V&V Reference Report
L2 ASCDS Version : 7.6.9

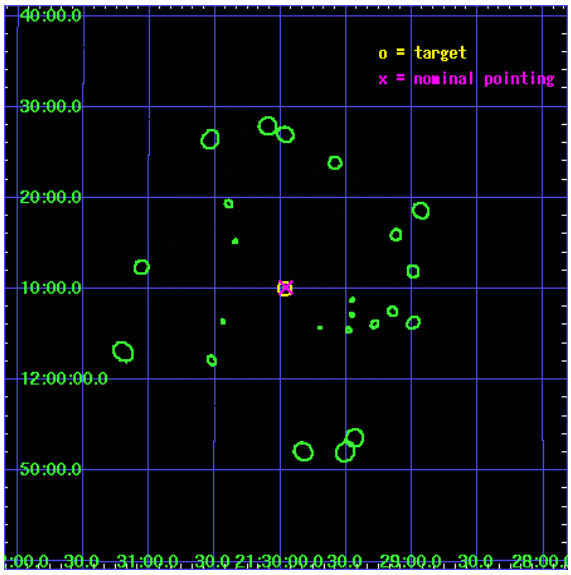
Observation 2412 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Nov 20 2007

Contents

1 Front

seq_num	300051
obs_id	2412
title	THE X-RAY SOURCE POPULATION IN THE CORE OF M15
observer	Prof Phil Charles
object	M15
ra_targ	322.492917
dec_targ	12.166806
ra_nom	322.48974018959
dec_nom	12.169417062627
roll_nom	163.47691936403
revision	3
ontime	8872.4003443867
livetime	8820.6496109779
l2events	316434

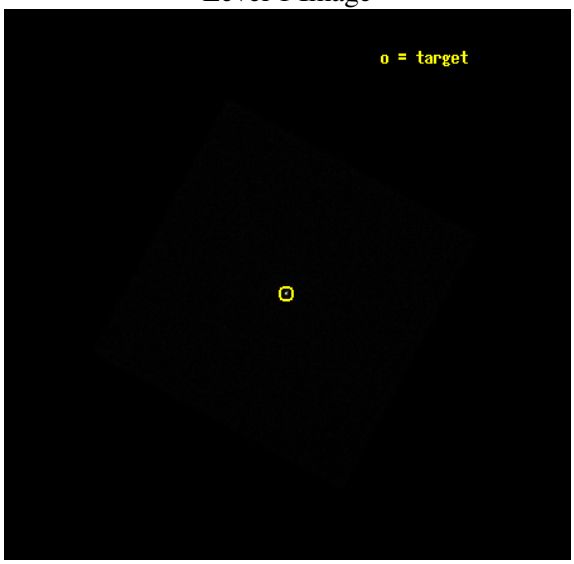


2 OBI

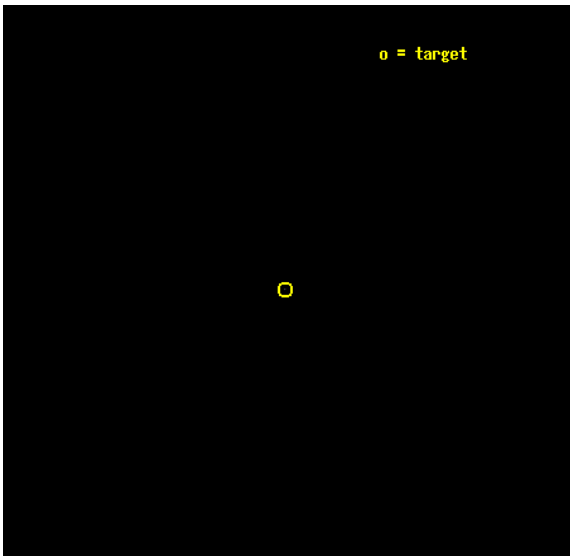
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	0
ascdsver	7.6.11.2
caldbver	3.4.1
date	2007-11-20T18:35:18
revision	3

sched_exp_time	9000.000000
ontime	8872.6565991193
l1events	444578

2.1.3 Events

Level 1 Events

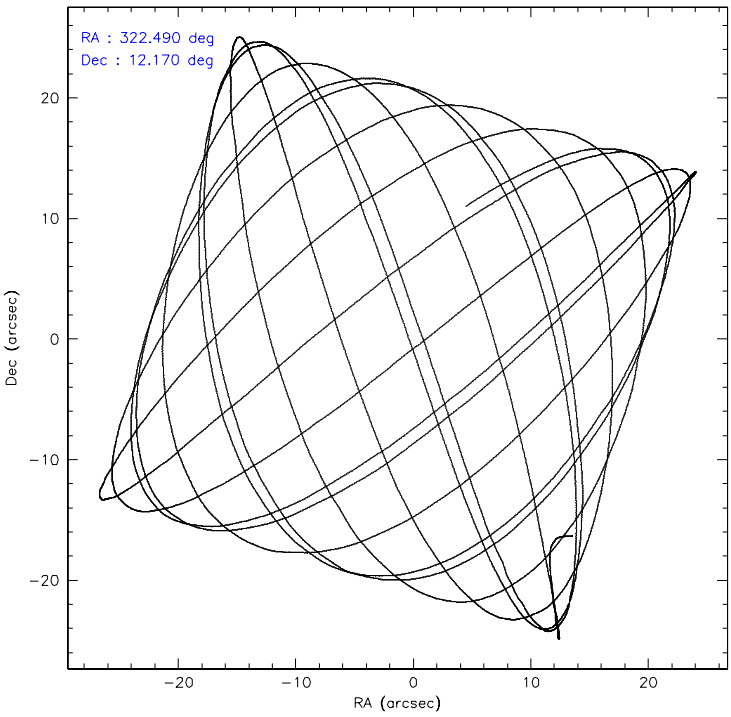
	segment 0
level 1 events	444578
rejected events	5450
rejected %	1%

