

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10599 - L2 Version 2
Chandra X-Ray Center

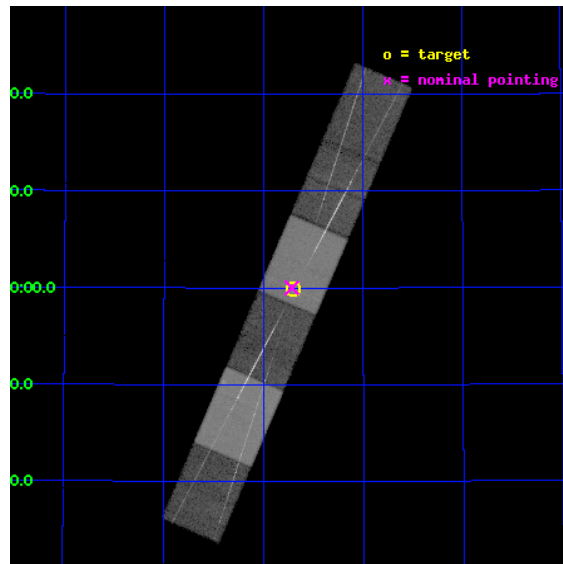
L2 Processing Date : Jun 5 2012

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1 Front

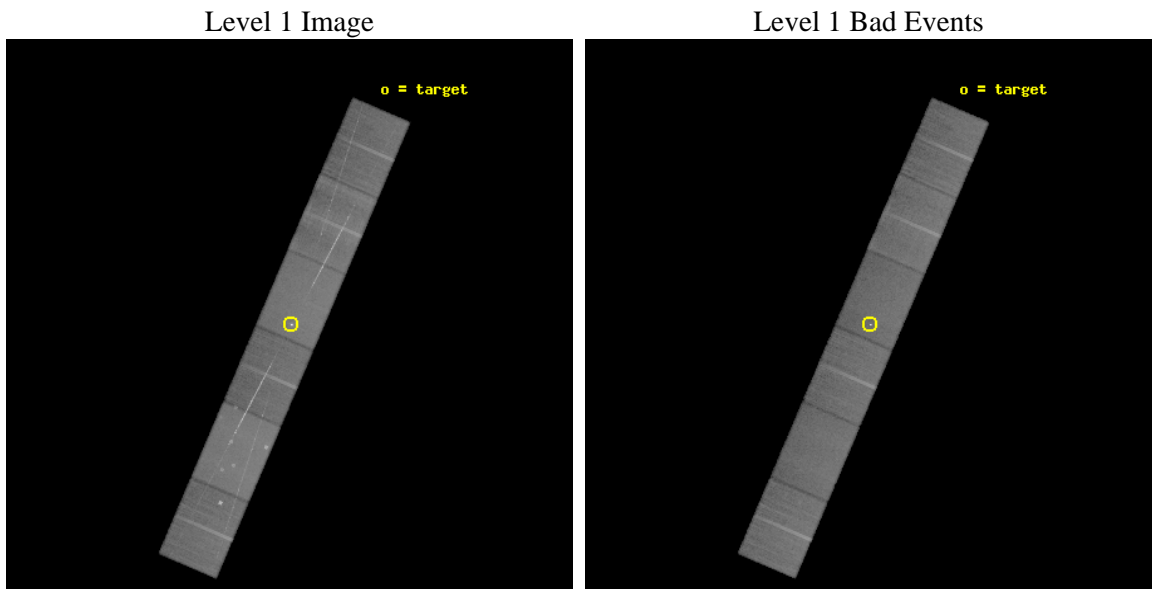
seq_num	290835	Sequence number
obs_id	10599	Observation id
title	AO-10 Calibration Observations of Capella	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA [deg]
dec_targ	45.997889	Observer's specified target Dec [deg]
ra_nom	79.178850681289	Nominal RA [deg]
dec_nom	46.000156870001	Nominal Dec [deg]
roll_nom	293.24390238459	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29660.0	Sum of GTIs [s]
livetime	29180.965274061	Livetime [s]
ontime4	29660.0	Sum of GTIs [s]
ontime5	29660.0	Sum of GTIs [s]
ontime6	29660.0	Sum of GTIs [s]
ontime7	29660.0	Sum of GTIs [s]
ontime8	29660.0	Sum of GTIs [s]
ontime9	29660.0	Sum of GTIs [s]
l2events	500311	Number of level 2 events



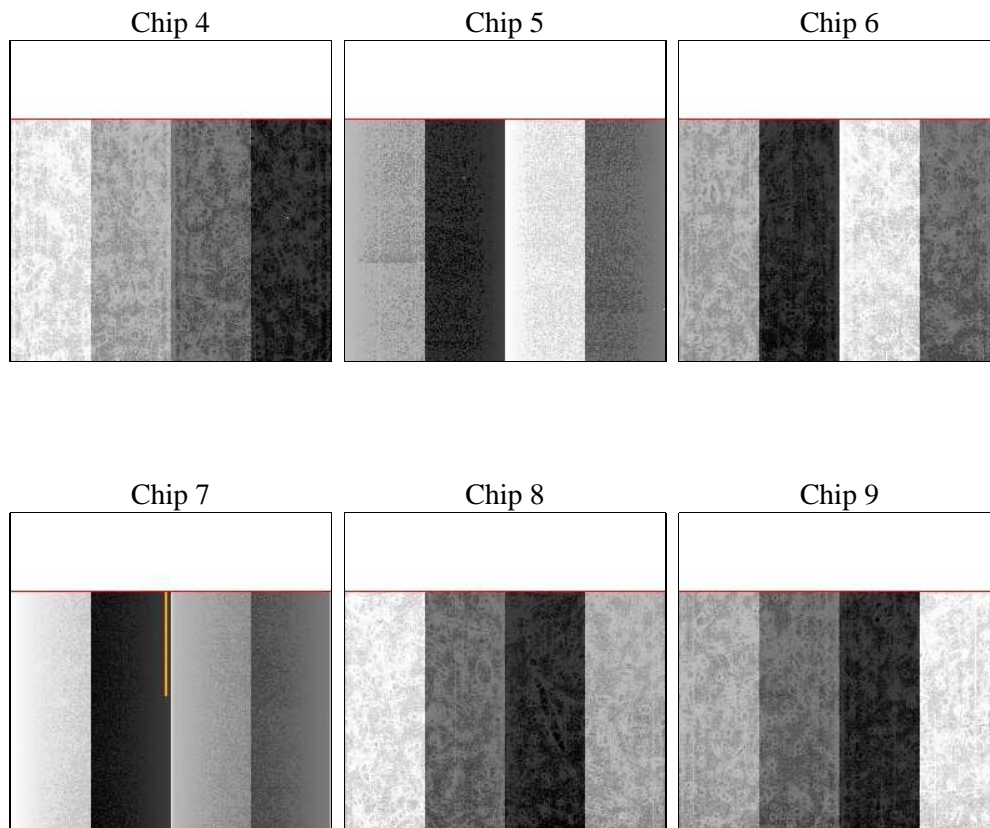
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29767.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	29660.0	Sum of GTIs [s]
caldbver	4.4.9	 	ontime4	29660.0	Sum of GTIs [s]
date	2012-06-04T17:35:37	Date and time of file creation	ontime5	29660.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	29660.0	Sum of GTIs [s]
			ontime7	29660.0	Sum of GTIs [s]
			ontime8	29660.0	Sum of GTIs [s]
			ontime9	29660.0	Sum of GTIs [s]
			l1events	1856644	Number of level 1 events

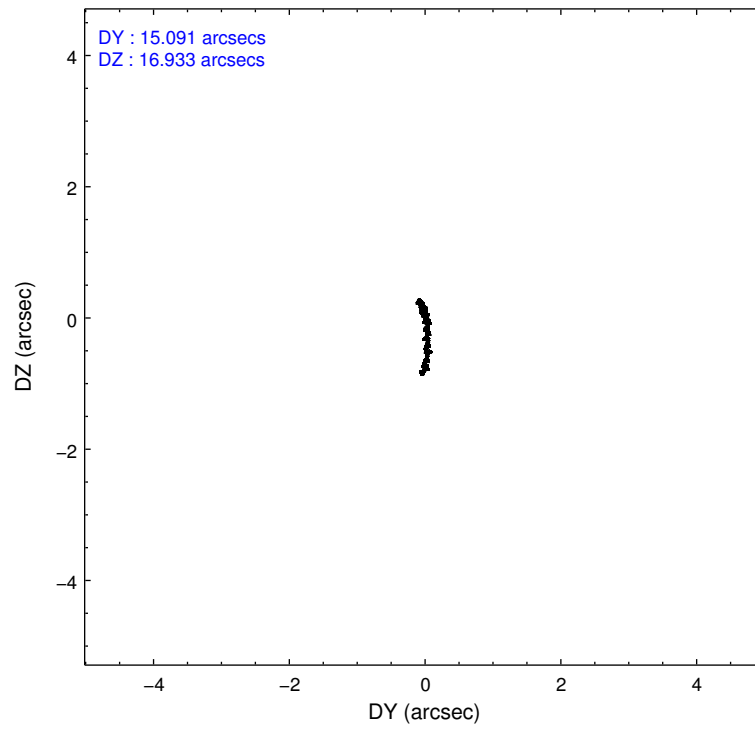
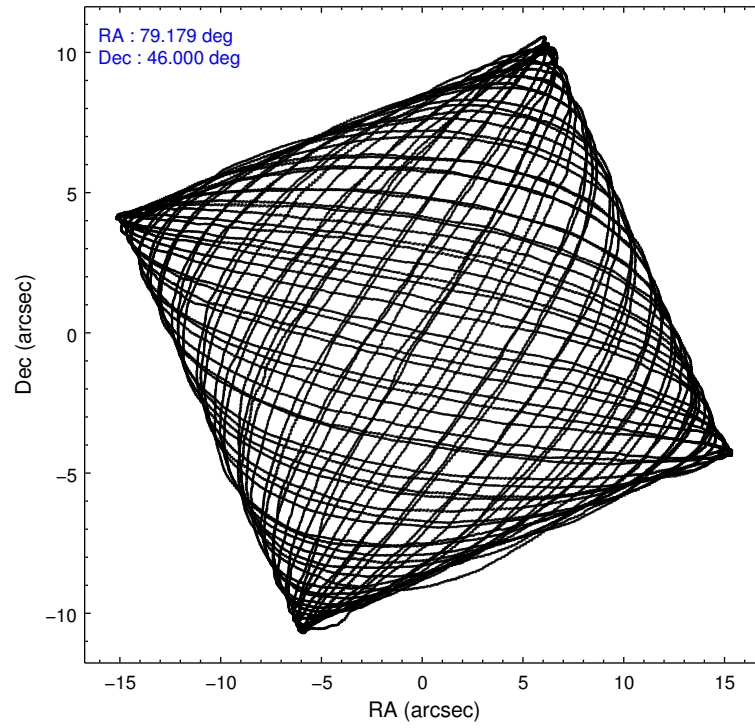
2.1.4 Events

