

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4967 - L2 Version 4  
Chandra X-Ray Center

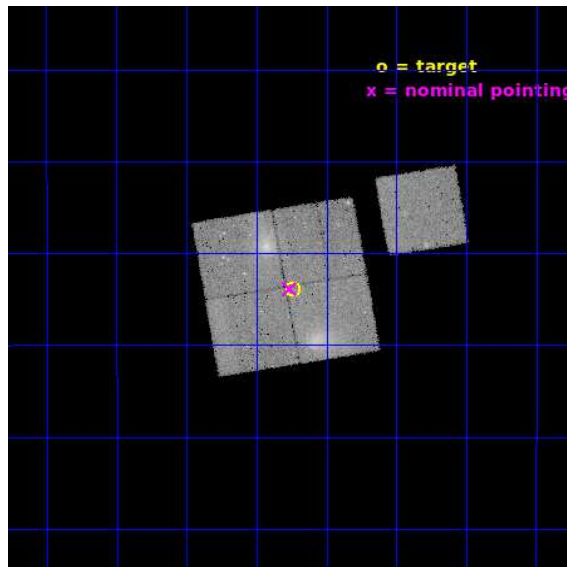
L2 Processing Date : Oct 1 2020

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
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
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

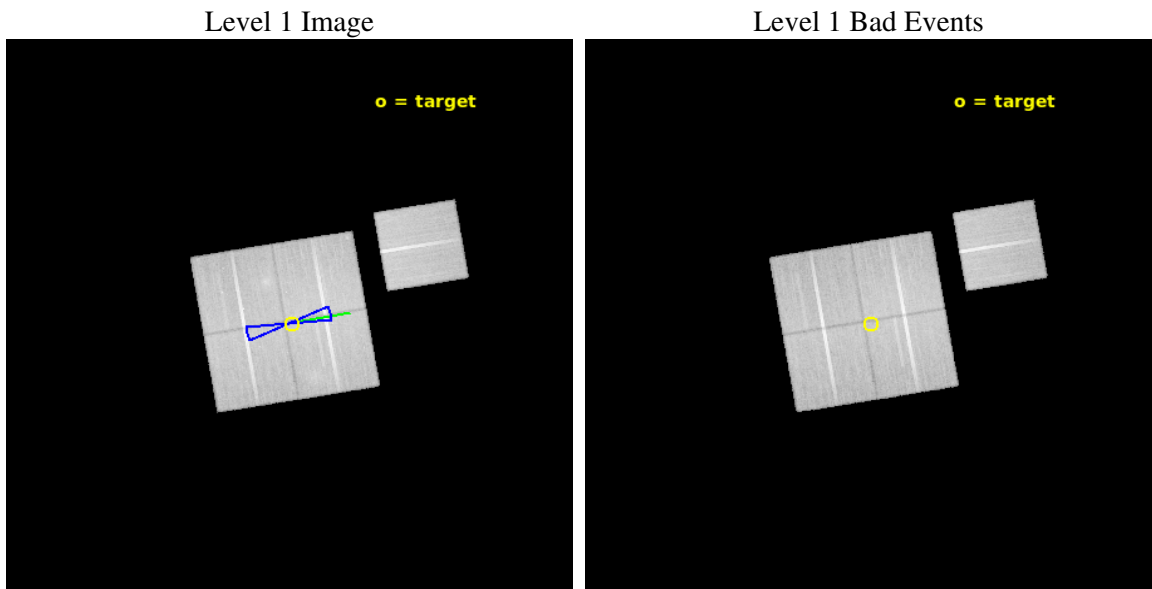
seq_num	800413	Sequence number
obs_id	4967	Observation id
title	Chandra Observations of Two Double Clusters	Proposal title
observer	Dr. David Davis	Principal investigator
object	Abell 222/Abell 223	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	24.435417	Observer's specified target RA [deg]
dec_targ	-12.899806	Observer's specified target Dec [deg]
ra_nom	24.440168921339	Nominal RA [deg]
dec_nom	-12.897708253895	Nominal Dec [deg]
roll_nom	80.385790237538	Nominal Roll [deg]
revision	4	Processing version of data
ontime	45675.358911991	Sum of GTIs [s]
livetime	45078.576722096	Livetime [s]
ontime0	45669.076951504	Sum of GTIs [s]
ontime1	45675.358901978	Sum of GTIs [s]
ontime2	45675.358931869	Sum of GTIs [s]
ontime3	45675.358911991	Sum of GTIs [s]
ontime6	45675.358931899	Sum of GTIs [s]
l2events	144221	Number of level 2 events



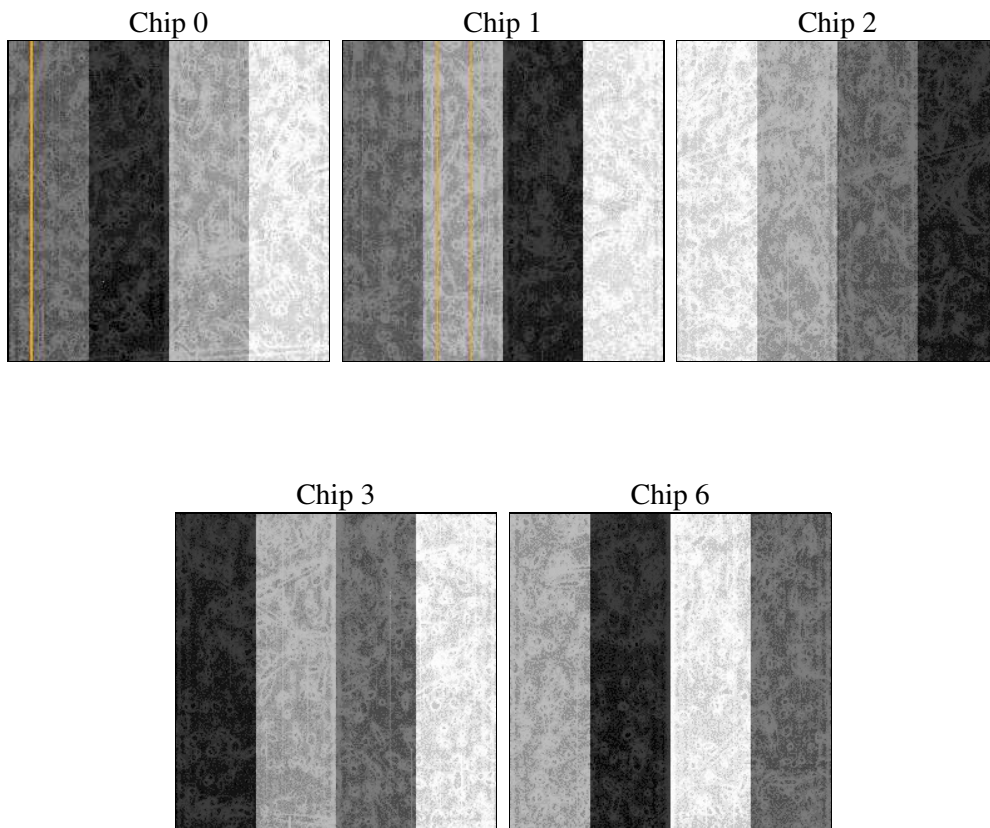
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	45500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	45675.358911991	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime0	45669.076951504	Sum of GTIs [s]
date	2020-10-01T23:44:10	Date and time of file creation	ontime1	45675.358901978	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	45675.358931869	Sum of GTIs [s]
			ontime3	45675.358911991	Sum of GTIs [s]
			ontime6	45675.358931899	Sum of GTIs [s]
			l1events	1536029	Number of level 1 events

