

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 5936 - L2 Version 5
Chandra X-Ray Center

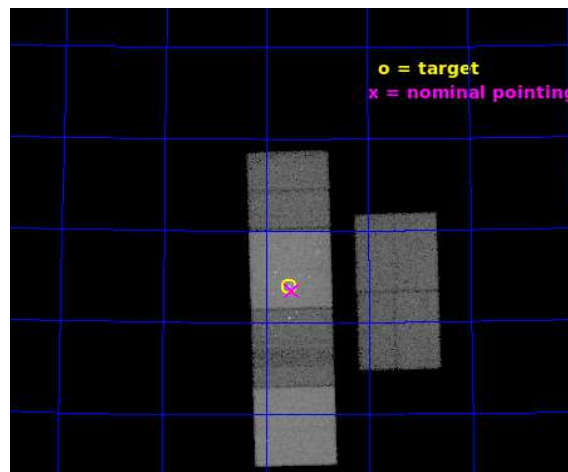
L2 Processing Date : Oct 22 2020

Contents

1	Front	2
2	OBI	3
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
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

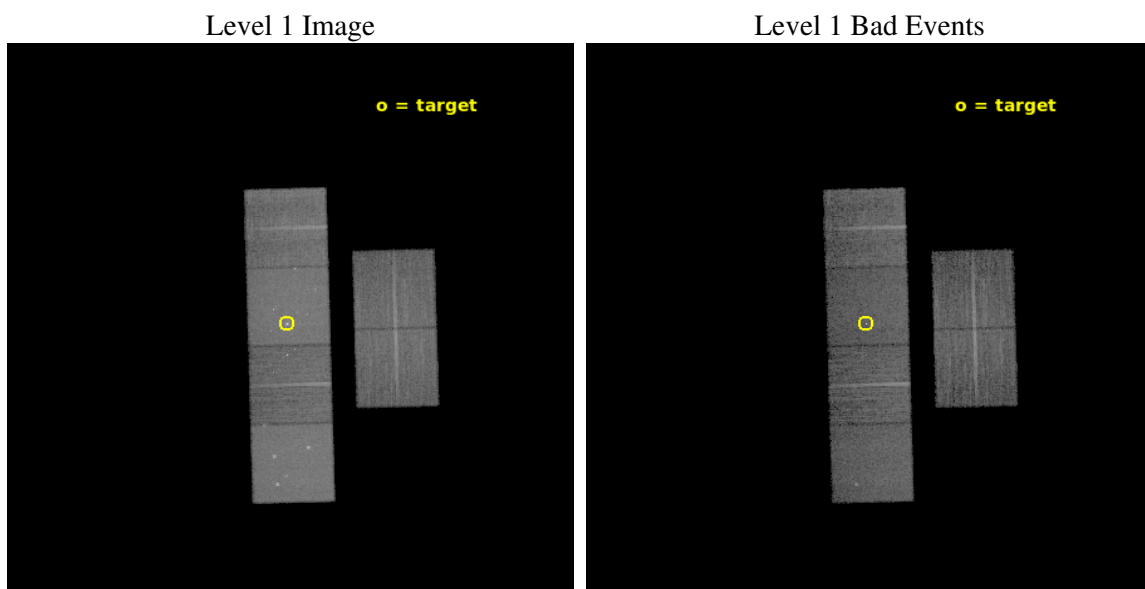
seq_num	600455	Sequence number
obs_id	5936	Observation id
title	An Unprecedented View of a Galaxy's Dynamic X-ray Source Population	
observer	David Pooley	Principal investigator
object	M81	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	148.888333	Observer's specified target RA [deg]
dec_targ	69.065306	Observer's specified target Dec [deg]
ra_nom	148.87359095148	Nominal RA [deg]
dec_nom	69.057851430507	Nominal Dec [deg]
roll_nom	268.43021387895	Nominal Roll [deg]
revision	5	Processing version of data
ontime	11551.999956965	Sum of GTIs [s]
livetime	11405.721577731	Livetime [s]
ontime2	11551.999956965	Sum of GTIs [s]
ontime3	11551.999956965	Sum of GTIs [s]
ontime5	11551.999956965	Sum of GTIs [s]
ontime6	11551.999956965	Sum of GTIs [s]
ontime7	11551.999956965	Sum of GTIs [s]
ontime8	11548.758986682	Sum of GTIs [s]
l2events	304607	Number of level 2 events



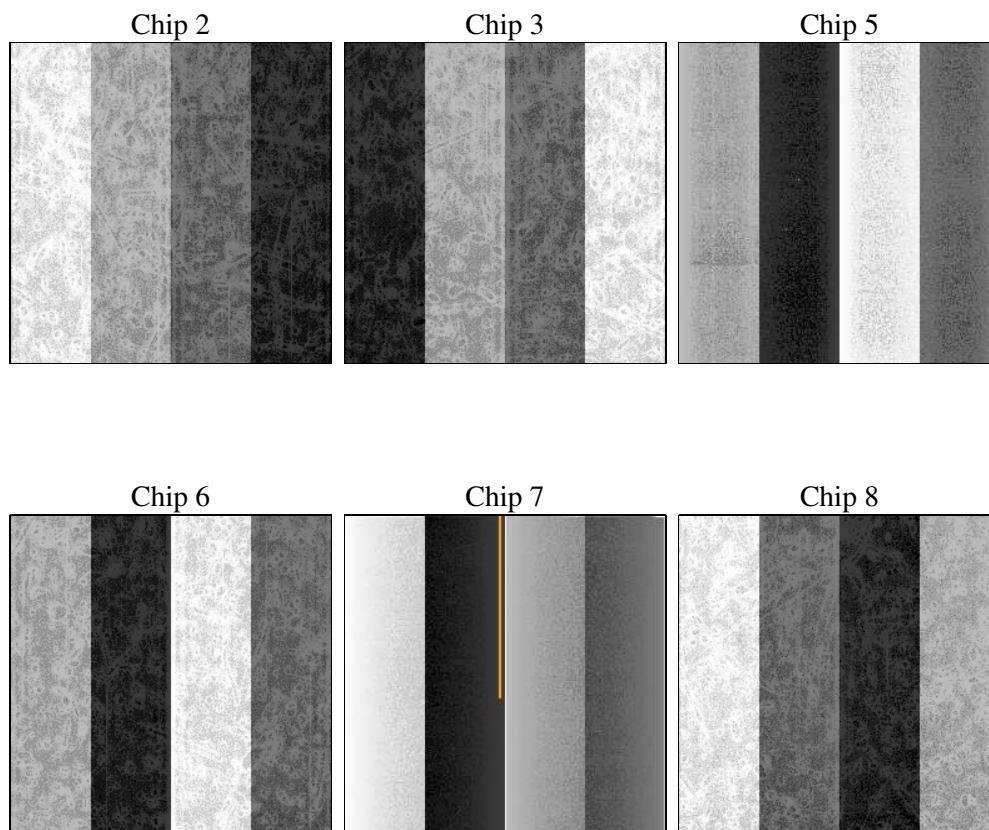
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	11382.627000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	11551.999956965	Sum of GTIs [s]
caldsver	4.9.3	 	ontime2	11551.999956965	Sum of GTIs [s]
date	2020-10-22T21:34:35	Date and time of file creation	ontime3	11551.999956965	Sum of GTIs [s]
revision	5	Processing version of data	ontime5	11551.999956965	Sum of GTIs [s]
			ontime6	11551.999956965	Sum of GTIs [s]
			ontime7	11551.999956965	Sum of GTIs [s]
			ontime8	11548.758986682	Sum of GTIs [s]
			l1events	827315	Number of level 1 events

