

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20421 - L2 Version 3  
Chandra X-Ray Center

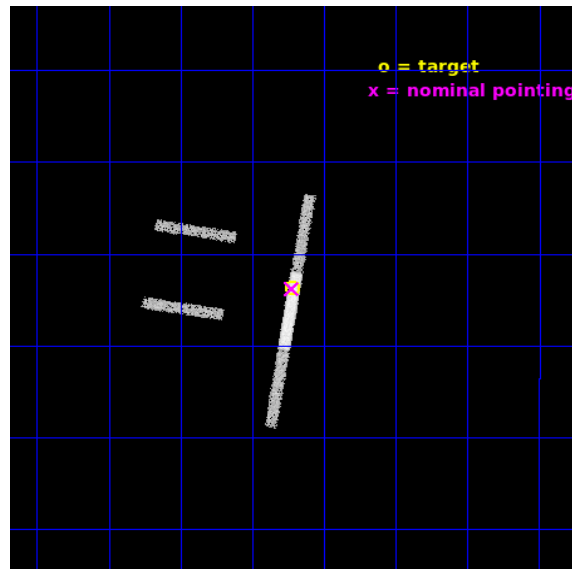
L2 Processing Date : Oct 25 2020

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# 1 Front

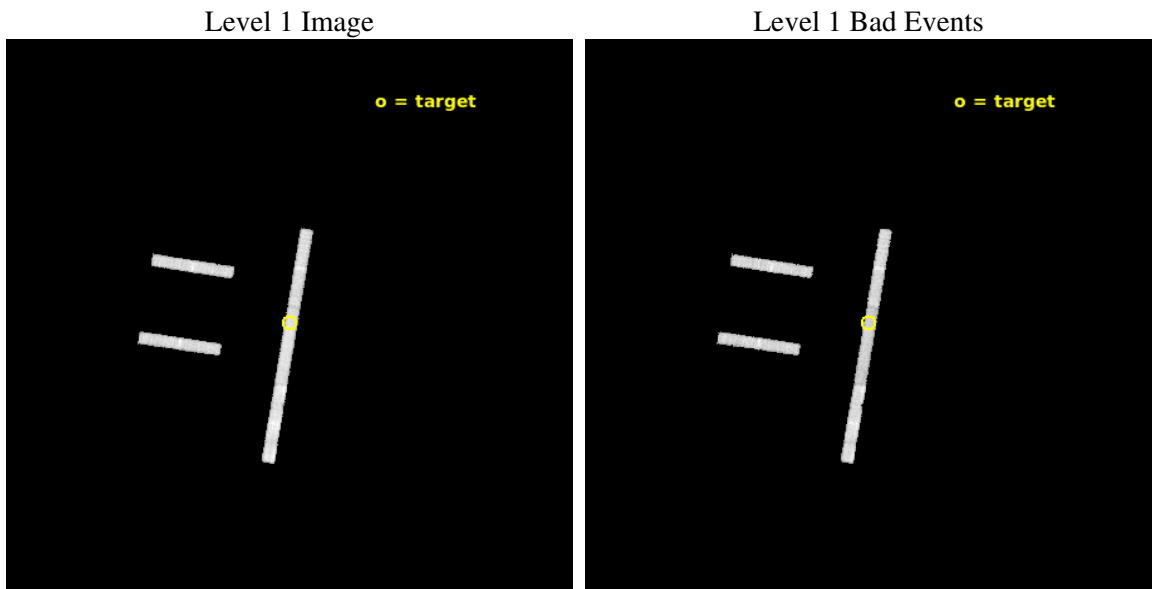
seq_num	703526	Sequence number
obs_id	20421	Observation id
title	X-ray detection of unexplored so far population of AGN	Proposal ti
observer	Magdalena Kunert-Bajraszewska	Principal investigator
object	VTC2218 0103	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	334.554167	Observer's specified target RA [deg]
dec_targ	-1.062278	Observer's specified target Dec [deg]
ra_nom	334.55585123438	Nominal RA [deg]
dec_nom	-1.0631974182536	Nominal Dec [deg]
roll_nom	99.150481489882	Nominal Roll [deg]
revision	3	Processing version of data
ontime	15071.00102663	Sum of GTIs [s]
livetime	14236.344486993	Livetime [s]
ontime2	15070.956187725	Sum of GTIs [s]
ontime3	15071.00102663	Sum of GTIs [s]
ontime6	15071.00102663	Sum of GTIs [s]
ontime7	15071.00102663	Sum of GTIs [s]
ontime8	15070.997227788	Sum of GTIs [s]
l2events	15679	Number of level 2 events



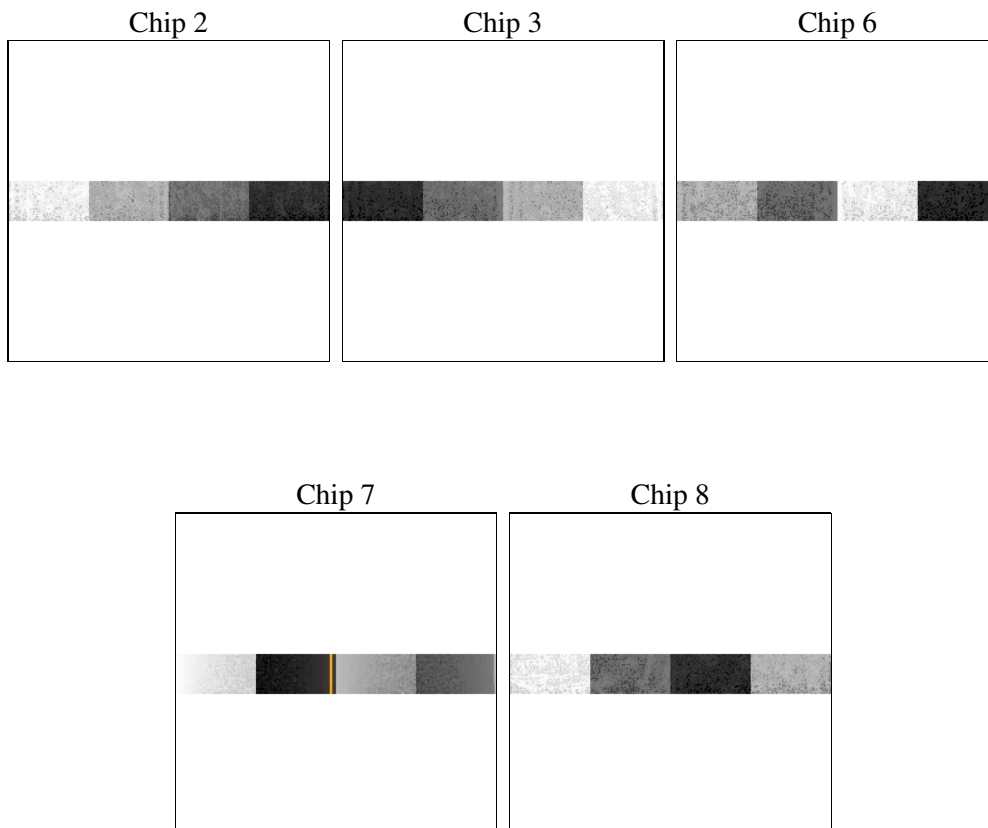
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	15071.00102663	Sum of GTIs [s]
caldbver	4.9.3	&#160	ontime2	15070.956187725	Sum of GTIs [s]
date	2020-10-25T13:05:10	Date and time of file creation	ontime3	15071.00102663	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	15071.00102663	Sum of GTIs [s]
			ontime7	15071.00102663	Sum of GTIs [s]
			ontime8	15070.997227788	Sum of GTIs [s]
			l1events	102754	Number of level 1 events

