V&V Reference Report
L2 ASCDS Version : 8.4.3

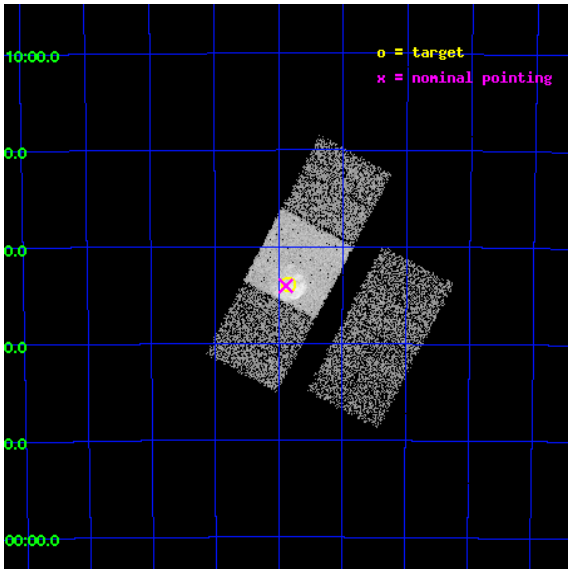
Observation 13419 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 11 2012

Contents

1 Front

seq_num	501563	Sequence number
obs_id	13419	Observation id
title	Confirmation of a New Pulsar Wind Nebula	Proposal title
observer	Dr. Jon Miller	Principal investigator
object	New PWN Candidate	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	200.4625	Observer's specified target RA [deg]
dec_targ	-63.565	Observer's specified target Dec [deg]
ra_nom	200.47176203914	Nominal RA [deg]
dec_nom	-63.567466261195	Nominal Dec [deg]
roll_nom	297.89319021035	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5043.4236938357	Sum of GTIs [s]
livetime	4977.5276503613	Livetime [s]
ontime2	5043.2595338225	Sum of GTIs [s]
ontime3	5037.059653163	Sum of GTIs [s]
ontime6	5043.3826538324	Sum of GTIs [s]
ontime7	5043.4236938357	Sum of GTIs [s]
ontime8	5043.3005738258	Sum of GTIs [s]
l2events	40148	Number of level 2 events

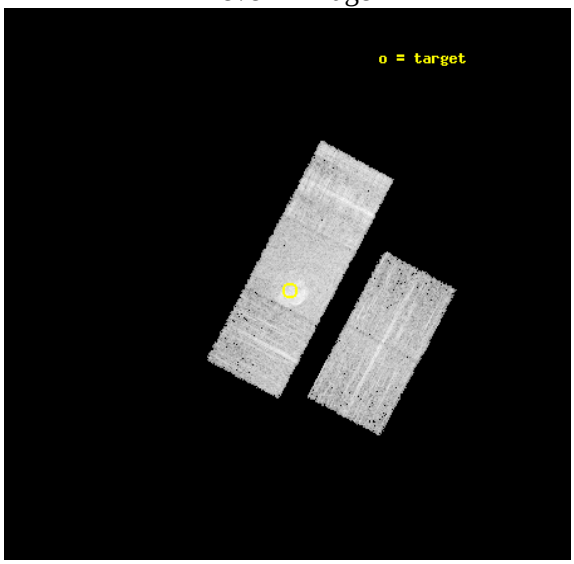


2 OBI

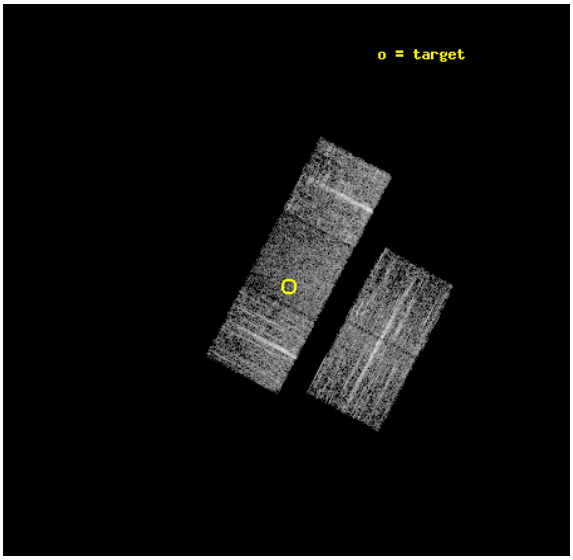
2.1 OBI

2.1.1 Images

Level 1 Image

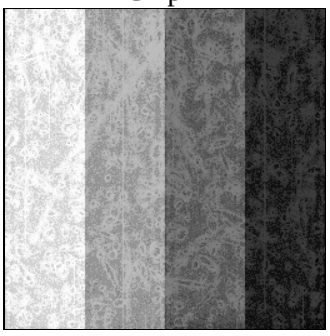


Level 1 Bad Events

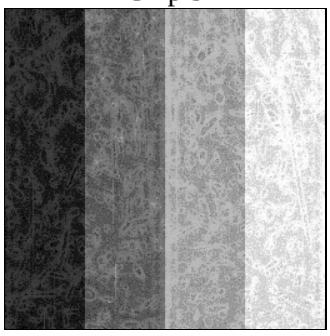


2.1.2 Bias

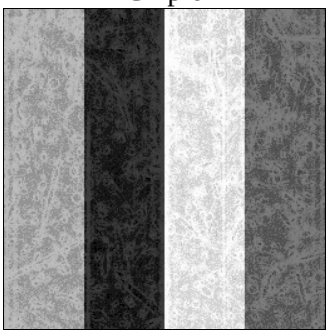
Chip 2



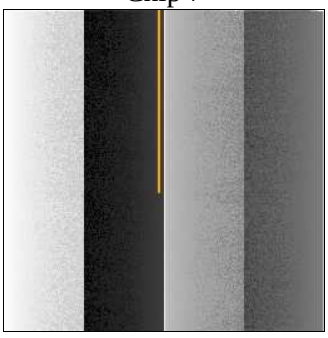
Chip 3



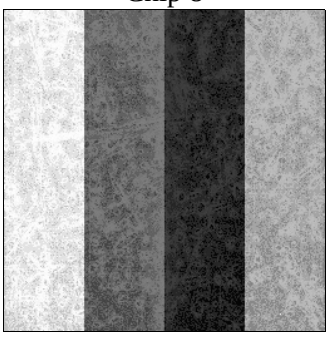
Chip 6



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	2012-02-11T16:32:00	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ontime	5043.4236938357	Sum of GTIs [s]
ontime2	5043.2595338225	Sum of GTIs [s]
ontime3	5037.059653163	Sum of GTIs [s]
ontime6	5043.3826538324	Sum of GTIs [s]
ontime7	5043.4236938357	Sum of GTIs [s]
ontime8	5043.3005738258	Sum of GTIs [s]
l1events	197559	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	33255	31772	33806	48617	50109
rejected events	29282	28016	29398	22879	32956
rejected %	88%	88%	86%	47%	65%

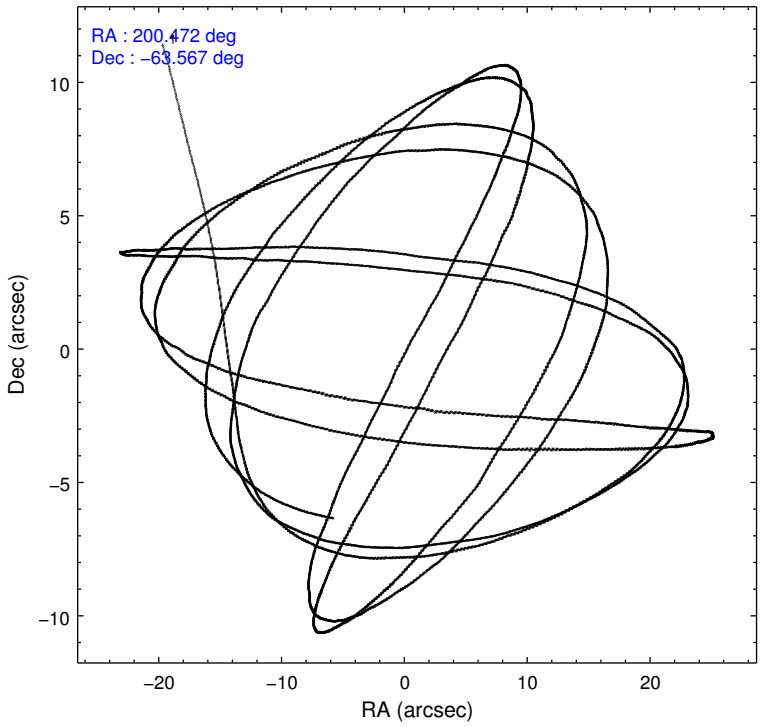
	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	1567	1472	1882	3646	5884
	4%	4%	5%	7%	11%
grade 1 events	21	21	15	50	52
	0%	0%	0%	0%	0%
grade 2 events	944	785	891	5752	3033
	2%	2%	2%	11%	6%
grade 3 events	368	370	394	2545	2446
	1%	1%	1%	5%	4%
grade 4 events	378	425	392	2401	2212
	1%	1%	1%	4%	4%
grade 5 events	1263	1490	1584	4277	2317
	3%	4%	4%	8%	4%
grade 6 events	720	706	849	11403	3585
	2%	2%	2%	23%	7%
grade 7 events	27994	26503	27799	18543	30580
	84%	83%	82%	38%	61%

