

V&V Reference Report

L2 ASCDS Version : 10.6.3

Observation 21112 - L2 Version 1
Chandra X-Ray Center

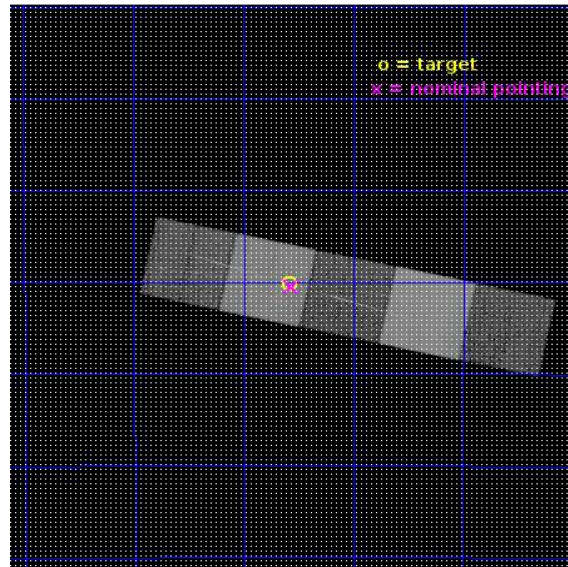
L2 Processing Date : Jul 3 2018

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1 Front

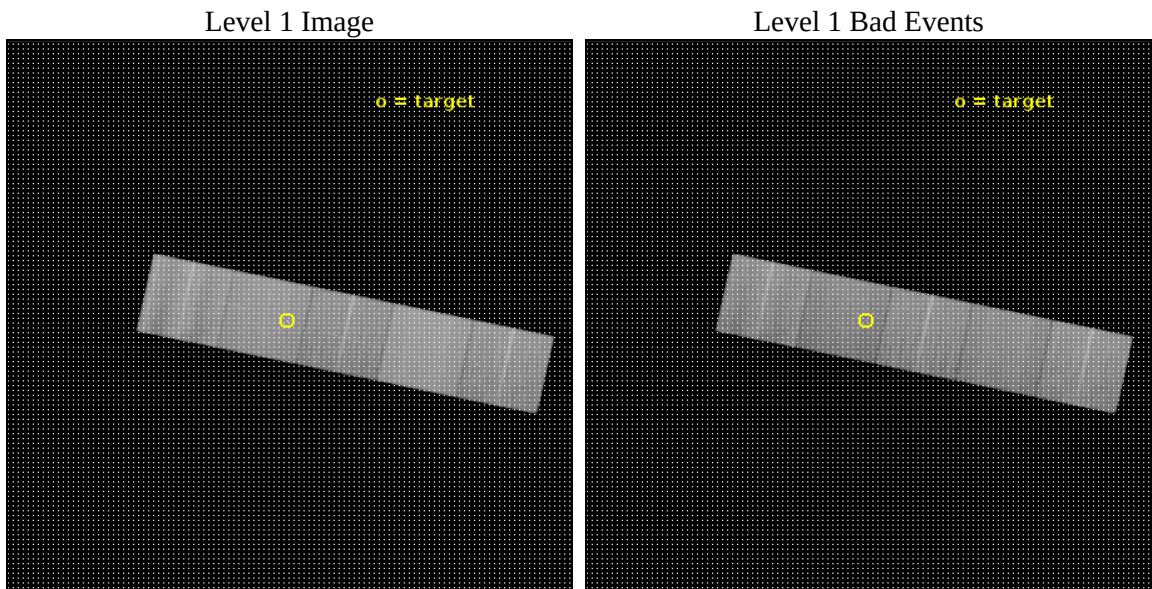
seq_num	201176	Sequence number
obs_id	21112	Observation id
title	Legacy HETG Spectrum of a Massive Star: zeta Pup	Proposal title
observer	Wayne Waldron	Principal investigator
object	zeta Pup	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	120.895833	Observer's specified target RA [deg]
dec_targ	-40.003139	Observer's specified target Dec [deg]
ra_nom	120.89162342694	Nominal RA [deg]
dec_nom	-40.00855438514	Nominal Dec [deg]
roll_nom	192.15391836632	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30091.435462356	Sum of GTIs [s]
livetime	29698.268705047	Livetime [s]
ontime4	30091.271302342	Sum of GTIs [s]
ontime5	30091.394422412	Sum of GTIs [s]
ontime6	30091.353382349	Sum of GTIs [s]
ontime7	30091.435462356	Sum of GTIs [s]
ontime8	30091.312342405	Sum of GTIs [s]
l2events	369552	Number of level 2 events



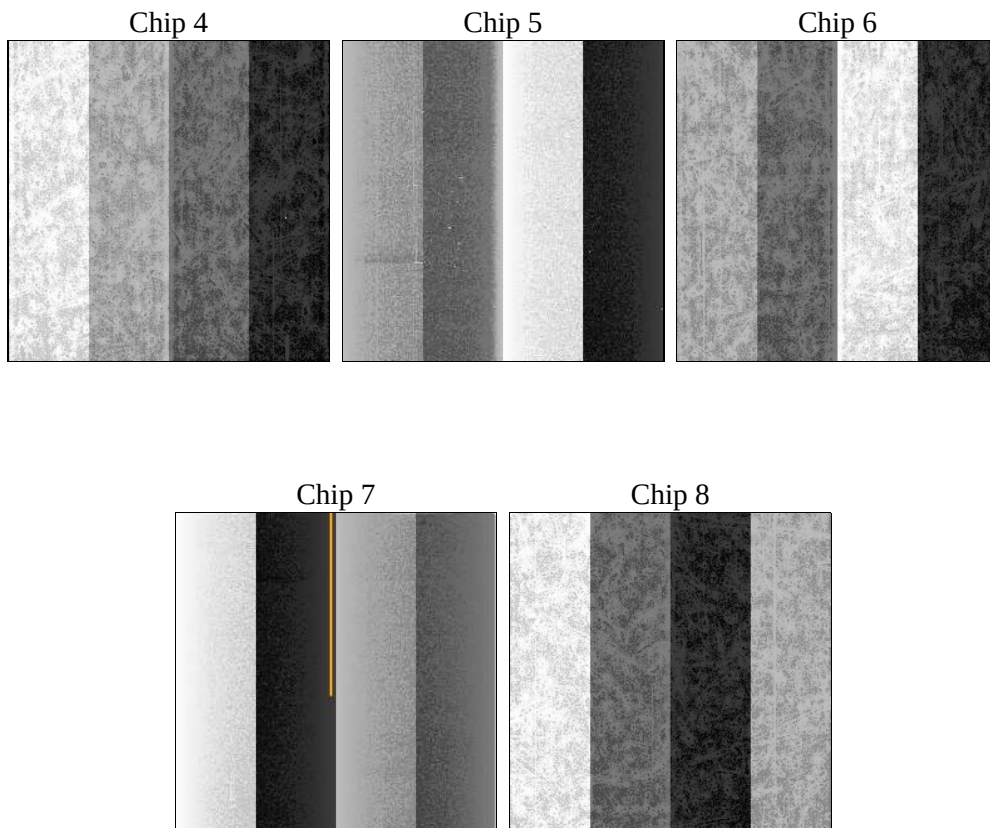
2 OBI

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	10.6.3	Processing system revision	ontime	30091.435462356	Sum of GTIs [s]
caldsver	4.7.8	 	ontime4	30091.271302342	Sum of GTIs [s]
date	2018-07-03T20:25:17	Date and time of file creation	ontime5	30091.394422412	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	30091.353382349	Sum of GTIs [s]
			ontime7	30091.435462356	Sum of GTIs [s]
			ontime8	30091.312342405	Sum of GTIs [s]
			l1events	1451406	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4074.18, 4136.53)	src1a sky pixel position

2.1.4 Events

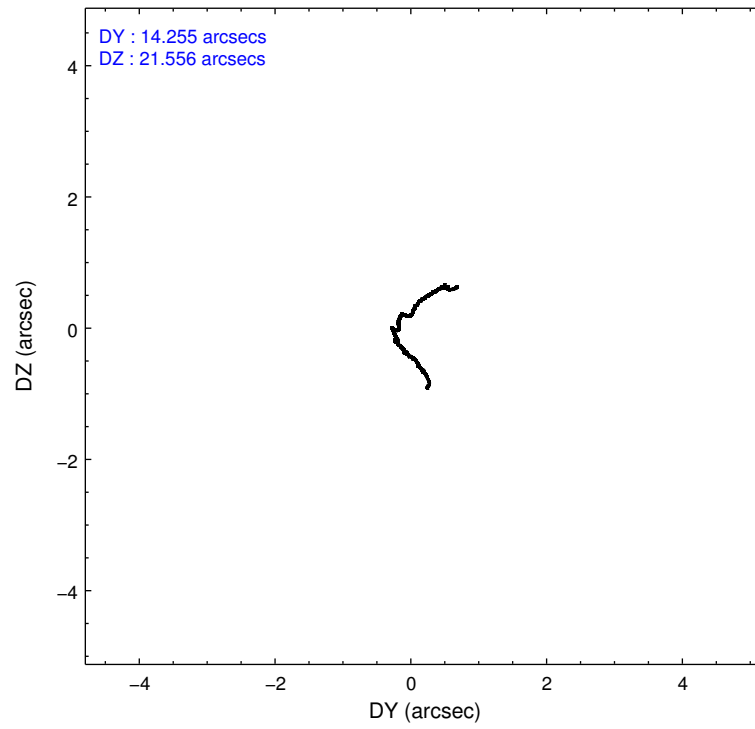
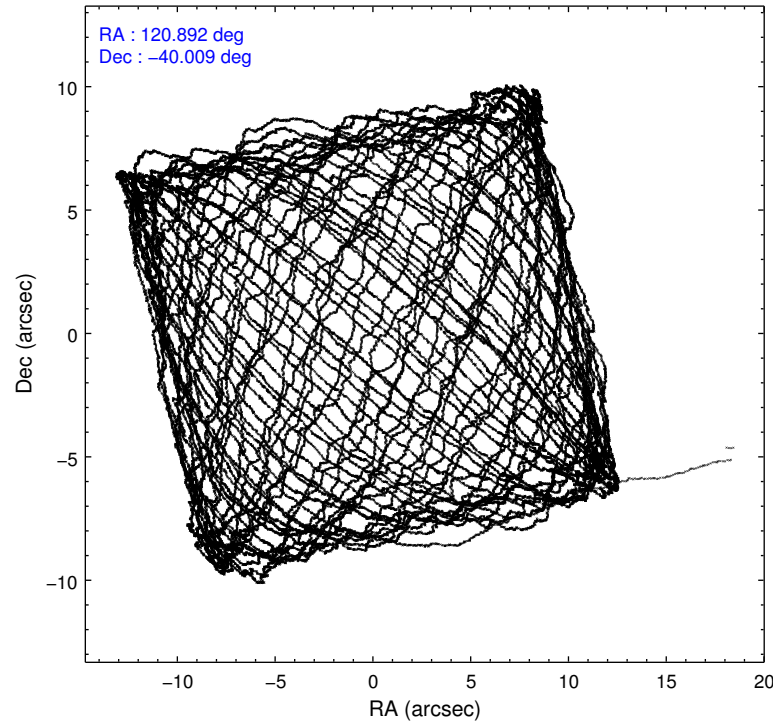
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	256103	354701	237191	295835	307576
rejected events	227268	183758	208966	164473	220840
rejected %	88%	51%	88%	55%	71%

