V&V Reference Report
L2 ASCDS Version : 7.6.9

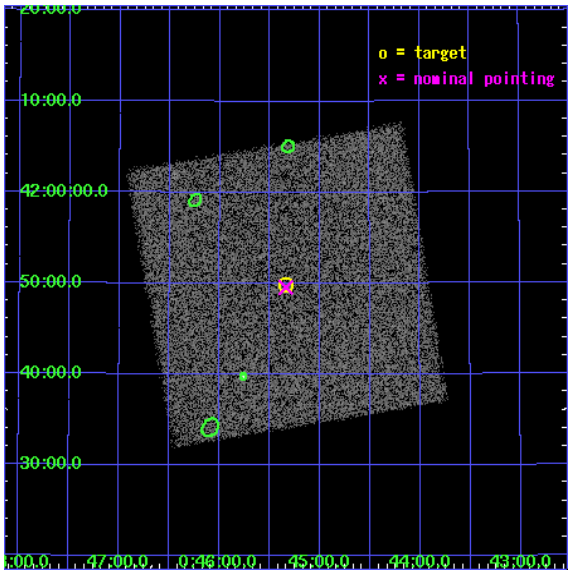
Observation 1573 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Nov 21 2007

Contents

1 Front

seq_num	600130
obs_id	1573
title	HRC MONITORING OF M31
observer	Dr. Stephen Murray
object	M31 - NORTH 2
ra_targ	11.333333
dec_targ	41.829722
ra_nom	11.334483279594
dec_nom	41.82586035169
roll_nom	305.481249526
revision	4
ontime	1194.3812959939
livetime	1186.2976074082
l2events	59315

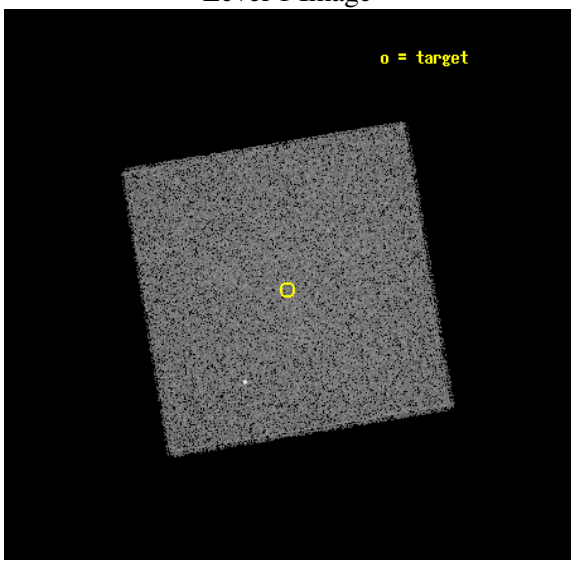


2 OBI

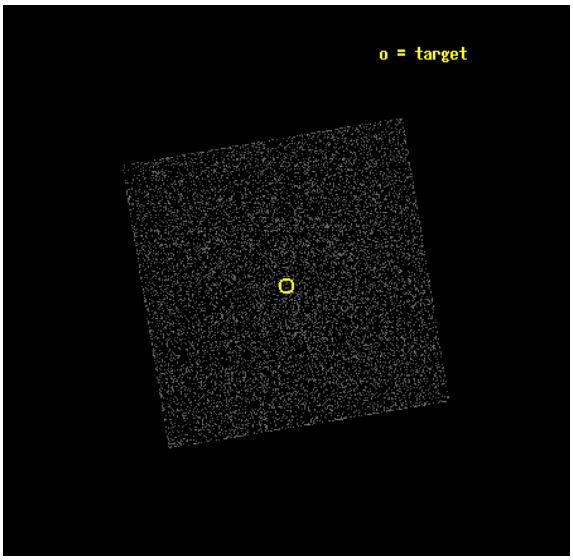
2.1 OBI

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	2007-11-21T08:32:55
revision	4

sched_exp_time	1000.000000
ontime	1194.3812959939
l1events	134798

2.1.3 Events

Level 1 Events

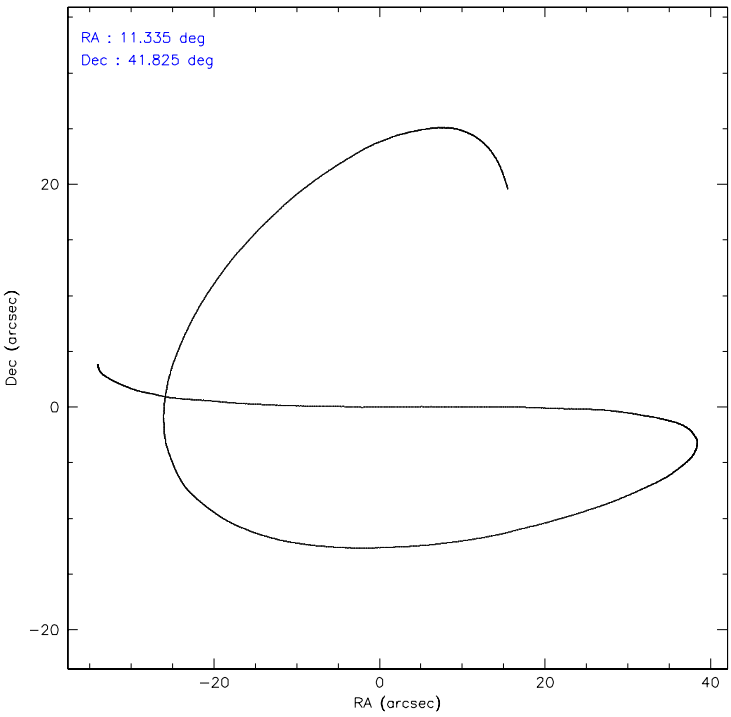
	segment 0
level 1 events	134798
rejected events	52559
rejected %	38%

