

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5519 - L2 Version 4  
Chandra X-Ray Center

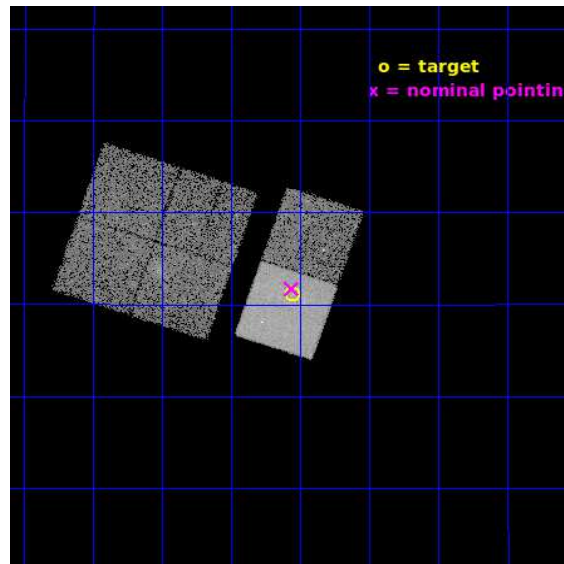
L2 Processing Date : Oct 6 2020

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# 1 Front

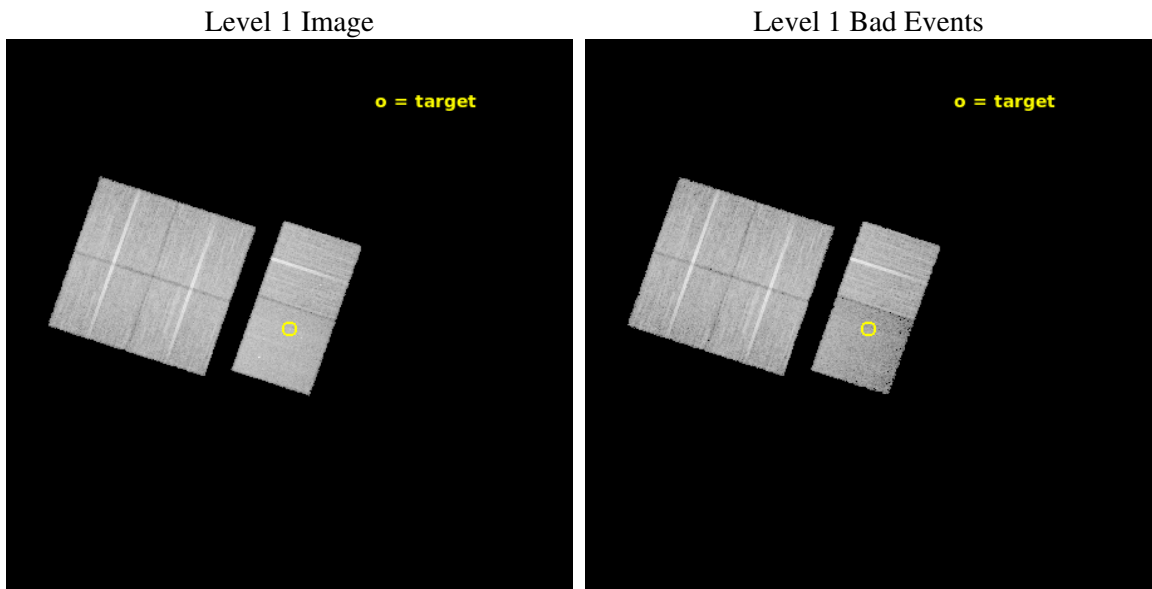
seq_num	500513	Sequence number
obs_id	5519	Observation id
title	X-ray Emission from Radio Pulsars	Proposal title
observer	Gordon Garmire	Principal investigator
object	PSR B1133+16	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	174.013125	Observer's specified target RA [deg]
dec_targ	15.853222	Observer's specified target Dec [deg]
ra_nom	174.01506590404	Nominal RA [deg]
dec_nom	15.862090373406	Nominal Dec [deg]
roll_nom	108.63106942973	Nominal Roll [deg]
revision	4	Processing version of data
ontime	18140.79993242	Sum of GTIs [s]
livetime	17911.090200598	Livetime [s]
ontime0	18140.79993242	Sum of GTIs [s]
ontime1	18140.79993242	Sum of GTIs [s]
ontime2	18140.79993242	Sum of GTIs [s]
ontime3	18140.79993242	Sum of GTIs [s]
ontime6	18140.79993242	Sum of GTIs [s]
ontime7	18140.79993242	Sum of GTIs [s]
l2events	87479	Number of level 2 events



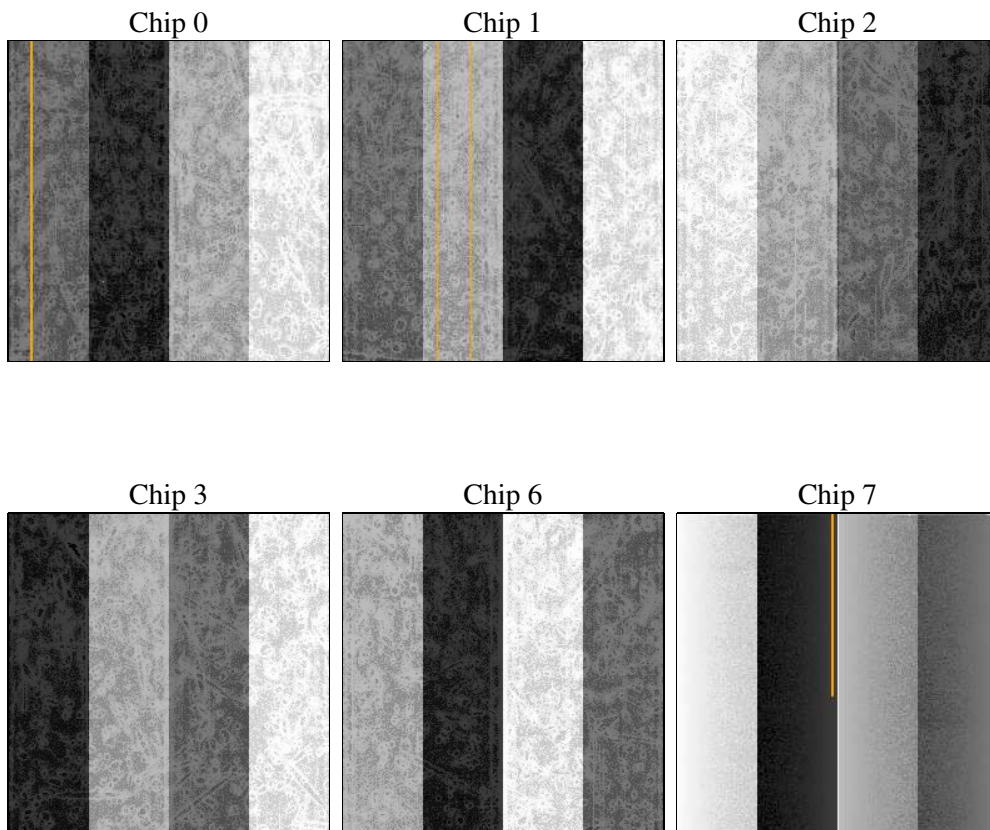
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	18140.79993242	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime0	18140.79993242	Sum of GTIs [s]
date	2020-10-06T22:41:53	Date and time of file creation	ontime1	18140.79993242	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	18140.79993242	Sum of GTIs [s]
			ontime3	18140.79993242	Sum of GTIs [s]
			ontime6	18140.79993242	Sum of GTIs [s]
			ontime7	18140.79993242	Sum of GTIs [s]
			l1events	650613	Number of level 1 events

