

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19853 - L2 Version 1
Chandra X-Ray Center

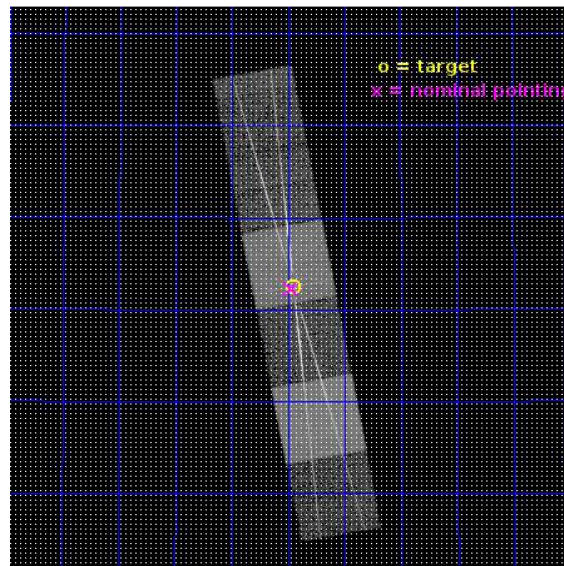
L2 Processing Date : Jun 23 2017

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1 Front

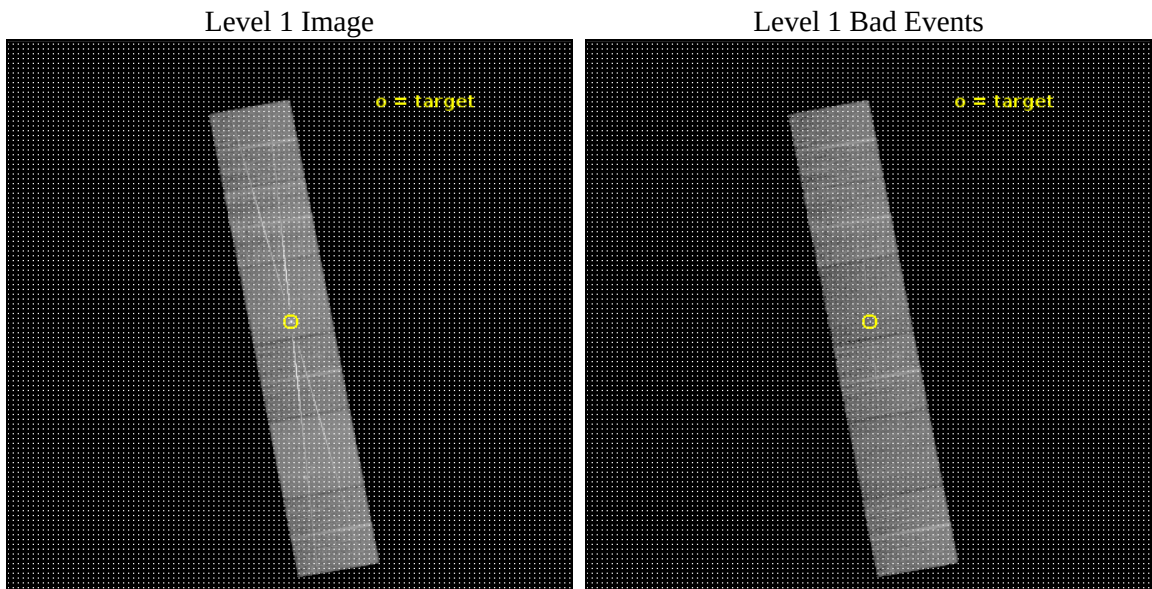
seq_num	790293	Sequence number
obs_id	19853	Observation id
title	AO-18 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11774905574	Nominal RA [deg]
dec_nom	38.204486883125	Nominal Dec [deg]
roll_nom	259.45019609325	Nominal Roll [deg]
revision	1	Processing version of data
ontime	14947.035052896	Sum of GTIs [s]
livetime	14757.766695032	Livetime [s]
ontime4	14943.835082531	Sum of GTIs [s]
ontime5	14946.994012833	Sum of GTIs [s]
ontime6	14946.952972889	Sum of GTIs [s]
ontime7	14947.035052896	Sum of GTIs [s]
ontime8	14946.911932826	Sum of GTIs [s]
ontime9	14946.870892882	Sum of GTIs [s]
l2events	306666	Number of level 2 events



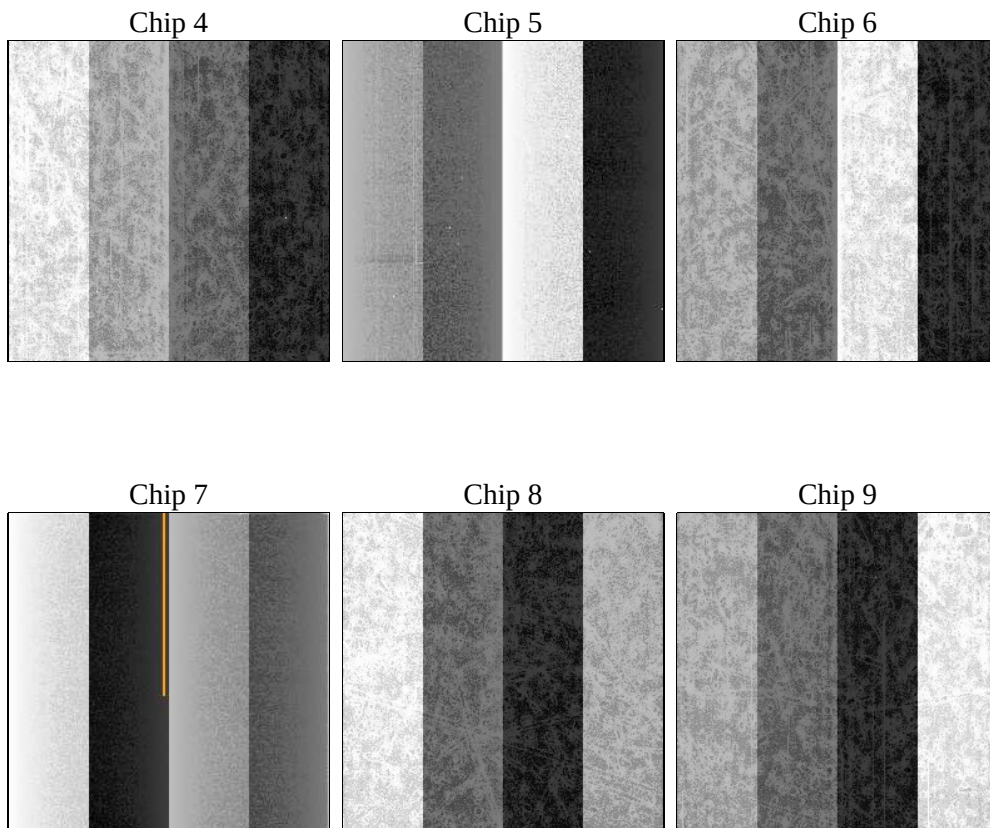
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	14947.035052896	Sum of GTIs [s]
caldsver	4.7.5	 	ontime4	14943.835082531	Sum of GTIs [s]
date	2017-06-23T14:18:03	Date and time of file creation	ontime5	14946.994012833	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	14946.952972889	Sum of GTIs [s]
			ontime7	14947.035052896	Sum of GTIs [s]
			ontime8	14946.911932826	Sum of GTIs [s]
			ontime9	14946.870892882	Sum of GTIs [s]
			l1events	950807	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			src1a_pos	(4118.24, 4128.40)	src1a sky pixel position

2.1.4 Events

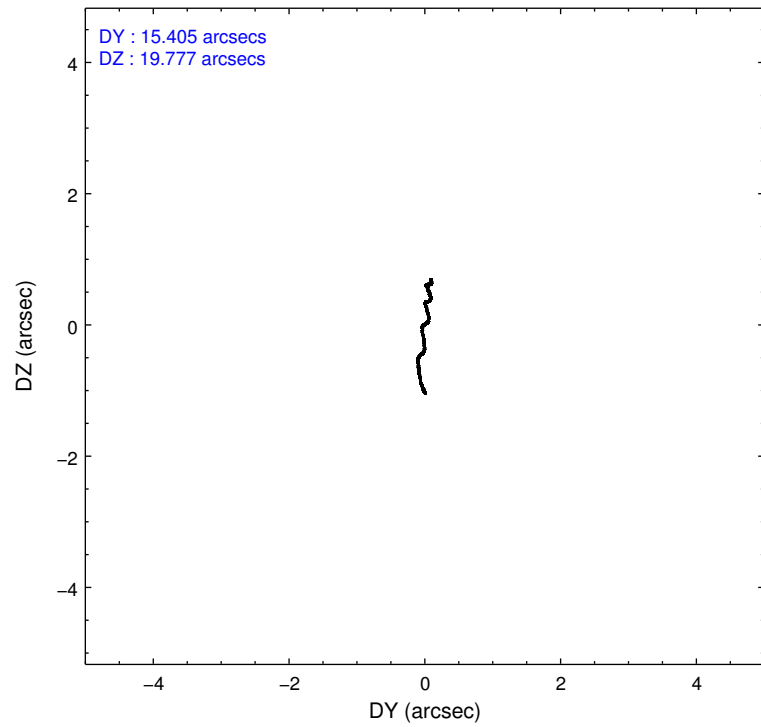
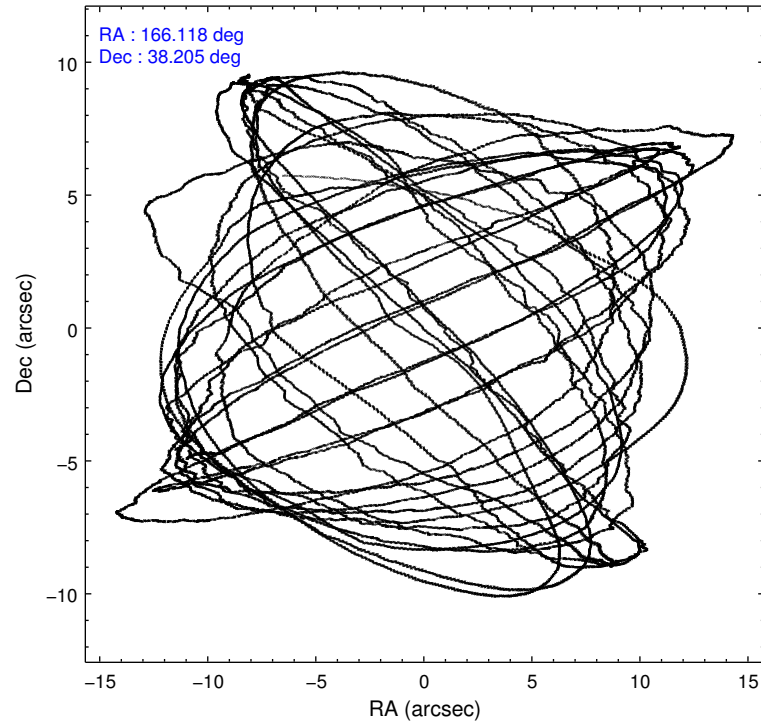
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	130603	184868	160855	183829	173657	116995	grade 0 events	7520	9346	38957	16539	30827	8288
rejected events	114543	90098	104467	81281	111960	99433		5%	5%	24%	8%	17%	7%
rejected %	87%	48%	64%	44%	64%	84%	grade 1 events	130	466	357	456	245	98
								0%	0%	0%	0%	0%	0%
							grade 2 events	3351	30156	8091	23377	11272	3489
								2%	16%	5%	12%	6%	2%
							grade 3 events	1470	3578	2613	9448	4696	1369
								1%	1%	1%	5%	2%	1%
							grade 4 events	1449	3489	2593	9389	4408	1469
								1%	1%	1%	5%	2%	1%
							grade 5 events	5186	11604	5205	14675	7821	5616
								3%	6%	3%	7%	4%	4%
							grade 6 events	2274	48223	4147	43809	10496	2952
								1%	26%	2%	23%	6%	2%
							grade 7 events	109223	78006	98892	66136	103892	93714
								83%	42%	61%	35%	59%	80%

