

V&V Reference Report

L2 ASCDS Version : 10.6.3

Observation 21116 - L2 Version 1
Chandra X-Ray Center

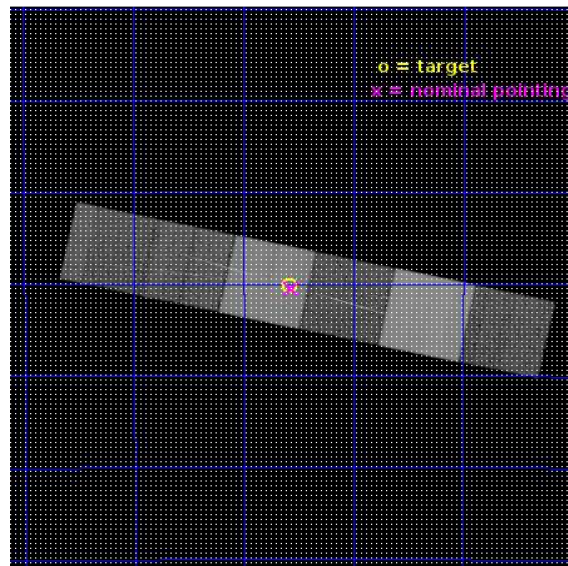
L2 Processing Date : Jul 8 2018

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1 Front

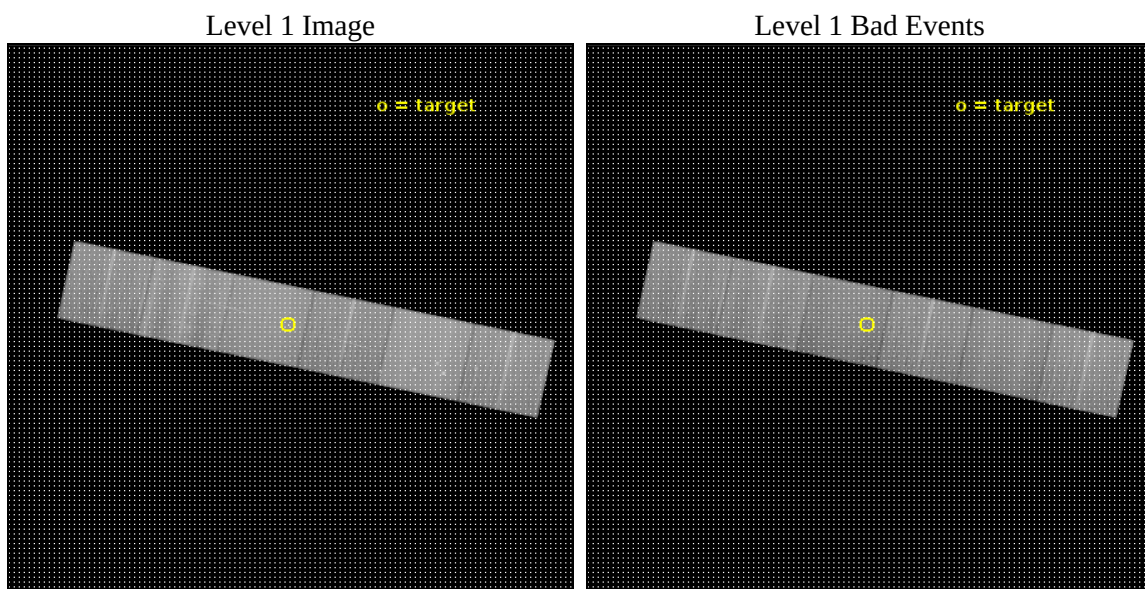
seq_num	201176	Sequence number
obs_id	21116	Observation id
title	Legacy HETG Spectrum of a Massive Star: zeta Pup	Proposal title
observer	Wayne Waldron	Principal investigator
object	zeta Pup	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	120.895833	Observer's specified target RA [deg]
dec_targ	-40.003139	Observer's specified target Dec [deg]
ra_nom	120.89150884958	Nominal RA [deg]
dec_nom	-40.008611898915	Nominal Dec [deg]
roll_nom	192.15383296881	Nominal Roll [deg]
revision	1	Processing version of data
ontime	43944.250626326	Sum of GTIs [s]
livetime	43387.802064844	Livetime [s]
ontime4	43944.291666269	Sum of GTIs [s]
ontime5	43944.209586263	Sum of GTIs [s]
ontime6	43944.168546319	Sum of GTIs [s]
ontime7	43944.250626326	Sum of GTIs [s]
ontime8	43944.127506256	Sum of GTIs [s]
ontime9	43940.845415711	Sum of GTIs [s]
l2events	569686	Number of level 2 events



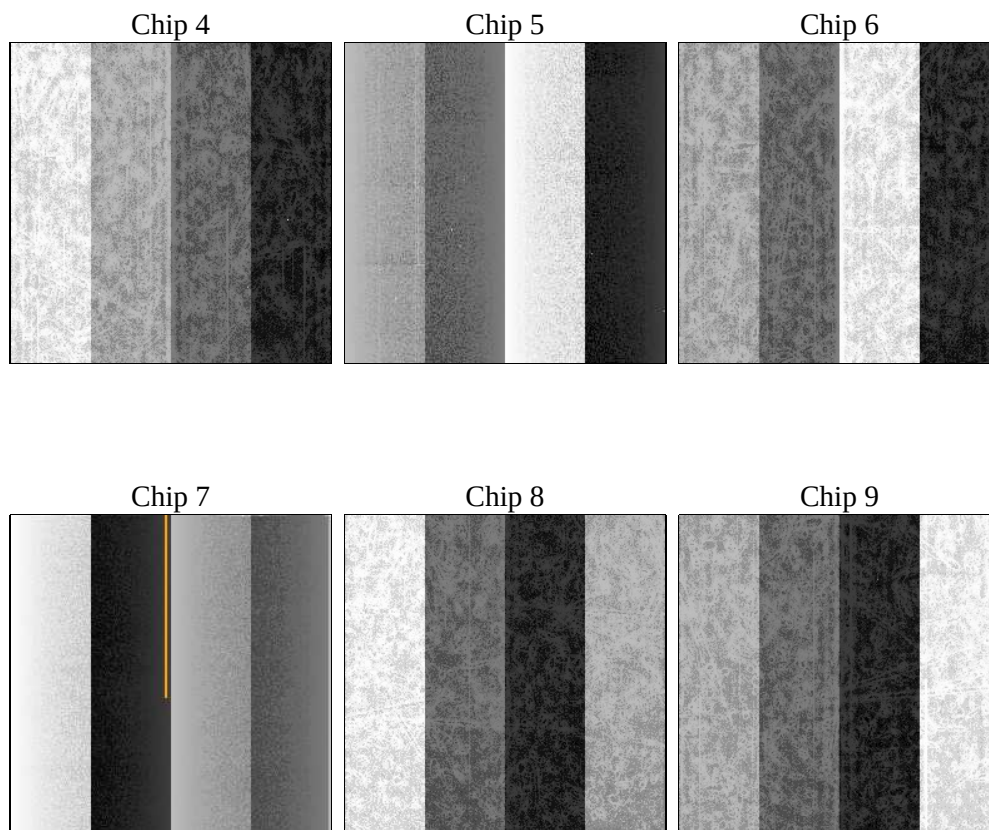
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	44000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.3	Processing system revision	ontime	43944.250626326	Sum of GTIs [s]
caldsver	4.7.8	 	ontime4	43944.291666269	Sum of GTIs [s]
date	2018-07-09T01:04:57	Date and time of file creation	ontime5	43944.209586263	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	43944.168546319	Sum of GTIs [s]
			ontime7	43944.250626326	Sum of GTIs [s]
			ontime8	43944.127506256	Sum of GTIs [s]
			ontime9	43940.845415711	Sum of GTIs [s]
			l1events	2470743	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			ra_pos	(4072.01 - 4127.00)	src1a sky pixel position

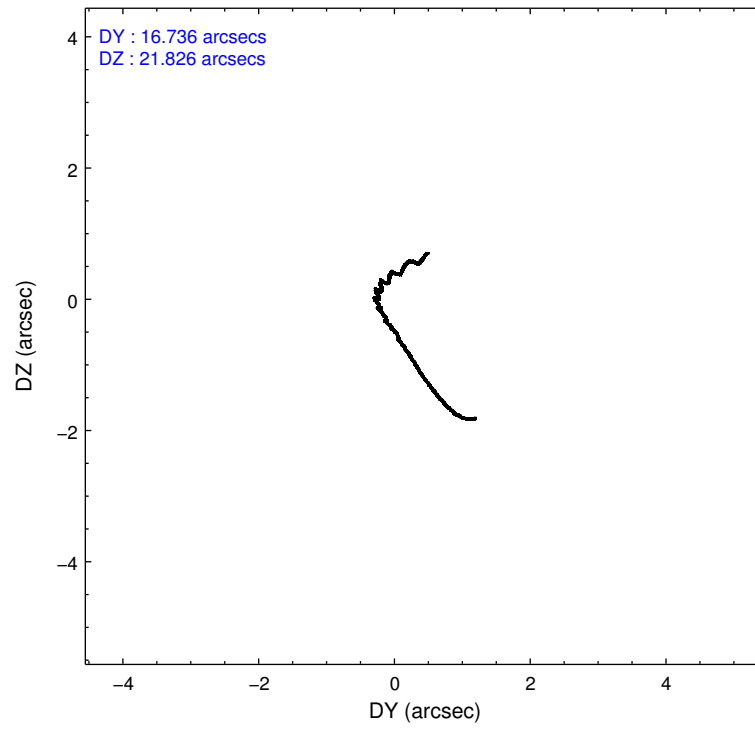
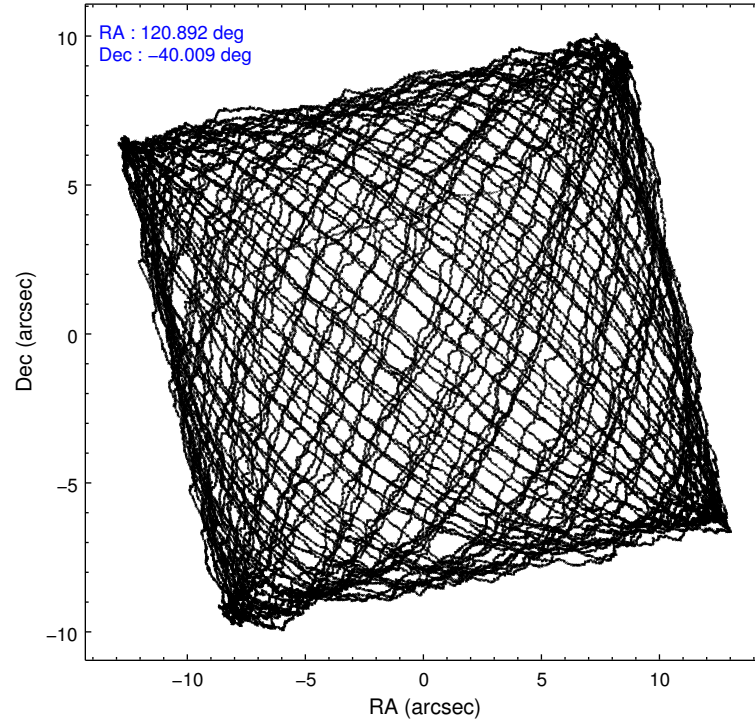
2.1.4 Events

