

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19860 - L2 Version 1
Chandra X-Ray Center

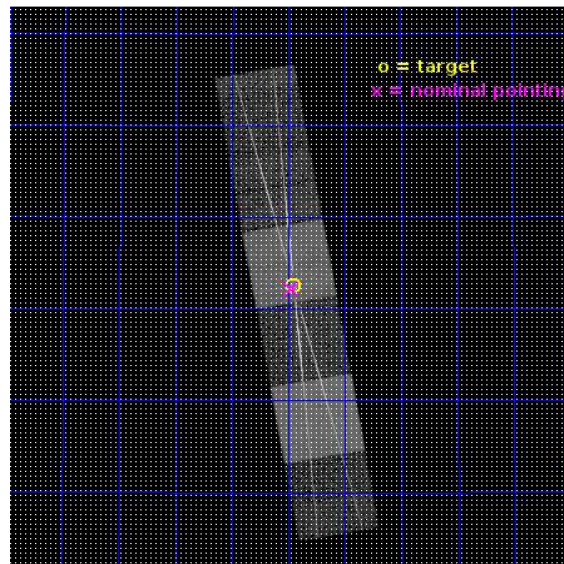
L2 Processing Date : Jun 23 2017

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1 Front

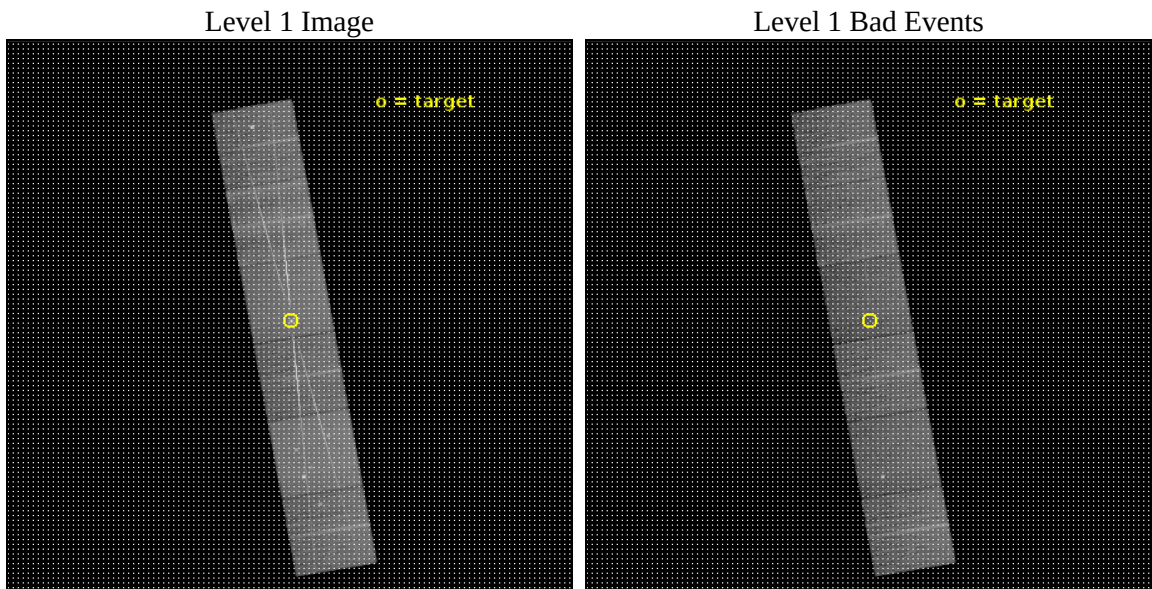
seq_num	790300	Sequence number
obs_id	19860	Observation id
title	AO-18 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11825842781	Nominal RA [deg]
dec_nom	38.203352557782	Nominal Dec [deg]
roll_nom	259.98077424783	Nominal Roll [deg]
revision	1	Processing version of data
ontime	15296.000227928	Sum of GTIs [s]
livetime	15102.313062897	Livetime [s]
ontime4	15296.000227928	Sum of GTIs [s]
ontime5	15296.000227928	Sum of GTIs [s]
ontime6	15296.000227928	Sum of GTIs [s]
ontime7	15296.000227928	Sum of GTIs [s]
ontime8	15296.000227928	Sum of GTIs [s]
ontime9	15296.000227928	Sum of GTIs [s]
l2events	308465	Number of level 2 events



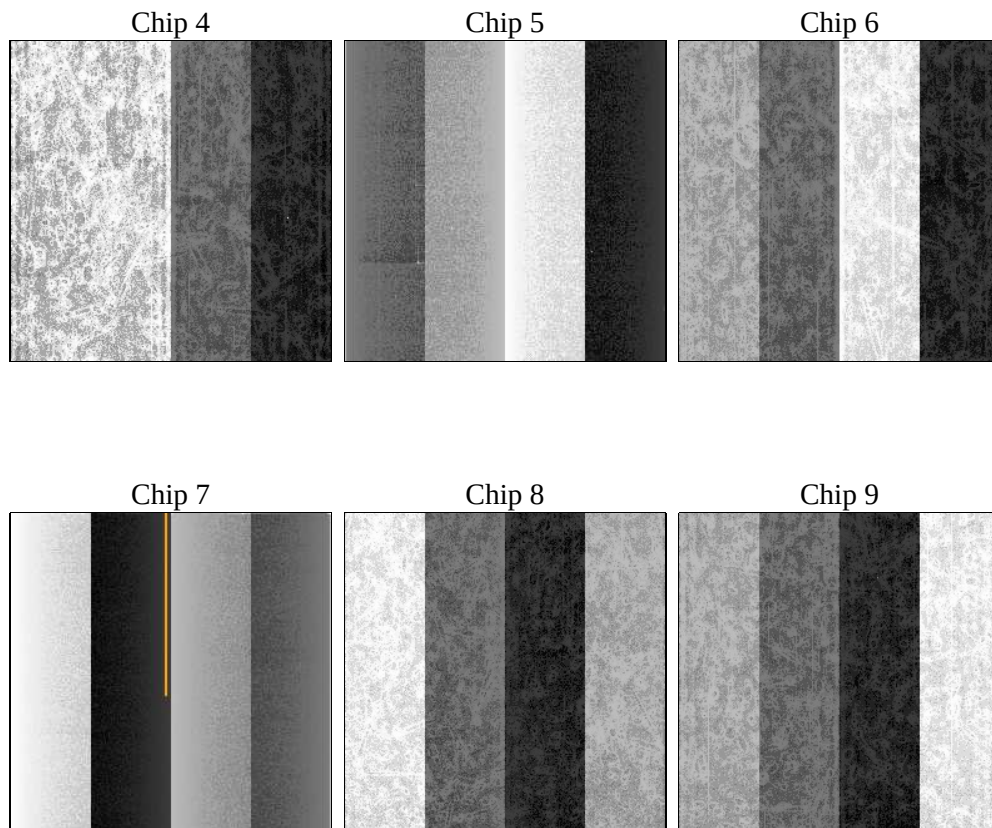
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15344.358000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	15296.000227928	Sum of GTIs [s]
caldsver	4.7.5	 	ontime4	15296.000227928	Sum of GTIs [s]
date	2017-06-23T15:55:02	Date and time of file creation	ontime5	15296.000227928	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	15296.000227928	Sum of GTIs [s]
			ontime7	15296.000227928	Sum of GTIs [s]
			ontime8	15296.000227928	Sum of GTIs [s]
			ontime9	15296.000227928	Sum of GTIs [s]
			l1events	958538	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			src1a_pos	(4121.58, 4127.08)	src1a sky pixel position

2.1.4 Events

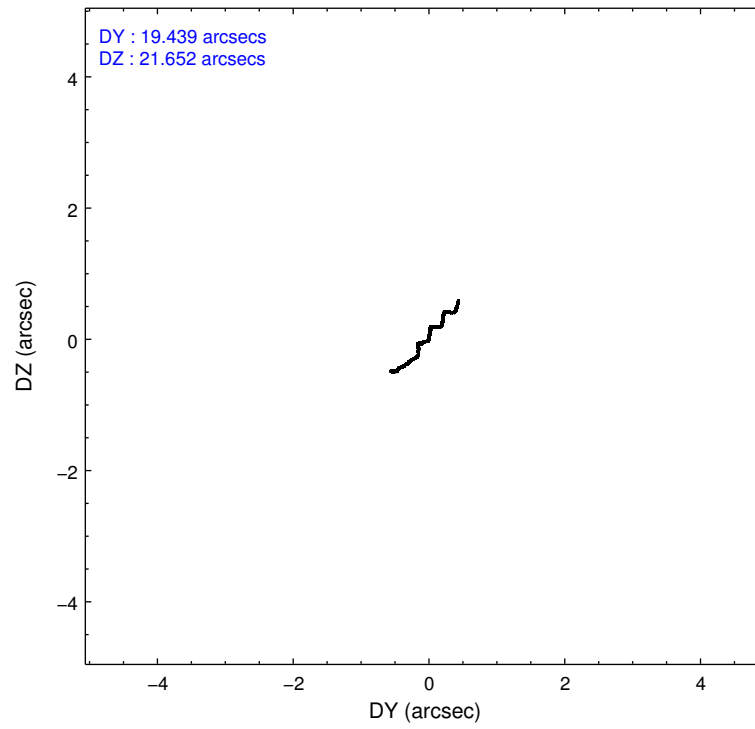
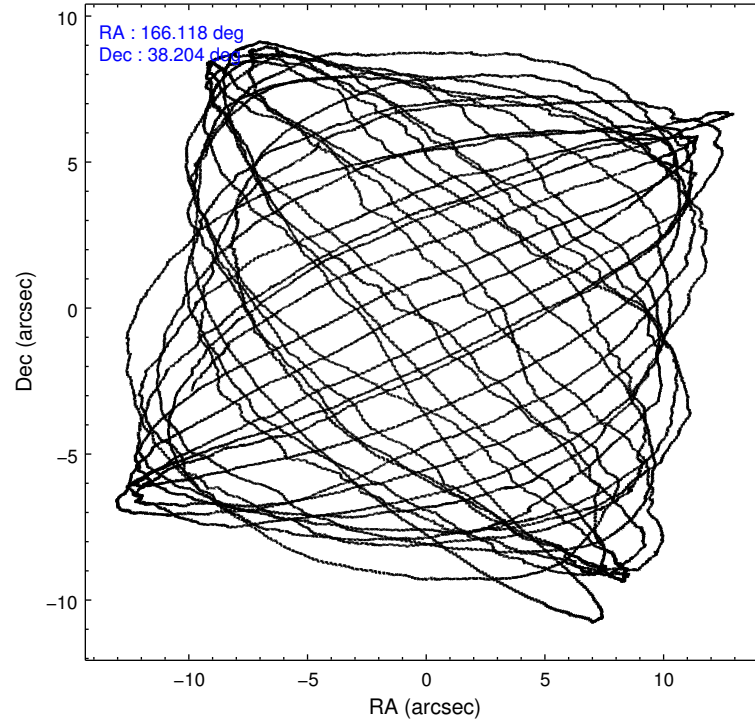
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	132590	193040	155180	184110	172662	120956	grade 0 events	9172	12489	38000	16610	31471	12952
rejected events	114453	92028	100406	80731	108459	98599		6%	6%	24%	9%	18%	10%
rejected %	86%	47%	64%	43%	62%	81%	grade 1 events	146	420	294	424	245	92
								0%	0%	0%	0%	0%	0%
							grade 2 events	3671	33038	7544	23793	11943	3424
								2%	17%	4%	12%	6%	2%
							grade 3 events	1485	3804	2697	9699	4999	1504
								1%	1%	1%	5%	2%	1%
							grade 4 events	1445	3592	2702	9515	4670	1461
								1%	1%	1%	5%	2%	1%
							grade 5 events	5388	13066	5546	15320	8122	5824
								4%	6%	3%	8%	4%	4%
							grade 6 events	2368	48112	3848	43786	11126	3020
								1%	24%	2%	23%	6%	2%
							grade 7 events	108915	78519	94549	64963	100086	92679
								82%	40%	60%	35%	57%	76%

