V&V Reference Report
L2 ASCDS Version : 8.4.4

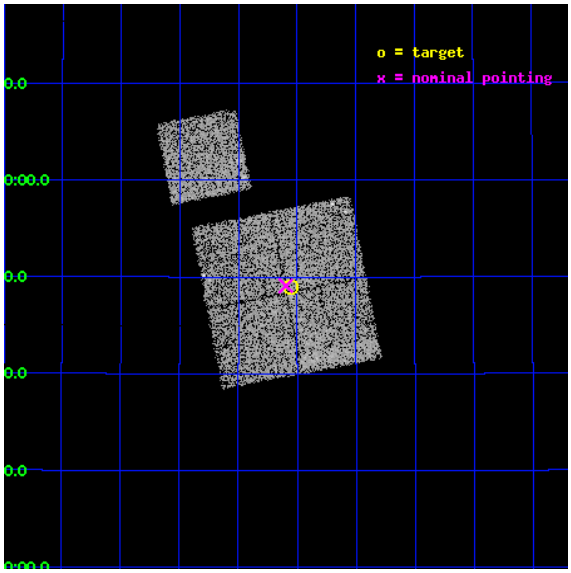
Observation 8641 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : May 11 2012

Contents

1 Front

seq_num	900778	Sequence number
obs_id	8641	Observation id
title	Chandra Observations of the DEEP2 Fields	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	DEEP2 Field 2	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	252.01425	Observer's specified target RA [deg]
dec_targ	34.817384	Observer's specified target Dec [deg]
ra_nom	252.0240013091	Nominal RA [deg]
dec_nom	34.818279487353	Nominal Dec [deg]
roll_nom	349.10315842199	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9042.7000695467	Sum of GTIs [s]
livetime	8924.5505359991	Livetime [s]
ontime0	9039.5590991974	Sum of GTIs [s]
ontime1	9042.7000695467	Sum of GTIs [s]
ontime2	9036.4181488156	Sum of GTIs [s]
ontime3	9042.7000695467	Sum of GTIs [s]
ontime6	9042.7000695467	Sum of GTIs [s]
l2events	30971	Number of level 2 events

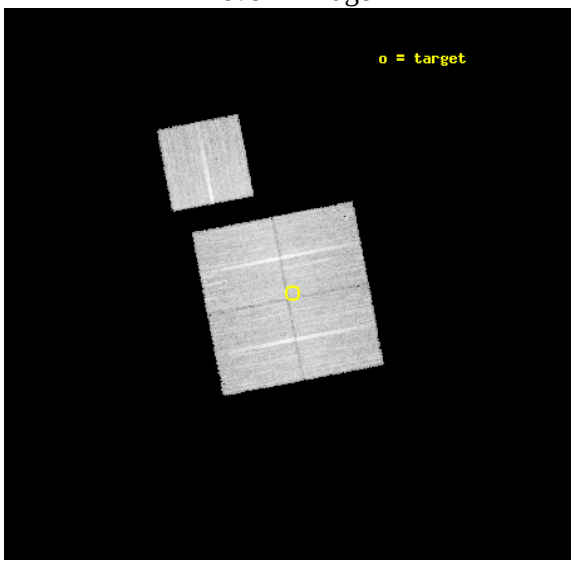


2 OBI

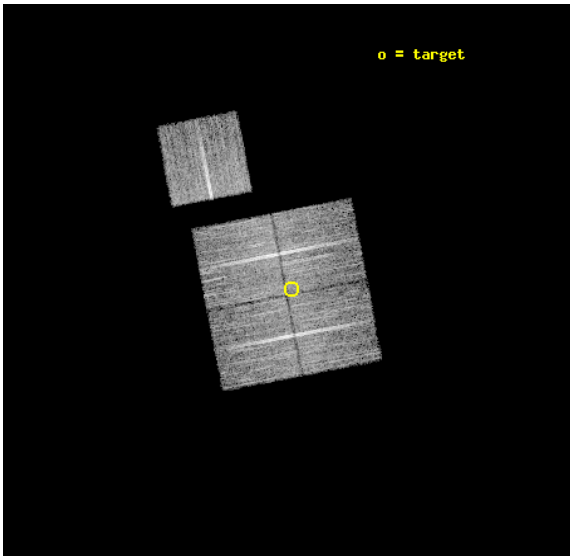
2.1 OBI

2.1.1 Images

Level 1 Image

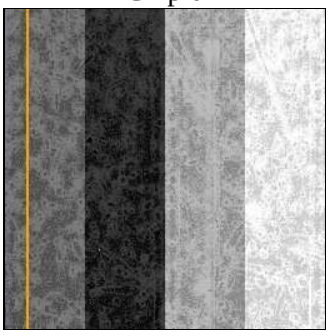


Level 1 Bad Events

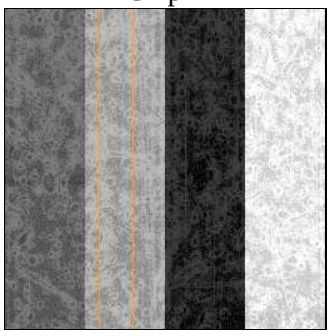


2.1.2 Bias

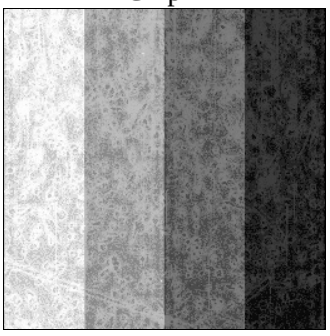
Chip 0



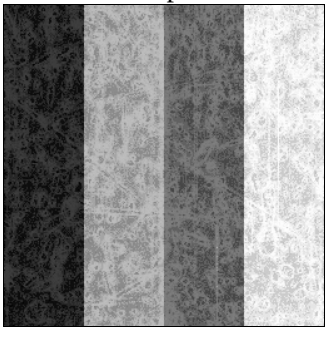
Chip 1



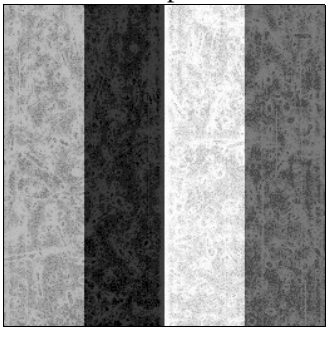
Chip 2



Chip 3



Chip 6



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.4.4	Processing system revision
caldbver	4.4.9	
date	2012-05-11T15:45:17	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ontime	9042.7000695467	Sum of GTIs [s]
ontime0	9039.5590991974	Sum of GTIs [s]
ontime1	9042.7000695467	Sum of GTIs [s]
ontime2	9036.4181488156	Sum of GTIs [s]
ontime3	9042.7000695467	Sum of GTIs [s]
ontime6	9042.7000695467	Sum of GTIs [s]
l1events	359568	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**
level 1 events	69183	69083	78593	69902	72807
rejected events	61863	60792	71341	62979	65301
rejected %	89%	87%	90%	90%	89%

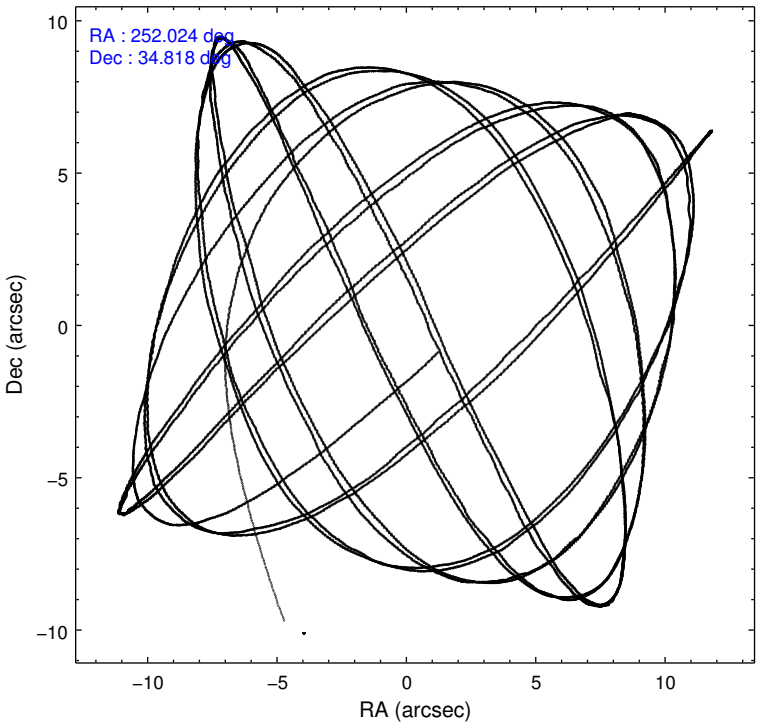
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**
grade 0 events	2453	2943	2650	2527	2718
	3%	4%	3%	3%	3%
grade 1 events	34	33	36	45	42
	0%	0%	0%	0%	0%
grade 2 events	1844	1933	1734	1536	1605
	2%	2%	2%	2%	2%
grade 3 events	811	922	776	769	830
	1%	1%	0%	1%	1%
grade 4 events	783	880	783	763	795
	1%	1%	0%	1%	1%
grade 5 events	2564	2802	2460	2908	2908
	3%	4%	3%	4%	3%
grade 6 events	1431	1617	1314	1338	1567
	2%	2%	1%	1%	2%
grade 7 events	59263	57953	68840	60016	62342
	85%	83%	87%	85%	85%

