V&V Reference Report
L2 ASCDS Version : 7.6.7.1

Observation 5078 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Nov 23 2007

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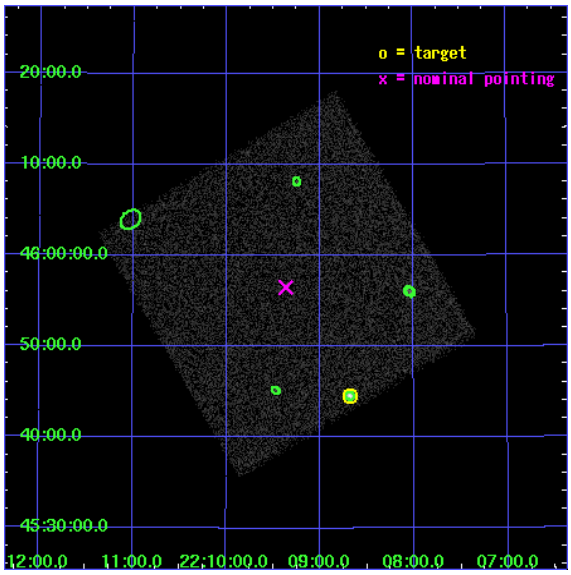
1 Front

seq_num	290351
obs_id	5078
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	332.34112905042
dec_nom	45.94174510452
roll_nom	284.47709305375
revision	3
ontime	1085.7312988043
livetime	1078.004239869
l2events	42657

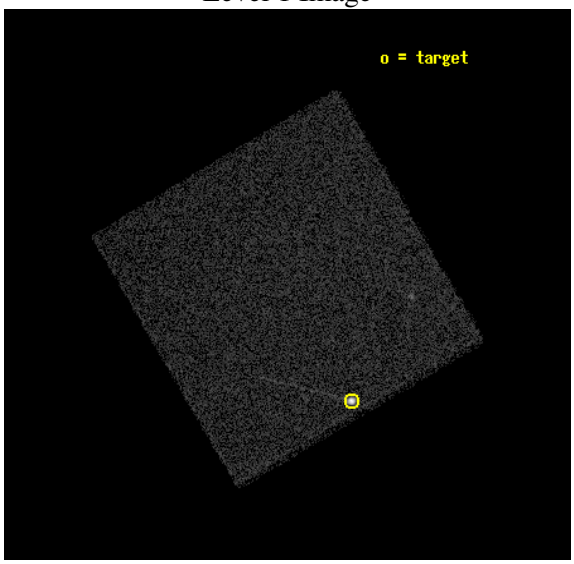


2 OBI

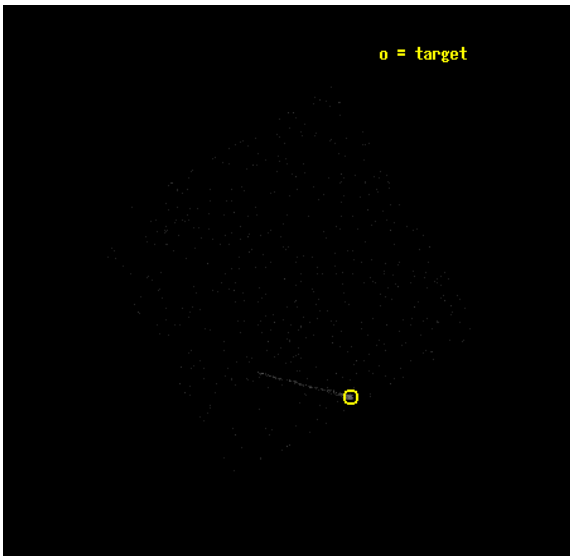
2.1 OBI

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	2007-11-24T03:14:29
revision	3

sched_exp_time	900.000000
ontime	1085.7312988043
l1events	80280

2.1.3 Events

Level 1 Events

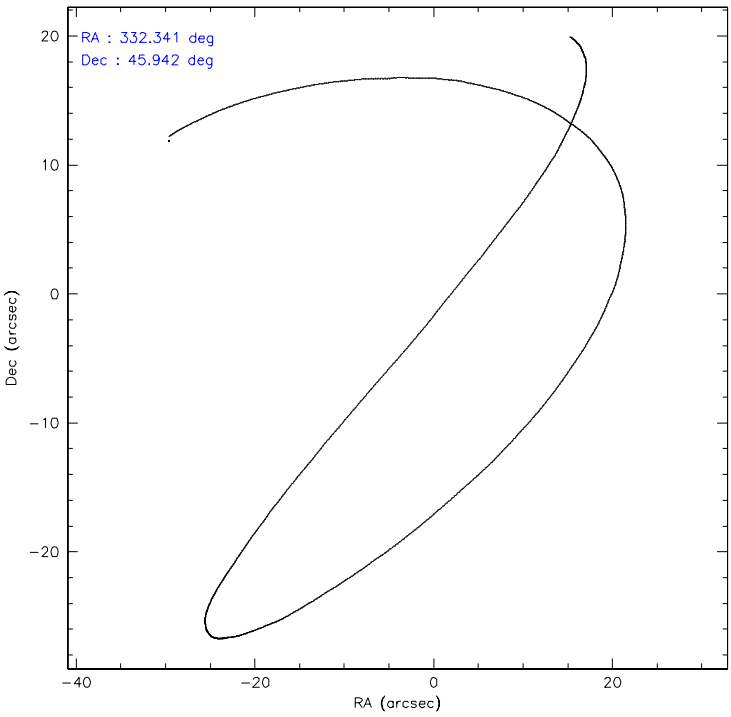
	segment 0
level 1 events	80280
rejected events	18128
rejected %	22%