### 2.1.4 Events

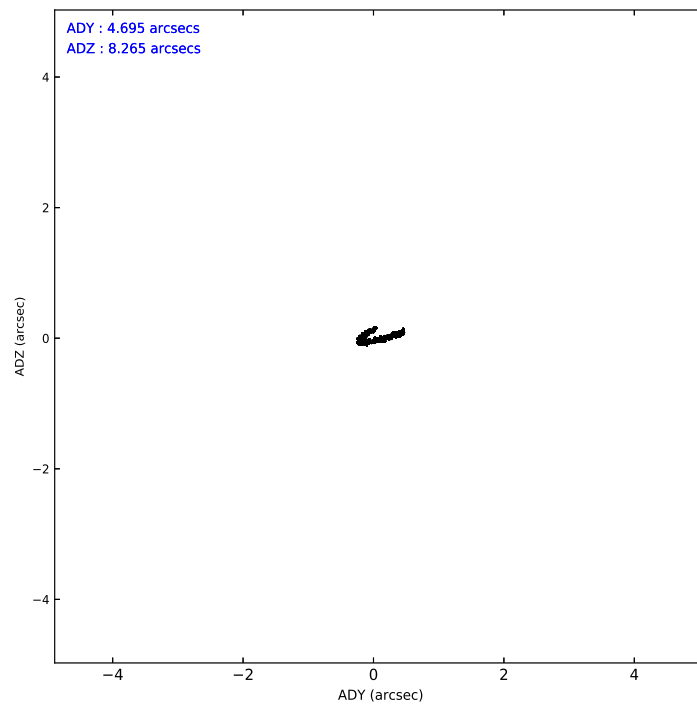
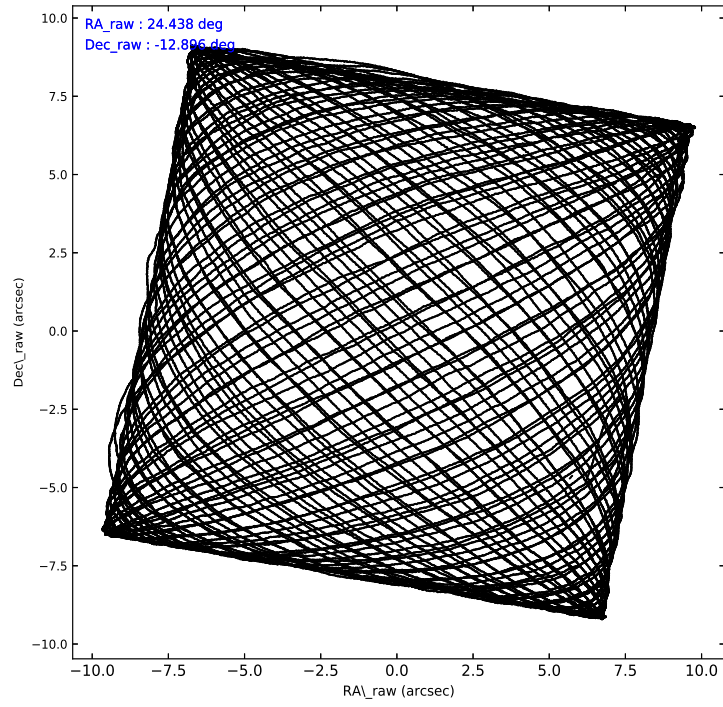
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	293043	290013	325731	320386	306856
rejected events	253251	257225	295278	281452	277833
rejected %	86%	88%	90%	87%	90%

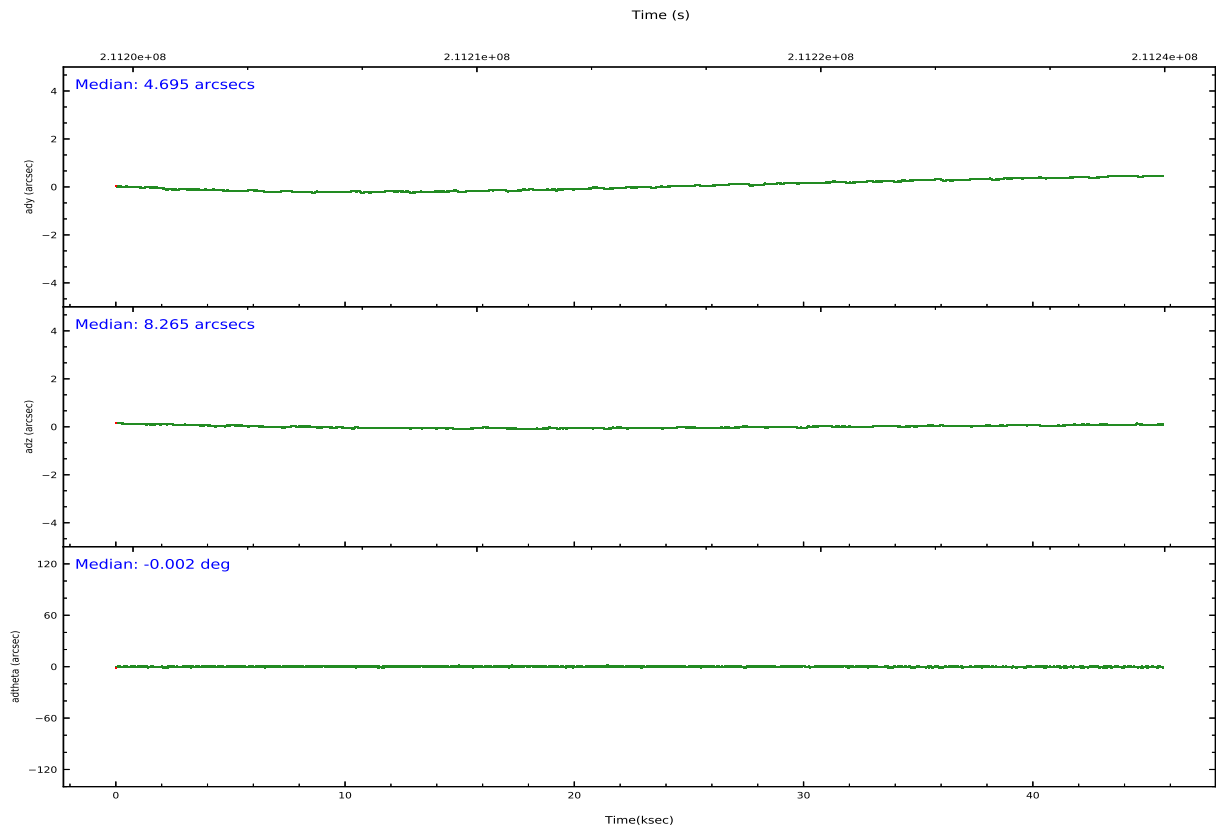
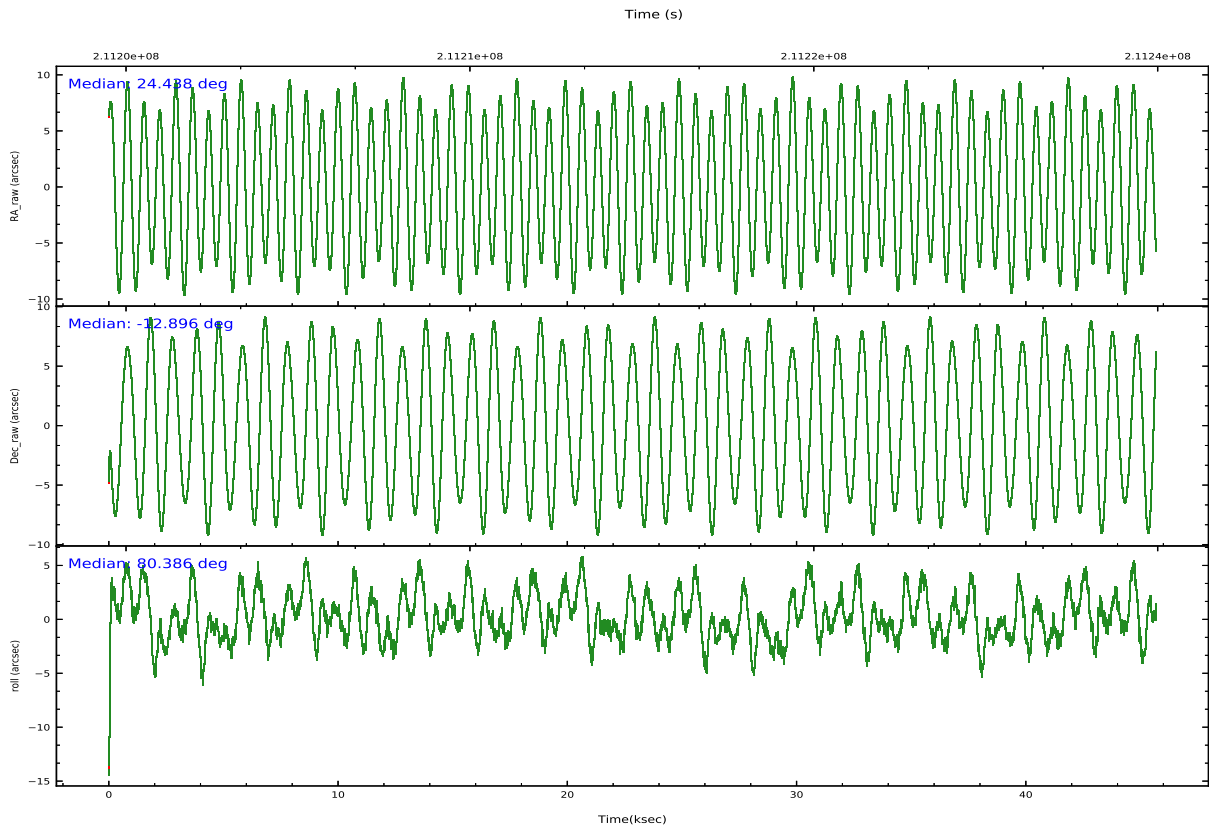
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	19493	12460	12186	19659	10410
	6%	4%	3%	6%	3%
grade 1 events	166	136	178	201	129
	0%	0%	0%	0%	0%
grade 2 events	8017	7318	7195	7327	6421
	2%	2%	2%	2%	2%
grade 3 events	3850	3755	3360	3643	3470
	1%	1%	1%	1%	1%
grade 4 events	3569	3785	3380	3567	3396
	1%	1%	1%	1%	1%
grade 5 events	10554	11521	9965	12097	11616
	3%	3%	3%	3%	3%
grade 6 events	6095	6783	5500	5879	6441
	2%	2%	1%	1%	2%
grade 7 events	241299	244255	283967	268013	264973
	82%	84%	87%	83%	86%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	24.447871	24.440168921339	Subarray requested	NONE	NONE
[deg] Pointing Dec	-12.921520	-12.897708253895	Alternating exposures requested	N	N
[deg] Pointing Roll	80.179977	80.385790237538	[s] Primary exposure time	0.000000	3.1
[deg] Roll angle	75.000000	75.000000			
[deg] Roll tolerance	10.000000	10.000000			
Roll constraint allows 180D rotation	Y	Y			
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	211194434.184000	211192413.90059			
Observation start date	2004-09-10T09:06:10	2004-09-10T08:33:33			
[s] Observation end time (MET)	211239934.184000	211241409.92778			
Observation end date	2004-09-10T21:44:30	2004-09-10T22:10:09			
Read mode	TIMED	TIMED			

