

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3674 - L2 Version 3
Chandra X-Ray Center

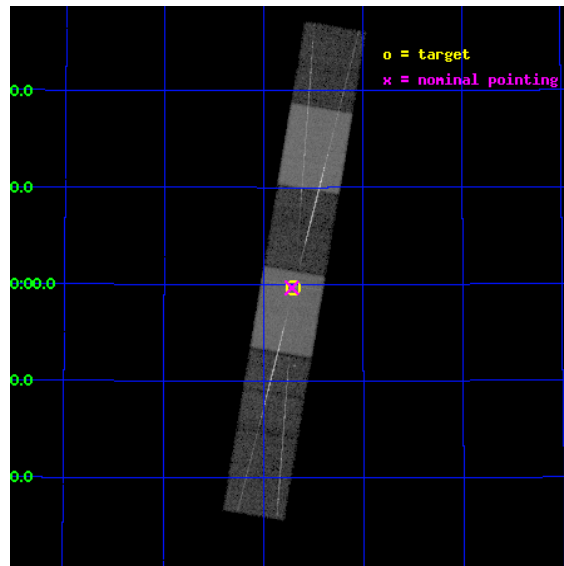
L2 Processing Date : Nov 5 2012

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1 Front

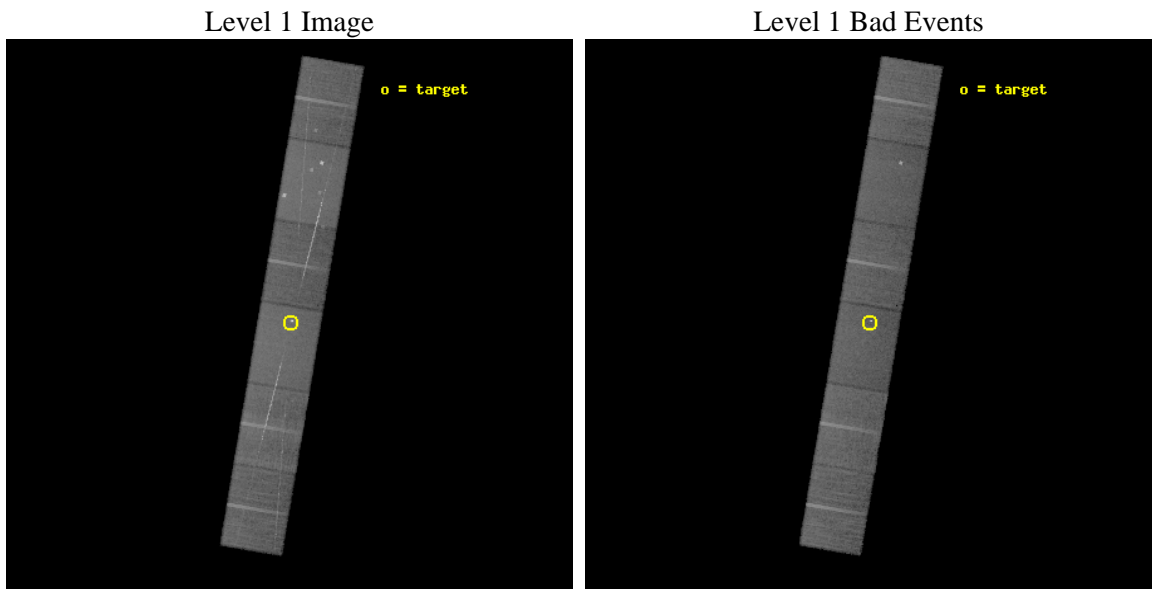
seq_num	290228	Sequence number
obs_id	3674	Observation id
title	AO4 CALIBRATION OBSERVATIONS OF CAPELLA	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	CAPELLA	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA [deg]
dec_targ	45.995111	Observer's specified target Dec [deg]
ra_nom	79.178961209281	Nominal RA [deg]
dec_nom	45.993944638585	Nominal Dec [deg]
roll_nom	99.615729756533	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29147.5	Sum of GTIs [s]
livetime	28676.742593584	Livetime [s]
ontime4	29147.5	Sum of GTIs [s]
ontime5	29147.5	Sum of GTIs [s]
ontime6	29147.5	Sum of GTIs [s]
ontime7	29147.5	Sum of GTIs [s]
ontime8	29147.5	Sum of GTIs [s]
ontime9	29147.5	Sum of GTIs [s]
l2events	295417	Number of level 2 events



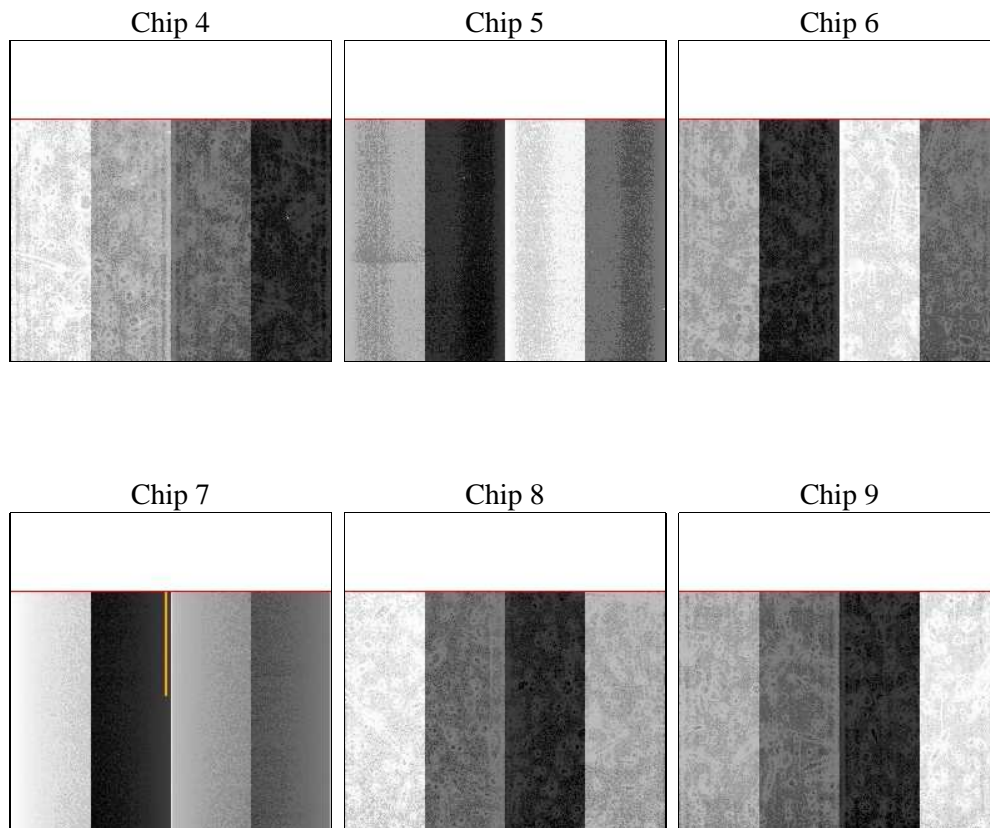
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	29147.5	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	29147.5	Sum of GTIs [s]
date	2012-11-04T12:54:33	Date and time of file creation	ontime5	29147.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	29147.5	Sum of GTIs [s]
			ontime7	29147.5	Sum of GTIs [s]
			ontime8	29147.5	Sum of GTIs [s]
			ontime9	29147.5	Sum of GTIs [s]
			l1events	1204994	Number of level 1 events

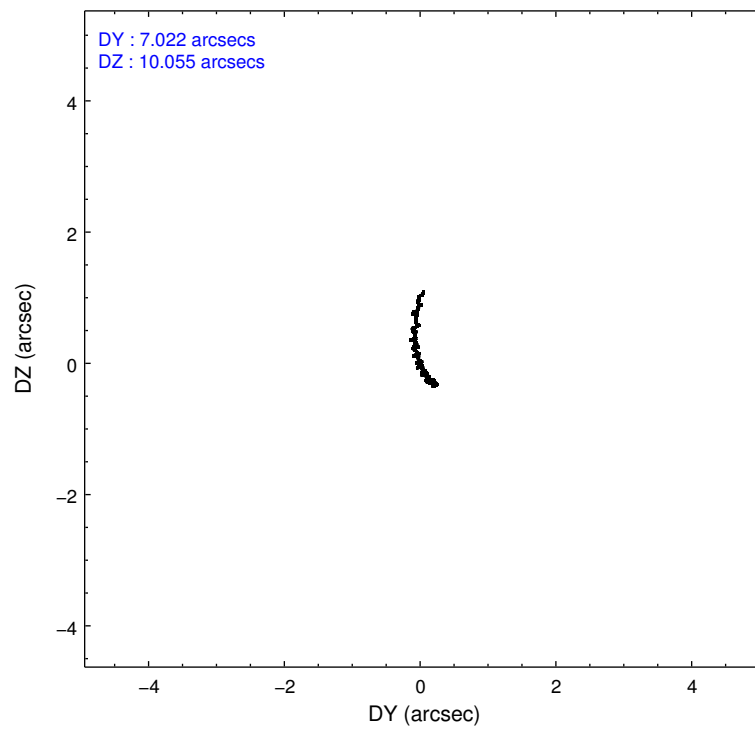
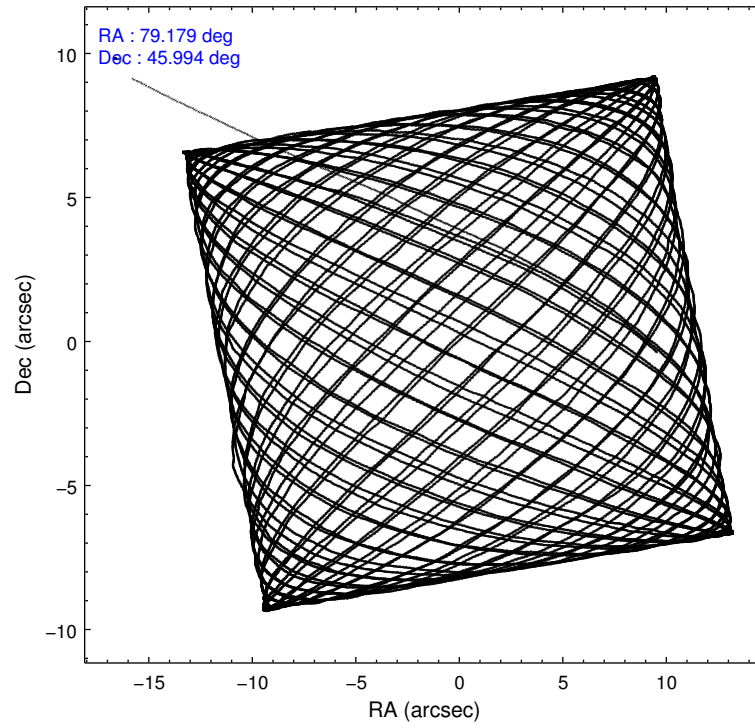
2.1.4 Events

