

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6150 - L2 Version 4
Chandra X-Ray Center

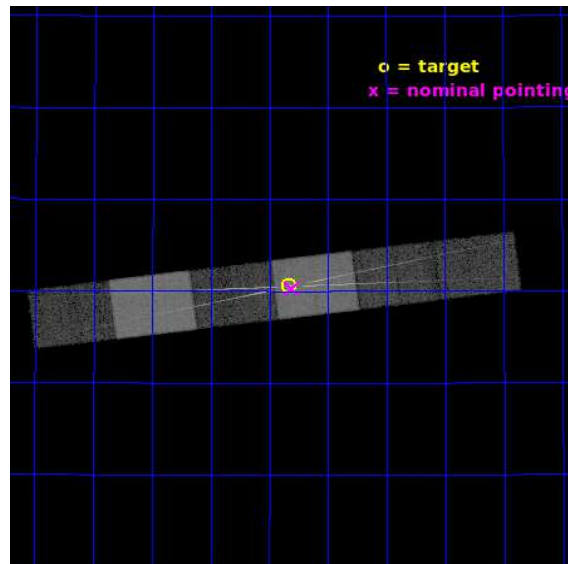
L2 Processing Date : Oct 5 2020

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
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

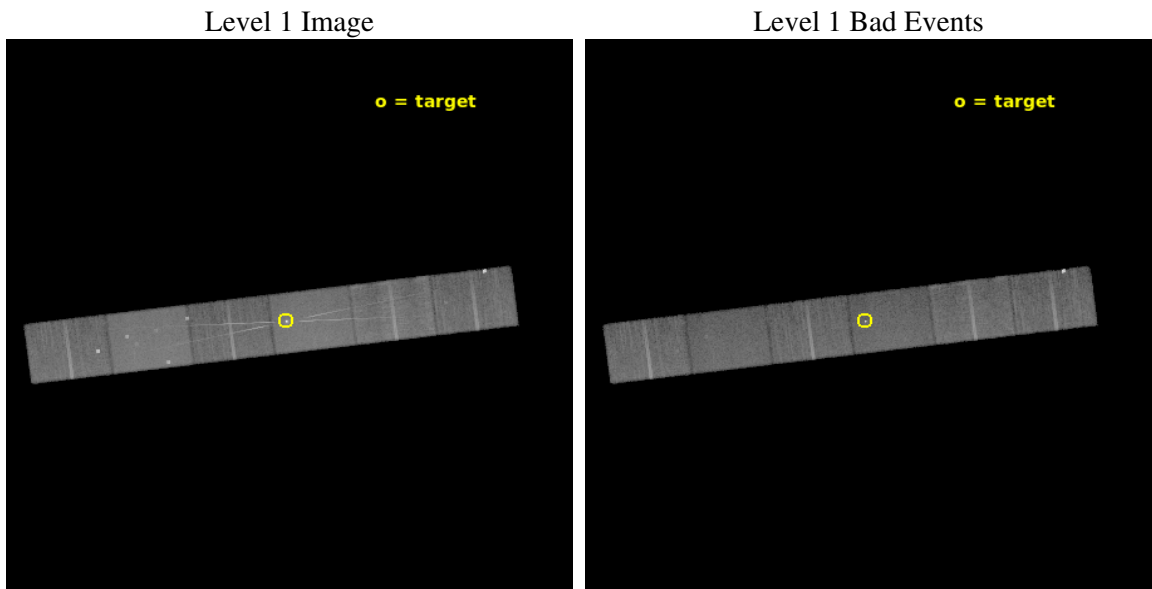
seq_num	400367	Sequence number
obs_id	6150	Observation id
title	Using the Intensity Dips in Hercules X-1 to Probe the Inner Accretion Disk	Proposal title
observer	Dr. Mario Jimenez-Garate	Principal investigator
object	Her X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	254.4575	Observer's specified target RA [deg]
dec_targ	35.342389	Observer's specified target Dec [deg]
ra_nom	254.45195786037	Nominal RA [deg]
dec_nom	35.337715023305	Nominal Dec [deg]
roll_nom	352.83450764855	Nominal Roll [deg]
revision	4	Processing version of data
ontime	22044.127429038	Sum of GTIs [s]
livetime	21688.095650834	Livetime [s]
ontime4	22044.168469042	Sum of GTIs [s]
ontime5	22044.086389035	Sum of GTIs [s]
ontime6	22044.045349032	Sum of GTIs [s]
ontime7	22044.127429038	Sum of GTIs [s]
ontime8	22044.004309028	Sum of GTIs [s]
ontime9	22041.422278851	Sum of GTIs [s]
l2events	238519	Number of level 2 events



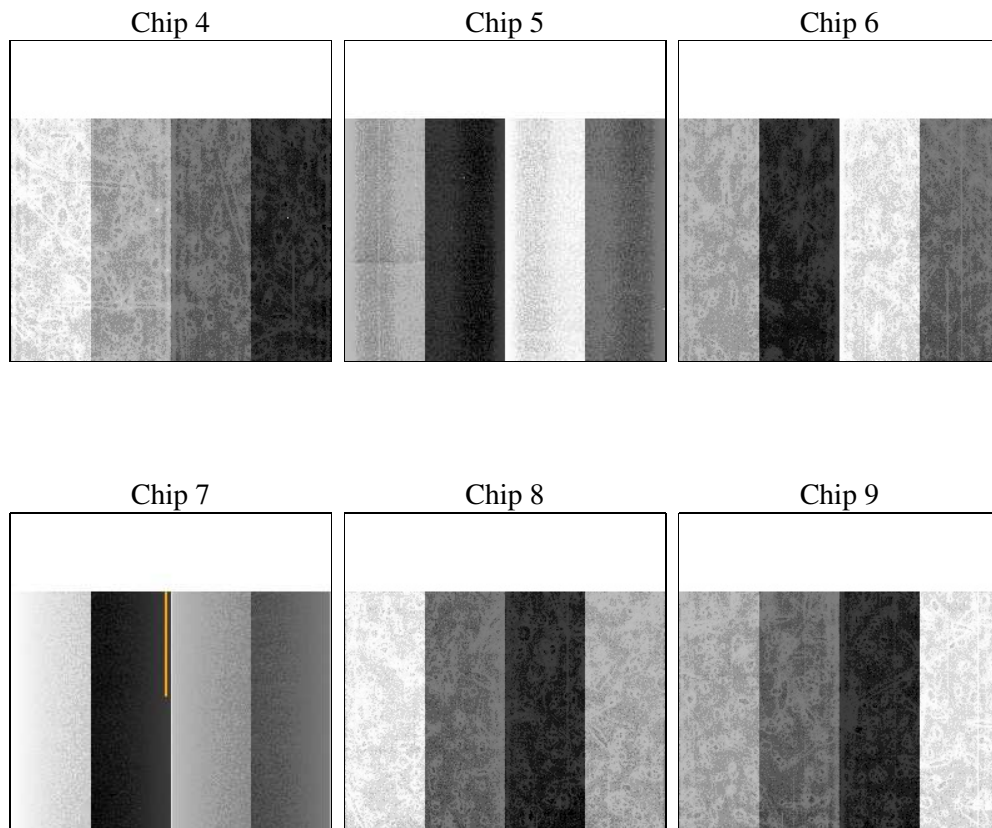
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	22044.127429038	Sum of GTIs [s]
caldsver	4.9.2	 	ontime4	22044.168469042	Sum of GTIs [s]
date	2020-10-05T11:26:21	Date and time of file creation	ontime5	22044.086389035	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	22044.045349032	Sum of GTIs [s]
			ontime7	22044.127429038	Sum of GTIs [s]
			ontime8	22044.004309028	Sum of GTIs [s]
			ontime9	22041.422278851	Sum of GTIs [s]
			l1events	987372	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			ra_pos	(4062.07, 4120.88)	src1a sky pixel position

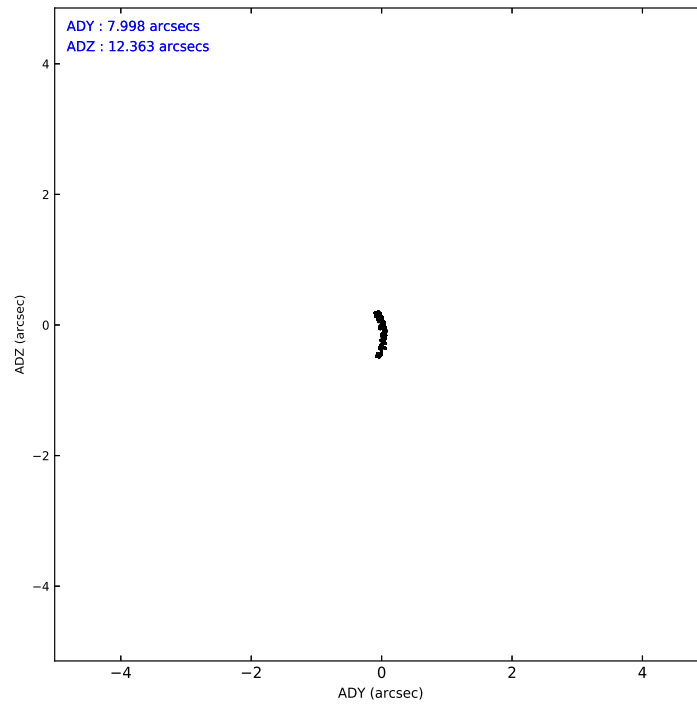
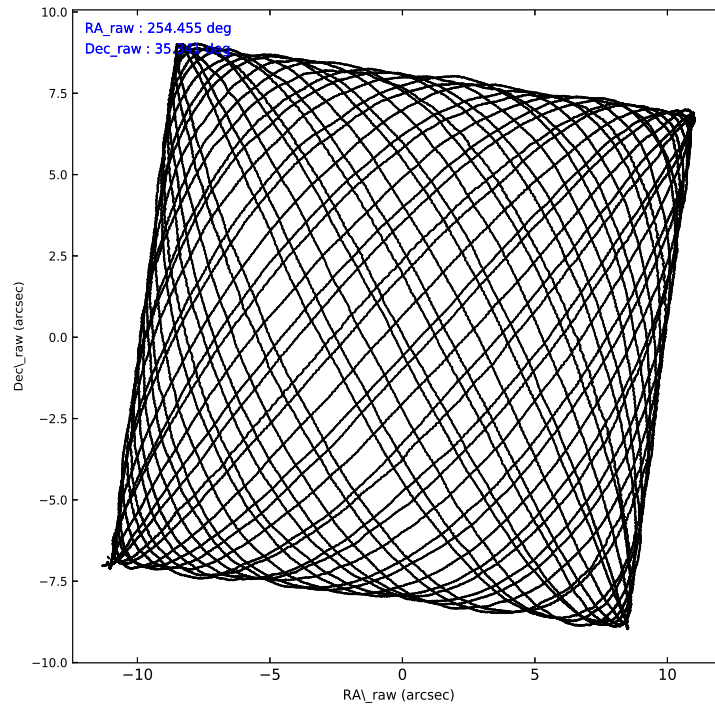
2.1.4 Events

