

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5350 - L2 Version 4  
Chandra X-Ray Center

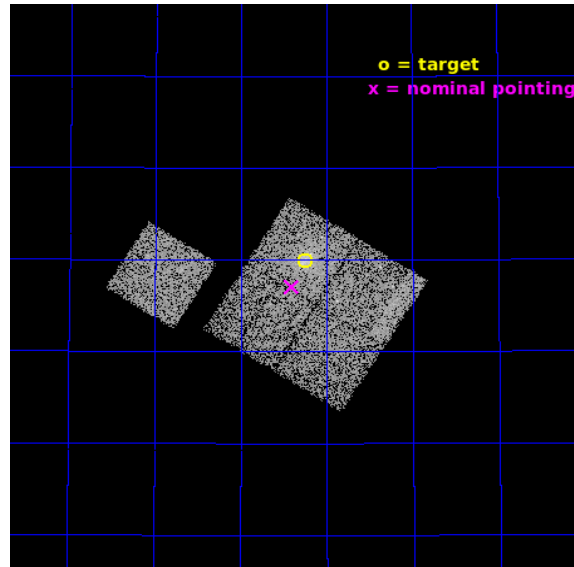
L2 Processing Date : Sep 27 2020

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# 1 Front

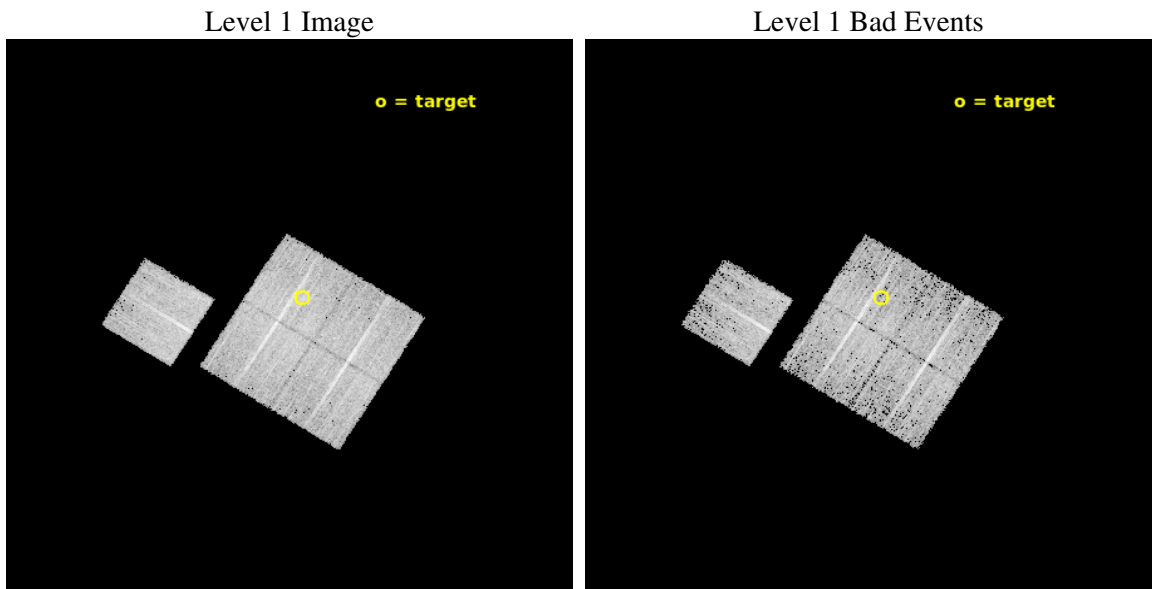
seq_num	800451	Sequence number
obs_id	5350	Observation id
title	Cluster studies: Determination of H0/q0	Proposal title
observer	DR. LEON VANSPEYBROECK	Principal investigator
object	MACS1115.2+5320	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	168.812083	Observer's specified target RA [deg]
dec_targ	53.331944	Observer's specified target Dec [deg]
ra_nom	168.85139681428	Nominal RA [deg]
dec_nom	53.284535341413	Nominal Dec [deg]
roll_nom	302.00677183327	Nominal Roll [deg]
revision	4	Processing version of data
ontime	6962.599986583	Sum of GTIs [s]
livetime	6871.6284919667	Livetime [s]
ontime0	6962.599986583	Sum of GTIs [s]
ontime1	6959.4590163231	Sum of GTIs [s]
ontime2	6962.599986583	Sum of GTIs [s]
ontime3	6962.599986583	Sum of GTIs [s]
ontime6	6959.4590263367	Sum of GTIs [s]
l2events	30536	Number of level 2 events



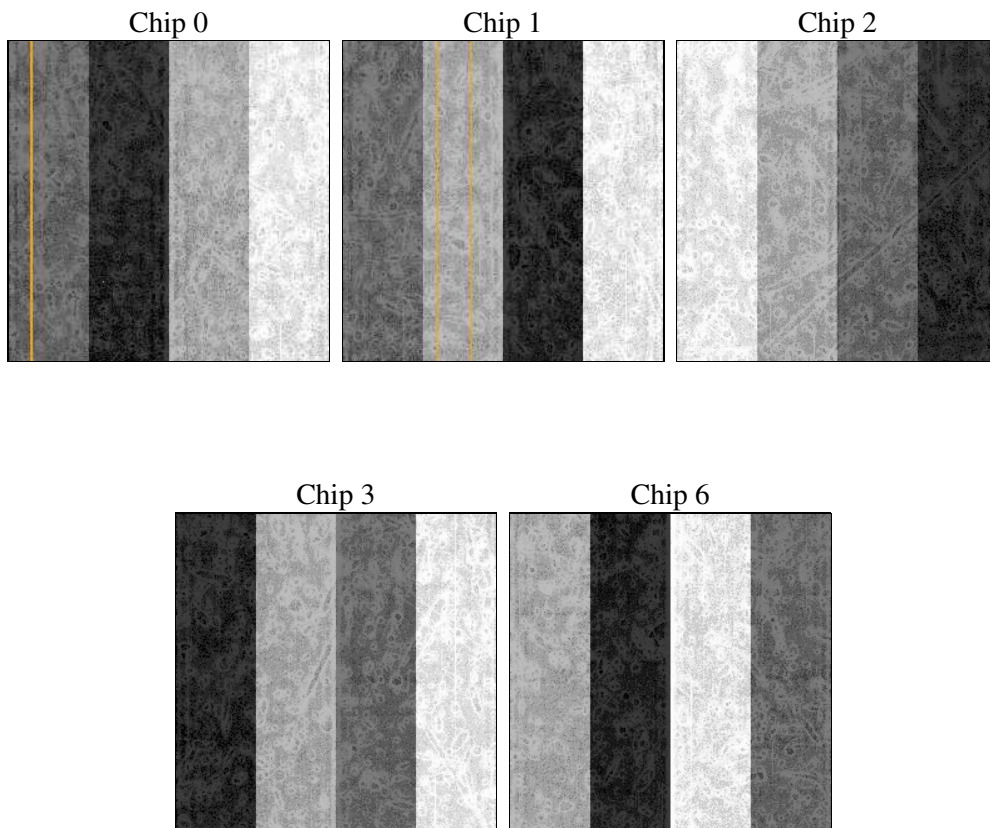
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	6780.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	6962.599986583	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime0	6962.599986583	Sum of GTIs [s]
date	2020-09-27T13:38:14	Date and time of file creation	ontime1	6959.4590163231	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	6962.599986583	Sum of GTIs [s]
			ontime3	6962.599986583	Sum of GTIs [s]
			ontime6	6959.4590263367	Sum of GTIs [s]
			l1events	224746	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	41755	42858	46095	46851	47187
rejected events	35179	35223	39319	38687	39712
rejected %	84%	82%	85%	82%	84%

