

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4807 - L2 Version 5  
Chandra X-Ray Center

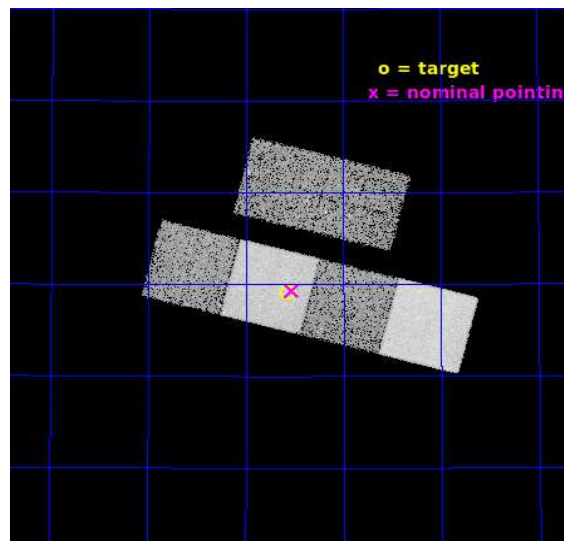
L2 Processing Date : Sep 28 2020

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# 1 Front

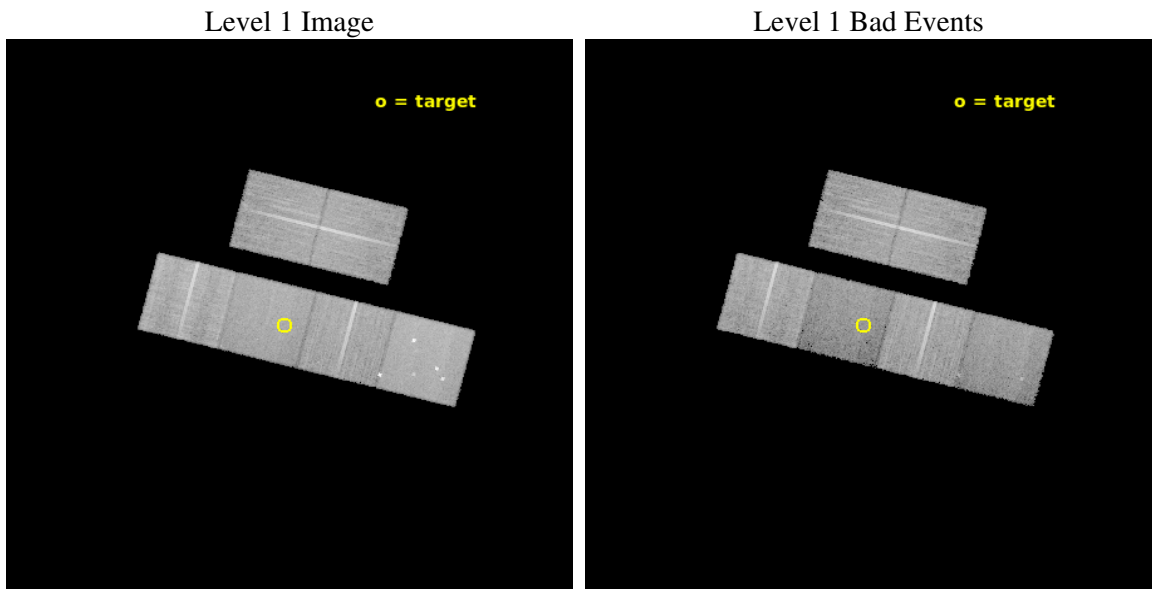
seq_num	700890	Sequence number
obs_id	4807	Observation id
title	A Chandra observation of the $z=2.286$ Seyfert 2 galaxy FSC10214+4724: Constraints on AGNs in typical submm galaxies	Proposal title
observer	Dr David Alexander	Principal investigator
object	FSC 10214+4724	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	156.14375	Observer's specified target RA [deg]
dec_targ	47.152722	Observer's specified target Dec [deg]
ra_nom	156.13194077294	Nominal RA [deg]
dec_nom	47.155275165759	Nominal Dec [deg]
roll_nom	194.40163862805	Nominal Roll [deg]
revision	5	Processing version of data
ontime	21708.799919128	Sum of GTIs [s]
livetime	21433.910023082	Livetime [s]
ontime2	21708.799919128	Sum of GTIs [s]
ontime3	21708.799919128	Sum of GTIs [s]
ontime5	21708.799919128	Sum of GTIs [s]
ontime6	21705.55890891	Sum of GTIs [s]
ontime7	21708.799919128	Sum of GTIs [s]
ontime8	21708.799919128	Sum of GTIs [s]
l2events	153473	Number of level 2 events



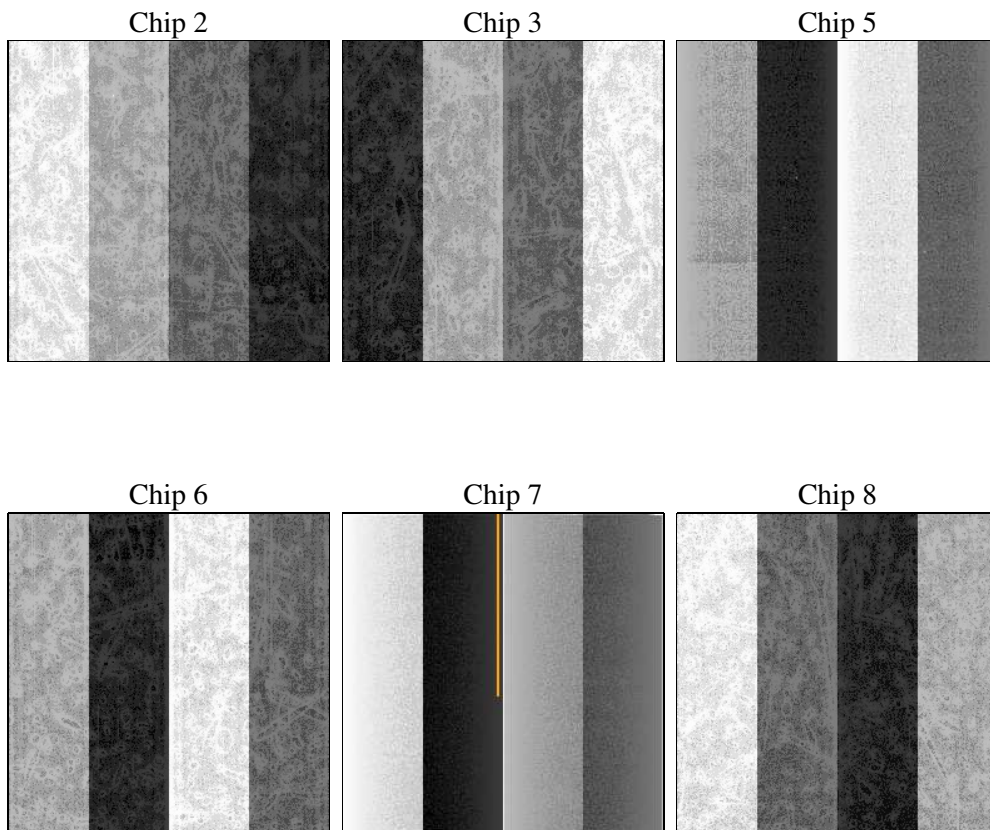
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	3	Obi number	sched_exp_time	21524.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	21708.799919128	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime2	21708.799919128	Sum of GTIs [s]
date	2020-09-28T21:04:17	Date and time of file creation	ontime3	21708.799919128	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	21708.799919128	Sum of GTIs [s]
			ontime6	21705.55890891	Sum of GTIs [s]
			ontime7	21708.799919128	Sum of GTIs [s]
			ontime8	21708.799919128	Sum of GTIs [s]
			l1events	722830	Number of level 1 events