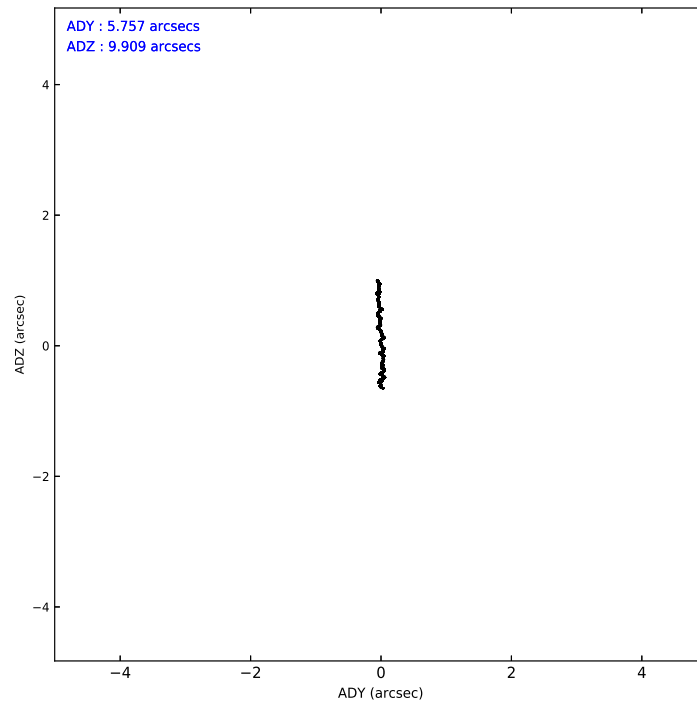
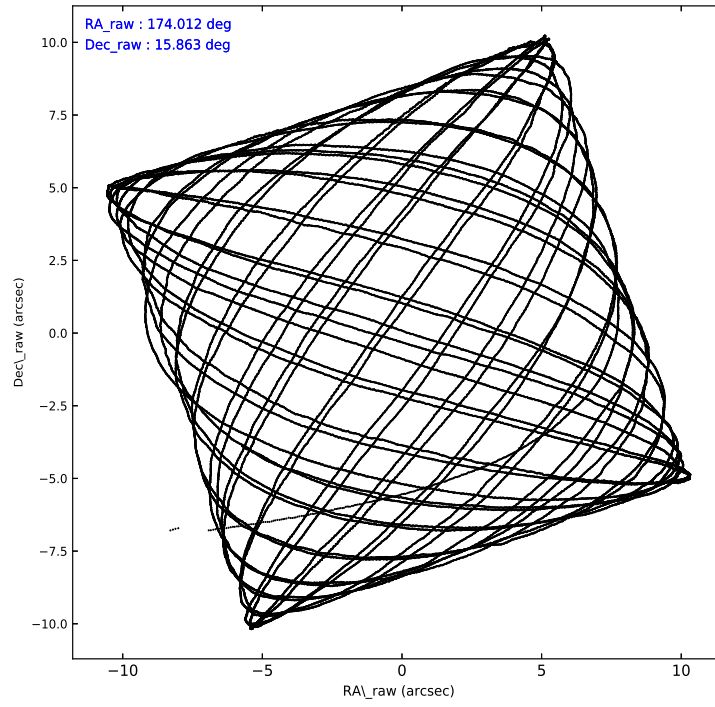
### 2.1.4 Events

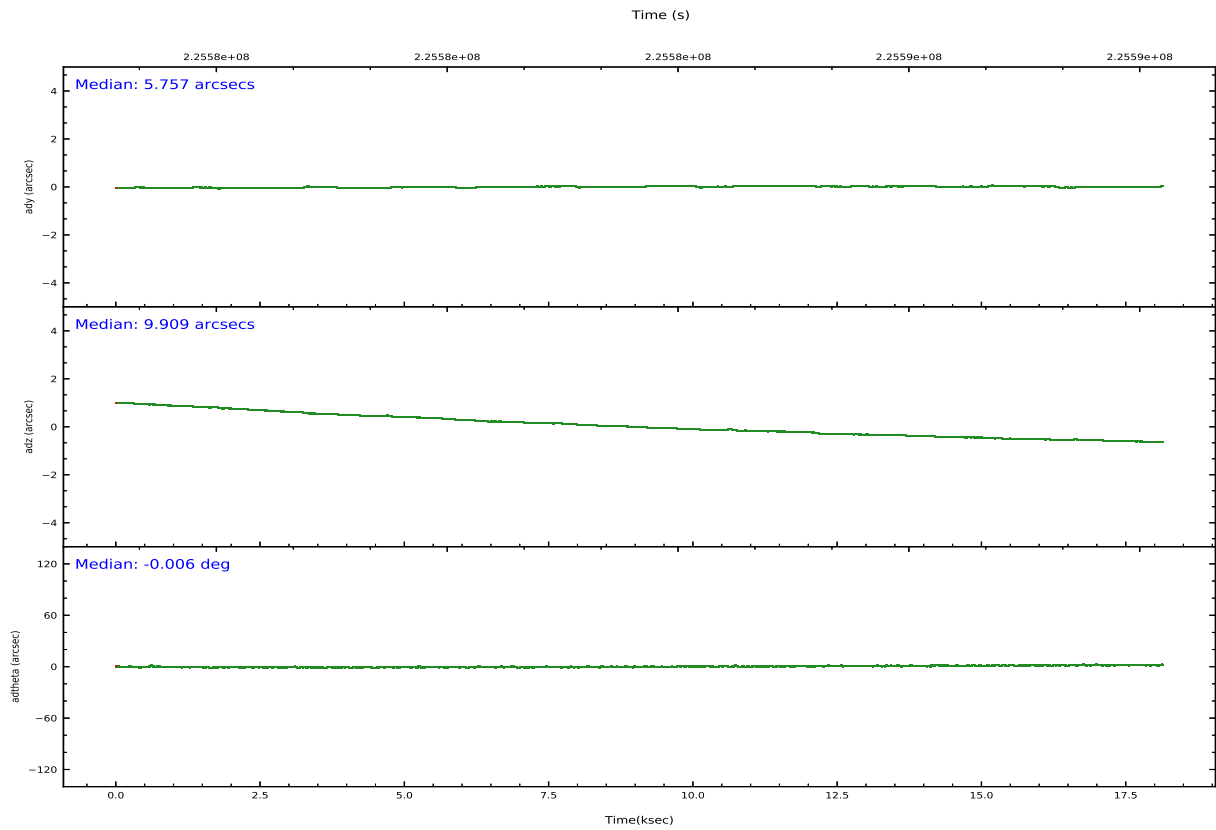
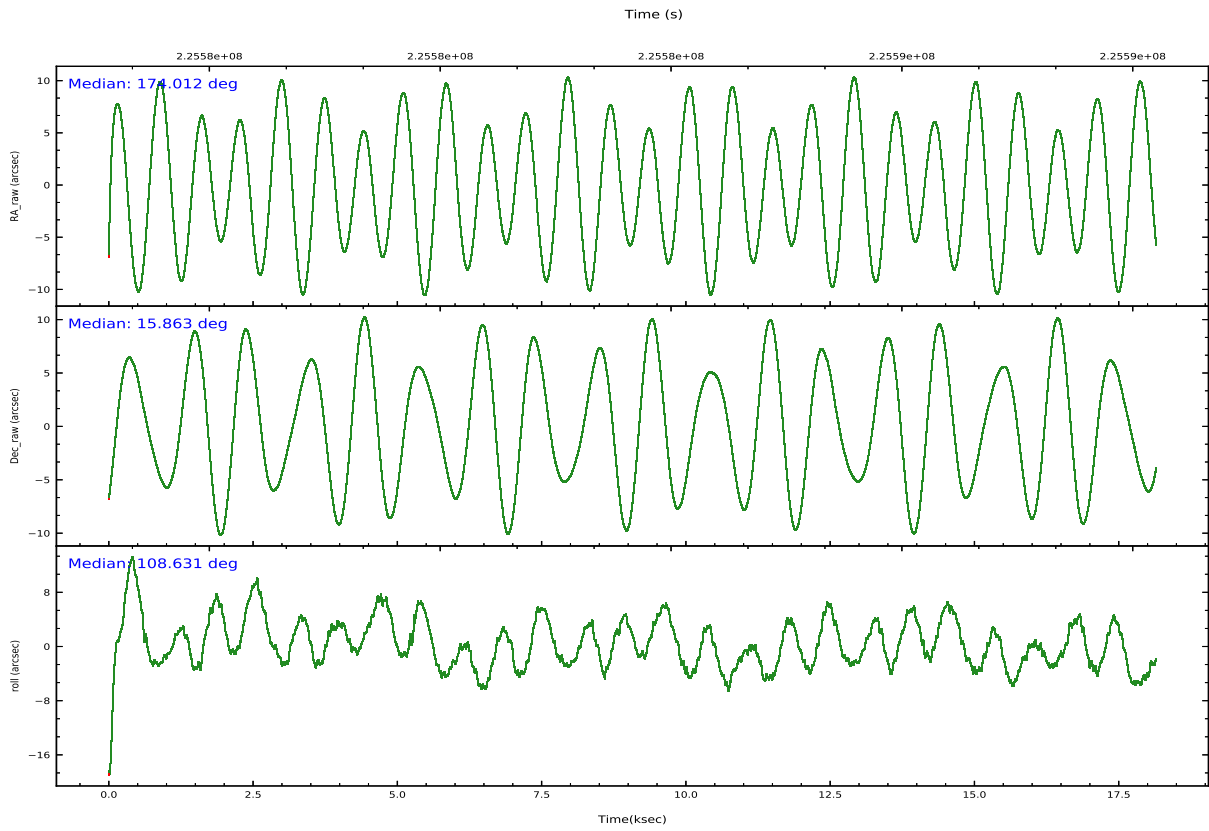
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	108231	100431	117088	109260	111538	104065	grade 0 events	3796	3915	3979	4241	4299	5317
rejected events	98067	90089	107338	99306	100910	56597		3%	3%	3%	3%	3%	5%
rejected %	90%	89%	91%	90%	90%	54%	grade 1 events	72	53	59	69	67	99
								0%	0%	0%	0%	0%	0%
							grade 2 events	2729	2439	2467	2233	2416	10913
								2%	2%	2%	2%	2%	10%
							grade 3 events	1271	1310	1160	1196	1266	5028
								1%	1%	0%	1%	1%	4%
							grade 4 events	1172	1278	1131	1191	1239	5088
								1%	1%	0%	1%	1%	4%
							grade 5 events	3462	3563	3178	3734	3790	11131
								3%	3%	2%	3%	3%	10%
							grade 6 events	2020	2274	1884	1920	2272	25256
								1%	2%	1%	1%	2%	24%
							grade 7 events	93709	85599	103230	94676	96189	41233
								86%	85%	88%	86%	86%	39%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-012367	ACIS-012367	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	174.033123	174.01506590404	Subarray requested	NONE	NONE
[deg] Pointing Dec	15.845064	15.862090373406	Alternating exposures requested	N	N
[deg] Pointing Roll	108.467999	108.63106942973	[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	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	225574407.184000	225572567.99694			
Observation start date	2005-02-23T19:32:23	2005-02-23T19:02:47			
[s] Observation end time (MET)	225592407.184000	225593943.34791			
Observation end date	2005-02-24T00:32:23	2005-02-24T00:59:03			
Read mode	TIMED	TIMED			

