V&V Reference Report
L2 ASCDS Version : 7.6.7.1

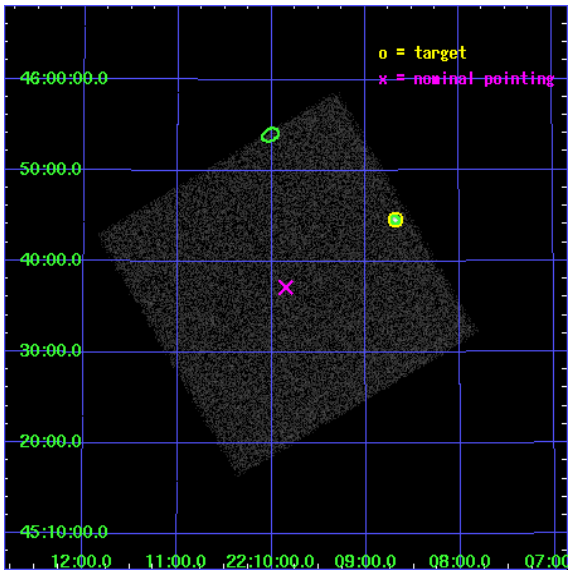
Observation 5077 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Nov 23 2007

Contents

1 Front

seq_num	290350
obs_id	5077
title	AO5 Calibration Observations to Monitor the Spatial Variations in the HRC-I Gain
observer	Dr. CXC Calibration
object	ArLac
ra_targ	332.17
dec_targ	45.742306
ra_nom	332.46207764205
dec_nom	45.619462495828
roll_nom	284.46656408753
revision	3
ontime	1089.8312989771
livetime	1079.6640387665
l2events	52167

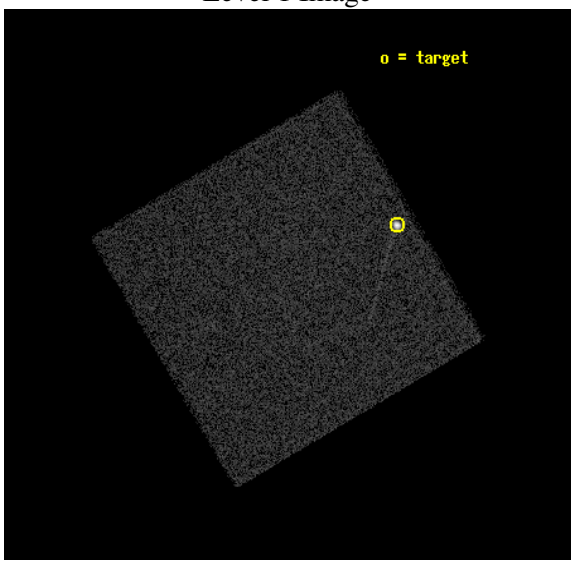


2 OBI

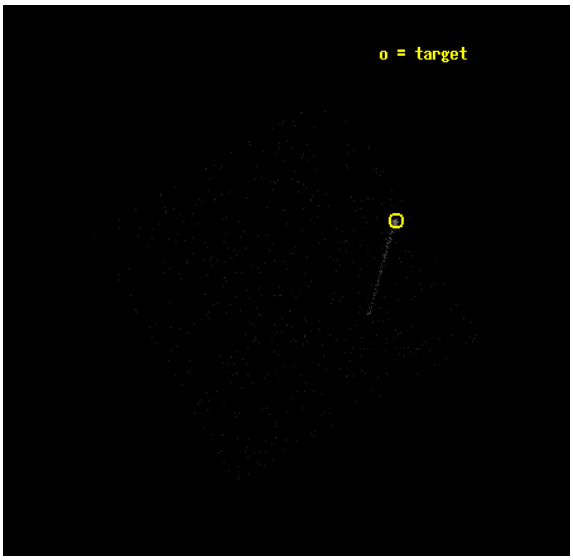
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	1
ascdsver	7.6.11.2
caldbver	3.4.1
date	2007-11-24T03:14:04
revision	3

sched_exp_time	900.000000
ontime	1089.8312989771
l1events	94634

2.1.3 Events

Level 1 Events

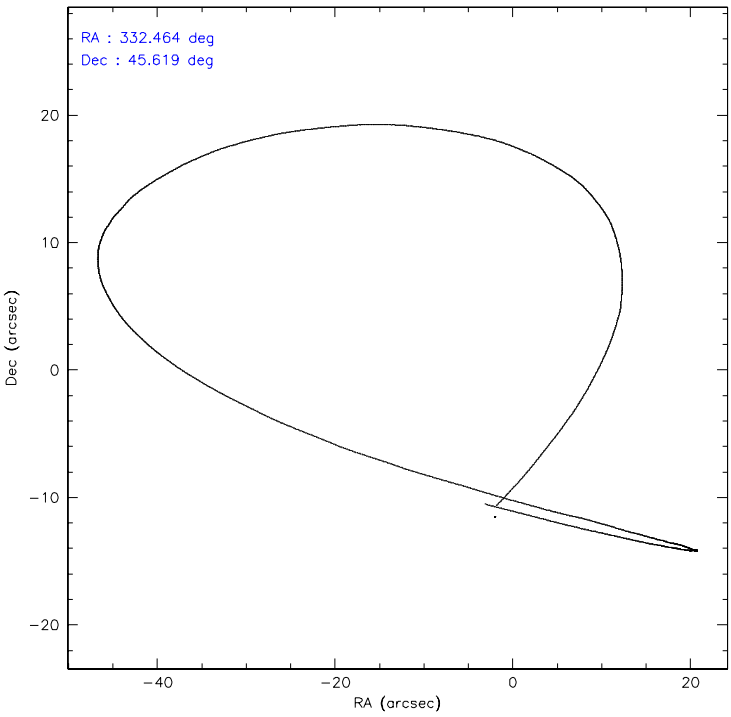
	segment 0
level 1 events	94634
rejected events	18724
rejected %	19%

