

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 13089 - L2 Version 2
Chandra X-Ray Center

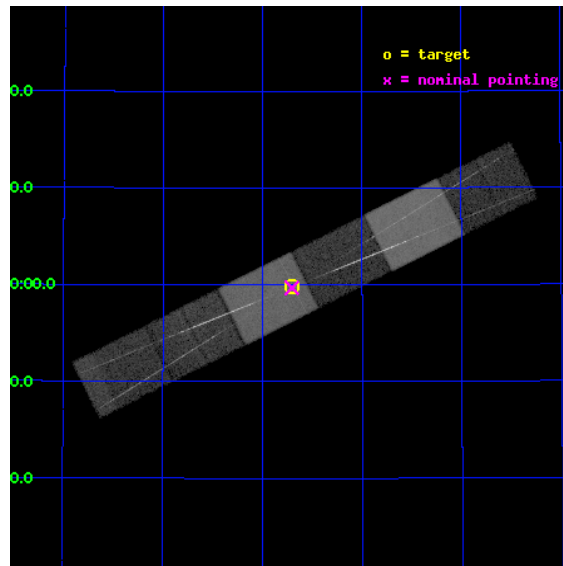
L2 Processing Date : Jul 19 2012

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1 Front

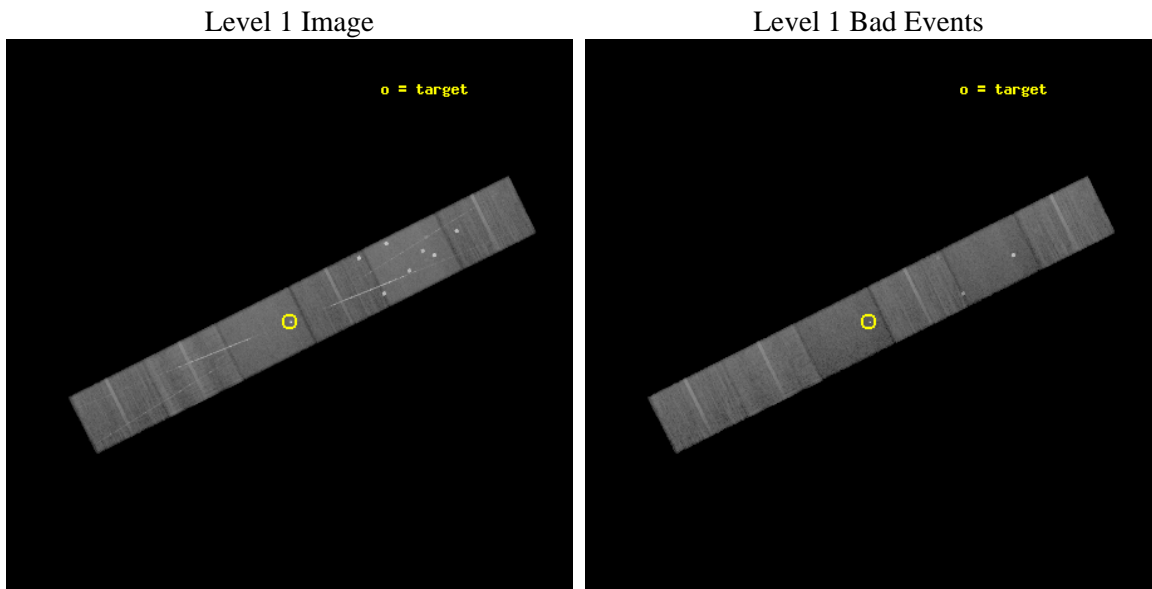
seq_num	291008	Sequence number
obs_id	13089	Observation id
title	AO-12 Calibration Observations of Capella	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA [deg]
dec_targ	45.997889	Observer's specified target Dec [deg]
ra_nom	79.176373184579	Nominal RA [deg]
dec_nom	45.994973937865	Nominal Dec [deg]
roll_nom	153.50637814925	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30047.5	Sum of GTIs [s]
livetime	29562.206812958	Livetime [s]
ontime4	30047.5	Sum of GTIs [s]
ontime5	30047.5	Sum of GTIs [s]
ontime6	30047.5	Sum of GTIs [s]
ontime7	30047.5	Sum of GTIs [s]
ontime8	30047.5	Sum of GTIs [s]
ontime9	30047.5	Sum of GTIs [s]
l2events	335136	Number of level 2 events



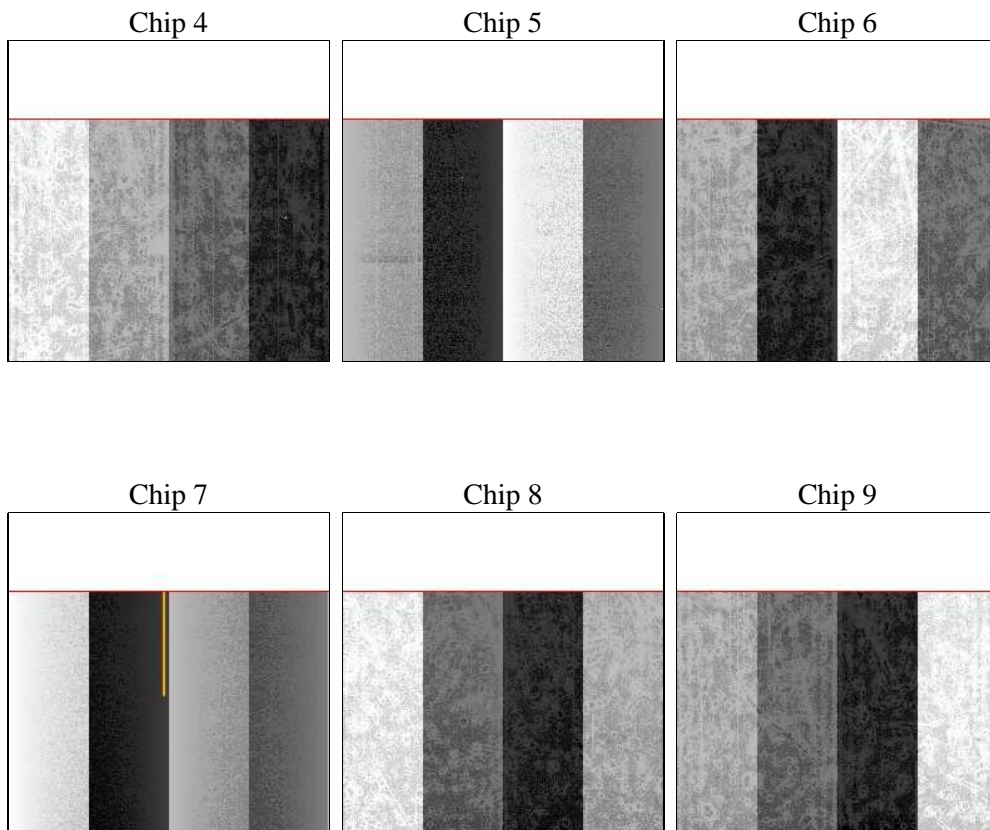
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.251000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30047.5	Sum of GTIs [s]
caldbver	4.5.0	 	ontime4	30047.5	Sum of GTIs [s]
date	2012-07-07T17:47:33	Date and time of file creation	ontime5	30047.5	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	30047.5	Sum of GTIs [s]
			ontime7	30047.5	Sum of GTIs [s]
			ontime8	30047.5	Sum of GTIs [s]
			ontime9	30047.5	Sum of GTIs [s]
			l1events	1331262	Number of level 1 events