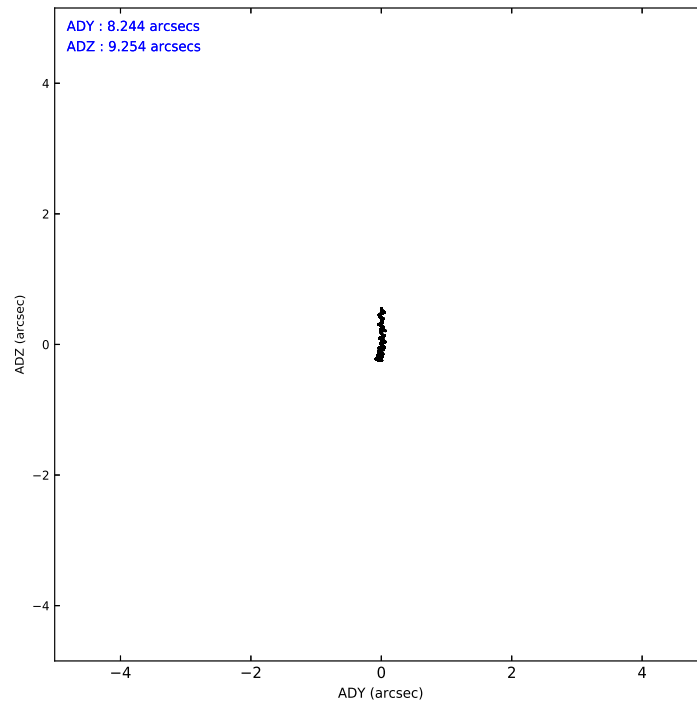
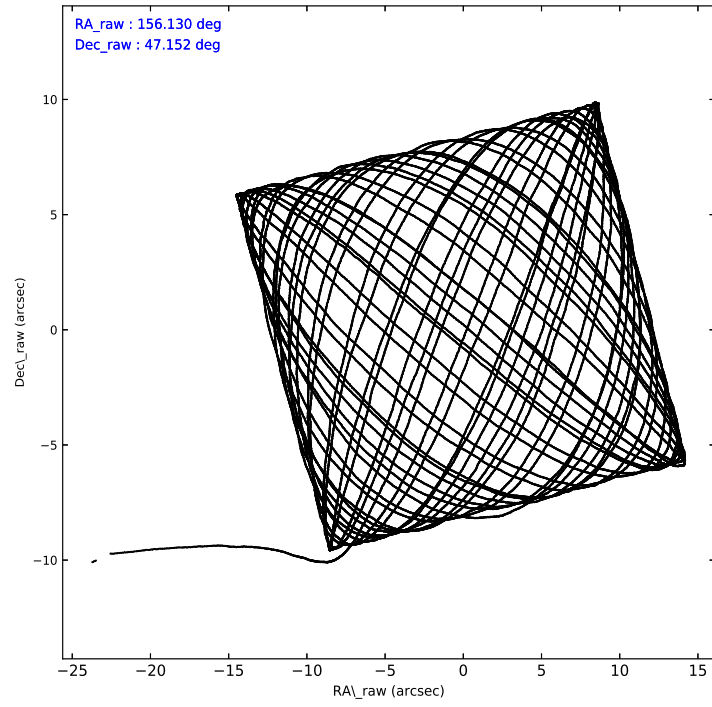
### 2.1.4 Events

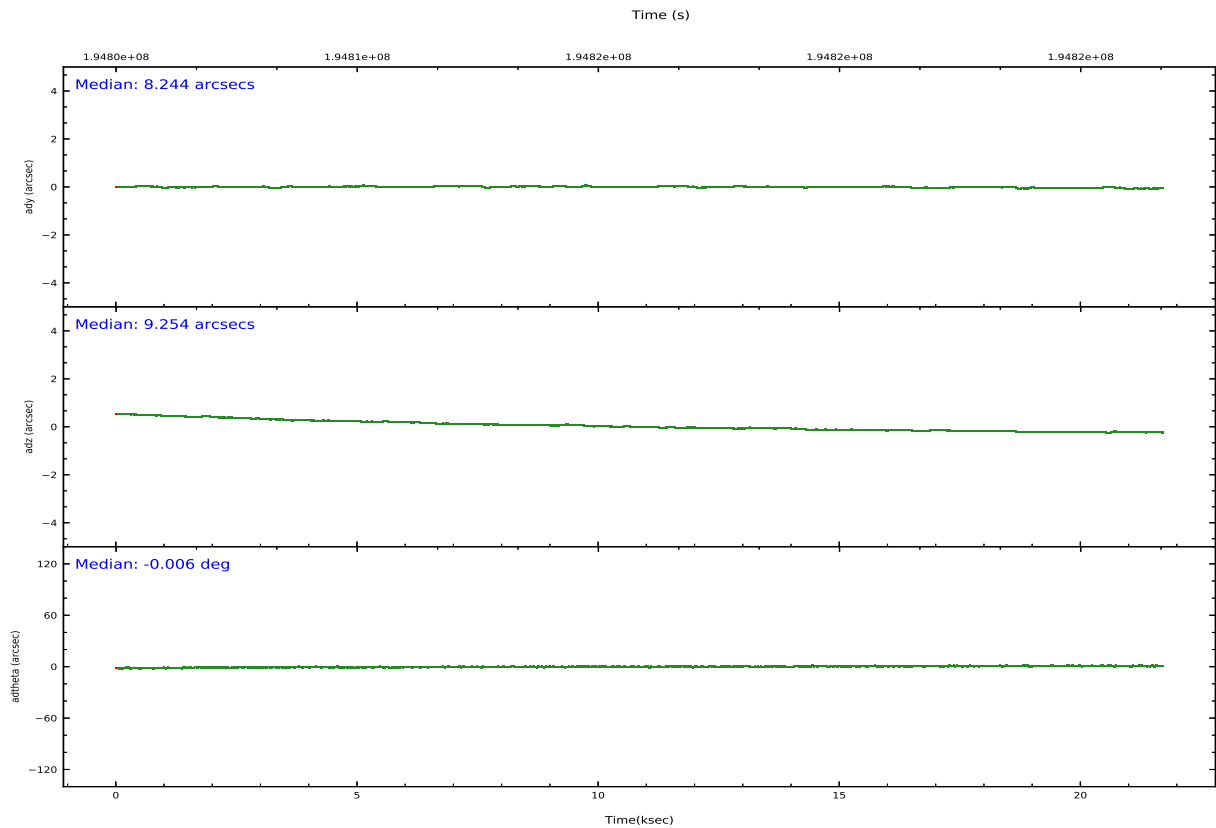
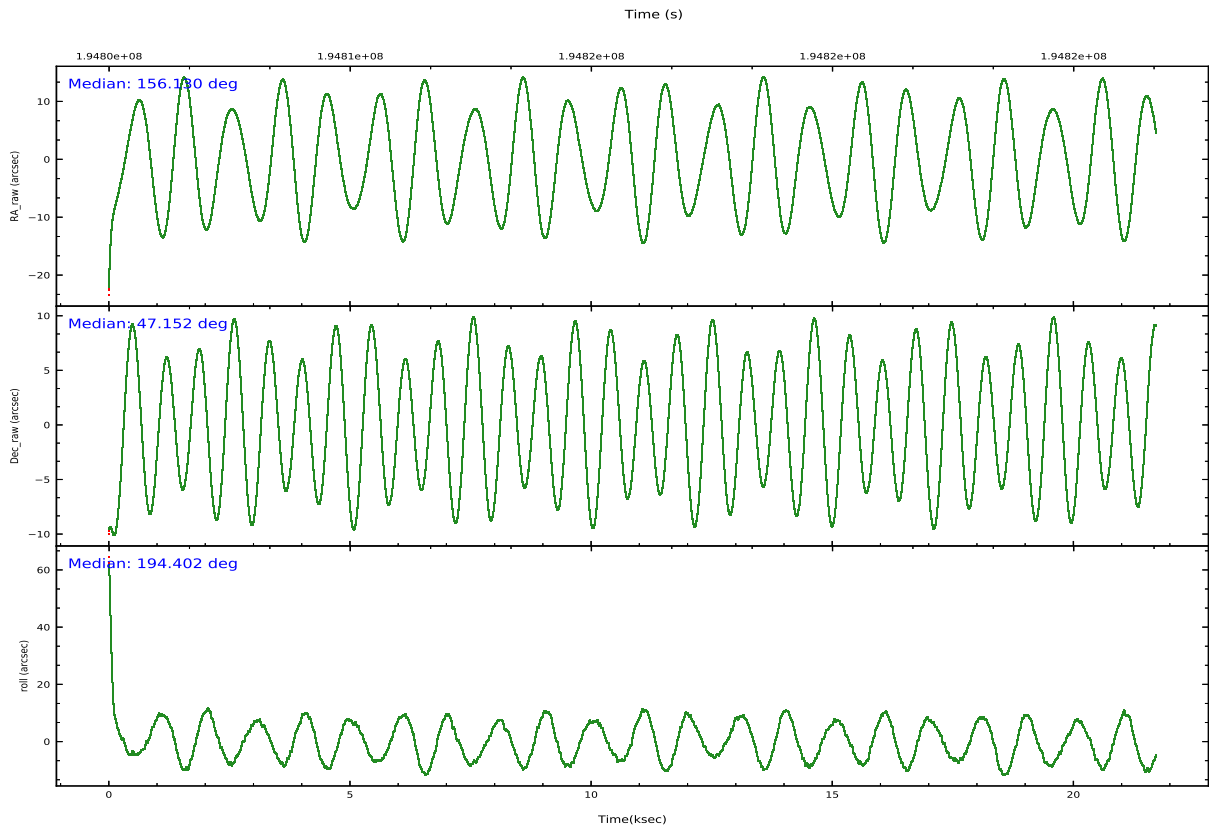
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	115883	109196	141748	111473	106675	137855	grade 0 events	4045	3750	11171	4000	5168	8383
rejected events	104960	99059	65808	100358	54818	106977		3%	3%	7%	3%	4%	6%
rejected %	90%	90%	46%	90%	51%	77%	grade 1 events	52	57	204	50	116	86
								0%	0%	0%	0%	0%	0%
							grade 2 events	2620	2156	21978	2394	10834	7445
								2%	1%	15%	2%	10%	5%
							grade 3 events	1168	1129	3863	1231	5083	3447
								1%	1%	2%	1%	4%	2%
							grade 4 events	1213	1190	3529	1213	4984	3264
								1%	1%	2%	1%	4%	2%
							grade 5 events	3305	3727	11818	3799	11541	5622
								2%	3%	8%	3%	10%	4%
							grade 6 events	1911	1954	35743	2326	26000	8443
								1%	1%	25%	2%	24%	6%
							grade 7 events	101569	95233	53442	96460	42949	101165
								87%	87%	37%	86%	40%	73%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	156.157806	156.13194077294	Subarray requested	NONE	NONE
[deg] Pointing Dec	47.171311	47.155275165759	Alternating exposures requested	N	N
[deg] Pointing Roll	194.231266	194.40163862805	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	194805185.184000	194804069.98825			
Observation start date	2004-03-04T16:32:01	2004-03-04T16:14:29			
[s] Observation end time (MET)	194826709.184000	194827681.37678			
Observation end date	2004-03-04T22:30:45	2004-03-04T22:48:01			
Read mode	TIMED	TIMED			