## 2.3 Aspect





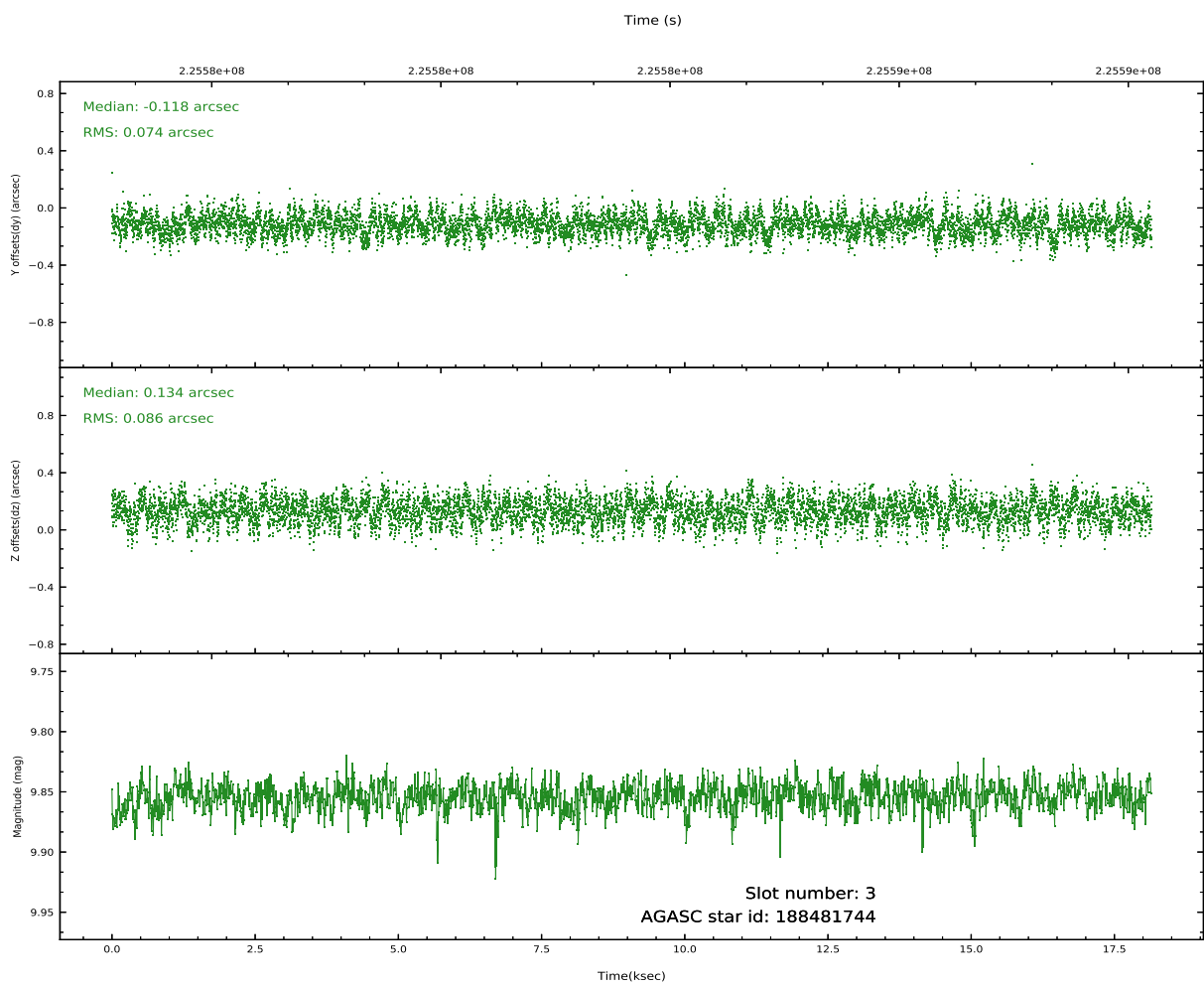
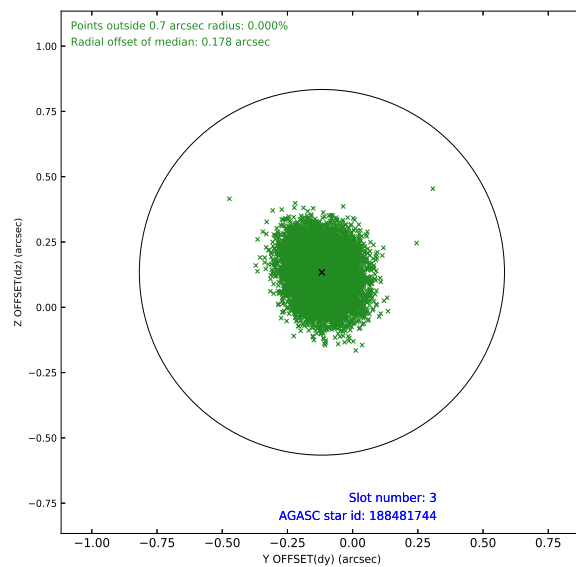
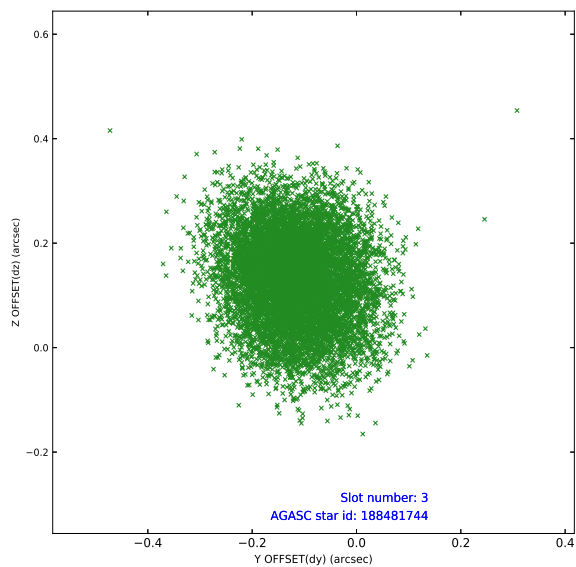
### Slot Statistics

slot	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	4427	1.000	-0.100	-0.073	0.012	0.019	0.000000	0.000000	-758.52	-1731
1	FID		ACIS-S-4	7.21	4427	1.000	0.173	0.067	0.006	0.011	0.000000	0.000000	2154.87	177
2	FID		ACIS-S-5	7.23	4427	1.000	-0.104	0.014	0.012	0.018	0.000000	0.000000	-1811.14	170
3	GUIDE	used	188481744	9.85	8842	1.000	-0.118	0.134	0.122	0.193	174.779940	15.551439	-1818.50	-2123
4	GUIDE	used	188484552	9.82	8842	1.000	0.109	0.026	0.119	0.204	174.632803	15.520641	-1763.50	-1603
5	GUIDE	used	188486024	9.64	8836	1.000	-0.067	-0.084	0.125	0.199	173.431831	15.691868	139.58	2150
6	GUIDE	used	188493696	9.41	8835	1.000	0.005	0.026	0.114	0.173	174.021814	16.383011	1850.03	-575
7	GUIDE	used	188503560	9.24	8847	1.000	0.072	-0.103	0.096	0.159	174.490882	15.776894	-732.80	-1426