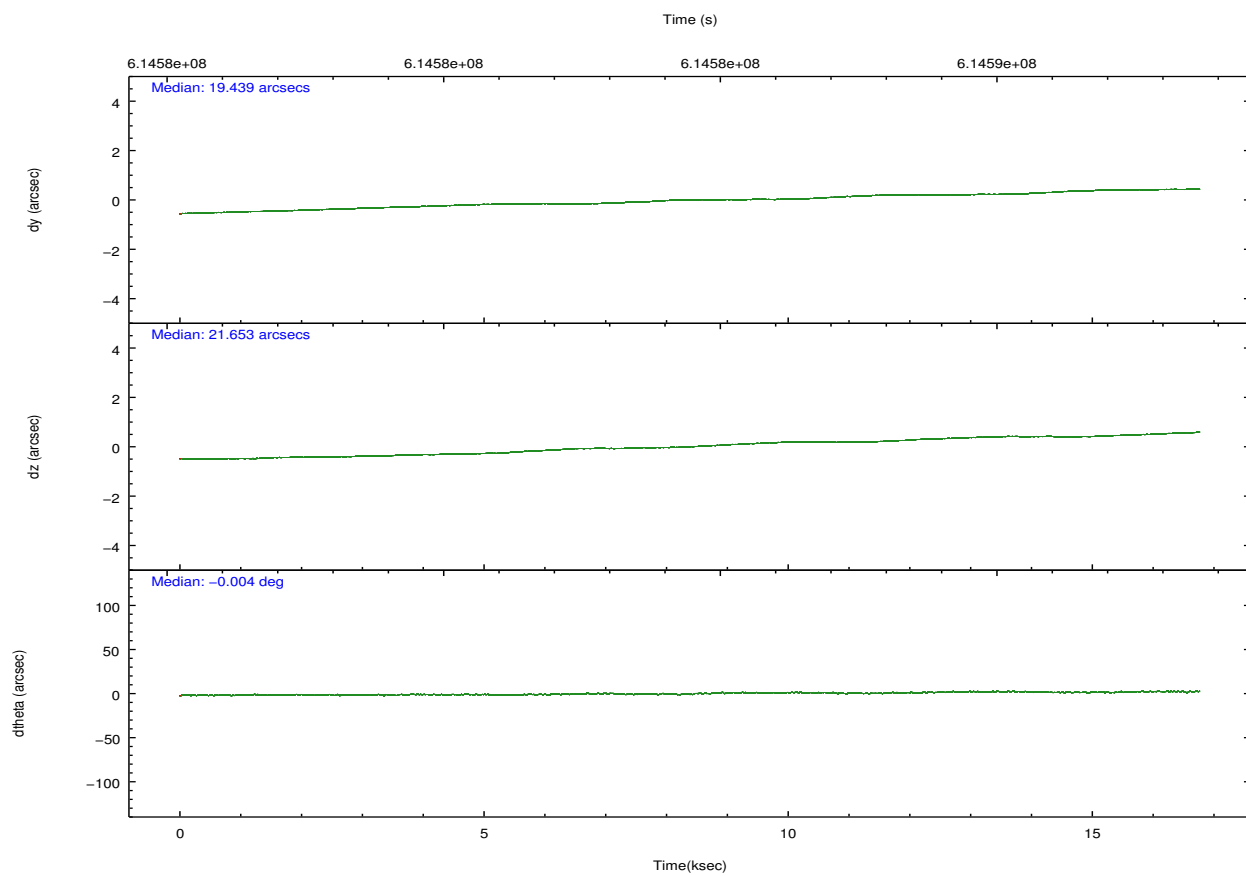
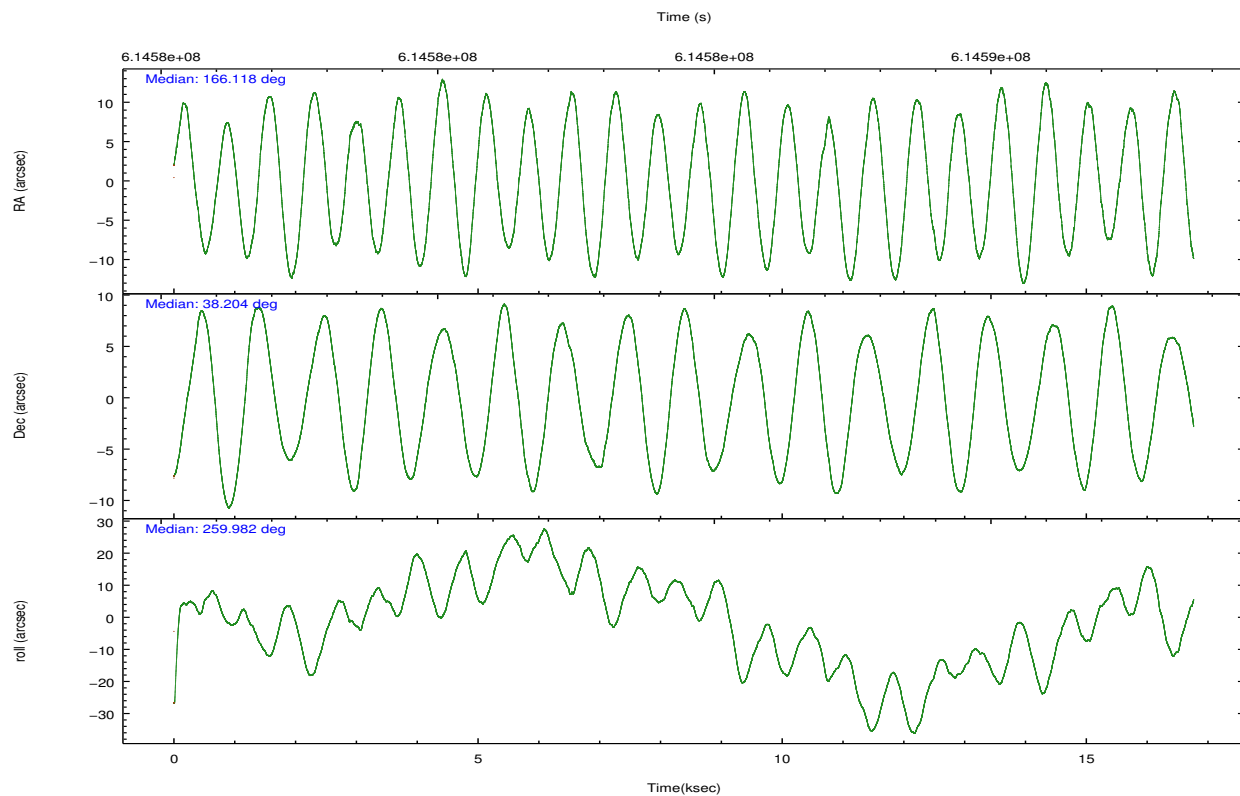
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	166.105857	166.1182584278088
[deg] Pointing Dec	38.229001	38.20335255778163
[deg] Pointing Roll	259.831852	259.9807742478321
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	614577510.184000	614575759.8442301
Observation start date	2017-06-23T03:57:21	2017-06-23T03:29:19
[s] Observation end time (MET)	614592855.184000	614593082.85774
Observation end date	2017-06-23T08:13:06	2017-06-23T08:18:02
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	O1	Y
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	O2	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