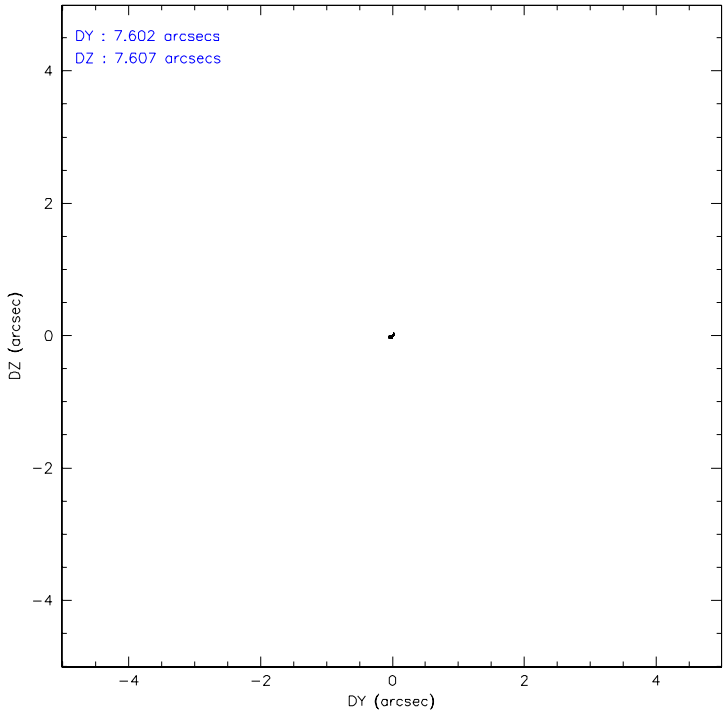
2.2 Compared Parameters

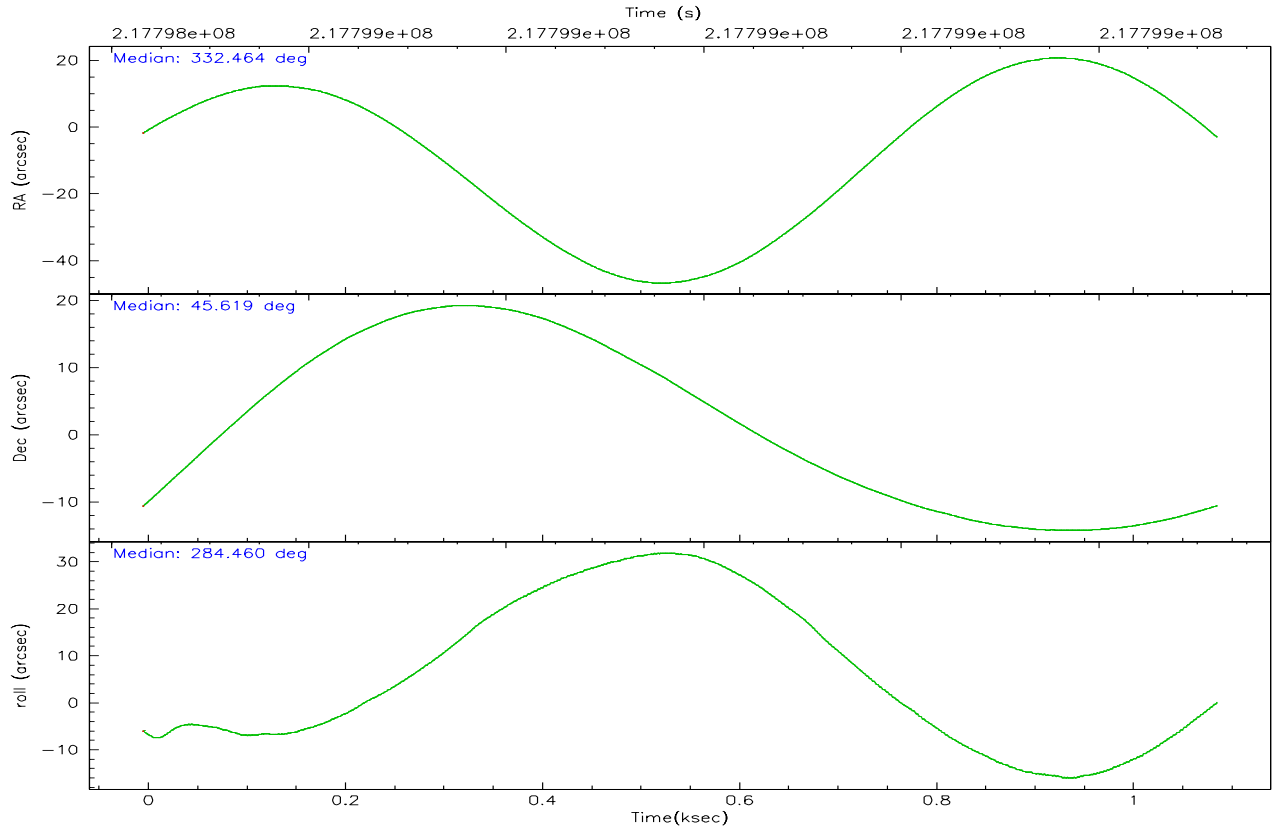
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.432554	332.4620776420517
Pointing Dec	45.638040	45.61946249582778
Pointing Roll	284.583210	284.4665640875303
SIM focus pos (mm)	-1.040293	-1.038866356238299
SIM defocus (mm)	0	0.00142626442057514 1
SIM translation stage pos (mm)	126.985494	126.9854943052878
SIM translation stage offset (mm)	0	-5.413686238853188e-06
Observation start time	217798617.184000	217798241.43378
Observation start date	2004-11-25T19:35:53	2004-11-25T19:30:41
Observation end time	217799517.184000	217799650.80885
Observation end date	2004-11-25T19:50:53	2004-11-25T19:54:10

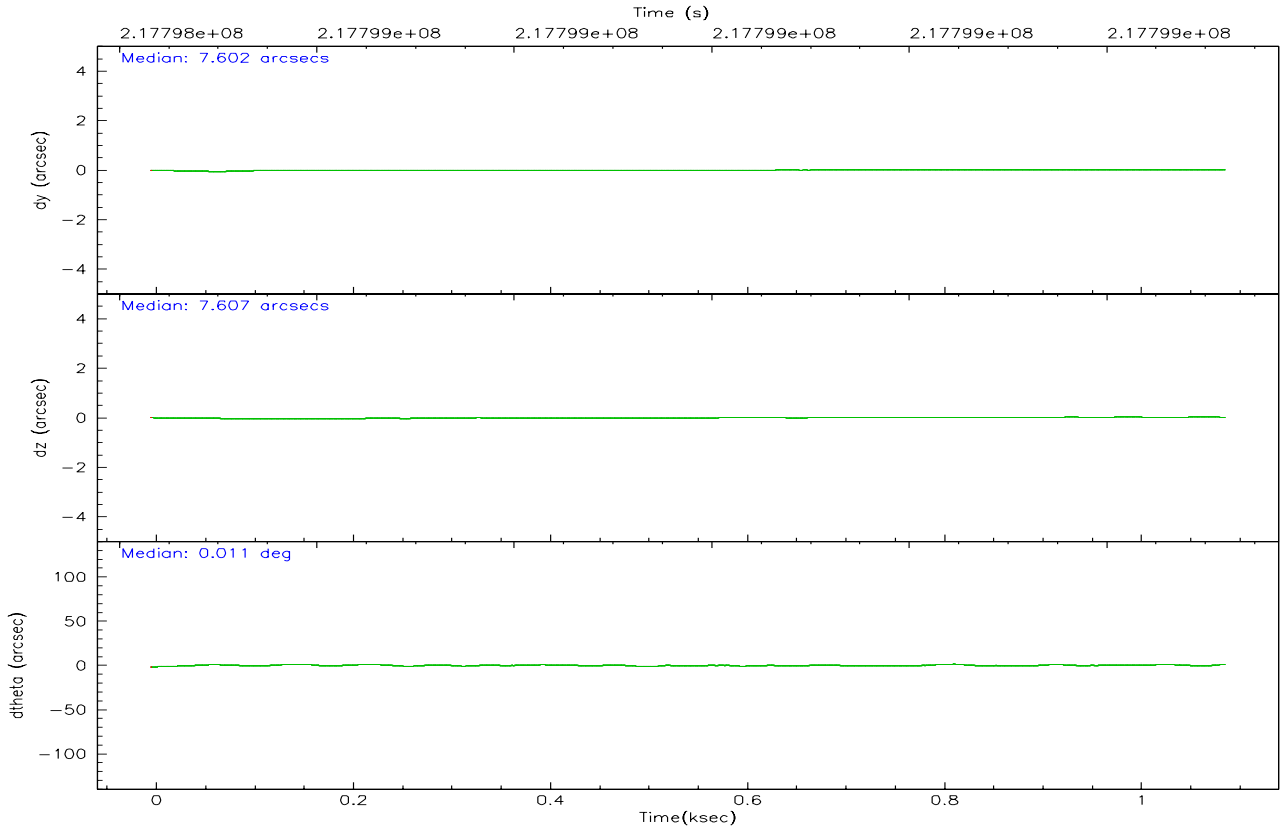
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.464 deg
Dec : 45.619 deg
20
10
0
−10
−20
Dec (arcsec)
−40
−20
0
20
RA (arcsec)


DY : 7.602 arcsecs
DZ : 7.607 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: 332.464 deg
RA (arcsec)
Median: 45.619 deg
Dec (arcsec)
Median: 284.460 deg
roll (arcsec)
Time(ksec)