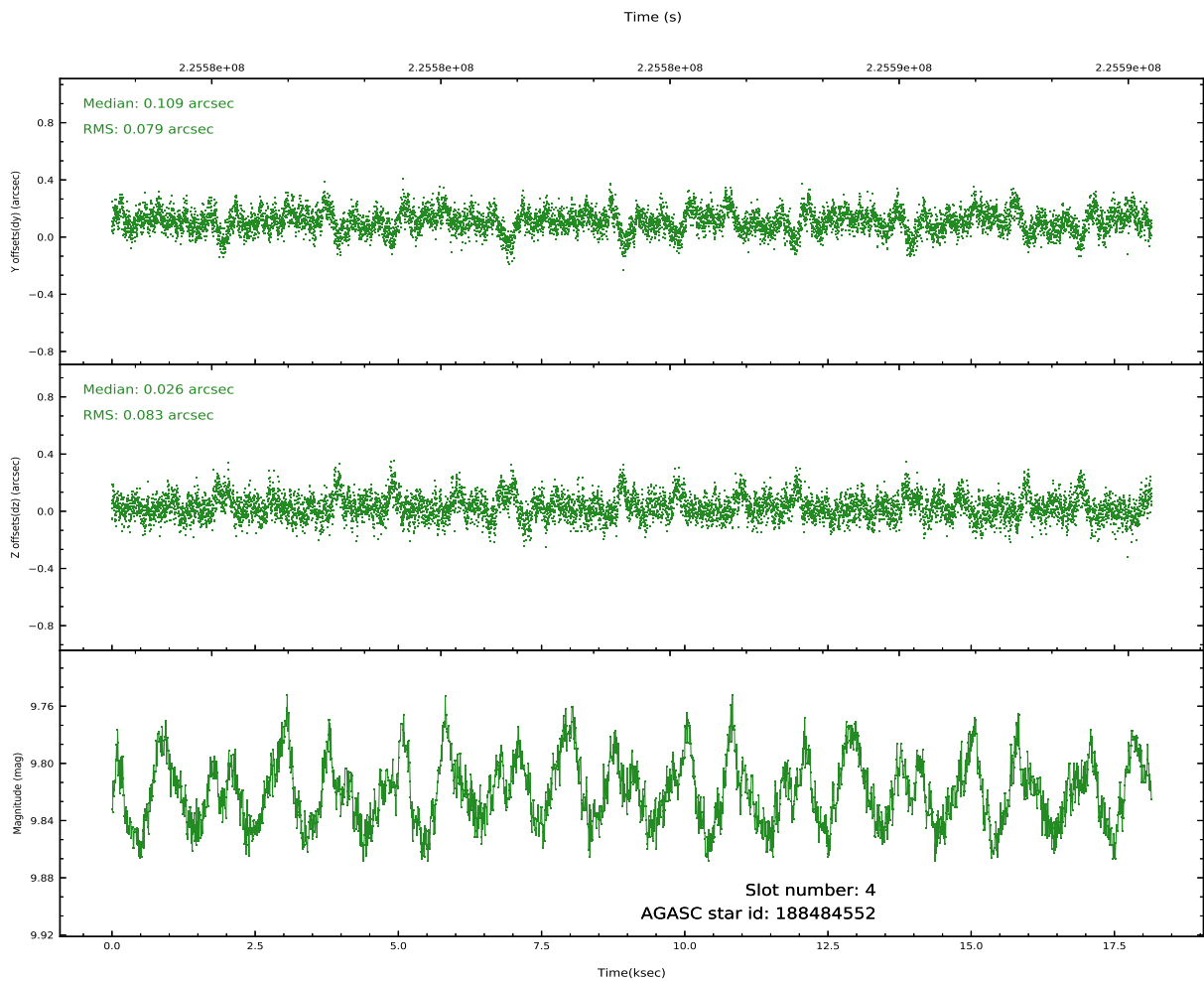
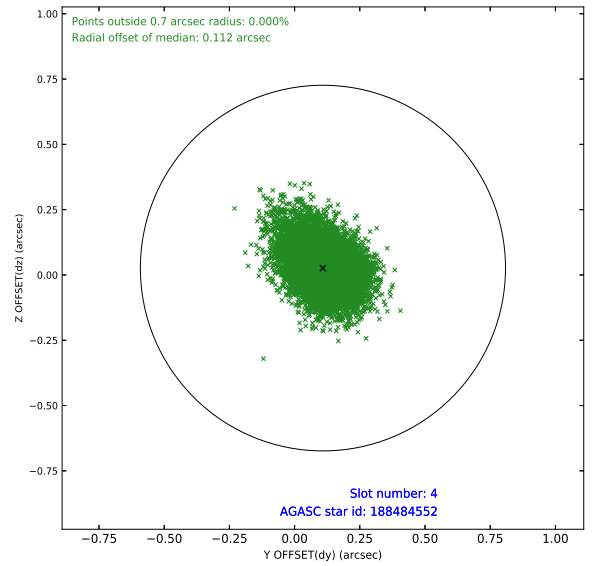
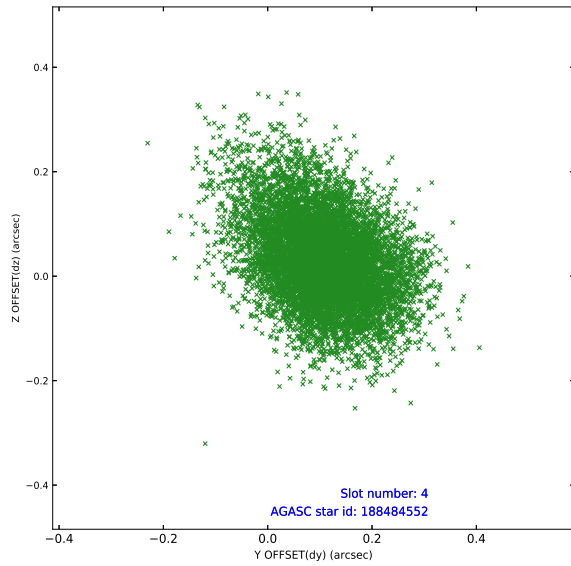
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## 2.4 Star Slots

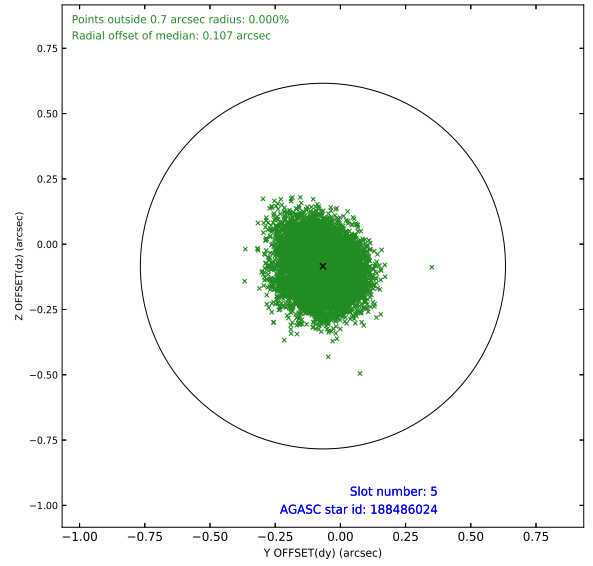
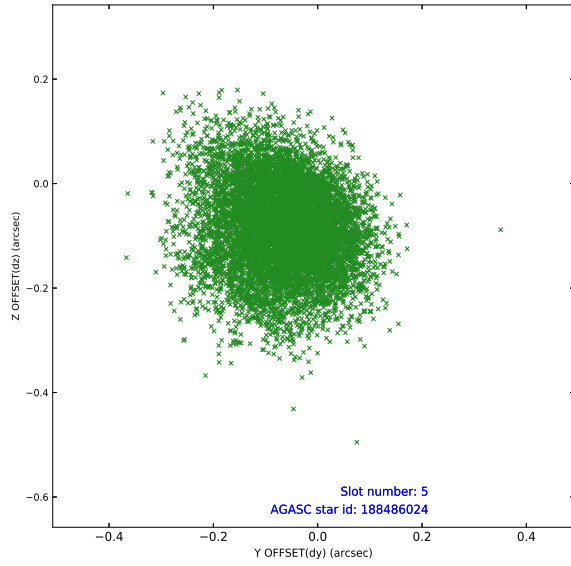
### 2.4.1 Slot 3



