

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 4681 - L2 Version 4
Chandra X-Ray Center

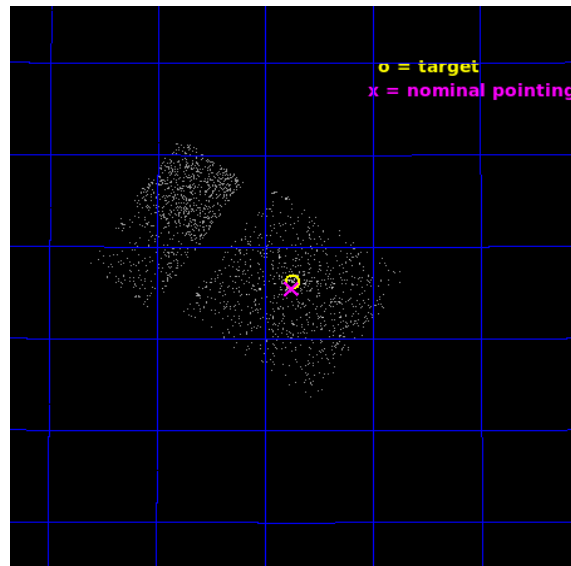
L2 Processing Date : Sep 23 2020

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1 Front

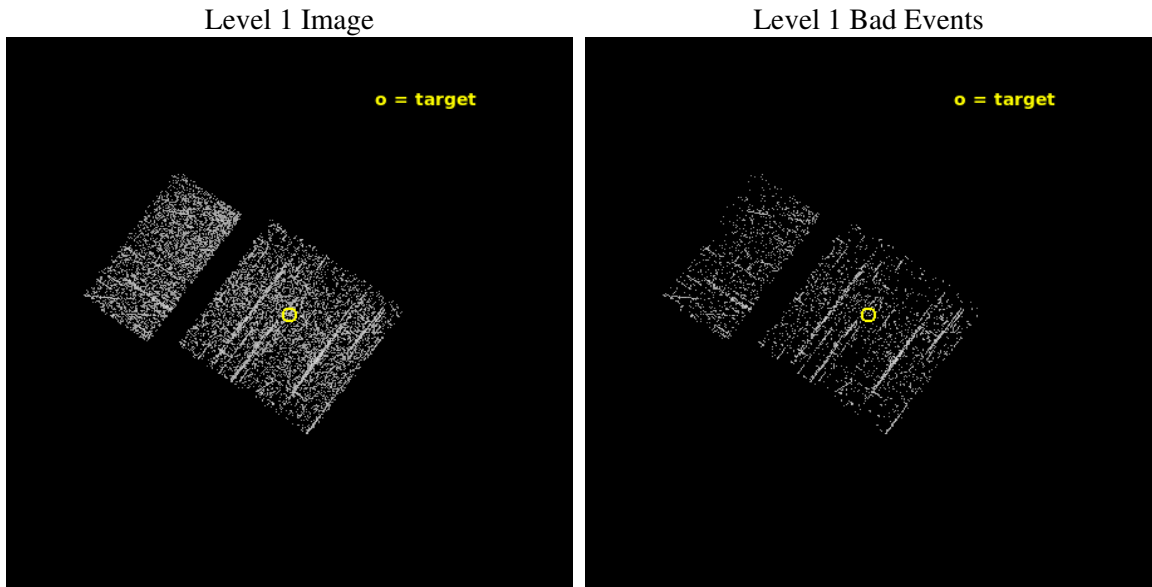
seq_num	600336	Sequence number
obs_id	4681	Observation id
title	Searching for Black Hole X-ray Nova in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31 Center	Source name
dtcycle	0	
cycle	P	events are from which exps? P[primary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.68768809854	Nominal RA [deg]
dec_nom	41.257615853167	Nominal Dec [deg]
roll_nom	305.5460162186	Nominal Roll [deg]
revision	4	Processing version of data
ontime	973.13508662581	Sum of GTIs [s]
livetime	153.19493618432	Livetime [s]
ontime0	973.13508662581	Sum of GTIs [s]
ontime1	973.13508662581	Sum of GTIs [s]
ontime2	973.13508662581	Sum of GTIs [s]
ontime3	973.13508662581	Sum of GTIs [s]
ontime6	973.12210425735	Sum of GTIs [s]
ontime7	973.13508662581	Sum of GTIs [s]
l2events	2284	Number of level 2 events



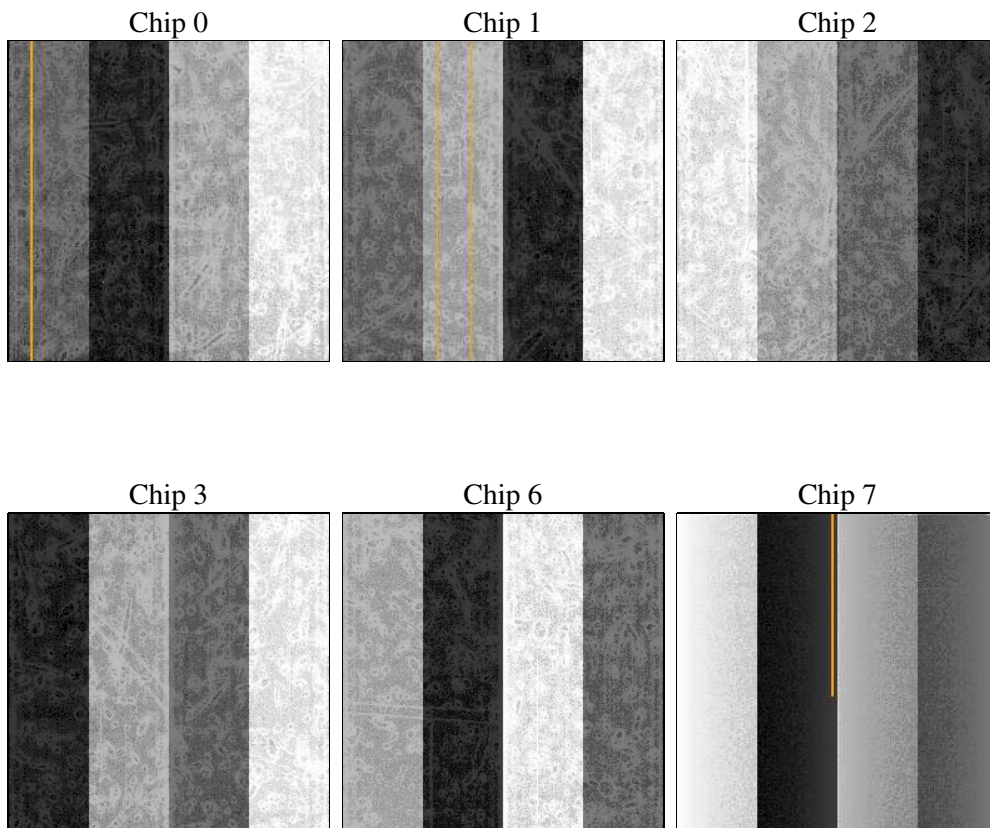
2 OBI Primary

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	973.13508662581	Sum of GTIs [s]
caldsver	4.9.2	 	ontime0	973.13508662581	Sum of GTIs [s]
date	2020-09-23T17:22:39	Date and time of file creation	ontime1	973.13508662581	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	973.13508662581	Sum of GTIs [s]
			ontime3	973.13508662581	Sum of GTIs [s]
			ontime6	973.12210425735	Sum of GTIs [s]
			ontime7	973.13508662581	Sum of GTIs [s]
			l1events	21729	Number of level 1 events

2.1.4 Events

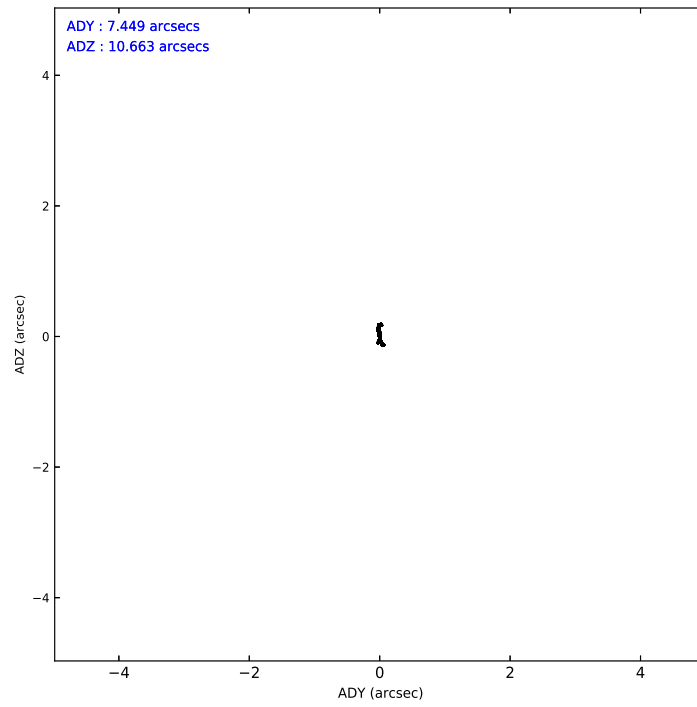
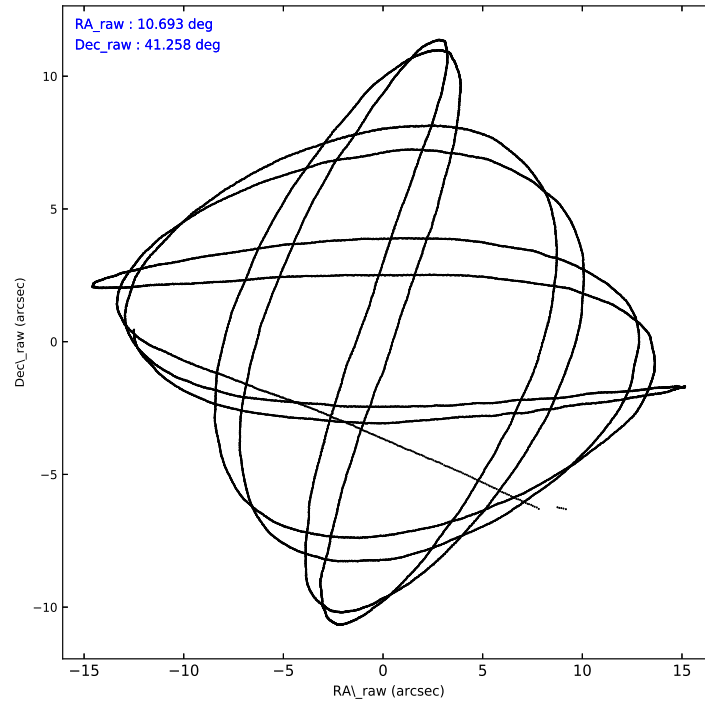
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	3313	3523	3987	3494	3766	3646
rejected events	3009	3073	3638	3116	3502	2827
rejected %	90%	87%	91%	89%	92%	77%

