

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2337 - L2 Version 5
Chandra X-Ray Center

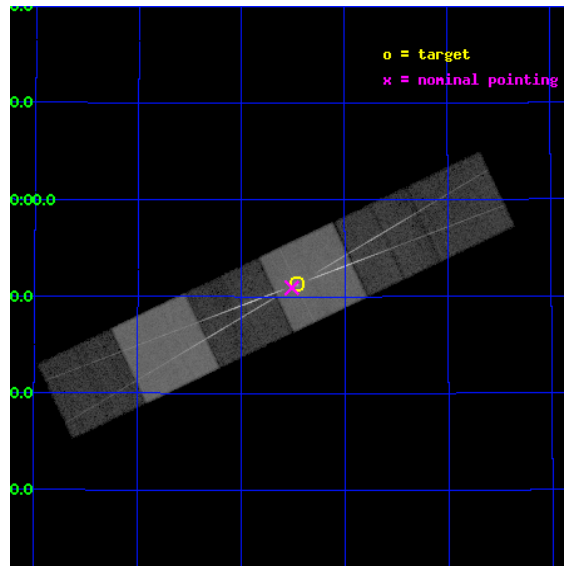
L2 Processing Date : Sep 14 2012

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

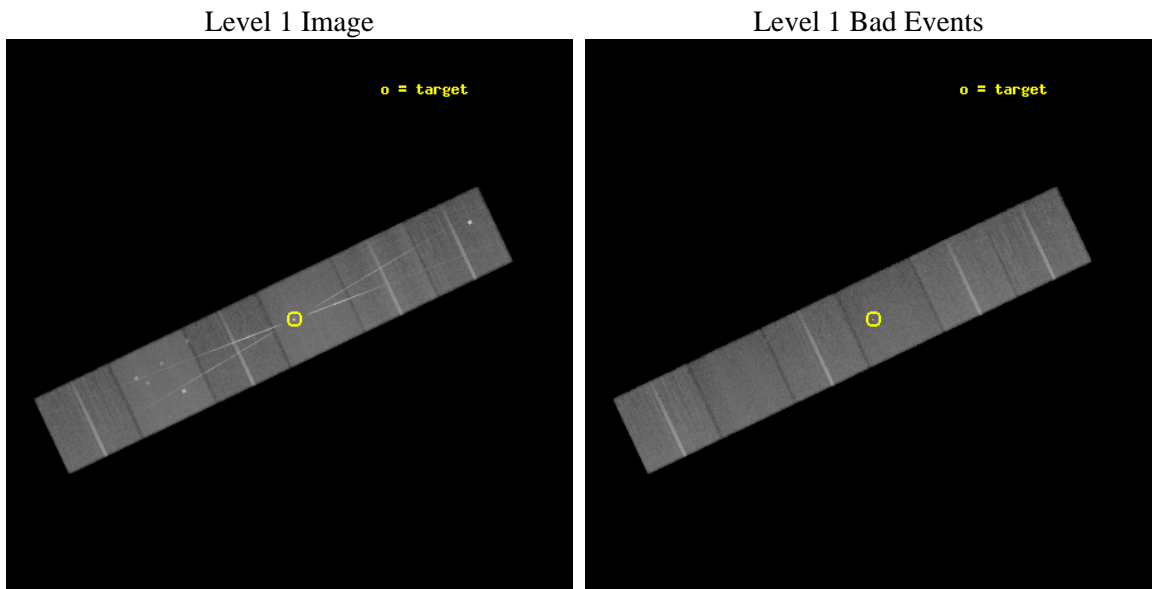
seq_num	200124	Sequence number
obs_id	2337	Observation id
title	CAPTURING WR140 AT PERIASTRON WITH THE CHANDRA HETG	Proposal title
observer	Dr Andrew Pollock	Principal investigator
object	WR140	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	305.116667	Observer's specified target RA [deg]
dec_targ	43.854528	Observer's specified target Dec [deg]
ra_nom	305.12773578694	Nominal RA [deg]
dec_nom	43.848767951248	Nominal Dec [deg]
roll_nom	334.59785355702	Nominal Roll [deg]
revision	5	Processing version of data
ontime	46124.75908269	Sum of GTIs [s]
livetime	45540.699610189	Livetime [s]
ontime4	46124.759082705	Sum of GTIs [s]
ontime5	46128.000042945	Sum of GTIs [s]
ontime6	46128.000042945	Sum of GTIs [s]
ontime7	46124.75908269	Sum of GTIs [s]
ontime8	46128.000042945	Sum of GTIs [s]
ontime9	46128.000042945	Sum of GTIs [s]
l2events	525601	Number of level 2 events



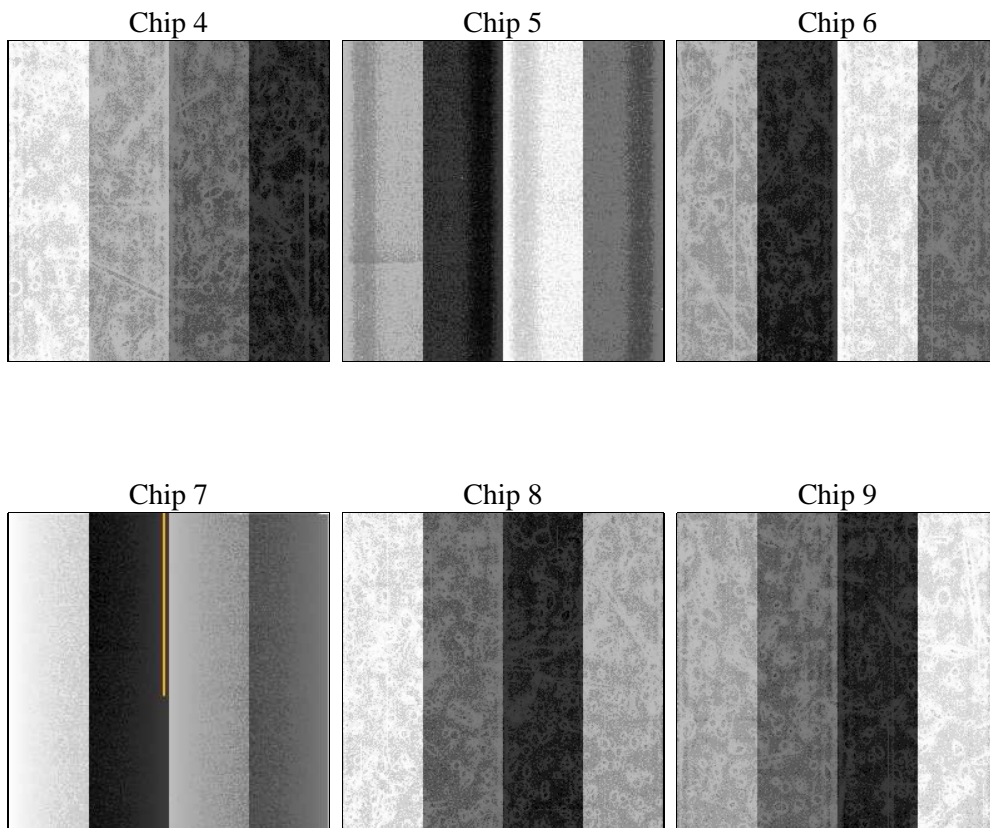
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	46000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	46124.75908269	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime4	46124.759082705	Sum of GTIs [s]
date	2012-09-05T05:03:01	Date and time of file creation	ontime5	46128.000042945	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	46128.000042945	Sum of GTIs [s]
			ontime7	46124.75908269	Sum of GTIs [s]
			ontime8	46128.000042945	Sum of GTIs [s]
			ontime9	46128.000042945	Sum of GTIs [s]
			l1events	2090551	Number of level 1 events

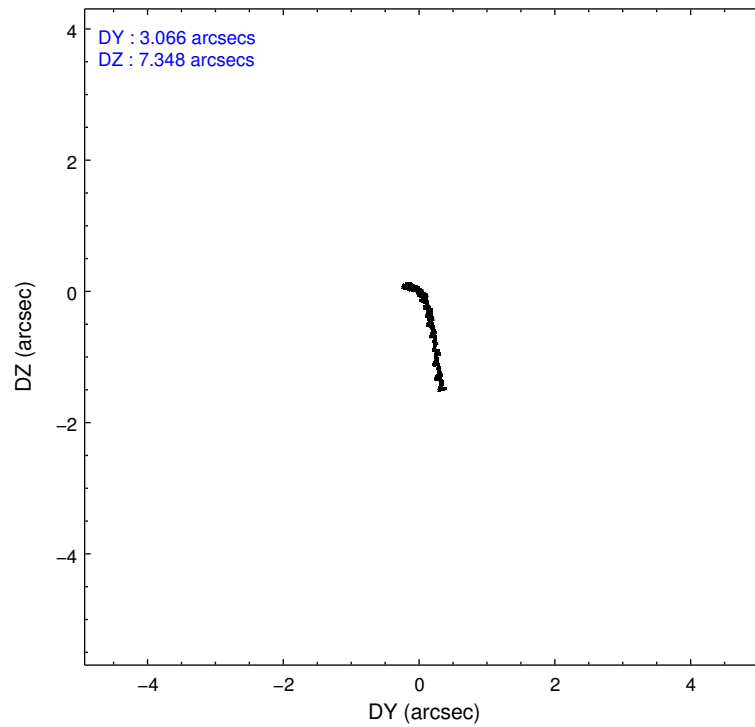
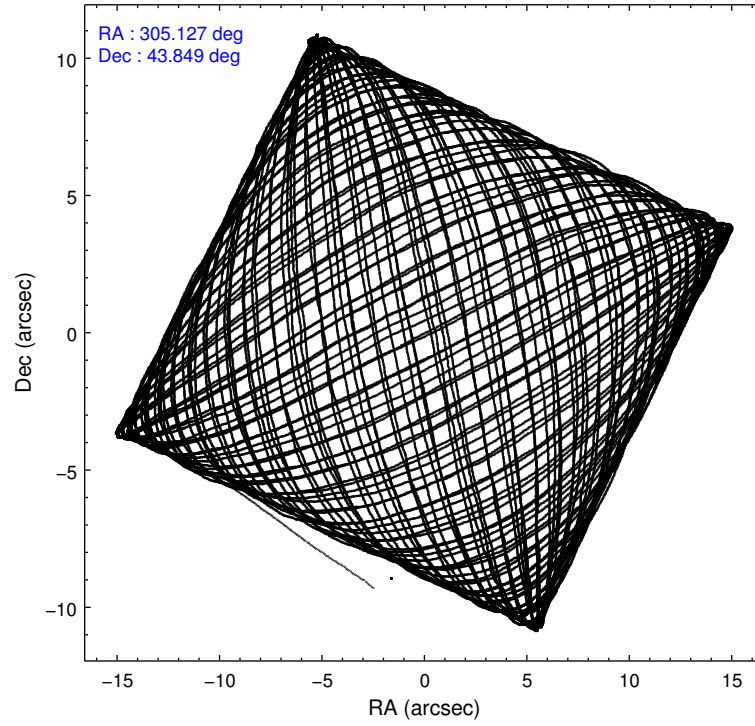
2.1.4 Events

