

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5012 - L2 Version 4  
Chandra X-Ray Center

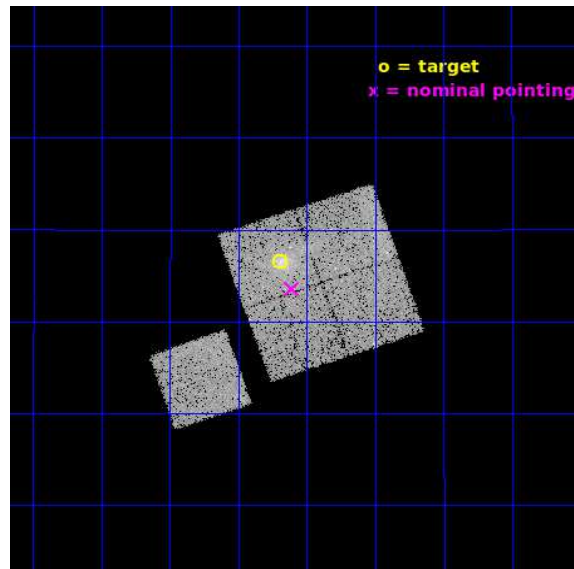
L2 Processing Date : Sep 24 2020

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

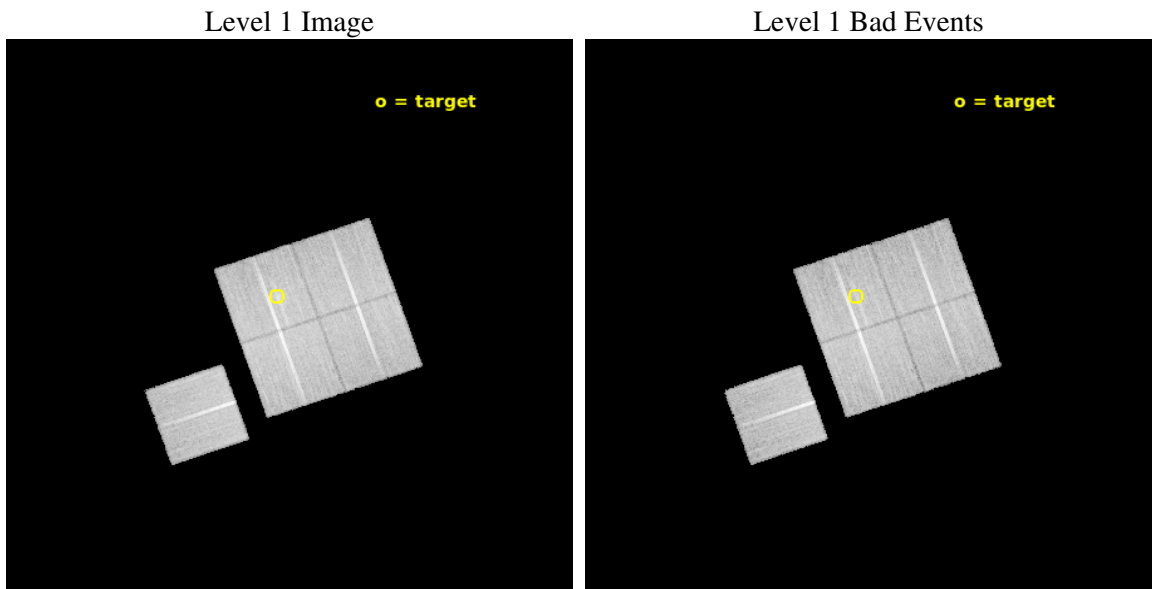
seq_num	800455	Sequence number
obs_id	5012	Observation id
title	Cluster studies: Determination of H0/q0	Proposal title
observer	DR. LEON VANSPEYBROECK	Principal investigator
object	MACS J0911.2+1746	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	137.8	Observer's specified target RA [deg]
dec_targ	17.775	Observer's specified target Dec [deg]
ra_nom	137.7773245172	Nominal RA [deg]
dec_nom	17.726665331574	Nominal Dec [deg]
roll_nom	250.92011881811	Nominal Roll [deg]
revision	4	Processing version of data
ontime	24108.577002913	Sum of GTIs [s]
livetime	23793.580695894	Livetime [s]
ontime0	24114.85896337	Sum of GTIs [s]
ontime1	24117.999953598	Sum of GTIs [s]
ontime2	24108.577092528	Sum of GTIs [s]
ontime3	24108.577002913	Sum of GTIs [s]
ontime6	24111.718072742	Sum of GTIs [s]
l2events	60221	Number of level 2 events



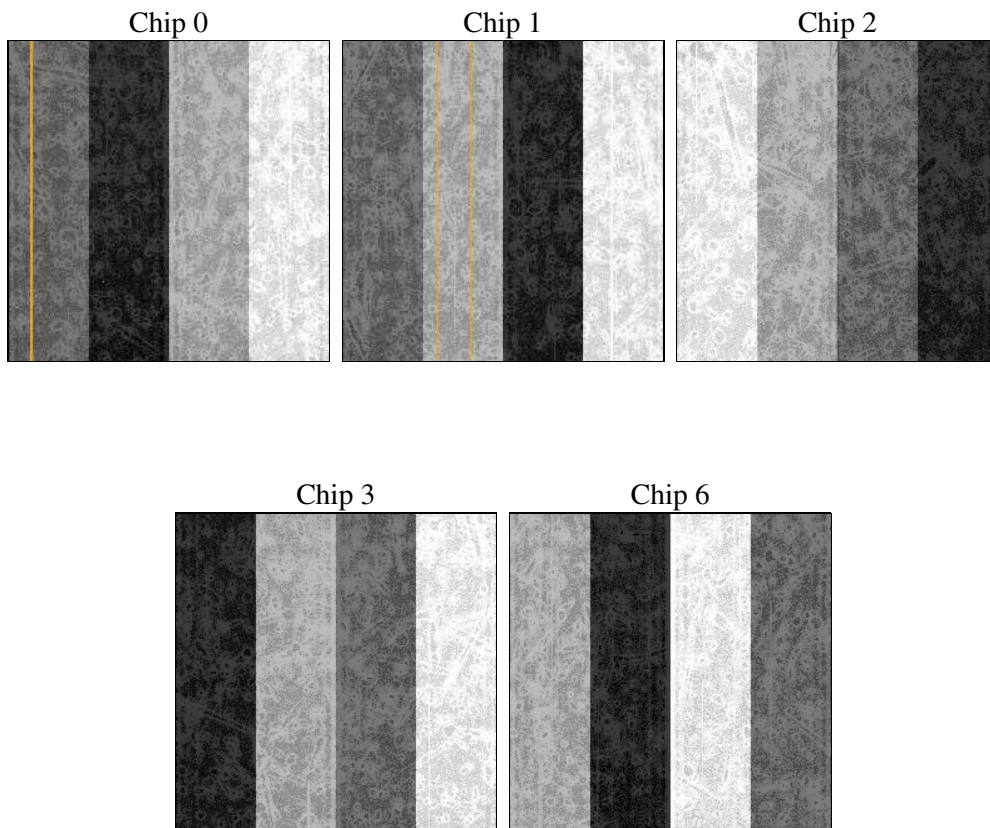
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	24000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	24108.577002913	Sum of GTIs [s]
caldsver	4.9.2	&#160	ontime0	24114.85896337	Sum of GTIs [s]
date	2020-09-24T18:39:02	Date and time of file creation	ontime1	24117.999953598	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	24108.577092528	Sum of GTIs [s]
			ontime3	24108.577002913	Sum of GTIs [s]
			ontime6	24111.718072742	Sum of GTIs [s]
			l1events	678273	Number of level 1 events

