

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5165 - L2 Version 6  
Chandra X-Ray Center

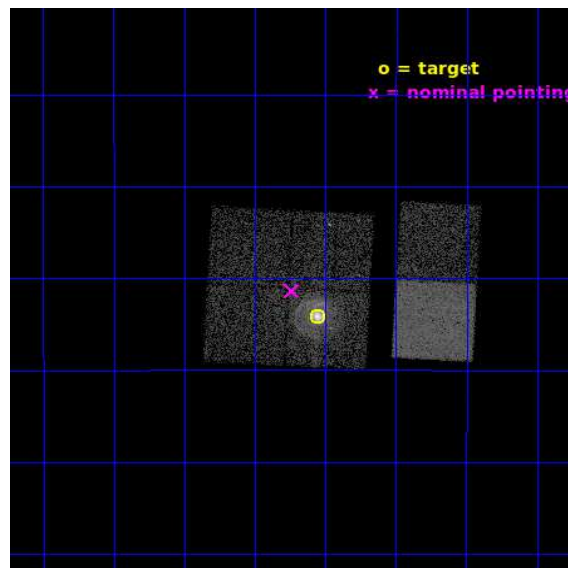
L2 Processing Date : Sep 24 2020

## 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 7 . . . . .	12
2.5	FID Slots . . . . .	13
2.5.1	Slot 0 . . . . .	13
2.5.2	Slot 1 . . . . .	14
2.5.3	Slot 2 . . . . .	15
<b>A</b>	<b>Summary</b>	<b>16</b>
A.1	Status . . . . .	16
A.2	Comments . . . . .	16

# 1 Front

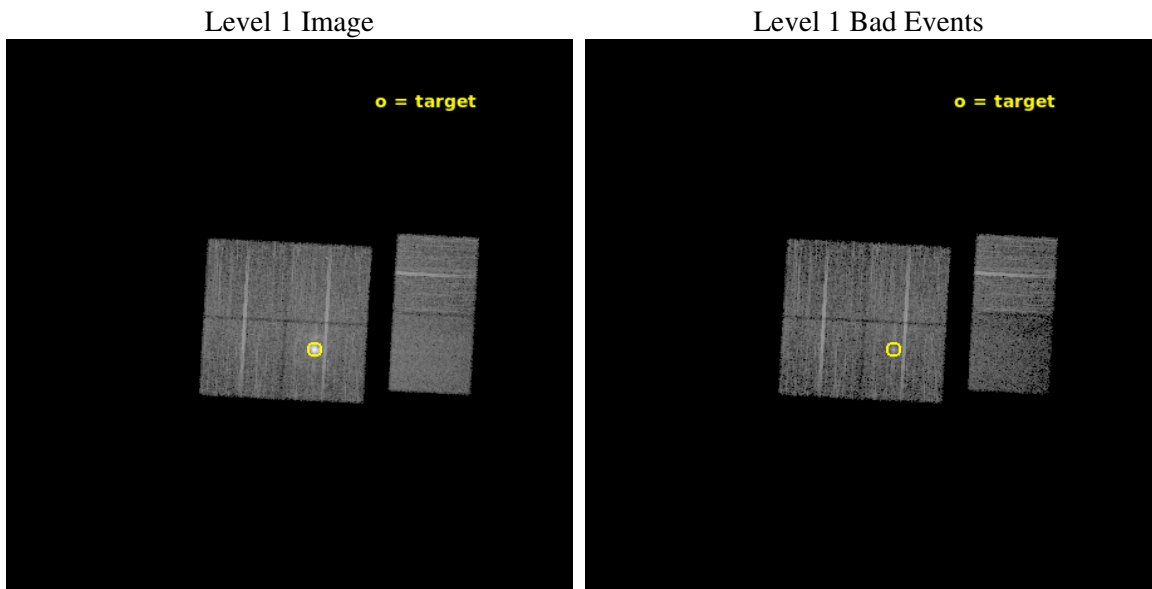
seq_num	590363	Sequence number
obs_id	5165	Observation id
title	AO5A Observations of the Standard Candles Cas A and G21.5-09	Propo
observer	CXC Calibration	Principal investigator
object	SNR G21.5-0.9	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	278.389583	Observer's specified target RA [deg]
dec_targ	-10.568528	Observer's specified target Dec [deg]
ra_nom	278.43438722855	Nominal RA [deg]
dec_nom	-10.52249425568	Nominal Dec [deg]
roll_nom	93.097798541789	Nominal Roll [deg]
revision	6	Processing version of data
ontime	9676.7999639511	Sum of GTIs [s]
livetime	9554.2664961382	Livetime [s]
ontime0	9676.7999639511	Sum of GTIs [s]
ontime1	9676.7999639511	Sum of GTIs [s]
ontime2	9676.7999639511	Sum of GTIs [s]
ontime3	9676.7999639511	Sum of GTIs [s]
ontime6	9676.7999639511	Sum of GTIs [s]
ontime7	9676.7999639511	Sum of GTIs [s]
l2events	74478	Number of level 2 events



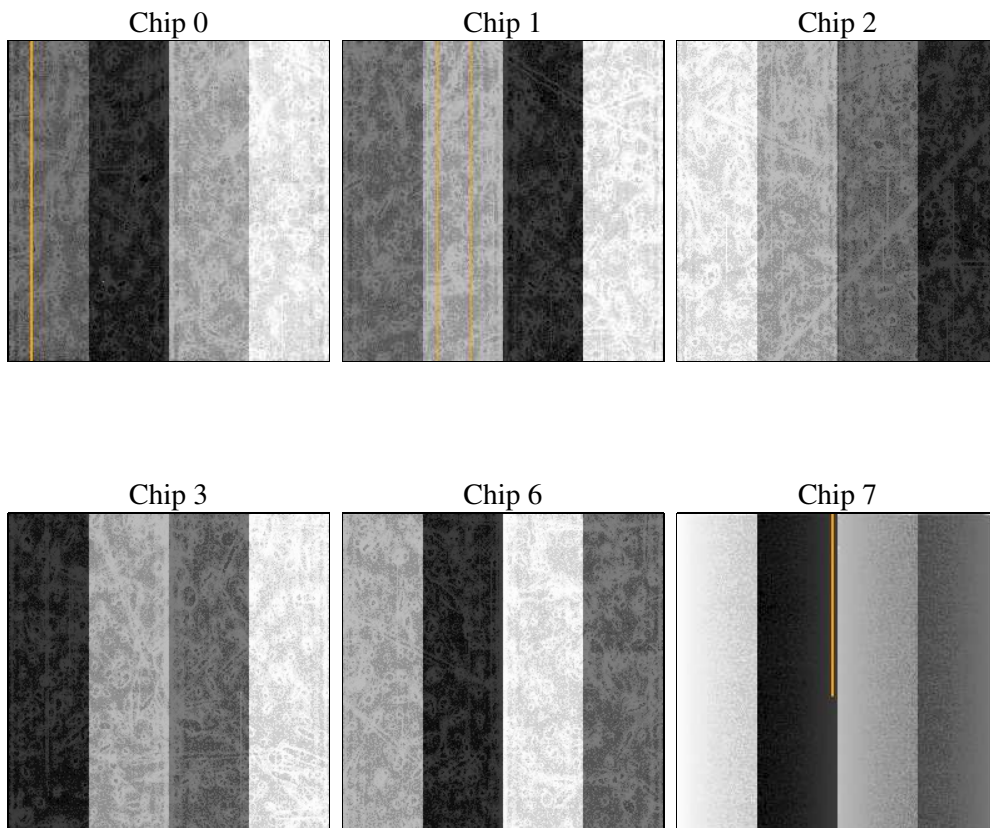
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	9540.231000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	9676.7999639511	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime0	9676.7999639511	Sum of GTIs [s]
date	2020-09-24T12:28:19	Date and time of file creation	ontime1	9676.7999639511	Sum of GTIs [s]
revision	6	Processing version of data	ontime2	9676.7999639511	Sum of GTIs [s]
			ontime3	9676.7999639511	Sum of GTIs [s]
			ontime6	9676.7999639511	Sum of GTIs [s]
			ontime7	9676.7999639511	Sum of GTIs [s]
			l1events	341584	Number of level 1 events