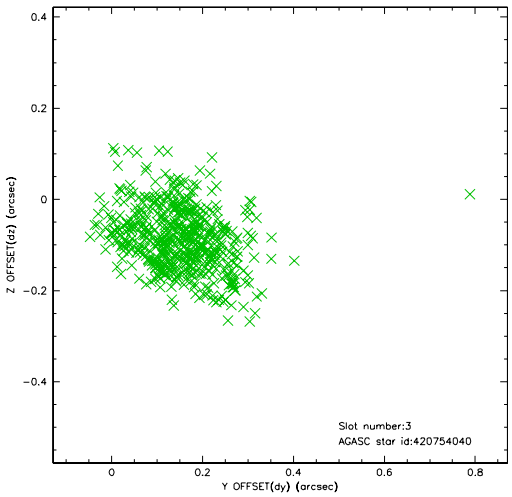

Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: 7.602 arcsecs
dy (arcsec)
Median: 7.607 arcsecs
dz (arcsec)
Median: 0.011 deg
dtheta (arcsec)
Time(ksec)

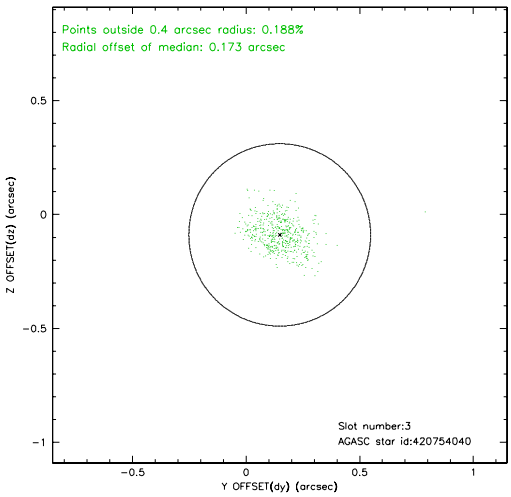
Slot Statistics

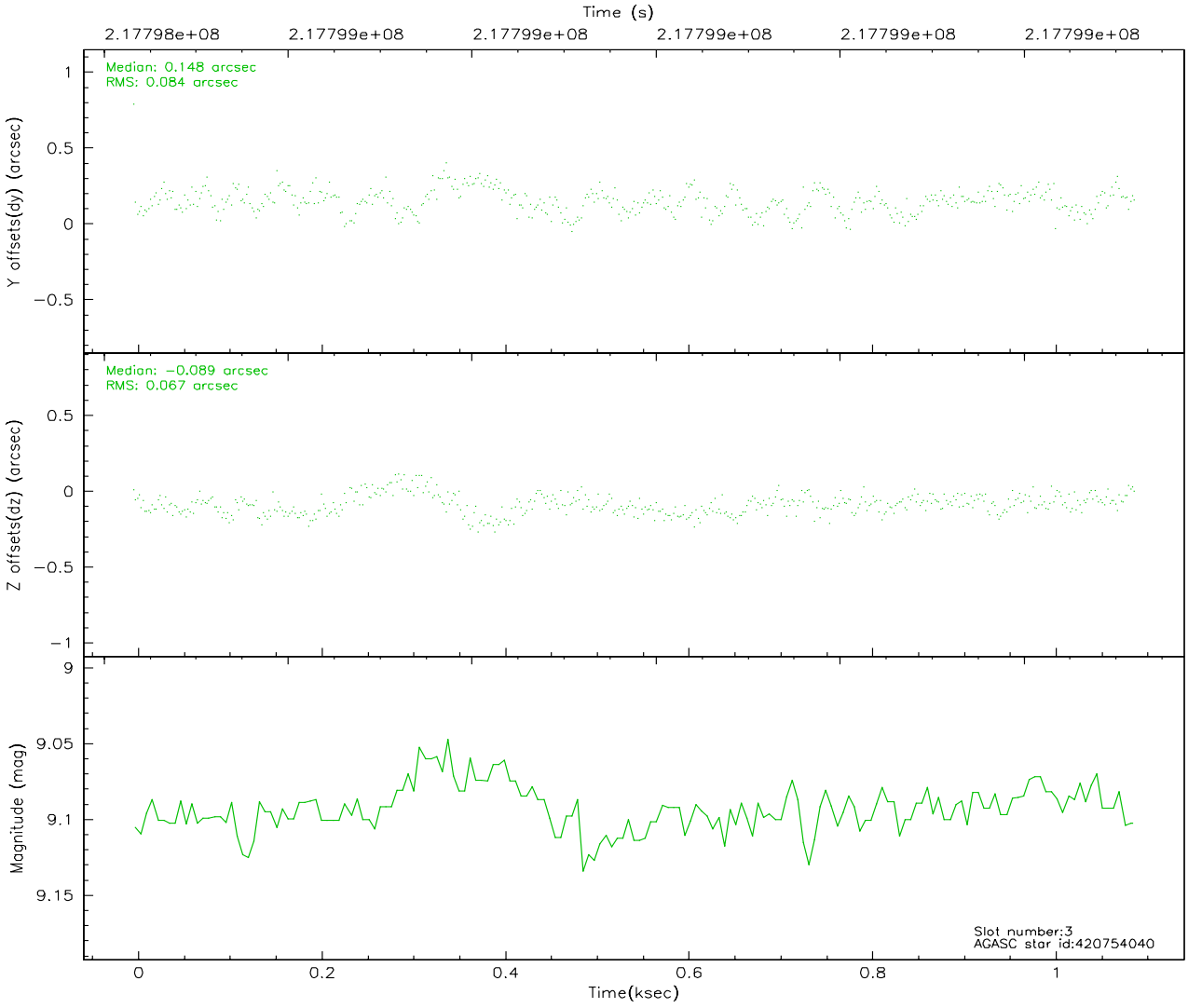
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-1	7.01	267	0.042	0.005	0.008	0.016	0.000000	0.000000	-763.22	-1295.48
1	FID	HRC-I-3	7.10	267	-0.067	-0.052	0.008	0.016	0.000000	0.000000	-1194.57	1004.19
2	FID	HRC-I-4	7.04	267	0.139	-0.041	0.006	0.011	0.000000	0.000000	1275.30	1010.31
3	GUIDE	420754040	9.09	532	0.148	-0.089	0.111	0.180	331.917939	44.882543	2298.35	-1957.92
4	GUIDE	472523760	8.24	533	-0.117	-0.070	0.079	0.131	331.645363	45.403260	312.40	-2144.10
5	GUIDE	472654568	9.45	533	0.113	0.050	0.097	0.152	332.194449	45.063576	1849.38	-1114.67
6	GUIDE	472655152	9.43	533	-0.064	-0.026	0.116	0.196	332.504239	45.862991	-734.69	371.29
7	GUIDE	472659832	9.46	532	-0.084	0.126	0.098	0.165	332.780399	46.098139	-1387.31	1254.22