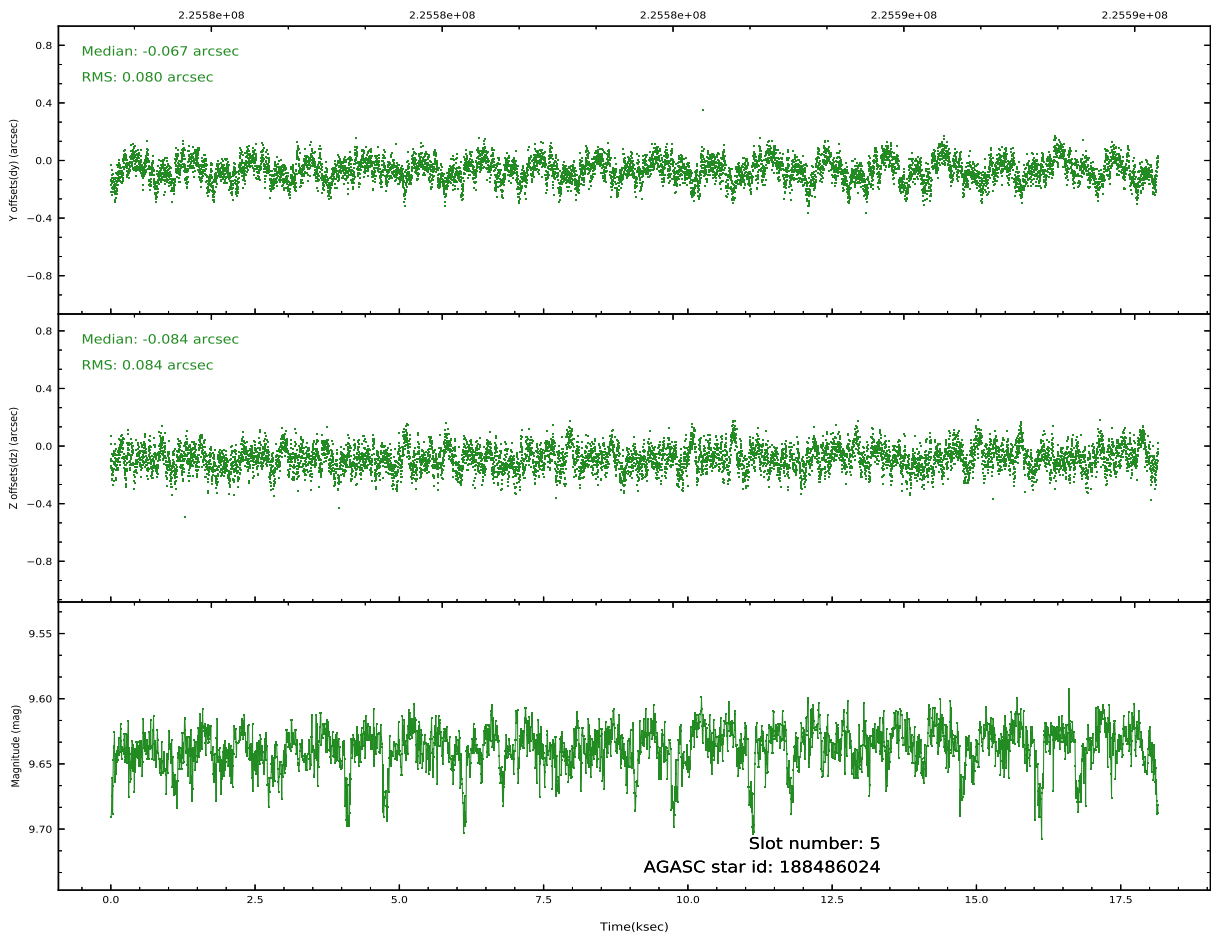
## 2.4.2 Slot 4



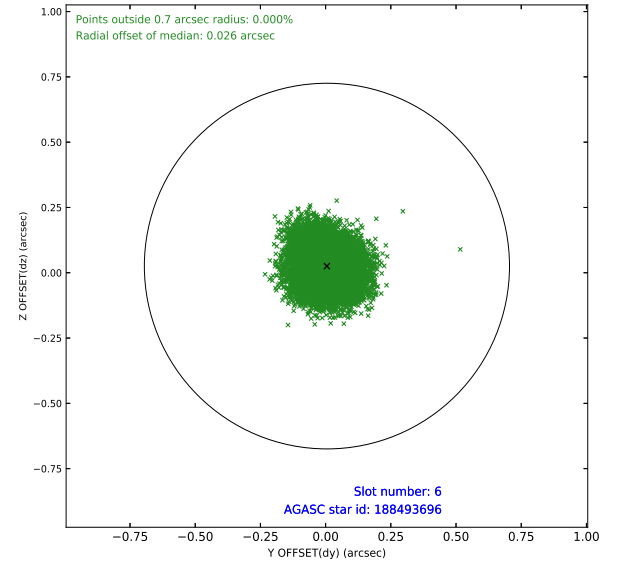
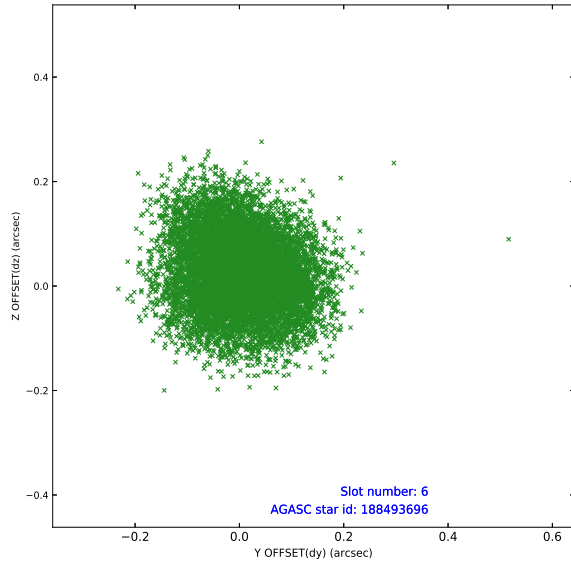
### 2.4.3 Slot 5



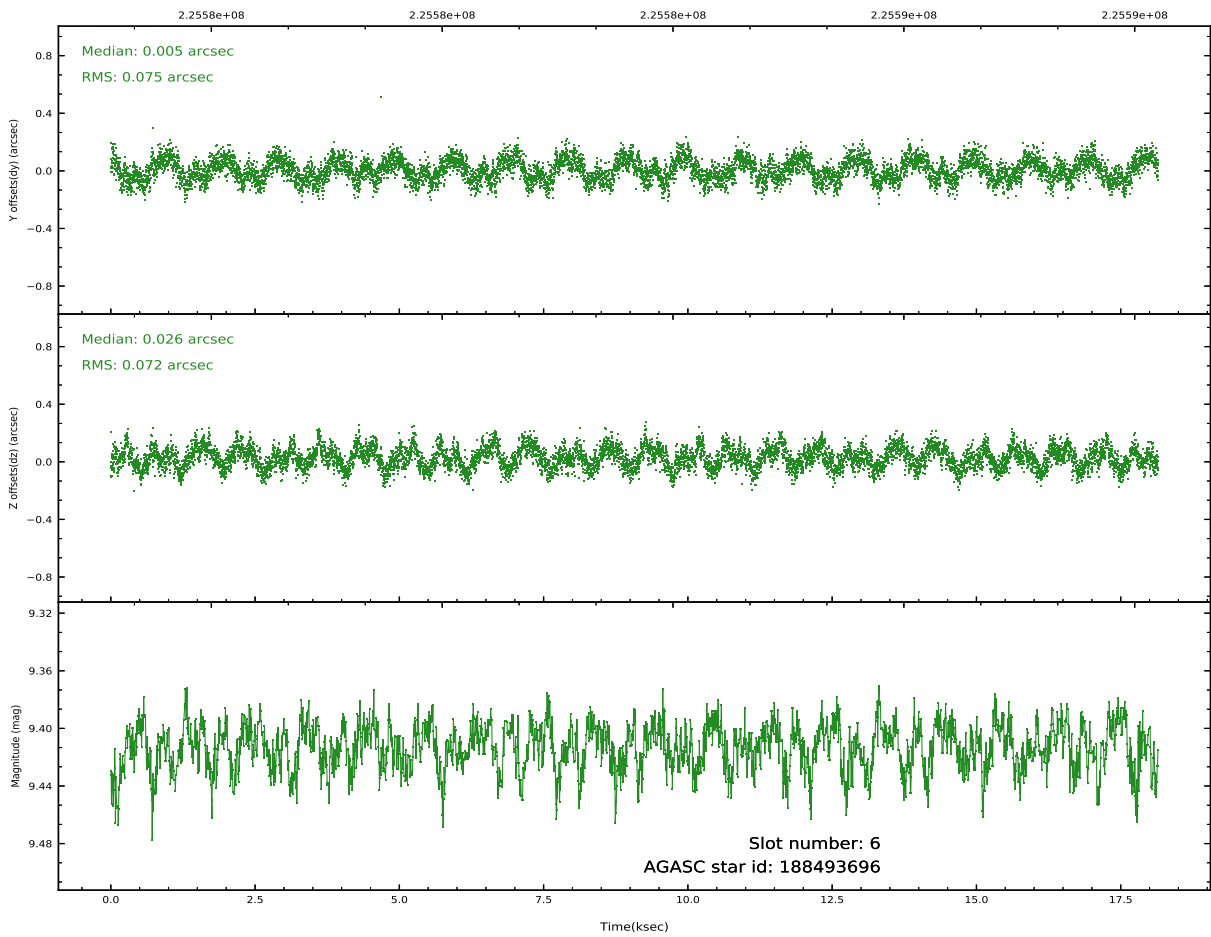
Time (s)