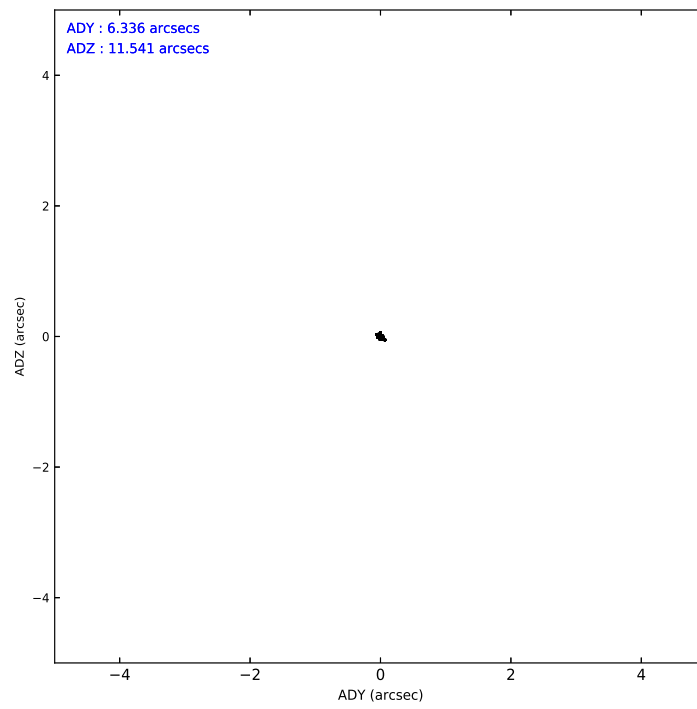
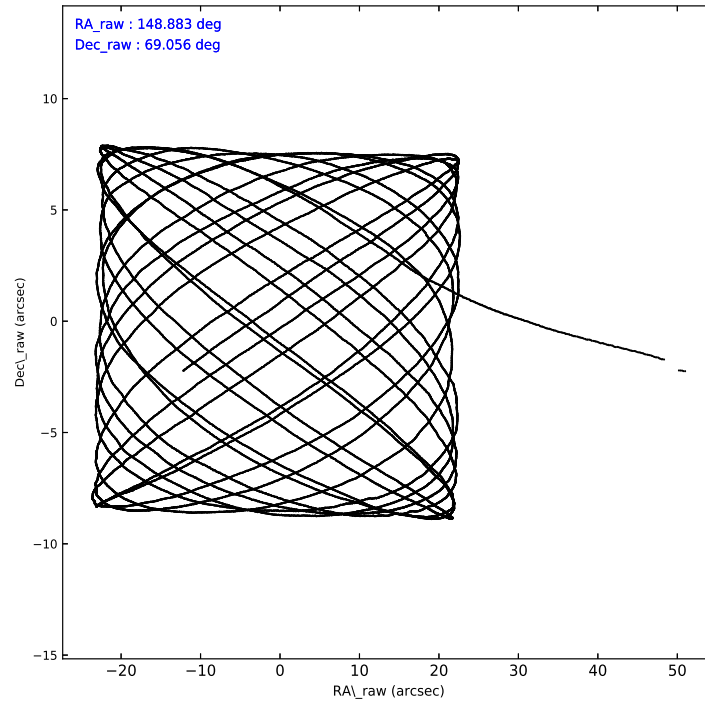
2.1.4 Events

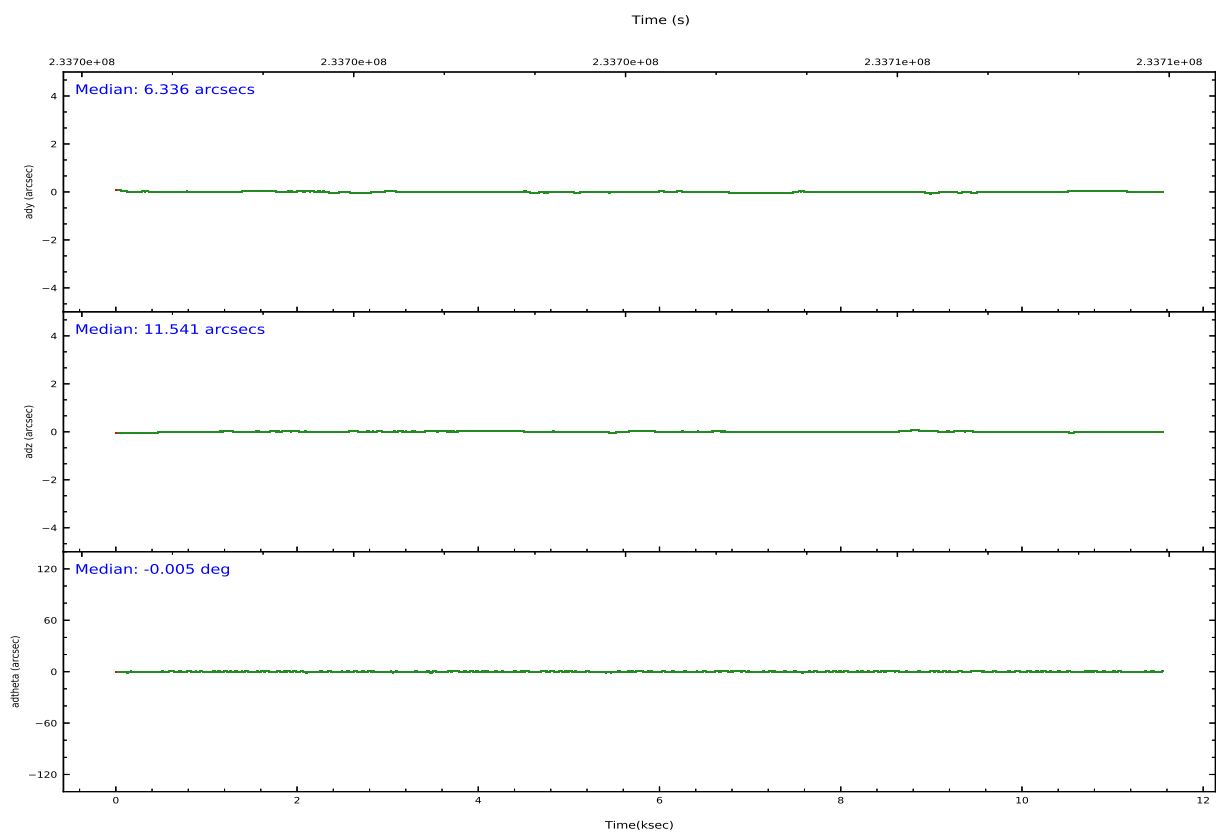
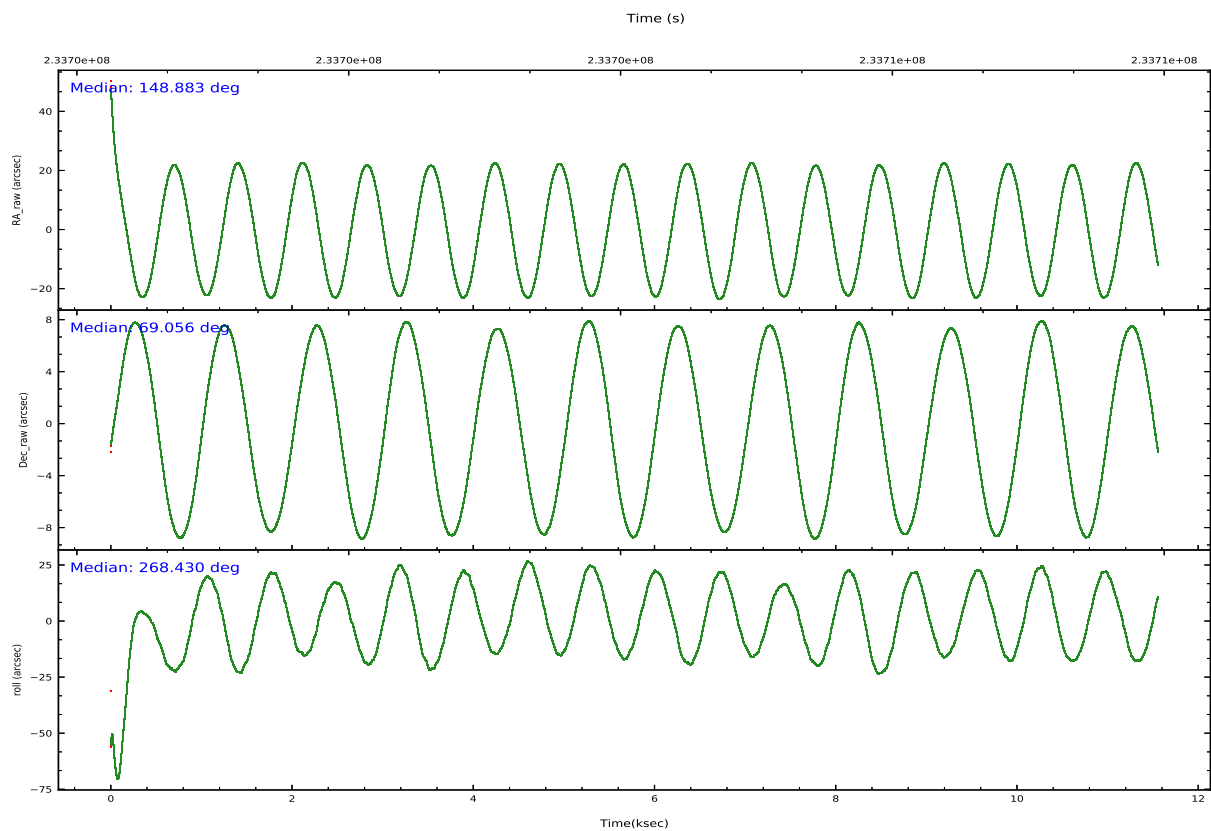
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	115351	110458	173455	116713	173920	137418	grade 0 events	22305	21674	11444	23647	10432	26243
rejected events	83066	78649	79562	81345	78666	89619		19%	19%	6%	20%	5%	19%
rejected %	72%	71%	45%	69%	45%	65%	grade 1 events	163	175	242	150	194	159
								0%	0%	0%	0%	0%	0%
							grade 2 events	4194	4003	28184	5053	17783	7932
								3%	3%	16%	4%	10%	5%
							grade 3 events	1740	1777	4272	1848	7893	3482
								1%	1%	2%	1%	4%	2%
							grade 4 events	1727	1813	3921	1864	7663	3218
								1%	1%	2%	1%	4%	2%
							grade 5 events	3673	4063	10352	4238	12298	5606
								3%	3%	5%	3%	7%	4%
							grade 6 events	2694	2861	47913	3420	53109	7731
								2%	2%	27%	2%	30%	5%
							grade 7 events	78855	74092	67127	76493	64548	83047
								68%	67%	38%	65%	37%	60%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	148.845629	148.87359095148	Subarray requested	NONE	NONE
[deg] Pointing Dec	69.079607	69.057851430507	Alternating exposures requested	N	N
[deg] Pointing Roll	268.307536	268.43021387895	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	233698550.184000	233697324.65363			
Observation start date	2005-05-28T20:14:46	2005-05-28T19:55:24			
[s] Observation end time (MET)	233709932.184000	233710156.11672			
Observation end date	2005-05-28T23:24:28	2005-05-28T23:29:16			
Read mode	TIMED	TIMED			