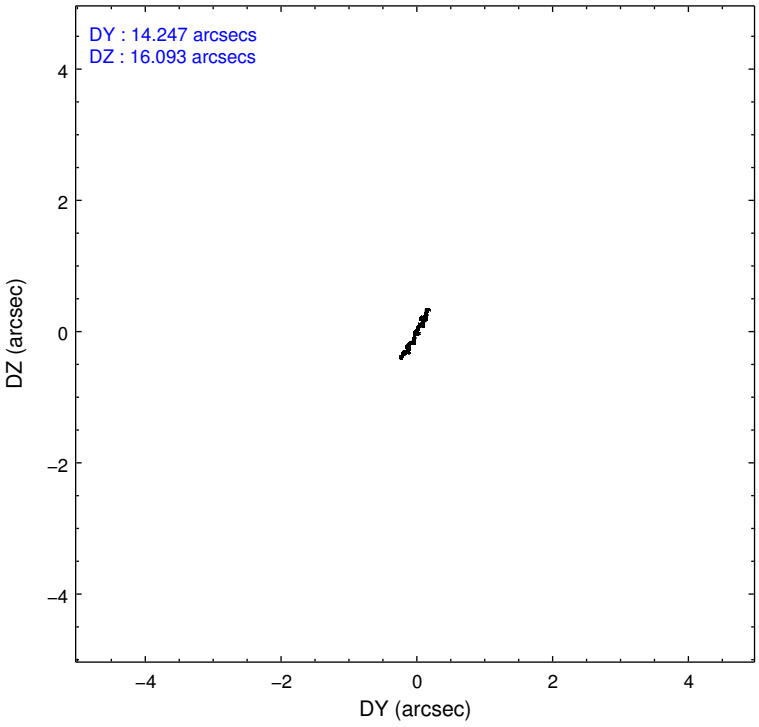
2.2 Compared Parameters

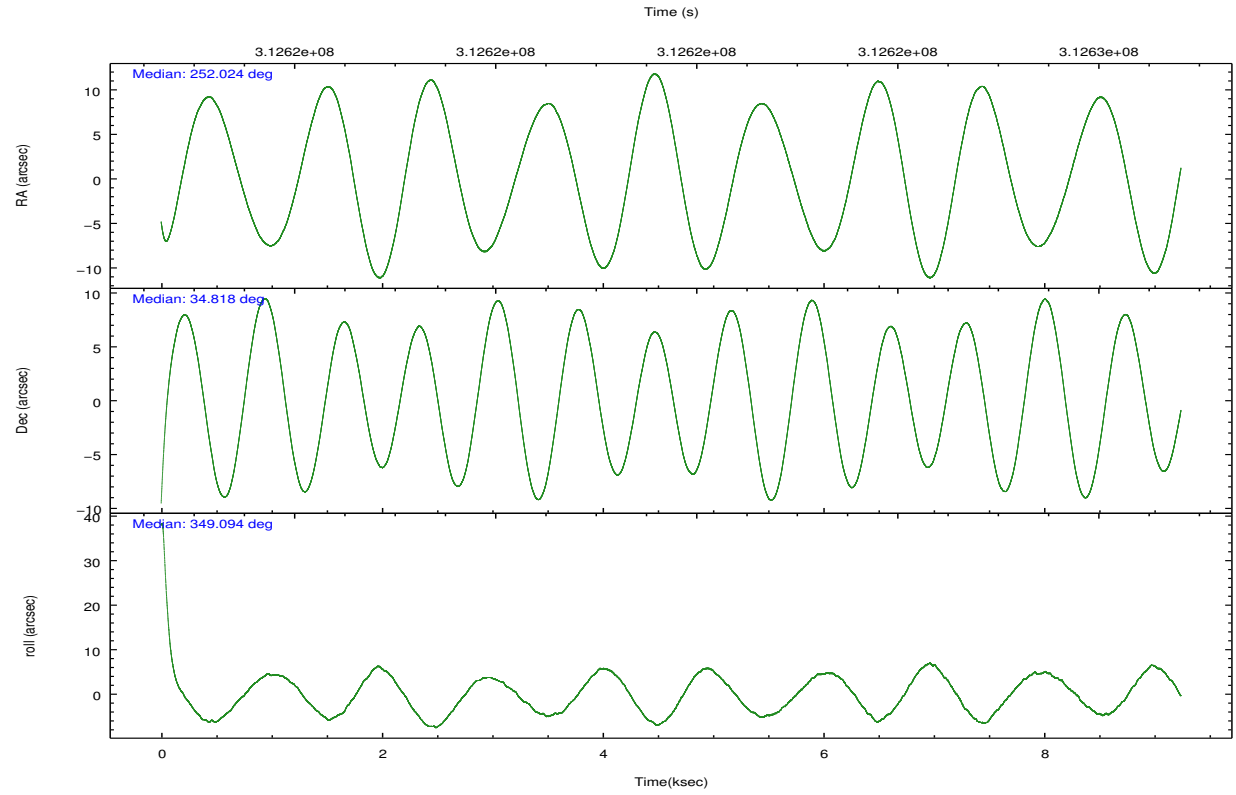
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-01236	ACIS-01236
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	251.992426	252.0240013091036
[deg] Pointing Dec	34.809179	34.81827948735272
[deg] Pointing Roll	348.912459	349.1031584219853
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-233.592463	-233.5874344608287
[mm] SIM translation stage offset	0	-0.005018542100998502
[s] Observation start time (MET)	312617354.184000	312616386.43685
Observation start date	2007-11-28T06:08:09	2007-11-28T05:53:06
[s] Observation end time (MET)	312626354.184000	312626487.81234
Observation end date	2007-11-28T08:38:09	2007-11-28T08:41:27
Read mode	TIMED	TIMED

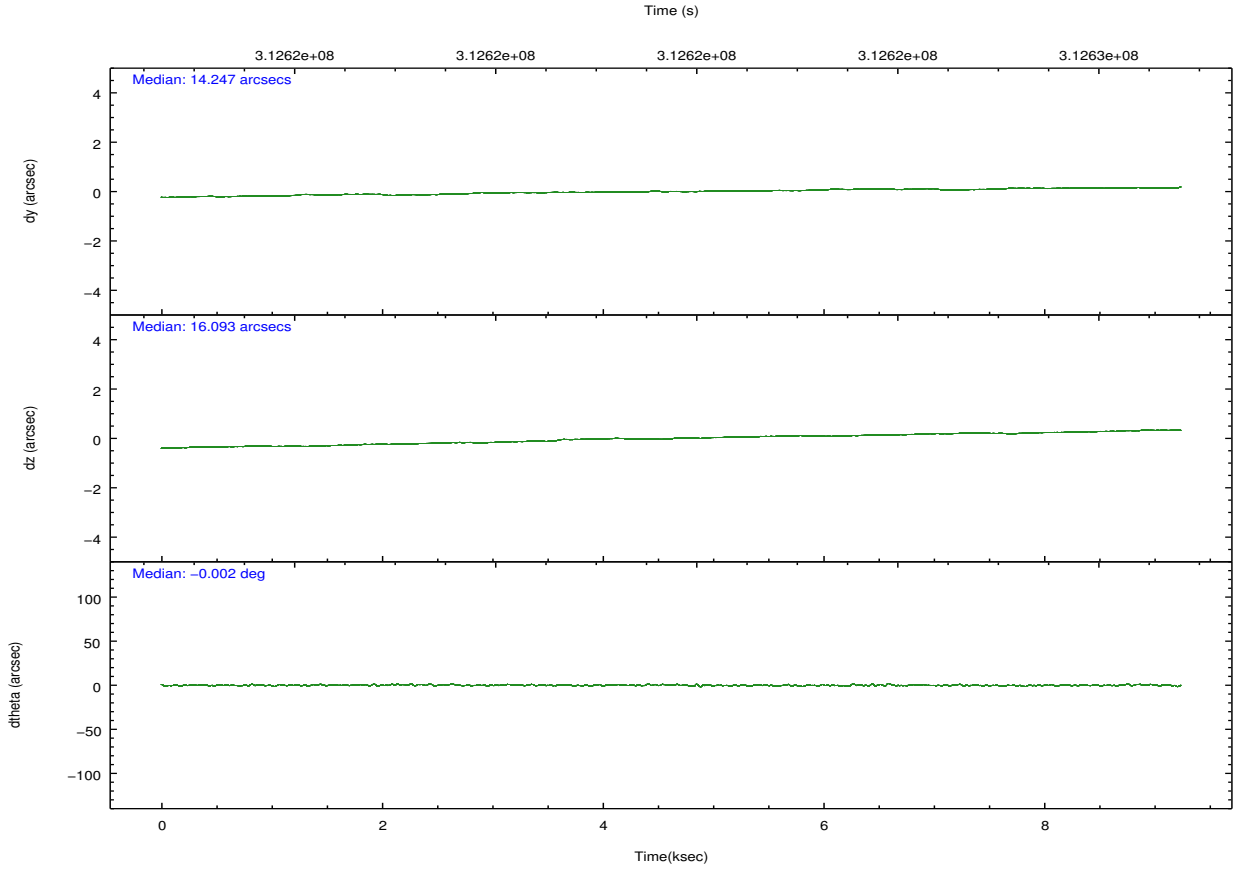
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	Y	Y
CCD I1 on	Y	Y
CCD I2 on	Y	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O1	Y
CCD S3 on	N	N
CCD S4 on	N	N
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect


