

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 22342 - L2 Version 1
Chandra X-Ray Center

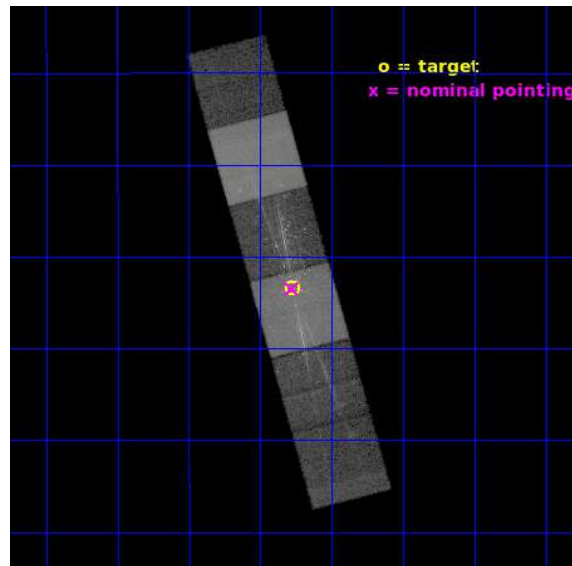
L2 Processing Date : Oct 20 2020

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

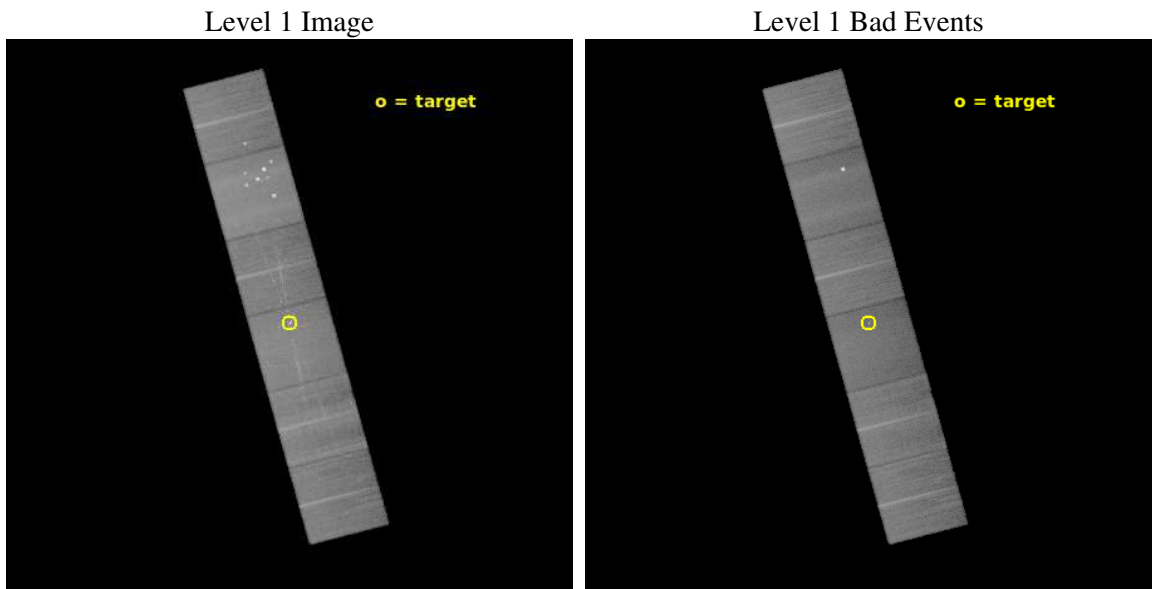
seq_num	201298	Sequence number
obs_id	22342	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.819770364959	Nominal RA [deg]
dec_nom	-5.3914864877009	Nominal Dec [deg]
roll_nom	75.032801171253	Nominal Roll [deg]
revision	1	Processing version of data
ontime	34947.200520754	Sum of GTIs [s]
livetime	34504.678025082	Livetime [s]
ontime4	34943.959440351	Sum of GTIs [s]
ontime5	34947.200520754	Sum of GTIs [s]
ontime6	34943.959389925	Sum of GTIs [s]
ontime7	34947.200520754	Sum of GTIs [s]
ontime8	34947.200520754	Sum of GTIs [s]
ontime9	34947.200520754	Sum of GTIs [s]
l2events	535477	Number of level 2 events



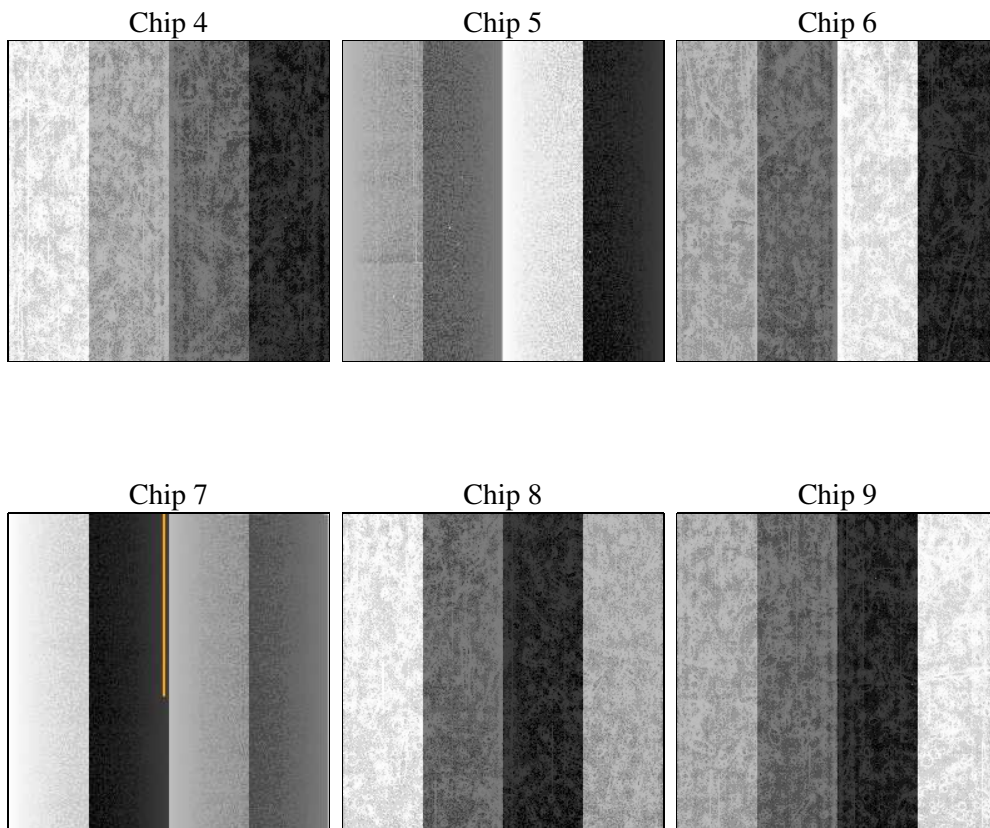
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	34947.200520754	Sum of GTIs [s]
caldbver	4.9.3	 	ontime4	34943.959440351	Sum of GTIs [s]
date	2020-10-20T21:50:19	Date and time of file creation	ontime5	34947.200520754	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	34943.959389925	Sum of GTIs [s]
			ontime7	34947.200520754	Sum of GTIs [s]
			ontime8	34947.200520754	Sum of GTIs [s]
			ontime9	34947.200520754	Sum of GTIs [s]
			l1events	2157161	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			z0_pos	(4103.61 4110.50)	src1a sky pixel position

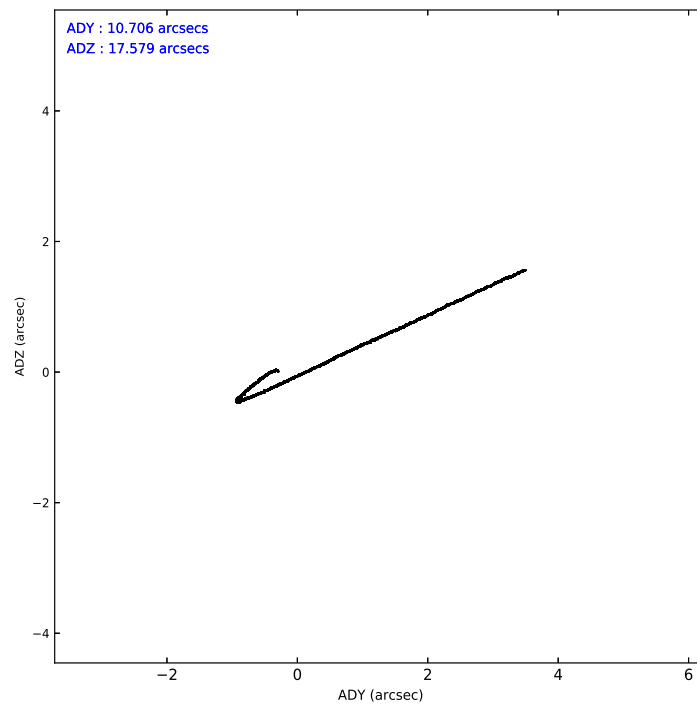
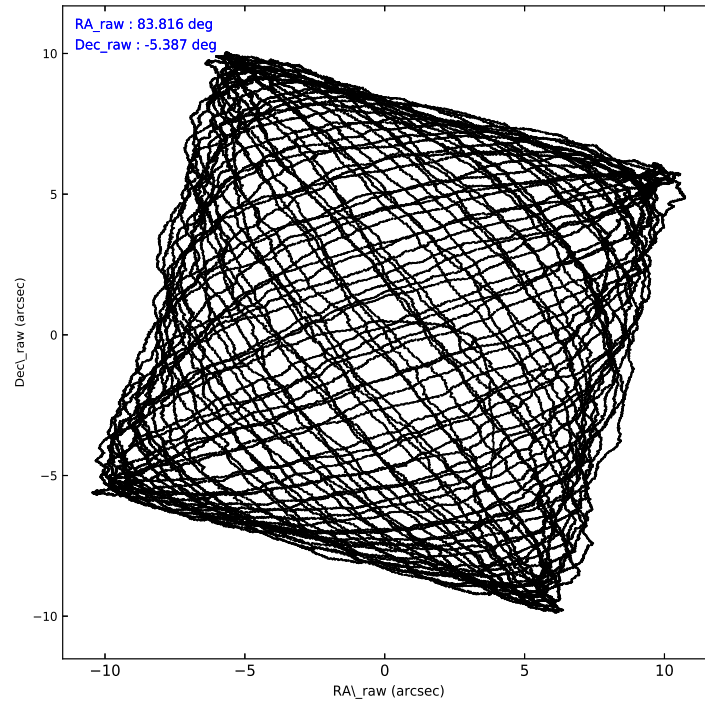
2.1.4 Events