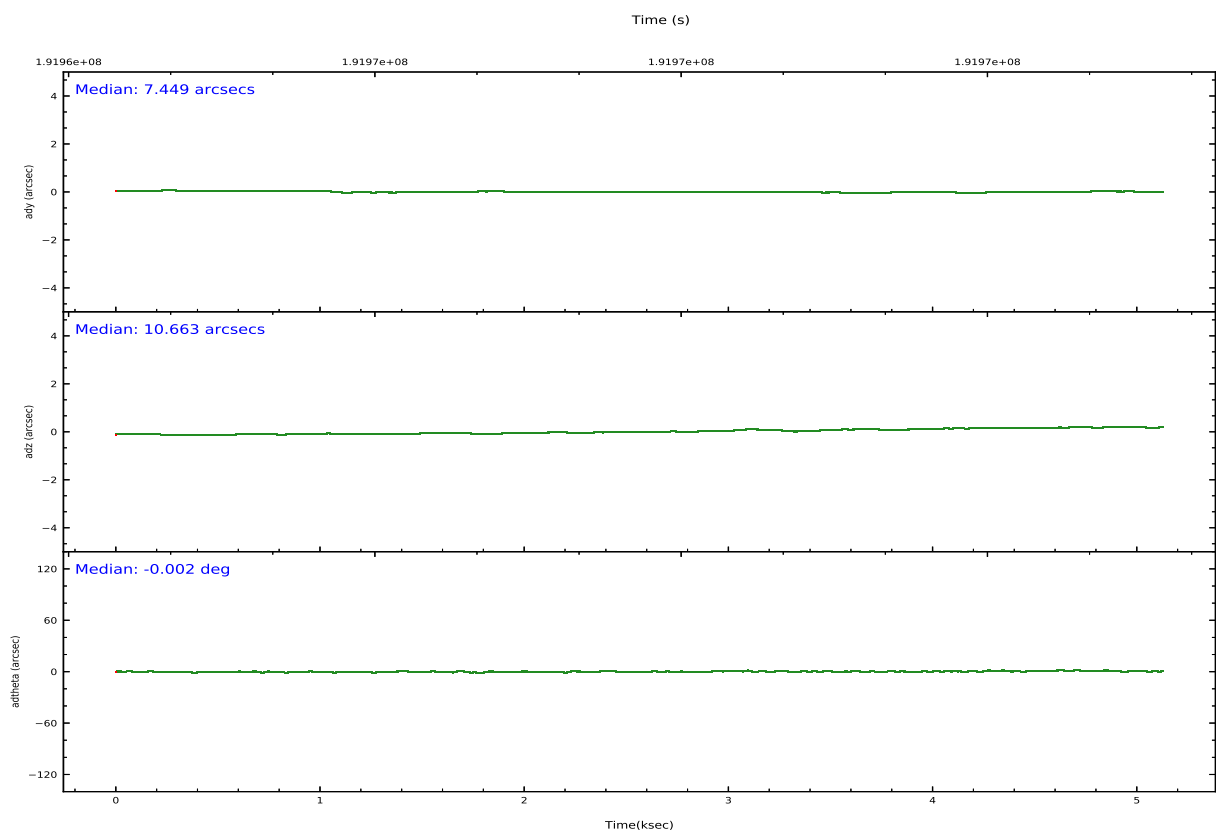
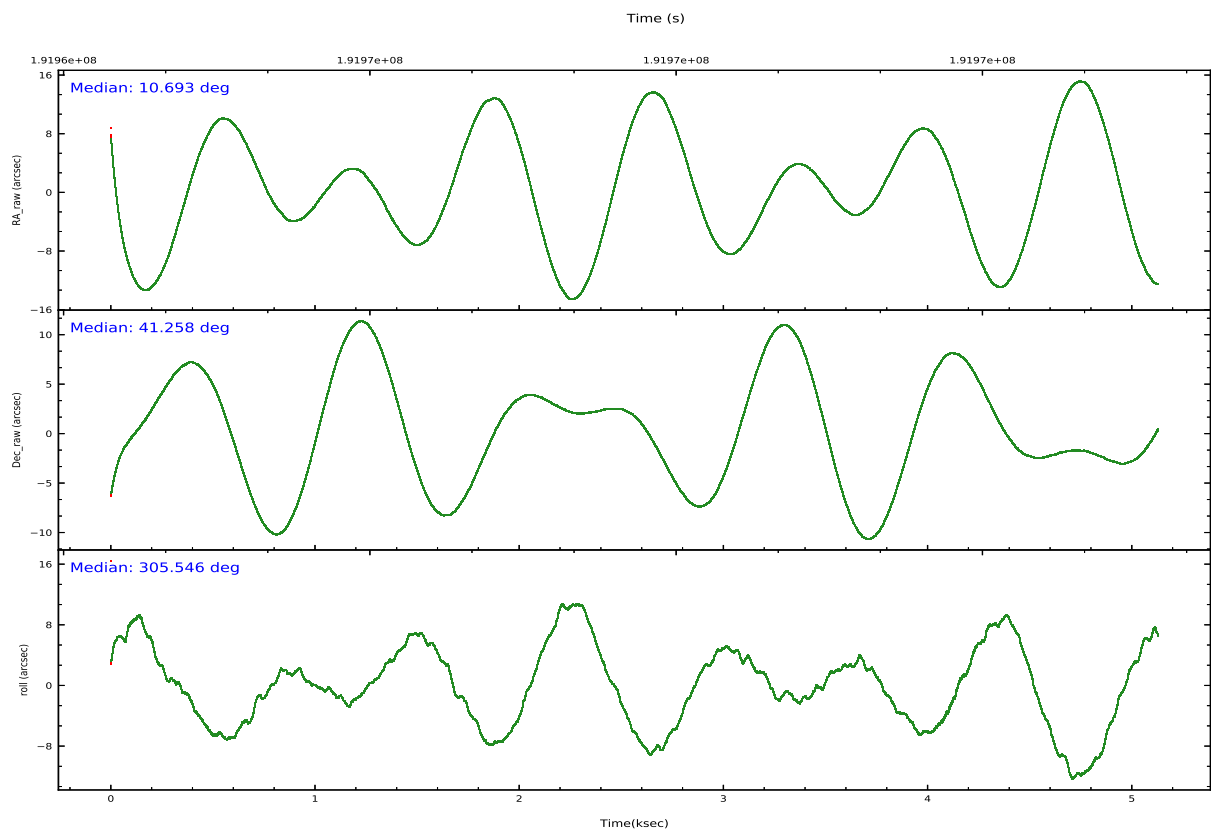
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	197	332	264	341	170	127
	5%	9%	6%	9%	4%	3%
grade 1 events	3	3	2	3	2	3
	0%	0%	0%	0%	0%	0%
grade 2 events	109	108	94	76	78	201
	3%	3%	2%	2%	2%	5%
grade 3 events	40	52	42	47	49	97
	1%	1%	1%	1%	1%	2%
grade 4 events	37	44	47	33	34	101
	1%	1%	1%	0%	0%	2%
grade 5 events	120	85	110	121	126	275
	3%	2%	2%	3%	3%	7%
grade 6 events	76	84	80	65	74	501
	2%	2%	2%	1%	1%	13%
grade 7 events	2731	2815	3348	2808	3233	2341
	82%	79%	83%	80%	85%	64%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-012367	ACIS-012367	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	10.659535	10.68768809854	Subarray requested	NONE	NONE
[deg] Pointing Dec	41.268875	41.257615853167	Alternating exposures requested	Y	Y
[deg] Pointing Roll	305.363759	305.5460162186	[s] Primary exposure time	0.600000	0.6
[s] Window start time (MET)	191203264.184000	191203264.184000	[s] Secondary exposure time	0.000000	3.2
[s] Window stop time (MET)	192067264.184000	192067264.184000	Duty cycle	5	5
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	191965362.184000	191963968.60148			
Observation start date	2004-01-31T19:41:38	2004-01-31T19:19:28			
[s] Observation end time (MET)	191970362.184000	191971212.27679			
Observation end date	2004-01-31T21:04:58	2004-01-31T21:20:12			
Read mode	TIMED	TIMED			