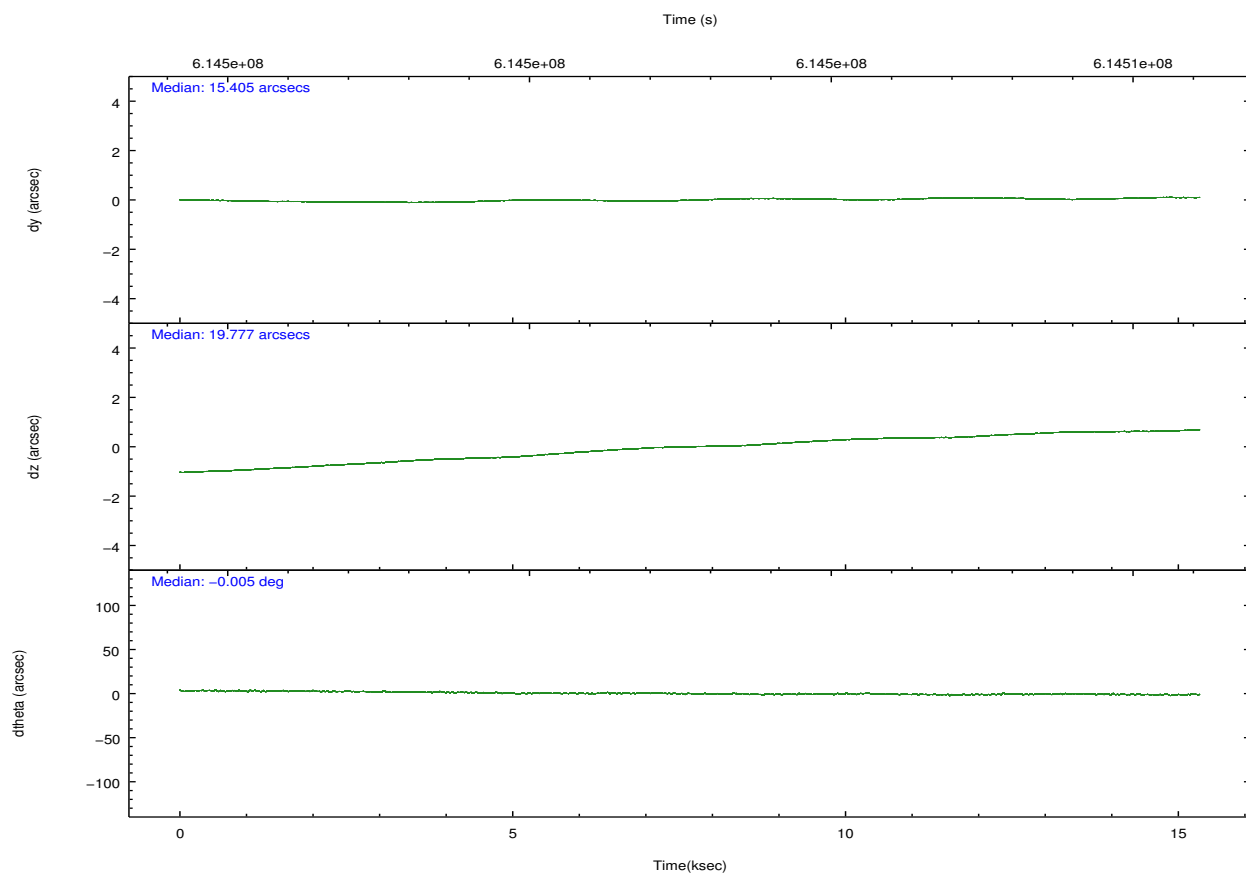
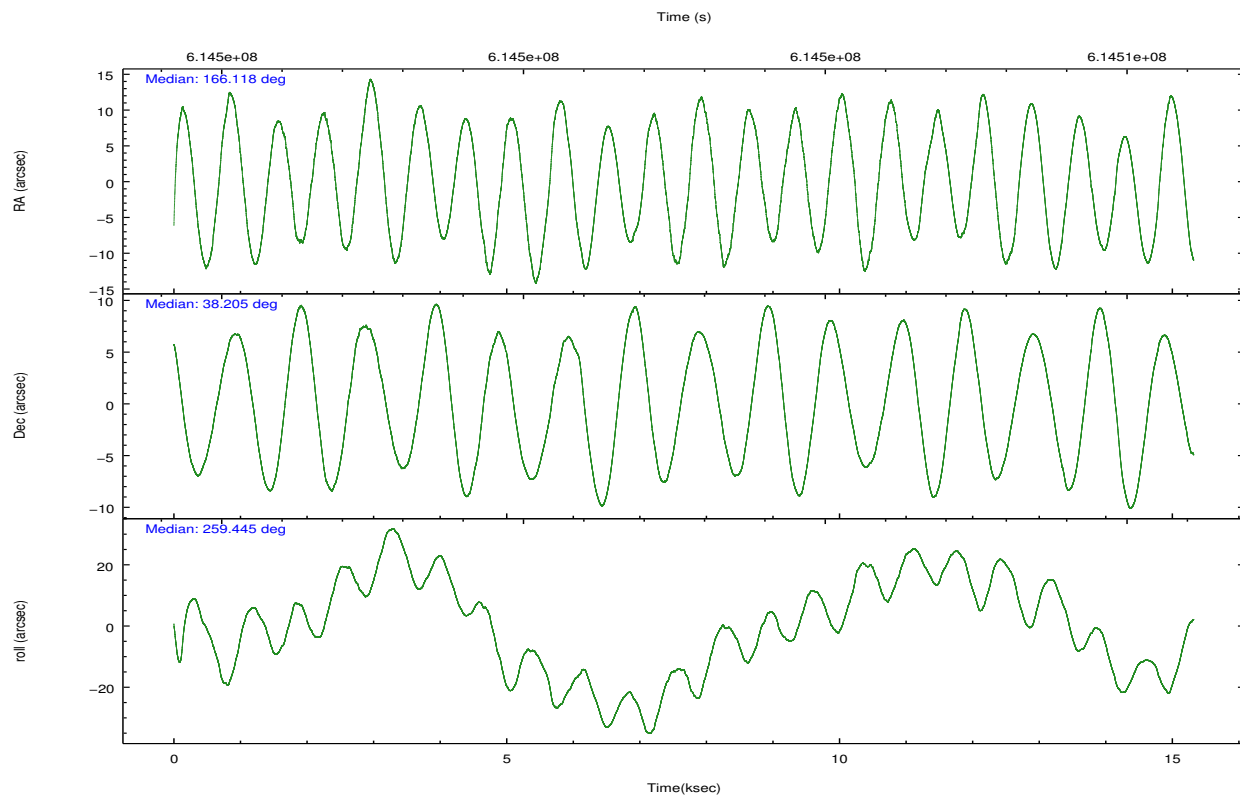
2.2 Compared Parameters

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	166.105676	166.1177490557438
[deg] Pointing Dec	38.230257	38.20448688312509
[deg] Pointing Roll	259.301044	259.4501960932515
[s] Window start time (MET)	612662469.184000	612662469.184000
[s] Window stop time (MET)	620524869.184000	620524869.184000
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	614495141.184000	614493574.31444
Observation start date	2017-06-22T05:04:32	2017-06-22T04:39:34
[s] Observation end time (MET)	614510141.184000	614510321.7904201
Observation end date	2017-06-22T09:14:32	2017-06-22T09:18:41
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