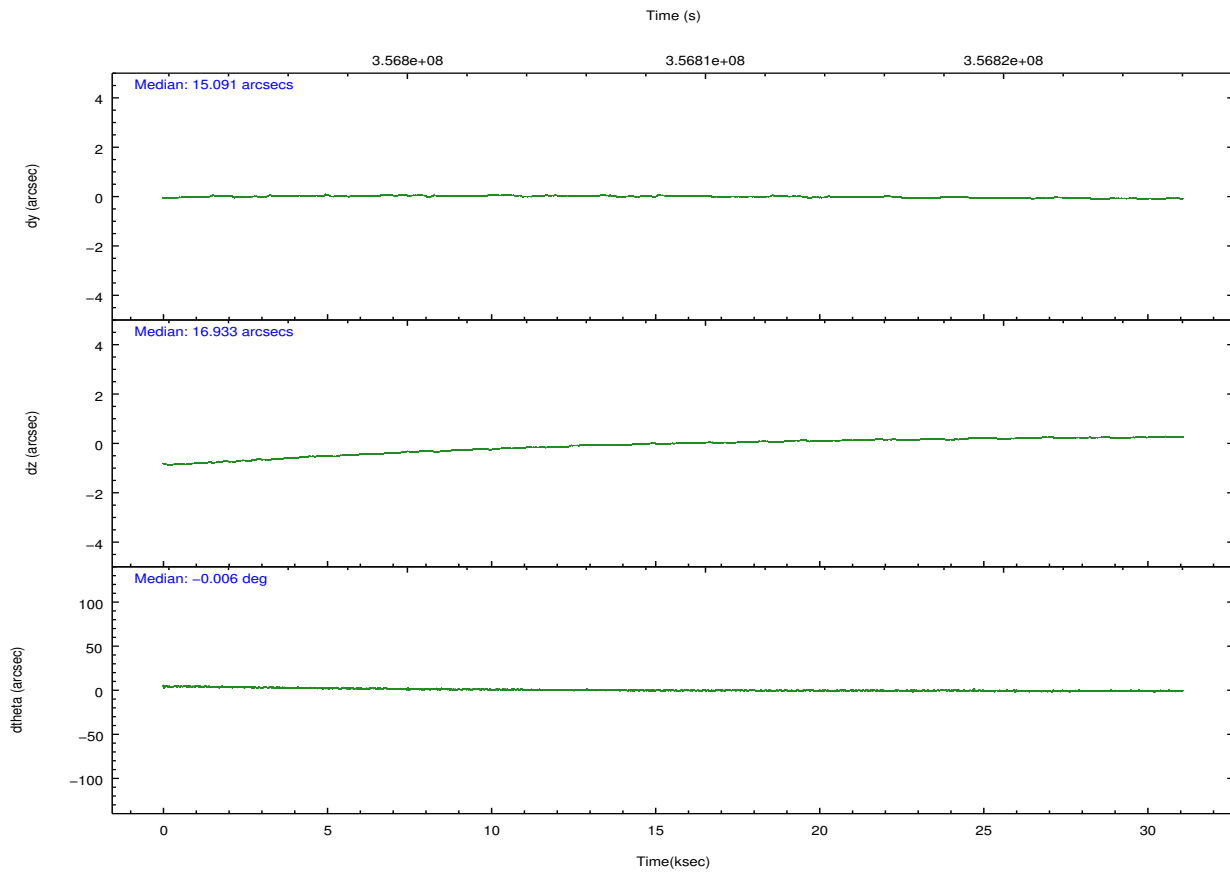
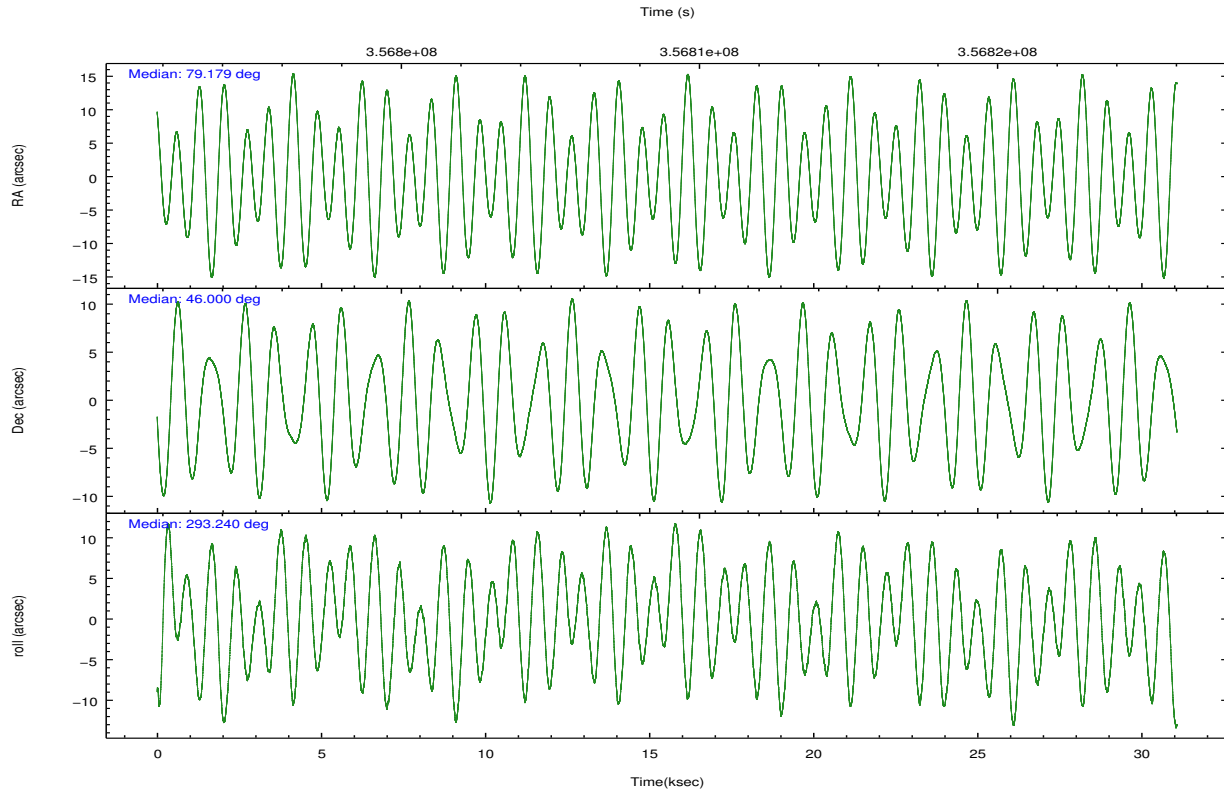
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	272918	394001	262015	360369	330211	237130	grade 0 events	24298	27795	29736	16945	42336	16861
rejected events	230063	197417	210653	200365	235010	201623		8%	7%	11%	4%	12%	7%
rejected %	84%	50%	80%	55%	71%	85%	grade 1 events	301	542	239	608	329	152
								0%	0%	0%	0%	0%	0%
							grade 2 events	7185	58189	8651	33830	17959	6546
								2%	14%	3%	9%	5%	2%
							grade 3 events	3210	9540	3393	14405	8009	3179
								1%	2%	1%	3%	2%	1%
							grade 4 events	3126	9347	3464	14241	7417	3015
								1%	2%	1%	3%	2%	1%
							grade 5 events	11076	27745	11339	32375	15065	12079
								4%	7%	4%	8%	4%	5%
							grade 6 events	5040	91730	6123	80597	19482	5909
								1%	23%	2%	22%	5%	2%
							grade 7 events	218682	169113	199070	167368	219614	189389
								80%	42%	75%	46%	66%	79%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	79.146995	79.17885068128854	CCD I2 on	N	N
[deg] Pointing Dec	46.016218	46.00015687000124	CCD I3 on	N	N
[deg] Pointing Roll	293.110190	293.2439023845917	CCD S0 on	O1	Y
[s] Window start time (MET)	349833666.184000	349833666.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	357436866.184000	357436866.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-187.132523	-187.1228876879999	CCD S5 on	Y	Y
[mm] SIM translation stage offset	-3	-3.009634895007935	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	356794677.184000	356793041.21345	On-chip summing requested	N	N
Observation start date	2009-04-22T13:36:51	2009-04-22T13:10:41	Subarray requested	CUSTOM	CUSTOM
[s] Observation end time (MET)	356824444.184000	356825412.25256	Subarray start row	1	1
Observation end date	2009-04-22T21:52:58	2009-04-22T22:10:12	Subarray row count	774	774
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

2.3 Aspect



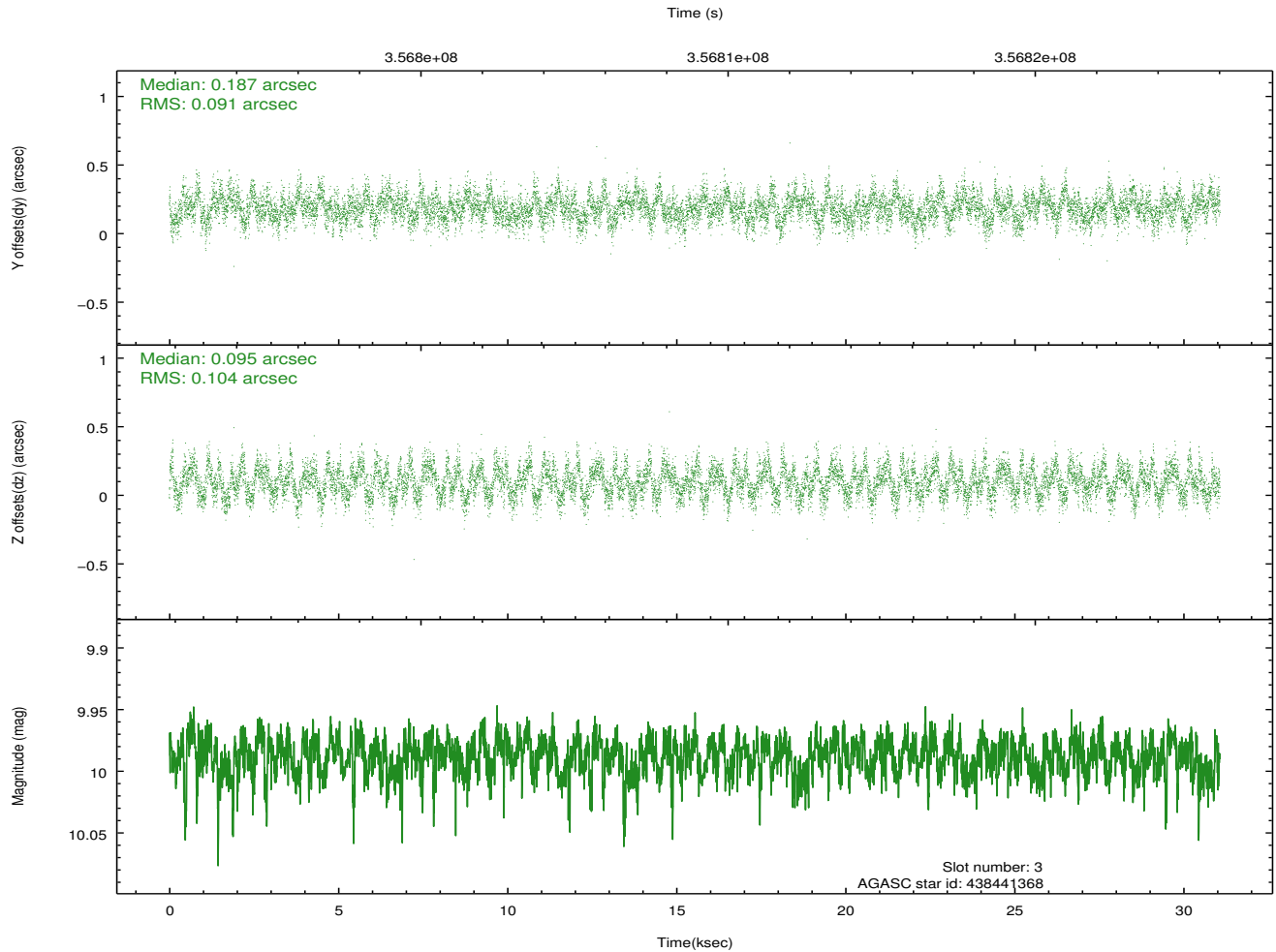
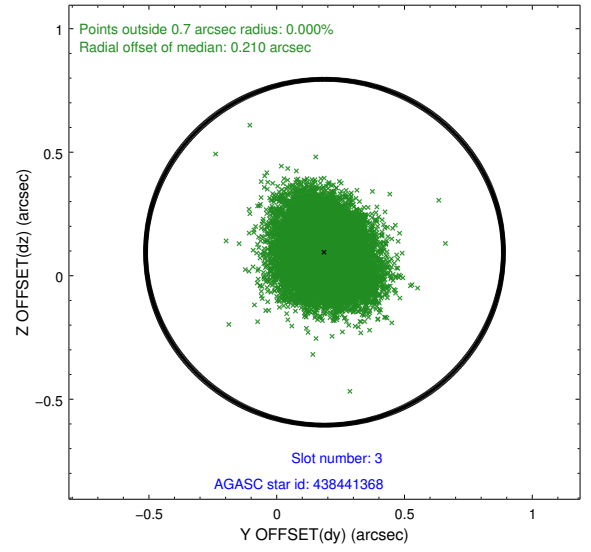
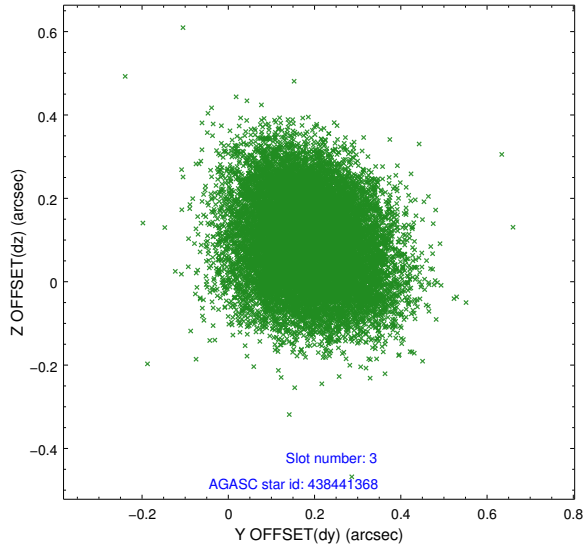