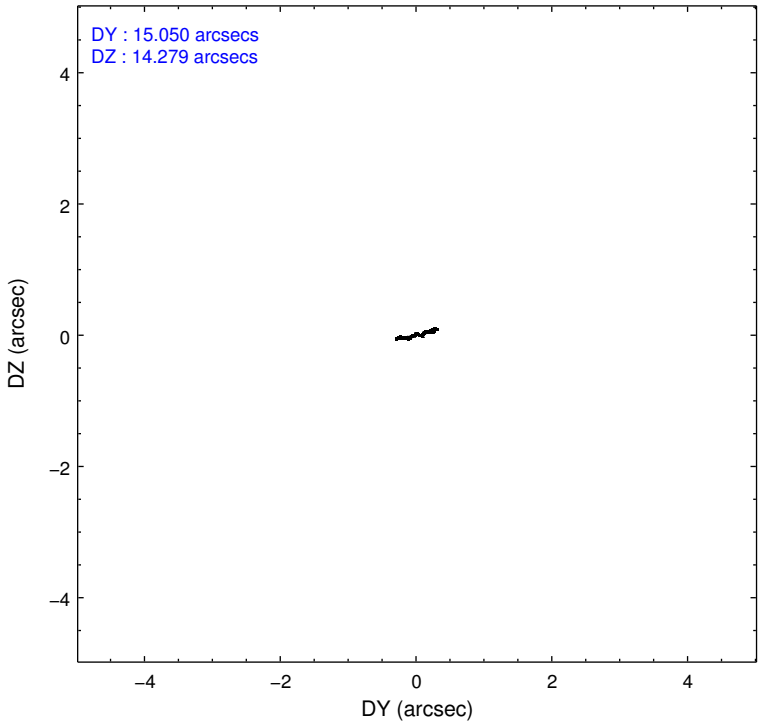
2.2 Compared Parameters

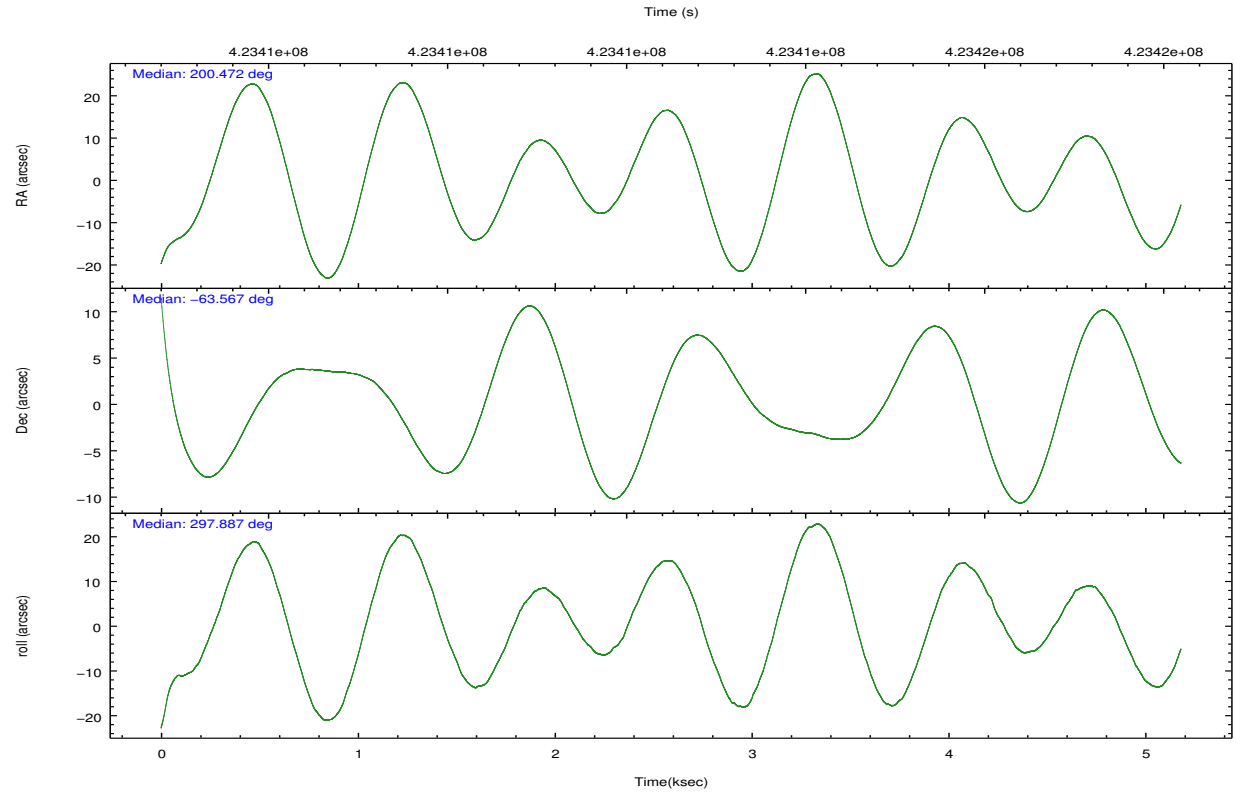
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	200.419450	200.4717620391386
[deg] Pointing Dec	-63.553218	-63.56746626119545
[deg] Pointing Roll	297.689734	297.8931902103528
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	423410835.184000	423409498.66817
Observation start date	2011-06-02T14:06:09	2011-06-02T13:44:58
[s] Observation end time (MET)	423415835.184000	423416163.21851
Observation end date	2011-06-02T15:29:29	2011-06-02T15:36:03
Read mode	TIMED	TIMED

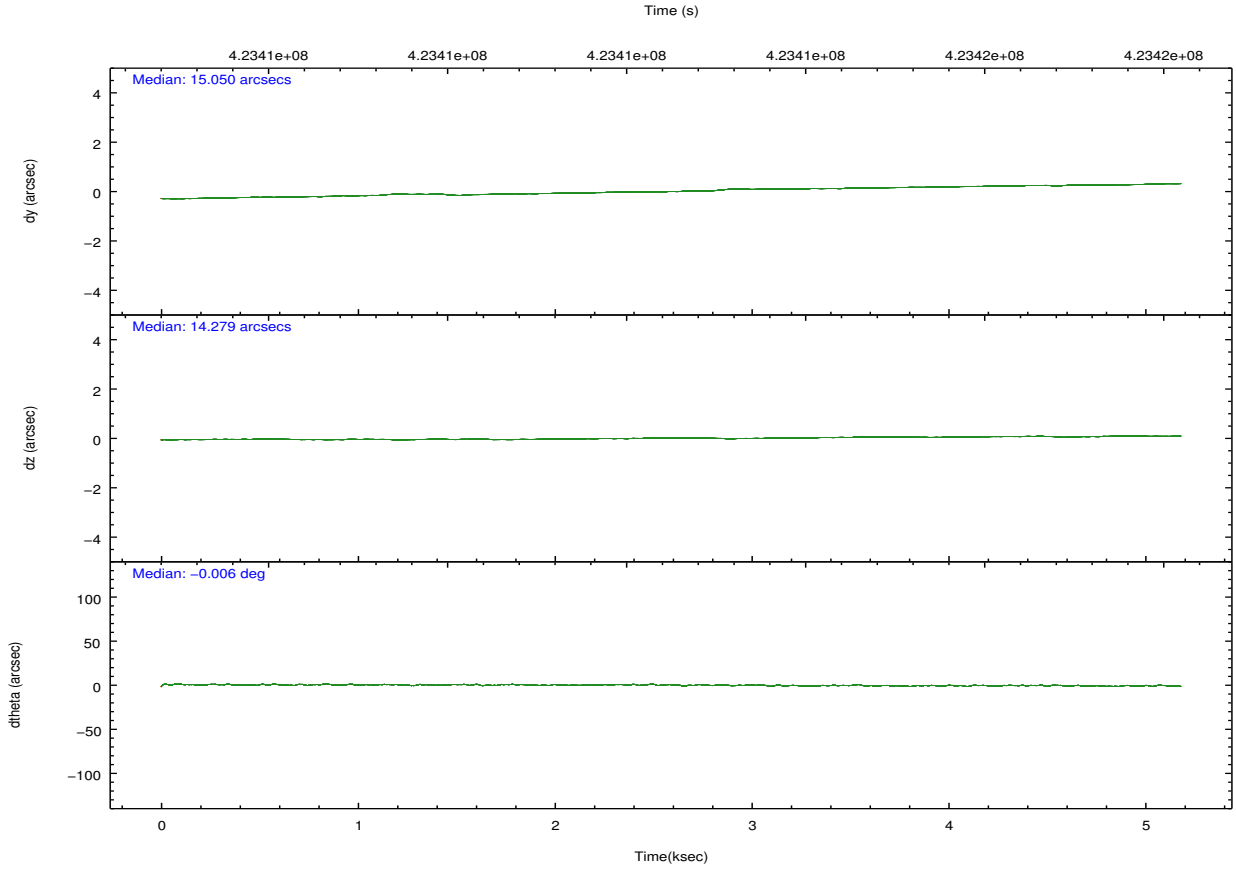
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect


