

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 657 - L2 Version 4
Chandra X-Ray Center

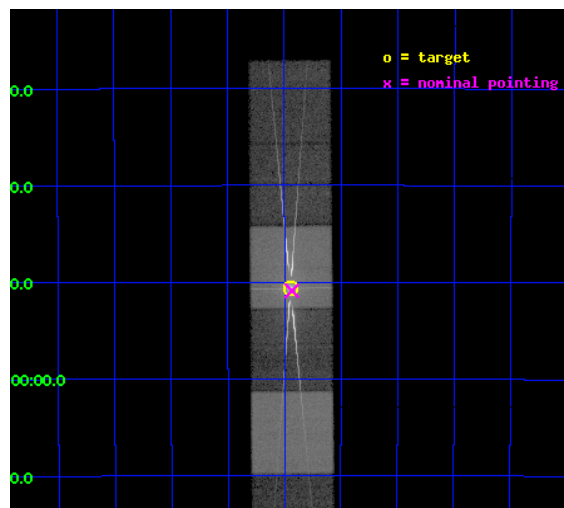
L2 Processing Date : Sep 14 2012

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1 Front

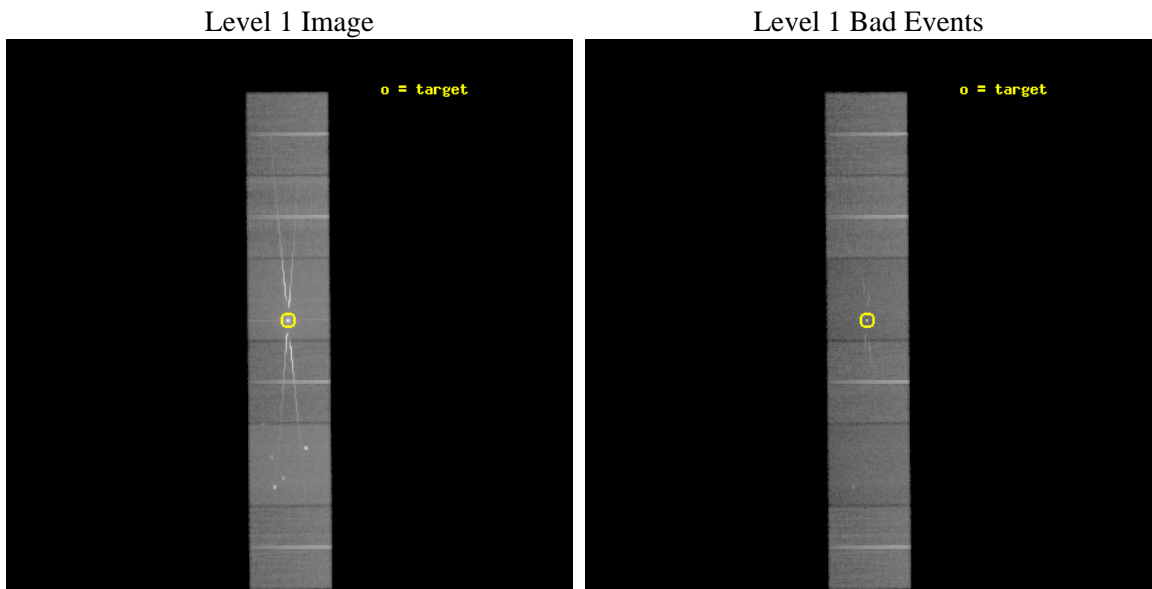
seq_num	400024	Sequence number
obs_id	657	Observation id
title	SPECTRAL VARIABILITY IN A SUPERGIANT X-RAY BINARY	Proposal title
observer	Bram Boroson	Principal investigator
object	4U 1700-37	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	255.9858	Observer's specified target RA [deg]
dec_targ	-37.84414	Observer's specified target Dec [deg]
ra_nom	255.98349569294	Nominal RA [deg]
dec_nom	-37.848390306678	Nominal Dec [deg]
roll_nom	269.52256048523	Nominal Roll [deg]
revision	4	Processing version of data
ontime	42948.857984513	Sum of GTIs [s]
livetime	42405.013684016	Livetime [s]
ontime4	42952.139984757	Sum of GTIs [s]
ontime5	42952.05790475	Sum of GTIs [s]
ontime6	42952.016864762	Sum of GTIs [s]
ontime7	42948.857984513	Sum of GTIs [s]
ontime8	42948.734864518	Sum of GTIs [s]
ontime9	42951.934784755	Sum of GTIs [s]
l2events	606550	Number of level 2 events



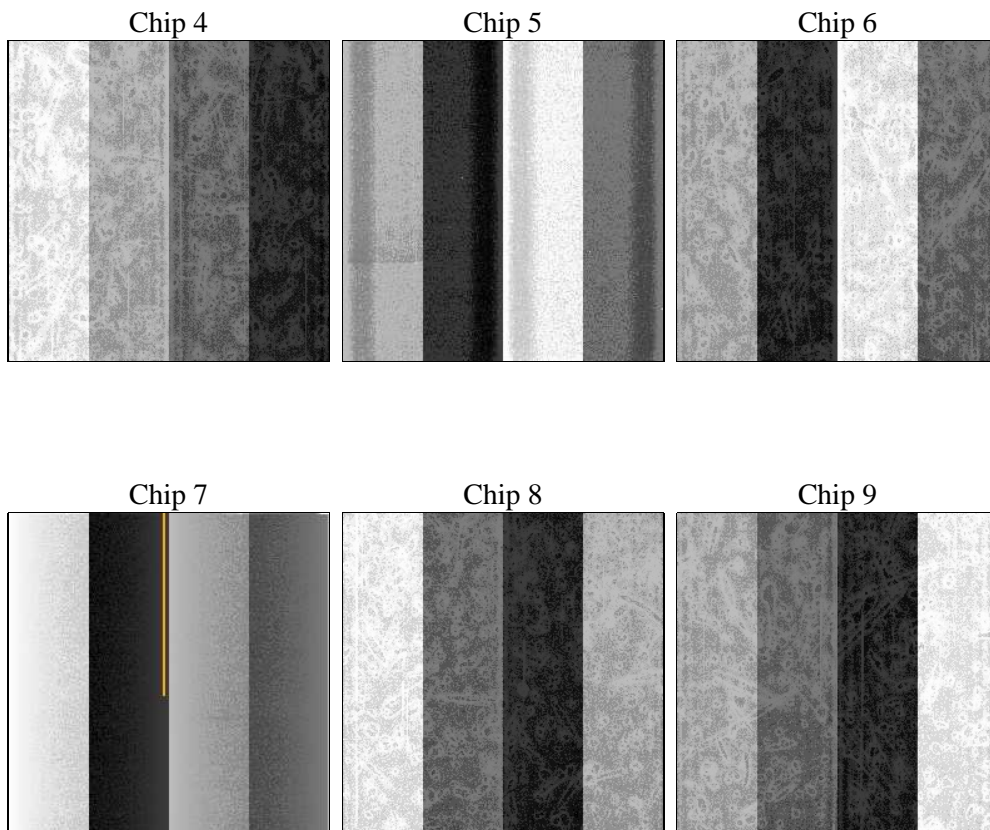
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	43000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	42948.857984513	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime4	42952.139984757	Sum of GTIs [s]
date	2012-09-01T03:57:20	Date and time of file creation	ontime5	42952.05790475	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	42952.016864762	Sum of GTIs [s]
			ontime7	42948.857984513	Sum of GTIs [s]
			ontime8	42948.734864518	Sum of GTIs [s]
			ontime9	42951.934784755	Sum of GTIs [s]
			l1events	2054379	Number of level 1 events

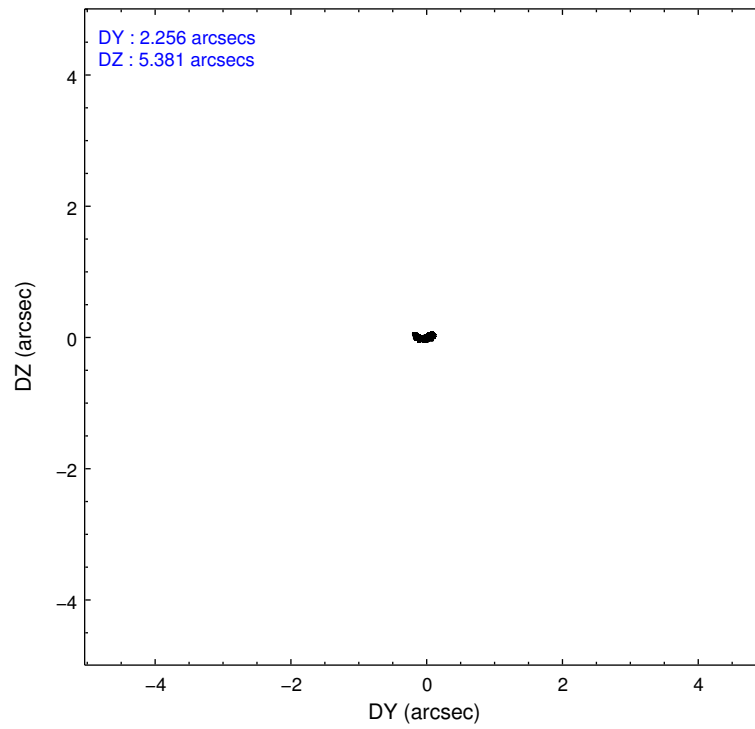
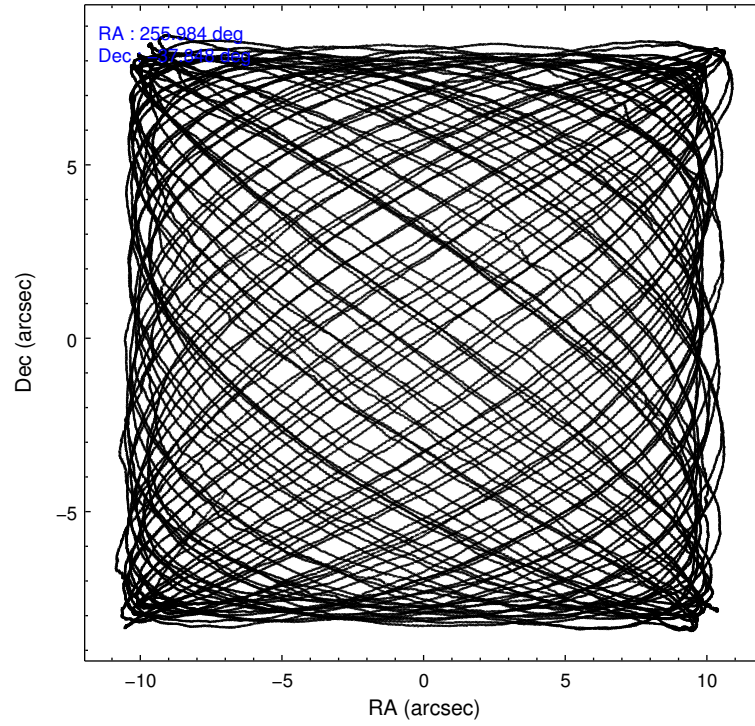
2.1.4 Events