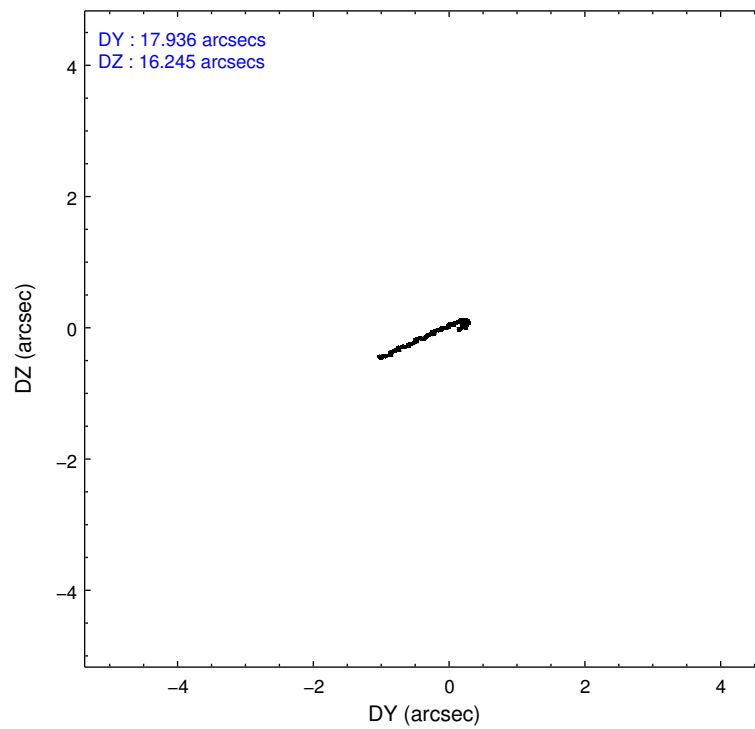
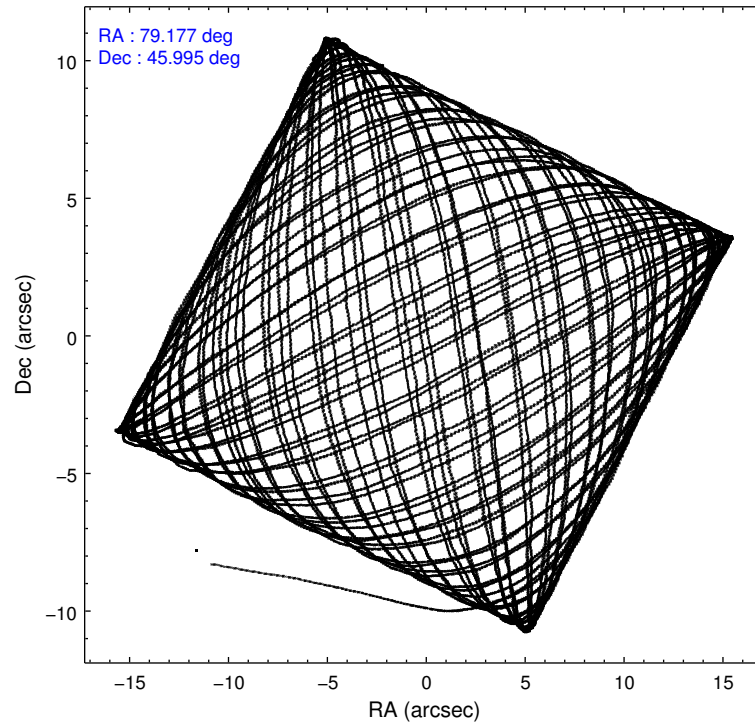
2.1.4 Events

