V&V Reference Report
L2 ASCDS Version : 7.6.7.1

Observation 5121 - L2 Version 002
Chandra X-Ray Center

L2 Processing Date : Apr 11 2006

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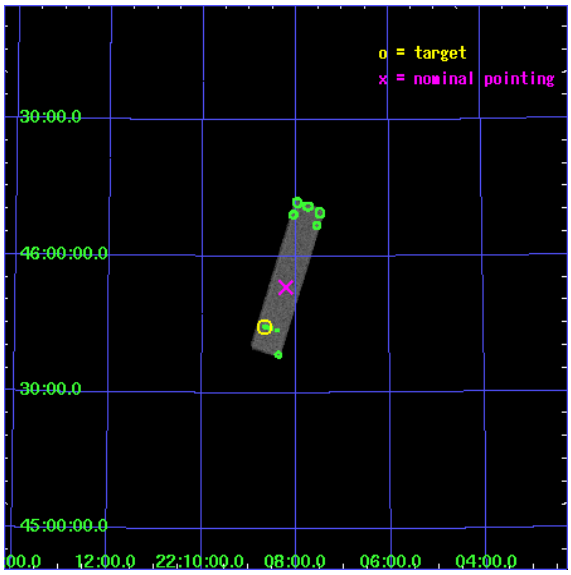
1 Front

seq_num	290394
obs_id	5121
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	332.05436130799
dec_nom	45.887061798636
roll_nom	287.16211049623
revision	2
ontime	1052.6750472784
livetime	1045.8663381076
l2events	43001

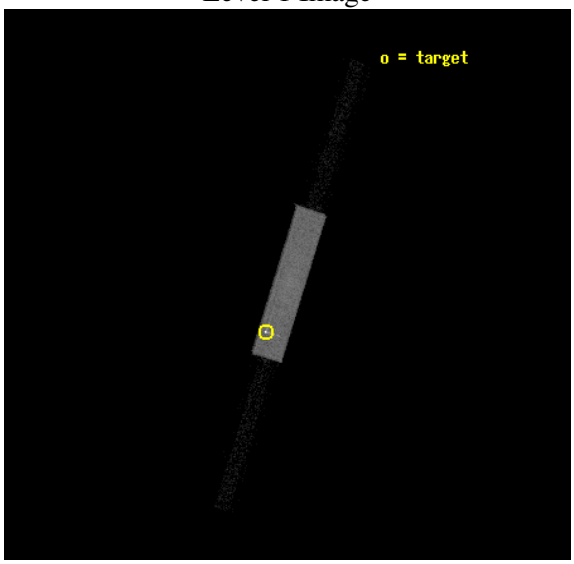


2 OBI

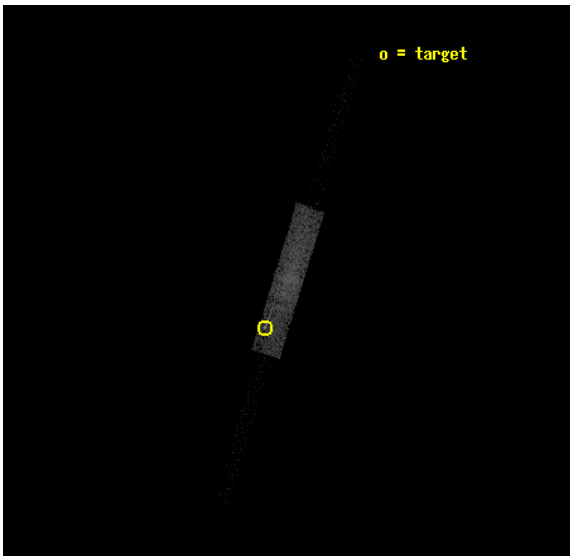
2.1 OBI

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	2006-04-11T16:12:09
revision	2

sched_exp_time	900.000000
ontime	1081.3750485778
l1events	77335

2.1.3 Events

Level 1 Events

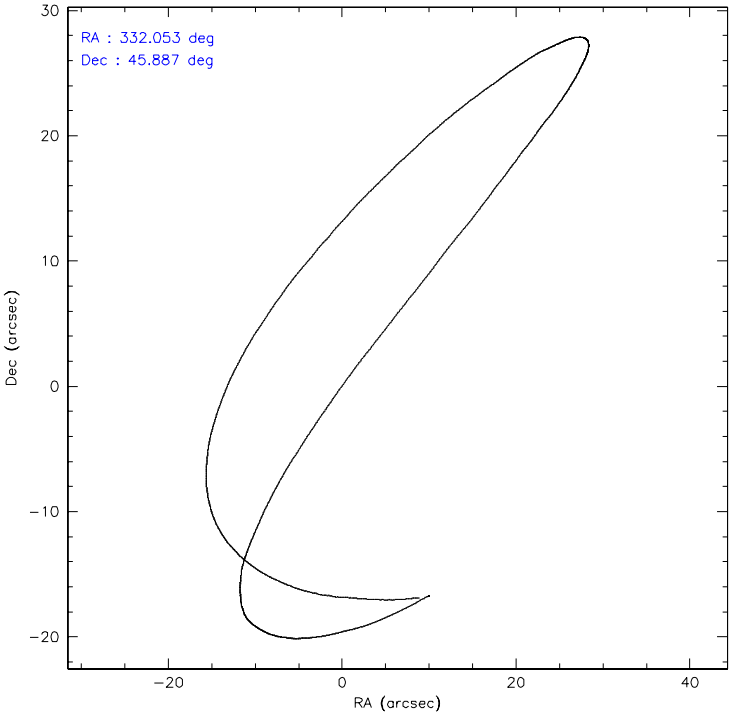
	segment 1	**segment 2**	**segment 3**
level 1 events	809	75758	768
rejected events	809	29372	768
rejected %	100%	38%	100%