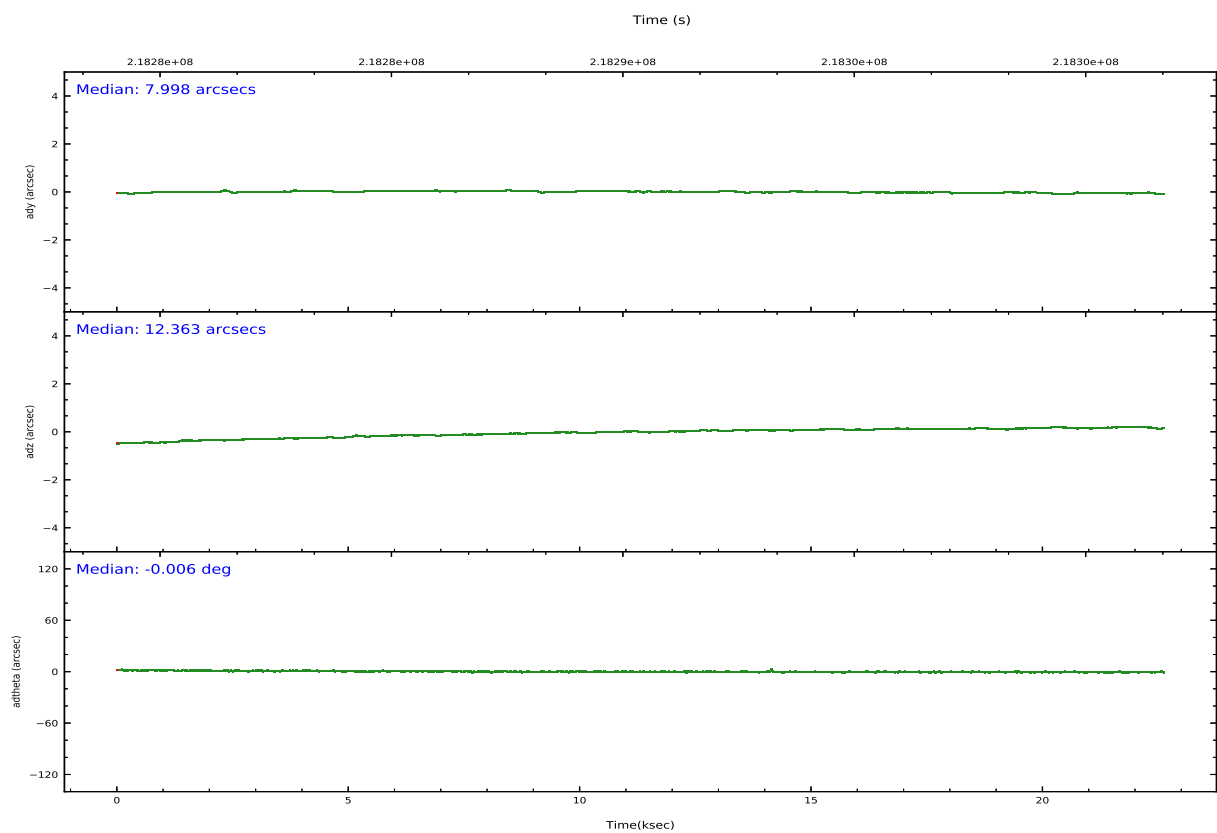
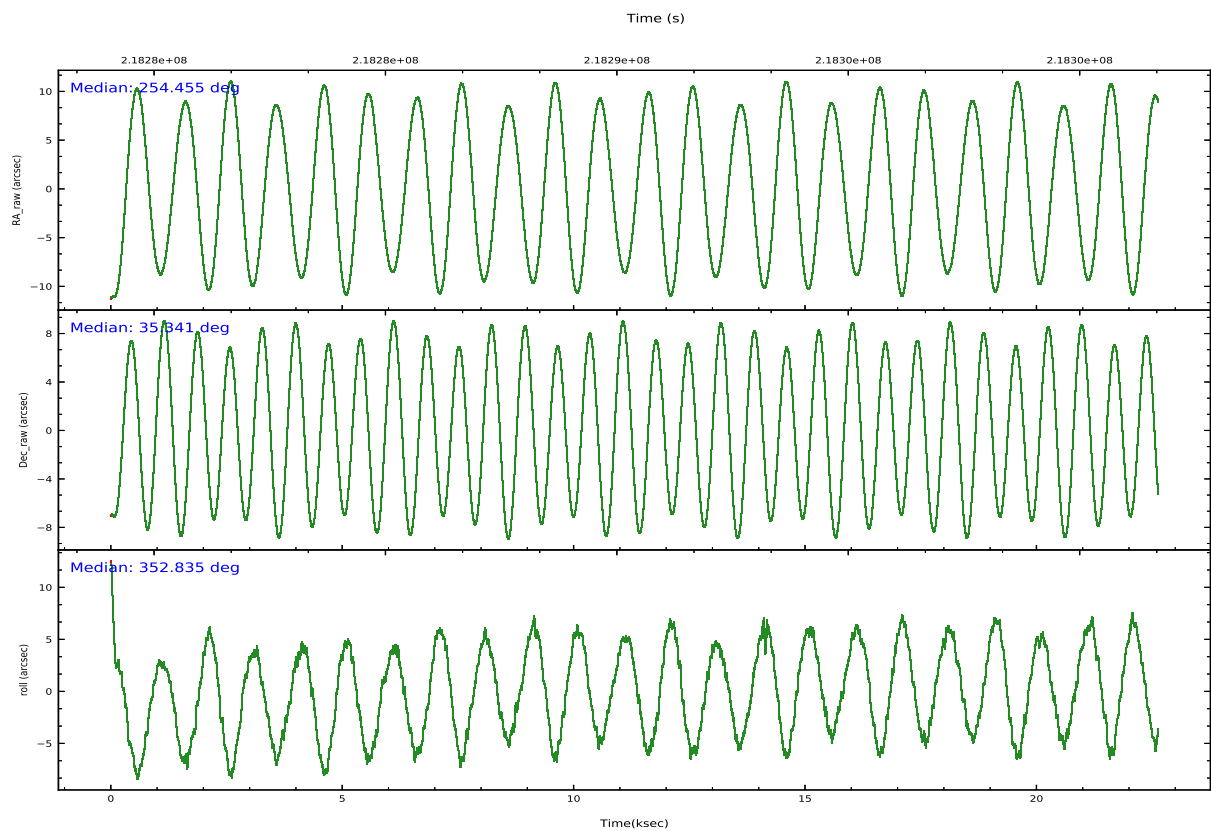
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	150967	194427	140500	192642	170332	138504	grade 0 events	13387	12675	12966	10160	13340	6917
rejected events	128113	101646	114864	102587	131137	122077		8%	6%	9%	5%	7%	4%
rejected %	84%	52%	81%	53%	76%	88%	grade 1 events	127	457	79	399	112	8554
								0%	0%	0%	0%	0%	6%
							grade 2 events	3468	25810	4467	18515	8233	3080
								2%	13%	3%	9%	4%	2%
							grade 3 events	1727	4420	2123	8345	3869	1721
								1%	2%	1%	4%	2%	1%
							grade 4 events	1725	4424	2065	8357	3757	1641
								1%	2%	1%	4%	2%	1%
							grade 5 events	5533	14663	5790	17571	7710	6152
								3%	7%	4%	9%	4%	4%
							grade 6 events	2550	45470	4023	44698	10006	3071
								1%	23%	2%	23%	5%	2%
							grade 7 events	122450	86508	108987	84597	123305	107368
								81%	44%	77%	43%	72%	77%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	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	254.424802	254.45195786037	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	35.330024	35.337715023305	Subarray start row	1	1
[deg] Pointing Roll	352.694077	352.83450764855	Subarray row count	774	774
[s] Window start time (MET)	218272864.184000	218272864.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	218300464.184000	218300464.184000	[s] Primary exposure time	0.000000	2.5
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
Phase constraints	Y	Y			
[d] Phase period	1.700167	1.700167			
[d] Phase epoch (MJD)	51310.760000	51310.760000			
Phase start	0.750000	0.750000			
Phase end	0.900000	0.900000			
Phase start error	0.020000	0.020000			
Phase end error	0.010000	0.010000			
[s] Observation start time (MET)	218279695.184000	218278423.20538			
Observation start date	2004-12-01T09:13:51	2004-12-01T08:53:43			
[s] Observation end time (MET)	218301695.184000	218302327.23145			

2.3 Aspect



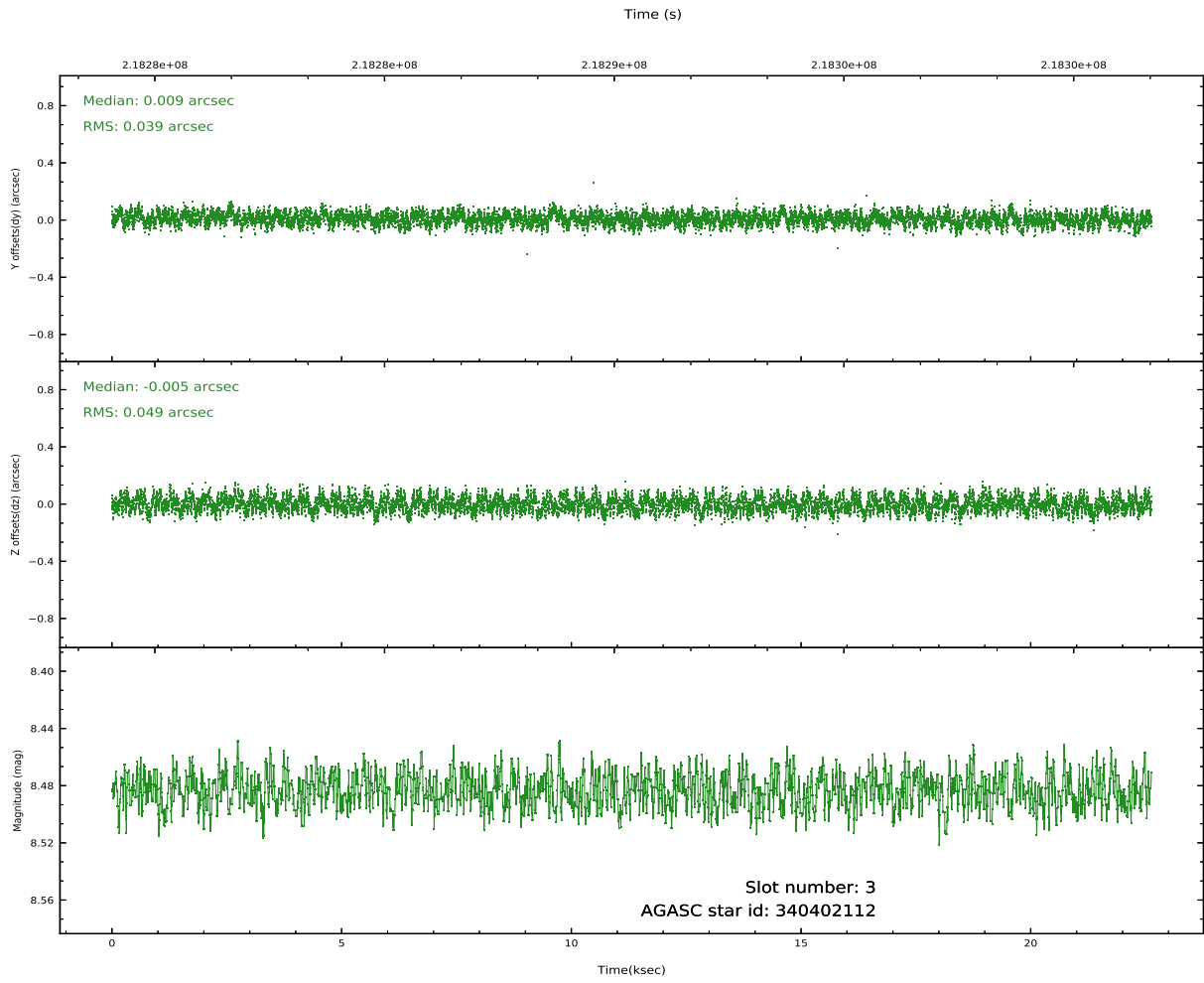
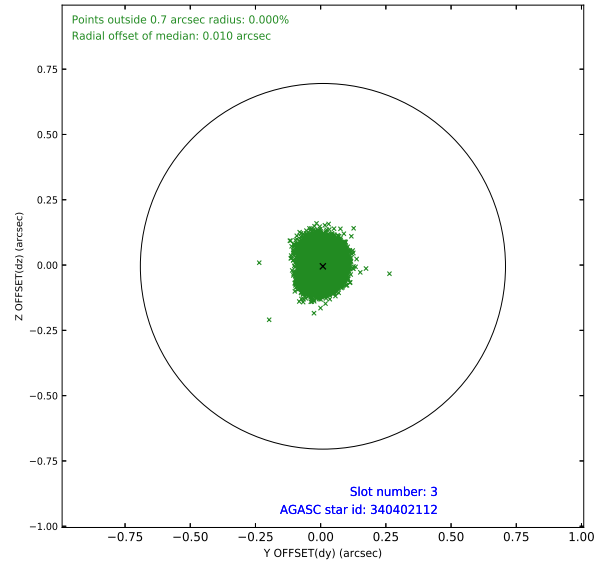
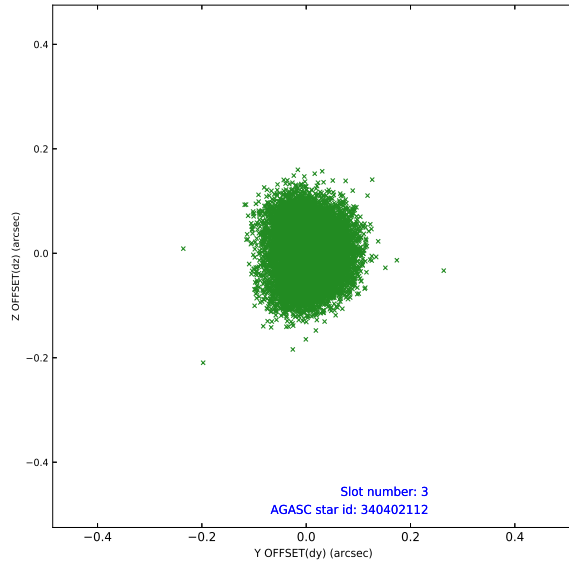