### 2.1.4 Events

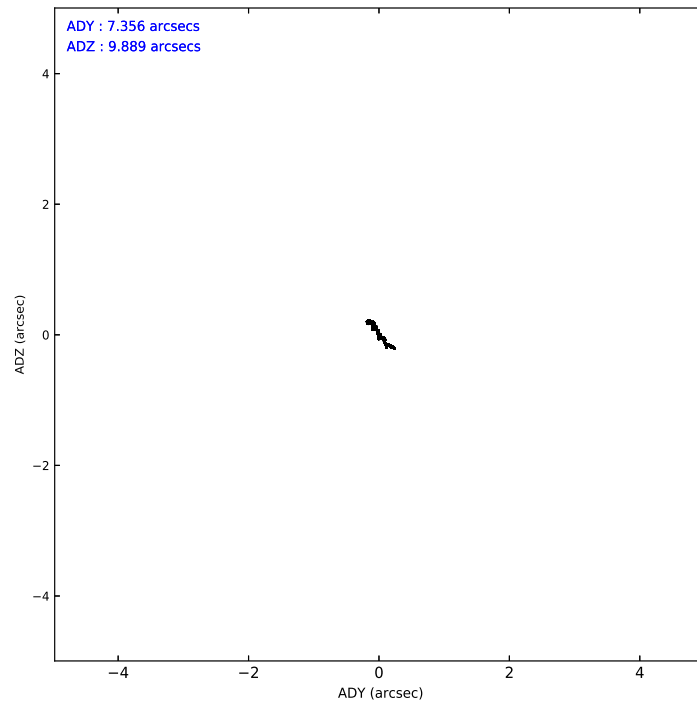
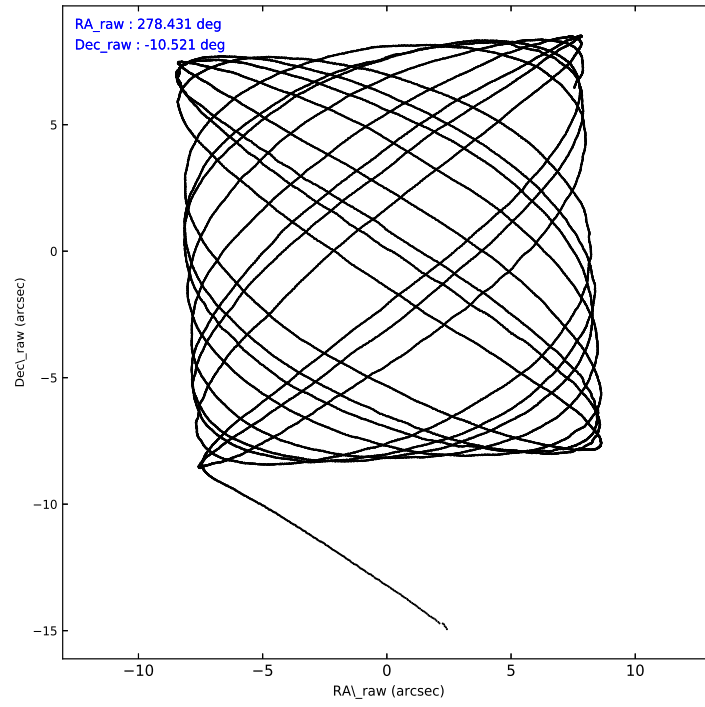
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	48381	49595	55964	82078	55252	50314	grade 0 events	2110	2335	2800	24212	2195	2432
rejected events	42947	43669	49765	47578	49668	26269		4%	4%	5%	29%	3%	4%
rejected %	88%	88%	88%	57%	89%	52%	grade 1 events	20	21	36	258	19	50
								0%	0%	0%	0%	0%	0%
							grade 2 events	1228	1255	1301	4825	1226	5121
								2%	2%	2%	5%	2%	10%
							grade 3 events	639	725	625	1925	618	2499
								1%	1%	1%	2%	1%	4%
							grade 4 events	557	668	635	1817	599	2381
								1%	1%	1%	2%	1%	4%
							grade 5 events	1569	1660	1466	1945	1792	5585
								3%	3%	2%	2%	3%	11%
							grade 6 events	1004	1093	933	2343	1067	12104
								2%	2%	1%	2%	1%	24%
							grade 7 events	41254	41838	48168	44753	47736	20142
								85%	84%	86%	54%	86%	40%

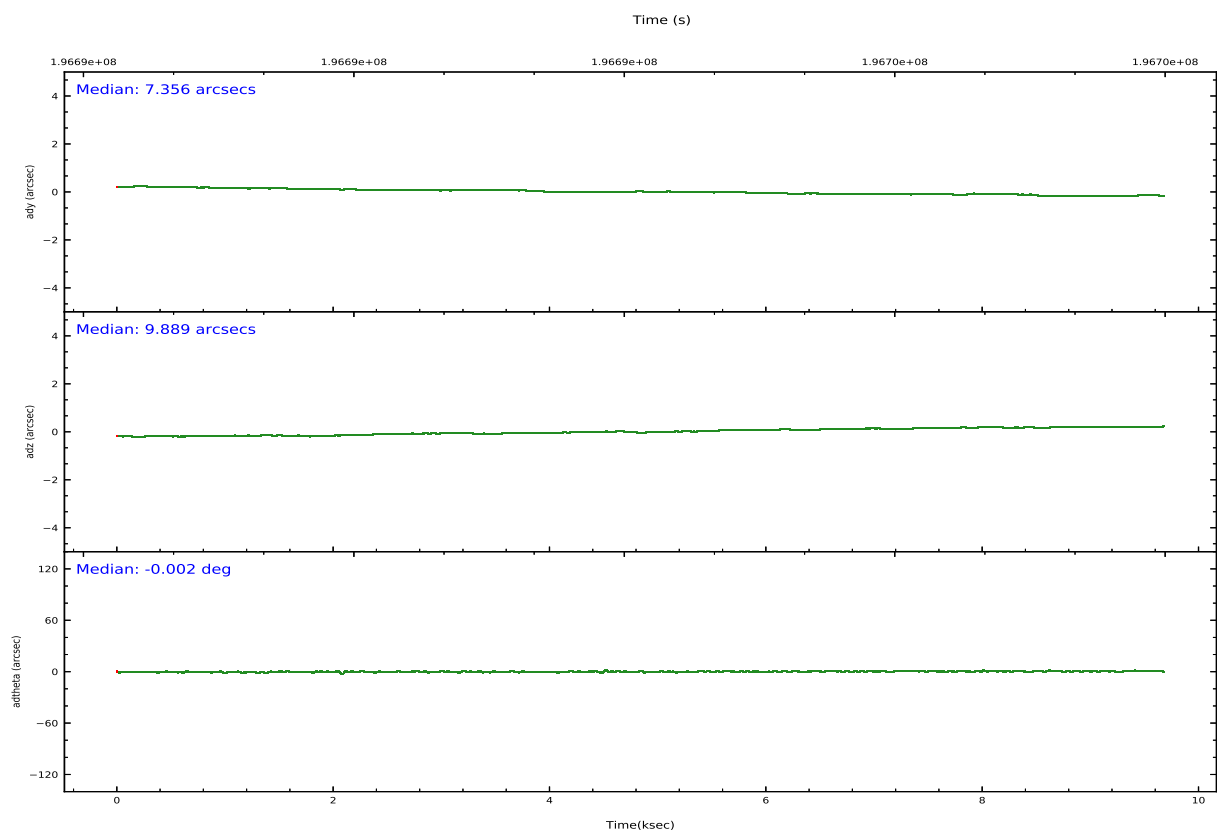
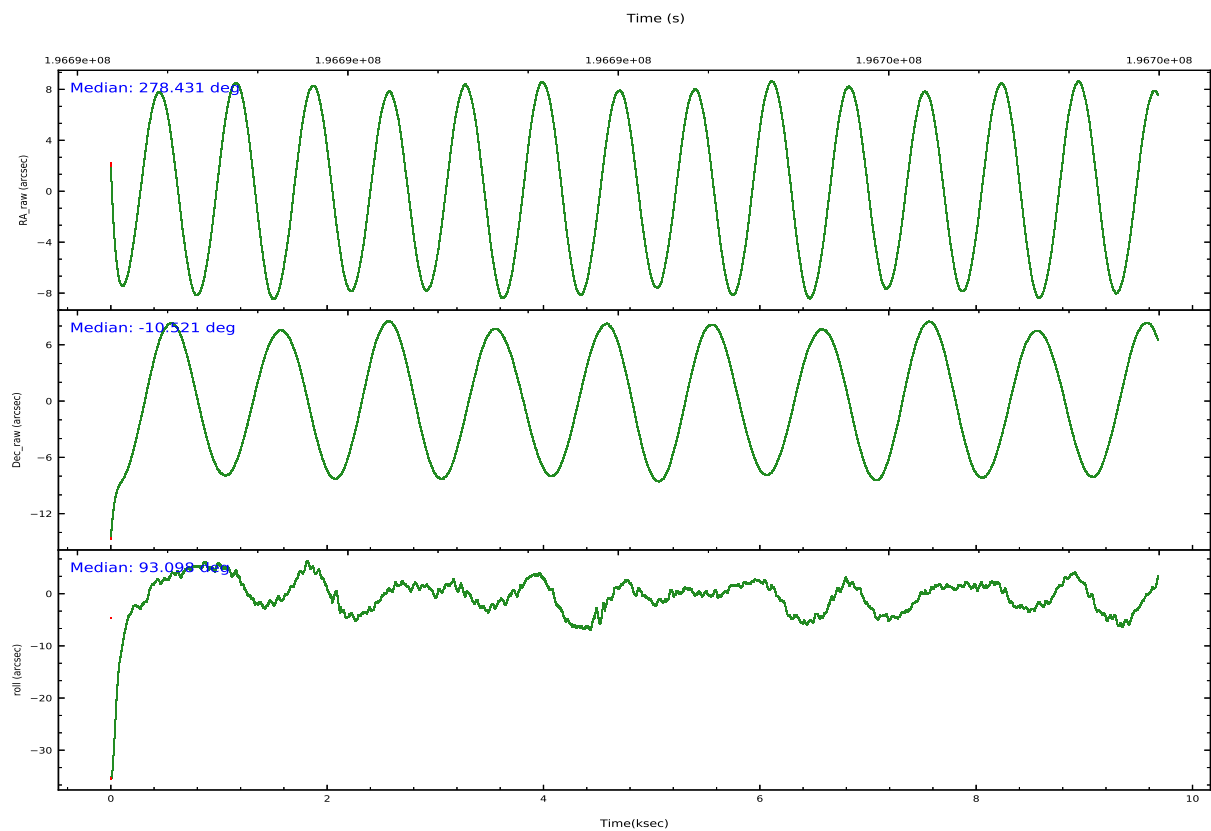


