

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 21017 - L2 Version 3
Chandra X-Ray Center

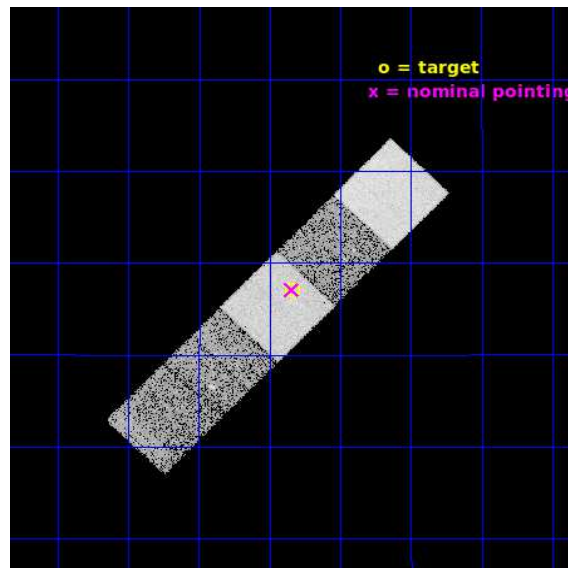
L2 Processing Date : Oct 27 2020

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

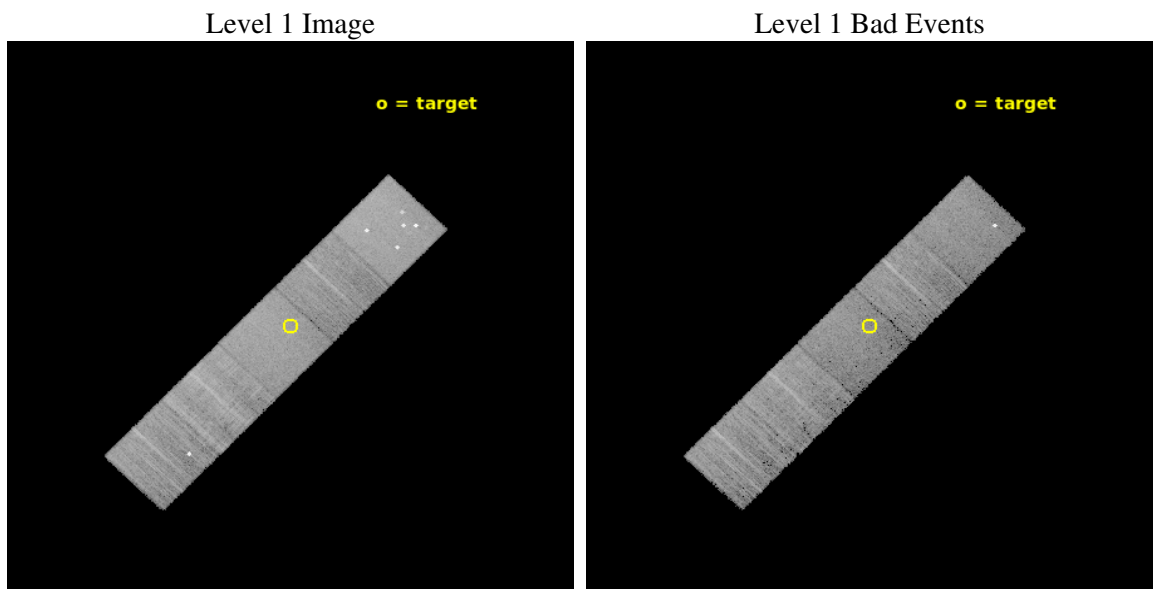
seq_num	703658	Sequence number
obs_id	21017	Observation id
title	LOW SURFACE BRIGHTNESS GALAXIES AND THE BLACK HOLE OCCUPATION FRACTION	Proposal title
observer	Elena Gallo	Principal investigator
object	LSBC F750-04	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	356.084167	Observer's specified target RA [deg]
dec_targ	10.118056	Observer's specified target Dec [deg]
ra_nom	356.08567244714	Nominal RA [deg]
dec_nom	10.118270636398	Nominal Dec [deg]
roll_nom	134.06902447597	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9048.9000697136	Sum of GTIs [s]
livetime	8930.6695285995	Livetime [s]
ontime5	9048.9000697136	Sum of GTIs [s]
ontime6	9048.9000697136	Sum of GTIs [s]
ontime7	9048.9000697136	Sum of GTIs [s]
ontime8	9048.9000697136	Sum of GTIs [s]
ontime9	9048.9000697136	Sum of GTIs [s]
l2events	106795	Number of level 2 events



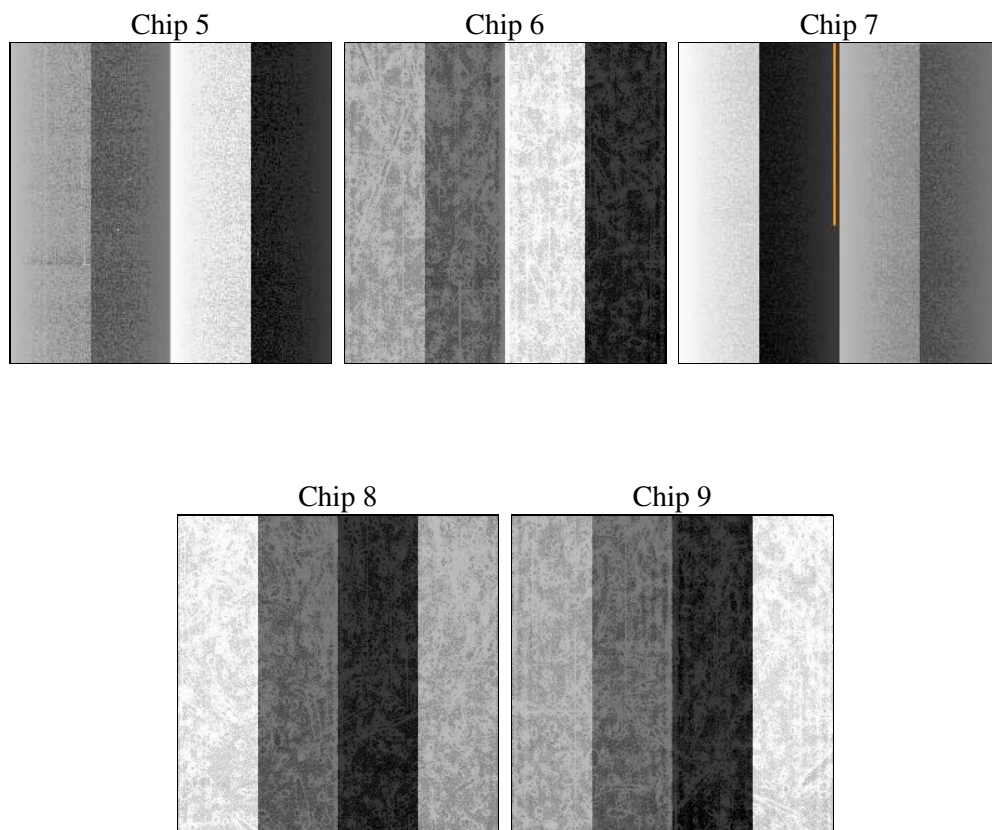
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	9048.9000697136	Sum of GTIs [s]
caldsver	4.9.3	 	ontime5	9048.9000697136	Sum of GTIs [s]
date	2020-10-28T00:22:49	Date and time of file creation	ontime6	9048.9000697136	Sum of GTIs [s]
revision	3	Processing version of data	ontime7	9048.9000697136	Sum of GTIs [s]
			ontime8	9048.9000697136	Sum of GTIs [s]
			ontime9	9048.9000697136	Sum of GTIs [s]
			l1events	439608	Number of level 1 events