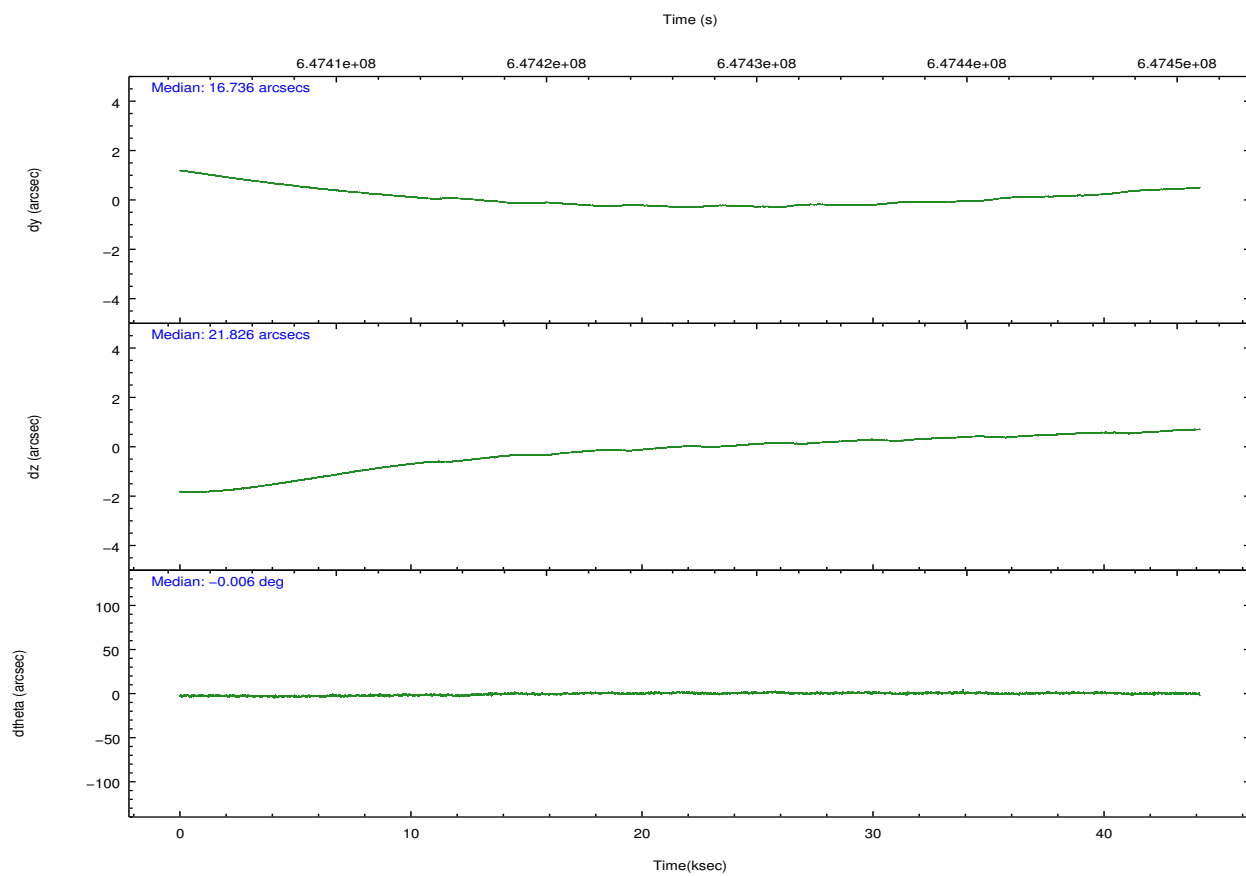
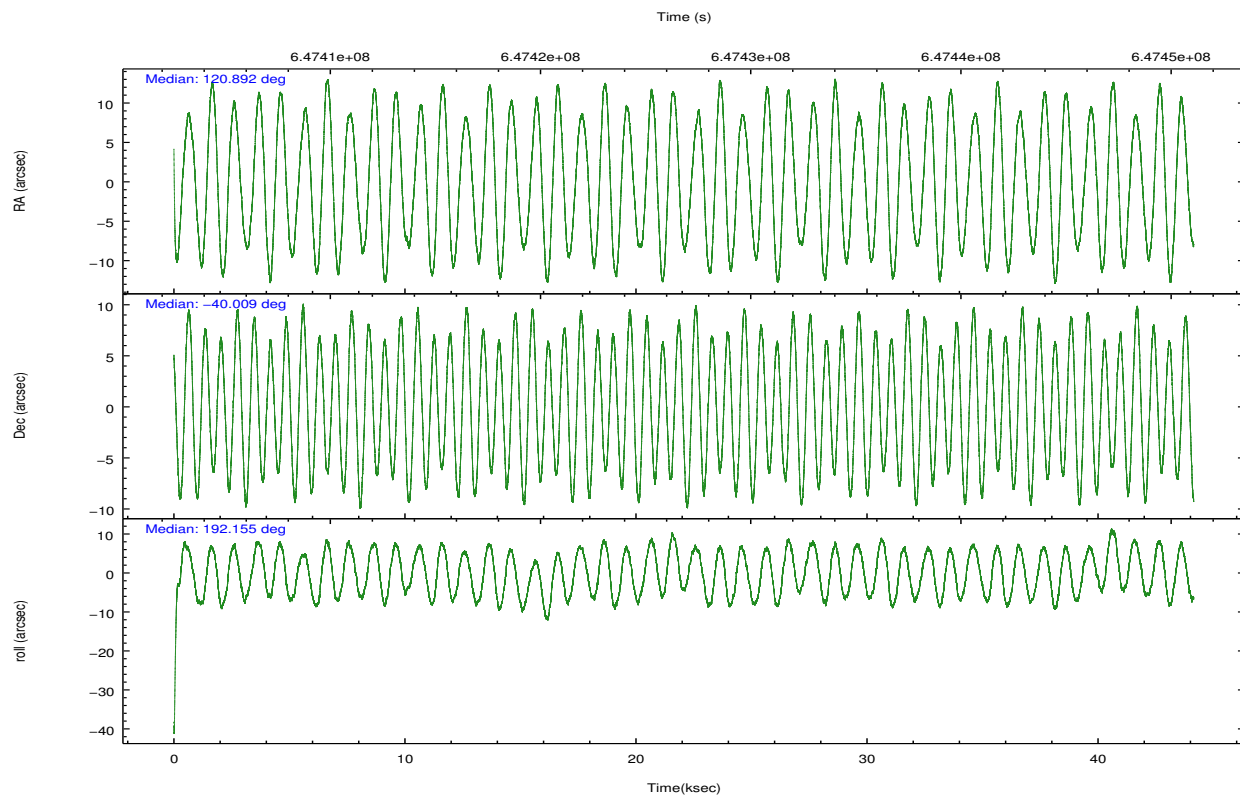
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	389768	530415	339563	427841	440828	342328	grade 0 events	16557	19618	14324	16951	35480	13964
rejected events	348492	274632	299410	237414	321252	302078		4%	3%	4%	3%	8%	4%
rejected %	89%	51%	88%	55%	72%	88%	grade 1 events	395	1445	178	634	375	187
								0%	0%	0%	0%	0%	0%
							grade 2 events	9747	80304	9538	41207	28527	9269
								2%	15%	2%	9%	6%	2%
							grade 3 events	4070	8138	3460	15546	12085	3963
								1%	1%	1%	3%	2%	1%
							grade 4 events	3964	7962	3588	15215	11471	3854
								1%	1%	1%	3%	2%	1%
							grade 5 events	15891	35960	14708	42280	23082	16907
								4%	6%	4%	9%	5%	4%
							grade 6 events	6944	139781	9246	101524	32030	9203
								1%	26%	2%	23%	7%	2%
							grade 7 events	332200	237207	284521	194484	297778	284981
								85%	44%	83%	45%	67%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
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	120.917743	120.8915088495828	CCD I2 on	N	N
[deg] Pointing Dec	-39.989924	-40.00861189891508	CCD I3 on	N	N
[deg] Pointing Roll	192.014079	192.1538329688138	CCD S0 on	O2	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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	647404877.184000	647403658.17361	CCD S5 on	O1	Y
Observation start date	2018-07-08T02:40:08	2018-07-08T02:20:58	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	647448877.184000	647449853.90135	On-chip summing requested	N	N
Observation end date	2018-07-08T14:53:28	2018-07-08T15:10:53	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