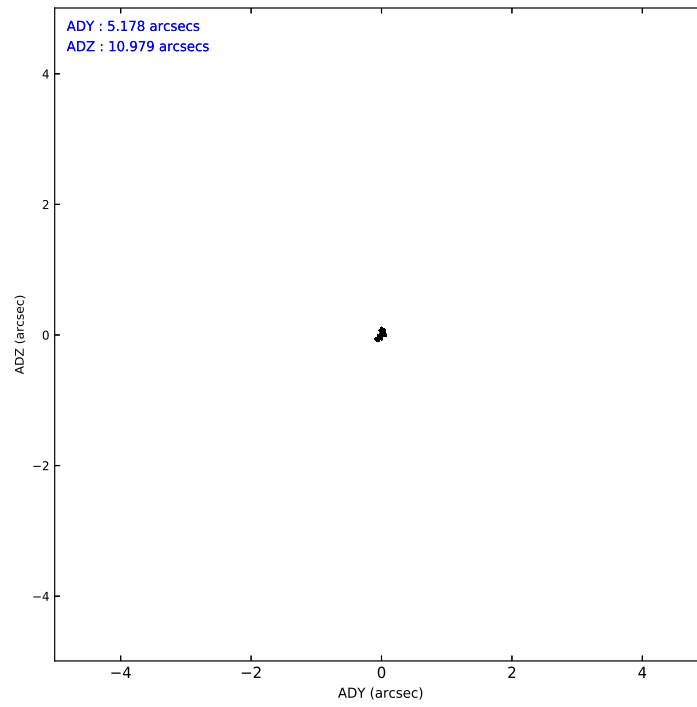
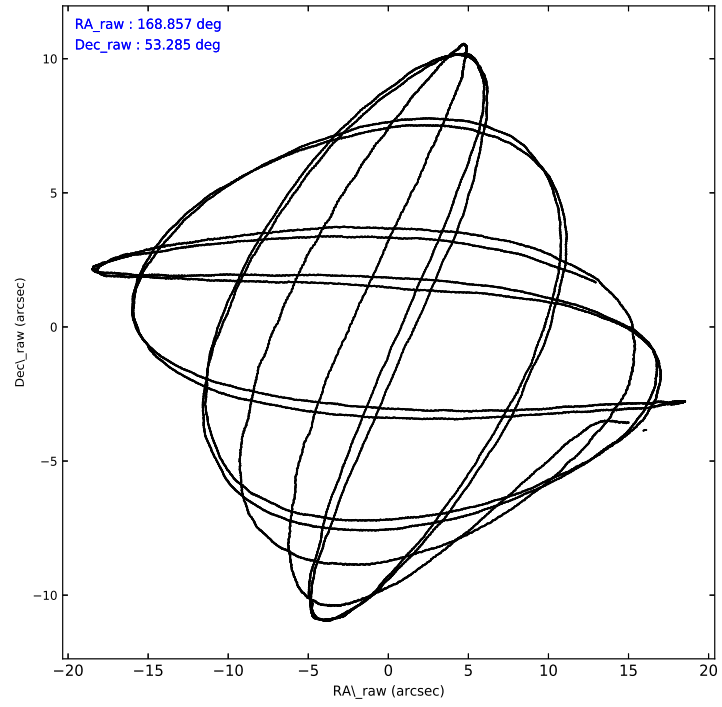
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	3297	3969	3478	4924	4021
	7%	9%	7%	10%	8%
grade 1 events	34	29	38	41	27
	0%	0%	0%	0%	0%
grade 2 events	1440	1479	1415	1259	1331
	3%	3%	3%	2%	2%
grade 3 events	556	635	504	579	568
	1%	1%	1%	1%	1%
grade 4 events	513	562	634	578	590
	1%	1%	1%	1%	1%
grade 5 events	1333	1501	1314	1470	1503
	3%	3%	2%	3%	3%
grade 6 events	842	1068	838	914	1040
	2%	2%	1%	1%	2%
grade 7 events	33740	33615	37874	37086	38107
	80%	78%	82%	79%	80%

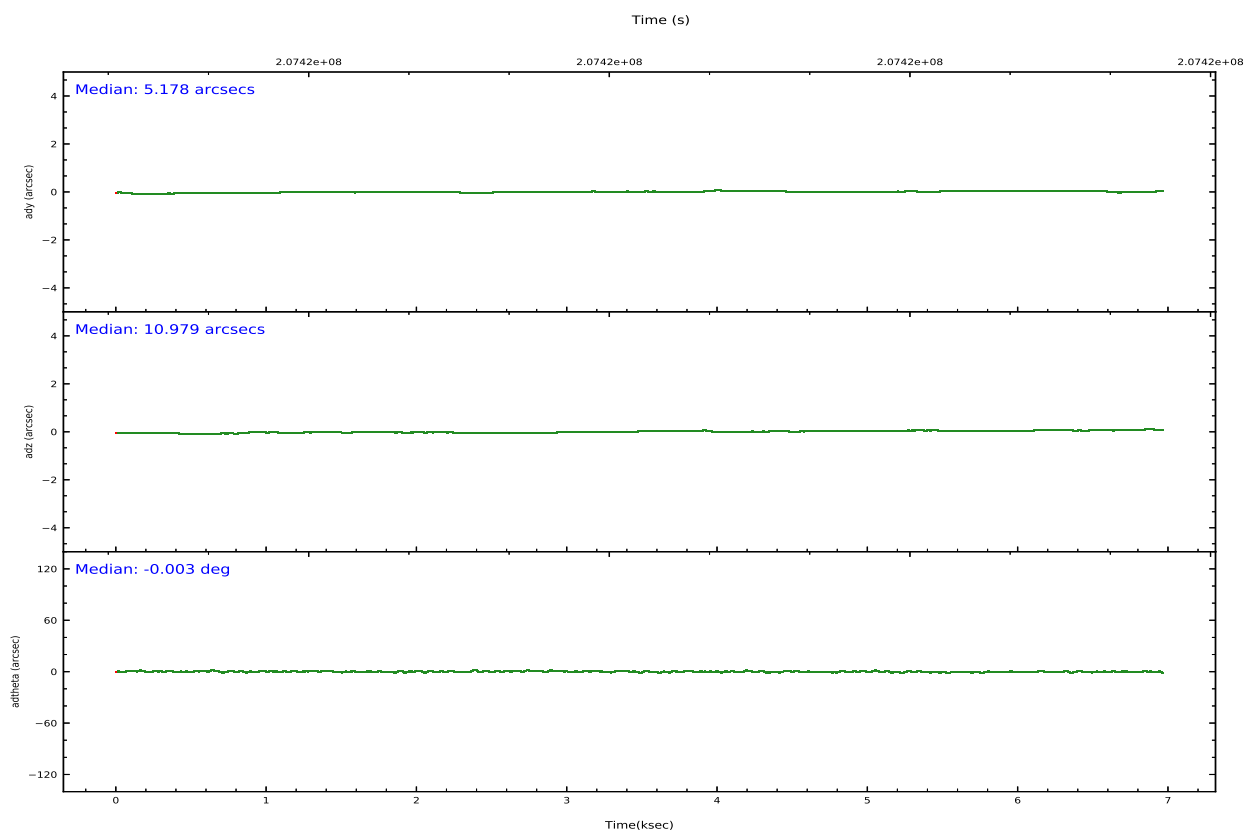
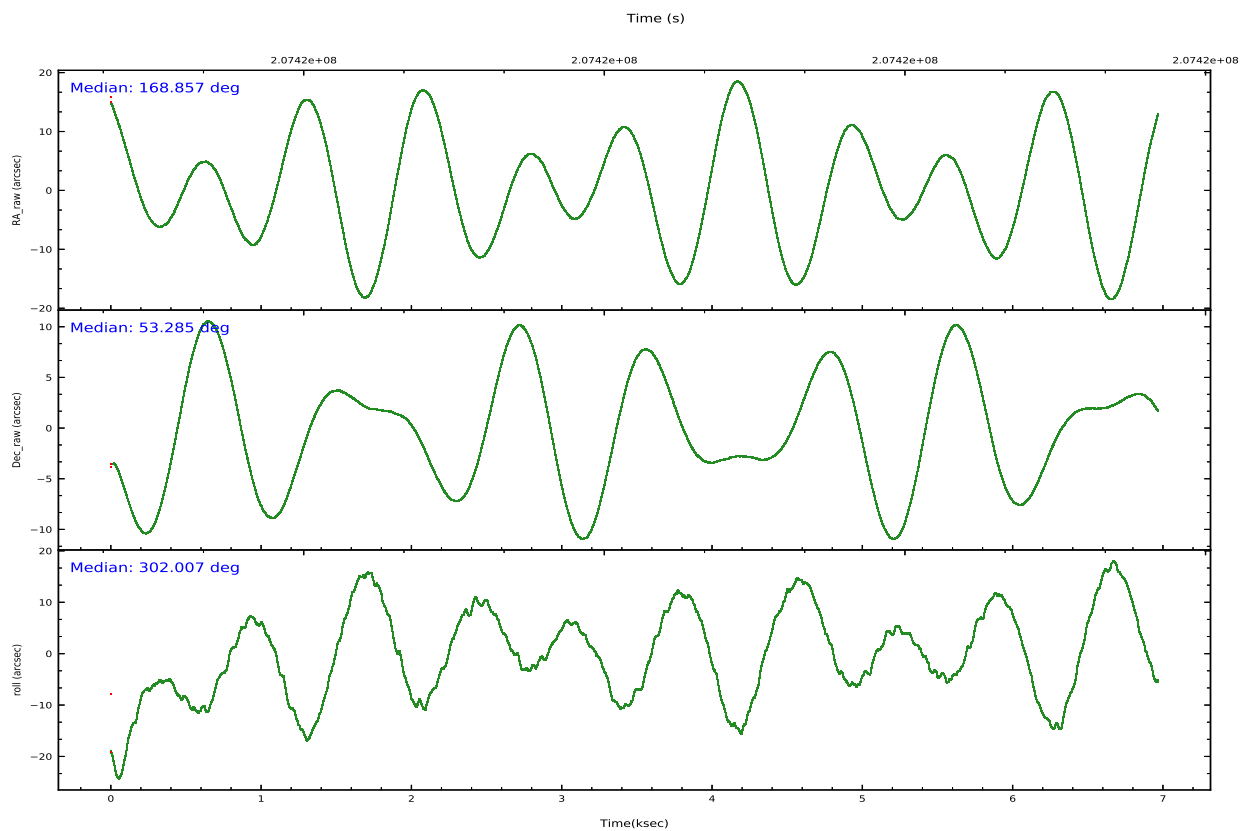


