

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 21858 - L2 Version 1  
Chandra X-Ray Center

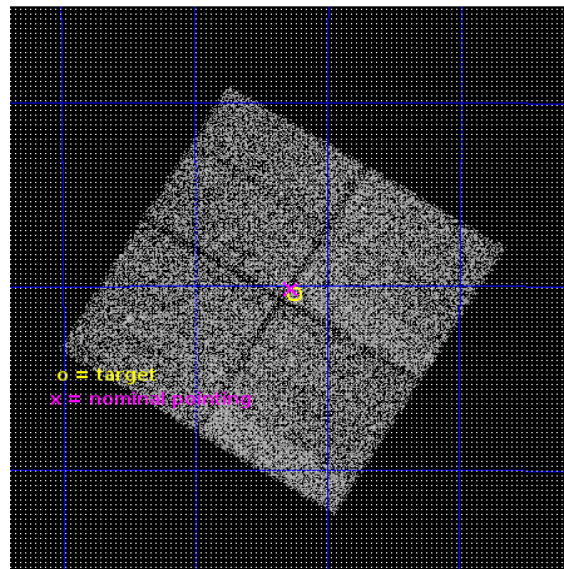
L2 Processing Date : Jan 11 2019

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# 1 Front

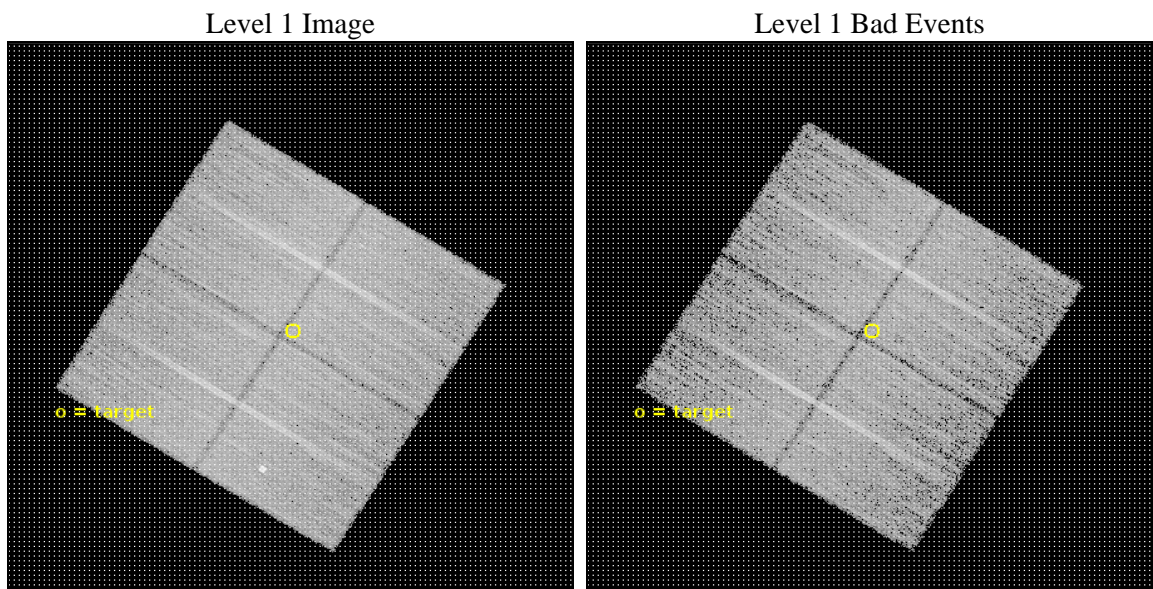
seq_num	201171	Sequence number
obs_id	21858	Observation id
title	Cepheids: A New Class of X-Ray Variable: Part I: l Car	Proposal ti
observer	Nancy Evans	Principal investigator
object	l Car	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	146.311667	Observer's specified target RA [deg]
dec_targ	-62.507889	Observer's specified target Dec [deg]
ra_nom	146.31813905943	Nominal RA [deg]
dec_nom	-62.502629490217	Nominal Dec [deg]
roll_nom	31.665957045159	Nominal Roll [deg]
revision	1	Processing version of data
ontime	21076.859162092	Sum of GTIs [s]
livetime	20801.474480581	Livetime [s]
ontime0	21080.000162244	Sum of GTIs [s]
ontime1	21073.718221784	Sum of GTIs [s]
ontime2	21076.859171987	Sum of GTIs [s]
ontime3	21076.859162092	Sum of GTIs [s]
l2events	59767	Number of level 2 events



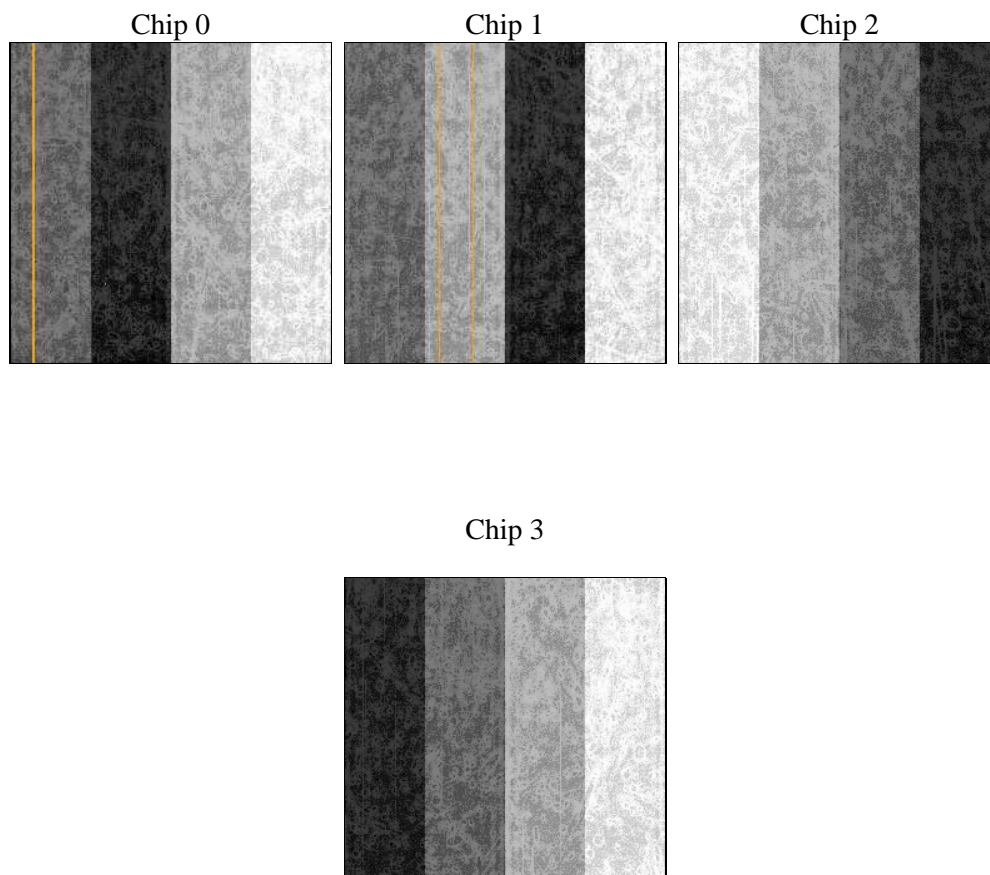
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	21076.859162092	Sum of GTIs [s]
caldsver	4.8.2	&#160	ontime0	21080.000162244	Sum of GTIs [s]
date	2019-01-11T17:01:23	Date and time of file creation	ontime1	21073.718221784	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	21076.859171987	Sum of GTIs [s]
			ontime3	21076.859162092	Sum of GTIs [s]
			l1events	590738	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	138832	145656	156575	149675
rejected events	121071	124341	139354	132332
rejected %	87%	85%	89%	88%