2.1.4 Events

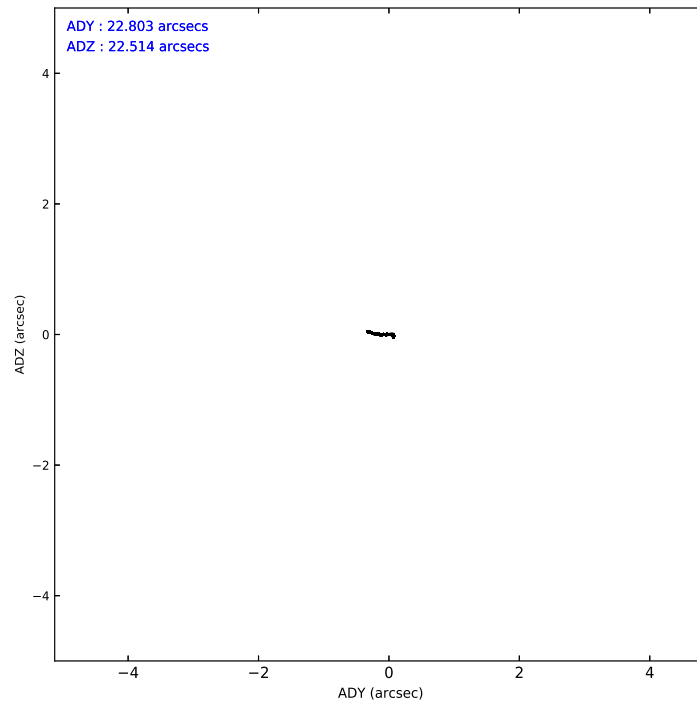
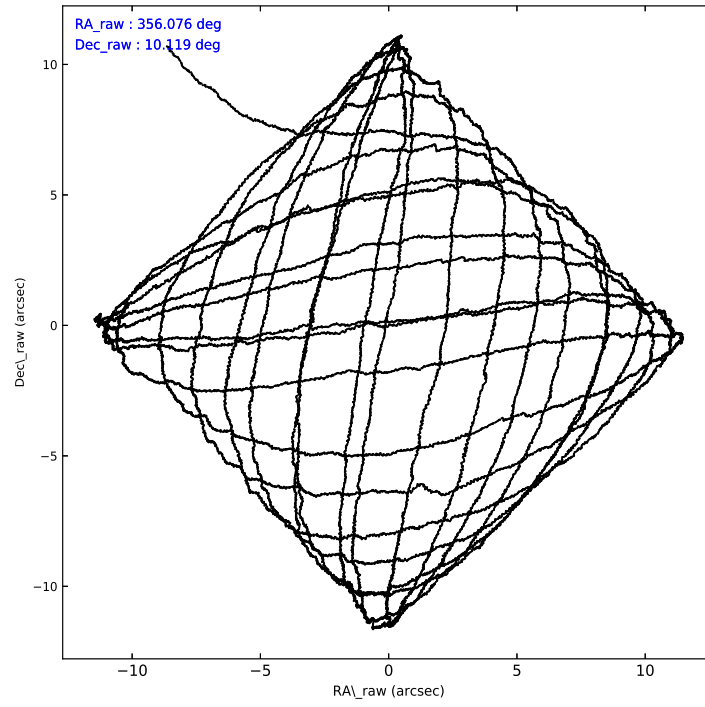
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	117888	68203	87187	93111	73219
rejected events	58588	60399	49793	67832	62240
rejected %	49%	88%	57%	72%	85%

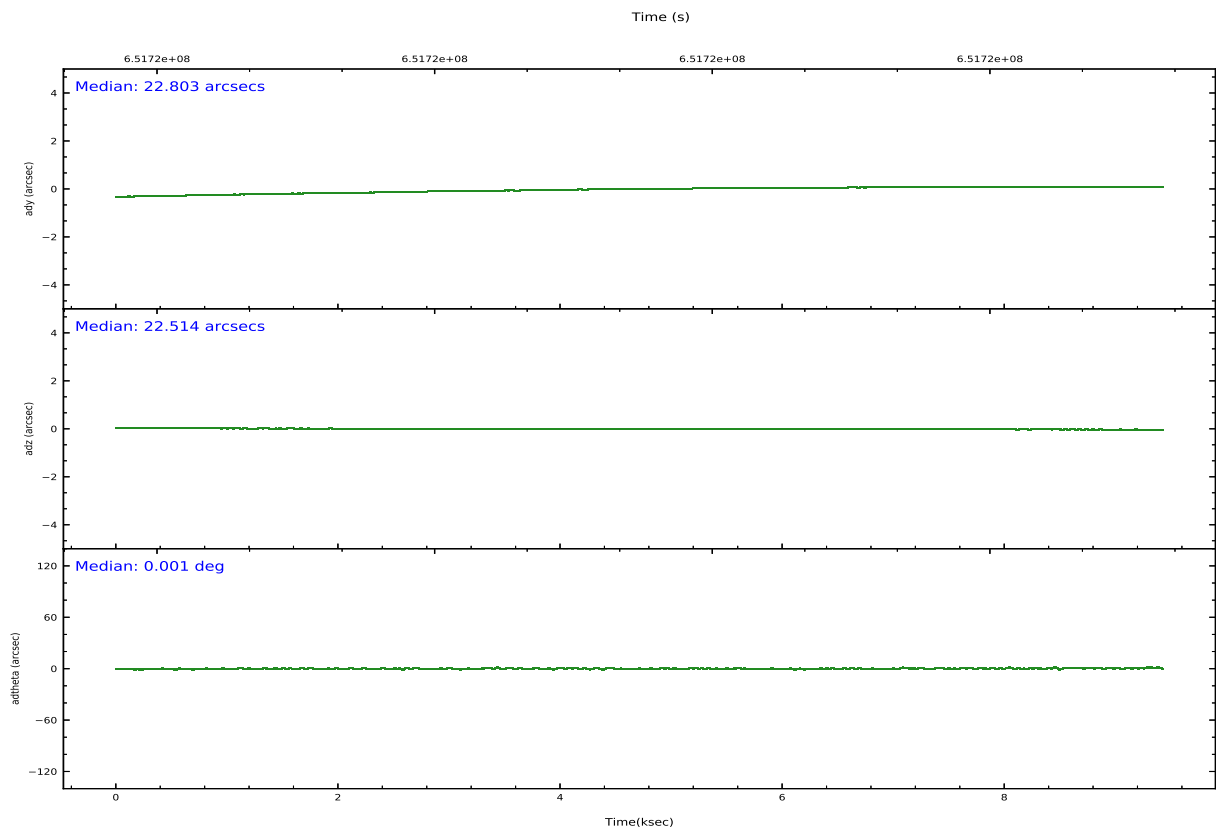
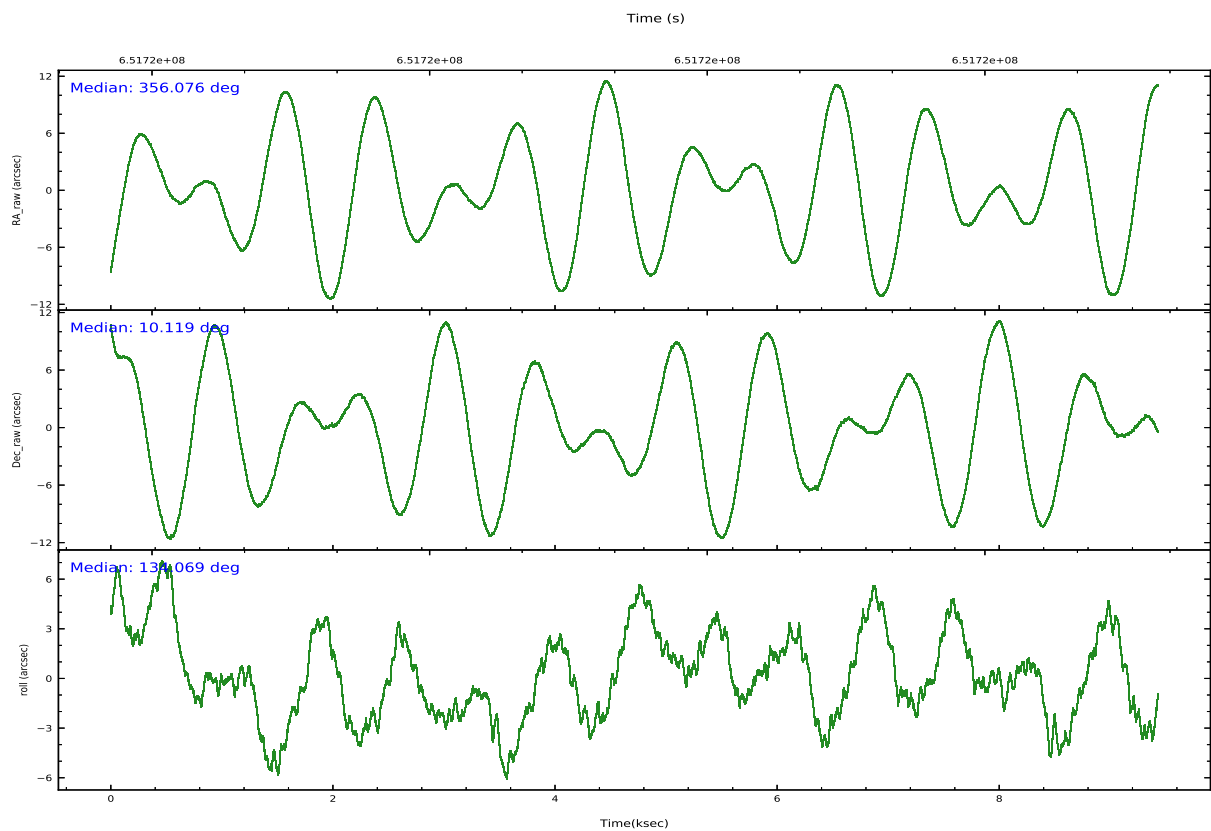
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	9917	2633	3159	6815	2844
	8%	3%	3%	7%	3%
grade 1 events	265	30	141	79	52
	0%	0%	0%	0%	0%
grade 2 events	17550	1889	7906	6312	4667
	14%	2%	9%	6%	6%
grade 3 events	1831	747	2970	2586	844
	1%	1%	3%	2%	1%
grade 4 events	1482	762	2900	2493	764
	1%	1%	3%	2%	1%
grade 5 events	7956	3265	8671	4915	3700
	6%	4%	9%	5%	5%
grade 6 events	28567	1781	20483	7080	1872
	24%	2%	23%	7%	2%
grade 7 events	50320	57096	40957	62831	58476
	42%	83%	46%	67%	79%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-56789	ACIS-56789	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	356.103215	356.08567244714	CCD I2 on	N	N
[deg] Pointing Dec	10.111269	10.118270636398	CCD I3 on	N	N
[deg] Pointing Roll	133.912925	134.06902447597	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	651715059.184000	651713987.40423	CCD S5 on	O2	Y
Observation start date	2018-08-26T23:56:30	2018-08-26T23:39:47	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	651724059.184000	651725481.75491	On-chip summing requested	N	N
Observation end date	2018-08-27T02:26:30	2018-08-27T02:51:21	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