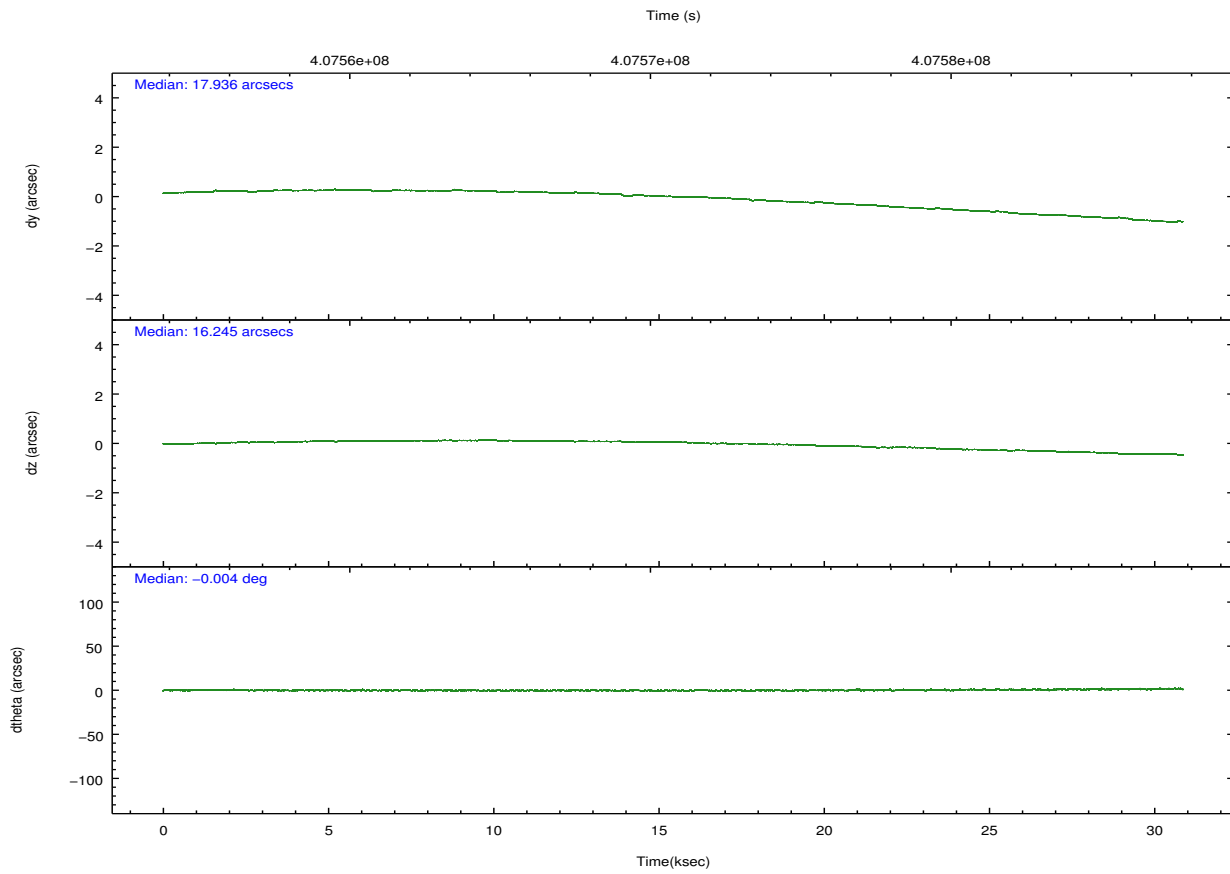
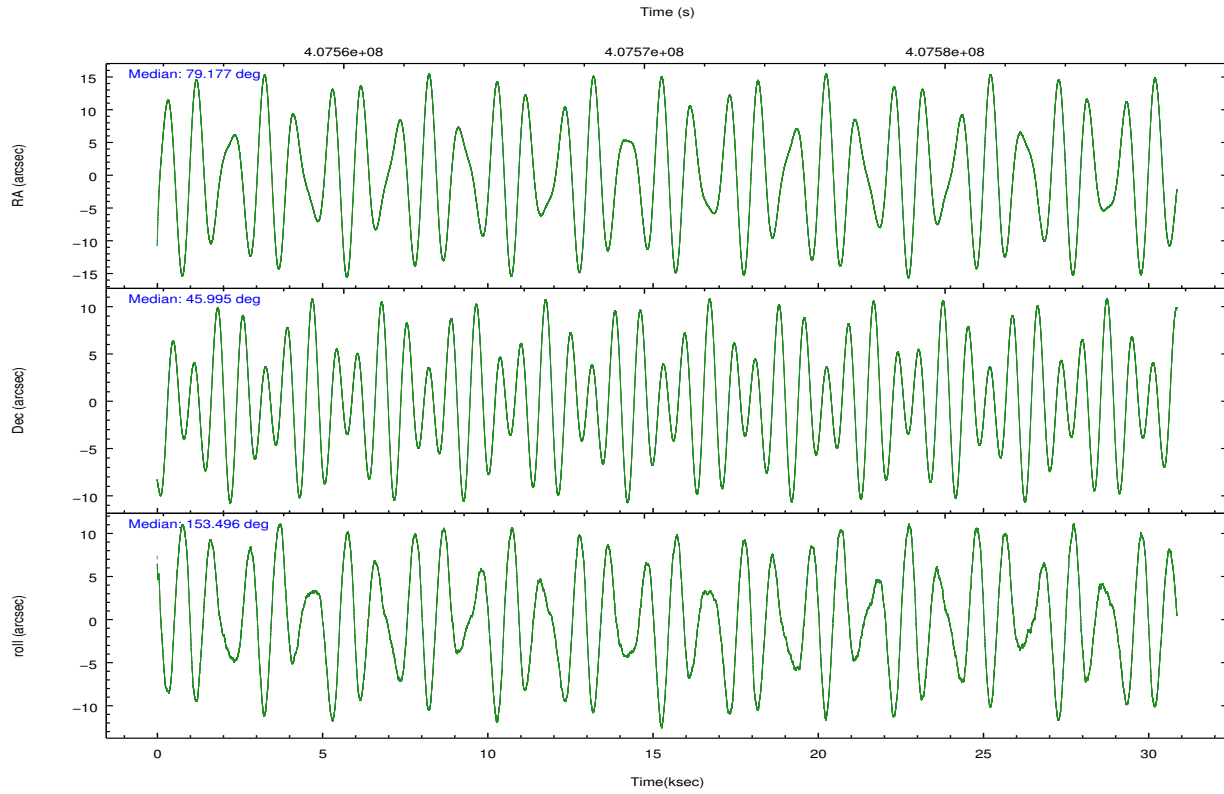
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	205647	309381	192731	226678	228843	167982	grade 0 events	18957	42878	17534	12142	27805	9980
rejected events	173527	138391	149513	118352	159561	144882		9%	13%	9%	5%	12%	5%
rejected %	84%	44%	77%	52%	69%	86%	grade 1 events	209	1354	181	578	212	93
								0%	0%	0%	0%	0%	0%
							grade 2 events	5194	42001	16509	22753	14287	4412
								2%	13%	8%	10%	6%	2%
							grade 3 events	2354	7665	2449	10150	6087	2236
								1%	2%	1%	4%	2%	1%
							grade 4 events	2059	7327	2405	10290	5666	2256
								1%	2%	1%	4%	2%	1%
							grade 5 events	7234	21887	7520	23023	10768	8226
								3%	7%	3%	10%	4%	4%
							grade 6 events	3562	71135	4326	53006	15471	4217
								1%	22%	2%	23%	6%	2%
							grade 7 events	166078	115134	141807	94736	148547	136562
								80%	37%	73%	41%	64%	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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	79.215622	79.17637318457876	CCD I2 on	N	N
[deg] Pointing Dec	45.997019	45.9949739378648	CCD I3 on	N	N
[deg] Pointing Roll	153.321521	153.5063781492491	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-187.132523	-187.1254020033014	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.007120579706367	CCD S4 on	Y	Y
[s] Observation start time (MET)	407556181.184000	407554795.79719	CCD S5 on	Y	Y
Observation start date	2010-12-01T02:01:55	2010-12-01T01:39:55	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	407586181.184000	407586406.28632	On-chip summing requested	N	N
Observation end date	2010-12-01T10:21:55	2010-12-01T10:26:46	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

2.3 Aspect



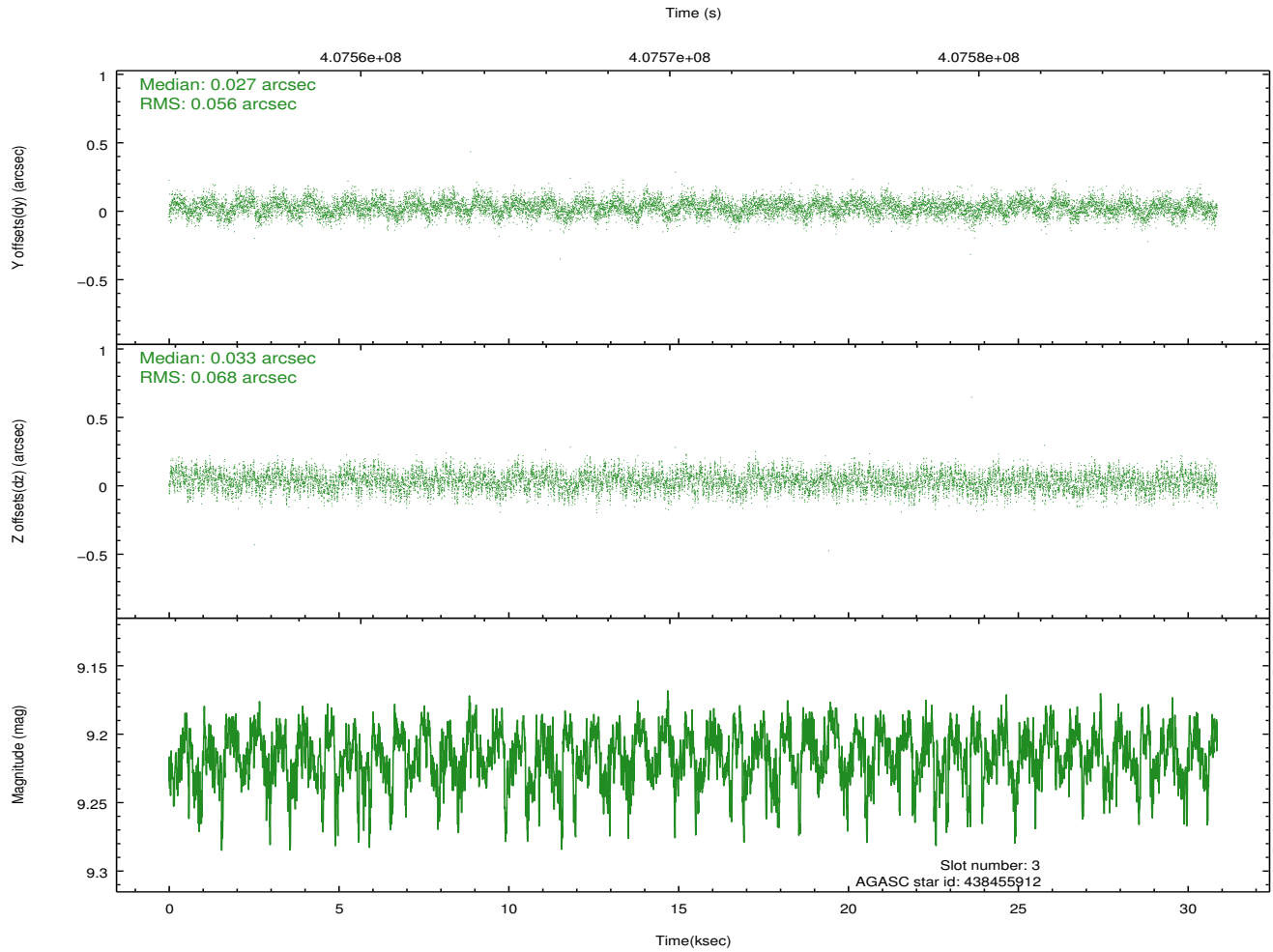
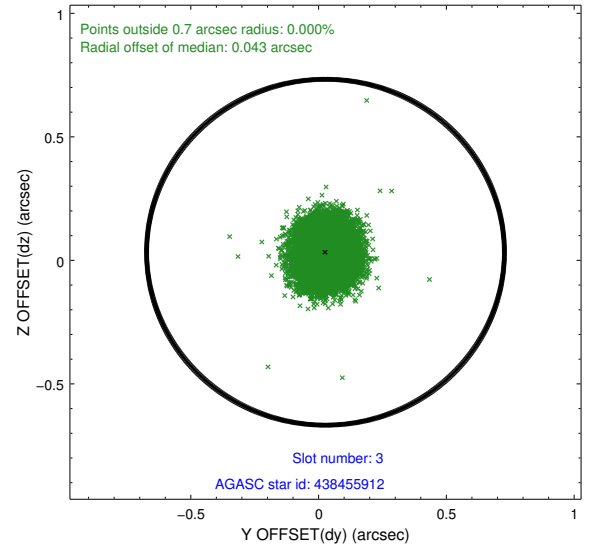
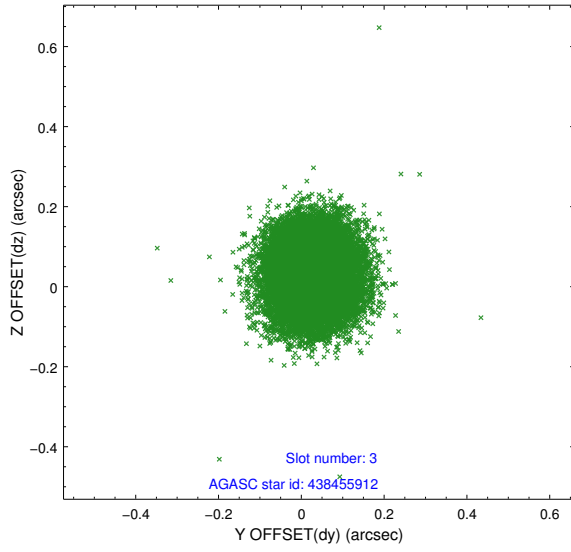


