

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4830 - L2 Version 5  
Chandra X-Ray Center

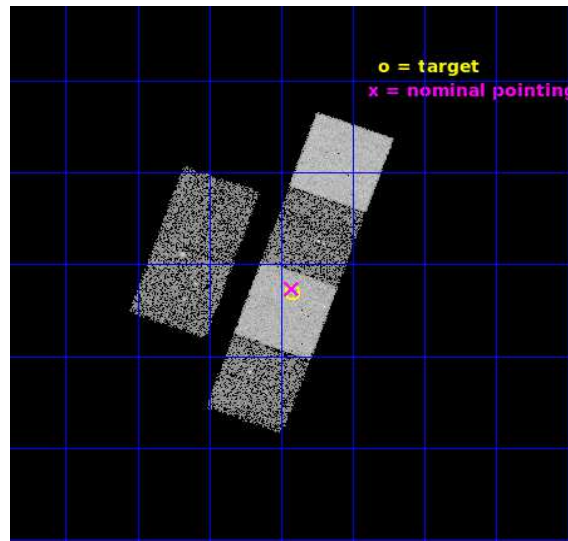
L2 Processing Date : Oct 5 2020

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# 1 Front

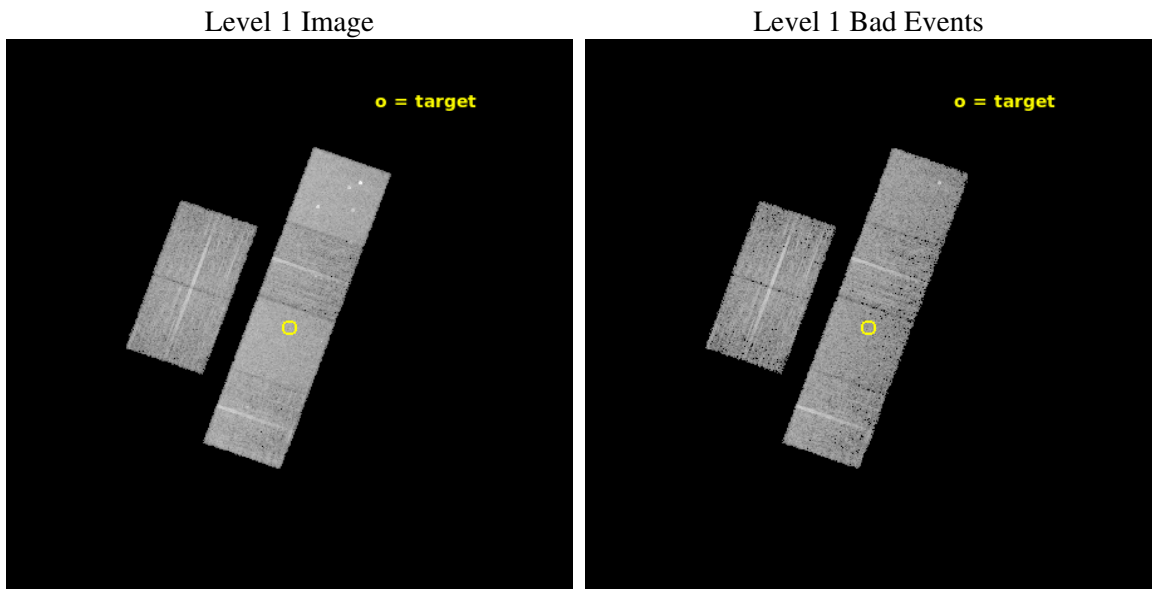
seq_num	700912	Sequence number
obs_id	4830	Observation id
title	Constraining the Hard-X-ray Through Submm SEDs of a Complete Sample of Broad Absorption Line Quasars	Proposal title
observer	Dr. Sarah Gallagher	Principal investigator
object	LBQS 0051-0019	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	13.479583	Observer's specified target RA [deg]
dec_targ	-0.052639	Observer's specified target Dec [deg]
ra_nom	13.481266112833	Nominal RA [deg]
dec_nom	-0.044021431206268	Nominal Dec [deg]
roll_nom	109.75973661665	Nominal Roll [deg]
revision	5	Processing version of data
ontime	7195.6120853126	Sum of GTIs [s]
livetime	7104.496912411	Livetime [s]
ontime2	7195.6531253159	Sum of GTIs [s]
ontime3	7192.2479651272	Sum of GTIs [s]
ontime5	7195.5710453093	Sum of GTIs [s]
ontime6	7195.530005306	Sum of GTIs [s]
ontime7	7195.6120853126	Sum of GTIs [s]
ontime8	7195.4479253292	Sum of GTIs [s]
l2events	78719	Number of level 2 events



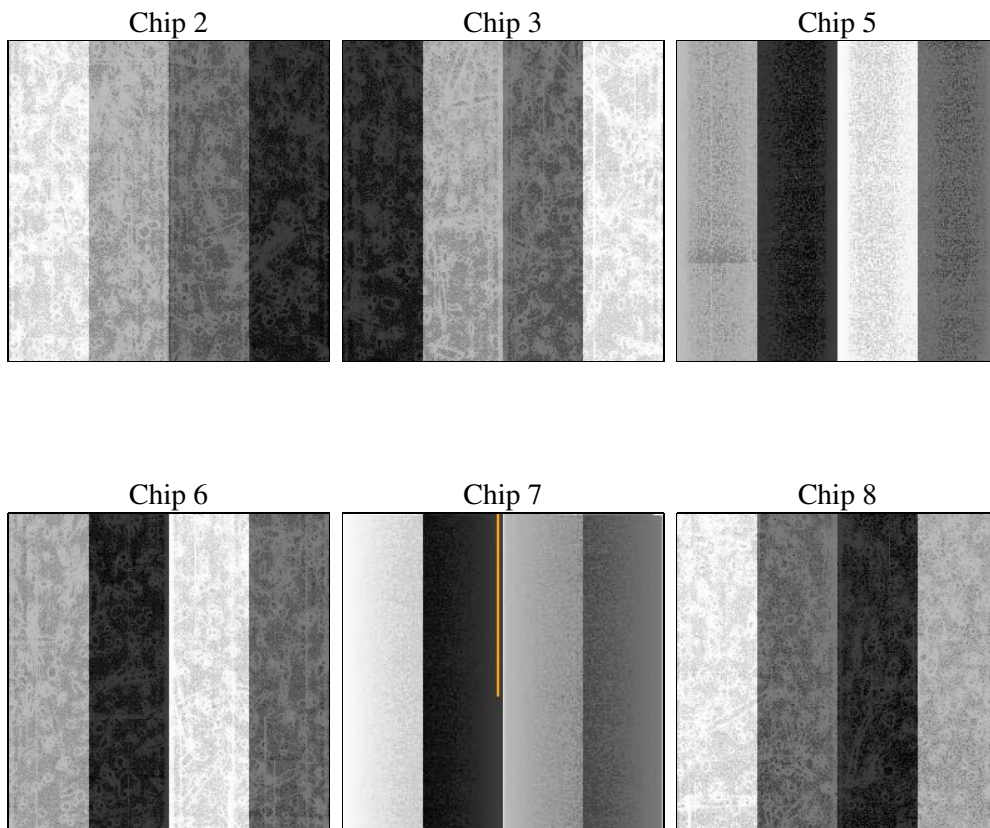
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	7238.737000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	7195.6120853126	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime2	7195.6531253159	Sum of GTIs [s]
date	2020-10-05T23:34:08	Date and time of file creation	ontime3	7192.2479651272	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	7195.5710453093	Sum of GTIs [s]
			ontime6	7195.530005306	Sum of GTIs [s]
			ontime7	7195.6120853126	Sum of GTIs [s]
			ontime8	7195.4479253292	Sum of GTIs [s]
			l1events	347749	Number of level 1 events