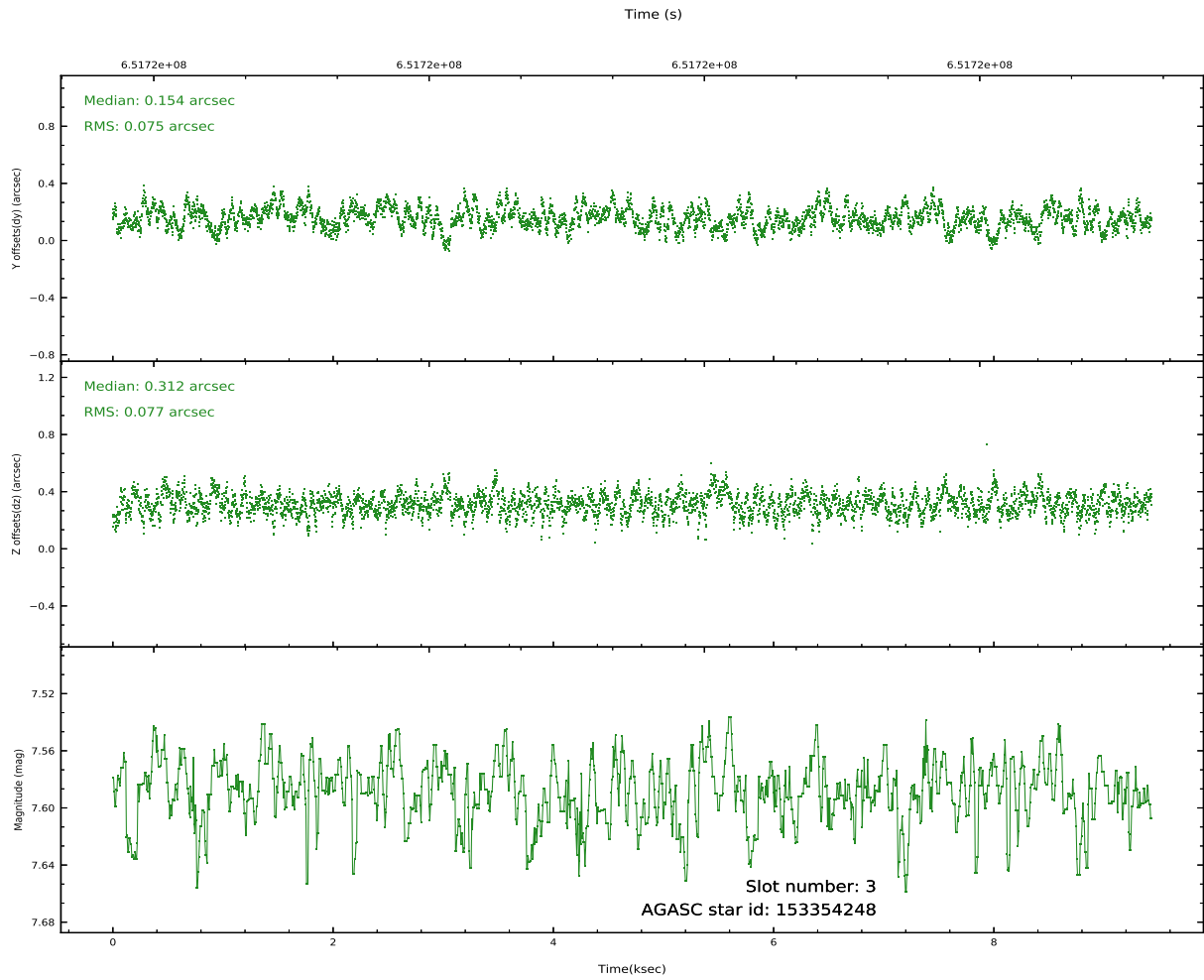
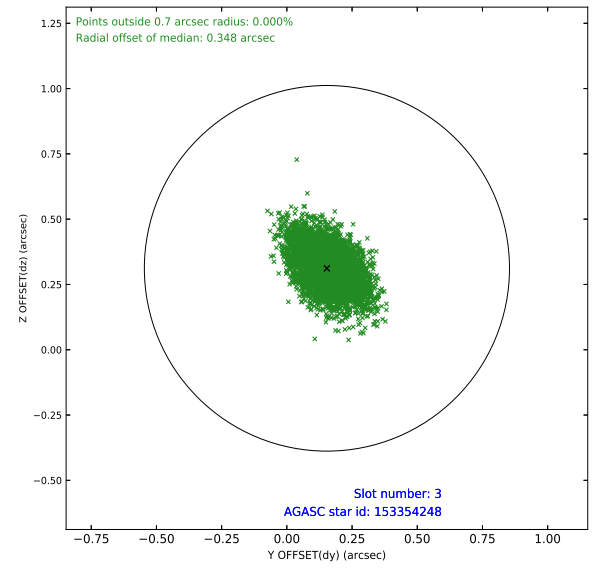
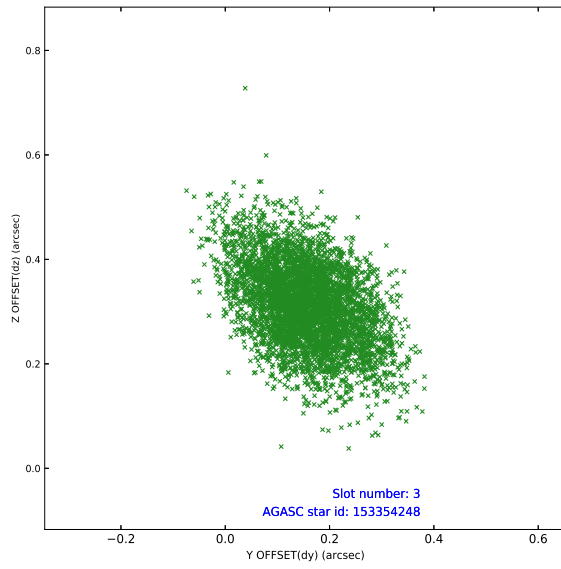