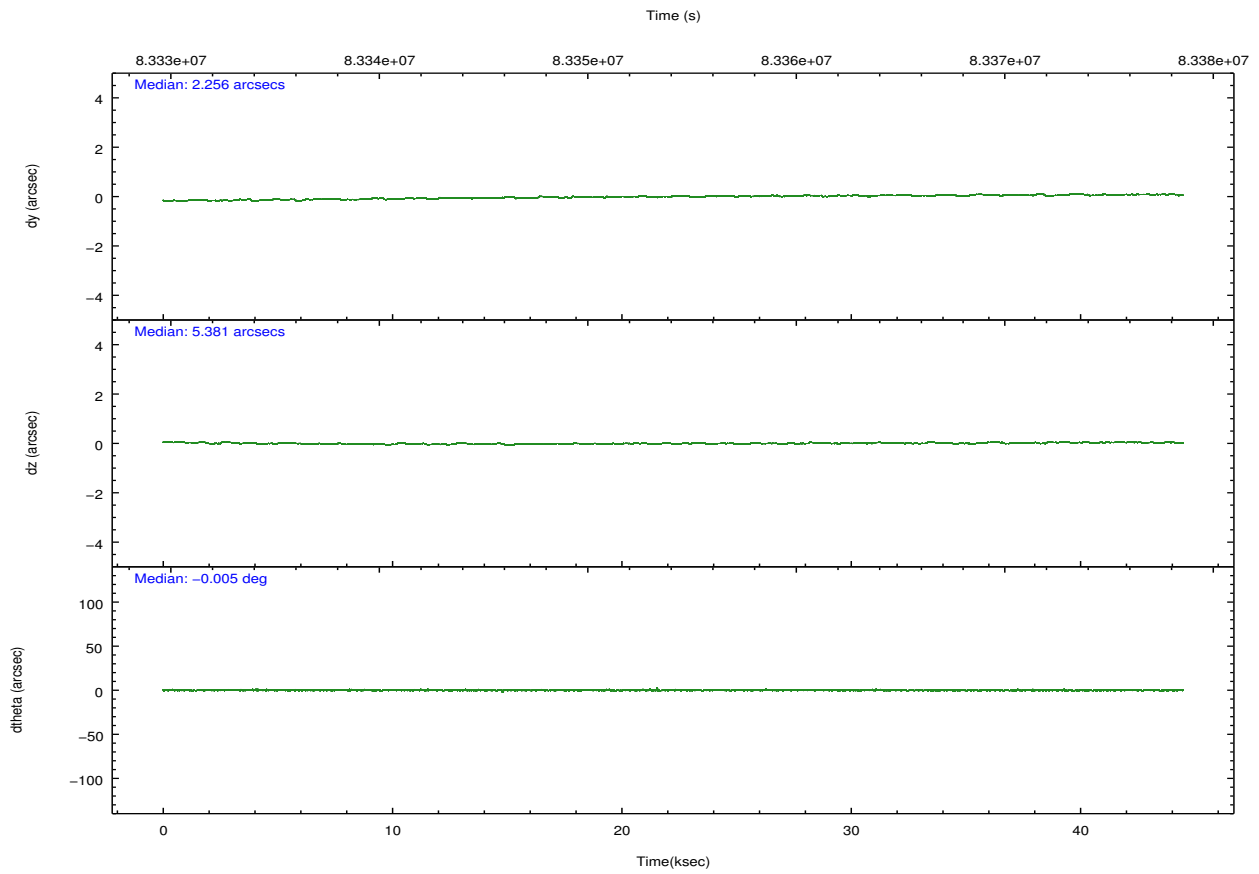
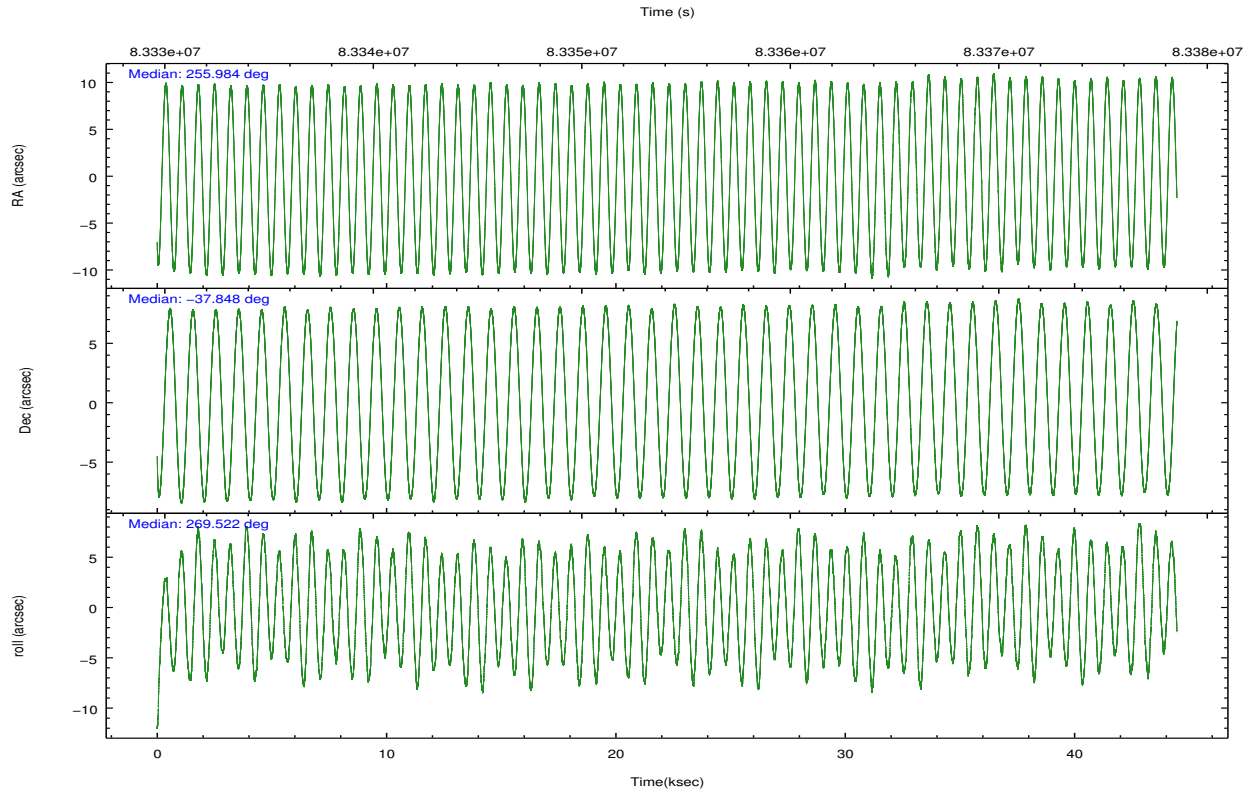
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	291037	361245	337731	464872	339127	260367	grade 0 events	13234	26567	55325	44383	27680	13832
rejected events	259521	188603	238752	192326	265318	228068		4%	7%	16%	9%	8%	5%
rejected %	89%	52%	70%	41%	78%	87%	grade 1 events	129	773	581	1001	227	106
								0%	0%	0%	0%	0%	0%
							grade 2 events	7150	46603	16584	57500	14921	6251
								2%	12%	4%	12%	4%	2%
							grade 3 events	3013	7736	6826	26681	7377	3222
								1%	2%	2%	5%	2%	1%
							grade 4 events	2835	7314	6689	26581	7000	3053
								0%	2%	1%	5%	2%	1%
							grade 5 events	8764	27550	10906	33847	13577	10797
								3%	7%	3%	7%	4%	4%
							grade 6 events	5288	84433	13558	117419	16853	5944
								1%	23%	4%	25%	4%	2%
							grade 7 events	250624	160269	227262	157460	251492	217162
								86%	44%	67%	33%	74%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	255.966230	255.9834956929372	Subarray requested	NONE	NONE
[deg] Pointing Dec	-37.824636	-37.84839030667765	Alternating exposures requested	N	N
[deg] Pointing Roll	269.355342	269.522560485227	[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			
Phase constraints	Y	Y			
[d] Phase period	3.411500	3.411500			
[d] Phase epoch (MJD)	48722.948000	48722.948000			
Phase start	0.750000	0.750000			
Phase end	0.890000	0.890000			
Phase start error	0.050000	0.050000			
Phase end error	0.050000	0.050000			
[s] Observation start time (MET)	83332533.184000	83331329.220741			
Observation start date	2000-08-22T11:54:29	2000-08-22T11:35:29			
[s] Observation end time (MET)	83375533.184000	83376632.17243899			
Observation end date	2000-08-22T23:51:09	2000-08-23T00:10:32			
Read mode	TIMED	TIMED			

