V&V Reference Report
L2 ASCDS Version : 10

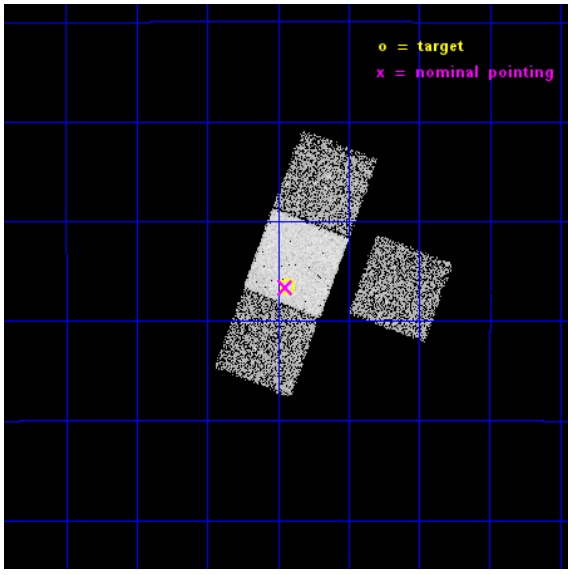
Observation 14953 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 6 2014

Contents

1 Front

seq_num	702762	Sequence number
obs_id	14953	Observation id
title	Understanding the Nature of PHL 1811 Analogs	Proposal title
observer	Prof. William Brandt	Principal investigator
object	SDSS J2222-0946	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	335.73375	Observer's specified target RA [deg]
dec_targ	-9.776722	Observer's specified target Dec [deg]
ra_nom	335.73679165155	Nominal RA [deg]
dec_nom	-9.7772713525249	Nominal Dec [deg]
roll_nom	290.92444686278	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9575.9000736475	Sum of GTIs [s]
livetime	9450.7838895102	Livetime [s]
ontime3	9575.9000736475	Sum of GTIs [s]
ontime6	9575.9000736475	Sum of GTIs [s]
ontime7	9575.9000736475	Sum of GTIs [s]
ontime8	9575.9000736475	Sum of GTIs [s]
l2events	36422	Number of level 2 events

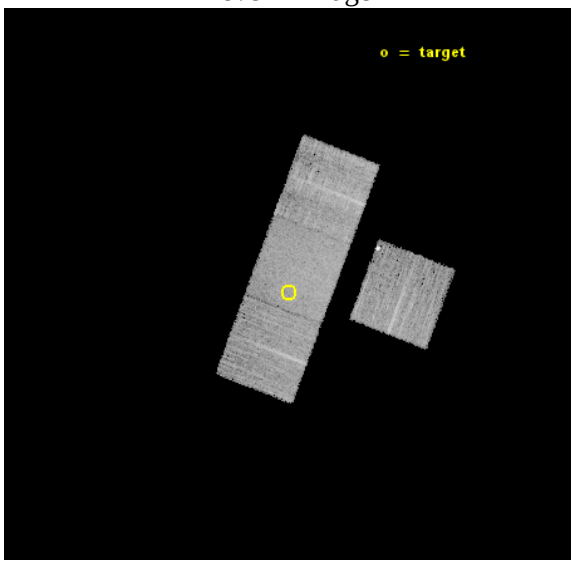


2 OBI

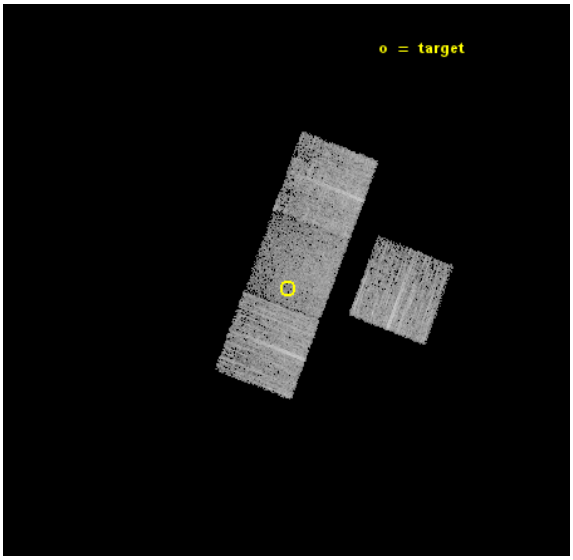
2.1 OBI

2.1.1 Images

Level 1 Image

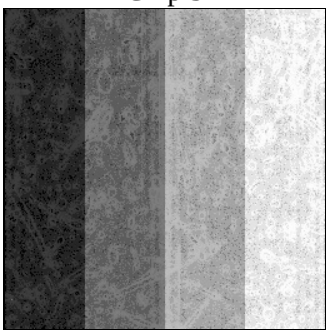


Level 1 Bad Events

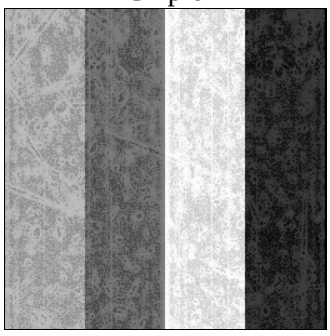


2.1.2 Bias

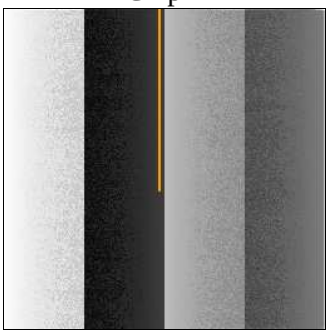
Chip 3



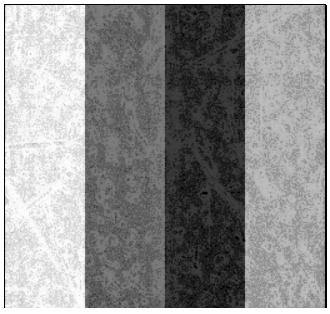
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3.1	Processing system revision
caldbver	4.6.4	
date	2014-12-06T22:07:52	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	9500.000000	[s] Scheduled observation exposure time
ontime	9575.9000736475	Sum of GTIs [s]
ontime3	9575.9000736475	Sum of GTIs [s]
ontime6	9575.9000736475	Sum of GTIs [s]
ontime7	9575.9000736475	Sum of GTIs [s]
ontime8	9575.9000736475	Sum of GTIs [s]
l1events	189464	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	43154	42508	50501	53301
rejected events	37089	37324	27090	38971
rejected %	85%	87%	53%	73%

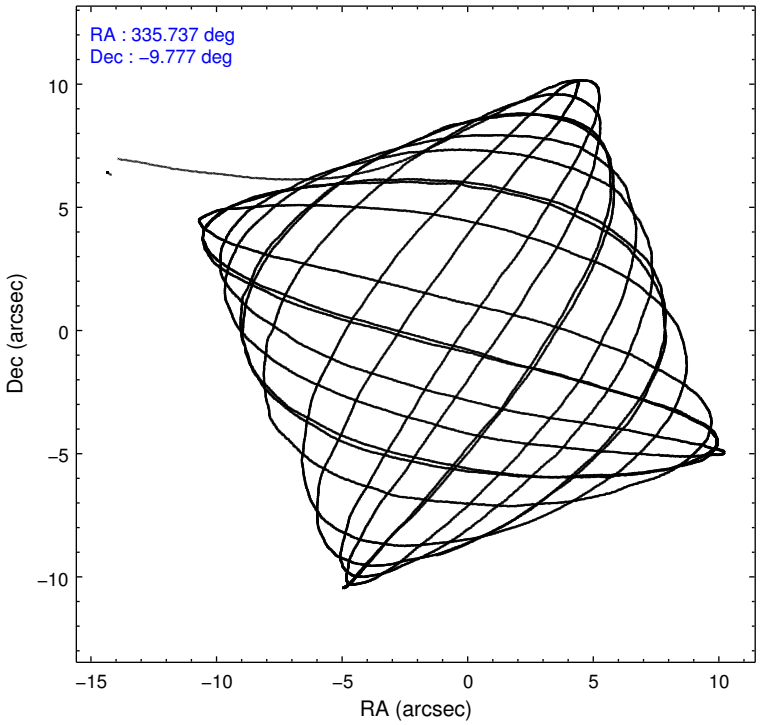
	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	3003	1806	2165	4103
	6%	4%	4%	7%
grade 1 events	22	16	82	42
	0%	0%	0%	0%
grade 2 events	1011	1174	4937	3506
	2%	2%	9%	6%
grade 3 events	518	552	1986	1445
	1%	1%	3%	2%
grade 4 events	537	524	1873	1373
	1%	1%	3%	2%
grade 5 events	1949	1933	5236	2905
	4%	4%	10%	5%
grade 6 events	996	1131	12457	3904
	2%	2%	24%	7%
grade 7 events	35118	35372	21765	36023
	81%	83%	43%	67%