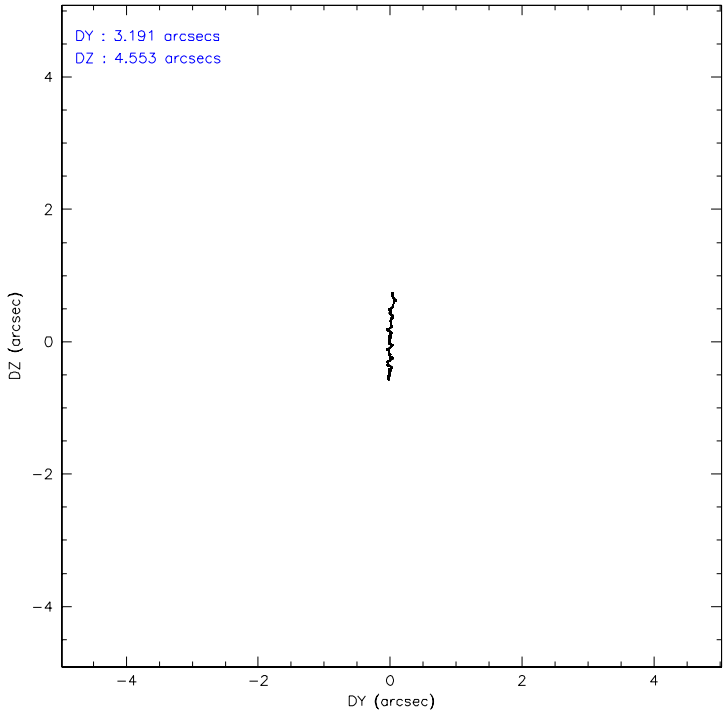
2.2 Compared Parameters

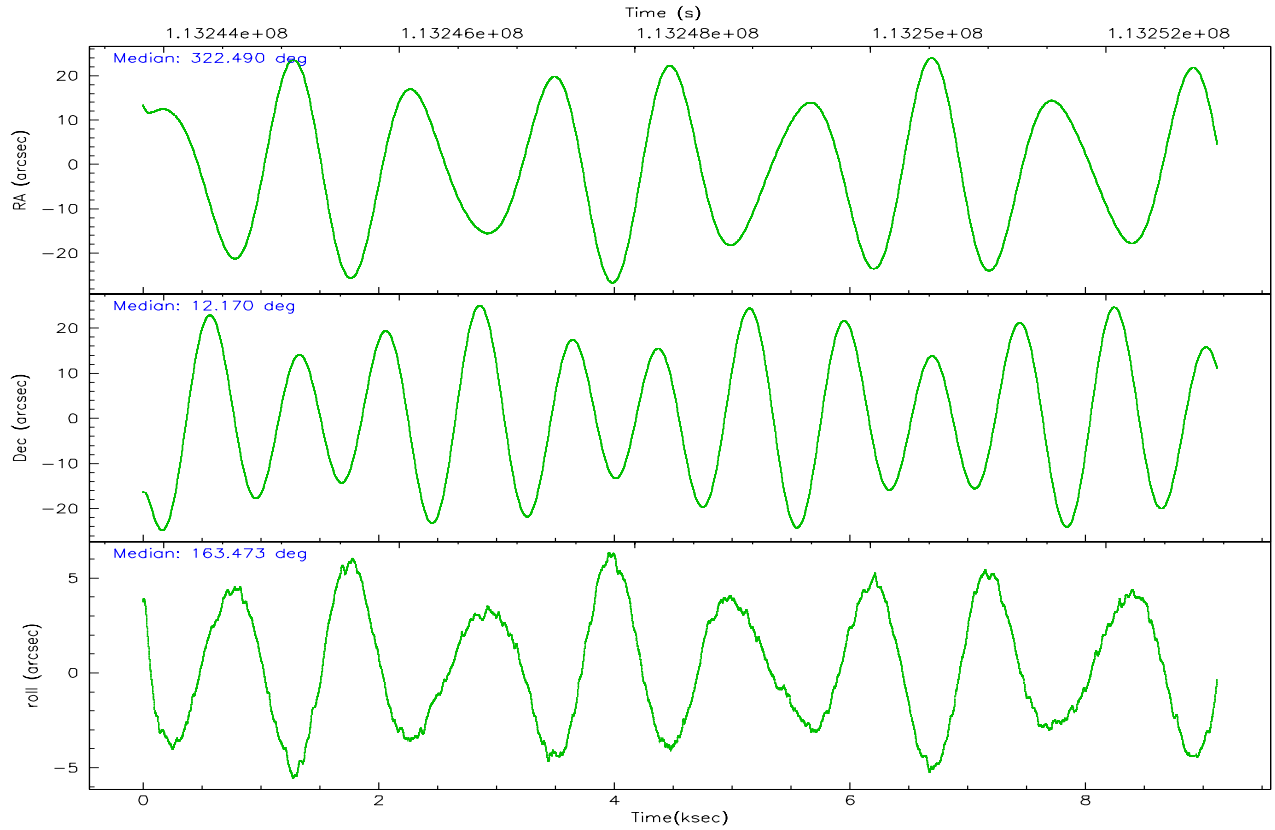
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	322.516426	322.489740189593
Pointing Dec	12.176363	12.16941706262705
Pointing Roll	163.566771	163.4769193640278
SIM focus pos (mm)	-1.040293	-1.038866356238299
SIM defocus (mm)	0	0.001426264420575141
SIM translation stage pos (mm)	126.985494	126.9829799899862
SIM translation stage offset (mm)	0	0.002508901615314585
Phase constraints	Y	Y
Phase period	0.712917	0.712917
Phase epoch	50642.547000	50642.547000
Phase start	0.900000	0.900000
Phase end	0.100000	0.100000
Phase start error	0.050000	0.050000
Phase end error	0.050000	0.050000
Observation start time	113243941.184000	113243075.63319
Observation start date	2001-08-03T16:37:57	2001-08-03T16:24:35
Observation end time	113252941.184000	113253828.90861
Observation end date	2001-08-03T19:07:57	2001-08-03T19:23:48

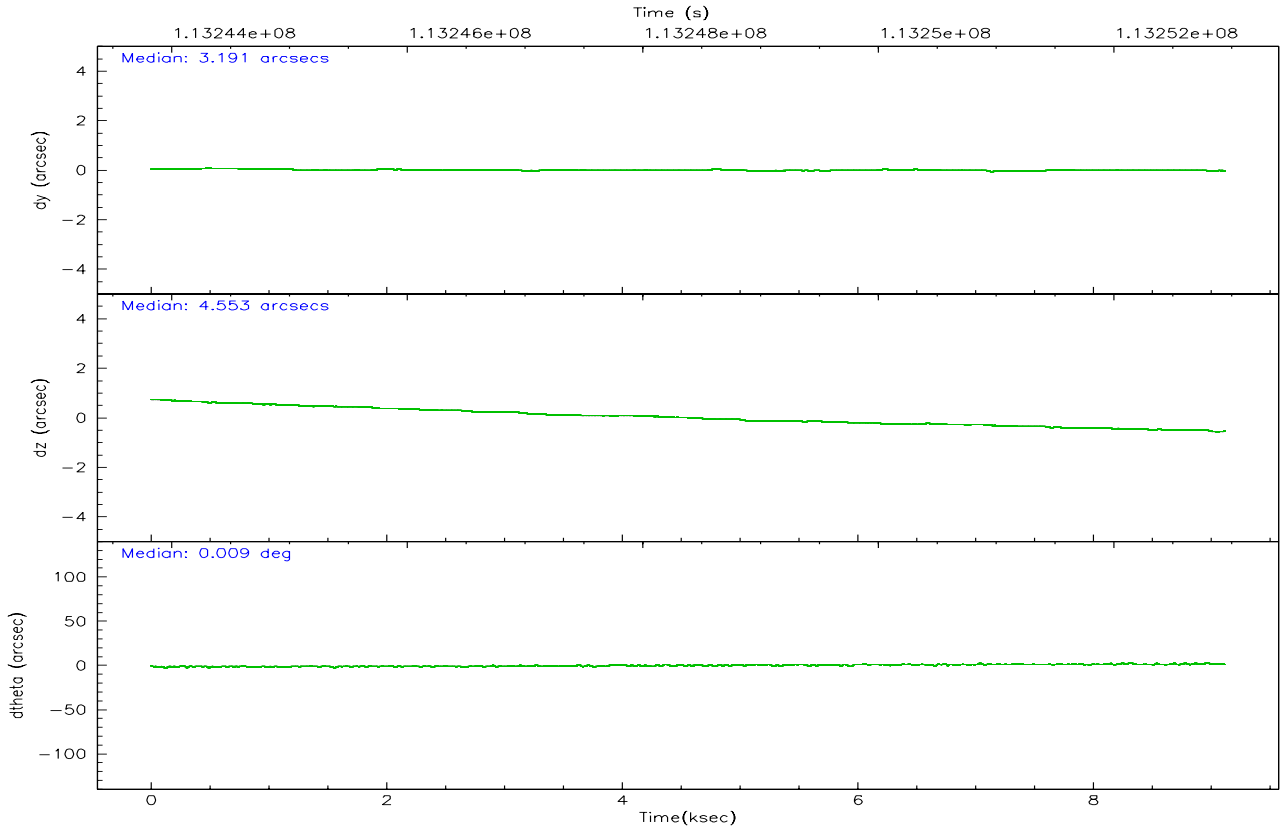
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 322.490 deg
Dec : 12.170 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−20
−10
0
10
20


DY : 3.191 arcsecs
DZ : 4.553 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 322.490 deg
RA (arcsec)
Median: 12.170 deg
Dec (arcsec)
Median: 163.473 deg
roll (arcsec)
Time(ksec)