## 2.3 Aspect





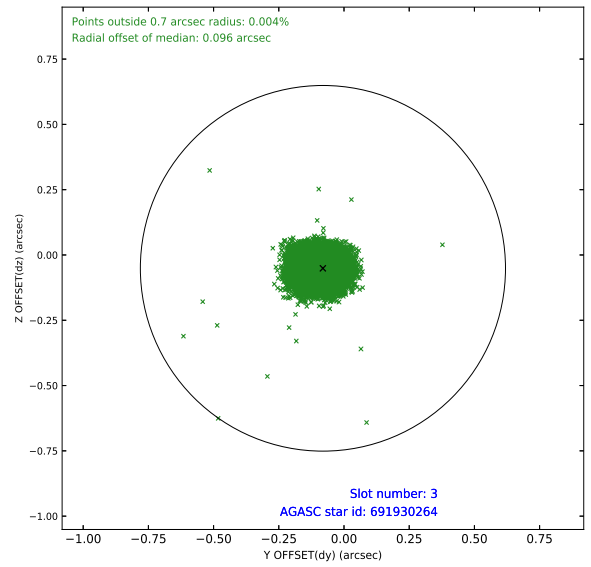
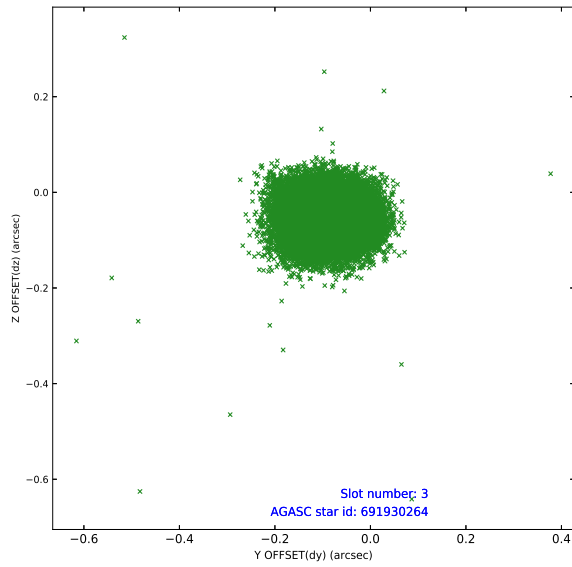
### Slot Statistics

pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.24	11142	1.000	0.041	0.005	0.010	0.017	0.000000	0.000000	935.04	-831
1	FID		ACIS-I-5	7.23	11142	1.000	-0.205	0.051	0.008	0.013	0.000000	0.000000	-1813.32	1065
2	FID		ACIS-I-6	7.25	11142	1.000	0.073	0.015	0.008	0.012	0.000000	0.000000	400.61	1710
3	GUIDE	used	691930264	8.48	22278	1.000	-0.081	-0.051	0.068	0.110	24.097108	-12.733000	457.83	1329
4	GUIDE	used	691935384	8.25	22285	1.000	-0.053	-0.159	0.060	0.096	24.362037	-12.440919	1653.65	592
5	GUIDE	used	691935432	9.13	22274	1.000	-0.001	0.076	0.067	0.111	24.661372	-12.639758	1127.50	-565
6	GUIDE	used	691937960	9.80	22242	1.000	0.007	0.124	0.104	0.169	25.047145	-13.440657	-1485.71	-2386
7	GUIDE	used	691942320	9.44	22275	1.000	0.130	0.013	0.090	0.145	24.887668	-13.538925	-1928.35	-1896

