

V&V Reference Report

L2 ASCDS Version : 10.6.3

Observation 21111 - L2 Version 1
Chandra X-Ray Center

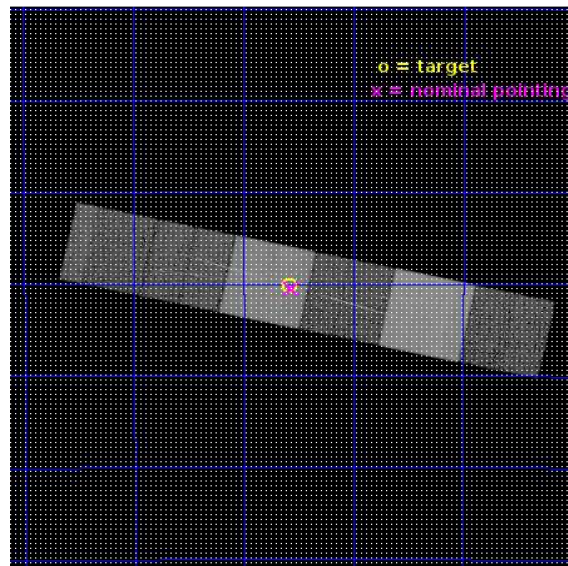
L2 Processing Date : Jul 6 2018

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

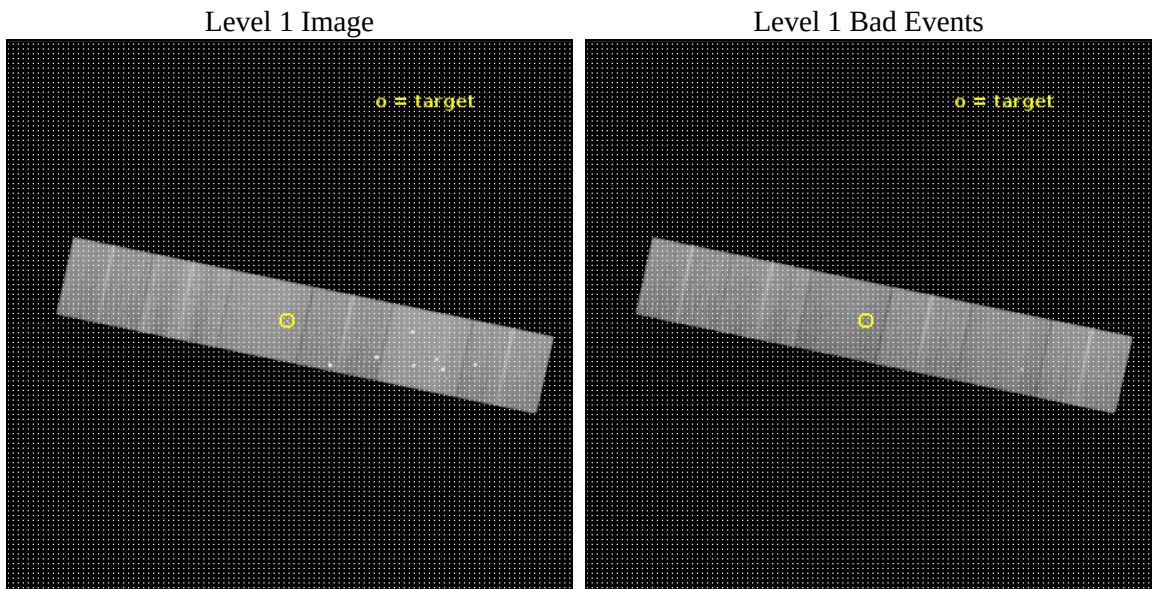
seq_num	201176	Sequence number
obs_id	21111	Observation id
title	Legacy HETG Spectrum of a Massive Star: zeta Pup	Proposal title
observer	Wayne Waldron	Principal investigator
object	zeta Pup	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	120.895833	Observer's specified target RA [deg]
dec_targ	-40.003139	Observer's specified target Dec [deg]
ra_nom	120.89147835579	Nominal RA [deg]
dec_nom	-40.008632978587	Nominal Dec [deg]
roll_nom	192.15381480426	Nominal Roll [deg]
revision	1	Processing version of data
ontime	27209.150774956	Sum of GTIs [s]
livetime	26864.61212446	Livetime [s]
ontime4	27209.191814899	Sum of GTIs [s]
ontime5	27209.109734893	Sum of GTIs [s]
ontime6	27209.068694949	Sum of GTIs [s]
ontime7	27209.150774956	Sum of GTIs [s]
ontime8	27209.027654886	Sum of GTIs [s]
ontime9	27208.986614943	Sum of GTIs [s]
l2events	350594	Number of level 2 events



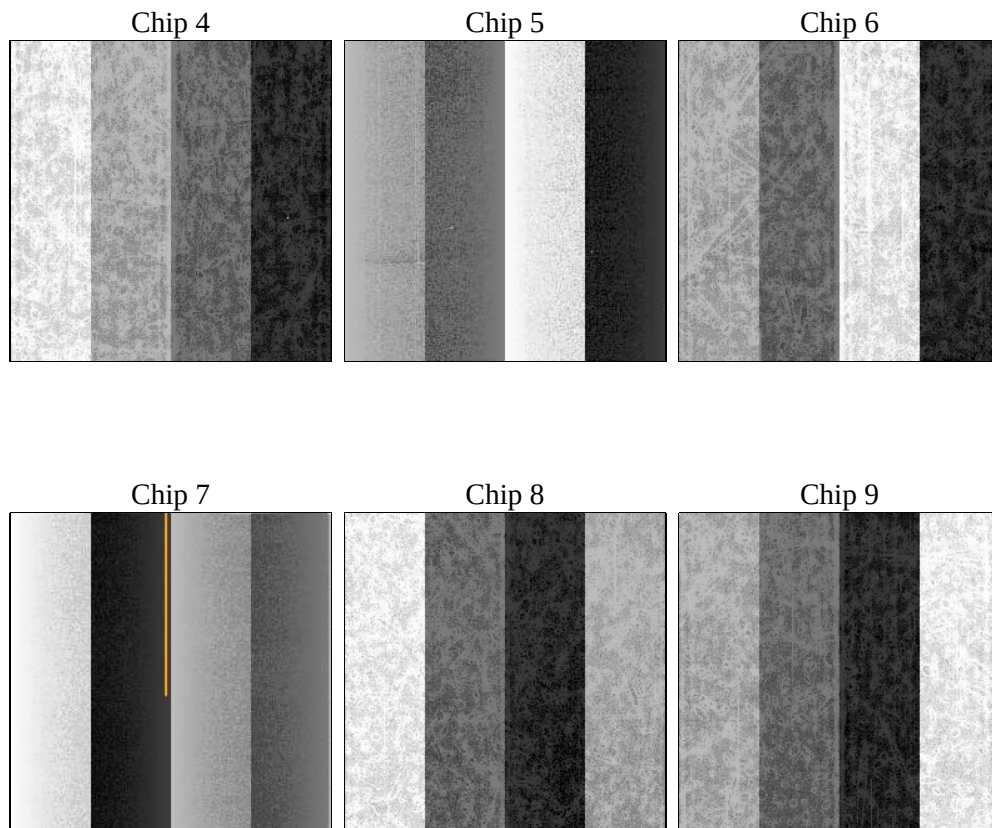
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27265.229000	[s] Scheduled observation exposure time
ascdsver	10.6.3	Processing system revision	ontime	27209.150774956	Sum of GTIs [s]
caldsver	4.7.8	 	ontime4	27209.191814899	Sum of GTIs [s]
date	2018-07-07T01:47:44	Date and time of file creation	ontime5	27209.109734893	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	27209.068694949	Sum of GTIs [s]
			ontime7	27209.150774956	Sum of GTIs [s]
			ontime8	27209.027654886	Sum of GTIs [s]
			ontime9	27208.986614943	Sum of GTIs [s]
			l1events	1585872	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			src1a_pos	(4072.78, 4127.21)	src1a sky pixel position

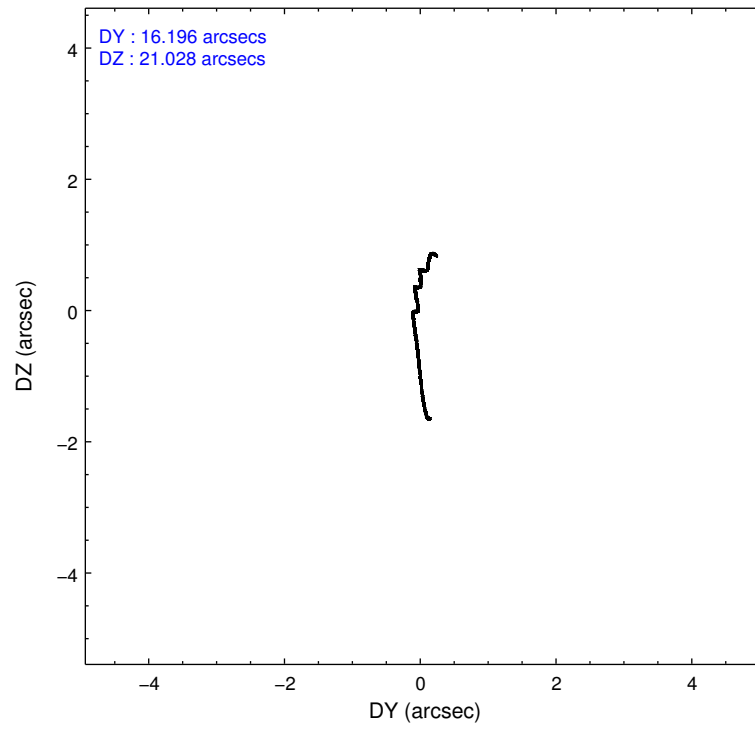
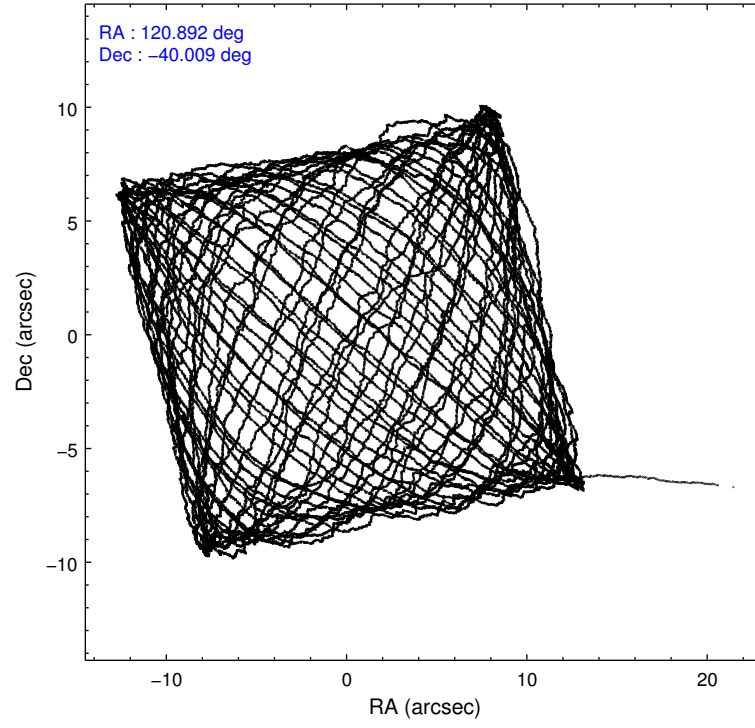
2.1.4 Events