## 2.3 Aspect





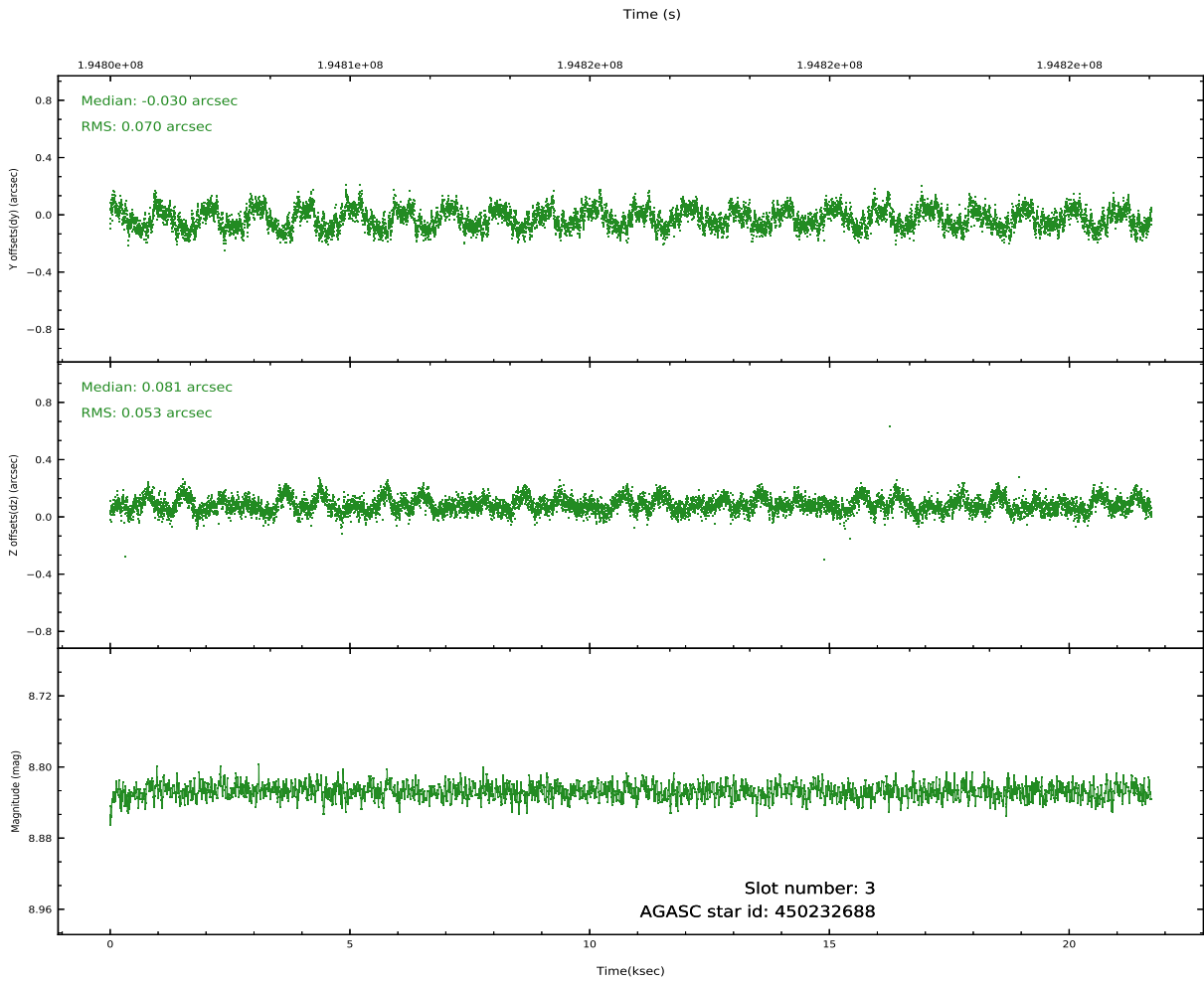
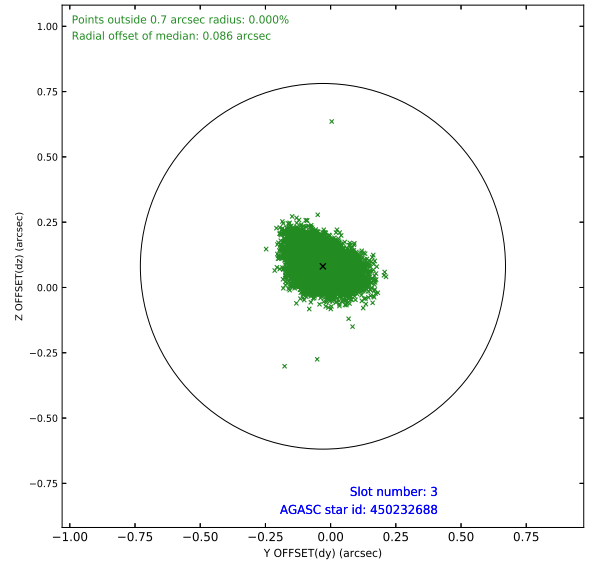
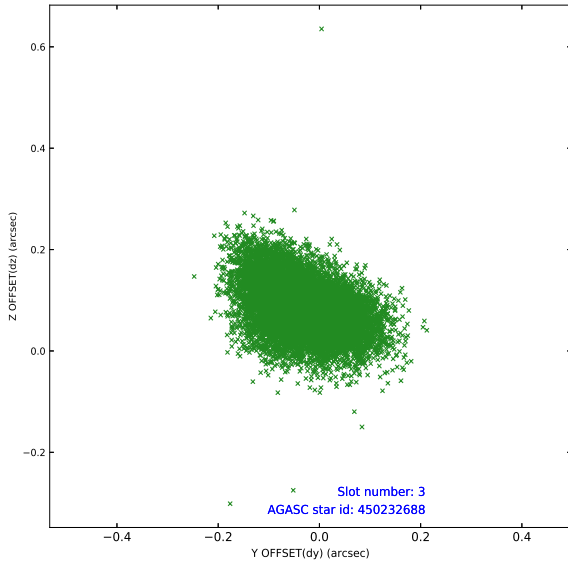
### Slot Statistics

pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.11	5296	1.000	-0.048	-0.069	0.010	0.016	0.000000	0.000000	-761.02	-1730
1	FID		ACIS-S-4	7.21	5297	1.000	0.142	0.042	0.006	0.011	0.000000	0.000000	2152.32	177
2	FID		ACIS-S-5	7.24	5297	1.000	-0.124	0.036	0.009	0.016	0.000000	0.000000	-1813.79	171
3	GUIDE	used	450232688	8.83	10588	1.000	-0.030	0.081	0.094	0.148	156.759869	46.937053	-1228.69	1176
4	GUIDE	used	450235072	9.05	10593	1.000	-0.023	0.019	0.075	0.121	156.908877	46.808861	-1475.48	1711
5	GUIDE	used	450236704	9.24	10591	1.000	-0.007	0.062	0.089	0.144	156.809685	46.714771	-1157.66	1982
6	GUIDE	used	450632976	9.49	10589	1.000	0.002	-0.082	0.104	0.166	155.857098	47.599681	329.00	-1674
7	GUIDE	used	450633256	7.93	10590	1.000	0.060	-0.082	0.064	0.104	156.404075	47.567395	-930.10	-1236