2.3 Aspect



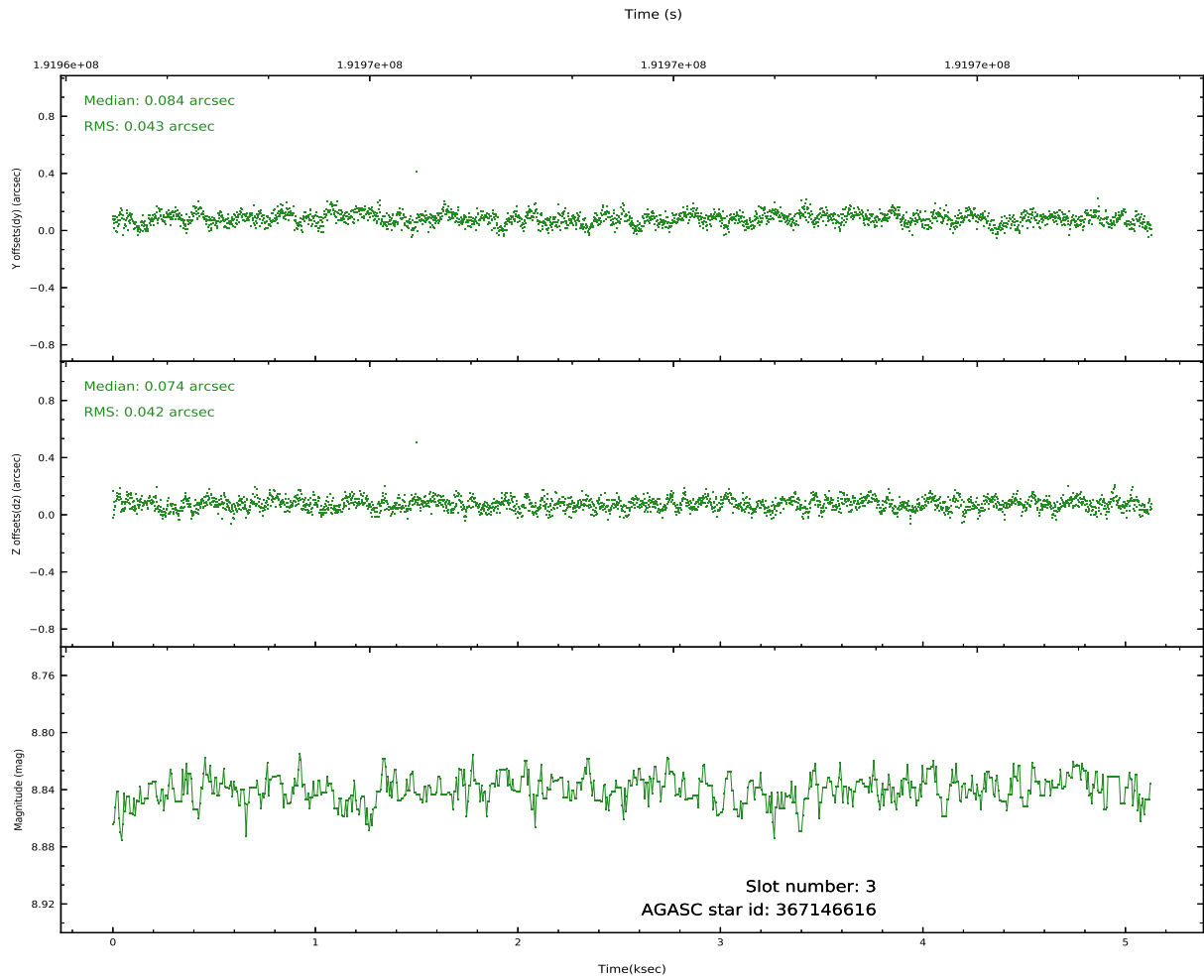
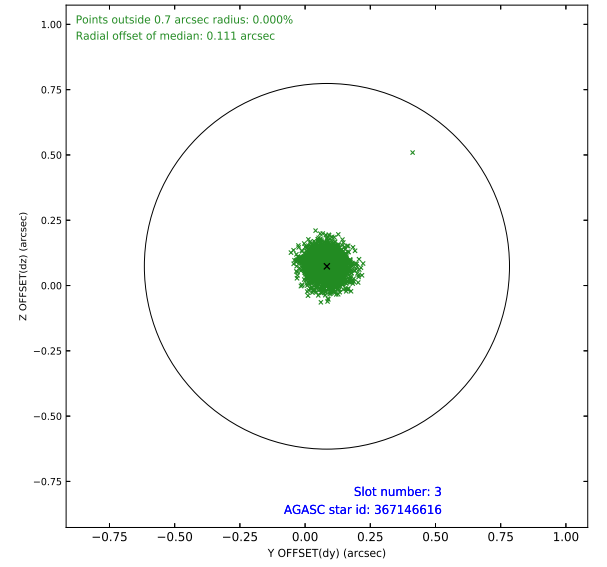
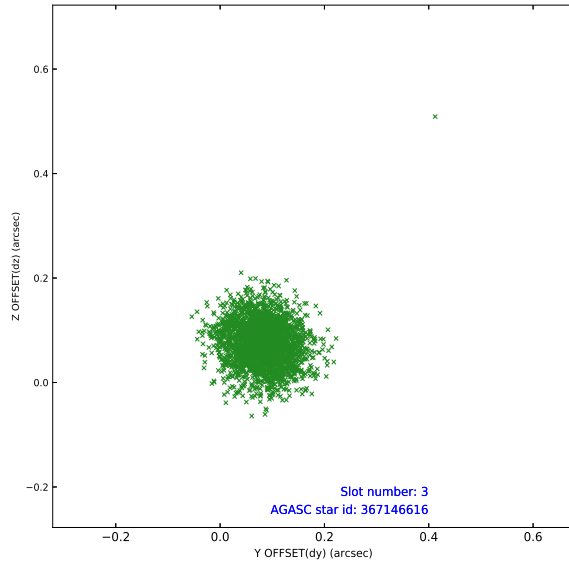


