

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 6103 - L2 Version 4  
Chandra X-Ray Center

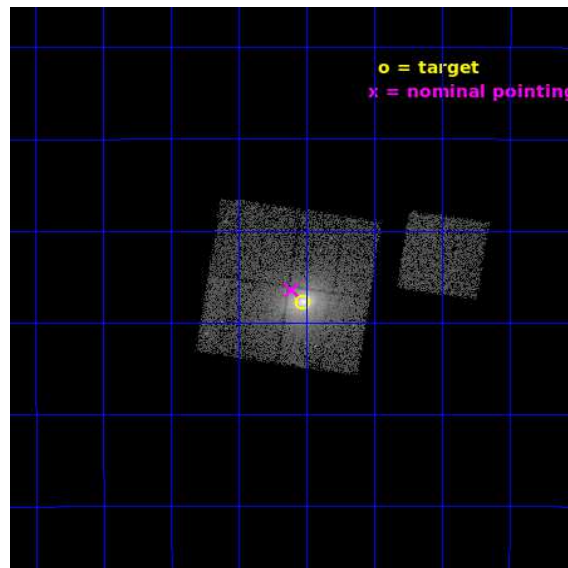
L2 Processing Date : Oct 2 2020

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# 1 Front

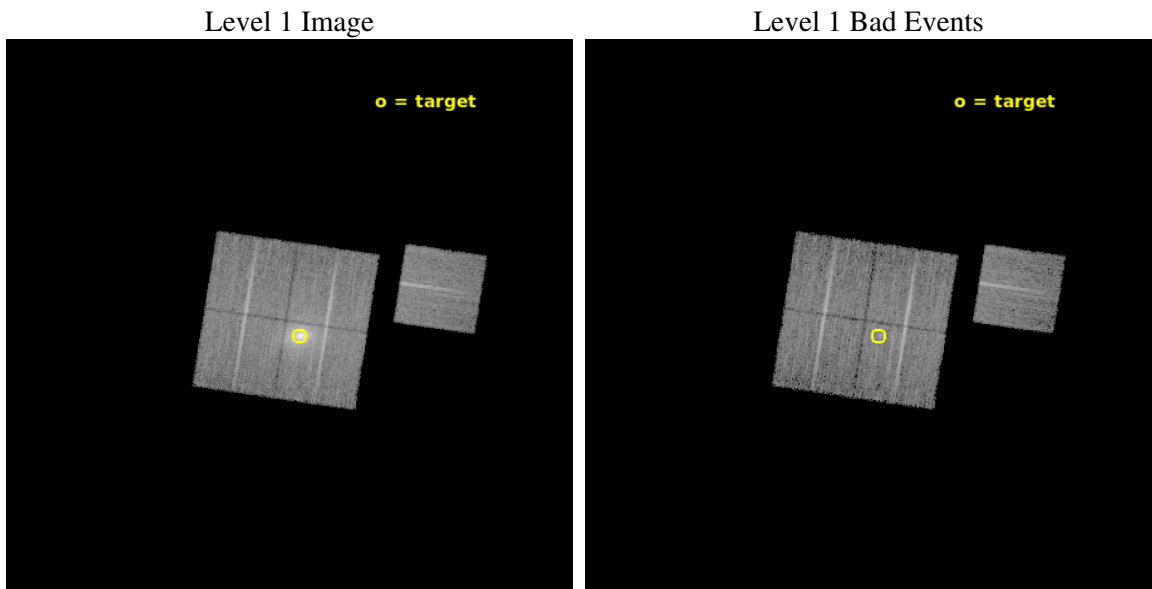
seq_num	800551	Sequence number
obs_id	6103	Observation id
title	Probing dark energy using the X-ray gas mass fraction in dynamically relaxed galaxy clusters	Proposal title
observer	Steve Allen	Principal investigator
object	PKS0745-191	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	116.882083	Observer's specified target RA [deg]
dec_targ	-19.29575	Observer's specified target Dec [deg]
ra_nom	116.90189655723	Nominal RA [deg]
dec_nom	-19.273654508851	Nominal Dec [deg]
roll_nom	98.742691304772	Nominal Roll [deg]
revision	4	Processing version of data
ontime	10406.618049443	Sum of GTIs [s]
livetime	10270.647923386	Livetime [s]
ontime0	10409.759019703	Sum of GTIs [s]
ontime1	10412.899979949	Sum of GTIs [s]
ontime2	10412.899979949	Sum of GTIs [s]
ontime3	10406.618049443	Sum of GTIs [s]
ontime6	10406.617969692	Sum of GTIs [s]
l2events	87408	Number of level 2 events



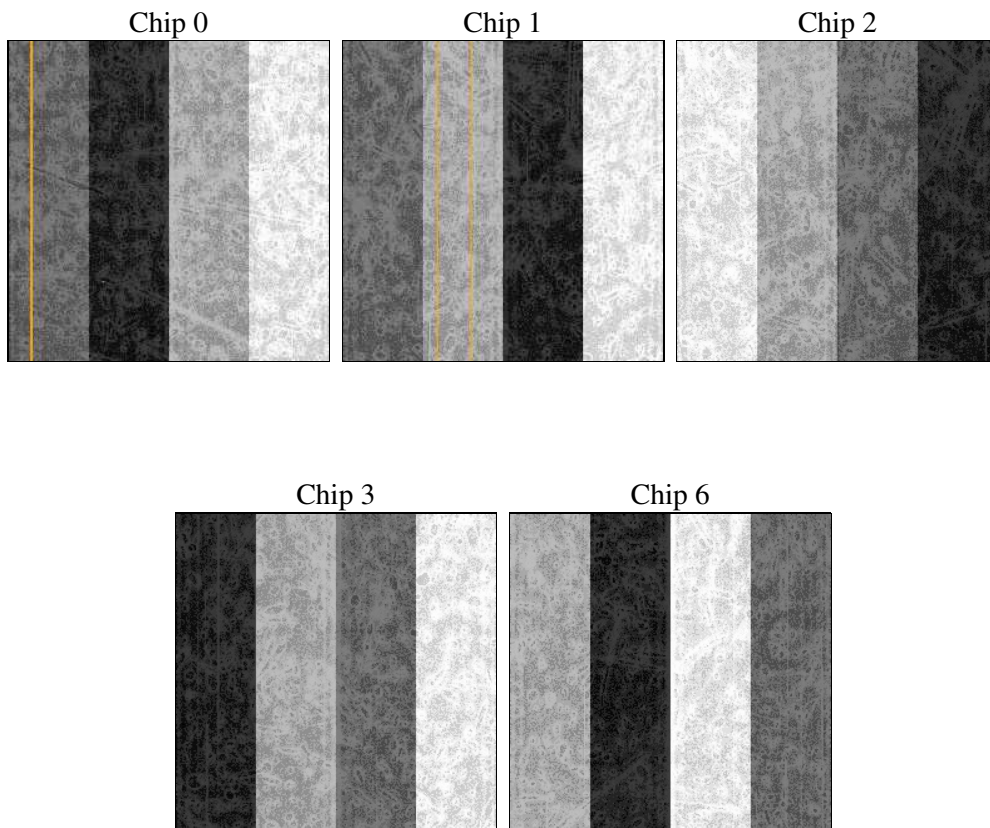
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10279.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	10406.618049443	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime0	10409.759019703	Sum of GTIs [s]
date	2020-10-02T09:37:27	Date and time of file creation	ontime1	10412.899979949	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	10412.899979949	Sum of GTIs [s]
			ontime3	10406.618049443	Sum of GTIs [s]
			ontime6	10406.617969692	Sum of GTIs [s]
			l1events	402776	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	67703	69153	76093	123048	66779
rejected events	60198	57190	65488	65162	60191
rejected %	88%	82%	86%	52%	90%