### 2.1.4 Events

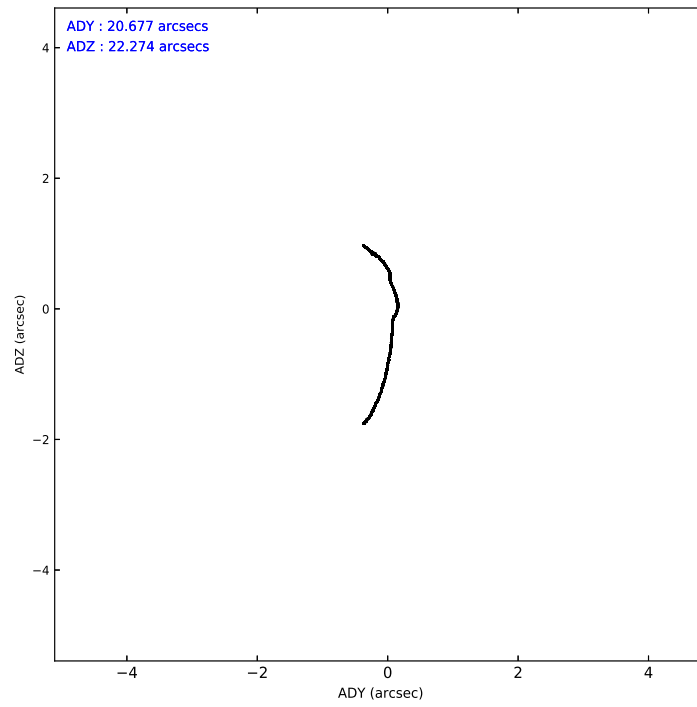
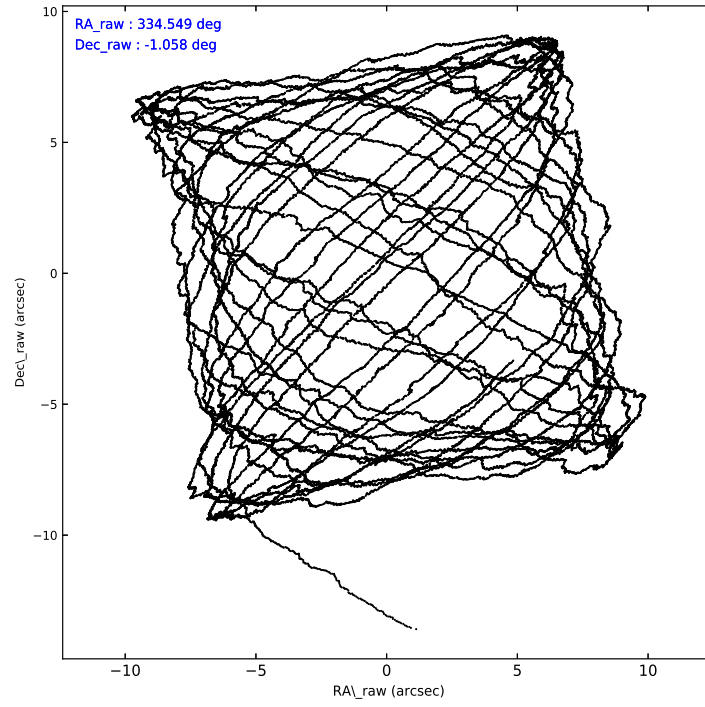
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	18247	17195	18929	20717	27666
rejected events	16342	15243	16830	11230	21454
rejected %	89%	88%	88%	54%	77%

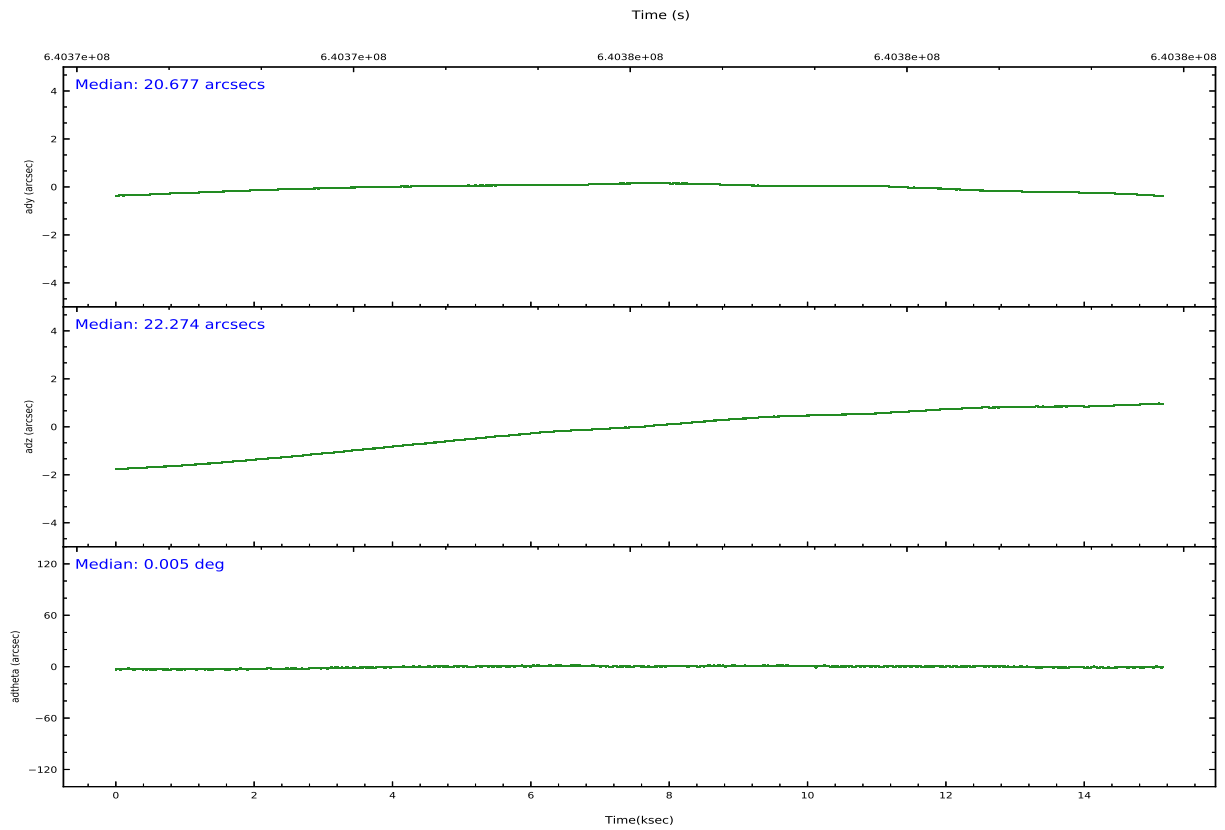
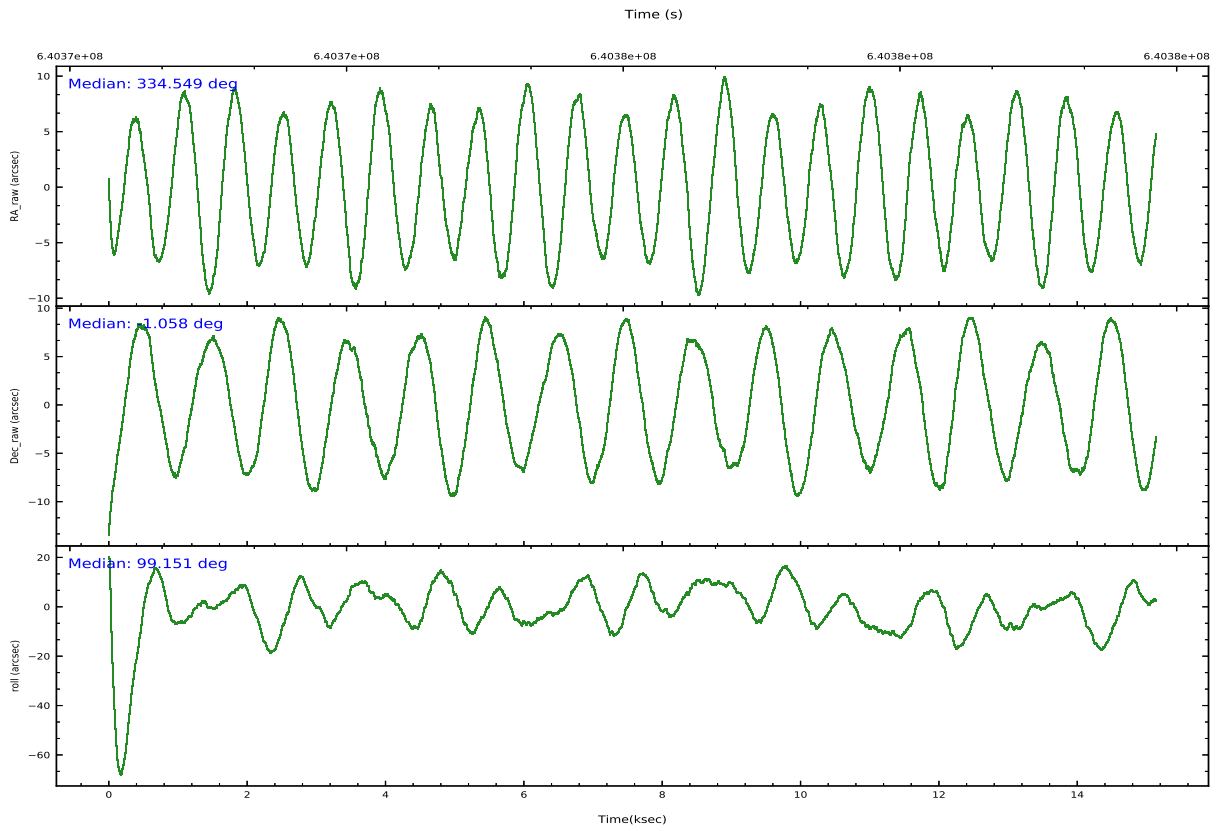
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	547	567	588	955	1443
	2%	3%	3%	4%	5%
grade 1 events	4	6	8	29	9
	0%	0%	0%	0%	0%
grade 2 events	376	387	400	1930	1358
	2%	2%	2%	9%	4%
grade 3 events	337	316	342	1065	707
	1%	1%	1%	5%	2%
grade 4 events	318	328	339	1038	649
	1%	1%	1%	5%	2%
grade 5 events	568	716	747	2132	1066
	3%	4%	3%	10%	3%
grade 6 events	327	355	430	4500	2055
	1%	2%	2%	21%	7%
grade 7 events	15770	14520	16075	9068	20379
	86%	84%	84%	43%	73%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	334.566187	334.55585123438	CCD I2 on	O1	Y
[deg] Pointing Dec	-1.079286	-1.0631974182536	CCD I3 on	O2	Y
[deg] Pointing Roll	99.000229	99.150481489882	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O3	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	O4	Y
[s] Observation start time (MET)	640368703.184000	640367361.27007	CCD S5 on	N	N
Observation start date	2018-04-17T16:10:34	2018-04-17T15:49:21	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	640383703.184000	640384796.0086	On-chip summing requested	N	N
Observation end date	2018-04-17T20:20:34	2018-04-17T20:39:56	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	449	449
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.7