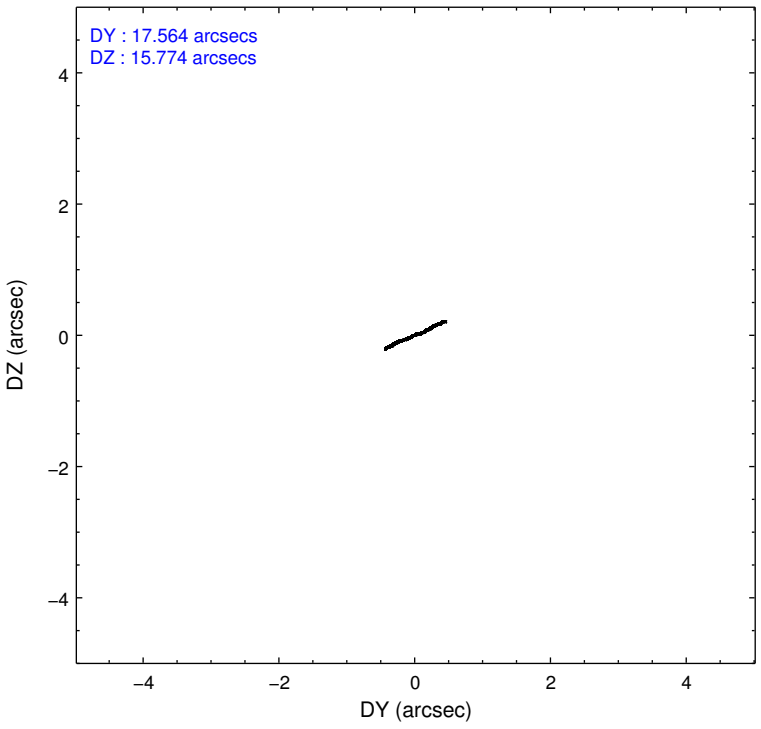
2.2 Compared Parameters

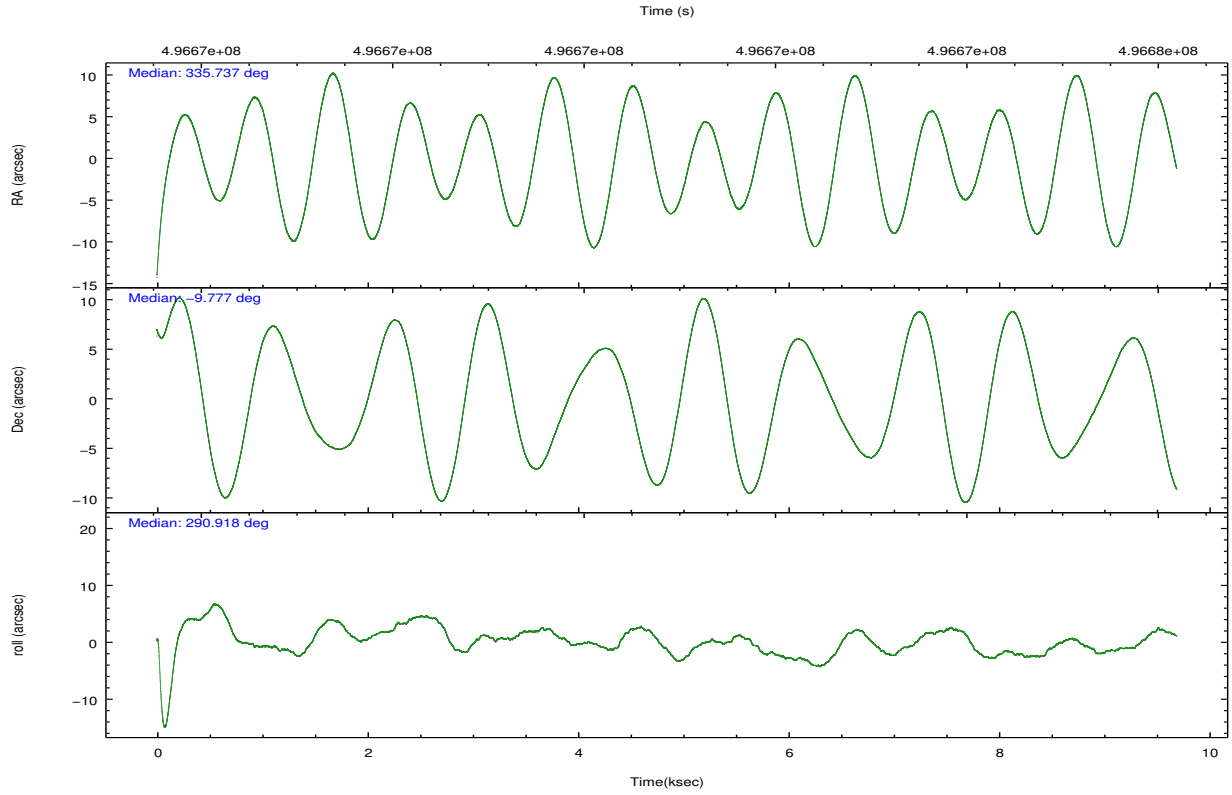
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-3678	ACIS-3678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	335.714985	335.7367916515501
[deg] Pointing Dec	-9.760383	-9.777271352524862
[deg] Pointing Roll	290.764084	290.9244468627812
[mm] 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)	496666199.184000	496664654.52911
Observation start date	2013-09-27T10:48:52	2013-09-27T10:24:14
[s] Observation end time (MET)	496675699.184000	496676847.92978
Observation end date	2013-09-27T13:27:12	2013-09-27T13:47:27
Read mode	TIMED	TIMED

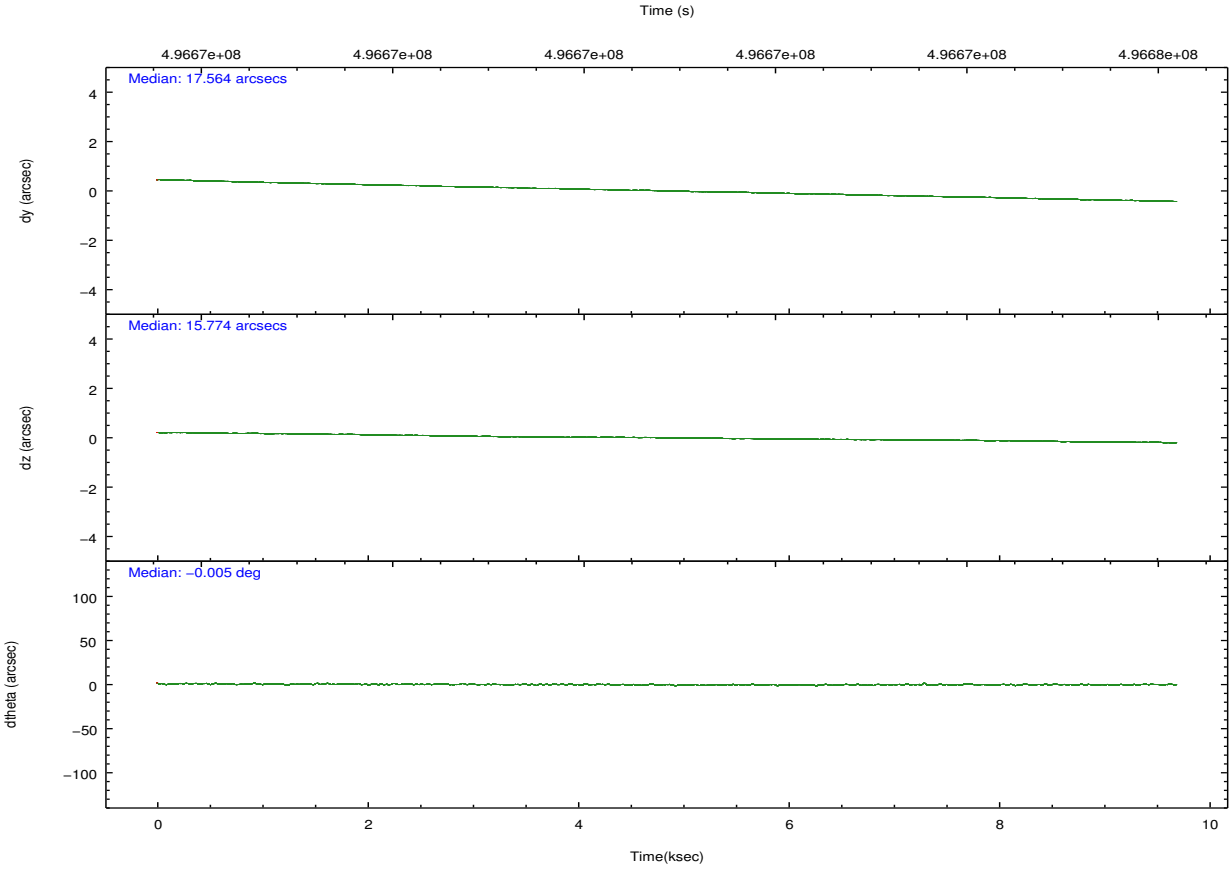
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O1	N
CCD I3 on	O2	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	1	1
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 : 335.737 deg
Dec : −9.777 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−15
−10
−5
0
5
10