### 2.1.4 Events

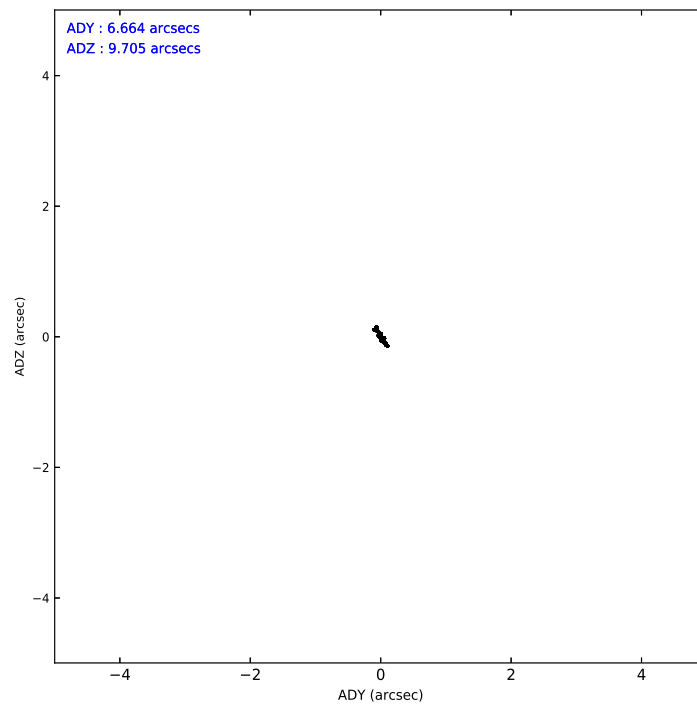
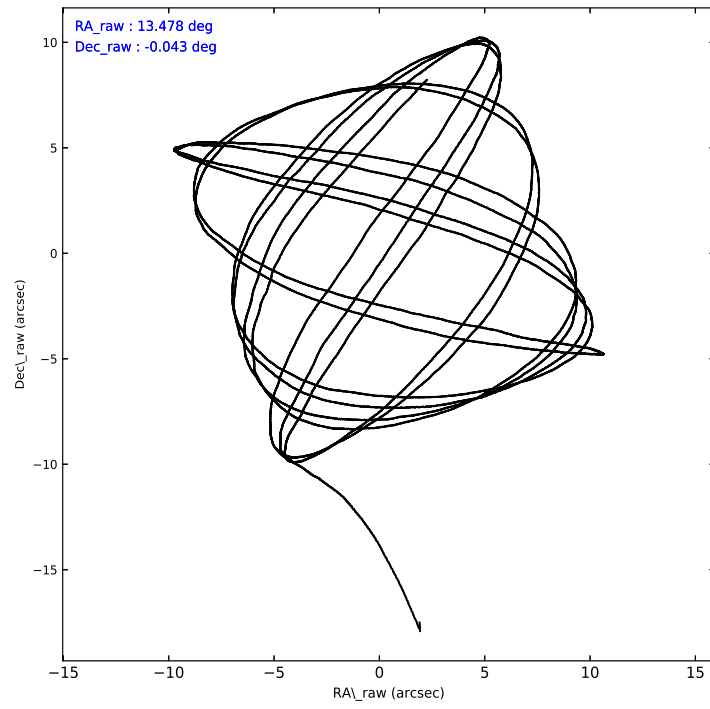
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	49616	47587	75041	48843	66676	59986	grade 0 events	2511	2736	3587	2346	2355	4132
rejected events	43906	41665	40324	43000	39132	47016		5%	5%	4%	4%	3%	6%
rejected %	88%	87%	53%	88%	58%	78%	grade 1 events	39	36	92	26	66	35
								0%	0%	0%	0%	0%	0%
							grade 2 events	1158	1097	10815	1163	5399	2760
								2%	2%	14%	2%	8%	4%
							grade 3 events	521	554	1277	592	2509	1405
								1%	1%	1%	1%	3%	2%
							grade 4 events	565	569	1208	539	2386	1316
								1%	1%	1%	1%	3%	2%
							grade 5 events	2047	2119	5382	2197	6340	2911
								4%	4%	7%	4%	9%	4%
							grade 6 events	964	973	17863	1209	14904	3362
								1%	2%	23%	2%	22%	5%
							grade 7 events	41811	39503	34817	40771	32717	44065
								84%	83%	46%	83%	49%	73%

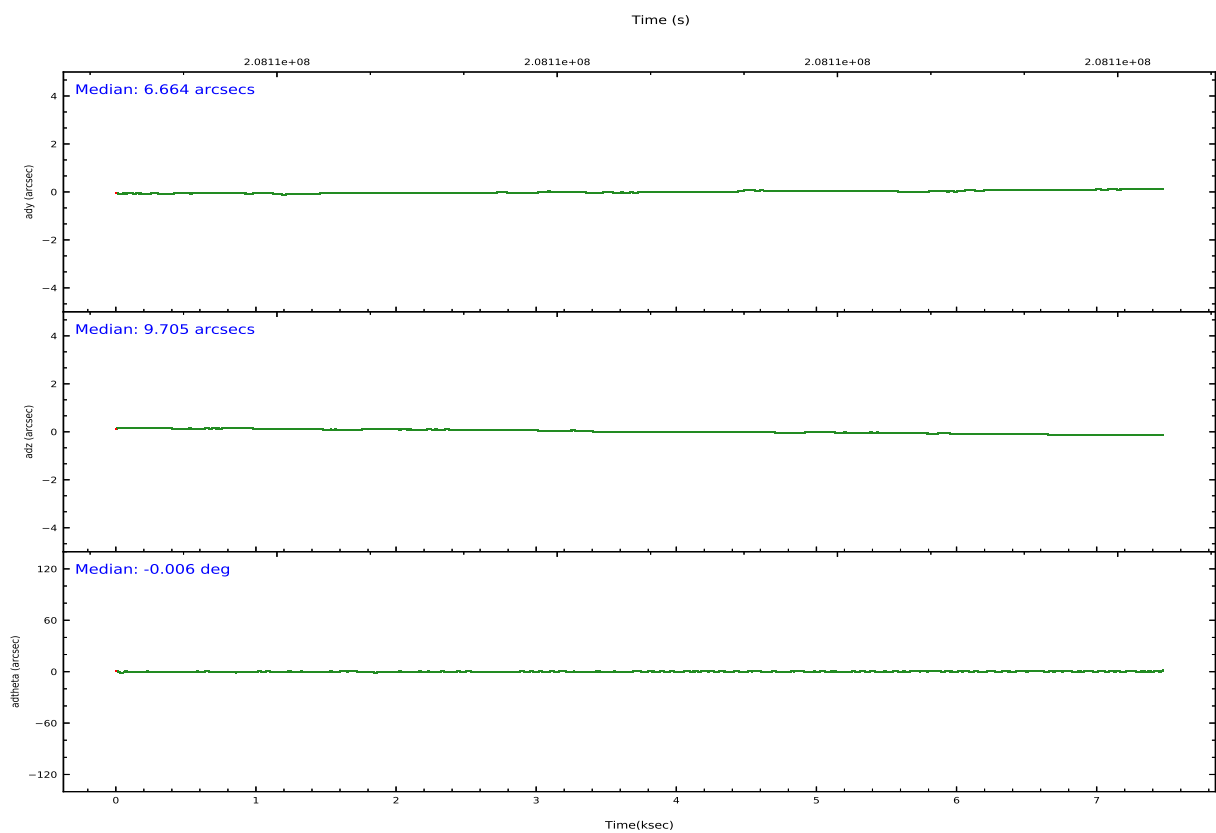
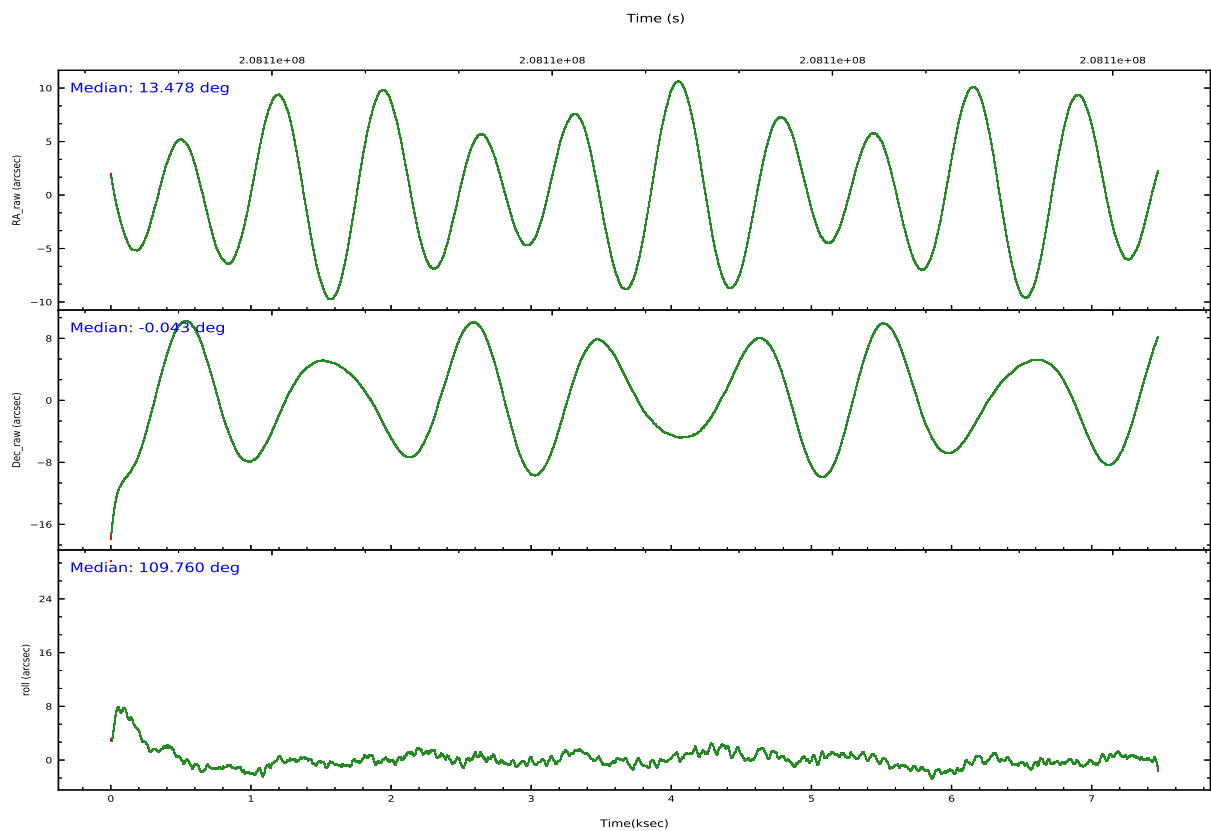