Slot Statistics

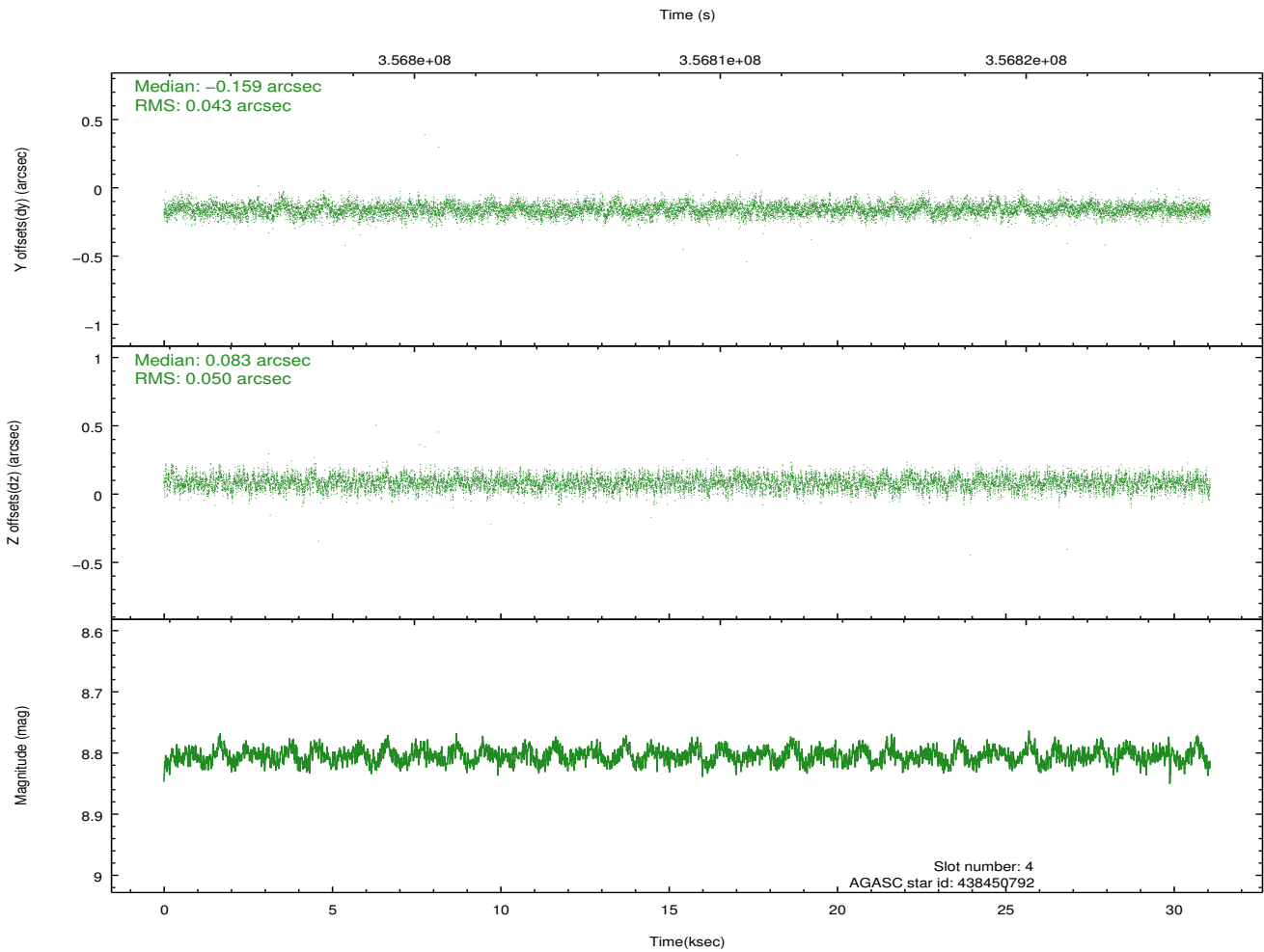
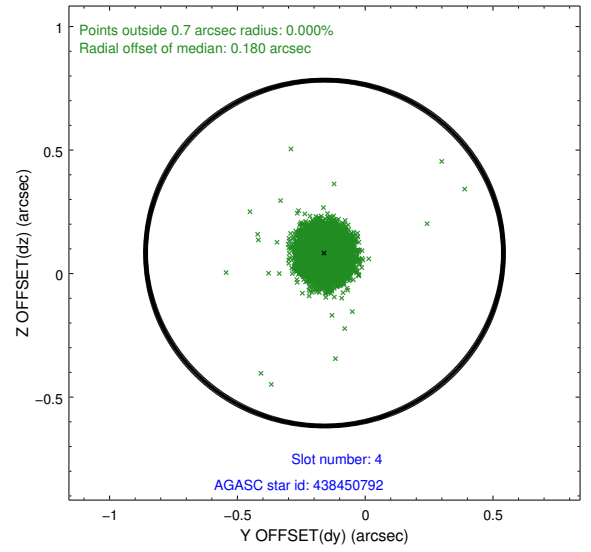
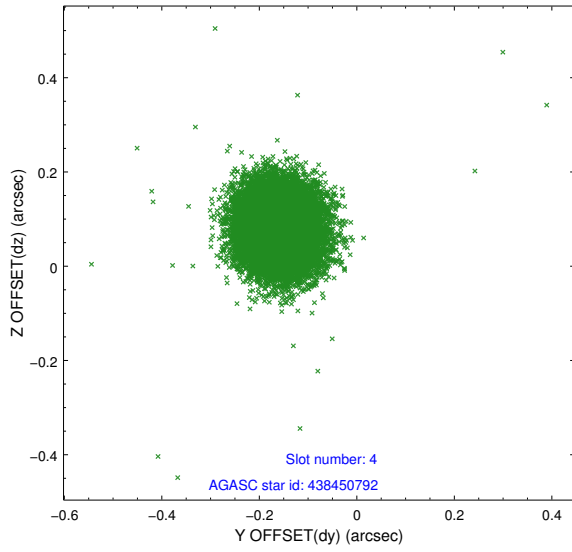
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.91	7579	-0.003	0.052	0.011	0.022	0.000000	0.000000	928.19	-1795.96
1	FID	ACIS-S-4	6.90	7580	0.147	-0.030	0.010	0.015	0.000000	0.000000	2145.77	108.04
2	FID	ACIS-S-5	6.94	7577	-0.171	-0.009	0.012	0.025	0.000000	0.000000	-1820.78	101.70
3	GUIDE	438441368	9.99	15130	0.187	0.095	0.149	0.235	78.646413	46.420494	-1829.14	-569.56
4	GUIDE	438450792	8.80	15151	-0.159	0.083	0.069	0.111	78.654240	46.382628	-1695.53	-606.32
5	GUIDE	438460832	8.96	15145	0.093	0.066	0.094	0.155	78.414614	45.554782	796.36	-2346.36
6	GUIDE	440163960	8.86	15151	-0.001	-0.073	0.096	0.156	79.298370	45.827072	775.42	82.47
7	GUIDE	440164960	8.29	15154	-0.123	-0.170	0.083	0.131	79.132526	46.140947	-426.28	143.04

