

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4607 - L2 Version 4  
Chandra X-Ray Center

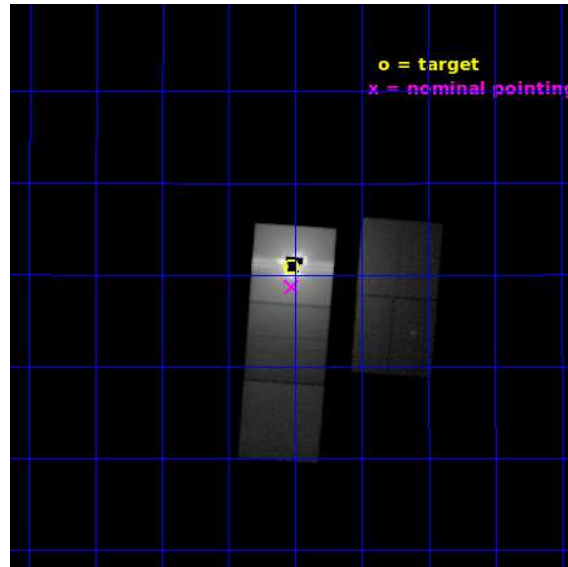
L2 Processing Date : Sep 23 2020

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# 1 Front

seq_num	500432	Sequence number
obs_id	4607	Observation id
title	Thermal Emission from the Crab Nebula	Proposal title
observer	Frederick Seward	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.633333	Observer's specified target RA [deg]
dec_targ	22.014444	Observer's specified target Dec [deg]
ra_nom	83.631440984389	Nominal RA [deg]
dec_nom	21.978766841163	Nominal Dec [deg]
roll_nom	274.15420104629	Nominal Roll [deg]
revision	4	Processing version of data
ontime	37742.71784848	Sum of GTIs [s]
livetime	37249.581454005	Livetime [s]
ontime2	38596.901833028	Sum of GTIs [s]
ontime3	38590.660892546	Sum of GTIs [s]
ontime5	38597.024953038	Sum of GTIs [s]
ontime6	38596.983913034	Sum of GTIs [s]
ontime7	37742.71784848	Sum of GTIs [s]
l2events	13051662	Number of level 2 events

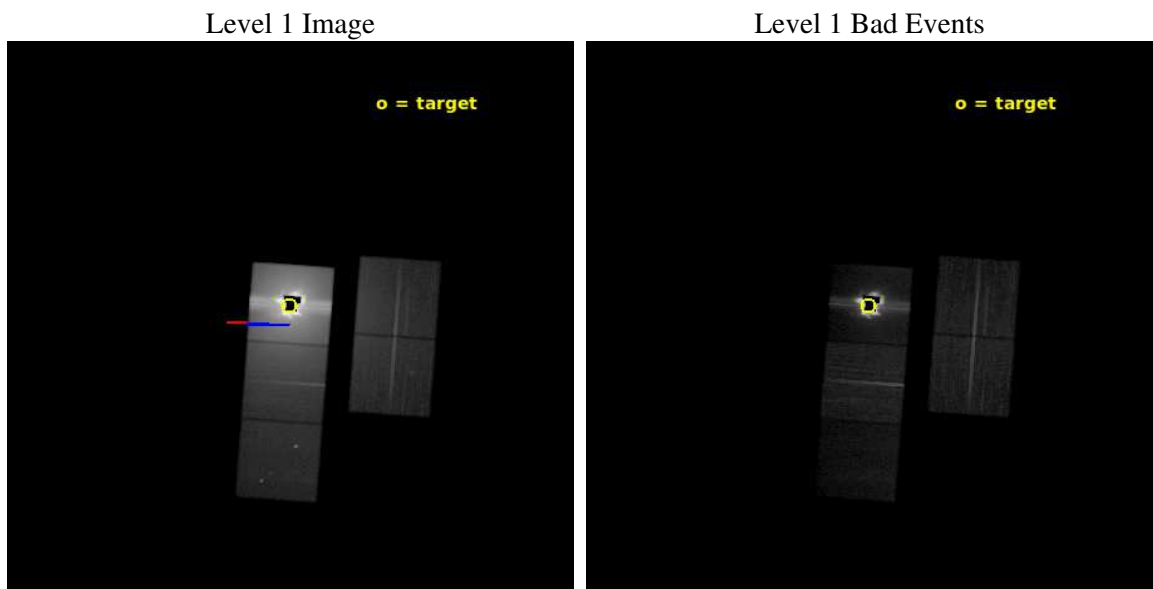




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



## 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	38500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	37742.71784848	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime2	38596.901833028	Sum of GTIs [s]
date	2020-09-23T16:11:41	Date and time of file creation	ontime3	38590.660892546	Sum of GTIs [s]
revision	4	Processing version of data	ontime5	38597.024953038	Sum of GTIs [s]
			ontime6	38596.983913034	Sum of GTIs [s]
			ontime7	37742.71784848	Sum of GTIs [s]
			l1events	15049464	Number of level 1 events

## 2.1.3 Events

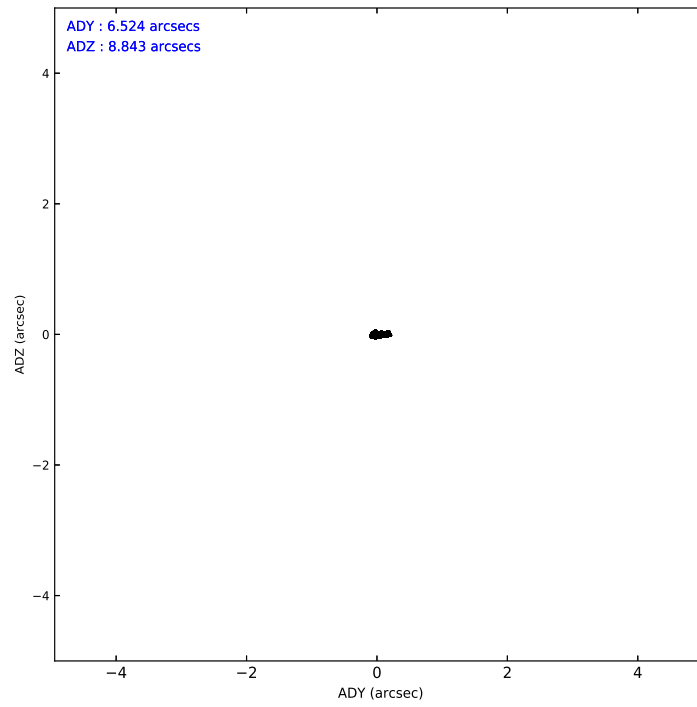
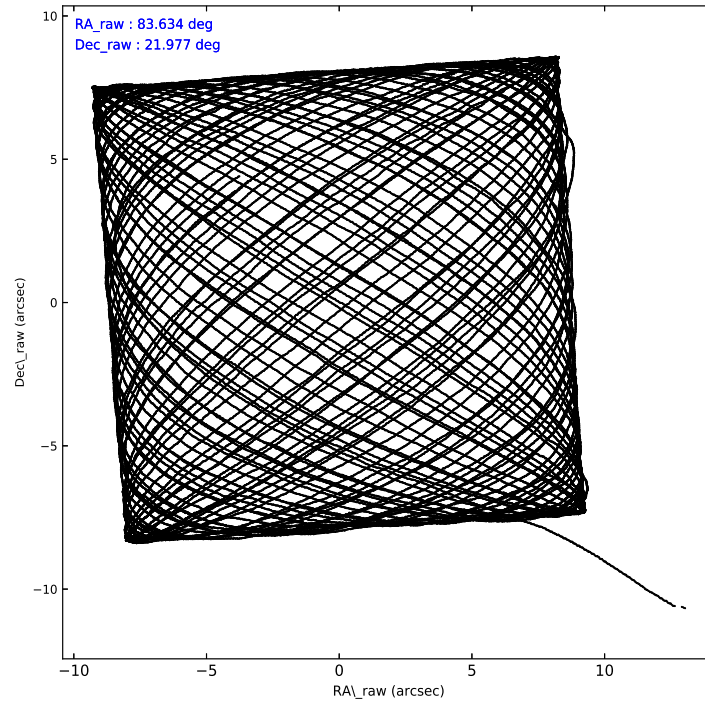
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	278741	329558	227723	674809	13538633
rejected events	154527	144906	63011	151602	1309976
rejected %	55%	43%	27%	22%	9%