## 2.2 Compared Parameters

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	13.498982	13.481266112833	Subarray requested	NONE	NONE
[deg] Pointing Dec	-0.060408	-0.044021431206268	Alternating exposures requested	N	N
[deg] Pointing Roll	109.605568	109.75973661665	[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)	208107085.184000	208106093.15067			
Observation start date	2004-08-05T15:30:21	2004-08-05T15:14:53			
[s] Observation end time (MET)	208114324.184000	208114547.86354			
Observation end date	2004-08-05T17:31:00	2004-08-05T17:35:47			
Read mode	TIMED	TIMED			

## 2.3 Aspect



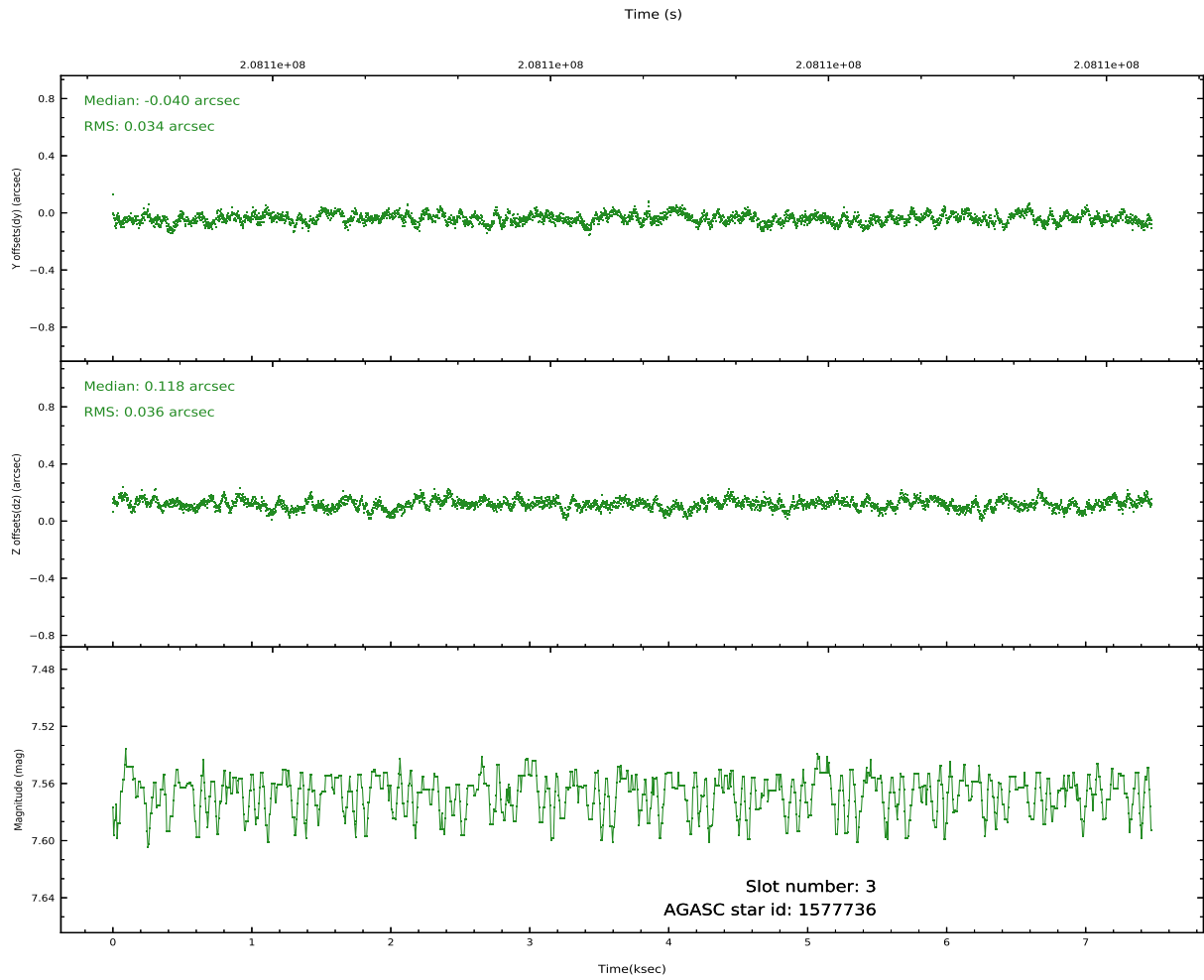
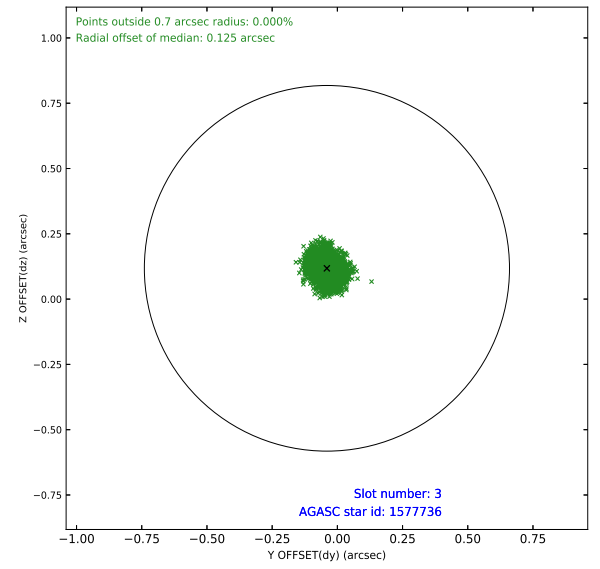
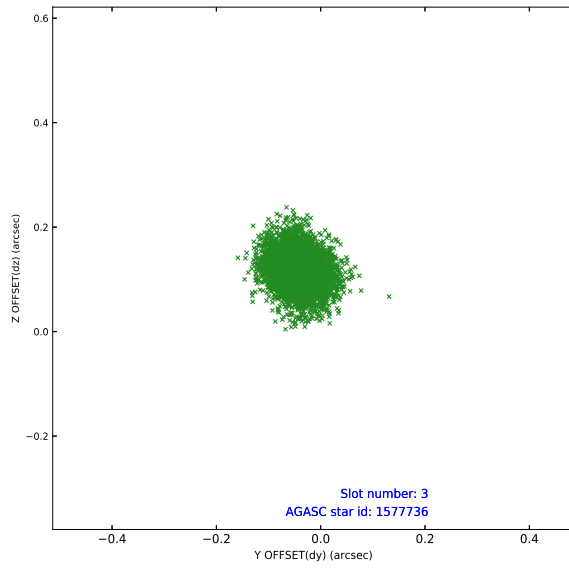