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-012367	ACIS-012367	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	278.446683	278.43438722855	Subarray requested	NONE	NONE
[deg] Pointing Dec	-10.543341	-10.52249425568	Alternating exposures requested	N	N
[deg] Pointing Roll	92.888568	93.097798541789	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	194486464.184000	194486464.184000			
[s] Window stop time (MET)	197078464.184000	197078464.184000			
[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)	196687951.184000	196686809.54588			
Observation start date	2004-03-26T11:31:27	2004-03-26T11:13:29			
[s] Observation end time (MET)	196697491.184000	196697805.74636			
Observation end date	2004-03-26T14:10:27	2004-03-26T14:16:45			
Read mode	TIMED	TIMED			

## 2.3 Aspect



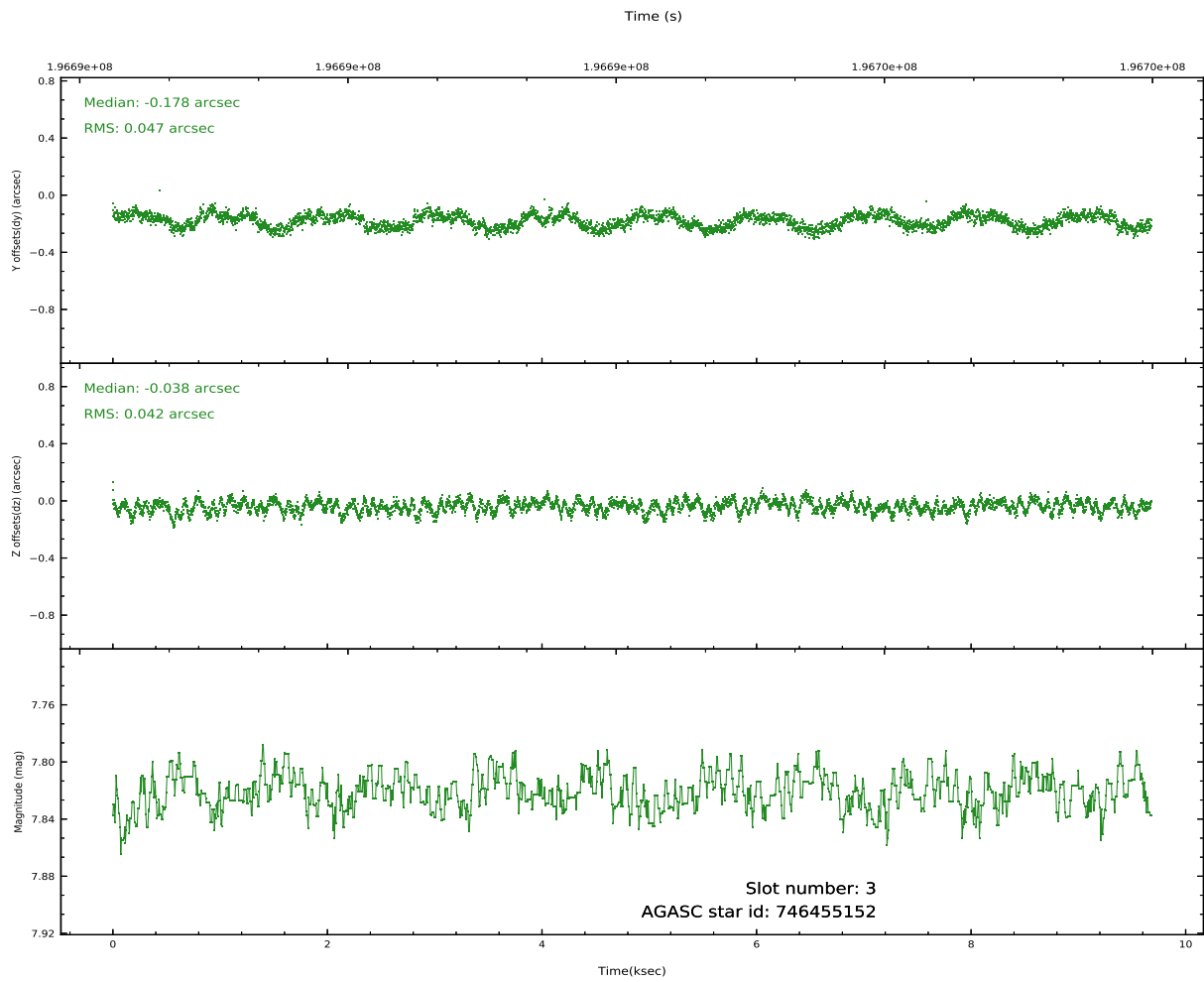
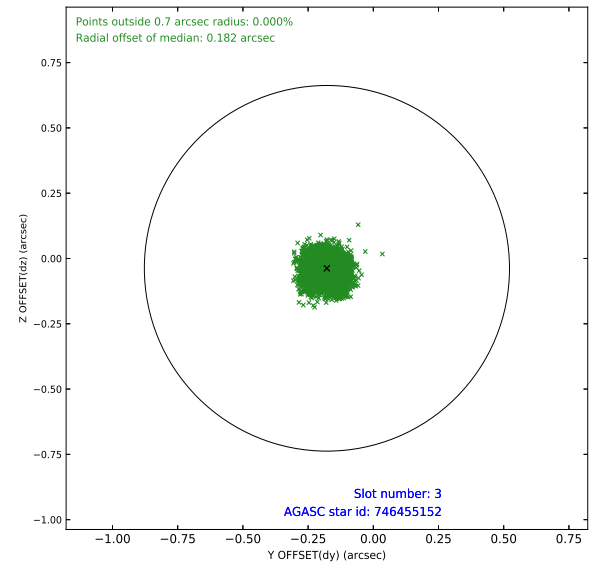
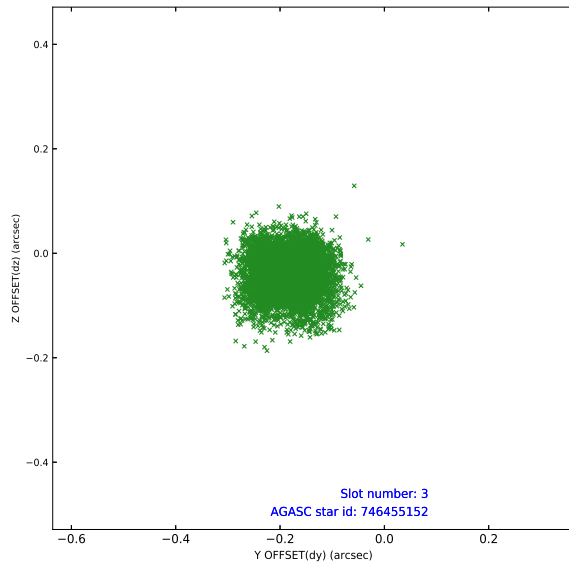


