

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 24842 - L2 Version 1  
Chandra X-Ray Center

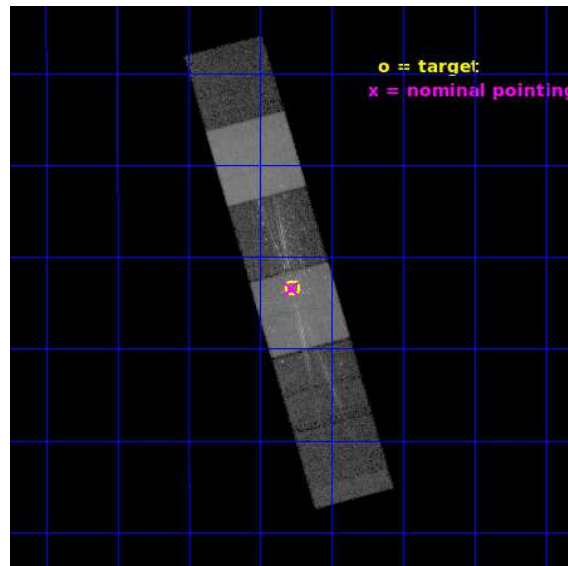
L2 Processing Date : Oct 22 2020

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# 1 Front

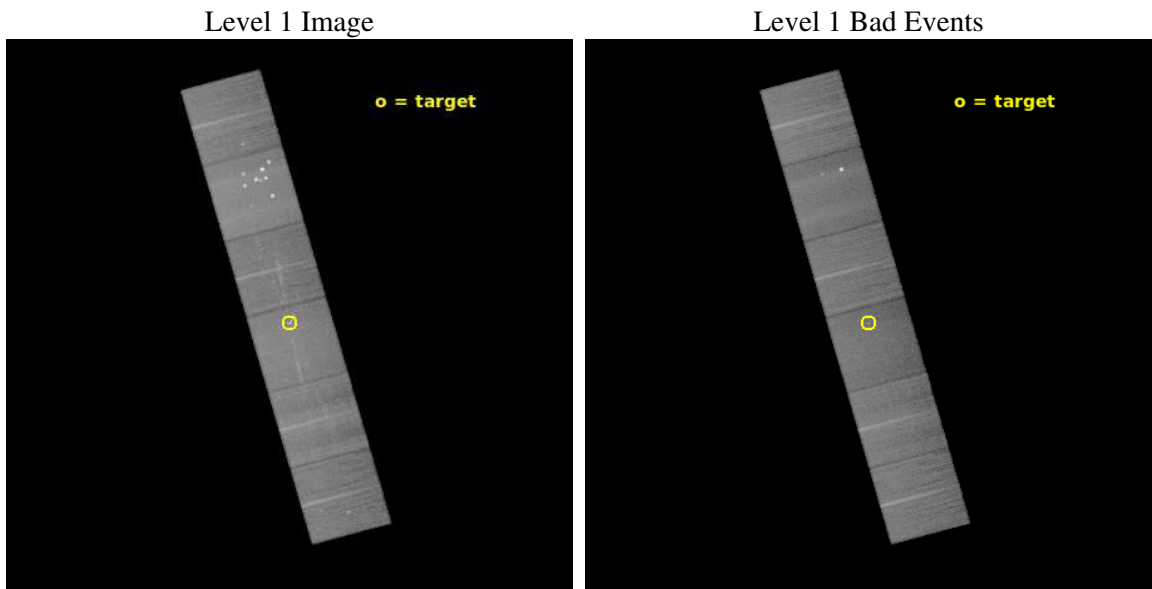
seq_num	201298	Sequence number
obs_id	24842	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.819775998588	Nominal RA [deg]
dec_nom	-5.3910406892028	Nominal Dec [deg]
roll_nom	74.417490931574	Nominal Roll [deg]
revision	1	Processing version of data
ontime	29948.409306526	Sum of GTIs [s]
livetime	29569.18451512	Livetime [s]
ontime4	29948.45034647	Sum of GTIs [s]
ontime5	29948.368266463	Sum of GTIs [s]
ontime6	29945.086156368	Sum of GTIs [s]
ontime7	29948.409306526	Sum of GTIs [s]
ontime8	29948.286186457	Sum of GTIs [s]
ontime9	29948.245146513	Sum of GTIs [s]
l2events	459504	Number of level 2 events



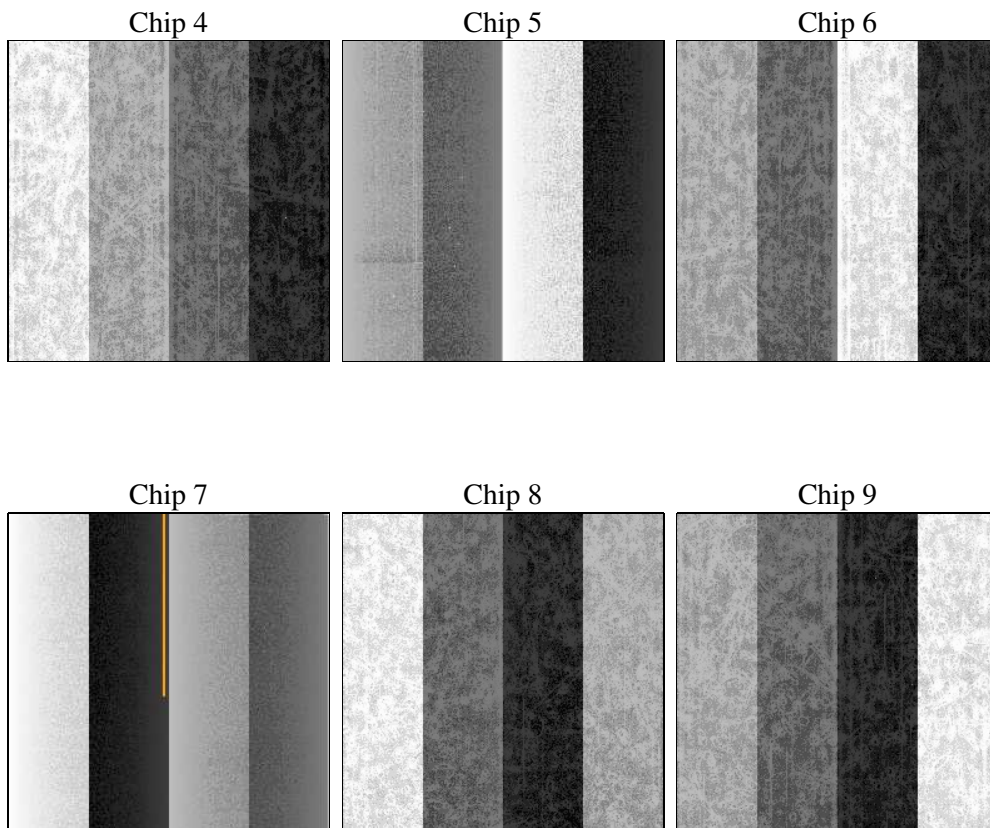
## 2 OBI

### 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	10.9.2	Processing system revision	ontime	29948.409306526	Sum of GTIs [s]
caldbver	4.9.3	&#160	ontime4	29948.45034647	Sum of GTIs [s]
date	2020-10-22T17:47:01	Date and time of file creation	ontime5	29948.368266463	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	29945.086156368	Sum of GTIs [s]
			ontime7	29948.409306526	Sum of GTIs [s]
			ontime8	29948.286186457	Sum of GTIs [s]
			ontime9	29948.245146513	Sum of GTIs [s]
			l1events	1879900	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			z0_pos	(4103.71, 4106.57)	src1a sky pixel position

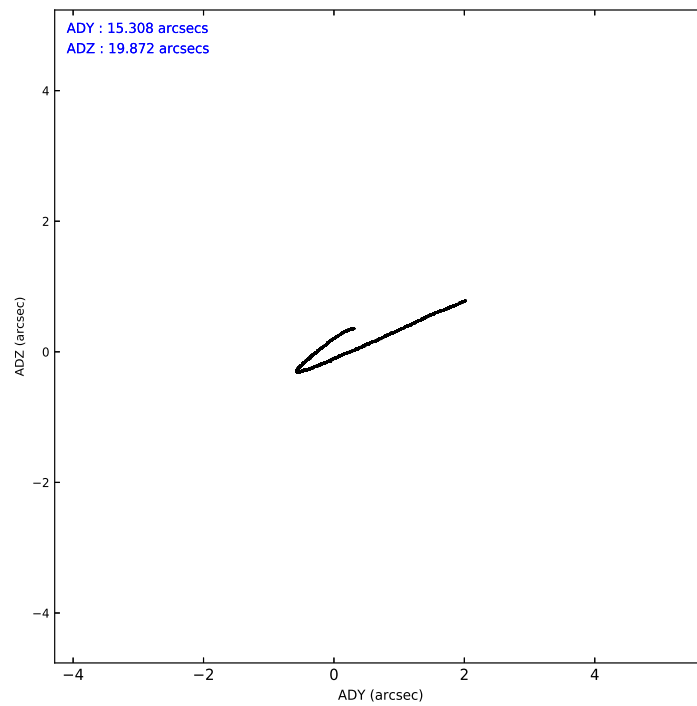
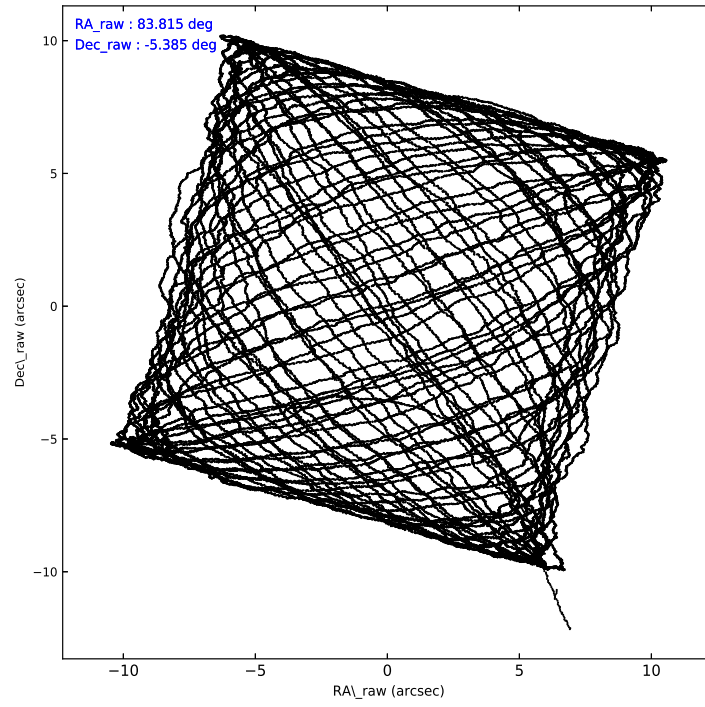
### 2.1.4 Events