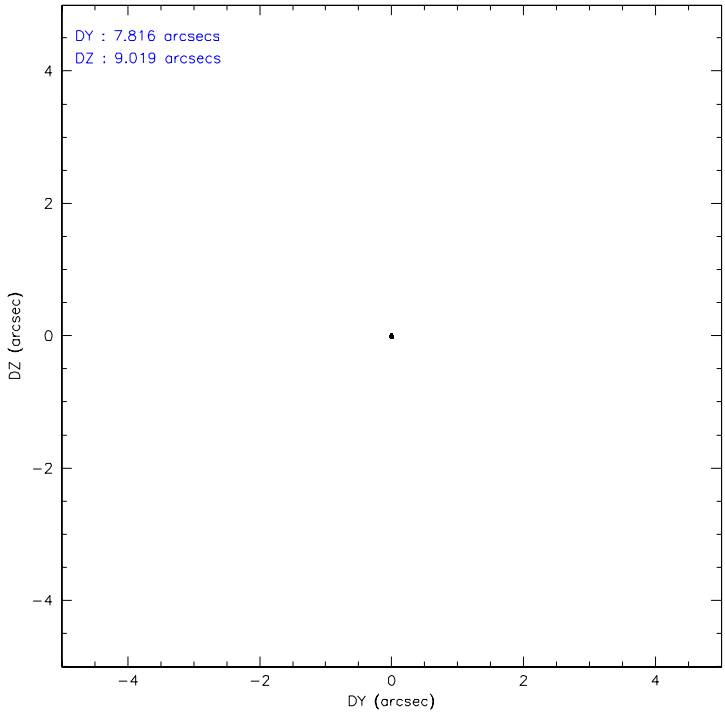
2.2 Compared Parameters

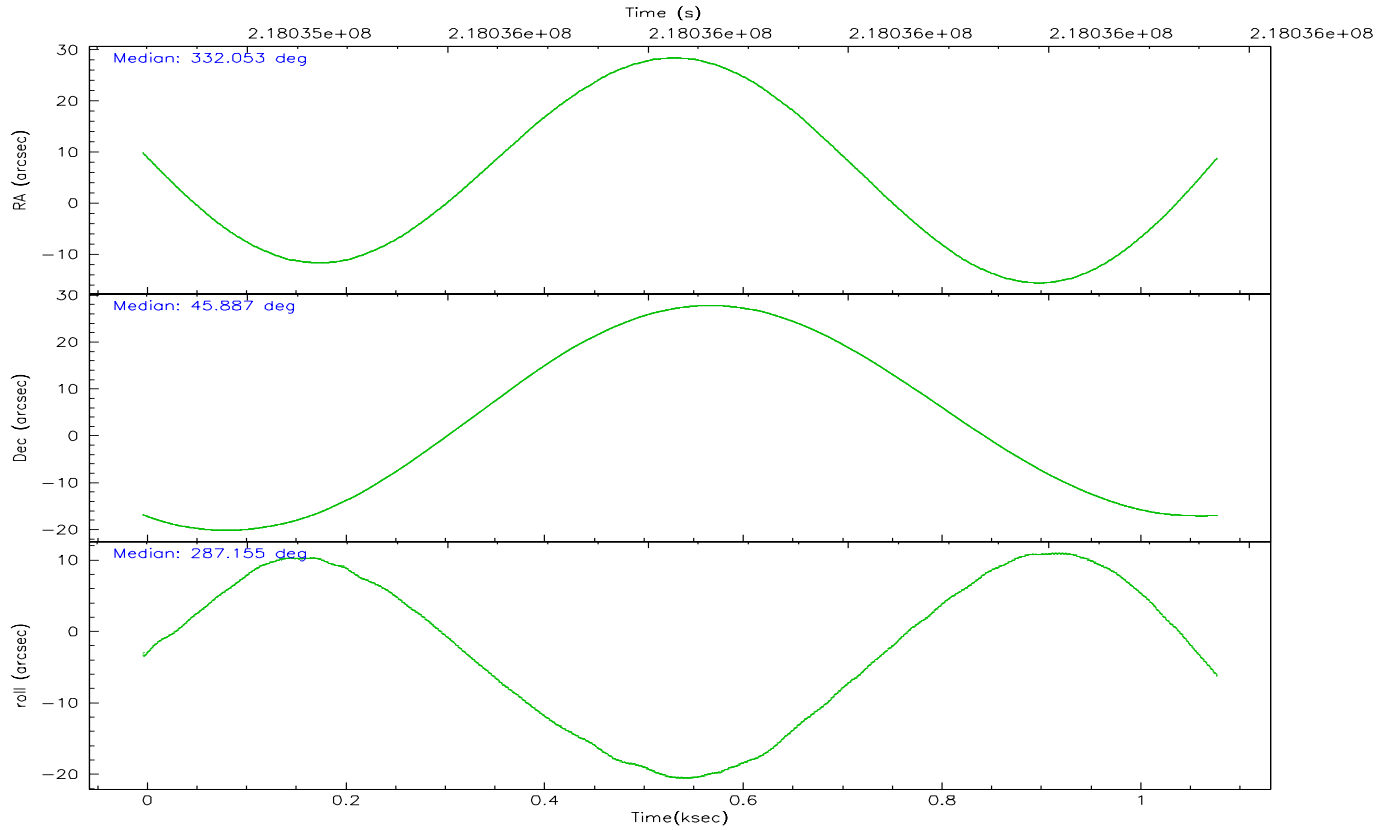
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.024454	332.0543613079887
Pointing Dec	45.905735	45.88706179863617
Pointing Roll	287.116244	287.1621104962304
SIM focus pos (mm)	-1.429586	-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	218035473.184000	218035096.90693
Observation start date	2004-11-28T13:23:29	2004-11-28T13:18:16
Observation end time	218036373.184000	218036506.7945
Observation end date	2004-11-28T13:38:29	2004-11-28T13:41:46

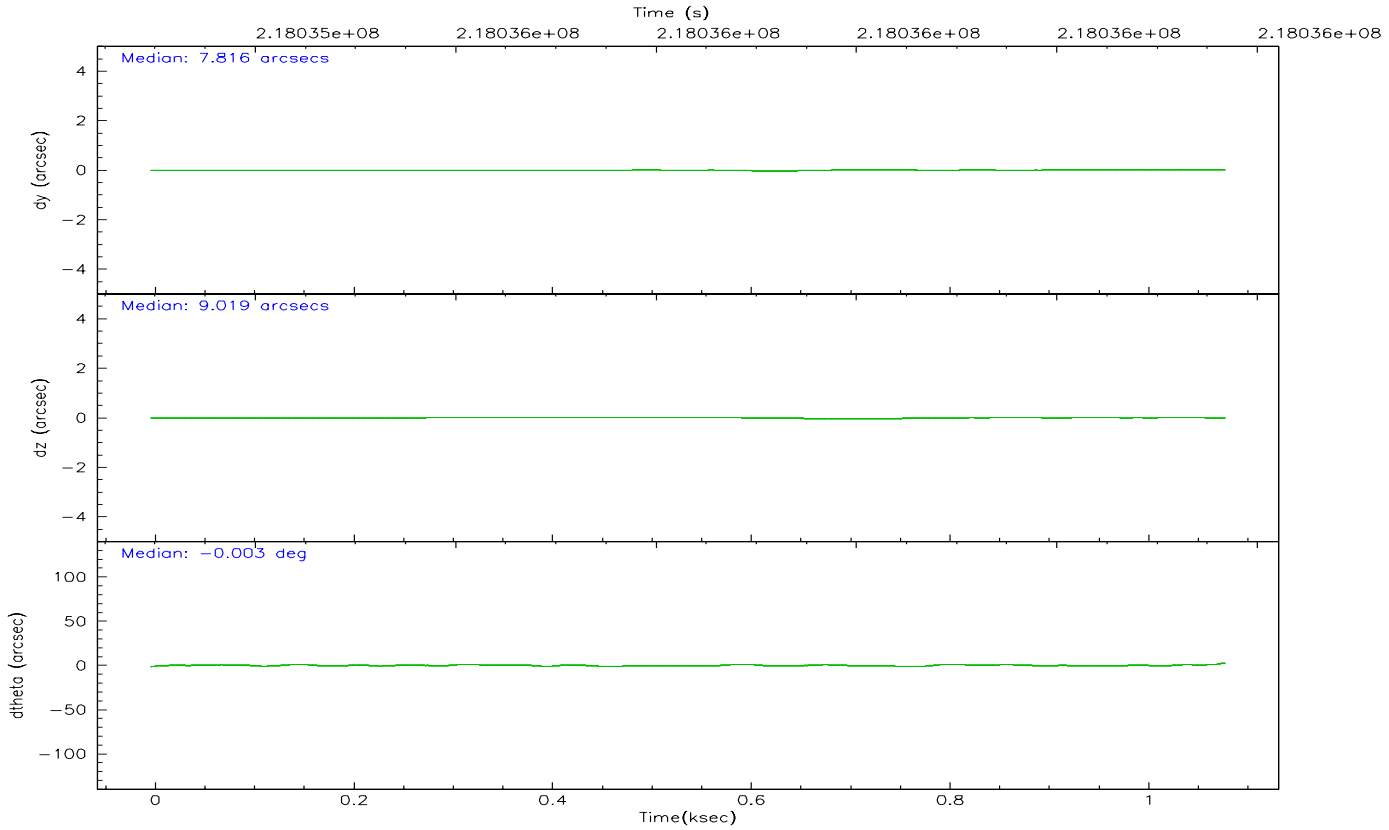
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.053 deg
Dec : 45.887 deg
Dec (arcsec)
RA (arcsec)
30
20
10
0
−10
−20
−20
0
20
40


DY : 7.816 arcsecs
DZ : 9.019 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
2.18035e+08
2.18036e+08
2.18036e+08
2.18036e+08
2.18036e+08
2.18036e+08
Median: 332.053 deg
RA (arcsec)
Median: 45.887 deg
Dec (arcsec)
Median: 287.155 deg
roll (arcsec)
Time(ksec)