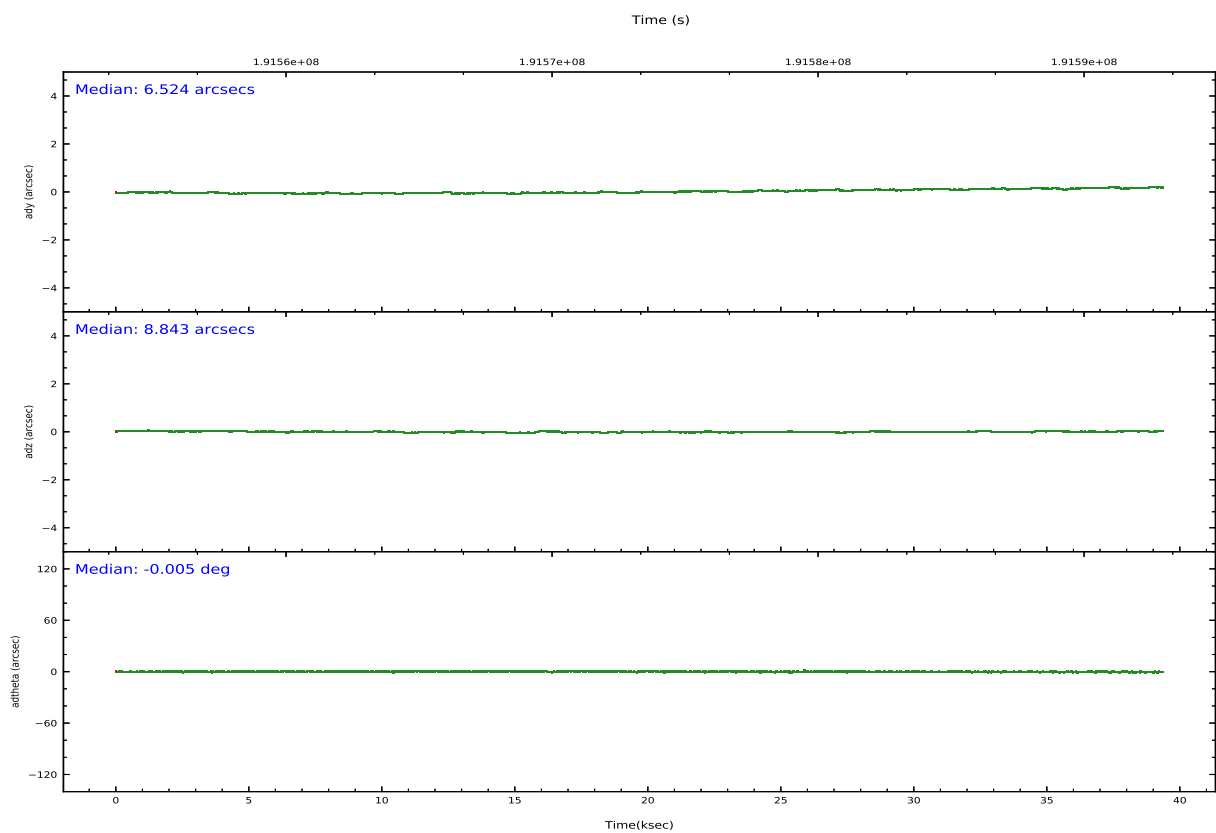
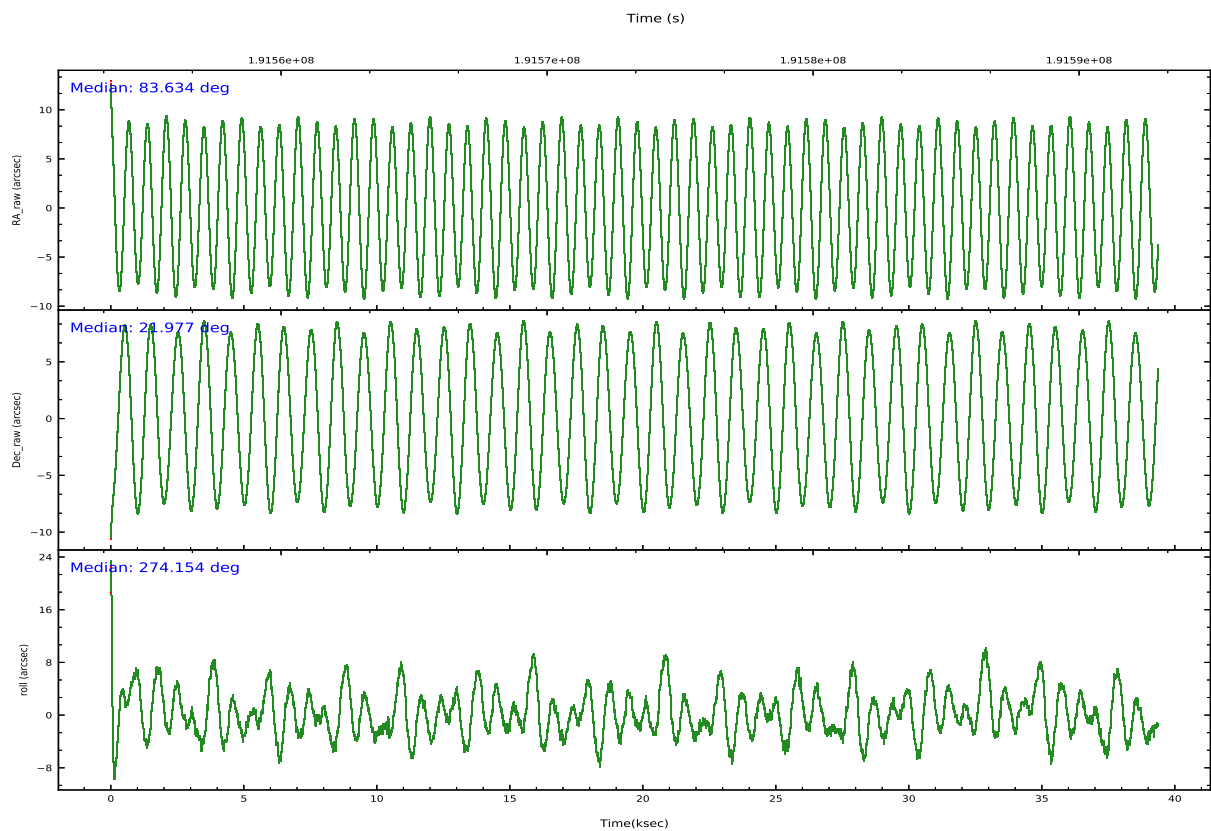
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	94627	145260	34472	422345	3073569
	33%	44%	15%	62%	22%
grade 1 events	274	422	133	1097	145678
	0%	0%	0%	0%	1%
grade 2 events	15971	20989	58248	57591	3536075
	5%	6%	25%	8%	26%
grade 3 events	4253	6075	8286	14283	1322549
	1%	1%	3%	2%	9%
grade 4 events	4388	6048	8094	14545	1315729
	1%	1%	3%	2%	9%
grade 5 events	2766	3654	9097	4511	424722
	0%	1%	3%	0%	3%
grade 6 events	4999	6309	55640	14514	2985497
	1%	1%	24%	2%	22%
grade 7 events	151463	140801	53753	145923	734814
	54%	42%	23%	21%	5%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-23567	ACIS-23567	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.617535	83.631440984389	Subarray requested	NONE	NONE
[deg] Pointing Dec	21.999381	21.978766841163	Alternating exposures requested	N	N
[deg] Pointing Roll	274.005914	274.15420104629	[s] Primary exposure time	0.000000	3.1
[deg] Roll angle	272.000000	272.000000			
[deg] Roll tolerance	2.000000	2.000000			
Roll constraint allows 180D rotation	N	N			
[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)	191554472.184000	191553167.54603			
Observation start date	2004-01-27T01:33:28	2004-01-27T01:12:47			
[s] Observation end time (MET)	191592972.184000	191594692.86034			
Observation end date	2004-01-27T12:15:08	2004-01-27T12:44:52			
Read mode	TIMED	TIMED			