## 2.3 Aspect



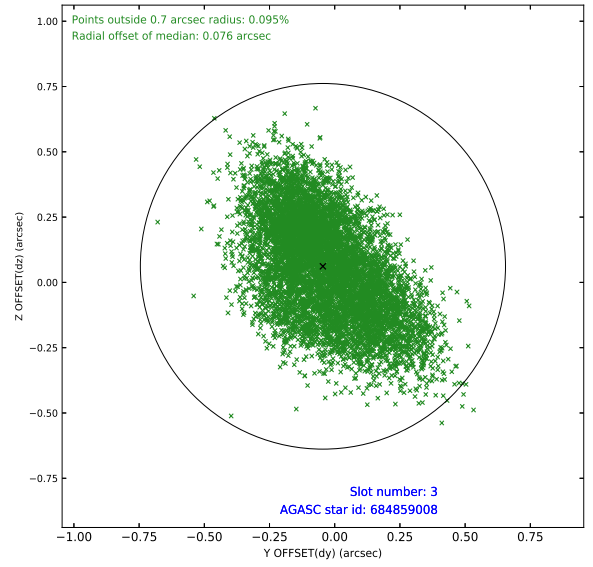
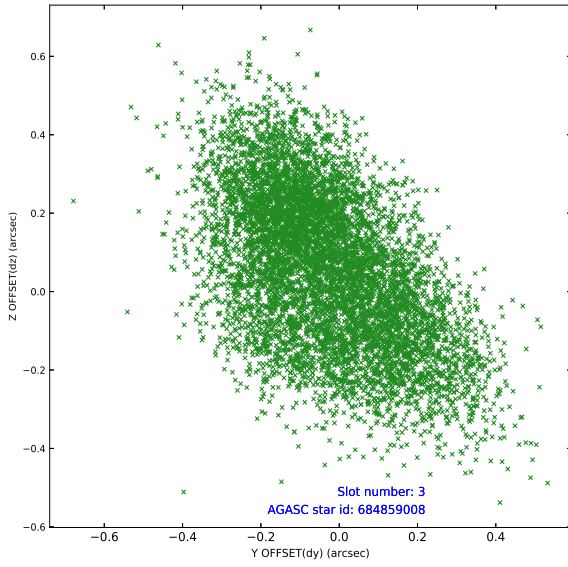