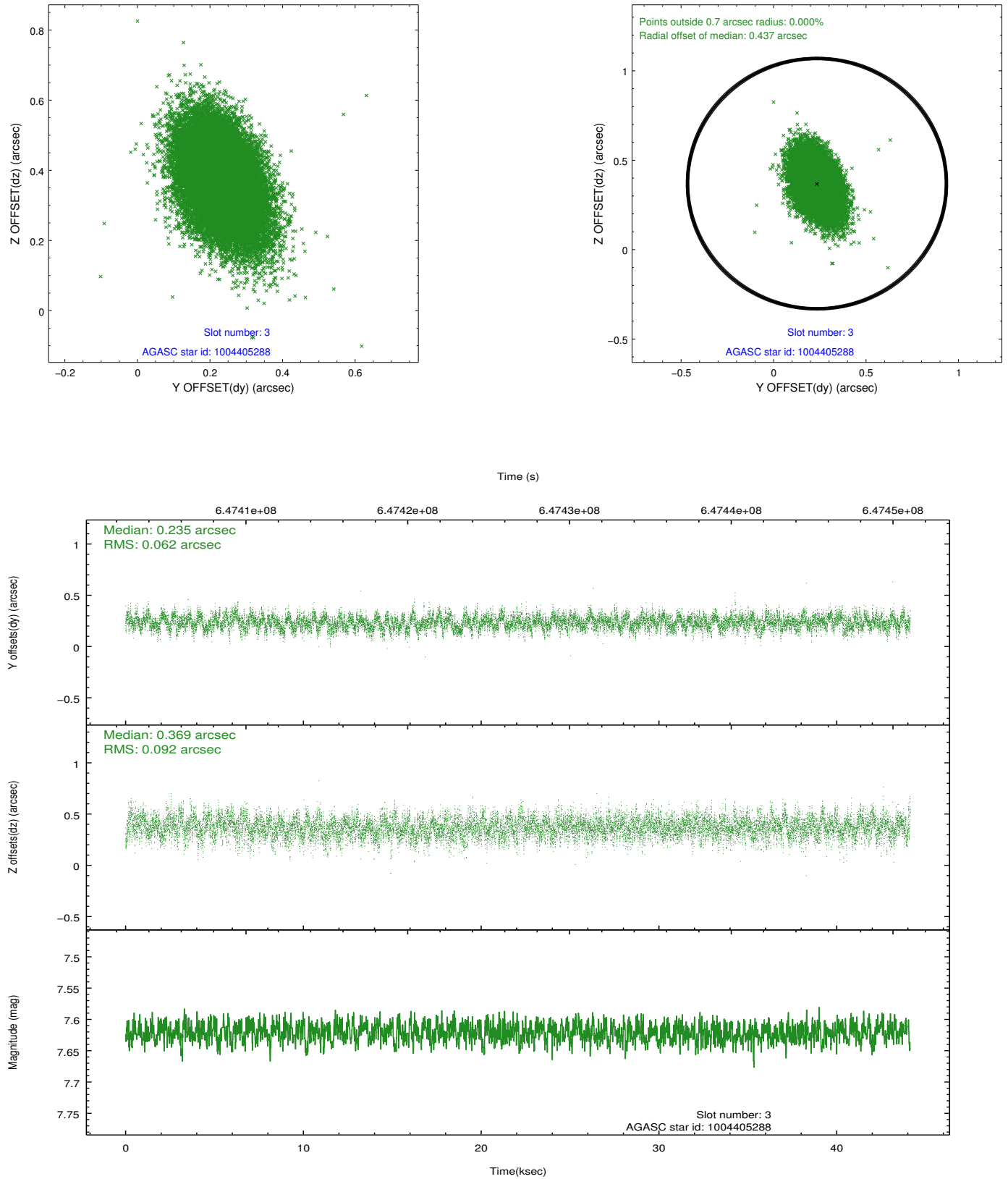


Slot Statistics

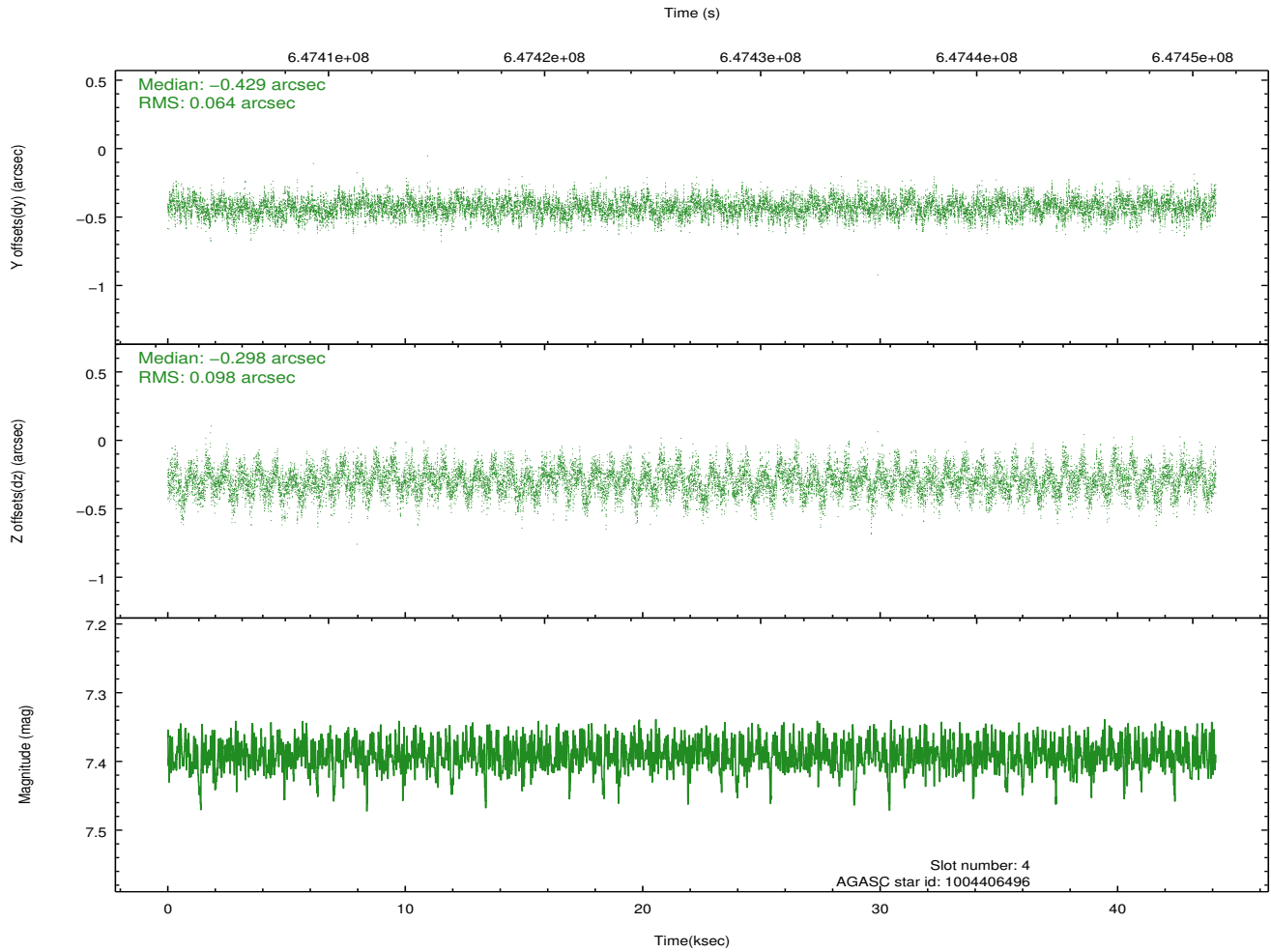
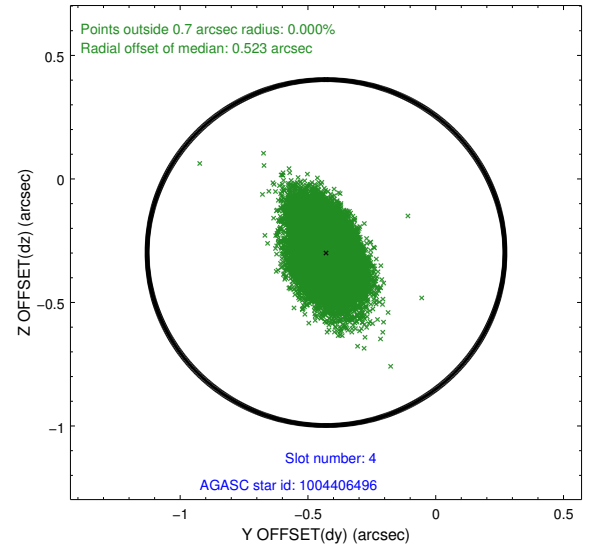
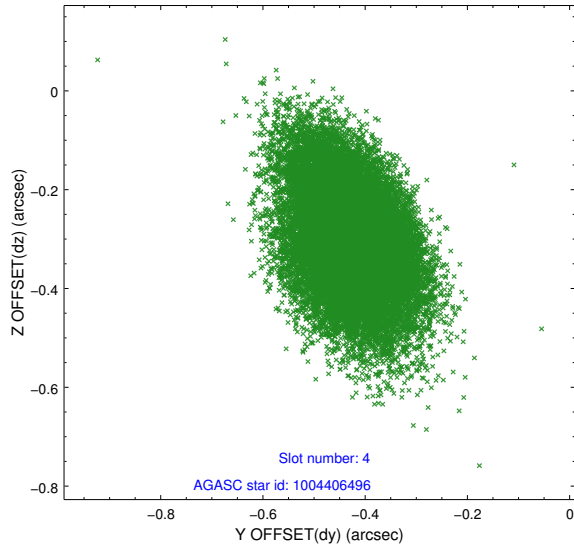
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.17	10764	1.000	-0.077	-0.055	0.042	0.059	0.000000	0.000000	926.11	-1738
1	FID		ACIS-S-4	7.18	10765	1.000	0.201	0.051	0.025	0.041	0.000000	0.000000	2143.78	165
2	FID		ACIS-S-6	7.33	10766	1.000	-0.149	0.017	0.020	0.035	0.000000	0.000000	391.95	802
3	GUIDE	used	1004405288	7.62	21526	1.000	0.235	0.369	0.115	0.198	121.091785	-39.410922	-906.80	-1936
4	GUIDE	used	1004406496	7.39	21529	1.000	-0.429	-0.298	0.123	0.208	120.210035	-40.527356	2298.31	1497
5	GUIDE	used	1004435080	8.97	21499	1.000	0.340	0.444	0.141	0.239	121.357562	-39.510372	-1552.87	-1430
6	GUIDE	used	1004413080	8.78	21520	1.000	-0.293	-0.272	0.117	0.203	120.242432	-40.499402	2191.37	1415
7	GUIDE	used	1004425112	8.84	21504	1.000	0.146	-0.239	0.122	0.211	121.364029	-39.923076	-1254.07	24