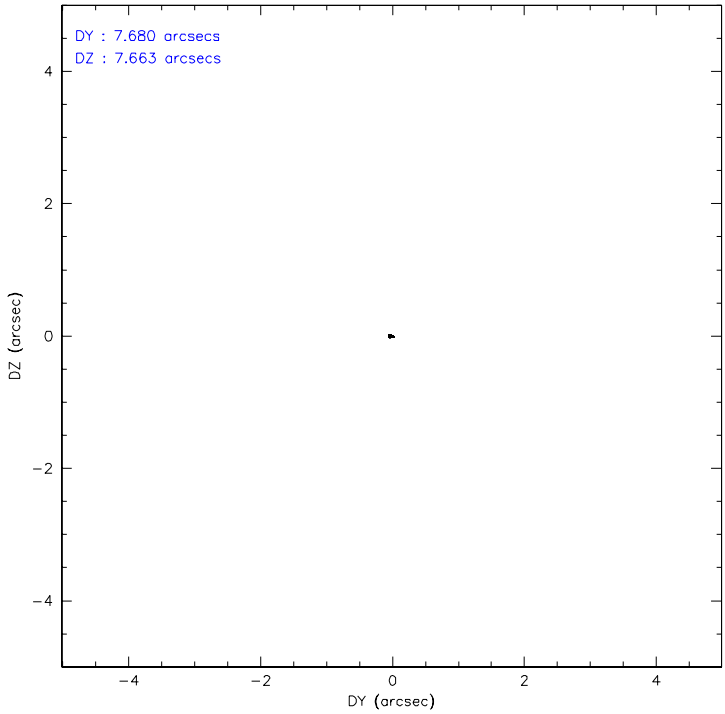
2.2 Compared Parameters

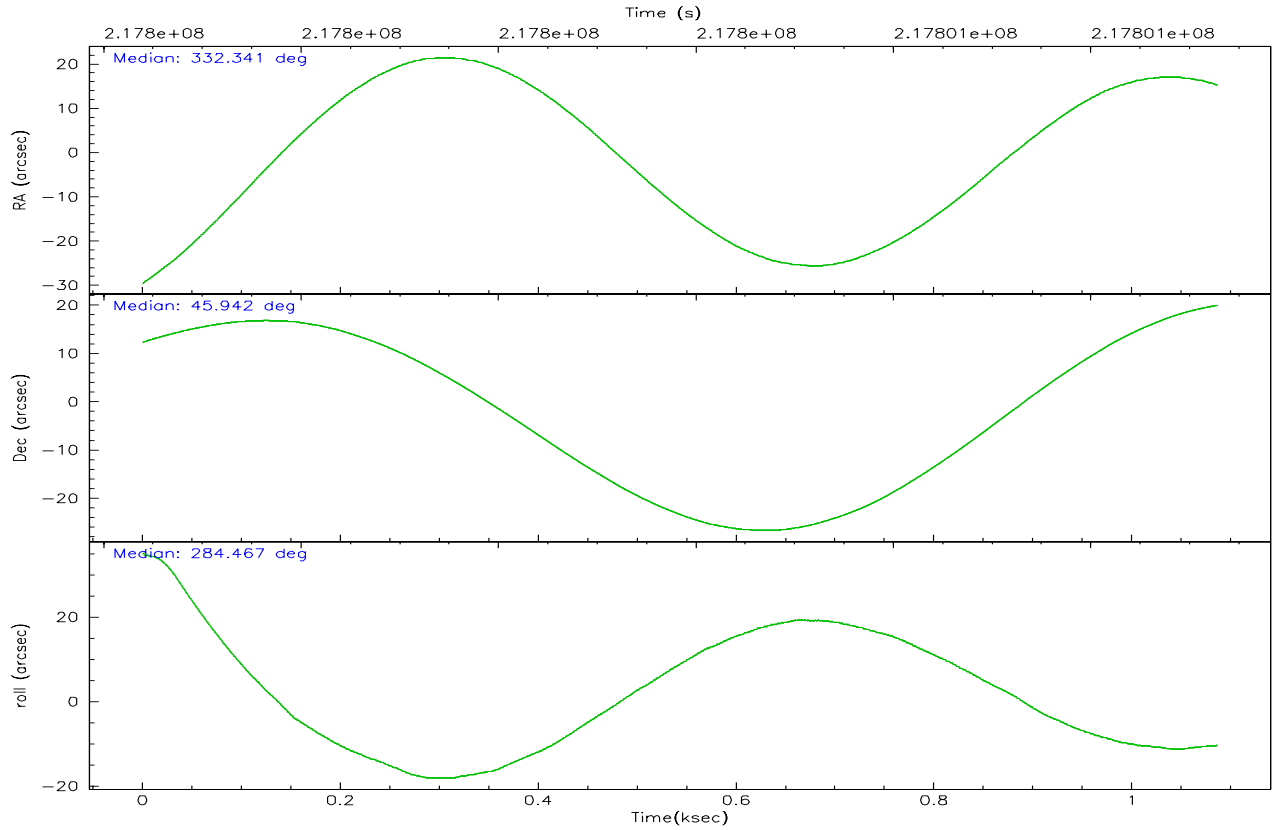
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-I	HRC-I
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	332.312235	332.3411290504155
Pointing Dec	45.960441	45.94174510452019
Pointing Roll	284.593254	284.4770930537464
SIM focus pos (mm)	-1.040293	-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	217800027.184000	217799650.80885
Observation start date	2004-11-25T19:59:23	2004-11-25T19:54:10
Observation end time	217800927.184000	217801061.20891
Observation end date	2004-11-25T20:14:23	2004-11-25T20:17:41

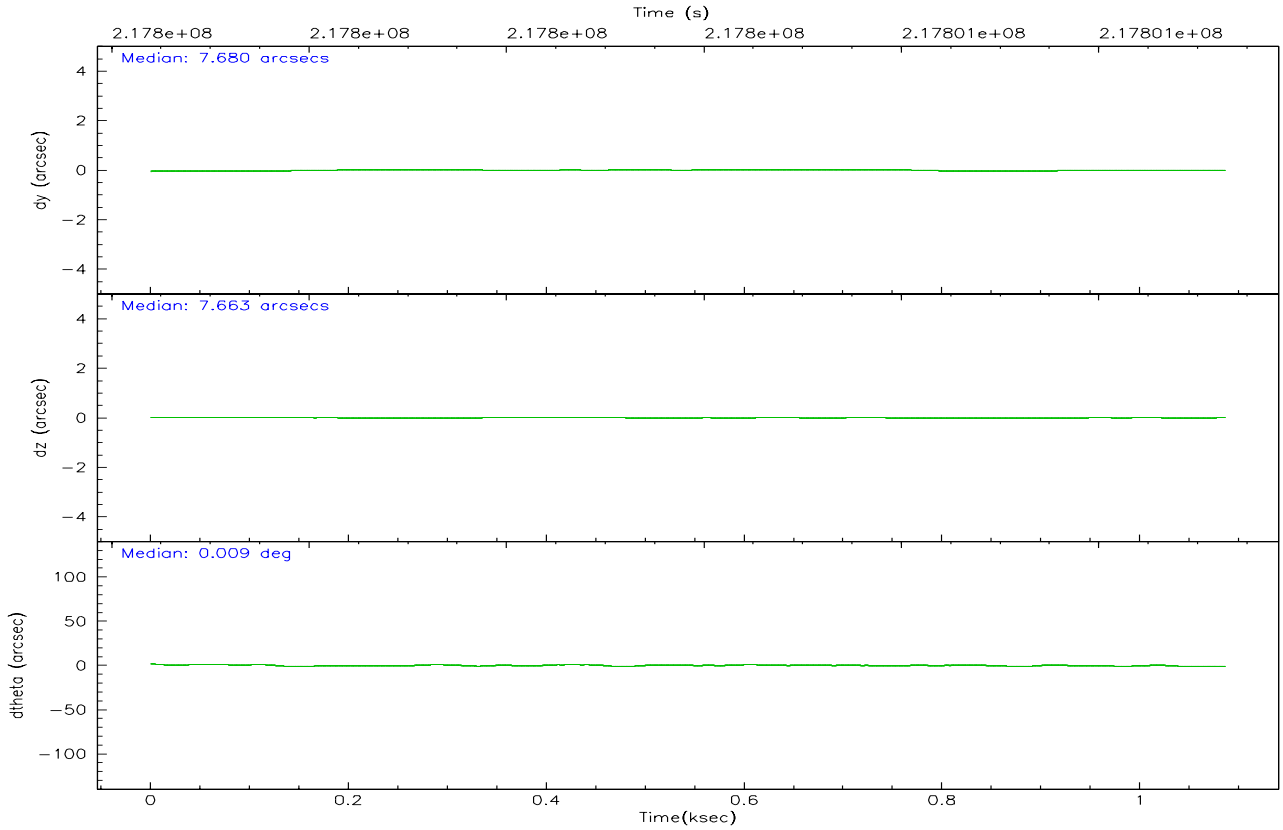
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 332.341 deg
Dec : 45.942 deg
Dec (arcsec)
RA (arcsec)
20
10
0
−10
−20
−40
−20
0
20


DY : 7.680 arcsecs
DZ : 7.663 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
2.178e+08
2.178e+08
2.178e+08
2.178e+08
2.17801e+08
2.17801e+08
Median: 332.341 deg
RA (arcsec)
Median: 45.942 deg
Dec (arcsec)
Median: 284.467 deg
roll (arcsec)
Time(ksec)

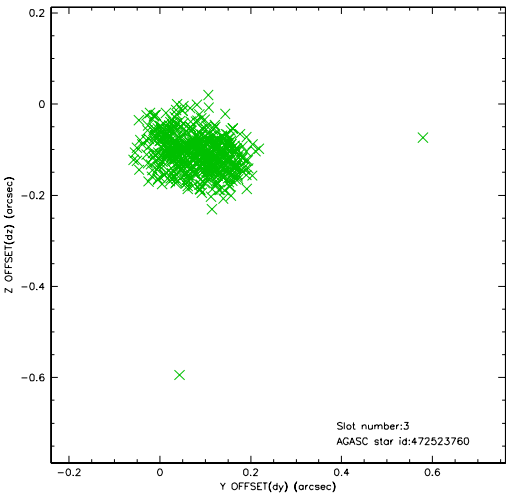

Time (s)
2.178e+08
2.178e+08
2.178e+08
2.178e+08
2.17801e+08
2.17801e+08
Median: 7.680 arcsecs
dy (arcsec)
Median: 7.663 arcsecs
dz (arcsec)
Median: 0.009 deg
dtheta (arcsec)
Time(ksec)