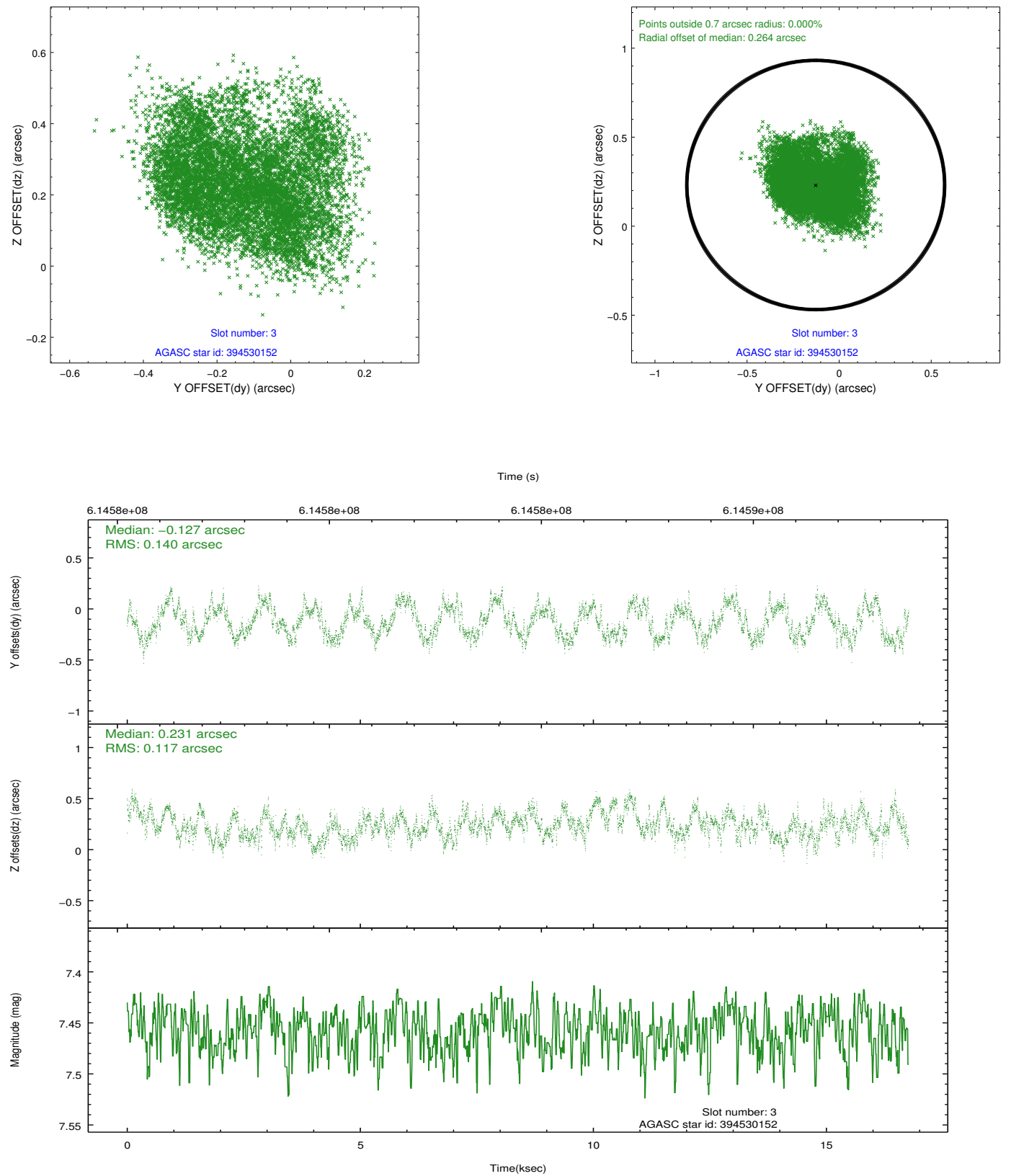


Slot Statistics

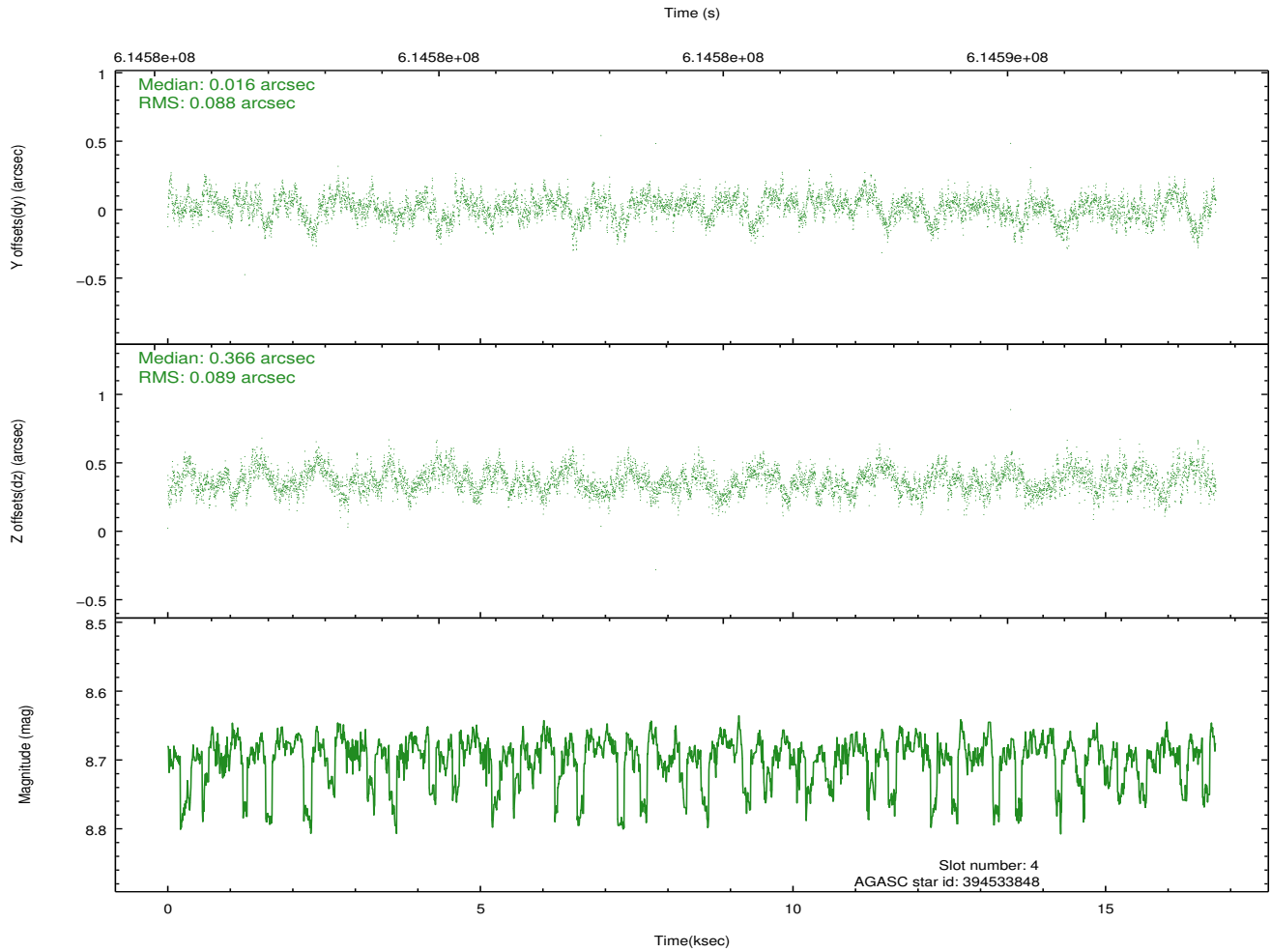
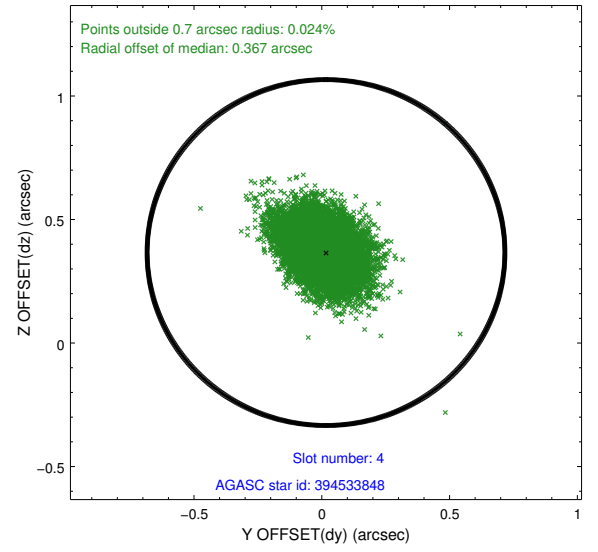
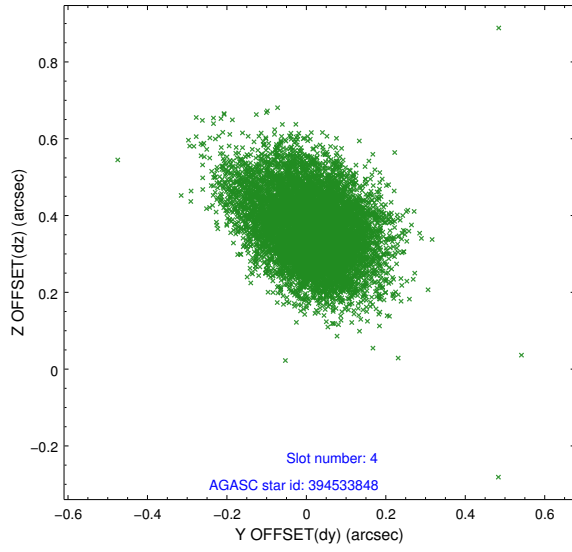
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.89	4090	-0.233	-0.112	0.014	0.022	0.000000	0.000000	-772.72	-1743.34
1	FID		ACIS-S-4	7.00	4090	0.506	0.143	0.010	0.014	0.000000	0.000000	2141.17	165.14
2	FID		ACIS-S-5	6.99	4090	-0.304	-0.022	0.013	0.018	0.000000	0.000000	-1825.32	158.93
3	GUIDE	used	394530152	7.46	8178	-0.127	0.231	0.203	0.292	166.075805	38.868252	-2249.95	-488.97
4	GUIDE	used	394533848	8.69	8178	0.016	0.366	0.131	0.218	166.382906	38.276007	-305.73	734.91
5	GUIDE	used	394543960	9.74	8153	0.295	0.281	0.252	0.398	165.802757	37.787371	1716.48	-568.08
6	GUIDE	used	394546712	6.59	8179	-0.324	0.306	0.136	0.227	166.451462	38.394357	-758.97	853.37
7	GUIDE	used	394546720	6.43	8176	0.146	-1.201	0.257	0.426	166.130115	38.241361	-55.37	58.56

2.4 Star Slots

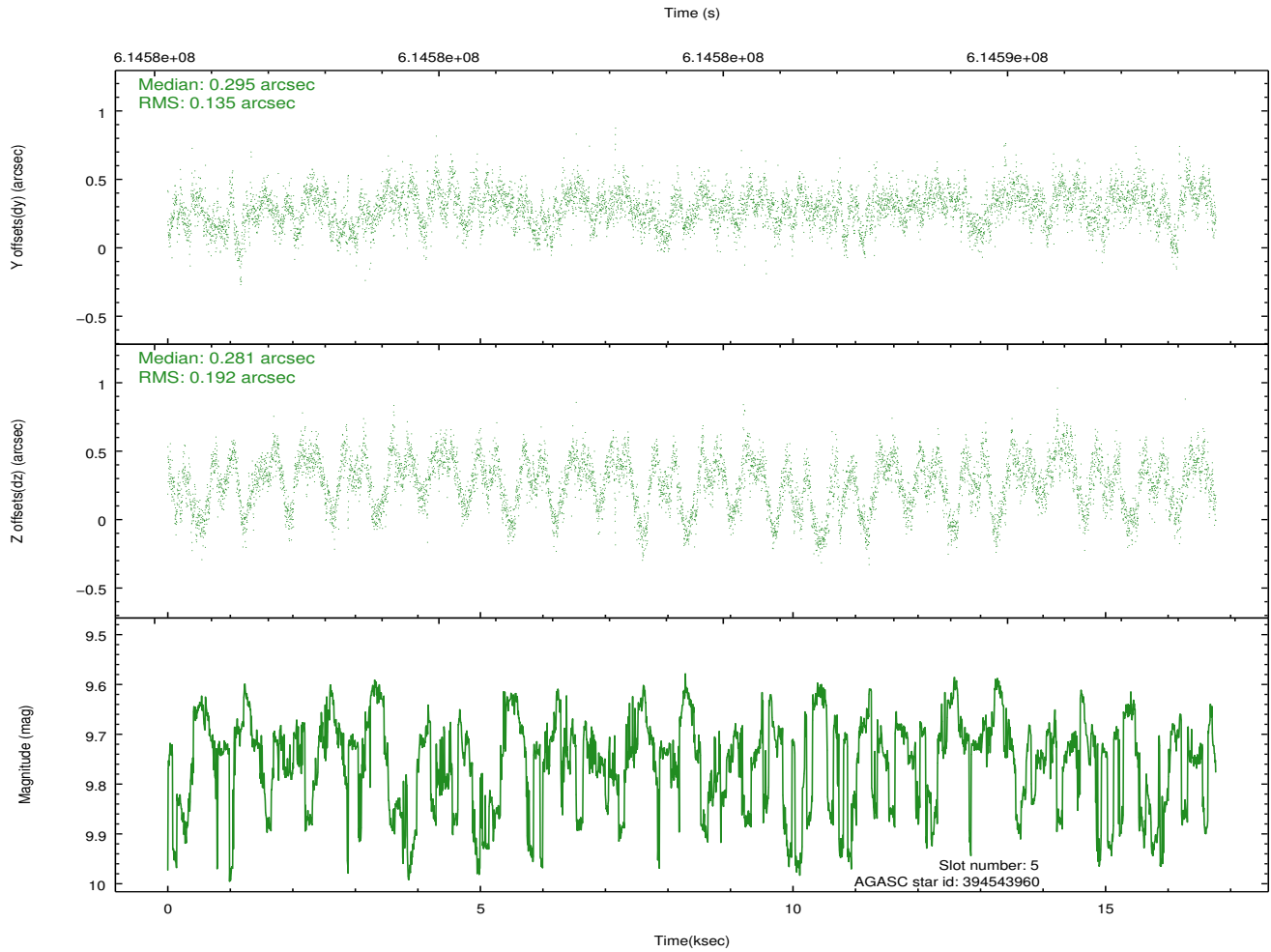
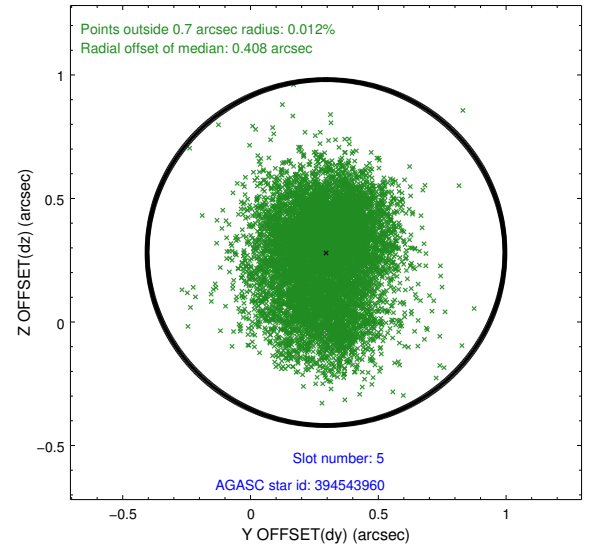
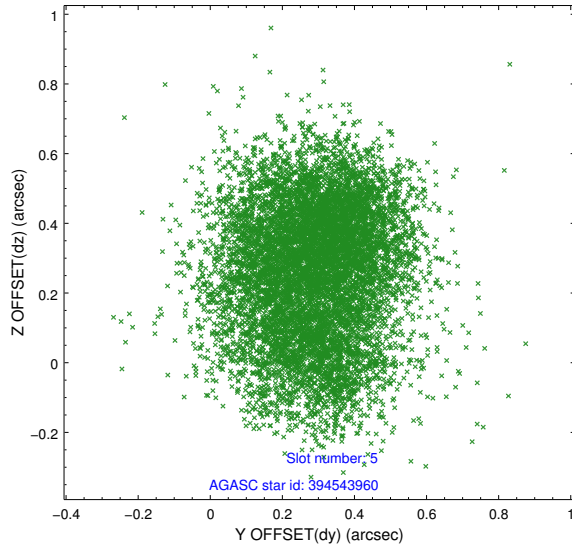
2.4.1 Slot 3



