V&V Reference Report
L2 ASCDS Version : 7.6.7.1

Observation 5102 - L2 Version 002
Chandra X-Ray Center

L2 Processing Date : Apr 10 2006

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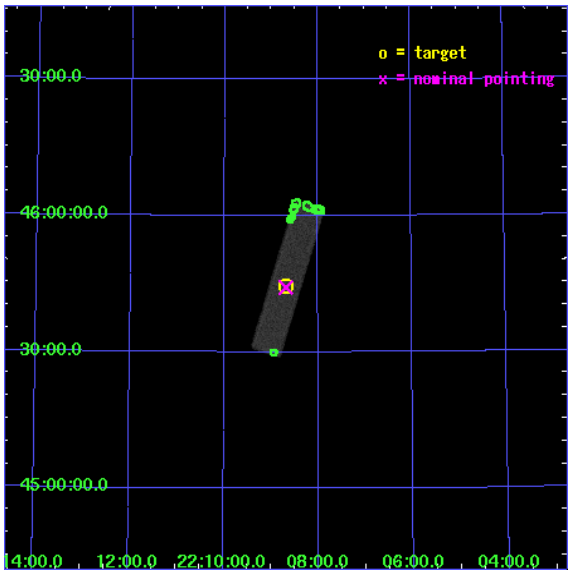
1 Front

seq_num	290375
obs_id	5102
title	AO5B 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	332.17091867883
dec_nom	45.737602997955
roll_nom	286.83399556512
revision	2
ontime	1079.5812985003
livetime	1072.4782115295
l2events	46836

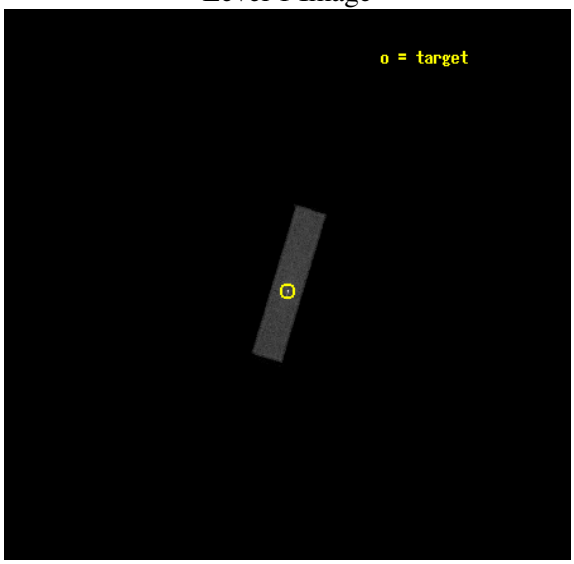


2 OBI

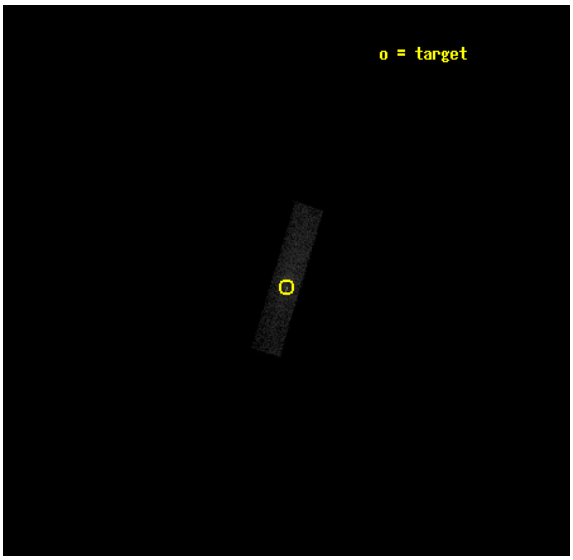
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	1
ascdsver	7.6.7.1
caldbver	3.2.1
date	2006-04-10T19:20:05
revision	2

sched_exp_time	900.000000
ontime	1080.6062985361
l1events	107115

2.1.3 Events

Level 1 Events

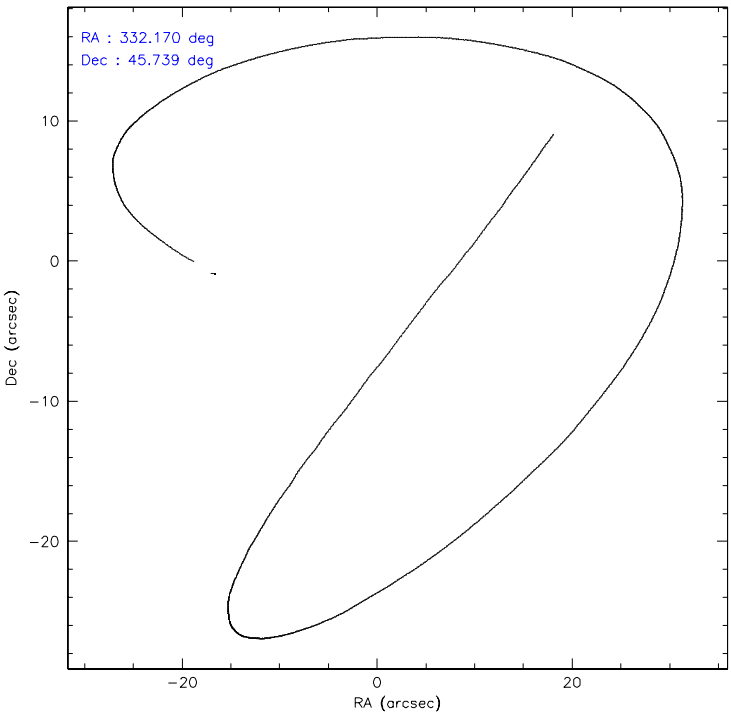
	segment 1	**segment 2**	**segment 3**
level 1 events	0	107115	0
rejected events	0	56868	0
rejected %	0%	53%	0%

