V&V Reference Report
L2 ASCDS Version : 8.4.5

Observation 3473 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Oct 7 2012

Contents

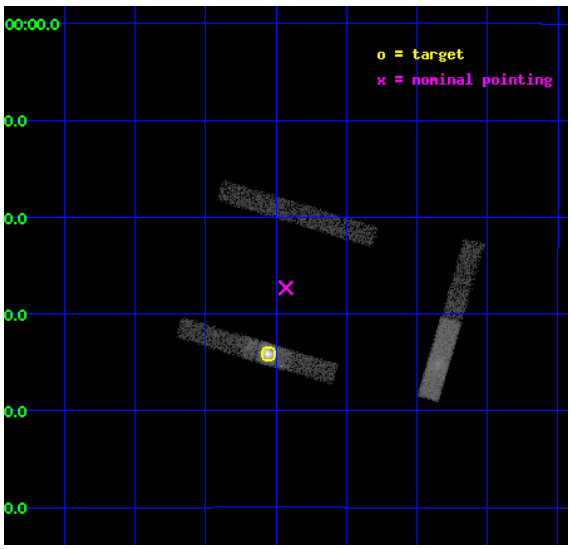
1 Front **2**

2 OBI **3**
2.1 OBI . . . 3
2.1.1 Images . . . 3
2.1.2 Bias . . . 3
2.1.3 Parameters . . . 4
2.1.4 Events . . . 4
2.2 Compared Parameters . . . 5
2.3 Aspect . . . 6
2.4 Star Slots . . . 9
2.4.1 Slot 3 . . . 9
2.4.2 Slot 4 . . . 10
2.4.3 Slot 5 . . . 11
2.4.4 Slot 6 . . . 12
2.4.5 Slot 7 . . . 13
2.5 FID Slots . . . 14
2.5.1 Slot 0 . . . 14
2.5.2 Slot 1 . . . 15
2.5.3 Slot 2 . . . 16

A Summary **17**
A.1 Status . . . 17
A.2 Comments . . . 17

1 Front

seq_num	590272	Sequence number
obs_id	3473	Observation id
title	AO3A CALIBRATION OBSERVATIONS THE STANDARD CANDLES CAS A AND G21.5-09	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	G21.5-0.9 [Chip I3, T=120, Offsets=-2,2,0]	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	278.389583	Observer's specified target RA [deg]
dec_targ	-10.568528	Observer's specified target Dec [deg]
ra_nom	278.35743756209	Nominal RA [deg]
dec_nom	-10.45515345551	Nominal Dec [deg]
roll_nom	106.67246038802	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9671.1999475658	Sum of GTIs [s]
livetime	9323.3540825233	Livetime [s]
ontime0	9670.058927536	Sum of GTIs [s]
ontime1	9671.1999475658	Sum of GTIs [s]
ontime2	9671.1999475658	Sum of GTIs [s]
ontime3	9671.1999475658	Sum of GTIs [s]
ontime6	9670.058927536	Sum of GTIs [s]
ontime7	9670.058927536	Sum of GTIs [s]
l2events	42738	Number of level 2 events

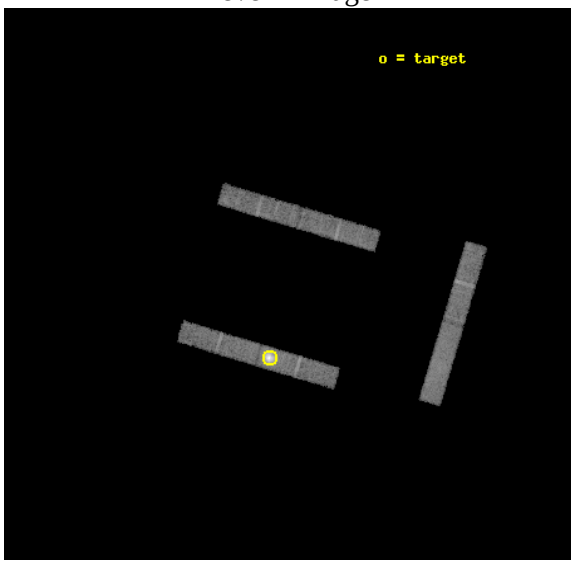


2 OBI

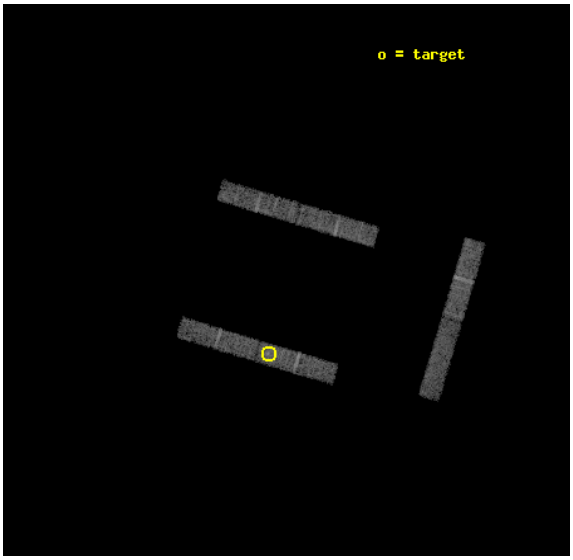
2.1 OBI

2.1.1 Images

Level 1 Image

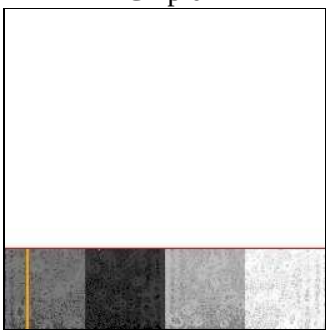


Level 1 Bad Events

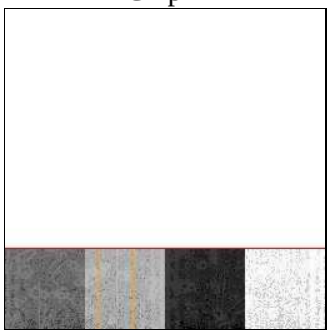


2.1.2 Bias

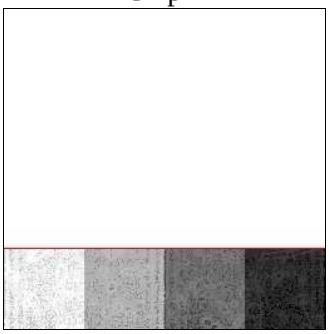
Chip 0



Chip 1

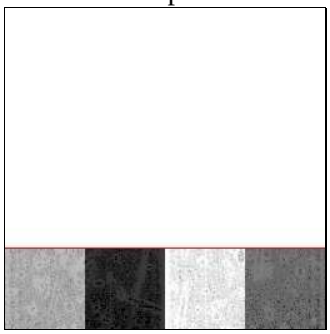


Chip 2

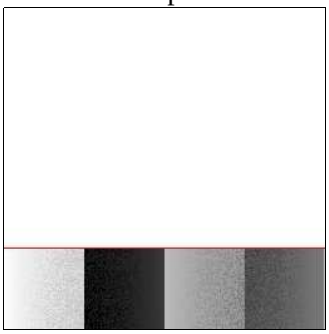


Chip 3

Chip 6



Chip 7



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	8.4.5	Processing system revision
caldbver	4.5.2	
date	2012-10-07T11:28:06	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	9500.000000	[s] Scheduled observation exposure time
ontime	9671.1999475658	Sum of GTIs [s]
ontime0	9670.058927536	Sum of GTIs [s]
ontime1	9671.1999475658	Sum of GTIs [s]
ontime2	9671.1999475658	Sum of GTIs [s]
ontime3	9671.1999475658	Sum of GTIs [s]
ontime6	9670.058927536	Sum of GTIs [s]
ontime7	9670.058927536	Sum of GTIs [s]
l1events	139261	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
level 1 events	17144	17974	18924	43266	19899	22054
rejected events	14960	14974	16790	17122	17735	12509
rejected %	87%	83%	88%	39%	89%	56%