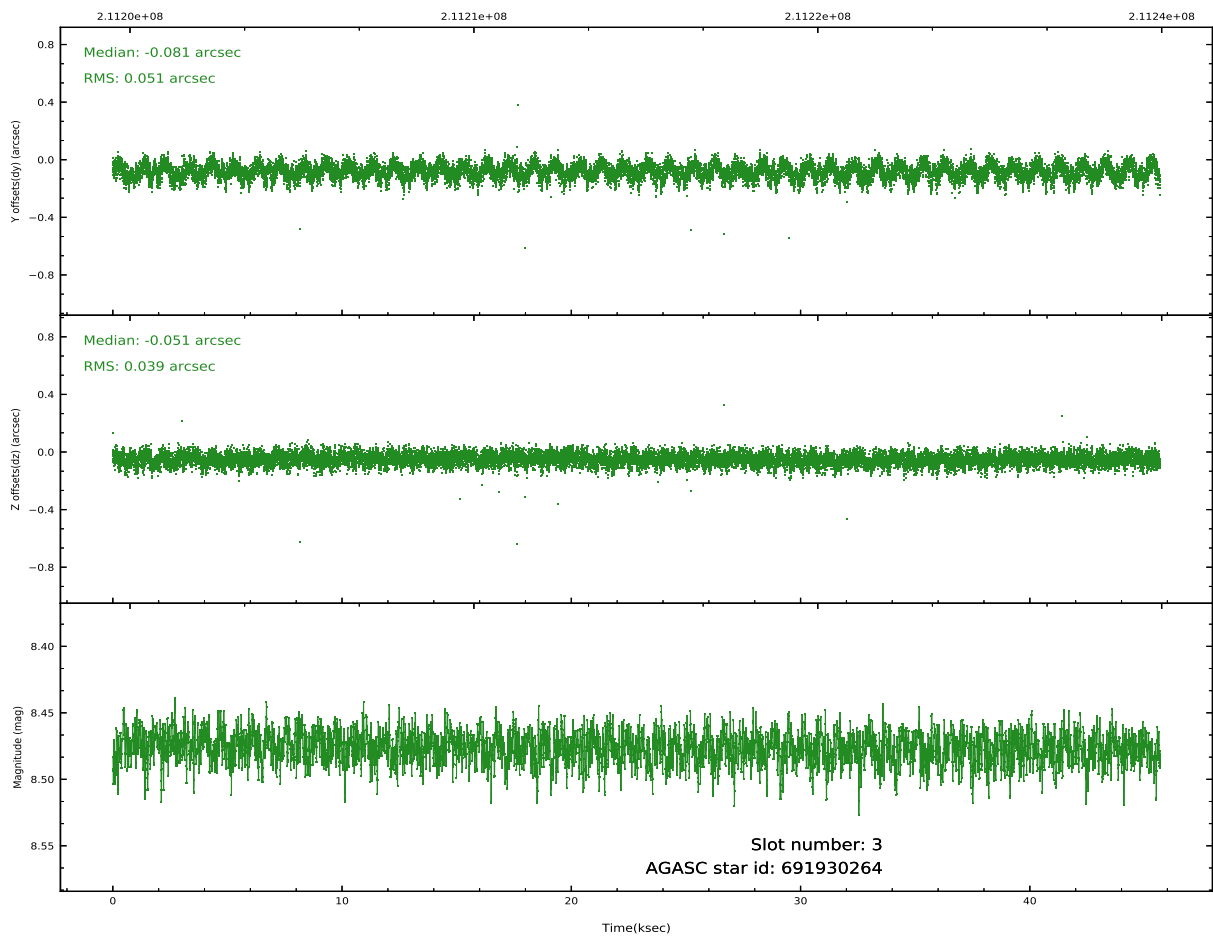
∞

## 2.4 Star Slots

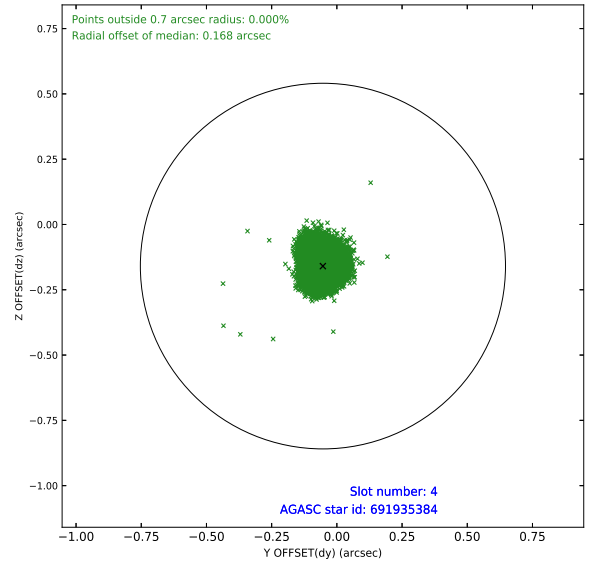
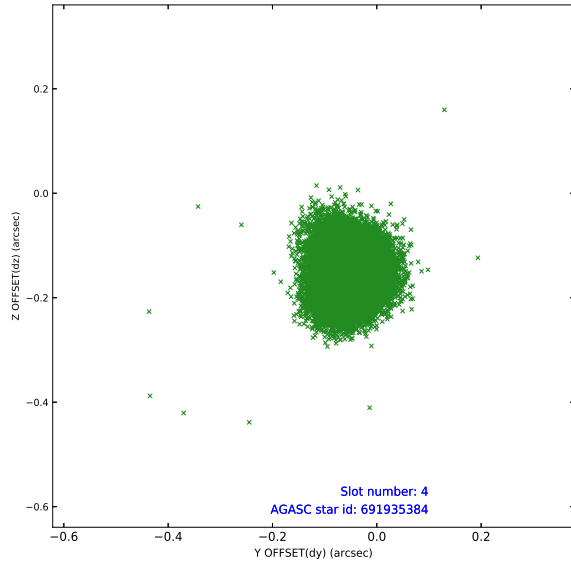
### 2.4.1 Slot 3



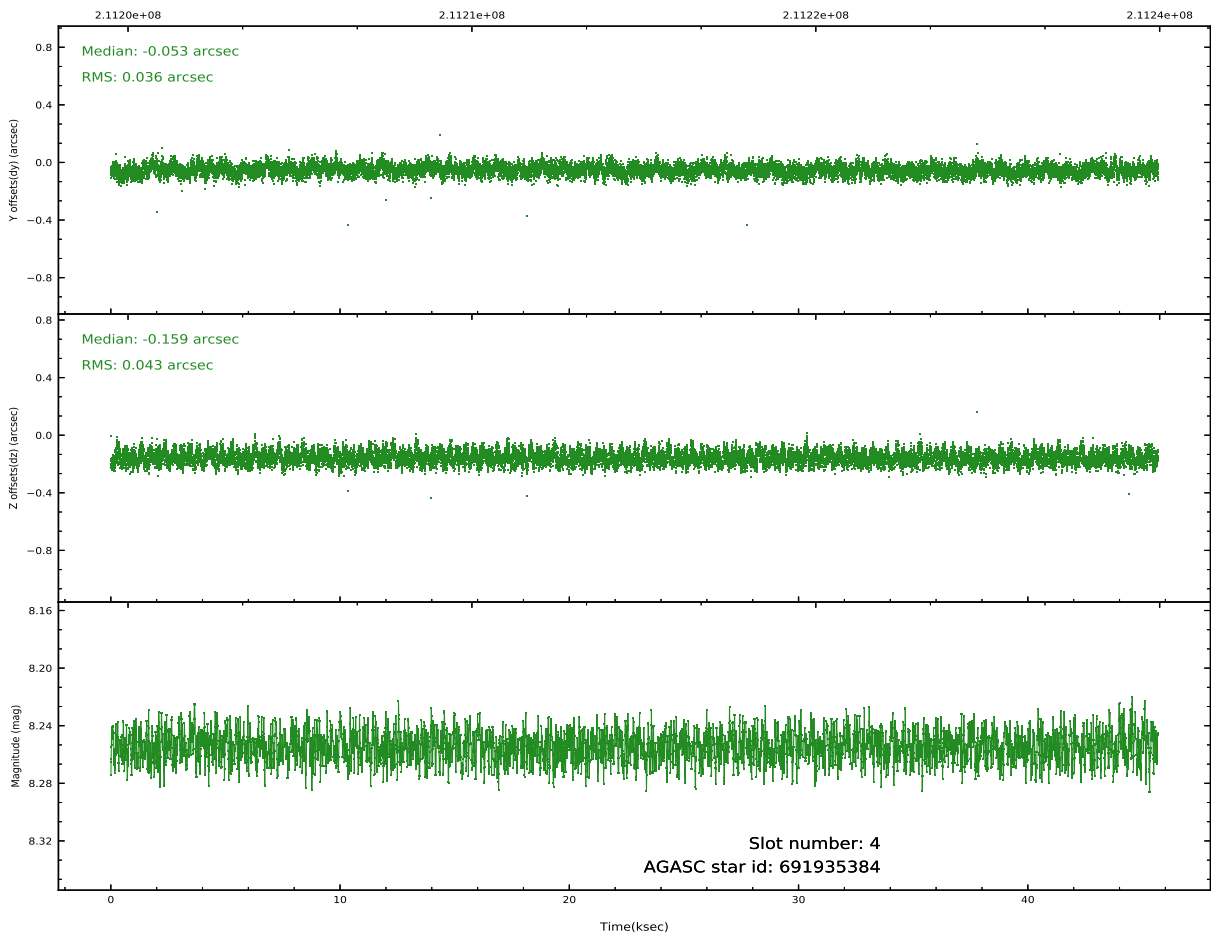
Time (s)



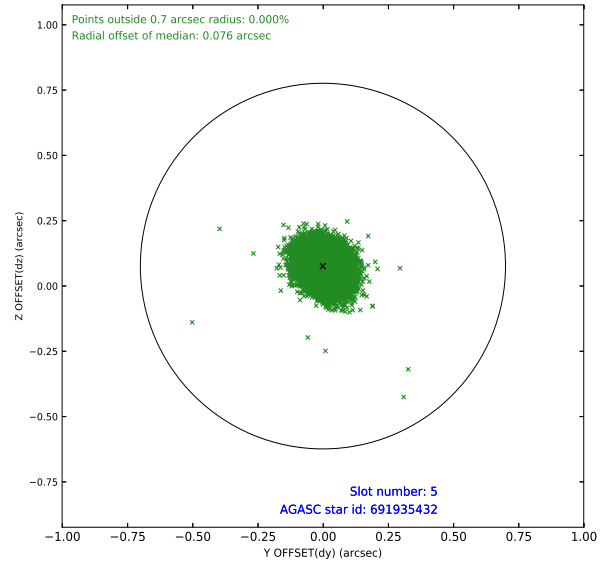
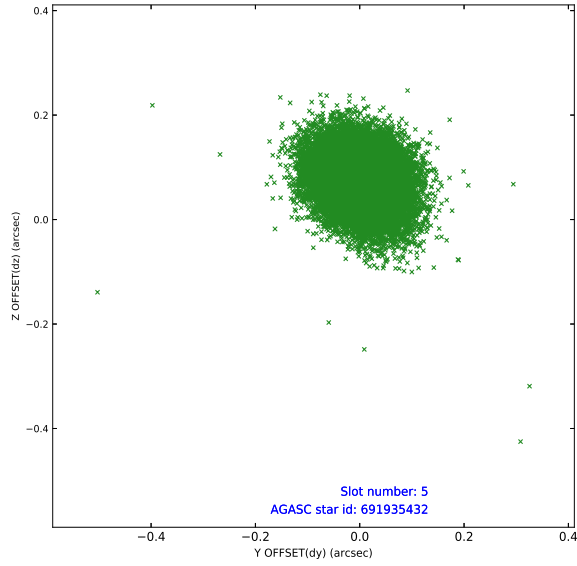
## 2.4.2 Slot 4



