

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20507 - L2 Version 2  
Chandra X-Ray Center

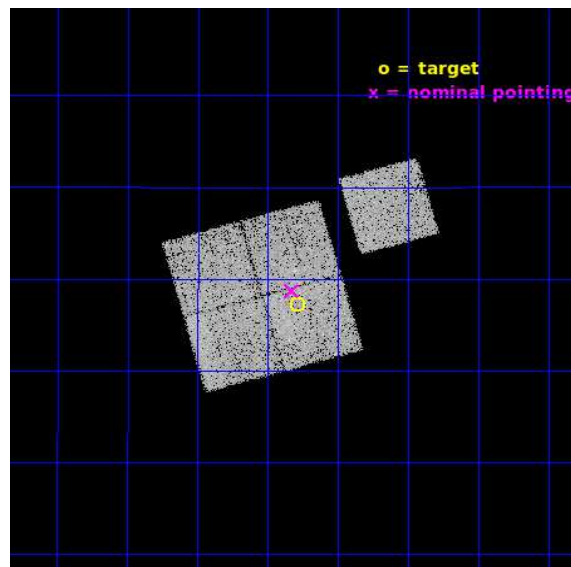
L2 Processing Date : Oct 29 2020

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# 1 Front

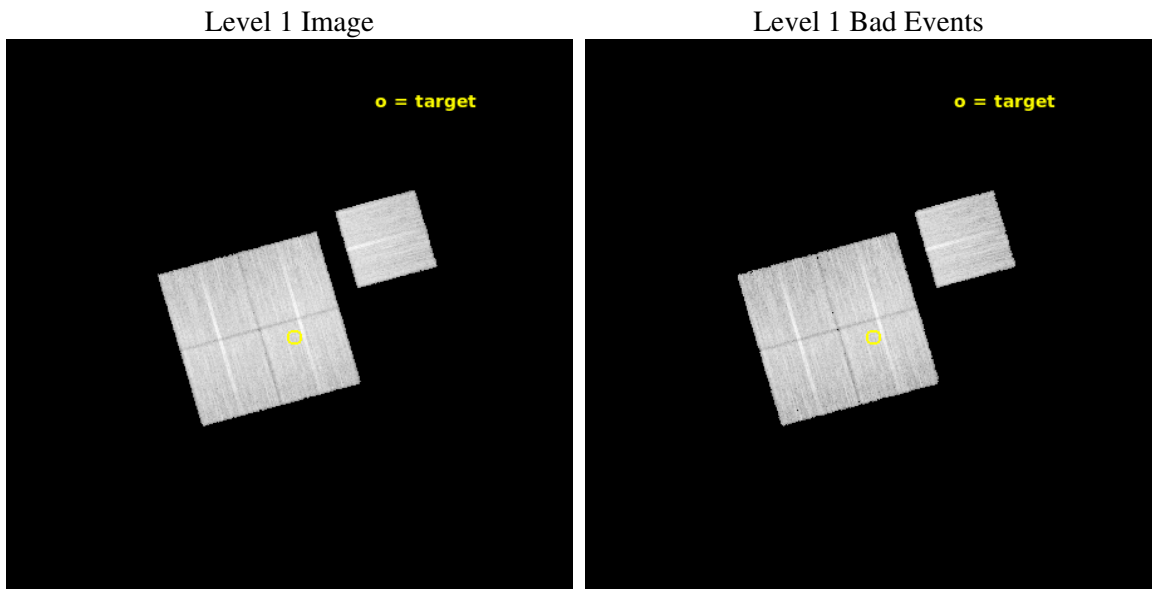
seq_num	801721	Sequence number
obs_id	20507	Observation id
title	Enabling precision cosmology with optically selected galaxy clusters	&#160
observer	Roger Morris	Principal investigator
object	CIG J092921+120505	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	142.322083	Observer's specified target RA [deg]
dec_targ	12.119833	Observer's specified target Dec [deg]
ra_nom	142.33221415964	Nominal RA [deg]
dec_nom	12.145467303822	Nominal Dec [deg]
roll_nom	74.209001653996	Nominal Roll [deg]
revision	2	Processing version of data
ontime	15065.745019317	Sum of GTIs [s]
livetime	14868.899969399	Livetime [s]
ontime0	15068.762959599	Sum of GTIs [s]
ontime1	15068.803999543	Sum of GTIs [s]
ontime2	15068.845039606	Sum of GTIs [s]
ontime3	15065.745019317	Sum of GTIs [s]
ontime6	15068.721919537	Sum of GTIs [s]
l2events	55287	Number of level 2 events



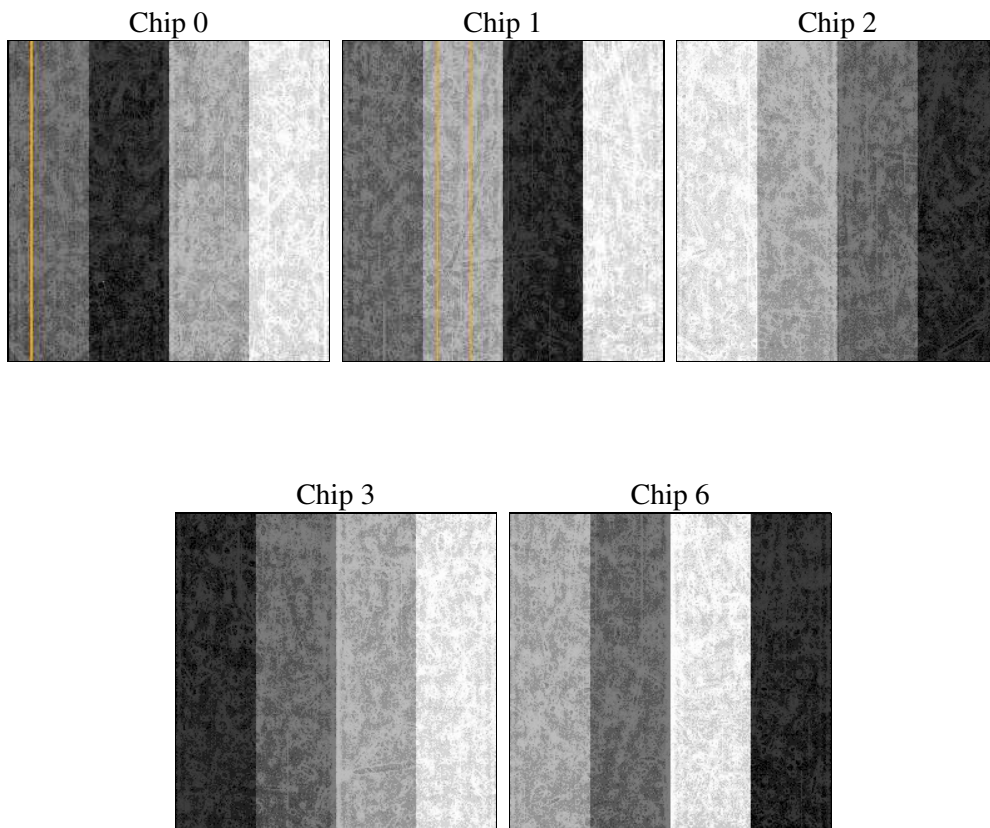
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	15065.745019317	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime0	15068.762959599	Sum of GTIs [s]
date	2020-10-29T04:48:12	Date and time of file creation	ontime1	15068.803999543	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	15068.845039606	Sum of GTIs [s]
			ontime3	15065.745019317	Sum of GTIs [s]
			ontime6	15068.721919537	Sum of GTIs [s]
			l1events	553072	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	102848	106064	114871	113951	115338
rejected events	89717	92046	102053	101028	102430
rejected %	87%	86%	88%	88%	88%

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4465	4579	4579	4730	4136
	4%	4%	3%	4%	3%
grade 1 events	65	54	74	68	60
	0%	0%	0%	0%	0%
grade 2 events	3319	3733	3237	2965	3102
	3%	3%	2%	2%	2%
grade 3 events	1349	1377	1161	1338	1285
	1%	1%	1%	1%	1%
grade 4 events	1232	1255	1301	1239	1260
	1%	1%	1%	1%	1%
grade 5 events	5005	5160	4688	5439	5373
	4%	4%	4%	4%	4%
grade 6 events	2772	3074	2542	2654	3127
	2%	2%	2%	2%	2%
grade 7 events	84641	86832	97289	95518	96995
	82%	81%	84%	83%	84%