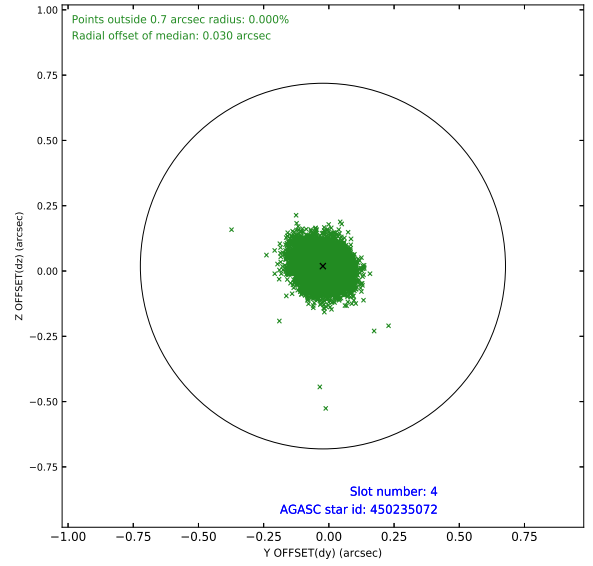
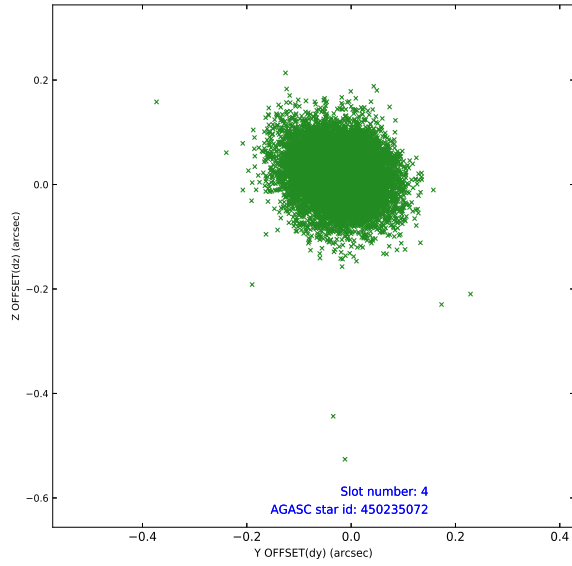
∞

## 2.4 Star Slots

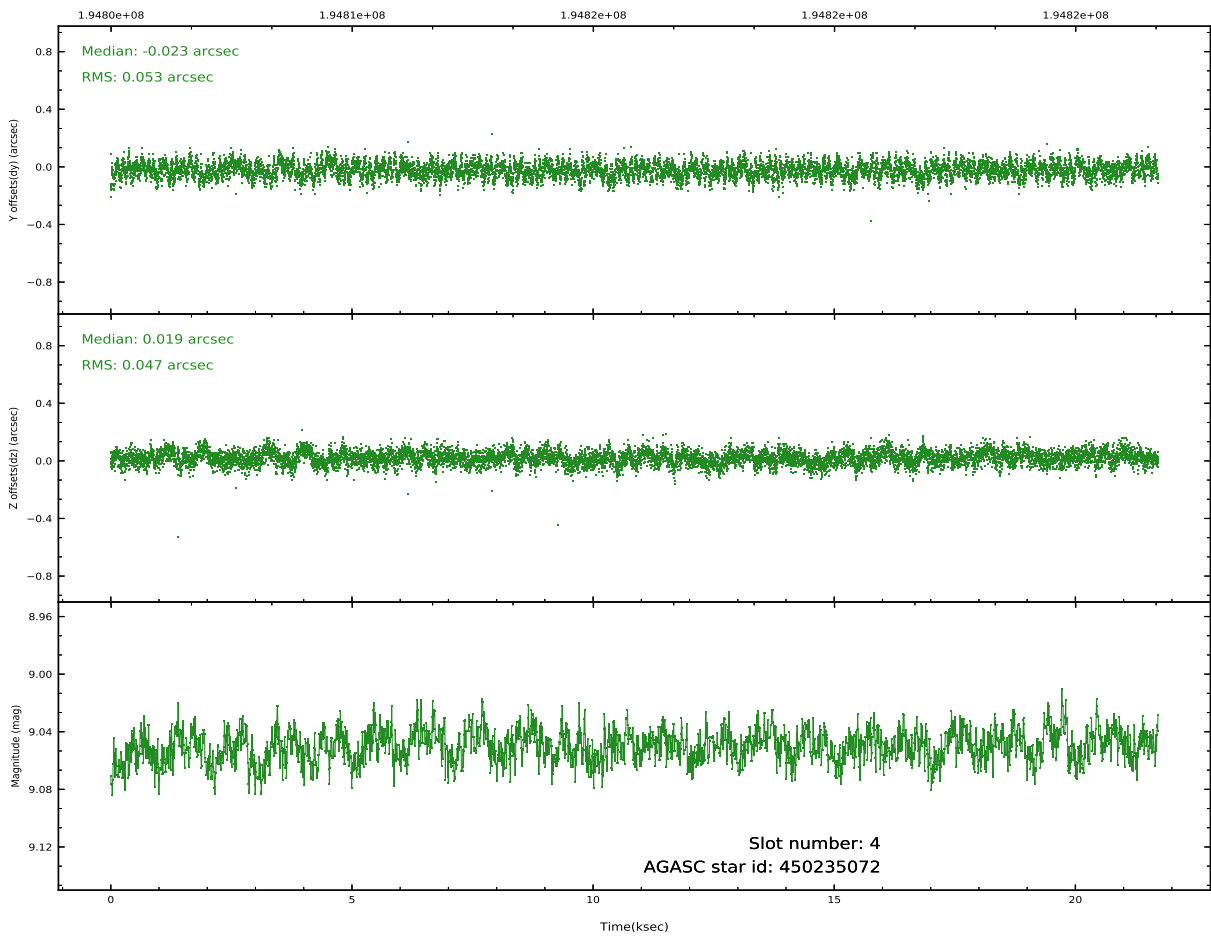
### 2.4.1 Slot 3



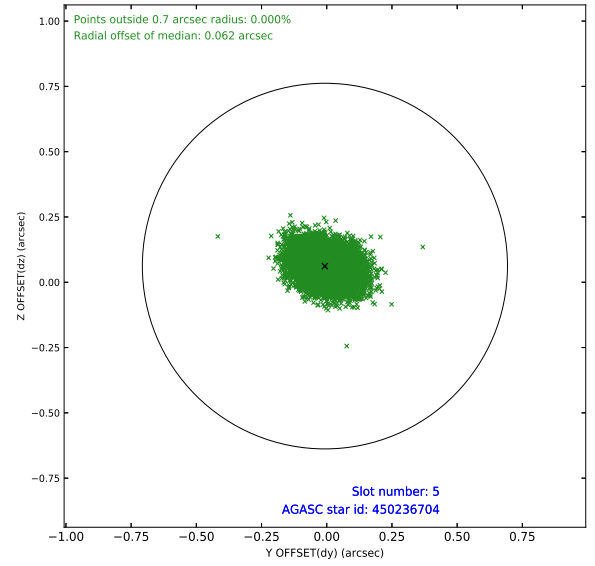
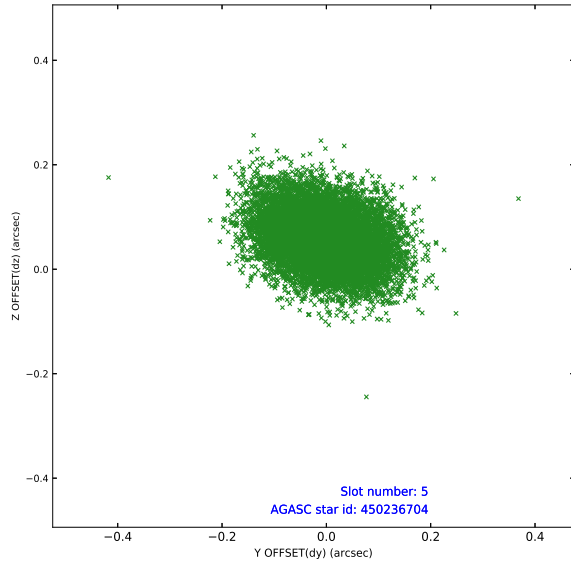
## 2.4.2 Slot 4



