

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20570 - L2 Version 3
Chandra X-Ray Center

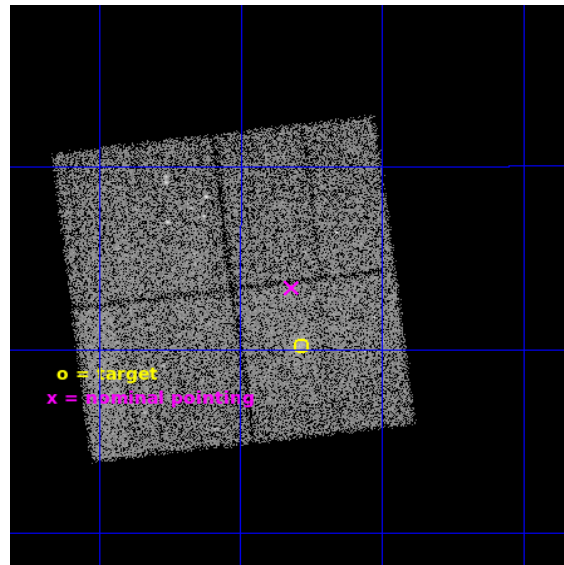
L2 Processing Date : Oct 26 2020

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1 Front

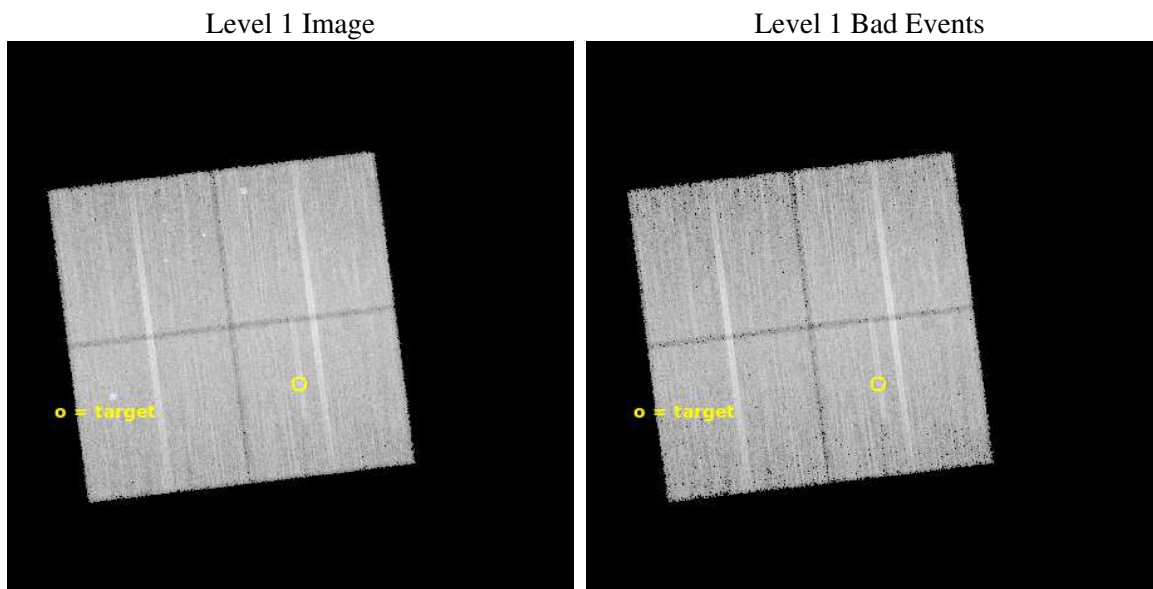
seq_num	801769	Sequence number
obs_id	20570	Observation id
title	The Chandra Strong Lens Sample: Revealing Baryonic Physics In Strong Lensing Selected Clusters	Proposal title
observer	Matthew Bayliss	Principal investigator
object	SDSSJ1152+0930	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	178.195833	Observer's specified target RA [deg]
dec_targ	9.503889	Observer's specified target Dec [deg]
ra_nom	178.20451929321	Nominal RA [deg]
dec_nom	9.5563227029267	Nominal Dec [deg]
roll_nom	82.860400762783	Nominal Roll [deg]
revision	3	Processing version of data
ontime	32581.000250697	Sum of GTIs [s]
livetime	32155.305496638	Livetime [s]
ontime0	32581.000250697	Sum of GTIs [s]
ontime1	32577.859200358	Sum of GTIs [s]
ontime2	32577.859170437	Sum of GTIs [s]
ontime3	32581.000250697	Sum of GTIs [s]
l2events	89738	Number of level 2 events



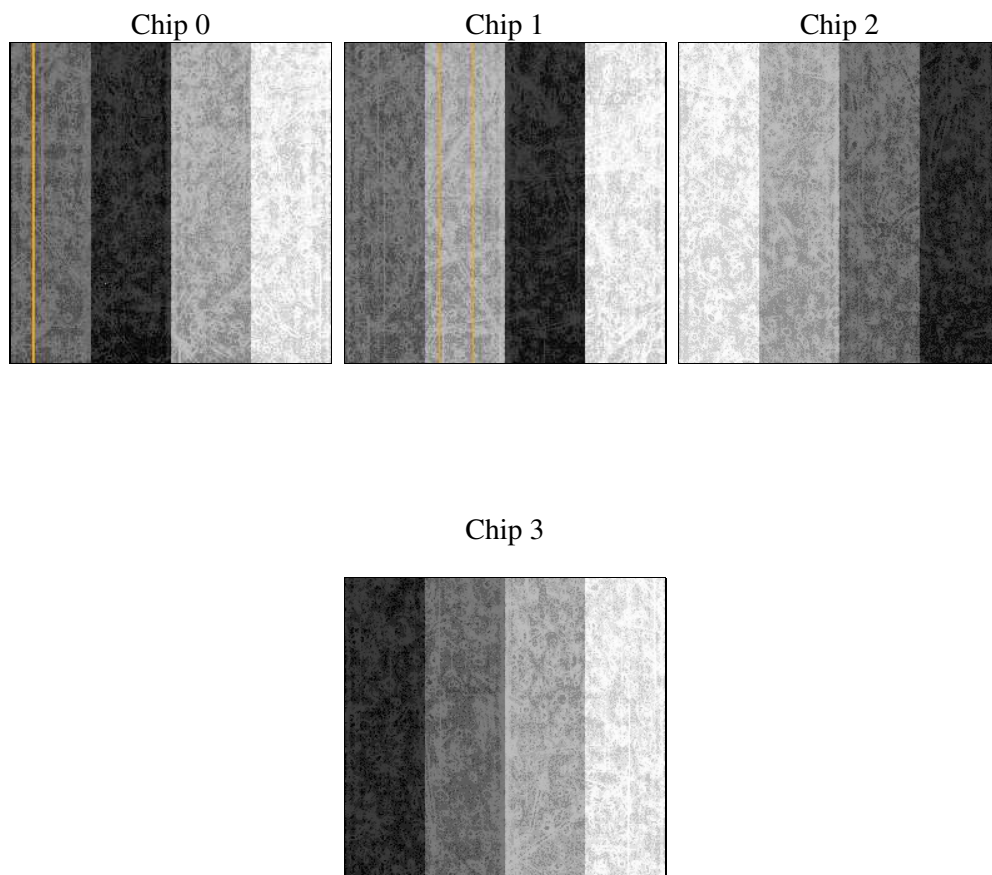
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	32500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	32581.000250697	Sum of GTIs [s]
caldsver	4.9.3	 	ontime0	32581.000250697	Sum of GTIs [s]
date	2020-10-27T00:10:31	Date and time of file creation	ontime1	32577.859200358	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	32577.859170437	Sum of GTIs [s]
			ontime3	32581.000250697	Sum of GTIs [s]
			l1events	937913	Number of level 1 events