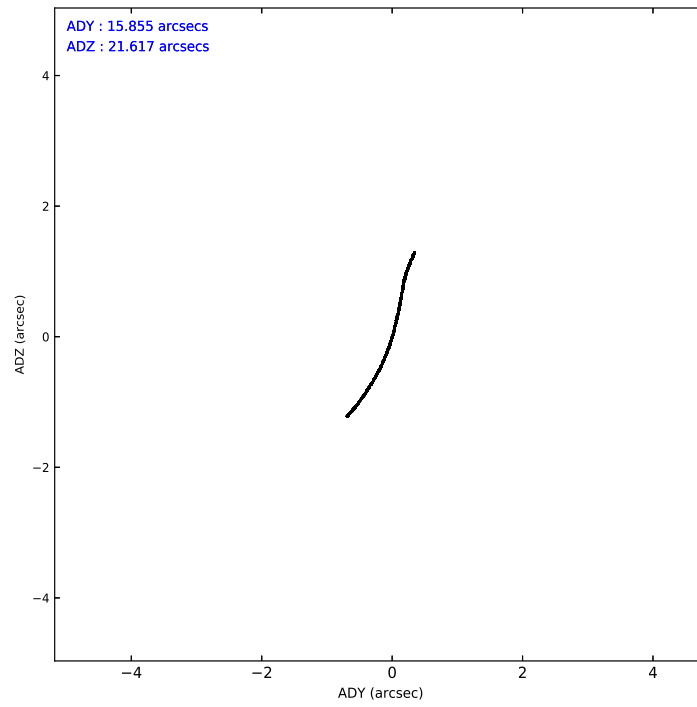
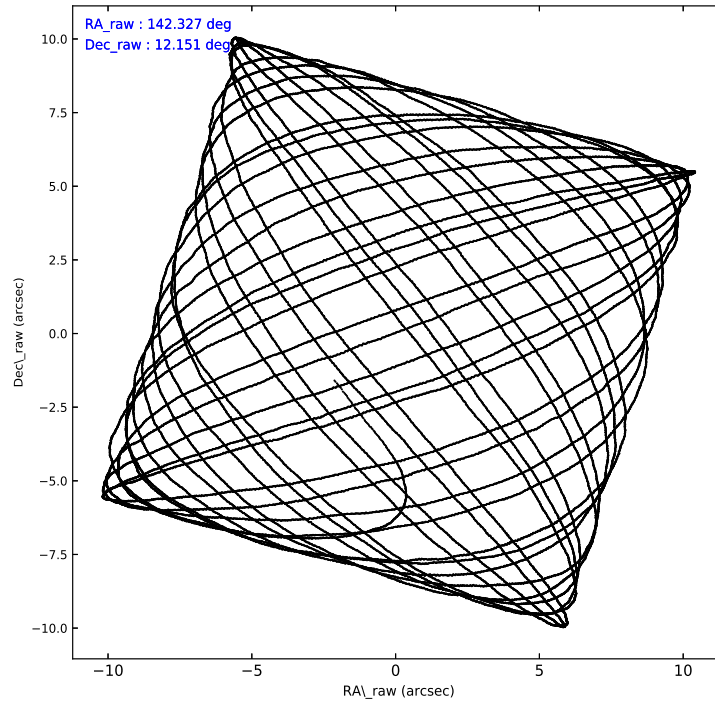


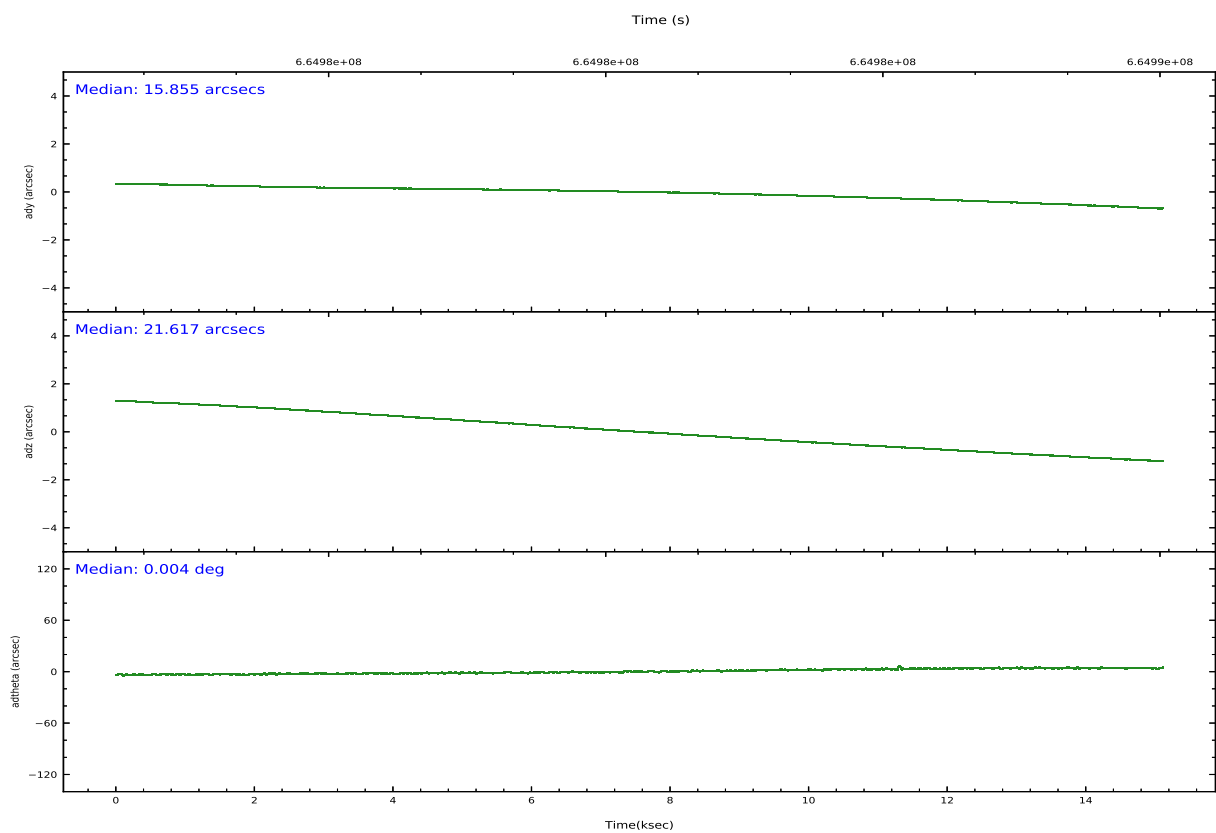
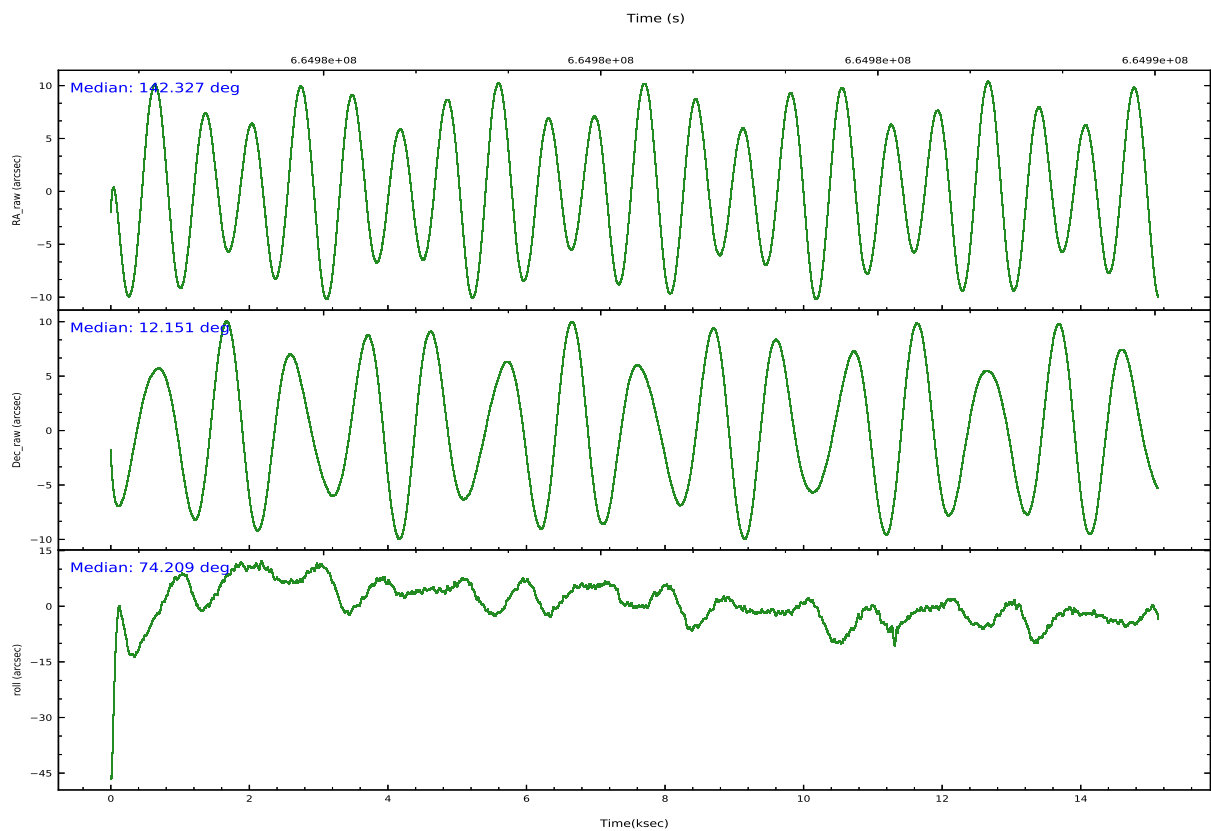
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-01236	ACIS-01236
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	142.334482	142.33221415964
[deg] Pointing Dec	12.124802	12.145467303822
[deg] Pointing Roll	73.997389	74.209001653996
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-225.542463	-225.5416254958367
[mm] SIM translation stage offset	-8.050000000000001	-8.050827507093004
[s] Observation start time (MET)	664973046.184000	664971700.09851
Observation start date	2019-01-27T10:42:57	2019-01-27T10:21:40
[s] Observation end time (MET)	664988046.184000	664988786.84953
Observation end date	2019-01-27T14:52:57	2019-01-27T15:06:26
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	Y	Y
CCD I1 on	Y	Y
CCD I2 on	Y	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O1	Y
CCD S3 on	N	N
CCD S4 on	N	N
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
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