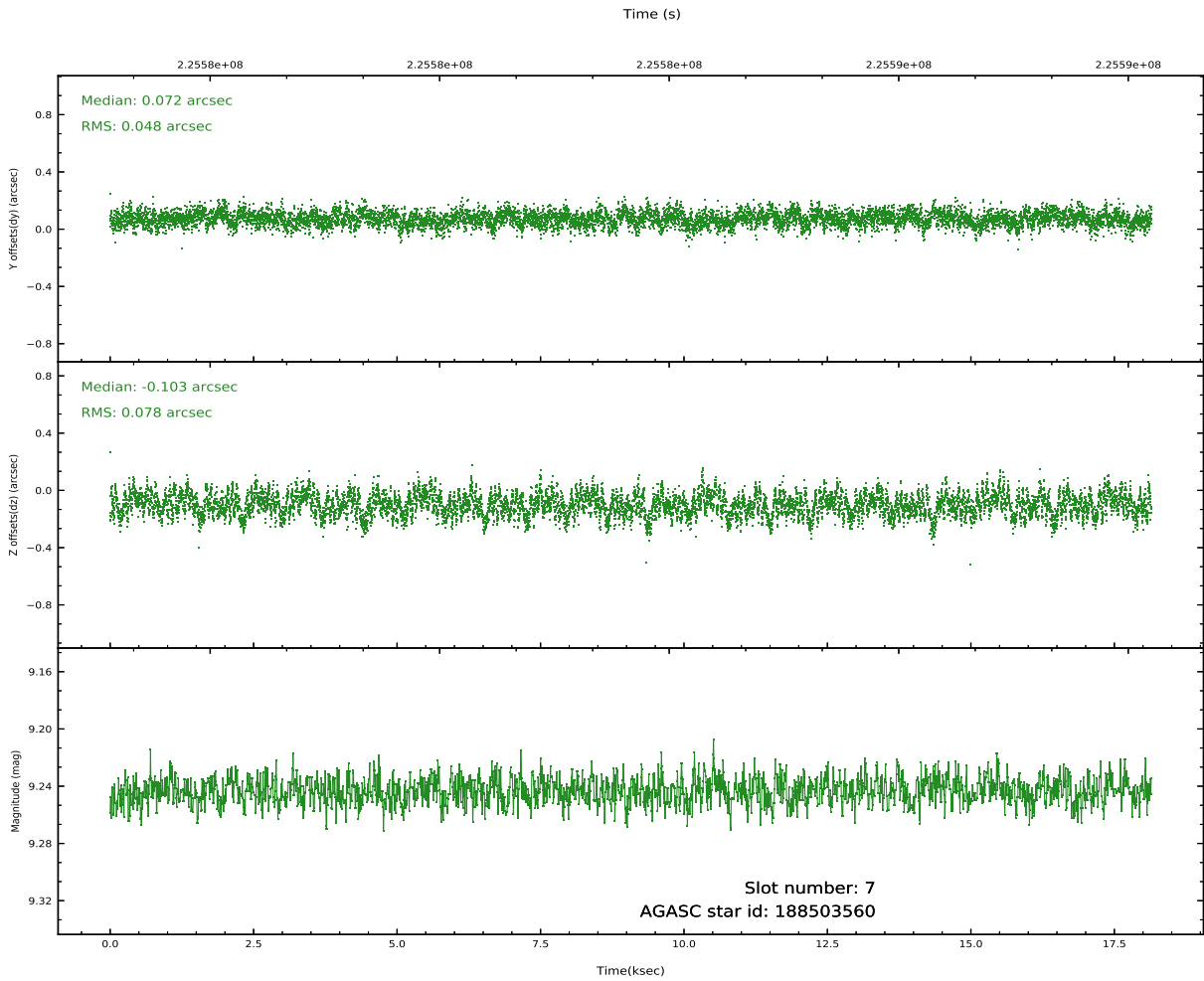
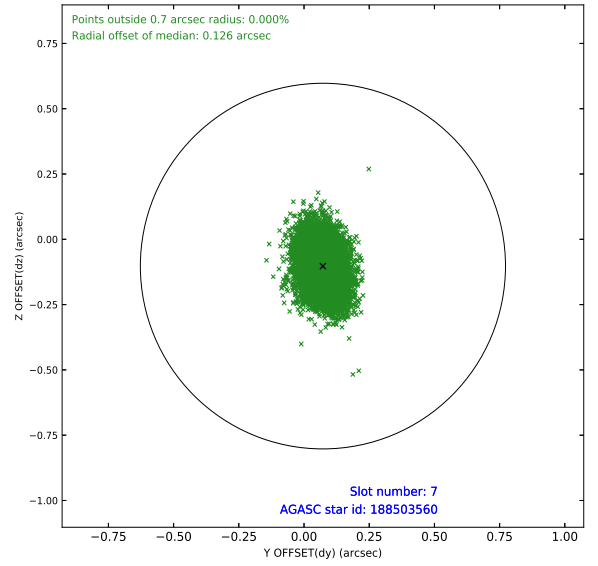
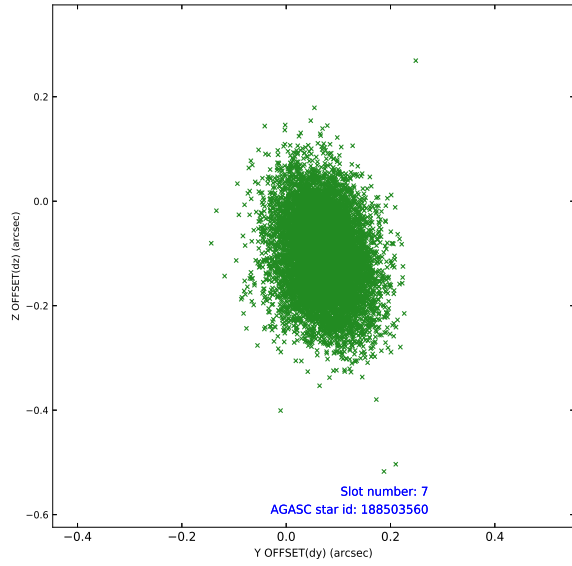
## 2.4.4 Slot 6



Time (s)