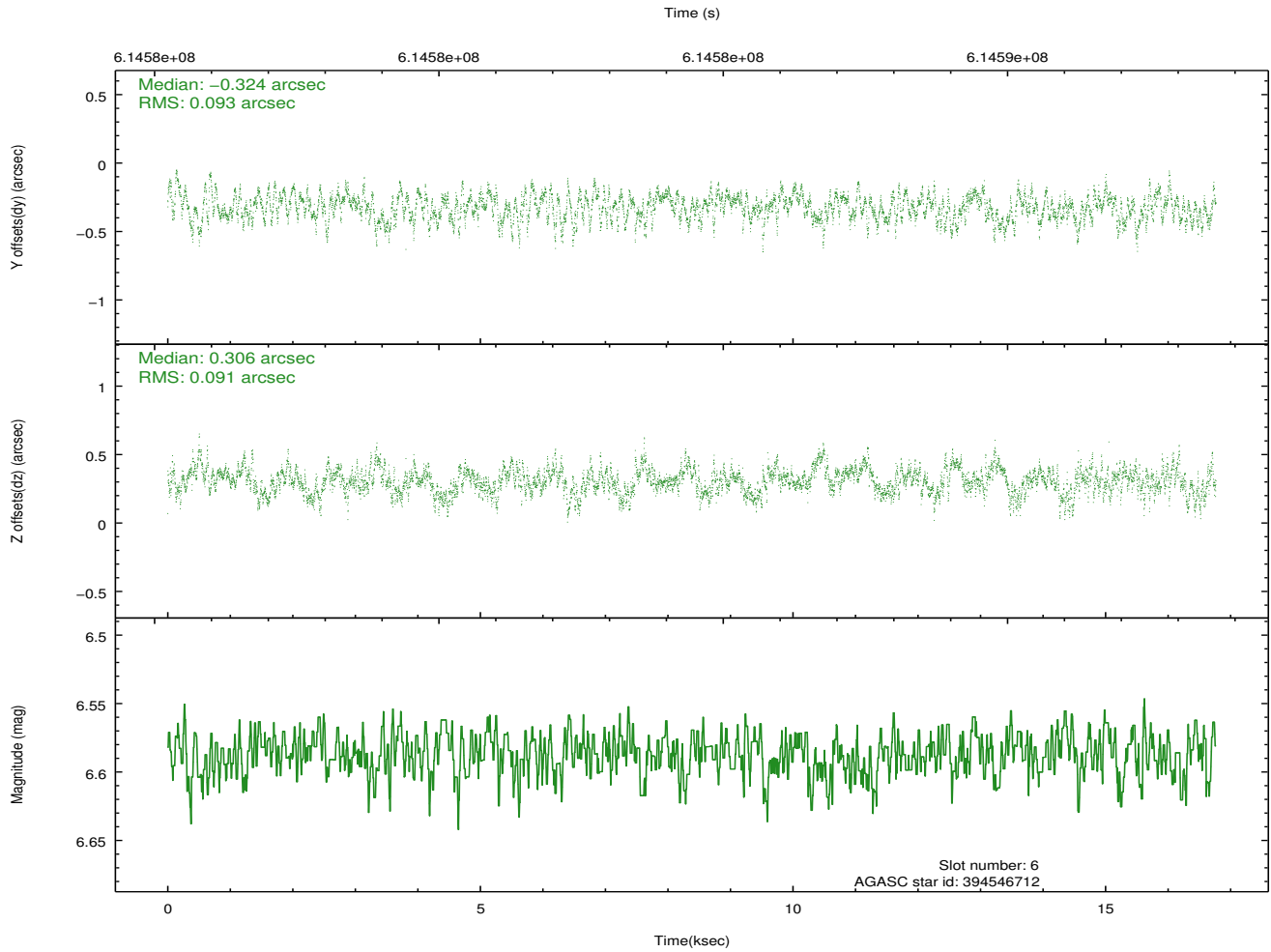
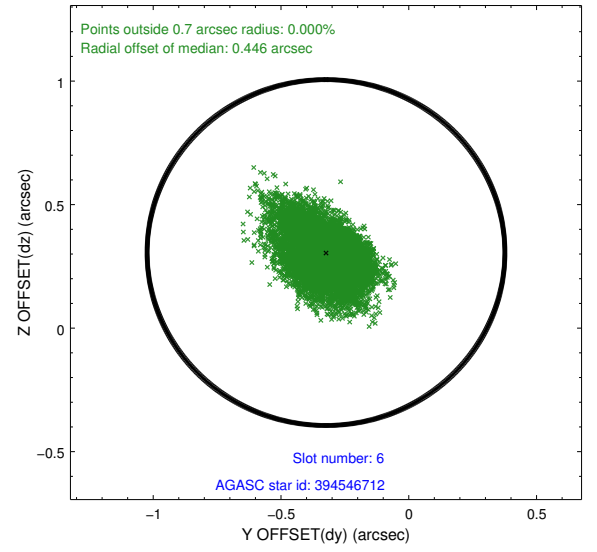
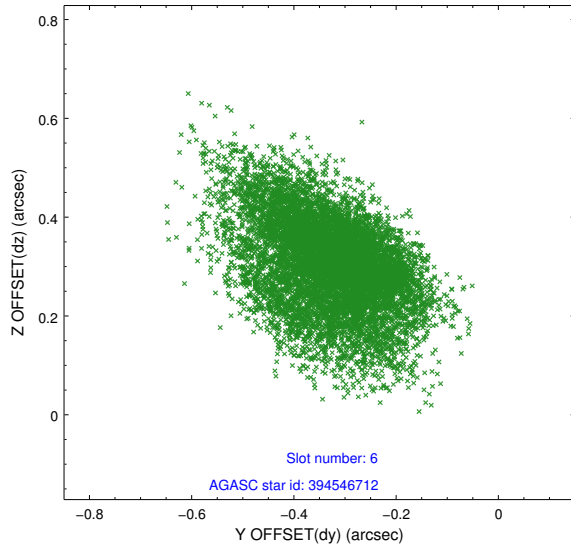
2.4.2 Slot 4