Slot Statistics

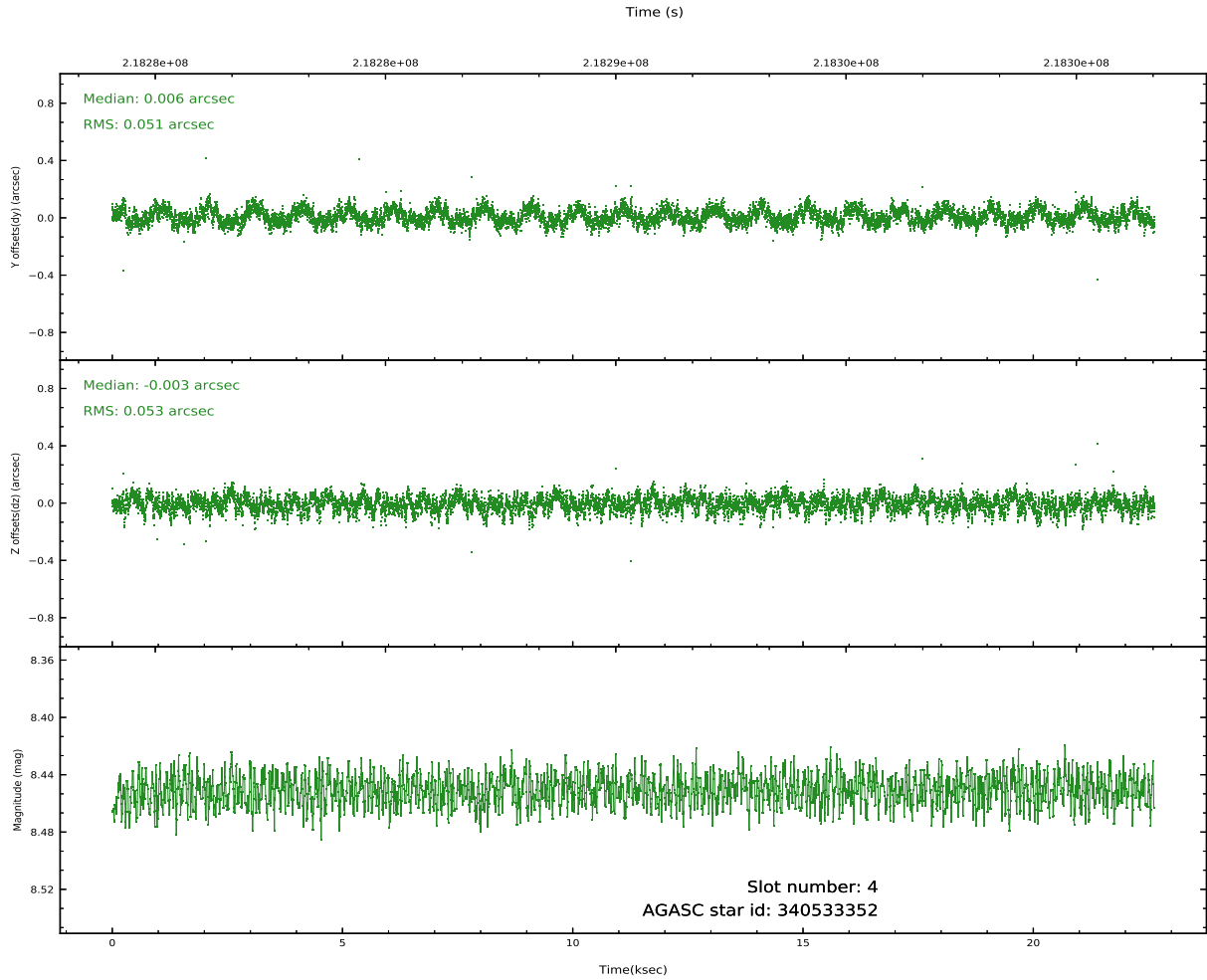
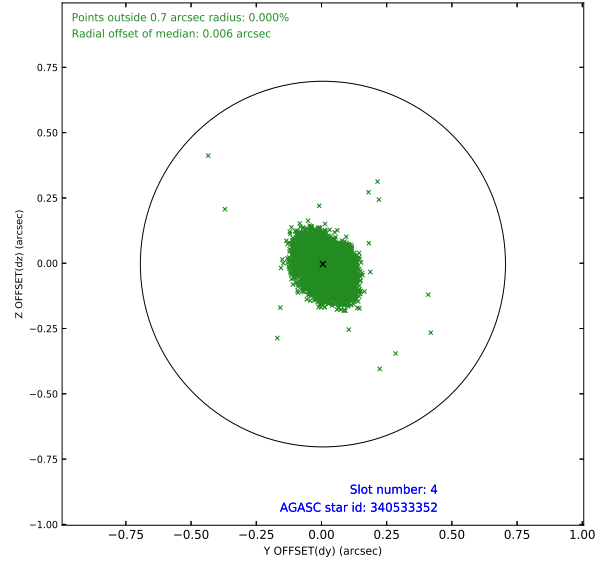
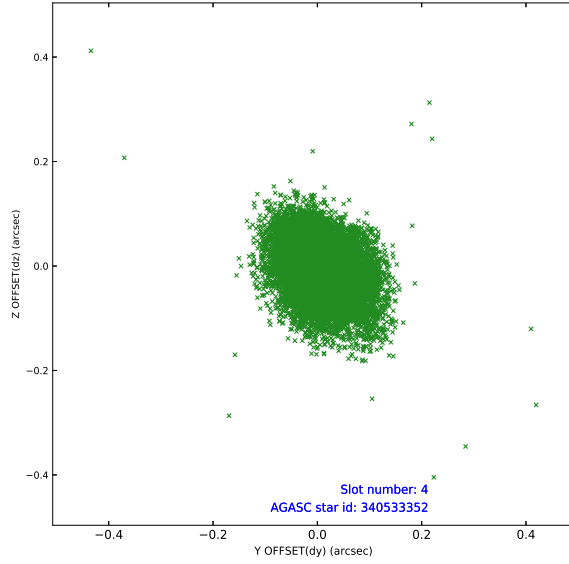
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	5520	1.000	-0.094	-0.102	0.009	0.015	0.000000	0.000000	-760.61	-1795
1	FID		ACIS-S-4	7.18	5520	1.000	0.179	0.073	0.006	0.012	0.000000	0.000000	2152.82	112
2	FID		ACIS-S-5	7.23	5520	1.000	-0.116	0.037	0.008	0.014	0.000000	0.000000	-1813.34	106
3	GUIDE	used	340402112	8.48	11039	1.000	0.009	-0.005	0.069	0.107	253.640936	34.860529	-2082.46	-1961
4	GUIDE	used	340533352	8.45	11038	1.000	0.006	-0.003	0.077	0.124	254.563691	34.717962	688.14	-2133
5	GUIDE	used	340534080	8.83	11034	1.000	0.074	-0.024	0.066	0.107	255.228954	35.471551	2273.03	814
6	GUIDE	used	340536192	7.73	11040	1.000	0.020	0.045	0.053	0.082	254.294567	35.286536	-359.09	-203
7	GUIDE	used	340534896	8.60	11037	1.000	-0.110	-0.012	0.055	0.091	255.288450	35.541682	2411.20	1088

