V&V Reference Report
L2 ASCDS Version : 7.6.7.1

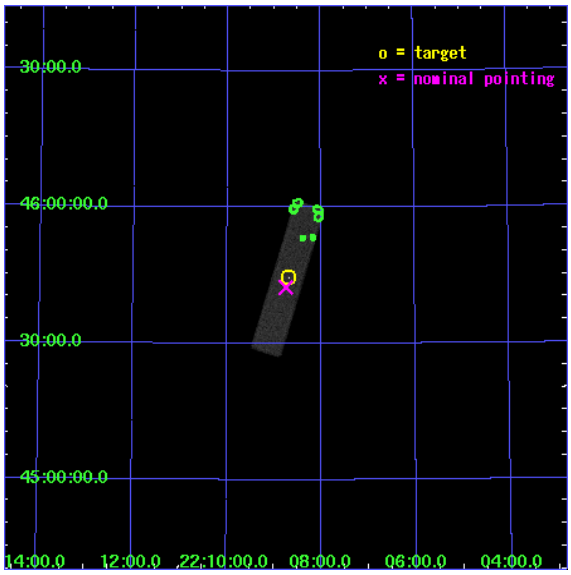
Observation 5105 - L2 Version 002
Chandra X-Ray Center

L2 Processing Date : Apr 10 2006

Contents

1 Front

seq_num	290378
obs_id	5105
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	332.18660835955
dec_nom	45.706121200481
roll_nom	286.88655088147
revision	2
ontime	1050.8812972903
livetime	1043.9351117614
l2events	45344

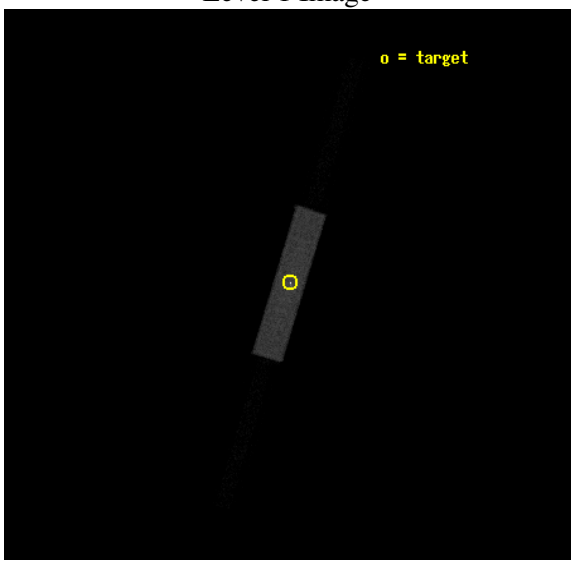


2 OBI

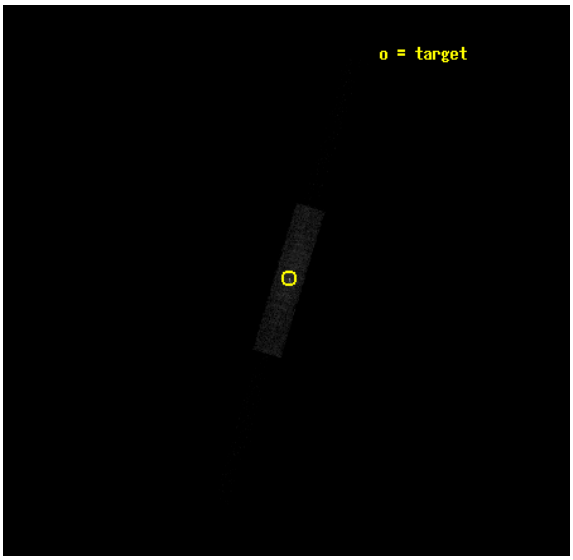
2.1 OBI

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	2006-04-10T19:28:11
revision	2

sched_exp_time	900.000000
ontime	1079.5812985599
l1events	80046

2.1.3 Events

Level 1 Events

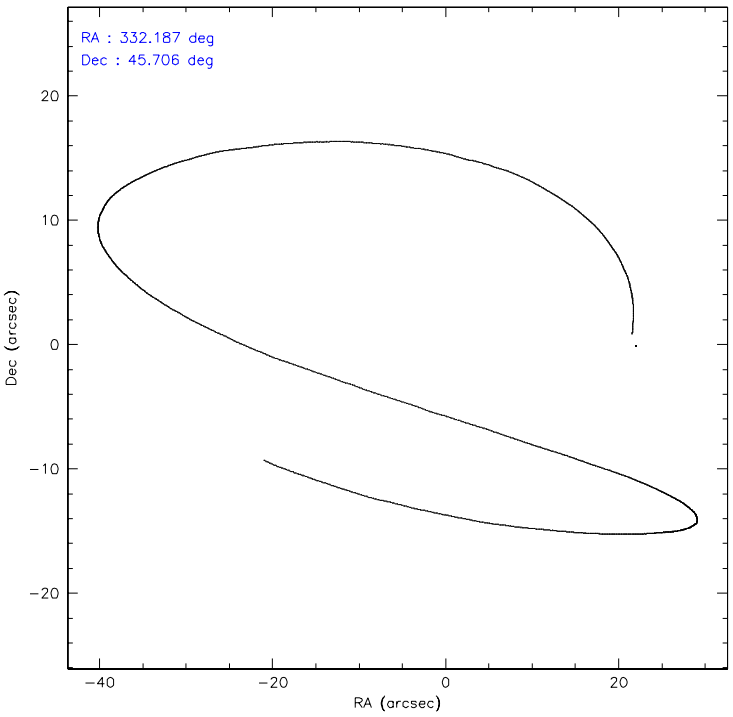
	segment 1	**segment 2**	**segment 3**
level 1 events	806	78510	730
rejected events	806	29815	730
rejected %	100%	37%	100%

