V&V Reference Report
L2 ASCDS Version : 8.4.3

Observation 12478 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 10 2012

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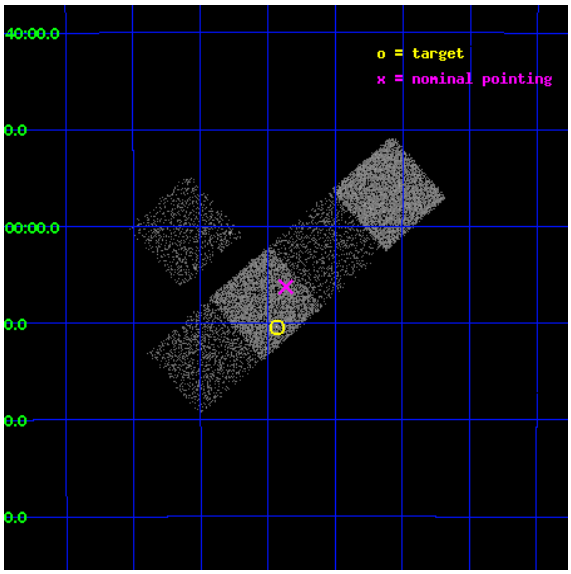
1 Front

seq_num	401219	Sequence number
obs_id	12478	Observation id
title	The Nearest and Brightest Quiescent Low Mass X-ray Binaries	Propos
observer	Prof. Robert Rutledge	Principal investigator
object	1RXS J011955.7-201025	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	19.982083	Observer's specified target RA [deg]
dec_targ	-20.173611	Observer's specified target Dec [deg]
ra_nom	19.966517865797	Nominal RA [deg]
dec_nom	-20.104487883951	Nominal Dec [deg]
roll_nom	138.75548385363	Nominal Roll [deg]
revision	2	Processing version of data
ontime	1642.2538425922	Sum of GTIs [s]
livetime	1620.7965871291	Livetime [s]
ontime3	1642.1307225823	Sum of GTIs [s]
ontime5	1642.2128025889	Sum of GTIs [s]
ontime6	1642.1717625856	Sum of GTIs [s]
ontime7	1642.2538425922	Sum of GTIs [s]
ontime8	1642.089682579	Sum of GTIs [s]
l2events	17357	Number of level 2 events

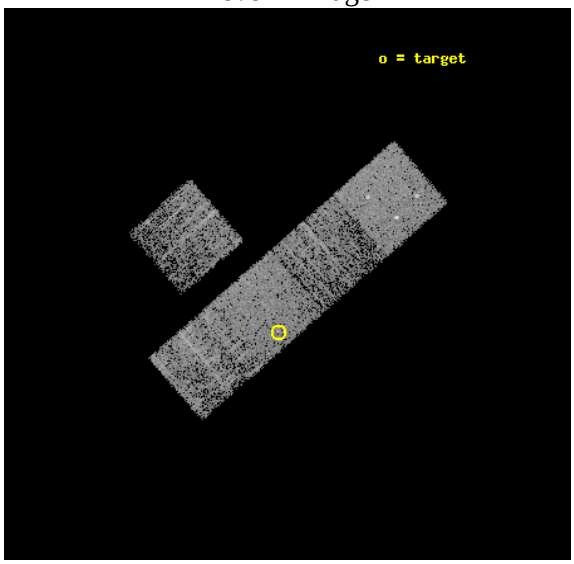


2 OBI

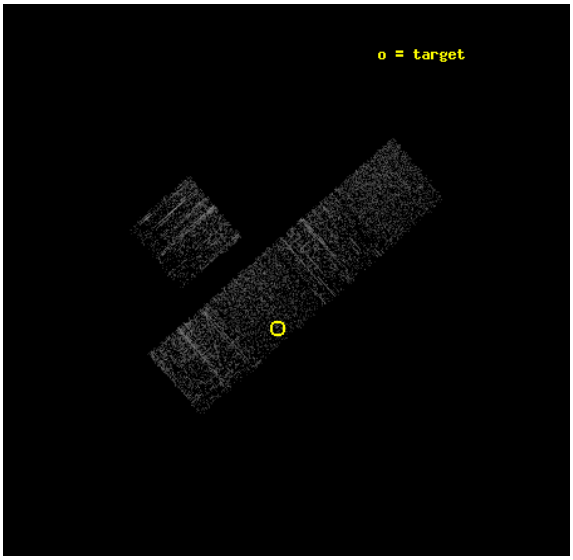
2.1 OBI

2.1.1 Images

Level 1 Image

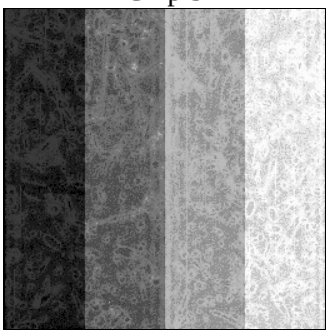


Level 1 Bad Events

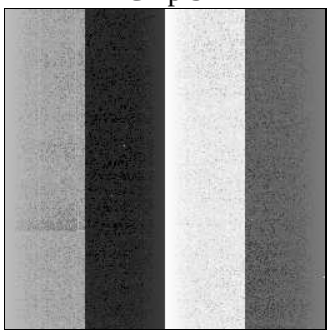


2.1.2 Bias

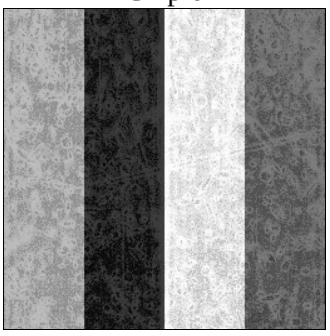
Chip 3



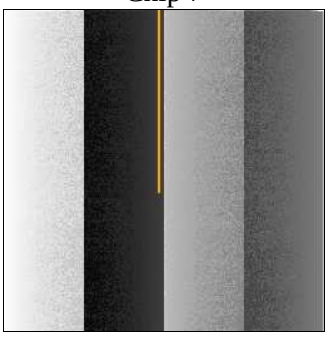
Chip 5



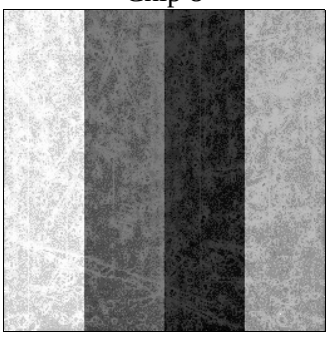
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.4.3	Processing system revision
caldbver	4.4.7	
date	2012-02-10T06:03:10	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	1600.000000	[s] Scheduled observation exposure time
ontime	1642.2538425922	Sum of GTIs [s]
ontime3	1642.1307225823	Sum of GTIs [s]
ontime5	1642.2128025889	Sum of GTIs [s]
ontime6	1642.1717625856	Sum of GTIs [s]
ontime7	1642.2538425922	Sum of GTIs [s]
ontime8	1642.089682579	Sum of GTIs [s]
l1events	63481	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	9887	17027	9643	13792	13132
rejected events	8710	8250	8423	7391	9635
rejected %	88%	48%	87%	53%	73%

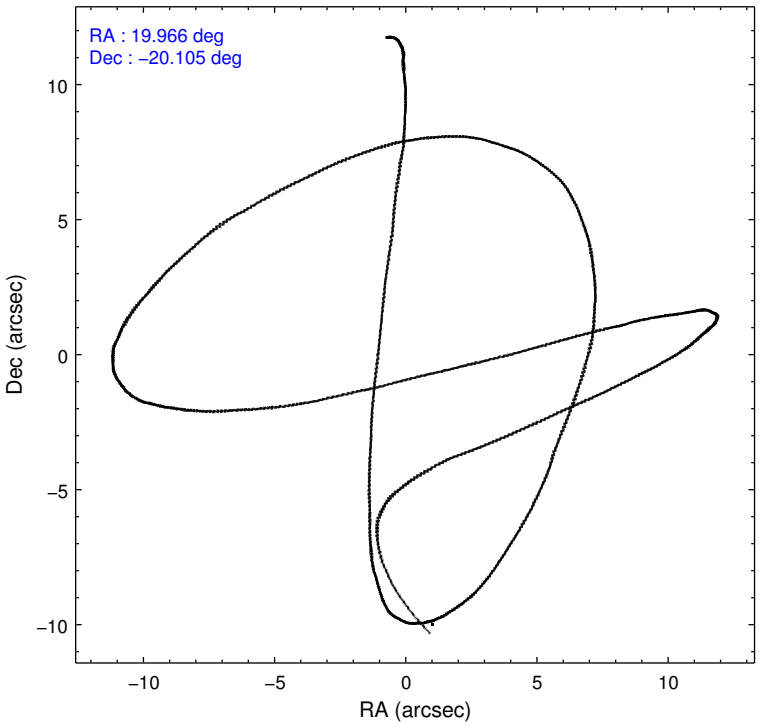
	ccd 3	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	459	1470	421	688	1150
	4%	8%	4%	4%	8%
grade 1 events	5	36	4	18	5
	0%	0%	0%	0%	0%
grade 2 events	232	2485	253	1312	790
	2%	14%	2%	9%	6%
grade 3 events	121	320	132	565	397
	1%	1%	1%	4%	3%
grade 4 events	95	301	136	544	346
	0%	1%	1%	3%	2%
grade 5 events	501	1273	492	1447	676
	5%	7%	5%	10%	5%
grade 6 events	273	4221	278	3307	814
	2%	24%	2%	23%	6%
grade 7 events	8201	6921	7927	5911	8954
	82%	40%	82%	42%	68%