### Slot Statistics

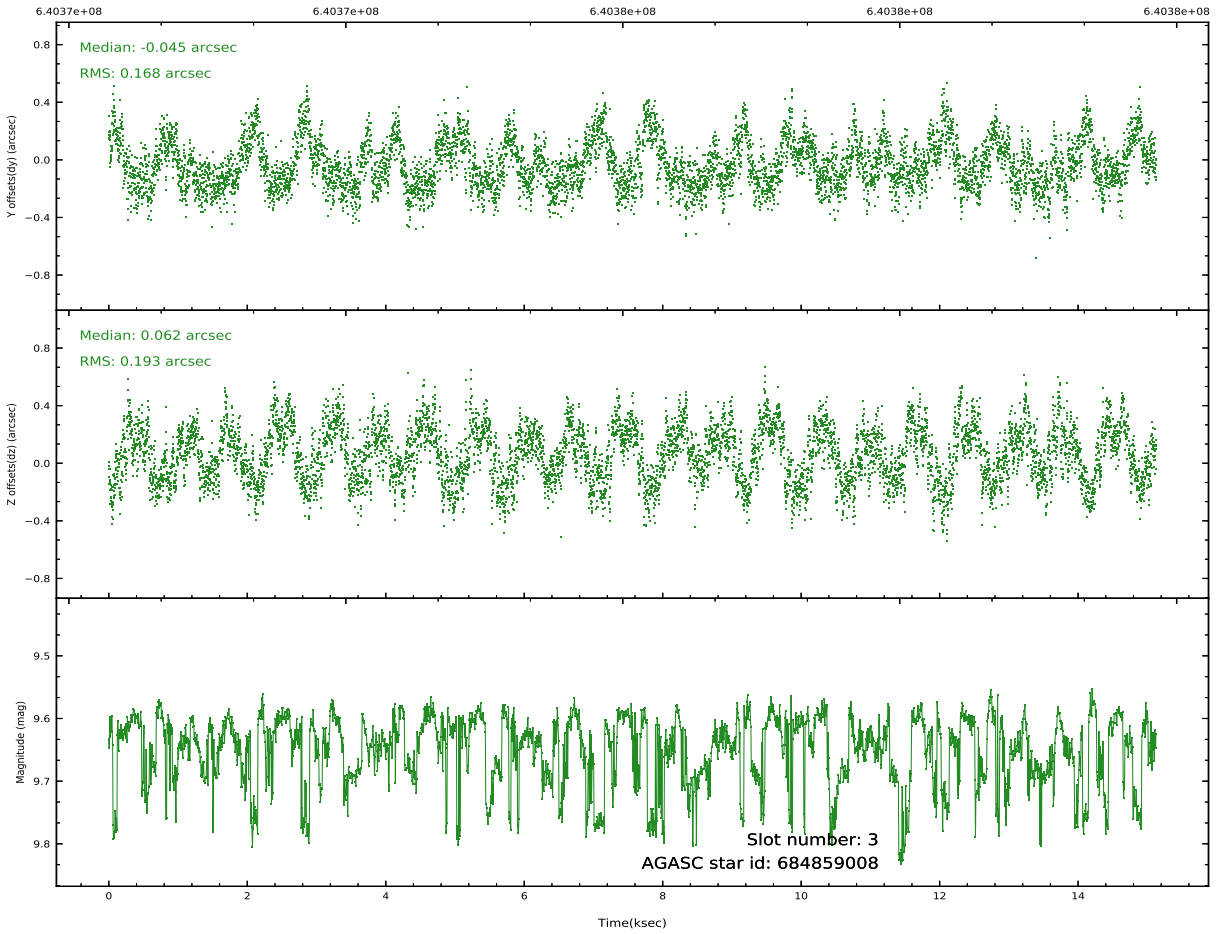
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.07	3693	1.000	0.127	-0.119	0.018	0.049	0.000000	0.000000	-773.89	-1743
1	FID		ACIS-S-4	7.18	3693	1.000	0.073	-0.030	0.012	0.021	0.000000	0.000000	2139.49	164
2	FID		ACIS-S-5	7.18	3693	1.000	-0.230	0.156	0.016	0.042	0.000000	0.000000	-1826.42	158
3	GUIDE	used	684859008	9.64	7361	1.000	-0.045	0.062	0.271	0.443	334.569605	-0.479386	2131.15	-349
4	GUIDE	used	684859784	9.09	7377	1.000	0.188	-0.224	0.233	0.386	334.538556	-1.122310	-138.69	119
5	GUIDE	used	684859952	8.68	7385	1.000	-0.154	0.085	0.154	0.264	334.910517	-0.597852	1518.45	-1494
6	GUIDE	used	684863360	7.27	7386	1.000	0.016	0.087	0.138	0.246	334.623376	-1.122955	-186.19	-179
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

## 2.4 Star Slots

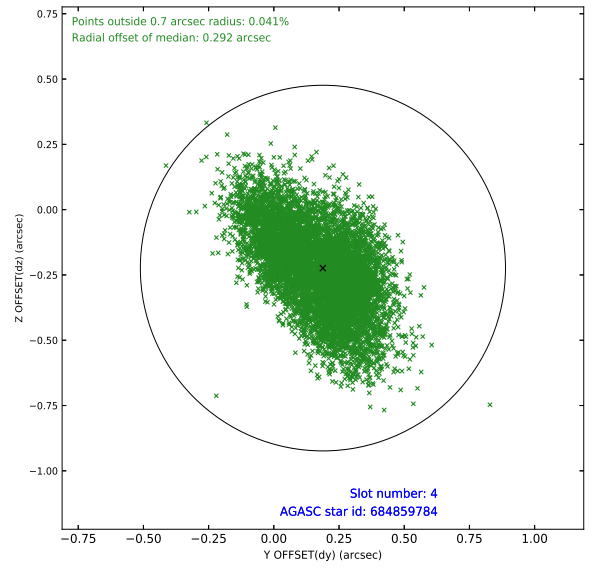
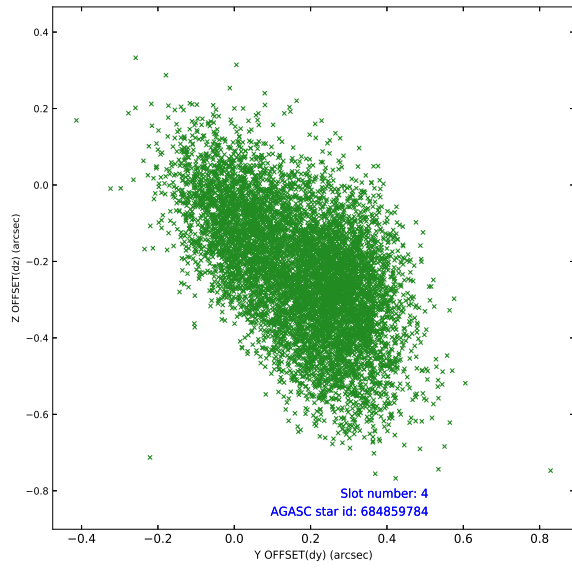
### 2.4.1 Slot 3



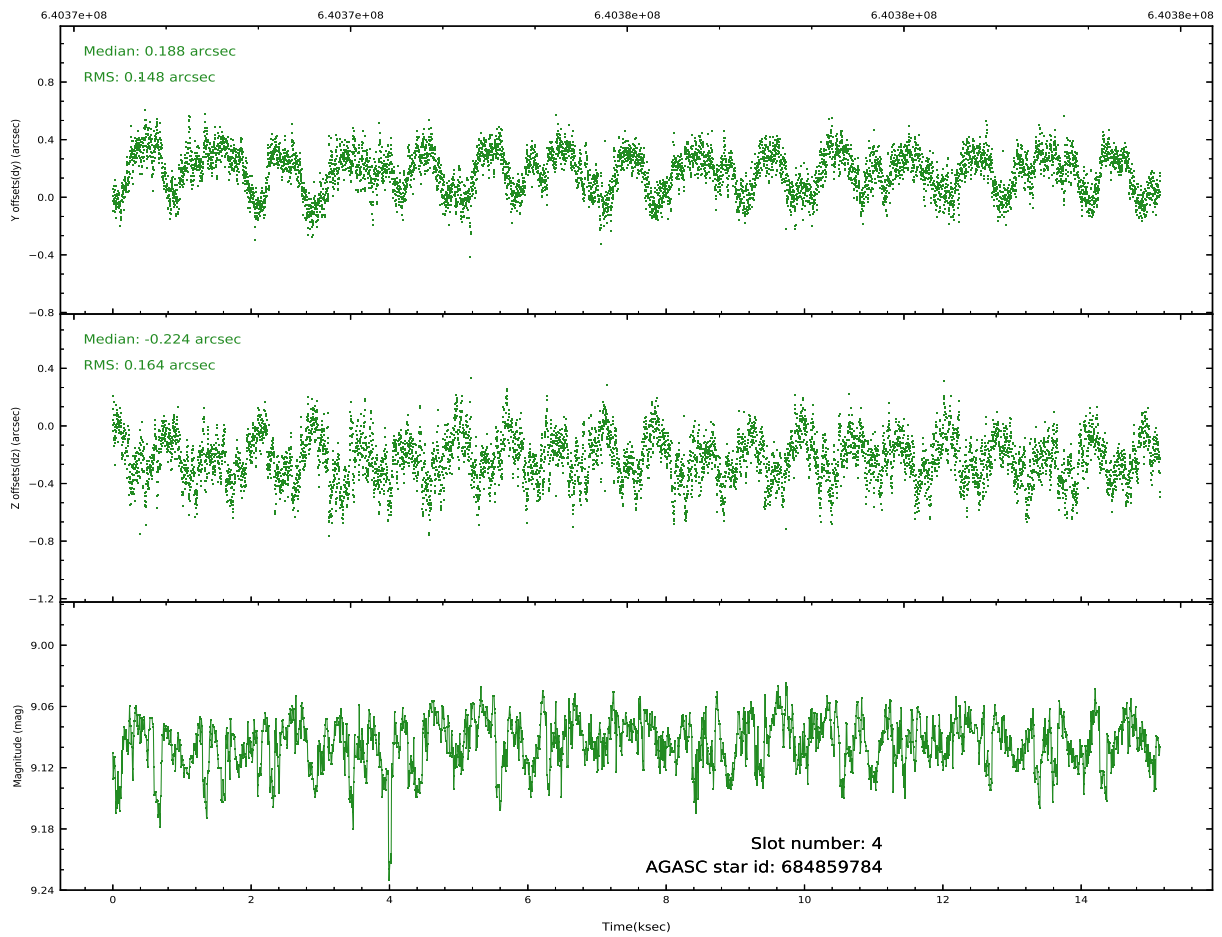
Time (s)