### 2.1.4 Events

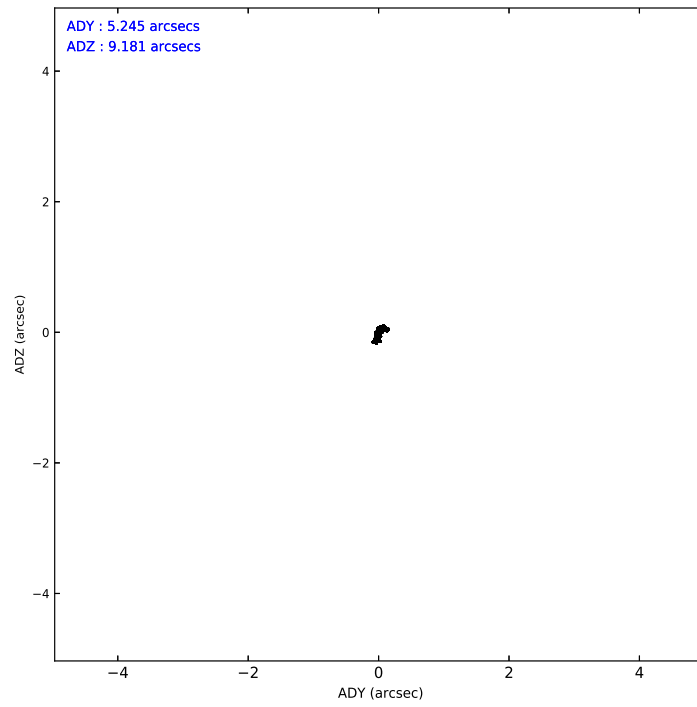
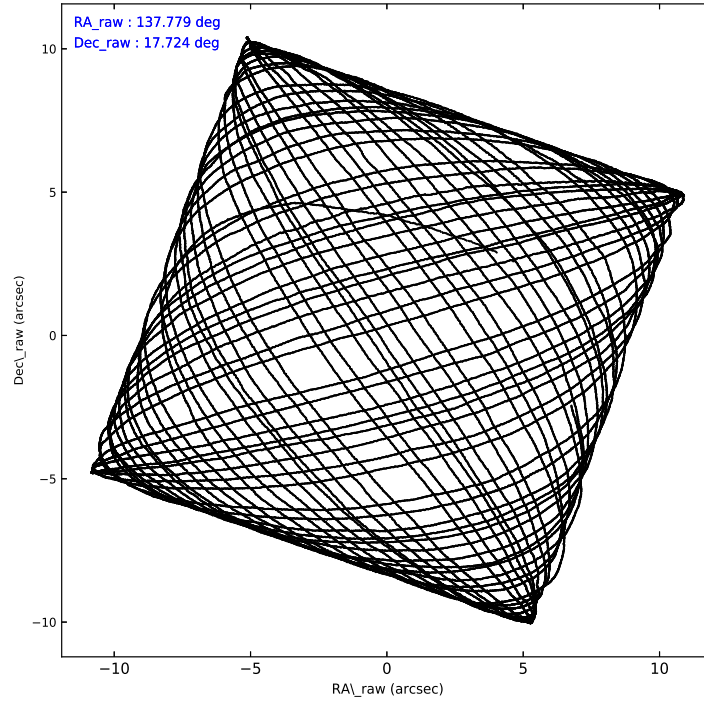
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	128252	128550	146152	141259	134060
rejected events	114473	113009	132994	125202	120176
rejected %	89%	87%	90%	88%	89%

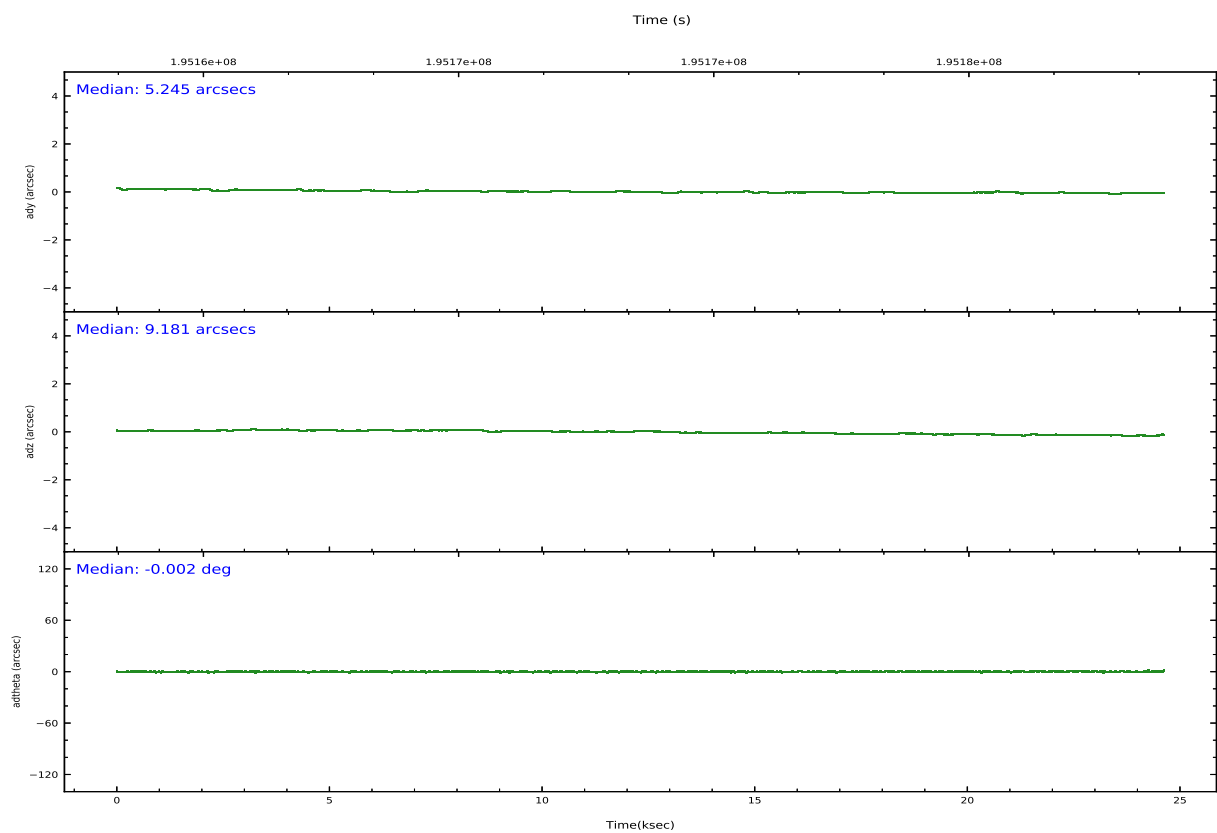
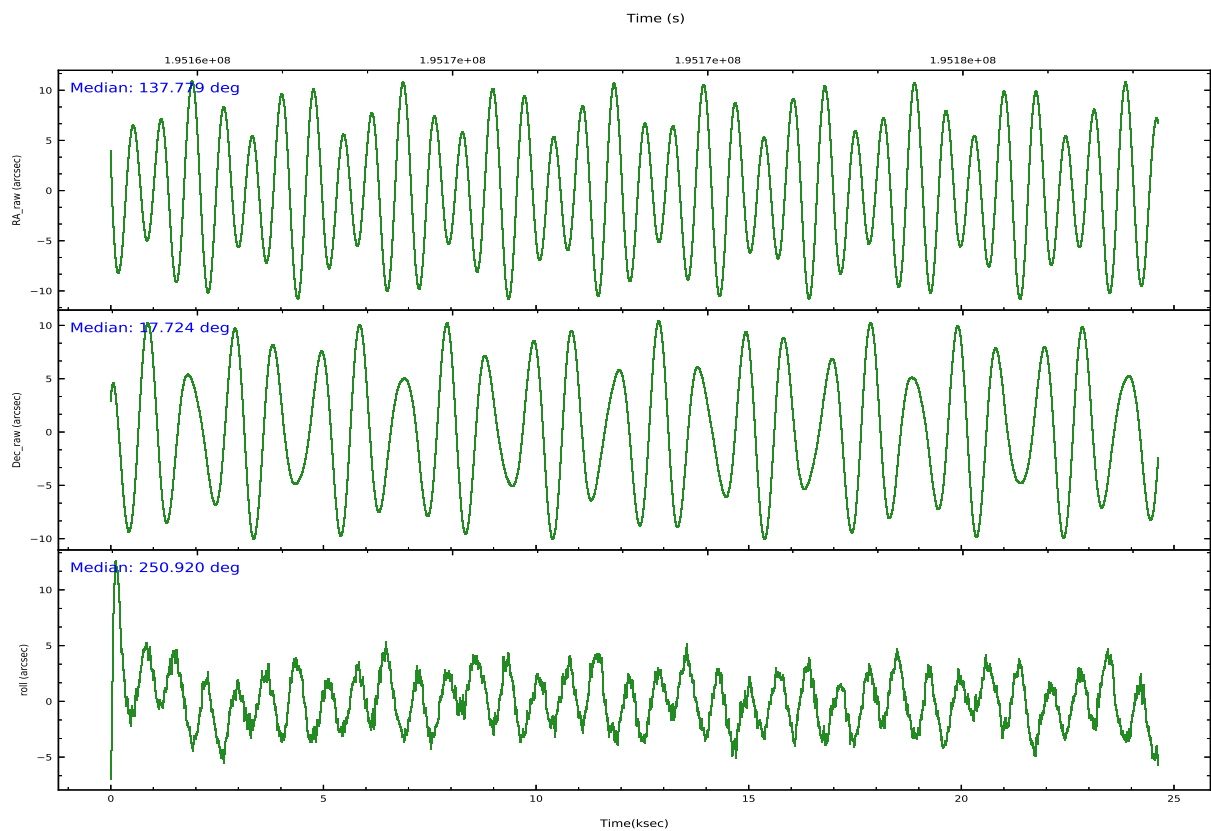
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4732	5747	4695	7017	4695
	3%	4%	3%	4%	3%
grade 1 events	67	50	49	82	49
	0%	0%	0%	0%	0%
grade 2 events	3334	3224	3038	3058	2930
	2%	2%	2%	2%	2%
grade 3 events	1606	1704	1480	1606	1637
	1%	1%	1%	1%	1%
grade 4 events	1489	1789	1555	1652	1588
	1%	1%	1%	1%	1%
grade 5 events	4814	5243	4662	5488	5445
	3%	4%	3%	3%	4%
grade 6 events	2619	3078	2393	2727	3038
	2%	2%	1%	1%	2%
grade 7 events	109591	107715	128280	119629	114678
	85%	83%	87%	84%	85%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-01236	ACIS-01236	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	137.773832	137.7773245172	Subarray requested	NONE	NONE
[deg] Pointing Dec	17.751231	17.726665331574	Alternating exposures requested	N	N
[deg] Pointing Roll	250.717915	250.92011881811	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.840463	-225.8433433320239			
[mm] SIM translation stage offset	-7.752	-7.749109670905796			
[s] Observation start time (MET)	195158591.184000	195157409.54124			
Observation start date	2004-03-08T18:42:07	2004-03-08T18:23:29			
[s] Observation end time (MET)	195182591.184000	195184127.19242			
Observation end date	2004-03-09T01:22:07	2004-03-09T01:48:47			
Read mode	TIMED	TIMED			