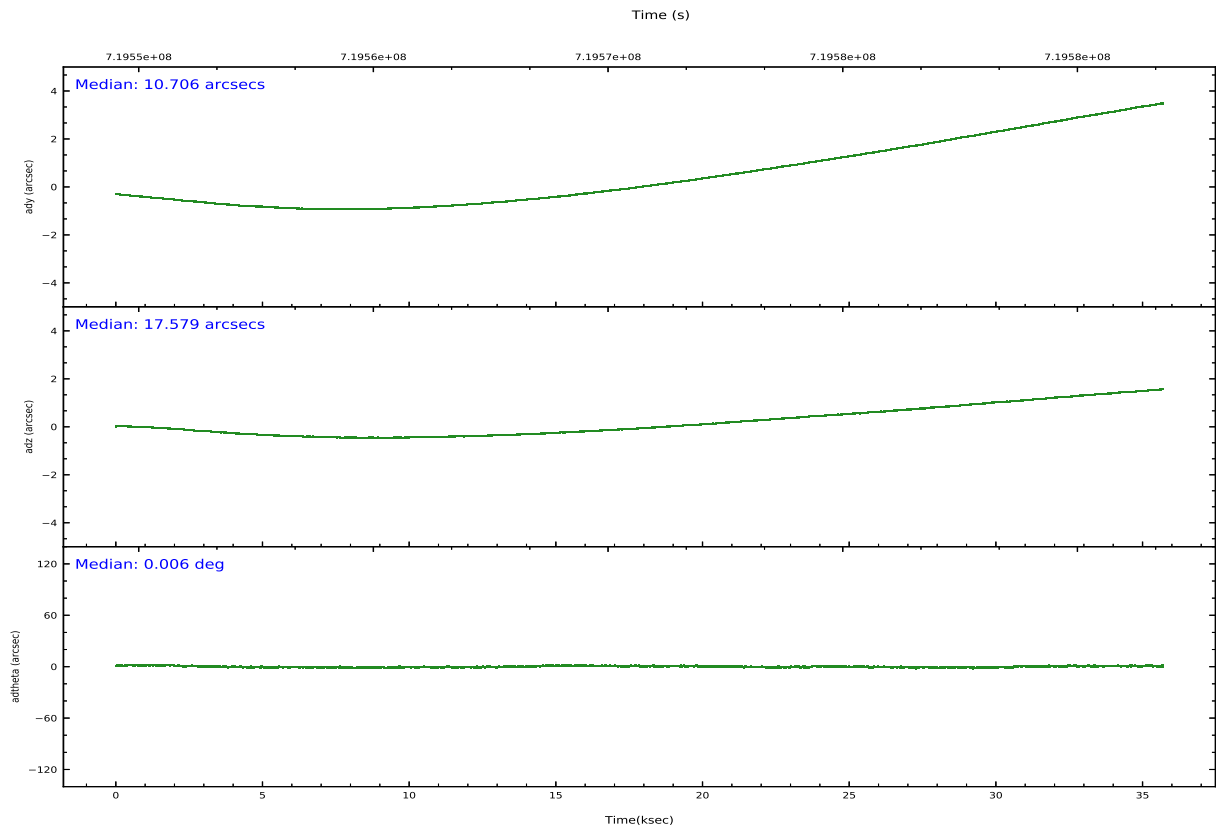
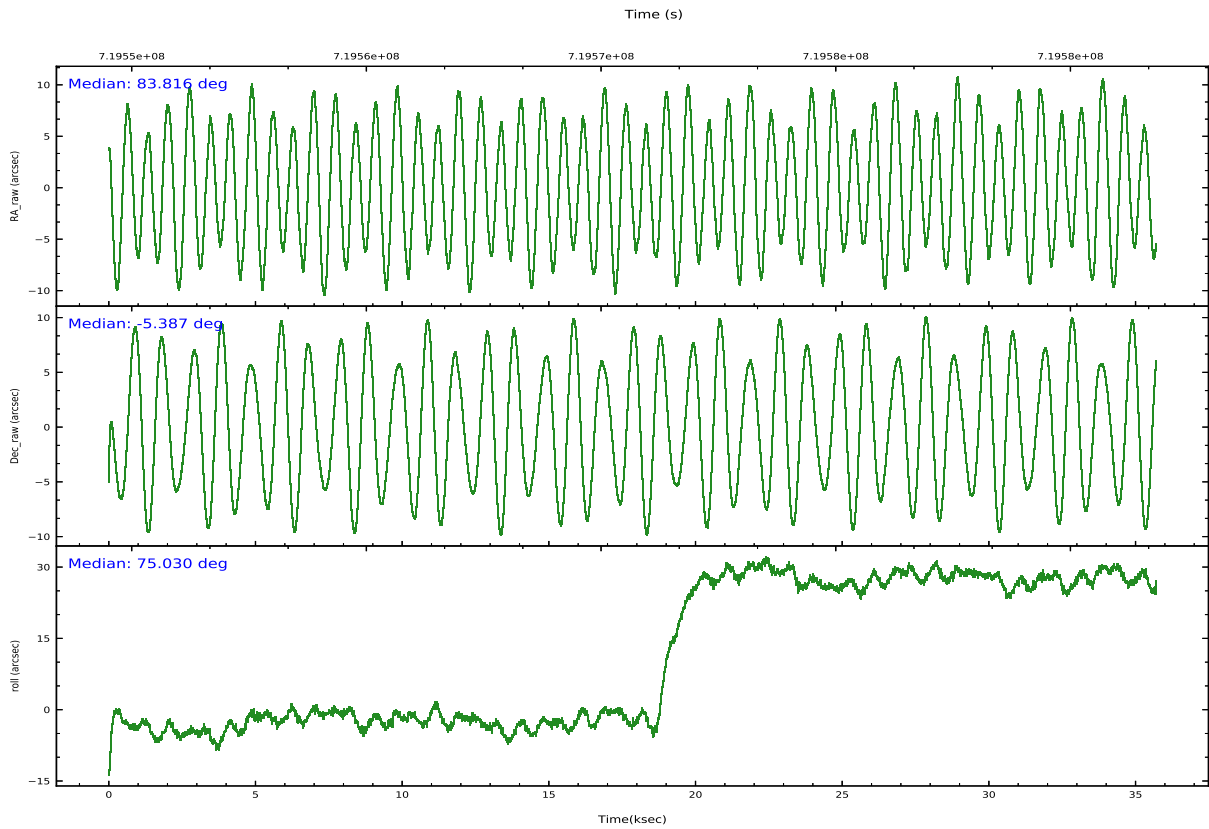
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	327008	487211	311462	393087	357210	281183	grade 0 events	15204	36016	27359	20724	32153	12658
rejected events	292080	245320	254719	202496	258682	246257		4%	7%	8%	5%	9%	4%
rejected %	89%	50%	81%	51%	72%	87%	grade 1 events	349	1379	201	673	292	183
								0%	0%	0%	0%	0%	0%
							grade 2 events	7495	73597	13222	42778	22938	8440
								2%	15%	4%	10%	6%	3%
							grade 3 events	3421	7167	3323	15344	9550	3011
								1%	1%	1%	3%	2%	1%
							grade 4 events	3269	6077	3222	15216	8849	2831
								0%	1%	1%	3%	2%	1%
							grade 5 events	12912	27384	11282	33439	18031	13205
								3%	5%	3%	8%	5%	4%
							grade 6 events	5539	119051	9627	96552	25045	7991
								1%	24%	3%	24%	7%	2%
							grade 7 events	278819	216540	243226	168361	240352	232864
								85%	44%	78%	42%	67%	82%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.823160	83.819770364959	CCD I2 on	N	N
[deg] Pointing Dec	-5.413424	-5.3914864877009	CCD I3 on	N	N
[deg] Pointing Roll	74.882360	75.032801171253	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	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)	719551922.184000	719550545.44365	CCD S5 on	O2	Y
Observation start date	2020-10-20T03:30:53	2020-10-20T03:09:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	719586922.184000	719587694.52092	On-chip summing requested	N	N
Observation end date	2020-10-20T13:14:13	2020-10-20T13:28:14	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect





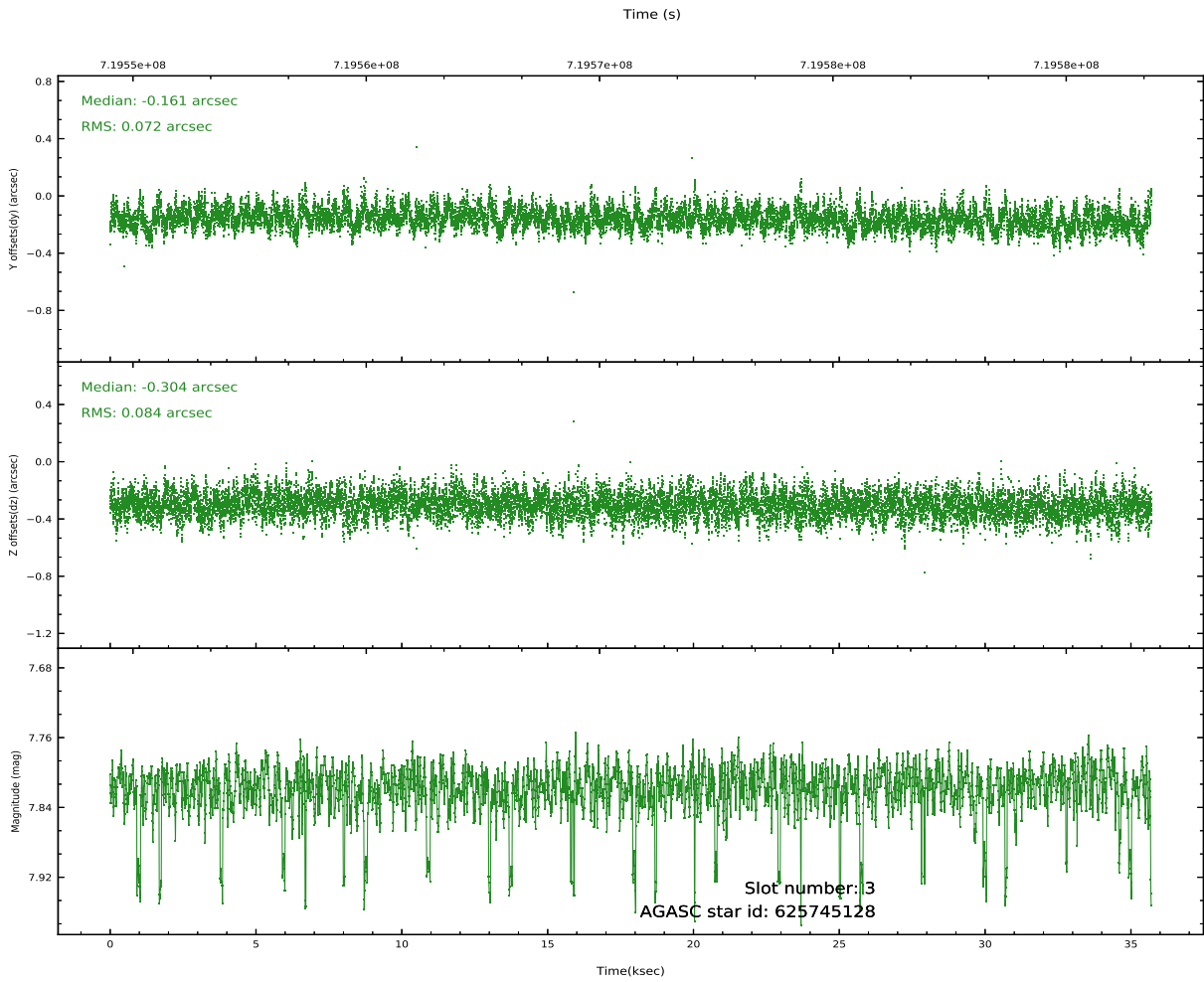
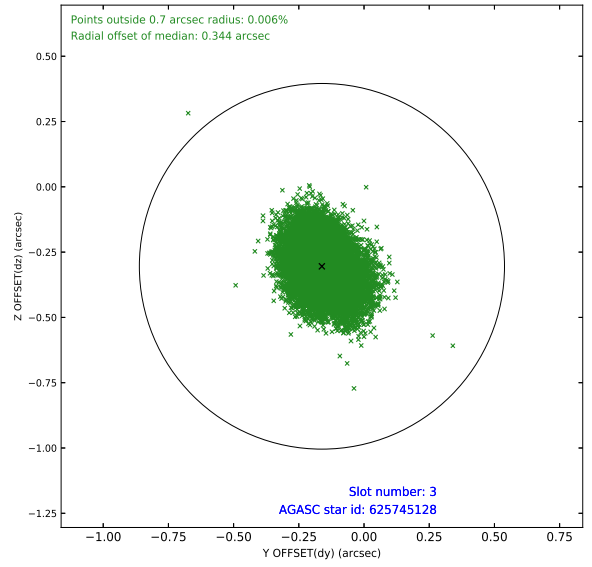
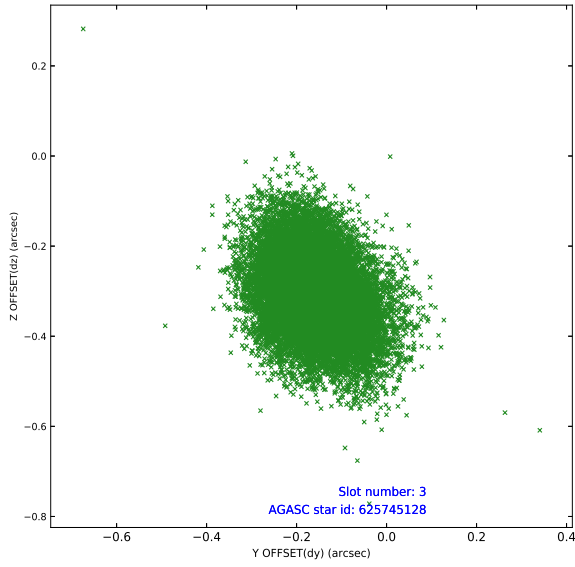
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.08	8708	1.000	0.174	-0.092	0.034	0.055	0.000000	0.000000	-764.21	-1739
1	FID		ACIS-S-4	7.22	8707	1.000	0.116	-0.060	0.025	0.047	0.000000	0.000000	2149.30	168
2	FID		ACIS-S-5	7.21	8707	1.000	-0.311	0.161	0.029	0.088	0.000000	0.000000	-1817.19	163
3	GUIDE	used	625745128	7.82	17414	1.000	-0.161	-0.304	0.116	0.193	83.769930	-4.731835	2319.09	824
4	GUIDE	used	625745136	7.20	17414	1.000	-0.350	-0.195	0.121	0.196	83.600341	-4.804339	1908.51	1343
5	GUIDE	used	625874672	7.65	17414	1.000	0.177	0.092	0.157	0.273	84.403143	-4.934124	2207.94	-1558
6	GUIDE	used	626272760	6.62	17415	1.000	0.289	0.143	0.143	0.223	84.363987	-5.938389	-1319.69	-2362
7	GUIDE	used	626272976	7.93	17396	1.000	0.033	0.272	0.146	0.234	83.795875	-5.926912	-1809.86	-387