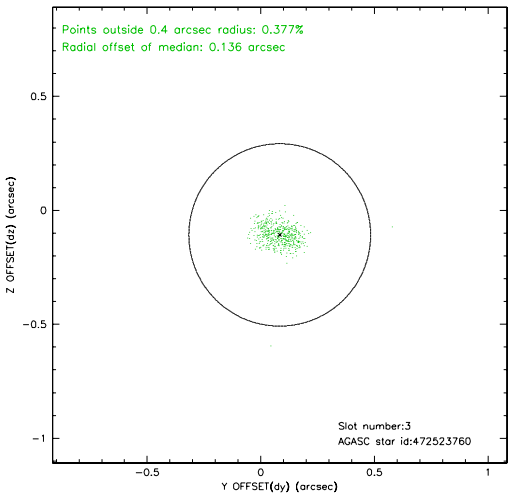
Slot Statistics

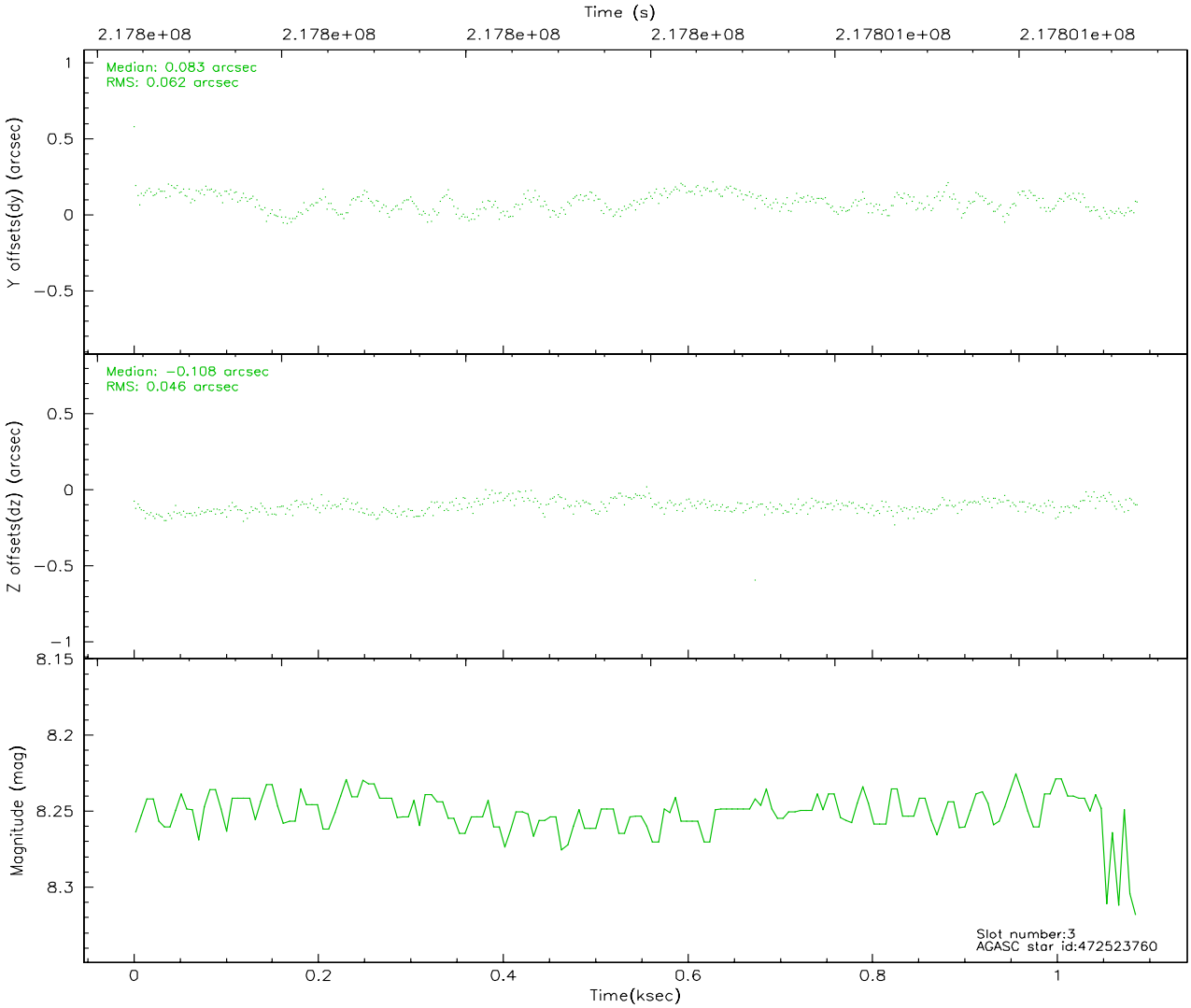
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-I-1	7.01	265	0.006	0.040	0.008	0.014	0.000000	0.000000	-763.29	-1295.53
1	FID	HRC-I-2	7.05	265	0.143	-0.124	0.007	0.012	0.000000	0.000000	846.60	-1302.17
2	FID	HRC-I-3	7.10	265	-0.030	-0.005	0.007	0.015	0.000000	0.000000	-1188.59	1004.08
3	GUIDE	472523760	8.25	531	0.083	-0.108	0.078	0.118	331.645363	45.403260	1510.34	-2136.84
4	GUIDE	472533912	9.15	531	-0.071	-0.007	0.091	0.152	331.791136	46.368695	-1749.44	-887.71
5	GUIDE	472659736	9.38	531	-0.036	-0.014	0.104	0.167	332.848312	46.590160	-1867.53	1851.77
6	GUIDE	472659832	9.47	530	0.076	0.097	0.092	0.152	332.780399	46.098139	-192.06	1258.25
7	GUIDE	472663088	9.00	530	-0.040	0.024	0.094	0.160	332.931735	46.600119	-1848.90	2064.76