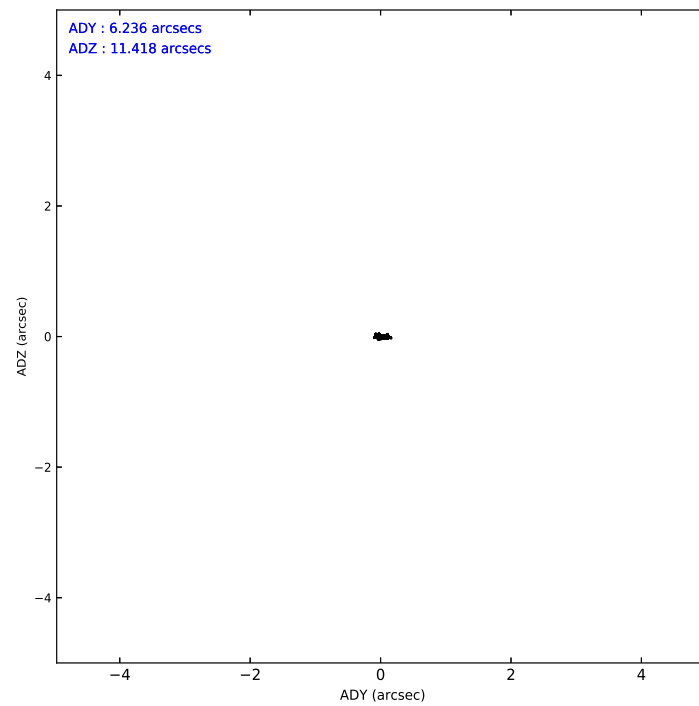
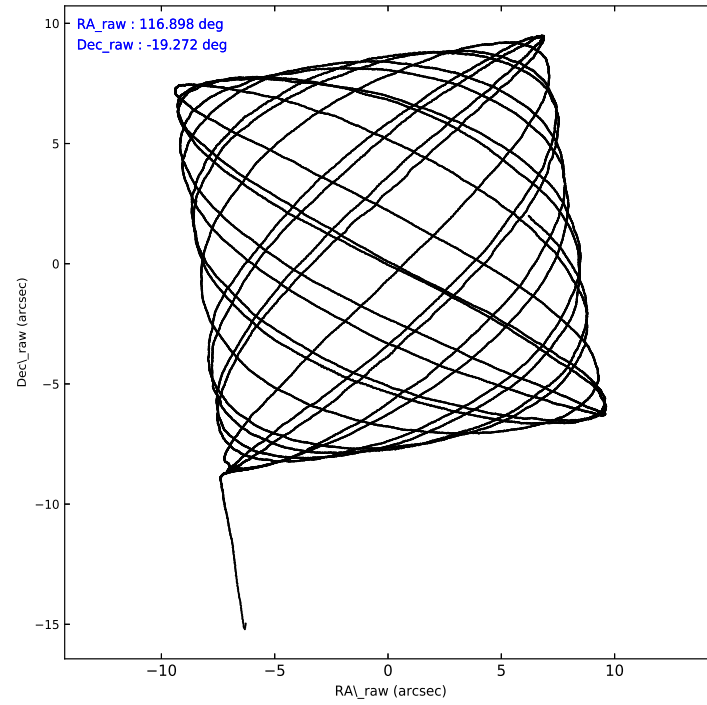
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	3290	6588	5881	44187	2411
	4%	9%	7%	35%	3%
grade 1 events	47	48	60	327	25
	0%	0%	0%	0%	0%
grade 2 events	1659	2168	2086	7022	1419
	2%	3%	2%	5%	2%
grade 3 events	843	1052	861	2563	802
	1%	1%	1%	2%	1%
grade 4 events	737	997	869	2555	840
	1%	1%	1%	2%	1%
grade 5 events	2398	2655	2307	2821	2694
	3%	3%	3%	2%	4%
grade 6 events	1367	1640	1359	2847	1465
	2%	2%	1%	2%	2%
grade 7 events	57362	54005	62670	60726	57123
	84%	78%	82%	49%	85%

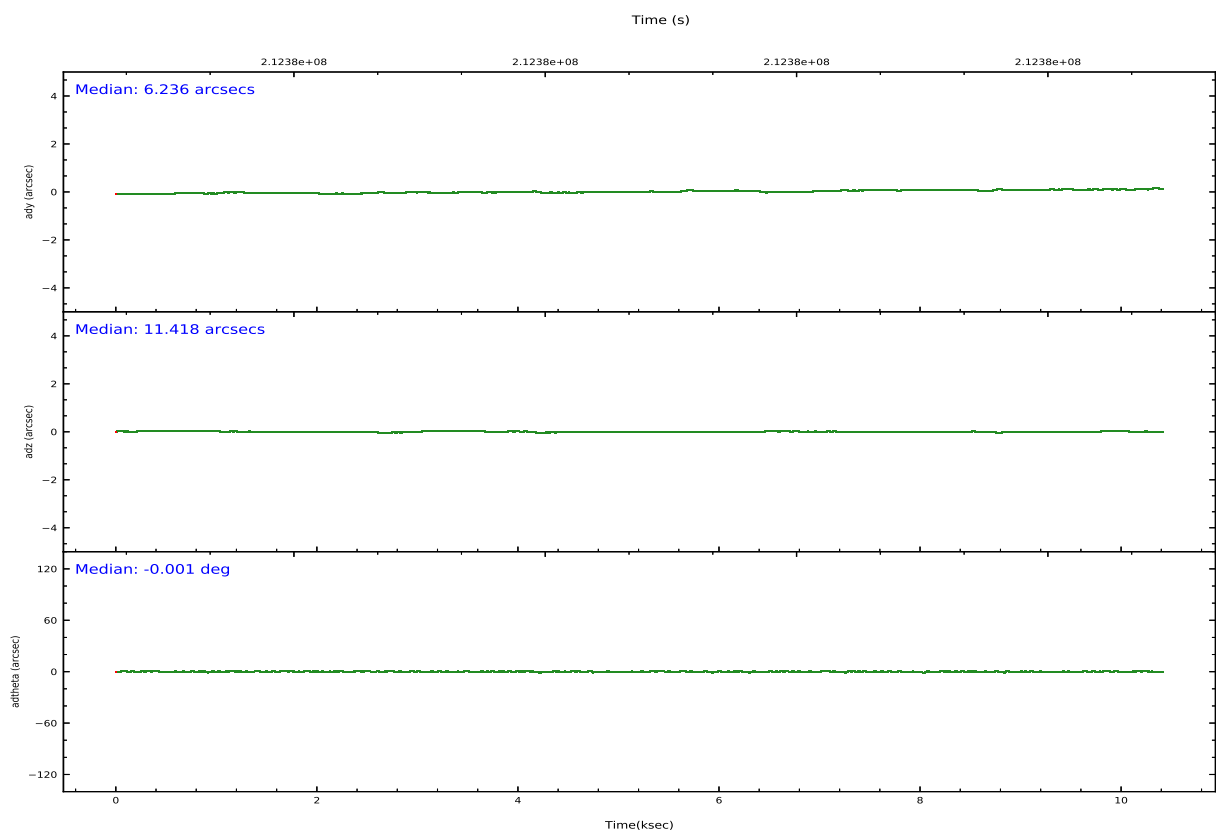
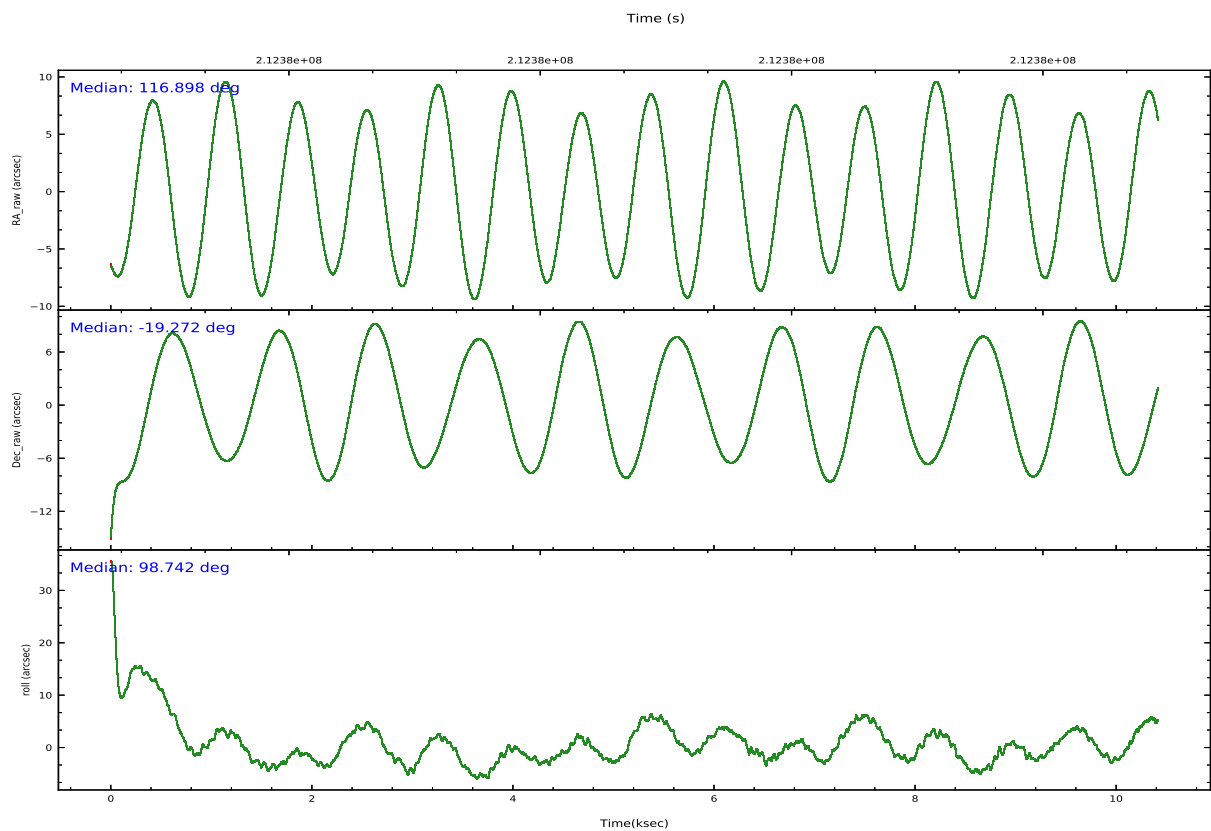