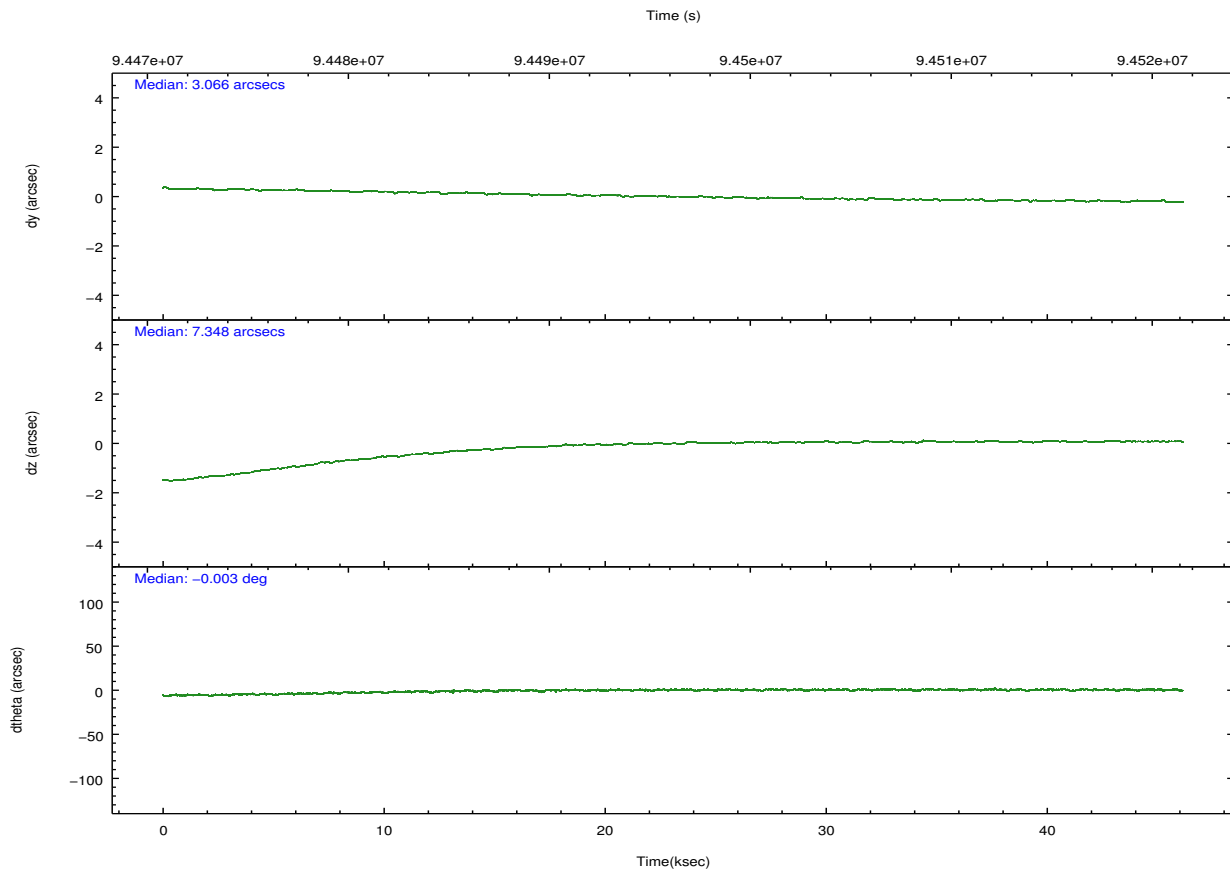
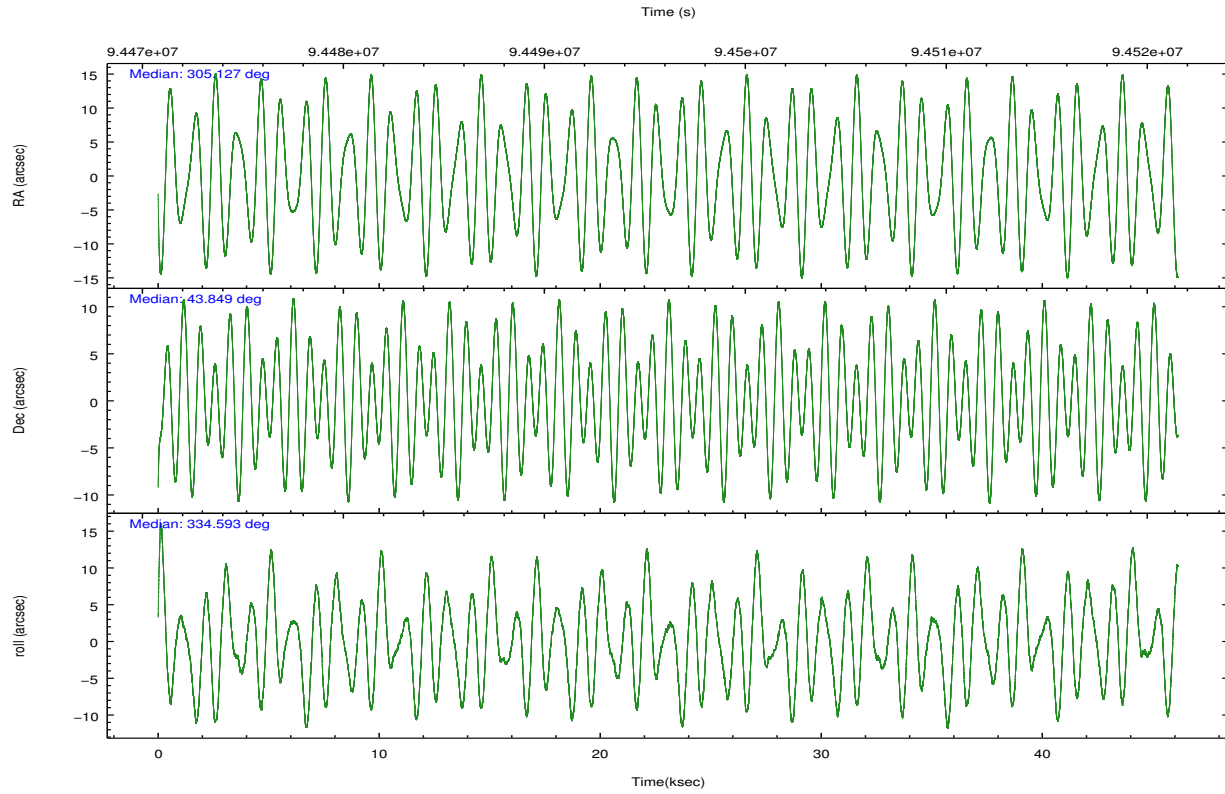
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	306473	394808	321060	405759	368575	293876	grade 0 events	15097	27268	43871	22868	37412	29645
rejected events	271765	209946	250464	216129	280763	244507		4%	6%	13%	5%	10%	10%
rejected %	88%	53%	78%	53%	76%	83%	grade 1 events	158	595	247	620	261	214
								0%	0%	0%	0%	0%	0%
							grade 2 events	8039	51381	10738	39634	17141	6892
								2%	13%	3%	9%	4%	2%
							grade 3 events	3202	8400	4444	18062	7812	3339
								1%	2%	1%	4%	2%	1%
							grade 4 events	2938	7929	4433	18277	7327	3314
								0%	2%	1%	4%	1%	1%
							grade 5 events	9882	29439	11772	35451	14964	11878
								3%	7%	3%	8%	4%	4%
							grade 6 events	5665	91330	7566	92154	18731	6542
								1%	23%	2%	22%	5%	2%
							grade 7 events	261492	178466	237989	178693	264927	232052
								85%	45%	74%	44%	71%	78%

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	305.089992	305.1277357869379	Subarray requested	NONE	NONE
[deg] Pointing Dec	43.846363	43.84876795124782	Alternating exposures requested	N	N
[deg] Pointing Roll	334.467371	334.5978535570186	[s] Primary exposure time	0.000000	3.2
[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)	94473225.184000	94472008.51774999			
Observation start date	2000-12-29T10:32:41	2000-12-29T10:13:28			
[s] Observation end time (MET)	94519225.184000	94520328.04460099			
Observation end date	2000-12-29T23:19:21	2000-12-29T23:38:48			
Read mode	TIMED	TIMED			

2.3 Aspect



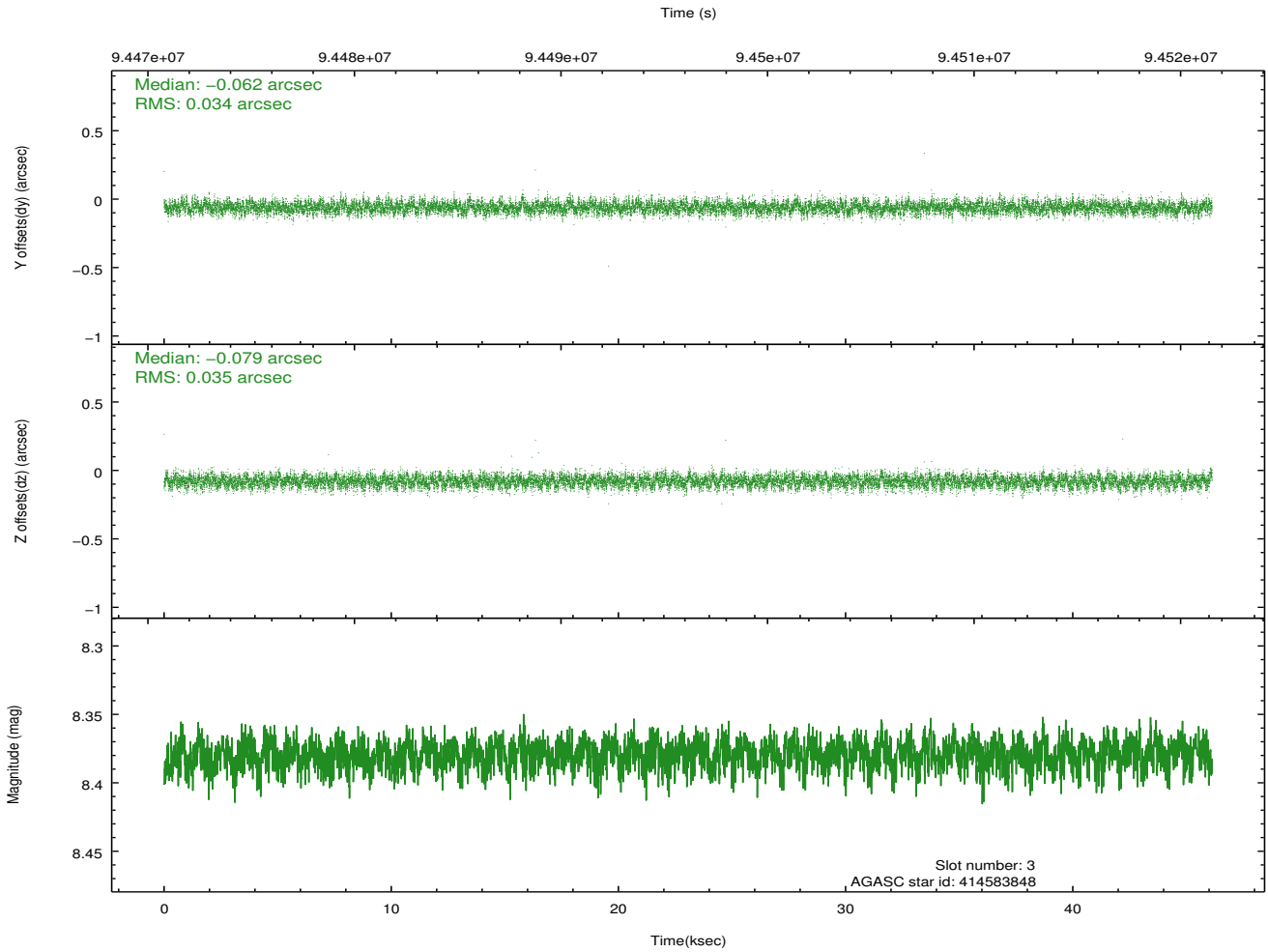
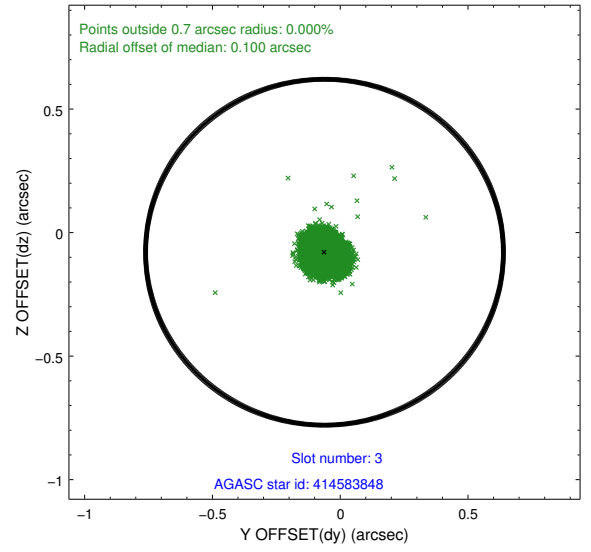
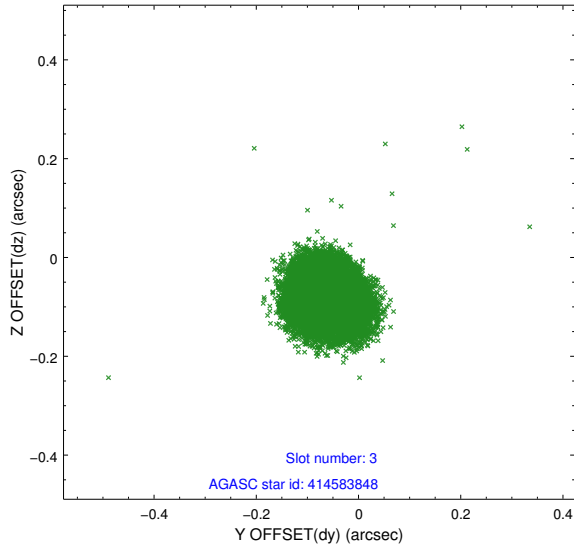