2.4 Star Slots

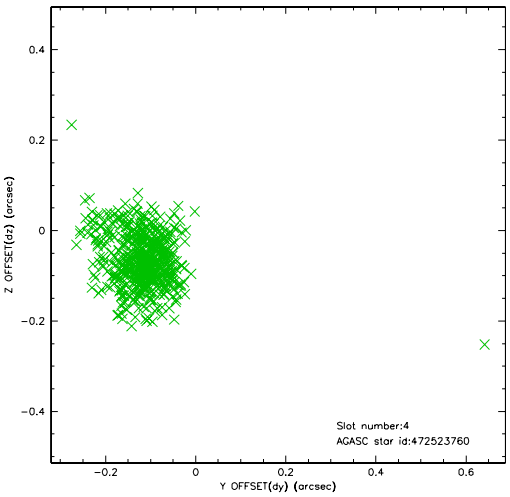
2.4.1 Slot 3

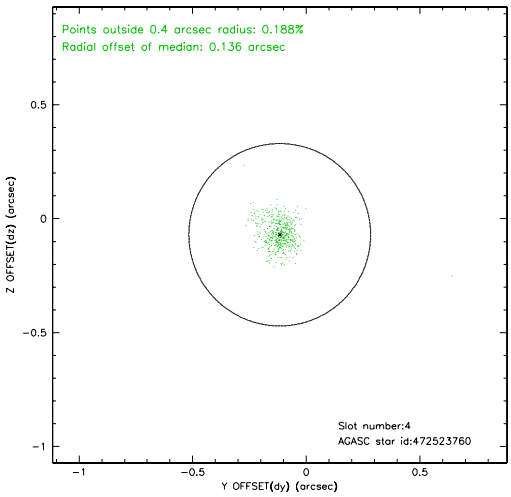


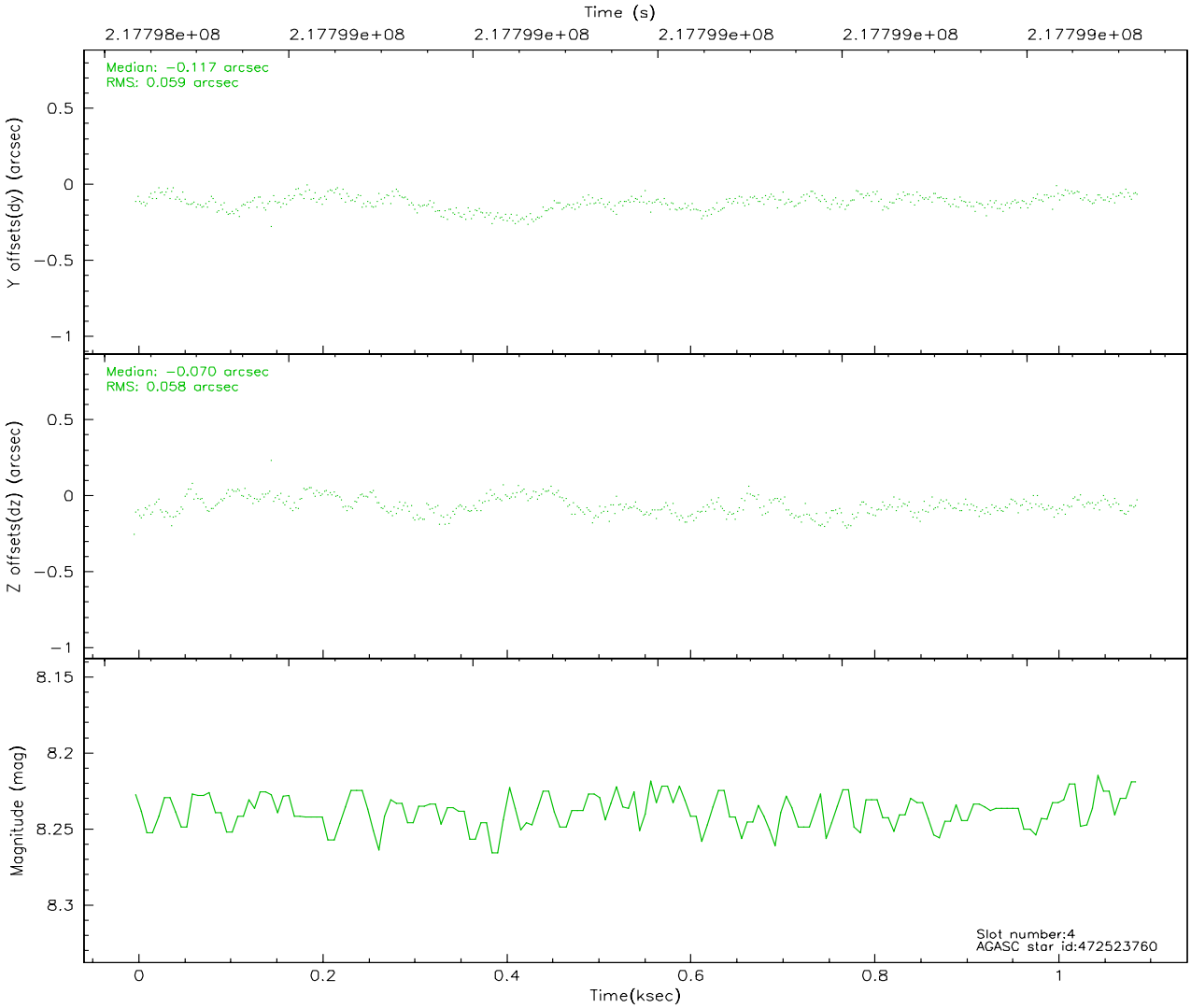




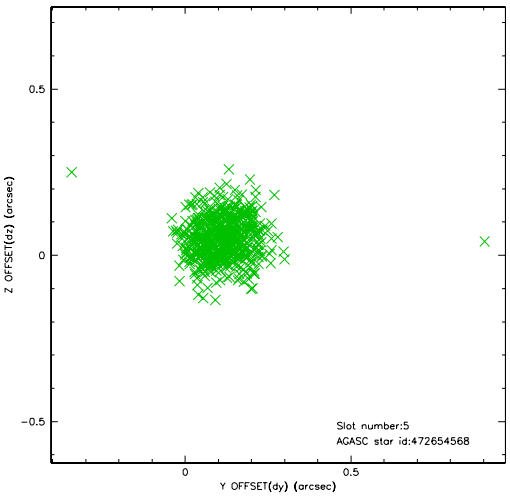
2.4.2 Slot 4

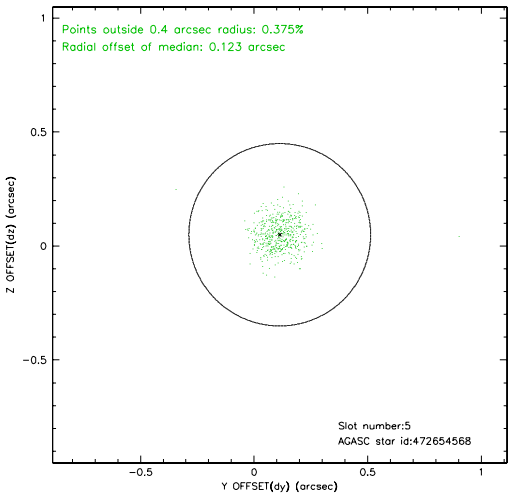

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472523760

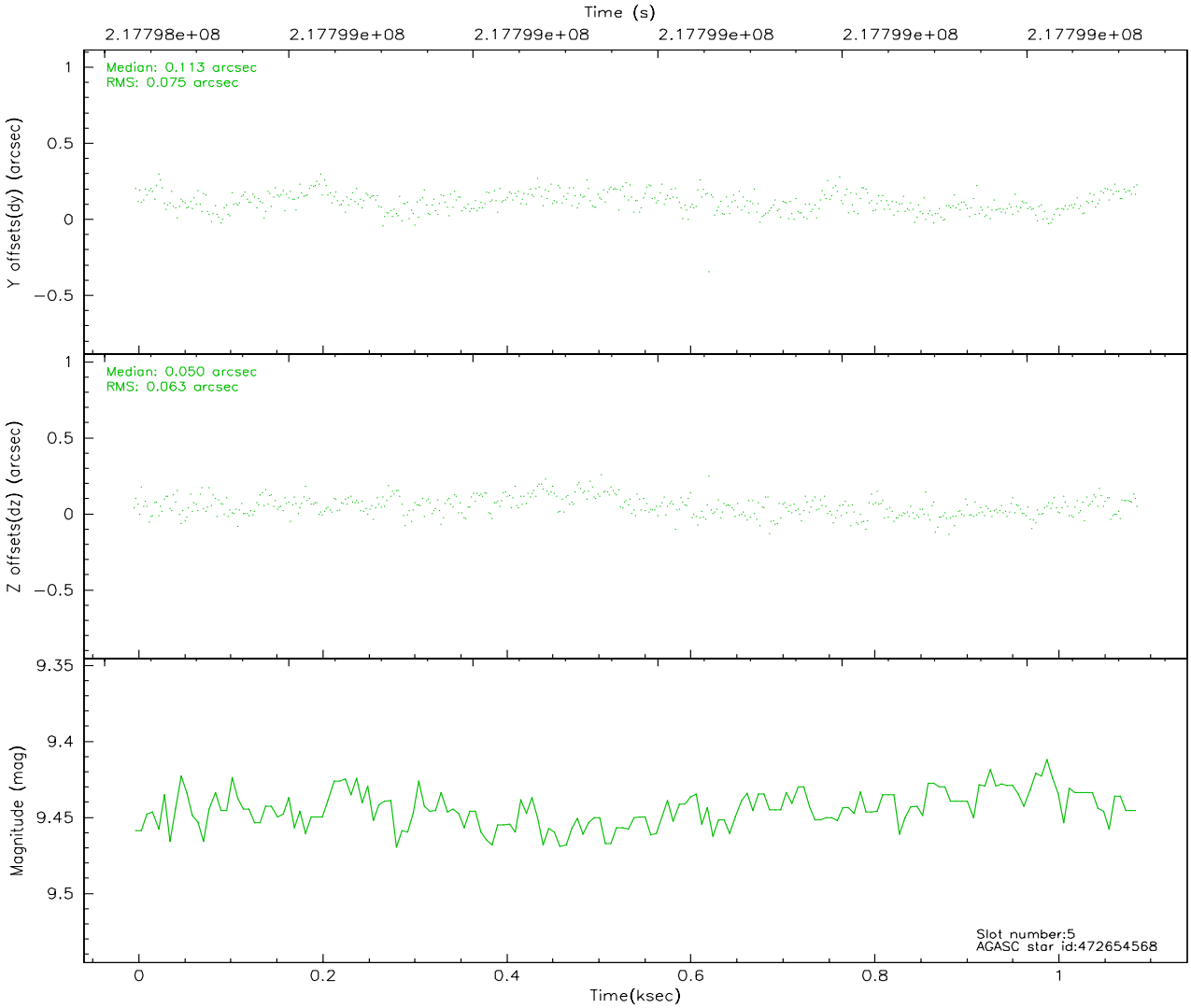

Points outside 0.4 arcsec radius: 0.188%
Radial offset of median: 0.136 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472523760


Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: −0.117 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.070 arcsec