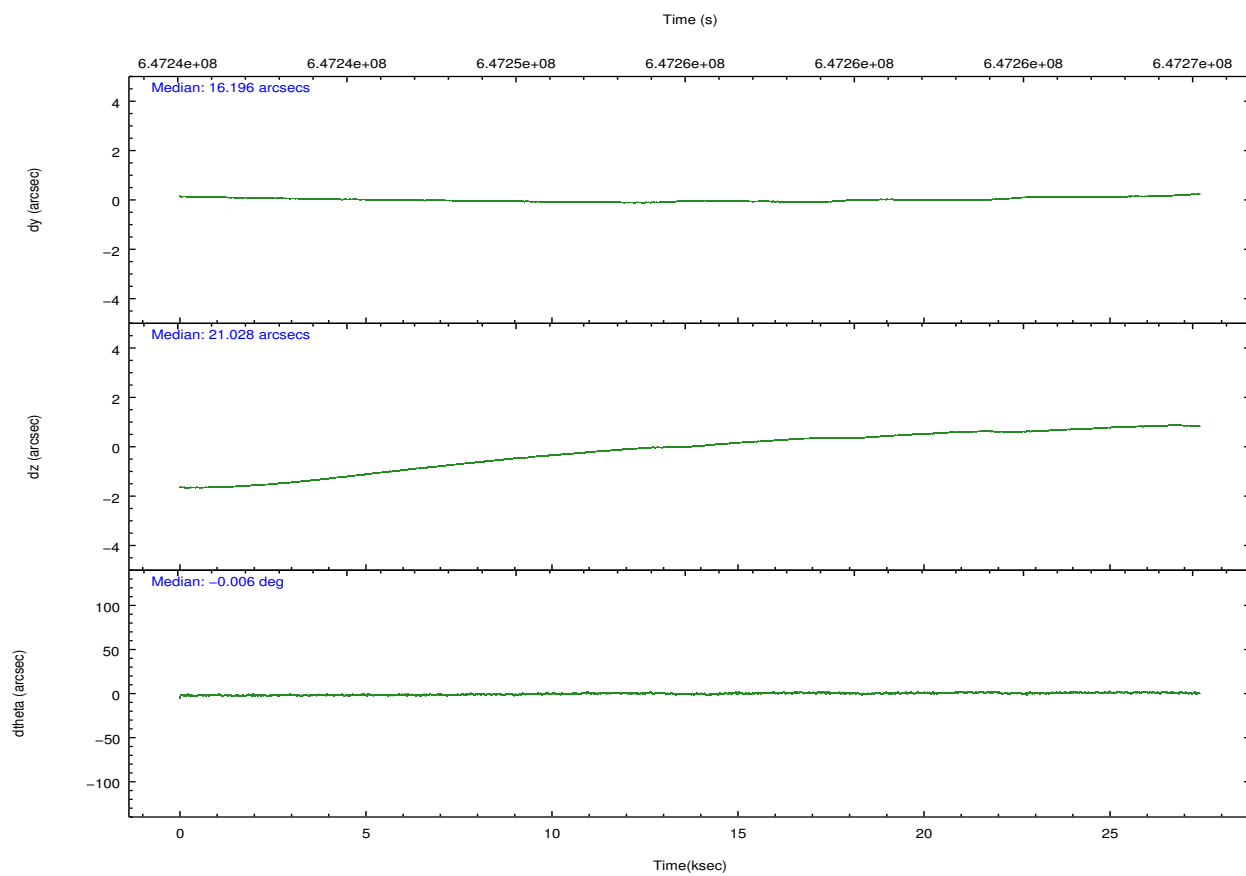
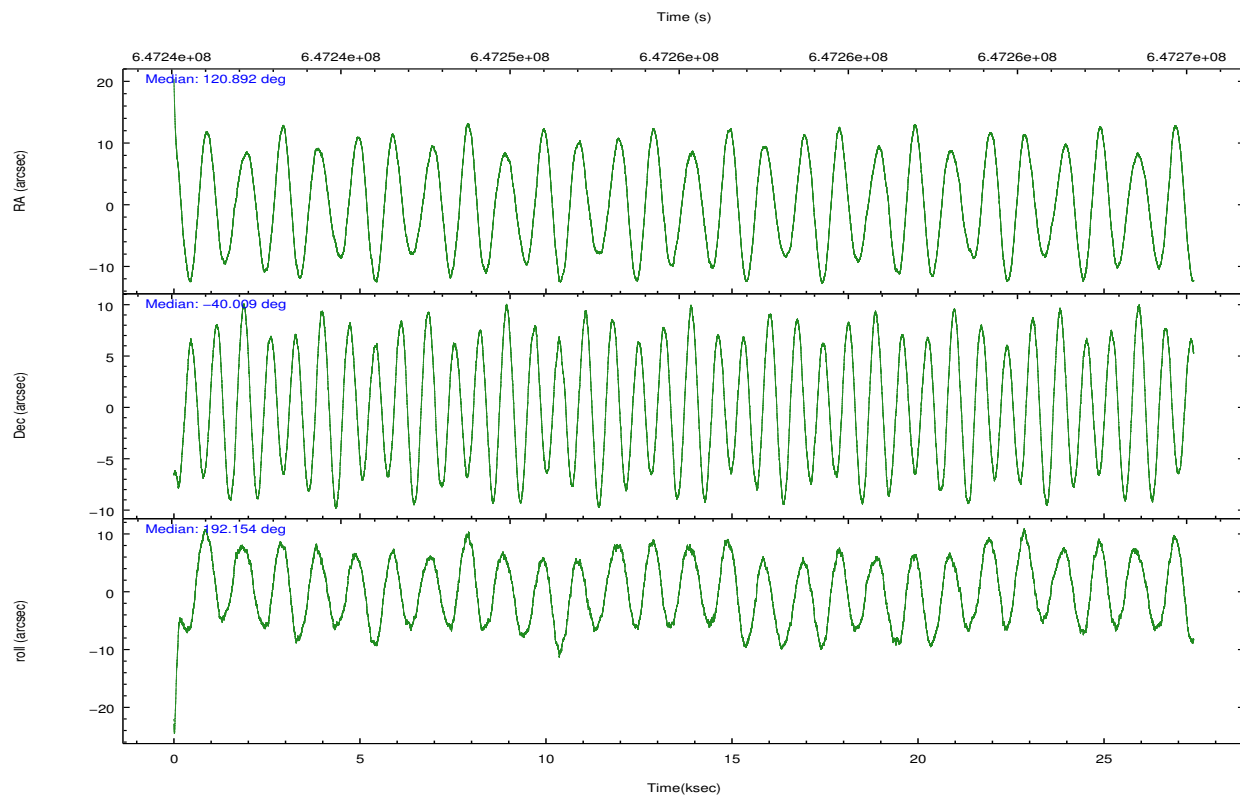
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	247265	349051	230944	267730	273350	217532	grade 0 events	13909	28567	24636	10447	21256	8688
rejected events	218023	169566	190390	149355	200301	192634		5%	8%	10%	3%	7%	3%
rejected %	88%	48%	82%	55%	73%	88%	grade 1 events	263	2006	170	397	243	144
								0%	0%	0%	0%	0%	0%
							grade 2 events	6005	54158	5821	25336	17653	5695
								2%	15%	2%	9%	6%	2%
							grade 3 events	2607	5122	2295	9678	7393	2541
								1%	1%	0%	3%	2%	1%
							grade 4 events	2483	4994	2125	9304	6980	2370
								1%	1%	0%	3%	2%	1%
							grade 5 events	9857	21753	9106	26535	14391	10731
								3%	6%	3%	9%	5%	4%
							grade 6 events	4252	86674	5691	63649	19780	5606
								1%	24%	2%	23%	7%	2%
							grade 7 events	207889	145777	181100	122384	185654	181757
								84%	41%	78%	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	120.917723	120.8914783557871	CCD I2 on	N	N
[deg] Pointing Dec	-39.989936	-40.0086329785869	CCD I3 on	N	N
[deg] Pointing Roll	192.014066	192.1538148042589	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)	647241587.184000	647240409.48895	CCD S5 on	O1	Y
Observation start date	2018-07-06T05:18:38	2018-07-06T05:00:09	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	647268853.184000	647269733.20318	On-chip summing requested	N	N
Observation end date	2018-07-06T12:53:04	2018-07-06T13:08:53	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