Slot Statistics

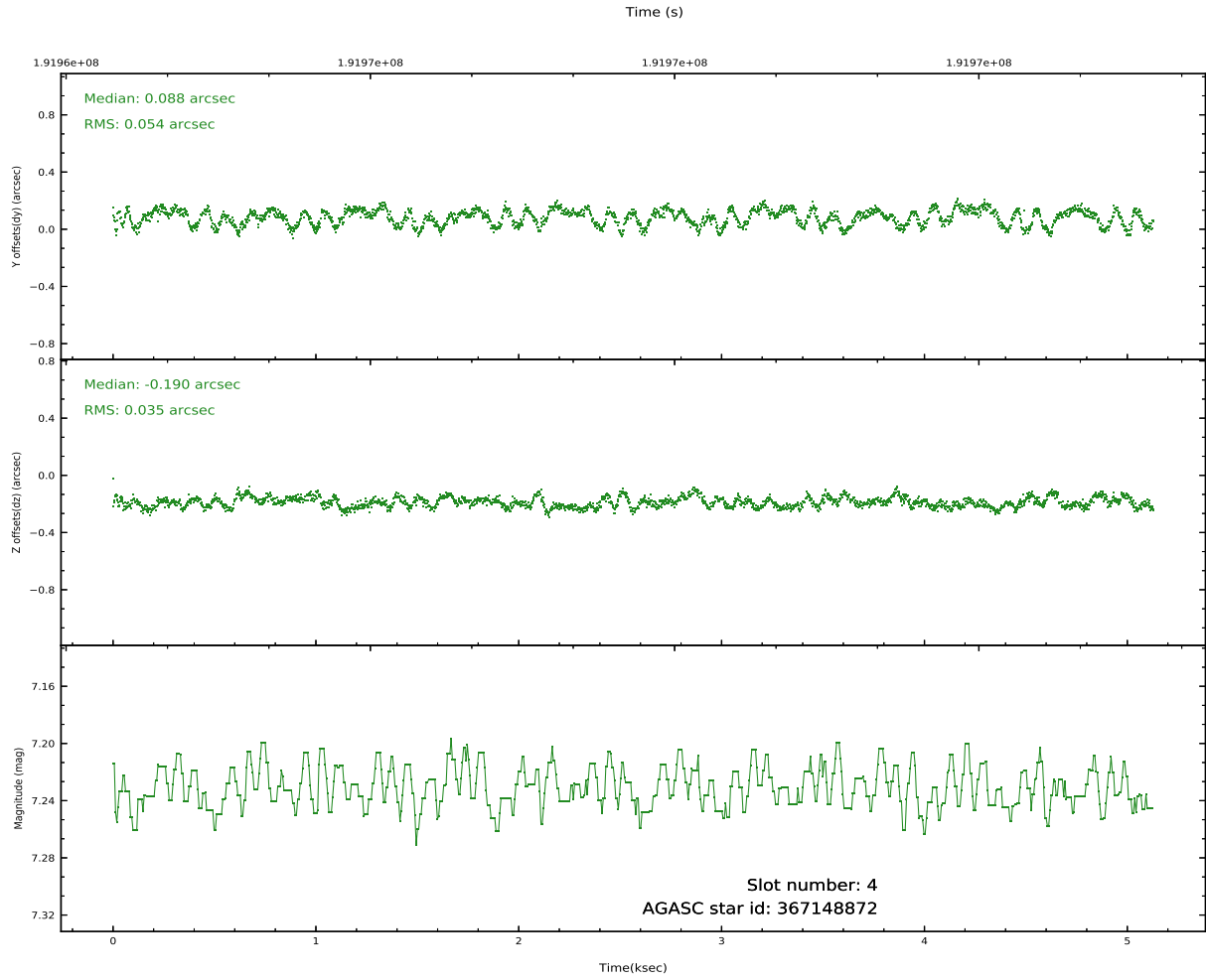
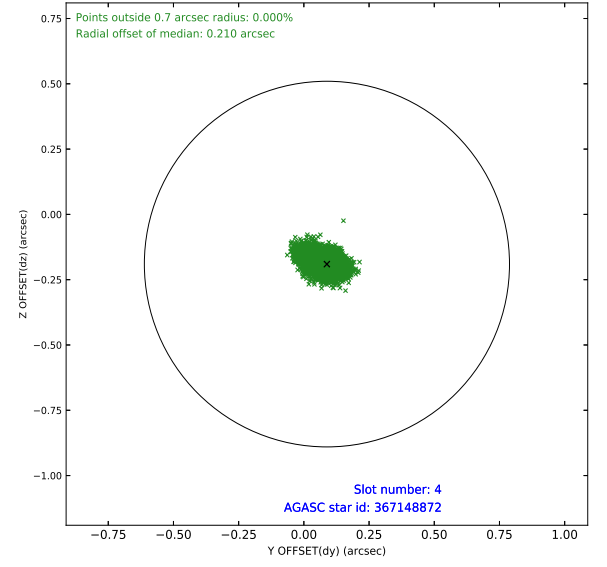
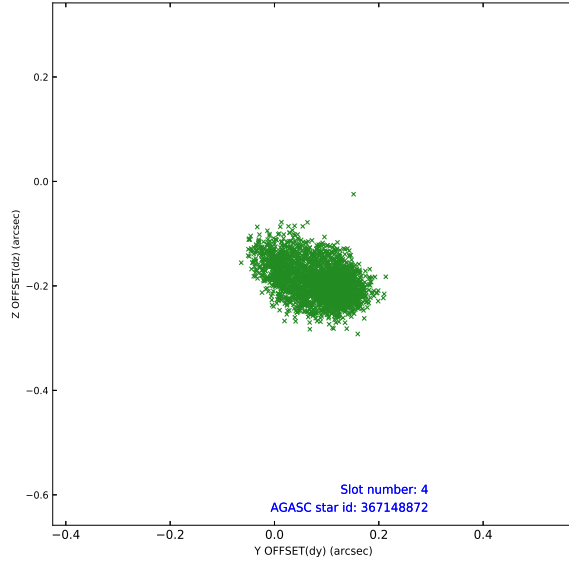
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.23	1252	1.000	0.028	-0.024	0.009	0.016	0.000000	0.000000	932.24	-834
1	FID		ACIS-I-5	7.22	1252	1.000	-0.193	0.032	0.007	0.011	0.000000	0.000000	-1815.42	1062
2	FID		ACIS-I-6	7.25	1251	1.000	0.075	0.062	0.008	0.013	0.000000	0.000000	396.56	1708
3	GUIDE	used	367146616	8.84	2503	1.000	0.084	0.074	0.064	0.101	11.418645	41.190163	1414.21	1518
4	GUIDE	used	367148872	7.23	2503	1.000	0.088	-0.190	0.069	0.111	10.505940	40.688258	1462.94	-1550
5	GUIDE	used	367657896	9.01	2500	1.000	-0.019	0.056	0.089	0.139	11.197765	41.313576	708.17	1282
6	GUIDE	used	367663272	9.29	2502	1.000	-0.115	0.018	0.072	0.119	10.656279	41.699429	-1268.75	890
7	GUIDE	used	367674552	8.84	2501	1.000	-0.028	0.039	0.074	0.118	11.016238	41.570845	-332.42	1414

2.4 Star Slots

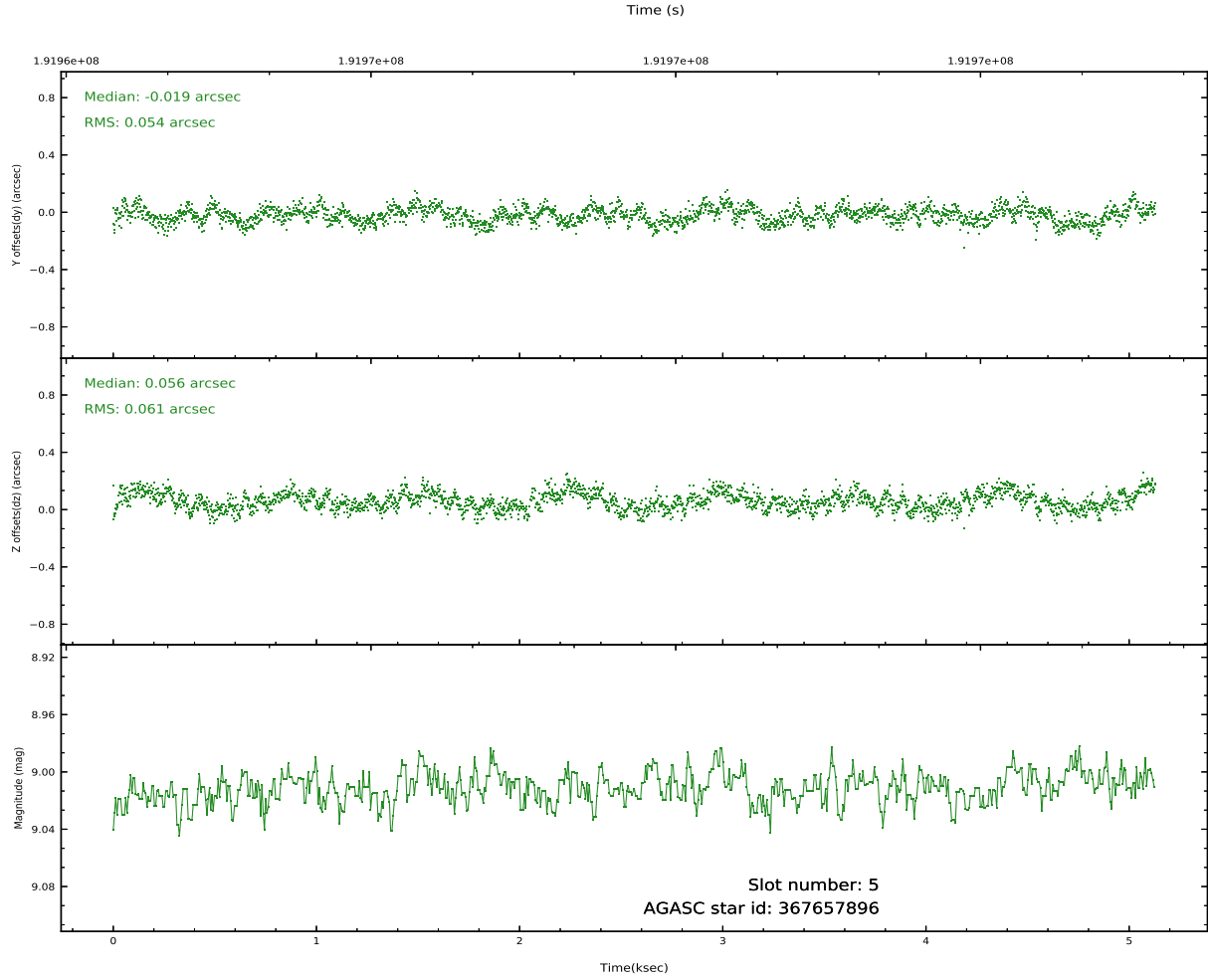
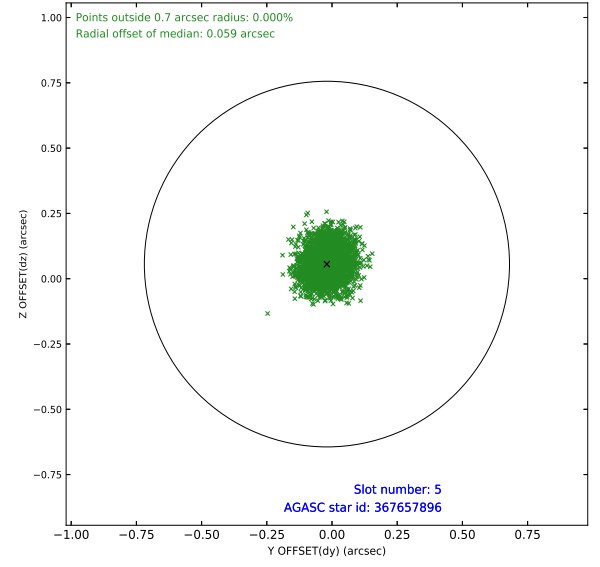
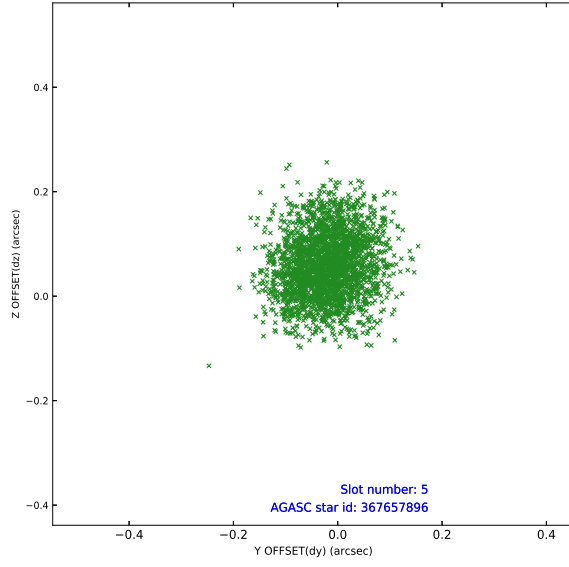
2.4.1 Slot 3