## 2.3 Aspect



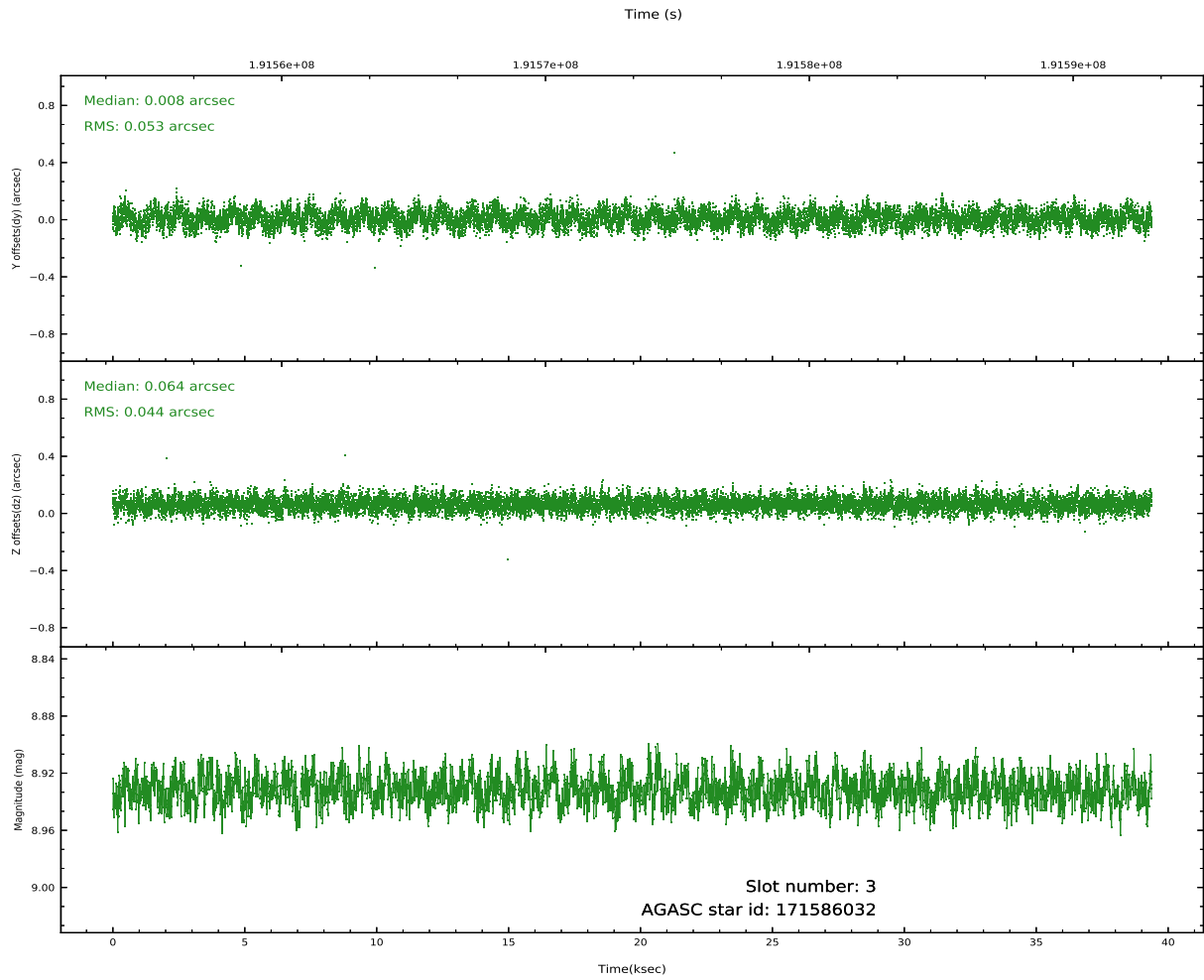
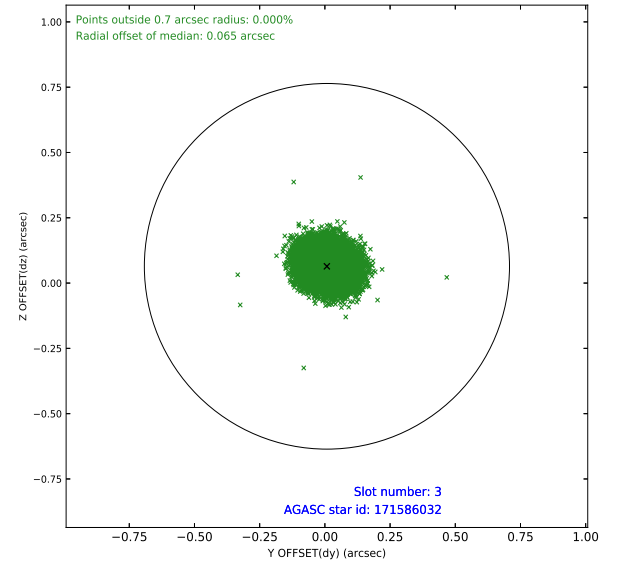
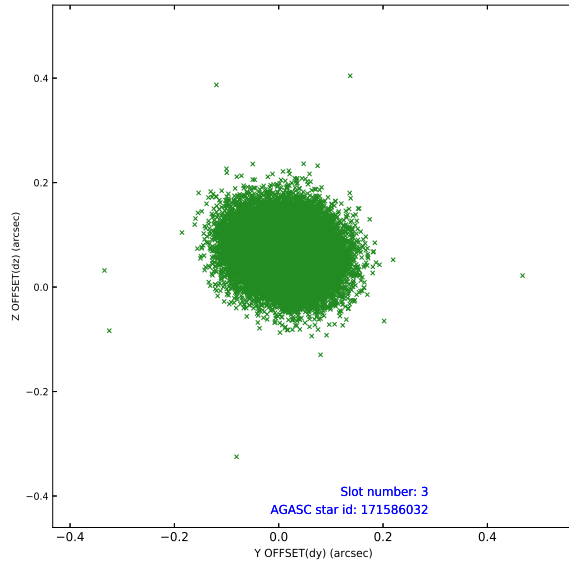