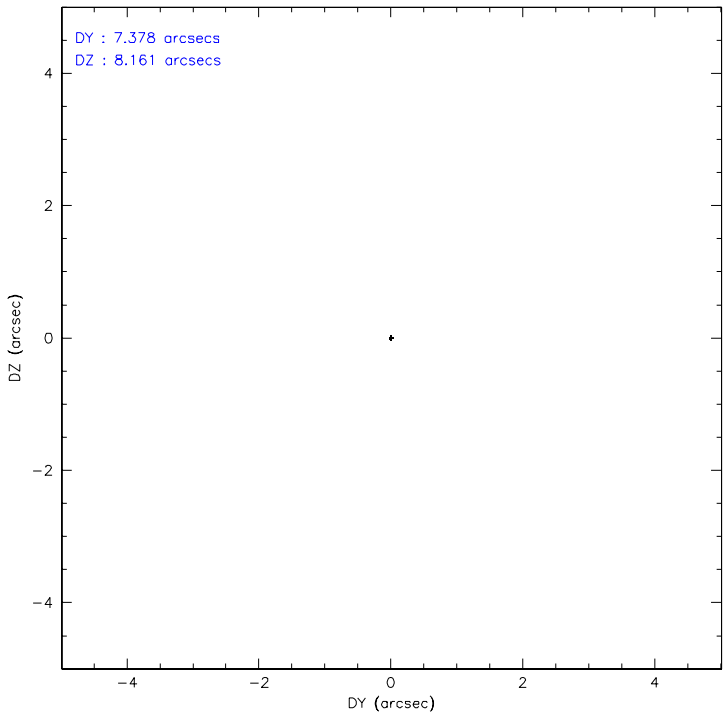
2.2 Compared Parameters

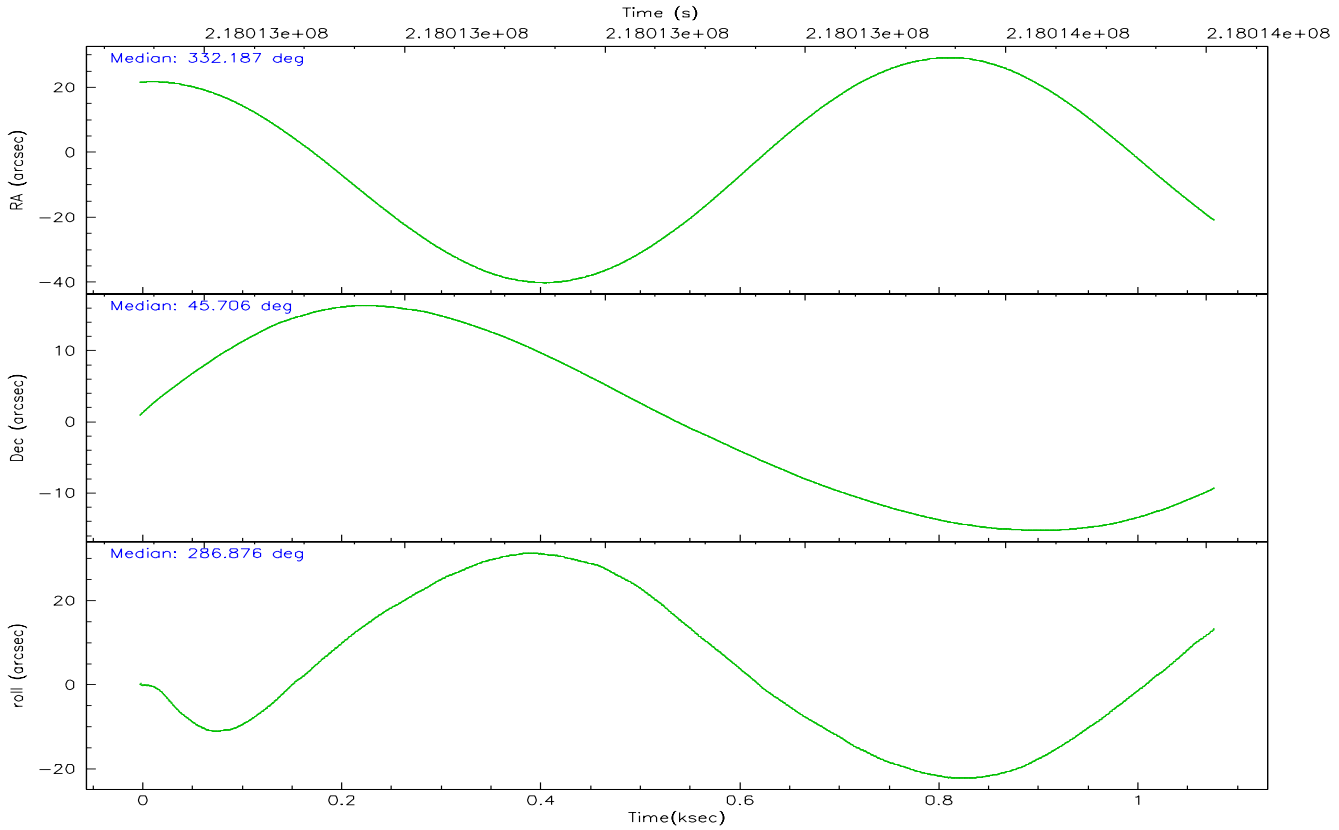
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.154327	332.1866083595536
Pointing Dec	45.724364	45.70612120048068
Pointing Roll	286.842263	286.8865508814687
SIM focus pos (mm)	-1.429586	-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	218012913.184000	218012537.16842
Observation start date	2004-11-28T07:07:29	2004-11-28T07:02:17
Observation end time	218013813.184000	218013946.54348
Observation end date	2004-11-28T07:22:29	2004-11-28T07:25:46

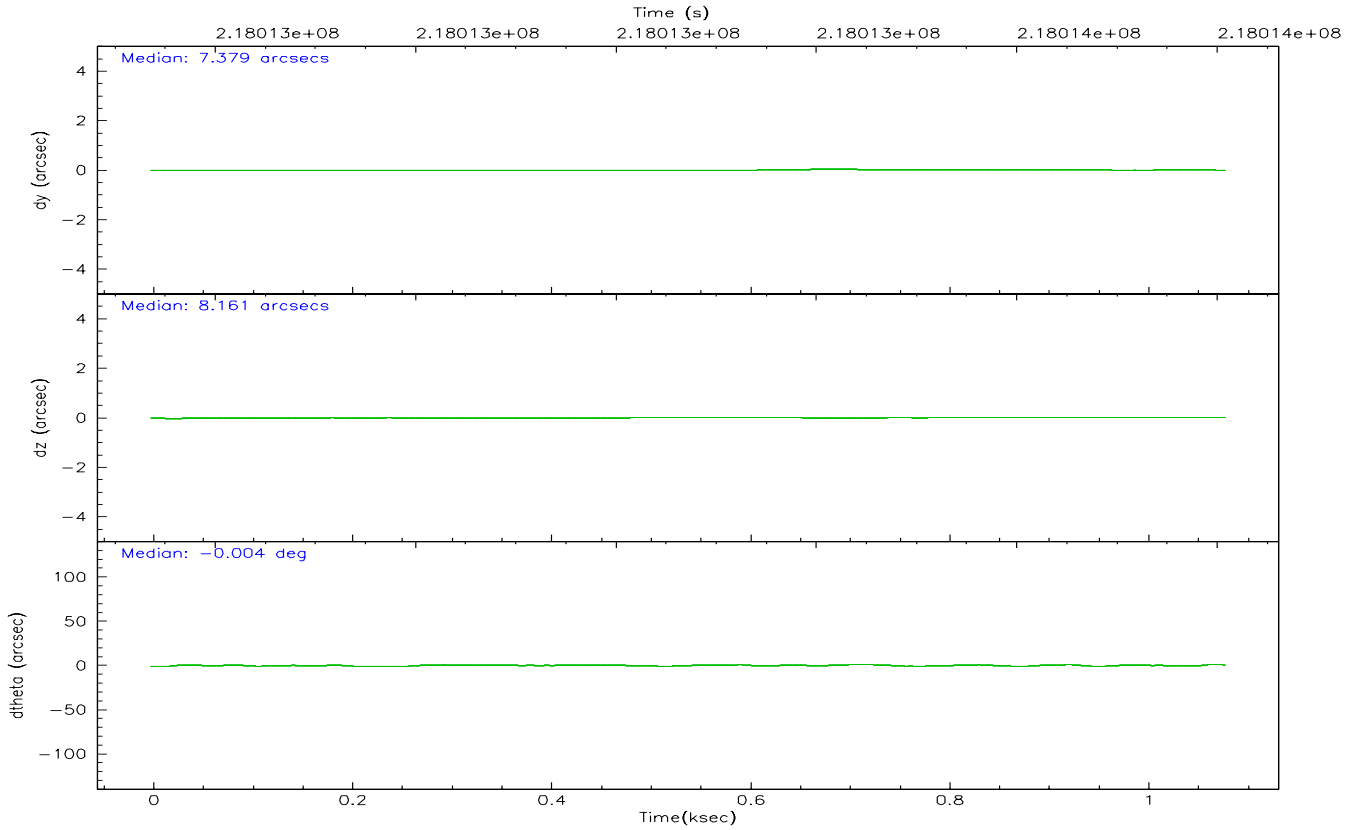
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.187 deg
Dec : 45.706 deg
20
10
0
−10
−20
Dec (arcsec)
−40
−20
0
20
RA (arcsec)


DY : 7.378 arcsecs
DZ : 8.161 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
2.18013e+08
2.18013e+08
2.18013e+08
2.18013e+08
2.18014e+08
2.18014e+08
Median: 332.187 deg
RA (arcsec)
Median: 45.706 deg
Dec (arcsec)
Median: 286.876 deg
roll (arcsec)
Time(ksec)