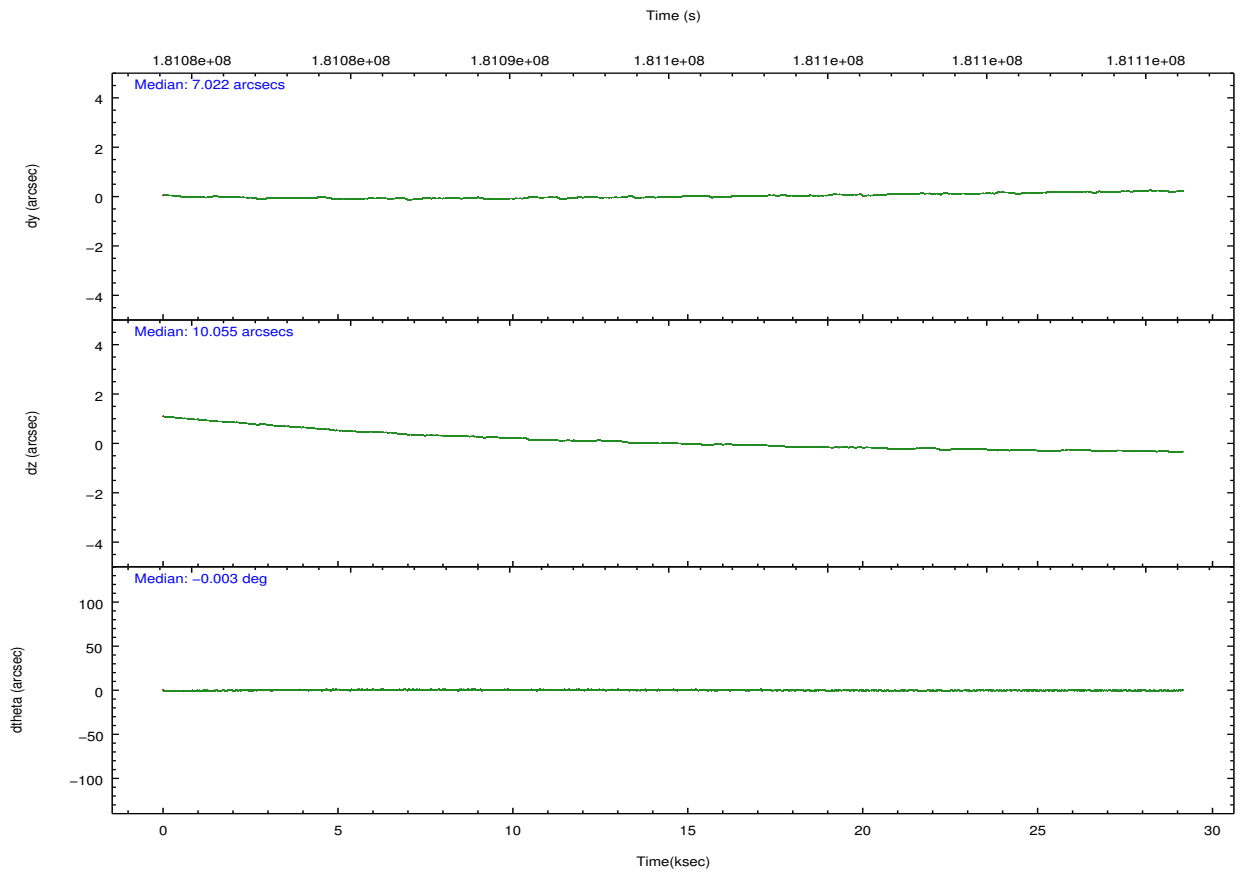
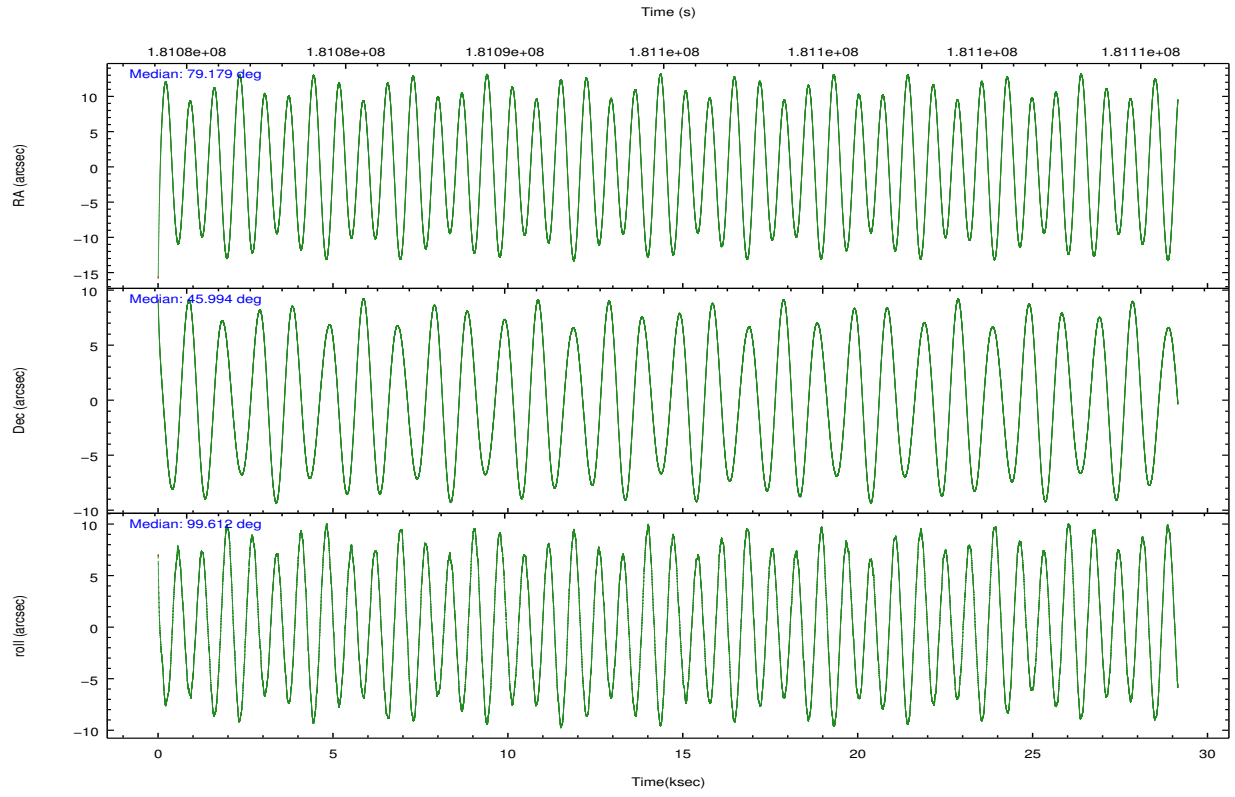
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	175024	253304	167094	236384	212488	160700	grade 0 events	11870	24236	18350	12257	26492	11003
rejected events	153139	131763	136867	140829	157877	139229		6%	9%	10%	5%	12%	6%
rejected %	87%	52%	81%	59%	74%	86%	grade 1 events	120	582	101	2030	184	84
								0%	0%	0%	0%	0%	0%
							grade 2 events	4221	36764	4793	21473	10182	3909
								2%	14%	2%	9%	4%	2%
							grade 3 events	2045	6969	2236	9827	4713	2089
								1%	2%	1%	4%	2%	1%
							grade 4 events	1953	6552	2203	9667	4669	2005
								1%	2%	1%	4%	2%	1%
							grade 5 events	6418	19127	6921	22397	9038	7288
								3%	7%	4%	9%	4%	4%
							grade 6 events	3137	54778	3832	50783	11031	3627
								1%	21%	2%	21%	5%	2%
							grade 7 events	145260	104296	128658	107950	146179	130695
								82%	41%	76%	45%	68%	81%

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	79.204362	79.17896120928089	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	45.973194	45.99394463858494	Subarray start row	1	1
[deg] Pointing Roll	99.440841	99.61572975653287	Subarray row count	774	774
[s] Window start time (MET)	176083264.184000	176083264.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	186537664.184000	186537664.184000	[s] Primary exposure time	0.000000	2.5
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	181080715.184000	181078687.99233			
Observation start date	2003-09-27T20:10:51	2003-09-27T19:38:07			
[s] Observation end time (MET)	181109715.184000	181110190.85618			
Observation end date	2003-09-28T04:14:11	2003-09-28T04:23:10			
Read mode	TIMED	TIMED			

2.3 Aspect



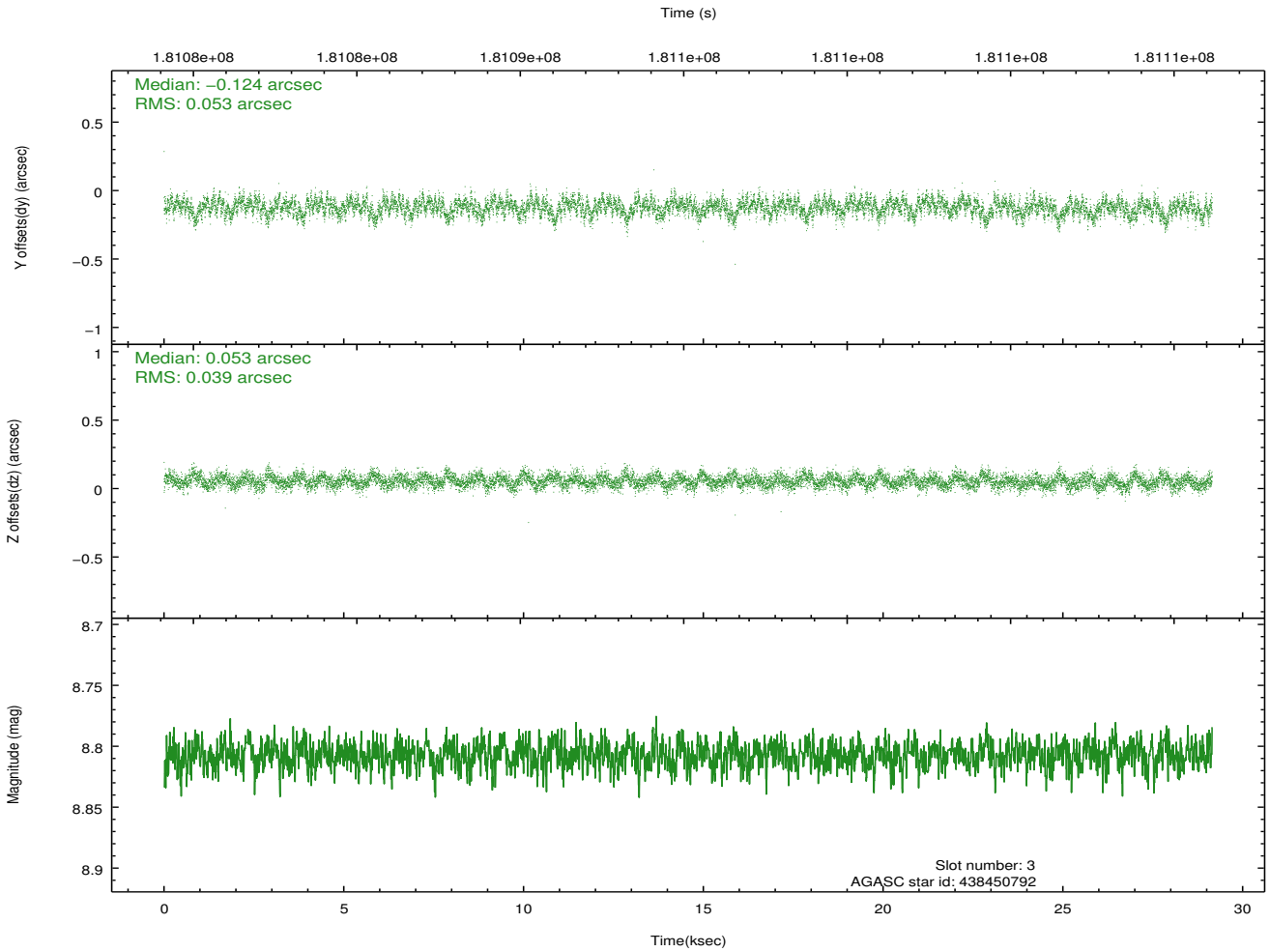
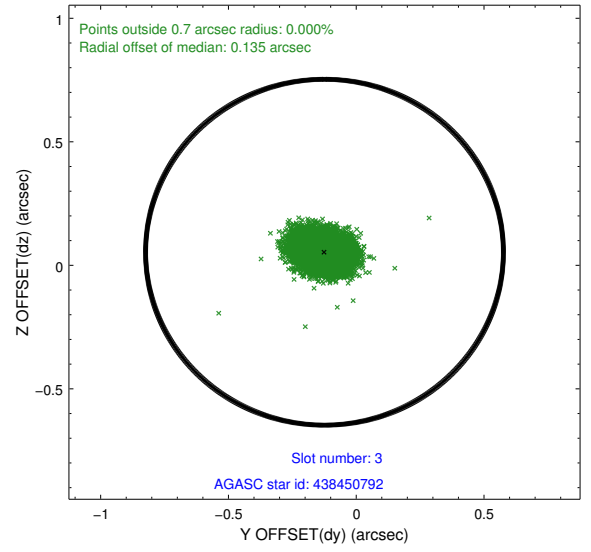
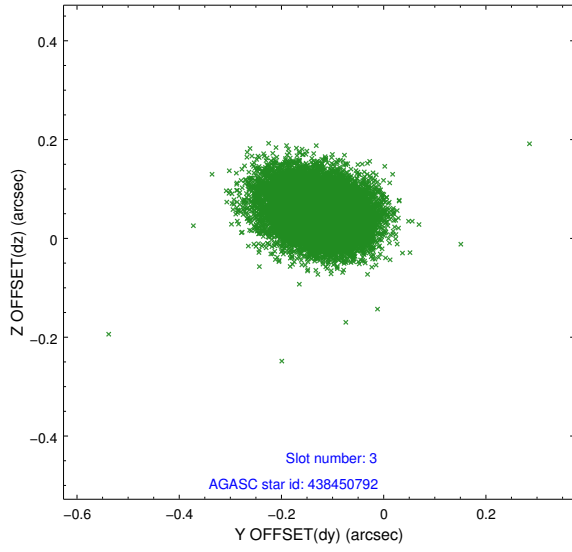


