V&V Reference Report
L2 ASCDS Version : 7.6.7.2

Observation 5097 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jun 5 2006

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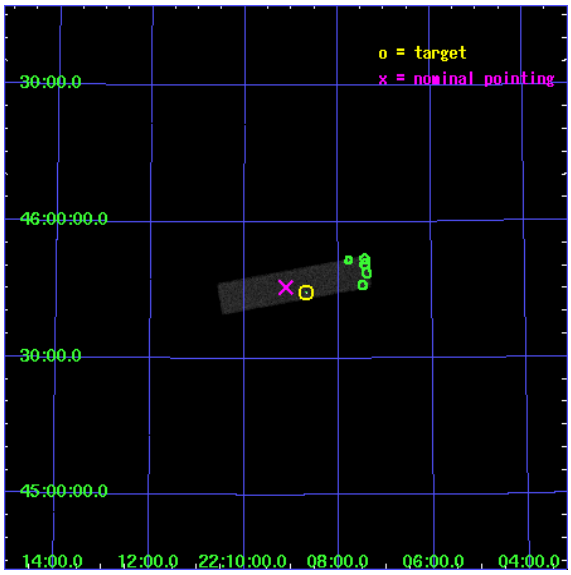
1 Front

seq_num	290370
obs_id	5097
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	332.27936237082
dec_nom	45.761648210241
roll_nom	349.57661359877
revision	2
ontime	1087.7812975347
livetime	1081.8698445658
l2events	36860

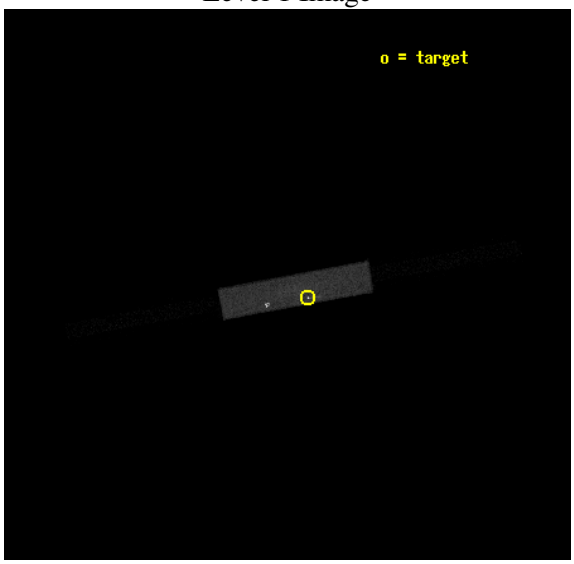


2 OBI

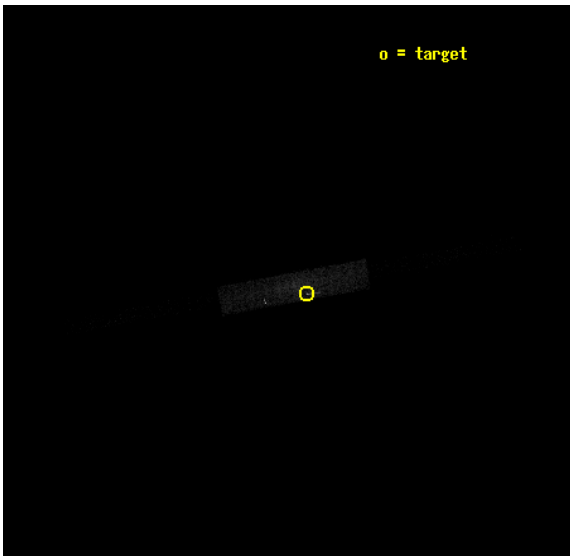
2.1 OBI

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	2006-06-05T19:29:44
revision	2

sched_exp_time	946.000000
ontime	1129.5500493646
l1events	71914

2.1.3 Events

Level 1 Events

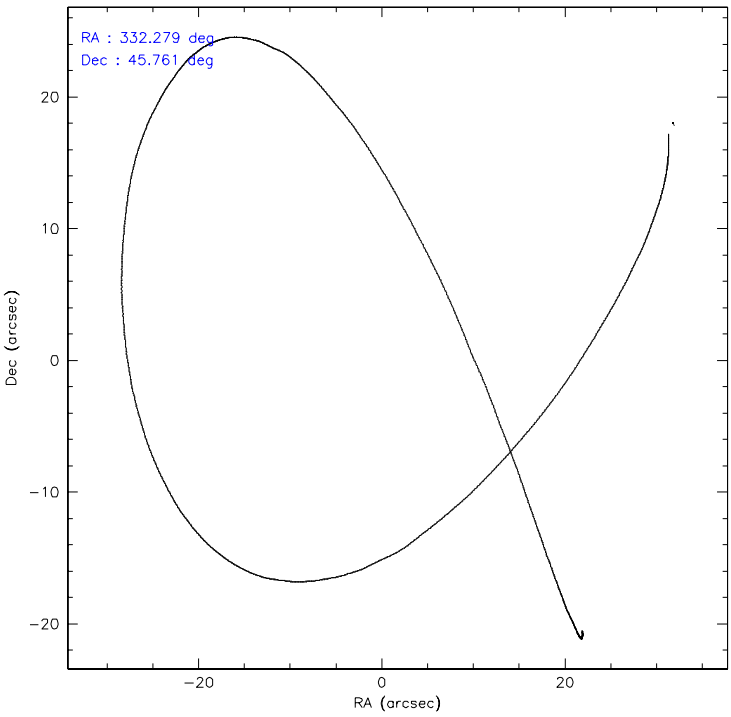
	segment 1	**segment 2**	**segment 3**
level 1 events	1128	69640	1146
rejected events	1128	25883	1146
rejected %	100%	37%	100%

