

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4674 - L2 Version 4  
Chandra X-Ray Center

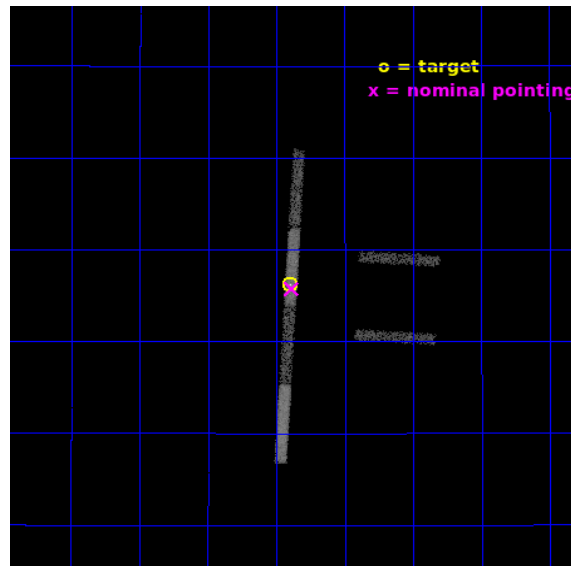
L2 Processing Date : Sep 23 2020

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# 1 Front

seq_num	500493	Sequence number
obs_id	4674	Observation id
title	The Geminga Pulsar and its Pulsar Wind Nebula	Proposal title
observer	Dr. Divas Sanwal	Principal investigator
object	Geminga	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	98.475833	Observer's specified target RA [deg]
dec_targ	17.77	Observer's specified target Dec [deg]
ra_nom	98.471493188988	Nominal RA [deg]
dec_nom	17.762461328422	Nominal Dec [deg]
roll_nom	273.26031463538	Nominal Roll [deg]
revision	4	Processing version of data
ontime	19898.199661136	Sum of GTIs [s]
livetime	18796.205012948	Livetime [s]
ontime2	19898.199661136	Sum of GTIs [s]
ontime3	19898.199661136	Sum of GTIs [s]
ontime5	19898.199661136	Sum of GTIs [s]
ontime6	19898.199661136	Sum of GTIs [s]
ontime7	19898.199661136	Sum of GTIs [s]
ontime8	19897.458621144	Sum of GTIs [s]
l2events	14772	Number of level 2 events

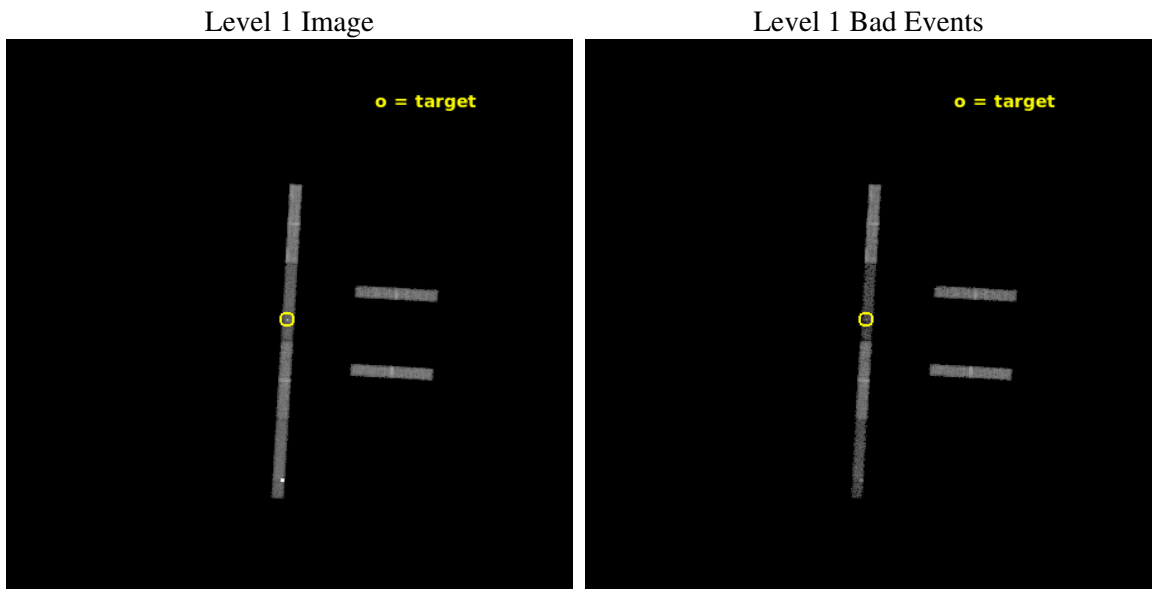




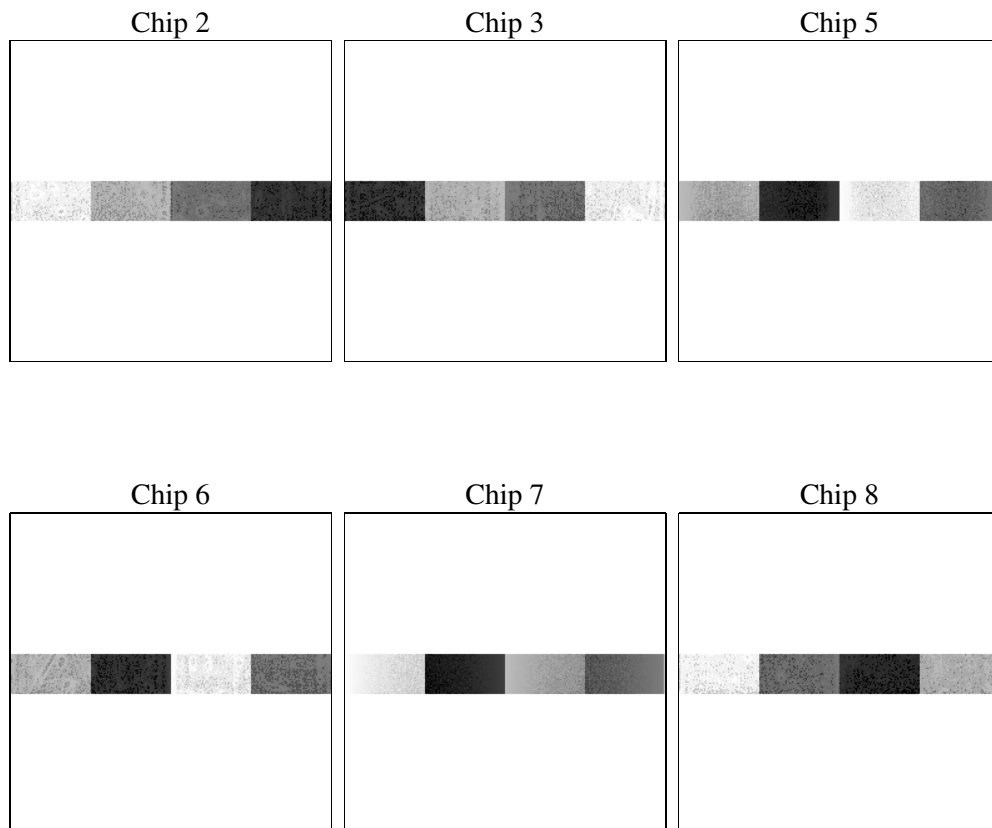
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19738.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	19898.199661136	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime2	19898.199661136	Sum of GTIs [s]
date	2020-09-23T03:52:34	Date and time of file creation	ontime3	19898.199661136	Sum of GTIs [s]
revision	4	Processing version of data	ontime5	19898.199661136	Sum of GTIs [s]
			ontime6	19898.199661136	Sum of GTIs [s]
			ontime7	19898.199661136	Sum of GTIs [s]
			ontime8	19897.458621144	Sum of GTIs [s]
			l1events	120903	Number of level 1 events

