

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5318 - L2 Version 4
Chandra X-Ray Center

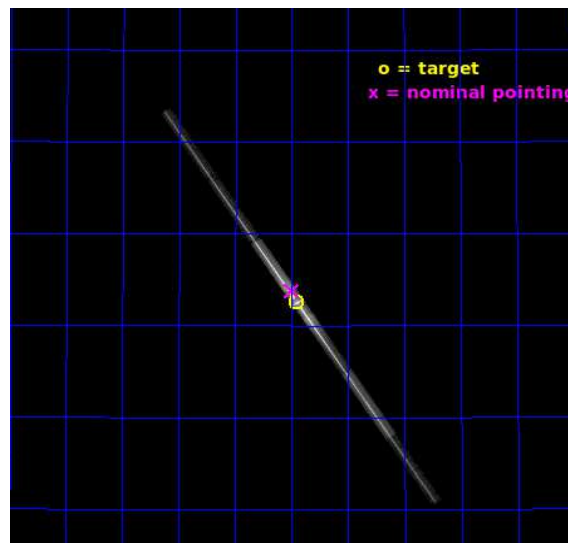
L2 Processing Date : Sep 25 2020

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1 Front

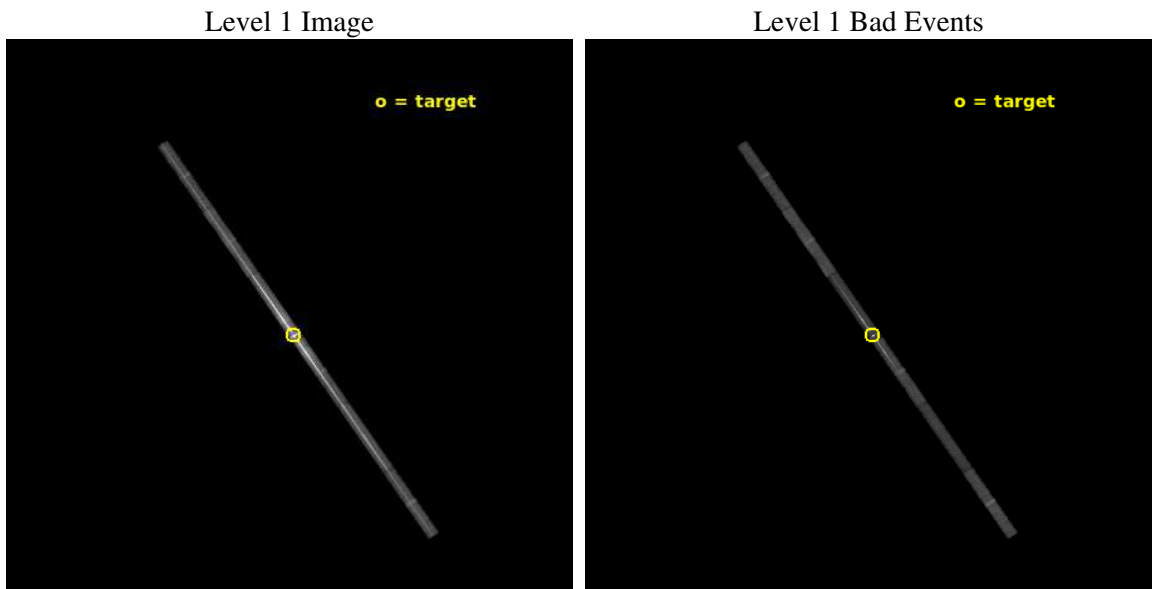
seq_num	790094	Sequence number
obs_id	5318	Observation id
title	Measuring the depth of the contaminant on ACIS with a LETG/ACIS-S observation of Mkn 421	Proposal title
observer	CXC Calibration	Principal investigator
object	Mkn 421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.12445327476	Nominal RA [deg]
dec_nom	38.230100738851	Nominal Dec [deg]
roll_nom	236.3785548394	Nominal Roll [deg]
revision	4	Processing version of data
ontime	30160.899486363	Sum of GTIs [s]
livetime	28490.539836519	Livetime [s]
ontime4	30160.899486363	Sum of GTIs [s]
ontime5	30160.899486363	Sum of GTIs [s]
ontime6	30160.899486363	Sum of GTIs [s]
ontime7	30160.899486363	Sum of GTIs [s]
ontime8	30160.899486363	Sum of GTIs [s]
ontime9	30160.899486363	Sum of GTIs [s]
l2events	1735222	Number of level 2 events



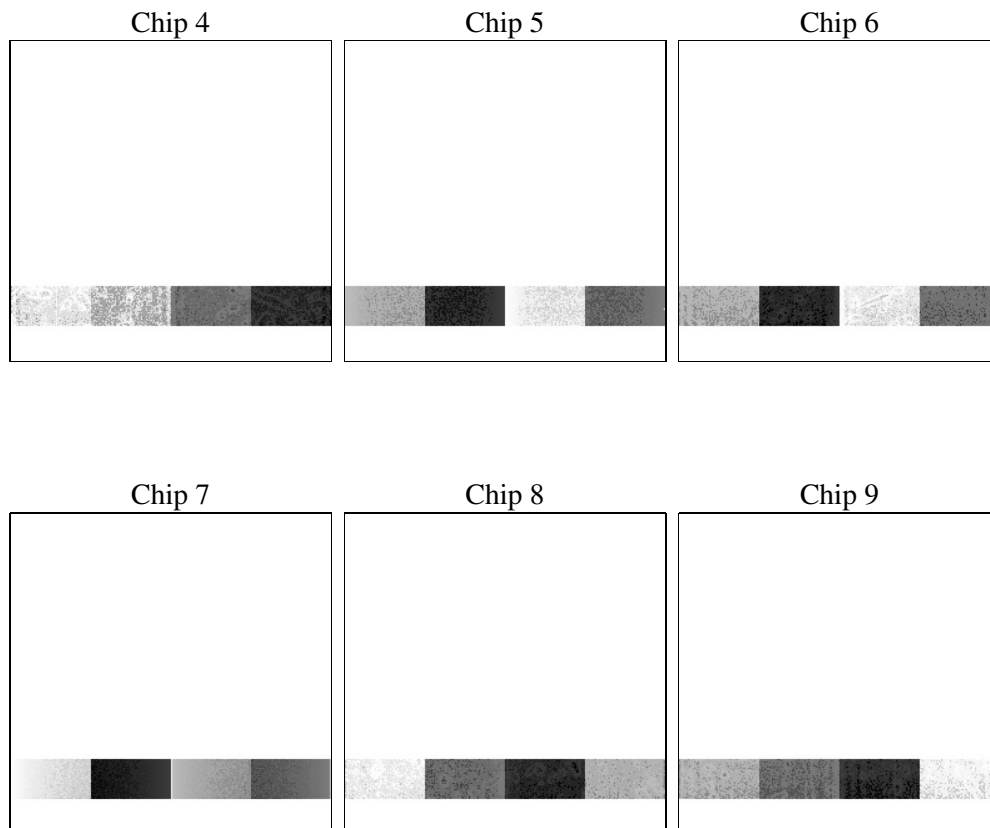
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	30160.899486363	Sum of GTIs [s]
caldsver	4.9.2	 	ontime4	30160.899486363	Sum of GTIs [s]
date	2020-09-25T18:55:38	Date and time of file creation	ontime5	30160.899486363	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	30160.899486363	Sum of GTIs [s]
			ontime7	30160.899486363	Sum of GTIs [s]
			ontime8	30160.899486363	Sum of GTIs [s]
			ontime9	30160.899486363	Sum of GTIs [s]
			l1events	2030790	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4157.75 3040.23)	grade 0 sky pixel position

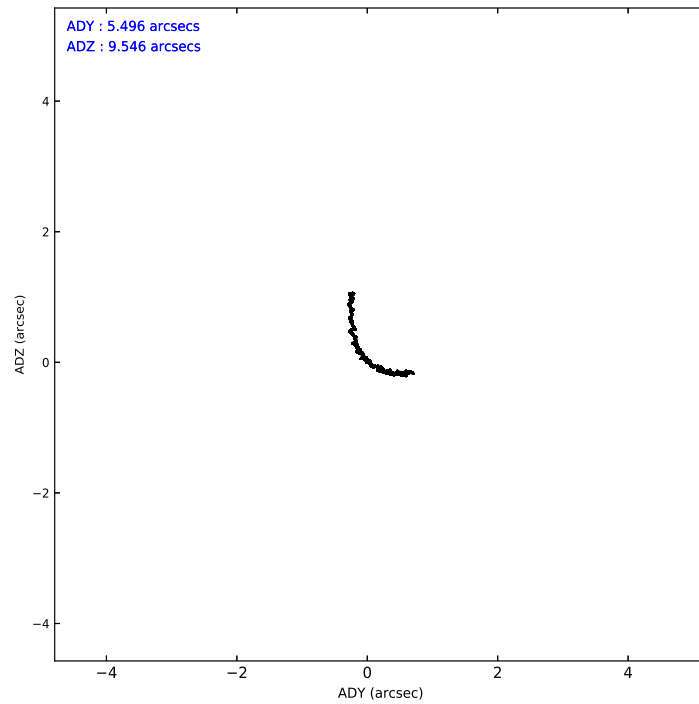
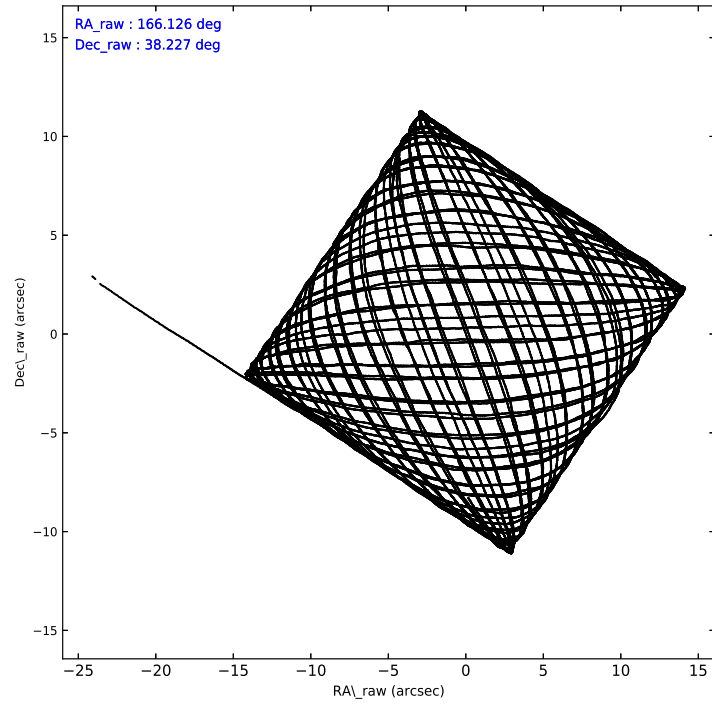
2.1.4 Events

