V&V Reference Report
L2 ASCDS Version : 8.4.3

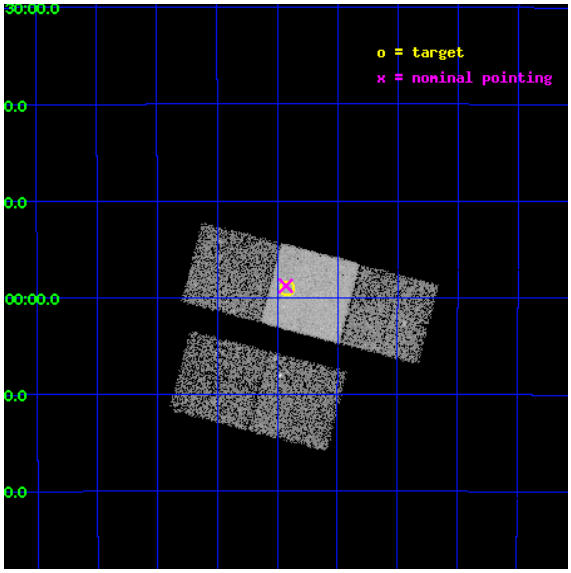
Observation 12536 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 6 2012

Contents

1 Front

seq_num	401277	Sequence number
obs_id	12536	Observation id
title	Searching New Millisecond Pulsar Fields for X-ray Counterparts	Pro
observer	Dr. Michael Wolff	Principal investigator
object	PSRJ1302-32	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	195.60325	Observer's specified target RA [deg]
dec_targ	-32.983417	Observer's specified target Dec [deg]
ra_nom	195.60718815541	Nominal RA [deg]
dec_nom	-32.979900927002	Nominal Dec [deg]
roll_nom	14.649277576934	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10034.700077176	Sum of GTIs [s]
livetime	9903.5893332291	Livetime [s]
ontime2	10034.700077176	Sum of GTIs [s]
ontime3	10034.700077176	Sum of GTIs [s]
ontime6	10034.700077176	Sum of GTIs [s]
ontime7	10034.700077176	Sum of GTIs [s]
ontime8	10034.700077176	Sum of GTIs [s]
l2events	54008	Number of level 2 events

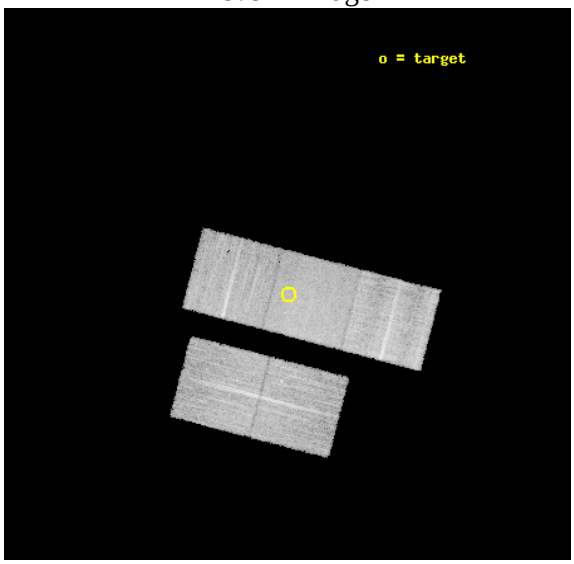


2 OBI

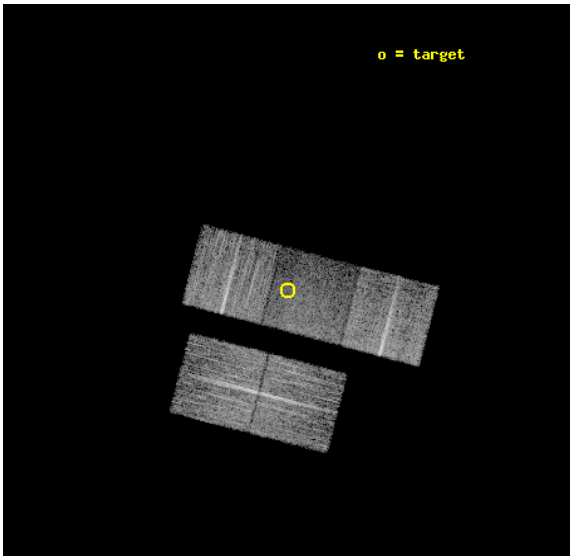
2.1 OBI

2.1.1 Images

Level 1 Image

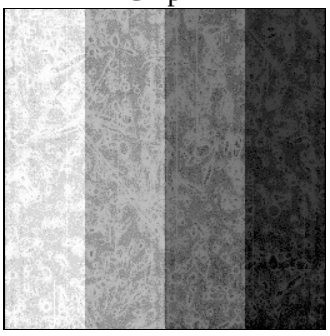


Level 1 Bad Events

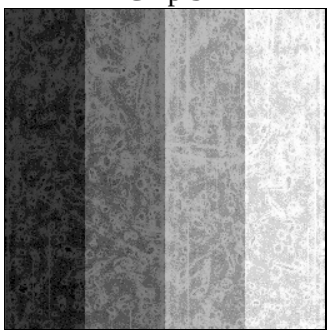


2.1.2 Bias

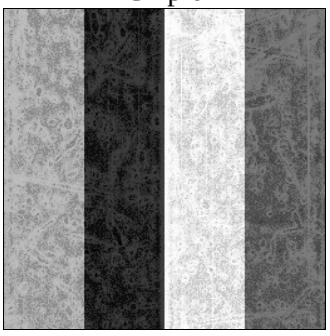
Chip 2



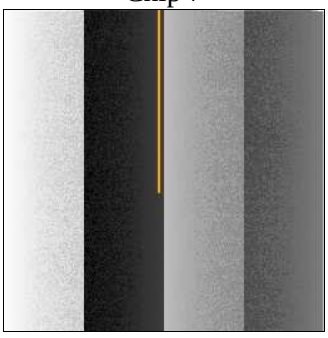
Chip 3



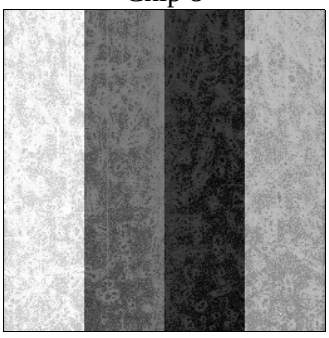
Chip 6



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	2012-02-06T22:55:53	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	9995.865000	[s] Scheduled observation exposure time
ontime	10034.700077176	Sum of GTIs [s]
ontime2	10034.700077176	Sum of GTIs [s]
ontime3	10034.700077176	Sum of GTIs [s]
ontime6	10034.700077176	Sum of GTIs [s]
ontime7	10034.700077176	Sum of GTIs [s]
ontime8	10034.700077176	Sum of GTIs [s]
l1events	317273	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	58736	57131	60061	64835	76510
rejected events	52423	50513	53013	33692	55011
rejected %	89%	88%	88%	51%	71%

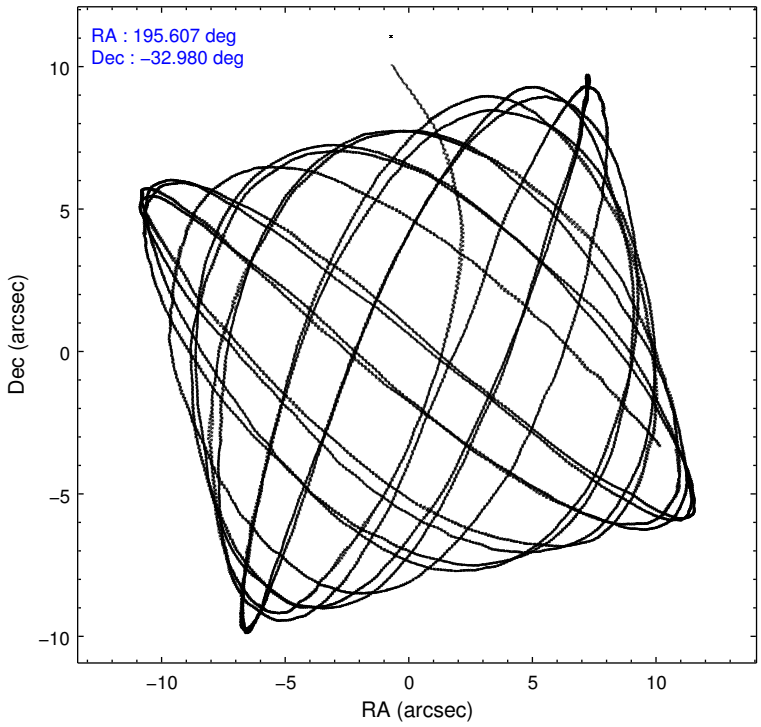
	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	2394	2543	2620	3183	6264
	4%	4%	4%	4%	8%
grade 1 events	40	40	33	98	73
	0%	0%	0%	0%	0%
grade 2 events	1535	1434	1565	6604	5147
	2%	2%	2%	10%	6%
grade 3 events	607	655	675	2903	2414
	1%	1%	1%	4%	3%
grade 4 events	662	683	732	2703	2156
	1%	1%	1%	4%	2%
grade 5 events	1993	2485	2433	7081	3709
	3%	4%	4%	10%	4%
grade 6 events	1119	1306	1464	15772	5540
	1%	2%	2%	24%	7%
grade 7 events	50386	47985	50539	26491	51207
	85%	83%	84%	40%	66%