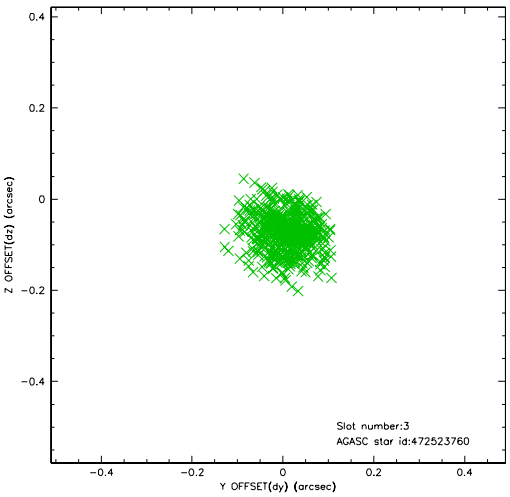

Time (s)
2.18035e+08
2.18036e+08
2.18036e+08
2.18036e+08
2.18036e+08
2.18036e+08
Median: 7.816 arcsecs
dy (arcsec)
Median: 9.019 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

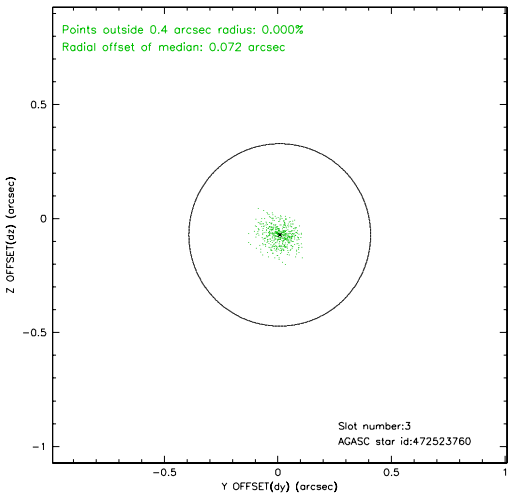
Slot Statistics

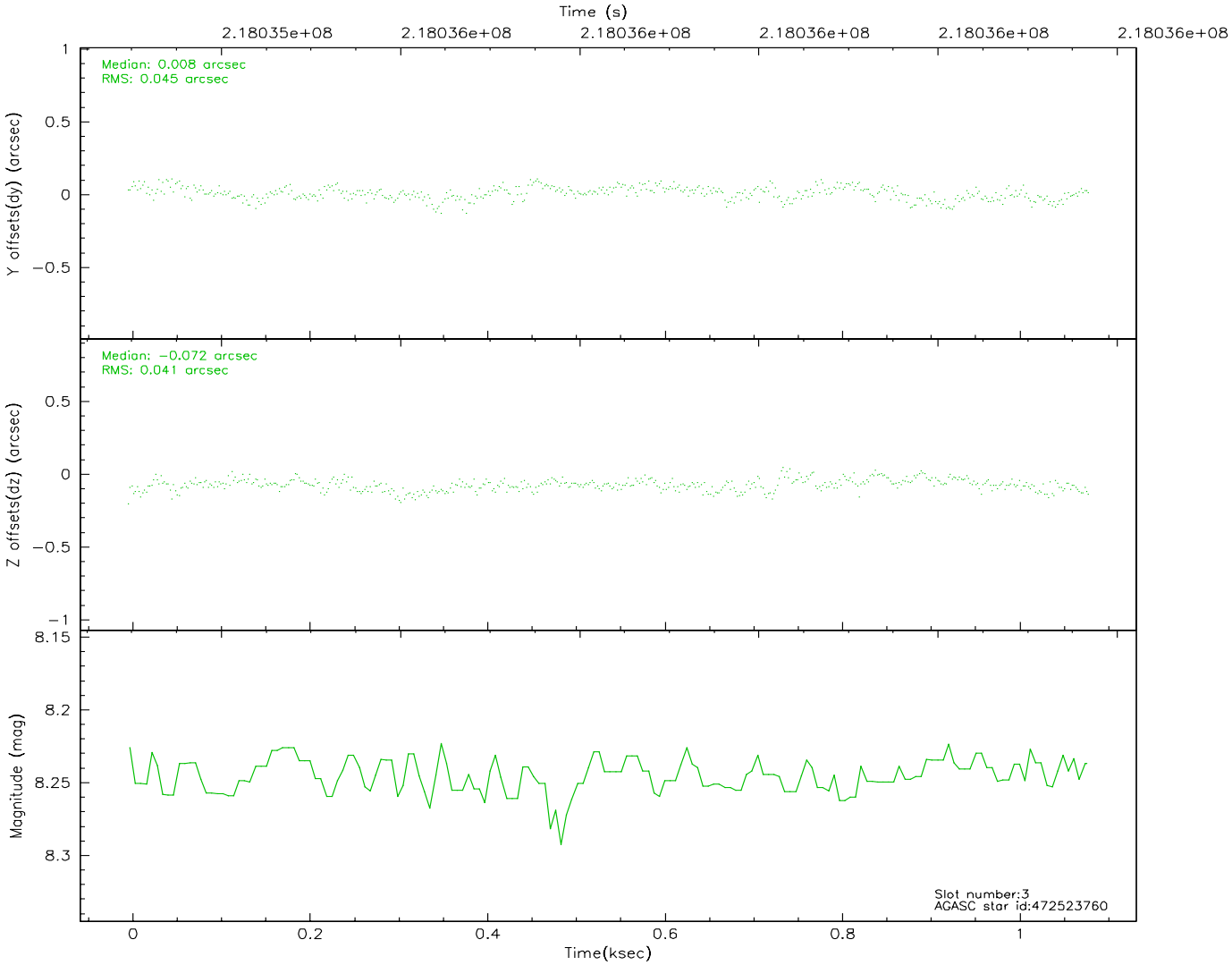
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	7.03	264	0.147	-0.162	0.007	0.010	0.000000	0.000000	-1161.97	-457.67
1	FID	HRC-S-2	7.03	264	0.155	-0.119	0.005	0.009	0.000000	0.000000	1233.32	-452.01
2	FID	HRC-S-3	7.04	264	0.088	-0.022	0.007	0.013	0.000000	0.000000	-1160.07	570.28
3	GUIDE	472523760	8.25	529	0.008	-0.072	0.065	0.104	331.645363	45.403260	1445.26	-1443.17
4	GUIDE	472527720	7.05	529	0.257	-0.076	0.093	0.156	331.460205	45.112509	2306.19	-2207.33
5	GUIDE	472535400	8.78	529	-0.271	-0.073	0.084	0.140	331.047001	46.353888	-2266.21	-1842.19
6	GUIDE	472655152	9.43	528	0.007	0.104	0.099	0.168	332.504239	45.862991	493.60	1106.28
7	GUIDE	472659832	9.46	528	-0.002	0.117	0.108	0.169	332.780399	46.098139	-114.07	2016.42