Slot Statistics

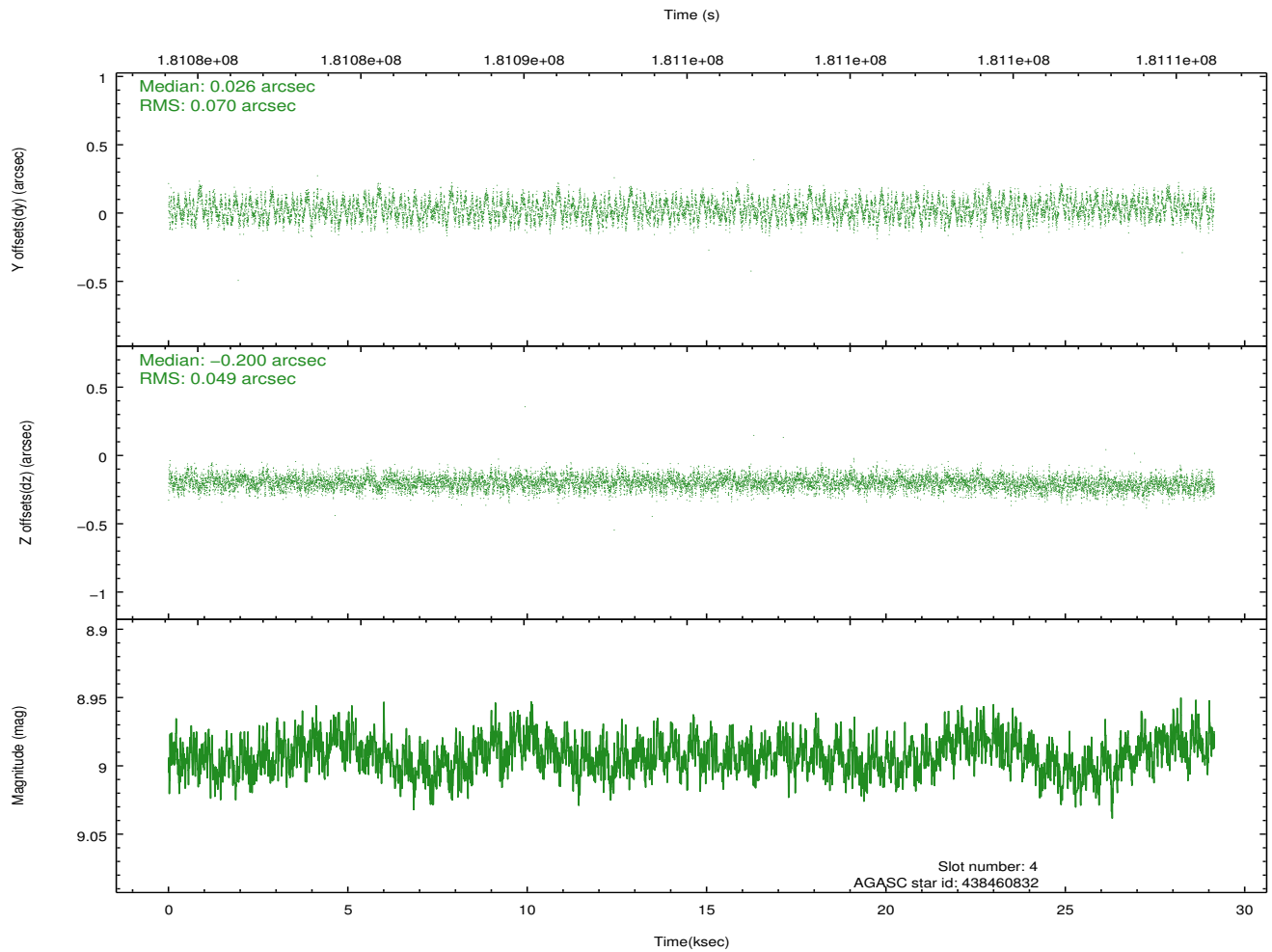
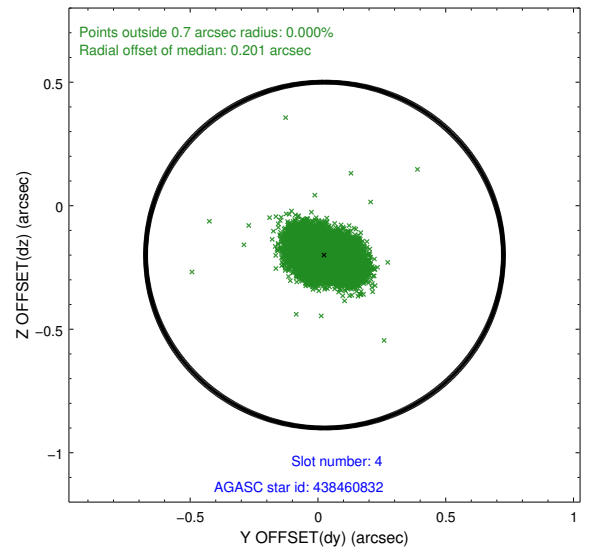
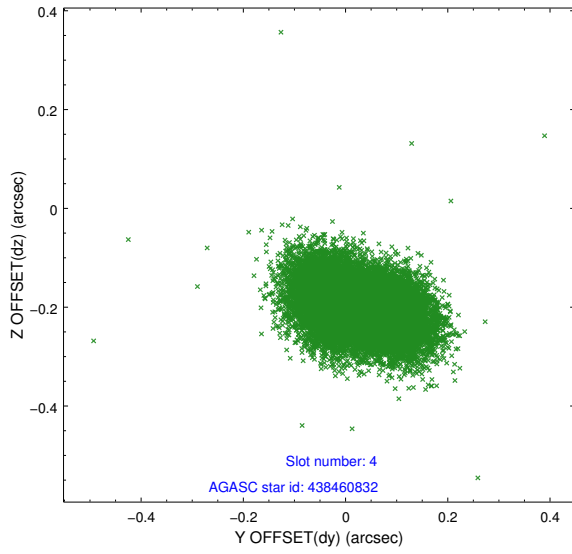
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	7111	-0.051	-0.077	0.015	0.029	0.000000	0.000000	-759.67	-1793.62
1	FID	ACIS-S-4	7.19	7111	0.082	0.046	0.009	0.028	0.000000	0.000000	2153.72	114.85
2	FID	ACIS-S-5	7.23	7111	-0.061	0.040	0.013	0.025	0.000000	0.000000	-1812.39	108.65
3	GUIDE	438450792	8.81	14221	-0.124	0.053	0.069	0.115	78.654240	46.382628	1682.19	1105.44
4	GUIDE	438460832	8.99	14212	0.026	-0.200	0.092	0.143	78.414614	45.554782	-1149.62	2209.26
5	GUIDE	440149808	8.45	14219	-0.055	0.073	0.061	0.099	78.873930	46.405955	1673.04	553.80
6	GUIDE	440164960	8.33	14215	0.063	-0.188	0.067	0.108	79.132526	46.140947	625.30	77.72
7	GUIDE	440145944	9.09	14214	0.093	0.263	0.082	0.133	80.083717	45.428844	-2285.16	-1871.90