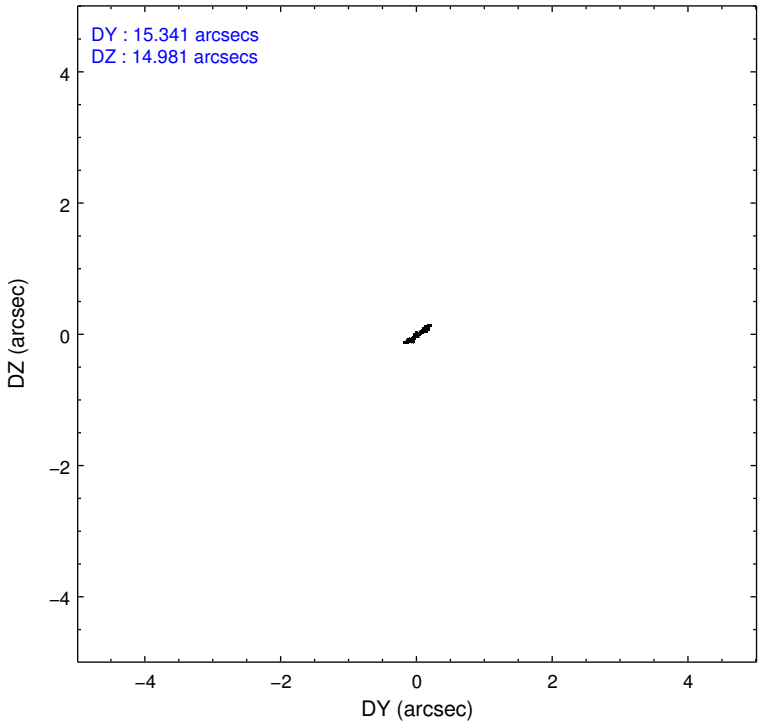
2.2 Compared Parameters

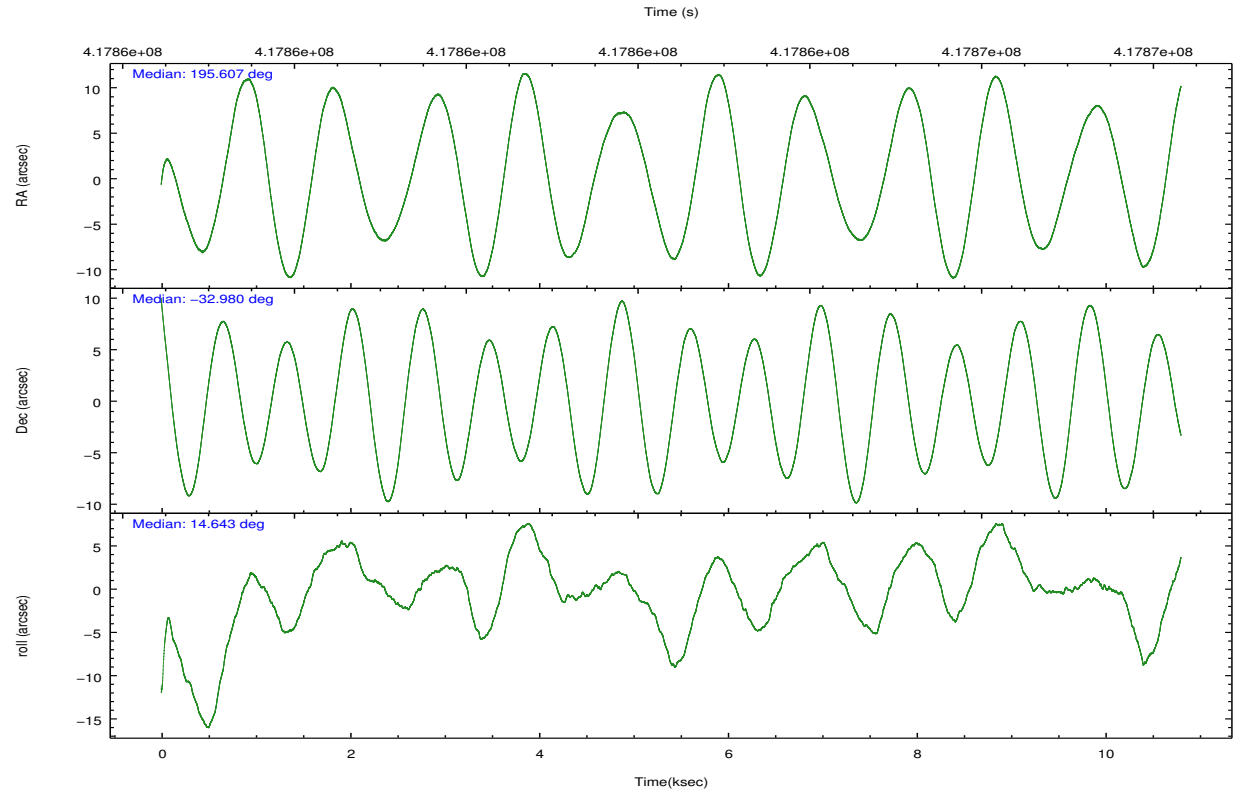
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	195.584371	195.6071881554072
[deg] Pointing Dec	-32.999391	-32.97990092700224
[deg] Pointing Roll	14.480235	14.6492775769338
[mm] 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)	417857790.184000	417856549.09239
Observation start date	2011-03-30T07:35:24	2011-03-30T07:15:49
[s] Observation end time (MET)	417867785.184000	417868011.15549
Observation end date	2011-03-30T10:21:59	2011-03-30T10:26:51
Read mode	TIMED	TIMED

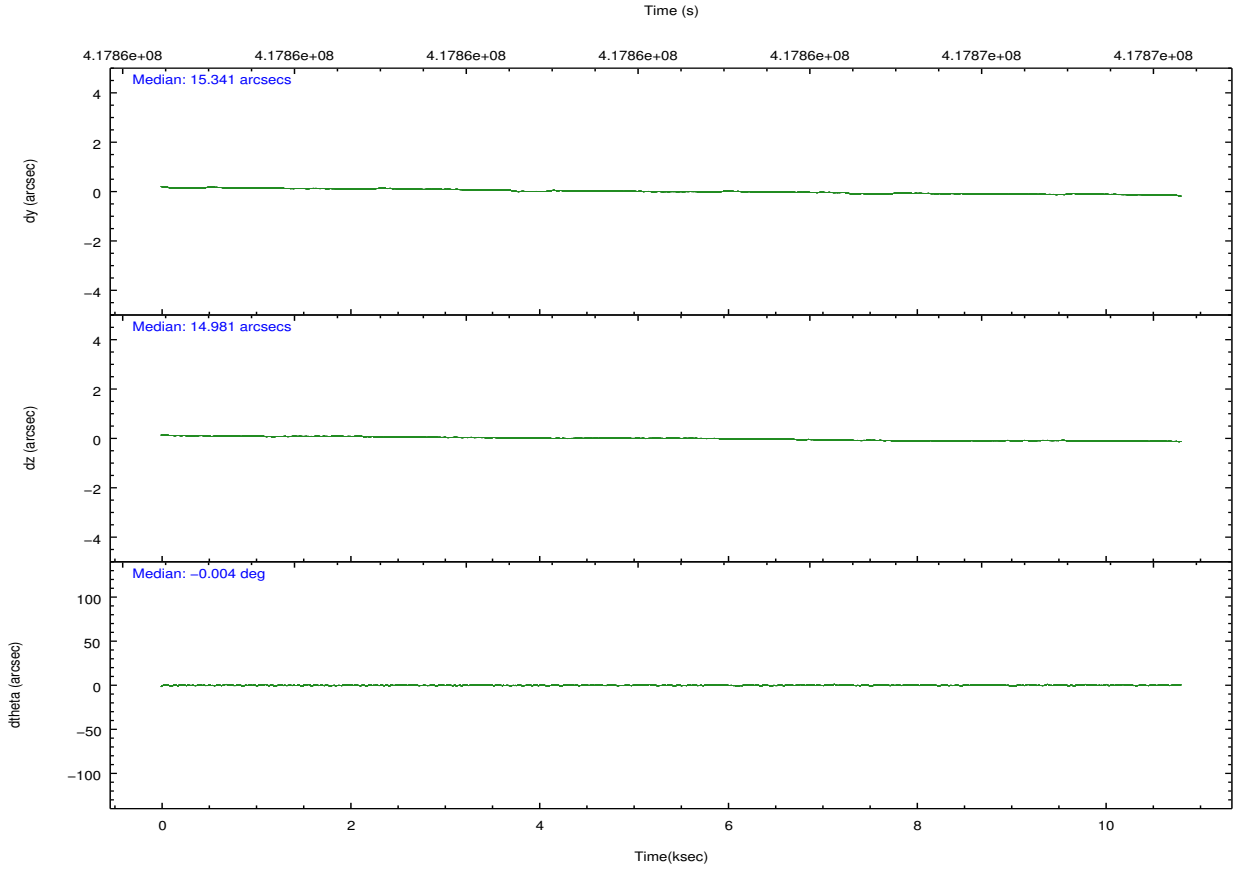
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O2	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	O1	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 195.607 deg
Dec : –32.980 deg
Dec (arcsec)
RA (arcsec)
10
5
0
–5
–10
–10
–5
0
5
10