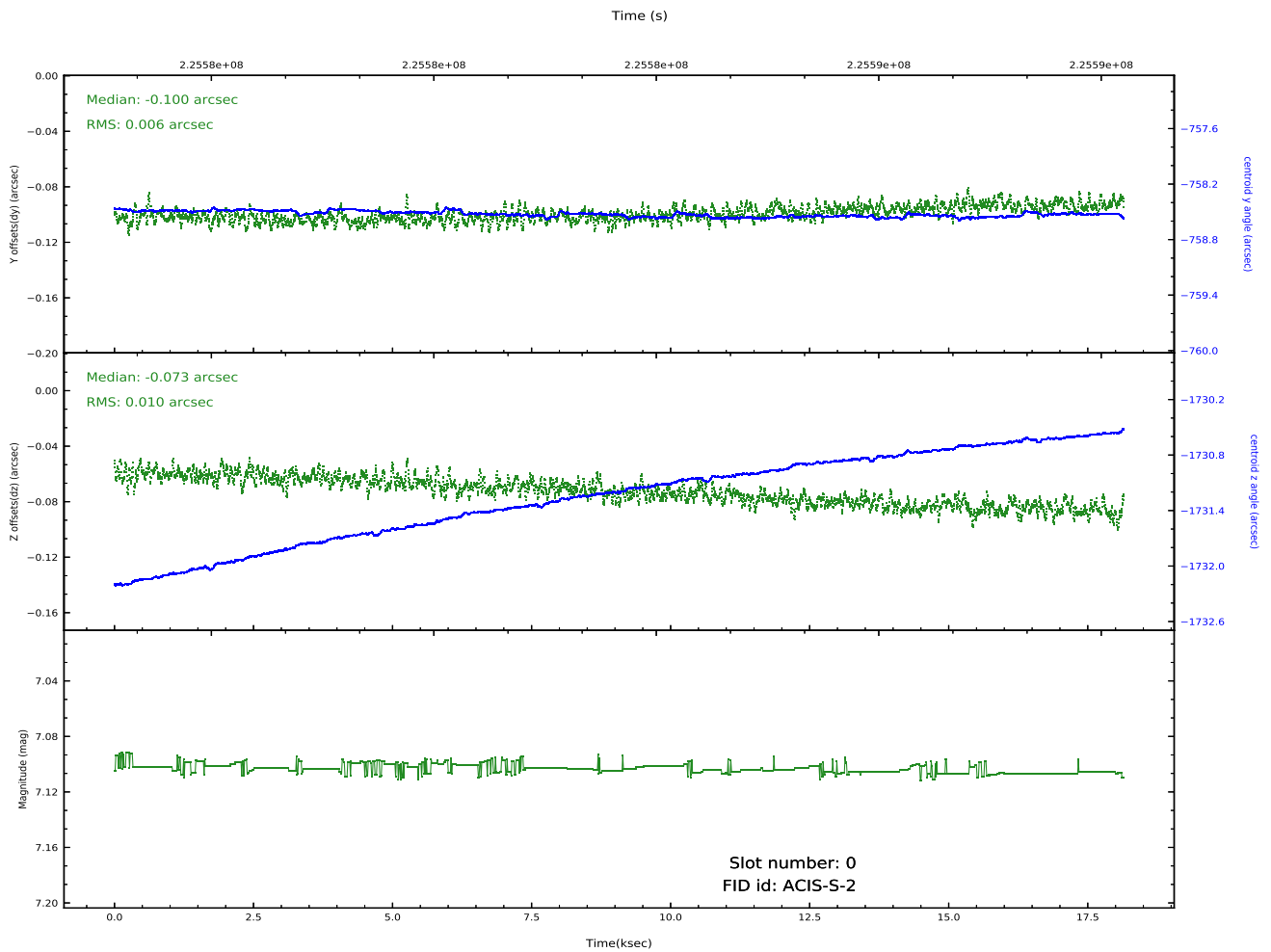
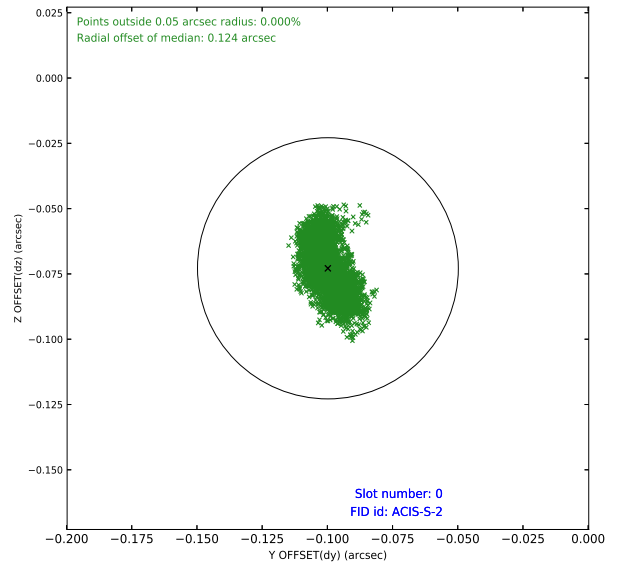
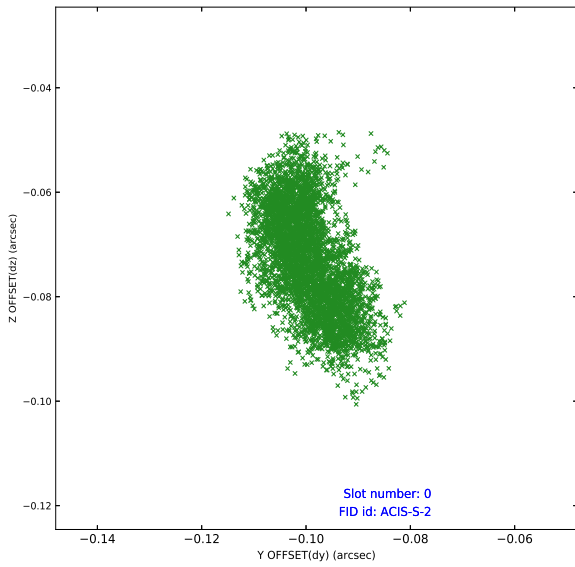


## 2.4.5 Slot 7

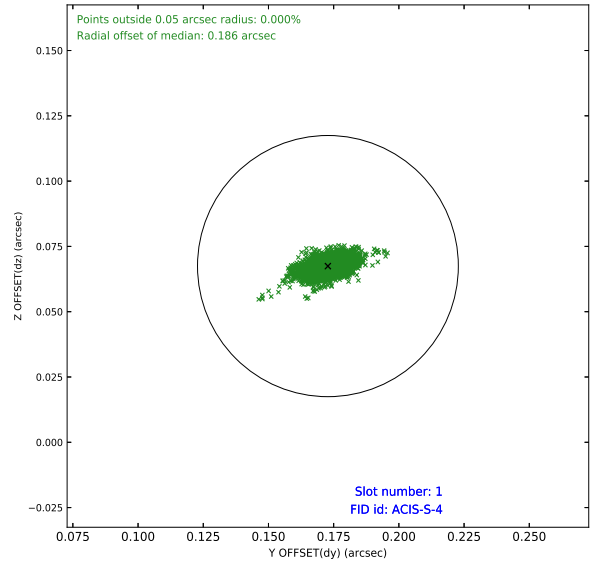
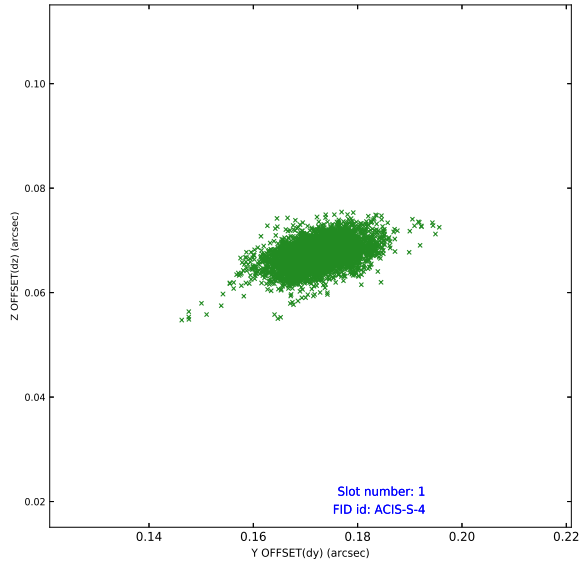