2.4 Star Slots

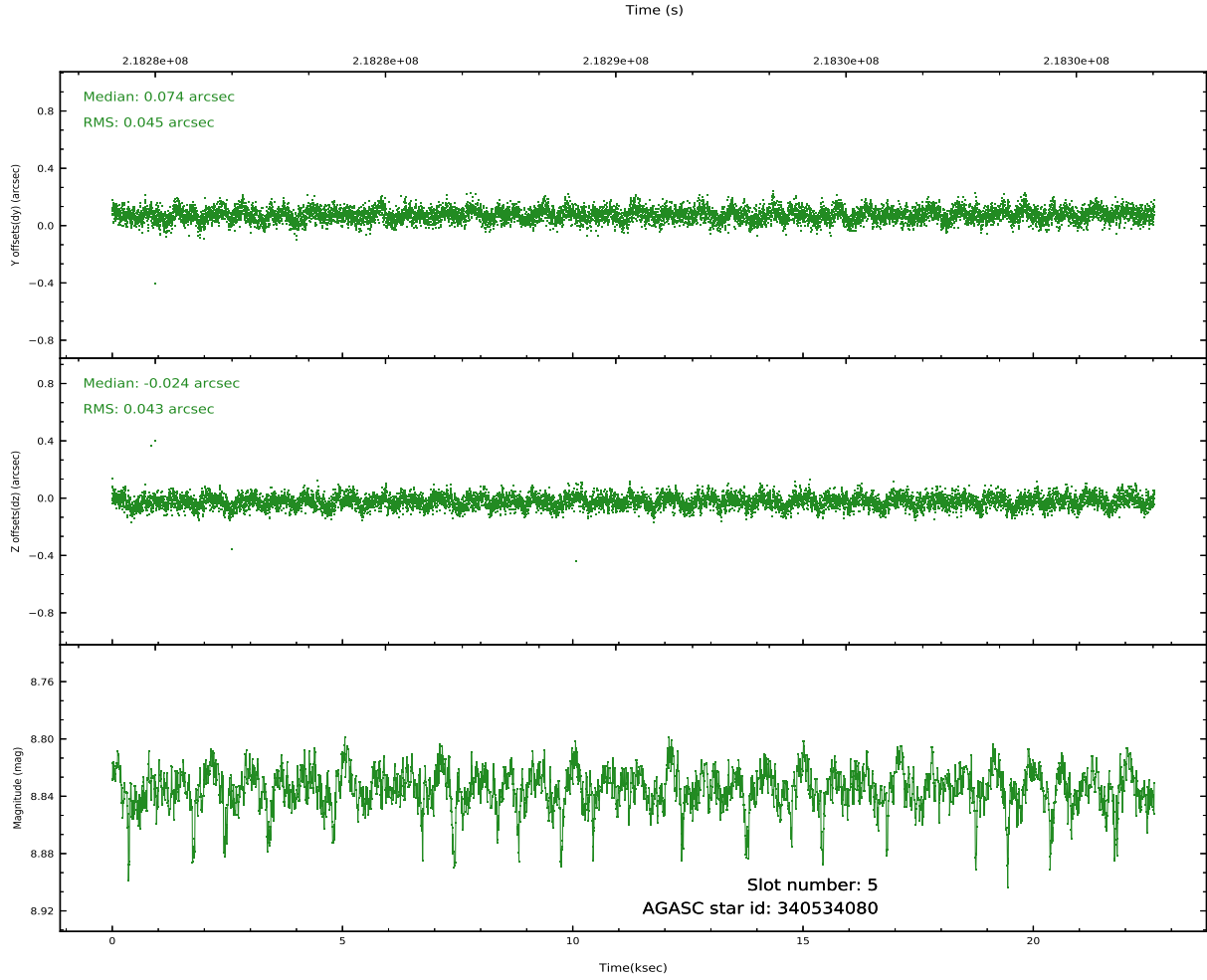
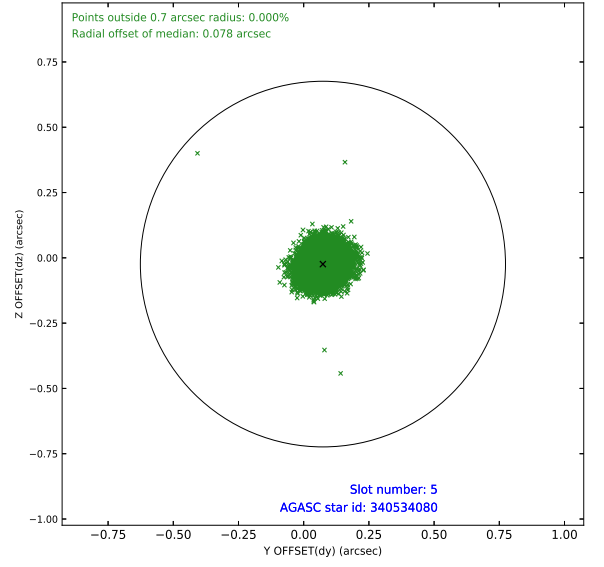
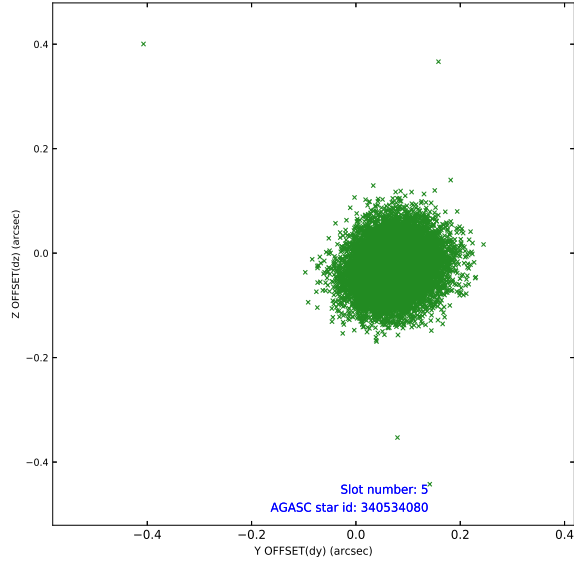
2.4.1 Slot 3



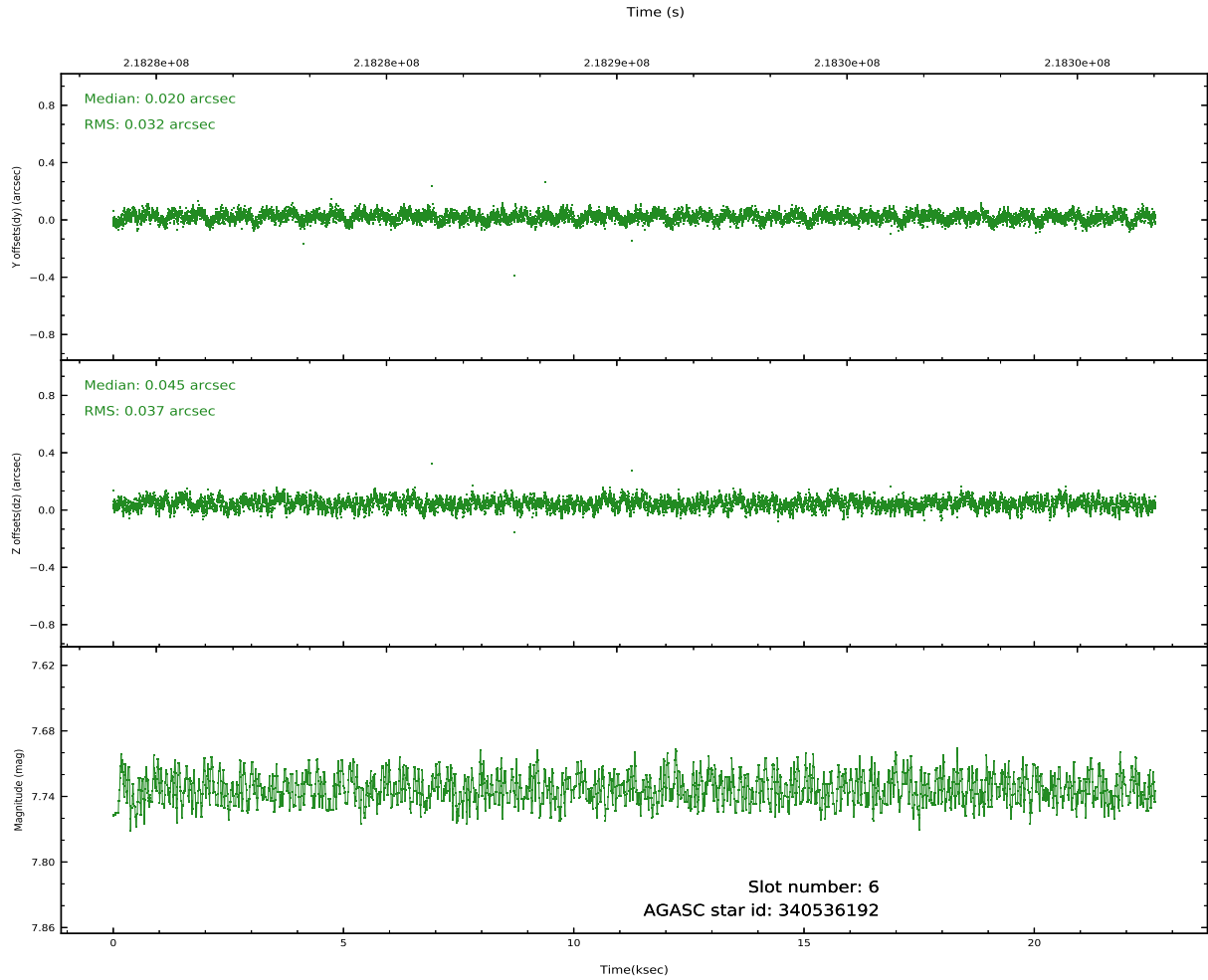
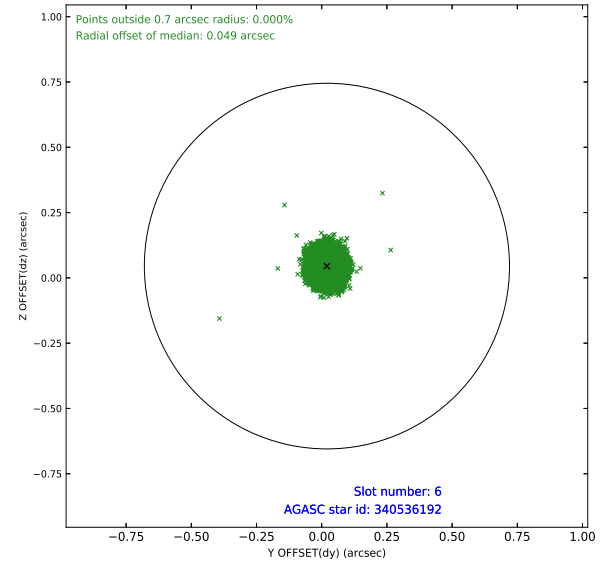
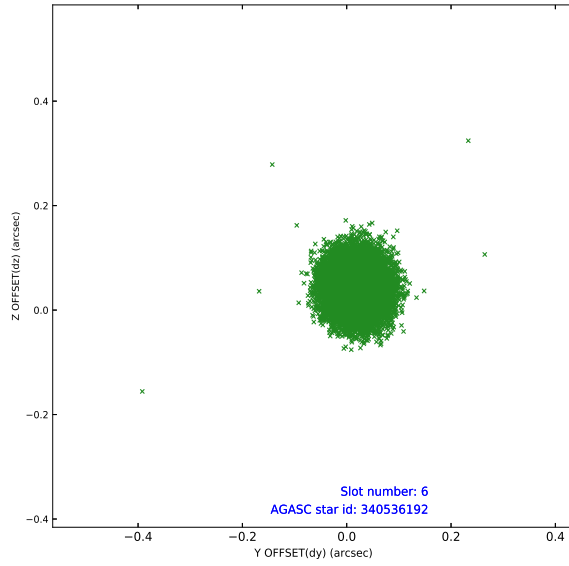
2.4.2 Slot 4