DY : 15.341 arcsecs
DZ : 14.981 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
–2
–4
–4
–2
0
2
4


Time (s)
4.1786e+08
4.1786e+08
4.1786e+08
4.1786e+08
4.1786e+08
4.1787e+08
4.1787e+08
Median: 195.607 deg
RA (arcsec)
Median: −32.980 deg
Dec (arcsec)
Median: 14.643 deg
roll (arcsec)
Time(ksec)

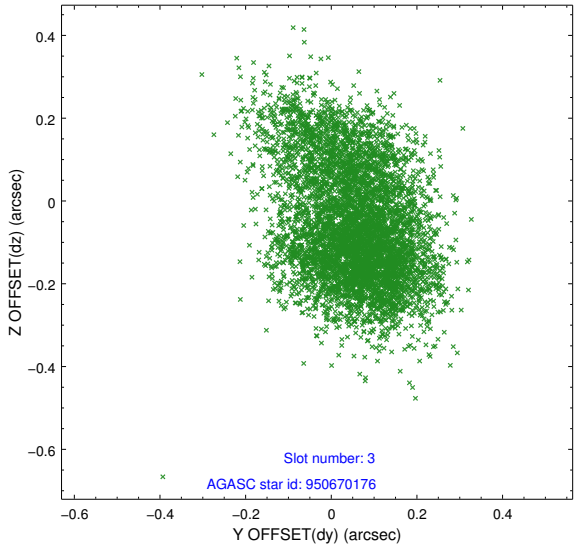

Time (s)
4.1786e+08
4.1786e+08
4.1786e+08
4.1786e+08
4.1786e+08
4.1787e+08
4.1787e+08
Median: 15.341 arcsecs
dy (arcsec)
Median: 14.981 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

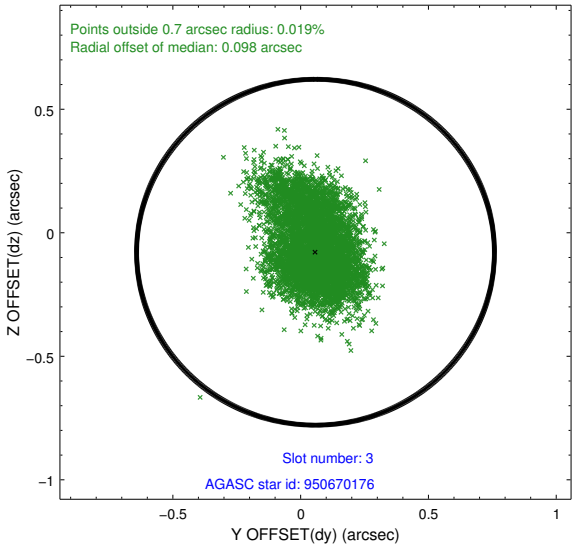
Slot Statistics

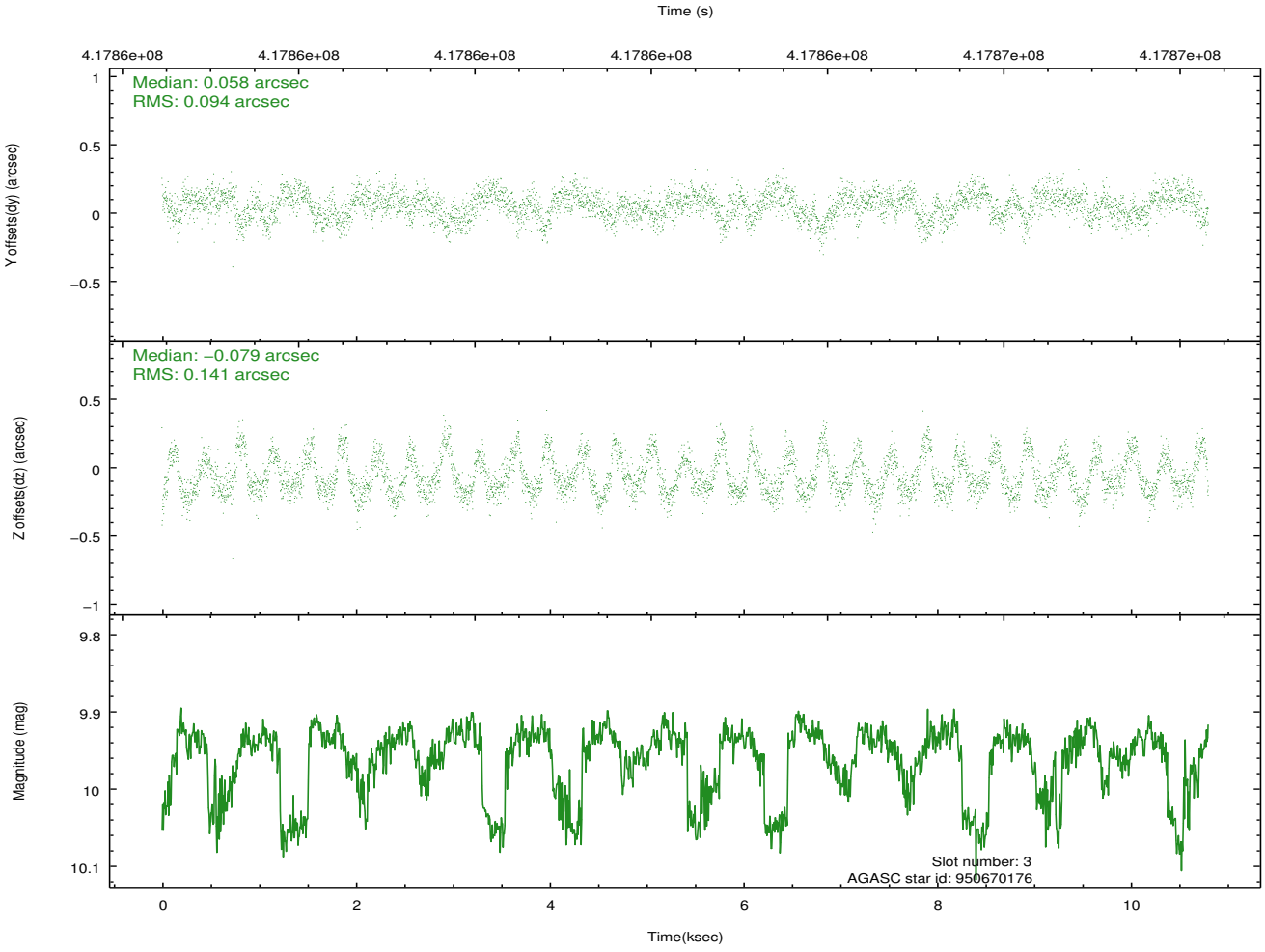
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.96	2635	-0.112	-0.040	0.007	0.013	0.000000	0.000000	-768.43	-1736.34
1	FID	ACIS-S-4	7.04	2635	0.223	0.065	0.006	0.014	0.000000	0.000000	2144.95	171.77
2	FID	ACIS-S-5	7.07	2635	-0.142	-0.016	0.008	0.017	0.000000	0.000000	-1820.70	165.88
3	GUIDE	950670176	9.95	5264	0.058	-0.079	0.176	0.299	195.320419	-32.940227	-718.95	404.53
4	GUIDE	950672392	10.27	5243	0.029	-0.246	0.221	0.343	194.984784	-32.695424	-1486.33	1508.51
5	GUIDE	950675536	7.69	5271	-0.100	0.071	0.075	0.121	195.278292	-33.480130	-1321.66	-1447.68
6	GUIDE	950808520	8.61	5270	-0.095	0.093	0.083	0.133	196.211904	-33.137408	1705.65	-959.52
7	GUIDE	950668208	10.50	5257	0.120	0.138	0.232	0.384	194.991185	-33.501209	-2175.76	-1308.86

