

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20296 - L2 Version 3  
Chandra X-Ray Center

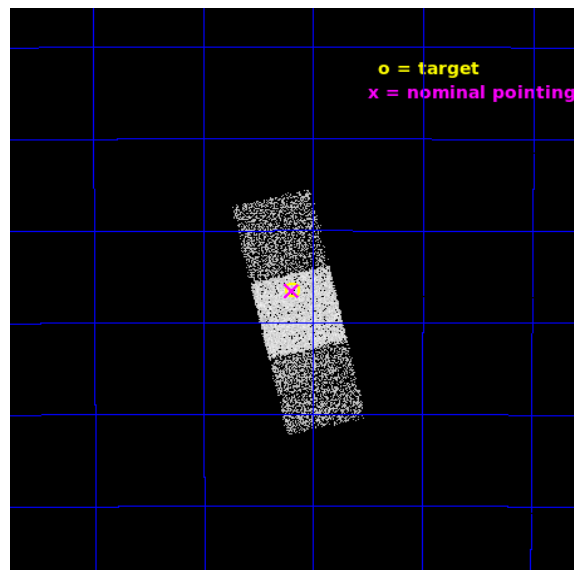
L2 Processing Date : Oct 26 2020

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# 1 Front

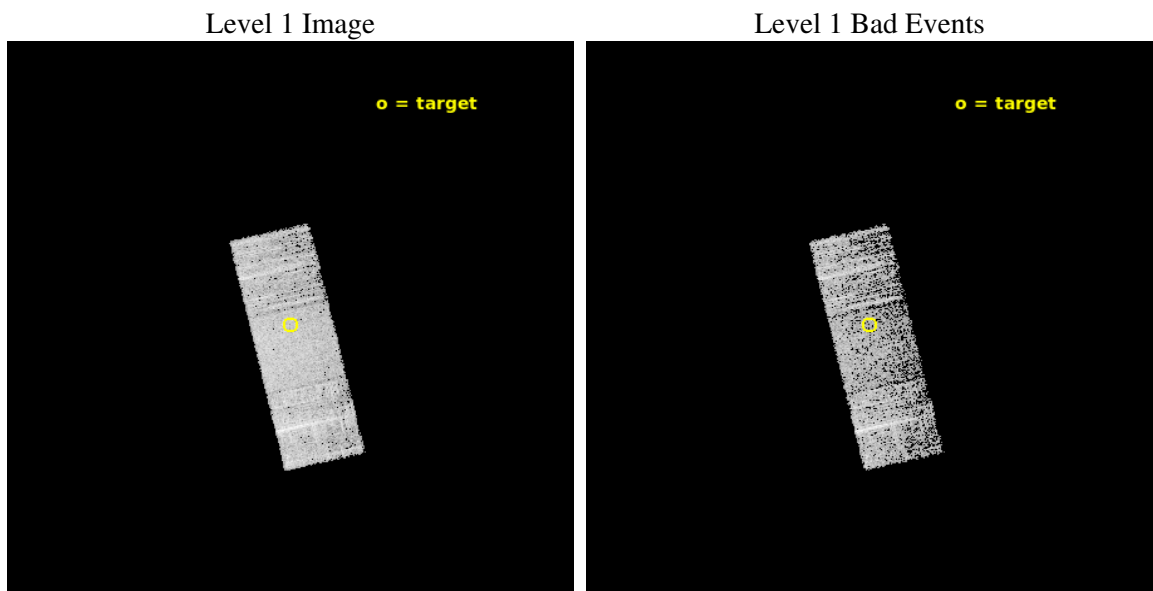
seq_num	502995	Sequence number
obs_id	20296	Observation id
title	Uncovering a new population of soft gamma-ray pulsars with Chandra	&#160
observer	Pablo Saz Parkinson	Principal investigator
object	3FGL J1700.4-4019	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	255.0465	Observer's specified target RA [deg]
dec_targ	-40.275056	Observer's specified target Dec [deg]
ra_nom	255.04828155497	Nominal RA [deg]
dec_nom	-40.276059263626	Nominal Dec [deg]
roll_nom	76.816485028272	Nominal Roll [deg]
revision	3	Processing version of data
ontime	3109.3000240326	Sum of GTIs [s]
livetime	3068.6747301852	Livetime [s]
ontime6	3109.3000240326	Sum of GTIs [s]
ontime7	3109.3000240326	Sum of GTIs [s]
ontime8	3106.159013629	Sum of GTIs [s]
l2events	17293	Number of level 2 events



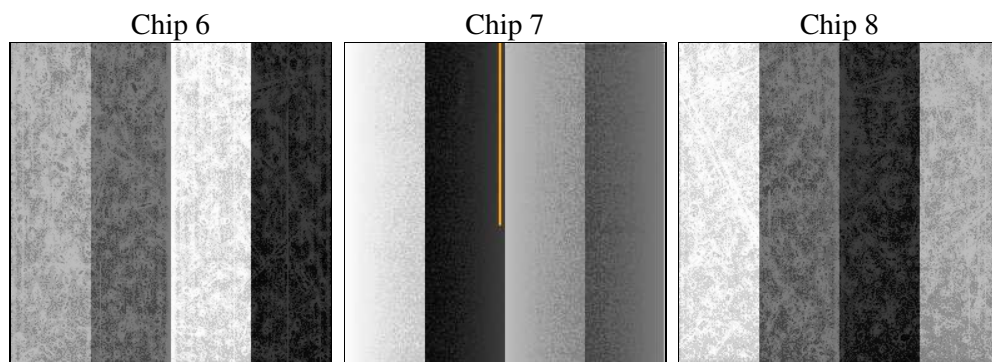
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	3000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	3109.3000240326	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime6	3109.3000240326	Sum of GTIs [s]
date	2020-10-27T00:19:26	Date and time of file creation	ontime7	3109.3000240326	Sum of GTIs [s]
revision	3	Processing version of data	ontime8	3106.159013629	Sum of GTIs [s]
			l1events	82488	Number of level 1 events

### 2.1.4 Events

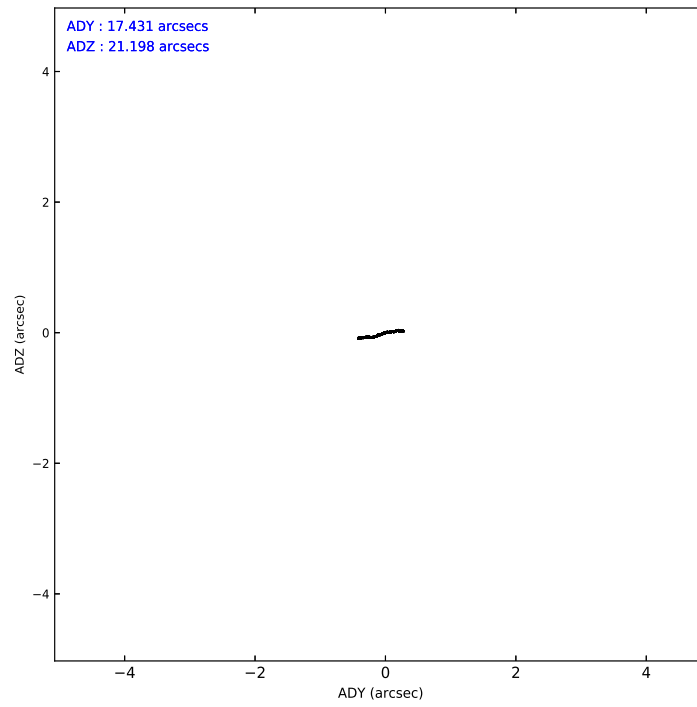
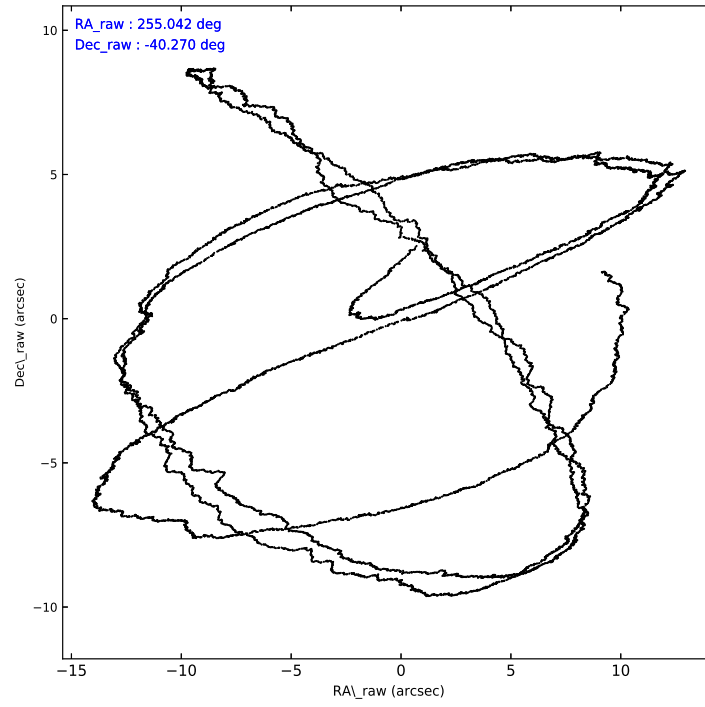
	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	23198	28844	30446
rejected events	20596	16132	22023
rejected %	88%	55%	72%