2.4 Star Slots

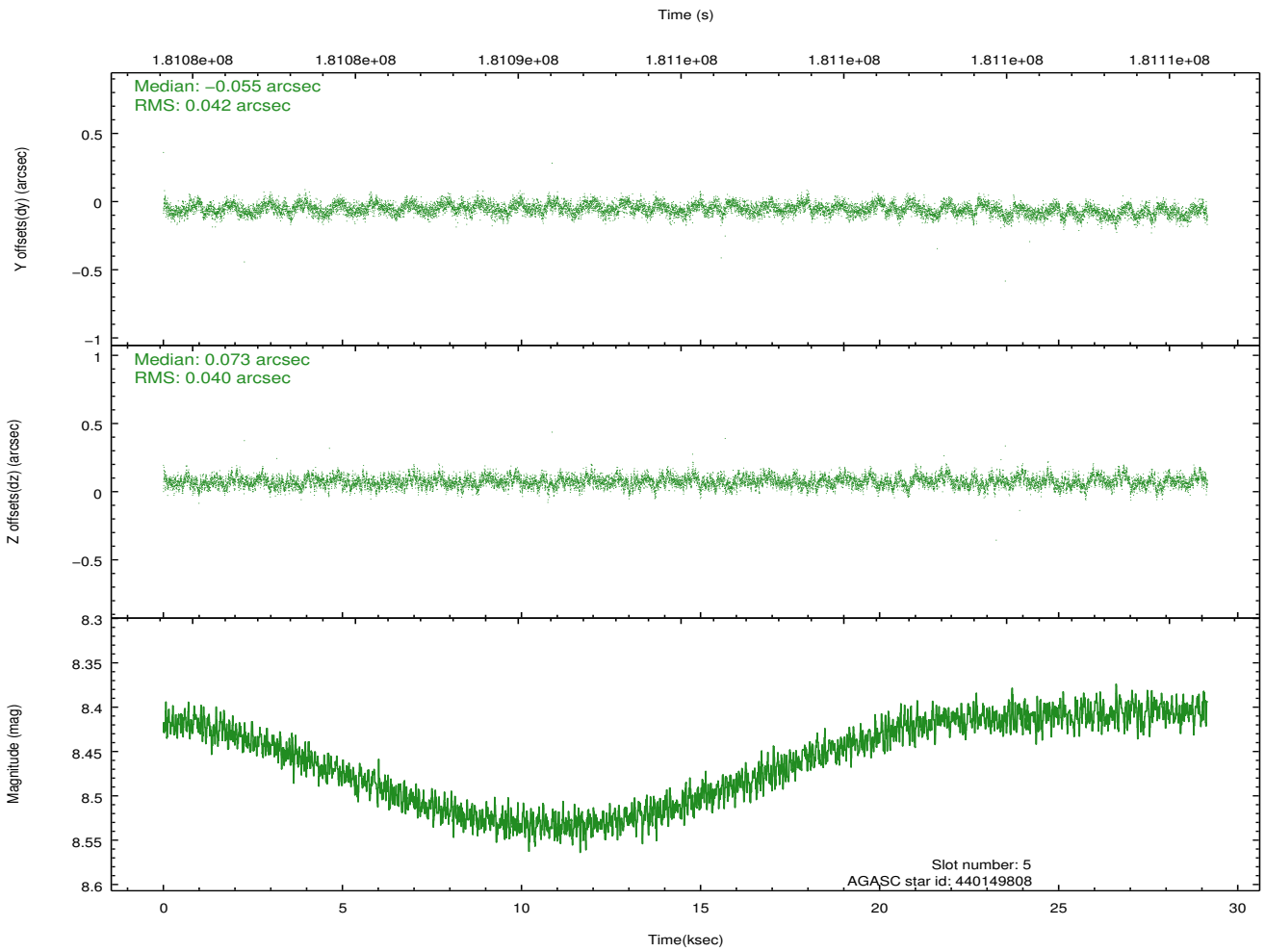
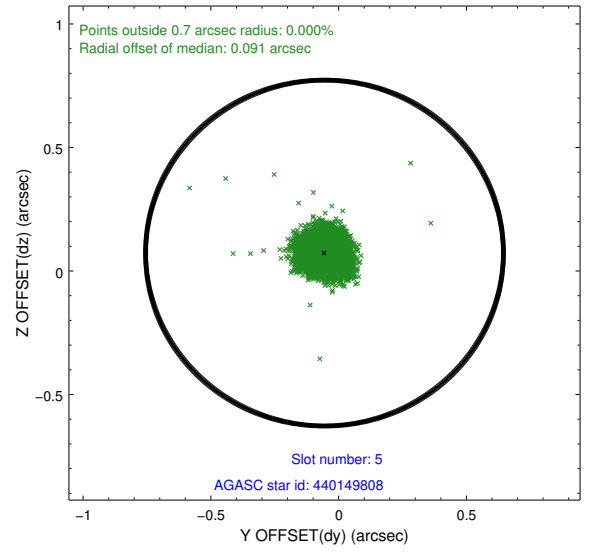
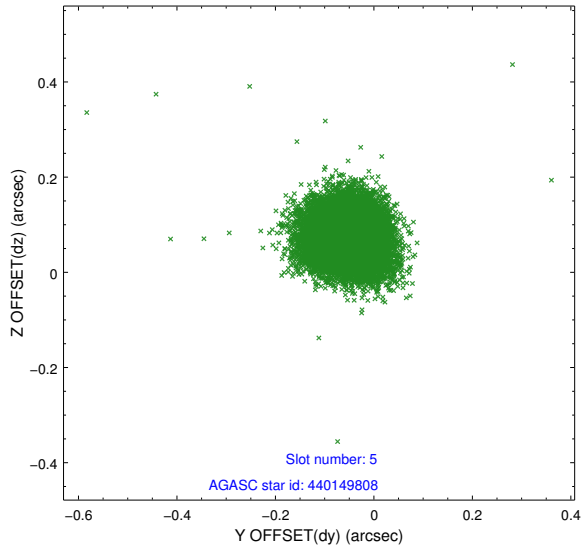
2.4.1 Slot 3



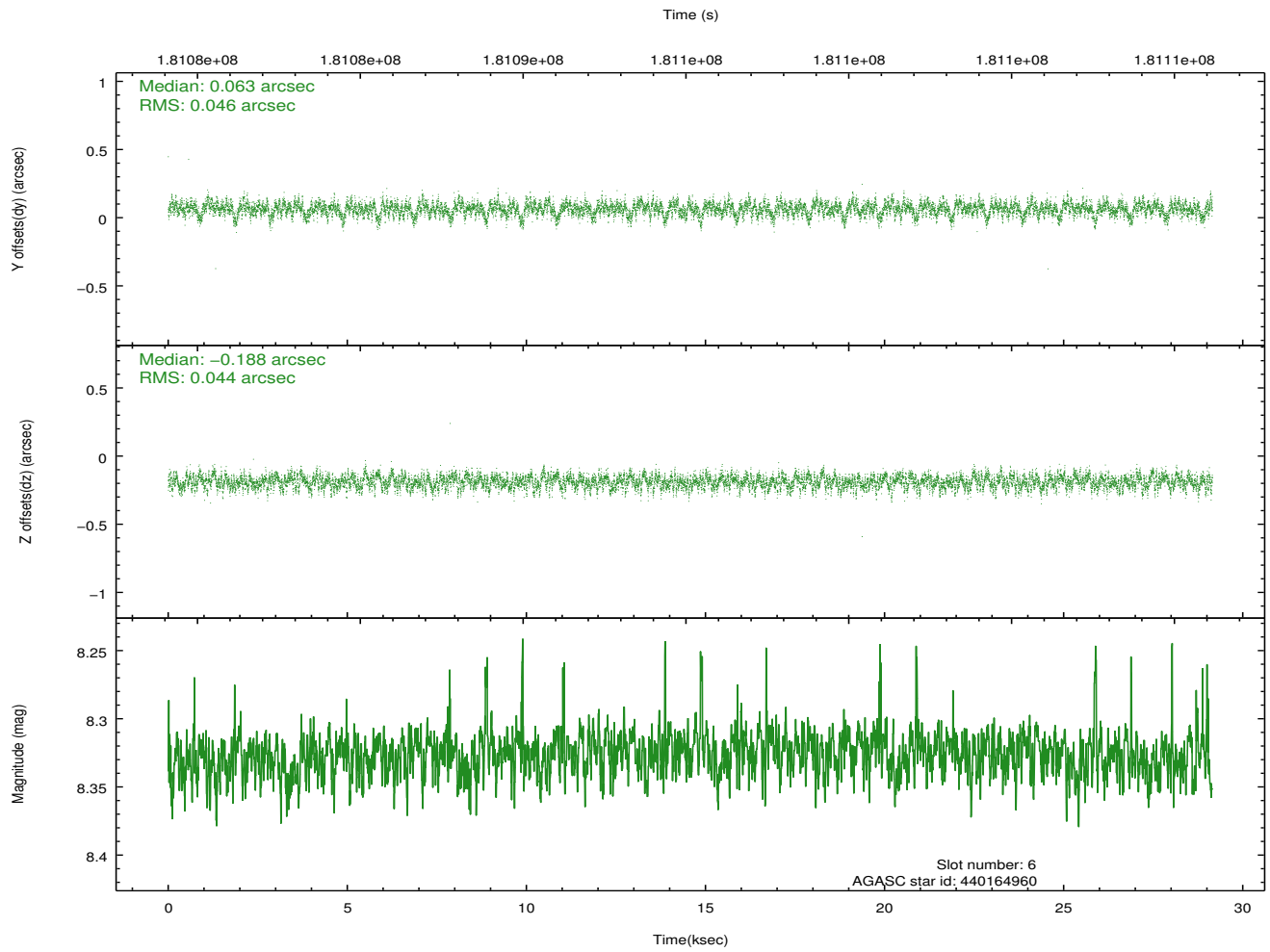
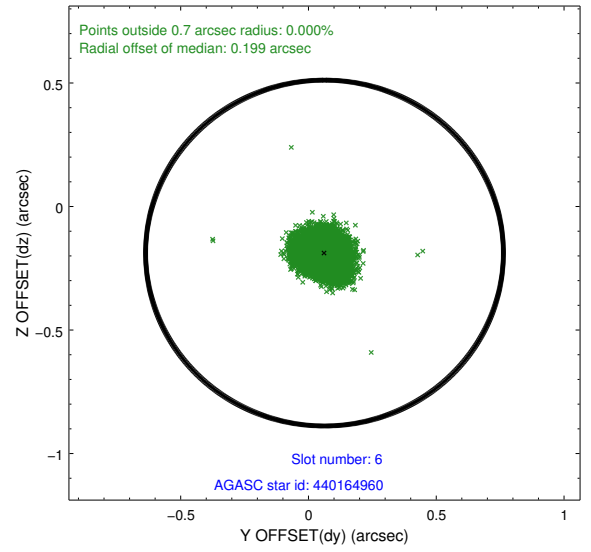
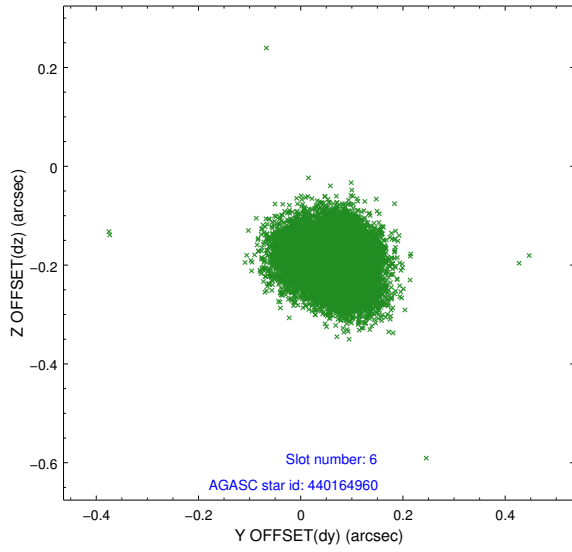
2.4.2 Slot 4