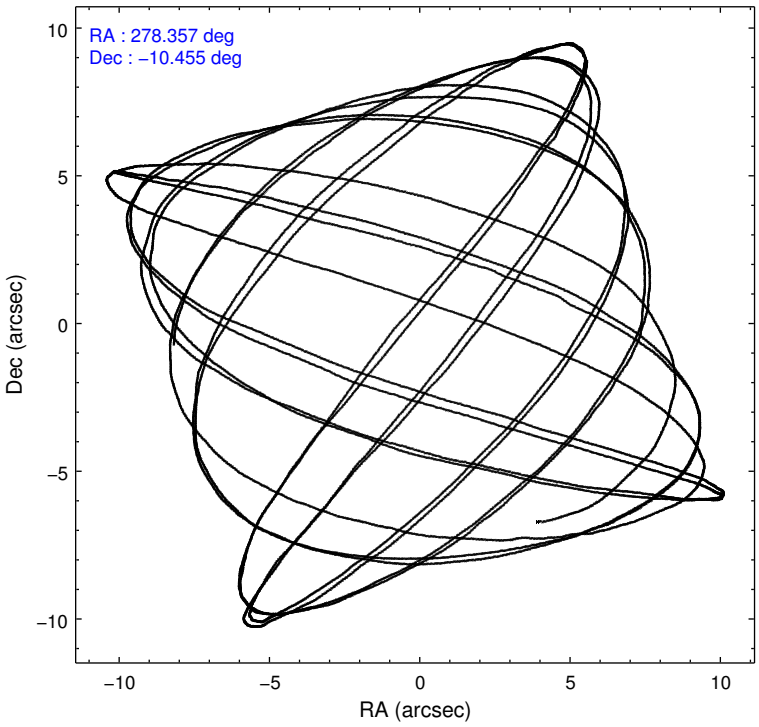
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
grade 0 events	899	1410	928	18533	845	1002
	5%	7%	4%	42%	4%	4%
grade 1 events	1	11	9	80	7	20
	0%	0%	0%	0%	0%	0%
grade 2 events	400	484	379	3584	417	2069
	2%	2%	2%	8%	2%	9%
grade 3 events	337	399	284	1362	314	1041
	1%	2%	1%	3%	1%	4%
grade 4 events	297	347	309	1429	320	1004
	1%	1%	1%	3%	1%	4%
grade 5 events	590	607	534	655	657	1952
	3%	3%	2%	1%	3%	8%
grade 6 events	383	484	344	1678	399	4915
	2%	2%	1%	3%	2%	22%
grade 7 events	14237	14232	16137	15945	16940	10051
	83%	79%	85%	36%	85%	45%

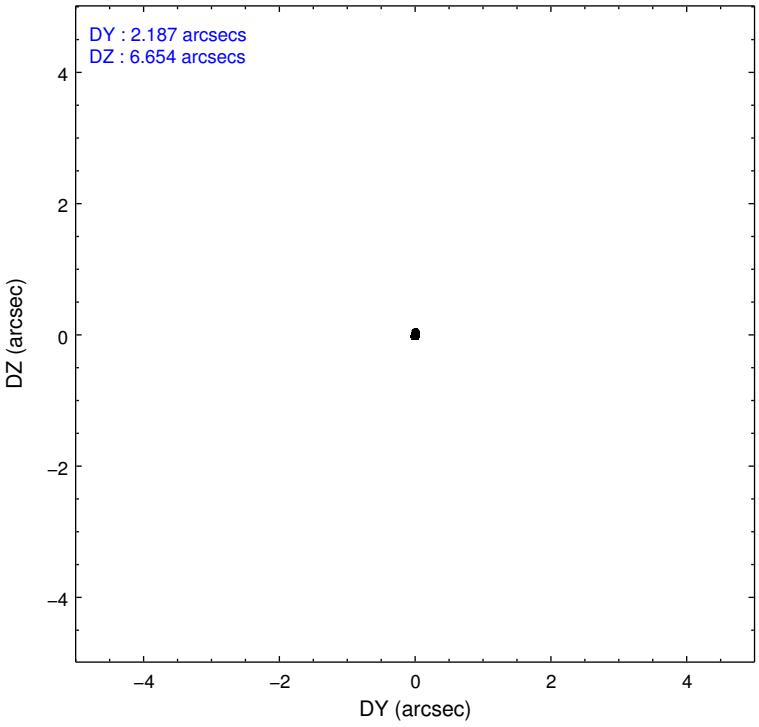
2.2 Compared Parameters

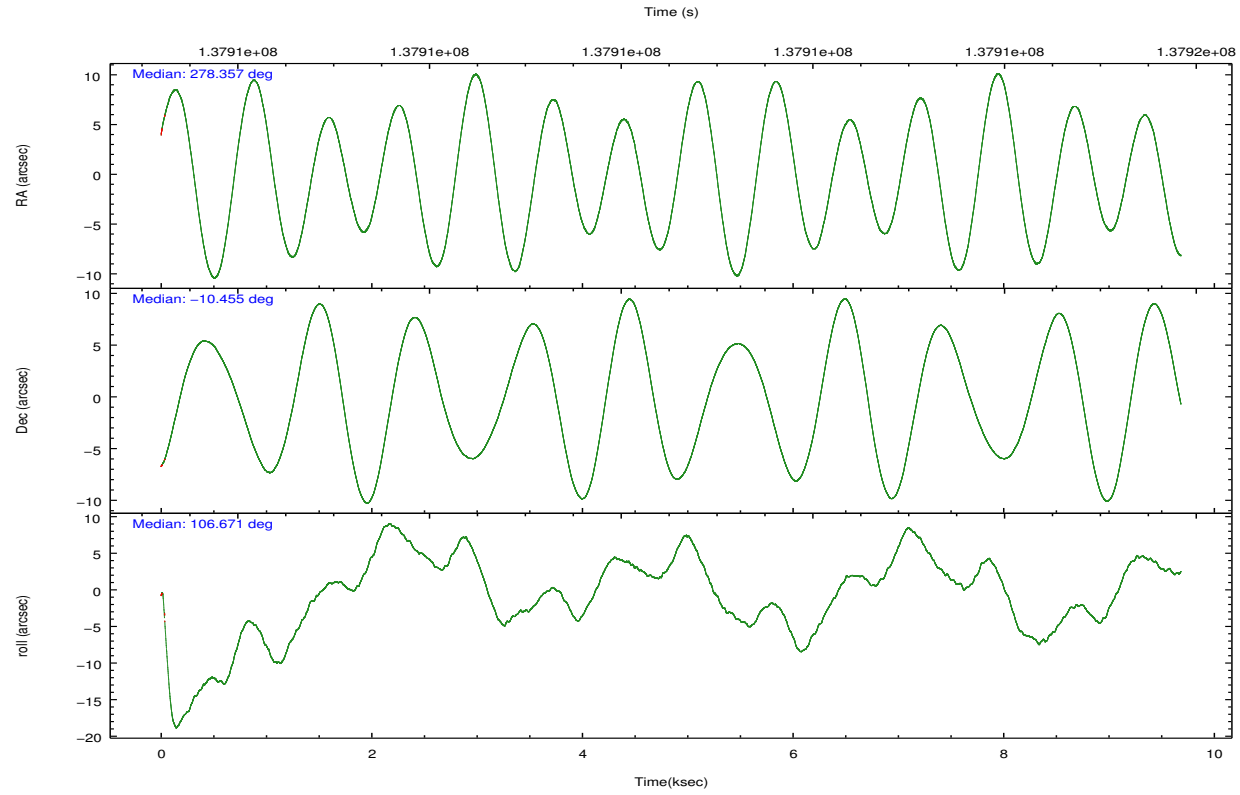
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	278.377756	278.3574375620946
[deg] Pointing Dec	-10.473939	-10.45515345550956
[deg] Pointing Roll	106.467468	106.6724603880223
[s] Window start time (MET)	135216064.184000	135216064.184000
[s] Window stop time (MET)	139190464.184000	139190464.184000
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-232.092463	-232.0989598023052
[mm] SIM translation stage offset	-1.5	-1.493493200624528
[s] Observation start time (MET)	137905863.184000	137904836.97191
Observation start date	2002-05-16T03:09:59	2002-05-16T02:53:56
[s] Observation end time (MET)	137915363.184000	137916240.60988
Observation end date	2002-05-16T05:48:19	2002-05-16T06:04:00
Read mode	TIMED	TIMED