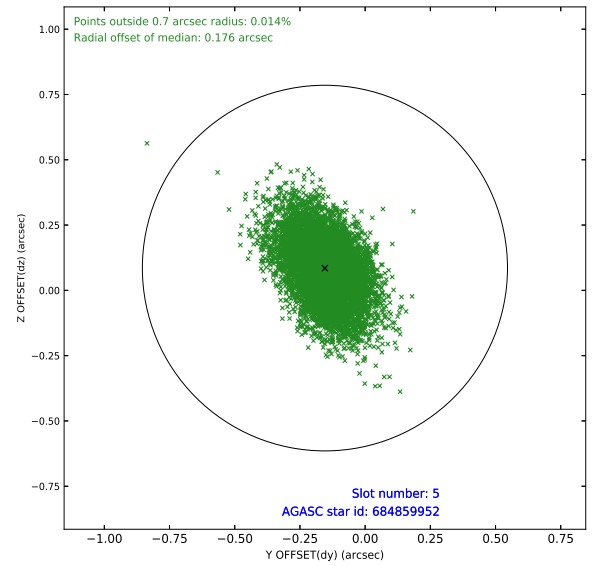
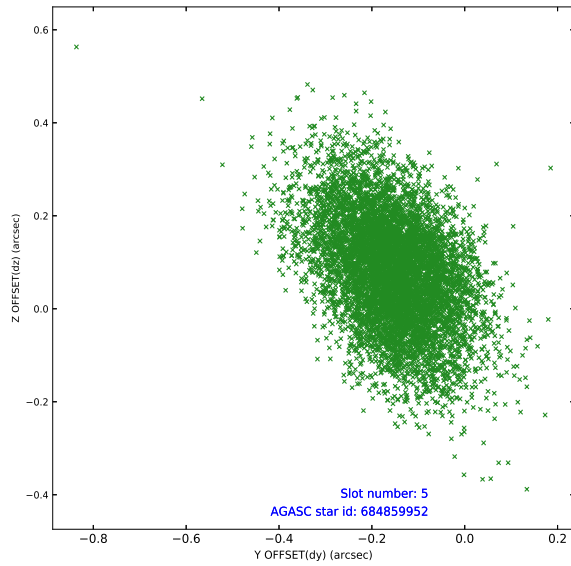
## 2.4.2 Slot 4



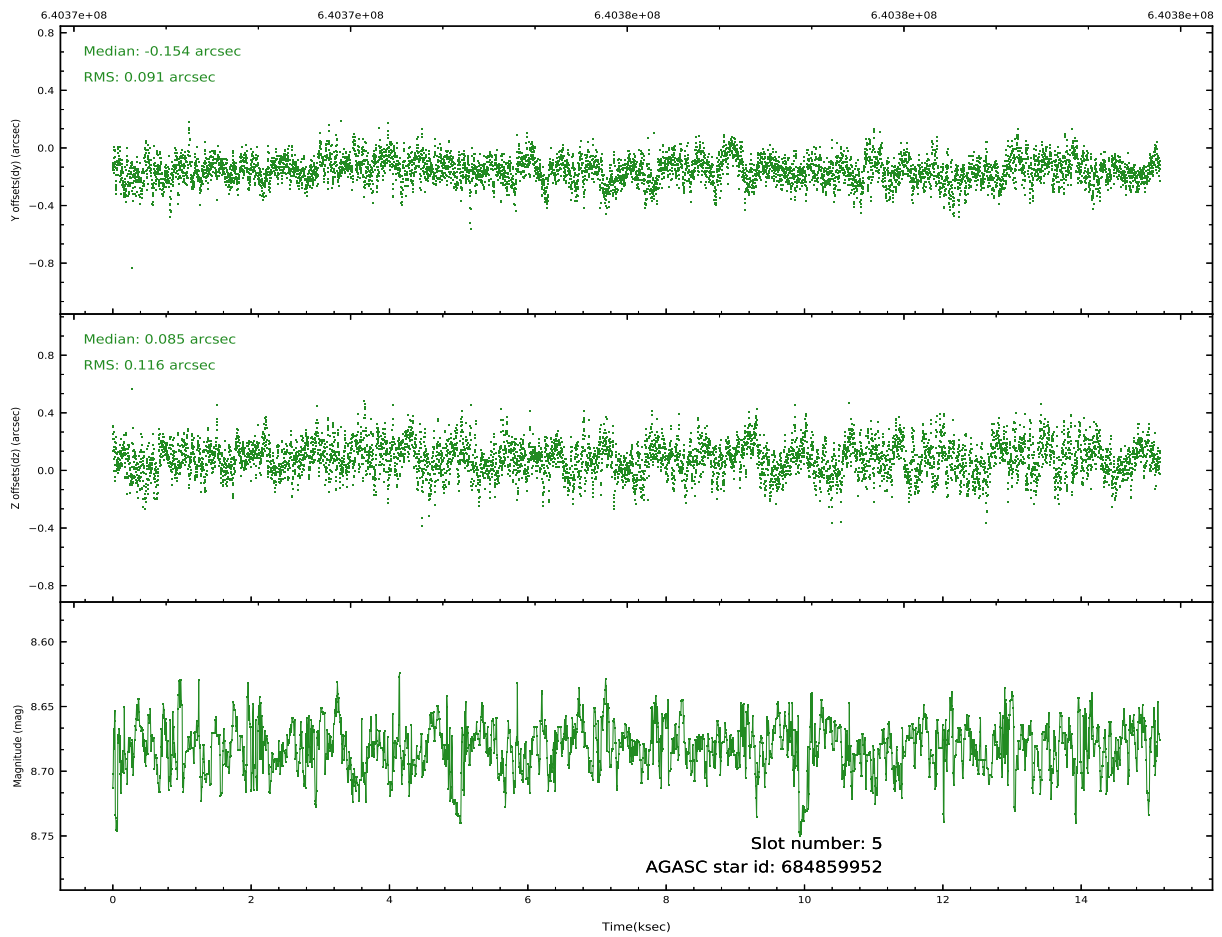
Time (s)