Slot Statistics

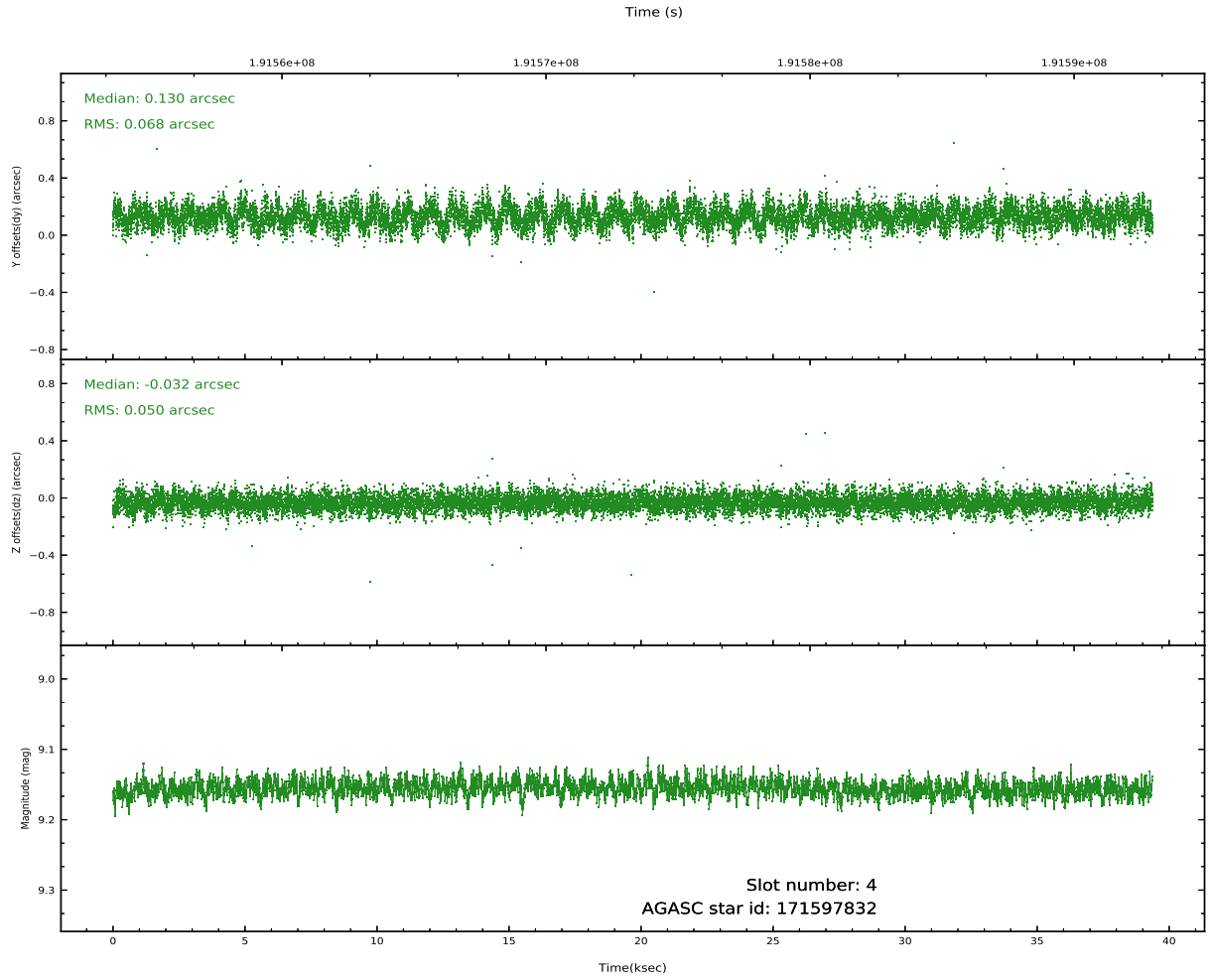
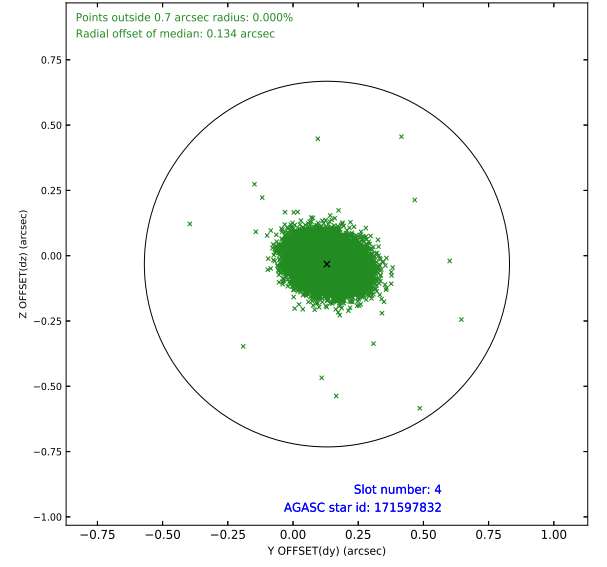
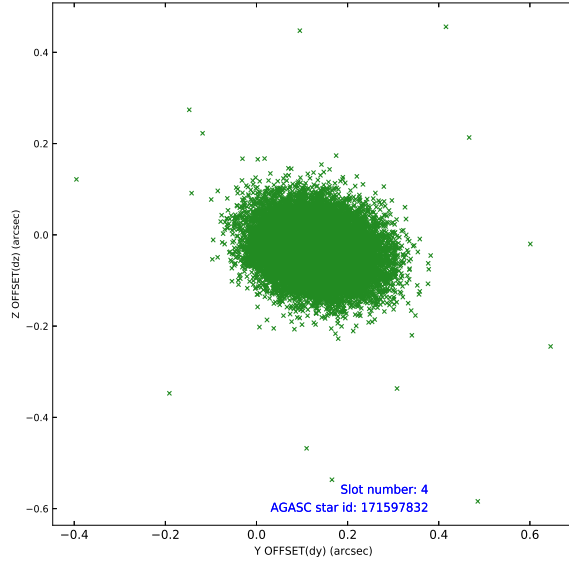
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.10	9603	1.000	-0.064	-0.077	0.007	0.011	0.000000	0.000000	-759.33	-1730
1	FID		ACIS-S-4	7.20	9602	1.000	0.130	0.052	0.006	0.010	0.000000	0.000000	2154.11	178
2	FID		ACIS-S-5	7.23	9600	1.000	-0.096	0.034	0.007	0.011	0.000000	0.000000	-1812.20	172
3	GUIDE	used	171586032	8.93	19198	1.000	0.008	0.064	0.074	0.118	83.950197	22.083225	-224.68	1128
4	GUIDE	used	171597832	9.16	19196	1.000	0.130	-0.032	0.089	0.146	83.183230	21.366702	2168.88	-1611
5	GUIDE	used	171721904	9.20	19192	1.000	0.042	0.156	0.104	0.172	84.272676	22.116922	-274.09	2209
6	GUIDE	used	243941560	8.29	19201	1.000	-0.169	-0.053	0.054	0.086	83.733264	22.568598	-2017.45	526
7	GUIDE	used	171600224	9.66	19189	1.000	-0.011	-0.132	0.105	0.172	82.941815	21.636094	1142.14	-2346

## 2.4 Star Slots

### 2.4.1 Slot 3

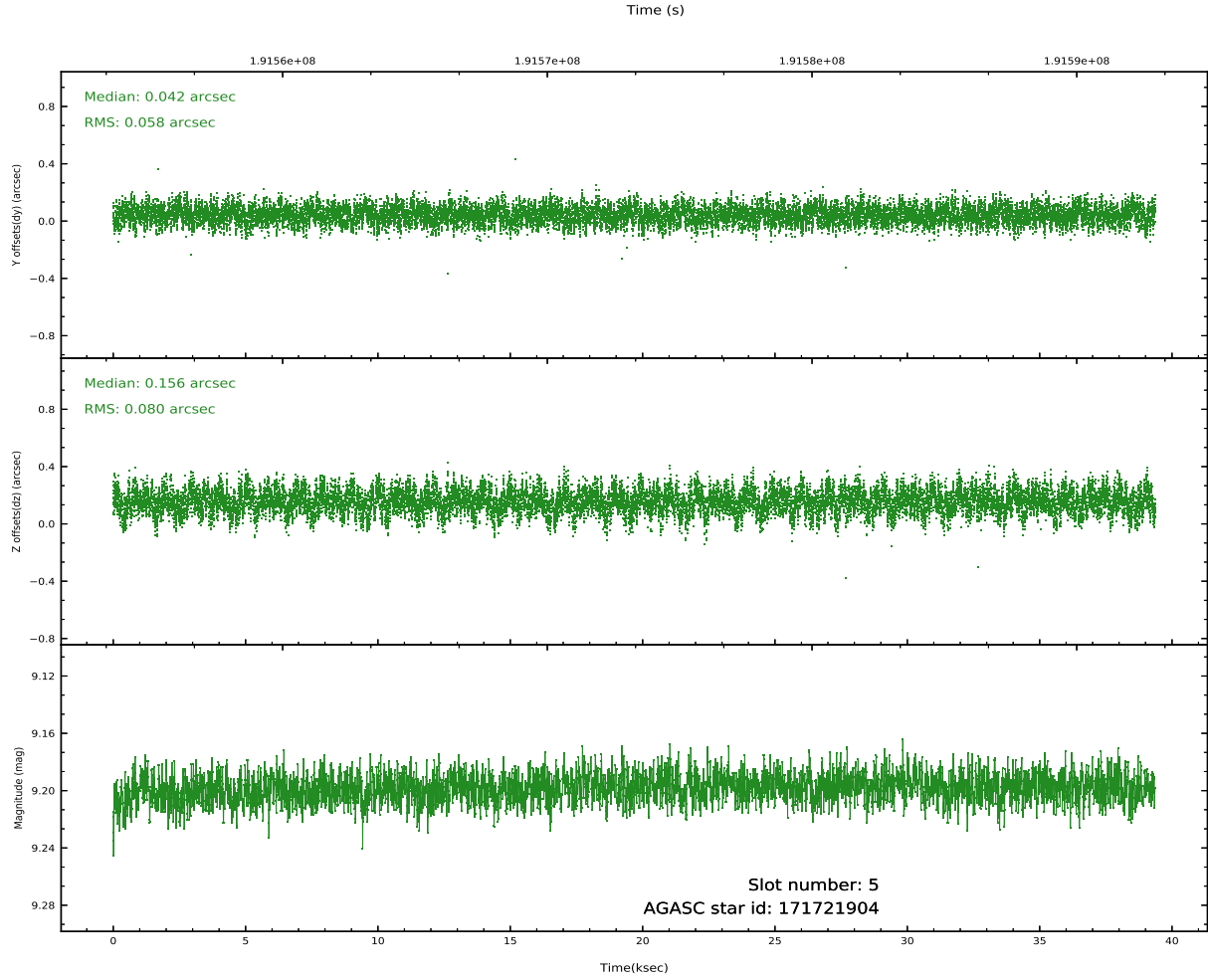
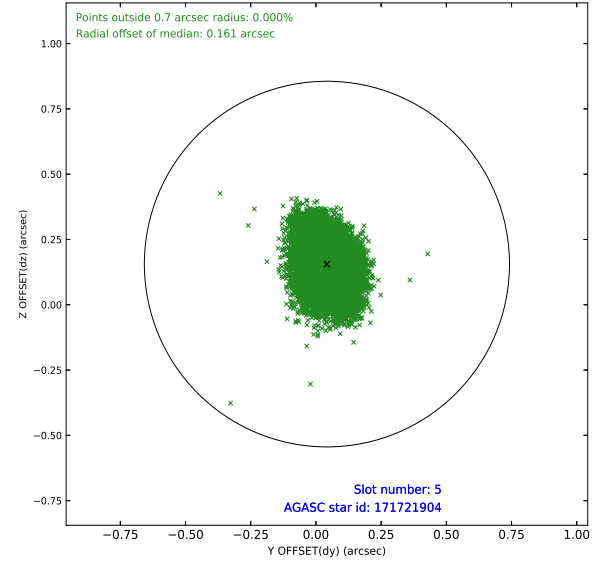
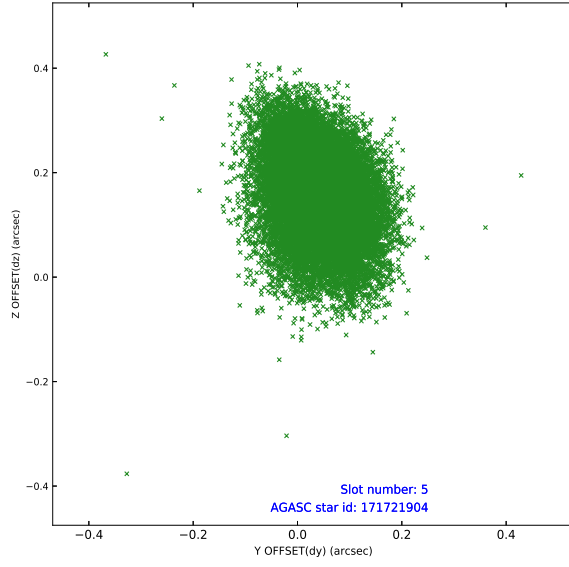