2.4 Star Slots

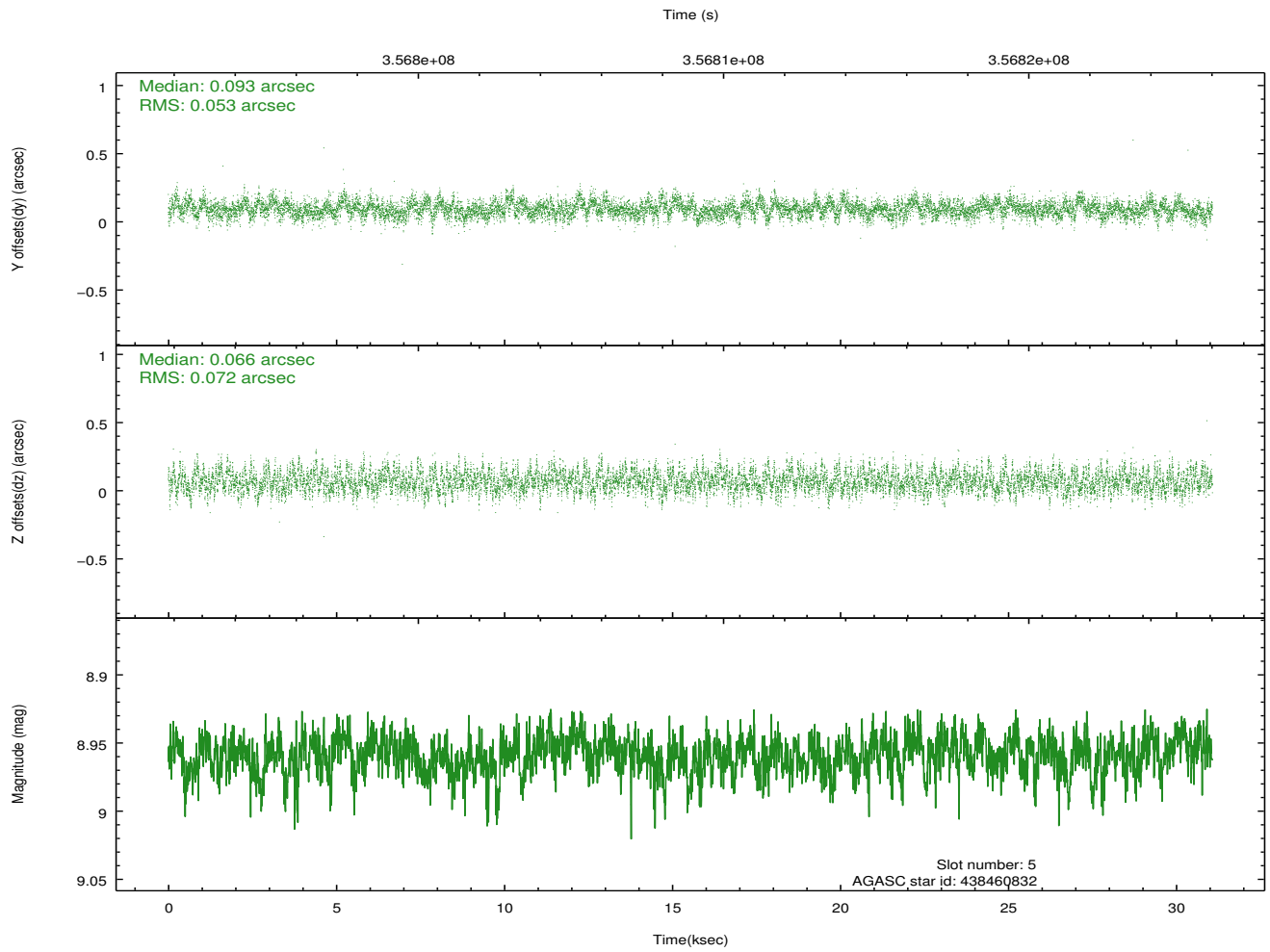
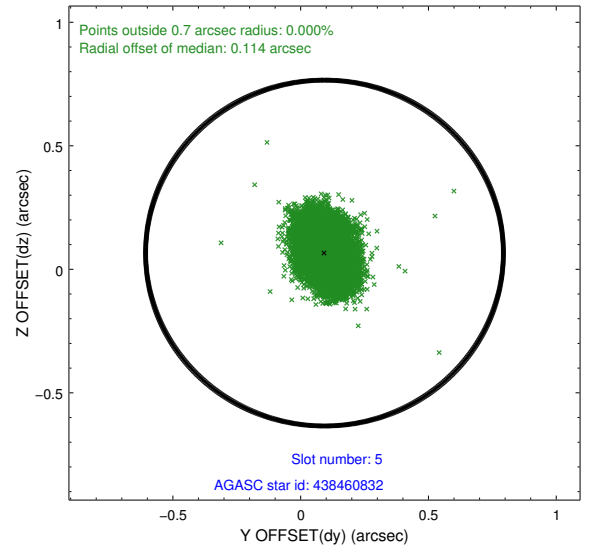
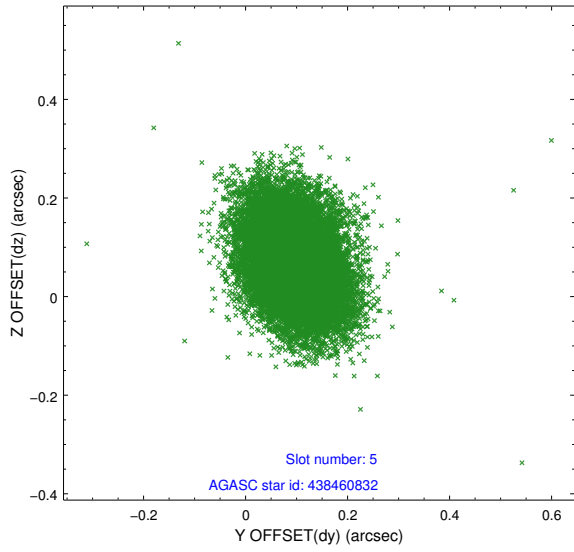
2.4.1 Slot 3



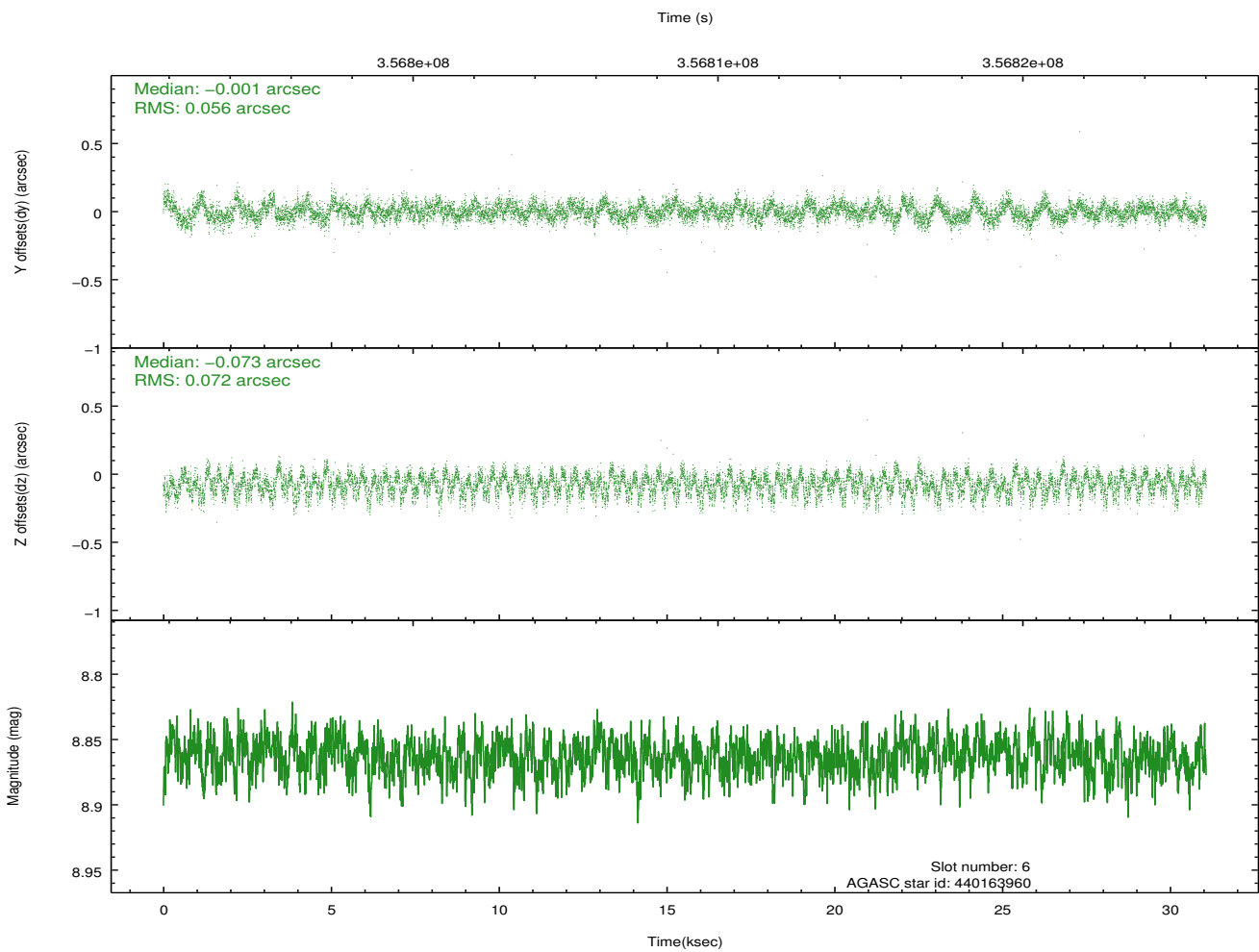
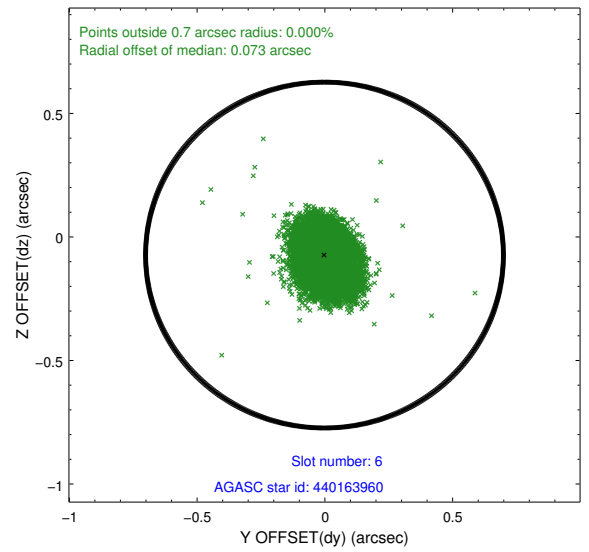
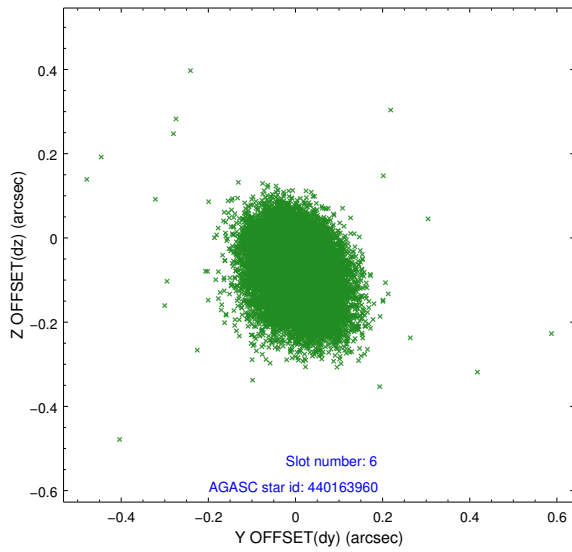
2.4.2 Slot 4