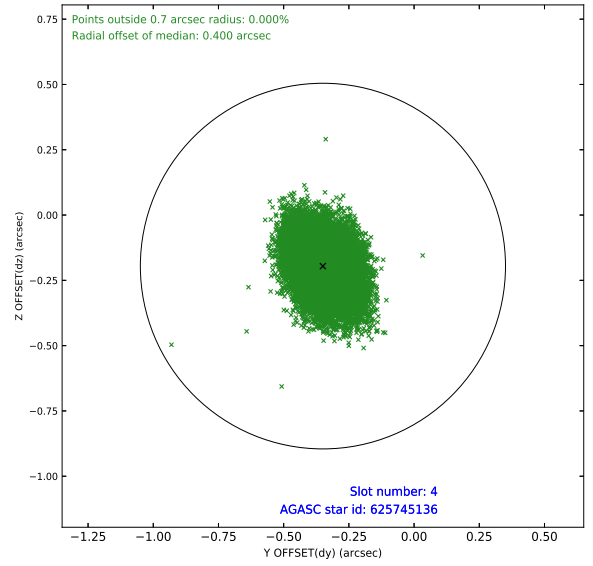
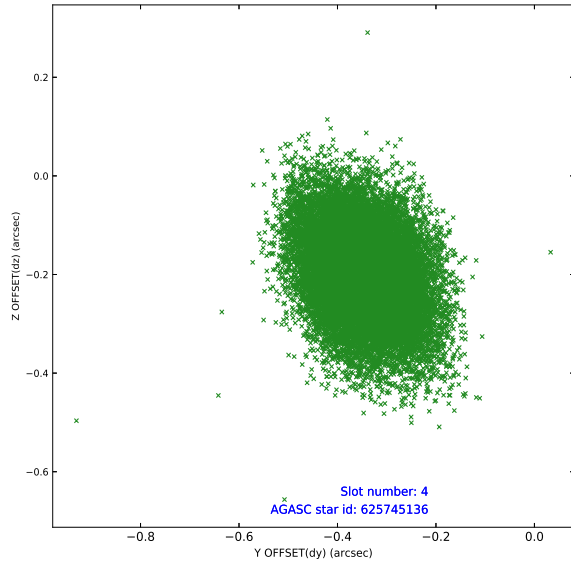
∞

2.4 Star Slots

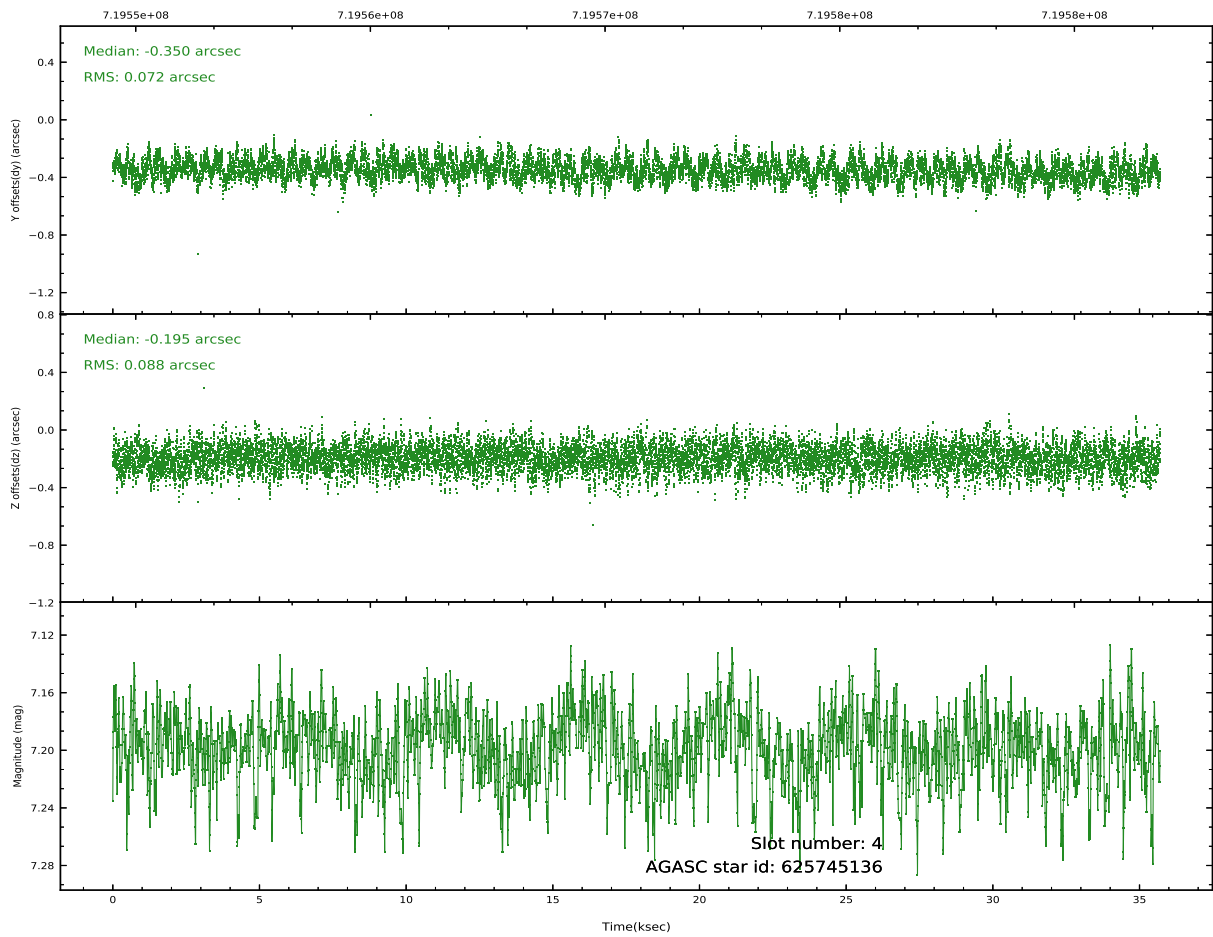
2.4.1 Slot 3



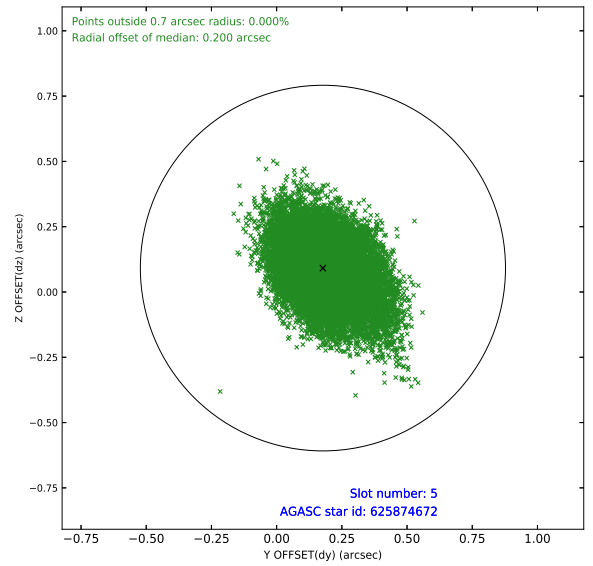
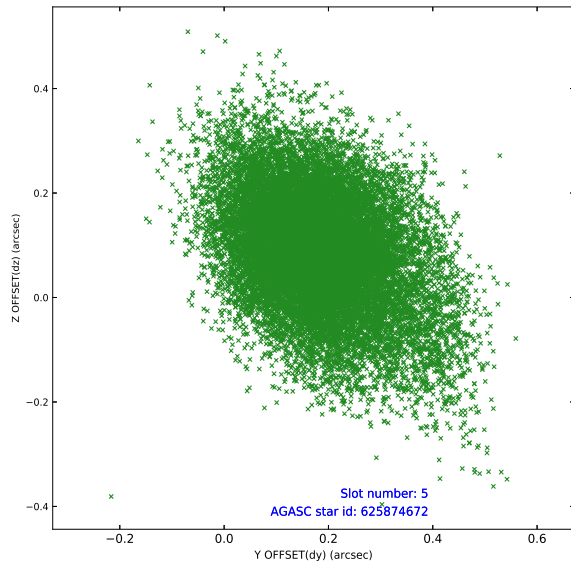
2.4.2 Slot 4