2.3 Aspect



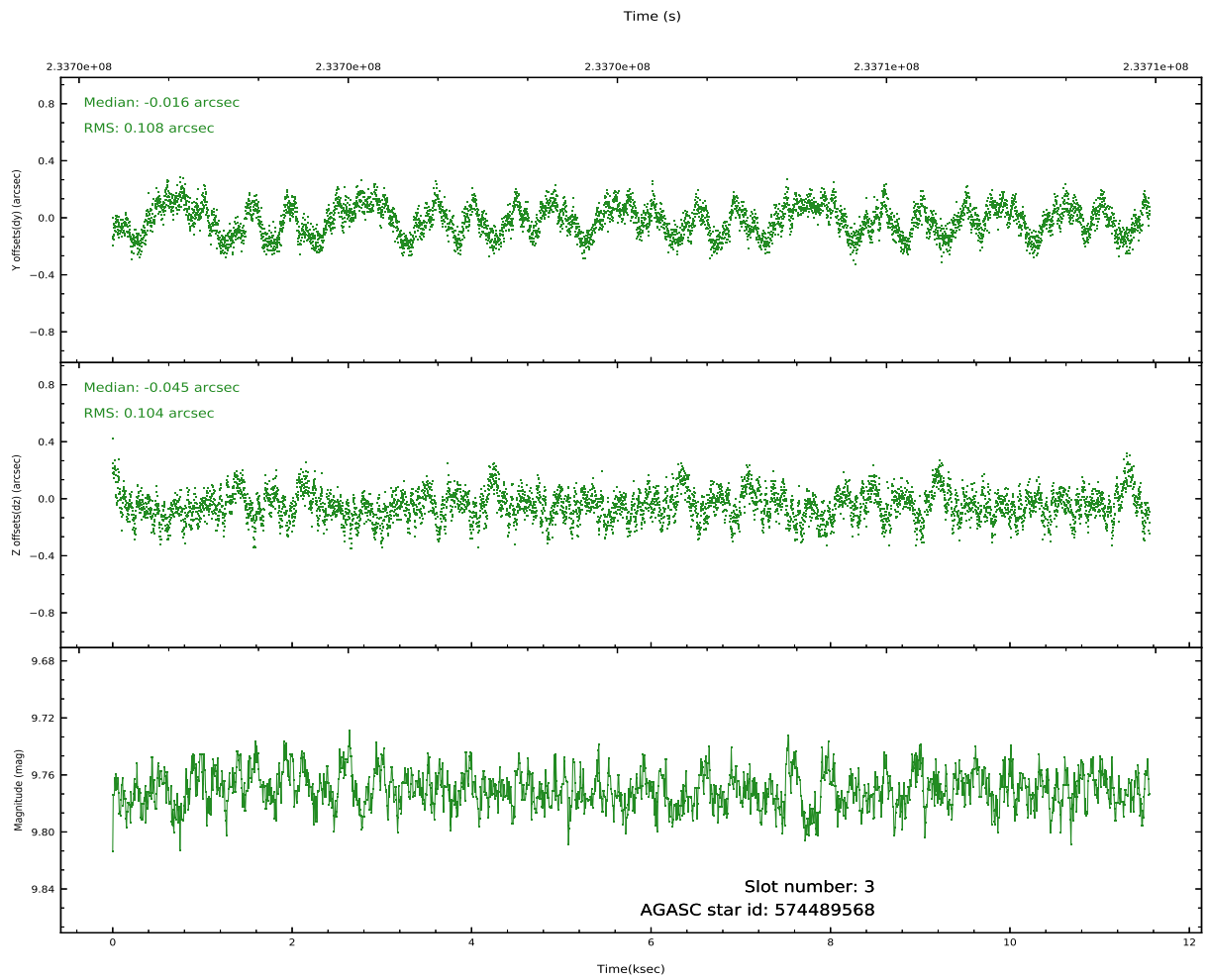
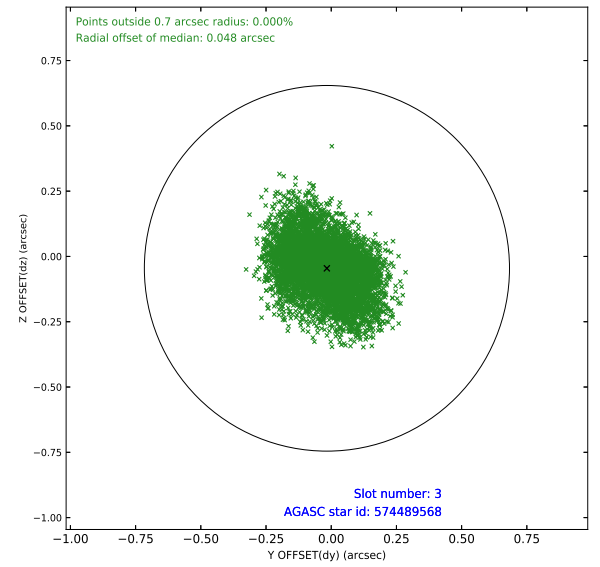
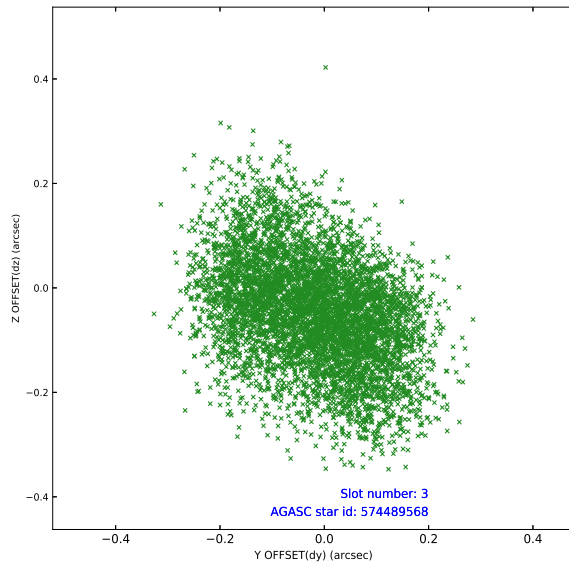


