V&V Reference Report
L2 ASCDS Version : 8.4.5

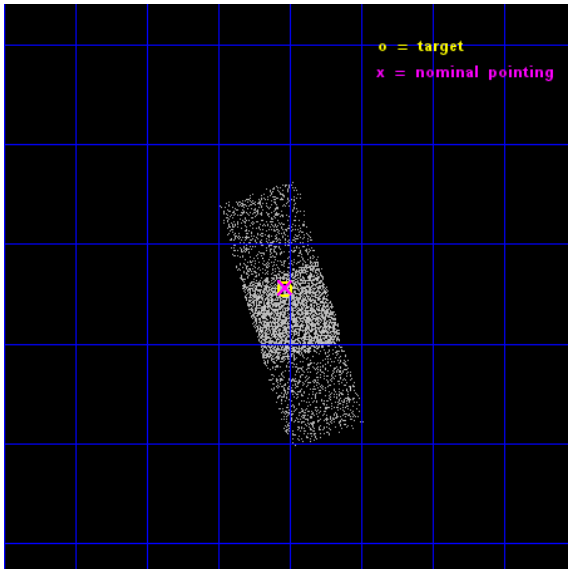
Observation 13339 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Nov 28 2014

Contents

1 Front

seq_num	702546	Sequence number
obs_id	13339	Observation id
title	A Large, Economical Snapshot Survey of the Most-Luminous Quasars from the Sloan Digital Sky Survey	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SDSS J0949+0335	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	147.384583	Observer's specified target RA [deg]
dec_targ	3.592139	Observer's specified target Dec [deg]
ra_nom	147.38261886646	Nominal RA [deg]
dec_nom	3.5943585147061	Nominal Dec [deg]
roll_nom	73.003397631934	Nominal Roll [deg]
revision	2	Processing version of data
ontime	1580.6805871129	Sum of GTIs [s]
livetime	1560.0278315622	Livetime [s]
ontime6	1580.6395471096	Sum of GTIs [s]
ontime7	1580.6805871129	Sum of GTIs [s]
ontime8	1580.5985071063	Sum of GTIs [s]
l2events	5932	Number of level 2 events

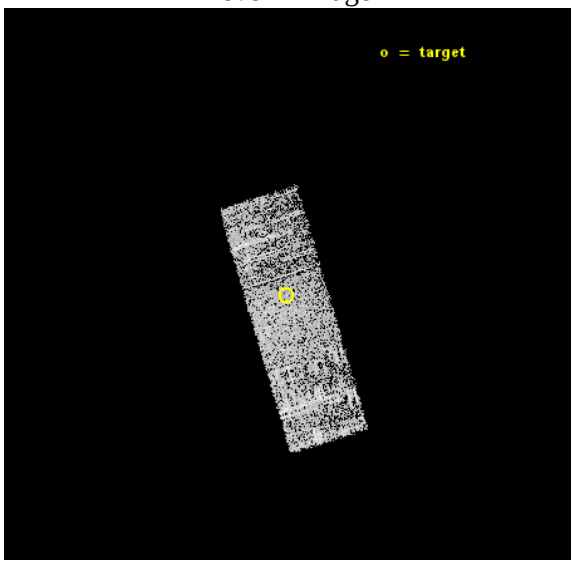


2 OBI

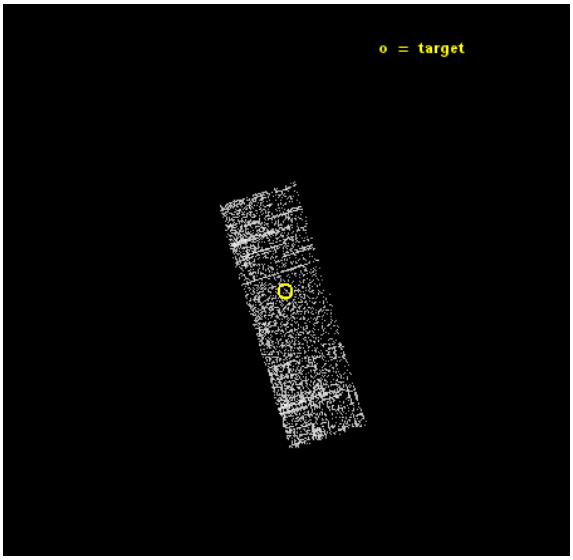
2.1 OBI

2.1.1 Images

Level 1 Image

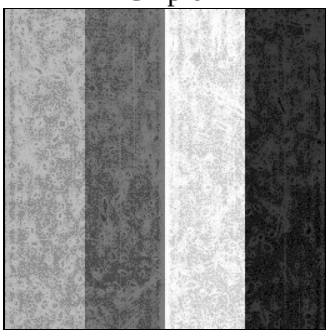


Level 1 Bad Events

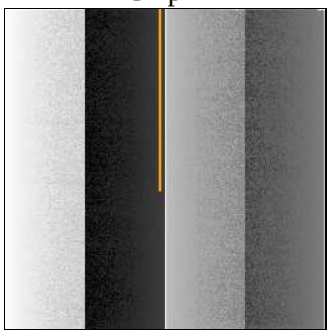


2.1.2 Bias

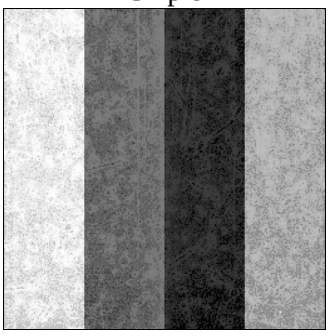
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-11-29T03:47:36	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	1500.142000	[s] Scheduled observation exposure time
ontime	1580.6805871129	Sum of GTIs [s]
ontime6	1580.6395471096	Sum of GTIs [s]
ontime7	1580.6805871129	Sum of GTIs [s]
ontime8	1580.5985071063	Sum of GTIs [s]
l1events	26518	Number of level 1 events

2.1.4 Events

	ccd 6	**ccd 7**	**ccd 8**
level 1 events	7483	8902	10133
rejected events	6514	4658	7164
rejected %	87%	52%	70%

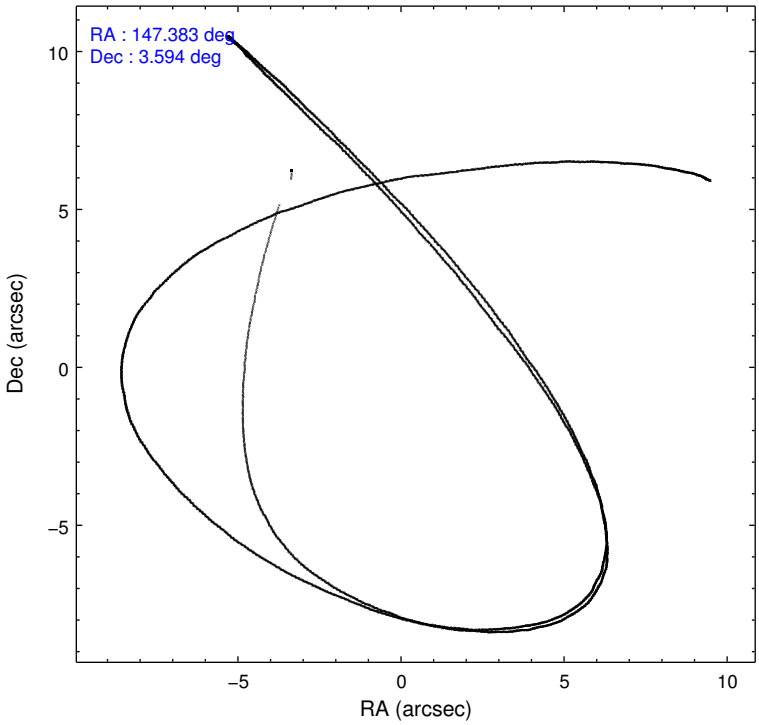
	ccd 6	**ccd 7**	**ccd 8**
grade 0 events	377	415	855
	5%	4%	8%
grade 1 events	3	11	9
	0%	0%	0%
grade 2 events	220	914	652
	2%	10%	6%
grade 3 events	89	383	319
	1%	4%	3%
grade 4 events	94	378	321
	1%	4%	3%
grade 5 events	334	951	490
	4%	10%	4%
grade 6 events	199	2165	827
	2%	24%	8%
grade 7 events	6167	3685	6660
	82%	41%	65%