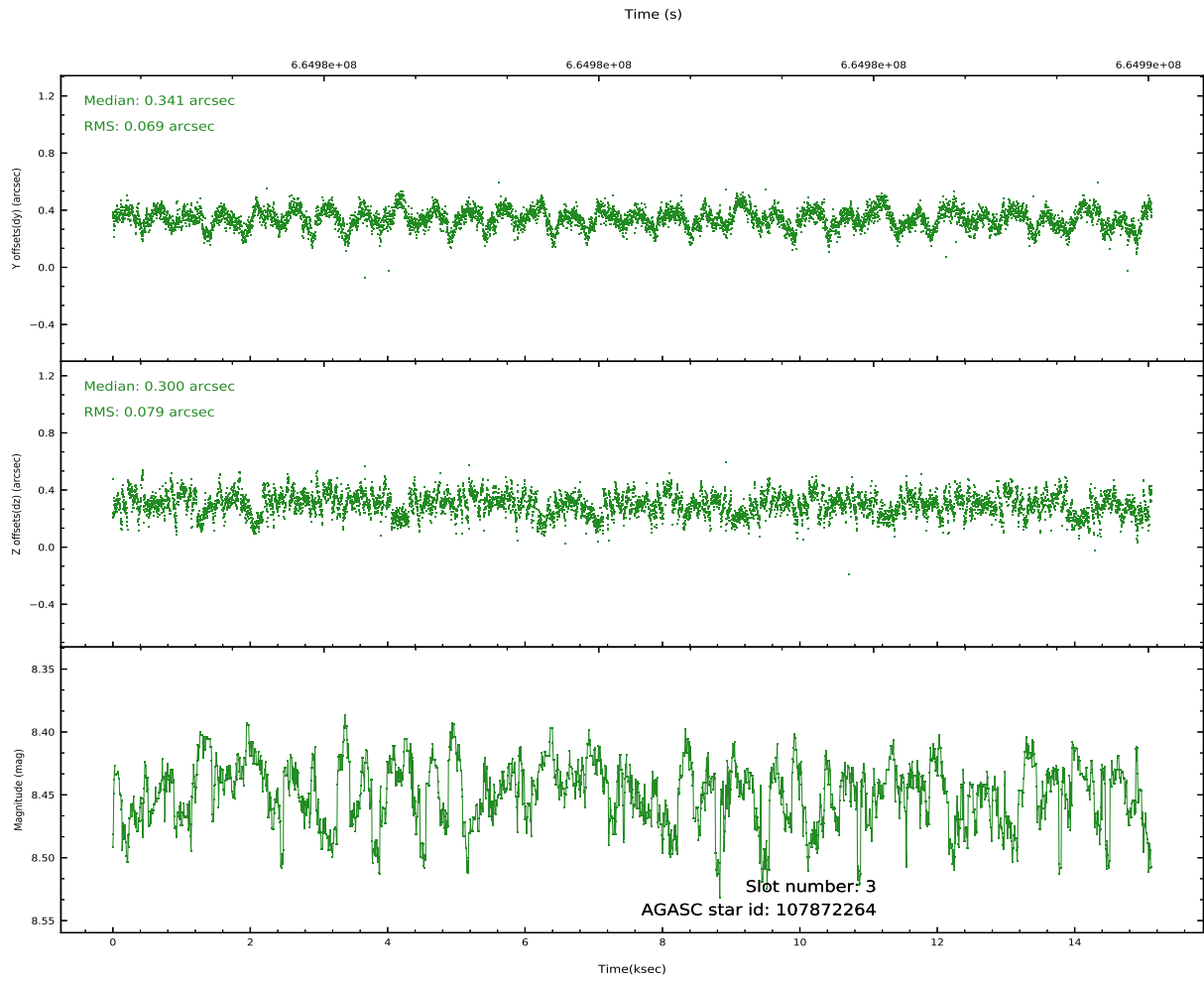
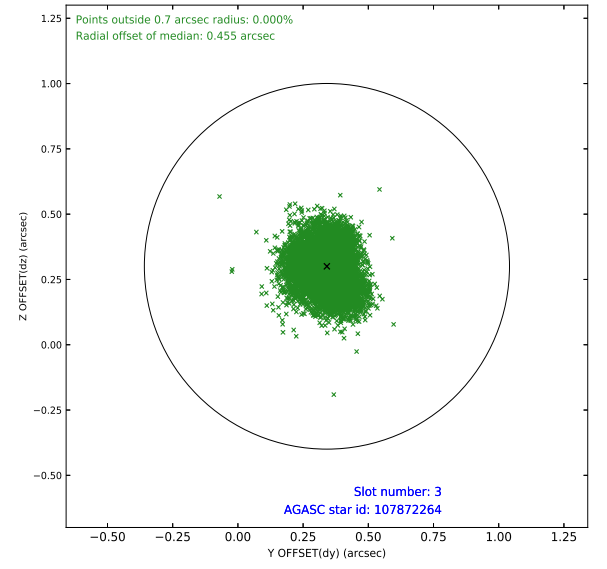
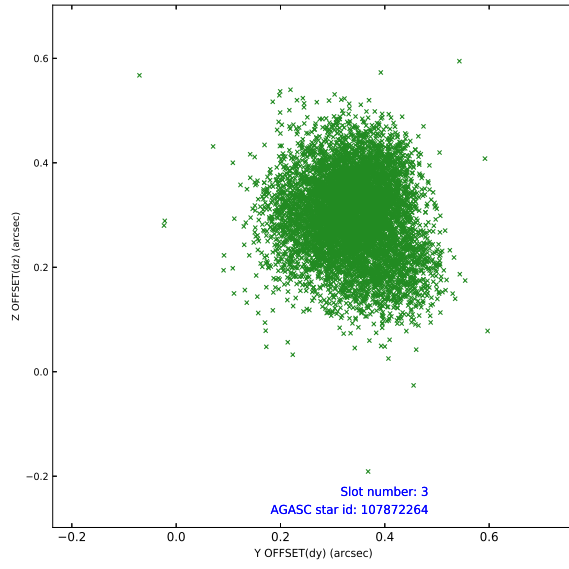