Slot Statistics

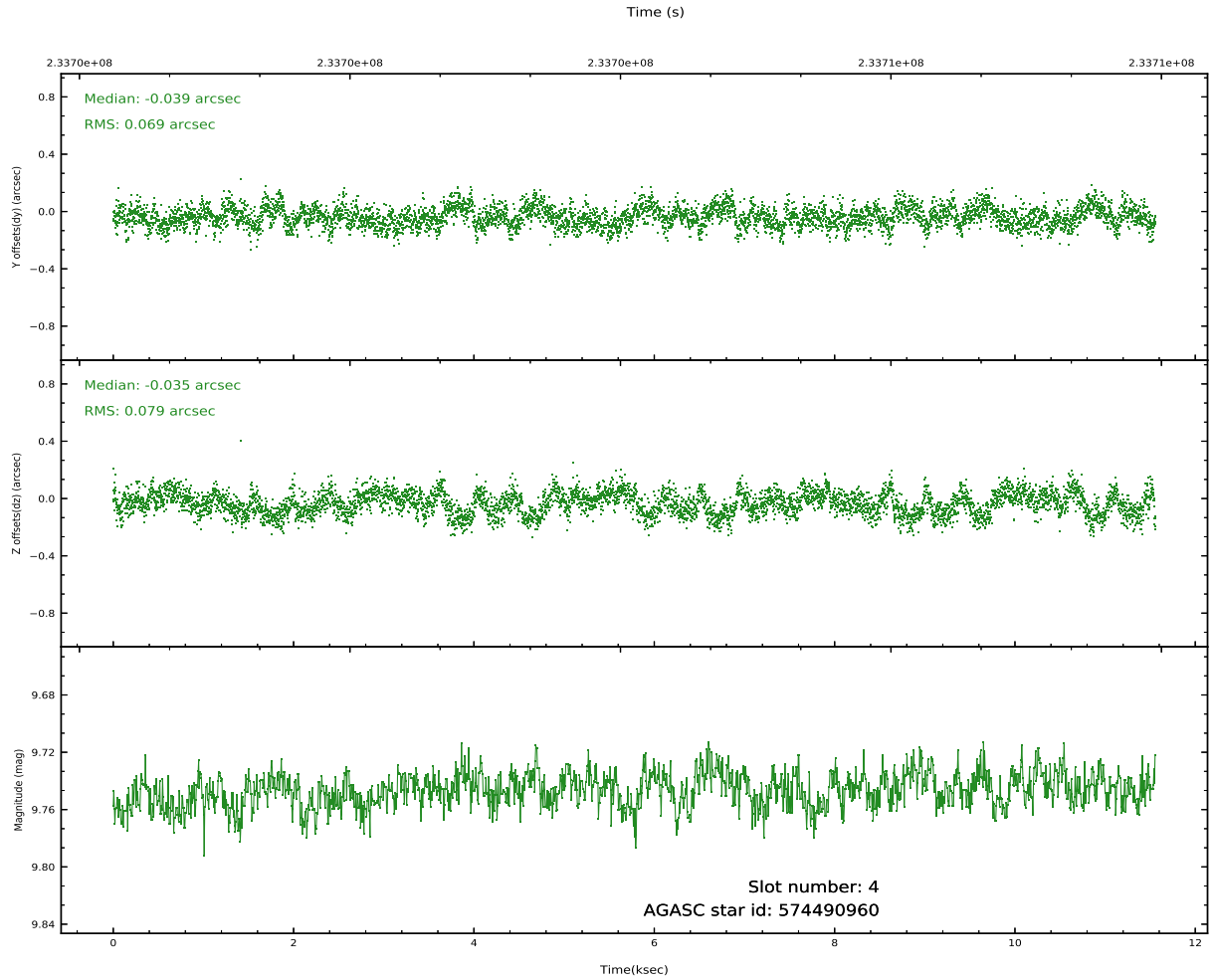
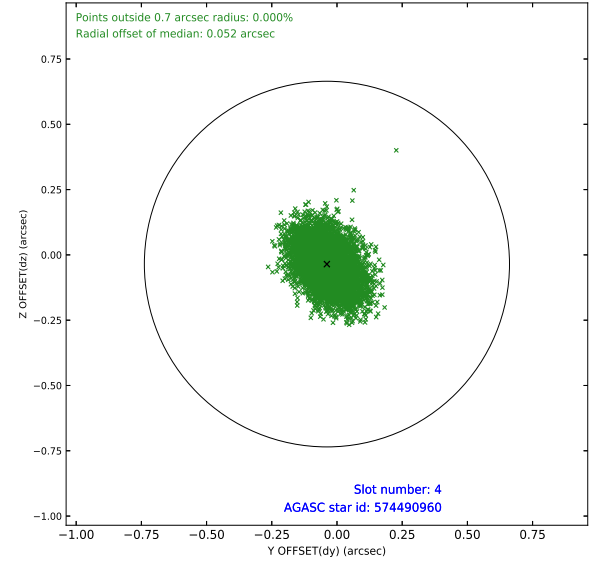
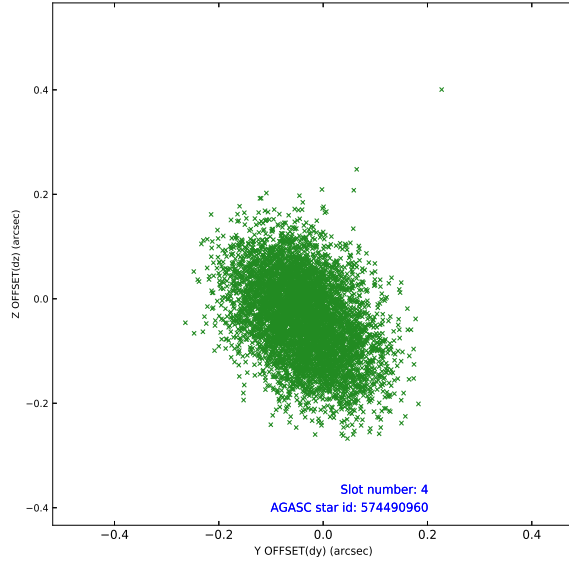
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.10	2820	1.000	-0.083	-0.059	0.007	0.011	0.000000	0.000000	-759.11	-1732
1	FID		ACIS-S-4	7.21	2820	1.000	0.137	0.056	0.006	0.010	0.000000	0.000000	2154.14	175
2	FID		ACIS-S-5	7.23	2819	1.000	-0.086	0.013	0.007	0.011	0.000000	0.000000	-1811.44	169
3	GUIDE	used	574489568	9.77	5633	1.000	-0.016	-0.045	0.164	0.251	147.223974	69.438157	-1256.21	-2088
4	GUIDE	used	574490960	9.75	5637	1.000	-0.039	-0.035	0.111	0.181	148.185918	69.658768	-2063.71	-887
5	GUIDE	used	574491280	9.35	5635	1.000	0.004	0.010	0.086	0.142	148.611567	69.450135	-1324.47	-335
6	GUIDE	used	574500920	10.11	5617	1.000	0.074	-0.062	0.139	0.229	147.014605	68.742334	1249.11	-2353
7	GUIDE	used	574495368	10.41	5612	1.000	-0.018	0.141	0.183	0.299	150.568534	69.409286	-1280.64	2143