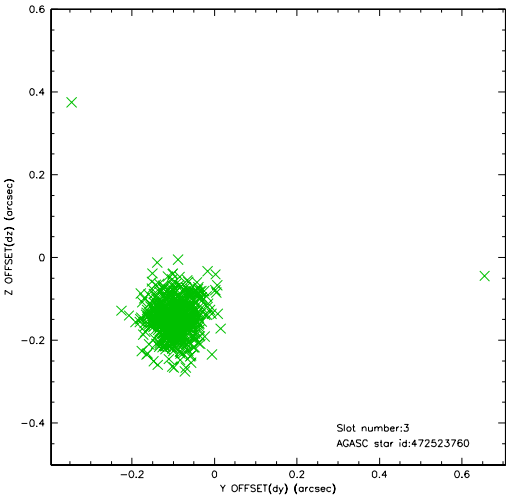

Time (s)
2.18013e+08
2.18013e+08
2.18013e+08
2.18013e+08
2.18014e+08
2.18014e+08
Median: 7.379 arcsecs
dy (arcsec)
Median: 8.161 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

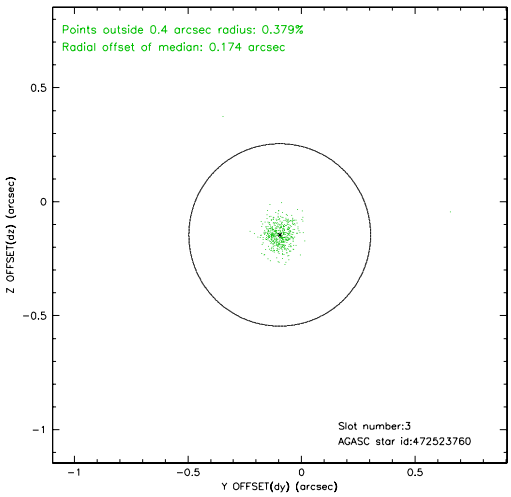
Slot Statistics

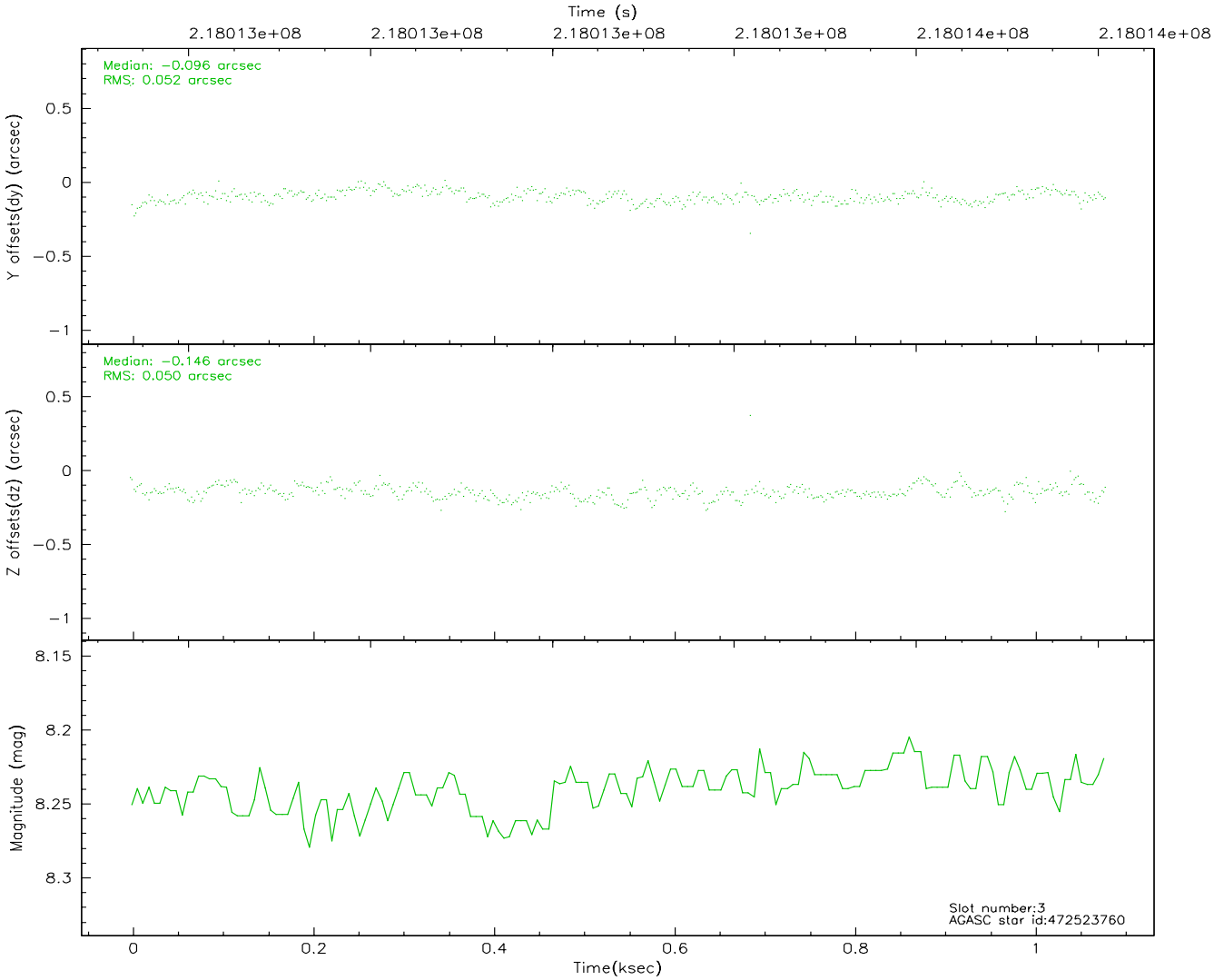
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.04	264	0.131	-0.120	0.006	0.011	0.000000	0.000000	-1161.54	-456.76
1	FID	HRC-S-2	7.04	264	0.165	-0.116	0.005	0.008	0.000000	0.000000	1233.77	-451.11
2	FID	HRC-S-3	7.05	264	0.093	-0.066	0.006	0.011	0.000000	0.000000	-1159.63	571.11
3	GUIDE	472523760	8.24	528	-0.096	-0.146	0.062	0.104	331.645363	45.403260	730.36	-1567.72
4	GUIDE	472527720	7.01	528	0.026	-0.018	0.102	0.159	331.460205	45.112509	1592.25	-2329.21
5	GUIDE	472654568	9.44	523	0.126	0.037	0.109	0.182	332.194449	45.063576	2310.14	-598.12
6	GUIDE	472655152	9.44	527	0.029	0.080	0.106	0.168	332.504239	45.862991	-220.60	981.06
7	GUIDE	472659832	9.46	526	-0.083	0.058	0.117	0.203	332.780399	46.098139	-841.31	1886.65