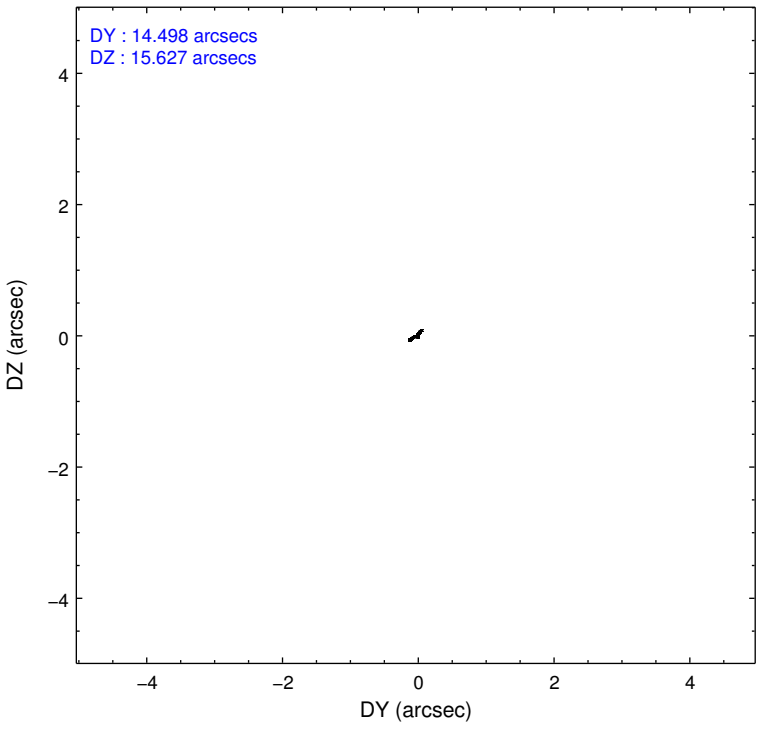
2.2 Compared Parameters

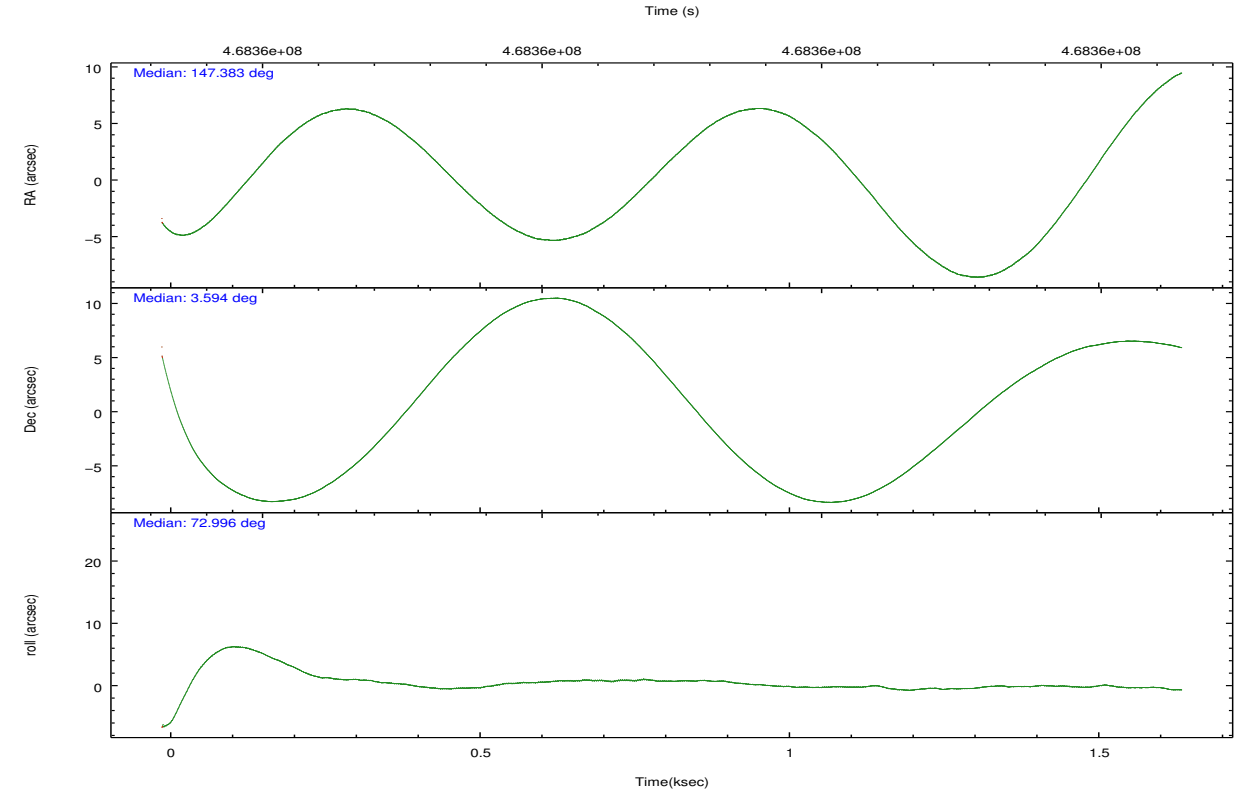
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-678	ACIS-678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	147.389147	147.3826188664634
[deg] Pointing Dec	3.567887	3.594358514706066
[deg] Pointing Roll	72.846494	73.00339763193443
[mm] SIM focus 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)	468360550.184000	468359463.00832
Observation start date	2012-11-03T20:08:03	2012-11-03T19:51:03
[s] Observation end time (MET)	468362050.184000	468362278.68347
Observation end date	2012-11-03T20:33:03	2012-11-03T20:37:58
Read mode	TIMED	TIMED

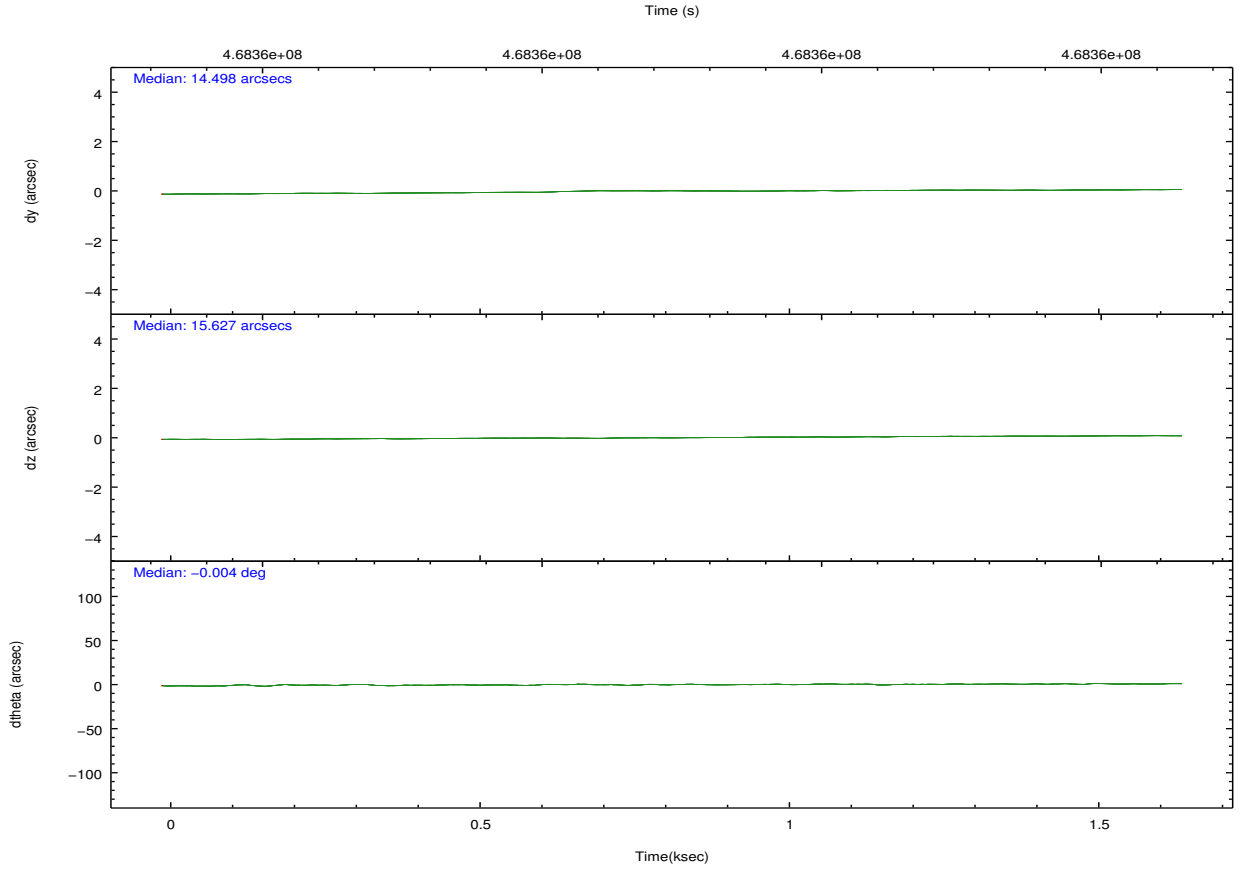
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect


RA : 147.383 deg
Dec : 3.594 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−5
0
5
10


DY : 14.498 arcsecs
DZ : 15.627 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.6836e+08
4.6836e+08
4.6836e+08
4.6836e+08
Median: 147.383 deg
RA (arcsec)
Median: 3.594 deg
Dec (arcsec)
Median: 72.996 deg
roll (arcsec)
Time(ksec)

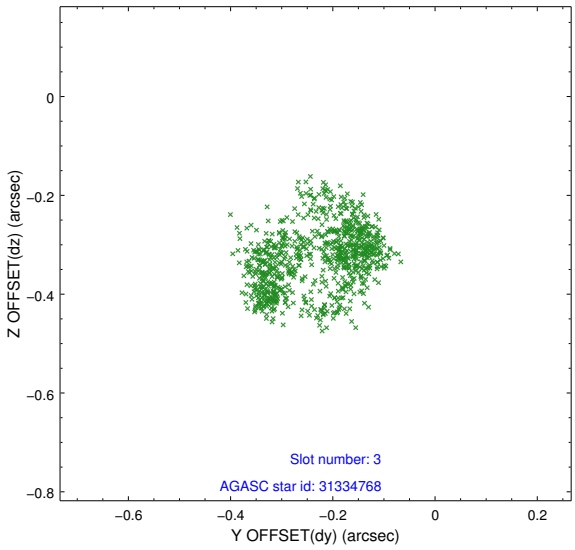

Time (s)
4.6836e+08
4.6836e+08
4.6836e+08
4.6836e+08
Median: 14.498 arcsecs
dy (arcsec)
Median: 15.627 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

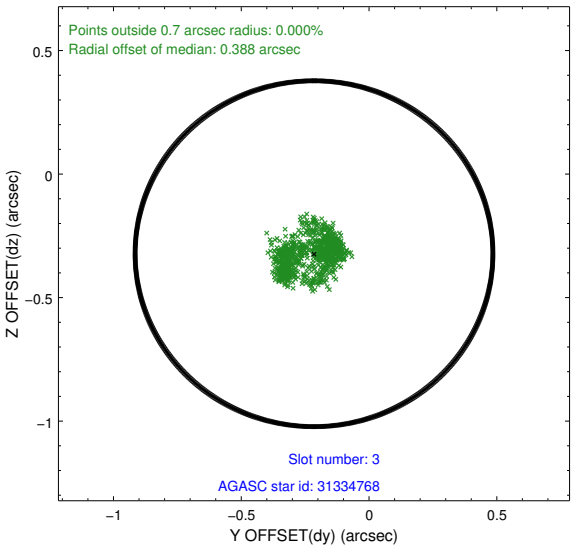
Slot Statistics

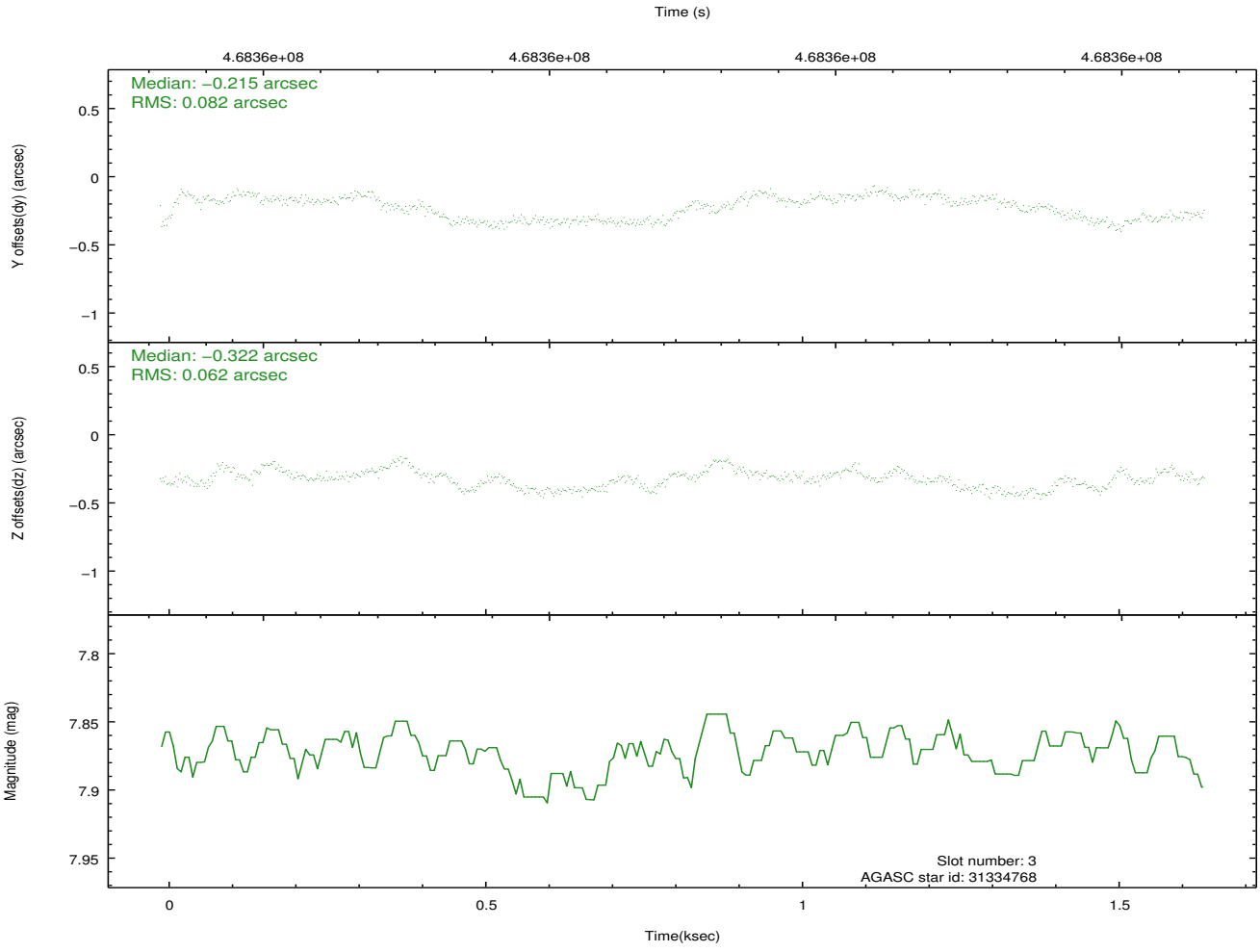
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.92	403	-0.099	-0.002	0.007	0.011	0.000000	0.000000	-767.52	-1736.98
1	FID		ACIS-S-4	7.01	403	0.244	0.048	0.006	0.011	0.000000	0.000000	2144.26	167.42
2	FID		ACIS-S-5	7.03	403	-0.177	-0.037	0.007	0.012	0.000000	0.000000	-1815.33	165.53
3	GUIDE	used	31334768	7.87	805	-0.215	-0.322	0.115	0.157	146.963648	4.215934	1779.01	2147.94
4	GUIDE	used	31343912	8.53	805	-0.172	-0.284	0.091	0.136	146.981466	4.081627	1338.06	1947.06
5	GUIDE	used	31470952	8.11	805	0.212	0.358	0.131	0.191	147.660332	3.341469	-488.73	-1168.67
6	GUIDE	used	31473872	7.98	805	0.076	0.379	0.075	0.119	147.870166	3.368450	-175.60	-1864.41
7	GUIDE	used	31333336	8.00	804	0.087	-0.133	0.068	0.107	146.778355	3.416032	-1168.97	1933.79