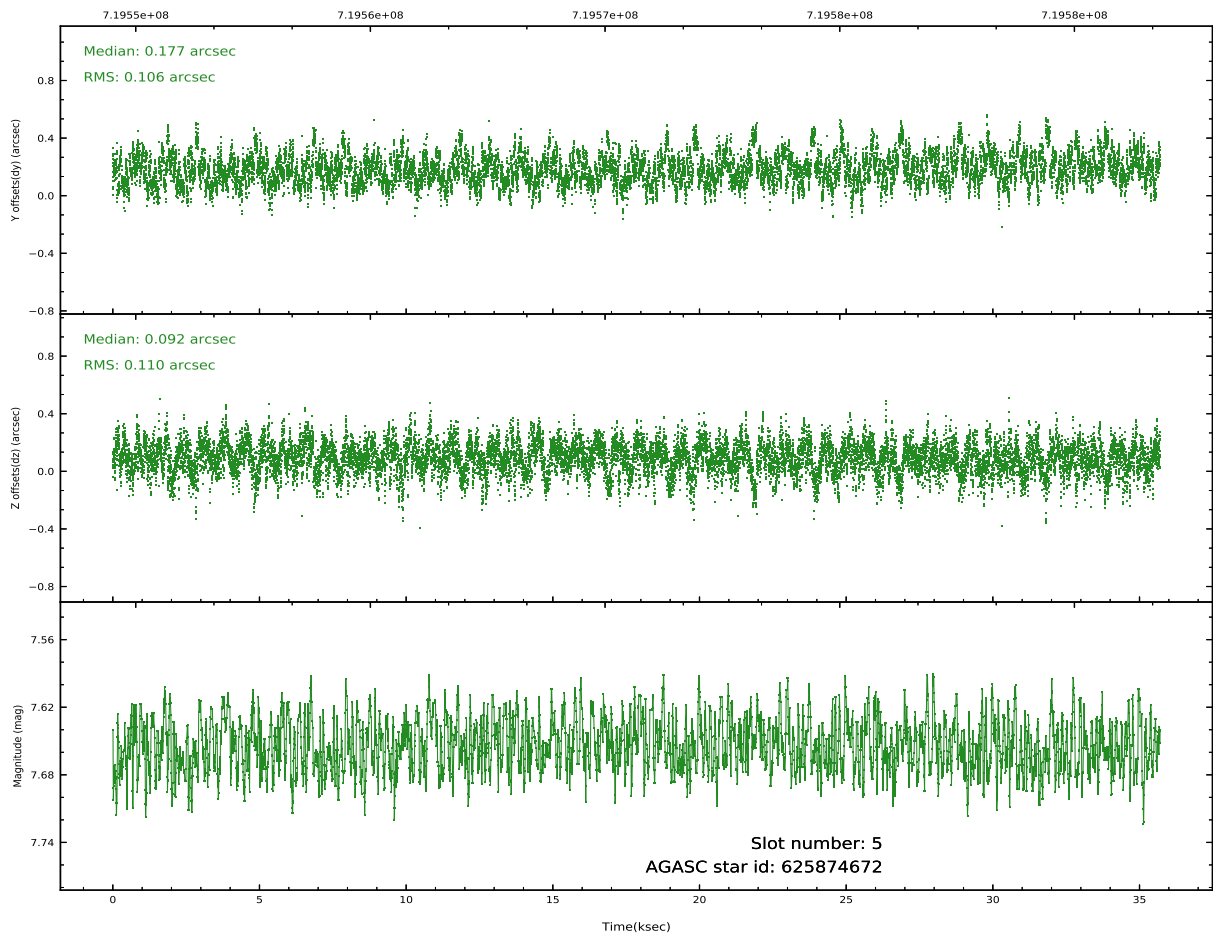
Time (s)



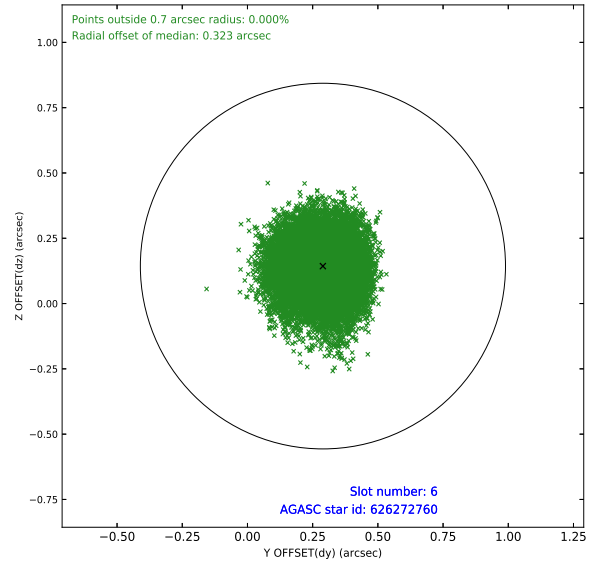
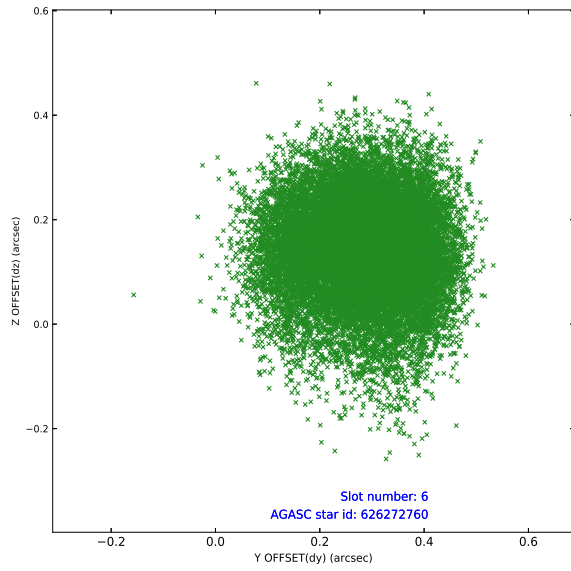
2.4.3 Slot 5



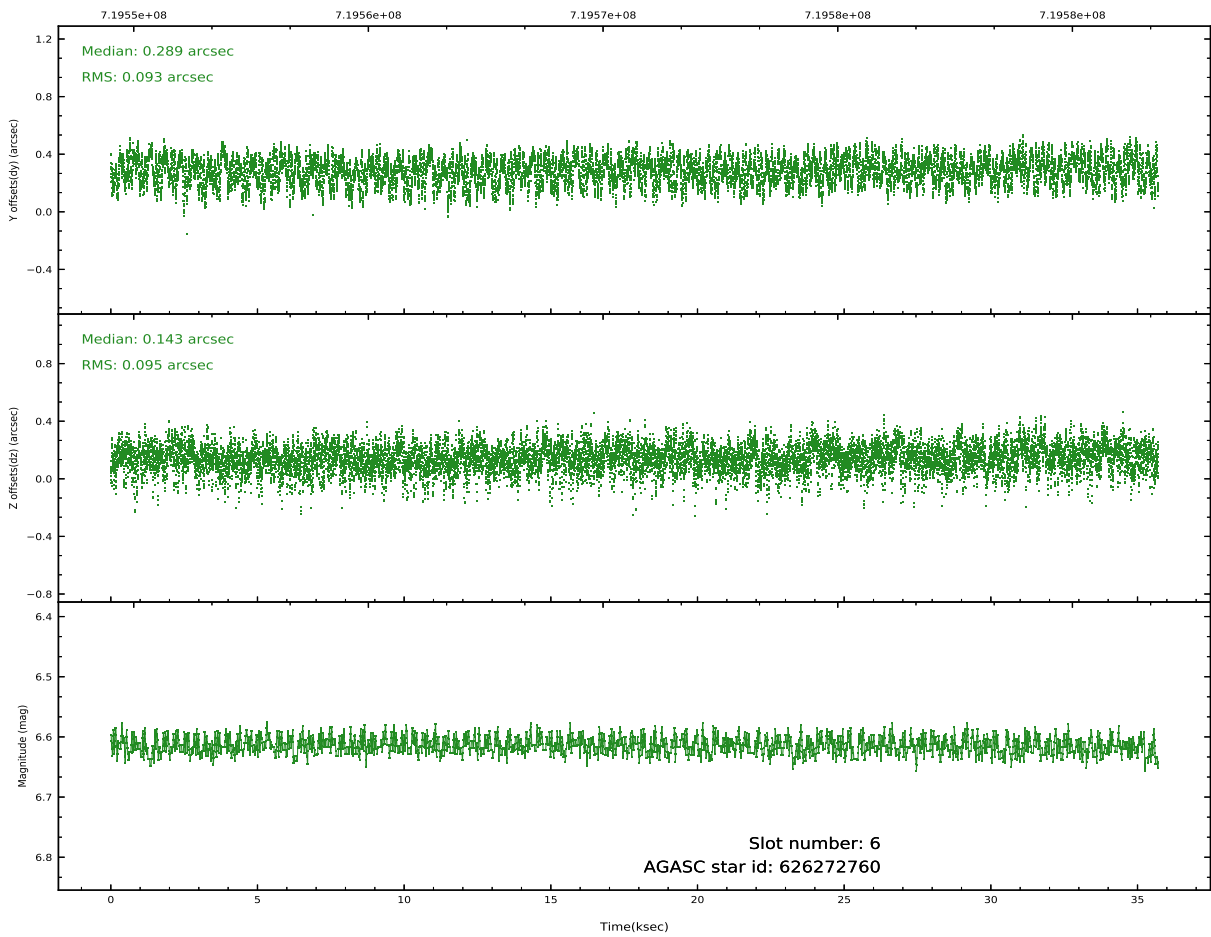
Time (s)



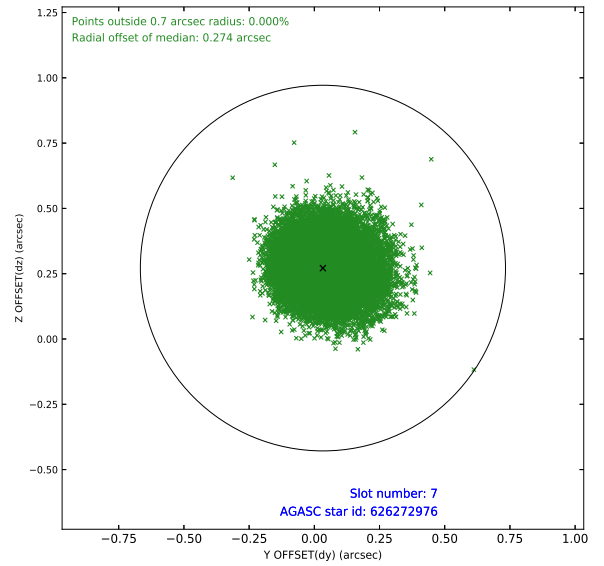
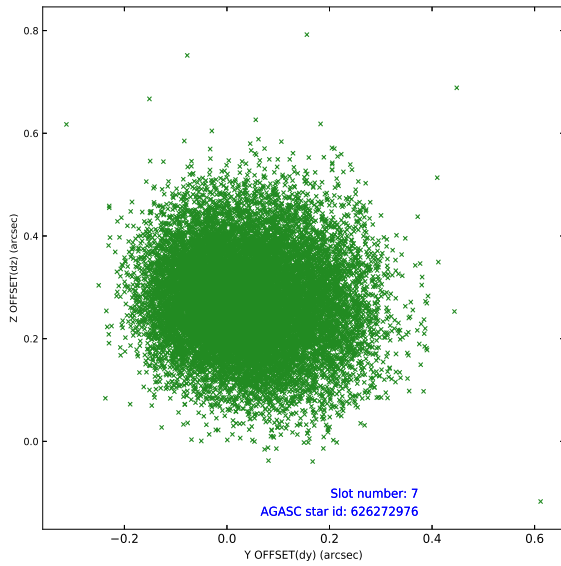
2.4.4 Slot 6