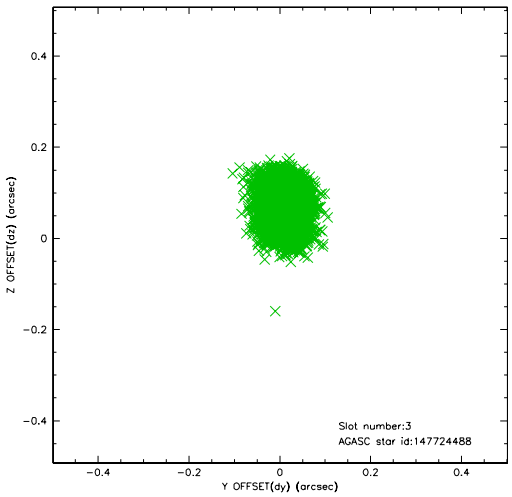

Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 3.191 arcsecs
dy (arcsec)
Median: 4.553 arcsecs
dz (arcsec)
Median: 0.009 deg
dtheta (arcsec)
Time(ksec)

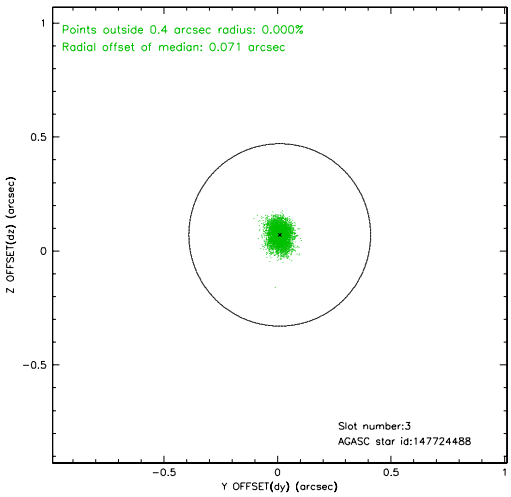
Slot Statistics

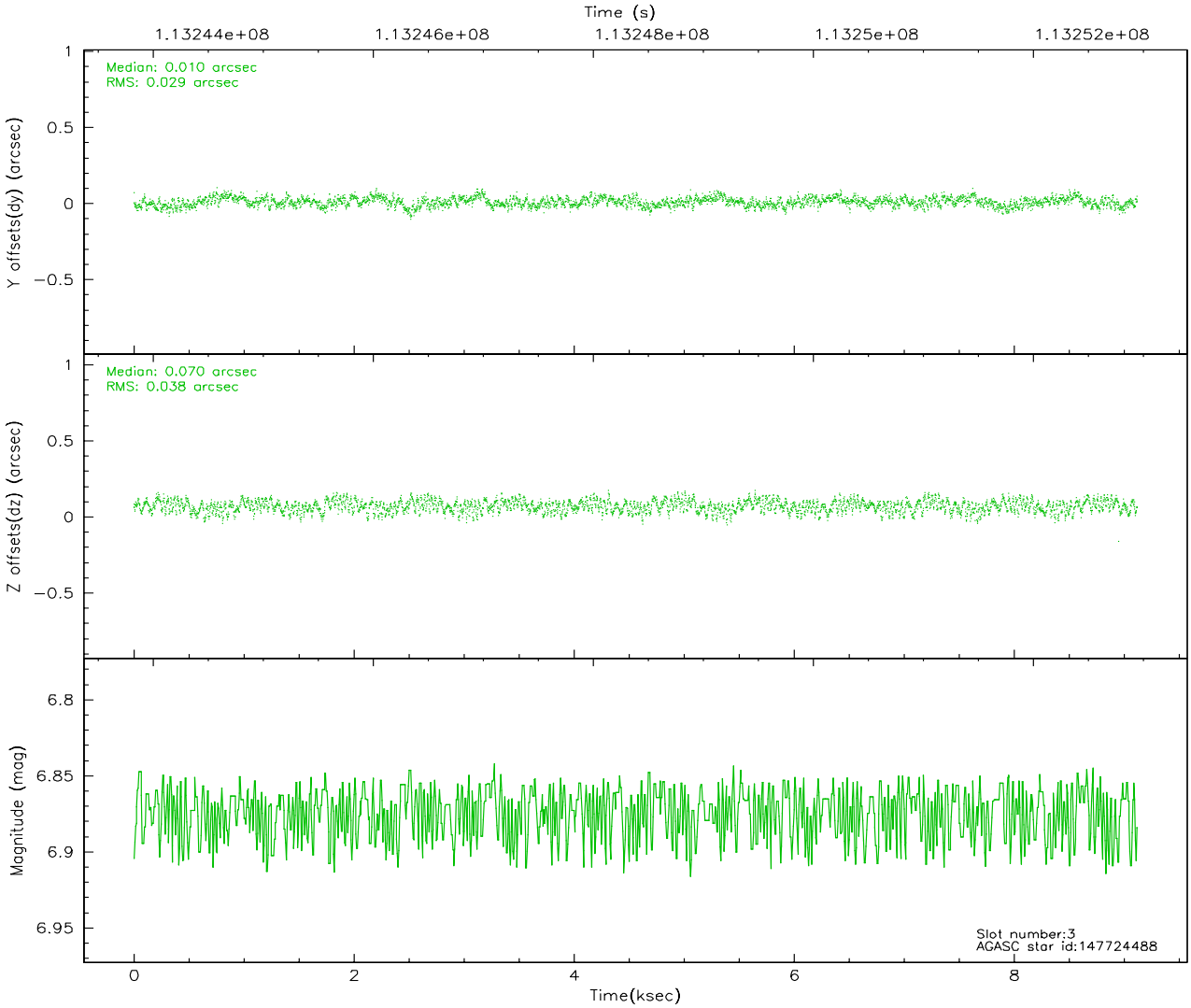
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-1	6.98	2225	0.042	0.049	0.016	0.025	0.000000	0.000000	-758.65	-1292.30
1	FID	HRC-I-3	7.07	2225	0.005	-0.089	0.008	0.014	0.000000	0.000000	-1187.49	1011.55
2	FID	HRC-I-4	7.01	2225	0.067	-0.048	0.016	0.024	0.000000	0.000000	1283.66	1010.20
3	GUIDE	147724488	6.87	4450	0.010	0.070	0.051	0.082	323.246427	12.539602	-2089.13	-1983.09
4	GUIDE	147735992	6.96	4450	-0.054	-0.087	0.048	0.076	322.299566	11.952911	504.88	987.22
5	GUIDE	147722152	7.53	4449	0.034	0.035	0.049	0.080	322.735072	12.555367	-350.13	-1525.78
6	GUIDE	147735328	8.68	4448	-0.113	-0.046	0.060	0.100	321.823462	12.214663	2378.74	554.63
7	GUIDE	147731936	8.70	4446	0.123	0.031	0.056	0.091	322.421133	12.450297	601.50	-850.67