## 2.2 Compared Parameters

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	168.816878	168.85139681428	Subarray requested	NONE	NONE
[deg] Pointing Dec	53.297610	53.284535341413	Alternating exposures requested	N	N
[deg] Pointing Roll	301.828362	302.00677183327	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.840463	-225.8458576473255			
[mm] SIM translation stage offset	-7.752	-7.746595355604228			
[s] Observation start time (MET)	207414904.184000	207413868.59489			
Observation start date	2004-07-28T15:14:00	2004-07-28T14:57:48			
[s] Observation end time (MET)	207421684.184000	207422196.20776			
Observation end date	2004-07-28T17:07:00	2004-07-28T17:16:36			
Read mode	TIMED	TIMED			

## 2.3 Aspect



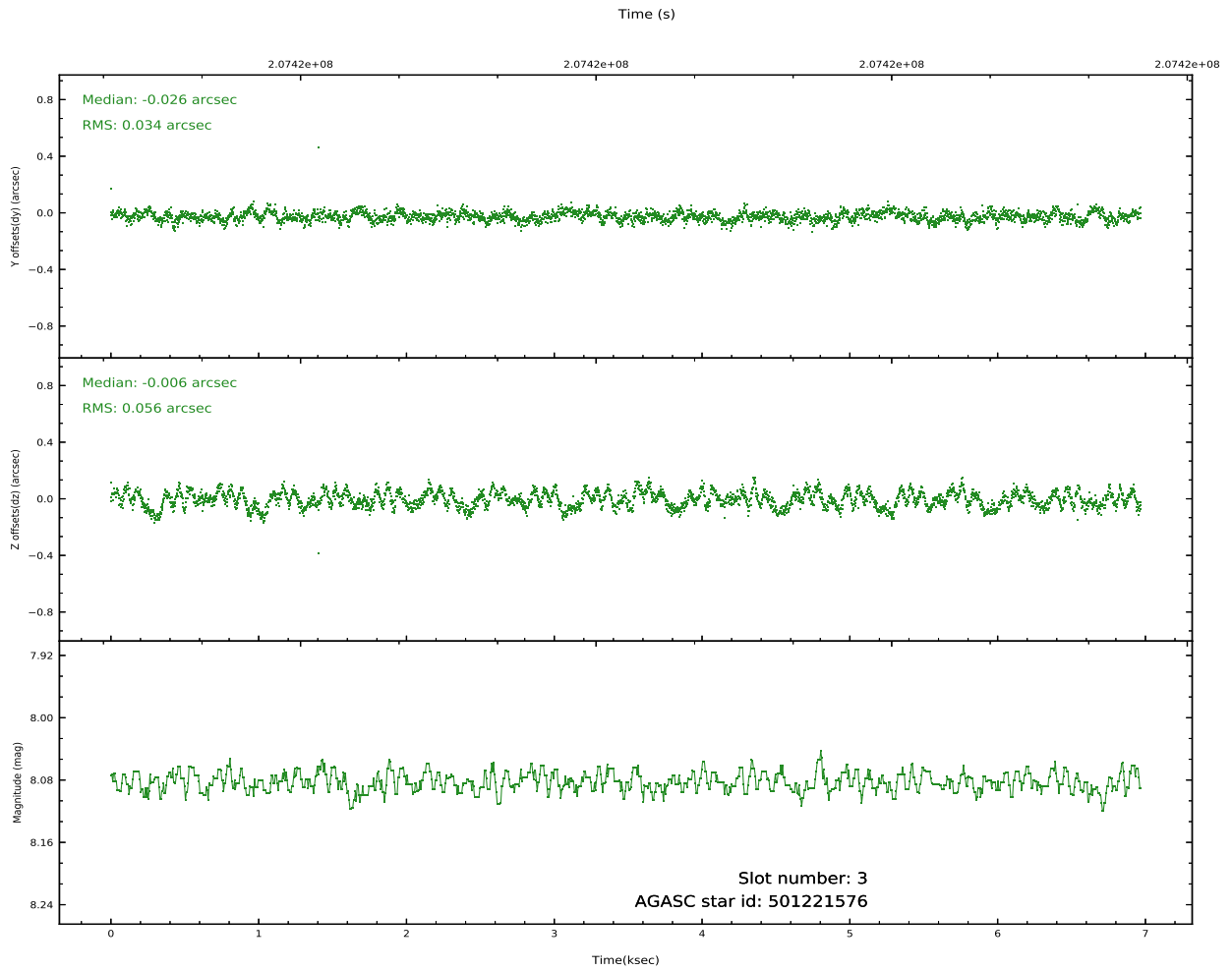
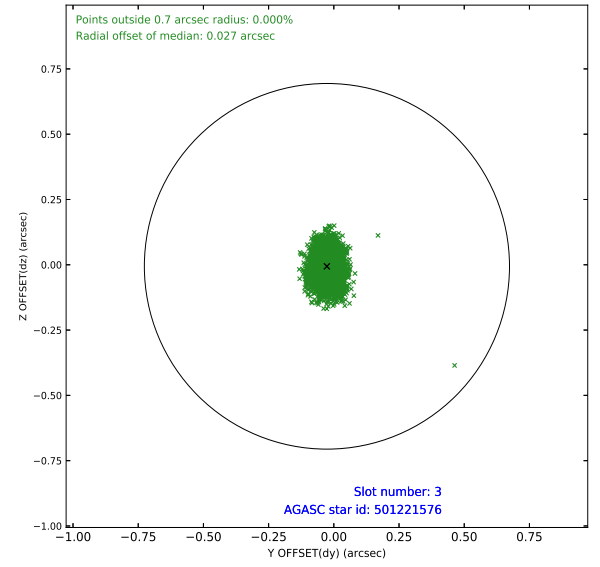
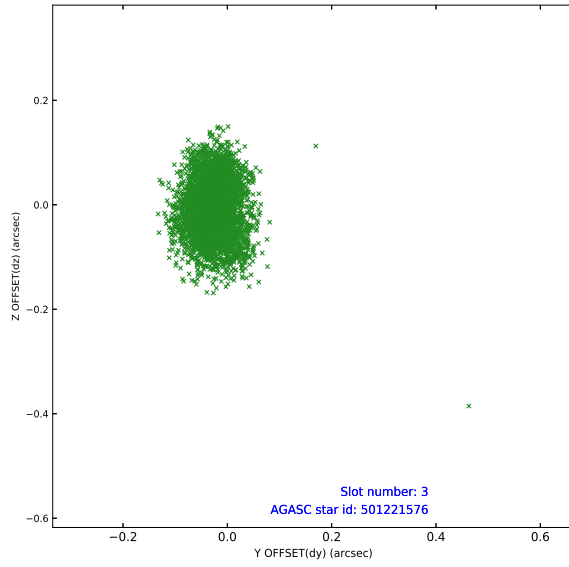