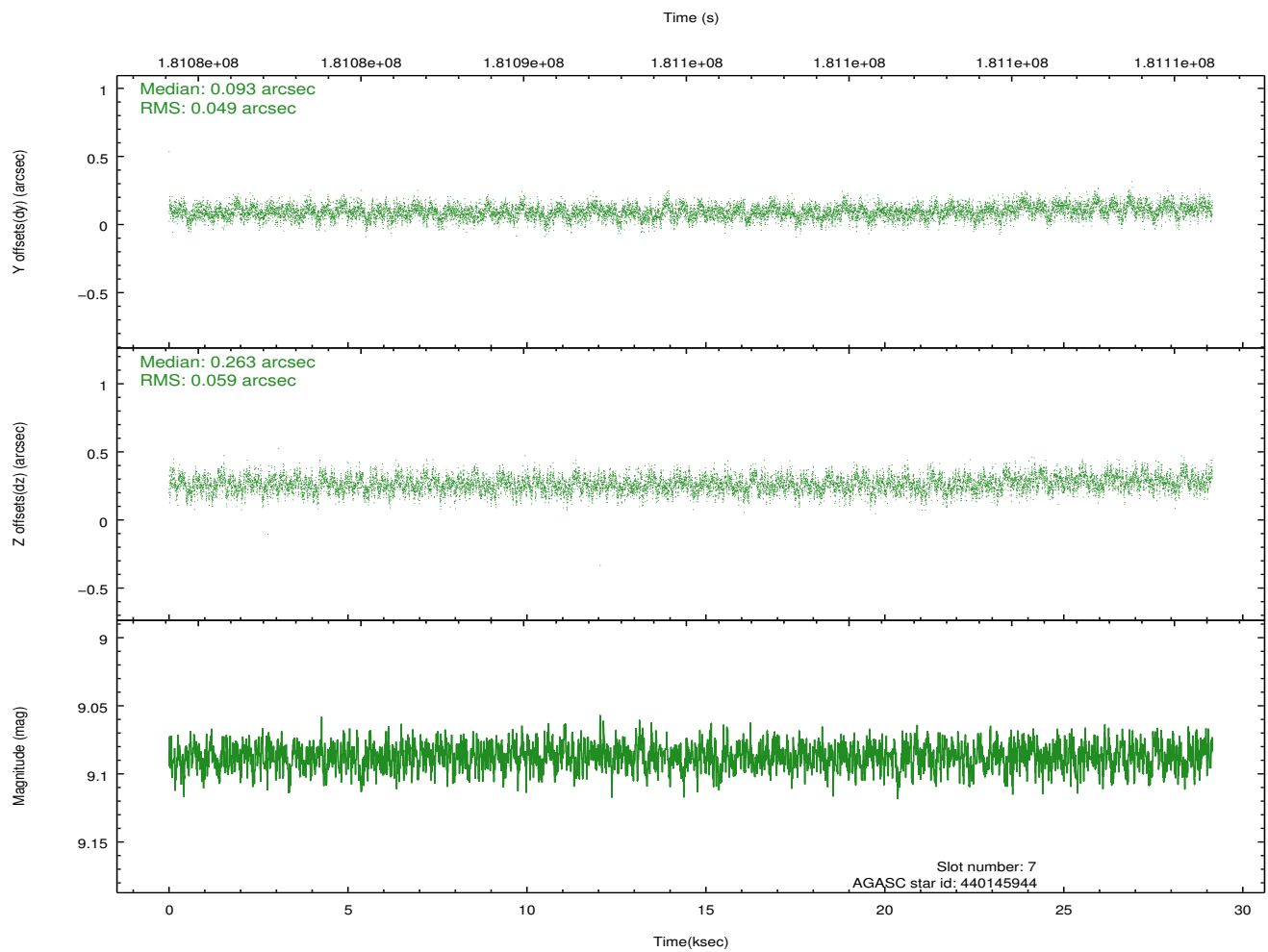
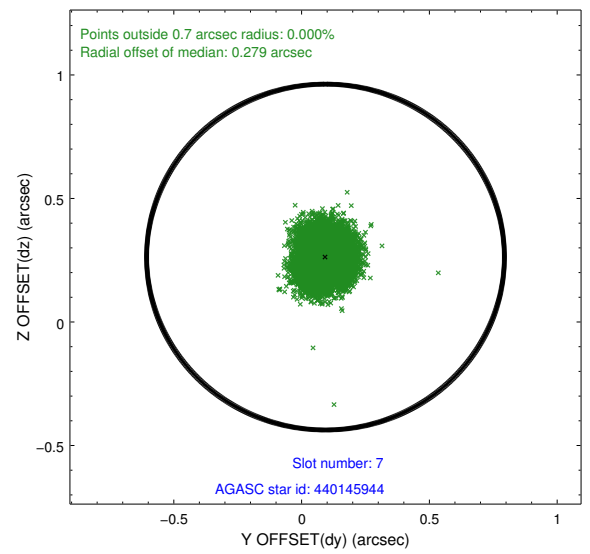
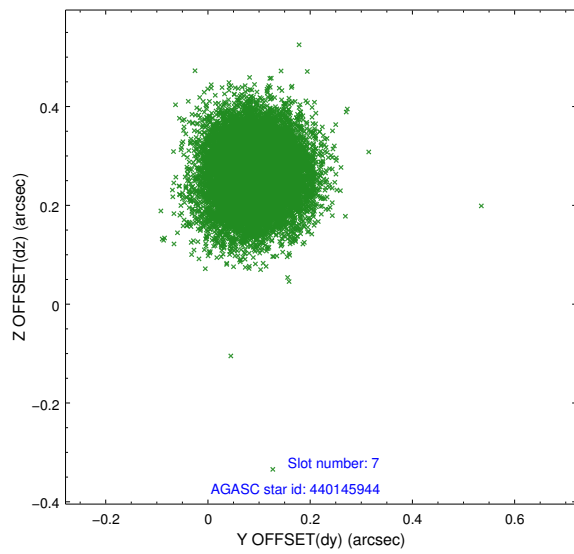
2.4.3 Slot 5