2.4 Star Slots

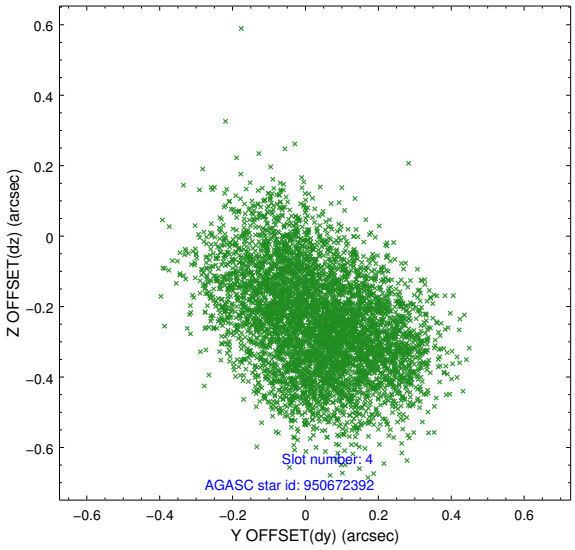
2.4.1 Slot 3

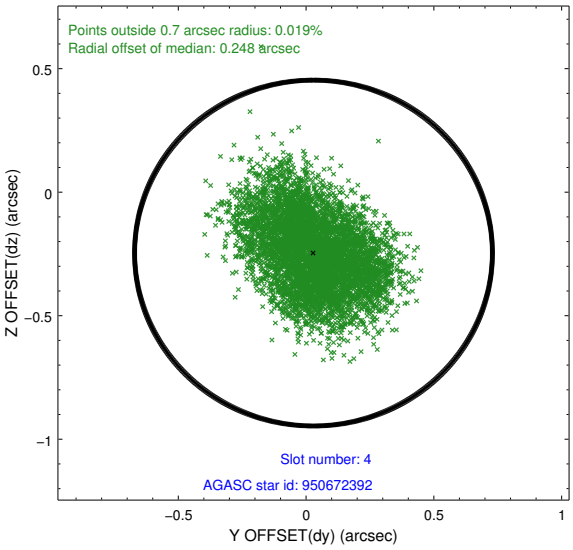


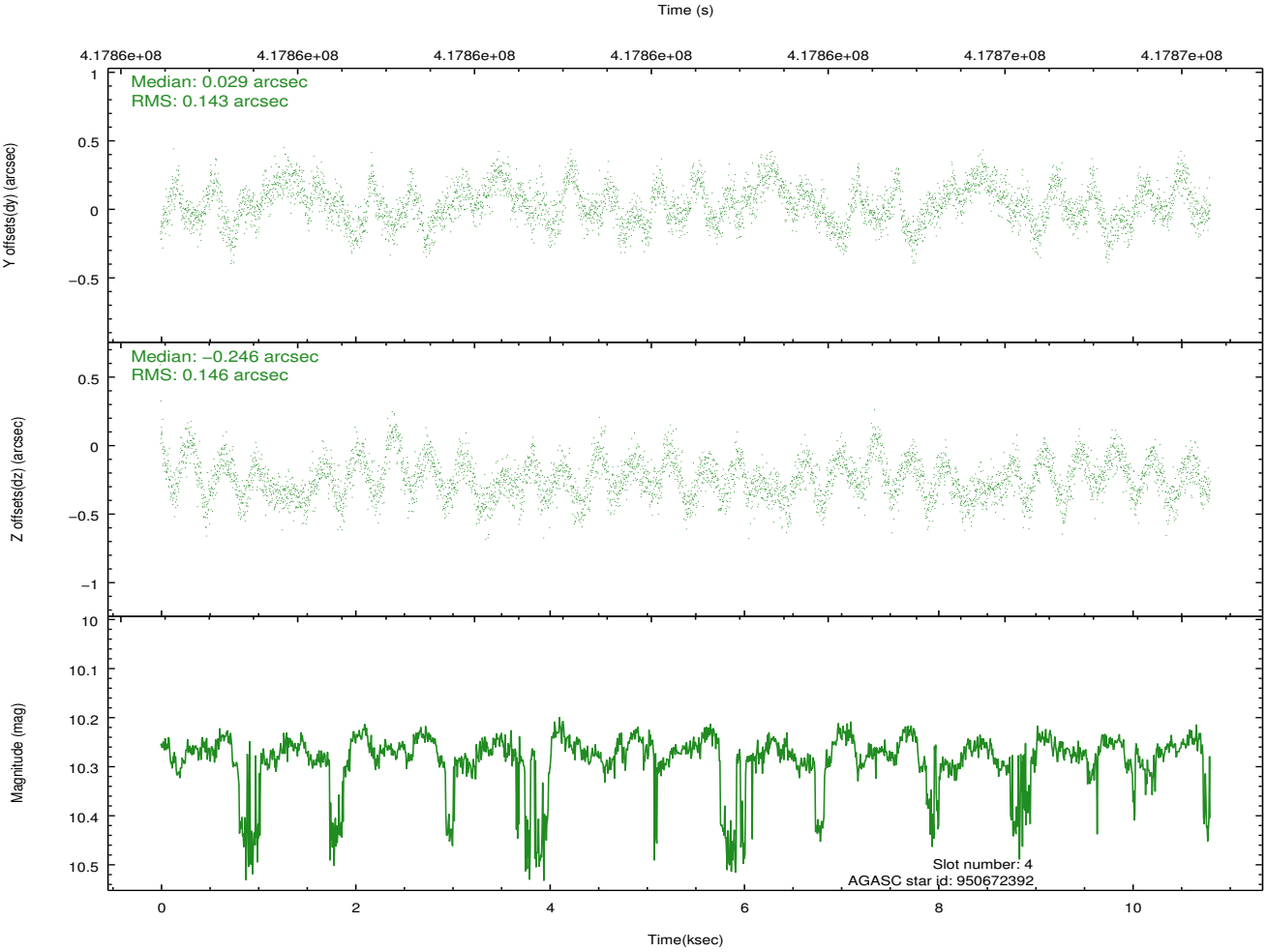




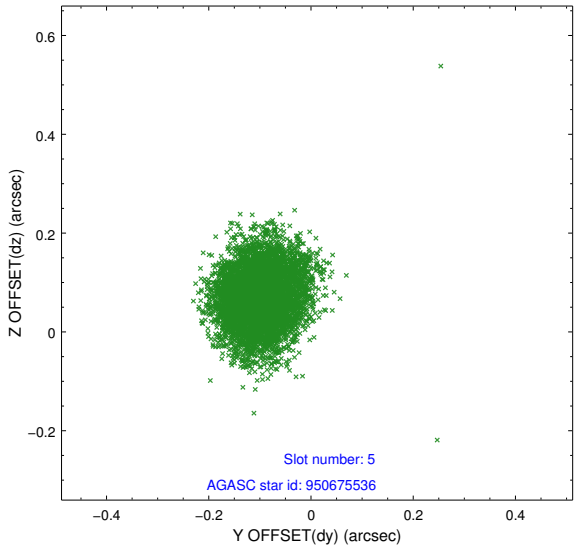
2.4.2 Slot 4

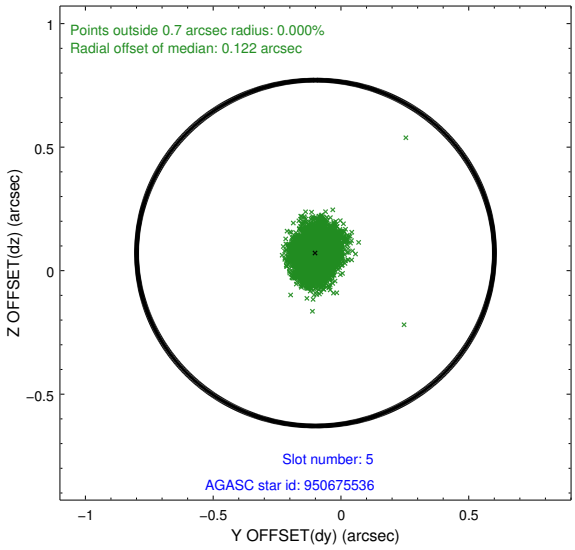

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 950672392

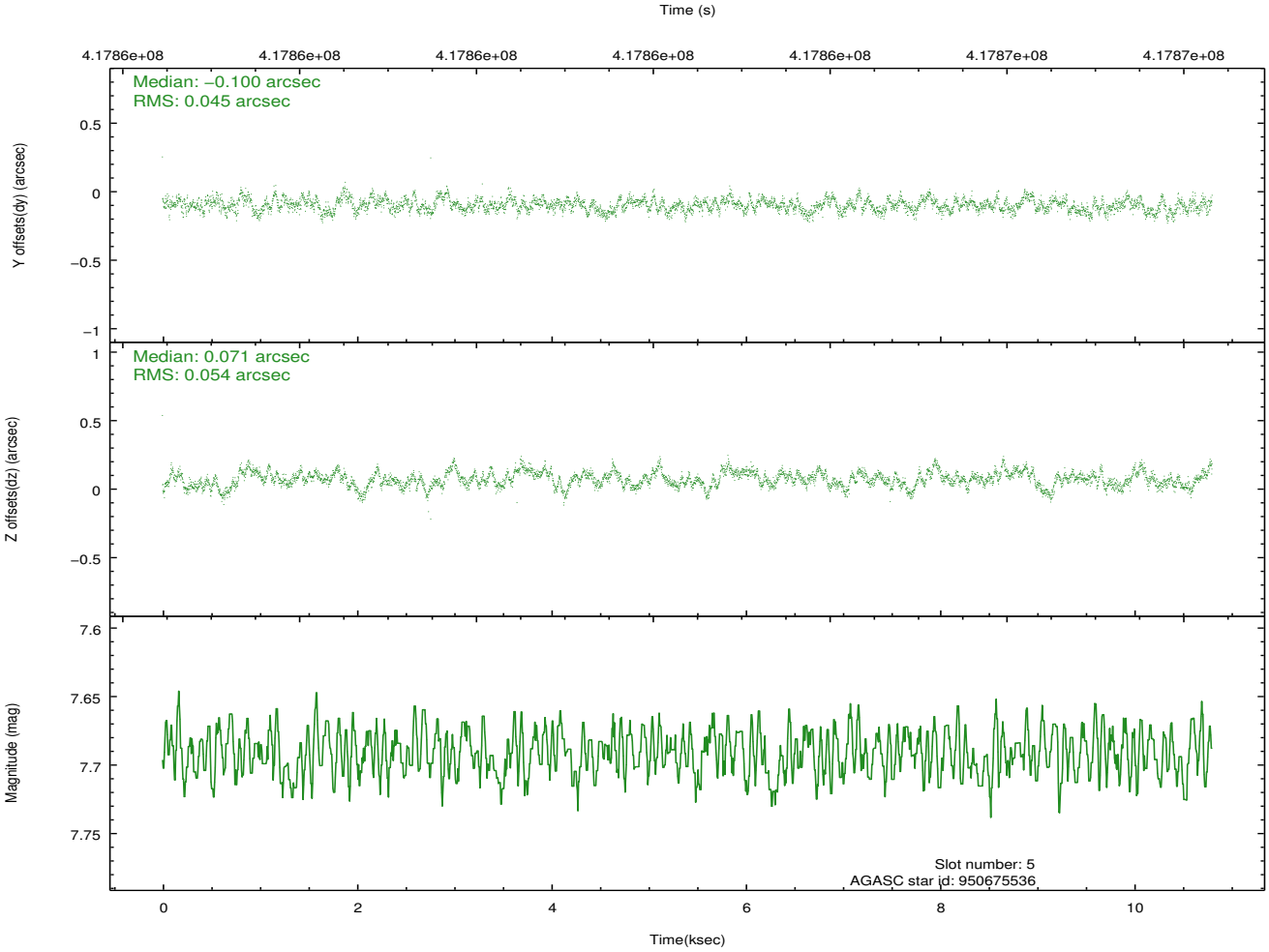

Points outside 0.7 arcsec radius: 0.019%
Radial offset of median: 0.248 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 950672392