2.4 Star Slots

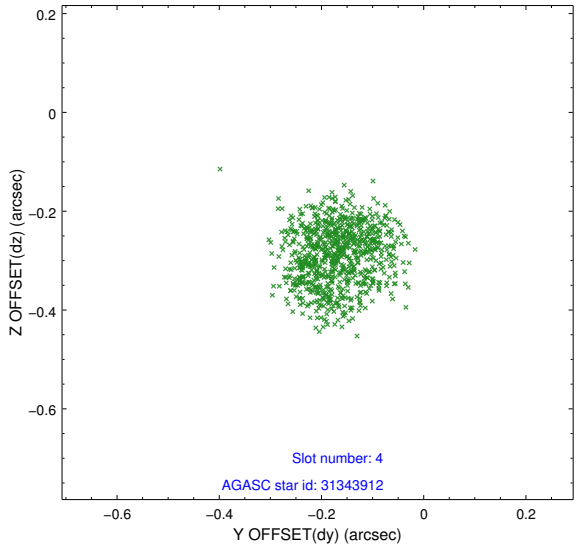
2.4.1 Slot 3

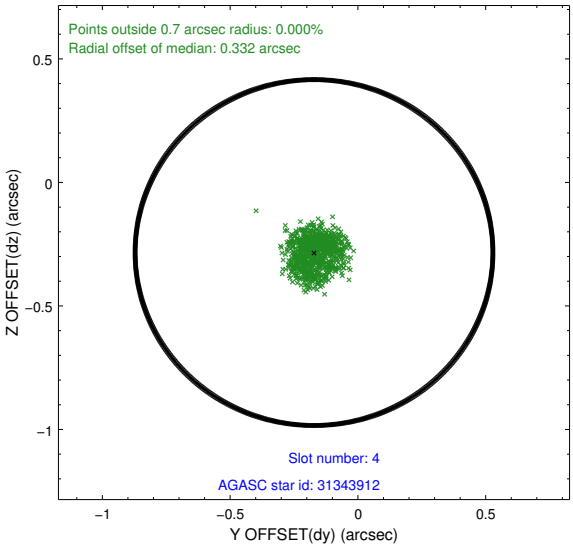


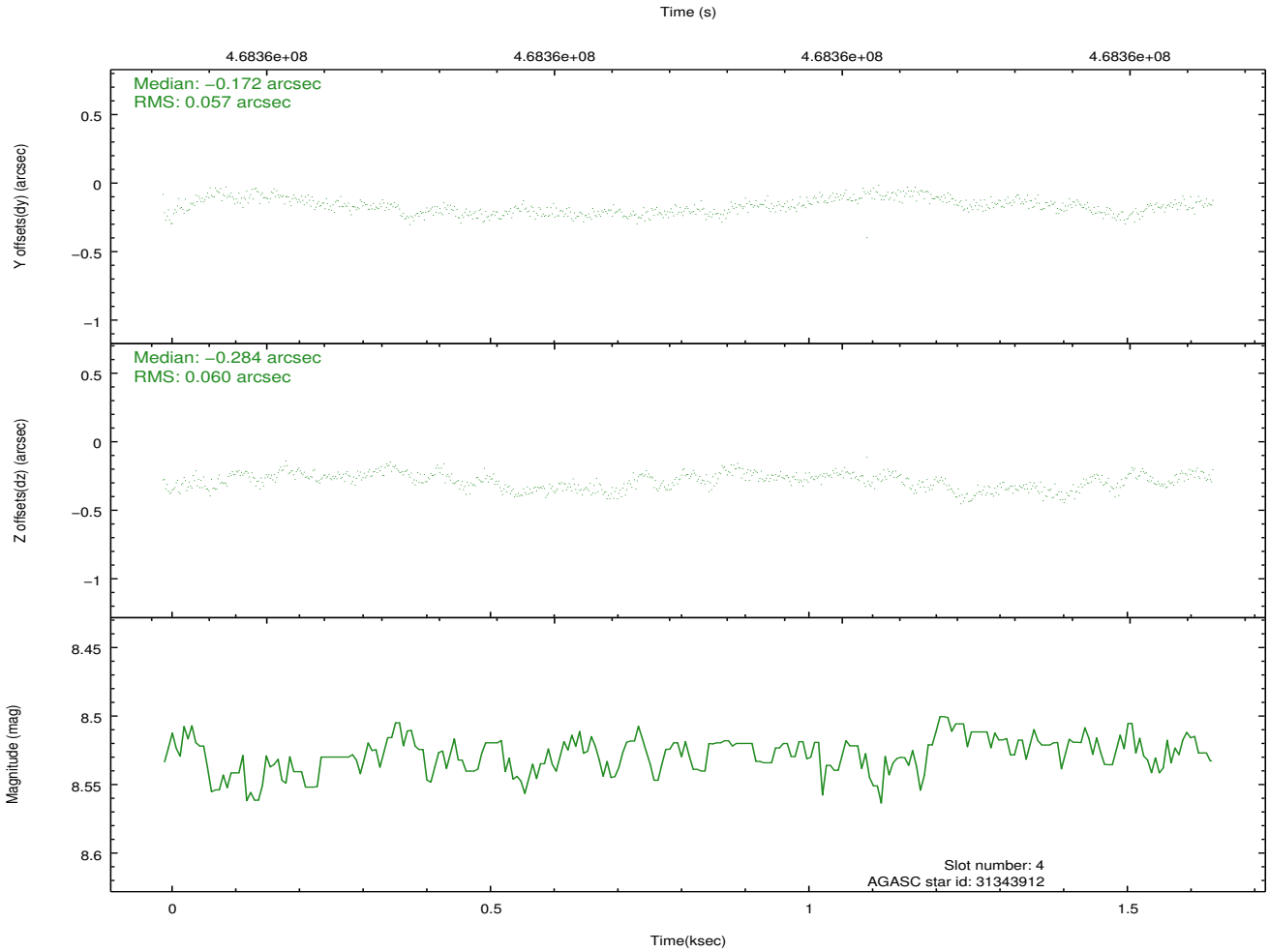




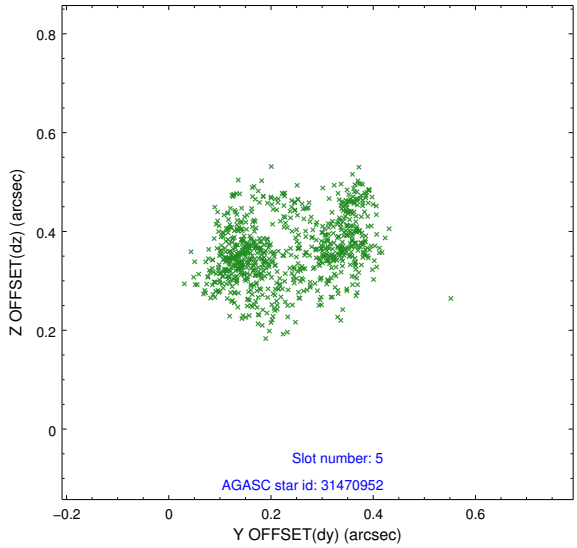
2.4.2 Slot 4

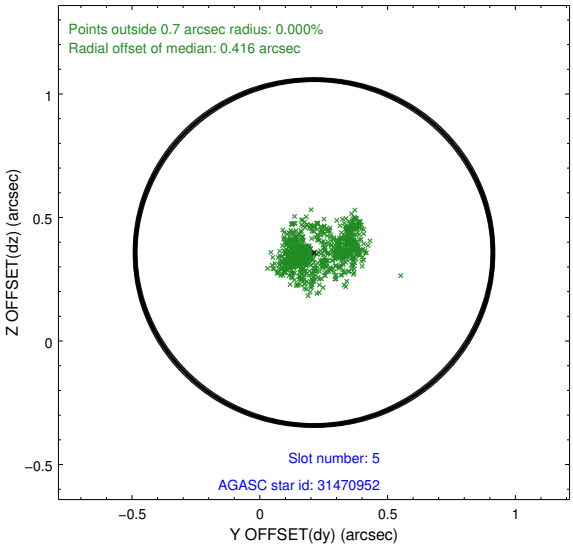

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 31343912

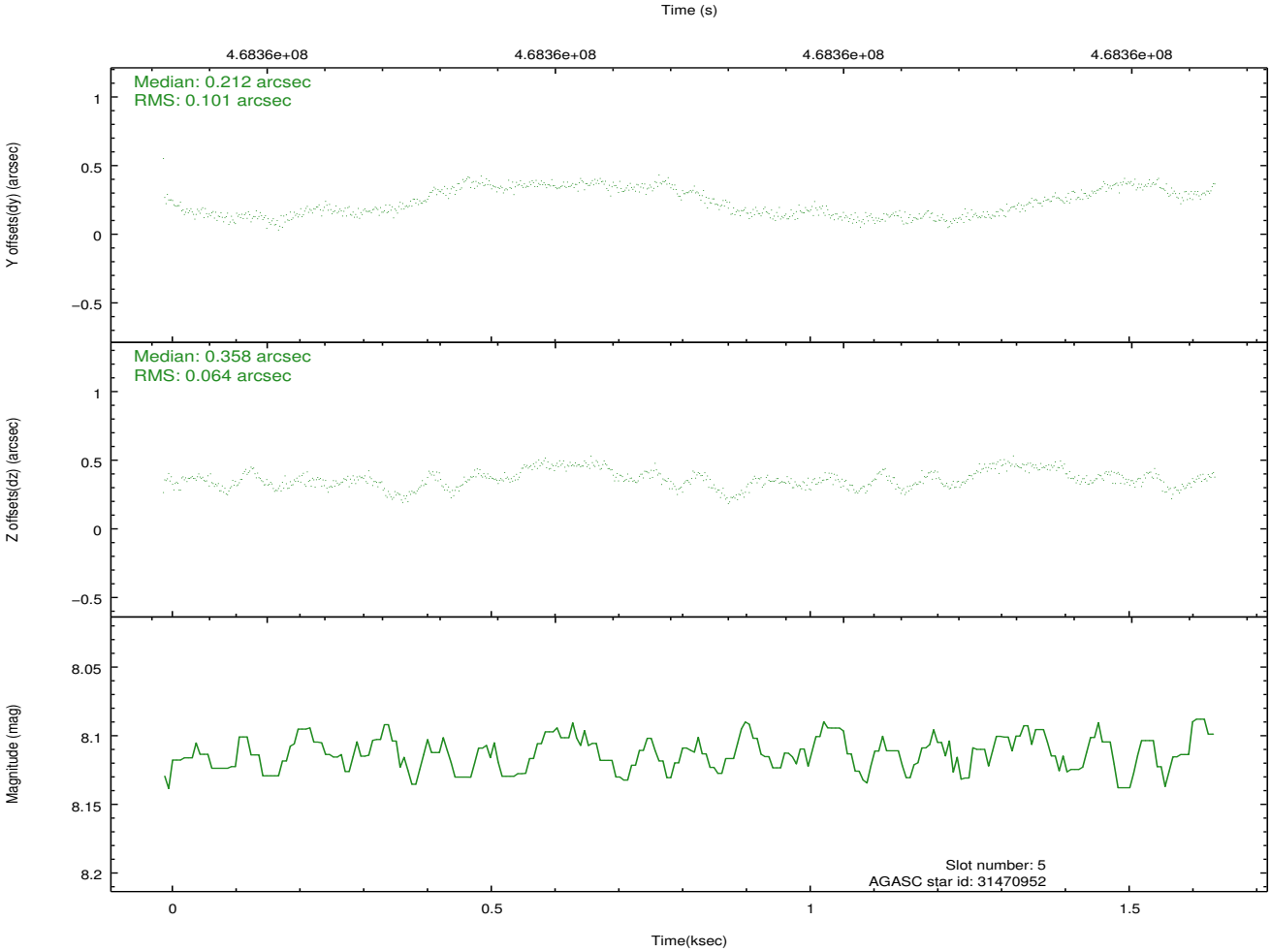

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.332 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 31343912


Time (s)
4.6836e+08