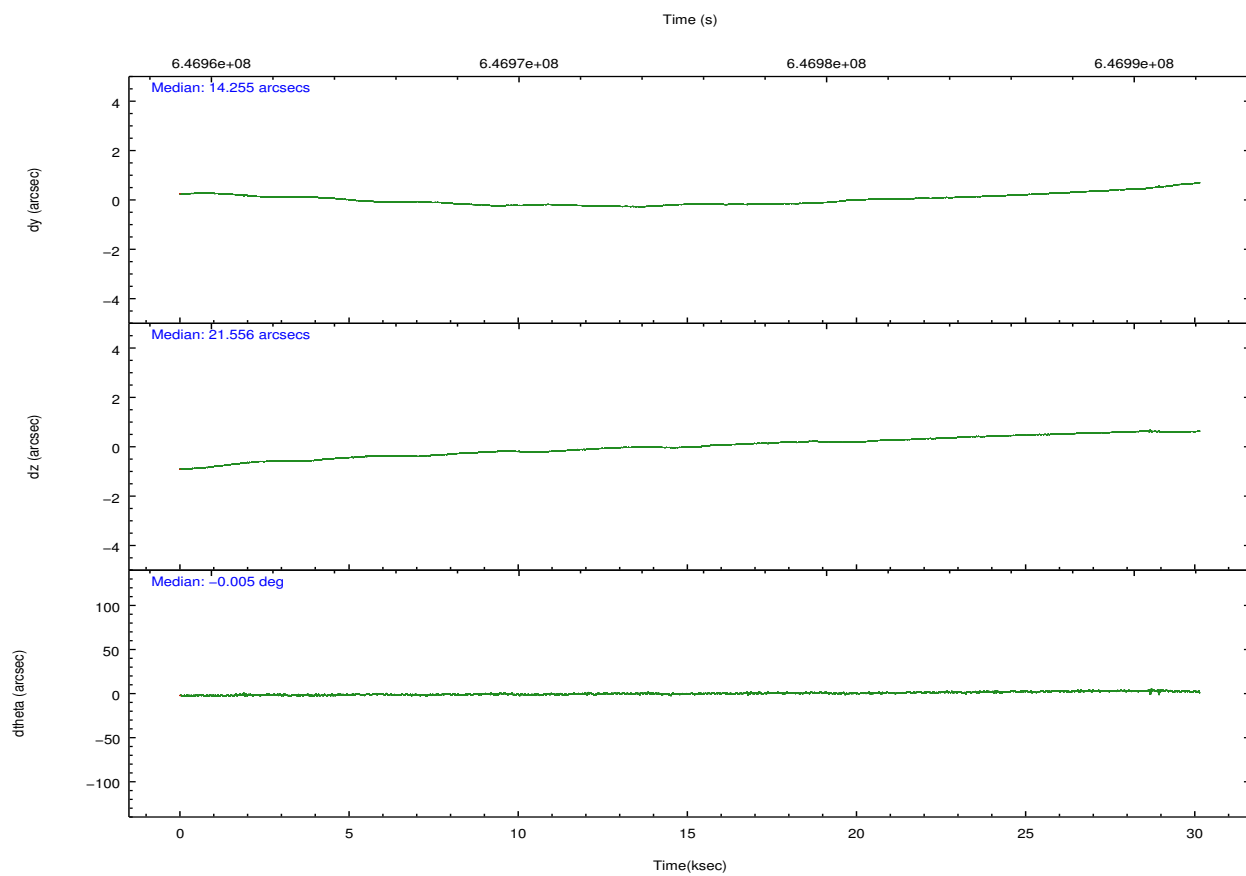
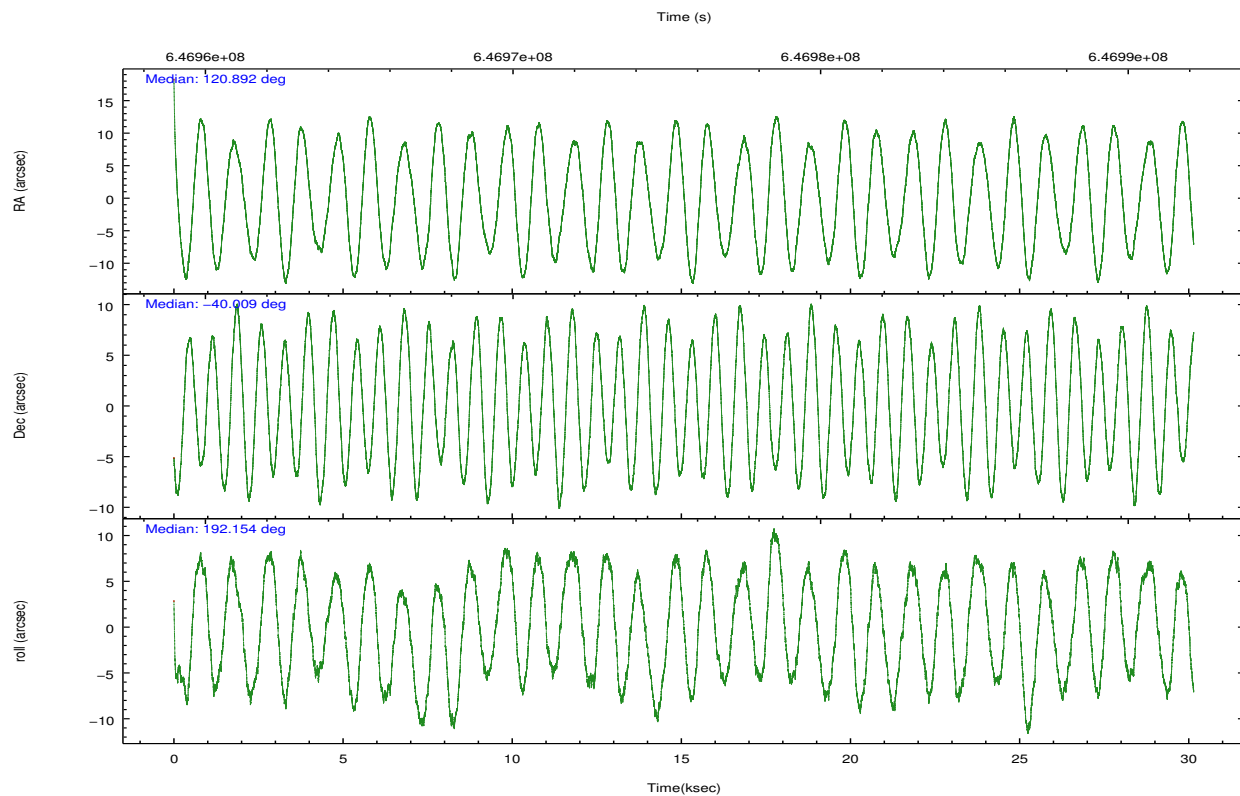
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	11475	9650	10418	12216	26625
	4%	2%	4%	4%	8%
grade 1 events	251	688	143	430	273
	0%	0%	0%	0%	0%
grade 2 events	6890	54345	6454	28330	20679
	2%	15%	2%	9%	6%
grade 3 events	2950	5834	2714	10823	8750
	1%	1%	1%	3%	2%
grade 4 events	2711	5565	2629	10659	8184
	1%	1%	1%	3%	2%
grade 5 events	10721	25894	10717	29246	16538
	4%	7%	4%	9%	5%
grade 6 events	4812	95586	6015	69359	22523
	1%	26%	2%	23%	7%
grade 7 events	216293	157139	198101	134772	204004
	84%	44%	83%	45%	66%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-45678	ACIS-45678	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	120.917857	120.8916234269362	CCD I2 on	N	N
[deg] Pointing Dec	-39.989849	-40.00855438514048	CCD I3 on	N	N
[deg] Pointing Roll	192.014155	192.153918366317	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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	646960648.184000	646959474.90982	CCD S5 on	O1	N
Observation start date	2018-07-02T23:16:19	2018-07-02T22:57:54	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	646990648.184000	646991584.06173	On-chip summing requested	N	N
Observation end date	2018-07-03T07:36:19	2018-07-03T07:53:04	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