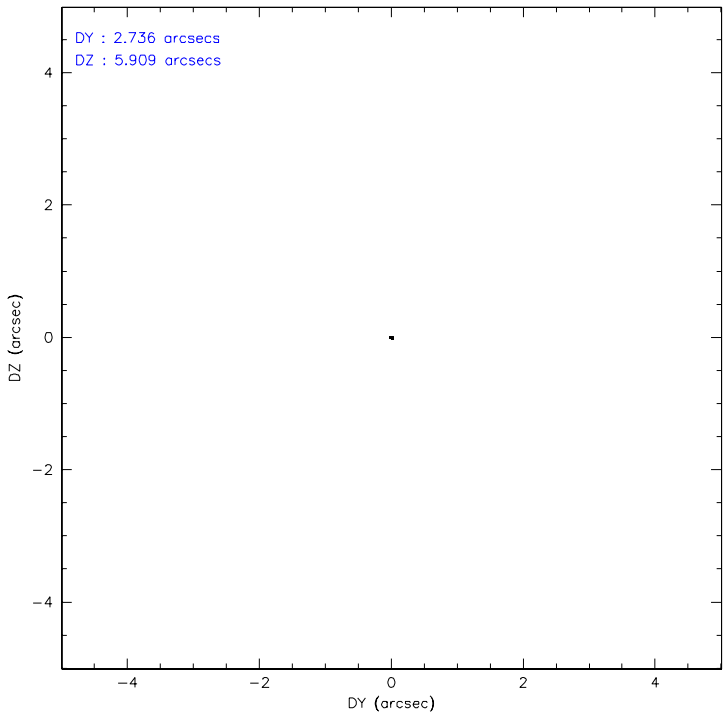
2.2 Compared Parameters

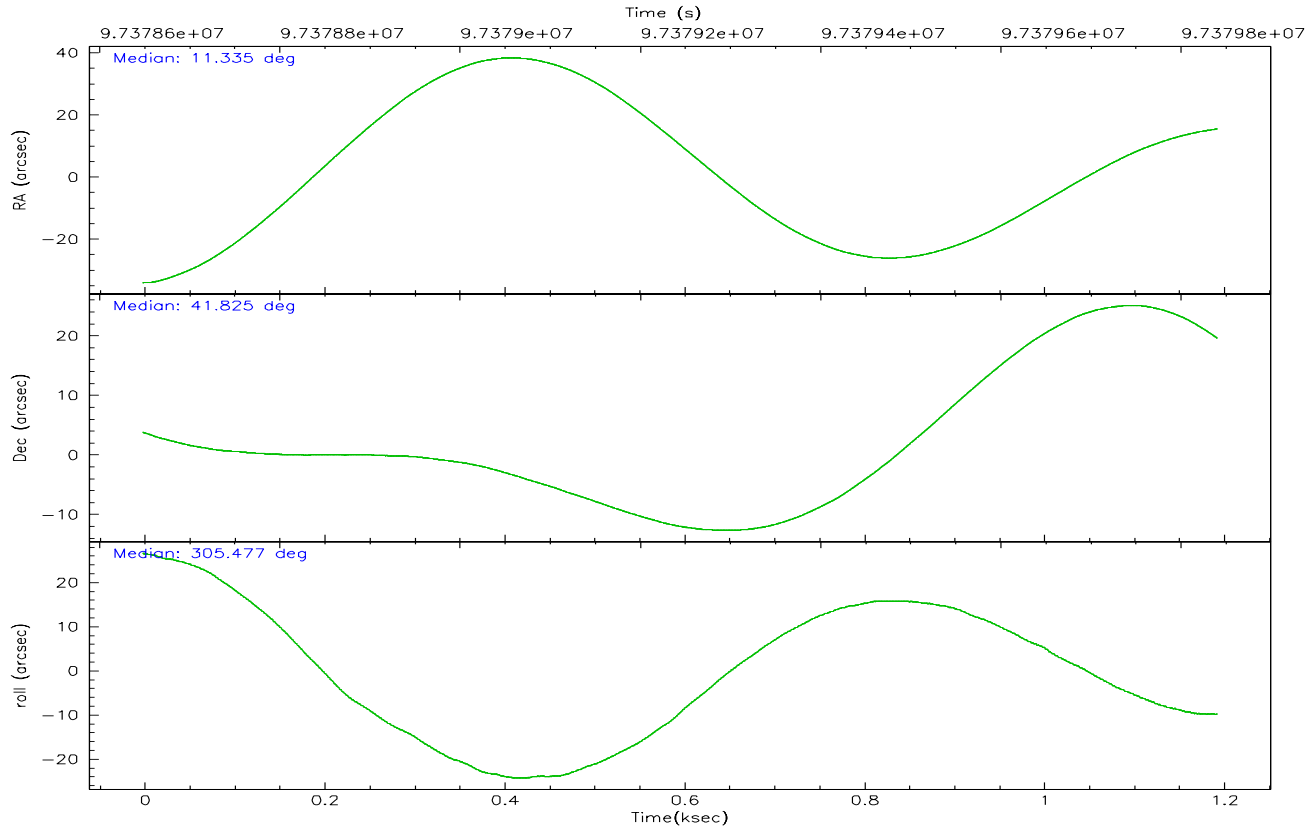
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	11.301133	11.33448327959401
Pointing Dec	41.836330	41.82586035168988
Pointing Roll	305.599002	305.4812495260038
Window start time	97372864.184000	97372864.184000
Window stop time	98496064.184000	98496064.184000
SIM focus pos (mm)	-1.040293	-1.038866356238299
SIM defocus (mm)	0	0.001426264420575141
SIM translation stage pos (mm)	126.985494	126.9854943052878
SIM translation stage offset (mm)	0	-5.413686238853188e-06
Observation start time	97378839.184000	97378463.26686899
Observation start date	2001-02-01T01:39:35	2001-02-01T01:34:23
Observation end time	97379839.184000	97380653.691954
Observation end date	2001-02-01T01:56:15	2001-02-01T02:10:53

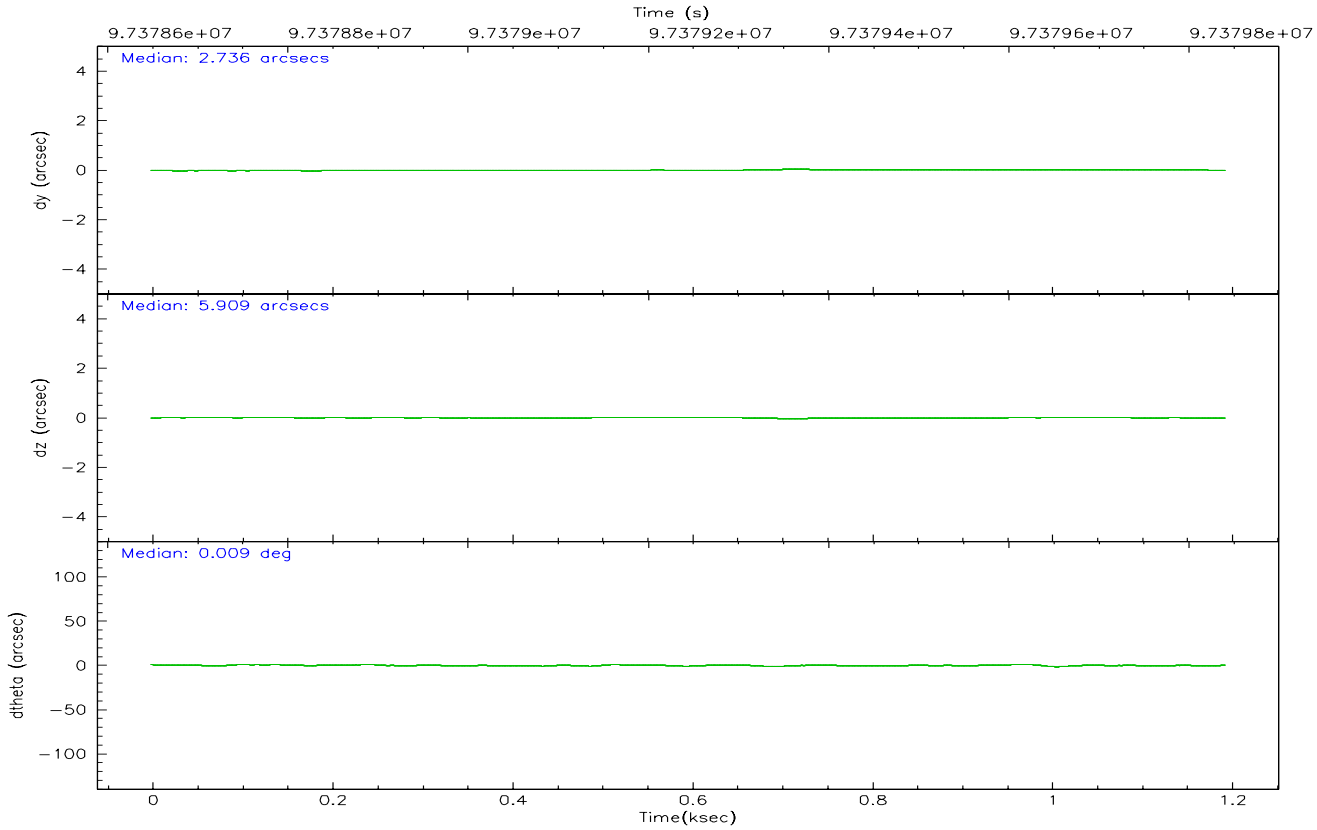
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 11.335 deg
Dec : 41.825 deg
20
0
−20
Dec (arcsec)
−20
0
20
40
RA (arcsec)


DY : 2.736 arcsecs
DZ : 5.909 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
9.73786e+07
9.73788e+07
9.7379e+07
9.73792e+07
9.73794e+07
9.73796e+07
9.73798e+07
Median: 11.335 deg
RA (arcsec)
Median: 41.825 deg
Dec (arcsec)
Median: 305.477 deg
roll (arcsec)
Time(ksec)