DY : 17.564 arcsecs
DZ : 15.774 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9668e+08
Median: 335.737 deg
RA (arcsec)
Median: −9.777 deg
Dec (arcsec)
Median: 290.918 deg
roll (arcsec)
Time(ksec)

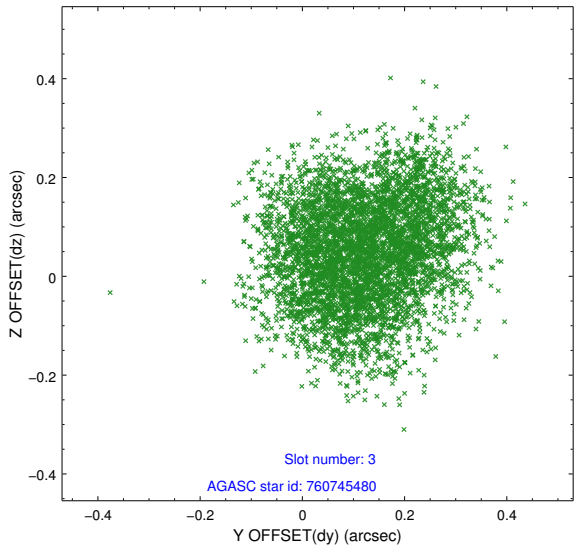

Time (s)
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9668e+08
Median: 17.564 arcsecs
dy (arcsec)
Median: 15.774 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

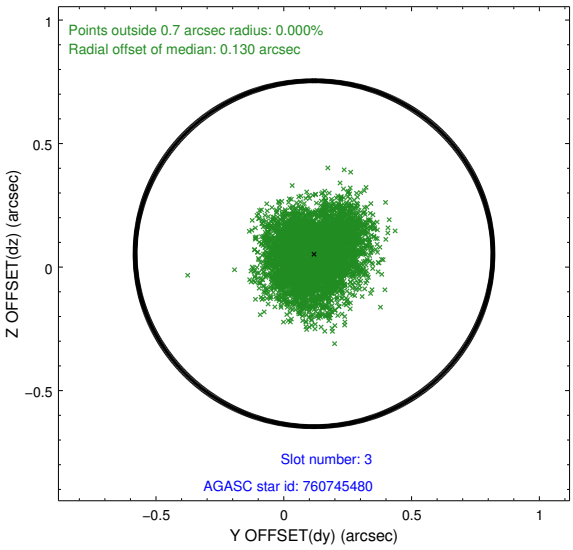
Slot Statistics

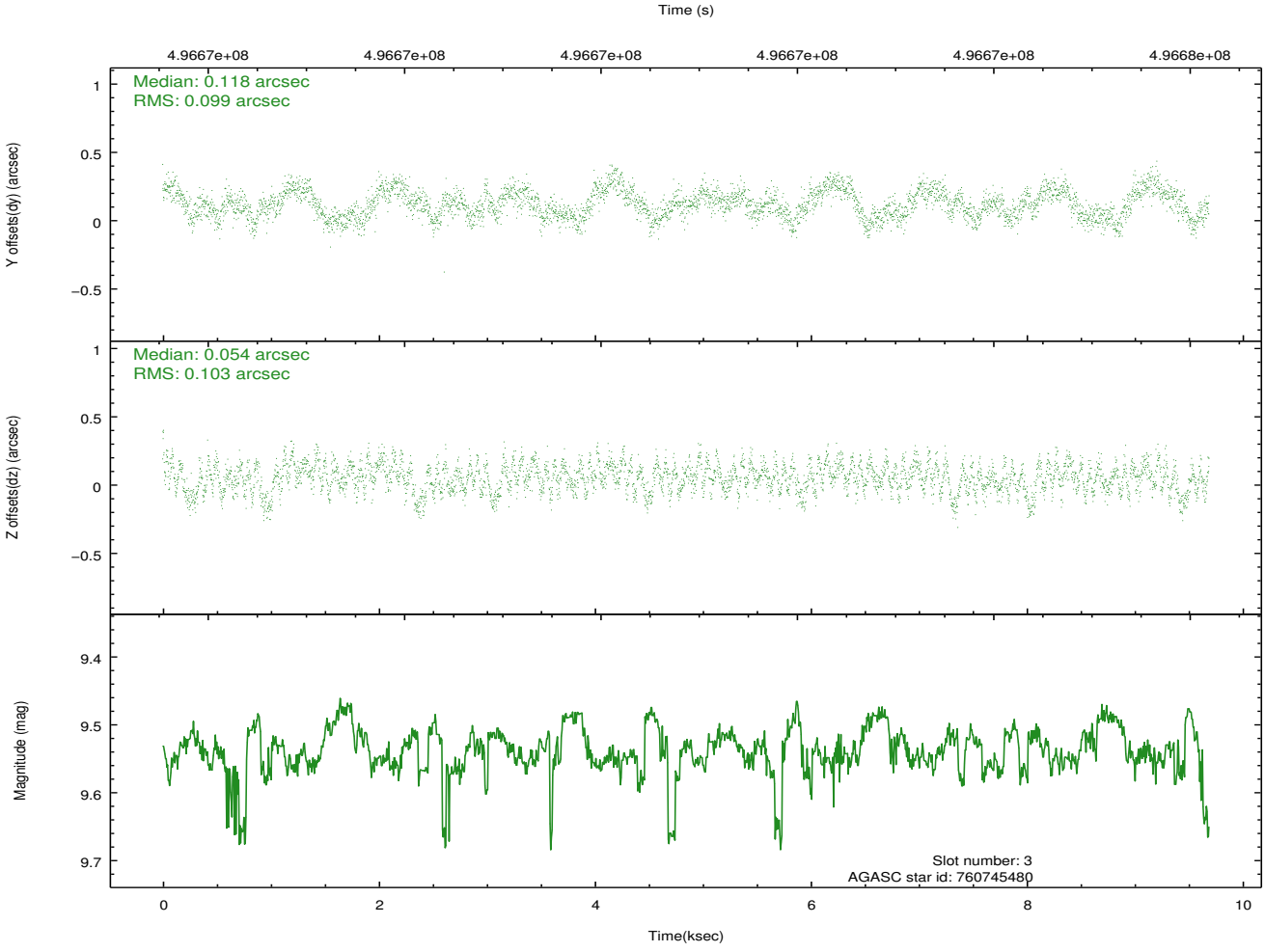
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.08	2364	-0.112	-0.001	0.008	0.012	0.000000	0.000000	-770.69	-1737.13
1	FID		ACIS-S-4	7.16	2364	0.243	0.054	0.011	0.020	0.000000	0.000000	2142.66	170.87
2	FID		ACIS-S-5	7.19	2364	-0.162	-0.045	0.013	0.022	0.000000	0.000000	-1822.91	165.01
3	GUIDE	used	760745480	9.54	4709	0.118	0.054	0.155	0.237	335.470954	-9.610820	-809.32	-619.15
4	GUIDE	used	760750336	8.07	4725	-0.081	-0.171	0.062	0.103	336.119145	-9.800235	643.27	1289.23
5	GUIDE	used	760752528	8.41	4727	-0.090	-0.107	0.119	0.168	336.180756	-9.428998	-527.45	1969.35
6	GUIDE	used	760752616	9.70	4724	0.183	0.584	0.139	0.236	335.131401	-9.948637	-97.52	-2174.81
7	GUIDE	used	761138632	6.80	4727	-0.133	-0.351	0.070	0.105	336.031497	-10.197732	1870.51	488.86