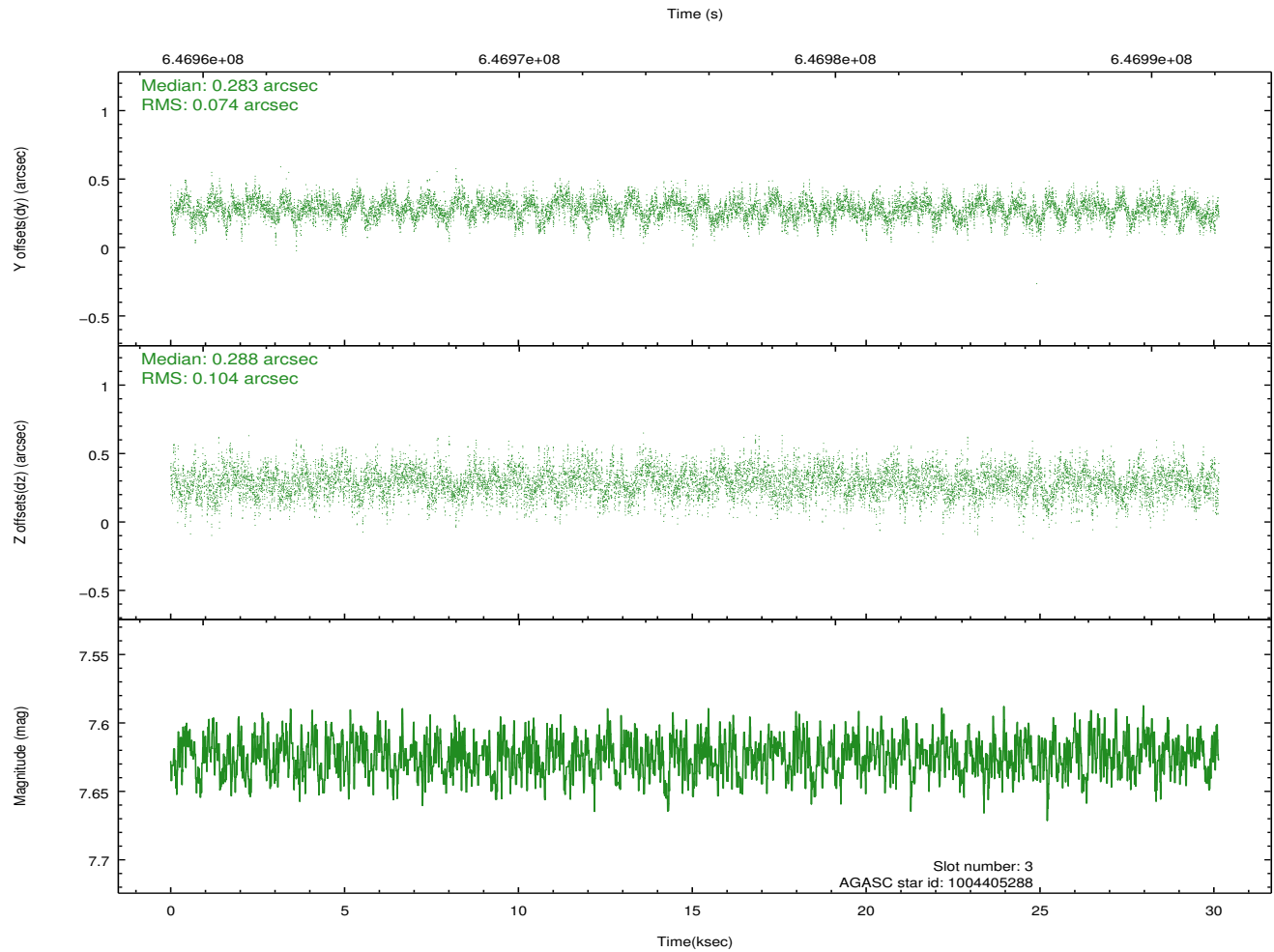
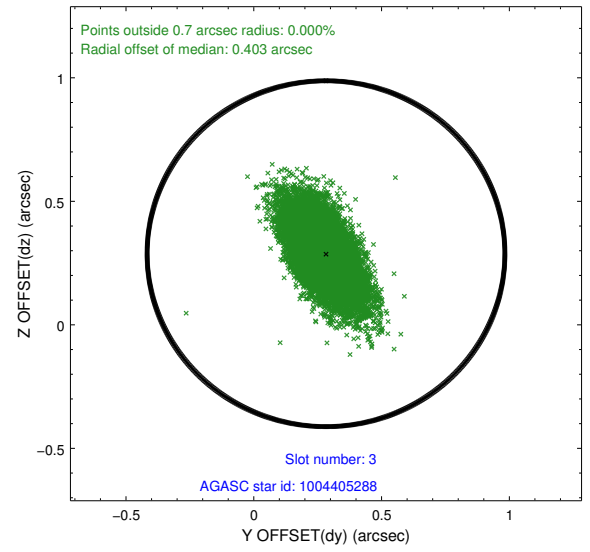
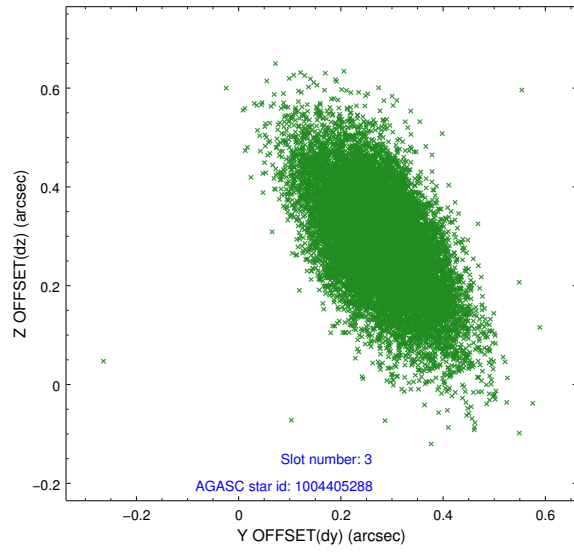


Slot Statistics

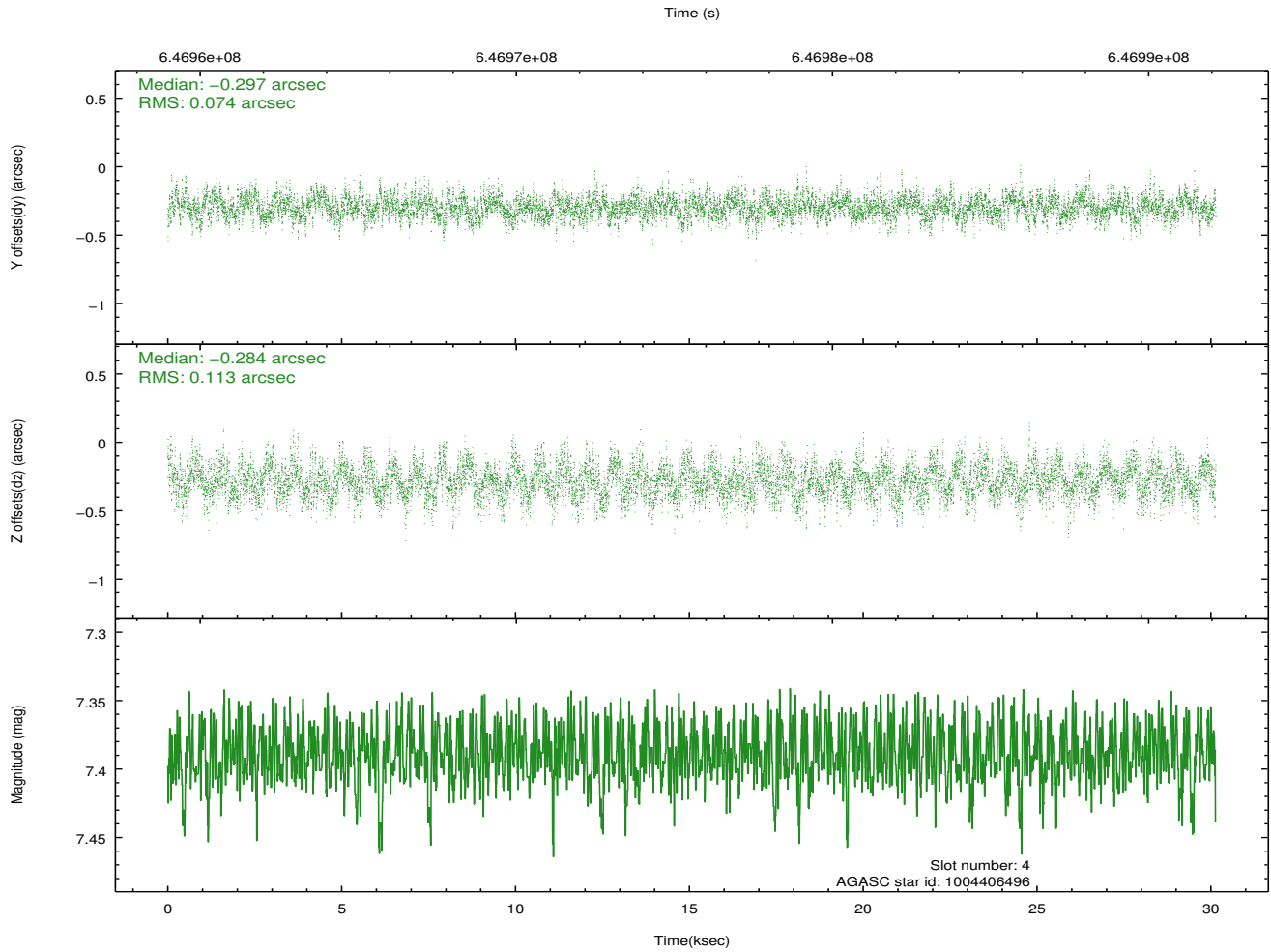
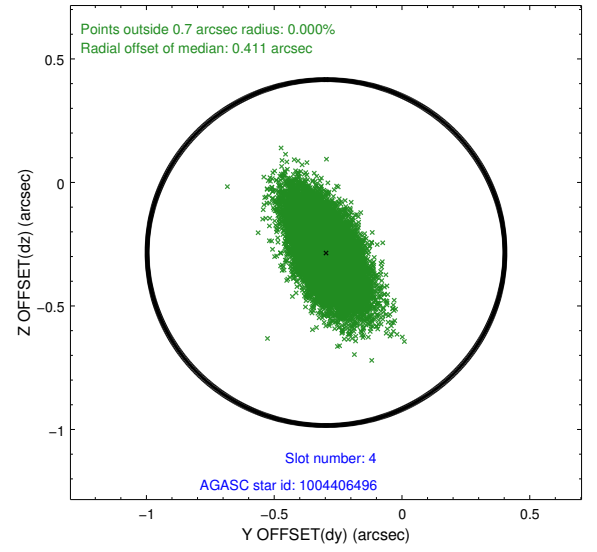
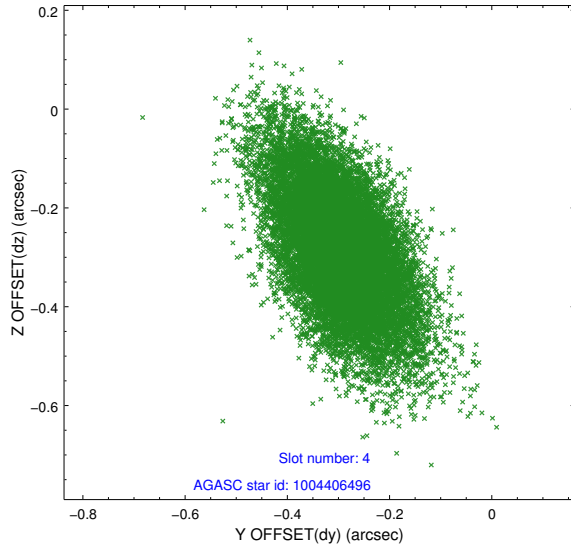
id	status	used	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-1	7.12	7352	1.000	-0.080	-0.044	0.026	0.036	0.000000	0.000000	928.70 -1738
1	FID		ACIS-S-4	7.14	7353	1.000	0.190	0.054	0.014	0.026	0.000000	0.000000	2146.43 165
2	FID		ACIS-S-6	7.27	7353	1.000	-0.133	-0.001	0.012	0.023	0.000000	0.000000	394.69 802
3	GUIDE	used	1004405288	7.62	14706	1.000	0.283	0.288	0.129	0.236	121.091785	-39.410922	-906.39 -1937
4	GUIDE	used	1004406496	7.39	14705	1.000	-0.297	-0.284	0.137	0.248	120.210035	-40.527356	2298.73 1497
5	GUIDE	used	1004428200	9.31	14689	1.000	-0.228	-0.080	0.191	0.349	120.904943	-40.387705	332.95 1393
6	GUIDE	used	1004435080	8.97	14687	1.000	0.400	0.353	0.142	0.243	121.357562	-39.510372	-1552.53 -1430
7	GUIDE	used	1004413080	8.78	14693	1.000	-0.157	-0.278	0.124	0.221	120.242432	-40.499402	2191.79 1415