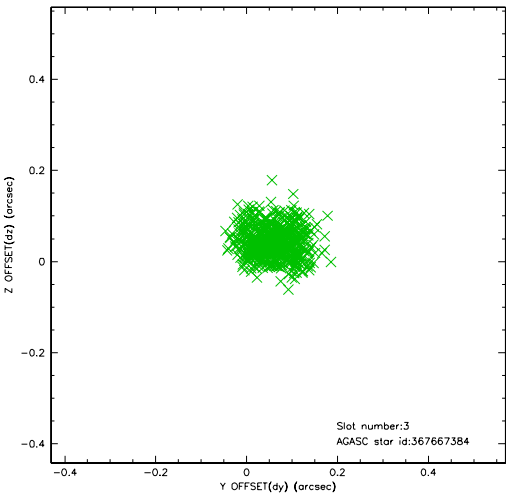

Time (s)
9.73786e+07
9.73788e+07
9.7379e+07
9.73792e+07
9.73794e+07
9.73796e+07
9.73798e+07
Median: 2.736 arcsecs
dy (arcsec)
Median: 5.909 arcsecs
dz (arcsec)
Median: 0.009 deg
dtheta (arcsec)
Time(ksec)

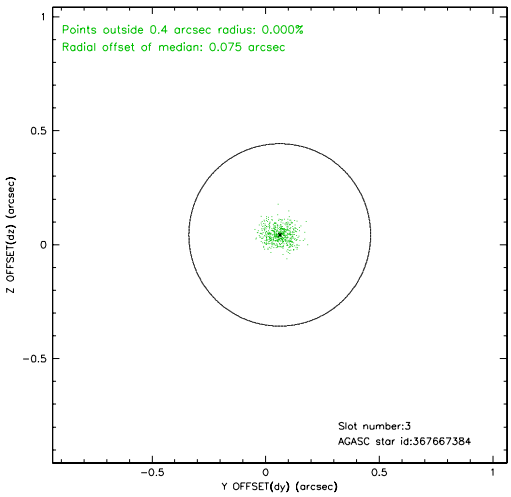
Slot Statistics

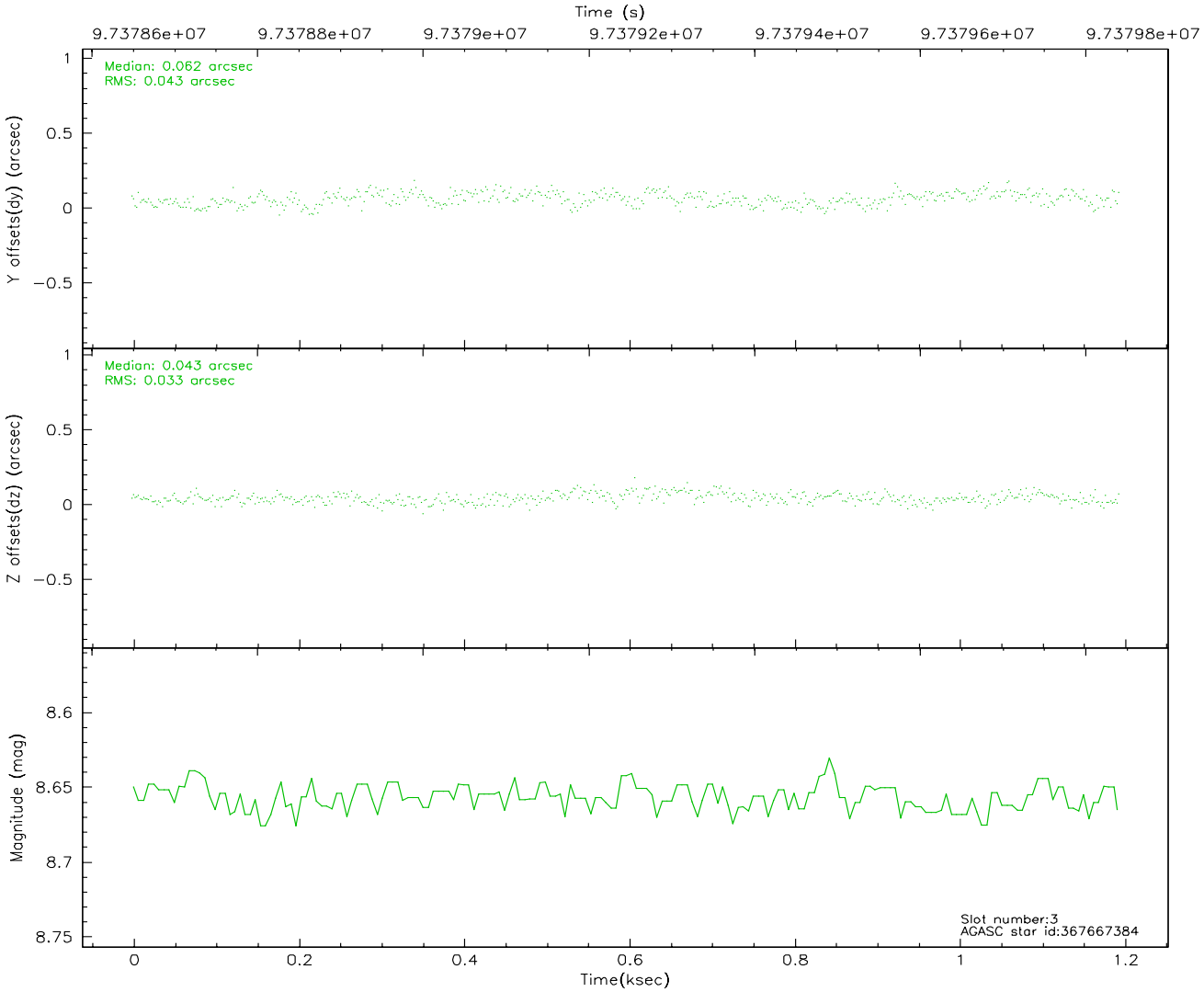
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-1	6.95	292	0.035	0.027	0.006	0.012	0.000000	0.000000	-758.17	-1293.74
1	FID	HRC-I-3	7.04	292	0.031	-0.078	0.007	0.011	0.000000	0.000000	-1189.25	1006.29
2	FID	HRC-I-4	6.98	292	0.047	-0.039	0.005	0.008	0.000000	0.000000	1280.57	1011.80
3	GUIDE	367667384	8.66	584	0.062	0.043	0.059	0.091	12.077552	41.596878	1910.43	1202.31
4	GUIDE	367674552	8.84	584	0.037	-0.114	0.075	0.144	11.016238	41.570845	333.29	-1178.76
5	GUIDE	367146616	8.87	584	0.137	0.011	0.089	0.148	11.418645	41.190163	2077.84	-1098.22
6	GUIDE	367671800	9.41	584	-0.140	-0.061	0.082	0.134	10.554735	41.964935	-1542.60	-1353.29
7	GUIDE	367670520	9.26	583	-0.098	0.110	0.084	0.132	11.265516	42.371946	-1625.41	1041.91

