

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4933 - L2 Version 5  
Chandra X-Ray Center

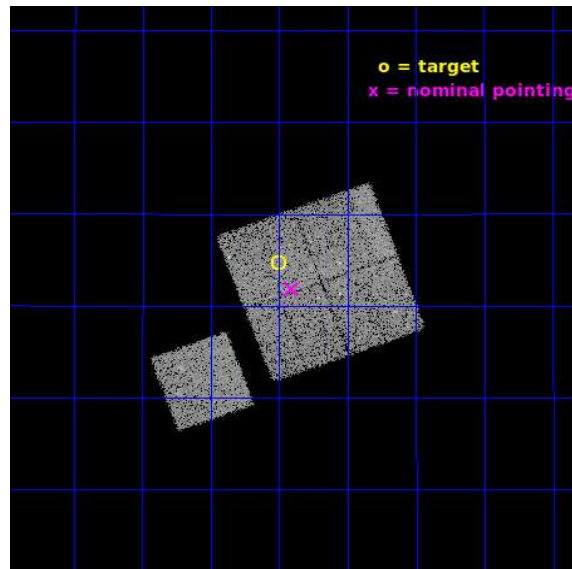
L2 Processing Date : Oct 5 2020

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# 1 Front

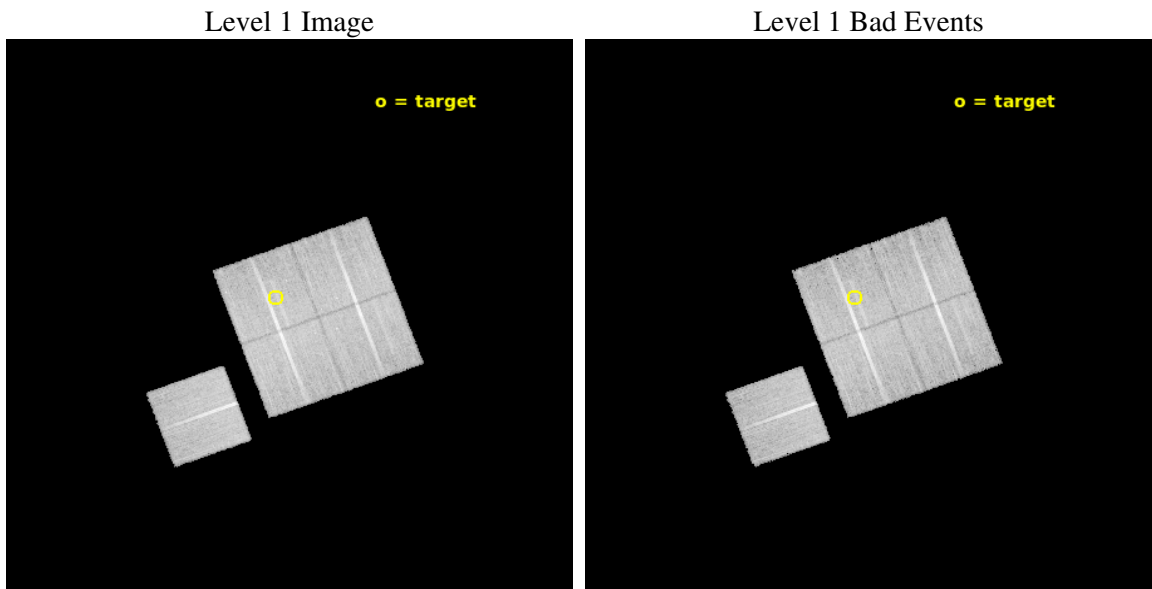
seq_num	800384	Sequence number
obs_id	4933	Observation id
title	Chandra snapshot survey of 10 distant clusters of galaxies	Proposa
observer	Dr. Stephen Murray	Principal investigator
object	CIG J1117+1744	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	169.375833	Observer's specified target RA [deg]
dec_targ	17.745556	Observer's specified target Dec [deg]
ra_nom	169.35189015865	Nominal RA [deg]
dec_nom	17.697993370967	Nominal Dec [deg]
roll_nom	249.76444681019	Nominal Roll [deg]
revision	5	Processing version of data
ontime	19051.386144072	Sum of GTIs [s]
livetime	18802.465758673	Livetime [s]
ontime0	19044.981083602	Sum of GTIs [s]
ontime1	19051.304064065	Sum of GTIs [s]
ontime2	19051.345104069	Sum of GTIs [s]
ontime3	19051.386144072	Sum of GTIs [s]
ontime6	19051.221984059	Sum of GTIs [s]
l2events	49392	Number of level 2 events



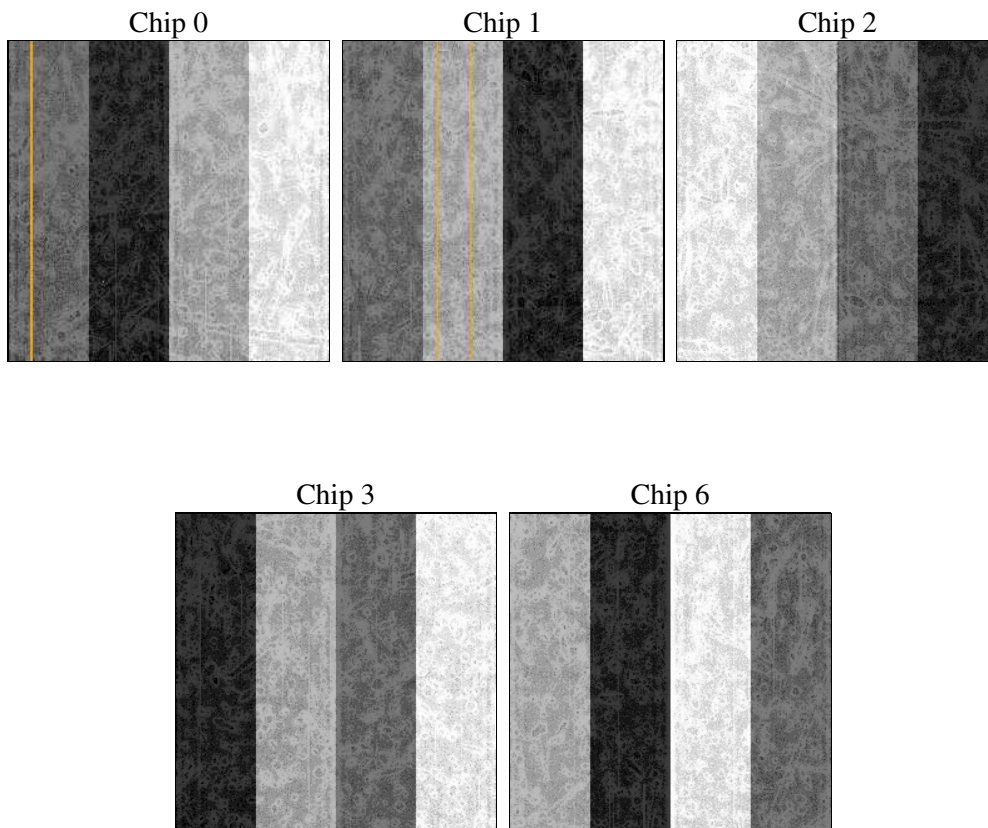
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	19051.386144072	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime0	19044.981083602	Sum of GTIs [s]
date	2020-10-05T21:03:14	Date and time of file creation	ontime1	19051.304064065	Sum of GTIs [s]
revision	5	Processing version of data	ontime2	19051.345104069	Sum of GTIs [s]
			ontime3	19051.386144072	Sum of GTIs [s]
			ontime6	19051.221984059	Sum of GTIs [s]
			l1events	590809	Number of level 1 events