Time (s)
Median: 0.029 arcsec
RMS: 0.143 arcsec
Y offsets(dy) (arcsec)
Median: −0.246 arcsec
RMS: 0.146 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 950672392
Time(ksec)

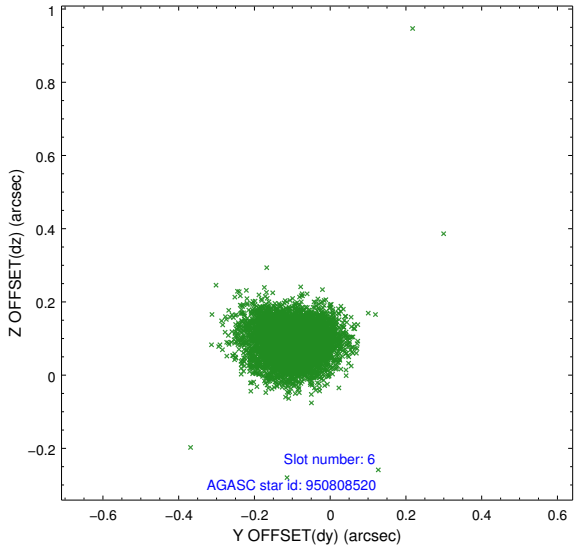
2.4.3 Slot 5

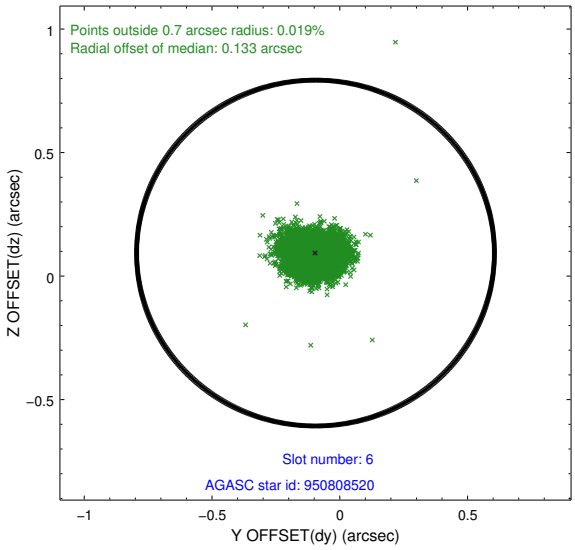

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 950675536

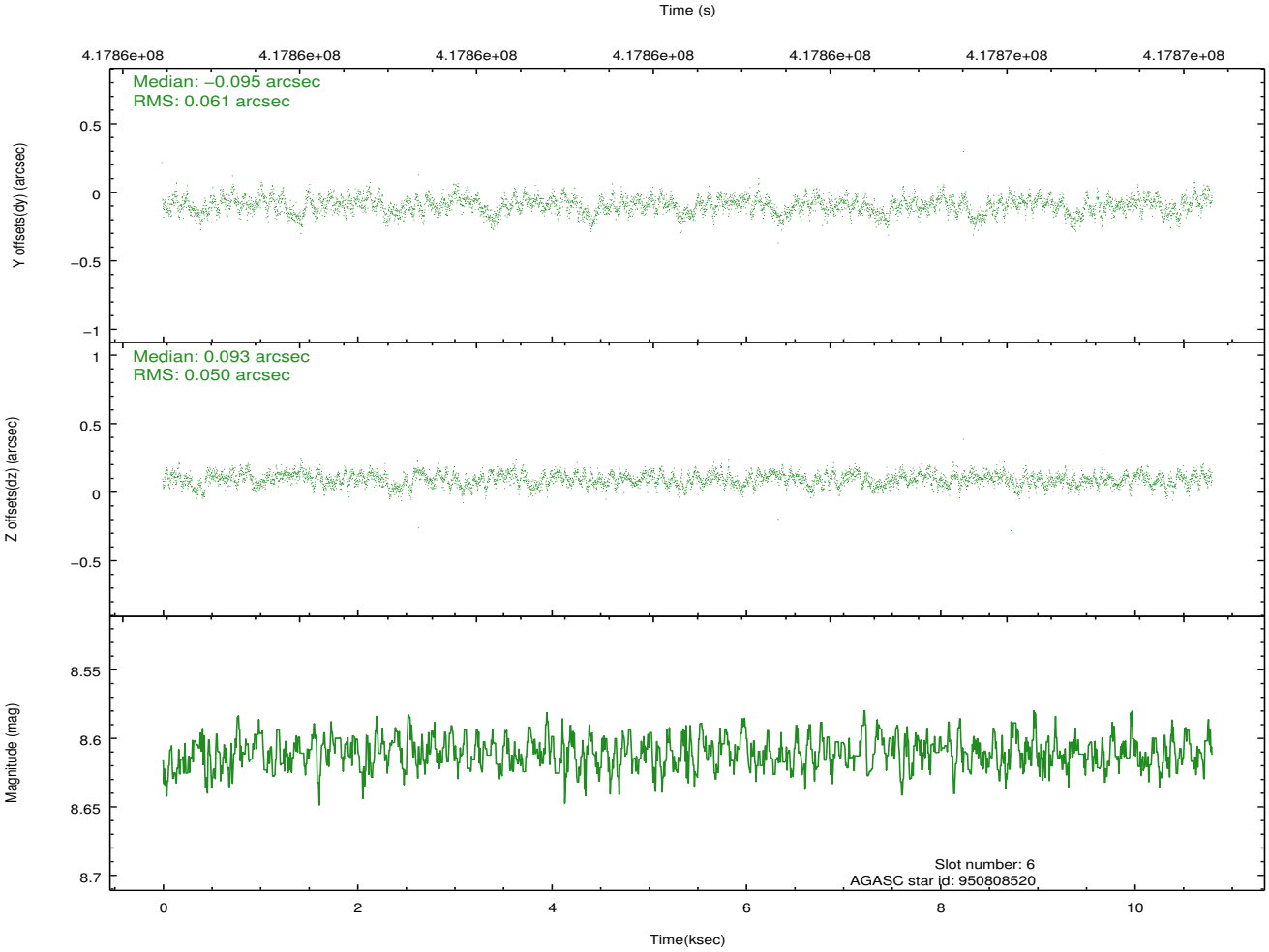

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.122 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 950675536