Slot Statistics

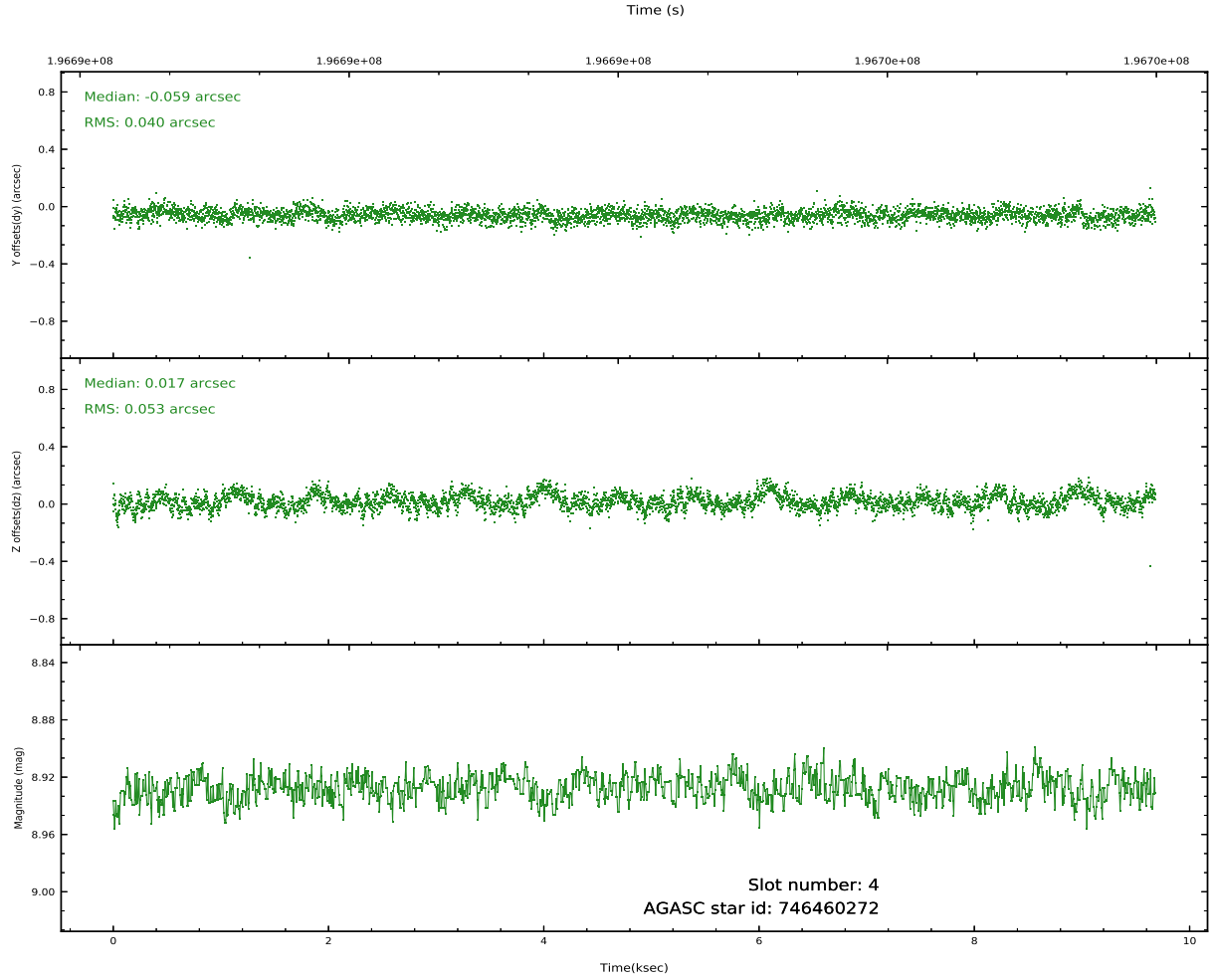
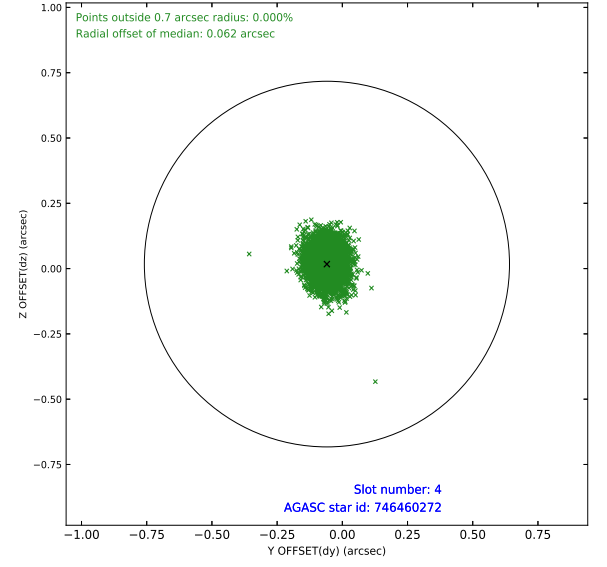
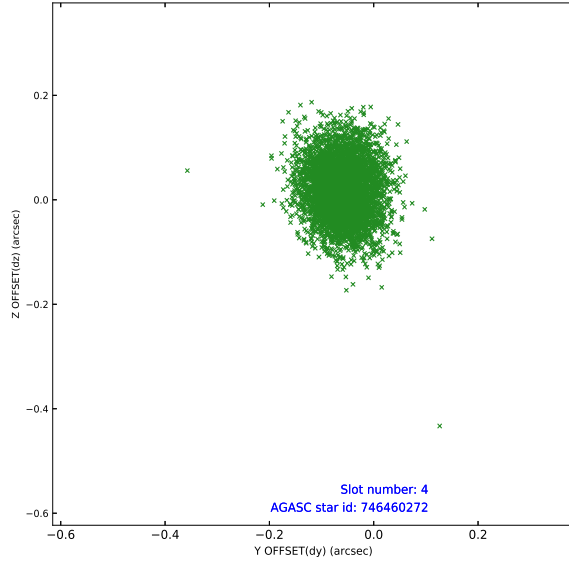
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.24	2362	1.000	0.008	0.003	0.010	0.017	0.000000	0.000000	932.32	-833
1	FID		ACIS-I-5	7.23	2362	1.000	-0.188	0.018	0.006	0.011	0.000000	0.000000	-1815.68	1063
2	FID		ACIS-I-6	7.25	2362	1.000	0.089	0.049	0.009	0.015	0.000000	0.000000	397.33	1709
3	GUIDE	used	746455152	7.82	4723	1.000	-0.178	-0.038	0.068	0.103	278.447893	-9.976732	2037.16	-107
4	GUIDE	used	746460272	8.93	4721	1.000	-0.059	0.017	0.070	0.117	278.847488	-10.152127	1334.87	-1489
5	GUIDE	used	746460328	9.81	4723	1.000	0.057	-0.058	0.135	0.220	278.603974	-9.898096	2292.08	-674
6	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
7	GUIDE	used	746462392	8.53	4722	1.000	0.182	0.080	0.095	0.139	279.038421	-10.890715	-1356.23	-2026