Slot Statistics

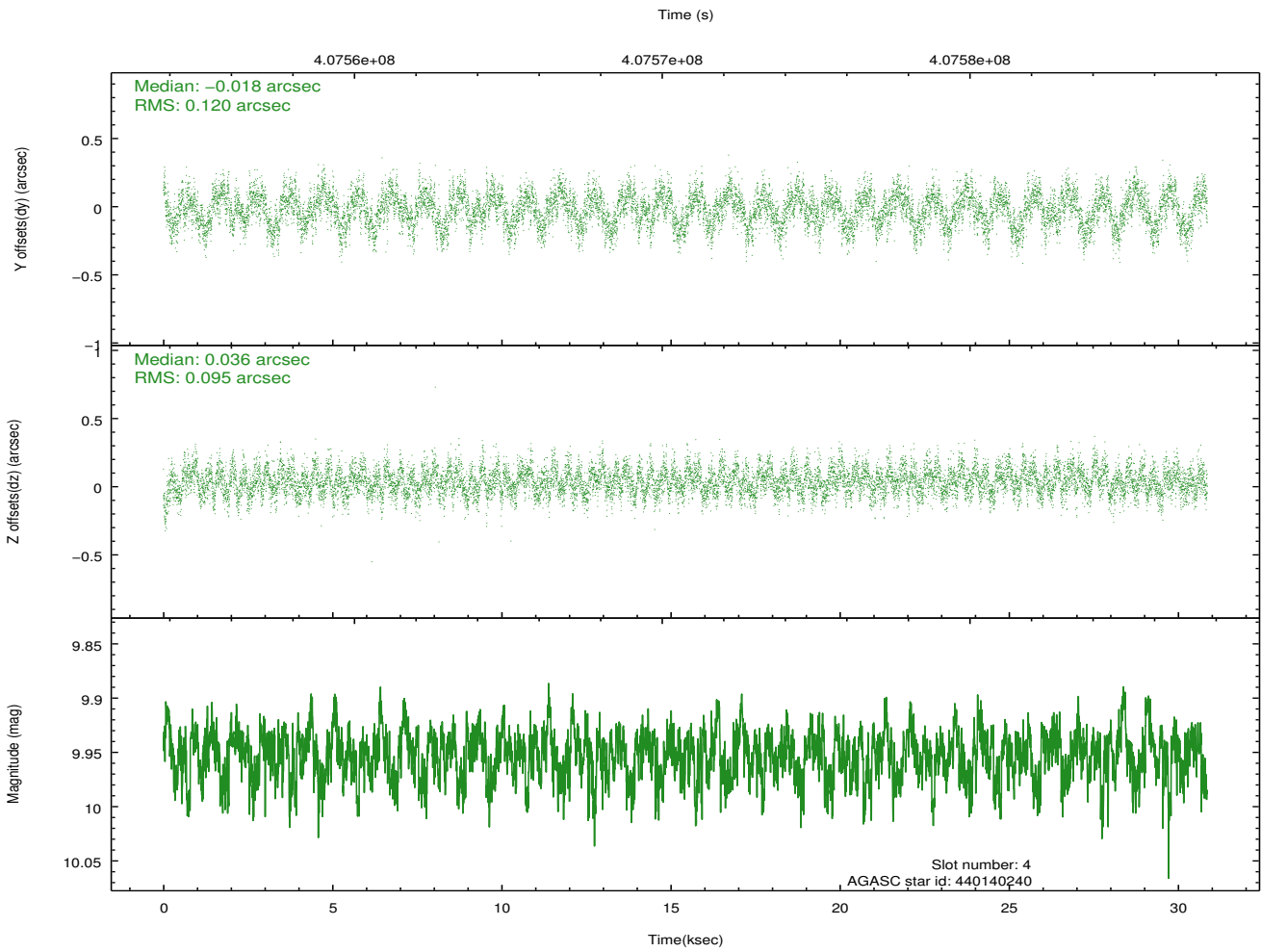
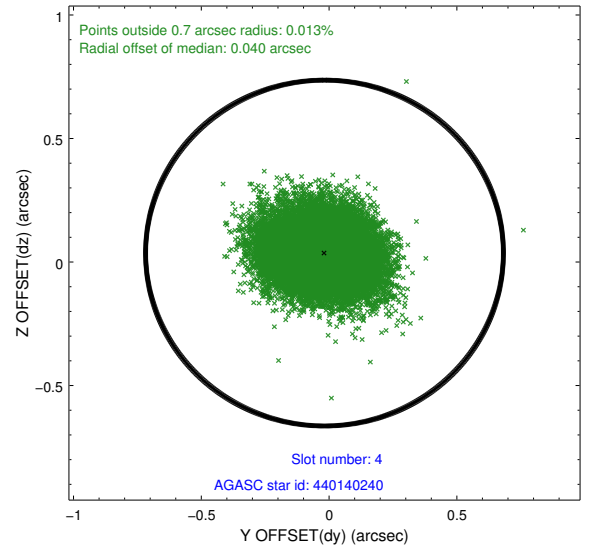
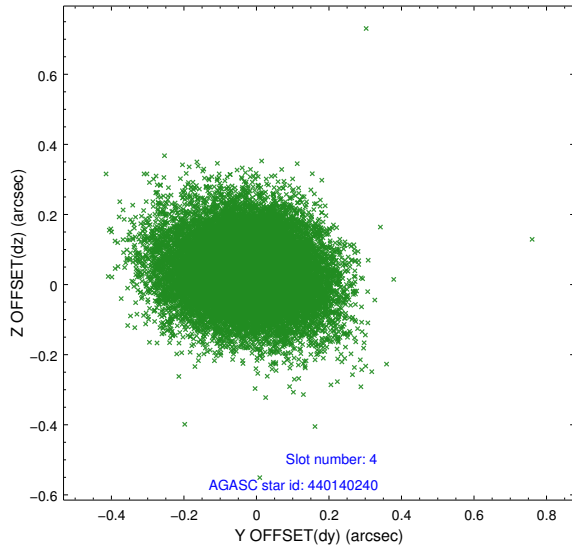
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.96	7527	-0.092	-0.096	0.006	0.011	0.000000	0.000000	-770.71	-1799.78
1	FID	ACIS-S-4	7.04	7527	0.250	0.070	0.022	0.043	0.000000	0.000000	2142.86	108.80
2	FID	ACIS-S-5	7.08	7527	-0.190	0.035	0.022	0.046	0.000000	0.000000	-1823.57	102.49
3	GUIDE	438455912	9.22	15033	0.027	0.033	0.094	0.148	78.251946	45.690923	1677.24	2060.02
4	GUIDE	440140240	9.95	15030	-0.018	0.036	0.164	0.260	78.889349	46.726437	1900.09	-1985.79
5	GUIDE	440150048	7.18	15055	-0.040	0.114	0.079	0.125	79.112838	46.416060	906.05	-1233.36
6	GUIDE	440163960	8.86	15049	0.123	0.019	0.090	0.144	79.298370	45.827072	-459.72	453.08
7	GUIDE	438460832	8.98	15047	-0.091	-0.208	0.110	0.170	78.414614	45.554782	1093.63	2320.44