2.4 Star Slots

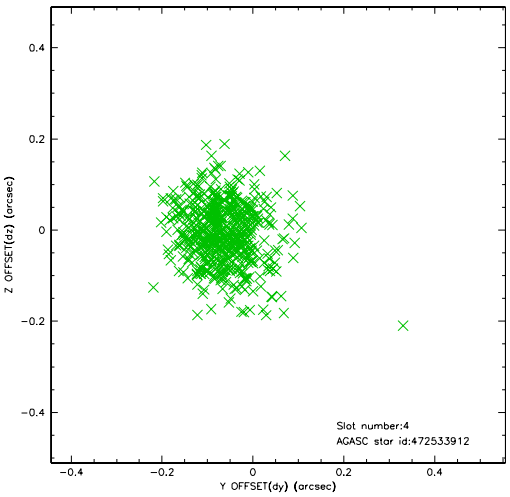
2.4.1 Slot 3

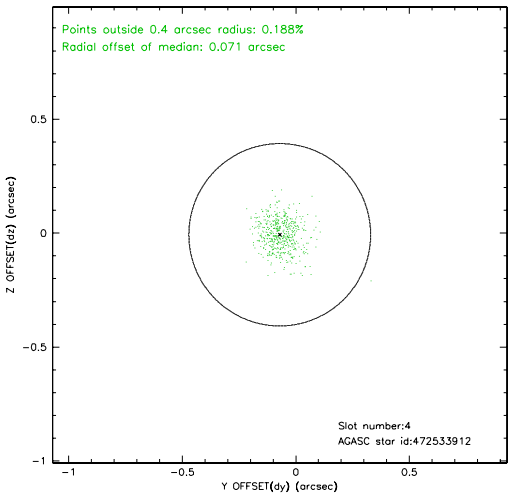


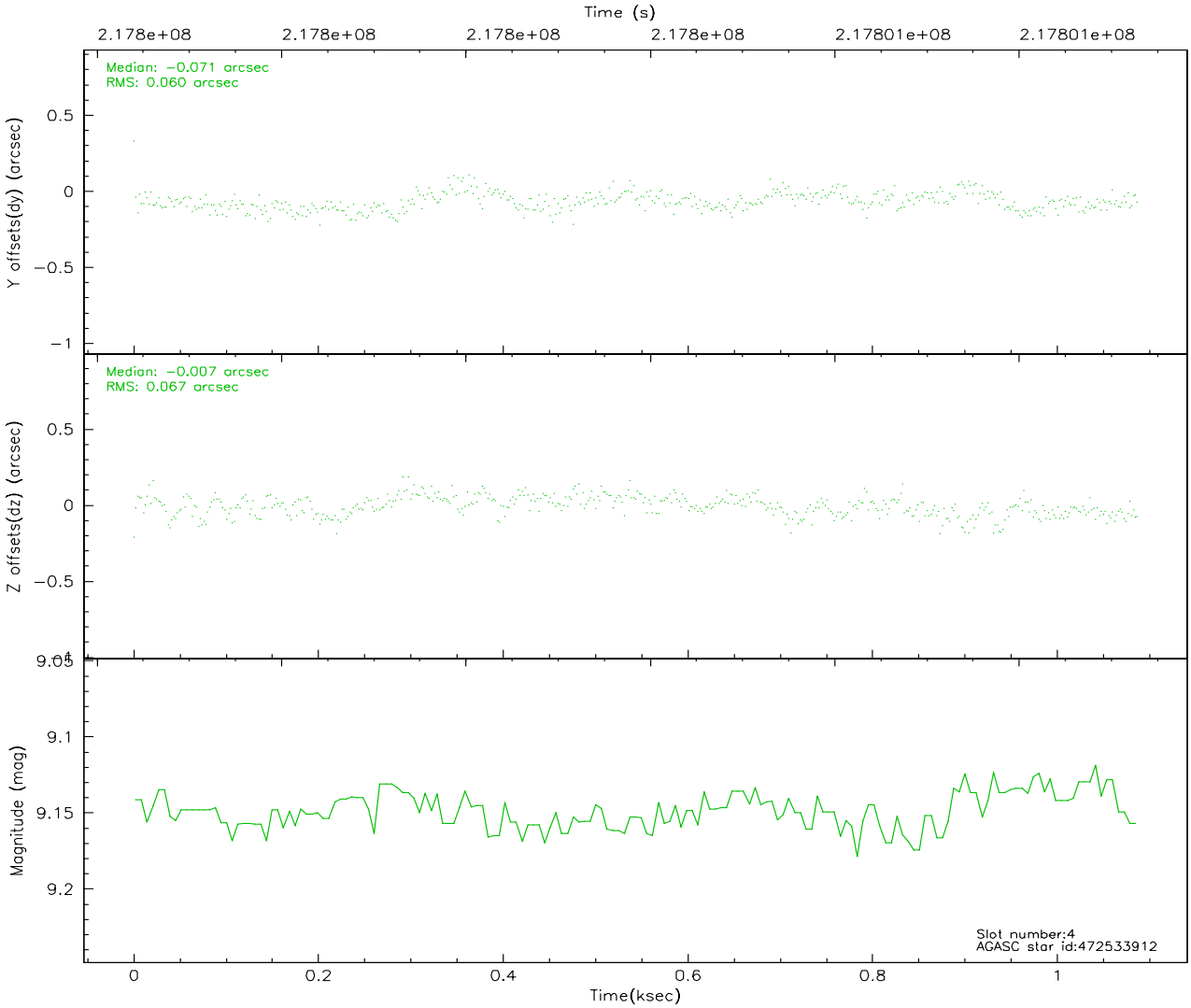




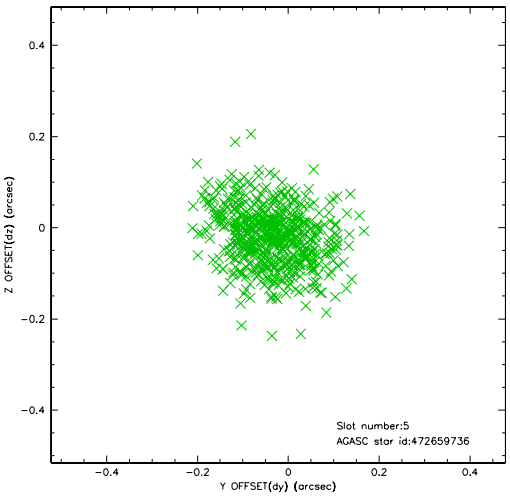
2.4.2 Slot 4

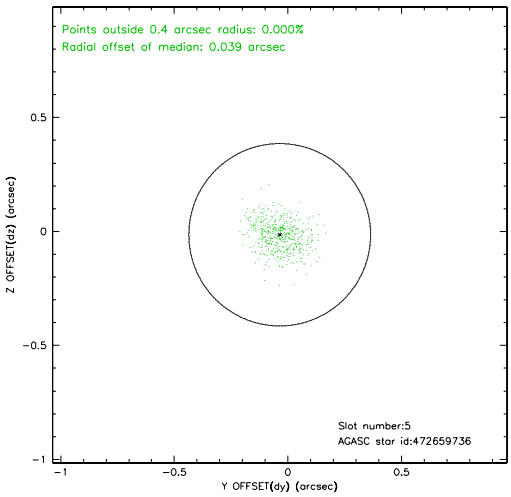

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912

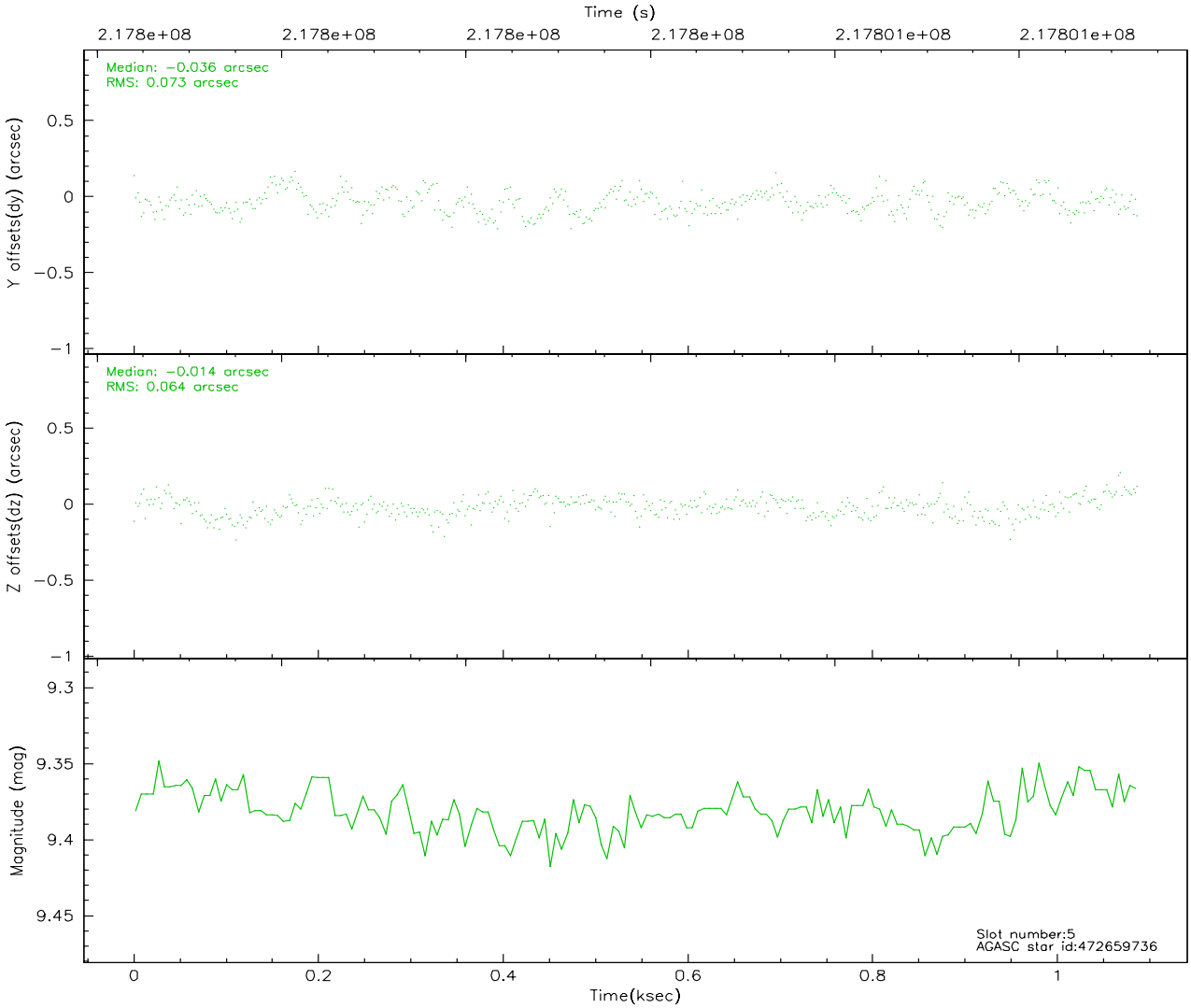

Points outside 0.4 arcsec radius: 0.188%
Radial offset of median: 0.071 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:472533912


Time (s)
Median: −0.071 arcsec
RMS: 0.060 arcsec
Y offsets(dy) (arcsec)
Median: −0.007 arcsec