## 2.2 Compared Parameters

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	116.916381	116.90189655723	Subarray requested	NONE	NONE
[deg] Pointing Dec	-19.293577	-19.273654508851	Alternating exposures requested	N	N
[deg] Pointing Roll	98.549260	98.74269130477199	[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	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	212373367.184000	212372111.56579			
Observation start date	2004-09-24T00:35:03	2004-09-24T00:15:11			
[s] Observation end time (MET)	212383646.184000	212384659.61635			
Observation end date	2004-09-24T03:26:22	2004-09-24T03:44:19			
Read mode	TIMED	TIMED			

## 2.3 Aspect



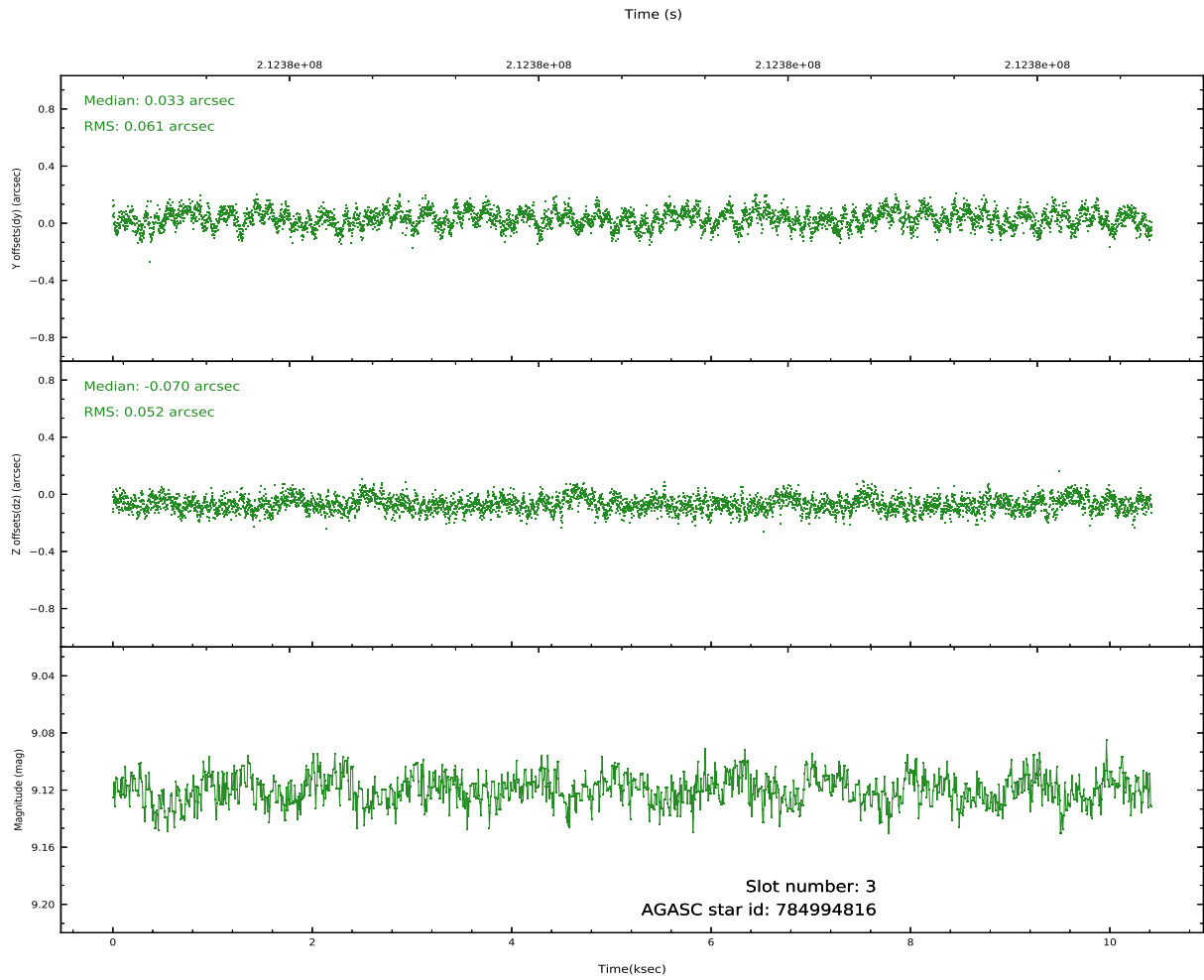
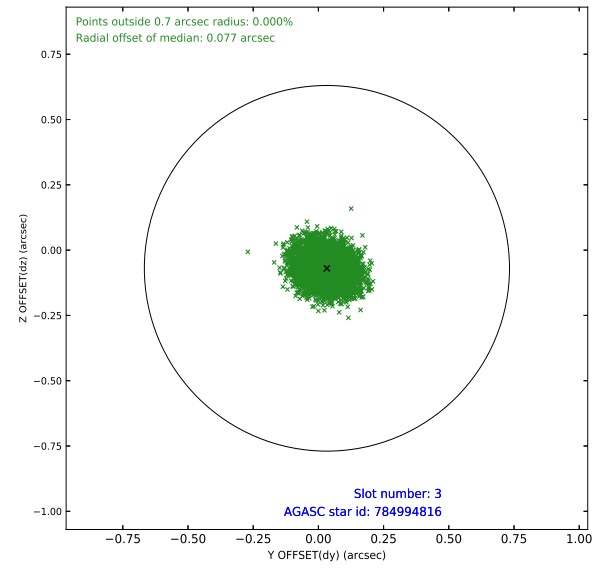
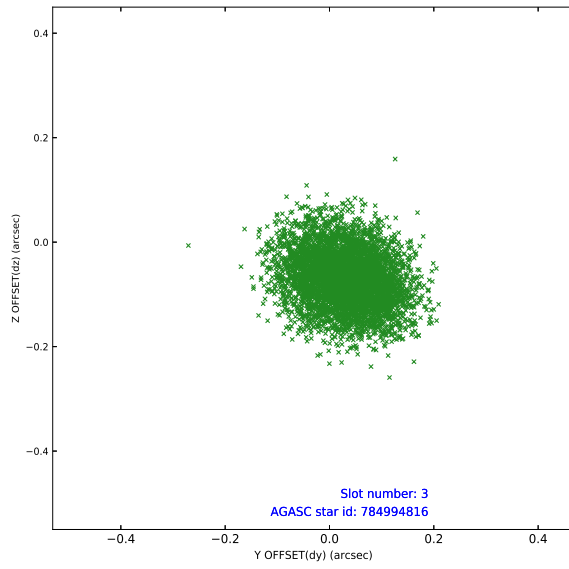