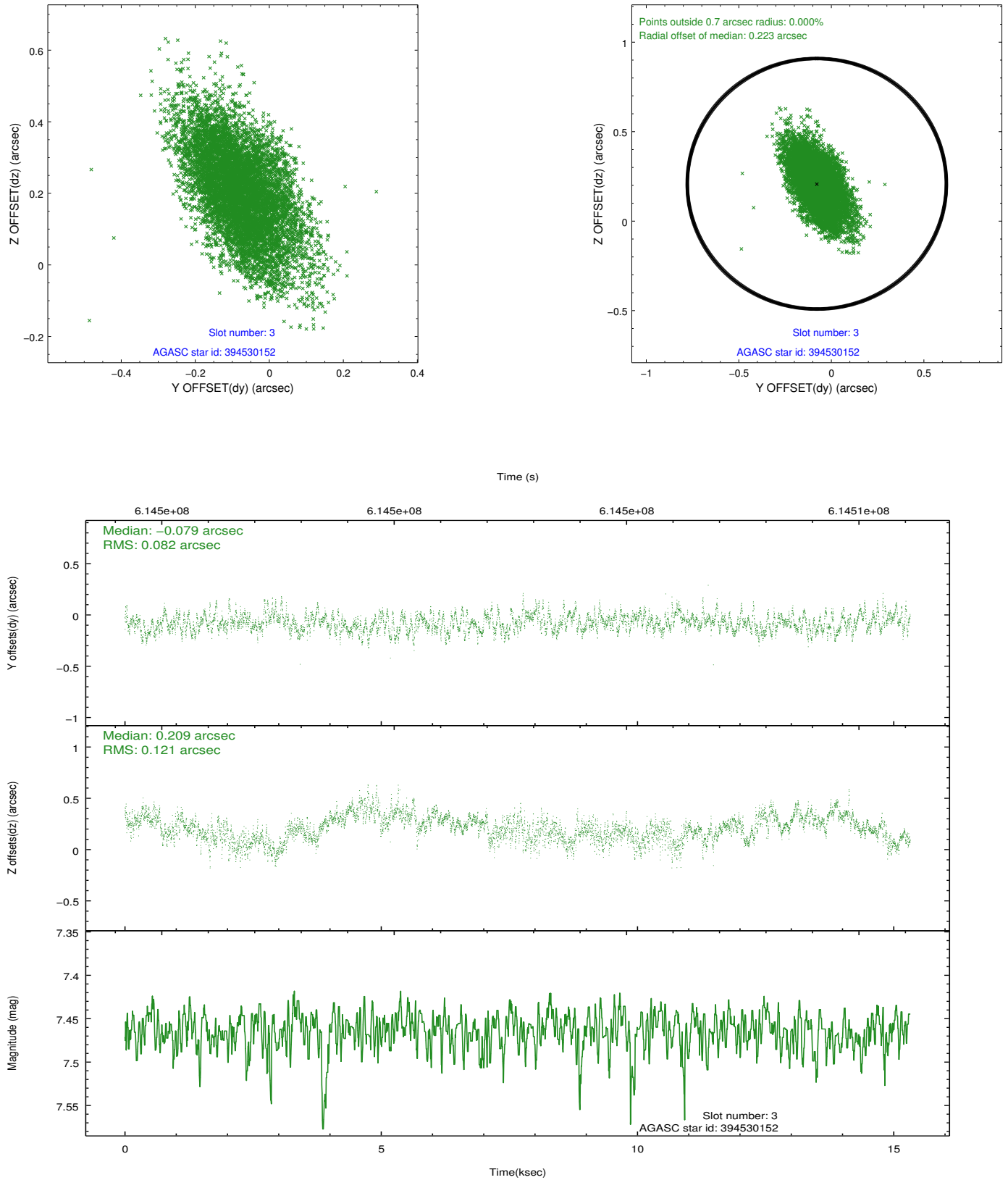


Slot Statistics

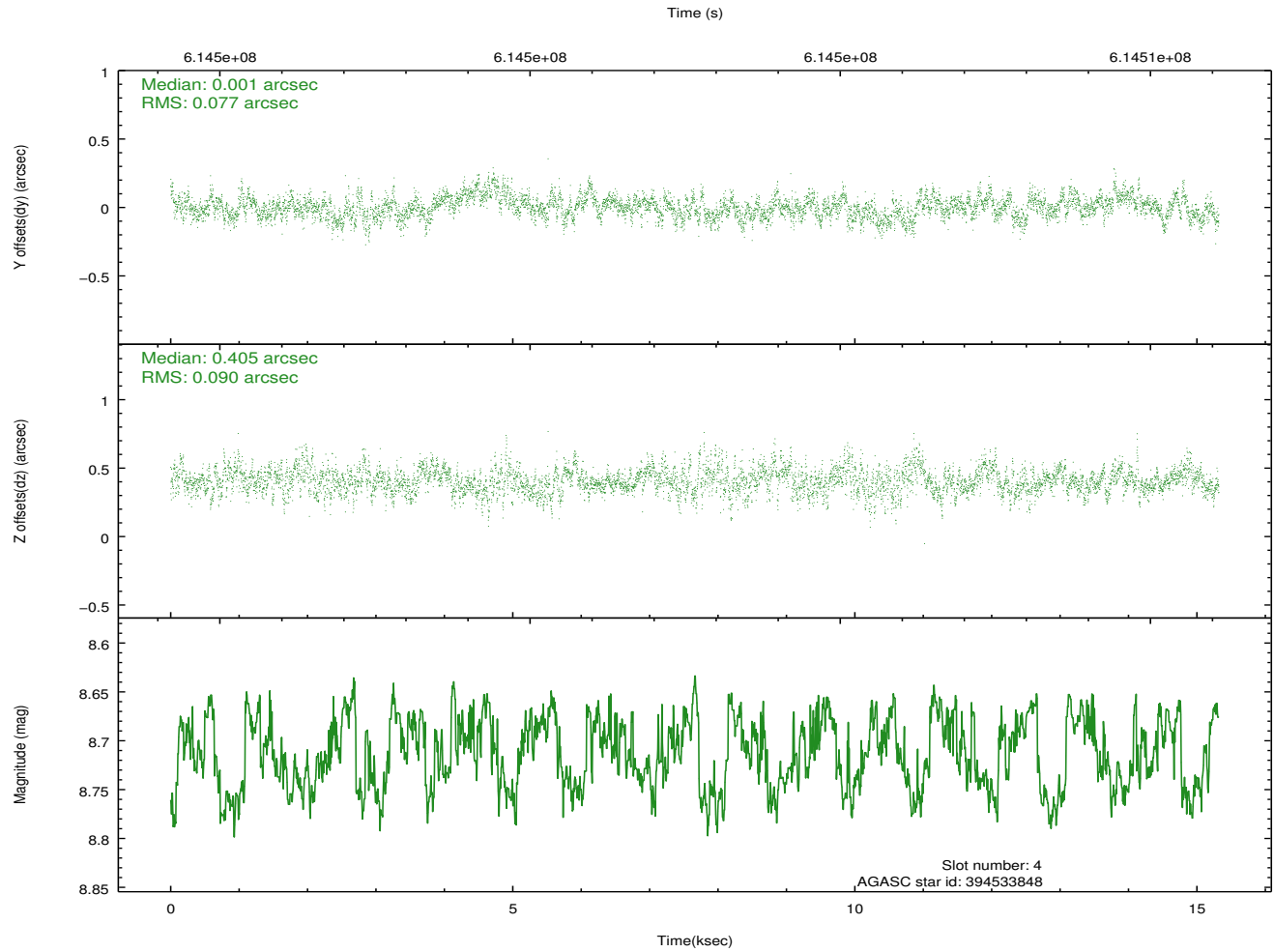
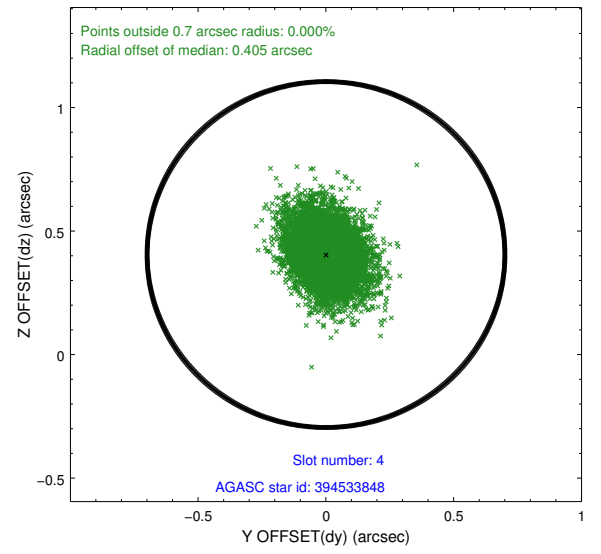
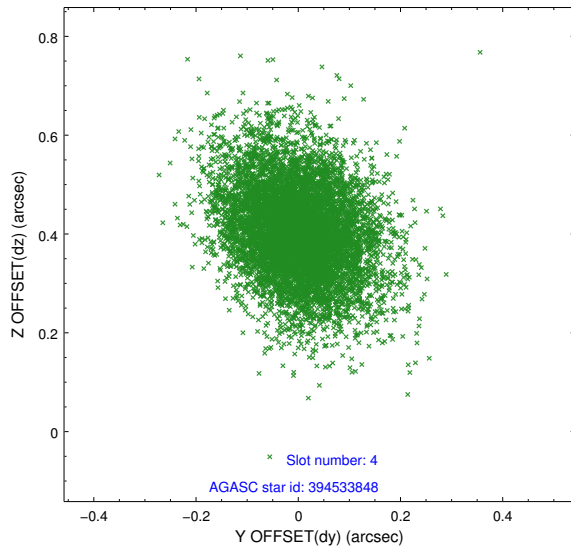
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.08	3737	-0.230	-0.099	0.024	0.042	0.000000	0.000000	-768.59	-1741.27
1	FID		ACIS-S-4	7.19	3737	0.513	0.138	0.013	0.022	0.000000	0.000000	2145.27	167.19
2	FID		ACIS-S-5	7.18	3736	-0.312	-0.032	0.026	0.047	0.000000	0.000000	-1821.17	160.97
3	GUIDE	used	394530152	7.46	7472	-0.079	0.209	0.150	0.268	166.075805	38.868252	-2241.21	-508.52
4	GUIDE	used	394533848	8.71	7461	0.001	0.405	0.123	0.210	166.382906	38.276007	-308.62	733.58
5	GUIDE	used	394543960	9.72	7463	0.219	0.257	0.217	0.356	165.802757	37.787371	1725.68	-550.44
6	GUIDE	used	394546712	6.58	7475	-0.298	0.316	0.108	0.187	166.451462	38.394357	-762.86	847.76
7	GUIDE	used	394546720	6.40	7474	0.158	-1.184	0.146	0.234	166.130115	38.241361	-51.92	59.57