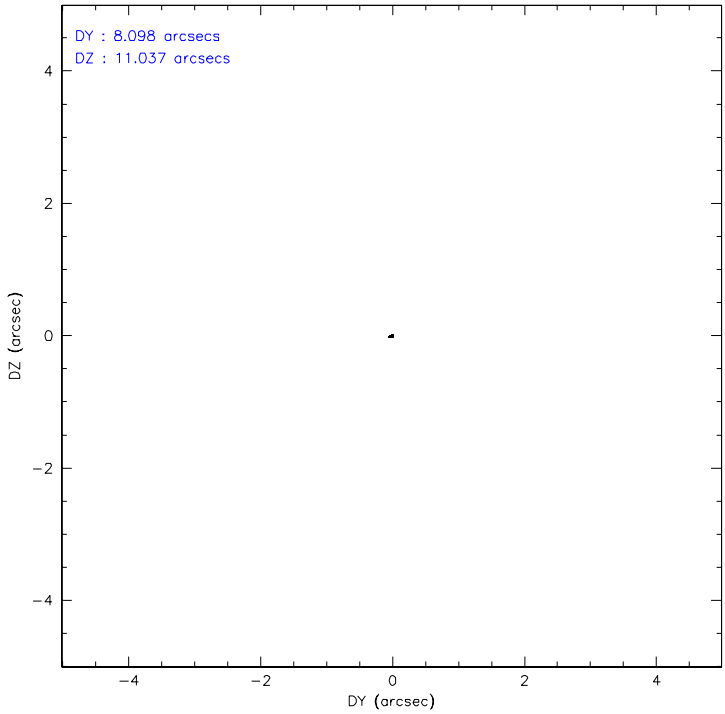
2.2 Compared Parameters

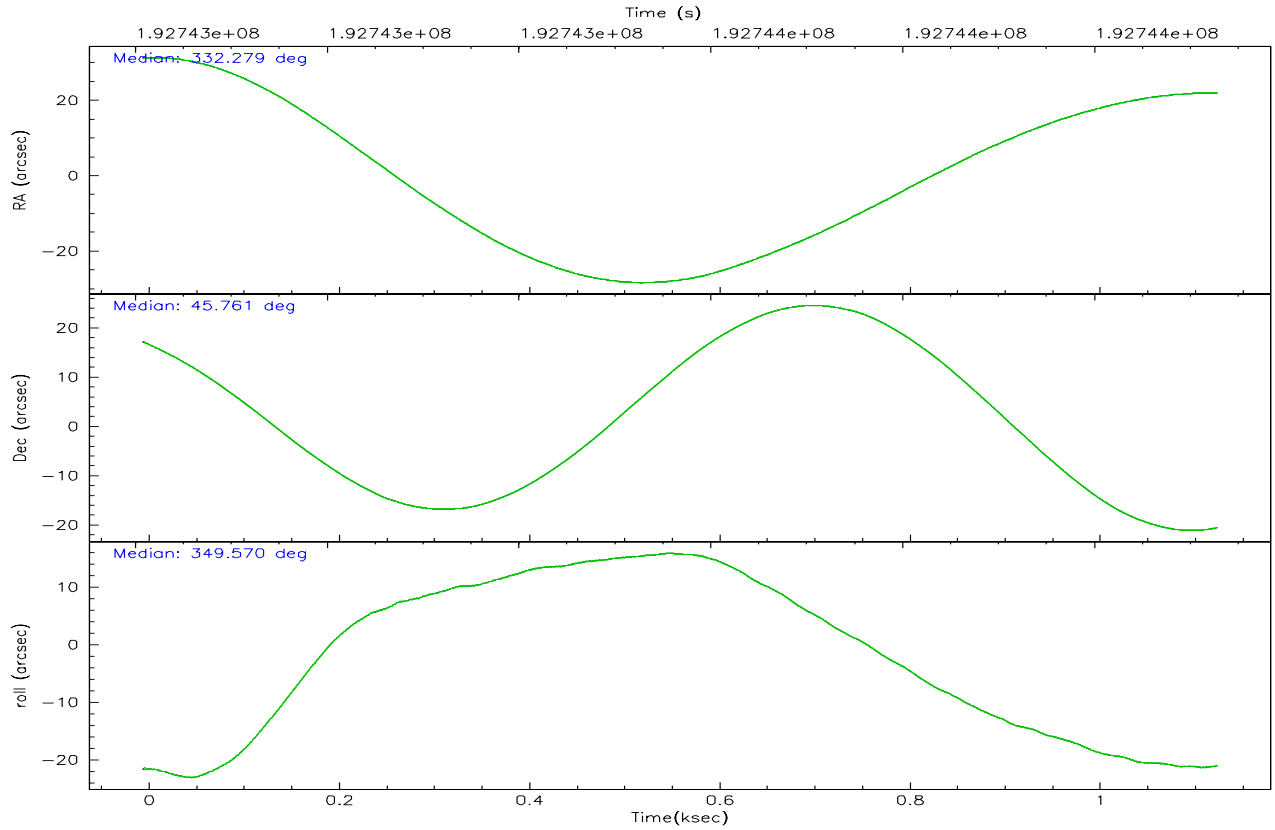
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.241296	332.2793623708233
Pointing Dec	45.751108	45.761648210241
Pointing Roll	349.536521	349.576613598766
SIM focus pos (mm)	-1.429586	-1.428180813131781
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	192743185.184000	192742809.24802
Observation start date	2004-02-09T19:45:21	2004-02-09T19:40:09
Observation end time	192744131.184000	192744264.74808
Observation end date	2004-02-09T20:01:07	2004-02-09T20:04:24

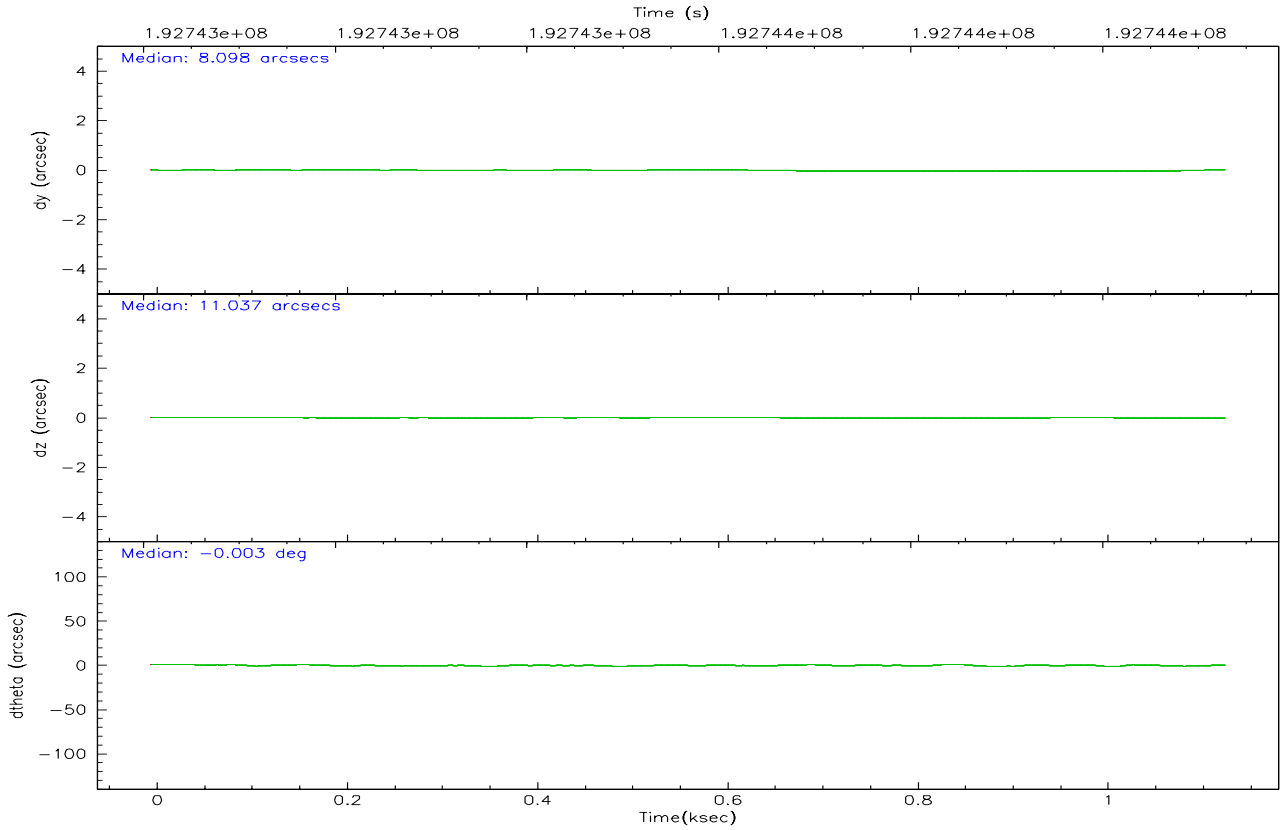
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.279 deg
Dec : 45.761 deg
20
10
0
−10
−20
Dec (arcsec)
−20
0
20
RA (arcsec)


DY : 8.098 arcsecs
DZ : 11.037 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.92743e+08
1.92743e+08
1.92743e+08
1.92744e+08
1.92744e+08
1.92744e+08
Median: 332.279 deg
RA (arcsec)
Median: 45.761 deg
Dec (arcsec)
Median: 349.570 deg
roll (arcsec)
Time(ksec)

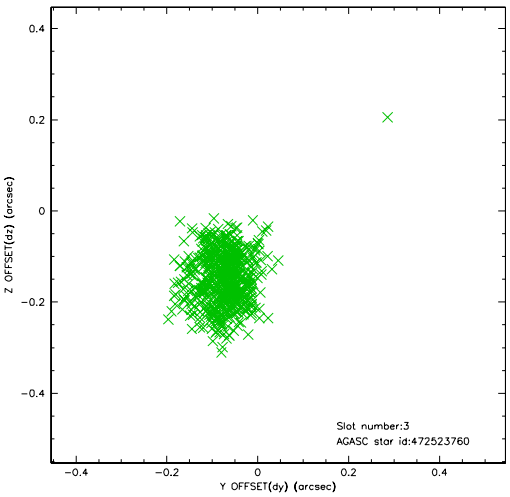

Time (s)
1.92743e+08
1.92743e+08
1.92743e+08
1.92744e+08
1.92744e+08
1.92744e+08
Median: 8.098 arcsecs
dy (arcsec)
Median: 11.037 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