RA : 200.472 deg
Dec : −63.567 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−20
−10
0
10
20


DY : 15.050 arcsecs
DZ : 14.279 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.2341e+08
4.2341e+08
4.2341e+08
4.2341e+08
4.2342e+08
4.2342e+08
Median: 200.472 deg
RA (arcsec)
Median: −63.567 deg
Dec (arcsec)
Median: 297.887 deg
roll (arcsec)
Time(ksec)

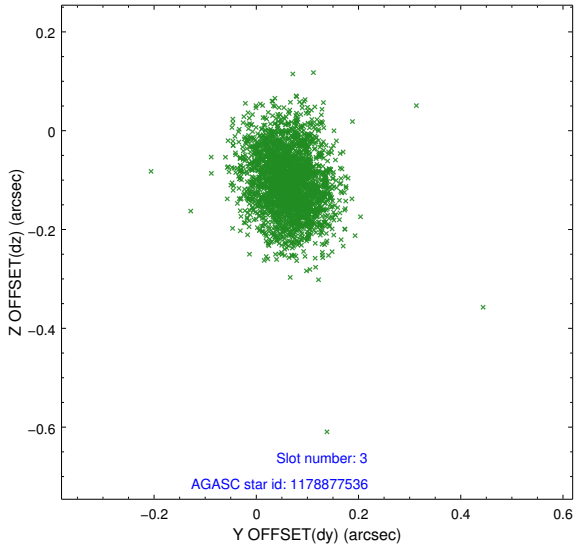

Time (s)
4.2341e+08
4.2341e+08
4.2341e+08
4.2341e+08
4.2342e+08
4.2342e+08
Median: 15.050 arcsecs
dy (arcsec)
Median: 14.279 arcsecs
dz (arcsec)
Median: −0.006 deg
dtheta (arcsec)
Time(ksec)

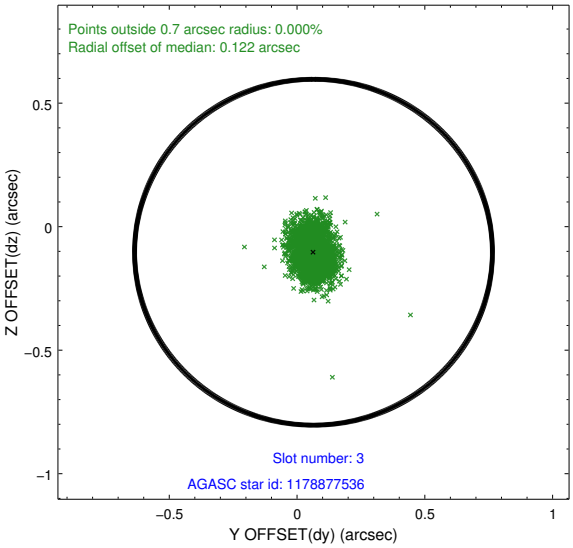
Slot Statistics

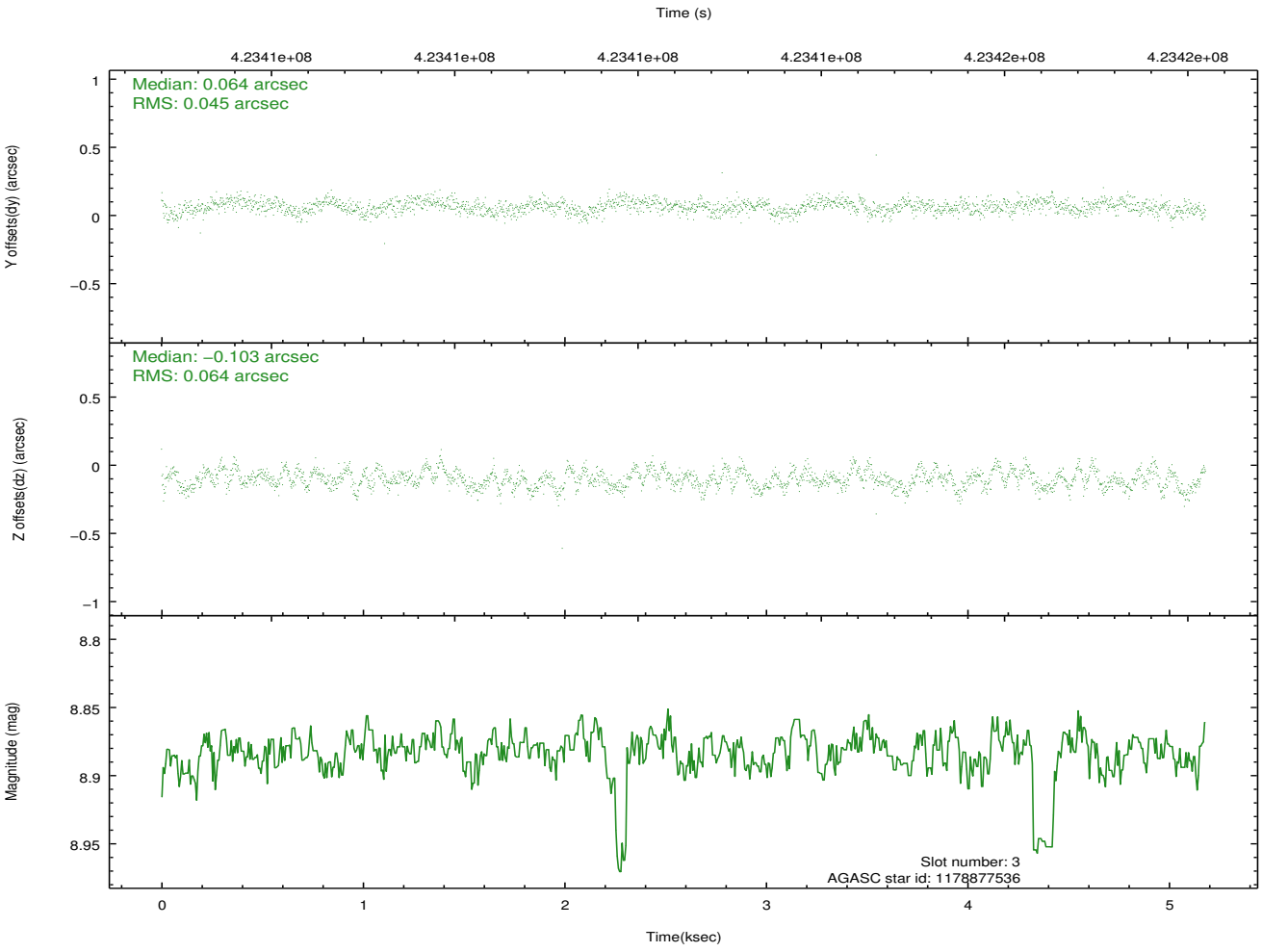
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.00	1264	0.056	-0.015	0.008	0.013	0.000000	0.000000	928.07	-1731.23
1	FID	ACIS-S-5	7.04	1264	-0.141	0.033	0.008	0.015	0.000000	0.000000	-1820.49	165.15
2	FID	ACIS-S-6	7.16	1264	0.063	-0.007	0.010	0.016	0.000000	0.000000	392.34	810.40
3	GUIDE	1178877536	8.88	2527	0.064	-0.103	0.082	0.133	201.267945	-63.175844	-554.28	1847.73
4	GUIDE	1178892392	7.79	2528	0.106	-0.133	0.064	0.101	199.528609	-63.687116	-224.67	-1486.43
5	GUIDE	1178893960	9.04	2527	-0.105	0.161	0.133	0.199	200.420317	-63.658914	337.60	-175.96
6	GUIDE	1178883696	8.22	2528	-0.099	0.009	0.087	0.133	198.548021	-63.373736	-1935.45	-2393.49
7	GUIDE	1179522696	7.52	2527	0.026	0.059	0.081	0.125	202.272572	-63.874033	2424.63	2044.22