Slot Statistics

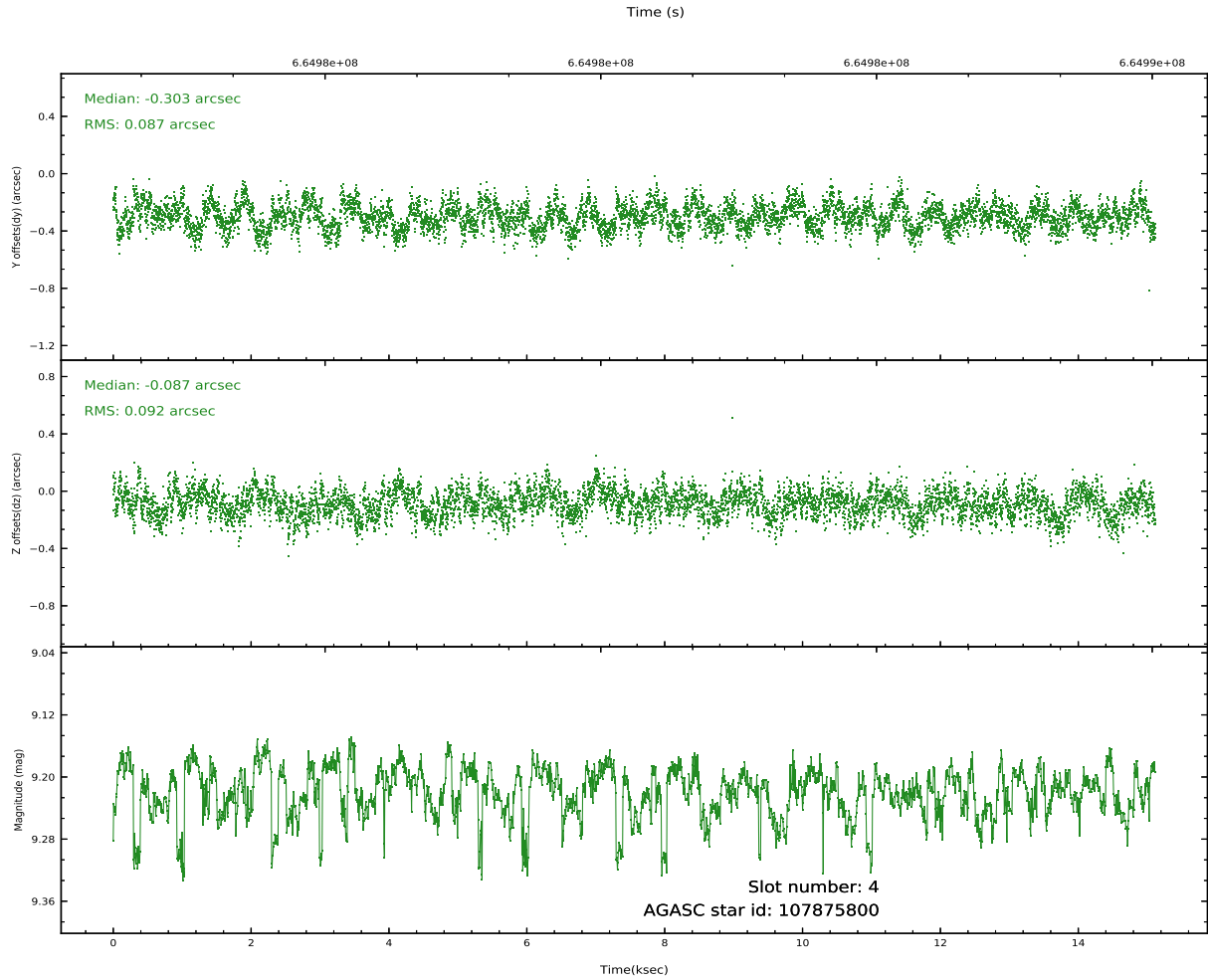
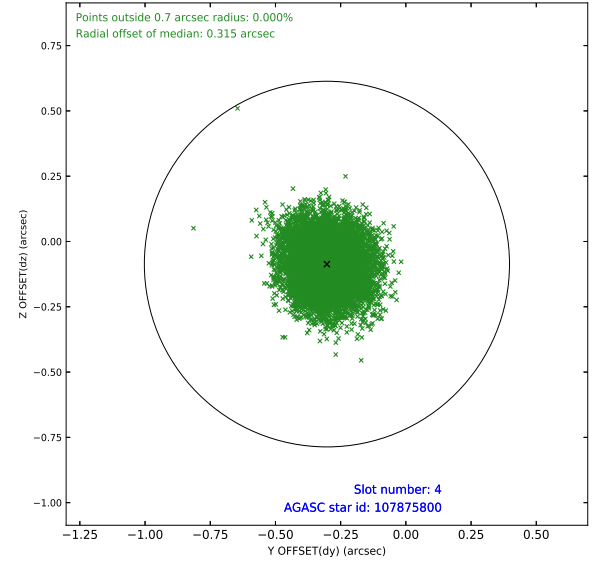
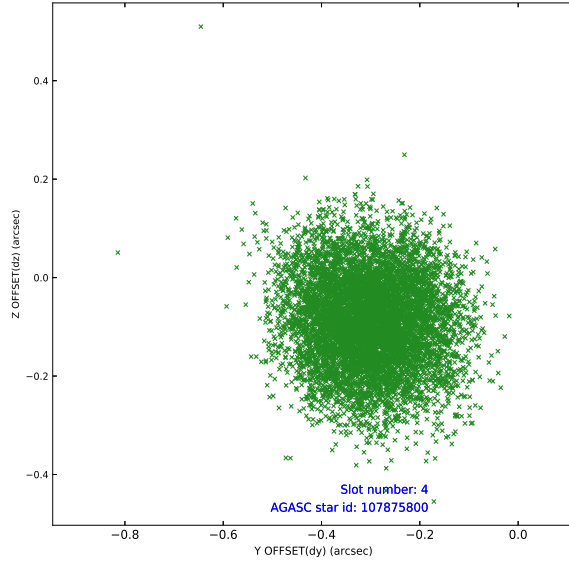
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.16	3688	1.000	0.378	-0.231	0.021	0.058	0.000000	0.000000	923.76	-1011
1	FID		ACIS-I-5	7.18	3688	1.000	-0.376	0.332	0.012	0.018	0.000000	0.000000	-1824.73	887
2	FID		ACIS-I-6	7.21	3688	1.000	-0.094	-0.025	0.022	0.052	0.000000	0.000000	388.78	1531
3	GUIDE	used	107872264	8.45	7375	1.000	0.341	0.300	0.112	0.179	142.770735	11.858590	-495.89	-1741
4	GUIDE	used	107875800	9.22	7362	1.000	-0.303	-0.087	0.137	0.214	142.127320	12.199859	59.03	774
5	GUIDE	used	107876712	6.76	7374	1.000	-0.102	-0.161	0.093	0.157	142.139443	12.385311	712.26	919
6	GUIDE	used	107880664	8.63	7372	1.000	0.078	0.162	0.175	0.255	142.130238	11.635156	-1891.82	207
7	GUIDE	used	108273952	7.80	7370	1.000	0.006	-0.204	0.190	0.271	142.111925	12.674985	1685.99	1298