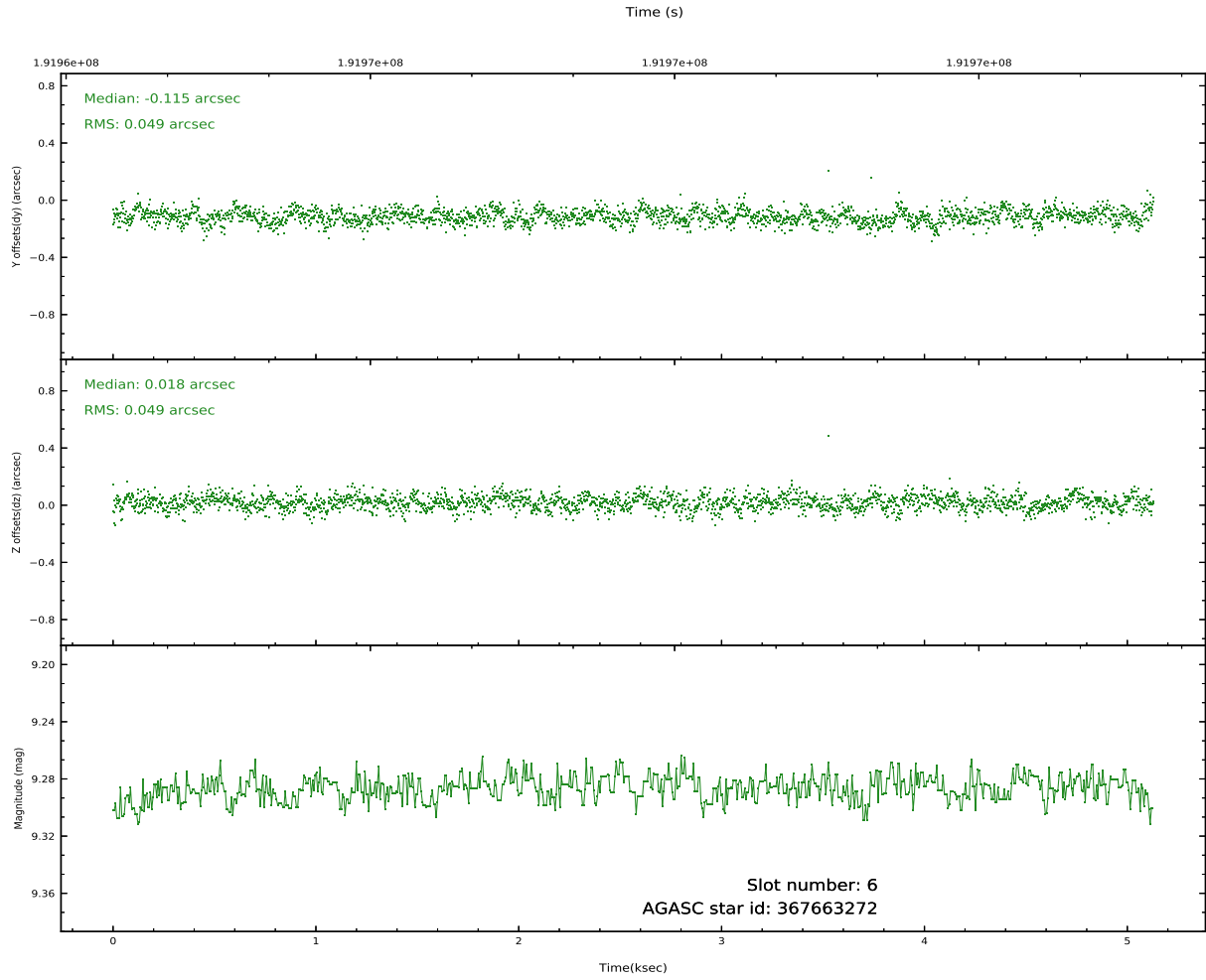
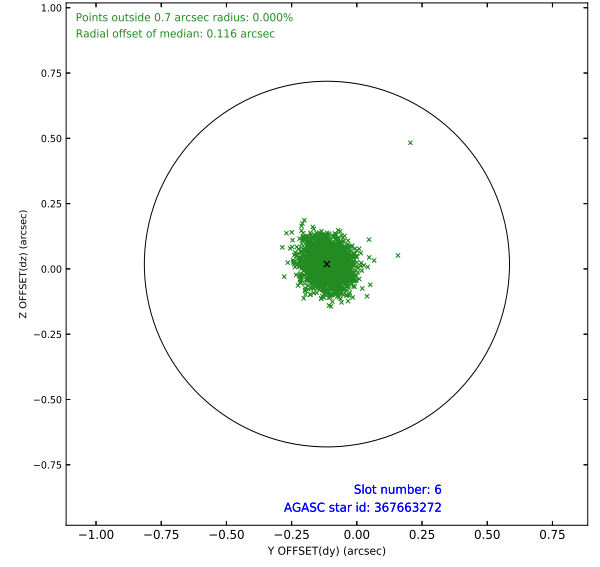
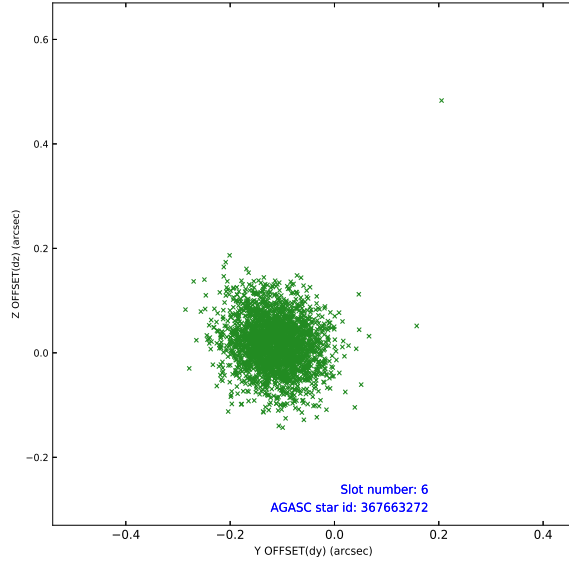
2.4.2 Slot 4



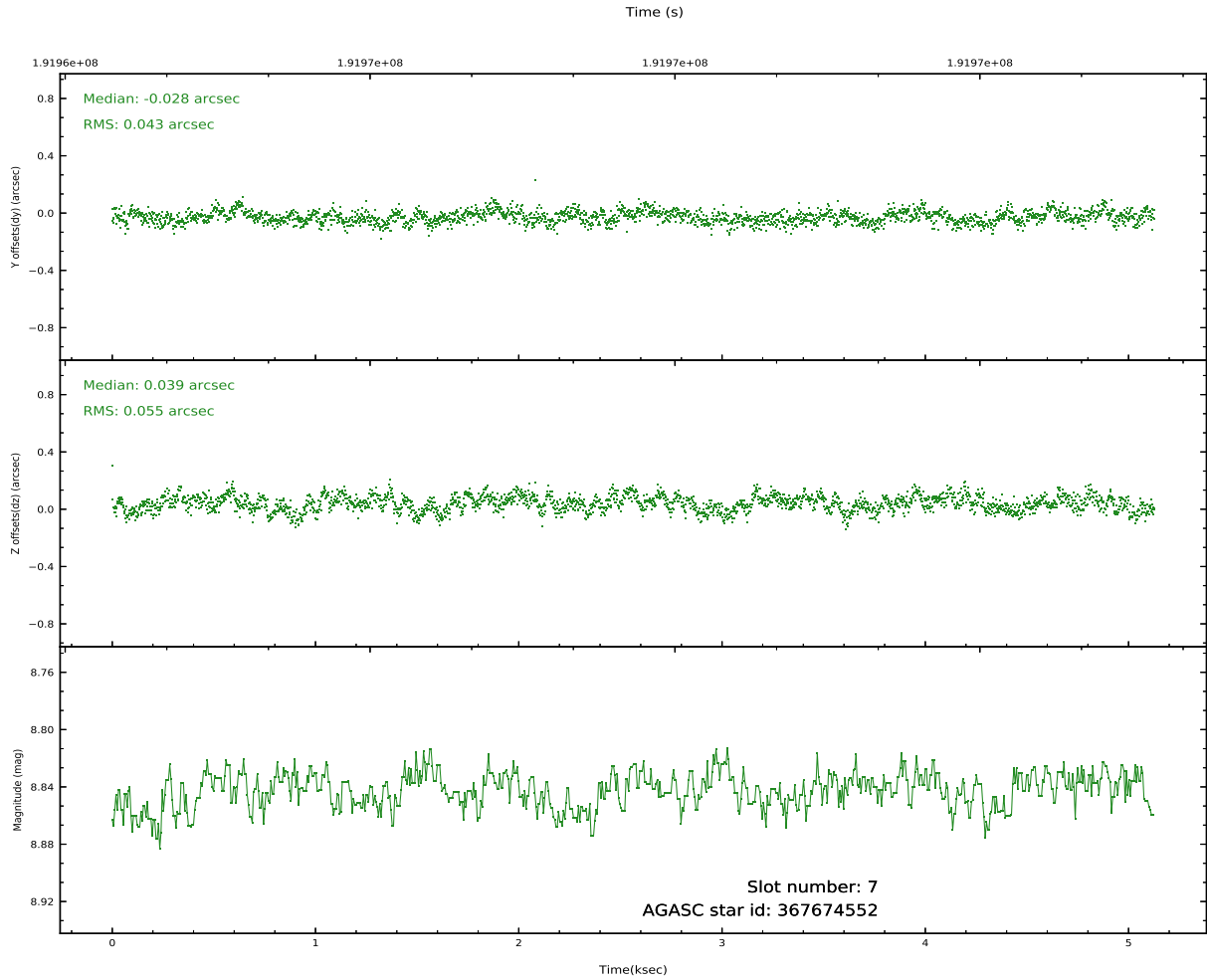
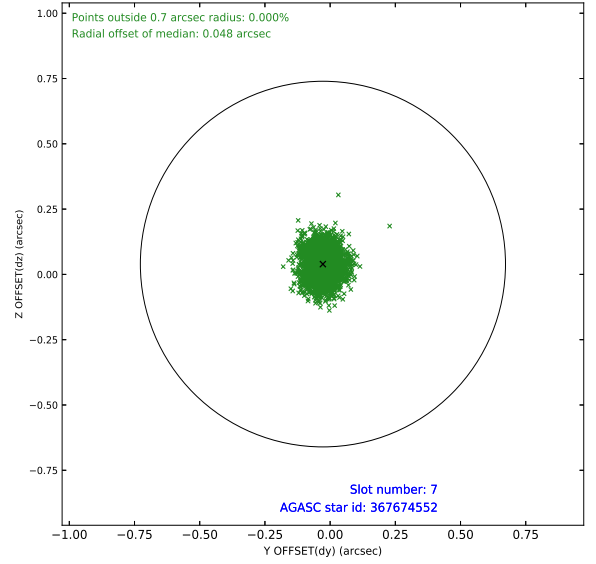
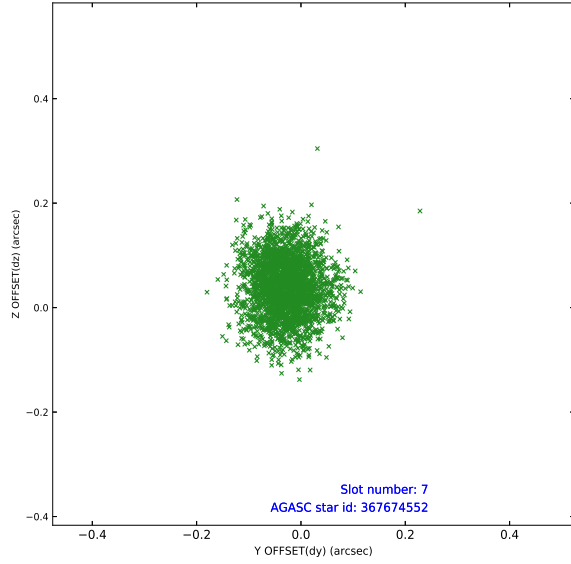
2.4.3 Slot 5