2.4 Star Slots

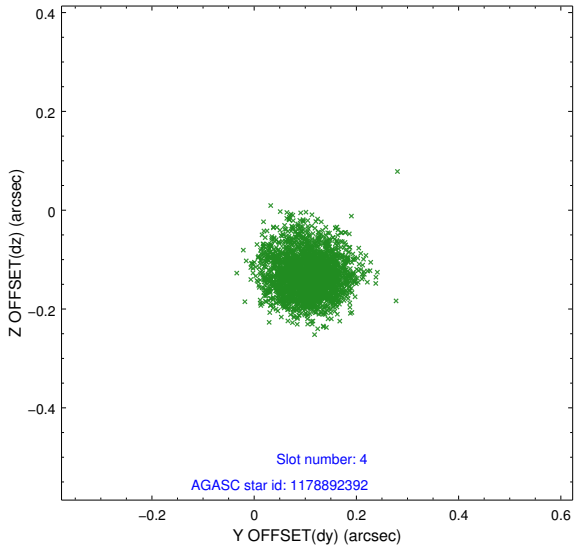
2.4.1 Slot 3

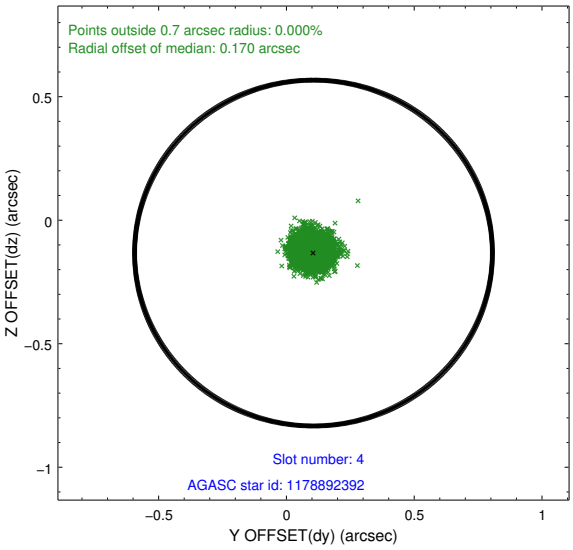


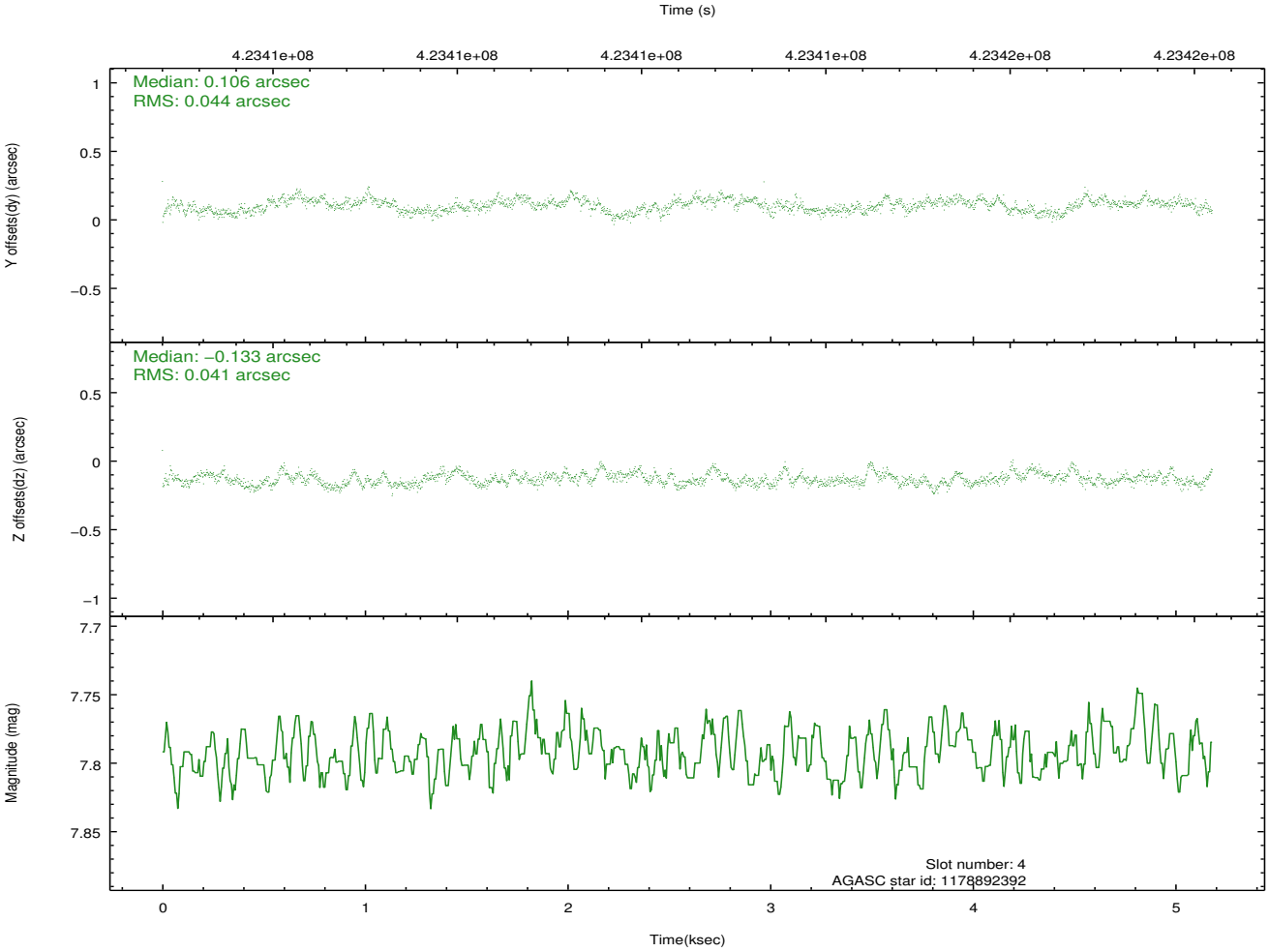




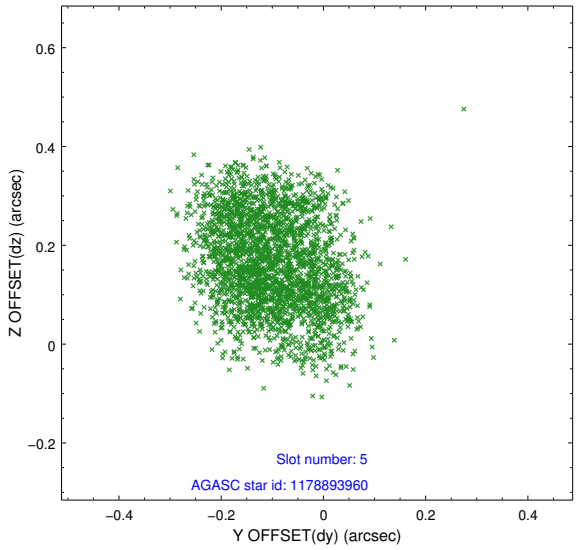
2.4.2 Slot 4

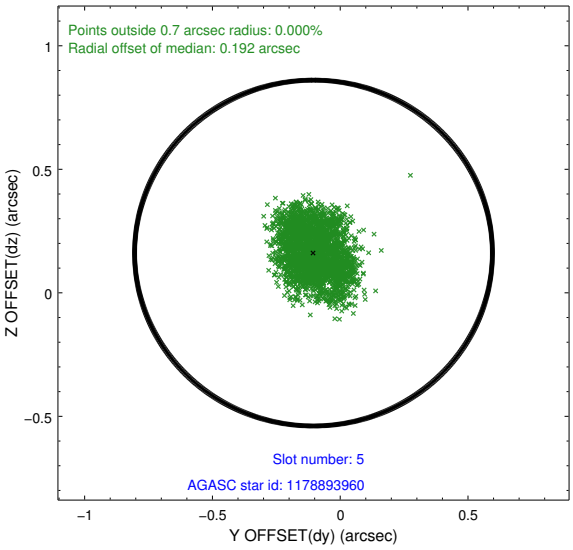

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1178892392

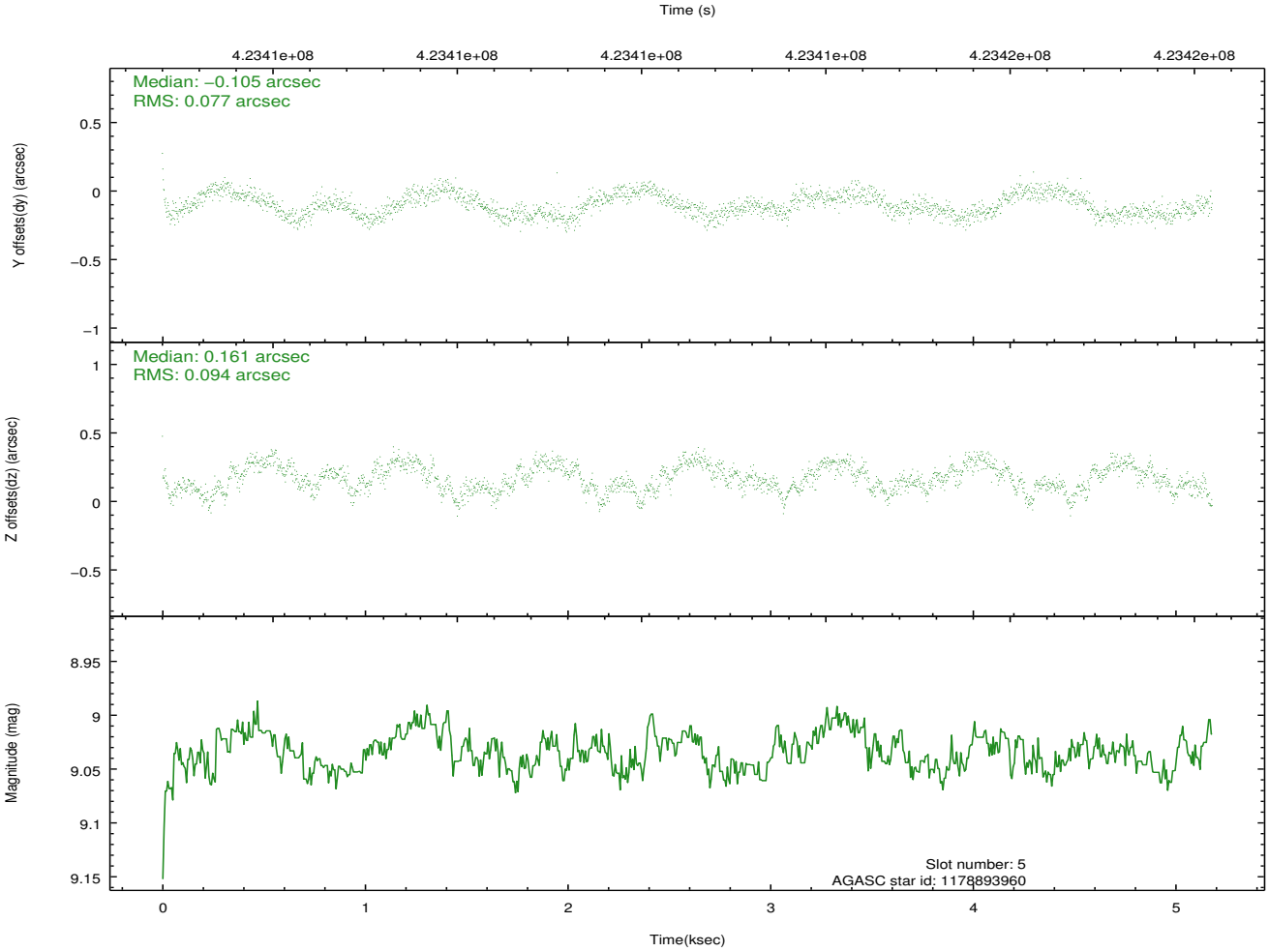

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.170 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1178892392


Time (s)