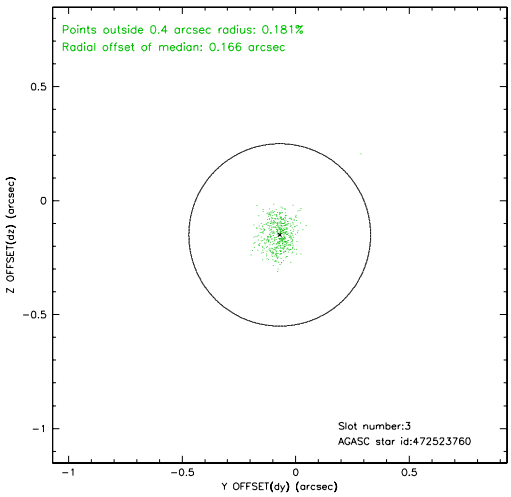
Slot Statistics

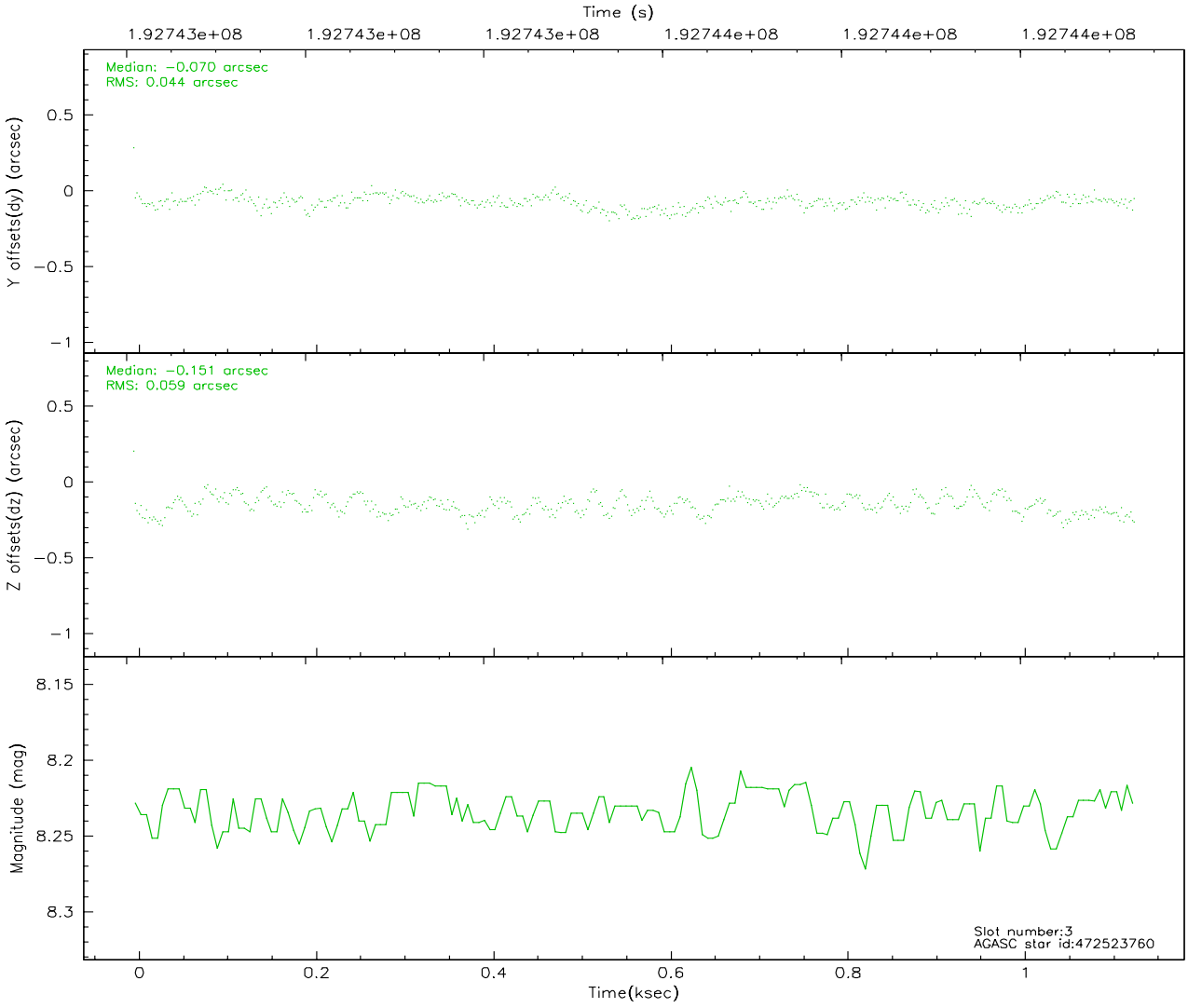
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.02	276	0.152	-0.168	0.007	0.011	0.000000	0.000000	-1162.24	-459.75
1	FID	HRC-S-2	7.02	276	0.129	-0.110	0.005	0.011	0.000000	0.000000	1233.20	-454.02
2	FID	HRC-S-3	7.03	276	0.108	-0.024	0.008	0.012	0.000000	0.000000	-1160.53	568.28
3	GUIDE	472523760	8.23	552	-0.070	-0.151	0.078	0.119	331.645363	45.403260	-1255.24	-1498.29
4	GUIDE	472533912	9.17	552	-0.050	0.053	0.123	0.311	331.791136	46.368695	-1507.12	1985.10
5	GUIDE	472655152	9.42	551	0.106	0.009	0.126	0.219	332.504239	45.862991	571.71	522.05
6	GUIDE	472659832	9.46	552	0.058	0.087	0.105	0.169	332.780399	46.098139	1096.11	1480.16
7	GUIDE	472654568	9.43	551	-0.026	0.002	0.116	0.177	332.194449	45.063576	334.21	-2451.31