2.4.4 Slot 6

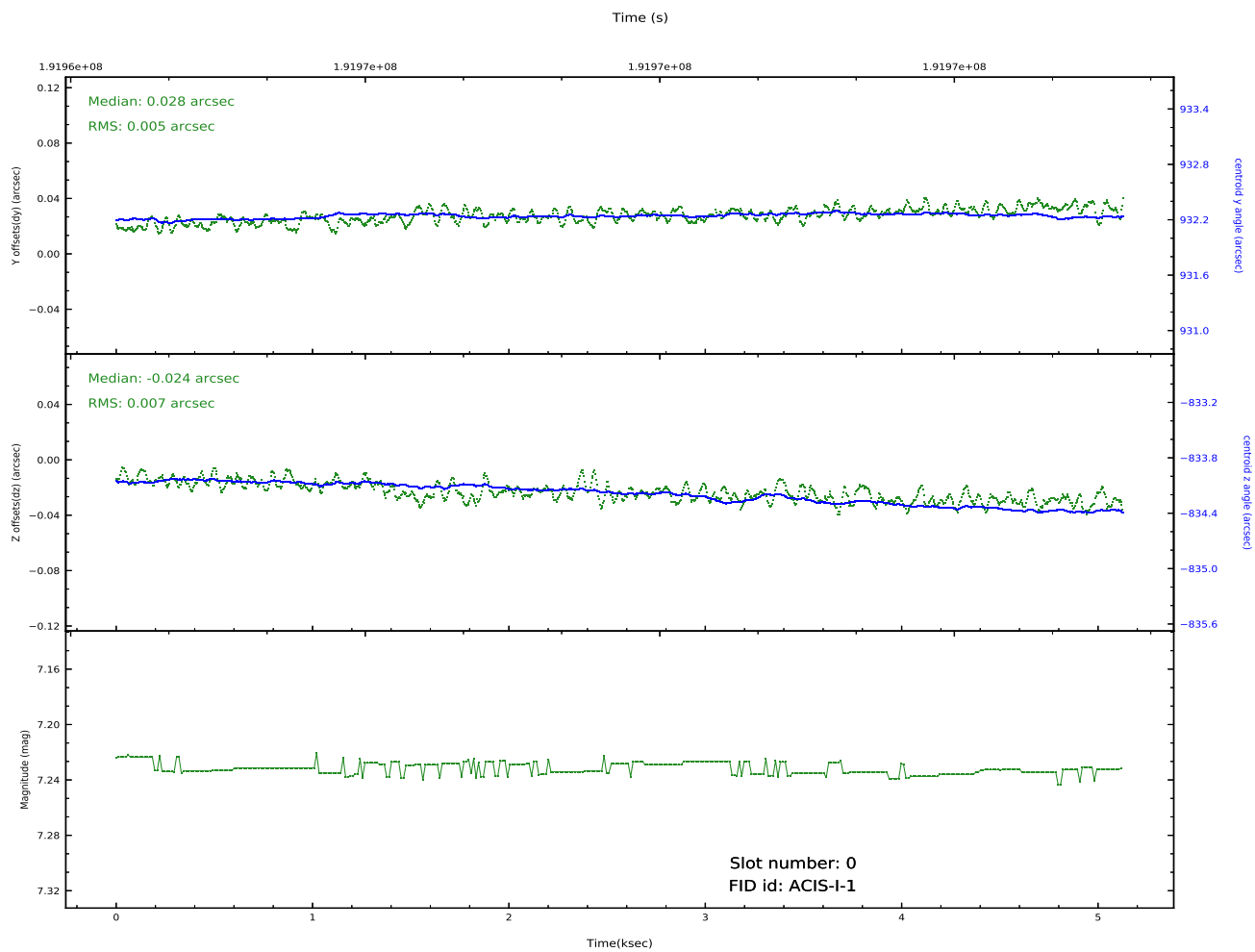
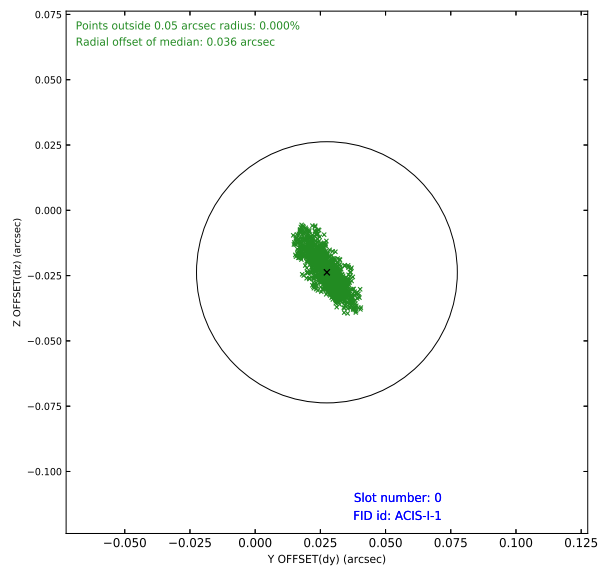
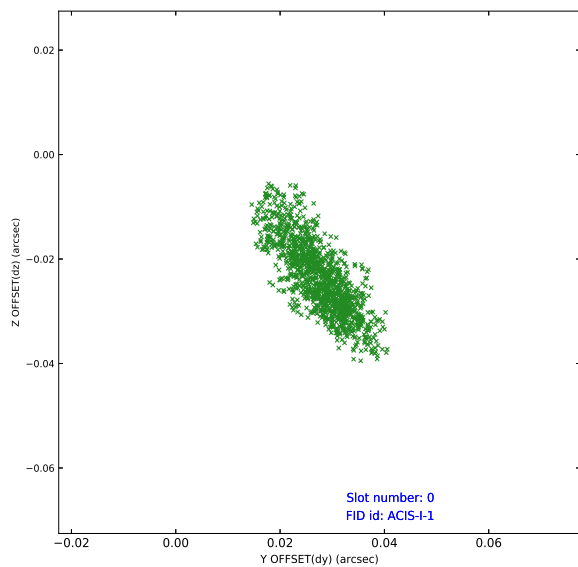