2.3 Aspect



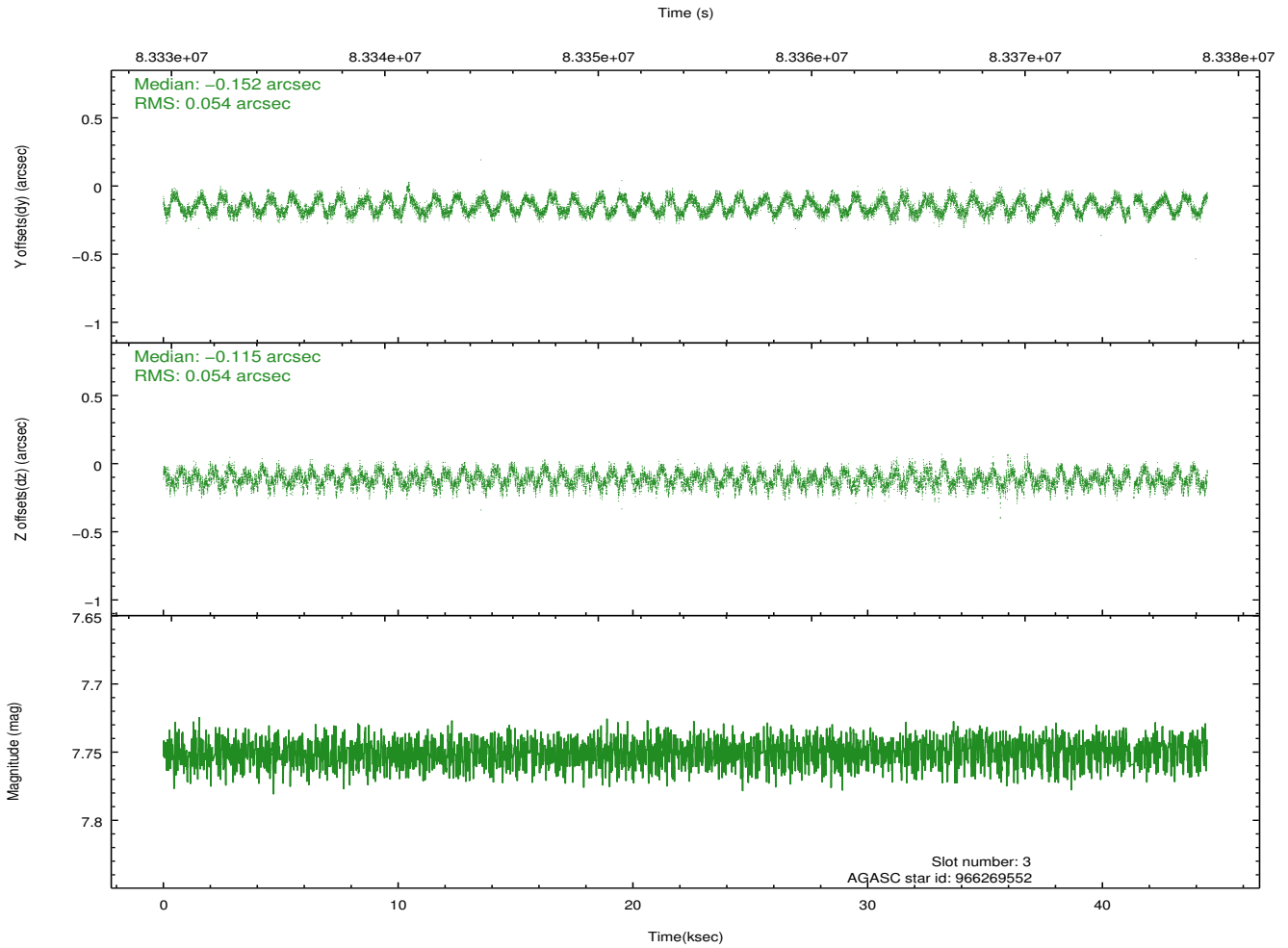
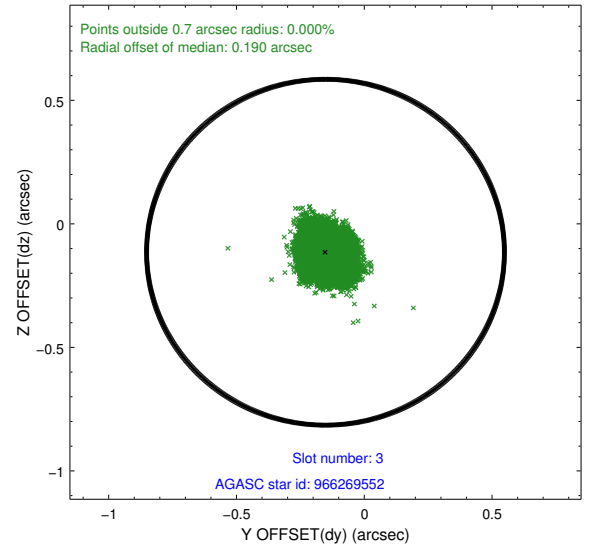
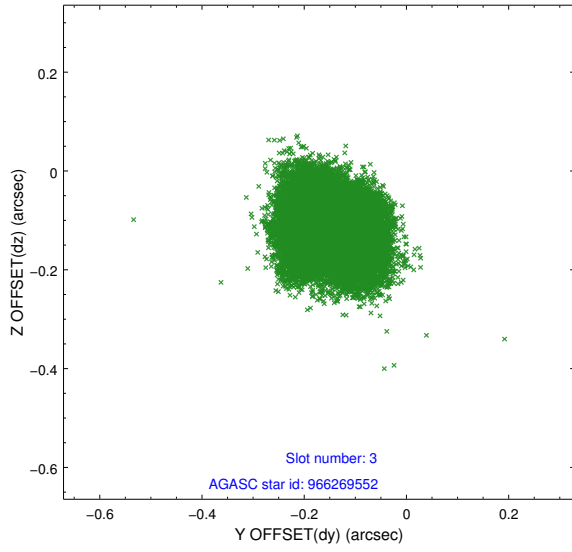


Slot Statistics

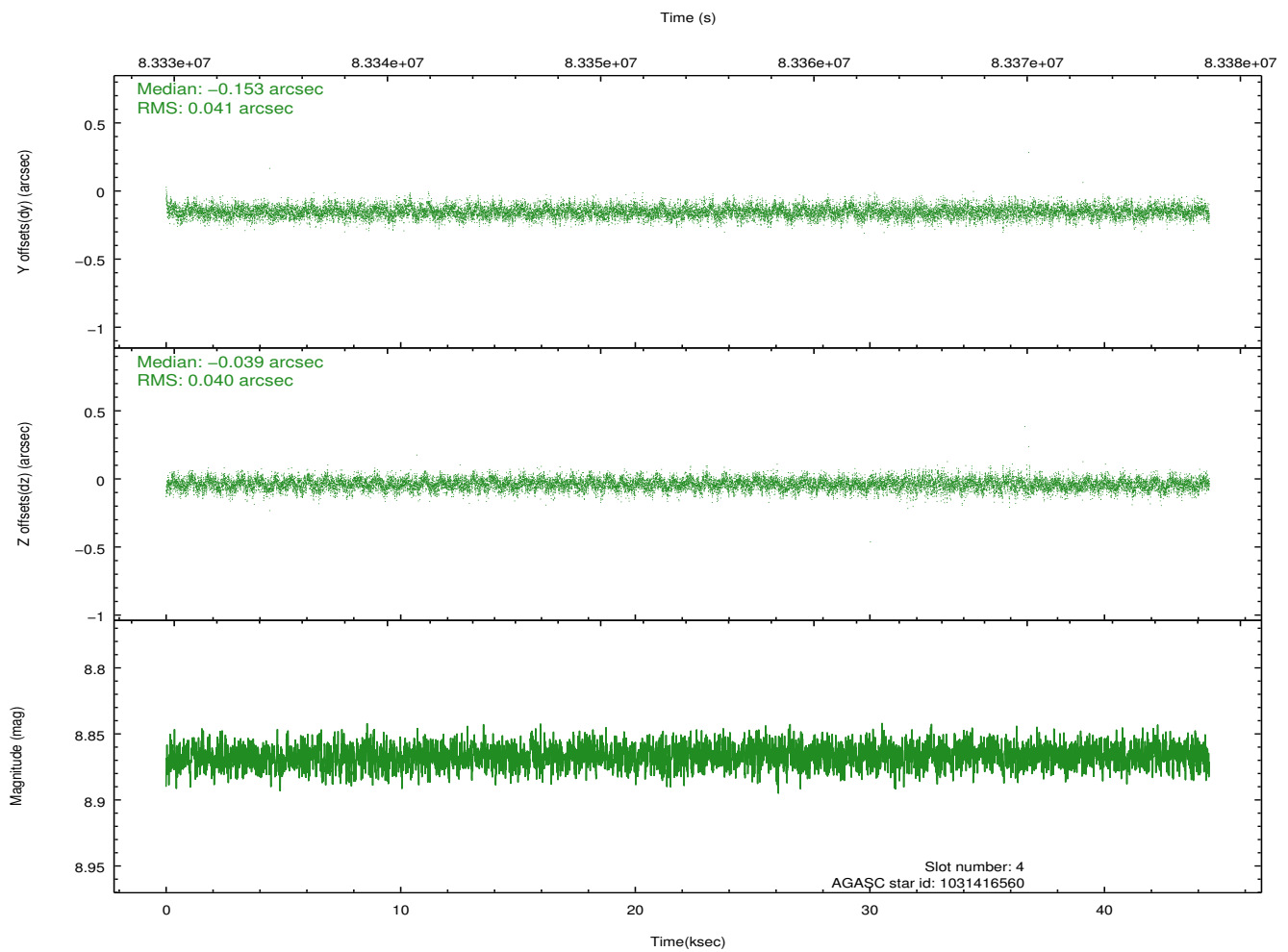
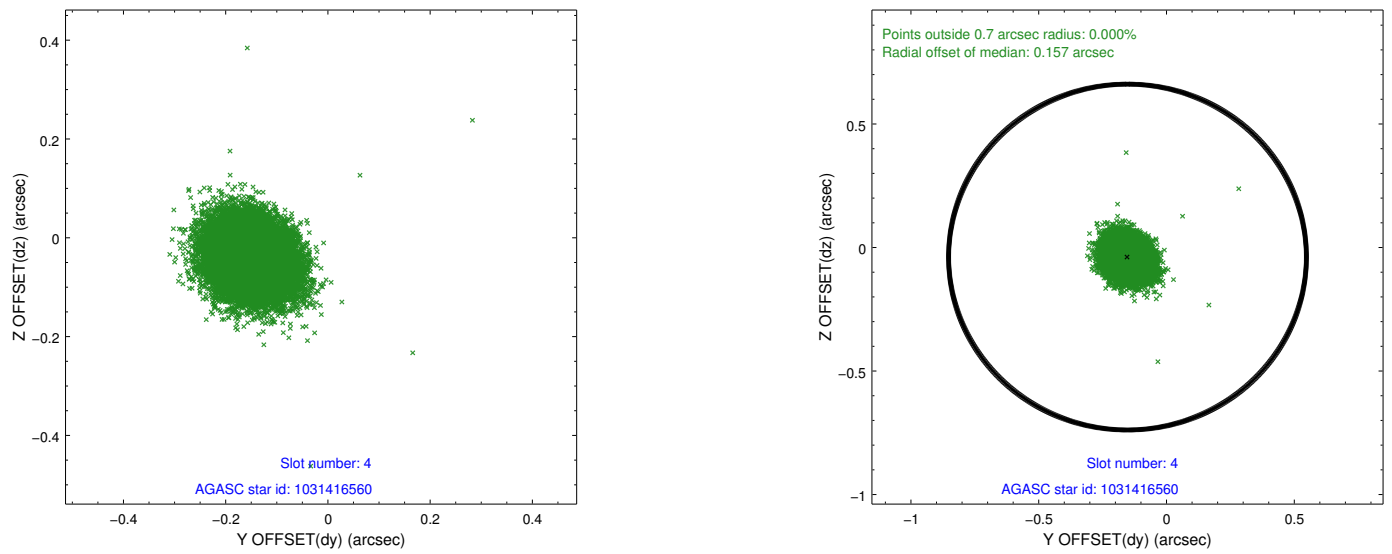
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	10845	-0.037	-0.002	0.007	0.011	0.000000	0.000000	-754.88	-1726.52
1	FID	ACIS-S-4	7.21	10845	-0.004	0.019	0.006	0.011	0.000000	0.000000	2158.41	182.02
2	FID	ACIS-S-5	7.24	10845	0.010	-0.008	0.007	0.012	0.000000	0.000000	-1807.69	175.62
3	GUIDE	966269552	7.75	21617	-0.152	-0.115	0.083	0.122	255.299822	-37.331349	-1746.41	-1927.57
4	GUIDE	1031416560	8.87	21677	-0.153	-0.039	0.060	0.099	256.067748	-37.599409	-812.83	280.26
5	GUIDE	1031419480	8.98	21678	0.133	0.089	0.073	0.117	256.157608	-38.328931	1811.18	560.97
6	GUIDE	1031416256	10.52	21581	0.294	-0.060	0.137	0.225	255.994552	-38.142227	1143.99	93.01
7	GUIDE	1031416304	9.37	21680	-0.128	0.122	0.084	0.138	256.343312	-37.563103	-950.23	1065.54