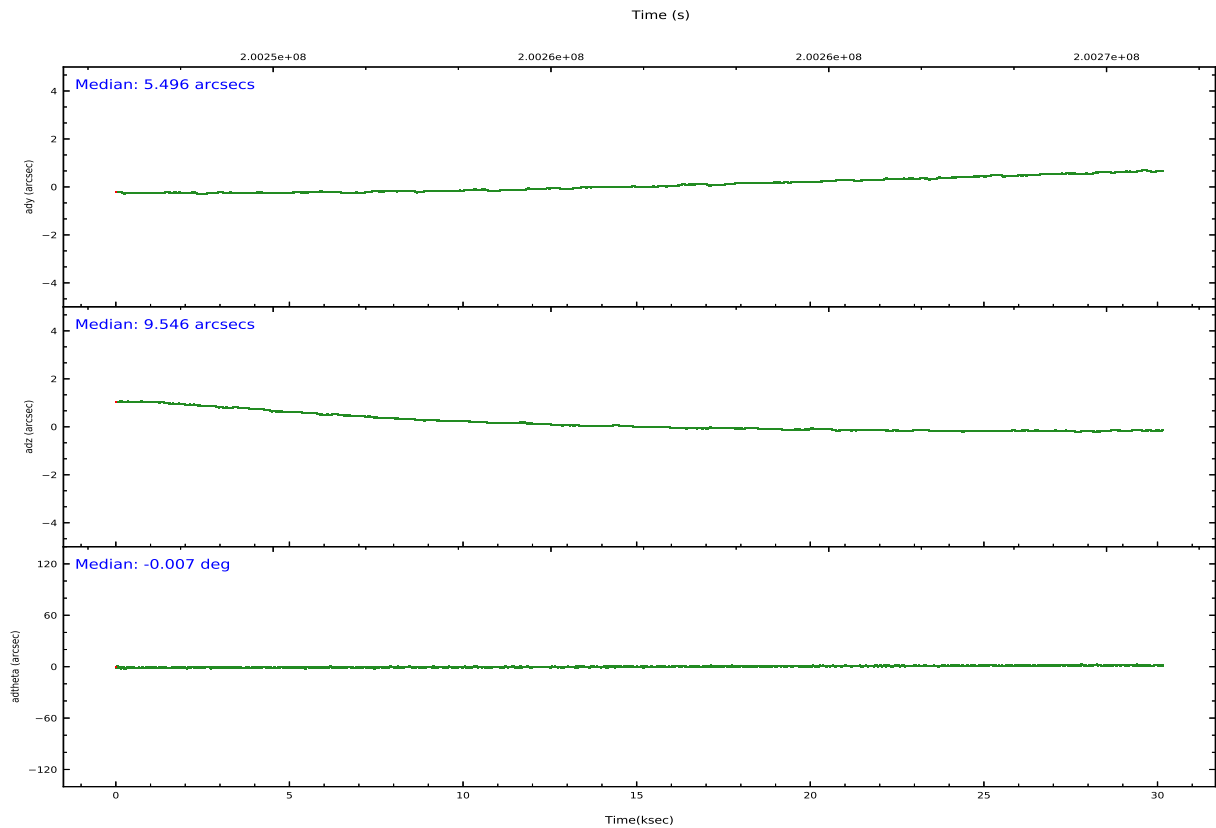
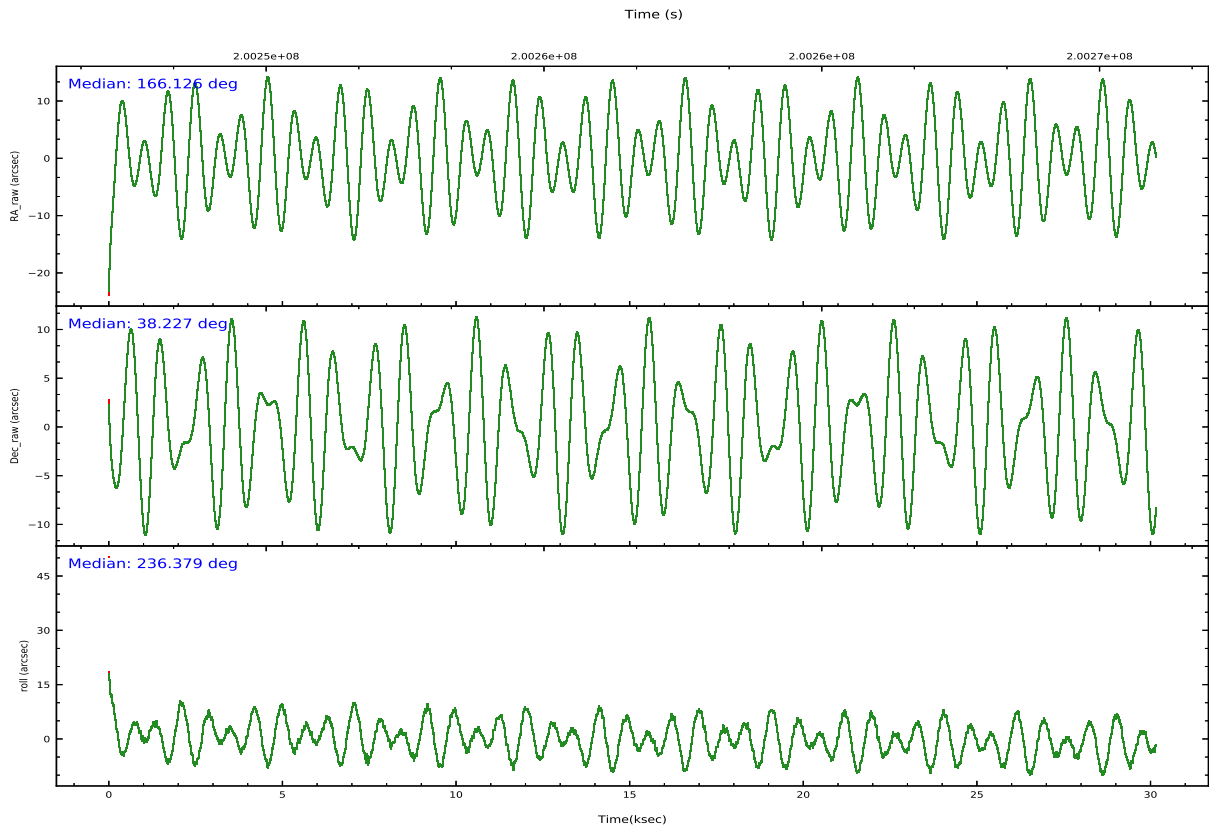
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	58014	140207	659150	1022708	99171	51540	grade 0 events	15248	59717	484068	247879	43806	16379
rejected events	37562	23519	46317	69327	41077	29930		26%	42%	73%	24%	44%	31%
rejected %	64%	16%	7%	6%	41%	58%	grade 1 events	25	171	6188	5015	78	19
								0%	0%	0%	0%	0%	0%
							grade 2 events	2229	23954	66635	243930	6339	2226
								3%	17%	10%	23%	6%	4%
							grade 3 events	1109	8789	22542	112095	2475	1089
								1%	6%	3%	10%	2%	2%
							grade 4 events	1056	8853	22520	110370	2353	1133
								1%	6%	3%	10%	2%	2%
							grade 5 events	1208	4149	5143	22540	1633	1189
								2%	2%	0%	2%	1%	2%
							grade 6 events	930	16450	18121	240688	3386	905
								1%	11%	2%	23%	3%	1%
							grade 7 events	36209	18124	33933	40191	39101	28600
								62%	12%	5%	3%	39%	55%

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	LETG	LETG	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	166.128135	166.12445327476	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	38.254366	38.230100738851	Subarray start row	113	113
[deg] Pointing Roll	236.223525	236.3785548394	Subarray row count	128	128
[s] Window start time (MET)	199324864.184000	199324864.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	201139204.184000	201139204.184000	[s] Primary exposure time	0.000000	0.7
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	200243630.184000	200242484.47741			
Observation start date	2004-05-06T15:12:46	2004-05-06T14:54:44			
[s] Observation end time (MET)	200273630.184000	200274330.20382			
Observation end date	2004-05-06T23:32:46	2004-05-06T23:45:30			
Read mode	TIMED	TIMED			