## 2.4.2 Slot 4

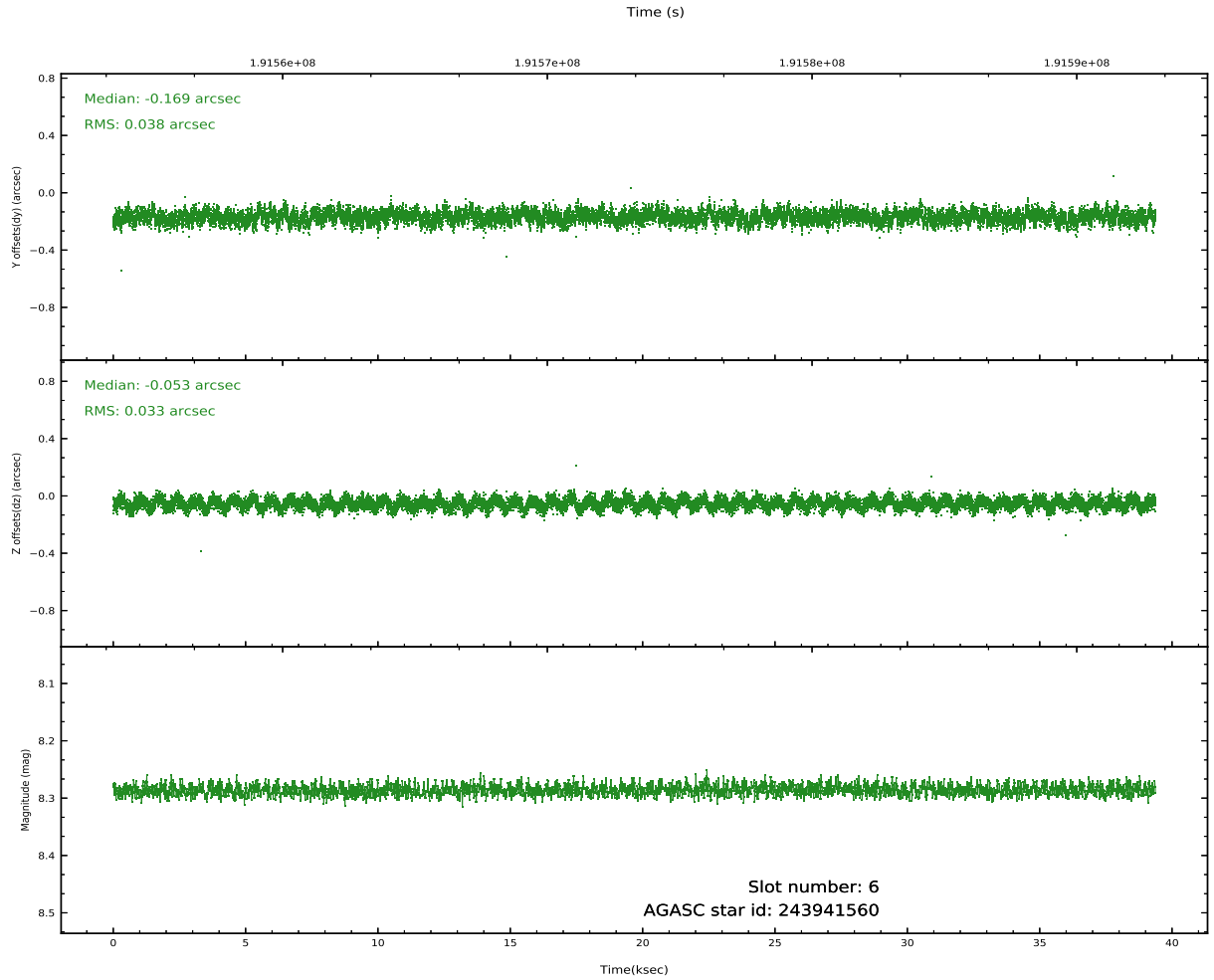
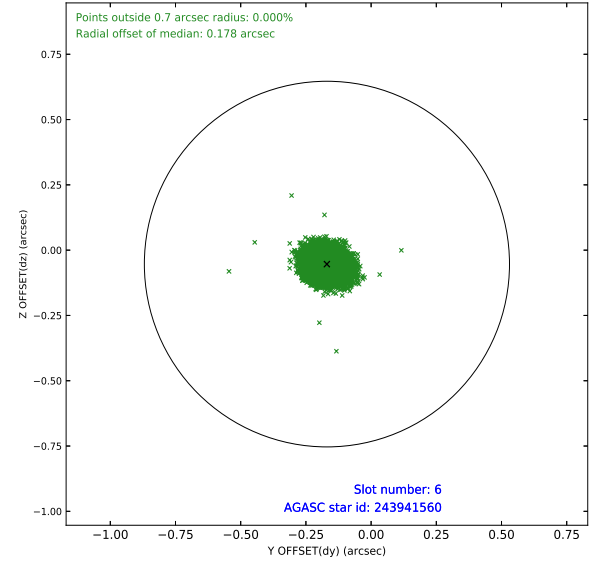
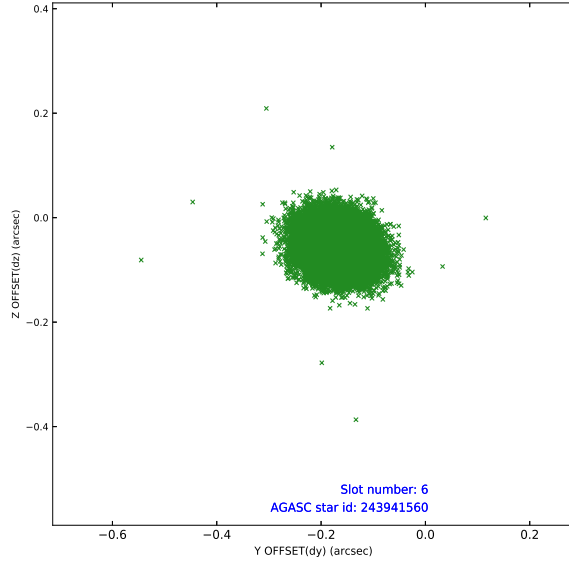