Slot Statistics

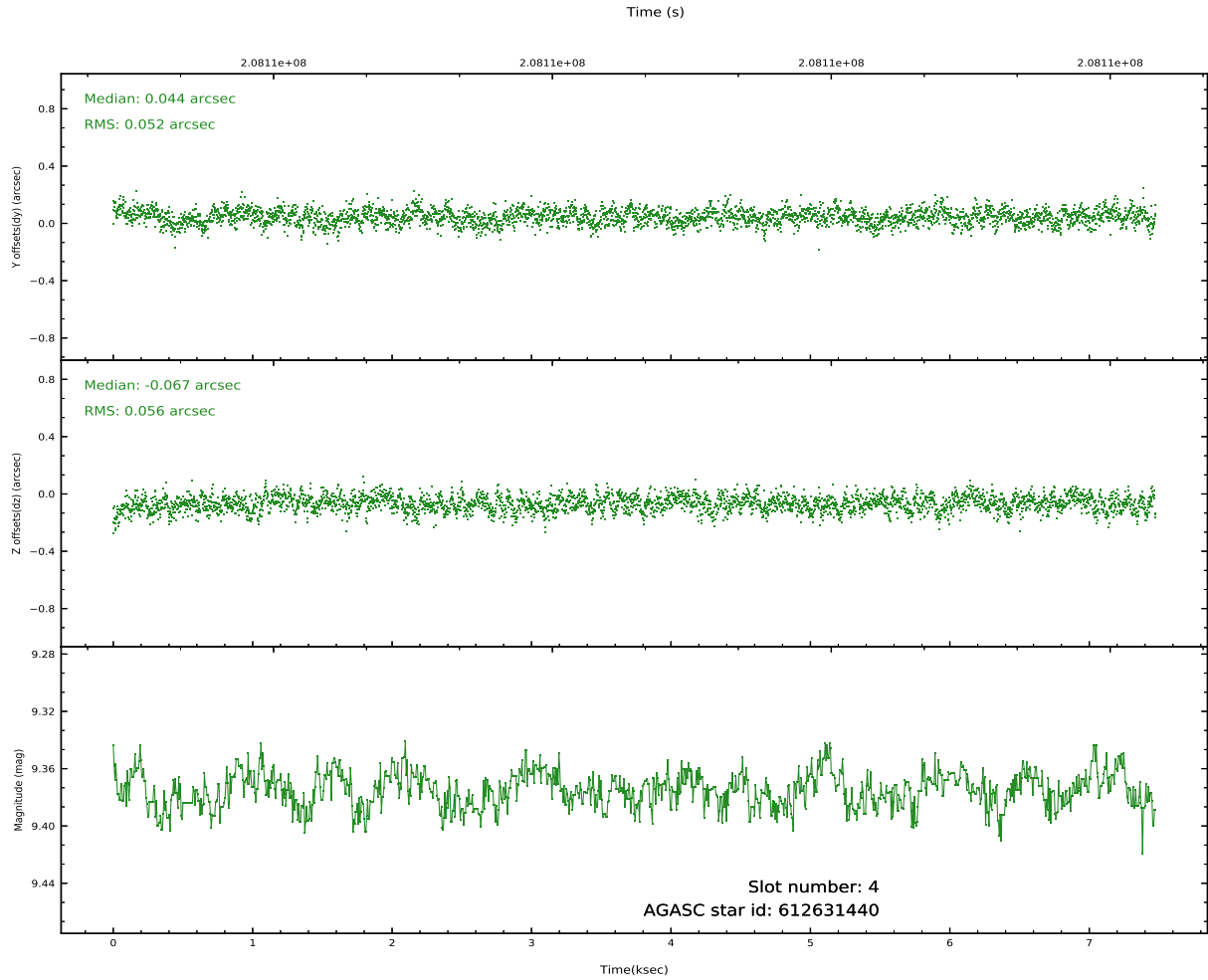
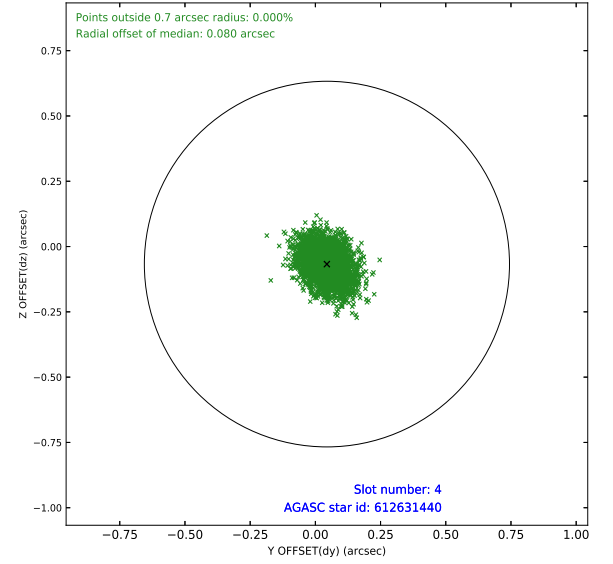
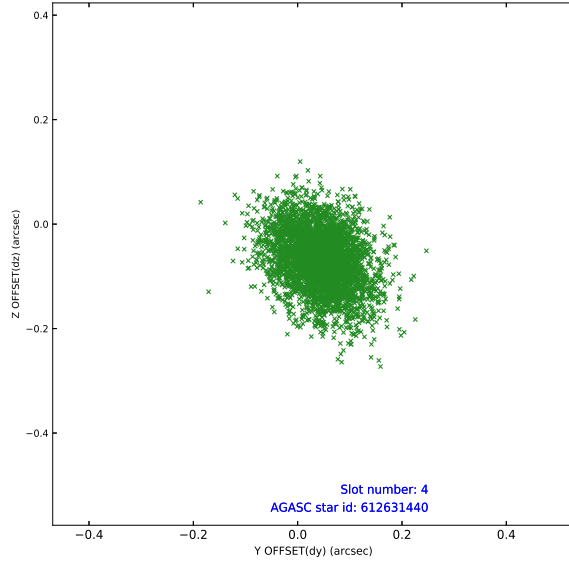
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.10	1824	1.000	-0.079	-0.058	0.008	0.013	0.000000	0.000000	-759.43	-1731
1	FID		ACIS-S-4	7.20	1824	1.000	0.132	0.054	0.006	0.011	0.000000	0.000000	2153.65	176
2	FID		ACIS-S-5	7.23	1824	1.000	-0.084	0.013	0.008	0.013	0.000000	0.000000	-1811.36	171
3	GUIDE	used	1577736	7.56	3645	1.000	-0.040	0.118	0.053	0.085	13.888277	0.019580	-198.67	-1416
4	GUIDE	used	612631440	9.37	3643	1.000	0.044	-0.067	0.081	0.133	13.345518	-0.775803	-2240.71	1384
5	GUIDE	used	612633056	9.40	3643	1.000	-0.062	-0.161	0.078	0.127	13.071720	-0.364507	-515.92	1816
6	GUIDE	used	612637176	9.33	3647	1.000	-0.001	-0.056	0.083	0.136	13.226494	-0.447694	-984.24	1392
7	GUIDE	used	612634776	9.32	3642	1.000	0.059	0.165	0.081	0.132	14.252004	-0.472149	-2305.66	-2056