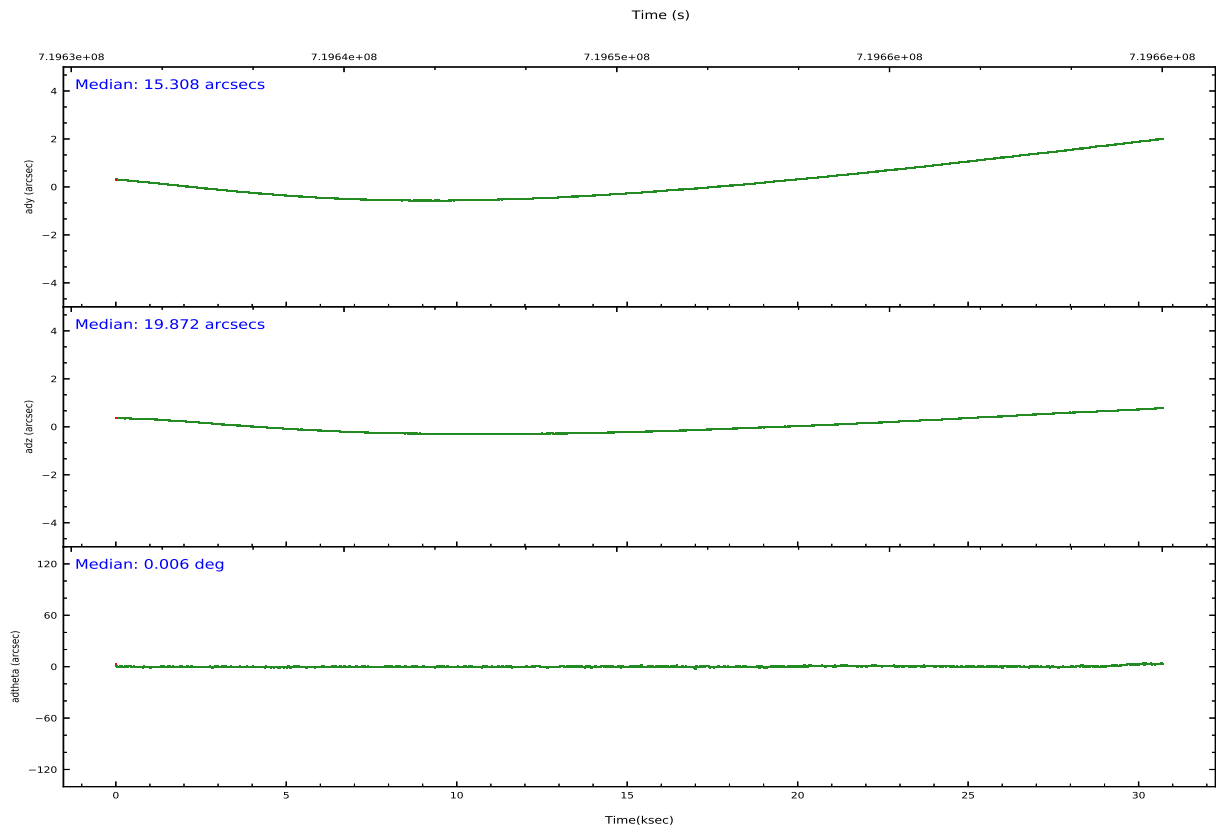
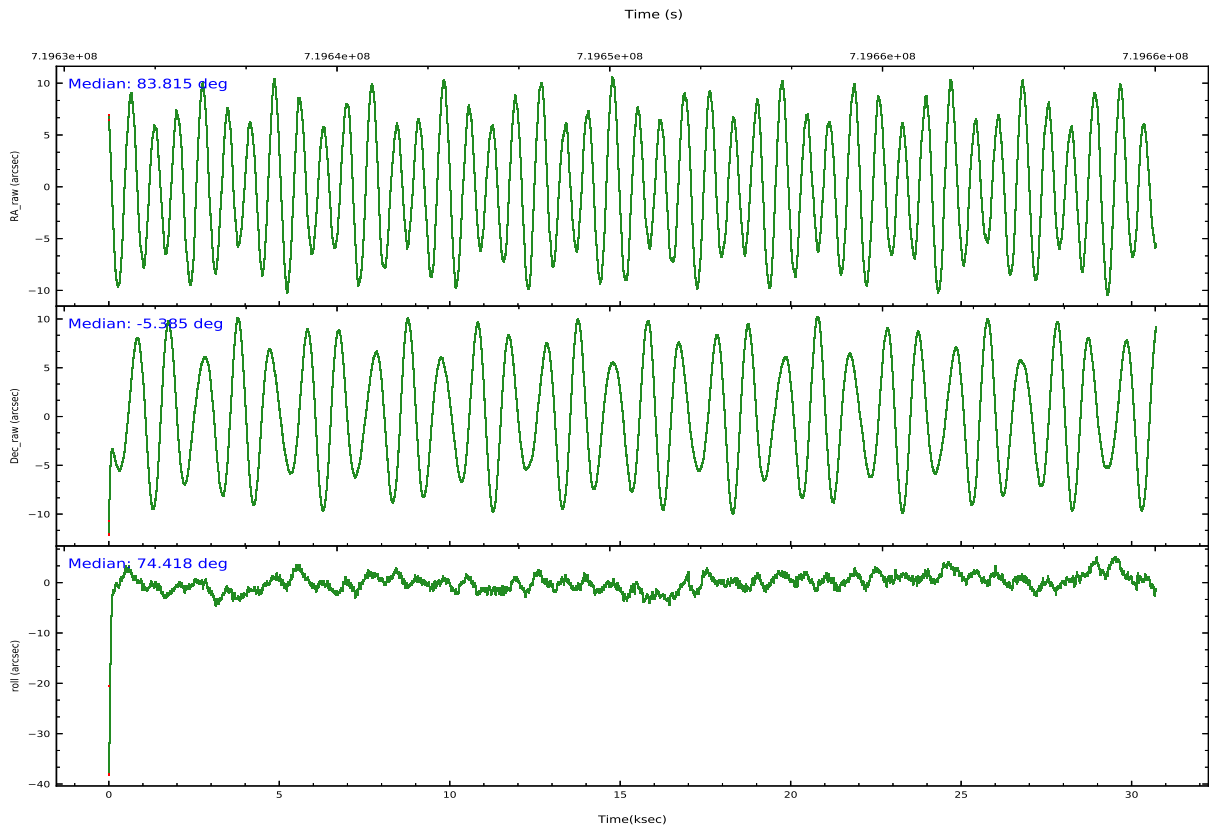
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	279096	437181	266615	339767	311633	245608	grade 0 events	12164	44998	22785	18300	27215	11625
rejected events	249983	211565	218353	174430	227231	214344		4%	10%	8%	5%	8%	4%
rejected %	89%	48%	81%	51%	72%	87%	grade 1 events	291	1201	183	577	259	197
								0%	0%	0%	0%	0%	0%
							grade 2 events	6304	66737	11438	37117	20049	7557
								2%	15%	4%	10%	6%	3%
							grade 3 events	2898	5976	2728	13302	7738	2619
								1%	1%	1%	3%	2%	1%
							grade 4 events	2813	5388	2813	13385	7240	2487
								1%	1%	1%	3%	2%	1%
							grade 5 events	11079	23443	9494	28707	15366	11136
								3%	5%	3%	8%	4%	4%
							grade 6 events	4942	102566	8510	83264	22172	6980
								1%	23%	3%	24%	7%	2%
							grade 7 events	238605	186872	208664	145115	211594	203007
								85%	42%	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	83.822610	83.819775998588	CCD I2 on	N	N
[deg] Pointing Dec	-5.411706	-5.3910406892028	CCD I3 on	N	N
[deg] Pointing Roll	74.263058	74.41749093157399	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)	719634025.184000	719632648.97367	CCD S5 on	O2	Y
Observation start date	2020-10-21T02:19:16	2020-10-21T01:57:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	719664025.184000	719664780.67564	On-chip summing requested	N	N
Observation end date	2020-10-21T10:39:16	2020-10-21T10:53:00	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect





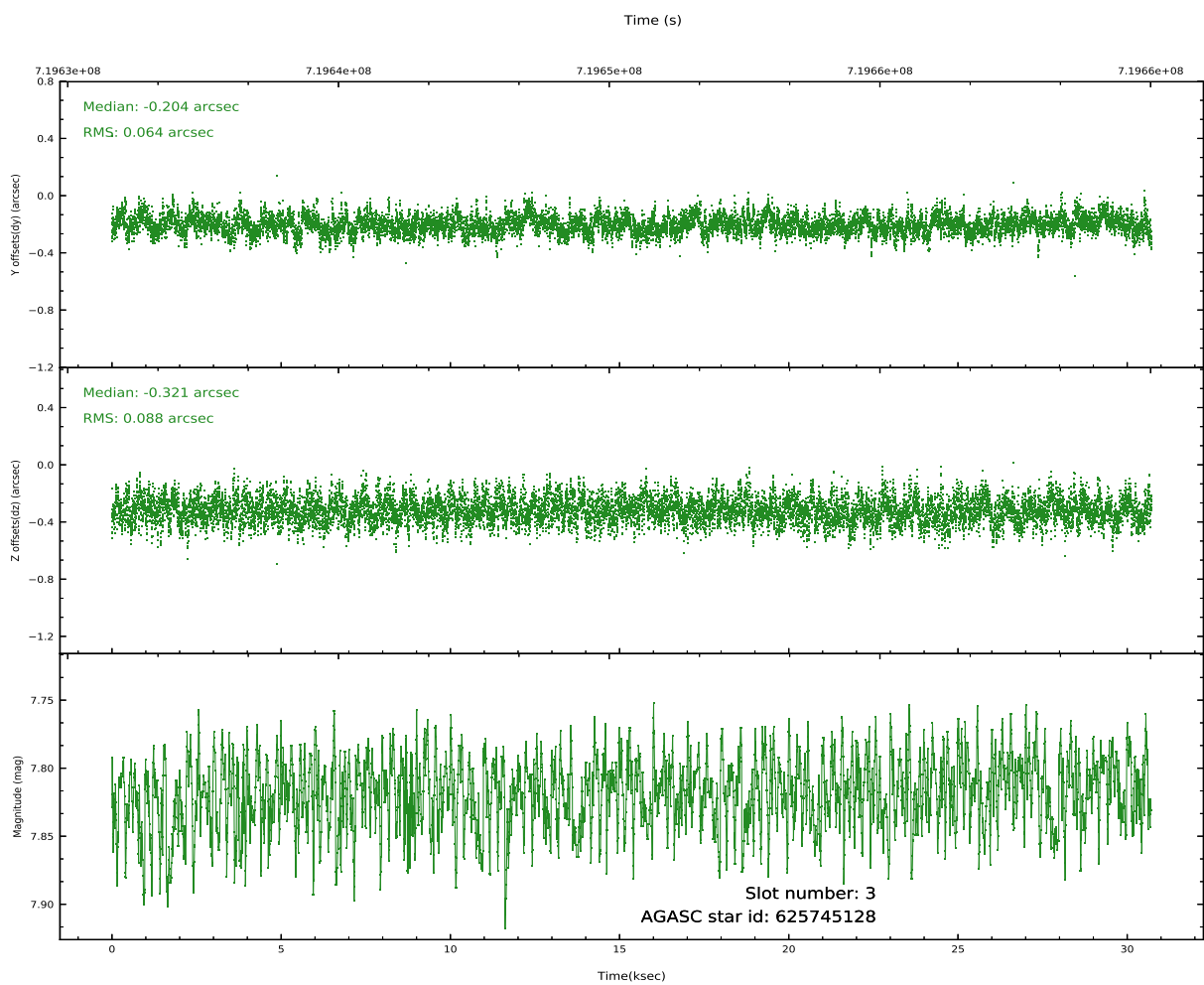
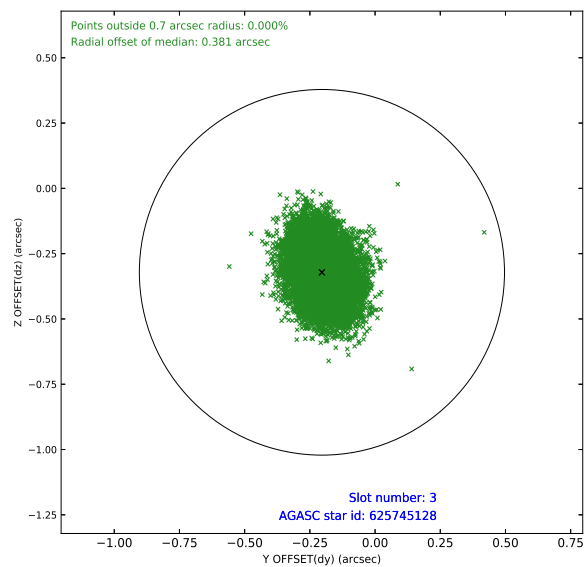
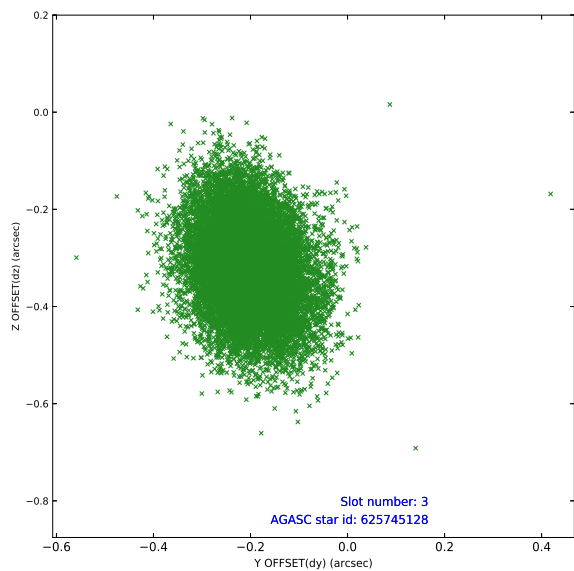
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	7.12	7492	1.000	0.188	-0.078	0.027	0.062	0.000000	0.000000	-768.65	-1741
1	FID		ACIS-S-4	7.25	7493	1.000	0.157	-0.070	0.036	0.074	0.000000	0.000000	2144.88	166
2	FID		ACIS-S-5	7.22	7489	1.000	-0.372	0.159	0.018	0.036	0.000000	0.000000	-1821.63	161
3	GUIDE	used	625745128	7.82	14980	1.000	-0.204	-0.321	0.115	0.192	83.769930	-4.731835	2304.46	845
4	GUIDE	used	625745136	7.19	14985	1.000	-0.406	-0.233	0.114	0.199	83.600341	-4.804339	1888.34	1360
5	GUIDE	used	625874672	7.69	14976	1.000	0.220	0.078	0.142	0.242	84.403143	-4.934124	2218.97	-1537
6	GUIDE	used	626272760	6.62	14985	1.000	0.288	0.202	0.162	0.249	84.363987	-5.938389	-1299.87	-2379
7	GUIDE	used	626272976	7.93	14979	1.000	0.098	0.288	0.132	0.211	83.795875	-5.926912	-1811.16	-410