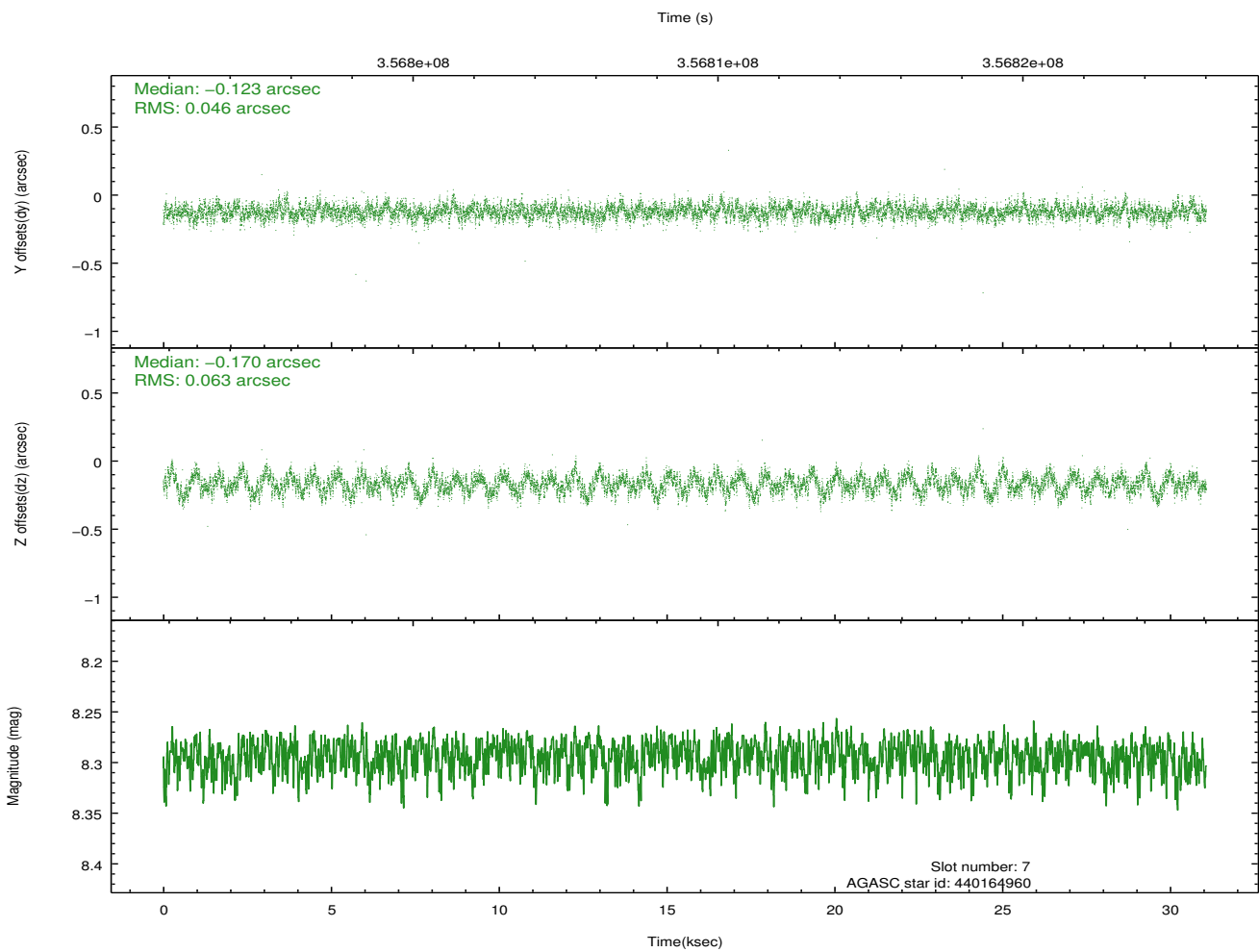
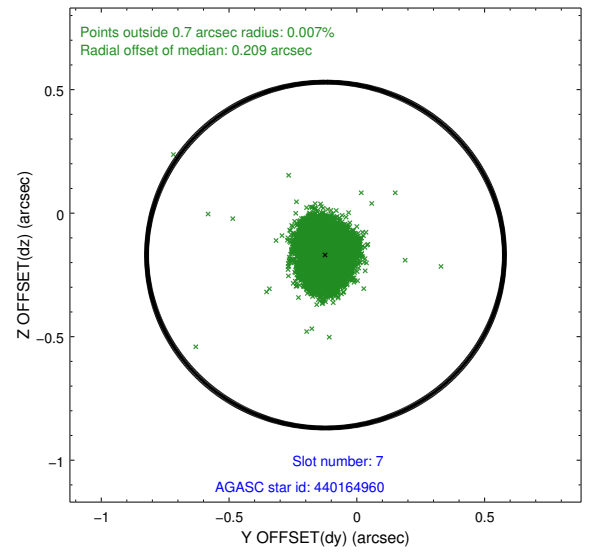
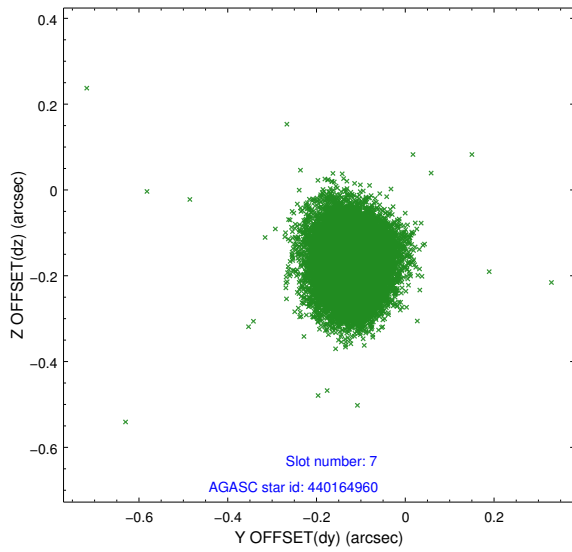
2.4.3 Slot 5



2.4.4 Slot 6

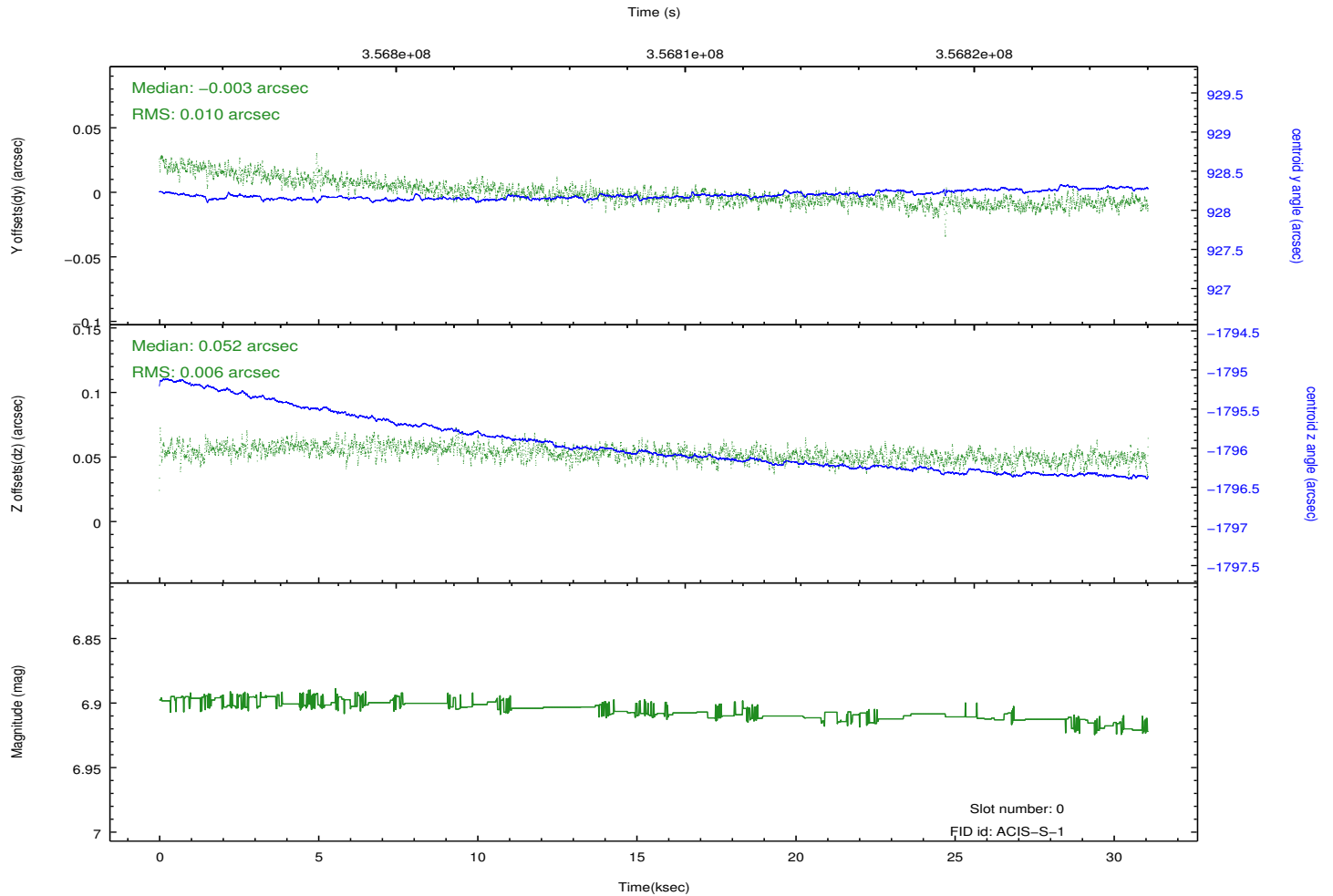
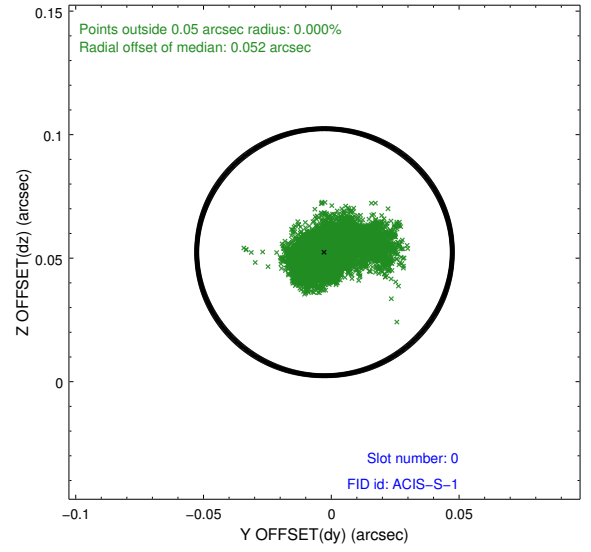
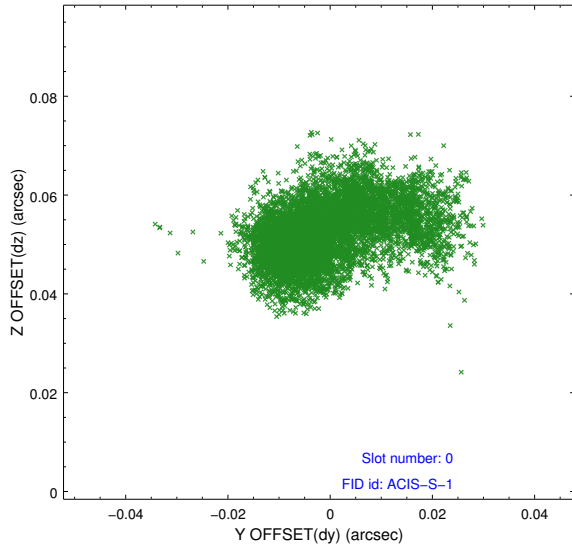