Slot Statistics

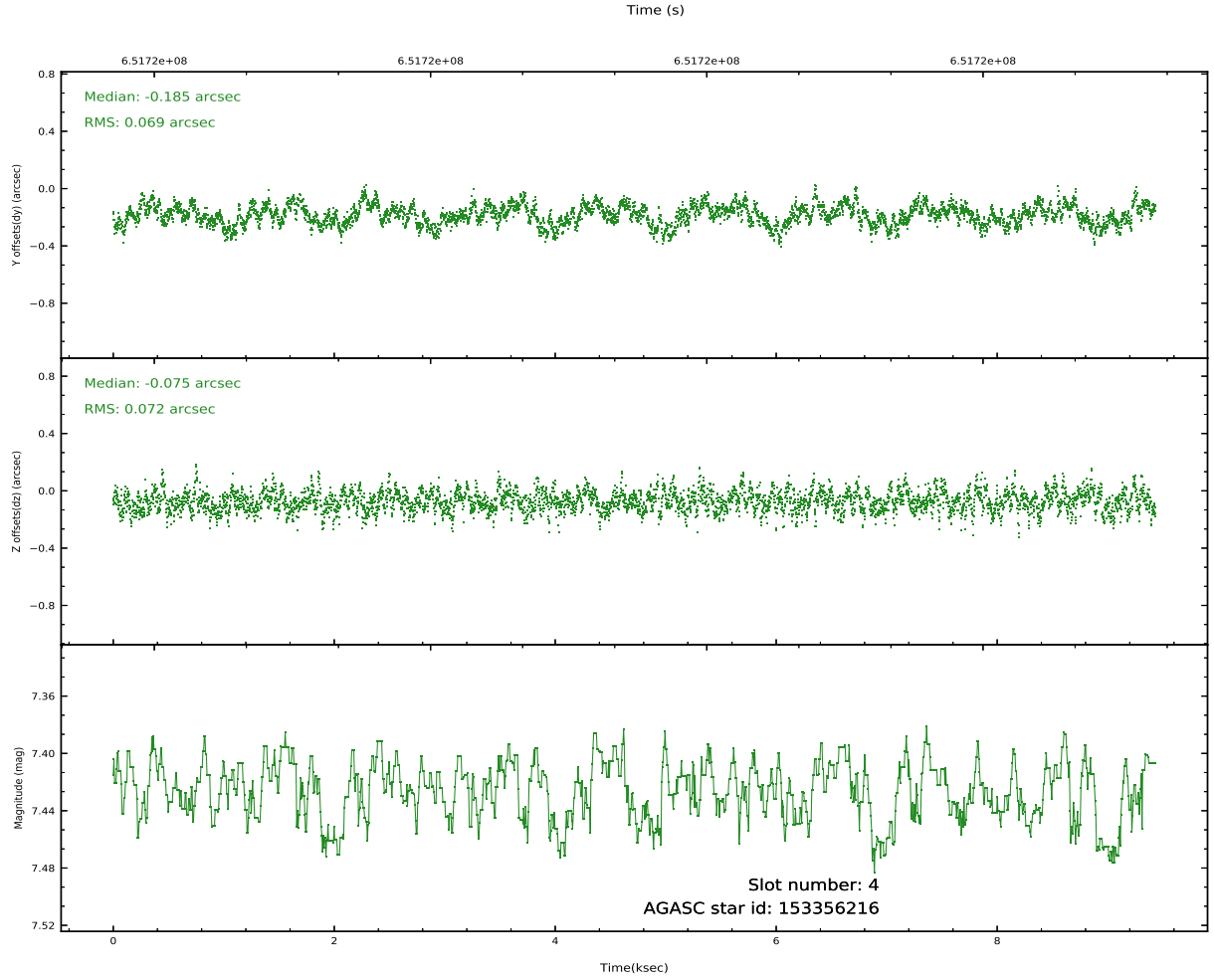
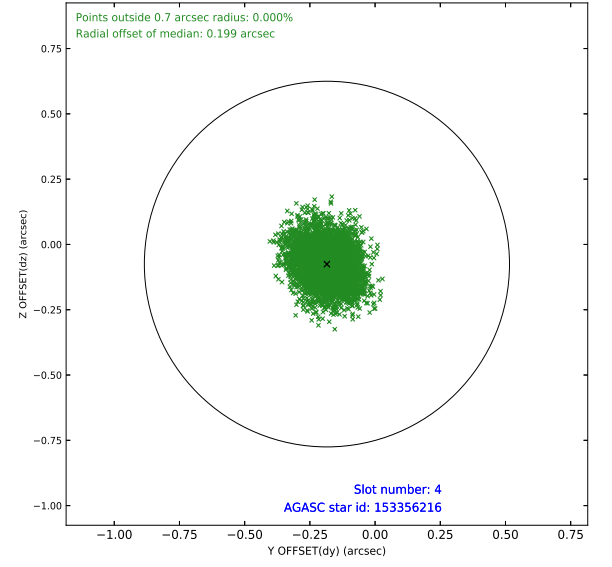
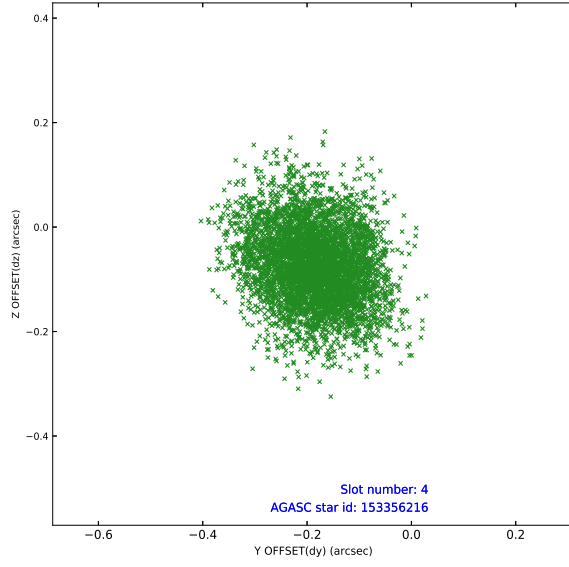
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.11	2301	1.000	0.328	-0.174	0.007	0.013	0.000000	0.000000	920.23	-1739
1	FID		ACIS-S-5	7.14	2300	1.000	-0.260	0.272	0.009	0.019	0.000000	0.000000	-1828.83	157
2	FID		ACIS-S-6	7.30	2301	1.000	-0.090	-0.086	0.008	0.013	0.000000	0.000000	385.02	801
3	GUIDE	used	153354248	7.59	4601	1.000	0.154	0.312	0.113	0.189	356.576457	9.785073	-2010.89	-392
4	GUIDE	used	153356216	7.42	4602	1.000	-0.185	-0.075	0.107	0.173	355.704509	9.885468	394.75	1582
5	GUIDE	used	153758672	7.84	4601	1.000	-0.028	-0.185	0.108	0.175	355.711432	10.481892	1924.03	74
6	GUIDE	used	153761384	6.95	4602	1.000	0.319	0.044	0.148	0.226	356.340770	10.179838	-405.20	-777
7	GUIDE	used	153758920	8.62	4594	1.000	-0.264	-0.092	0.117	0.186	355.289075	10.034504	1804.42	2268

