V&V Reference Report
L2 ASCDS Version : 8.4.3

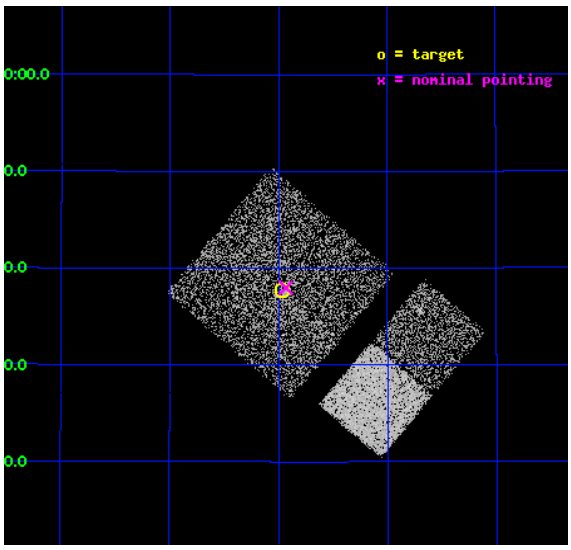
Observation 12816 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 7 2012

Contents

1 Front

seq_num	702452	Sequence number
obs_id	12816	Observation id
title	A Systematic Chandra Survey of AGN in Major Mergers -- How many Binary AGN are out there?	Proposal title
observer	DR. Kevin Schawinski	Principal investigator
object	GZ_merger_AGN_6	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	247.492083	Observer's specified target RA [deg]
dec_targ	40.628556	Observer's specified target Dec [deg]
ra_nom	247.48293469454	Nominal RA [deg]
dec_nom	40.632879365216	Nominal Dec [deg]
roll_nom	130.28417697026	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4966.3999815583	Sum of GTIs [s]
livetime	4903.5124345848	Livetime [s]
ontime0	4966.3999815583	Sum of GTIs [s]
ontime1	4966.3999815583	Sum of GTIs [s]
ontime2	4966.3999815583	Sum of GTIs [s]
ontime3	4966.3999815583	Sum of GTIs [s]
ontime6	4966.3999815583	Sum of GTIs [s]
ontime7	4966.3999815583	Sum of GTIs [s]
l2events	20785	Number of level 2 events

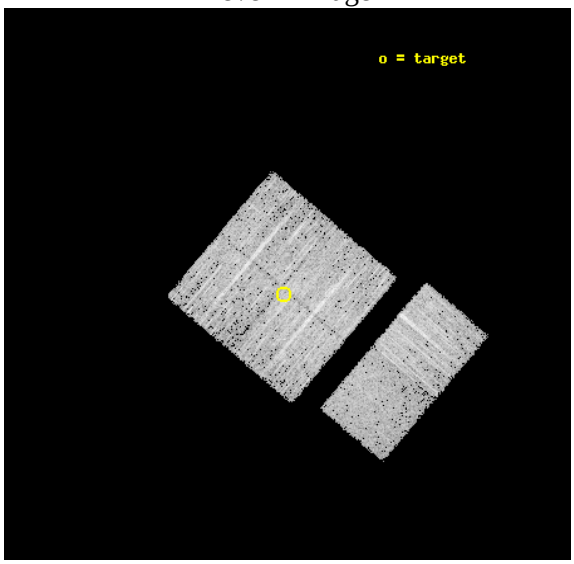


2 OBI

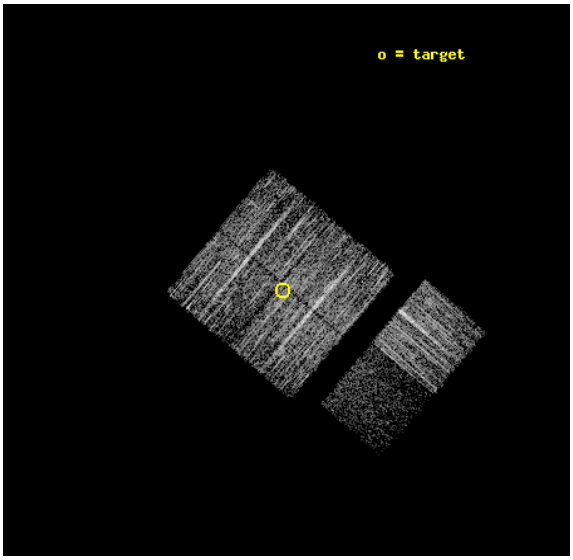
2.1 OBI

2.1.1 Images

Level 1 Image

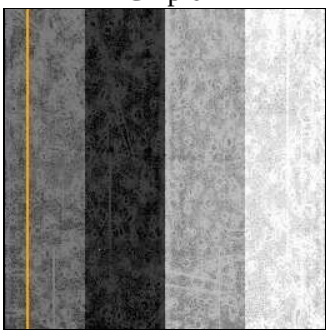


Level 1 Bad Events

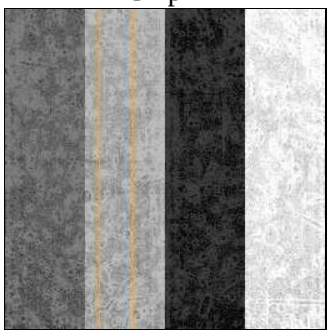


2.1.2 Bias

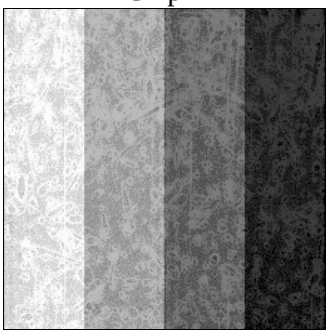
Chip 0



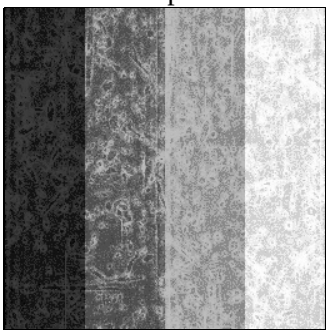
Chip 1



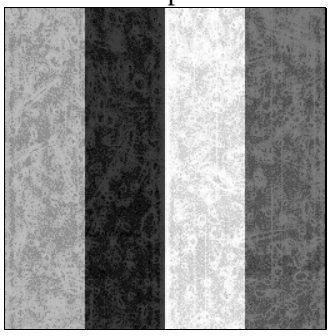
Chip 2



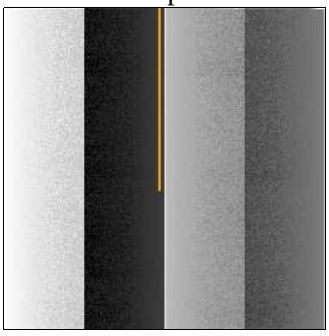
Chip 3



Chip 6



Chip 7



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	8.4.3	Processing system revision
caldbver	4.4.7	
date	2012-02-08T03:18:09	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ontime	4966.3999815583	Sum of GTIs [s]
ontime0	4966.3999815583	Sum of GTIs [s]
ontime1	4966.3999815583	Sum of GTIs [s]
ontime2	4966.3999815583	Sum of GTIs [s]
ontime3	4966.3999815583	Sum of GTIs [s]
ontime6	4966.3999815583	Sum of GTIs [s]
ontime7	4966.3999815583	Sum of GTIs [s]
l1events	144625	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
level 1 events	23408	23581	26732	25668	27280	17956
rejected events	20572	20811	24013	23037	24611	7791
rejected %	87%	88%	89%	89%	90%	43%

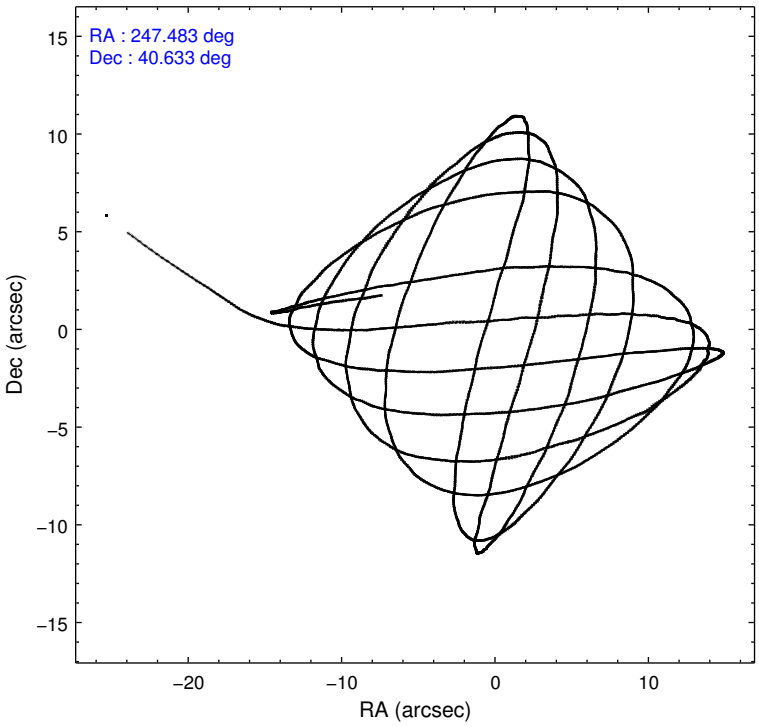
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
grade 0 events	1241	1162	1215	1158	1089	1356
	5%	4%	4%	4%	3%	7%
grade 1 events	10	11	30	18	12	39
	0%	0%	0%	0%	0%	0%
grade 2 events	636	631	640	518	617	2462
	2%	2%	2%	2%	2%	13%
grade 3 events	314	294	255	305	231	1009
	1%	1%	0%	1%	0%	5%
grade 4 events	293	286	261	256	280	974
	1%	1%	0%	0%	1%	5%
grade 5 events	558	579	497	624	634	1948
	2%	2%	1%	2%	2%	10%
grade 6 events	359	400	350	396	453	4371
	1%	1%	1%	1%	1%	24%
grade 7 events	19997	20218	23484	22393	23964	5797
	85%	85%	87%	87%	87%	32%