2.4.5 Slot 7

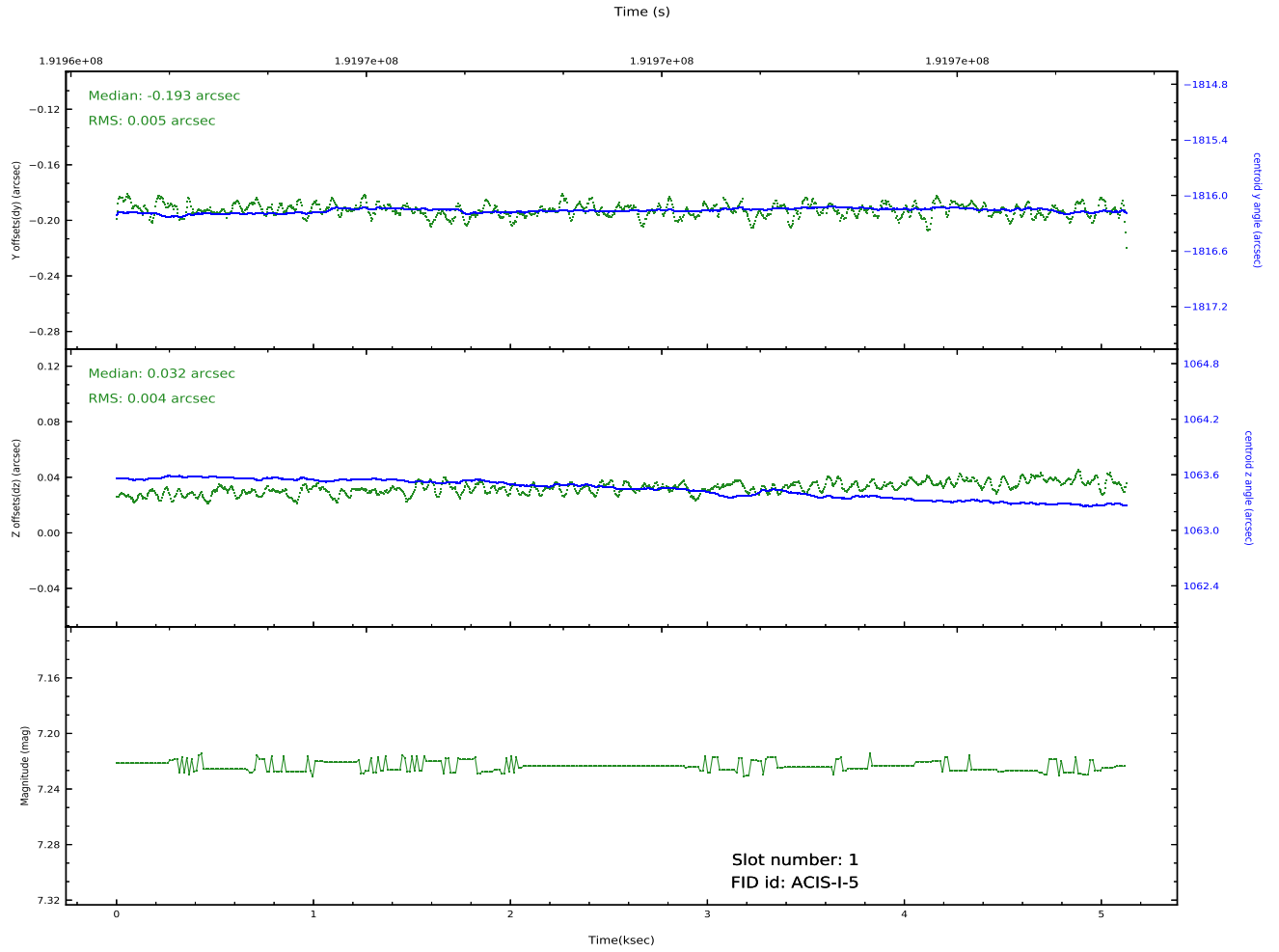
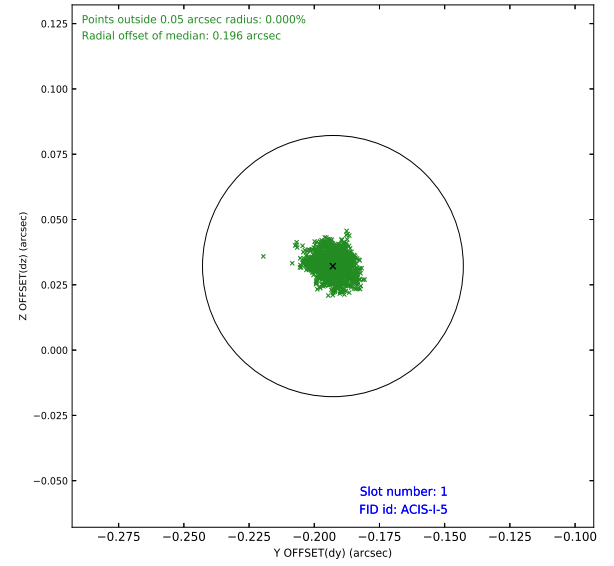
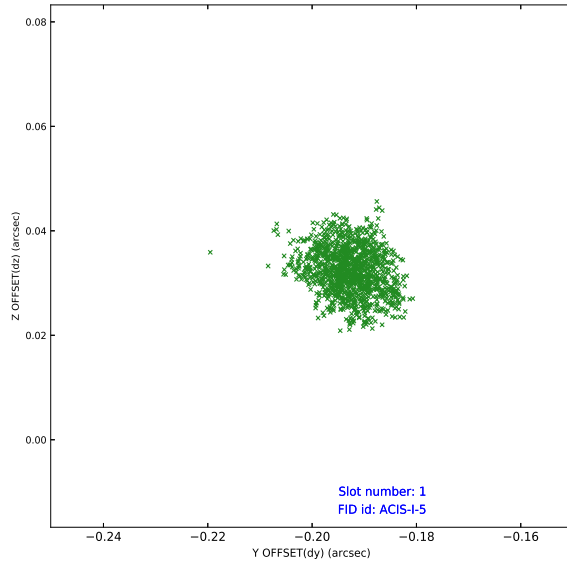


2.5 FID Slots

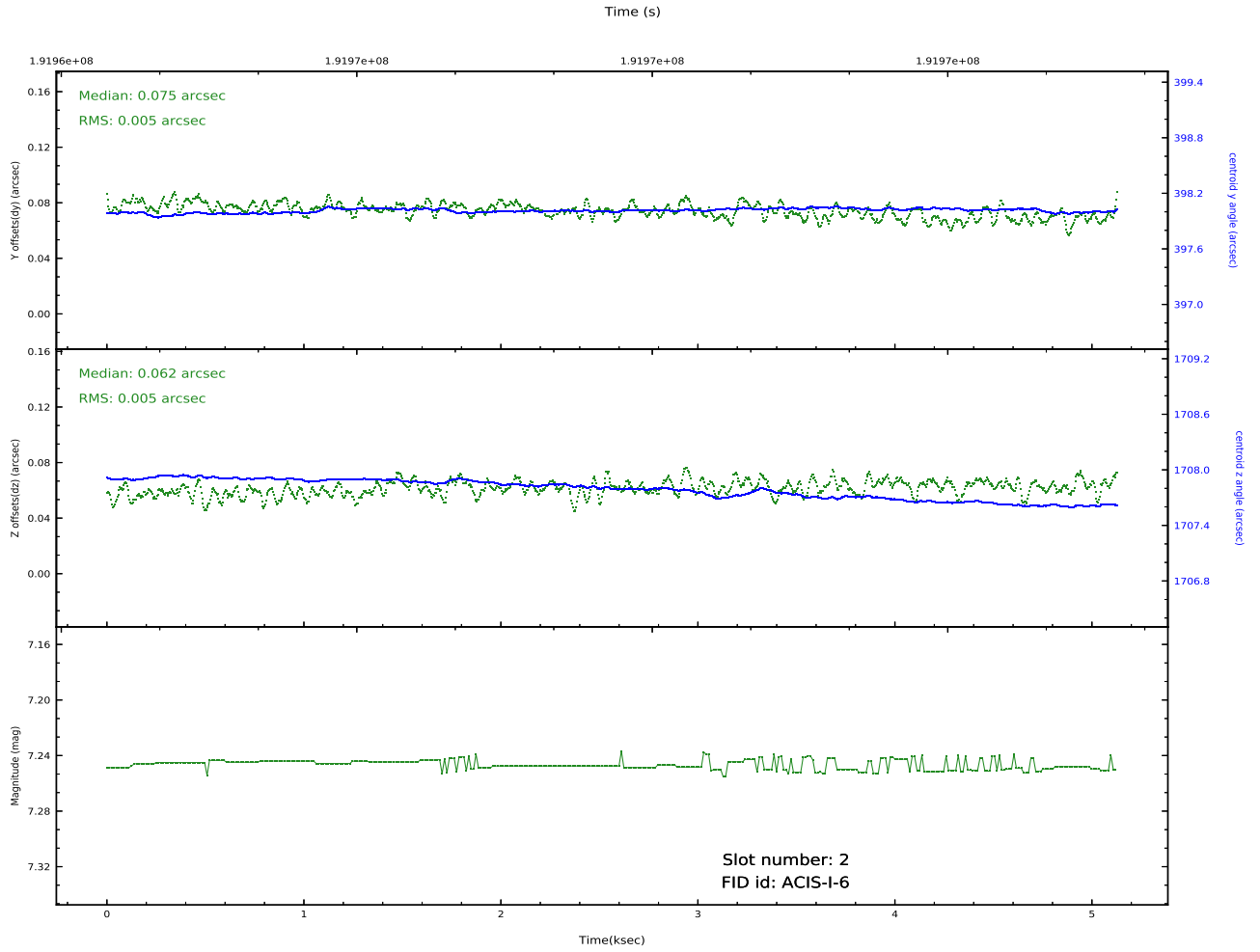
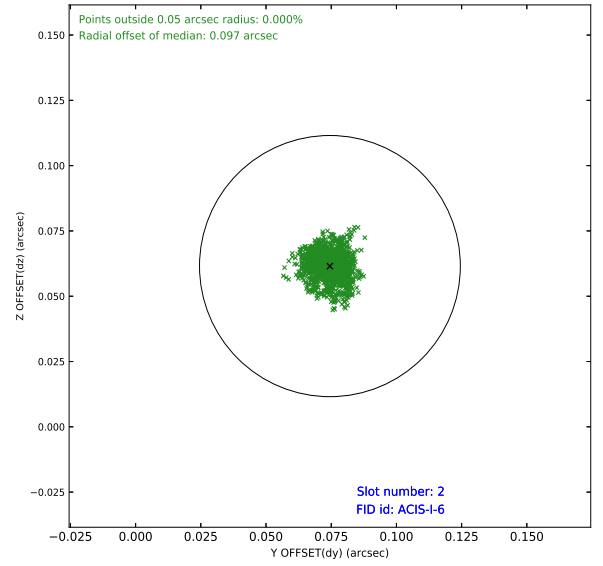
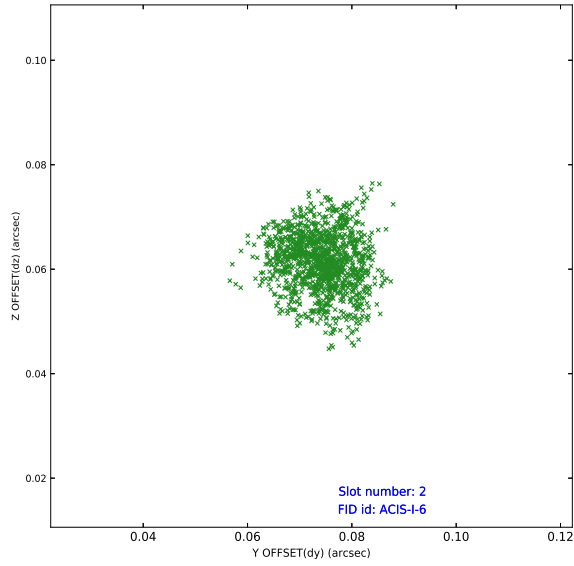
2.5.1 Slot 0