2.4 Star Slots

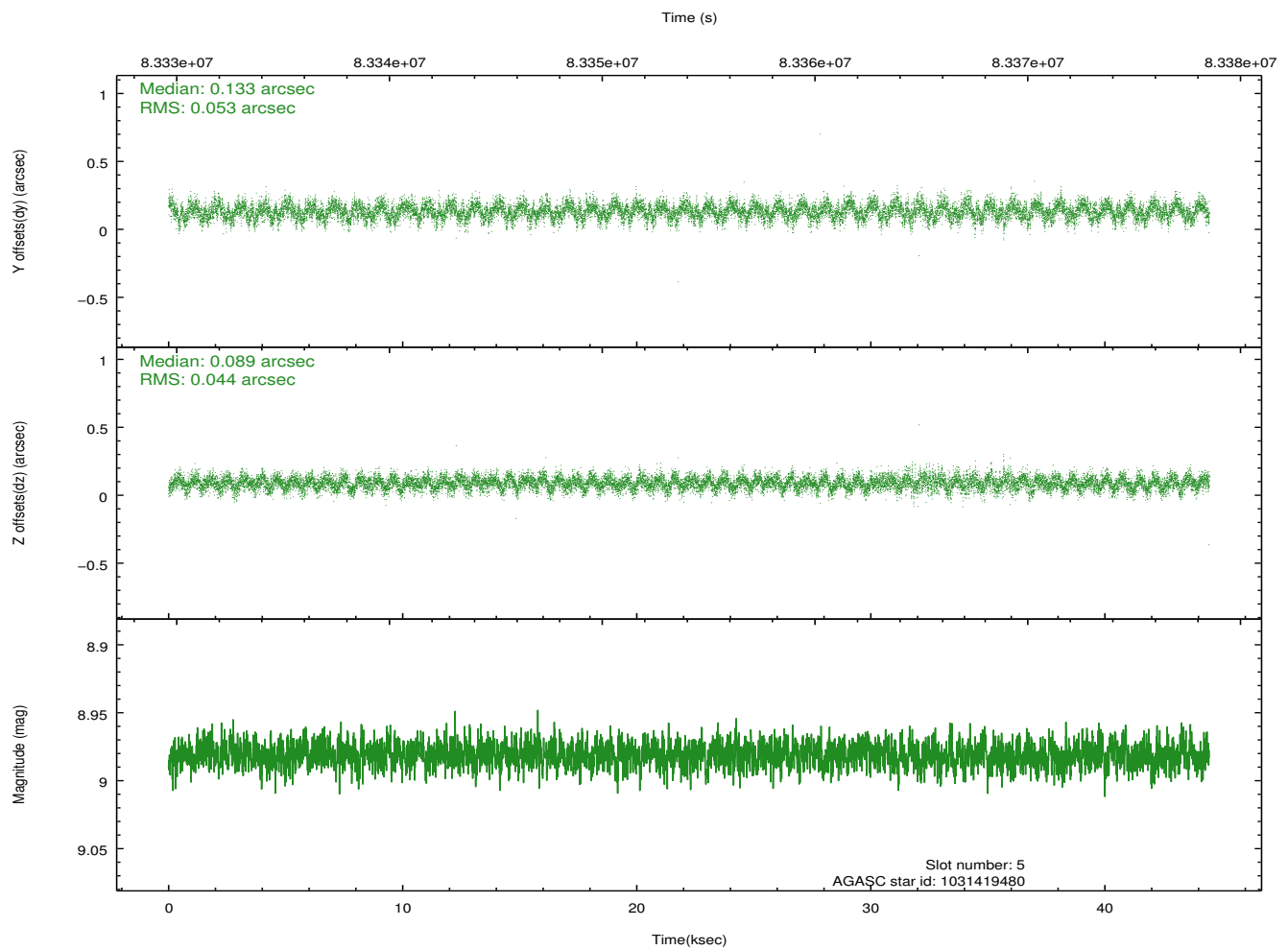
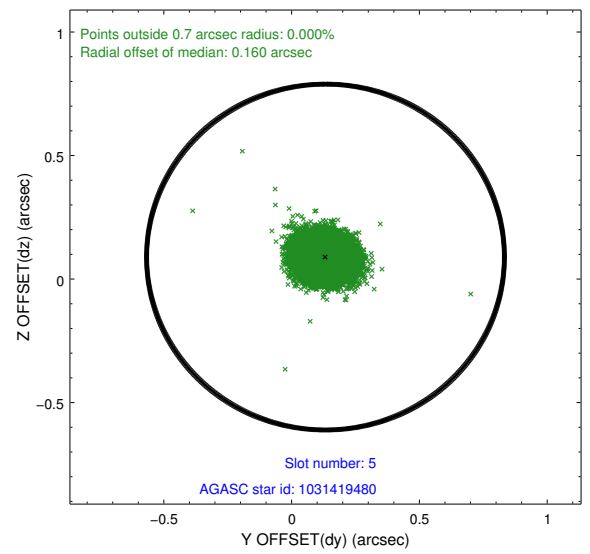
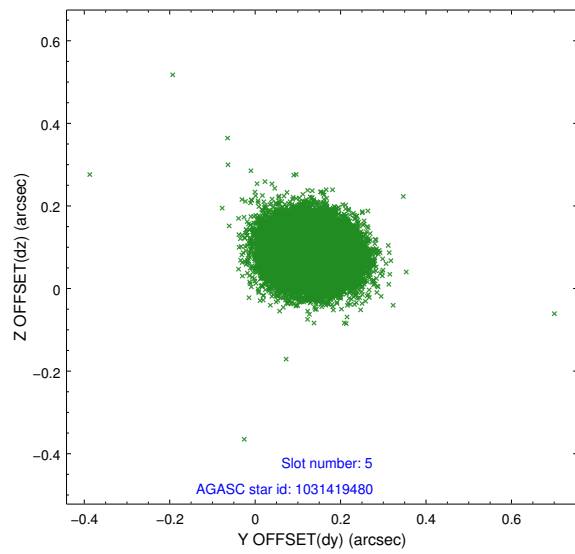
2.4.1 Slot 3



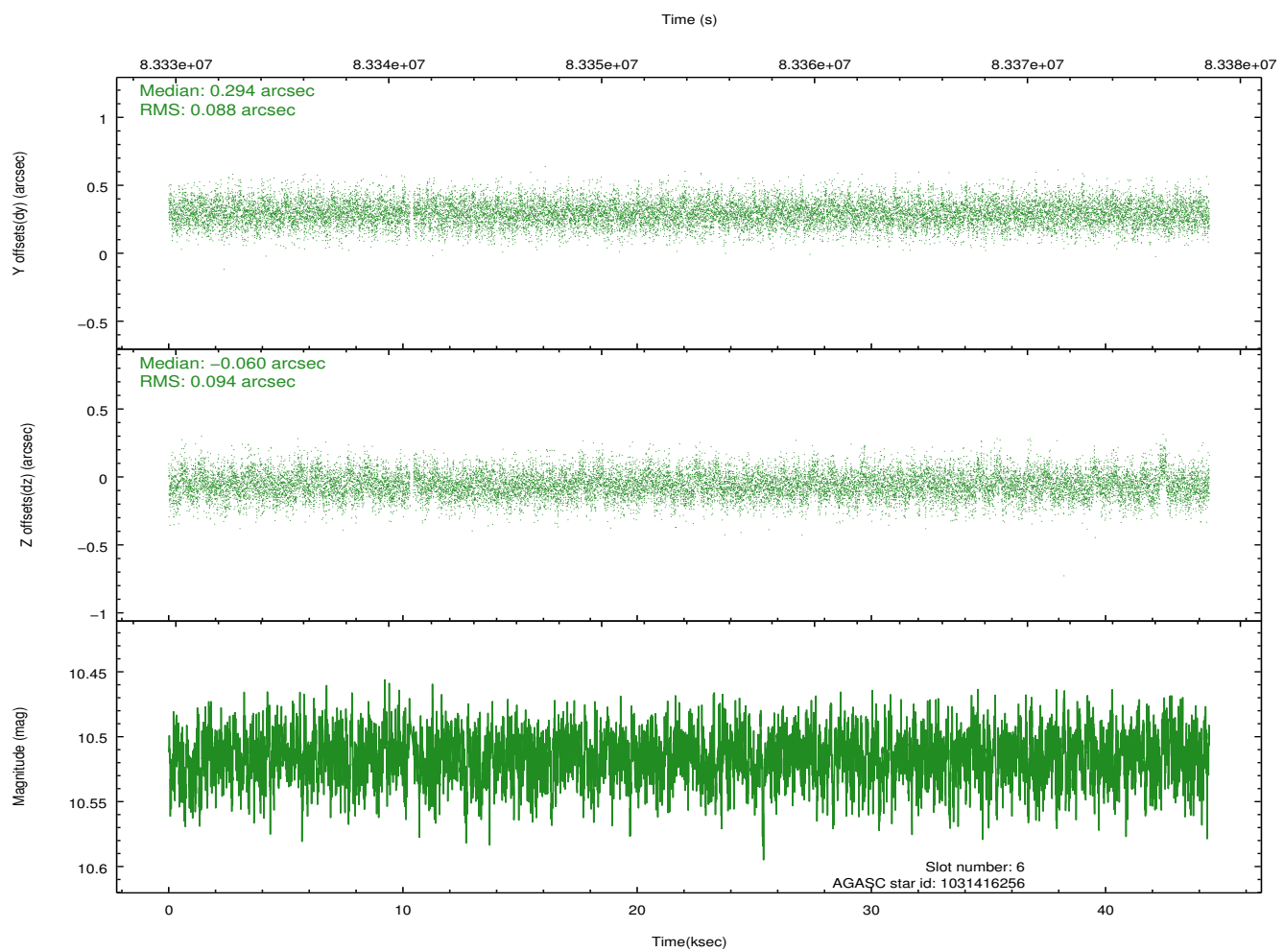
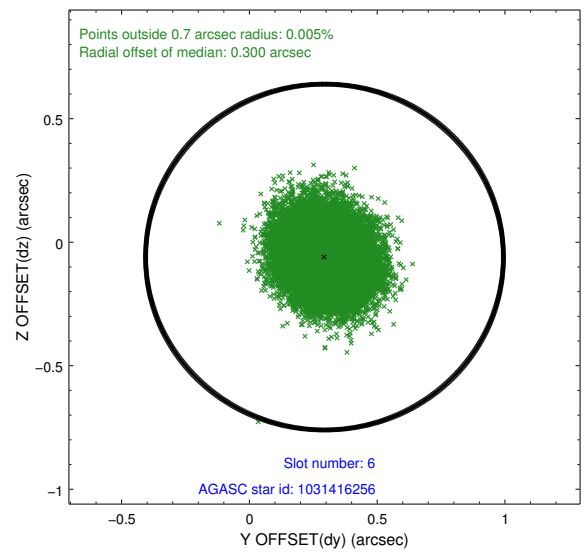
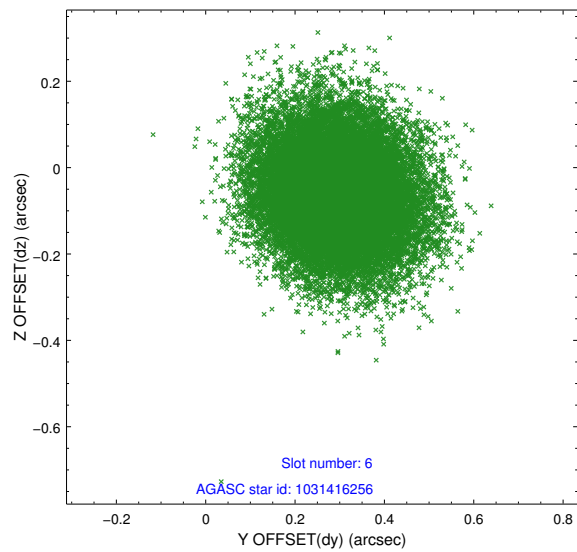
2.4.2 Slot 4