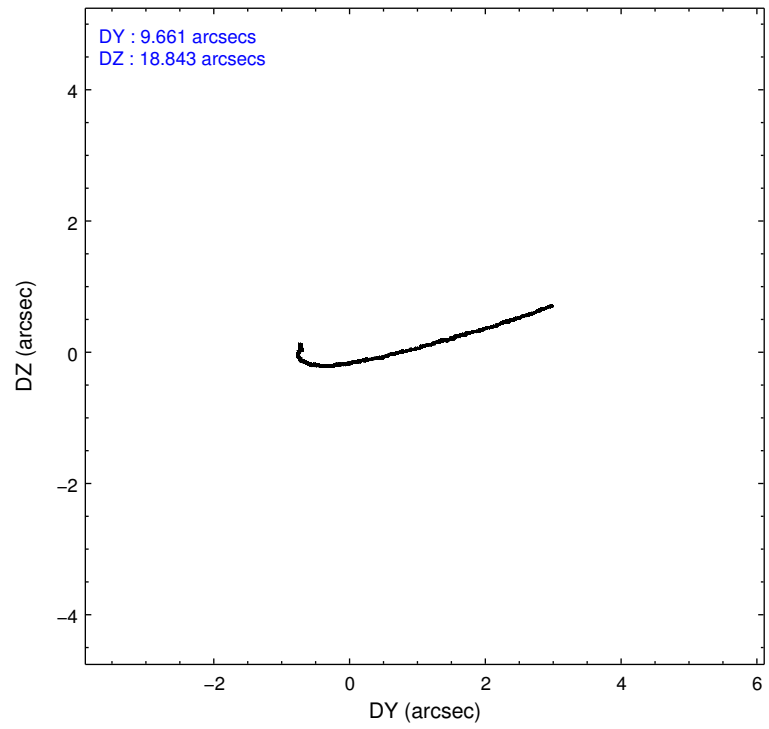
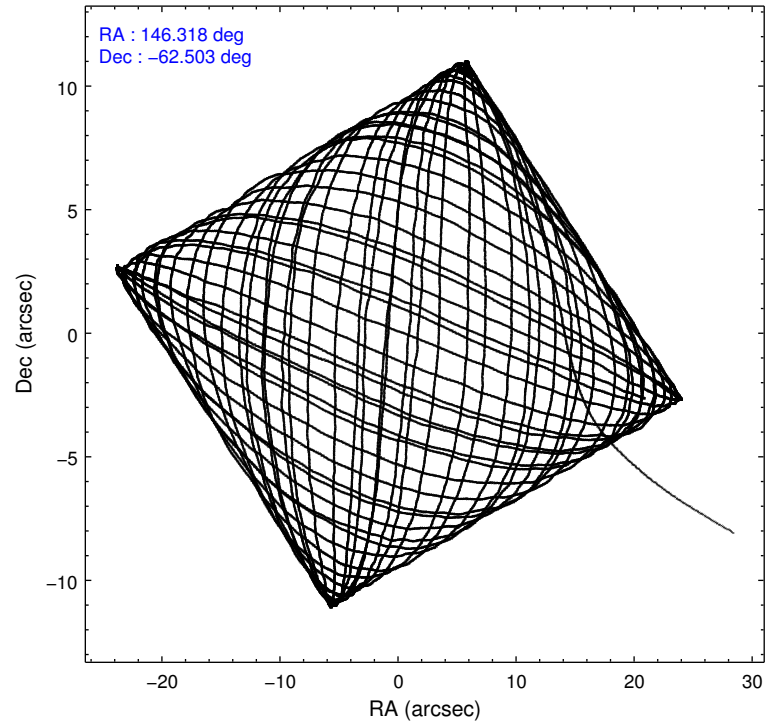
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	6066	8230	6229	6567
	4%	5%	3%	4%
grade 1 events	88	97	78	95
	0%	0%	0%	0%
grade 2 events	4564	5106	4291	3742
	3%	3%	2%	2%
grade 3 events	1851	1837	1614	1736
	1%	1%	1%	1%
grade 4 events	1766	1786	1713	1757
	1%	1%	1%	1%
grade 5 events	6622	6956	6223	7496
	4%	4%	3%	5%
grade 6 events	3519	4364	3381	3548
	2%	2%	2%	2%
grade 7 events	114356	117280	133046	124734
	82%	80%	84%	83%