2.4 Star Slots

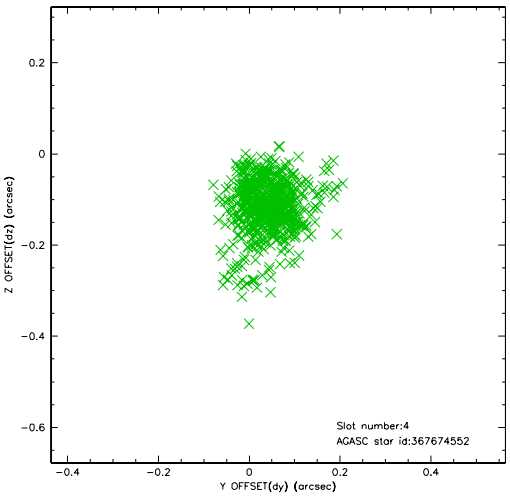
2.4.1 Slot 3

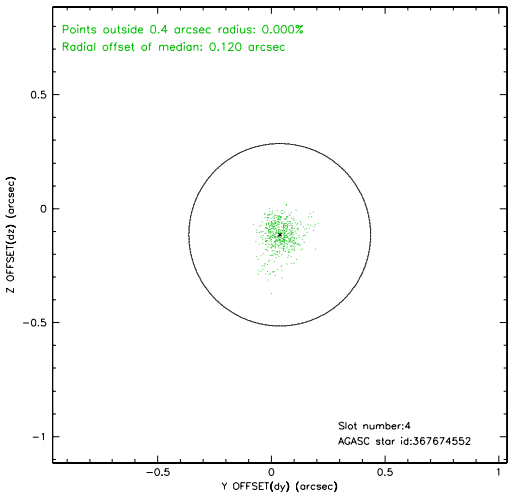


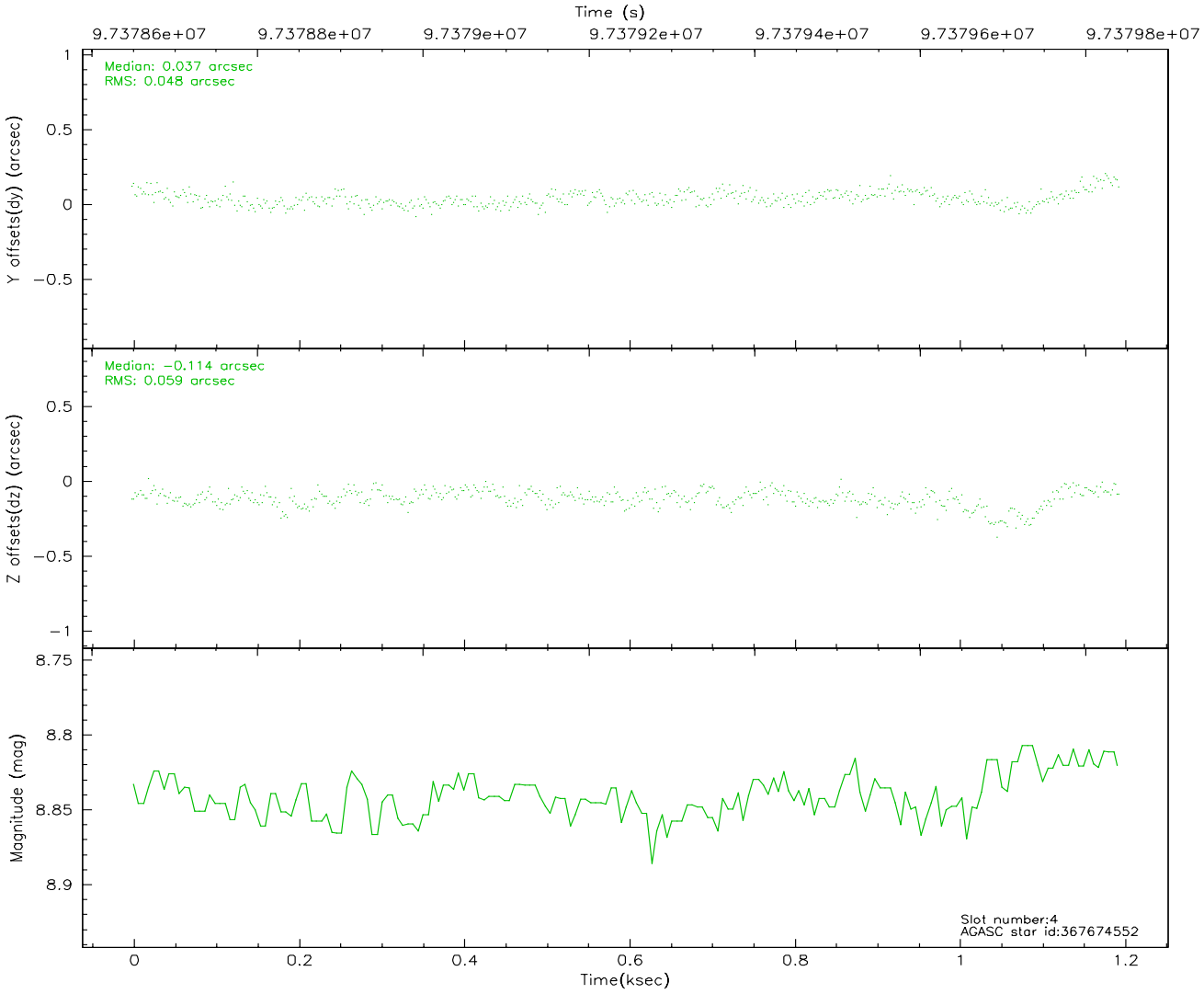




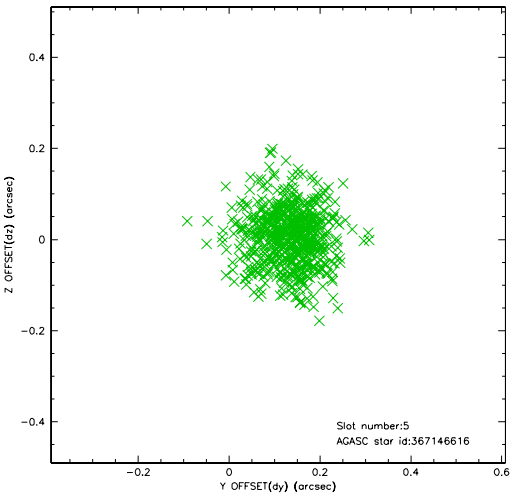
2.4.2 Slot 4

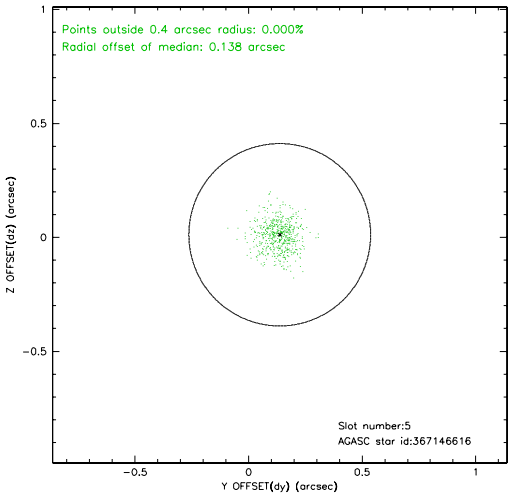

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:367674552

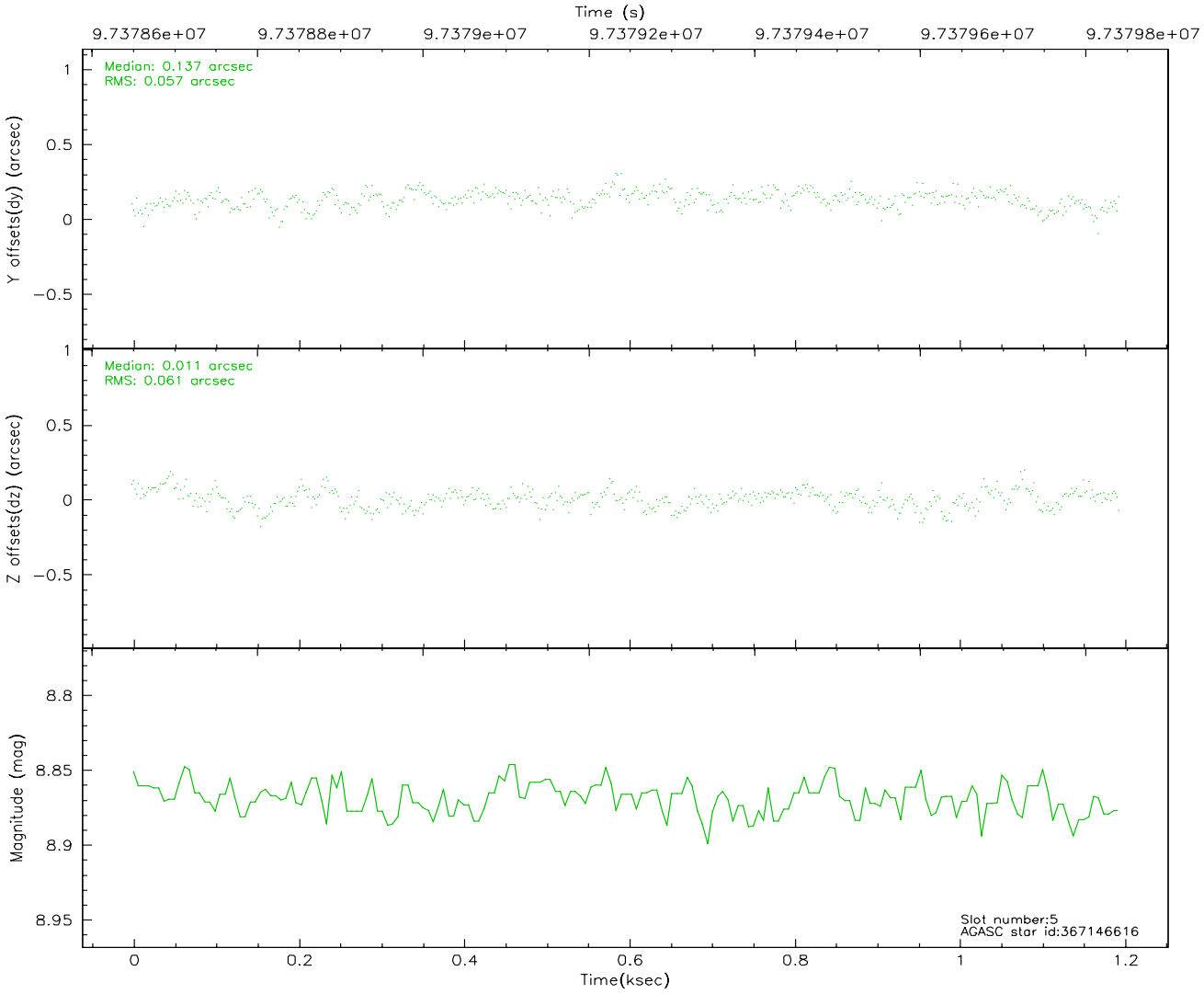

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.120 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:367674552


Time (s)
9.73786e+07
9.73788e+07
9.7379e+07
9.73792e+07