2.4 Star Slots

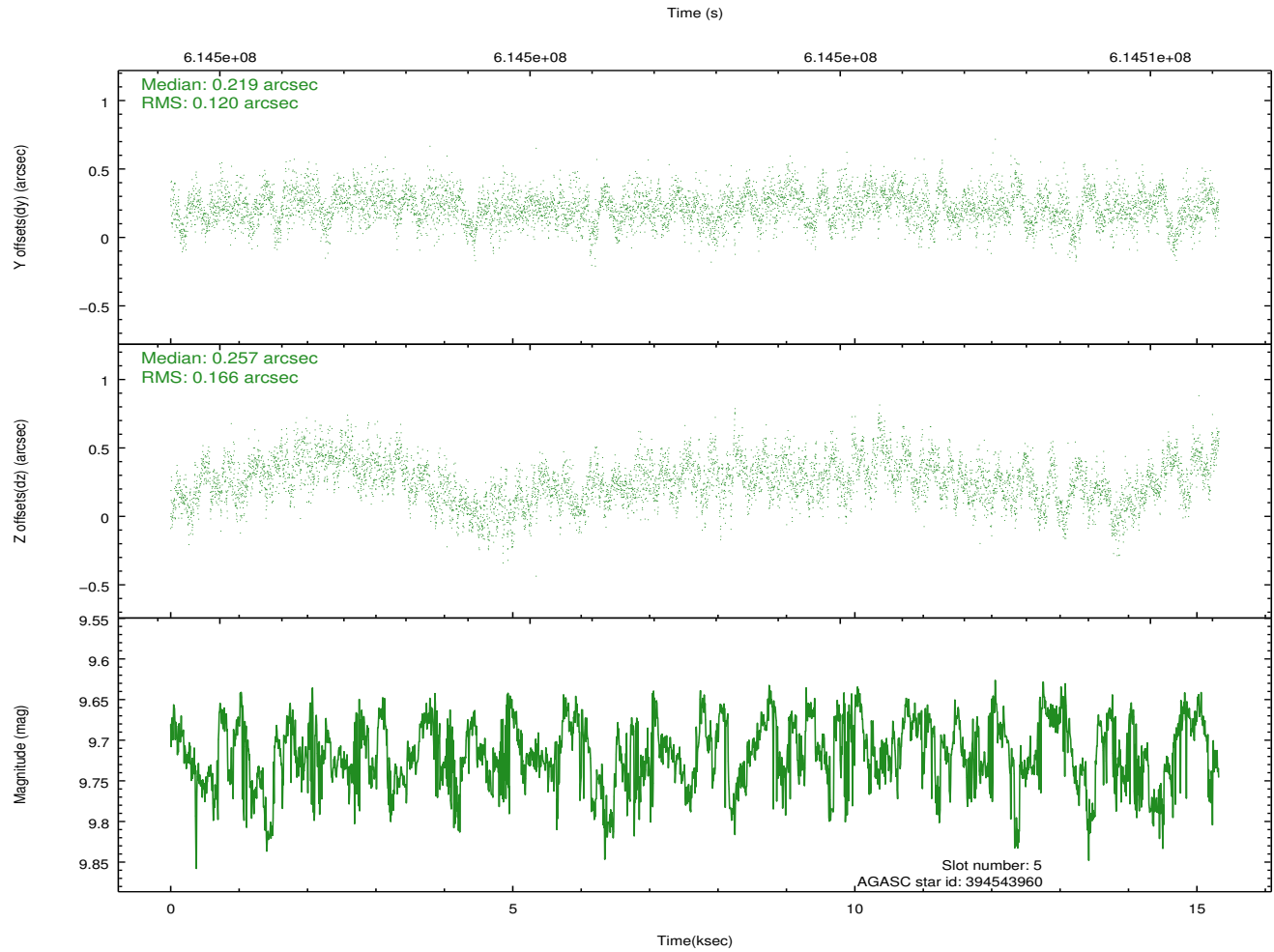
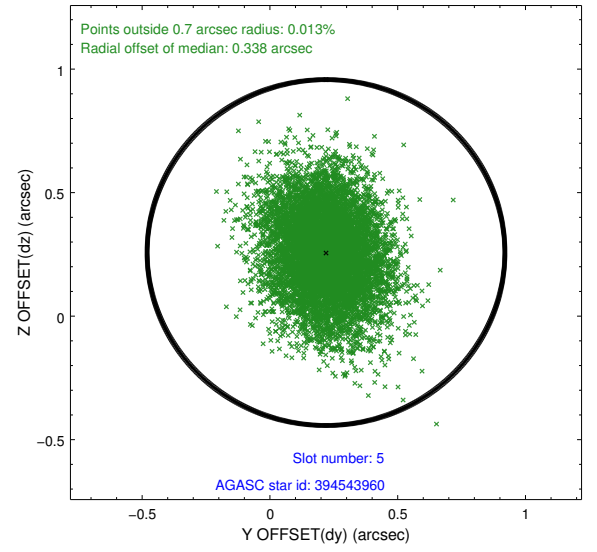
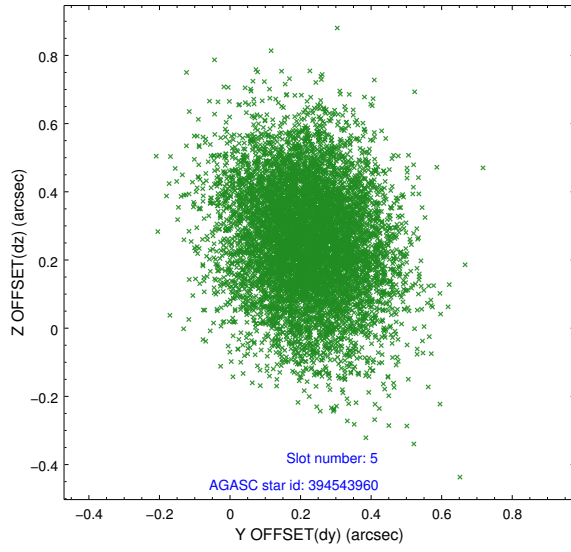
2.4.1 Slot 3



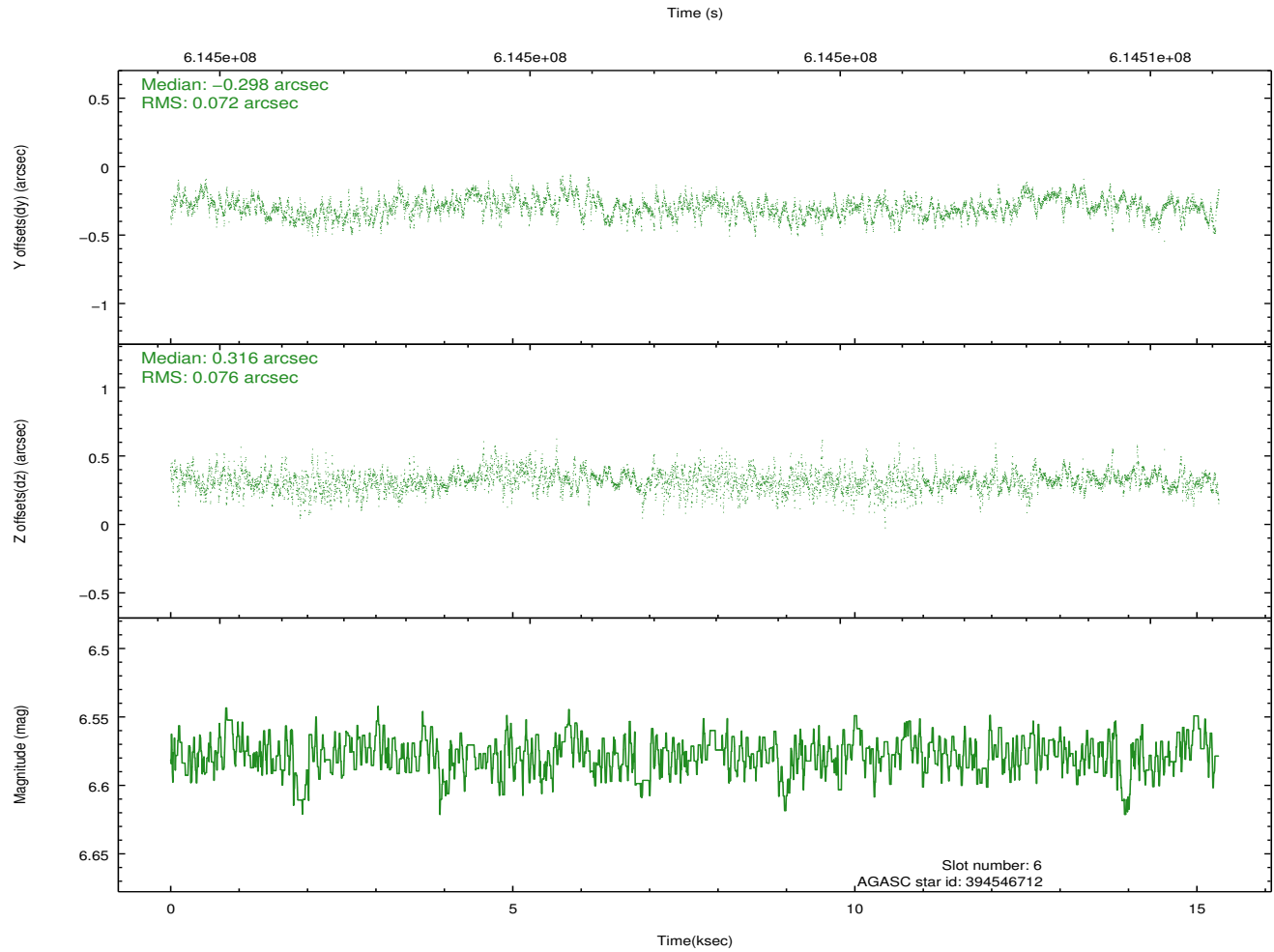
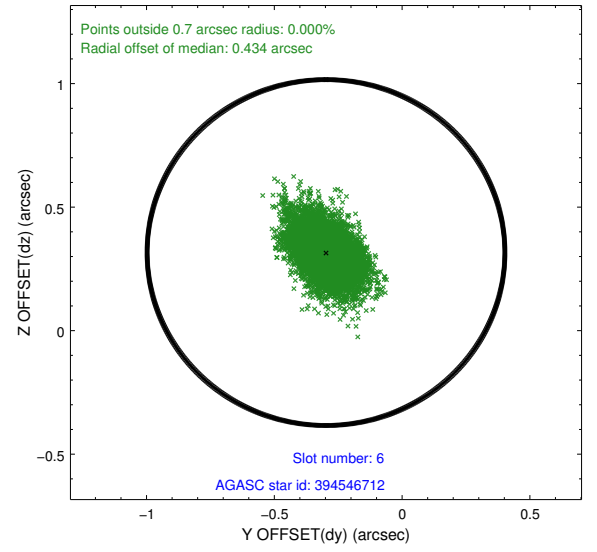
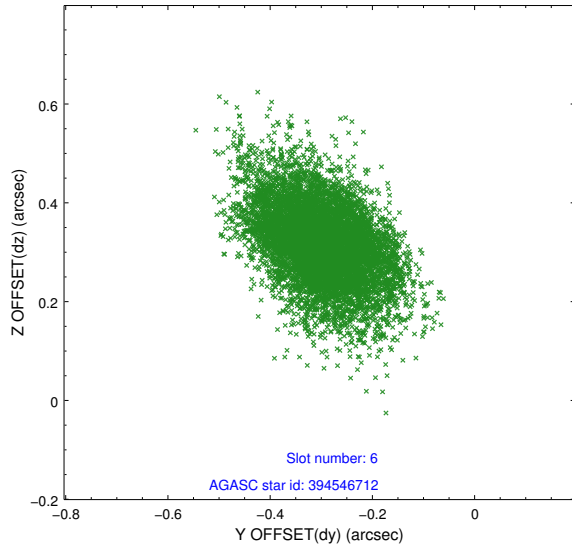
2.4.2 Slot 4