Slot Statistics

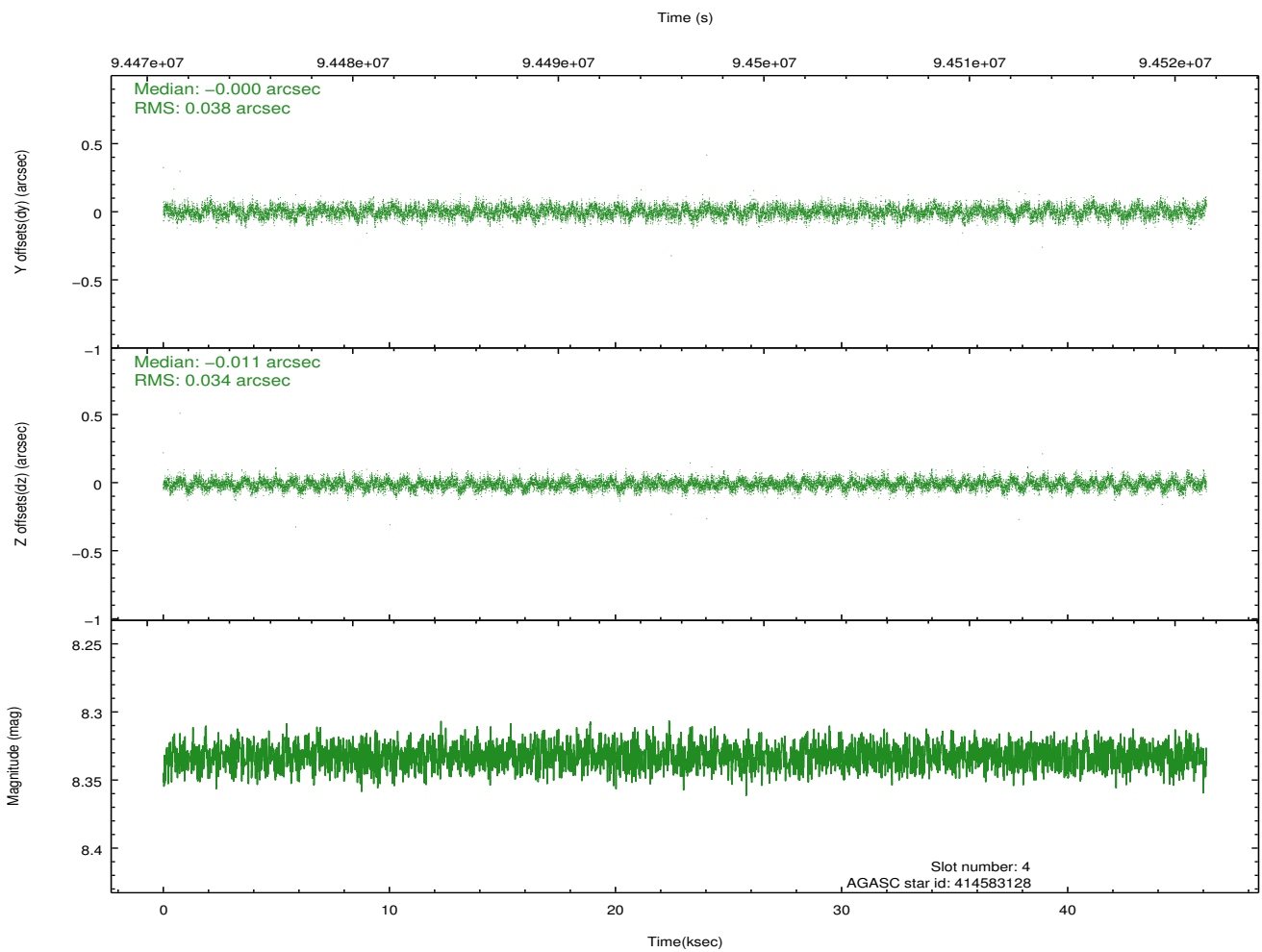
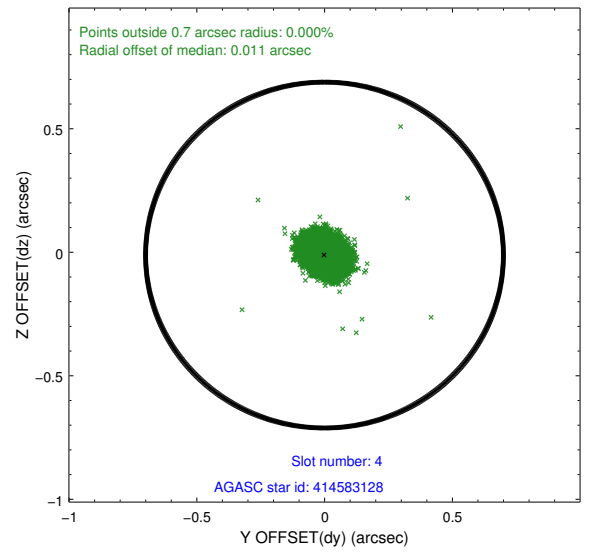
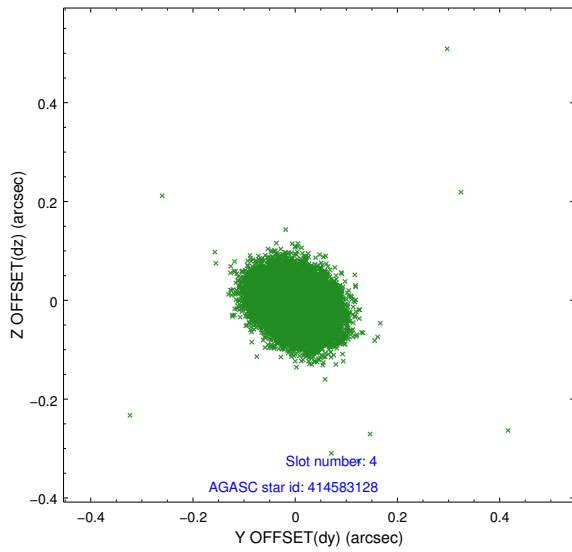
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	11250	0.002	0.013	0.011	0.027	0.000000	0.000000	-755.75	-1728.24
1	FID	ACIS-S-4	7.20	11247	-0.042	-0.004	0.015	0.034	0.000000	0.000000	2157.51	180.21
2	FID	ACIS-S-5	7.23	11249	0.009	-0.000	0.011	0.019	0.000000	0.000000	-1808.58	173.90
3	GUIDE	414583848	8.38	22497	-0.062	-0.079	0.052	0.084	304.983045	43.966065	-435.13	269.31
4	GUIDE	414583128	8.33	22498	-0.000	-0.011	0.054	0.088	304.426562	44.225700	-2135.17	500.44
5	GUIDE	414724728	8.97	22497	0.083	-0.011	0.076	0.126	305.252472	43.377115	1112.53	-1340.72
6	GUIDE	414712520	9.12	22497	-0.080	-0.002	0.075	0.120	305.370655	43.250269	1589.46	-1618.14
7	GUIDE	414716648	9.42	22458	0.062	0.102	0.087	0.145	305.537797	44.191148	507.48	1621.00