### 2.1.4 Events

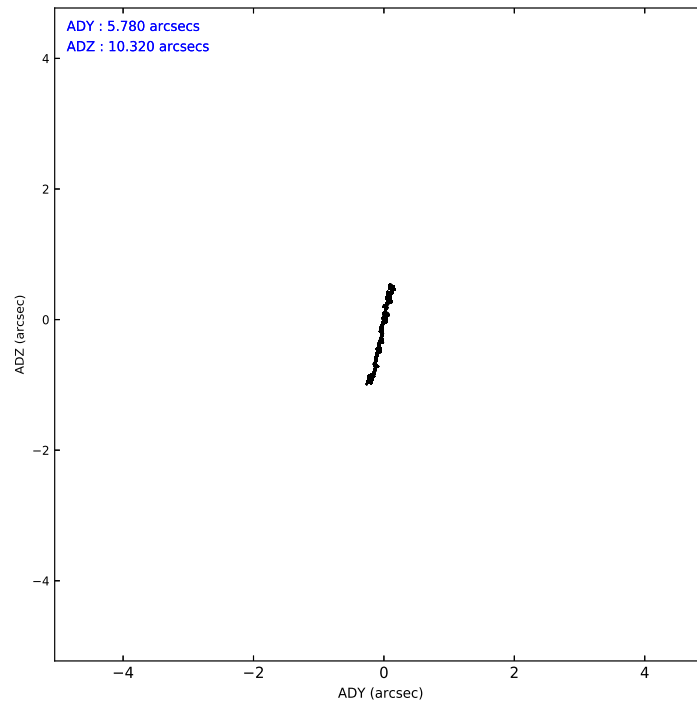
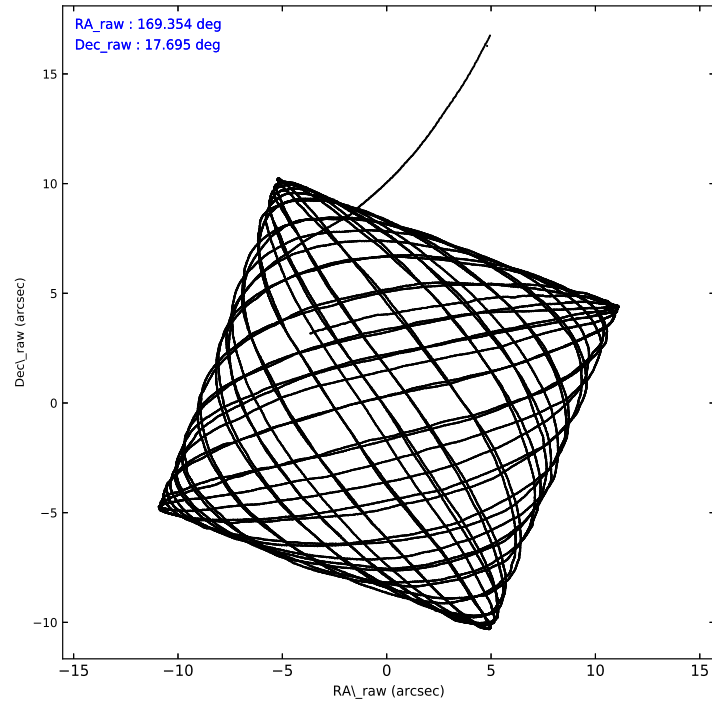
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	113172	114497	125354	117377	120409
rejected events	101306	101207	113958	105868	108300
rejected %	89%	88%	90%	90%	89%

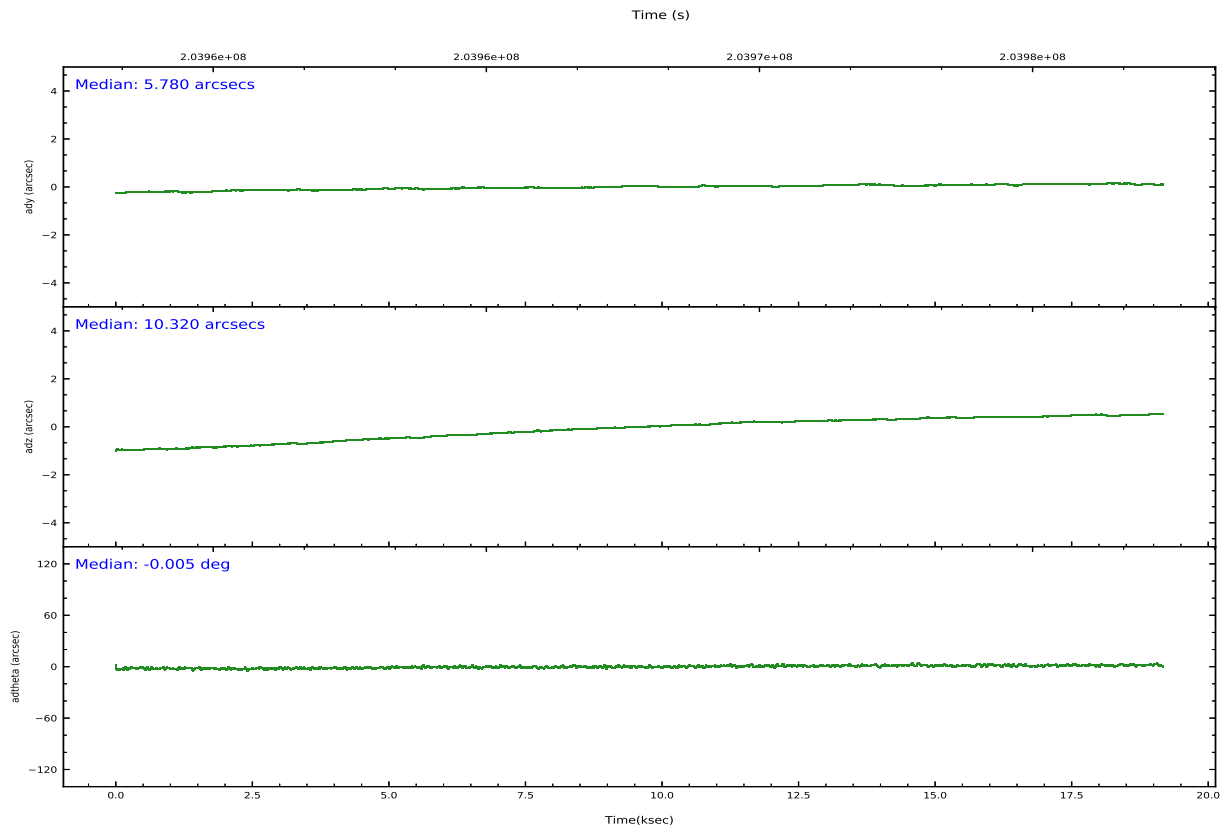
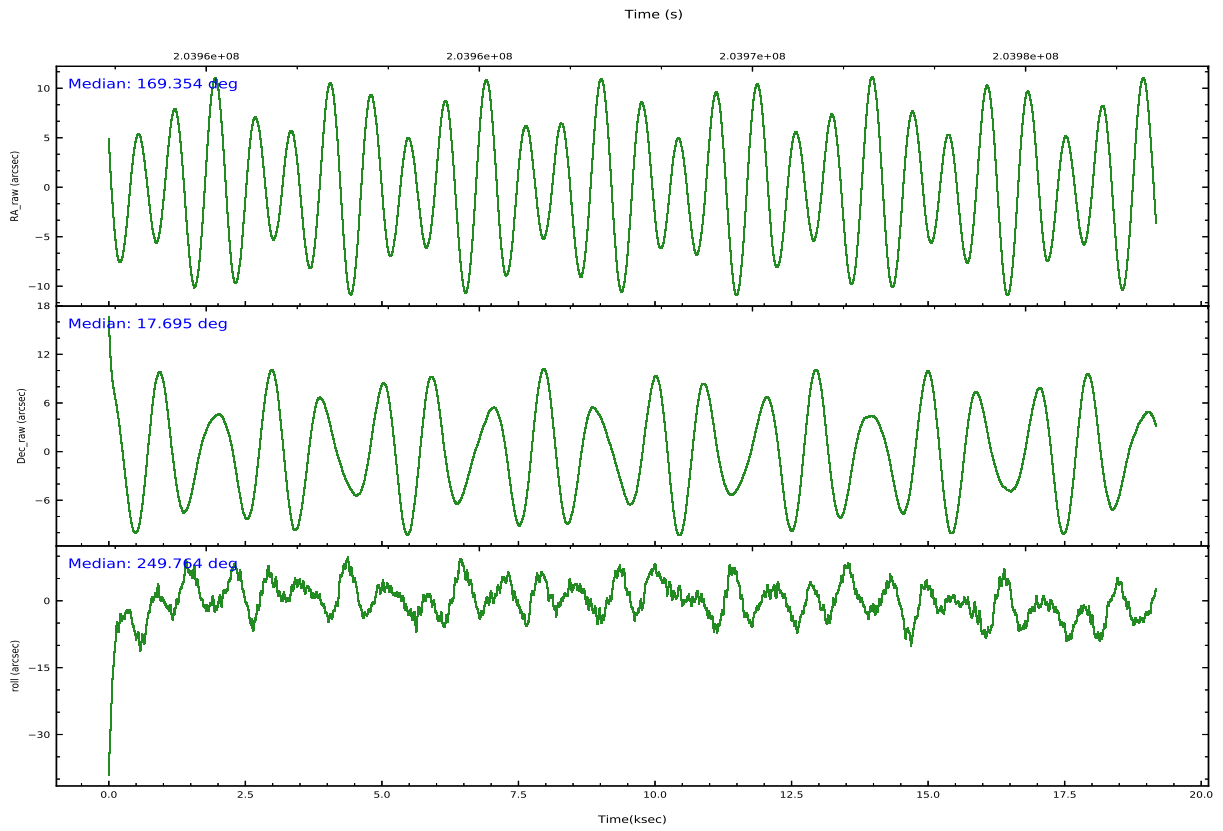
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4029	4887	3986	4453	4212
	3%	4%	3%	3%	3%
grade 1 events	51	66	71	60	45
	0%	0%	0%	0%	0%
grade 2 events	2854	2818	2744	2376	2623
	2%	2%	2%	2%	2%
grade 3 events	1427	1483	1300	1300	1374
	1%	1%	1%	1%	1%
grade 4 events	1323	1440	1308	1260	1376
	1%	1%	1%	1%	1%
grade 5 events	4129	4371	3853	4679	4591
	3%	3%	3%	3%	3%
grade 6 events	2236	2668	2060	2121	2531
	1%	2%	1%	1%	2%
grade 7 events	97123	96764	110032	101128	103657
	85%	84%	87%	86%	86%

