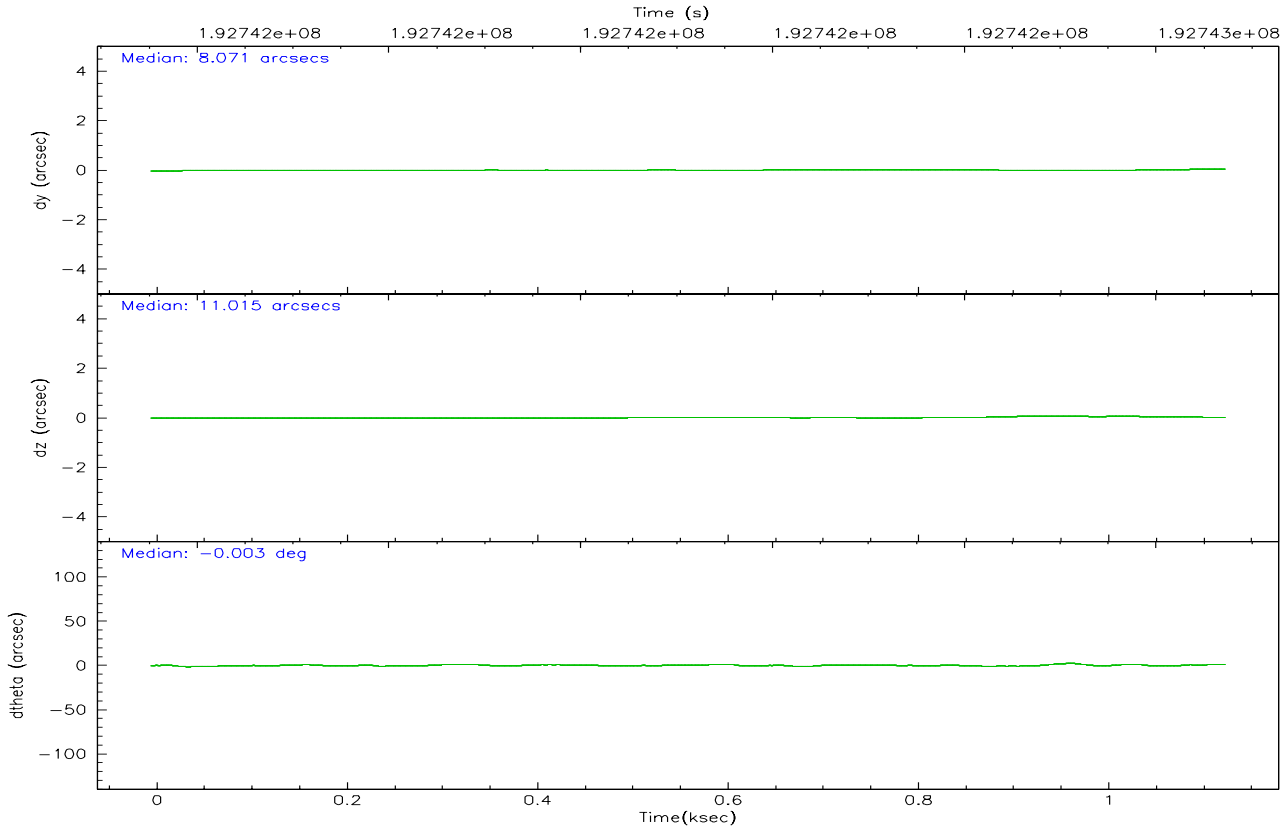
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.317 deg
Dec : 45.721 deg
20
10
0
−10
Dec (arcsec)
−20
0
20
RA (arcsec)


DY : 8.071 arcsecs
DZ : 11.014 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92743e+08
Median: 332.317 deg
RA (arcsec)
Median: 45.721 deg
Dec (arcsec)
Median: 349.509 deg
roll (arcsec)
Time(ksec)

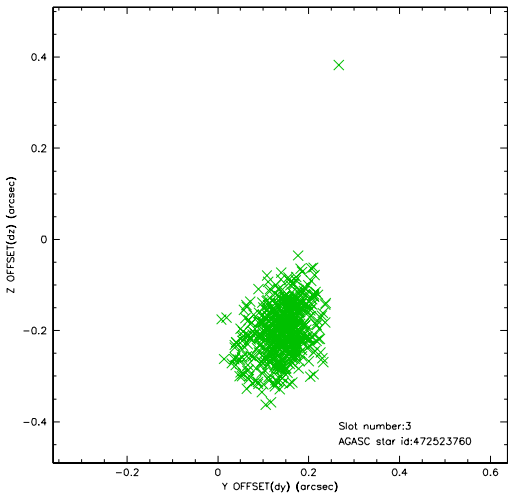

Time (s)
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92743e+08
Median: 8.071 arcsecs
dy (arcsec)
Median: 11.015 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