2.4.5 Slot 7

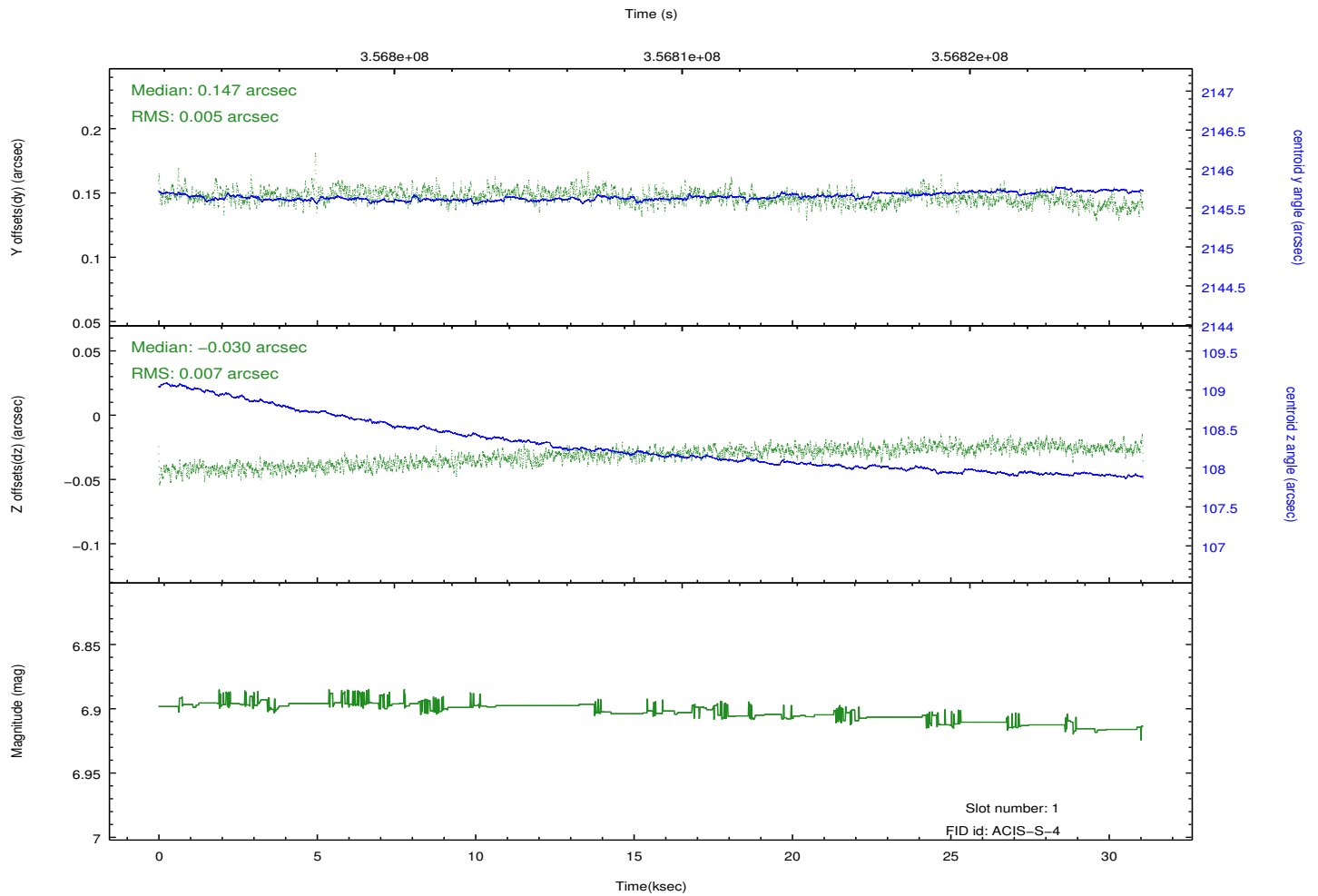
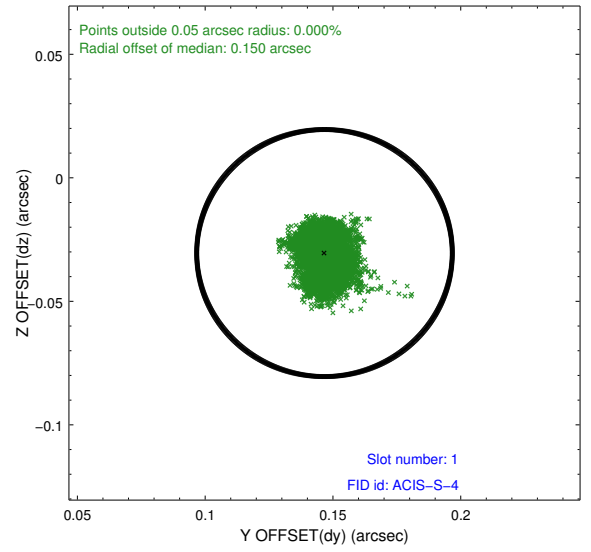
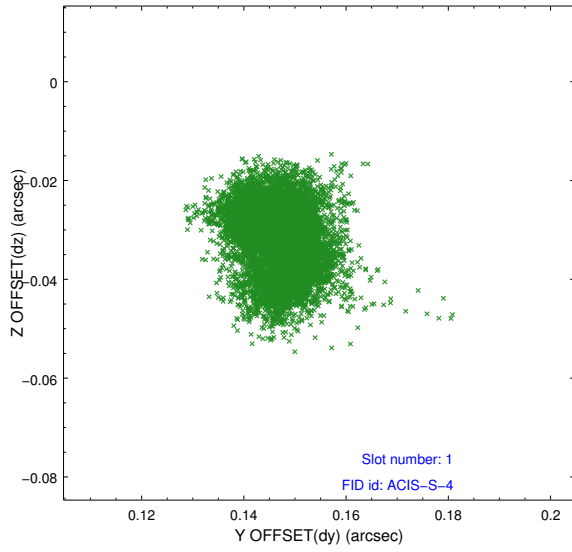


2.5 FID Slots

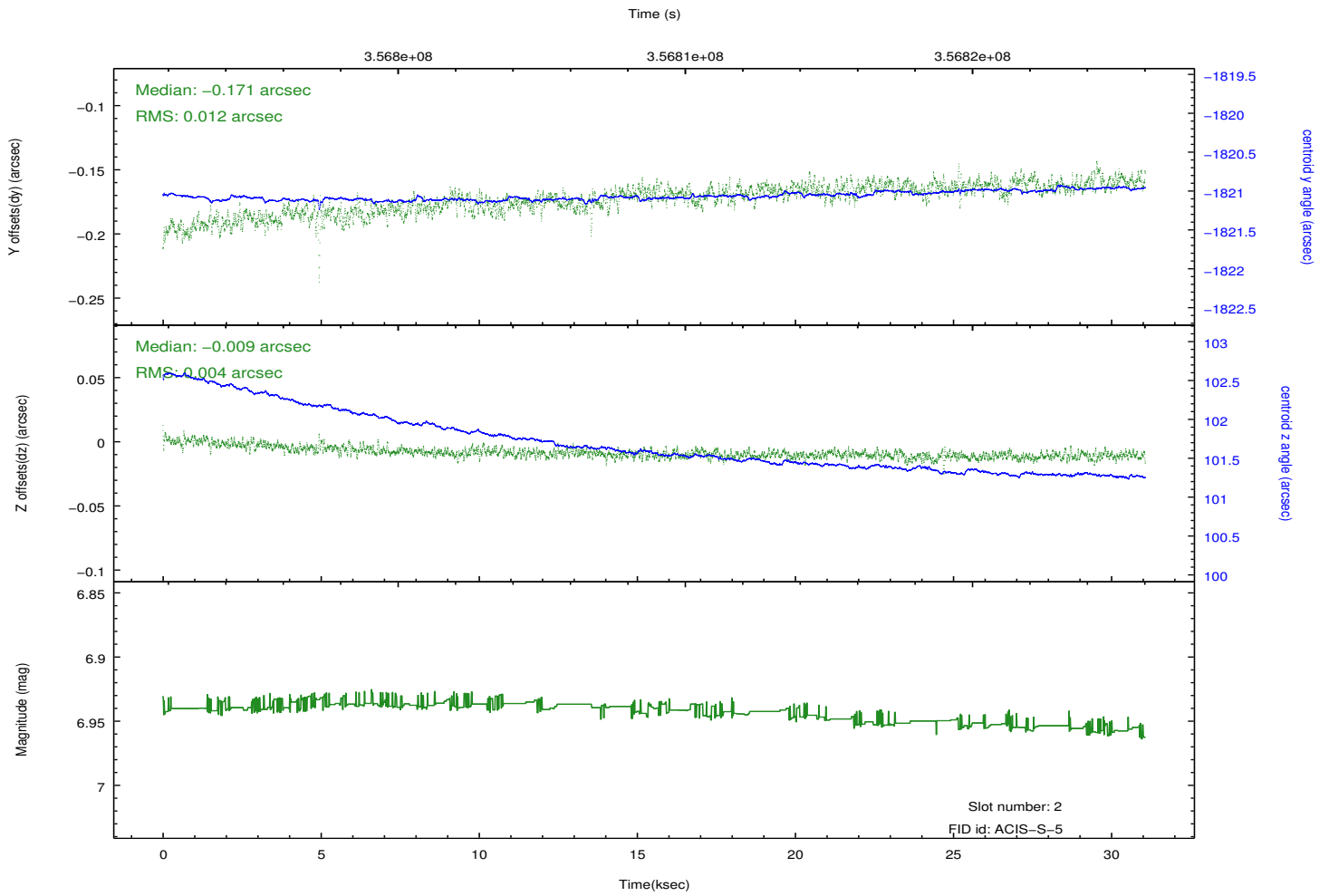
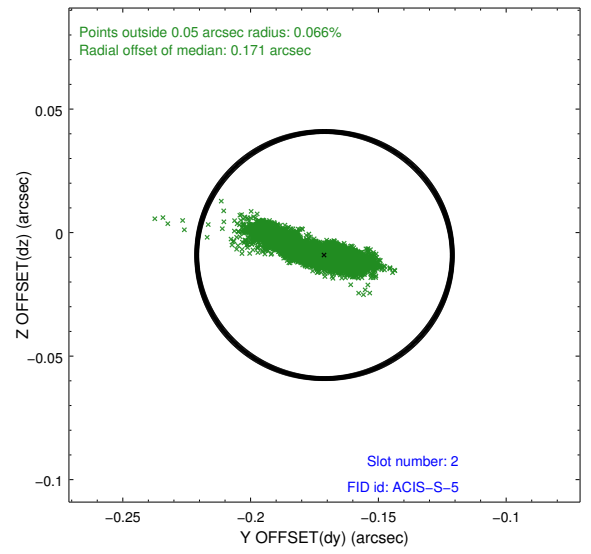
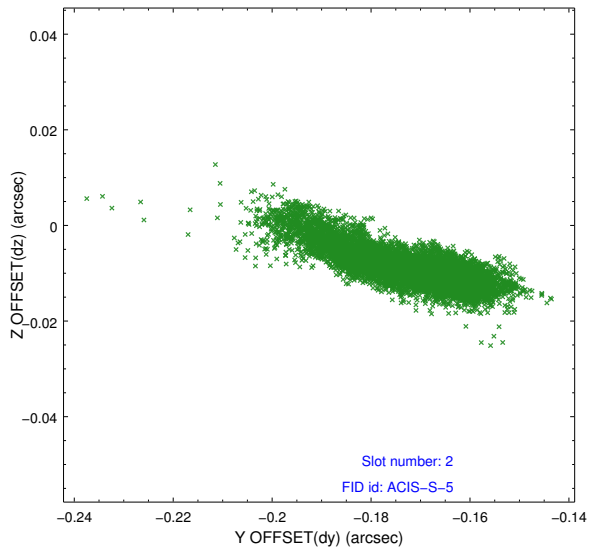
2.5.1 Slot 0