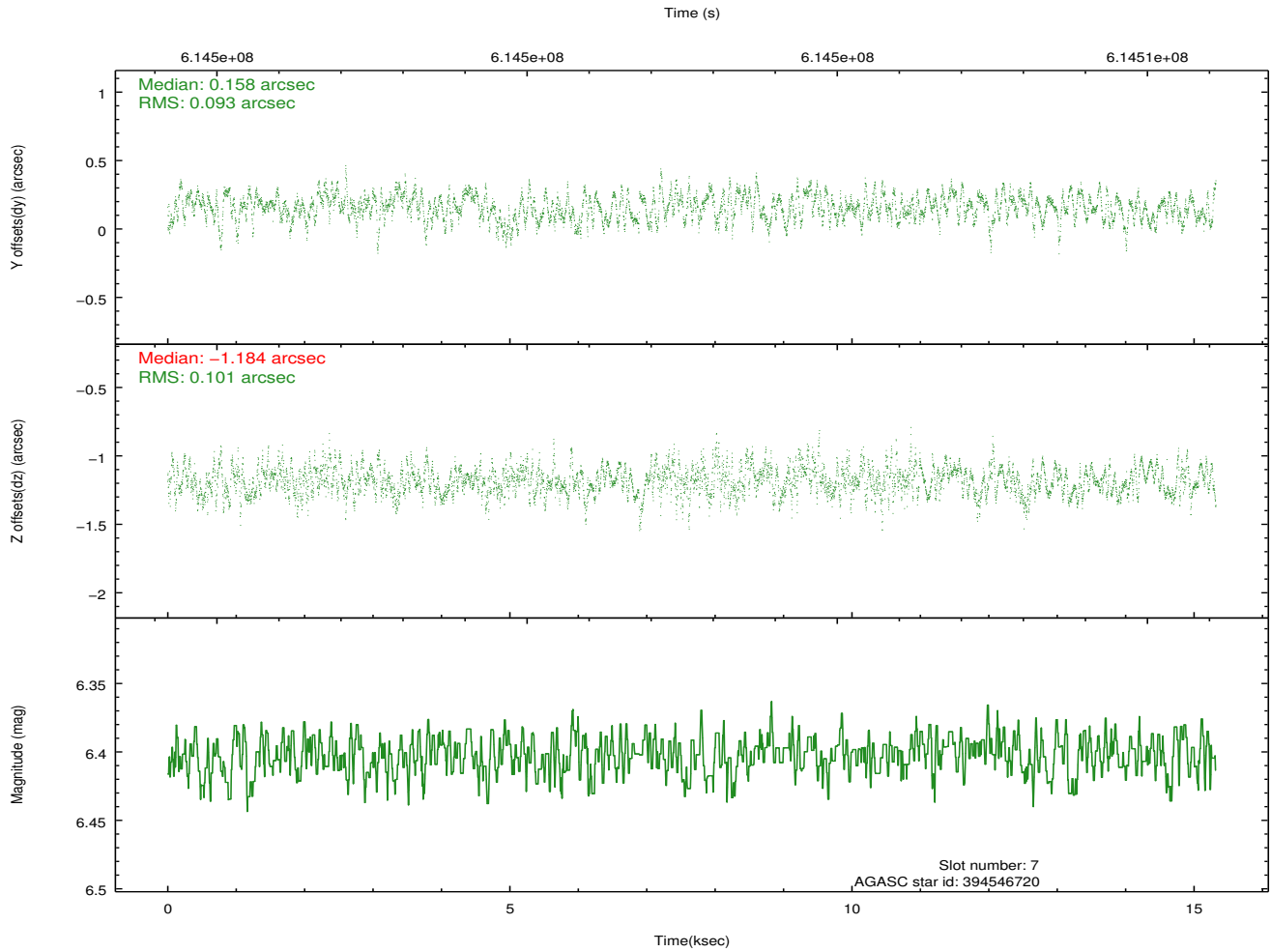
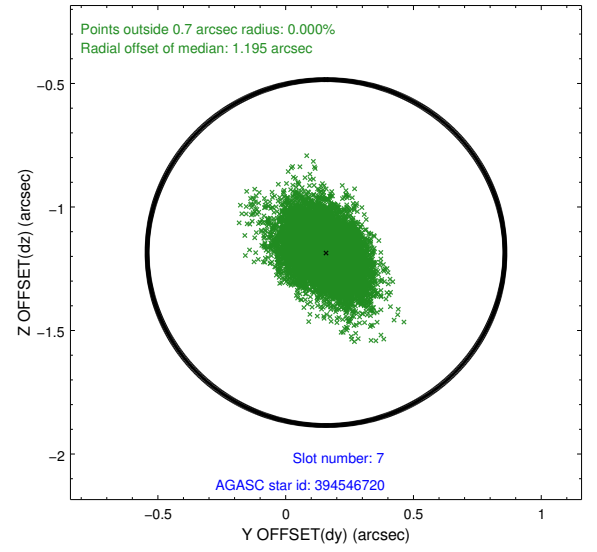
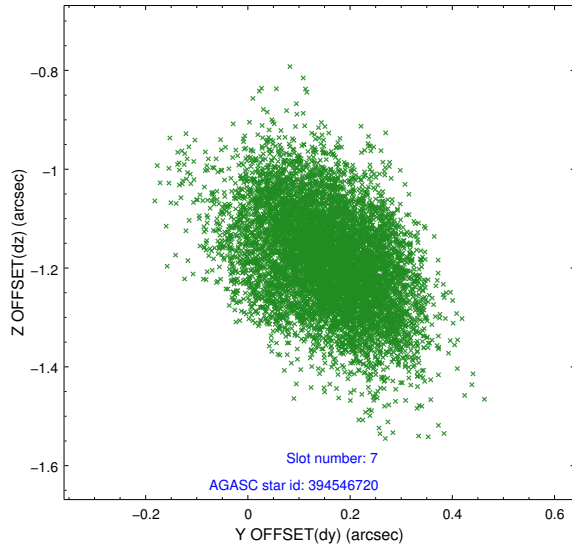
2.4.3 Slot 5