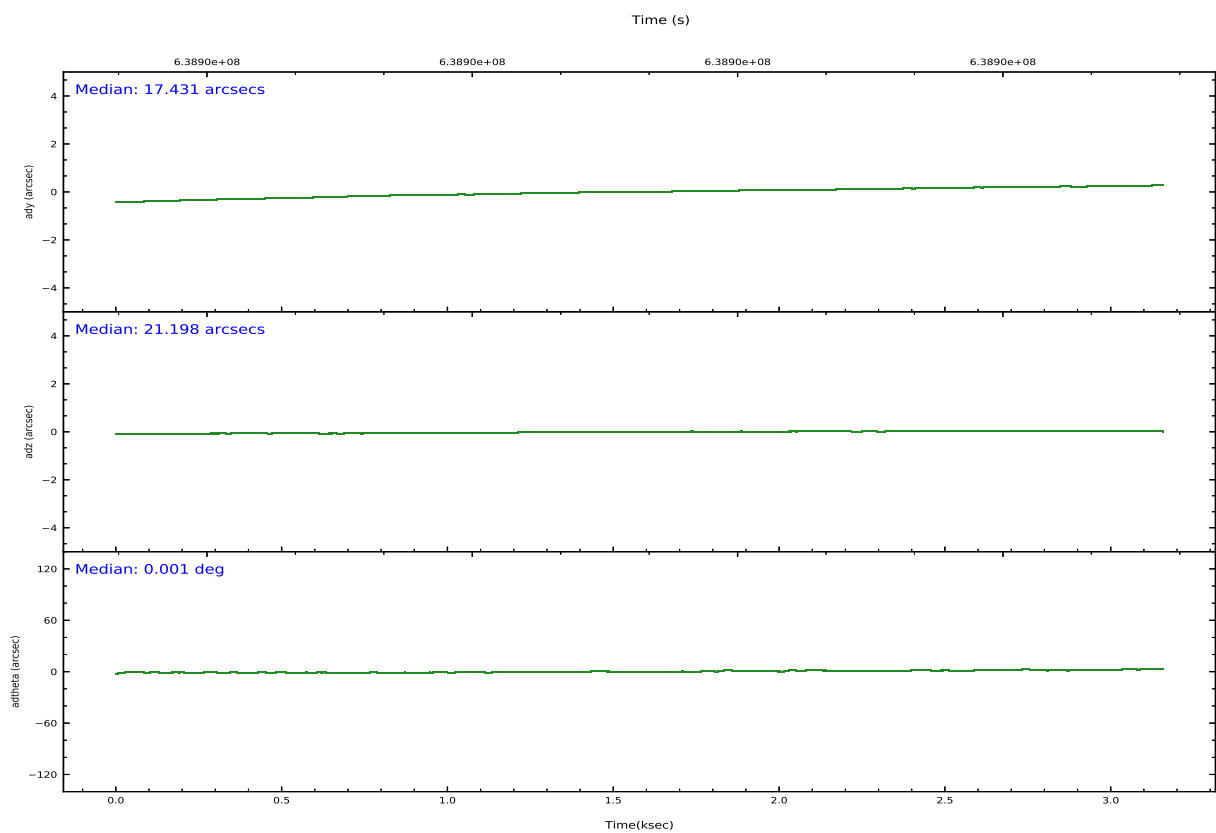
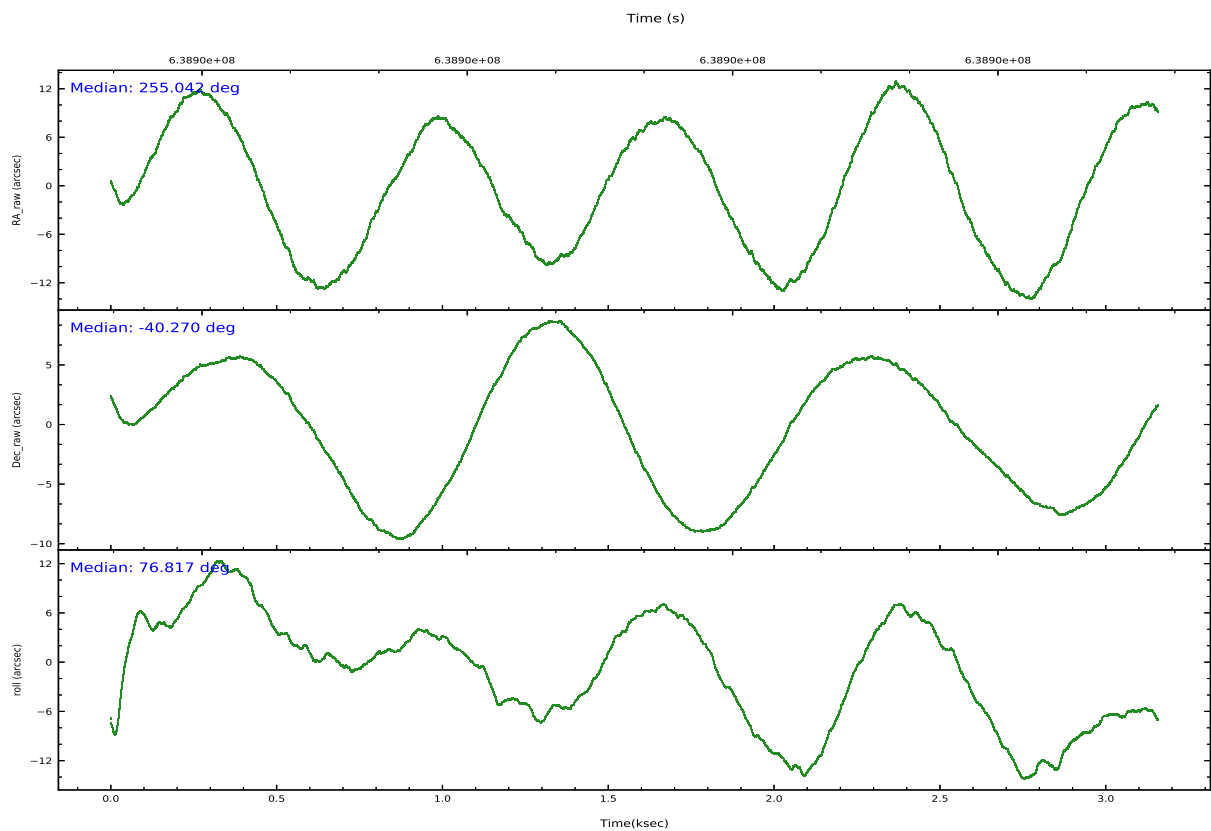
	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	873	1086	2588
	3%	3%	8%
grade 1 events	10	33	24
	0%	0%	0%
grade 2 events	595	2732	1872
	2%	9%	6%
grade 3 events	262	1047	965
	1%	3%	3%
grade 4 events	270	1058	889
	1%	3%	2%
grade 5 events	1069	2924	1580
	4%	10%	5%
grade 6 events	606	6818	2116
	2%	23%	6%
grade 7 events	19513	13146	20412
	84%	45%	67%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-678	ACIS-678	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	255.052784	255.04828155497	Subarray requested	NONE	NONE
[deg] Pointing Dec	-40.295947	-40.276059263626	Alternating exposures requested	N	N
[deg] Pointing Roll	76.673084	76.816485028272	[s] Primary exposure time	0.000000	3.1
[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)	638900684.184000	638899629.34595			
Observation start date	2018-03-31T16:23:35	2018-03-31T16:07:09			
[s] Observation end time (MET)	638903684.184000	638904395.59623			
Observation end date	2018-03-31T17:13:35	2018-03-31T17:26:35			
Read mode	TIMED	TIMED			