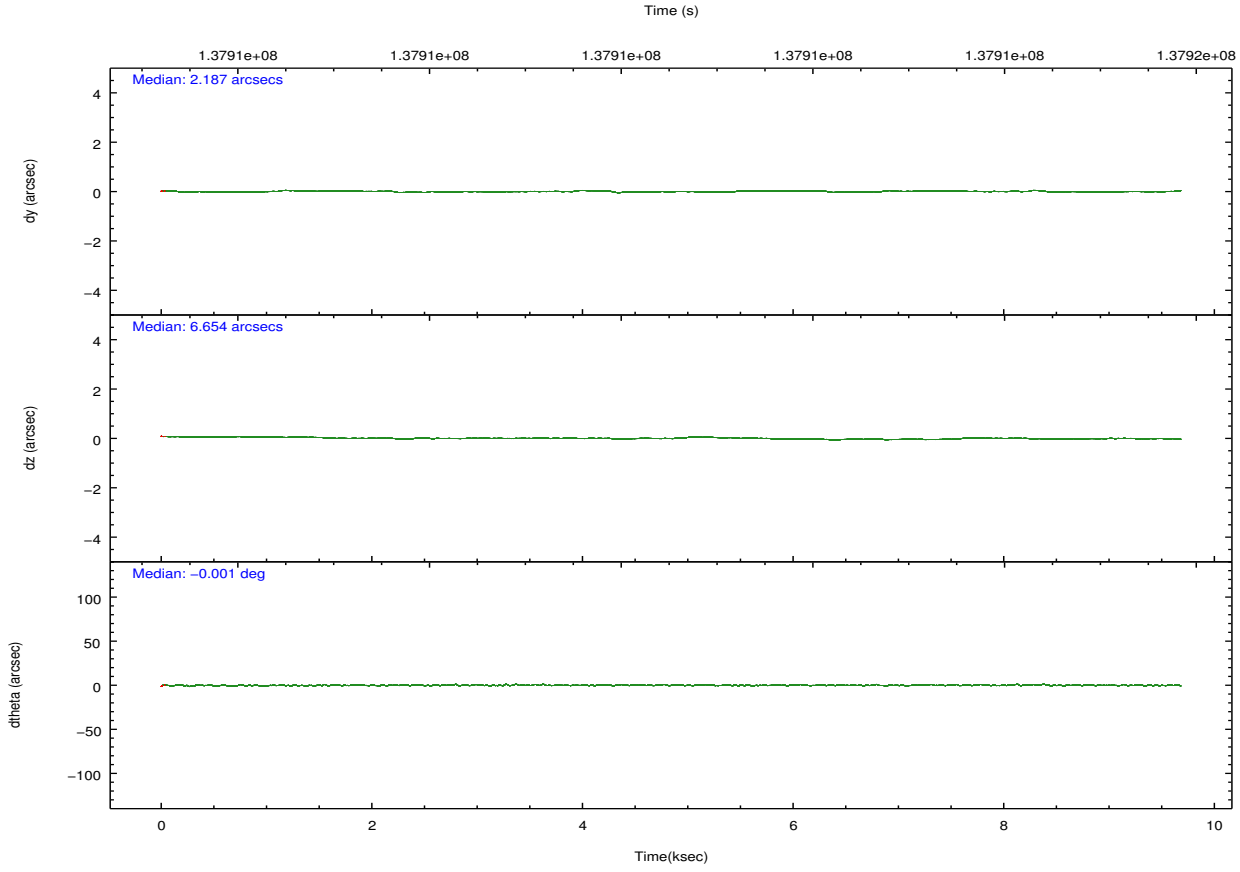
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/4
Subarray start row	1	1
Subarray row count	256	256
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	1.1

2.3 Aspect


RA : 278.357 deg
Dec : −10.455 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10


DY : 2.187 arcsecs
DZ : 6.654 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4


Time (s)
1.3791e+08
1.3791e+08
1.3791e+08
1.3791e+08
1.3791e+08
1.3792e+08
Median: 278.357 deg
RA (arcsec)
Median: −10.455 deg
Dec (arcsec)
Median: 106.671 deg
roll (arcsec)
Time(ksec)

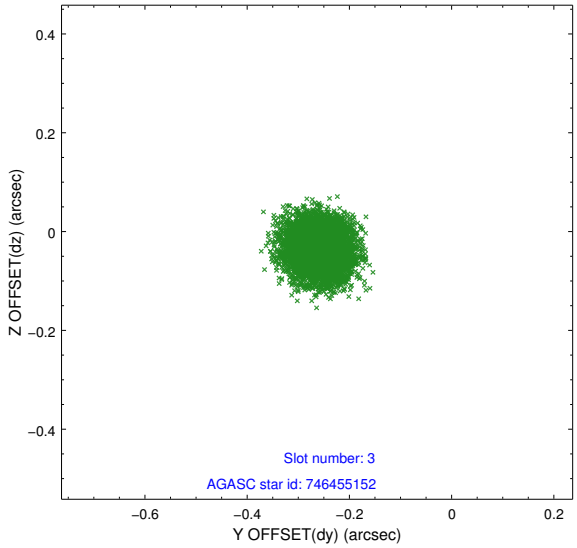

Time (s)
1.3791e+08
1.3791e+08
1.3791e+08
1.3791e+08
1.3791e+08
1.3792e+08
Median: 2.187 arcsecs
dy (arcsec)
Median: 6.654 arcsecs
dz (arcsec)
Median: −0.001 deg
dtheta (arcsec)
Time(ksec)

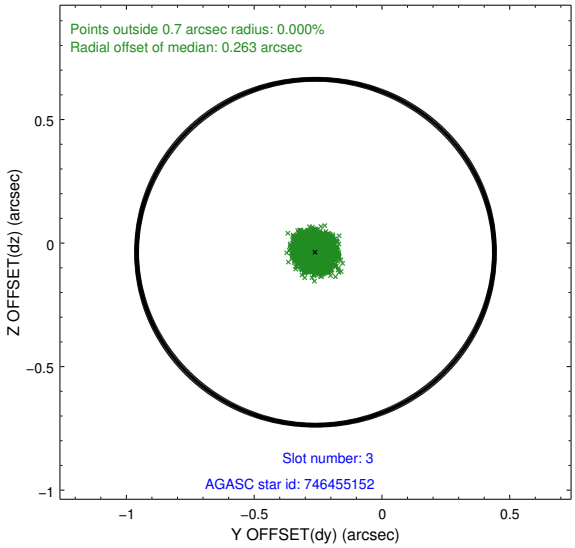
Slot Statistics

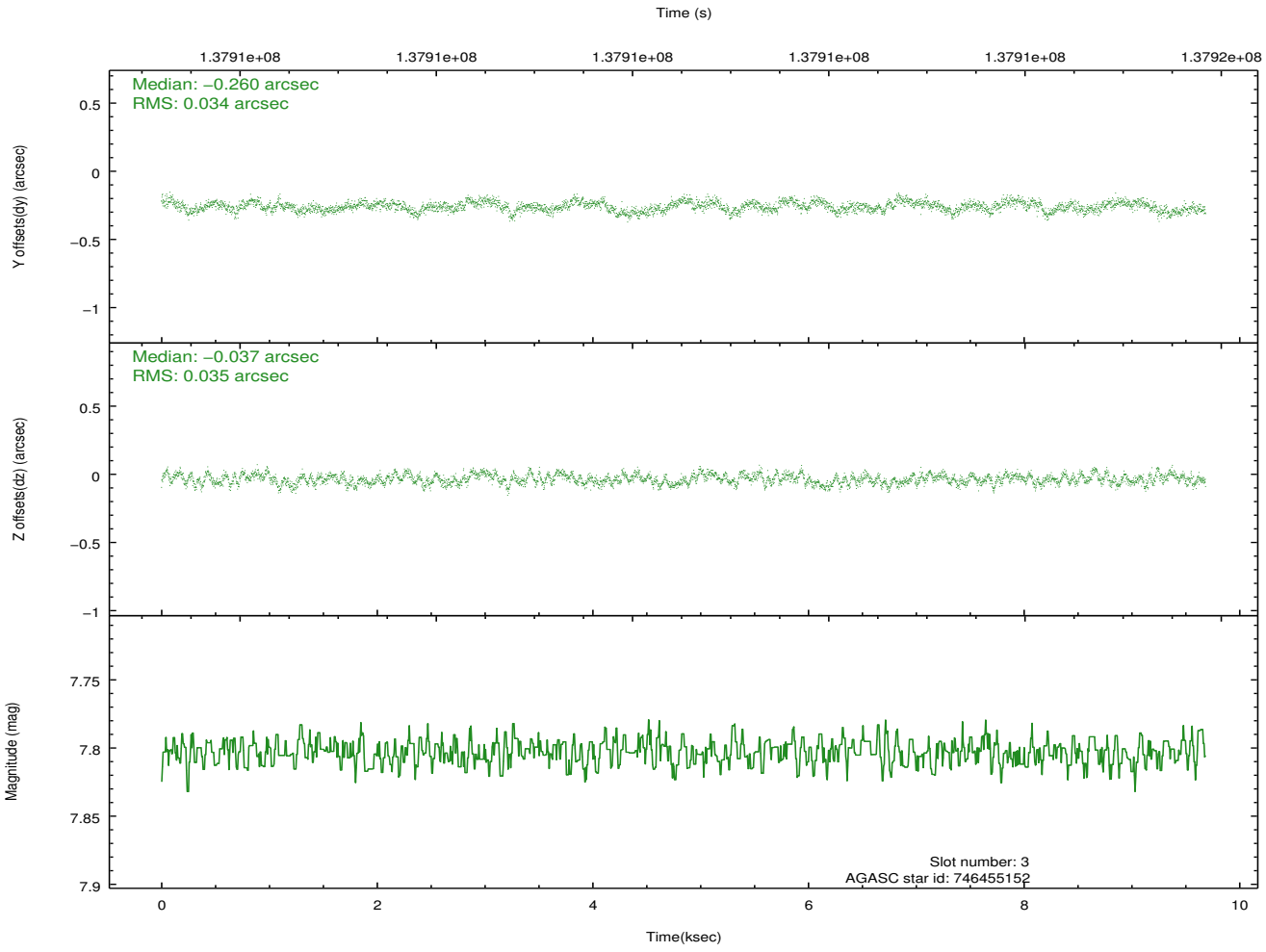
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.25	2361	0.020	0.055	0.006	0.011	0.000000	0.000000	937.60	-860.58
1	FID	ACIS-I-5	7.24	2361	-0.093	0.071	0.006	0.010	0.000000	0.000000	-1810.27	1036.69
2	FID	ACIS-I-6	7.26	2361	-0.018	-0.056	0.007	0.012	0.000000	0.000000	402.56	1681.65
3	GUIDE	746455152	7.80	4722	-0.260	-0.037	0.053	0.081	278.447893	-9.976732	1645.65	-746.18
4	GUIDE	746462392	8.54	4723	0.139	-0.007	0.069	0.109	279.038421	-10.890715	-2103.45	-1814.54
5	GUIDE	746455112	8.94	4719	0.139	-0.011	0.078	0.125	278.266531	-10.703234	-680.59	610.42
6	GUIDE	746460328	9.80	4636	-0.124	0.015	0.182	0.272	278.603974	-9.898096	1759.83	-1356.88
7	GUIDE	746461728	9.77	4717	0.115	0.032	0.132	0.210	278.986921	-10.530755	-808.93	-2009.67