Slot Statistics

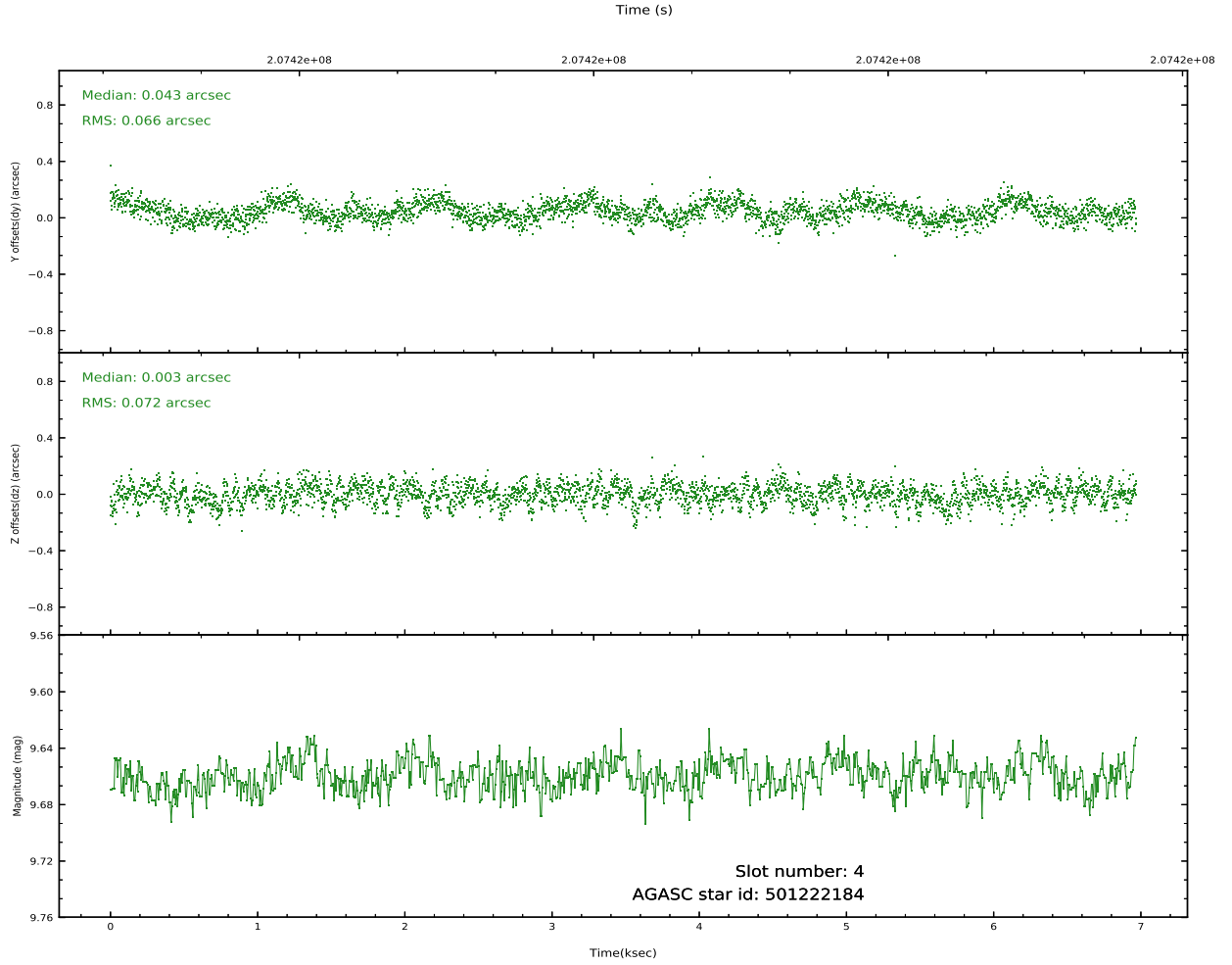
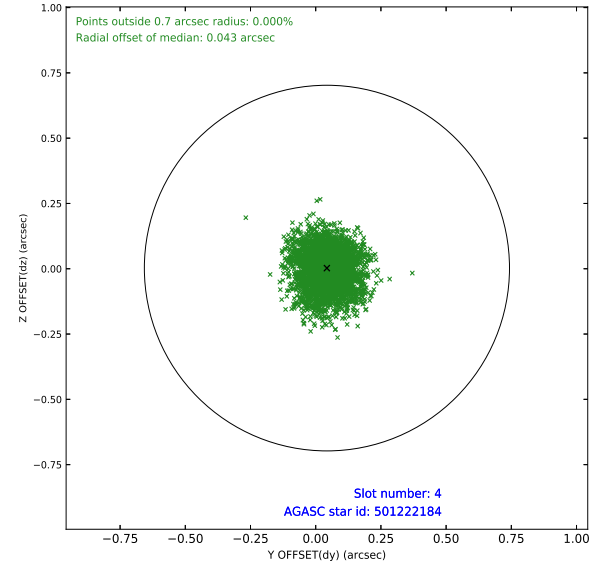
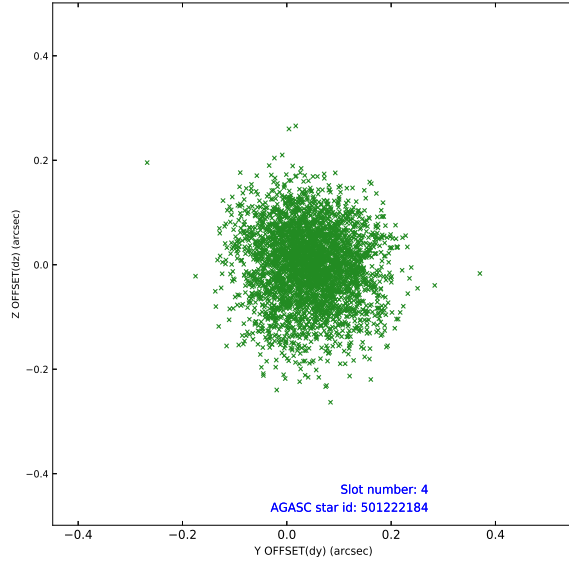
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-4	7.14	1700	1.000	-0.021	0.094	0.008	0.013	0.000000	0.000000	2153.89	907
1	FID		ACIS-I-5	7.22	1700	1.000	-0.230	0.031	0.006	0.011	0.000000	0.000000	-1812.76	904
2	FID		ACIS-I-6	7.25	1700	1.000	0.152	-0.056	0.009	0.015	0.000000	0.000000	399.18	1548
3	GUIDE	used	501221576	8.08	3400	1.000	-0.026	-0.006	0.070	0.111	168.270365	53.371526	-848.35	-854
4	GUIDE	used	501222184	9.66	3398	1.000	0.043	0.003	0.104	0.169	167.983435	53.210384	-689.32	-1686
5	GUIDE	used	501224736	8.65	3399	1.000	-0.028	-0.015	0.079	0.121	167.843158	53.060877	-398.45	-2232
6	GUIDE	used	501226072	7.54	3400	1.000	-0.053	0.006	0.059	0.096	168.396705	52.850484	884.13	-1624
7	GUIDE	used	501226240	7.44	3399	1.000	0.063	0.018	0.056	0.090	168.639140	52.946889	870.21	-993