## 2.3 Aspect



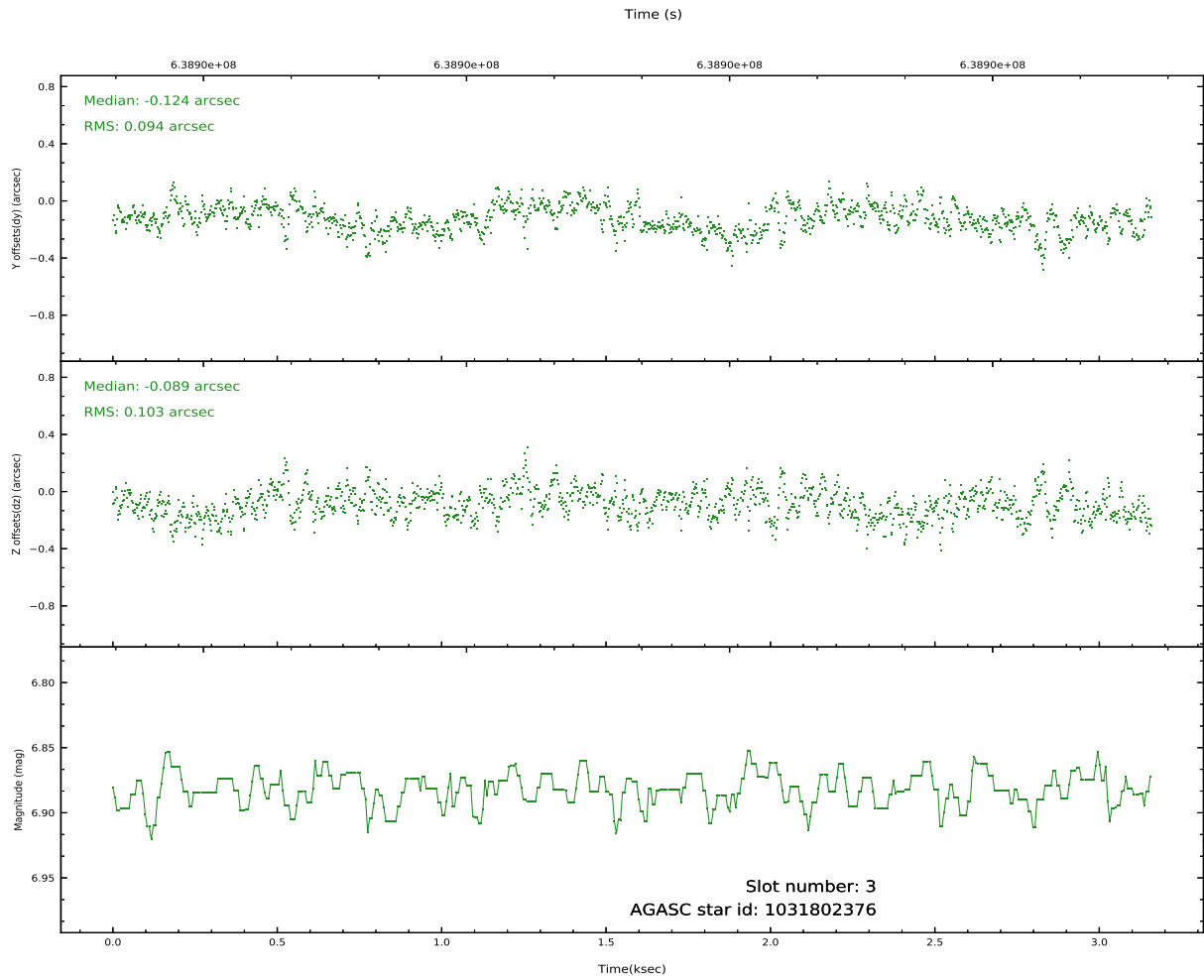
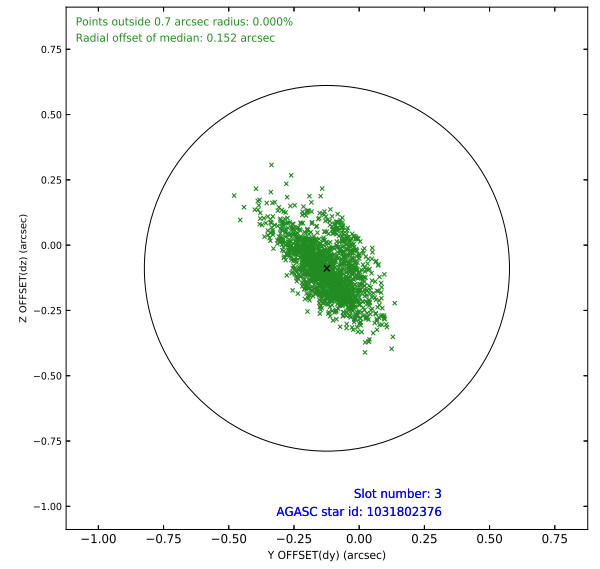
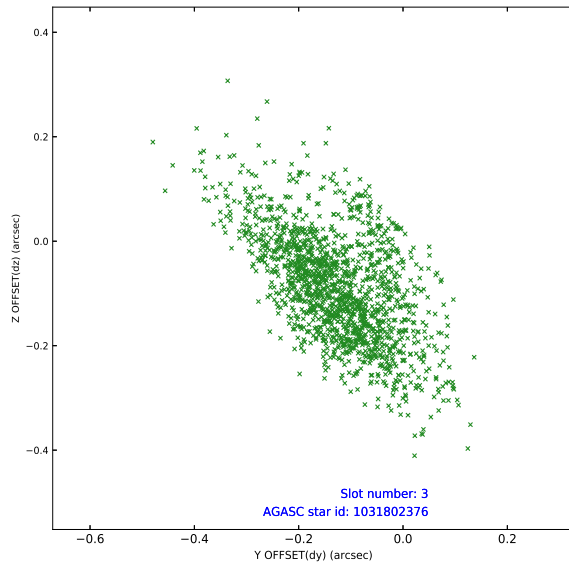