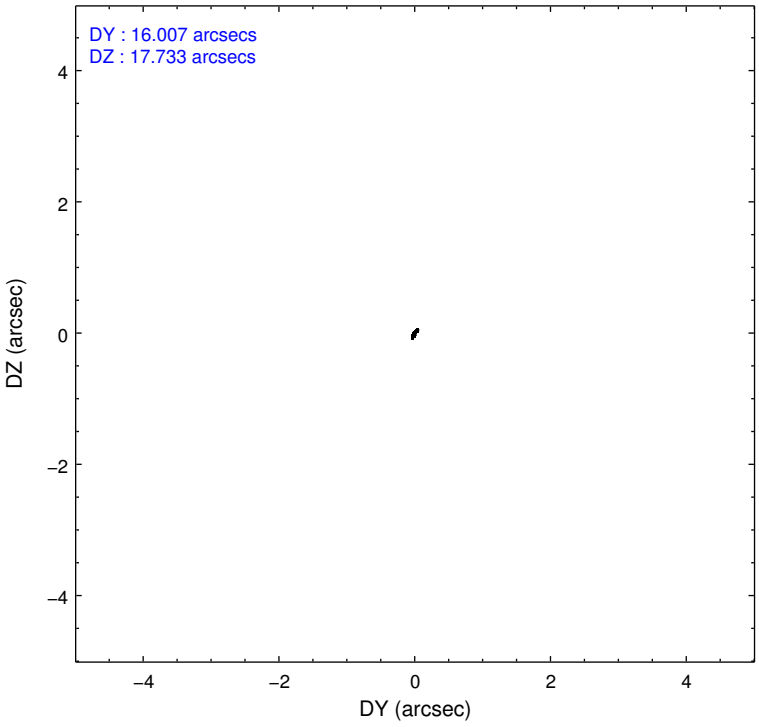
2.2 Compared Parameters

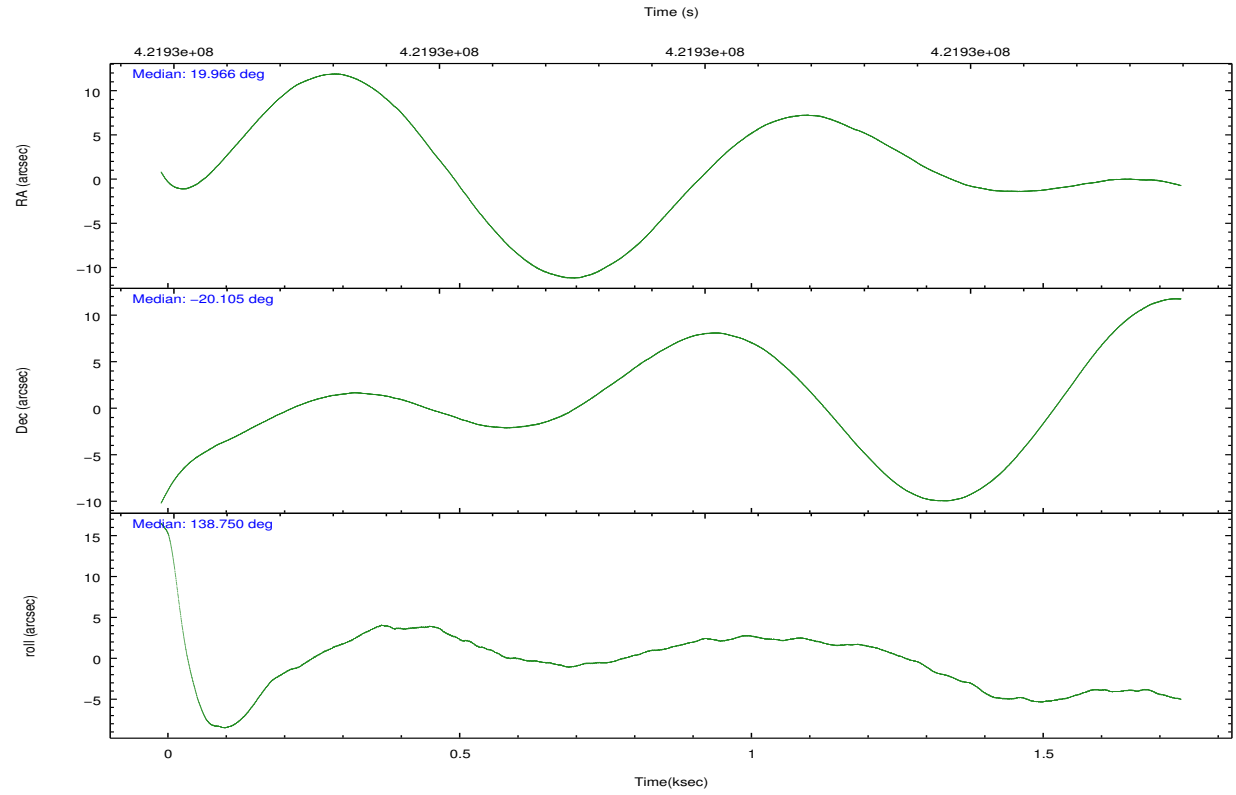
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-35678	ACIS-35678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	19.994877	19.9665178657973
[deg] Pointing Dec	-20.109326	-20.10448788395123
[deg] Pointing Roll	138.608430	138.7554838536287
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	421927208.184000	421925959.7161
Observation start date	2011-05-16T09:59:02	2011-05-16T09:39:19
[s] Observation end time (MET)	421928808.184000	421929815.7663
Observation end date	2011-05-16T10:25:42	2011-05-16T10:43:35
Read mode	TIMED	TIMED

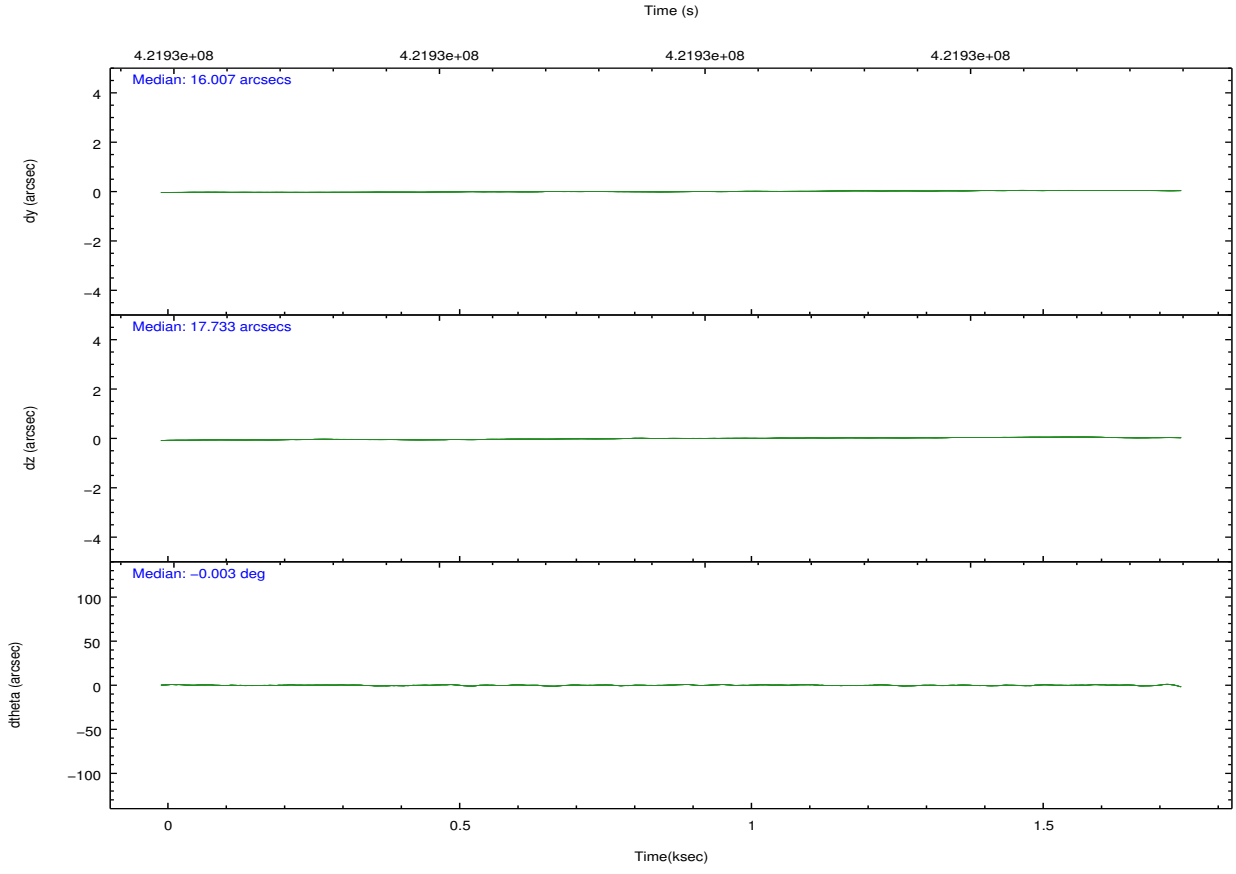
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	O1	Y
CCD S0 on	N	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 19.966 deg
Dec : –20.105 deg
Dec (arcsec)
RA (arcsec)
10
5
0
–5
–10
–10
–5
0
5
10