## 2.4 Star Slots

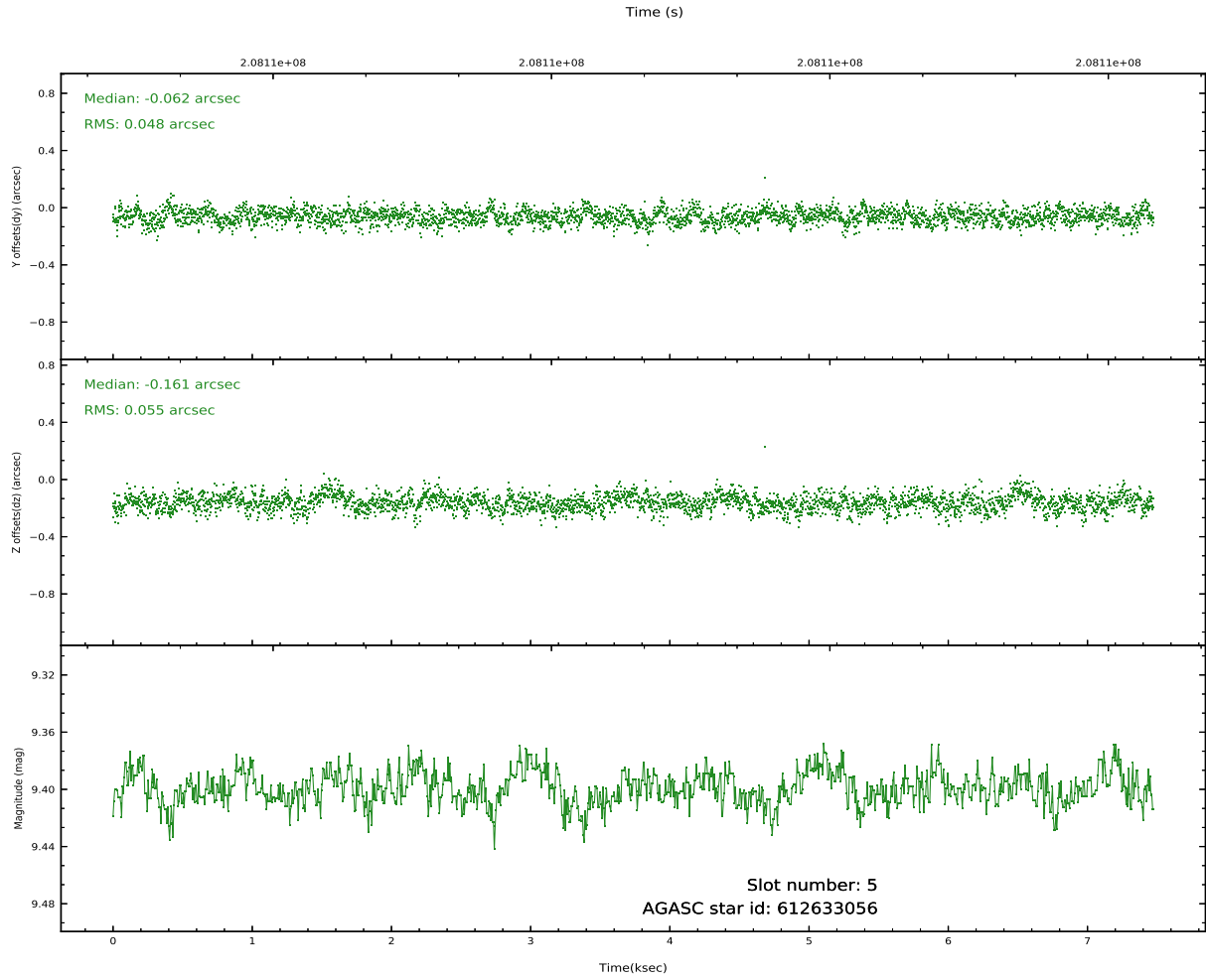
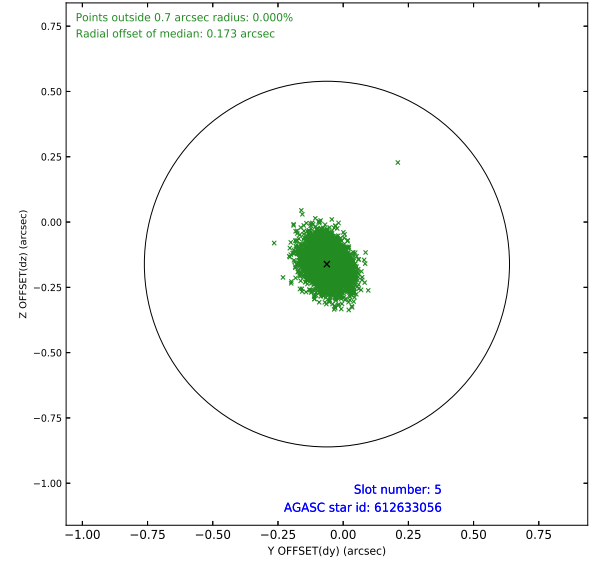
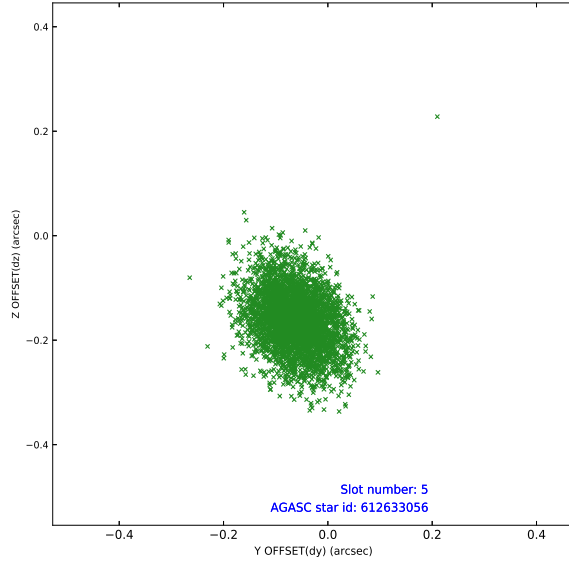
### 2.4.1 Slot 3



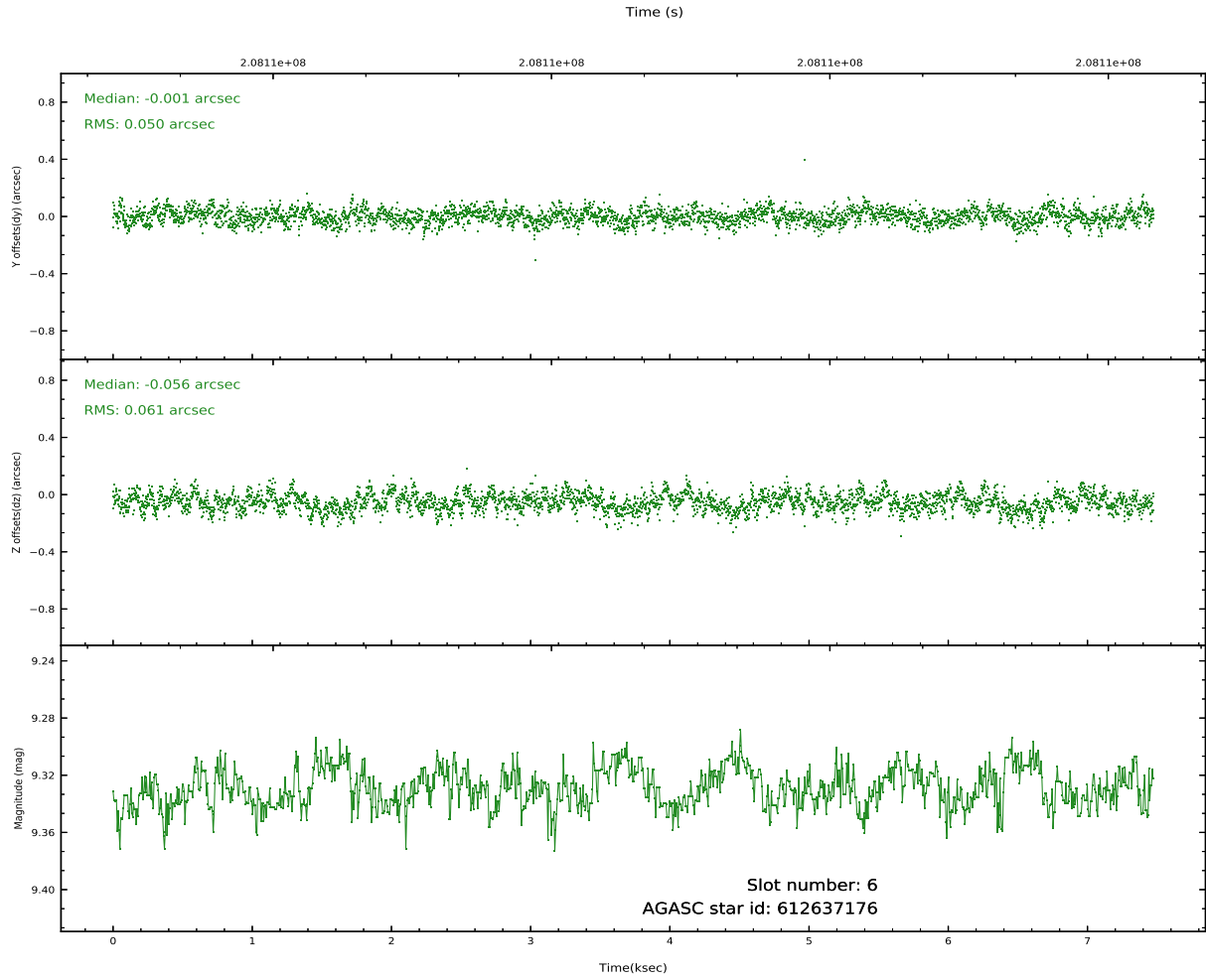
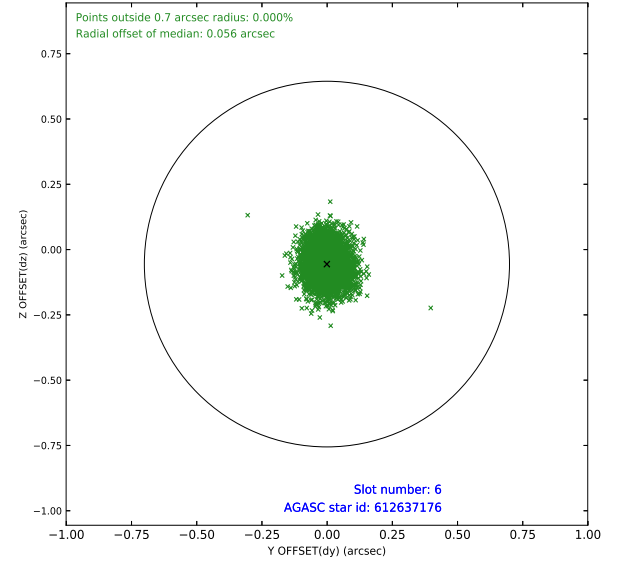
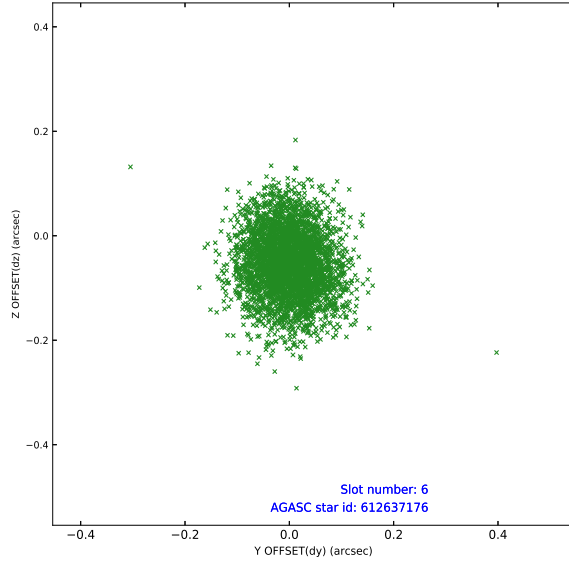
## 2.4.2 Slot 4