Median: −0.172 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: −0.284 arcsec
RMS: 0.060 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 31343912
Time(ksec)

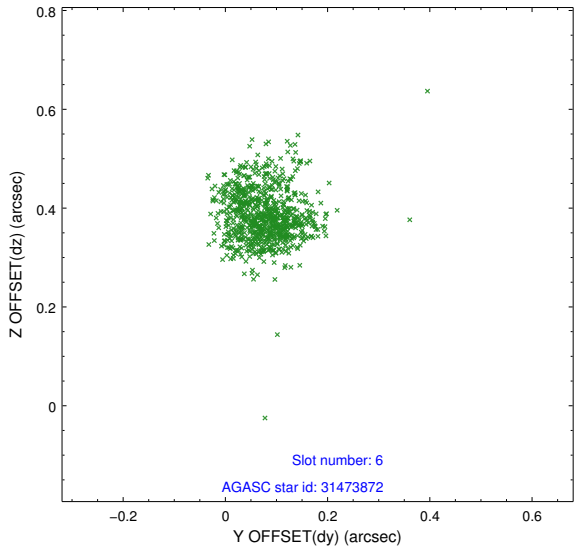
2.4.3 Slot 5

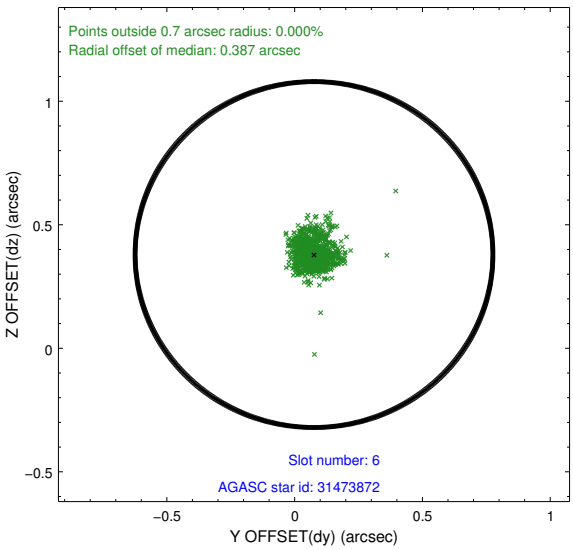

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 31470952

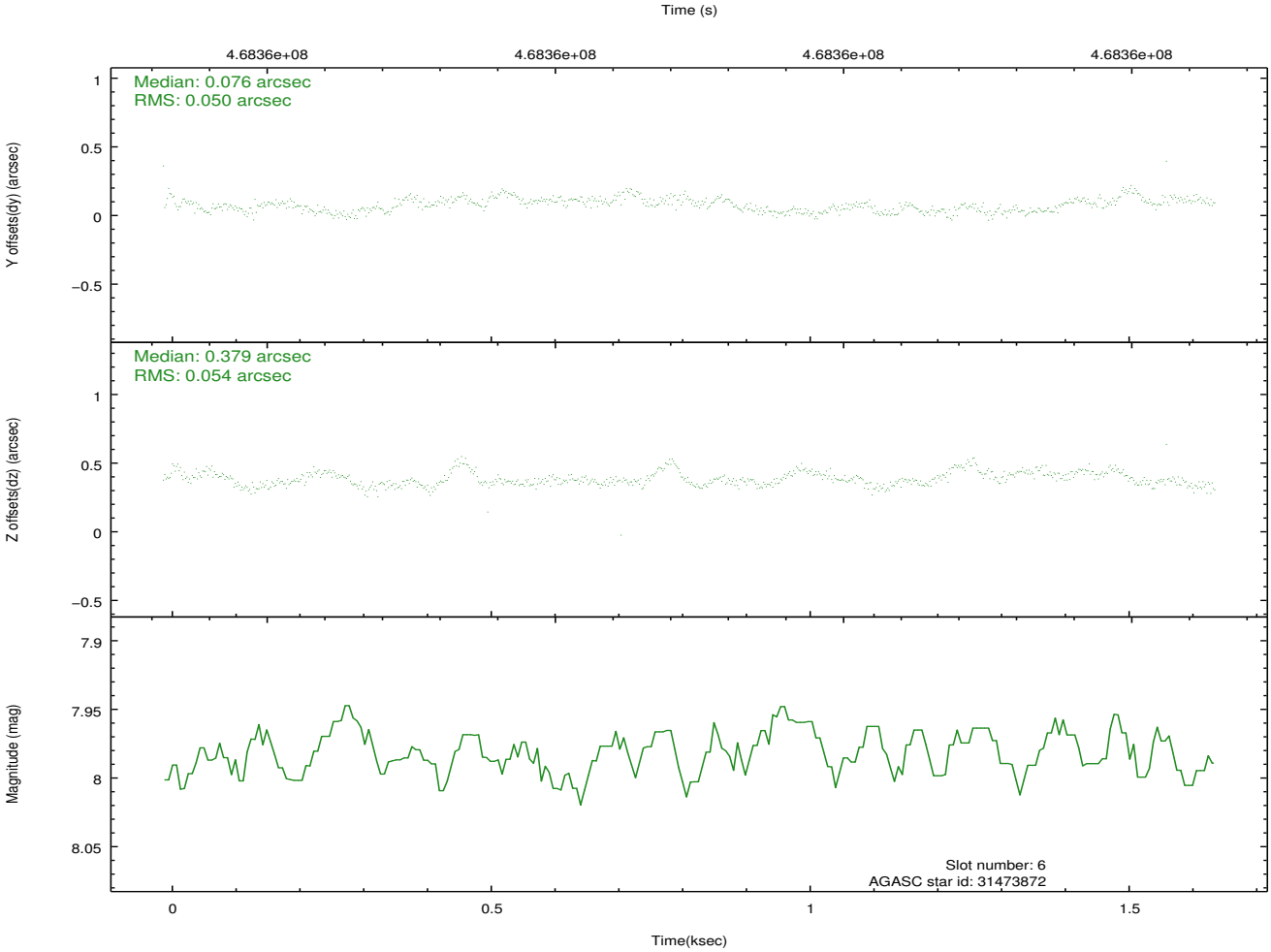

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.416 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 31470952