DY : 16.007 arcsecs
DZ : 17.733 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
–2
–4
–4
–2
0
2
4


Time (s)
4.2193e+08
4.2193e+08
4.2193e+08
4.2193e+08
Median: 19.966 deg
RA (arcsec)
Median: −20.105 deg
Dec (arcsec)
Median: 138.750 deg
roll (arcsec)
Time(ksec)

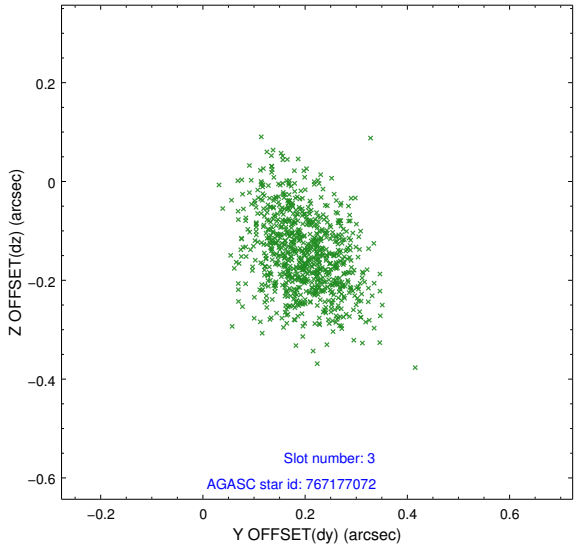

Time (s)
4.2193e+08
4.2193e+08
4.2193e+08
4.2193e+08
Median: 16.007 arcsecs
dy (arcsec)
Median: 17.733 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

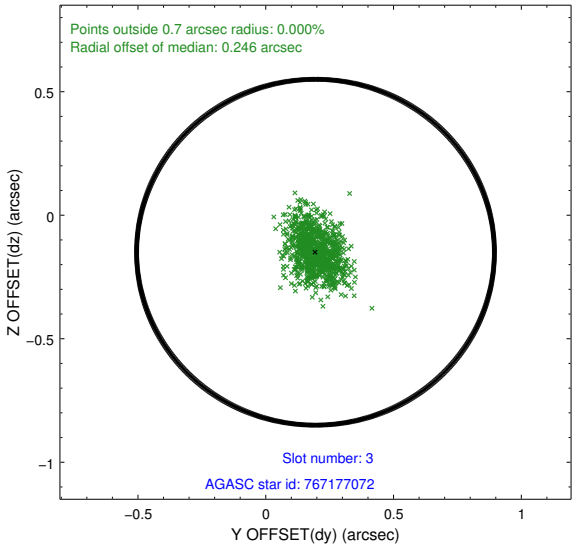
Slot Statistics

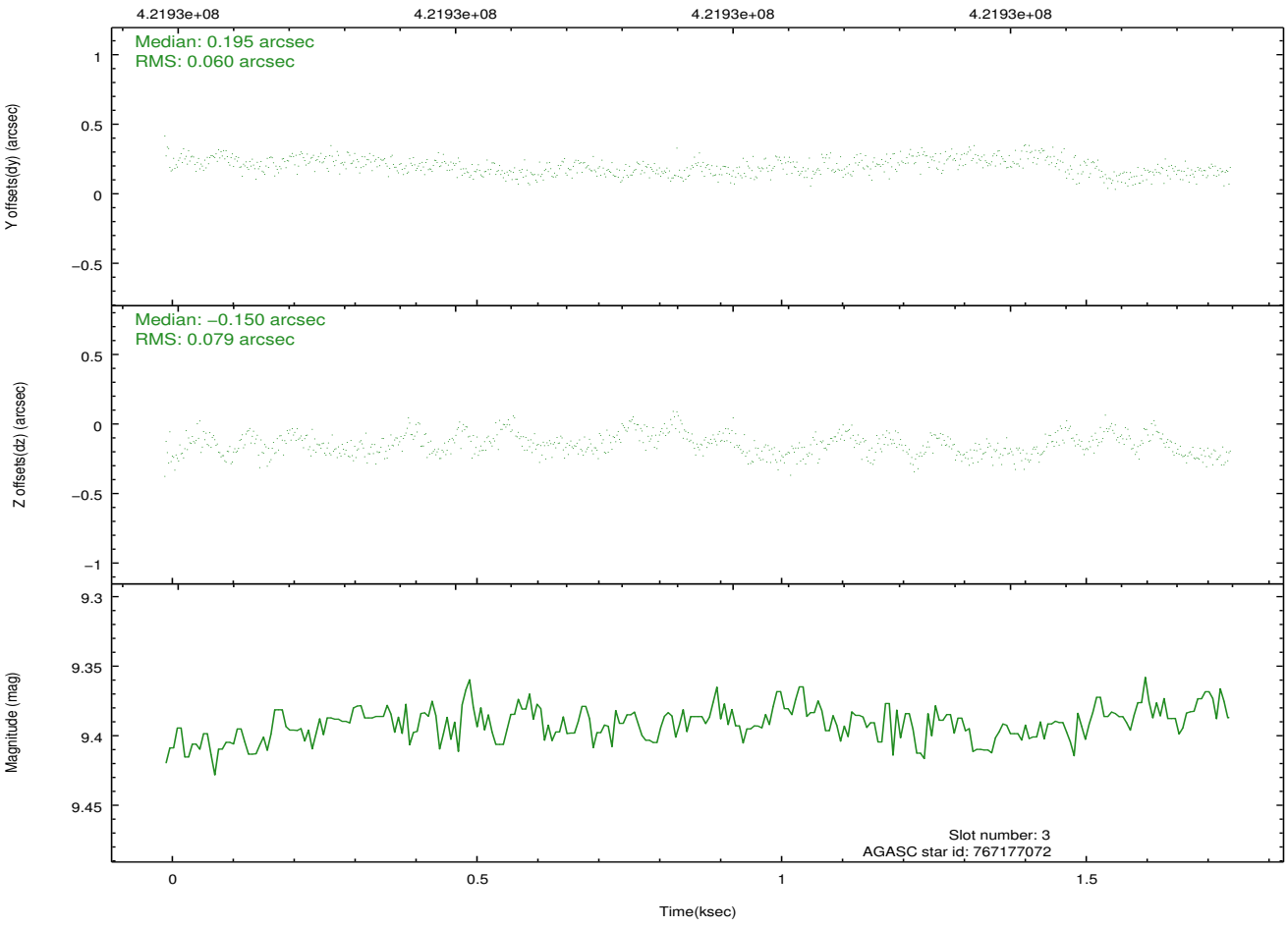
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.90	427	-0.073	-0.050	0.006	0.009	0.000000	0.000000	-769.13	-1739.21
1	FID	ACIS-S-4	6.98	427	0.177	0.049	0.005	0.009	0.000000	0.000000	2142.72	165.39
2	FID	ACIS-S-5	7.02	427	-0.134	0.010	0.006	0.010	0.000000	0.000000	-1817.16	163.40
3	GUIDE	767177072	9.39	853	0.195	-0.150	0.104	0.170	19.668064	-20.584168	-303.85	2011.58
4	GUIDE	767179544	8.86	854	-0.079	-0.031	0.080	0.127	19.179805	-20.106088	2071.68	1821.57
5	GUIDE	767180960	7.42	853	-0.158	-0.099	0.047	0.079	19.620130	-20.190450	759.12	1059.84
6	GUIDE	767305120	6.86	854	0.076	-0.024	0.052	0.092	20.021866	-20.470886	-926.95	917.78
7	GUIDE	767300328	9.77	852	-0.044	0.302	0.141	0.231	20.117156	-19.539717	1044.73	-1810.76