### 2.1.4 Events

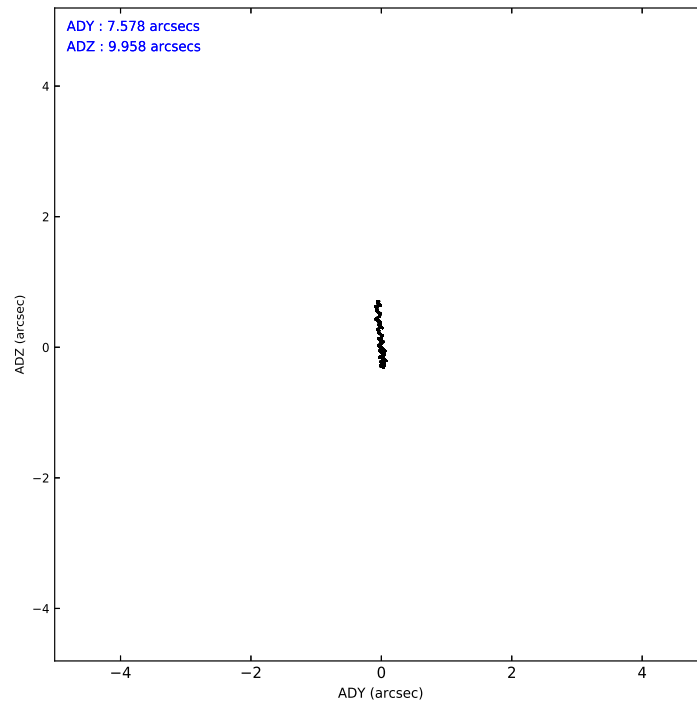
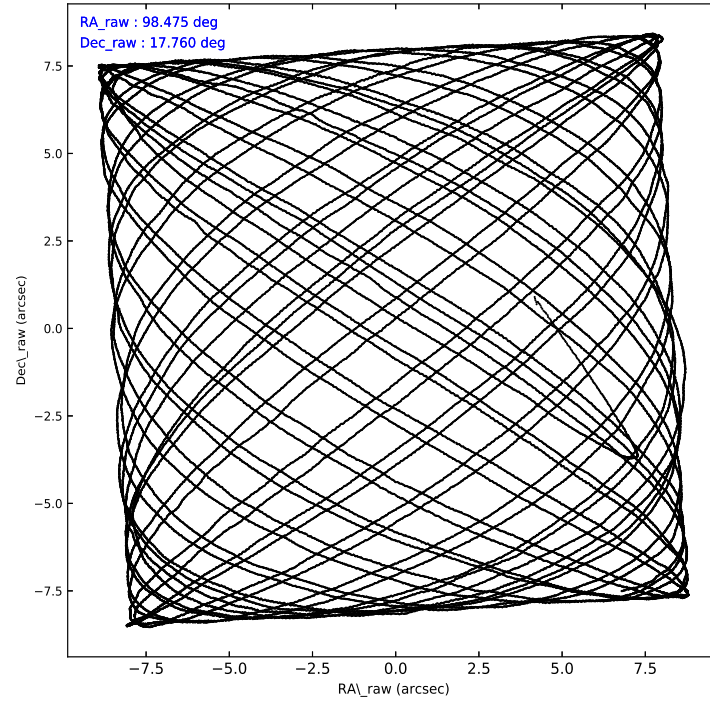
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	18872	16142	36442	16671	9290	23486
rejected events	17521	14907	5767	15220	3826	19705
rejected %	92%	92%	15%	91%	41%	83%

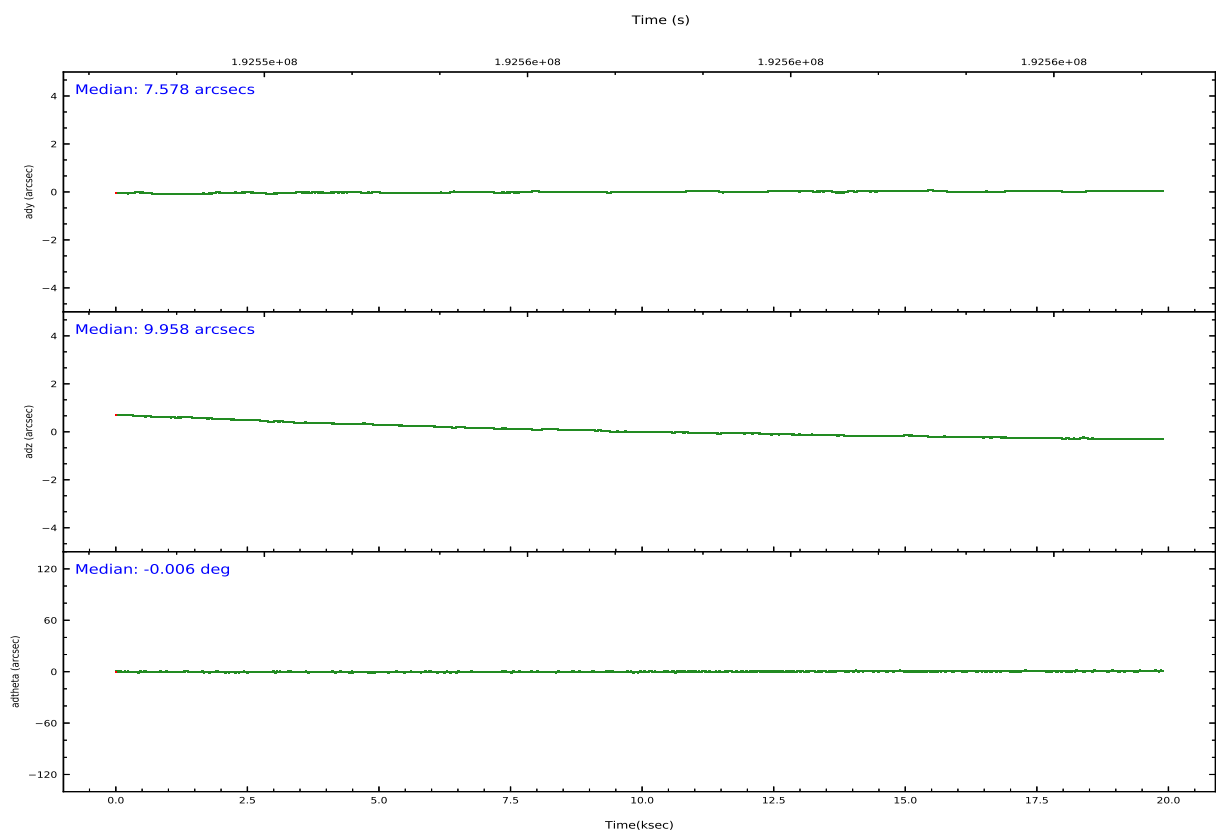
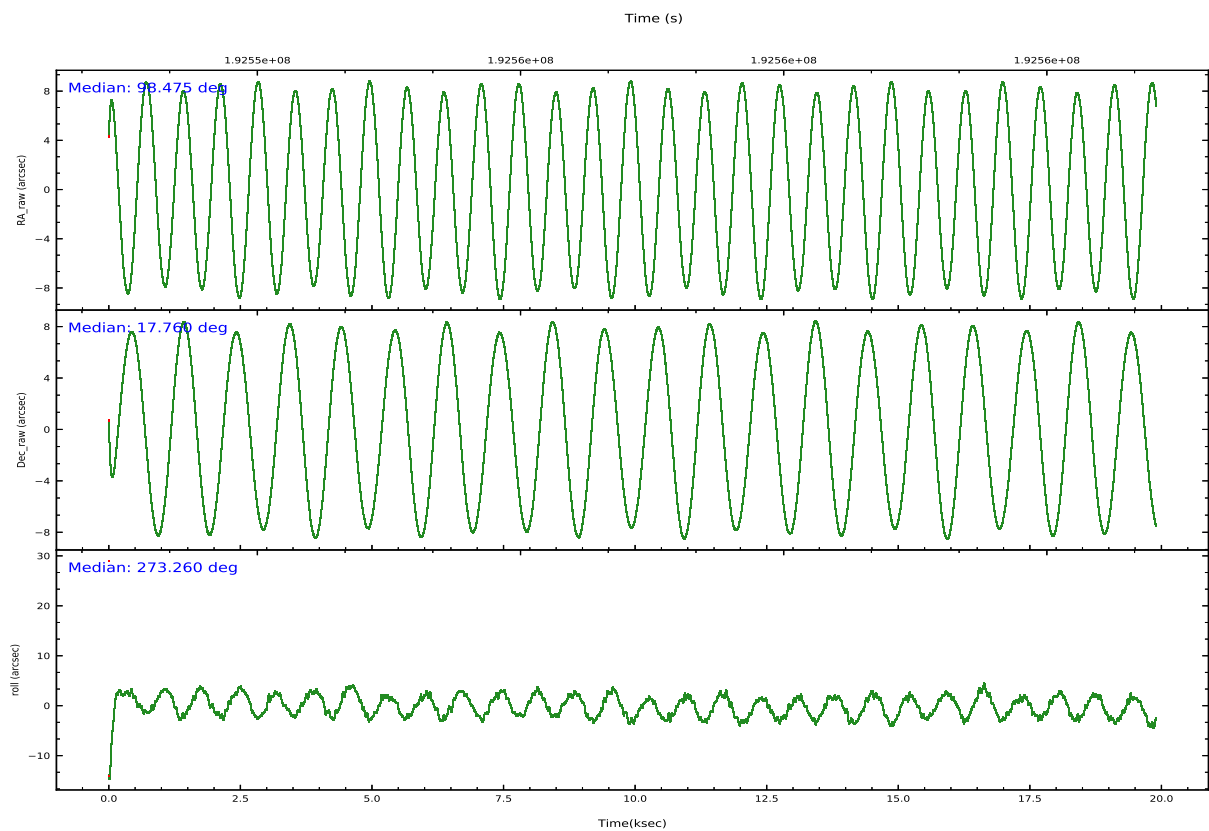
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	382	356	17513	446	1047	520
	2%	2%	48%	2%	11%	2%
grade 1 events	3	1	145	6	24	3
	0%	0%	0%	0%	0%	0%
grade 2 events	255	199	8856	228	1330	827
	1%	1%	24%	1%	14%	3%
grade 3 events	289	285	459	308	647	479
	1%	1%	1%	1%	6%	2%
grade 4 events	298	266	1592	331	578	441
	1%	1%	4%	1%	6%	1%
grade 5 events	242	248	1065	257	923	451
	1%	1%	2%	1%	9%	1%
grade 6 events	181	167	3410	198	2032	1630
	0%	1%	9%	1%	21%	6%
grade 7 events	17222	14620	3402	14897	2709	19135
	91%	90%	9%	89%	29%	81%