2.4 Star Slots

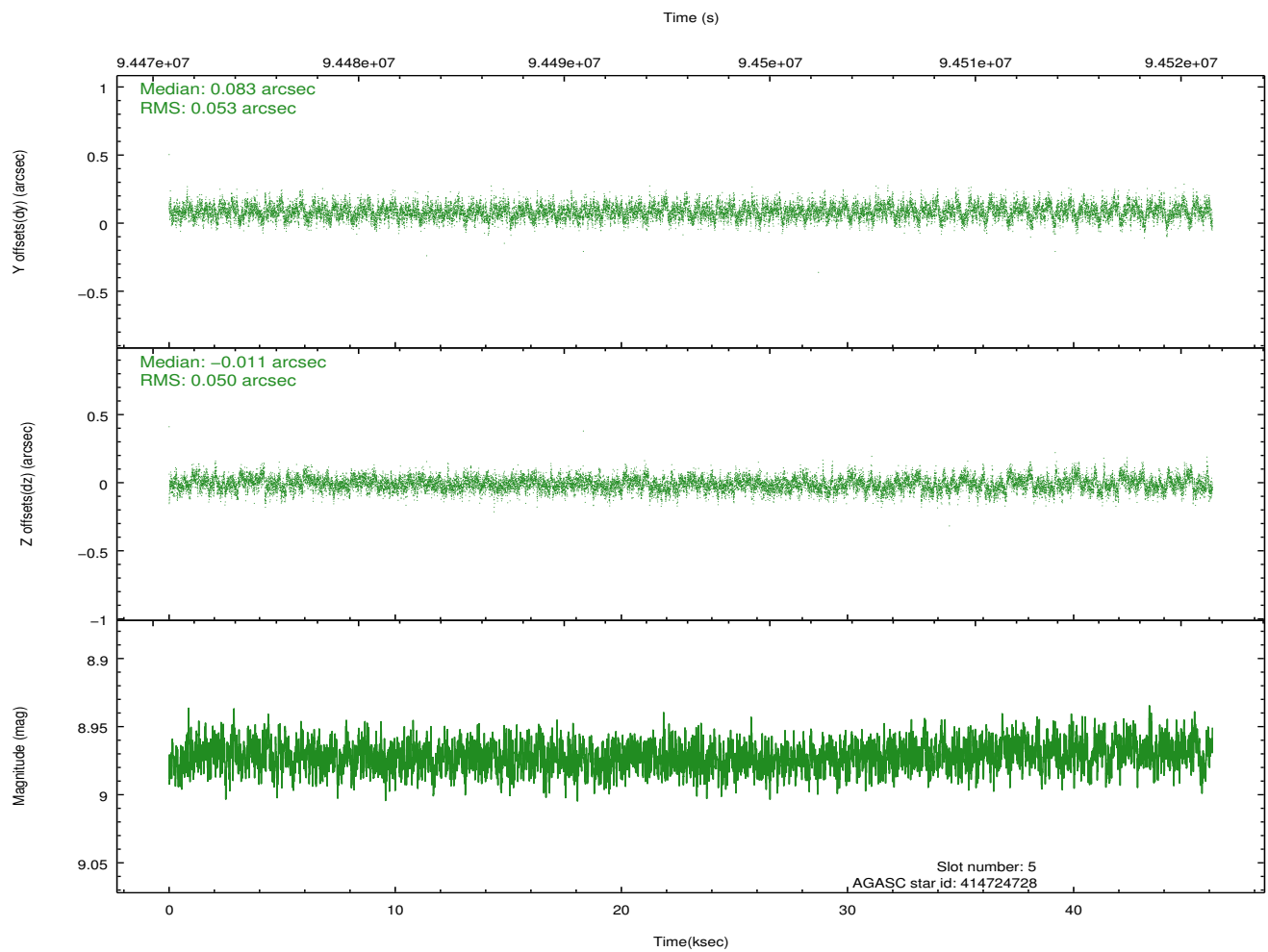
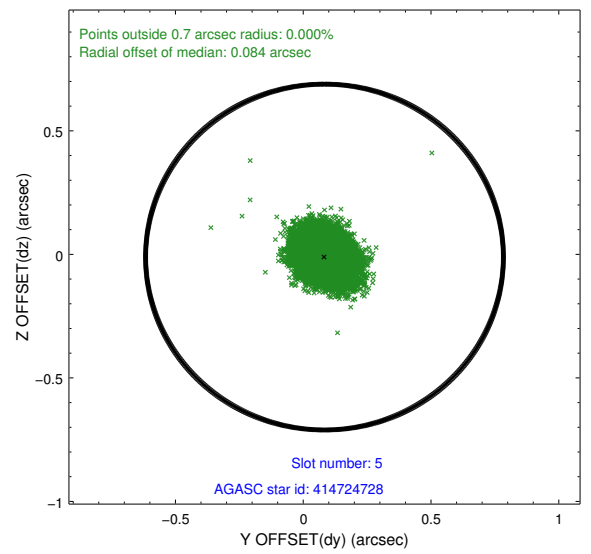
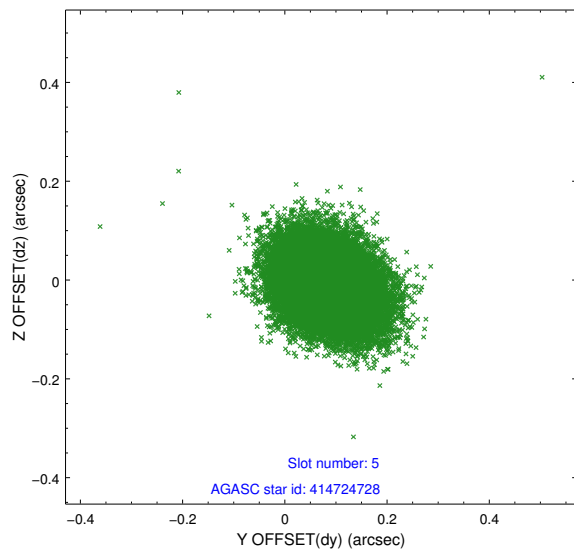
2.4.1 Slot 3



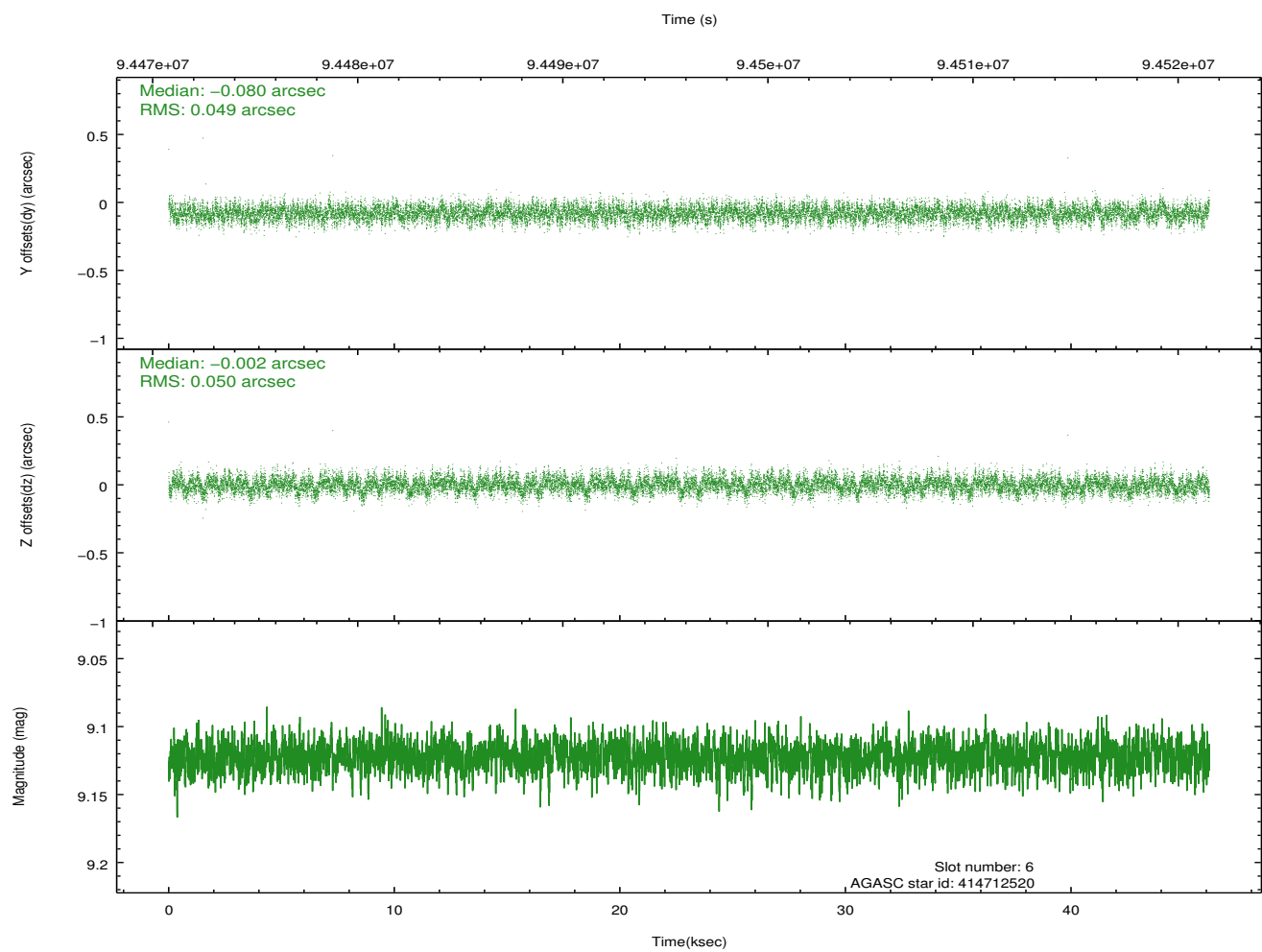
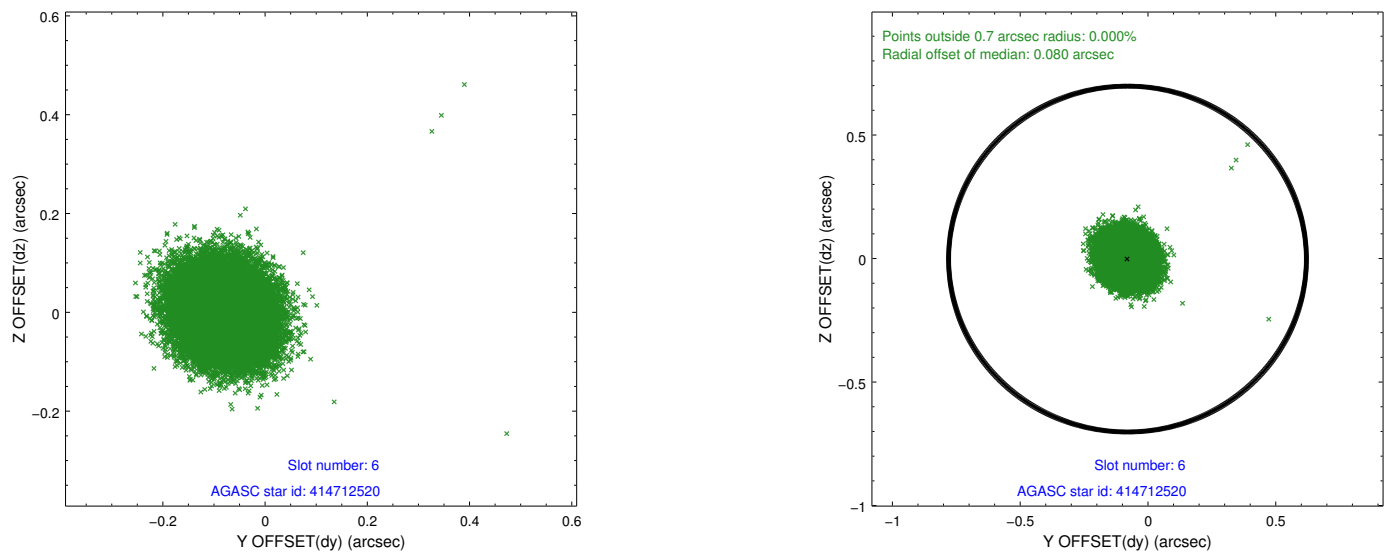
2.4.2 Slot 4