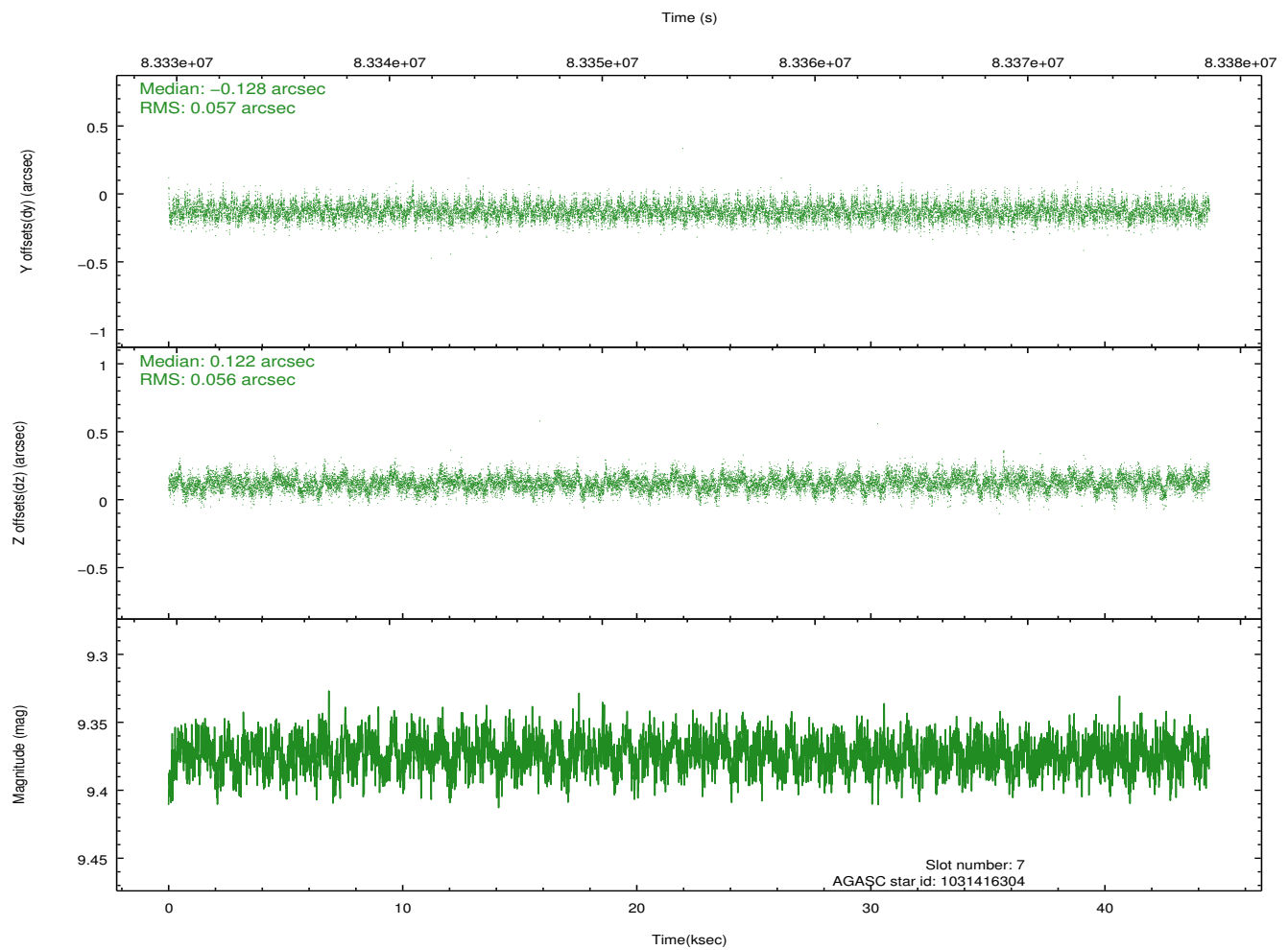
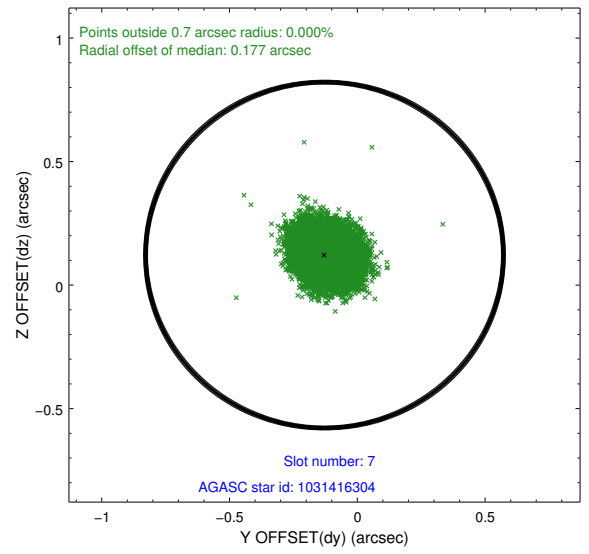
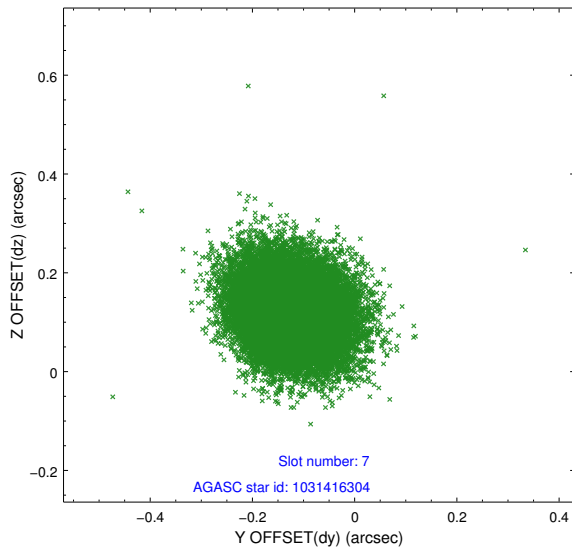
2.4.3 Slot 5