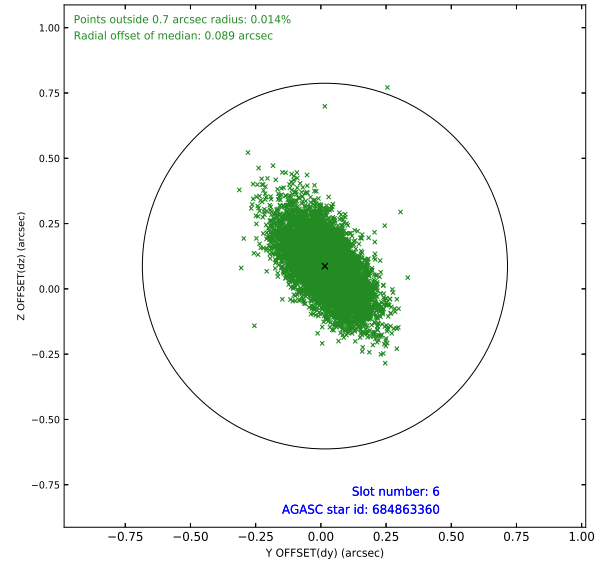
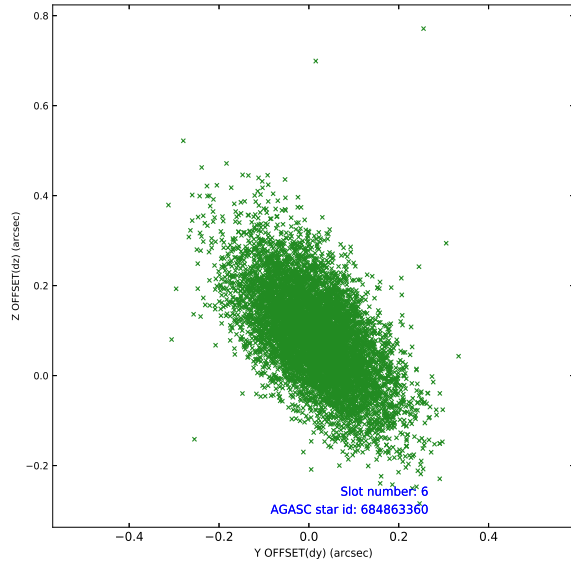
### 2.4.3 Slot 5



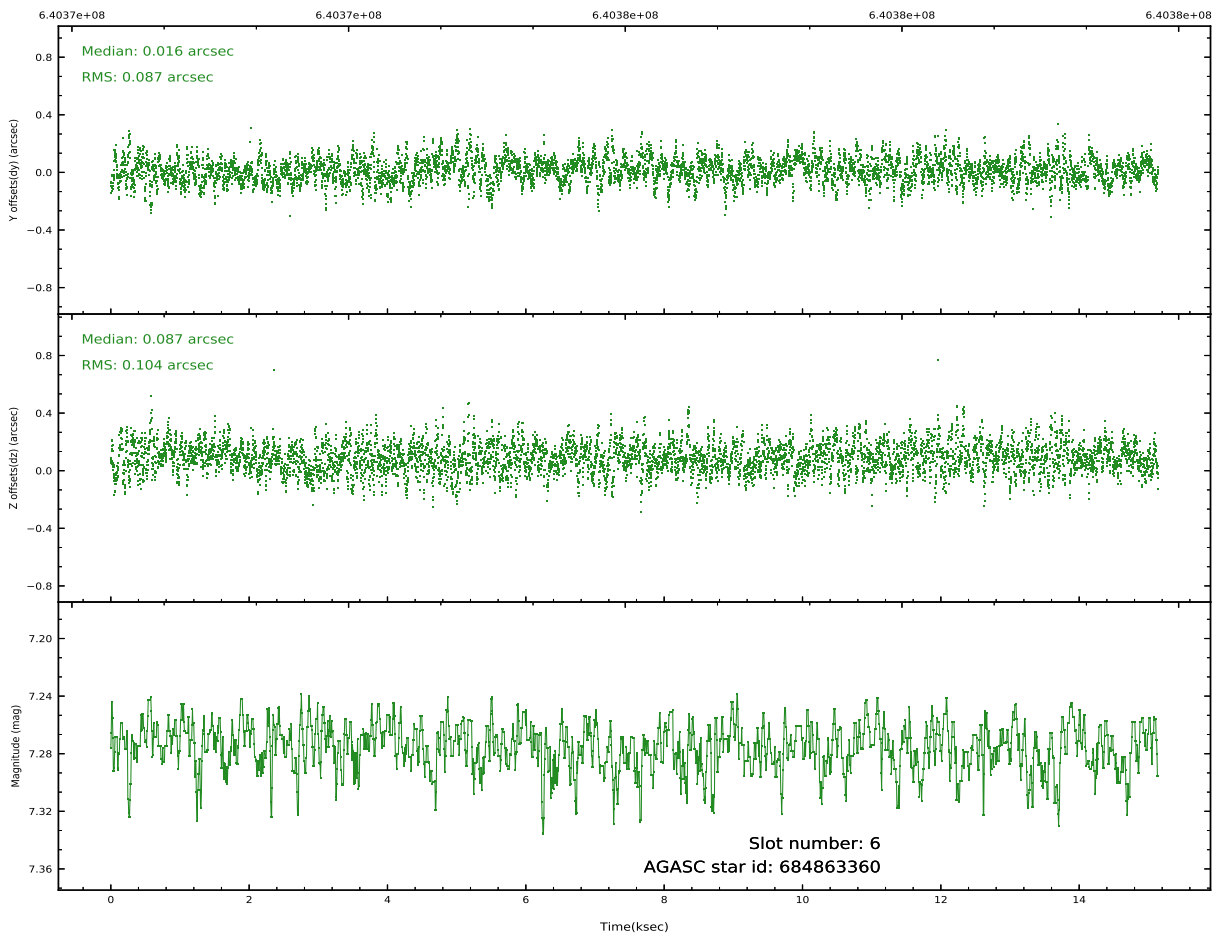
Time (s)