## 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	169.349173	169.35189015865	Subarray requested	NONE	NONE
[deg] Pointing Dec	17.722299	17.697993370967	Alternating exposures requested	N	N
[deg] Pointing Roll	249.553946	249.76444681019	[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)	203958389.184000	203957452.10406			
Observation start date	2004-06-18T15:05:25	2004-06-18T14:50:52			
[s] Observation end time (MET)	203977389.184000	203978171.96748			
Observation end date	2004-06-18T20:22:05	2004-06-18T20:36:11			
Read mode	TIMED	TIMED			

## 2.3 Aspect





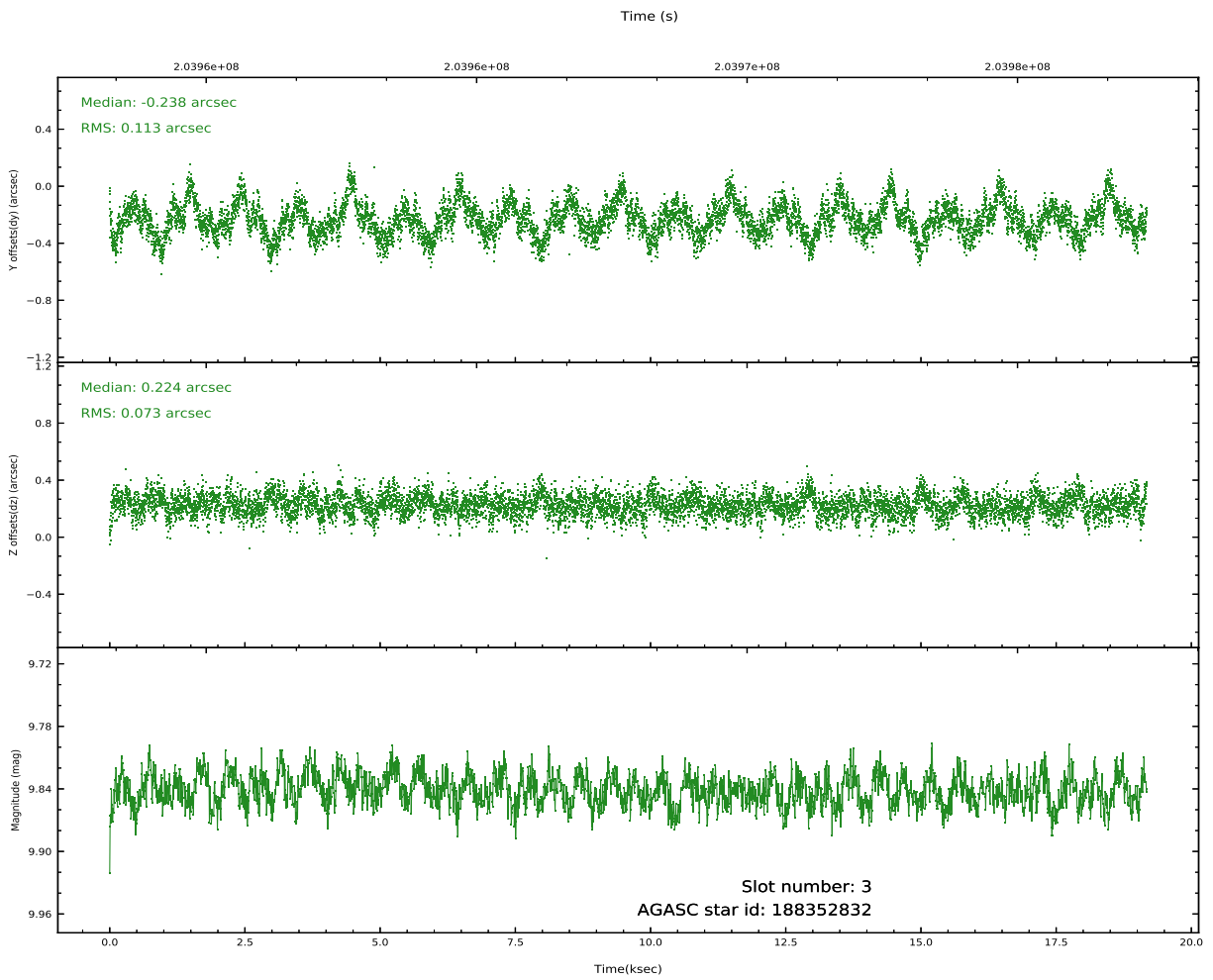
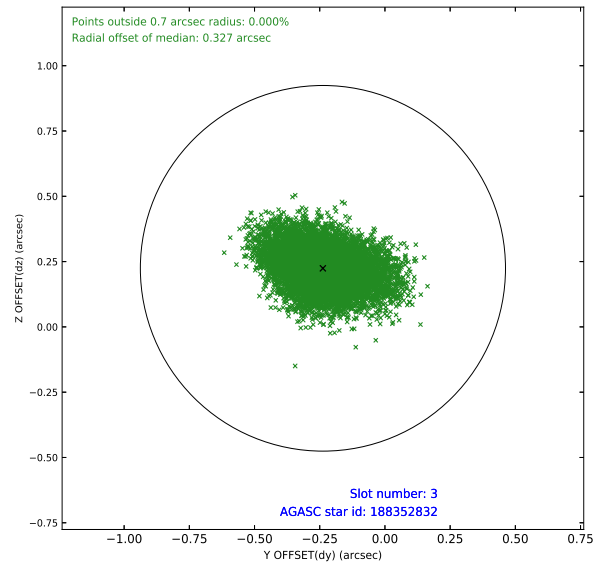
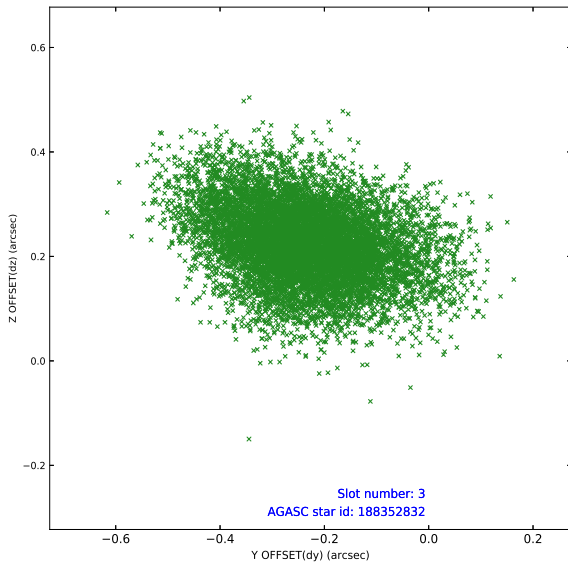
### Slot Statistics

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	4677	1.000	0.077	-0.115	0.023	0.033	0.000000	0.000000	933.94	-992
1	FID		ACIS-I-2	7.17	4677	1.000	-0.196	0.042	0.014	0.021	0.000000	0.000000	-760.72	-998
2	FID		ACIS-I-4	7.14	4676	1.000	0.021	0.140	0.012	0.017	0.000000	0.000000	2153.14	908
3	GUIDE	used	188352832	9.84	9341	1.000	-0.238	0.224	0.140	0.244	169.850472	18.107090	-1898.90	1122
4	GUIDE	used	188357968	10.85	9339	1.000	-0.061	0.071	0.194	0.328	168.607093	17.580148	1364.77	-2208
5	GUIDE	used	188360336	10.00	9348	1.000	0.226	-0.218	0.167	0.292	168.606298	17.406968	1951.43	-1996
6	GUIDE	used	188368384	10.04	9349	1.000	0.205	-0.020	0.136	0.220	168.918377	17.370042	1704.59	-944
7	GUIDE	used	188371152	10.01	9268	1.000	-0.151	-0.064	0.117	0.188	169.317956	17.570920	548.64	89