2.4 Star Slots

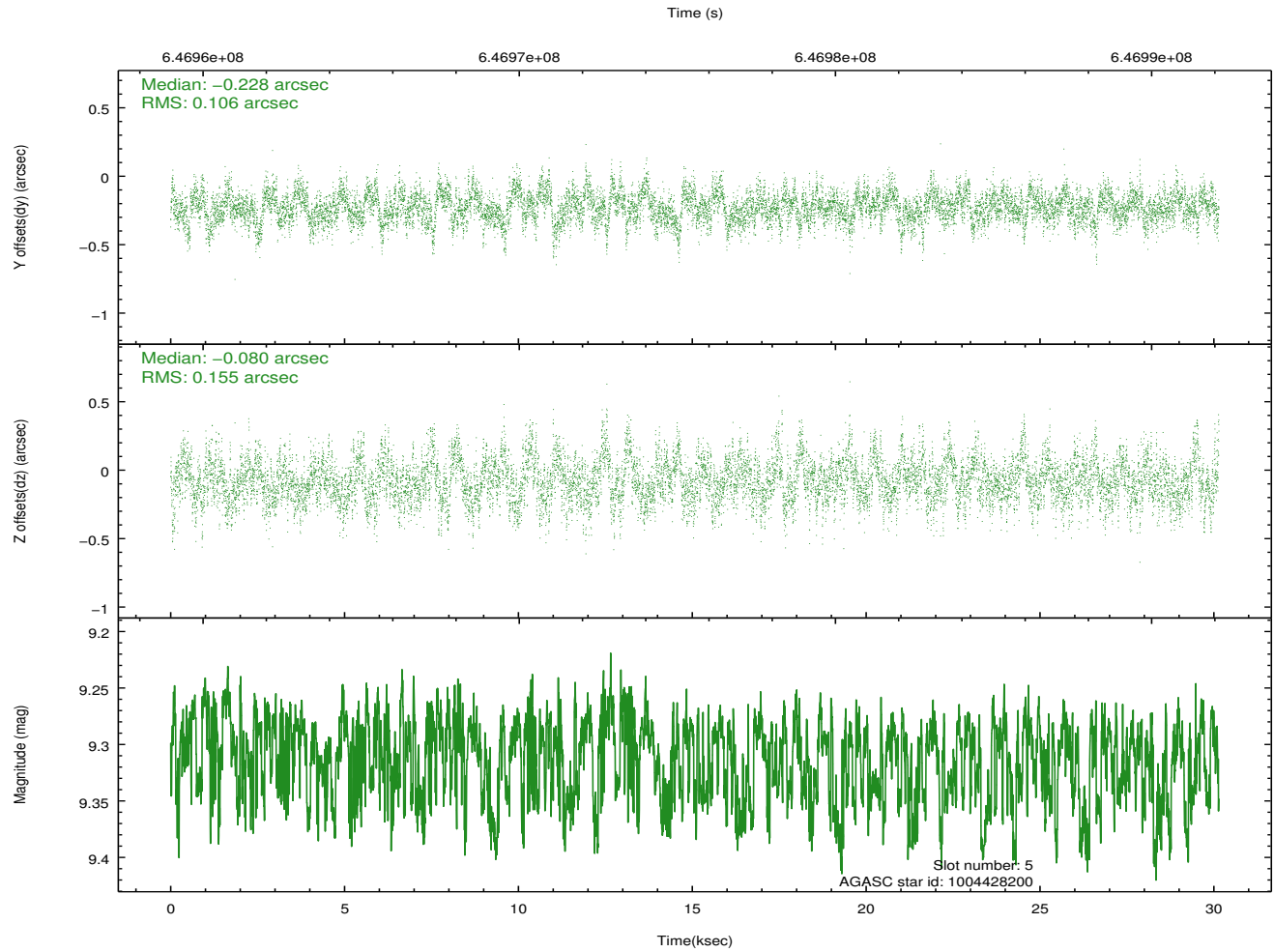
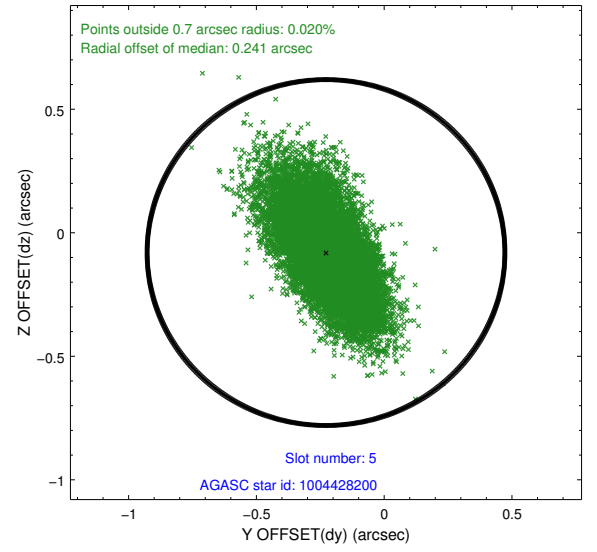
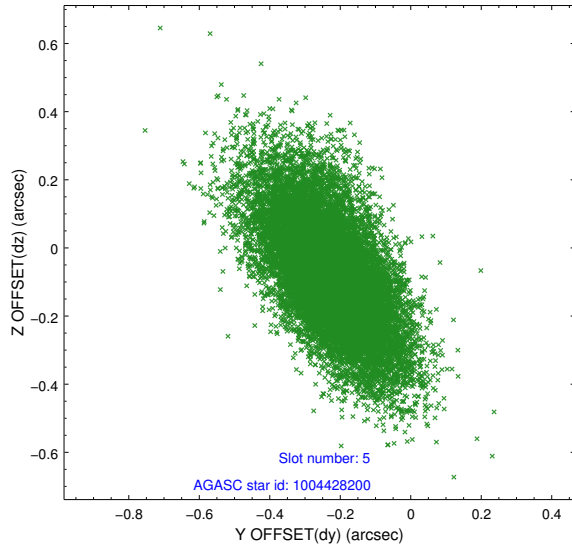
2.4.1 Slot 3



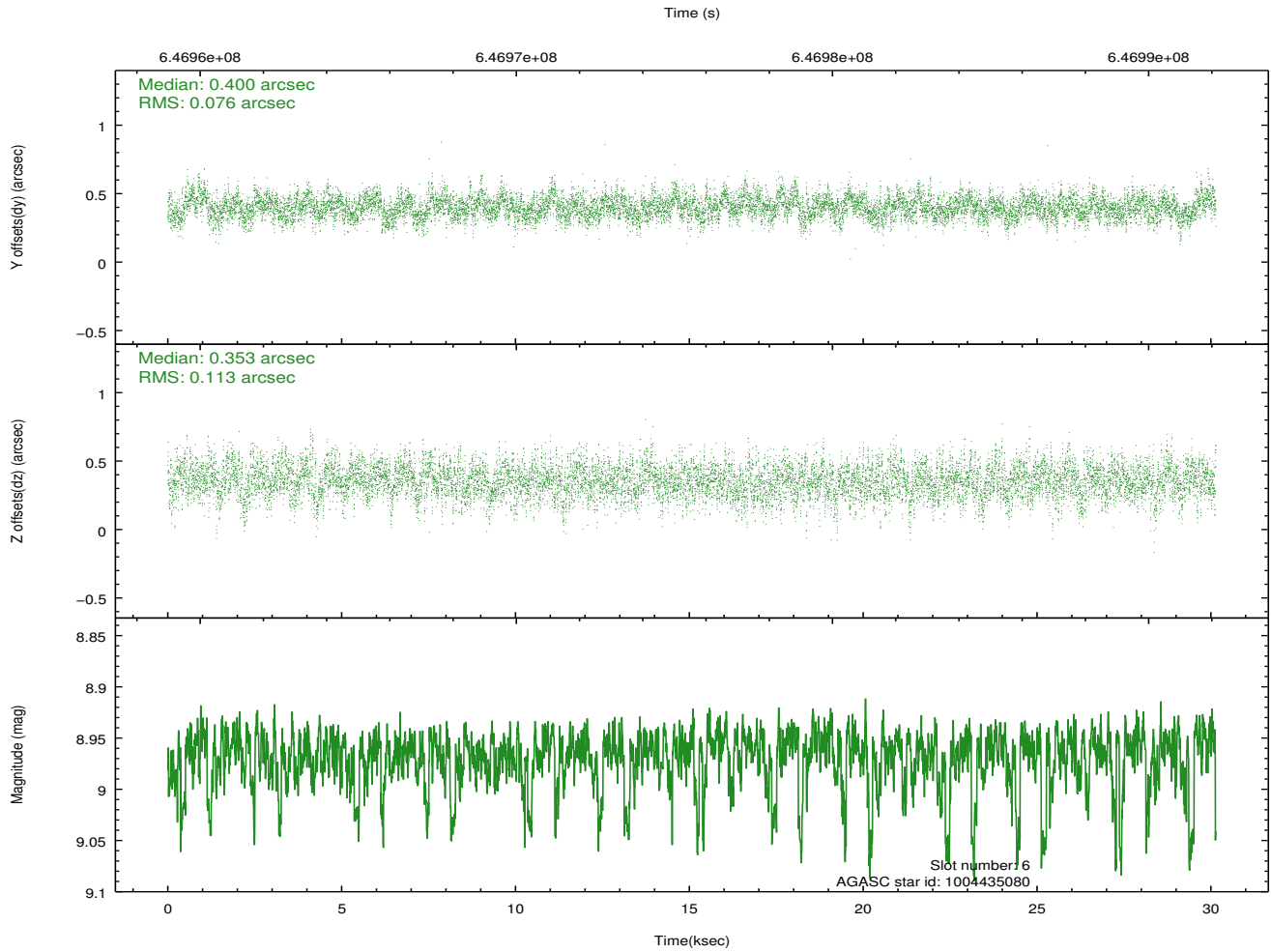
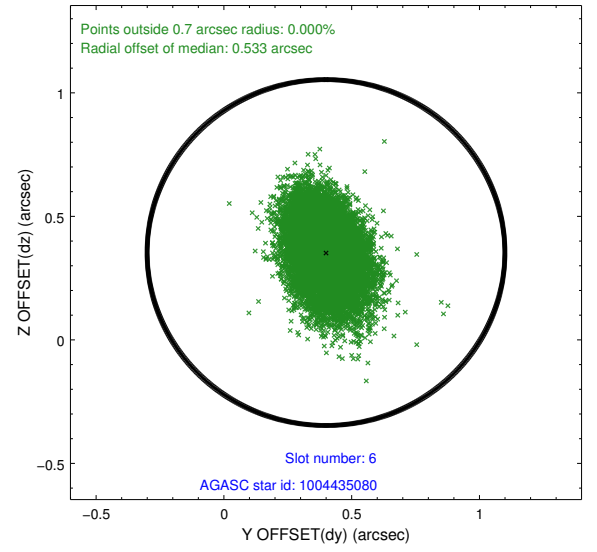
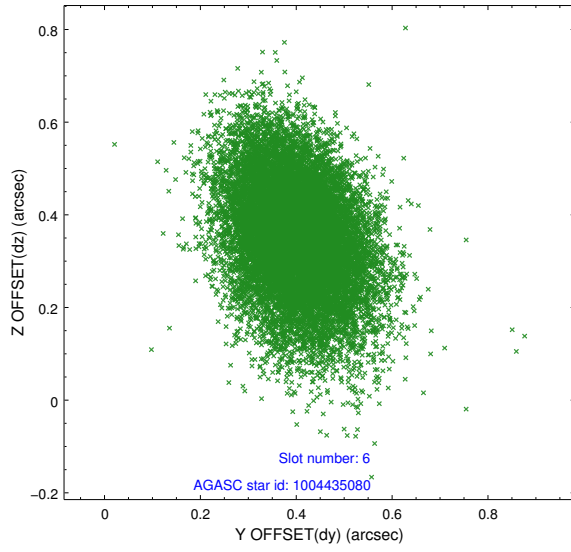
2.4.2 Slot 4