2.4 Star Slots

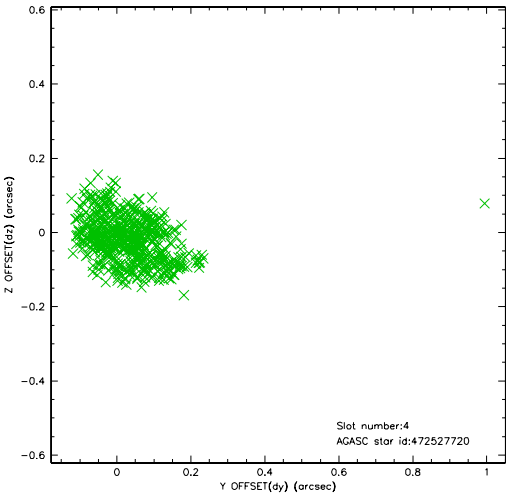
2.4.1 Slot 3

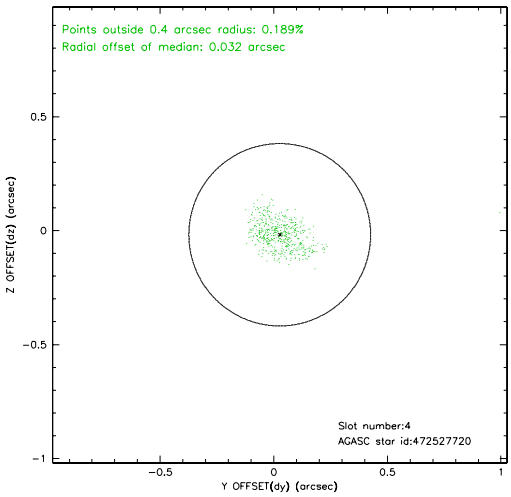


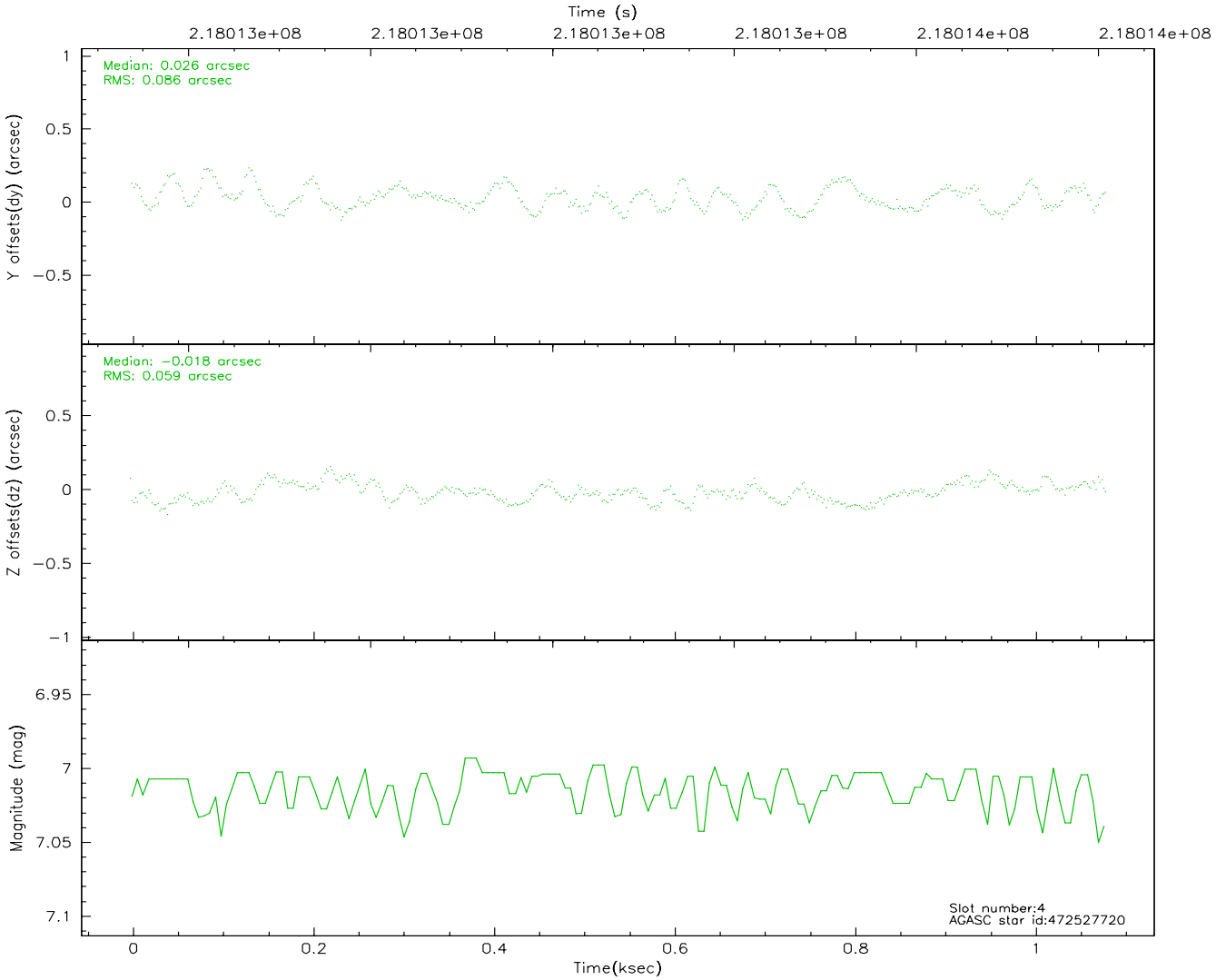




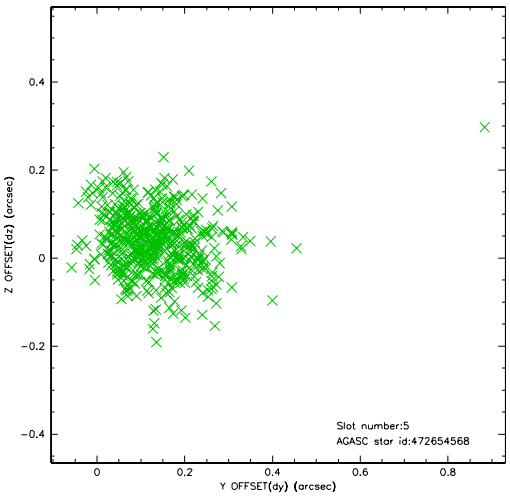
2.4.2 Slot 4

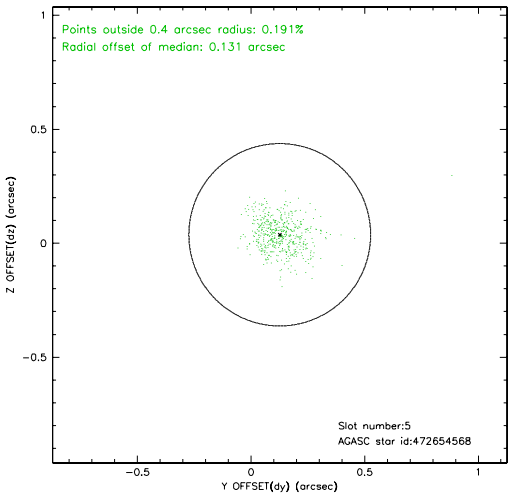

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472527720

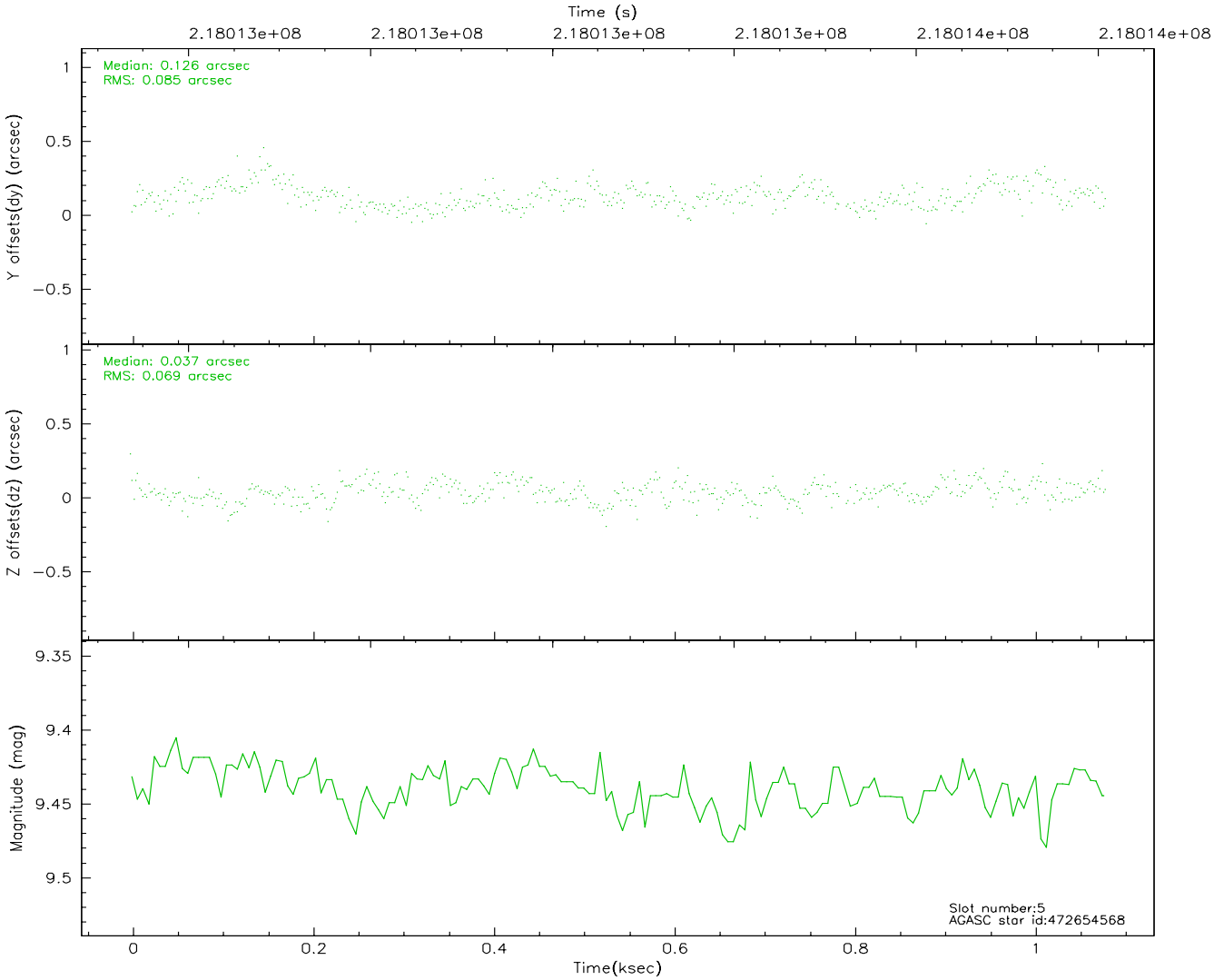

Points outside 0.4 arcsec radius: 0.189%
Radial offset of median: 0.032 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472527720


Time (s)
Median: 0.026 arcsec
RMS: 0.086 arcsec
Y offsets(dy) (arcsec)
Median: −0.018 arcsec