Median: 0.106 arcsec
RMS: 0.044 arcsec
Y offsets(dy) (arcsec)
Median: −0.133 arcsec
RMS: 0.041 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 1178892392
Time(ksec)

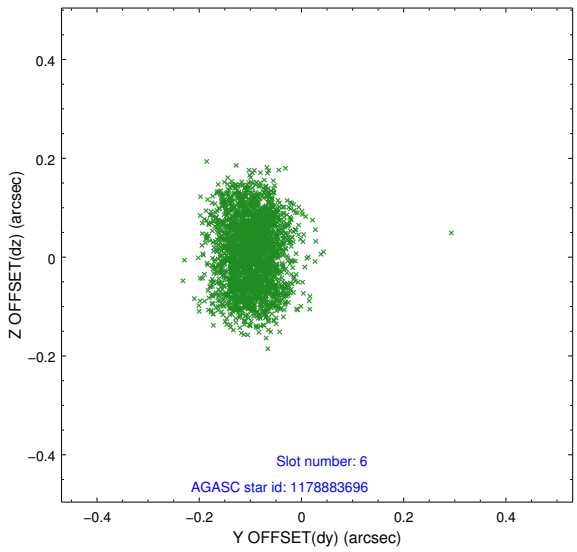
2.4.3 Slot 5

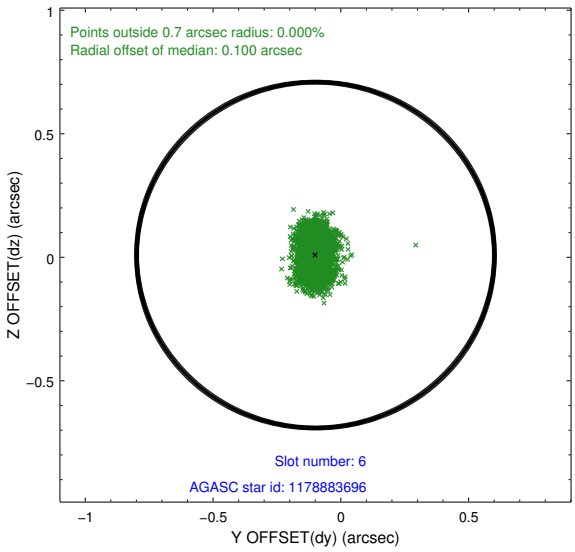

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1178893960

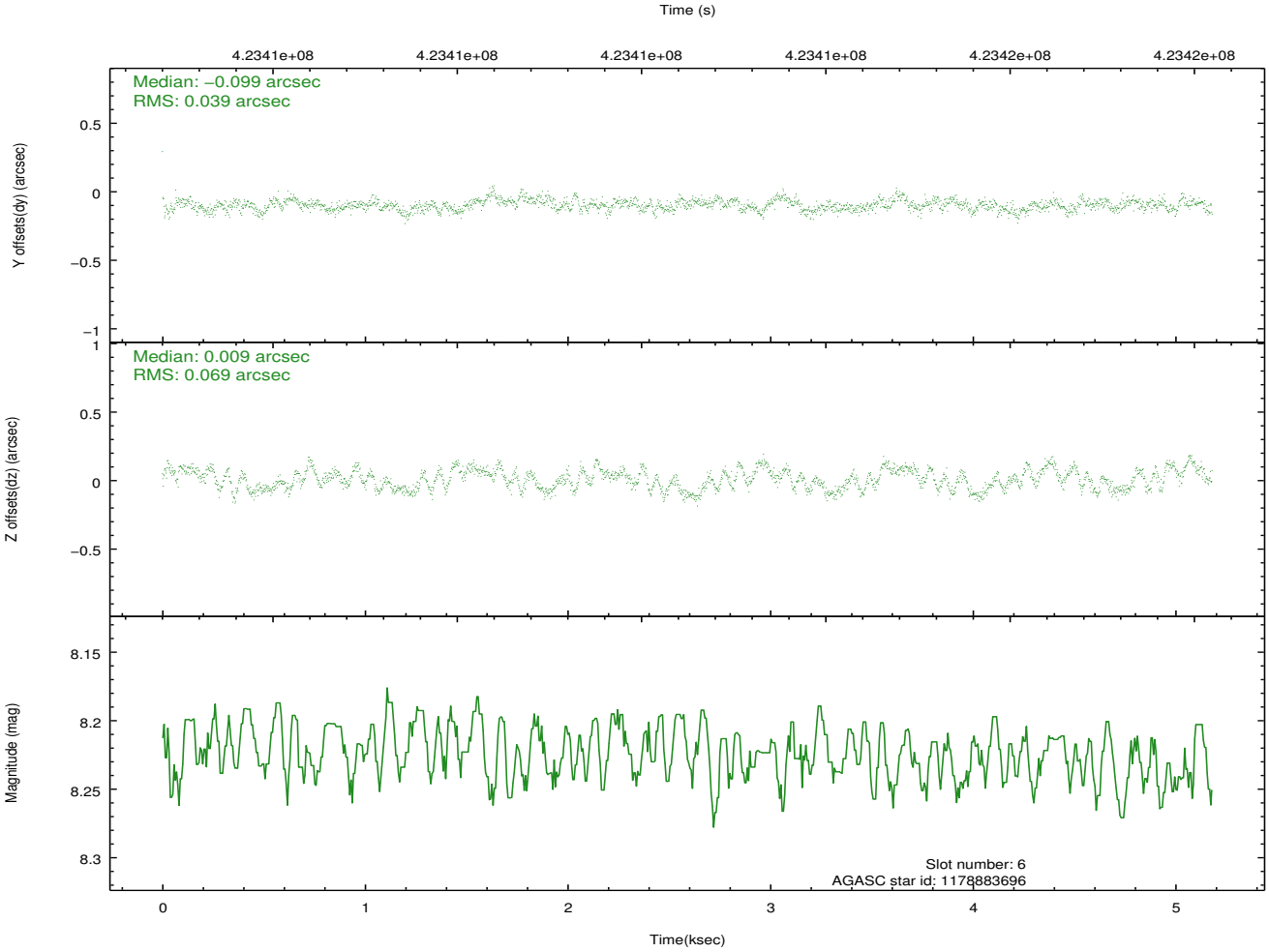

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.192 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1178893960