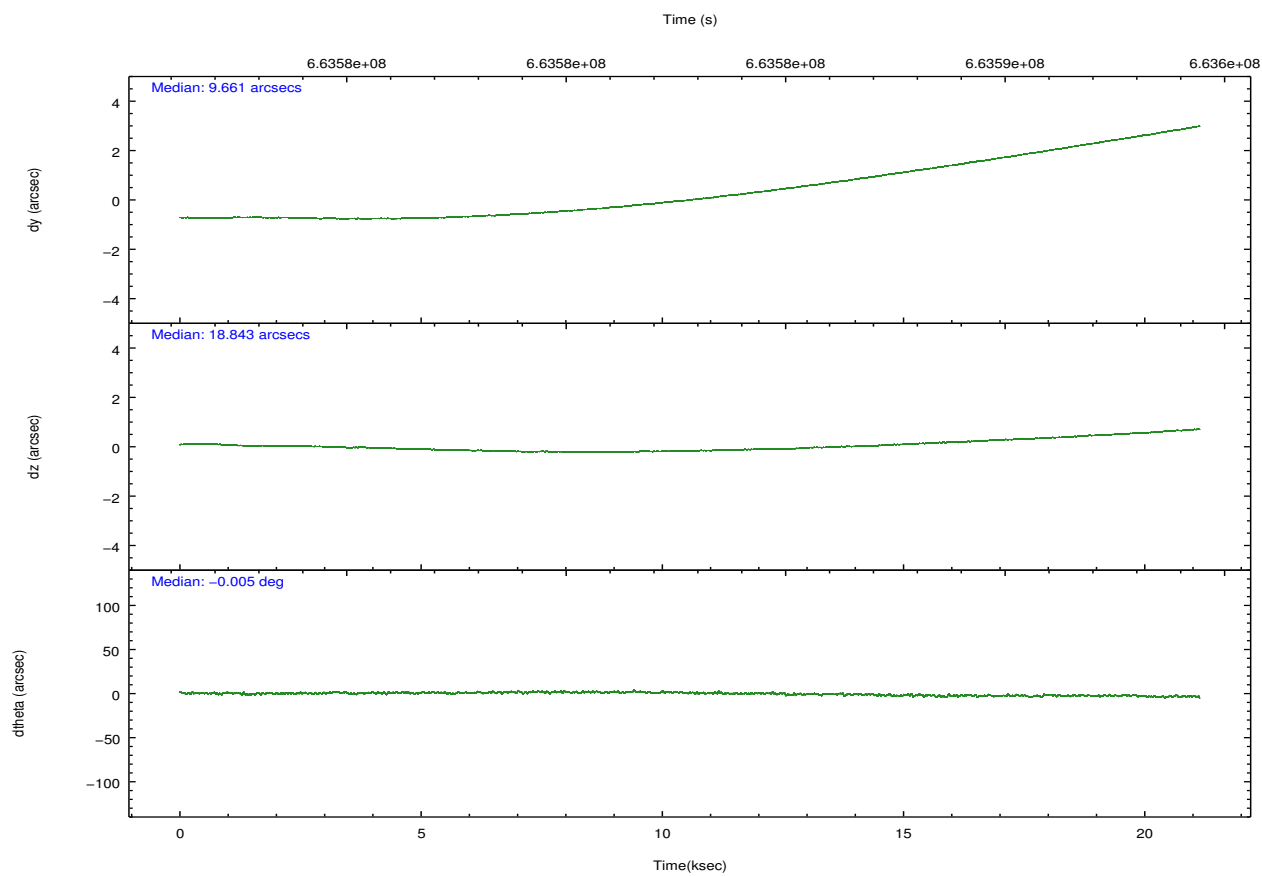
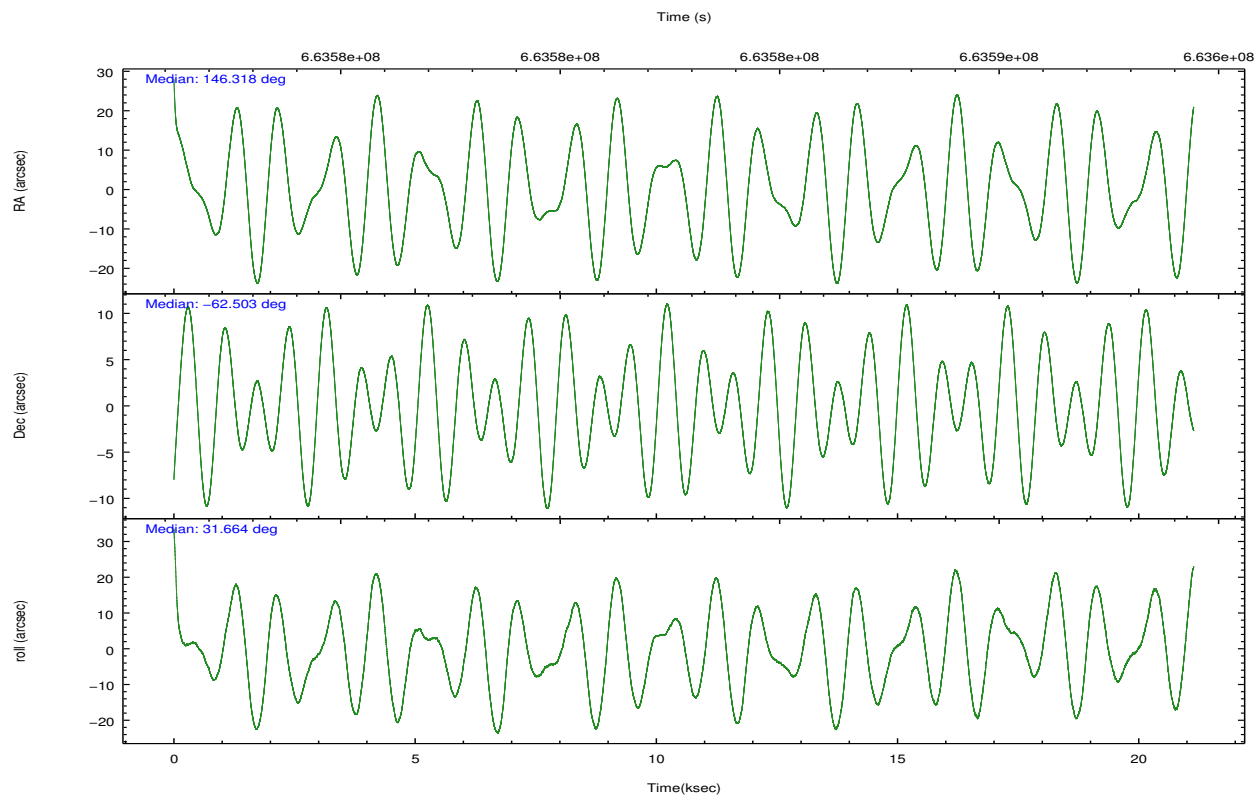
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-0123	ACIS-0123
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	146.289917	146.3181390594281
[deg] Pointing Dec	-62.526976	-62.50262949021657
[deg] Pointing Roll	31.432230	31.66595704515878
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-233.592463	-233.5874344608287
[mm] SIM translation stage offset	0	-0.005018542100998502
Phase constraints	Y	Y
[d] Phase period	35.568354	35.568354
[d] Phase epoch (MJD)	57517.790000	57517.790000
Phase start	0.440000	0.440000
Phase end	0.455000	0.455000
Phase start error	0.005000	0.005000
Phase end error	0.005000	0.005000
[s] Observation start time (MET)	663572397.184000	663571365.5148799
Observation start date	2019-01-11T05:38:48	2019-01-11T05:22:45
[s] Observation end time (MET)	663593397.184000	663594200.46624
Observation end date	2019-01-11T11:28:48	2019-01-11T11:43:20
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