2.4 Star Slots

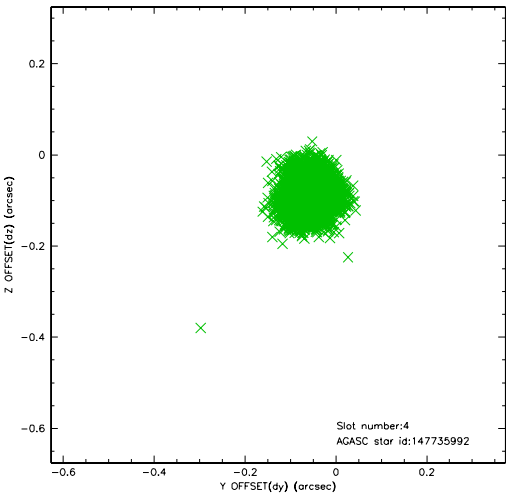
2.4.1 Slot 3

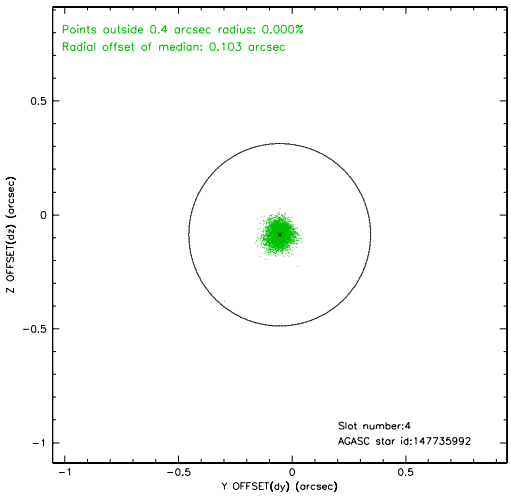


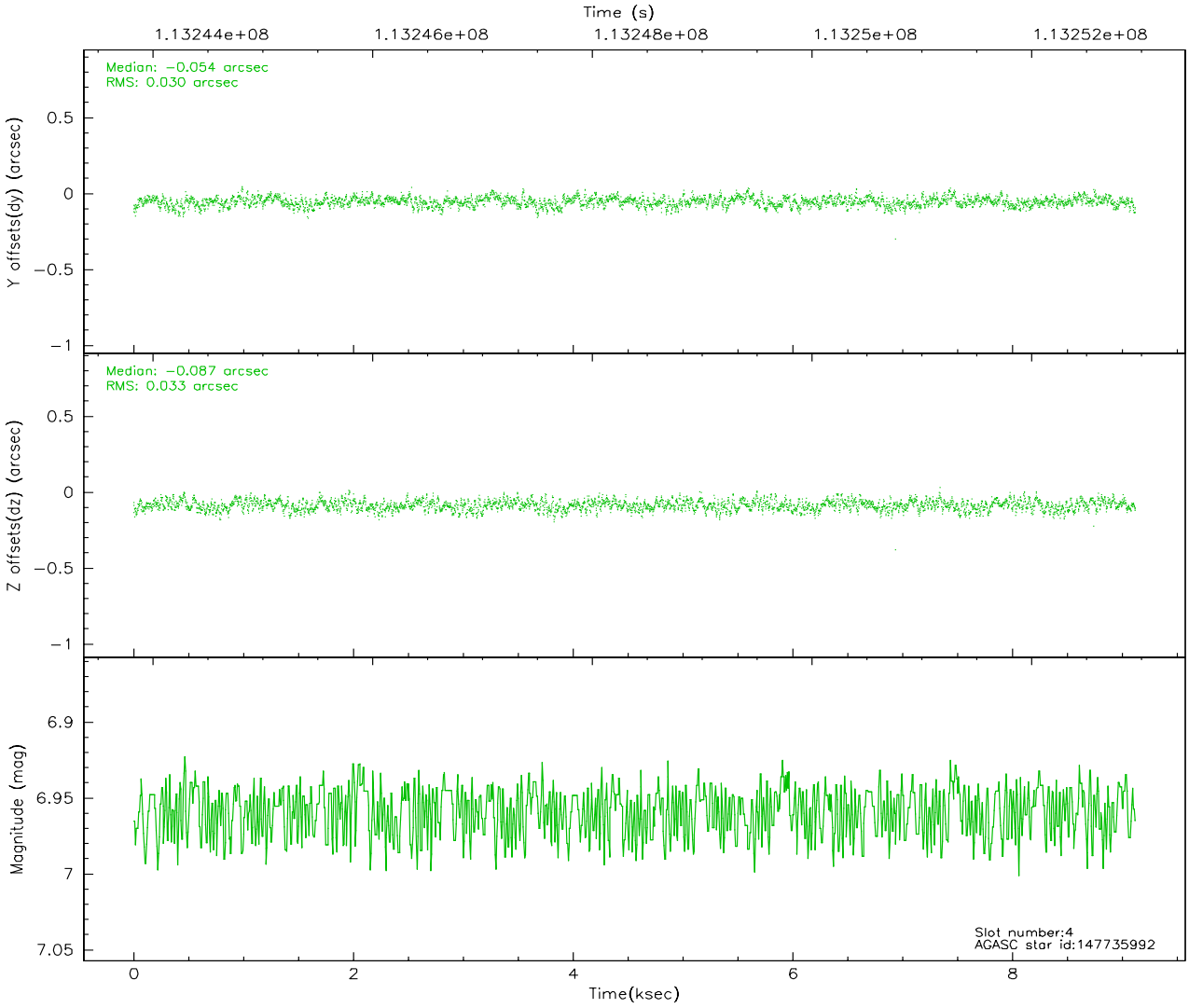




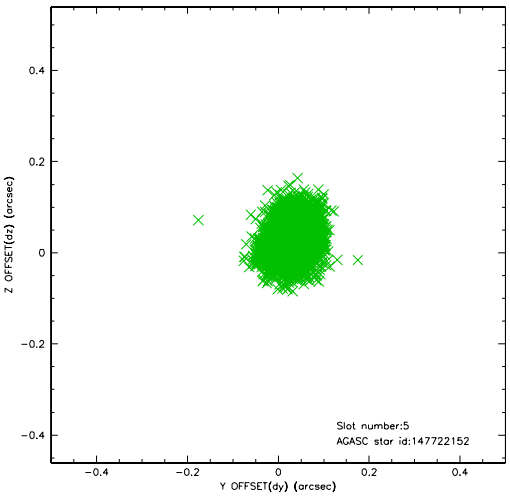
2.4.2 Slot 4

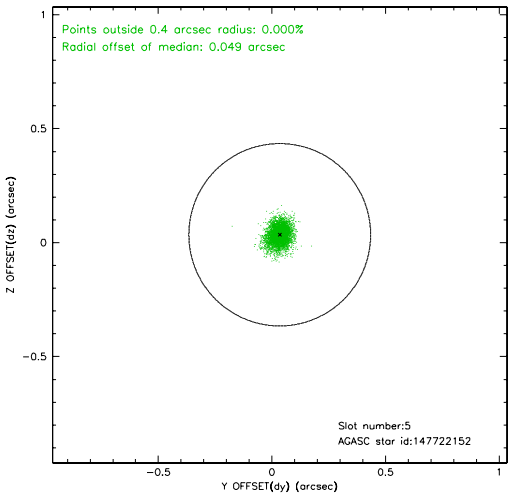

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:147735992

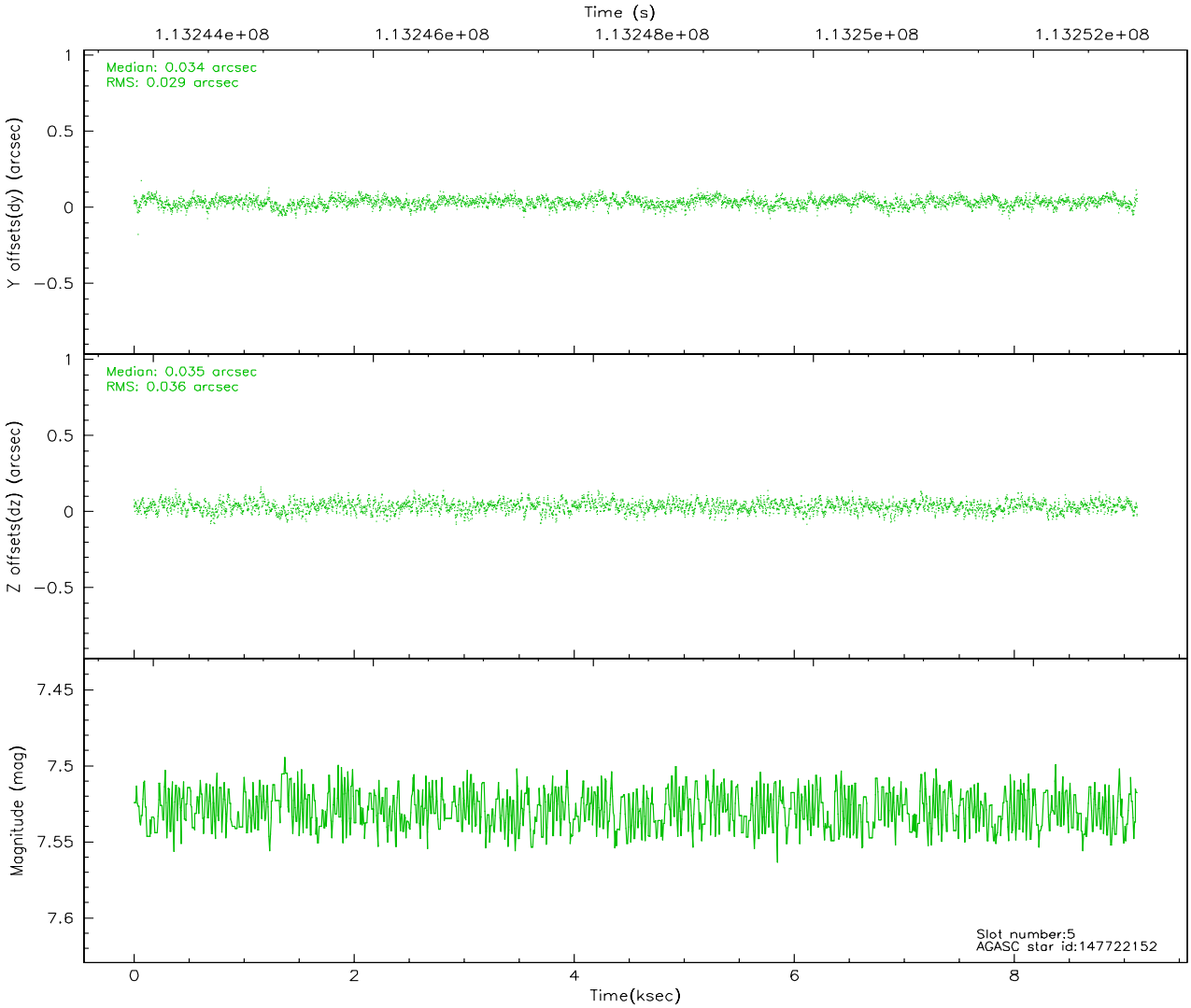

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.103 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:147735992


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: −0.054 arcsec
RMS: 0.030 arcsec
Y offsets(dy) (arcsec)
Median: −0.087 arcsec