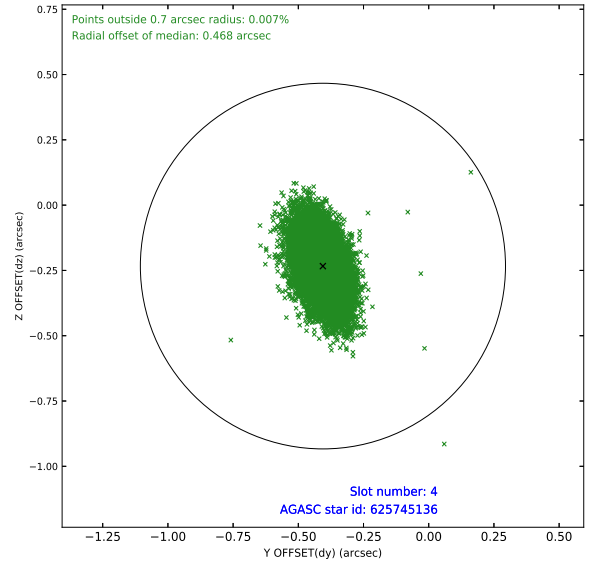
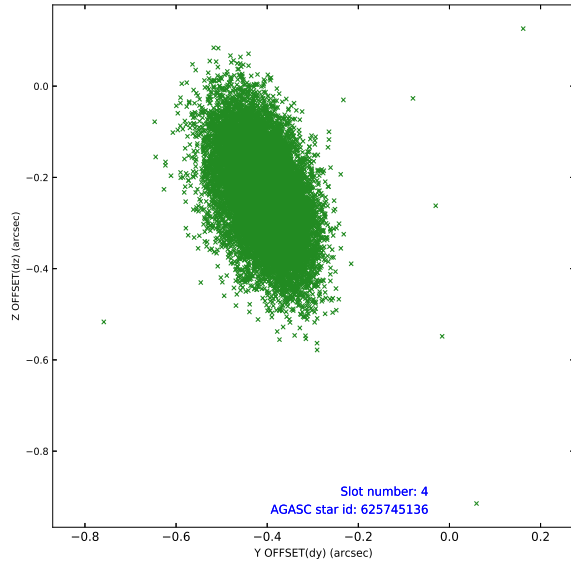
∞

## 2.4 Star Slots

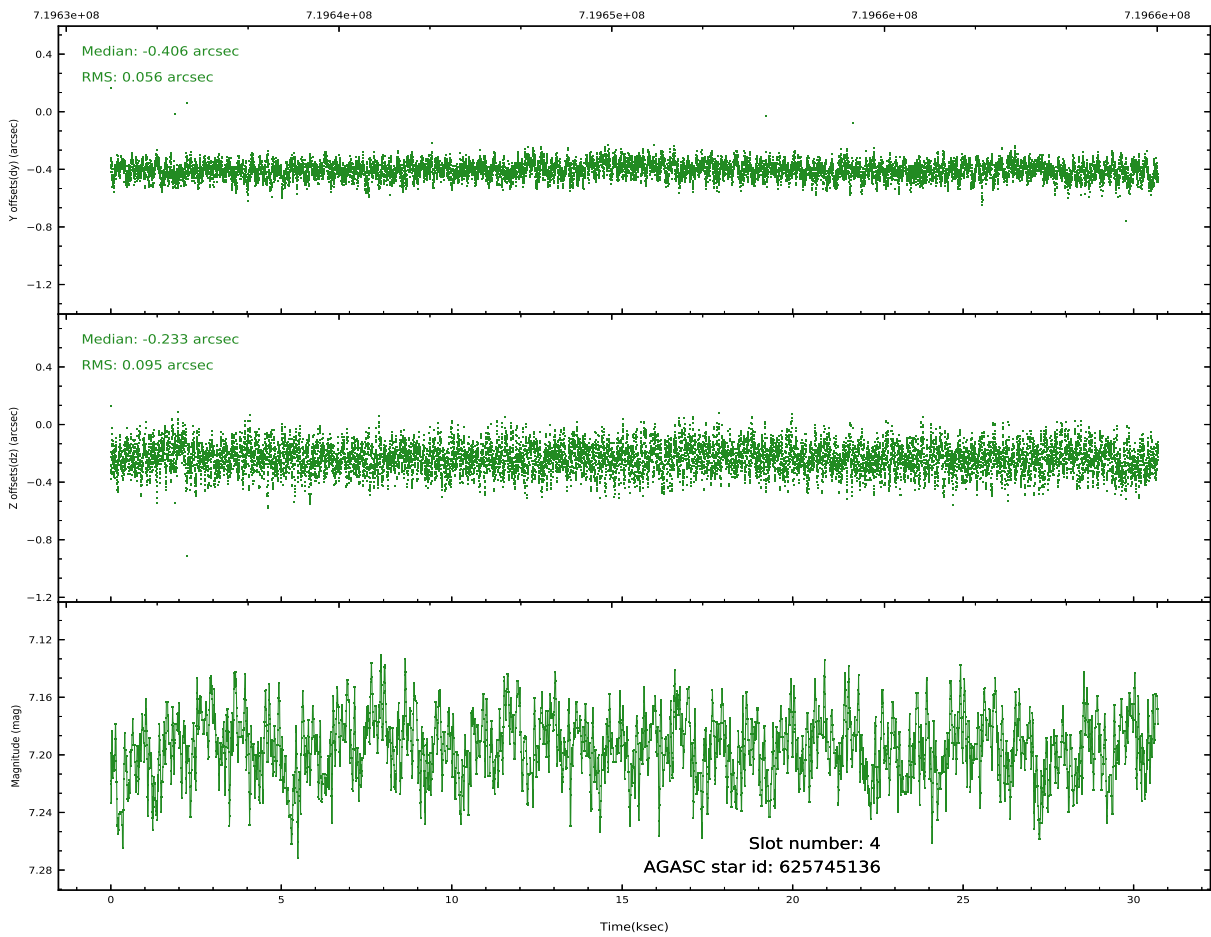
### 2.4.1 Slot 3



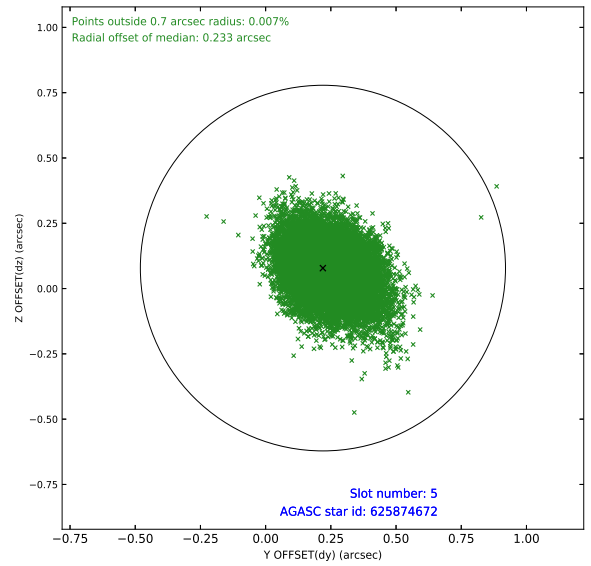
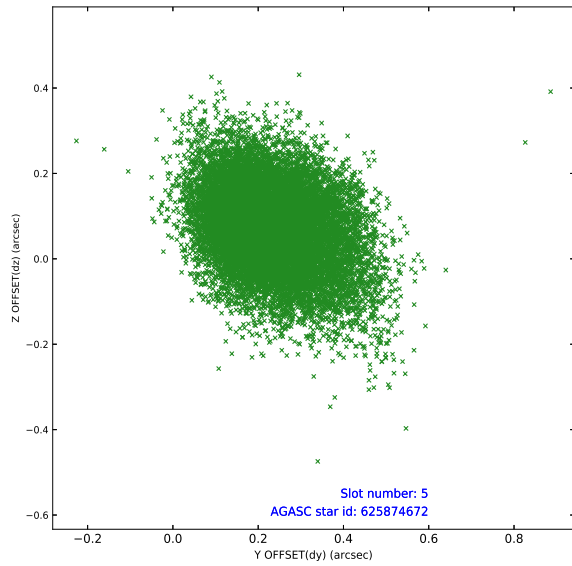
## 2.4.2 Slot 4