Time (s)
4.6836e+08
Median: 0.212 arcsec
RMS: 0.101 arcsec
Y offsets(dy) (arcsec)
Median: 0.358 arcsec
RMS: 0.064 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 31470952
Time(ksec)

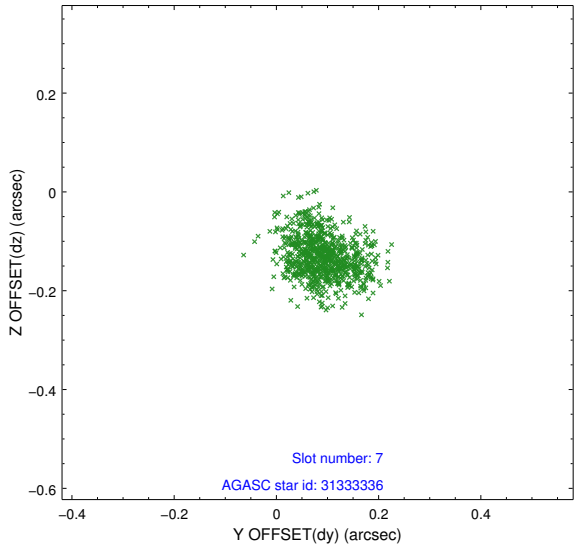
2.4.4 Slot 6

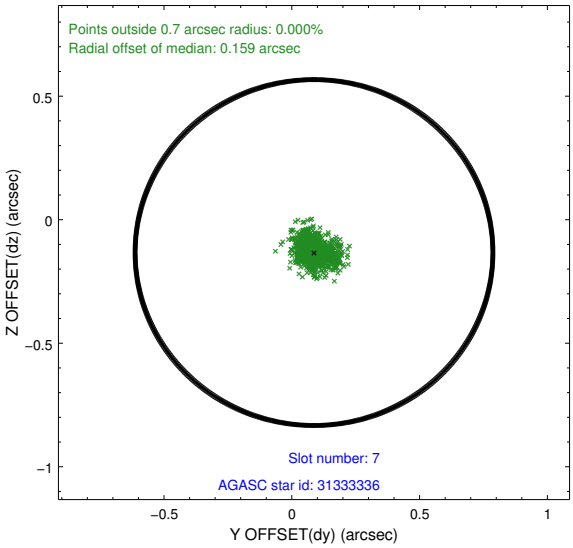

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 31473872

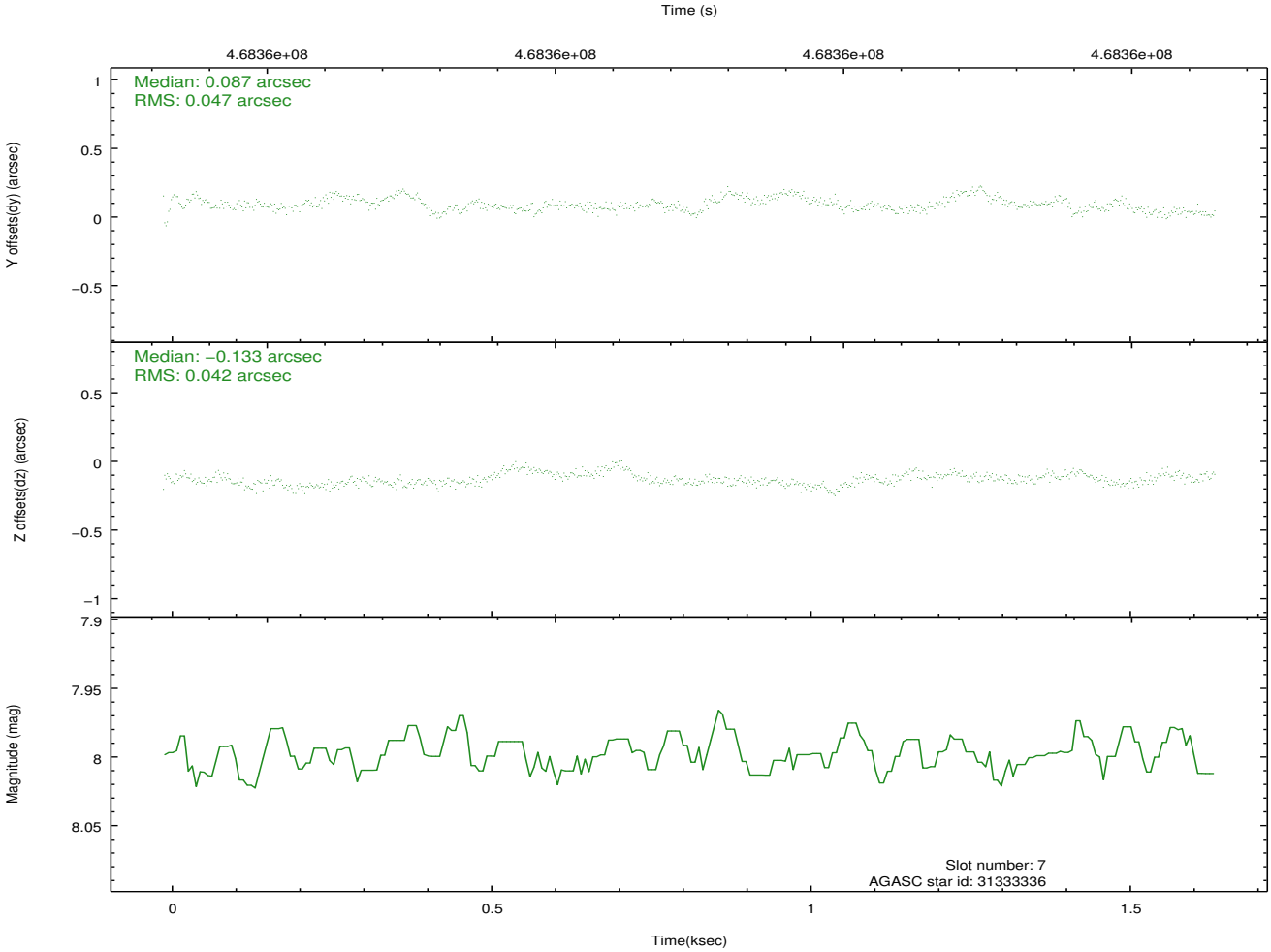

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.387 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 31473872


Time (s)
4.6836e+08
Median: 0.076 arcsec
RMS: 0.050 arcsec
Y offsets(dy) (arcsec)
Median: 0.379 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 31473872
Time(ksec)

2.4.5 Slot 7

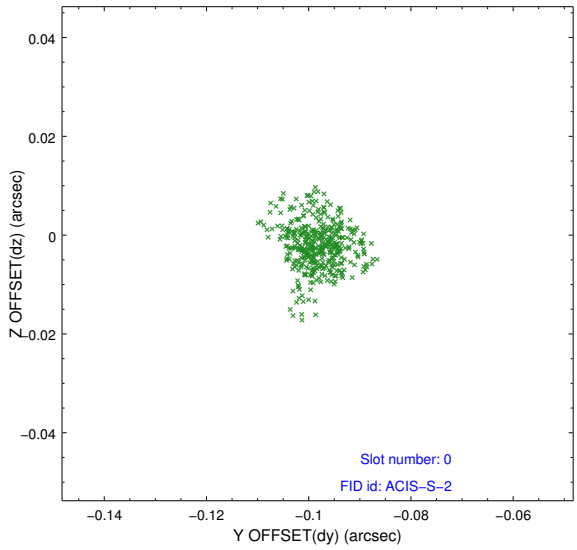

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 31333336

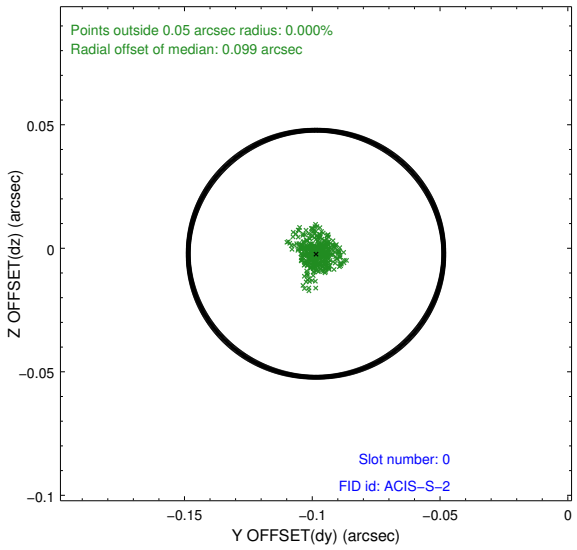

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.159 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 31333336