2.1.4 Events

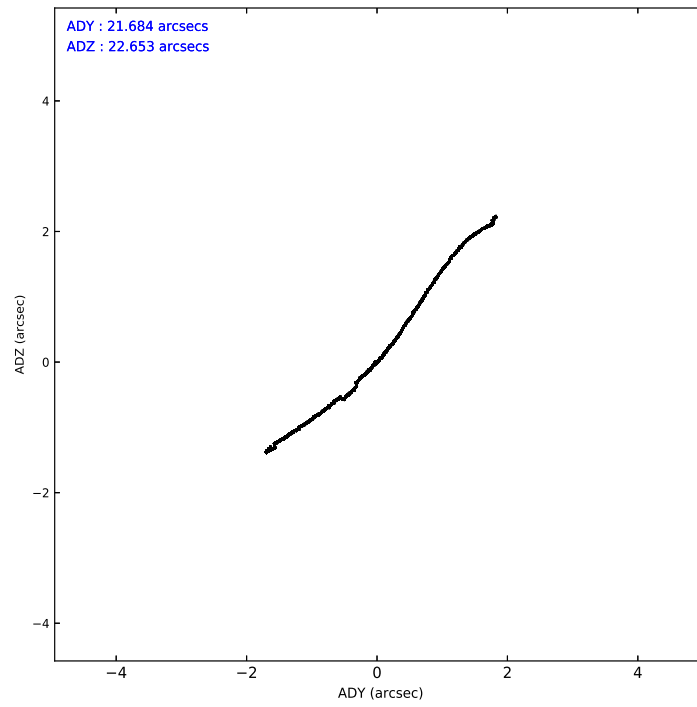
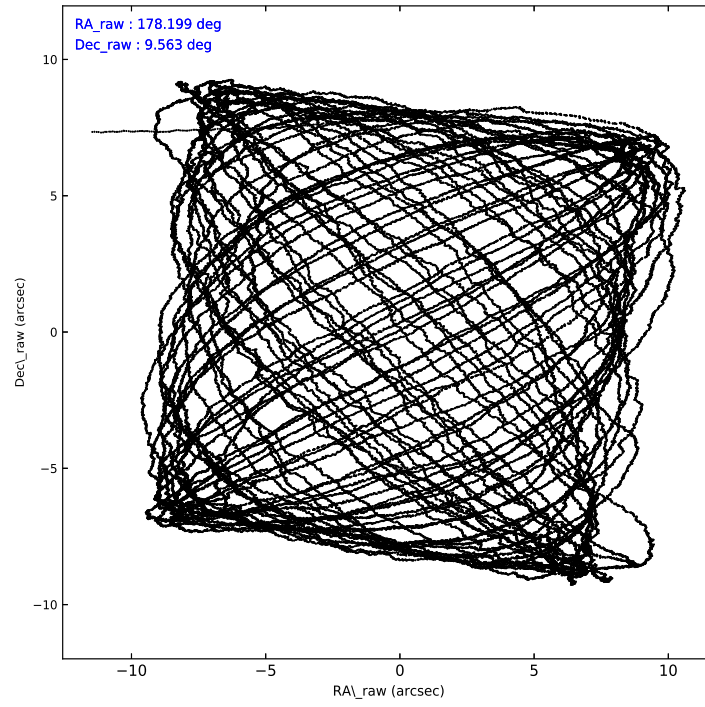
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	218480	226664	249801	242968
rejected events	191305	196813	223809	217084
rejected %	87%	86%	89%	89%

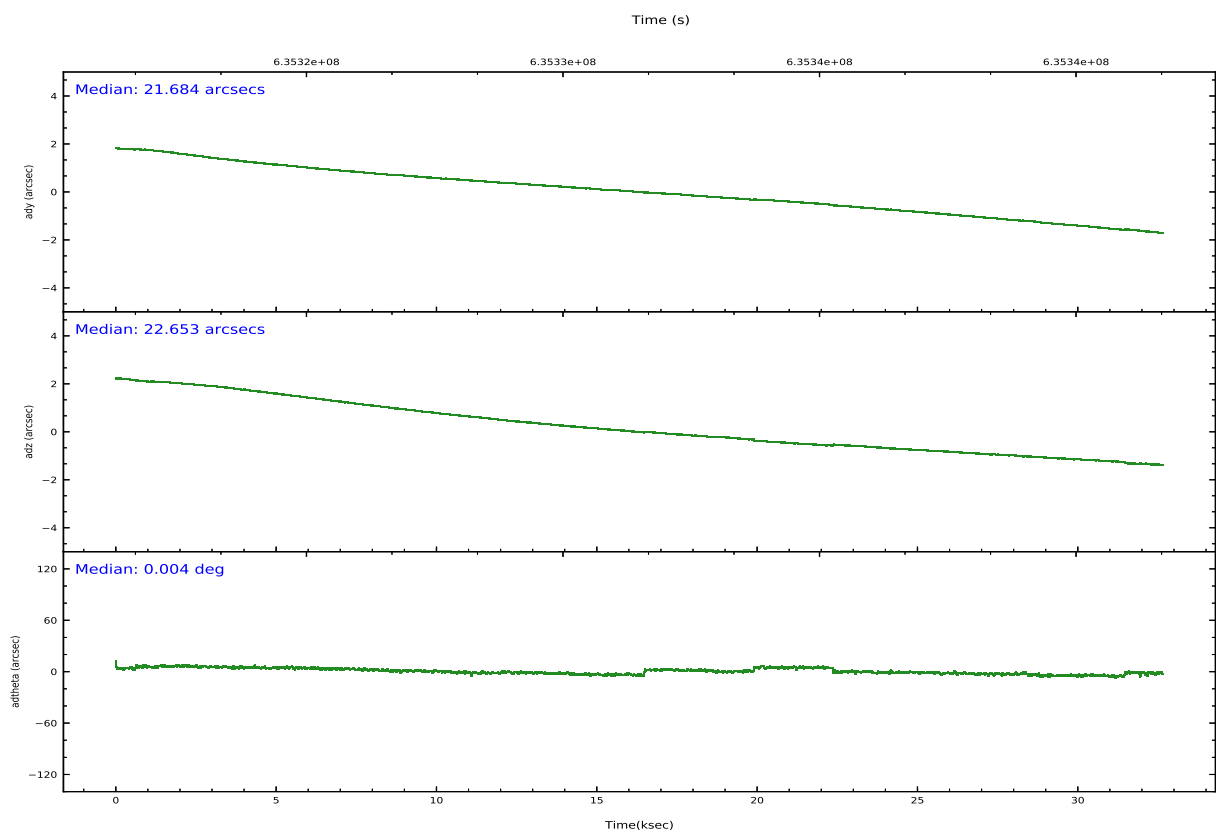
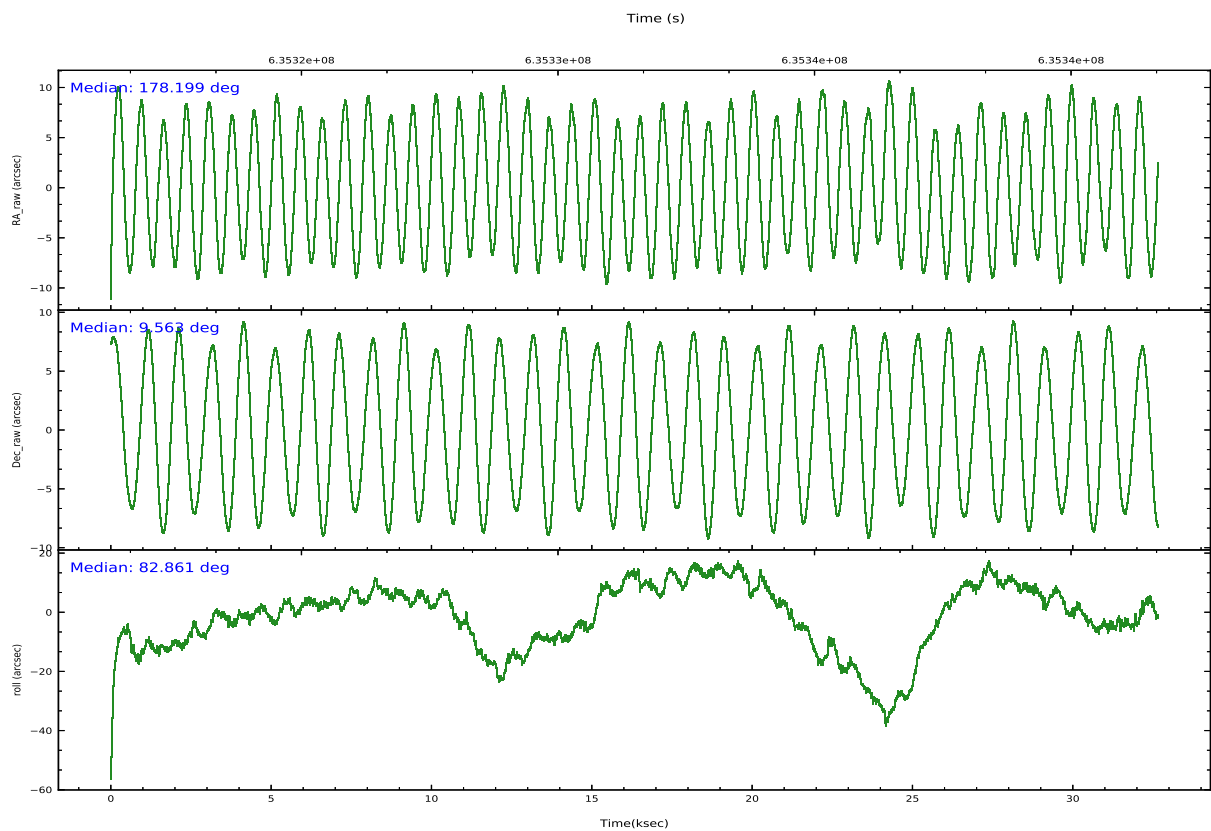
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	9422	10326	9608	9600
	4%	4%	3%	3%
grade 1 events	120	132	147	152
	0%	0%	0%	0%
grade 2 events	6804	7355	6234	5592
	3%	3%	2%	2%
grade 3 events	2774	2827	2557	2559
	1%	1%	1%	1%
grade 4 events	2565	2760	2607	2642
	1%	1%	1%	1%
grade 5 events	10002	10605	9220	11476
	4%	4%	3%	4%
grade 6 events	5613	6585	4988	5495
	2%	2%	1%	2%
grade 7 events	181180	186074	214440	205452
	82%	82%	85%	84%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-0123	ACIS-0123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	178.209675	178.20451929321	CCD I2 on	Y	Y
[deg] Pointing Dec	9.538005	9.5563227029267	CCD I3 on	Y	Y
[deg] Pointing Roll	82.656408	82.860400762783	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	N
[mm] SIM translation stage pos	-225.840463	-225.8458576473255	CCD S3 on	O2	N
[mm] SIM translation stage offset	-7.752	-7.746595355604228	CCD S4 on	N	N
[s] Observation start time (MET)	635314216.184000	635312916.84698	CCD S5 on	N	N
Observation start date	2018-02-18T04:09:07	2018-02-18T03:48:36	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	635346716.184000	635347407.07401	On-chip summing requested	N	N
Observation end date	2018-02-18T13:10:47	2018-02-18T13:23:27	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