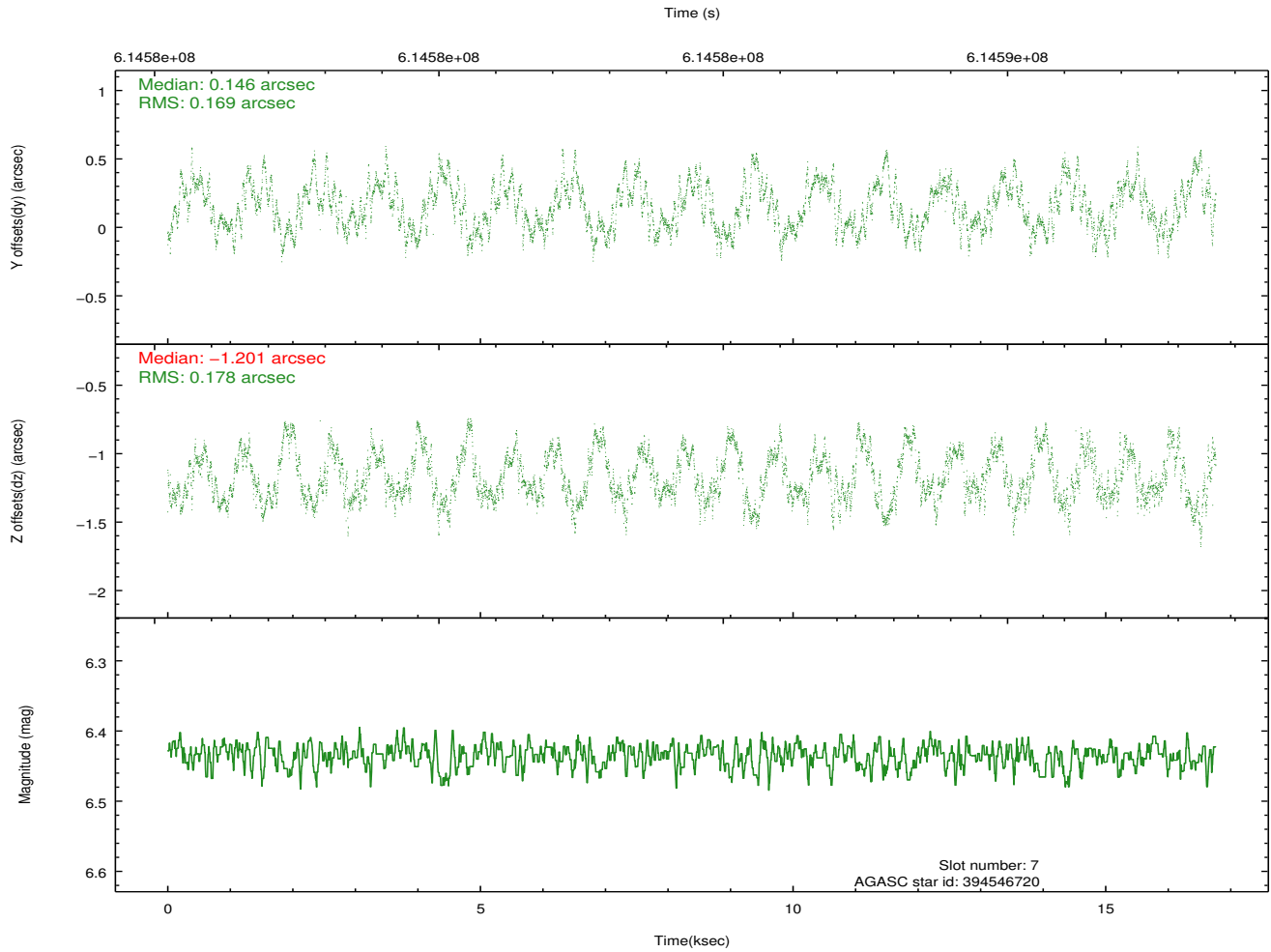
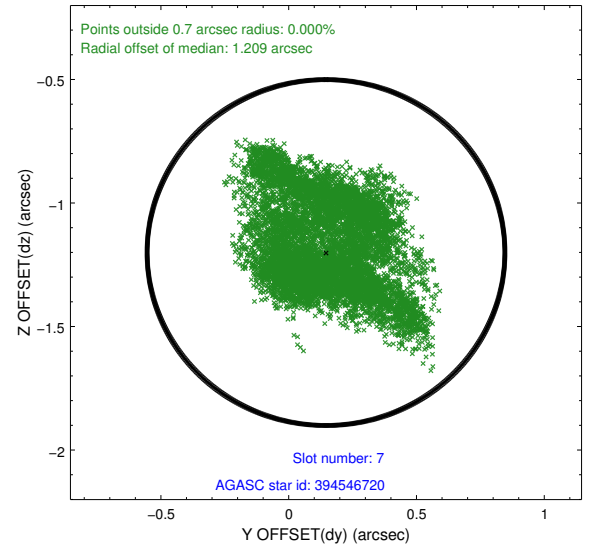
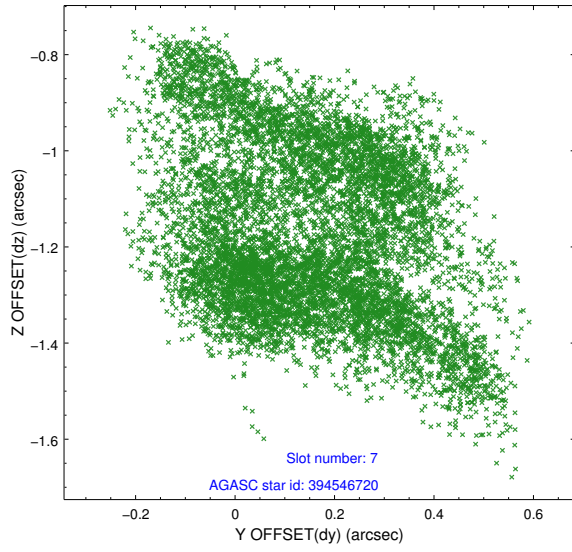
2.4.3 Slot 5



2.4.4 Slot 6

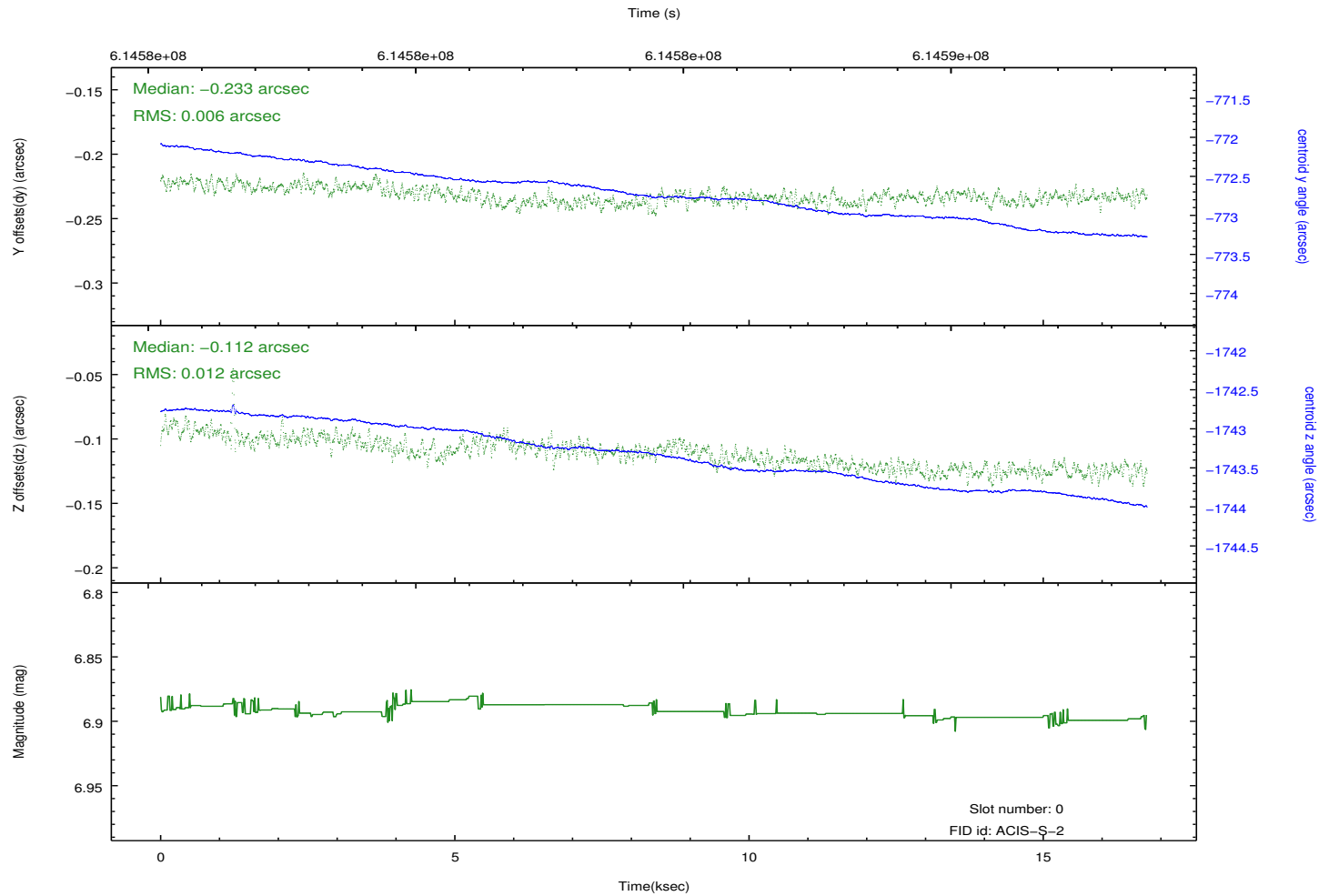
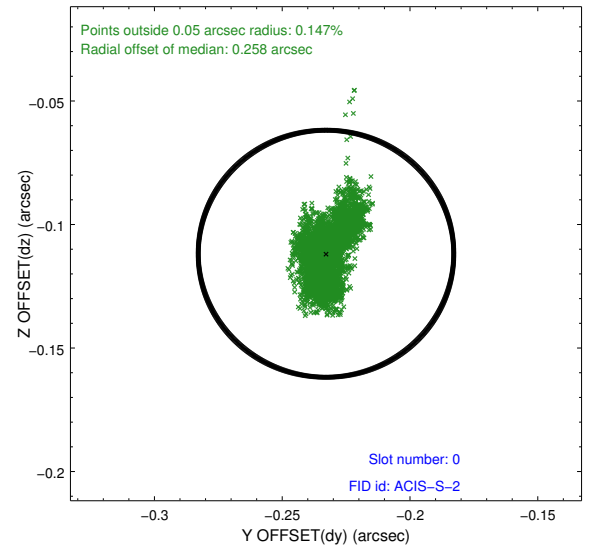
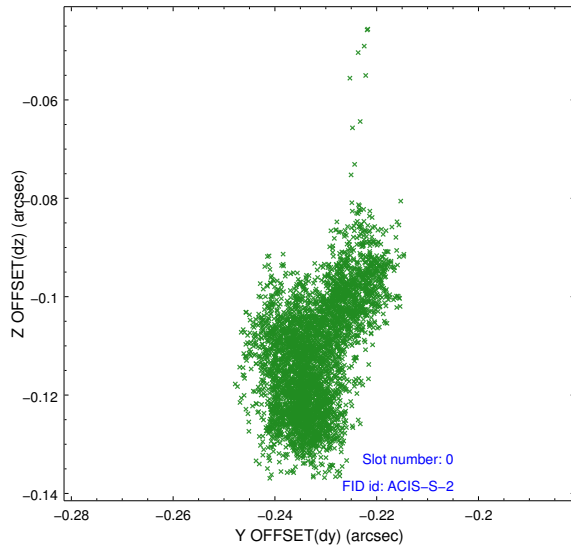