Slot Statistics

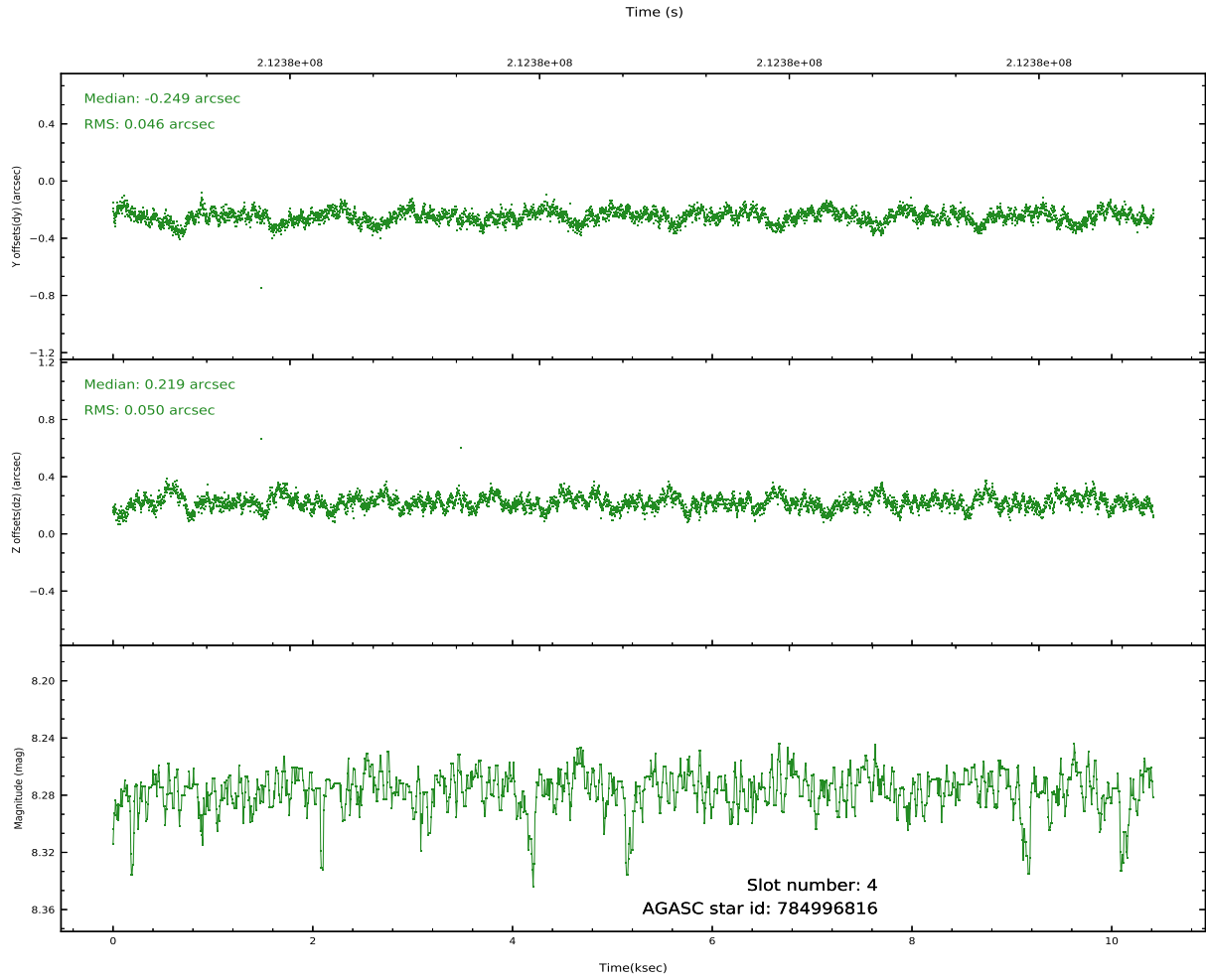
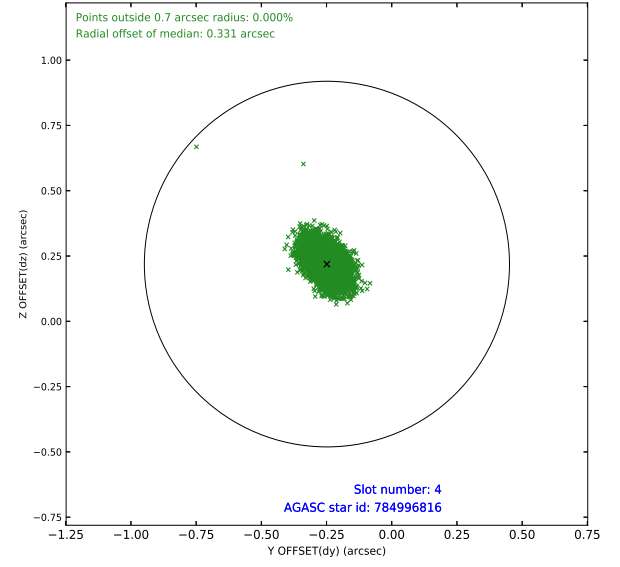
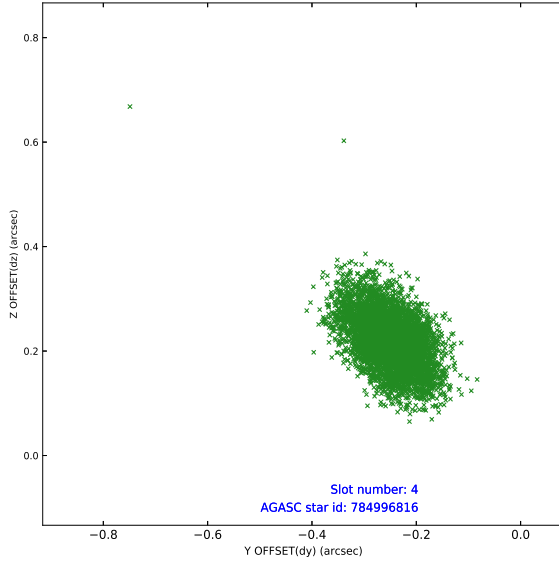
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.24	2542	1.000	0.045	-0.033	0.006	0.011	0.000000	0.000000	933.48	-834
1	FID		ACIS-I-5	7.23	2542	1.000	-0.192	0.051	0.006	0.010	0.000000	0.000000	-1814.55	1062
2	FID		ACIS-I-6	7.25	2542	1.000	0.055	0.052	0.007	0.011	0.000000	0.000000	398.53	1707
3	GUIDE	used	784994816	9.12	5082	1.000	0.033	-0.070	0.086	0.138	116.505488	-19.434301	-295.06	1455
4	GUIDE	used	784996816	8.28	5083	1.000	-0.249	0.219	0.070	0.120	117.450793	-18.934282	1006.32	-1990
5	GUIDE	used	785002880	9.42	5081	1.000	0.105	-0.038	0.102	0.164	116.663117	-19.555310	-804.09	989
6	GUIDE	used	785012920	9.77	5077	1.000	0.113	-0.243	0.114	0.186	116.360499	-19.765232	-1402.15	2115
7	GUIDE	used	784494512	9.13	5076	1.000	-0.000	0.128	0.096	0.162	117.536315	-18.614165	2101.30	-2453

