

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5624 - L2 Version 5  
Chandra X-Ray Center

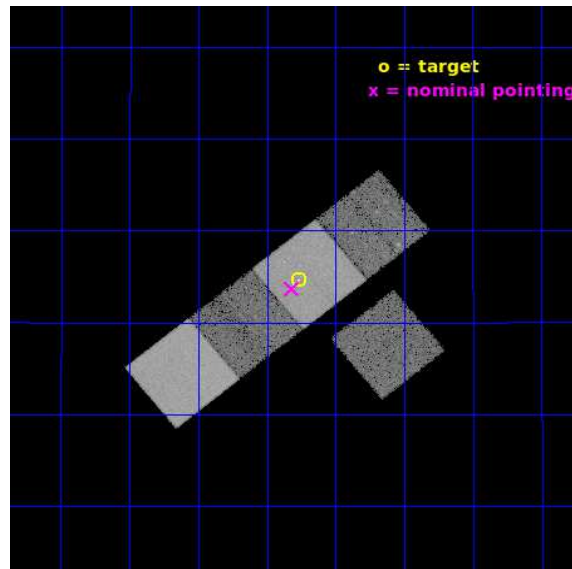
L2 Processing Date : Oct 9 2020

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# 1 Front

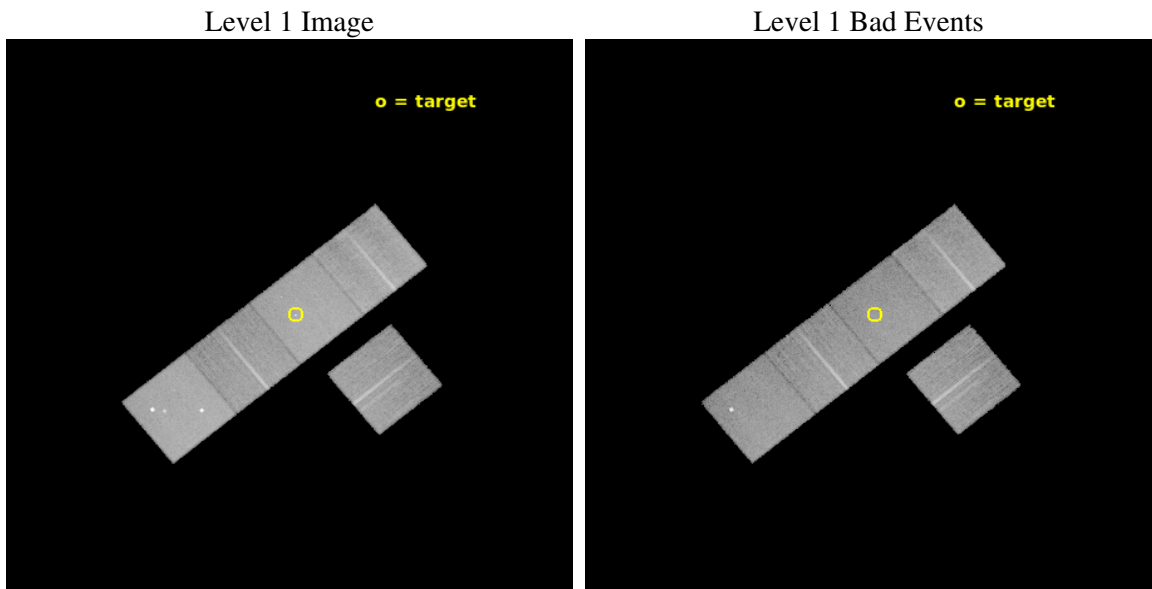
seq_num	701047	Sequence number
obs_id	5624	Observation id
title	Extended inverse Compton emission from distant powerful radio galaxies	Proposal title
observer	Andrew Fabian	Principal investigator
object	3C 432	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	320.6925	Observer's specified target RA [deg]
dec_targ	17.077222	Observer's specified target Dec [deg]
ra_nom	320.70443586585	Nominal RA [deg]
dec_nom	17.061676052435	Nominal Dec [deg]
roll_nom	320.91117379123	Nominal Roll [deg]
revision	5	Processing version of data
ontime	20038.399961442	Sum of GTIs [s]
livetime	19776.58351389	Livetime [s]
ontime3	20035.137186378	Sum of GTIs [s]
ontime5	20038.360256553	Sum of GTIs [s]
ontime6	20035.178246319	Sum of GTIs [s]
ontime7	20038.399961442	Sum of GTIs [s]
ontime8	20028.814225882	Sum of GTIs [s]
l2events	217500	Number of level 2 events



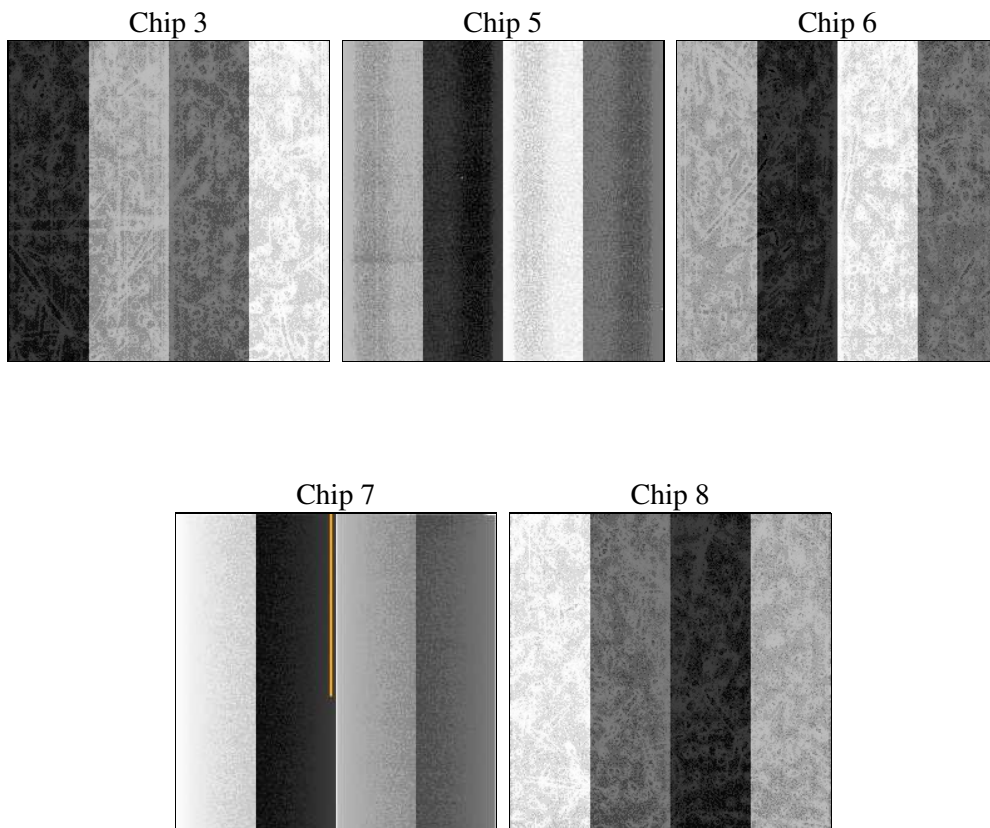
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	20038.399961442	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime3	20035.137186378	Sum of GTIs [s]
date	2020-10-09T22:17:51	Date and time of file creation	ontime5	20038.360256553	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	20035.178246319	Sum of GTIs [s]
			ontime7	20038.399961442	Sum of GTIs [s]
			ontime8	20028.814225882	Sum of GTIs [s]
			l1events	864796	Number of level 1 events