2.4 Star Slots

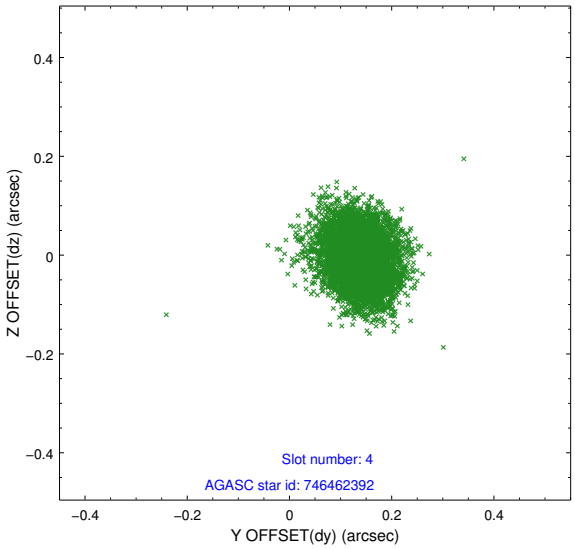
2.4.1 Slot 3

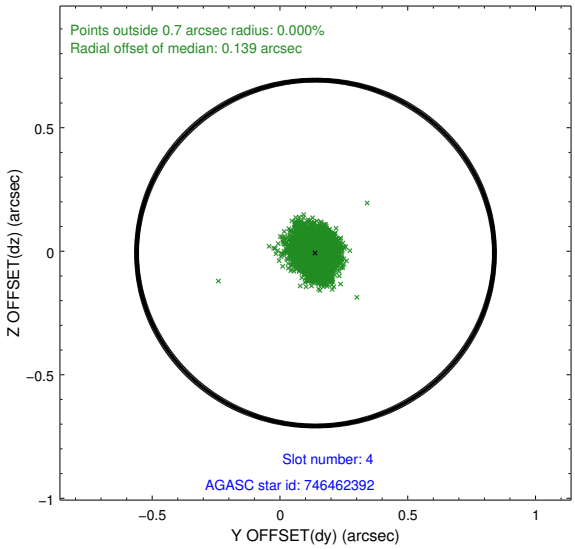


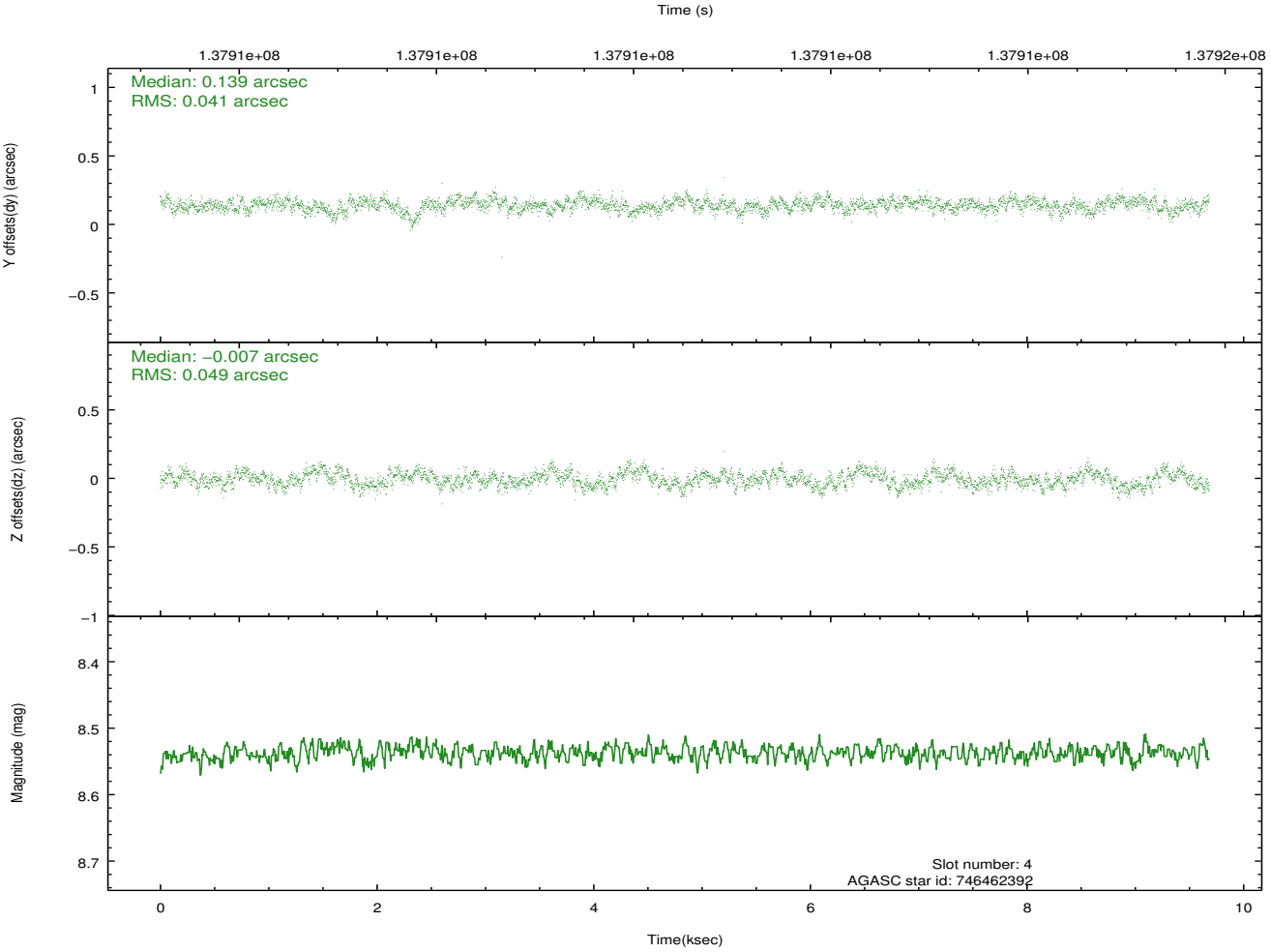




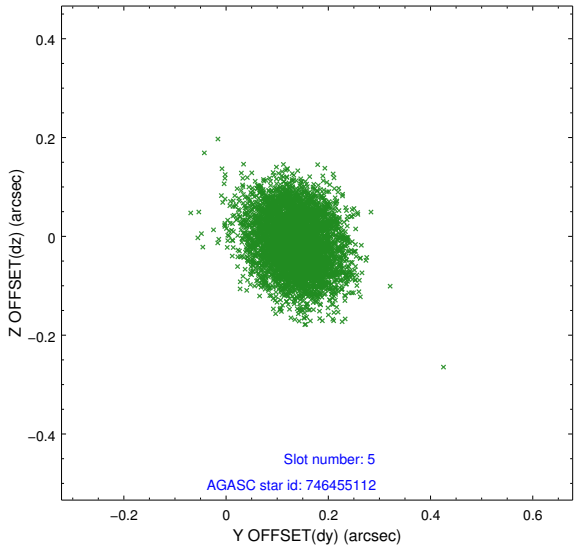
2.4.2 Slot 4

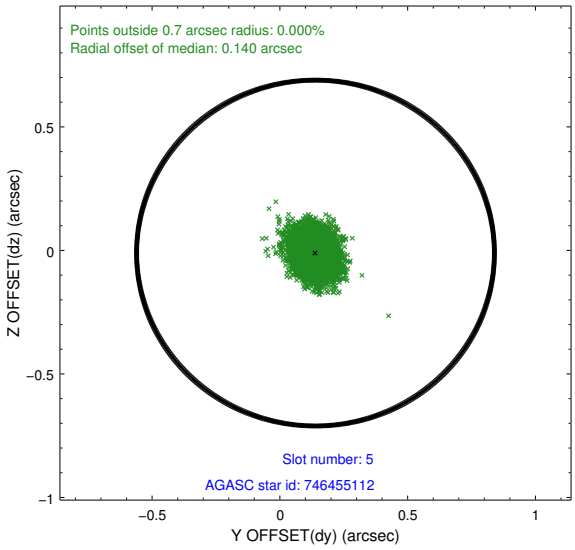

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 746462392

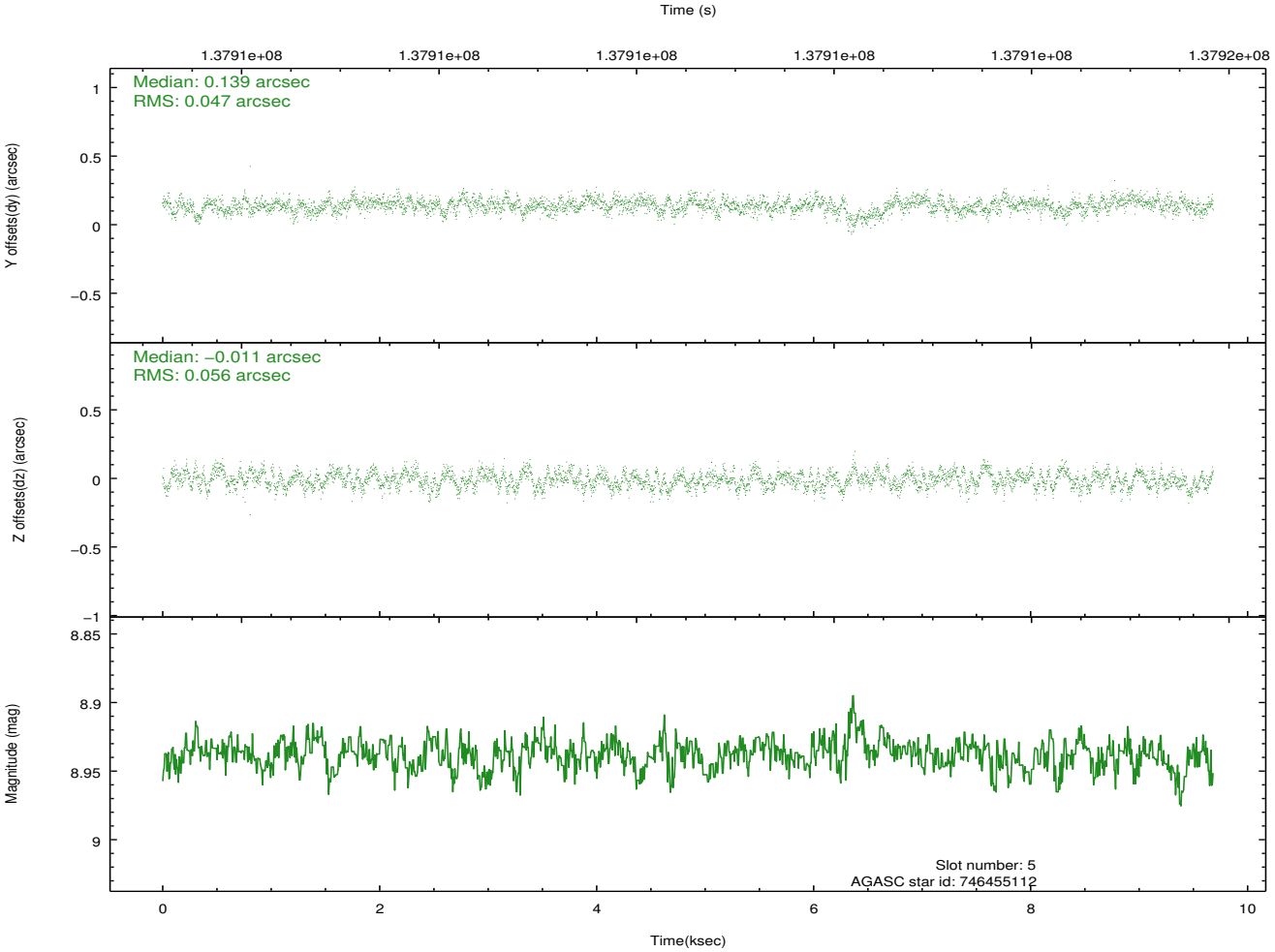

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.139 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 746462392


Time (s)
Median: 0.139 arcsec
RMS: 0.041 arcsec
Y offsets(dy) (arcsec)
Median: −0.007 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 746462392
Time(ksec)