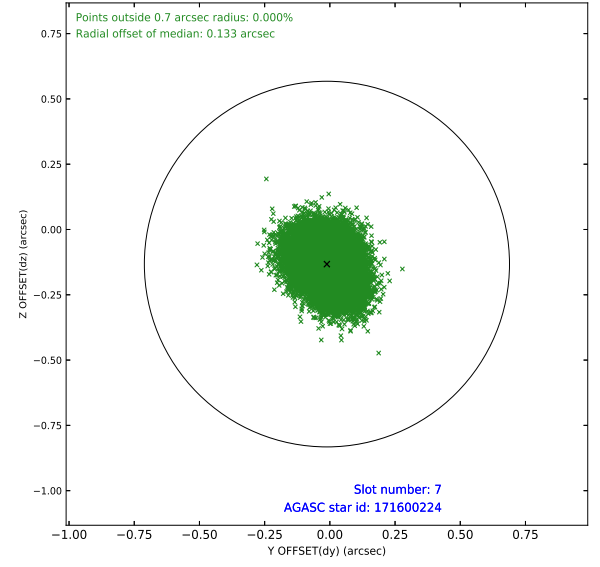
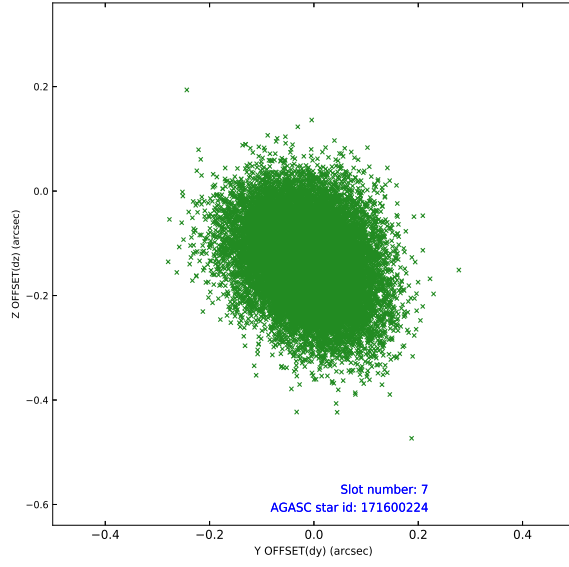
### 2.4.3 Slot 5