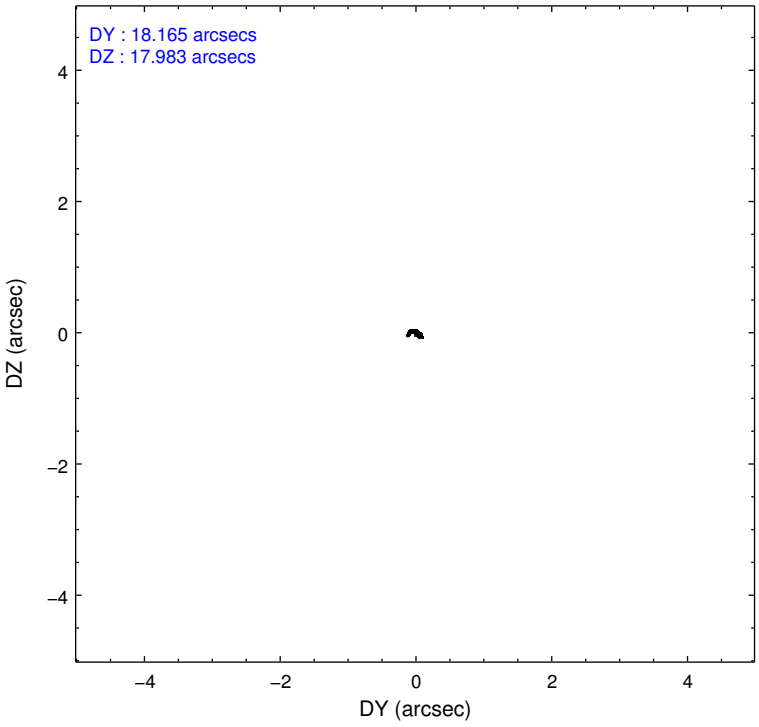
2.2 Compared Parameters

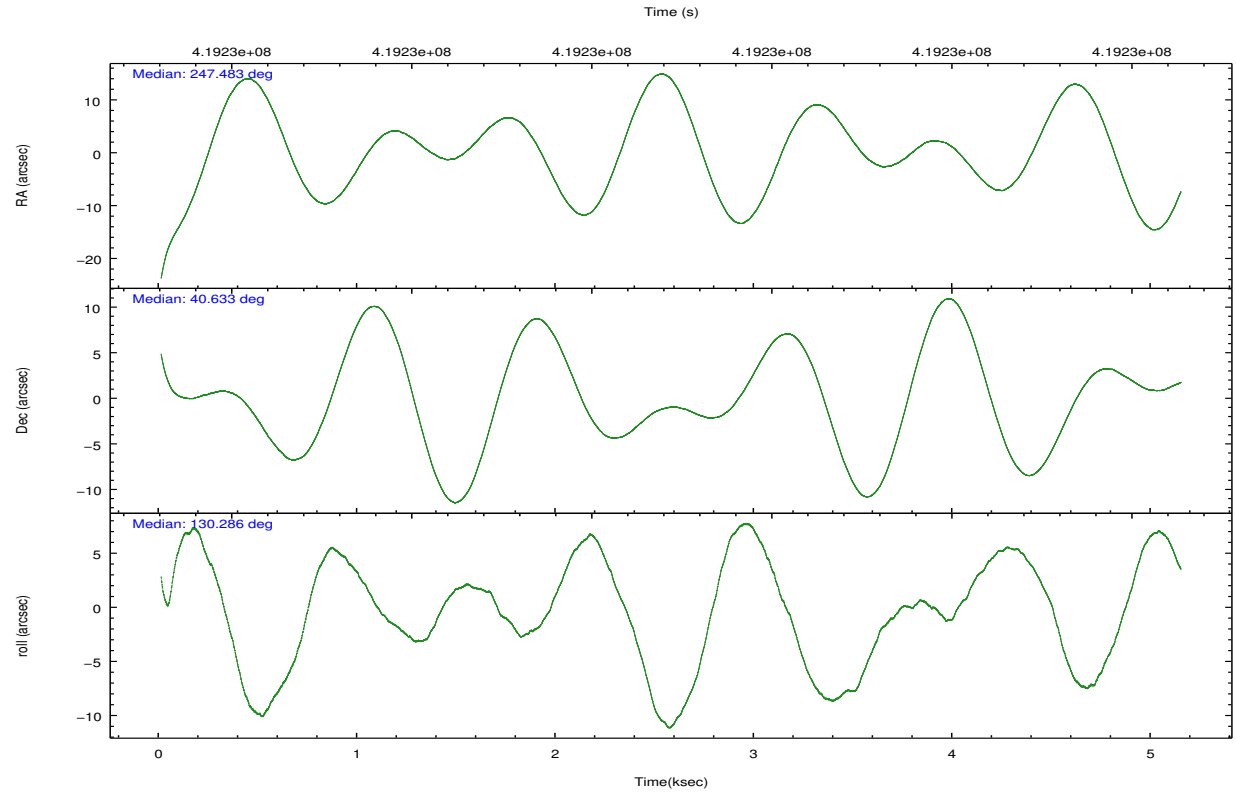
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	247.517247	247.4829346945361
[deg] Pointing Dec	40.623717	40.63287936521601
[deg] Pointing Roll	130.053165	130.2841769702647
[mm] 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)	419229019.184000	419227991.98851
Observation start date	2011-04-15T04:29:13	2011-04-15T04:13:11
[s] Observation end time (MET)	419234019.184000	419234480.75135
Observation end date	2011-04-15T05:52:33	2011-04-15T06:01:20
Read mode	TIMED	TIMED

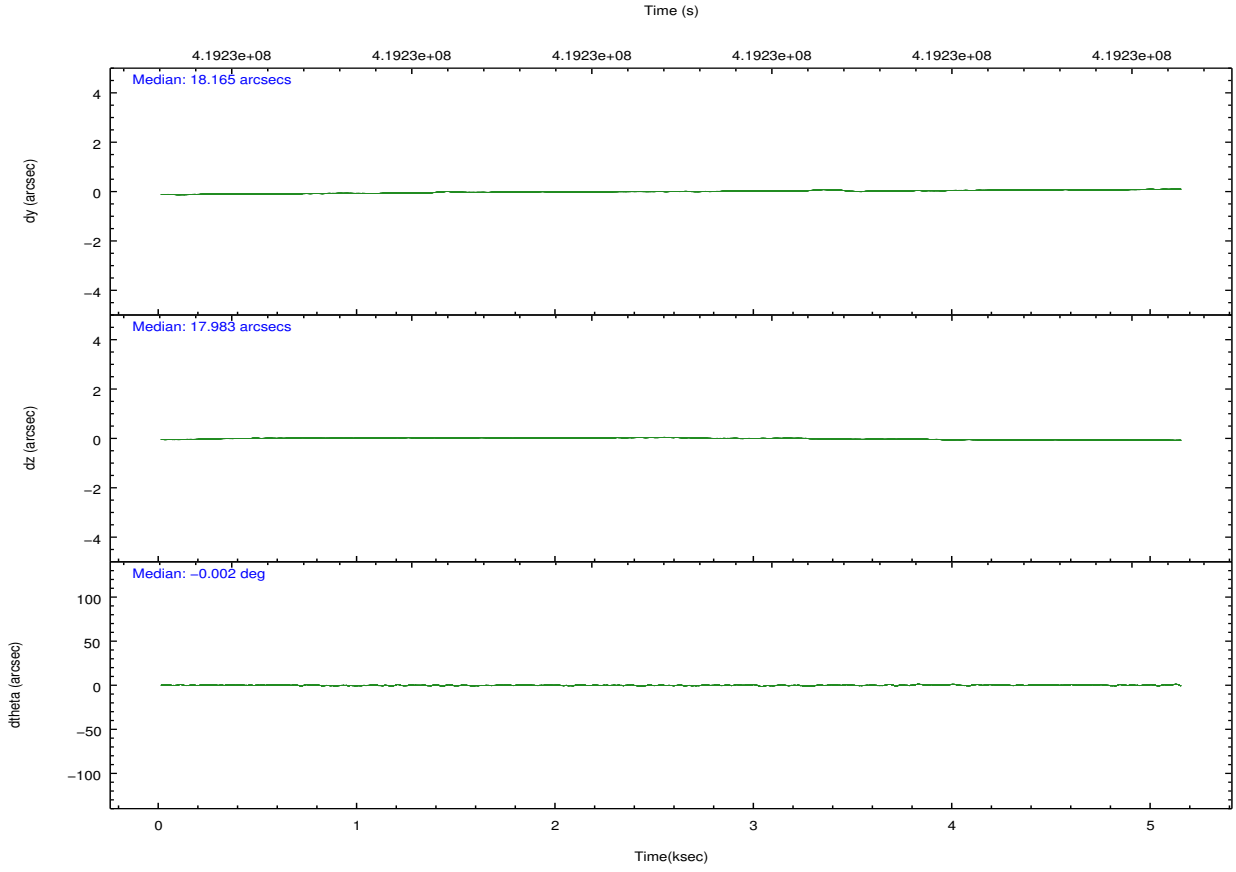
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	Y	Y
CCD I1 on	Y	Y
CCD I2 on	Y	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O1	Y
CCD S3 on	O2	Y
CCD S4 on	N	N
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 247.483 deg
Dec : 40.633 deg
15
10
5
0
−5
−10
−15
Dec (arcsec)
−20
−10
0
10
RA (arcsec)