## 2.4 Star Slots

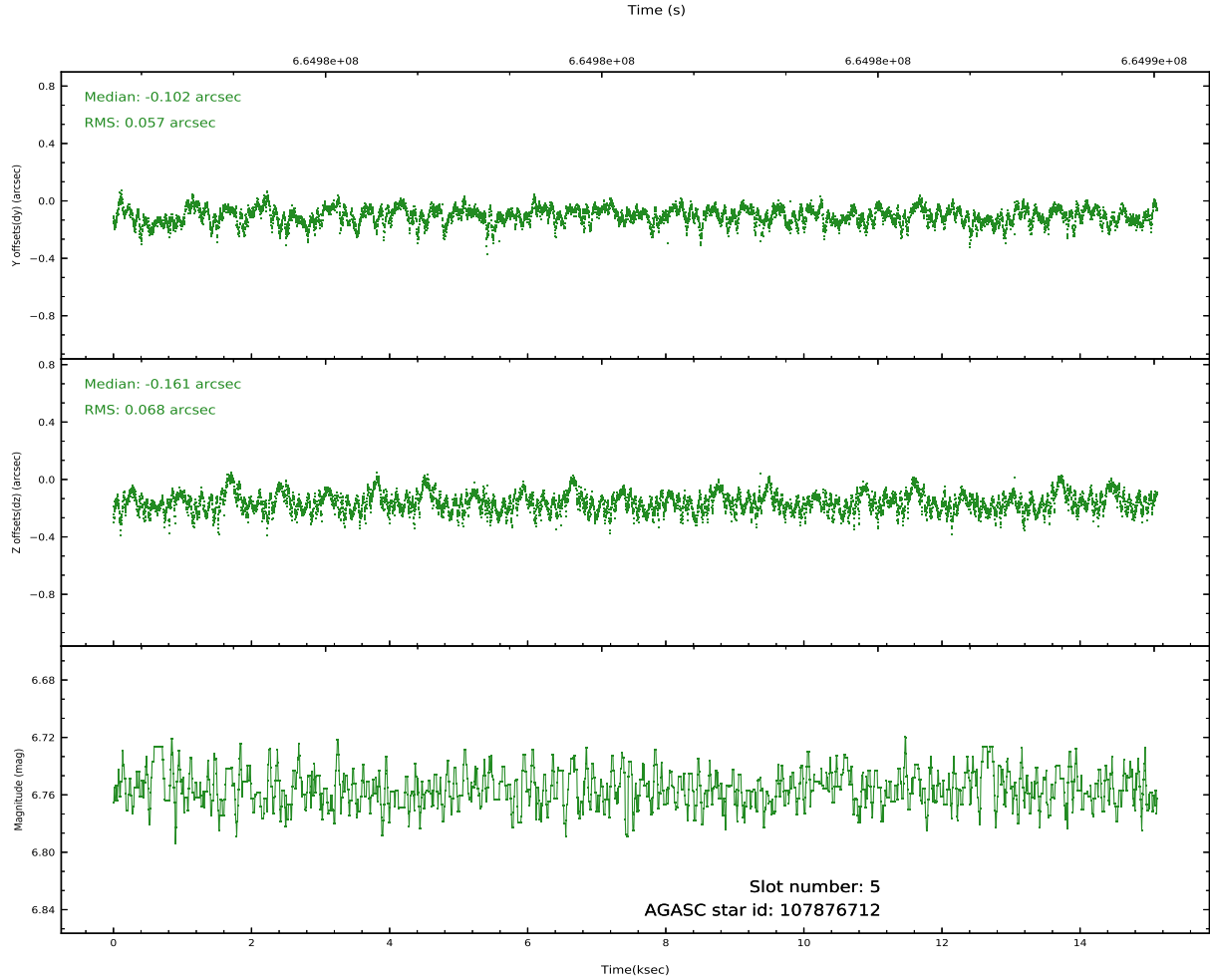
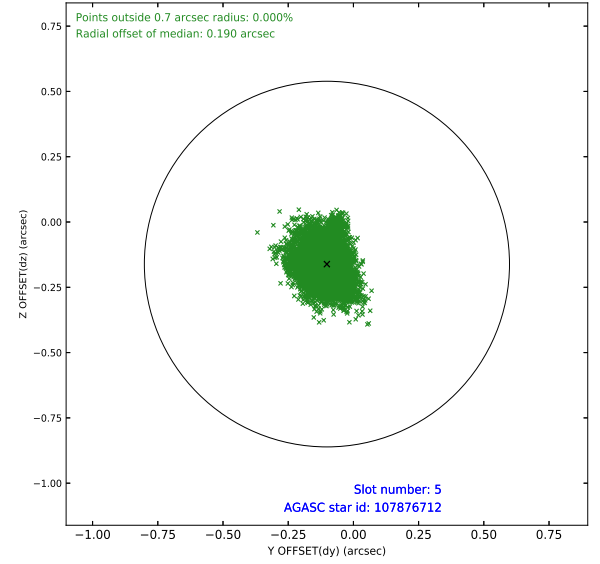
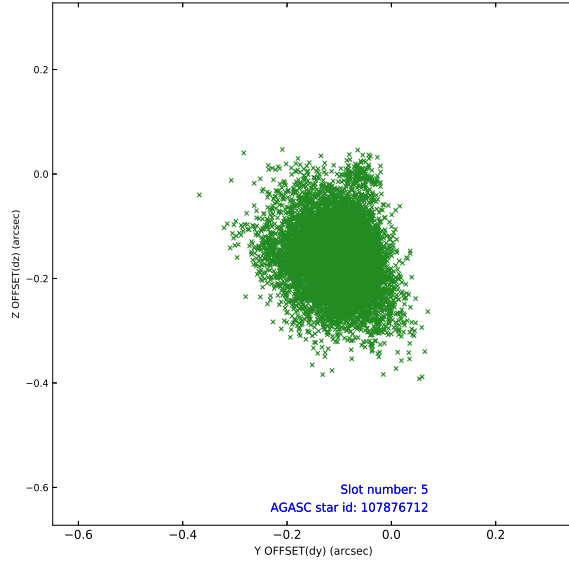
### 2.4.1 Slot 3



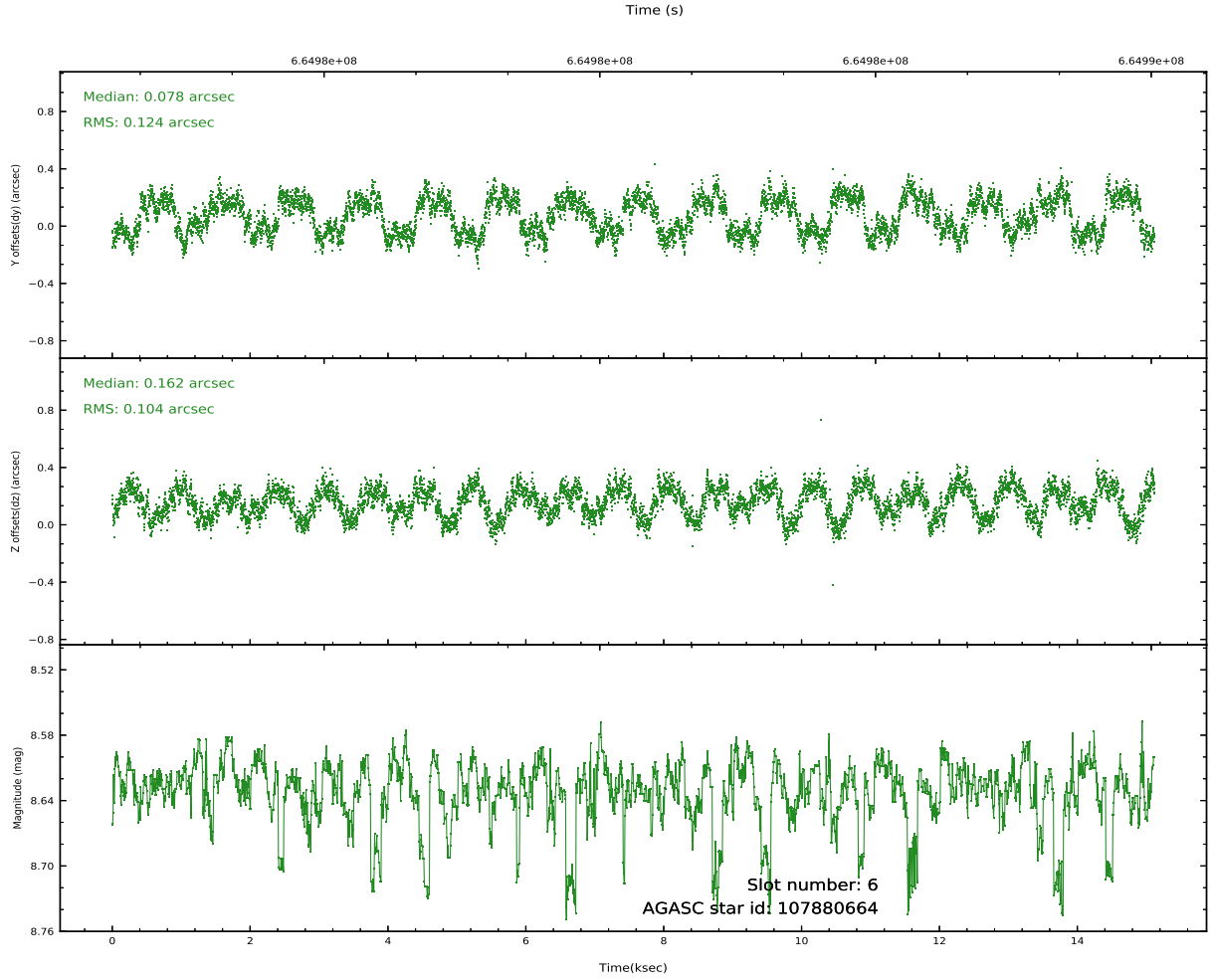
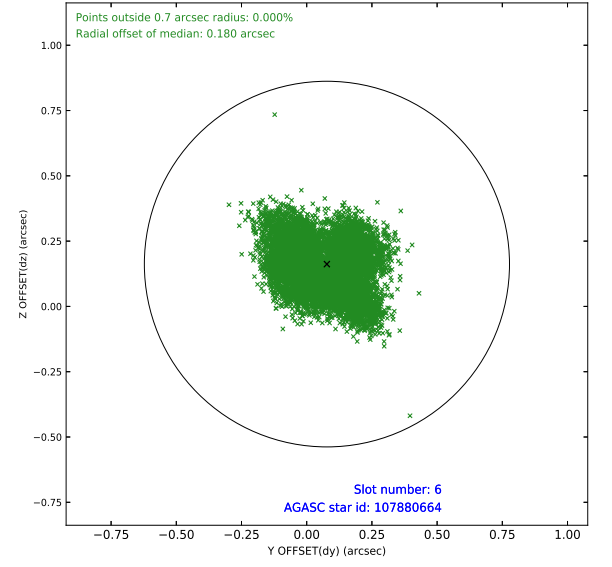
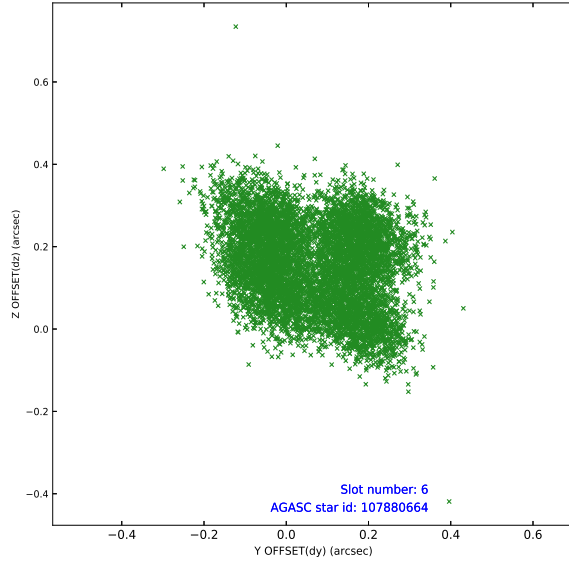
## 2.4.2 Slot 4