## 2.4 Star Slots

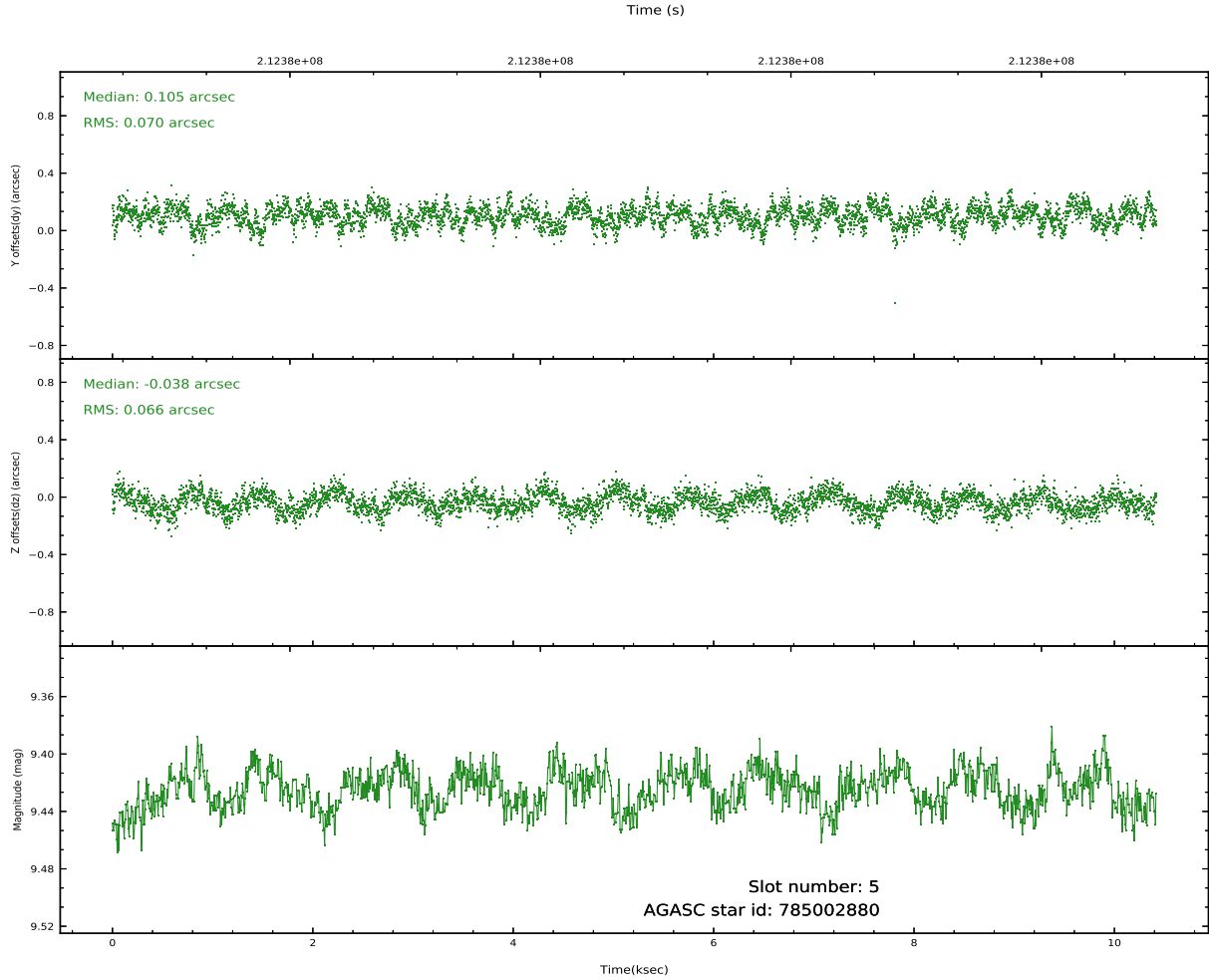
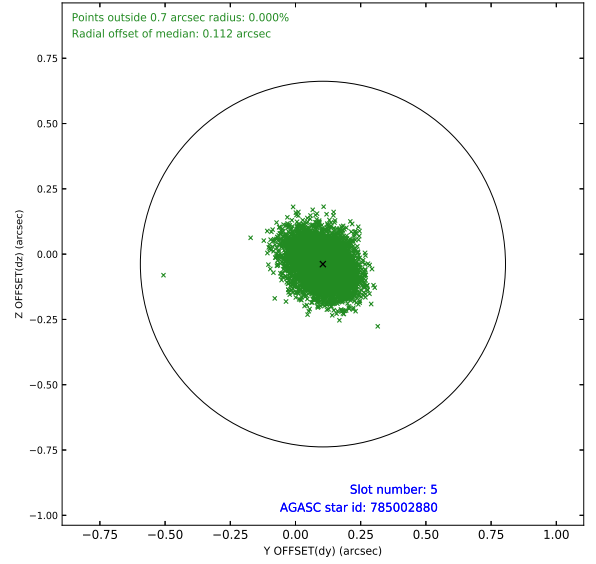
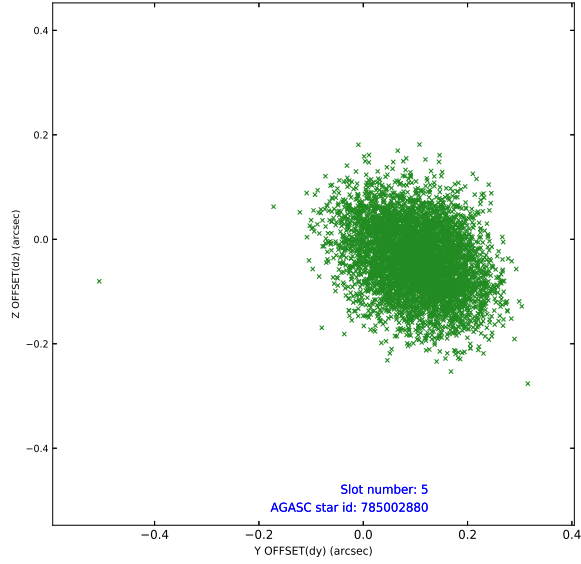
### 2.4.1 Slot 3



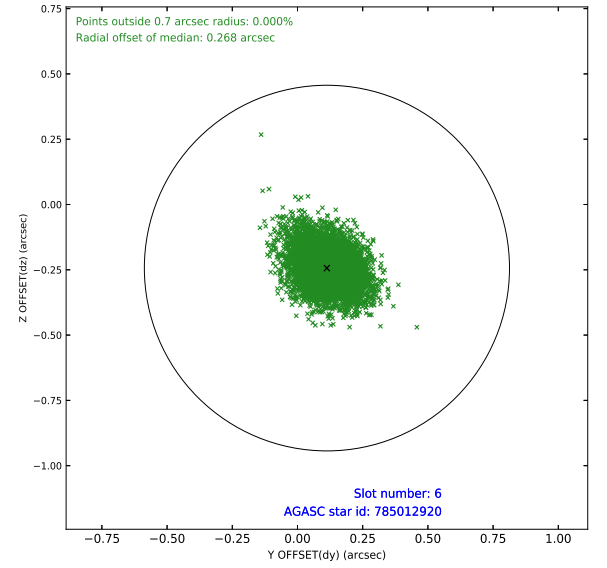
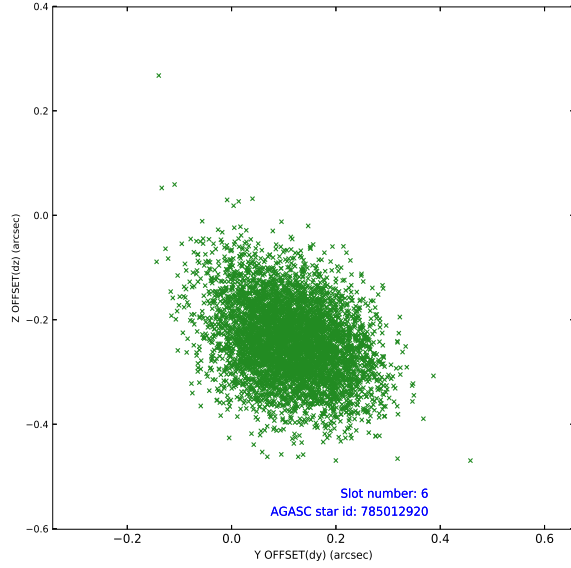
## 2.4.2 Slot 4