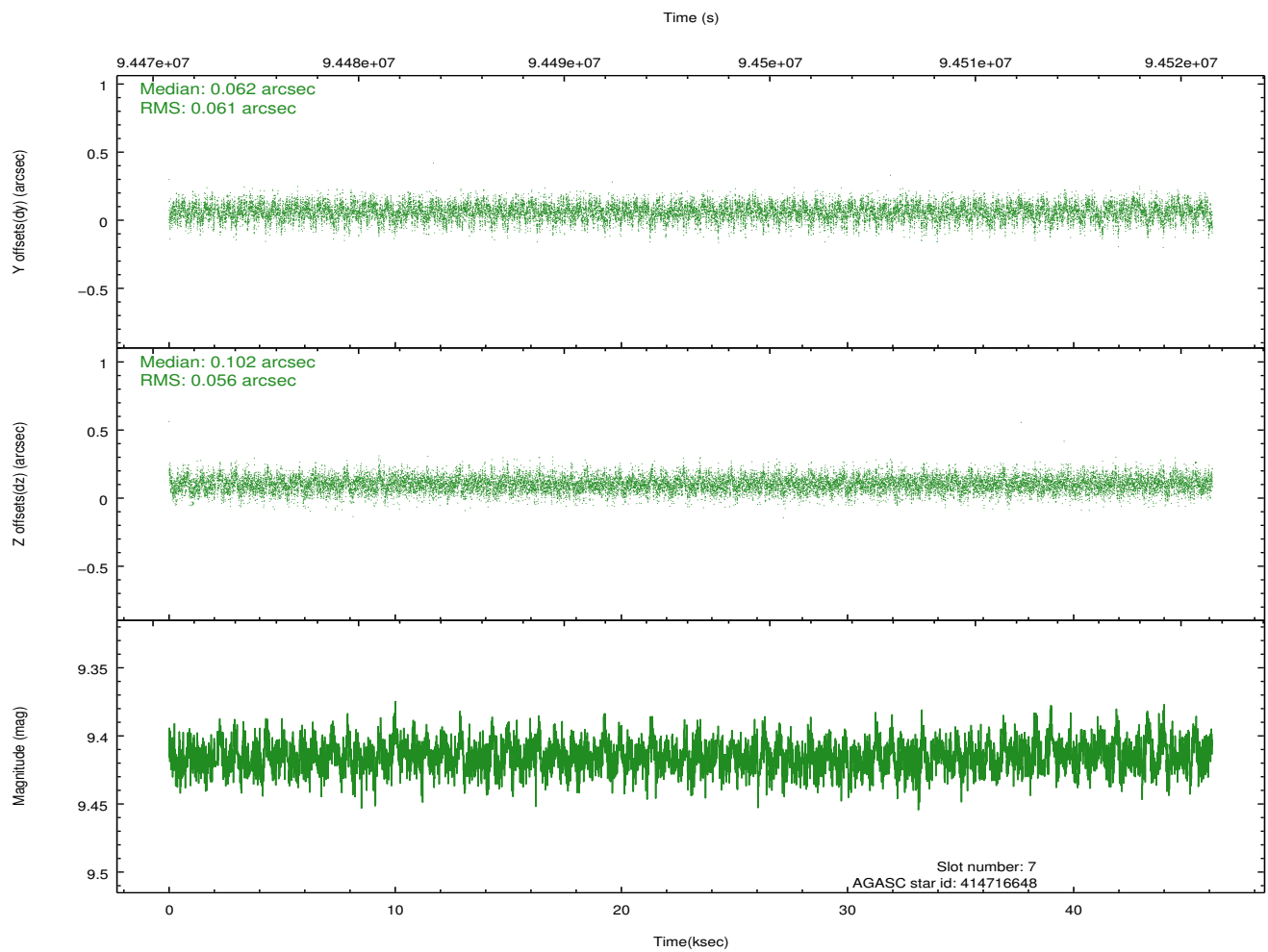
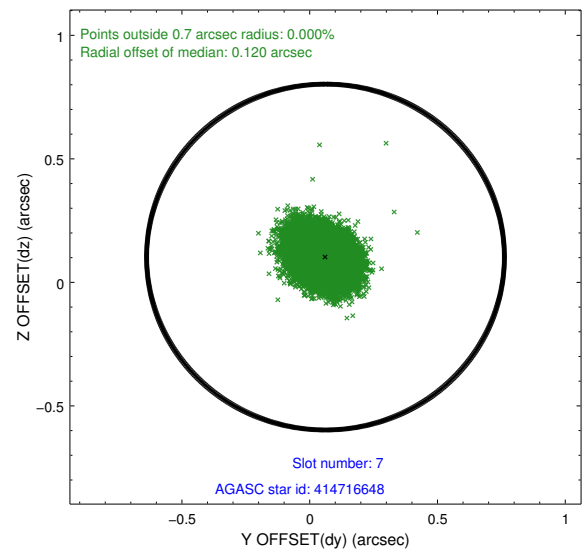
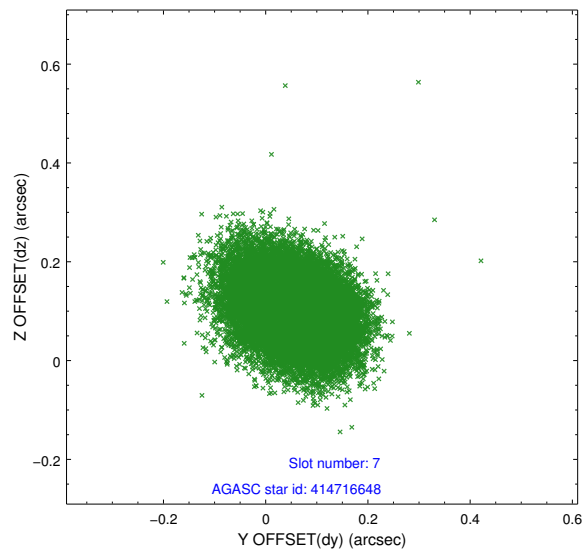
2.4.3 Slot 5