### 2.4.3 Slot 5

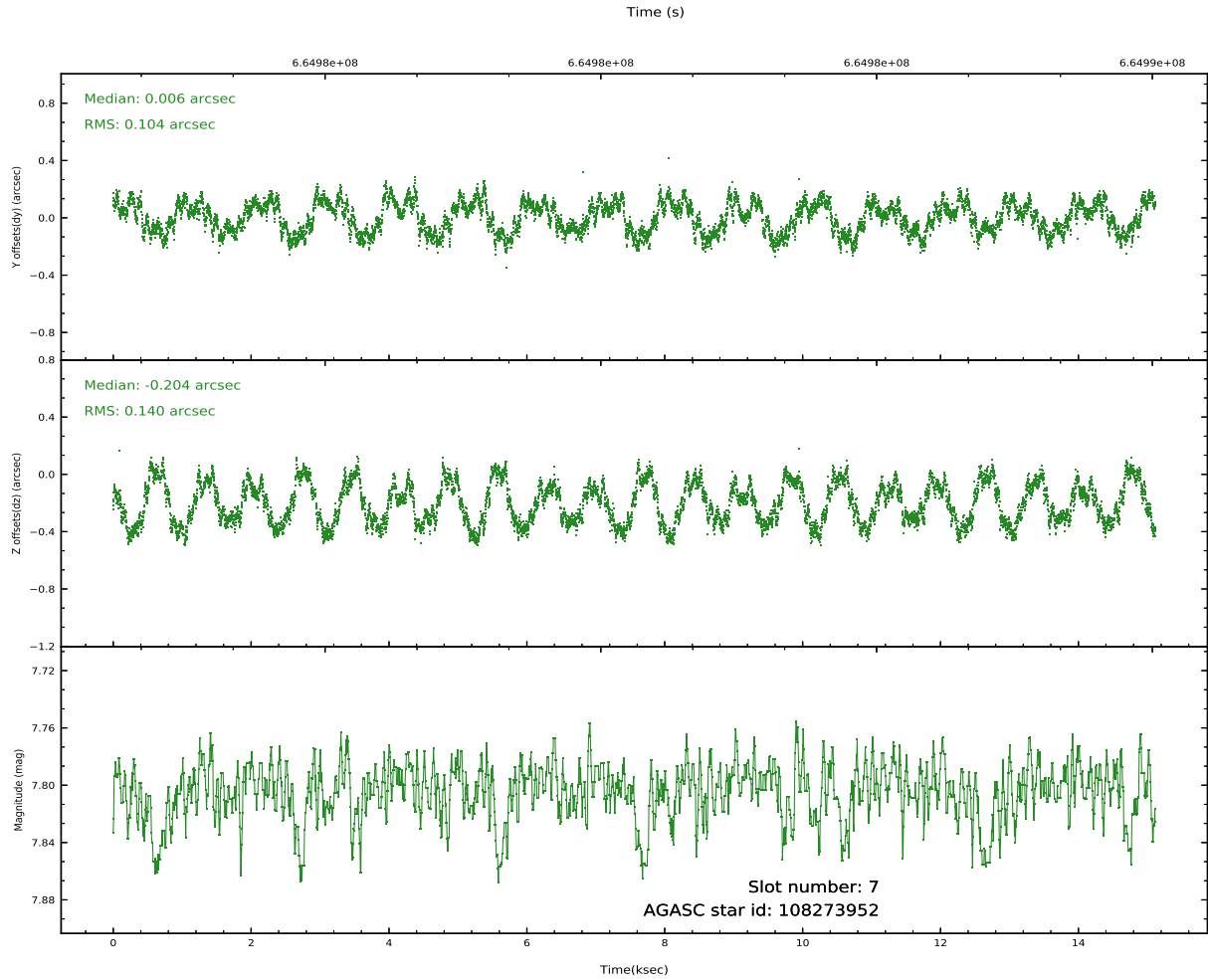
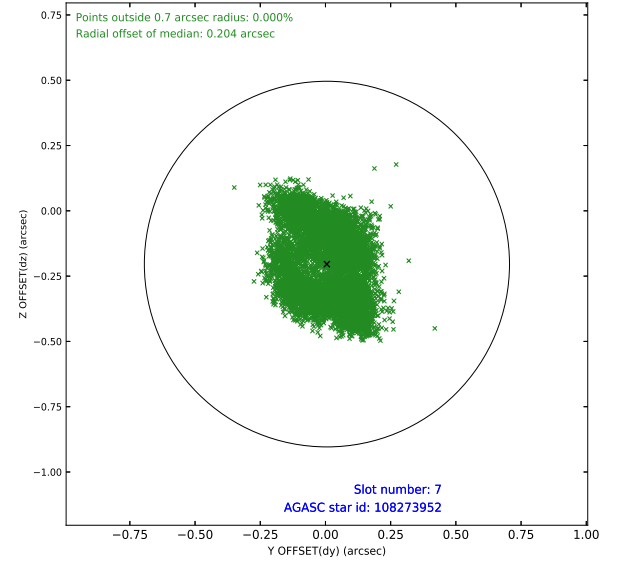
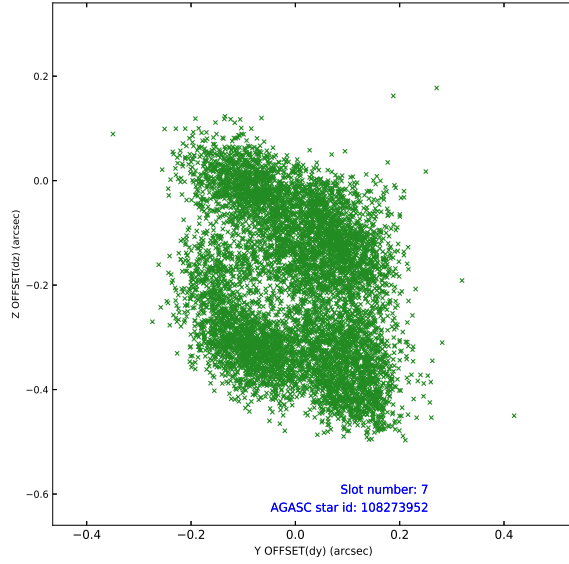