RMS: 0.067 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:472533912
Time(ksec)

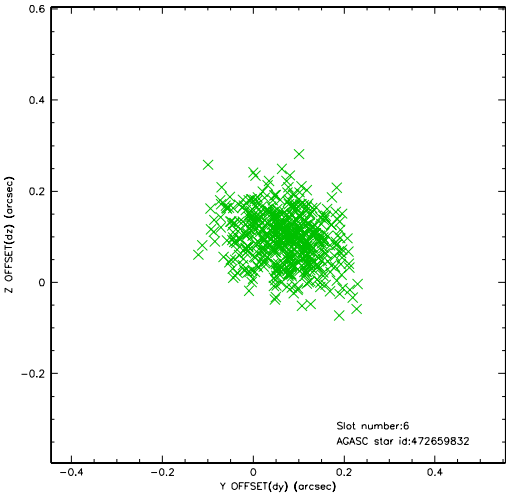
2.4.3 Slot 5

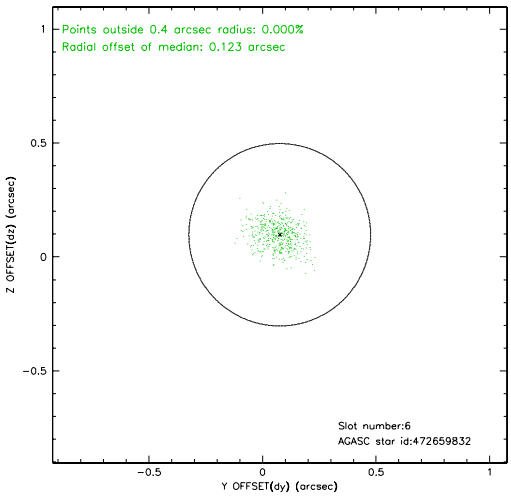

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472659736

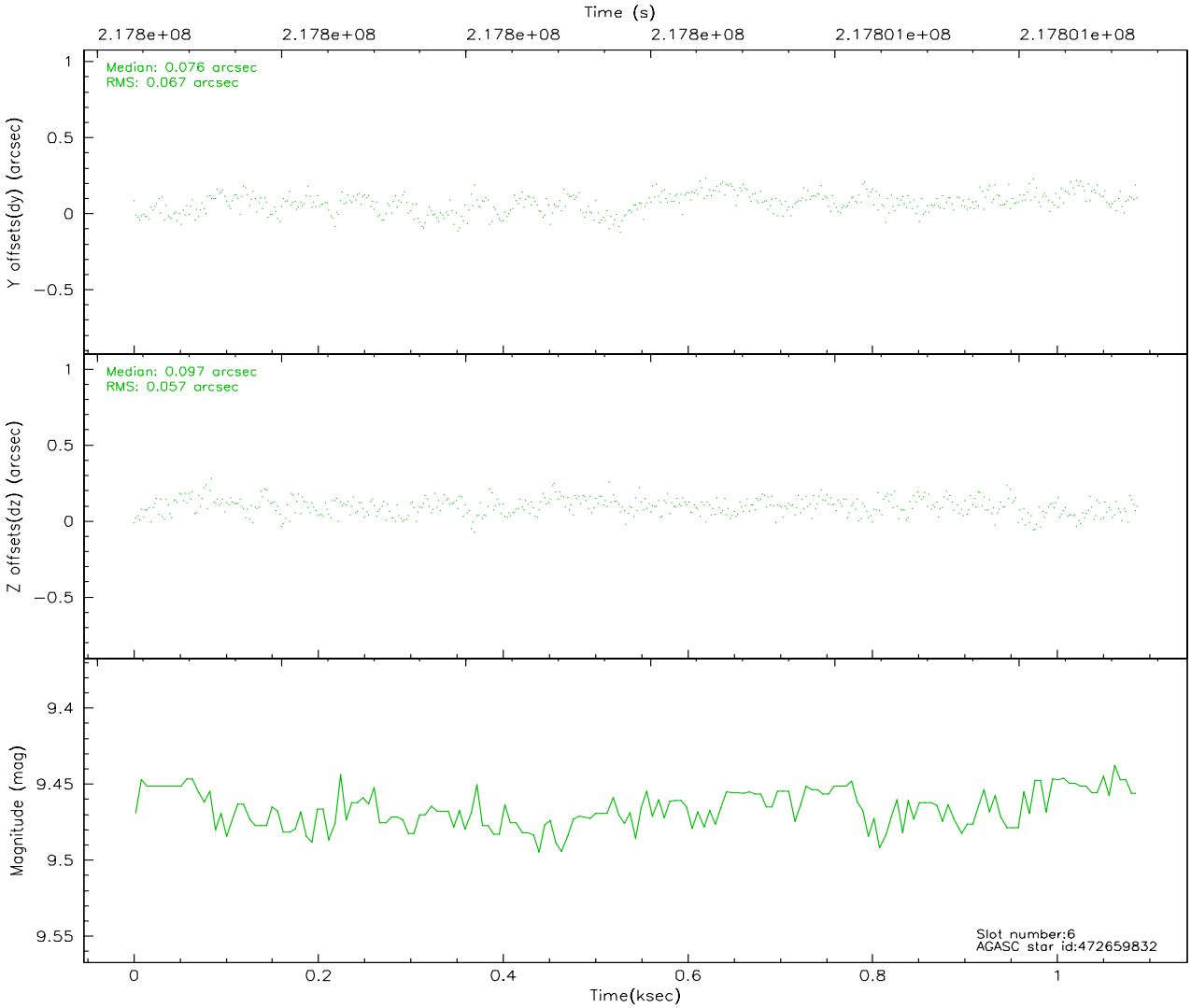

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.039 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:472659736


Time (s)
2.178e+08
2.178e+08
2.178e+08
2.178e+08
2.17801e+08
2.17801e+08
Median: −0.036 arcsec
RMS: 0.073 arcsec
Y offsets(dy) (arcsec)
Median: −0.014 arcsec
RMS: 0.064 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:472659736
Time(ksec)