2.4.4 Slot 6

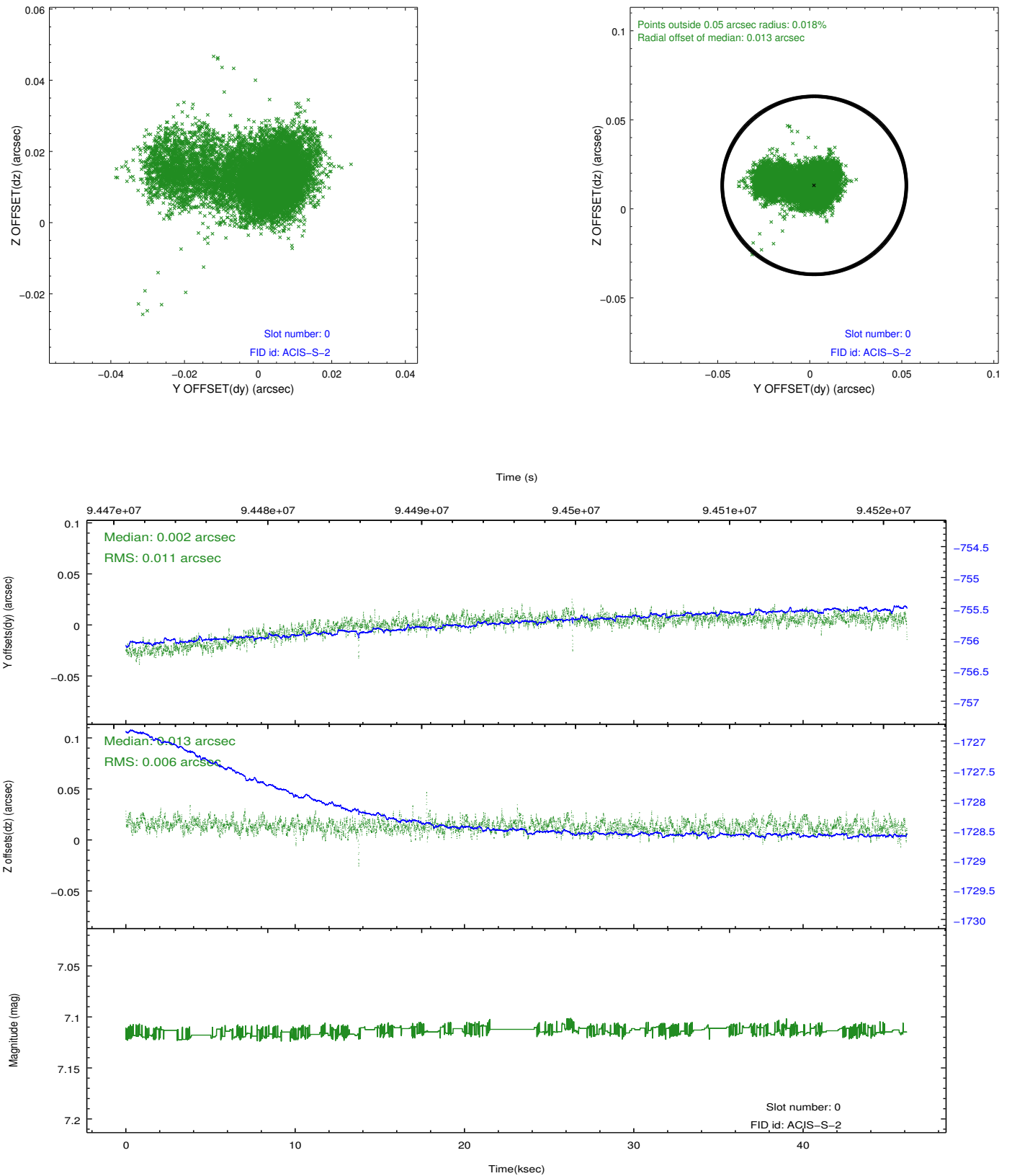


2.4.5 Slot 7

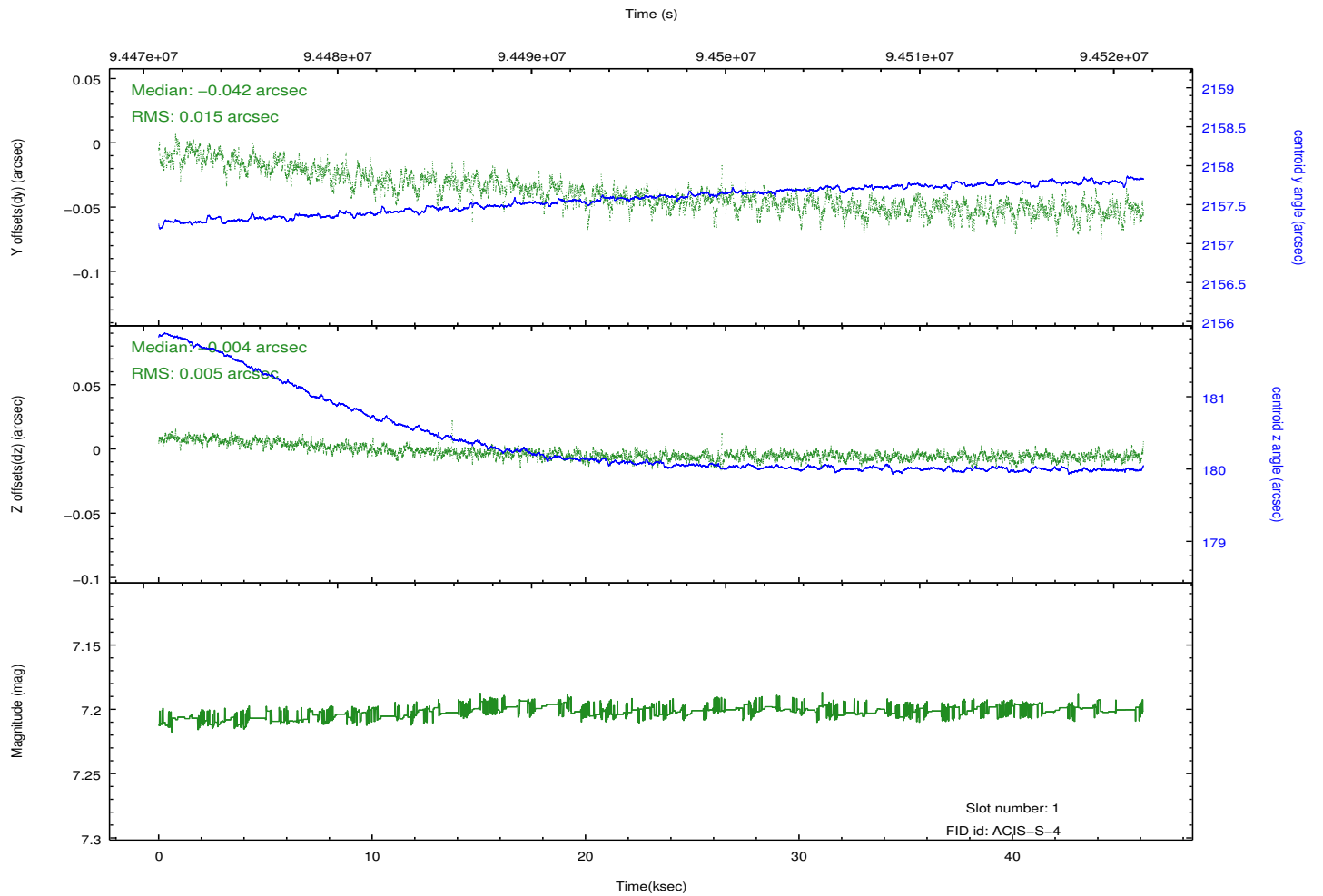
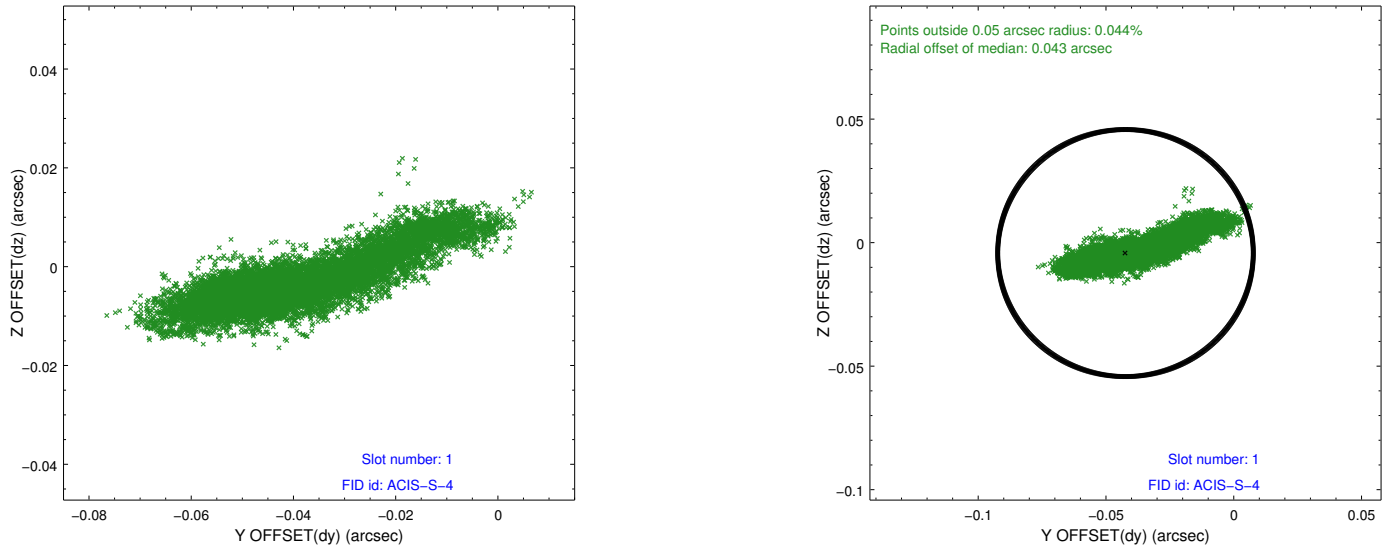


2.5 FID Slots

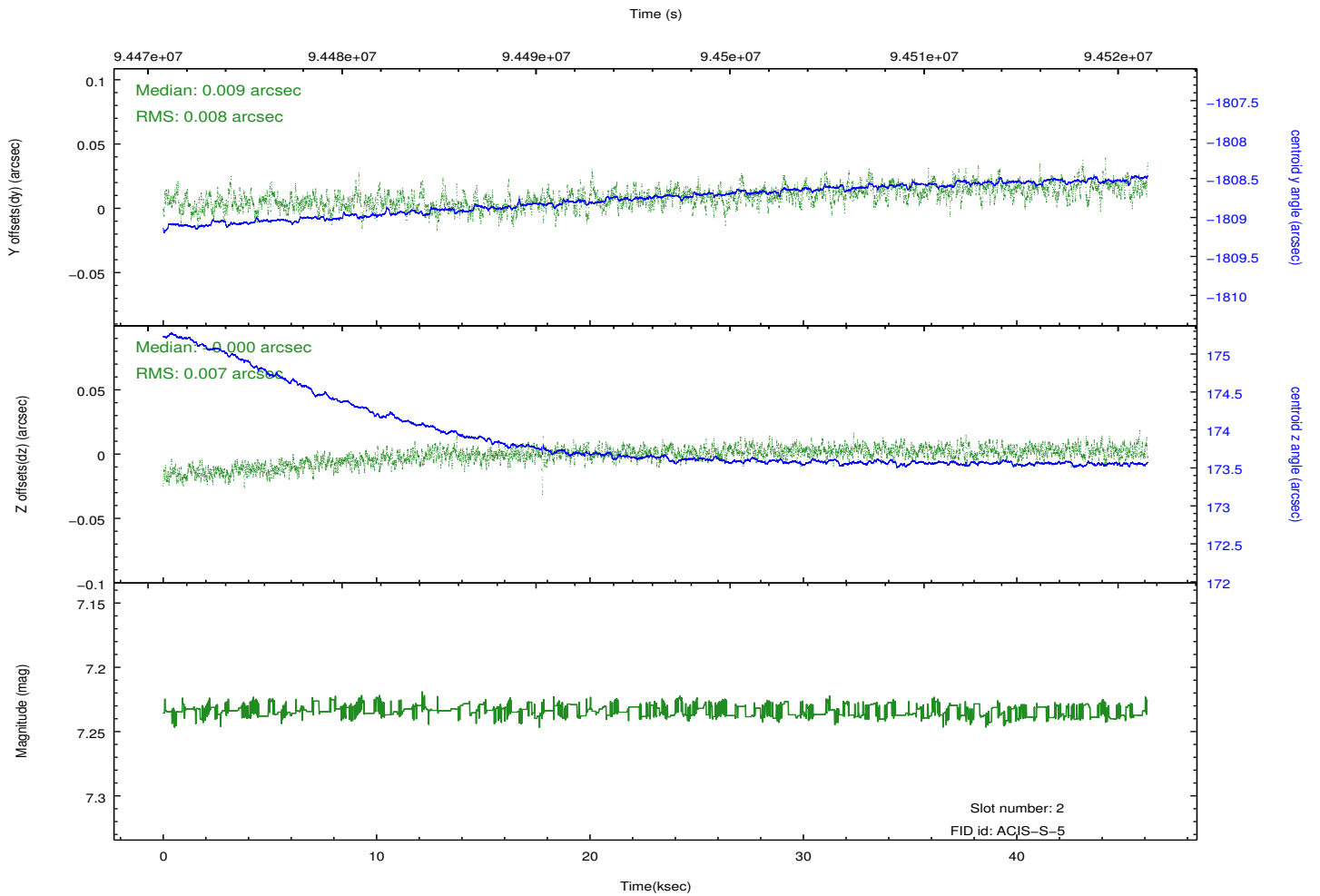
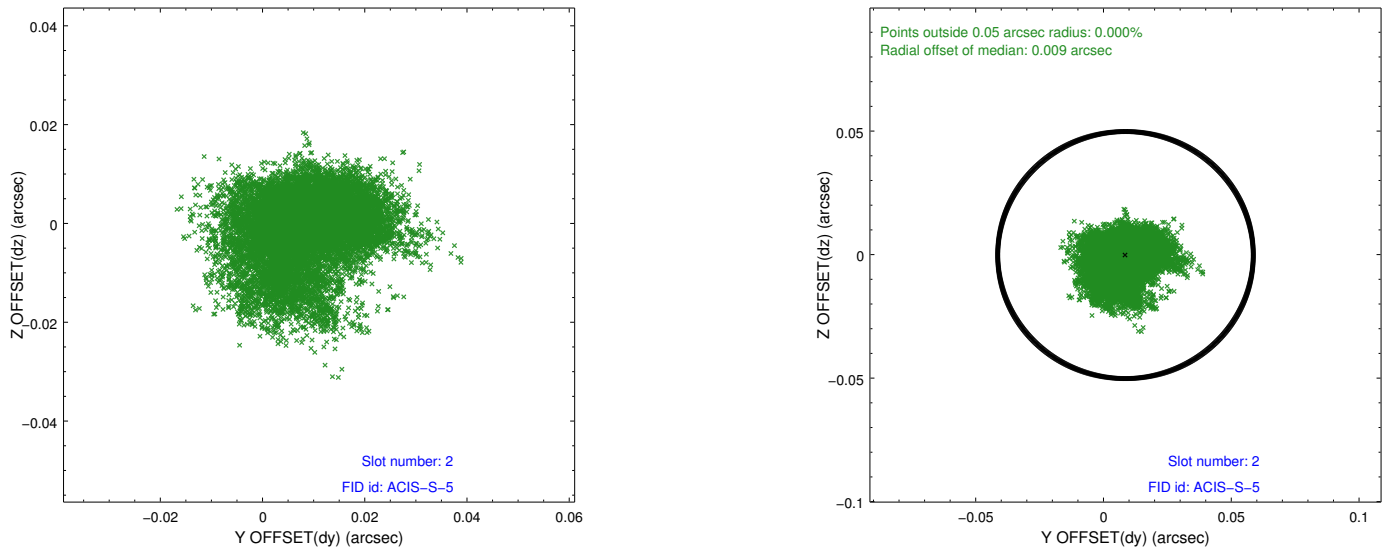
2.5.1 Slot 0