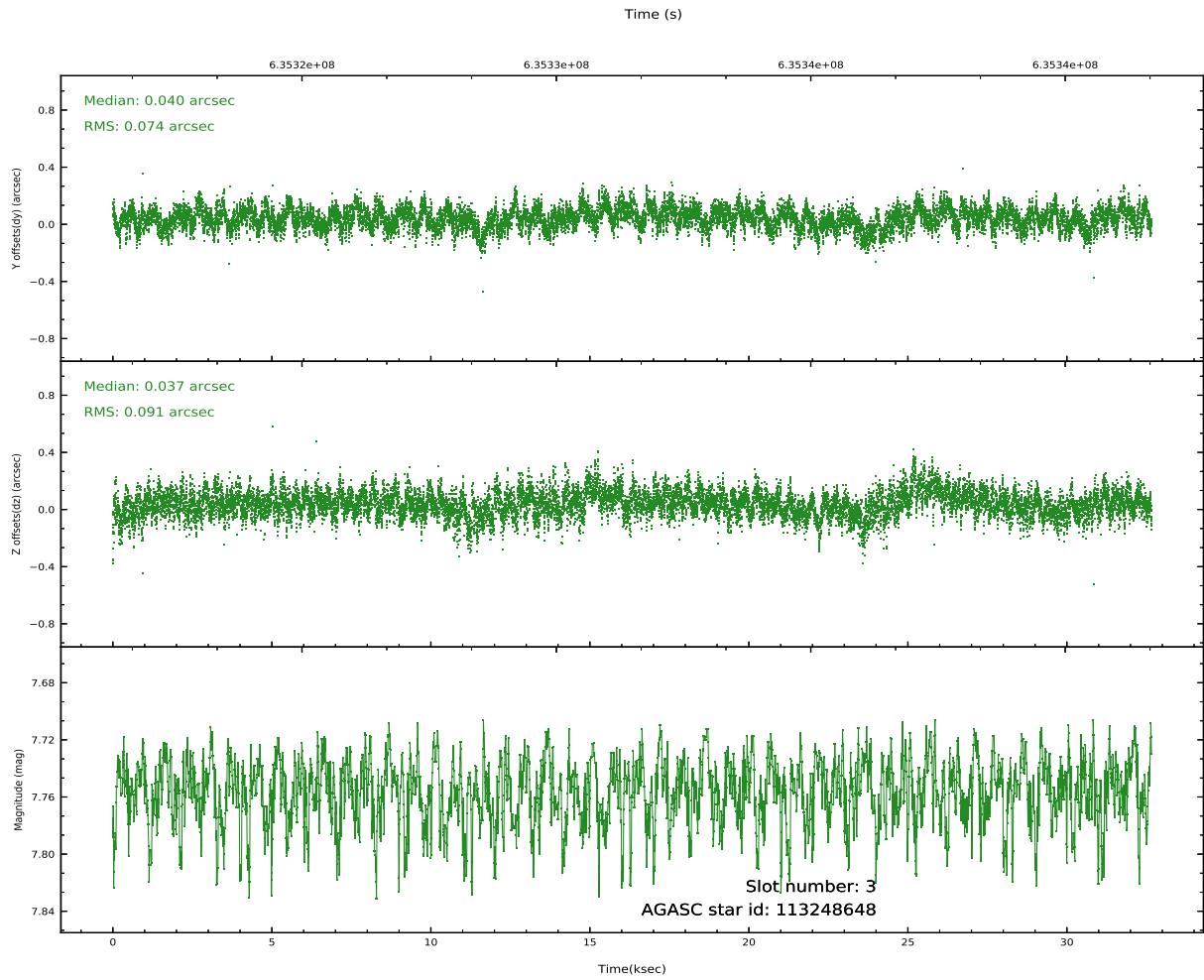
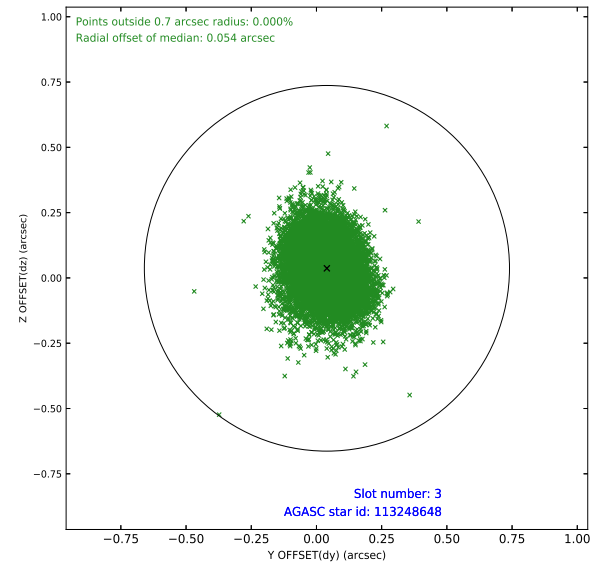
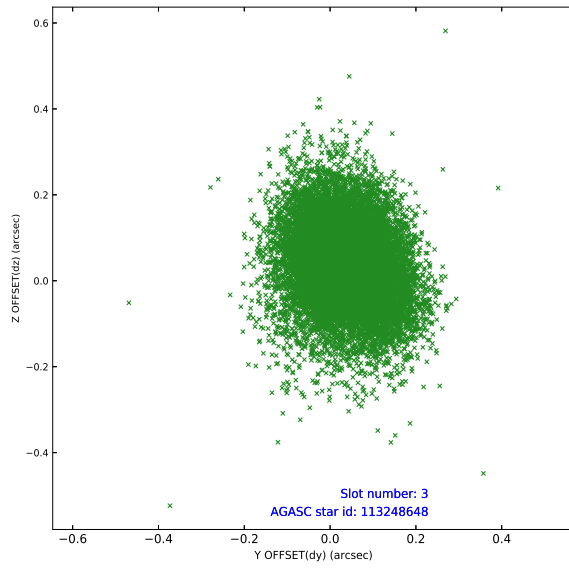