9.73794e+07
9.73796e+07
9.73798e+07
Median: 0.037 arcsec
RMS: 0.048 arcsec
Y offsets(dy) (arcsec)
Median: −0.114 arcsec
RMS: 0.059 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:367674552
Time(ksec)

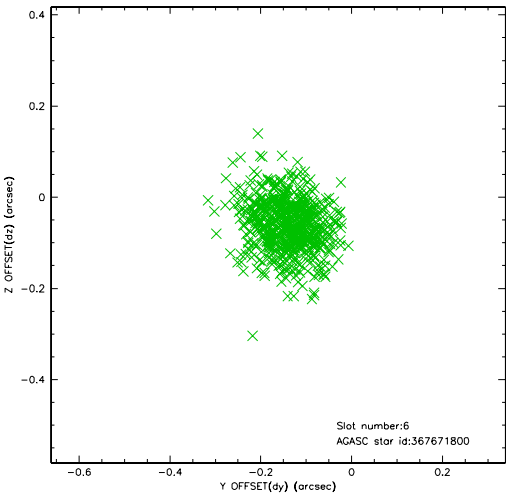
2.4.3 Slot 5

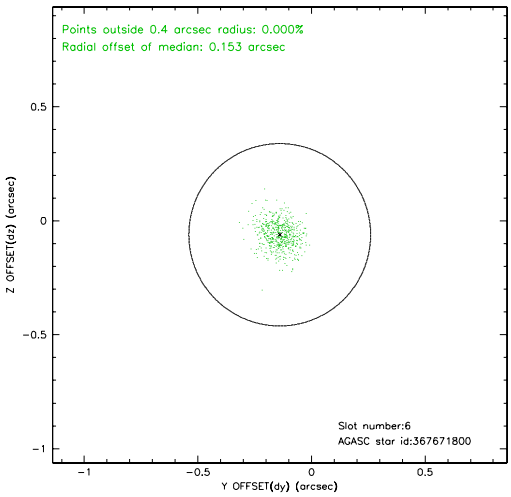

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:367146616

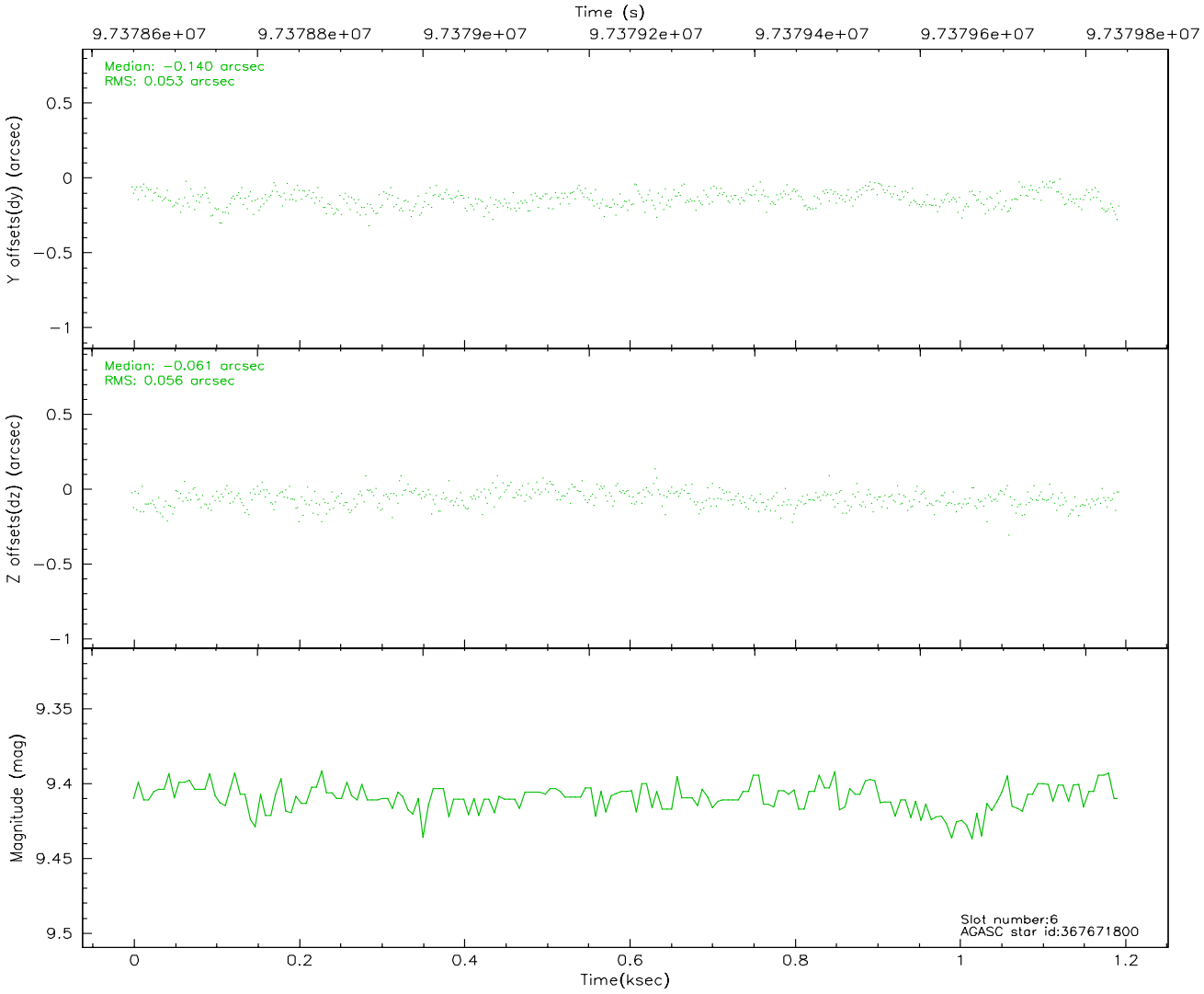

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.138 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:367146616