## 2.4 Star Slots

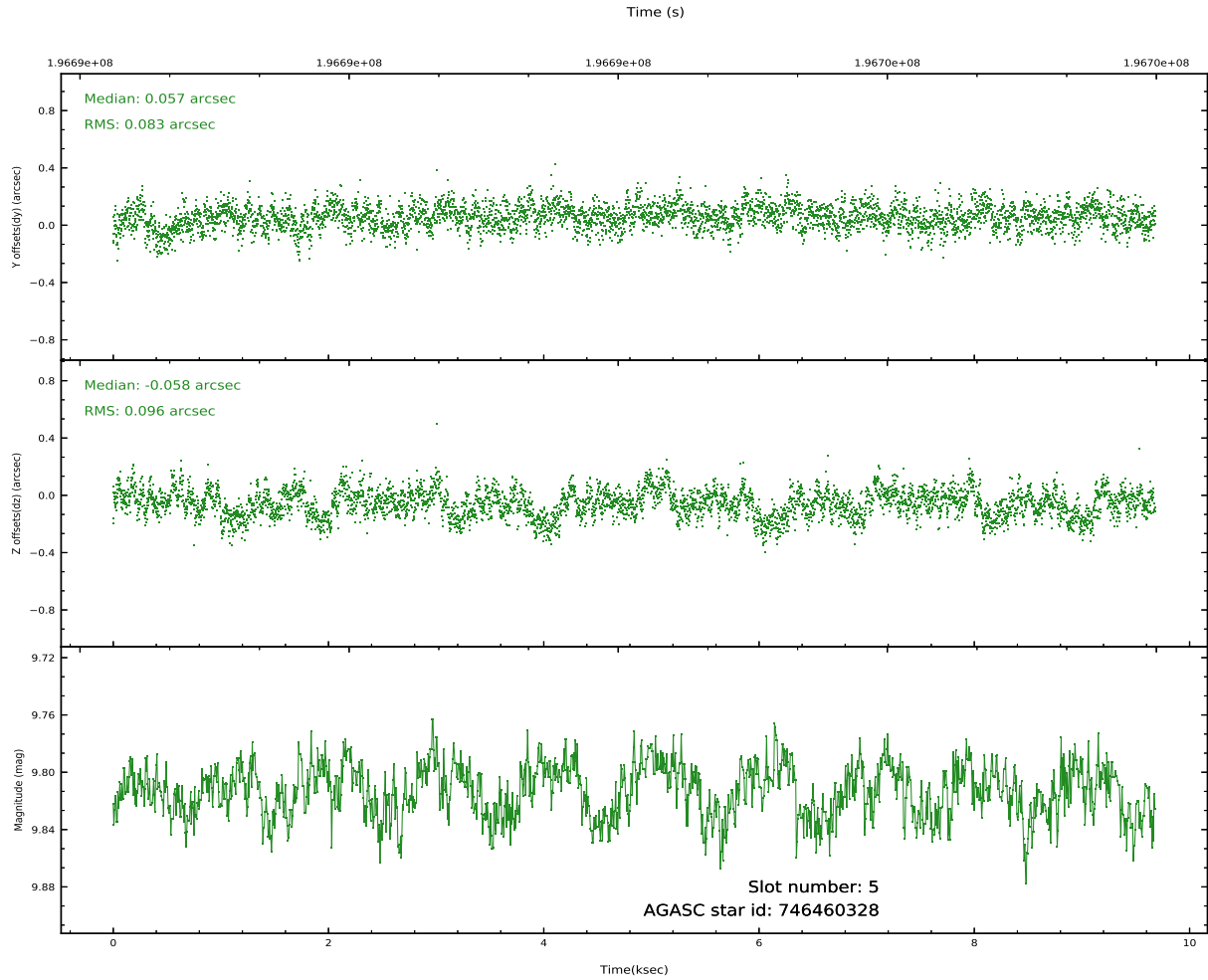
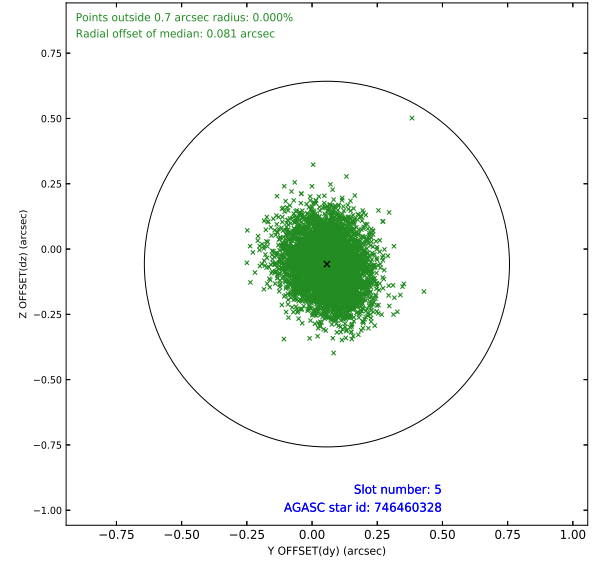
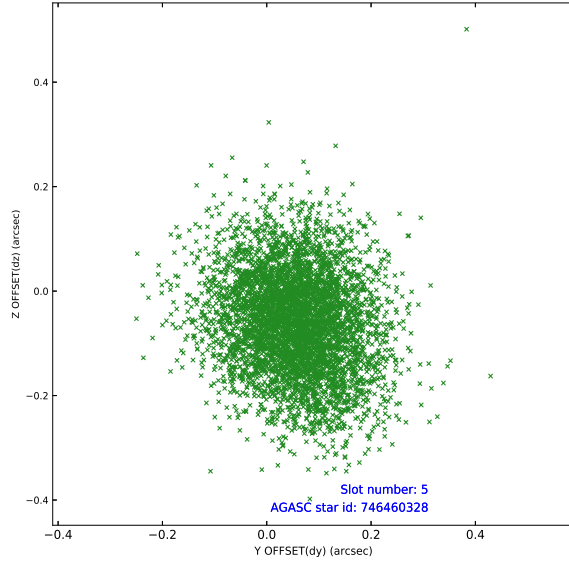
### 2.4.1 Slot 3