2.4 Star Slots

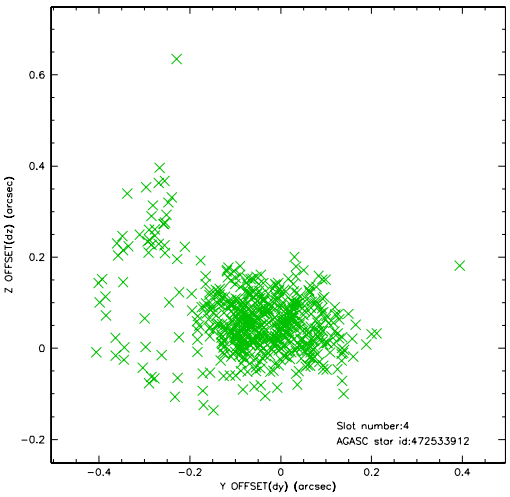
2.4.1 Slot 3

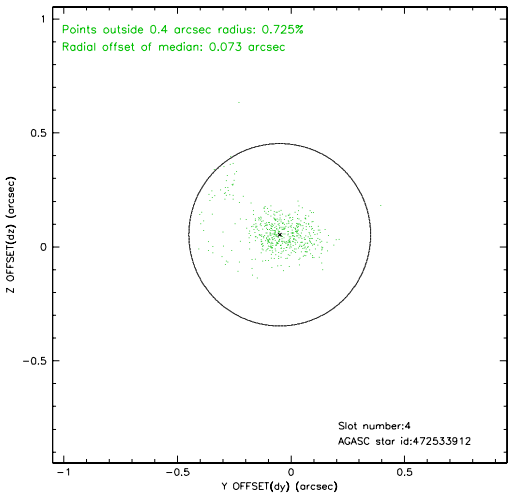


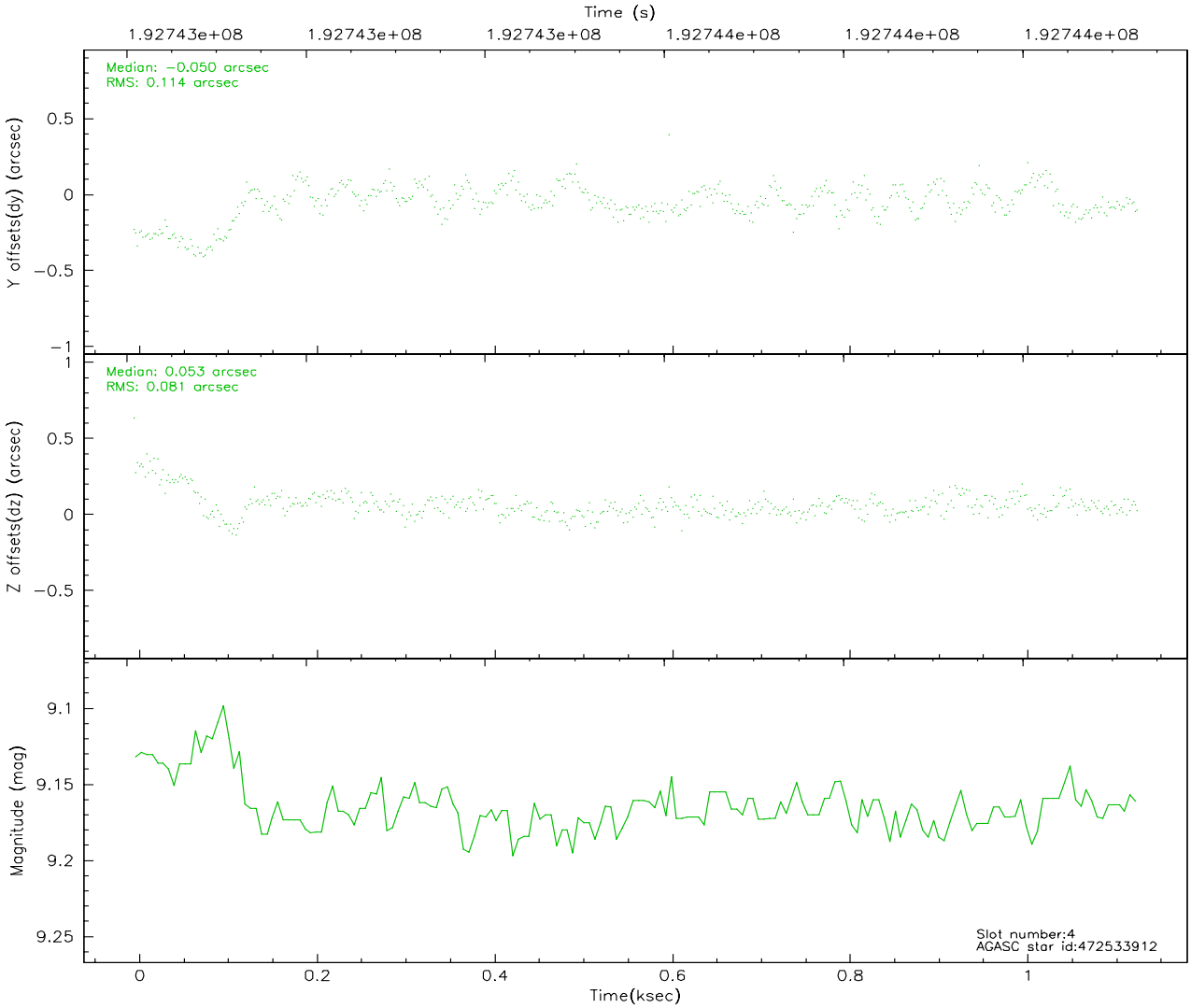




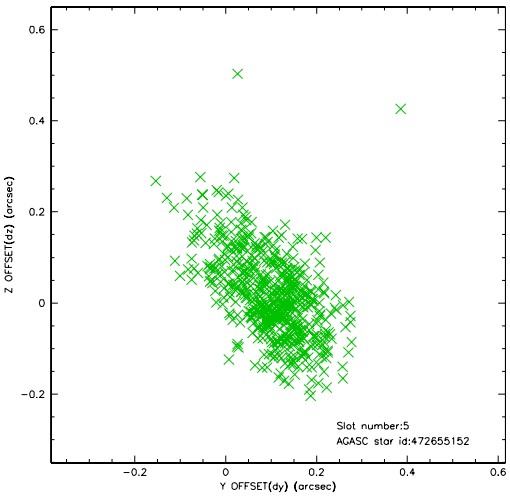
2.4.2 Slot 4

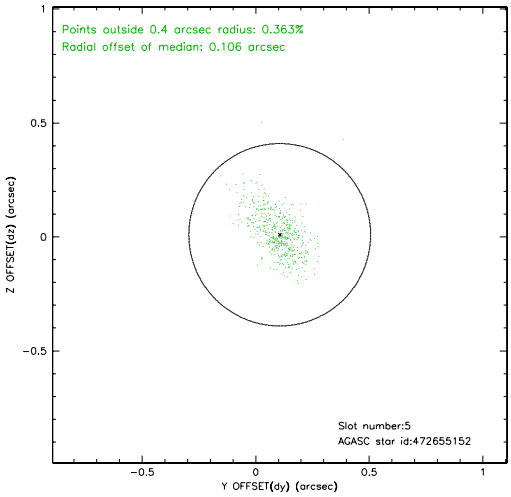

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912

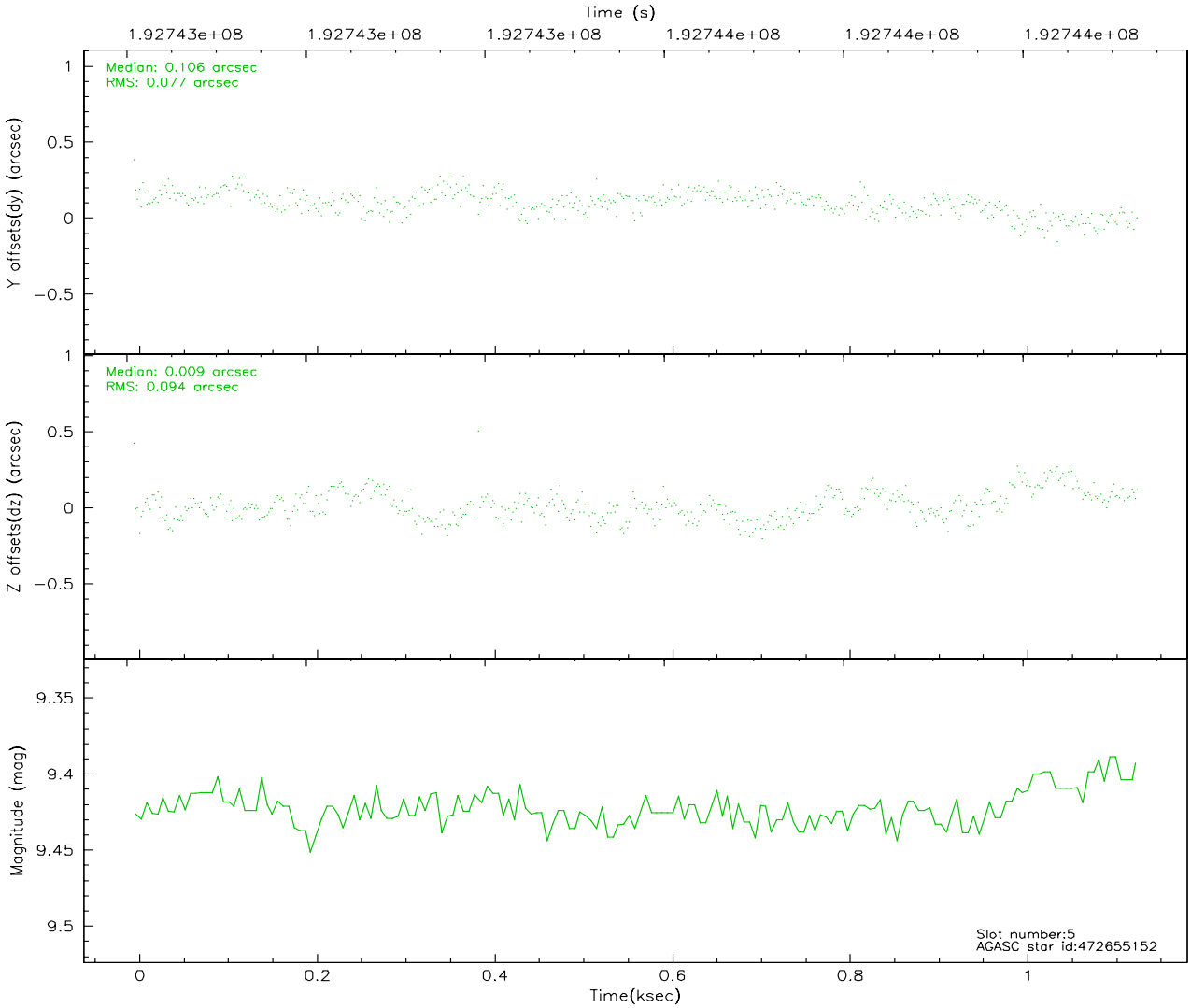

Points outside 0.4 arcsec radius: 0.725%
Radial offset of median: 0.073 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912


Time (s)
Median: −0.050 arcsec
RMS: 0.114 arcsec
Y offsets(dy) (arcsec)
Median: 0.053 arcsec