RMS: 0.058 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472523760
Time(ksec)

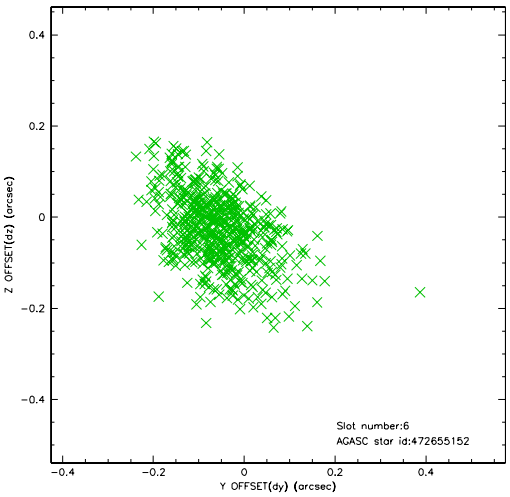
2.4.3 Slot 5

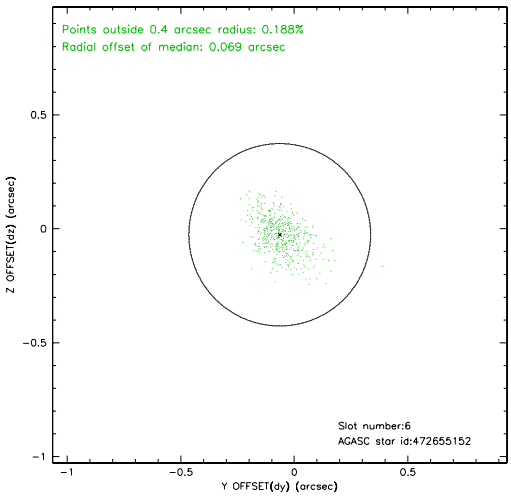

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472654568

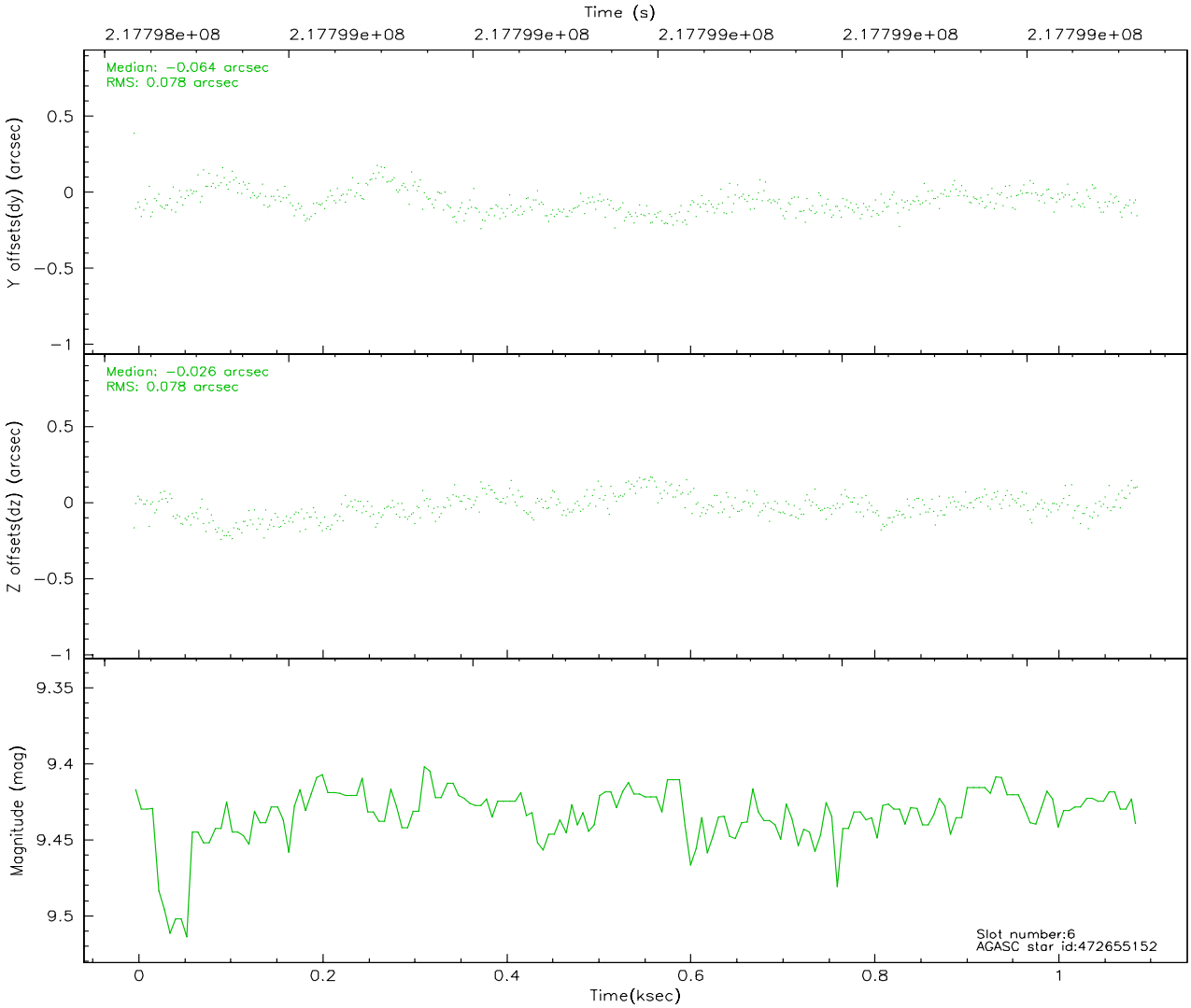

Points outside 0.4 arcsec radius: 0.375%
Radial offset of median: 0.123 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472654568


Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: 0.113 arcsec
RMS: 0.075 arcsec
Y offsets(dy) (arcsec)
Median: 0.050 arcsec
RMS: 0.063 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472654568
Time(ksec)