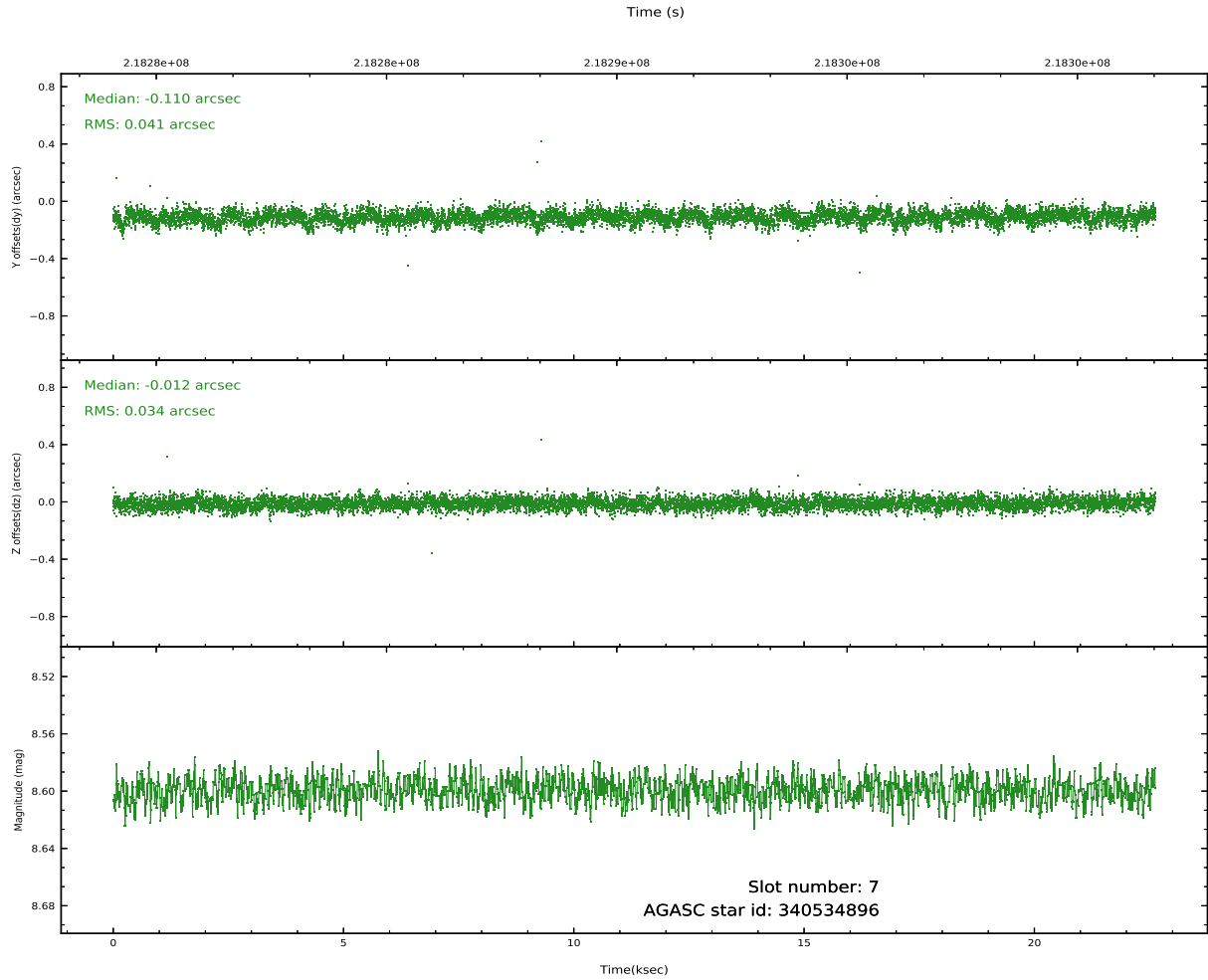
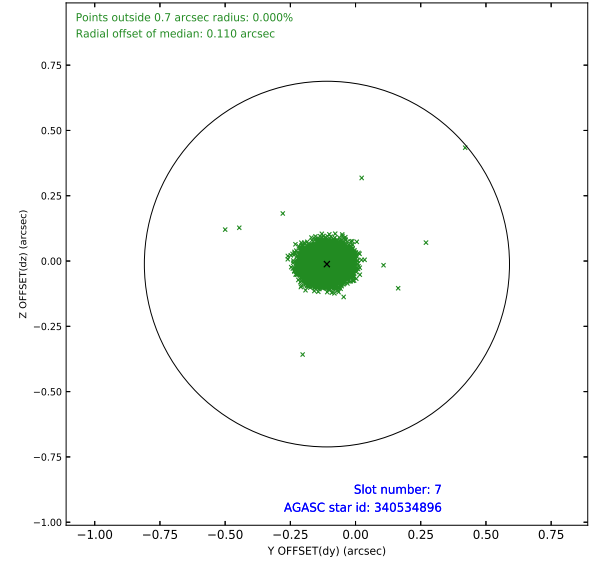
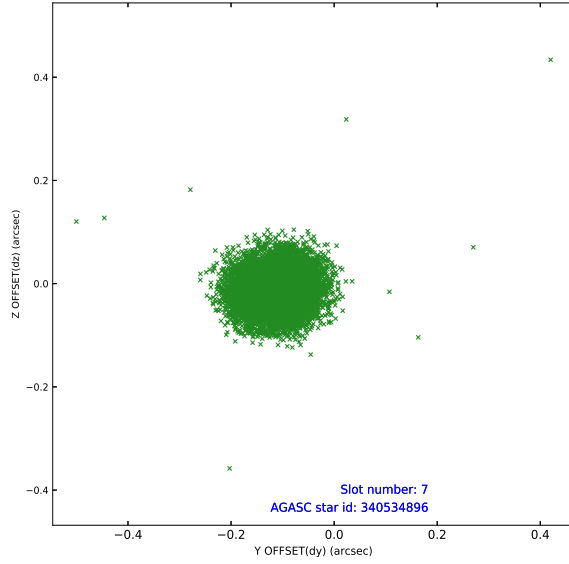
2.4.3 Slot 5



2.4.4 Slot 6

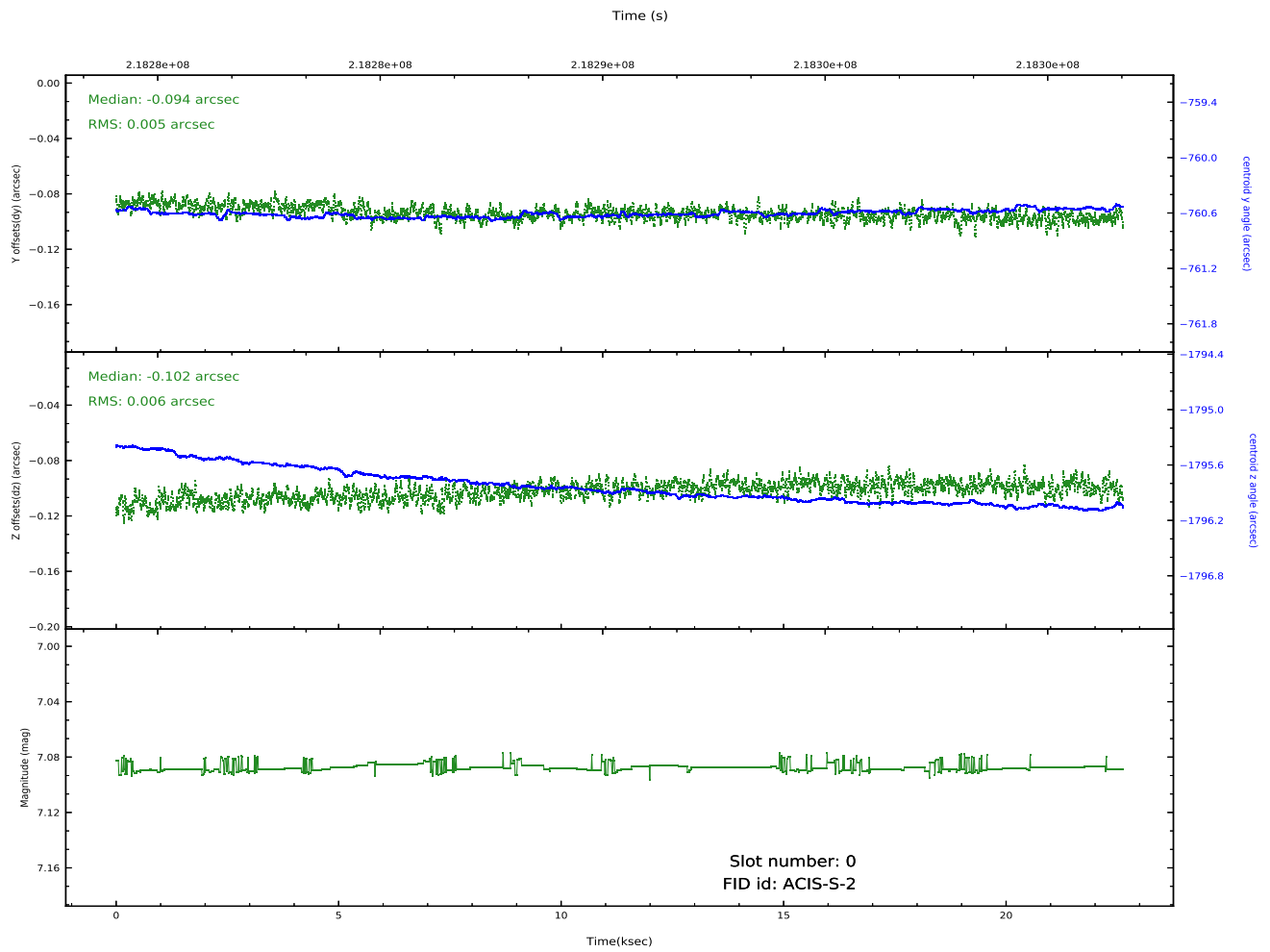
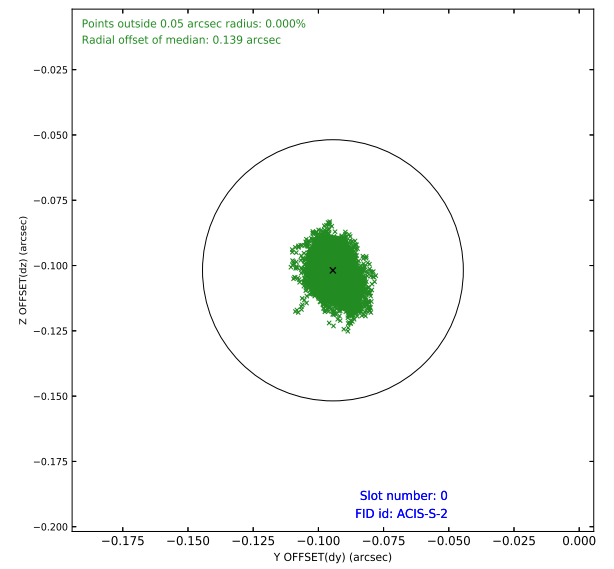
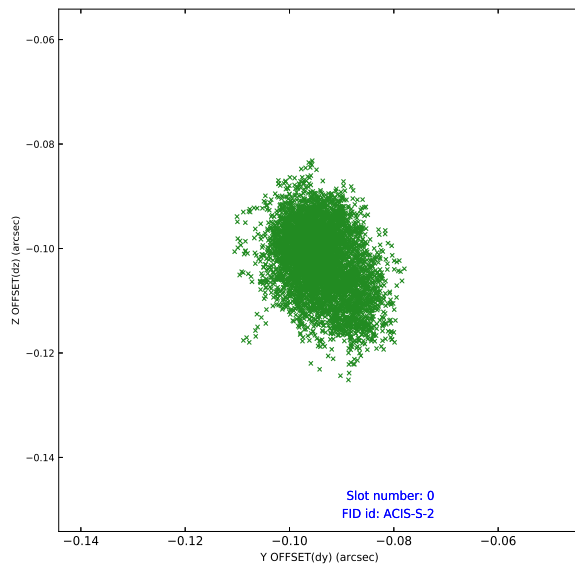