2.5.2 Slot 1

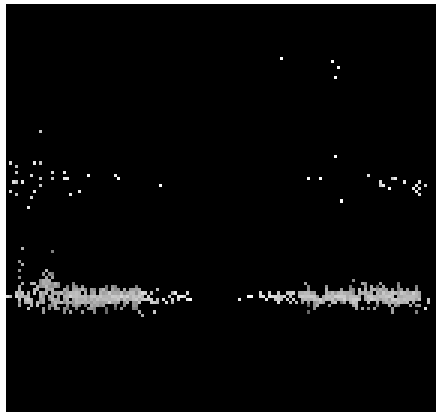


2.5.3 Slot 2

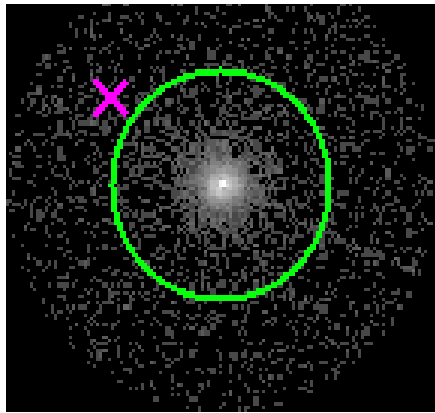


3 Gratings

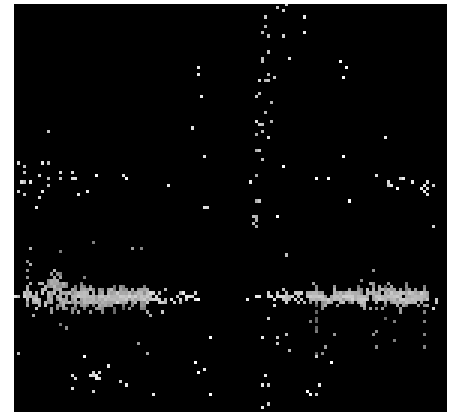
3.1 HEG Arm



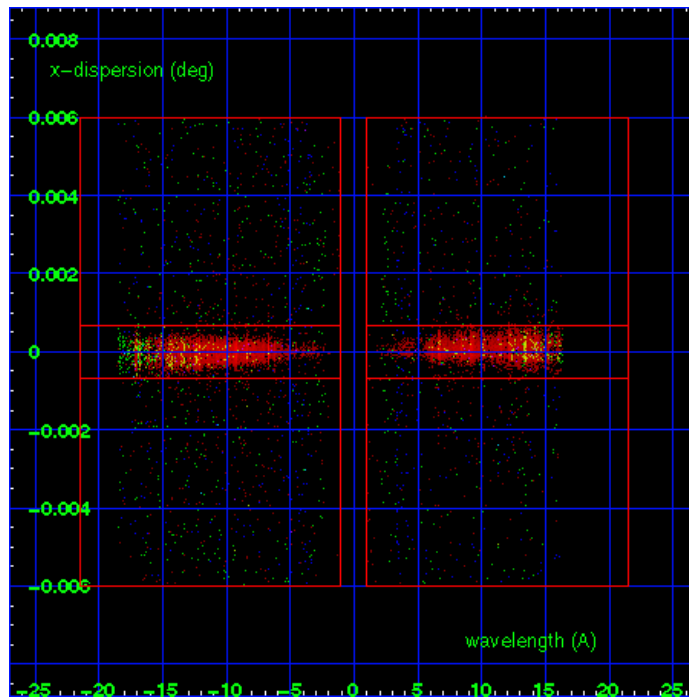
HEG Order Sort 123



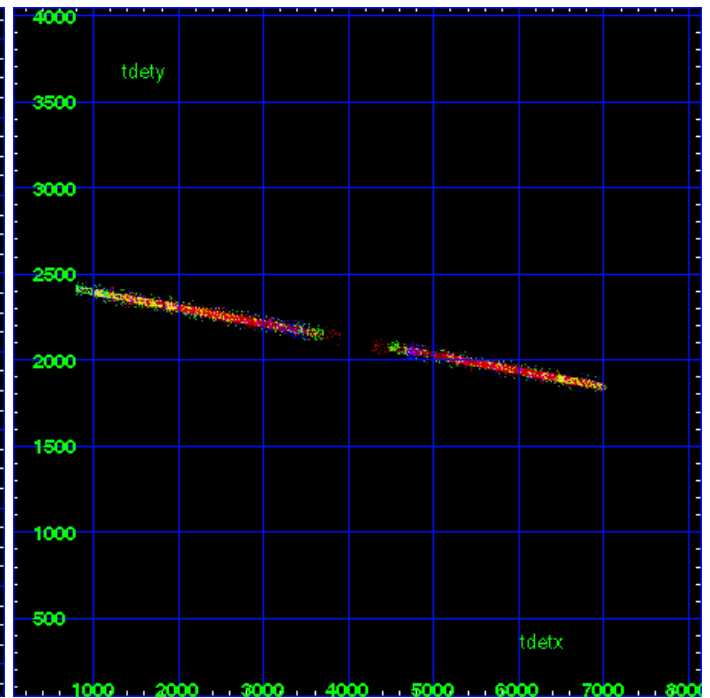
HEG Zero Order



HEG Order Sort ALL

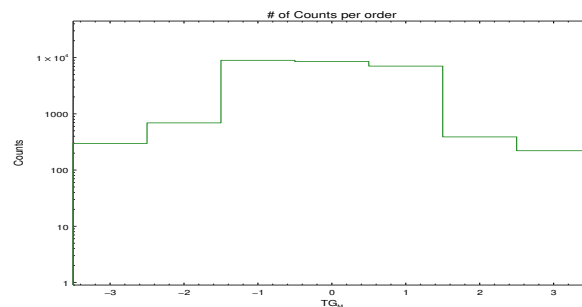


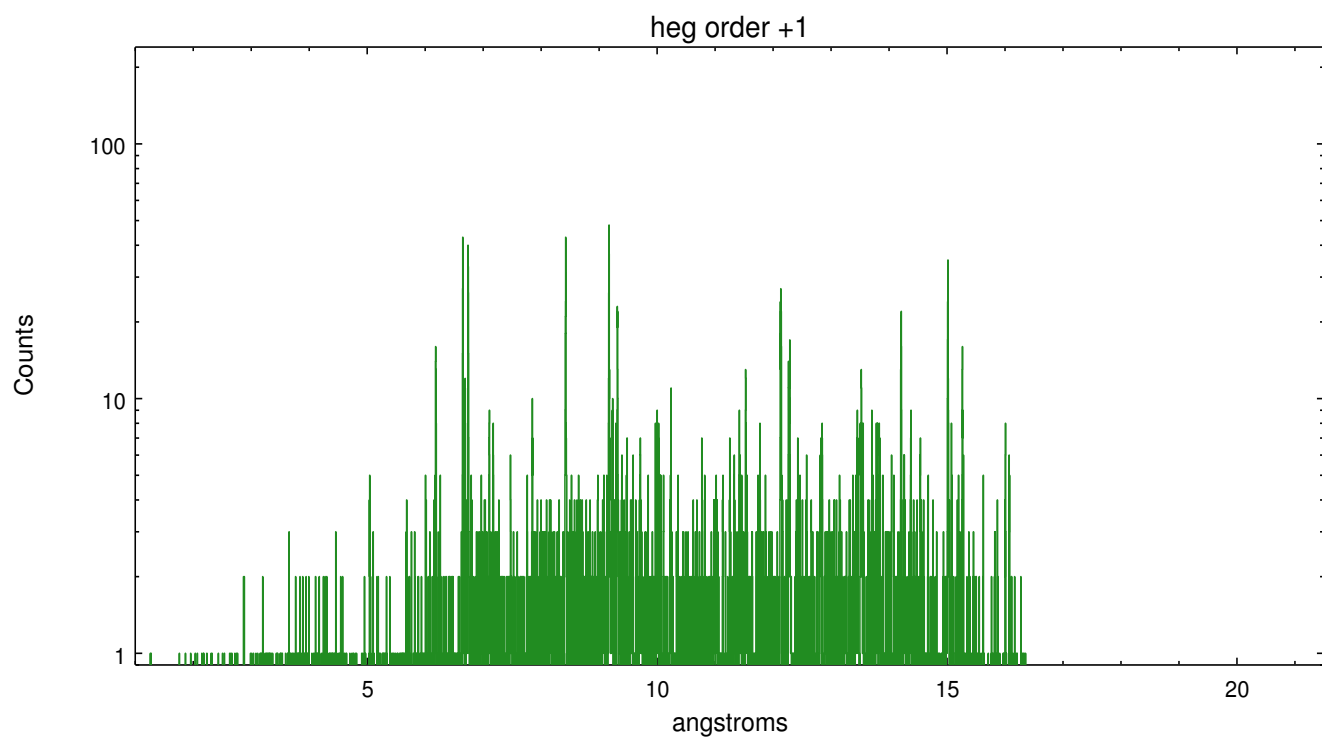
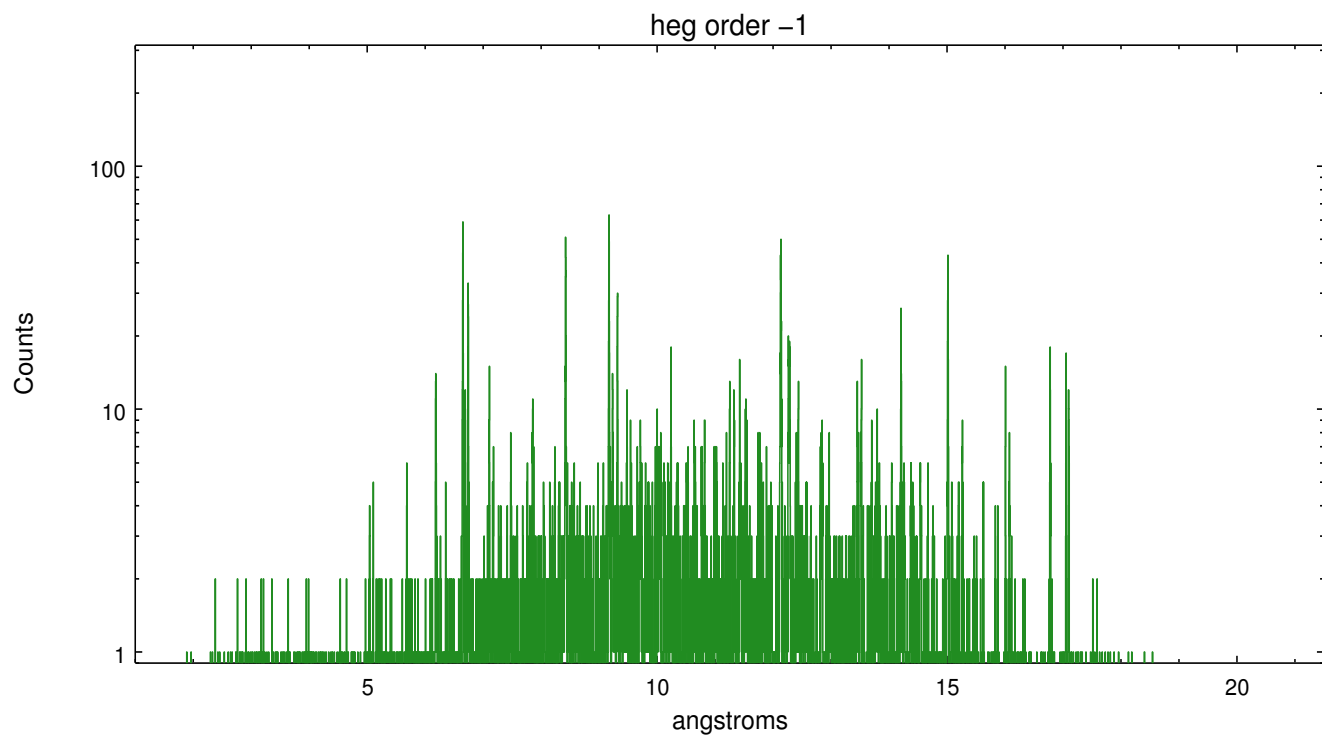
Spot Image HEG



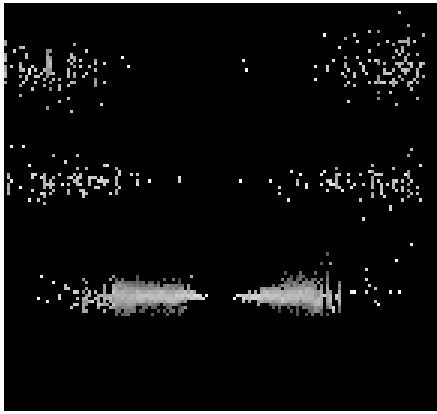
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	298	691	8959	8512	7067	389	221