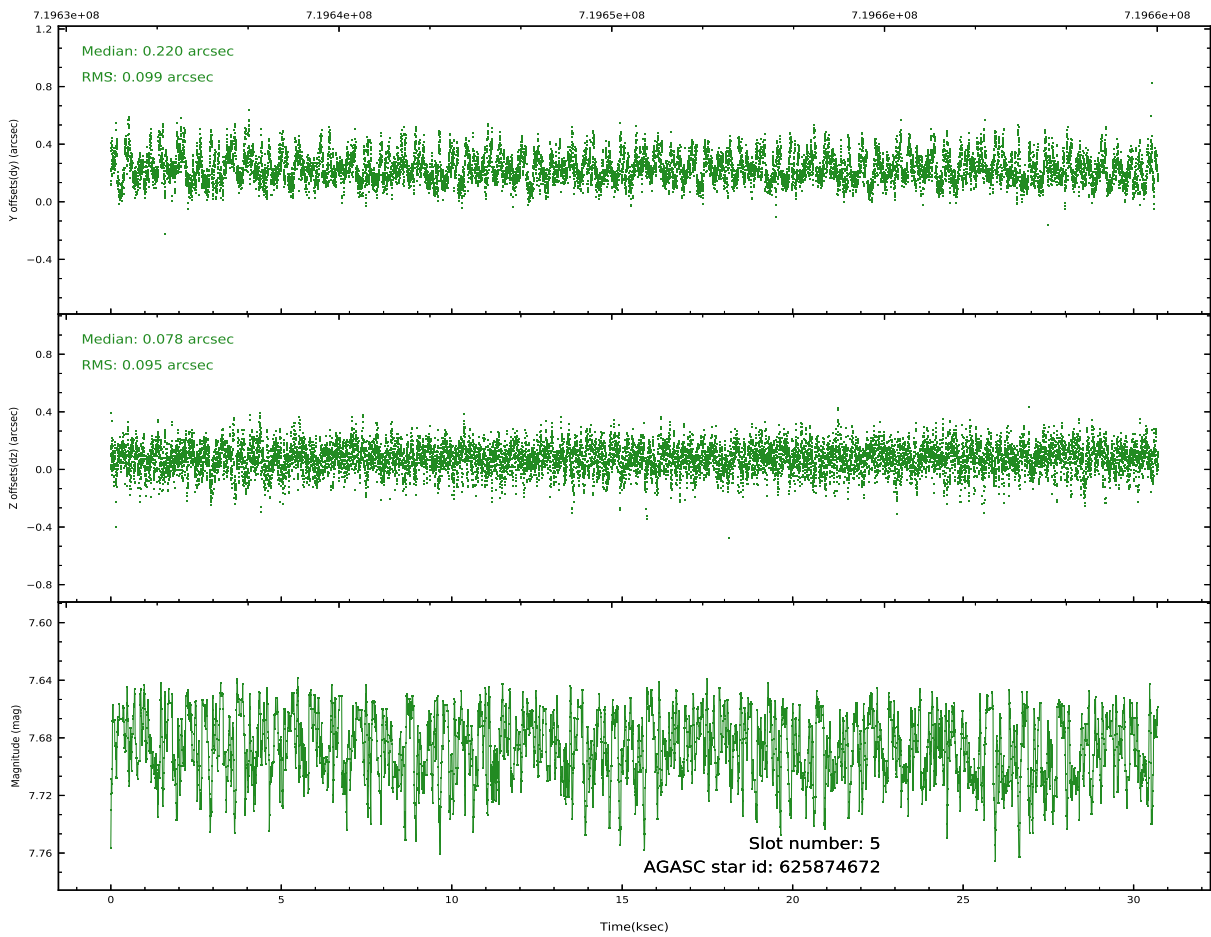
Time (s)



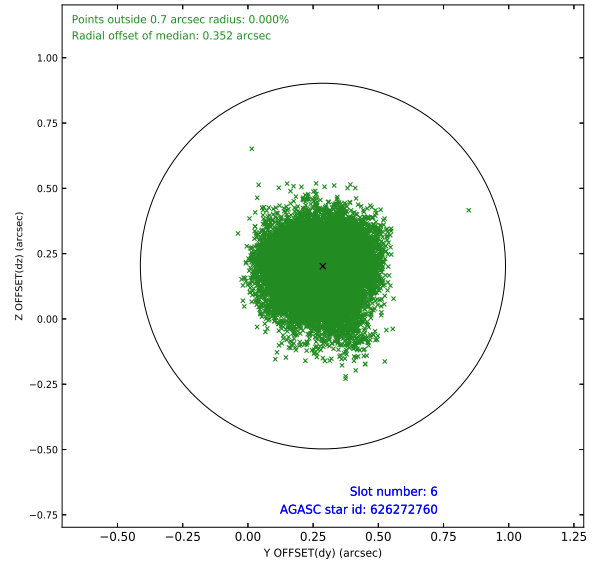
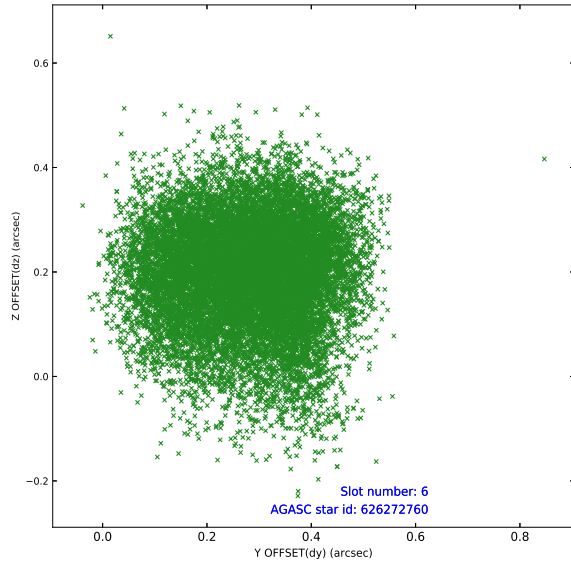
### 2.4.3 Slot 5



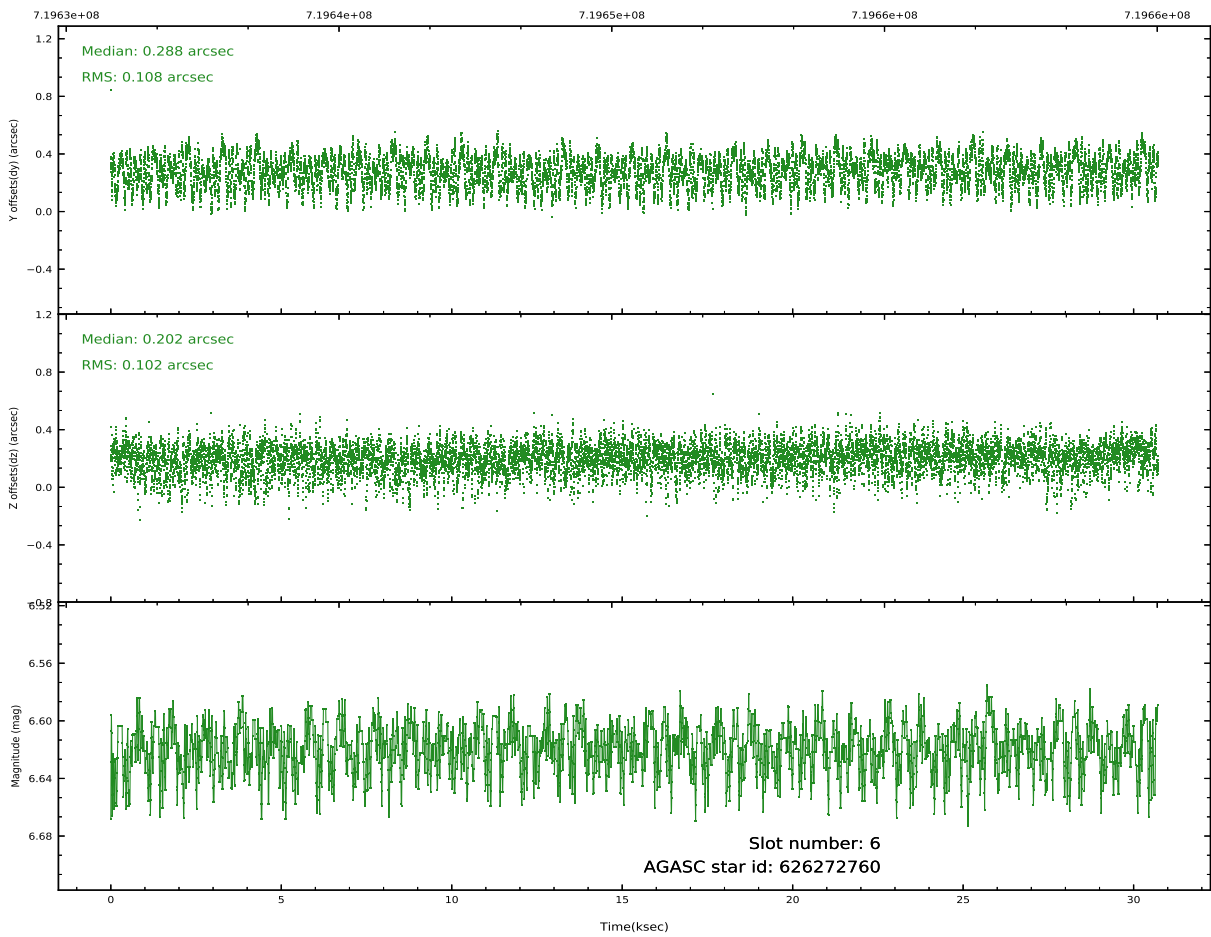
Time (s)



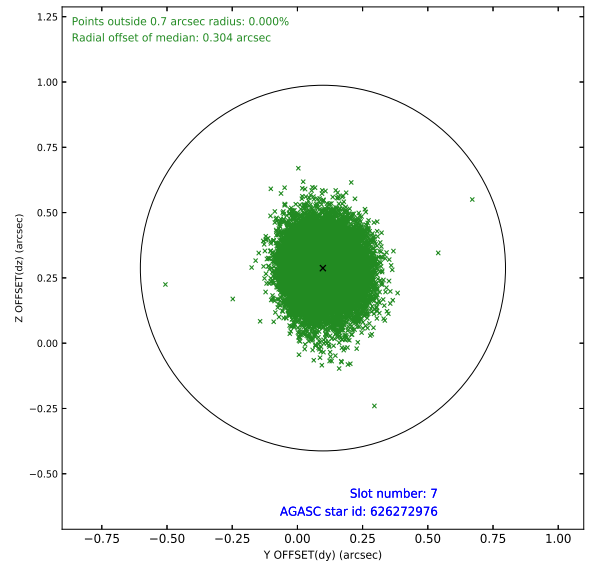
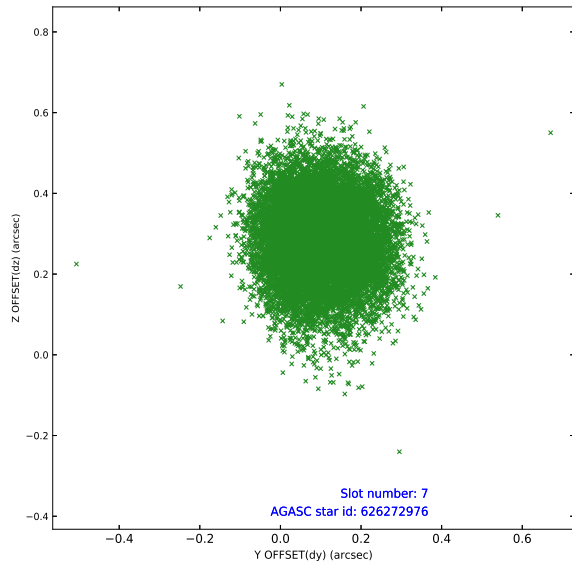
## 2.4.4 Slot 6