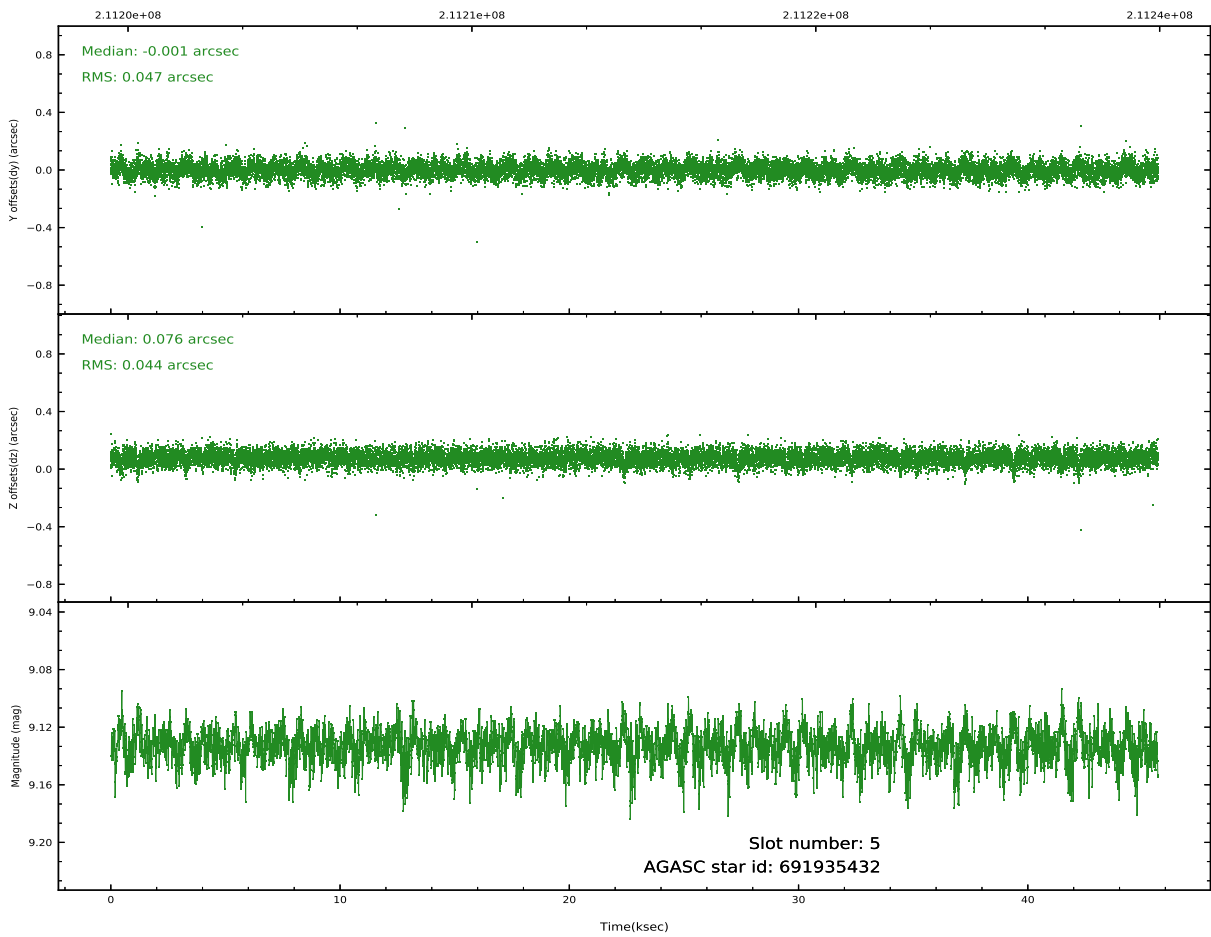
Time (s)



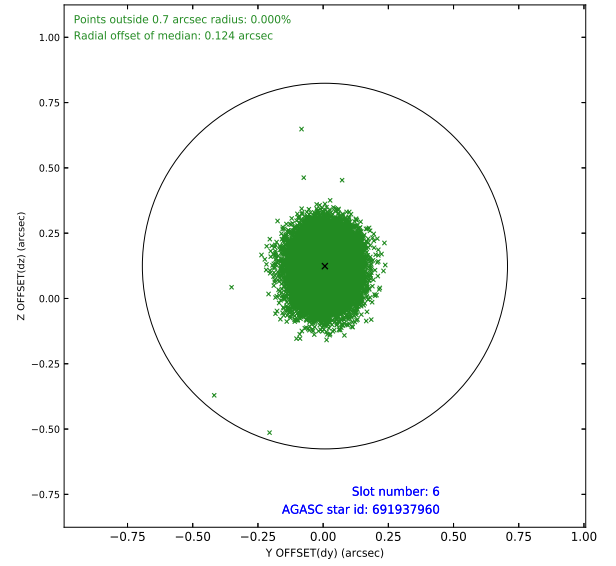
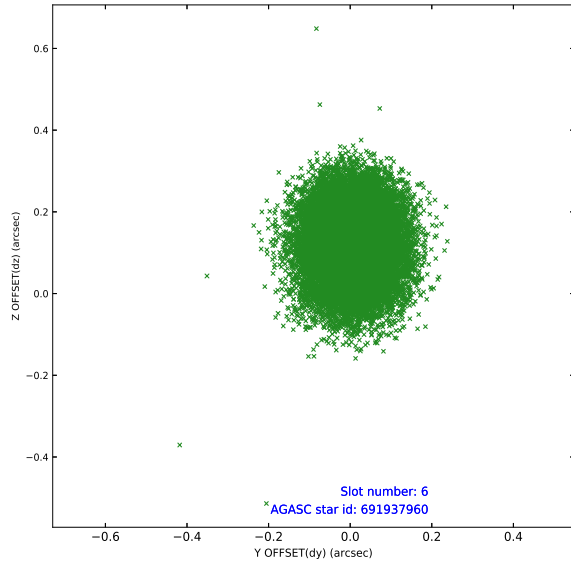
### 2.4.3 Slot 5



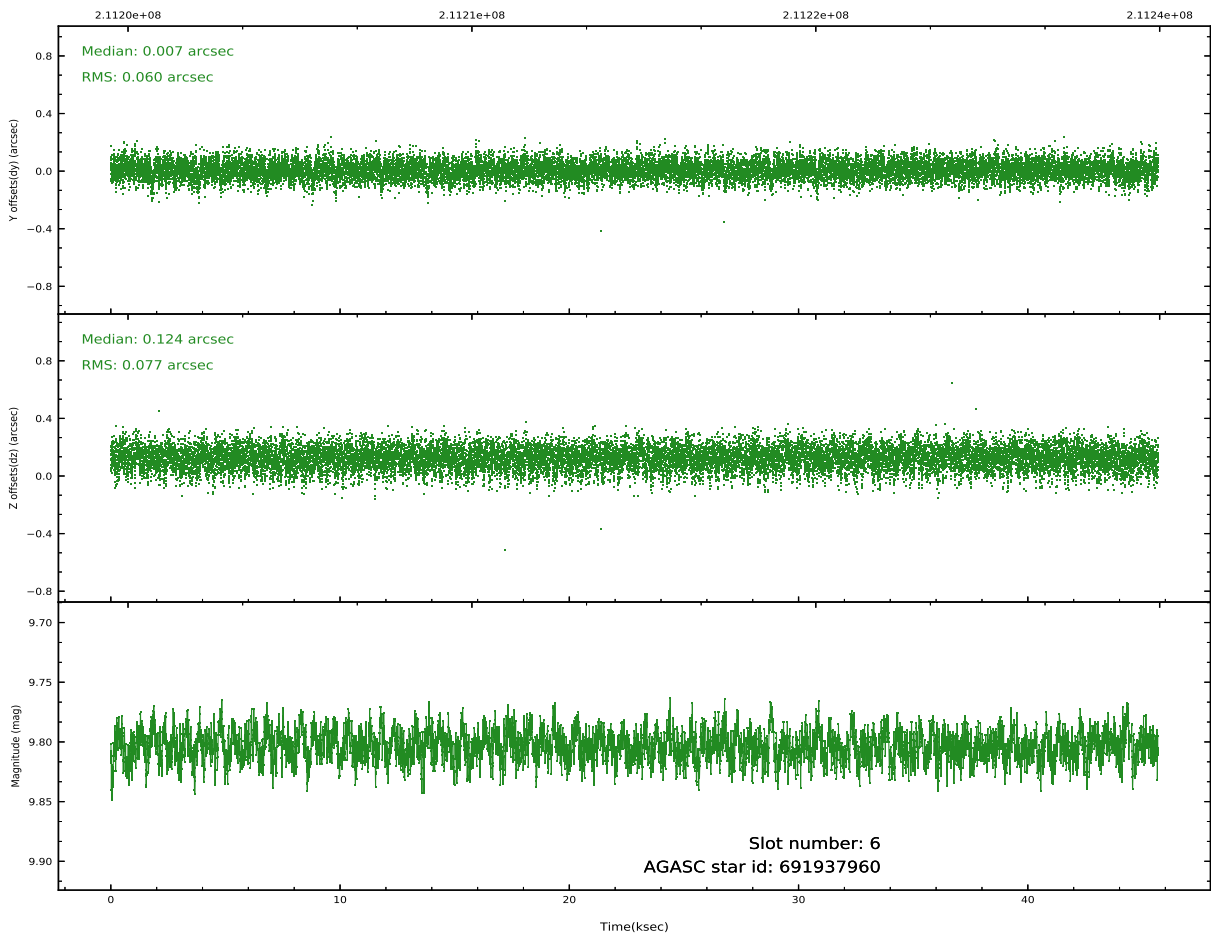
Time (s)