2.4.5 Slot 7

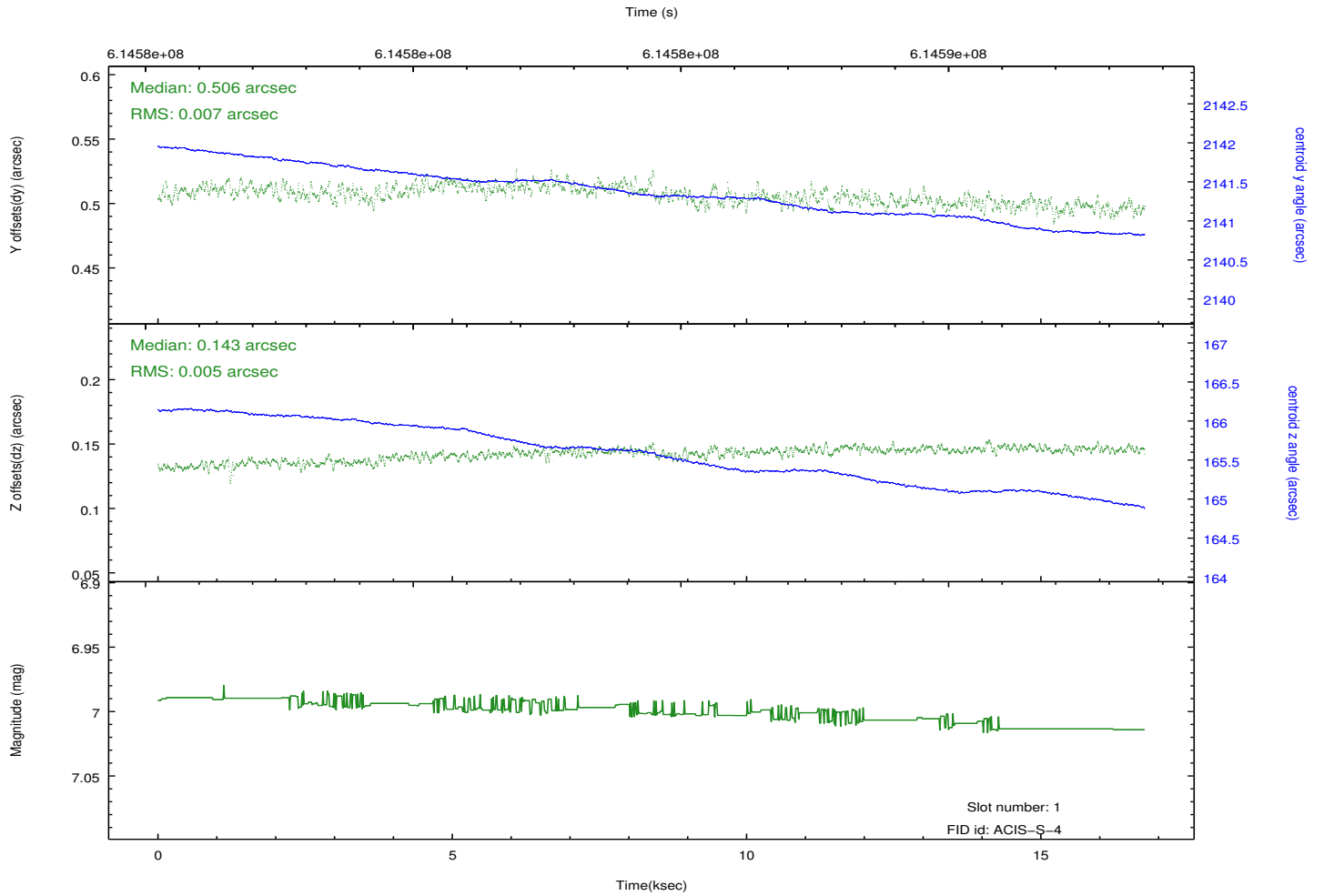
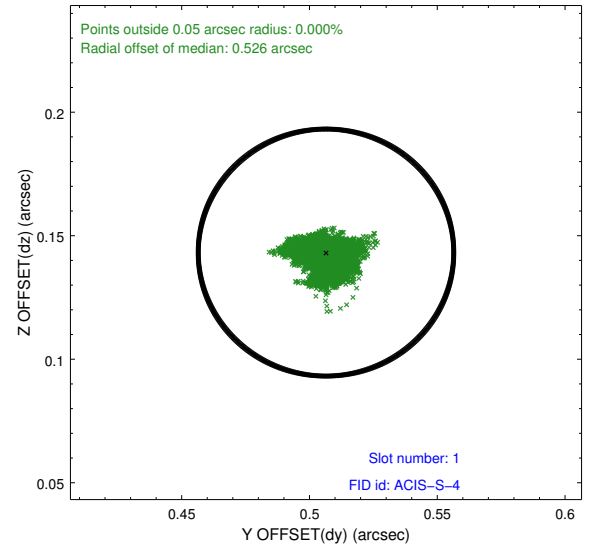
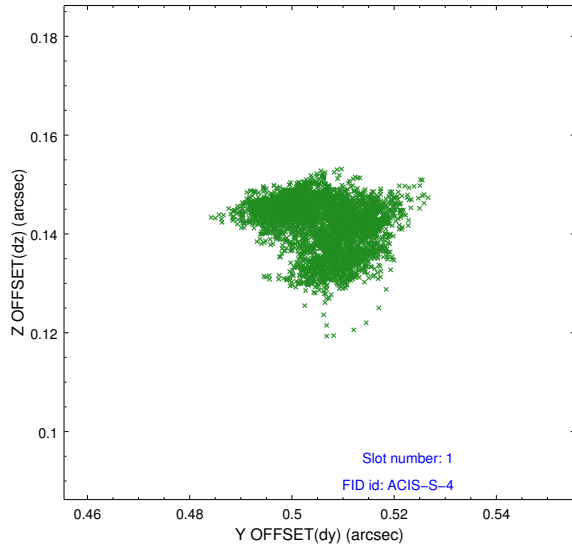


2.5 FID Slots

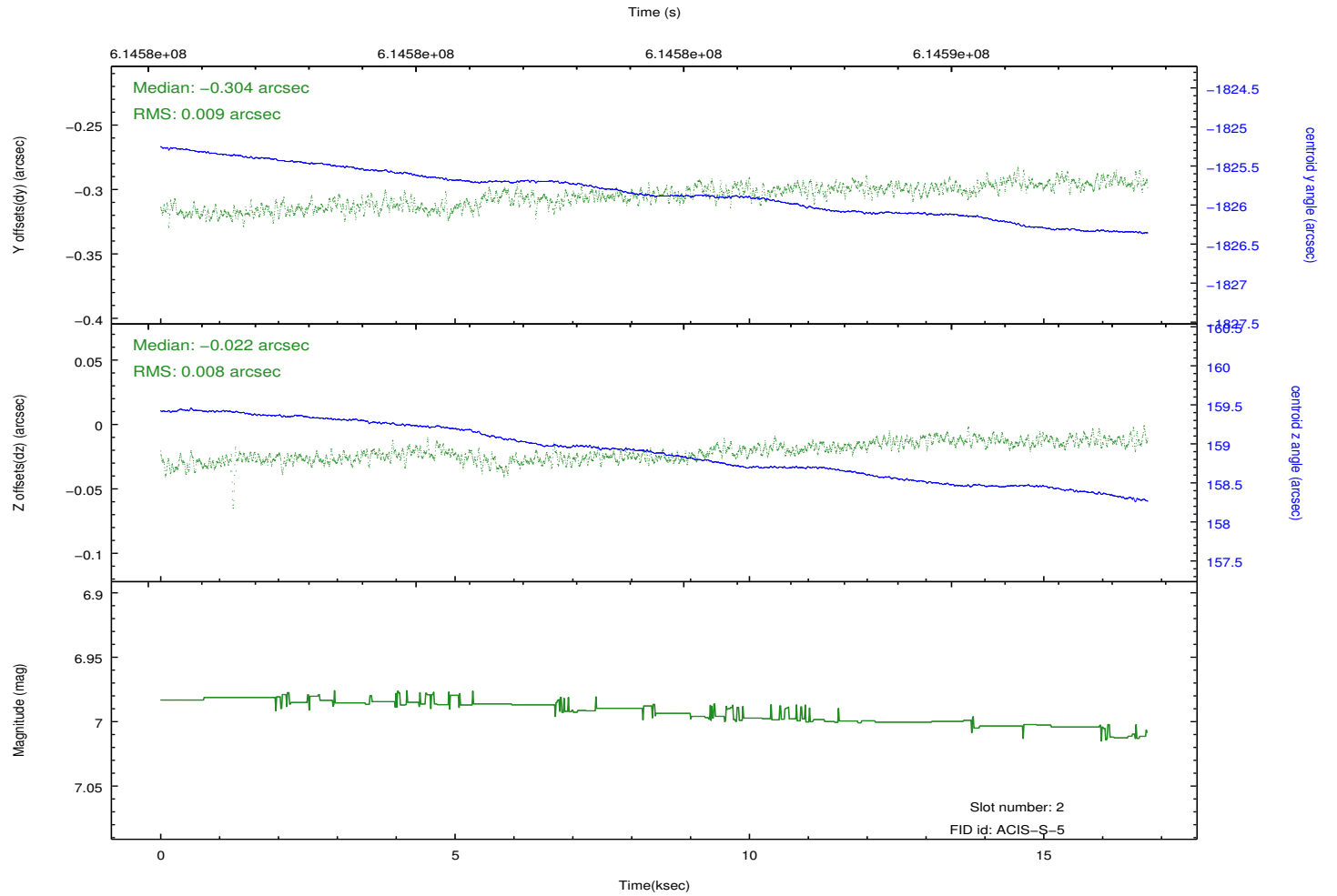
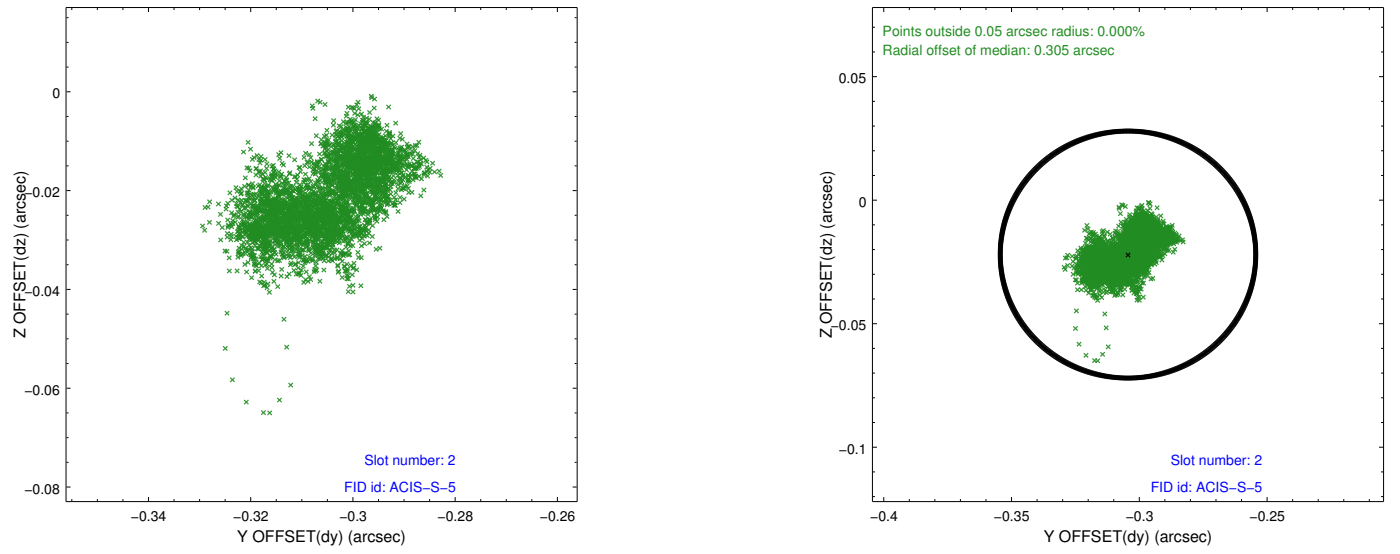
2.5.1 Slot 0