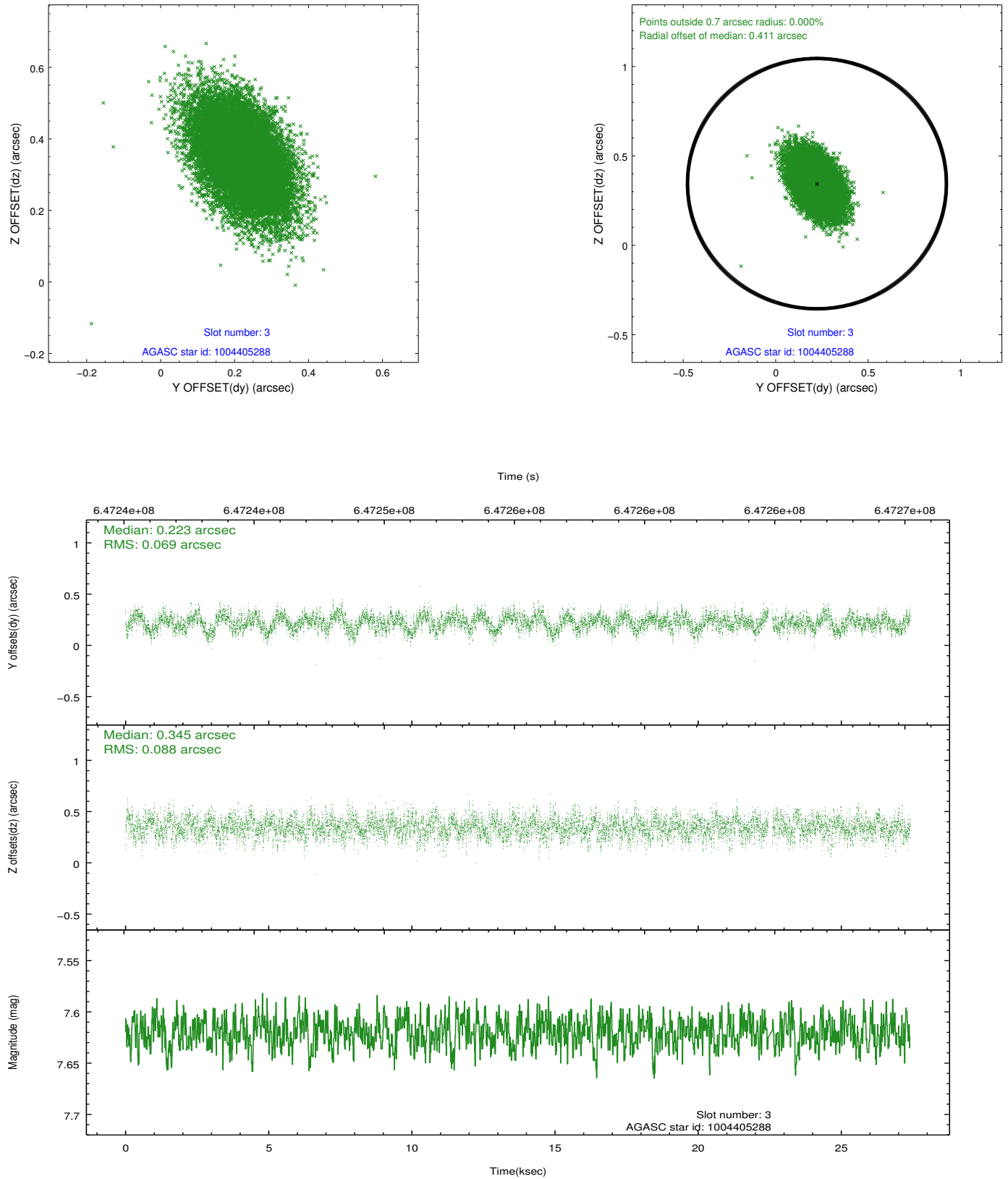


Slot Statistics

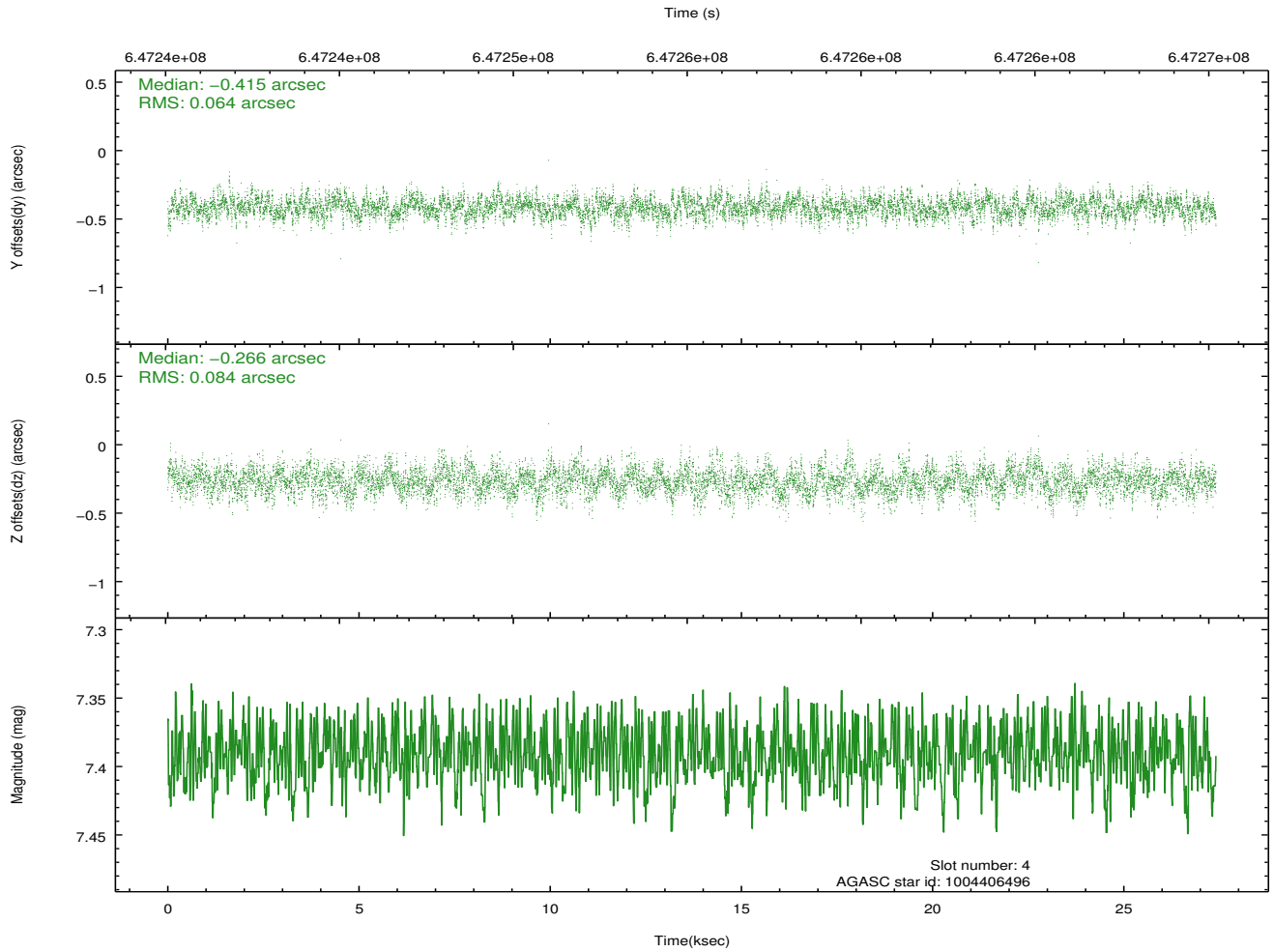
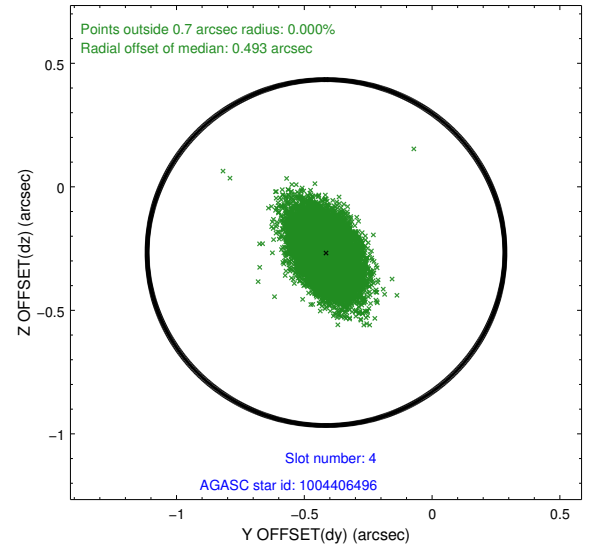
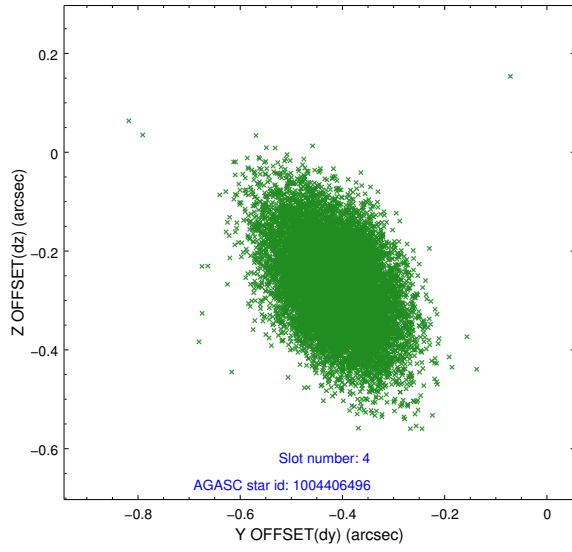
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.16	6686	1.000	-0.086	-0.090	0.021	0.060	0.000000	0.000000	926.74	-1738
1	FID		ACIS-S-4	7.18	6685	1.000	0.209	0.067	0.016	0.023	0.000000	0.000000	2144.48	166
2	FID		ACIS-S-6	7.34	6686	1.000	-0.147	0.035	0.012	0.048	0.000000	0.000000	392.72	803
3	GUIDE	used	1004405288	7.62	13302	1.000	0.223	0.345	0.117	0.196	121.091785	-39.410922	-906.89	-1937
4	GUIDE	used	1004406496	7.39	13364	1.000	-0.415	-0.266	0.110	0.189	120.210035	-40.527356	2298.17	1497
5	GUIDE	used	1004435080	8.96	13366	1.000	0.315	0.425	0.136	0.221	121.357562	-39.510372	-1552.93	-1430
6	GUIDE	used	1004413080	8.78	13361	1.000	-0.257	-0.263	0.115	0.202	120.242432	-40.499402	2191.24	1415
7	GUIDE	used	1004425112	8.83	13358	1.000	0.137	-0.239	0.118	0.204	121.364029	-39.923076	-1254.14	24