RMS: 0.059 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472527720
Time(ksec)

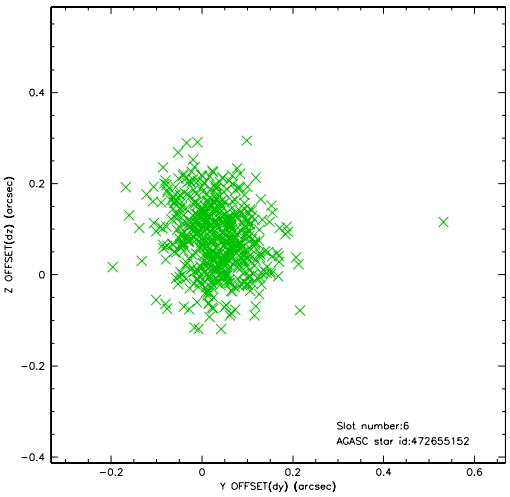
2.4.3 Slot 5

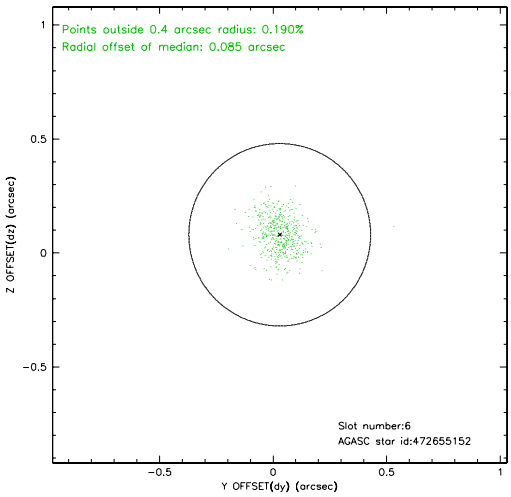

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472654568

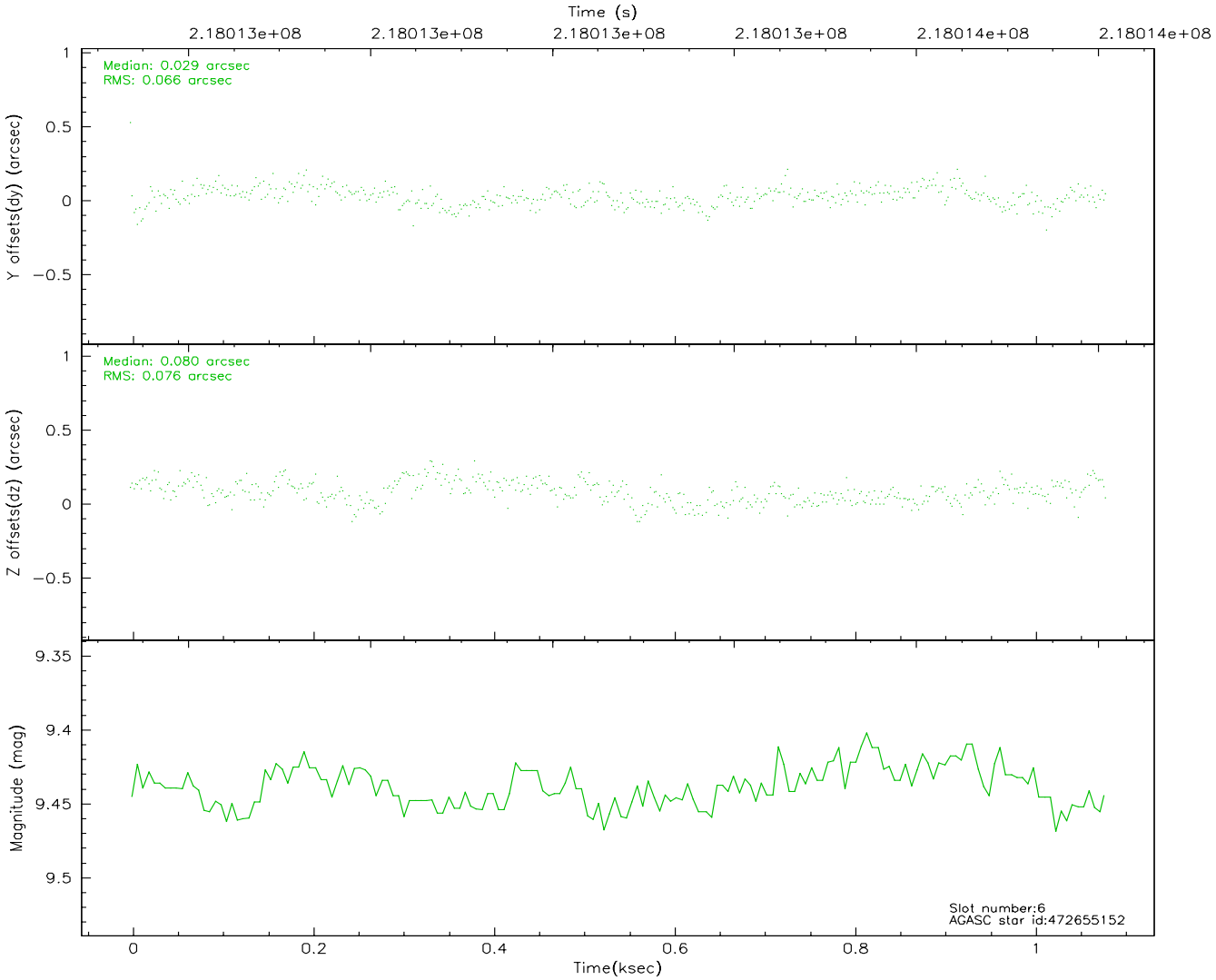

Points outside 0.4 arcsec radius: 0.191%
Radial offset of median: 0.131 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472654568


Time (s)
Median: 0.126 arcsec
RMS: 0.085 arcsec
Y offsets(dy) (arcsec)
Median: 0.037 arcsec
RMS: 0.069 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472654568
Time(ksec)