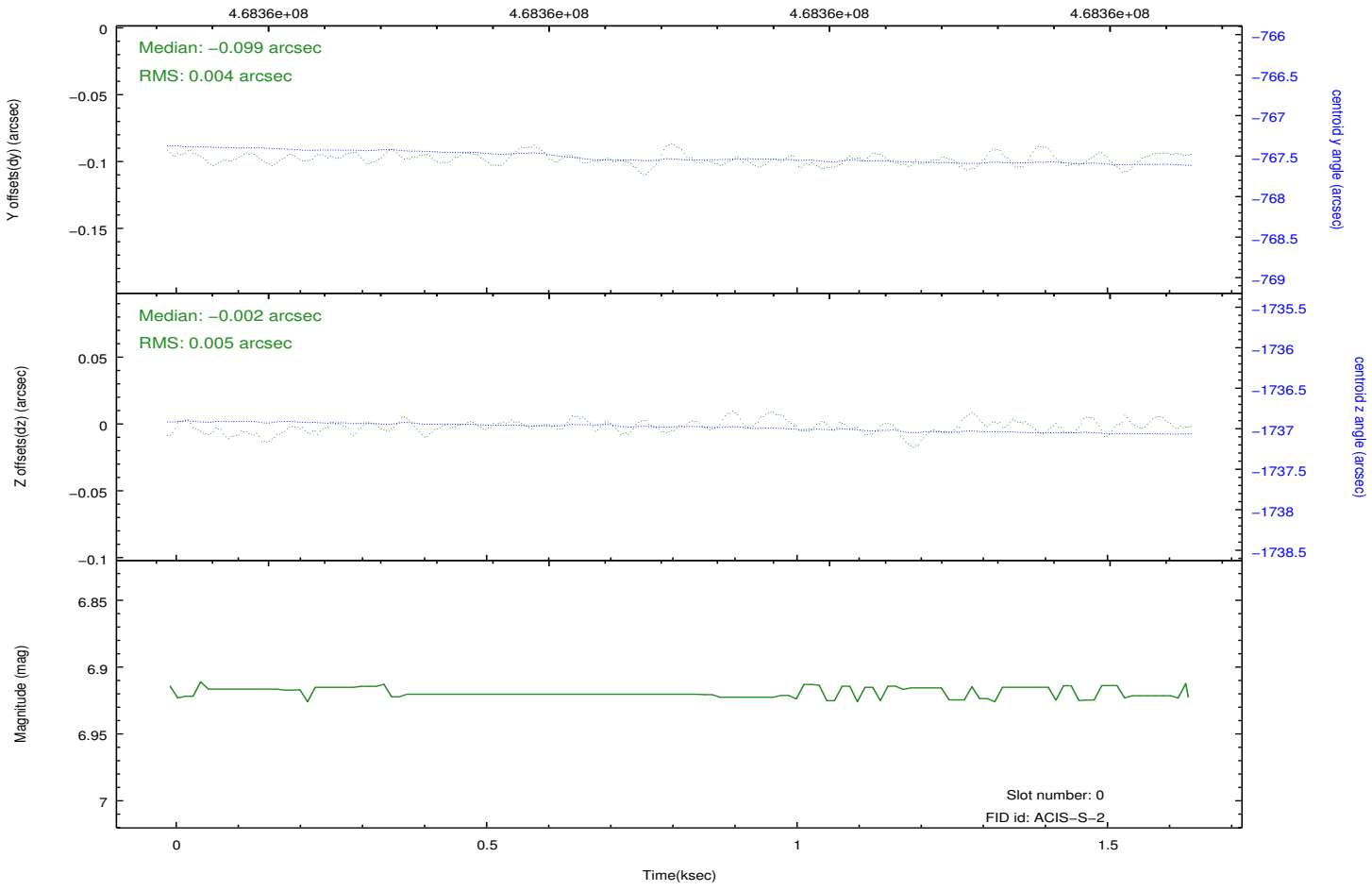

Time (s)
4.6836e+08
Median: 0.087 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: −0.133 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 31333336
Time(ksec)