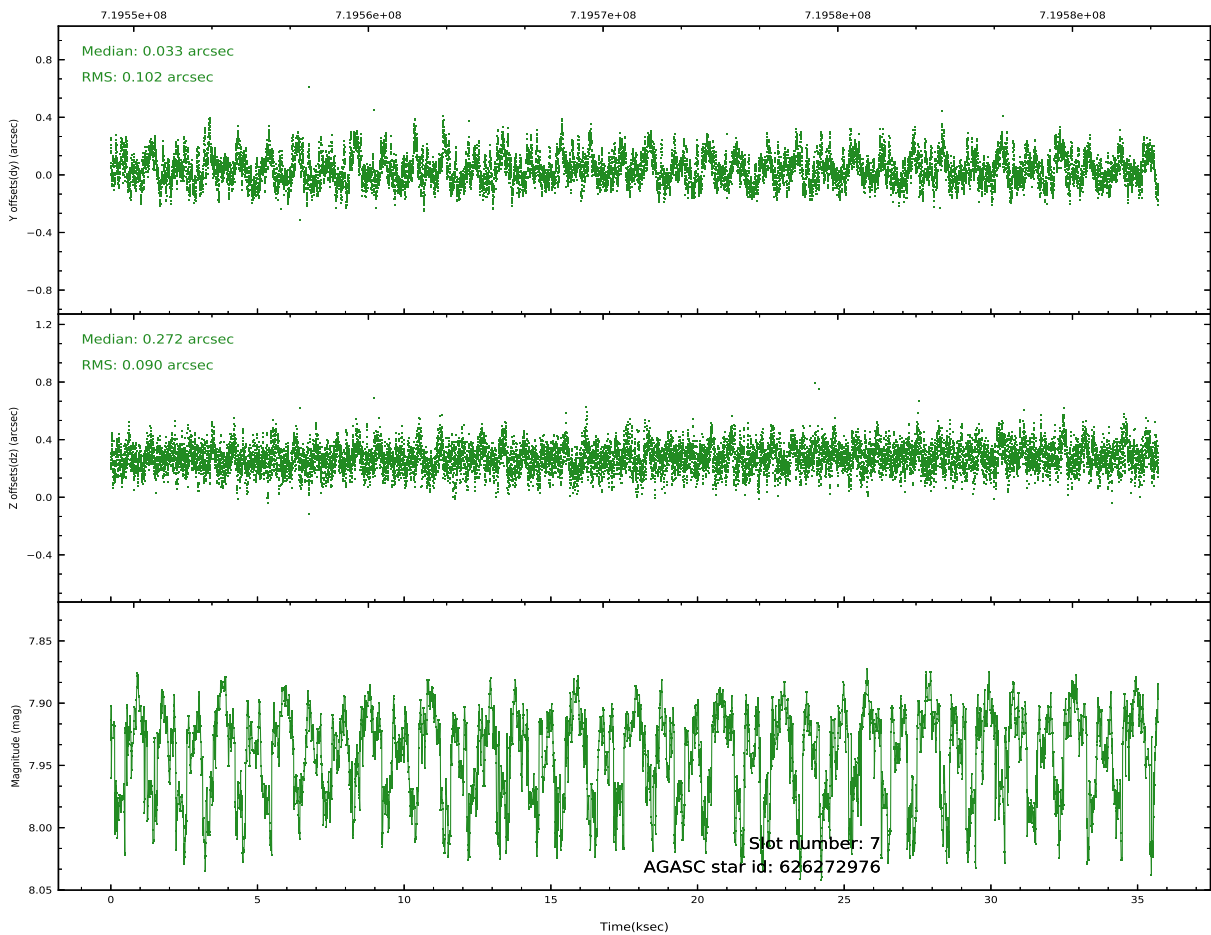
Time (s)



2.4.5 Slot 7

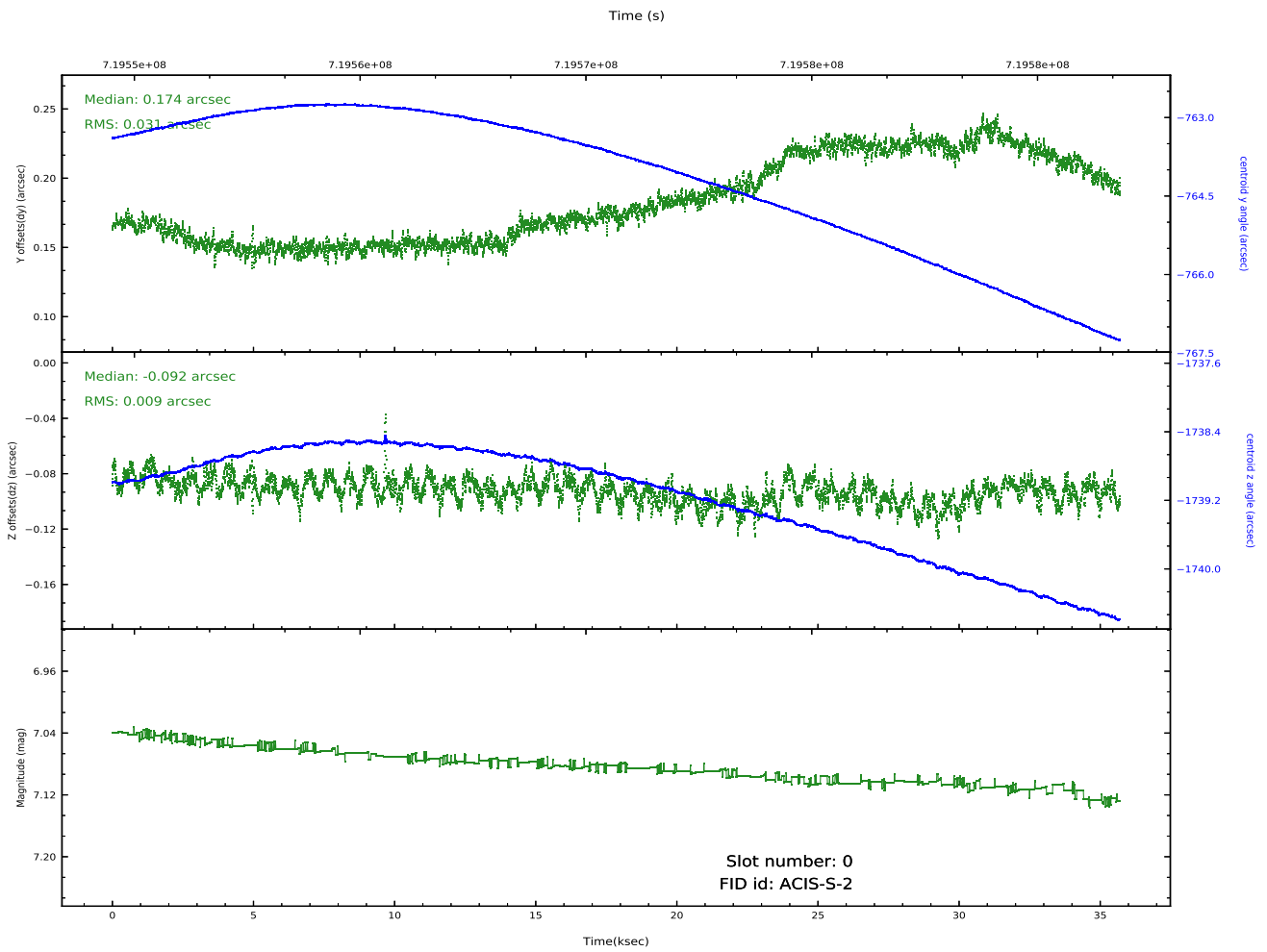
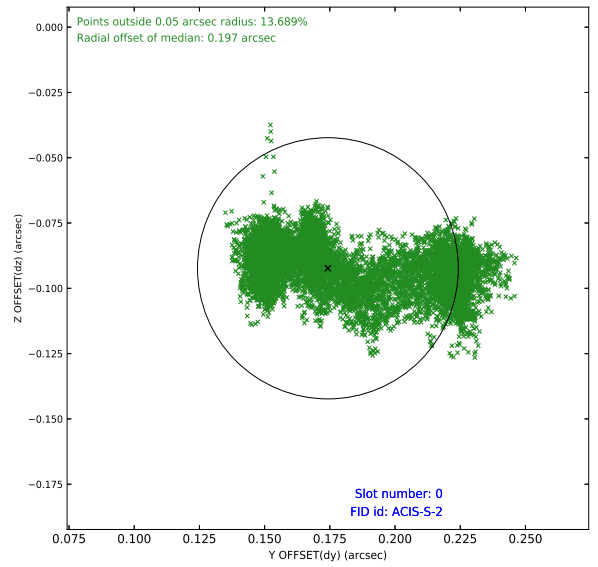
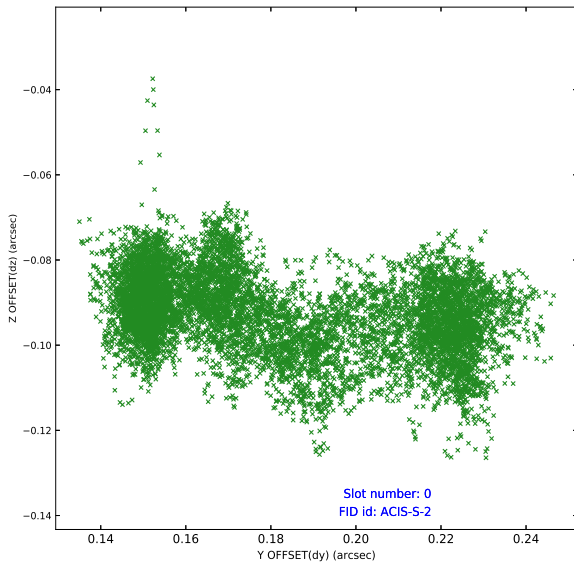


Time (s)