## 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	98.458618	98.47149318898801	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	17.782967	17.762461328422	Subarray start row	449	449
[deg] Pointing Roll	273.110735	273.26031463538	Subarray row count	128	128
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.7
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	192547340.184000	192546183.48942			
Observation start date	2004-02-07T13:21:16	2004-02-07T13:03:03			
[s] Observation end time (MET)	192567078.184000	192568816.00291			
Observation end date	2004-02-07T18:50:14	2004-02-07T19:20:16			
Read mode	TIMED	TIMED			

## 2.3 Aspect



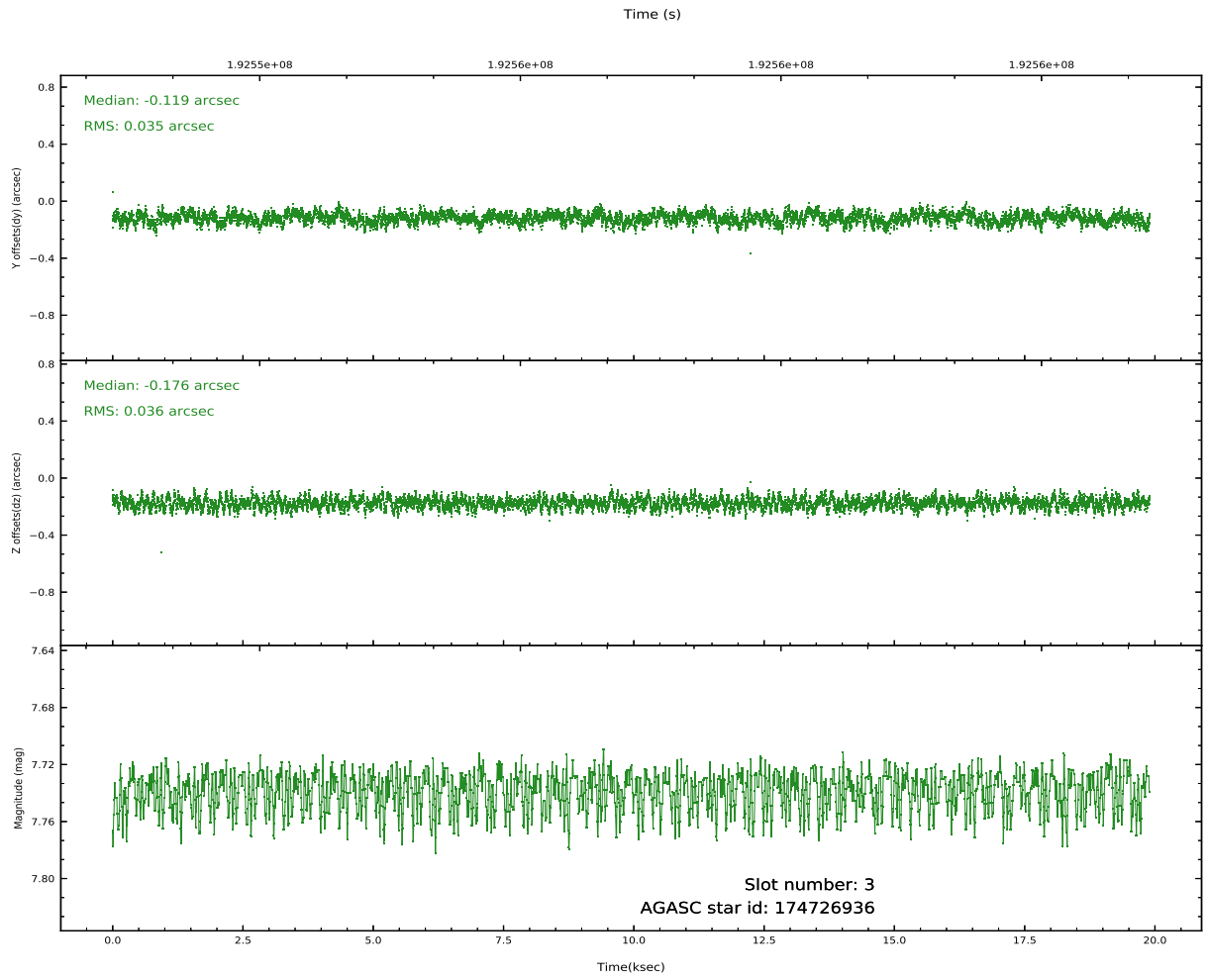
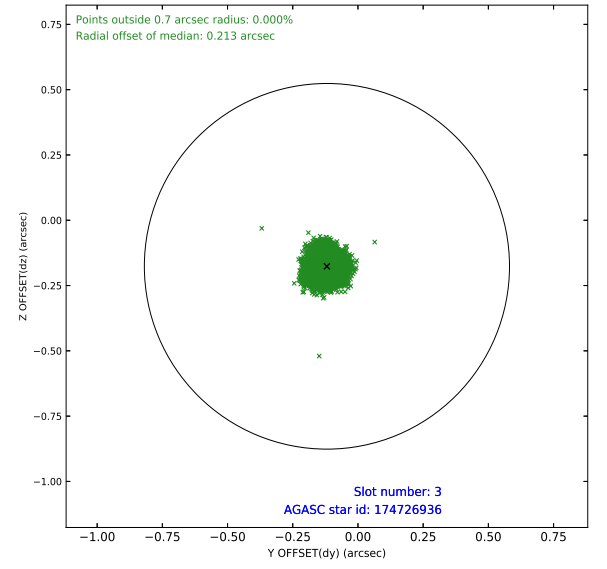
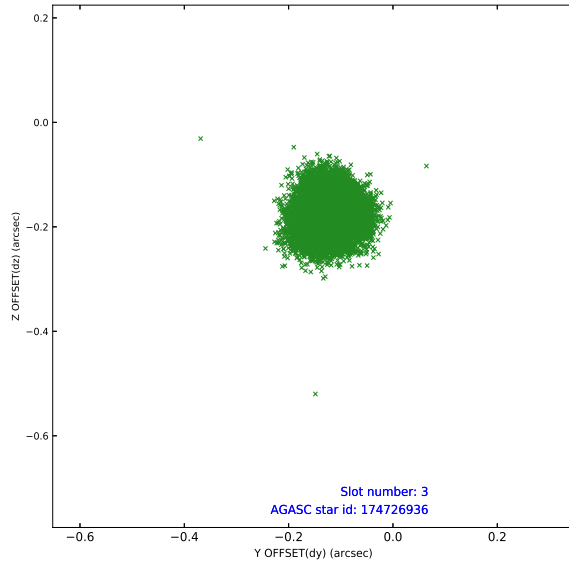