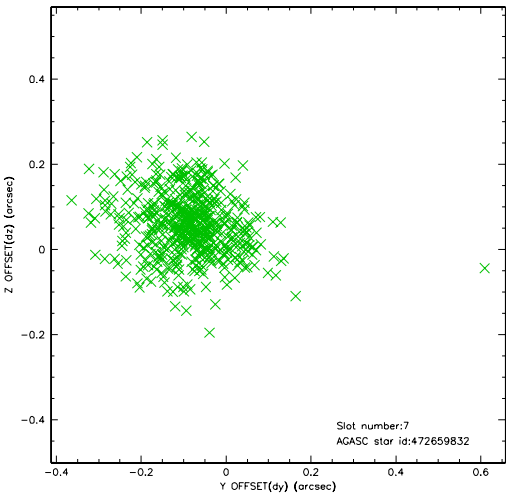
2.4.4 Slot 6

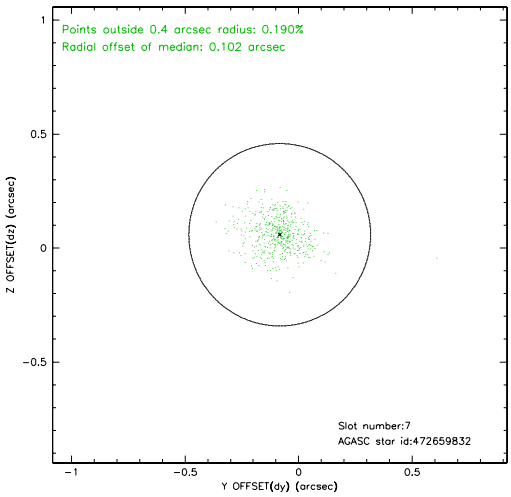

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152

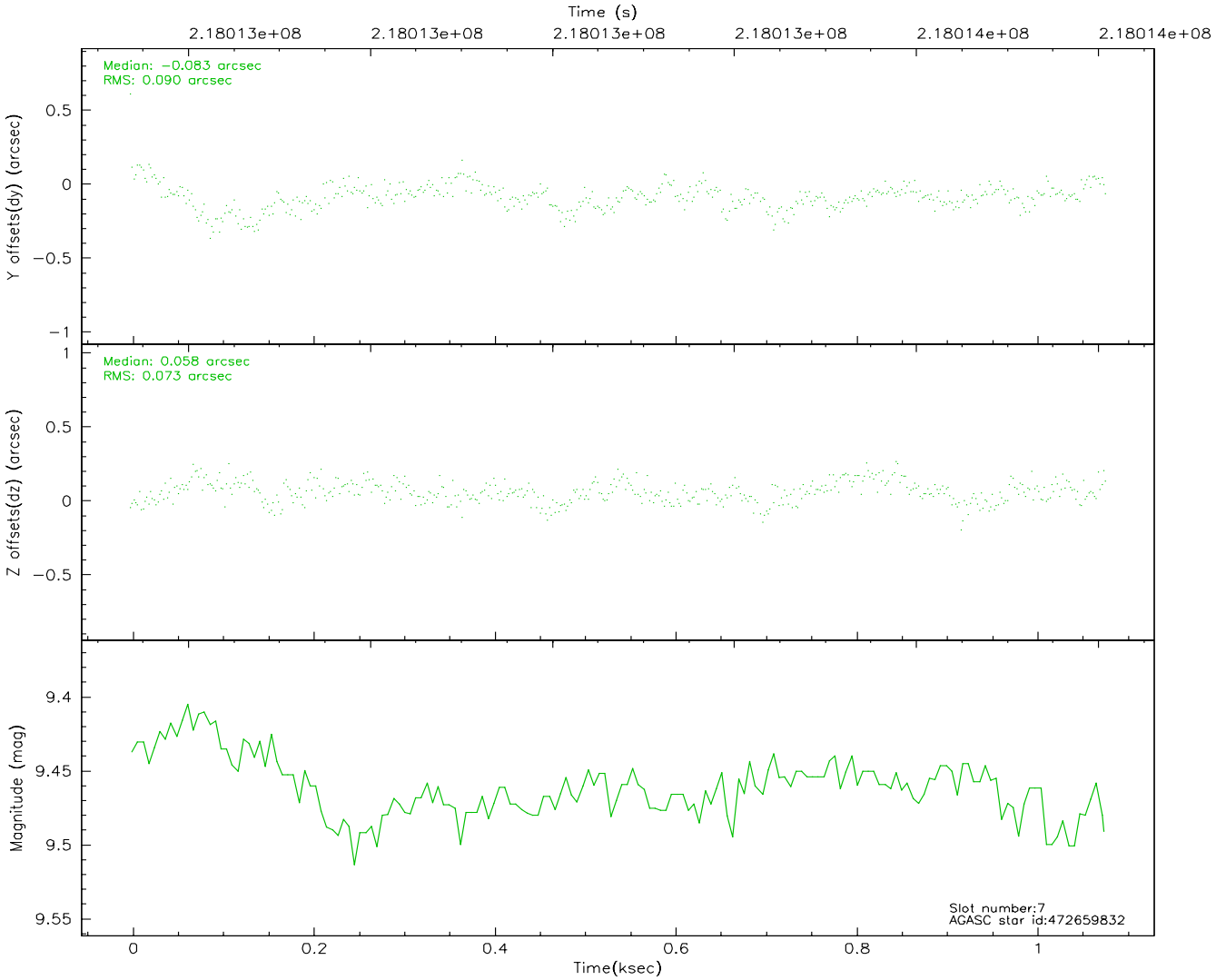

Points outside 0.4 arcsec radius: 0.190%
Radial offset of median: 0.085 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152


Time (s)
Median: 0.029 arcsec
RMS: 0.066 arcsec
Y offsets(dy) (arcsec)
Median: 0.080 arcsec
RMS: 0.076 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472655152
Time(ksec)

2.4.5 Slot 7

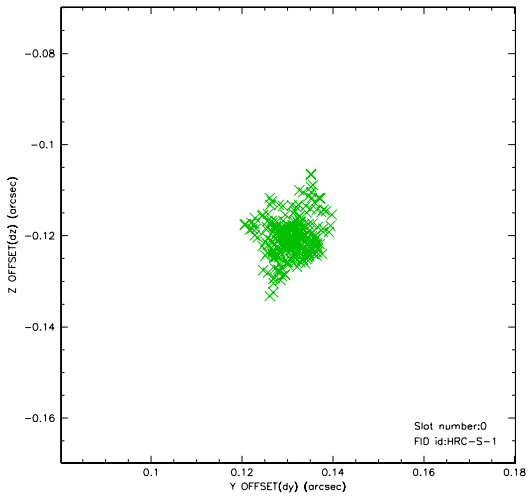

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

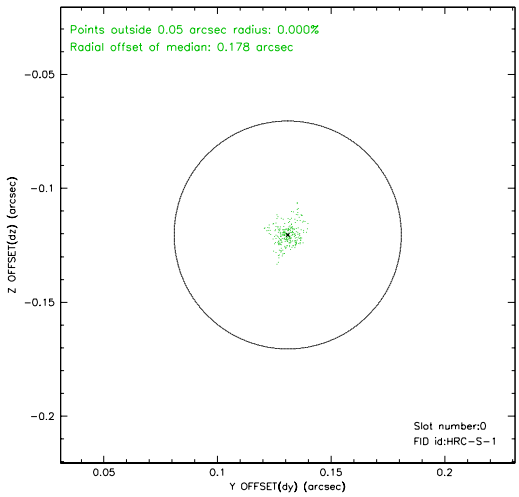

Points outside 0.4 arcsec radius: 0.190%
Radial offset of median: 0.102 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