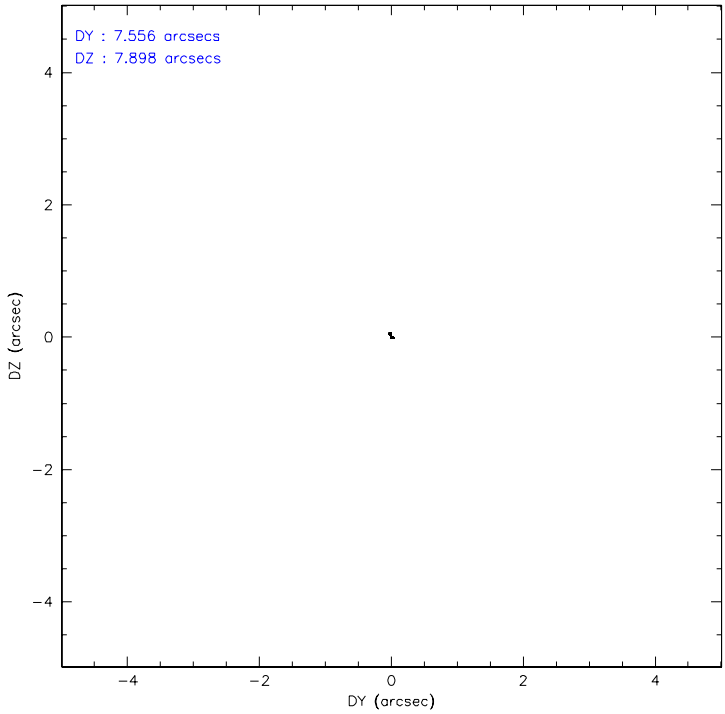
2.2 Compared Parameters

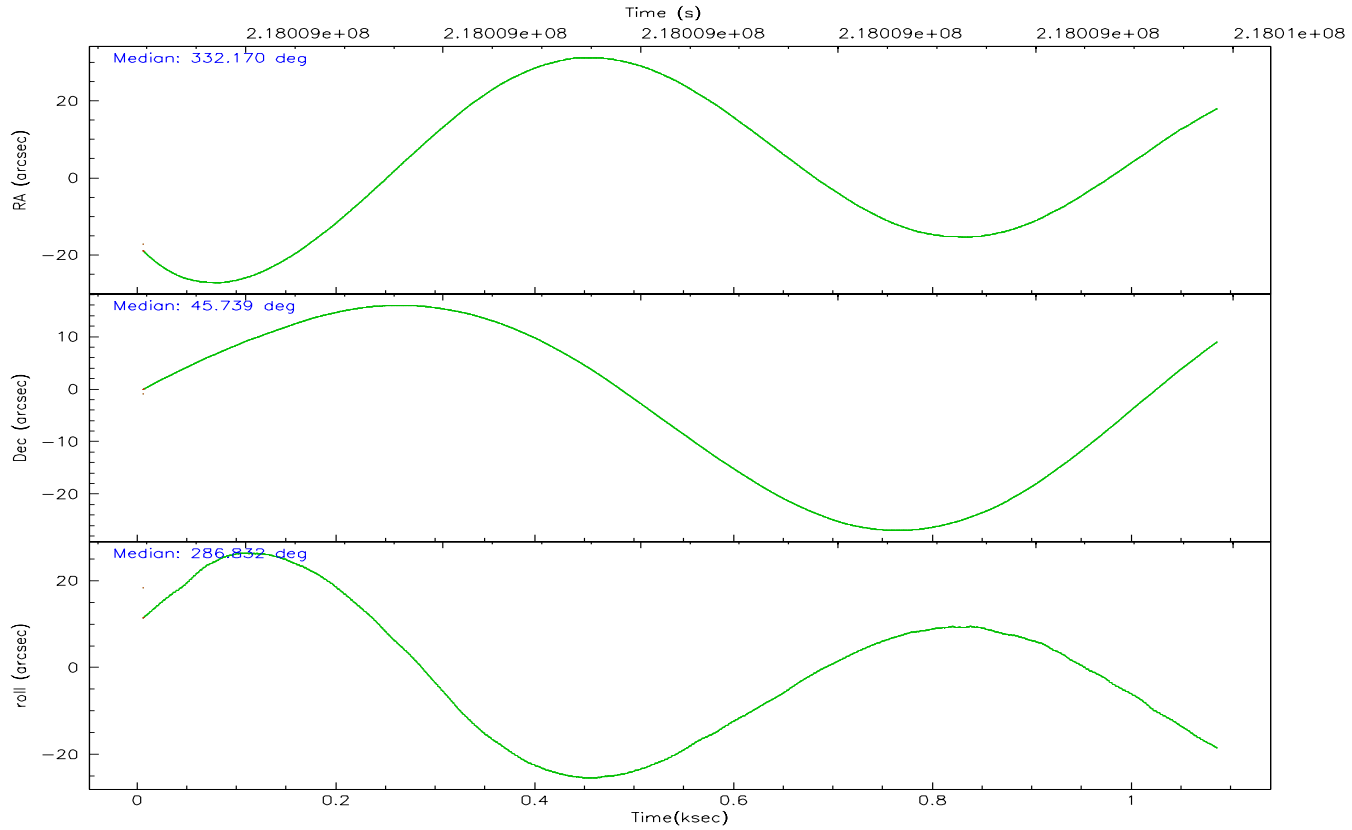
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.140516	332.1709186788252
Pointing Dec	45.756292	45.73760299795453
Pointing Roll	286.788371	286.8339955651179
Window start time	210384064.184000	210384064.184000
Window stop time	220838464.184000	220838464.184000
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	218008683.184000	218007755.5432
Observation start date	2004-11-28T05:56:59	2004-11-28T05:42:35
Observation end time	218009583.184000	218009716.88079
Observation end date	2004-11-28T06:11:59	2004-11-28T06:15:16

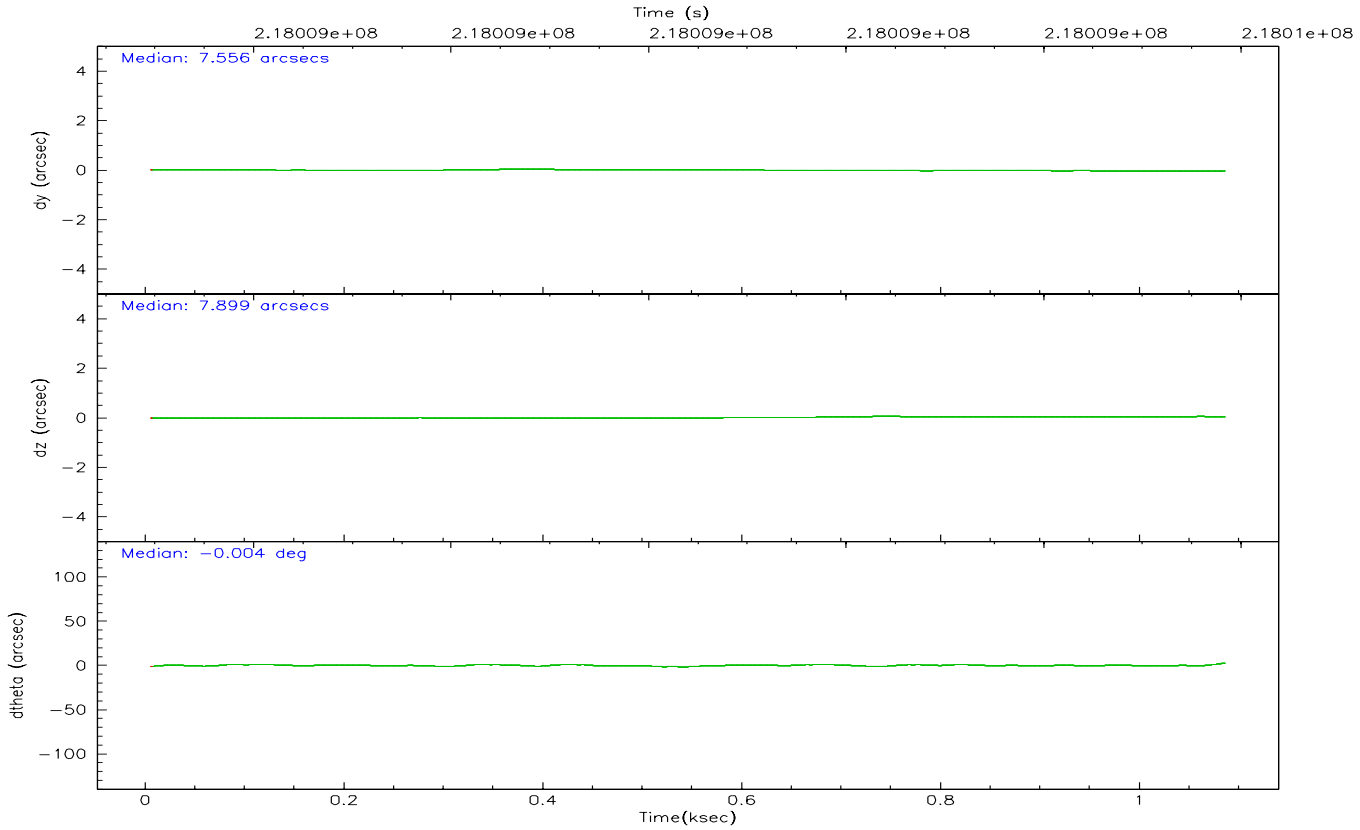
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.170 deg
Dec : 45.739 deg
10
0
−10
−20
Dec (arcsec)
−20
0
20
RA (arcsec)


DY : 7.556 arcsecs
DZ : 7.898 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
2.18009e+08
2.18009e+08
2.18009e+08
2.18009e+08
2.18009e+08
2.1801e+08
Median: 332.170 deg
RA (arcsec)
Median: 45.739 deg
Dec (arcsec)
Median: 286.832 deg
roll (arcsec)
Time(ksec)