RA : 252.024 deg
Dec : 34.818 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 14.247 arcsecs
DZ : 16.093 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: 252.024 deg
RA (arcsec)
Median: 34.818 deg
Dec (arcsec)
Median: 349.094 deg
roll (arcsec)
Time(ksec)

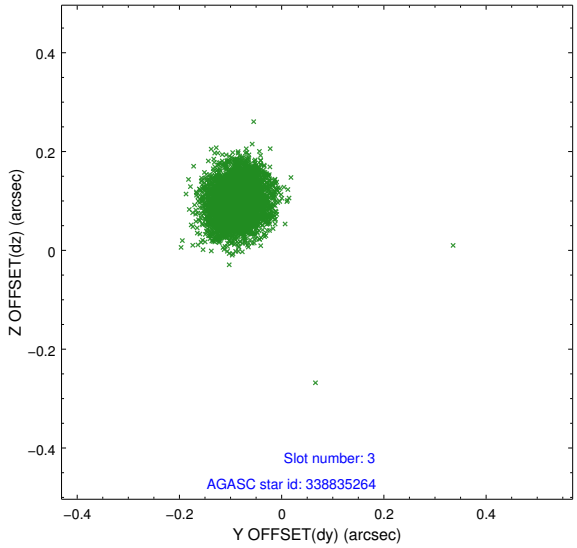

Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: 14.247 arcsecs
dy (arcsec)
Median: 16.093 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

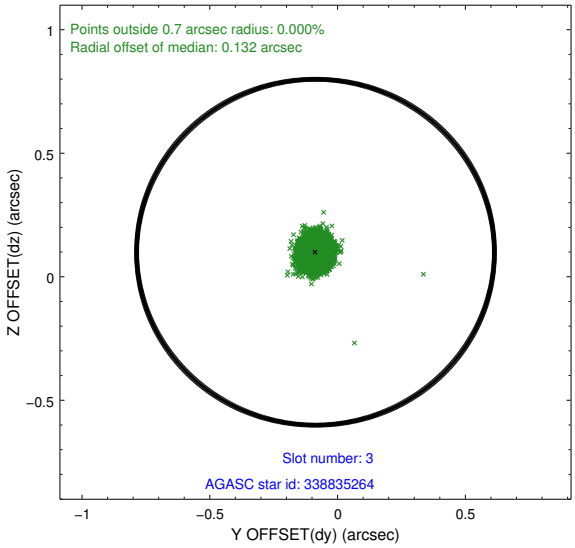
Slot Statistics

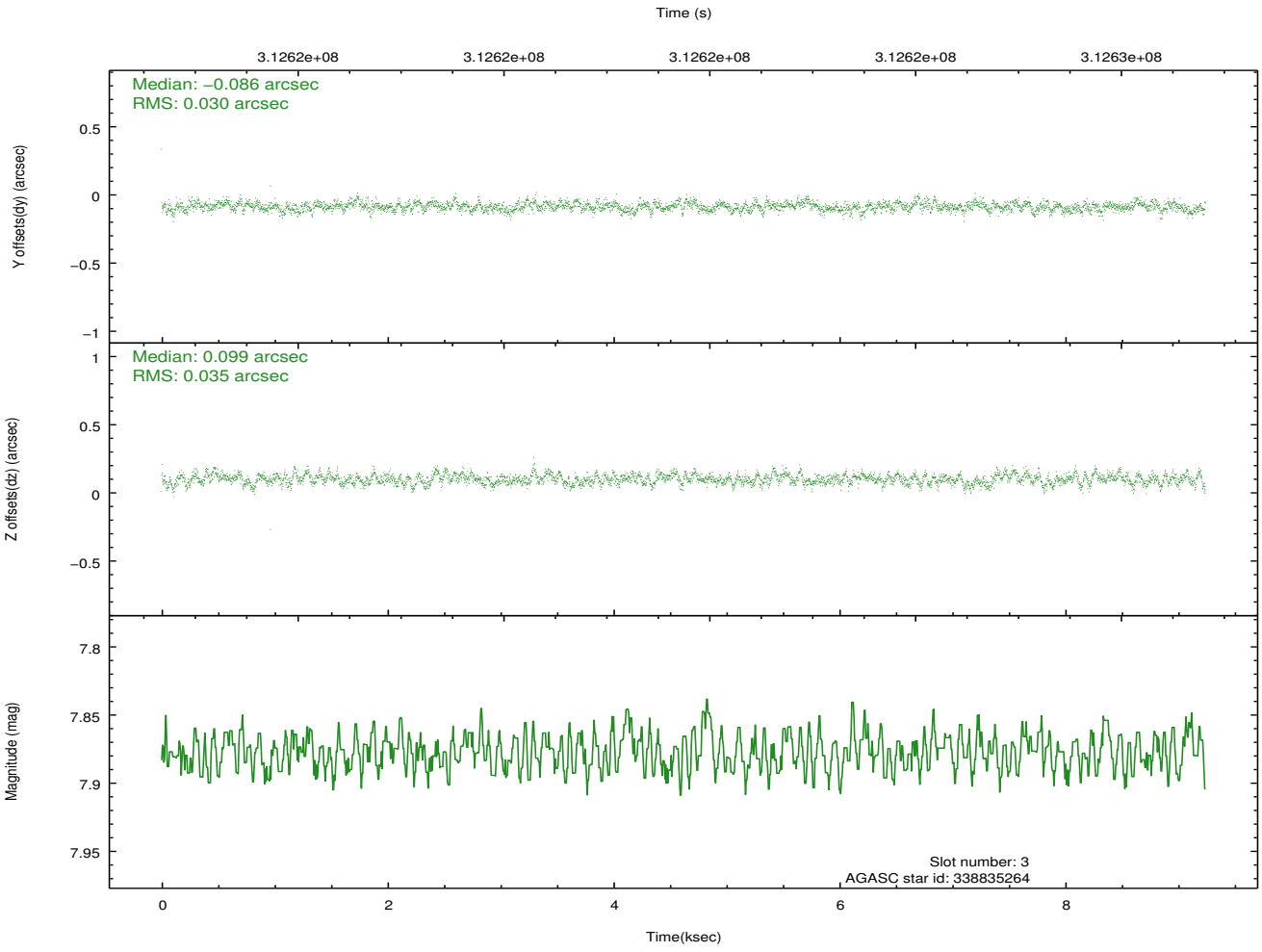
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.23	2254	0.003	-0.080	0.015	0.026	0.000000	0.000000	925.24	-839.79
1	FID	ACIS-I-4	7.15	2254	0.150	0.078	0.011	0.020	0.000000	0.000000	2145.77	1059.87
2	FID	ACIS-I-5	7.22	2254	-0.251	0.073	0.008	0.014	0.000000	0.000000	-1822.25	1058.41
3	GUIDE	338835264	7.88	4508	-0.086	0.099	0.049	0.080	251.919565	34.226279	191.54	-2100.68
4	GUIDE	338839992	8.47	4508	0.053	0.064	0.063	0.104	251.528053	34.360854	-1043.92	-1846.40
5	GUIDE	340401160	9.34	4505	-0.030	0.053	0.096	0.154	252.460112	35.243739	1047.89	1802.81
6	GUIDE	340406200	6.69	4509	-0.003	-0.248	0.062	0.107	252.267621	34.956301	695.27	677.63
7	GUIDE	340395680	8.16	4507	0.062	0.031	0.065	0.108	252.253826	34.071772	1276.29	-2453.38