## 2.3 Aspect



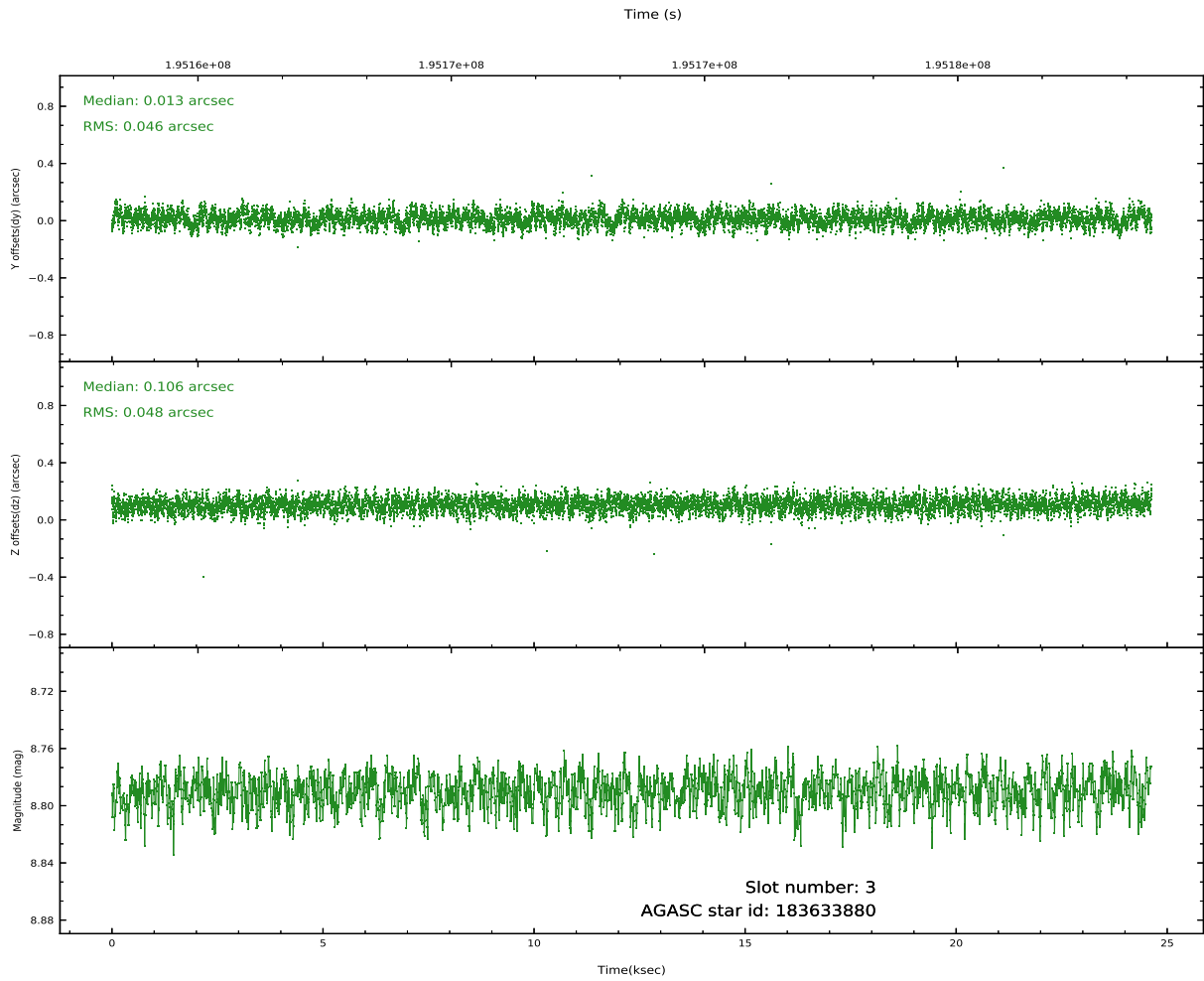
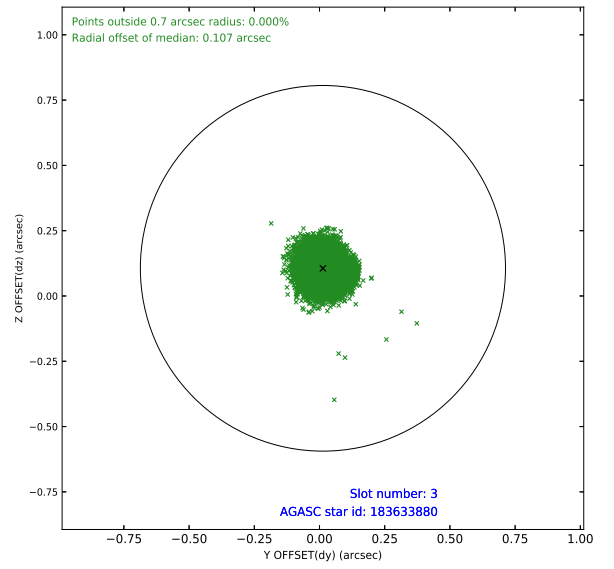
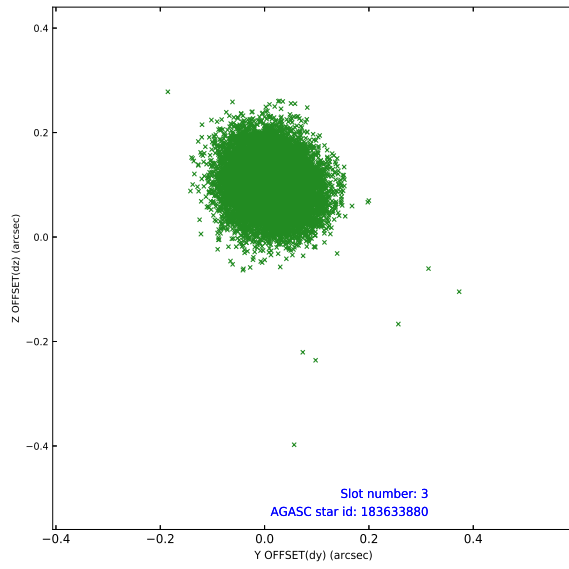