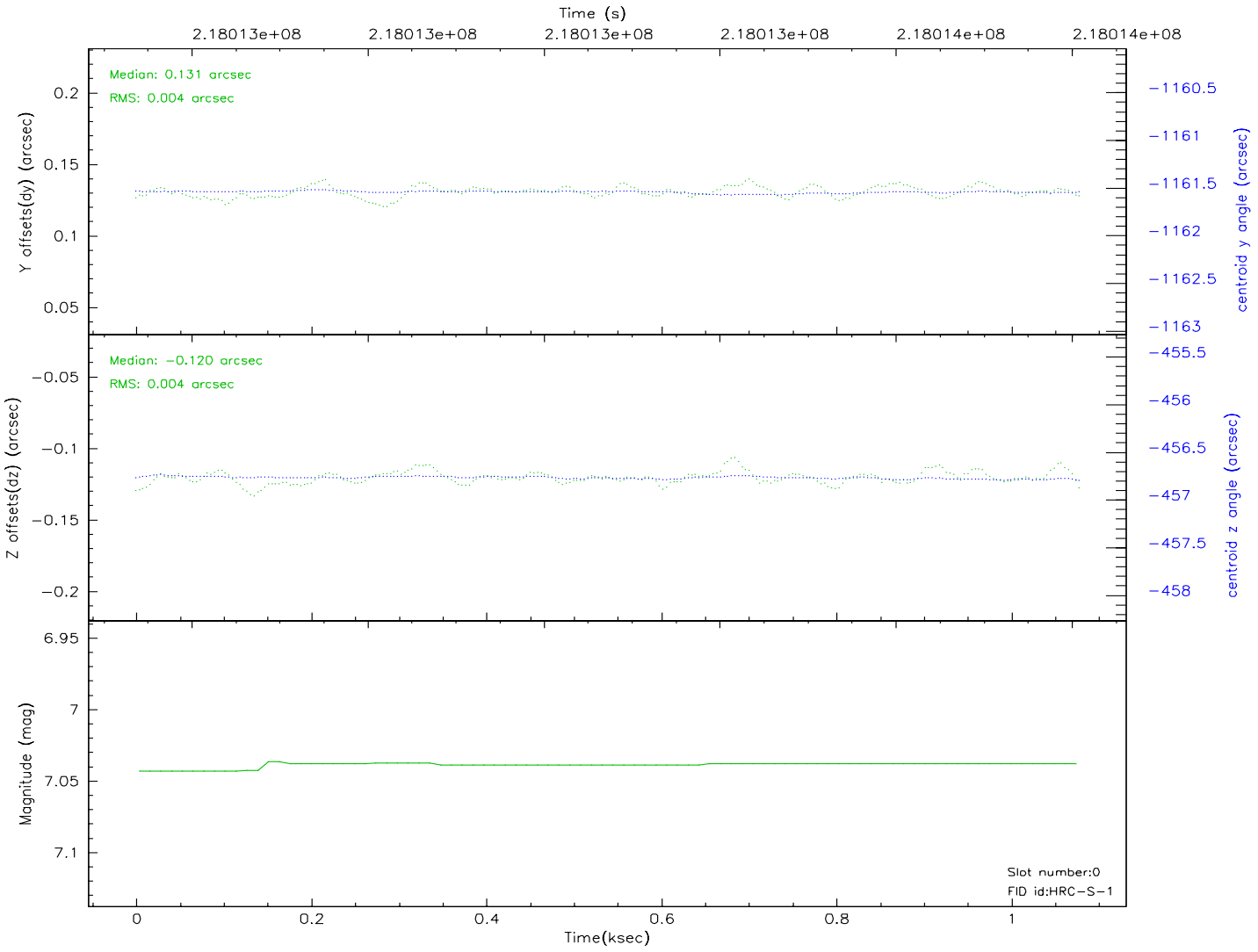

Time (s)
Median: −0.083 arcsec
RMS: 0.090 arcsec
Y offsets(dy) (arcsec)
Median: 0.058 arcsec
RMS: 0.073 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472659832
Time(ksec)