2.4.4 Slot 6

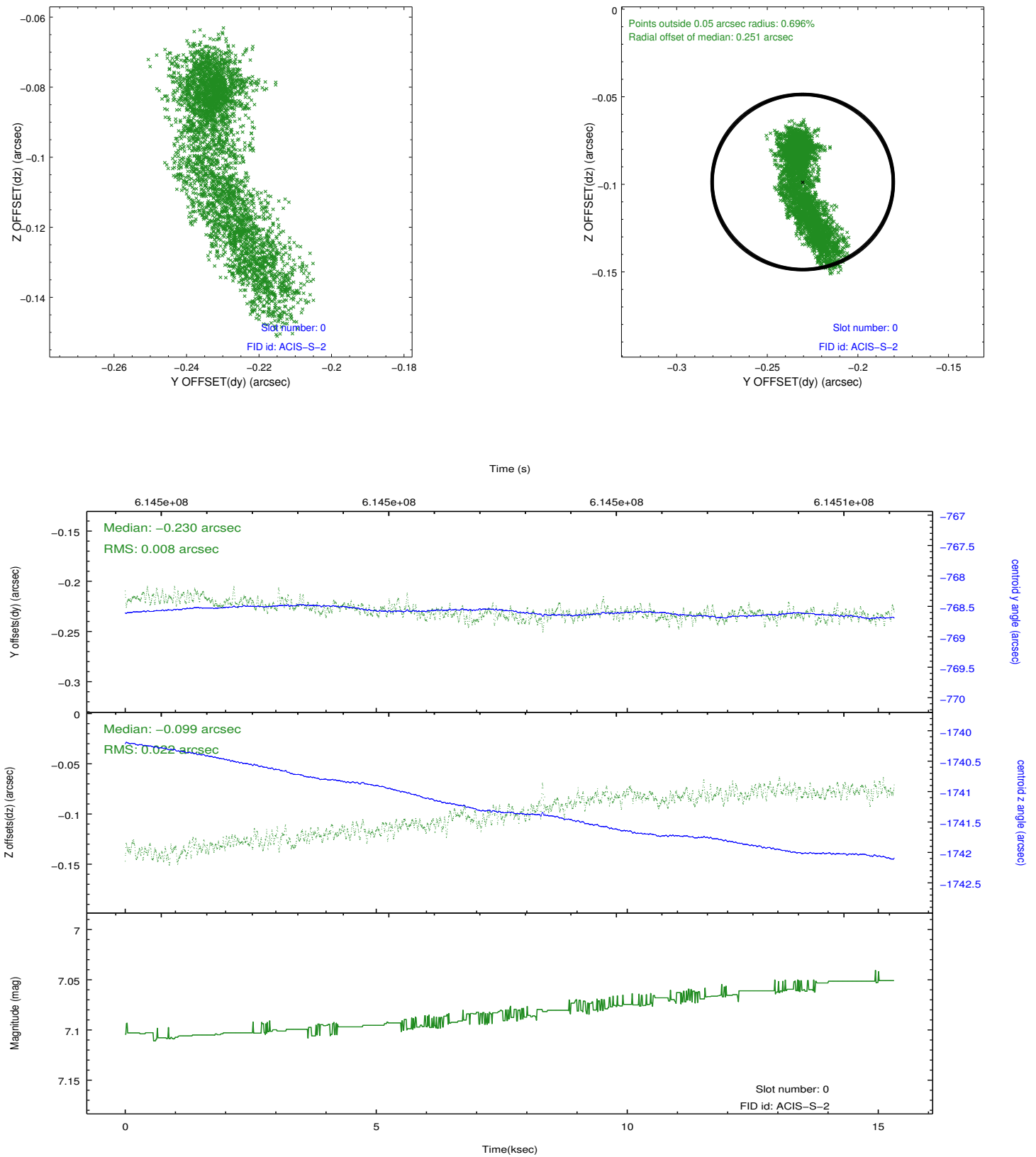


2.4.5 Slot 7

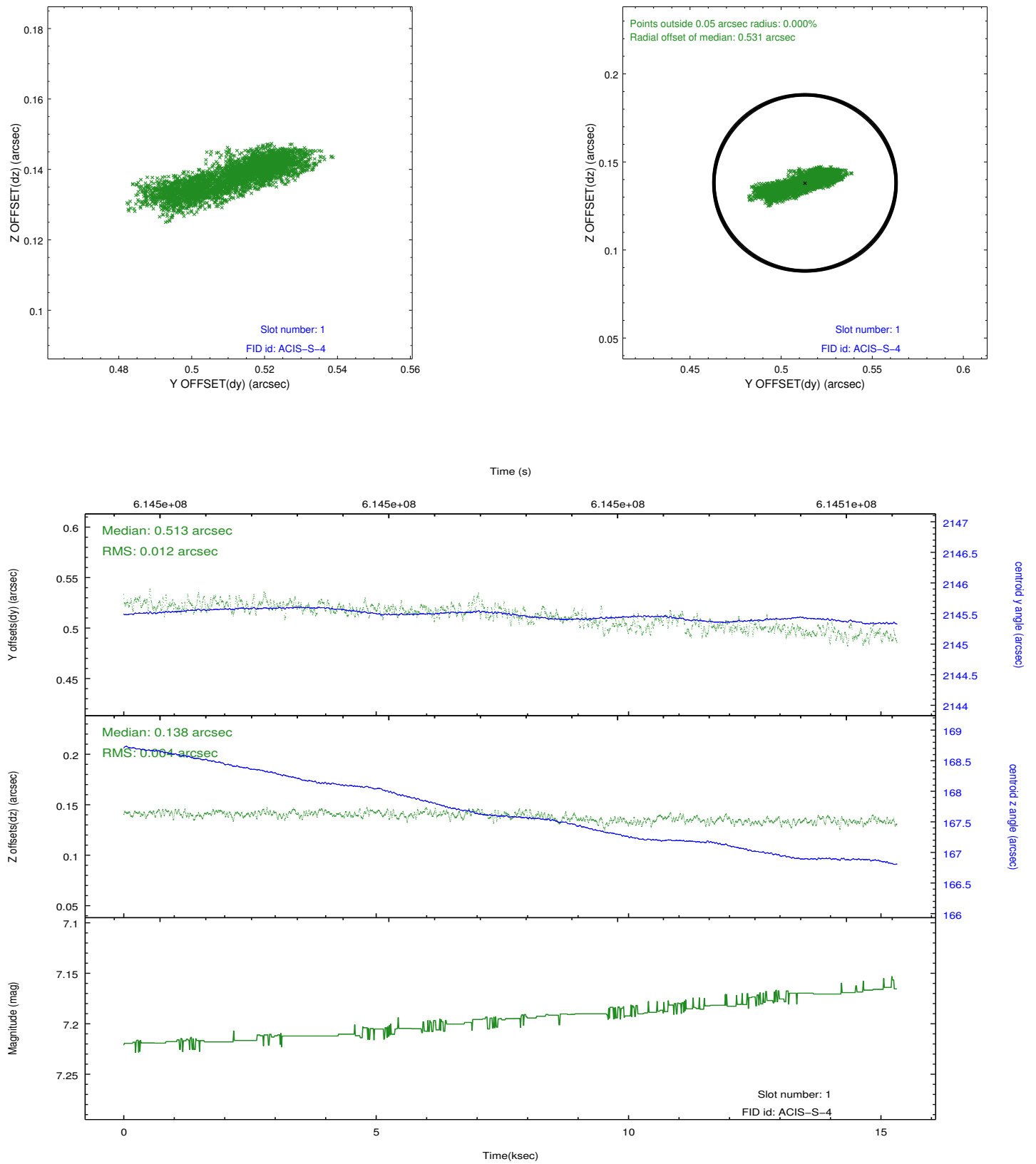


2.5 FID Slots

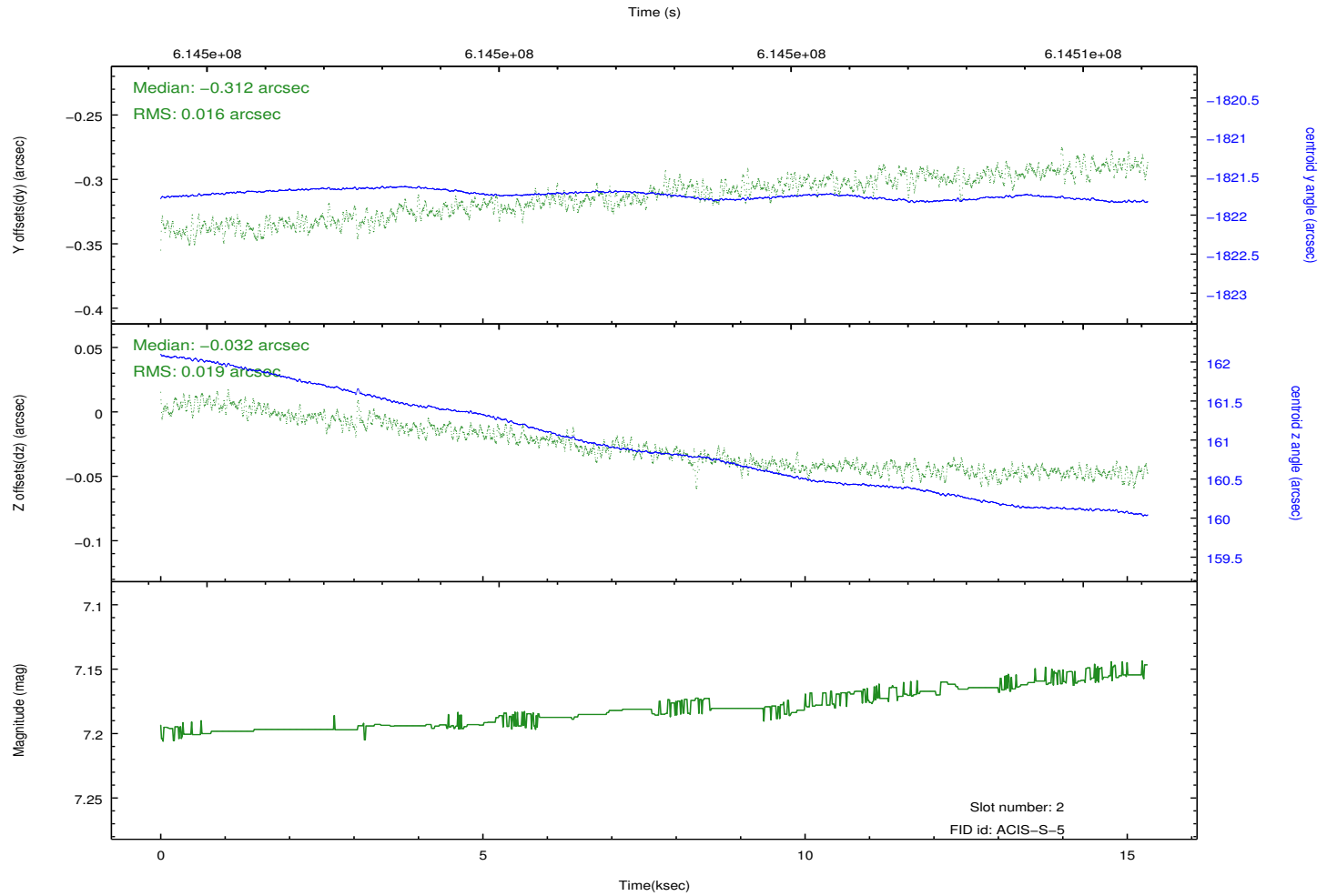
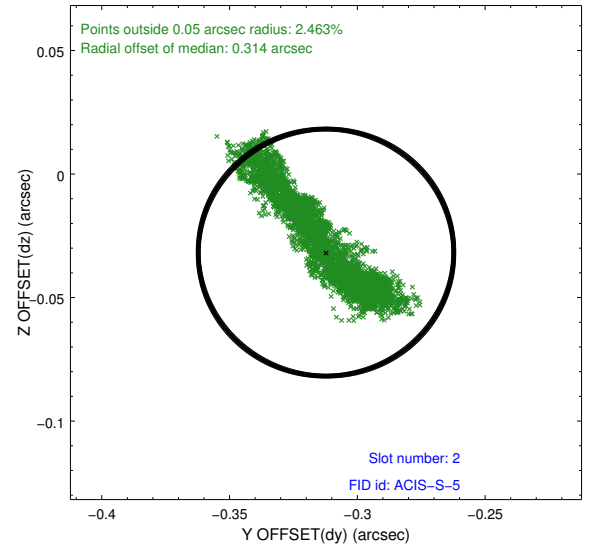
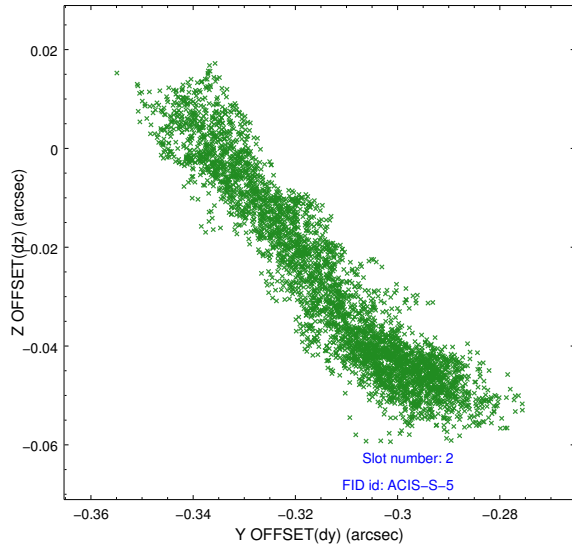
2.5.1 Slot 0