2.4 Star Slots

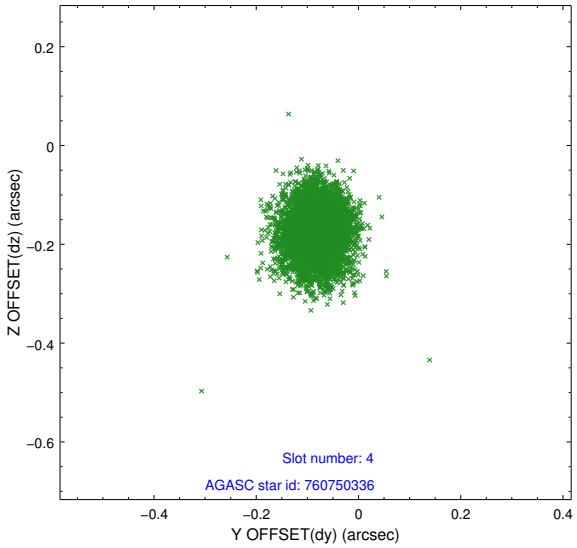
2.4.1 Slot 3

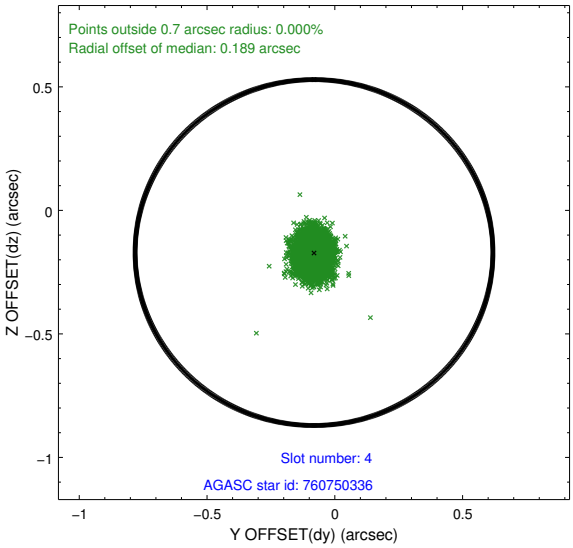


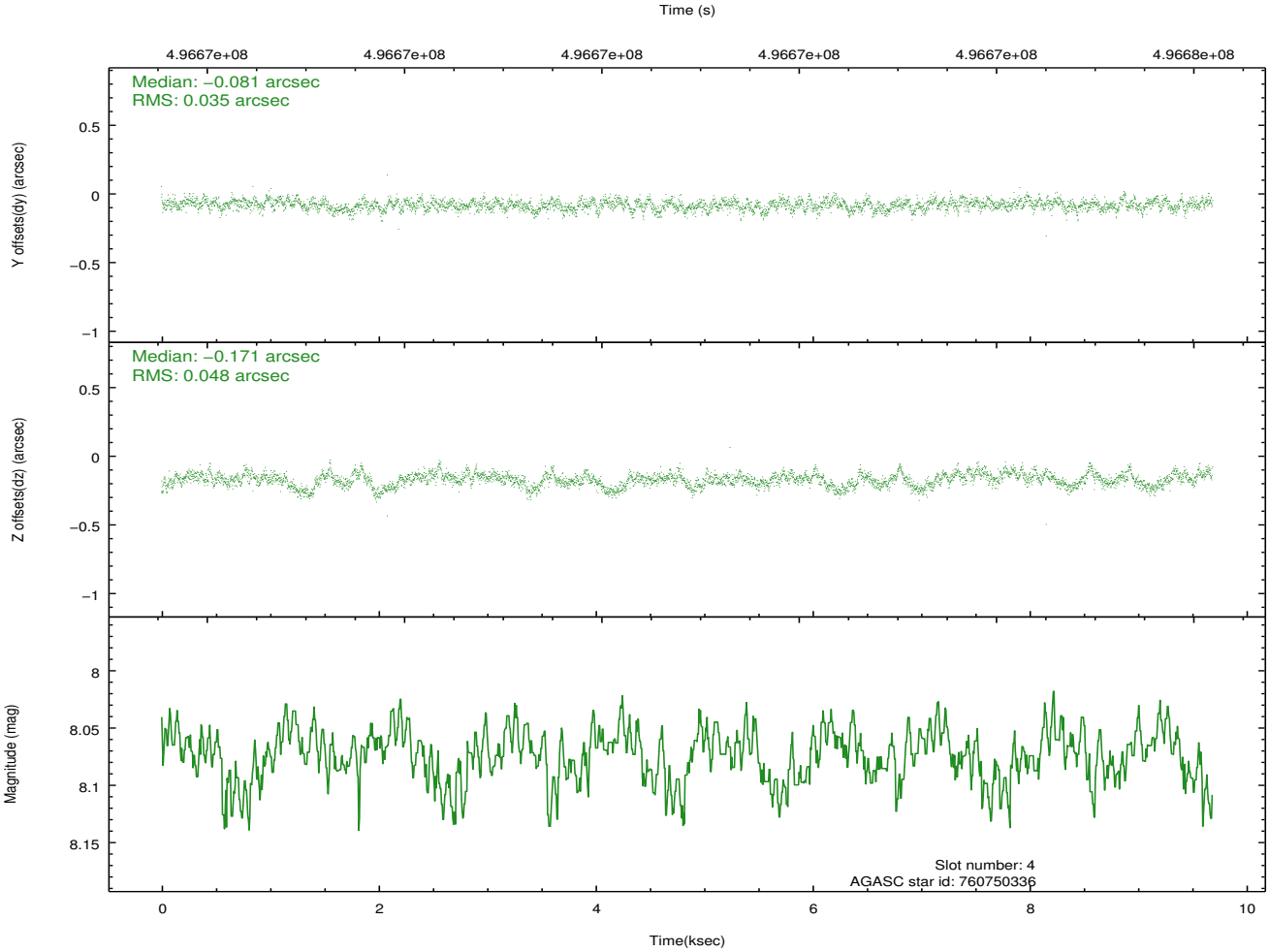




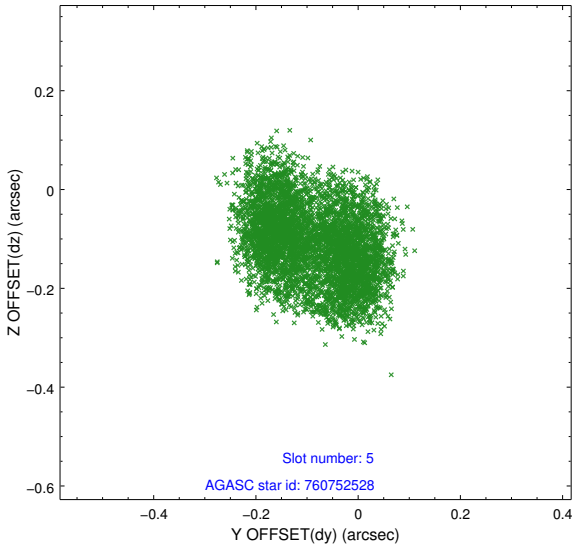
2.4.2 Slot 4

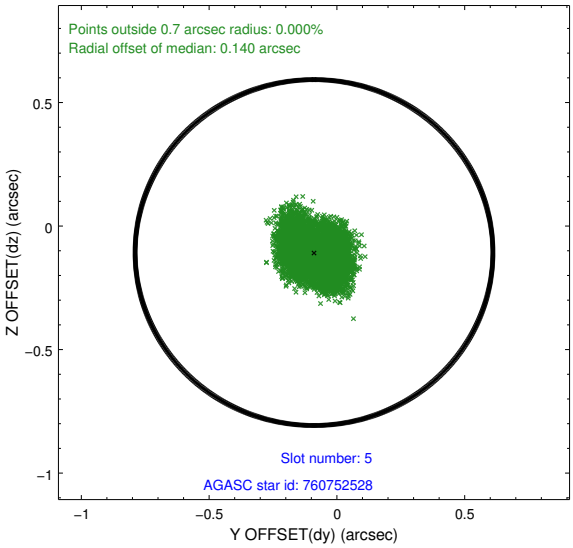

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 760750336

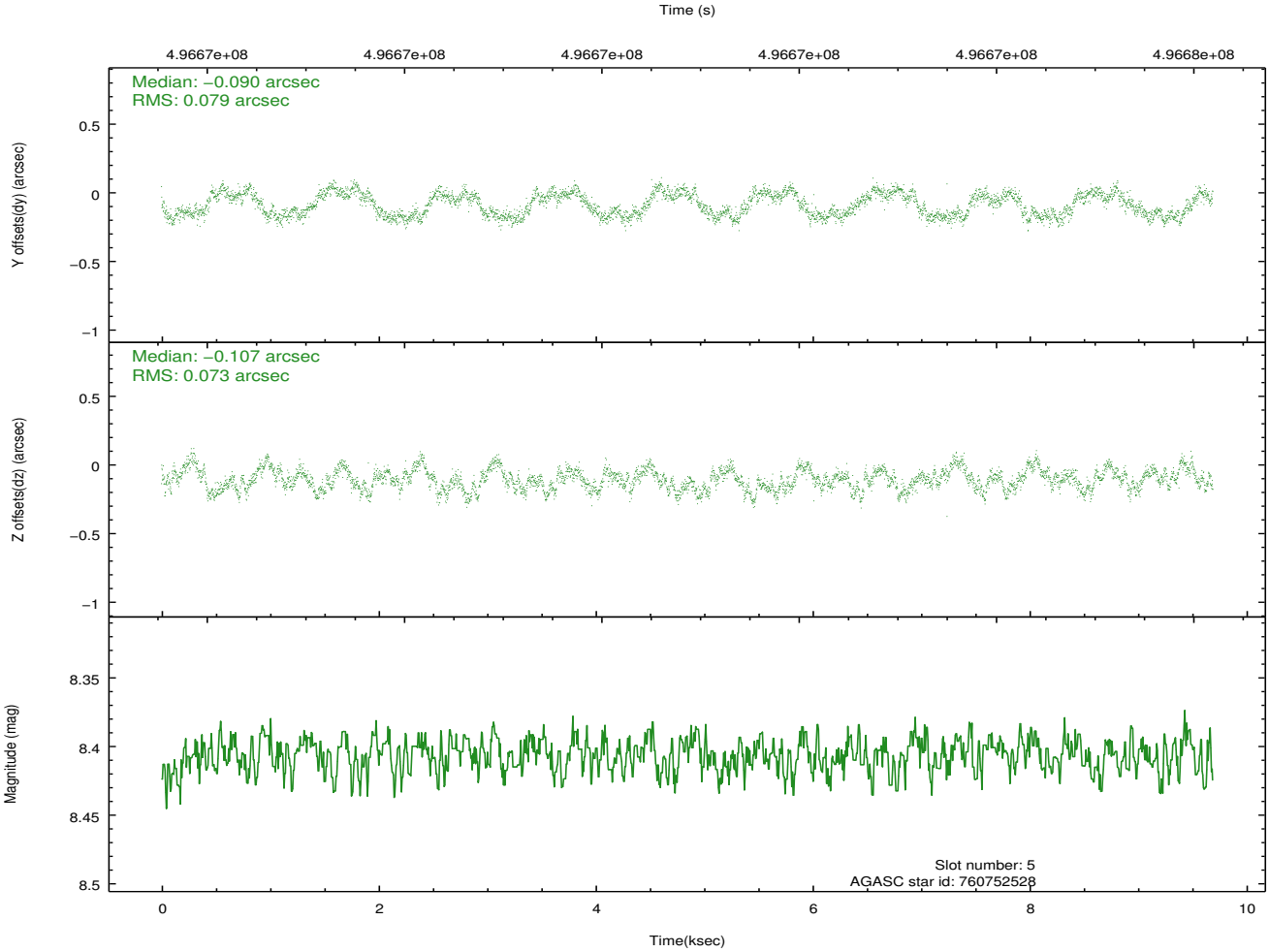

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.189 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 760750336