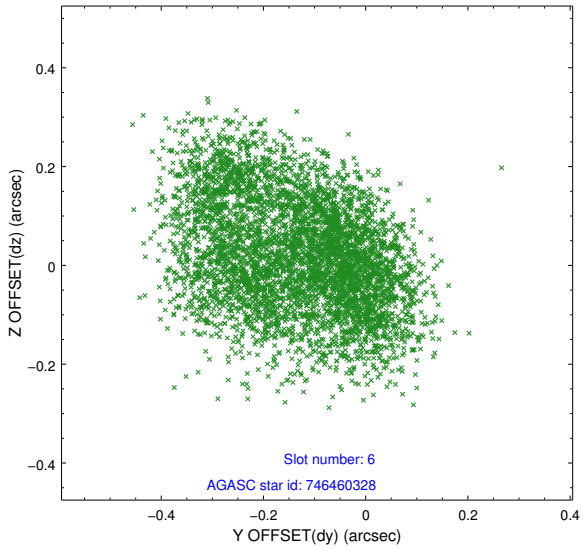
2.4.3 Slot 5

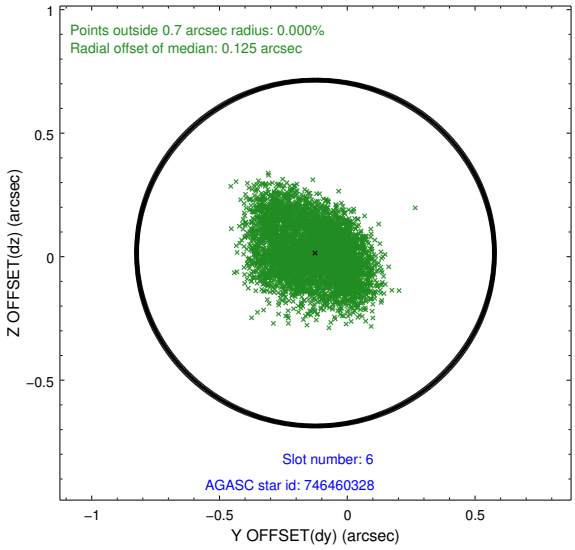

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 746455112

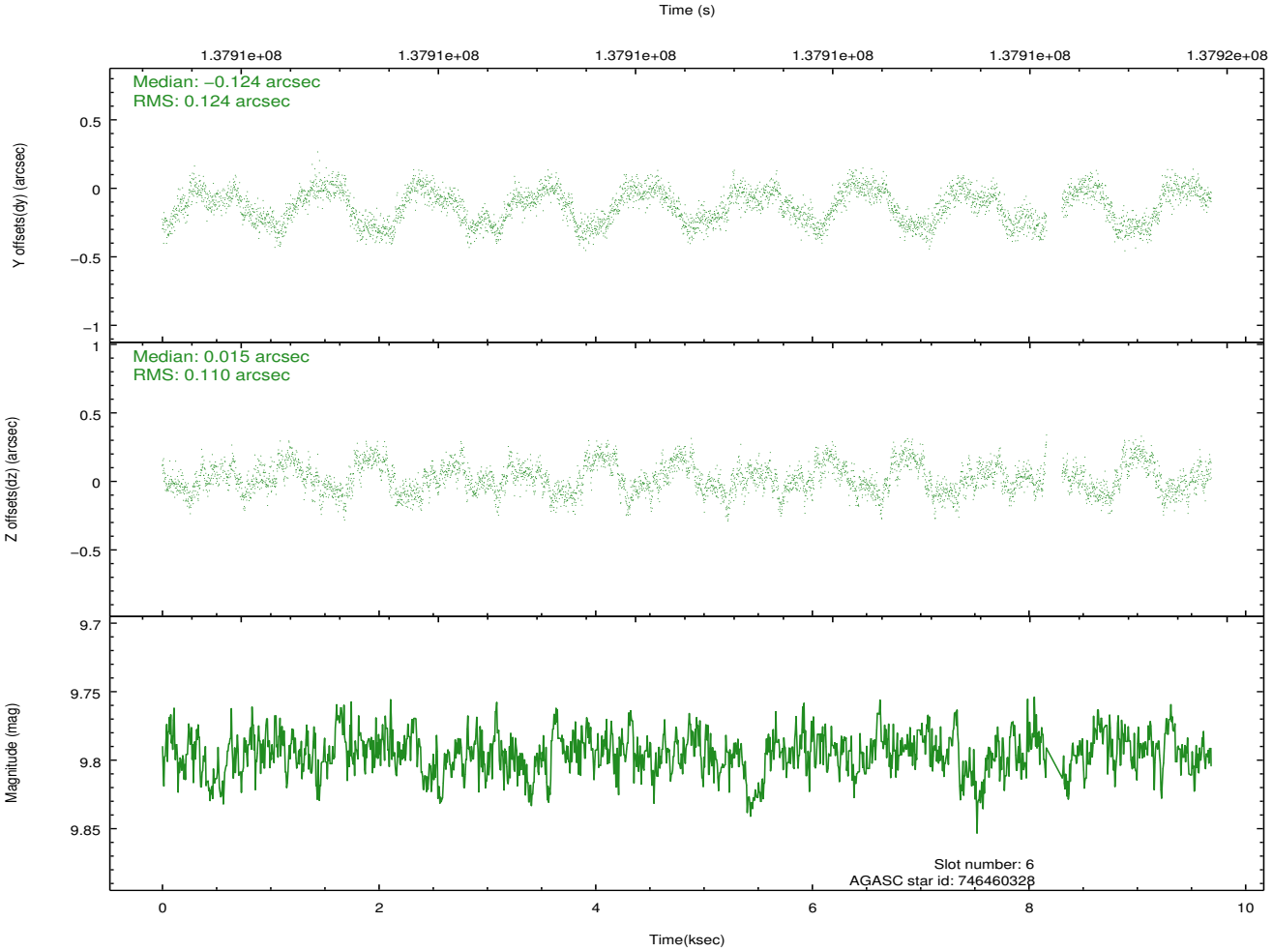

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.140 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 746455112


Time (s)
Median: 0.139 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: −0.011 arcsec
RMS: 0.056 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 746455112
Time(ksec)