Time (s)
9.73786e+07
9.73788e+07
9.7379e+07
9.73792e+07
9.73794e+07
9.73796e+07
9.73798e+07
Median: 0.137 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.011 arcsec
RMS: 0.061 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:367146616
Time(ksec)

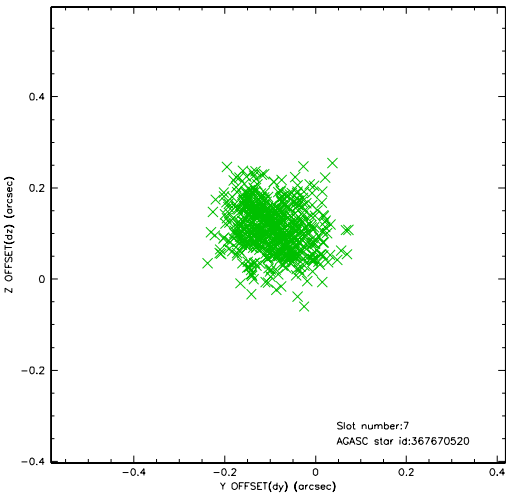
2.4.4 Slot 6

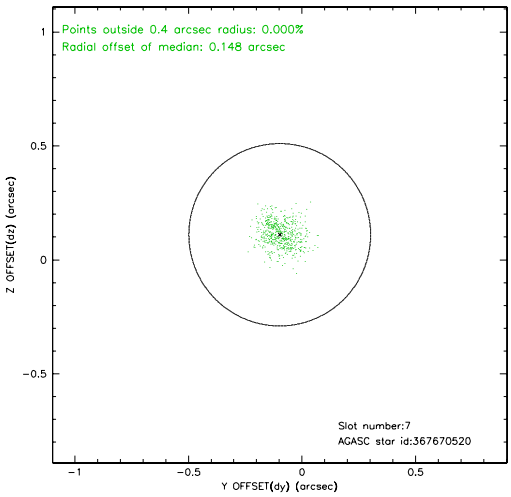

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:367671800

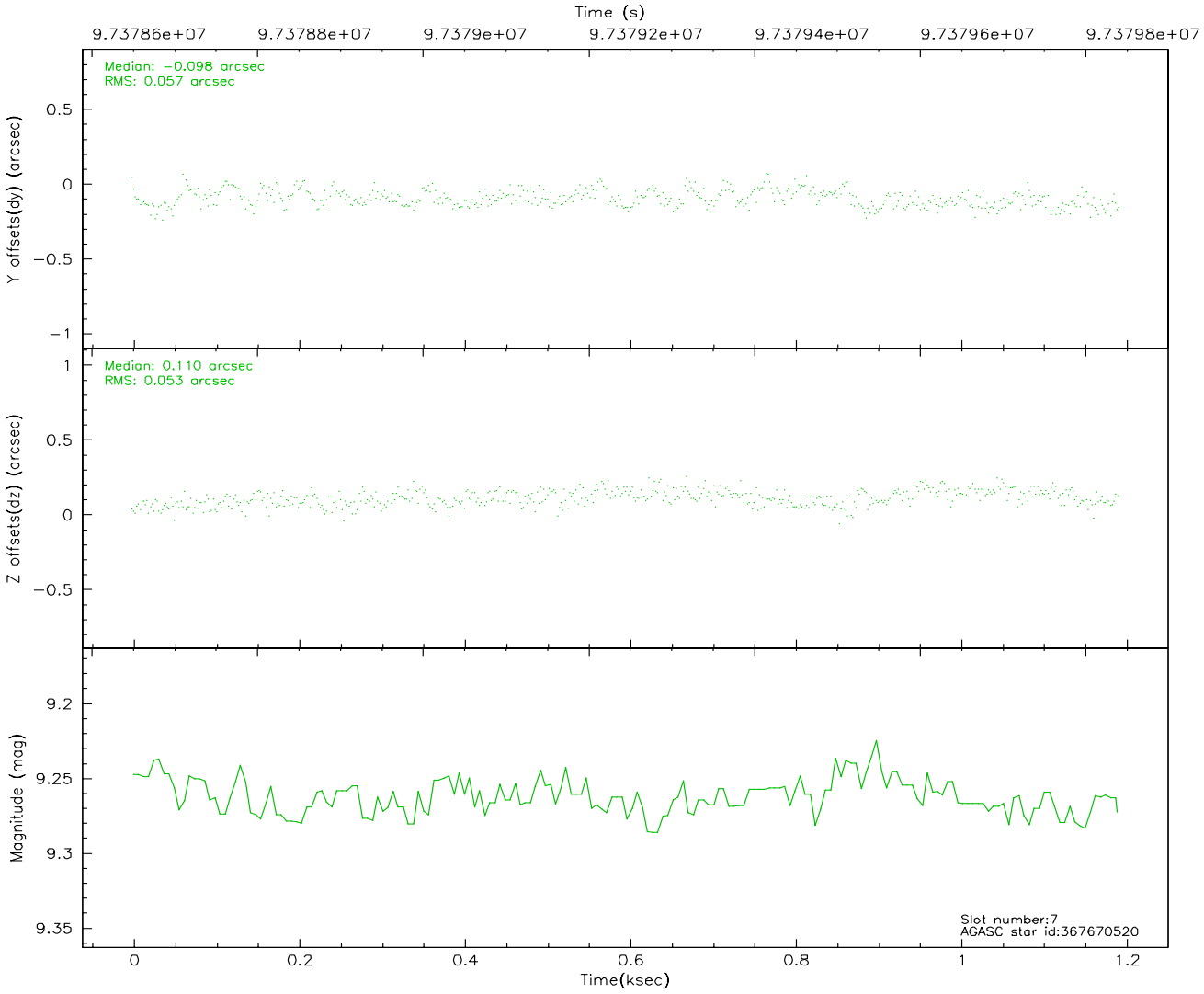

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.153 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:367671800


Time (s)
Median: −0.140 arcsec
RMS: 0.053 arcsec
Y offsets(dy) (arcsec)
Median: −0.061 arcsec
RMS: 0.056 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:367671800
Time(ksec)

2.4.5 Slot 7

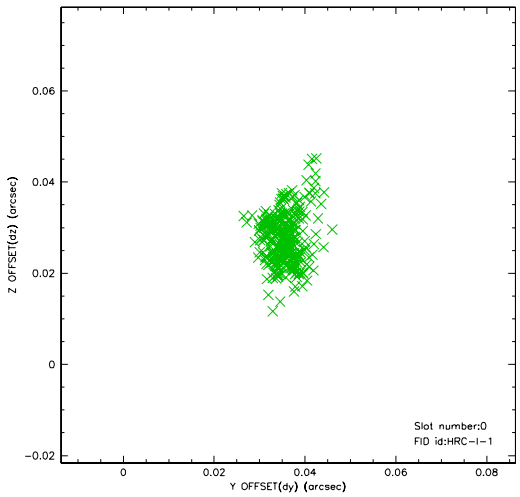

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:367670520

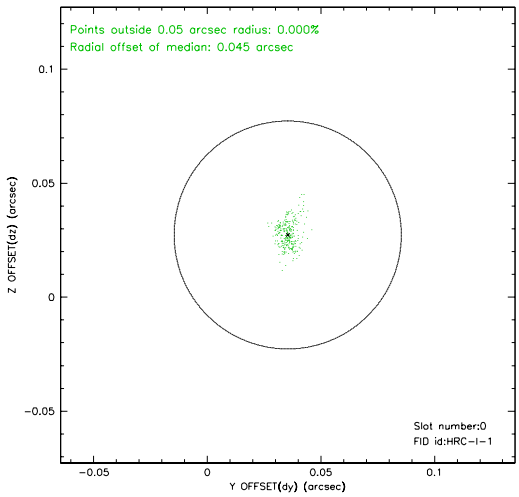

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.148 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:367670520