## 2.5 FID Slots

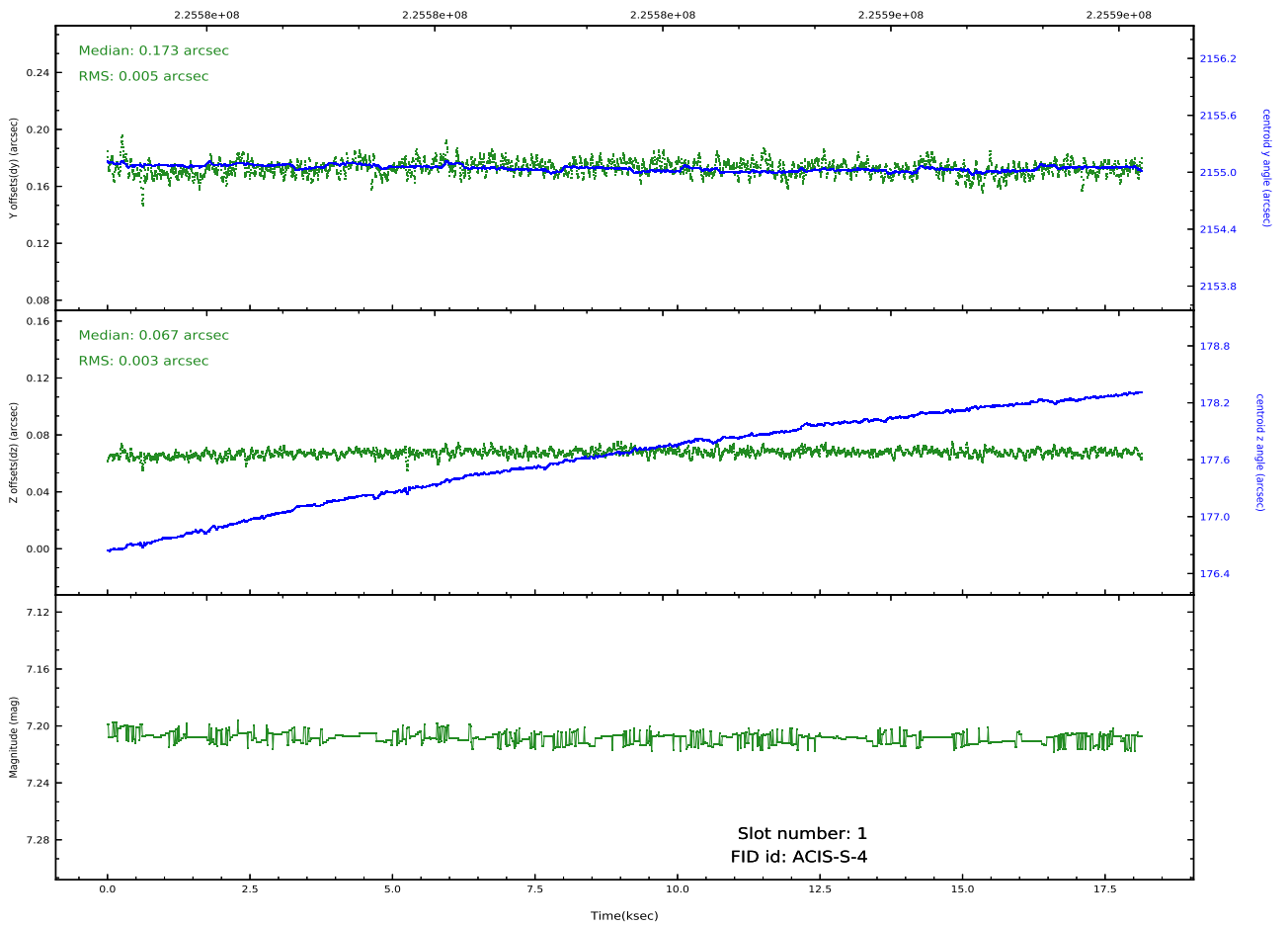
### 2.5.1 Slot 0



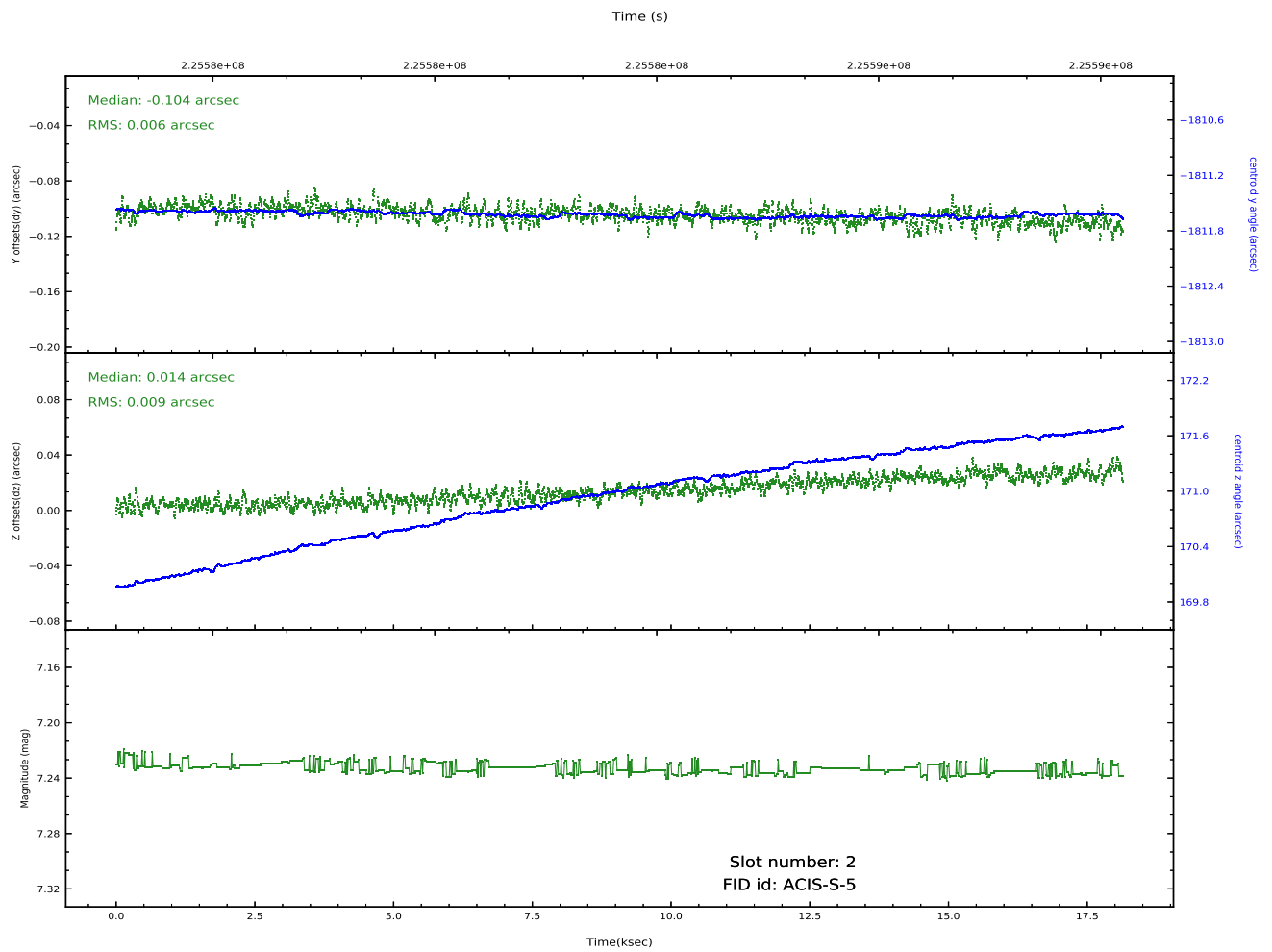
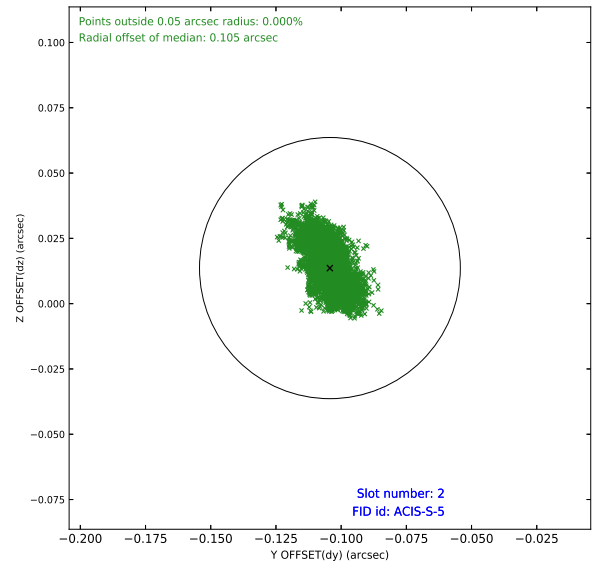
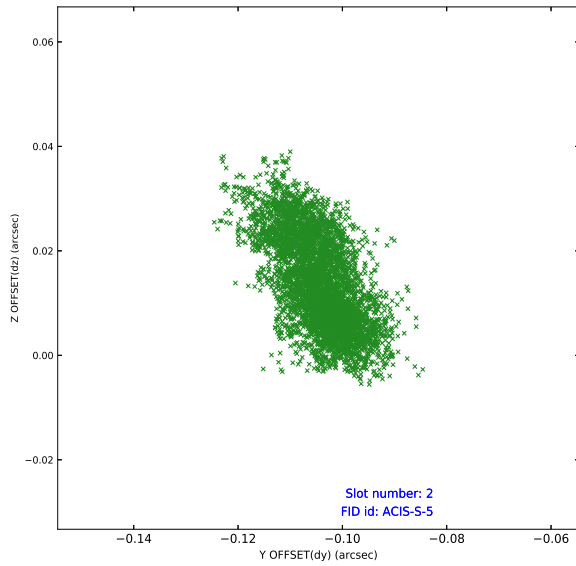
## 2.5.2 Slot 1



Time (s)



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.14079

## A.2 Comments