Slot Statistics

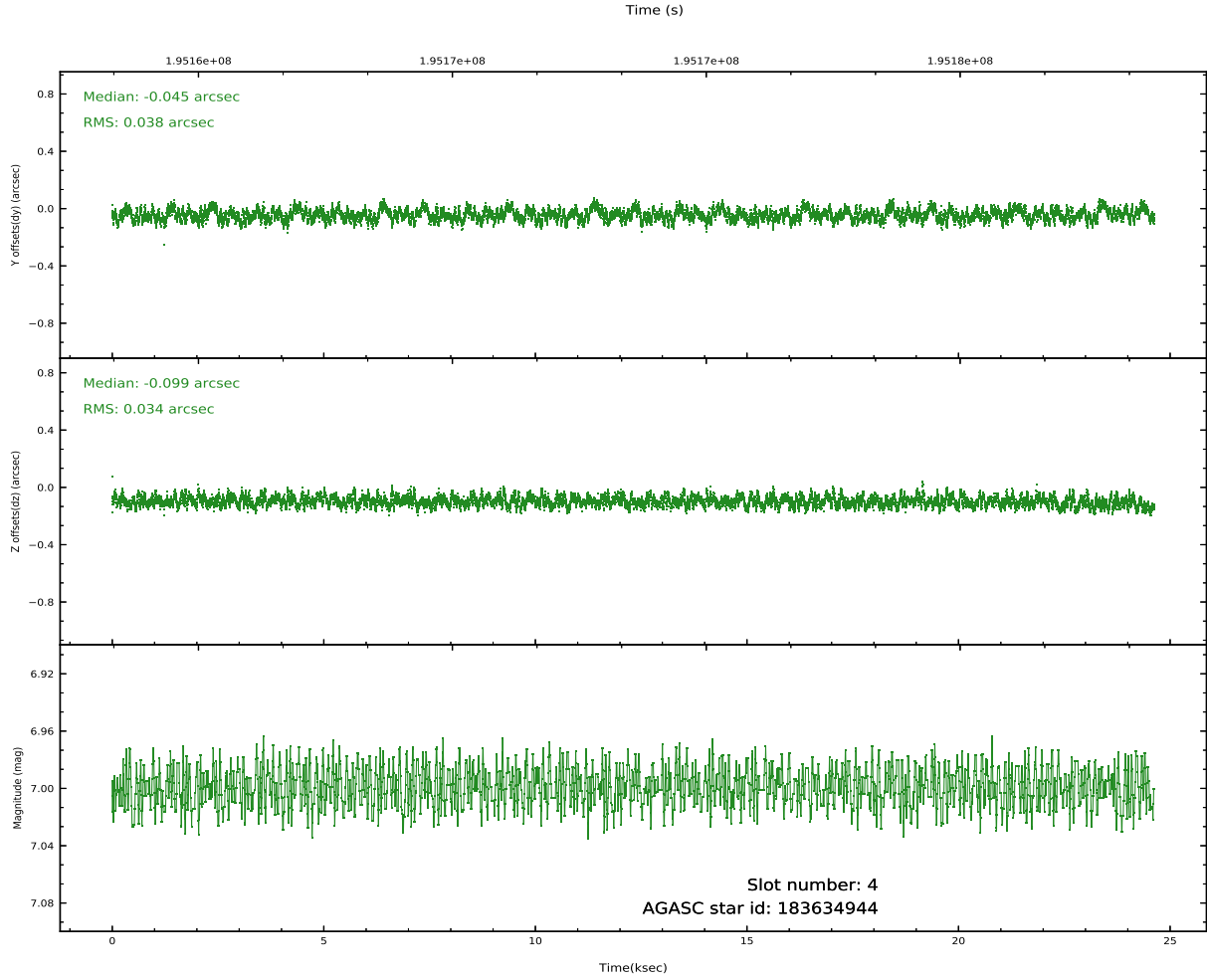
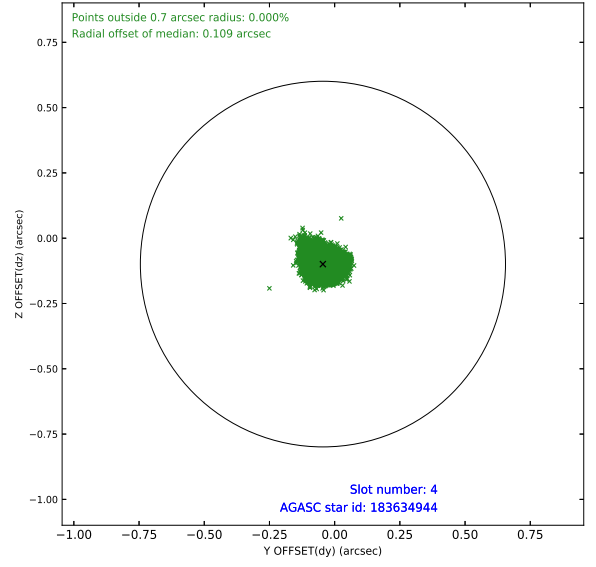
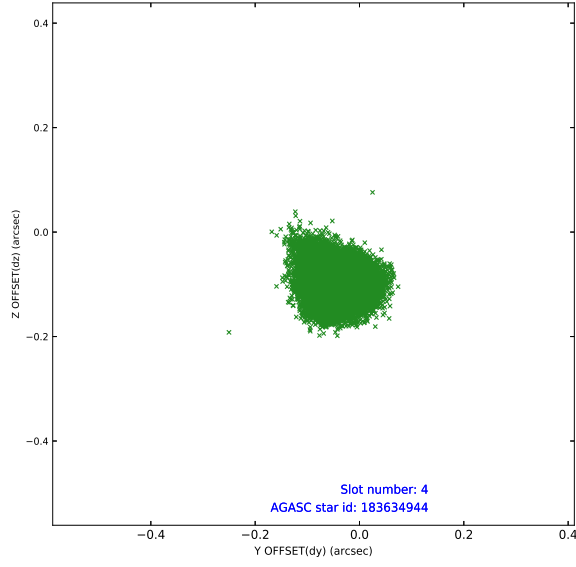
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.23	6007	1.000	0.092	-0.085	0.006	0.011	0.000000	0.000000	934.43	-991
1	FID		ACIS-I-5	7.22	6007	1.000	-0.285	0.065	0.006	0.011	0.000000	0.000000	-1814.00	905
2	FID		ACIS-I-6	7.25	6006	1.000	0.101	0.090	0.007	0.011	0.000000	0.000000	399.83	1550
3	GUIDE	used	183633880	8.79	12012	1.000	0.013	0.106	0.071	0.112	138.226741	17.476605	418.24	1794
4	GUIDE	used	183634944	7.00	12015	1.000	-0.045	-0.099	0.055	0.084	137.259634	17.469649	1538.19	-1332
5	GUIDE	used	183636632	9.49	12000	1.000	0.068	0.130	0.111	0.183	138.222453	17.249521	1194.11	2051
6	GUIDE	used	184039496	7.31	12015	1.000	-0.175	-0.085	0.069	0.107	137.987126	18.044113	-1236.51	340
7	GUIDE	used	183635568	8.60	12005	1.000	0.136	-0.055	0.086	0.139	137.226478	17.234255	2376.28	-1162