Time (s)
Median: −0.081 arcsec
RMS: 0.035 arcsec
Y offsets(dy) (arcsec)
Median: −0.171 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 760750336
Time(ksec)

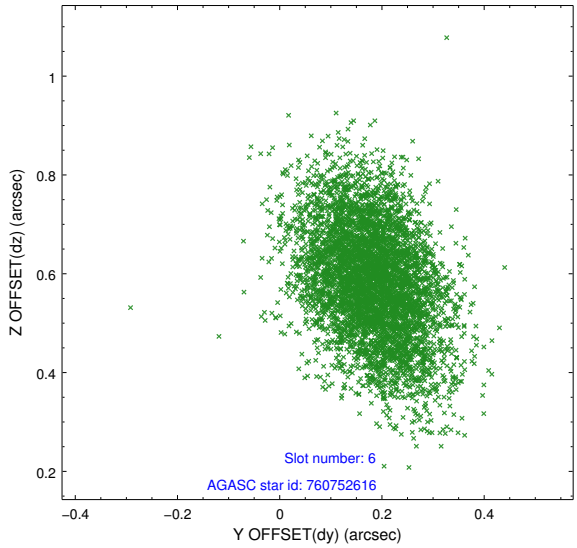
2.4.3 Slot 5

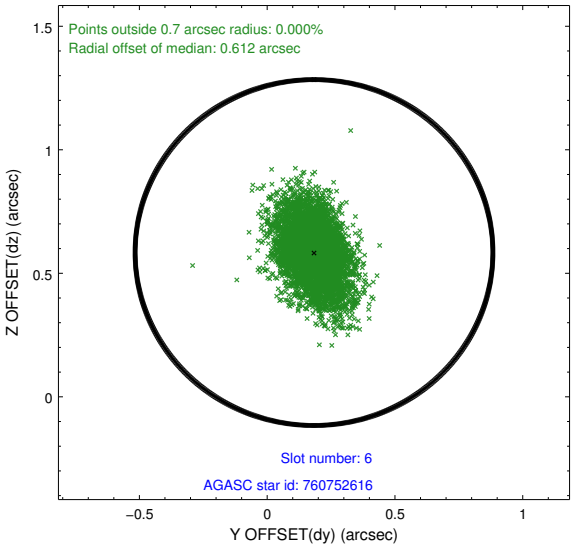

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 760752528

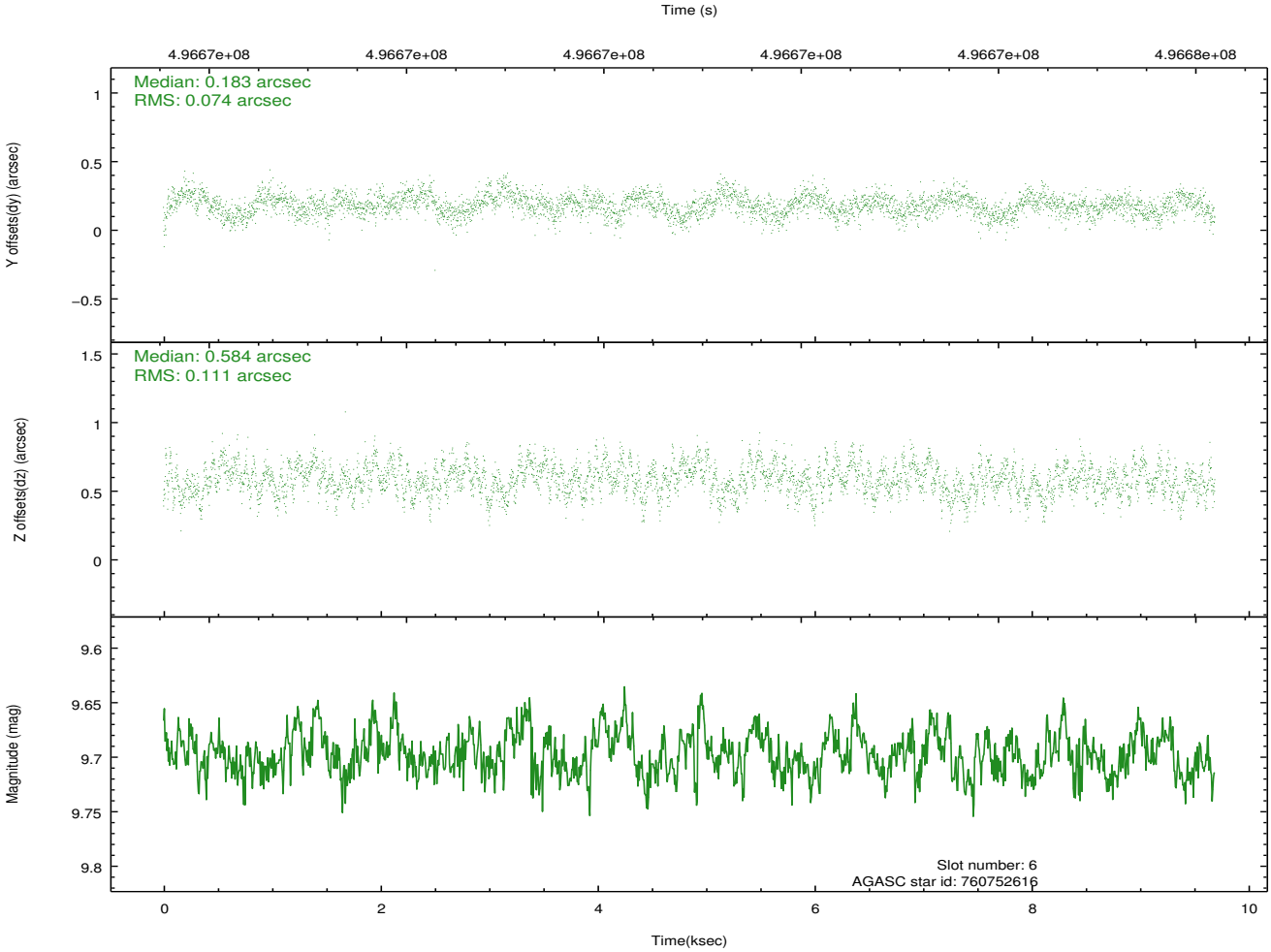

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.140 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 760752528