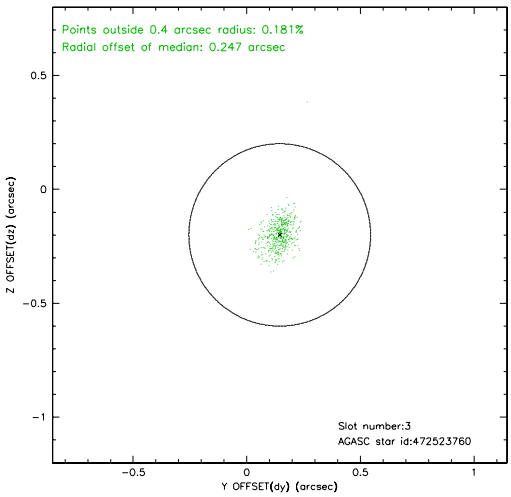
Slot Statistics

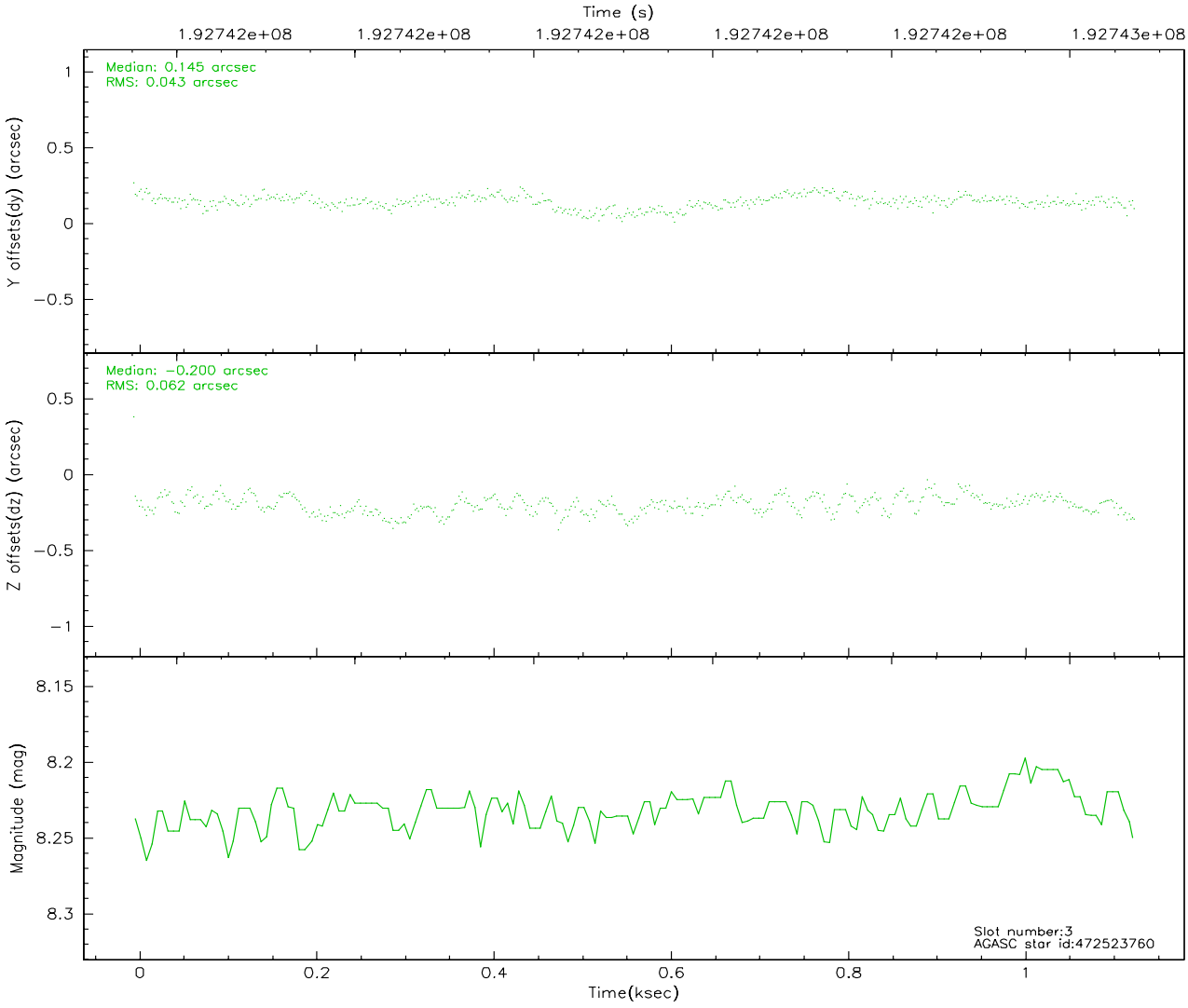
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.03	276	0.151	-0.165	0.006	0.010	0.000000	0.000000	-1162.23	-459.73
1	FID	HRC-S-2	7.02	276	0.130	-0.109	0.004	0.011	0.000000	0.000000	1233.22	-454.01
2	FID	HRC-S-3	7.03	276	0.109	-0.027	0.007	0.011	0.000000	0.000000	-1160.51	568.29
3	GUIDE	472523760	8.23	551	0.145	-0.200	0.075	0.126	331.645363	45.403260	-1373.14	-1376.88
4	GUIDE	472533912	9.17	552	-0.068	-0.035	0.112	0.177	331.791136	46.368695	-1627.45	2106.57
5	GUIDE	472655152	9.43	552	0.180	0.074	0.105	0.178	332.504239	45.862991	452.31	644.87
6	GUIDE	472659832	9.46	552	0.045	0.219	0.099	0.161	332.780399	46.098139	976.07	1603.32
7	BAD	472654568	9.43	480	-0.349	-0.049	0.101	0.177	332.194449	45.063576	218.75	-2325.56