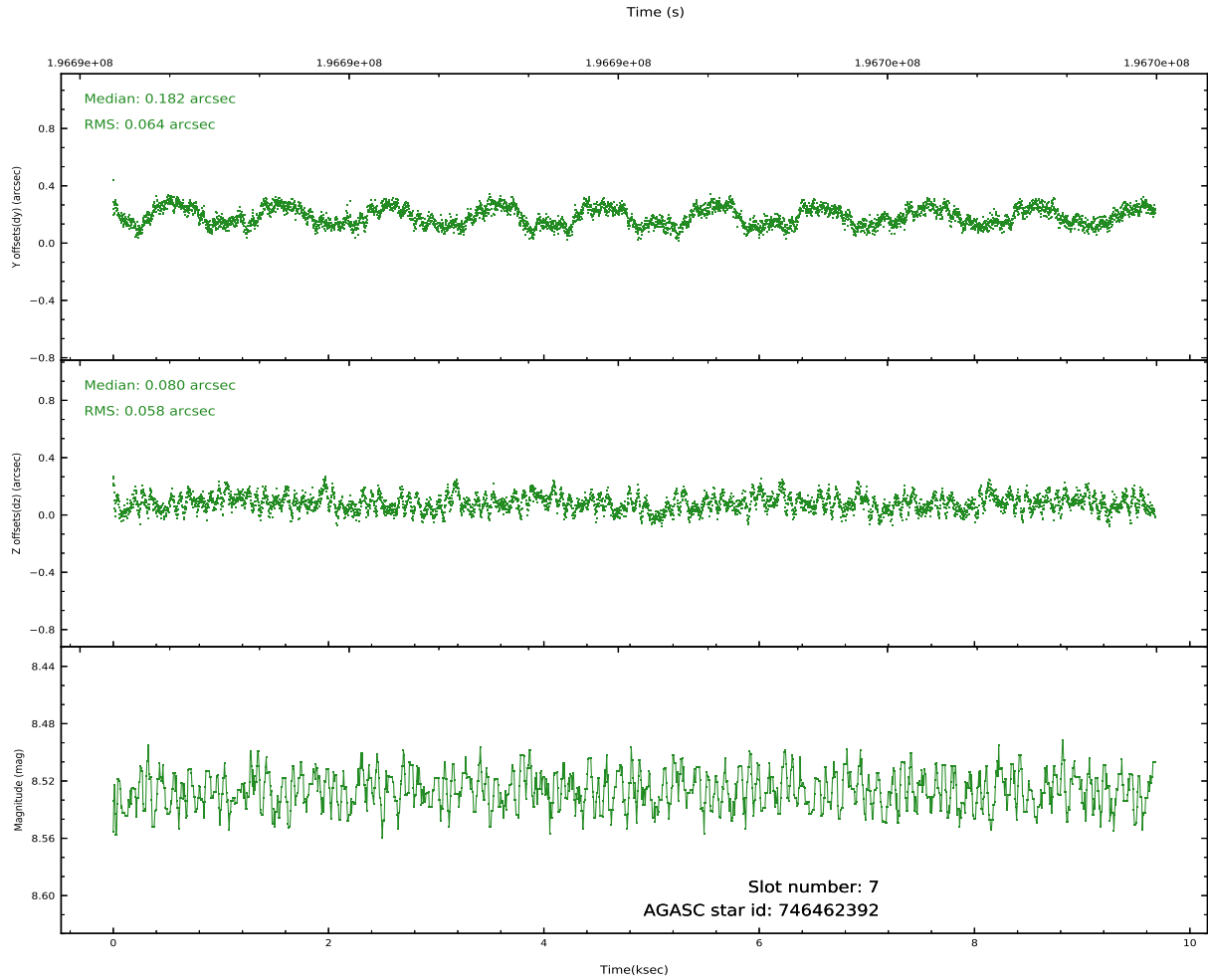
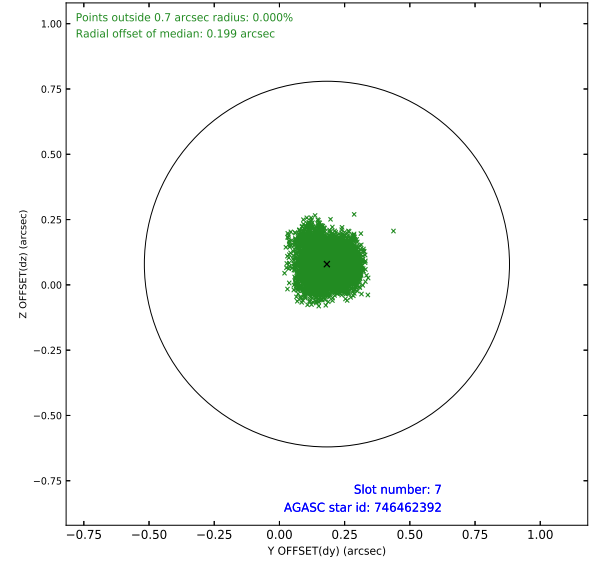
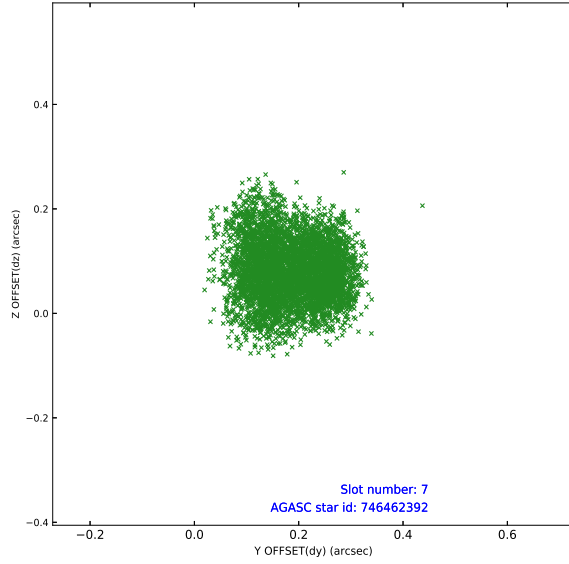
## 2.4.2 Slot 4