2.4 Star Slots

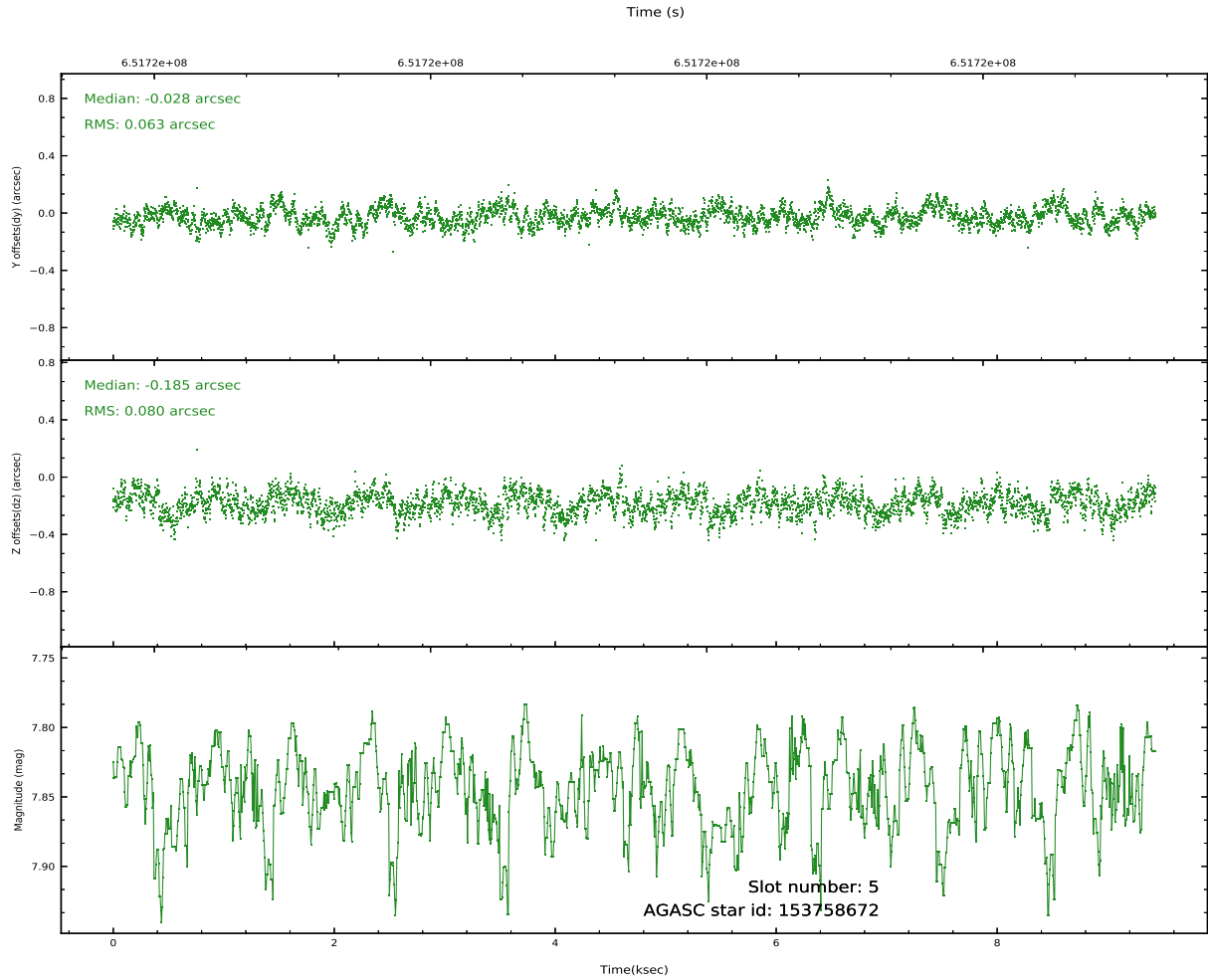
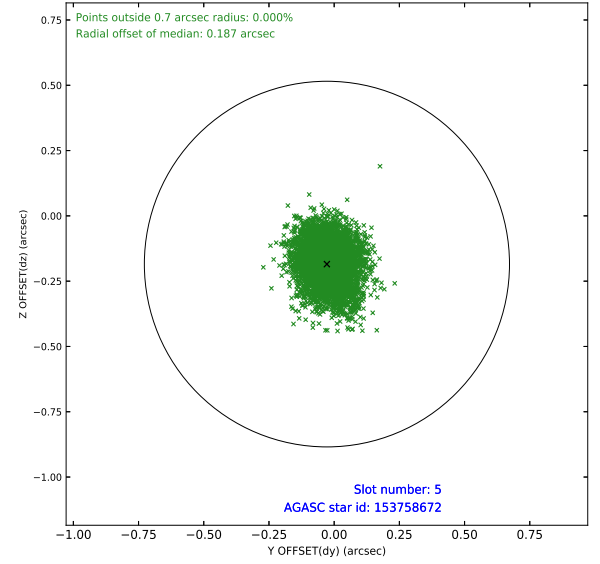
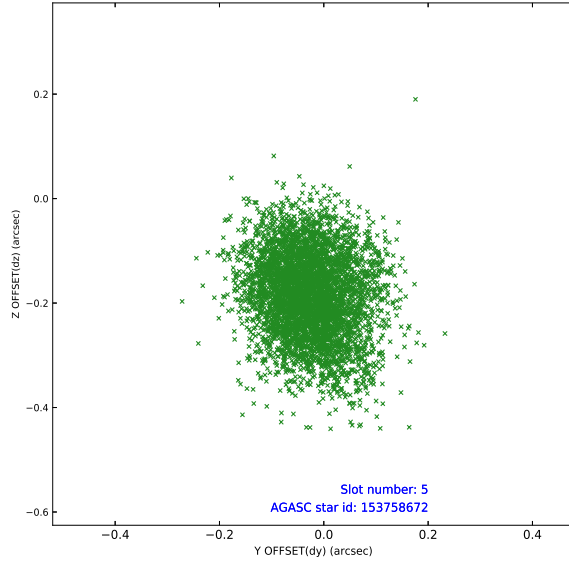
2.4.1 Slot 3



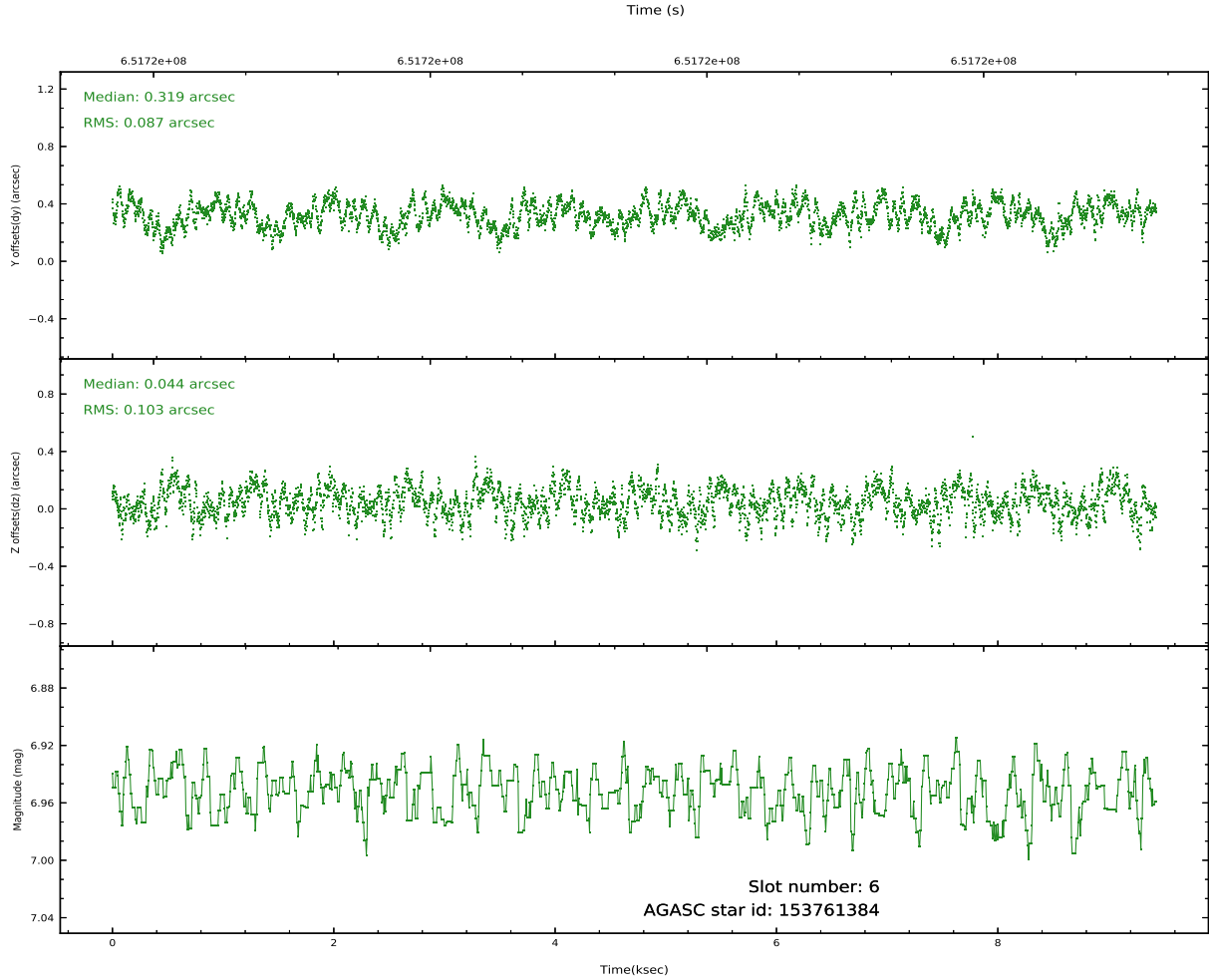
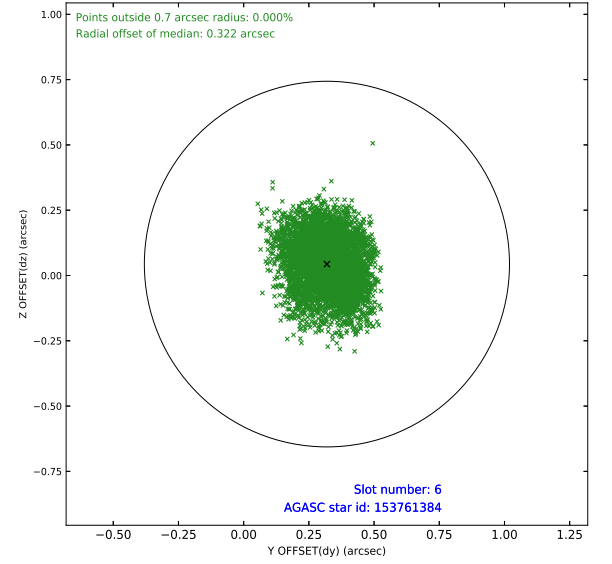
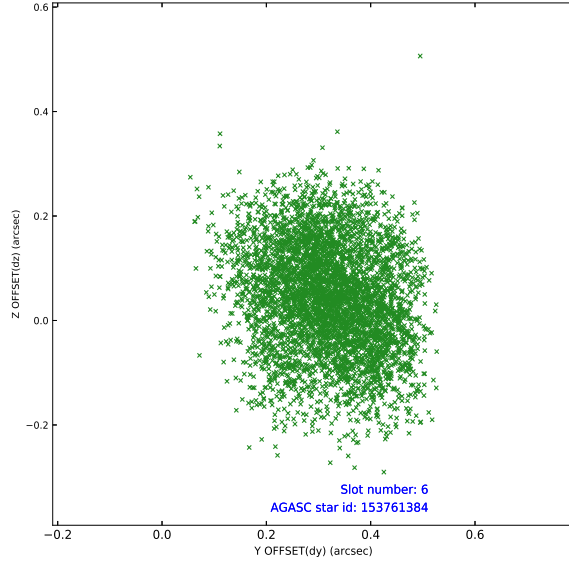
2.4.2 Slot 4