### 2.4.3 Slot 5

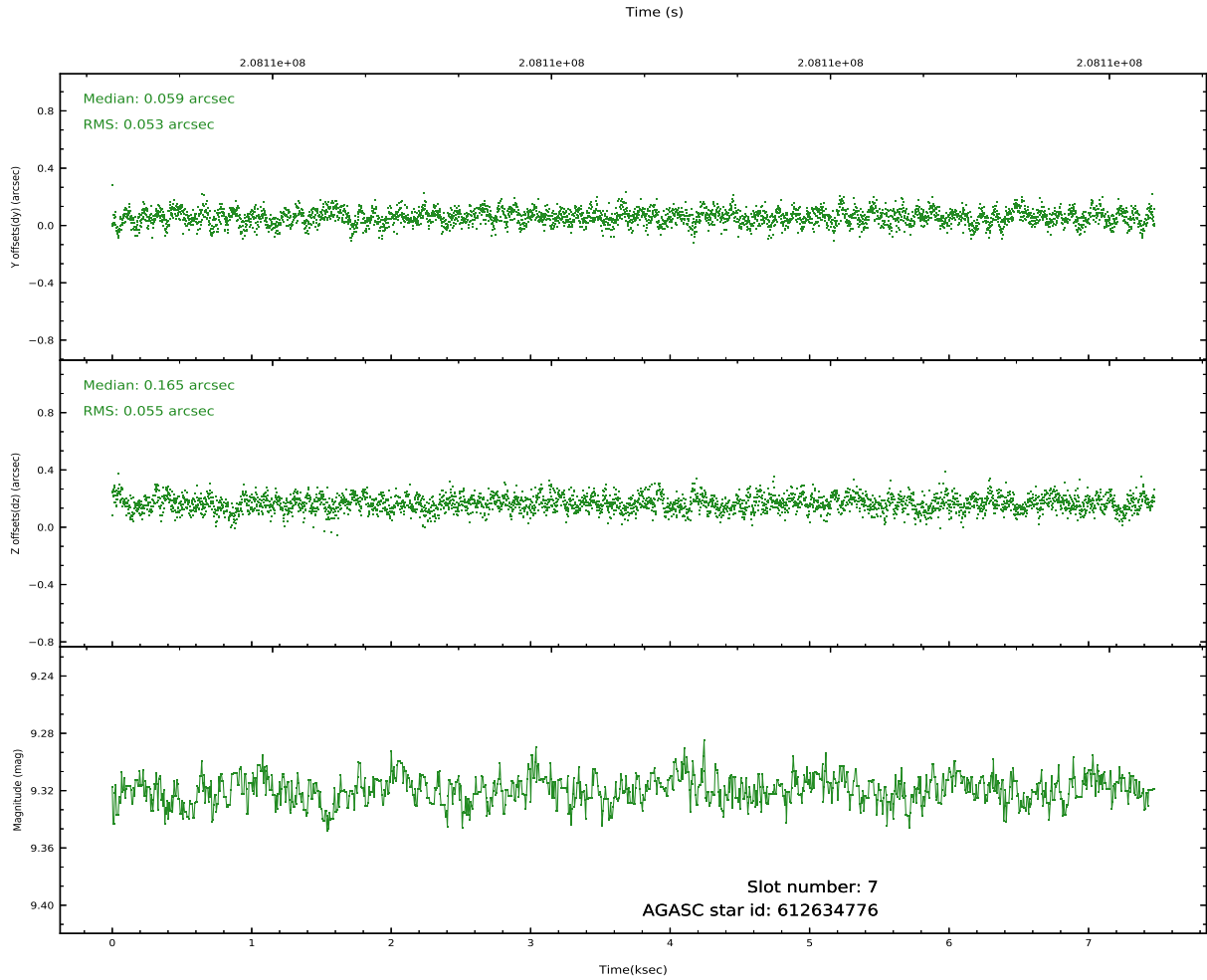
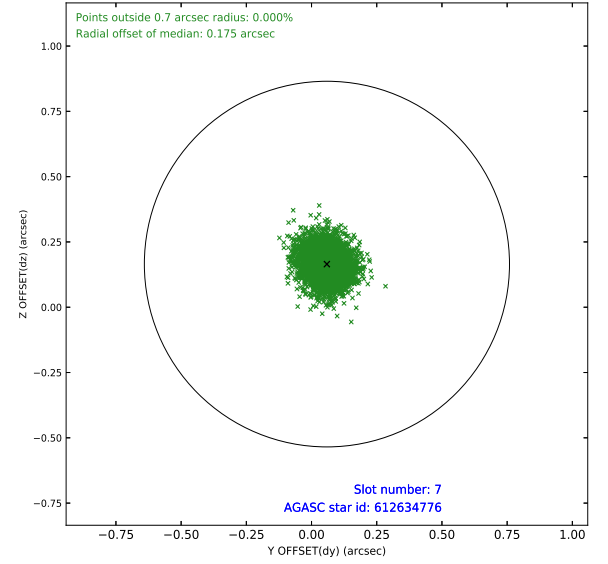
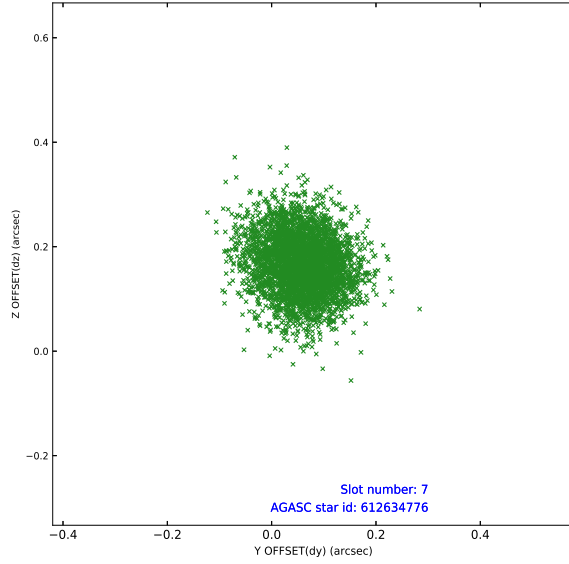