2.4 Star Slots

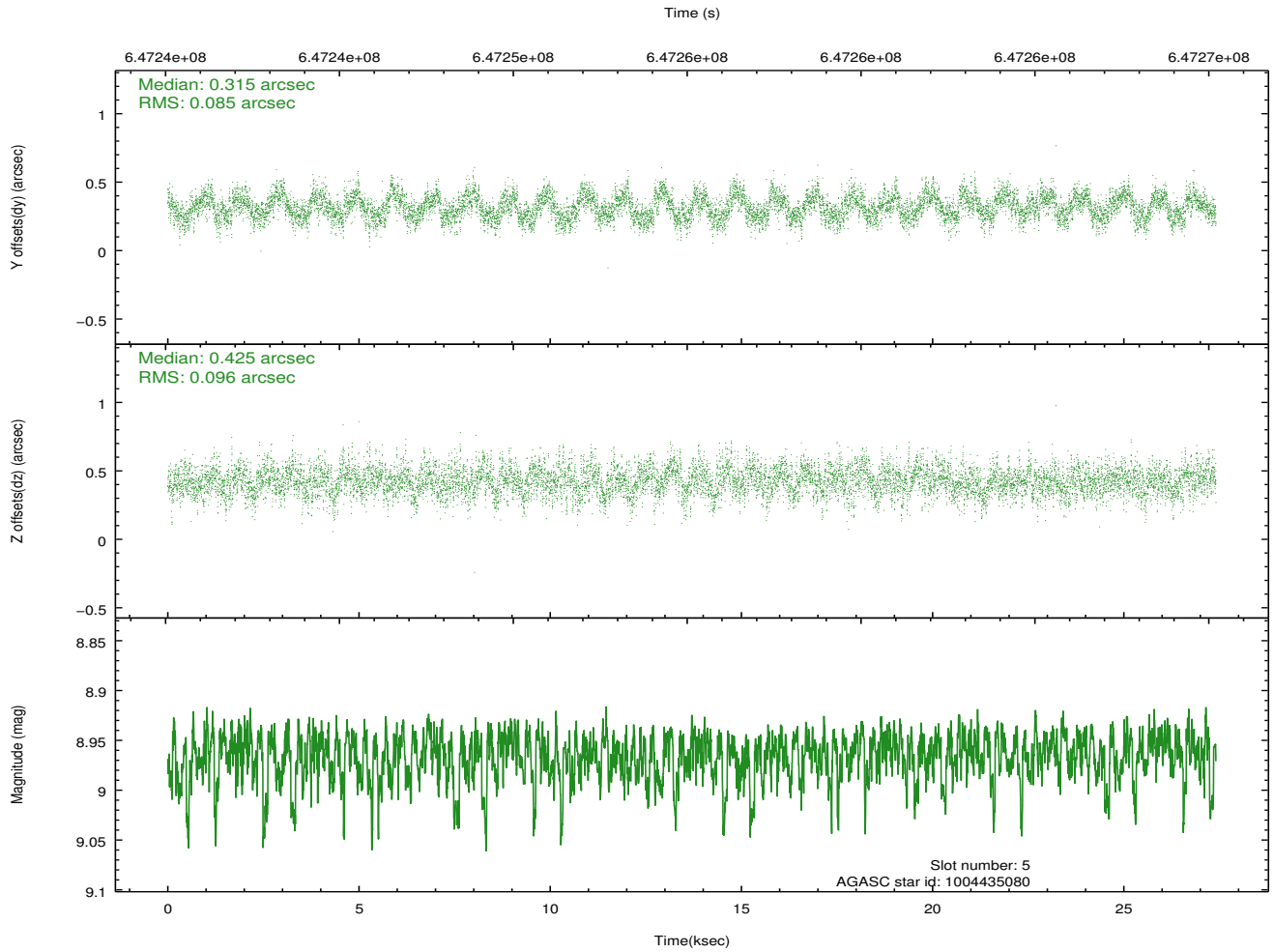
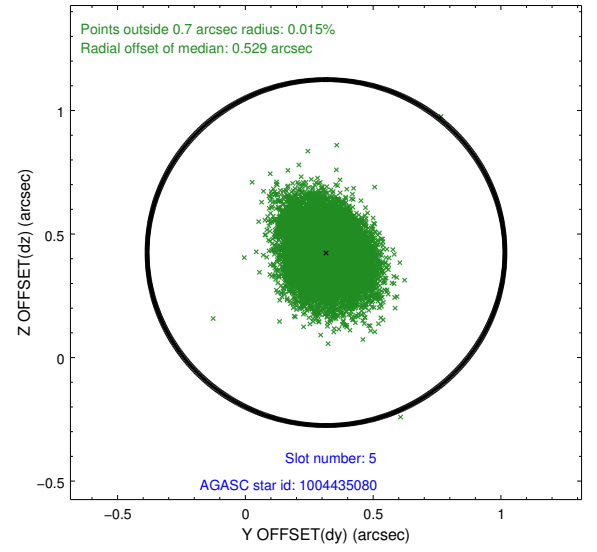
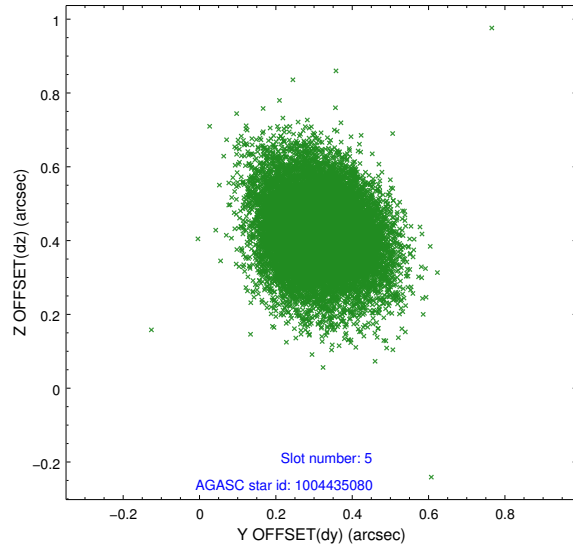
2.4.1 Slot 3



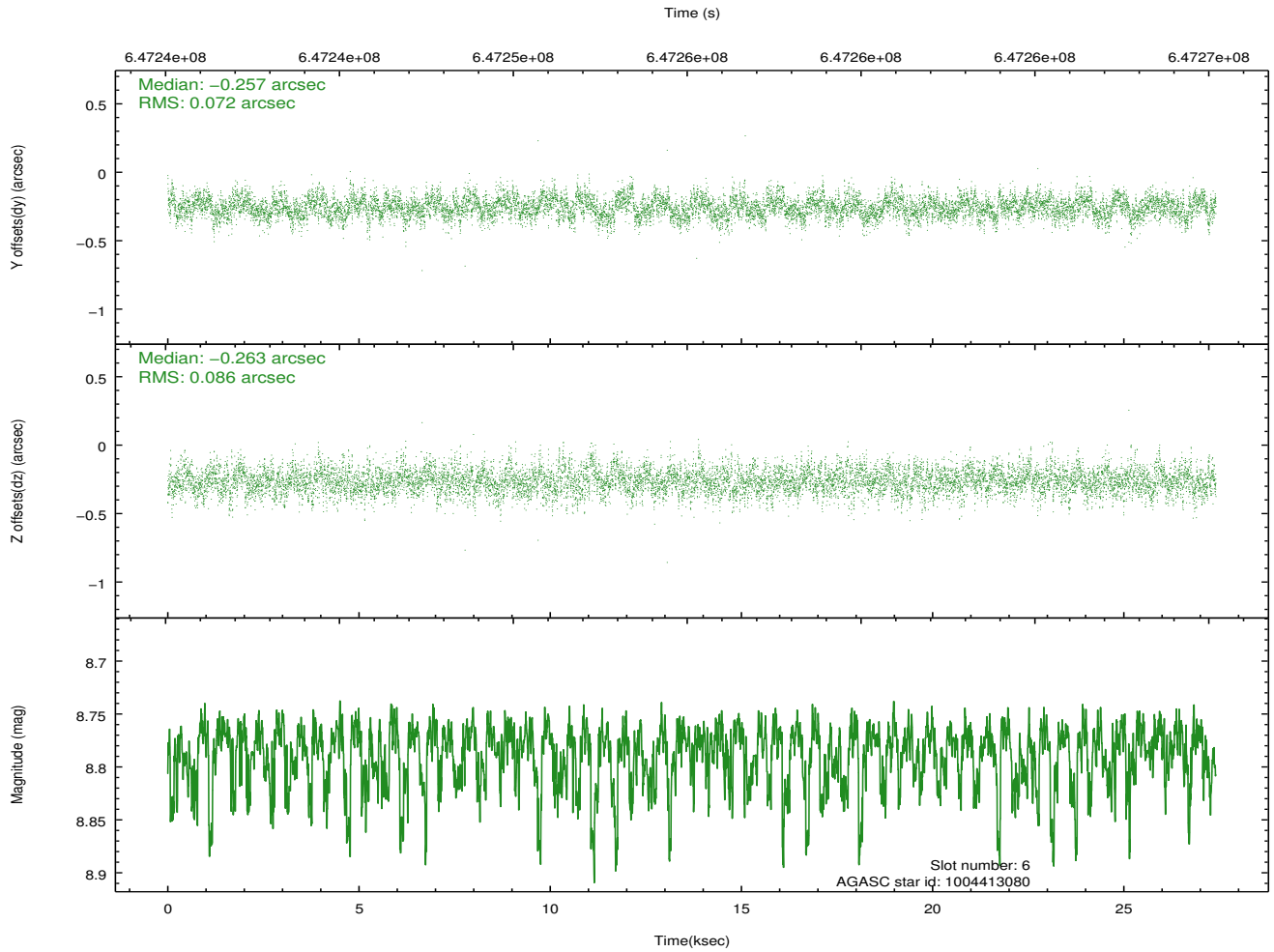
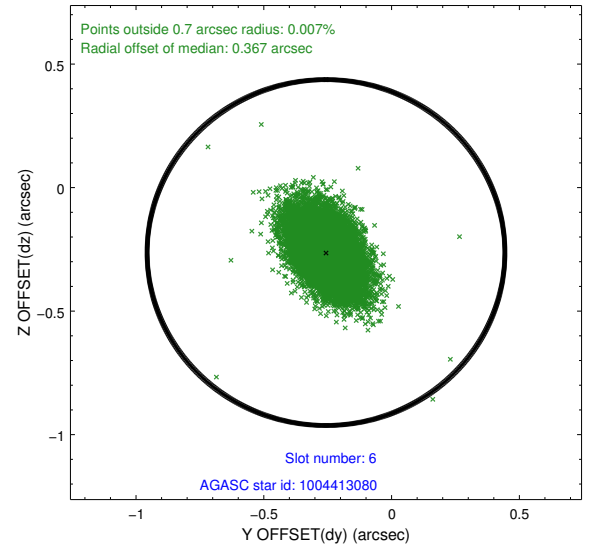
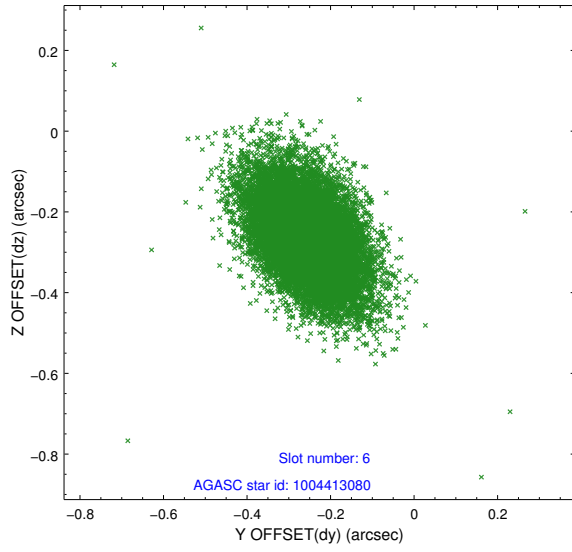
2.4.2 Slot 4