2.3 Aspect





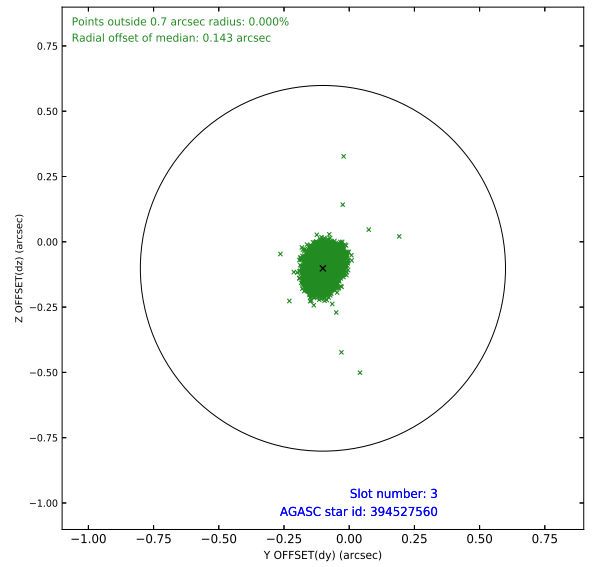
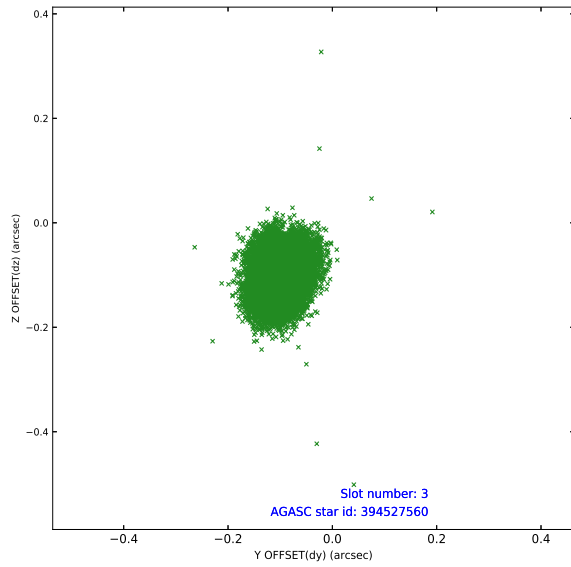
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-1	7.18	7356	1.000	0.046	0.072	0.019	0.036	0.000000	0.000000	938.42	-1891
1	FID		ACIS-S-5	7.23	7355	1.000	-0.149	0.039	0.009	0.015	0.000000	0.000000	-1810.78	6
2	FID		ACIS-S-6	7.41	7357	1.000	0.081	-0.099	0.014	0.030	0.000000	0.000000	403.87	650
3	GUIDE	used	394527560	7.65	14711	1.000	-0.101	-0.102	0.051	0.081	165.970713	38.960939	-1869.39	-1780
4	GUIDE	used	394528768	8.86	14706	1.000	0.003	-0.050	0.061	0.099	166.180365	38.952248	-2169.46	-1275
5	GUIDE	used	394530152	7.48	14714	1.000	-0.025	-0.051	0.052	0.086	166.075805	38.868252	-1755.29	-1350
6	GUIDE	used	394533848	8.72	14711	1.000	0.186	0.173	0.070	0.111	166.382906	38.276007	-465.27	553
7	GUIDE	used	394546712	6.59	14713	1.000	-0.061	0.033	0.057	0.088	166.451462	38.394357	-927.29	477

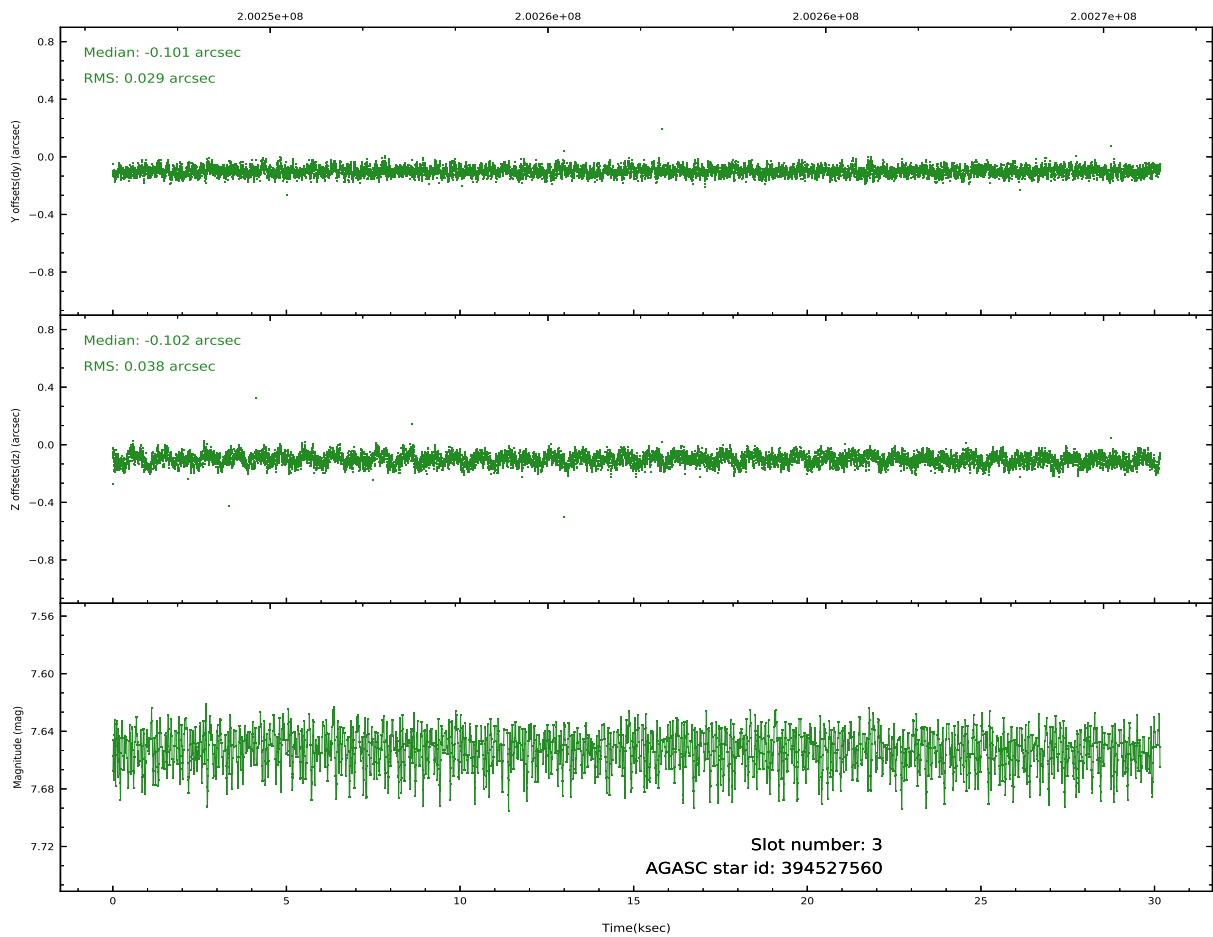
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2.4 Star Slots

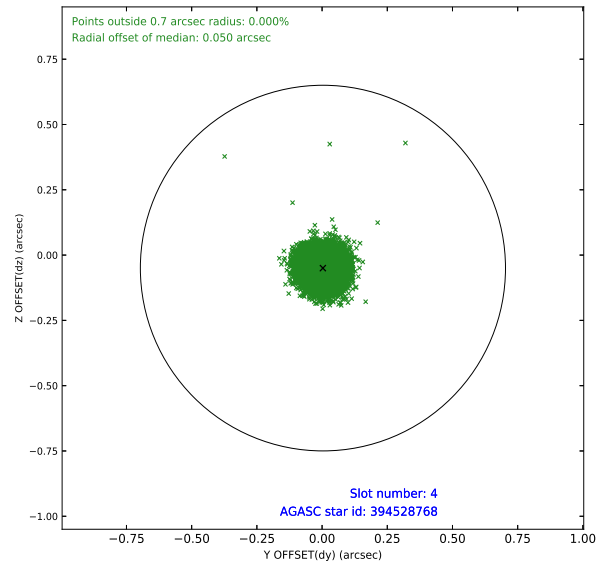
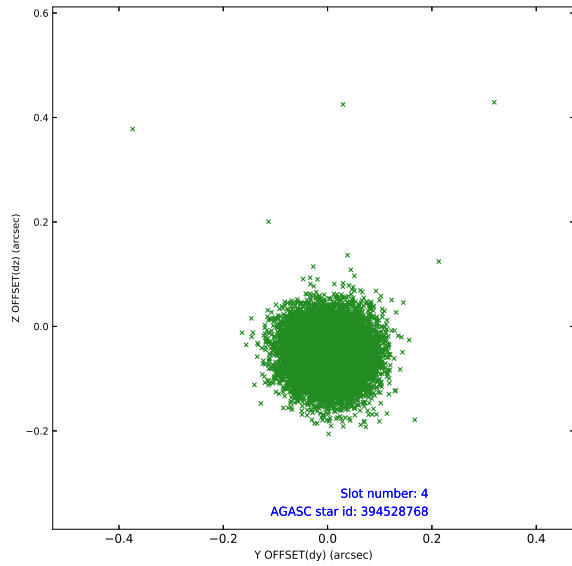
2.4.1 Slot 3