## 2.4.4 Slot 6



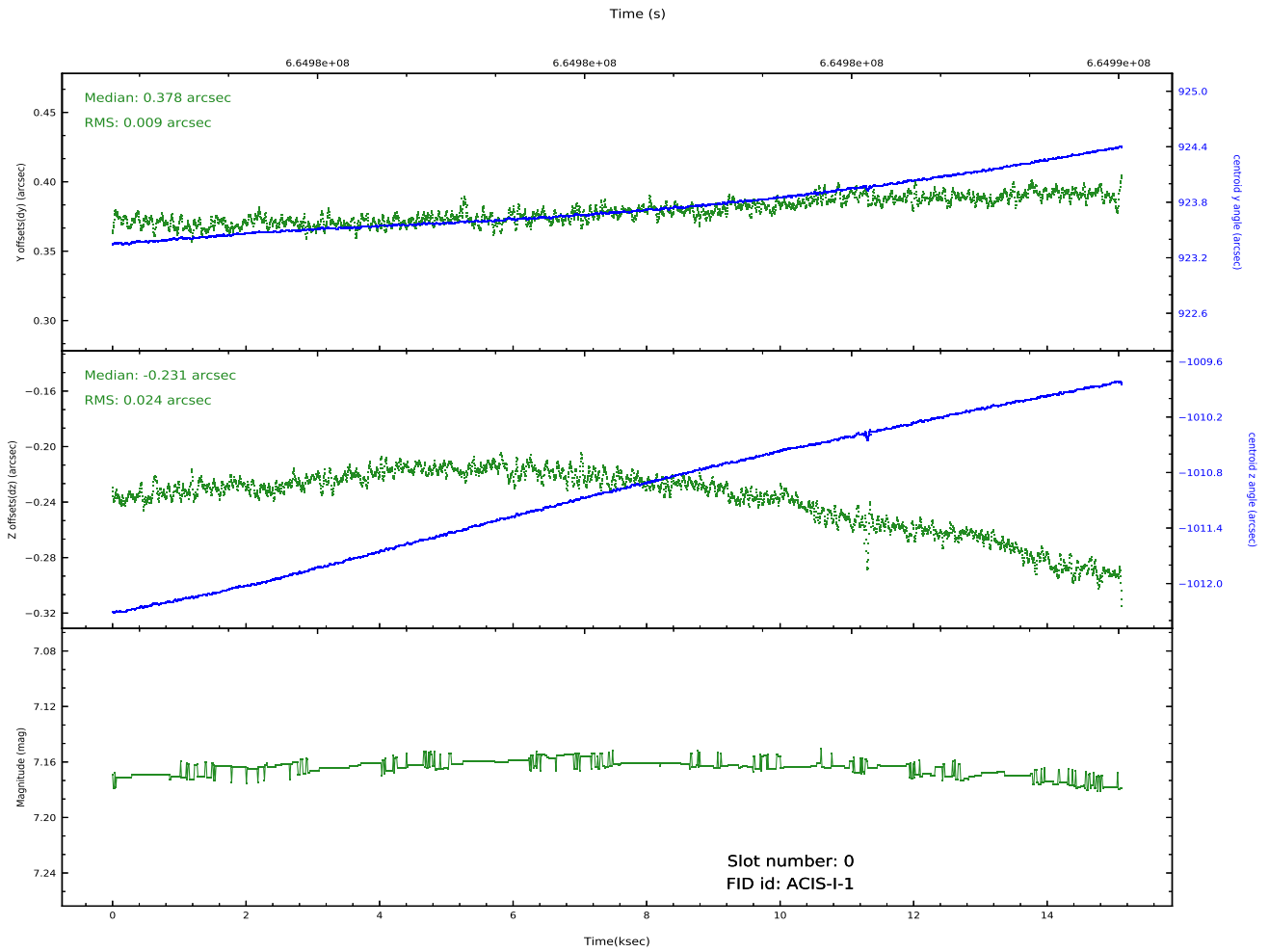
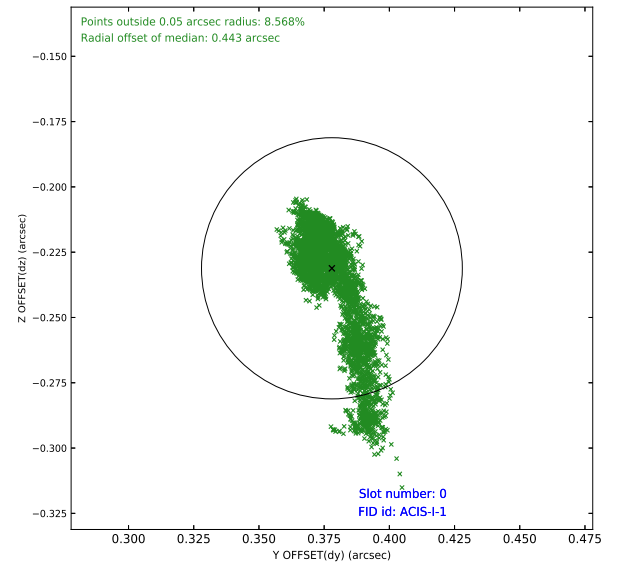
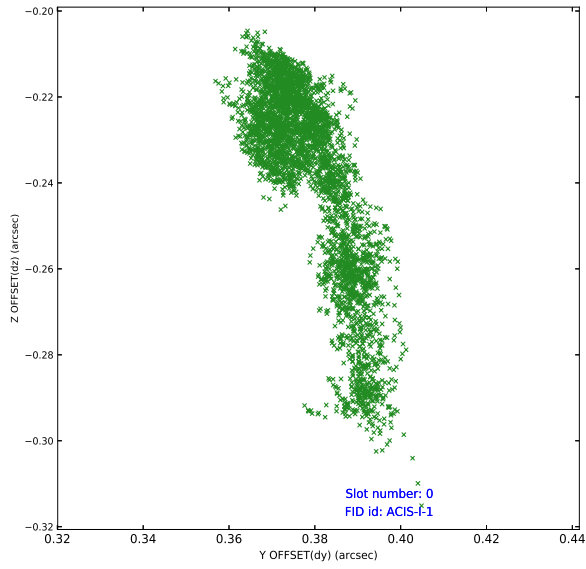


## 2.4.5 Slot 7

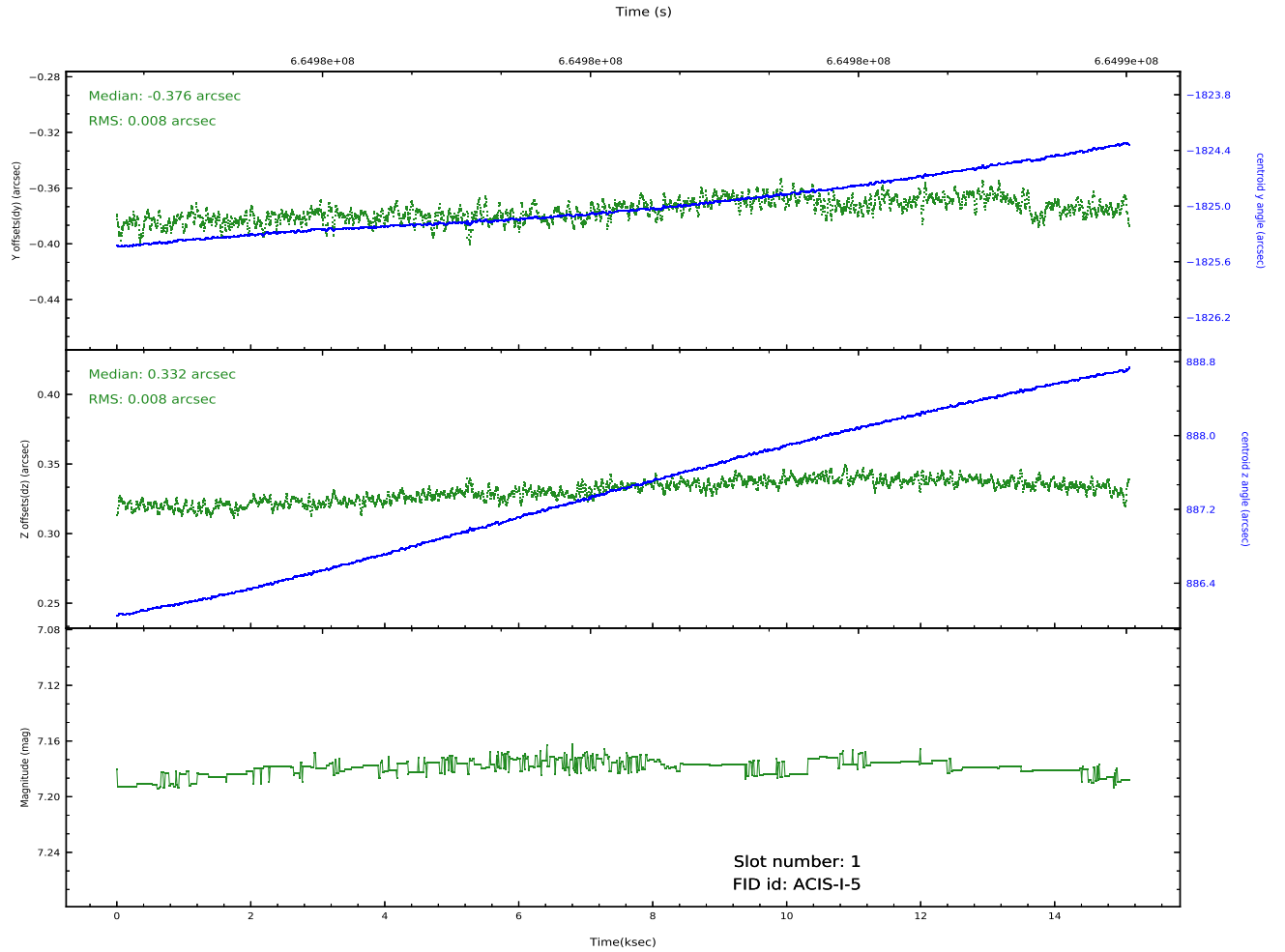
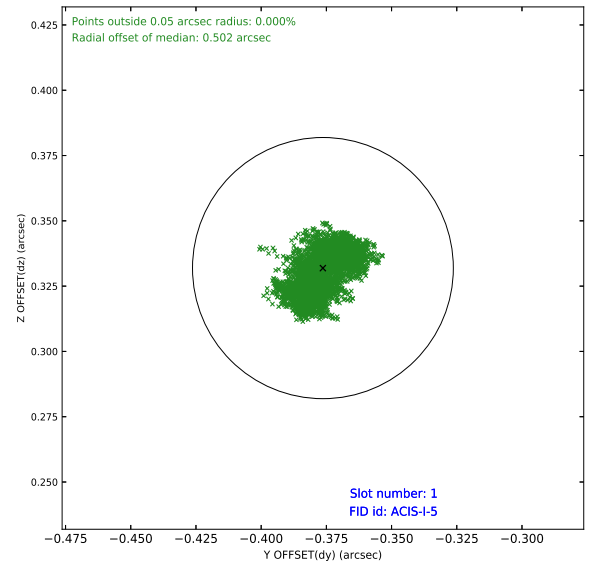
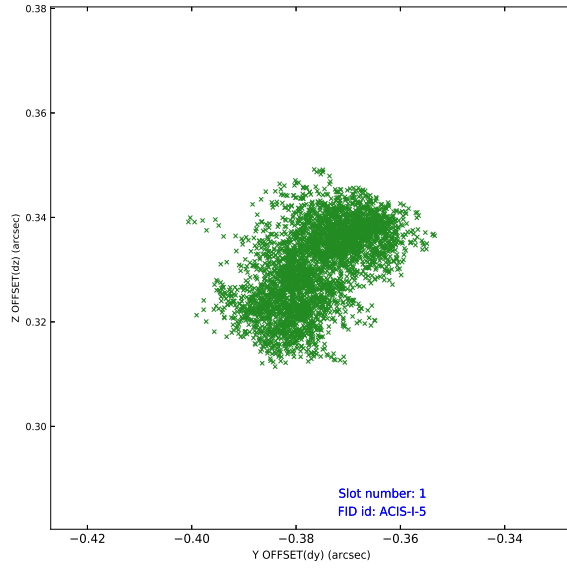