2.4 Star Slots

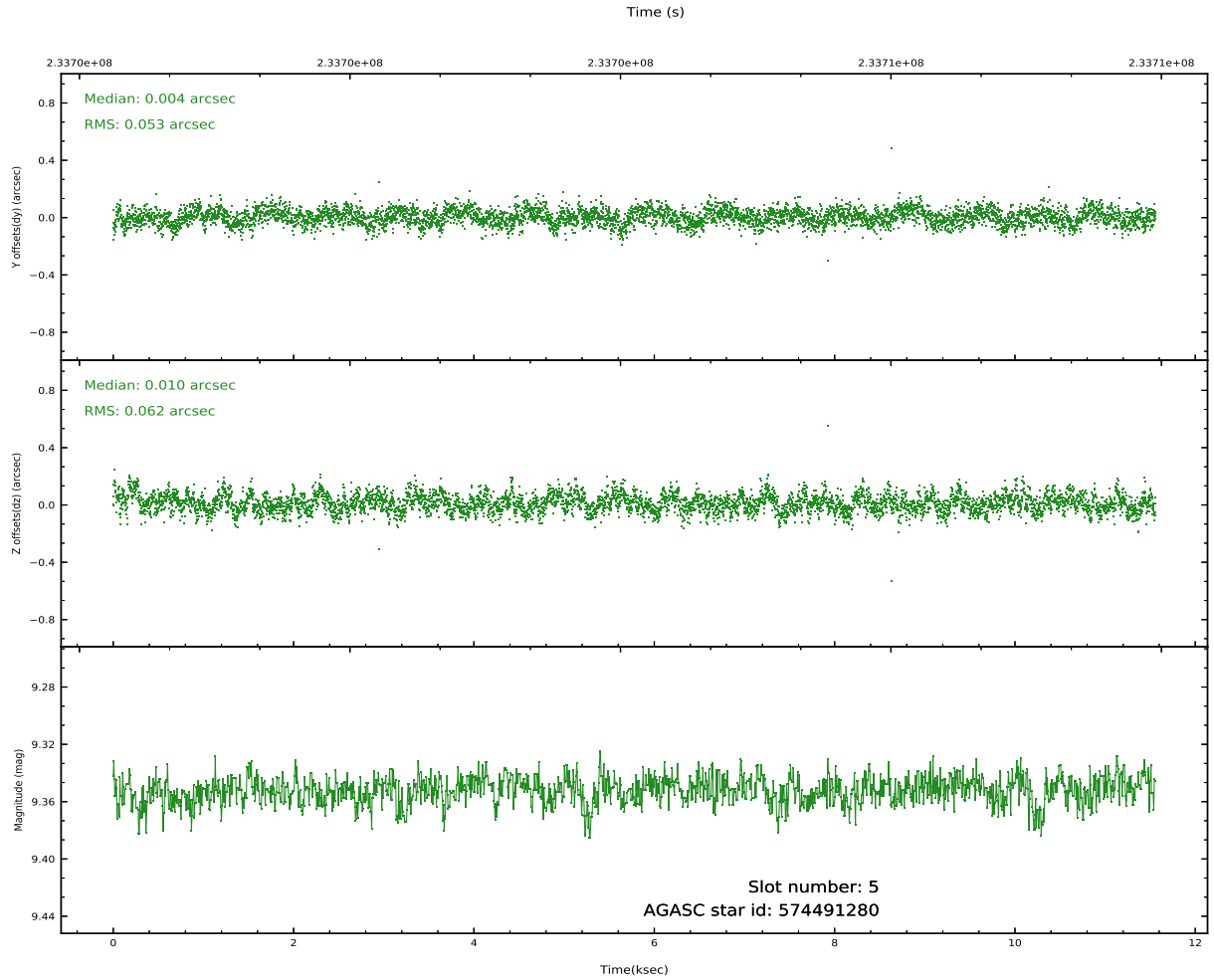
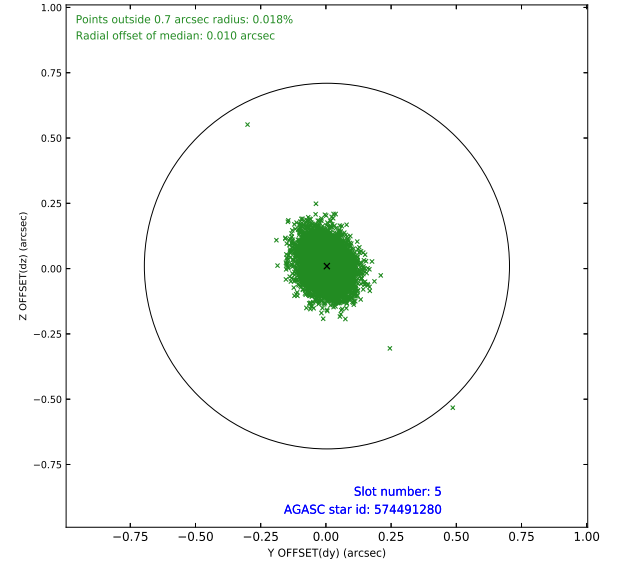
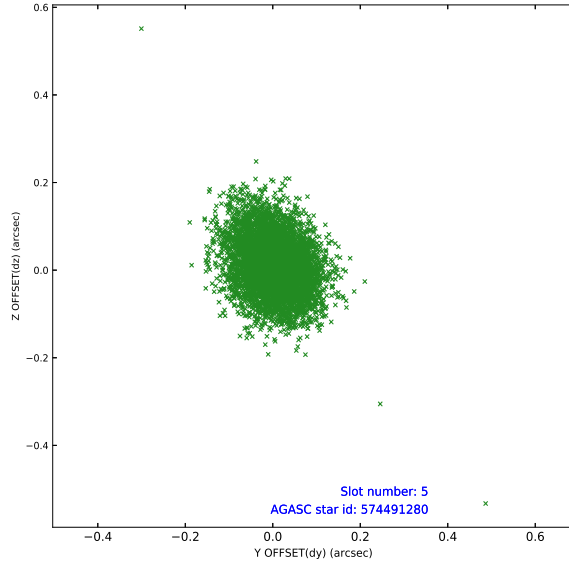
2.4.1 Slot 3



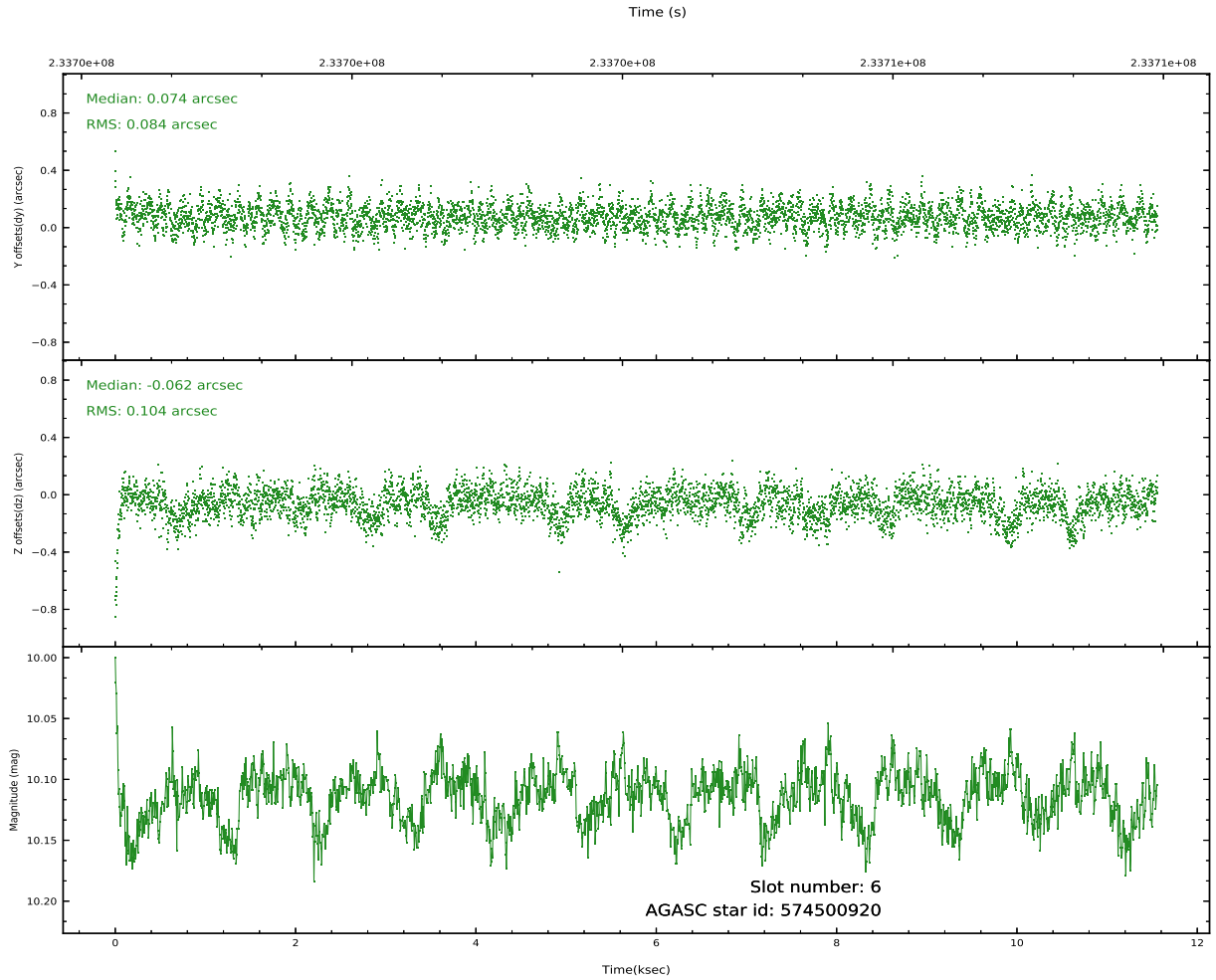
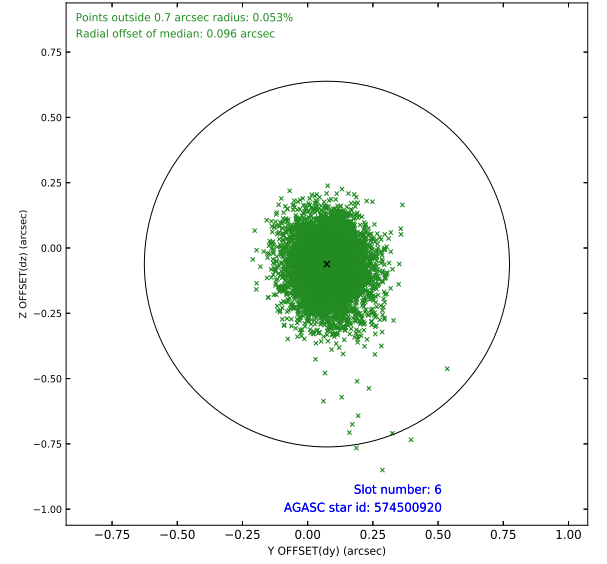
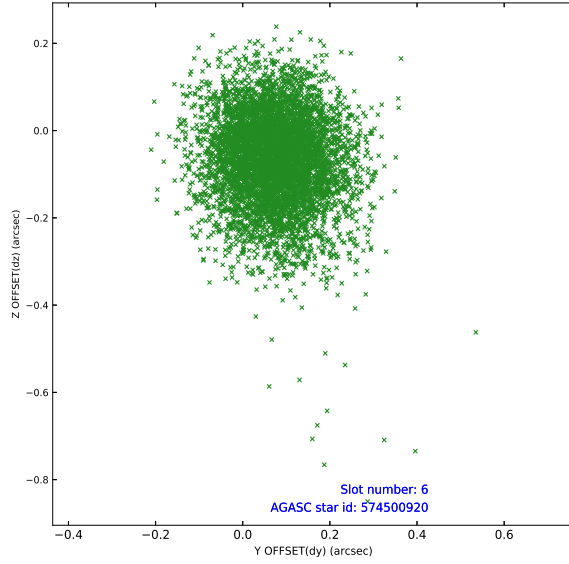
2.4.2 Slot 4