2.4 Star Slots

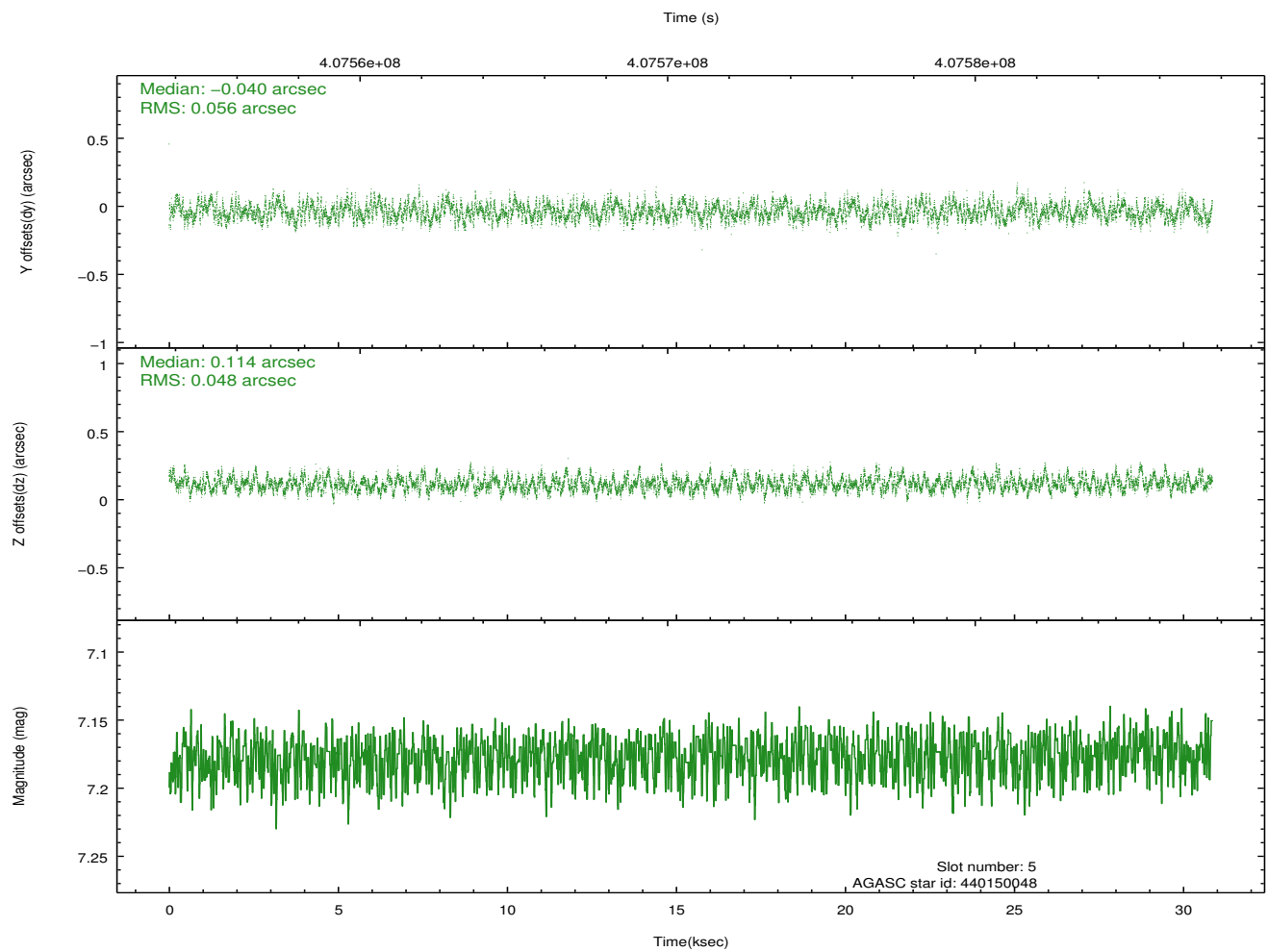
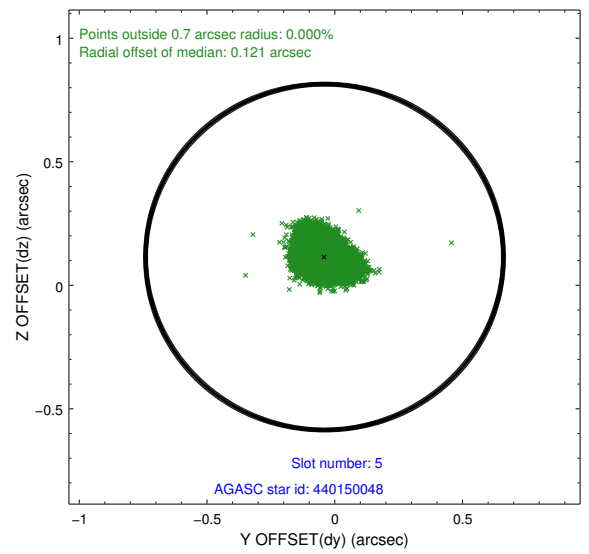
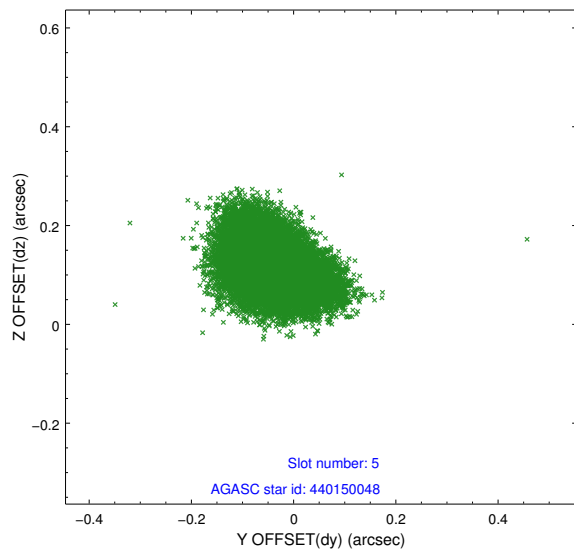
2.4.1 Slot 3