## 2.4 Star Slots

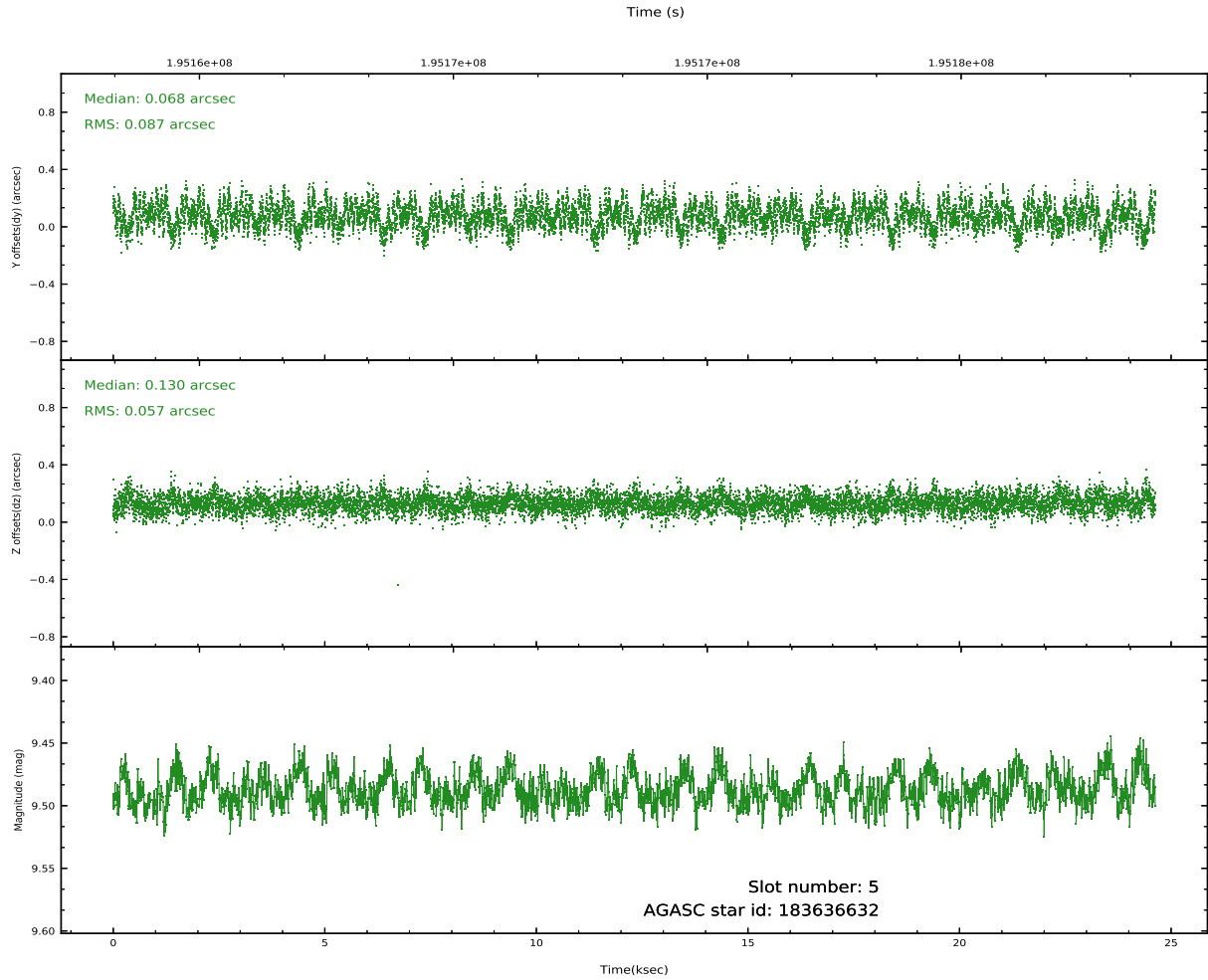
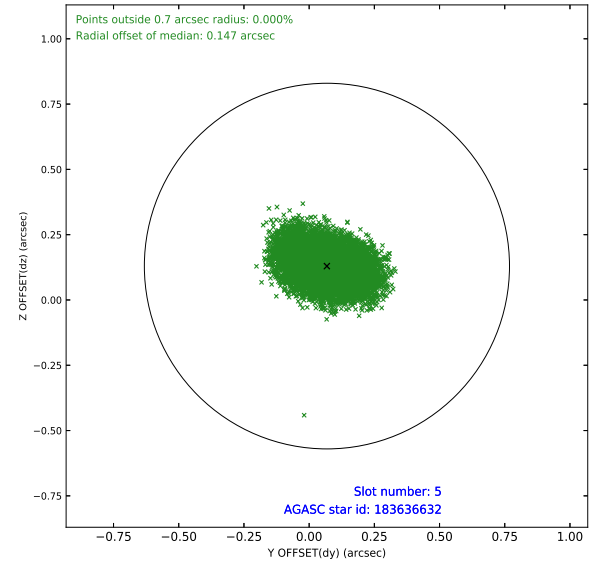
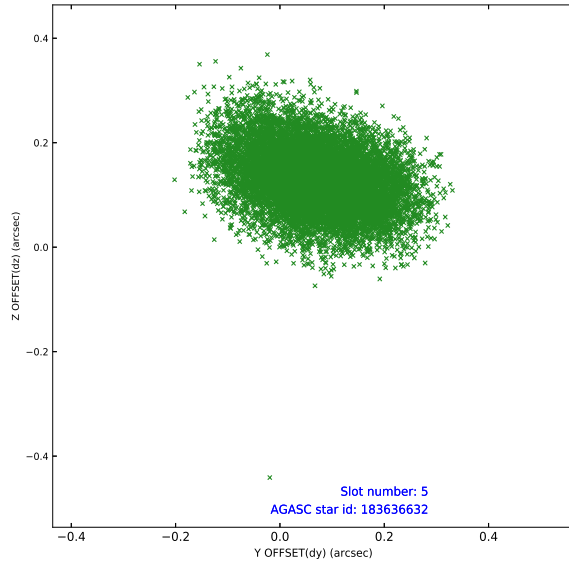
### 2.4.1 Slot 3



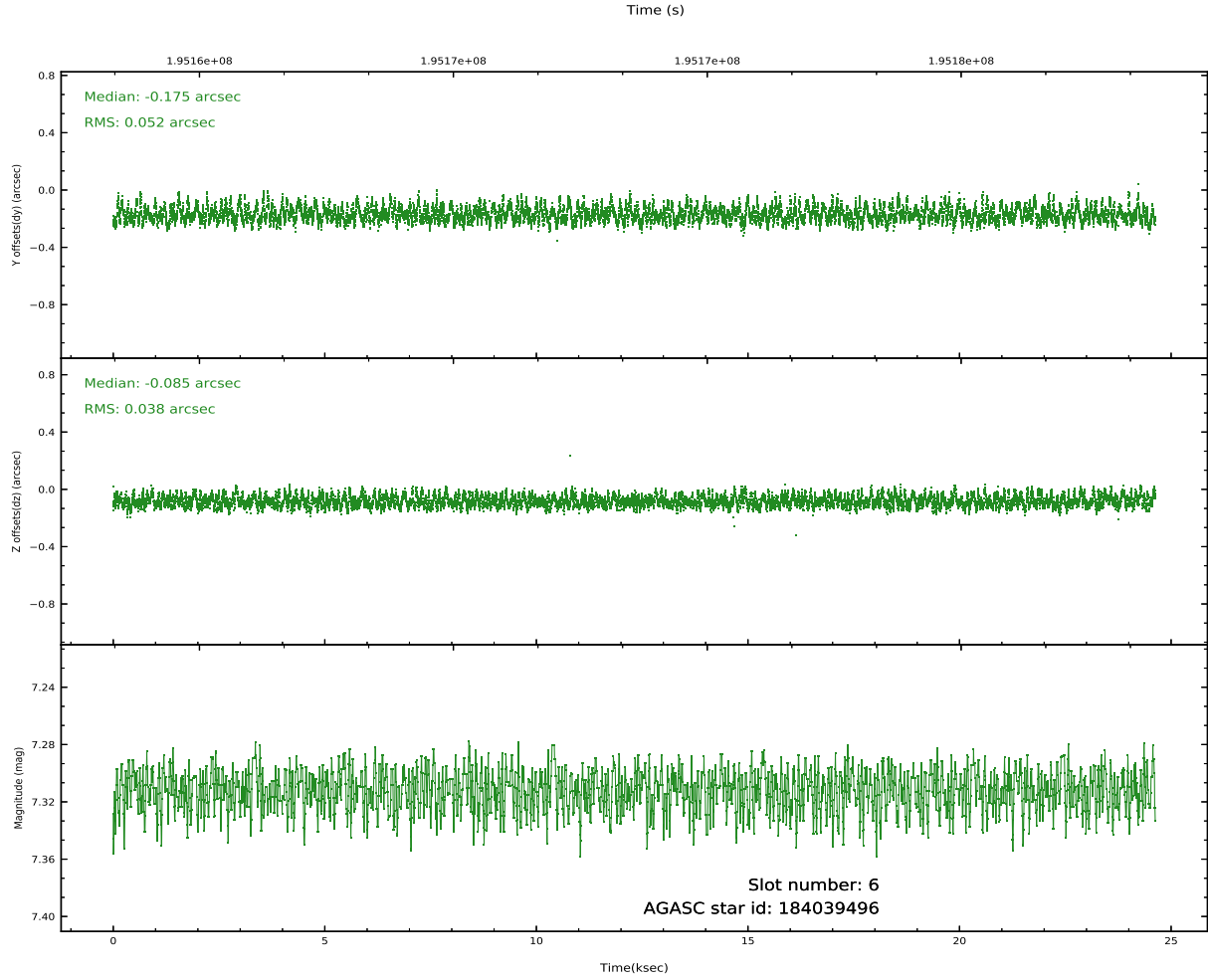
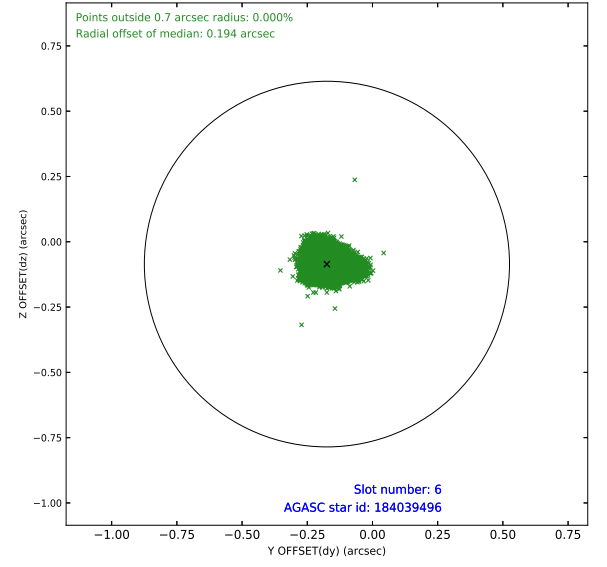
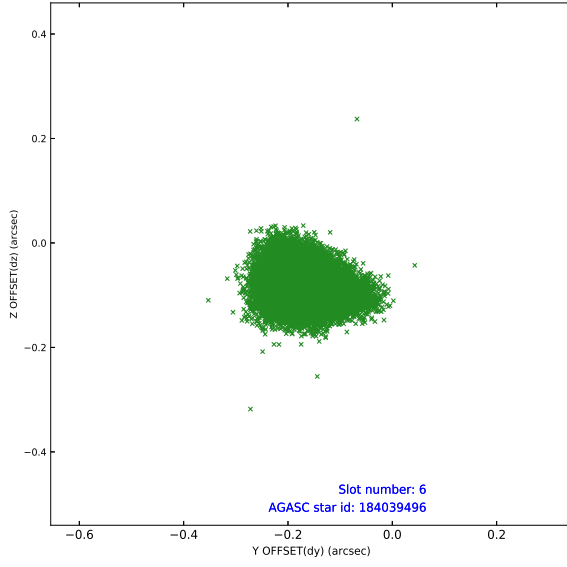
## 2.4.2 Slot 4