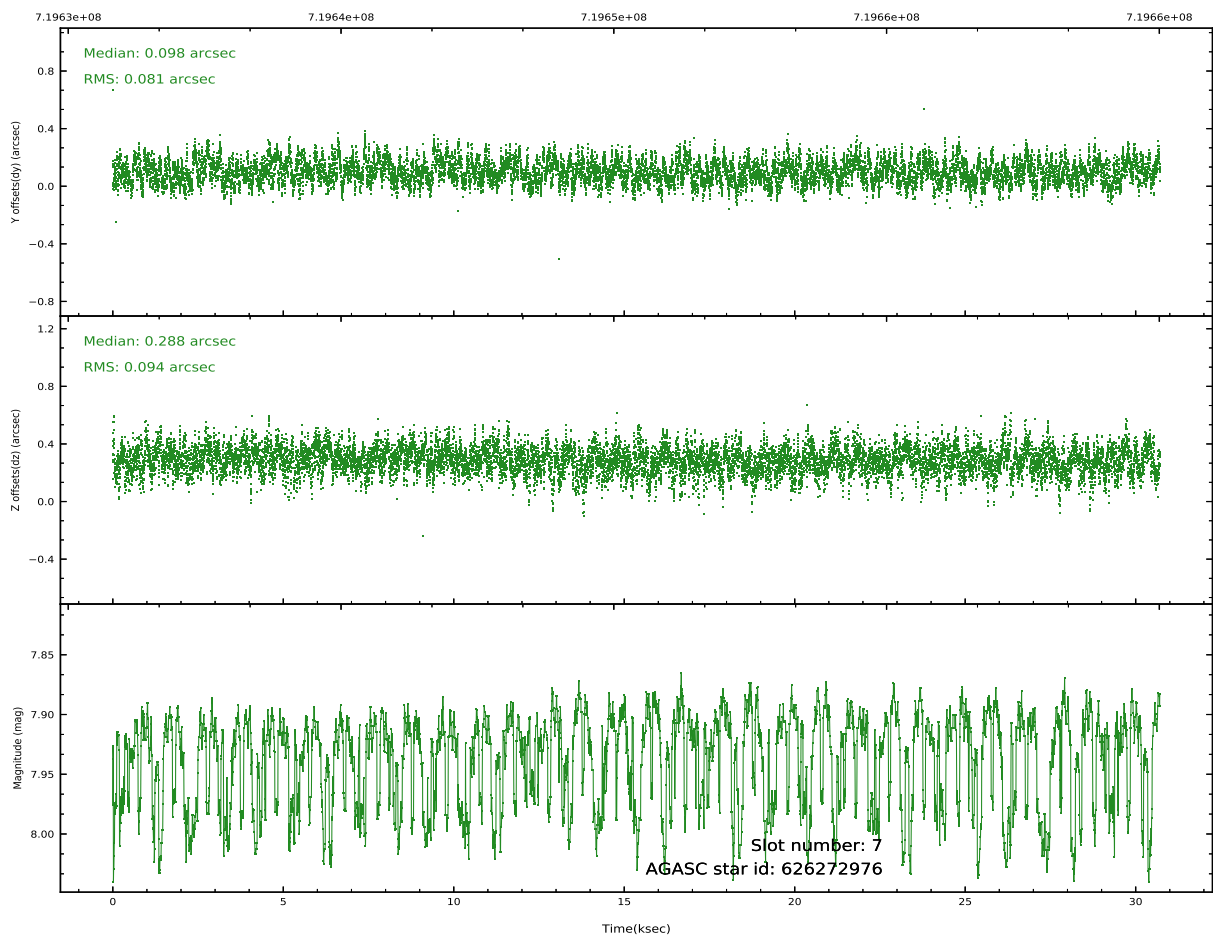
Time (s)



## 2.4.5 Slot 7

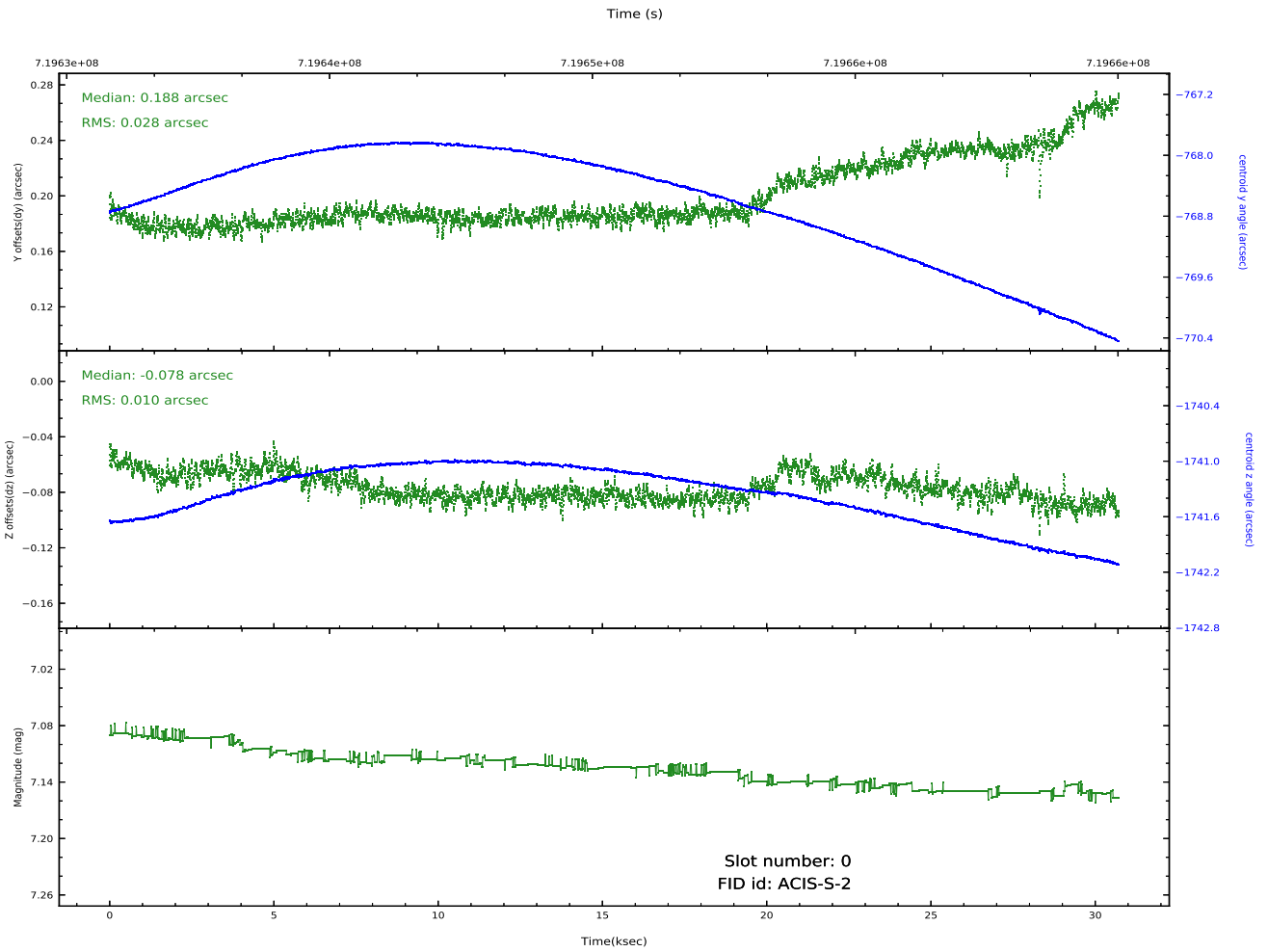
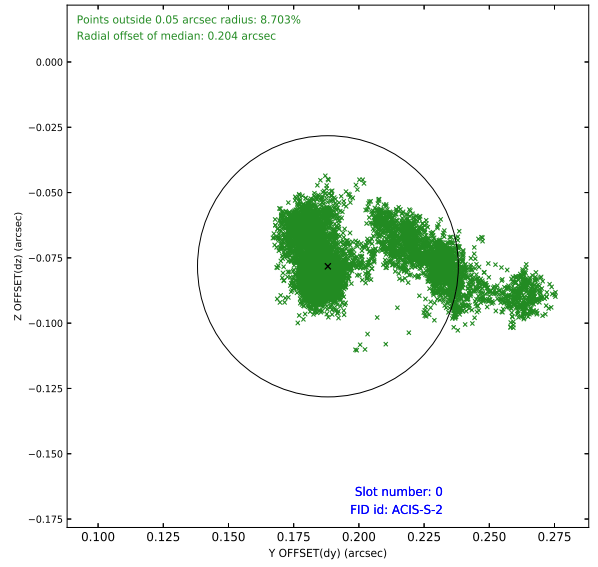
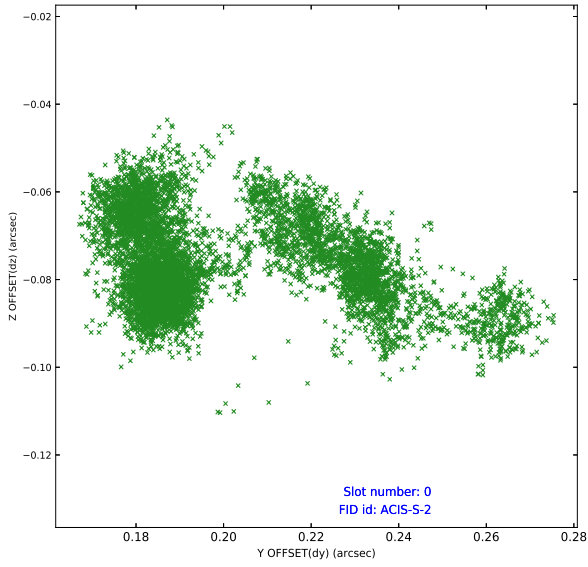


Time (s)