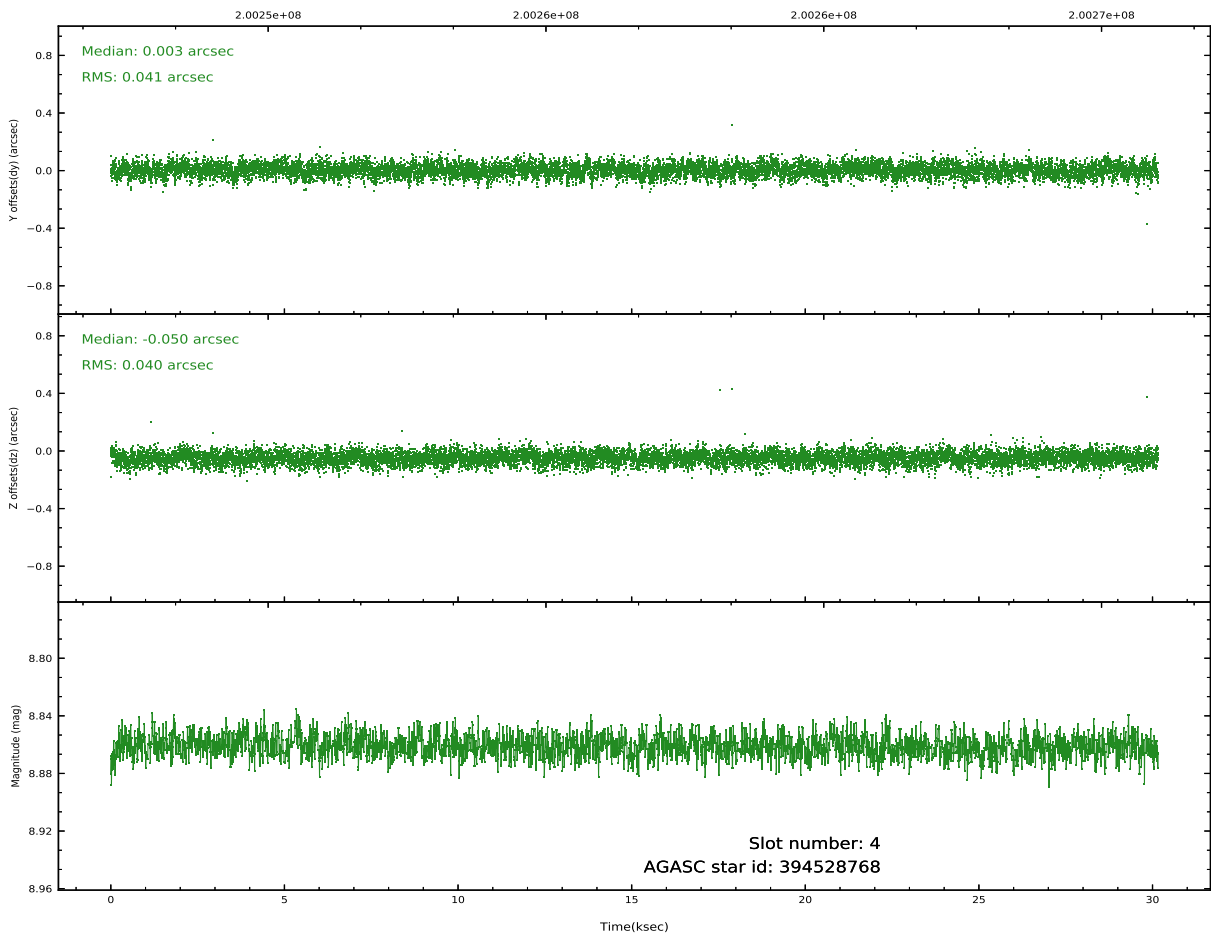
Time (s)



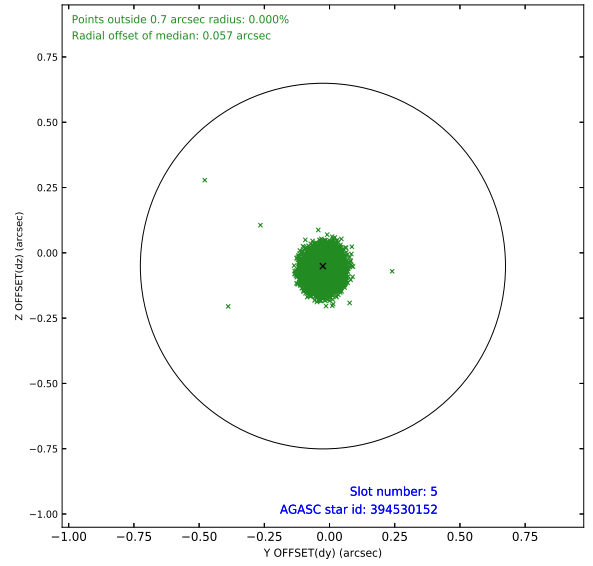
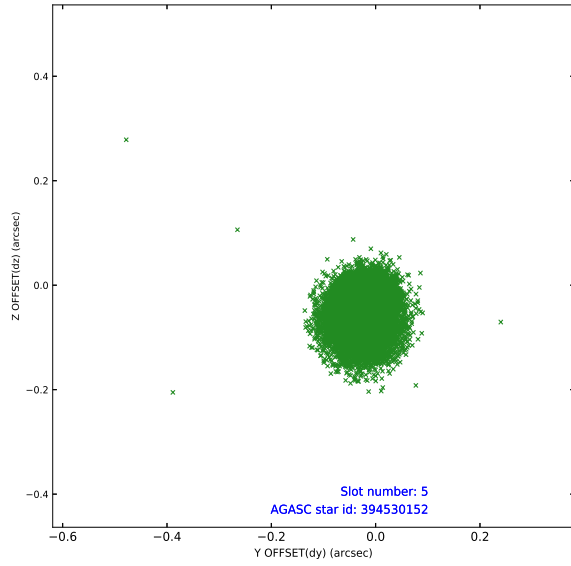
2.4.2 Slot 4



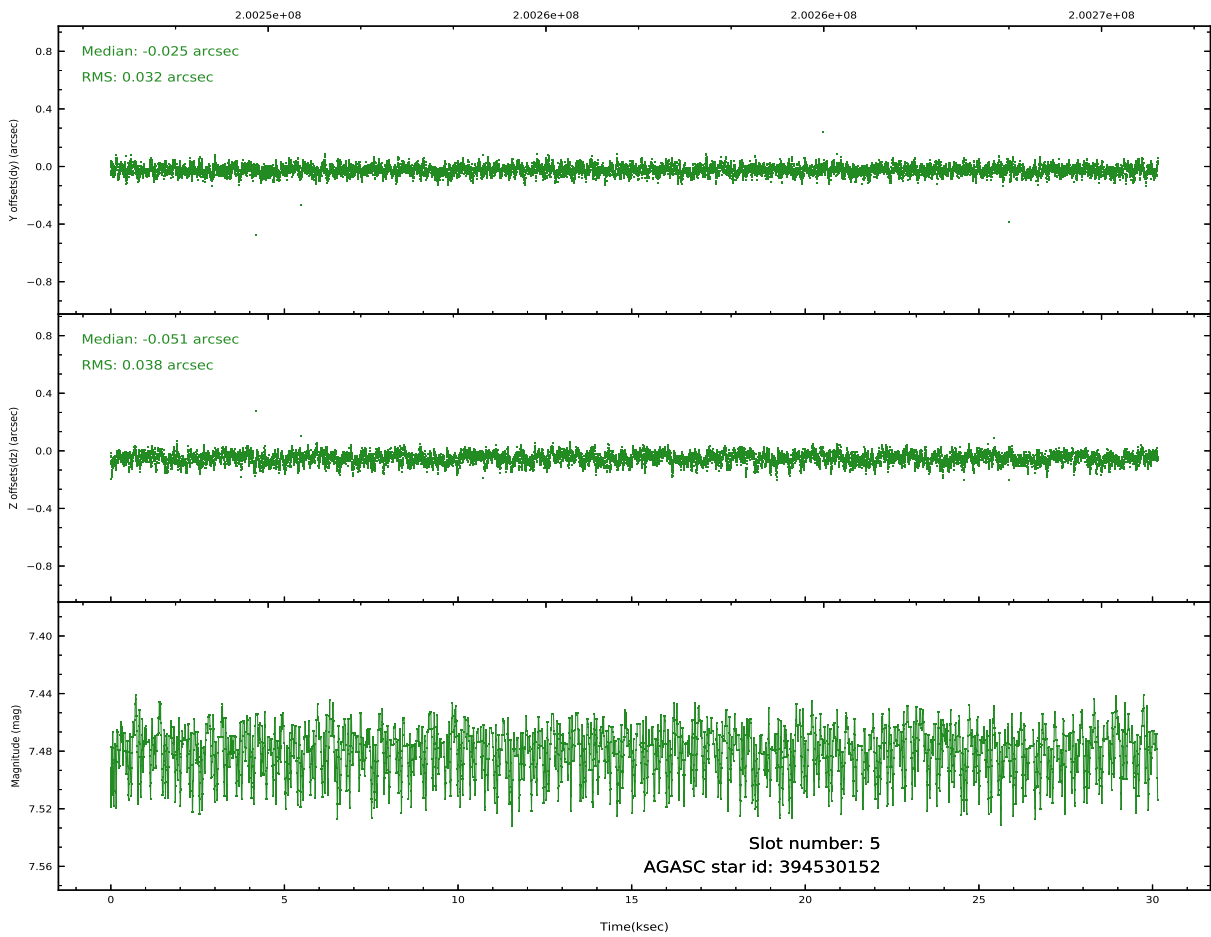
Time (s)



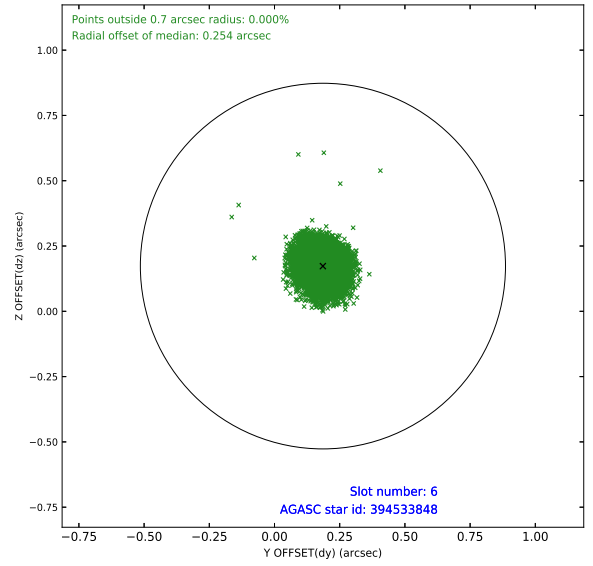
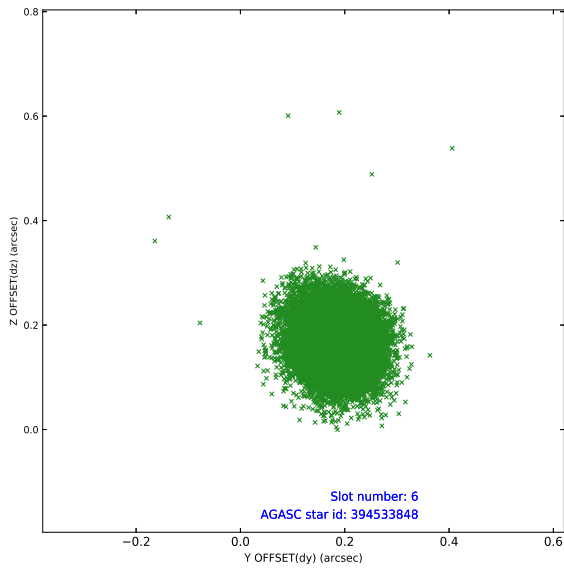
2.4.3 Slot 5