RMS: 0.081 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472533912
Time(ksec)

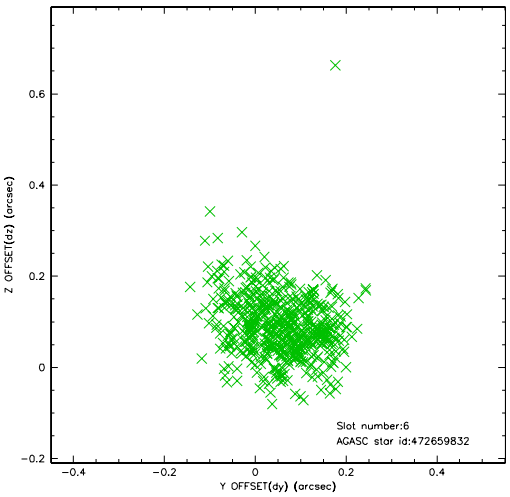
2.4.3 Slot 5

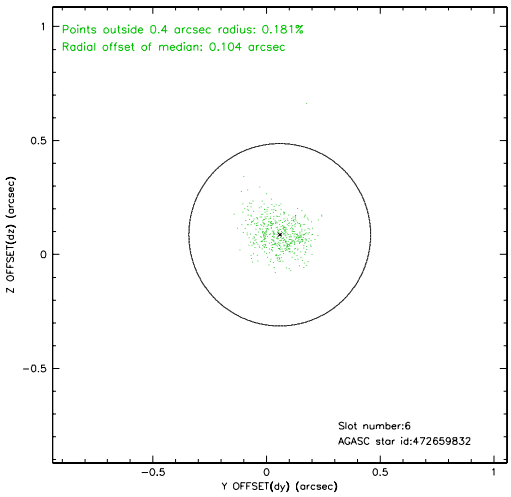

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472655152

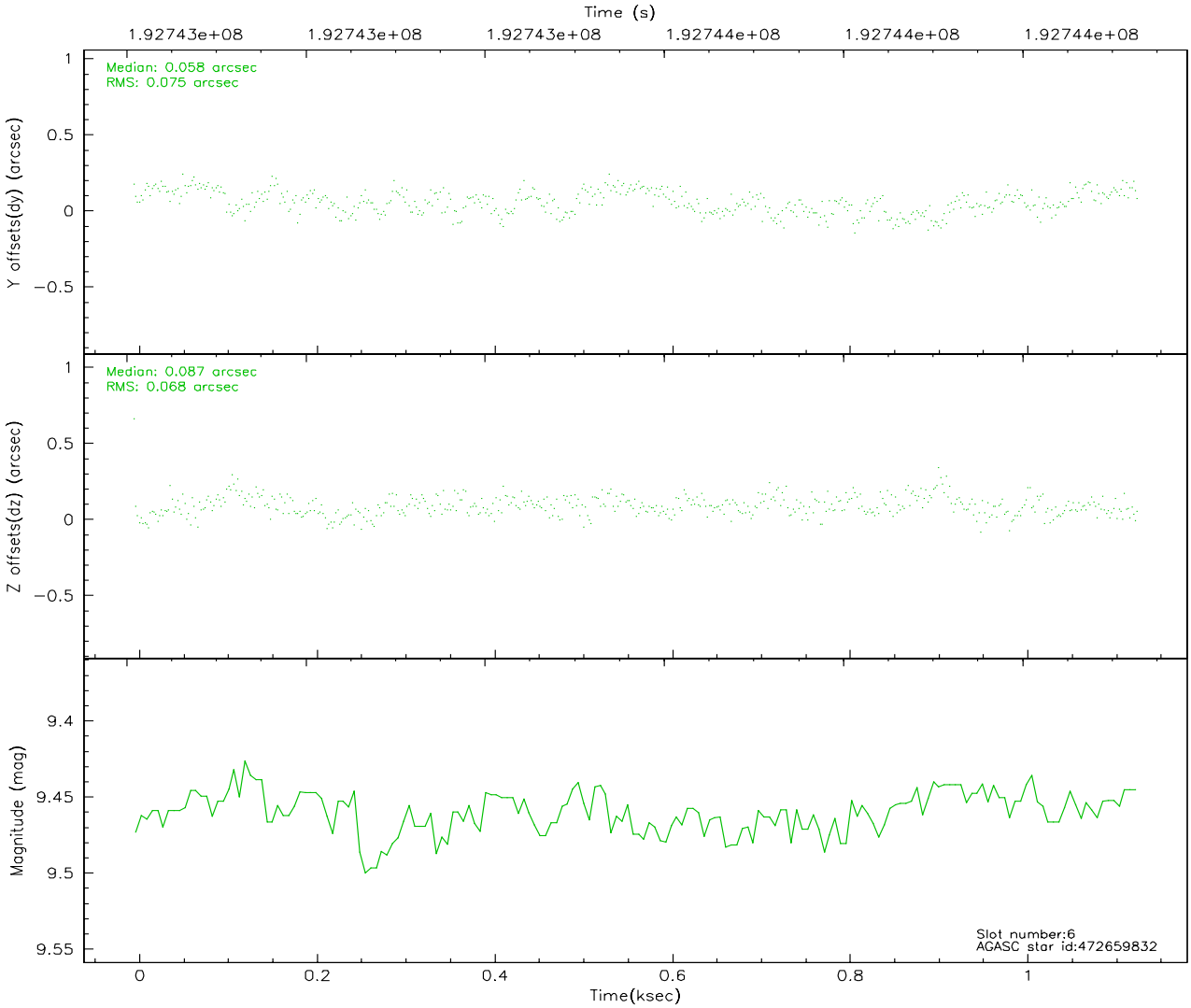

Points outside 0.4 arcsec radius: 0.363%
Radial offset of median: 0.106 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472655152


Time (s)
Median: 0.106 arcsec
RMS: 0.077 arcsec
Y offsets(dy) (arcsec)
Median: 0.009 arcsec
RMS: 0.094 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472655152
Time(ksec)