## 2.4.4 Slot 6

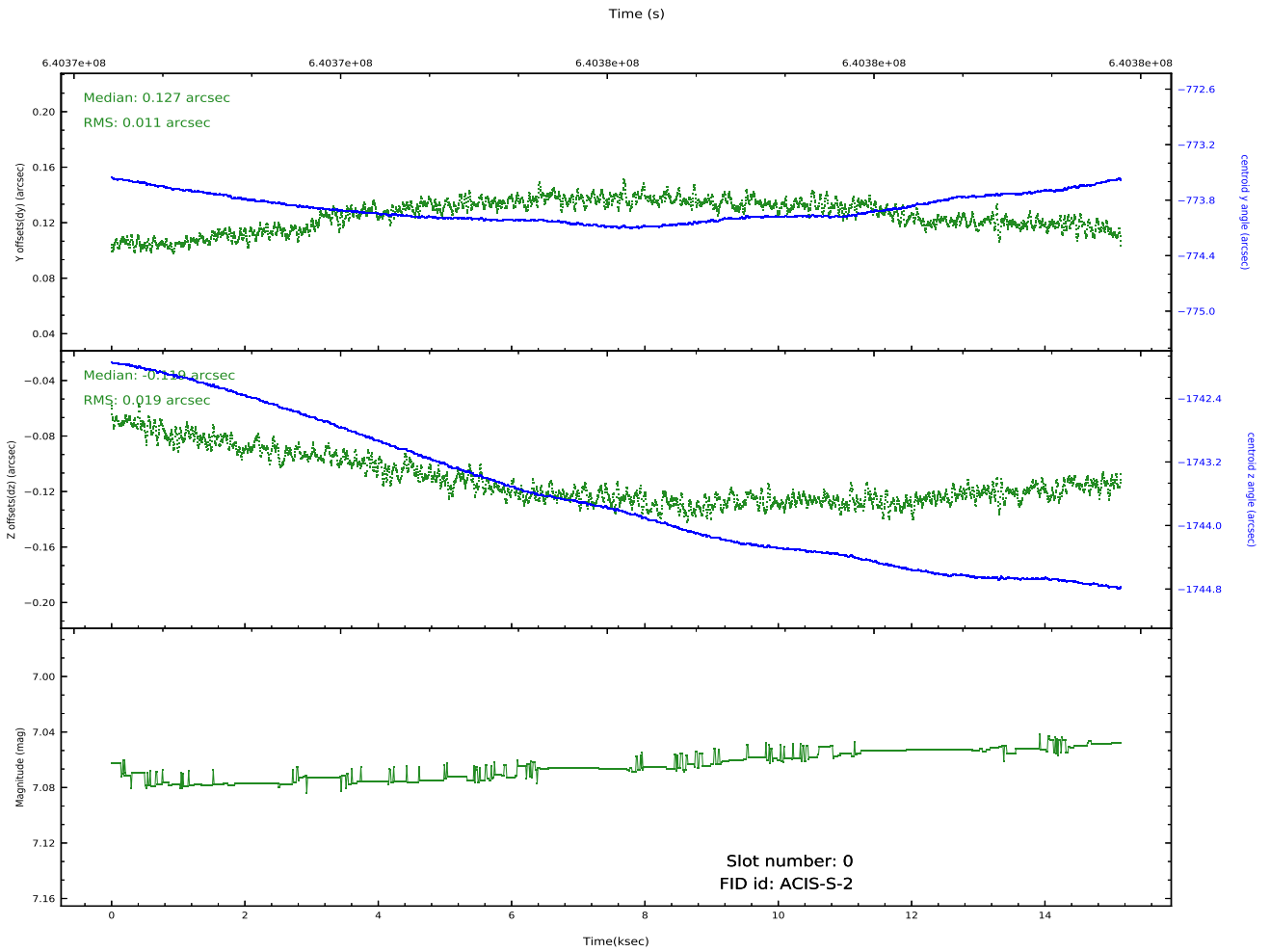
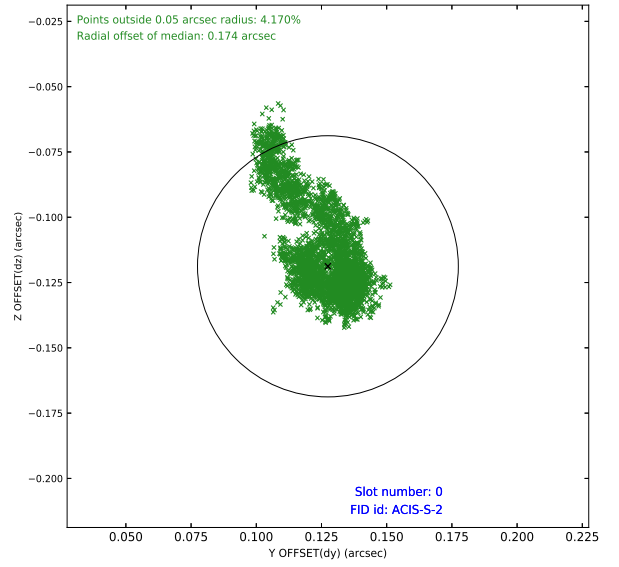
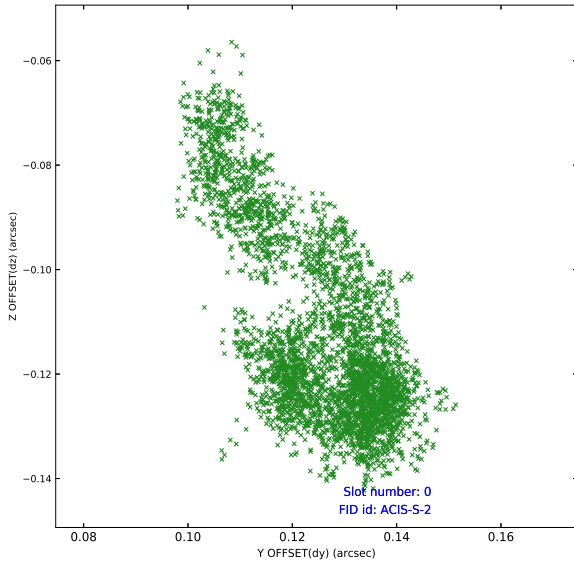


Time (s)

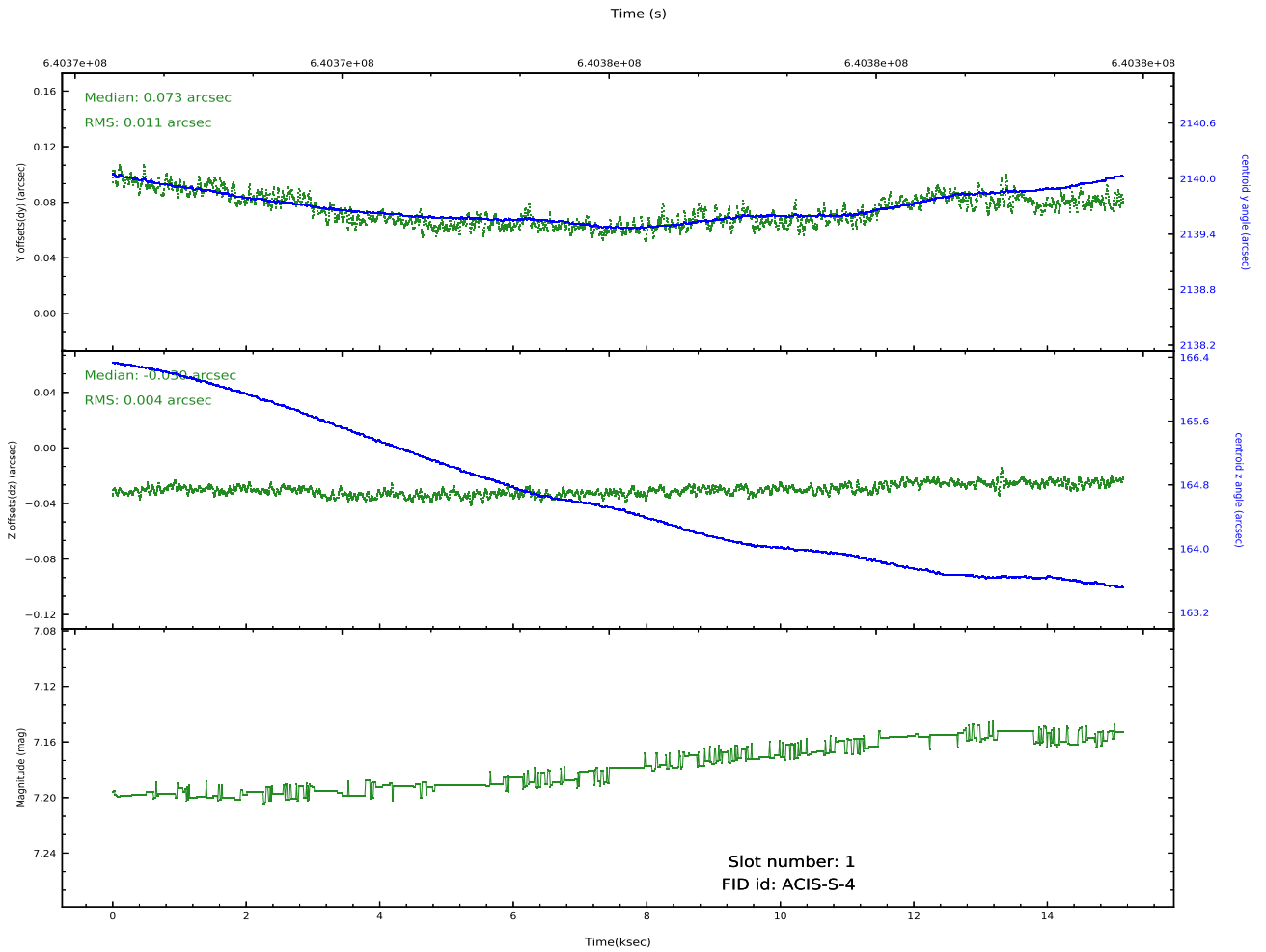
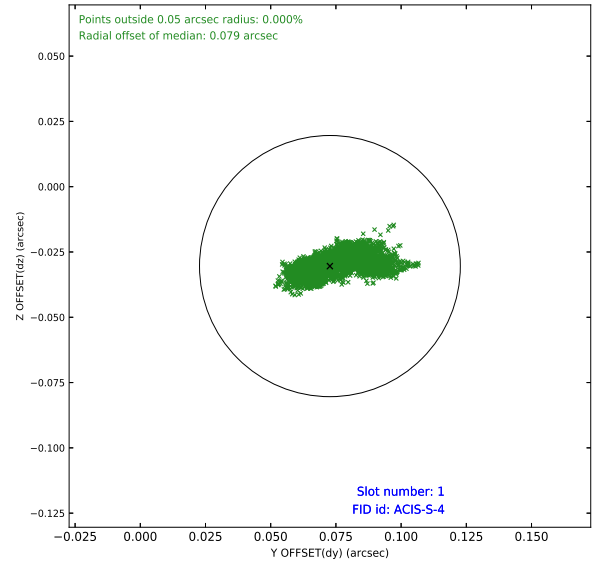
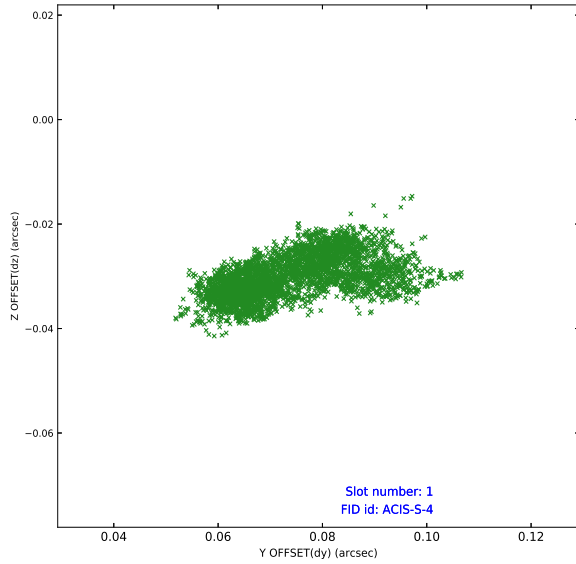