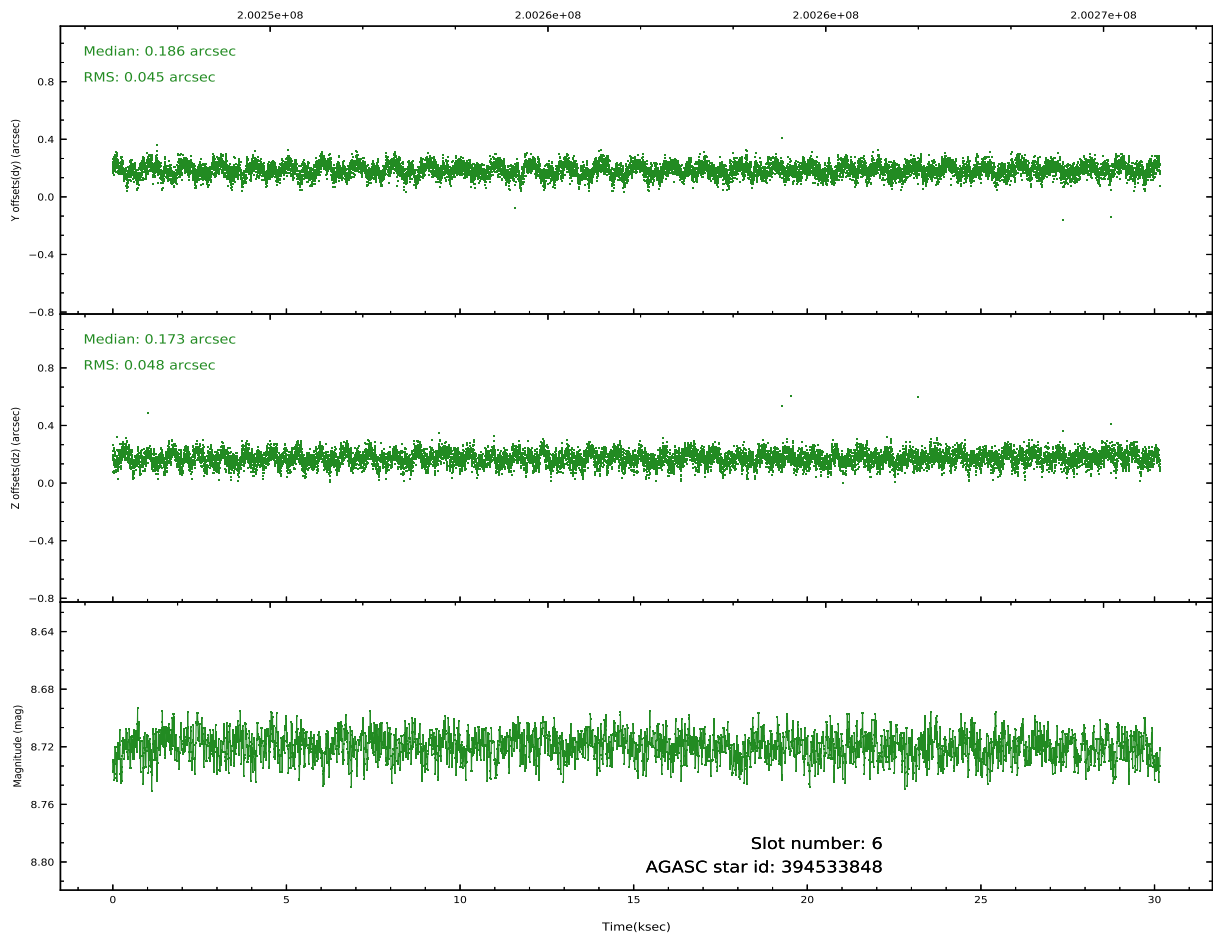
Time (s)



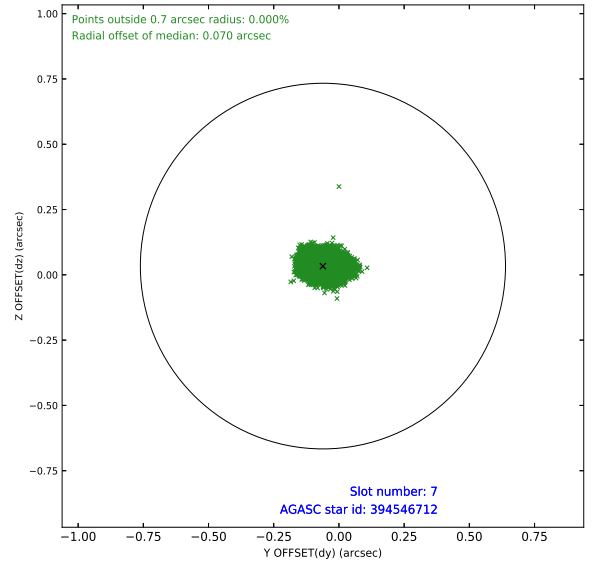
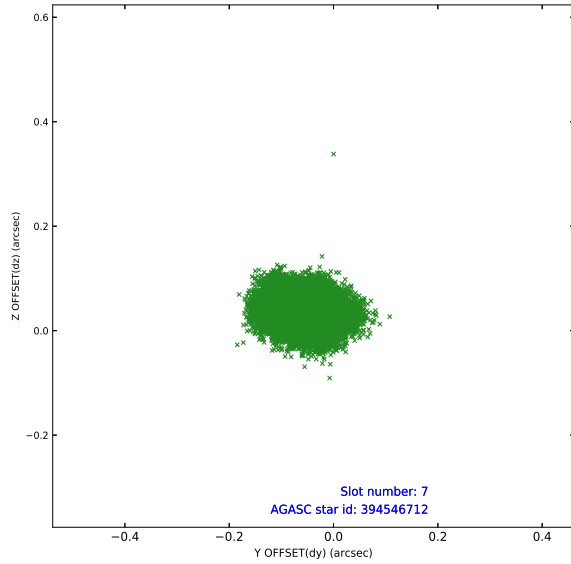
2.4.4 Slot 6



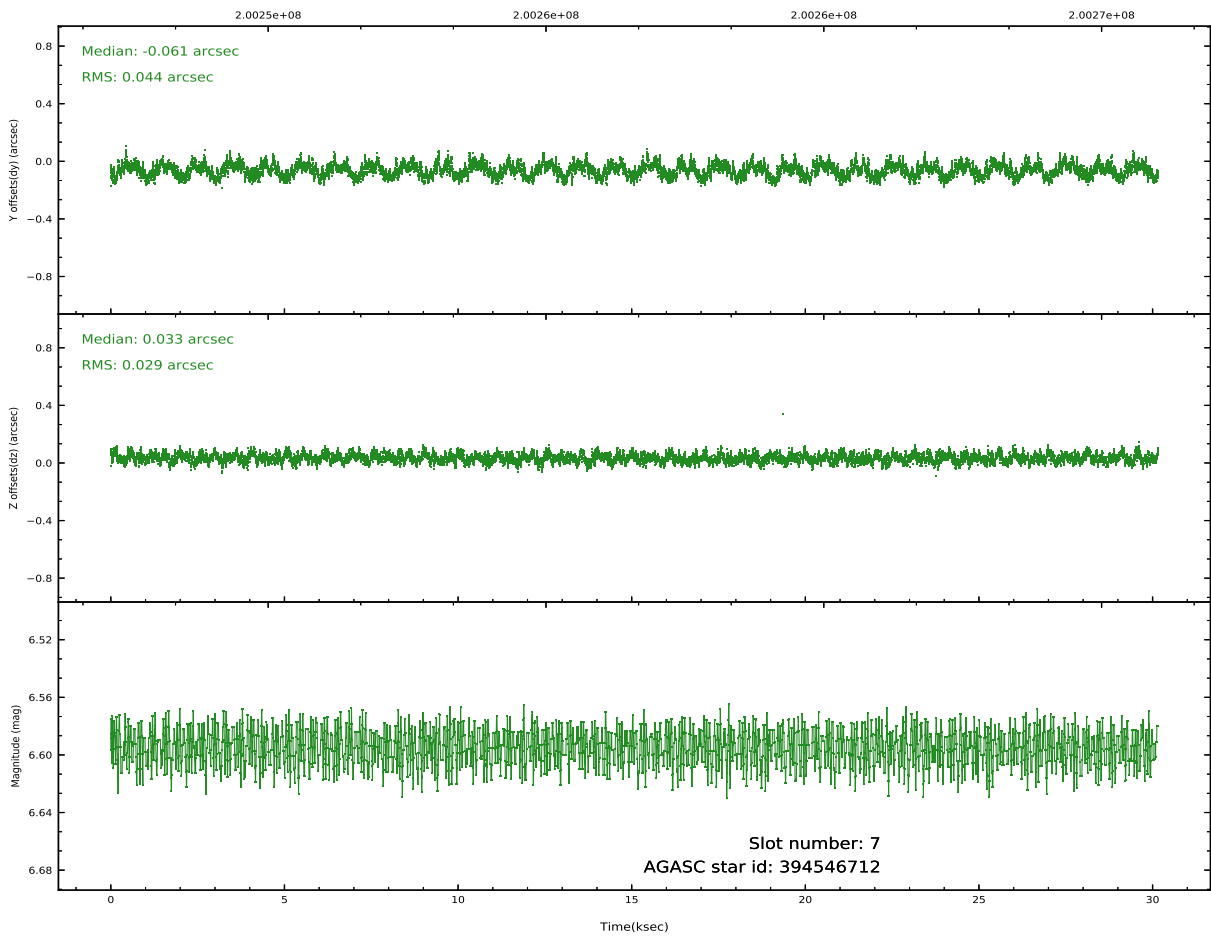
Time (s)