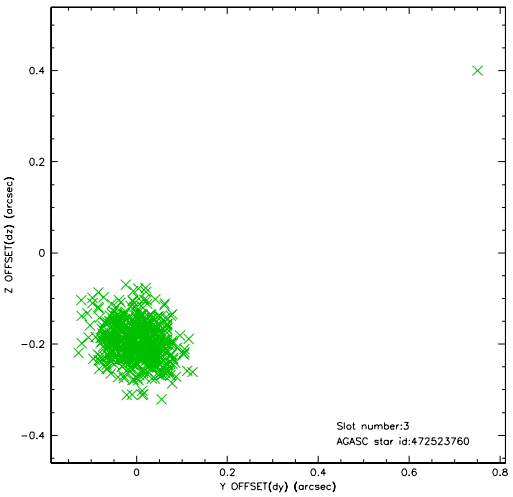

Time (s)
2.18009e+08
2.18009e+08
2.18009e+08
2.18009e+08
2.18009e+08
2.1801e+08
Median: 7.556 arcsecs
dy (arcsec)
Median: 7.899 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

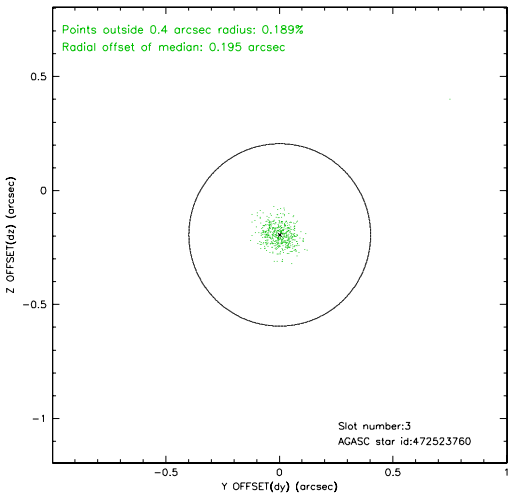
Slot Statistics

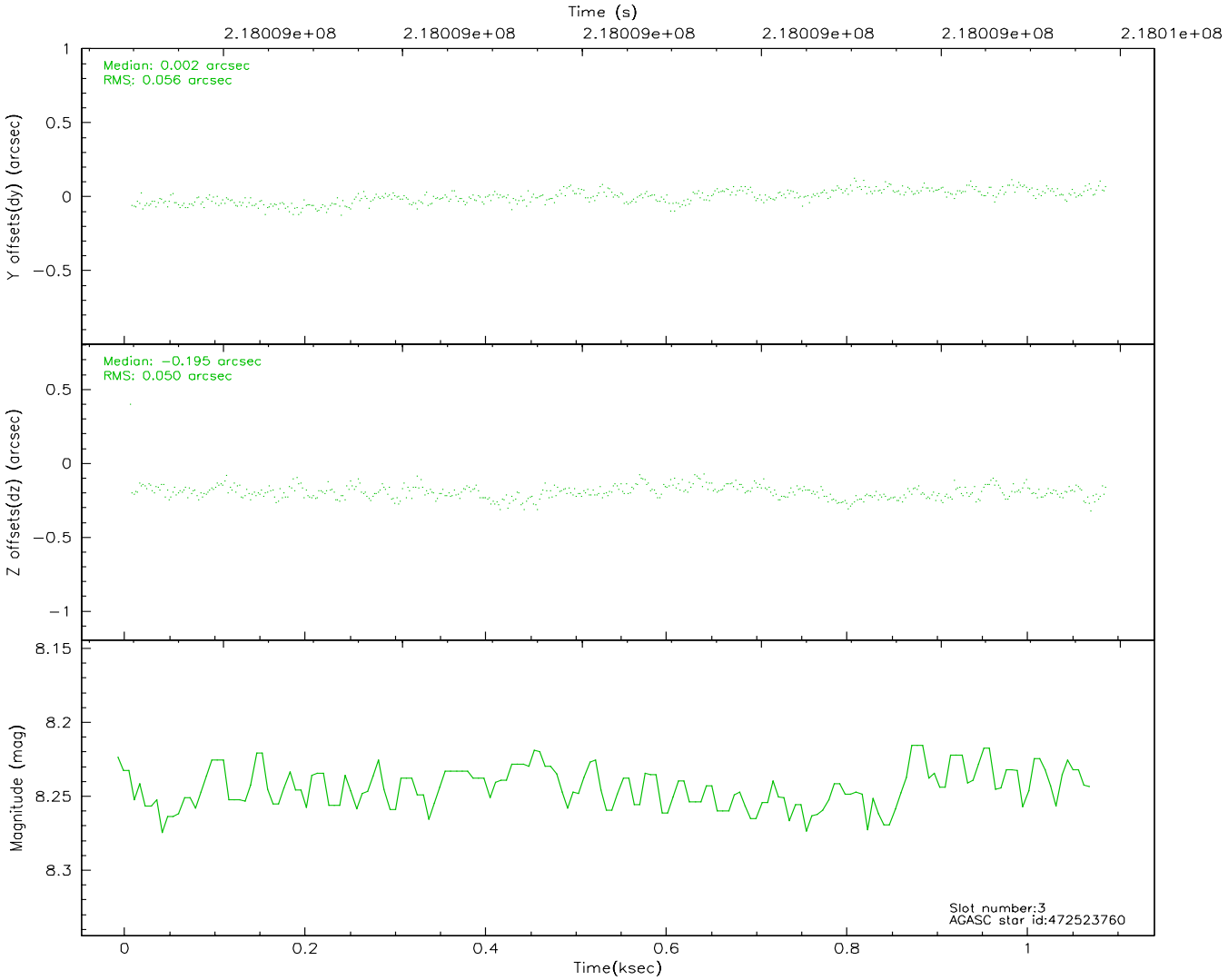
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.04	264	0.130	-0.113	0.006	0.010	0.000000	0.000000	-1161.72	-456.50
1	FID	HRC-S-2	7.04	264	0.163	-0.115	0.005	0.008	0.000000	0.000000	1233.59	-450.85
2	FID	HRC-S-3	7.05	264	0.097	-0.075	0.006	0.011	0.000000	0.000000	-1159.81	571.36
3	GUIDE	472523760	8.24	528	0.002	-0.195	0.066	0.111	331.645363	45.403260	851.86	-1561.95
4	GUIDE	472655152	9.44	528	0.012	0.063	0.107	0.187	332.504239	45.862991	-104.47	984.09
5	GUIDE	472659832	9.47	528	-0.060	-0.029	0.118	0.193	332.780399	46.098139	-723.05	1890.86
6	GUIDE	472533912	9.15	528	-0.127	0.079	0.086	0.136	331.791136	46.368695	-2364.44	-187.53
7	GUIDE	472654568	9.45	526	0.168	0.064	0.130	0.225	332.194449	45.063576	2422.98	-586.75