## 2.4 Star Slots

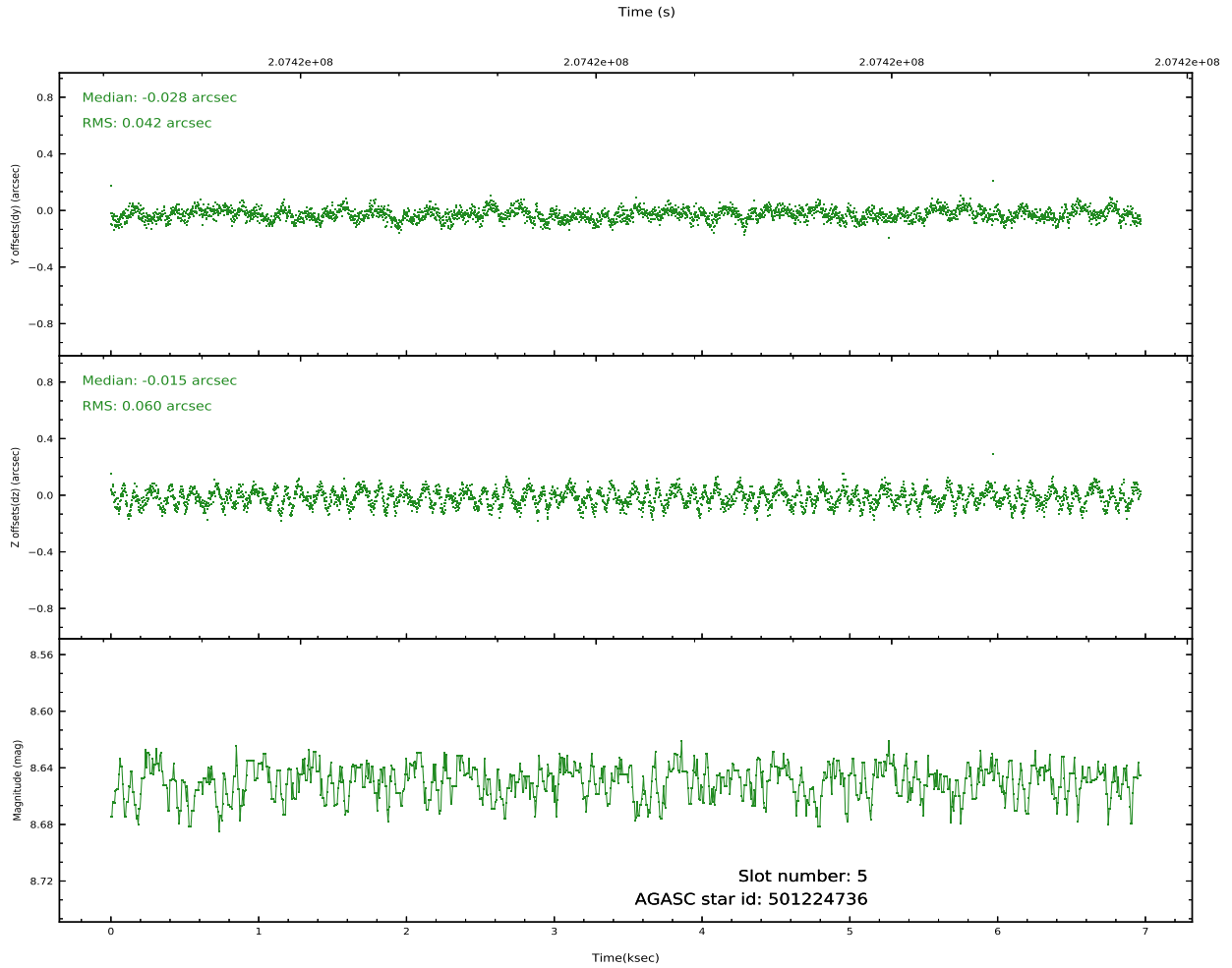
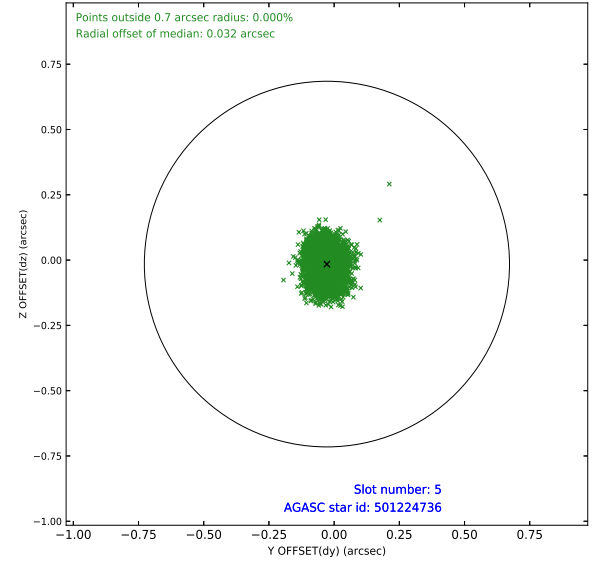
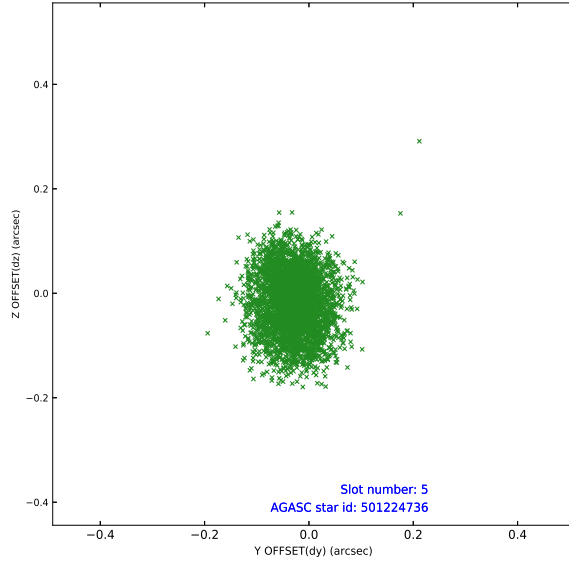
### 2.4.1 Slot 3



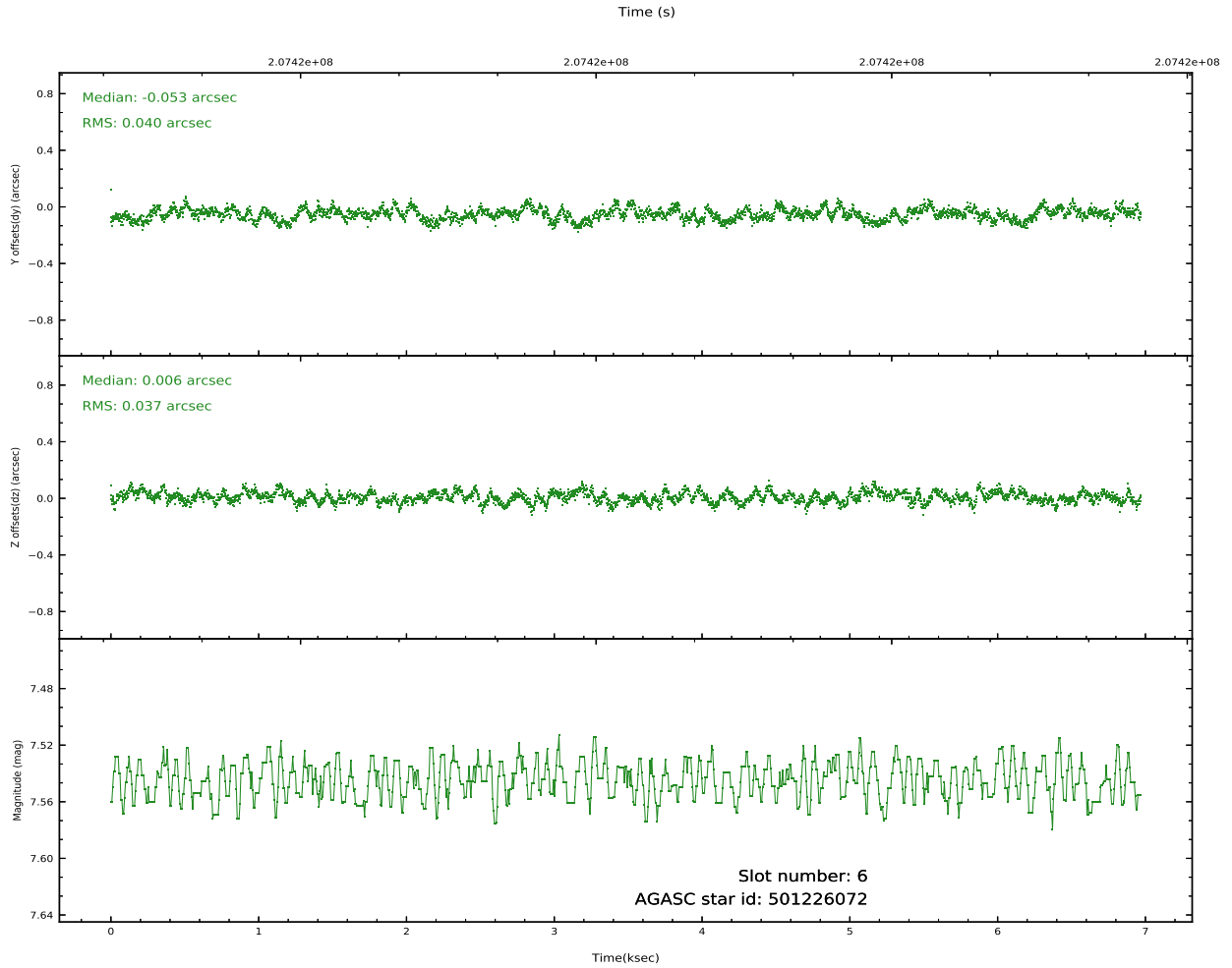
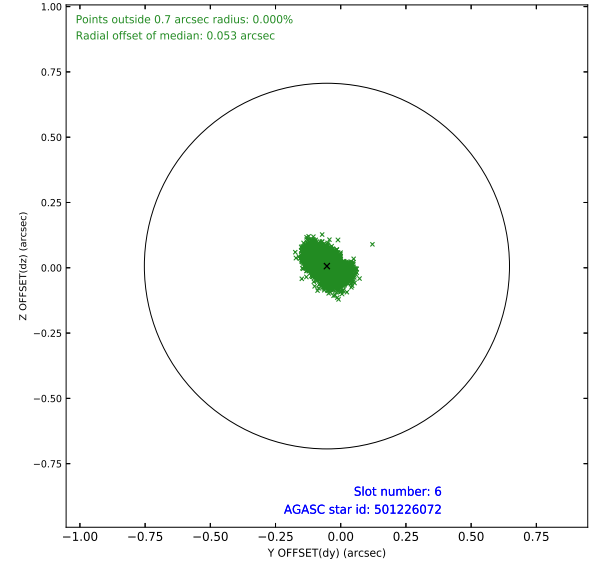
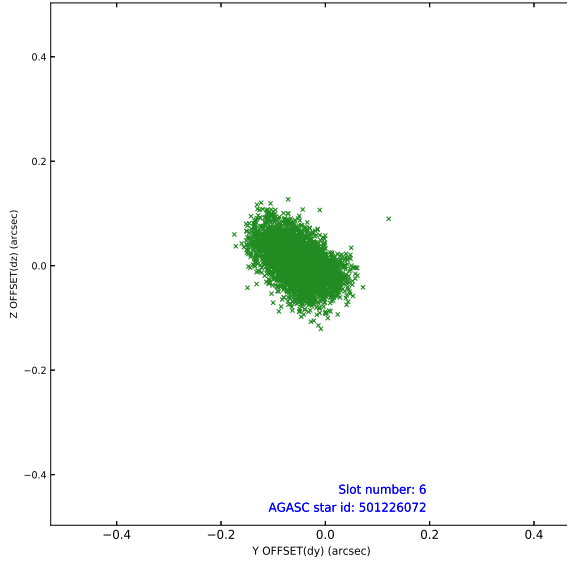
## 2.4.2 Slot 4