### 2.4.3 Slot 5



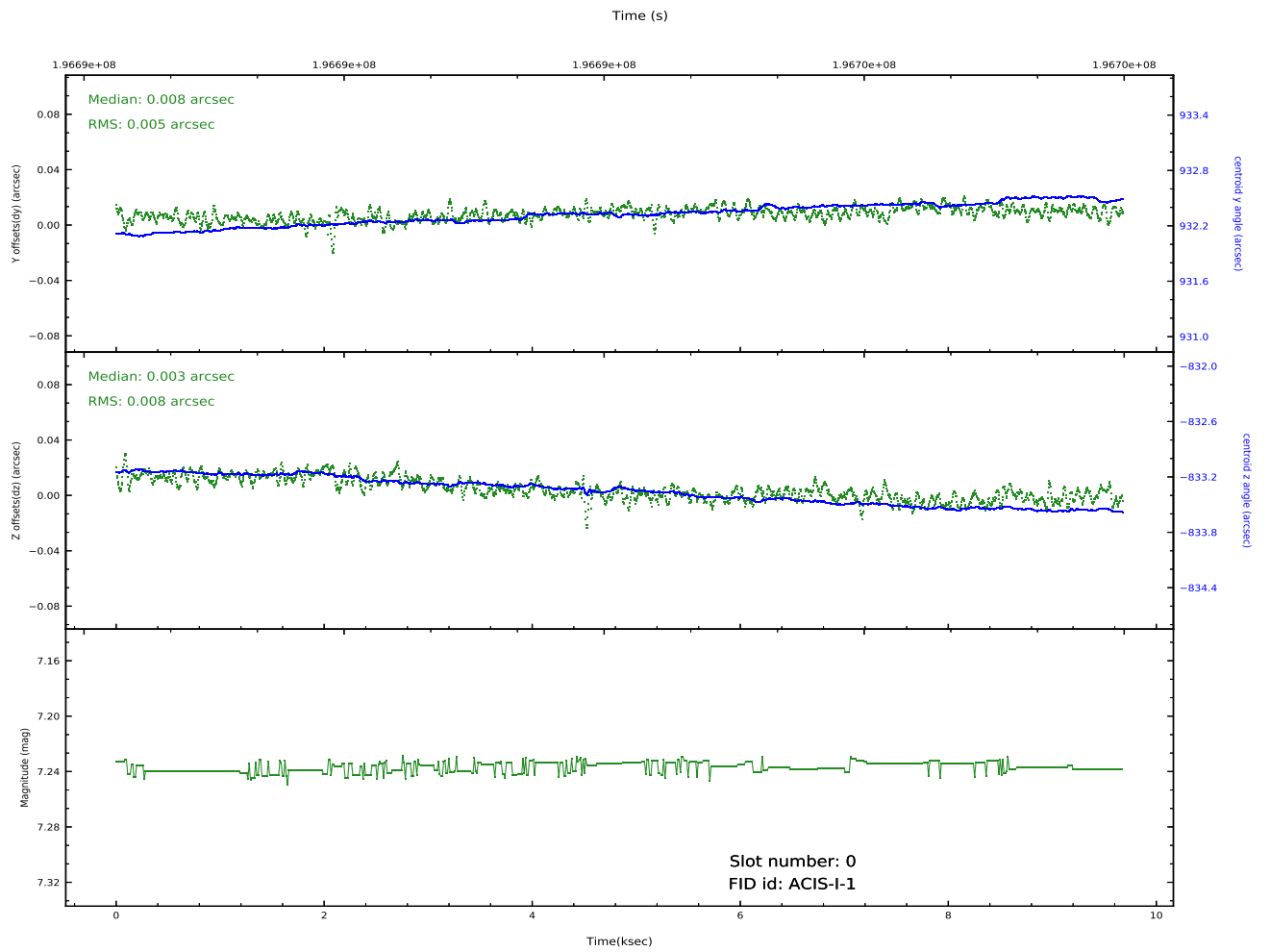
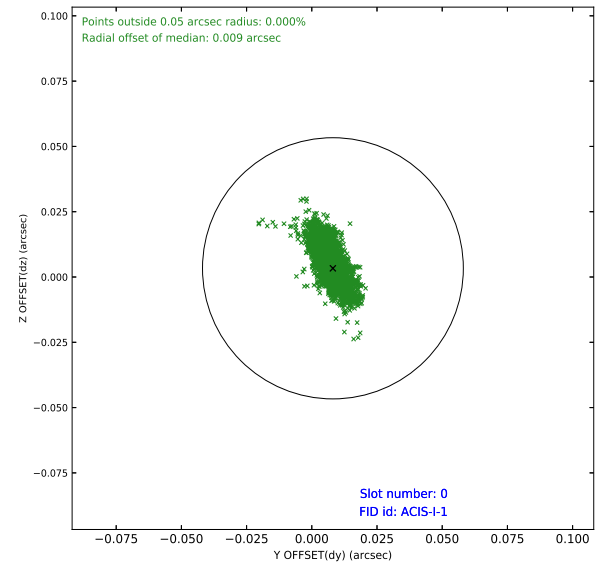
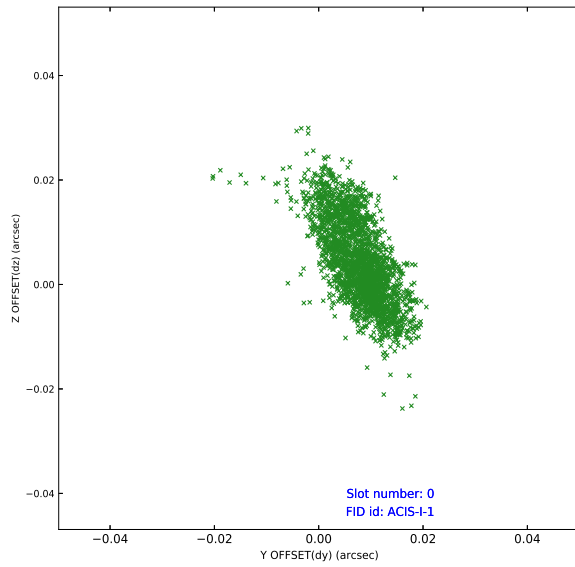
## 2.4.4 Slot 7



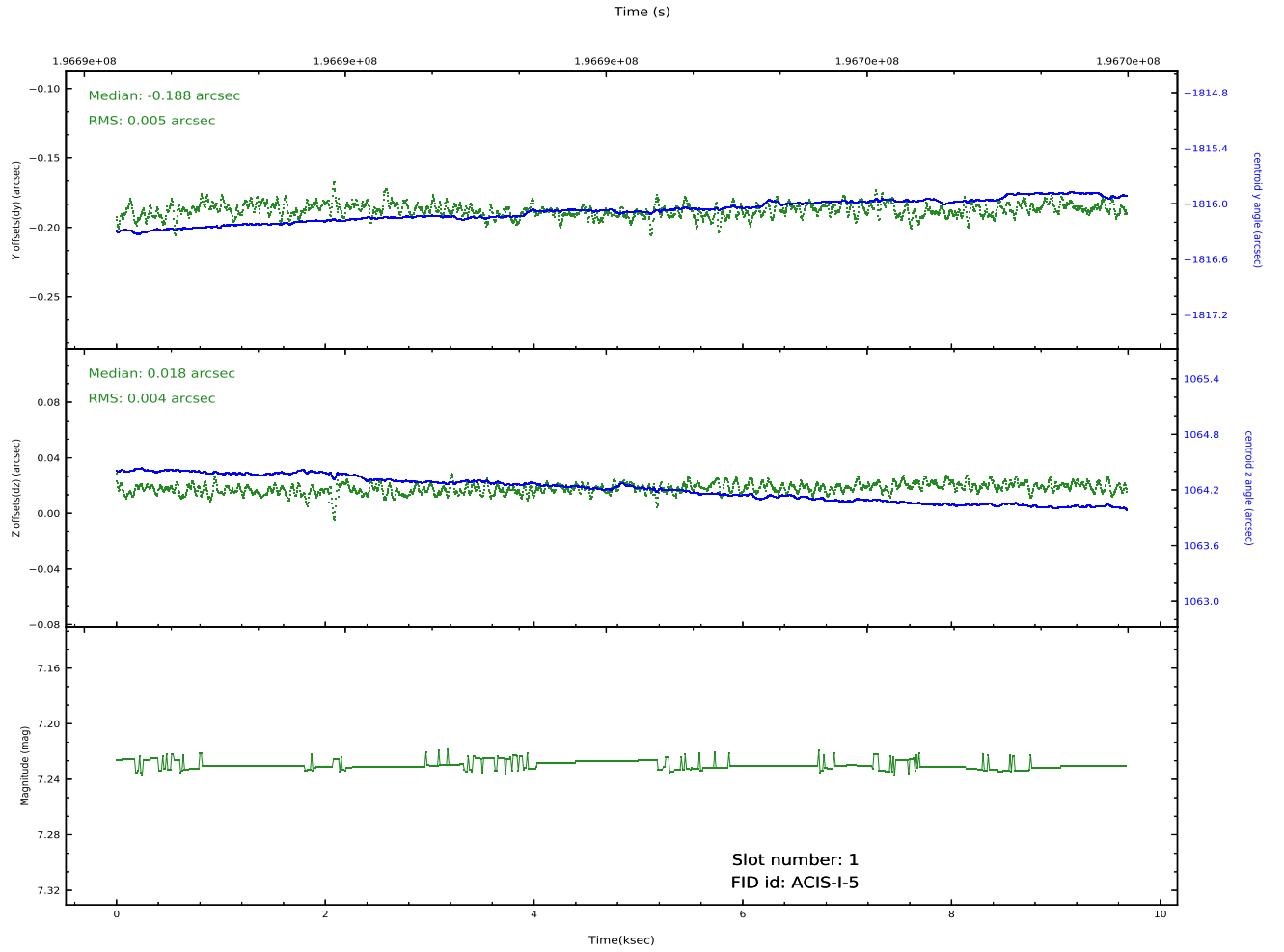
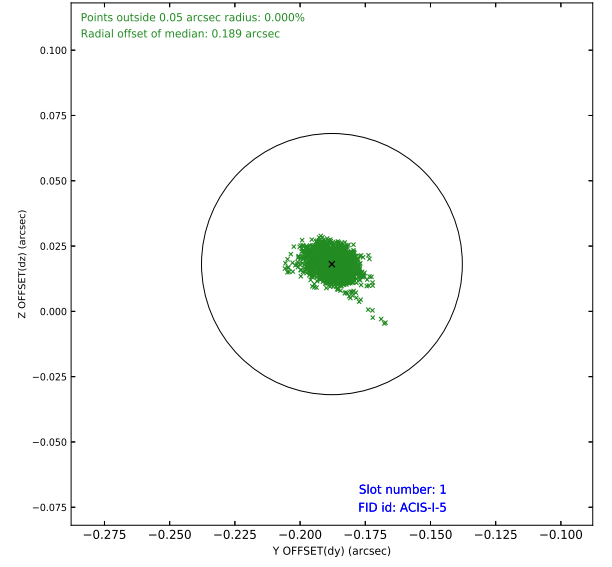
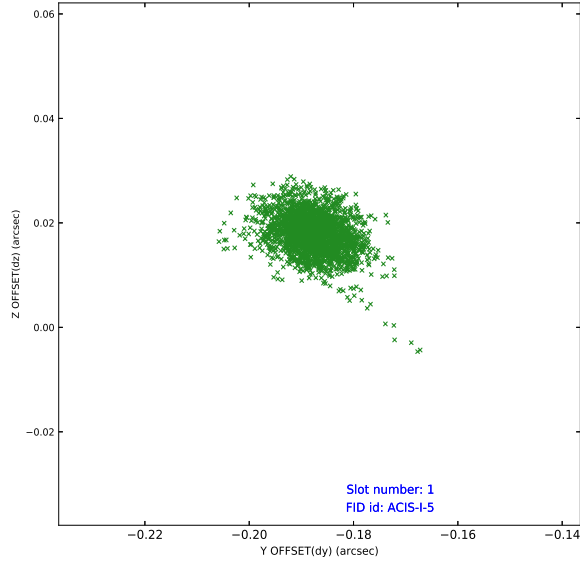