2.4 Star Slots

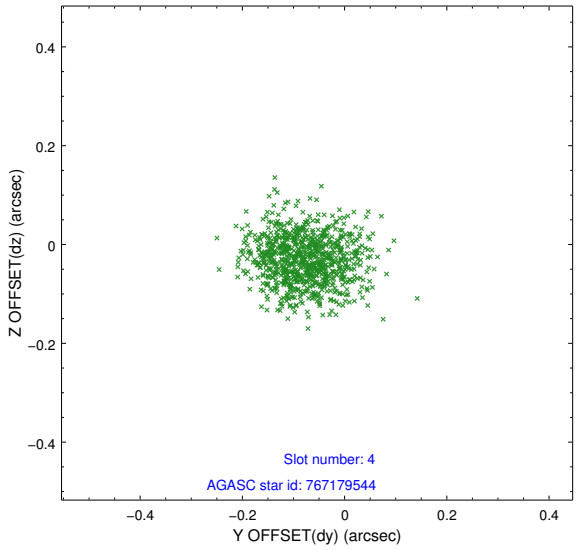
2.4.1 Slot 3

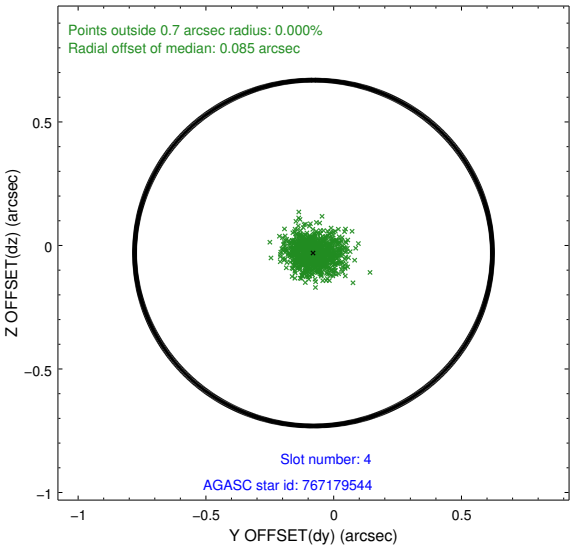


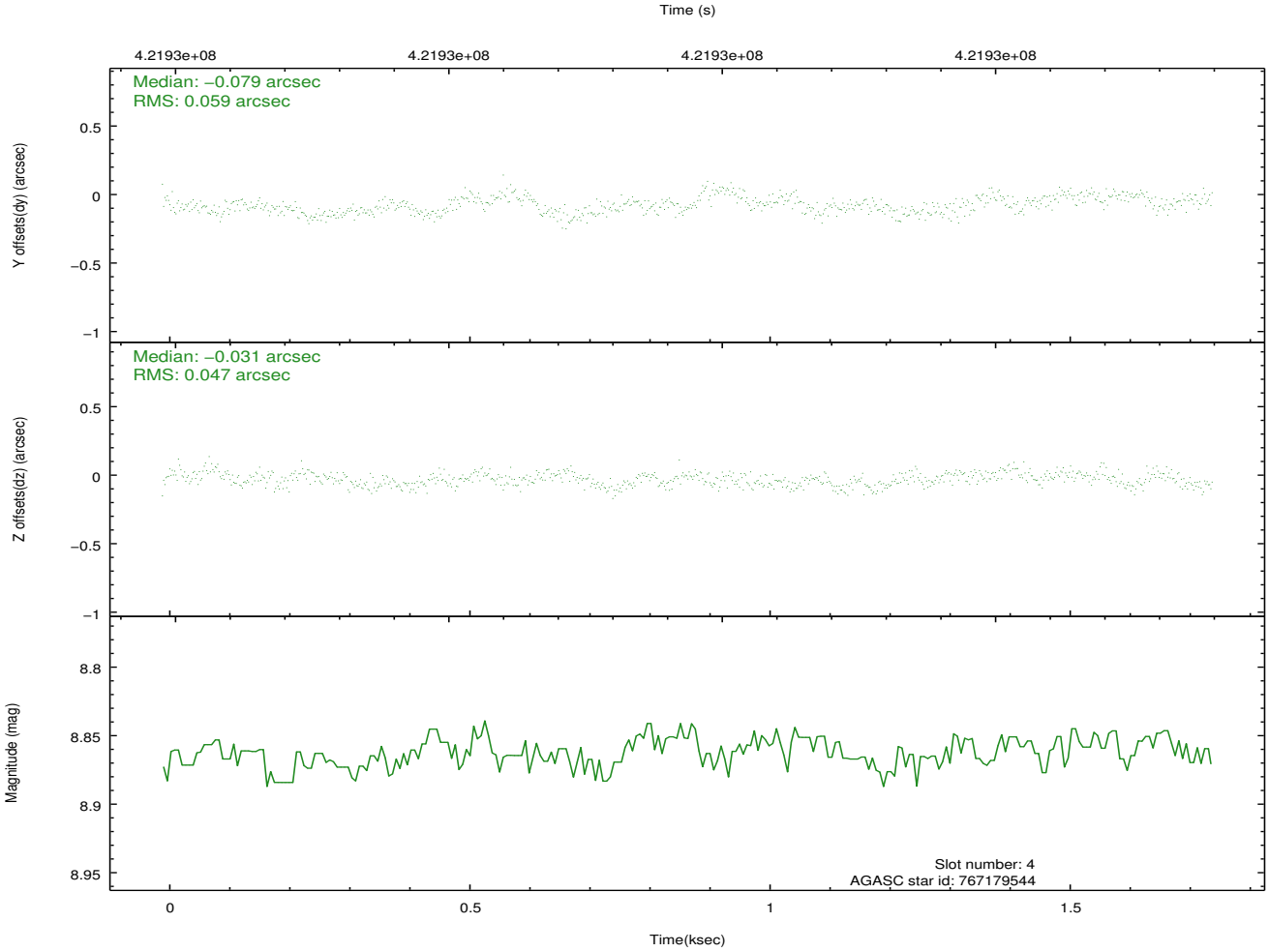




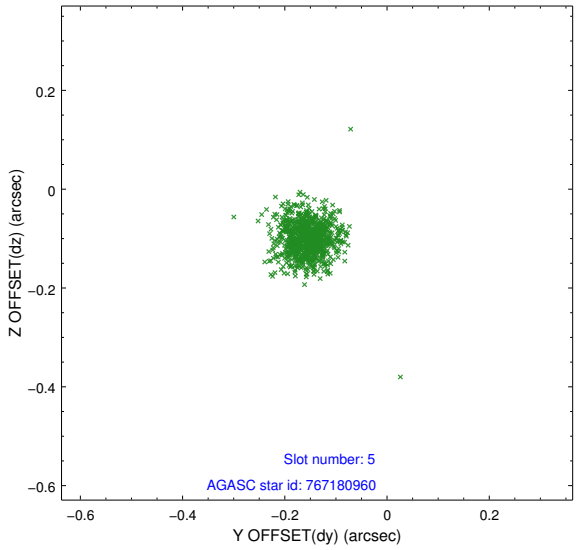
2.4.2 Slot 4

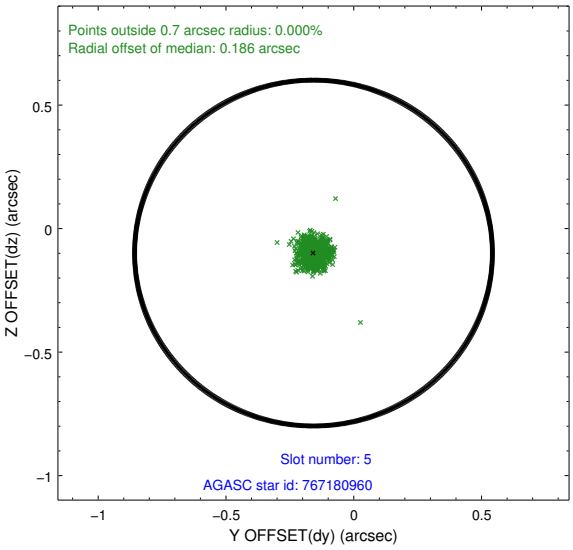

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 767179544

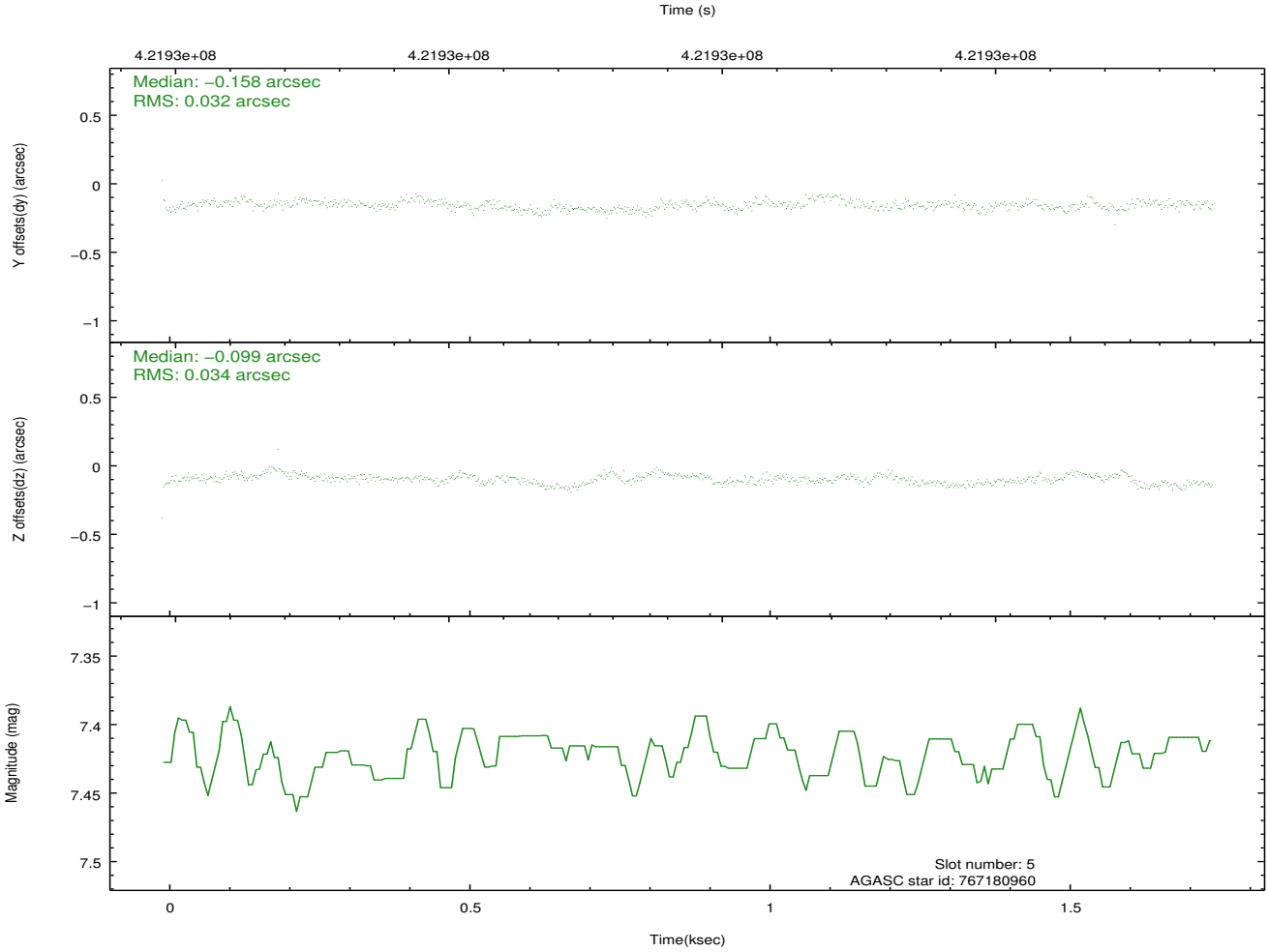

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.085 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 767179544


Time (s)
4.2193e+08
Median: −0.079 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.031 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 767179544
Time(ksec)