2.4 Star Slots

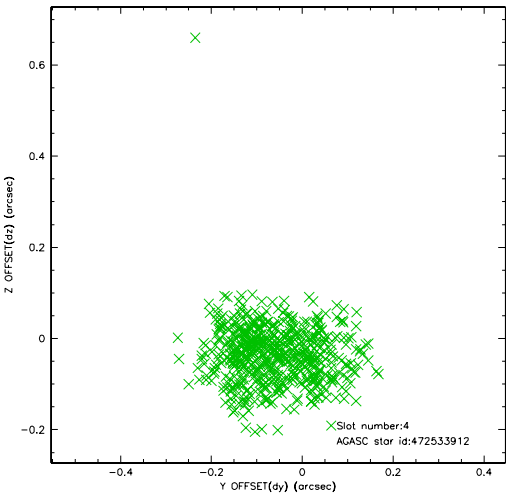
2.4.1 Slot 3

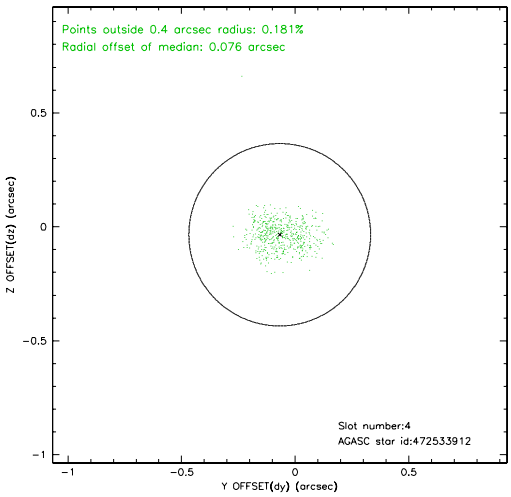


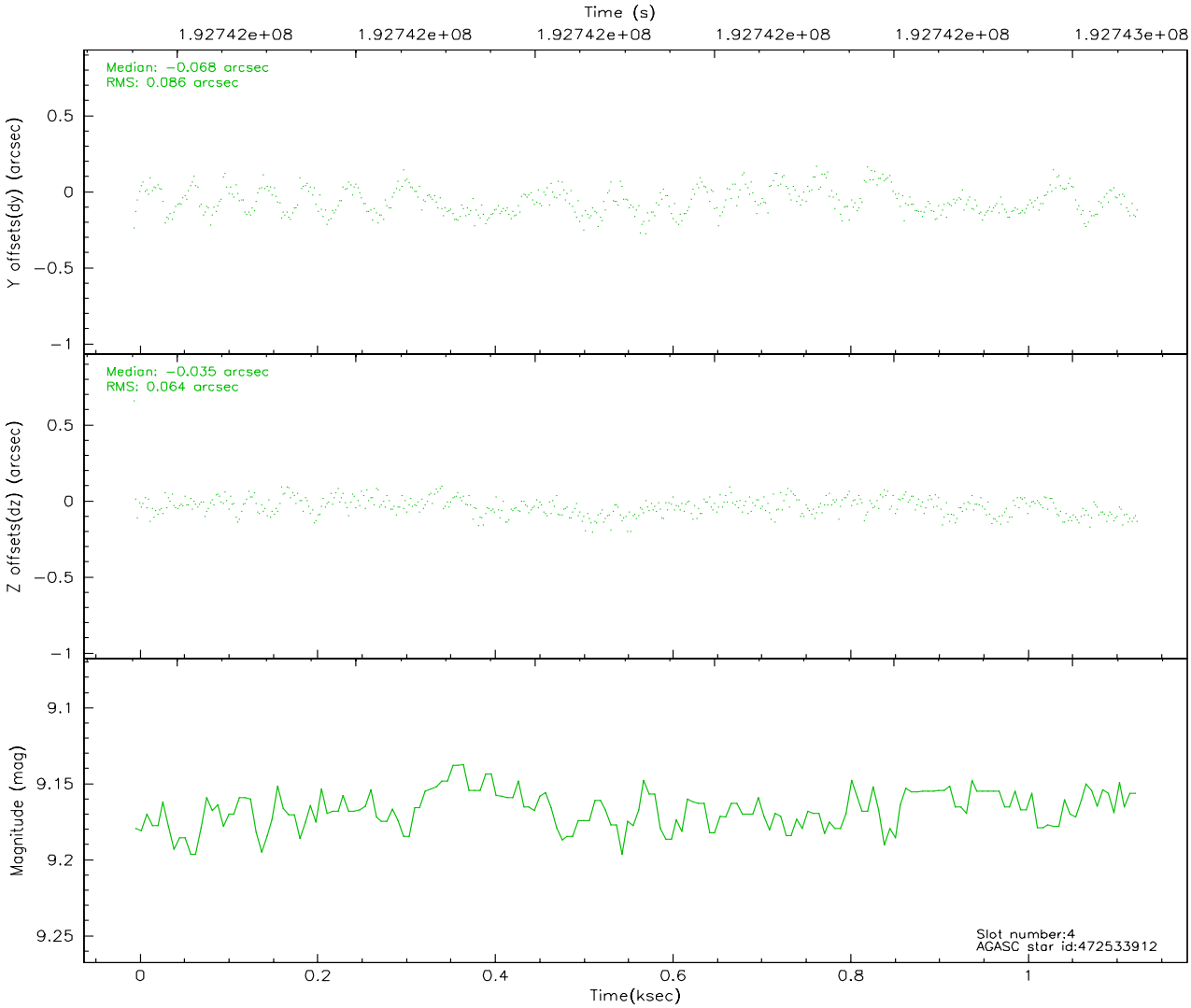




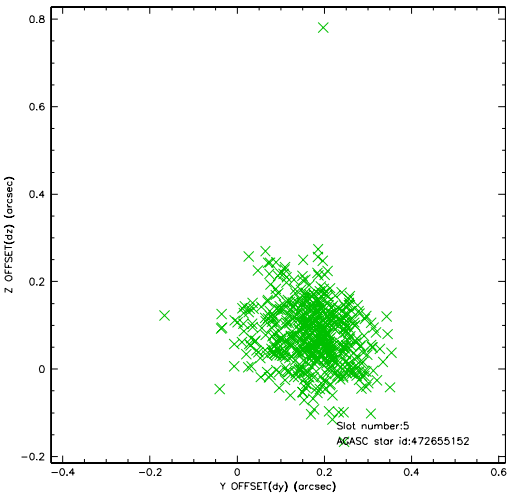
2.4.2 Slot 4

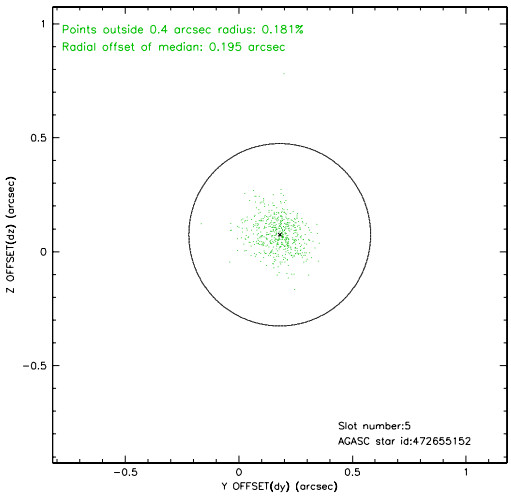

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912

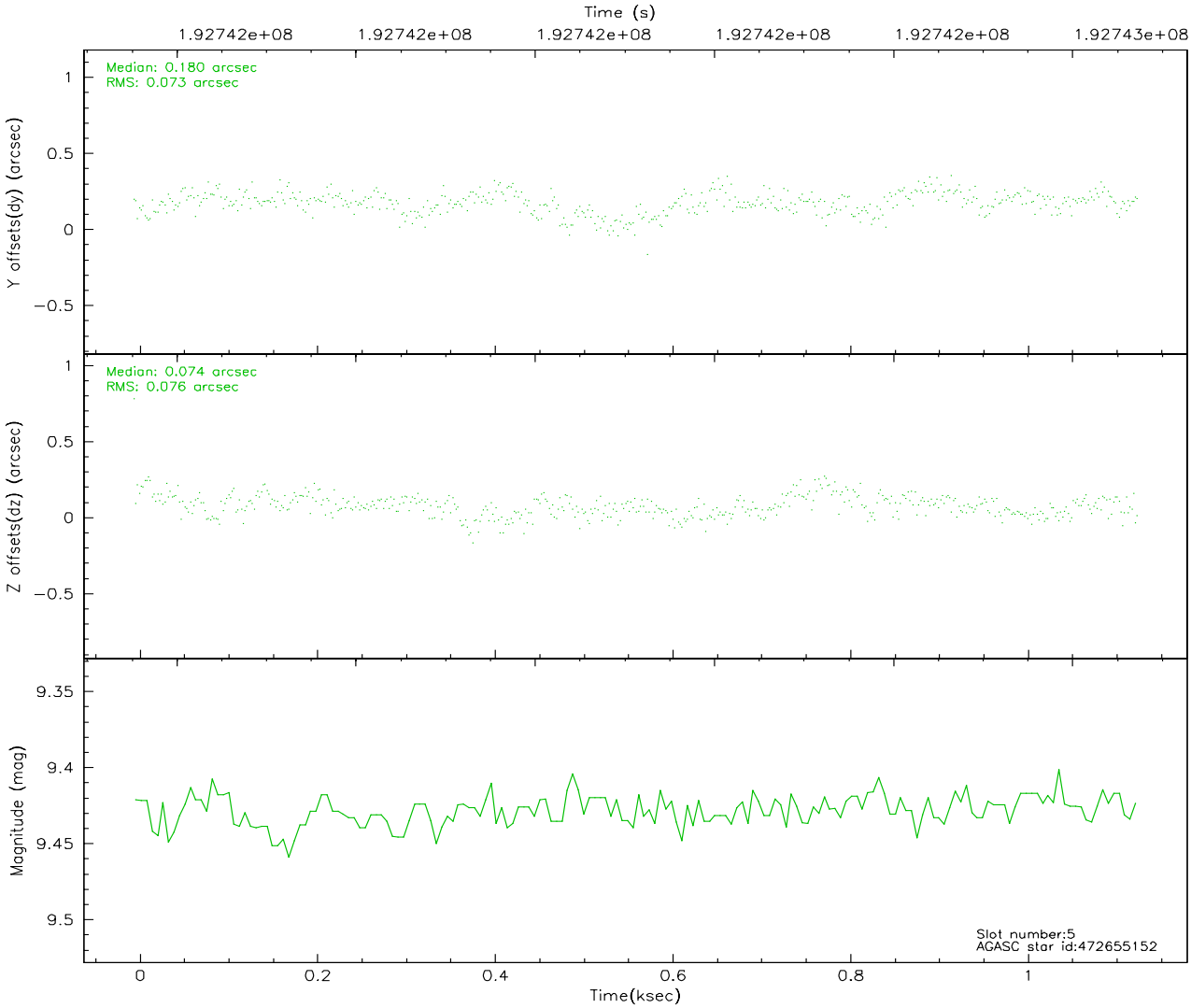

Points outside 0.4 arcsec radius: 0.181%
Radial offset of median: 0.076 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912


Time (s)
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92743e+08
Median: −0.068 arcsec
RMS: 0.086 arcsec
Y offsets(dy) (arcsec)
Median: −0.035 arcsec
RMS: 0.064 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472533912
Time(ksec)