2.4.4 Slot 6

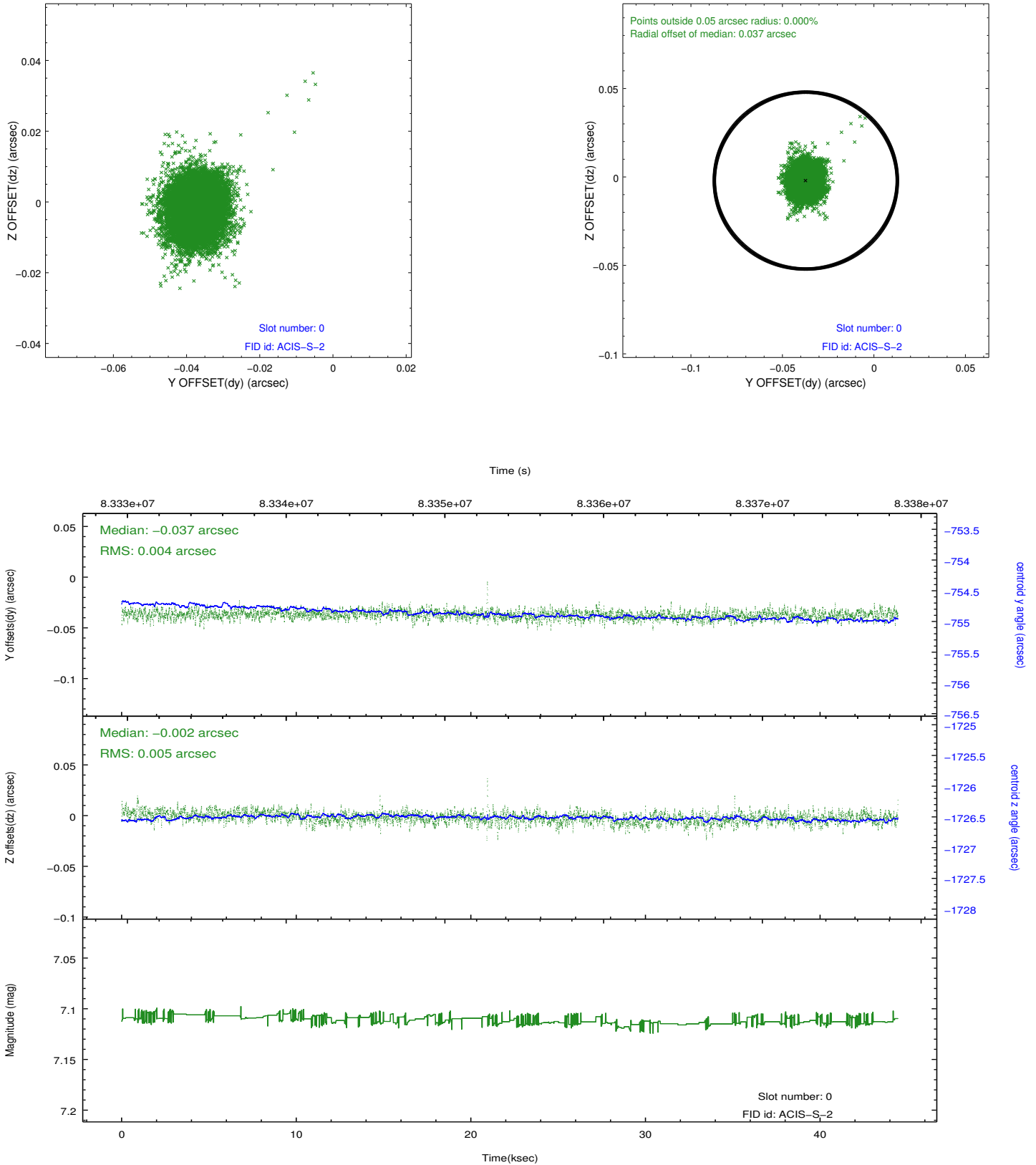


2.4.5 Slot 7

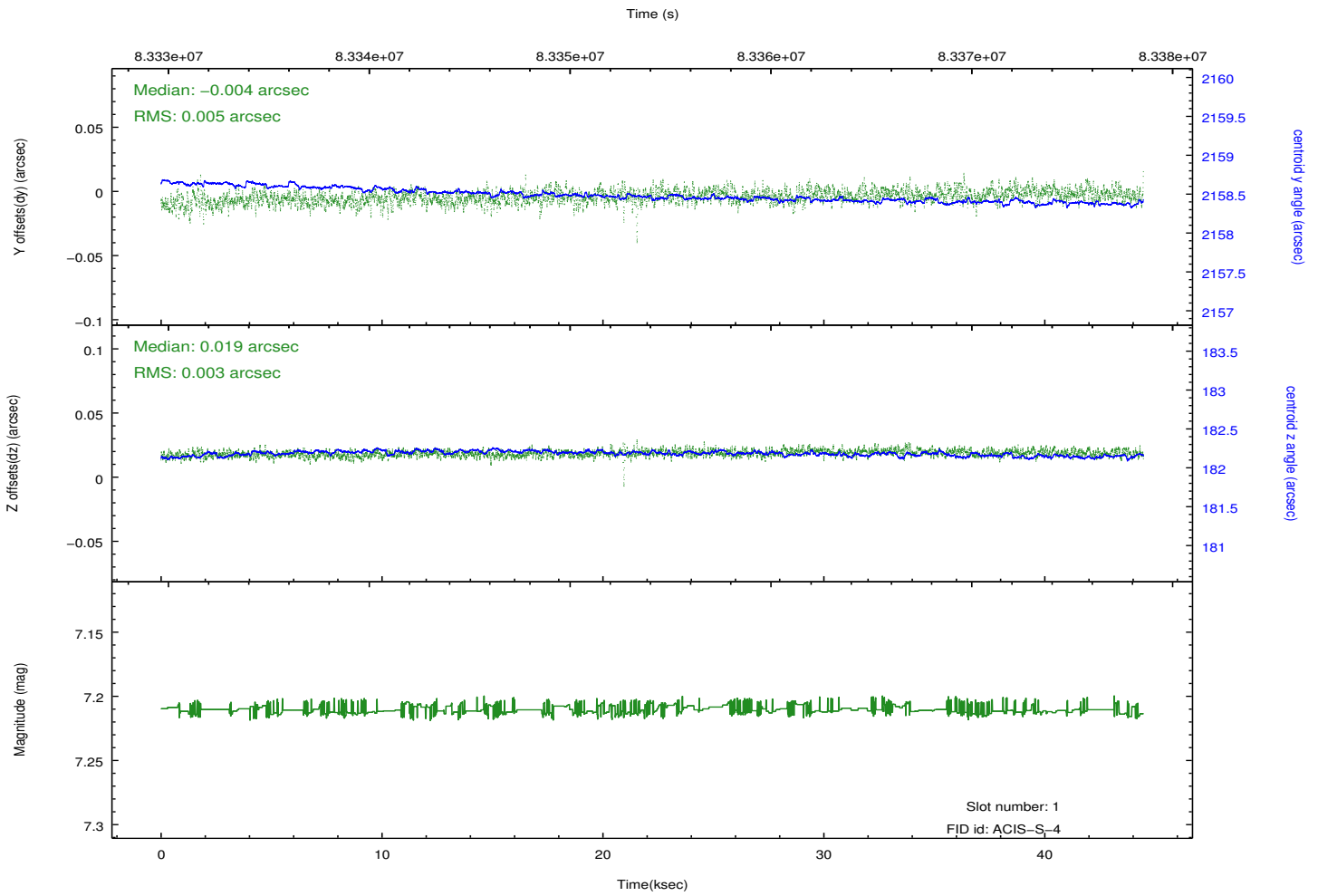
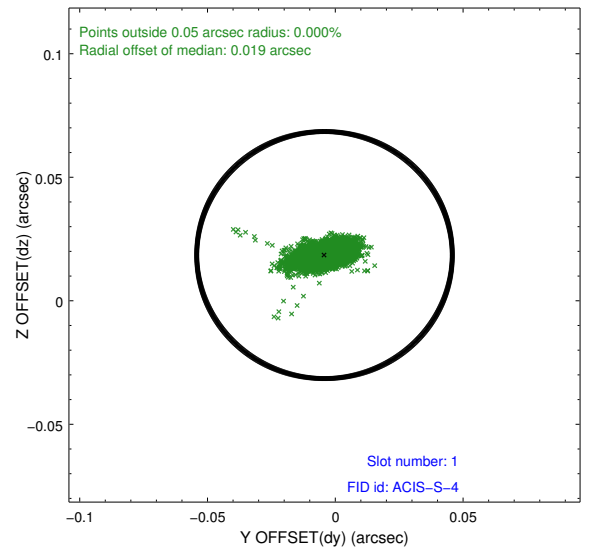
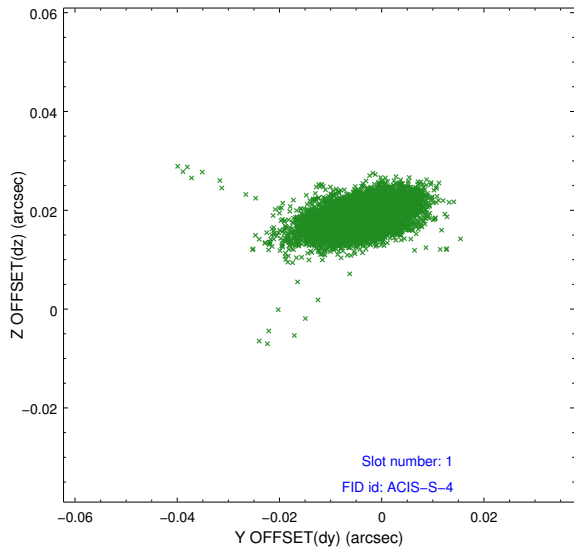


2.5 FID Slots

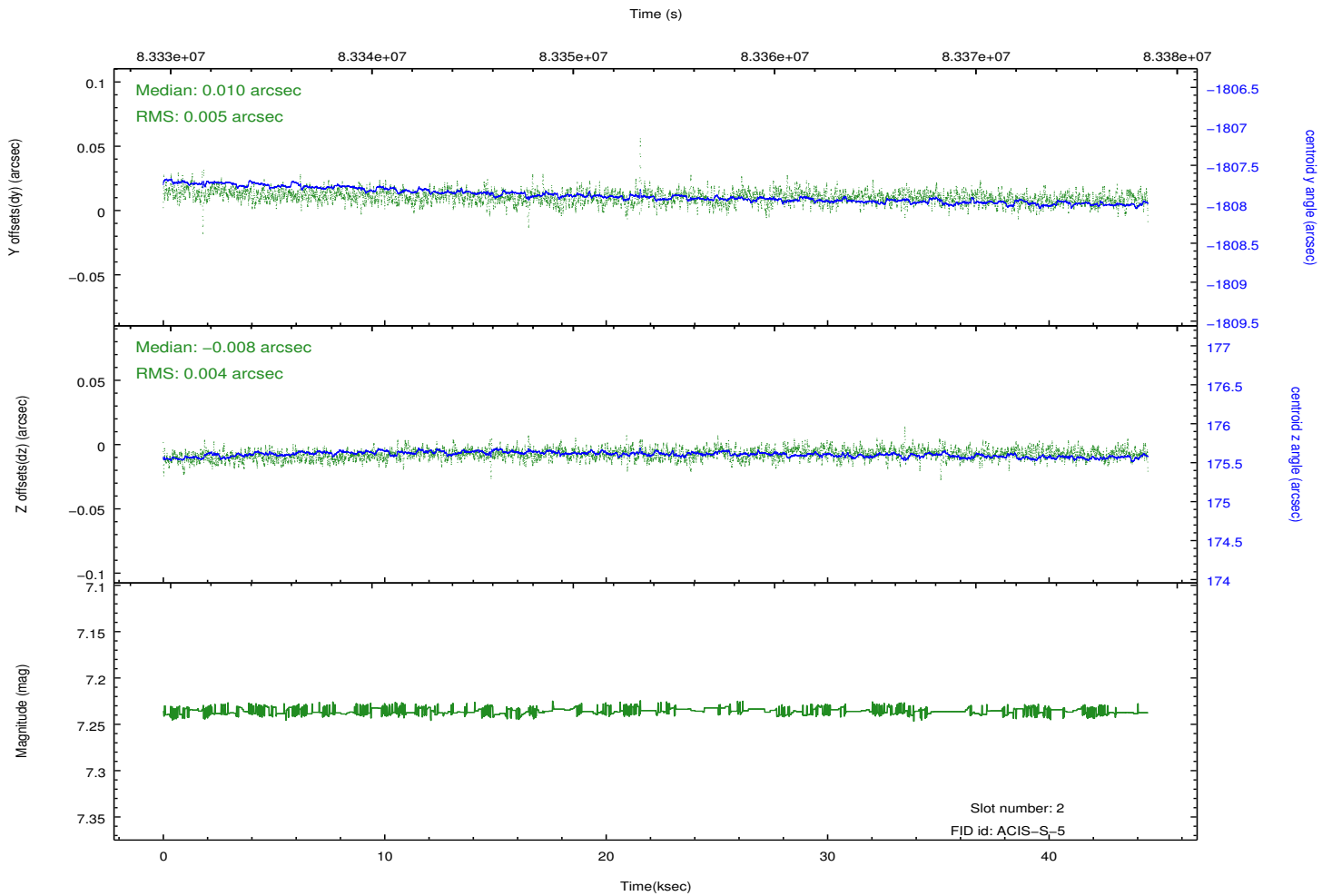
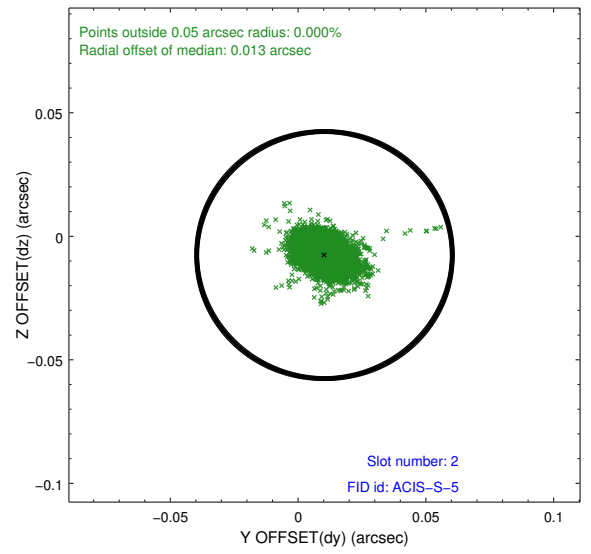
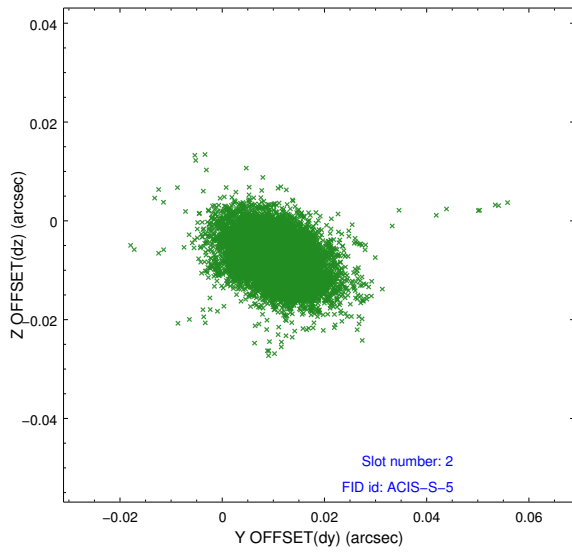
2.5.1 Slot 0