RMS: 0.033 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:147735992
Time(ksec)

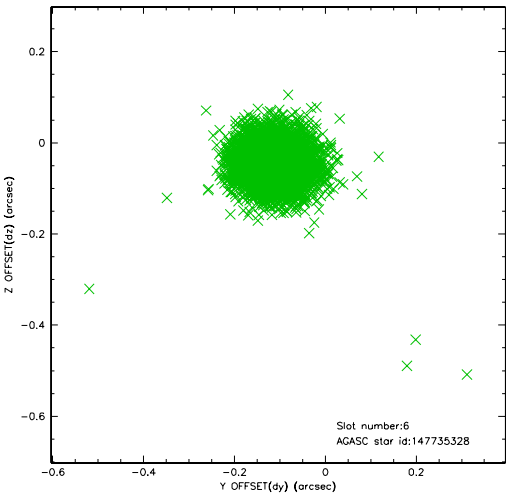
2.4.3 Slot 5

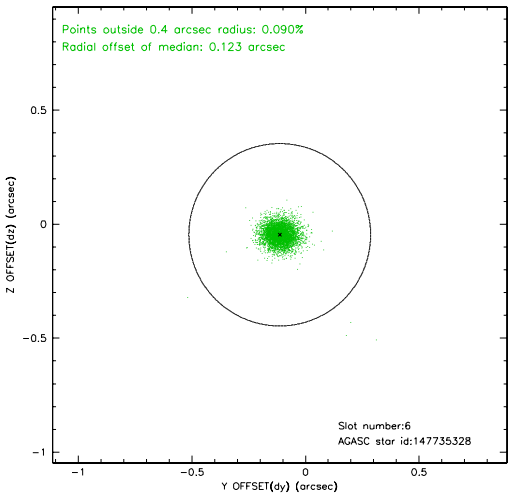

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:147722152

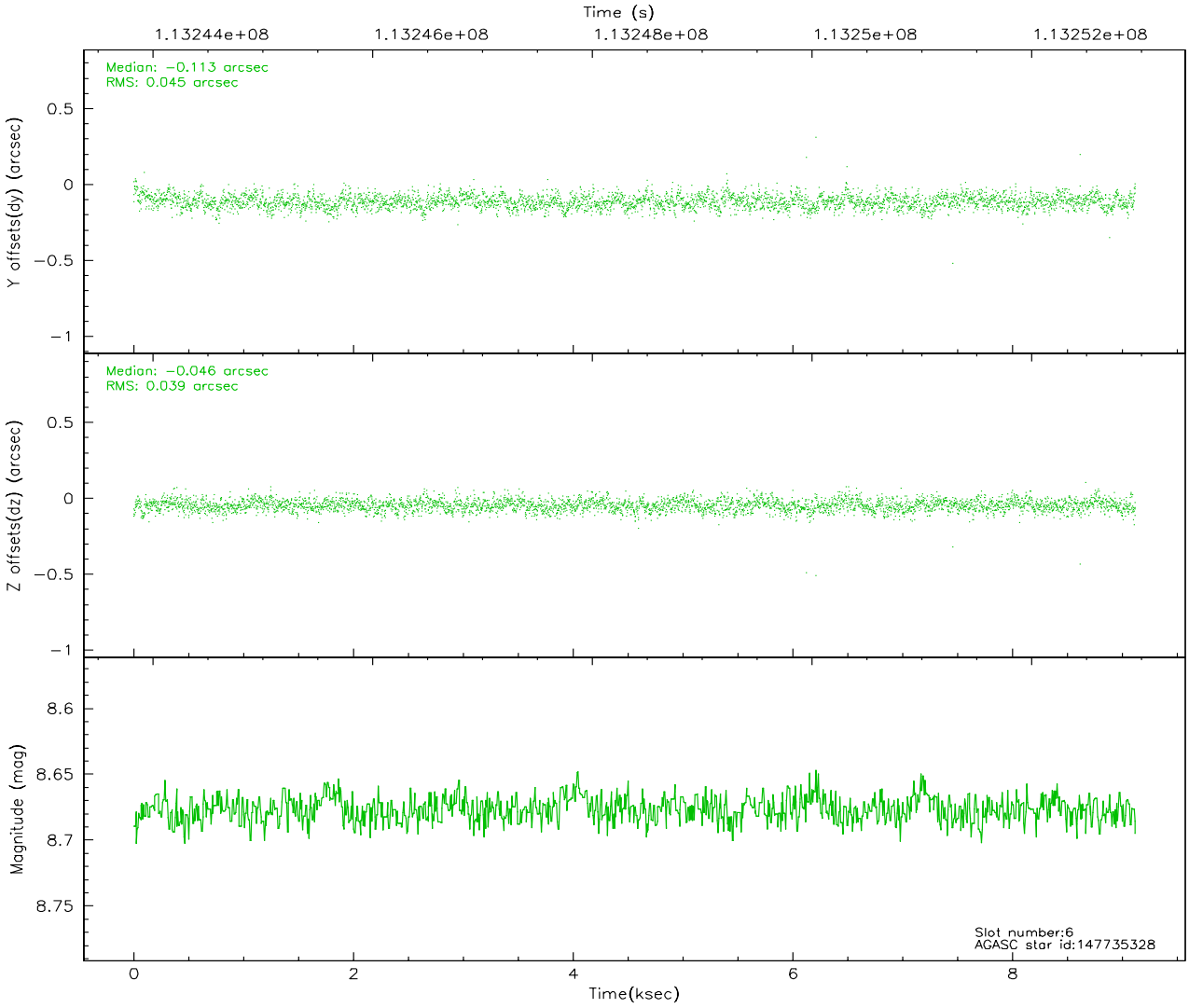

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.049 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:147722152


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 0.034 arcsec
RMS: 0.029 arcsec
Y offsets(dy) (arcsec)
Median: 0.035 arcsec
RMS: 0.036 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:147722152
Time(ksec)