2.5.2 Slot 1



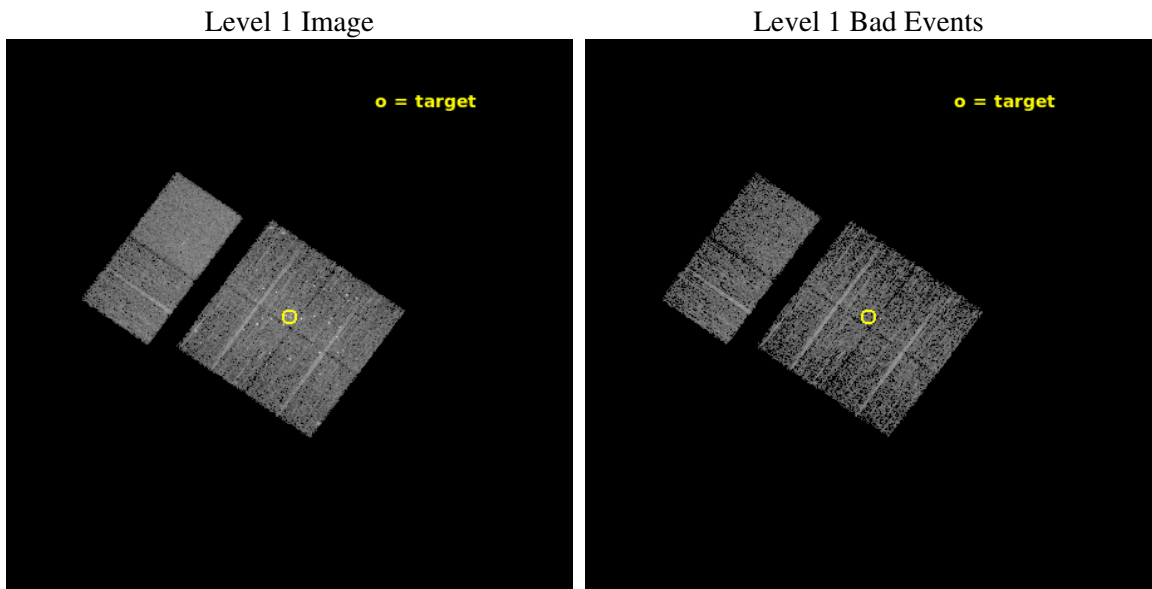
2.5.3 Slot 2



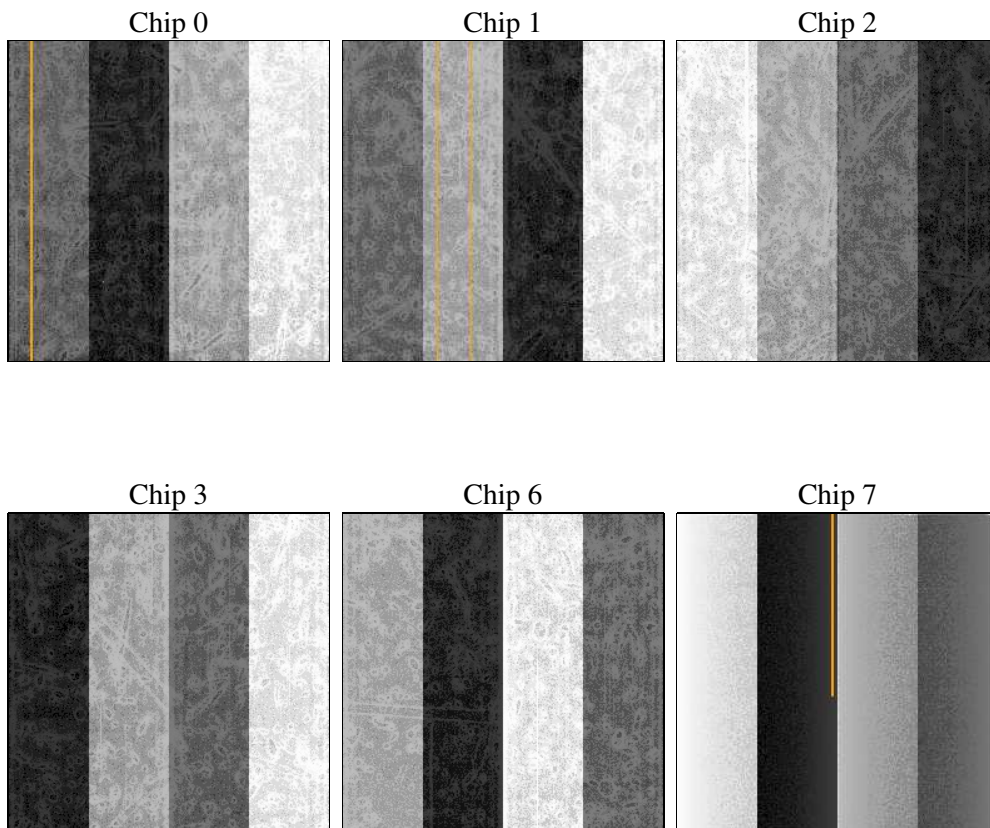
3 OBI Secondary

3.1 OBI

3.1.1 Images



3.1.2 Bias



3.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	4146.6171548963	Sum of GTIs [s]
caldsver	4.9.2	 	ontime0	4146.4943737388	Sum of GTIs [s]
date	2020-09-23T17:22:53	Date and time of file creation	ontime1	4146.53532359	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	4143.3352540433	Sum of GTIs [s]
			ontime3	4146.6171548963	Sum of GTIs [s]
			ontime6	4146.6995135844	Sum of GTIs [s]
			ontime7	4146.6583246887	Sum of GTIs [s]
			l1events	208309	Number of level 1 events

3.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	29797	34752	34112	34475	33107	42066	grade 0 events	4696	7157	5780	7216	3321	2318
rejected events	25378	27108	28445	27231	29728	27479		15%	20%	16%	20%	10%	5%
rejected %	85%	78%	83%	78%	89%	65%	grade 1 events	35	153	54	67	23	33
								0%	0%	0%	0%	0%	0%
							grade 2 events	1560	1963	1524	1587	1279	3914
								5%	5%	4%	4%	3%	9%
							grade 3 events	565	733	603	649	584	1818
								1%	2%	1%	1%	1%	4%
							grade 4 events	626	734	624	629	563	1757
								2%	2%	1%	1%	1%	4%
							grade 5 events	1228	1262	1125	1338	1397	3726
								4%	3%	3%	3%	4%	8%
							grade 6 events	1198	1431	1012	1141	1208	9536
								4%	4%	2%	3%	3%	22%
							grade 7 events	19889	21319	23390	21848	24732	18964
								66%	61%	68%	63%	74%	45%

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.09.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.129

A.2 Comments

Charge time for this ObsId remains at previous value of 5.129 ks, although with the current processing the charge time would be 5.120 ks.

=====

This is an interleave mode observation. There is a short observation of 0.6 s followed by a longer observation of 3.2 s. This cycle repeats throughout the observation. The livetime for the shorter observation, e1, is about 153.19s instead of 973.14s for each chip because the use of a 0.6 s frame time for the selection of chips and rows used during the observation is shorter than the time it takes to read out one frame of data. The frame time must be at least 0.7 s to avoid 'flushing' the detector before each frame of data is collected. The second, longer, observation does not have a short livetime because the exposure time is 3.2 s.

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Window constraint satisfied.