2.4 Star Slots

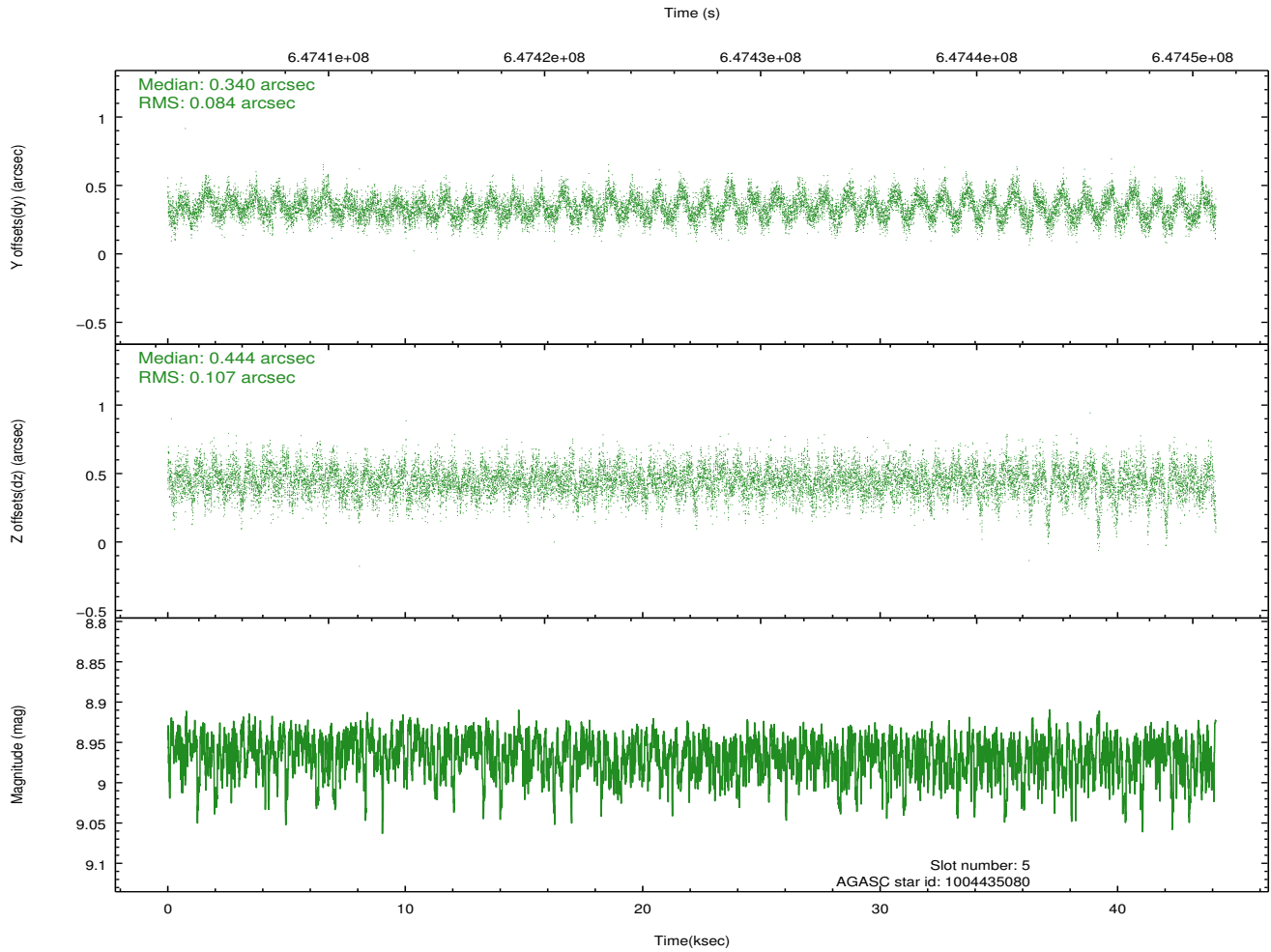
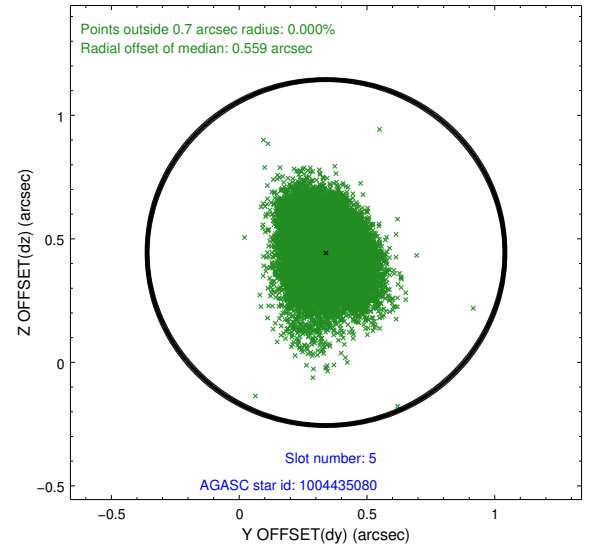
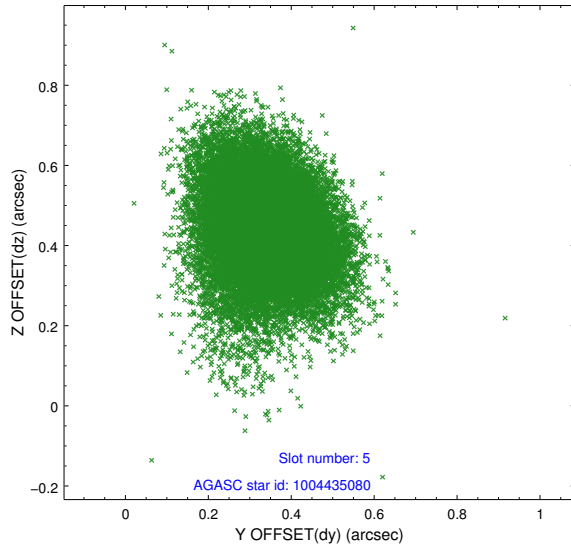
2.4.1 Slot 3



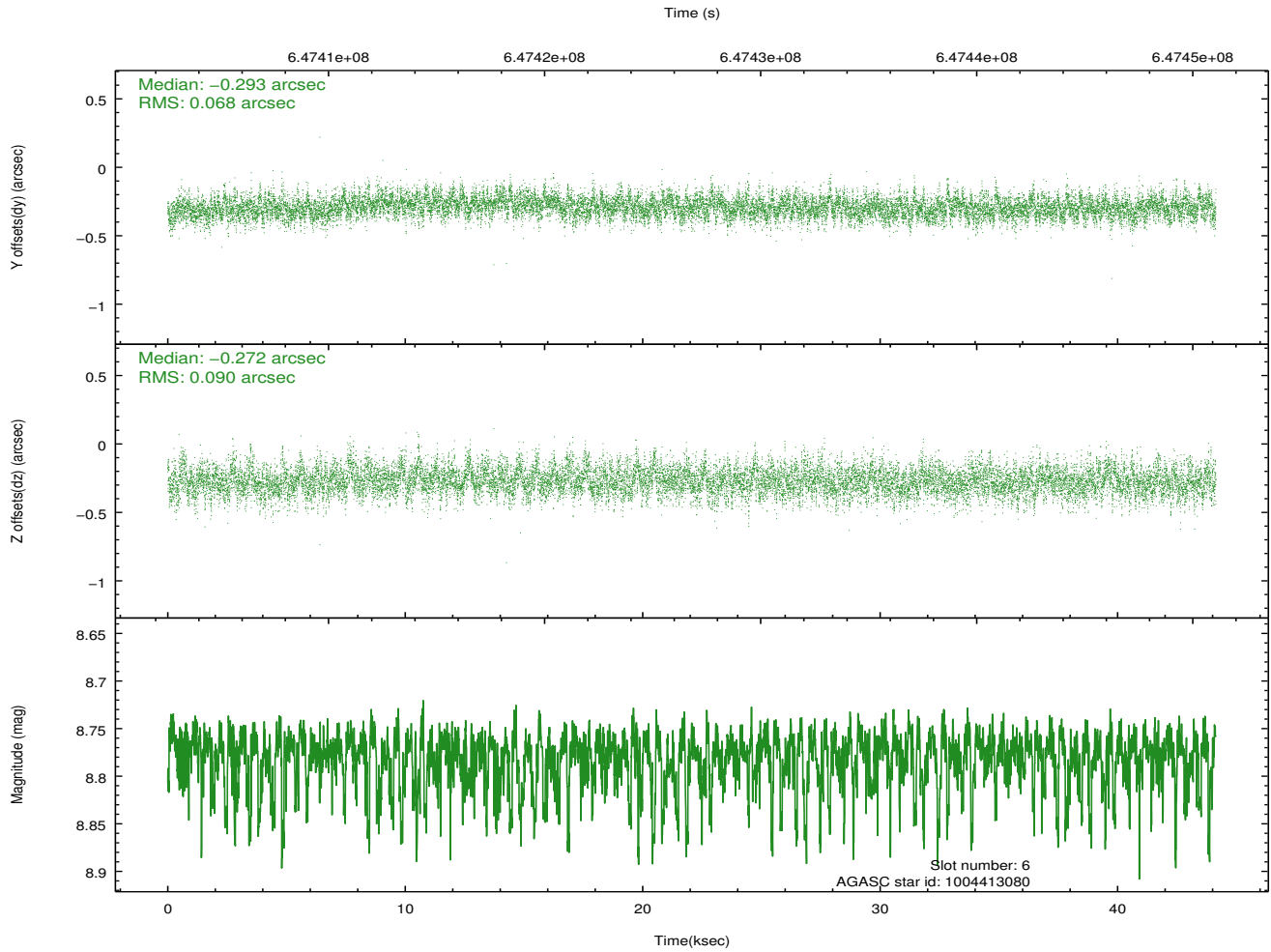
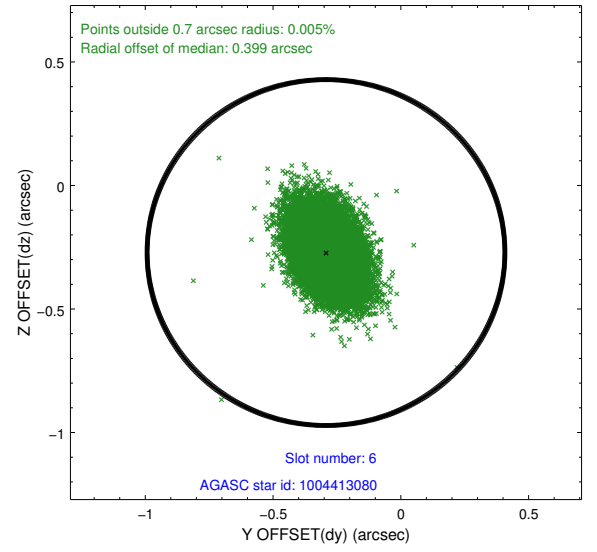
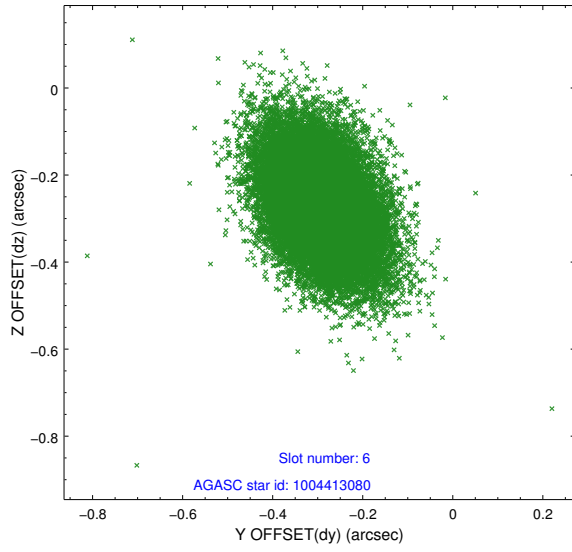
2.4.2 Slot 4