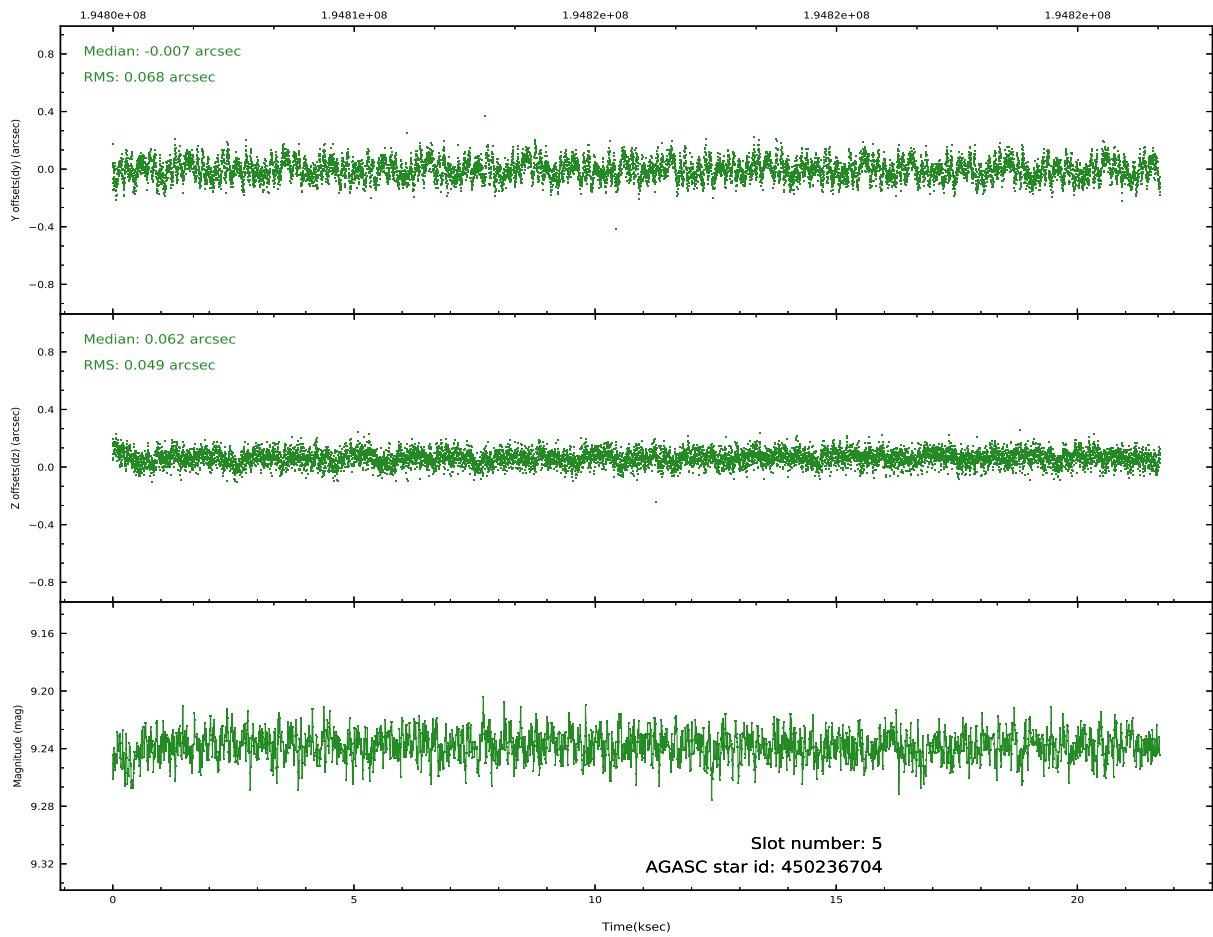
Time (s)



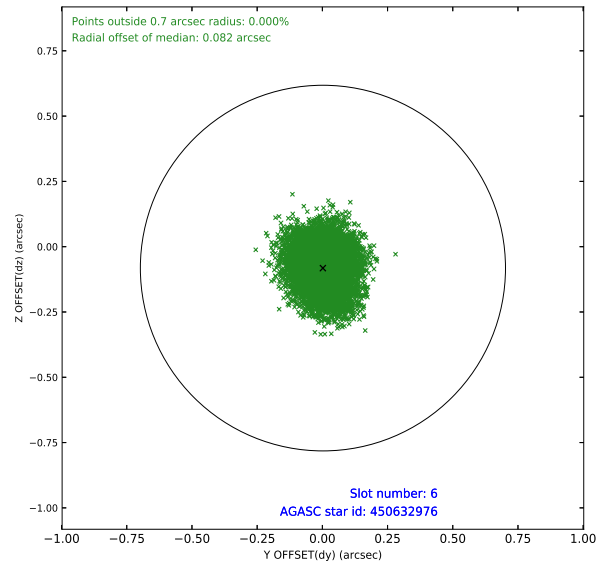
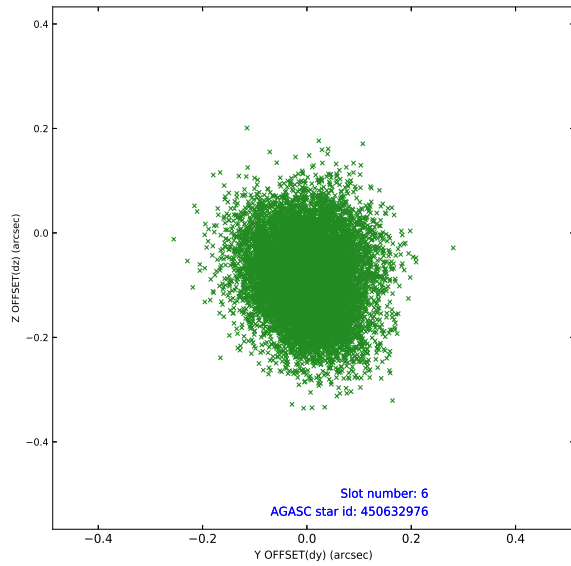
### 2.4.3 Slot 5



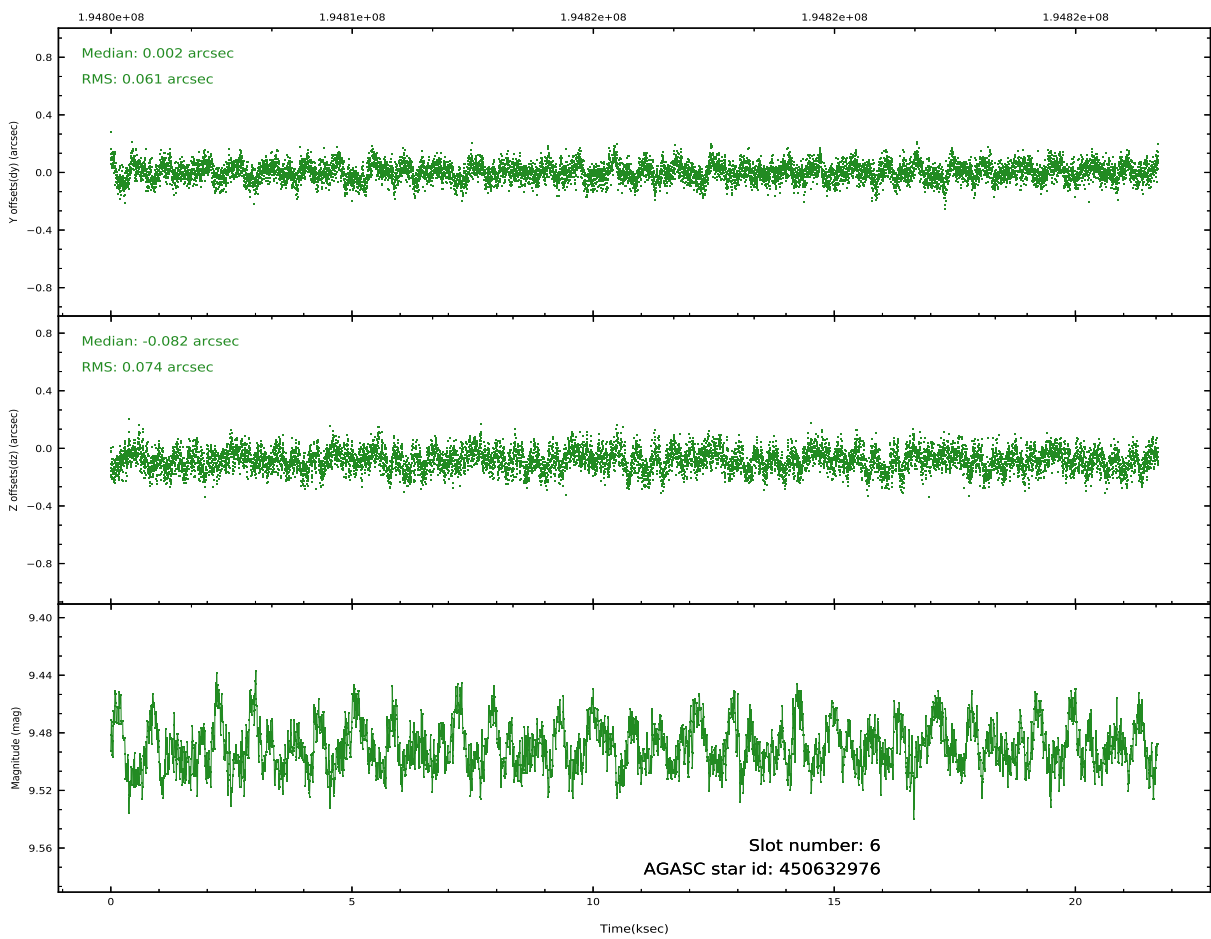
Time (s)