2.4 Star Slots

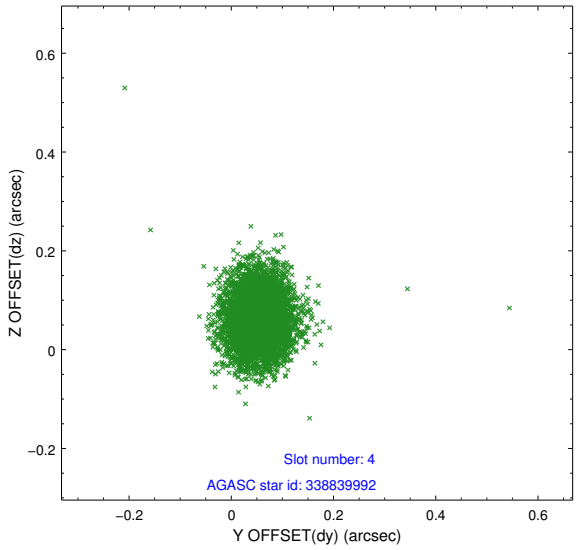
2.4.1 Slot 3

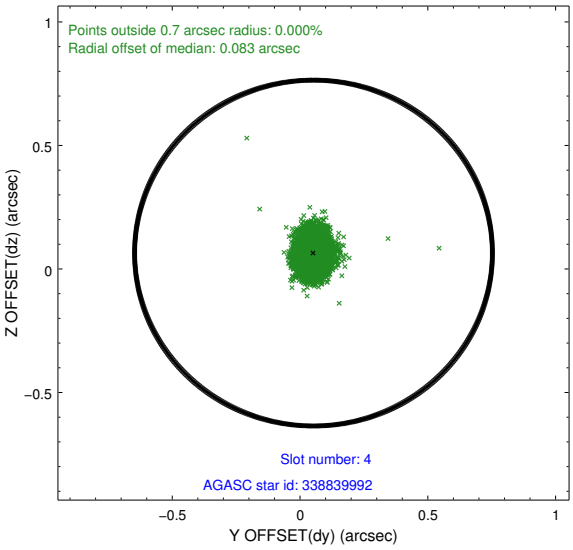


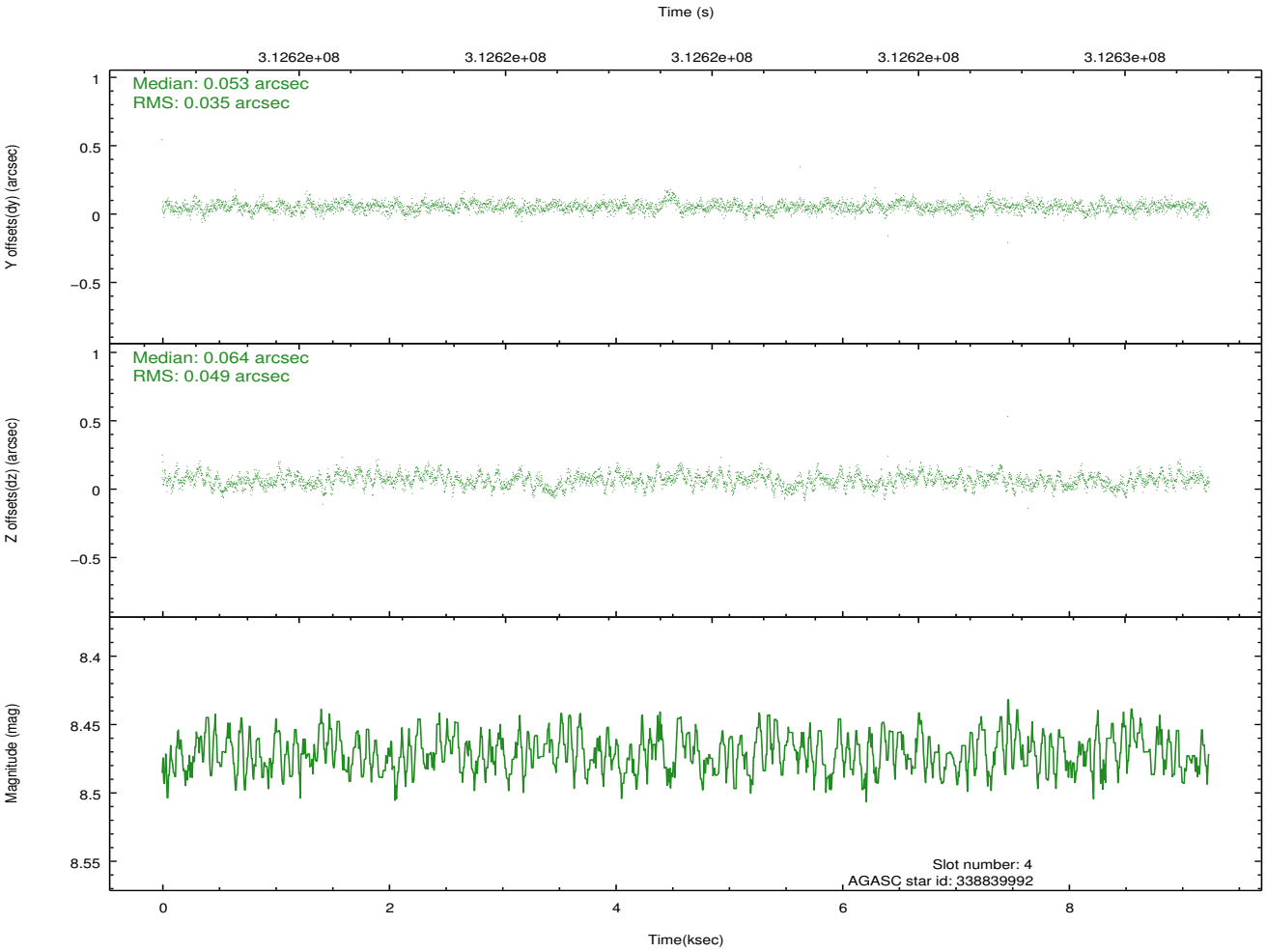




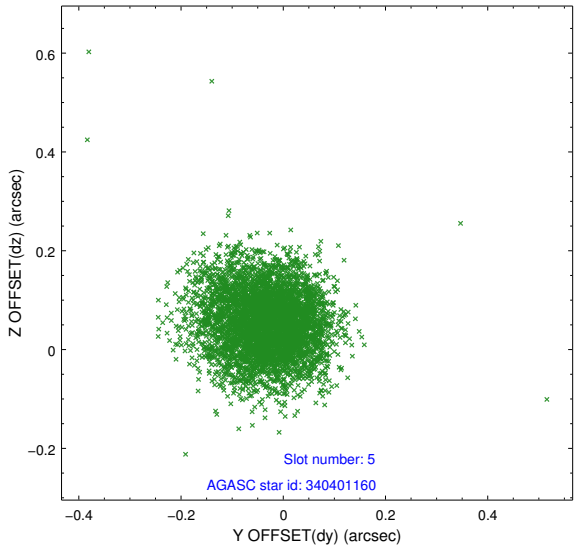
2.4.2 Slot 4

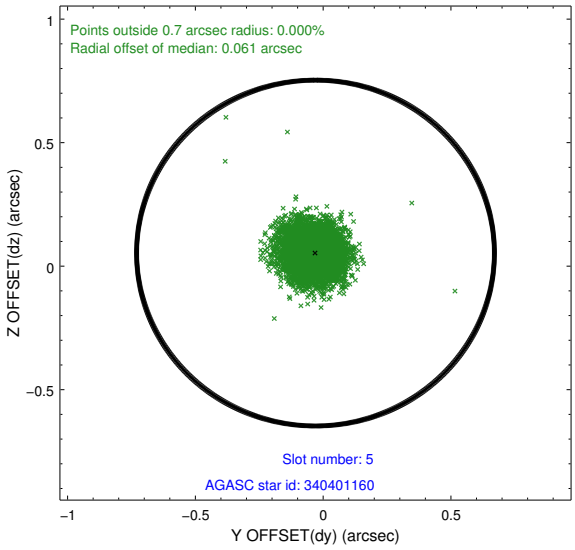

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 338839992

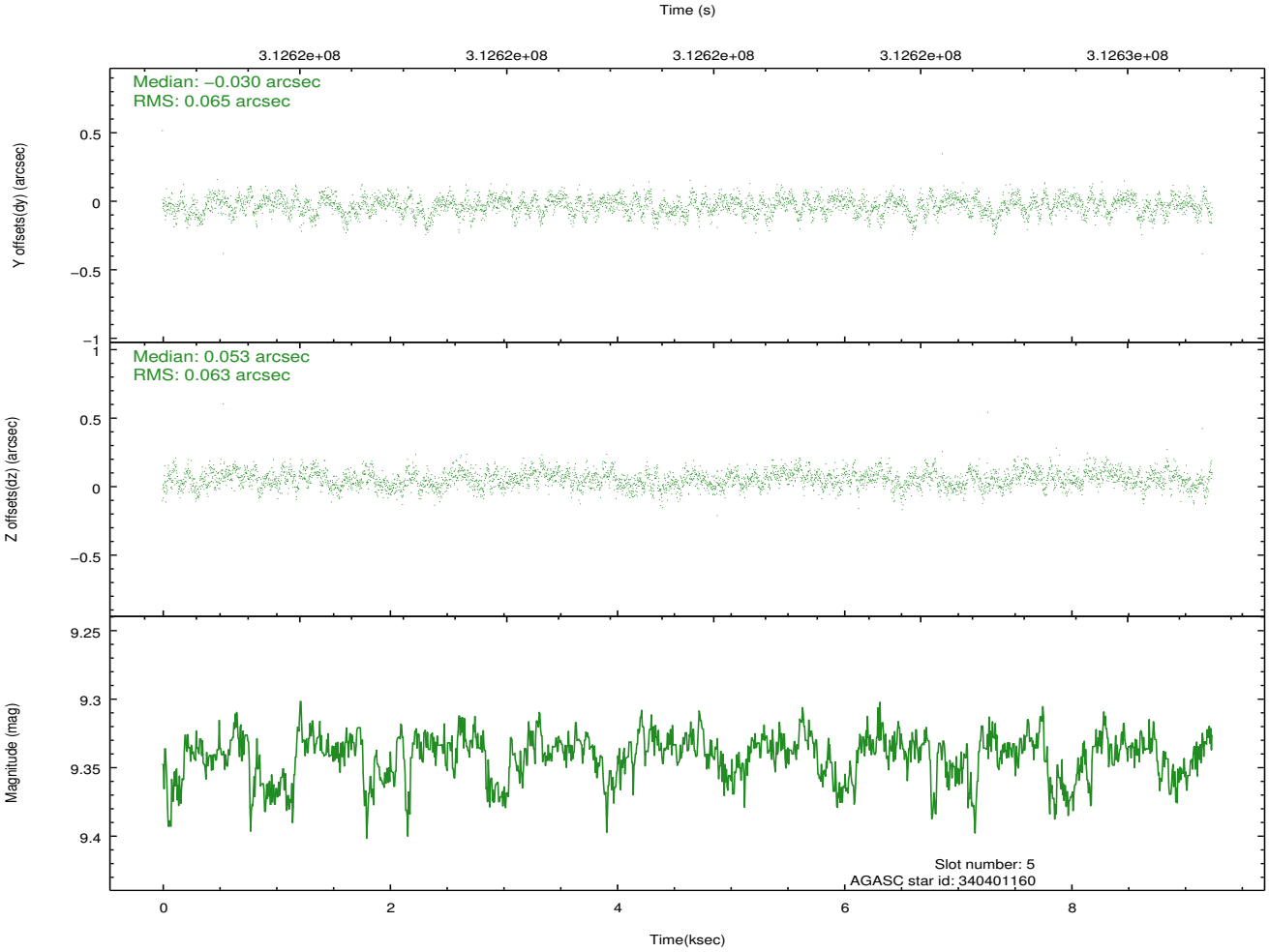

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.083 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 338839992


Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: 0.053 arcsec
RMS: 0.035 arcsec
Y offsets(dy) (arcsec)
Median: 0.064 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 338839992
Time(ksec)

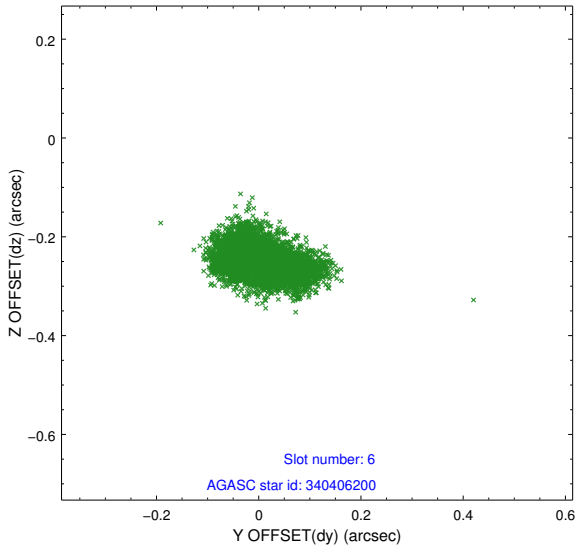
2.4.3 Slot 5

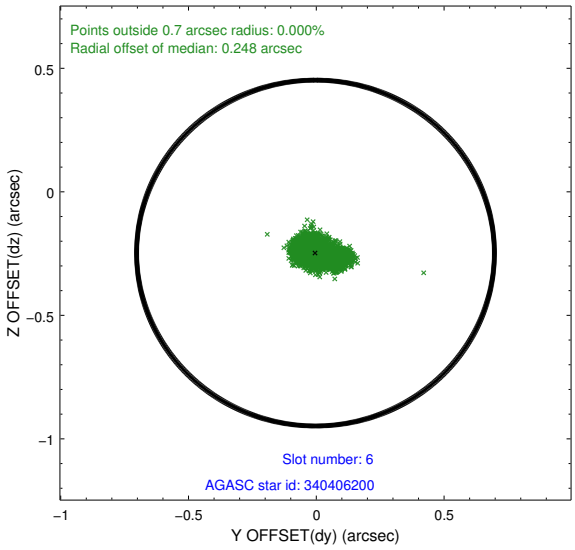

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 340401160

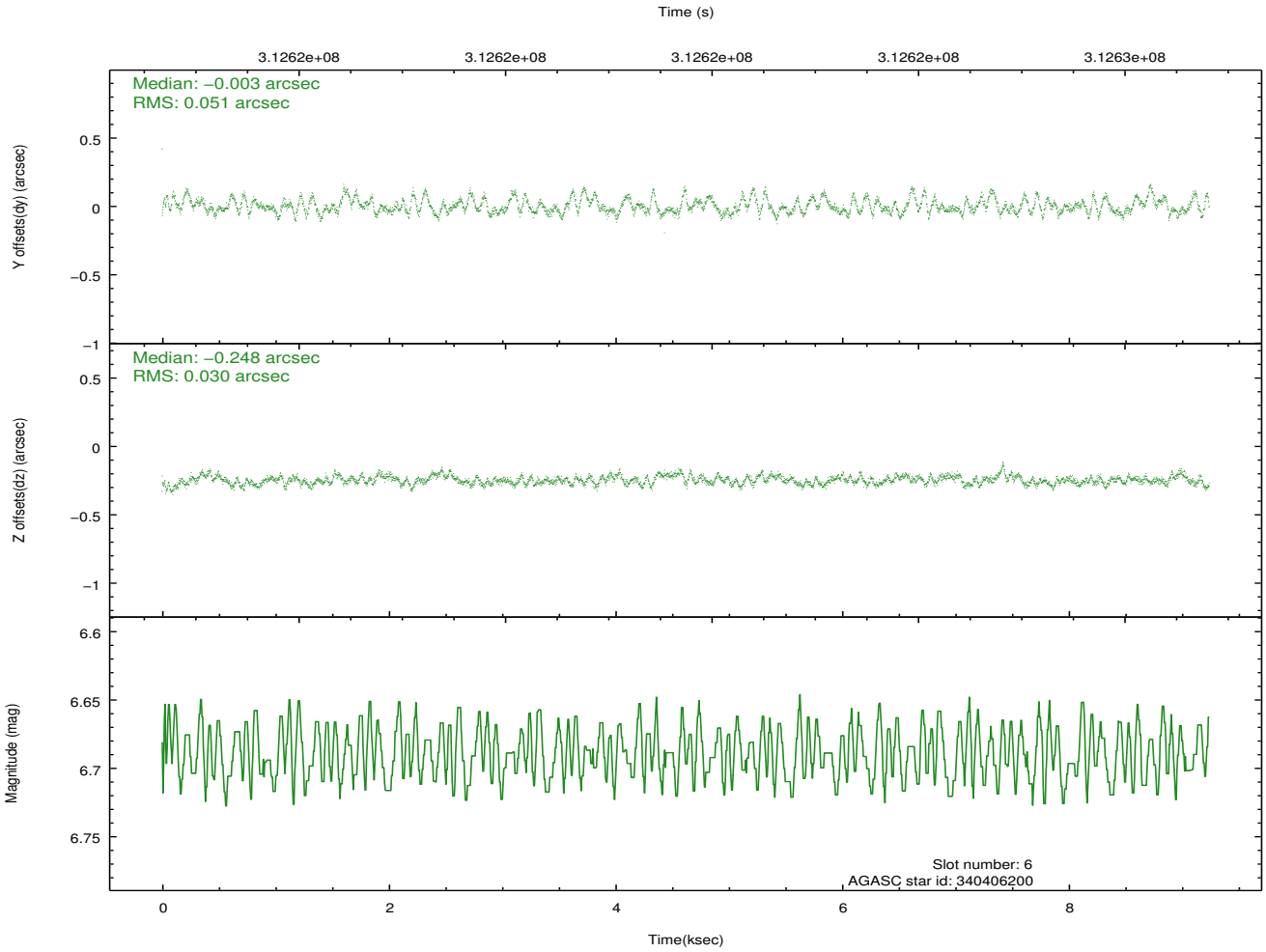

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.061 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 340401160


Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: −0.030 arcsec
RMS: 0.065 arcsec
Y offsets(dy) (arcsec)
Median: 0.053 arcsec
RMS: 0.063 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 340401160
Time(ksec)

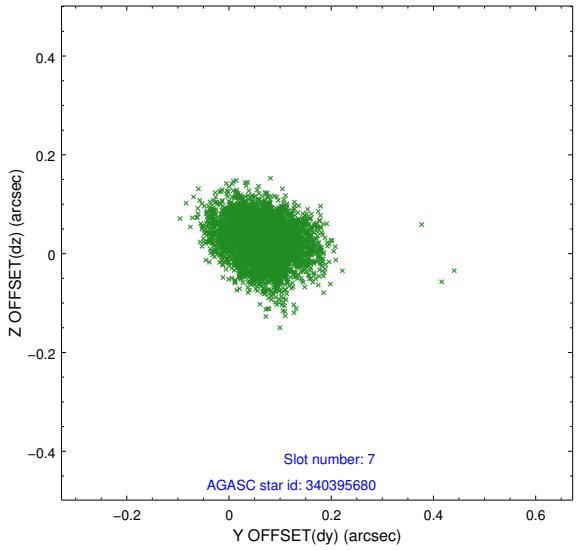
2.4.4 Slot 6

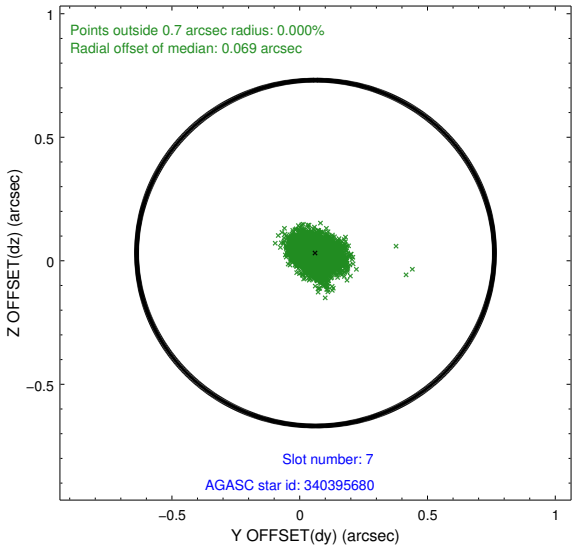

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 340406200

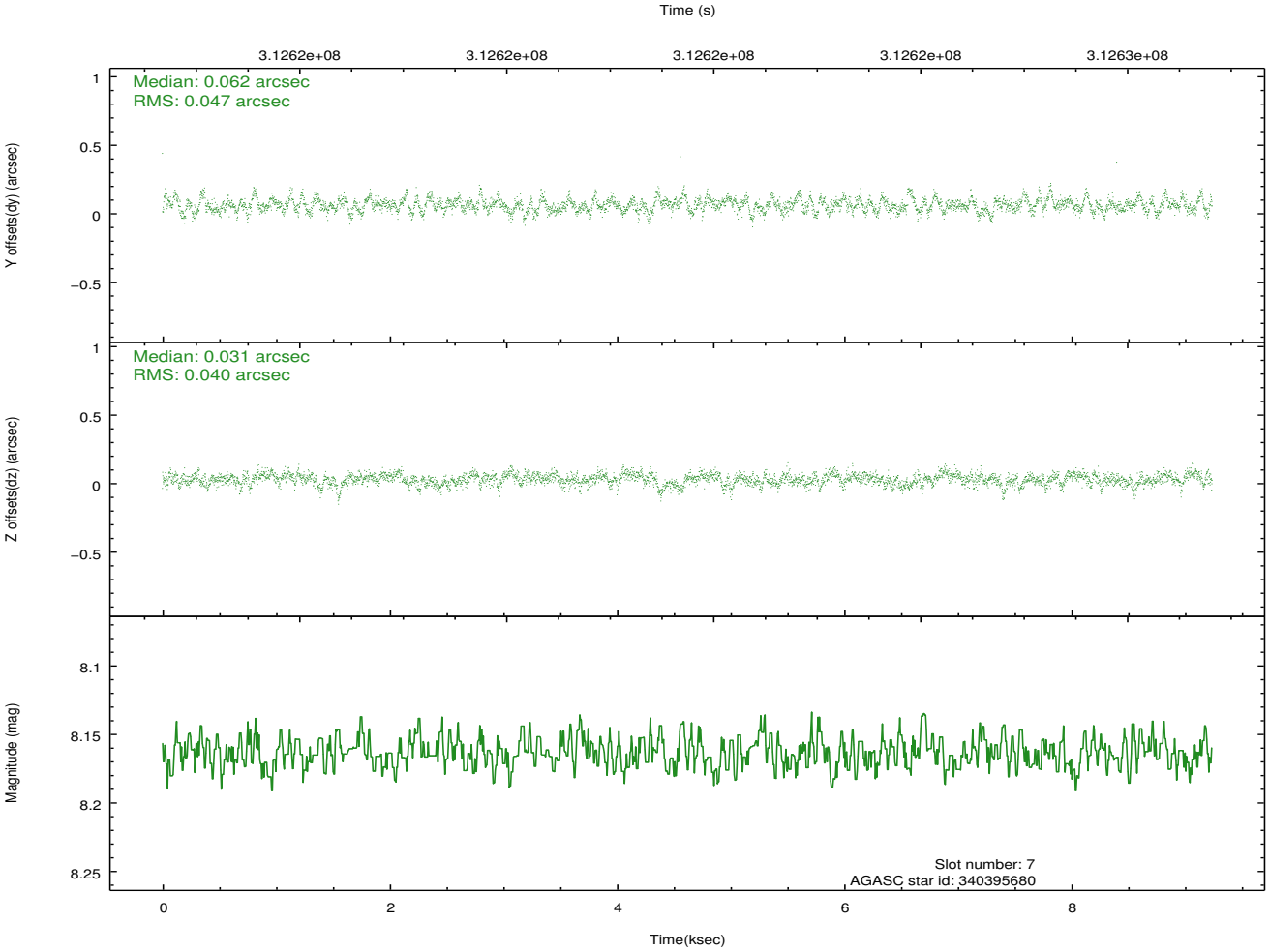

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.248 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 340406200


Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: −0.003 arcsec
RMS: 0.051 arcsec
Y offsets(dy) (arcsec)
Median: −0.248 arcsec
RMS: 0.030 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 340406200
Time(ksec)

2.4.5 Slot 7

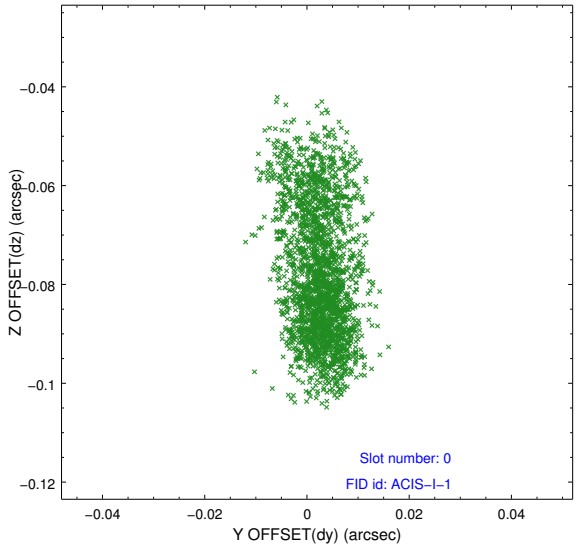

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 340395680

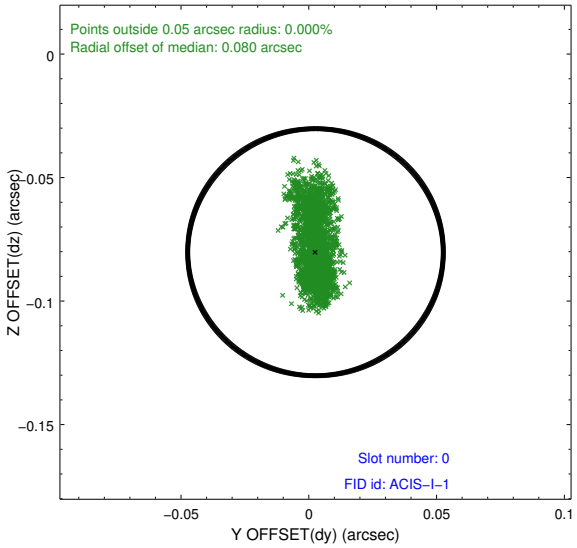

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.069 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 340395680