Time (s)
Median: −0.090 arcsec
RMS: 0.079 arcsec
Y offsets(dy) (arcsec)
Median: −0.107 arcsec
RMS: 0.073 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 760752528
Time(ksec)

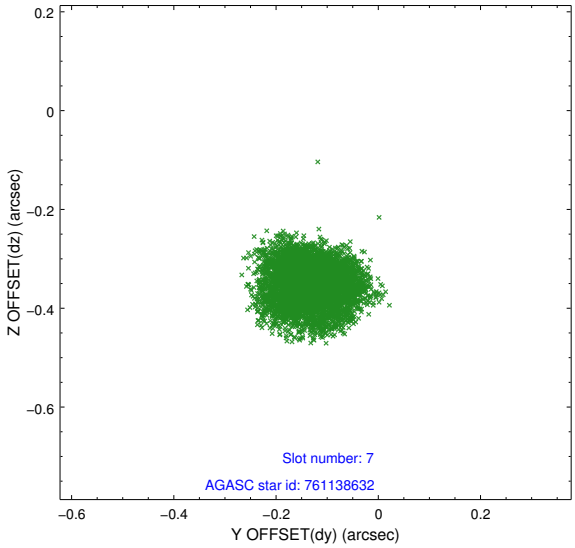
2.4.4 Slot 6

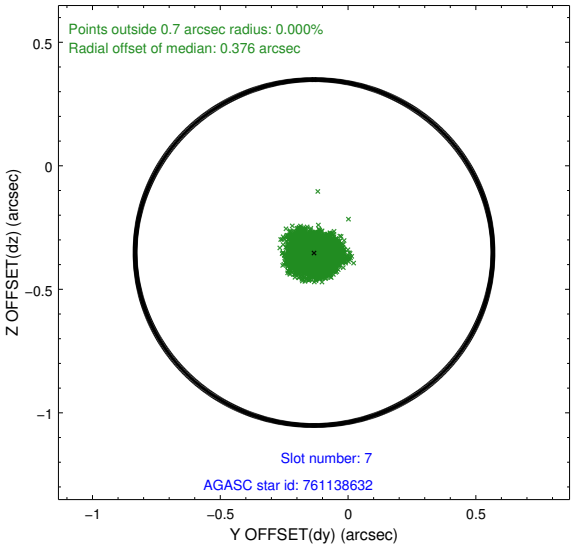

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 760752616

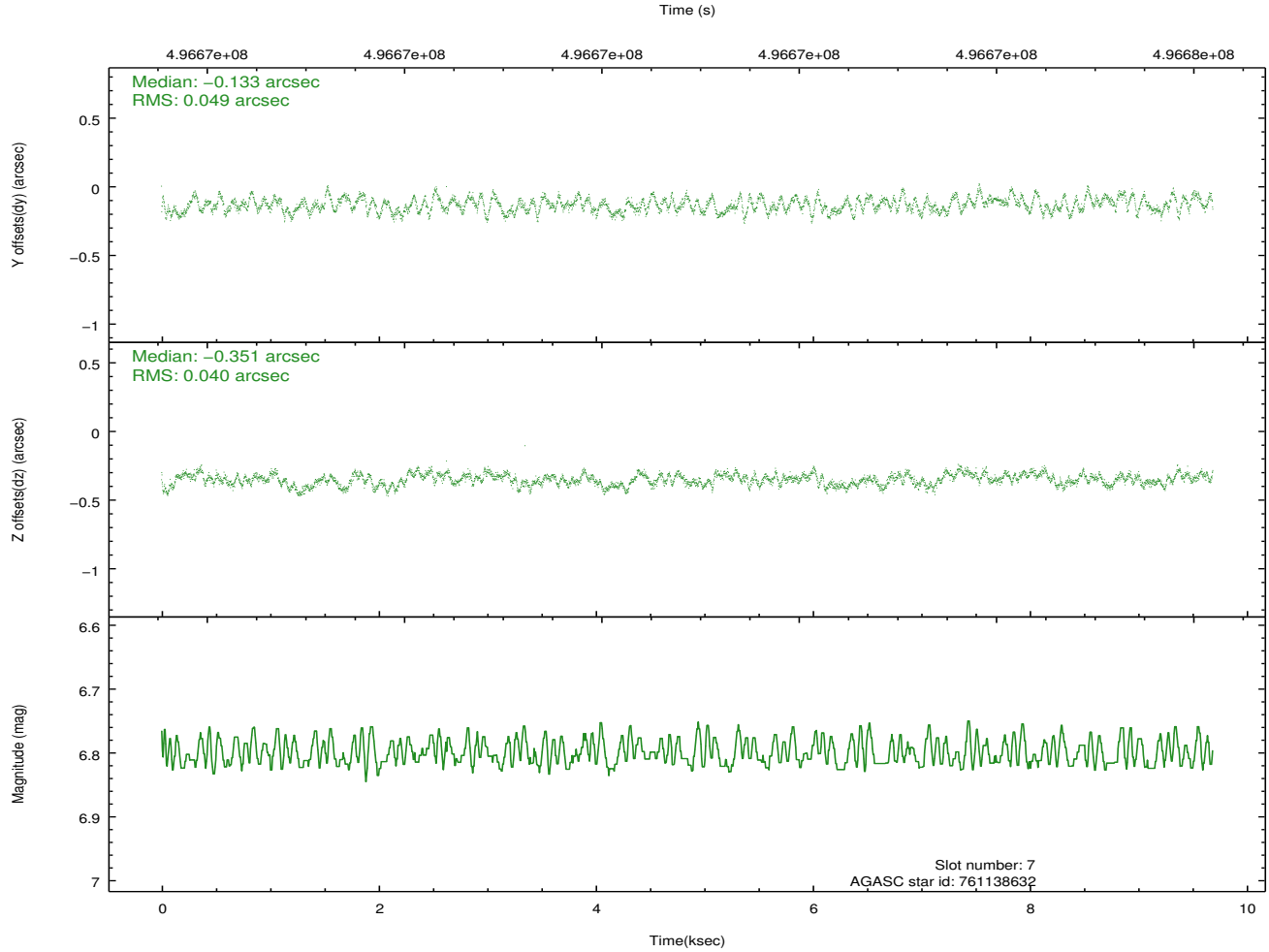

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.612 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 760752616


Time (s)
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9667e+08
4.9668e+08
Median: 0.183 arcsec
RMS: 0.074 arcsec
Y offsets(dy) (arcsec)
Median: 0.584 arcsec
RMS: 0.111 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 760752616
Time(ksec)

2.4.5 Slot 7

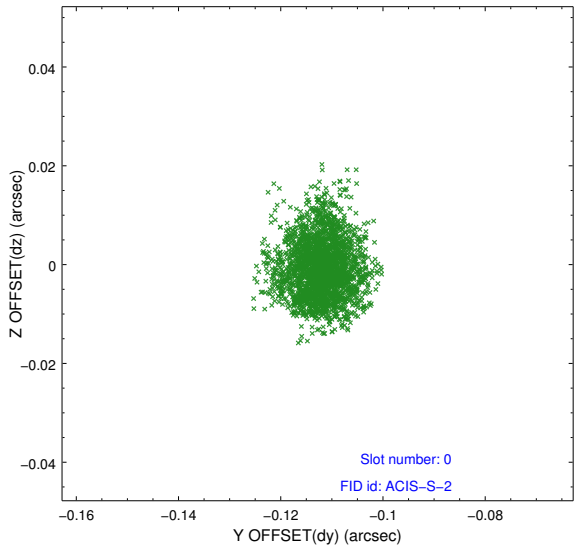

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 761138632

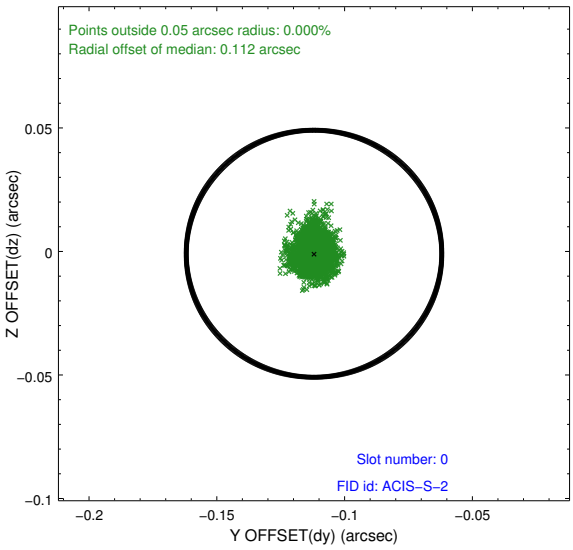

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.376 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 761138632