## 2.5 FID Slots

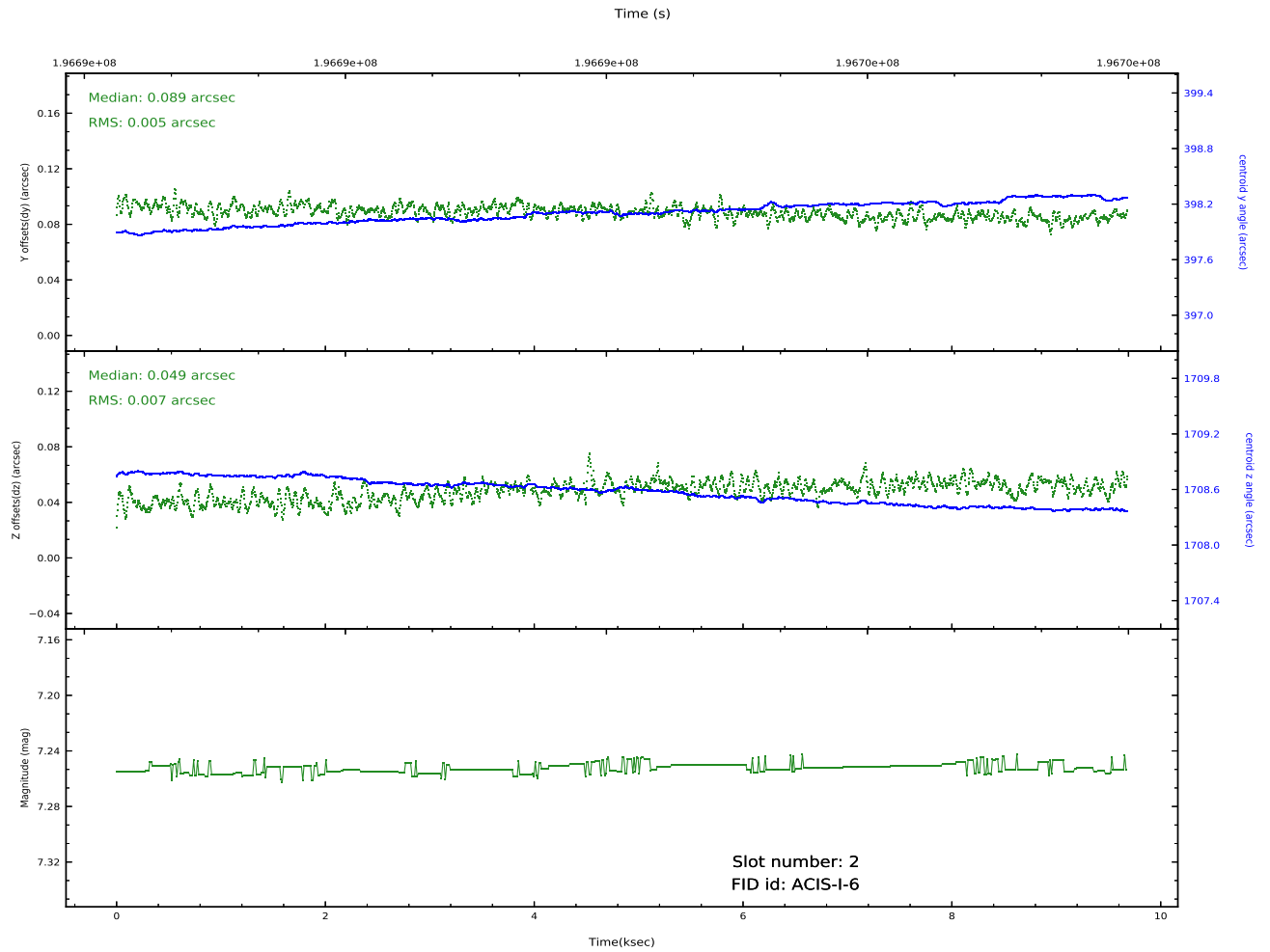
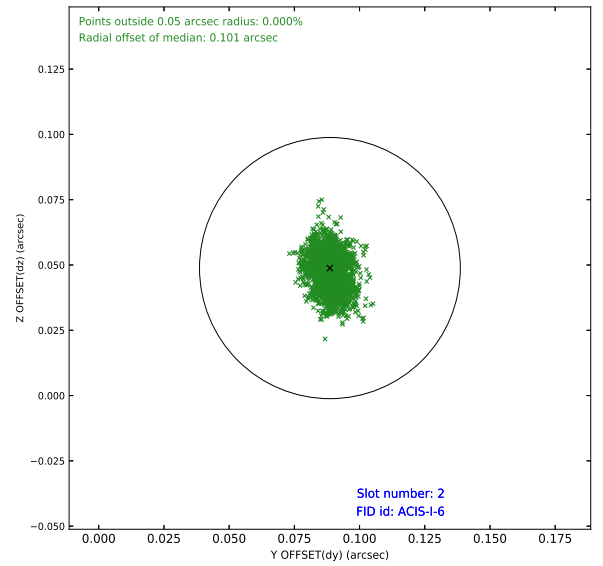
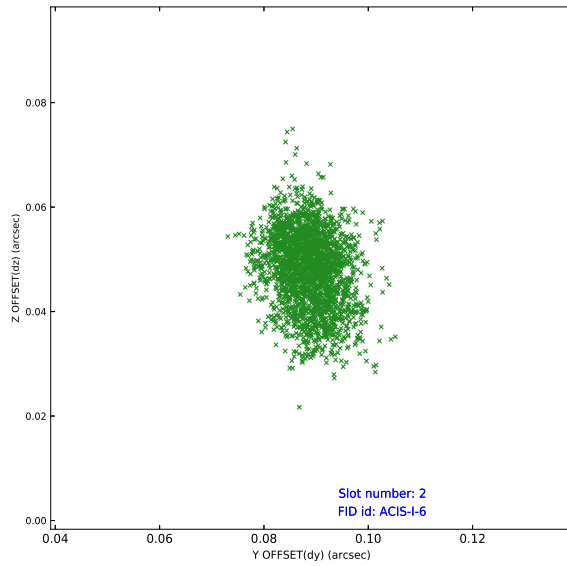
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.09.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.676

## A.2 Comments

Window constraint met.

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The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.