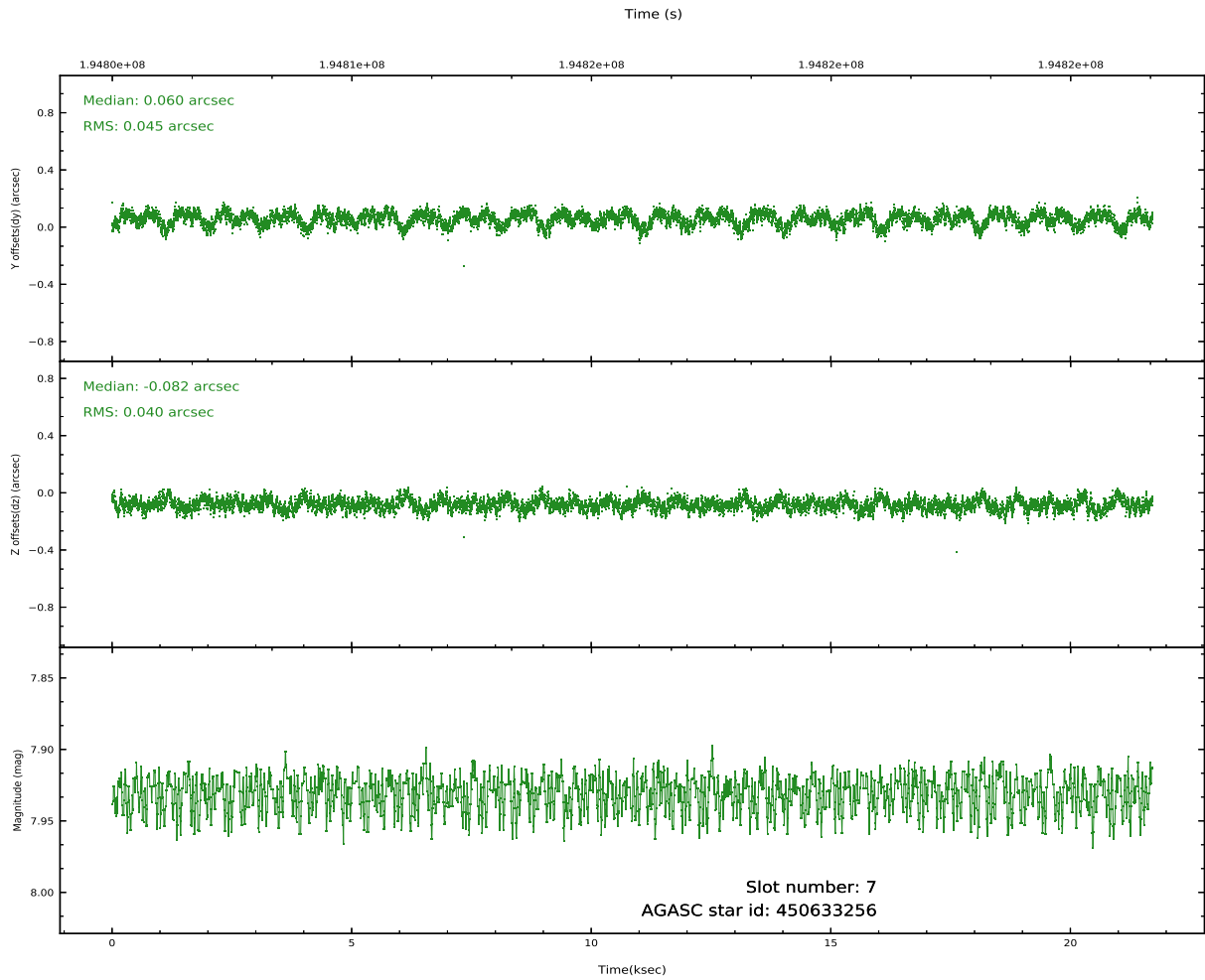
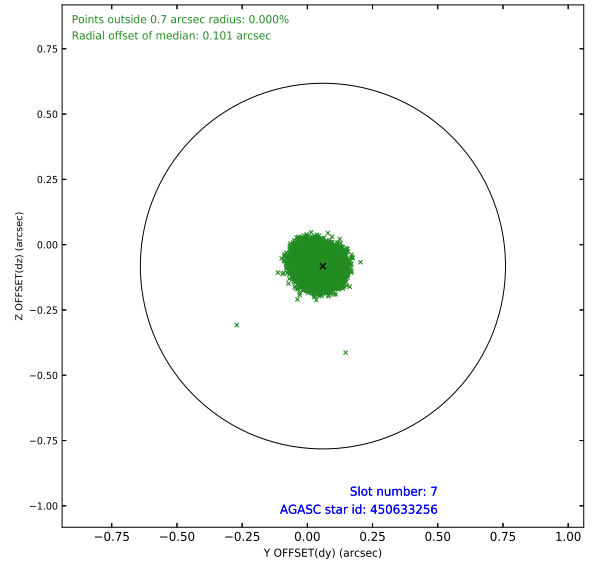
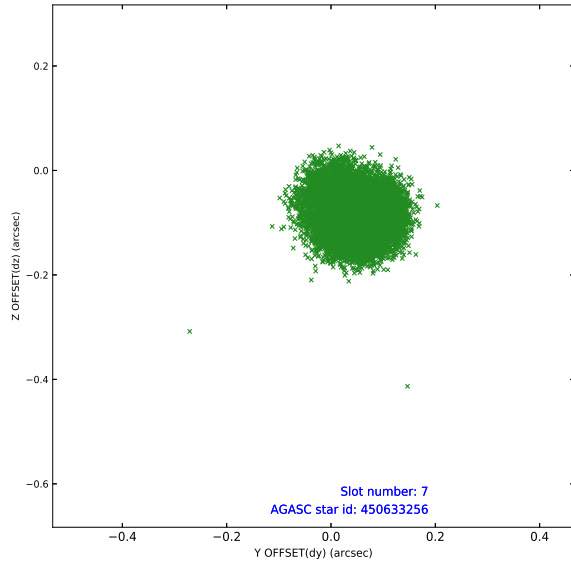
## 2.4.4 Slot 6



Time (s)