Time (s)
Median: −0.105 arcsec
RMS: 0.077 arcsec
Y offsets(dy) (arcsec)
Median: 0.161 arcsec
RMS: 0.094 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 1178893960
Time(ksec)

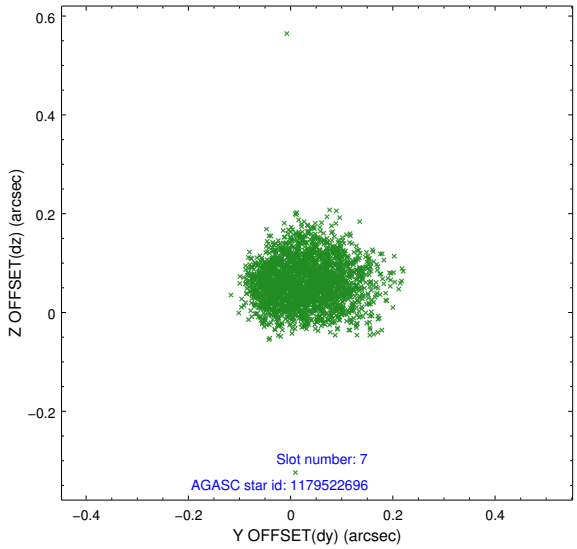
2.4.4 Slot 6

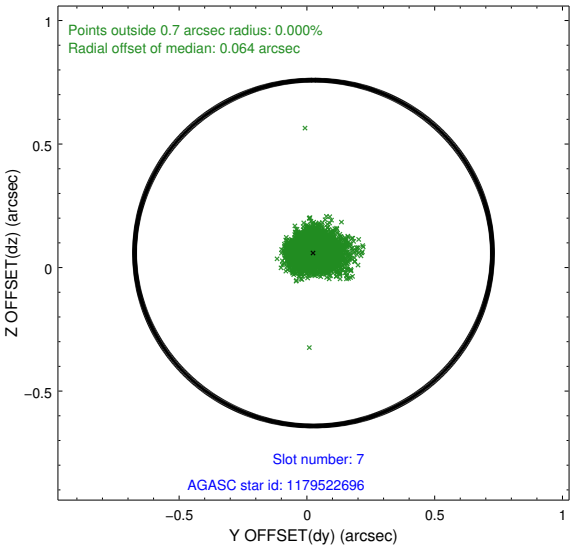

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1178883696

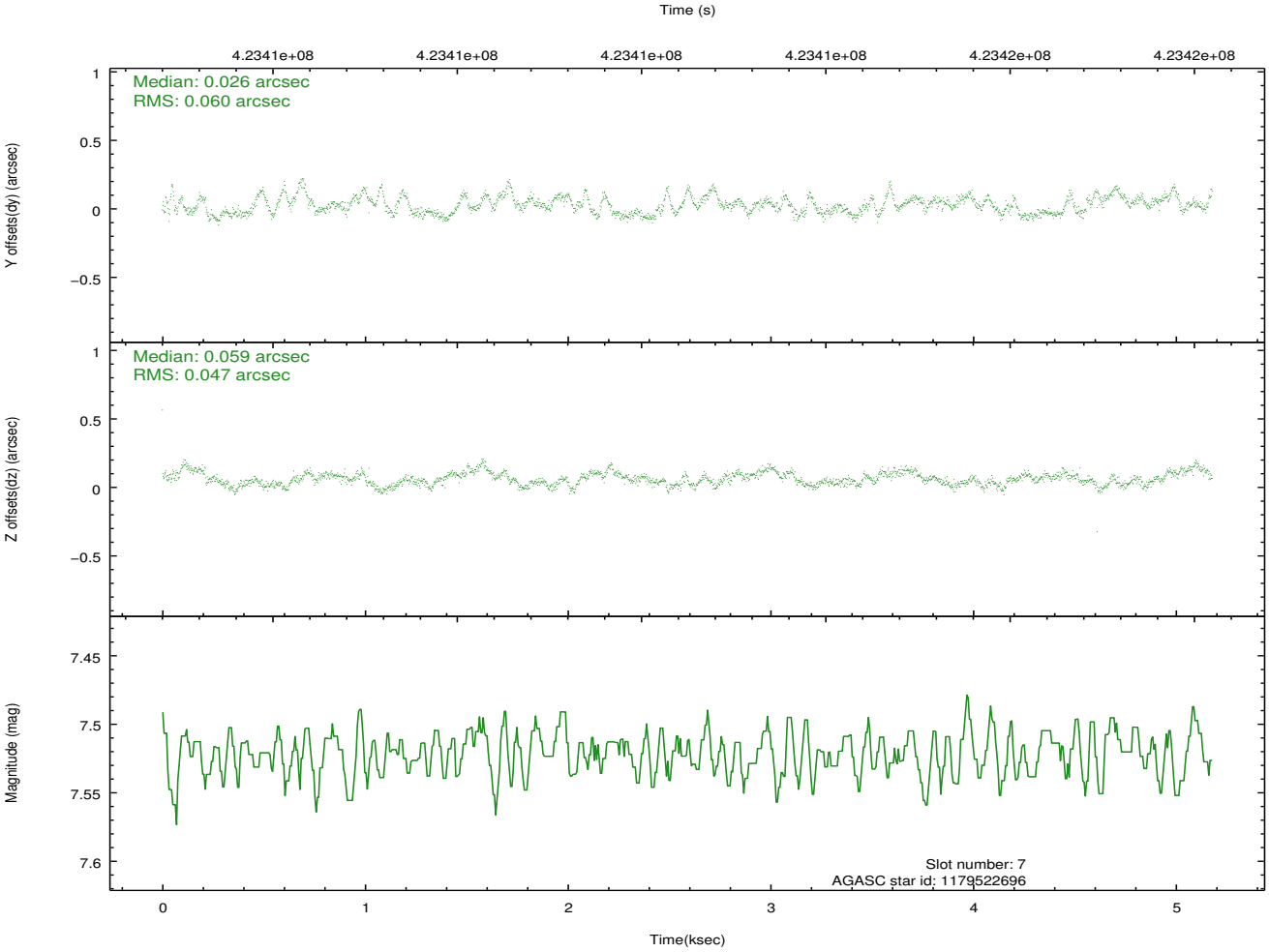

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.100 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1178883696


Time (s)
Median: −0.099 arcsec
RMS: 0.039 arcsec
Y offsets(dy) (arcsec)
Median: 0.009 arcsec
RMS: 0.069 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 1178883696
Time(ksec)