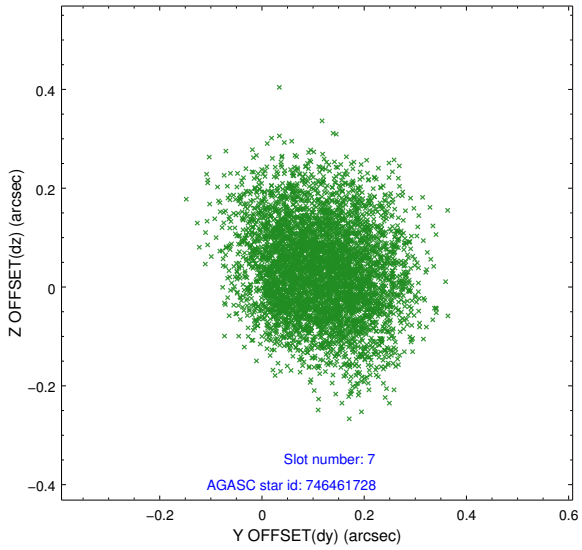
2.4.4 Slot 6

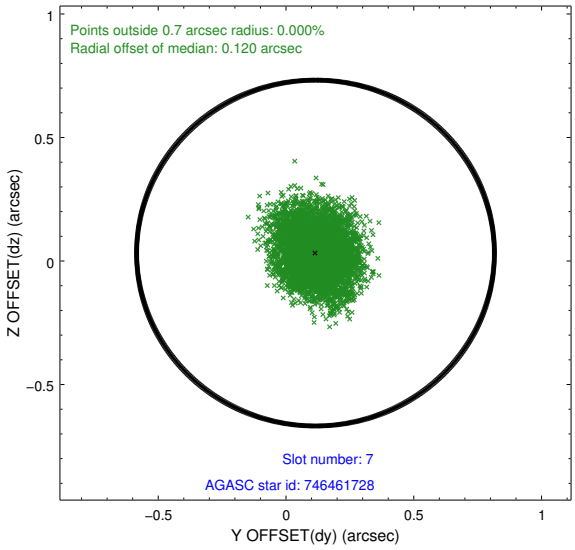

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 746460328

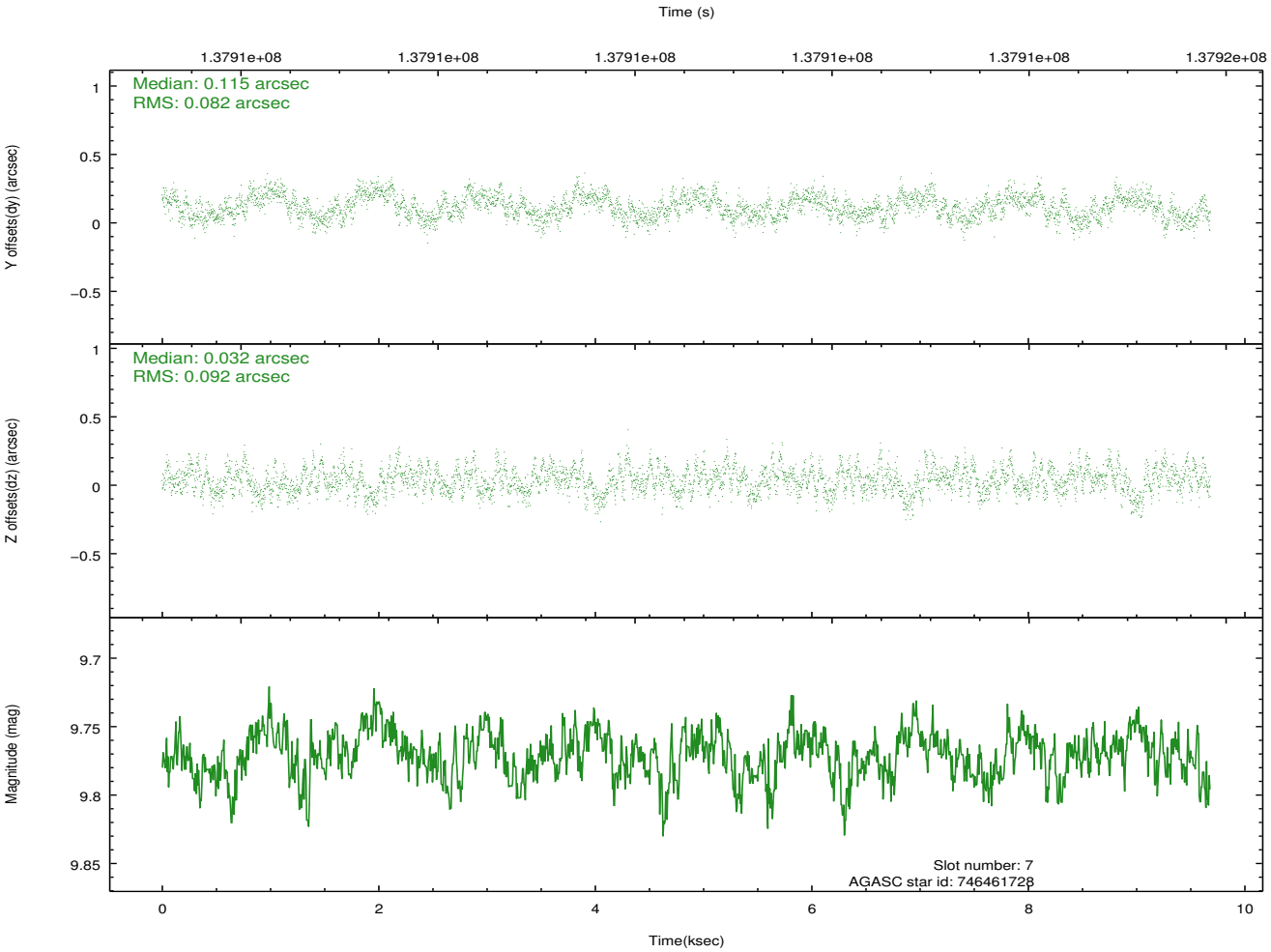

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.125 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 746460328


Time (s)
Median: −0.124 arcsec
RMS: 0.124 arcsec
Y offsets(dy) (arcsec)
Median: 0.015 arcsec
RMS: 0.110 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 746460328
Time(ksec)