Slot Statistics

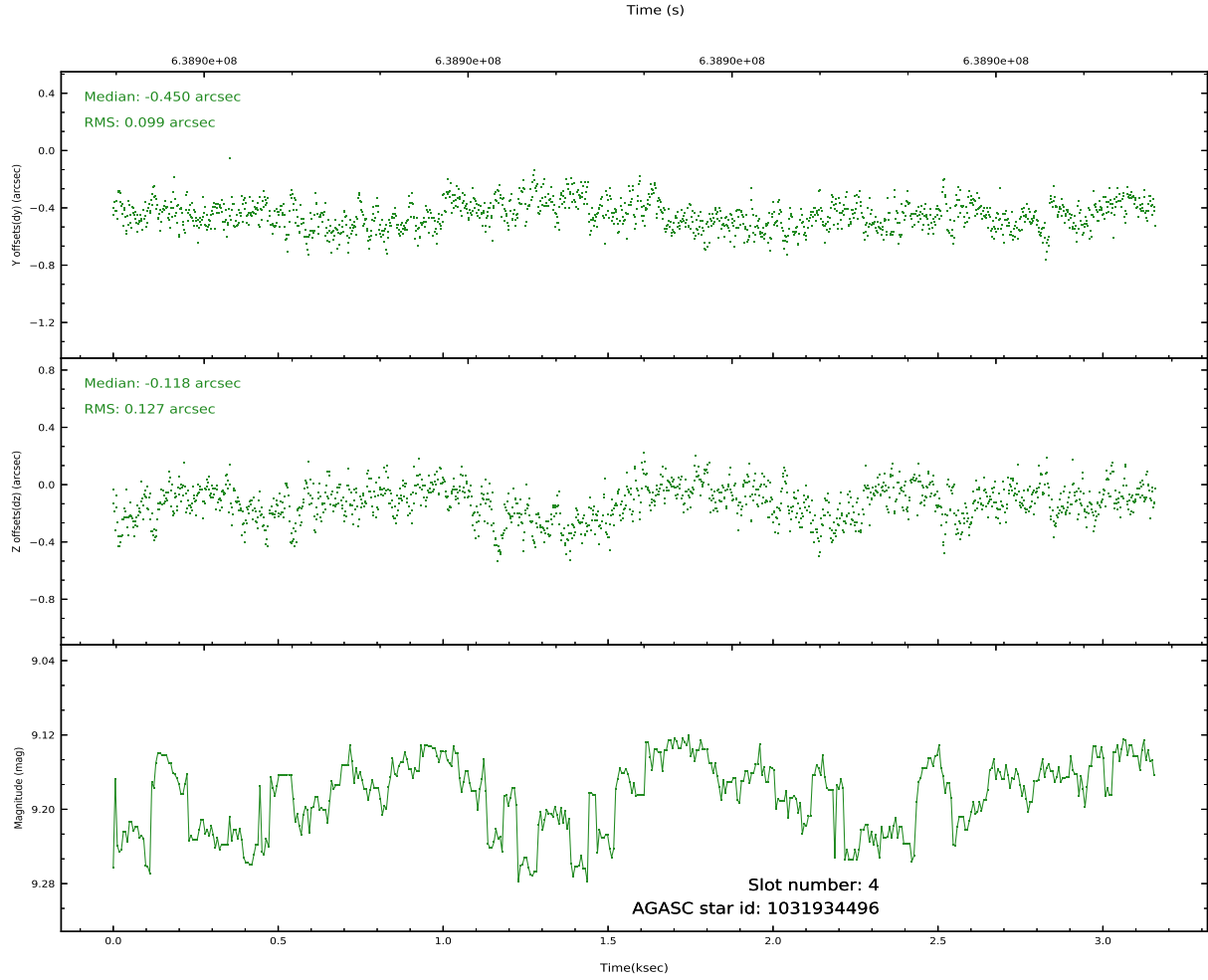
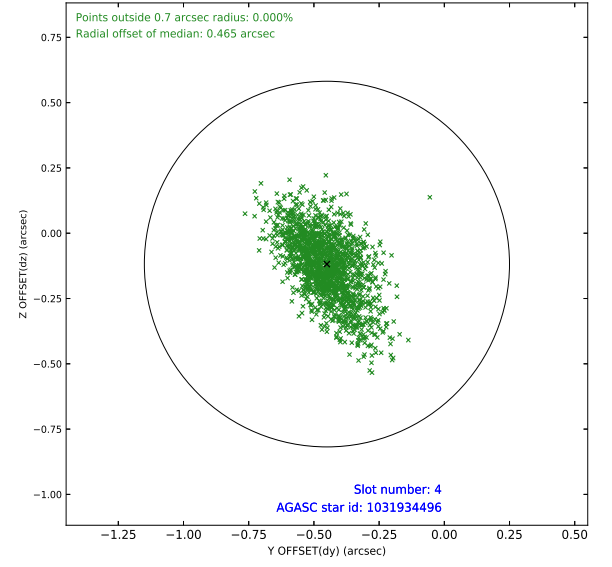
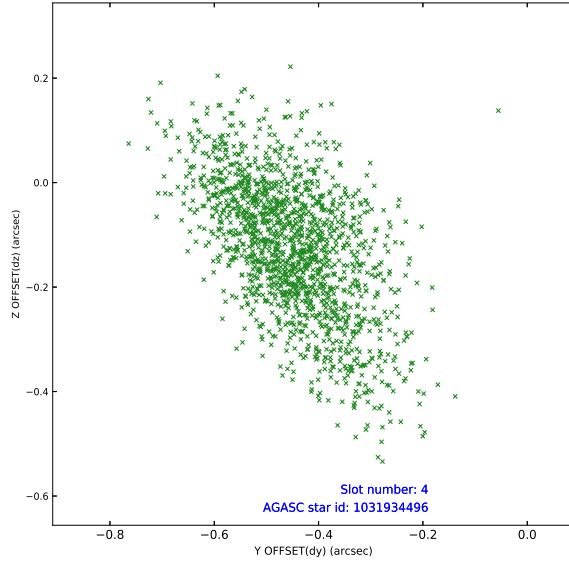
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.00	771	1.000	0.117	-0.064	0.009	0.016	0.000000	0.000000	-770.50	-1742
1	FID		ACIS-S-4	7.10	771	1.000	0.077	-0.039	0.007	0.012	0.000000	0.000000	2141.99	163
2	FID		ACIS-S-5	7.10	771	1.000	-0.226	0.112	0.009	0.020	0.000000	0.000000	-1820.92	159
3	GUIDE	used	1031802376	6.88	1542	1.000	-0.124	-0.089	0.140	0.254	254.526844	-40.352616	-534.97	1356
4	GUIDE	used	1031934496	9.18	1539	1.000	-0.450	-0.118	0.165	0.296	255.017648	-39.841824	1567.76	472
5	GUIDE	used	1031938144	8.46	1540	1.000	0.312	0.331	0.140	0.238	255.693343	-40.912652	-1763.18	-2208
6	GUIDE	used	1031810336	9.50	1536	1.000	0.234	-0.016	0.211	0.351	254.485442	-40.352443	-562.60	1465
7	GUIDE	used	1031813808	8.26	1541	1.000	0.014	-0.097	0.124	0.229	254.789150	-40.300097	-182.79	701

## 2.4 Star Slots

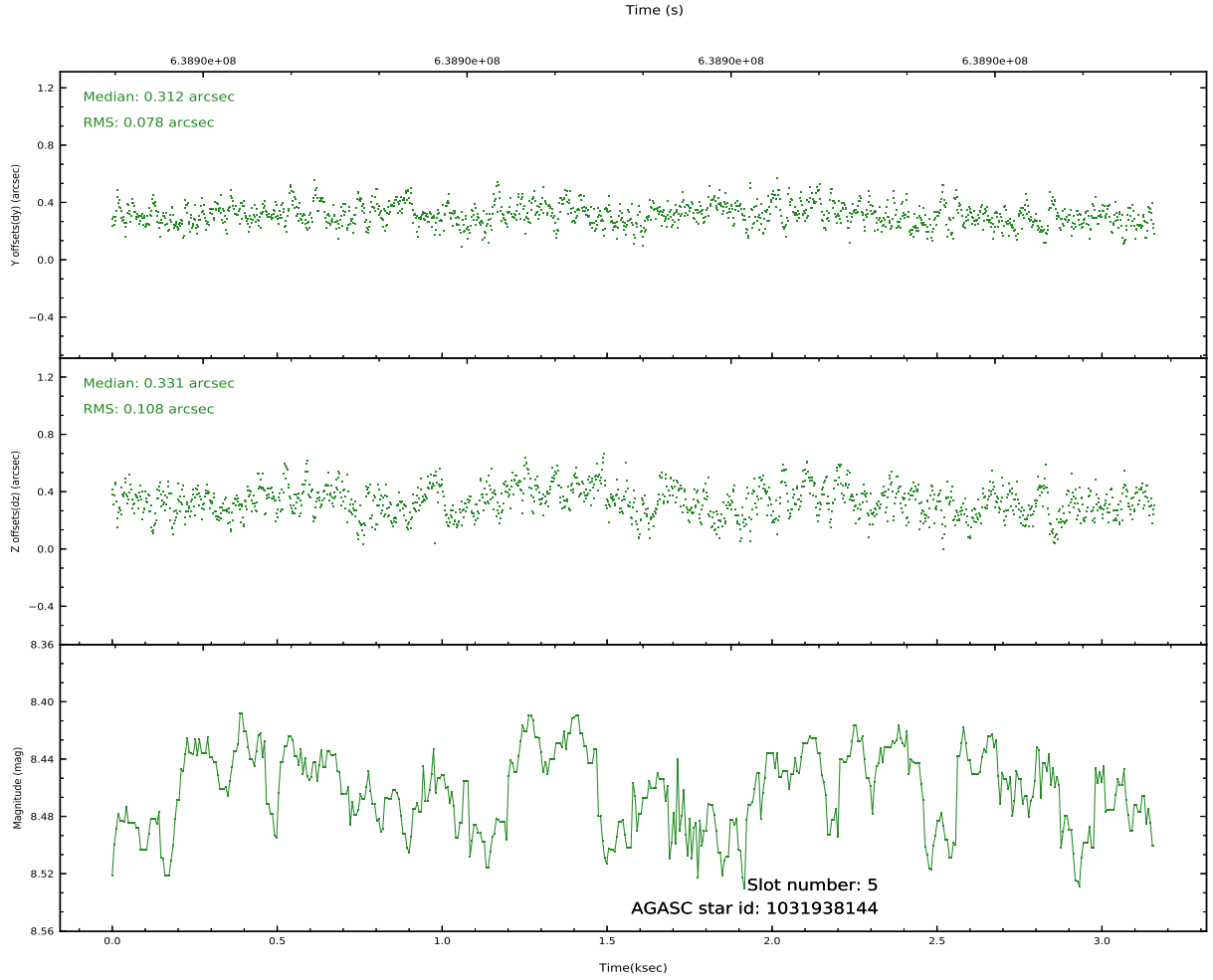
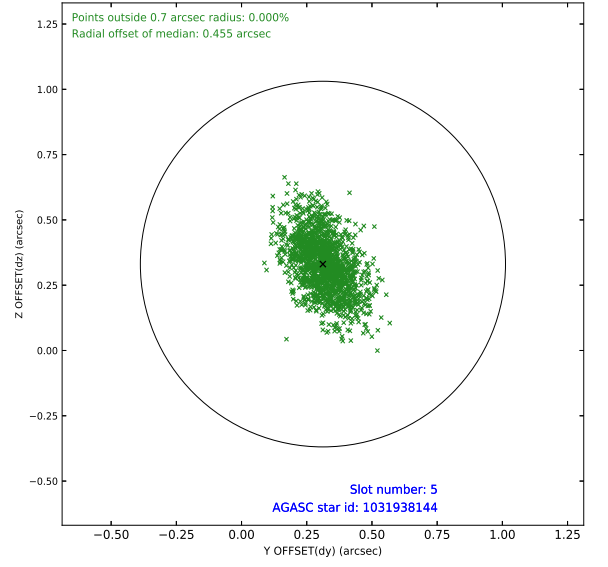
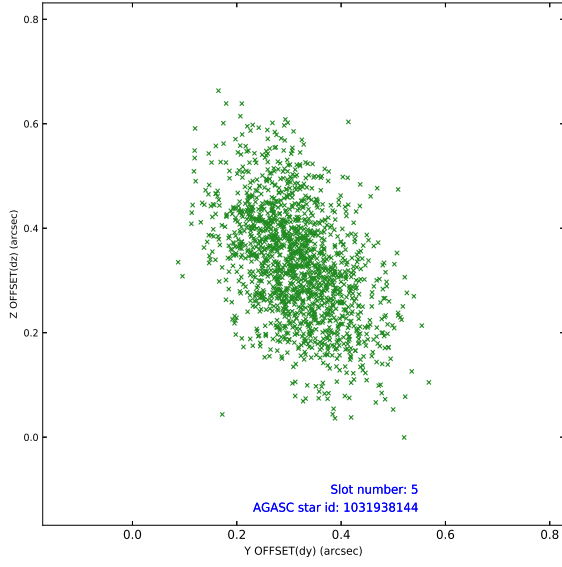
### 2.4.1 Slot 3