### 2.1.4 Events

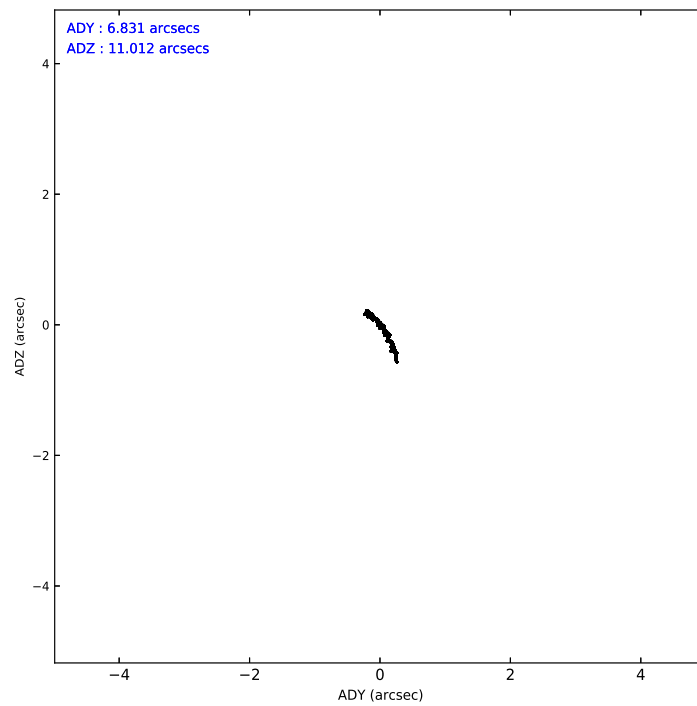
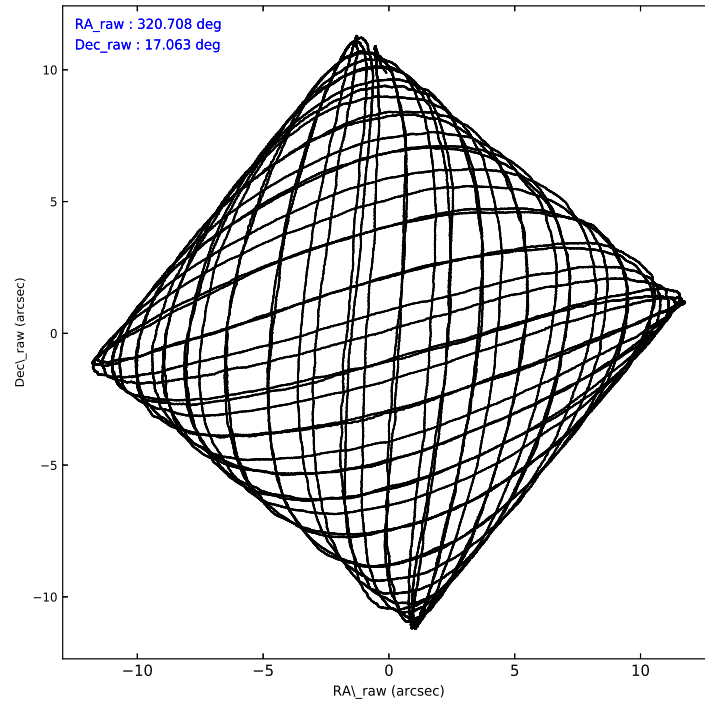
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	138020	217937	140511	189949	178379
rejected events	120963	116287	122540	109296	137741
rejected %	87%	53%	87%	57%	77%

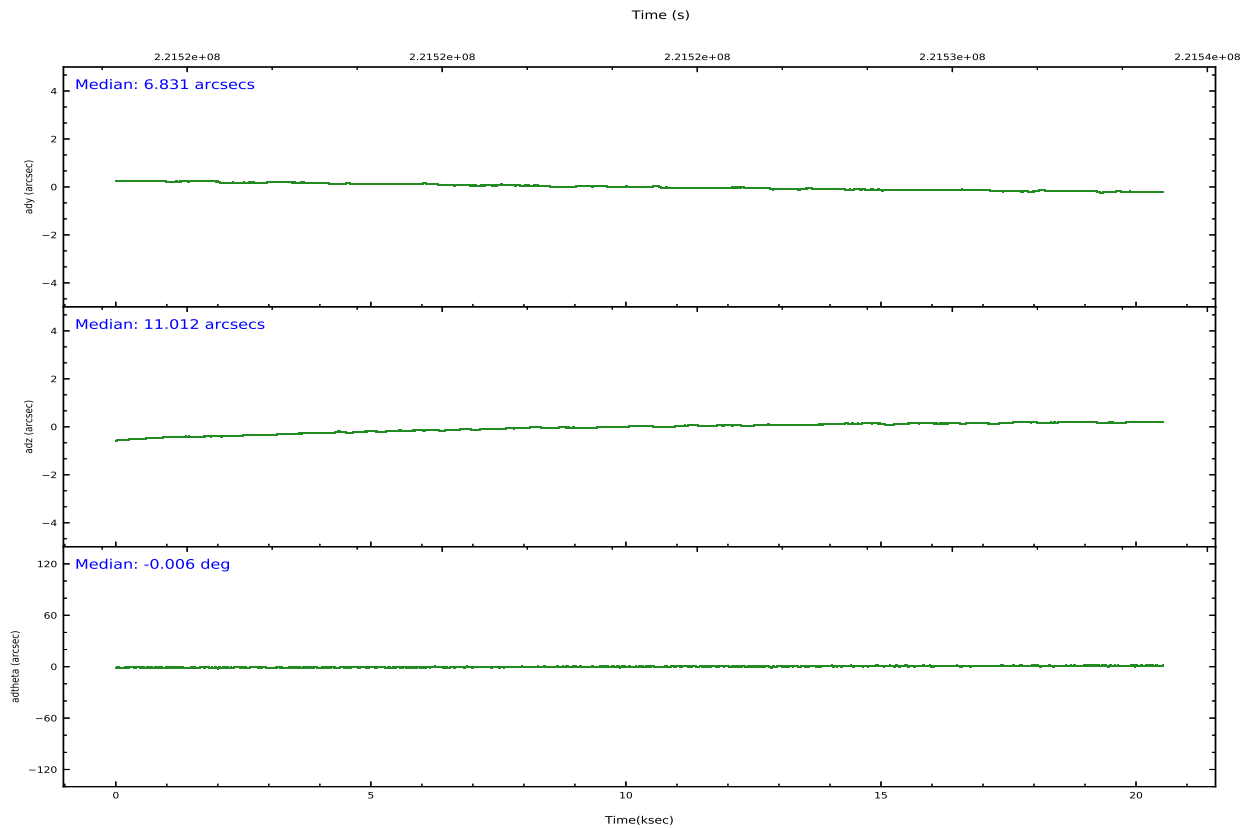
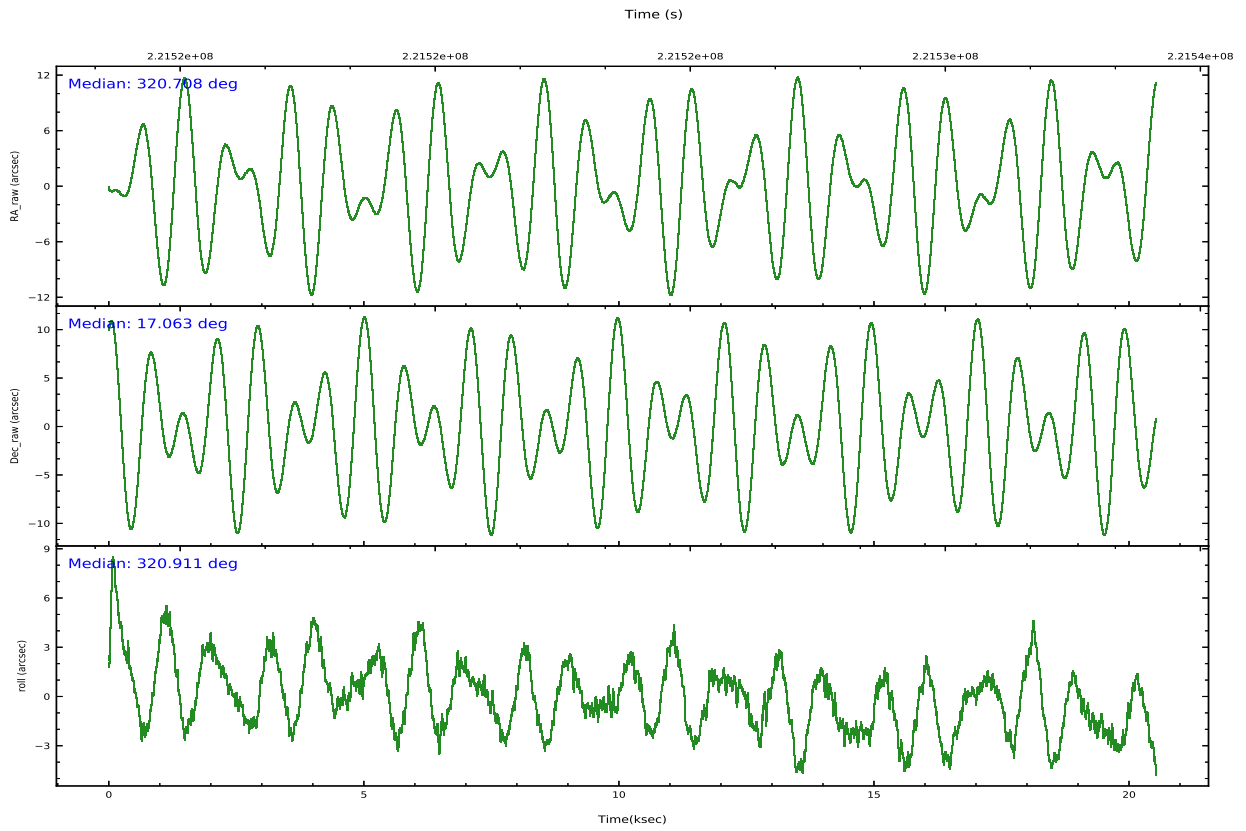
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	7524	13385	7353	8062	13756
	5%	6%	5%	4%	7%
grade 1 events	88	1077	80	196	118
	0%	0%	0%	0%	0%
grade 2 events	3408	29655	3777	16202	8672
	2%	13%	2%	8%	4%
grade 3 events	1605	4473	1699	7222	4189
	1%	2%	1%	3%	2%
grade 4 events	1607	3779	1662	7127	3924
	1%	1%	1%	3%	2%
grade 5 events	6238	16761	6520	18100	8513
	4%	7%	4%	9%	4%
grade 6 events	2914	50375	3485	42046	10101
	2%	23%	2%	22%	5%
grade 7 events	114636	98432	115935	90994	129106
	83%	45%	82%	47%	72%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-35678	ACIS-35678	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	320.679977	320.70443586585	Subarray requested	NONE	NONE
[deg] Pointing Dec	17.066773	17.061676052435	Alternating exposures requested	N	N
[deg] Pointing Roll	320.763588	320.91117379123	[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)	221514132.184000	221513028.15102			
Observation start date	2005-01-07T19:41:08	2005-01-07T19:23:48			
[s] Observation end time (MET)	221534132.184000	221535095.88951			
Observation end date	2005-01-08T01:14:28	2005-01-08T01:31:35			
Read mode	TIMED	TIMED			