Slot Statistics

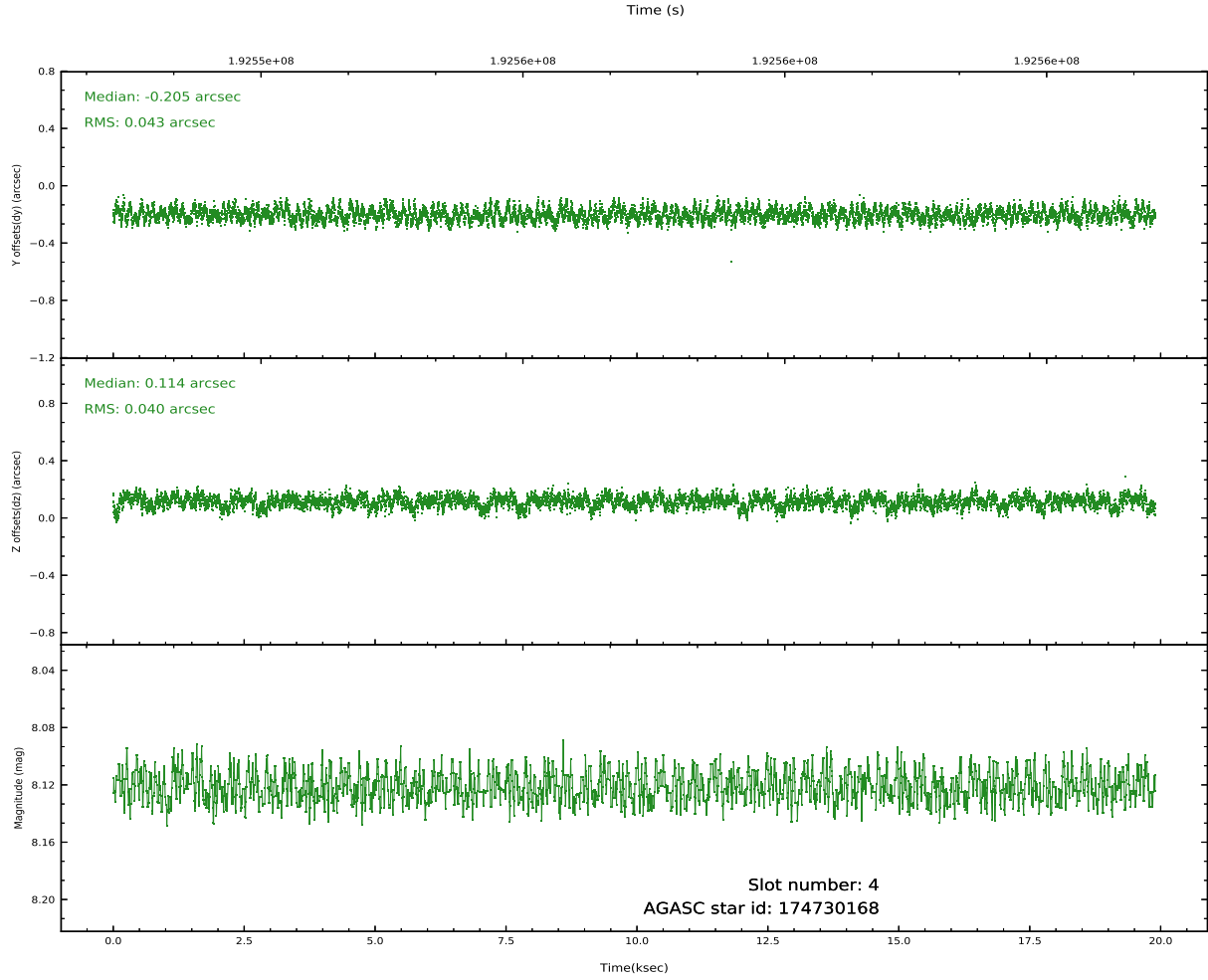
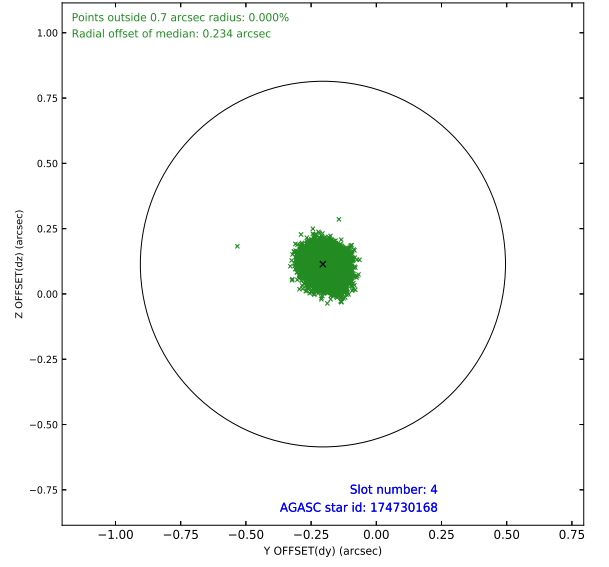
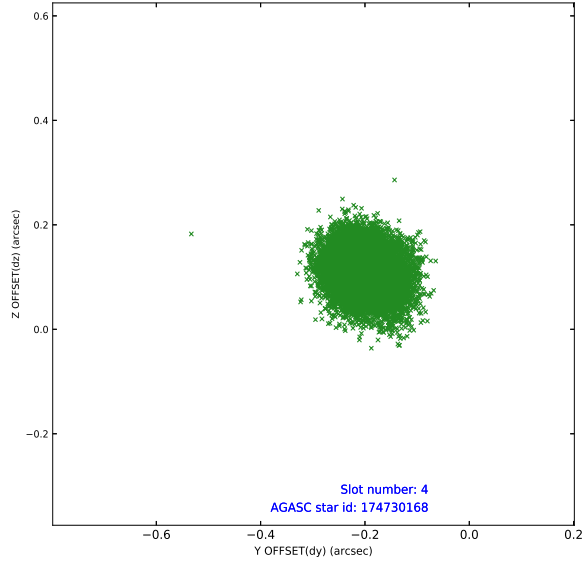
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.11	4854	1.000	-0.069	-0.058	0.010	0.015	0.000000	0.000000	-760.35	-1731
1	FID		ACIS-S-4	7.20	4854	1.000	0.138	0.048	0.006	0.011	0.000000	0.000000	2152.98	177
2	FID		ACIS-S-5	7.24	4854	1.000	-0.100	0.018	0.010	0.016	0.000000	0.000000	-1813.04	170
3	GUIDE	used	174726936	7.74	9708	1.000	-0.119	-0.176	0.054	0.084	98.009571	17.665063	338.89	-1561
4	GUIDE	used	174730168	8.12	9707	1.000	-0.205	0.114	0.063	0.099	98.803227	18.065078	-950.66	1232
5	GUIDE	used	174731792	7.94	9706	1.000	0.110	0.158	0.050	0.082	98.964622	17.200033	2187.77	1624
6	GUIDE	used	174591824	8.23	9706	1.000	0.173	-0.188	0.076	0.124	97.924040	17.082315	2417.27	-1973
7	GUIDE	used	174731032	8.87	9704	1.000	0.040	0.091	0.074	0.118	99.169475	17.388789	1545.20	2361