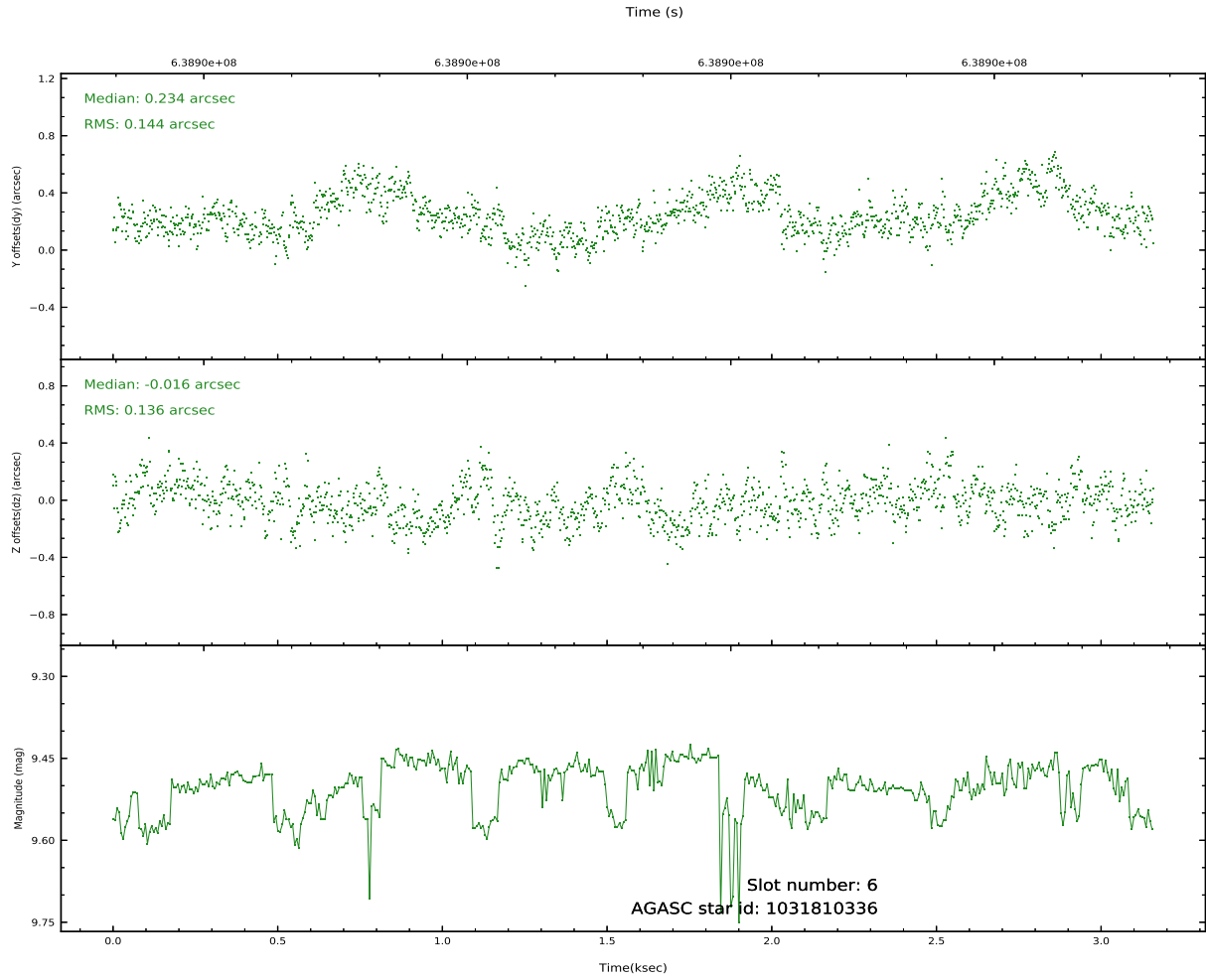
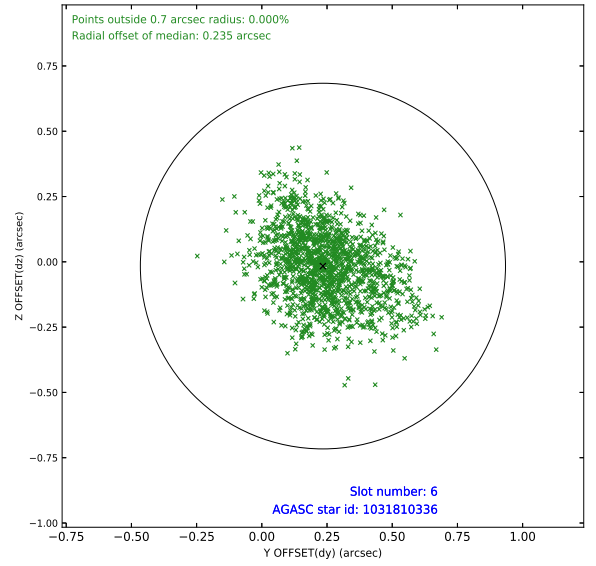
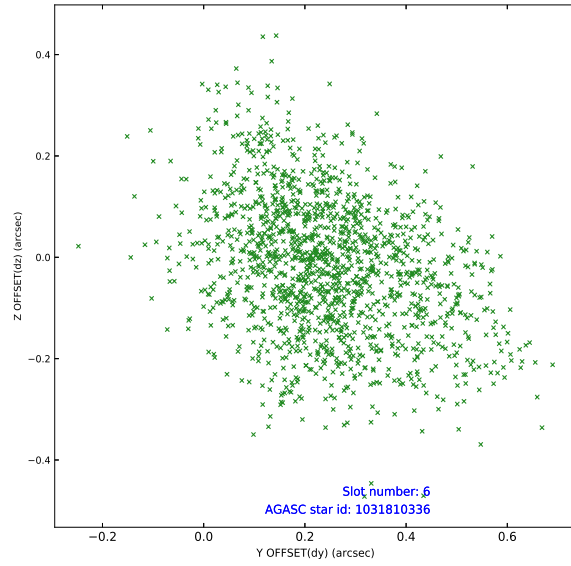
## 2.4.2 Slot 4