2.5.2 Slot 1

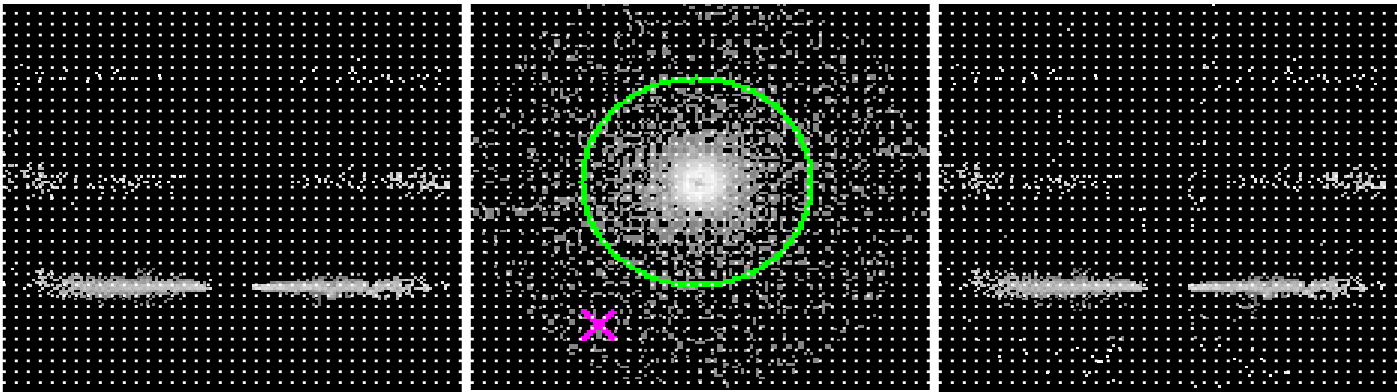


2.5.3 Slot 2



3 Gratings

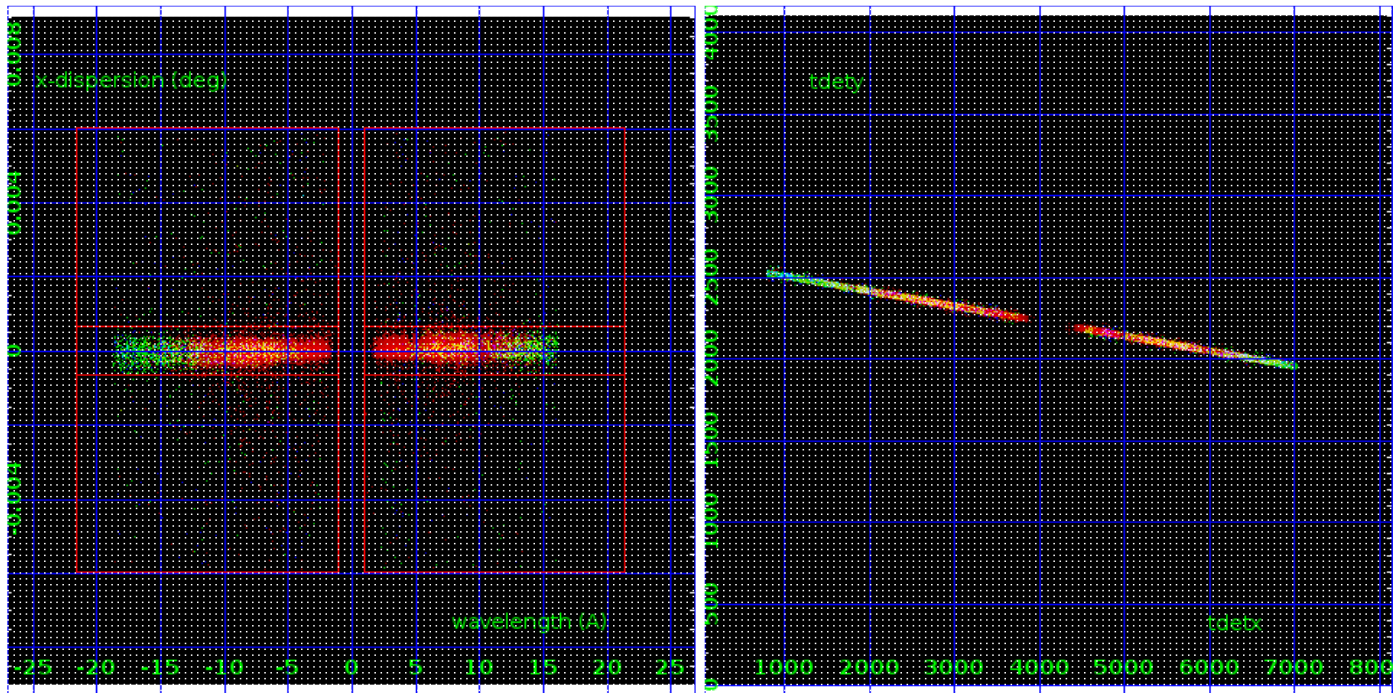
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

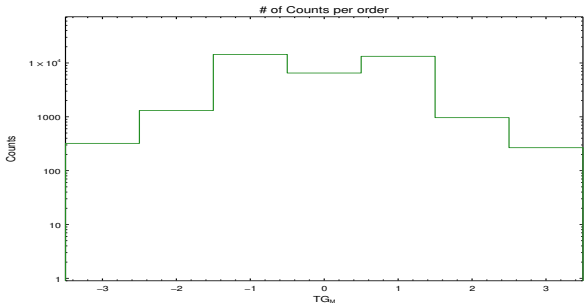
HEG Order Sort ALL

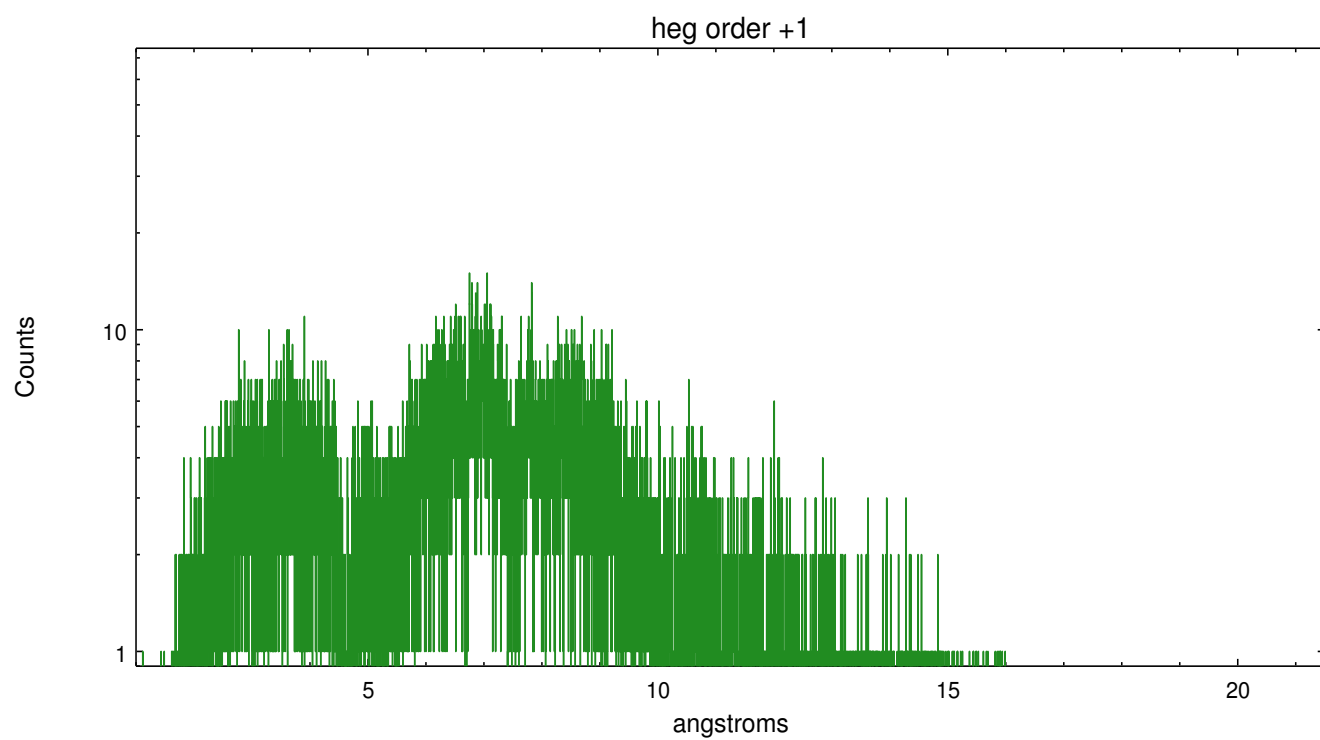
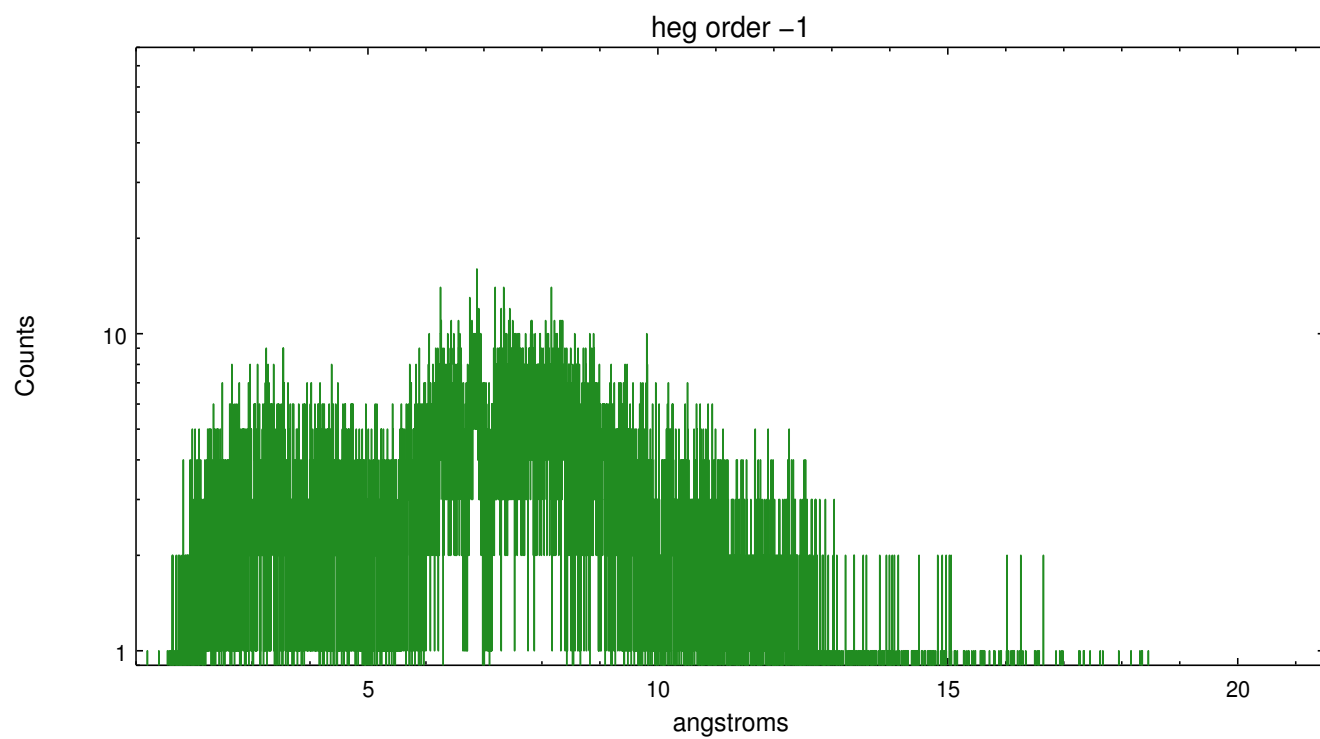