Time (s)
Median: −0.100 arcsec
RMS: 0.045 arcsec
Y offsets(dy) (arcsec)
Median: 0.071 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 950675536
Time(ksec)

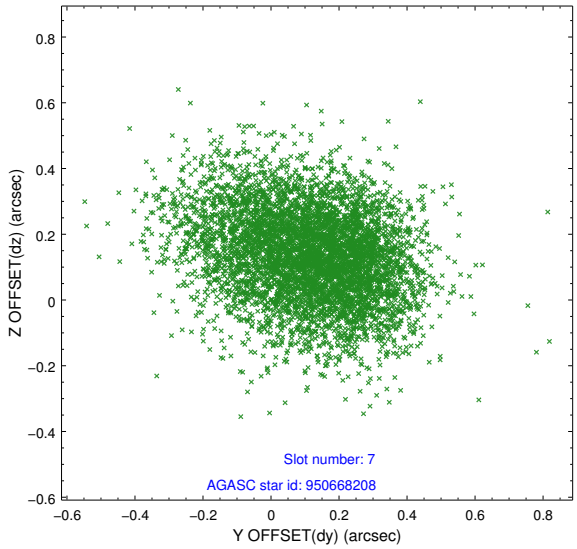
2.4.4 Slot 6

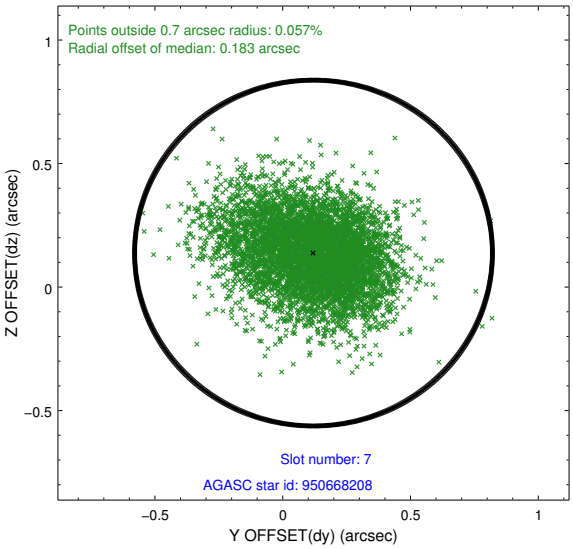

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 950808520

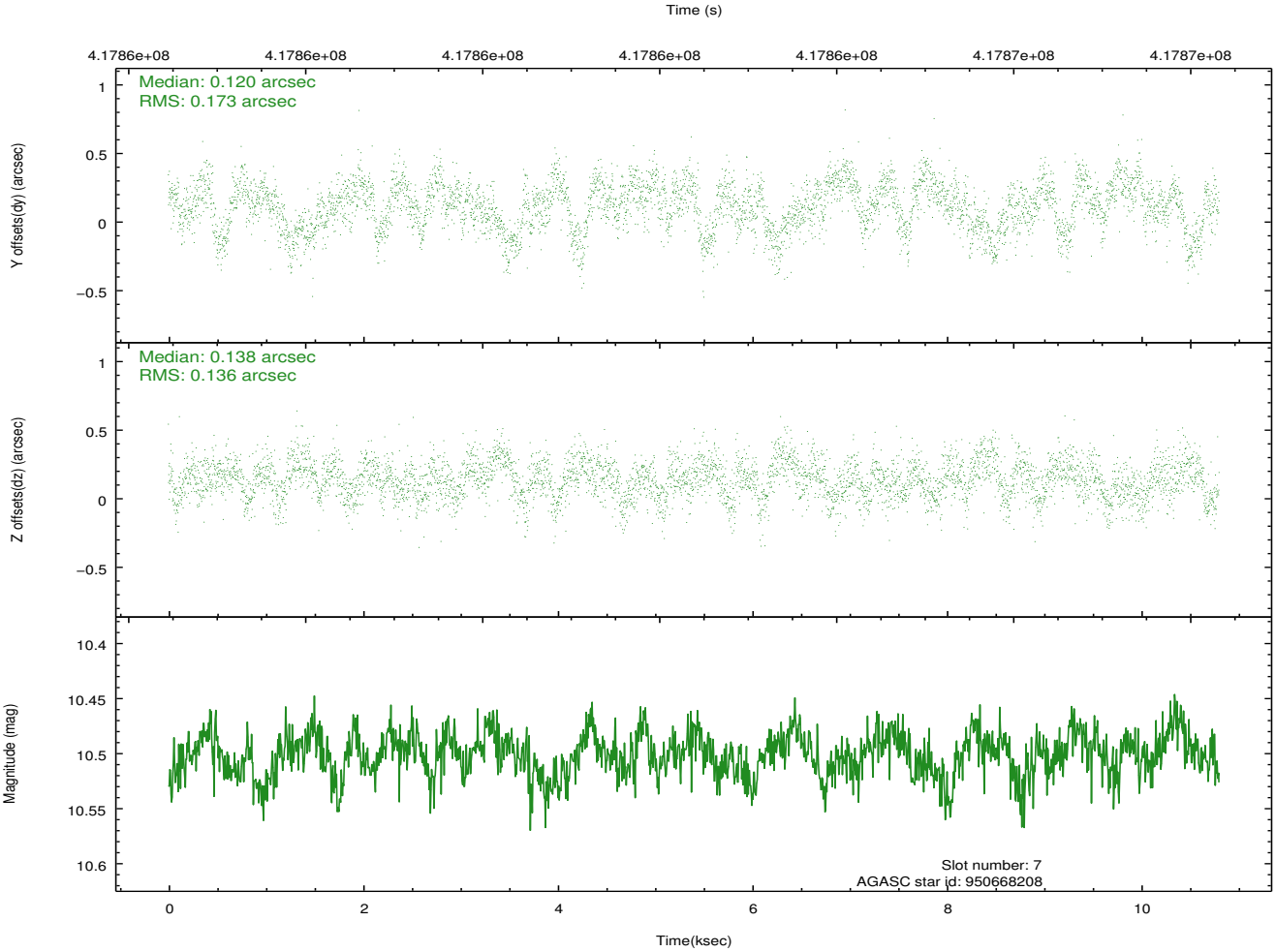

Points outside 0.7 arcsec radius: 0.019%
Radial offset of median: 0.133 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 950808520


Time (s)
Median: −0.095 arcsec
RMS: 0.061 arcsec
Y offsets(dy) (arcsec)
Median: 0.093 arcsec
RMS: 0.050 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 950808520
Time(ksec)