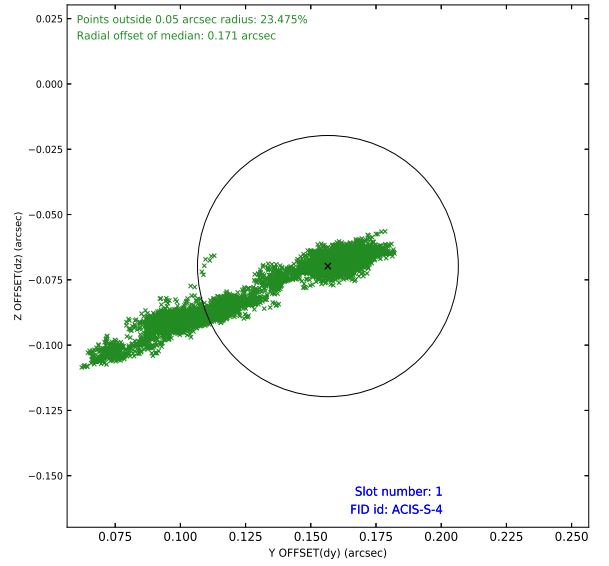
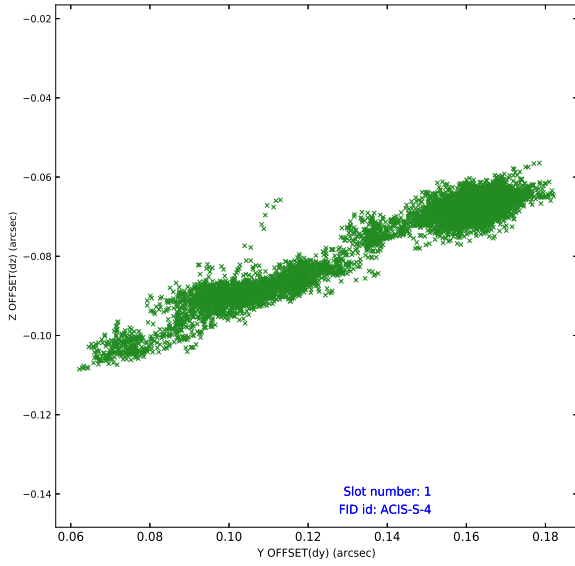


## 2.5 FID Slots

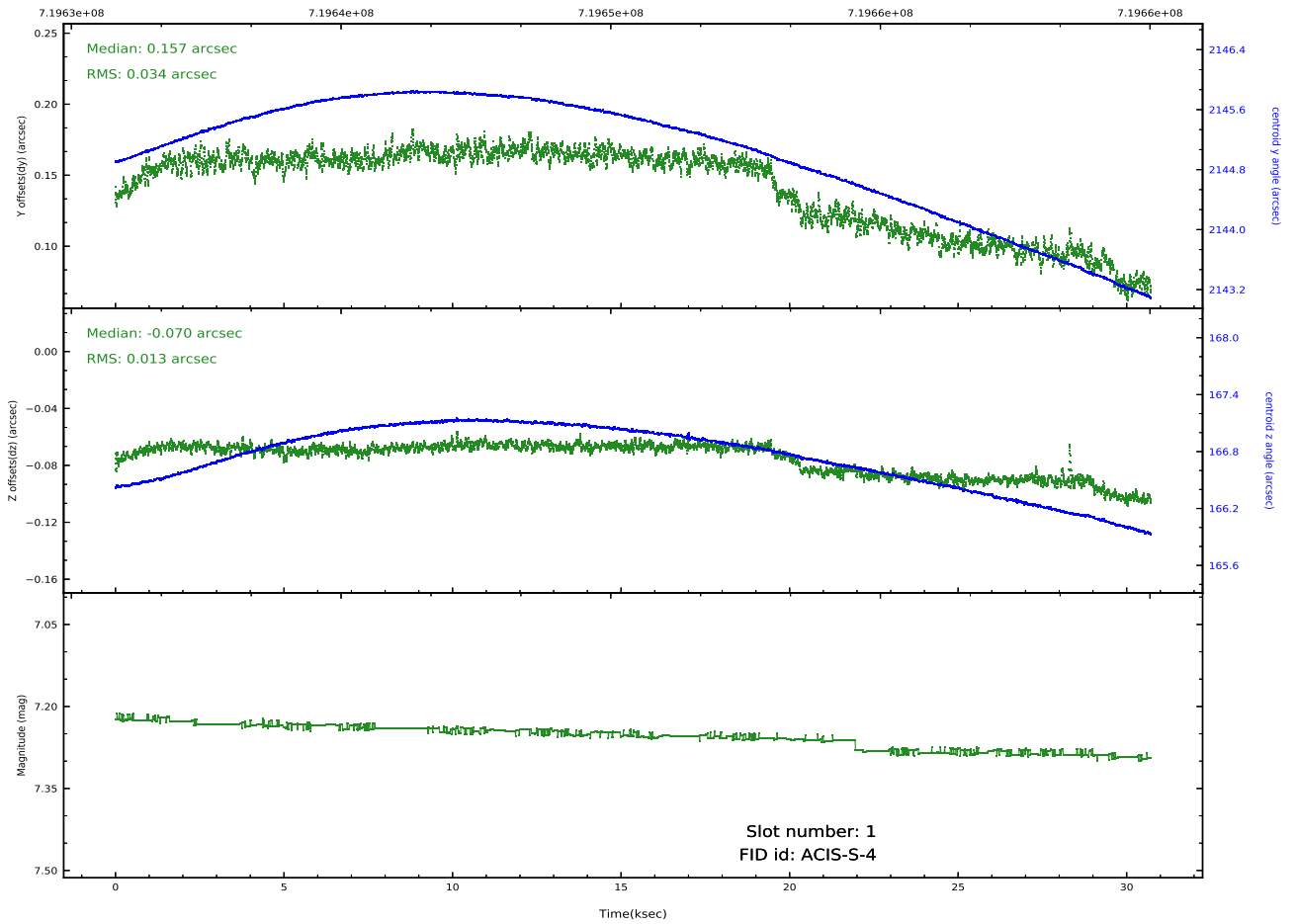
### 2.5.1 Slot 0



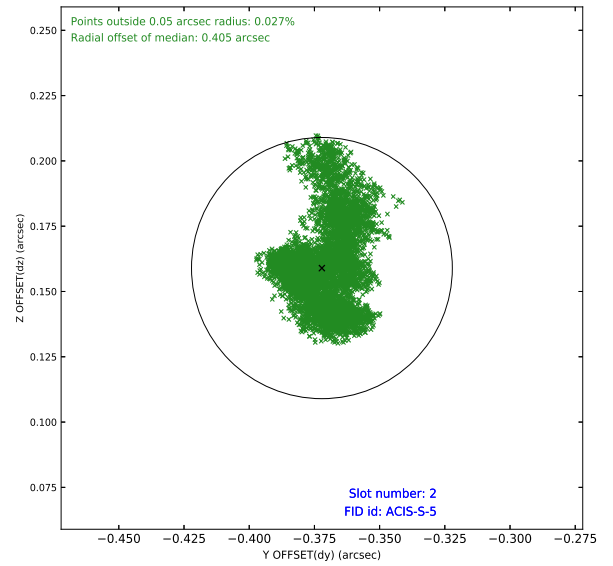
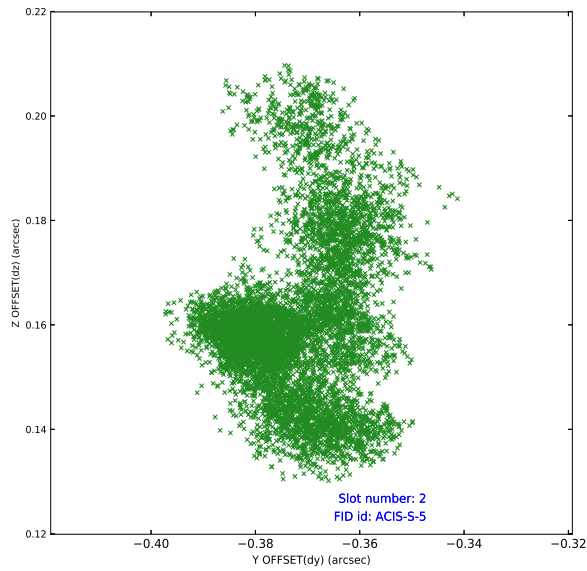
## 2.5.2 Slot 1



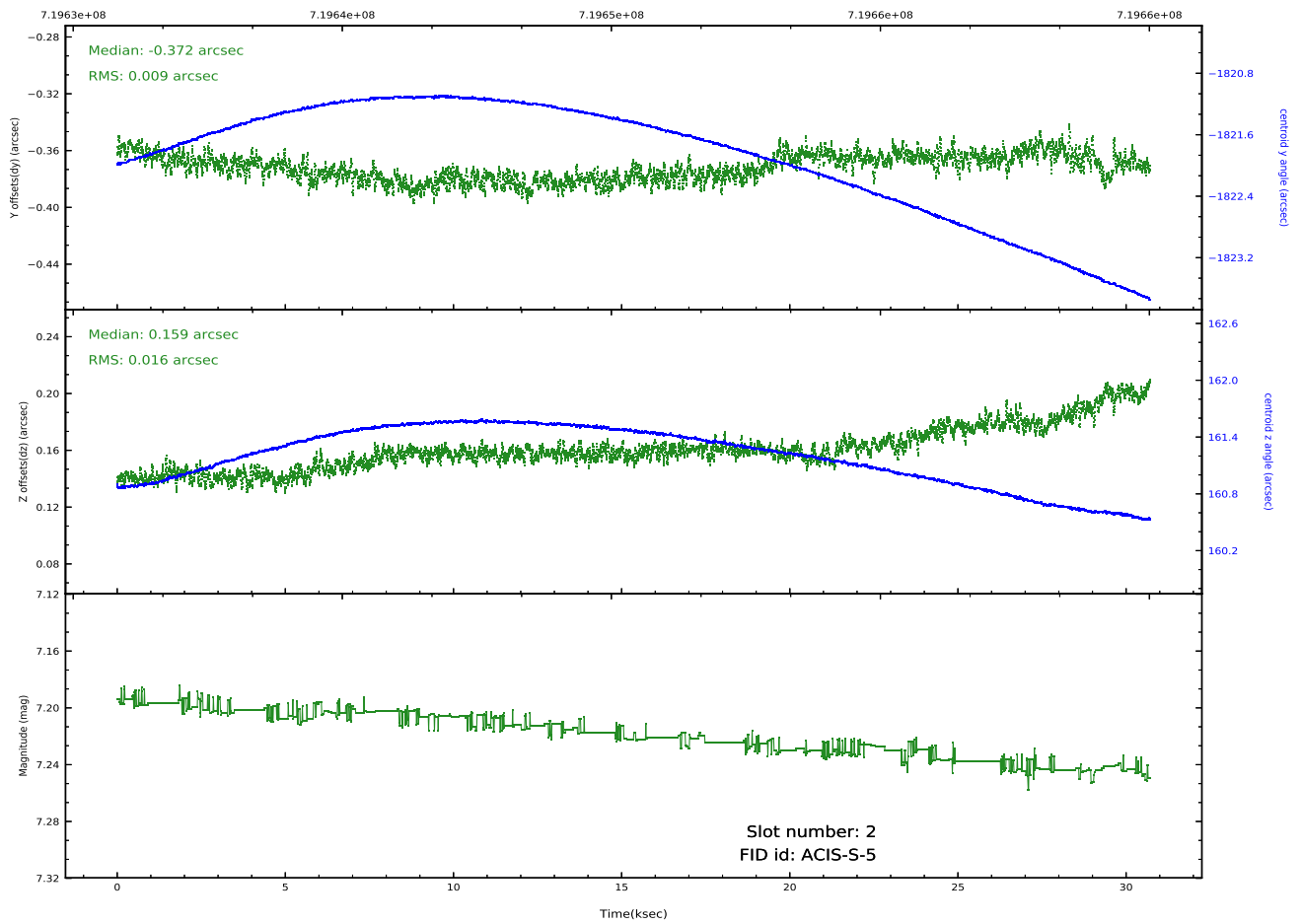
Time (s)