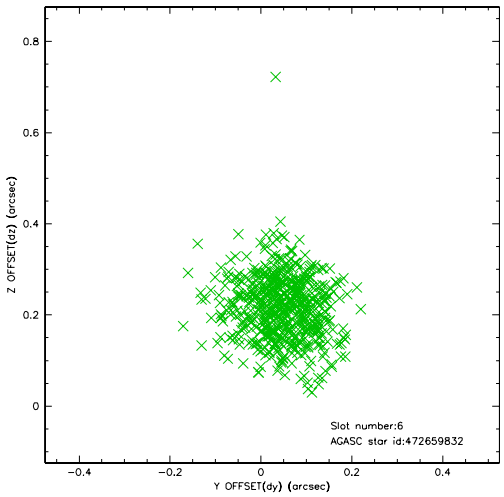
2.4.3 Slot 5

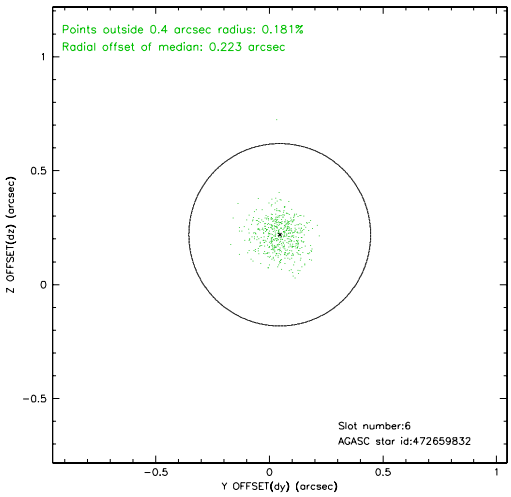

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472655152

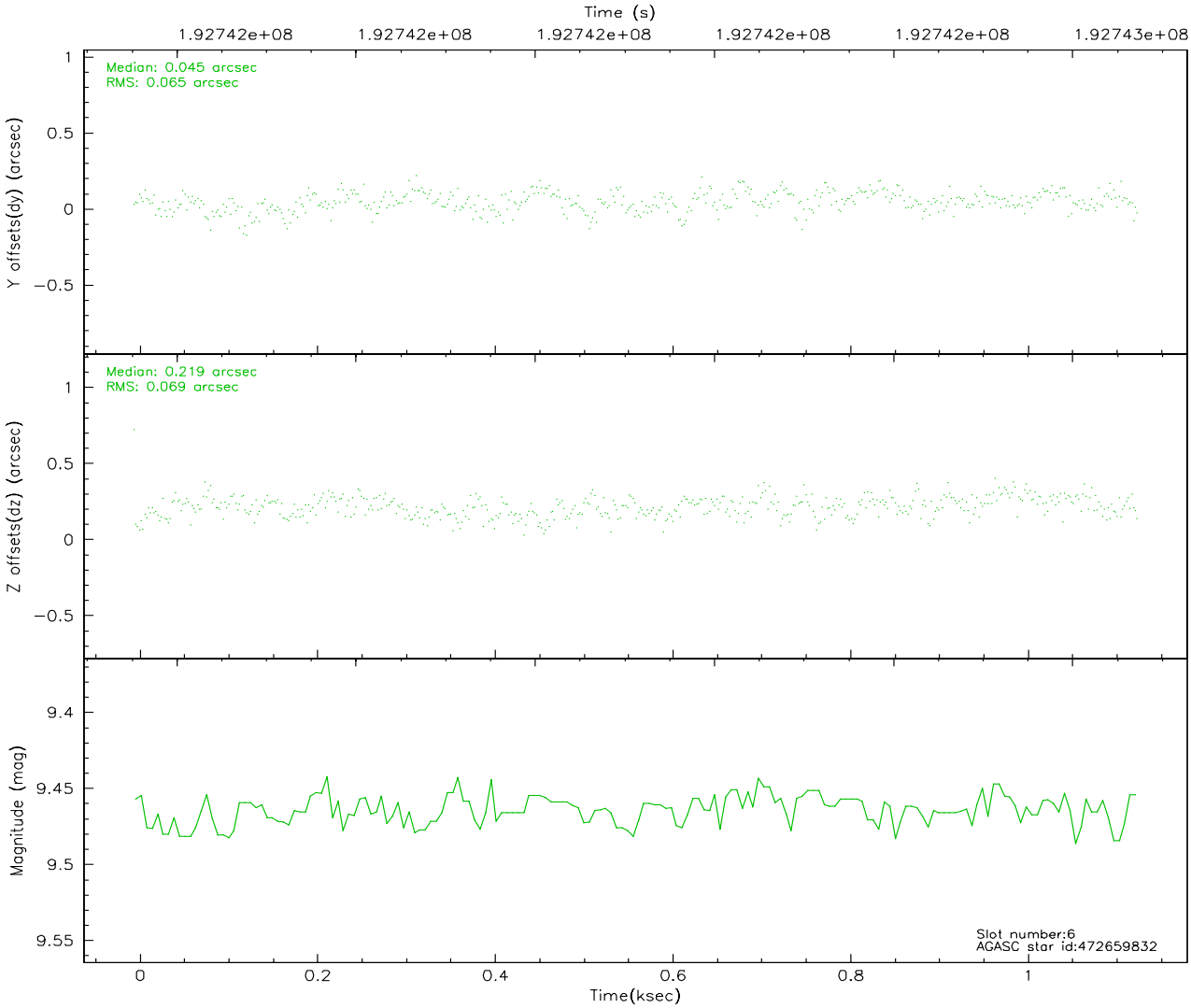

Points outside 0.4 arcsec radius: 0.181%
Radial offset of median: 0.195 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472655152


Time (s)
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92743e+08
Median: 0.180 arcsec
RMS: 0.073 arcsec