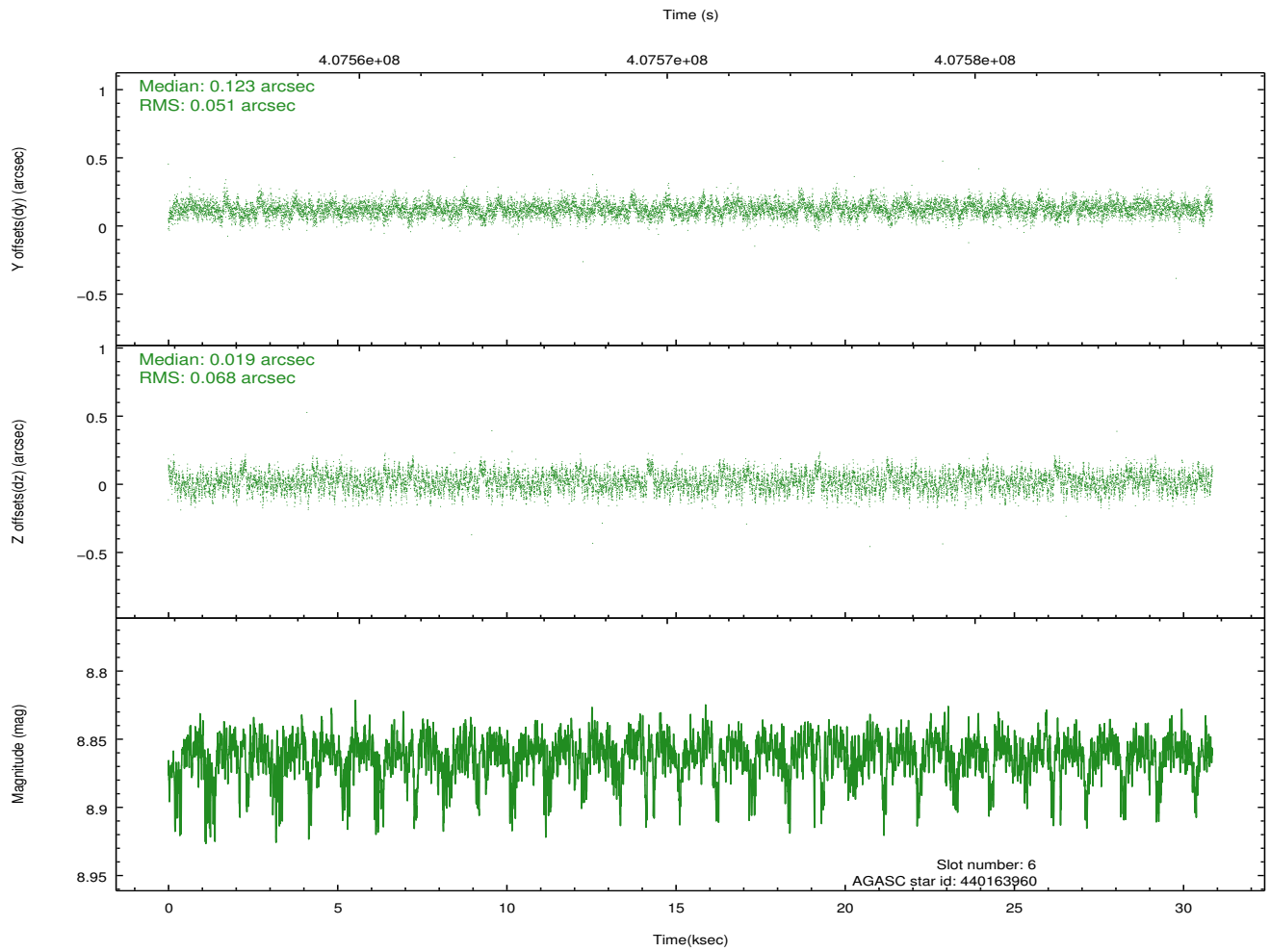
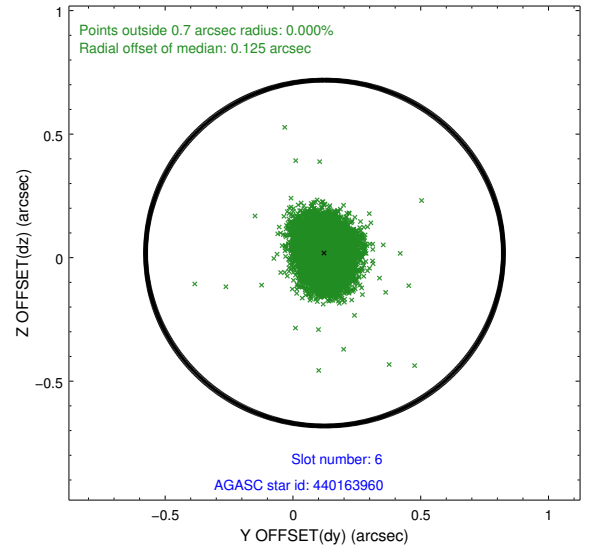
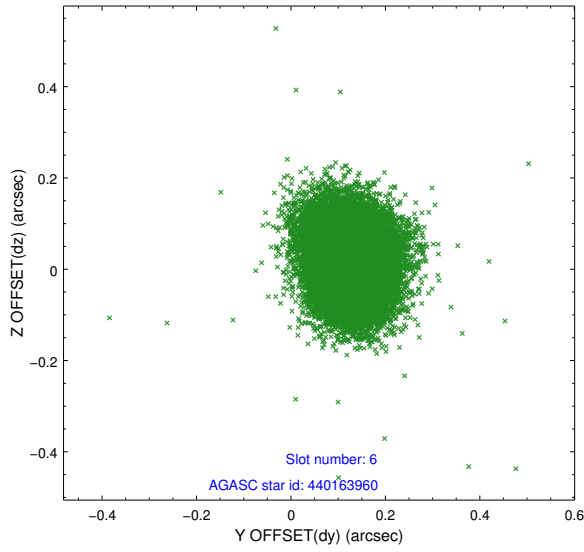
2.4.2 Slot 4