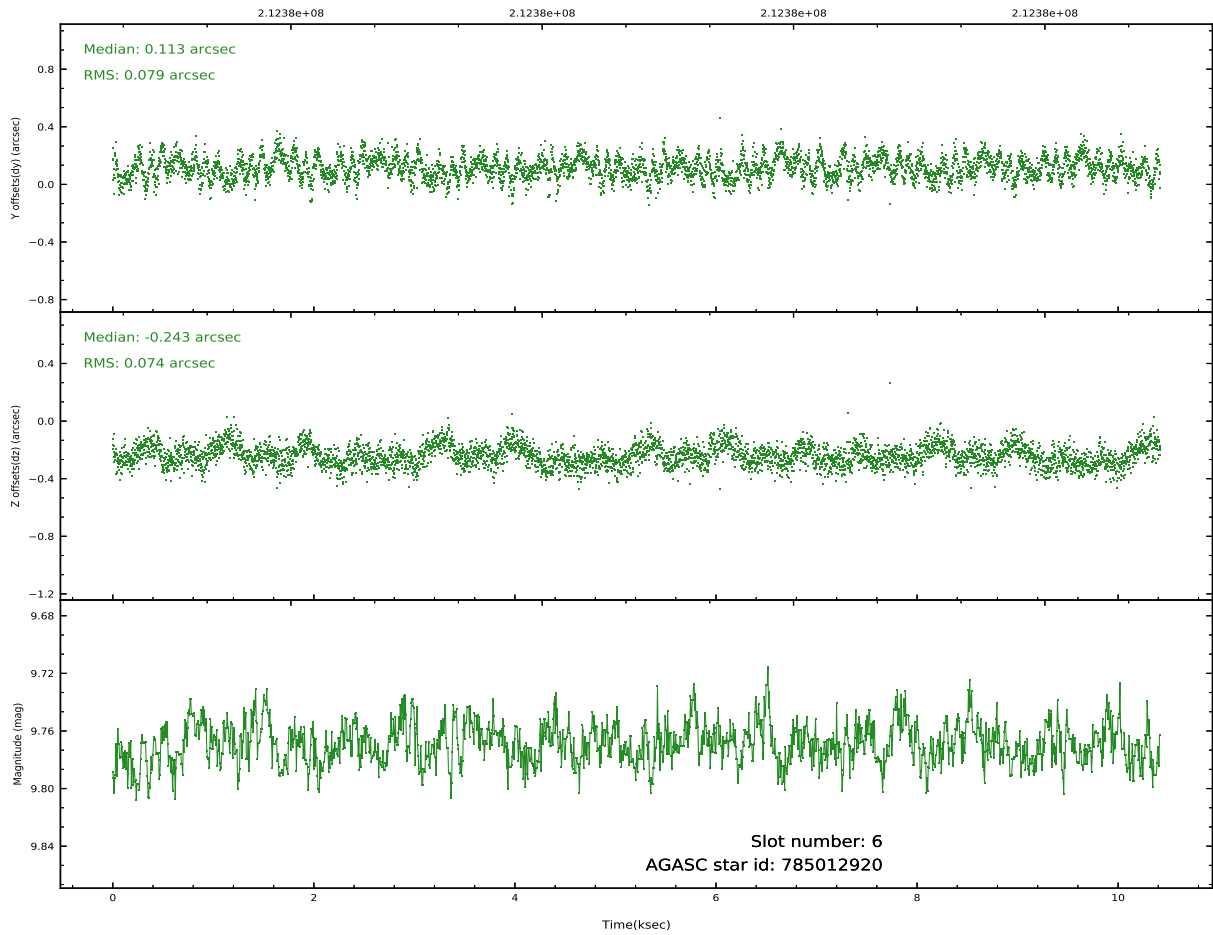
### 2.4.3 Slot 5



## 2.4.4 Slot 6

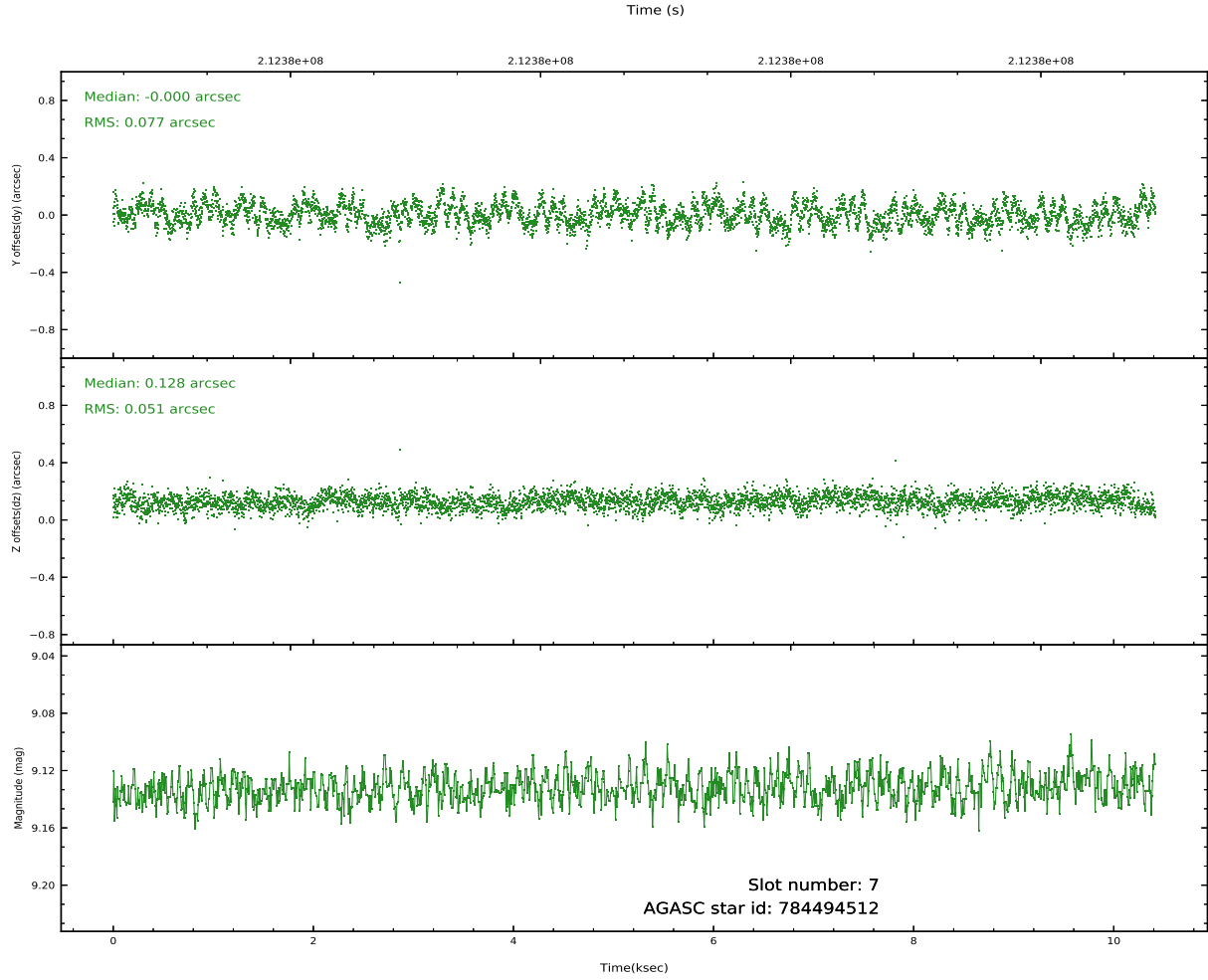
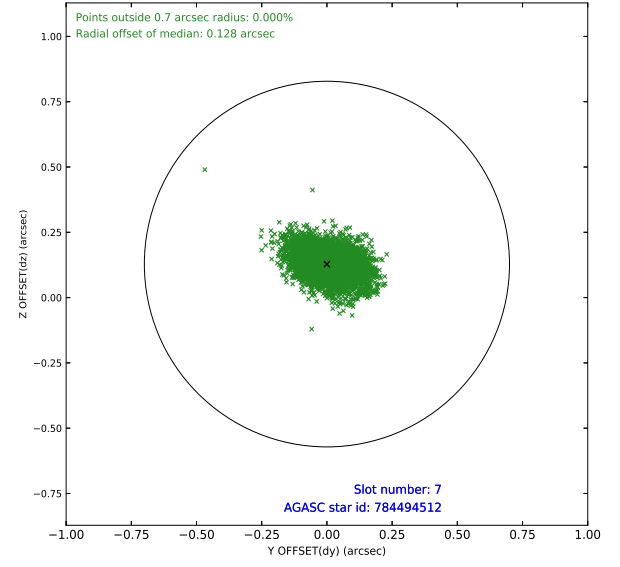
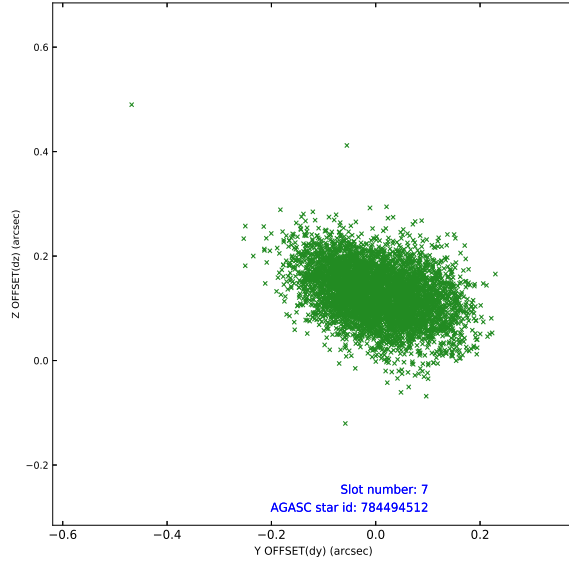