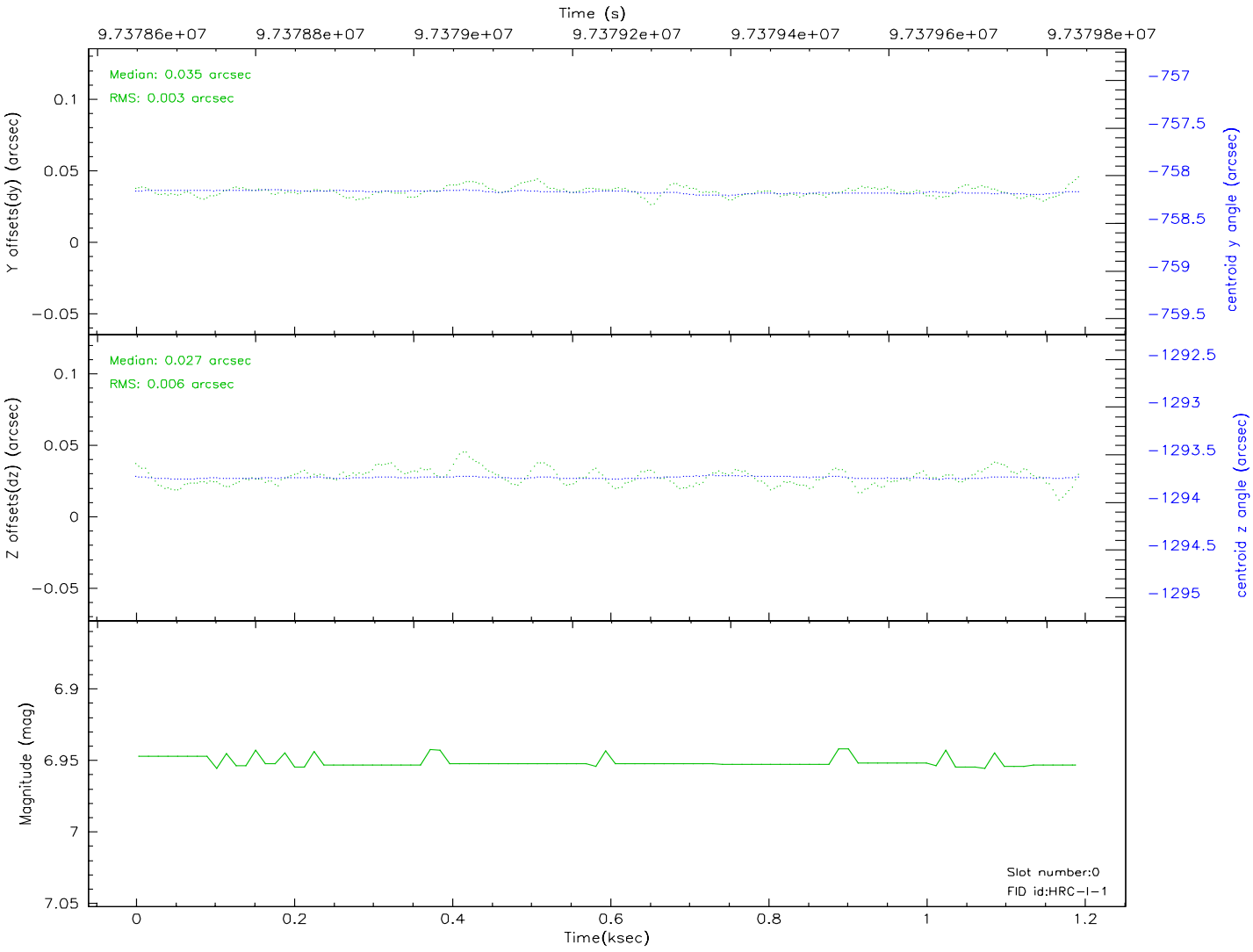

Time (s)
9.73786e+07
9.73788e+07
9.7379e+07
9.73792e+07
9.73794e+07
9.73796e+07
9.73798e+07
Median: −0.098 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.110 arcsec
RMS: 0.053 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:367670520
Time(ksec)