2.4.5 Slot 7

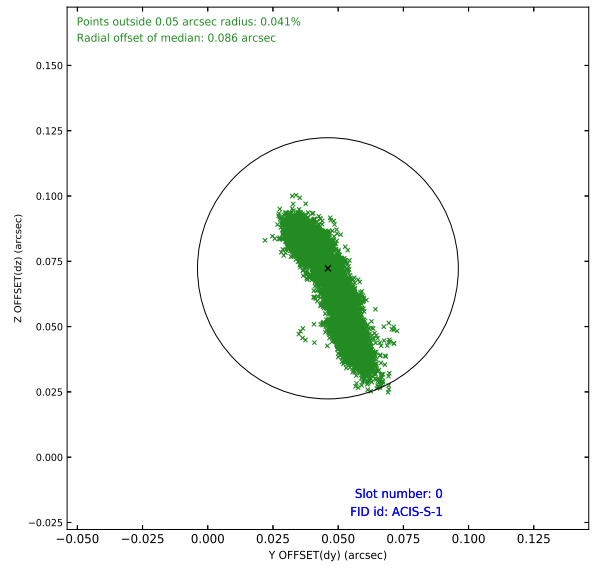
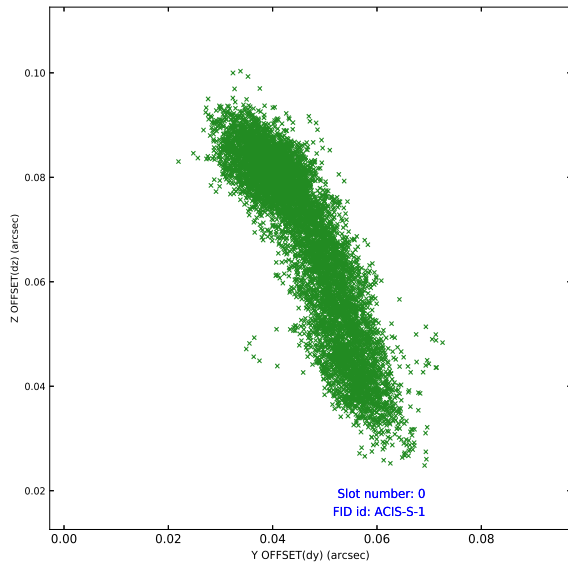


Time (s)

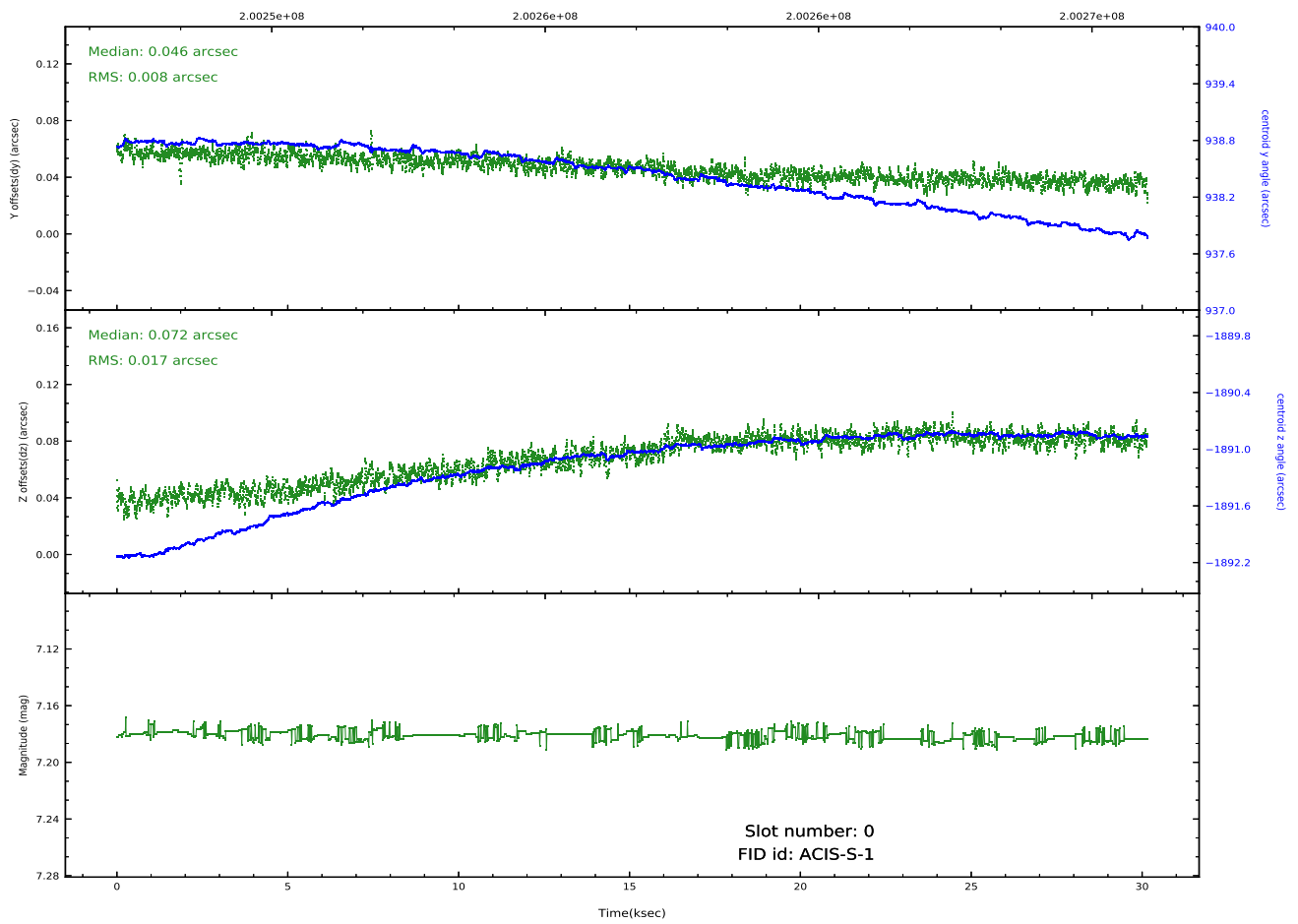


2.5 FID Slots

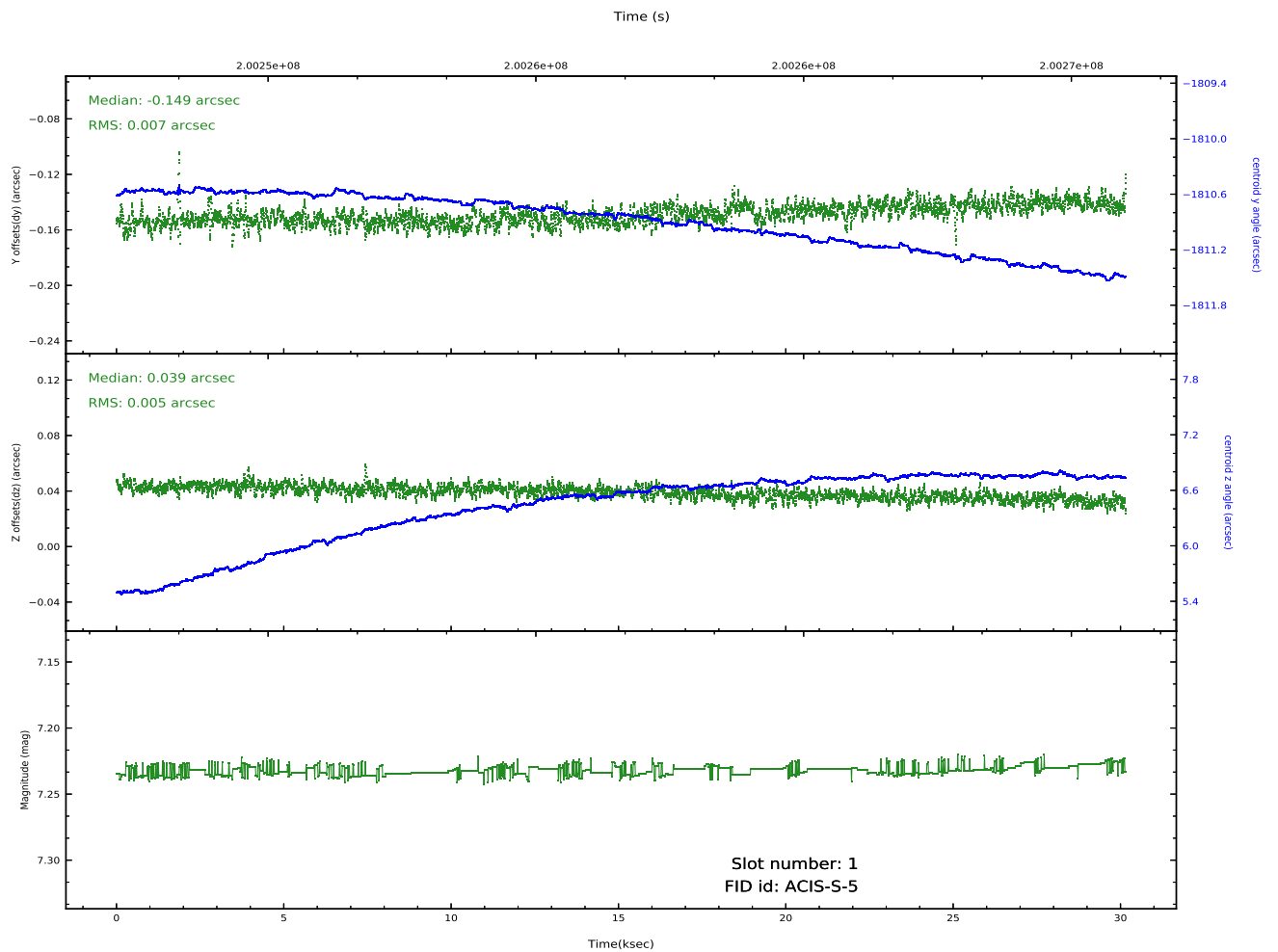
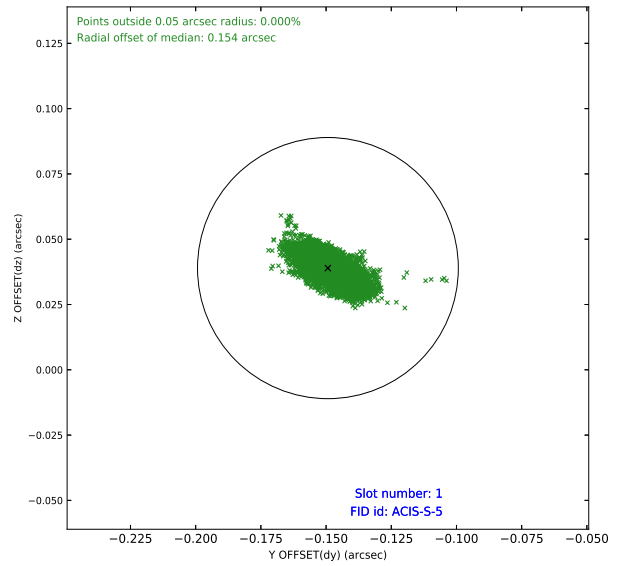
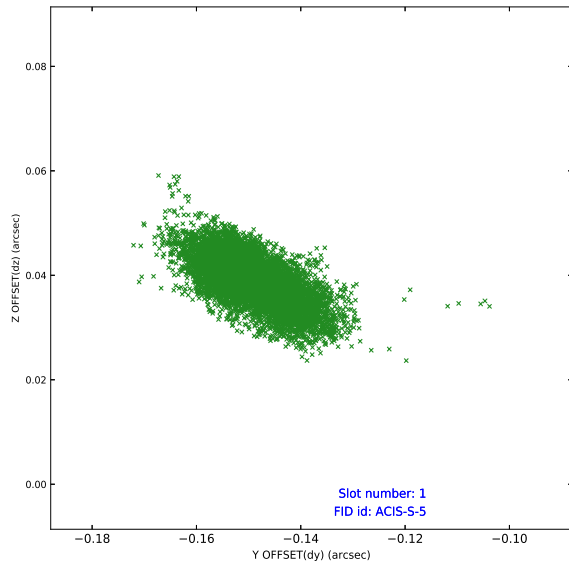
2.5.1 Slot 0