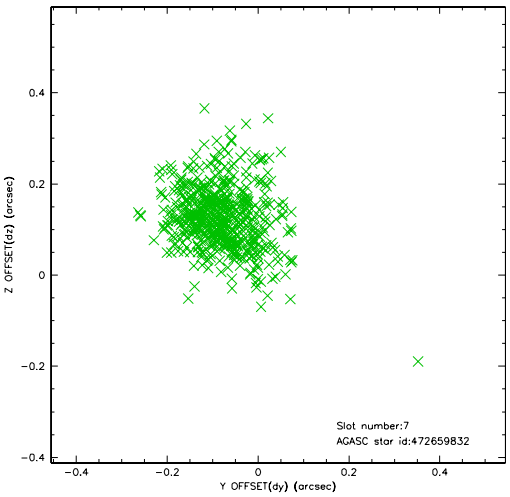
2.4.4 Slot 6

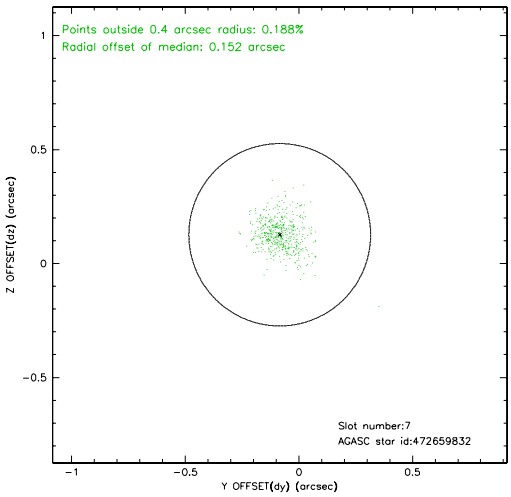

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152

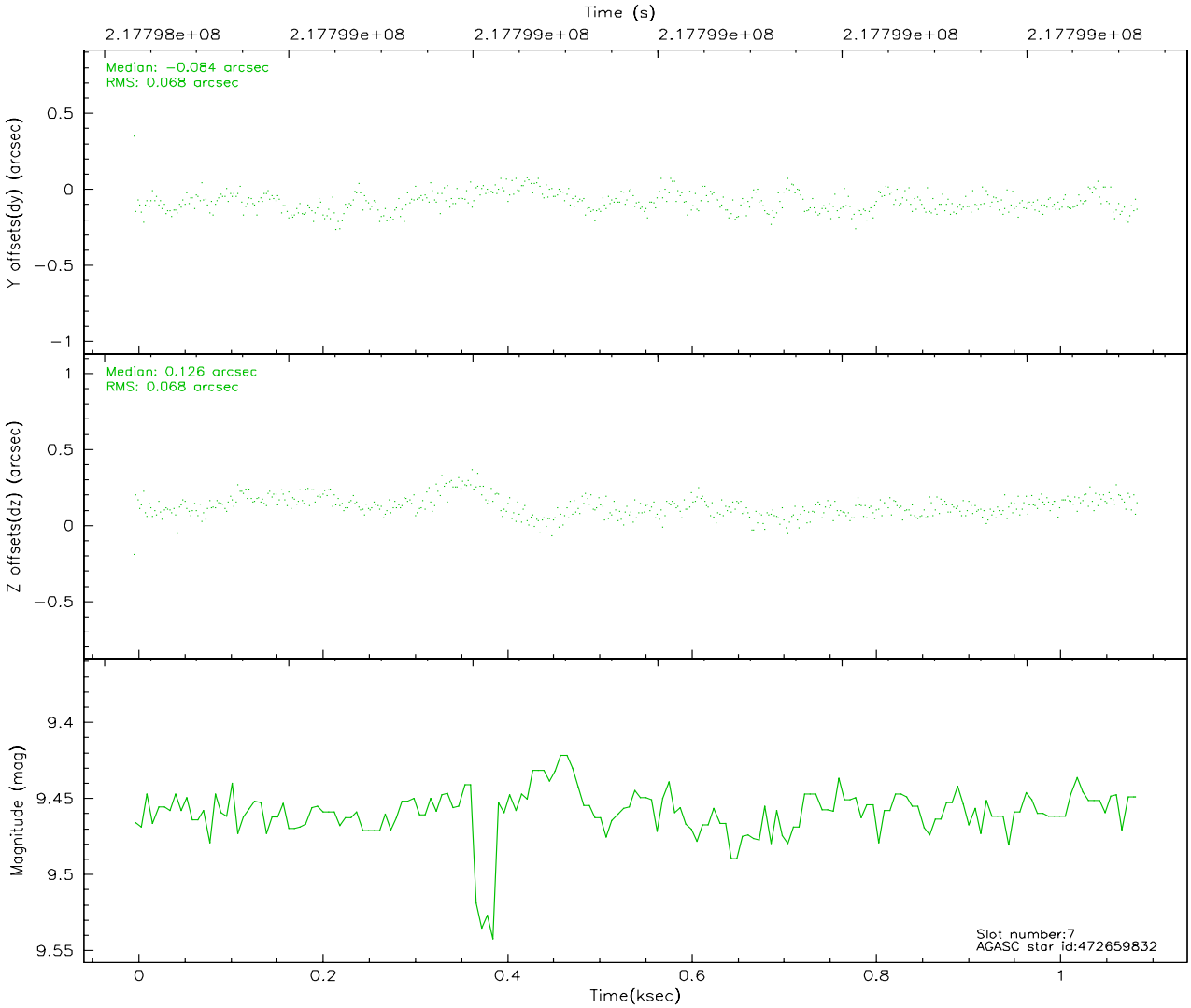

Points outside 0.4 arcsec radius: 0.188%
Radial offset of median: 0.069 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472655152


Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: −0.064 arcsec
RMS: 0.078 arcsec
Y offsets(dy) (arcsec)
Median: −0.026 arcsec
RMS: 0.078 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472655152
Time(ksec)

2.4.5 Slot 7

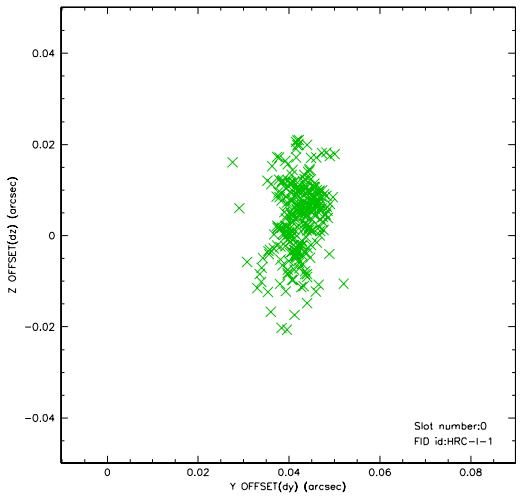

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

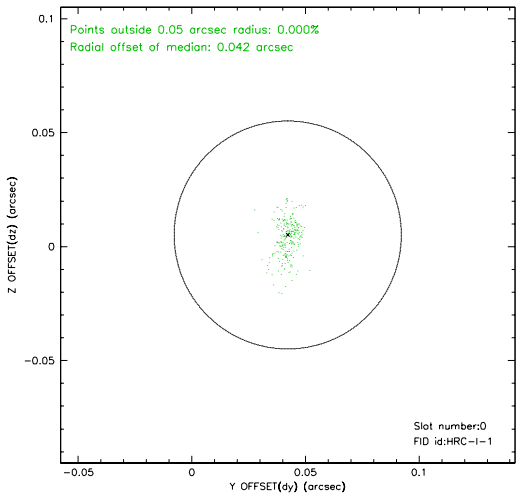

Points outside 0.4 arcsec radius: 0.188%
Radial offset of median: 0.152 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472659832