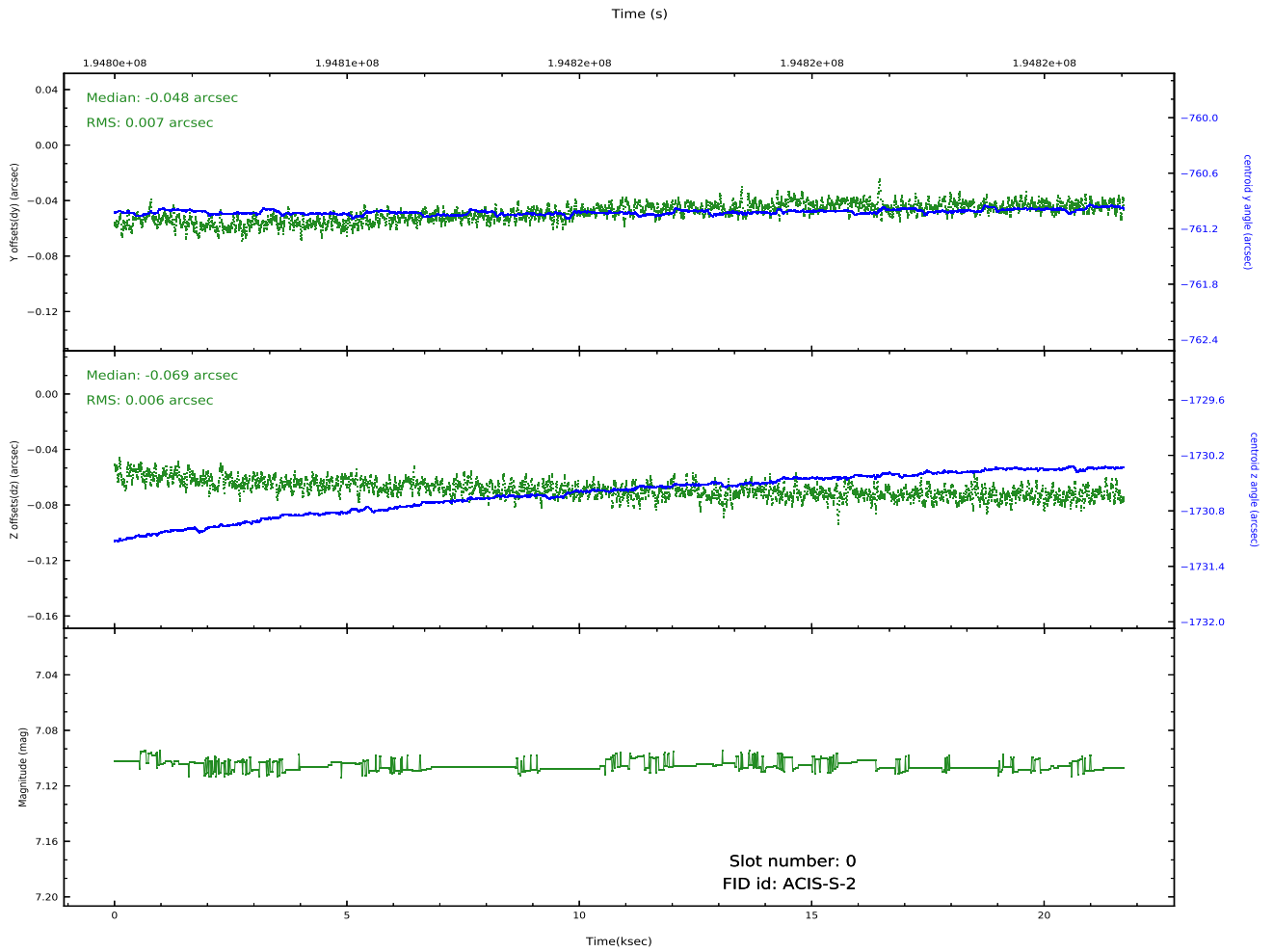
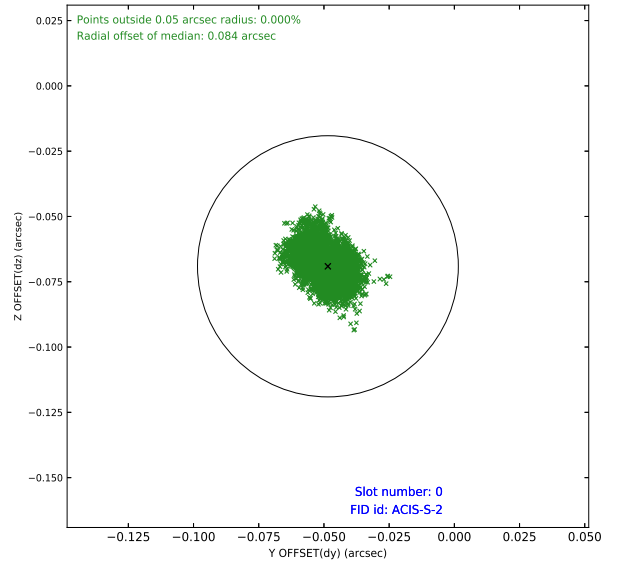
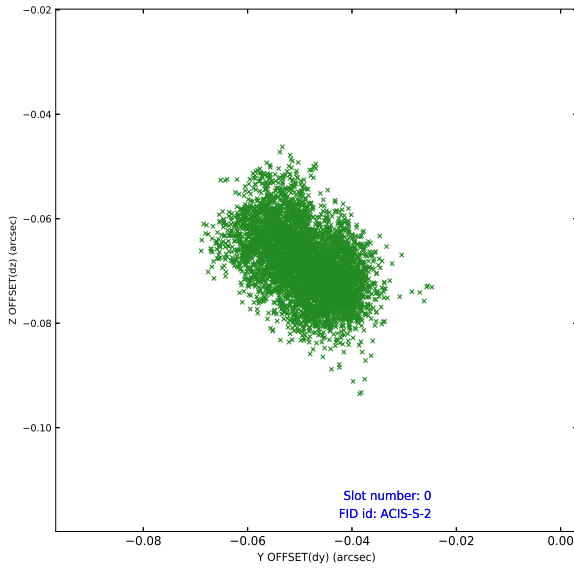


## 2.4.5 Slot 7

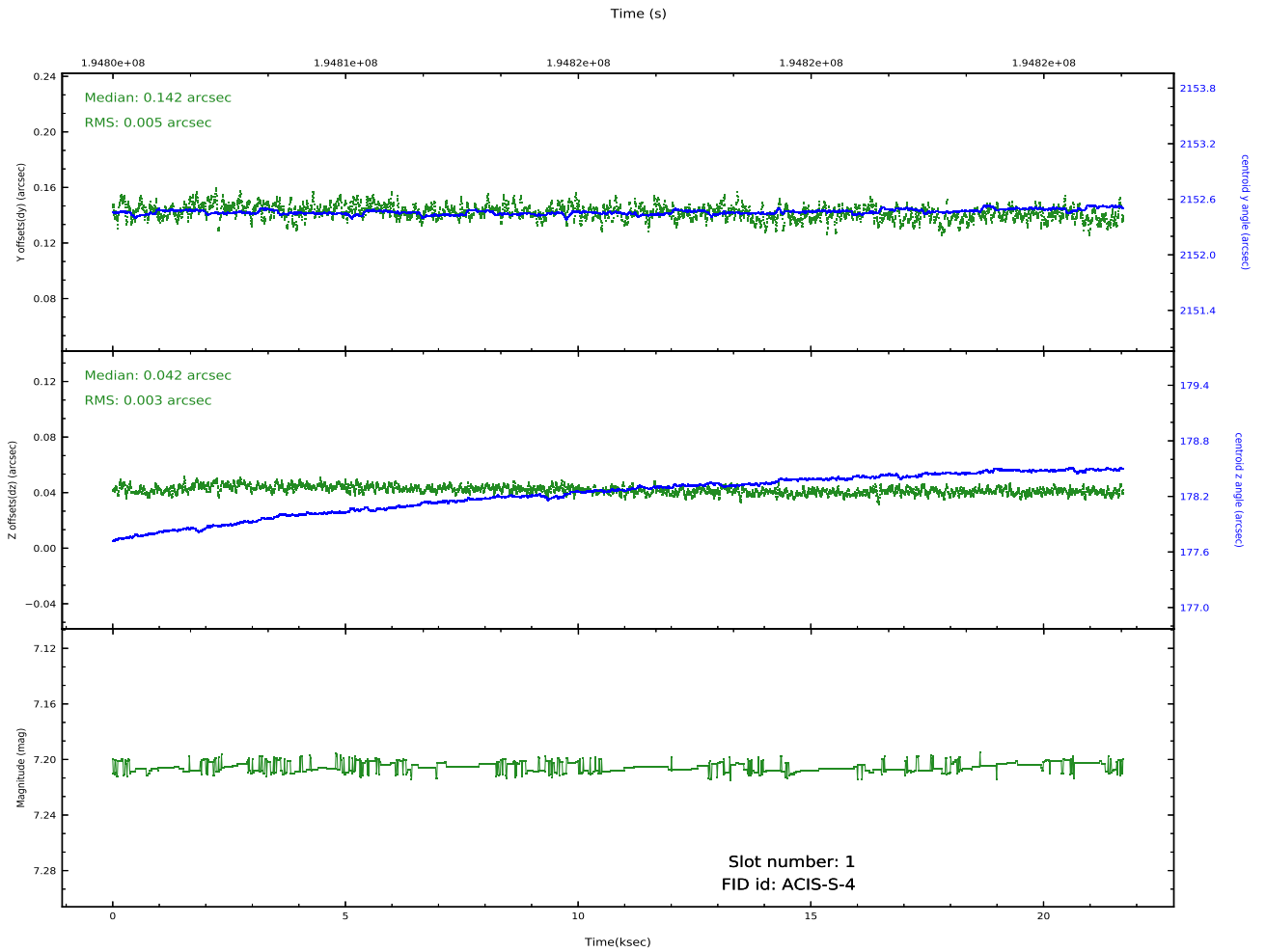
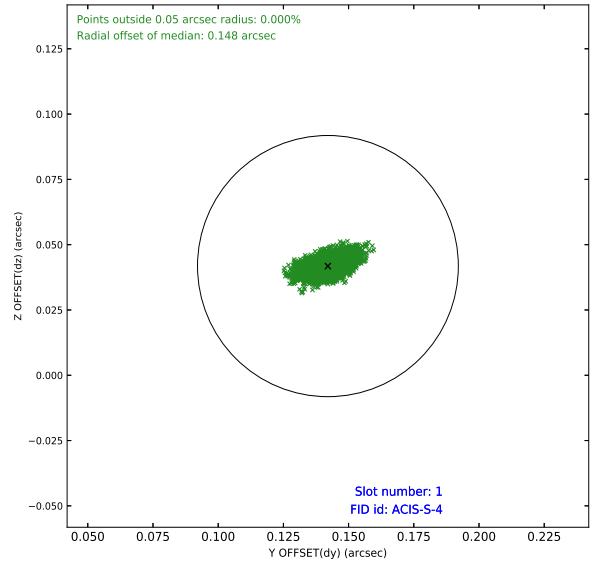
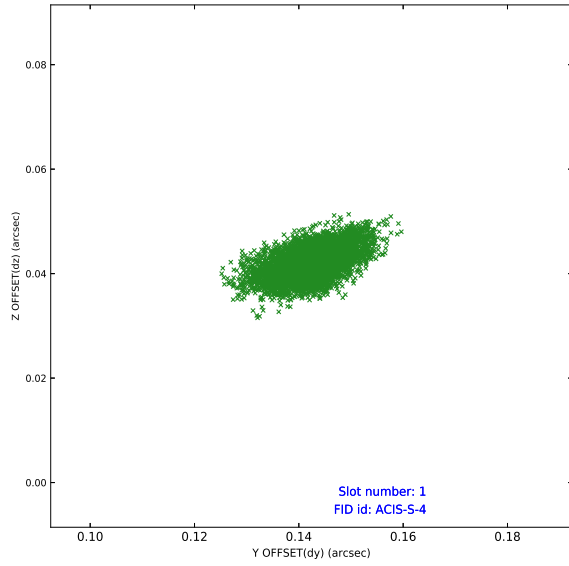