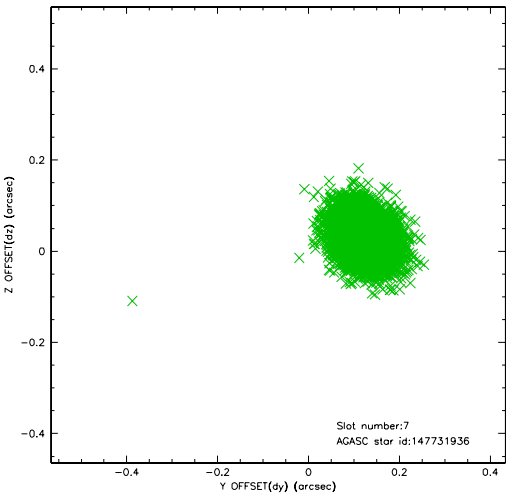
2.4.4 Slot 6

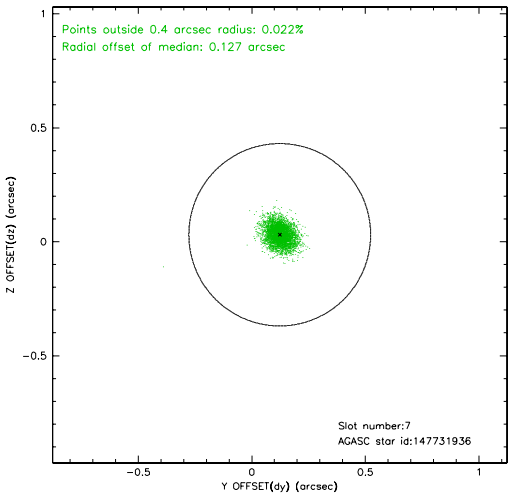

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:147735328

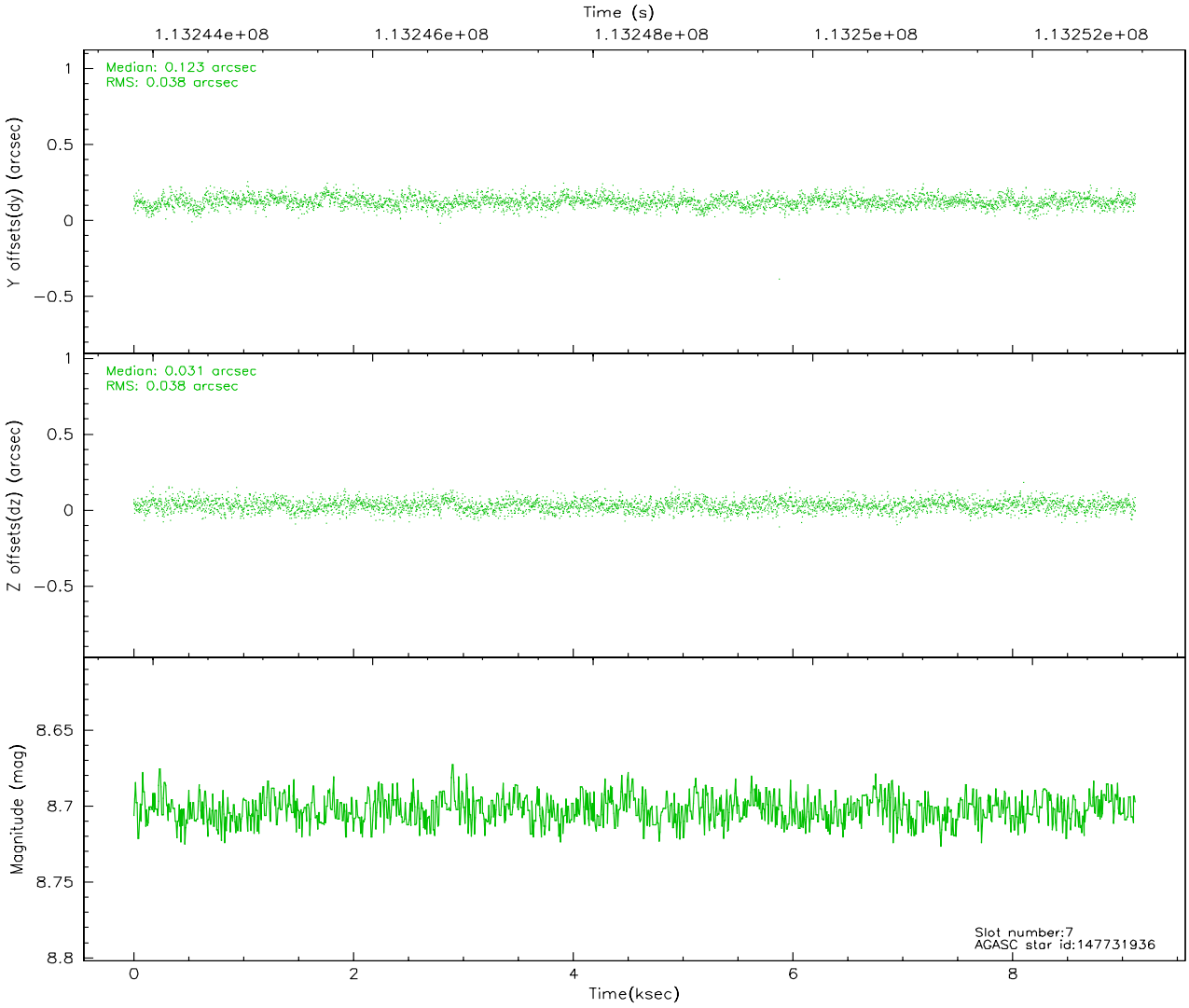

Points outside 0.4 arcsec radius: 0.090%
Radial offset of median: 0.123 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:147735328


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: −0.113 arcsec
RMS: 0.045 arcsec
Y offsets(dy) (arcsec)
Median: −0.046 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:147735328
Time(ksec)

2.4.5 Slot 7

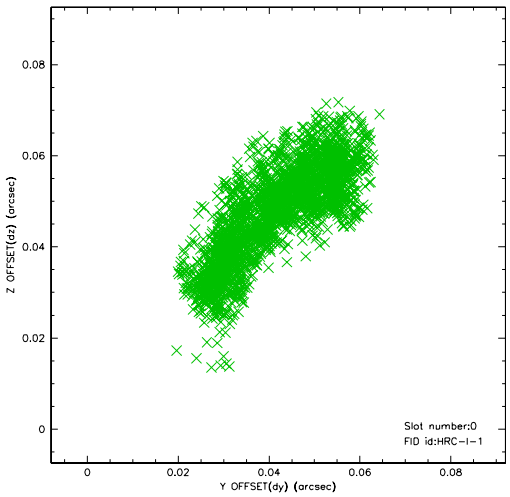

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:147731936

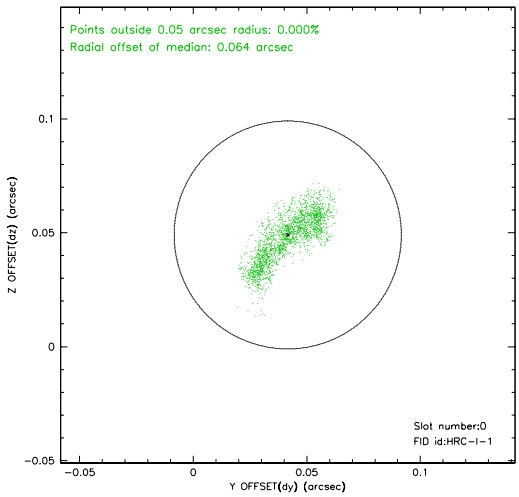

Points outside 0.4 arcsec radius: 0.022%
Radial offset of median: 0.127 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:147731936