## 2.4 Star Slots

### 2.4.1 Slot 3

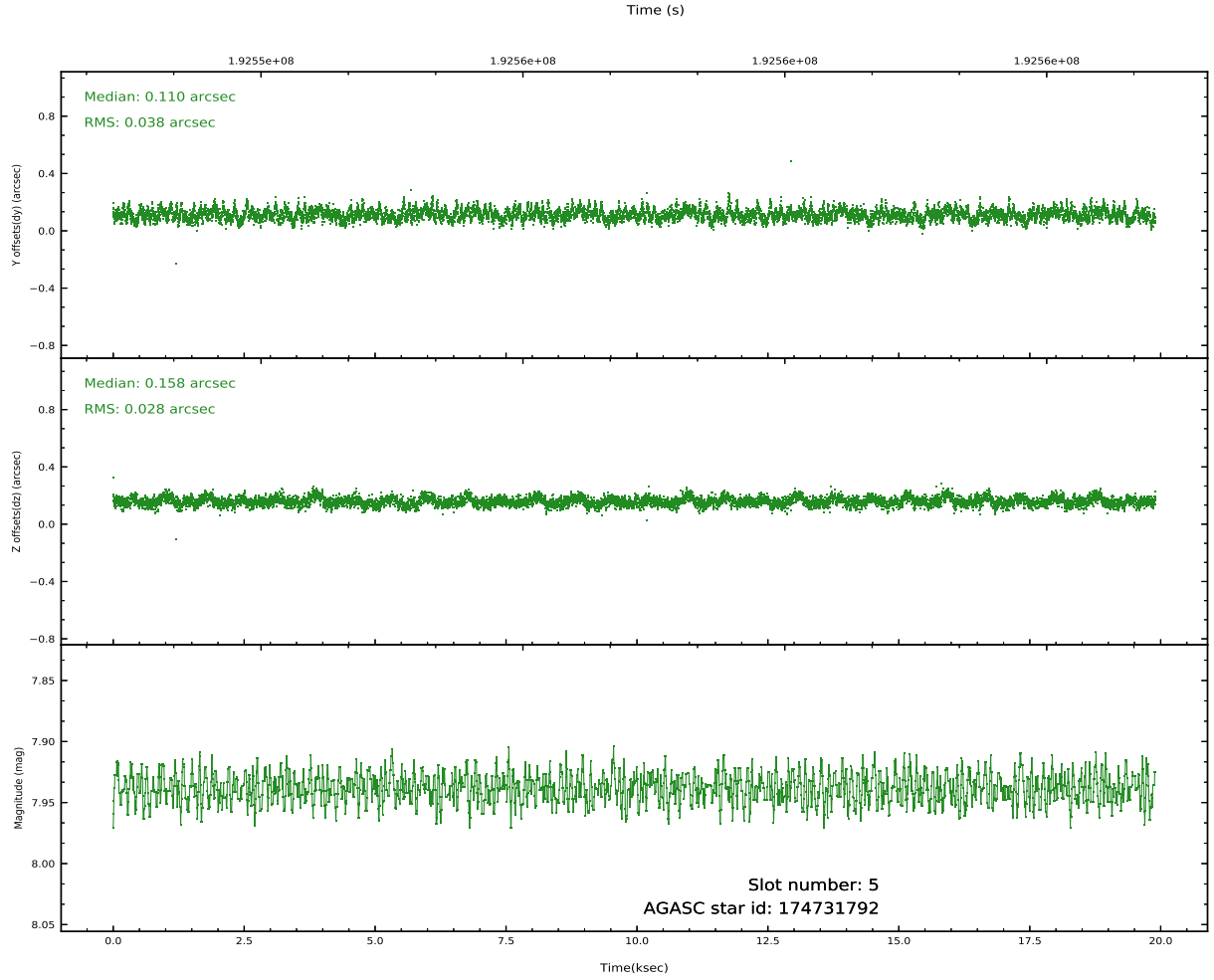
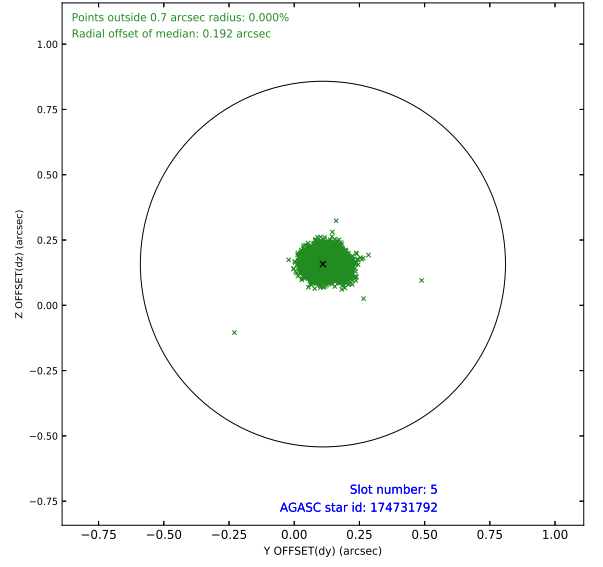
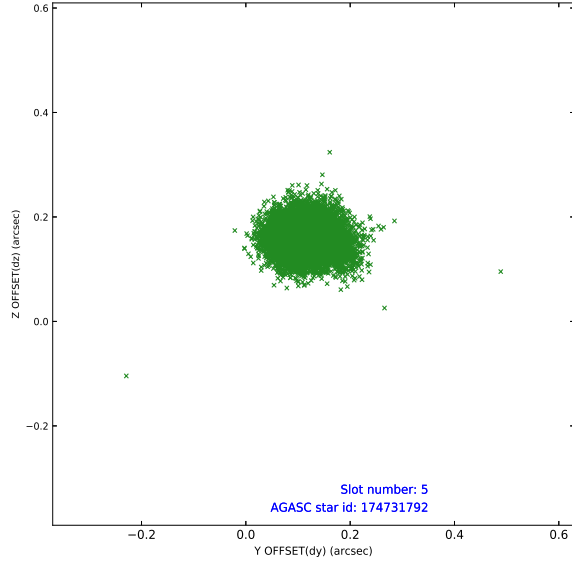


## 2.4.2 Slot 4

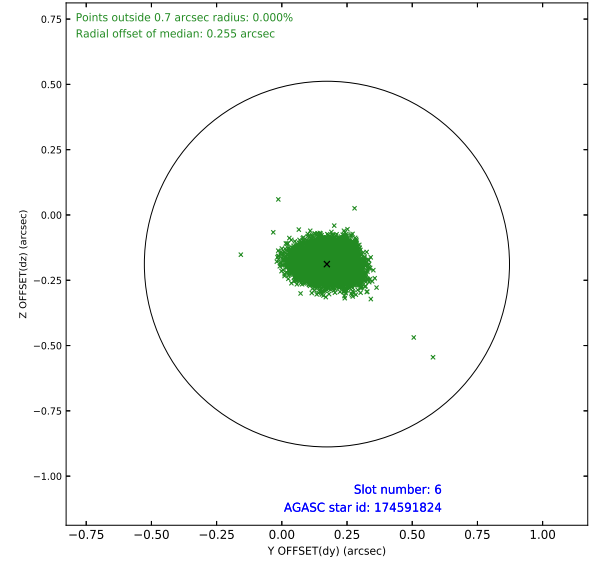
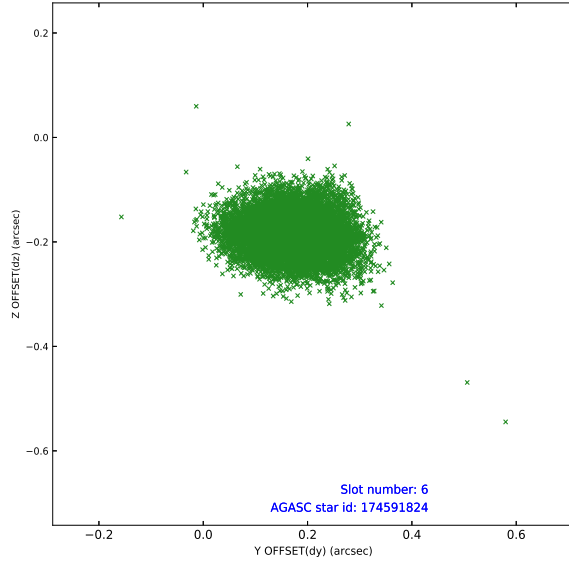