## 2.5 FID Slots

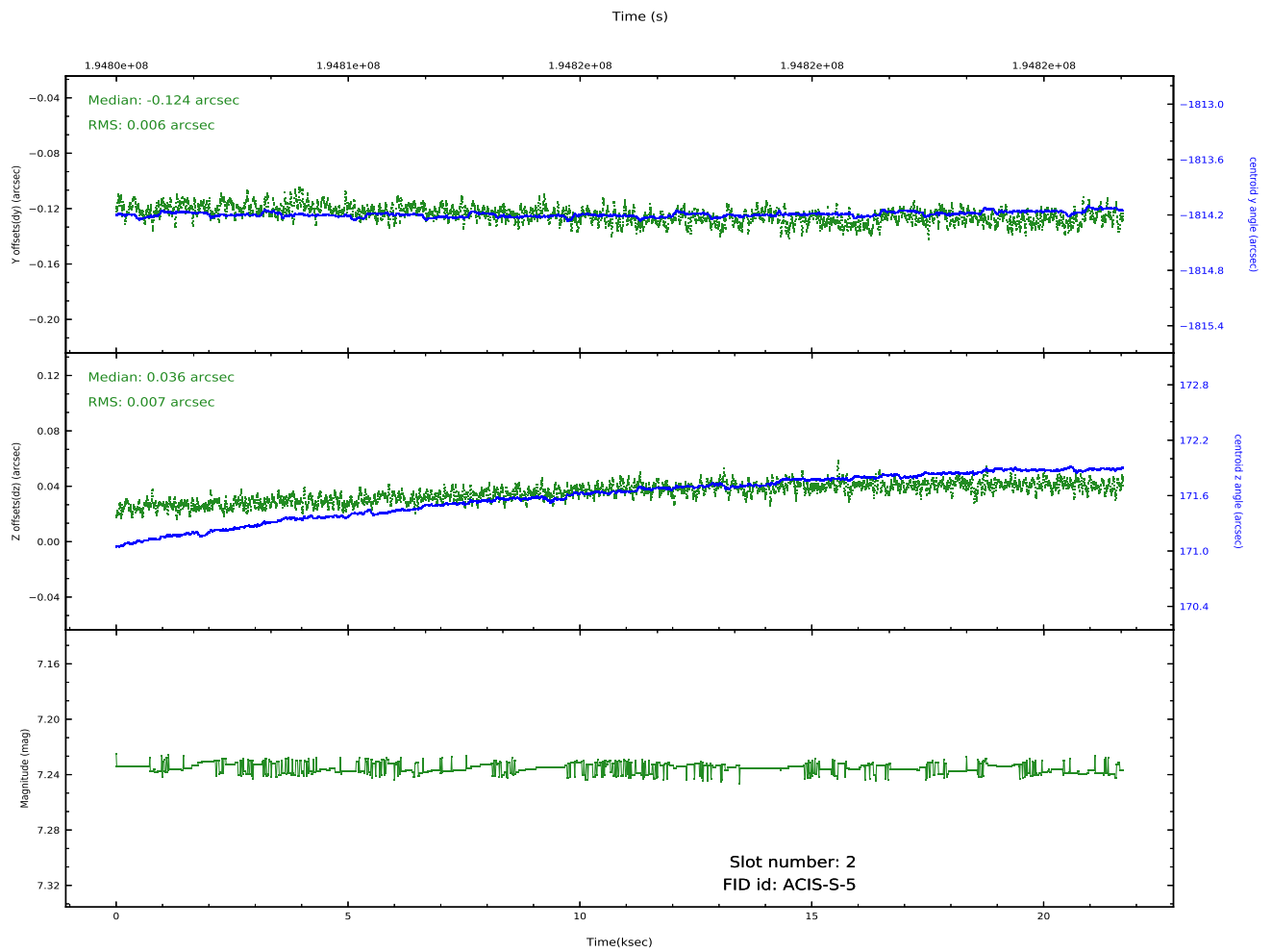
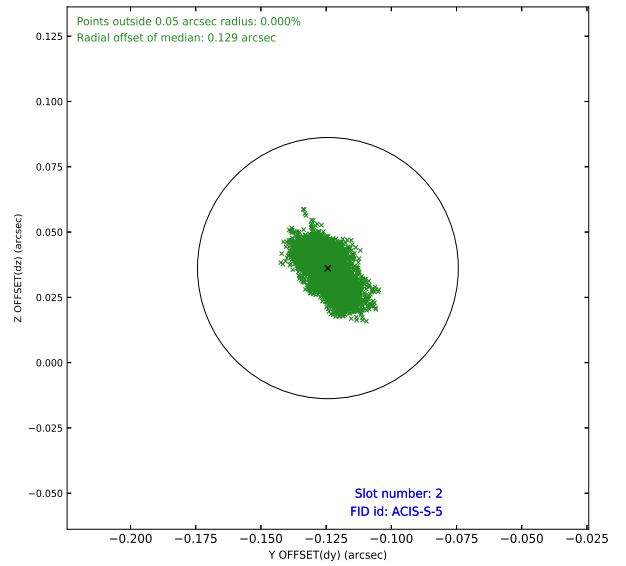
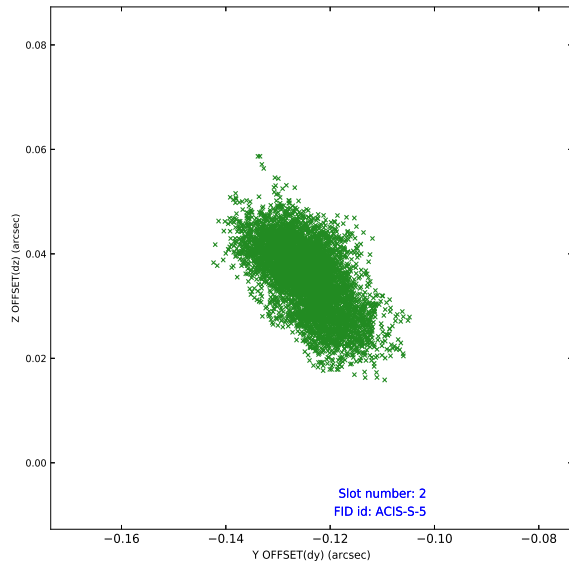
### 2.5.1 Slot 0



## 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)	2020.09.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.708

## A.2 Comments

A spatial region of the original bias map for CCD = 2 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 2 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(155.86152,47.28023), (155.86269,47.27720), (156.06177,47.31216),  
(156.06060,47.31519).