Slot Statistics

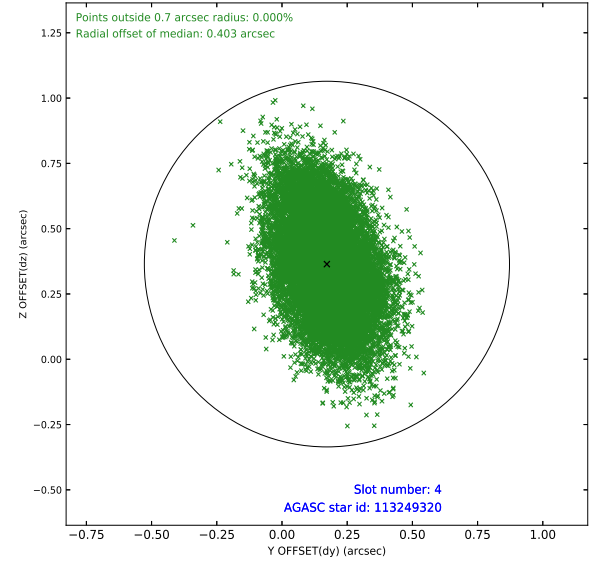
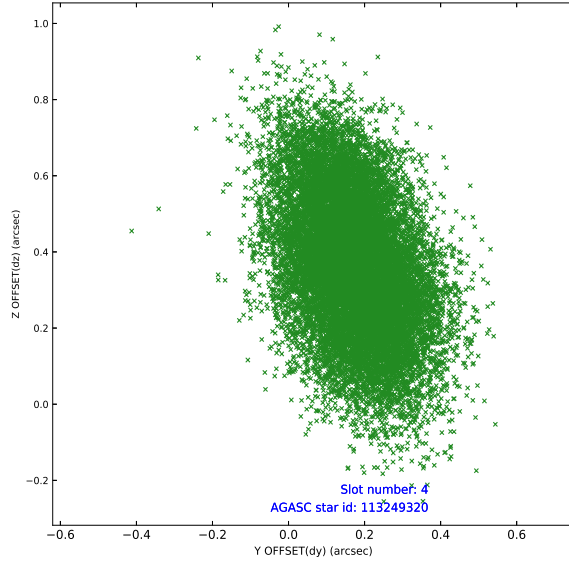
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-2	7.14	7966	1.000	-0.043	-0.021	0.019	0.039	0.000000	0.000000	-777.31	-1010
1	FID		ACIS-I-4	7.12	7966	1.000	0.019	-0.008	0.026	0.043	0.000000	0.000000	2136.96	894
2	FID		ACIS-I-6	7.21	7967	1.000	-0.071	0.097	0.034	0.049	0.000000	0.000000	383.50	1536
3	GUIDE	used	113248648	7.76	15924	1.000	0.040	0.037	0.122	0.206	178.533159	9.892956	1413.92	-973
4	GUIDE	used	113249320	9.18	15918	1.000	0.172	0.364	0.222	0.367	178.542731	8.903686	-2111.92	-1465
5	GUIDE	used	113249488	8.05	15929	1.000	-0.168	-0.284	0.123	0.207	177.669440	9.516222	-321.05	1893
6	GUIDE	used	113646944	8.15	15926	1.000	-0.018	-0.037	0.164	0.263	178.594803	10.049079	2000.57	-1117
7	GUIDE	used	113247880	8.99	15918	1.000	-0.030	-0.077	0.137	0.239	178.007523	9.206049	-1277.01	560