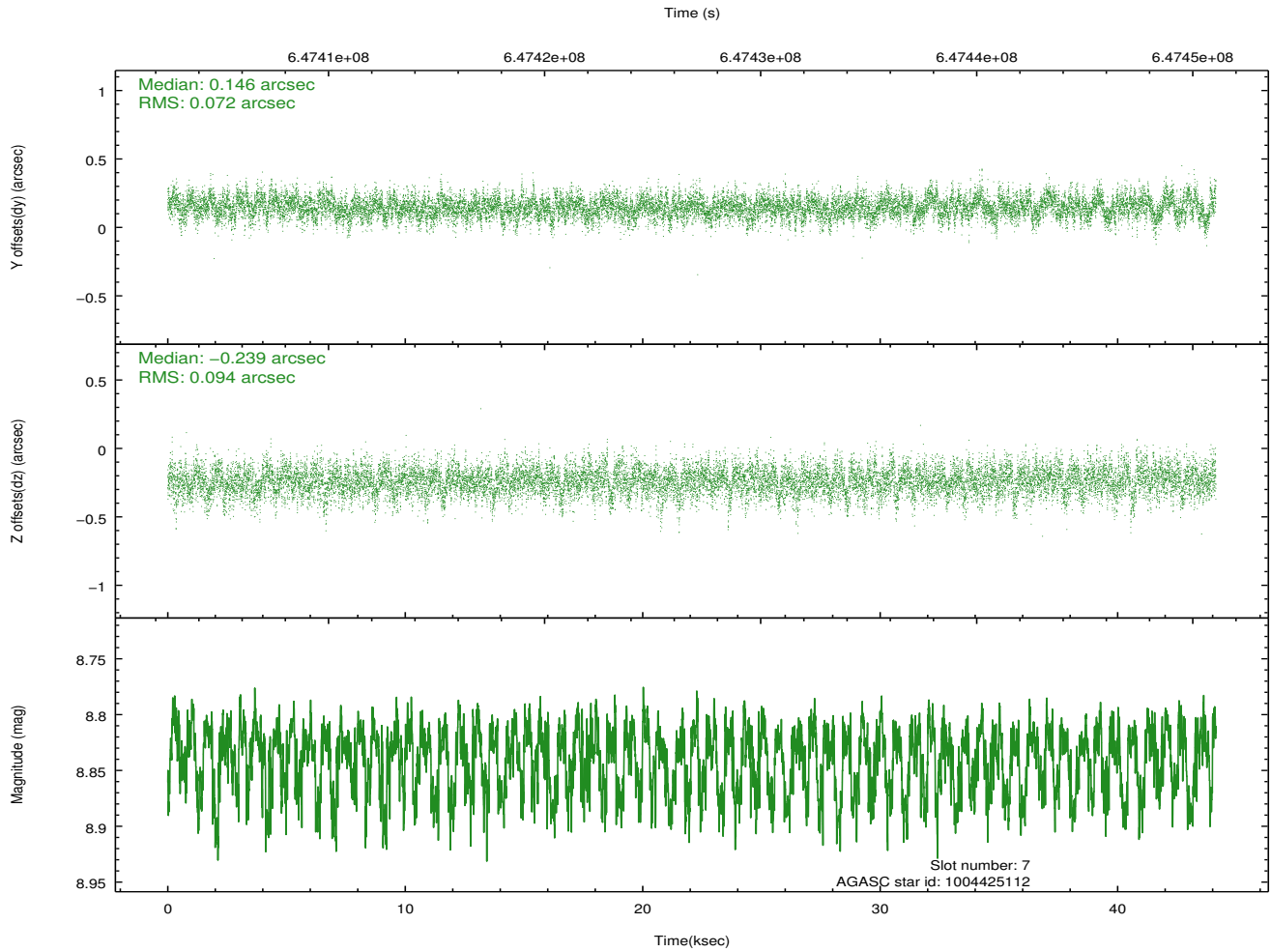
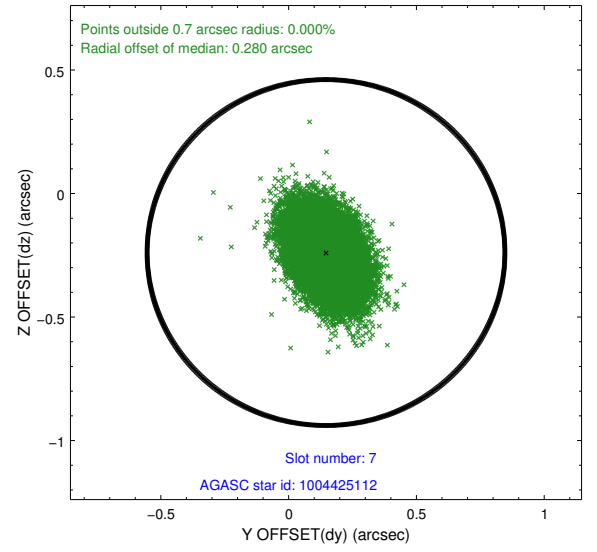
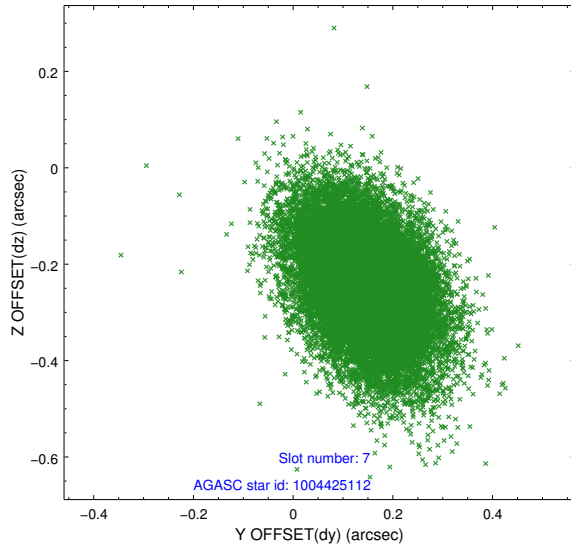
2.4.3 Slot 5