Spot Image HEG

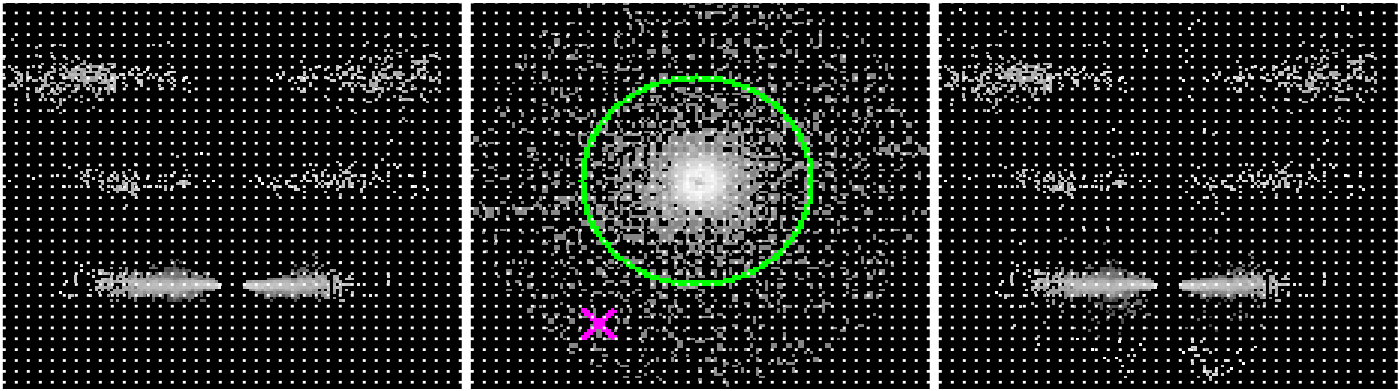
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	321	1310	14418	6505	13289	965	267





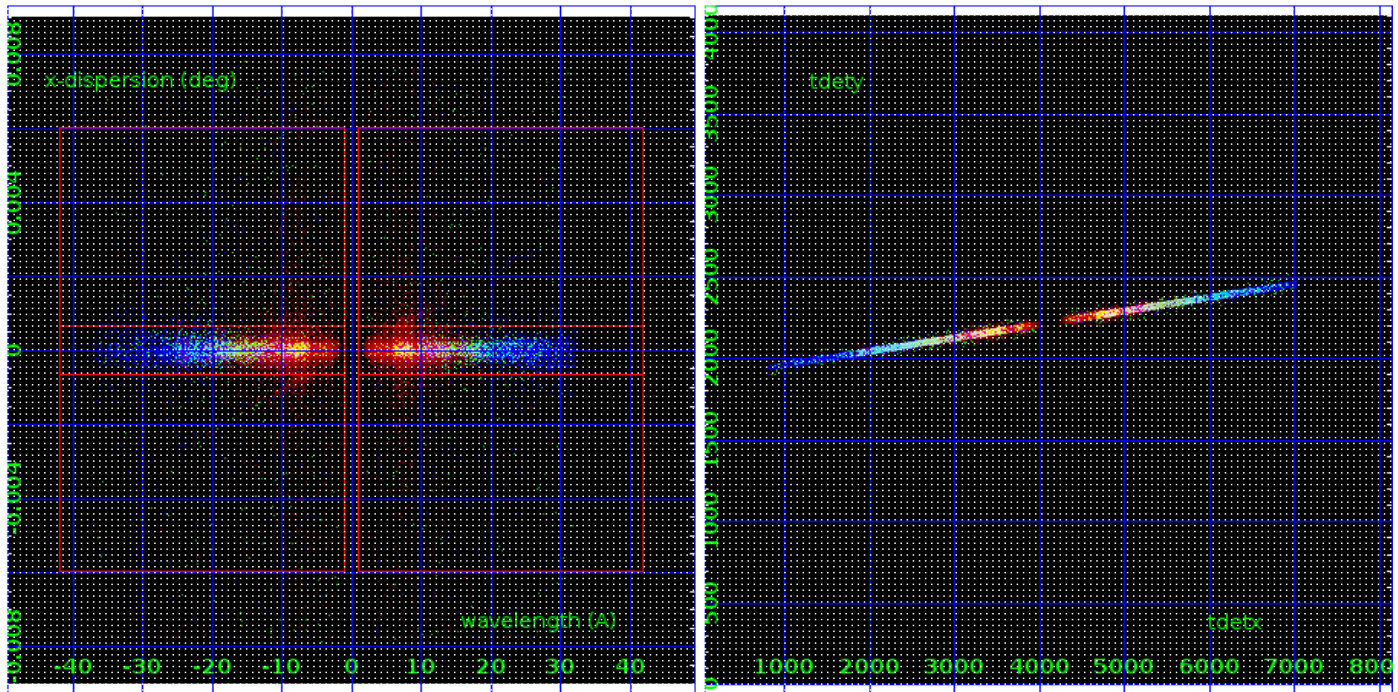
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

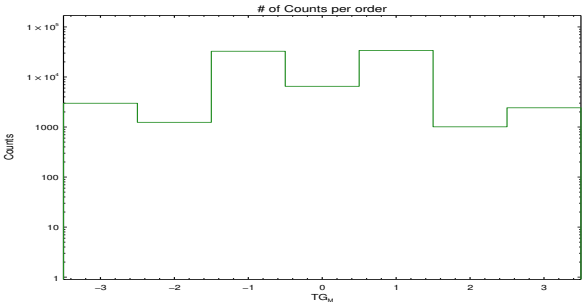
MEG Order Sort ALL

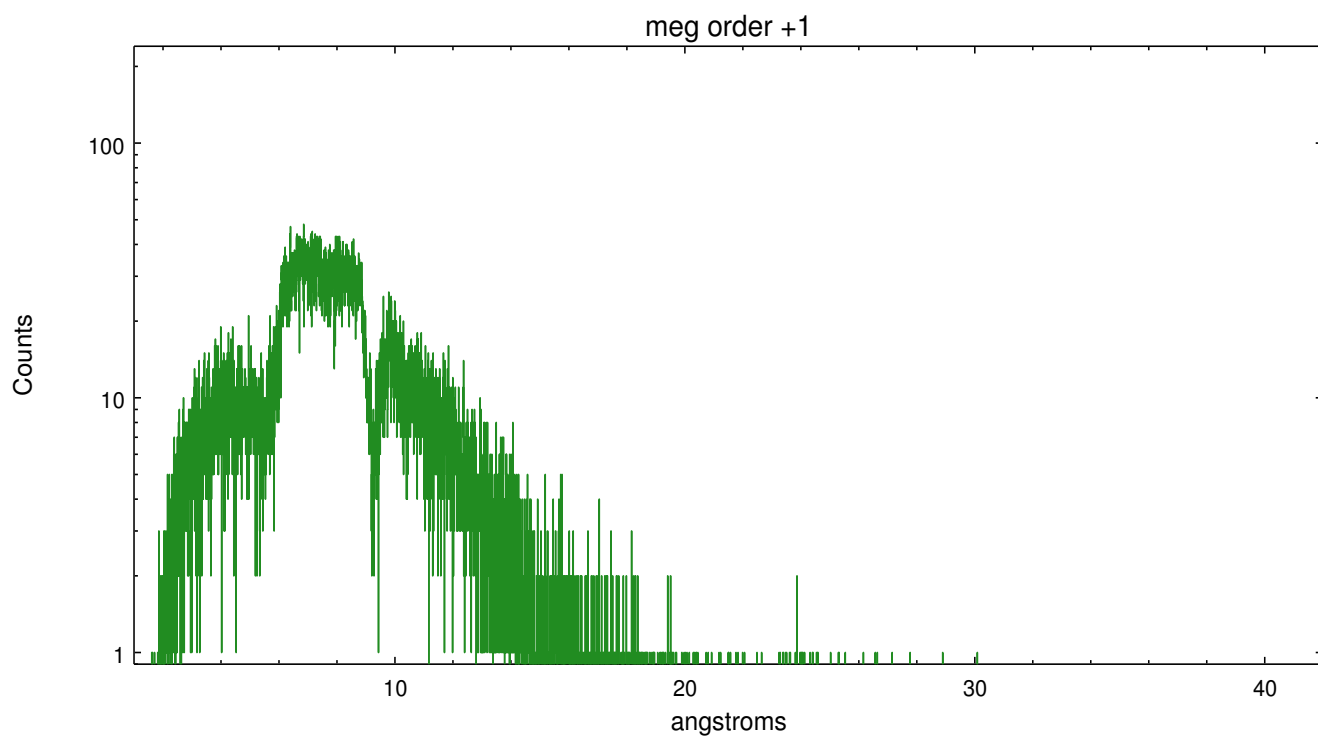
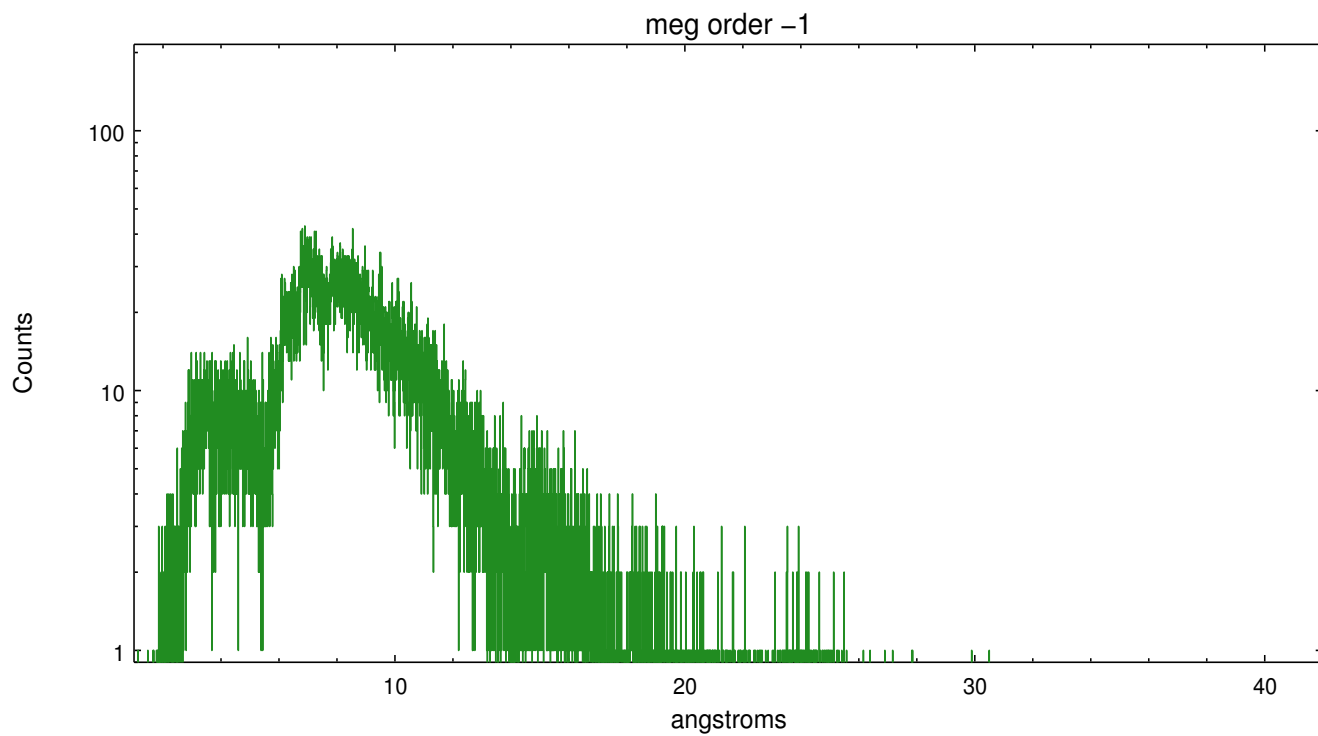


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2983	1240	32649	6505	33954	1009	2422





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.06.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.296000227928

A.2 Comments