2.4.4 Slot 6

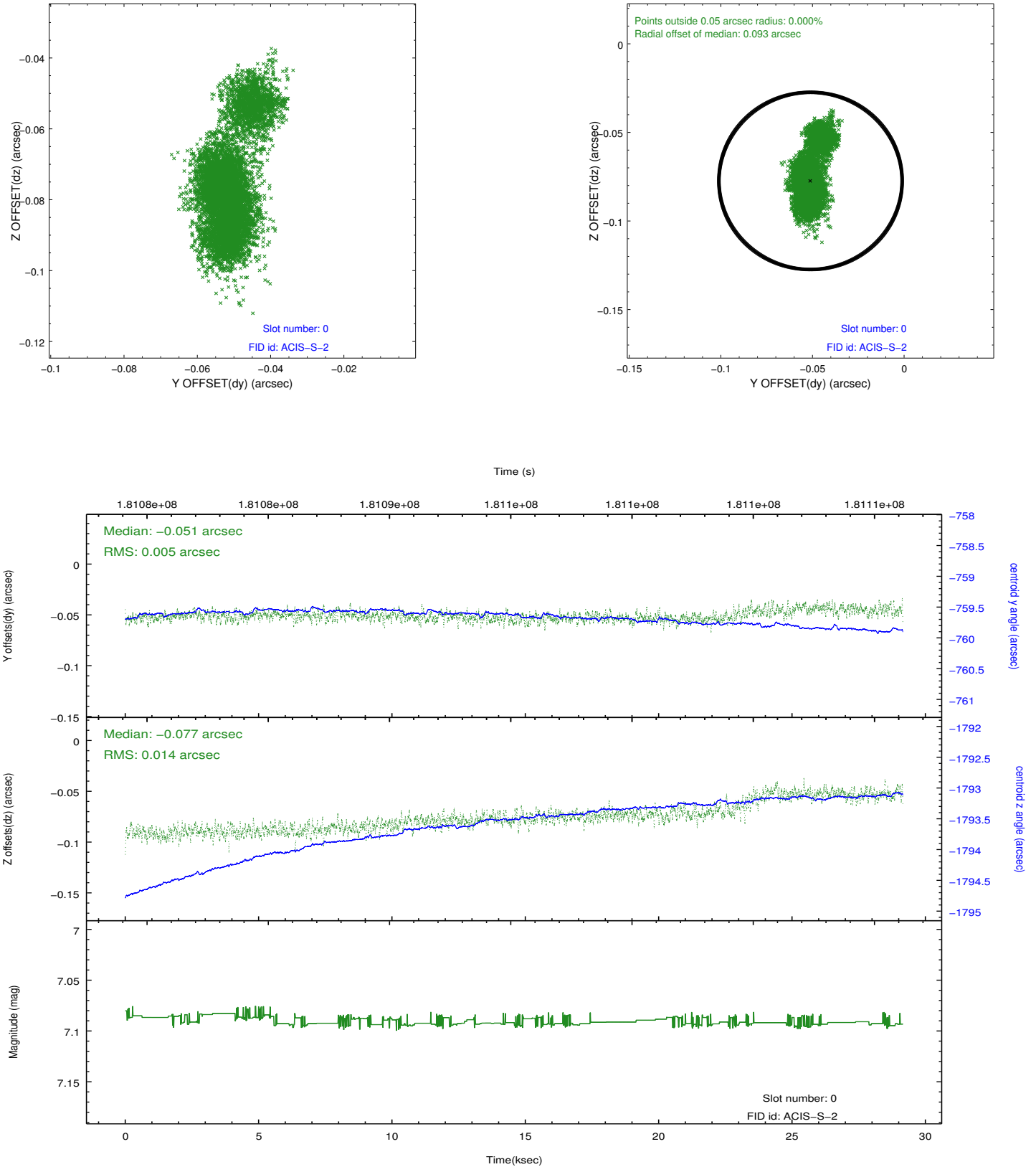


2.4.5 Slot 7

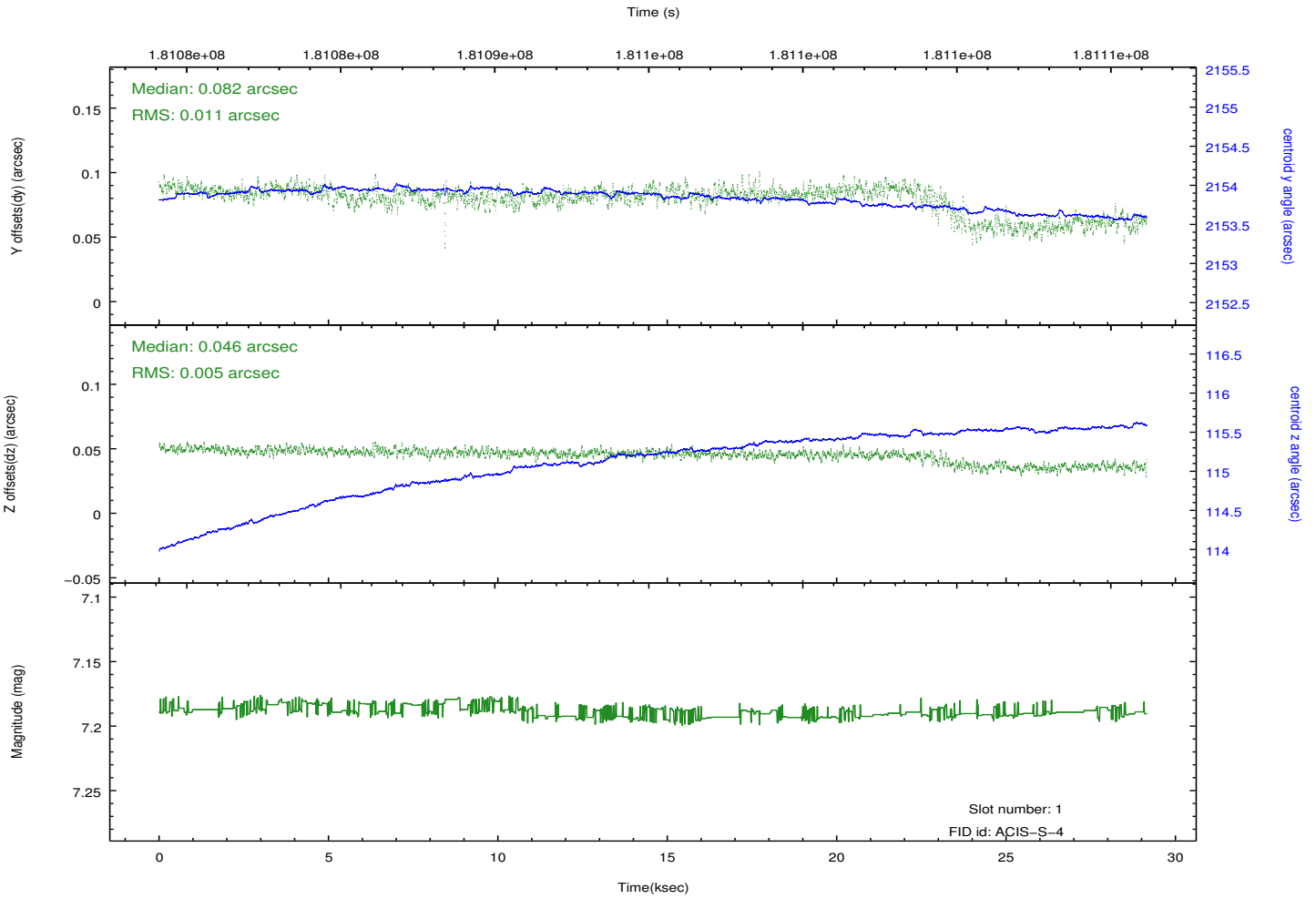
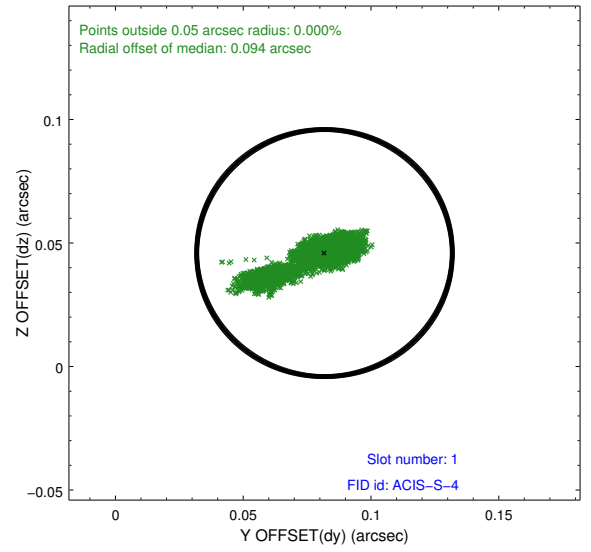
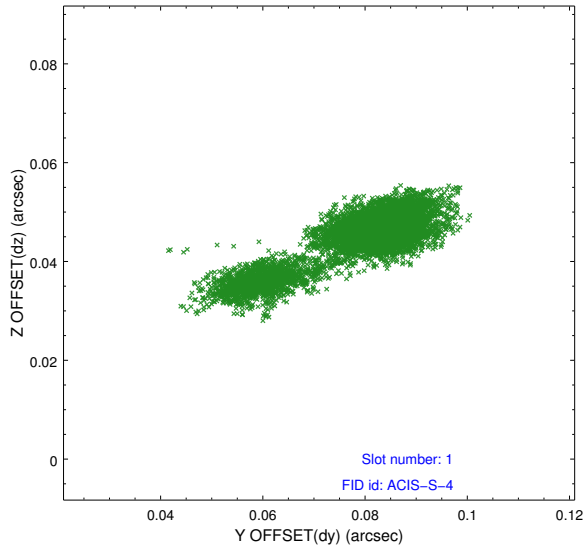


2.5 FID Slots

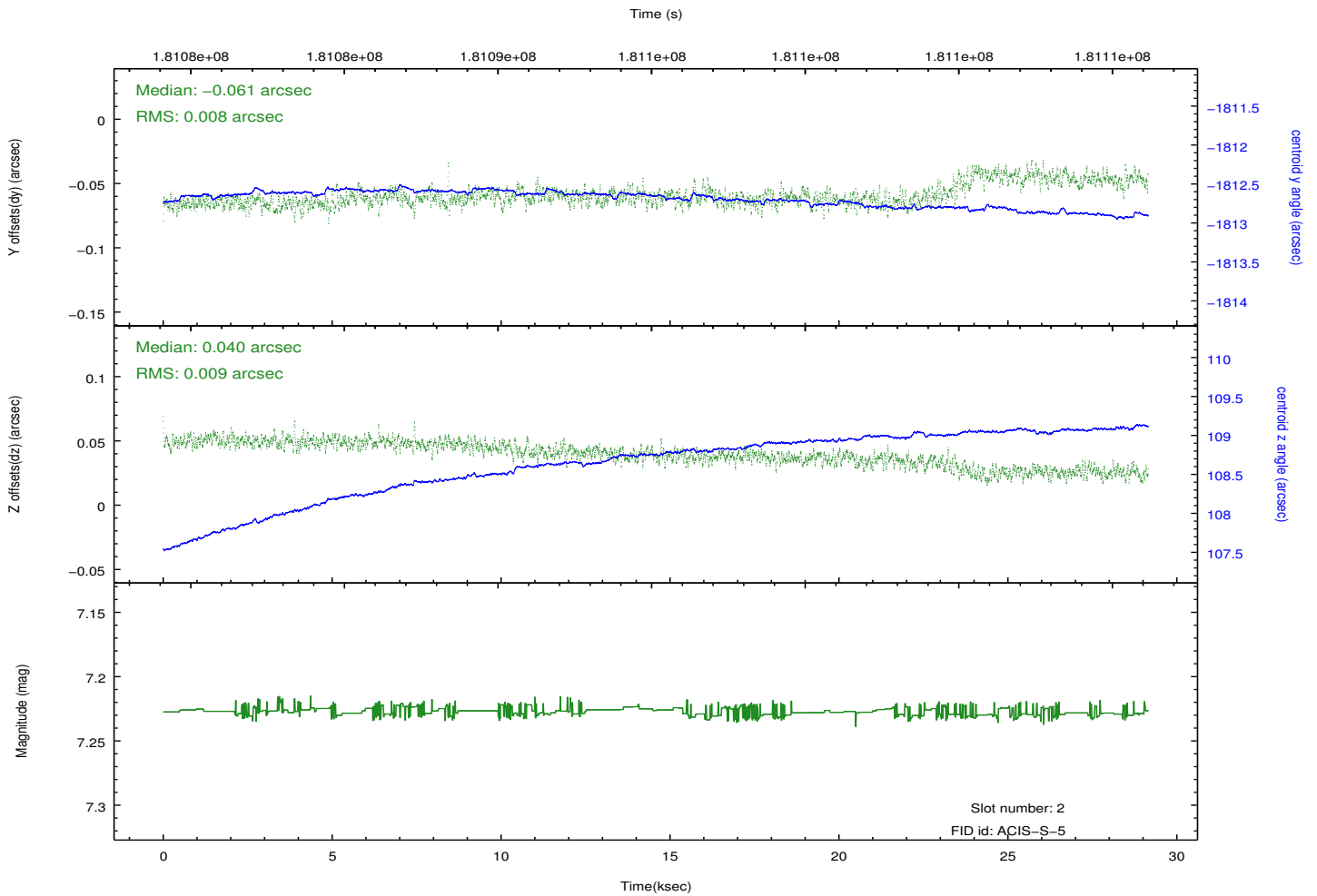
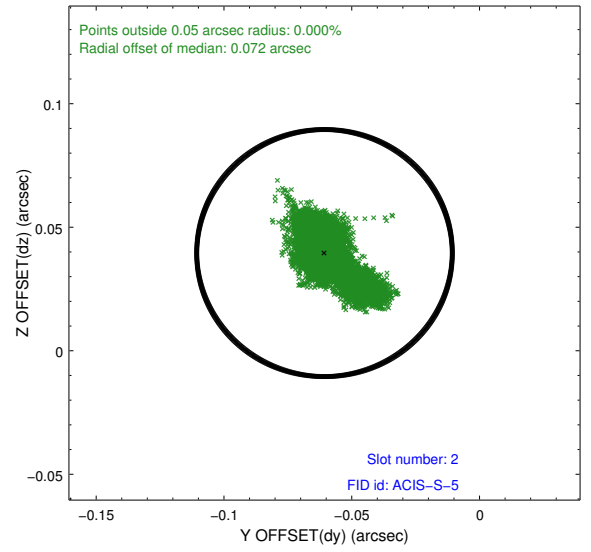
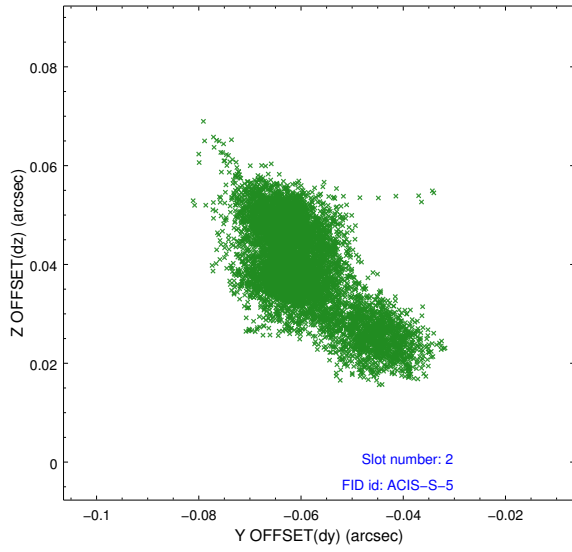
2.5.1 Slot 0