2.5.2 Slot 1

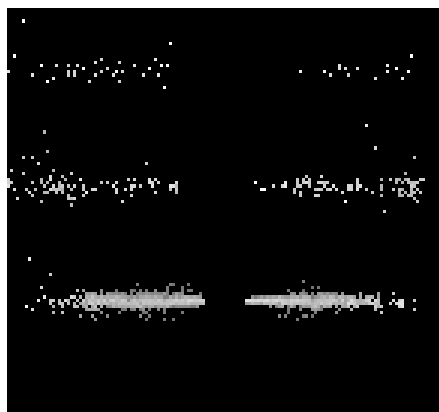


2.5.3 Slot 2

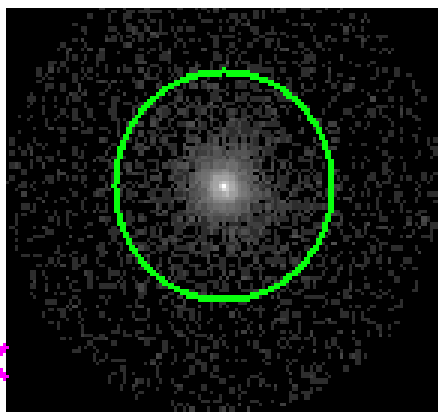


3 Gratings

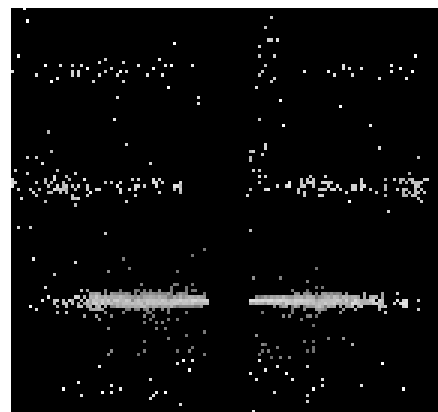
3.1 HEG Arm



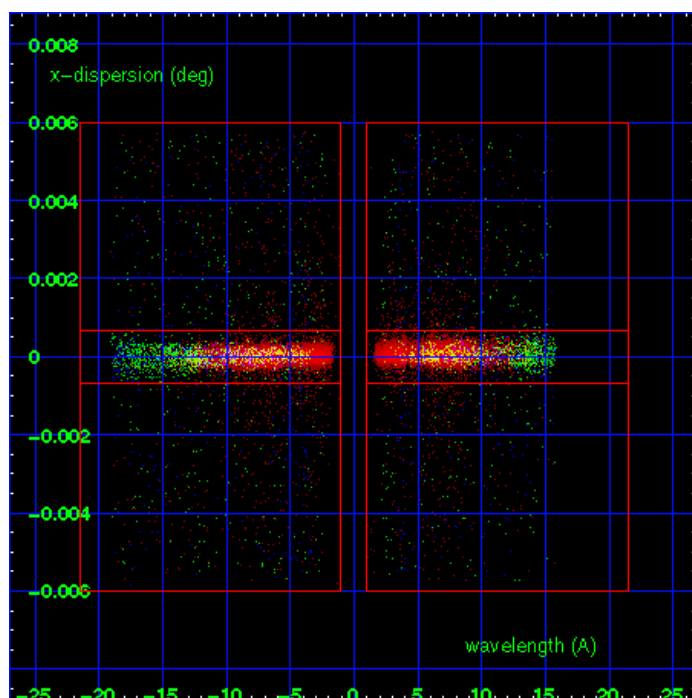
HEG Order Sort 123



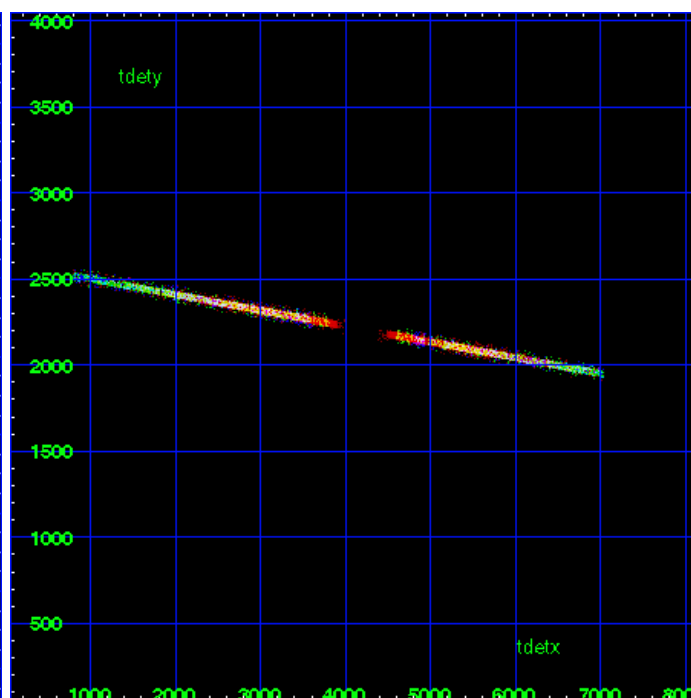
HEG Zero Order



HEG Order Sort ALL

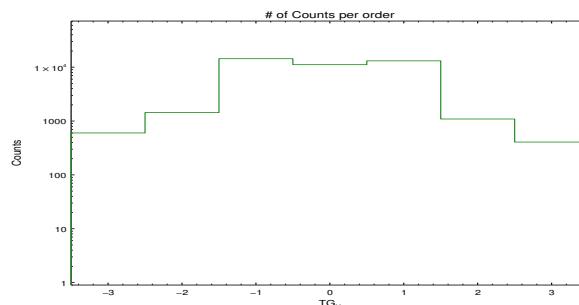


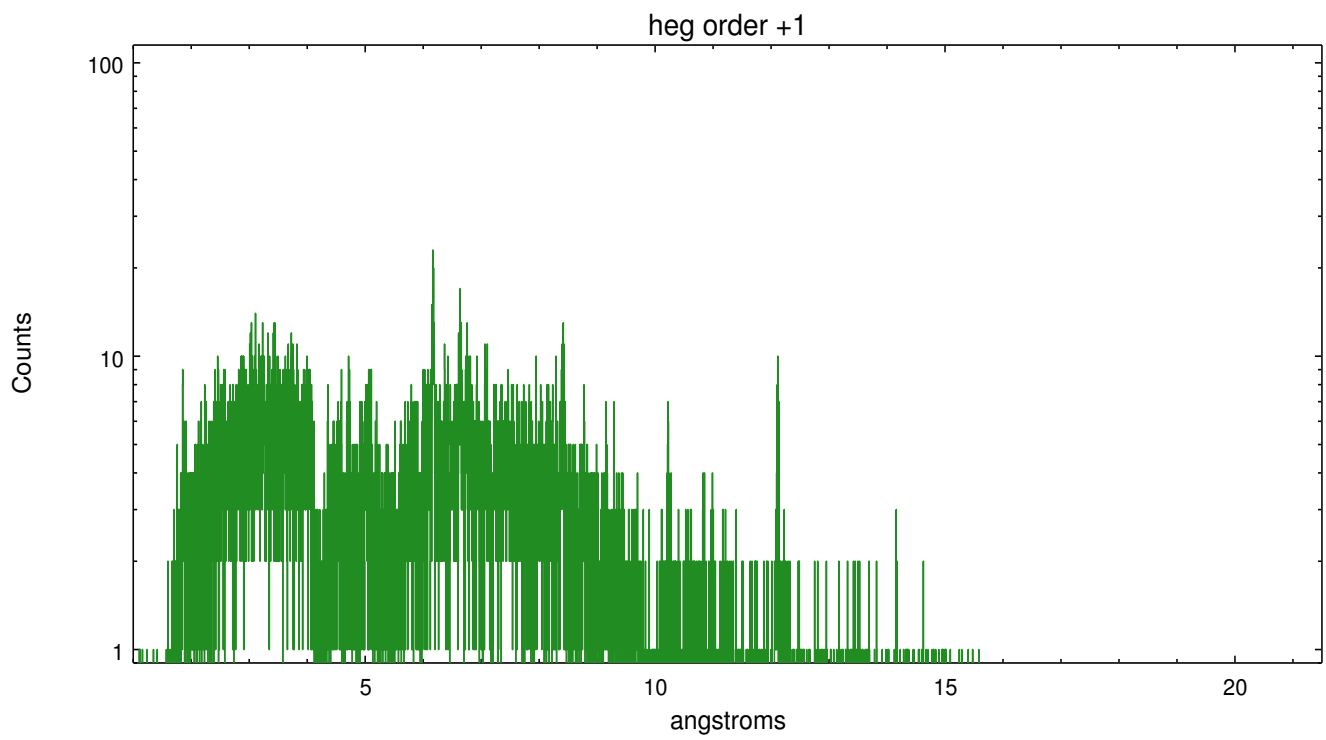
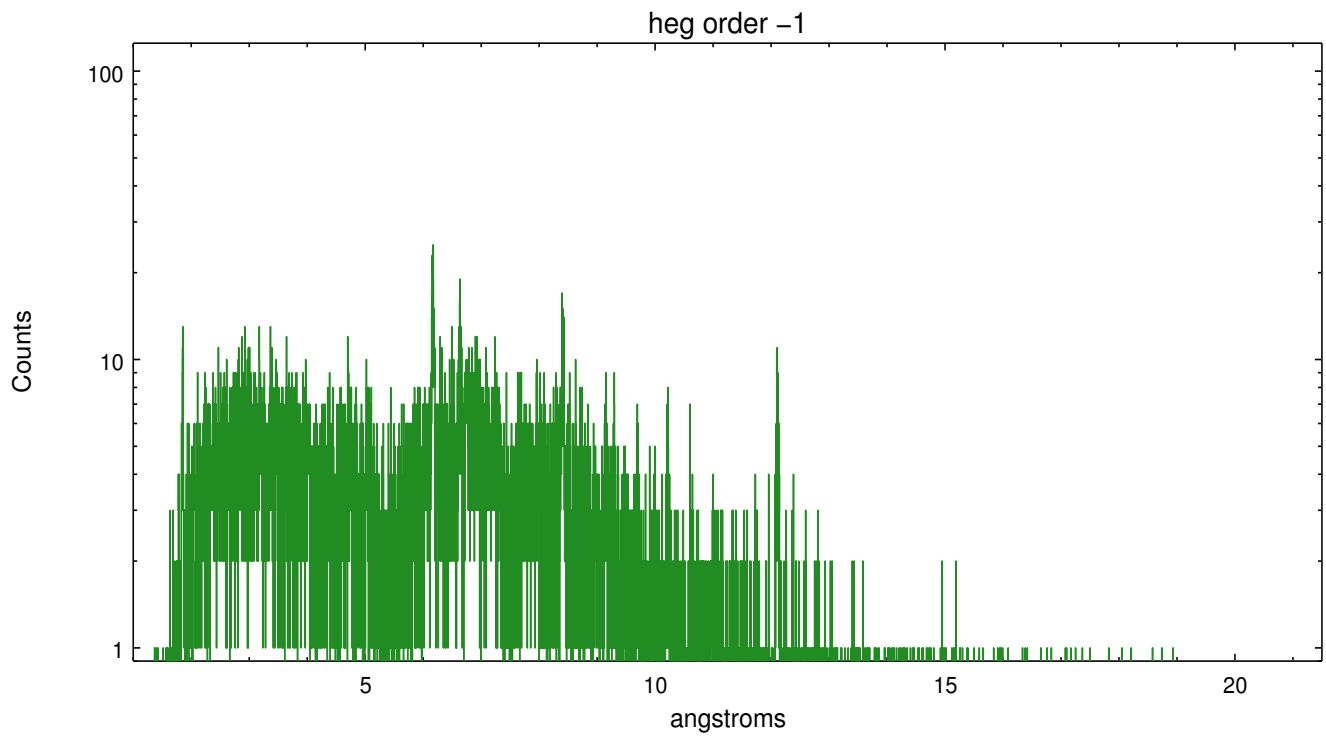
Spot Image HEG



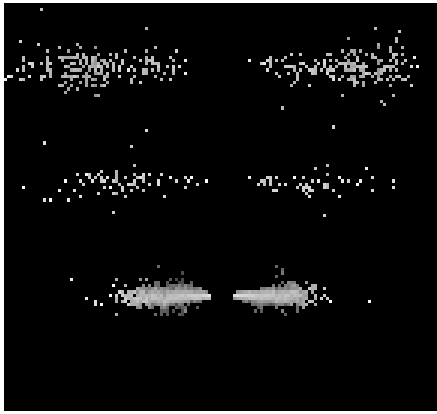
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	601	1435	14385	11142	13115	1091	407