## 2.5 FID Slots

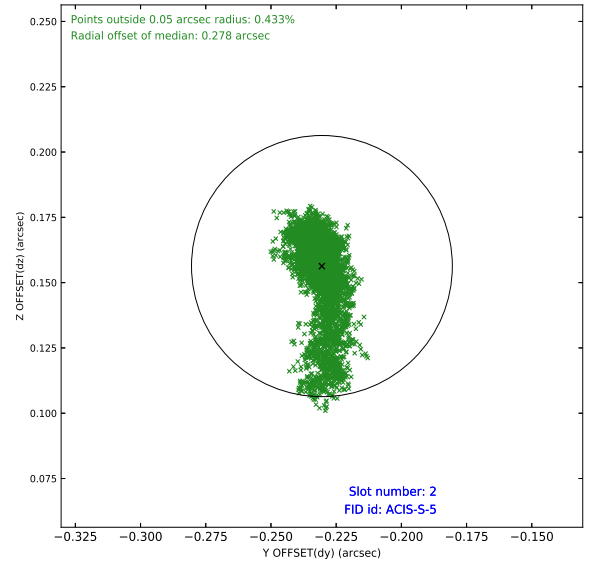
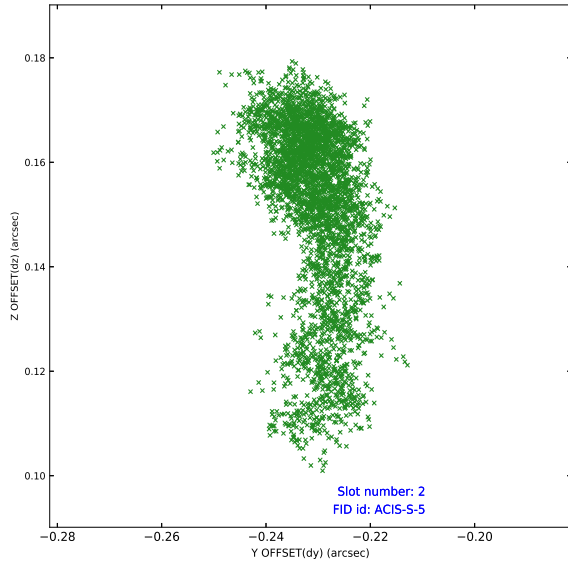
### 2.5.1 Slot 0



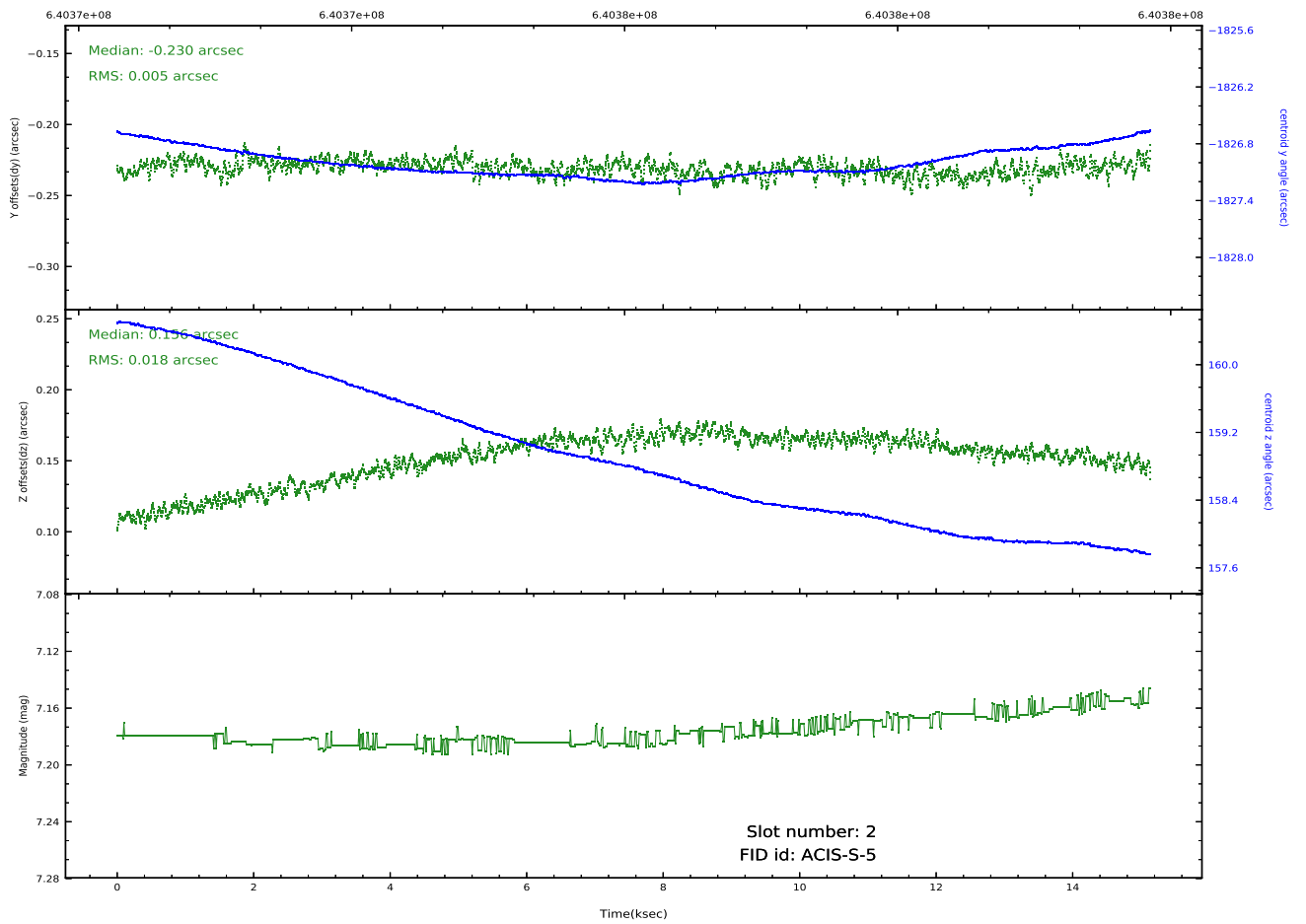
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.07100102663

## A.2 Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.