Time (s)



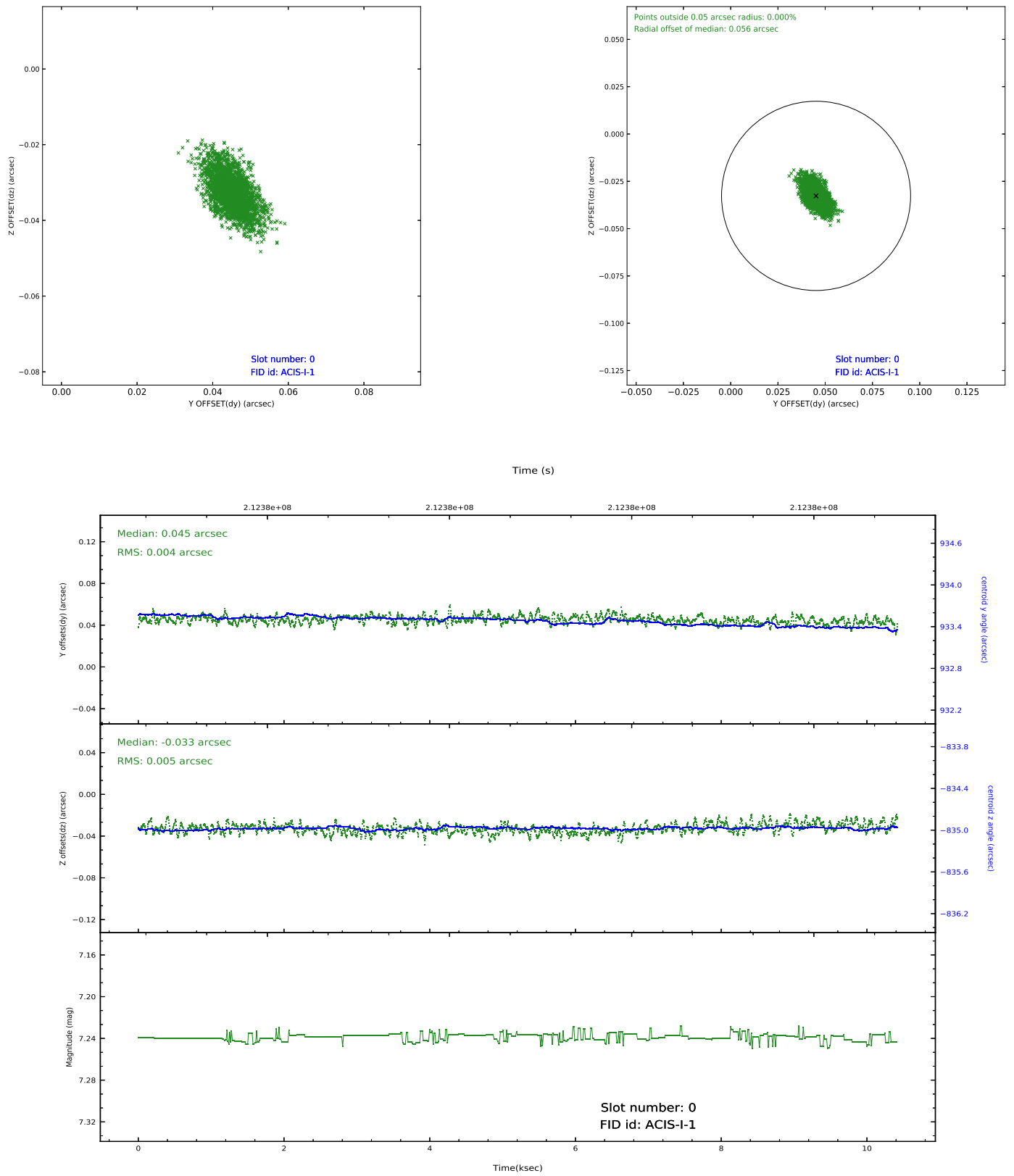


## 2.4.5 Slot 7

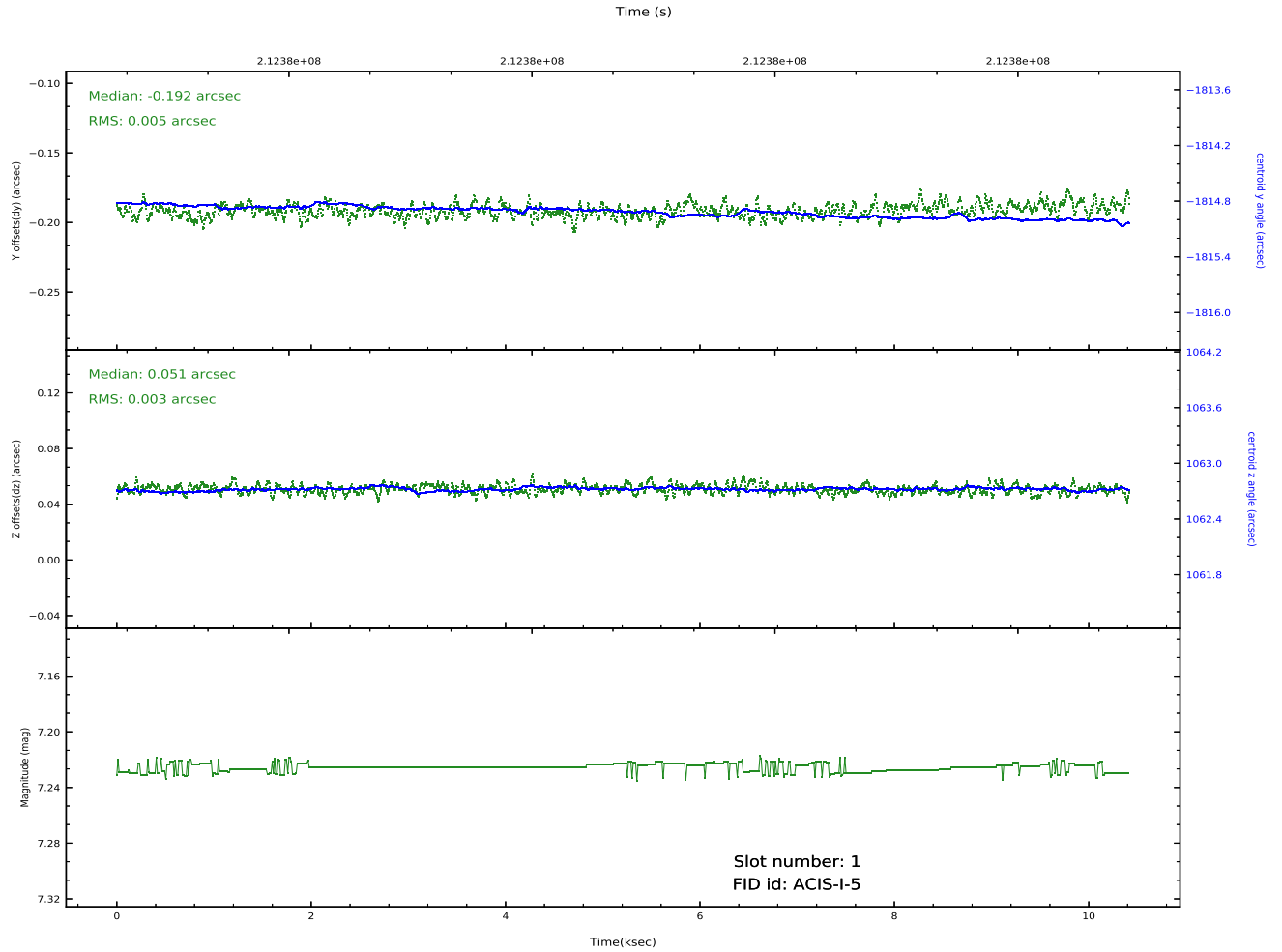
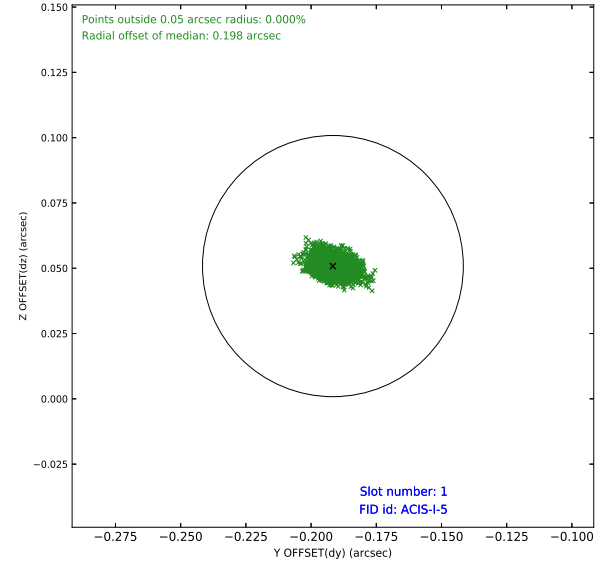
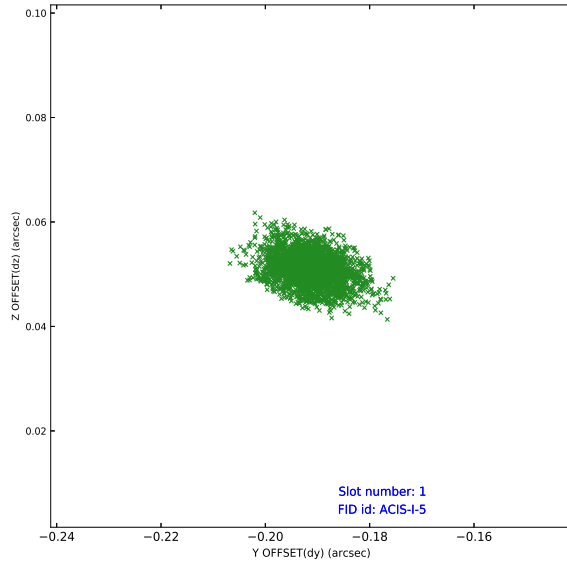