## 2.3 Aspect





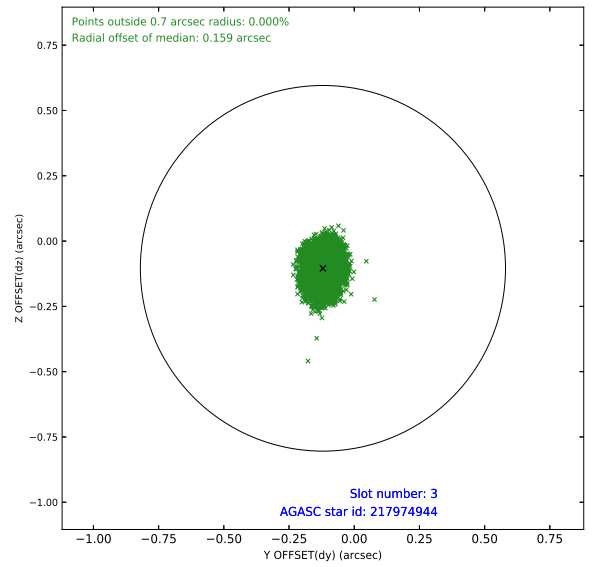
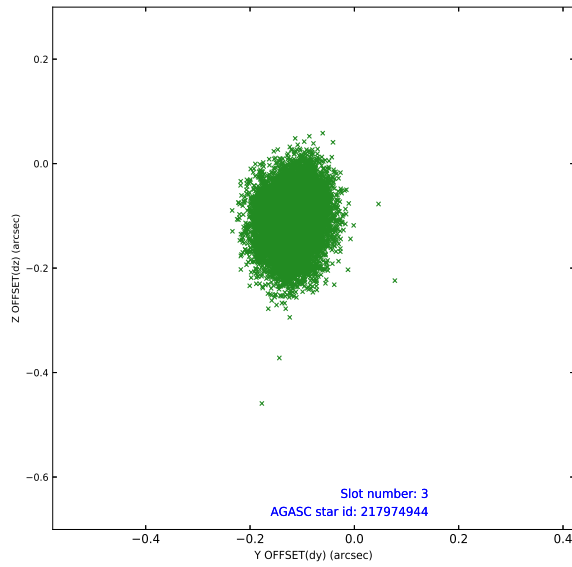
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.18	5008	1.000	-0.001	-0.102	0.010	0.020	0.000000	0.000000	936.47	-1727
1	FID		ACIS-S-4	7.20	5006	1.000	0.095	0.076	0.010	0.018	0.000000	0.000000	2154.04	176
2	FID		ACIS-S-5	7.23	5008	1.000	-0.119	0.038	0.008	0.015	0.000000	0.000000	-1812.32	169
3	GUIDE	used	217974944	7.72	10017	1.000	-0.120	-0.104	0.065	0.106	320.083386	16.811544	-1013.07	-2009
4	GUIDE	used	217975616	8.25	10016	1.000	-0.035	0.037	0.058	0.092	320.656647	16.556245	1100.57	-1474
5	GUIDE	used	217977208	8.83	10014	1.000	0.077	-0.050	0.106	0.160	320.809762	16.301355	2091.01	-1850
6	GUIDE	used	218502840	9.05	10009	1.000	0.082	0.031	0.086	0.142	320.360025	16.964228	-619.52	-982
7	GUIDE	used	218498128	9.19	9996	1.000	-0.008	0.086	0.116	0.173	321.244715	17.445513	638.14	2285

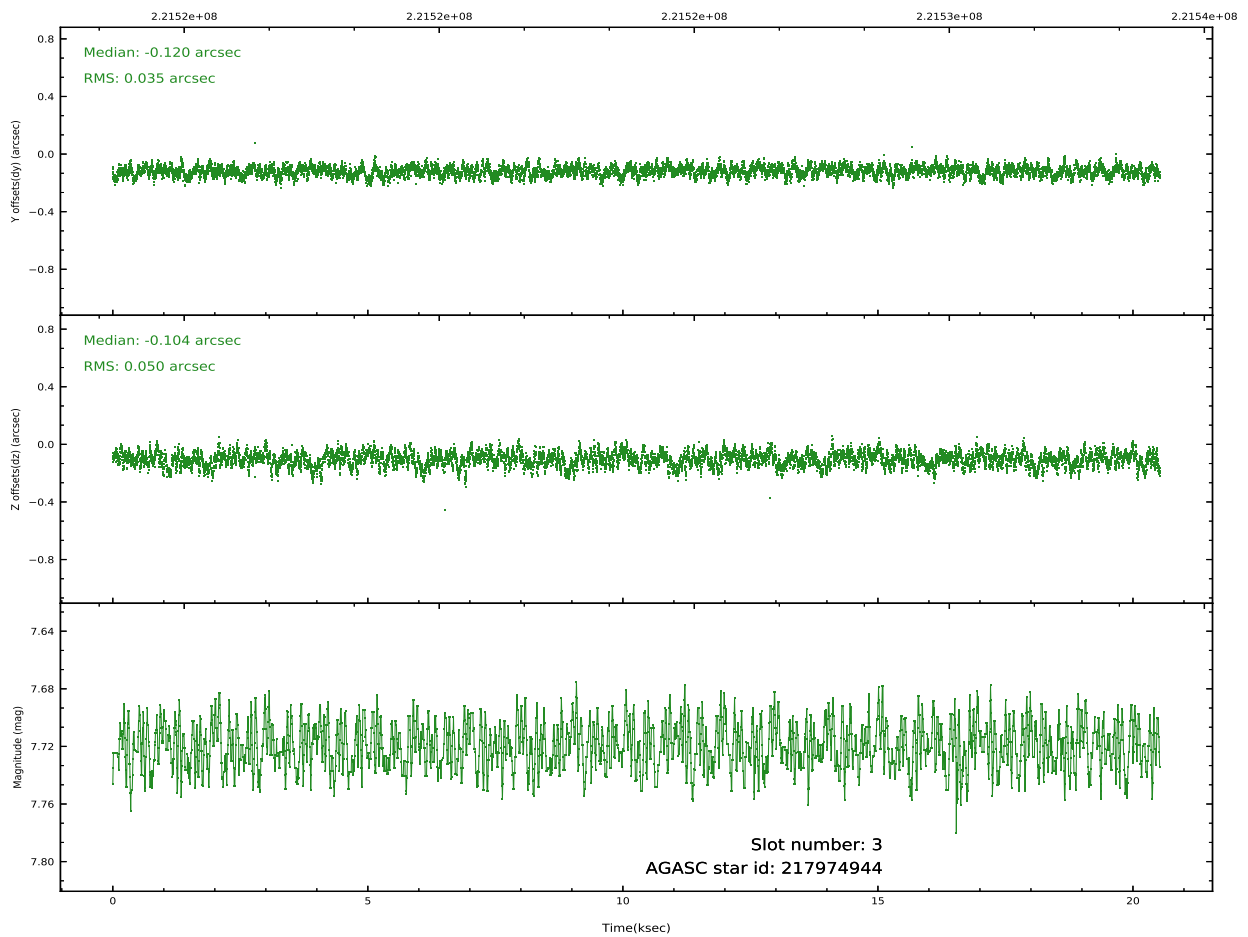
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## 2.4 Star Slots