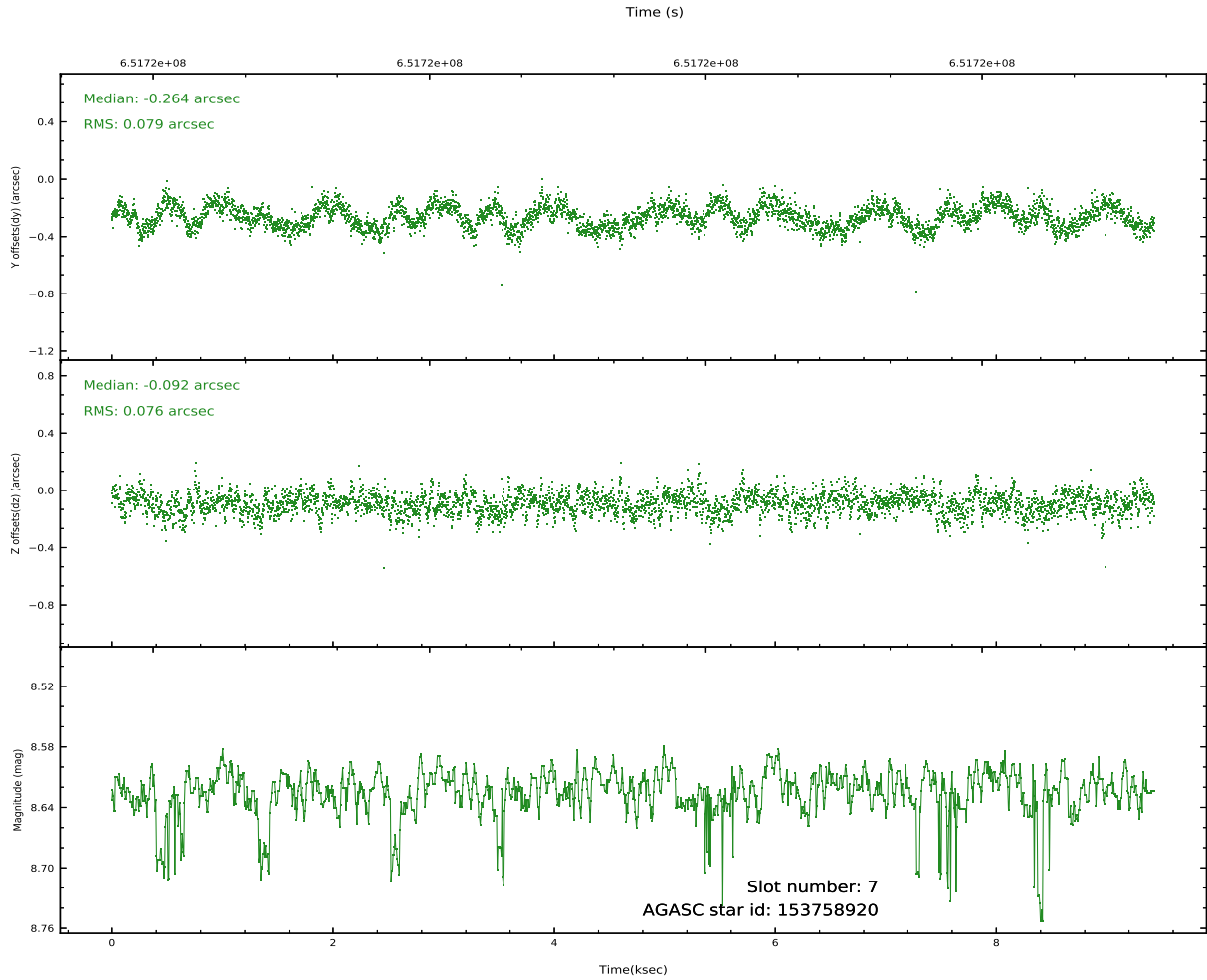
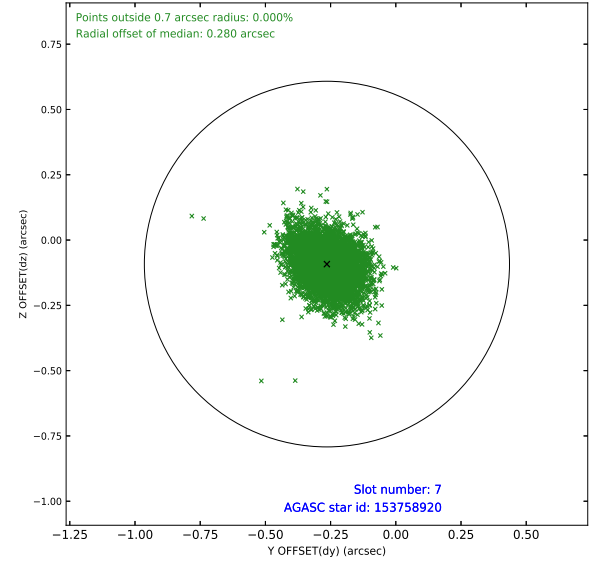
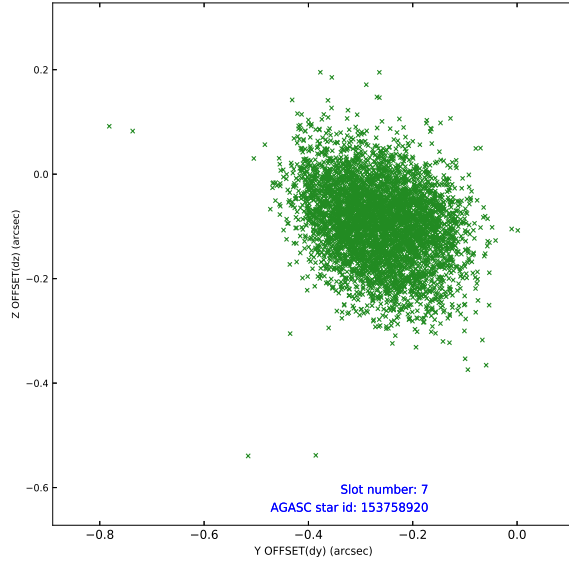
2.4.3 Slot 5