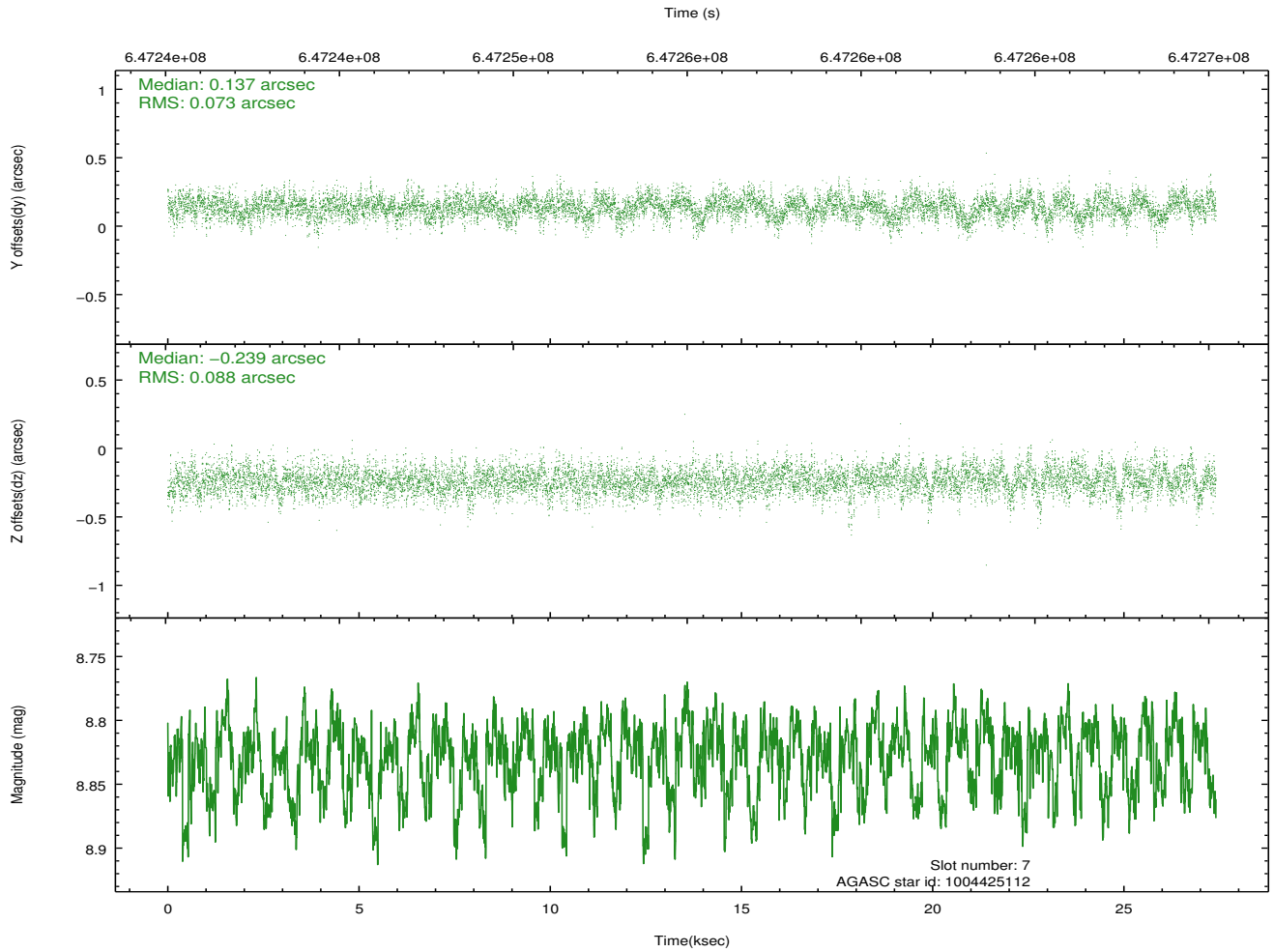
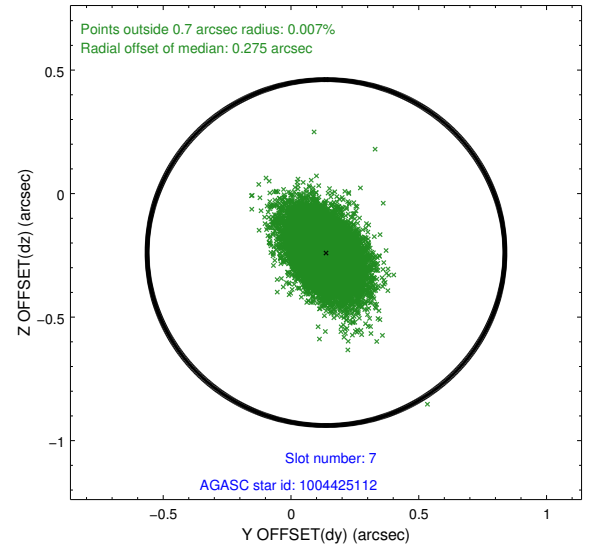
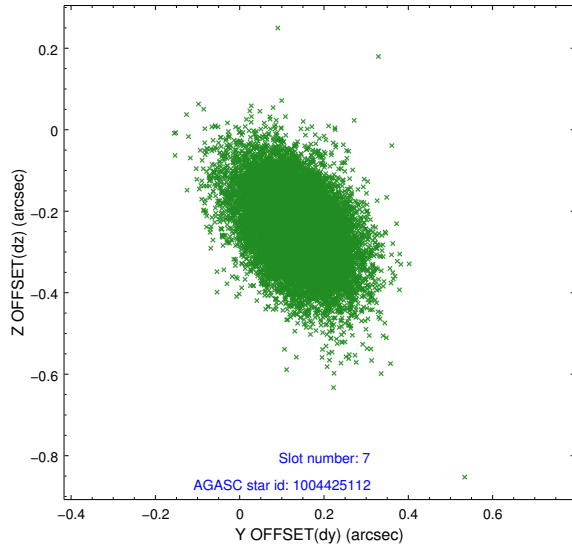
2.4.3 Slot 5