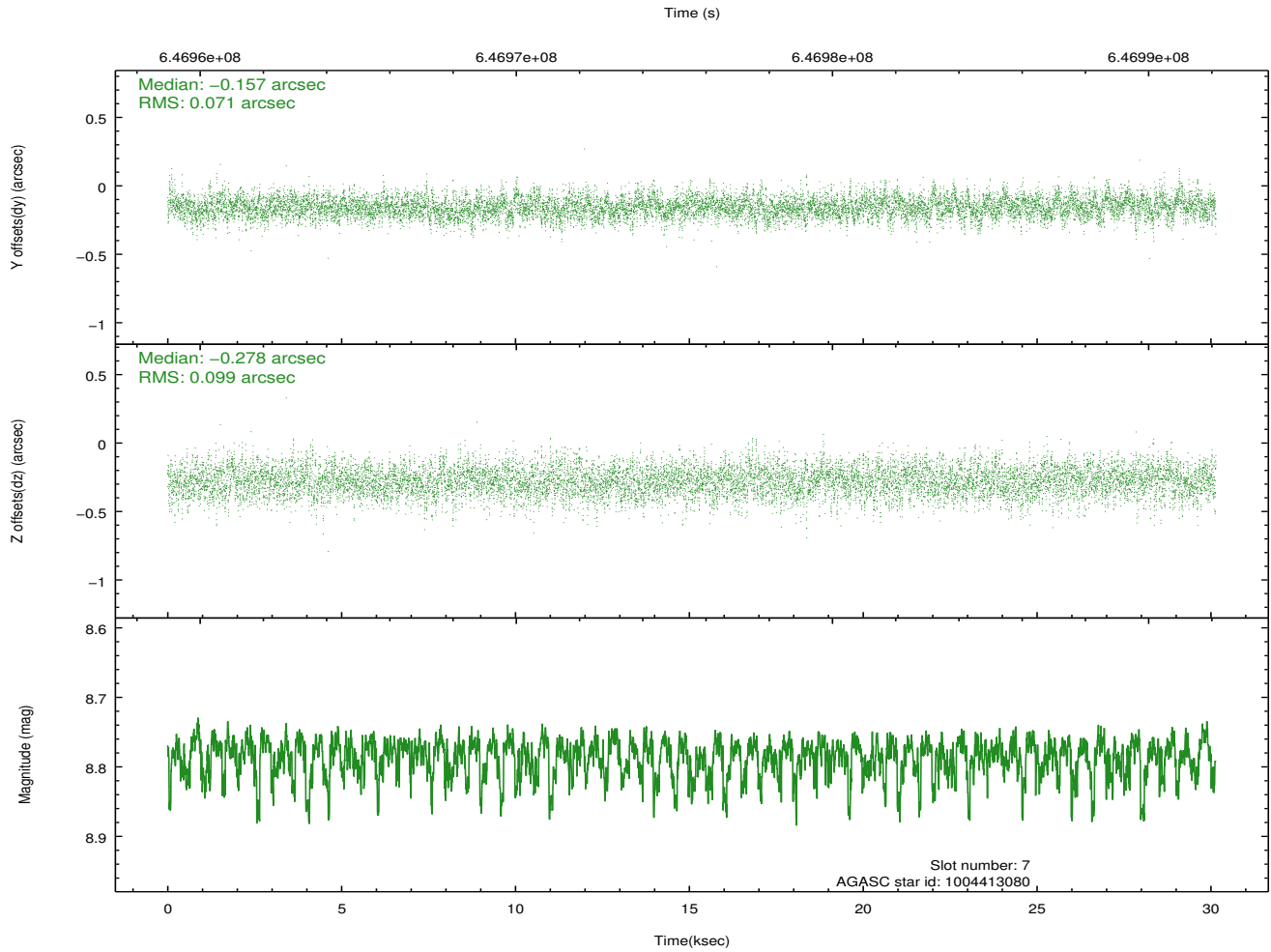
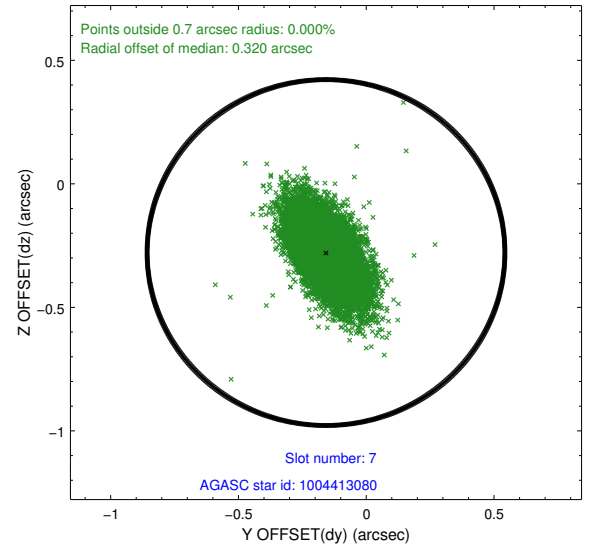
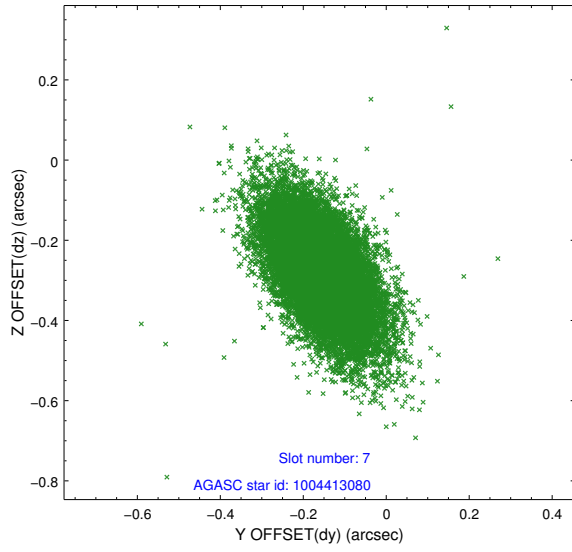
2.4.3 Slot 5