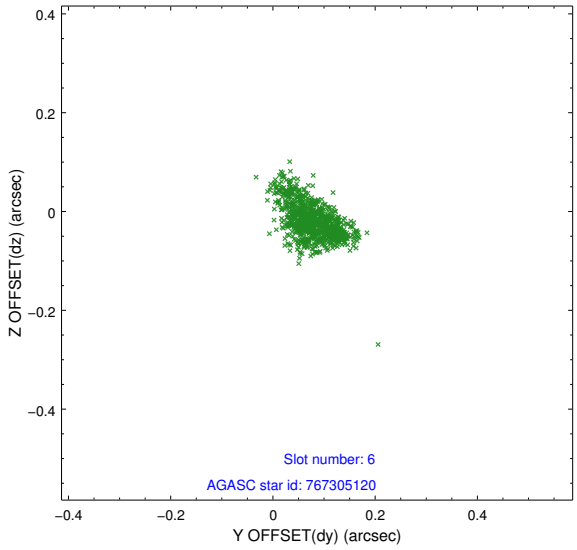
2.4.3 Slot 5

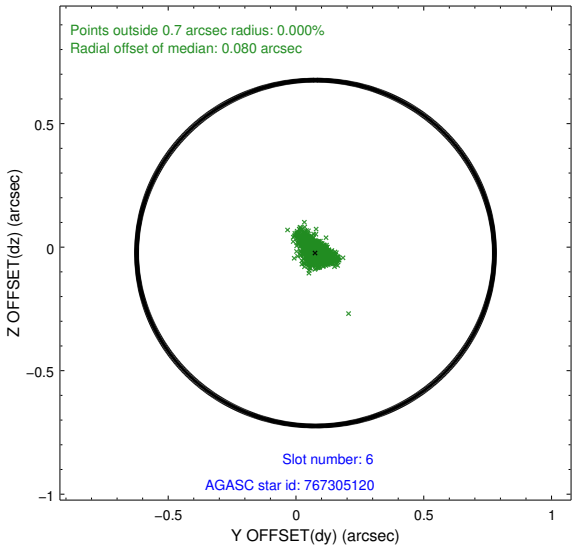

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 767180960

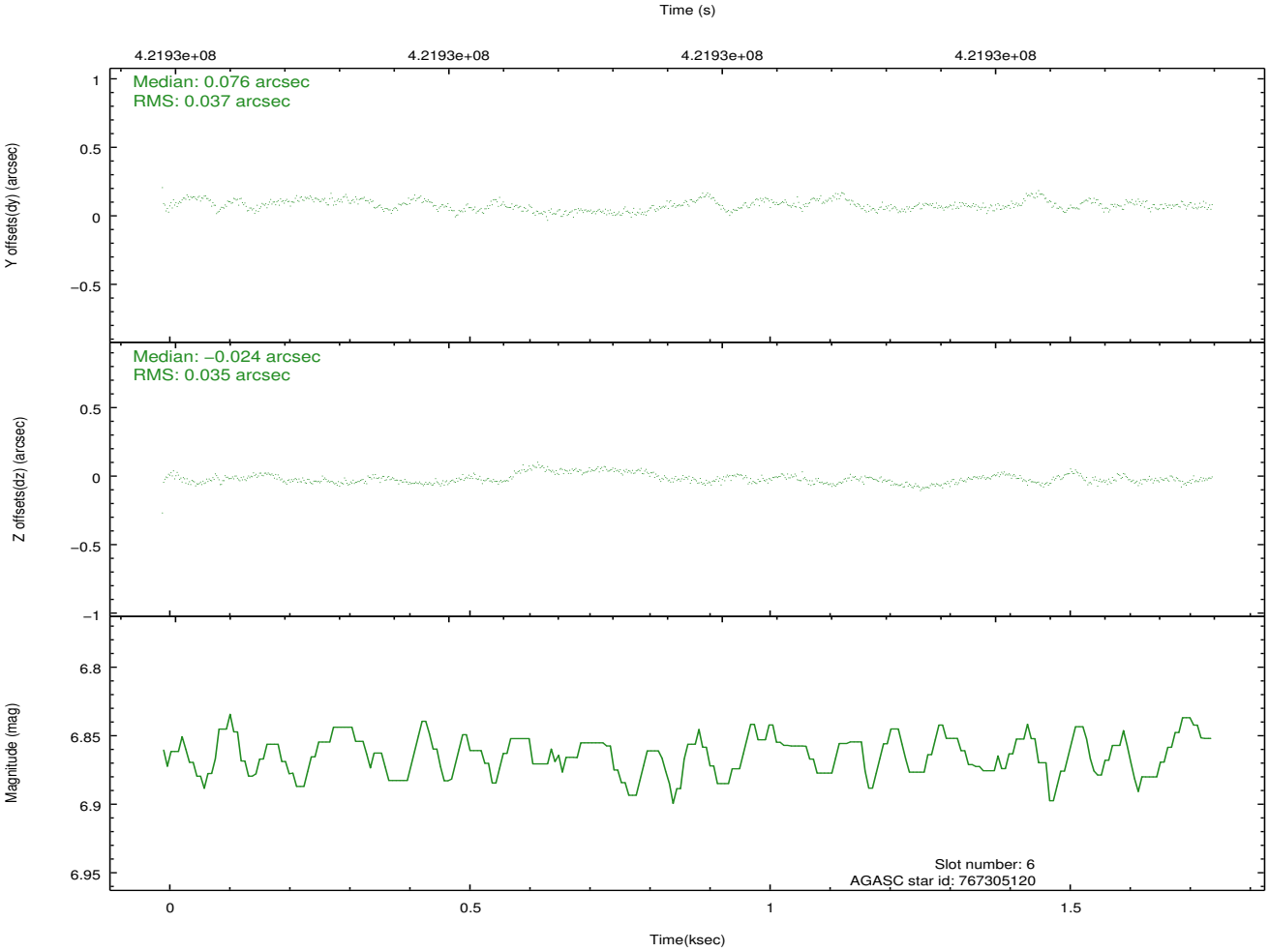

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.186 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 767180960


Time (s)
4.2193e+08
Median: −0.158 arcsec
RMS: 0.032 arcsec
Y offsets(dy) (arcsec)
Median: −0.099 arcsec
RMS: 0.034 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 767180960
Time(ksec)