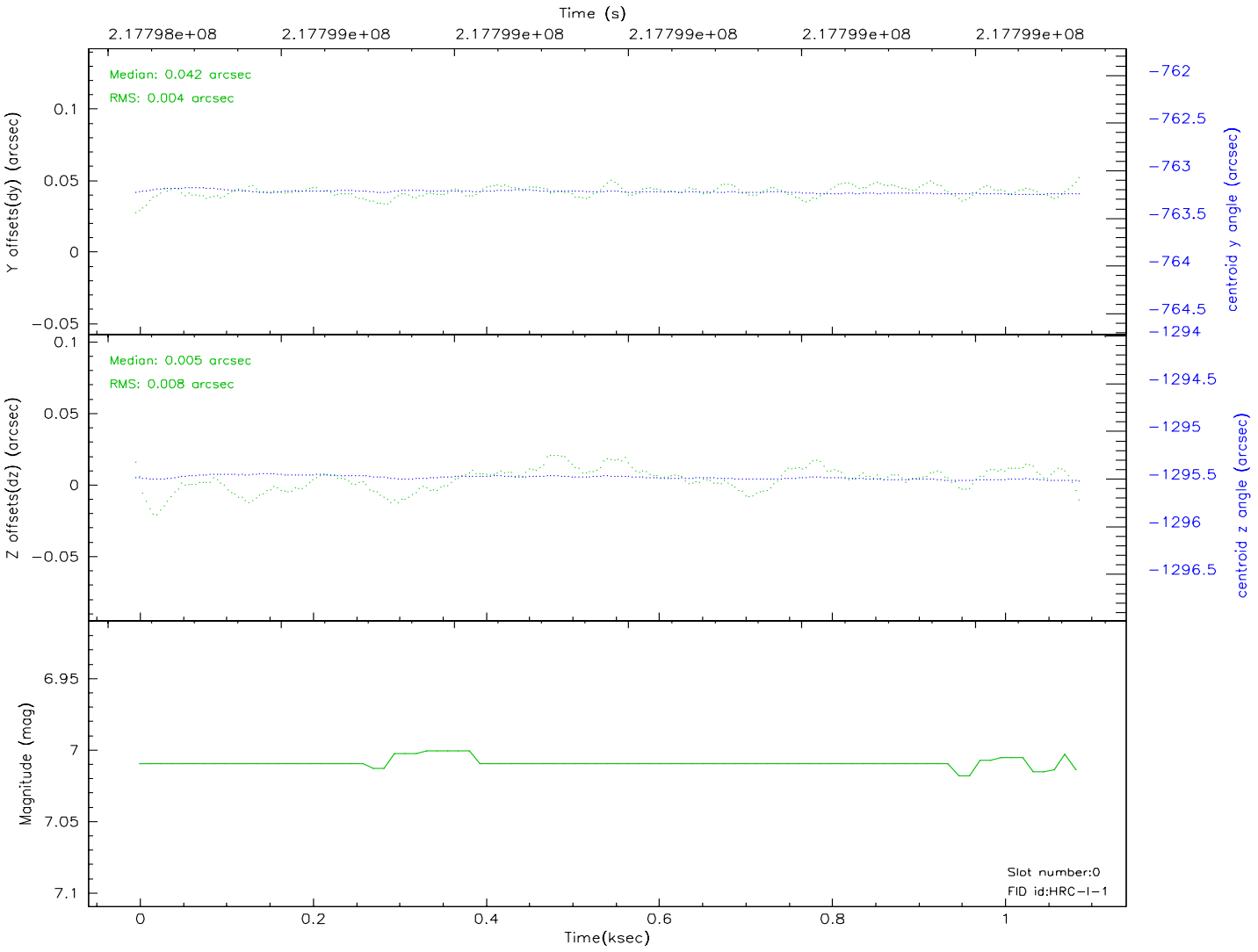

Time (s)
2.17798e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
2.17799e+08
Median: −0.084 arcsec
RMS: 0.068 arcsec
Y offsets(dy) (arcsec)
Median: 0.126 arcsec
RMS: 0.068 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472659832
Time(ksec)