2.4 Star Slots

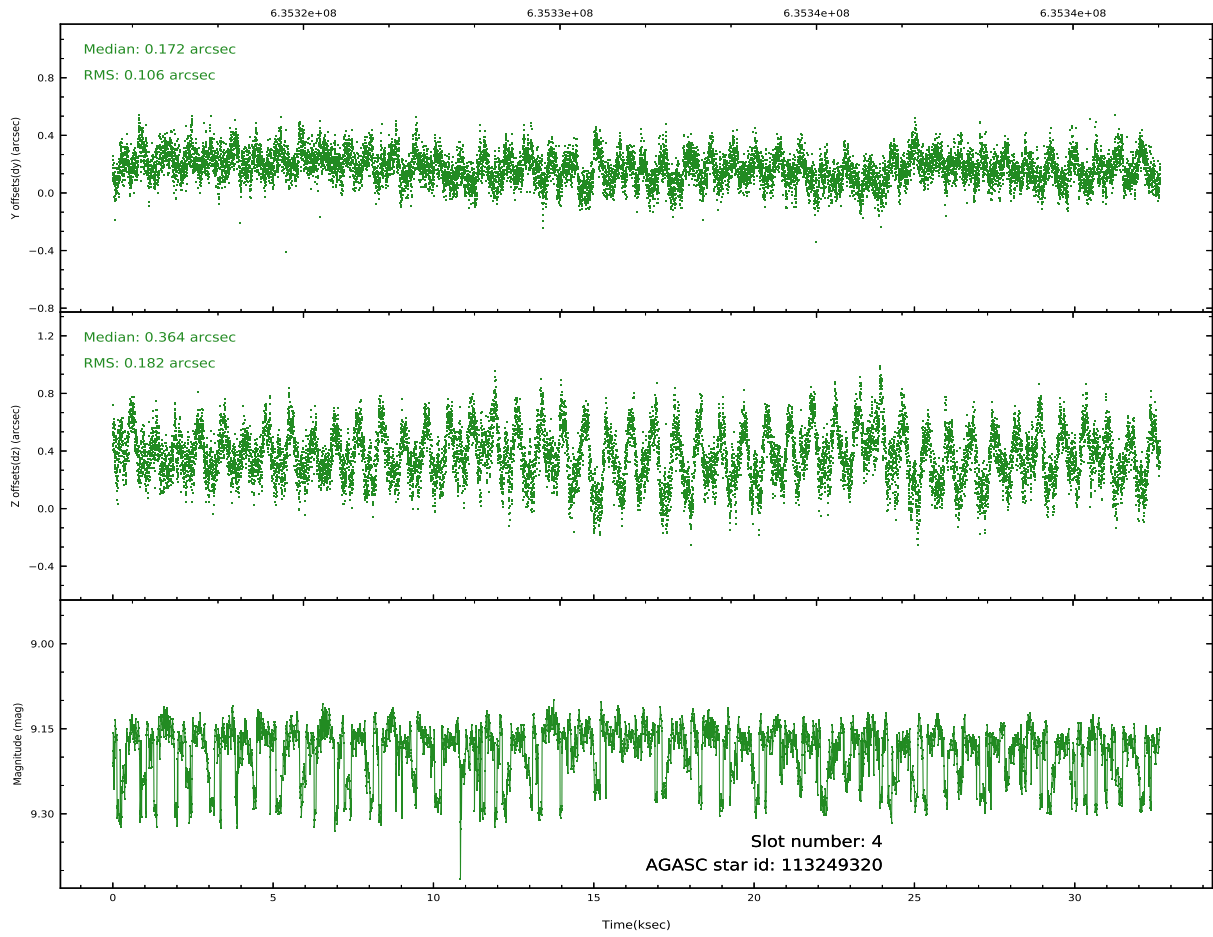
2.4.1 Slot 3



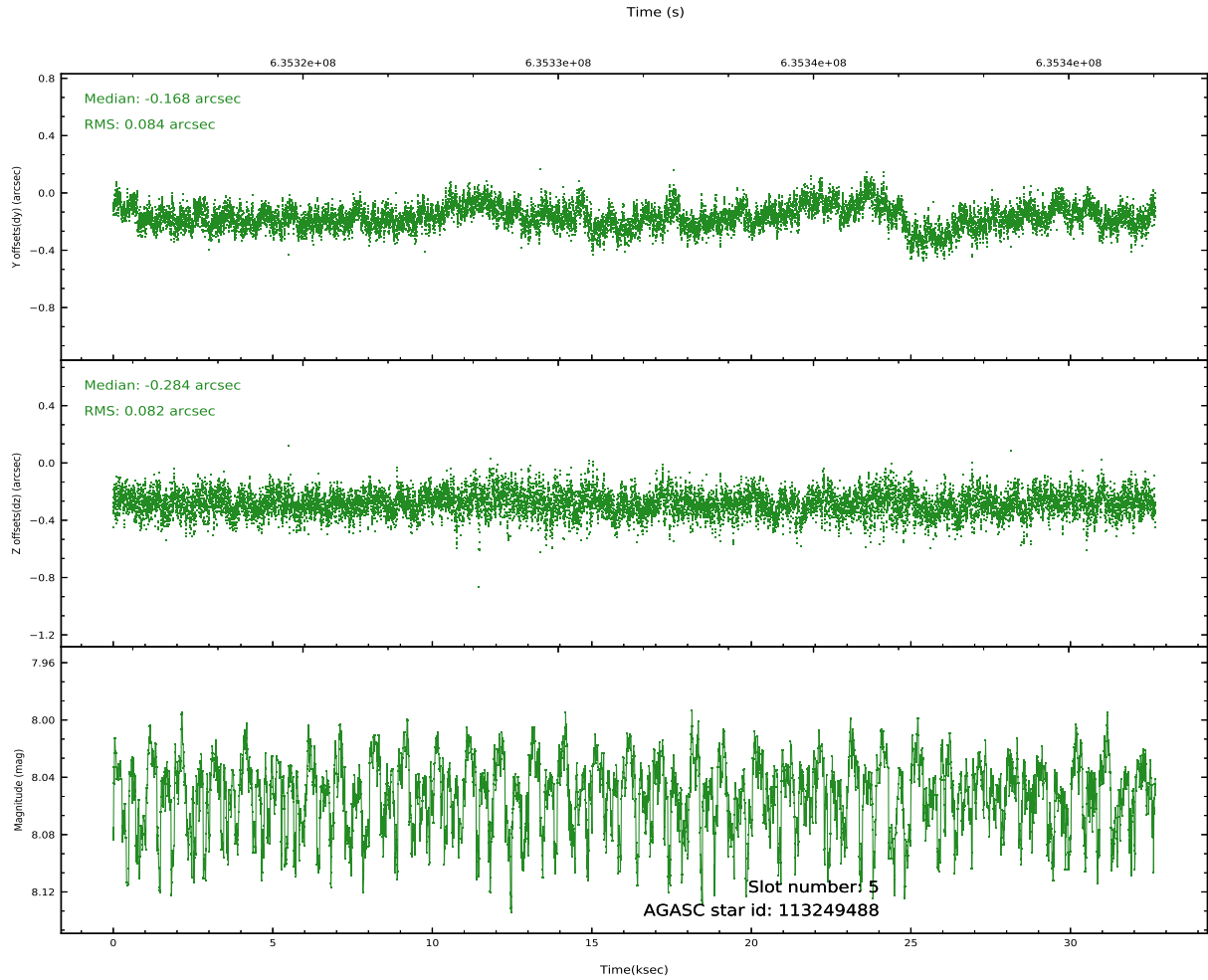
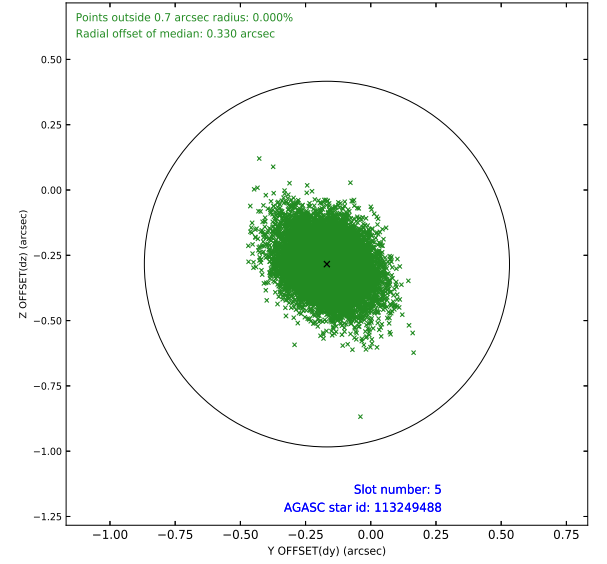
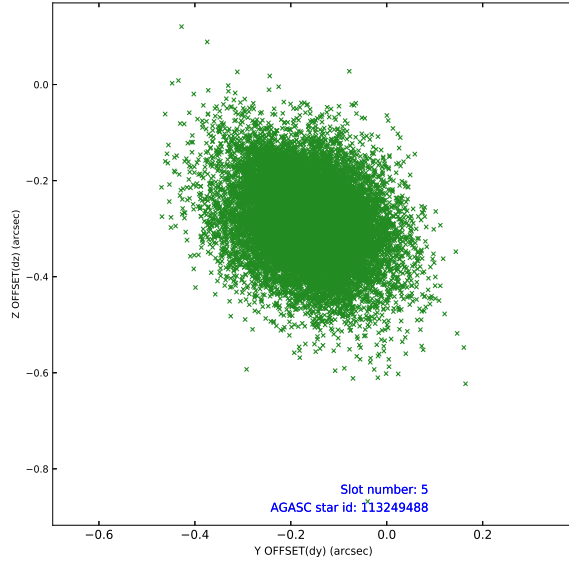
2.4.2 Slot 4



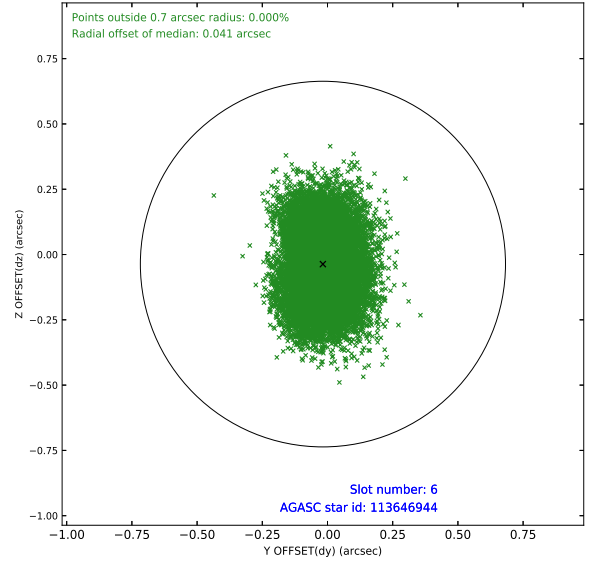
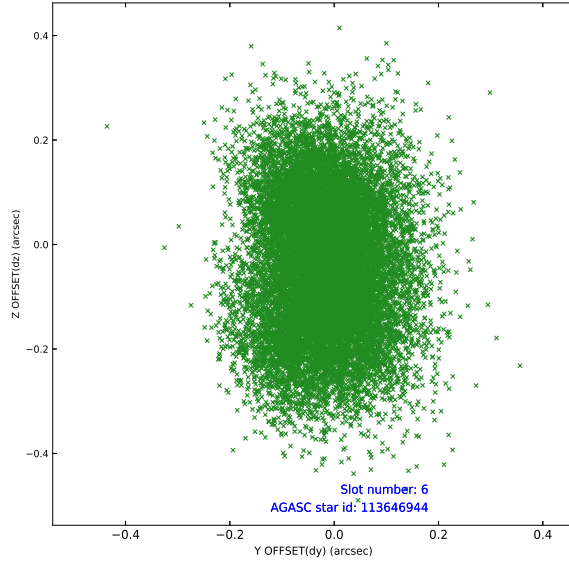
Time (s)