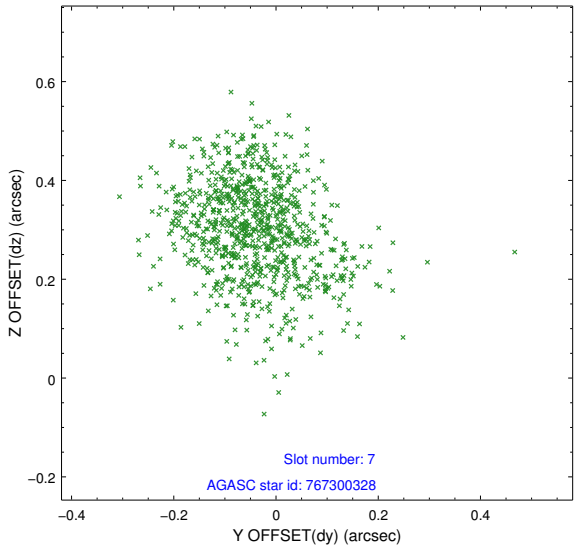
2.4.4 Slot 6

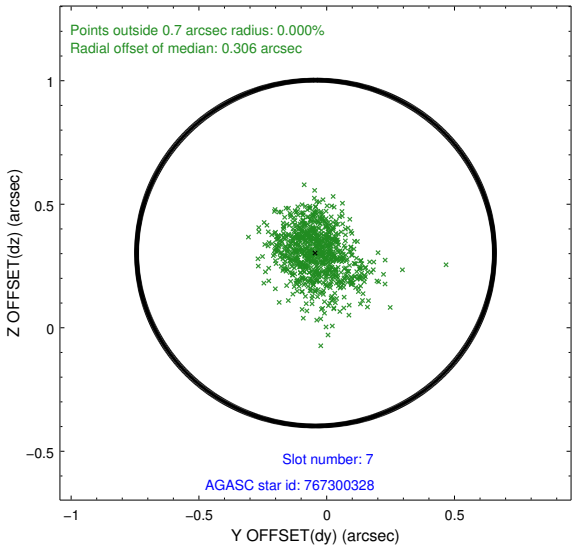

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 767305120

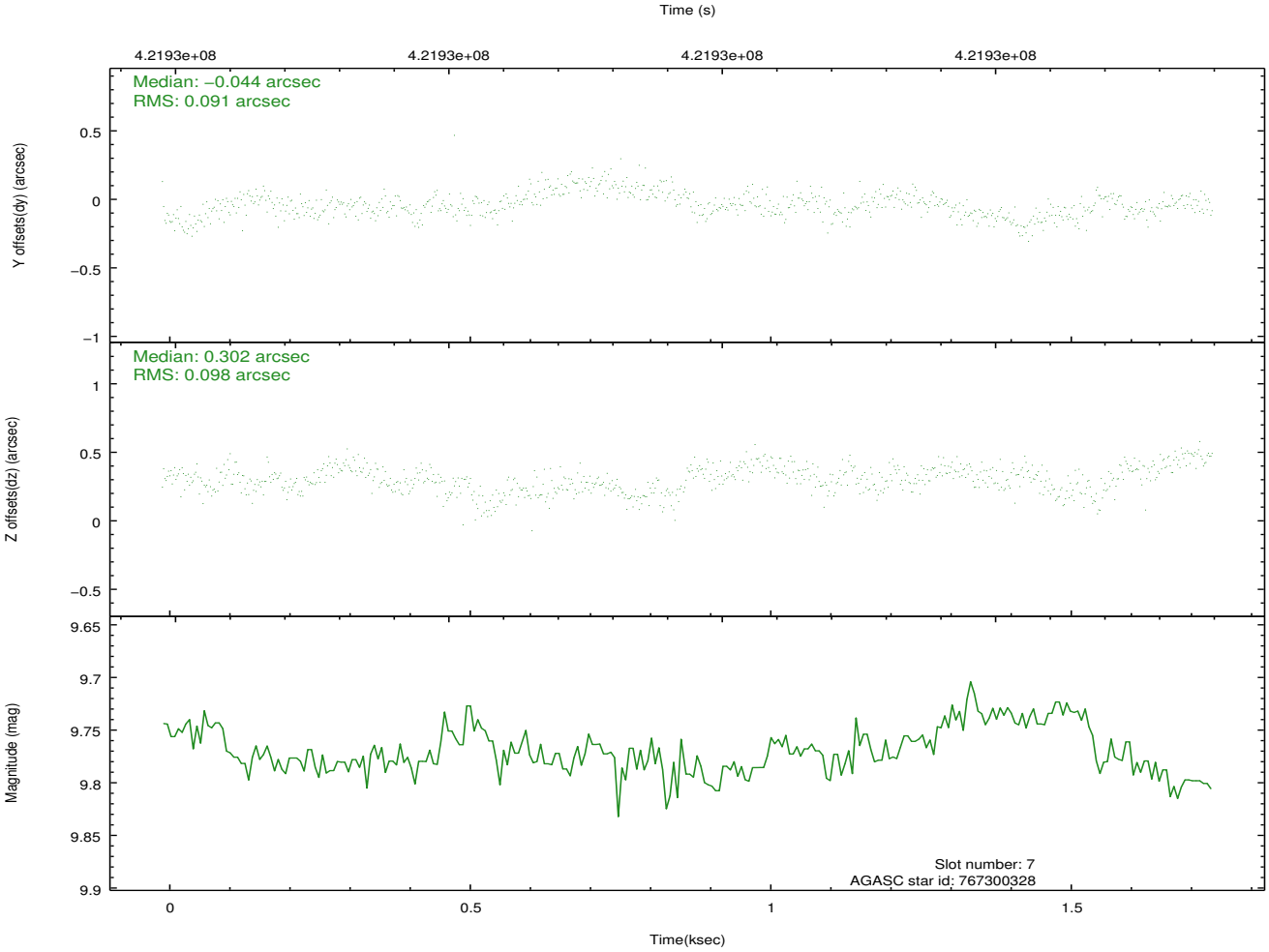

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.080 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 767305120


Time (s)
4.2193e+08
Median: 0.076 arcsec
RMS: 0.037 arcsec
Y offsets(dy) (arcsec)
Median: −0.024 arcsec
RMS: 0.035 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 767305120
Time(ksec)