2.5.2 Slot 1

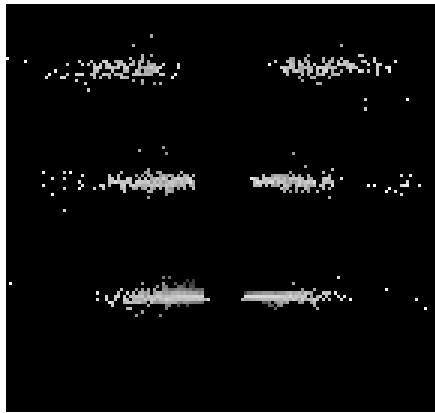


2.5.3 Slot 2

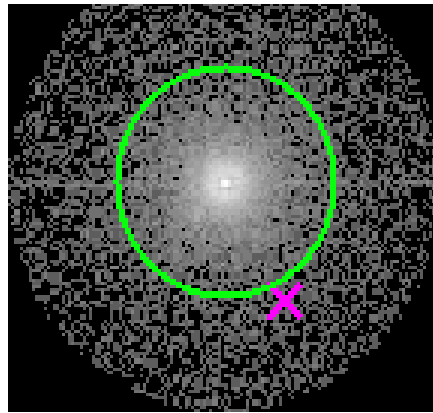


3 Gratings

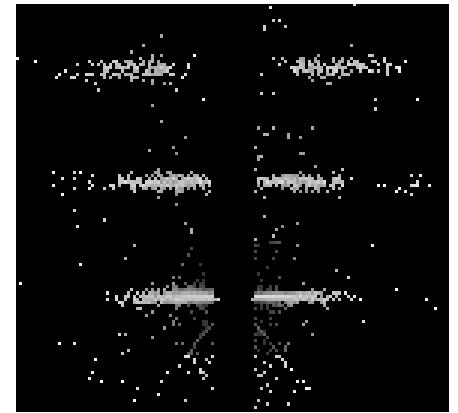
3.1 HEG Arm



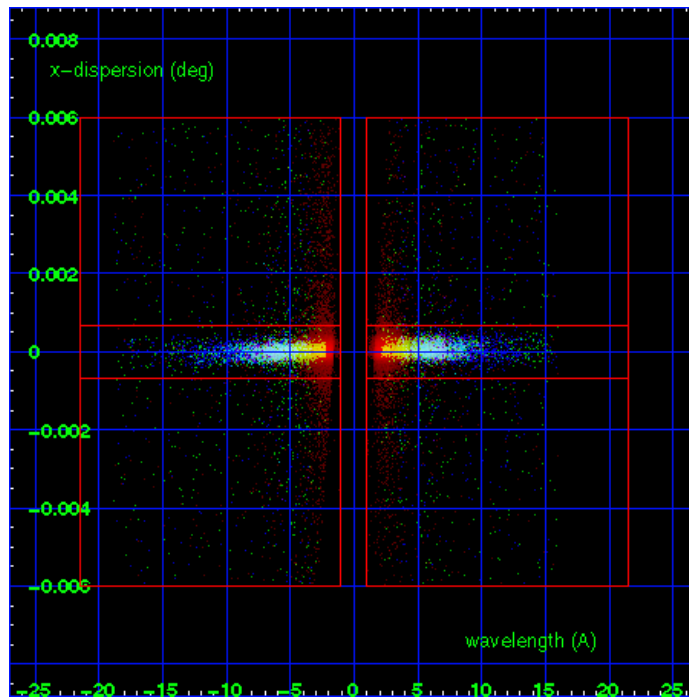
HEG Order Sort 123



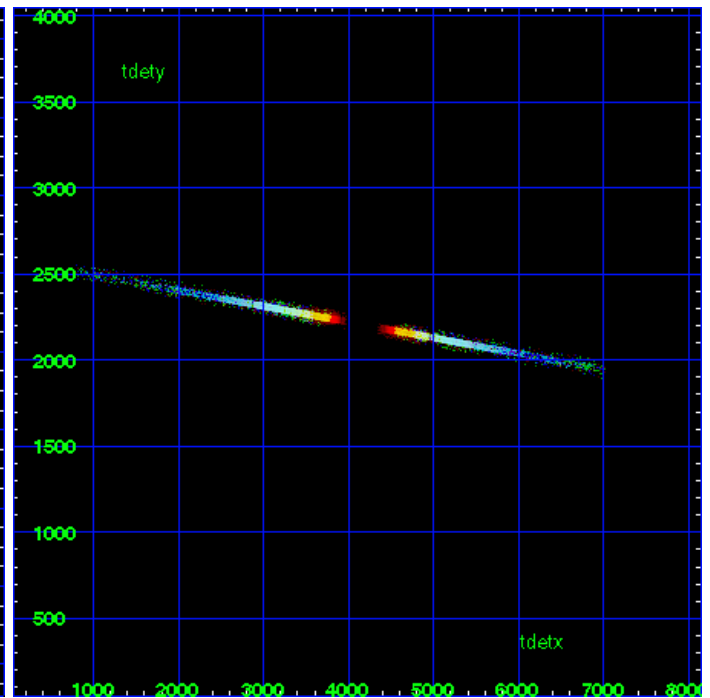
HEG Zero Order



HEG Order Sort ALL

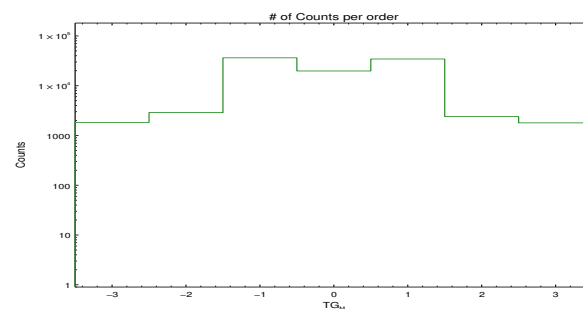


Spot Image HEG

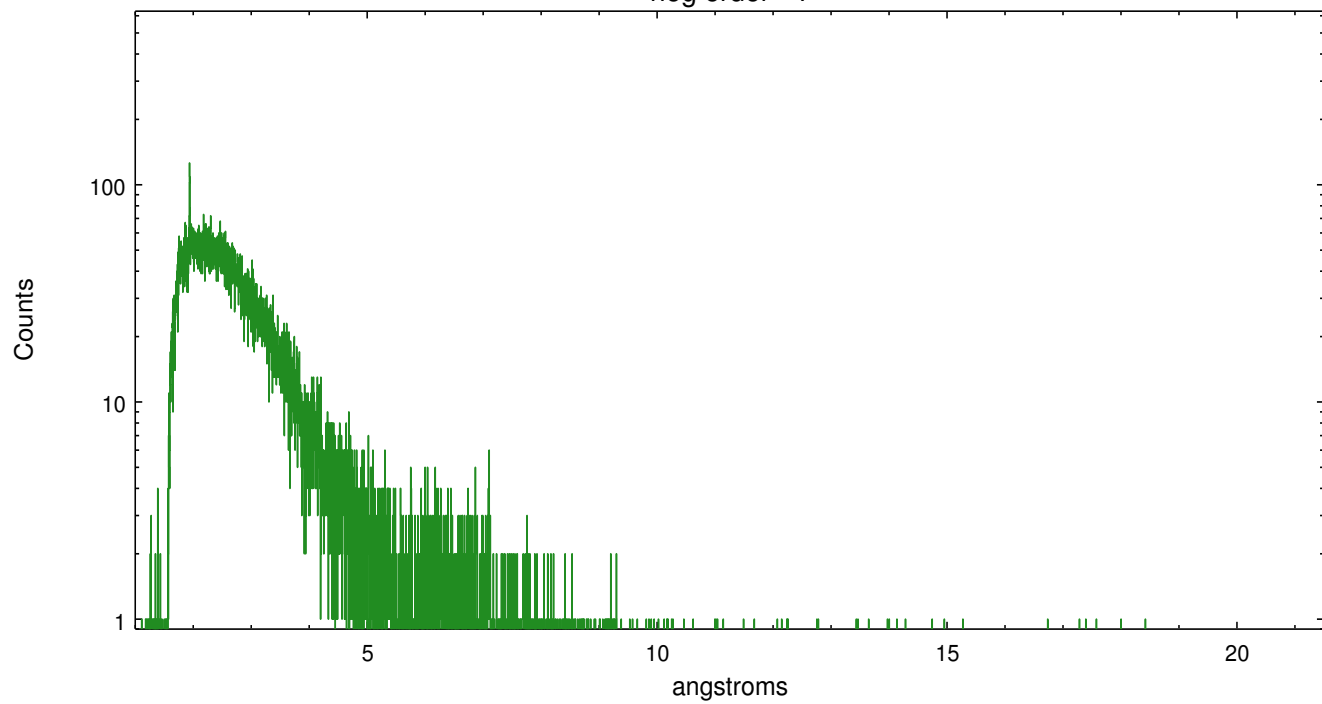


Full Detector HEG

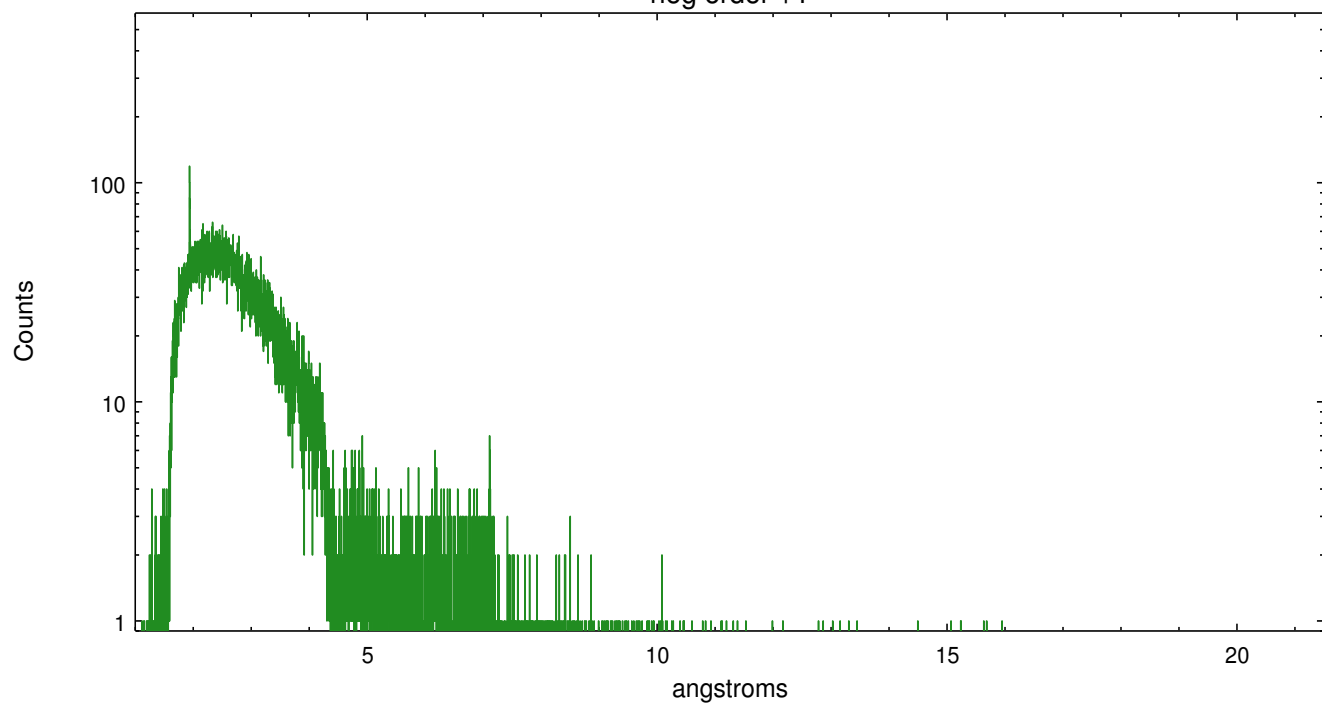
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1833	2885	36344	19778	34430	2393	1792