## 2.4.4 Slot 6



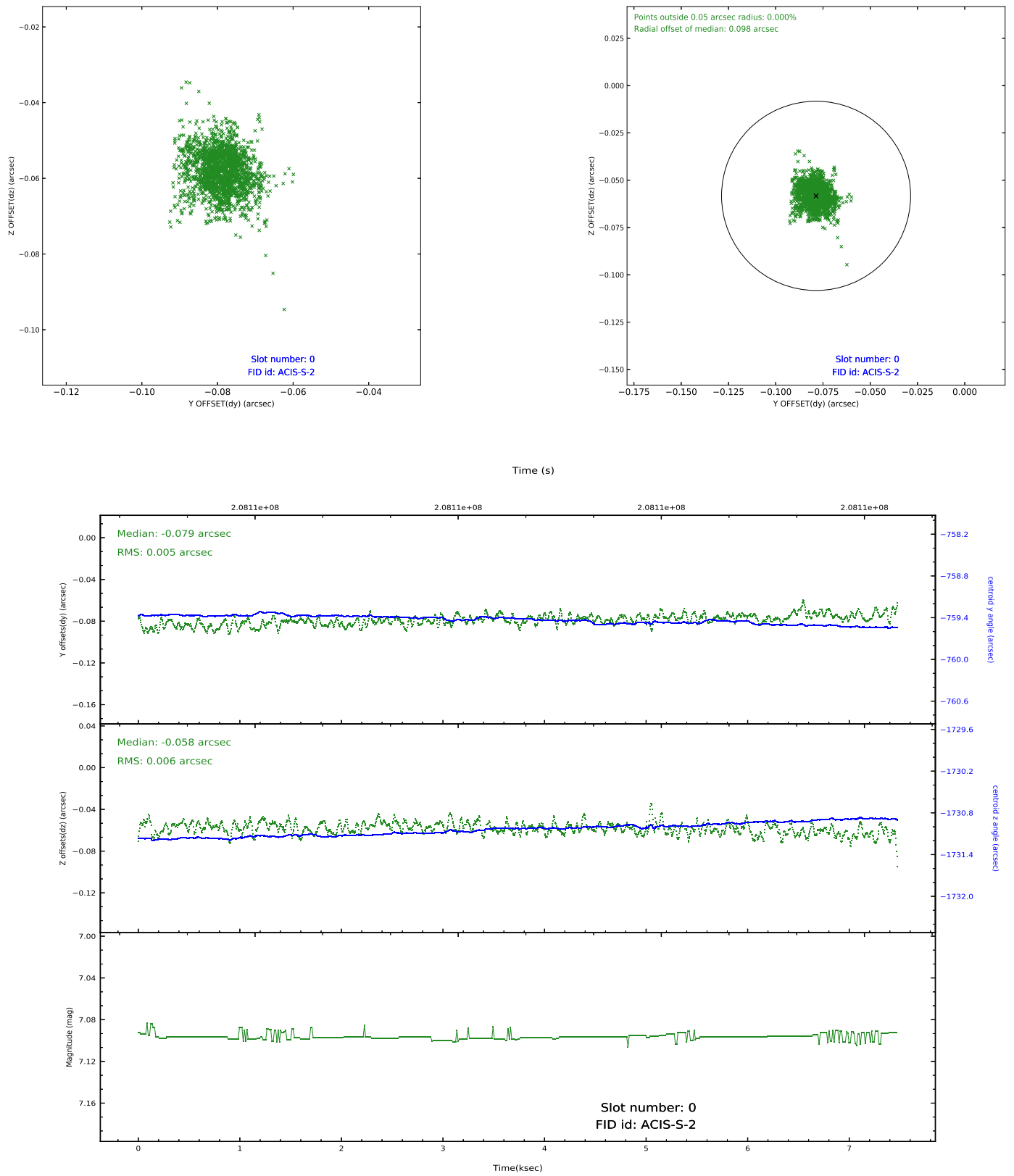


## 2.4.5 Slot 7

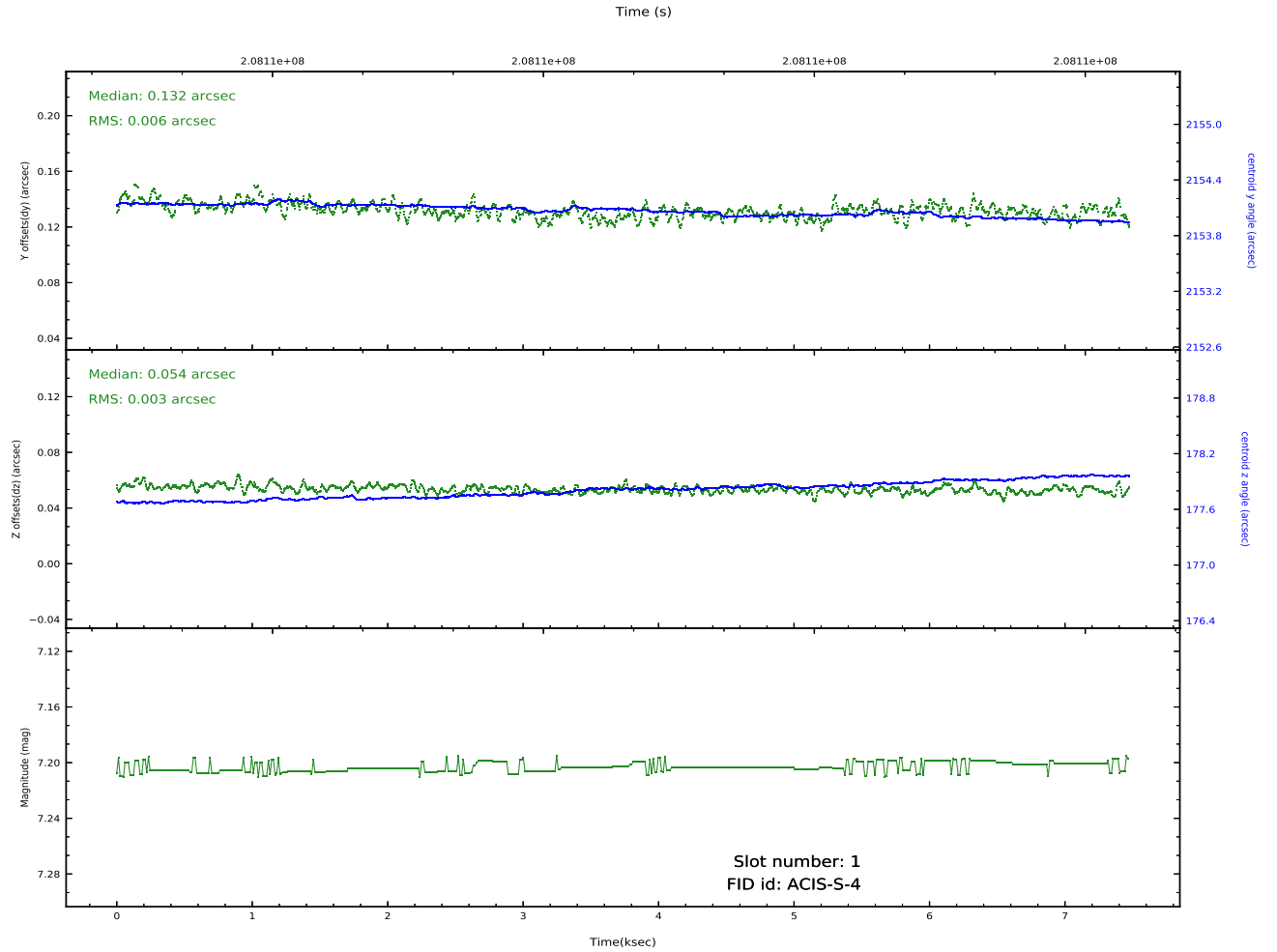
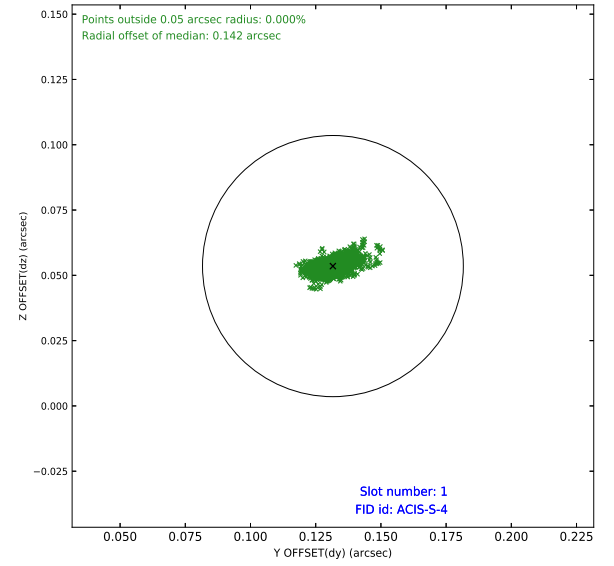
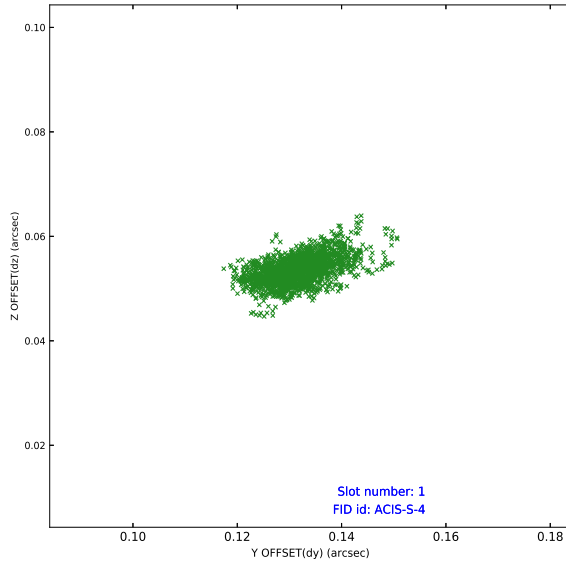