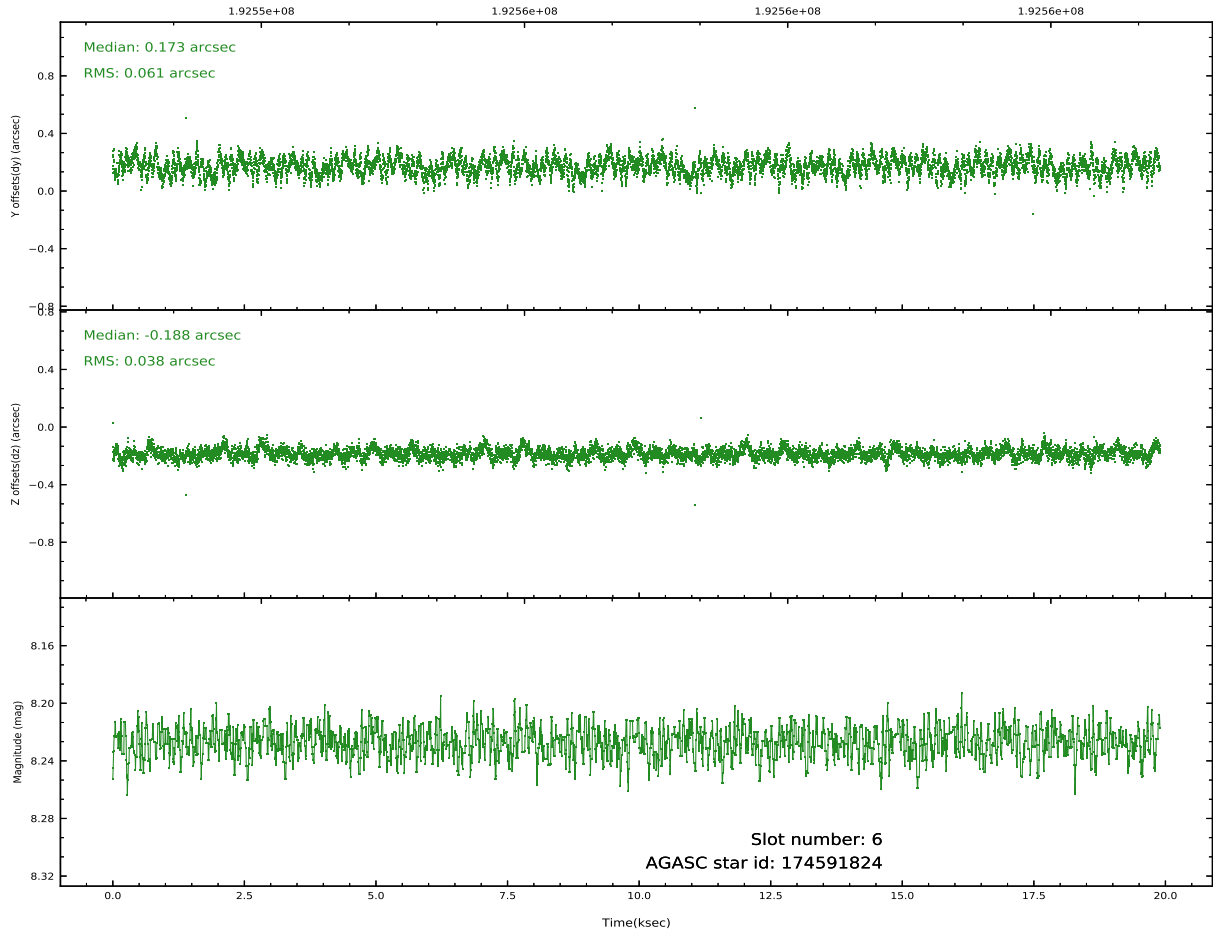
### 2.4.3 Slot 5



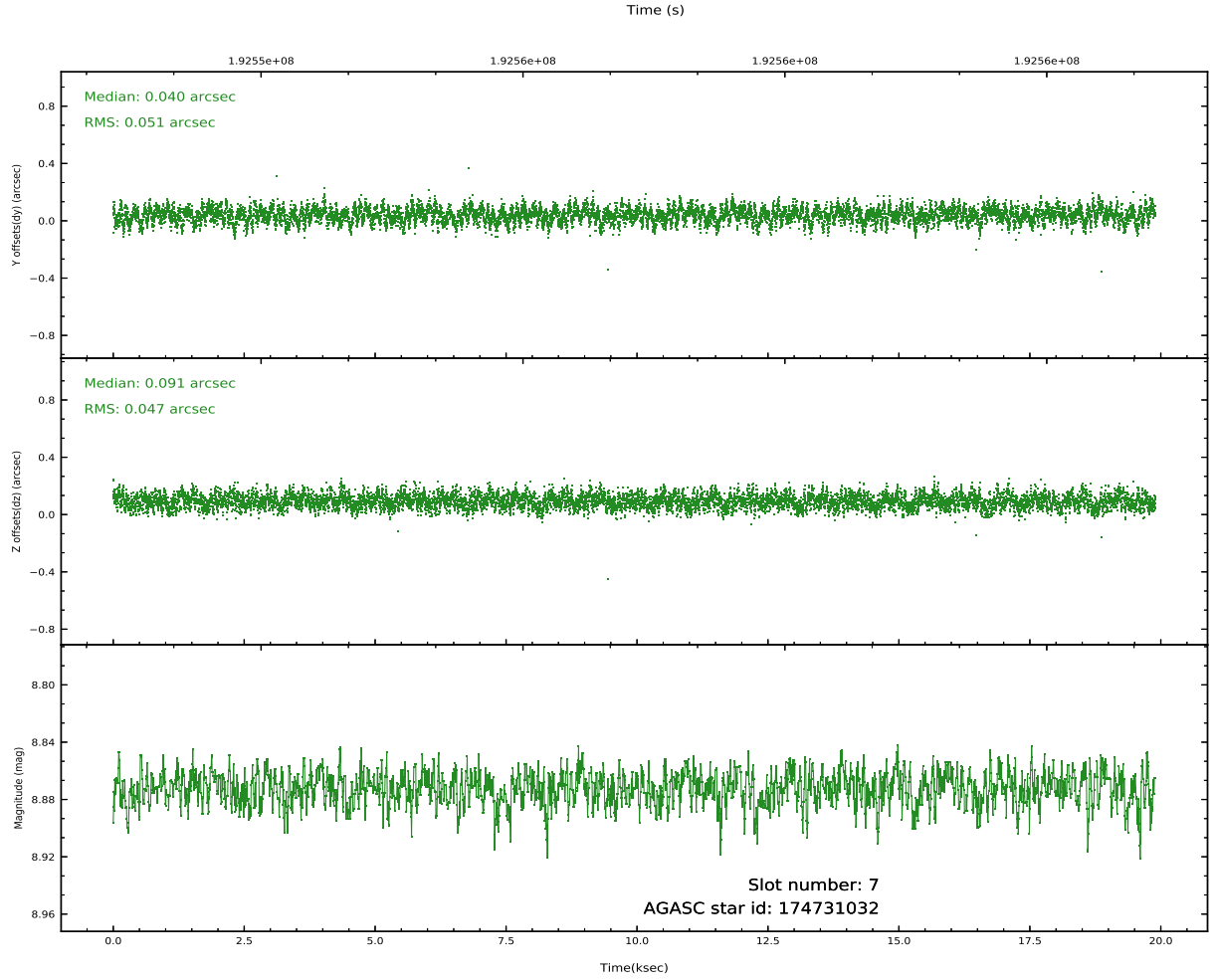
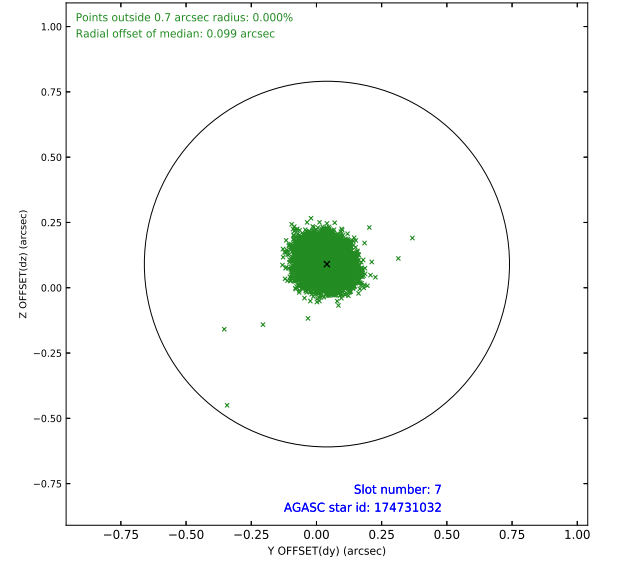
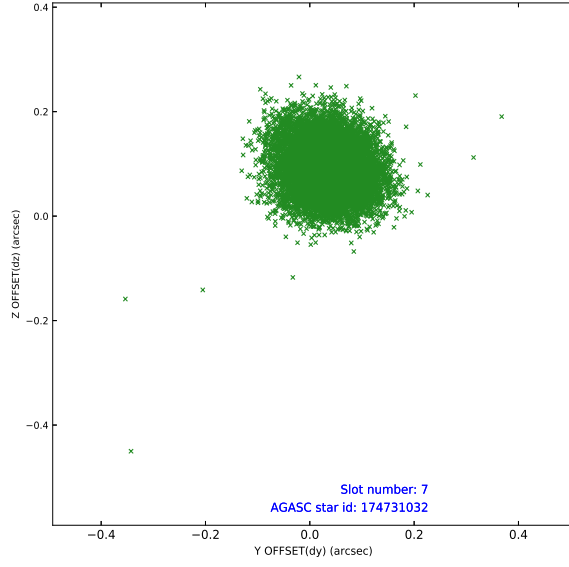
## 2.4.4 Slot 6