Y offsets(dy) (arcsec)
Median: 0.074 arcsec
RMS: 0.076 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472655152
Time(ksec)

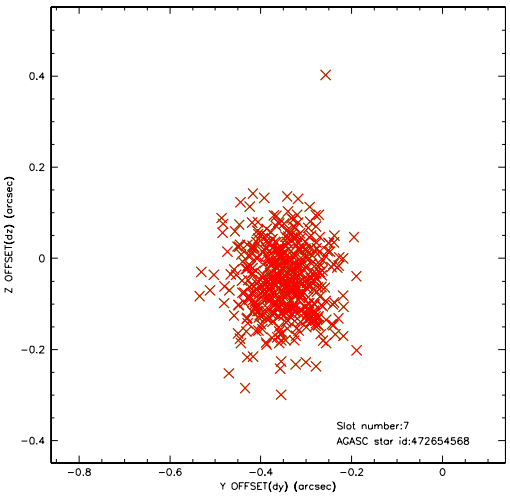
2.4.4 Slot 6

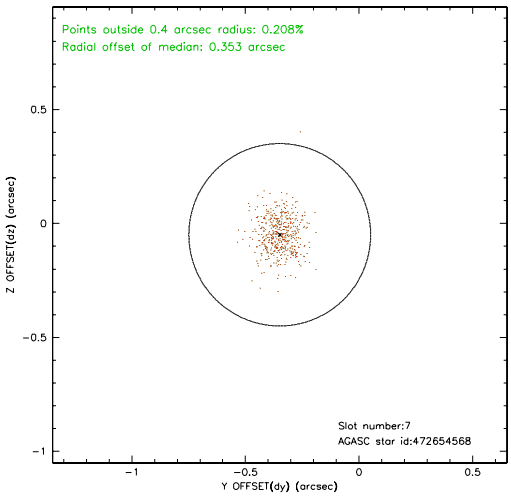

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832

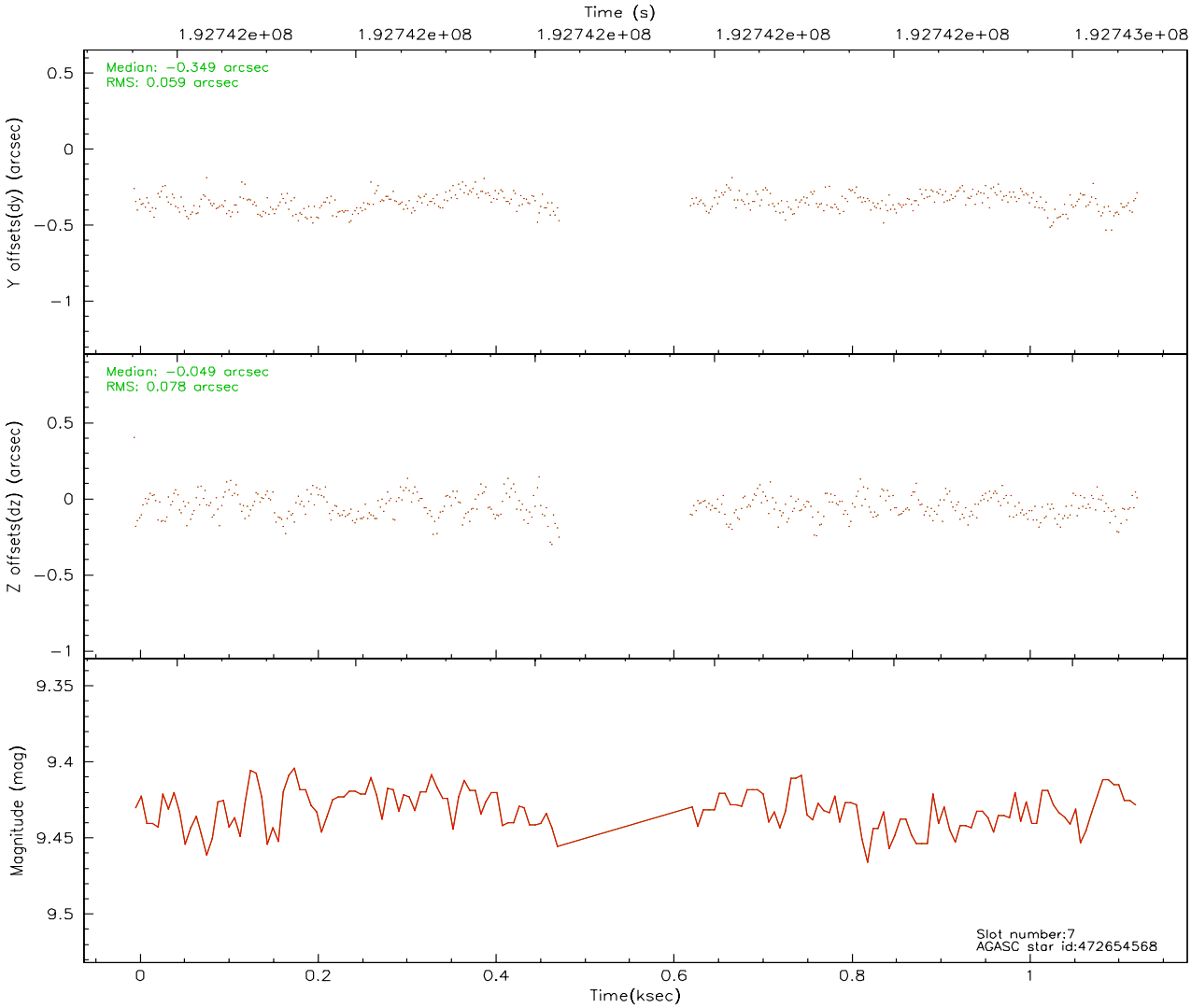

Points outside 0.4 arcsec radius: 0.181%
Radial offset of median: 0.223 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832