## 2.5 FID Slots

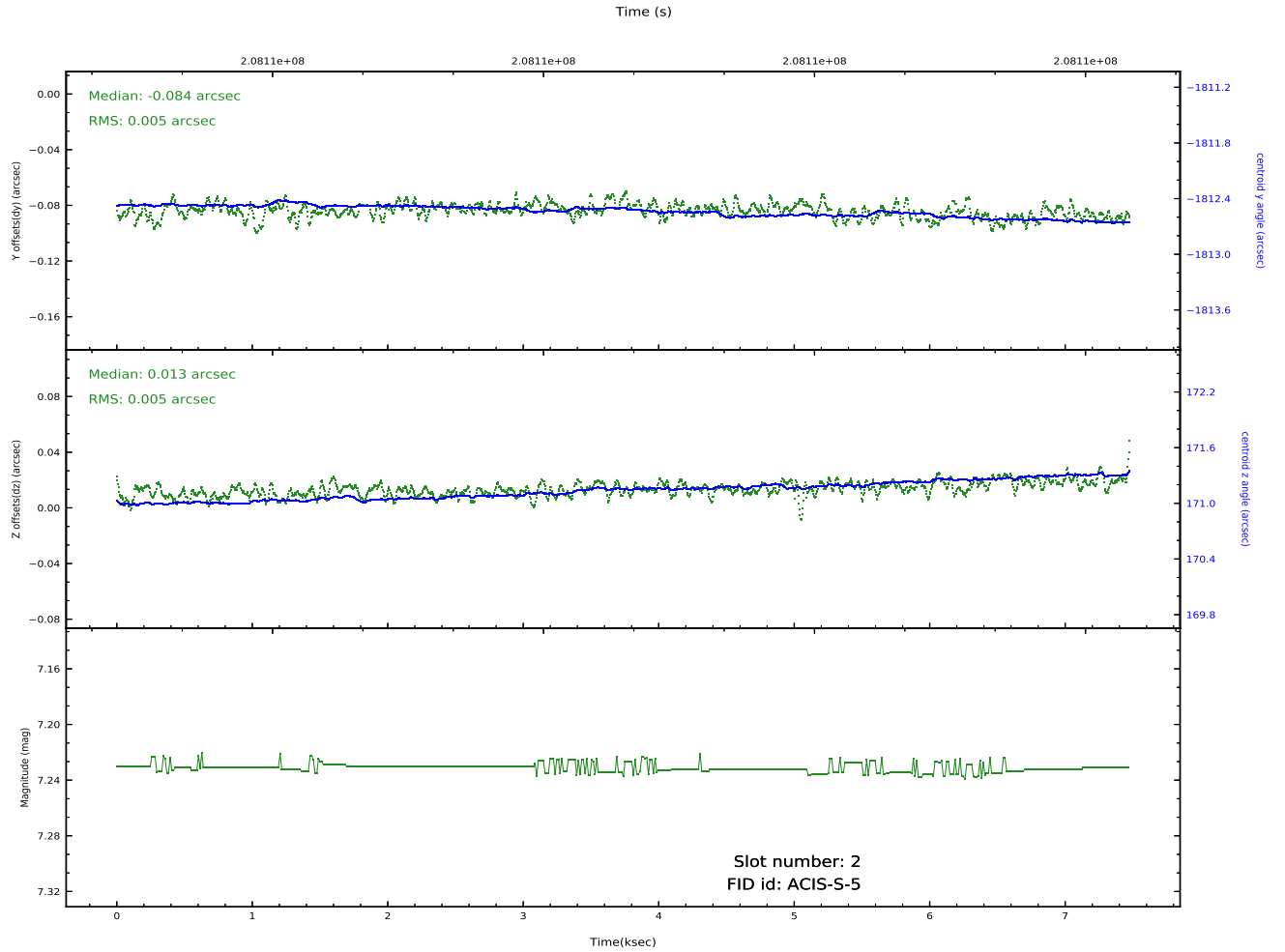
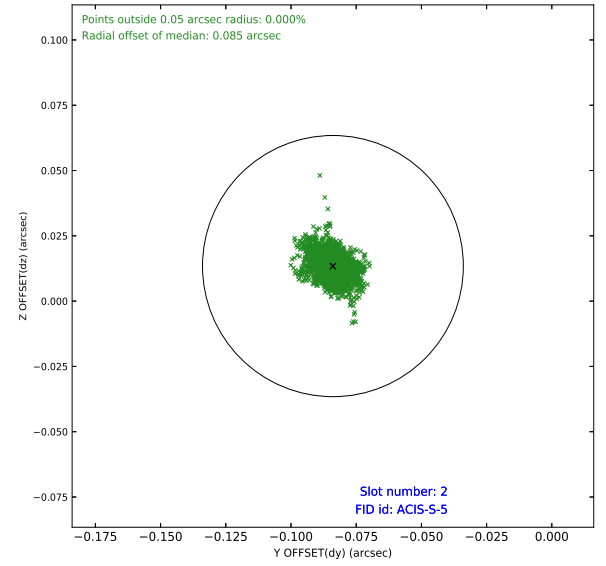
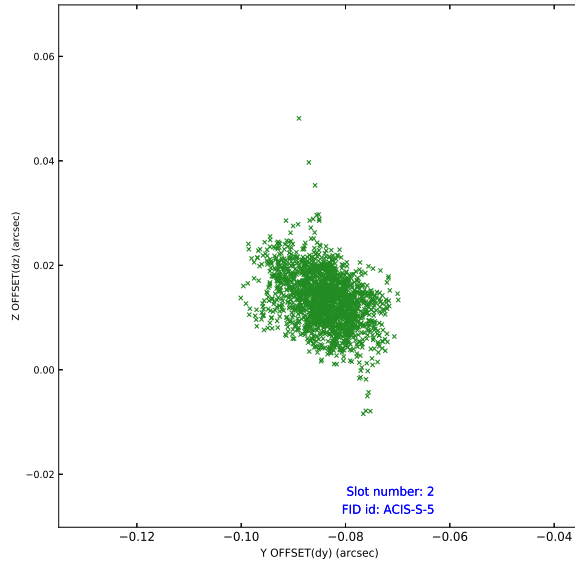
### 2.5.1 Slot 0



## 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)	2020.10.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.196

## A.2 Comments

A spatial region of the original bias map for CCD = 6 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 = 6 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: (13.35577,0.09015), (13.35716,0.08629), (13.48852,0.13362), (13.48713,0.13748).