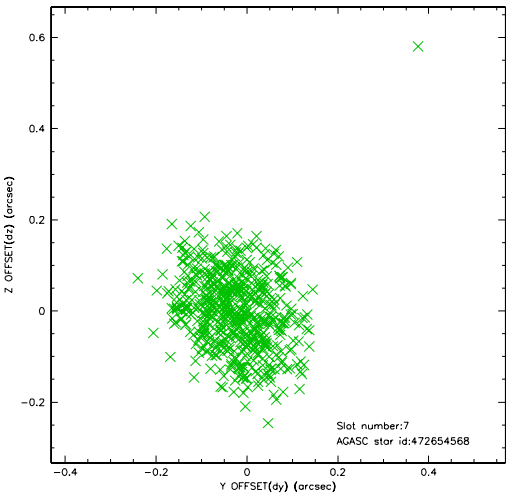
2.4.4 Slot 6

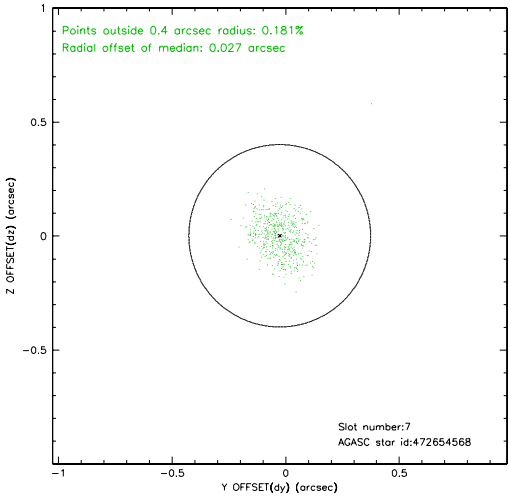

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832

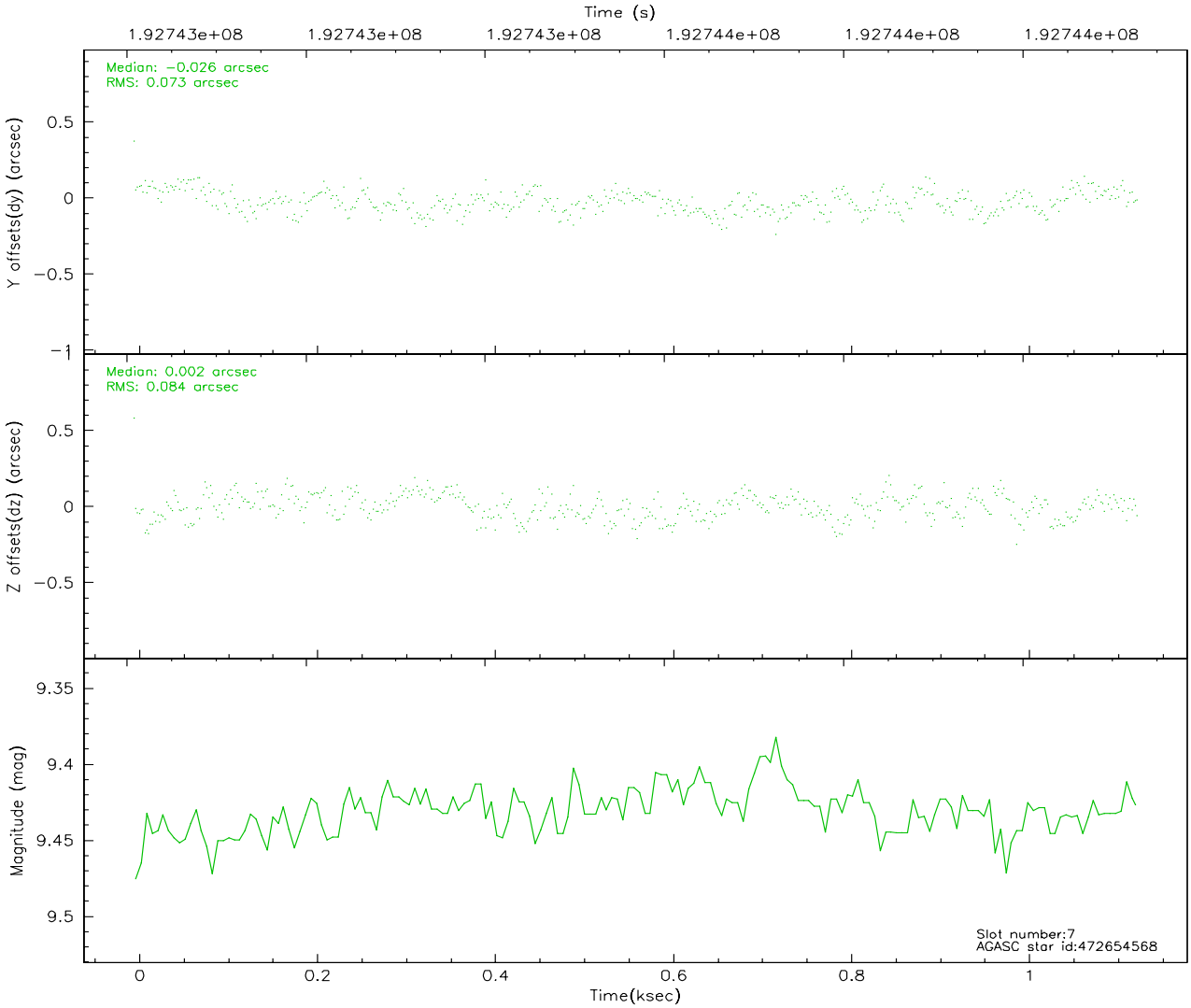

Points outside 0.4 arcsec radius: 0.181%
Radial offset of median: 0.104 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832


Time (s)
Median: 0.058 arcsec
RMS: 0.075 arcsec
Y offsets(dy) (arcsec)
Median: 0.087 arcsec
RMS: 0.068 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472659832
Time(ksec)

2.4.5 Slot 7

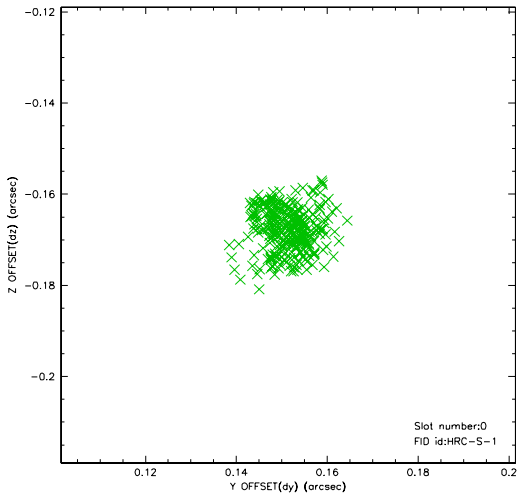

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

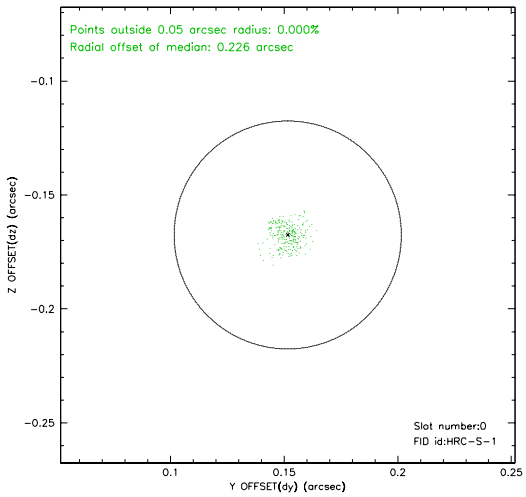

Points outside 0.4 arcsec radius: 0.181%
Radial offset of median: 0.027 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