2.4.5 Slot 7

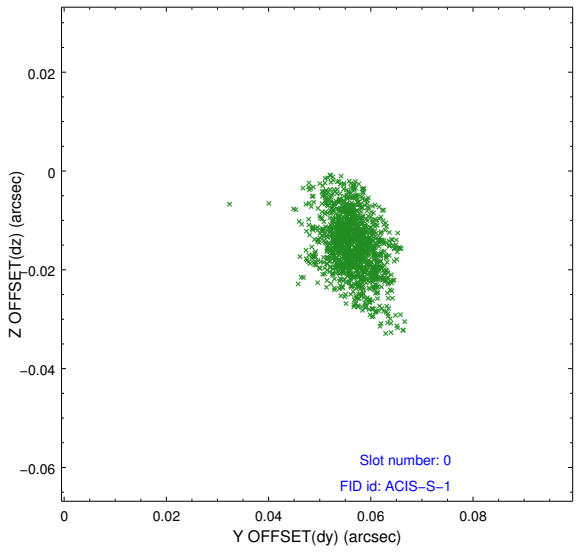

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1179522696

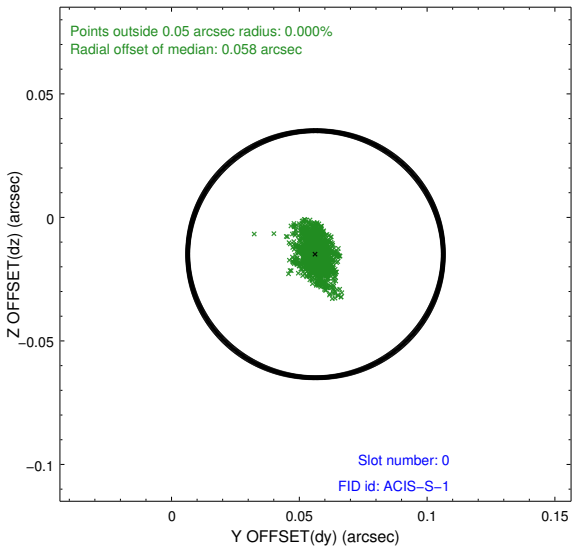

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.064 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1179522696

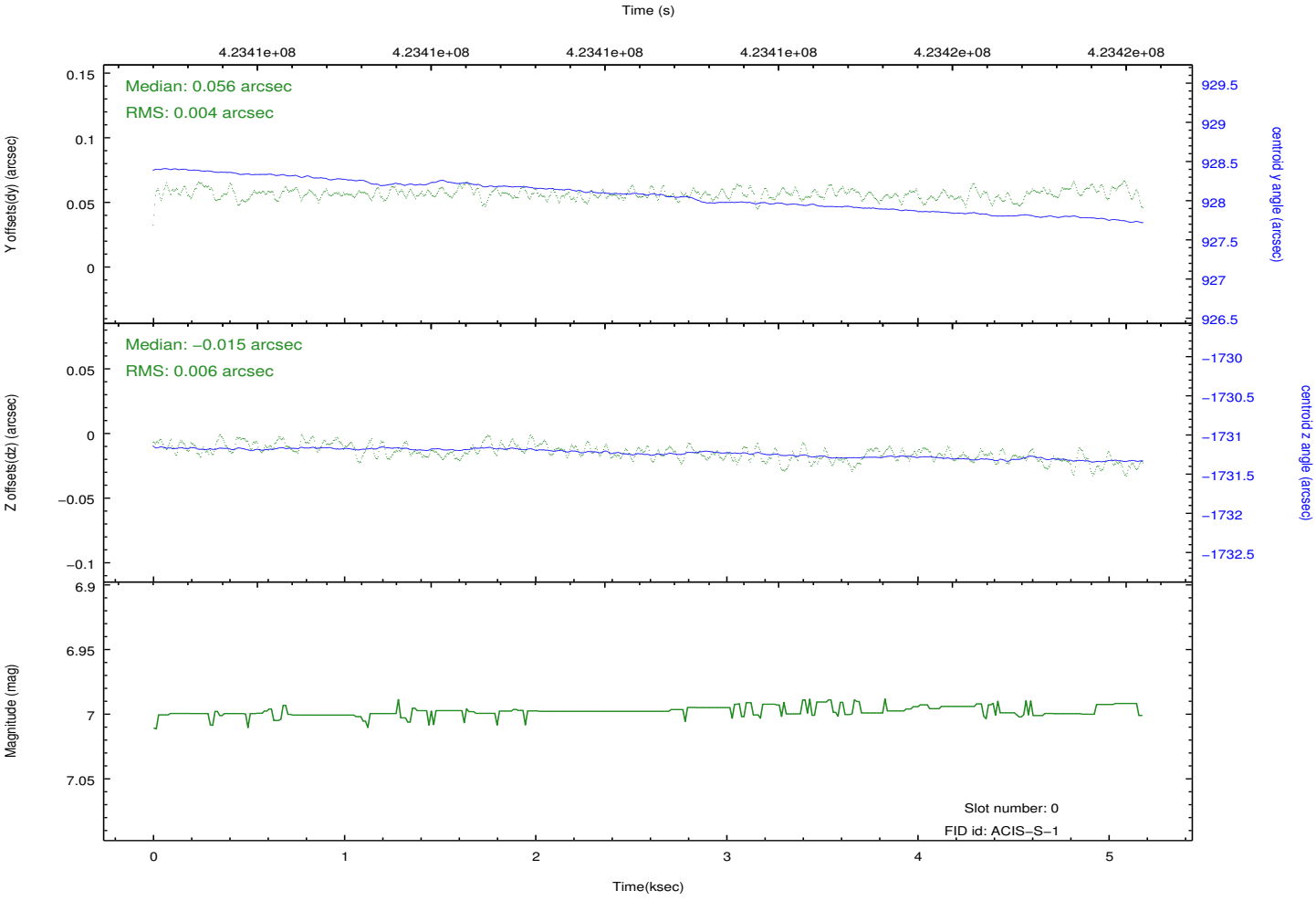

Time (s)
Median: 0.026 arcsec
RMS: 0.060 arcsec
Y offsets(dy) (arcsec)
Median: 0.059 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 1179522696
Time(ksec)