2.4.4 Slot 6

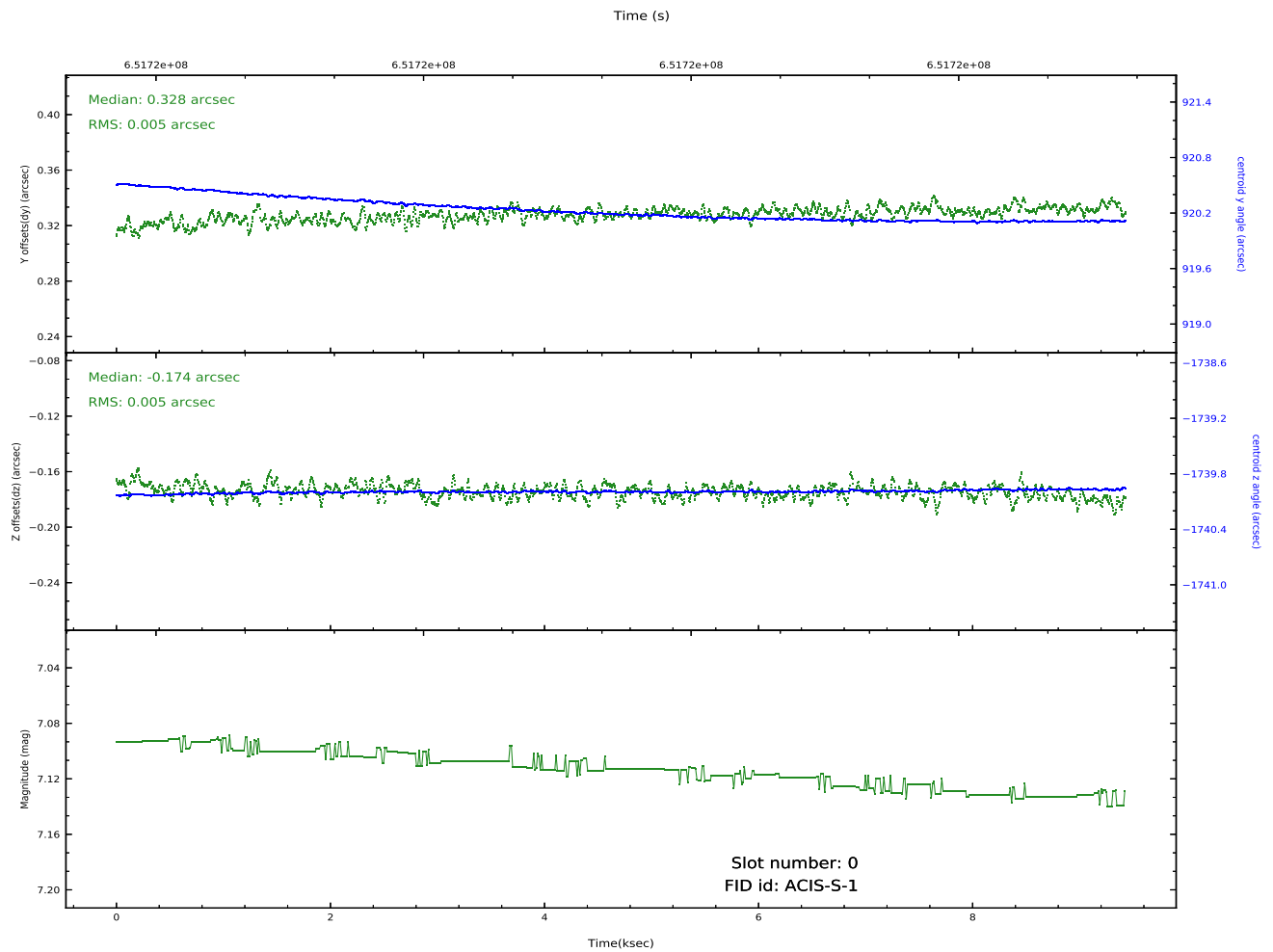
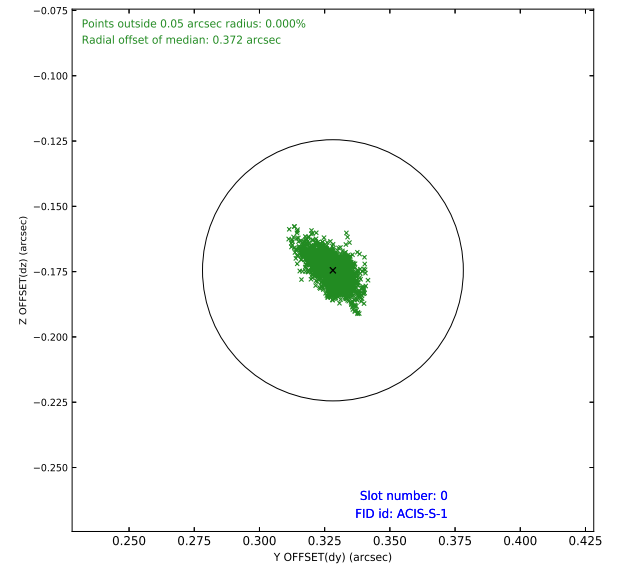
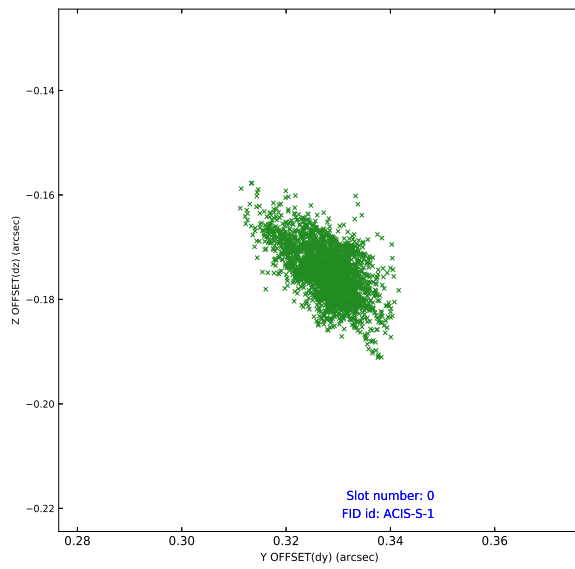


2.4.5 Slot 7

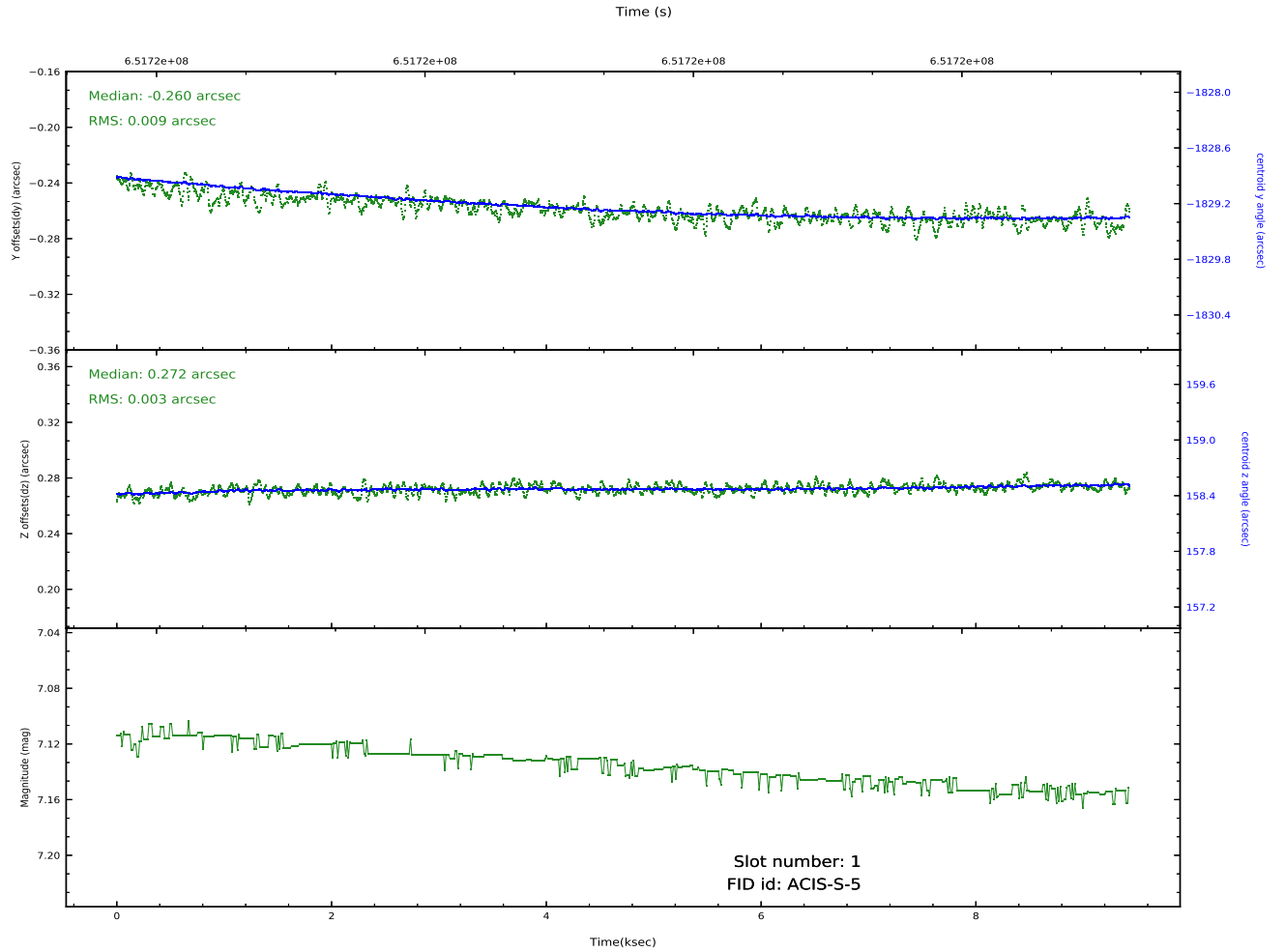
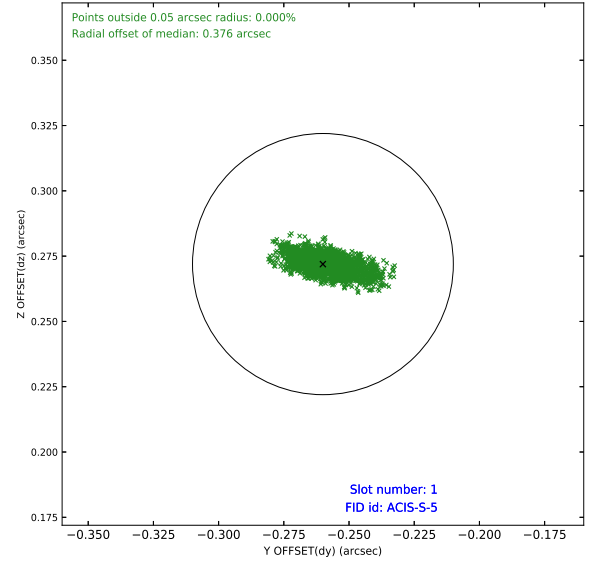
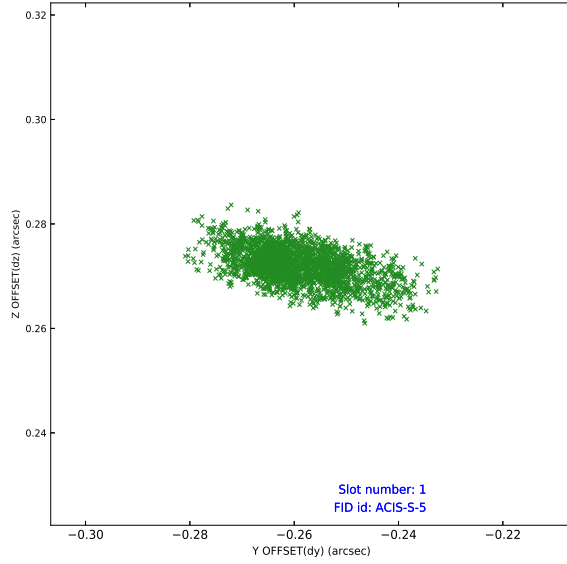