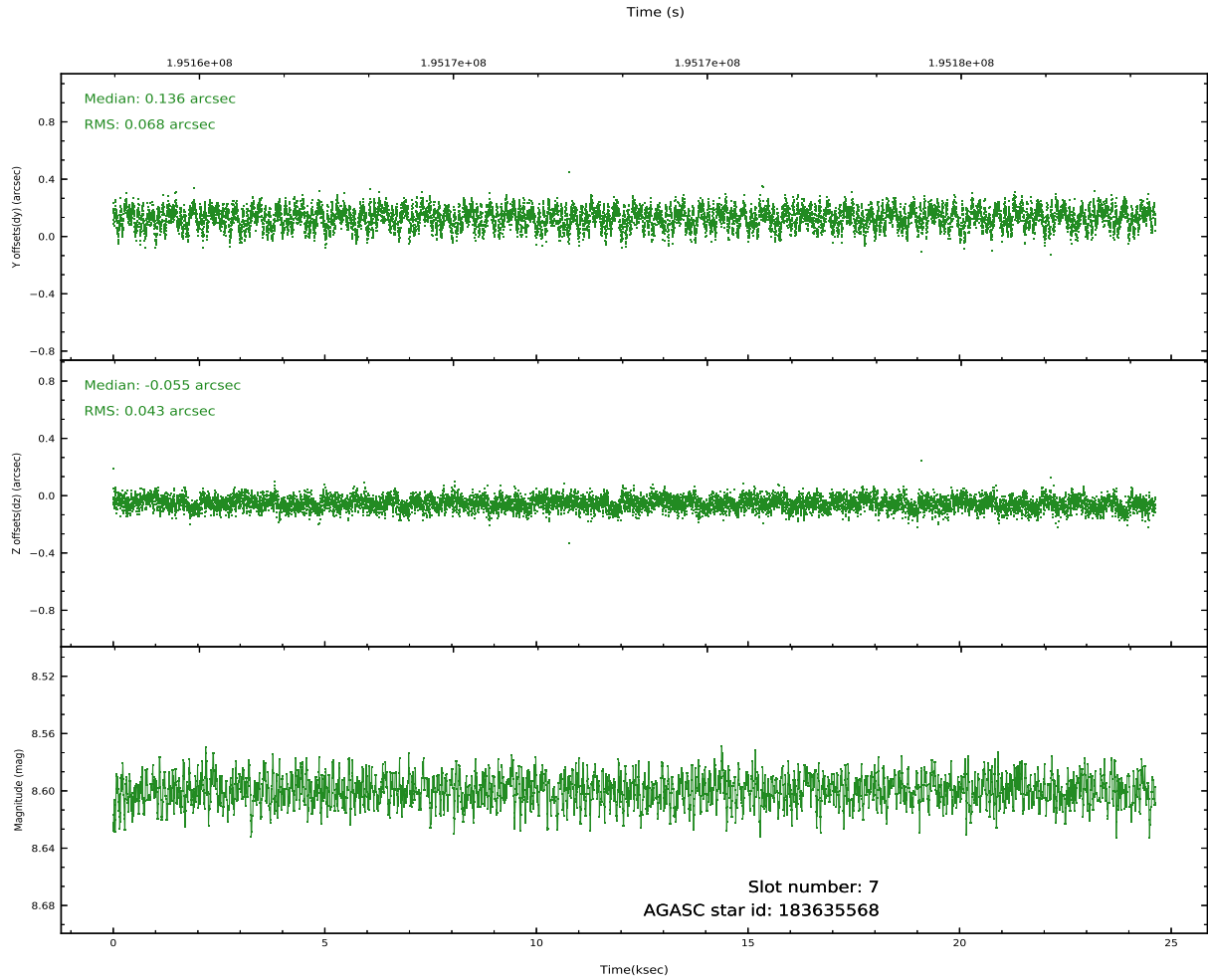
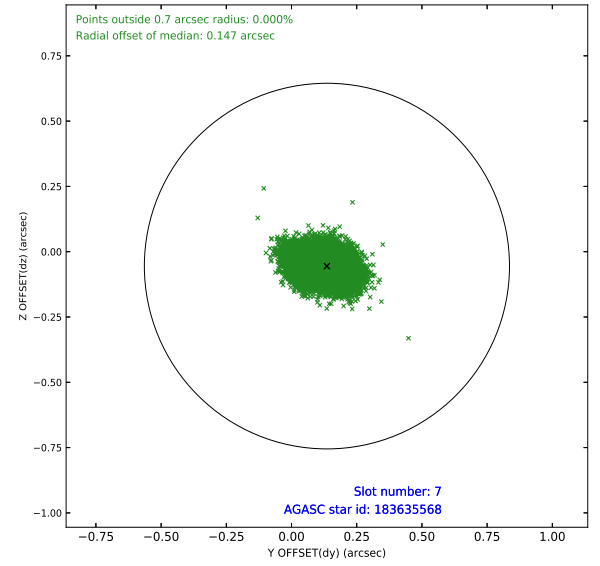
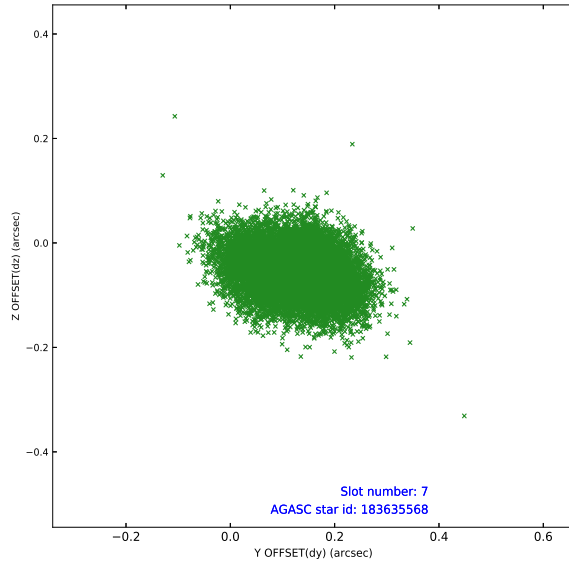
### 2.4.3 Slot 5