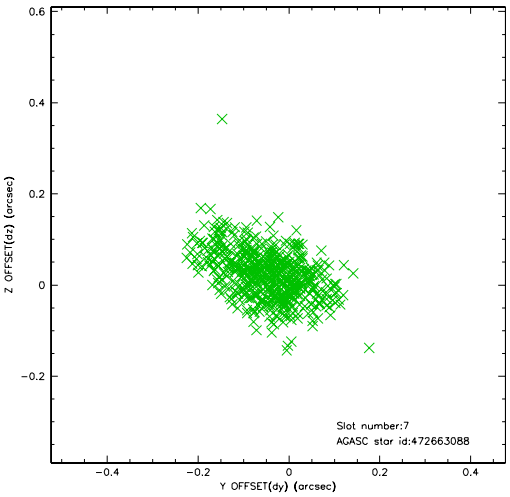
2.4.4 Slot 6

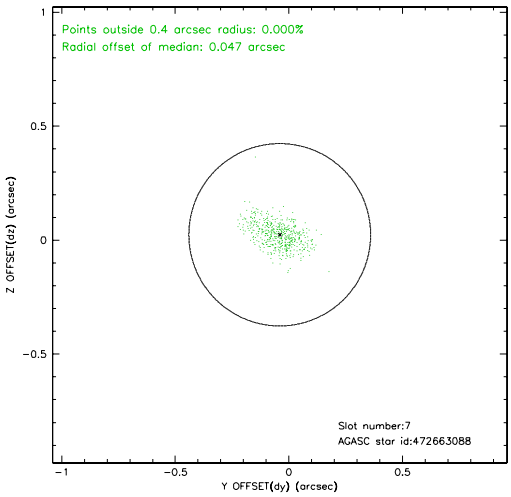

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832

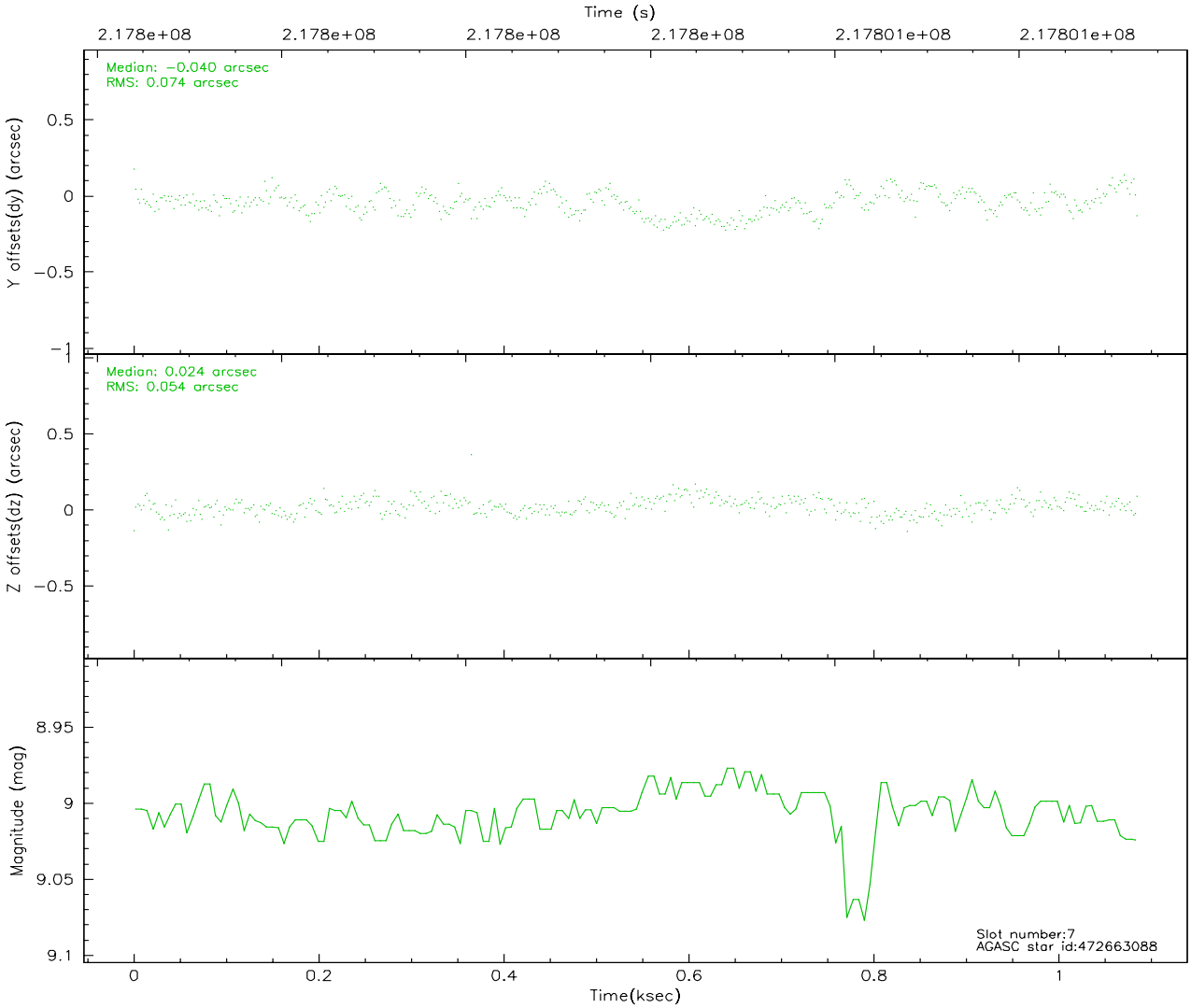

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.123 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:472659832


Time (s)
Median: 0.076 arcsec
RMS: 0.067 arcsec
Y offsets(dy) (arcsec)
Median: 0.097 arcsec
RMS: 0.057 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:472659832
Time(ksec)

2.4.5 Slot 7

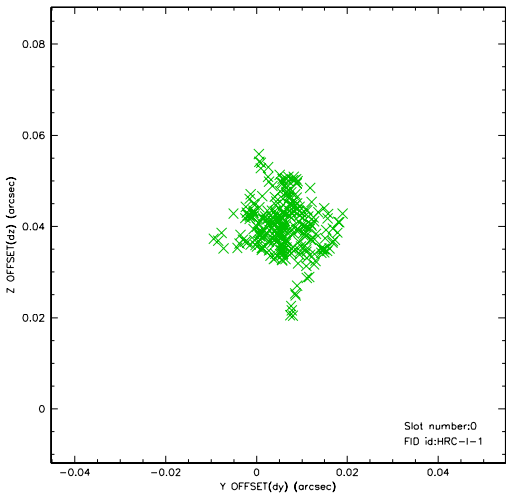

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472663088

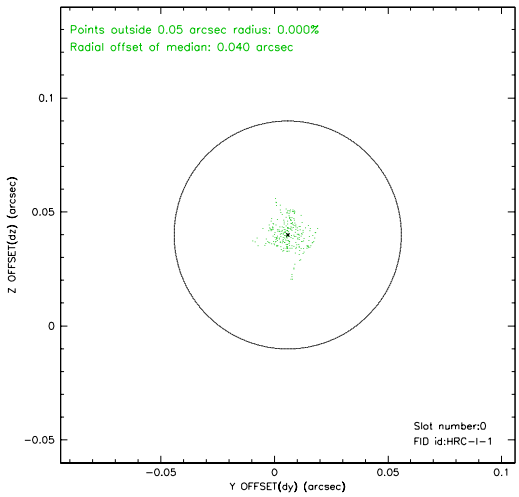

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.047 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:472663088