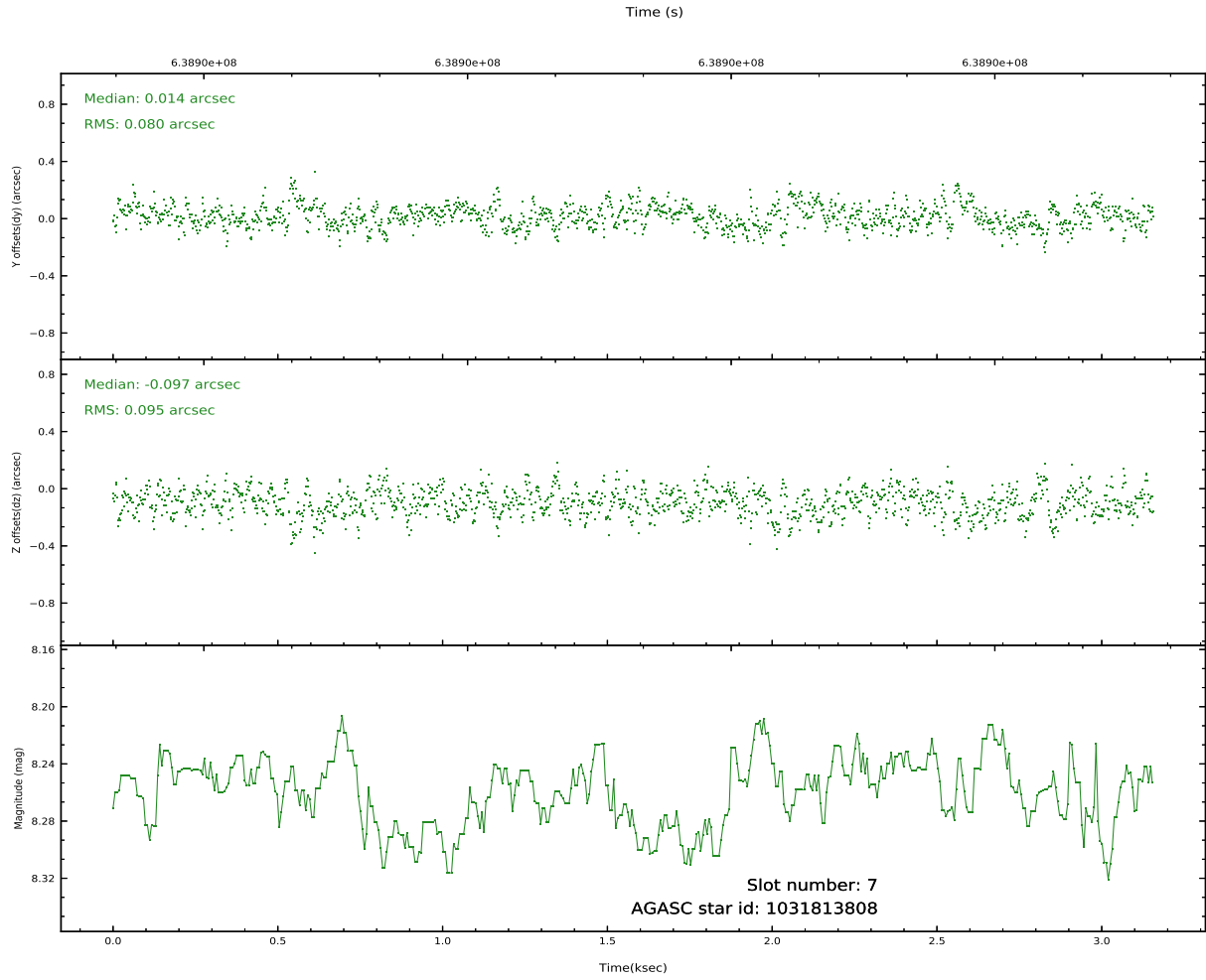
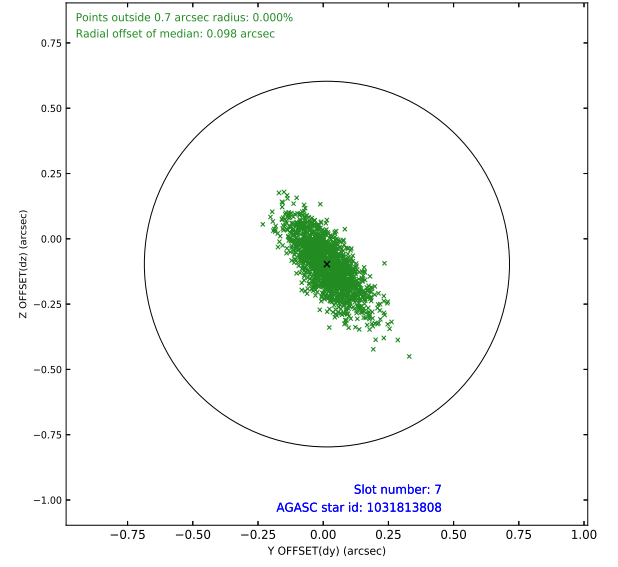
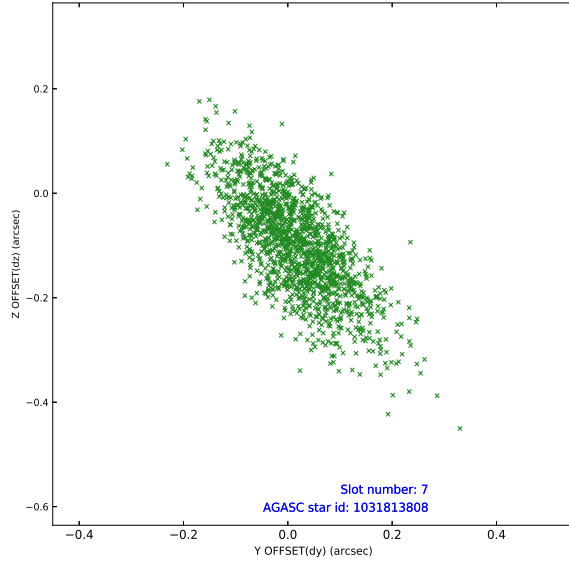
### 2.4.3 Slot 5