## 2.4.4 Slot 6

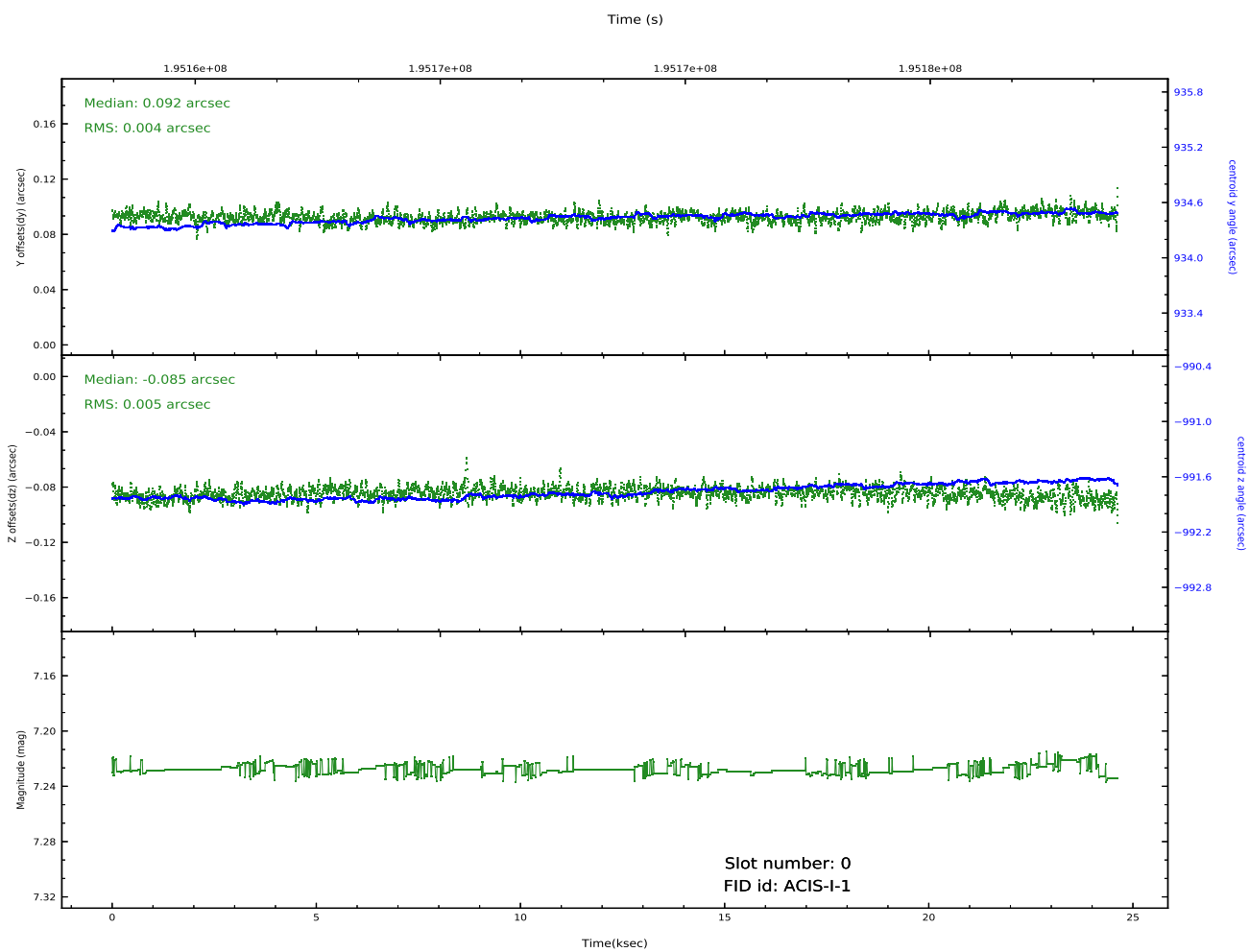
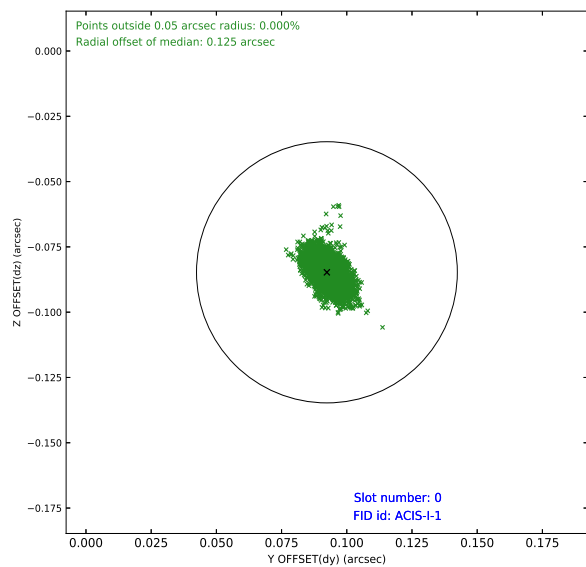
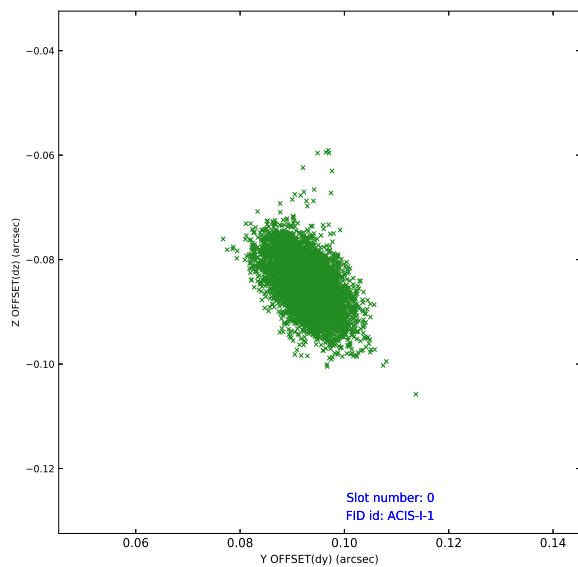


## 2.4.5 Slot 7

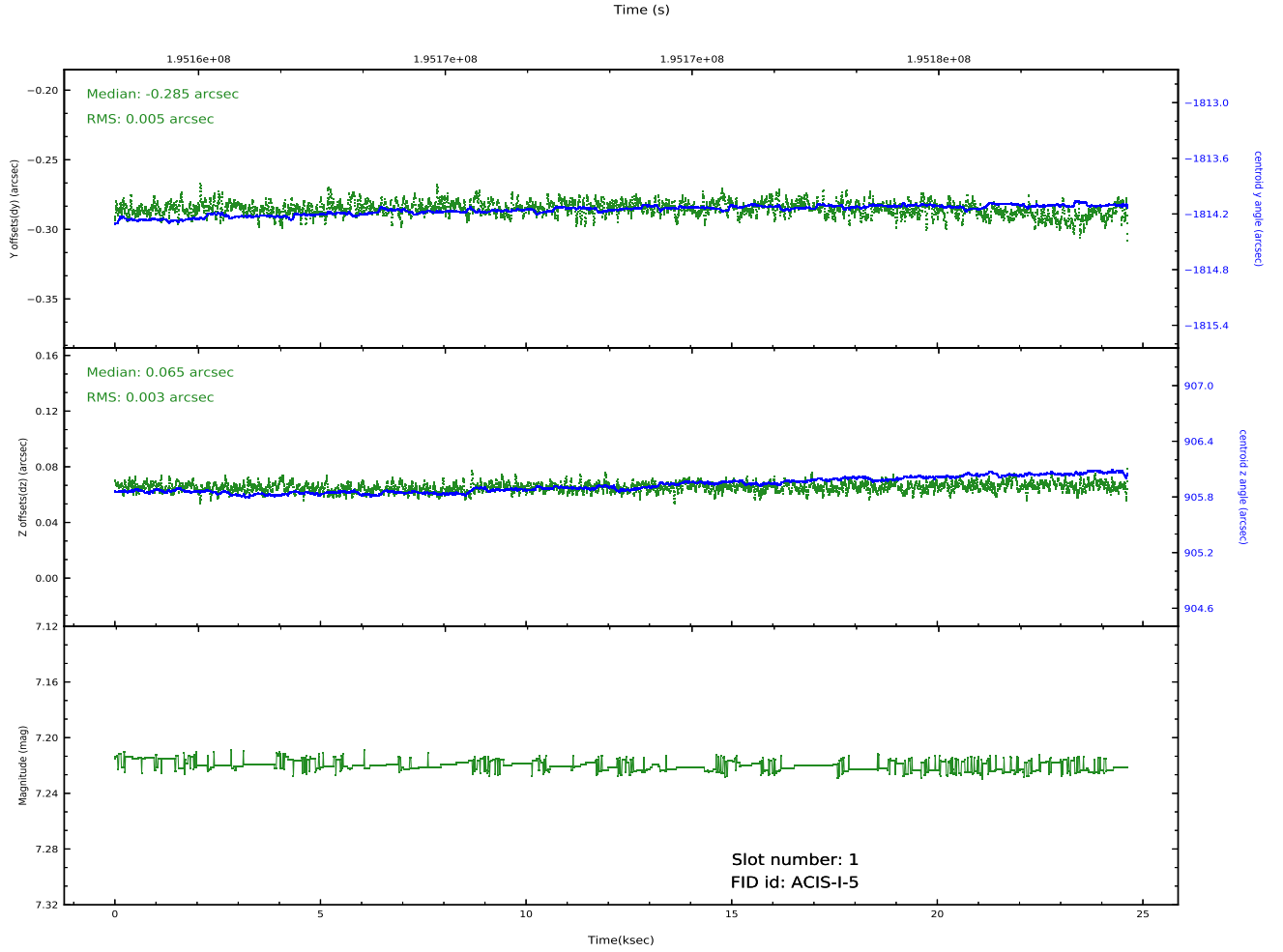
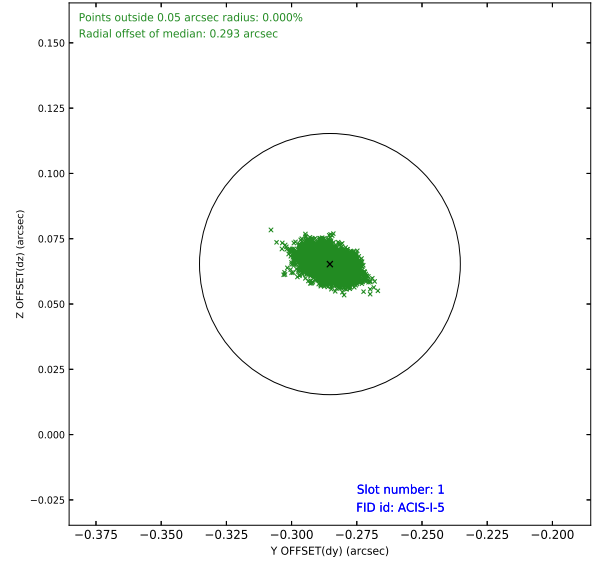
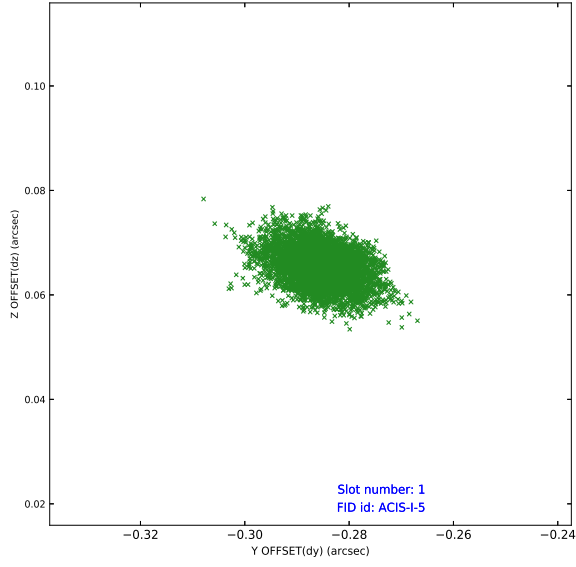