2.4.5 Slot 7

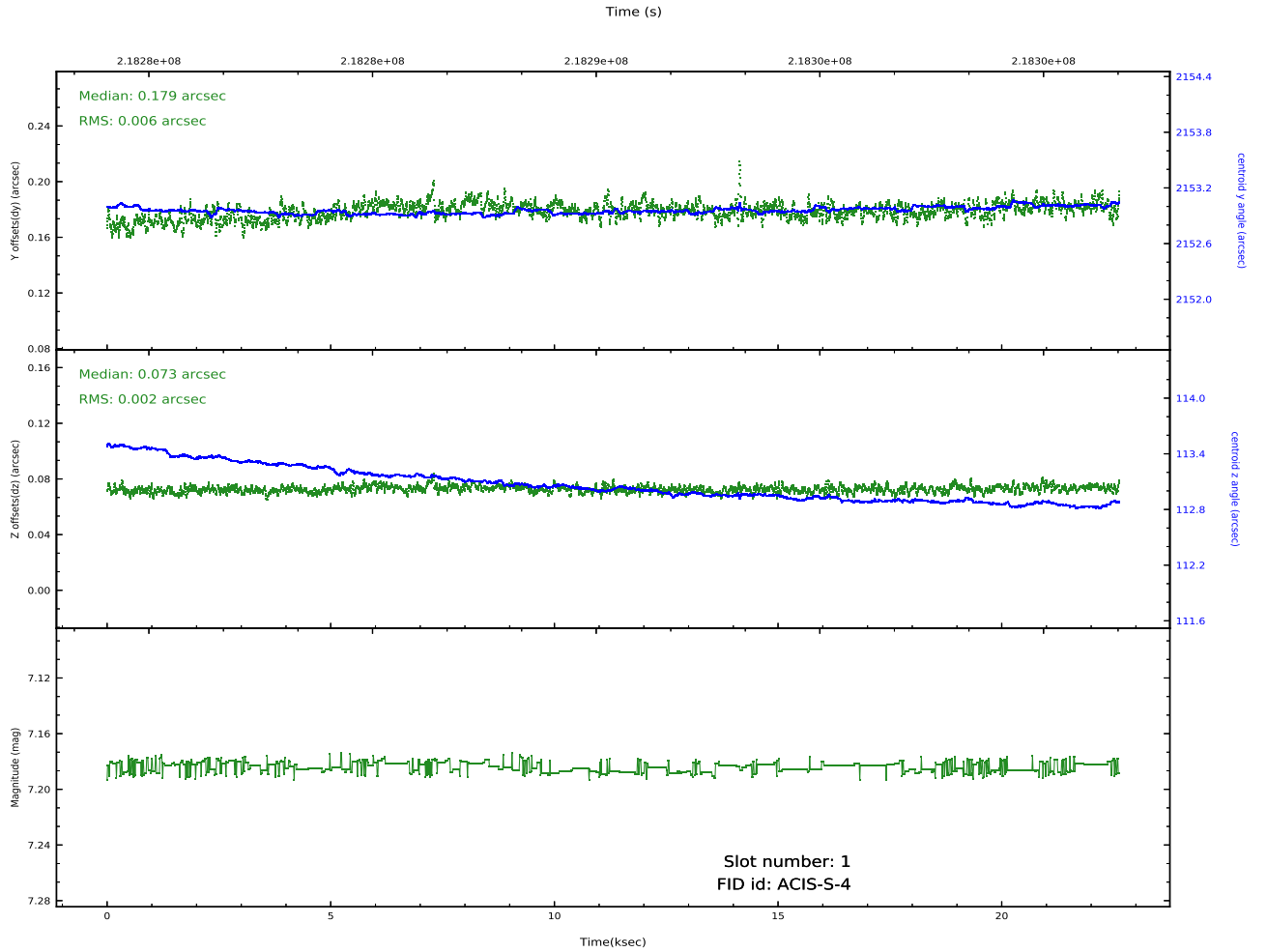
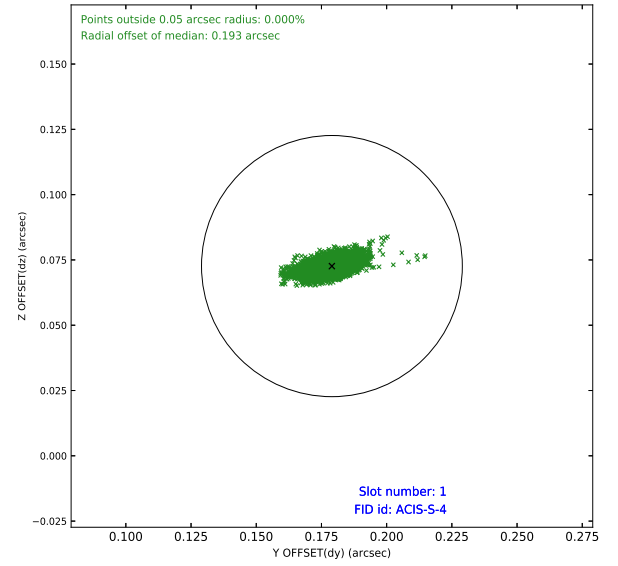
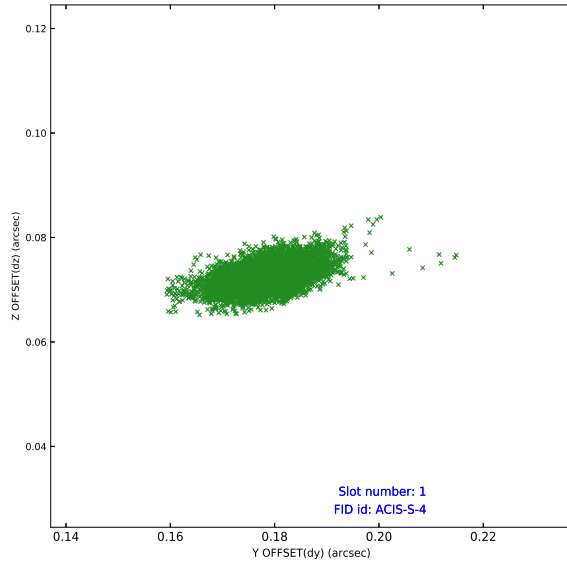


2.5 FID Slots

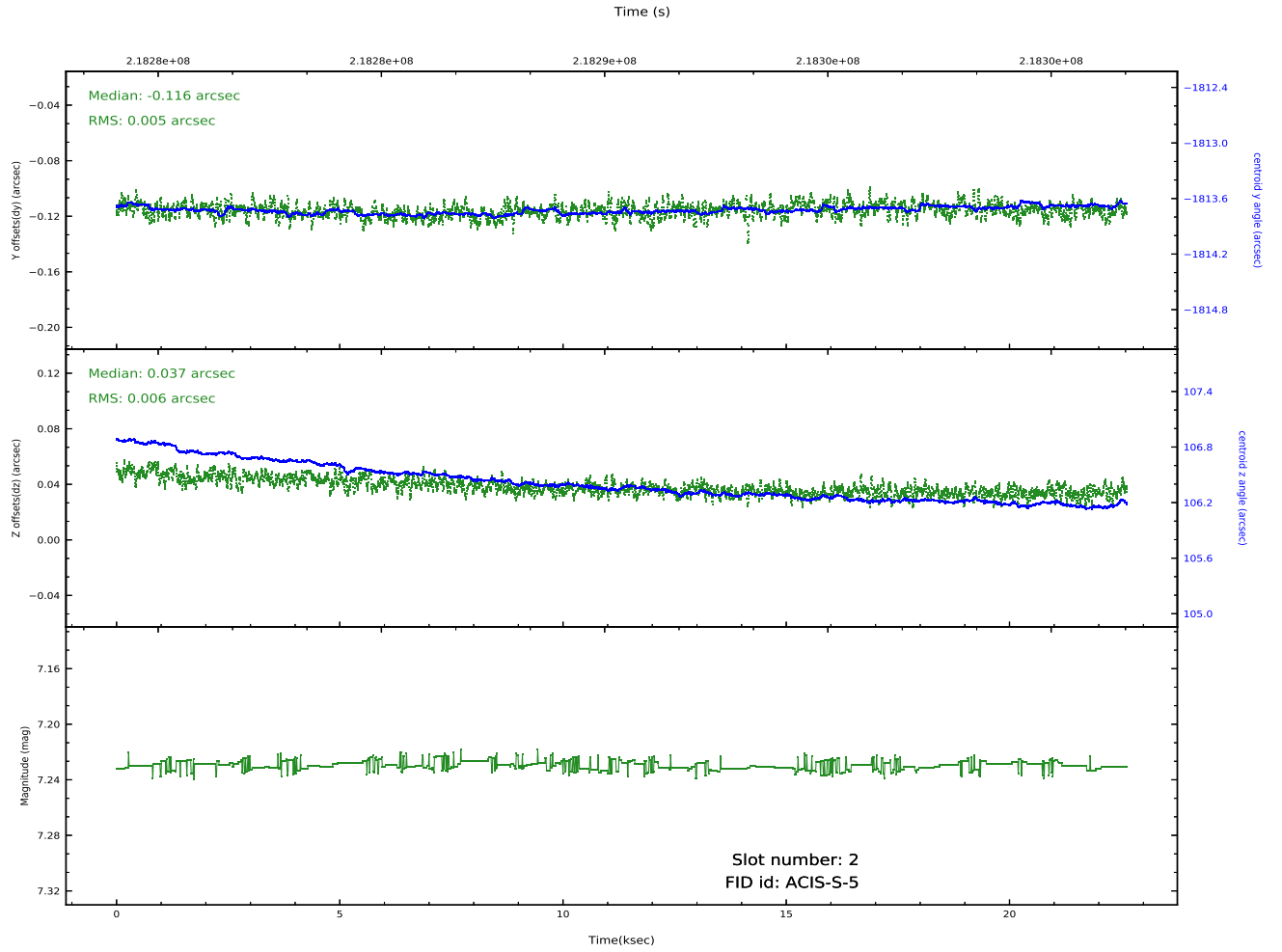
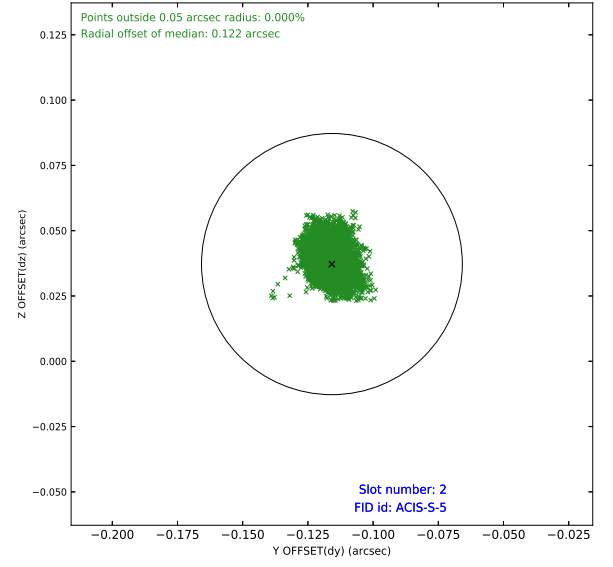
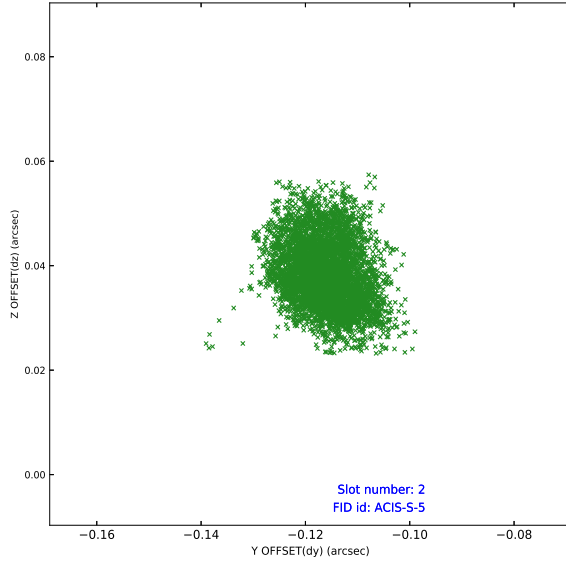
2.5.1 Slot 0