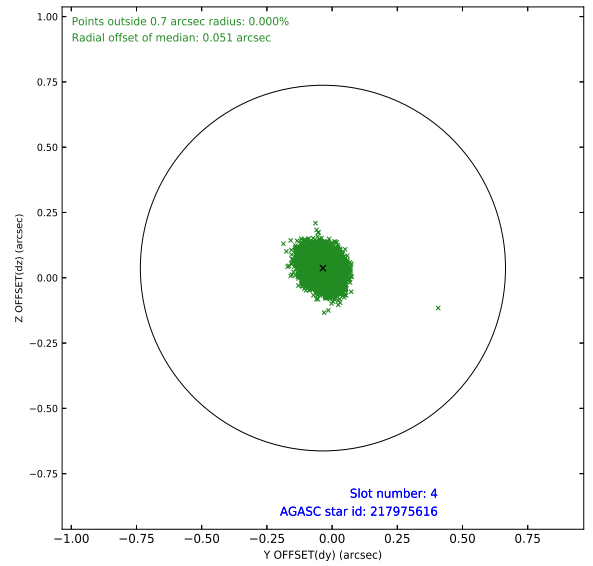
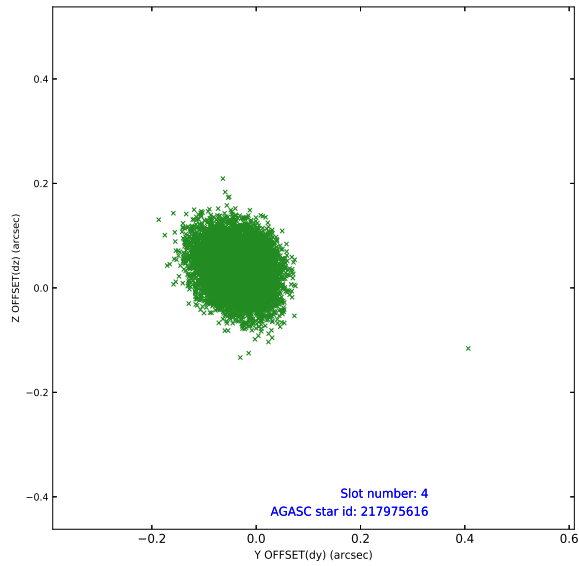
### 2.4.1 Slot 3



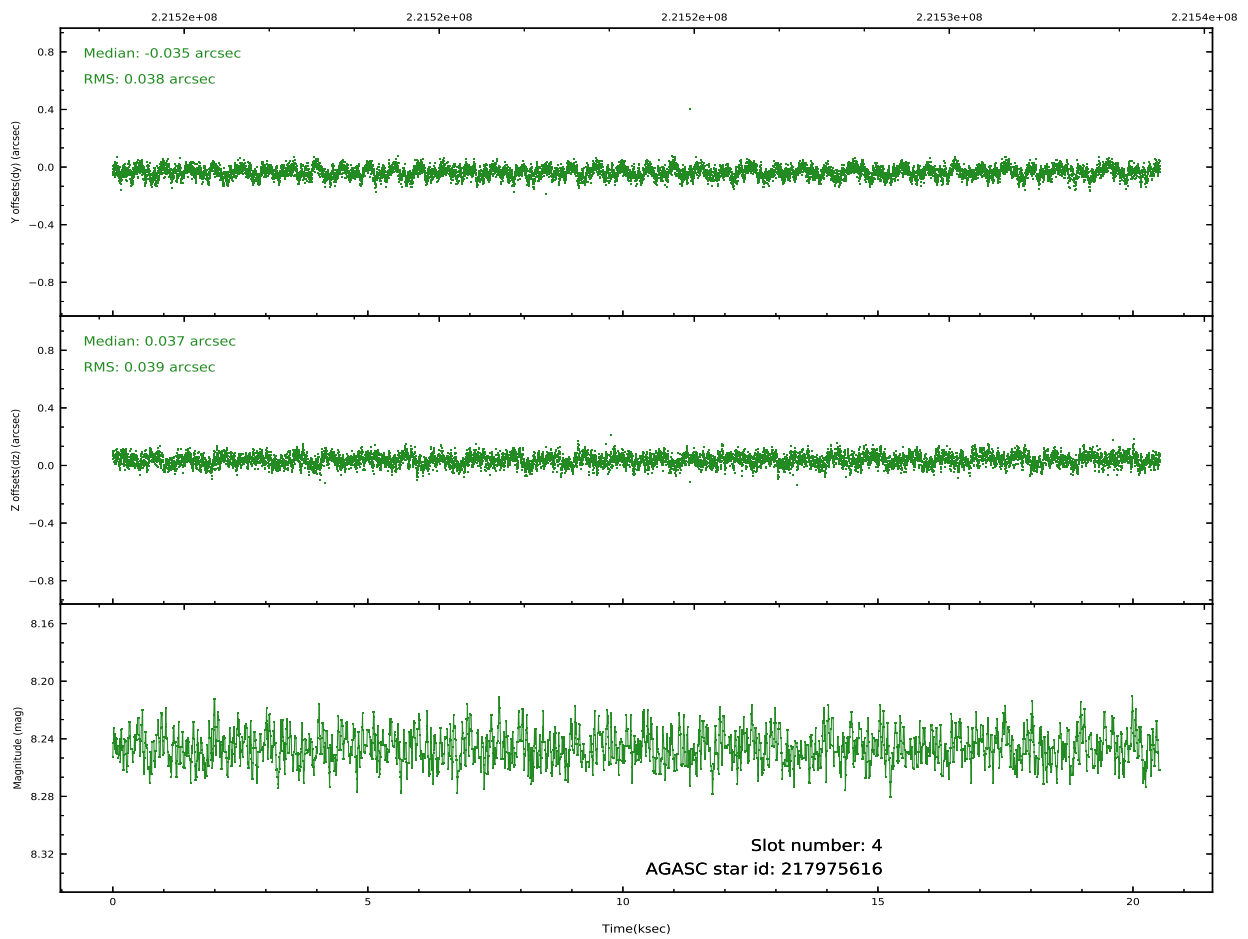
Time (s)