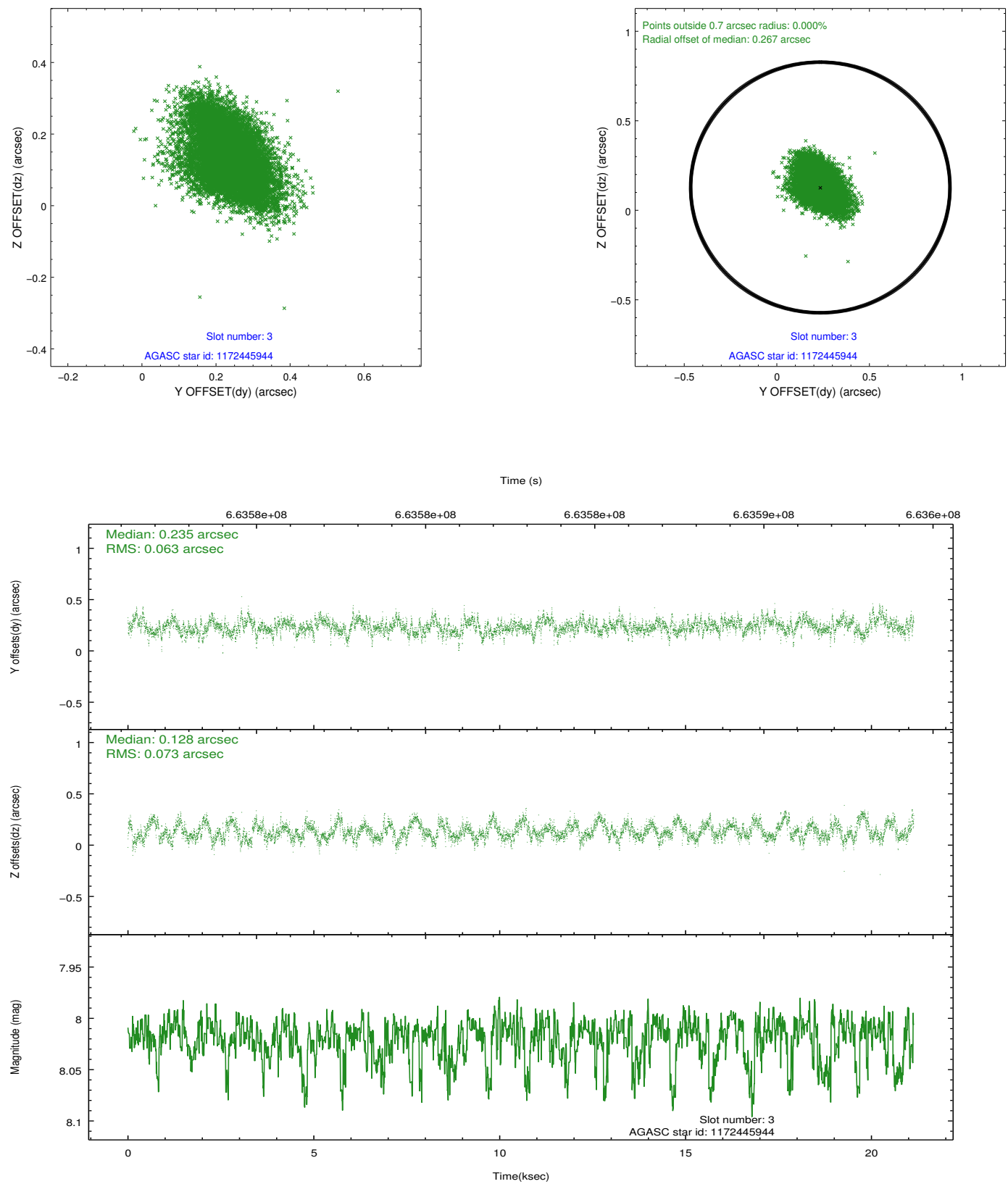


Slot Statistics

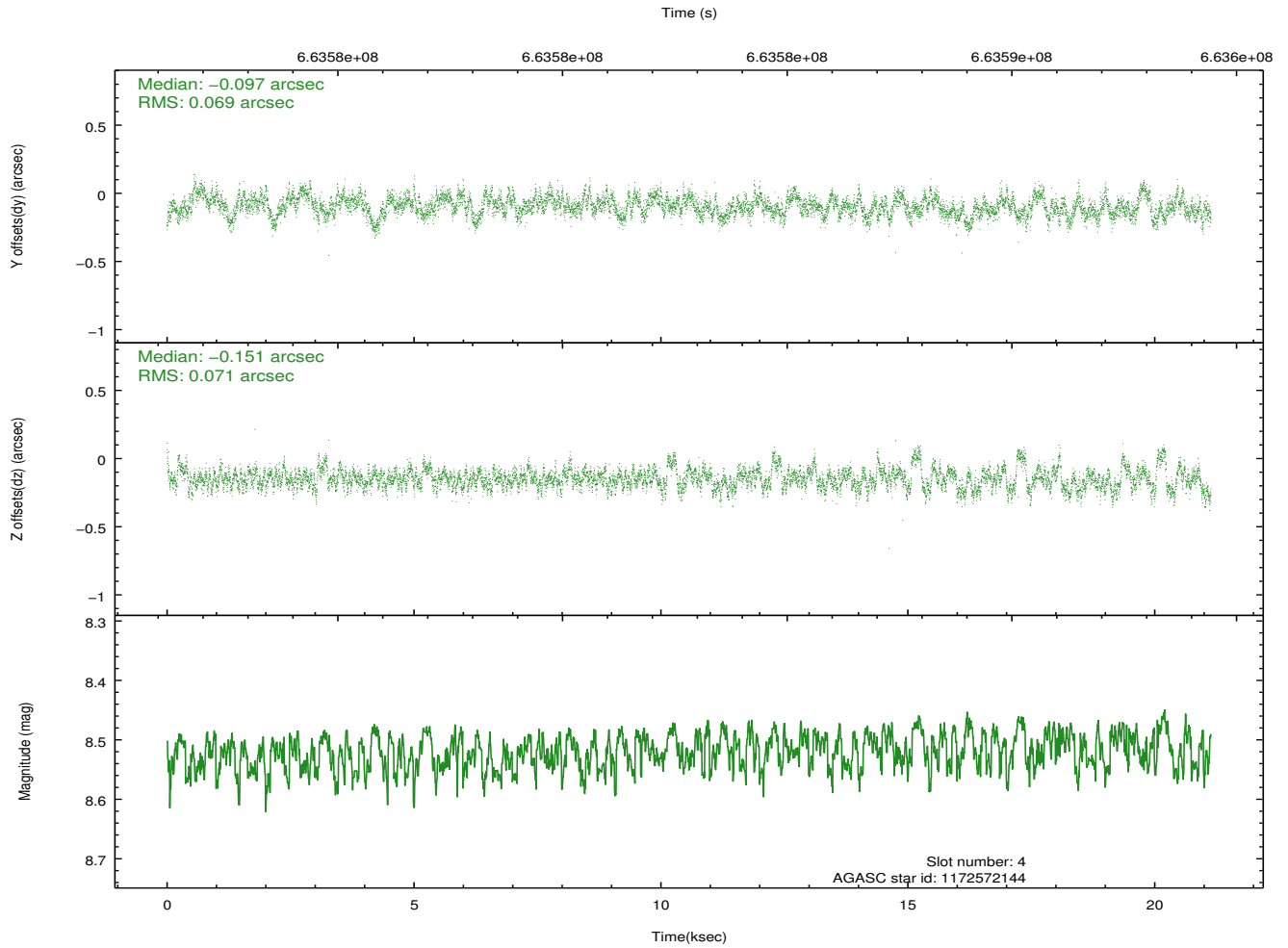
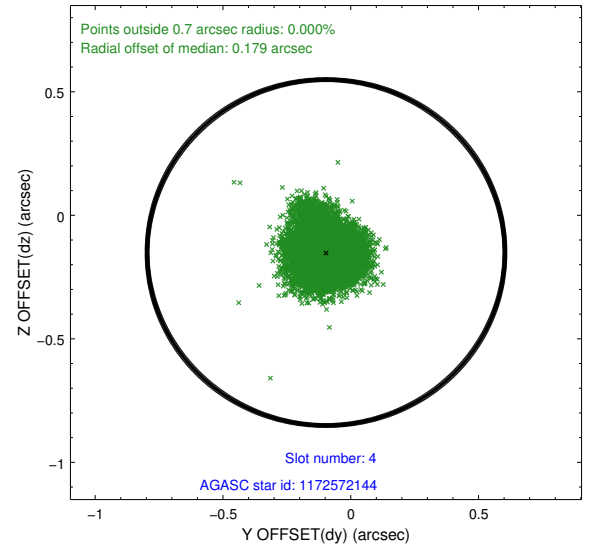
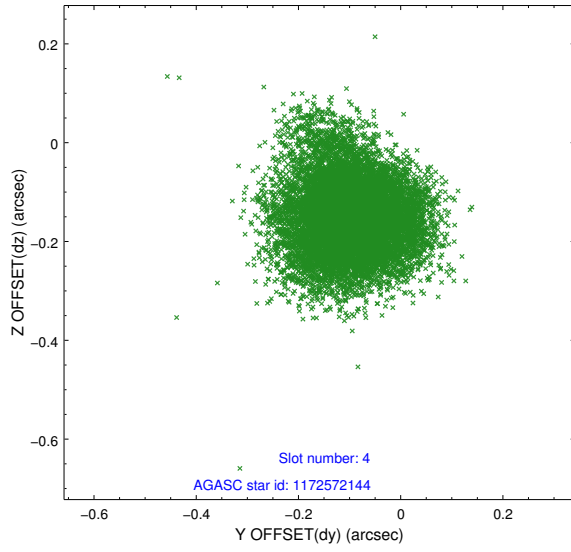
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-2	7.02	5156	1.000	-0.331	-0.074	0.018	0.036	0.000000	0.000000	-764.94	-849
1	FID		ACIS-I-4	7.08	5156	1.000	0.648	0.190	0.012	0.026	0.000000	0.000000	2149.93	1057
2	FID		ACIS-I-5	7.12	5156	1.000	-0.419	-0.047	0.015	0.033	0.000000	0.000000	-1818.73	1055
3	GUIDE	used	1172445944	8.02	10309	1.000	0.235	0.128	0.101	0.171	144.791906	-62.554454	-2187.20	1187
4	GUIDE	used	1172572144	8.52	10308	1.000	-0.097	-0.151	0.104	0.171	147.159881	-62.164600	1922.66	342
5	GUIDE	used	1172573824	8.00	10308	1.000	-0.324	-0.259	0.082	0.127	146.570788	-61.963310	1462.97	1482
6	GUIDE	used	1172574088	8.05	10307	1.000	0.427	0.352	0.096	0.157	146.676884	-62.709473	201.95	-894
7	GUIDE	used	1172059848	9.26	10301	1.000	-0.241	-0.078	0.151	0.245	146.909274	-61.733762	2387.98	1880