2.4 Star Slots

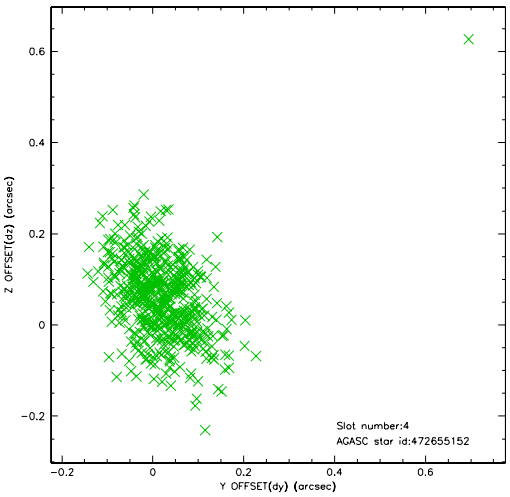
2.4.1 Slot 3

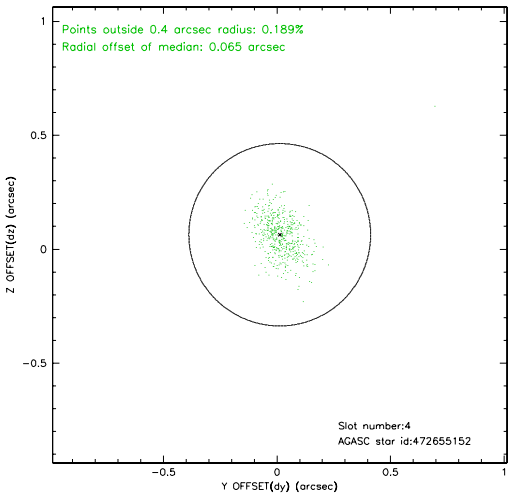


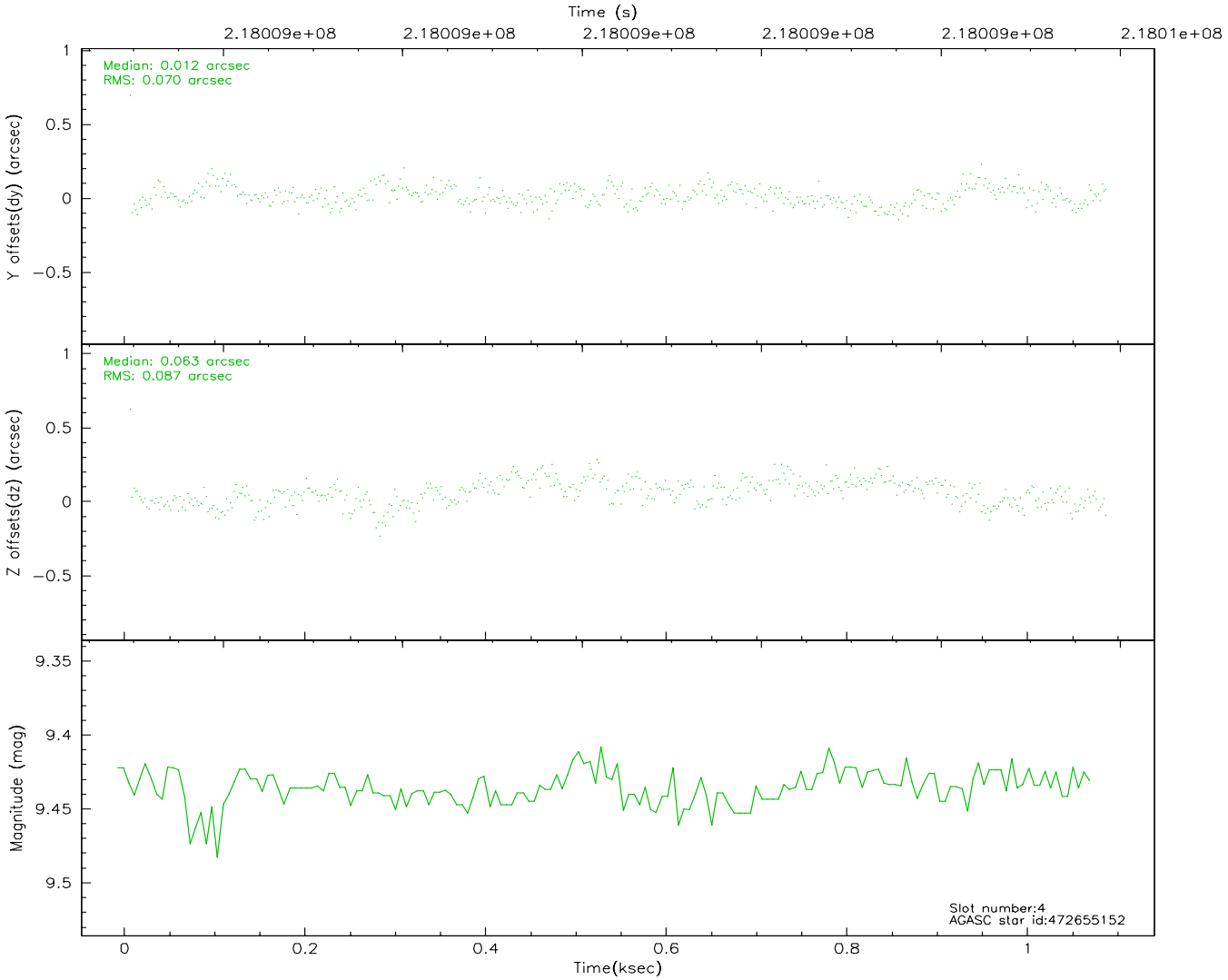




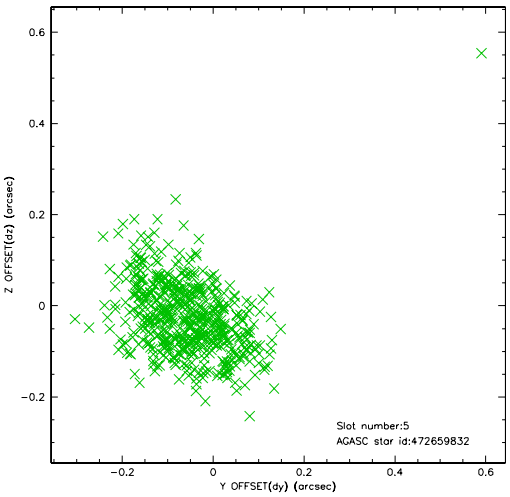
2.4.2 Slot 4

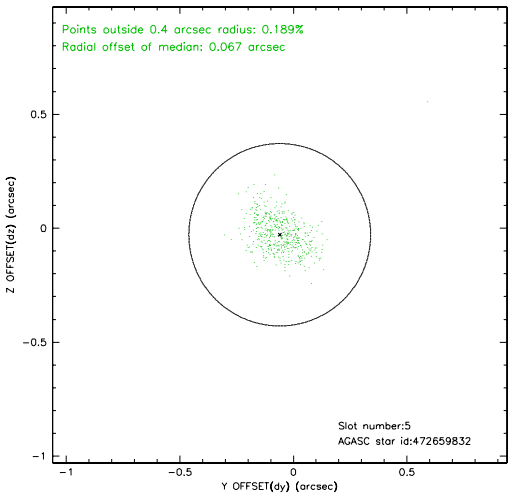

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472655152

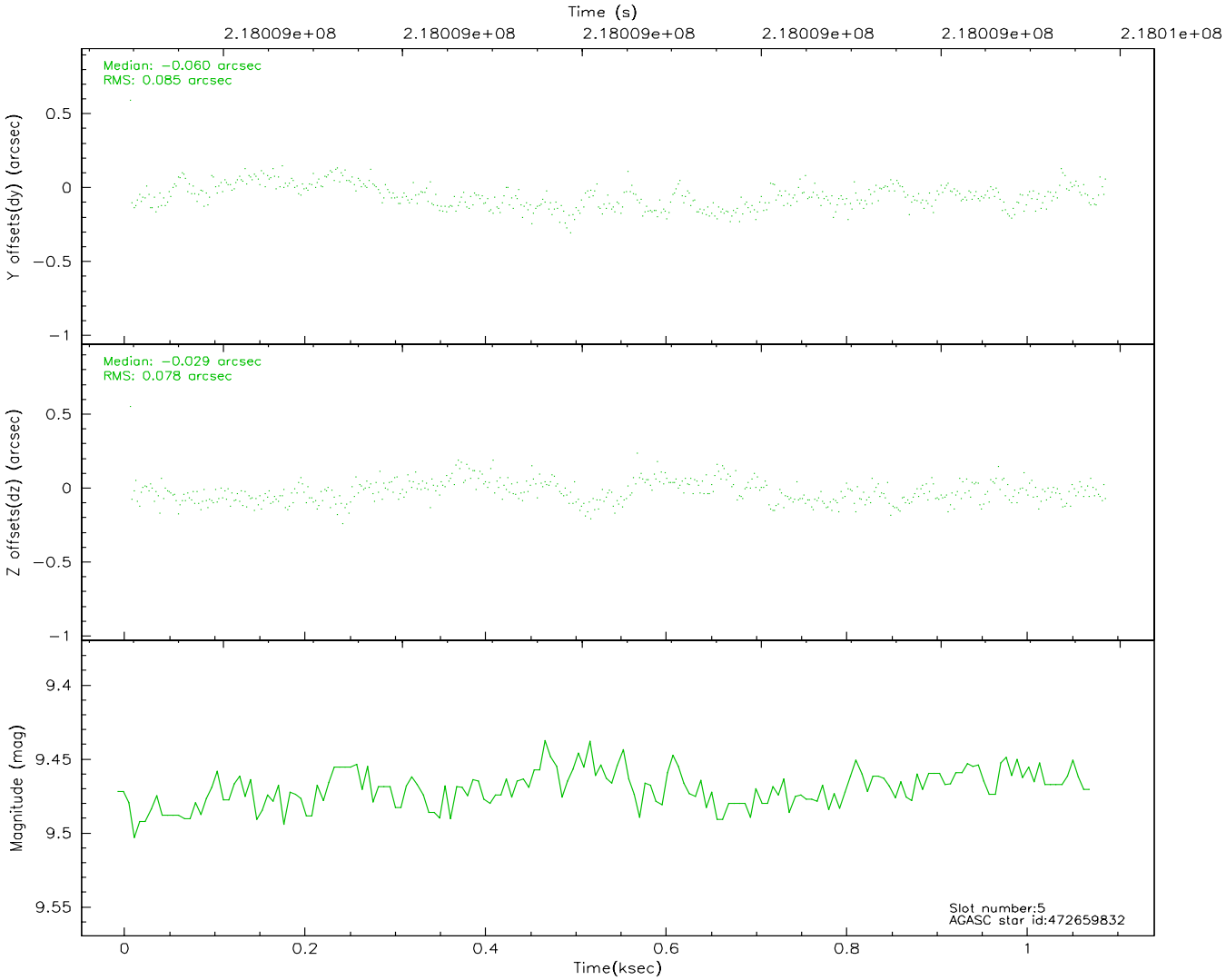

Points outside 0.4 arcsec radius: 0.189%
Radial offset of median: 0.065 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472655152


Time (s)
Median: 0.012 arcsec
RMS: 0.070 arcsec
Y offsets(dy) (arcsec)
Median: 0.063 arcsec