2.5.2 Slot 1

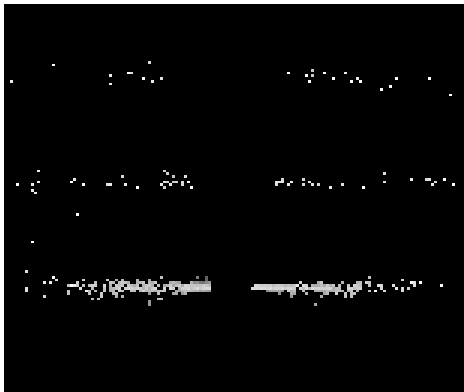


2.5.3 Slot 2

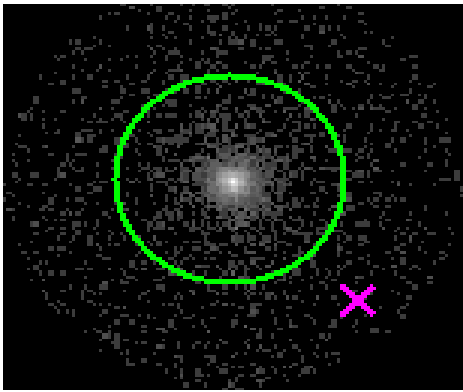


3 Gratings

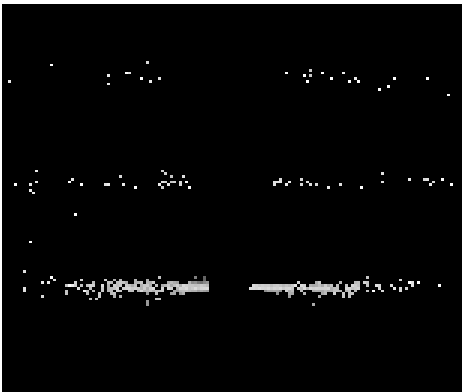
3.1 HEG Arm



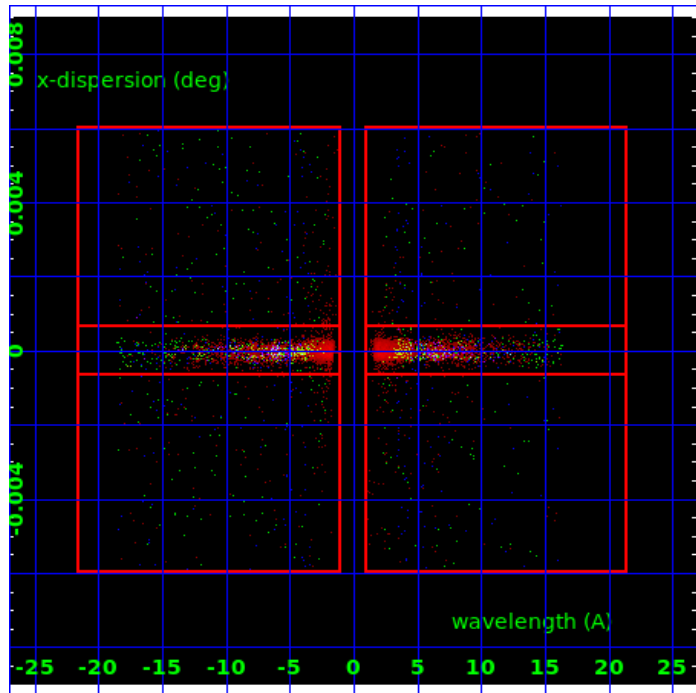
HEG Order Sort 123



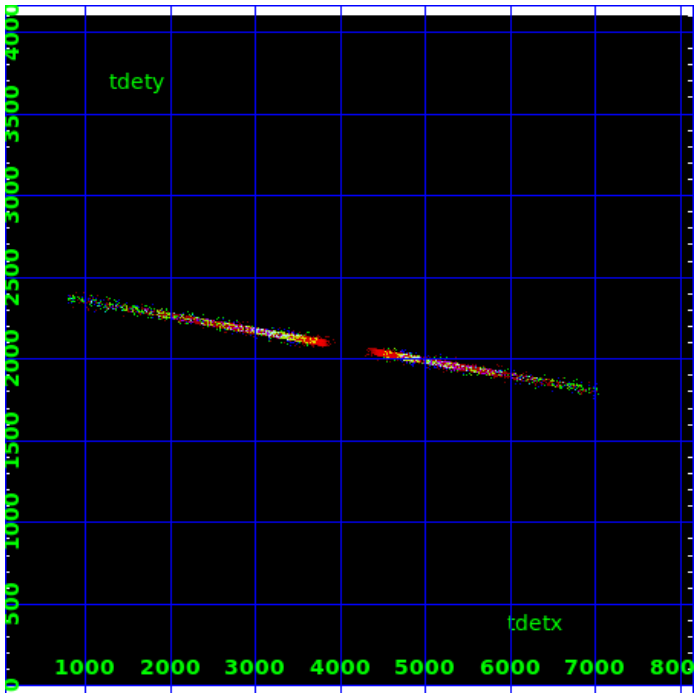
HEG Zero Order



HEG Order Sort ALL

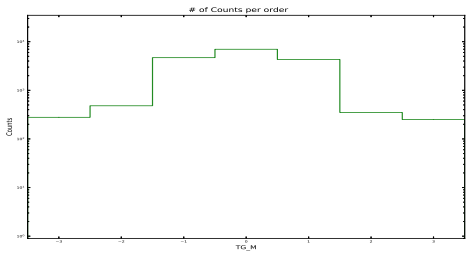


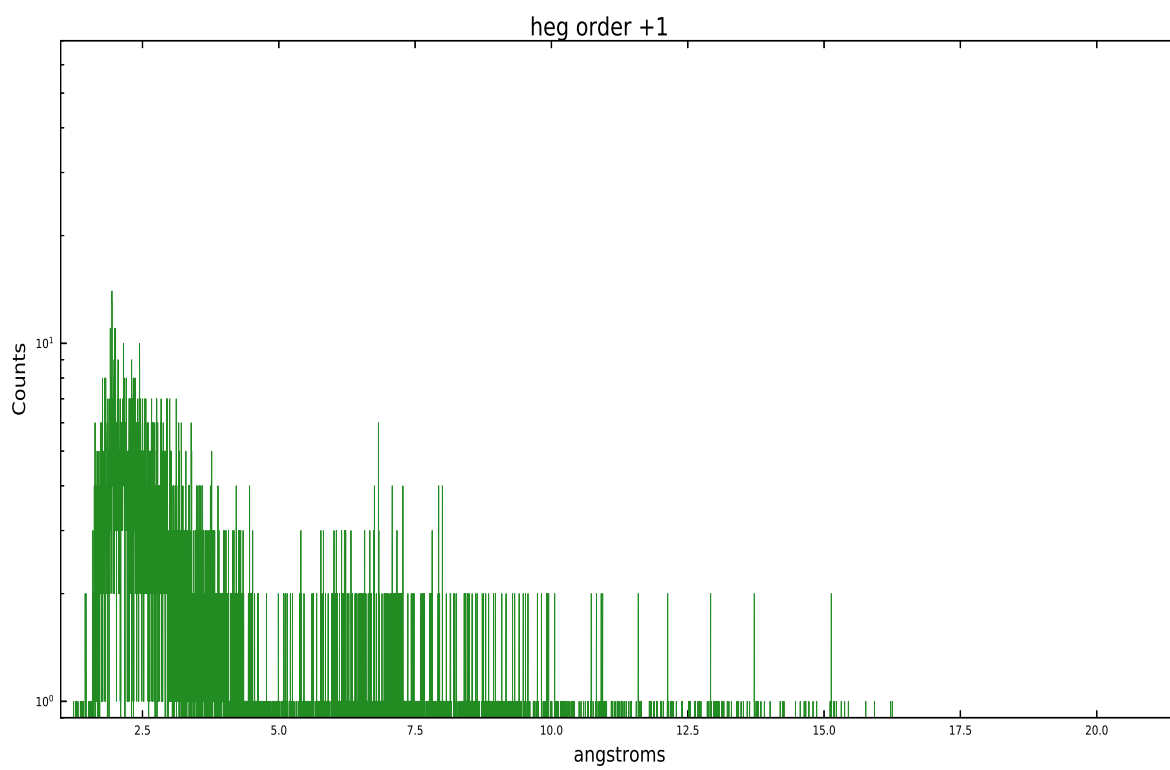
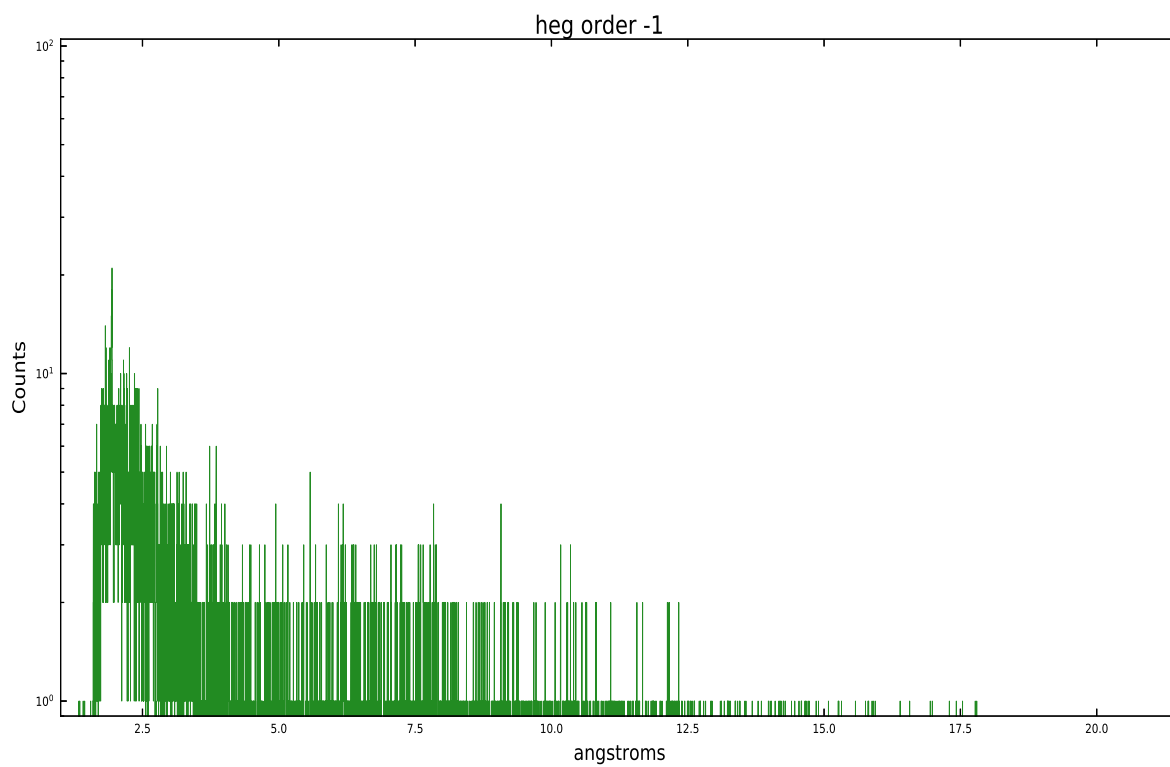
Spot Image HEG