2.4.5 Slot 7

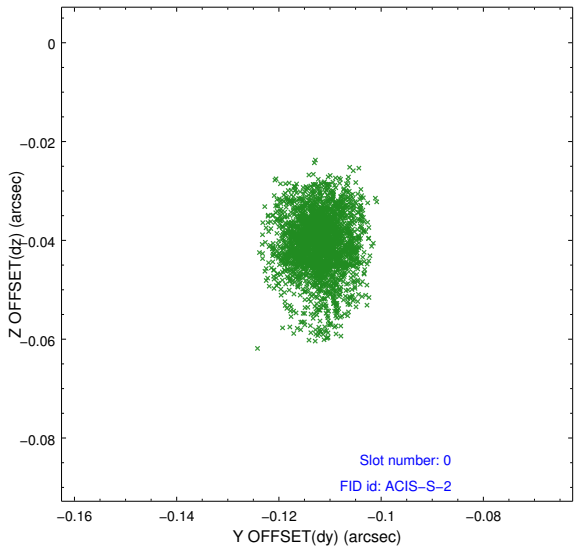

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 950668208

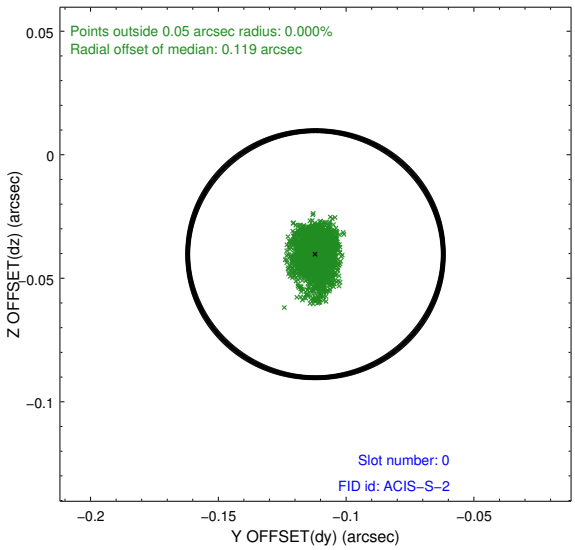

Points outside 0.7 arcsec radius: 0.057%
Radial offset of median: 0.183 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 950668208

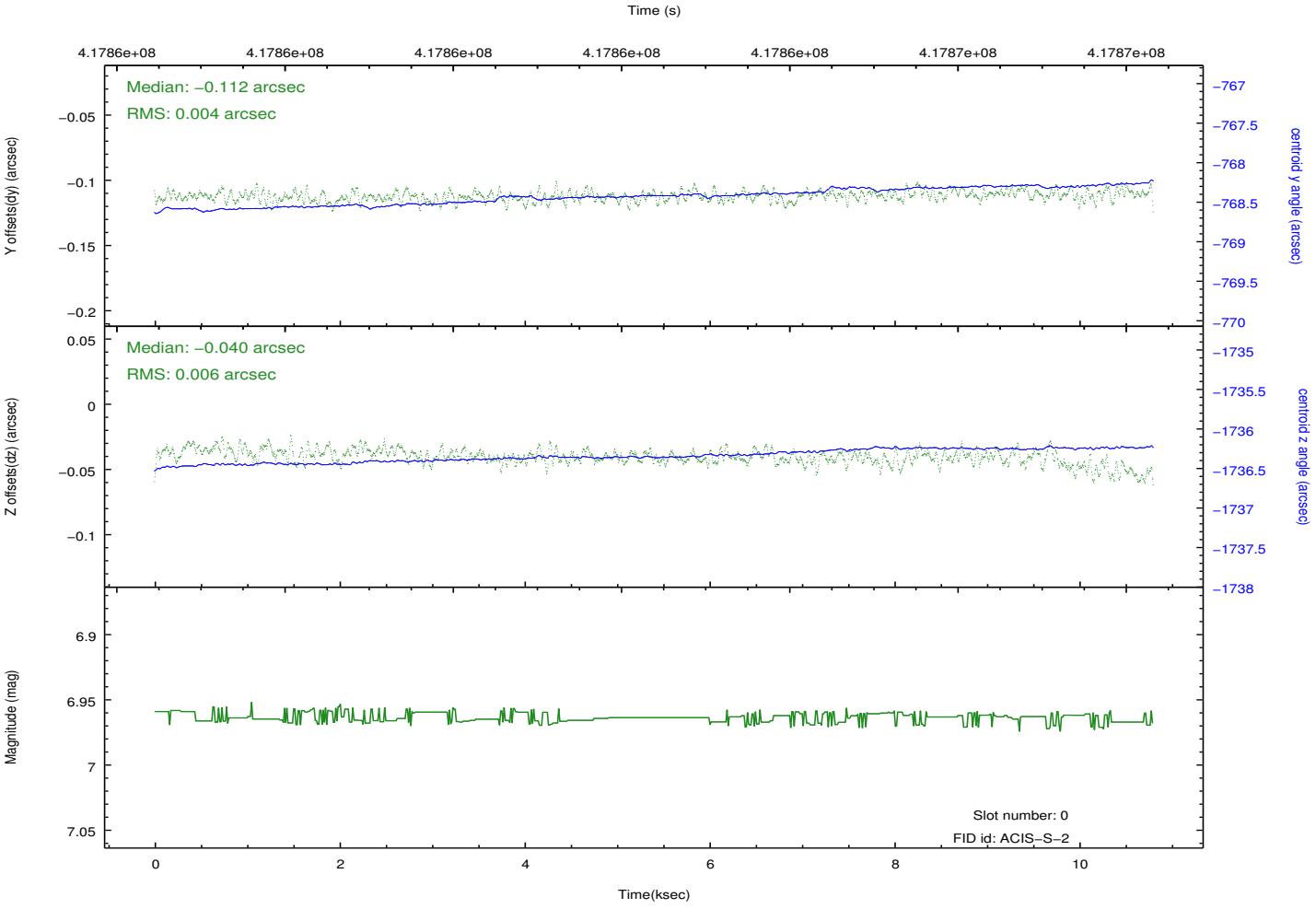

Time (s)
Median: 0.120 arcsec
RMS: 0.173 arcsec
Y offsets(dy) (arcsec)
Median: 0.138 arcsec
RMS: 0.136 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 950668208
Time(ksec)