2.5.2 Slot 1

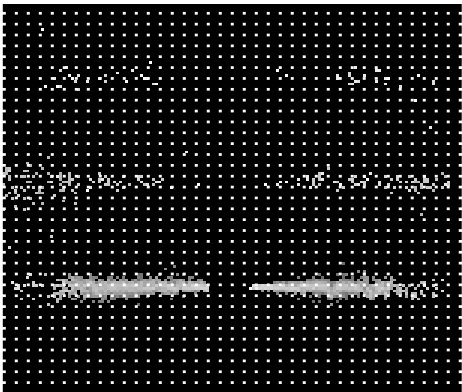


2.5.3 Slot 2

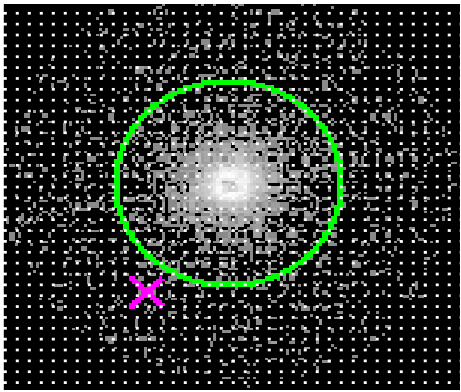


3 Gratings

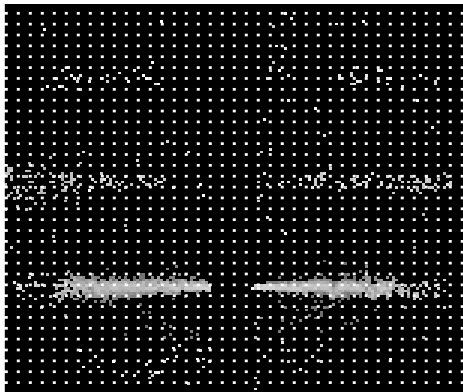
3.1 HEG Arm



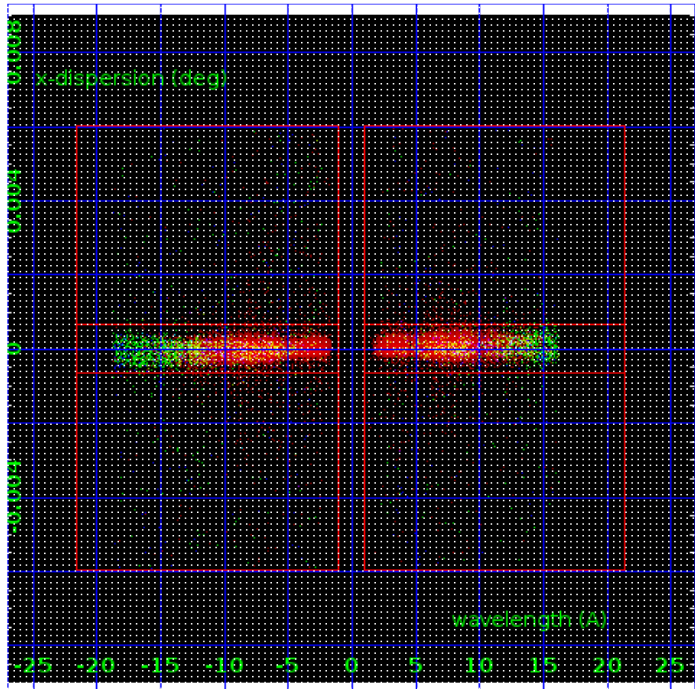
HEG Order Sort 123



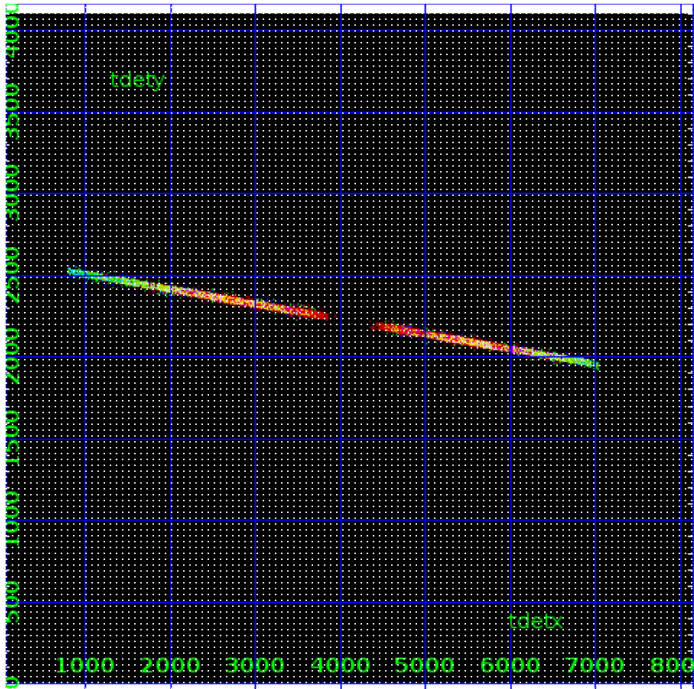
HEG Zero Order



HEG Order Sort ALL

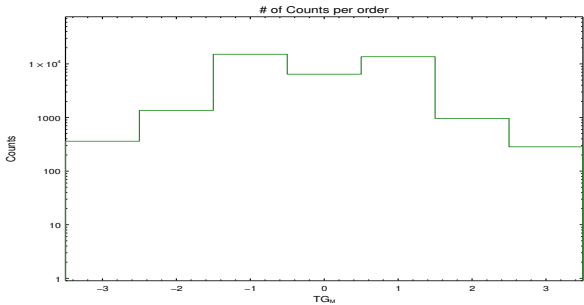


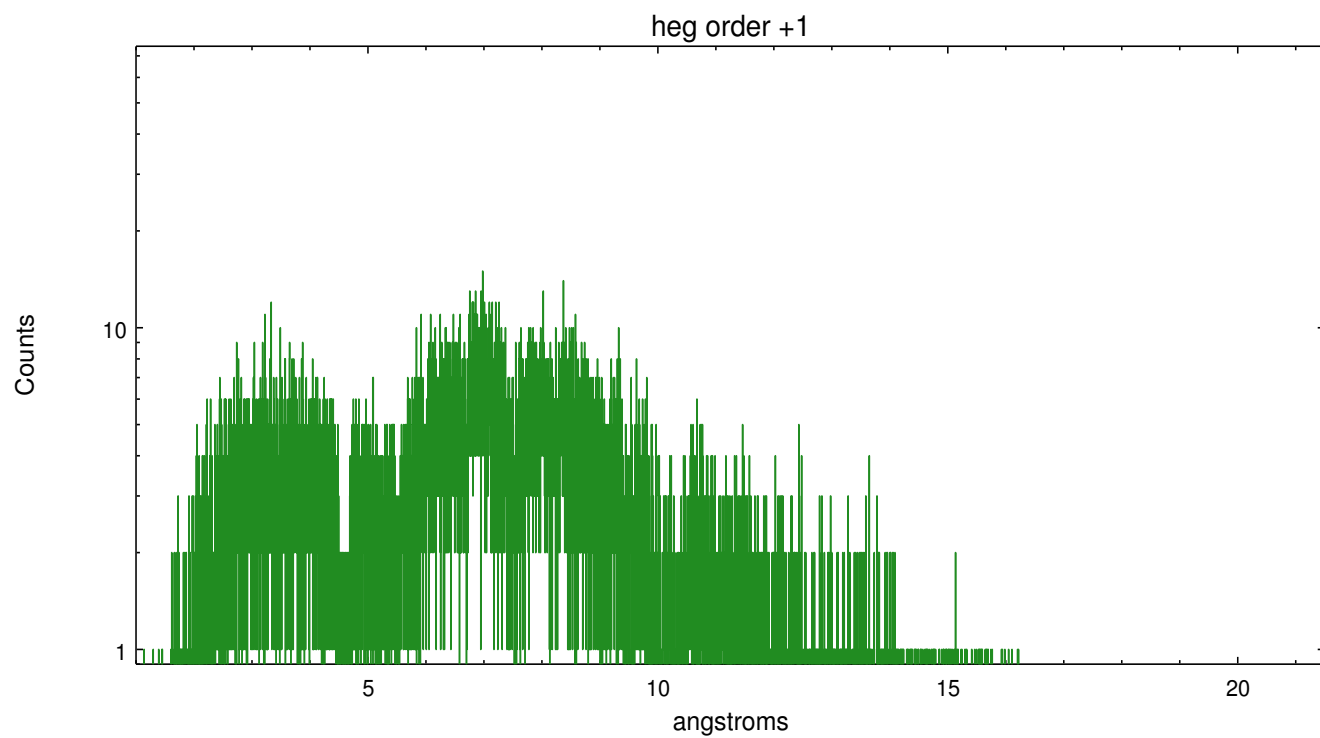
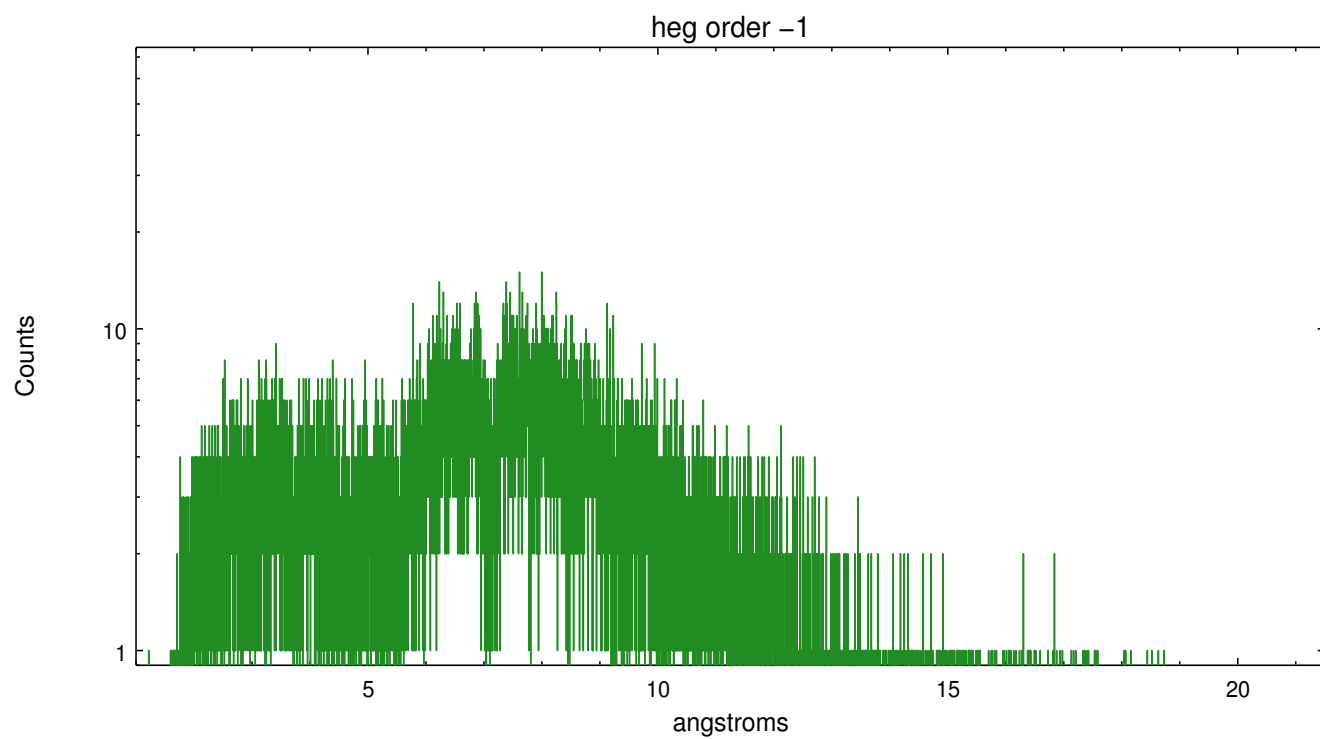
Spot Image HEG



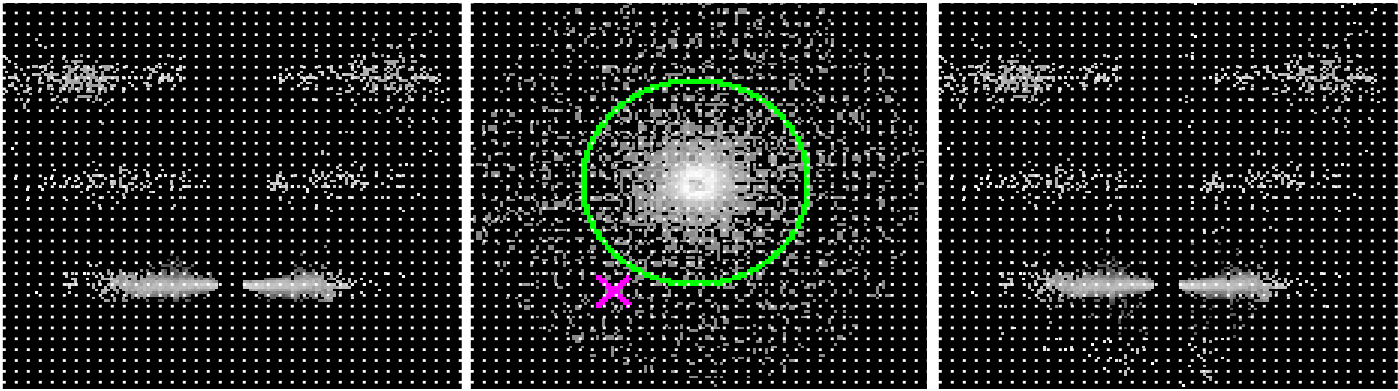
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	361	1359	15137	6429	13617	963	284