2.5 FID Slots

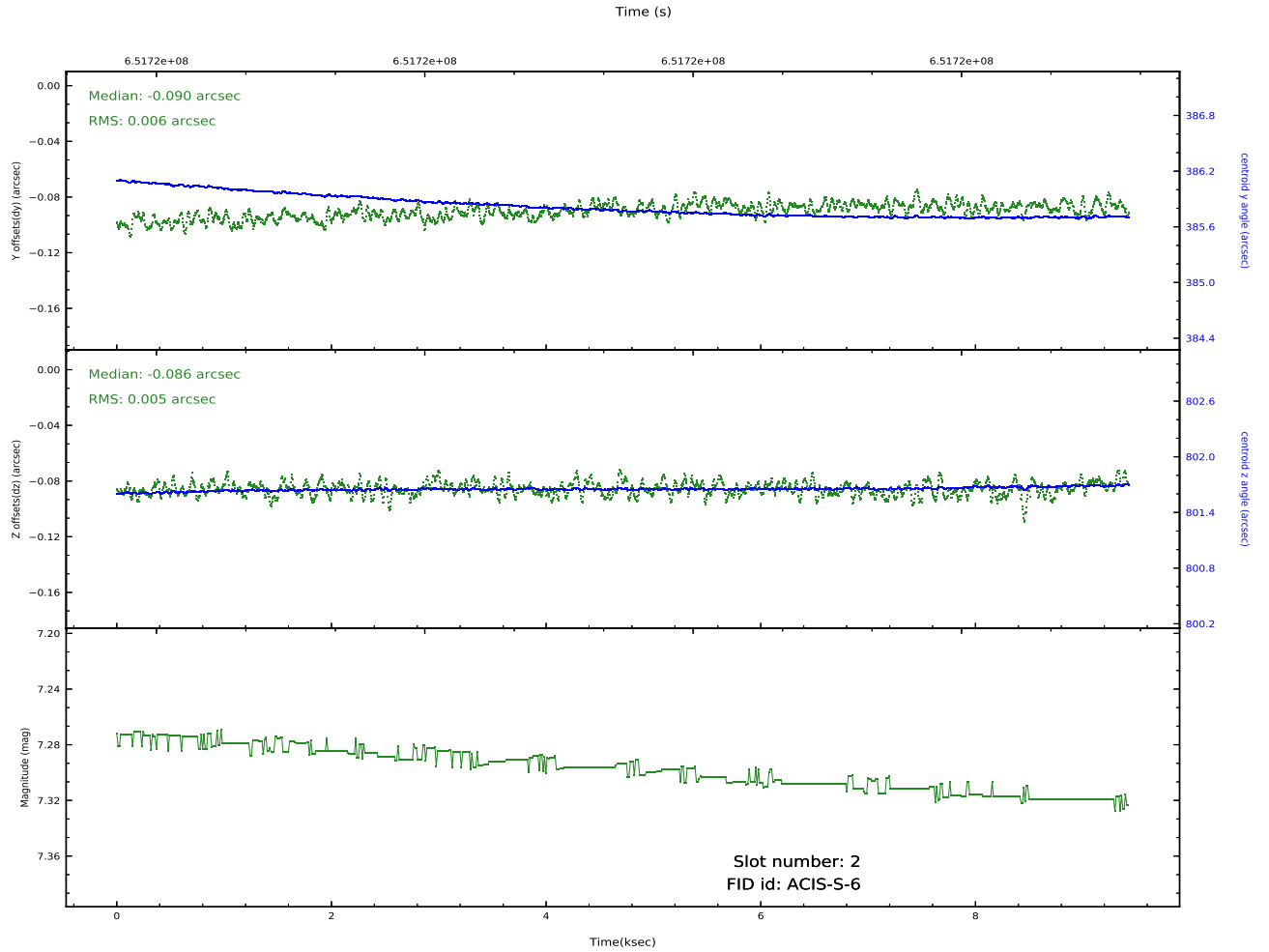
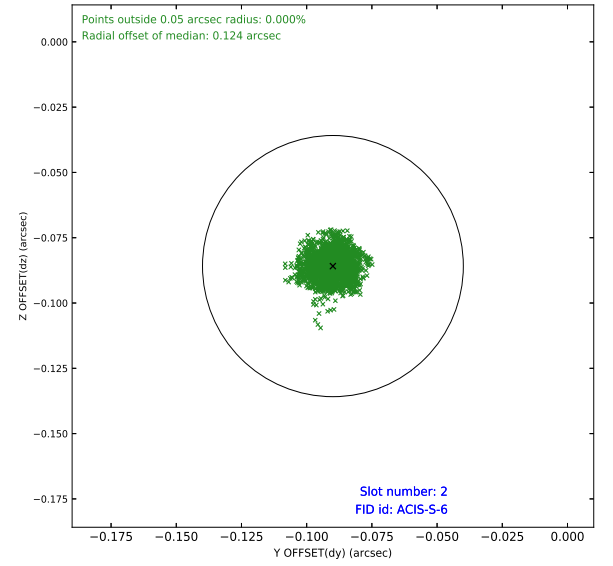
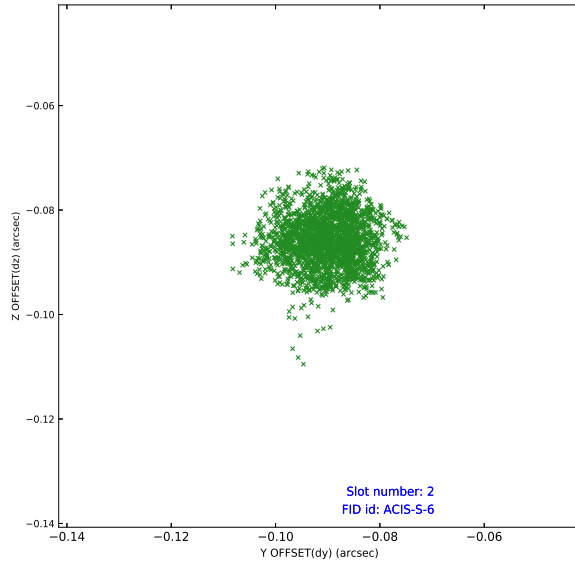
2.5.1 Slot 0



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)	2020.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.0489000697136

A.2 Comments

A spatial region of the original bias map for CCD = 9 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 = 9 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: (356.27669,9.81982), (356.27949,9.81698), (356.35773,9.89158), (356.35423,9.89376).