DY : 18.165 arcsecs
DZ : 17.983 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
Median: 247.483 deg
RA (arcsec)
Median: 40.633 deg
Dec (arcsec)
Median: 130.286 deg
roll (arcsec)
Time(ksec)

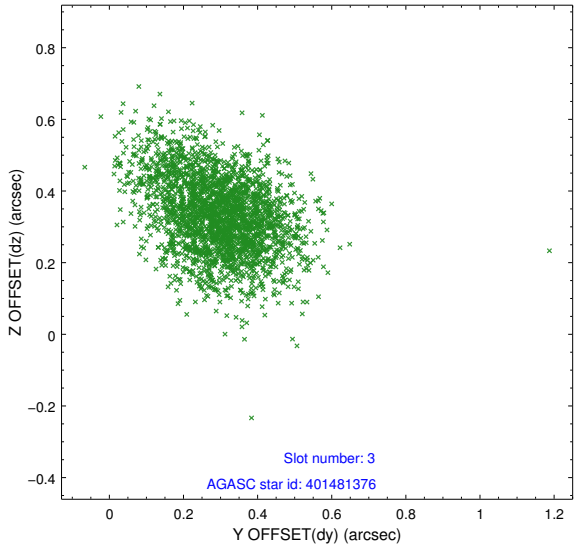

Time (s)
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
4.1923e+08
Median: 18.165 arcsecs
dy (arcsec)
Median: 17.983 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

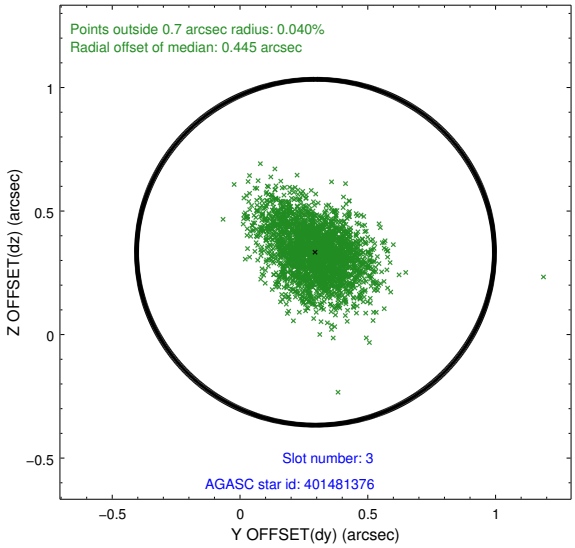
Slot Statistics

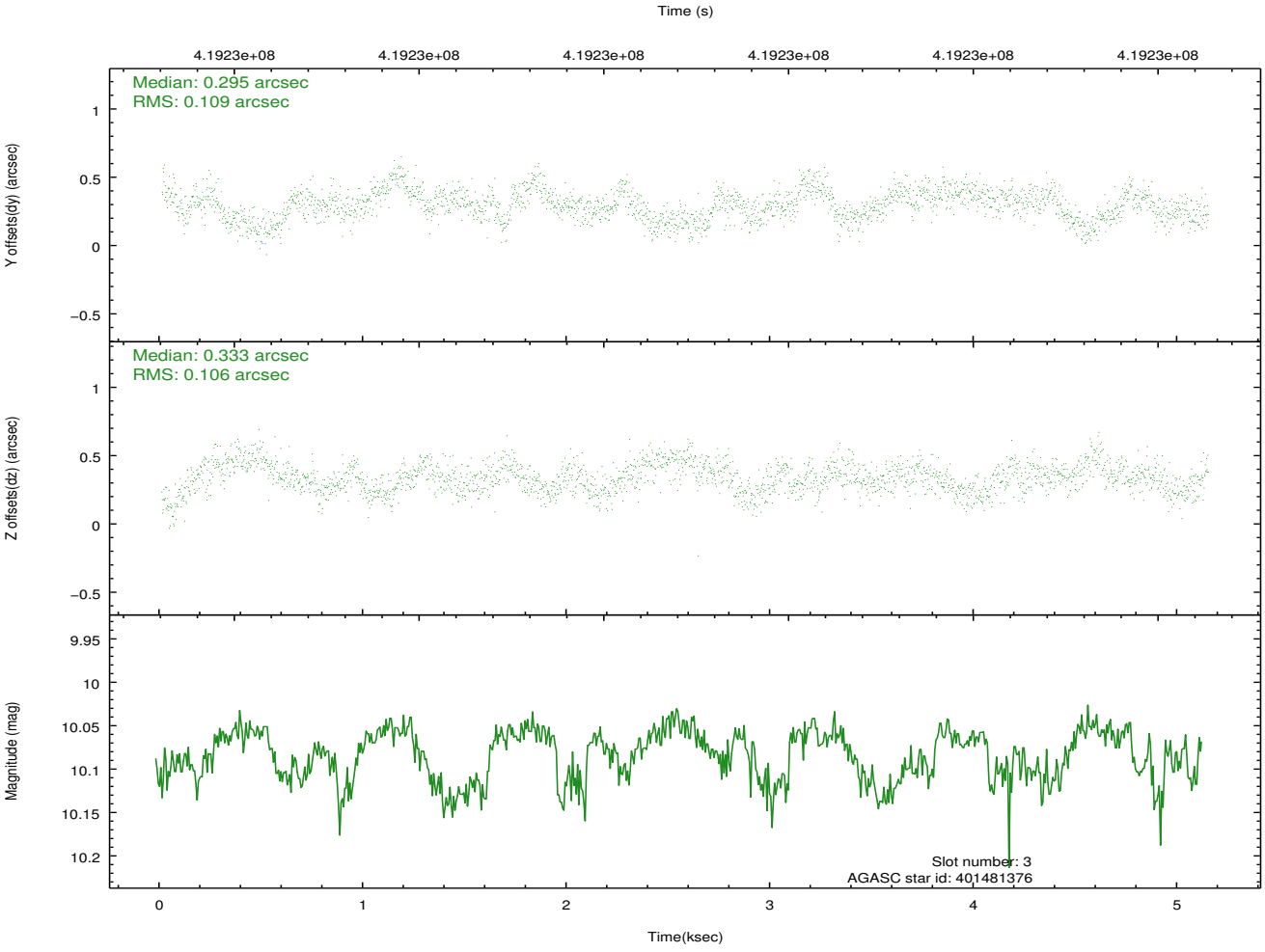
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.04	1254	0.045	0.021	0.006	0.011	0.000000	0.000000	921.26	-841.62
1	FID	ACIS-I-5	7.02	1254	-0.228	0.053	0.006	0.011	0.000000	0.000000	-1826.48	1055.29
2	FID	ACIS-I-6	7.05	1254	0.093	-0.004	0.007	0.010	0.000000	0.000000	385.55	1701.09
3	GUIDE	401481376	10.08	2504	0.295	0.333	0.158	0.268	247.358550	39.904430	-1699.06	2002.19
4	GUIDE	401877520	8.48	2507	-0.134	-0.182	0.080	0.135	247.833314	40.456560	-1017.00	-275.60
5	GUIDE	401877592	9.17	2509	-0.508	-0.188	0.107	0.168	246.681140	40.914019	2271.11	1061.33
6	GUIDE	401883728	9.59	2507	0.017	-0.075	0.170	0.280	247.539414	41.407332	2121.99	-1860.42
7	GUIDE	401882992	9.38	2501	0.327	0.110	0.124	0.208	247.733679	41.483264	1995.08	-2439.03