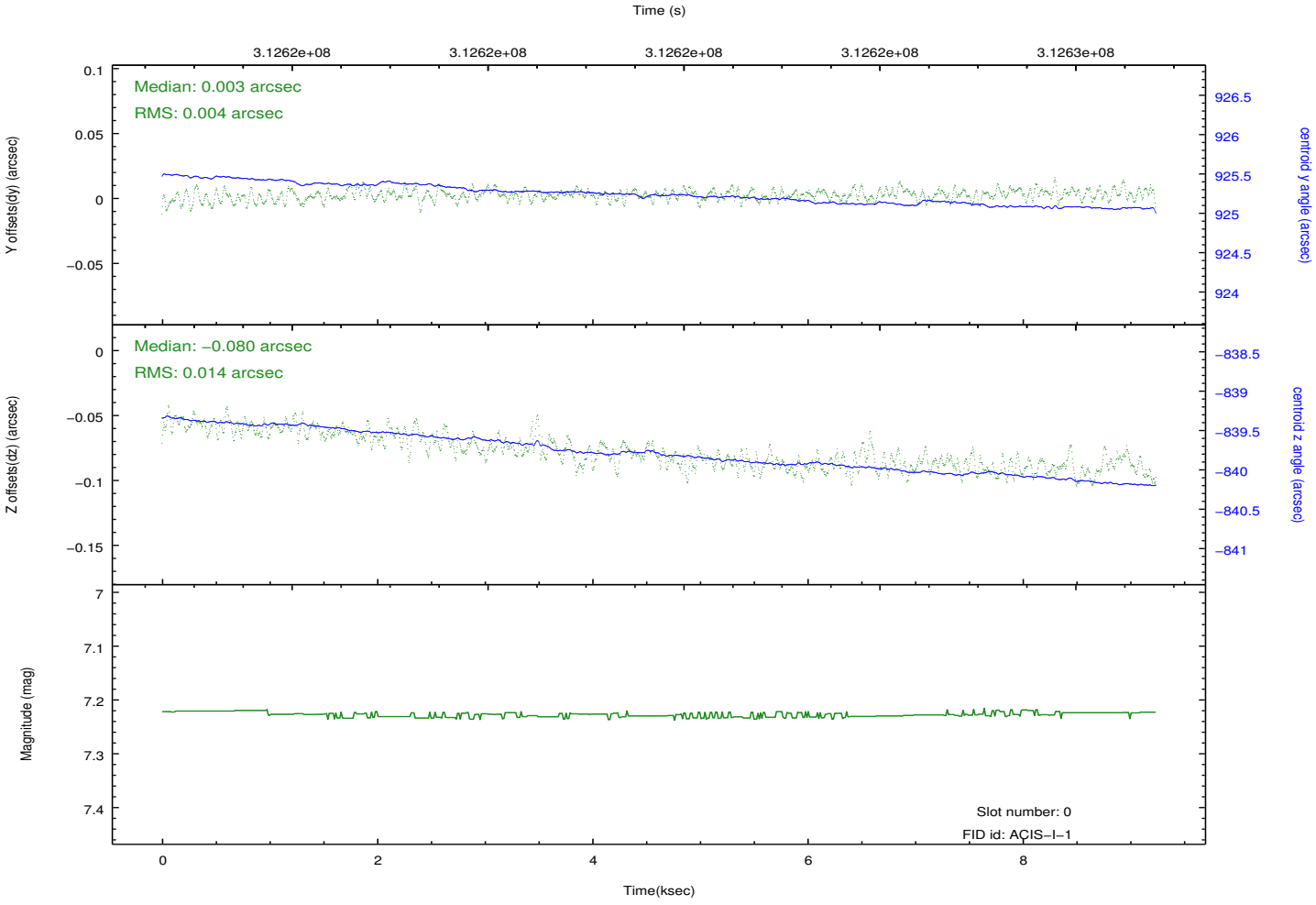

Time (s)
3.1262e+08
3.1262e+08
3.1262e+08
3.1262e+08
3.1263e+08
Median: 0.062 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: 0.031 arcsec
RMS: 0.040 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 340395680
Time(ksec)