RMS: 0.087 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472655152
Time(ksec)

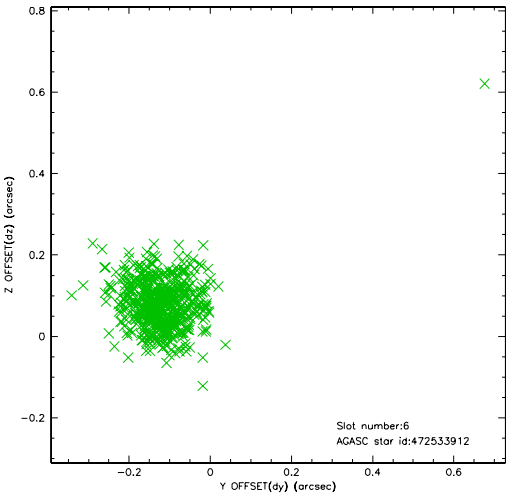
2.4.3 Slot 5

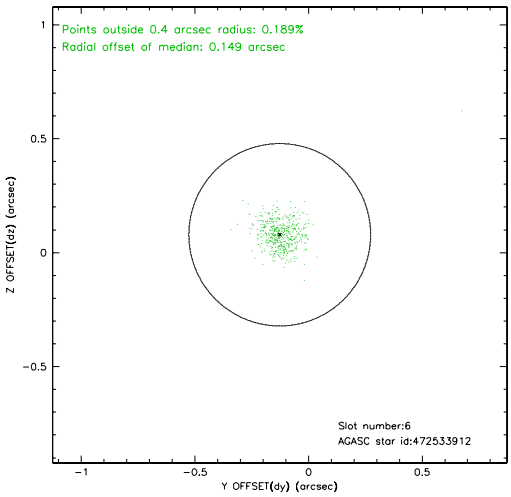

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472659832

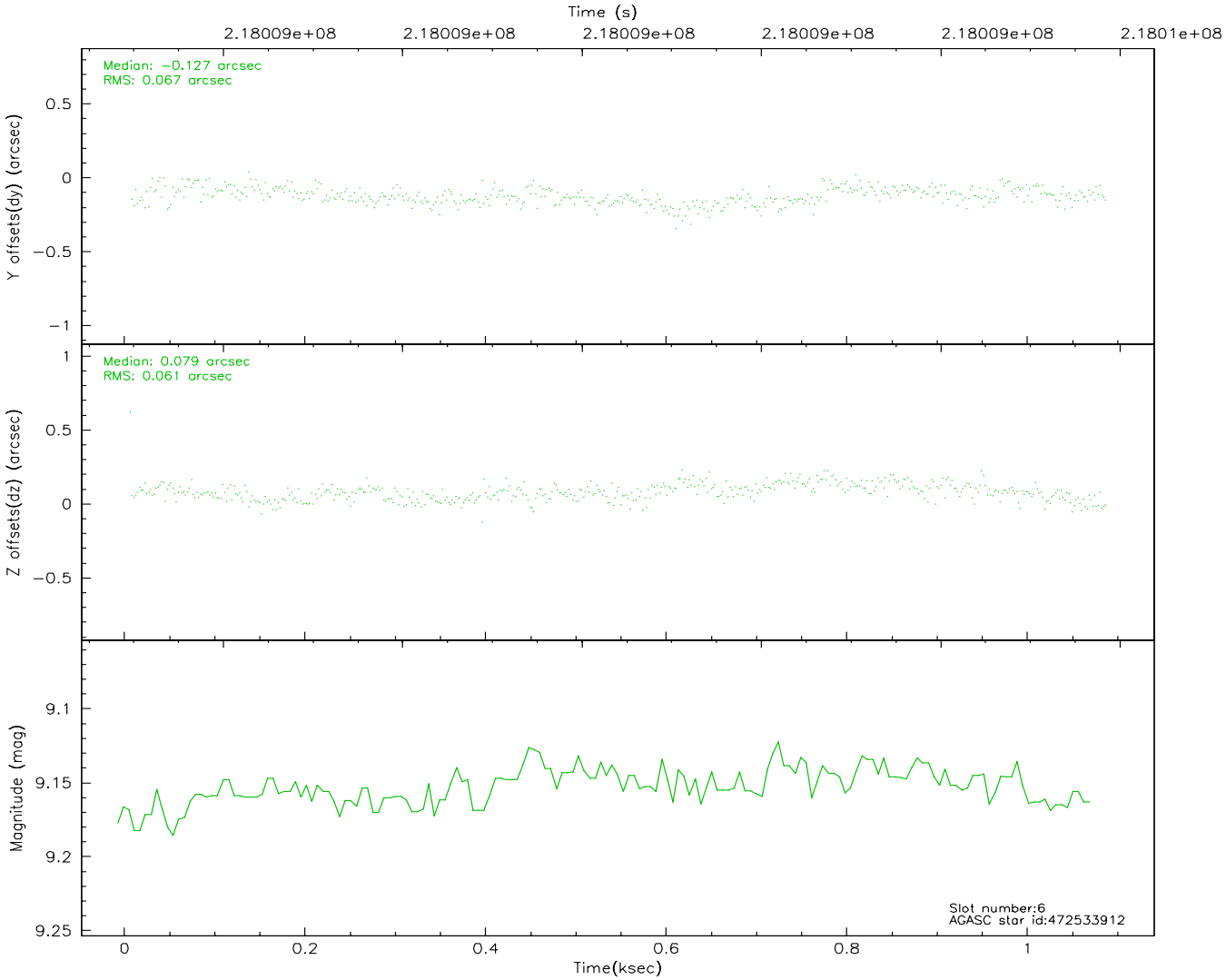

Points outside 0.4 arcsec radius: 0.189%
Radial offset of median: 0.067 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472659832


Time (s)
Median: −0.060 arcsec
RMS: 0.085 arcsec
Y offsets(dy) (arcsec)
Median: −0.029 arcsec
RMS: 0.078 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472659832
Time(ksec)