2.5 FID Slots

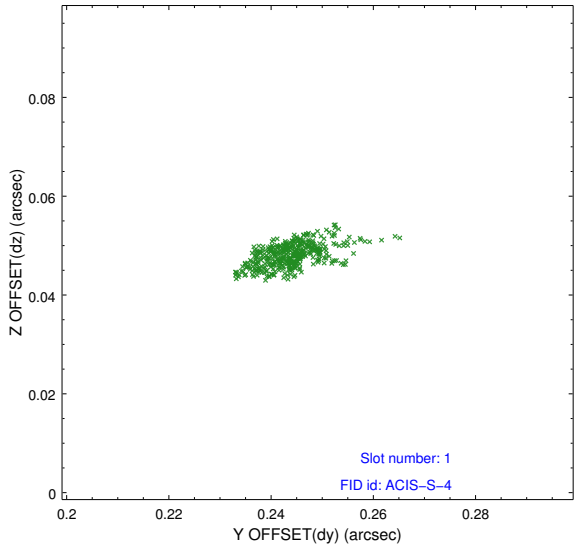
2.5.1 Slot 0

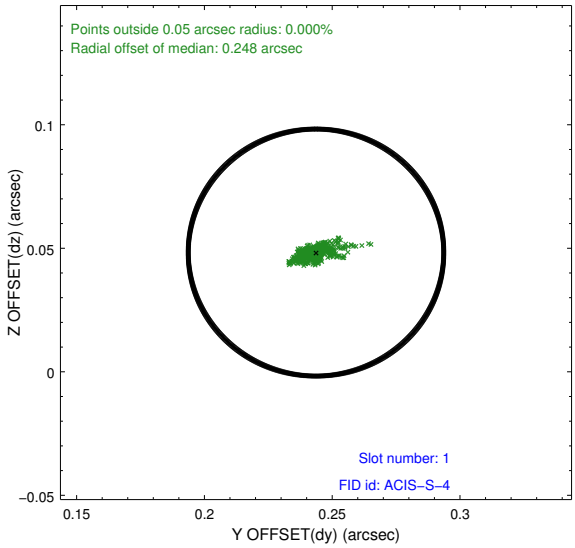


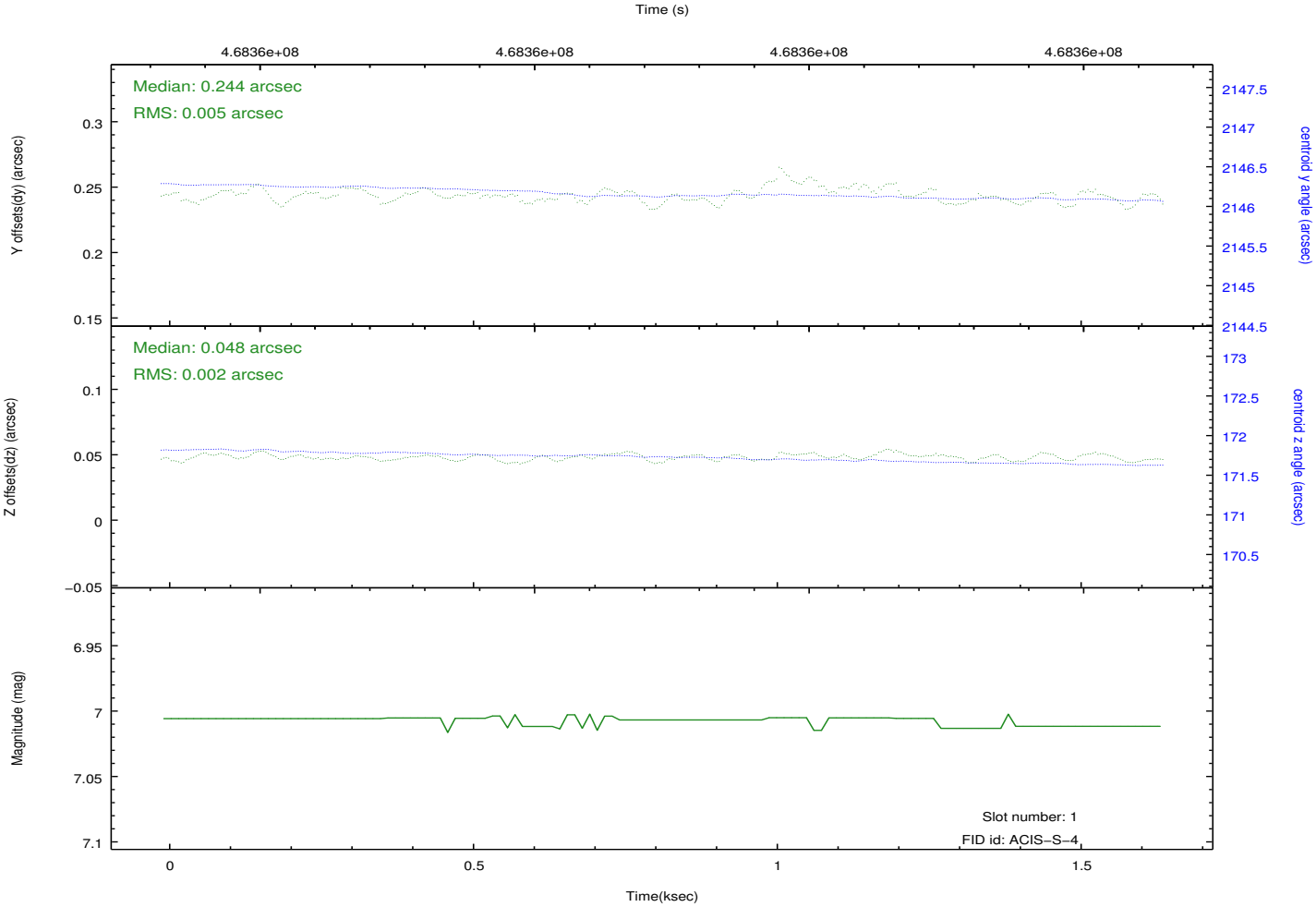




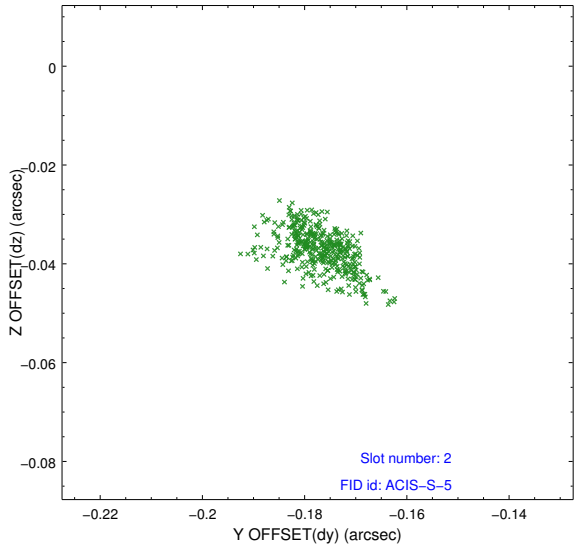
2.5.2 Slot 1

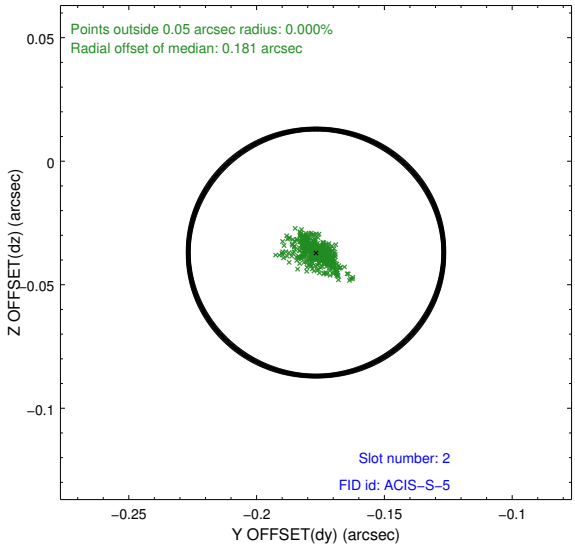

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

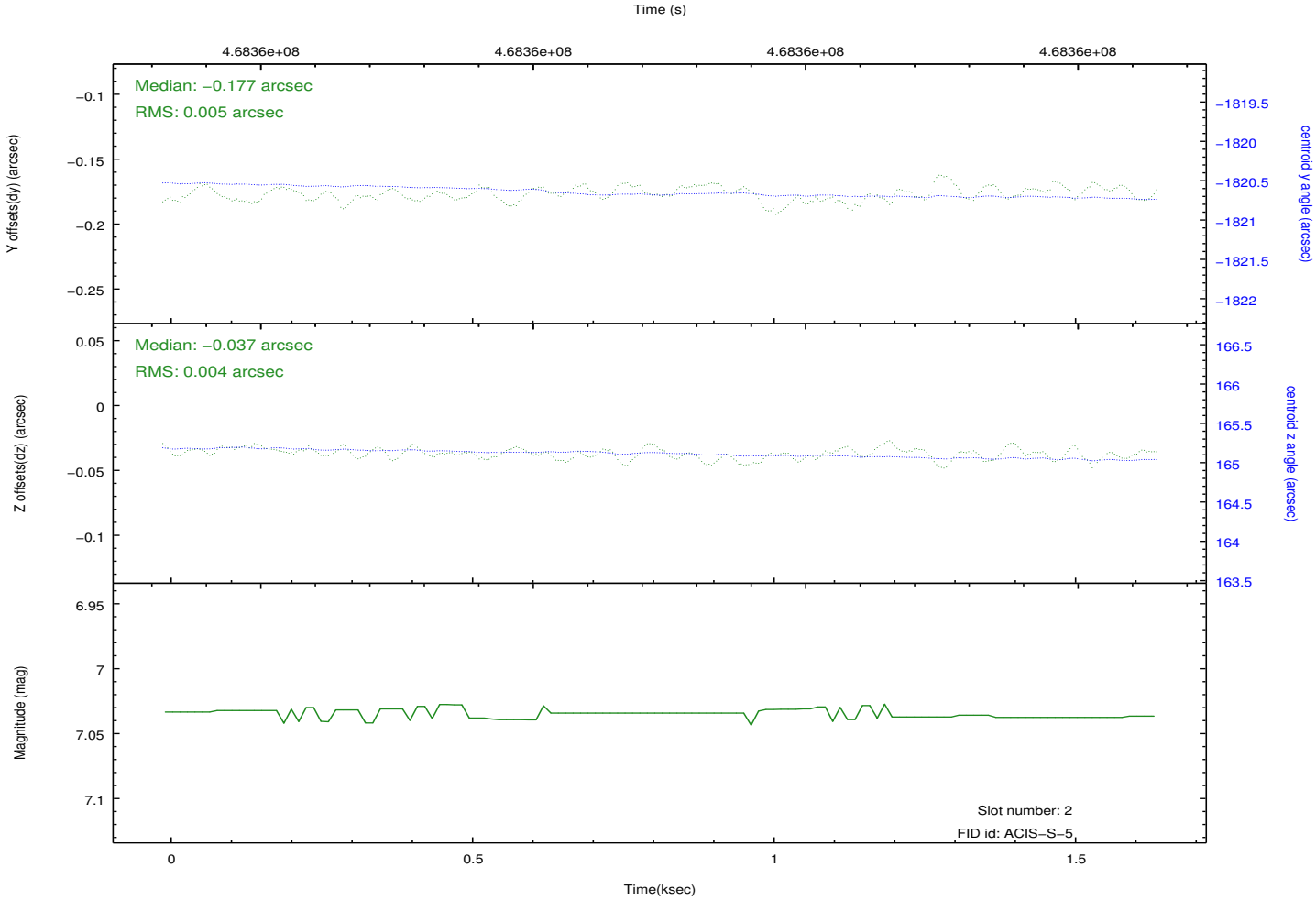

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.248 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.244 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.048 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: 0.181 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
4.6836e+08
Median: −0.177 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.037 arcsec
RMS: 0.004 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)	2014.12.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.5806805871129

A.2 Comments

```
These data have been reprocessed with new aspect alignment calibration
files that correct small mean offsets (up to 0.4 arcsecs) and improve
overall astrometric accuracy. The new calibration was determined using
data from the time period being reprocessed and was performed using
cross-correlation of X-ray sources with radio and optical counterparts.
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