2.4 Star Slots

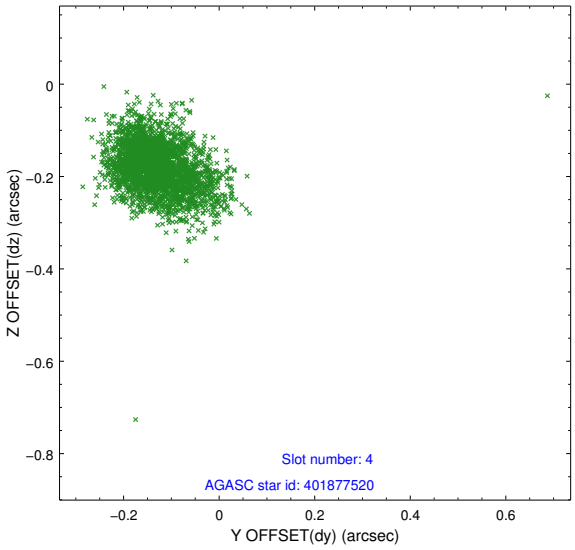
2.4.1 Slot 3

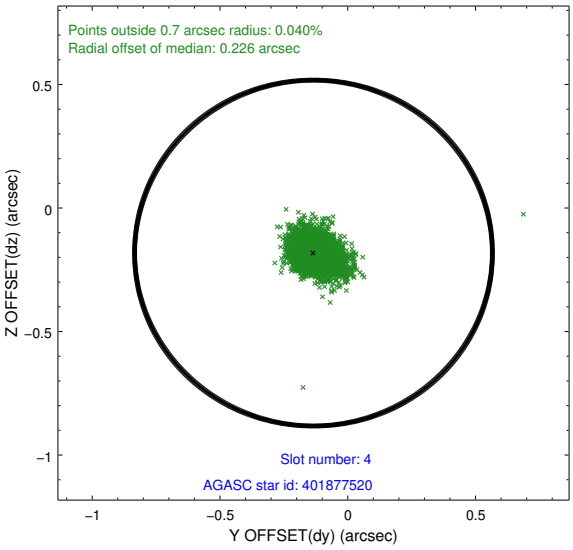


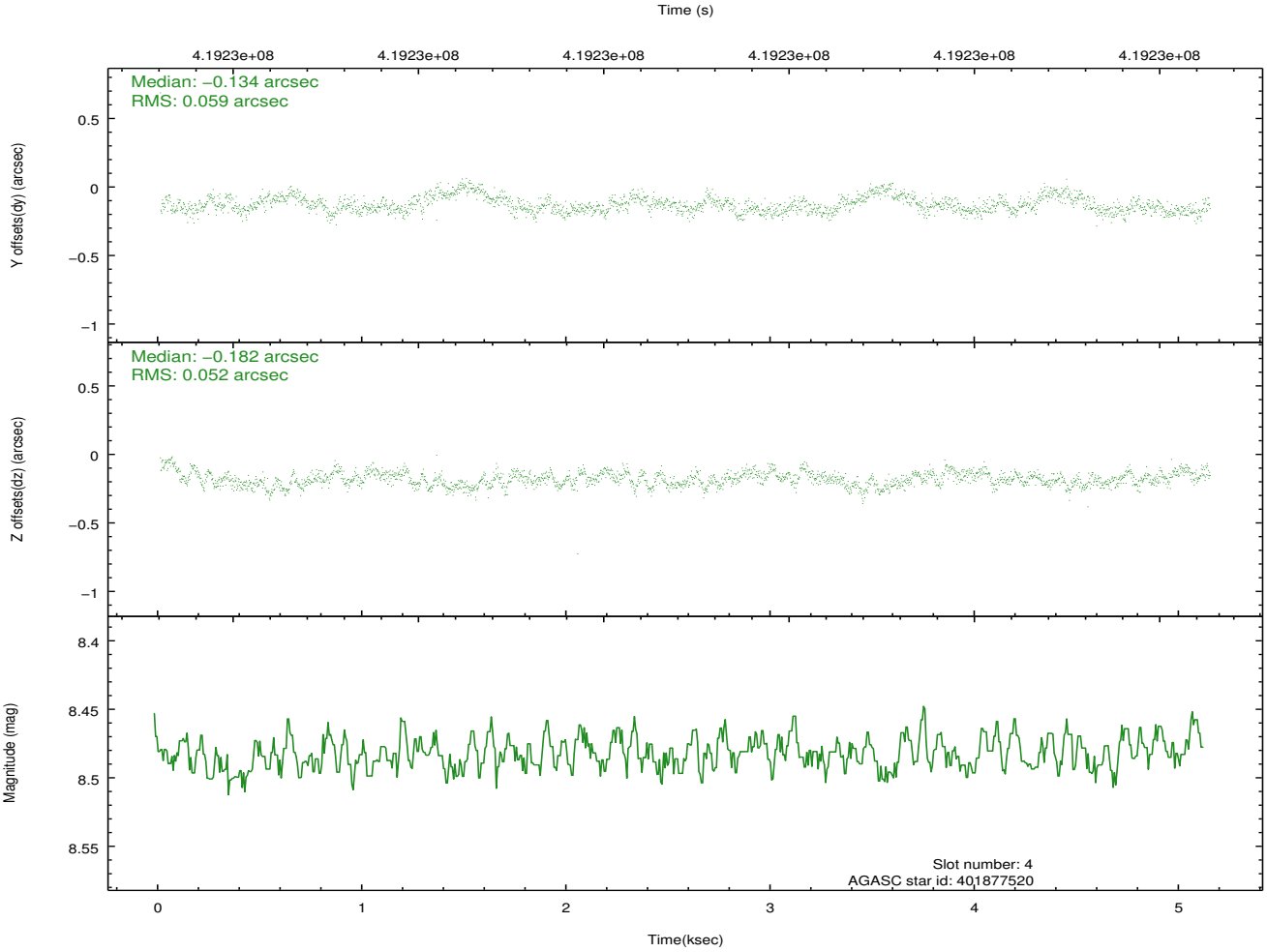




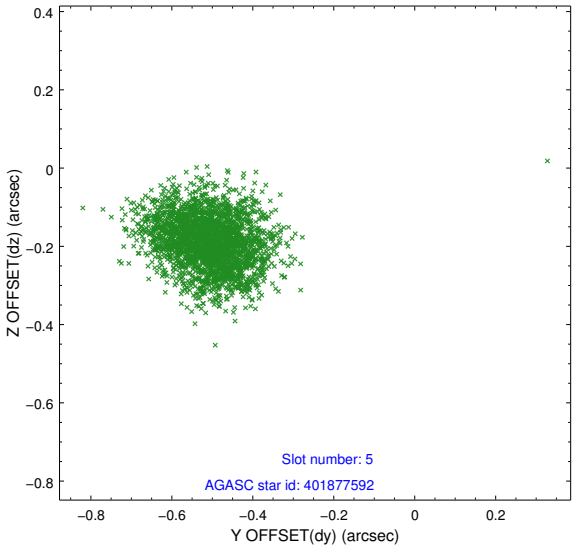
2.4.2 Slot 4

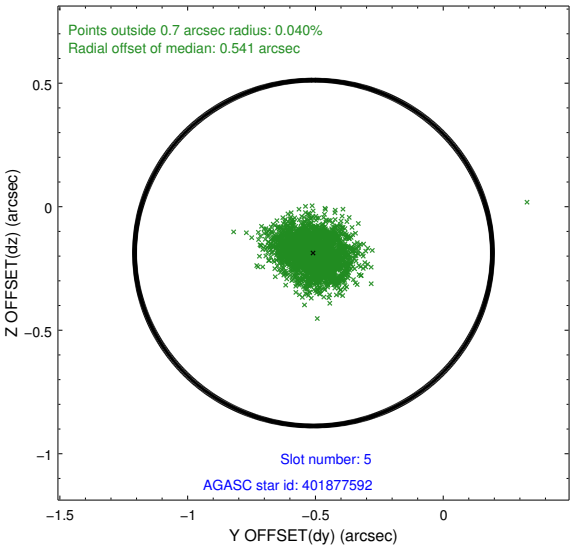

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 401877520

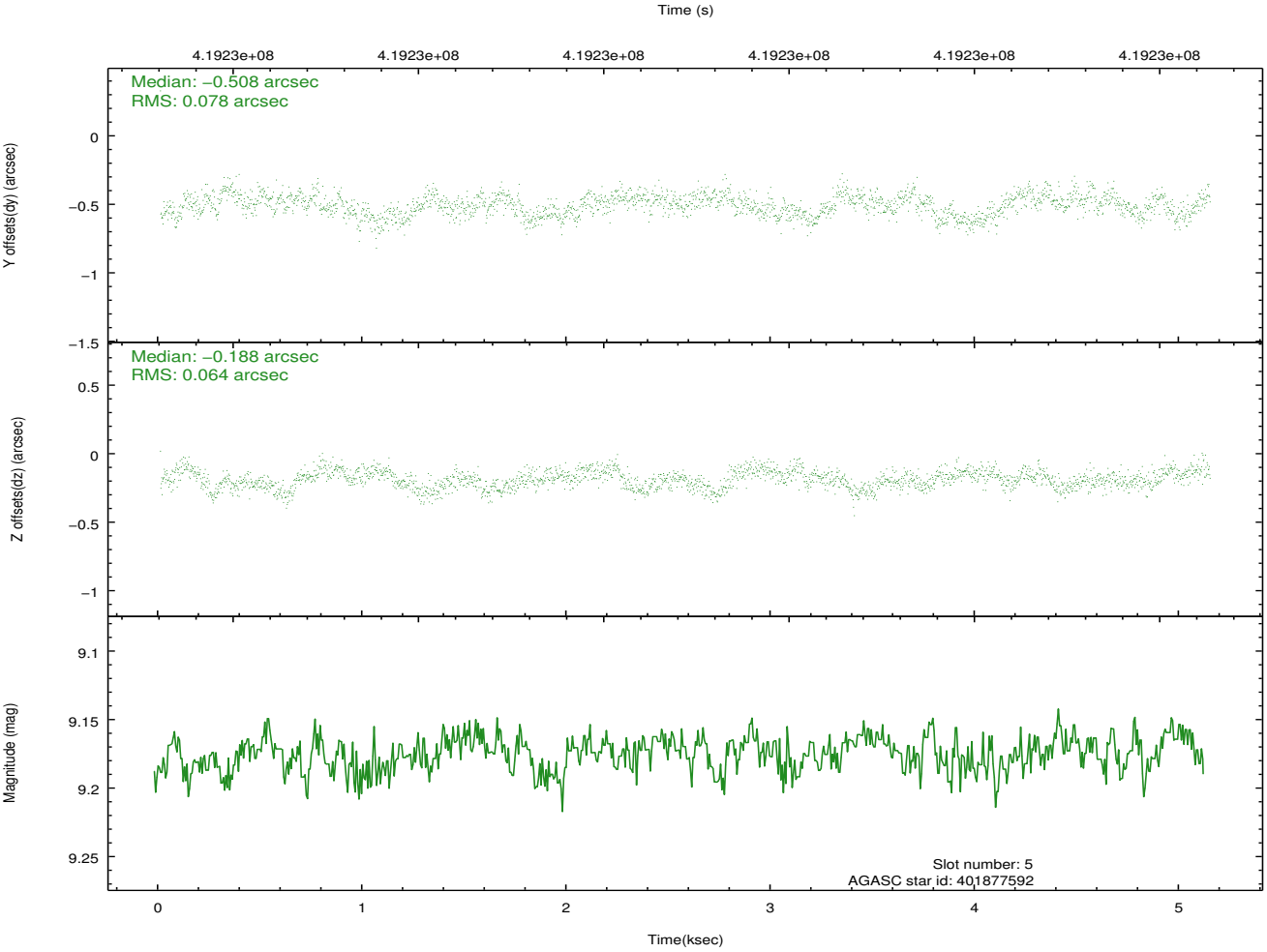

Points outside 0.7 arcsec radius: 0.040%
Radial offset of median: 0.226 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 401877520


Time (s)
4.1923e+08
Median: −0.134 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.182 arcsec
RMS: 0.052 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 401877520
Time(ksec)