2.5 FID Slots

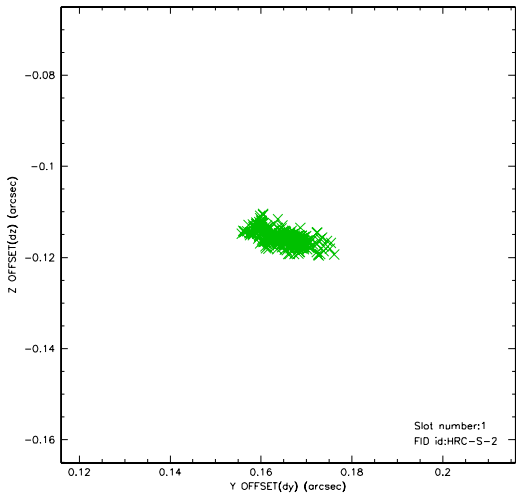
2.5.1 Slot 0

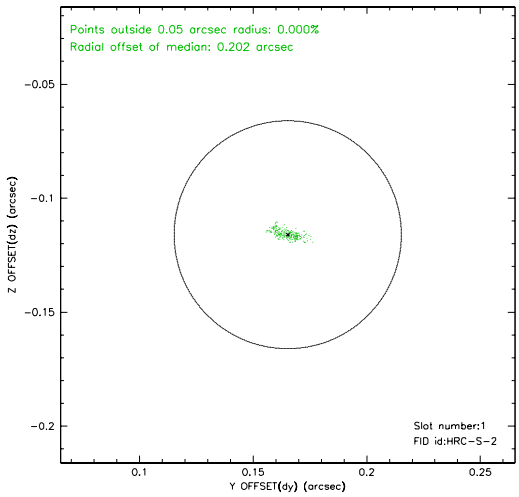


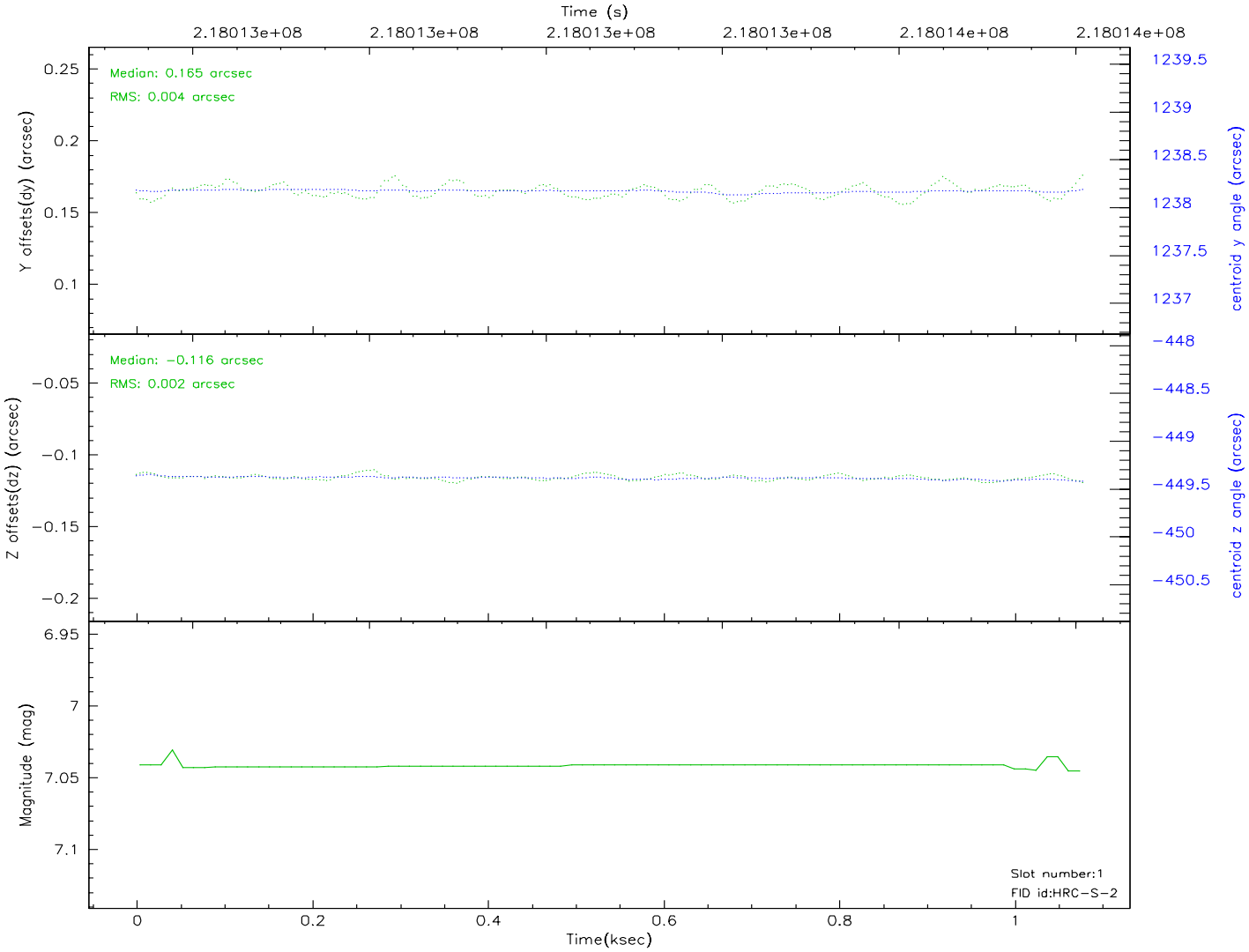




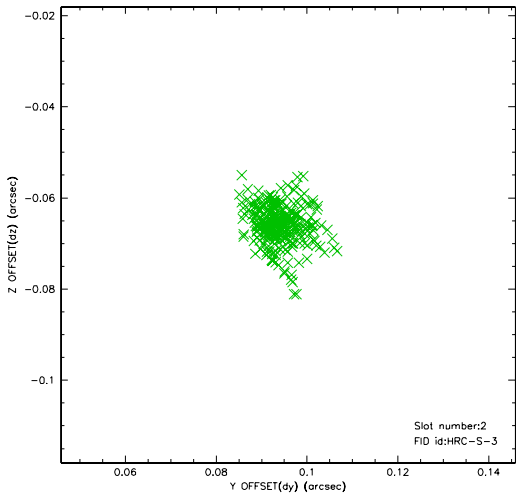
2.5.2 Slot 1

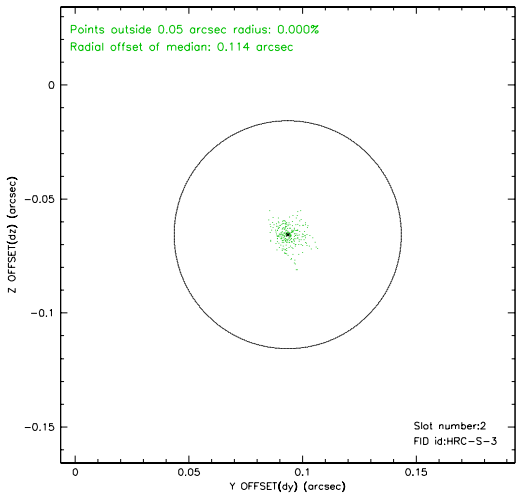

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2

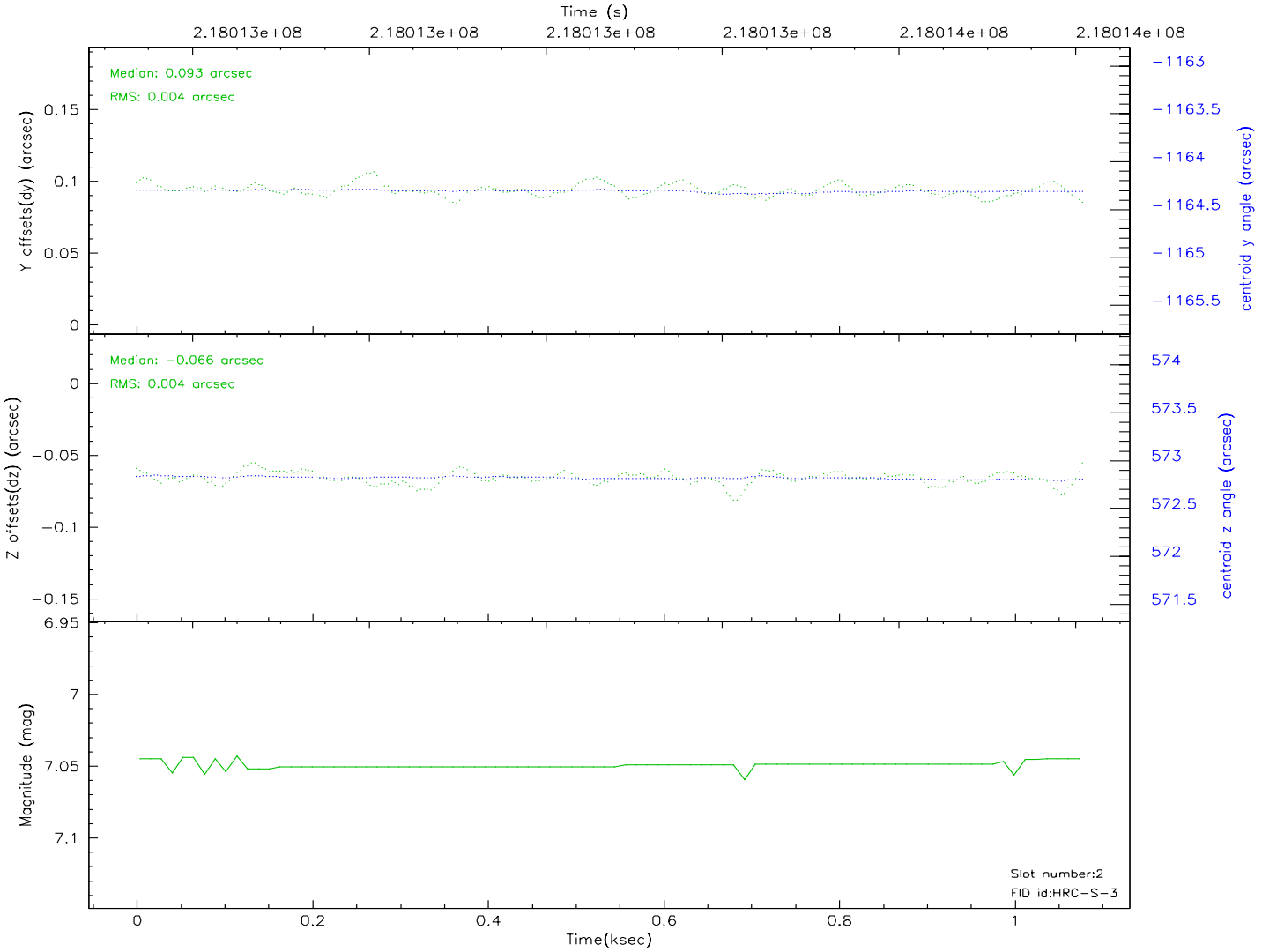

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.202 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2


Time (s)
Median: 0.165 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.116 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)

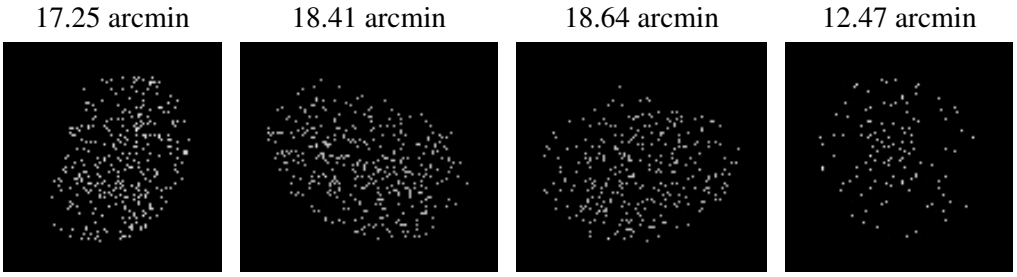
2.5.3 Slot 2


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: 0.093 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.066 arcsec
RMS: 0.004 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	1.050881

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.