## 2.5.3 Slot 2

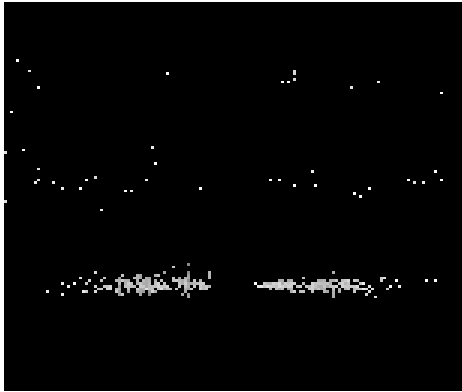


Time (s)

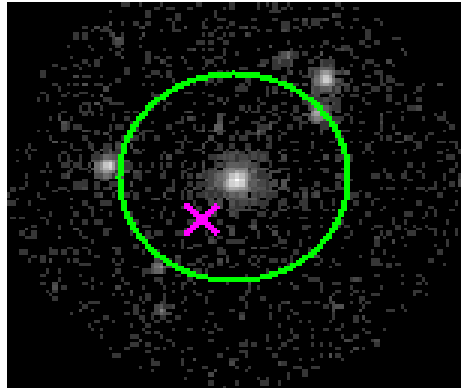


### 3 Gratings

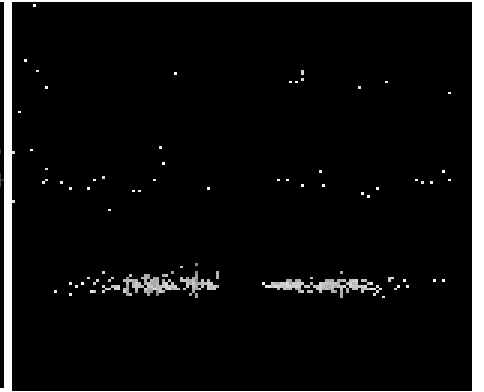
#### 3.1 HEG Arm



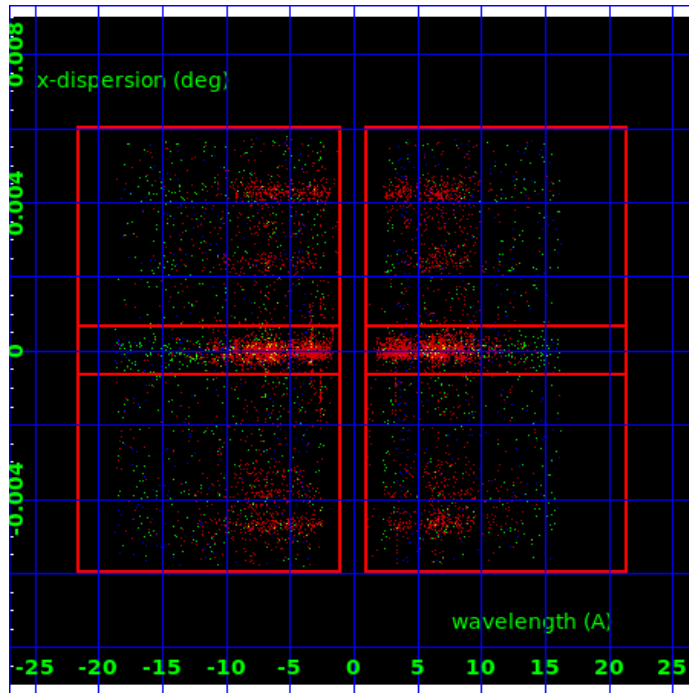
HEG Order Sort 123



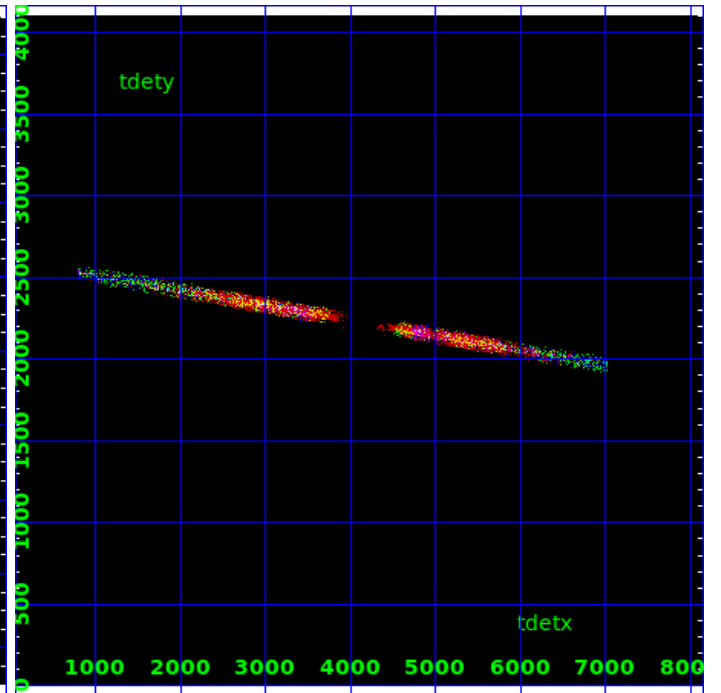
HEG Zero Order



HEG Order Sort ALL

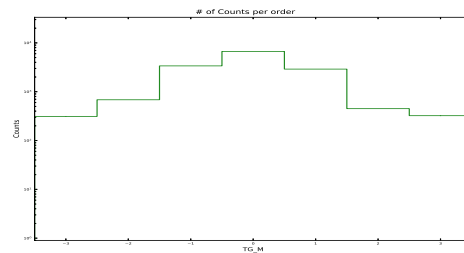


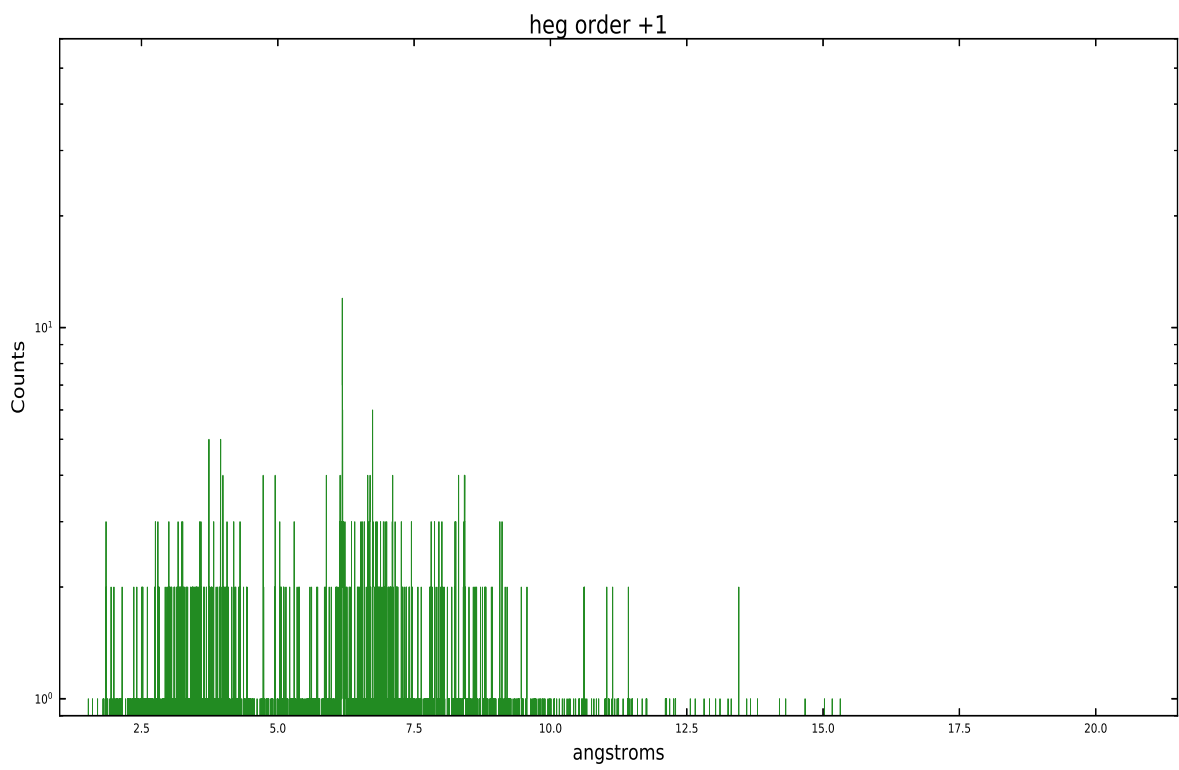
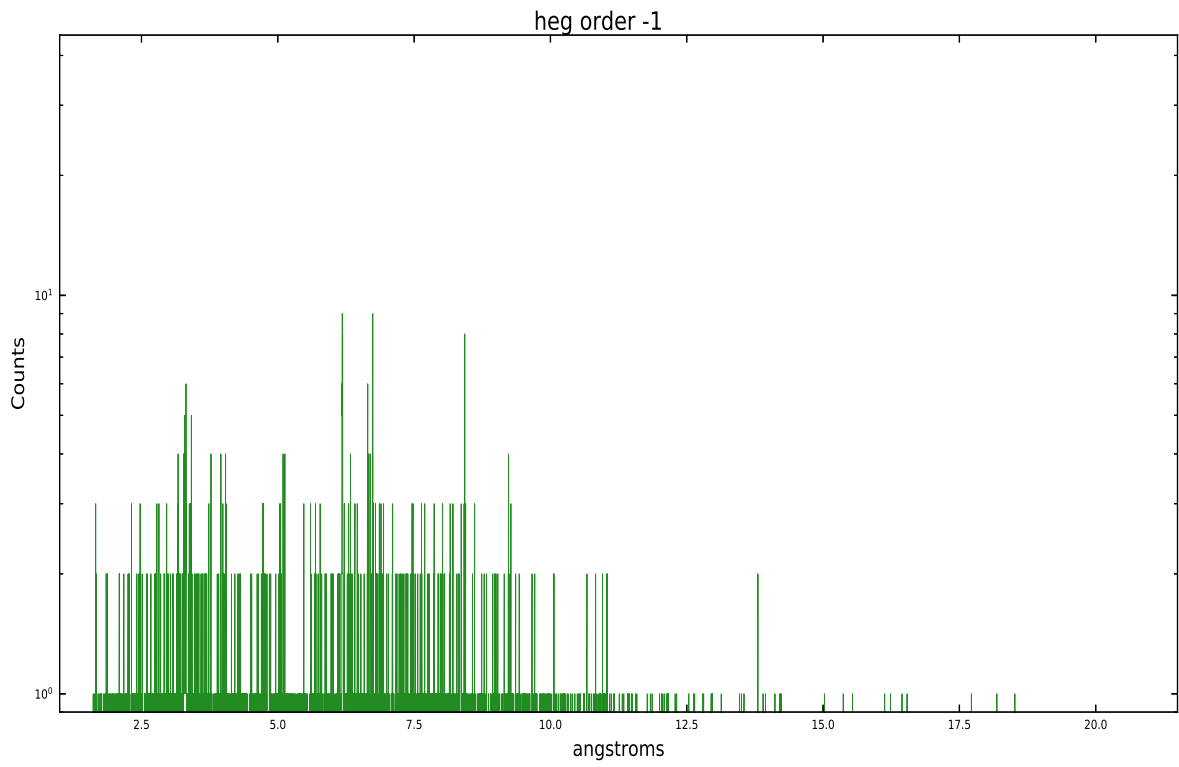
Spot Image HEG