2.5 FID Slots

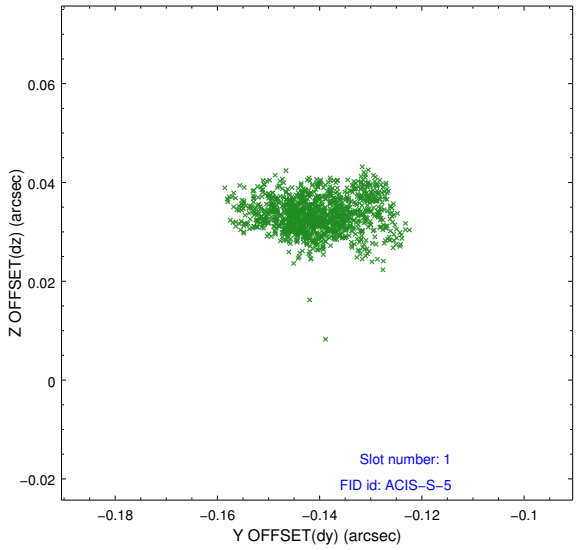
2.5.1 Slot 0

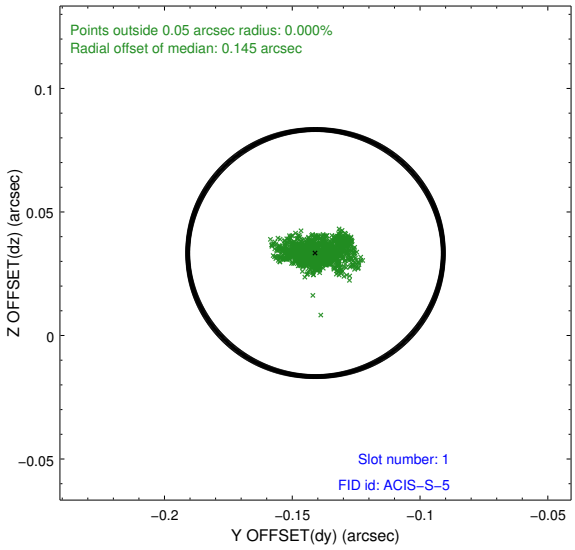


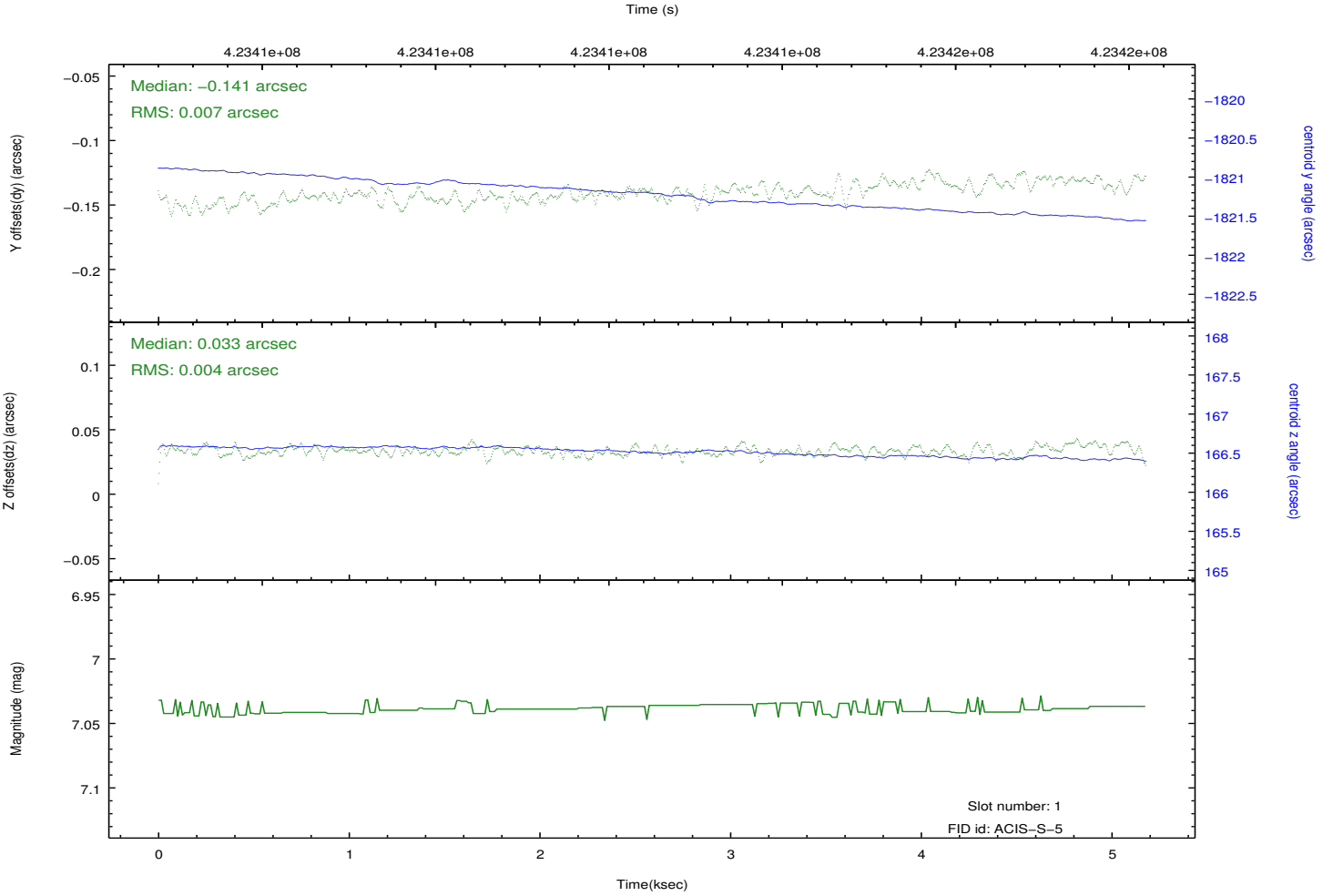




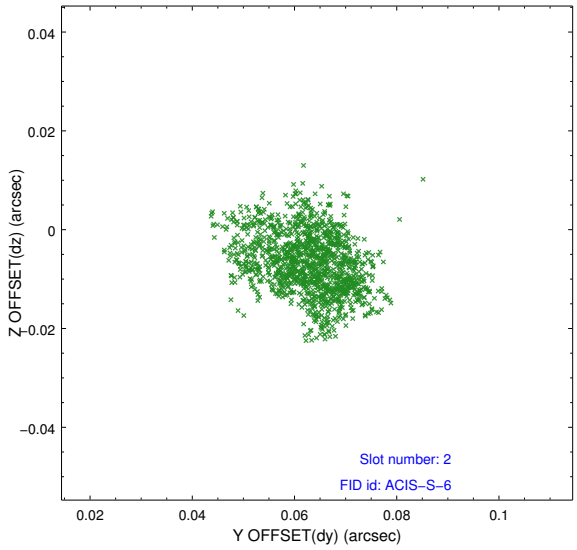
2.5.2 Slot 1

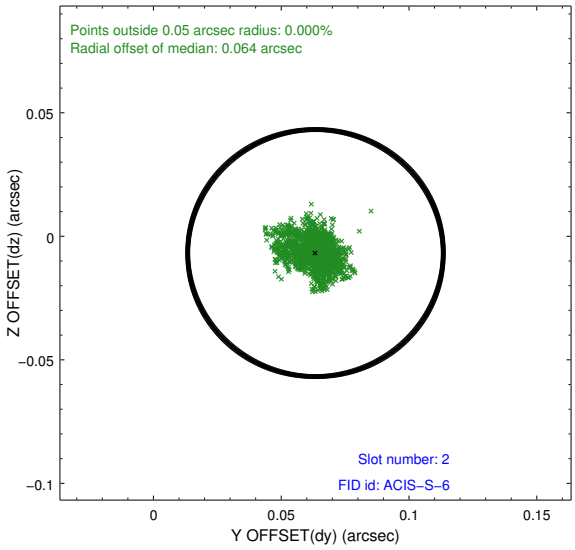

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5

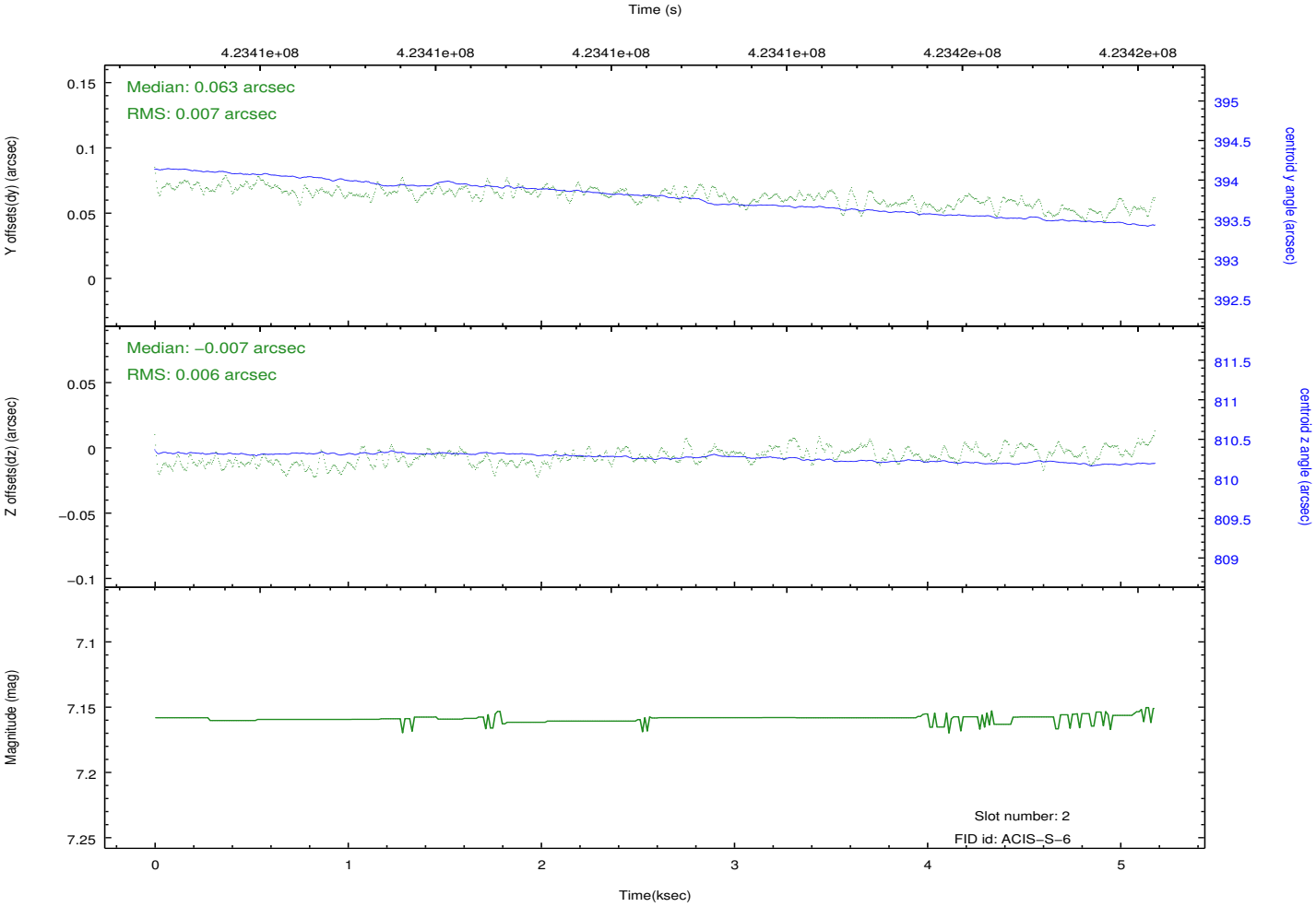

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.145 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5


Time (s)
Median: −0.141 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.033 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−5
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.064 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−6


Time (s)
Median: 0.063 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.007 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−6
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.02.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0434236934781

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.