Time (s)
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92742e+08
1.92743e+08
Median: 0.045 arcsec
RMS: 0.065 arcsec
Y offsets(dy) (arcsec)
Median: 0.219 arcsec
RMS: 0.069 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472659832
Time(ksec)

2.4.5 Slot 7

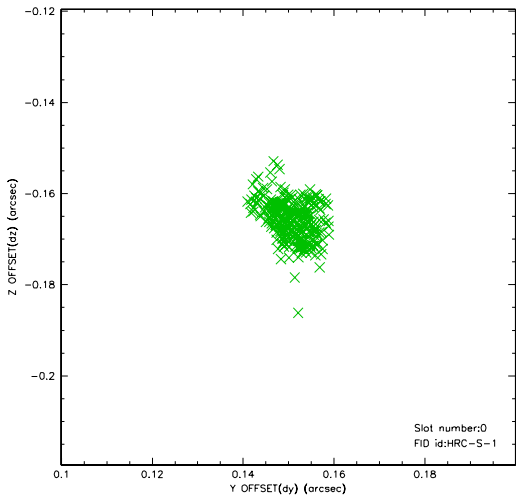

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

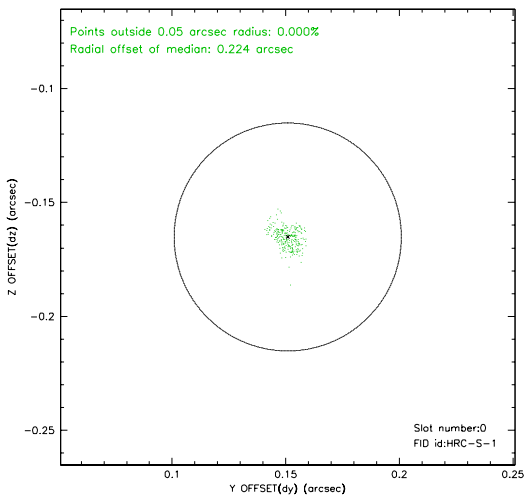

Points outside 0.4 arcsec radius: 0.208%
Radial offset of median: 0.353 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

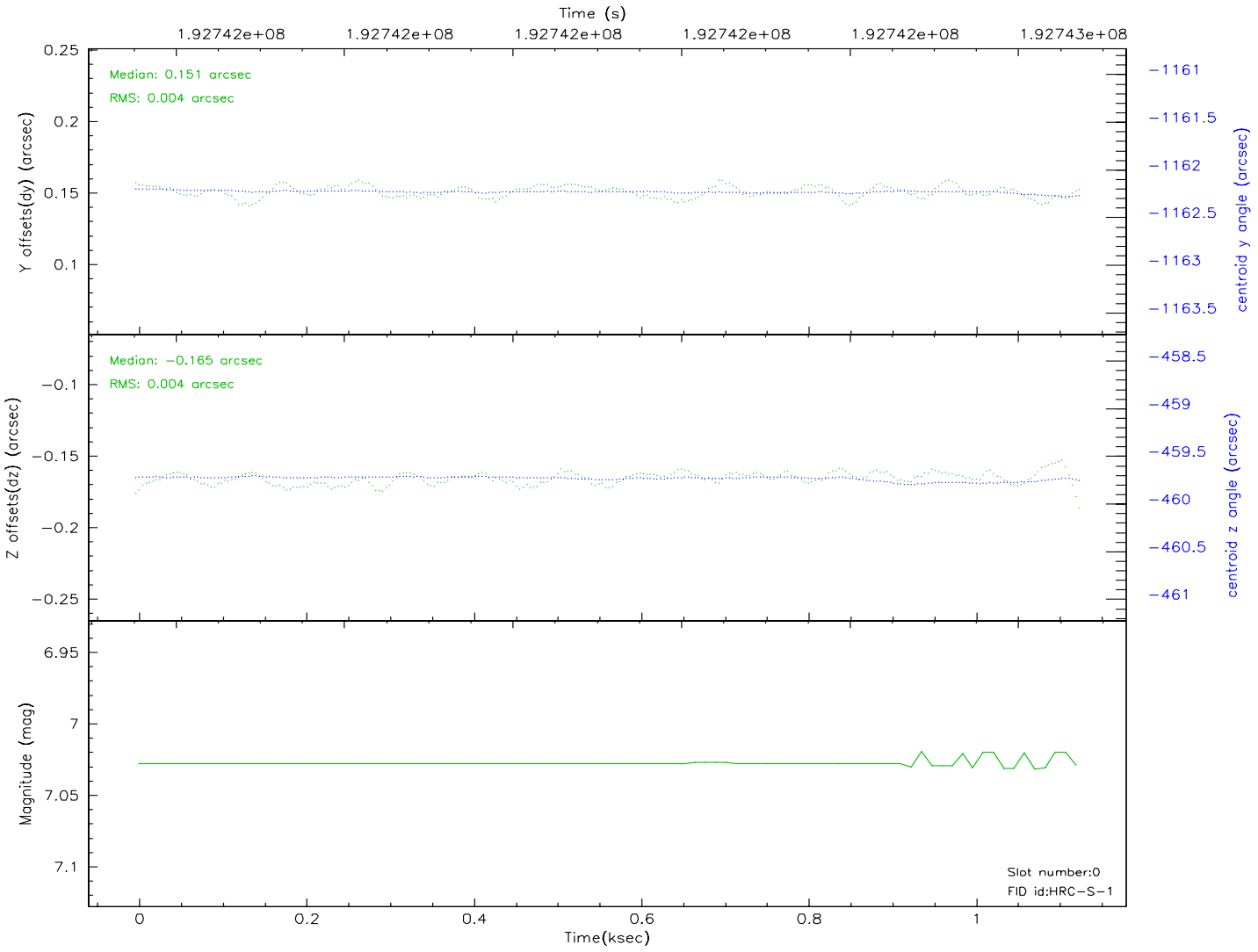

Time (s)
Median: −0.349 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.049 arcsec
RMS: 0.078 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472654568
Time(ksec)