## 2.5 FID Slots

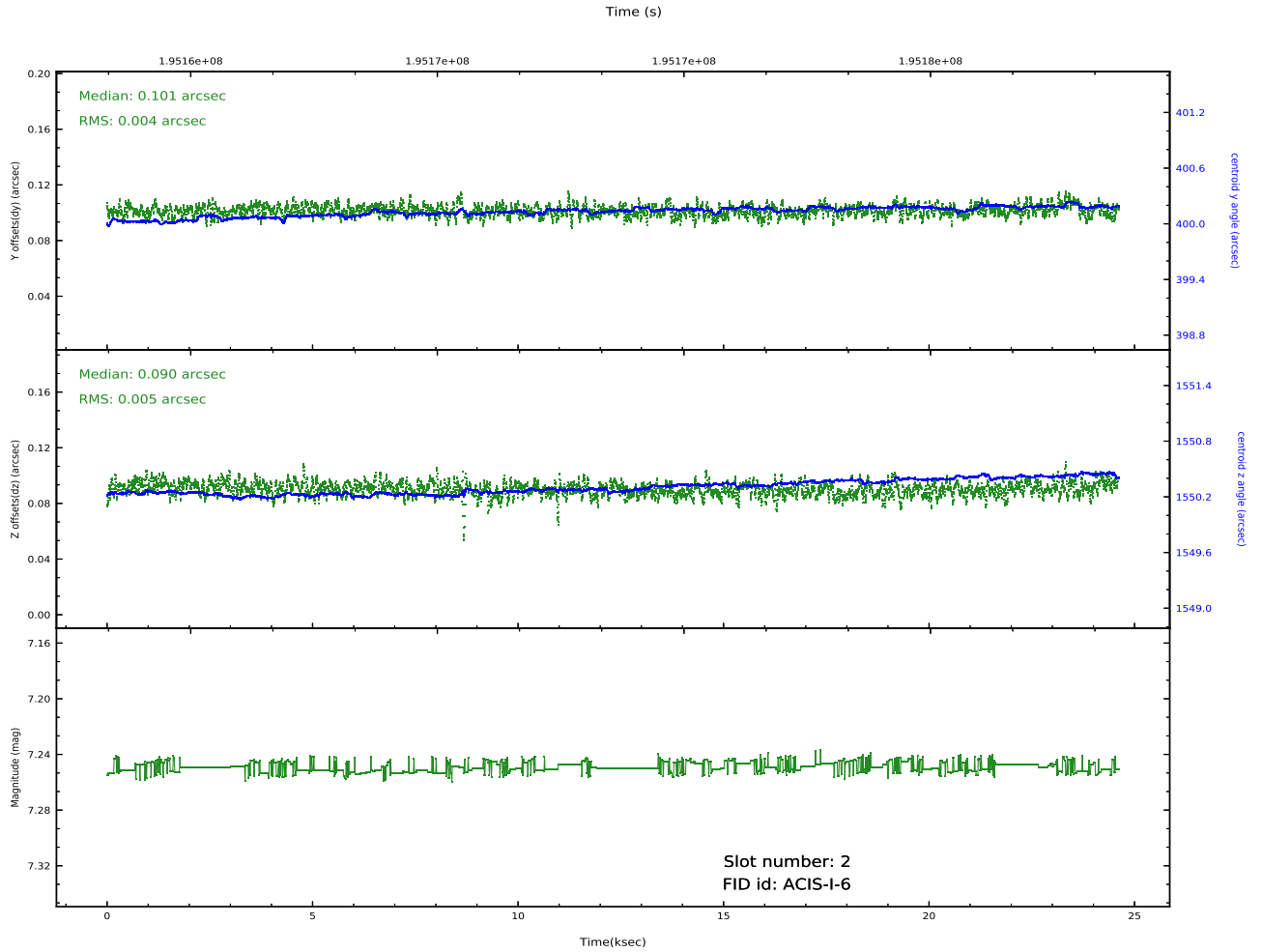
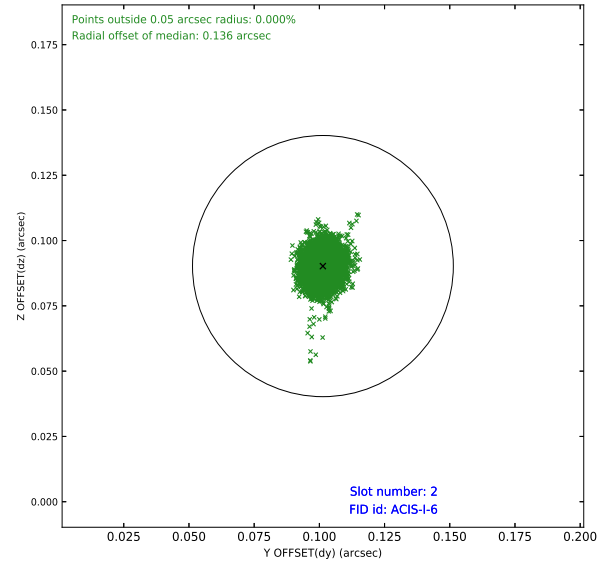
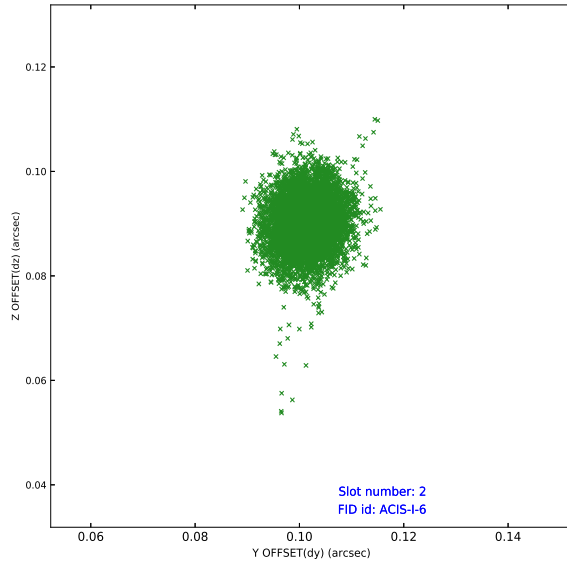
### 2.5.1 Slot 0



## 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)	2020.09.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.111

### **A.2 Comments**