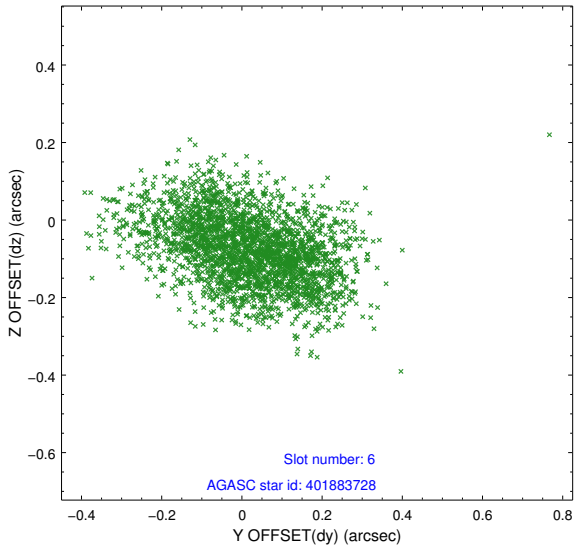
2.4.3 Slot 5

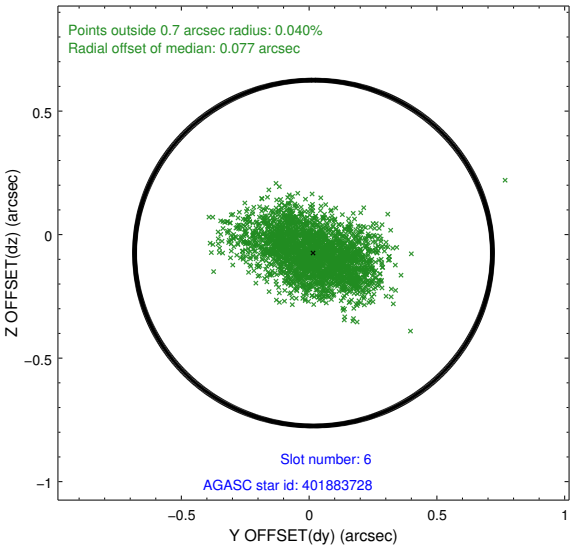

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 401877592

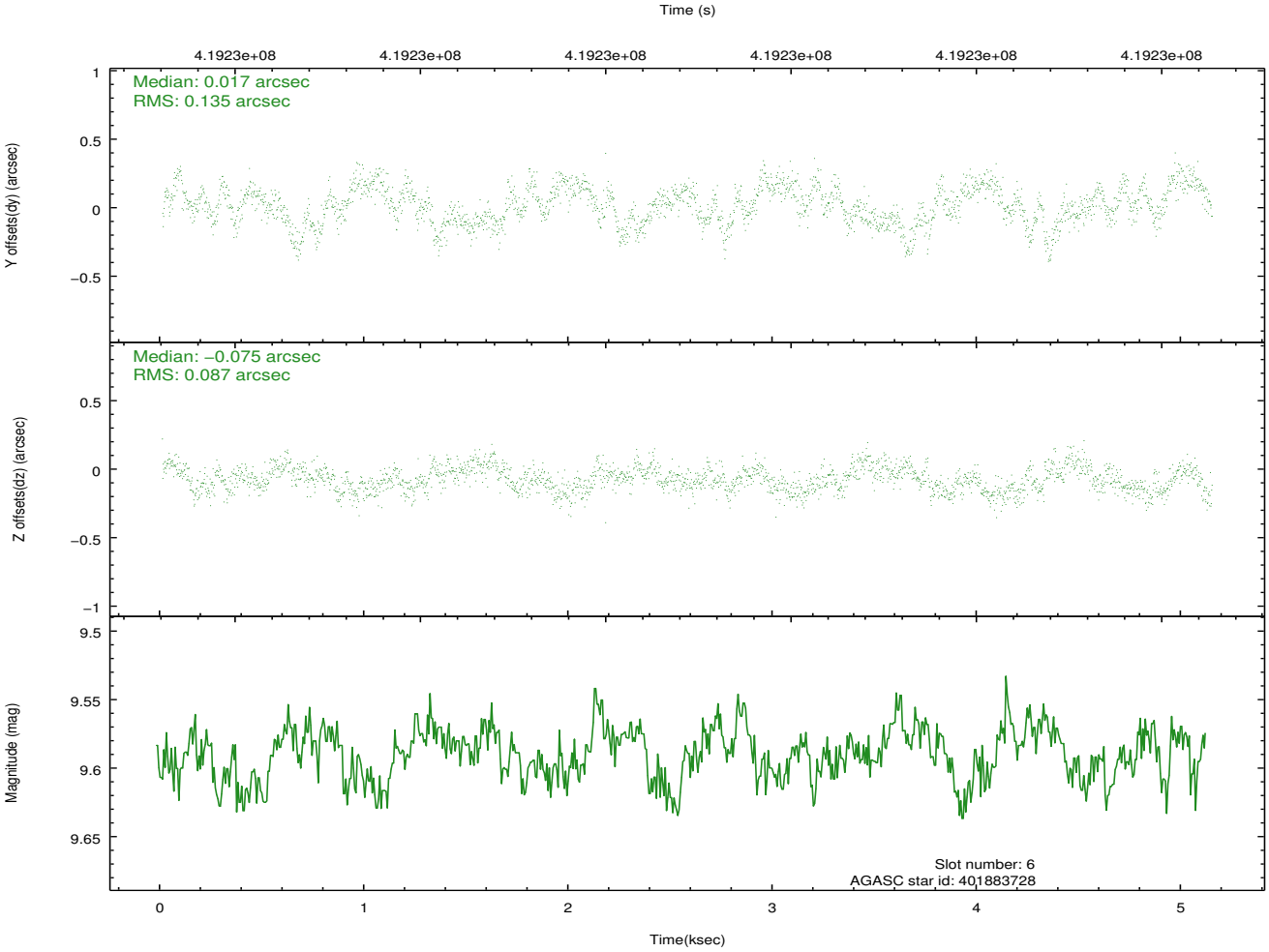

Points outside 0.7 arcsec radius: 0.040%
Radial offset of median: 0.541 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 401877592


Time (s)
Median: −0.508 arcsec
RMS: 0.078 arcsec
Y offsets(dy) (arcsec)
Median: −0.188 arcsec
RMS: 0.064 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 401877592
Time(ksec)