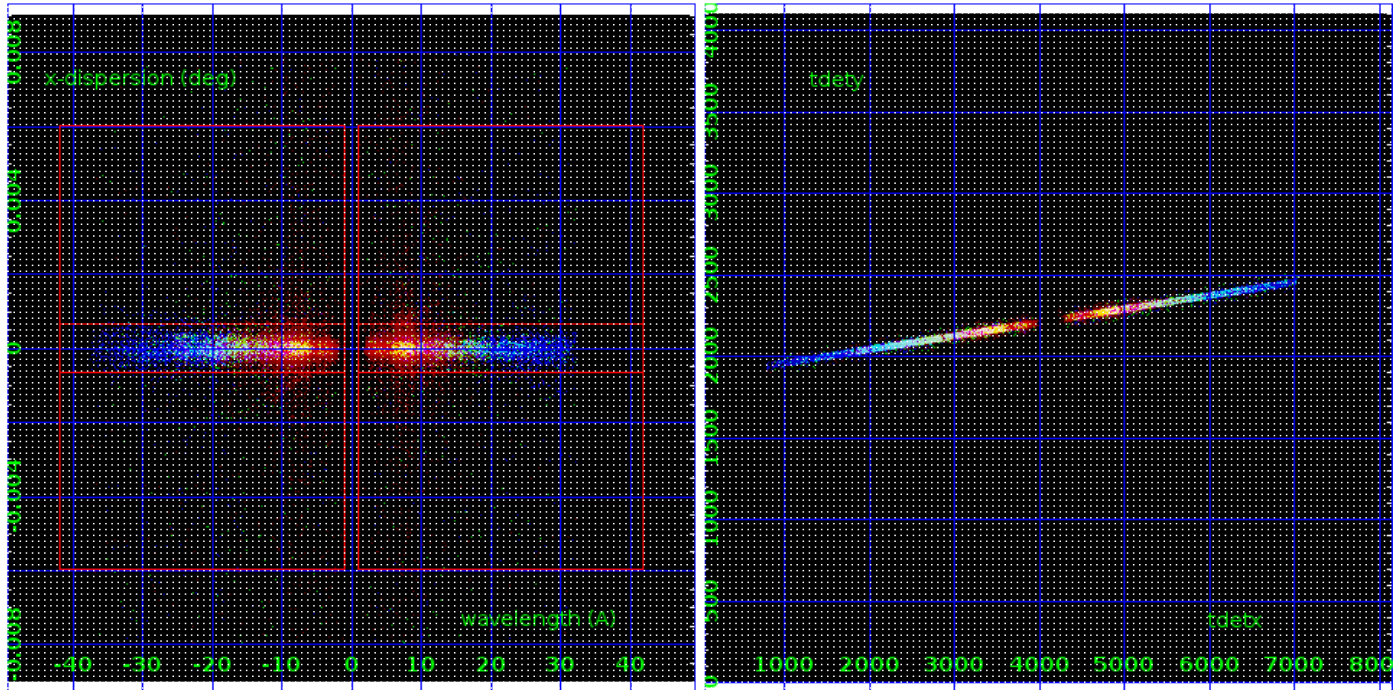
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

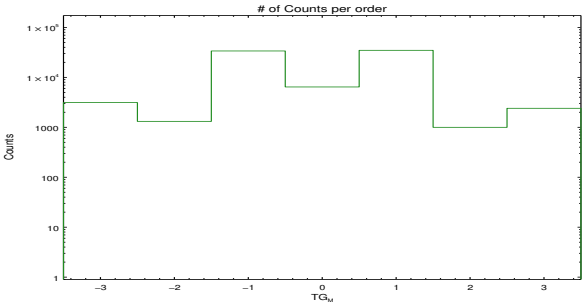
MEG Order Sort ALL

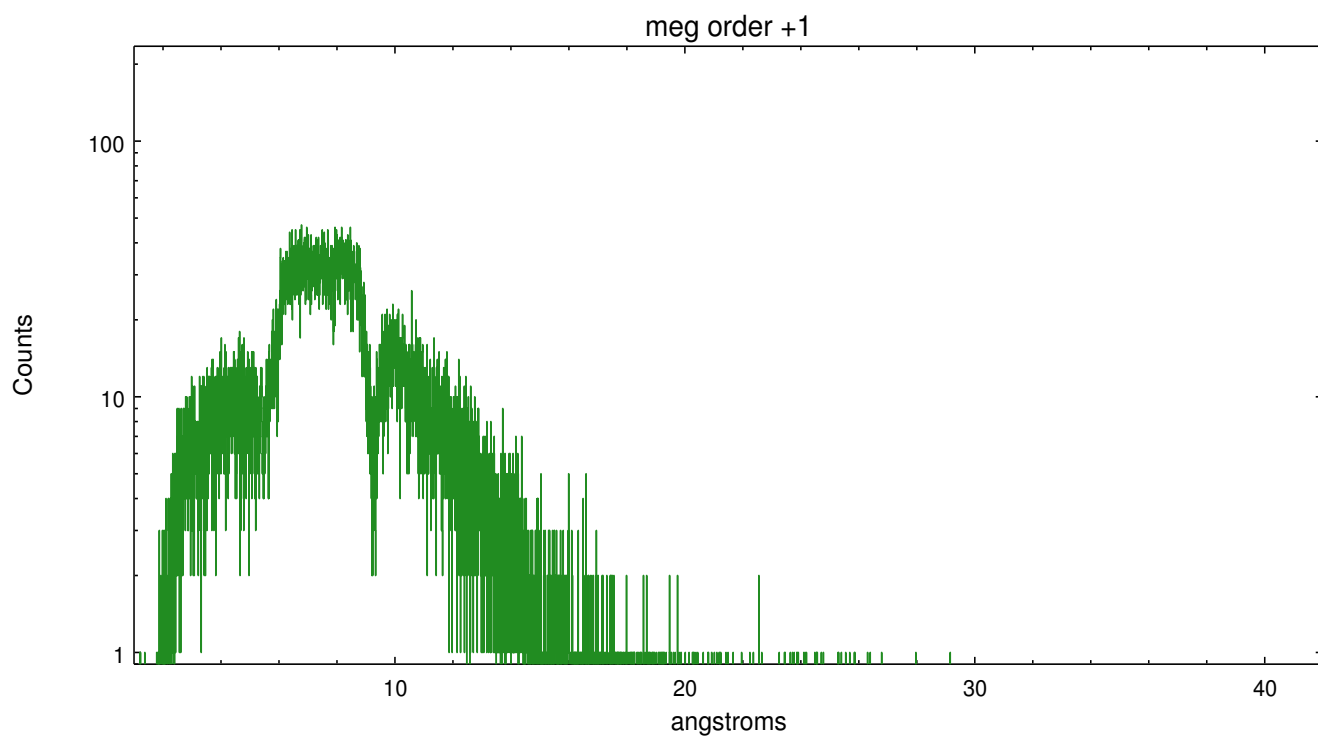
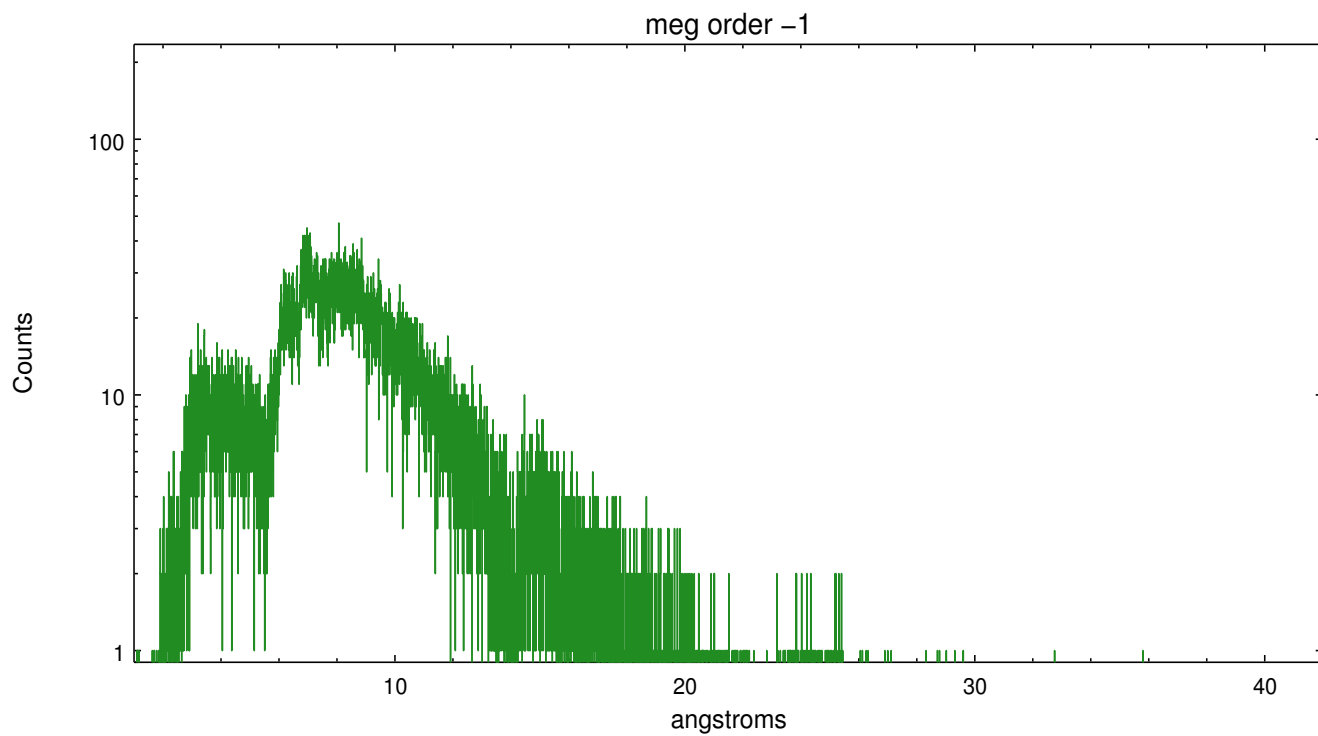


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	3127	1315	33796	6429	34787	999	2402





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	14.947035052896

A.2 Comments