### 2.4.3 Slot 5

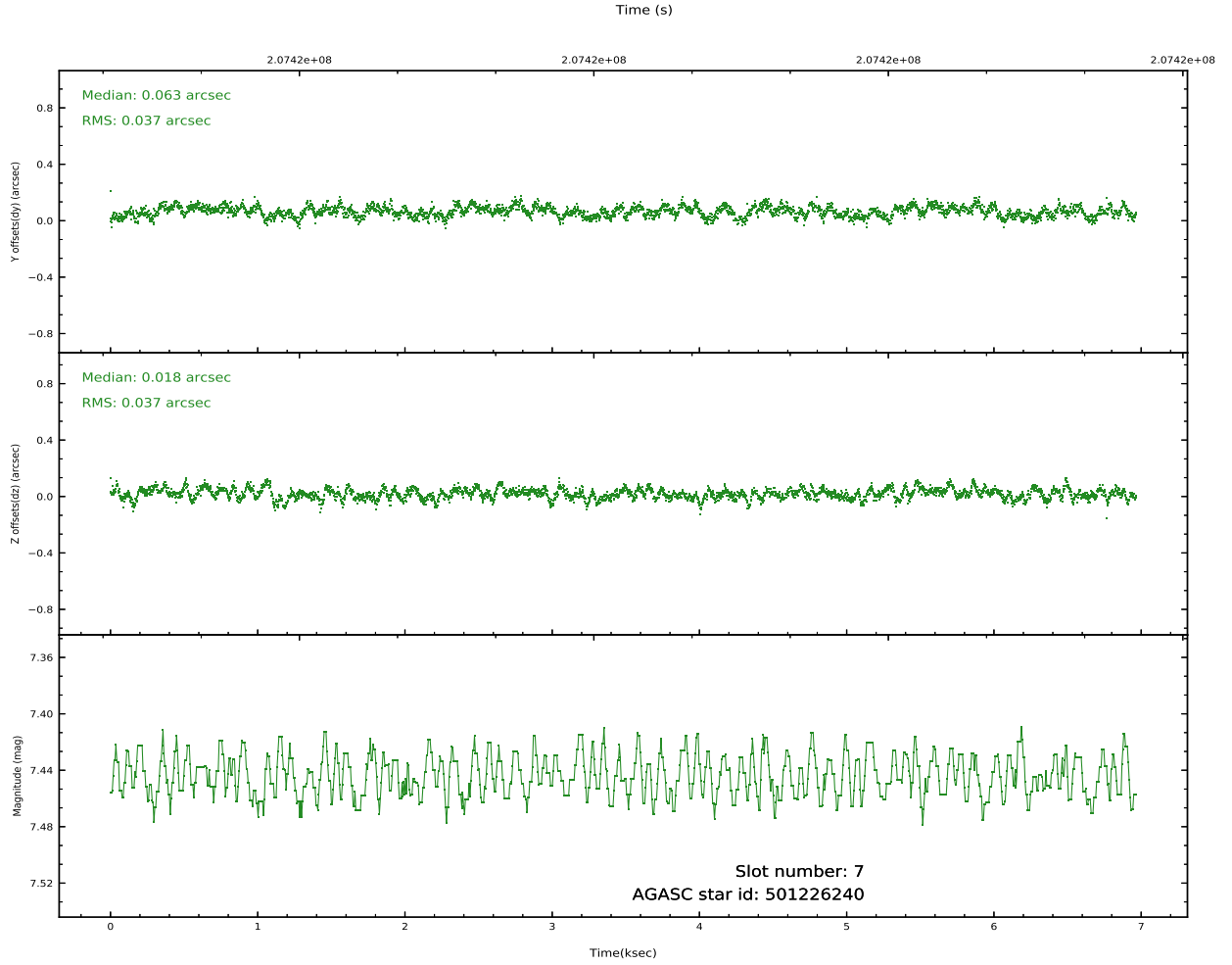
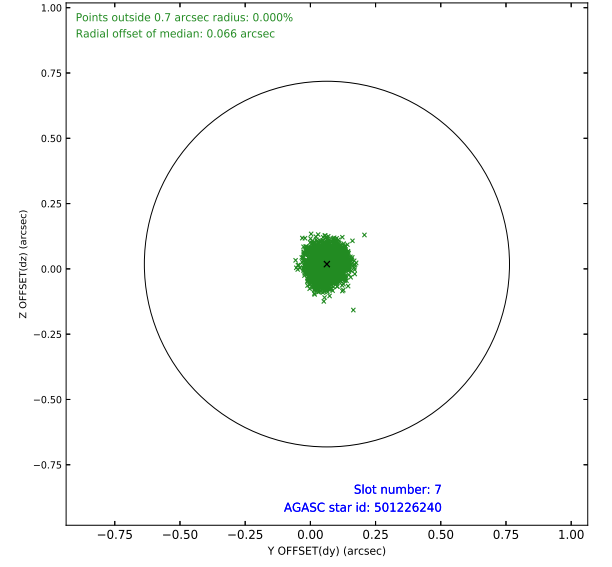
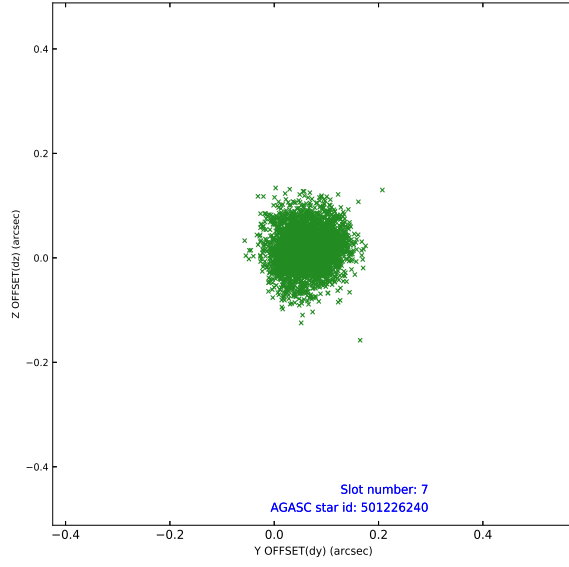