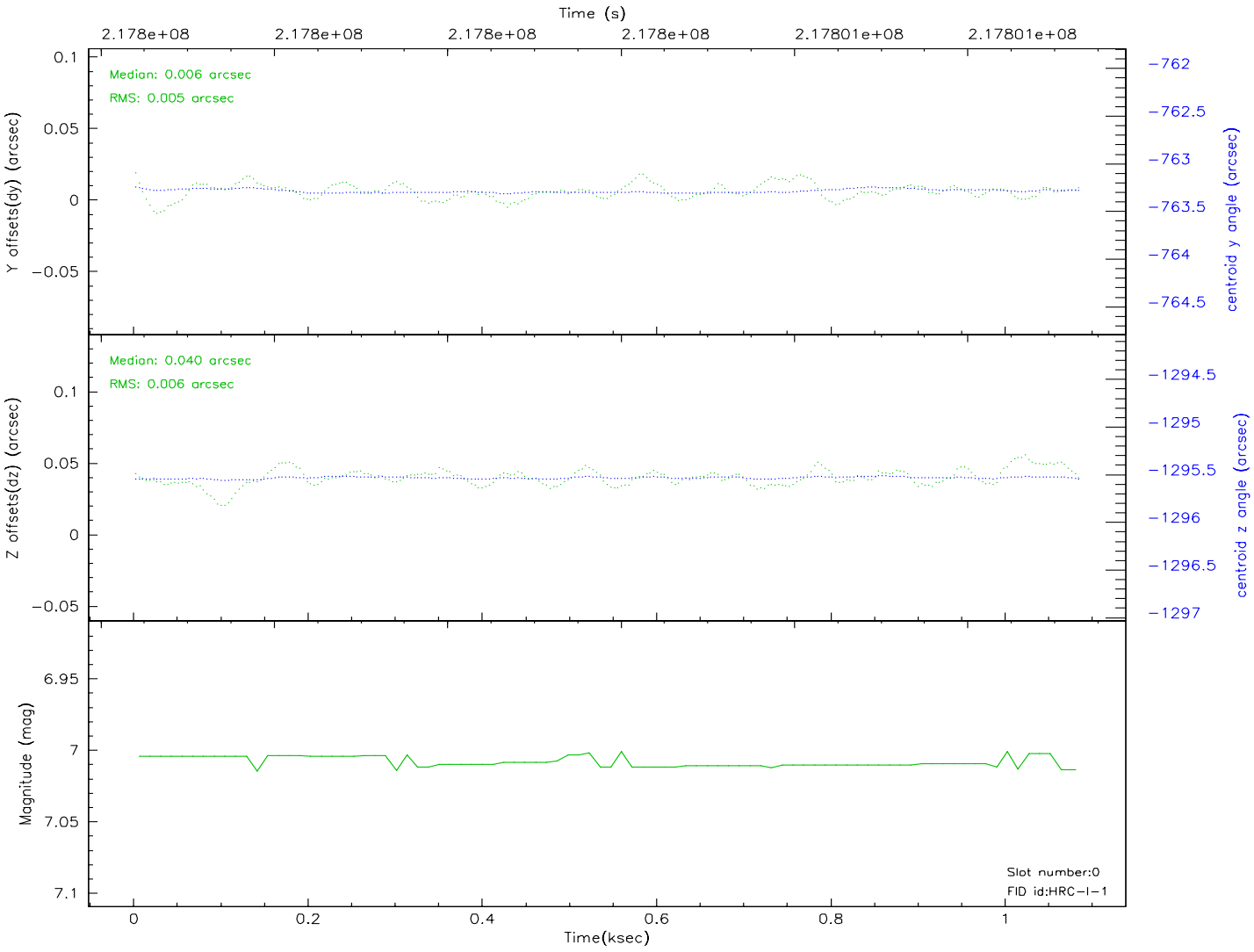

Time (s)
2.178e+08
2.178e+08
2.178e+08
2.178e+08
2.17801e+08
2.17801e+08
Median: −0.040 arcsec
RMS: 0.074 arcsec
Y offsets(dy) (arcsec)
Median: 0.024 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:472663088
Time(ksec)