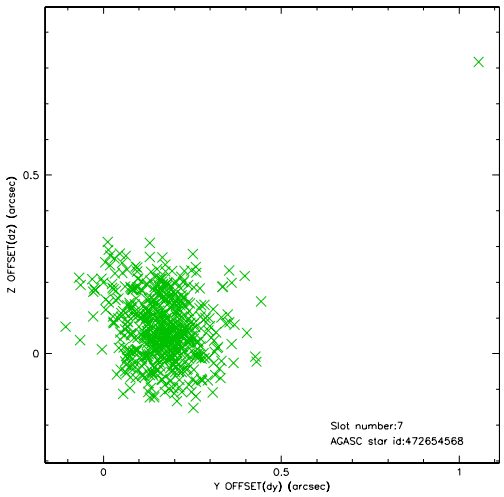
2.4.4 Slot 6

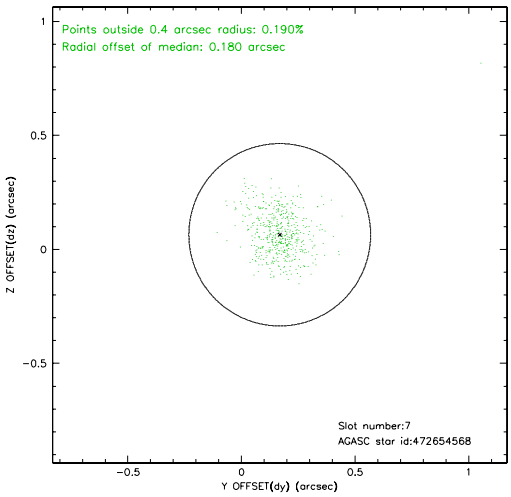

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472533912

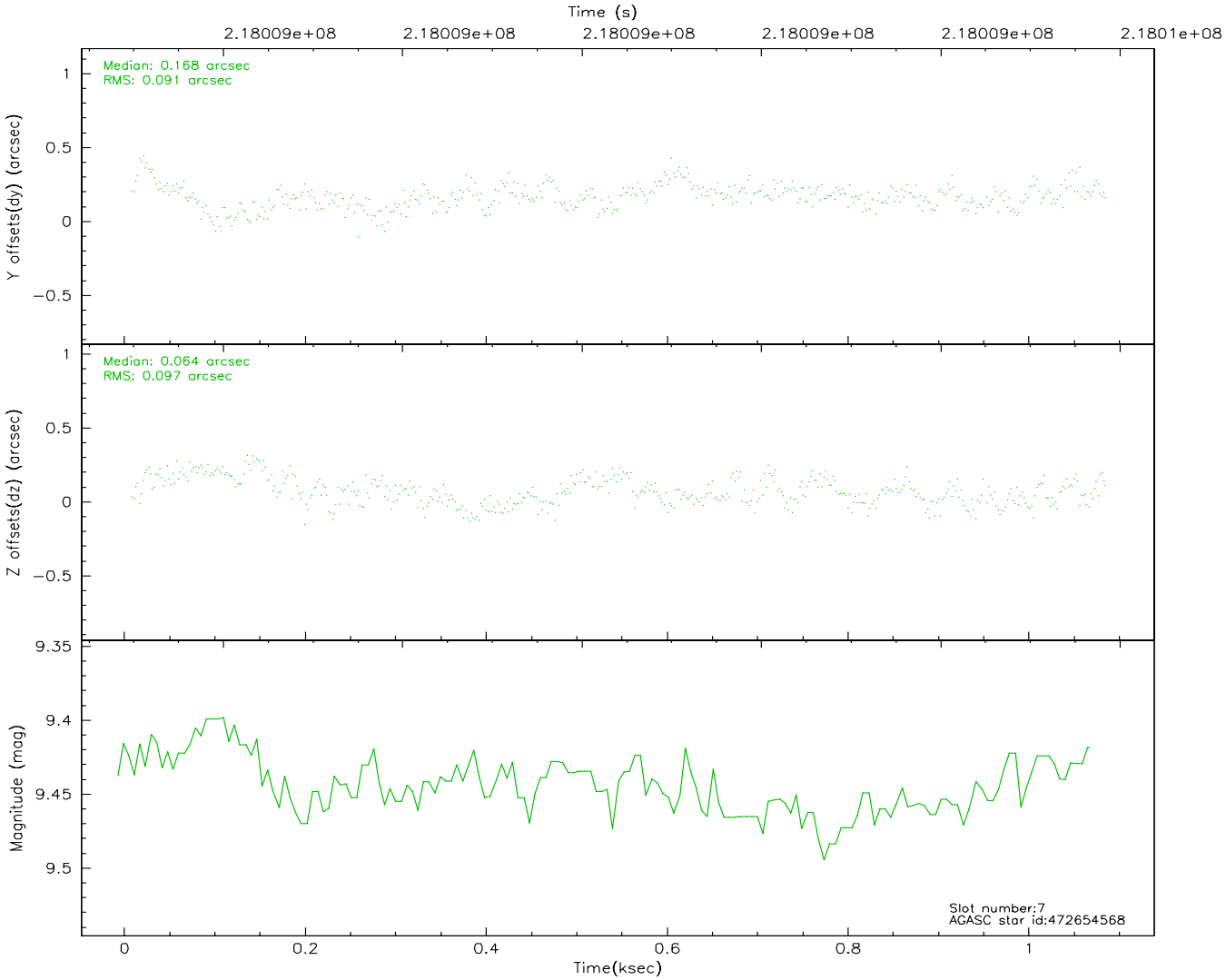

Points outside 0.4 arcsec radius: 0.189%
Radial offset of median: 0.149 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472533912


Time (s)
Median: −0.127 arcsec
RMS: 0.067 arcsec
Y offsets(dy) (arcsec)
Median: 0.079 arcsec
RMS: 0.061 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472533912
Time(ksec)

2.4.5 Slot 7

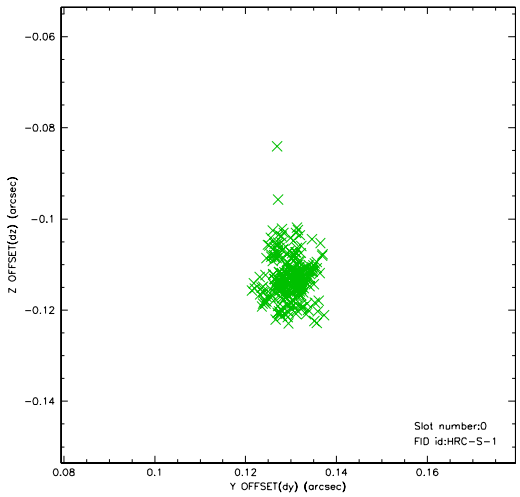

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

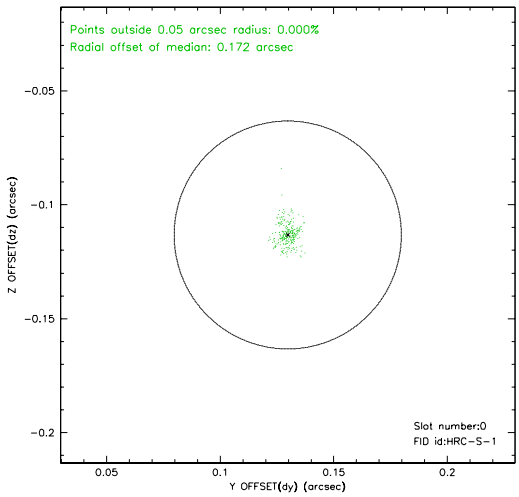

Points outside 0.4 arcsec radius: 0.190%
Radial offset of median: 0.180 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472654568