## 2.4.4 Slot 6



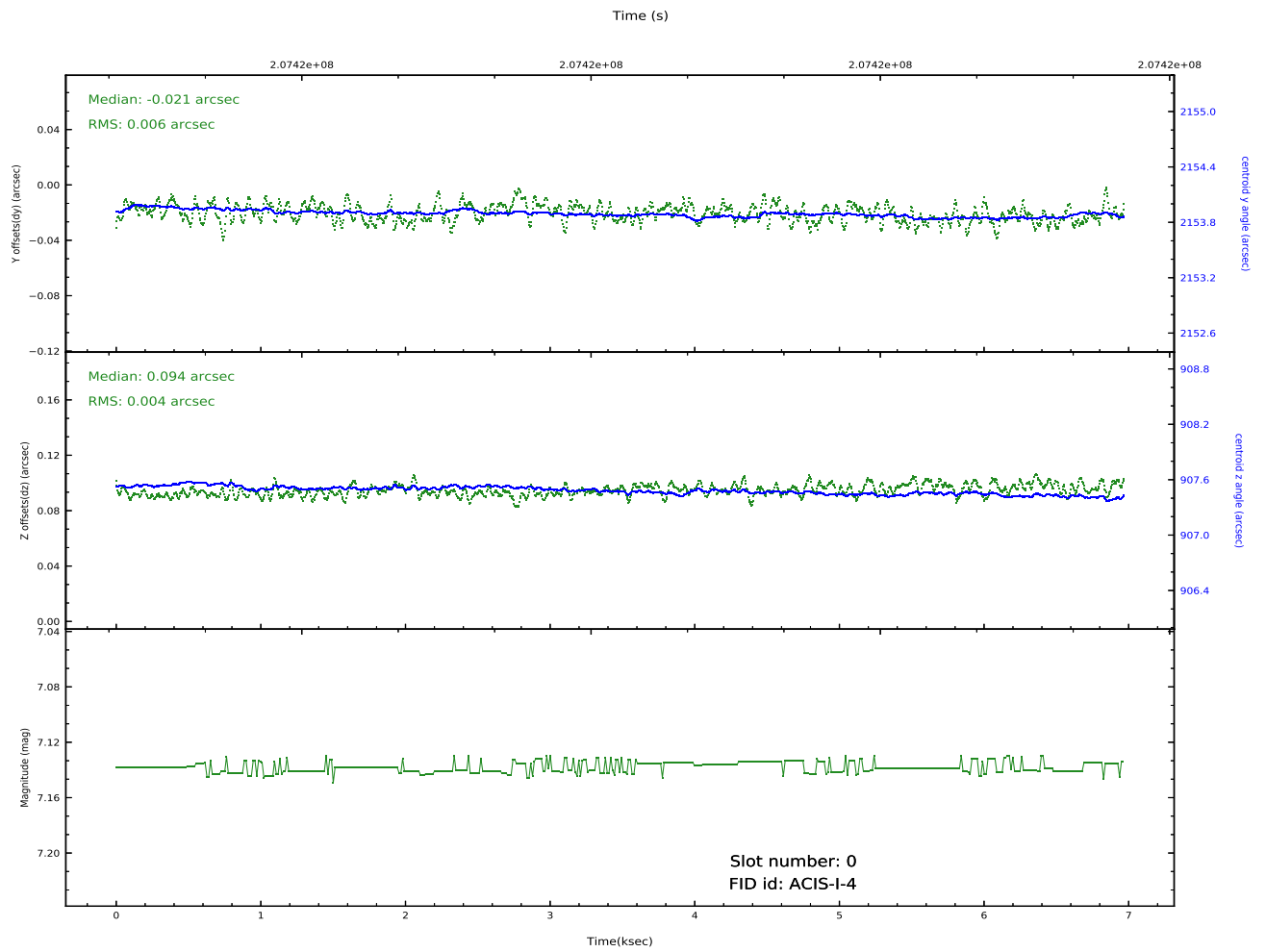
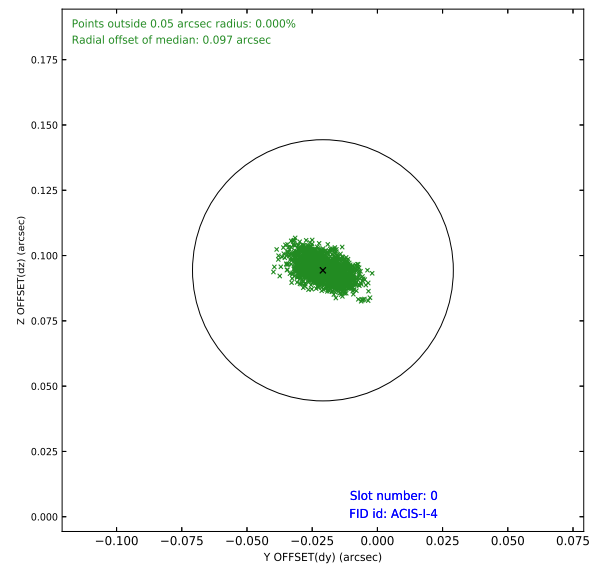
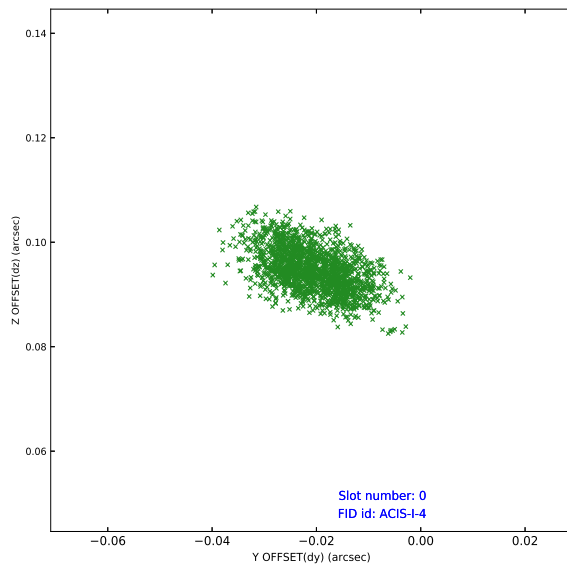


## 2.4.5 Slot 7

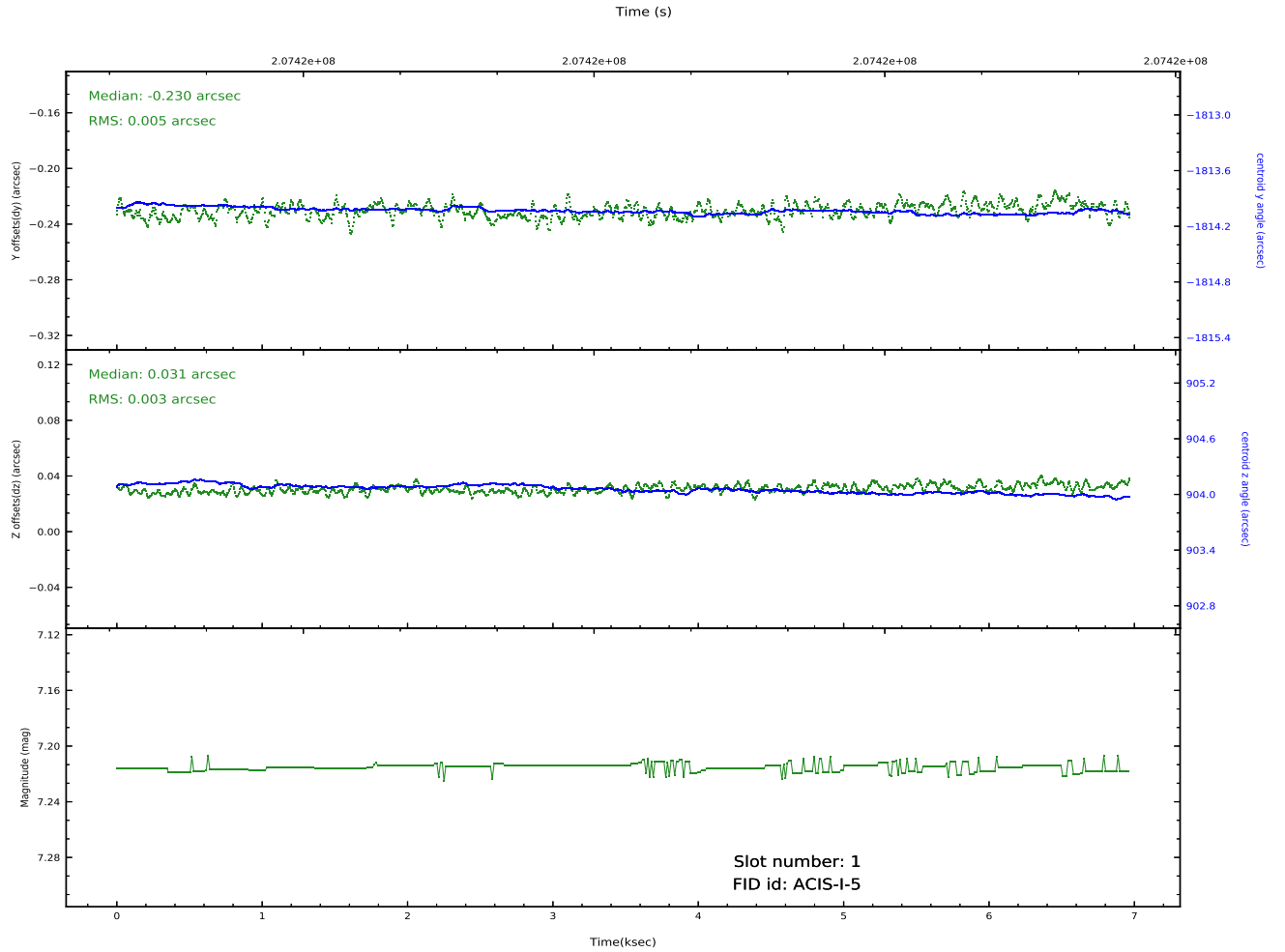
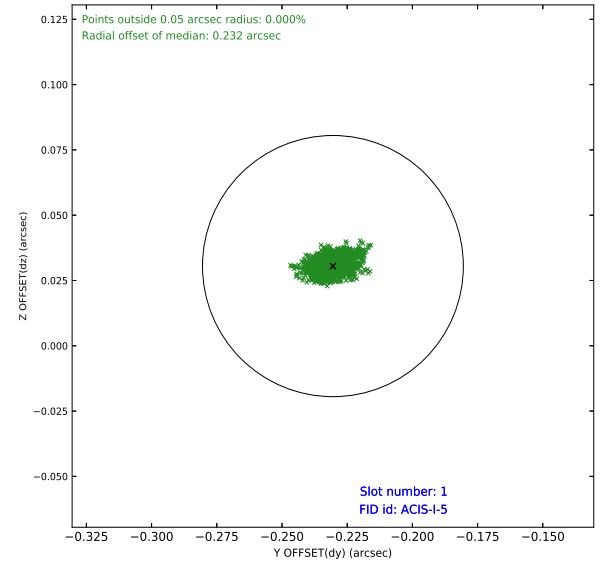
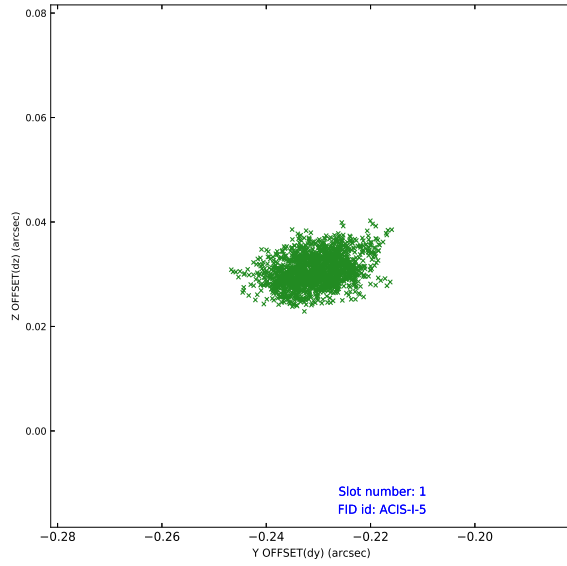