2.5.2 Slot 1

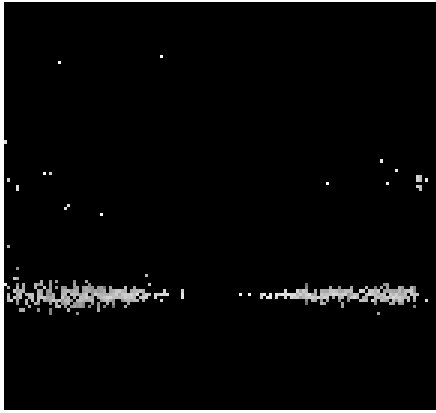


2.5.3 Slot 2

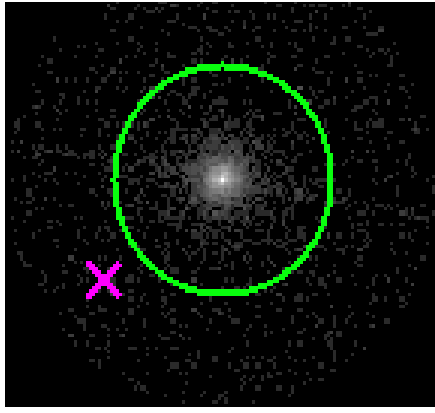


3 Gratings

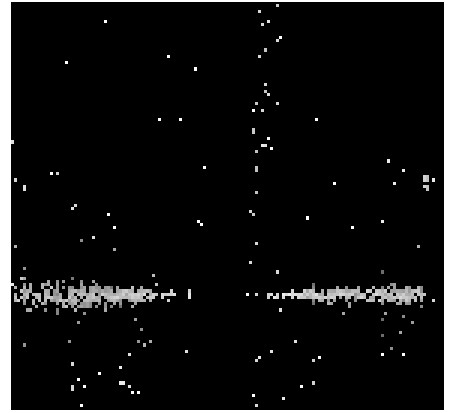
3.1 HEG Arm



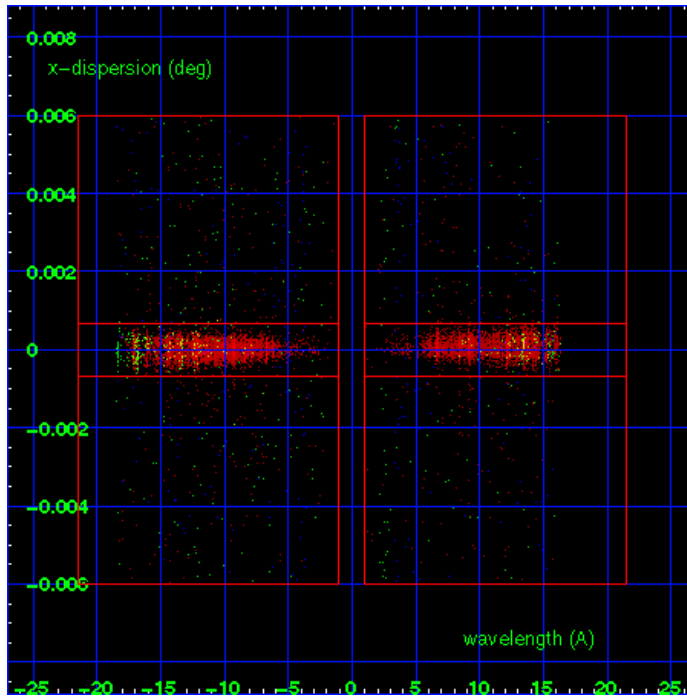
HEG Order Sort 123



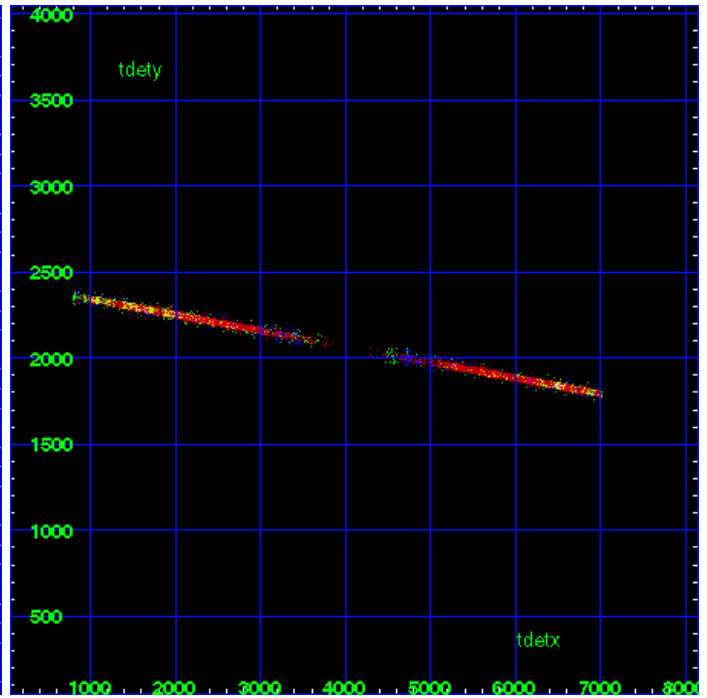
HEG Zero Order



HEG Order Sort ALL

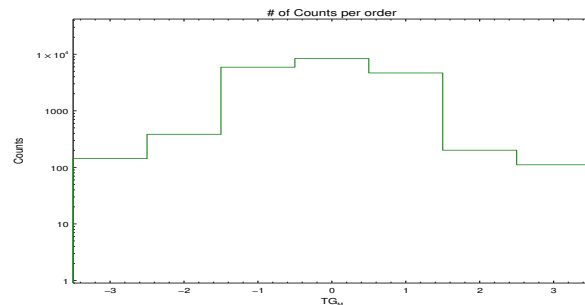


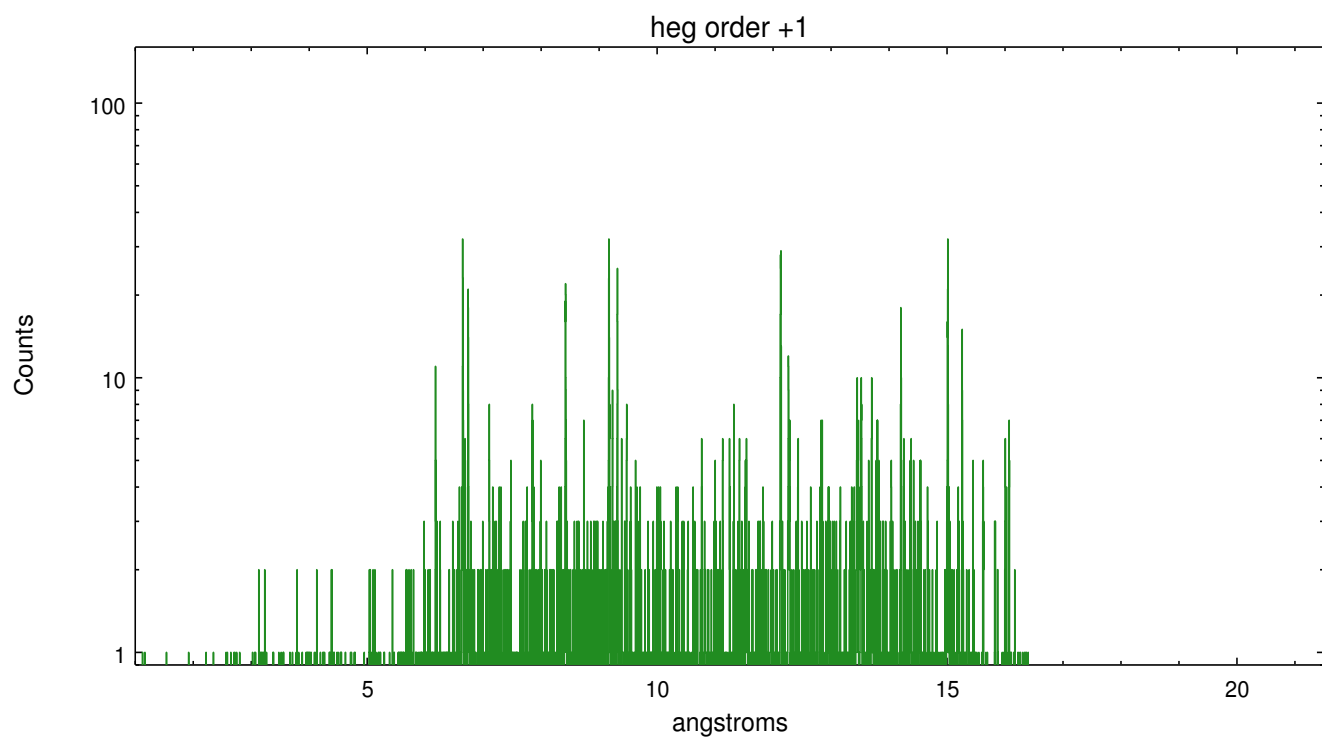
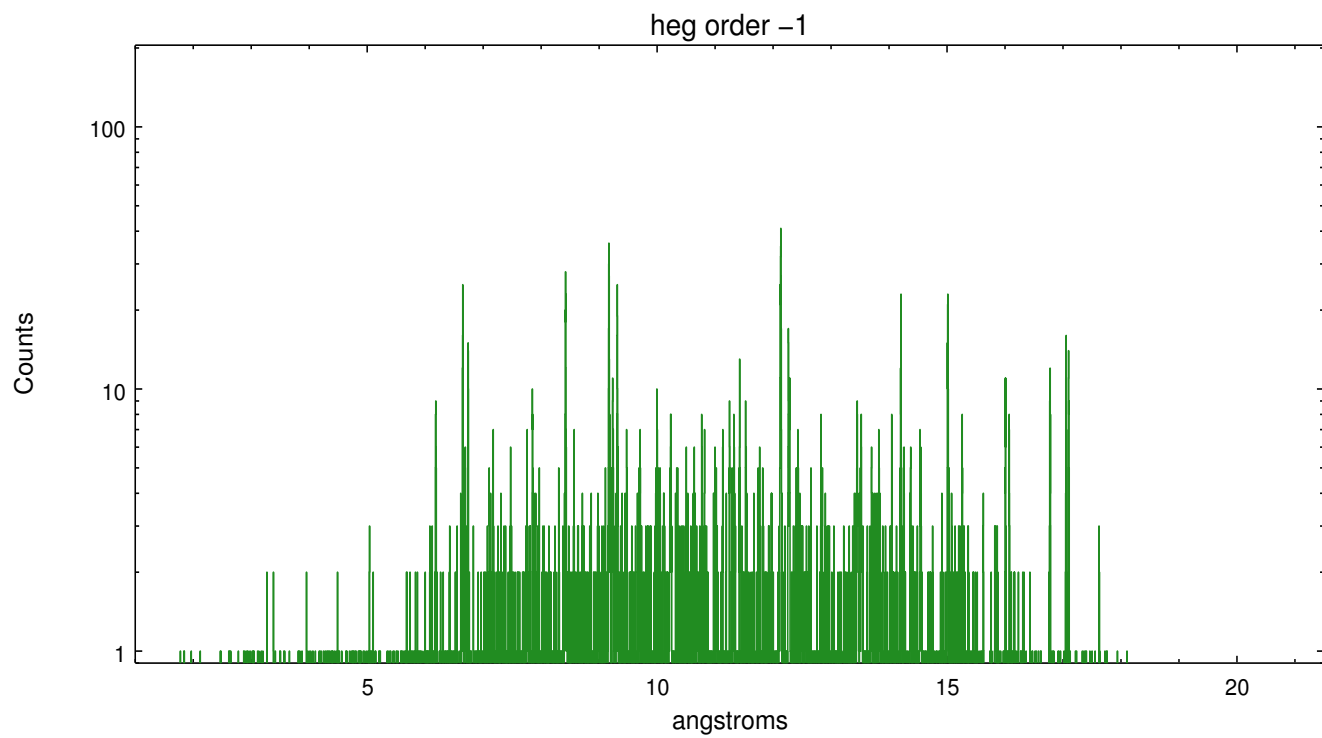
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	143	384	5903	8390	4670	201	111