2.4.4 Slot 6

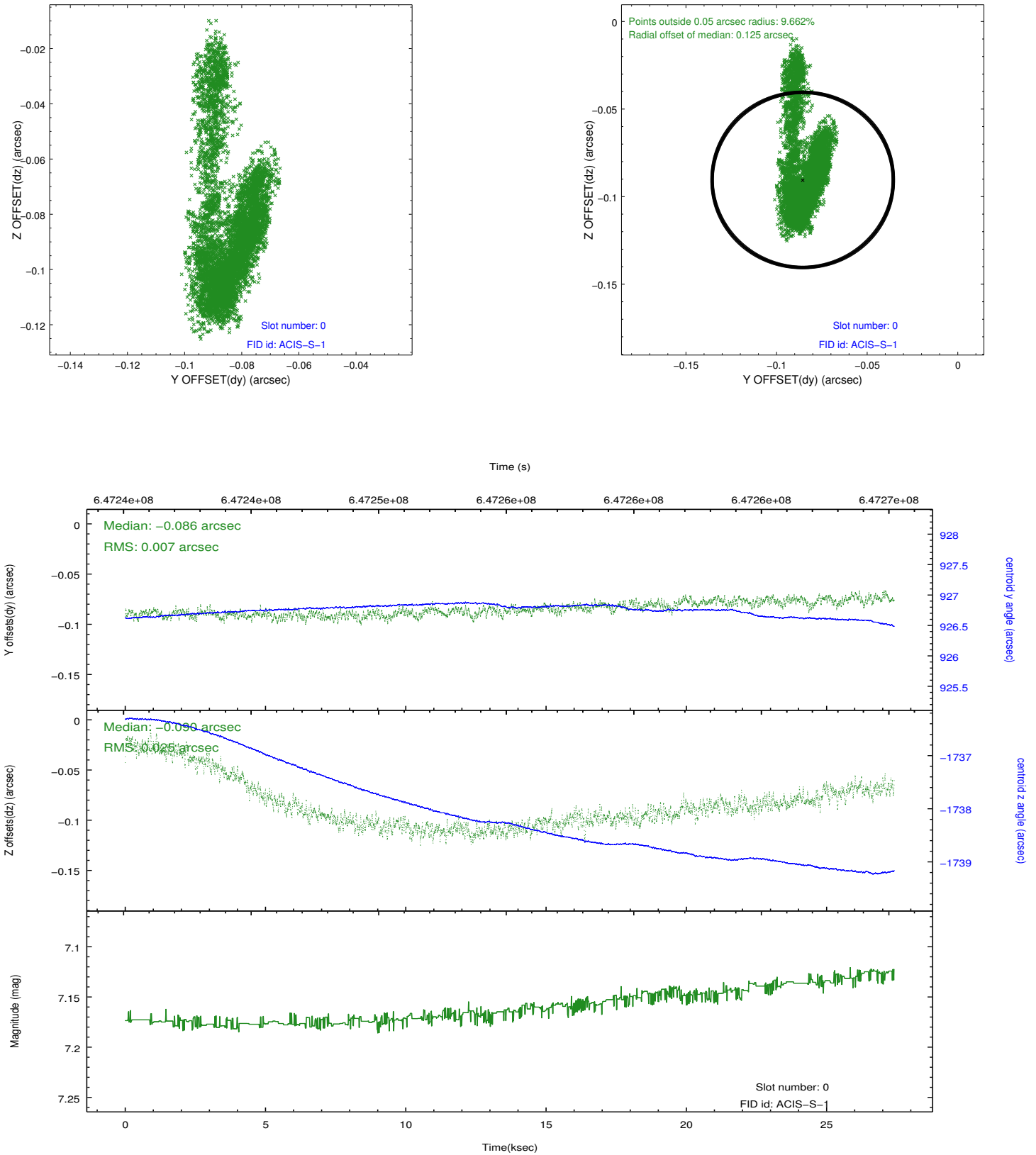


2.4.5 Slot 7

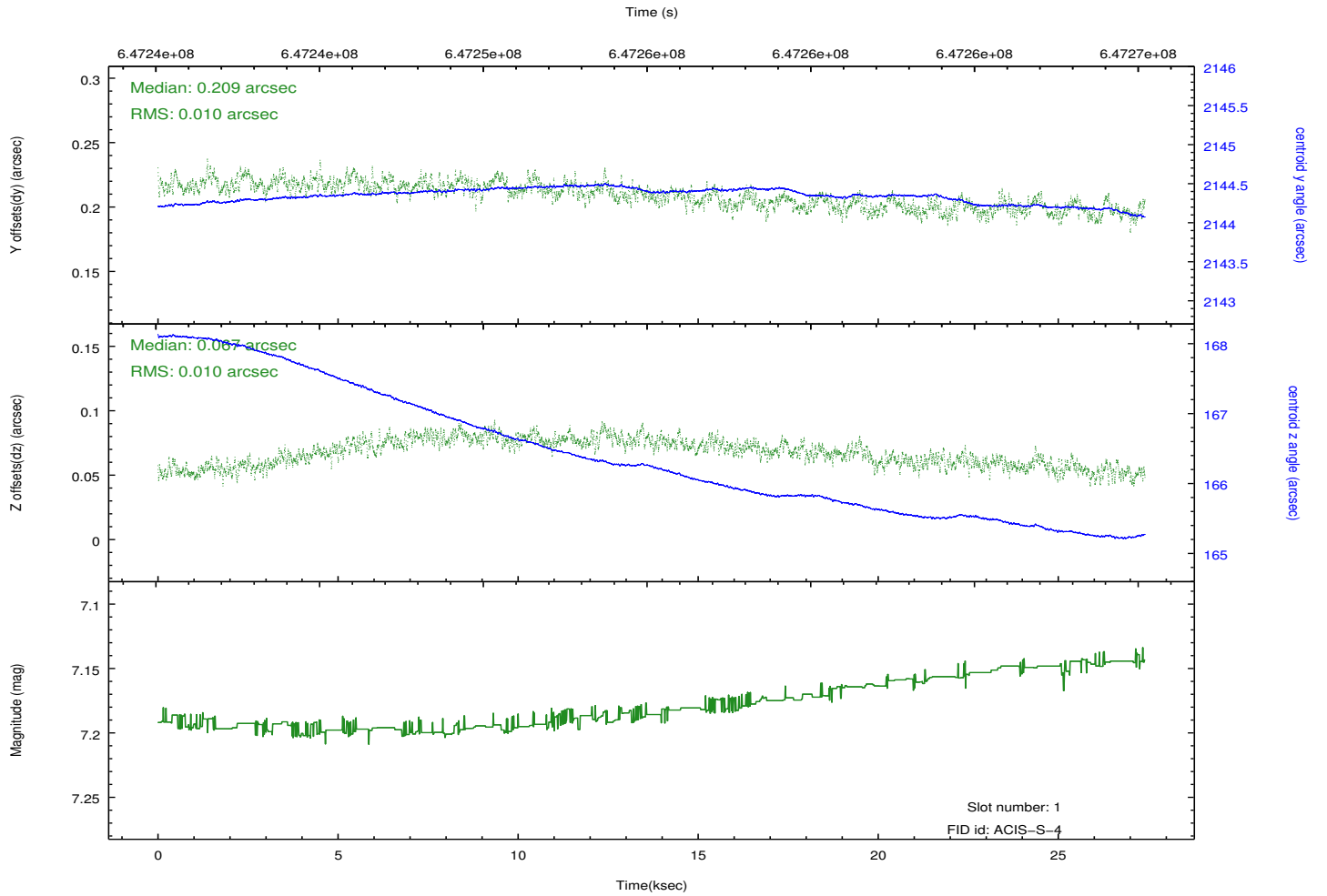
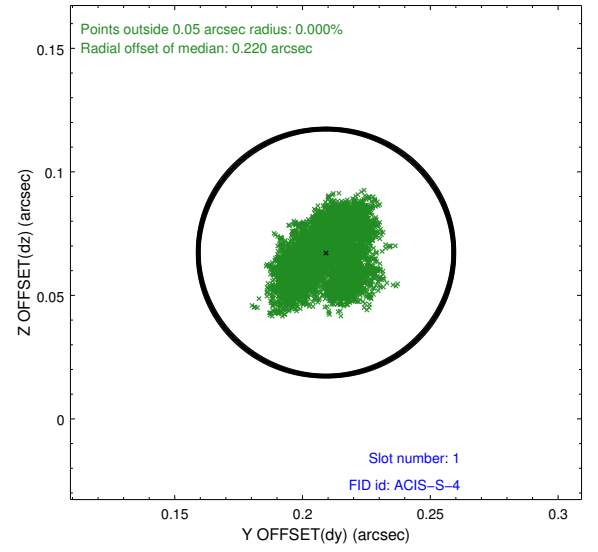
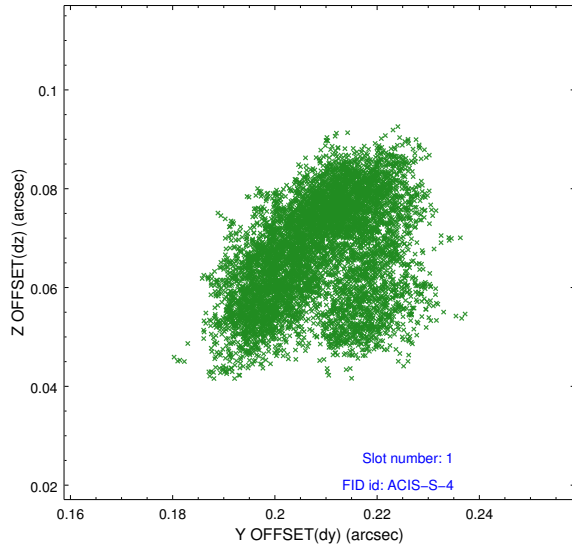