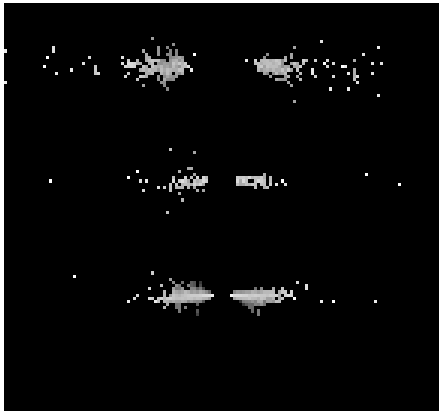
heg order -1



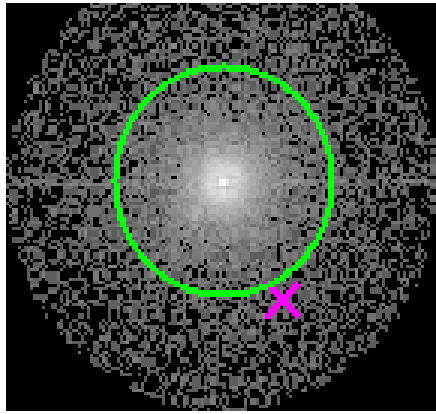
heg order +1



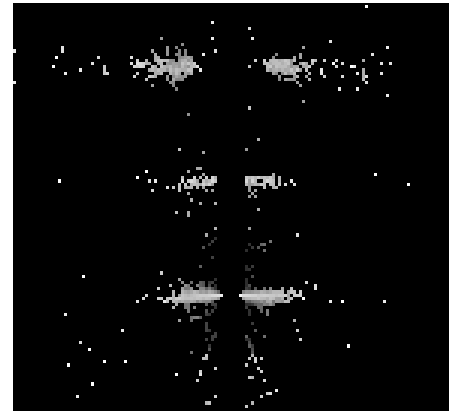
3.2 MEG Arm



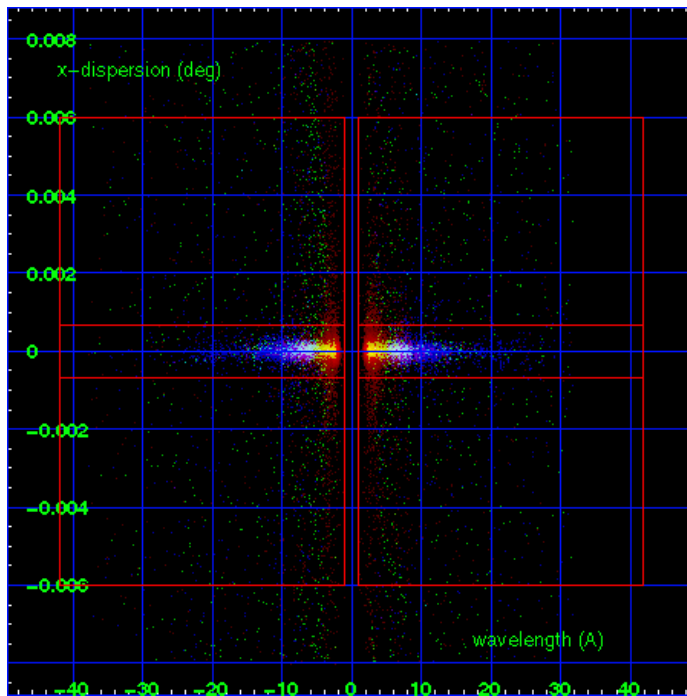
MEG Order Sort 123



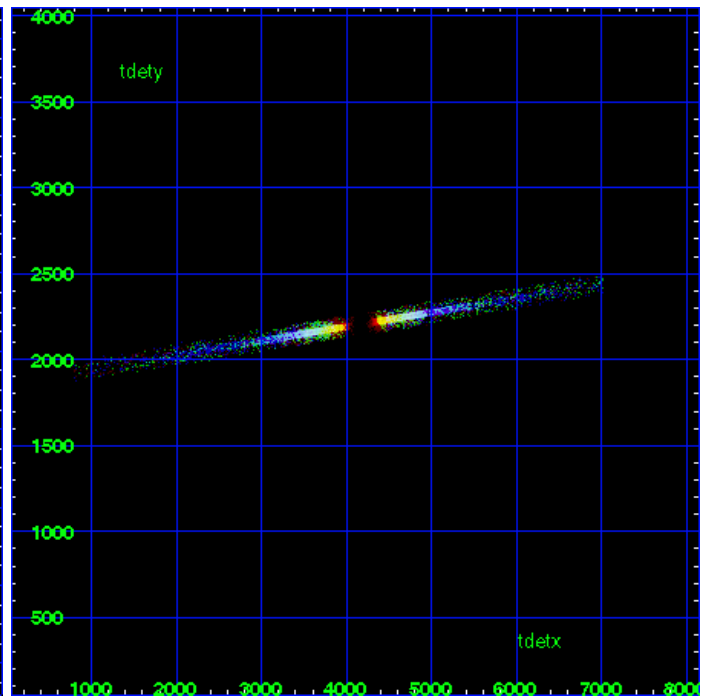
MEG Zero Order



MEG Order Sort ALL

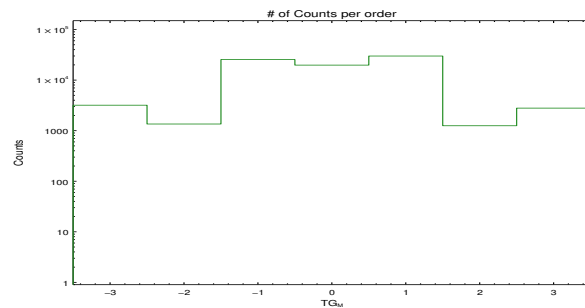


Spot Image MEG

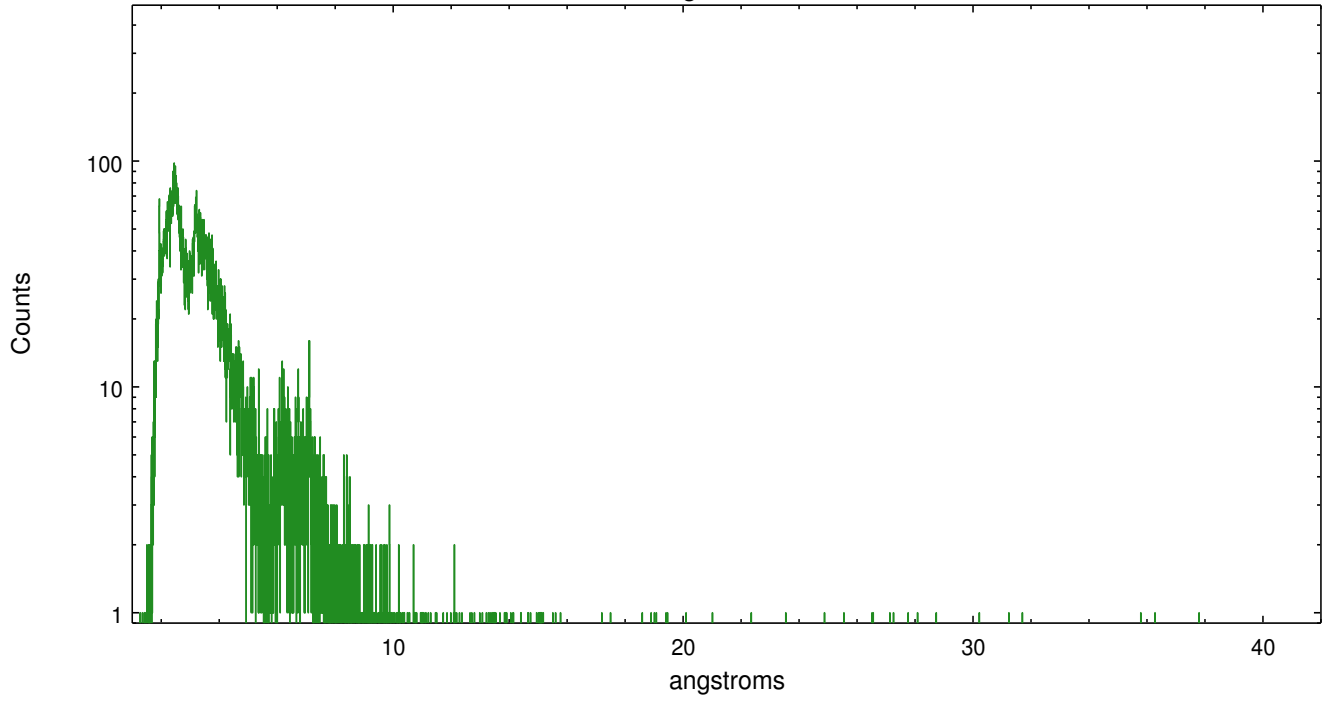


Full Detector MEG

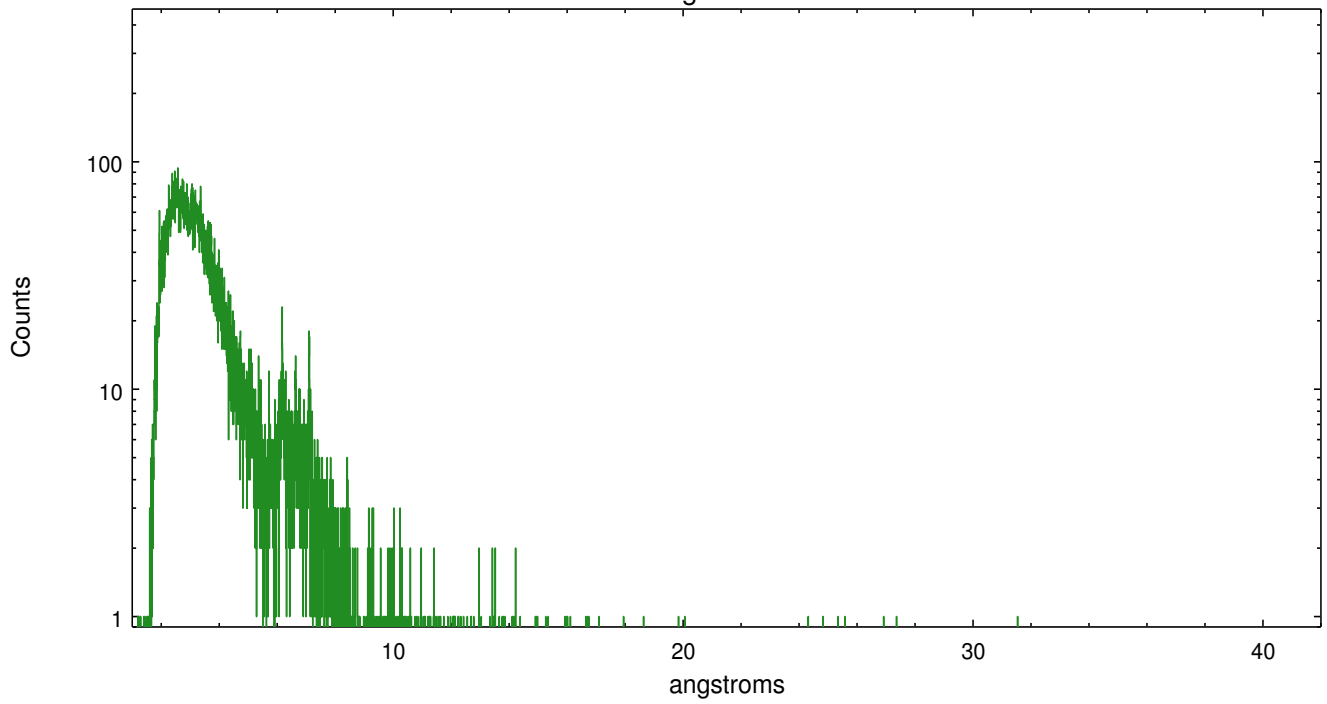
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3188	1354	25478	19778	29923	1252	2791



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	42.95

A.2 Comments

Observation phase-constrained to 0.75-0.89.

===

Zeroth order 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=4078.96, y=4127.78) 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