2.4.4 Slot 6

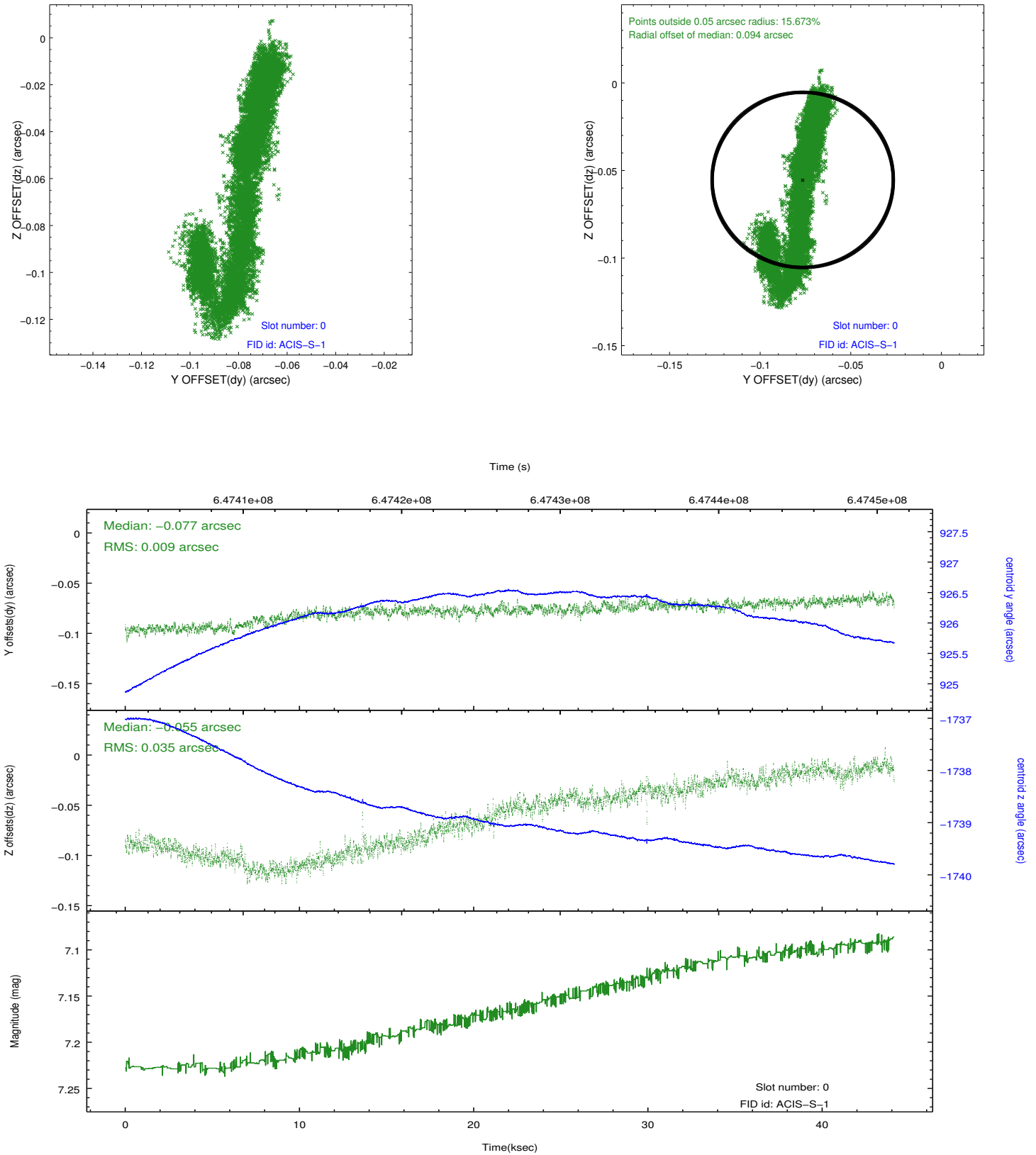


2.4.5 Slot 7

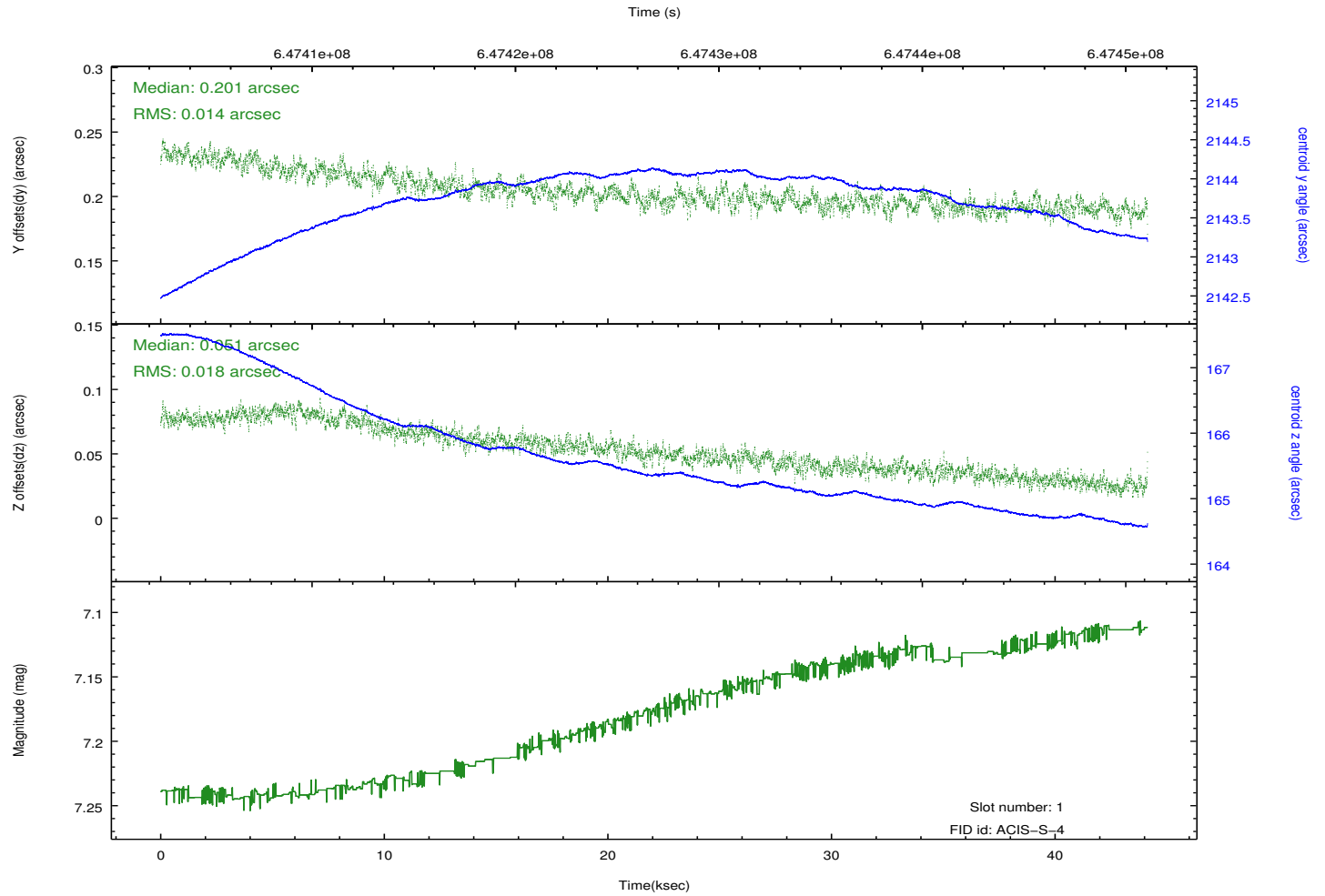
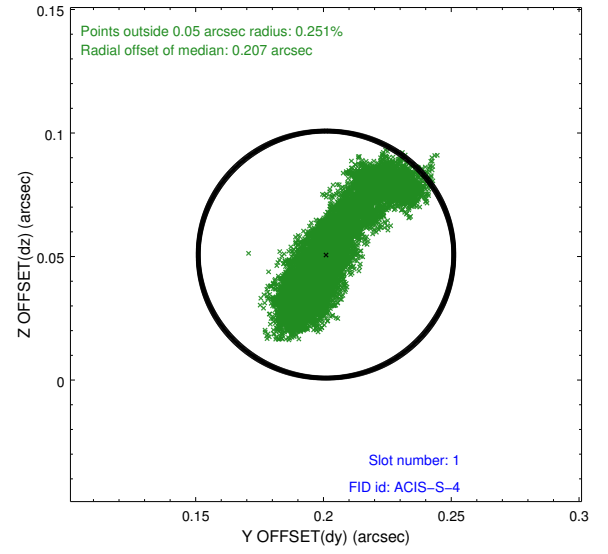
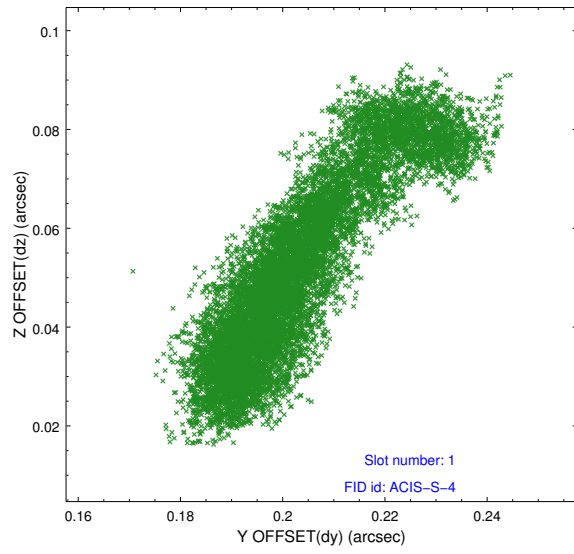