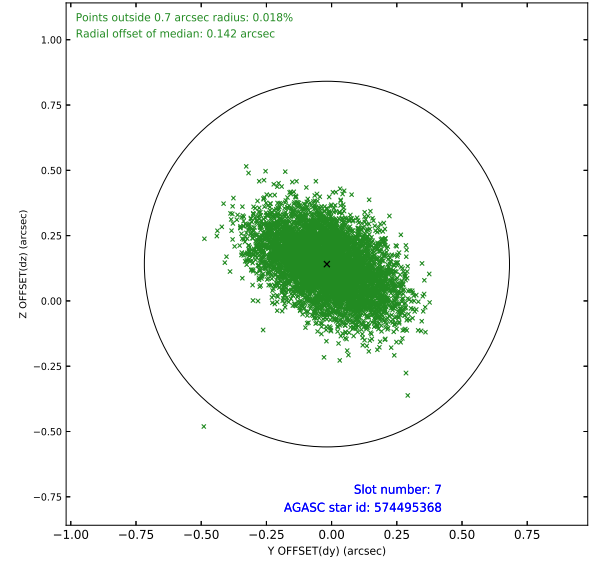
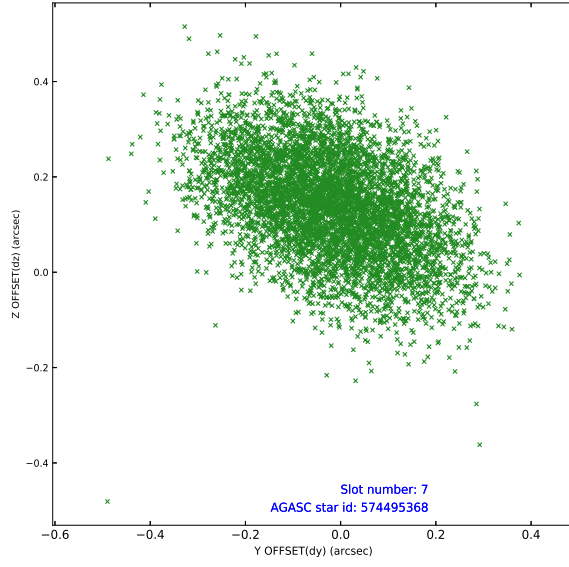
2.4.3 Slot 5