## 2.4 Star Slots

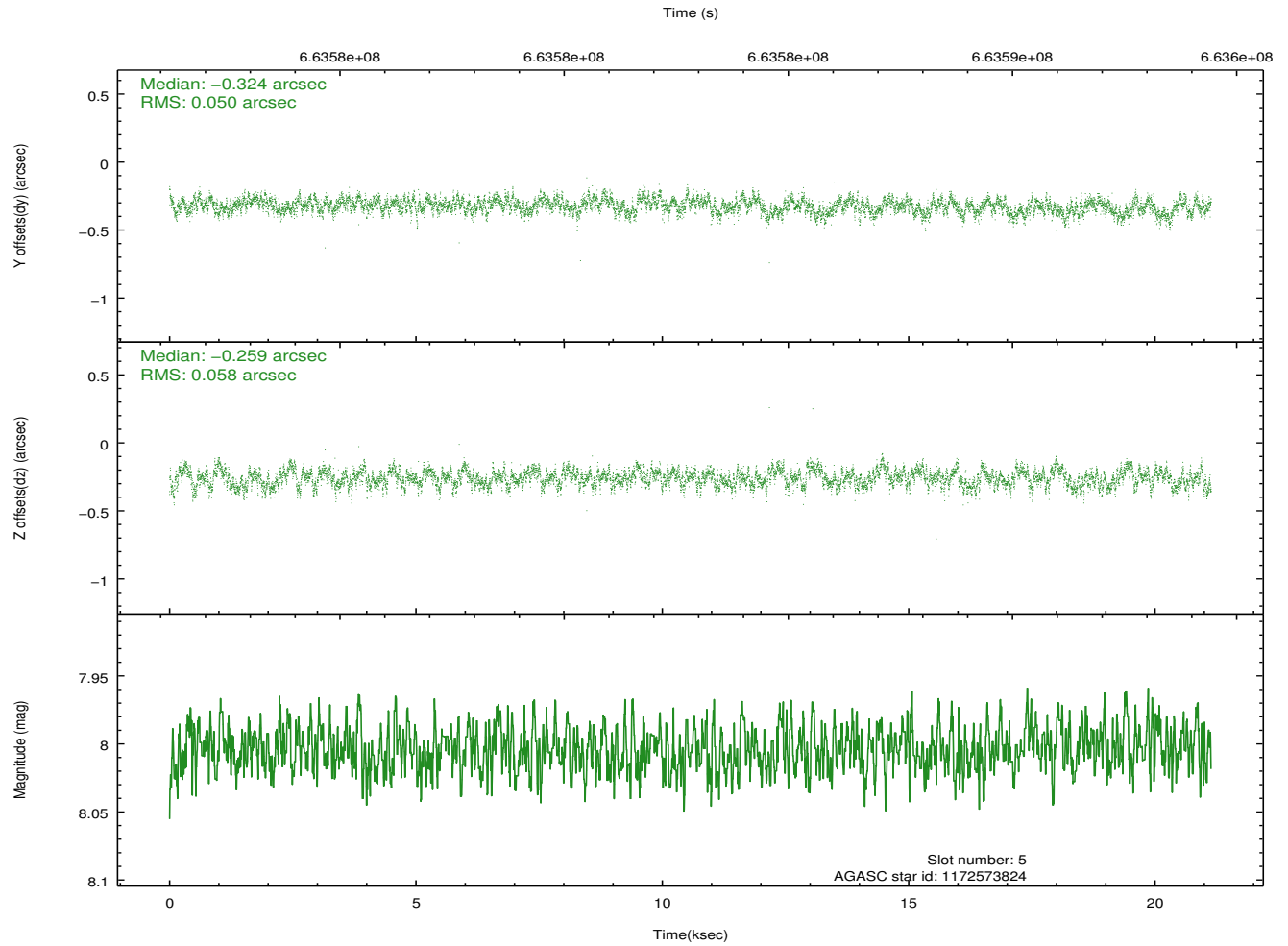
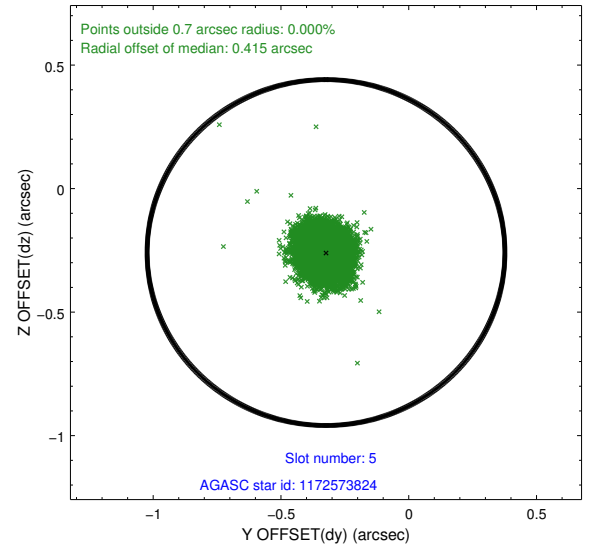
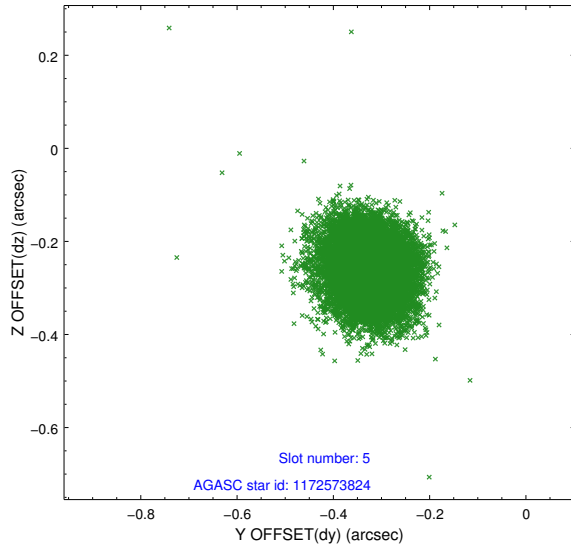
### 2.4.1 Slot 3