2.4.5 Slot 7

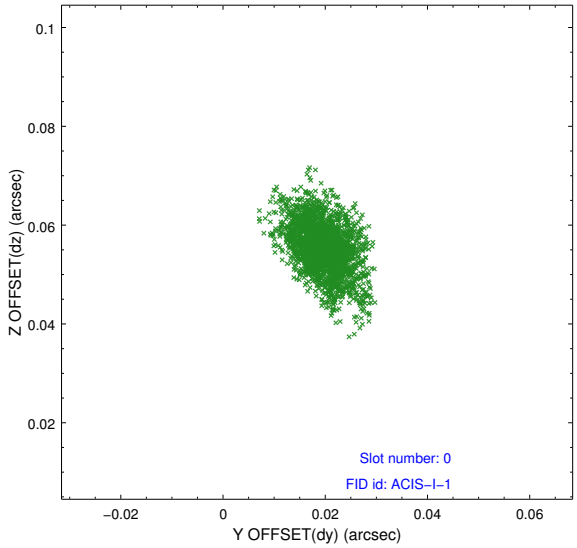

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 746461728

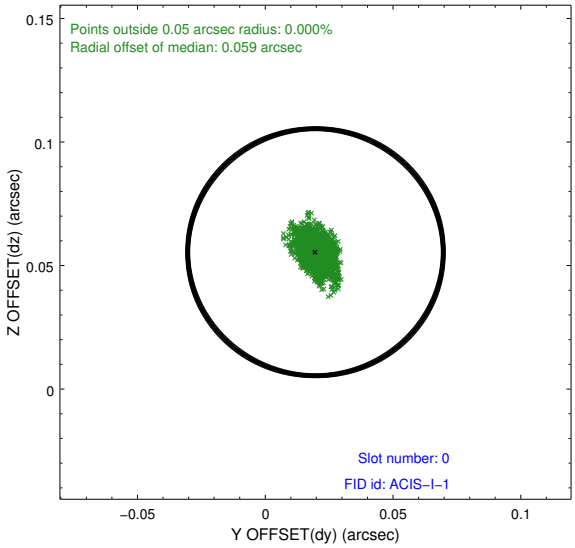

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.120 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 746461728

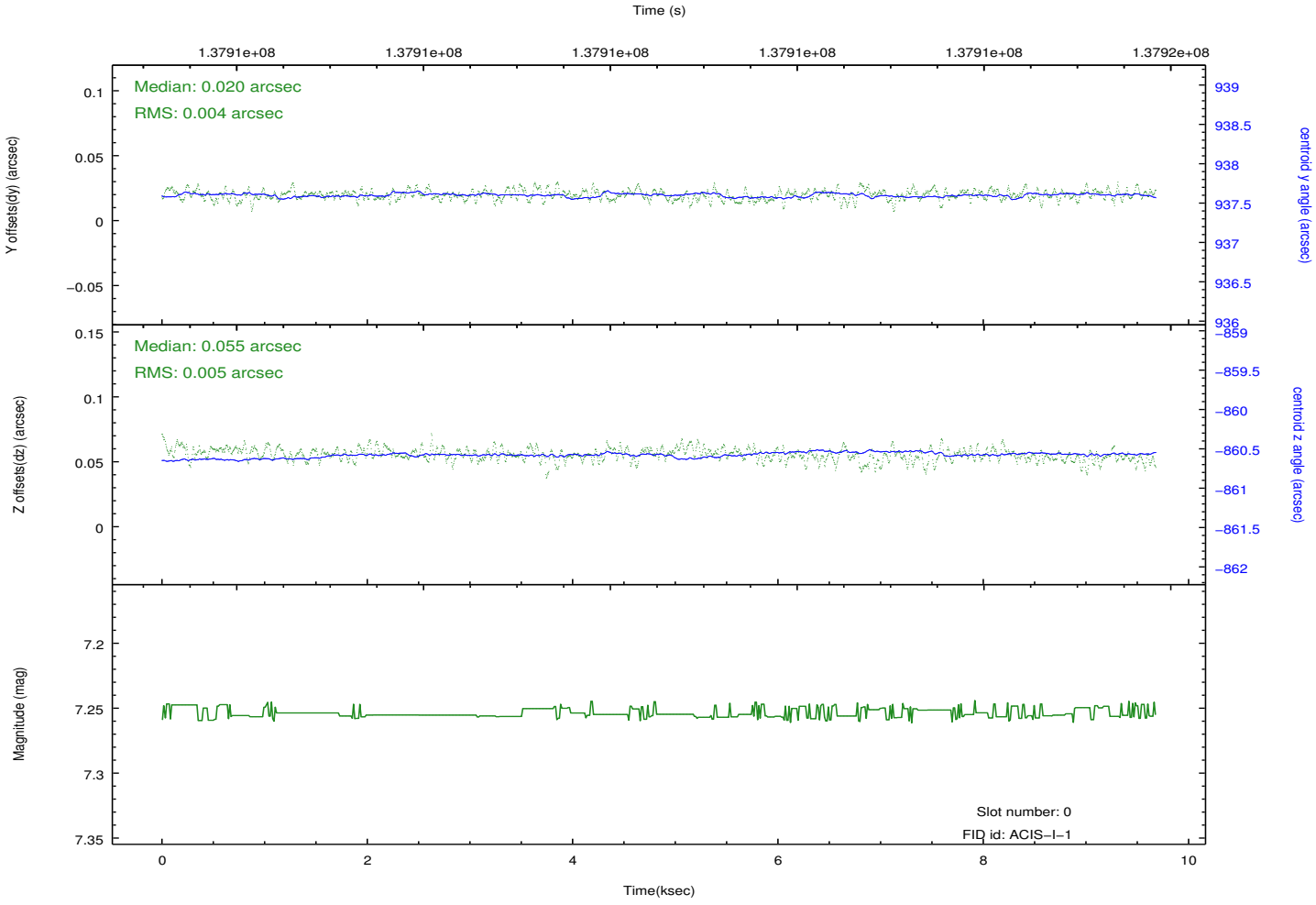

Time (s)
Median: 0.115 arcsec
RMS: 0.082 arcsec
Y offsets(dy) (arcsec)
Median: 0.032 arcsec
RMS: 0.092 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 746461728
Time(ksec)