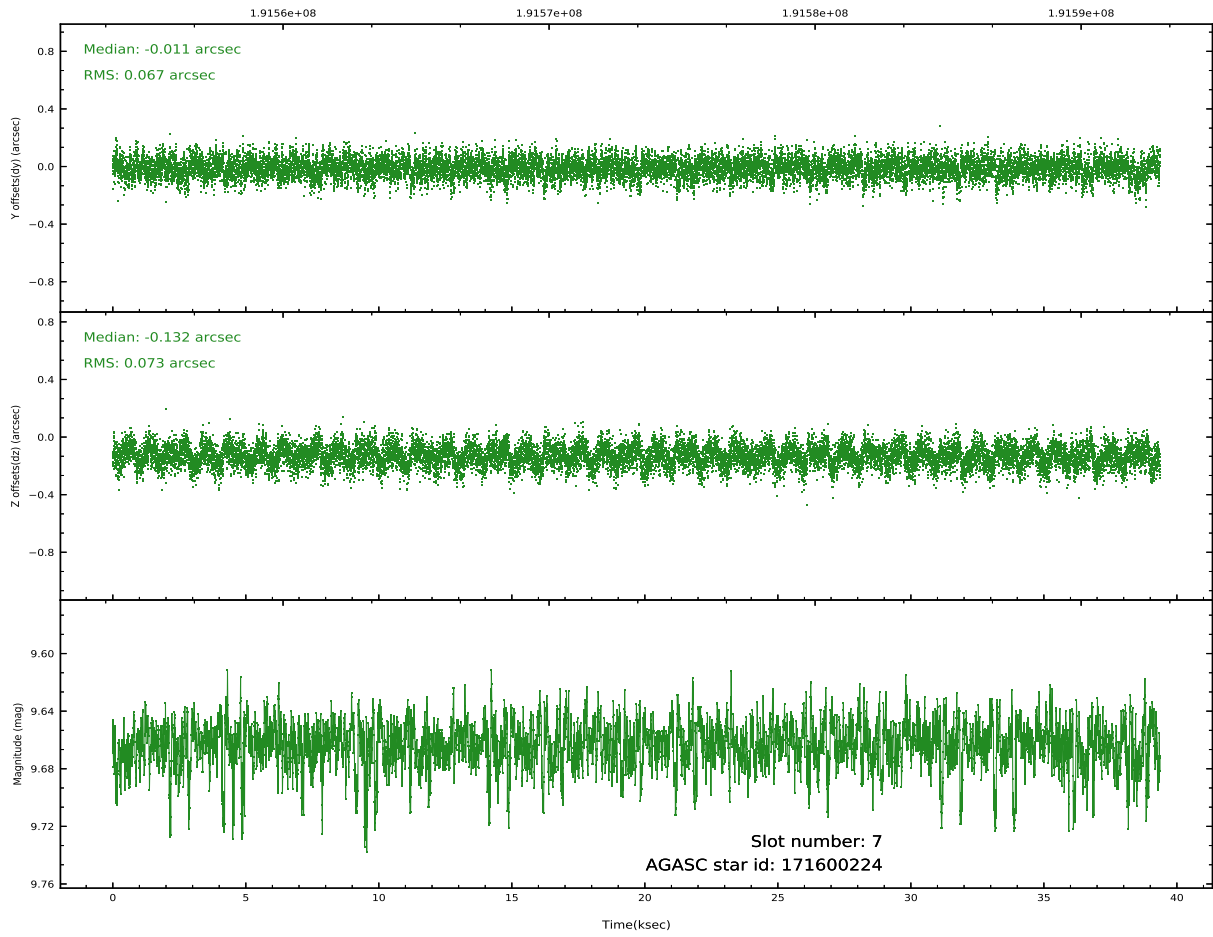
## 2.4.4 Slot 6



## 2.4.5 Slot 7

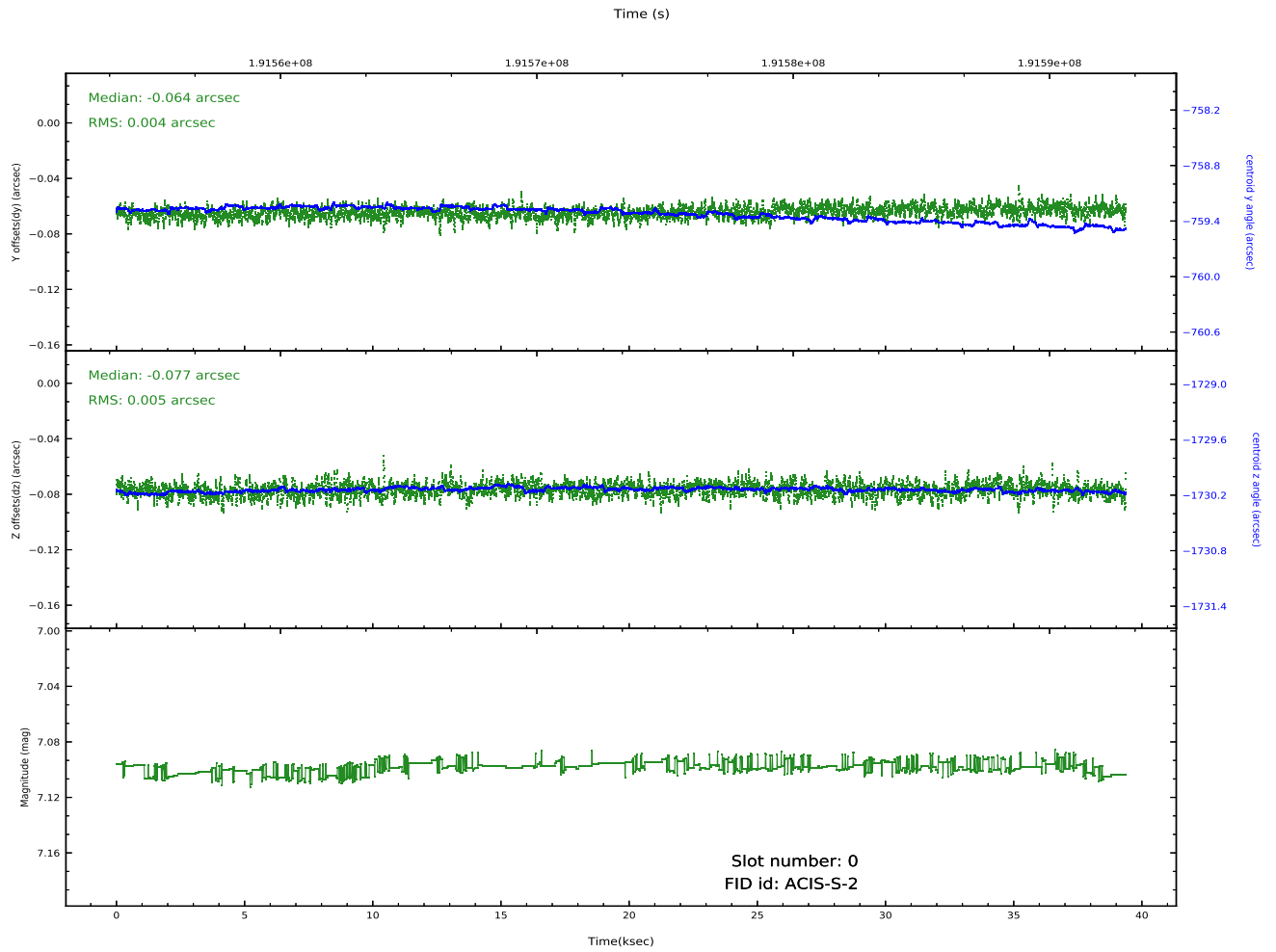
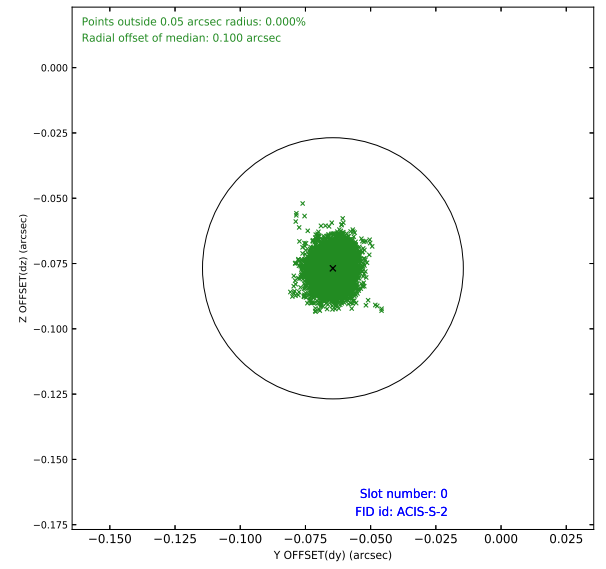
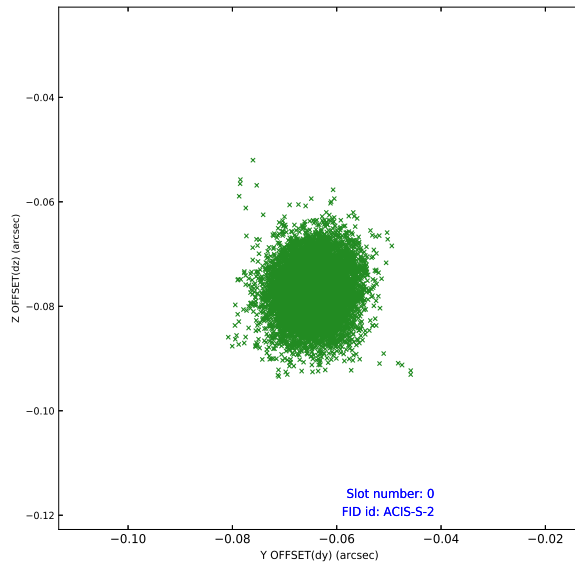


Time (s)

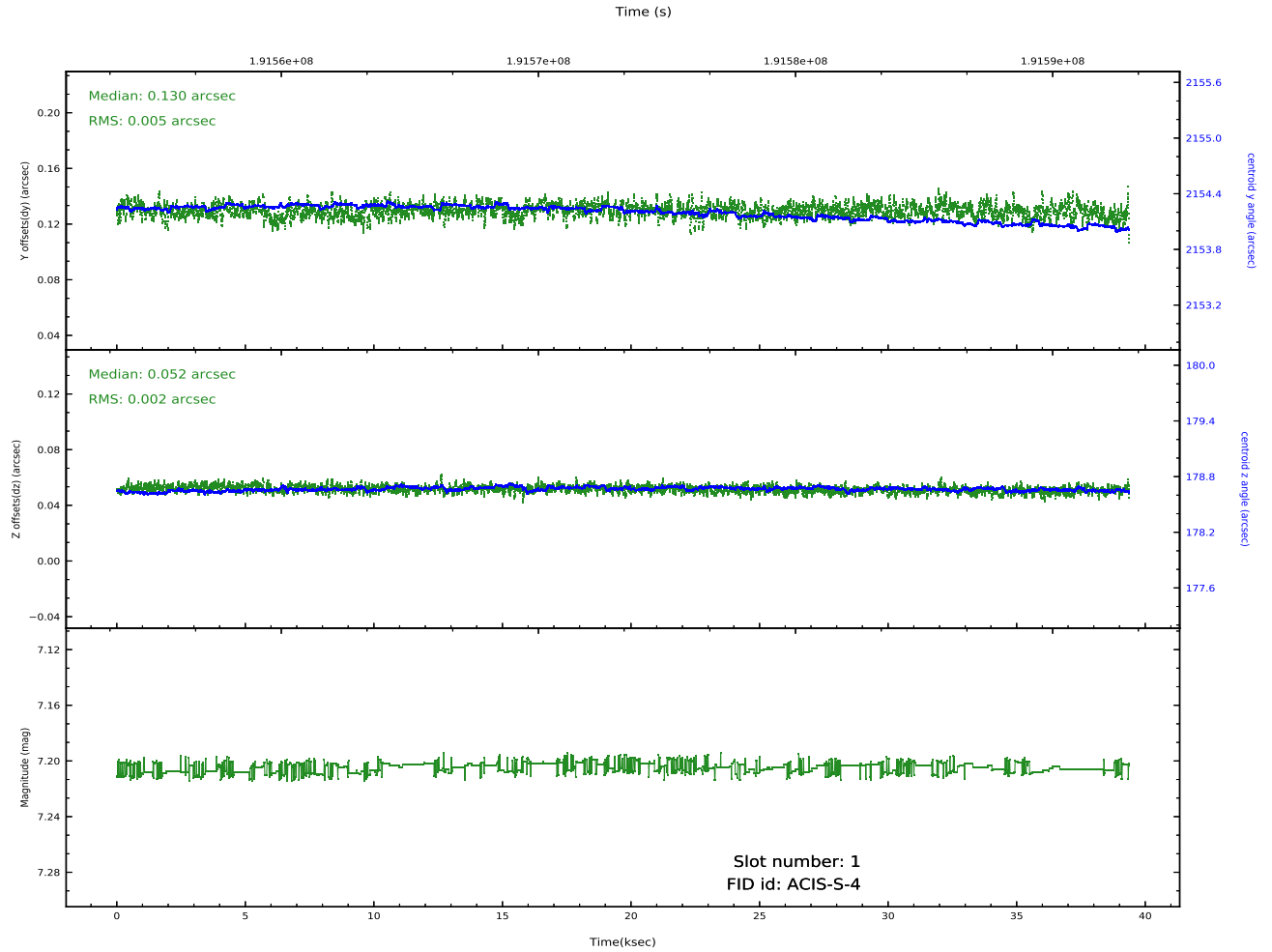
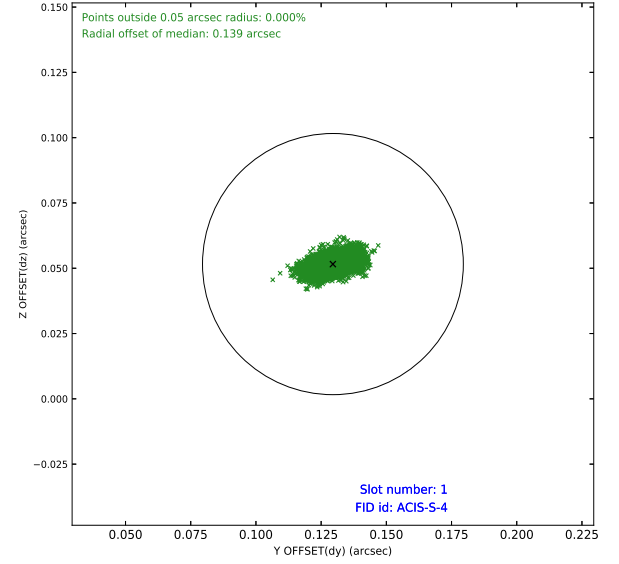
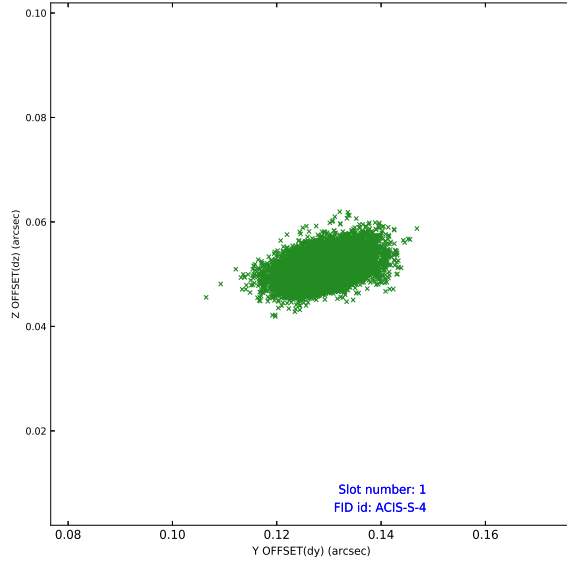