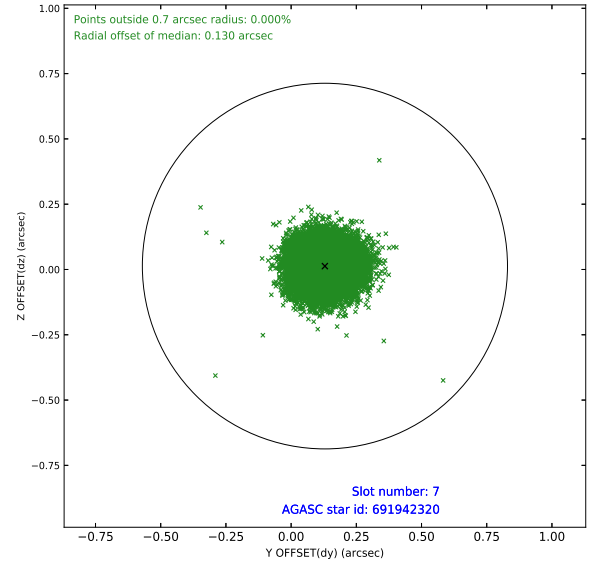
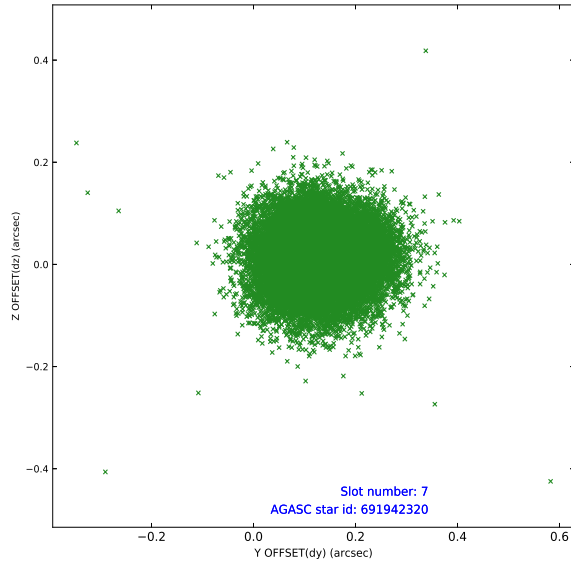
## 2.4.4 Slot 6



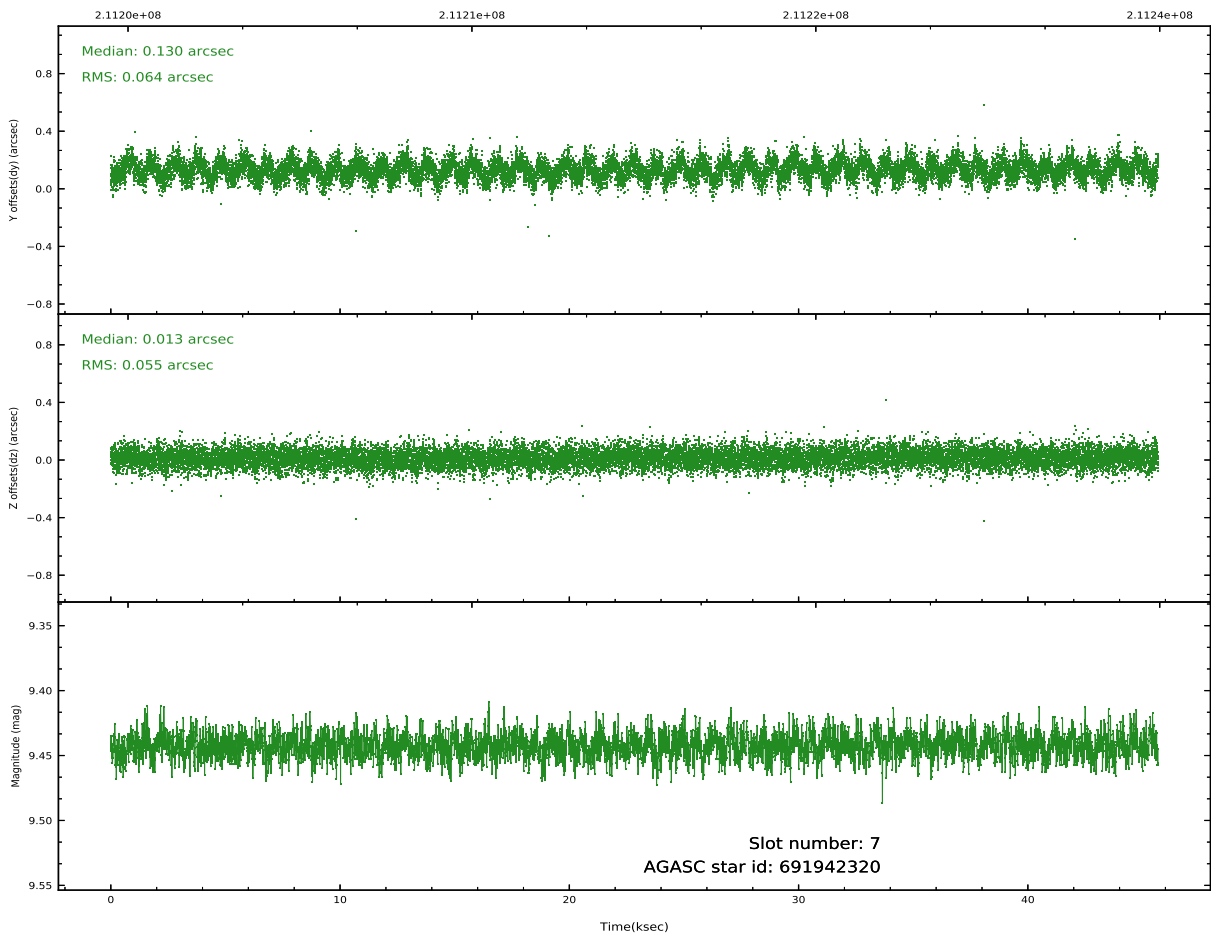
Time (s)