2.4.5 Slot 7

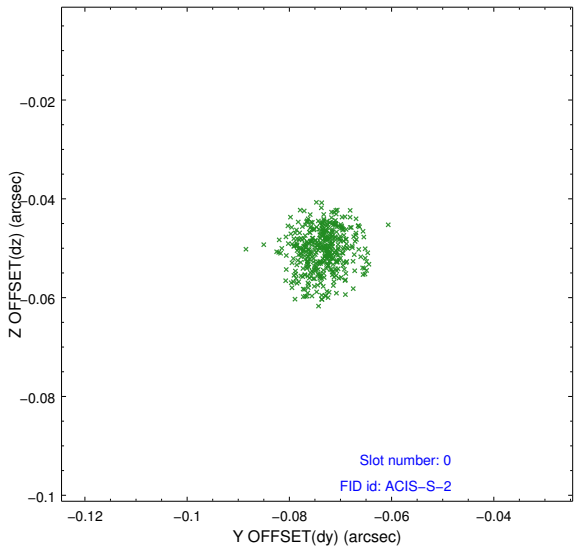

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 767300328

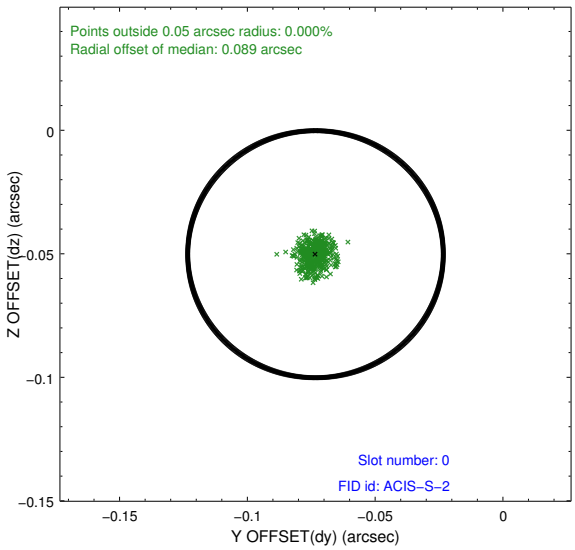

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.306 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 767300328

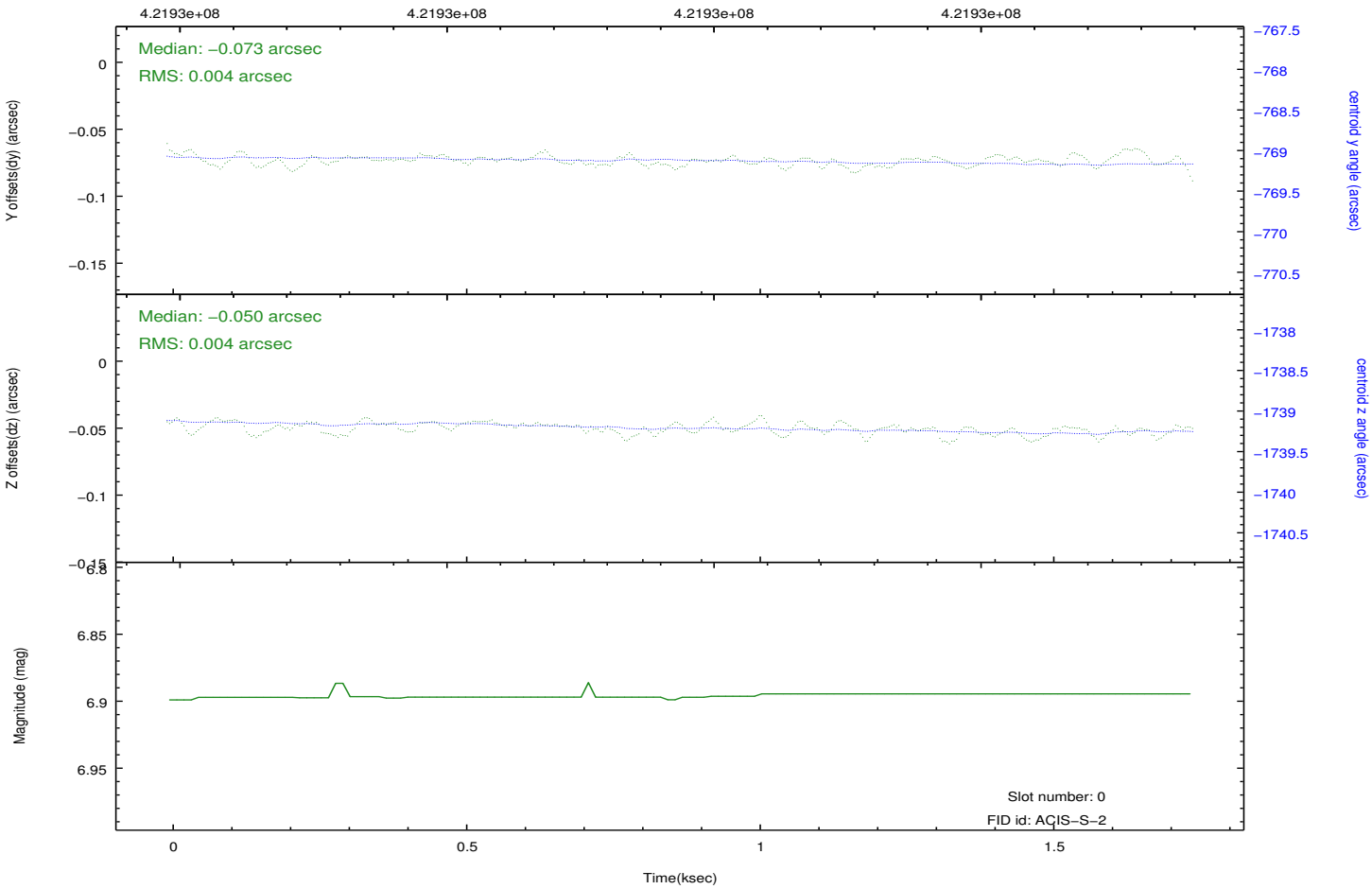

Time (s)
4.2193e+08
Median: −0.044 arcsec
RMS: 0.091 arcsec
Y offsets(dy) (arcsec)
Median: 0.302 arcsec
RMS: 0.098 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 767300328
Time(ksec)