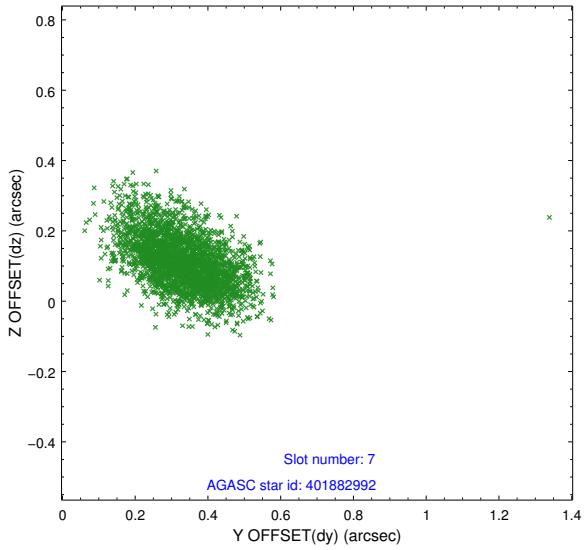
2.4.4 Slot 6

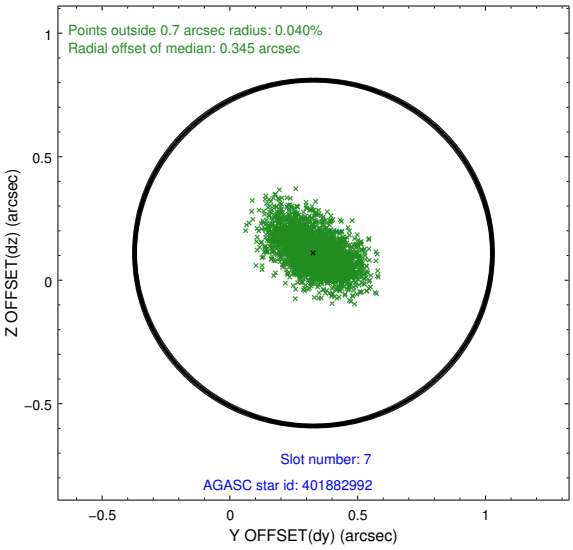

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 401883728

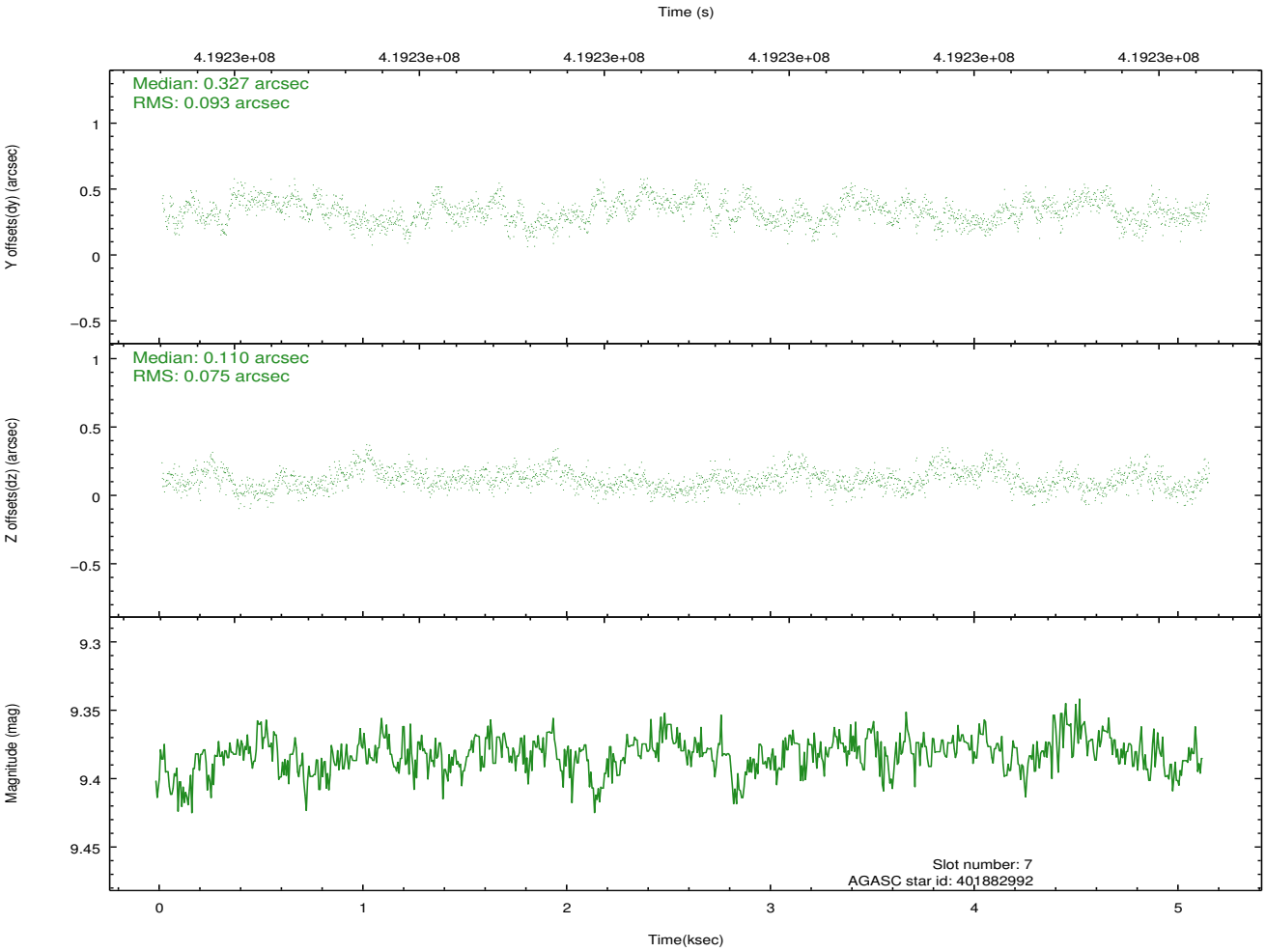

Points outside 0.7 arcsec radius: 0.040%
Radial offset of median: 0.077 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 401883728


Time (s)
Median: 0.017 arcsec
RMS: 0.135 arcsec
Y offsets(dy) (arcsec)
Median: −0.075 arcsec
RMS: 0.087 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 401883728
Time(ksec)