2.4 Star Slots

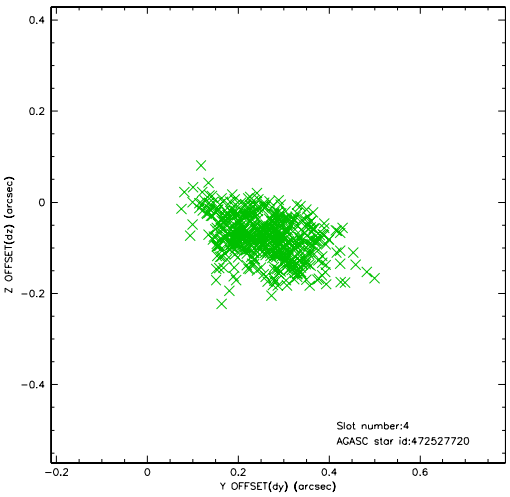
2.4.1 Slot 3

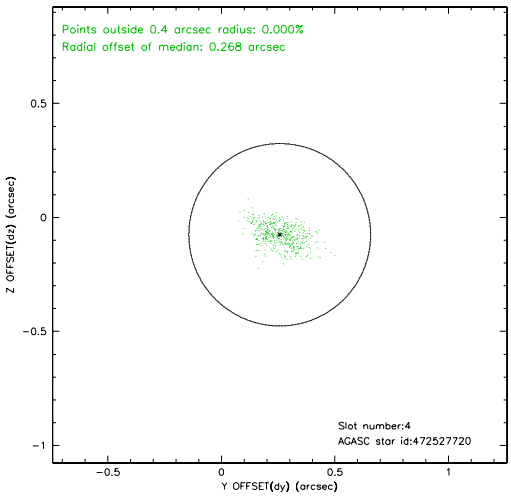


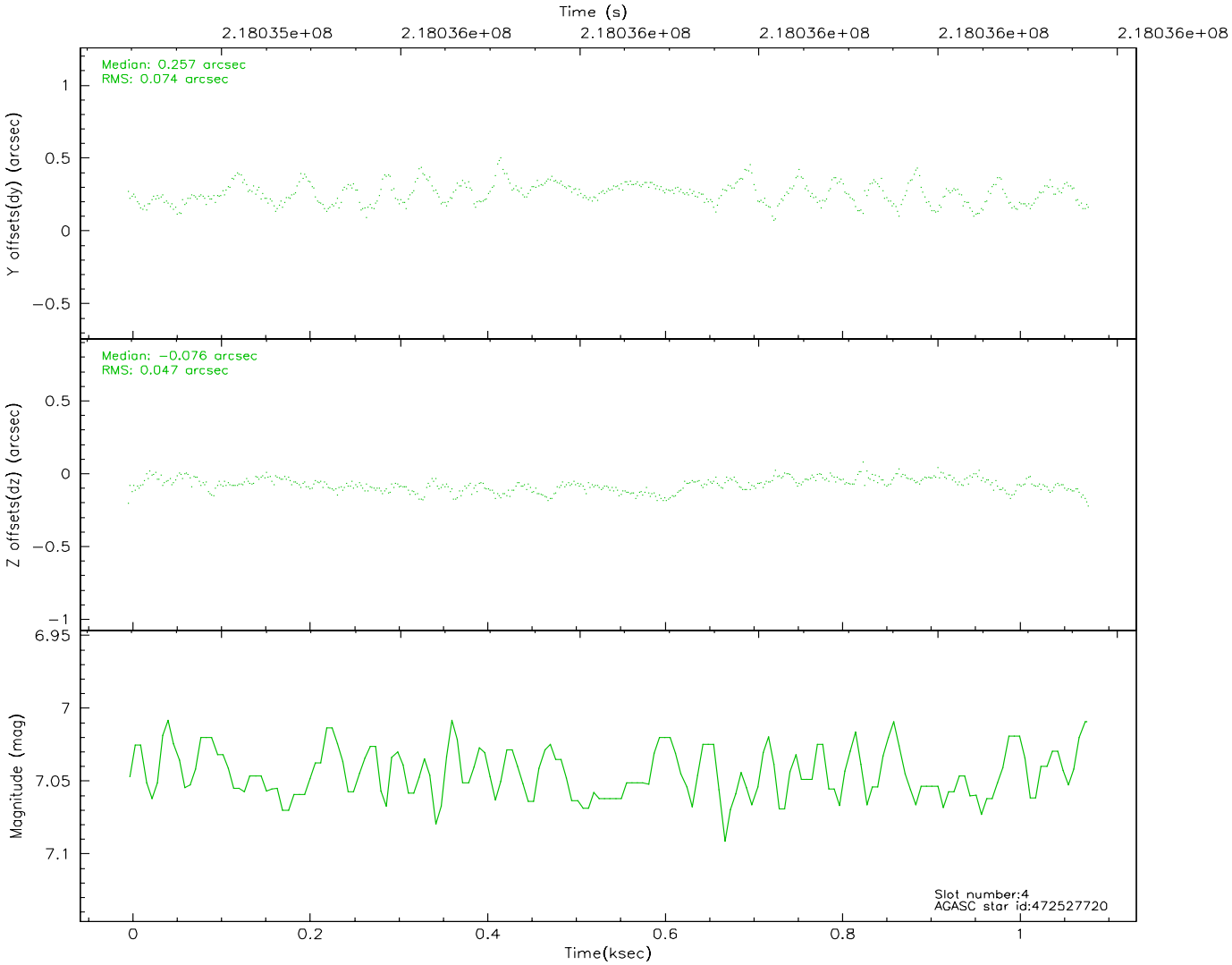




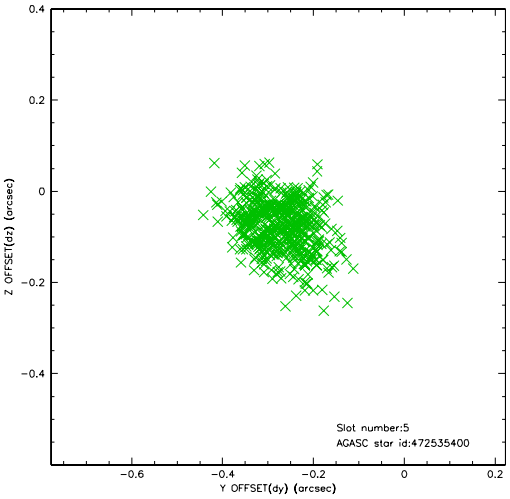
2.4.2 Slot 4

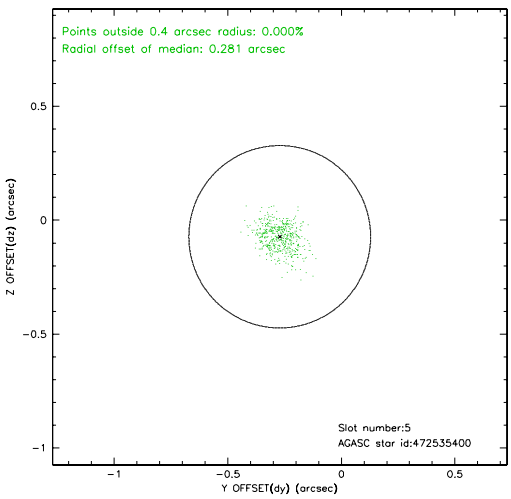

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472527720

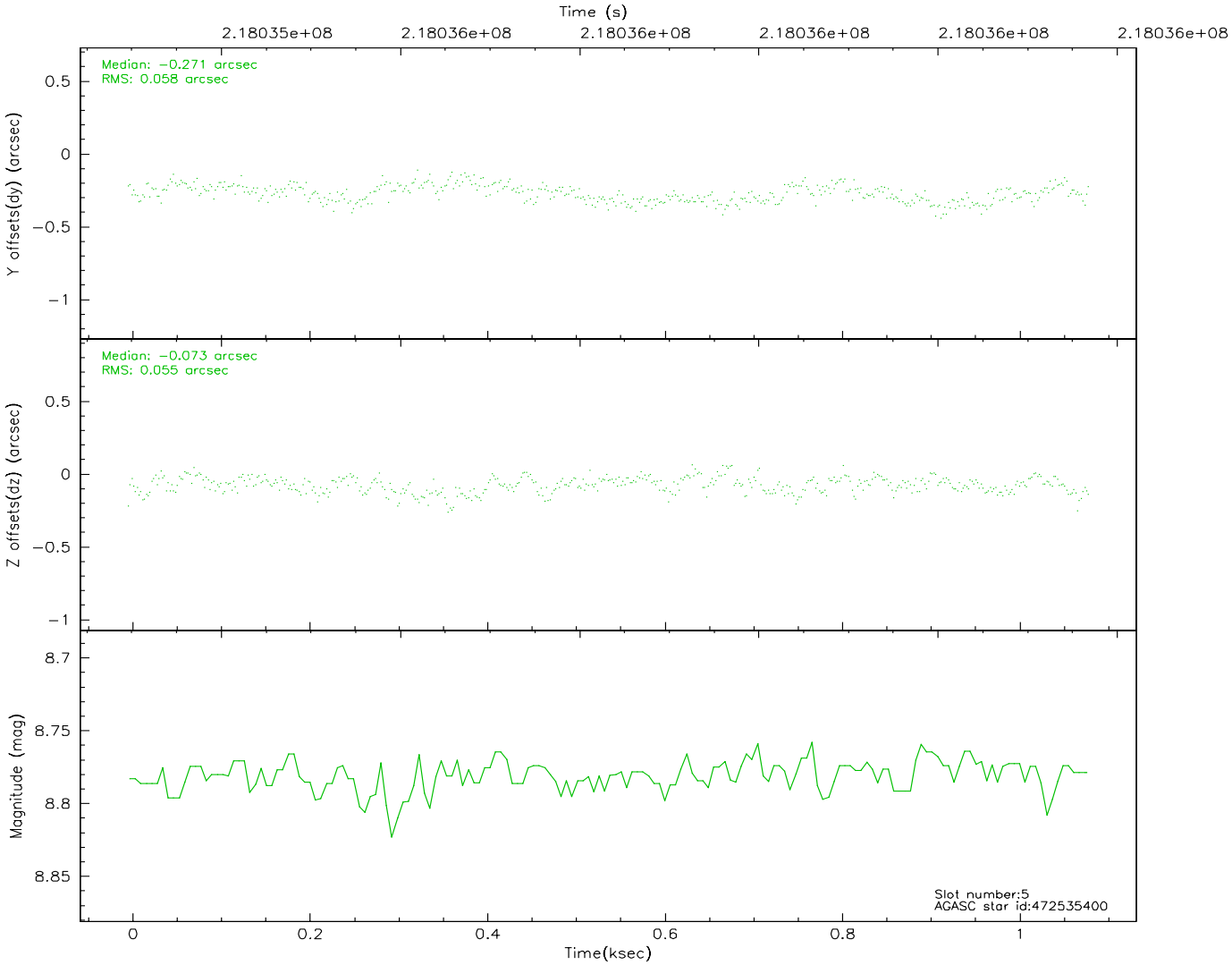

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.268 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472527720


Time (s)
Median: 0.257 arcsec
RMS: 0.074 arcsec
Y offsets(dy) (arcsec)