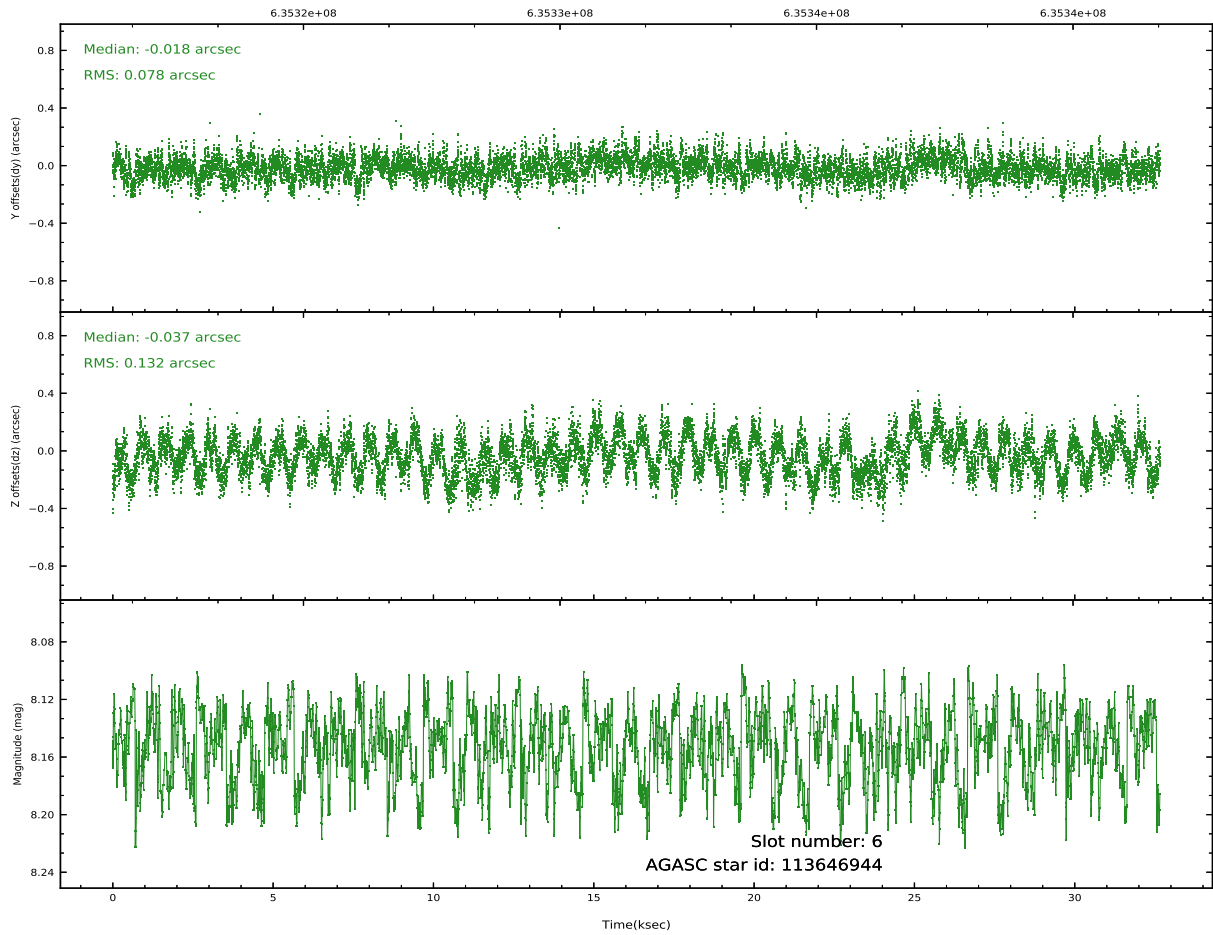
2.4.3 Slot 5



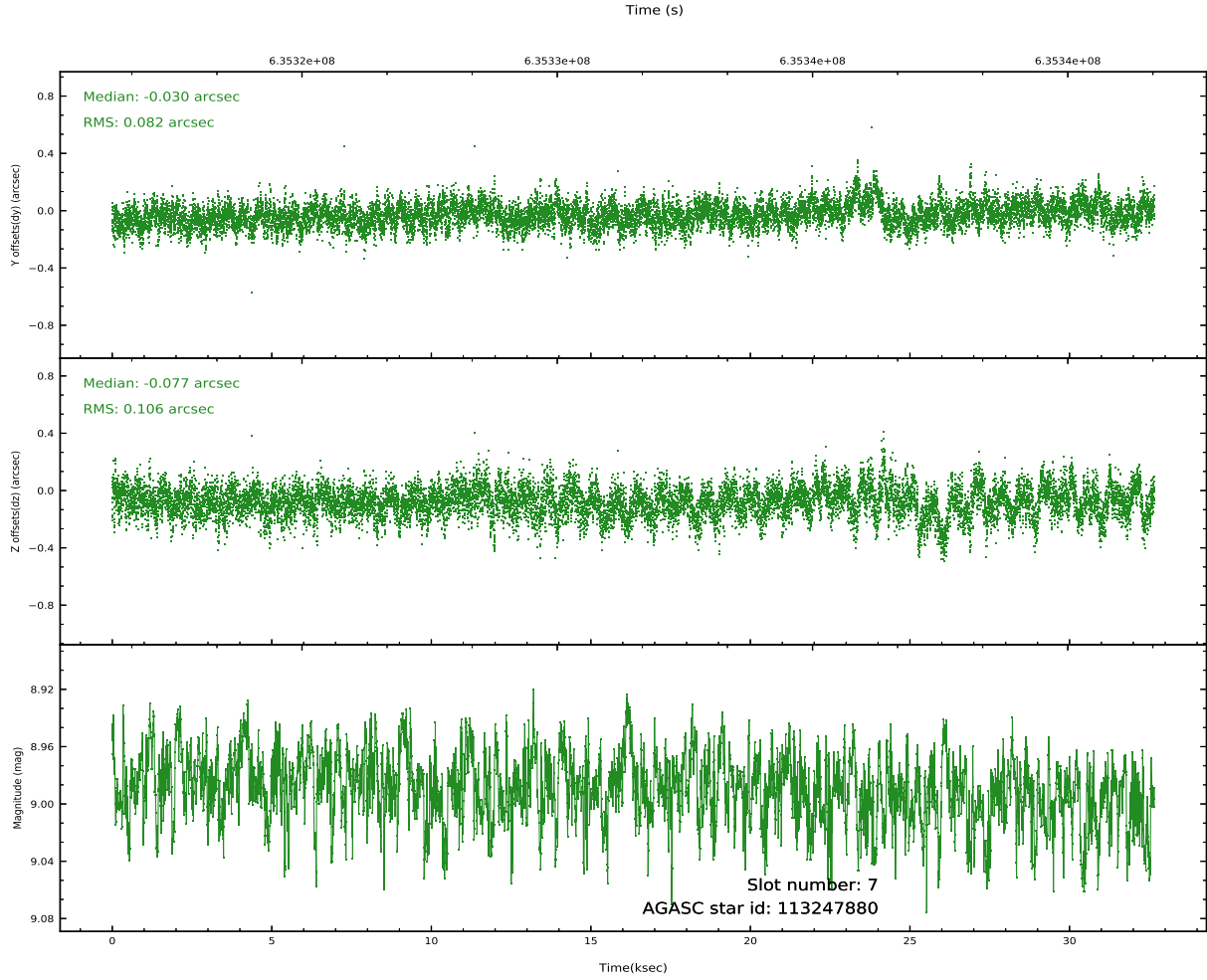
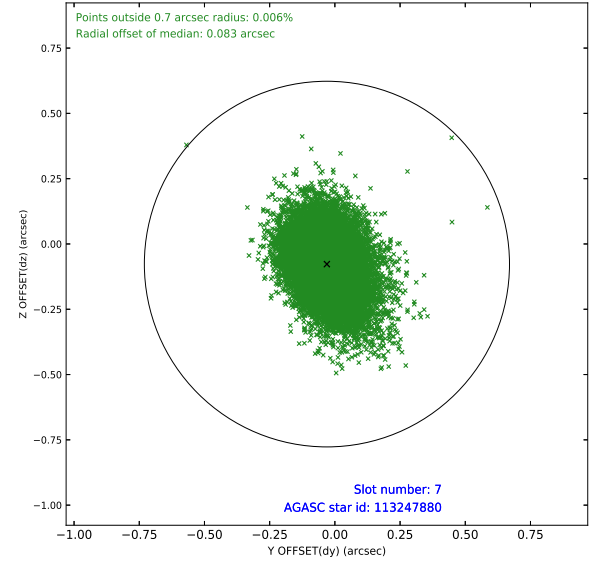
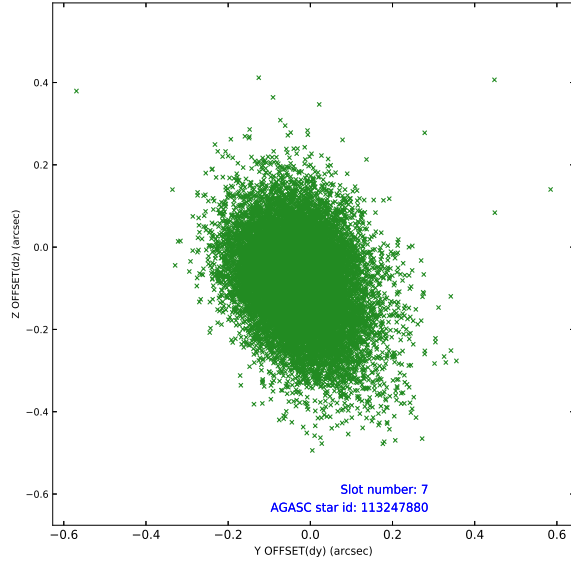
2.4.4 Slot 6



Time (s)