2.4.4 Slot 6

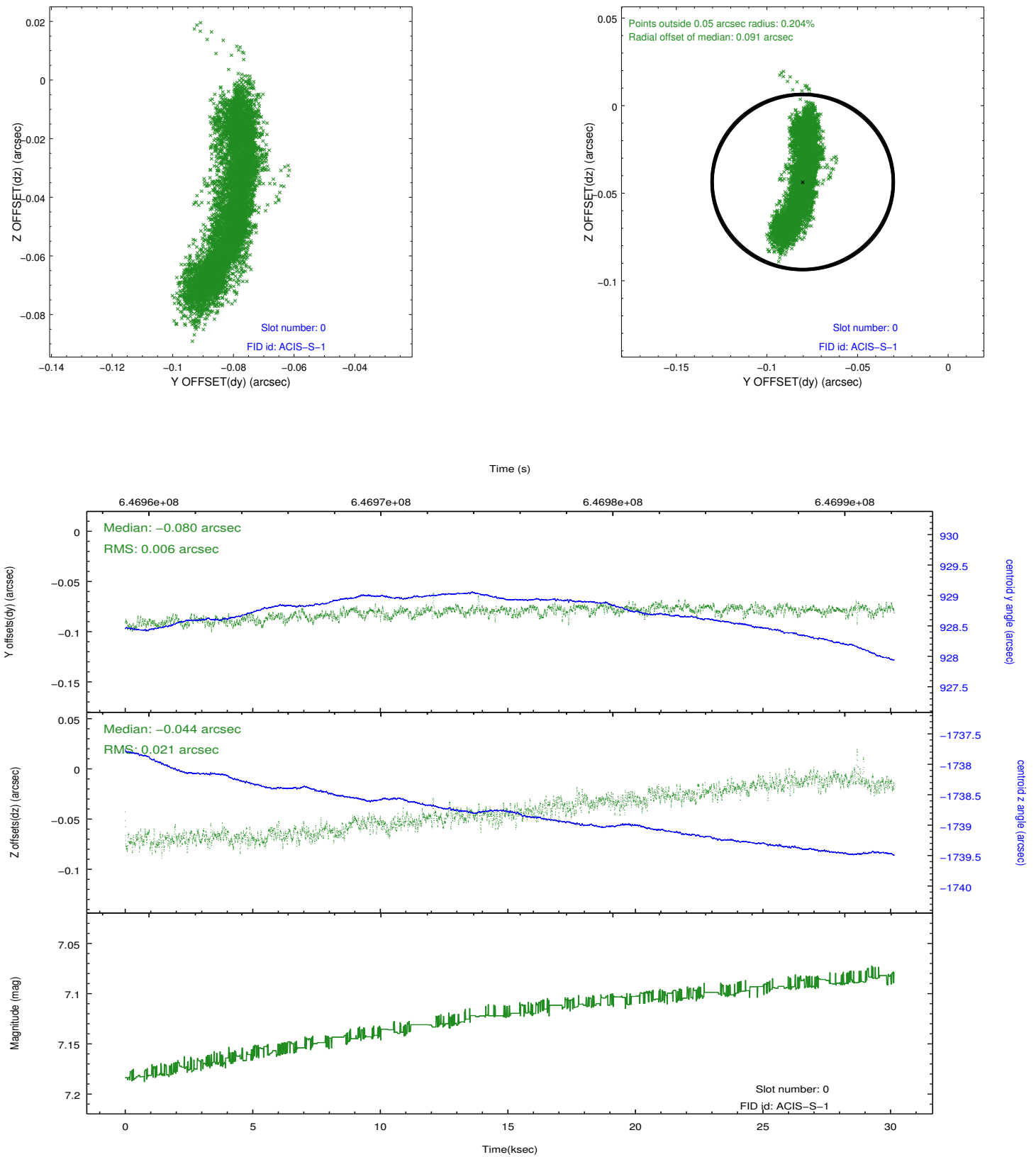


2.4.5 Slot 7

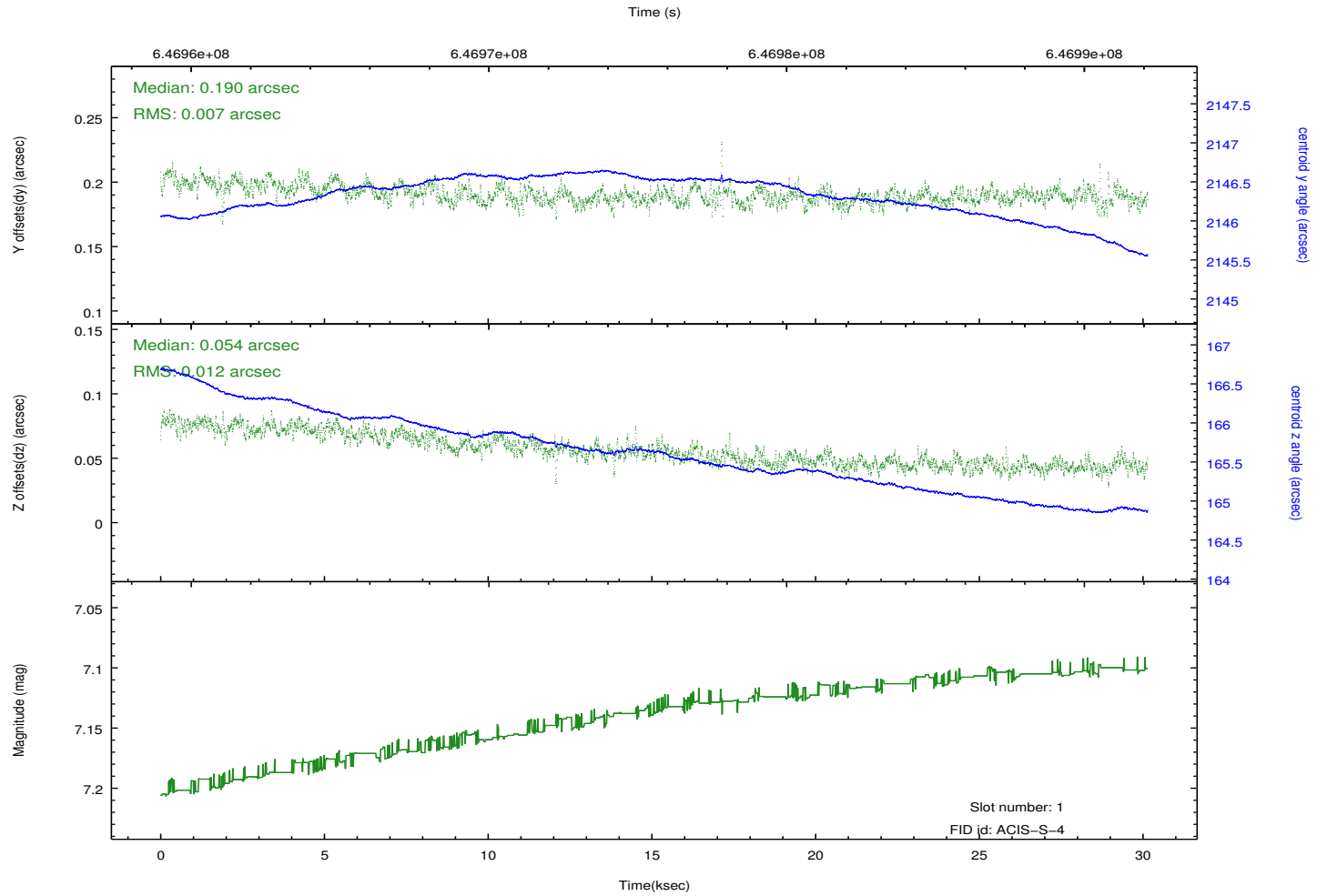
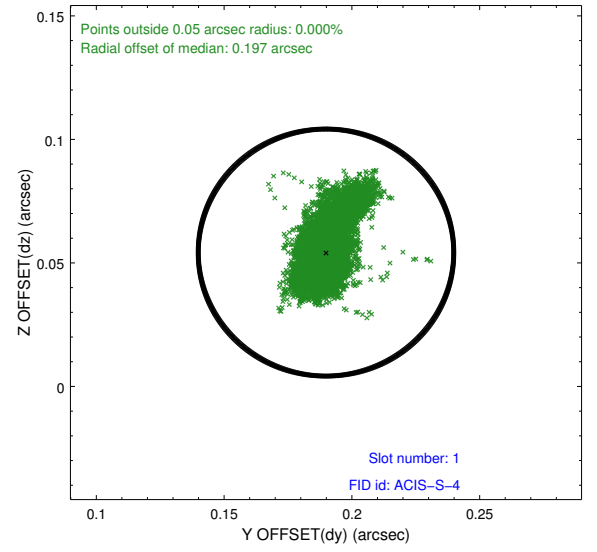
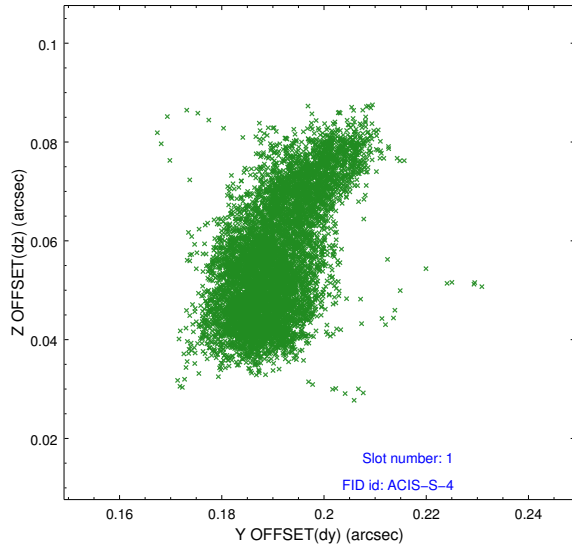