## 2.5 FID Slots

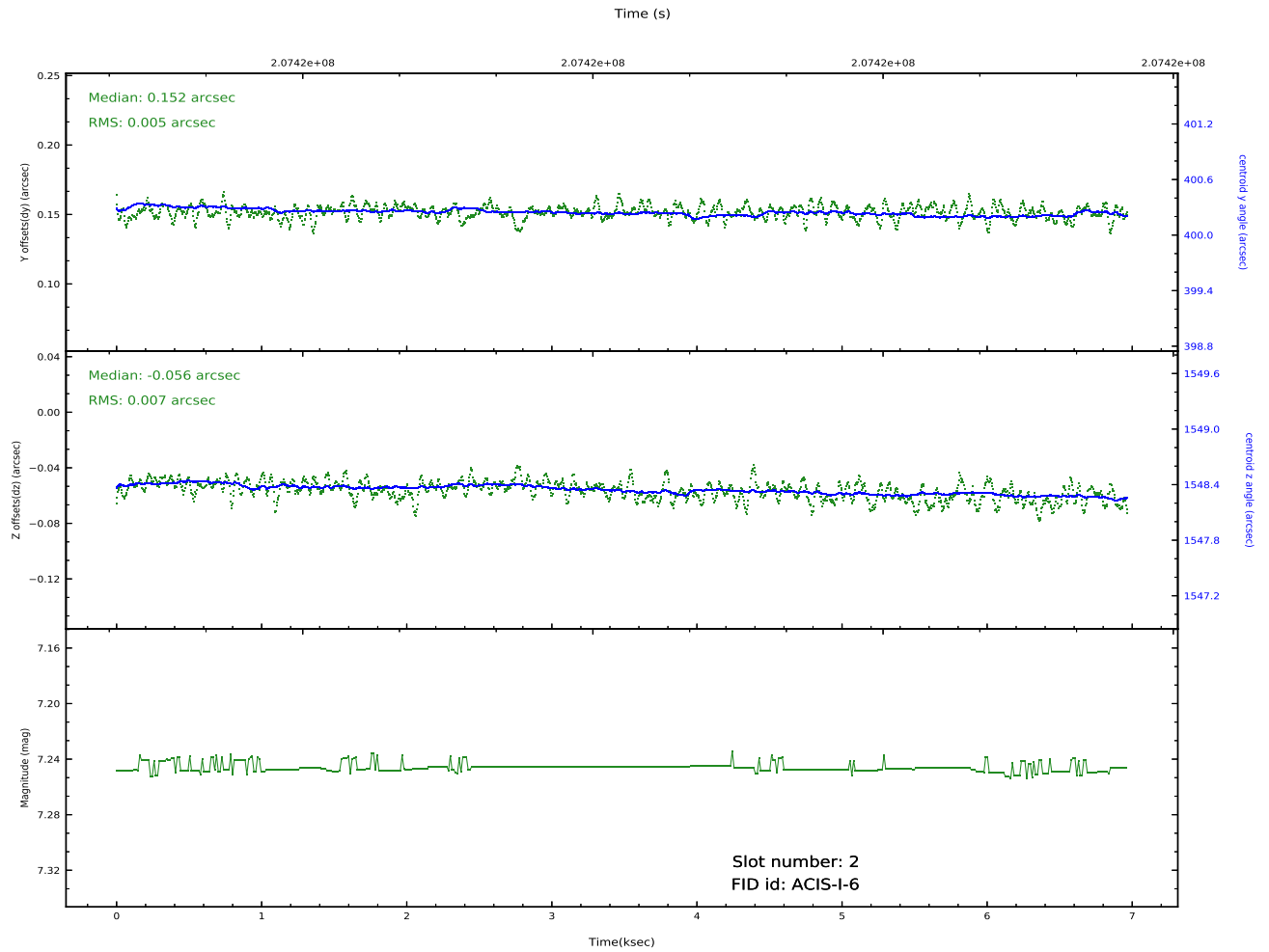
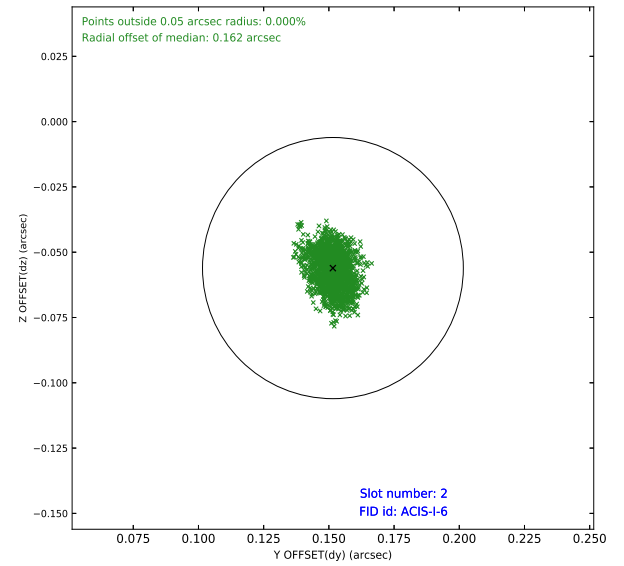
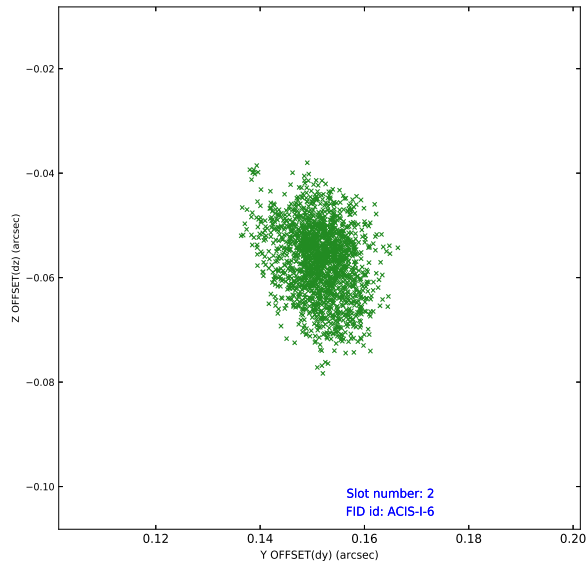
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.09.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	6.962

### A.2 Comments