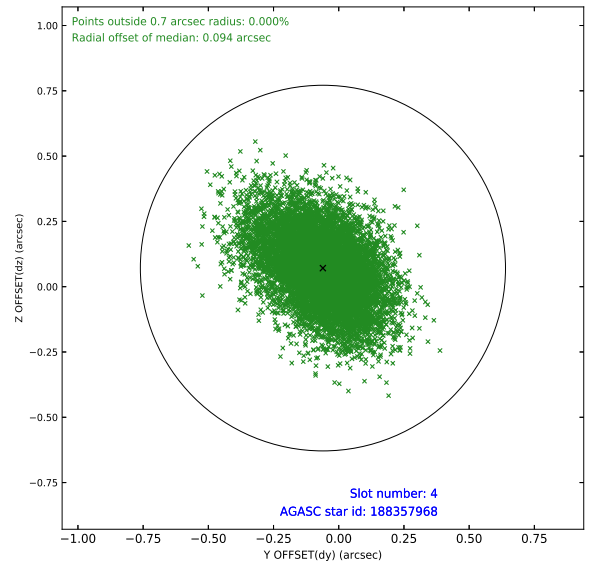
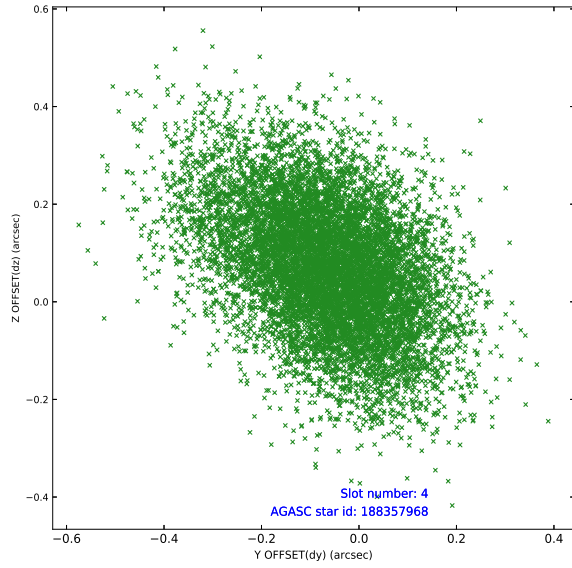
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## 2.4 Star Slots

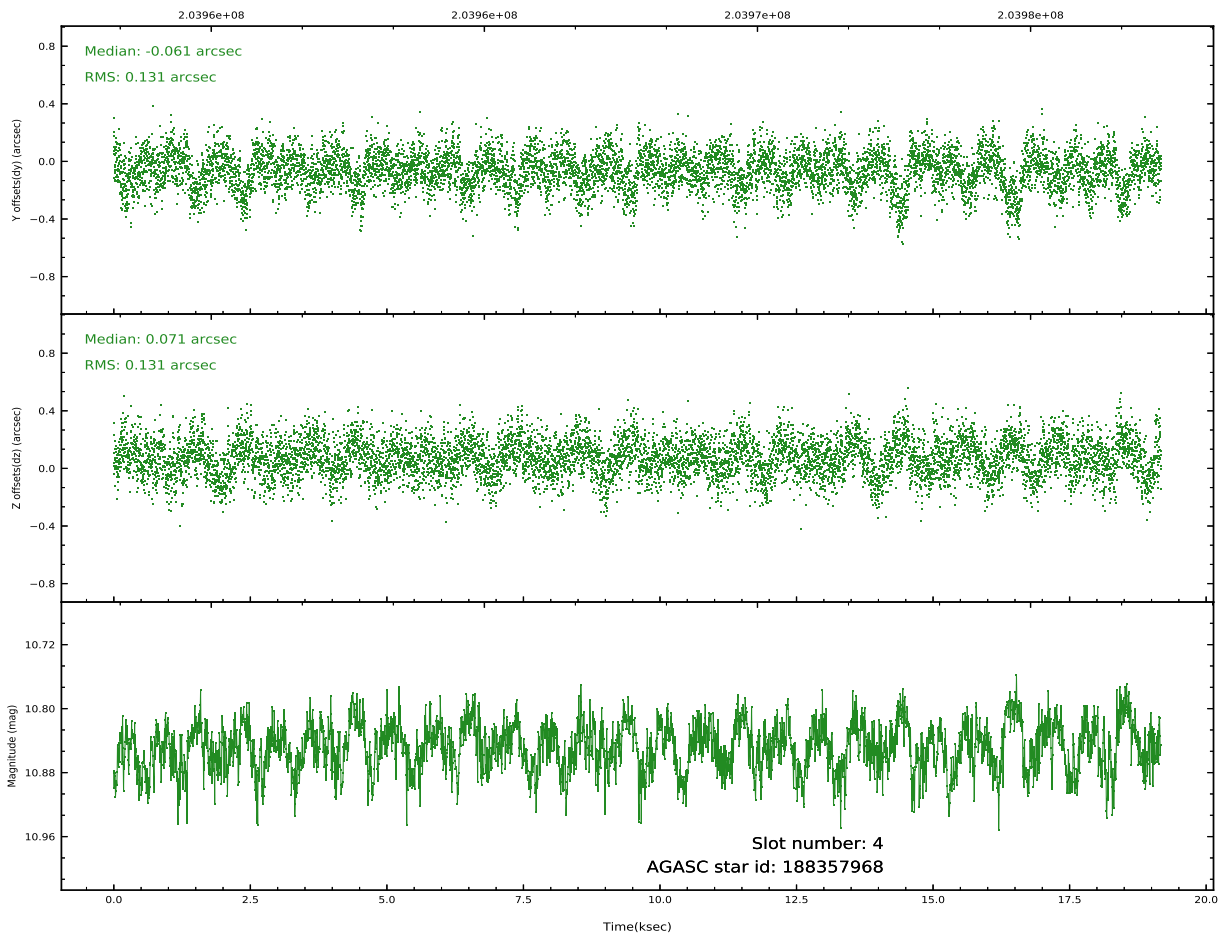
### 2.4.1 Slot 3



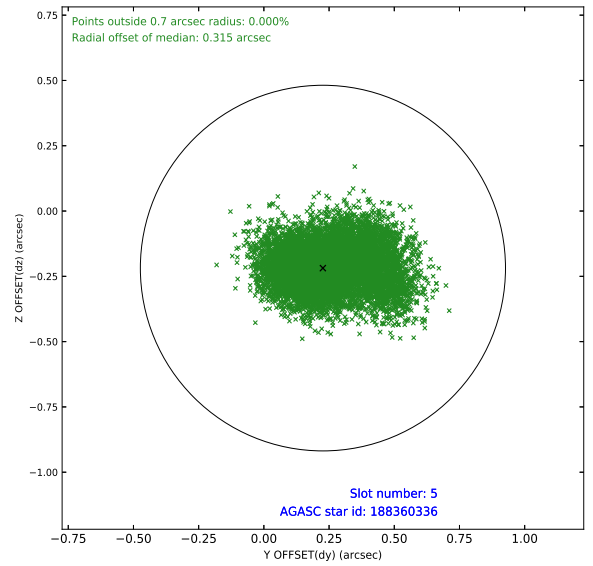
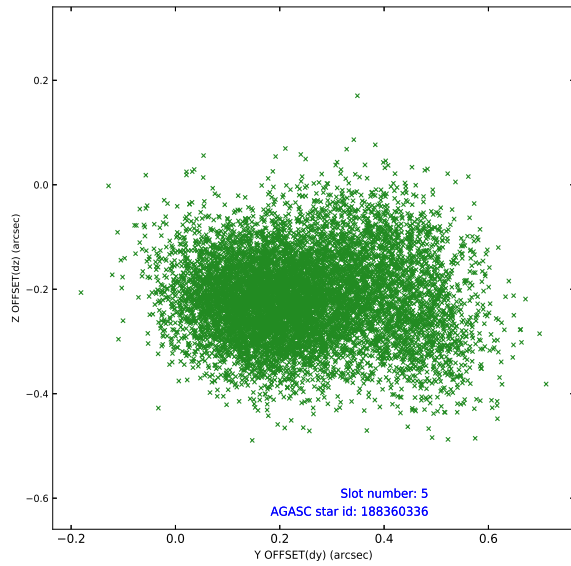
## 2.4.2 Slot 4