## 2.5 FID Slots

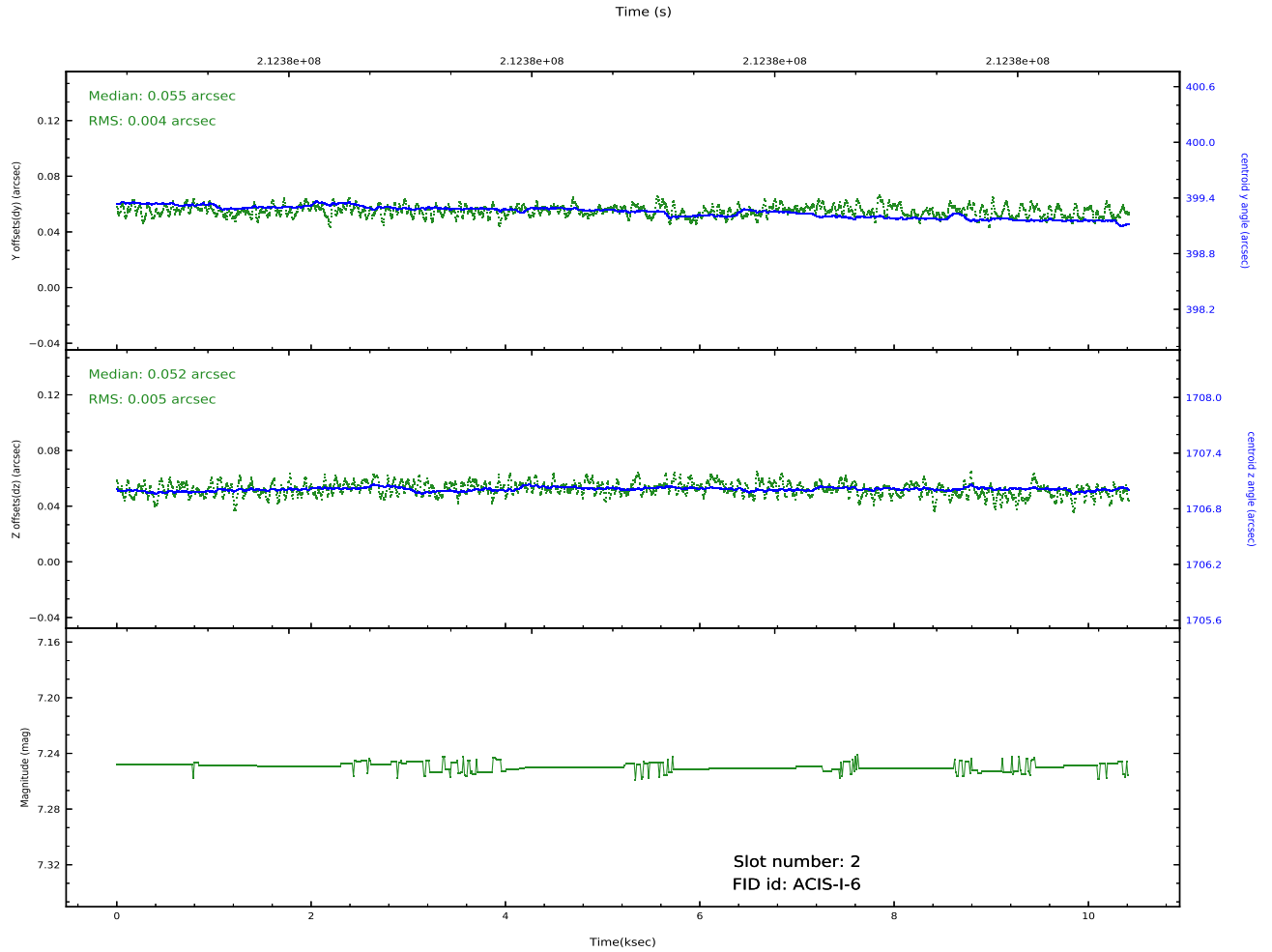
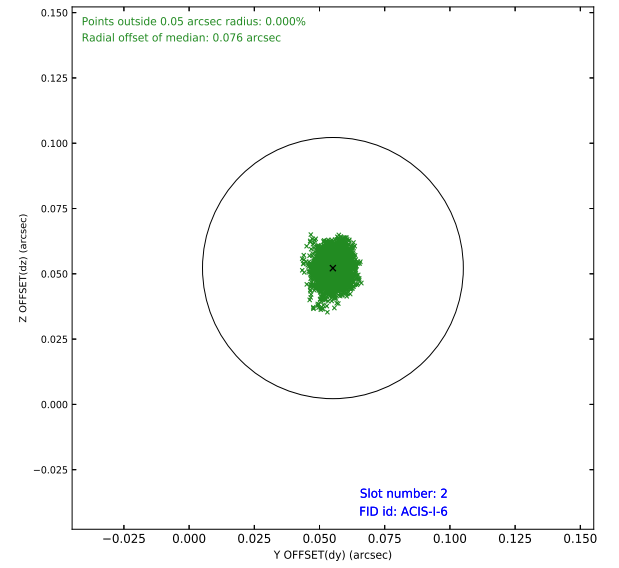
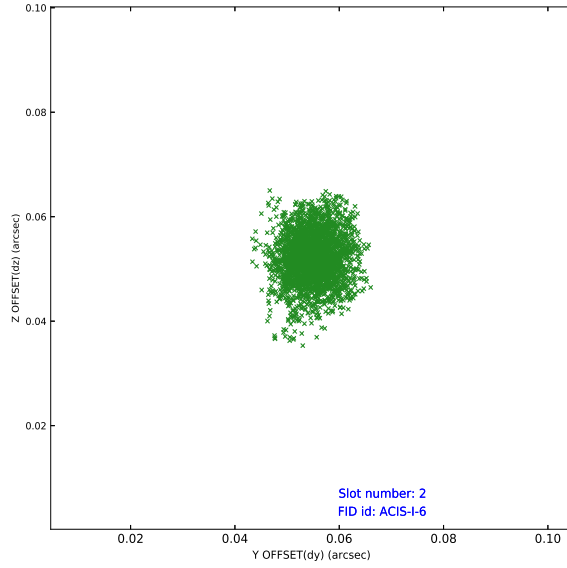
### 2.5.1 Slot 0



## 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)	2020.10.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.406

### A.2 Comments