## 2.5 FID Slots

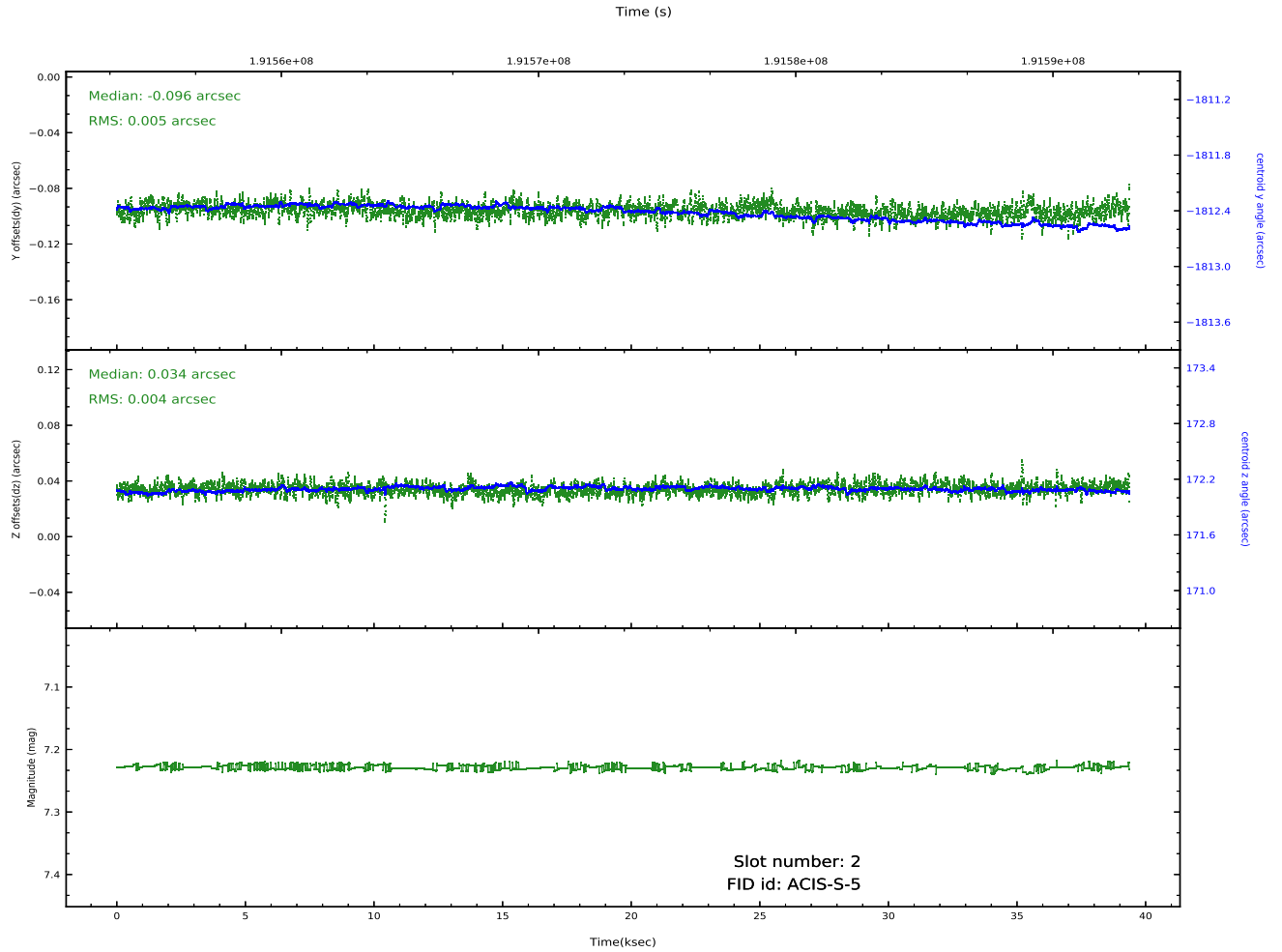
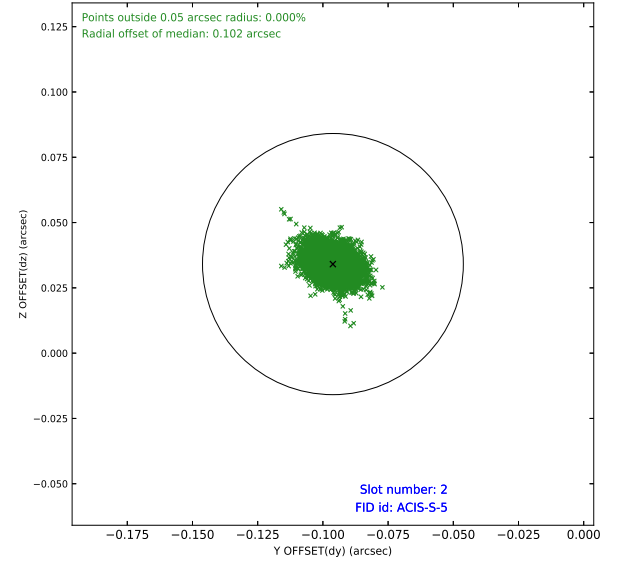
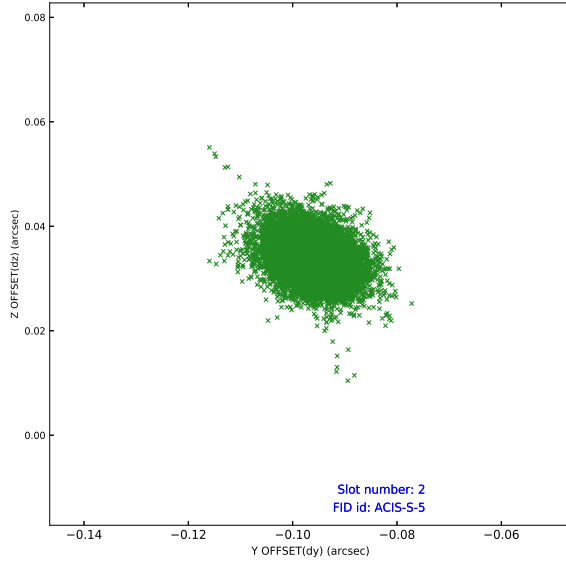
### 2.5.1 Slot 0



## 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	37.743

### A.2 Comments

Roll constraint was not met.

An exclusion window was applied to the target chip.