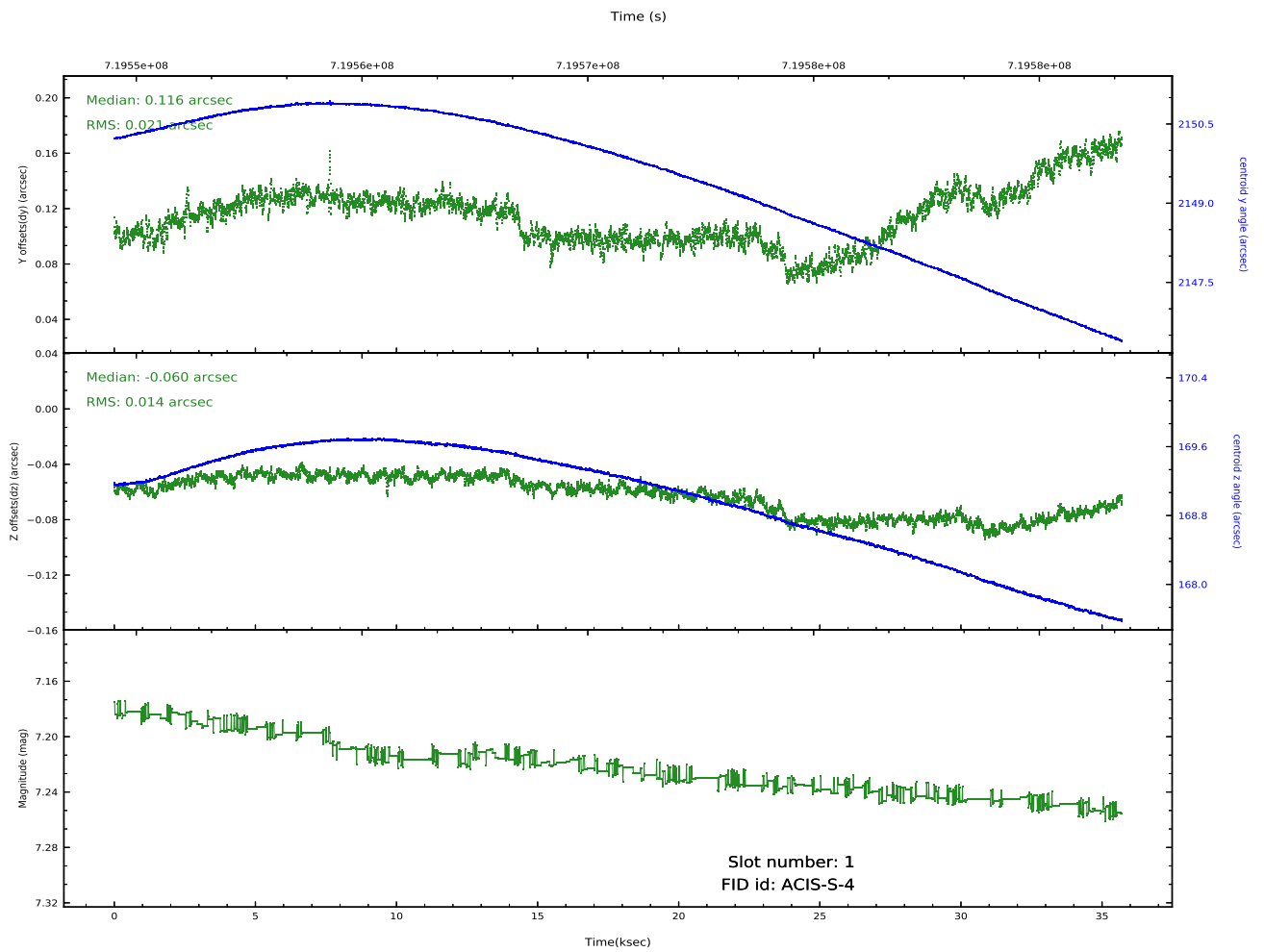
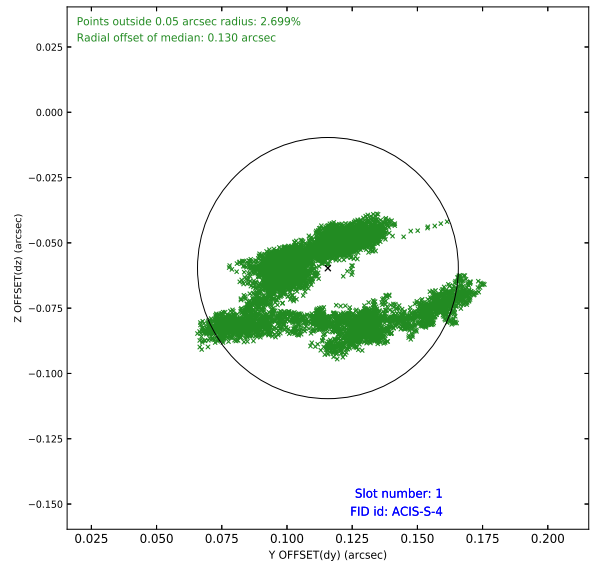
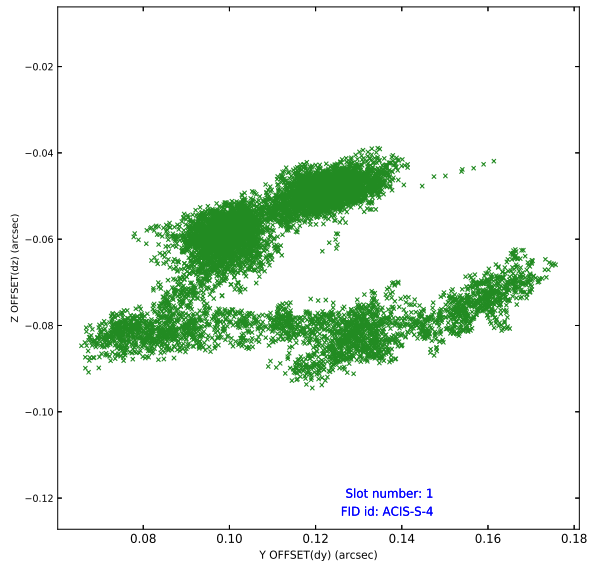


2.5 FID Slots

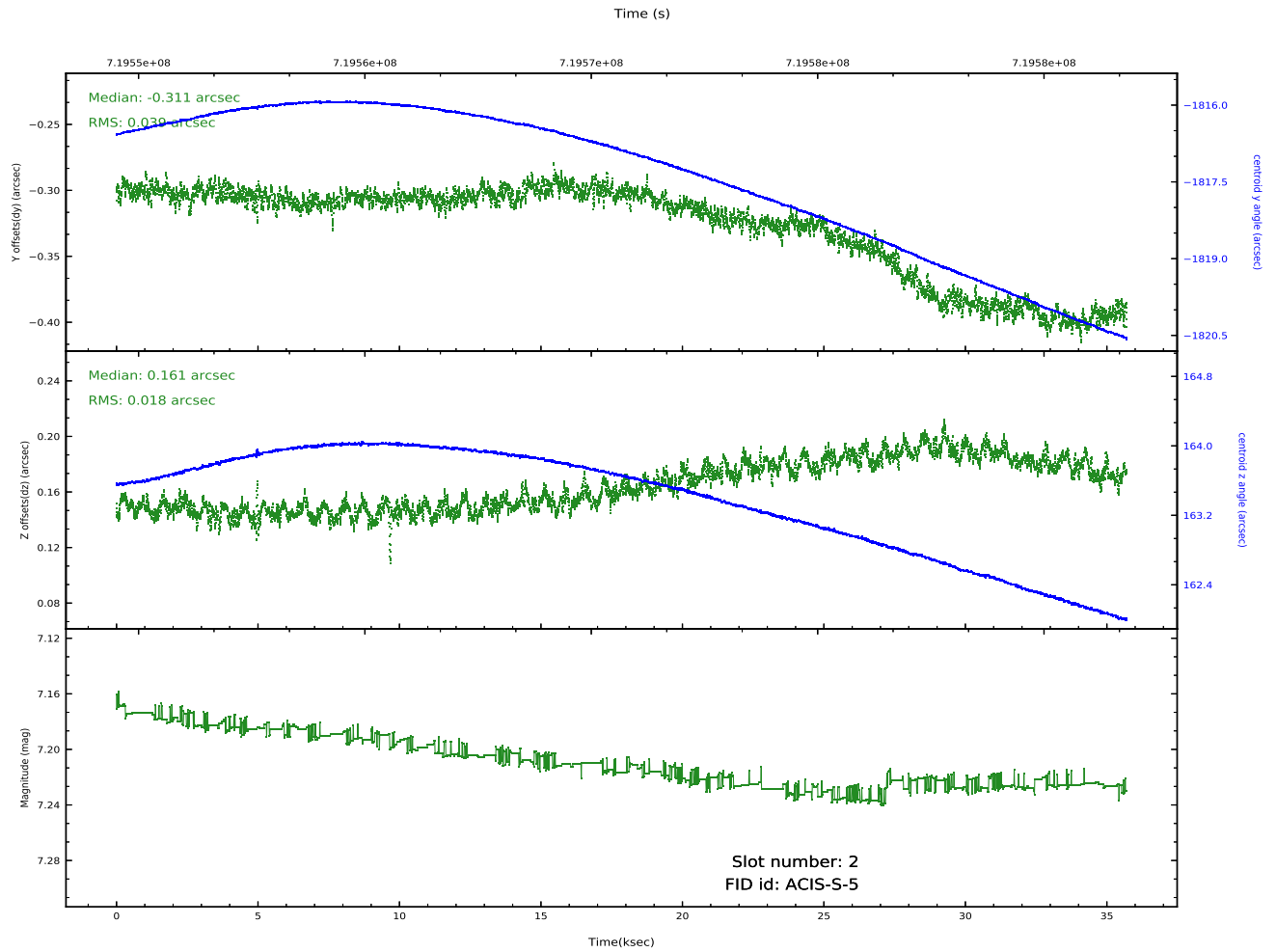
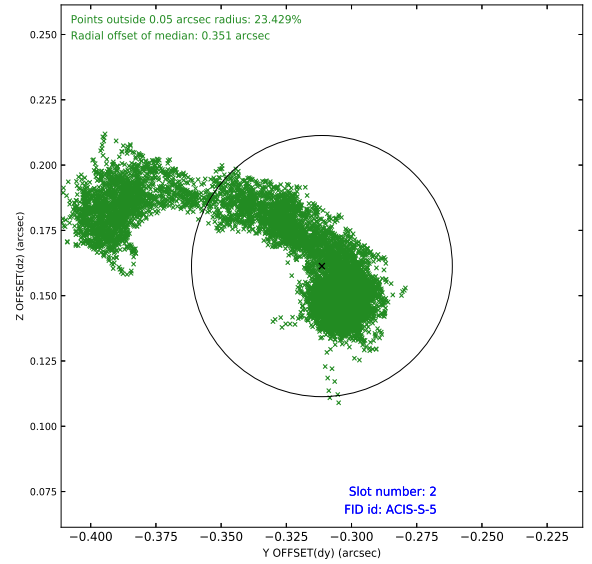
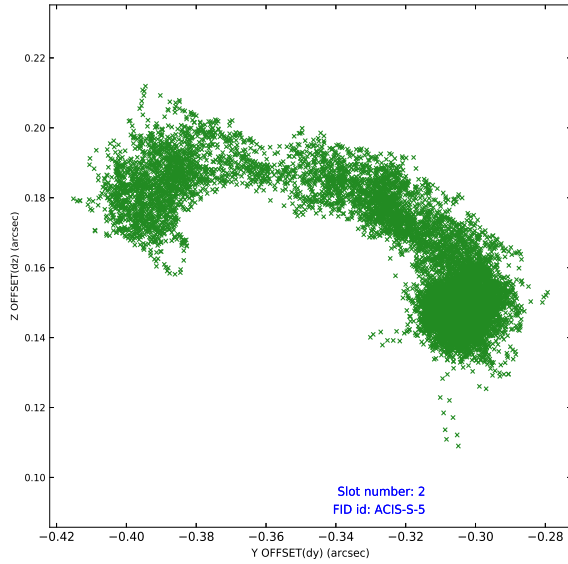
2.5.1 Slot 0