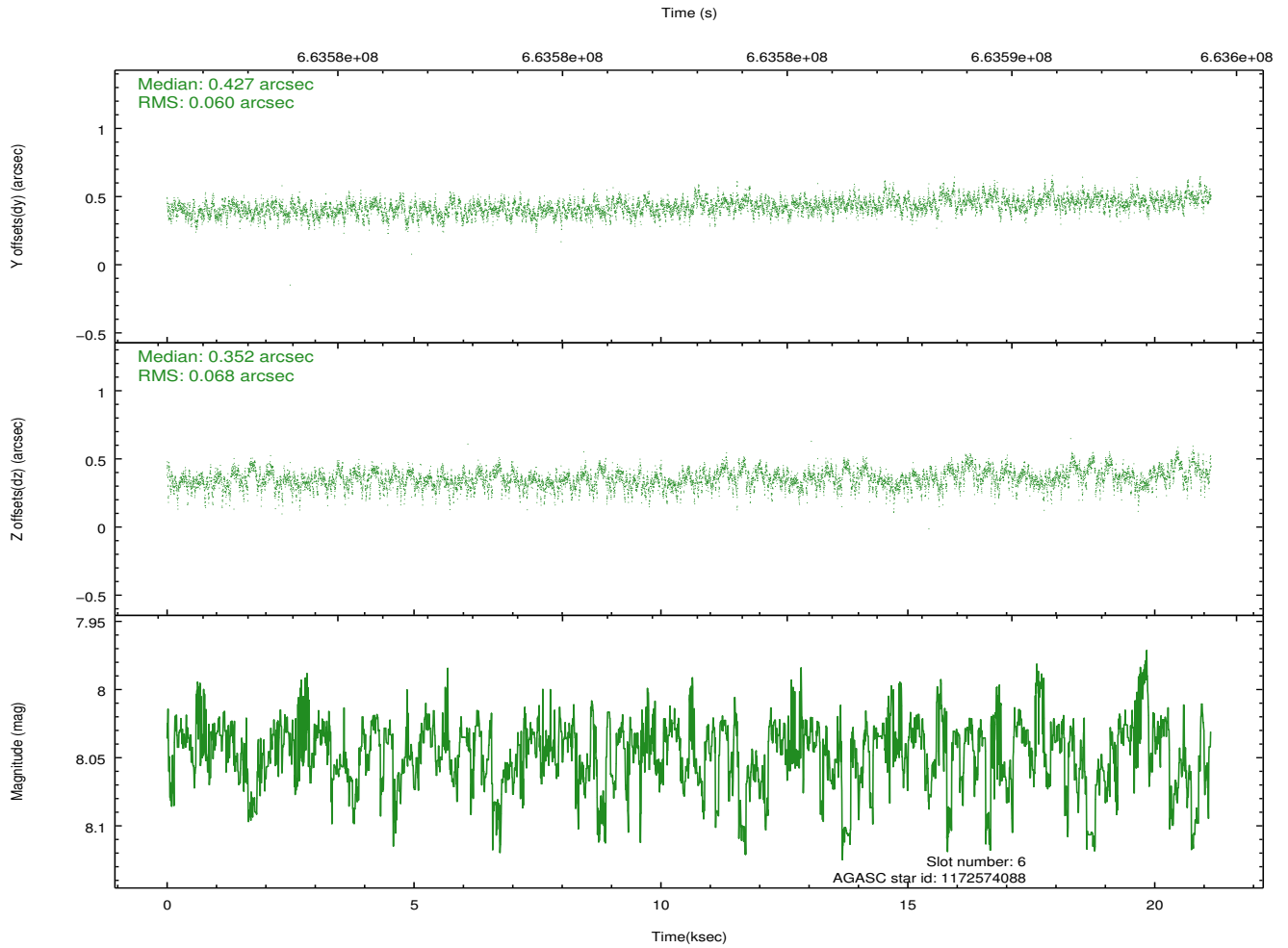
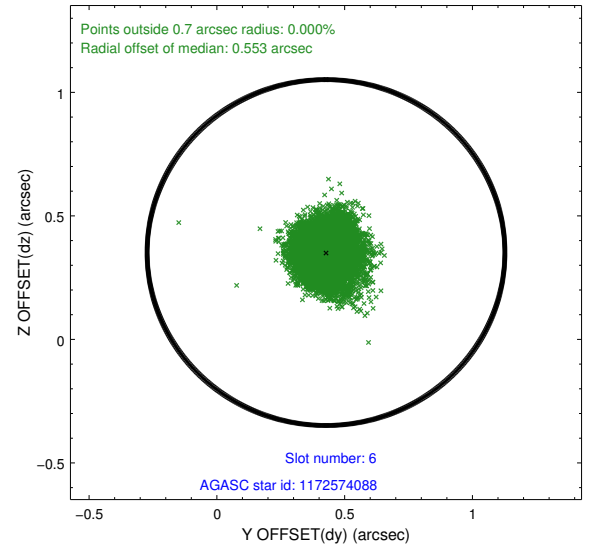
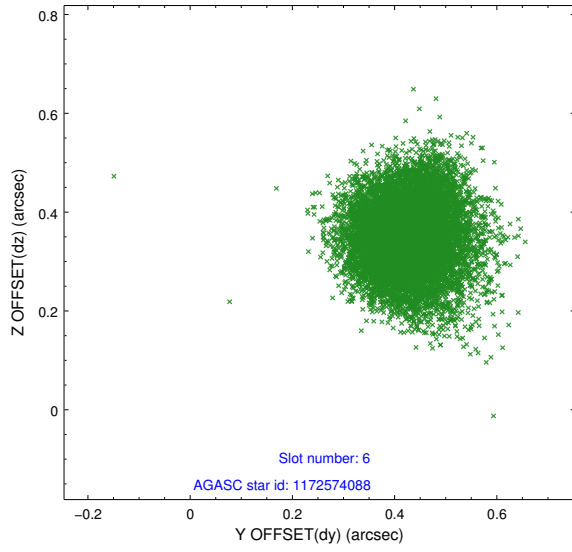
## 2.4.2 Slot 4