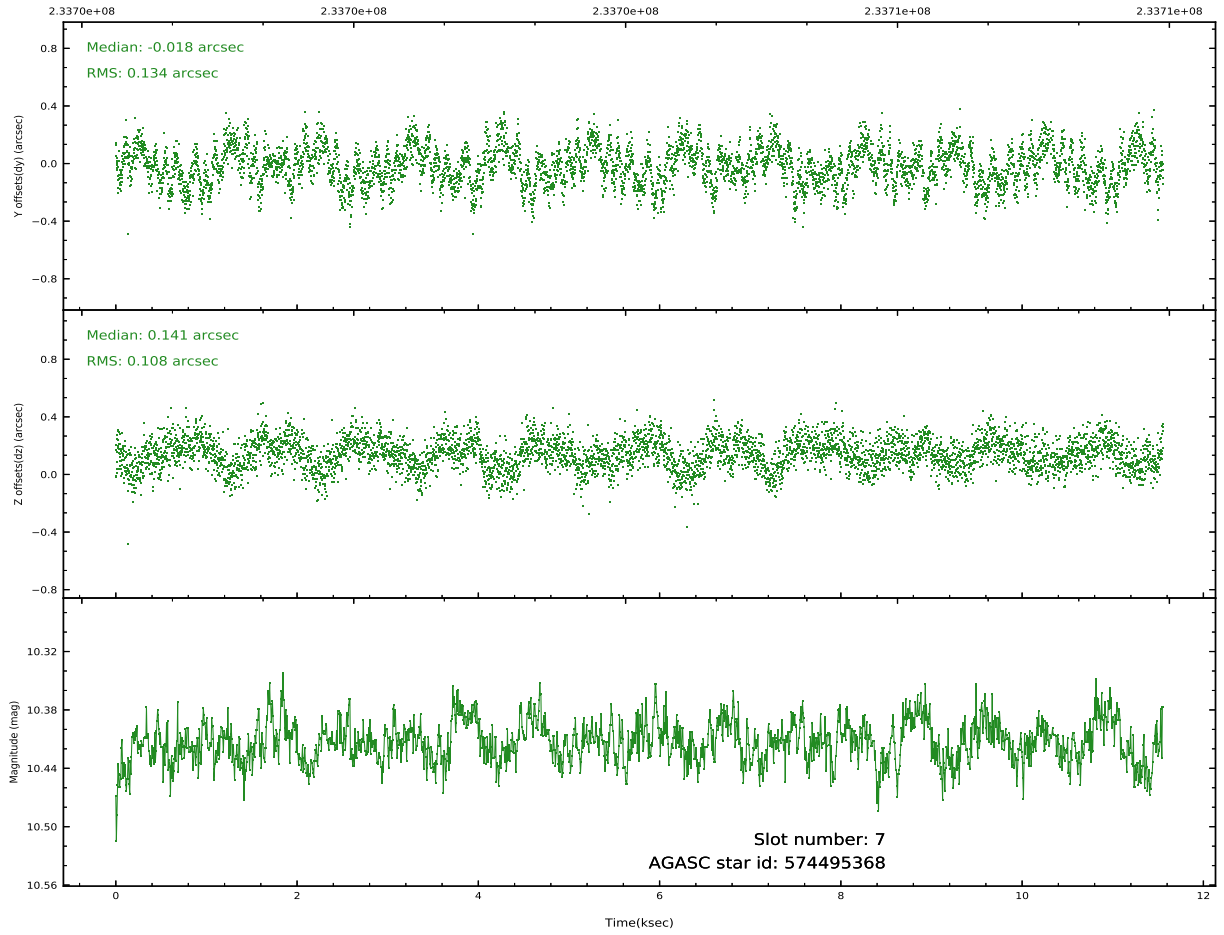
2.4.4 Slot 6



2.4.5 Slot 7

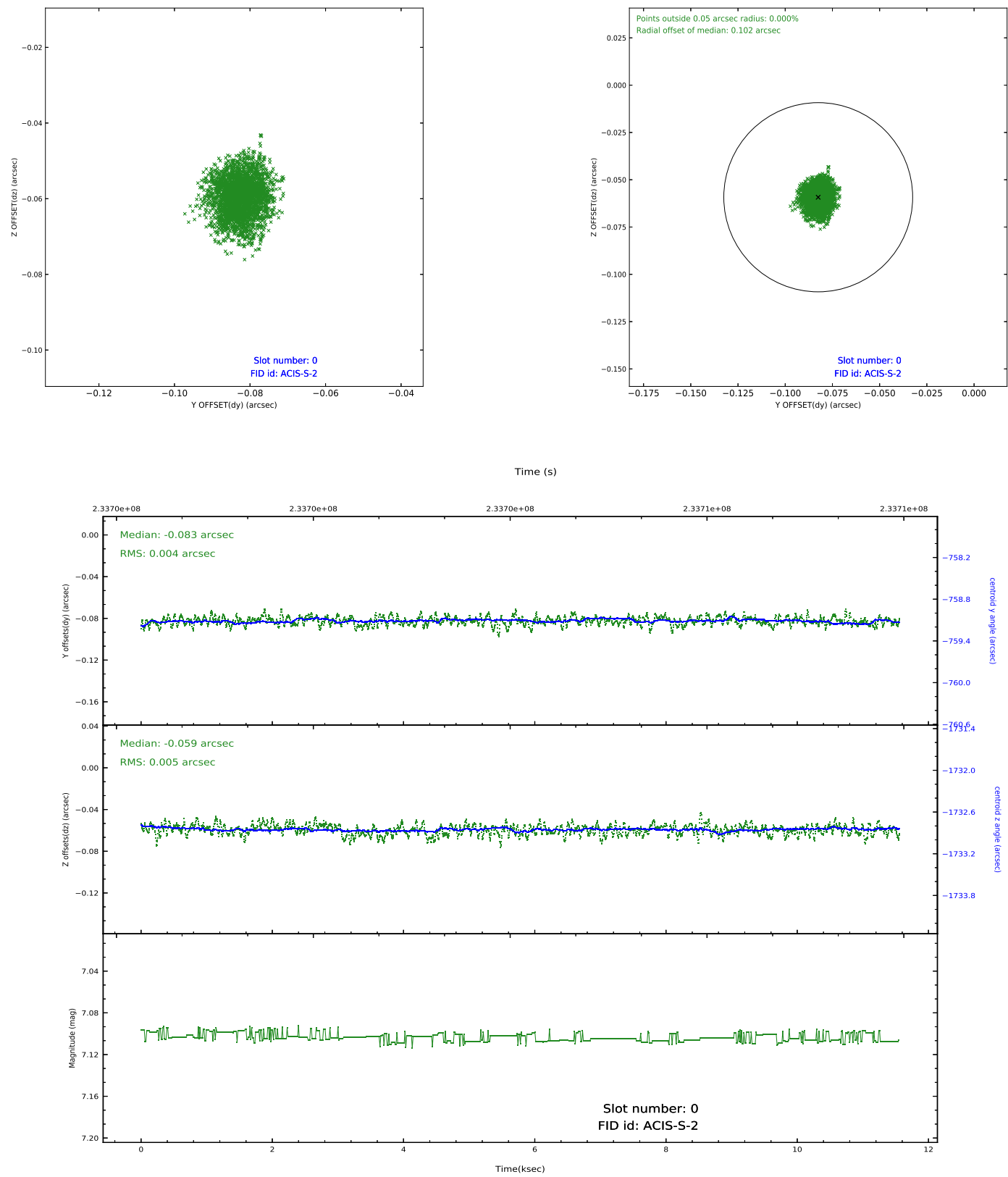


Time (s)

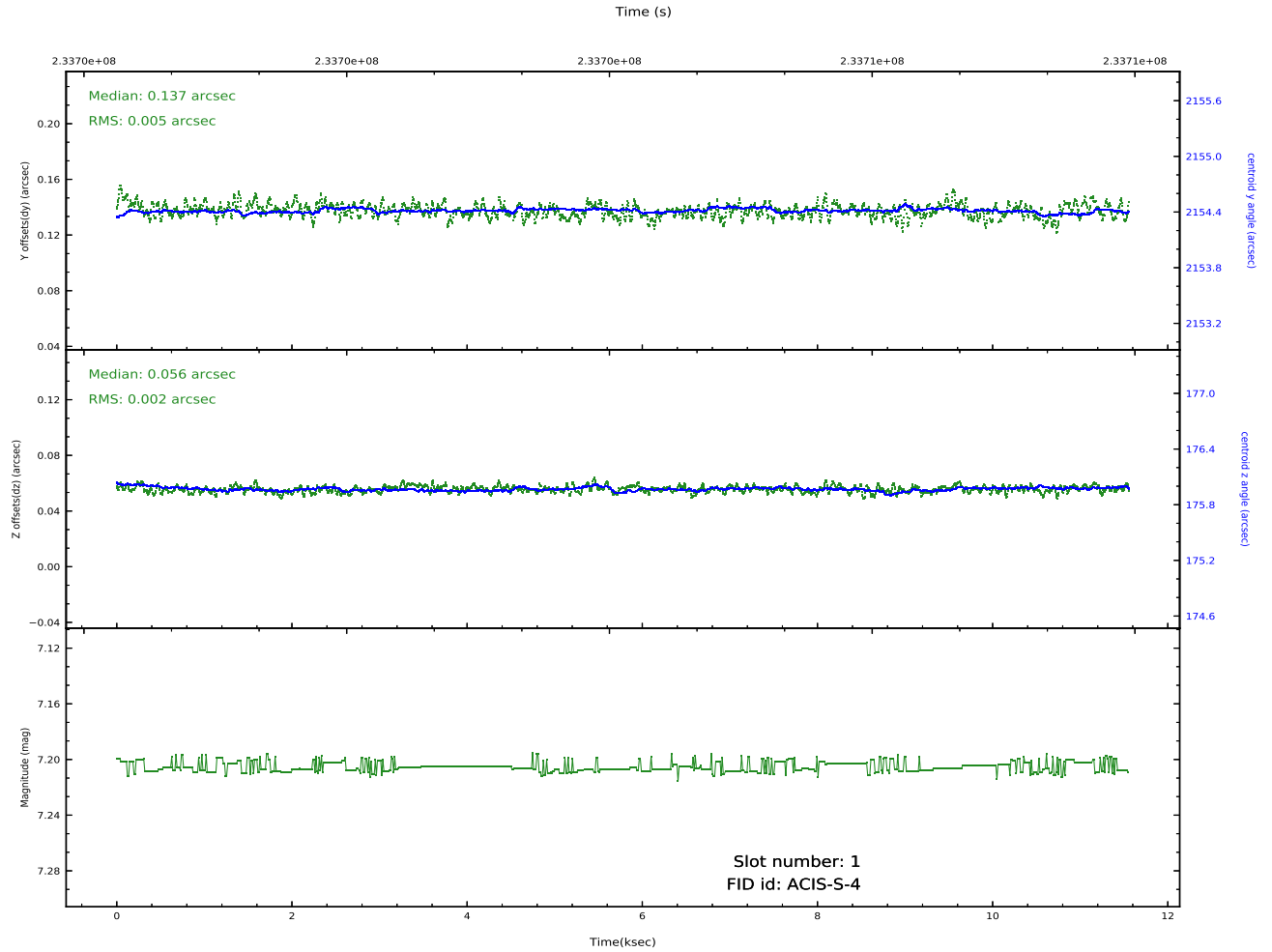
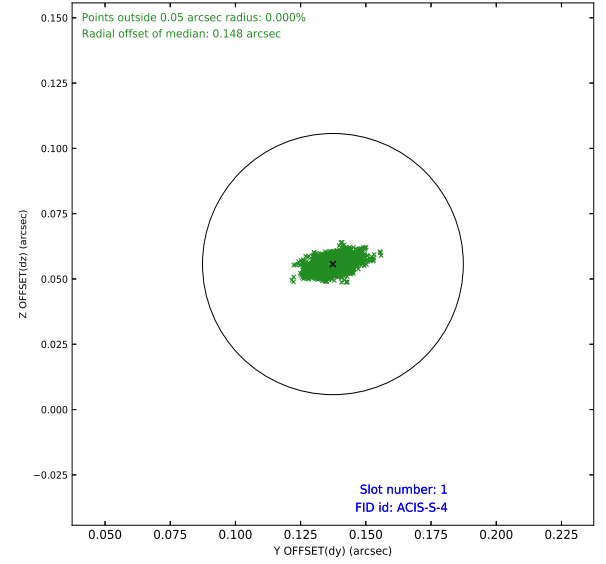
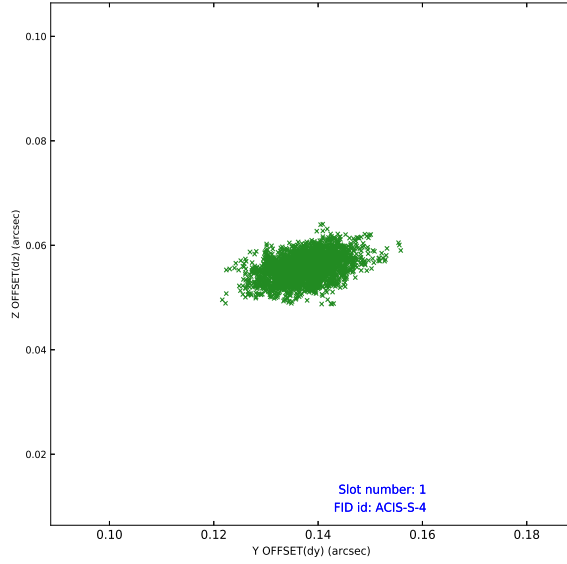