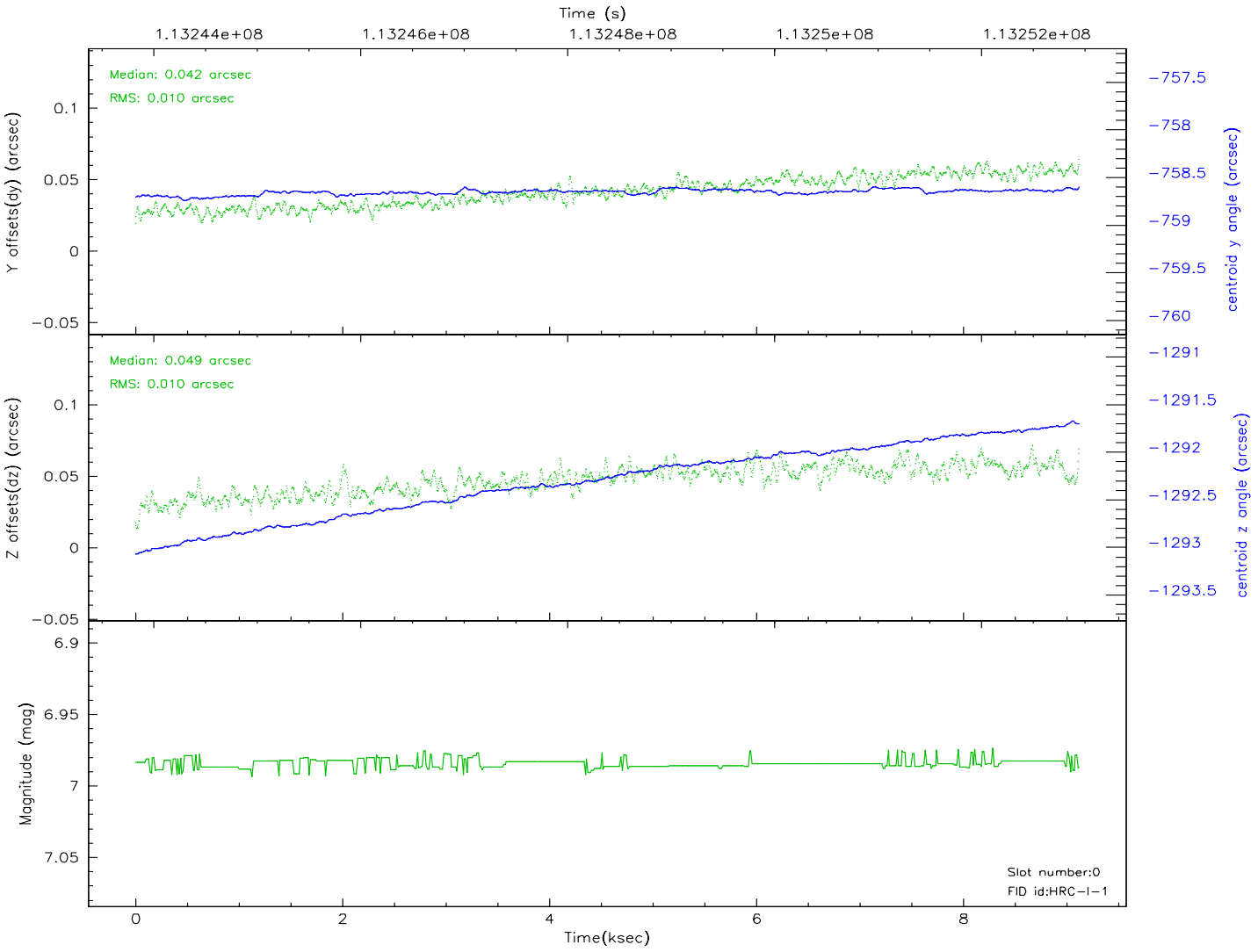

Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 0.123 arcsec
RMS: 0.038 arcsec
Y offsets(dy) (arcsec)
Median: 0.031 arcsec
RMS: 0.038 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:147731936
Time(ksec)