2.5 FID Slots

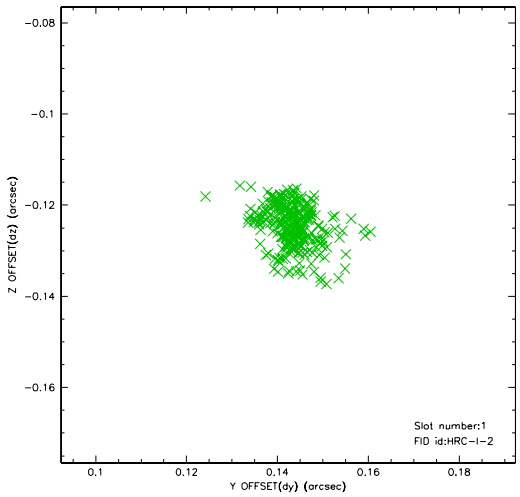
2.5.1 Slot 0

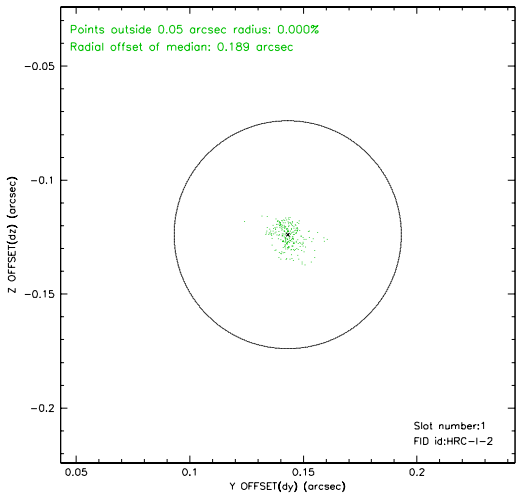


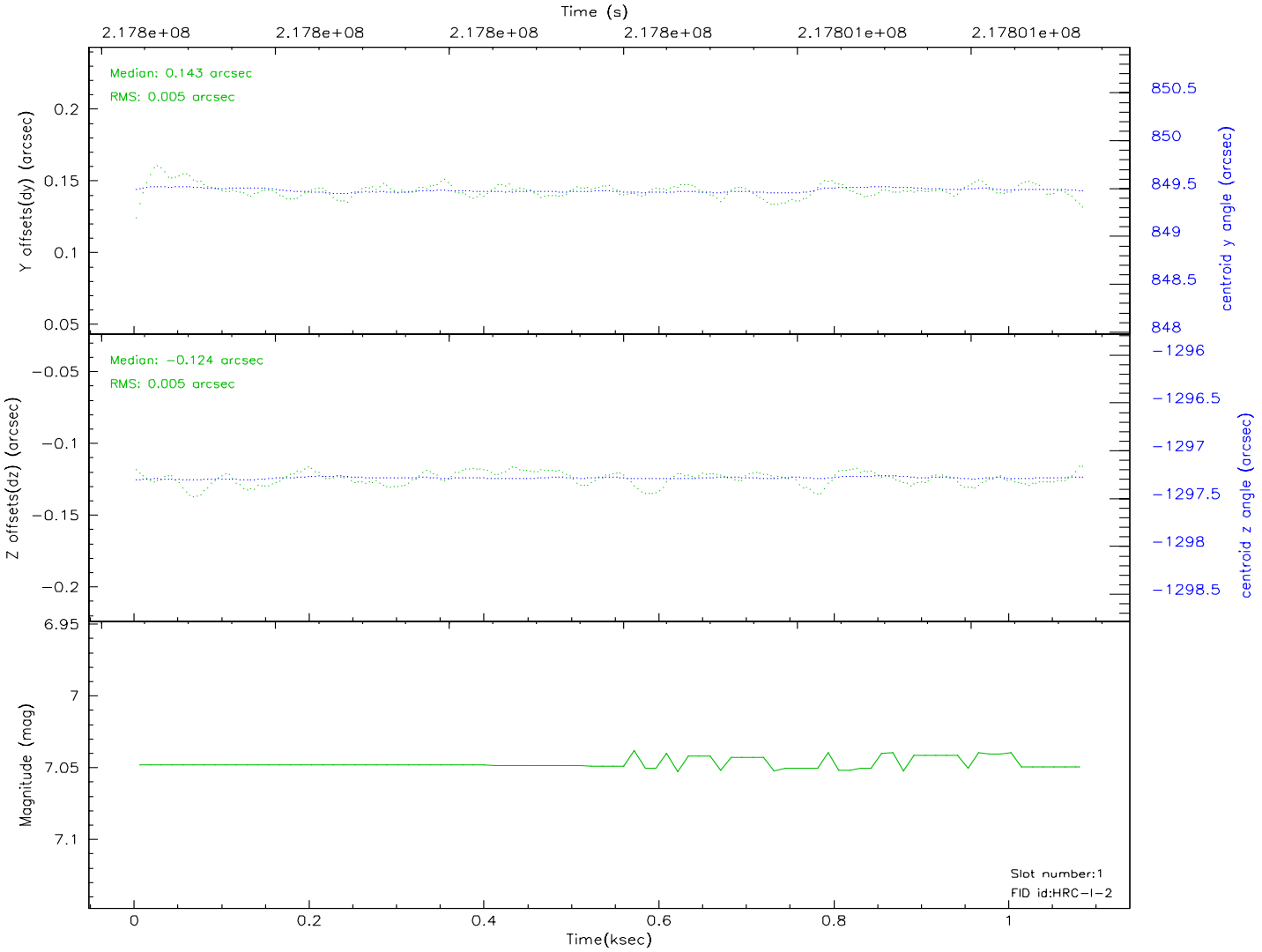




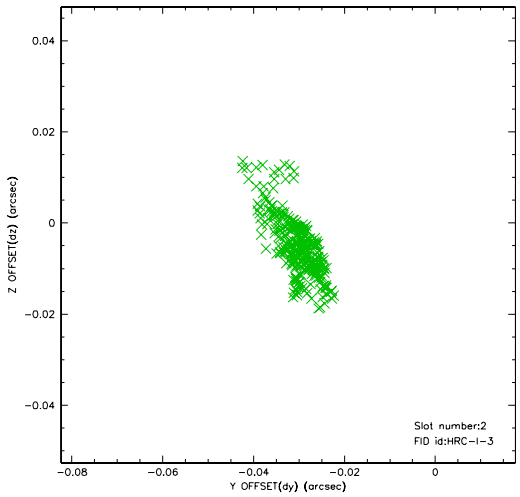
2.5.2 Slot 1

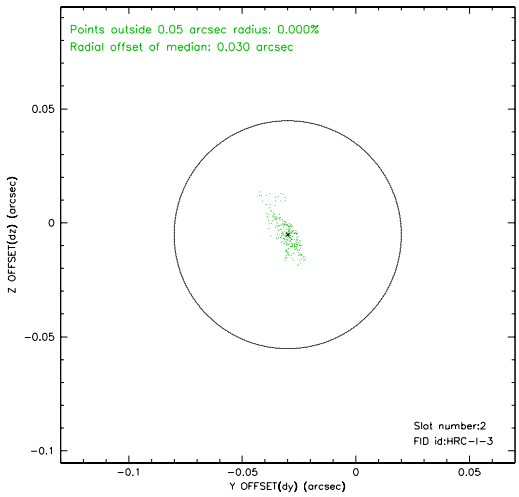

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-2

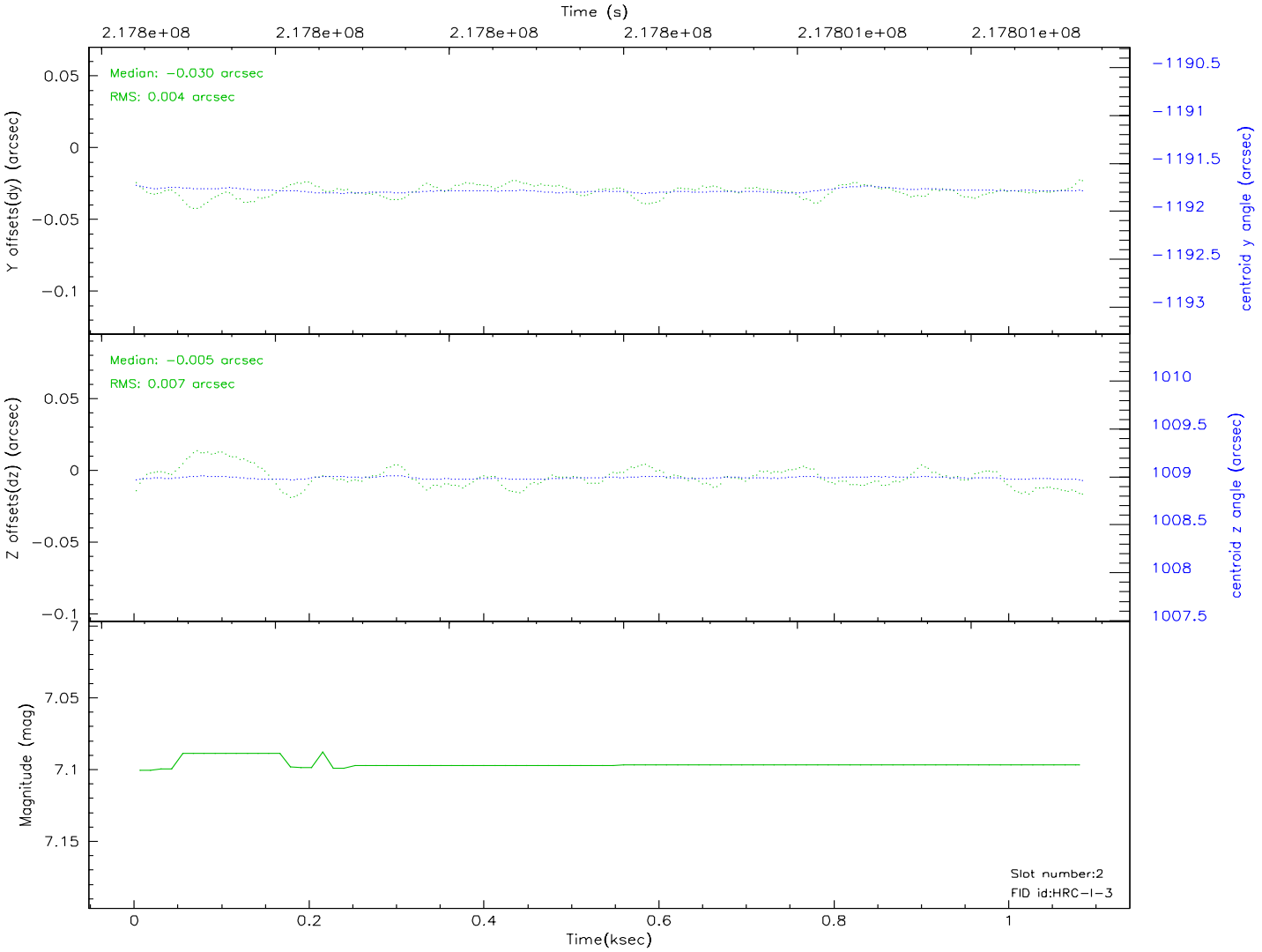

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.189 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-I-2


Time (s)
Median: 0.143 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
Median: −0.124 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid y angle (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:HRC-I-2
Time(ksec)

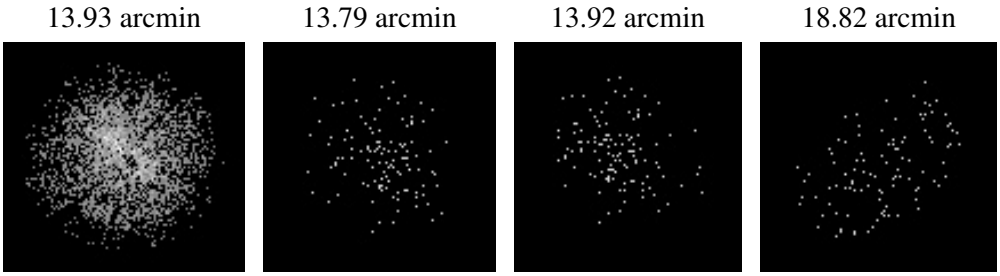
2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.030 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-I-3


Time (s)
Median: −0.030 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.005 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:HRC-I-3
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	1.08573129

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.
```