## 2.4.4 Slot 6

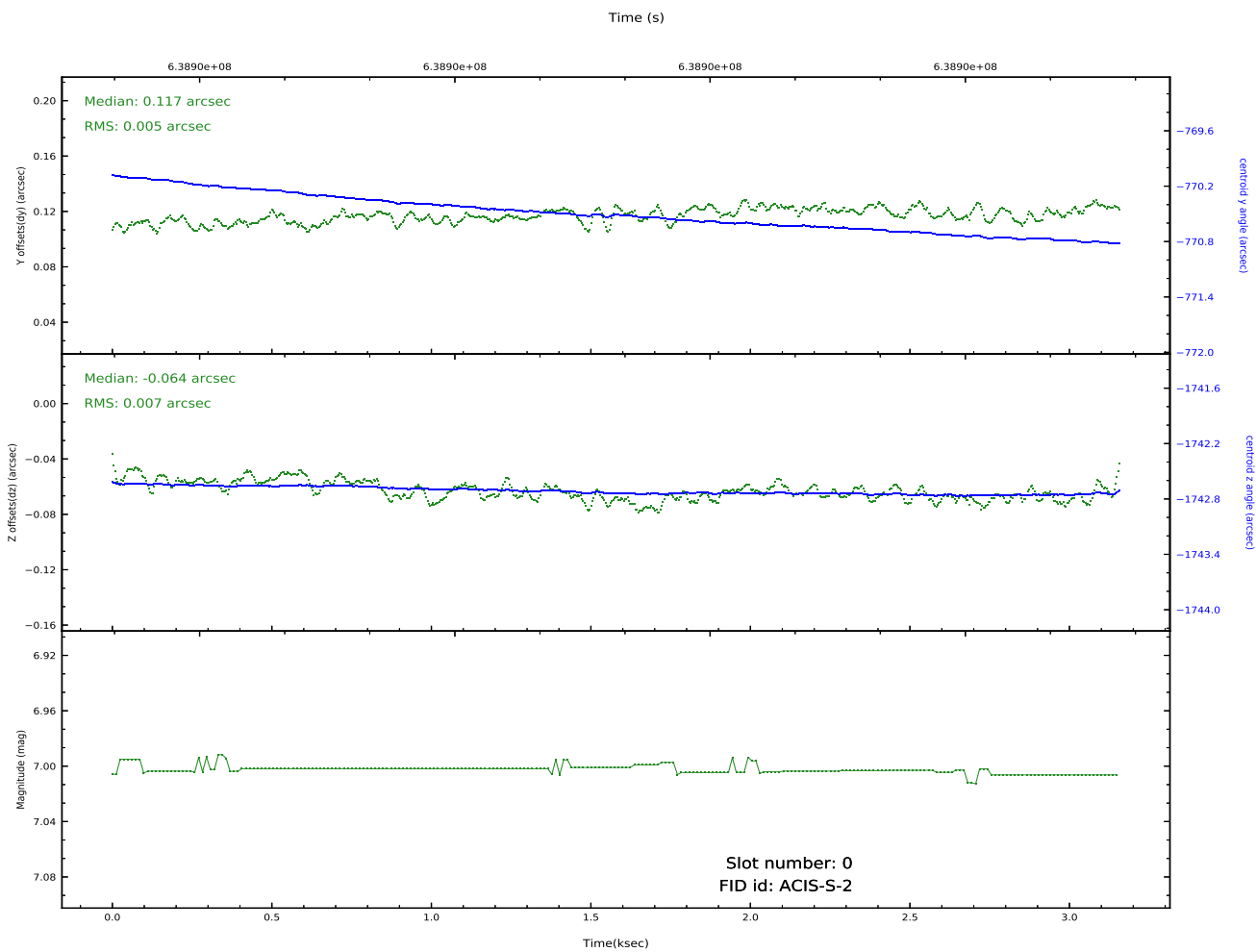
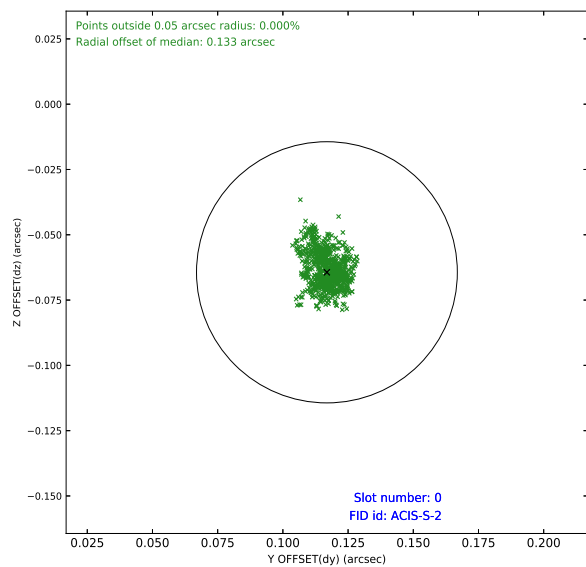
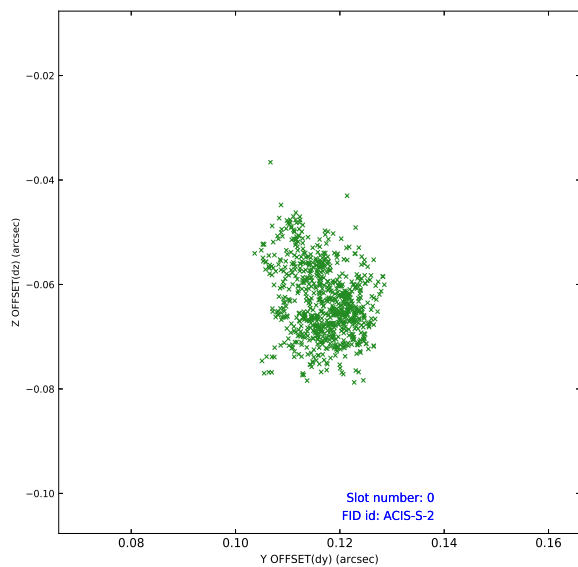


## 2.4.5 Slot 7

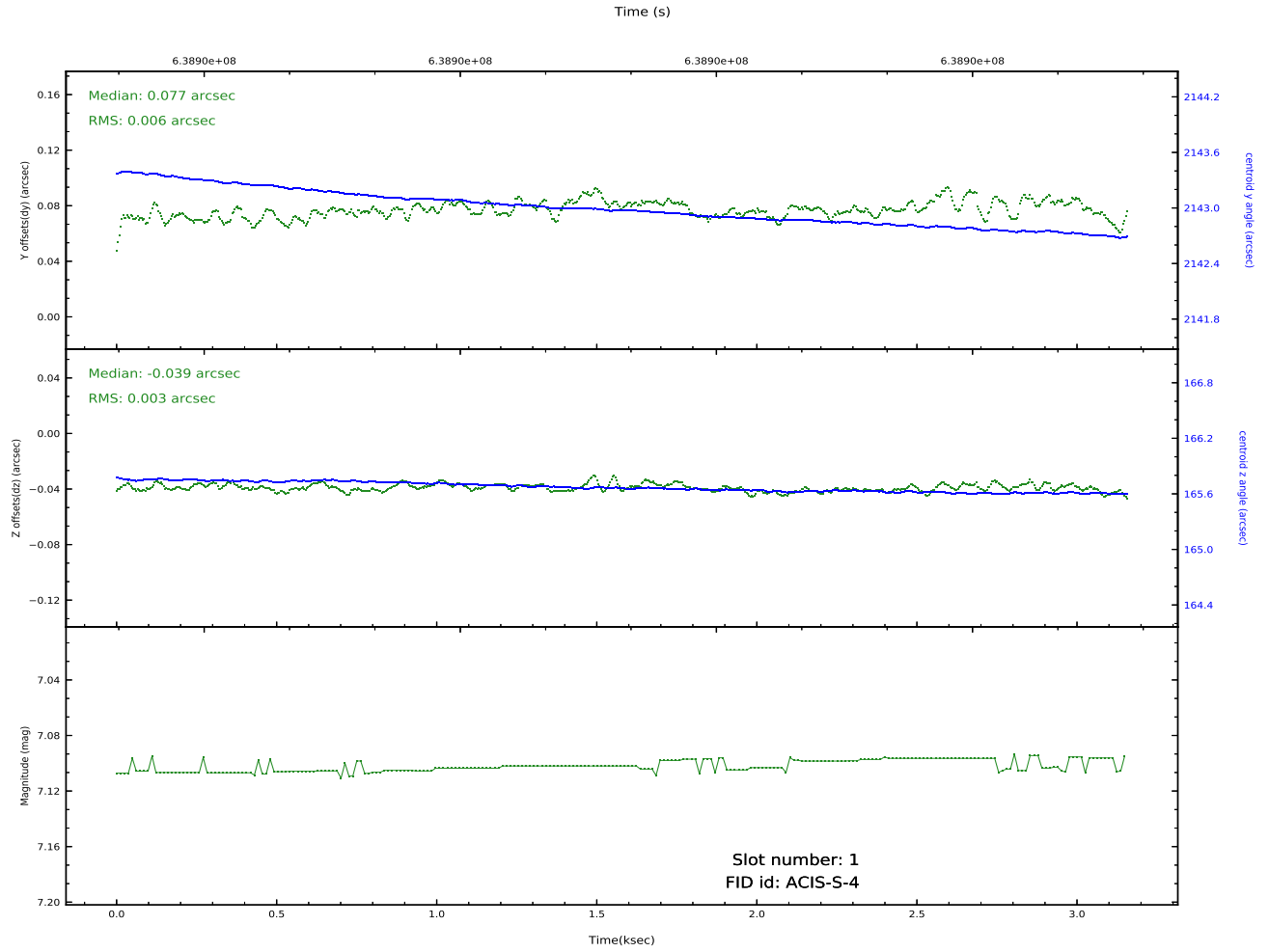
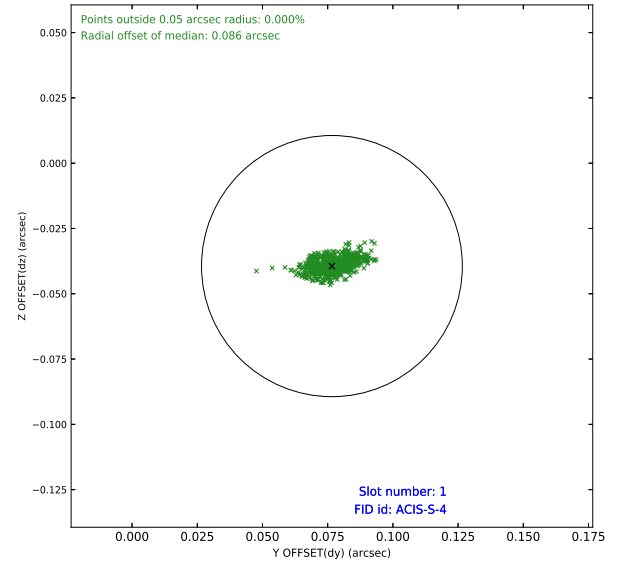
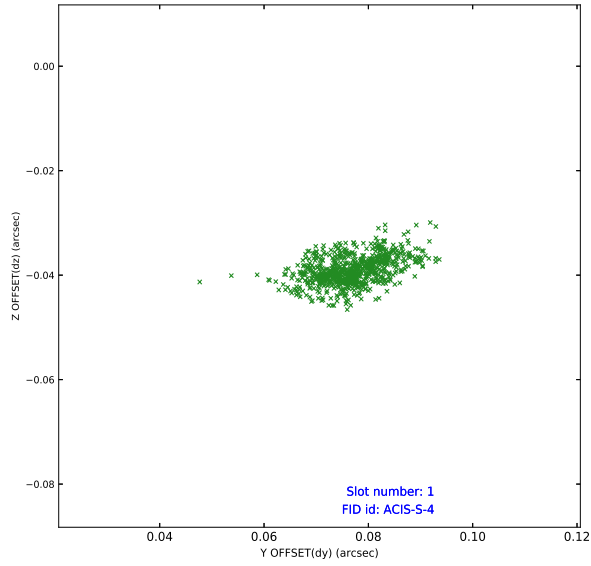