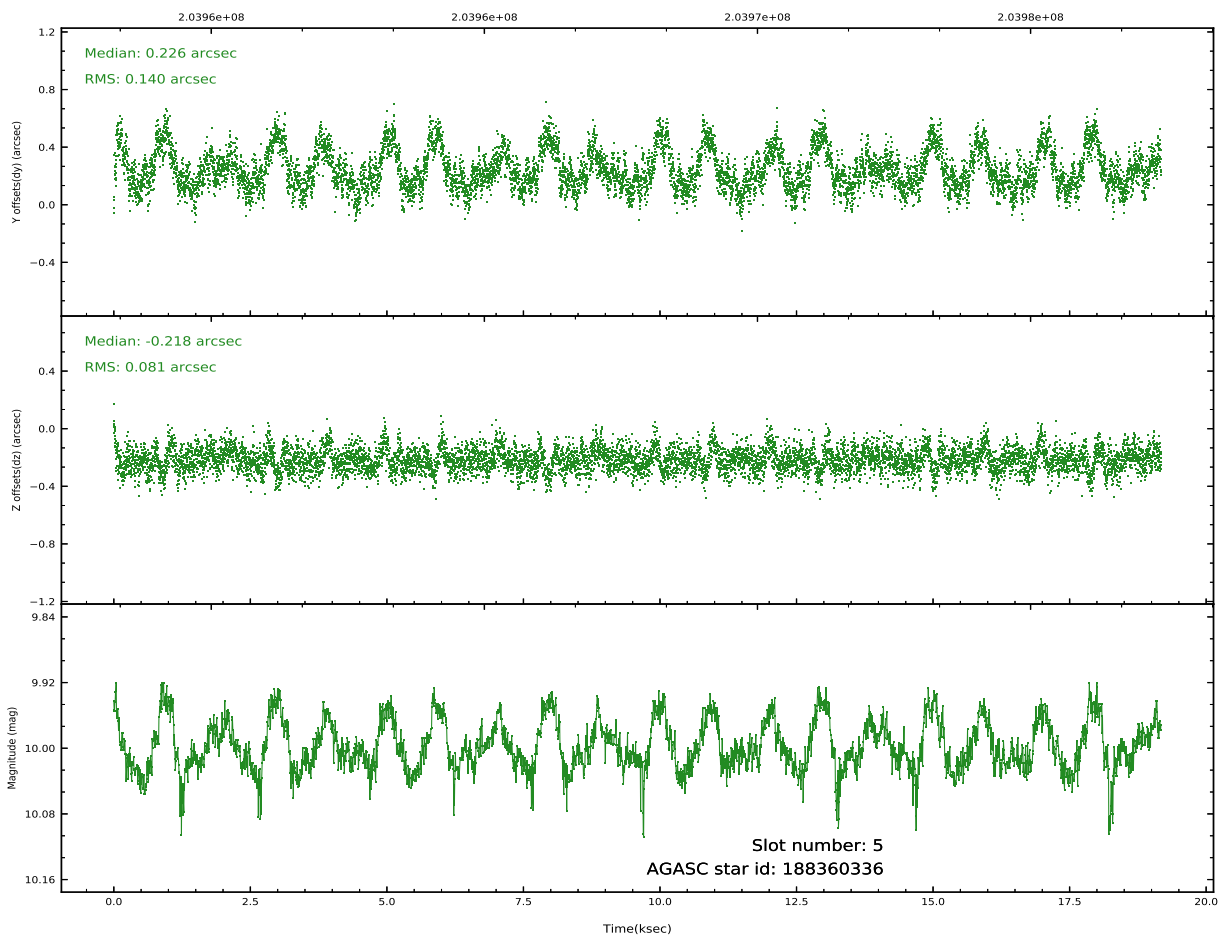
Time (s)



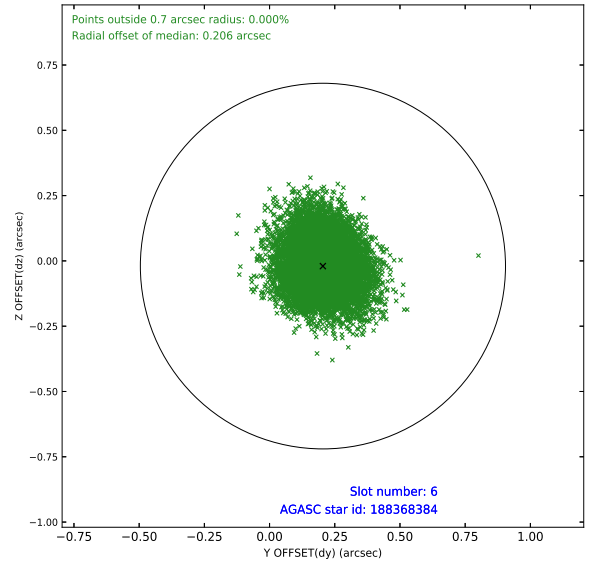
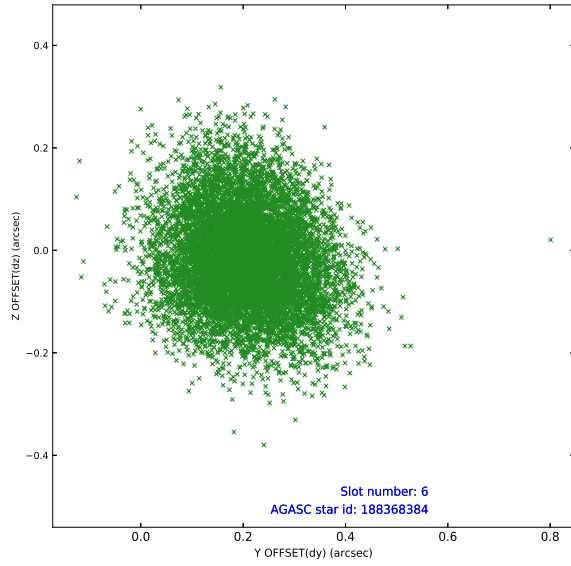
### 2.4.3 Slot 5



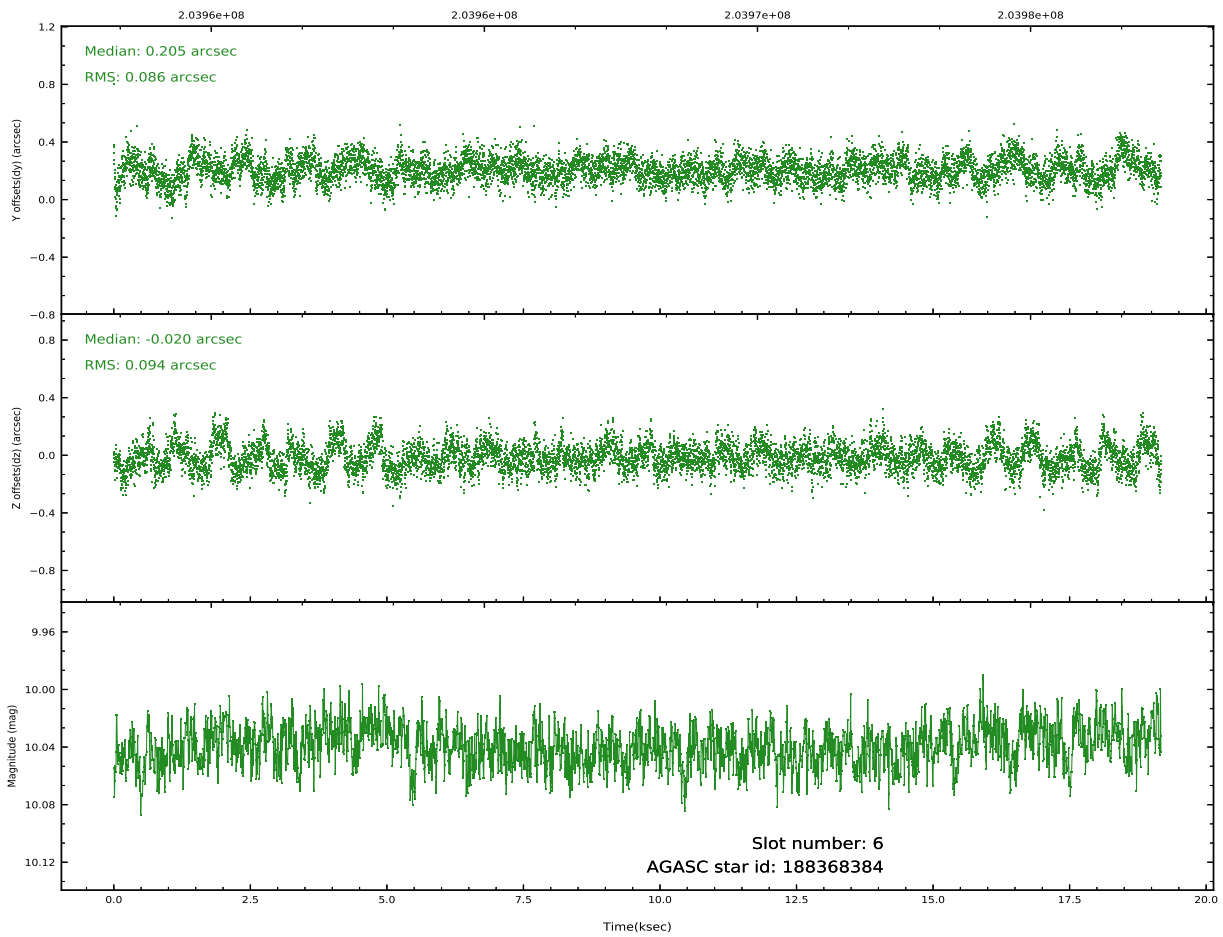
Time (s)