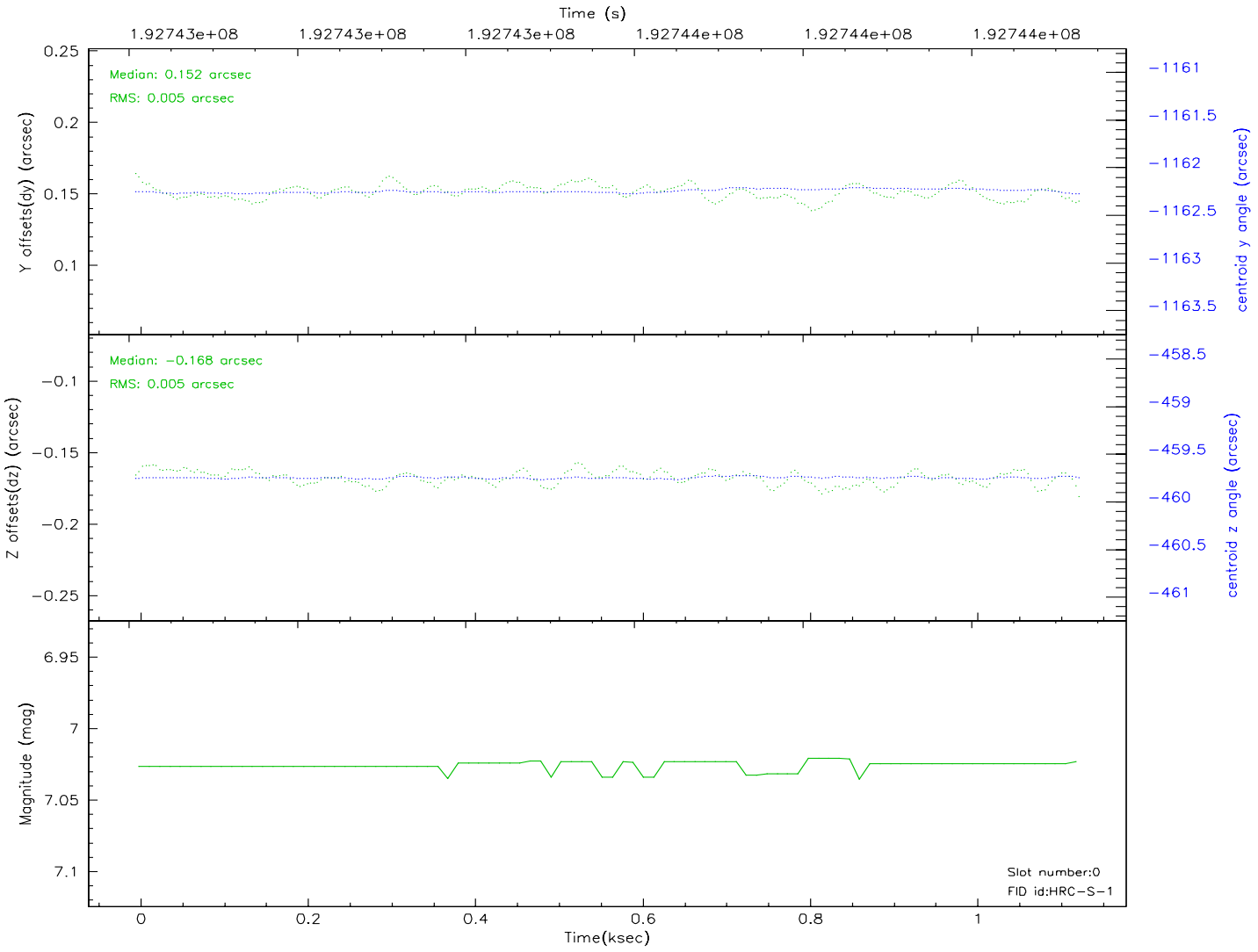

Time (s)
Median: −0.026 arcsec
RMS: 0.073 arcsec
Y offsets(dy) (arcsec)
Median: 0.002 arcsec
RMS: 0.084 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472654568
Time(ksec)