2.5.2 Slot 1

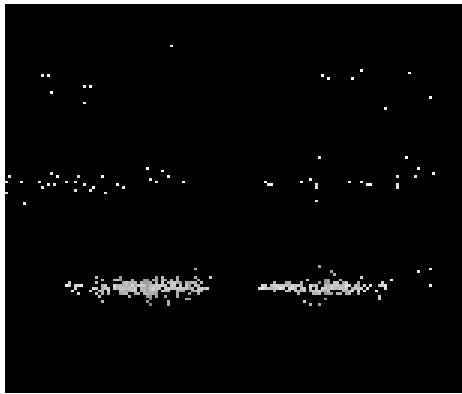


2.5.3 Slot 2

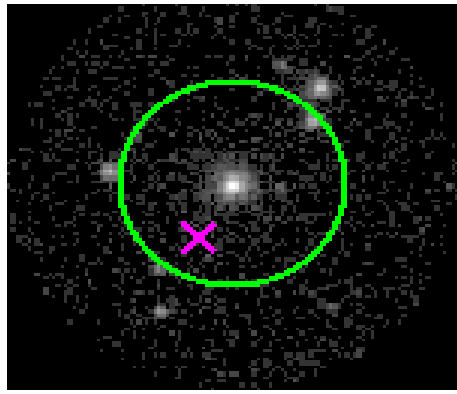


3 Gratings

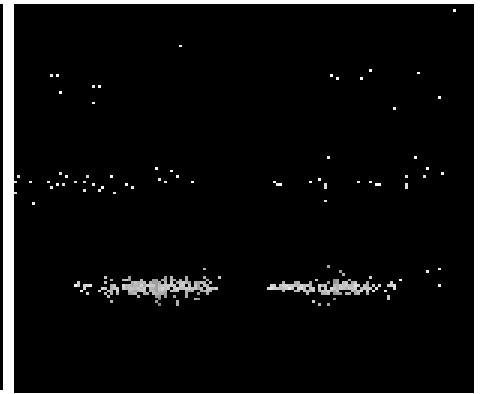
3.1 HEG Arm



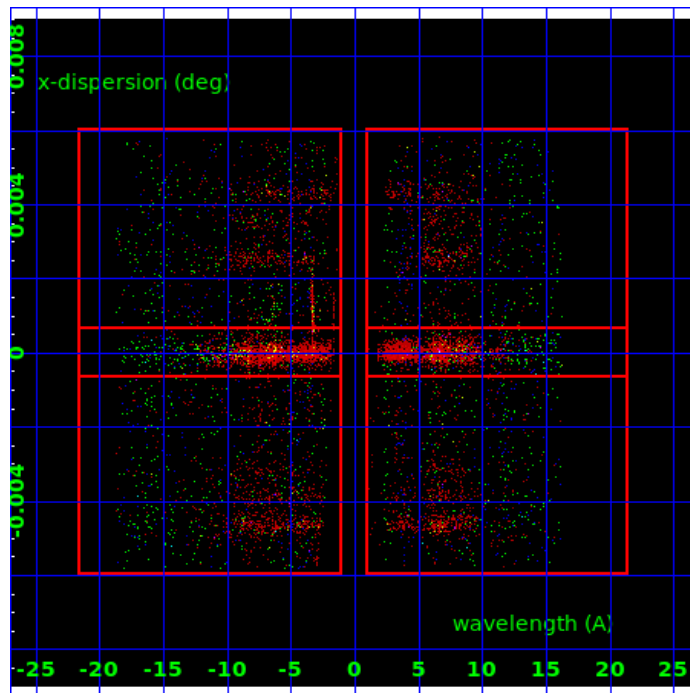
HEG Order Sort 123



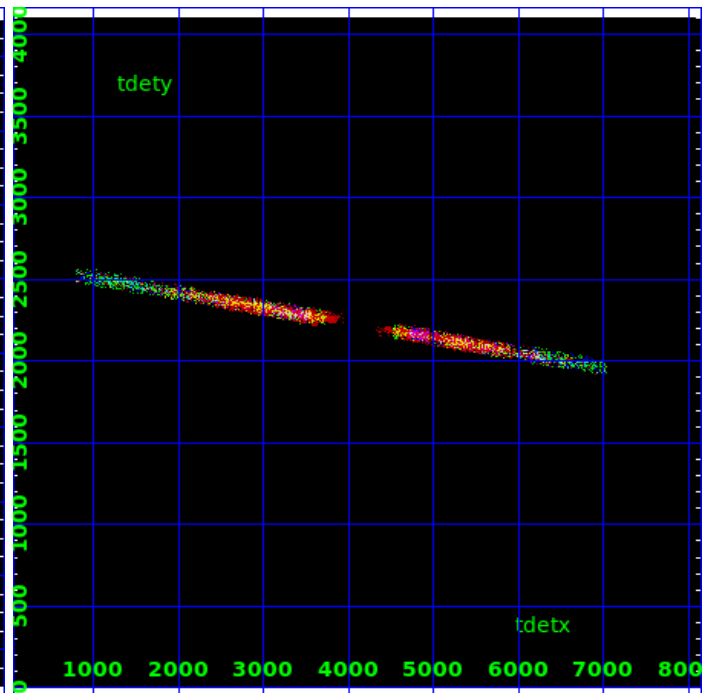
HEG Zero Order



HEG Order Sort ALL

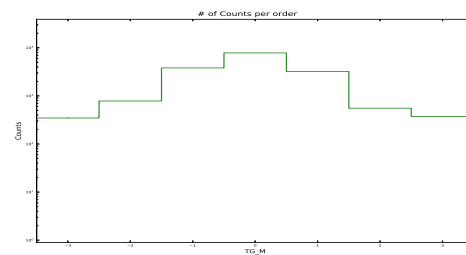


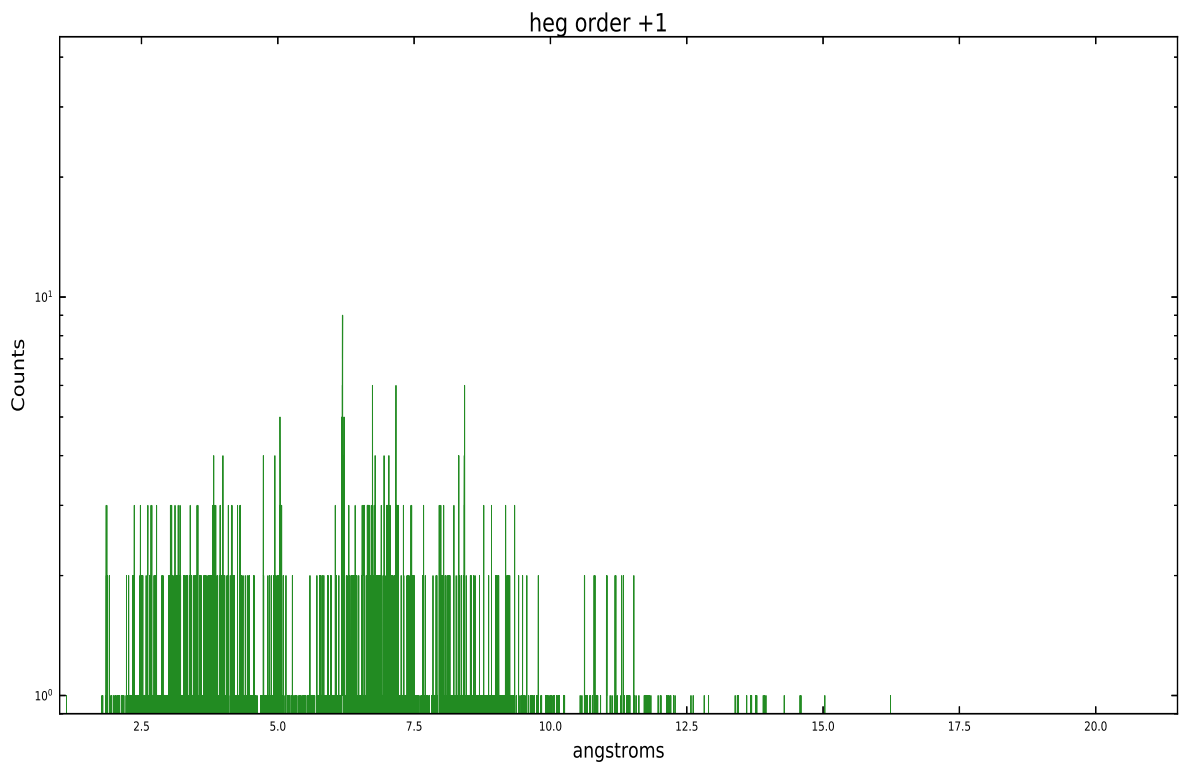
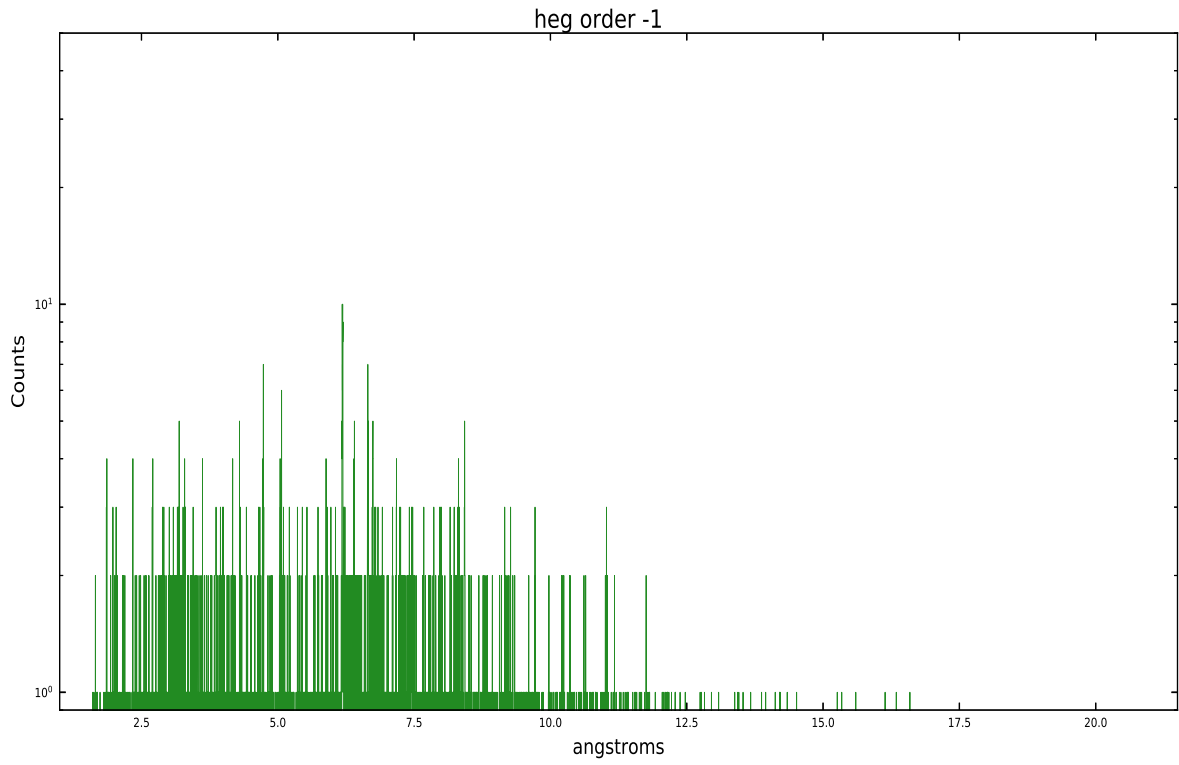
Spot Image HEG