2.5 FID Slots

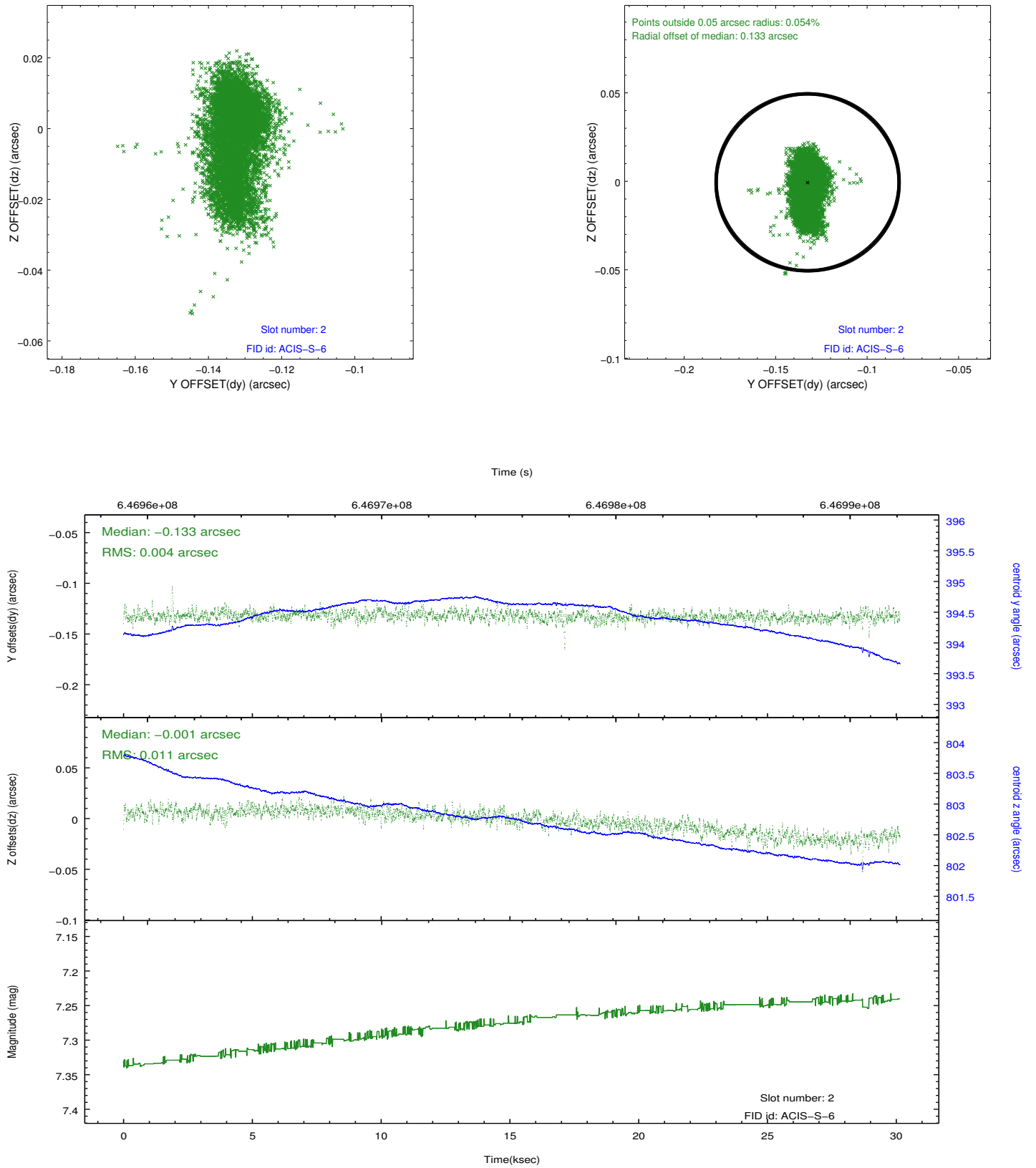
2.5.1 Slot 0



2.5.2 Slot 1

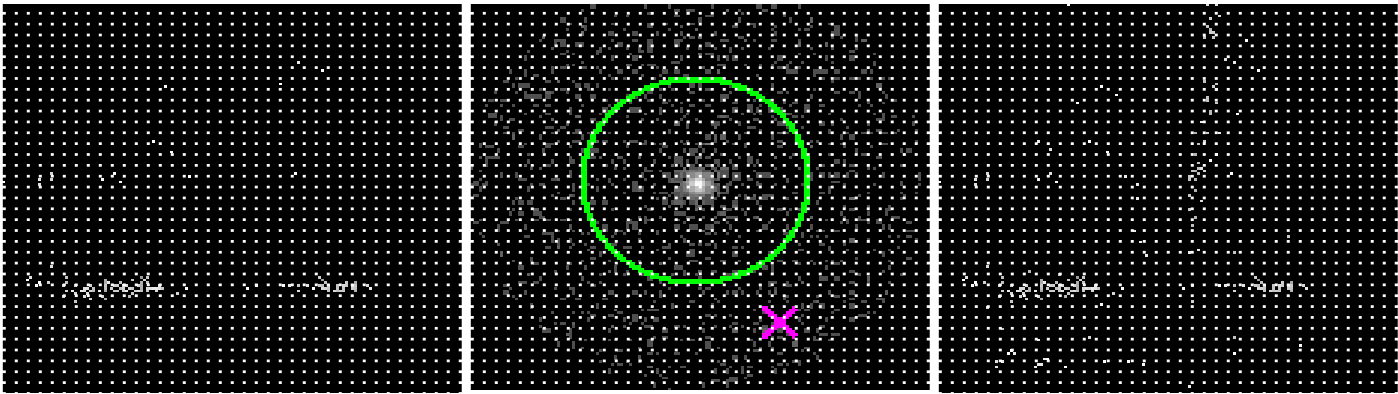


2.5.3 Slot 2



3 Gratings

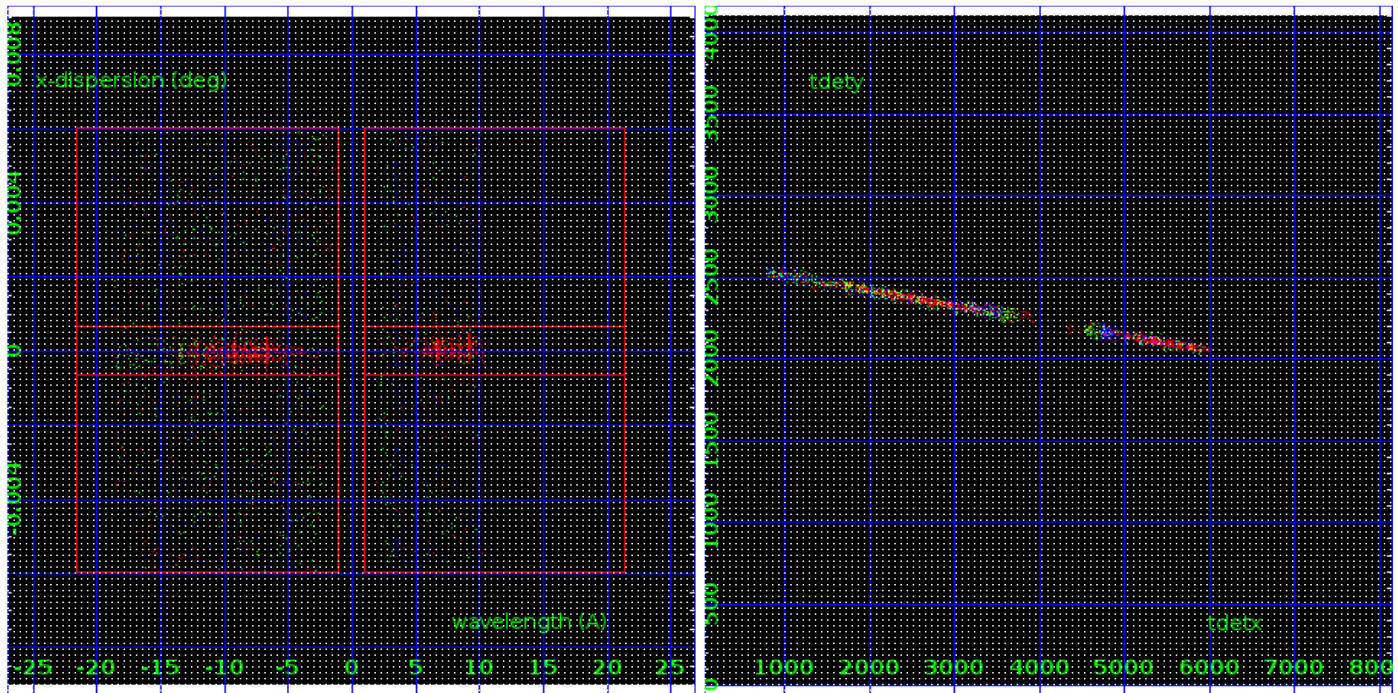
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

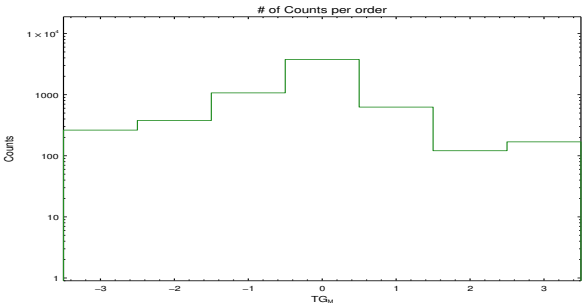
HEG Order Sort ALL

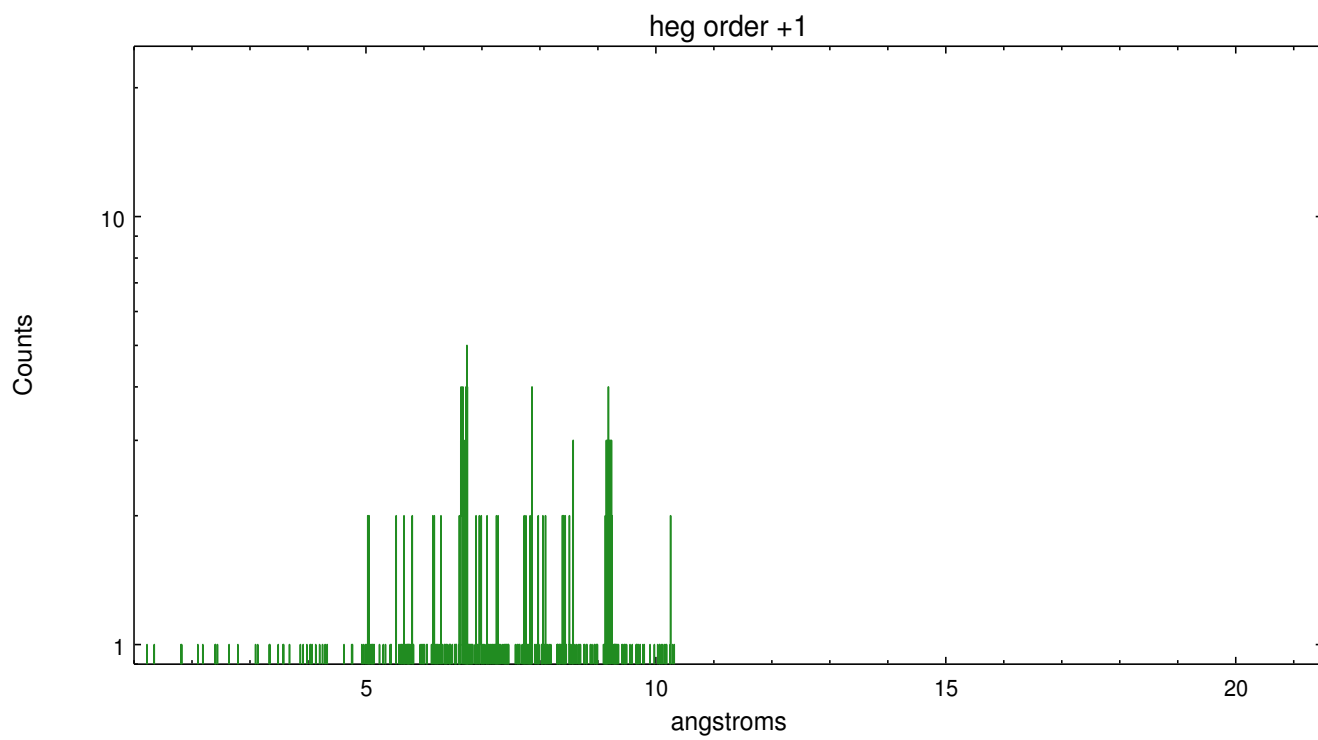
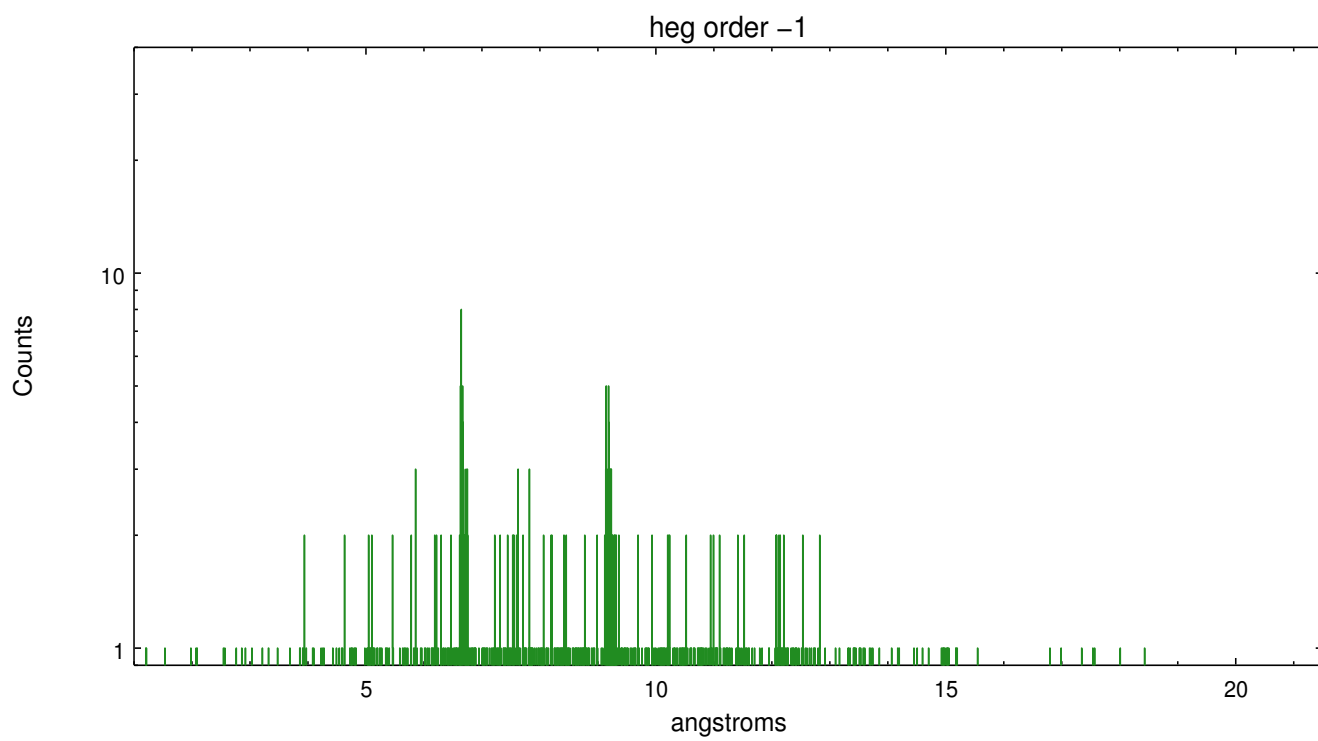


Spot Image HEG

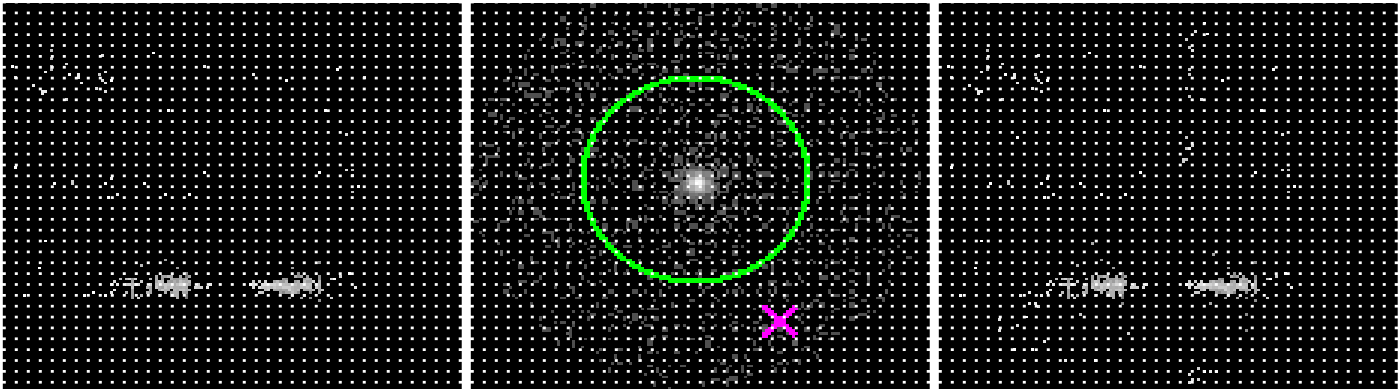
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	263	378	1070	3763	626	121	169