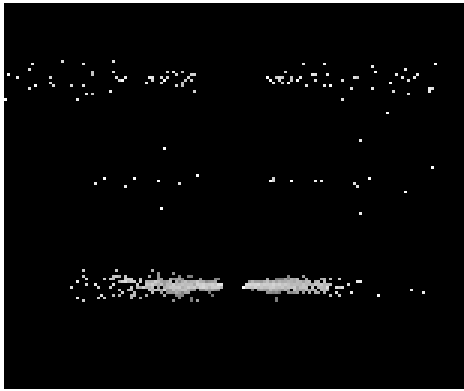
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	278	481	4699	6981	4309	350	251

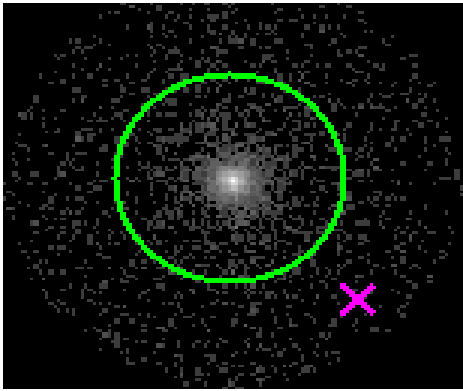




3.2 MEG Arm



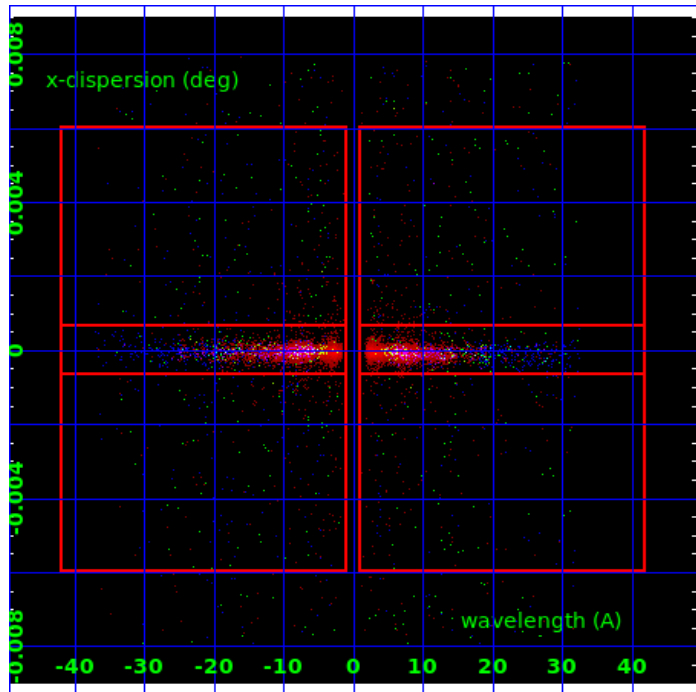
MEG Order Sort 123



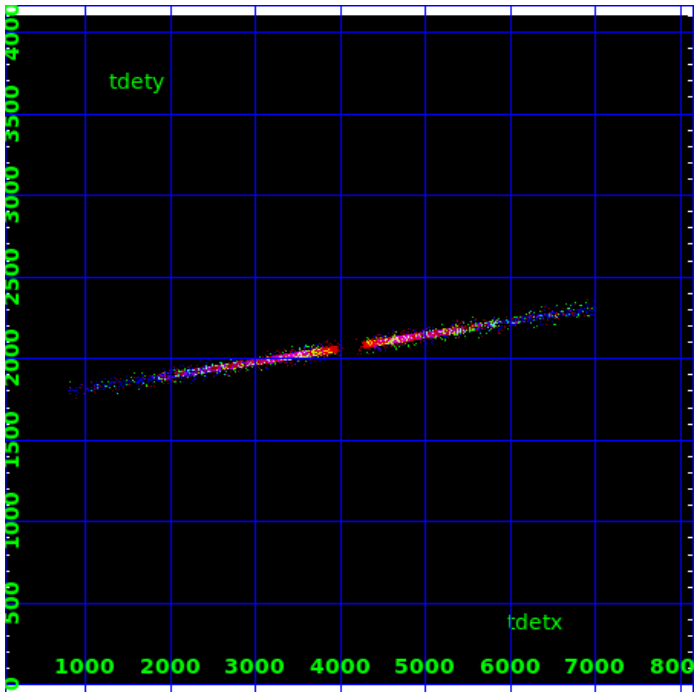
MEG Zero Order



MEG Order Sort ALL

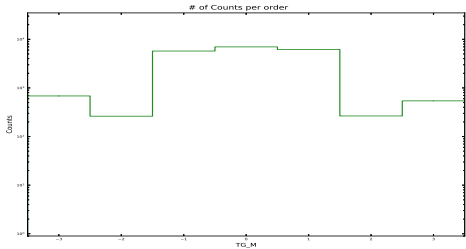


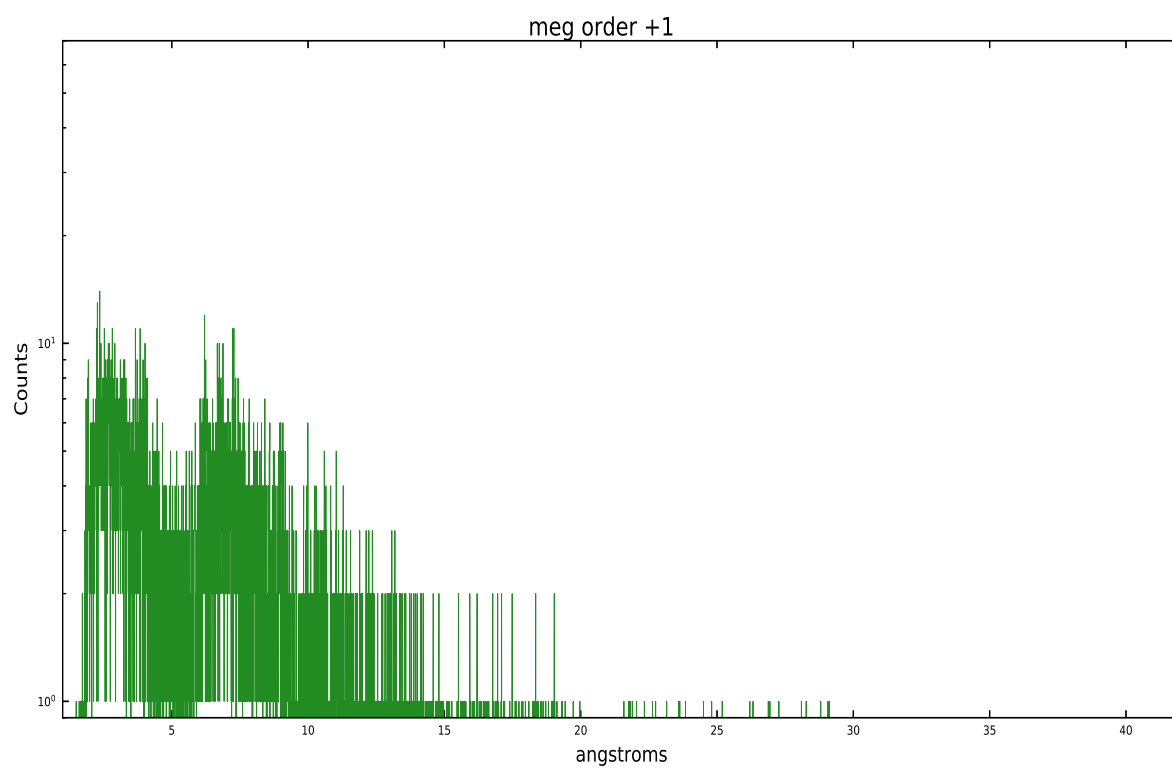
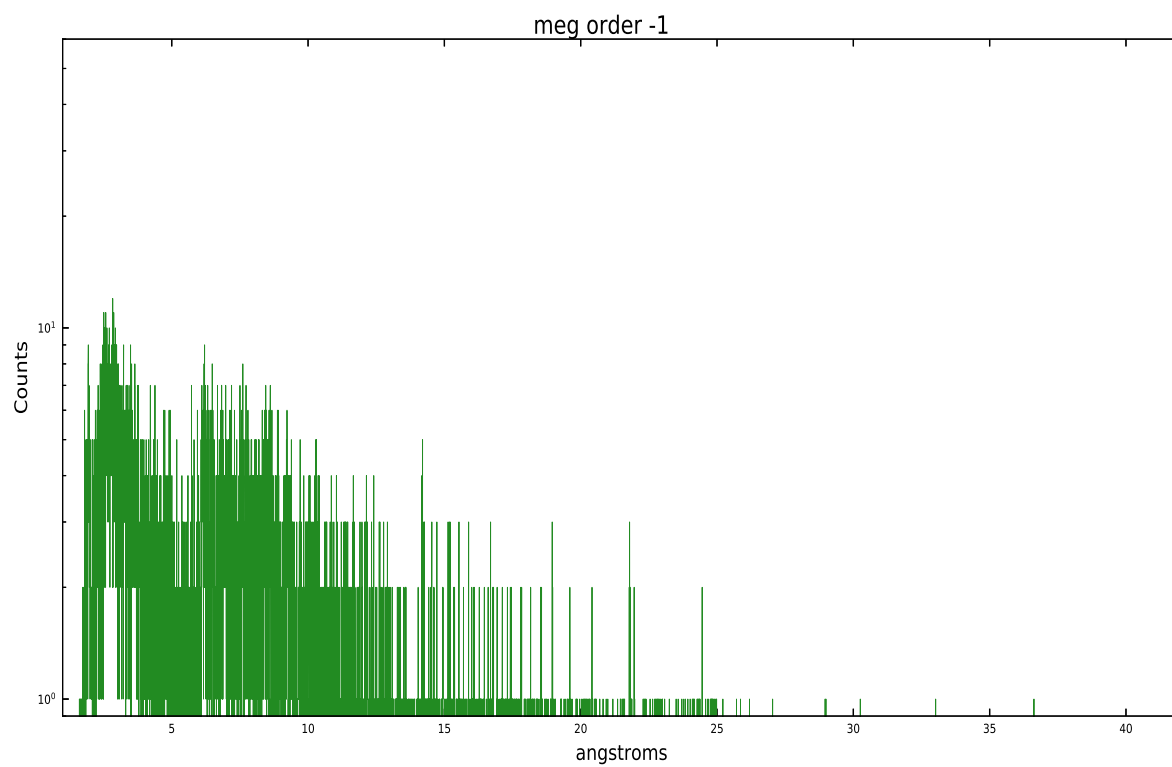
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	684	262	5734	6981	6169	265	542





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.10.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.045

A.2 Comments