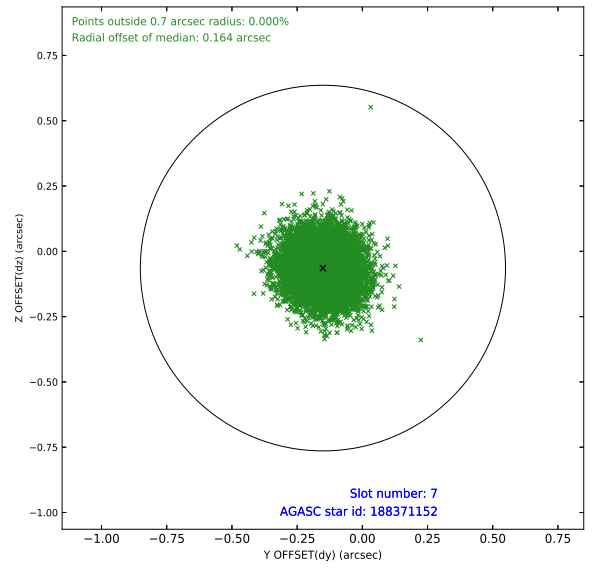
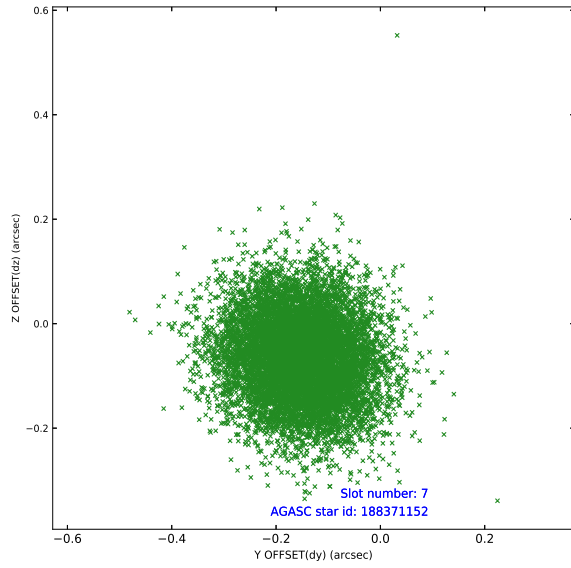
## 2.4.4 Slot 6



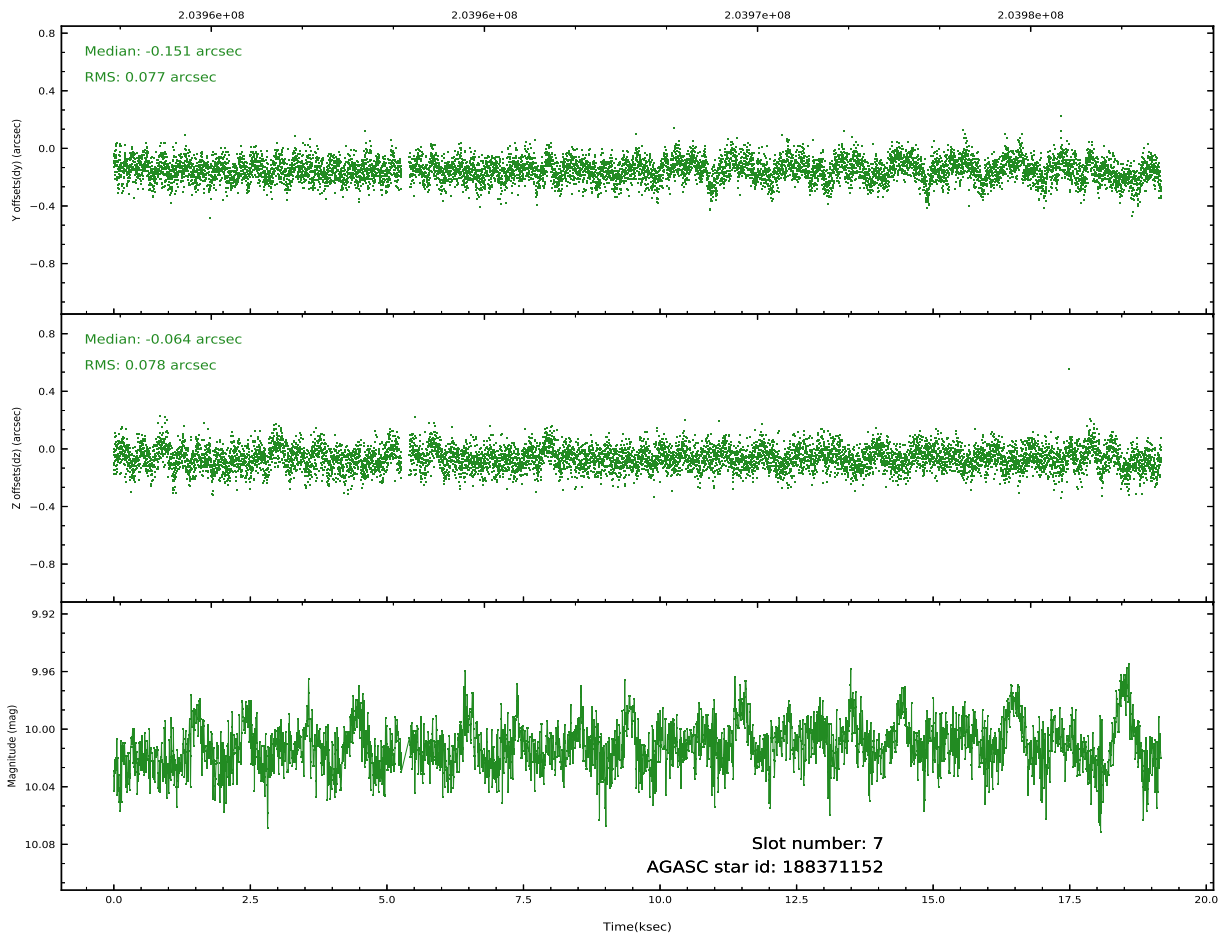
Time (s)



## 2.4.5 Slot 7

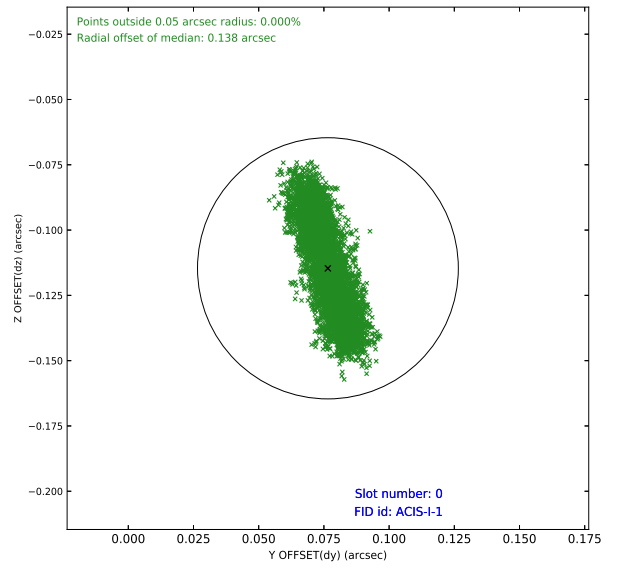
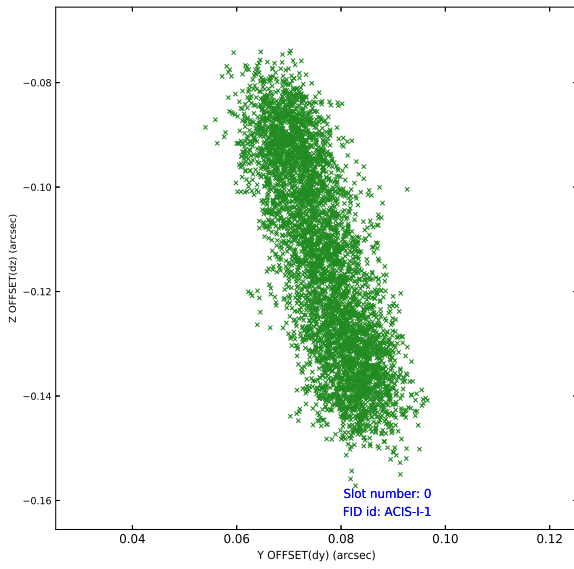