2.5 FID Slots

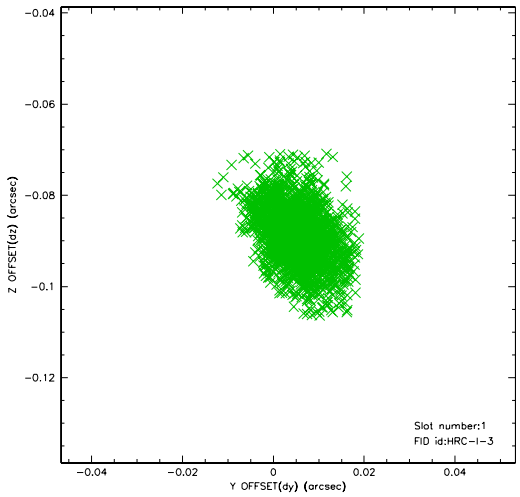
2.5.1 Slot 0

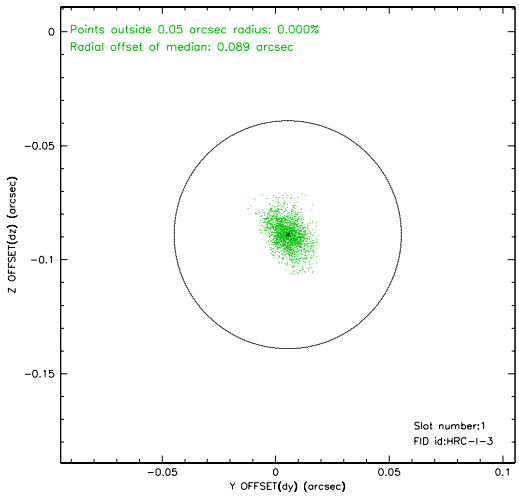


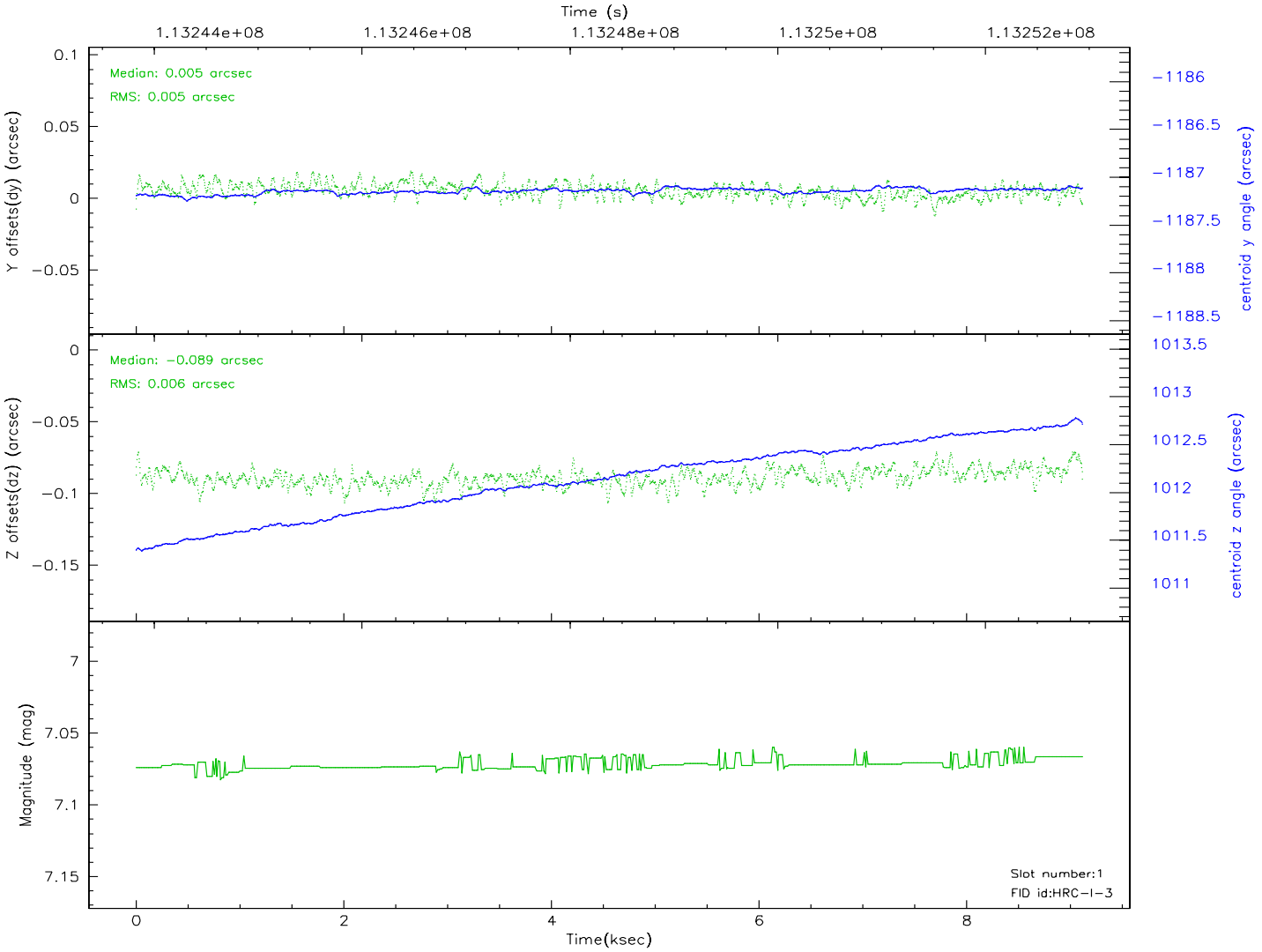




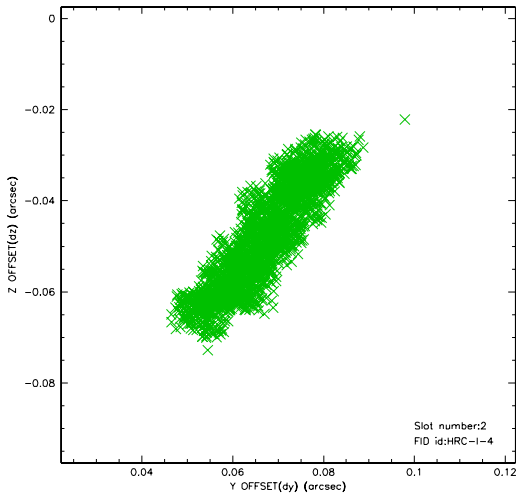
2.5.2 Slot 1

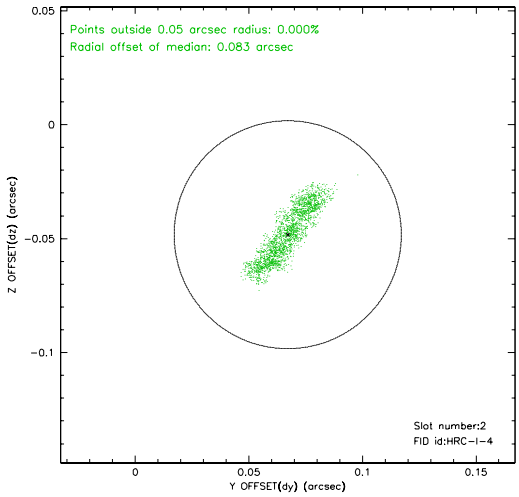

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3

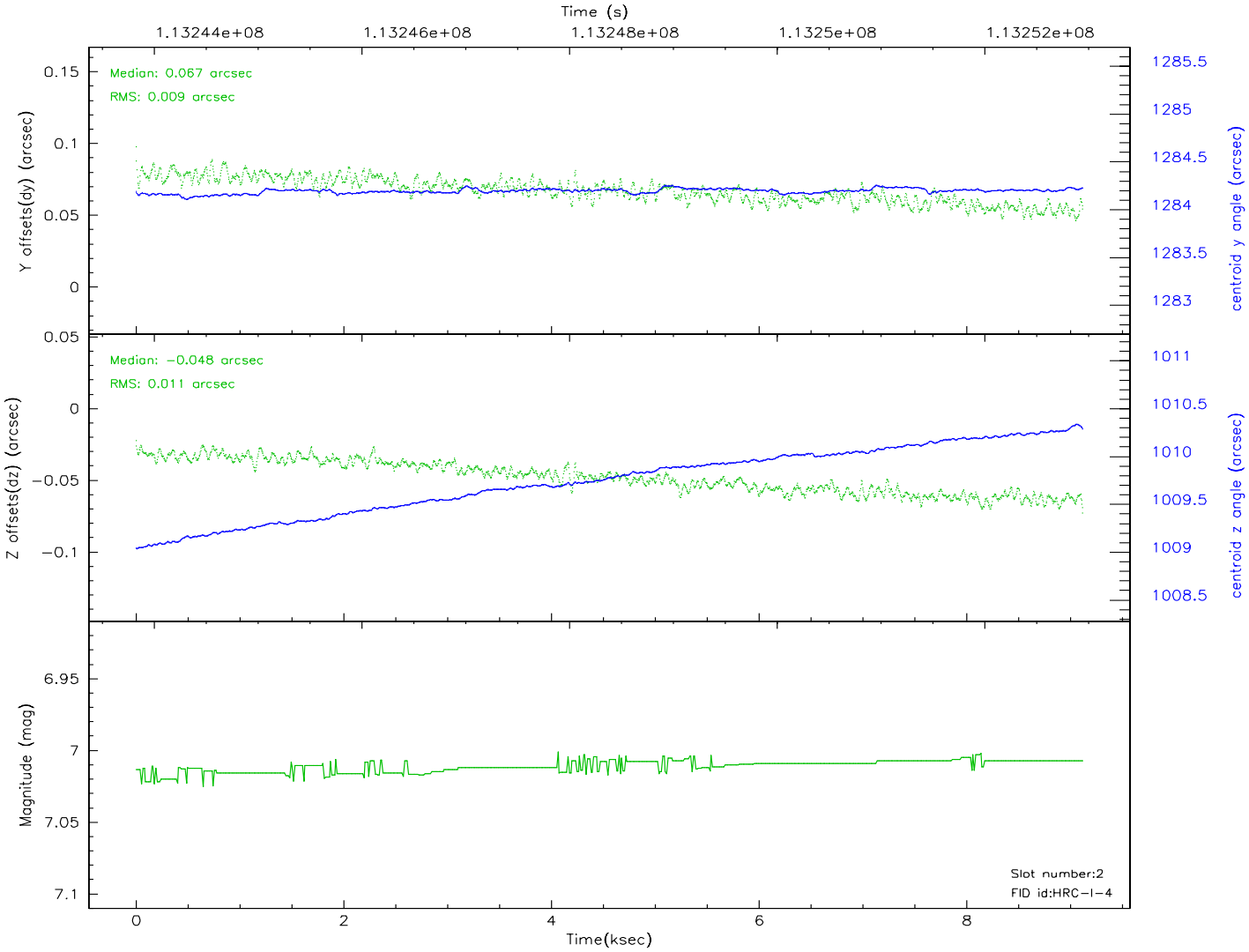

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.089 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 0.005 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.089 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:HRC-I-3
Time(ksec)

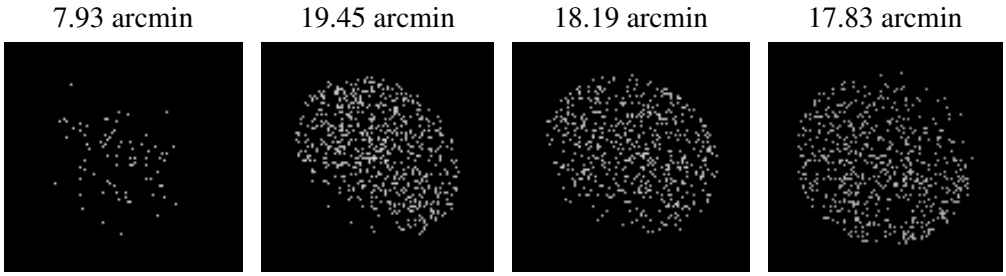
2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-I-4


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.083 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-I-4


Time (s)
1.13244e+08
1.13246e+08
1.13248e+08
1.1325e+08
1.13252e+08
Median: 0.067 arcsec
RMS: 0.009 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.048 arcsec
RMS: 0.011 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:HRC-I-4
Time(ksec)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2007.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.9

A.2 Comments

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Phase constraint OK per previous V&V report.

The current observation has been reprocessed as part of Repro III ('C'
supplement) the purpose of which is to update all HRC-I ObsIDs since Jan
2000 to the latest calibrations available for that configuration.
Specifically, we are updating the DEGAP solution and the Gain Maps
applied. For more information see the Repro IIIC web page at

http://asc.harvard.edu/cda/repro3.html#IIIc

and the associated links.
```