2.4.5 Slot 7

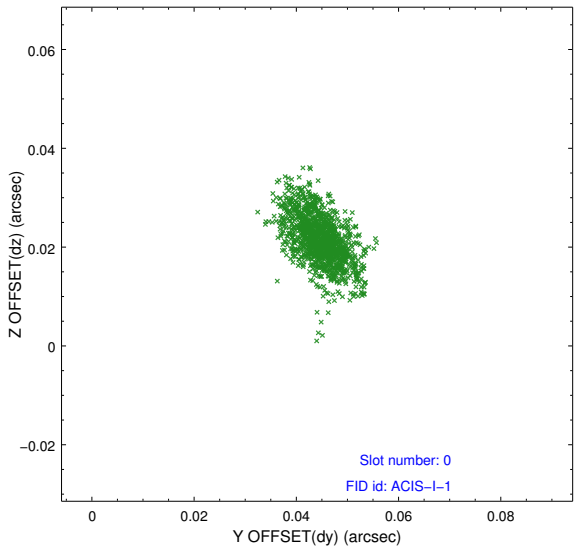

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 401882992

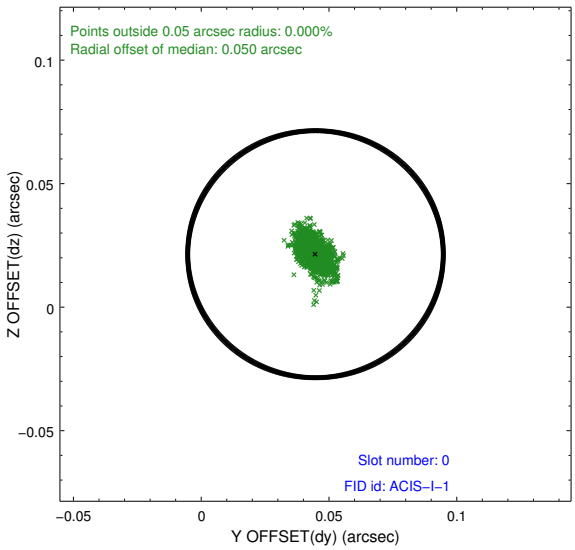

Points outside 0.7 arcsec radius: 0.040%
Radial offset of median: 0.345 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 401882992

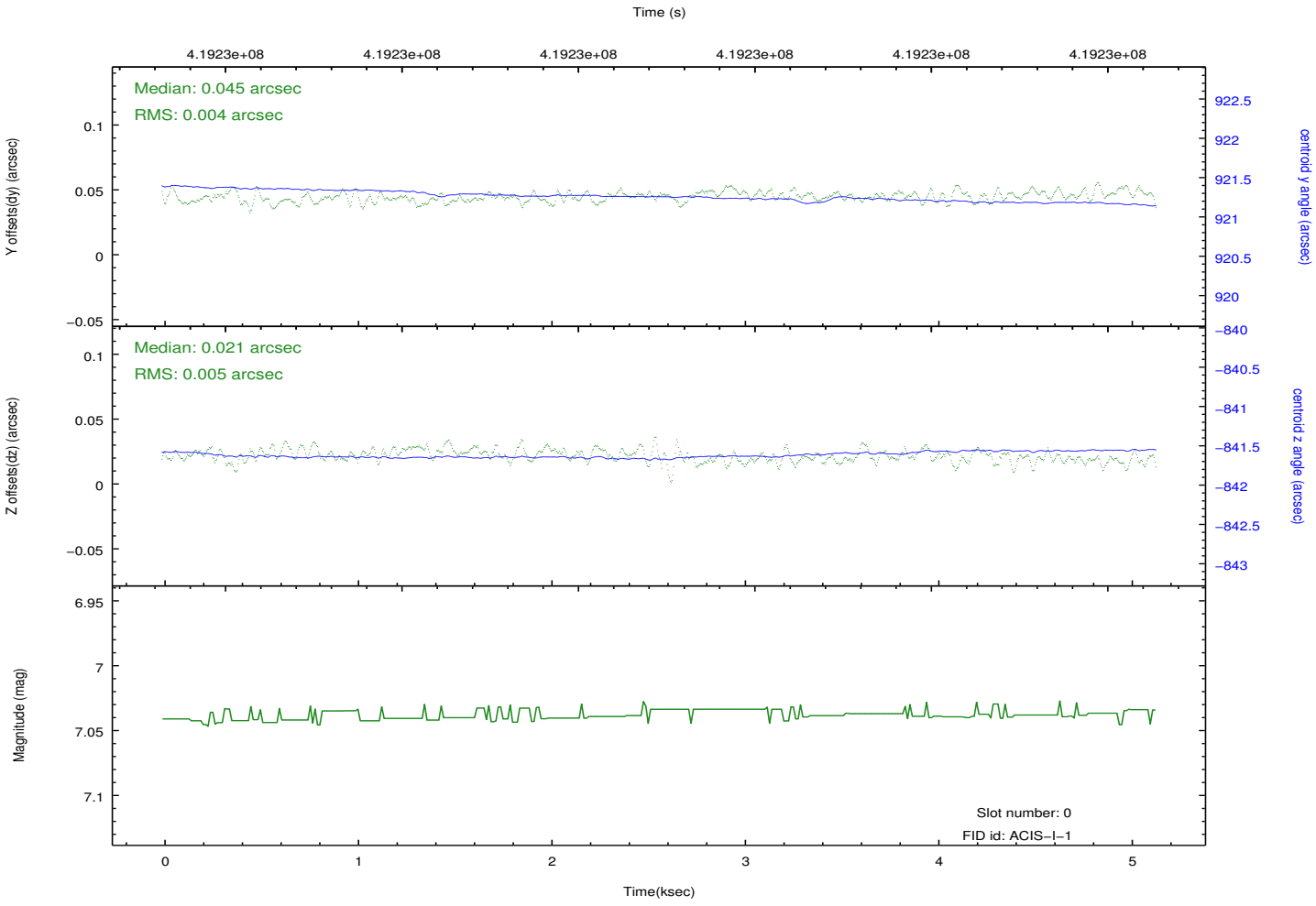

Time (s)
Median: 0.327 arcsec
RMS: 0.093 arcsec
Y offsets(dy) (arcsec)
Median: 0.110 arcsec
RMS: 0.075 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 401882992
Time(ksec)