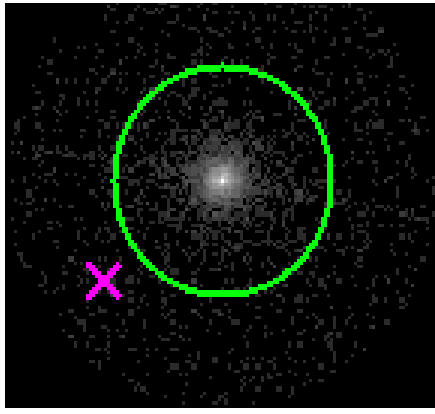




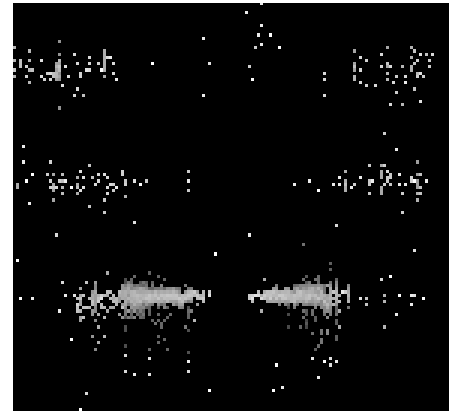
3.2 MEG Arm



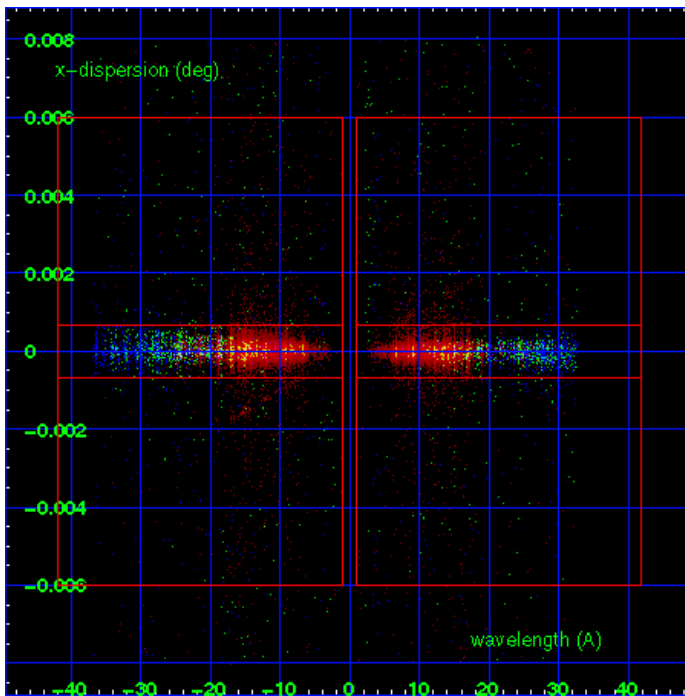
MEG Order Sort 123



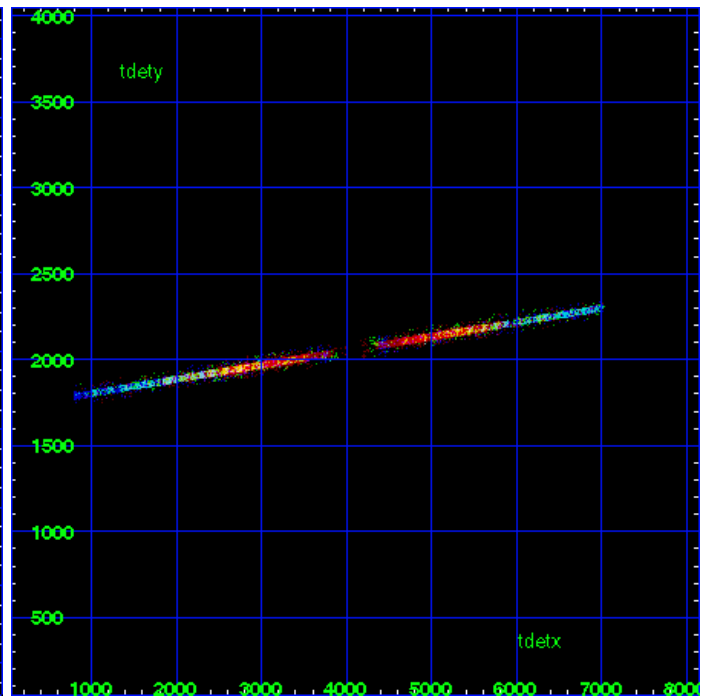
MEG Zero Order



MEG Order Sort ALL

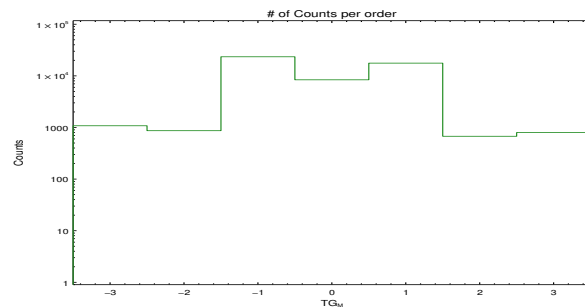


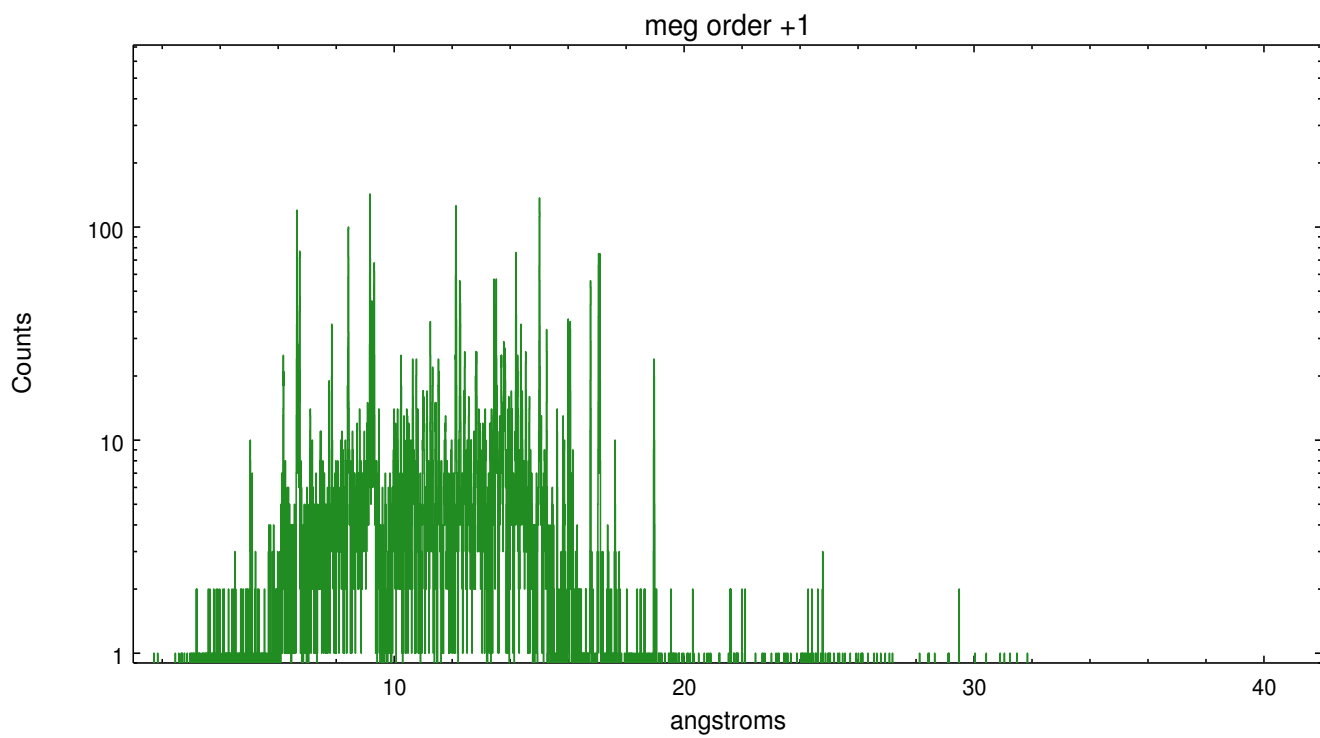
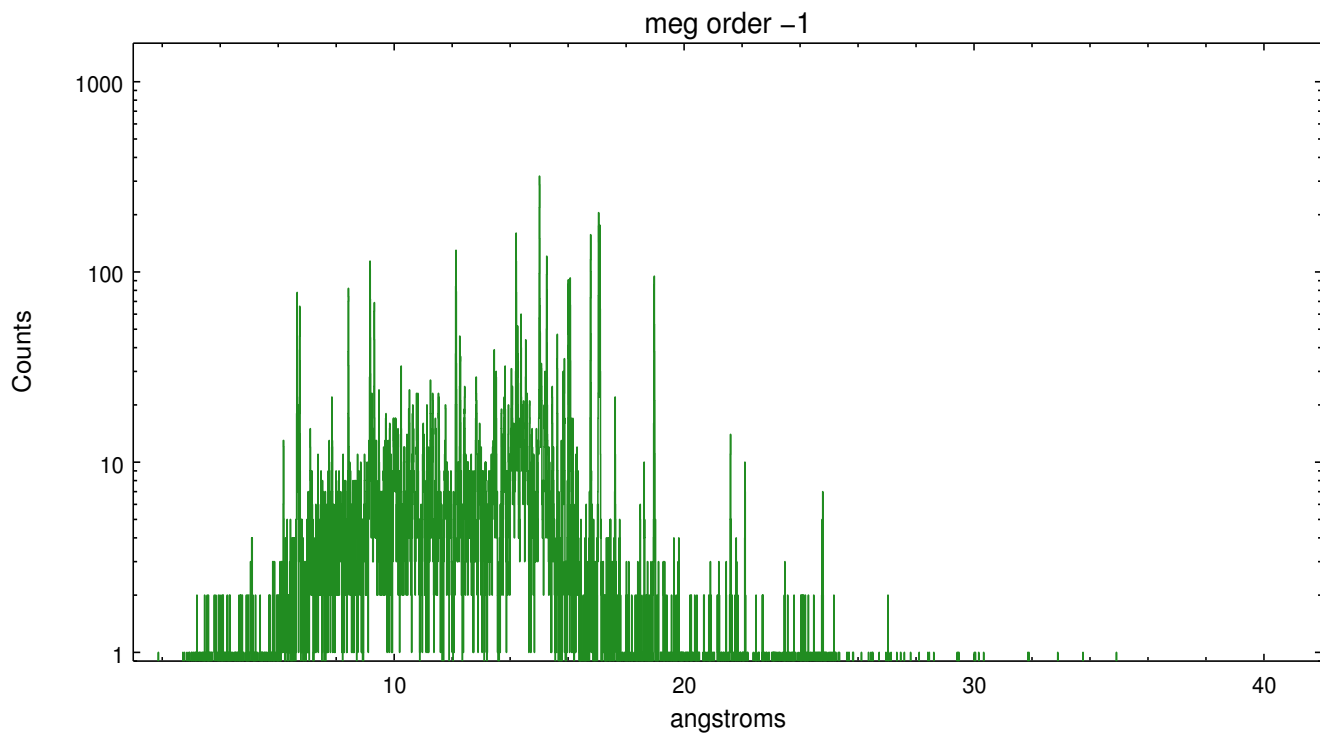
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1080	867	23441	8390	17639	675	797





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.12.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.147

A.2 Comments

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=4129.716, y=4122.694) 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.