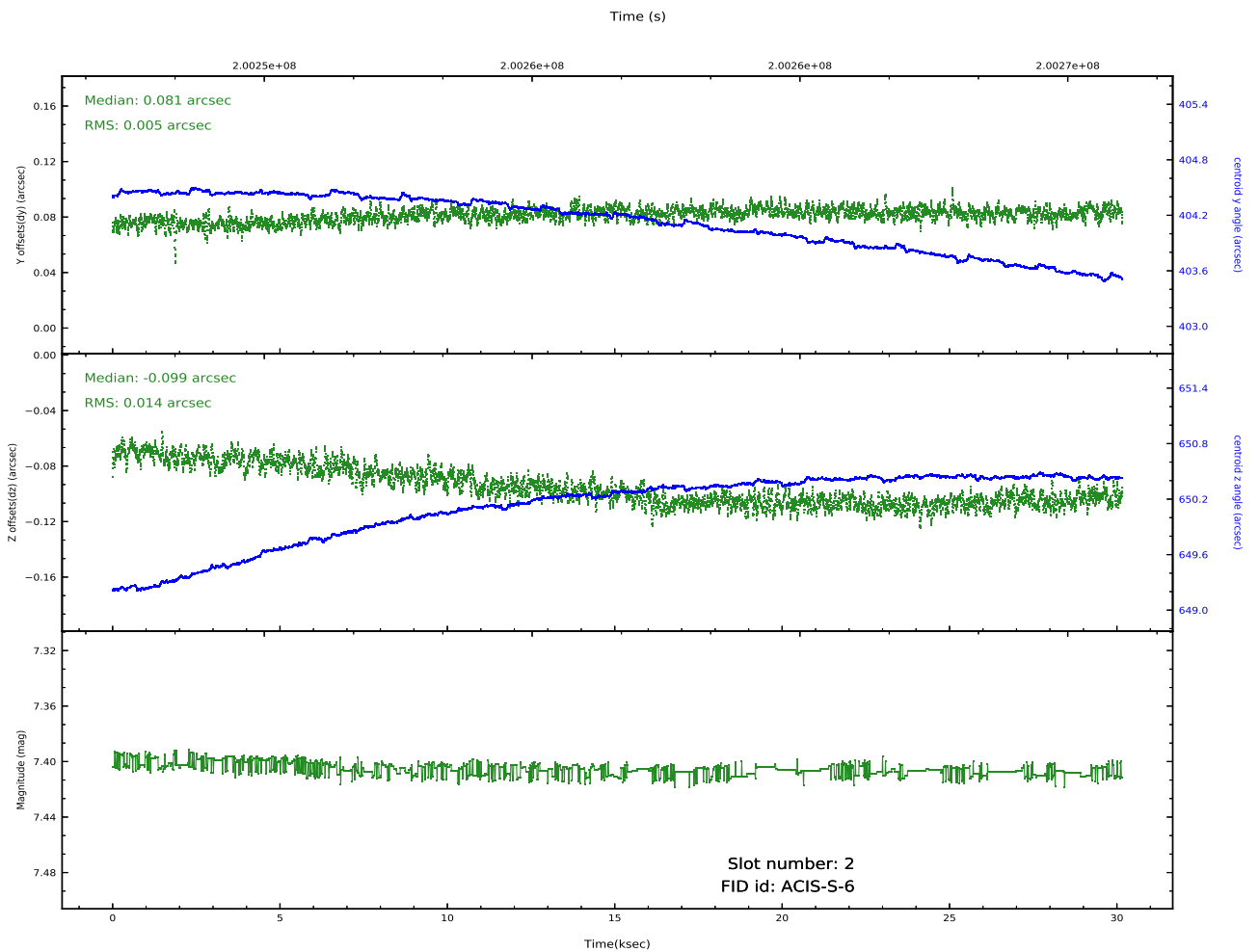
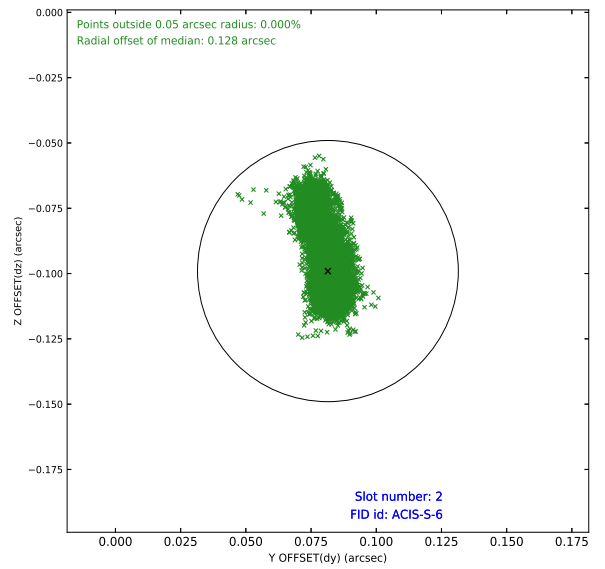
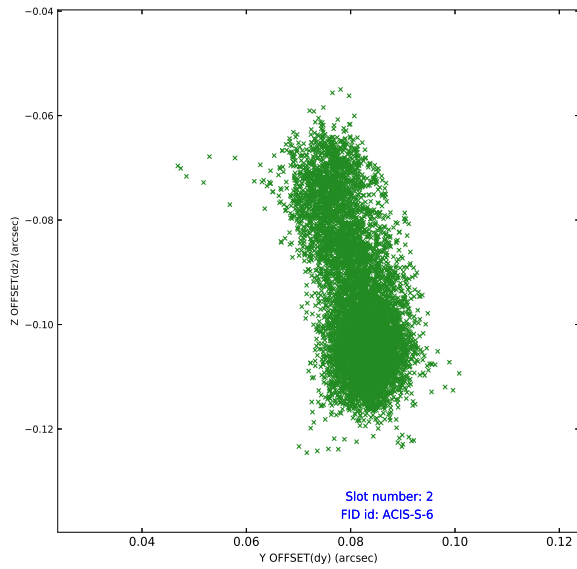
Time (s)