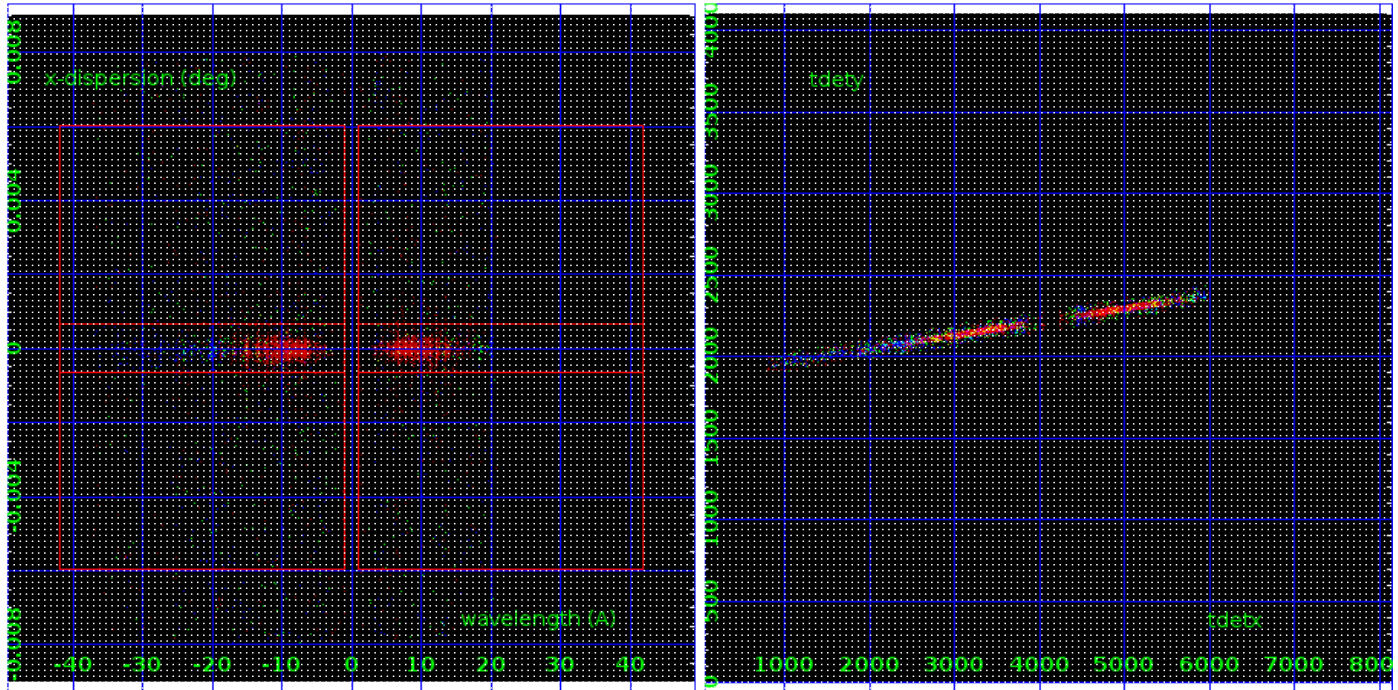
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

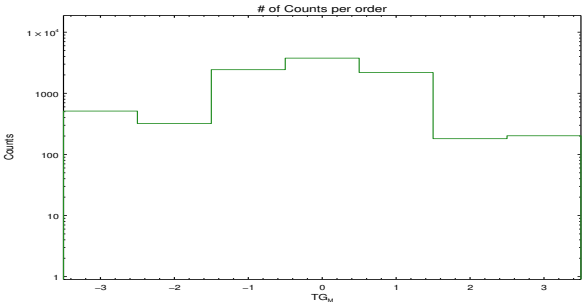
MEG Order Sort ALL

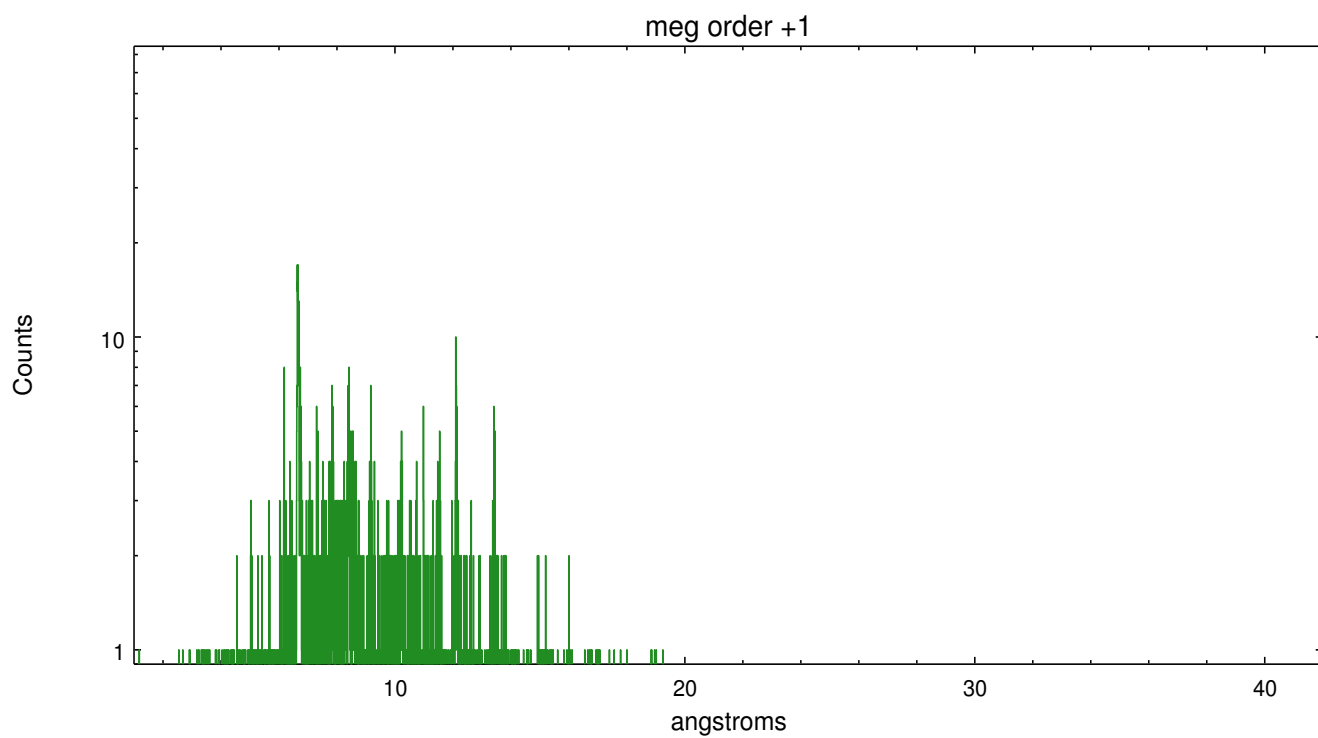
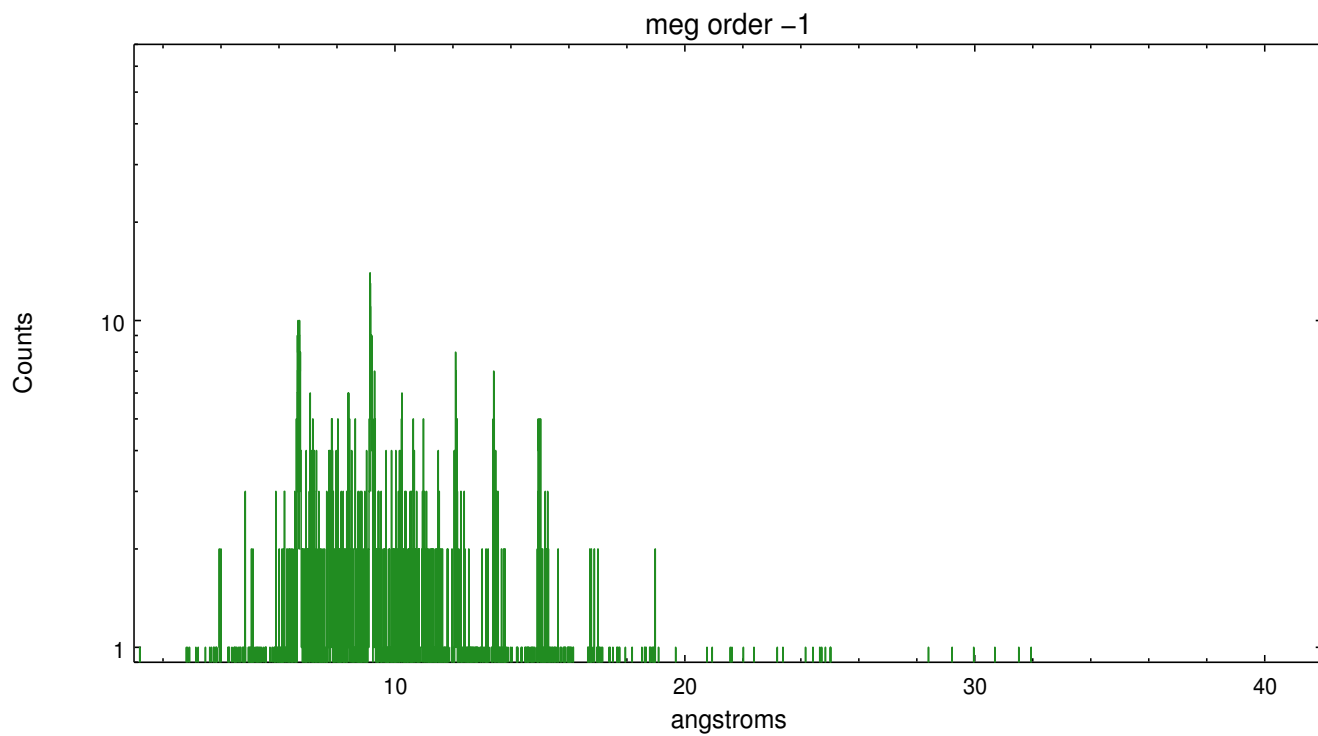


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	512	320	2437	3763	2187	181	202





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.07.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.091435462356

A.2 Comments