2.5 FID Slots

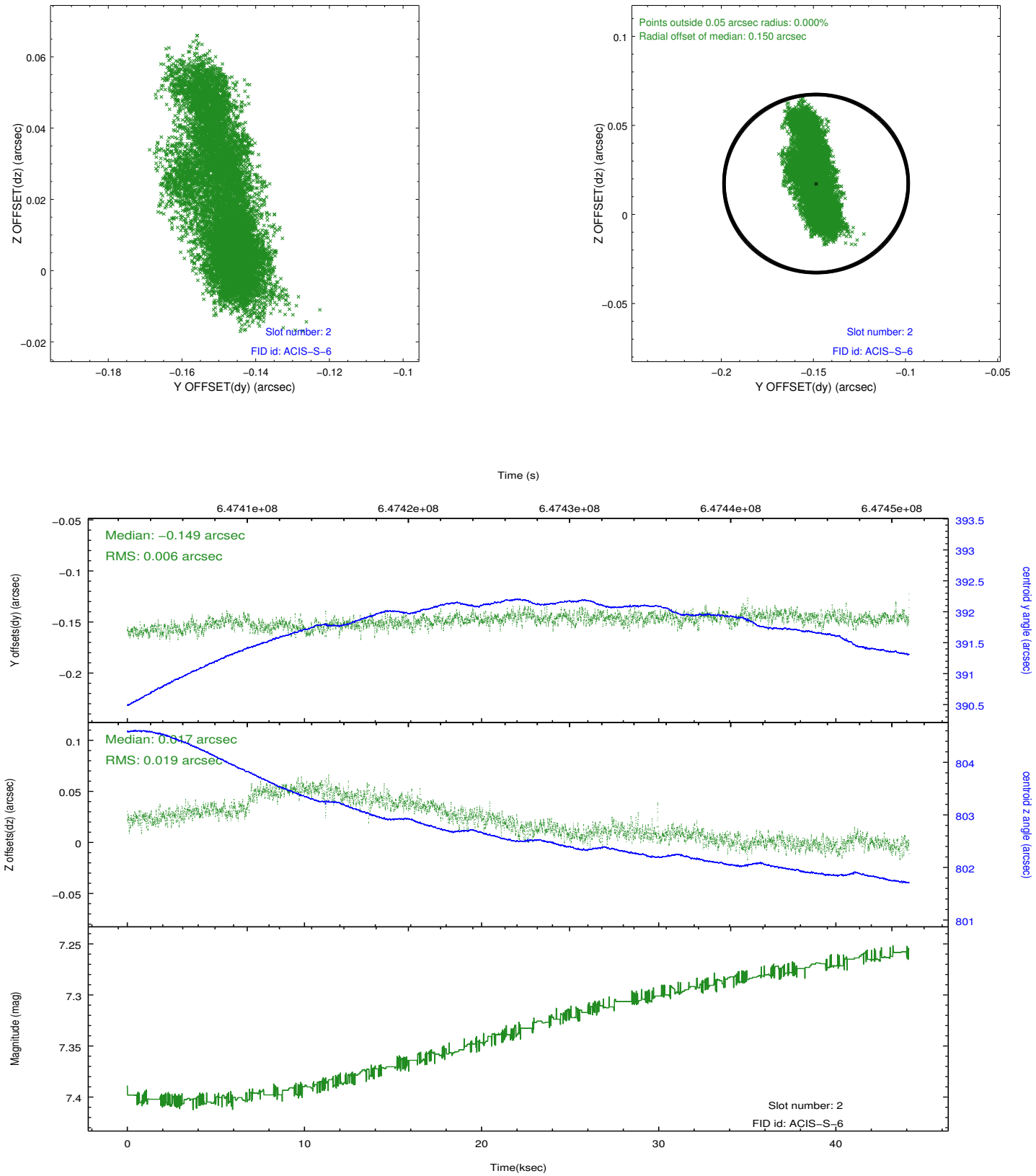
2.5.1 Slot 0



2.5.2 Slot 1

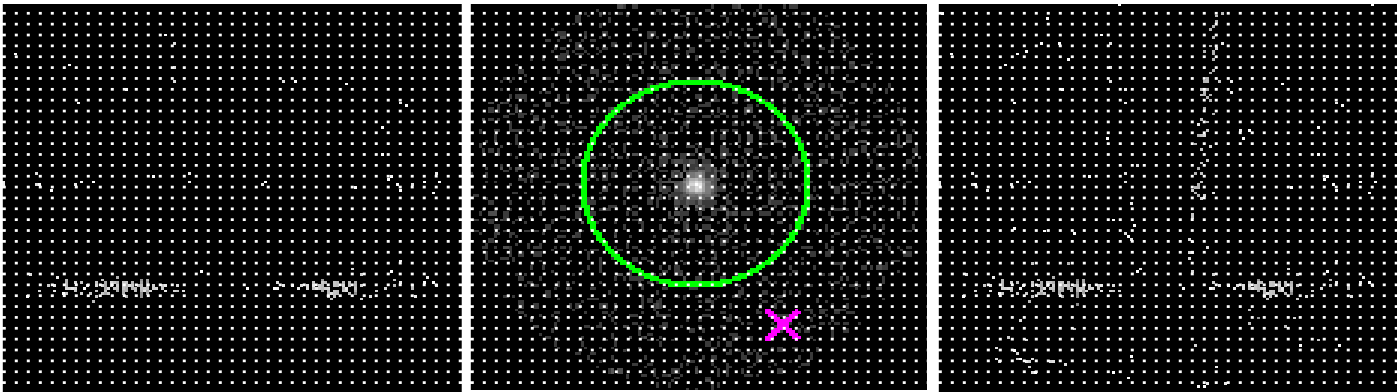


2.5.3 Slot 2



3 Gratings

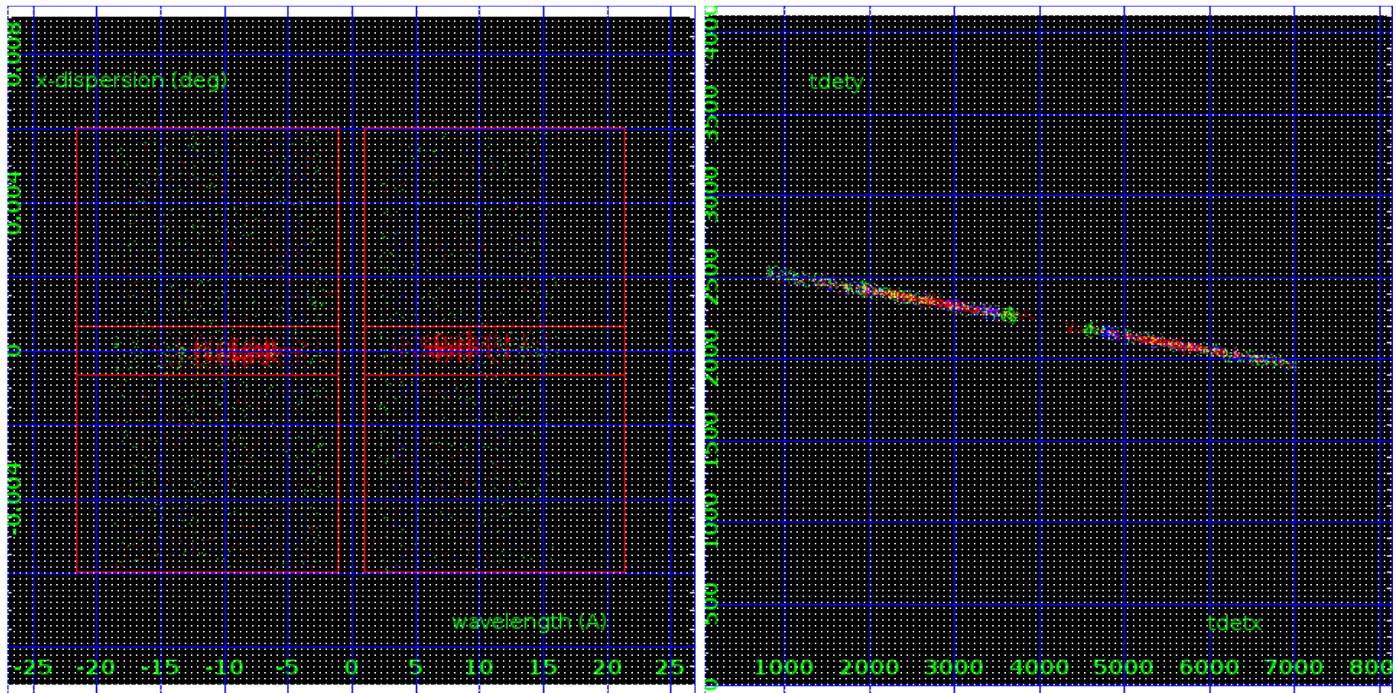
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

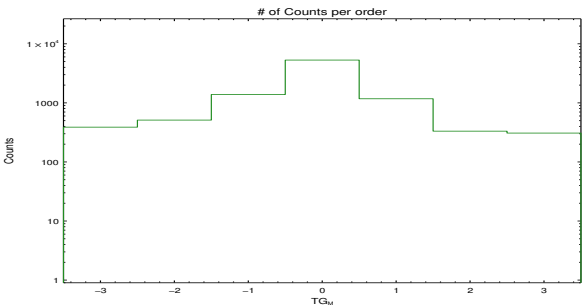
HEG Order Sort ALL

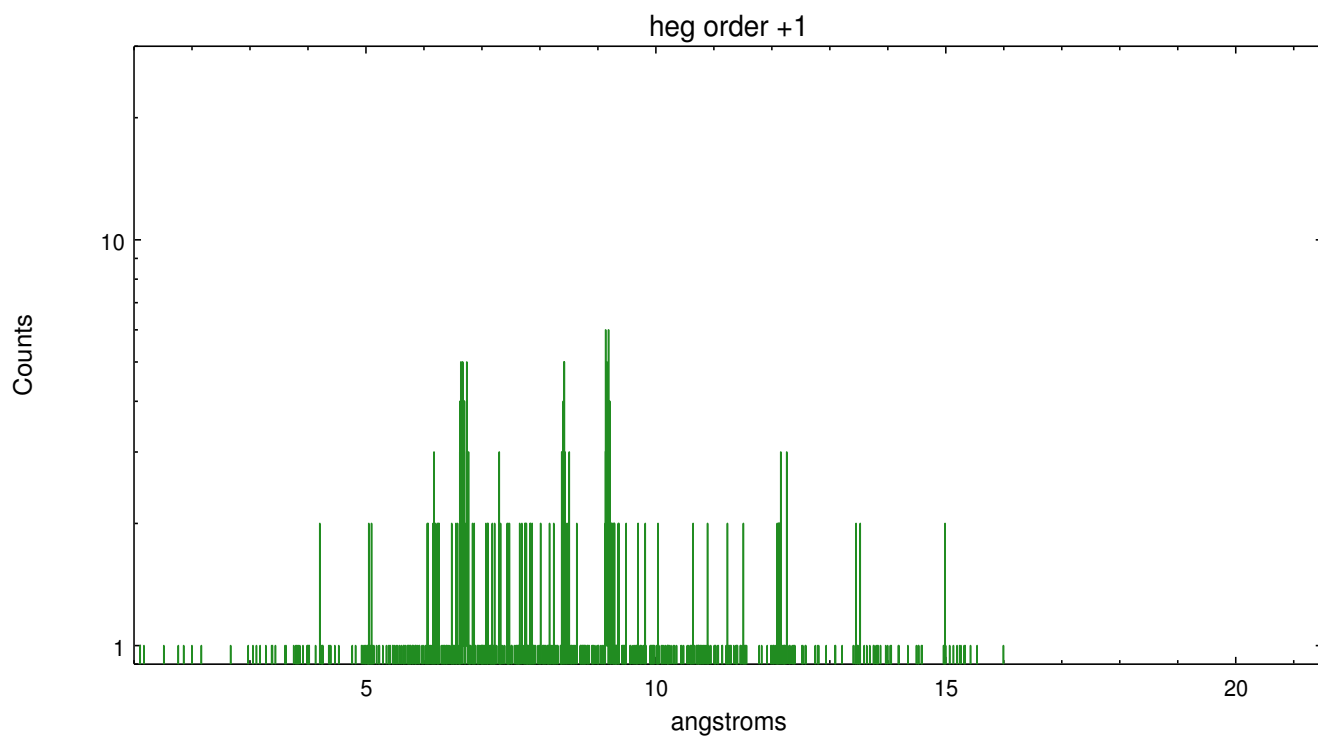
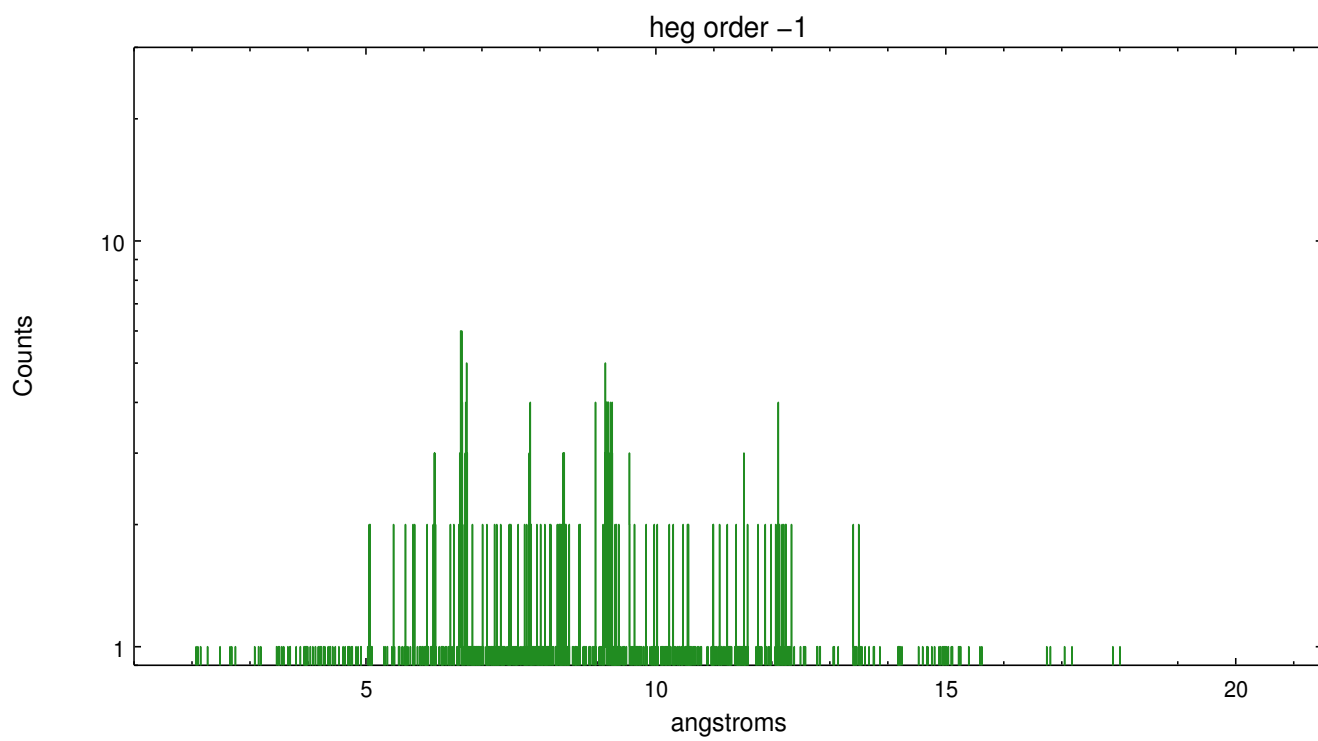


Spot Image HEG

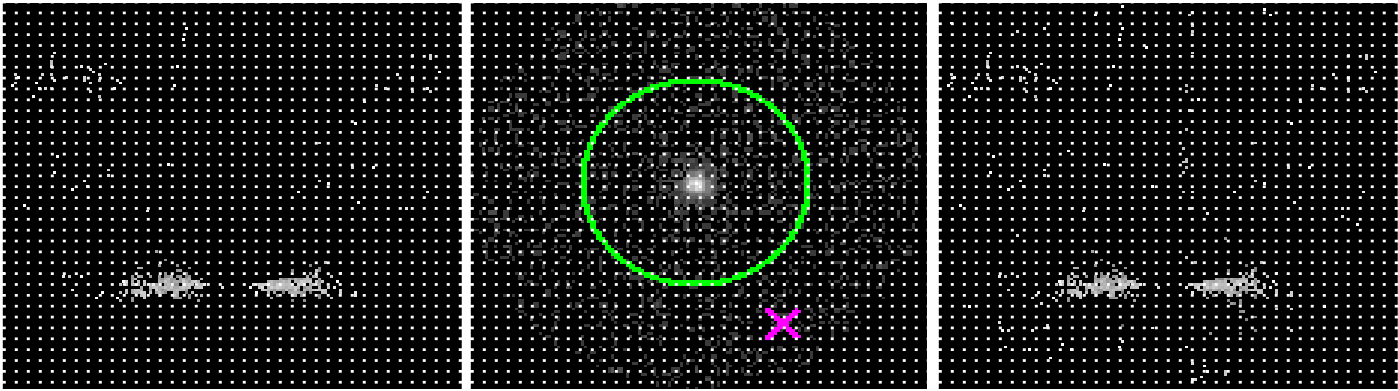
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	388	511	1384	5303	1174	332	308