2.5 FID Slots

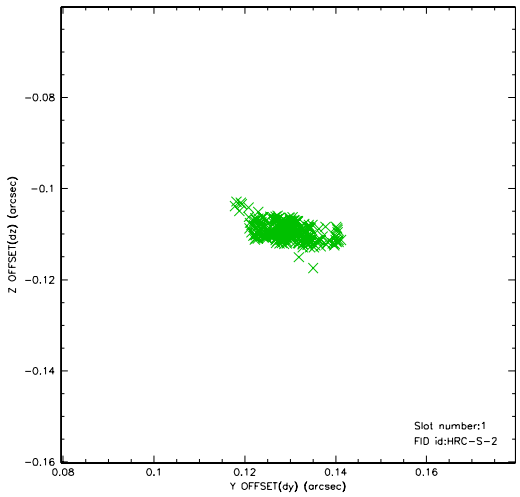
2.5.1 Slot 0

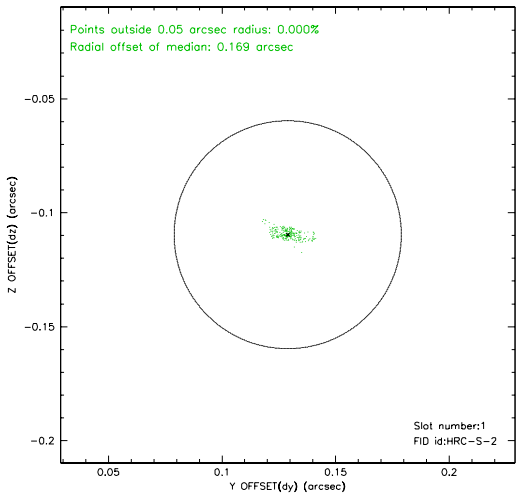


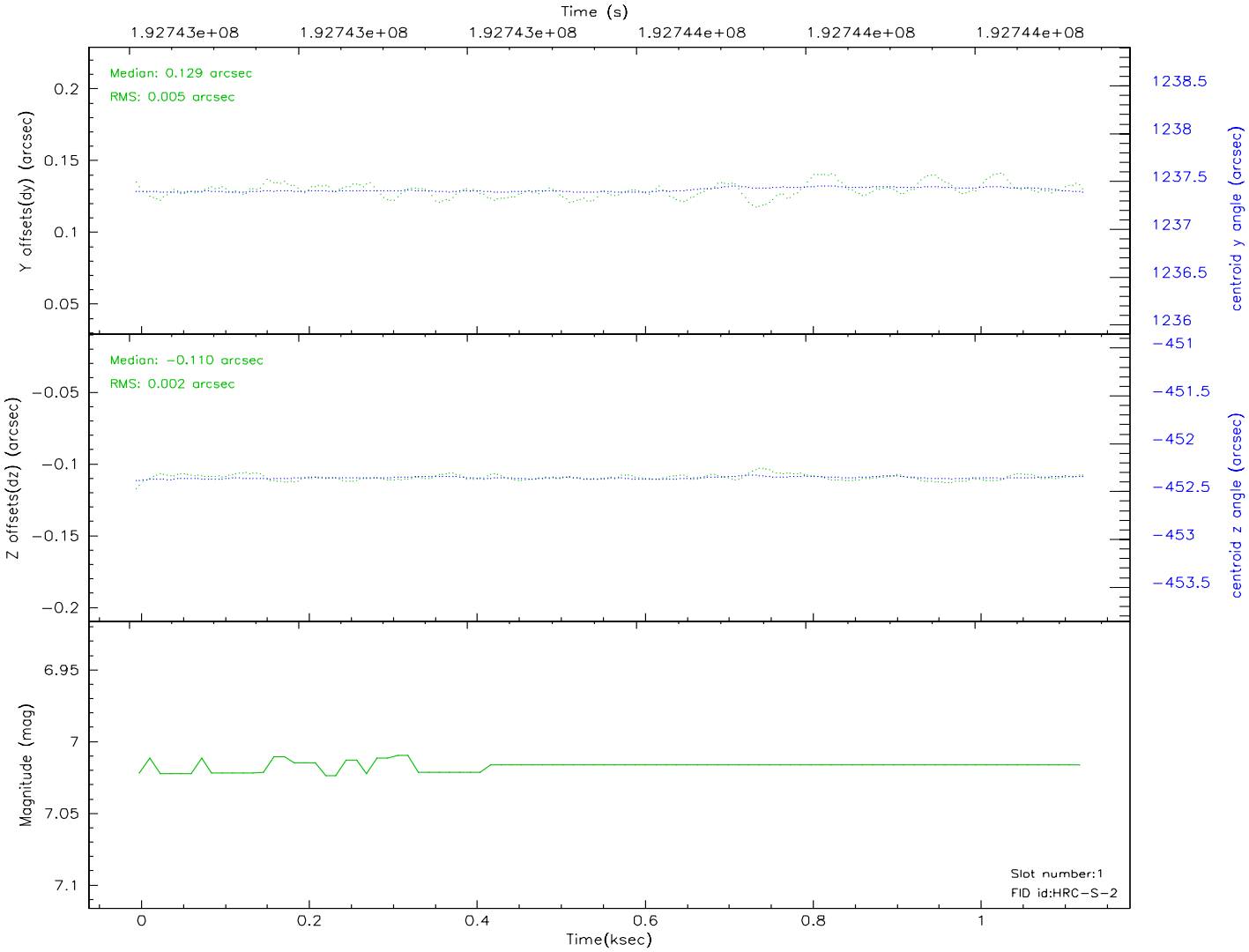




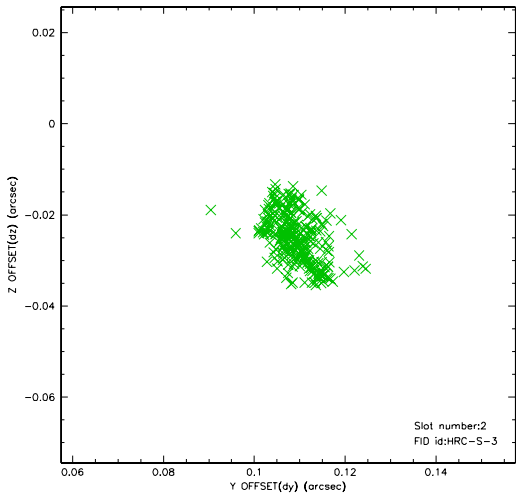
2.5.2 Slot 1

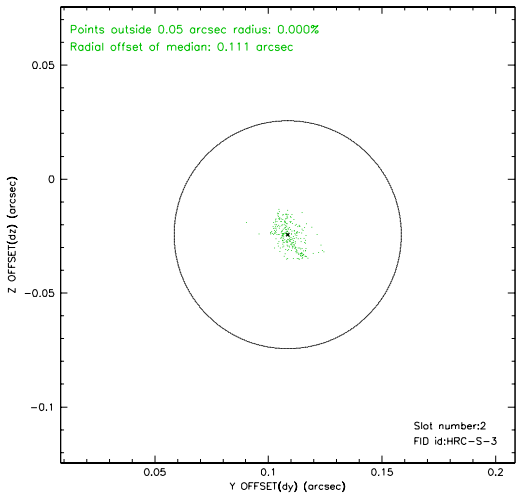

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2

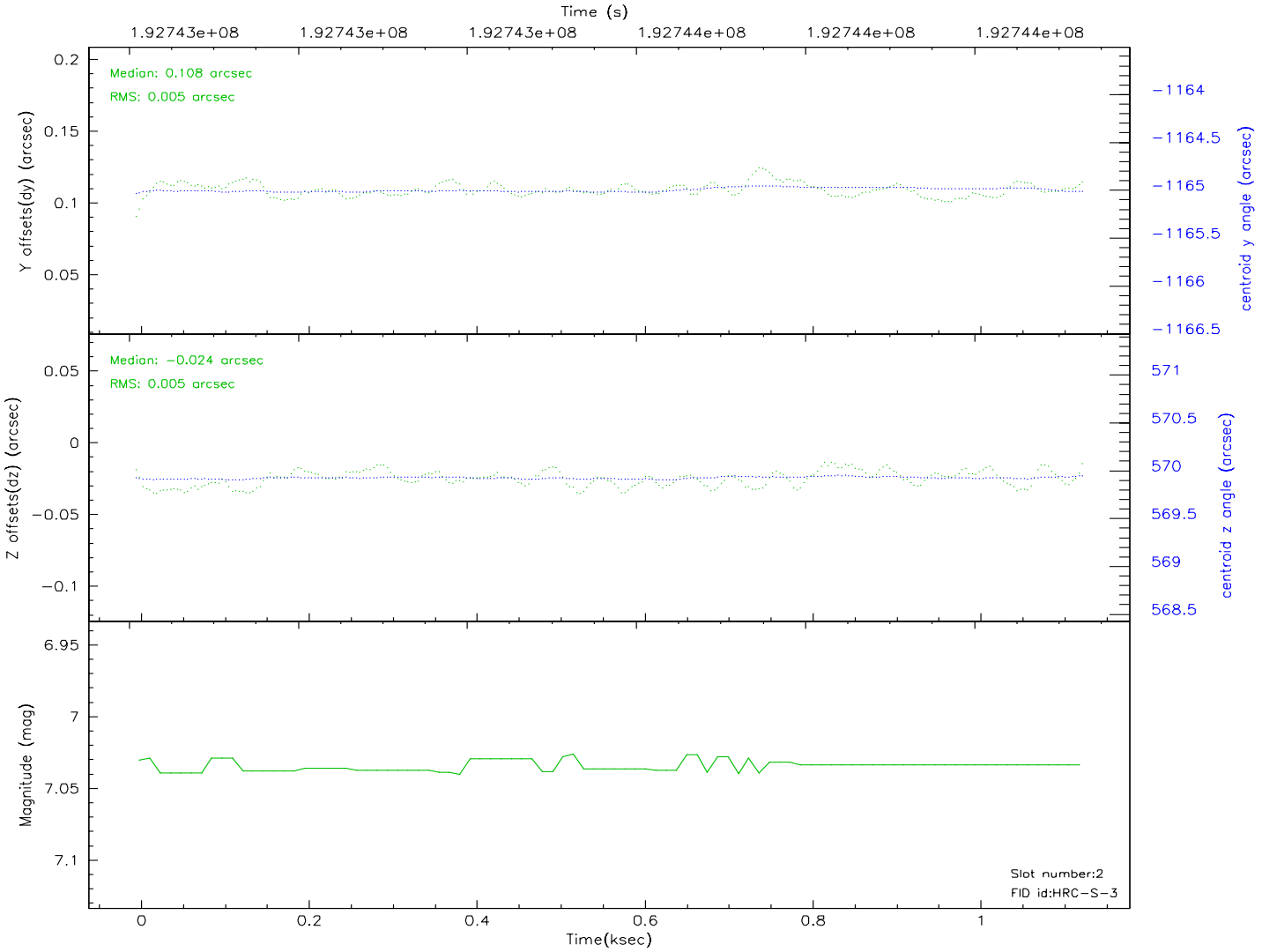

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.169 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2


Time (s)
Median: 0.129 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.110 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)

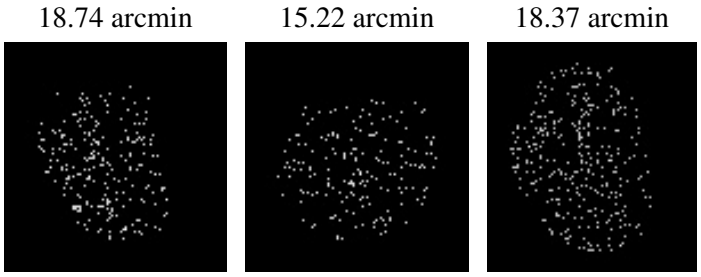
2.5.3 Slot 2


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


Time (s)
Median: 0.108 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
Median: −0.024 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid y angle (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	Beth Sundheim
V&V Date (YYYY-MM-DD)	2006.06.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.087

A.2 Comments

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 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.