## 2.5 FID Slots

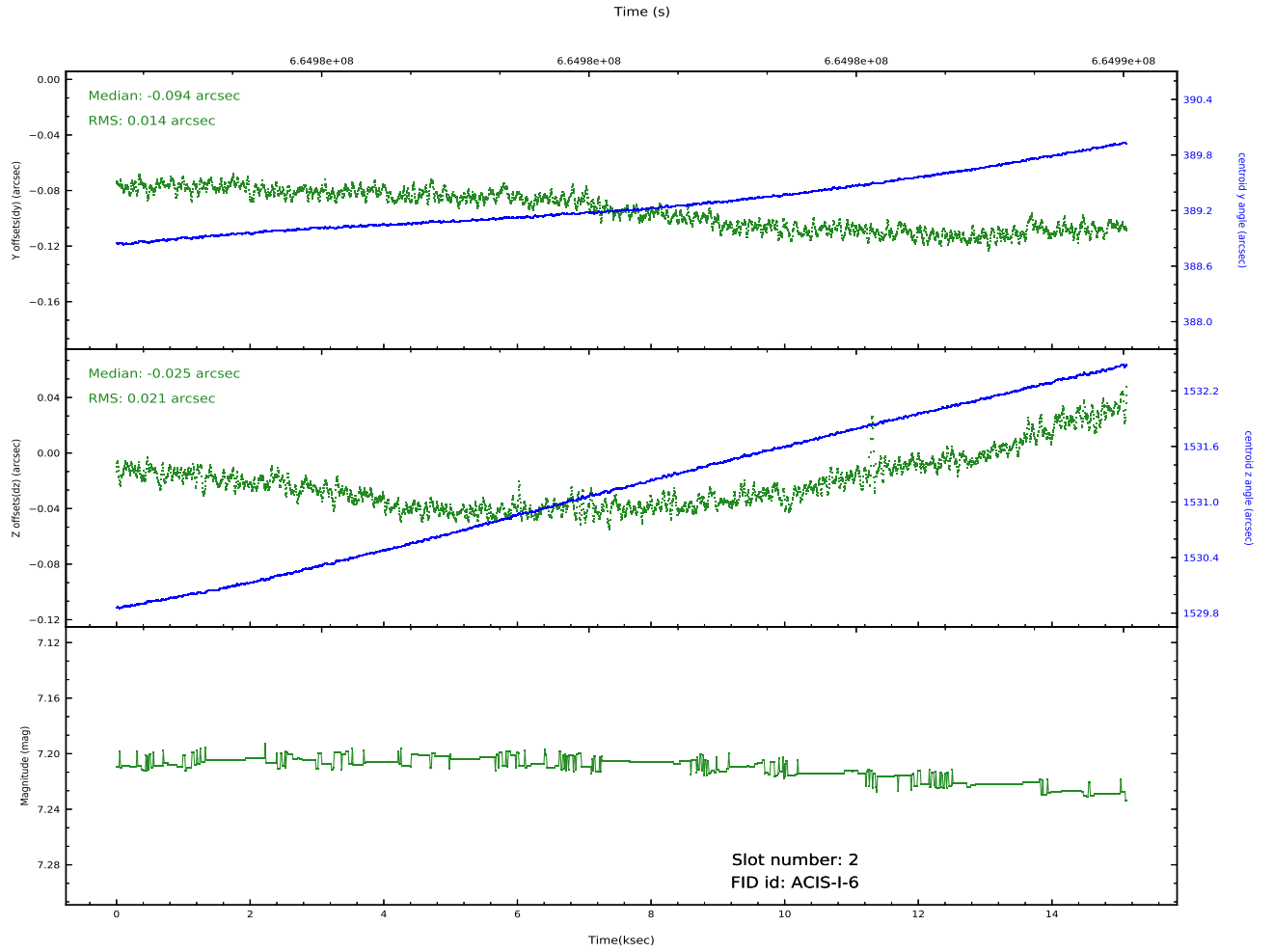
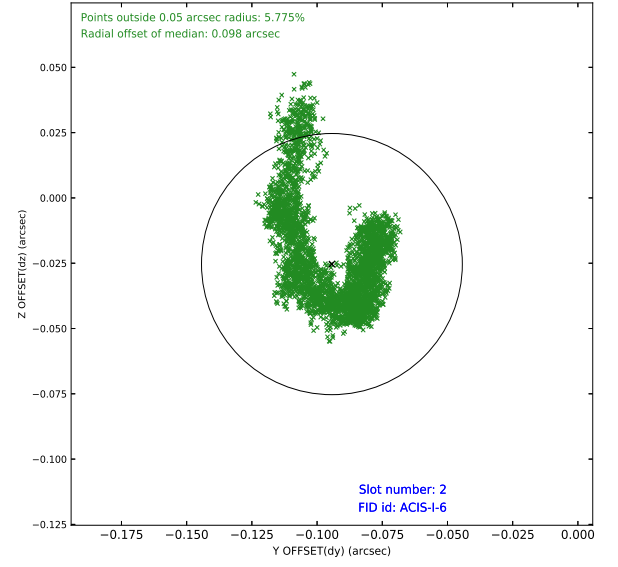
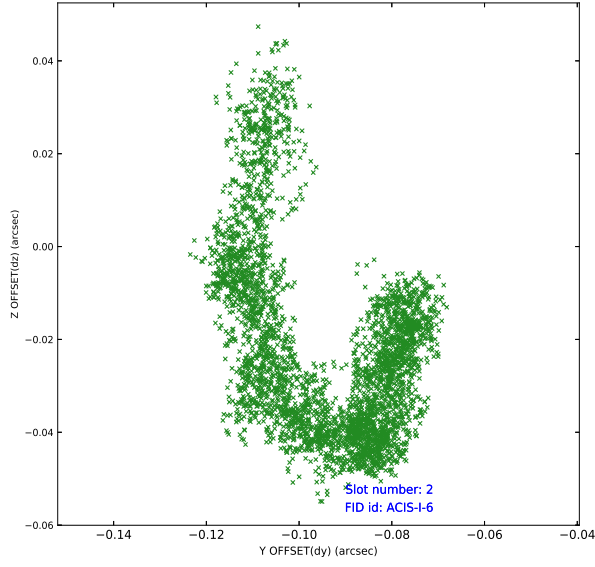
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.065745020151

### A.2 Comments