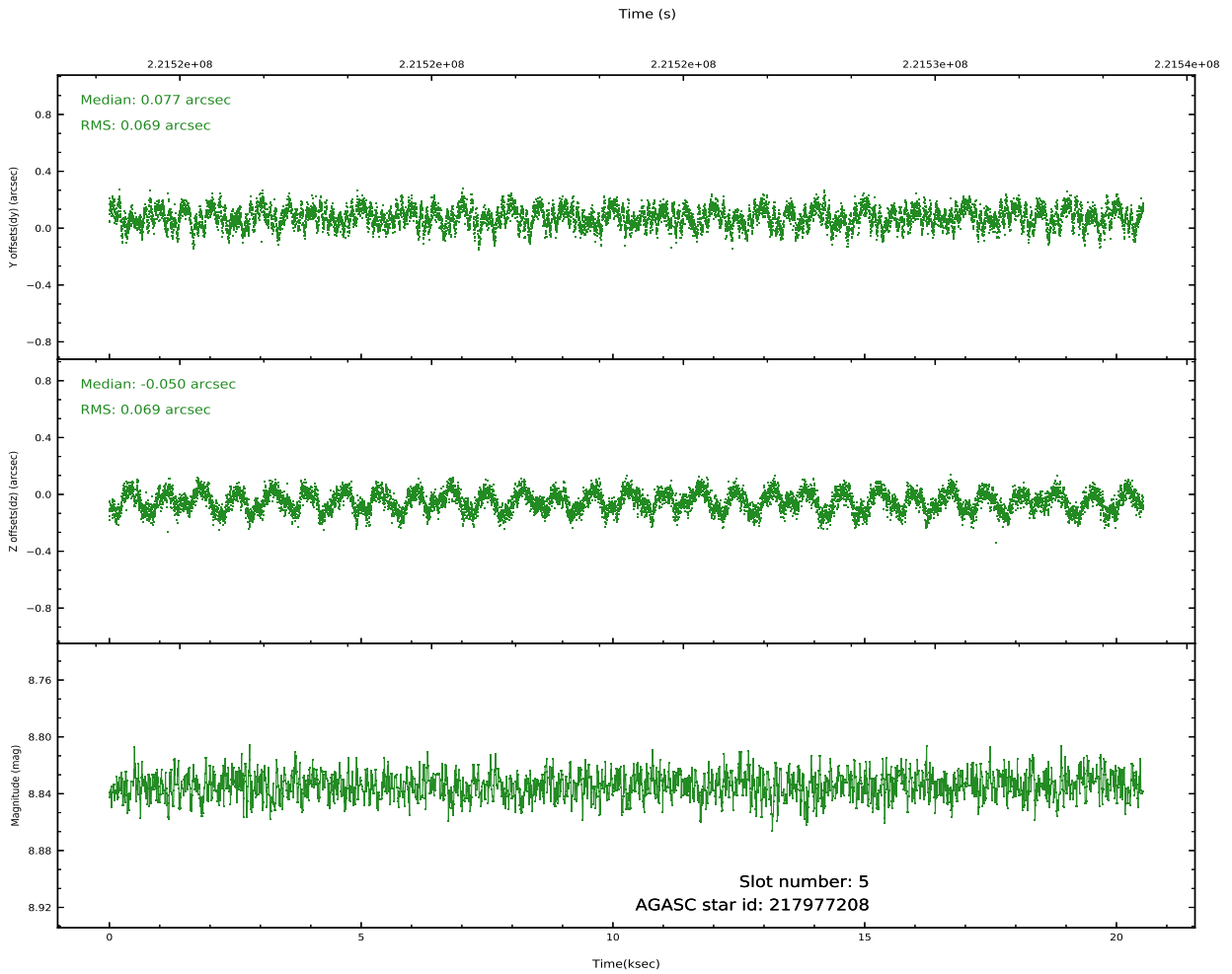
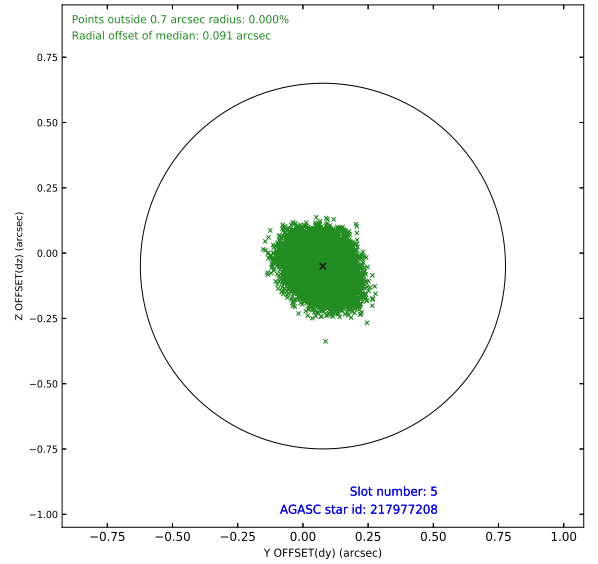
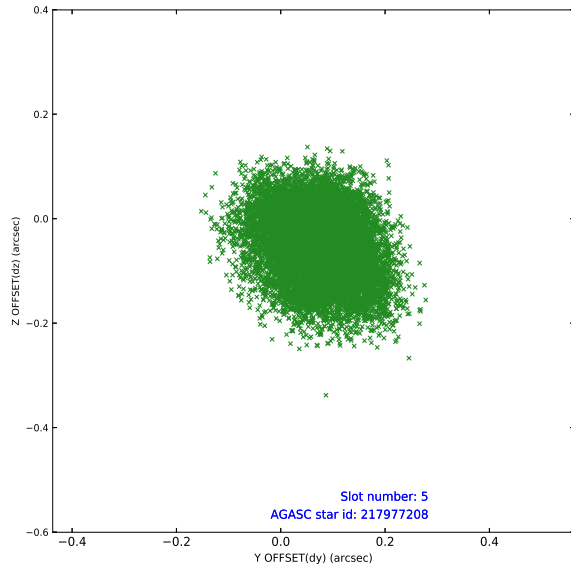
## 2.4.2 Slot 4



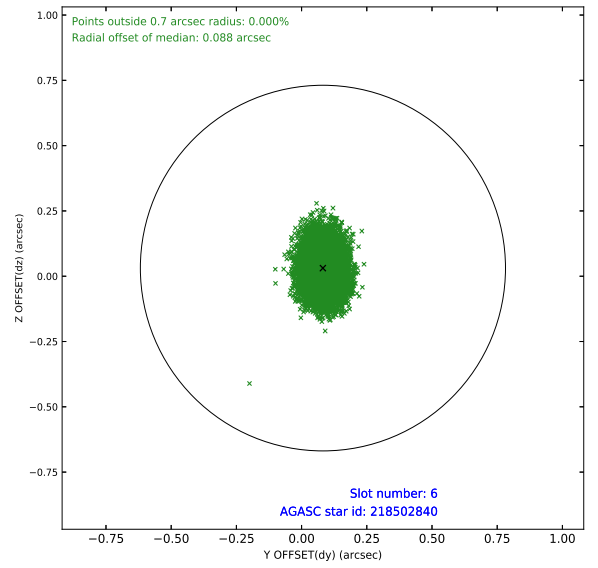
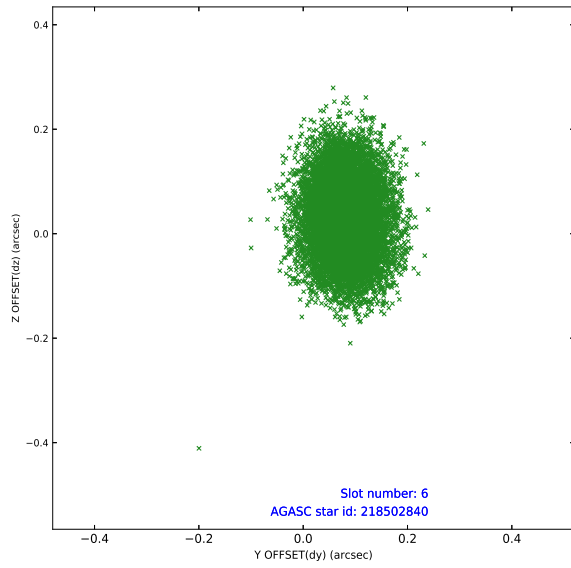
Time (s)