2.5 FID Slots

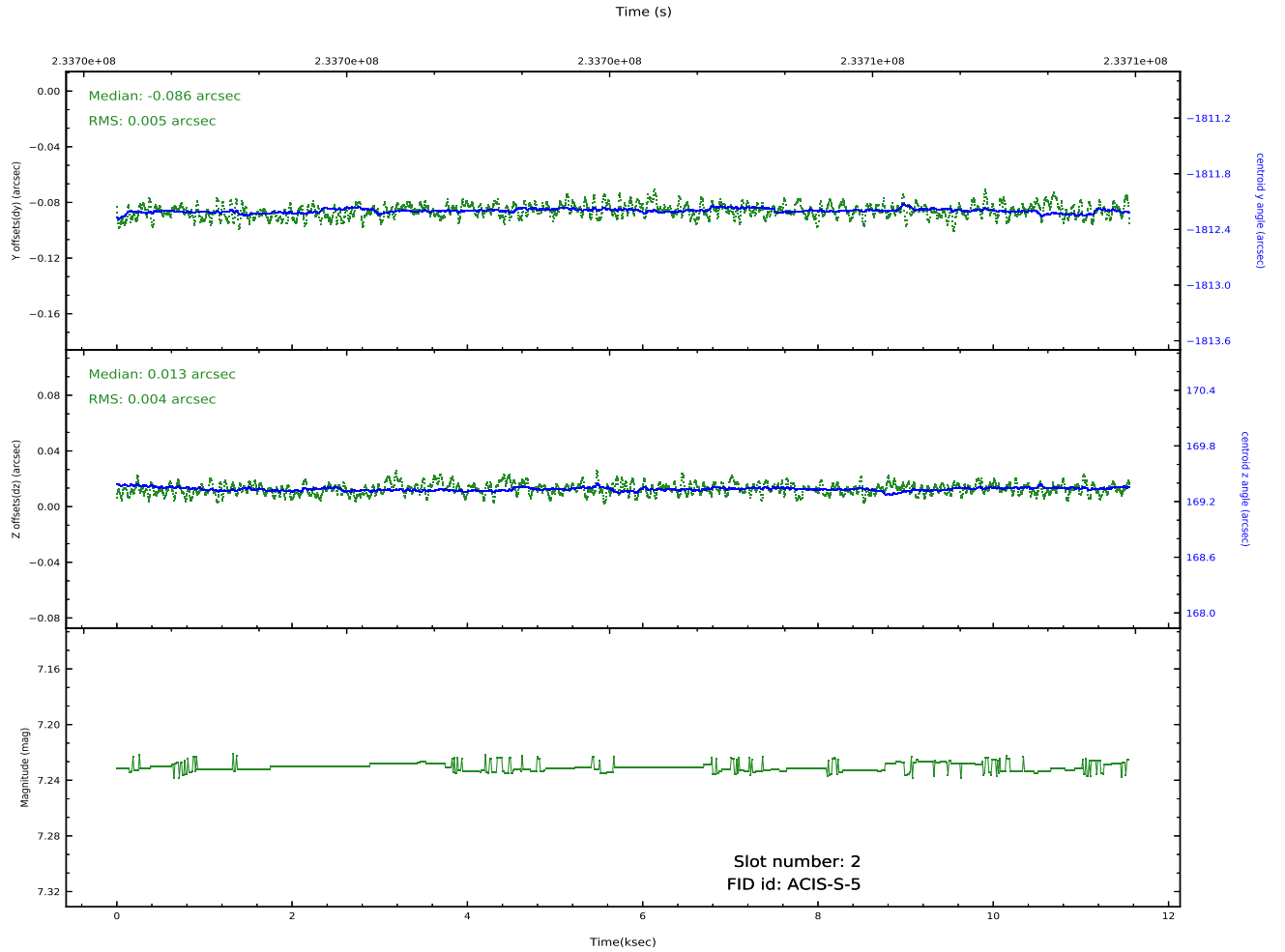
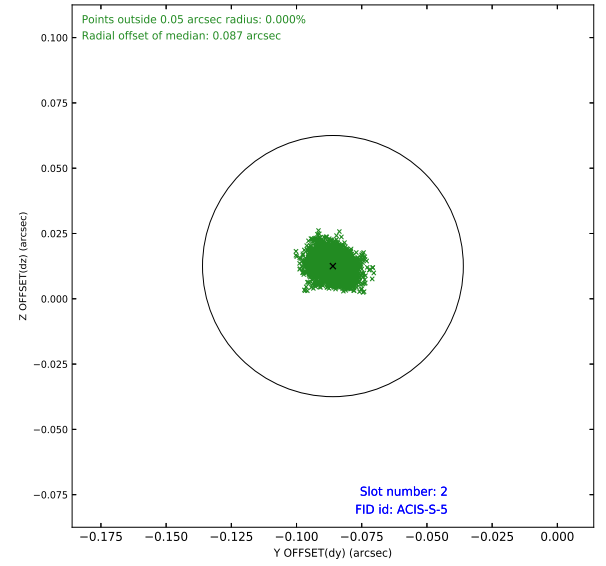
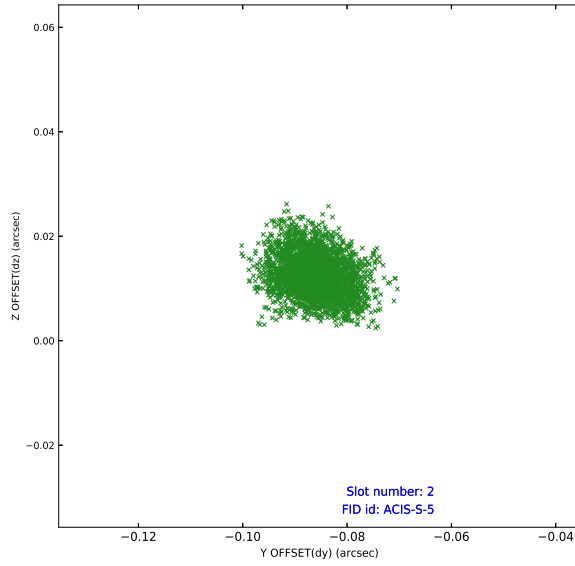
2.5.1 Slot 0



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)	2020.10.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	11.55199

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 (~ 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: (148.54200,69.19599), (148.52934,69.19610), (148.52088,69.05666), (148.53346,69.05655).