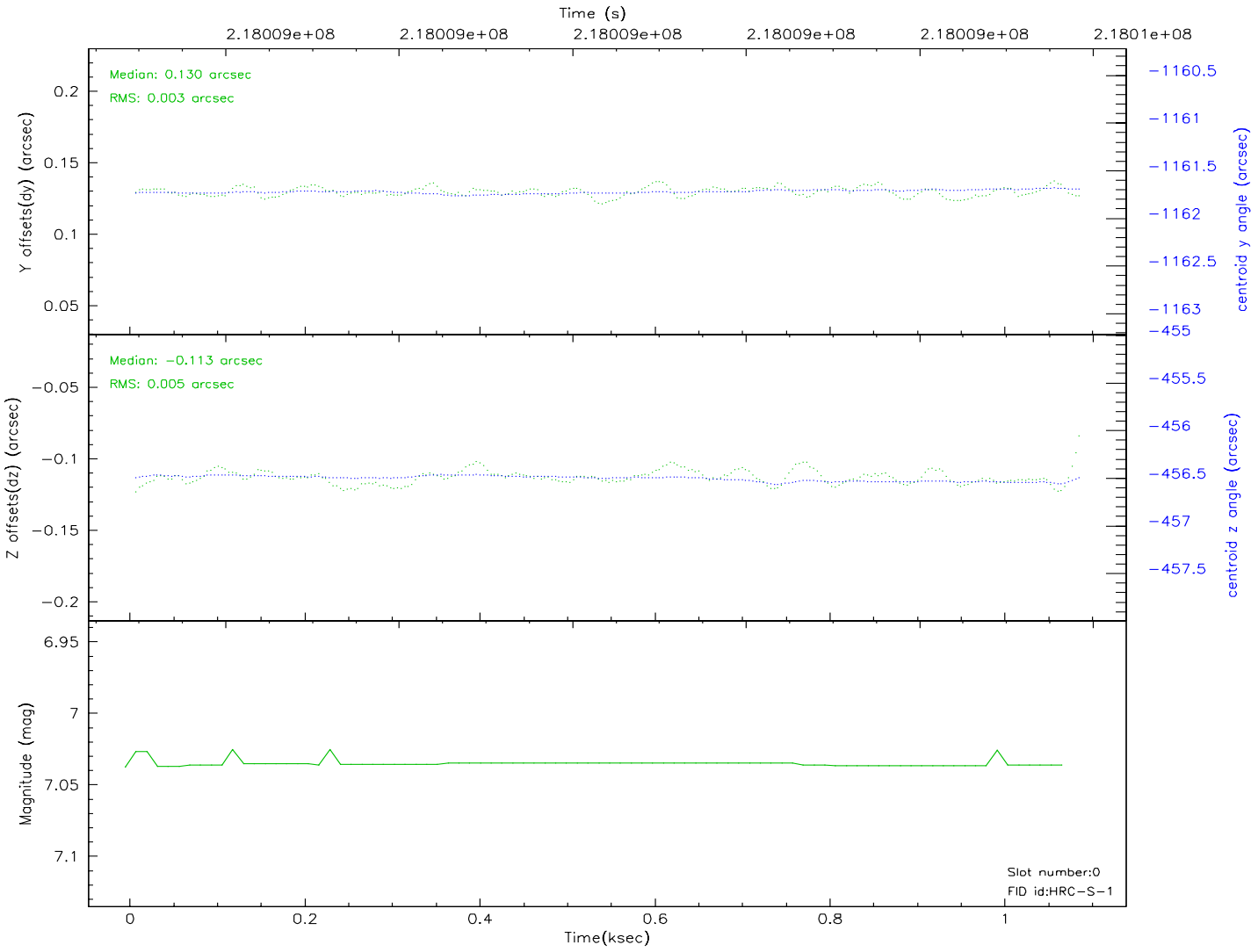

Time (s)
Median: 0.168 arcsec
RMS: 0.091 arcsec
Y offsets(dy) (arcsec)
Median: 0.064 arcsec
RMS: 0.097 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472654568
Time(ksec)