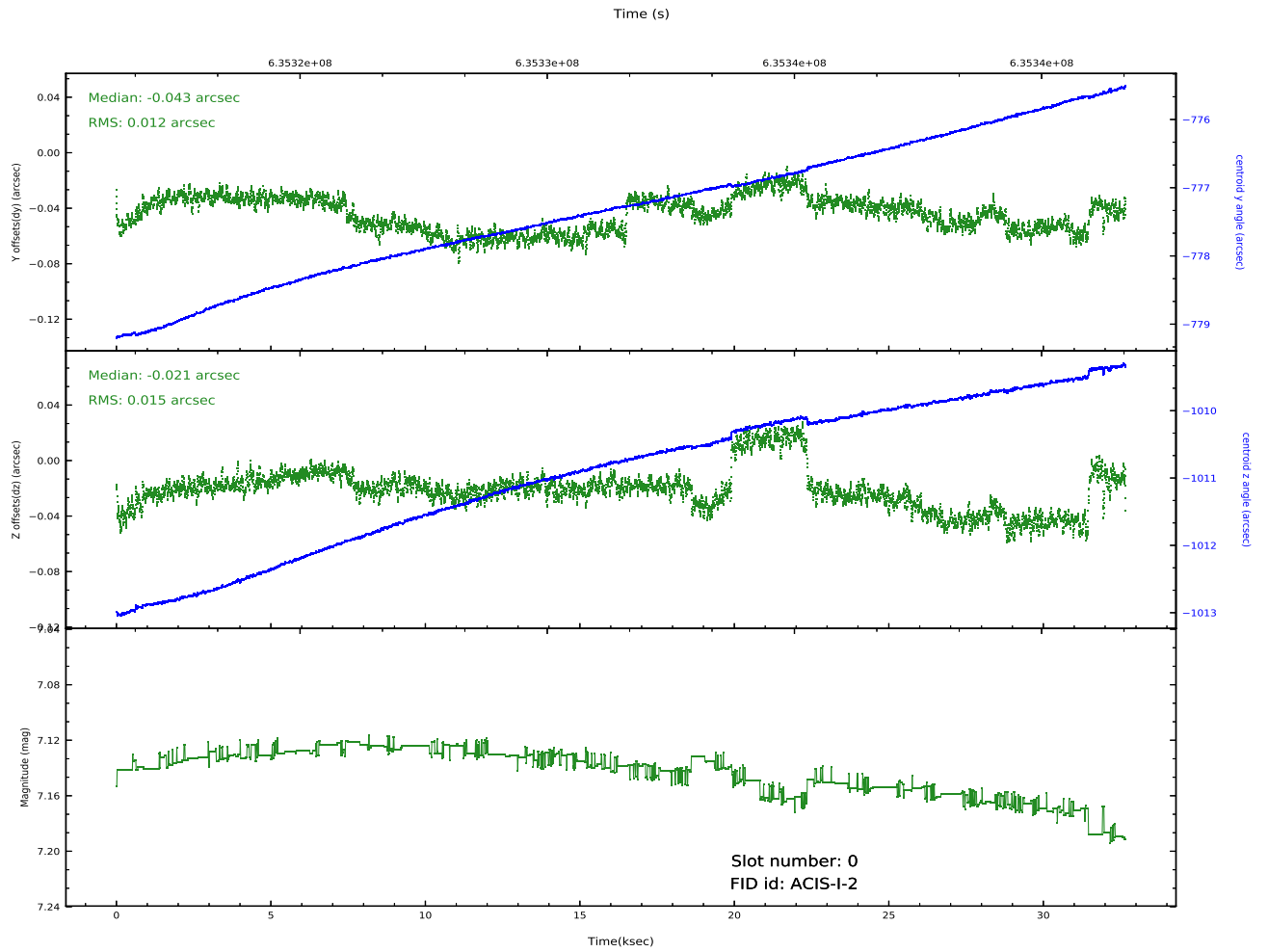
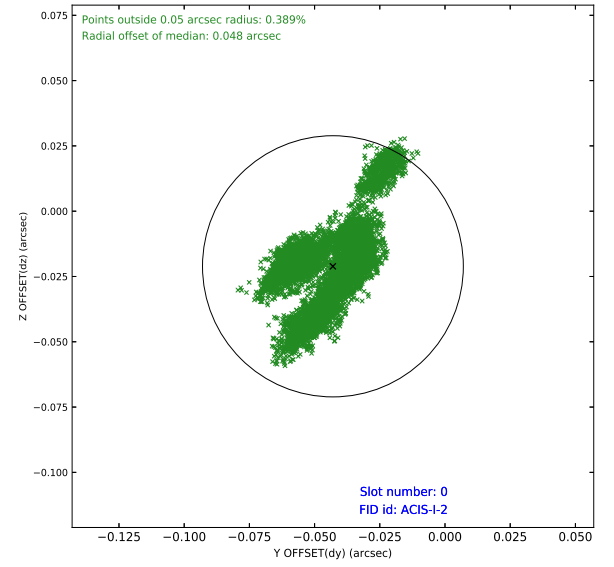
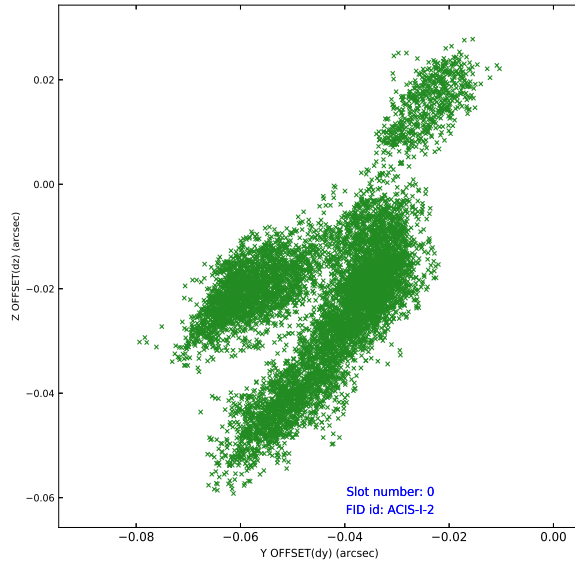


2.4.5 Slot 7

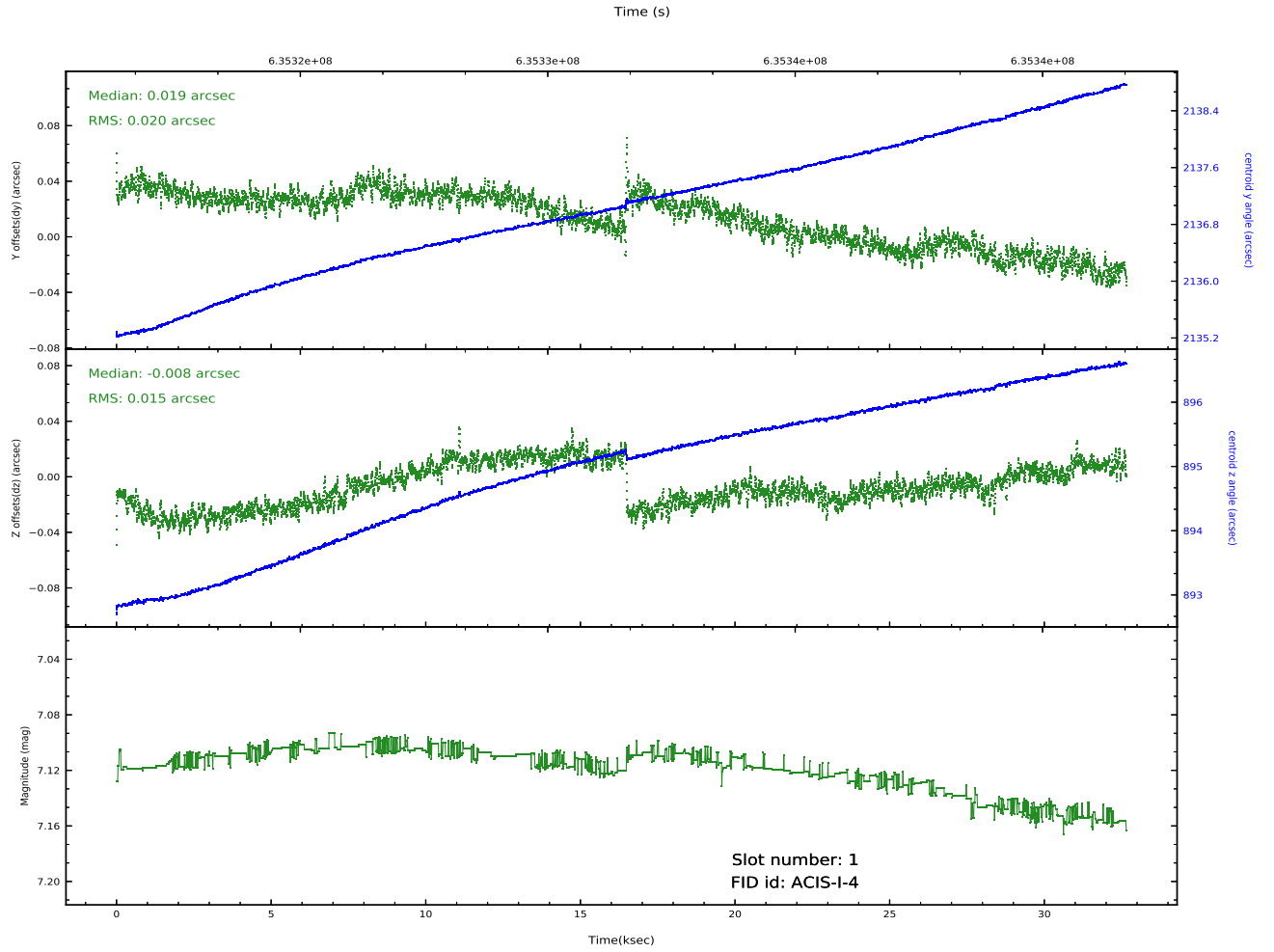
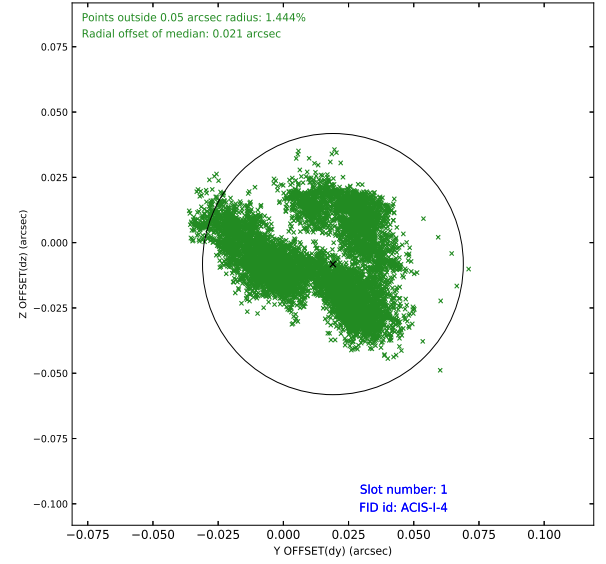
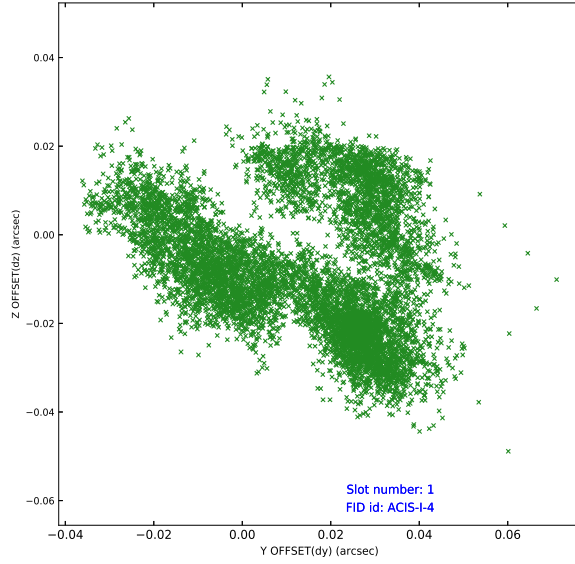