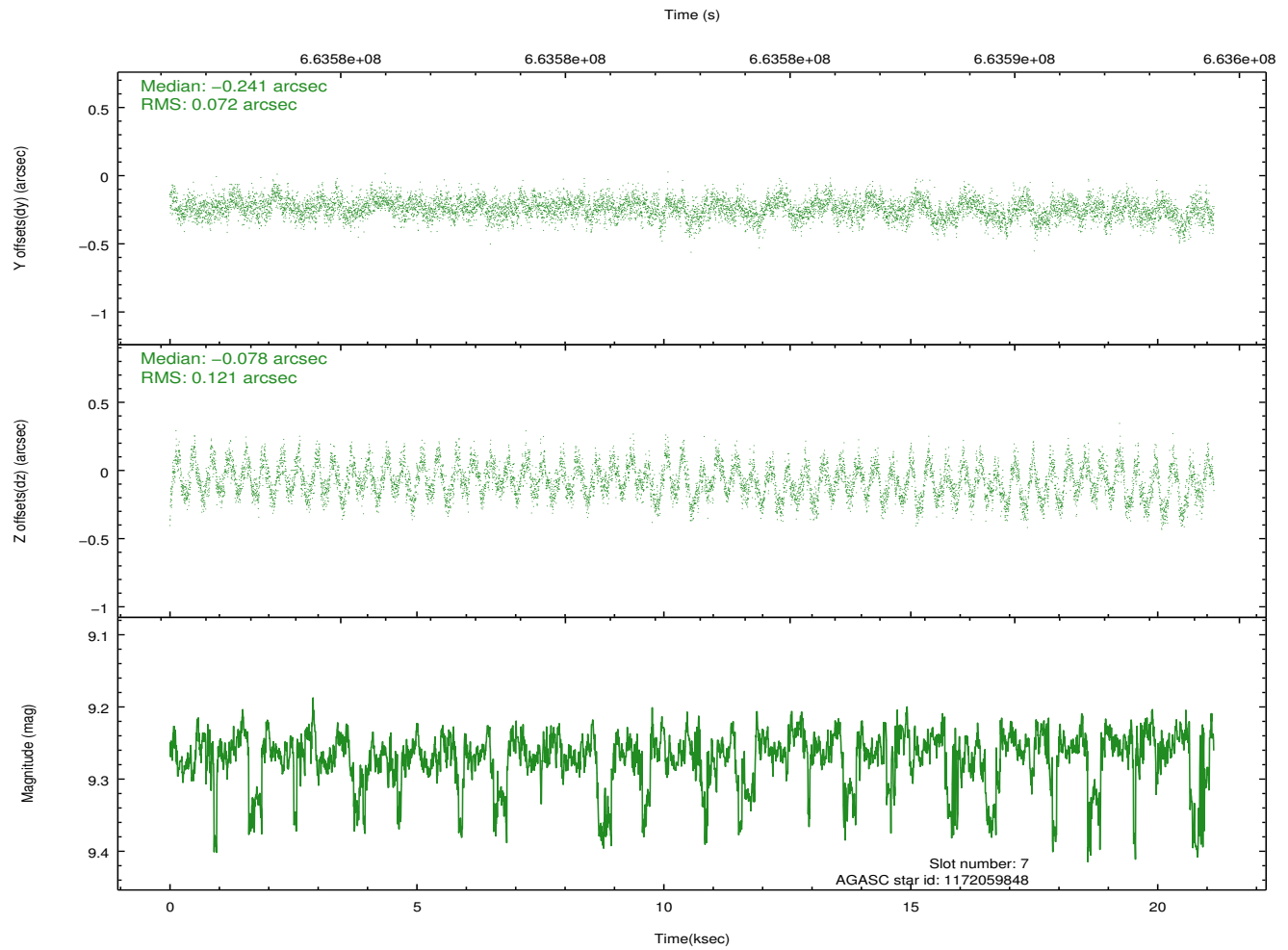
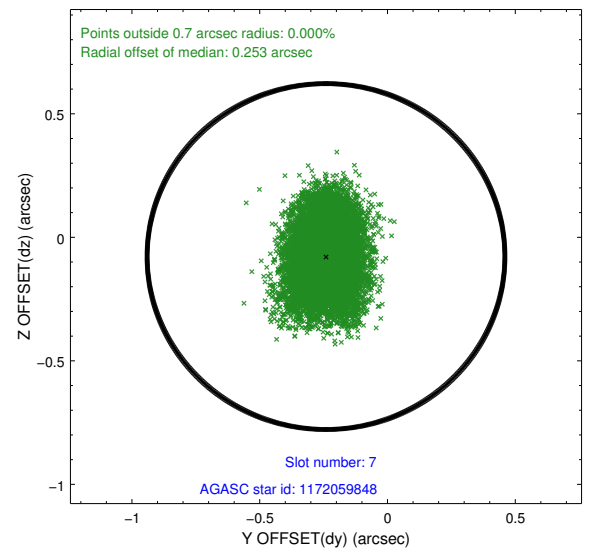
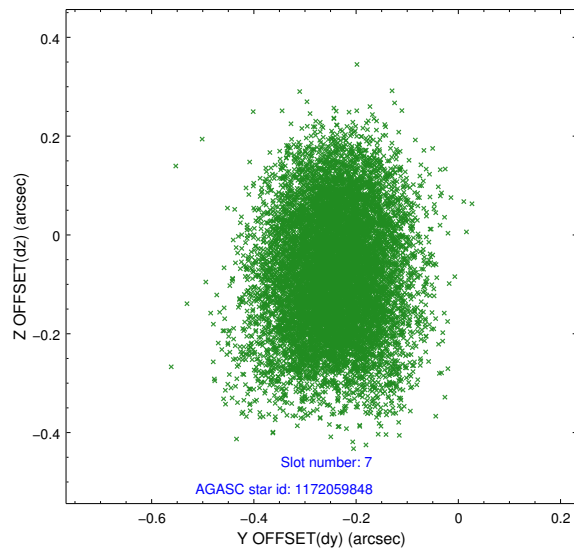
### 2.4.3 Slot 5