2.5 FID Slots

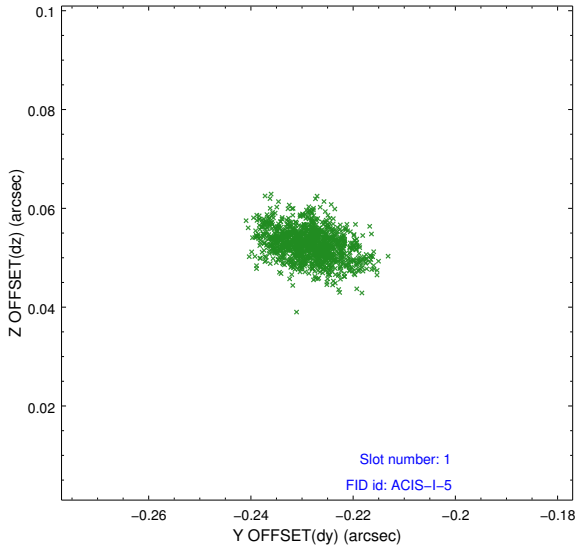
2.5.1 Slot 0

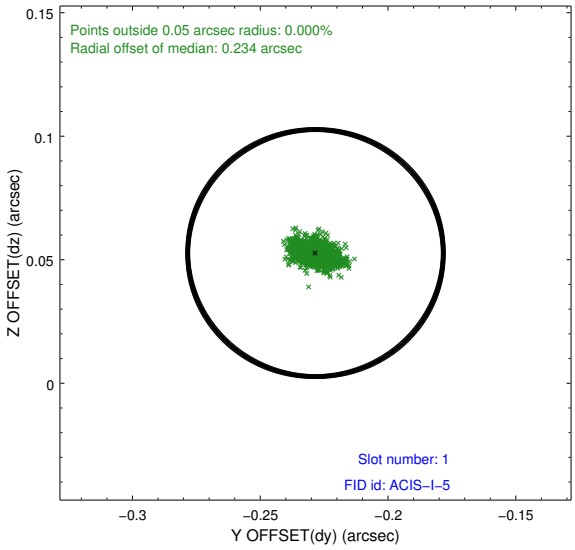


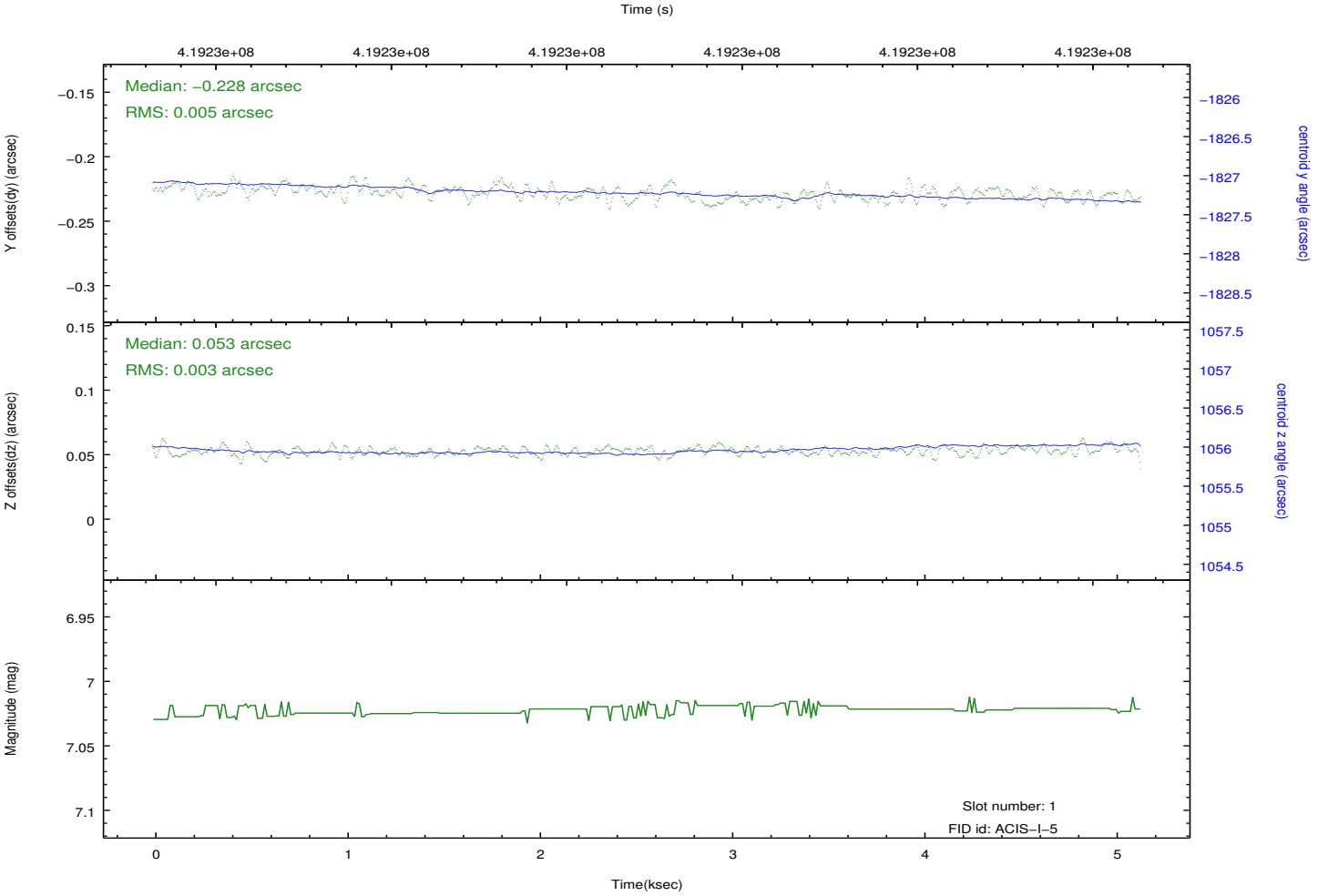




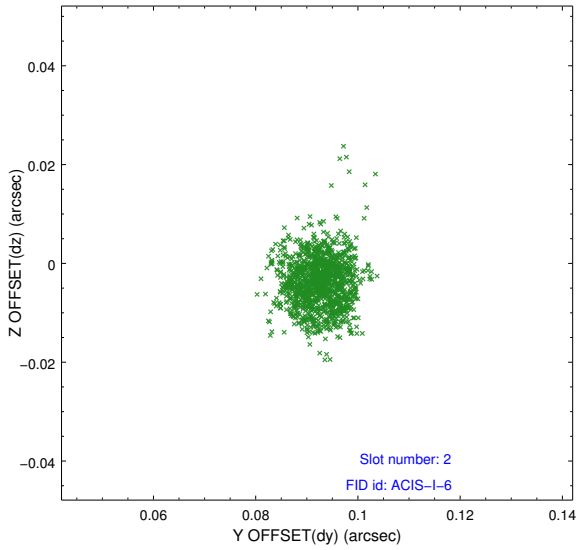
2.5.2 Slot 1

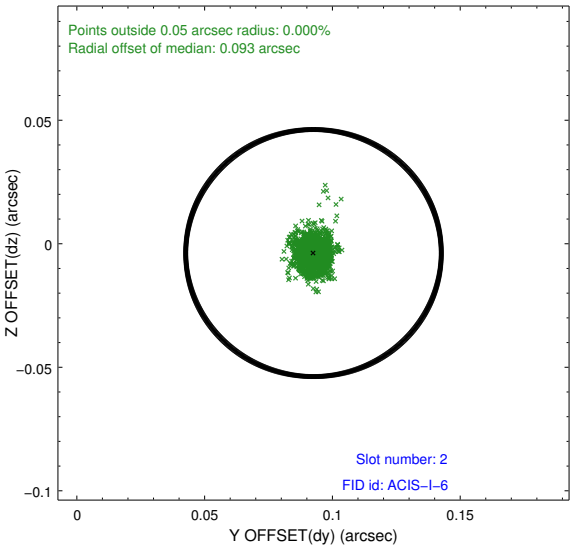

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−5

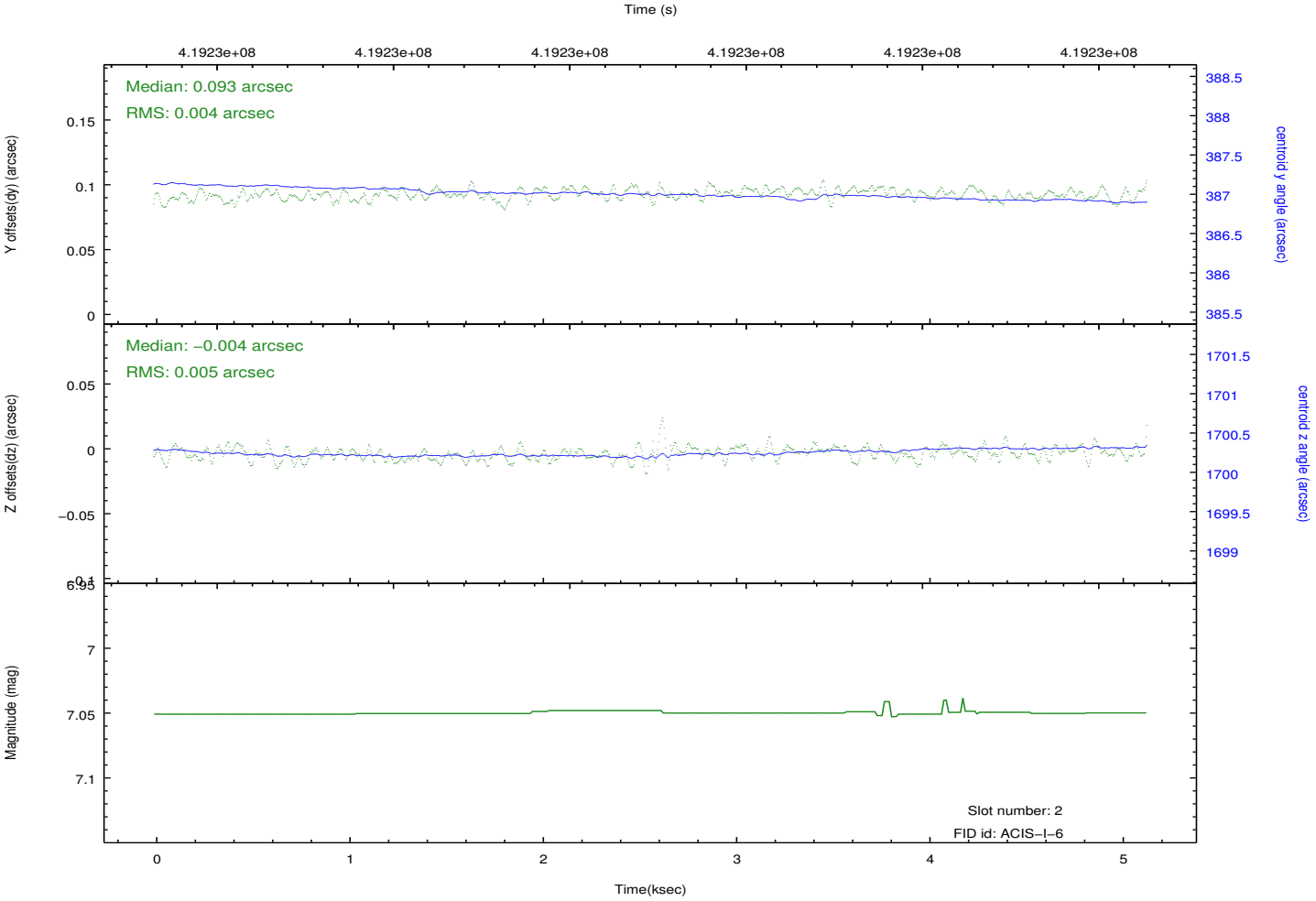

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.234 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−5


Time (s)
Median: −0.228 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.053 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−I−5
Time(ksec)

2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−6


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.093 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−6


Time (s)
Median: 0.093 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.004 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−I−6
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9663999815583

A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use acis_process_events to reprocess the data with the parameter pix_adj=NONE or RANDOMIZE, respectively.