2.5 FID Slots

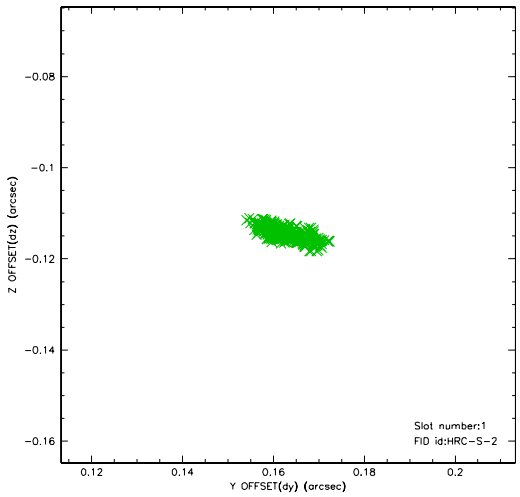
2.5.1 Slot 0

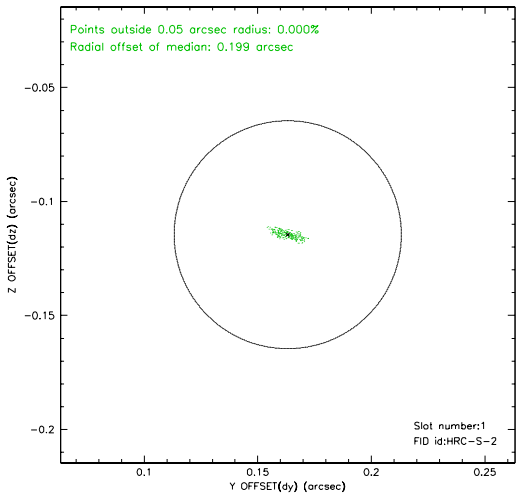


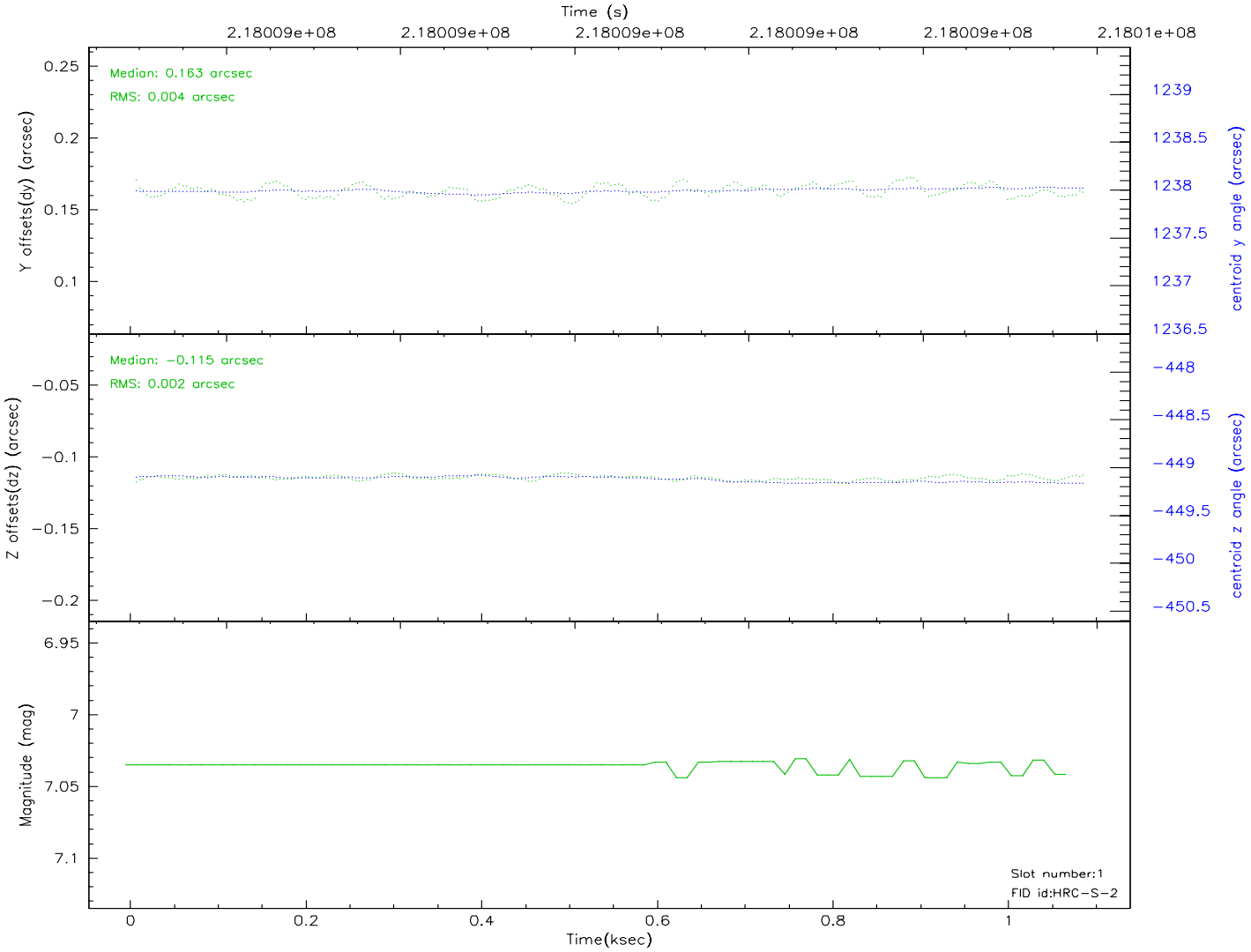




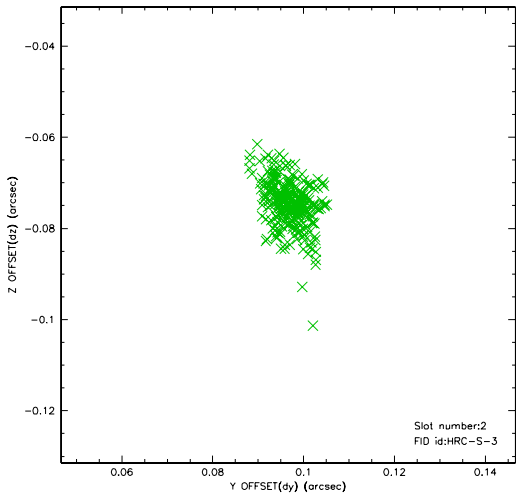
2.5.2 Slot 1

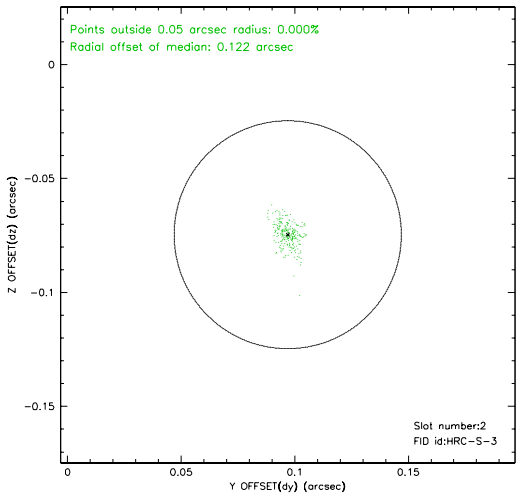

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2

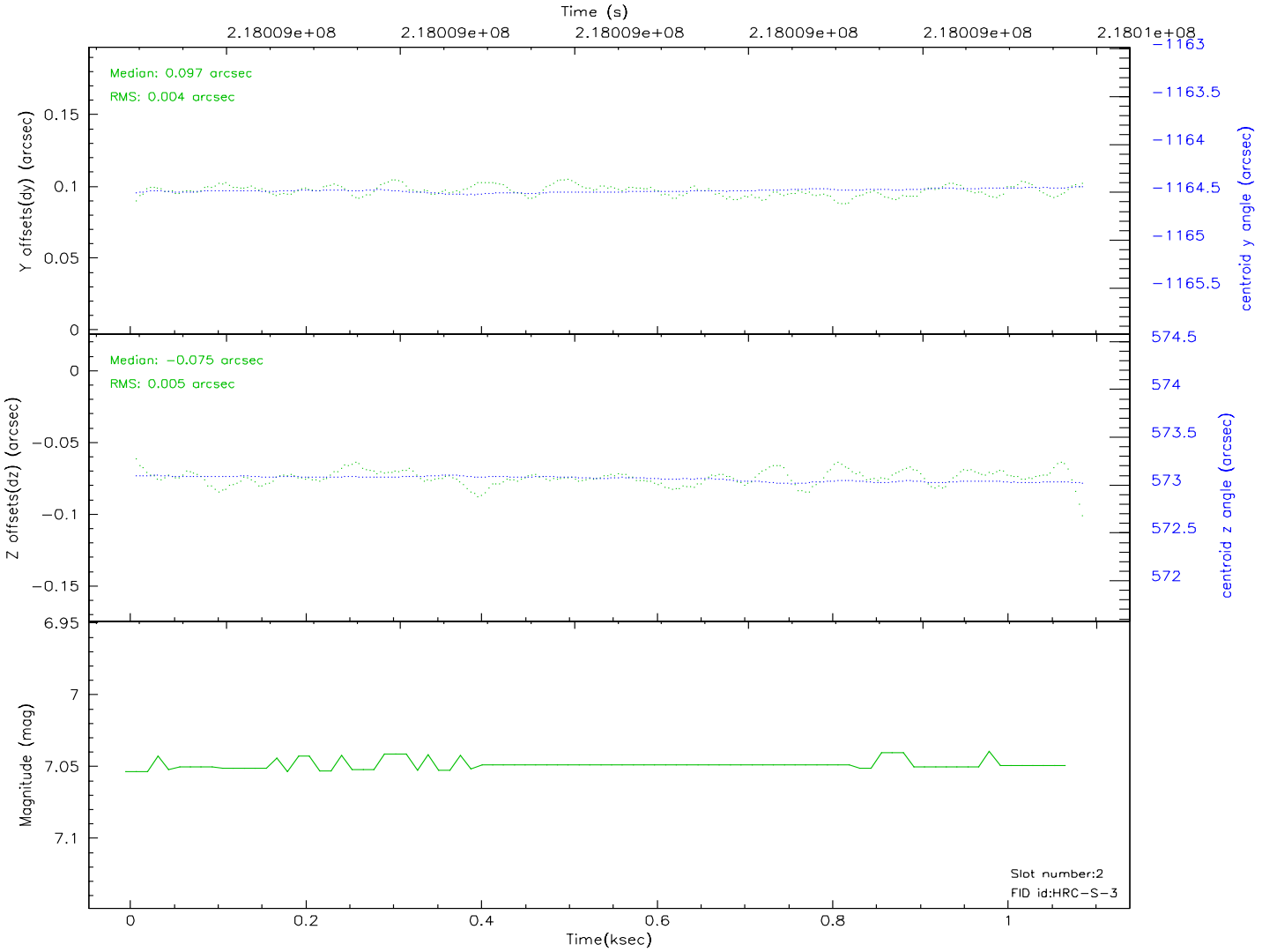

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.199 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2


Time (s)
Median: 0.163 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.115 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)

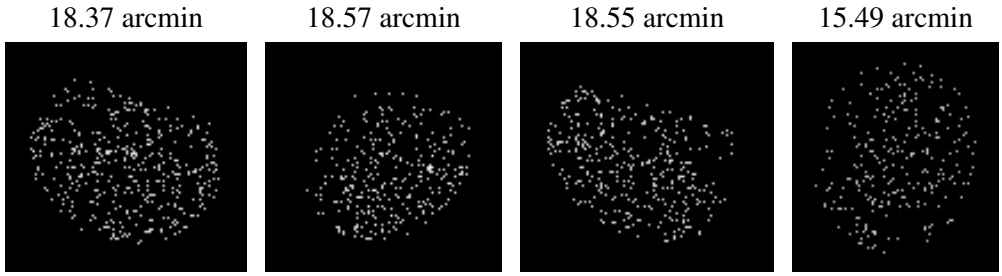
2.5.3 Slot 2


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


Time (s)
Median: 0.097 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.075 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	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.04.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.079581

A.2 Comments

```
Window constraint met.

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.
```