Median: −0.076 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472527720
Time(ksec)

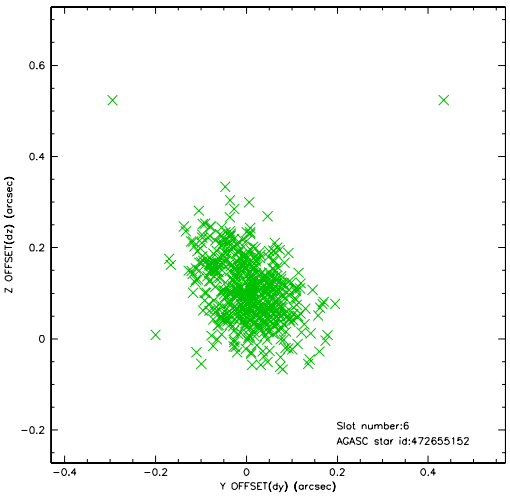
2.4.3 Slot 5

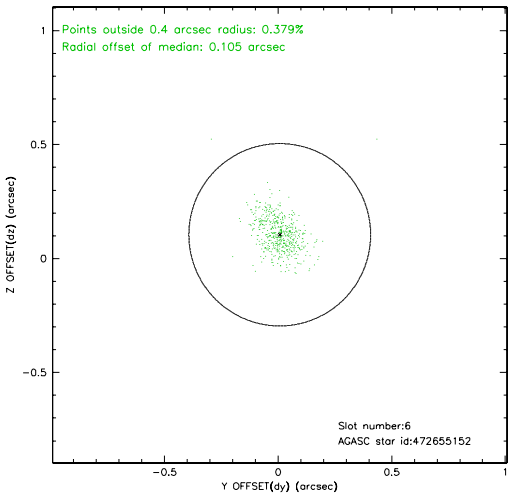

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472535400

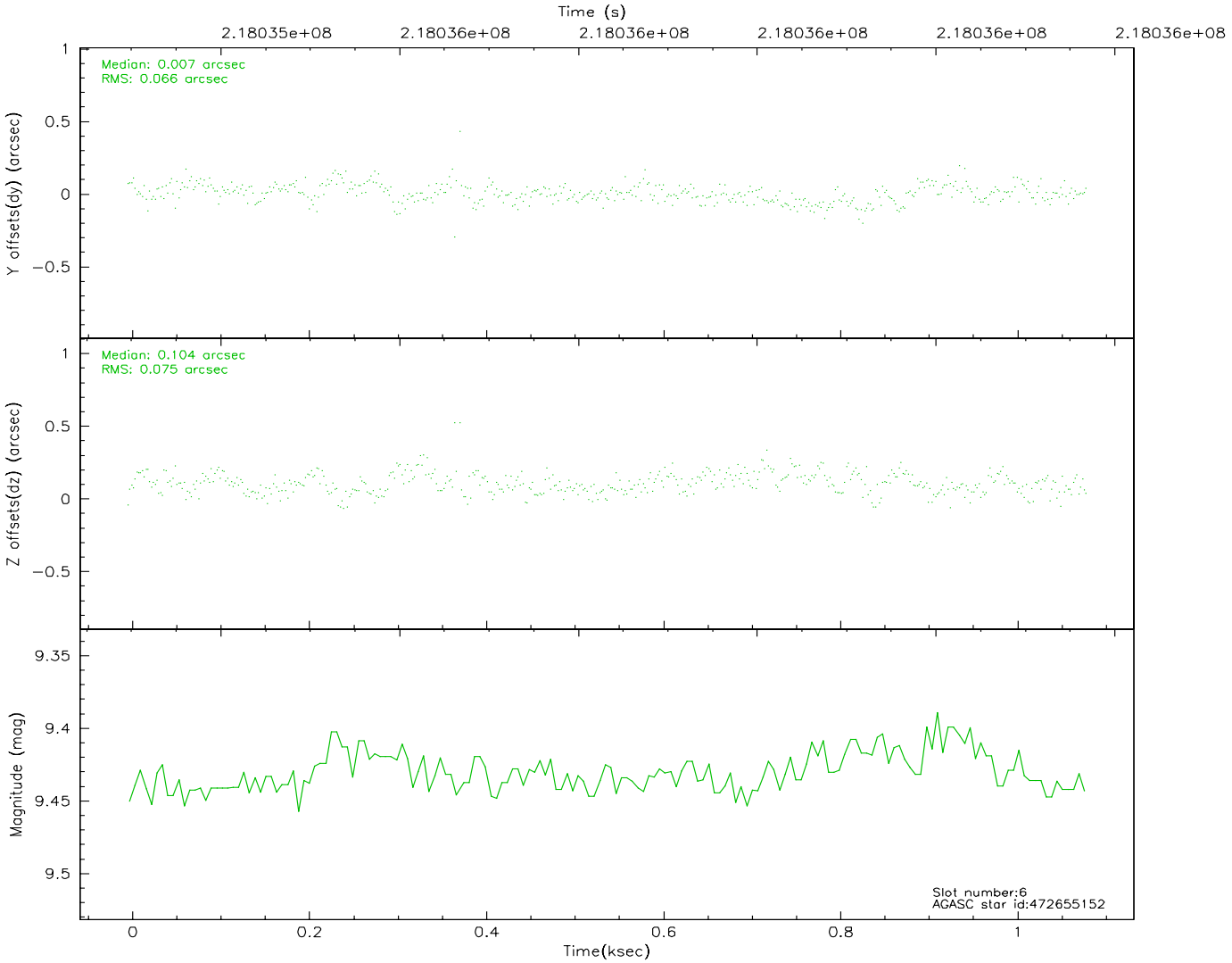

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.281 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472535400


Time (s)
Median: −0.271 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: −0.073 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472535400
Time(ksec)