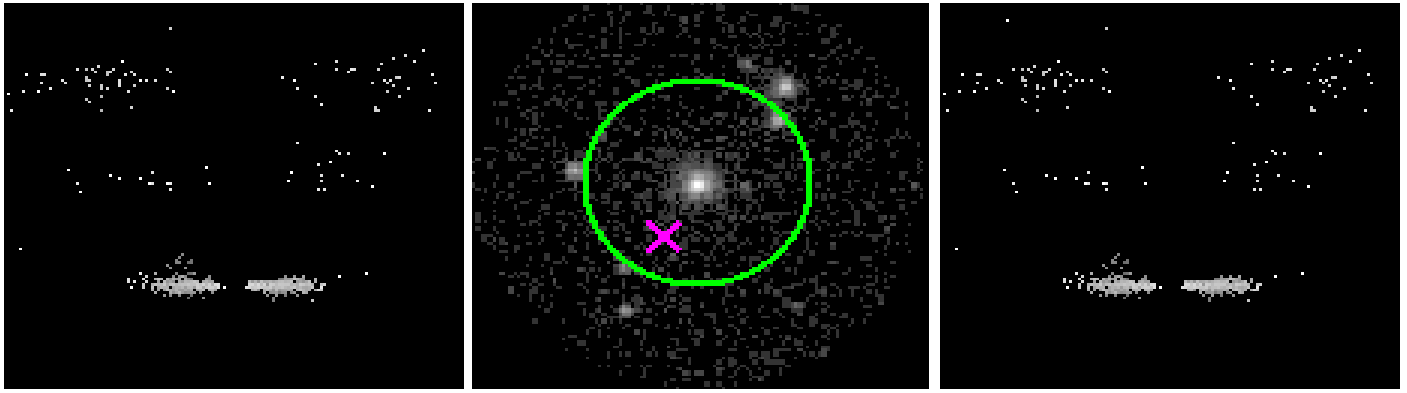
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	347	783	3814	7823	3205	555	371





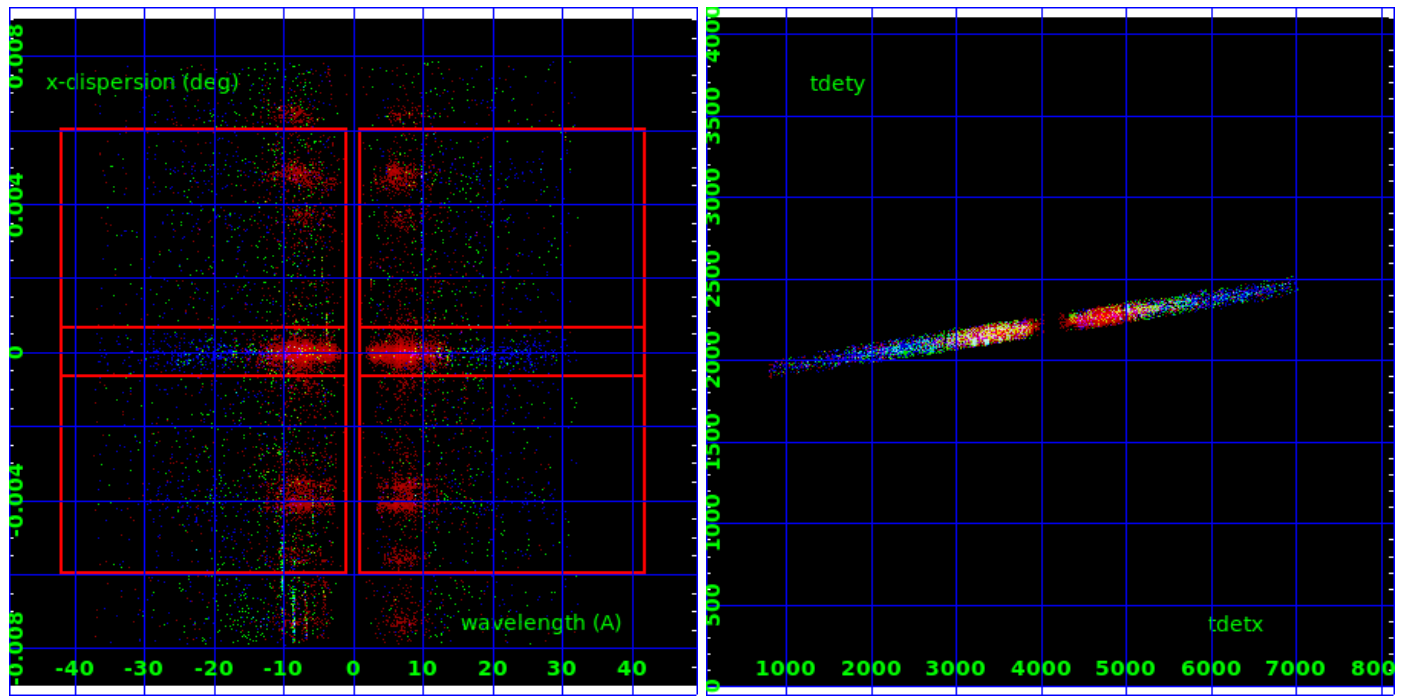
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

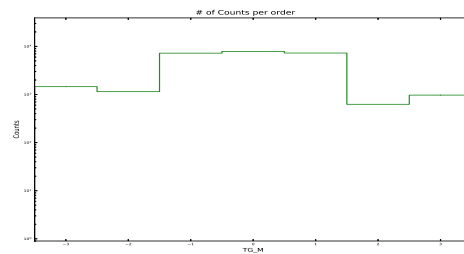
MEG Order Sort ALL

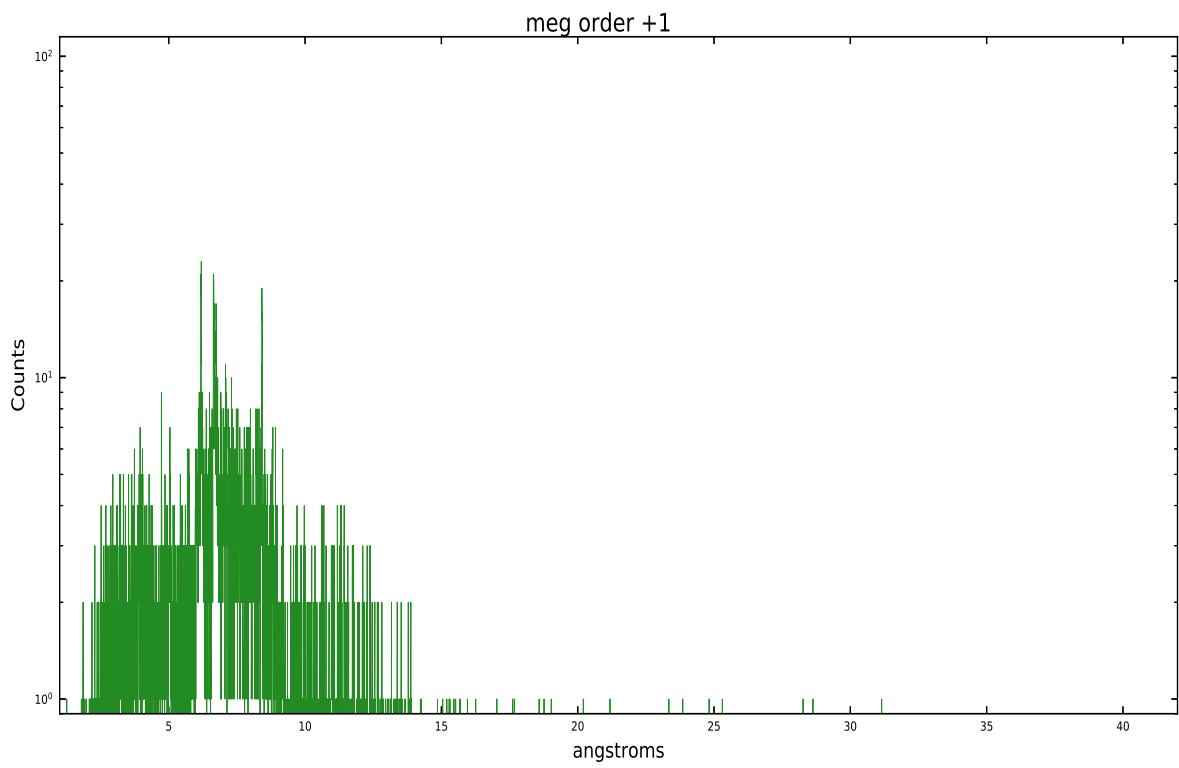
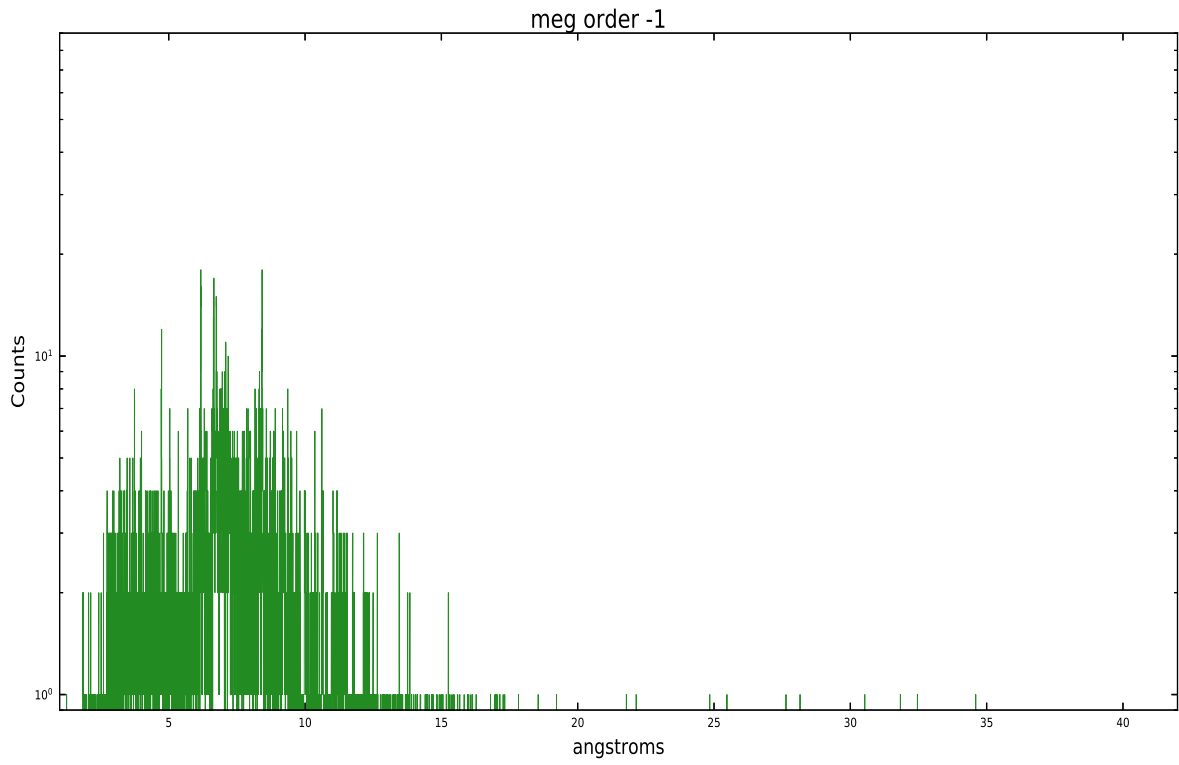


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	1456	1147	7229	7823	7279	625	971





A Summary

A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.10.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	34.947200520754

A.2 Comments