2.5.2 Slot 1

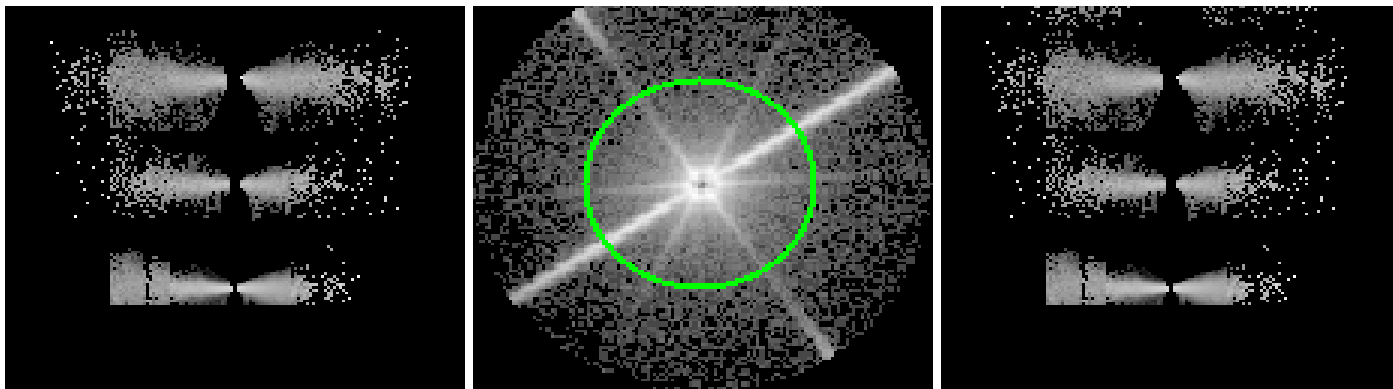


2.5.3 Slot 2



3 Gratings

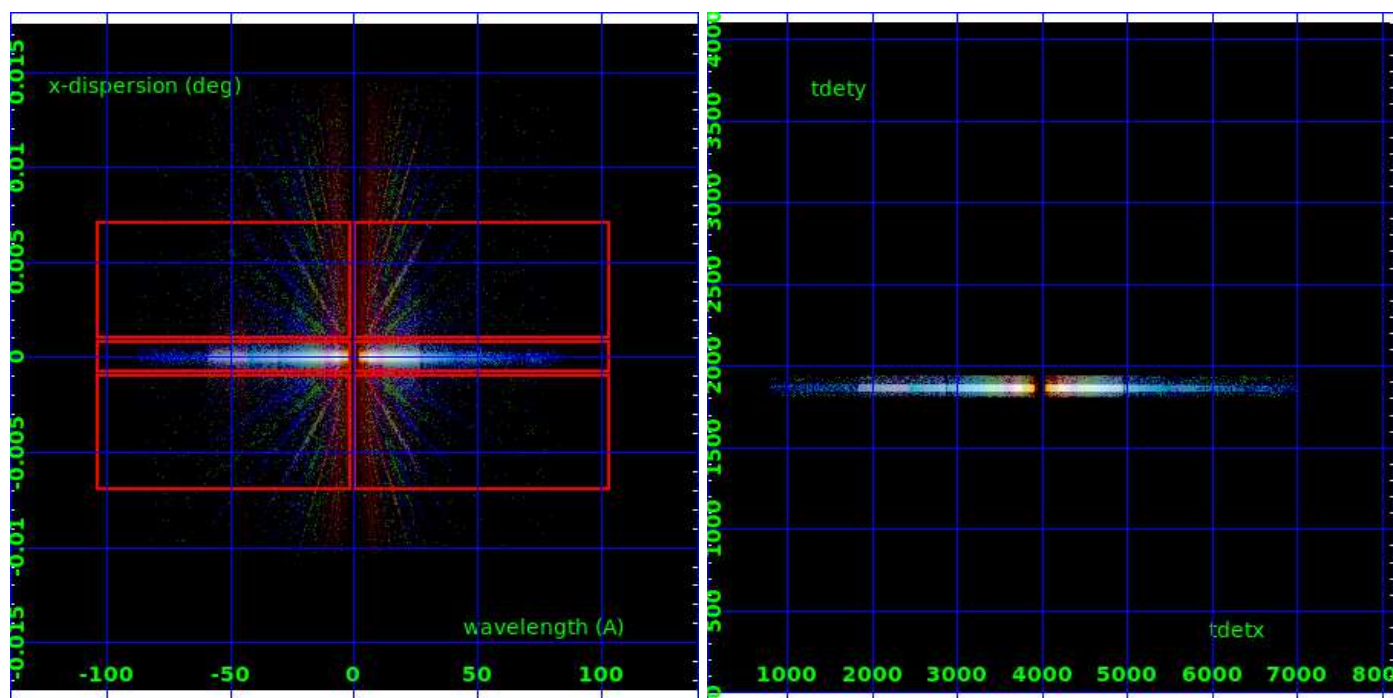
3.1 LETG Arm



LETG Order Sort 123

LETG Zero Order

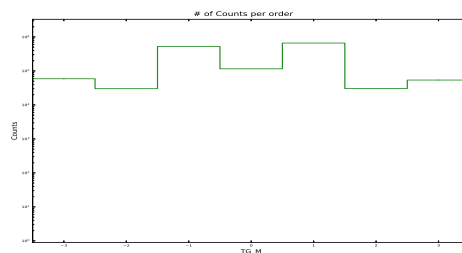
LETG Order Sort ALL

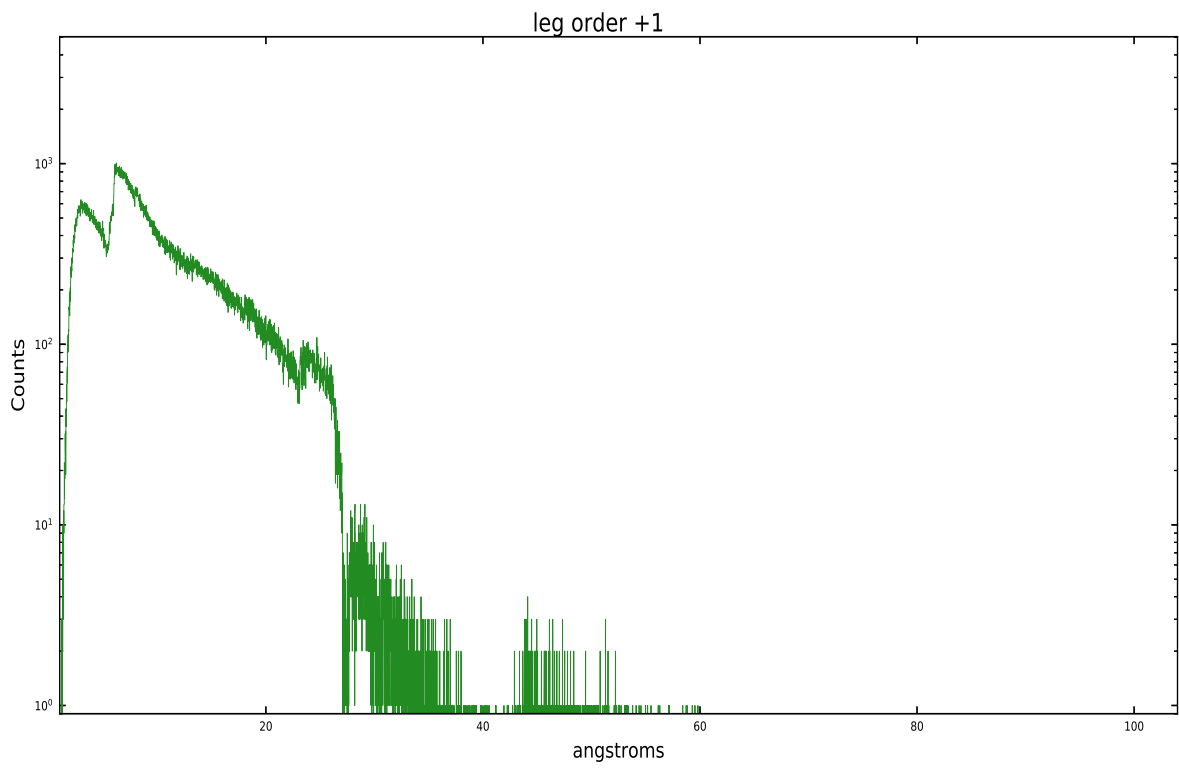
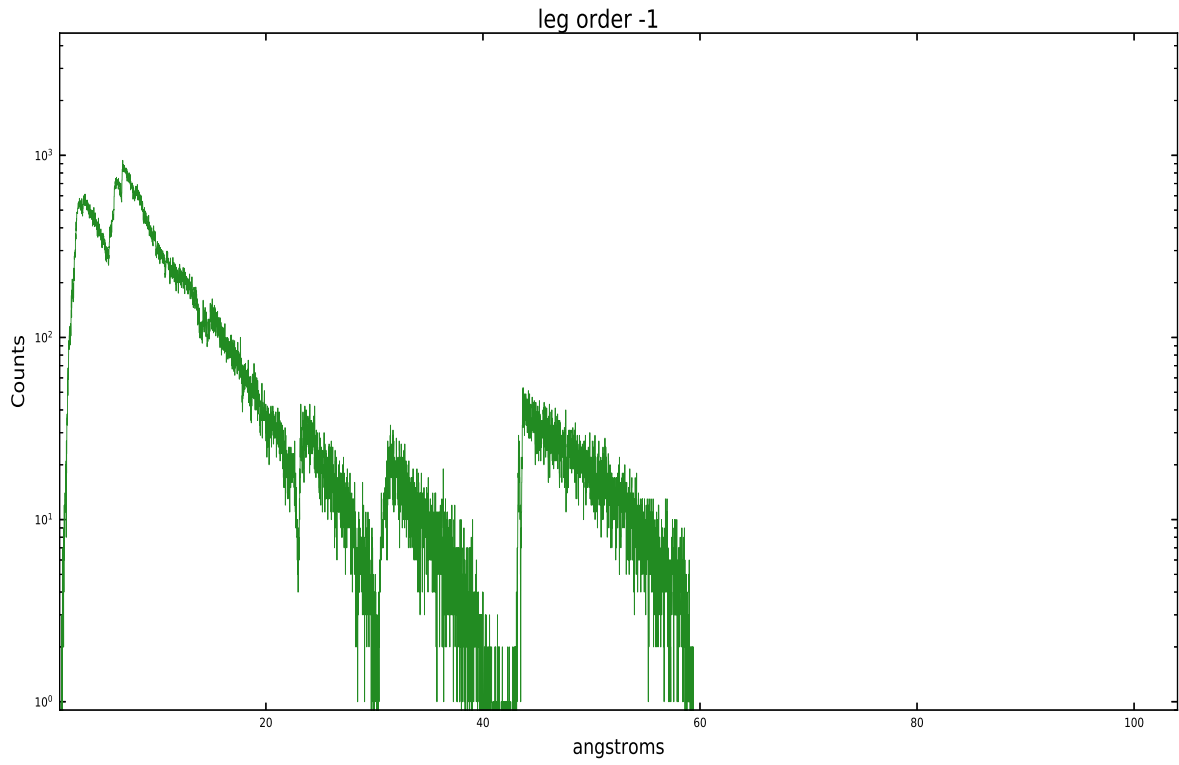


Spot Image LETG

Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	58894	30084	522951	115540	661756	30393	53908





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.09.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.16

A.2 Comments