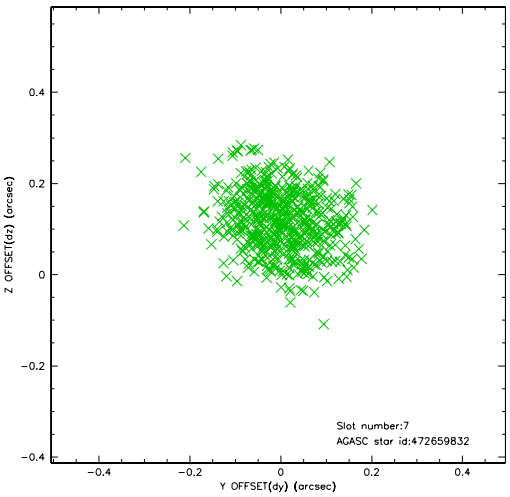
2.4.4 Slot 6

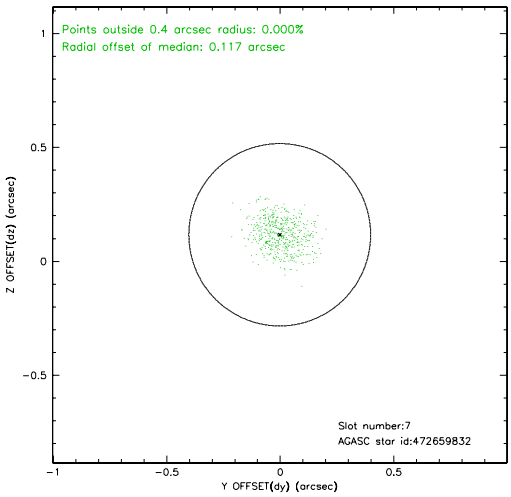

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152

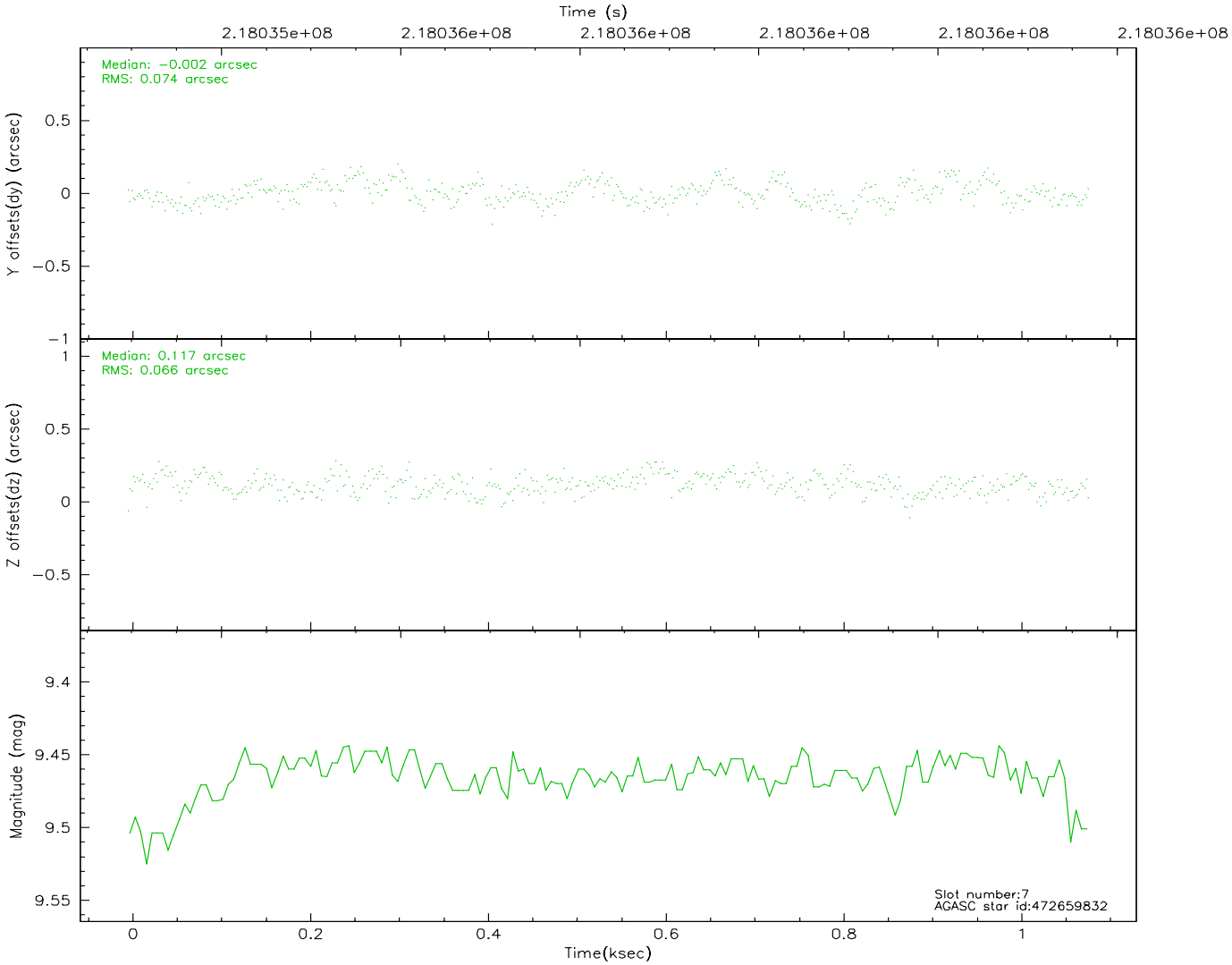

Points outside 0.4 arcsec radius: 0.379%
Radial offset of median: 0.105 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152


Time (s)
Median: 0.007 arcsec
RMS: 0.066 arcsec
Y offsets(dy) (arcsec)
Median: 0.104 arcsec
RMS: 0.075 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472655152
Time(ksec)

2.4.5 Slot 7

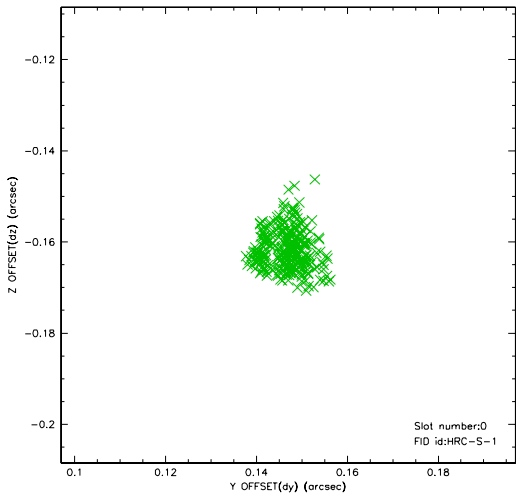

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

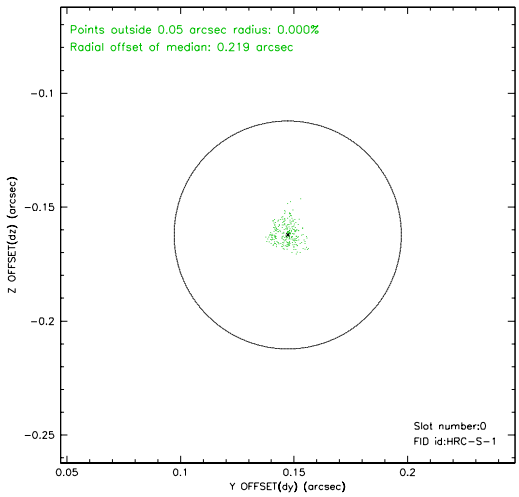

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.117 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