2.5 FID Slots

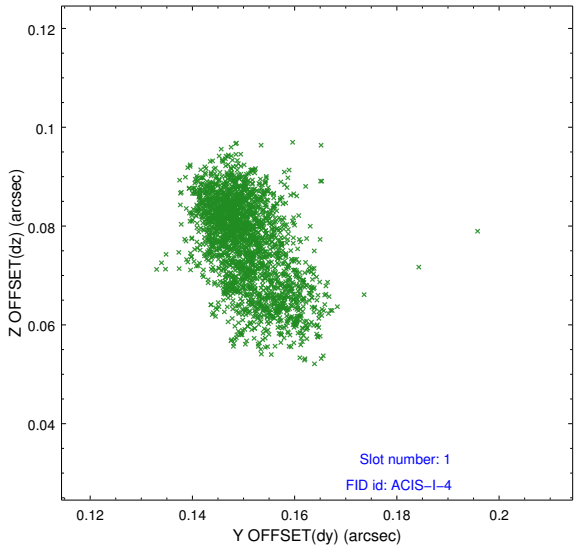
2.5.1 Slot 0

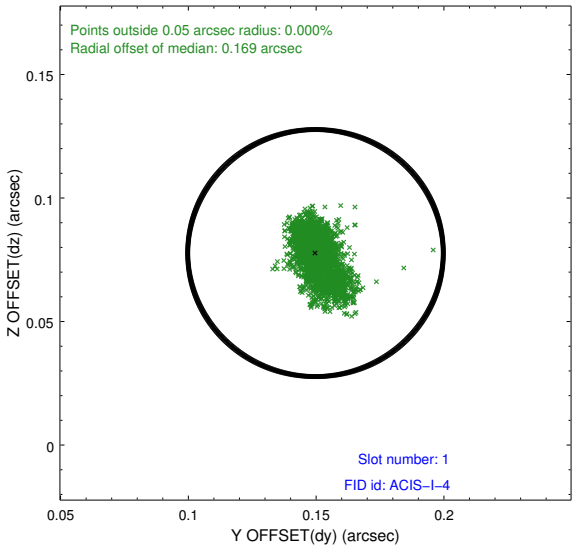


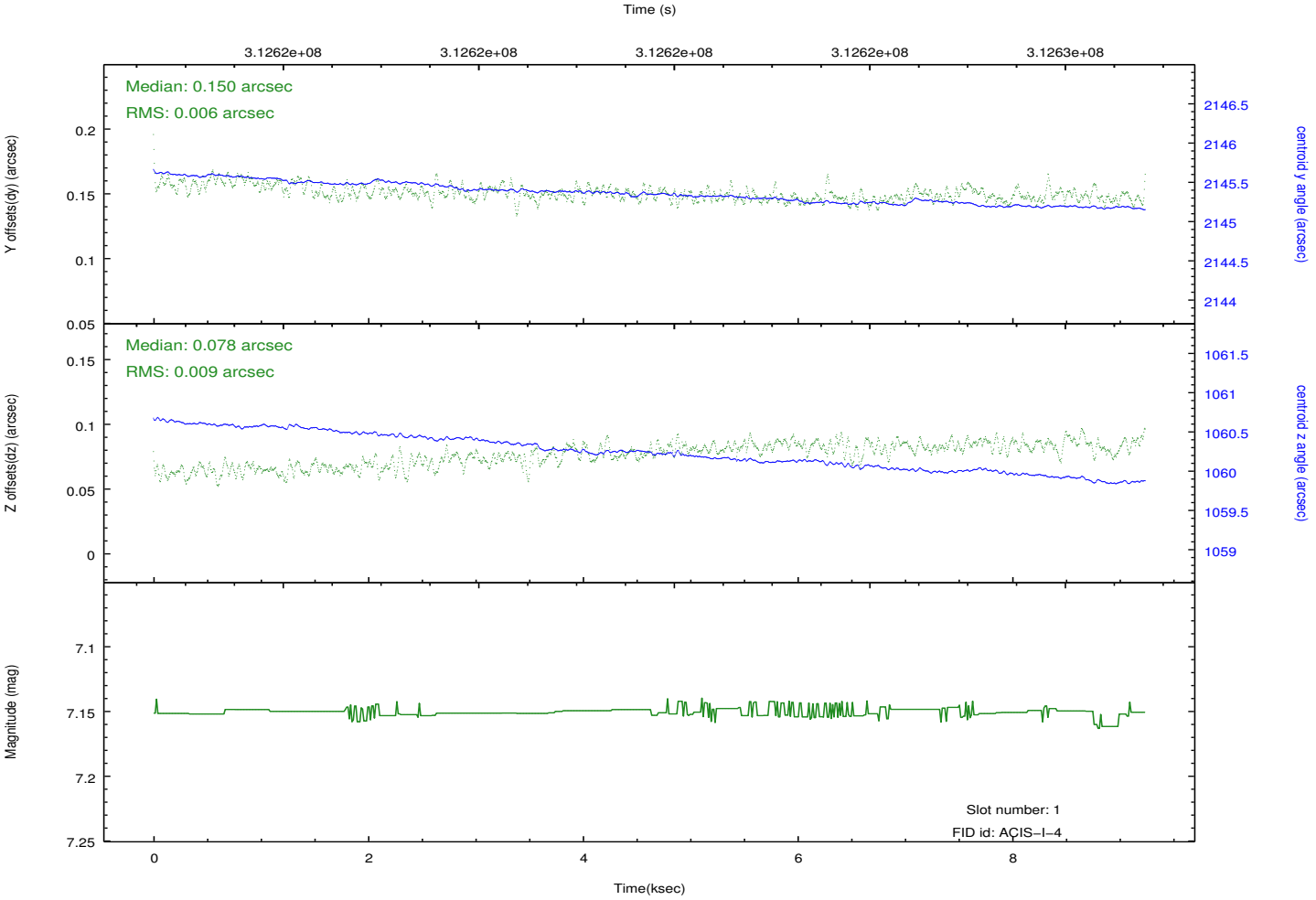




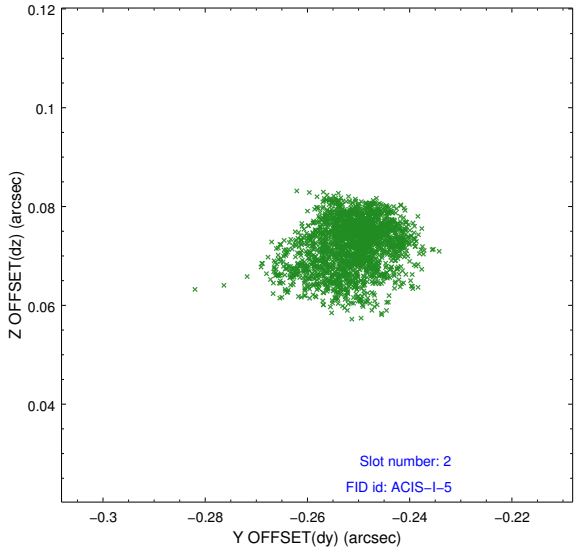
2.5.2 Slot 1

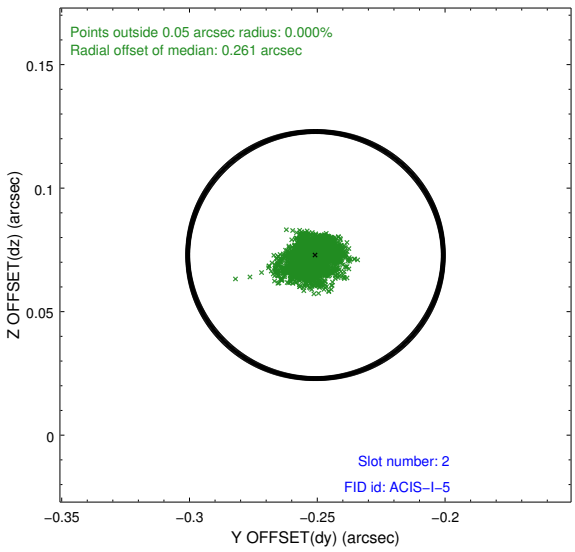

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–I–4

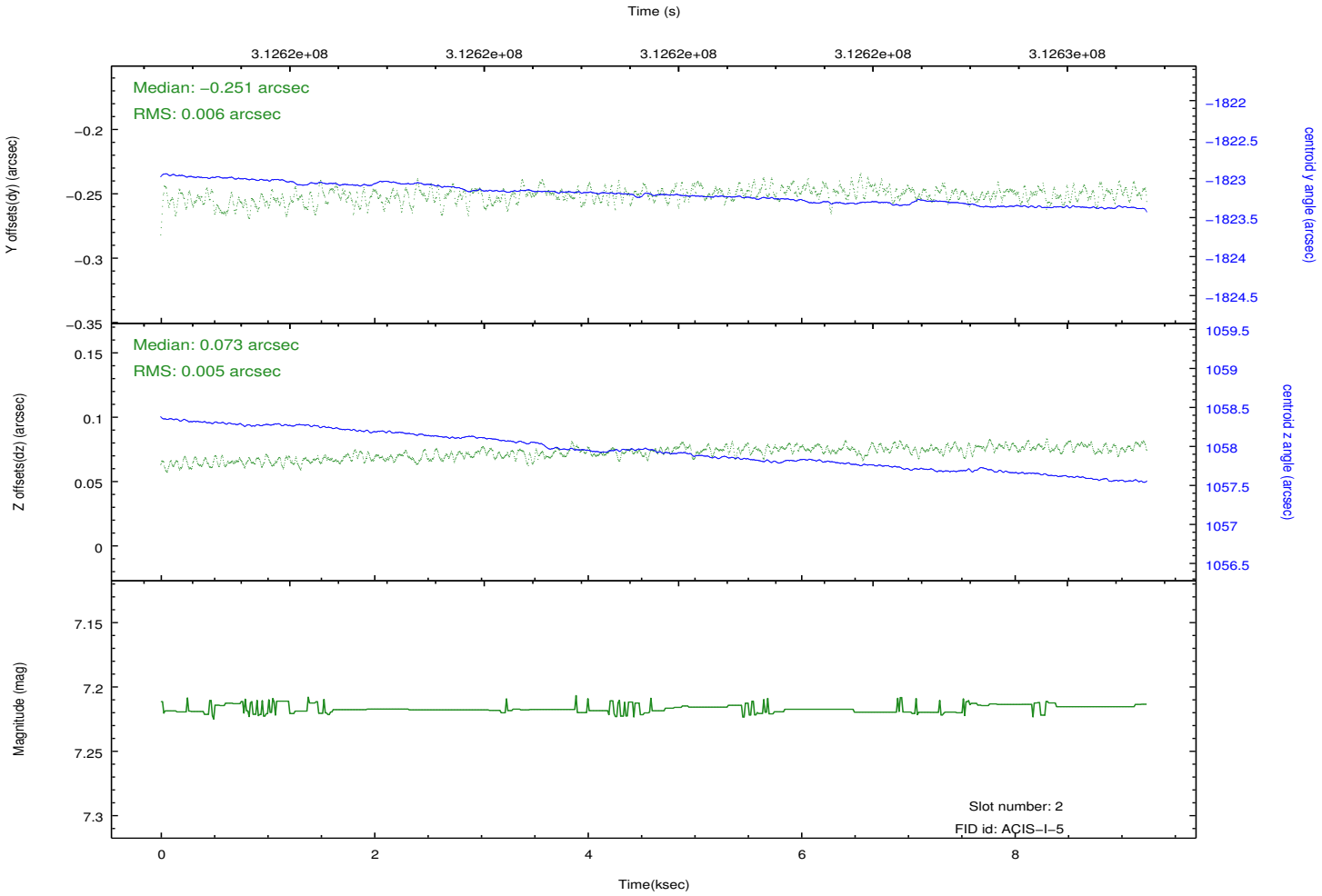

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.169 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–I–4


Time (s)
Median: 0.150 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.078 arcsec
RMS: 0.009 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS–I–4
Time(ksec)

2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−5


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.261 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−5


Time (s)
Median: −0.251 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.073 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−I−5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.05.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.04270006

A.2 Comments

A spatial region of the original bias map for CCD = 2 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 2 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords: (252.22159,34.90666),(252.22432,34.91831),(252.05729,34.94481),(252.0545 9,34.93316)