2.5 FID Slots

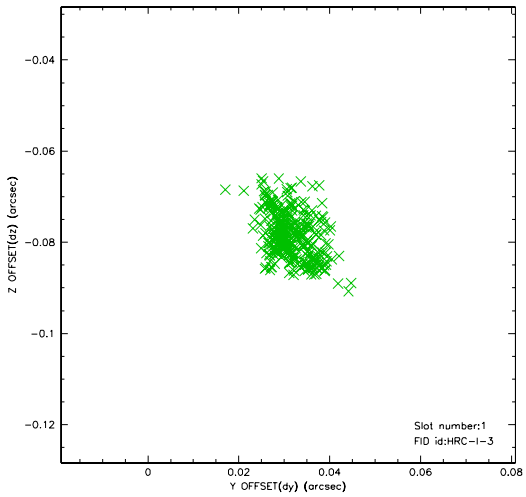
2.5.1 Slot 0

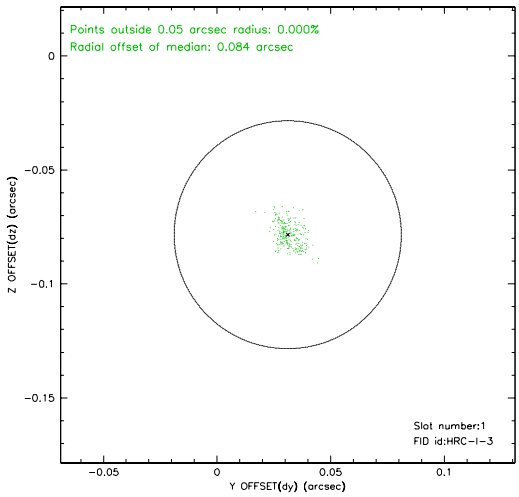


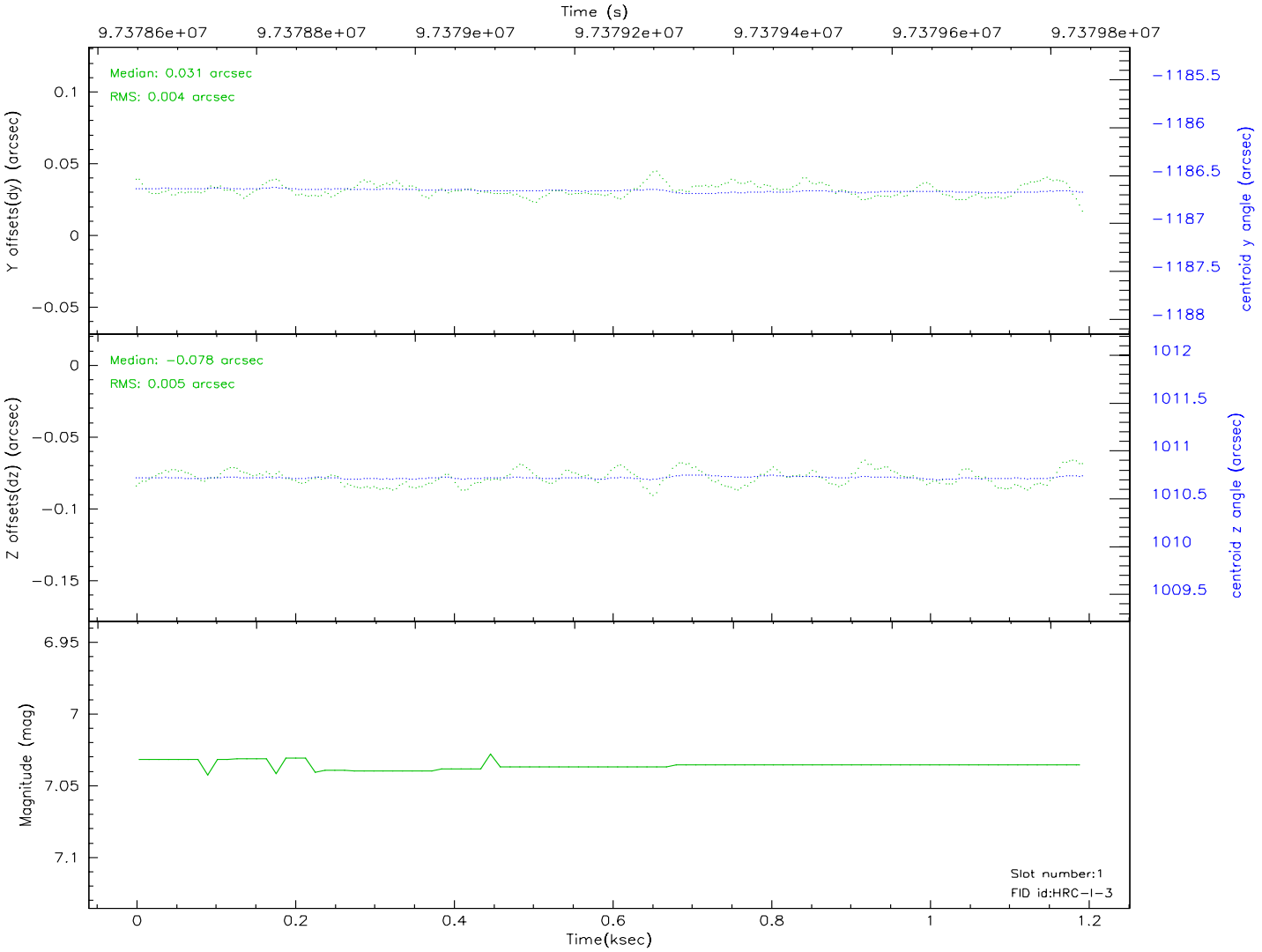




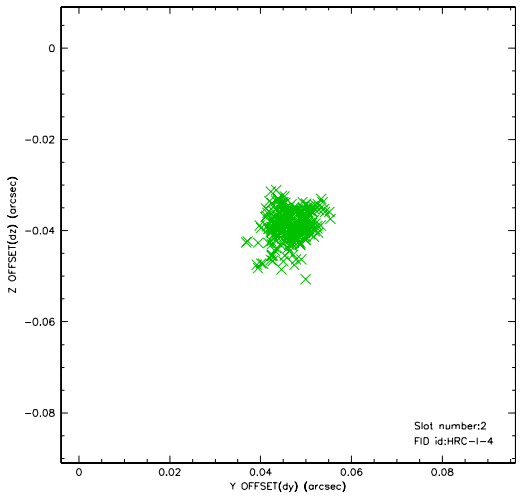
2.5.2 Slot 1

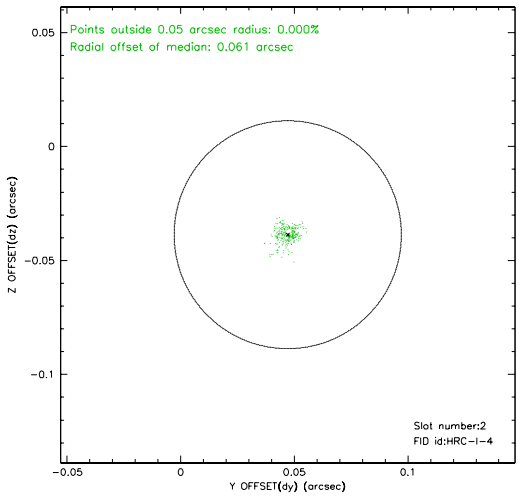

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3

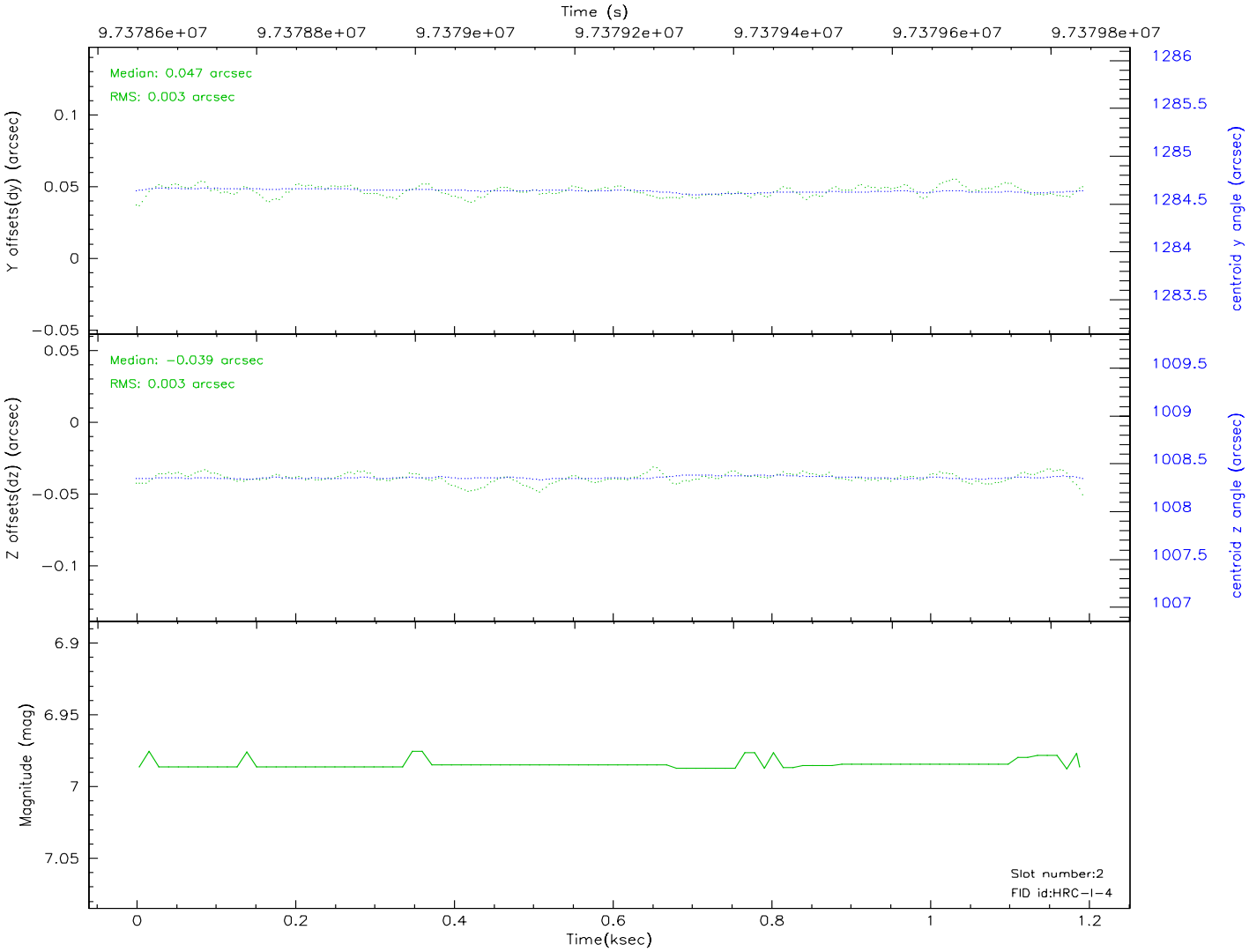

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.084 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3


Time (s)
Median: 0.031 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.078 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:HRC-I-3
Time(ksec)

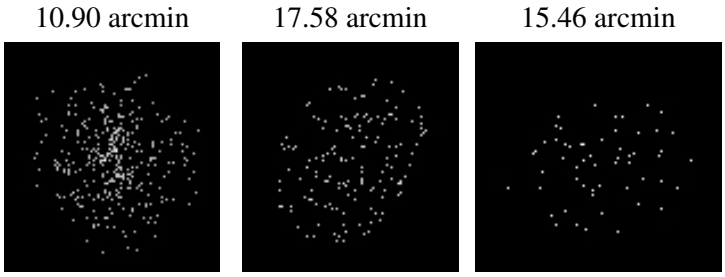
2.5.3 Slot 2


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


Time (s)
Median: 0.047 arcsec
RMS: 0.003 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.039 arcsec
RMS: 0.003 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)	2007.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.194

A.2 Comments

```
Window constraint met.

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.
```