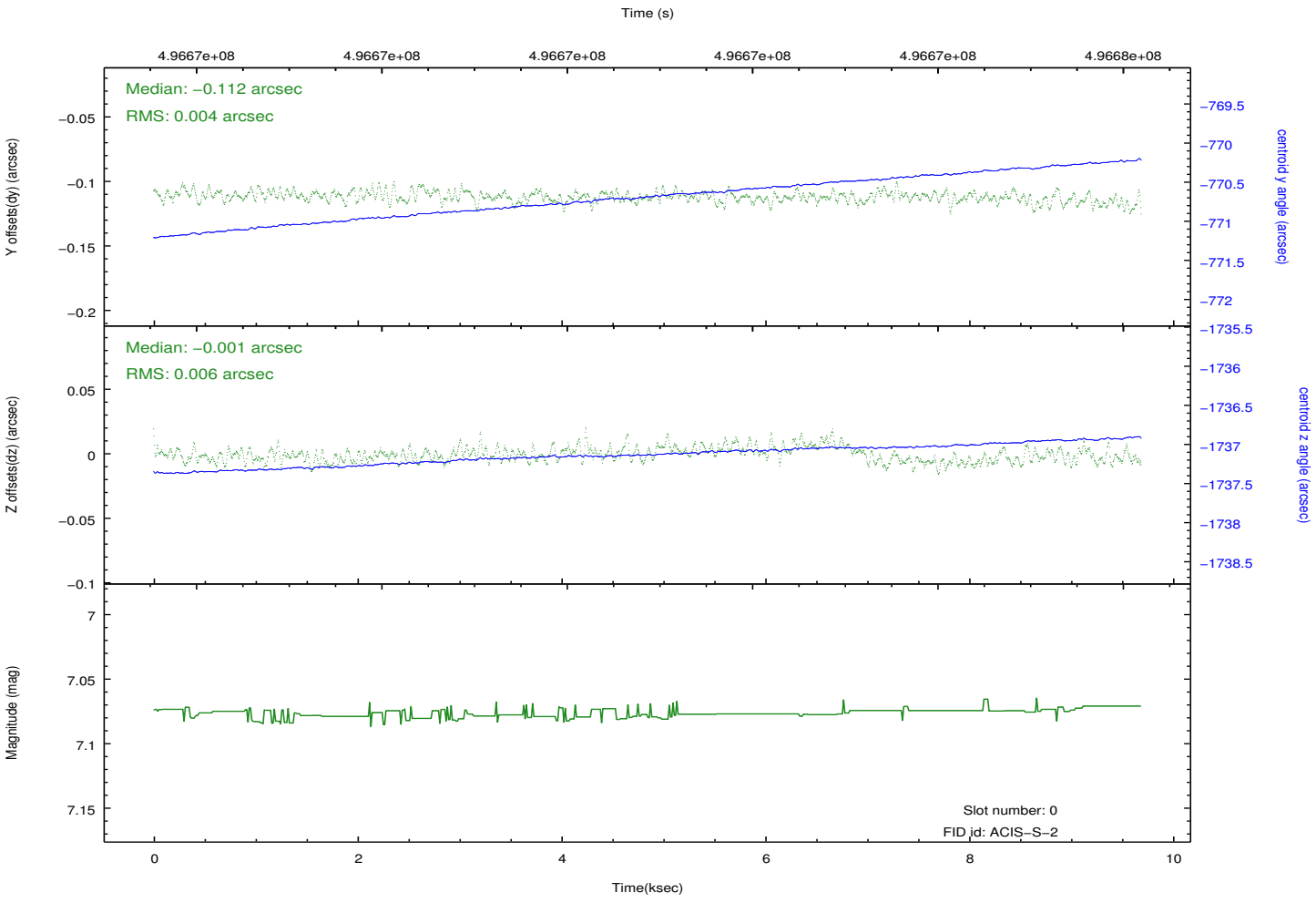

Time (s)
Median: −0.133 arcsec
RMS: 0.049 arcsec
Y offsets(dy) (arcsec)
Median: −0.351 arcsec
RMS: 0.040 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 761138632
Time(ksec)