## 2.4.4 Slot 6

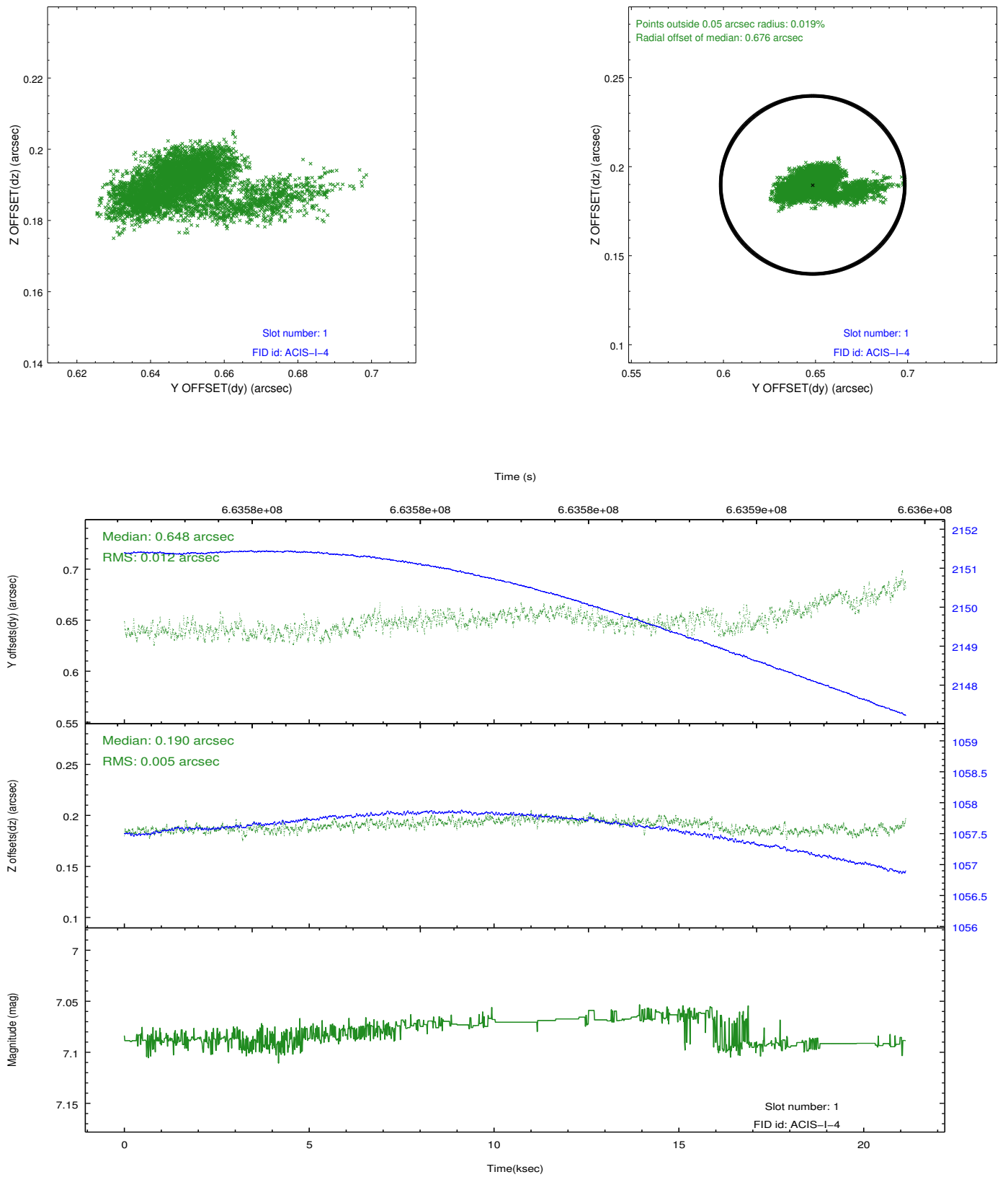


## 2.4.5 Slot 7

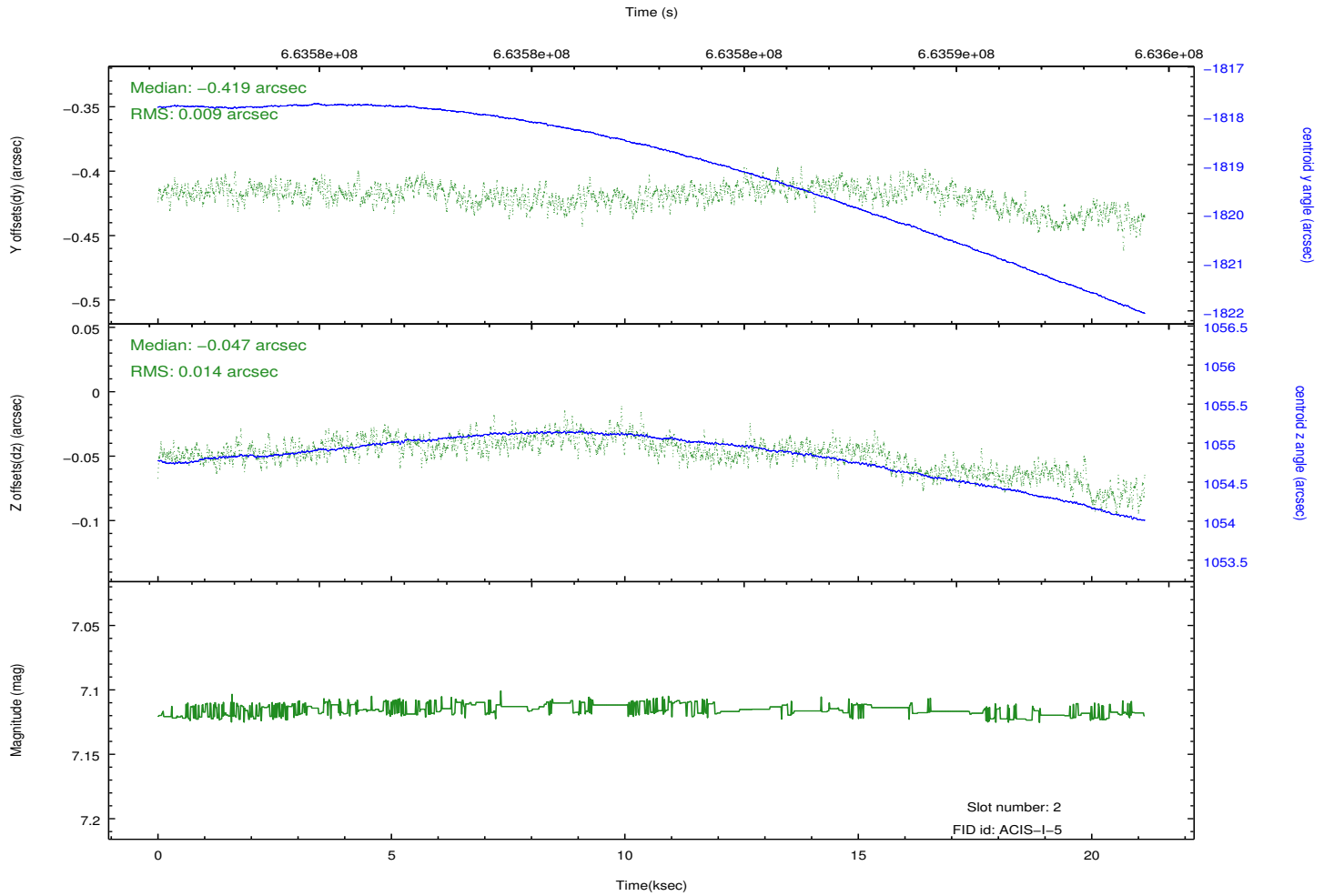
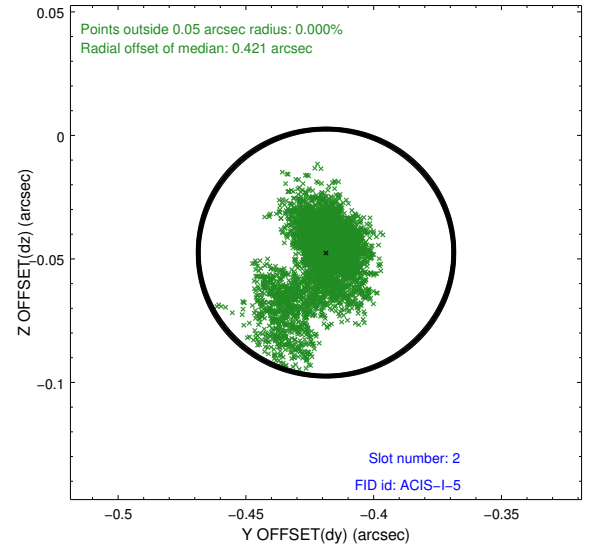
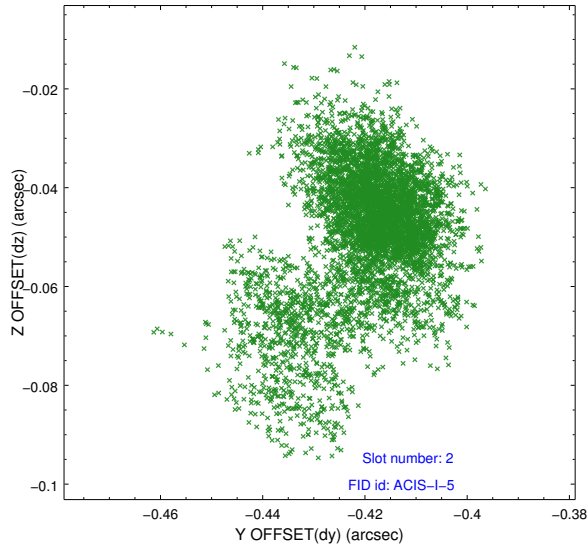




## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2019.01.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.076859162092

### A.2 Comments