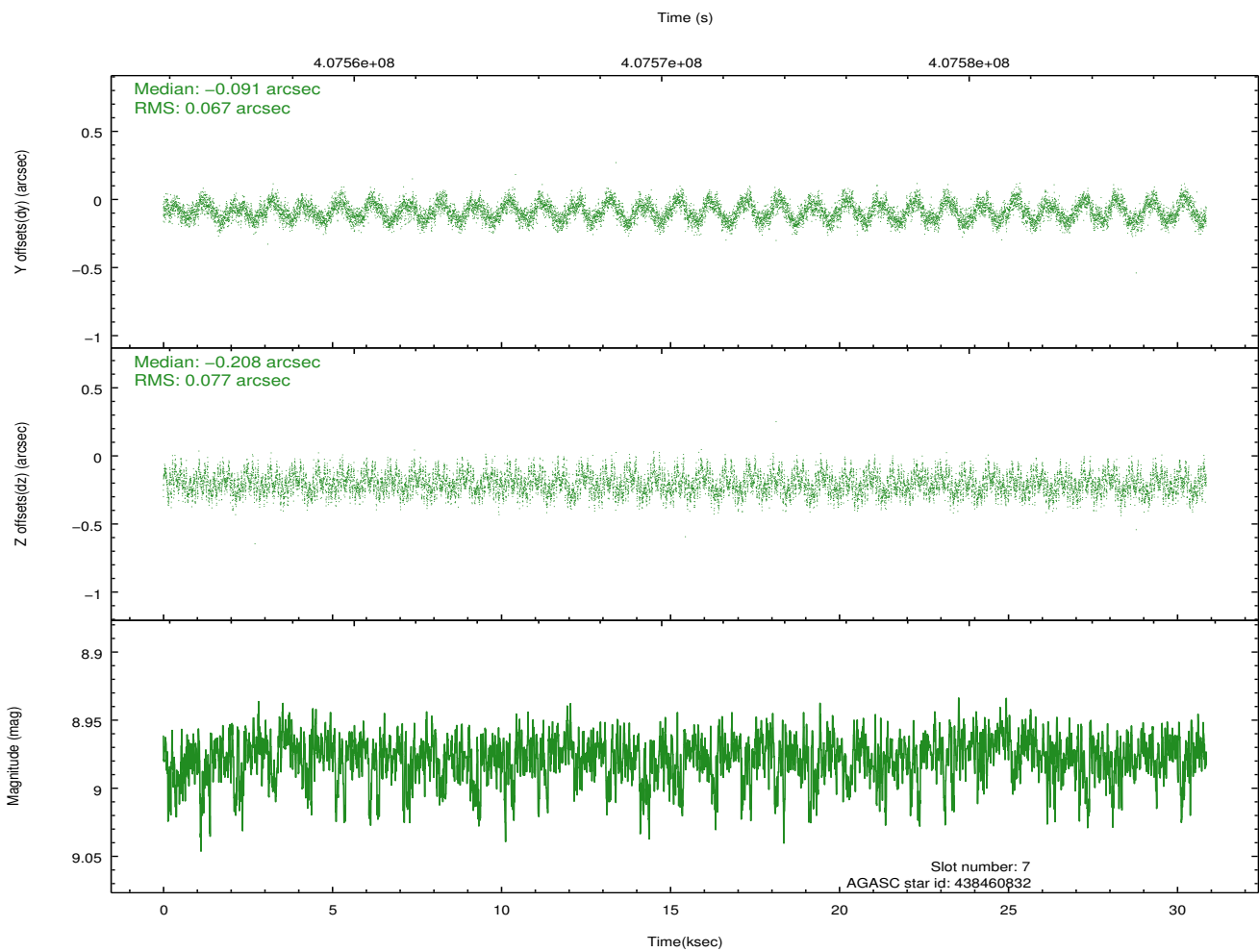
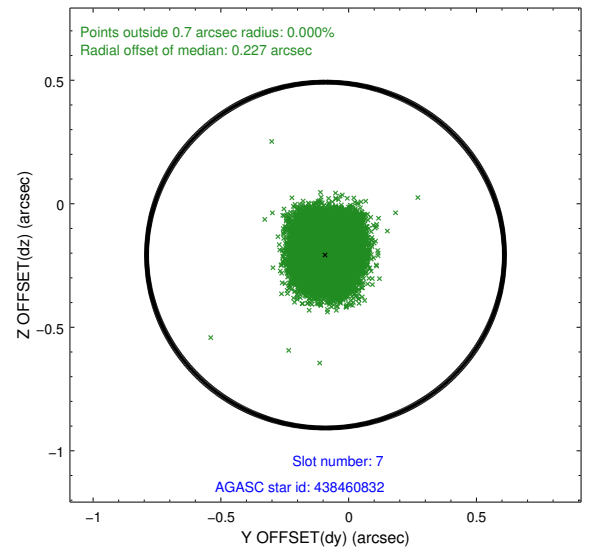
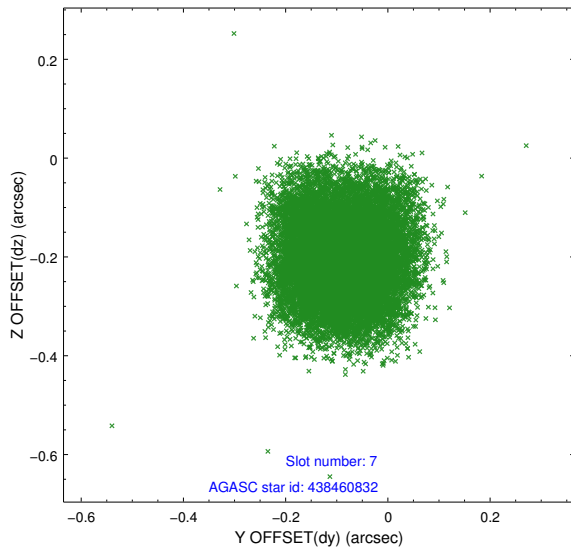
2.4.3 Slot 5