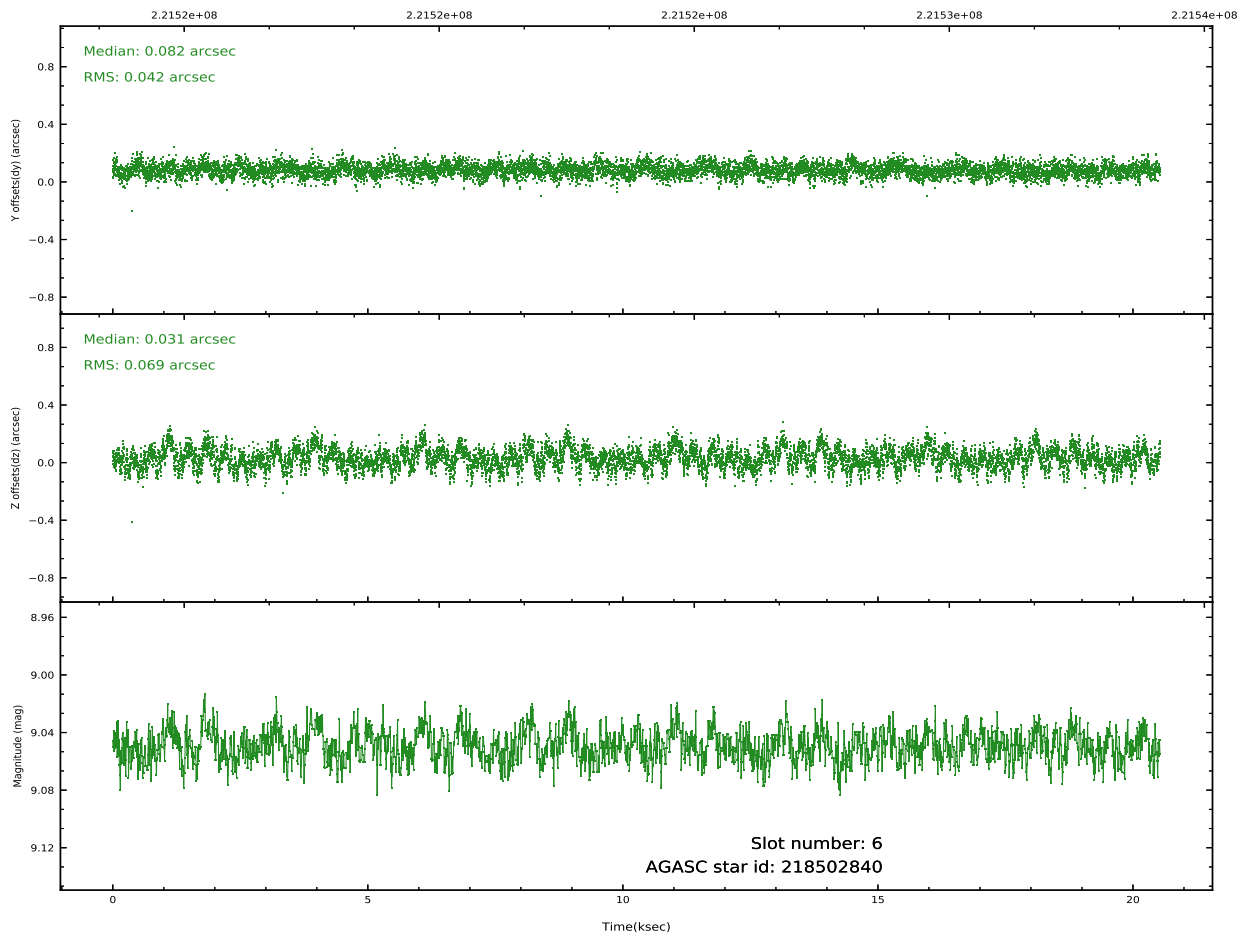
### 2.4.3 Slot 5



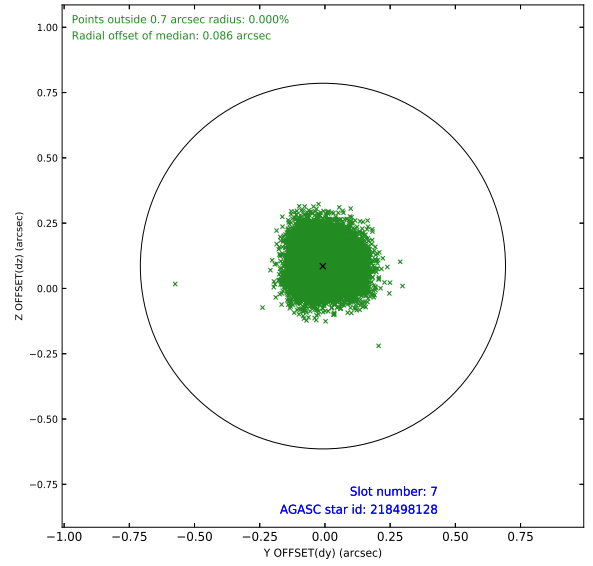
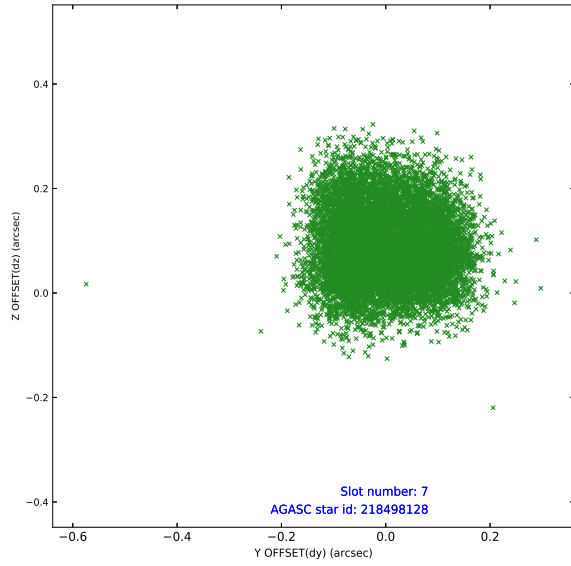
## 2.4.4 Slot 6



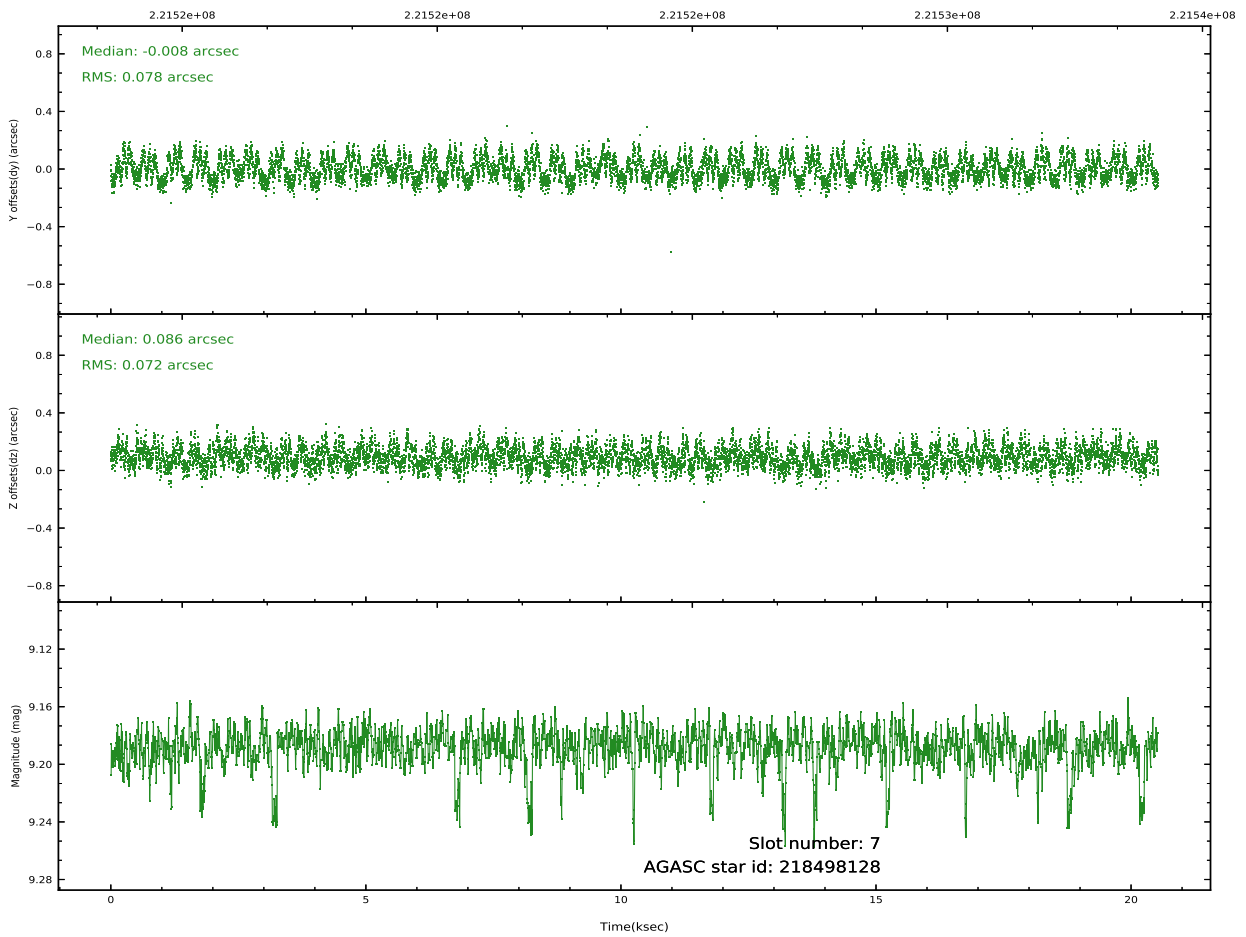
Time (s)