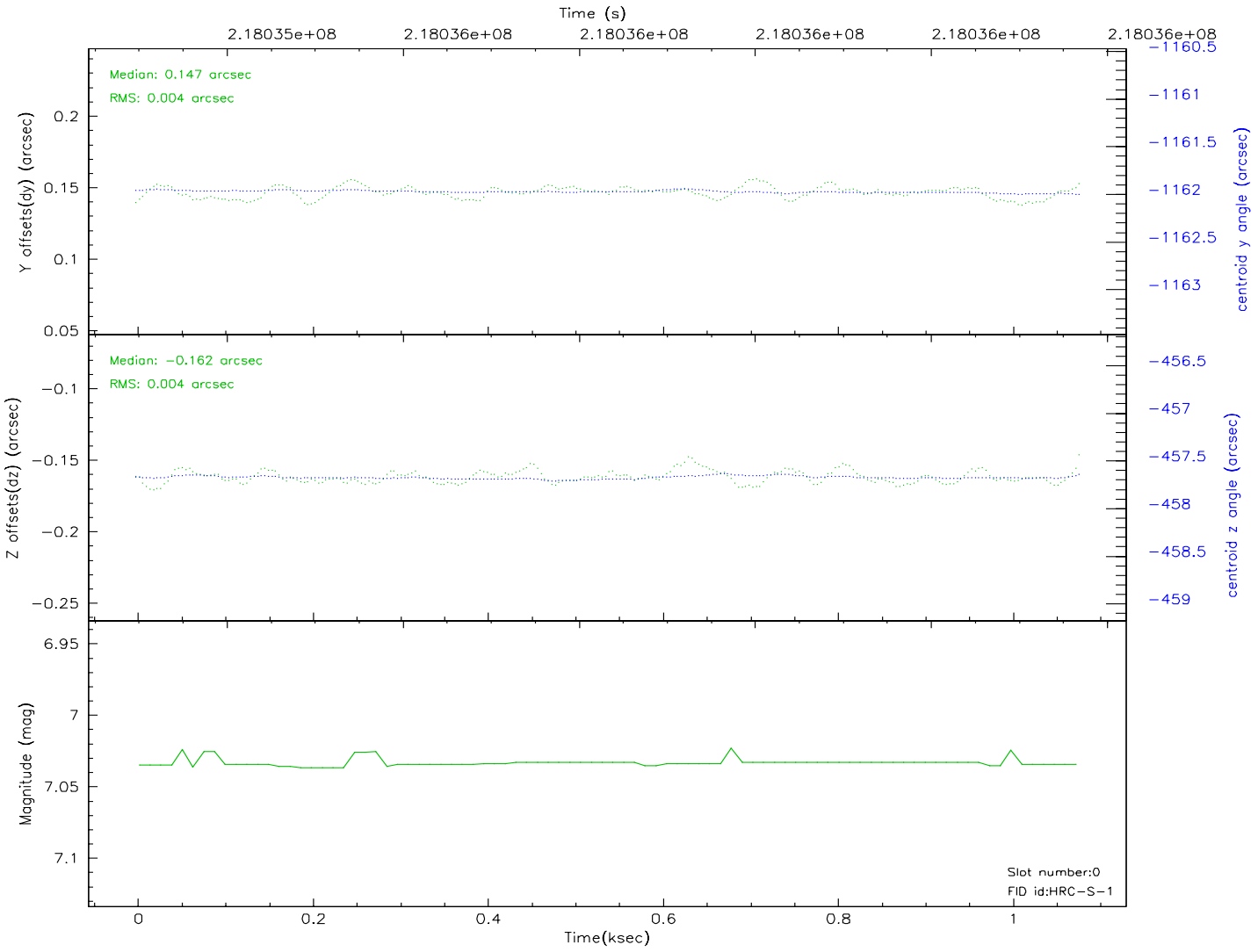

Time (s)
Median: −0.002 arcsec
RMS: 0.074 arcsec
Y offsets(dy) (arcsec)
Median: 0.117 arcsec
RMS: 0.066 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472659832
Time(ksec)