2.5 FID Slots

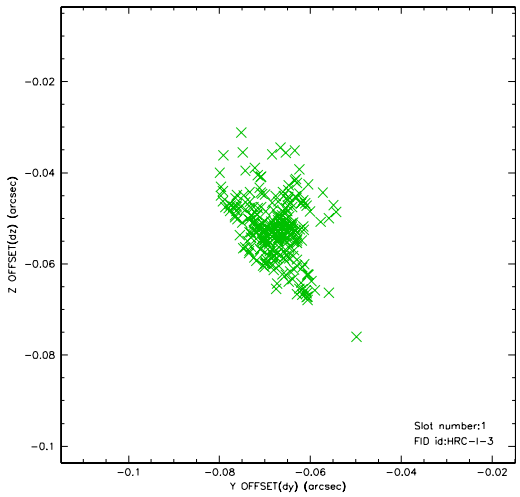
2.5.1 Slot 0

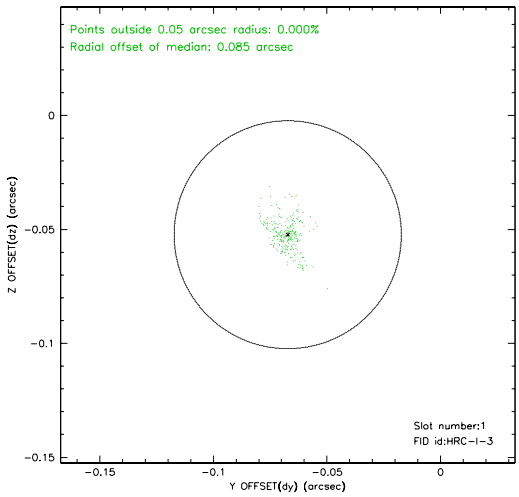


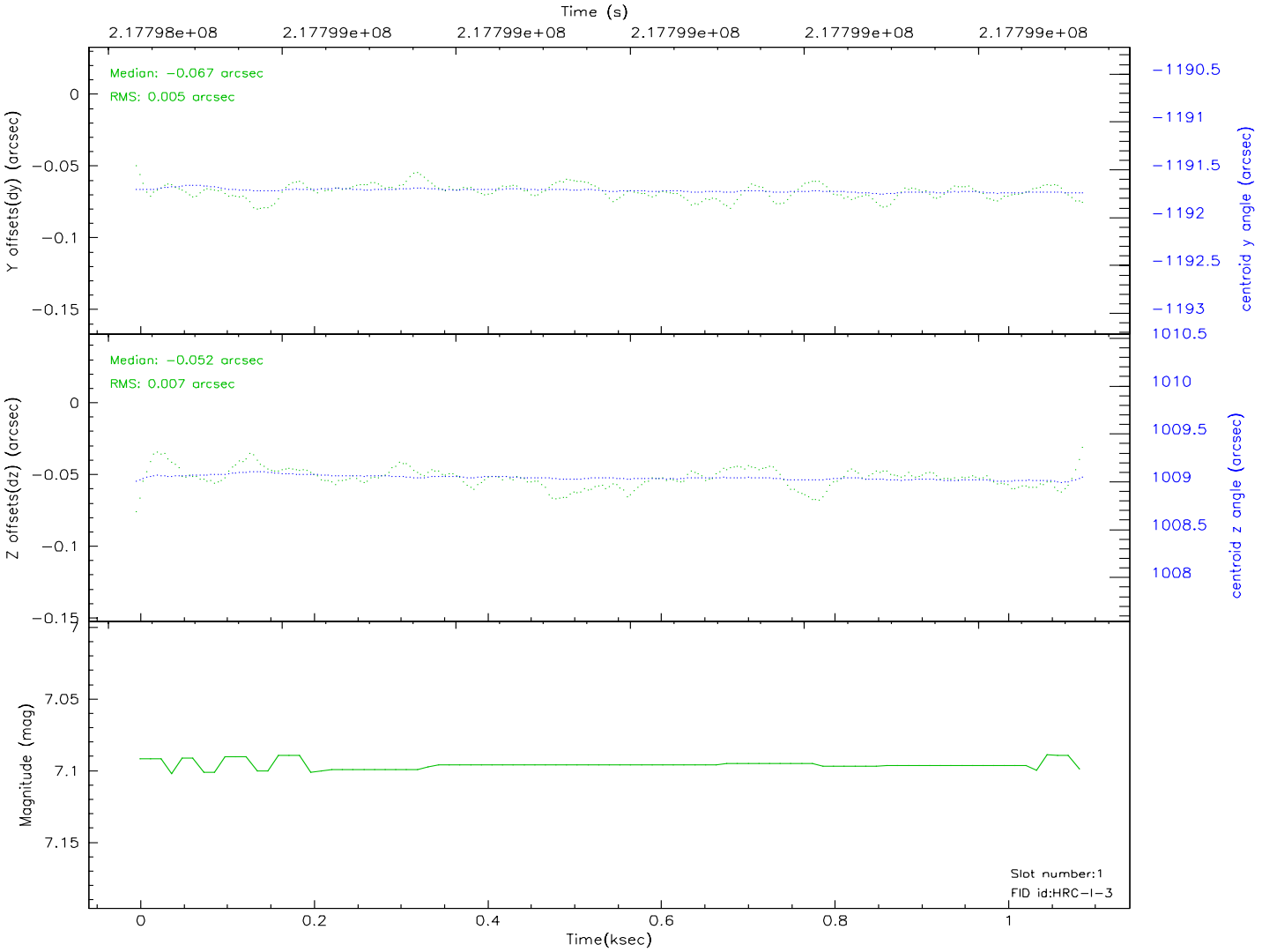




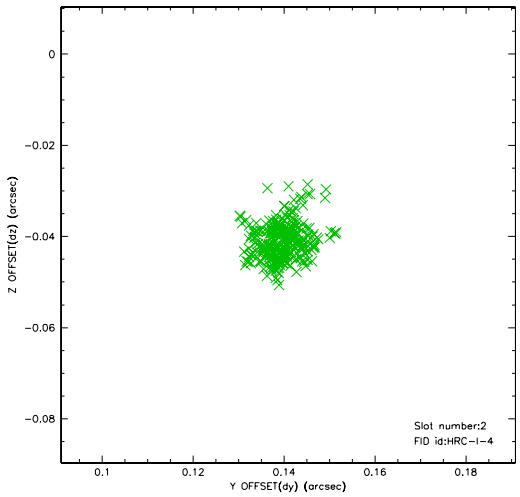
2.5.2 Slot 1

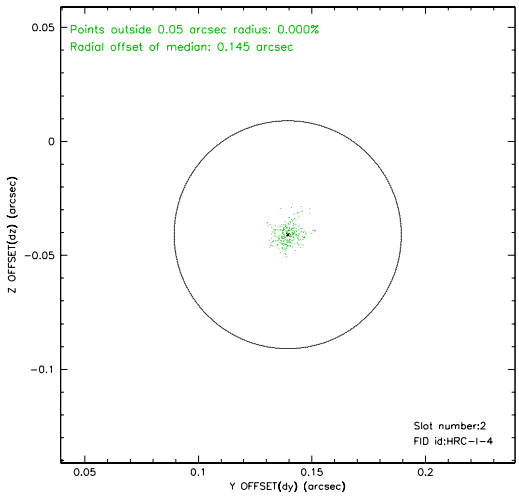

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3

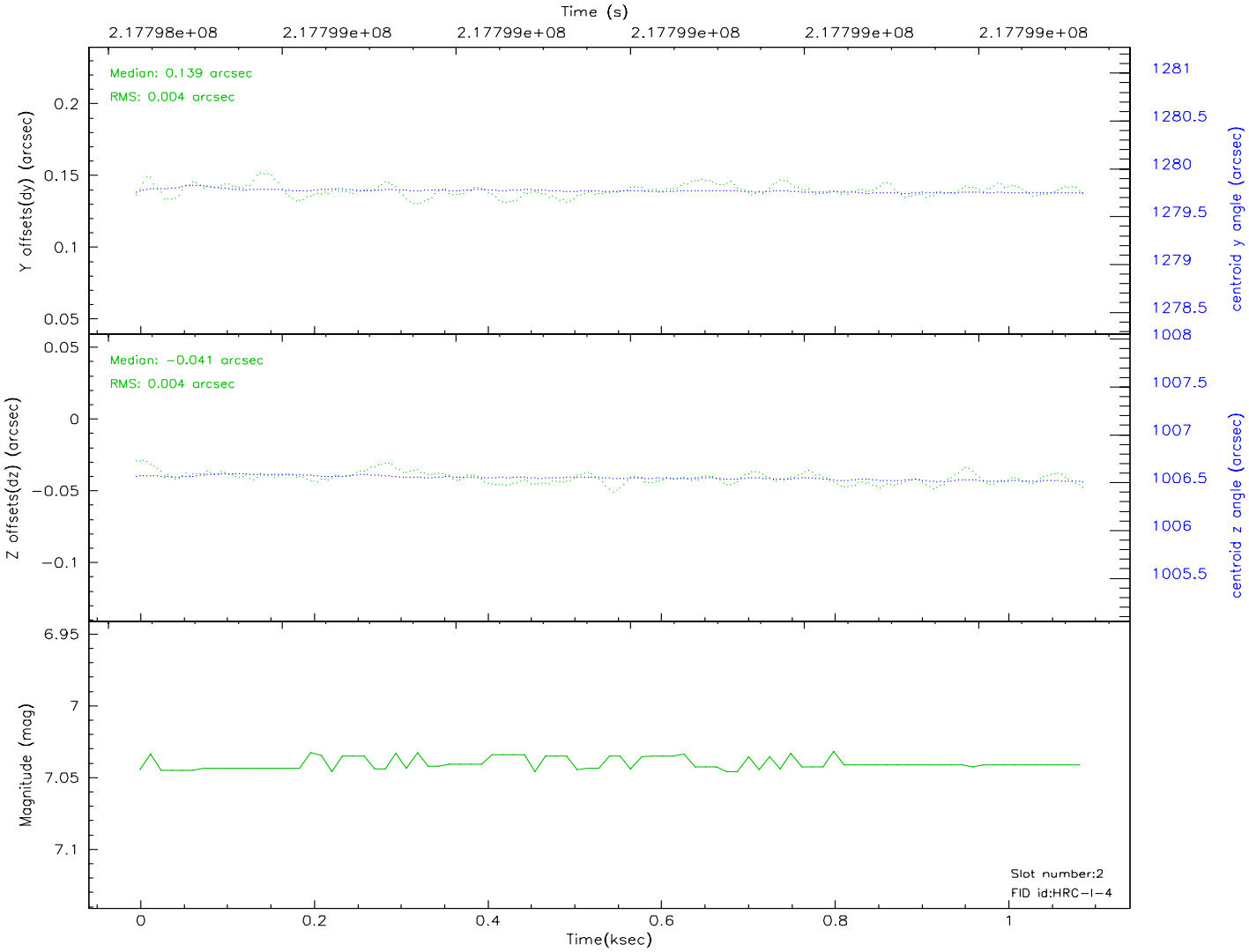

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.085 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-3


Time (s)
Median: −0.067 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.052 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:HRC-I-3
Time(ksec)

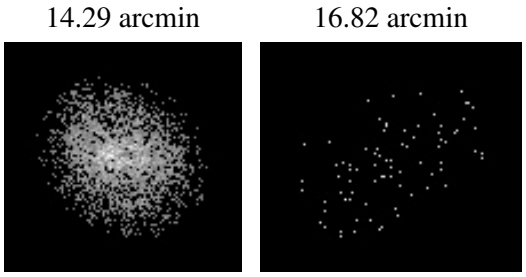
2.5.3 Slot 2


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


Time (s)
Median: 0.139 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.041 arcsec
RMS: 0.004 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	Beth Sundheim
V&V Date (YYYY-MM-DD)	2007.12.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.089831

A.2 Comments

```
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.
```