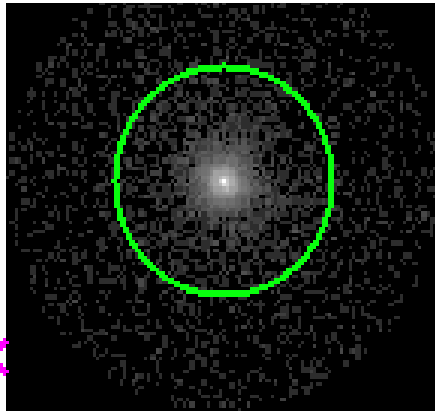




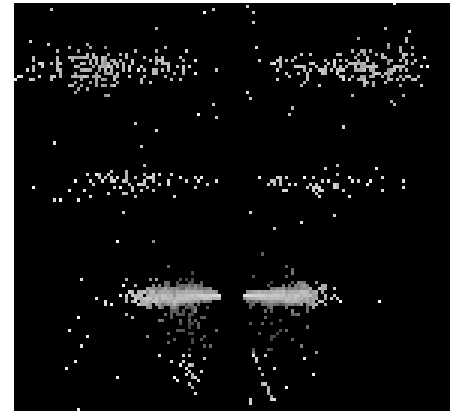
3.2 MEG Arm



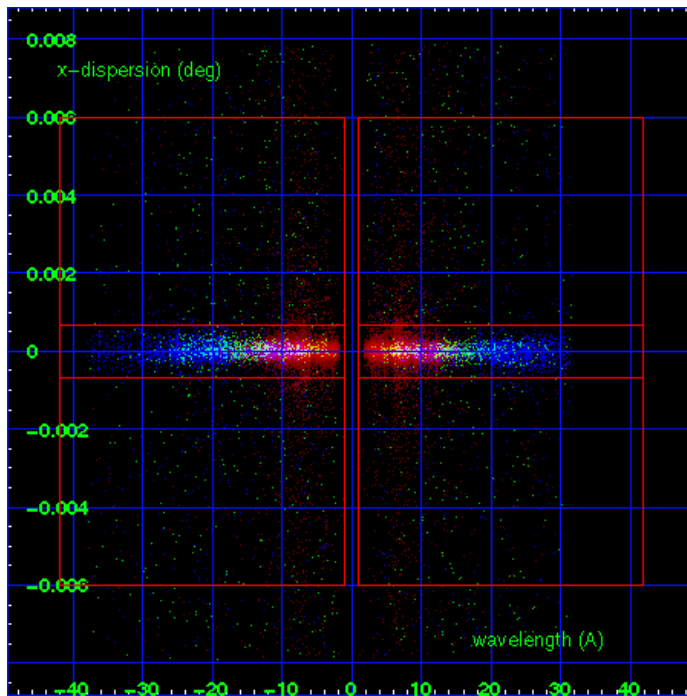
MEG Order Sort 123



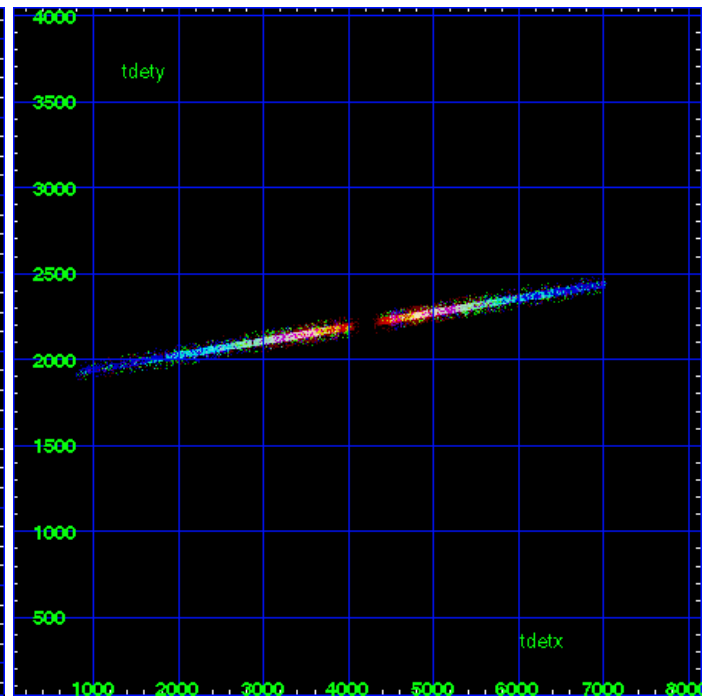
MEG Zero Order



MEG Order Sort ALL

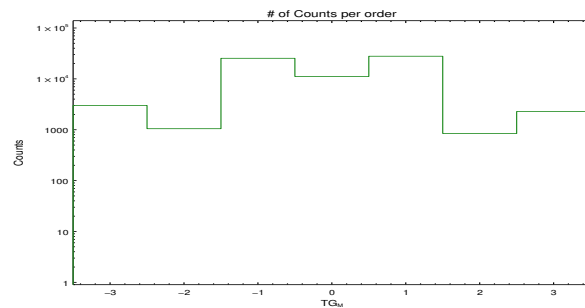


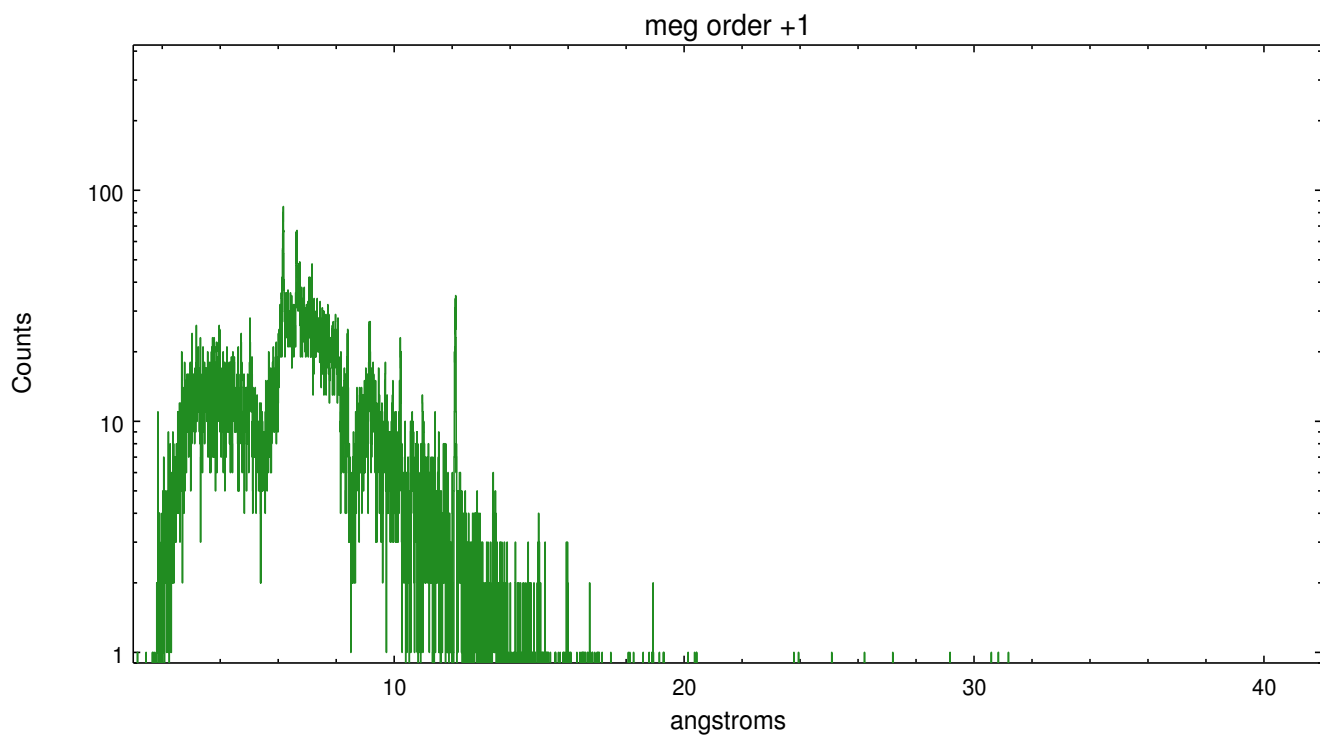
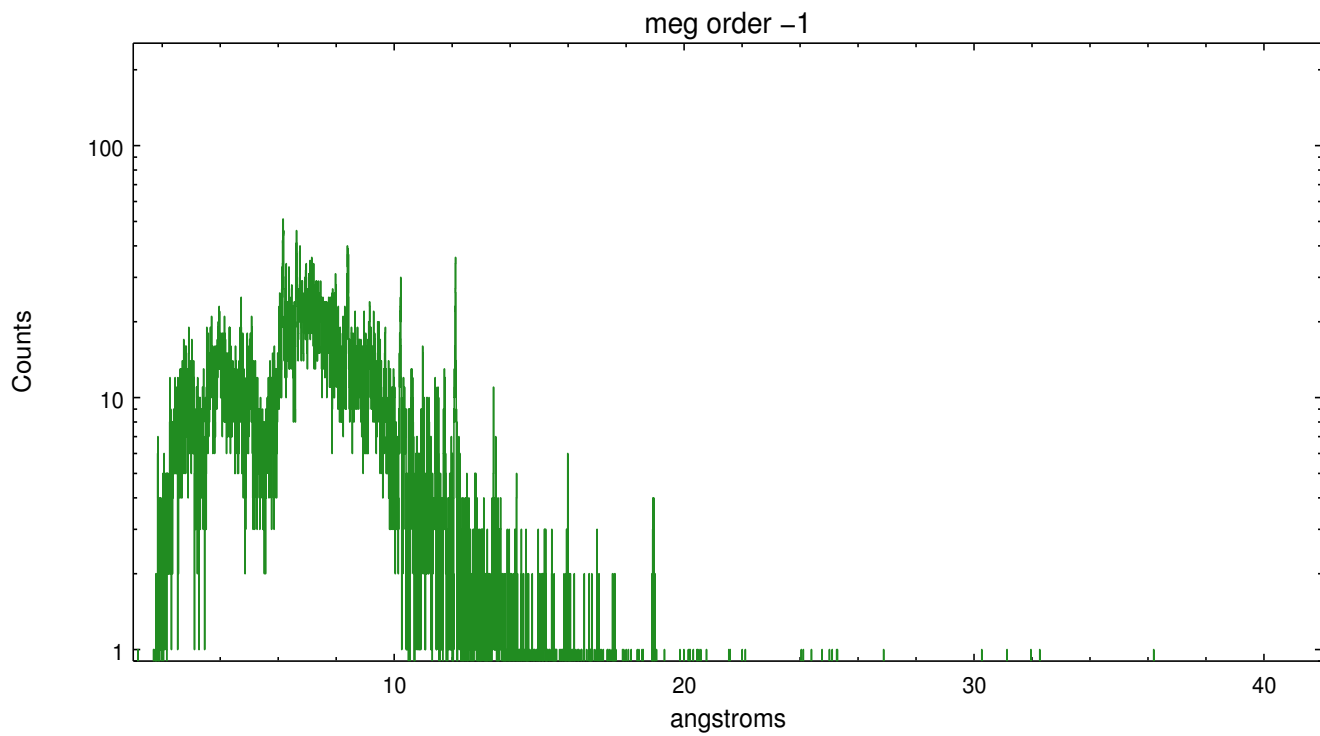
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3001	1049	25355	11142	27841	844	2280





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	46.124

A.2 Comments

Zeroth order moderately piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates ($x=4155.42$, $y=4138.52$) into the `*src1a.fits` file table. These corrected coordinates were determined using a software tool developed by CXC called `findzero`, which is expected to be released in CIAO as `tg_findzo` (currently in ISIS as `findzo`). The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool `tgdetect` was not used in this processing. The newly determined zeroth order coordinates have been placed in the `*src1a.fits` file, replacing the coordinates determined by `tgdetect`. Note that these corrected coordinates of the zeroth order cannot be reproduced by running `tgdetect` on the data.