## 2.4.5 Slot 7

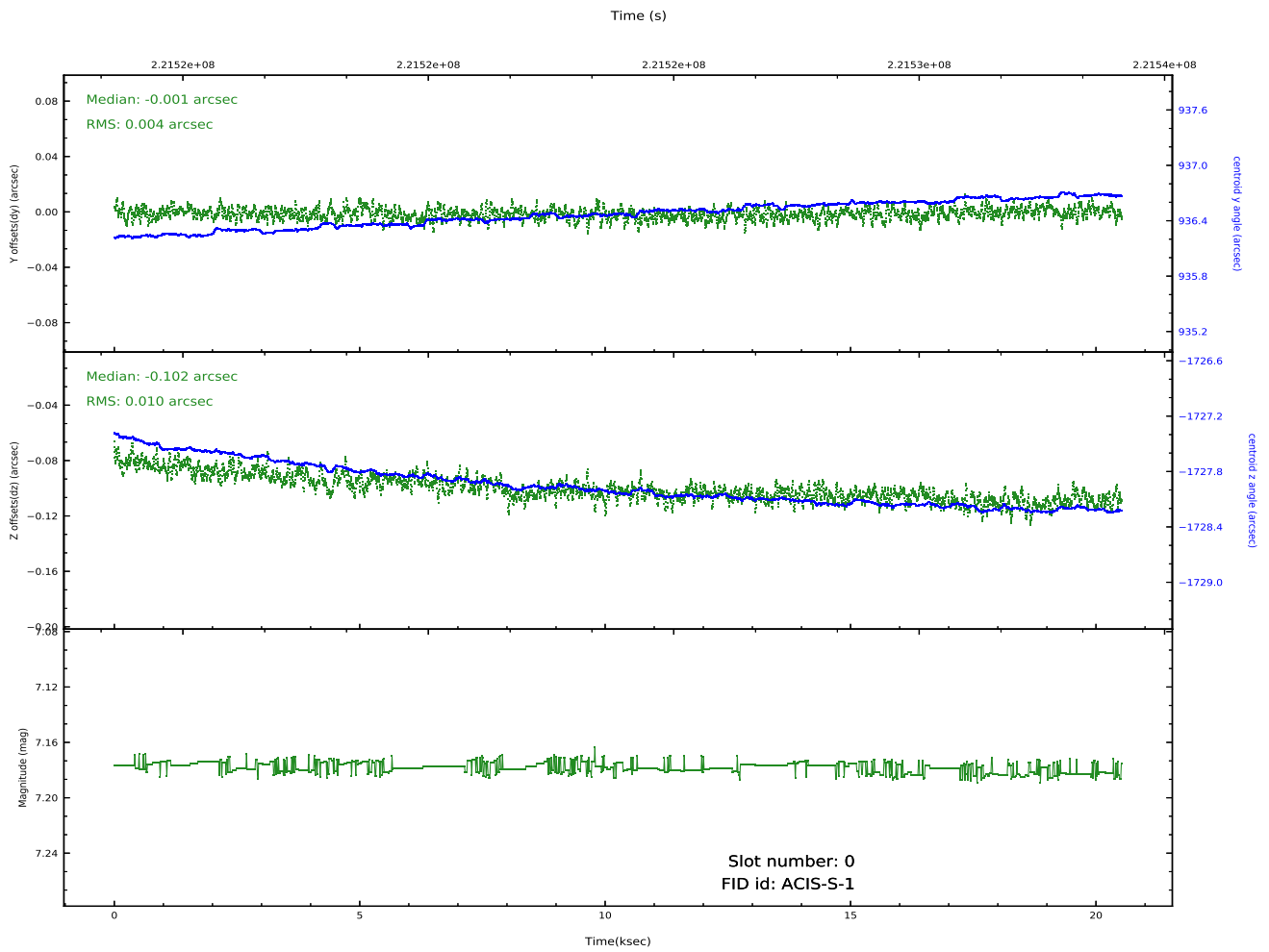
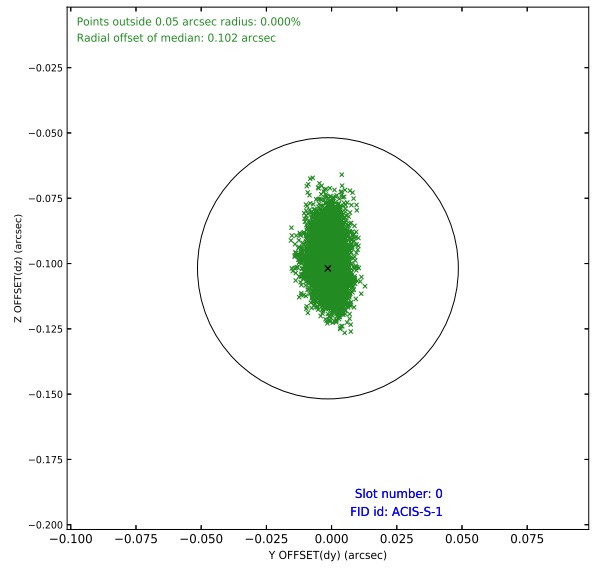
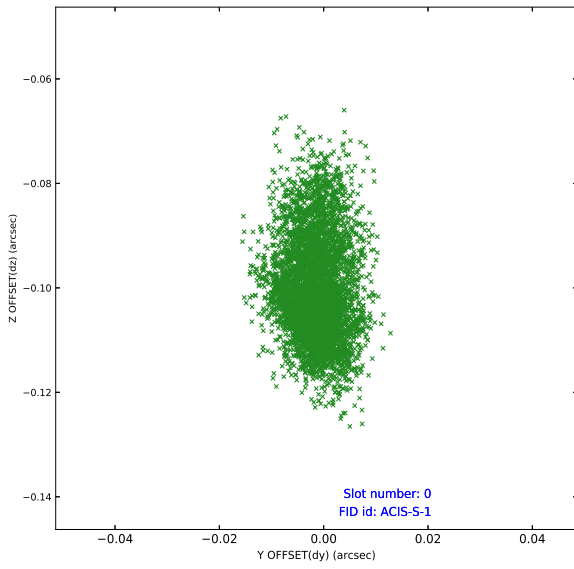


Time (s)

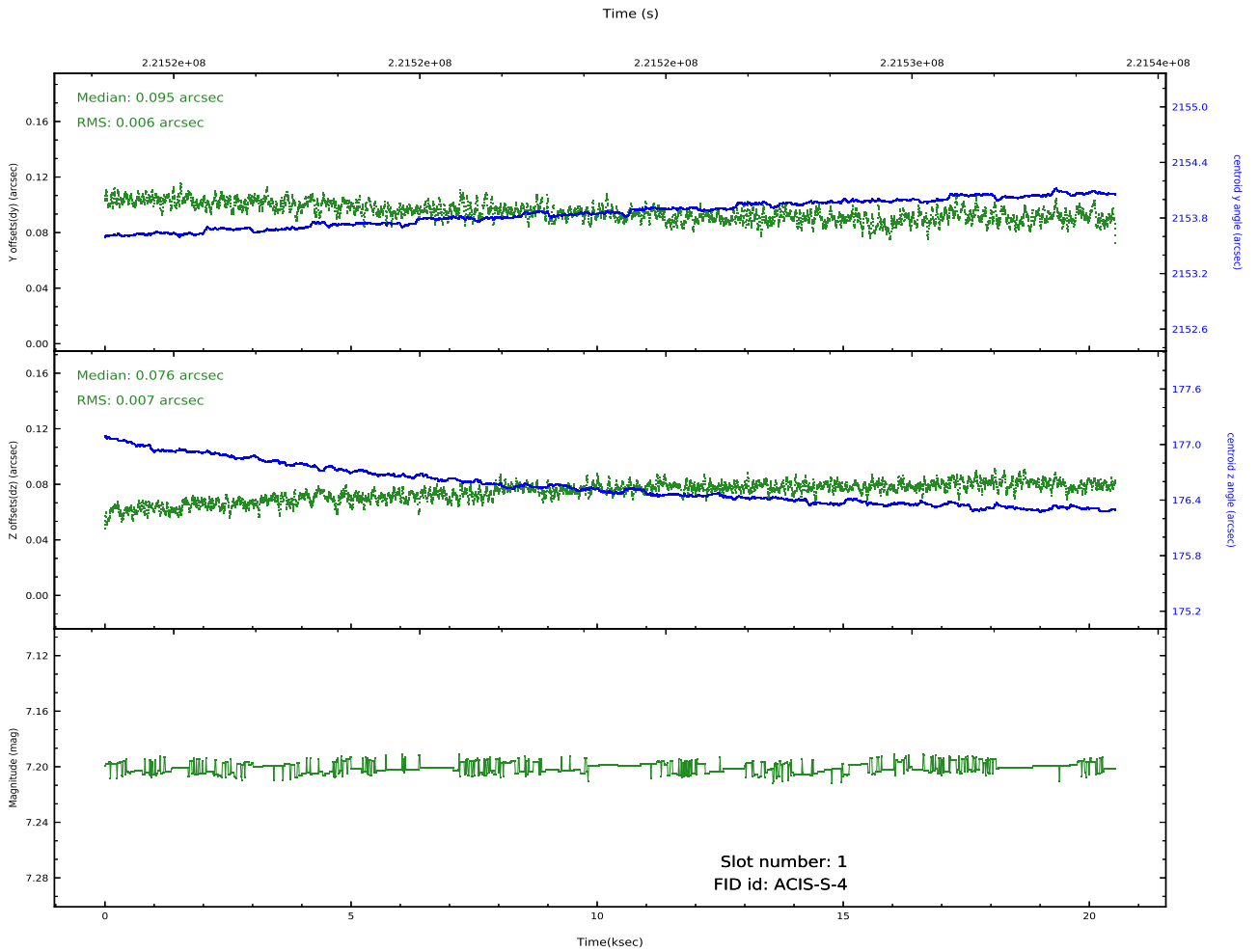
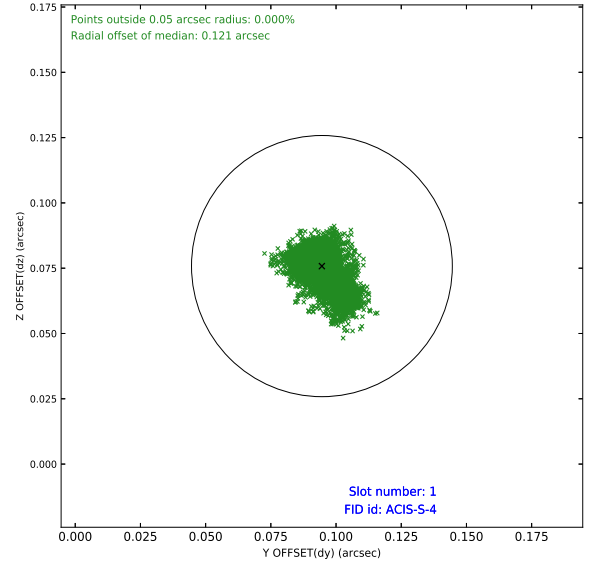
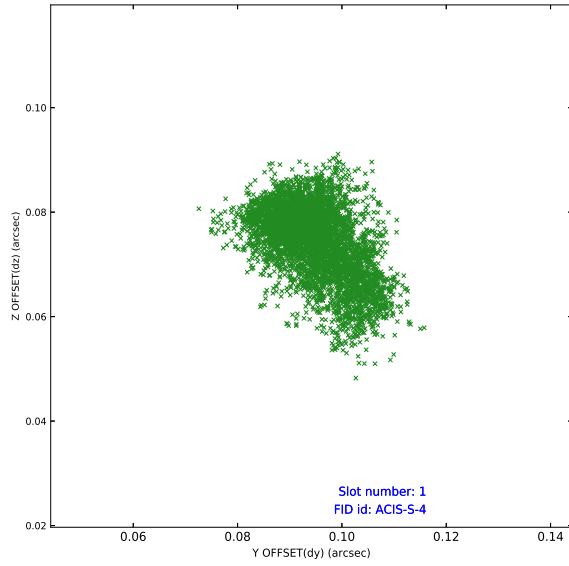