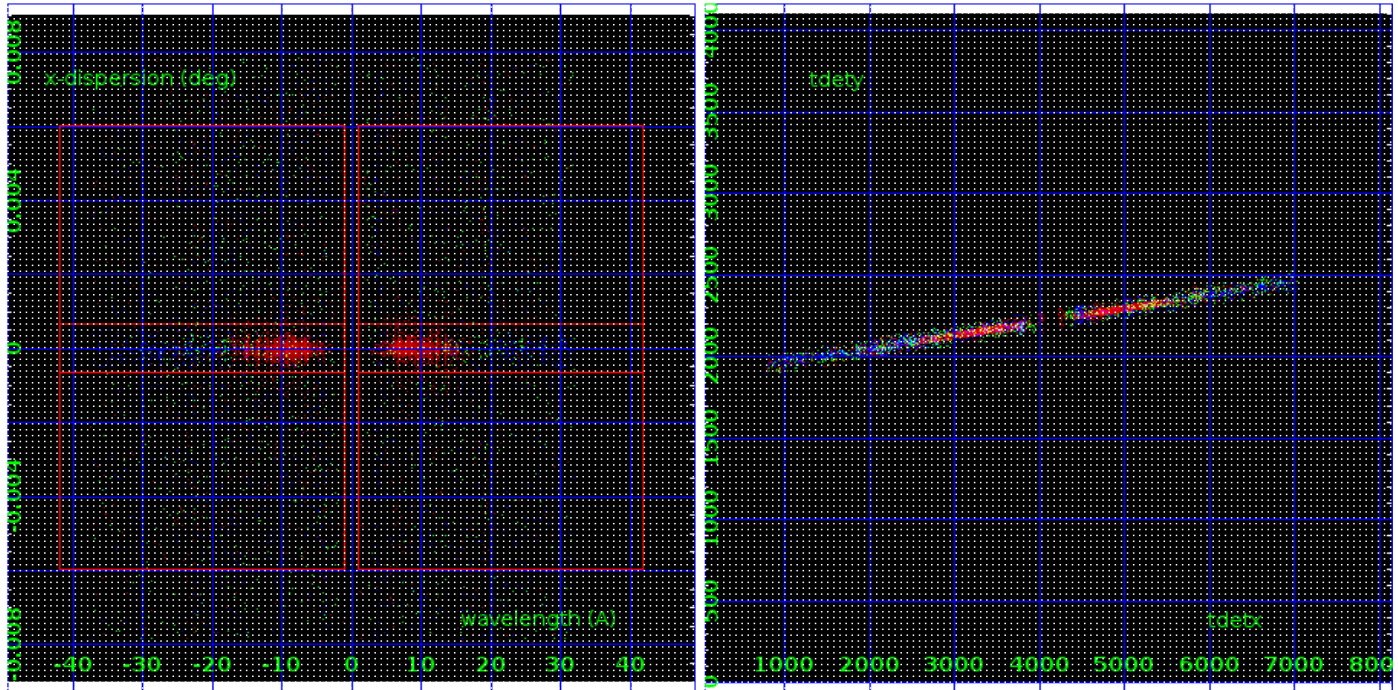
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

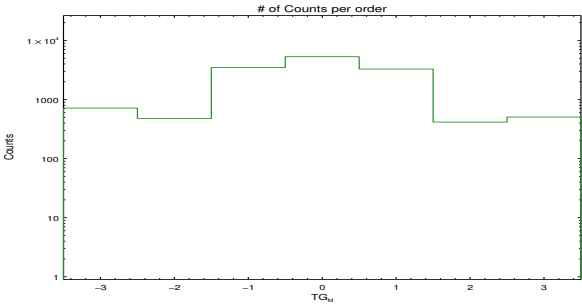
MEG Order Sort ALL

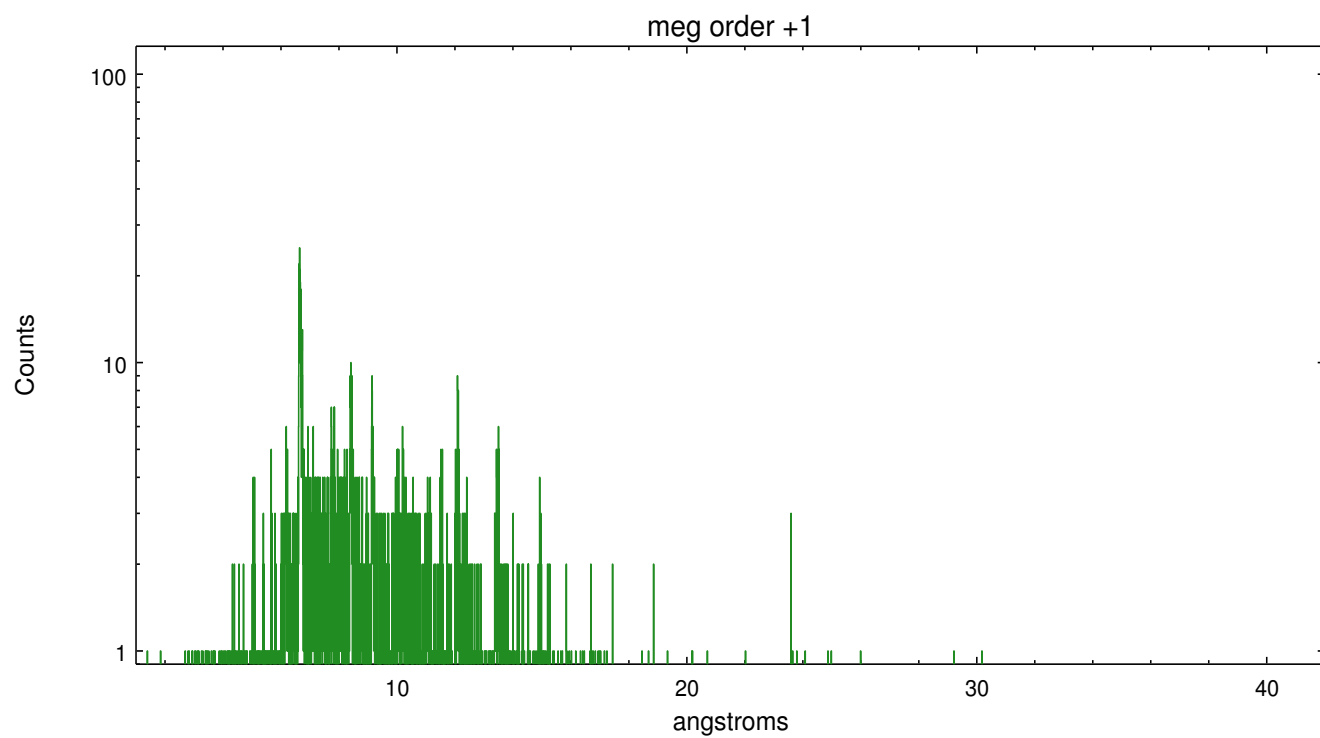
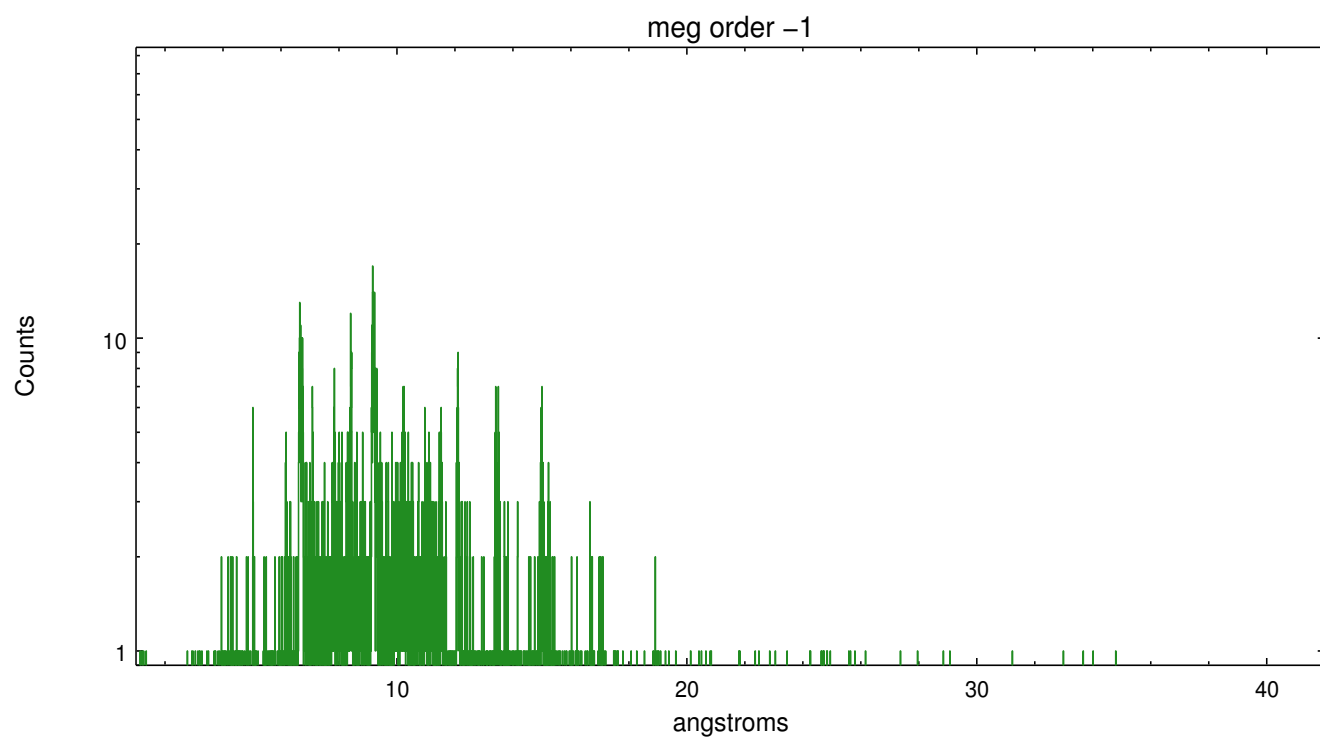


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	716	476	3470	5303	3278	415	505





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.07.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	43.944250626326

A.2 Comments