## 2.4.5 Slot 7

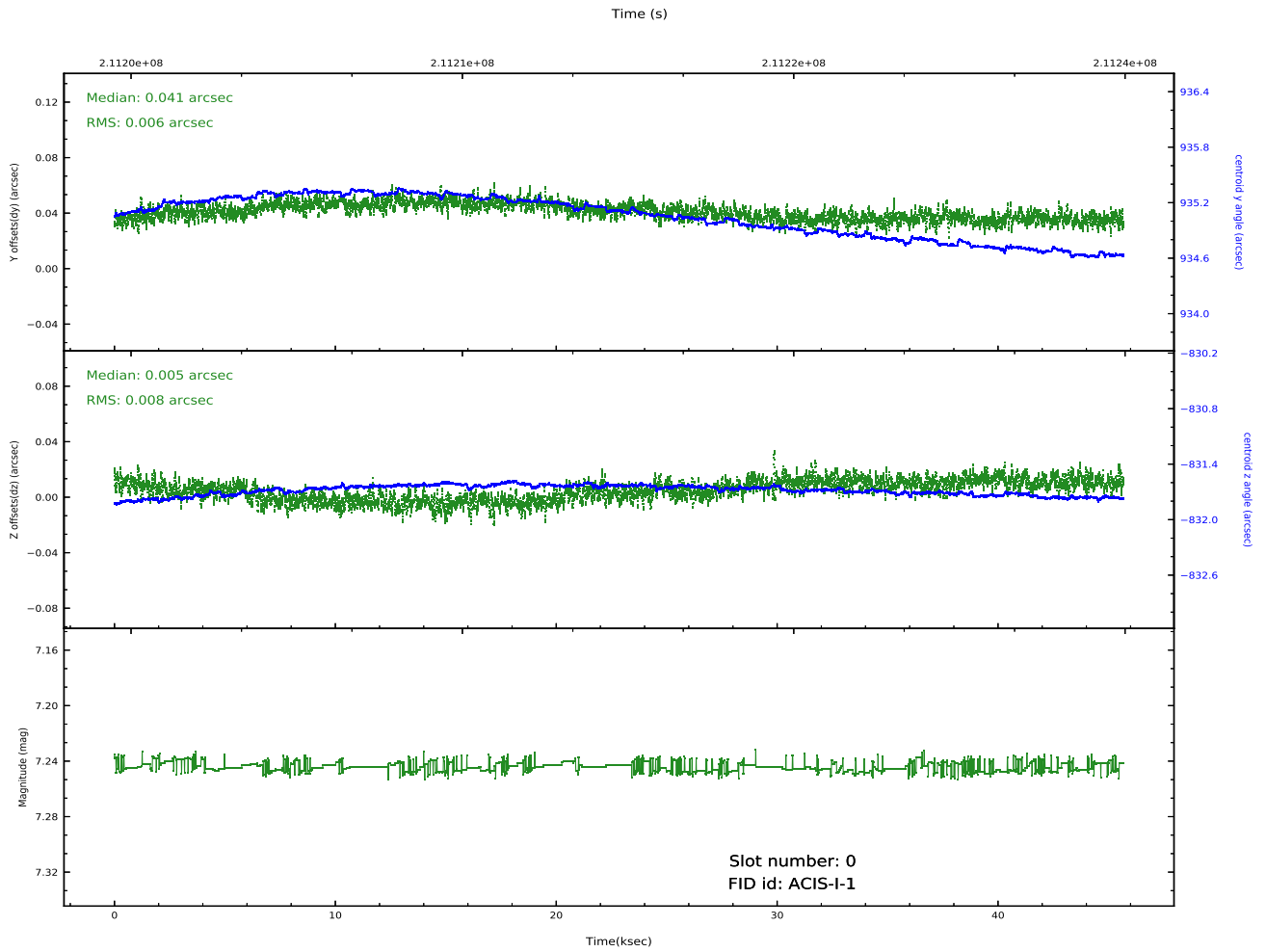
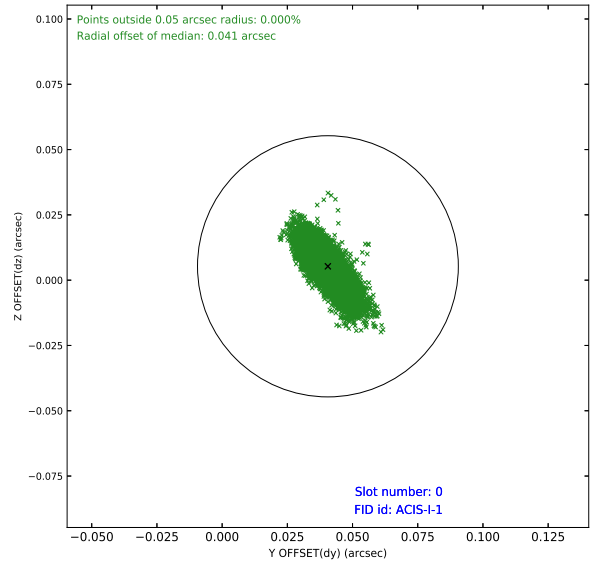
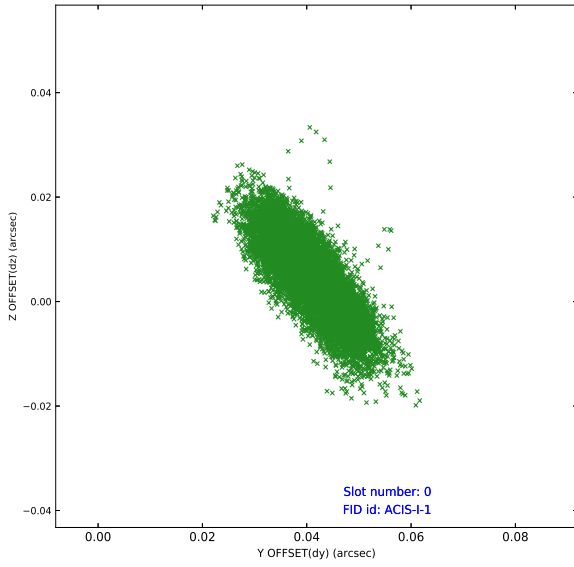


Time (s)

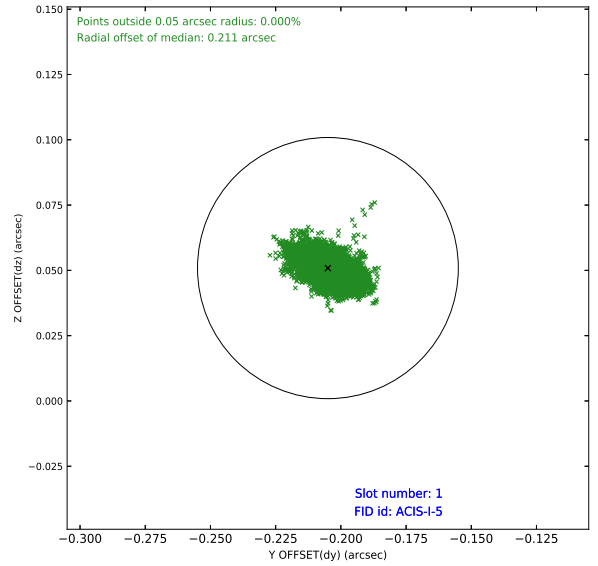
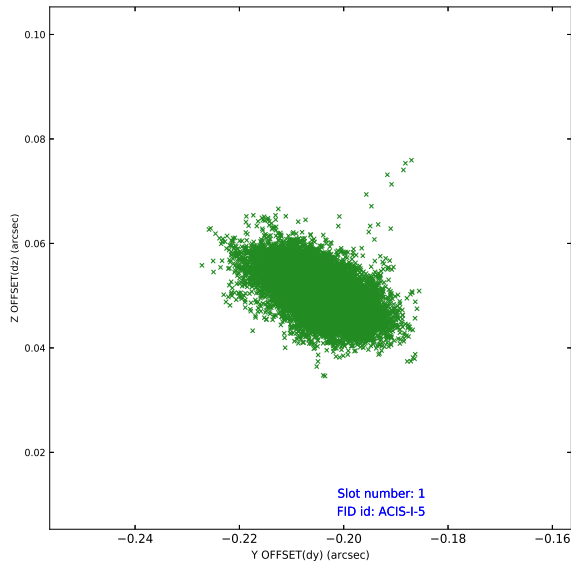