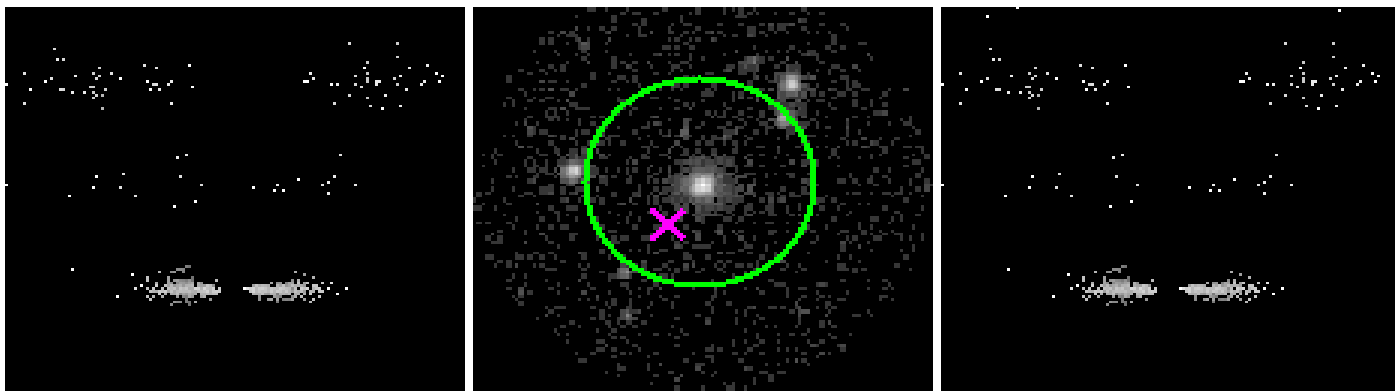
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	312	684	3381	6688	2904	450	323





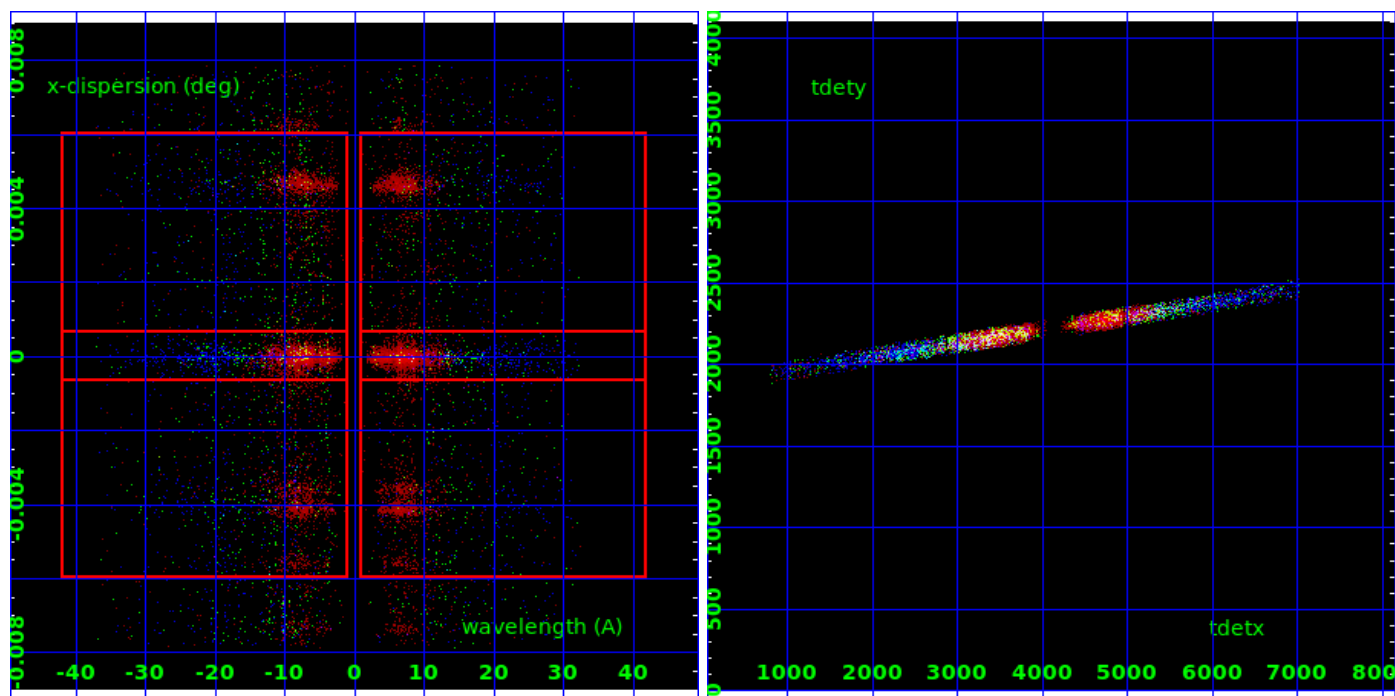
### 3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

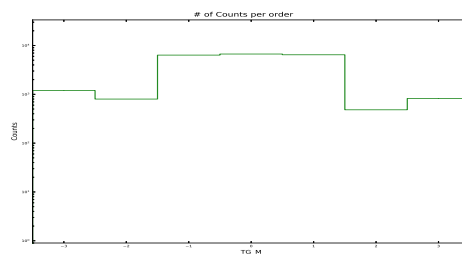
MEG Order Sort ALL

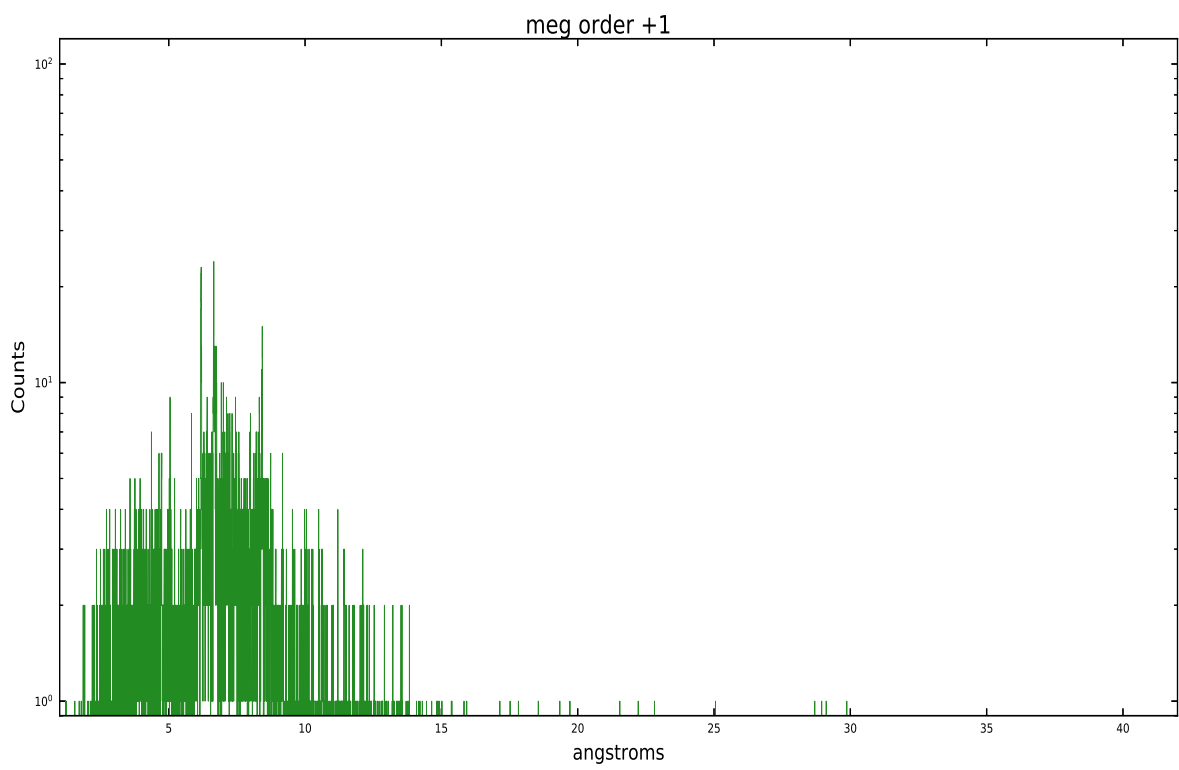
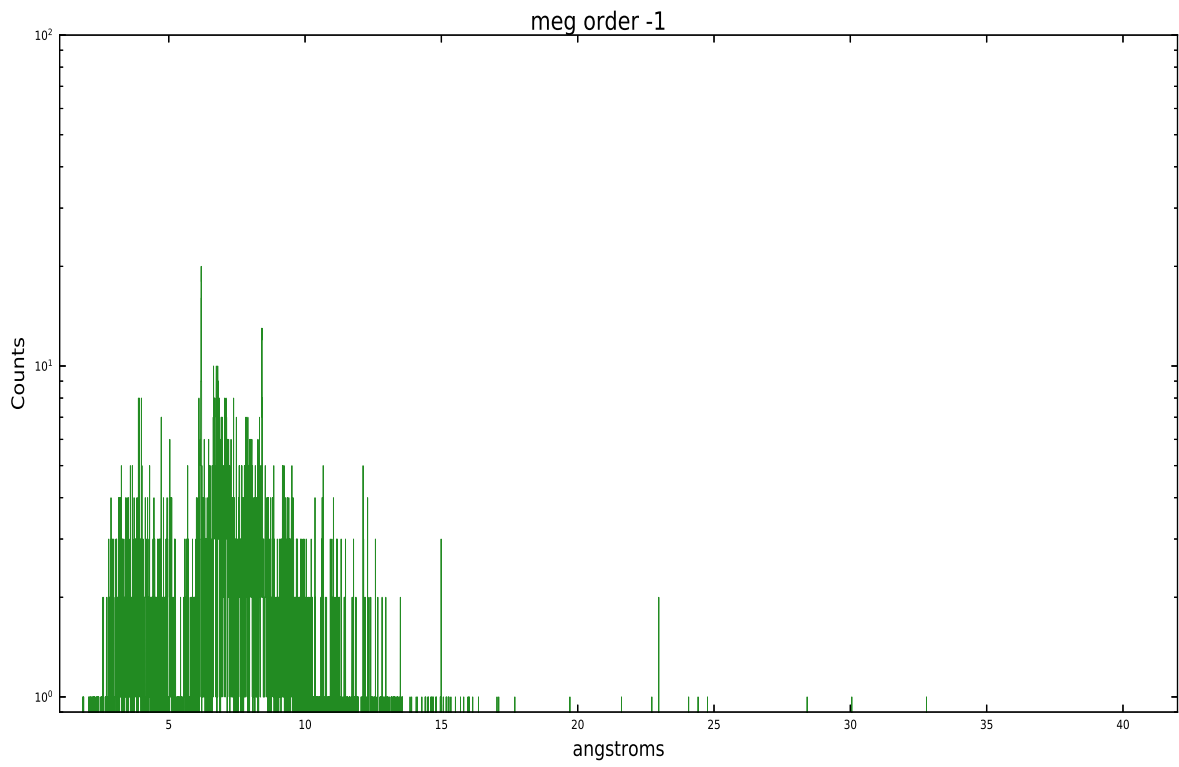


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1199	799	6356	6688	6458	482	822





# A Summary

## A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.10.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.948409306526

## A.2 Comments