Time (s)

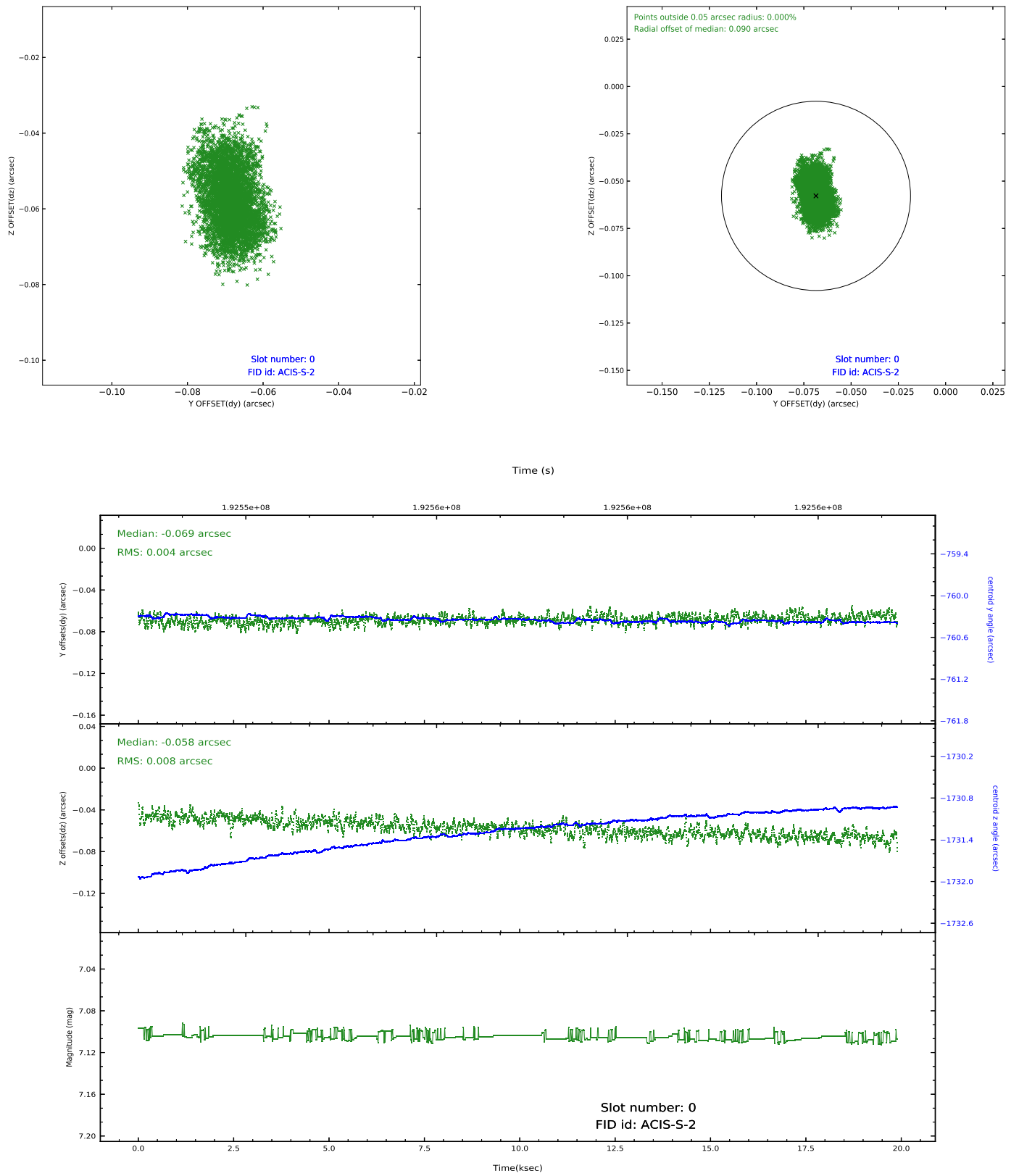


## 2.4.5 Slot 7

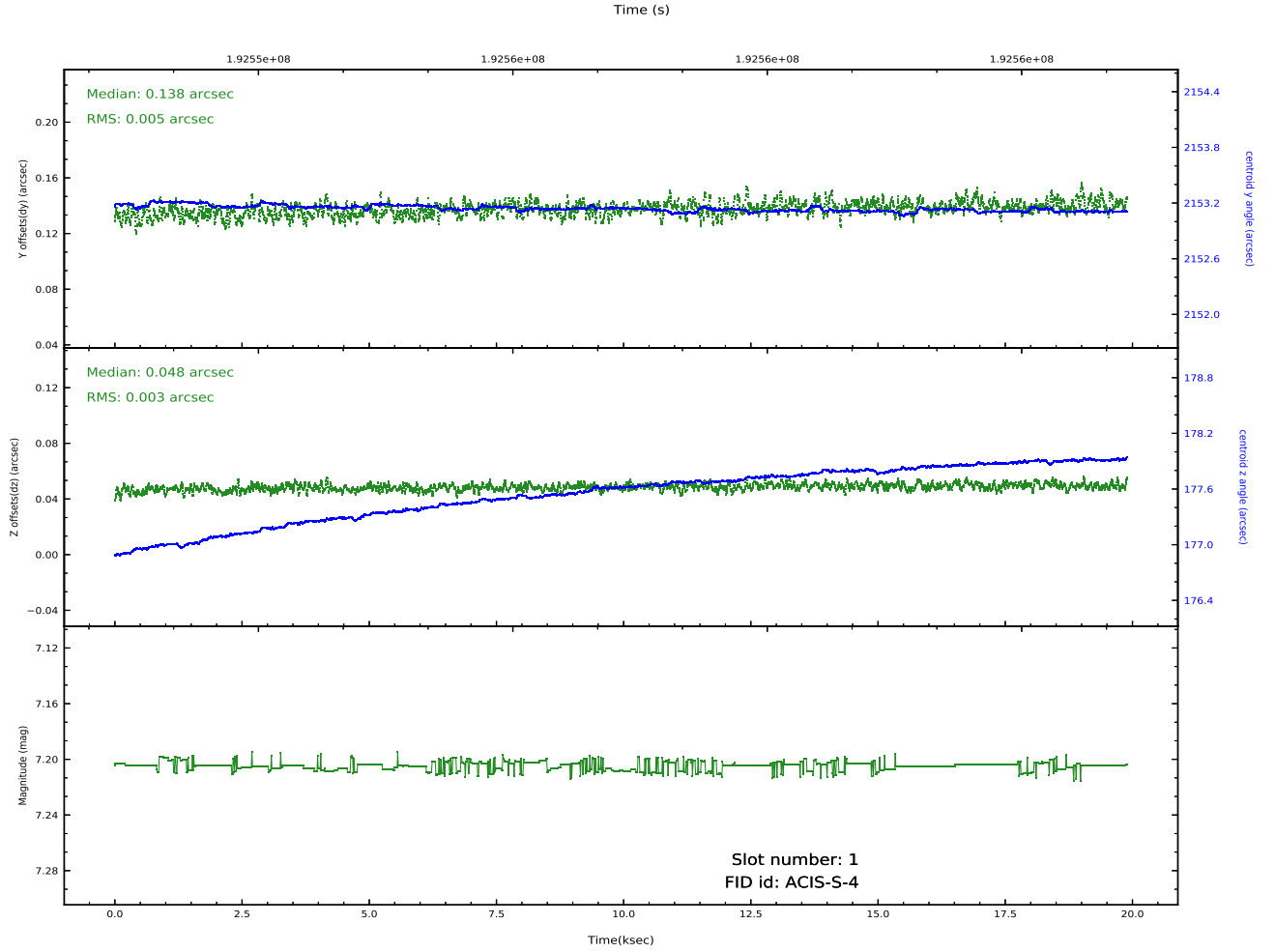
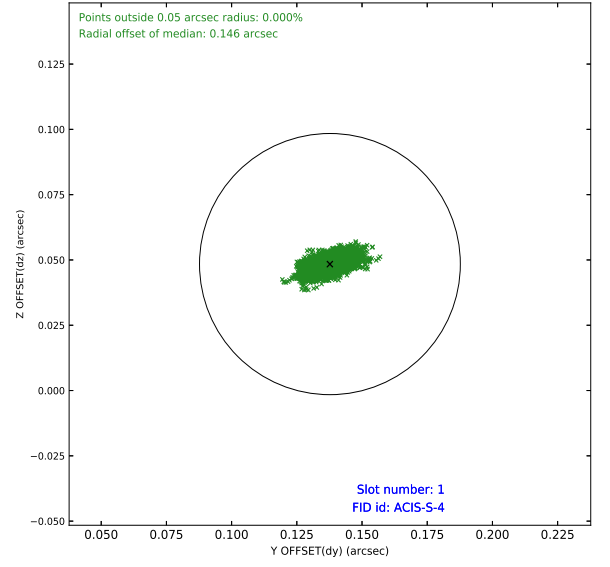
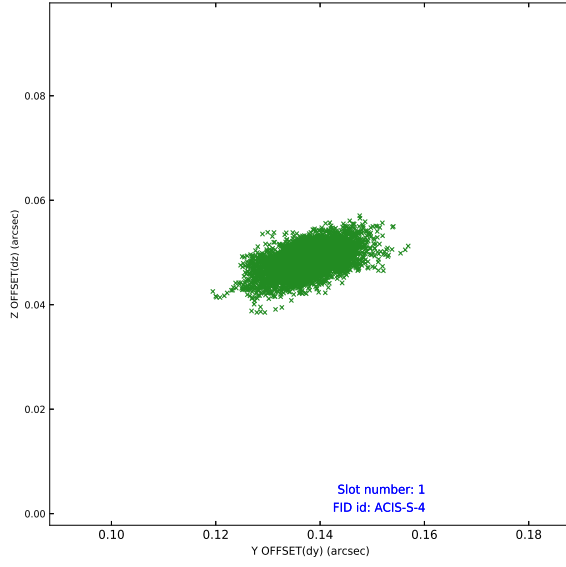