2.5 FID Slots

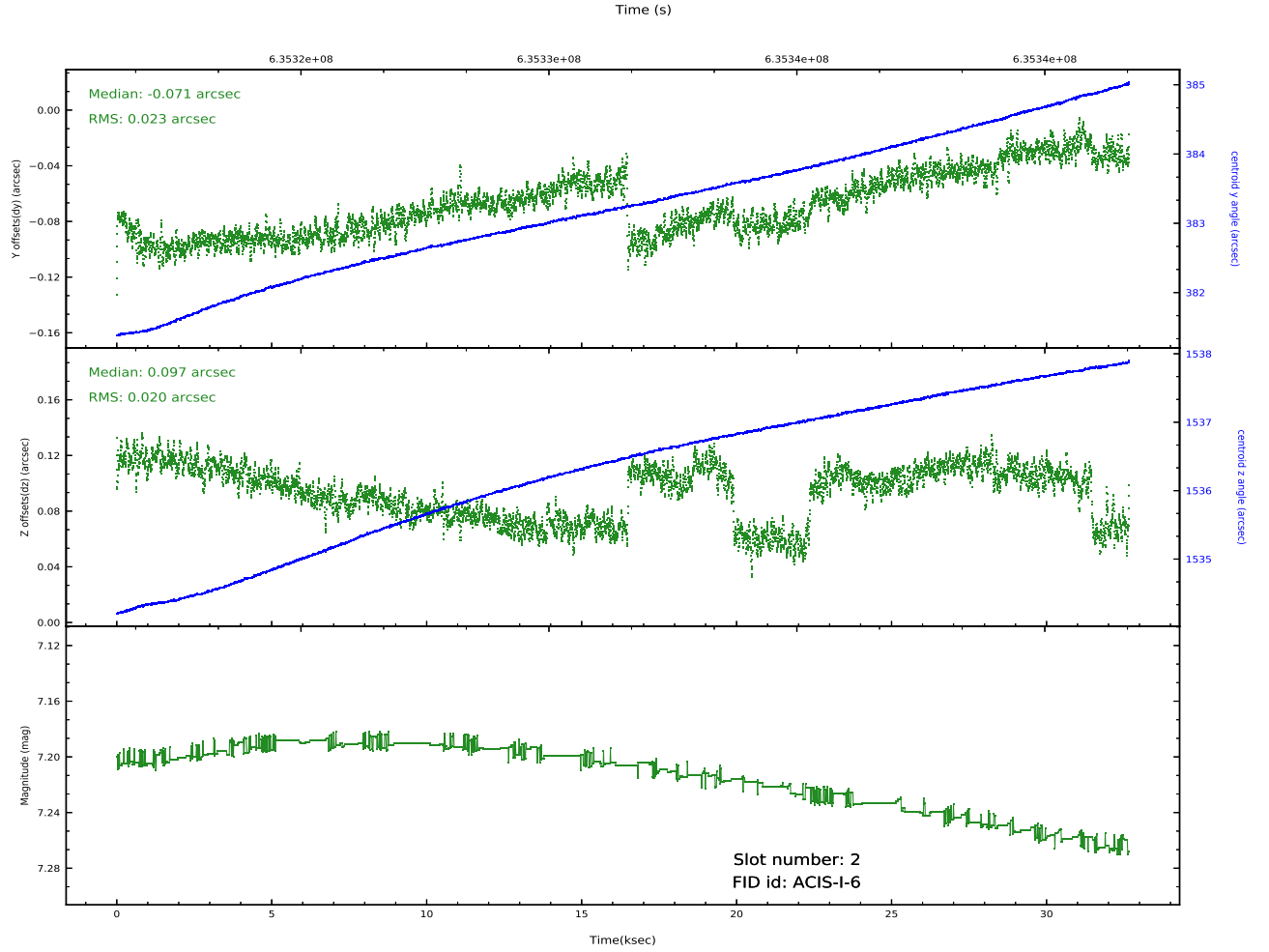
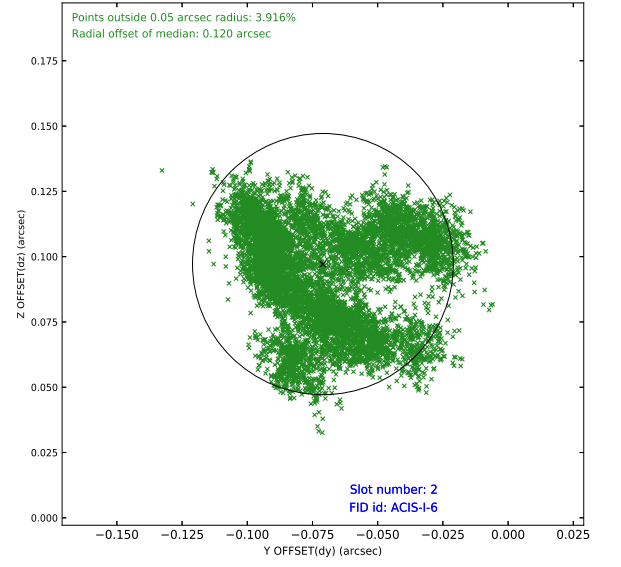
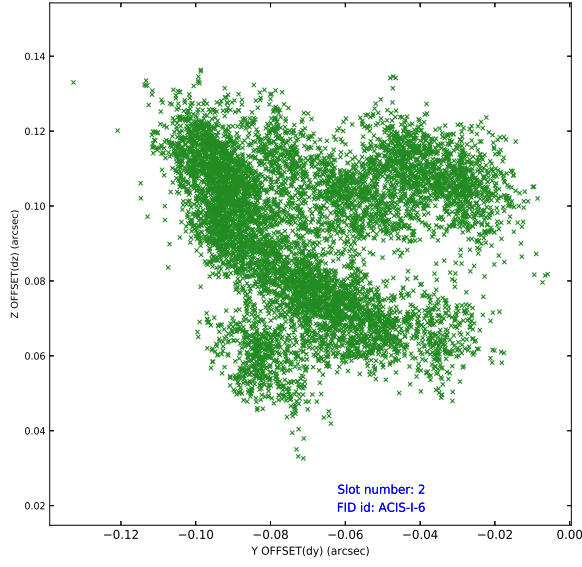
2.5.1 Slot 0



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)	2020.10.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	32.581000250697

A.2 Comments

Joint proposal with HST.

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Two optional chips were dropped.

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A spatial region of the original bias map for CCD = 0 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 = 0 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: (178.38462,9.68184), (178.38133,9.68225), (178.36720,9.57147), (178.37159,9.57971).