## 2.5 FID Slots

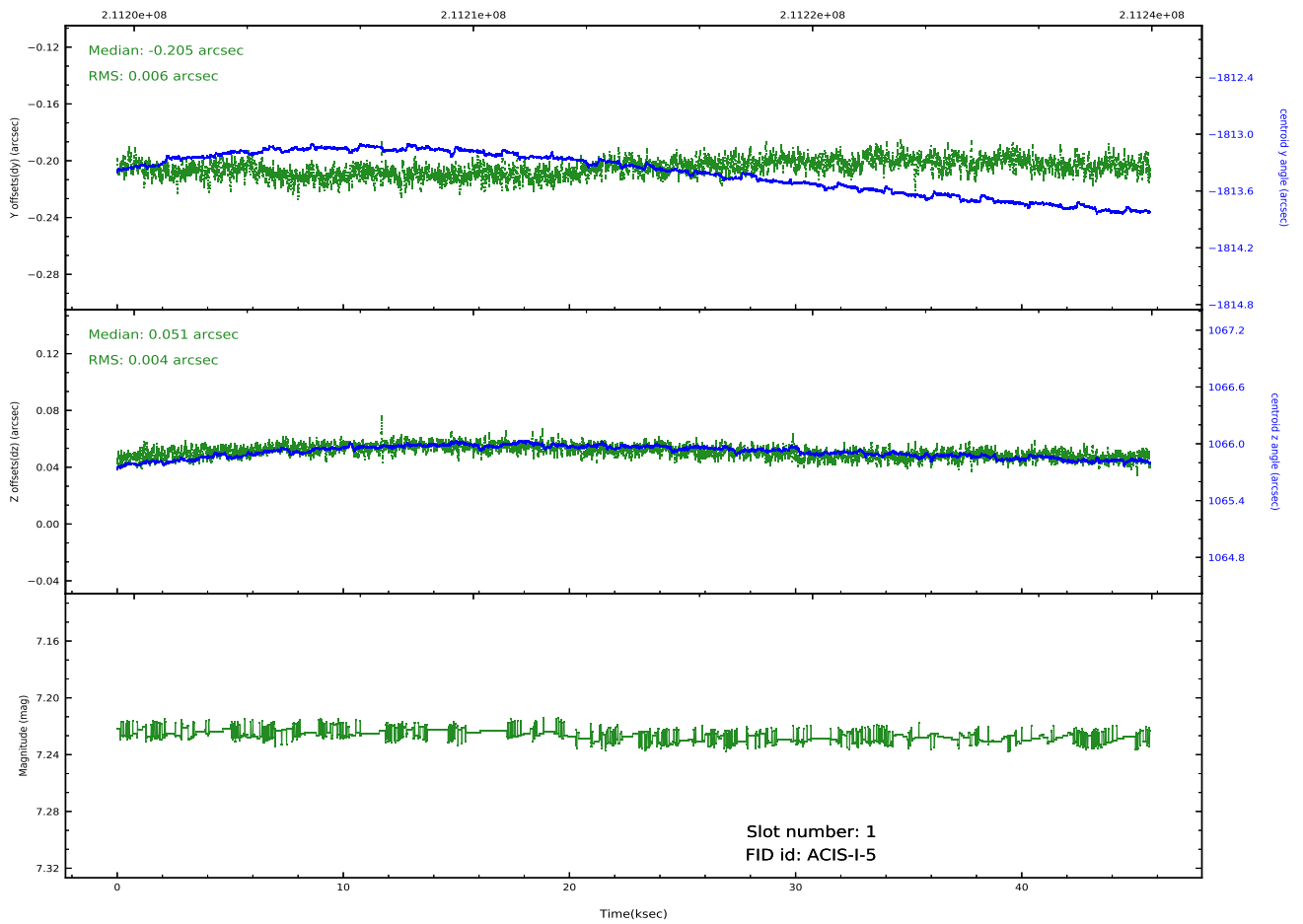
### 2.5.1 Slot 0



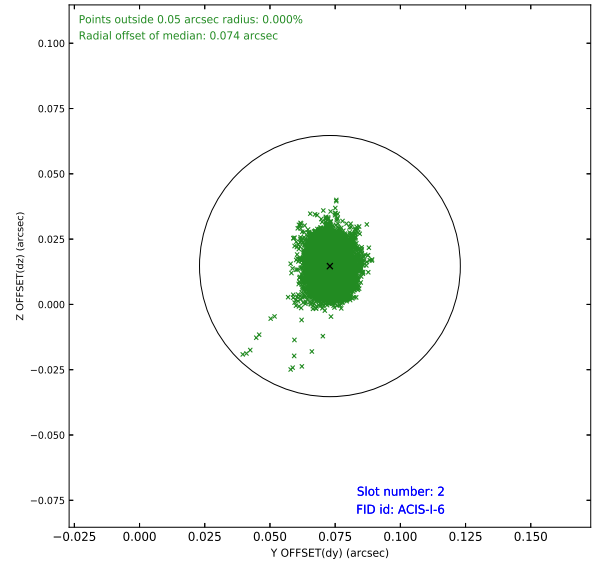
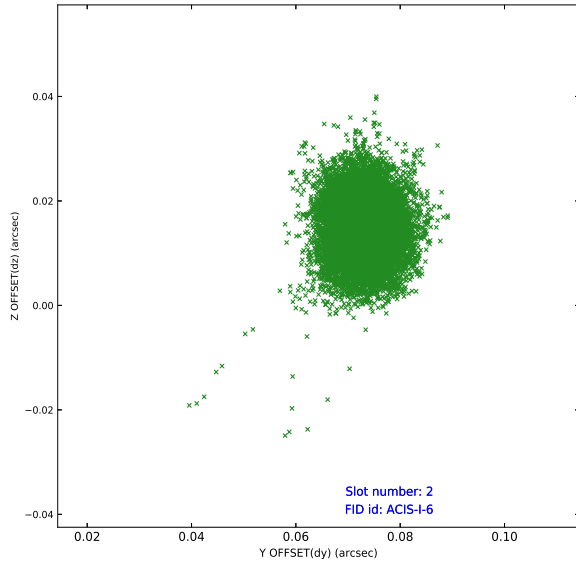
## 2.5.2 Slot 1



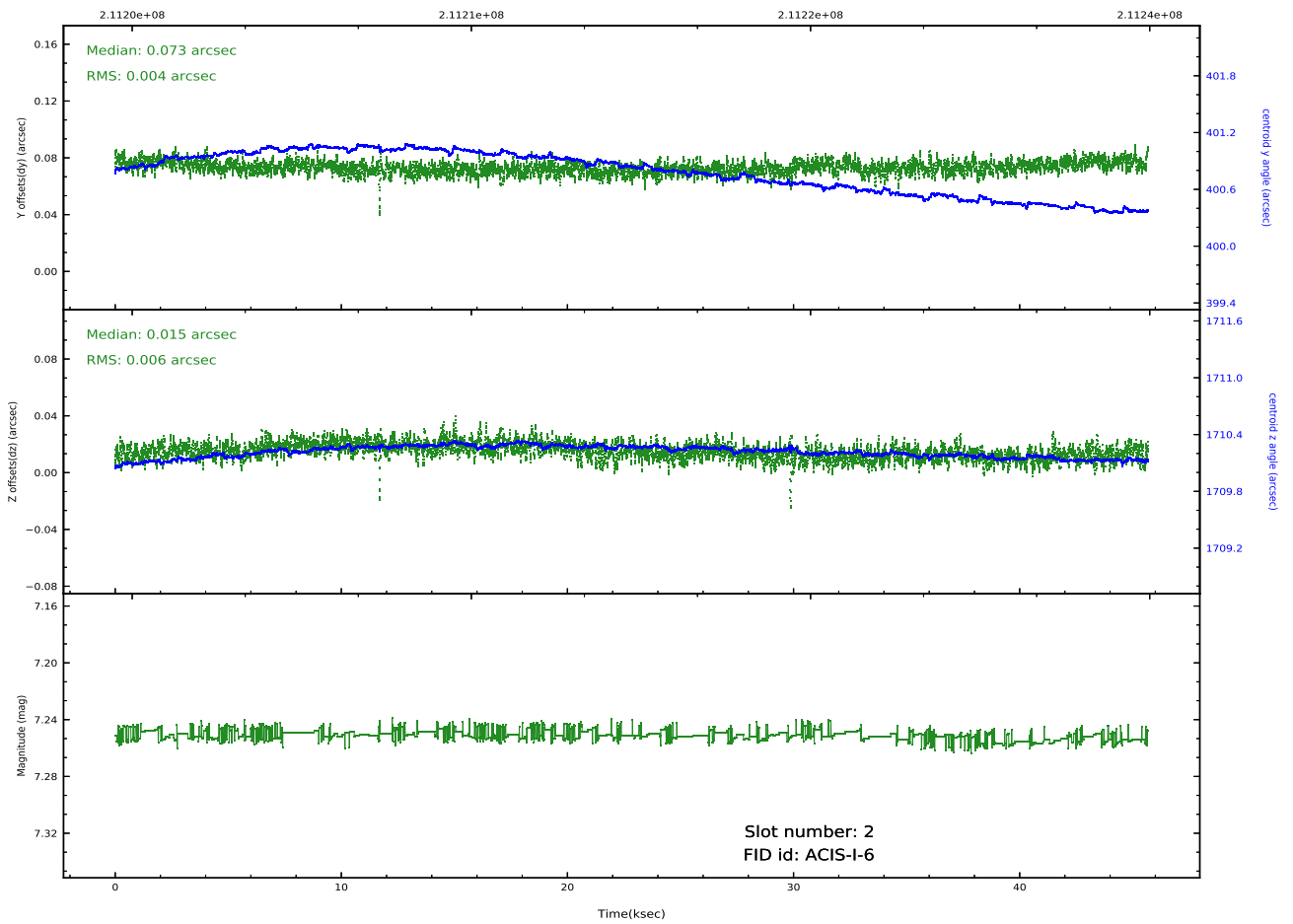
Time (s)



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	45.675

## A.2 Comments

Roll constraint met.