## 2.5 FID Slots

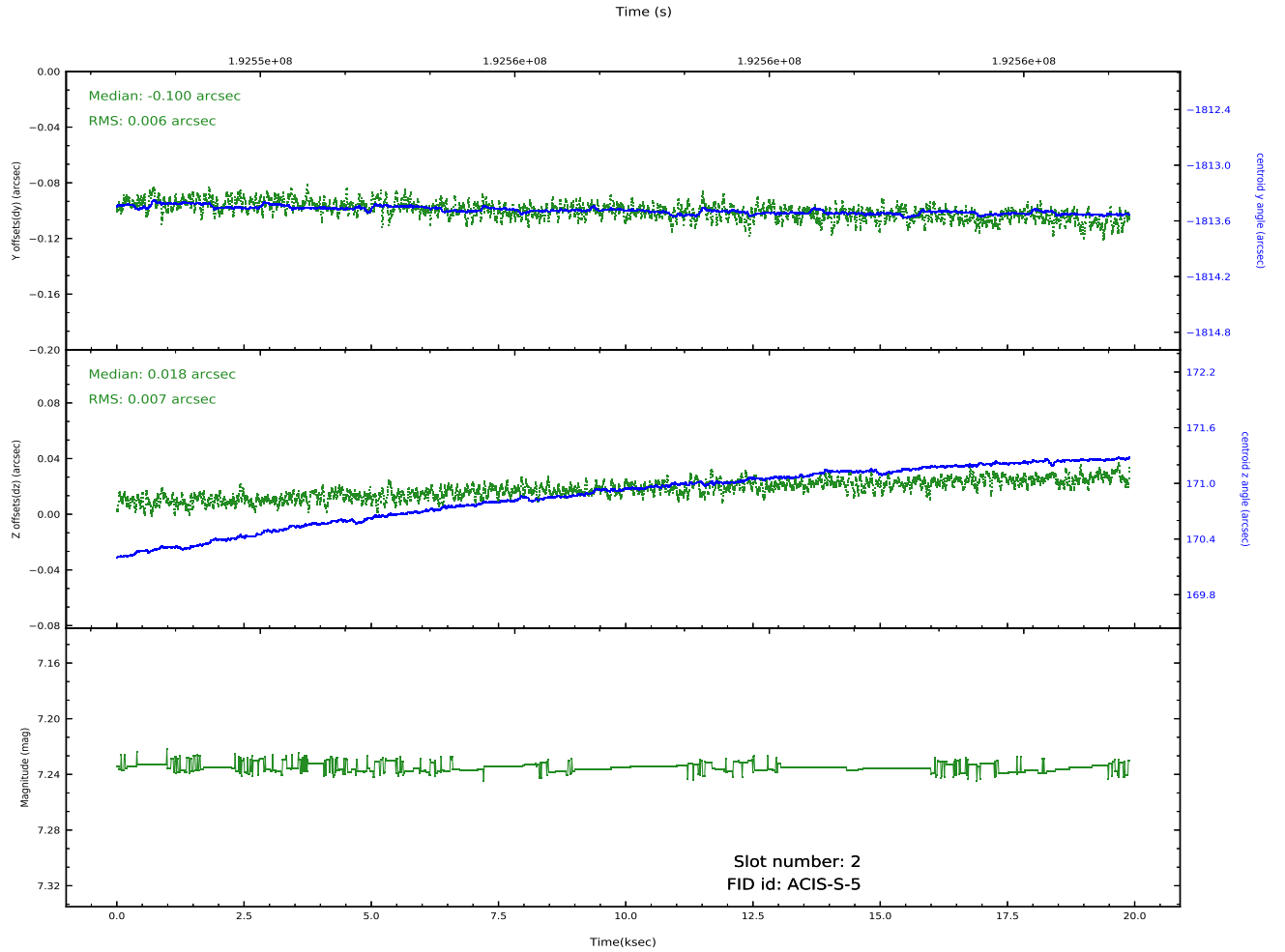
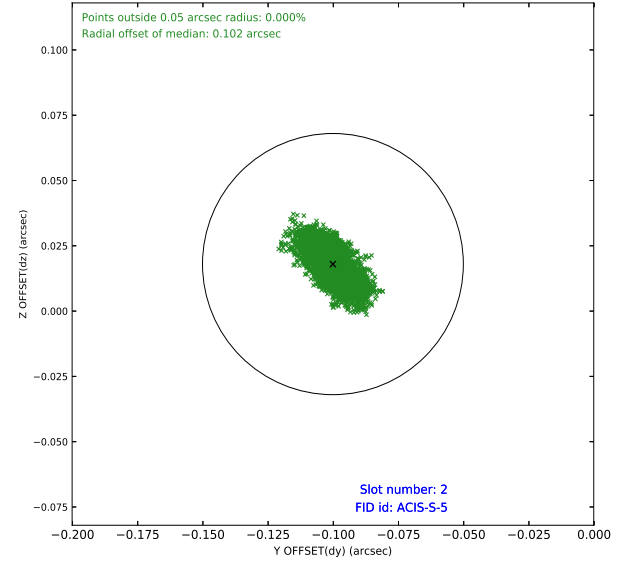
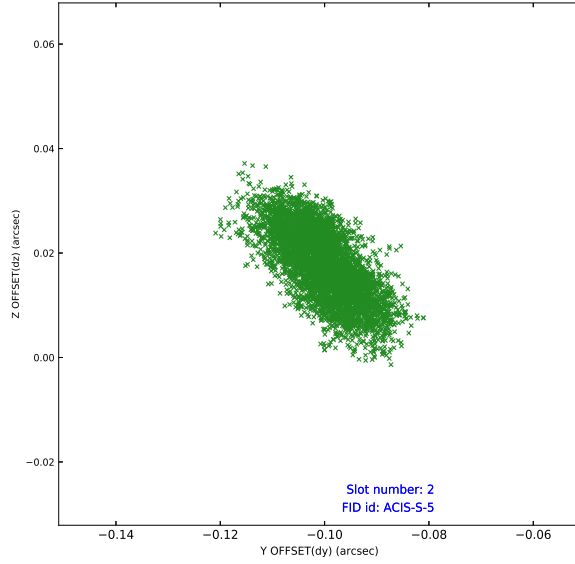
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.09.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.898

### A.2 Comments