2.5 FID Slots

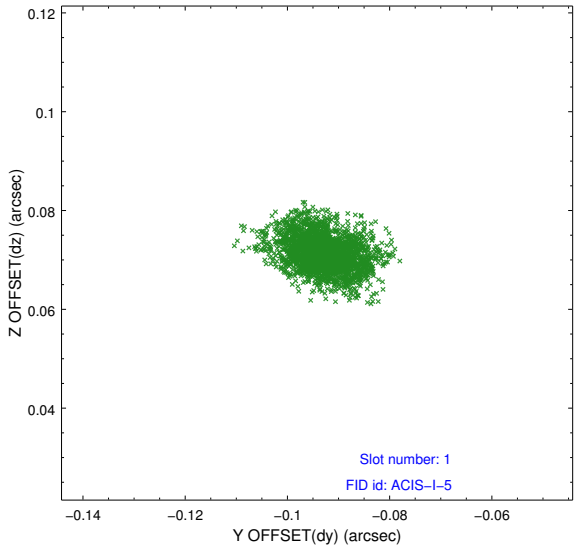
2.5.1 Slot 0

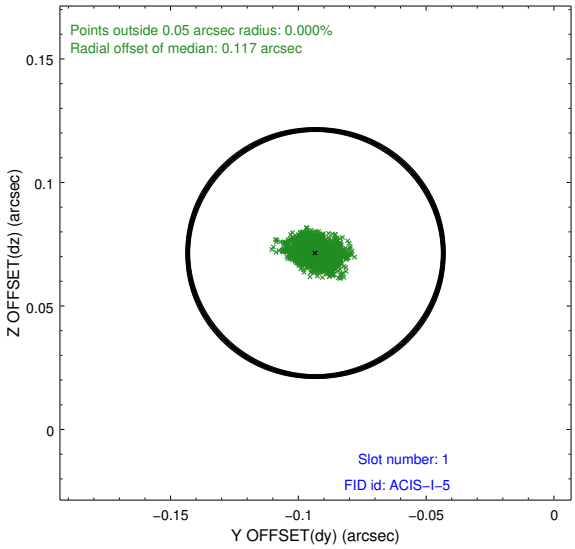


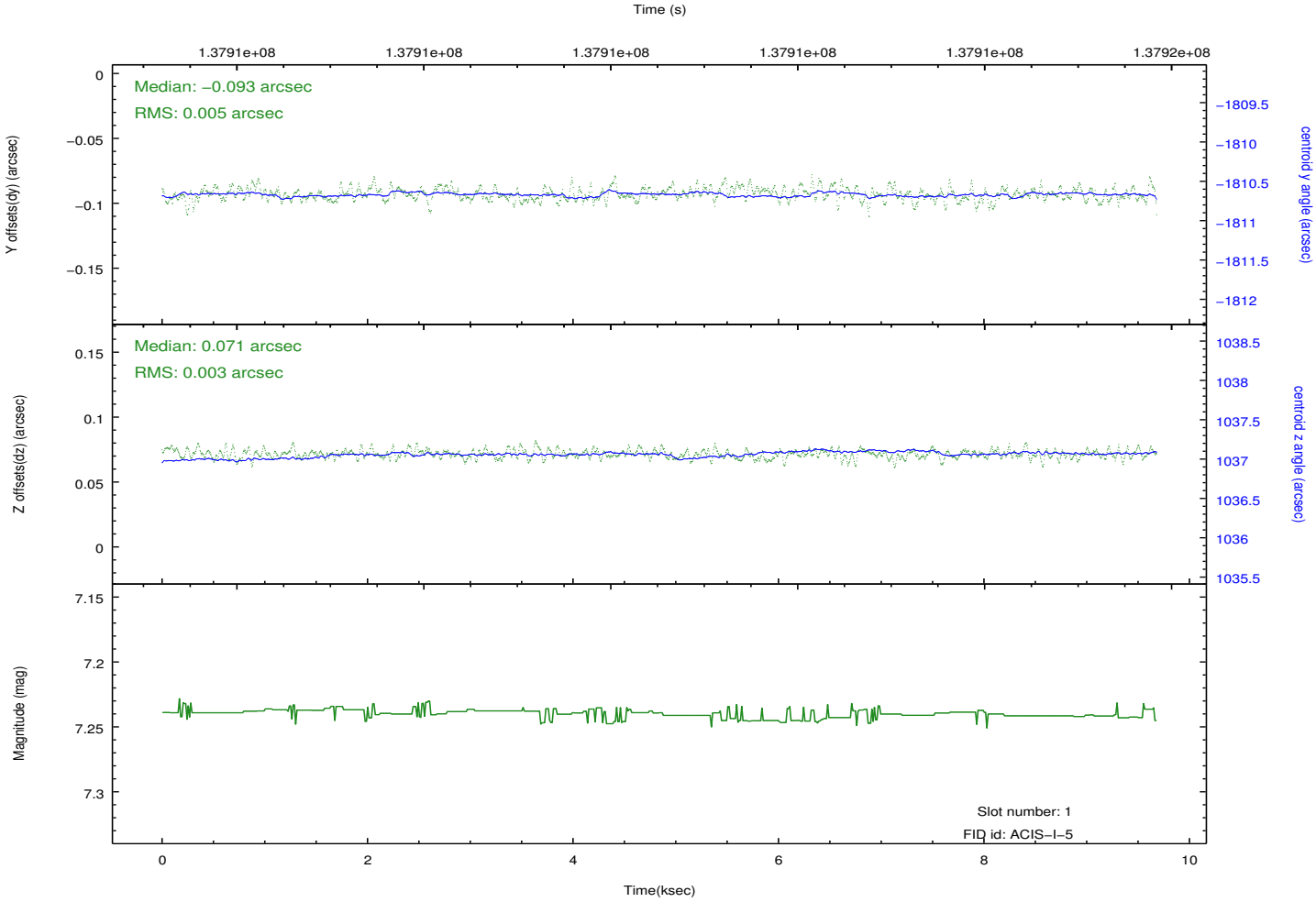




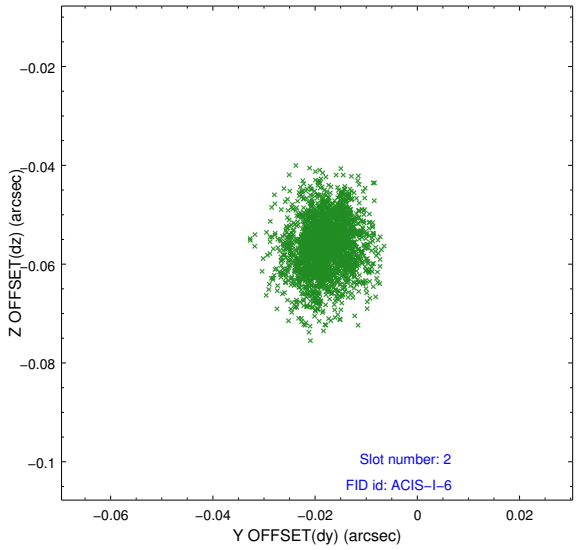
2.5.2 Slot 1

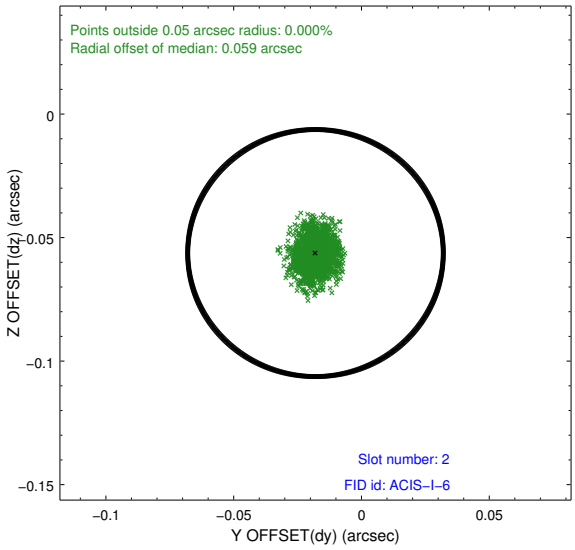

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−5

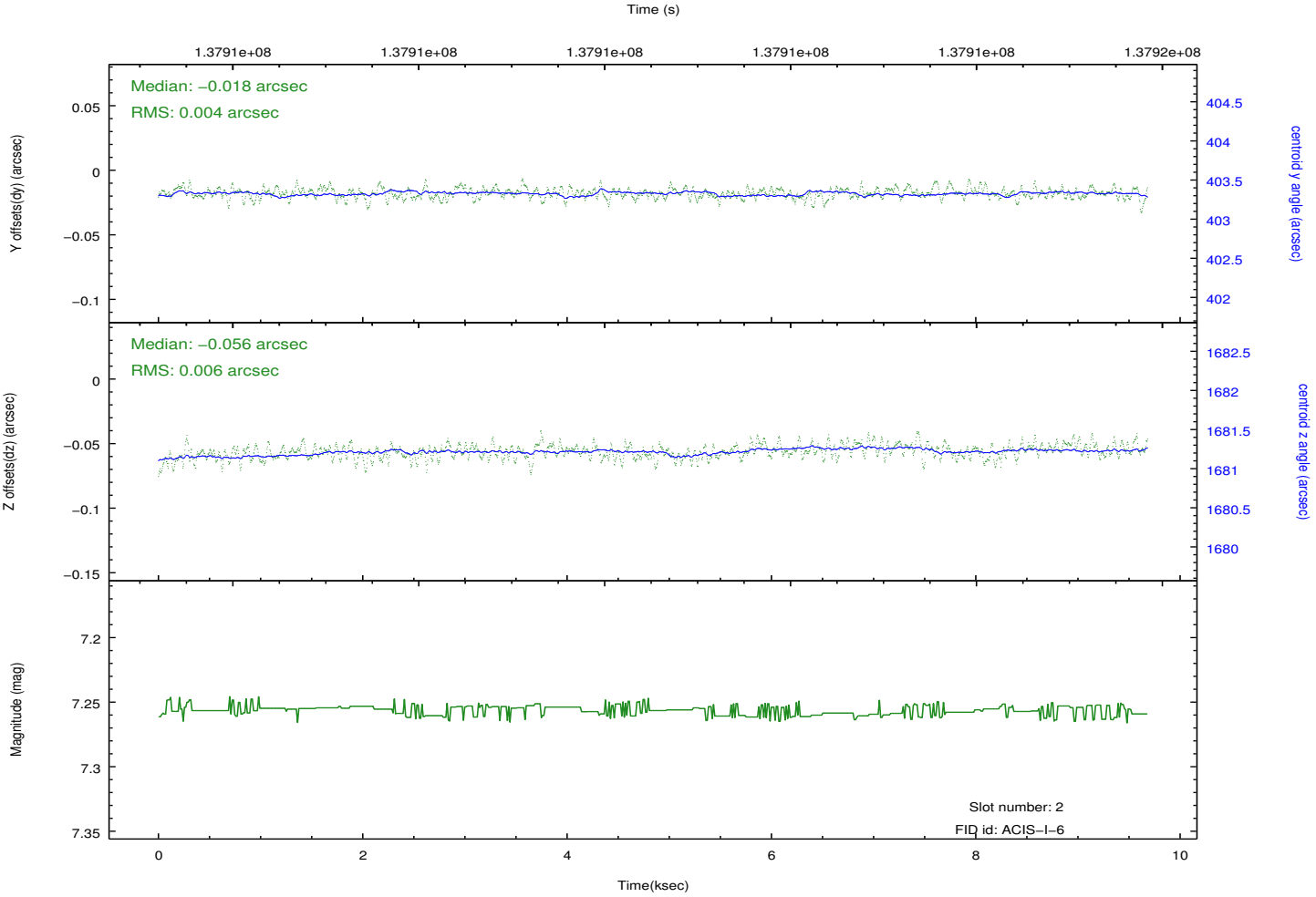

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.117 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−5


Time (s)
Median: −0.093 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.071 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−I−5
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.059 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−6


Time (s)
Median: −0.018 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.056 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−I−6
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.10.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.672

A.2 Comments

```
Window preference met.
```