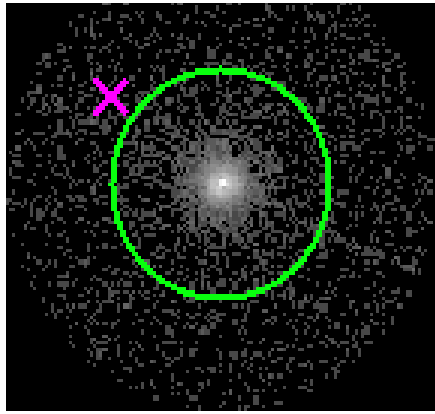




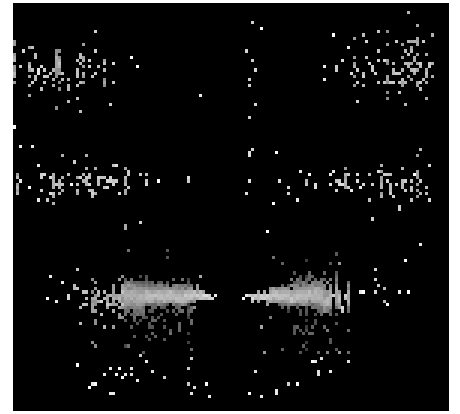
3.2 MEG Arm



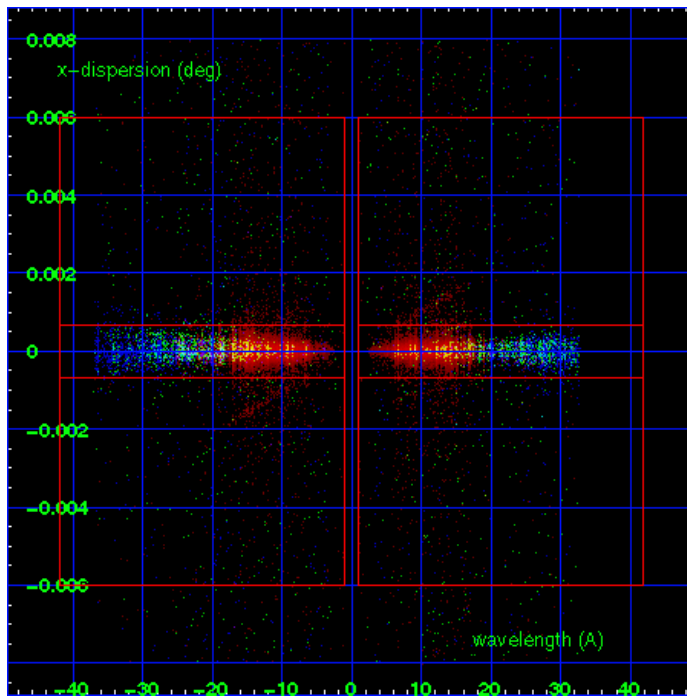
MEG Order Sort 123



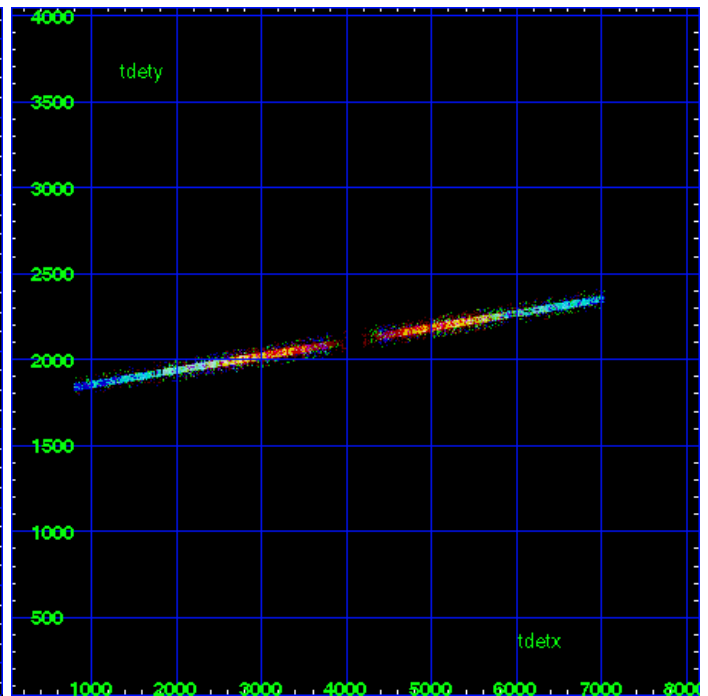
MEG Zero Order



MEG Order Sort ALL

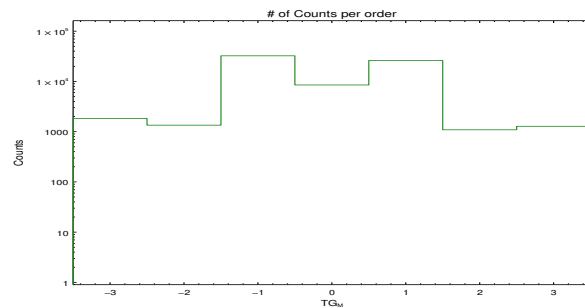


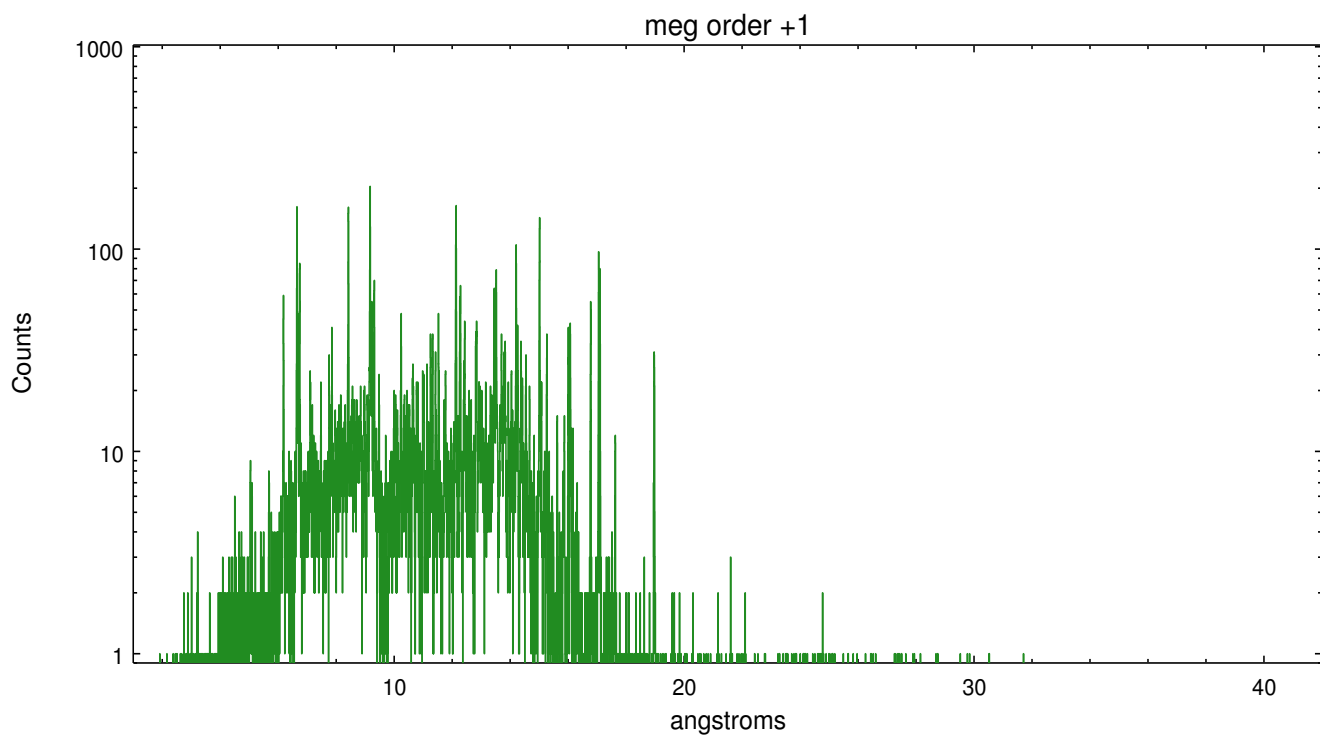
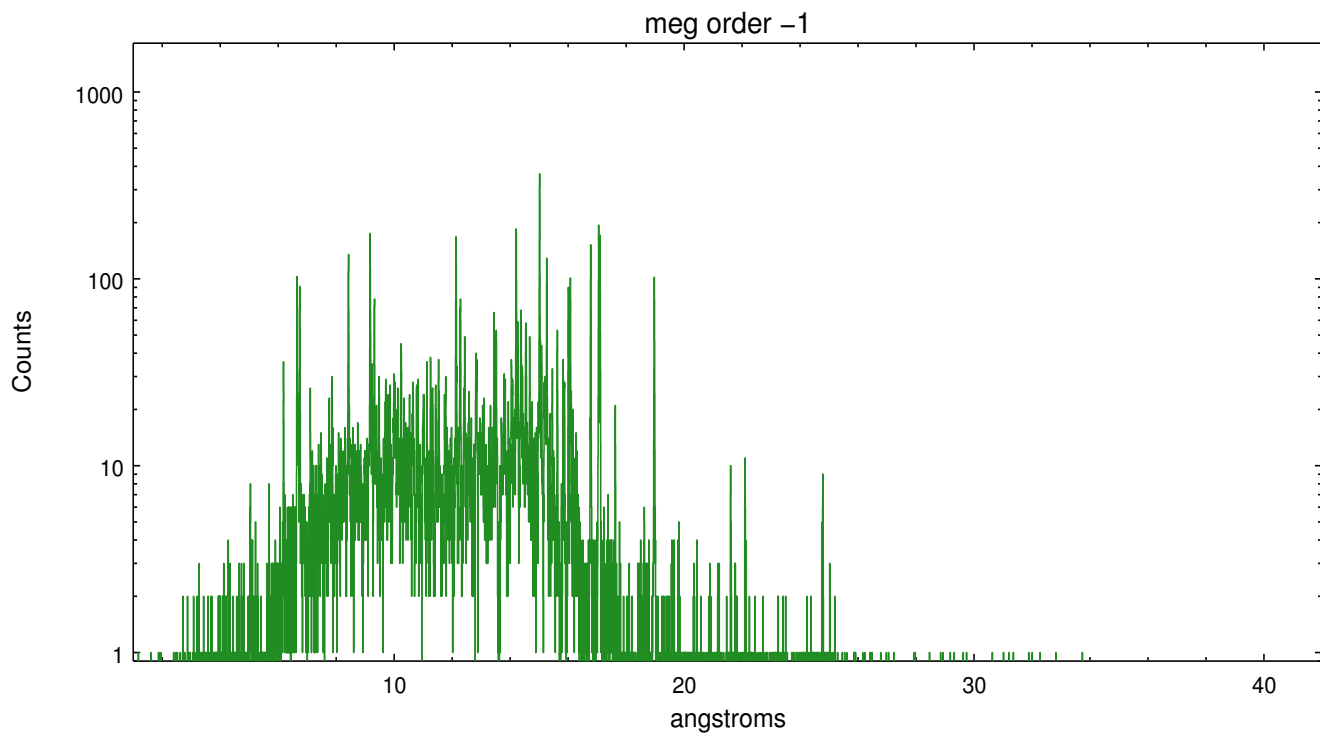
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1831	1347	32370	8512	26069	1090	1278





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.06.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.66

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=4128.12, y=4072.6) 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 (currently in ISIS). The tool calculates the point of intersection of the readout streak and the meg arm (preferred position), or the readout streak and the heg 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.