2.5 FID Slots

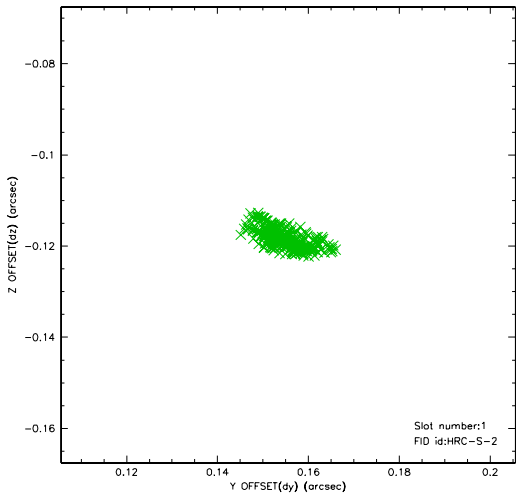
2.5.1 Slot 0

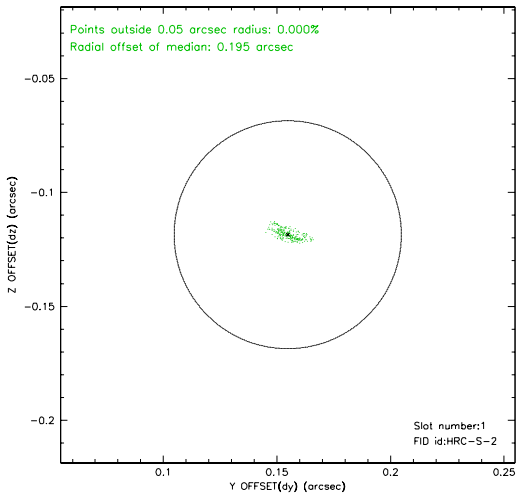


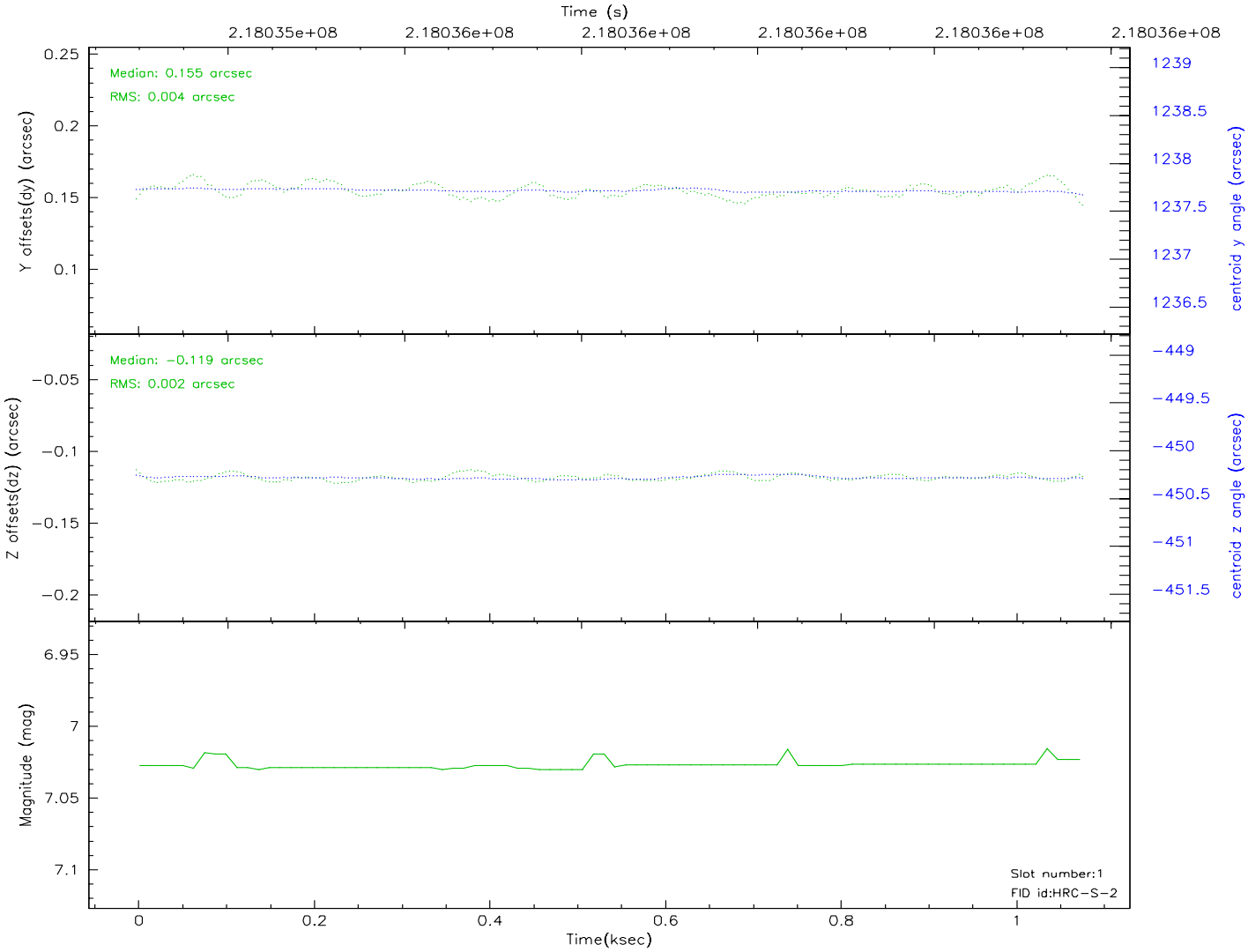




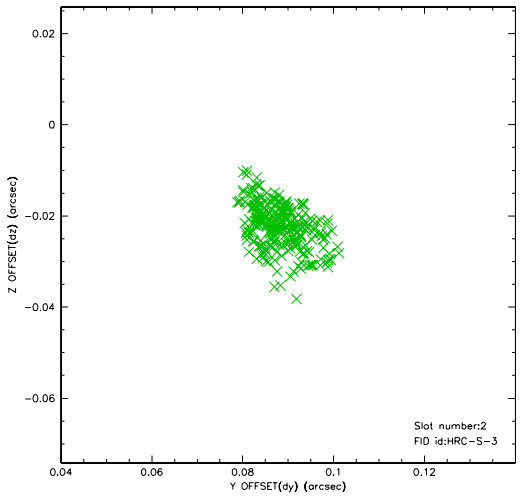
2.5.2 Slot 1

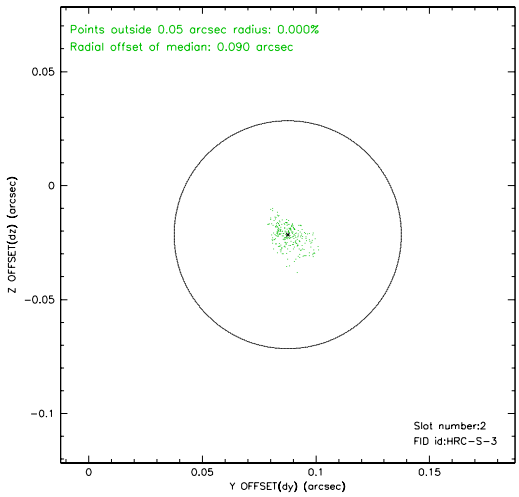

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2

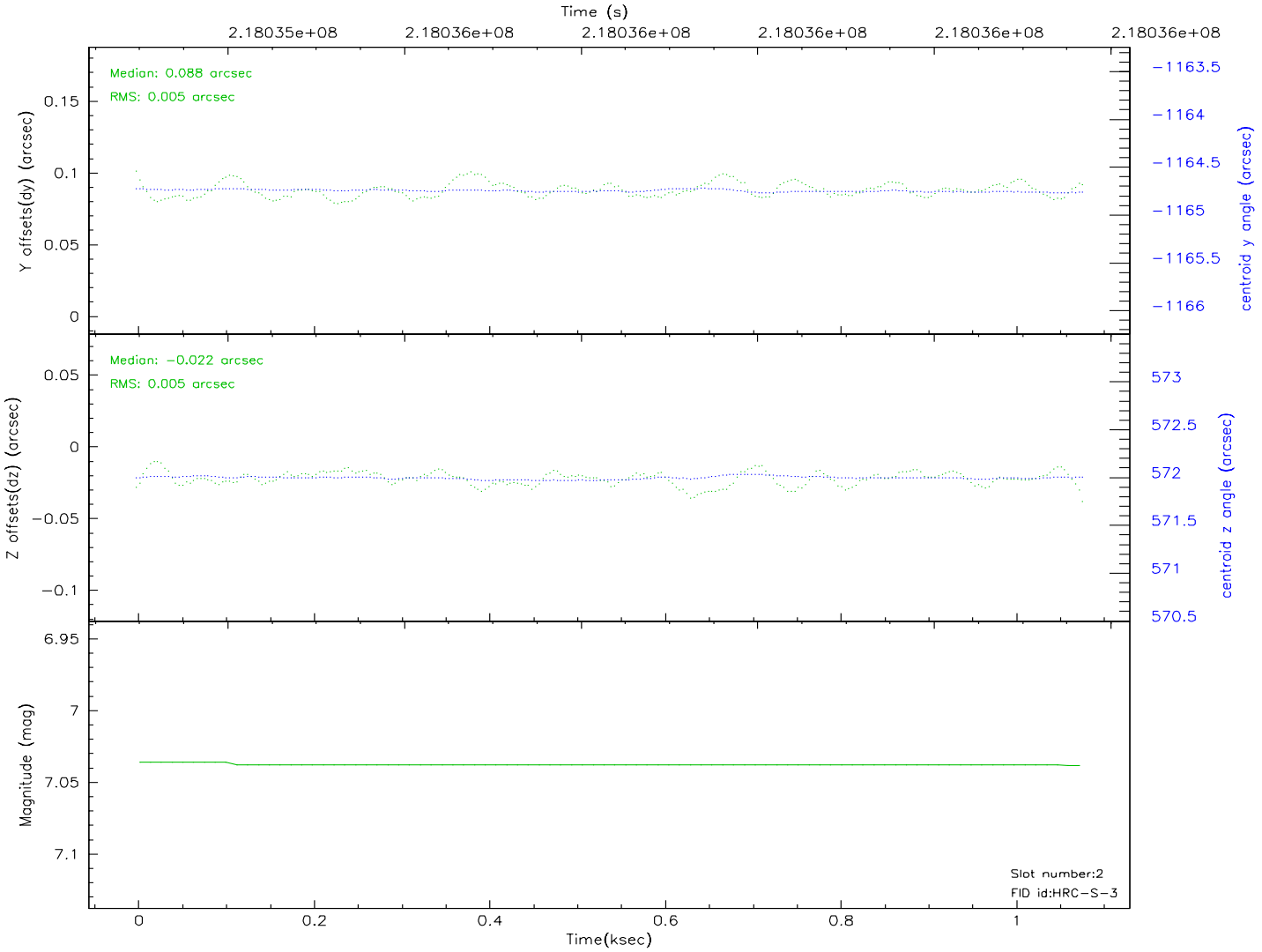

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.195 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-2


Time (s)
Median: 0.155 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.119 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)

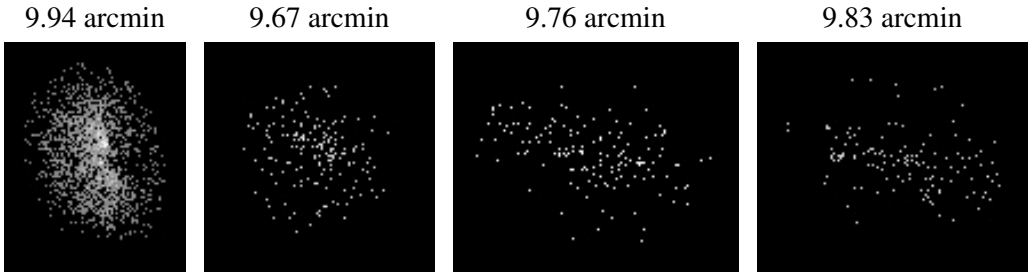
2.5.3 Slot 2


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


Time (s)
Median: 0.088 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.022 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	Beth Sundheim
V&V Date (YYYY-MM-DD)	2006.04.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.052675

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.