2.5 FID Slots

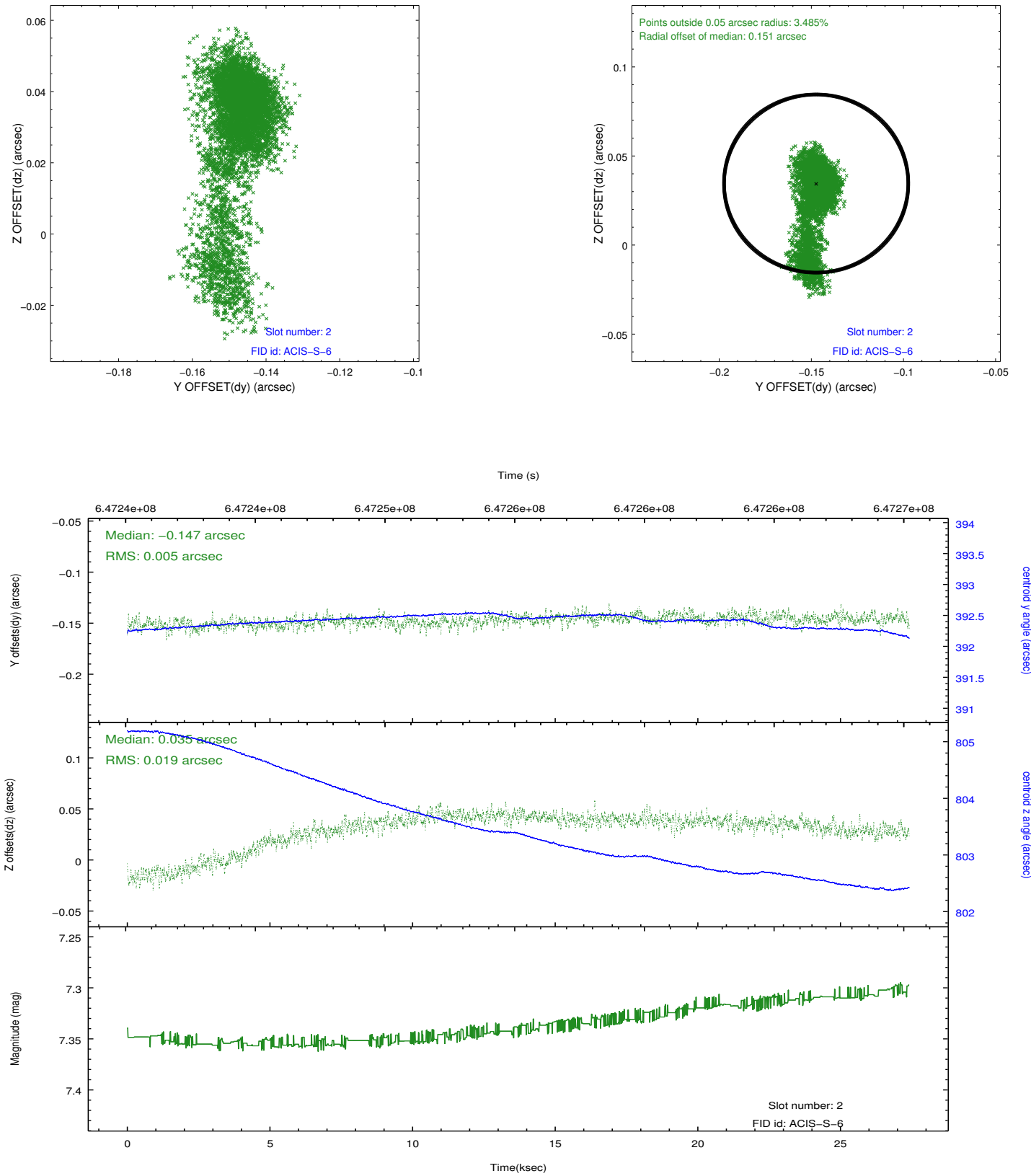
2.5.1 Slot 0



2.5.2 Slot 1

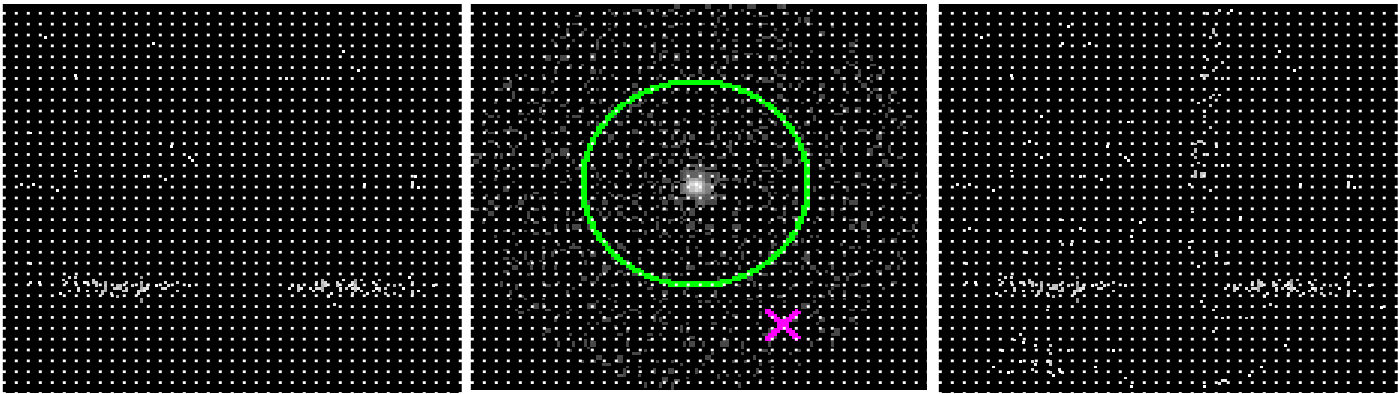


2.5.3 Slot 2



3 Gratings

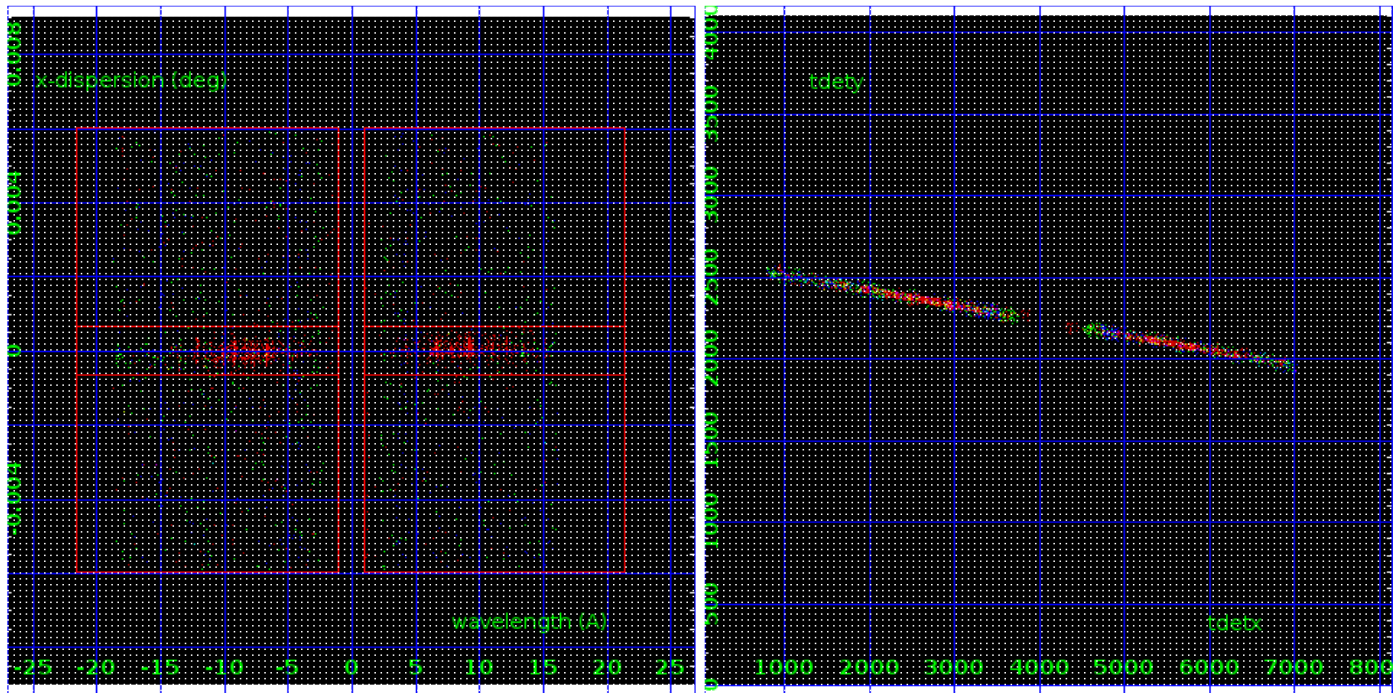
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

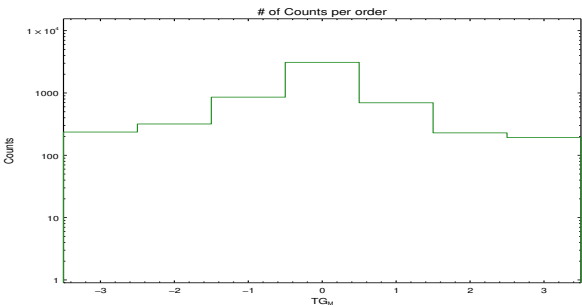
HEG Order Sort ALL

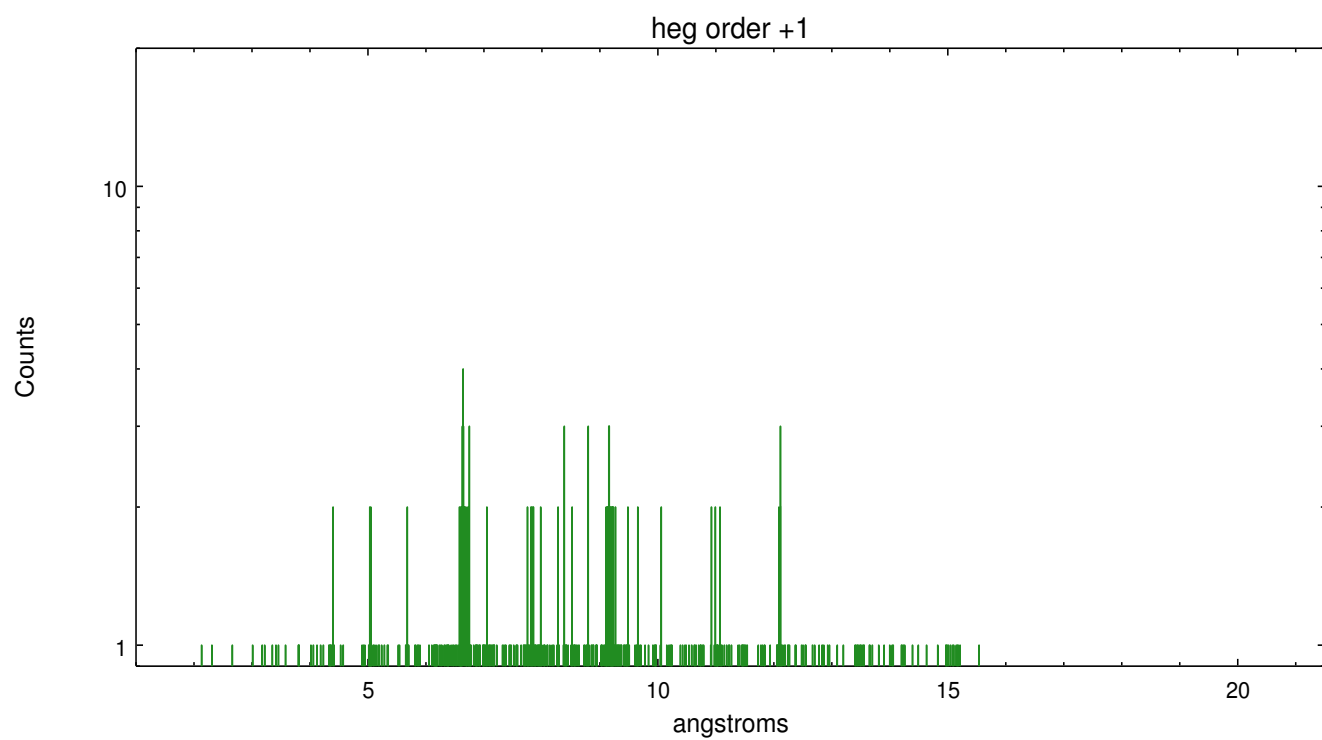
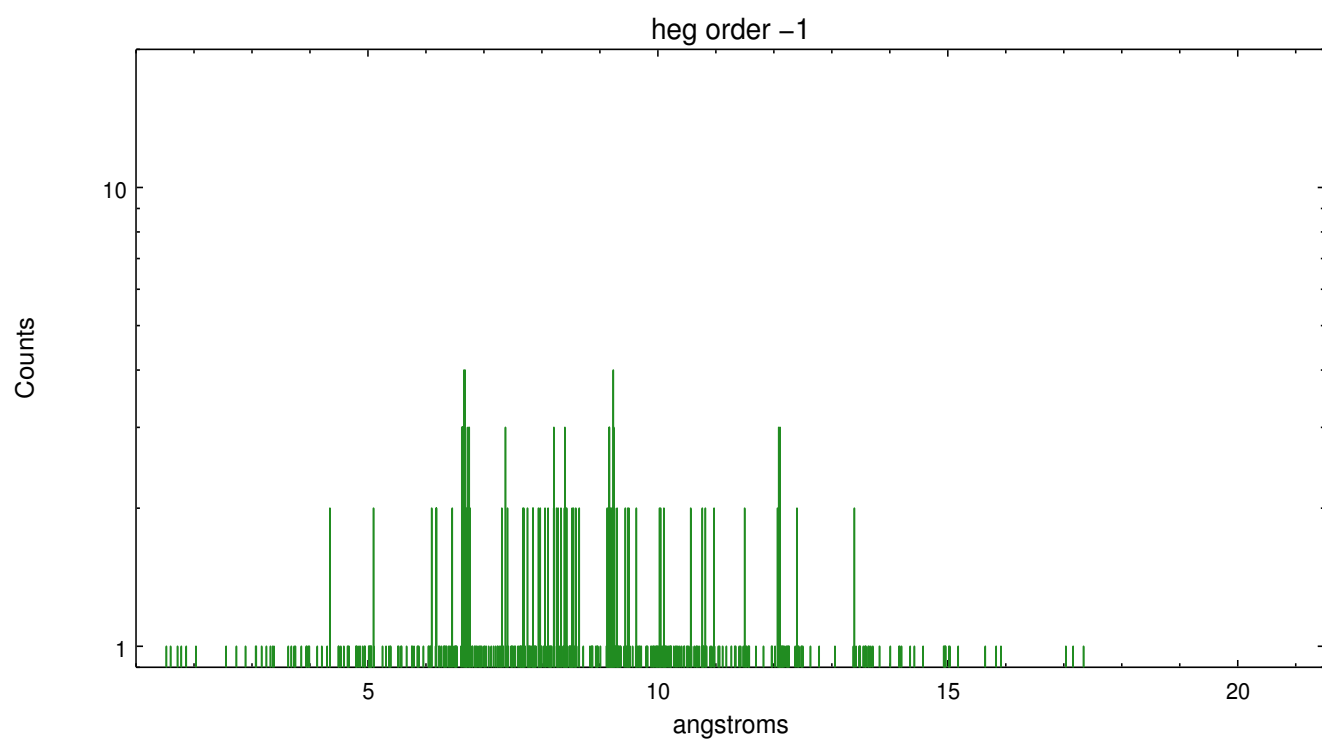


Spot Image HEG

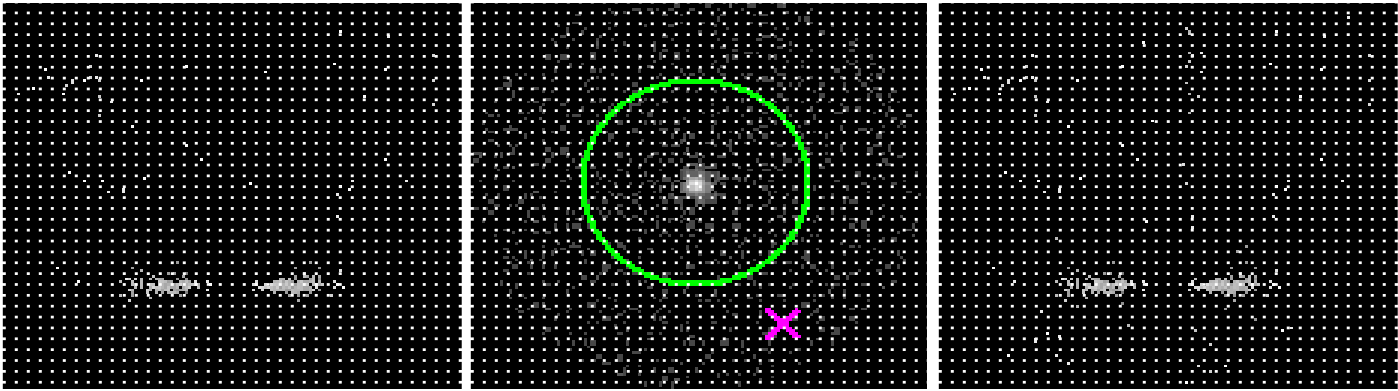
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	236	318	857	3100	696	229	193