## 2.5 FID Slots

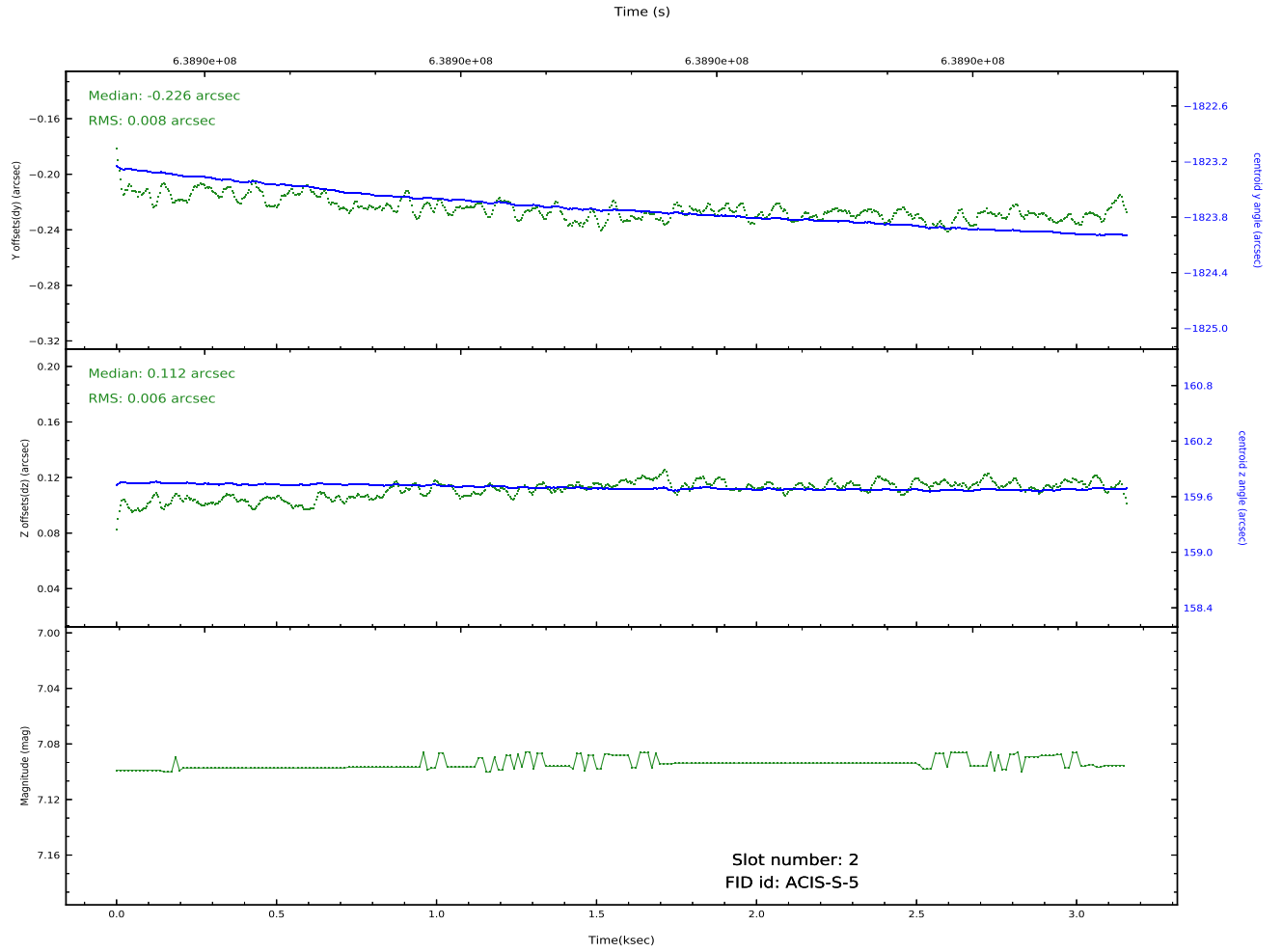
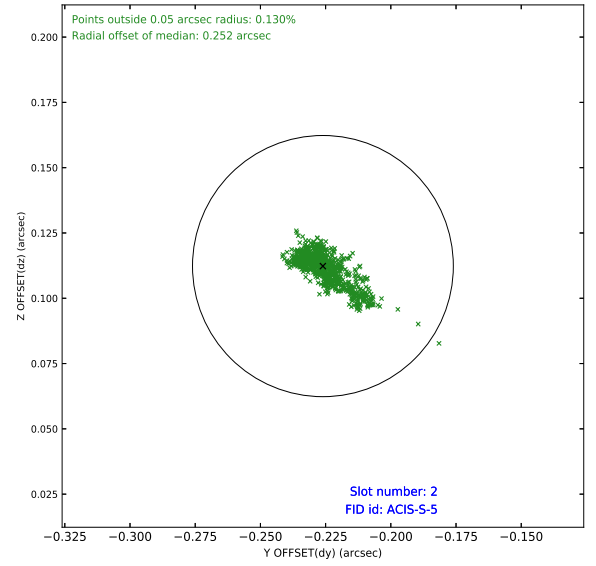
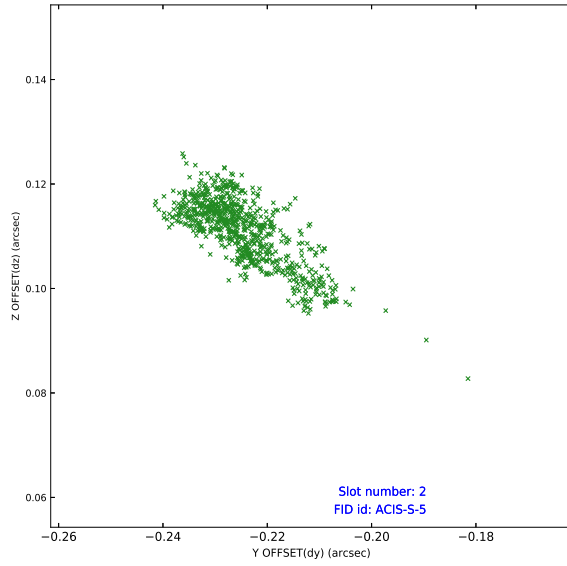
### 2.5.1 Slot 0



## 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)	2020.10.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.1093000240326

## A.2 Comments

A spatial region of the original bias map for CCD = 6 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 6 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(254.96775, -40.22041), (254.96694, -40.22307), (255.01132, -40.23099), (255.01510, -40.22886)