2.5 FID Slots

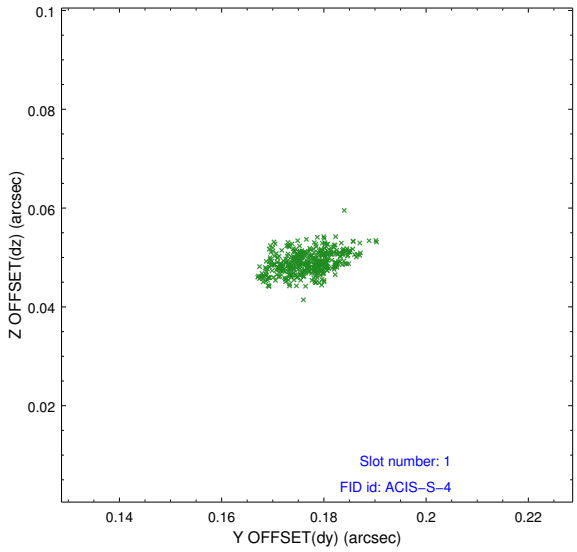
2.5.1 Slot 0

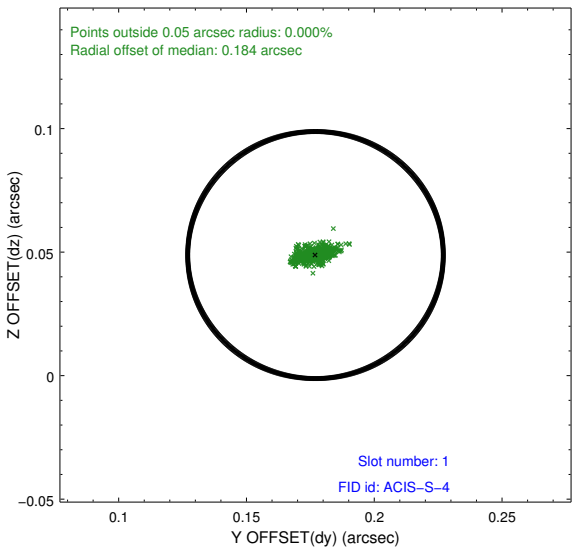


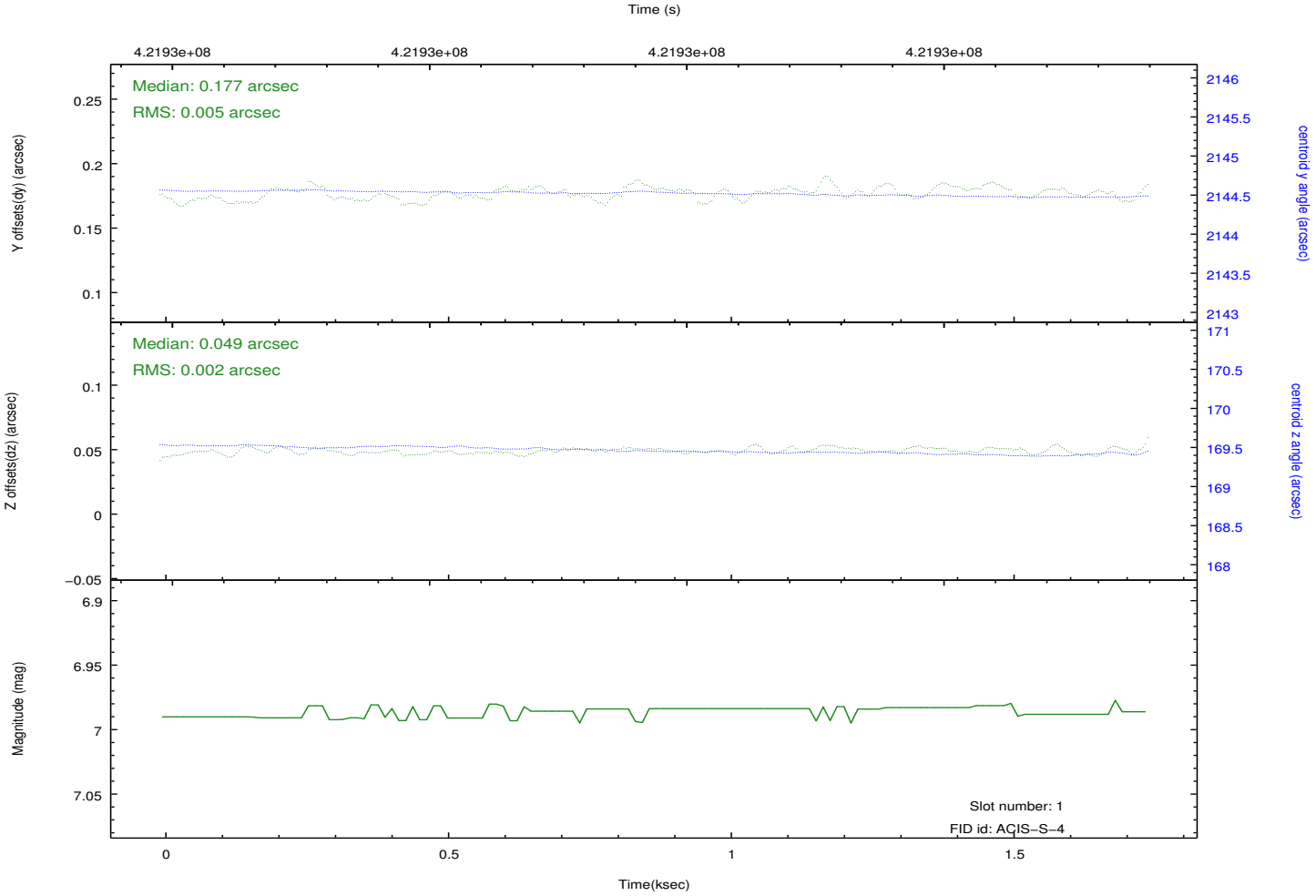




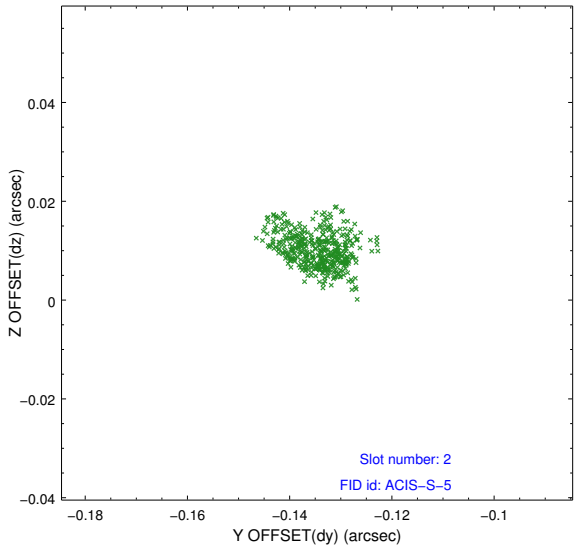
2.5.2 Slot 1

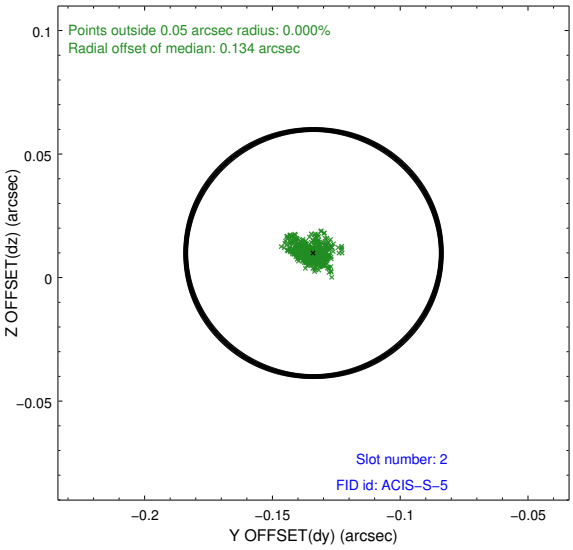

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

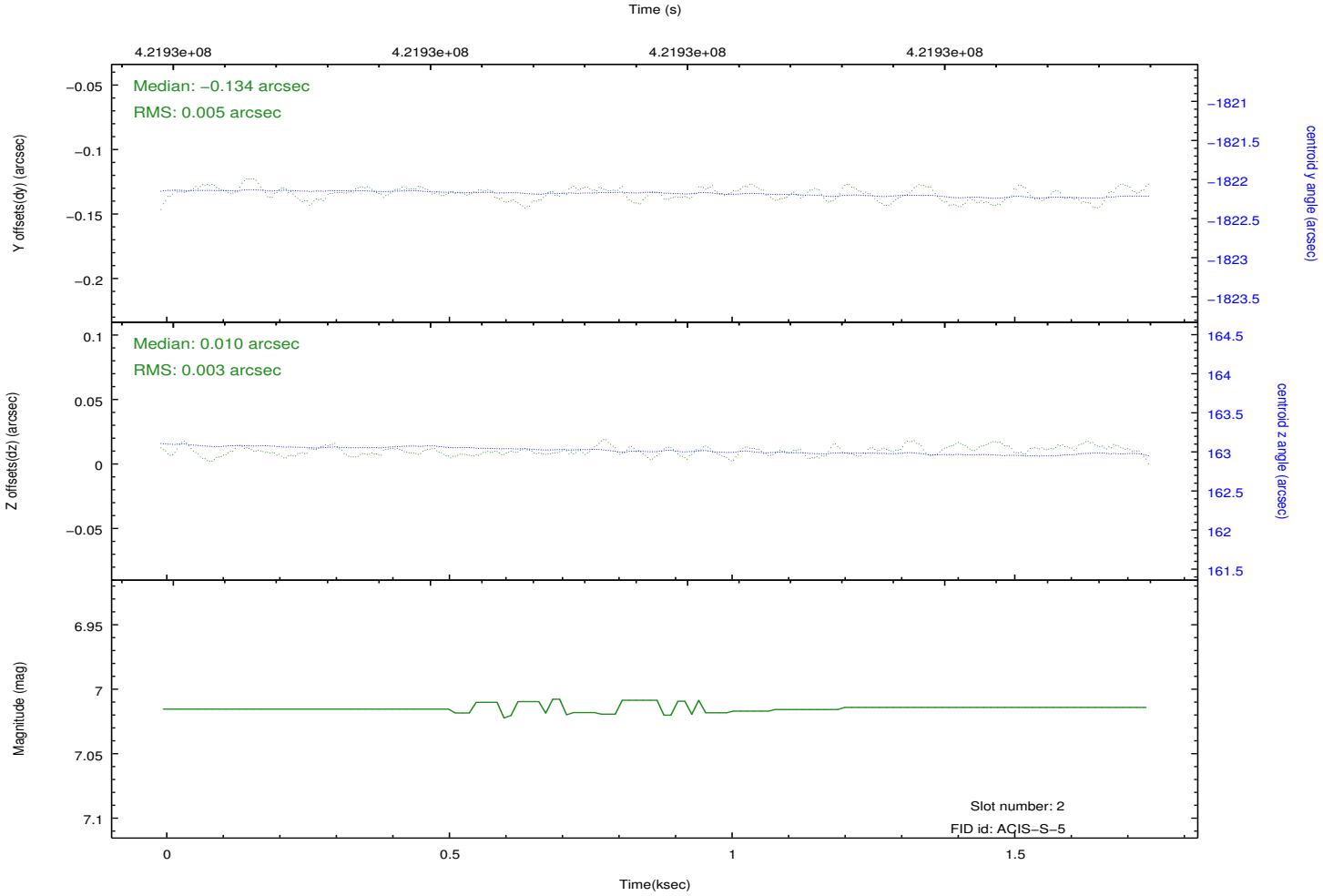

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.184 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.177 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.049 arcsec
RMS: 0.002 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−4
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.134 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.134 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.010 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.02.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.6422538417578

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.