2.5 FID Slots

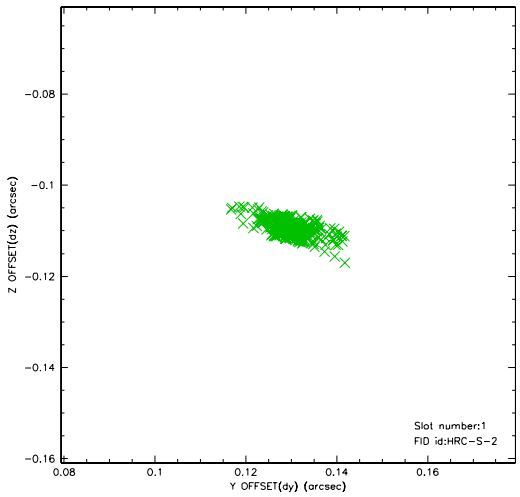
2.5.1 Slot 0

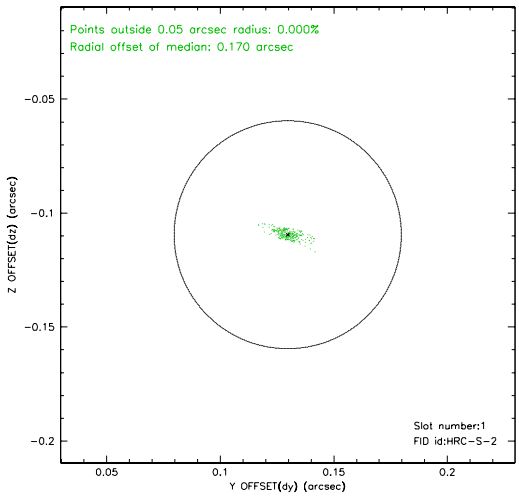


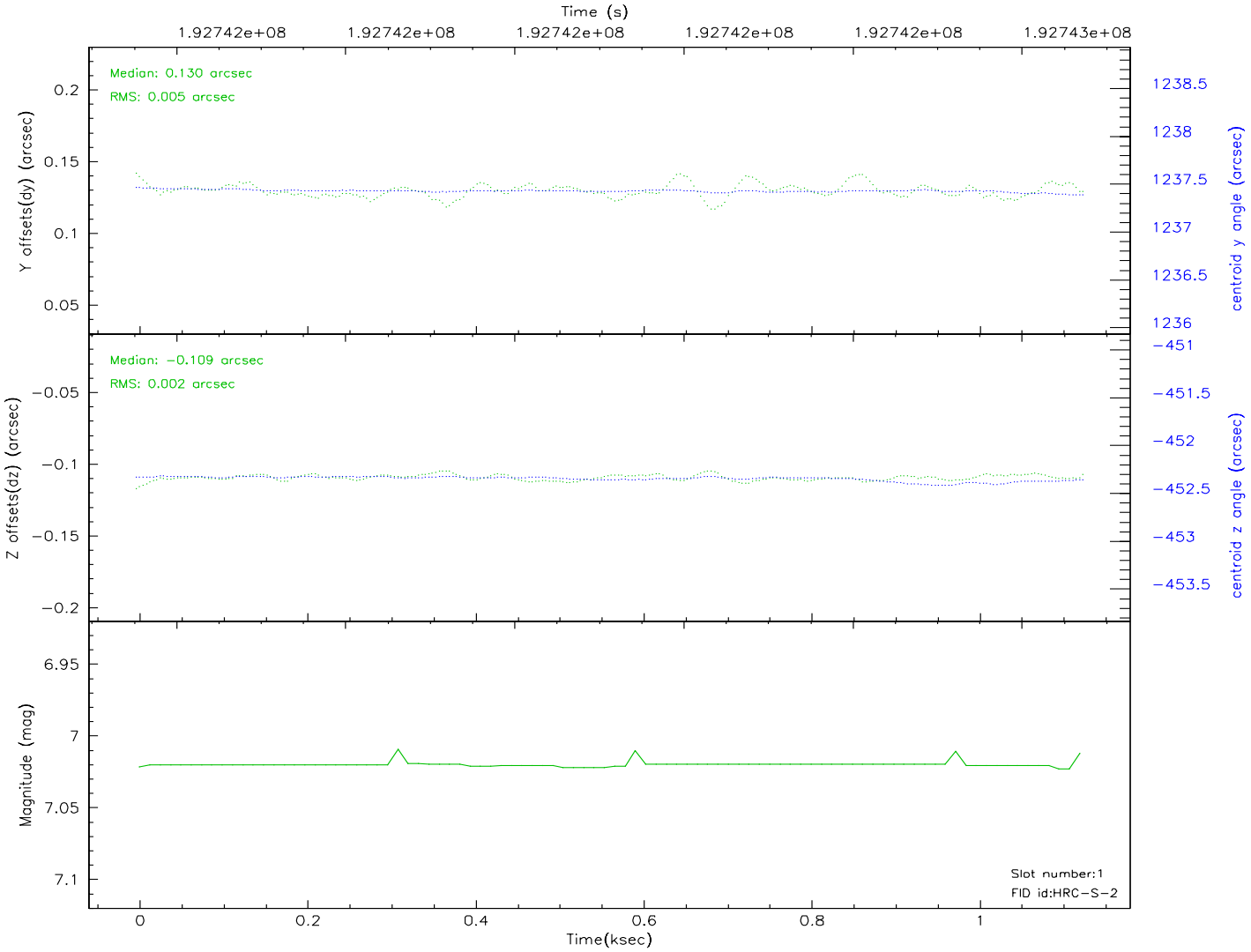




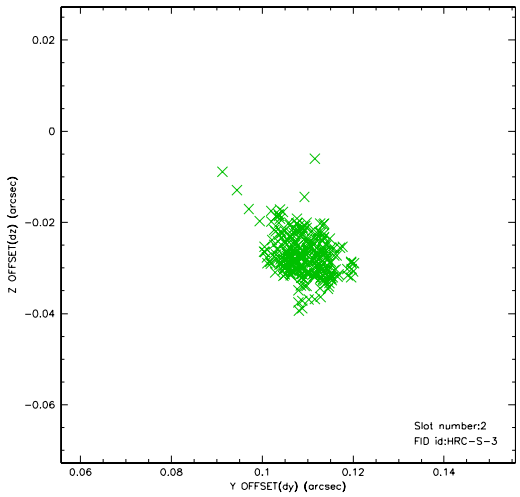
2.5.2 Slot 1

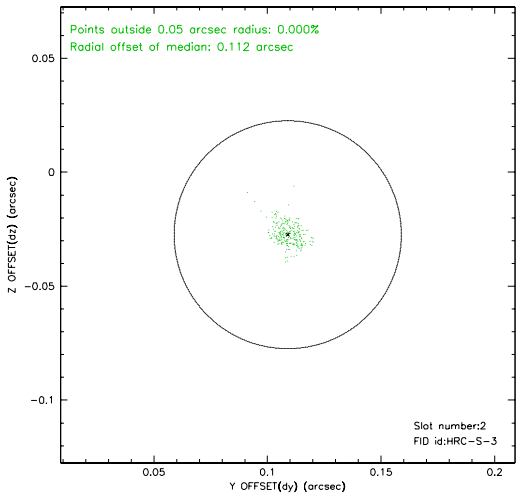

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2

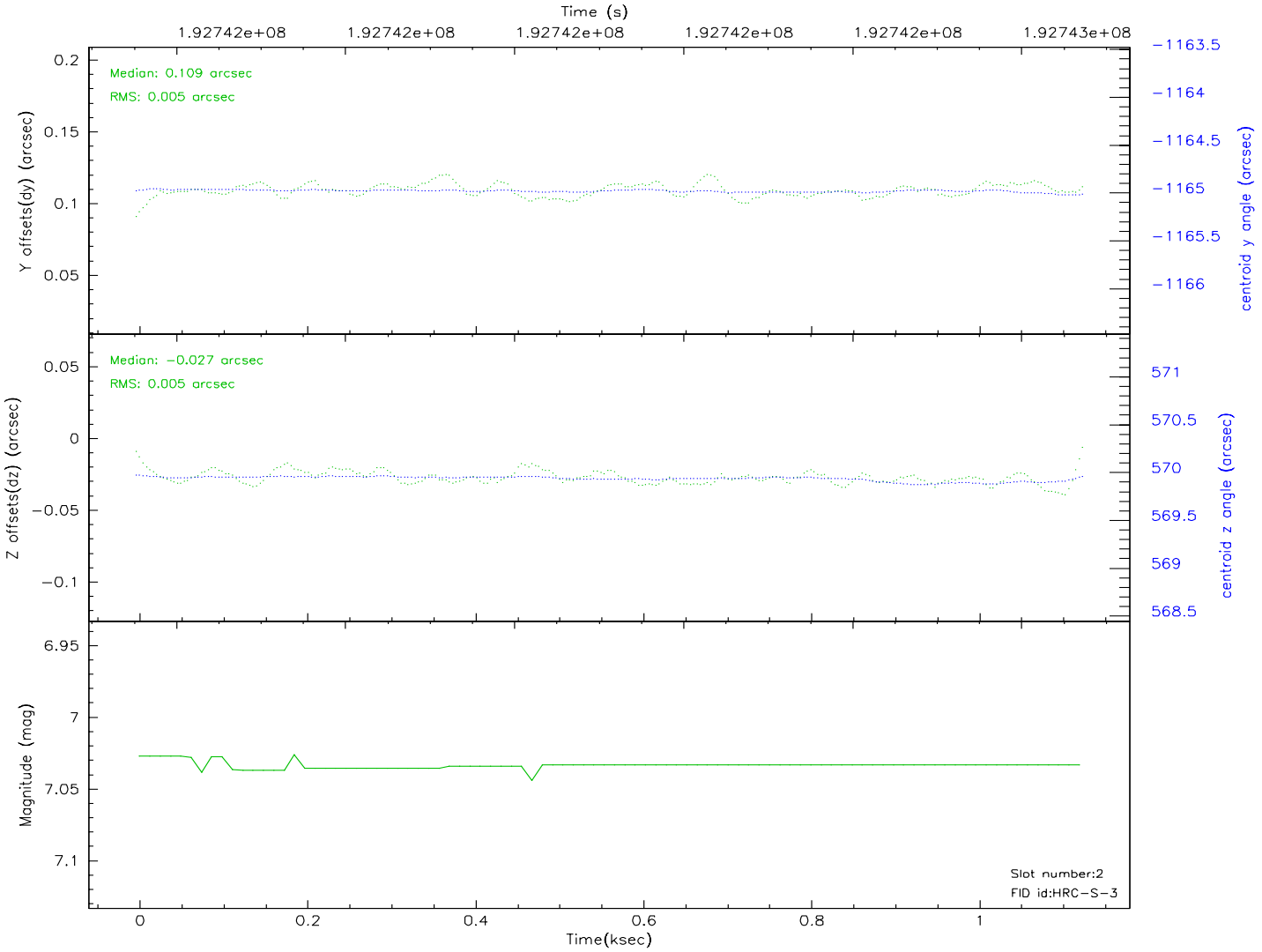

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.170 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2


Time (s)
Median: 0.130 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.109 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)

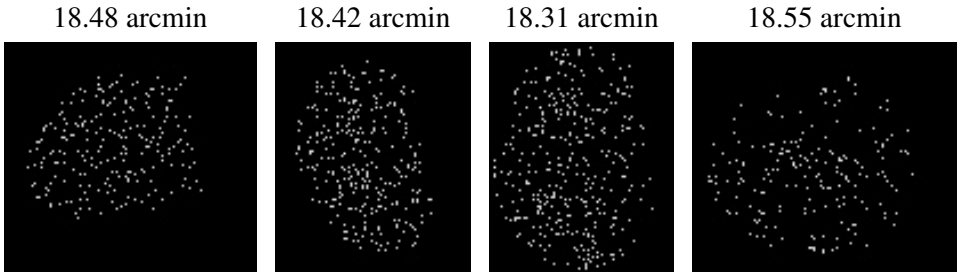
2.5.3 Slot 2


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: 0.112 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-S-3


Time (s)
Median: 0.109 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.027 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)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2006.06.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.088

A.2 Comments

```
Guide star in slot 7 was not tracked accurately during the
observation,
and was not used in the aspect solution.

The keywords DTCOR, EXPOSURE, and LIVETIME in the Level 2 event file and
the
keyword DTCOR in the Level 1 event file have been incorrectly
determined due to a software bug. The correct value of DTCOR can
be found in the file DTFSTATS file (*std_dtfstat1.fits) that can be
obtained by downloading
the Secondary Data Products. In most cases, the difference between
the correct DTCOR value and the incorrect DTCOR value in the Level 2
event file is very small and does not affect the data analysis.
However, there are cases of significant differences and the user is
advised to use the DTCOR in the DTFSTATS file for analysis. Corrected
data products will be made available in the archive as soon as feasible.
```