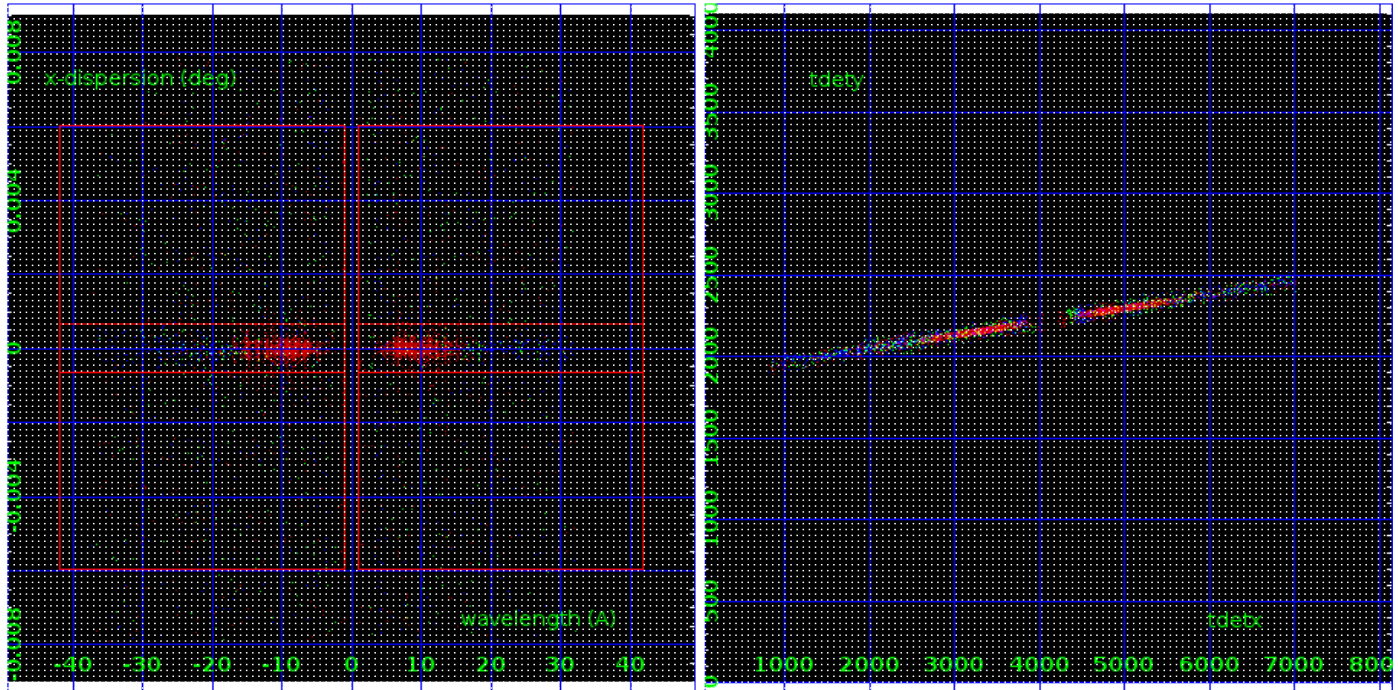
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

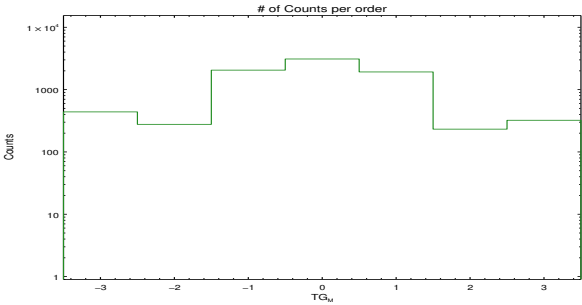
MEG Order Sort ALL

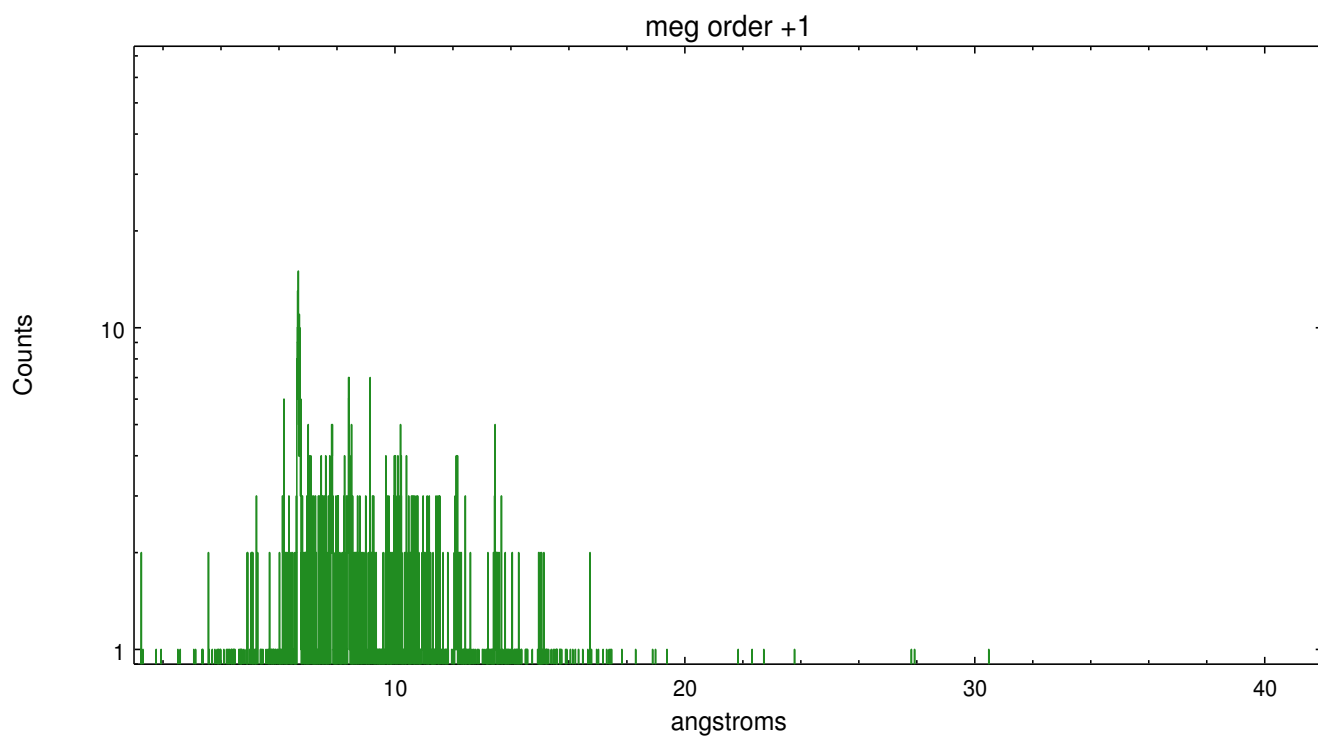
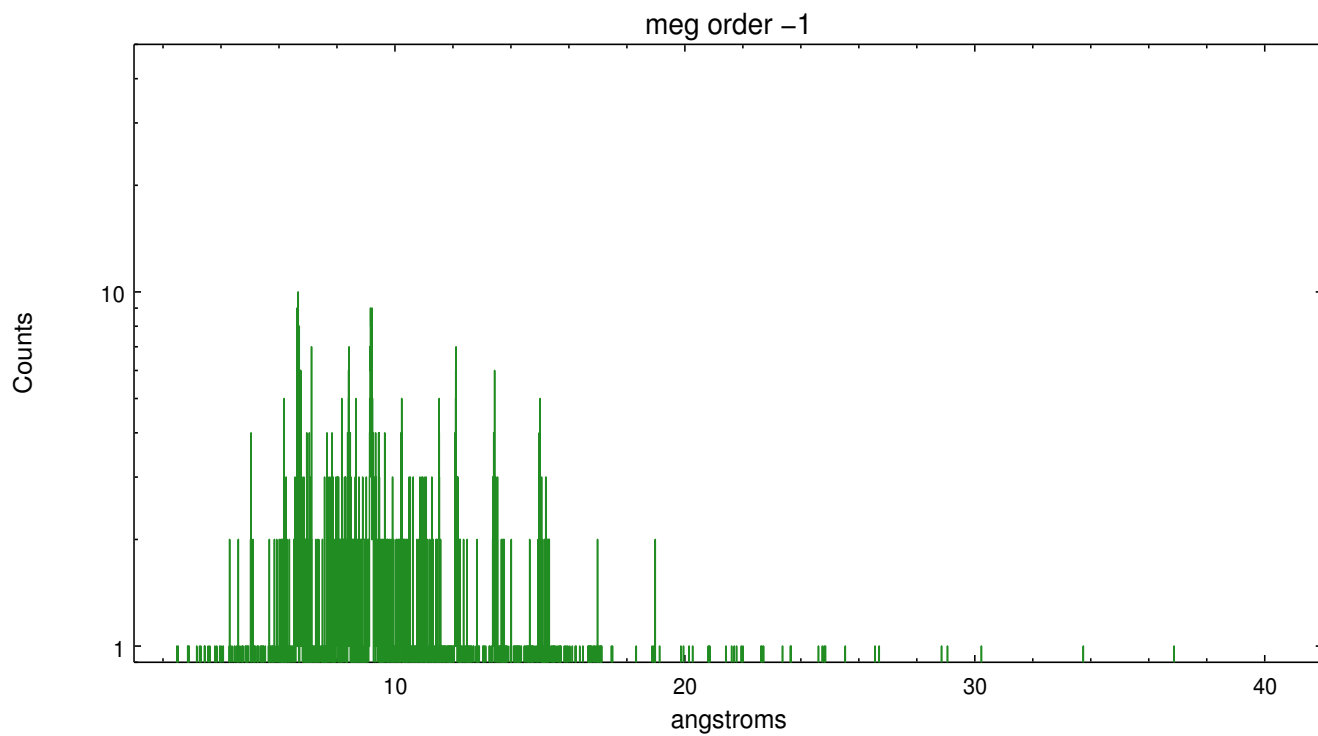


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	439	277	2053	3100	1921	232	322





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.07.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.209150774956

A.2 Comments