Time (s)

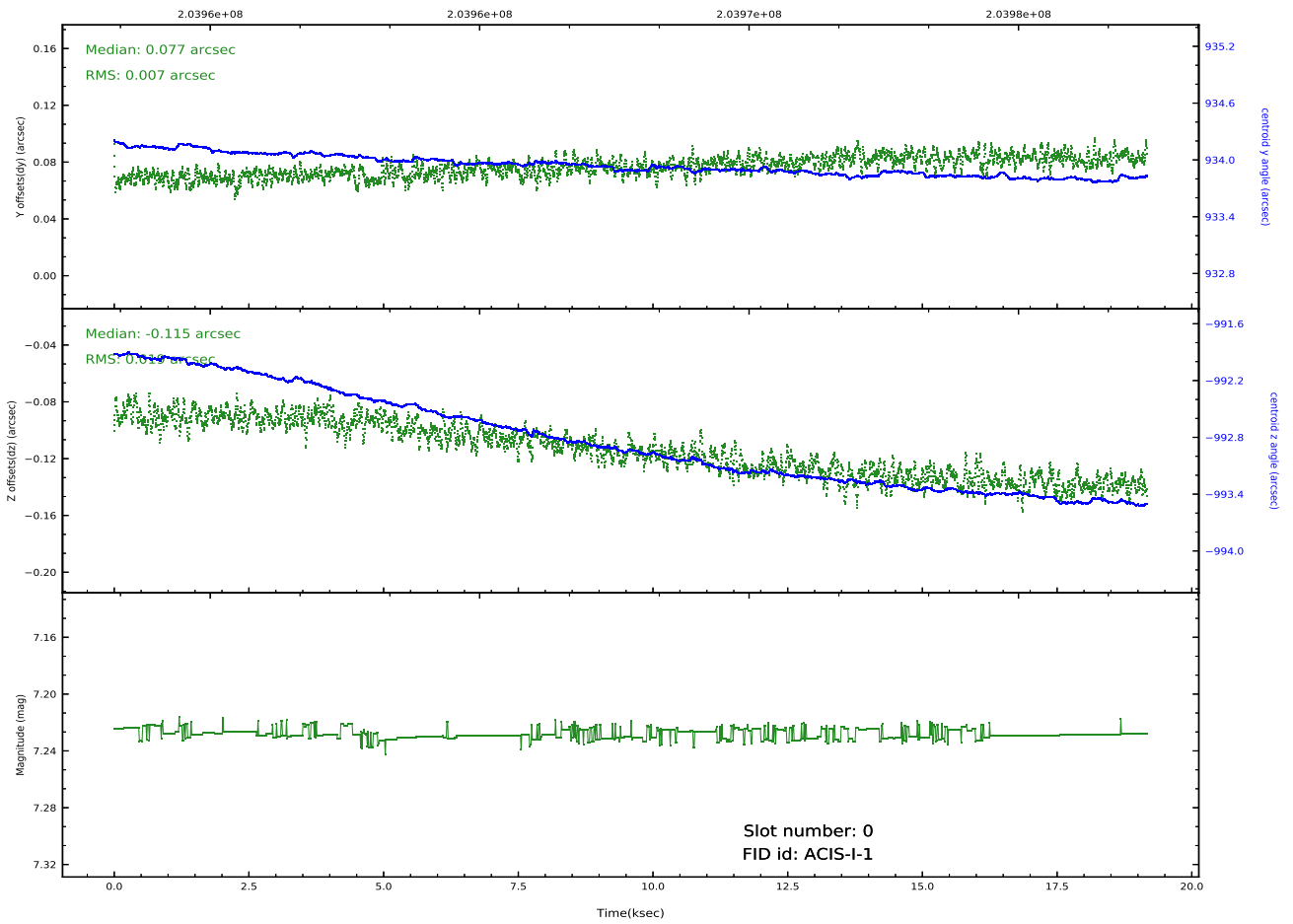


## 2.5 FID Slots

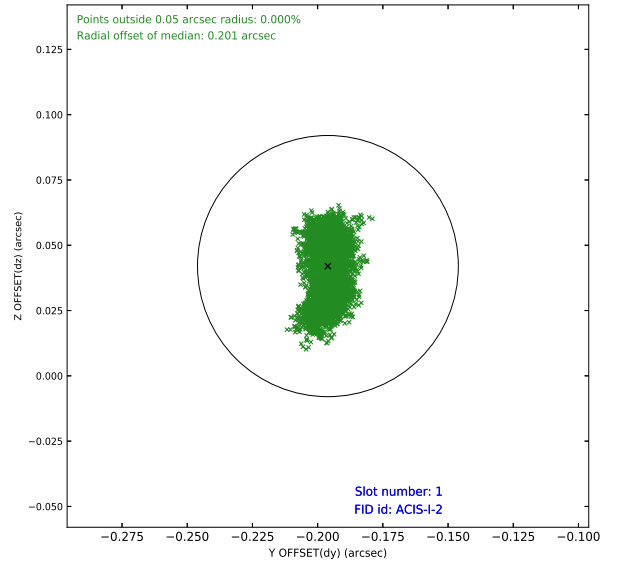
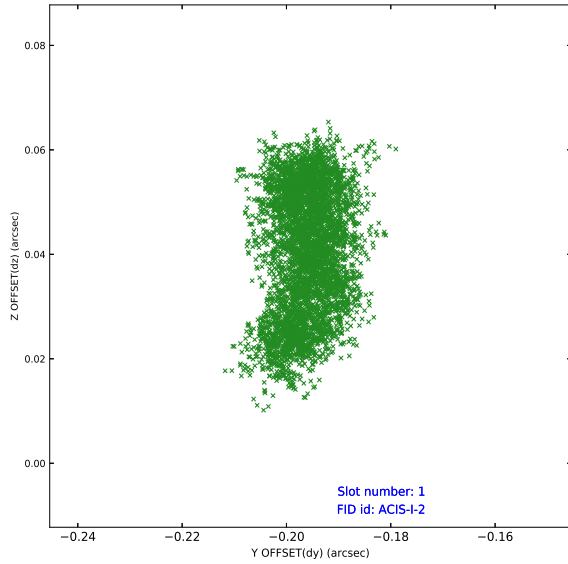
### 2.5.1 Slot 0