2.5 FID Slots

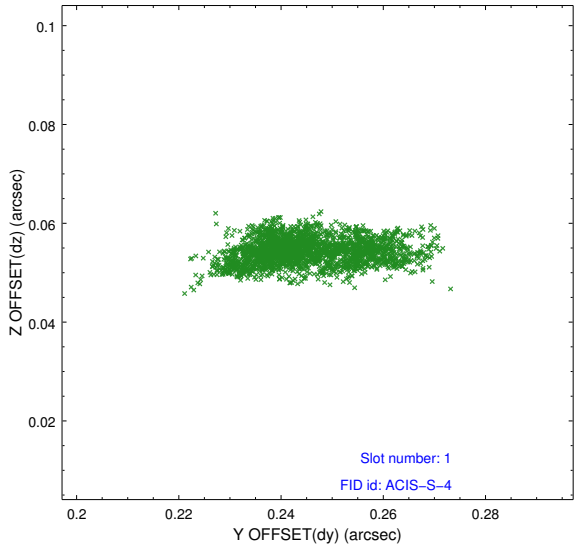
2.5.1 Slot 0

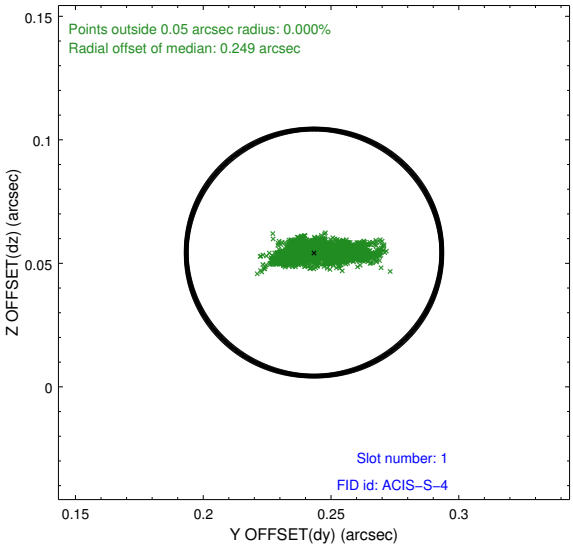


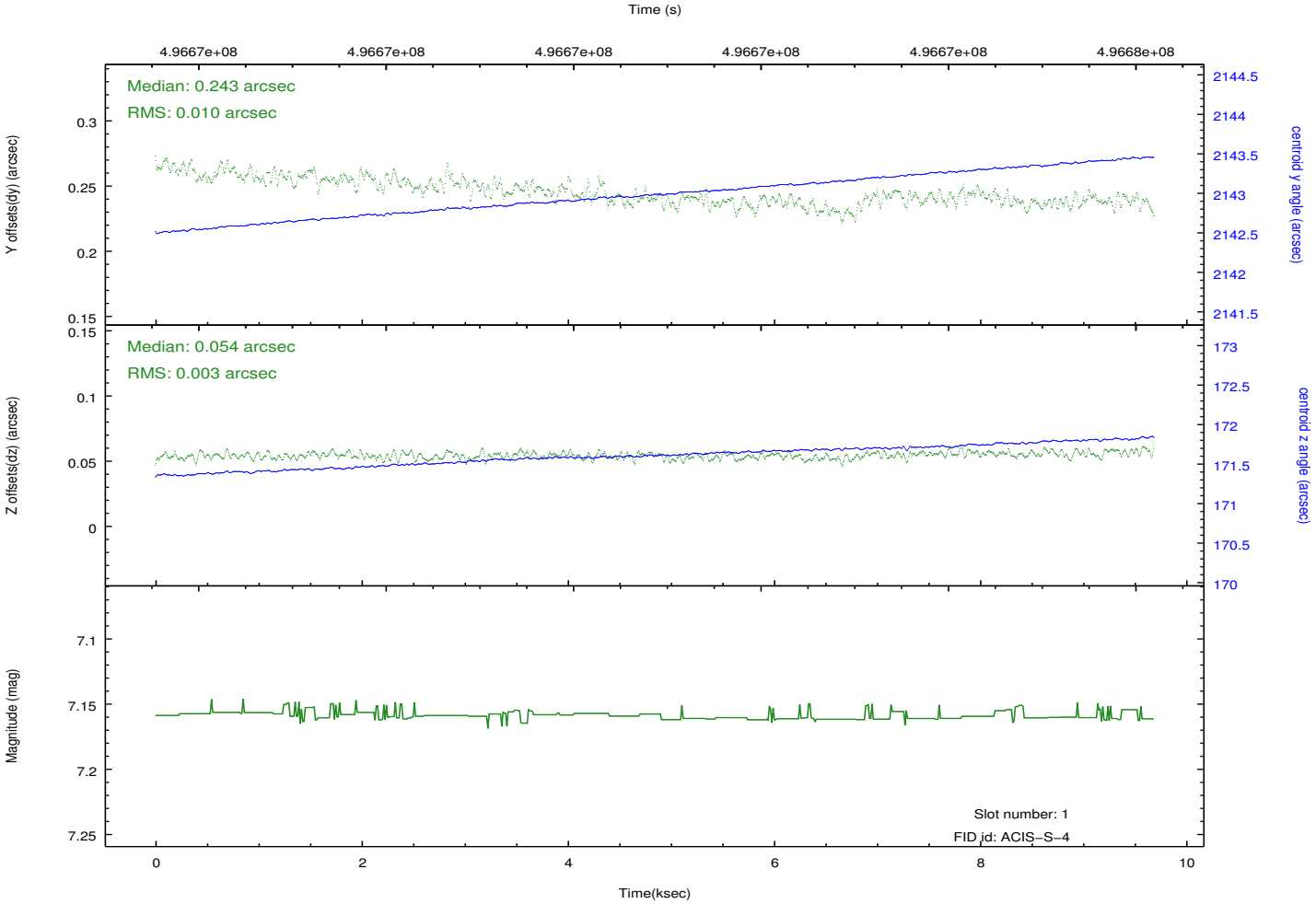




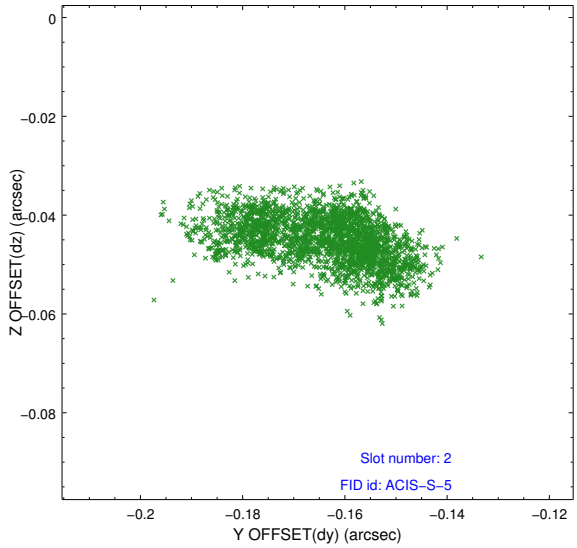
2.5.2 Slot 1

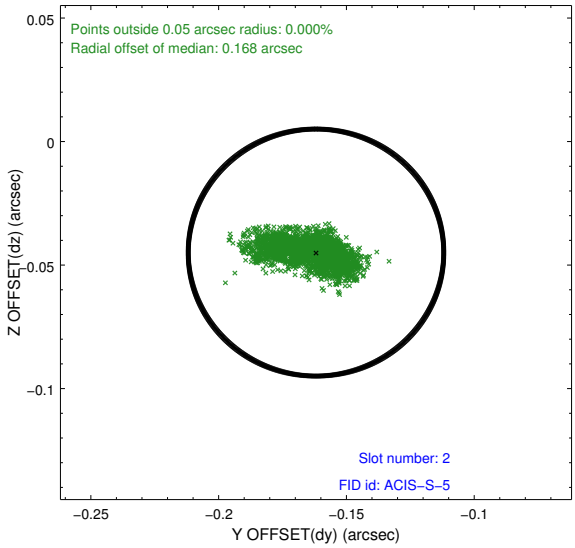

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

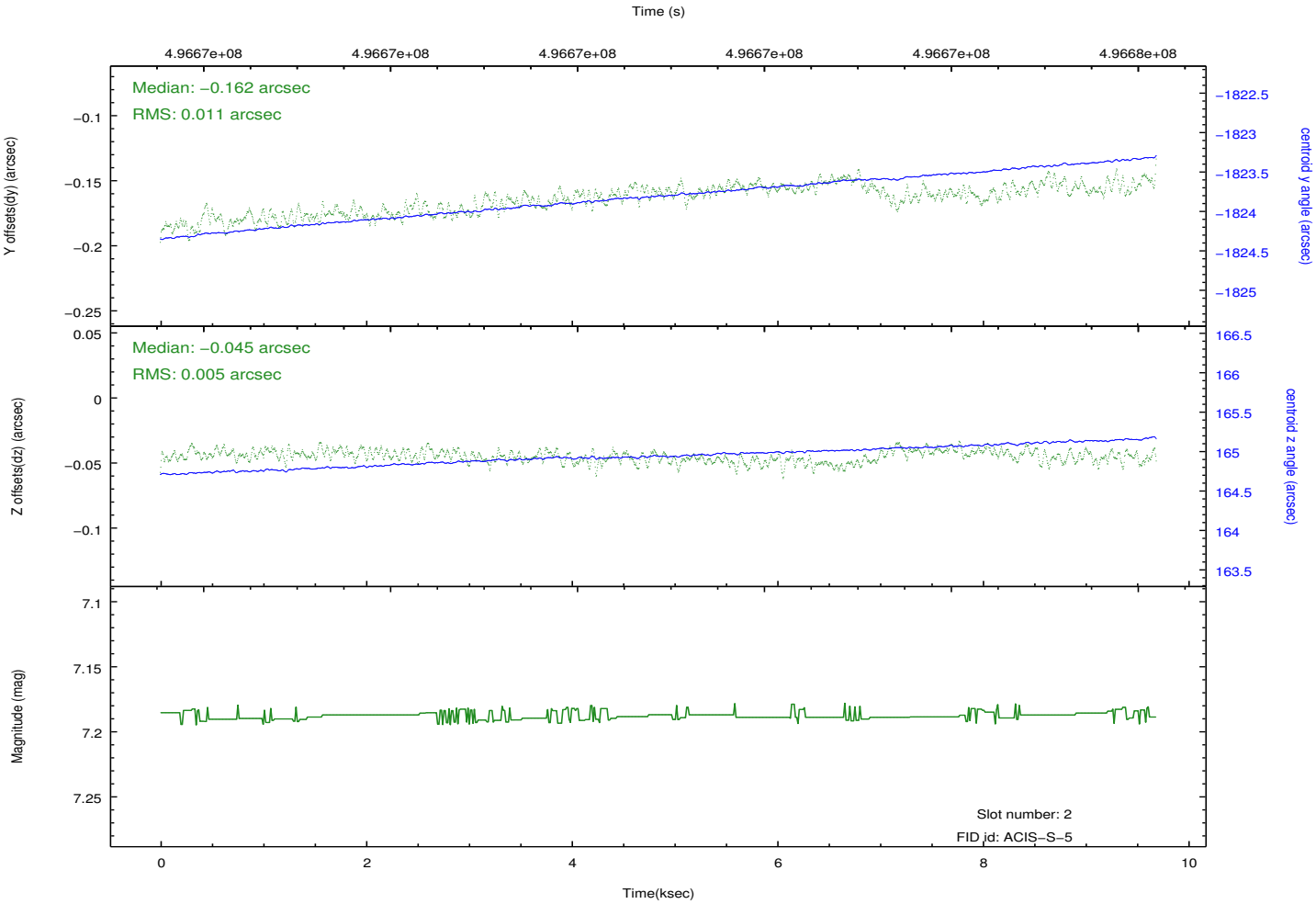

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.249 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.243 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.054 arcsec
RMS: 0.003 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: 0.168 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.162 arcsec
RMS: 0.011 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.045 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)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.5759000736475

A.2 Comments

Observation coordinated with Hobby-Eberly Telescope.
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.