## 2.5 FID Slots

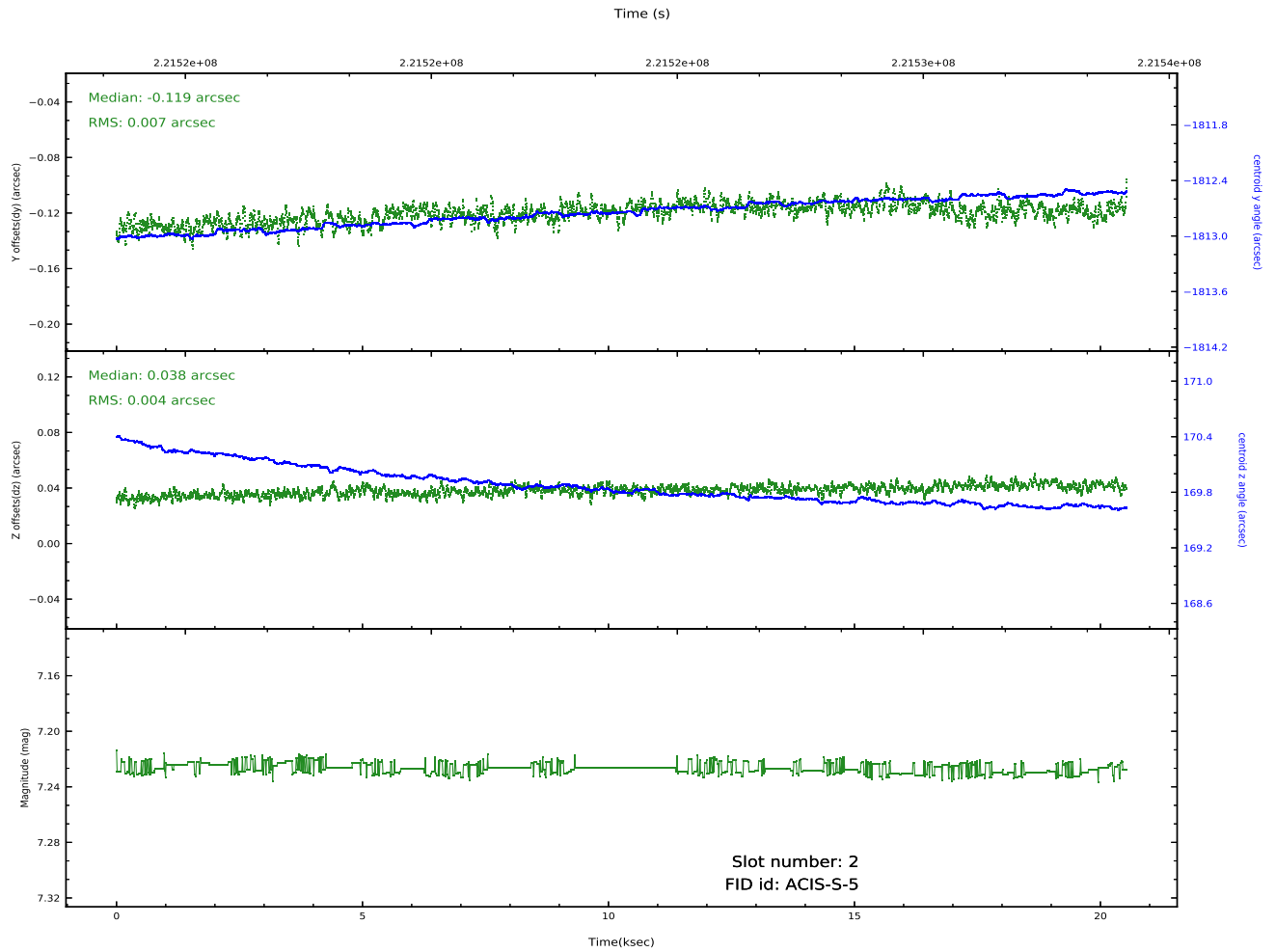
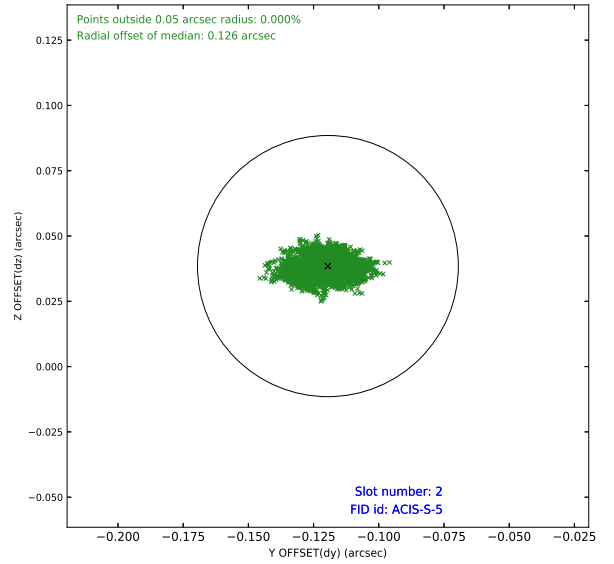
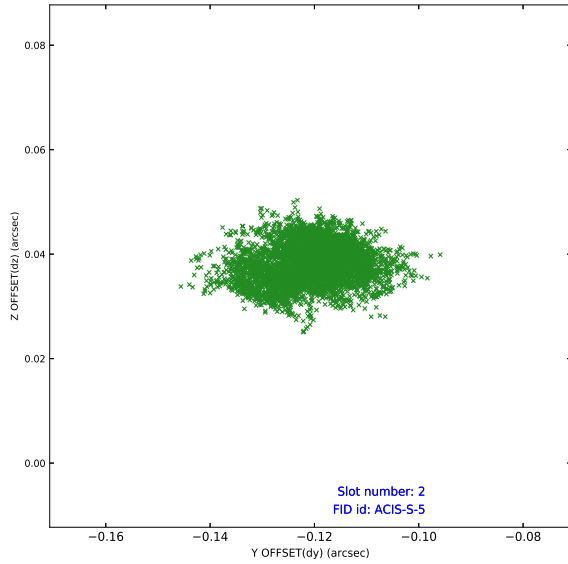
### 2.5.1 Slot 0



## 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)	2020.10.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.03839

## A.2 Comments

A spatial region of the original bias map for CCD = 3 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 = 3 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: (320.49202,17.02607), (320.48887,17.02237), (320.60215,16.93453), (320.60530,16.93823).