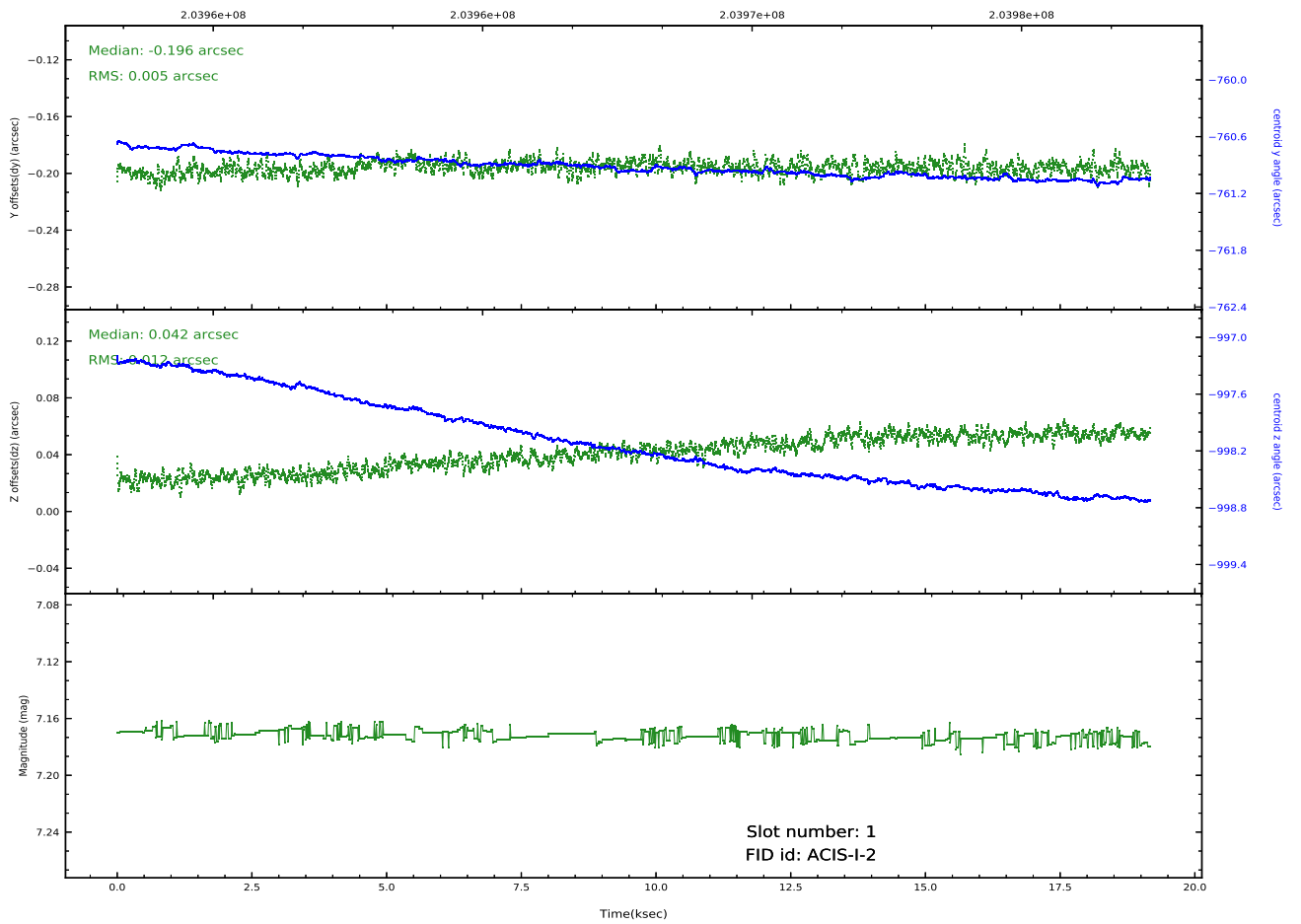
Time (s)



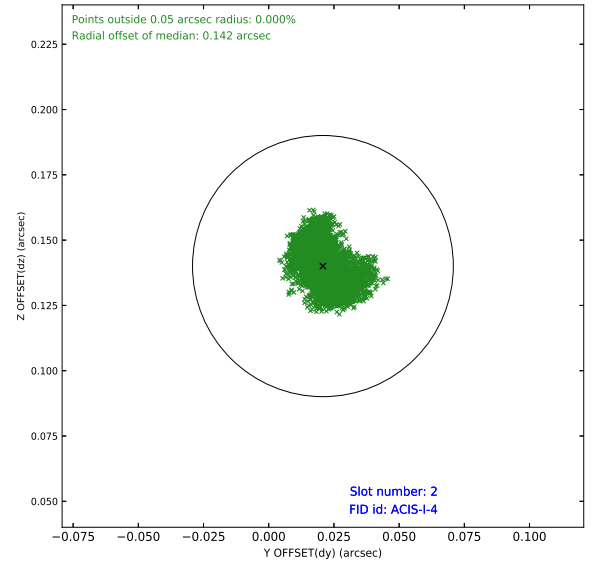
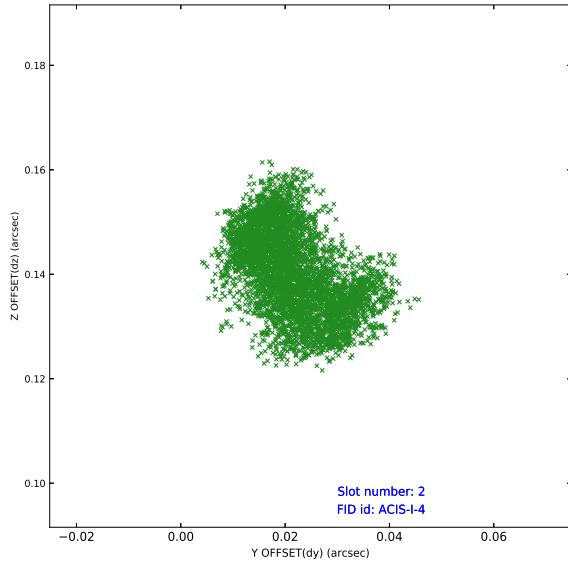
## 2.5.2 Slot 1



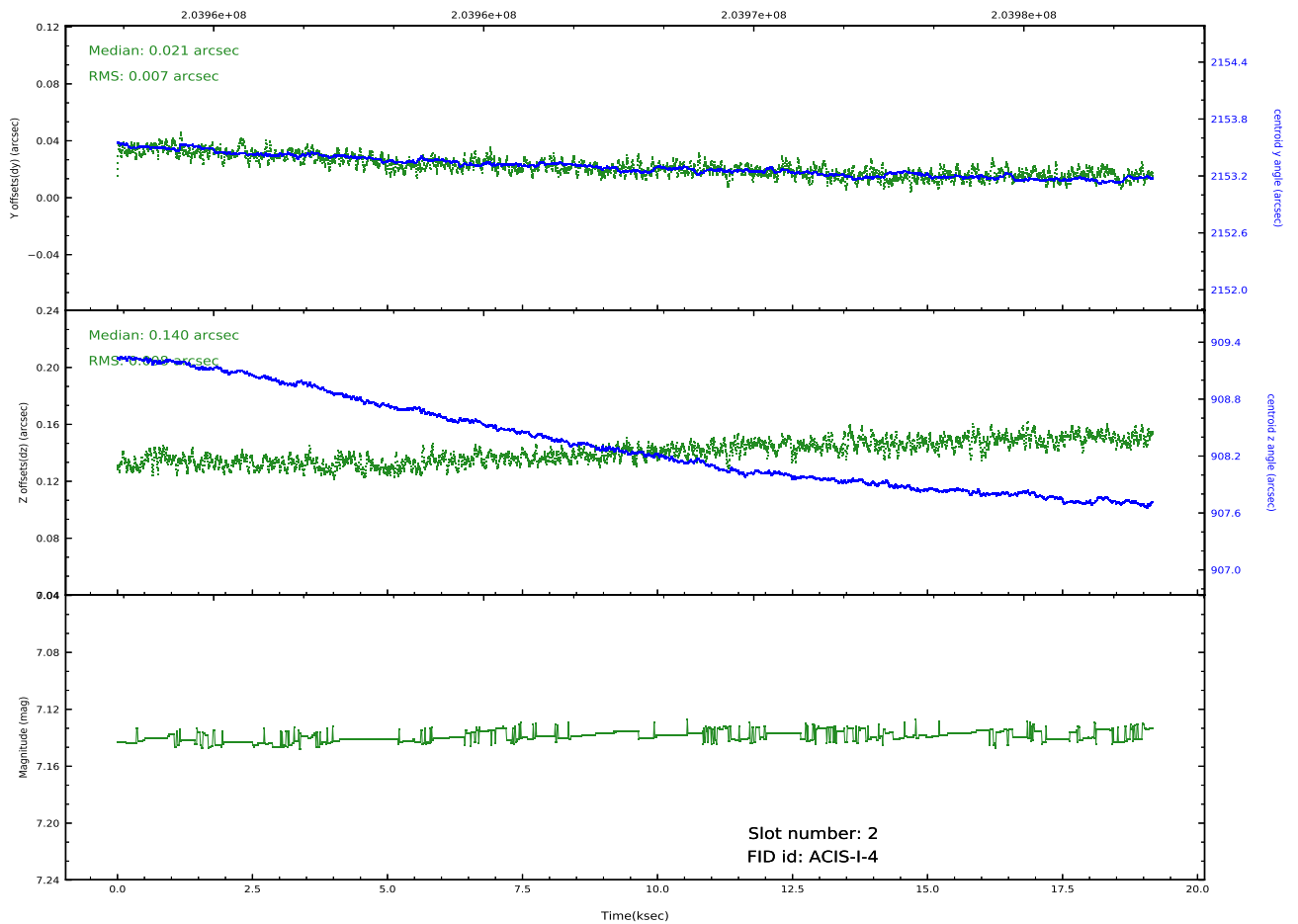
Time (s)



## 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.052

## 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: (169.38211,17.78898), (169.37903,17.79007), (169.34289,17.69670), (169.34597,17.69561).