2.5 FID Slots

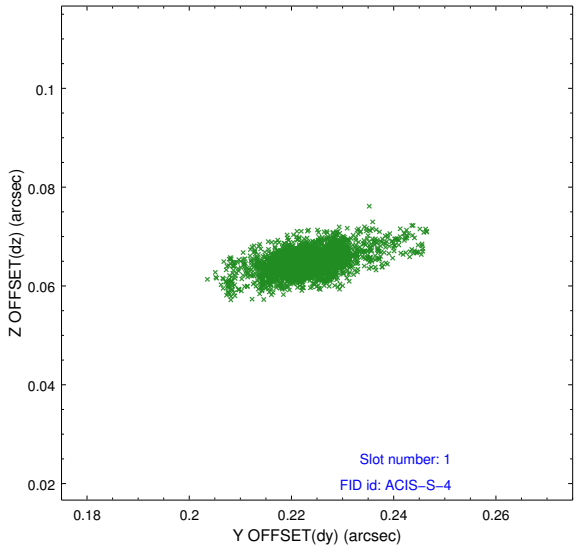
2.5.1 Slot 0

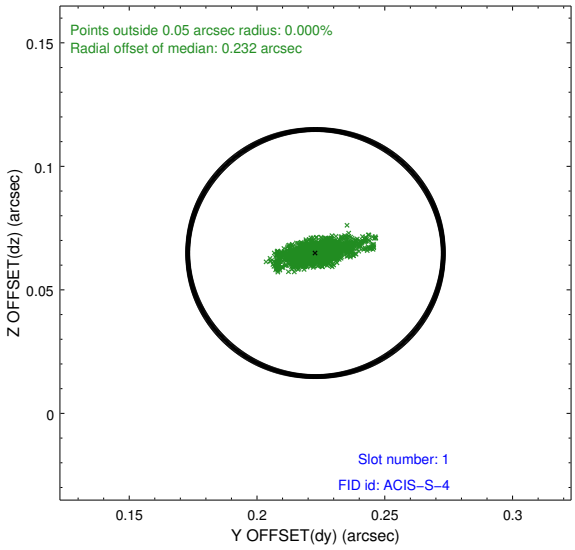


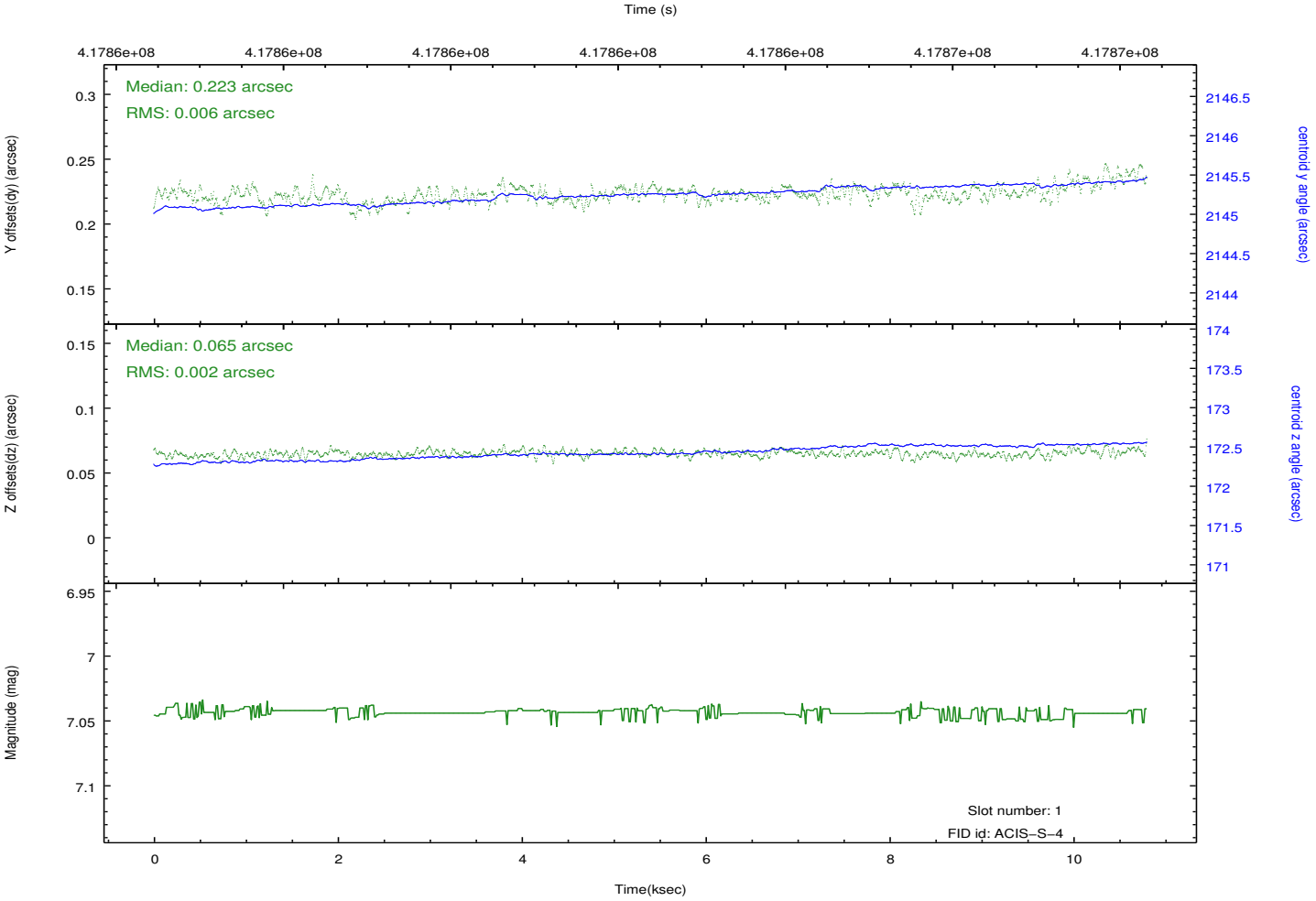




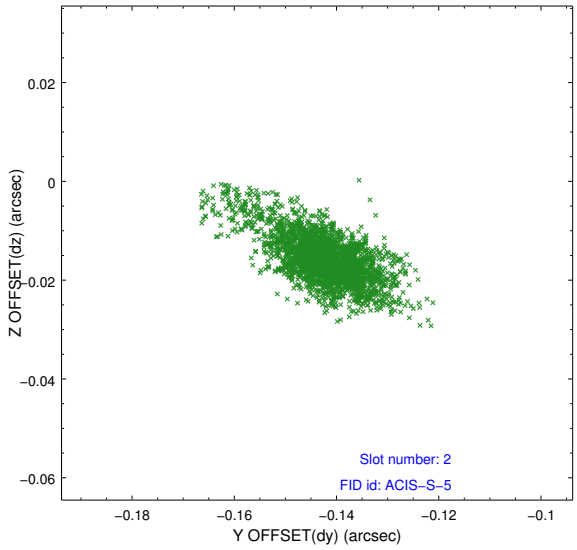
2.5.2 Slot 1

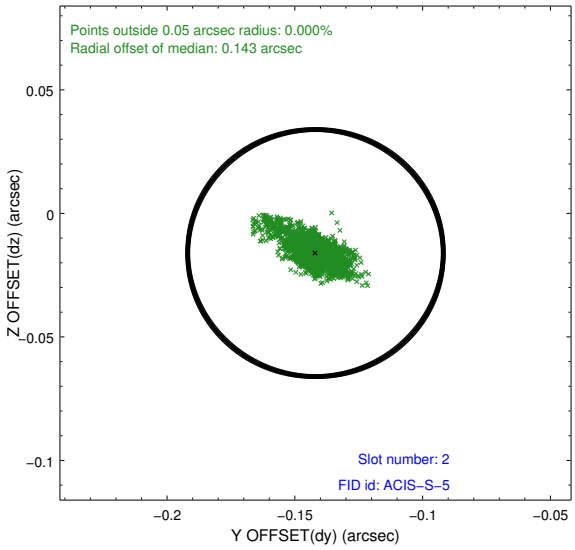

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

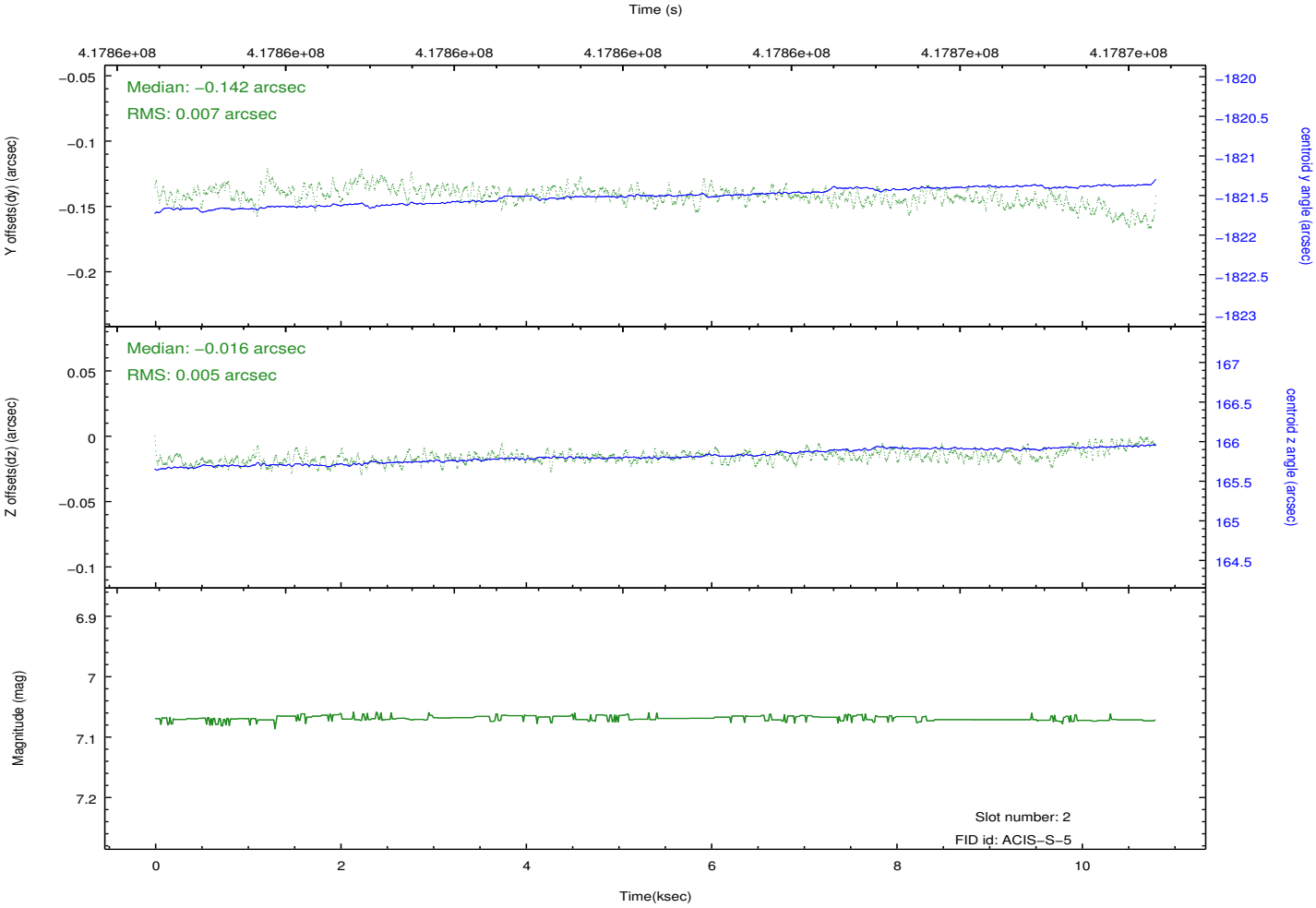

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.232 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.223 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
Median: 0.065 arcsec
RMS: 0.002 arcsec
Z offsets(dz) (arcsec)
centroid y angle (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: 0.143 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.142 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.016 arcsec
RMS: 0.005 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)	2012.02.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.034700077176

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.