2.4.4 Slot 6

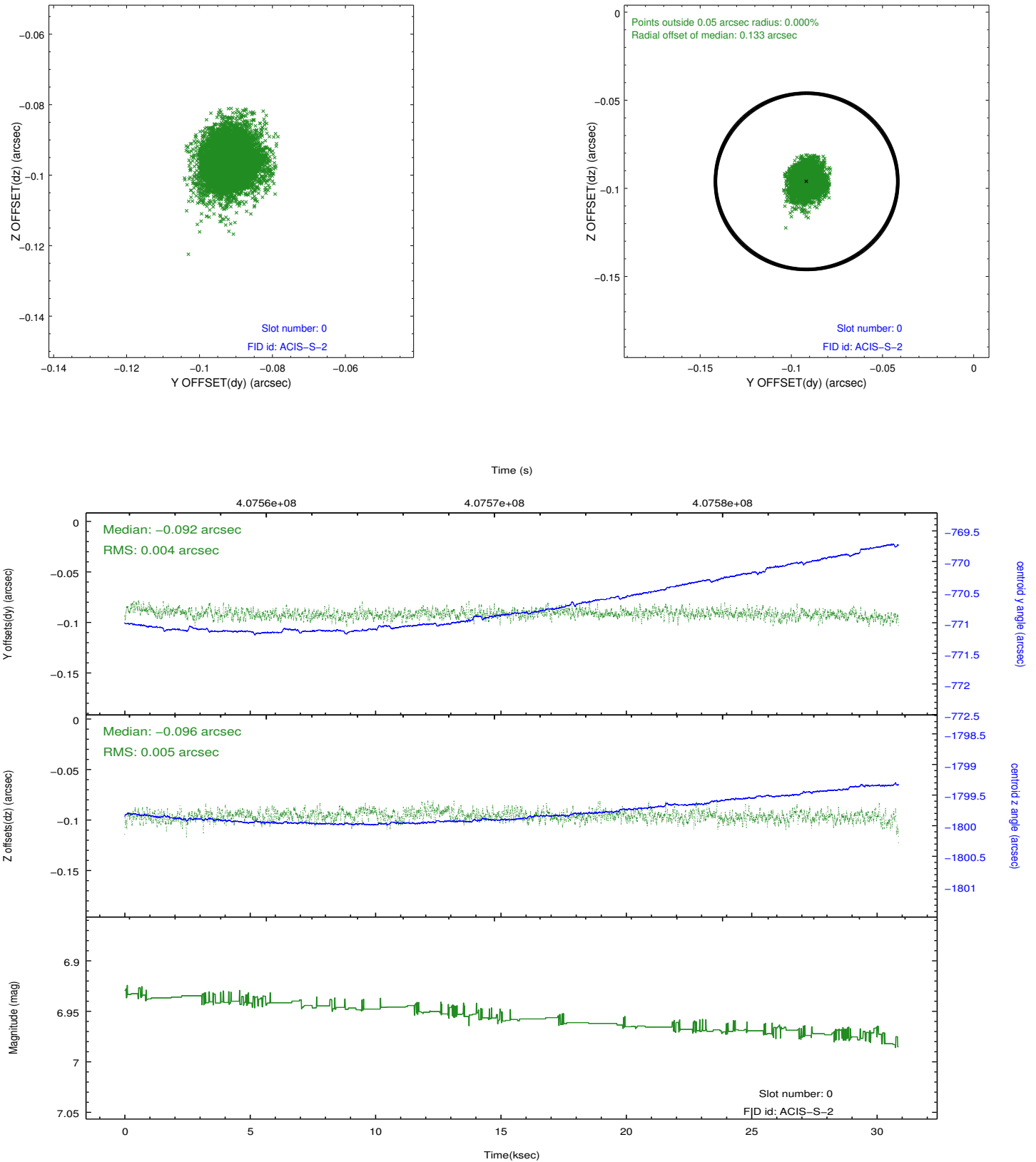


2.4.5 Slot 7

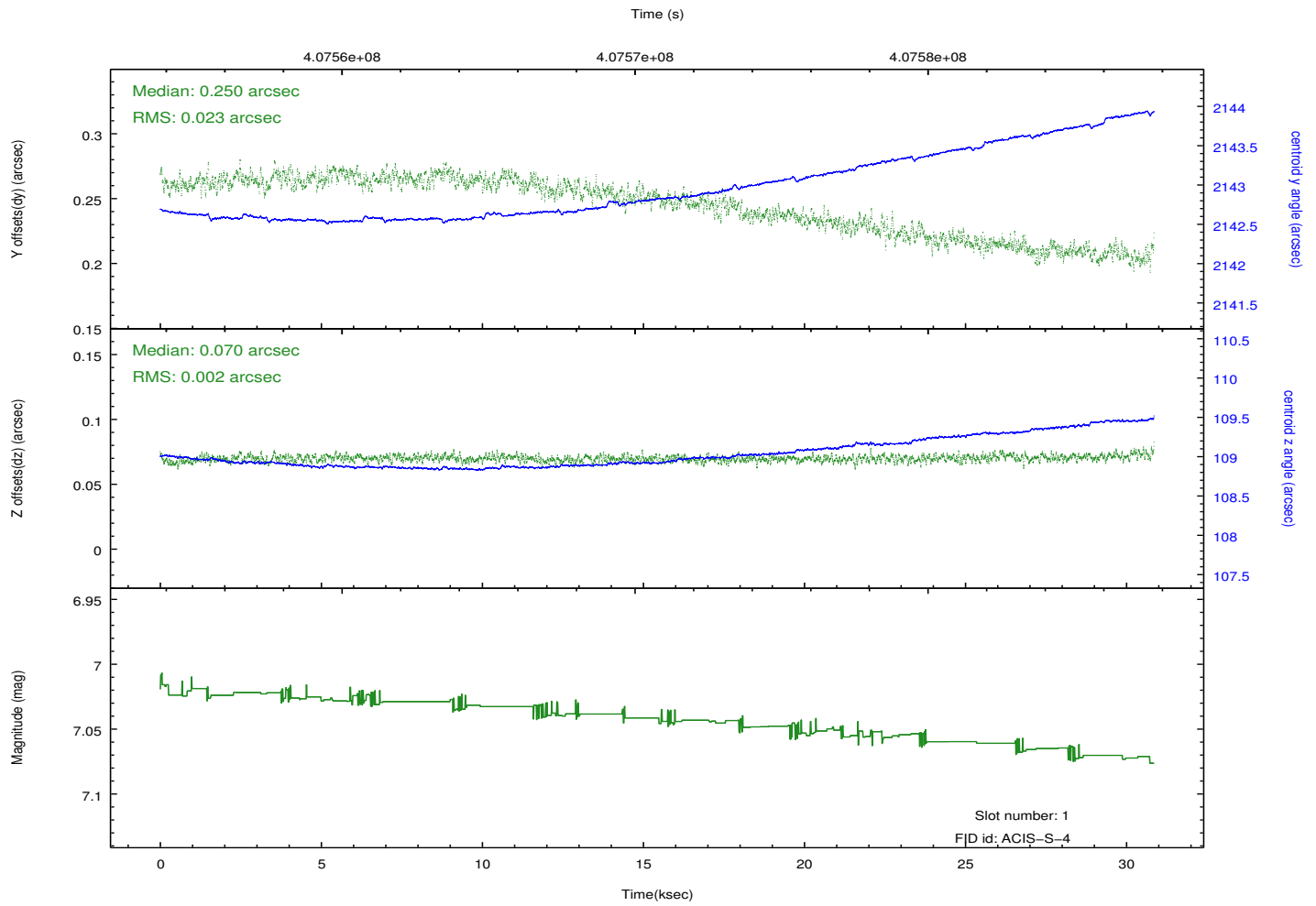
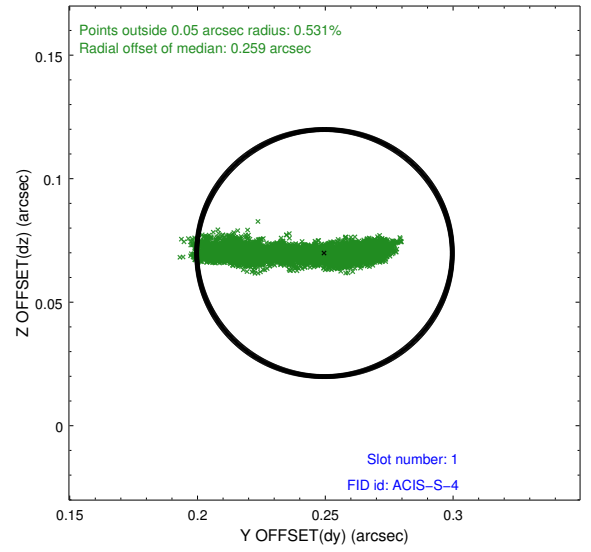
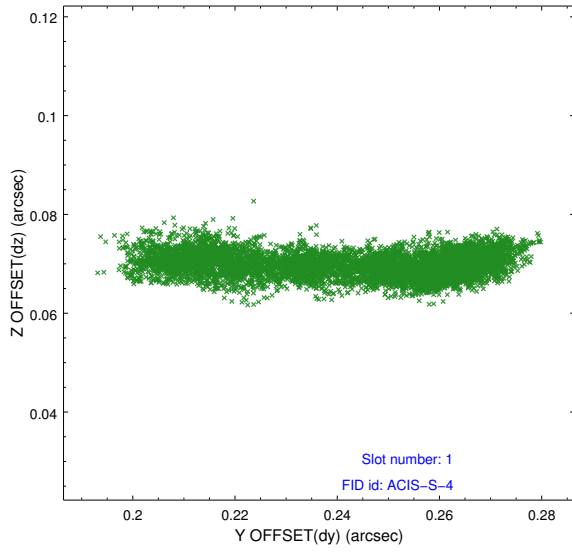


2.5 FID Slots

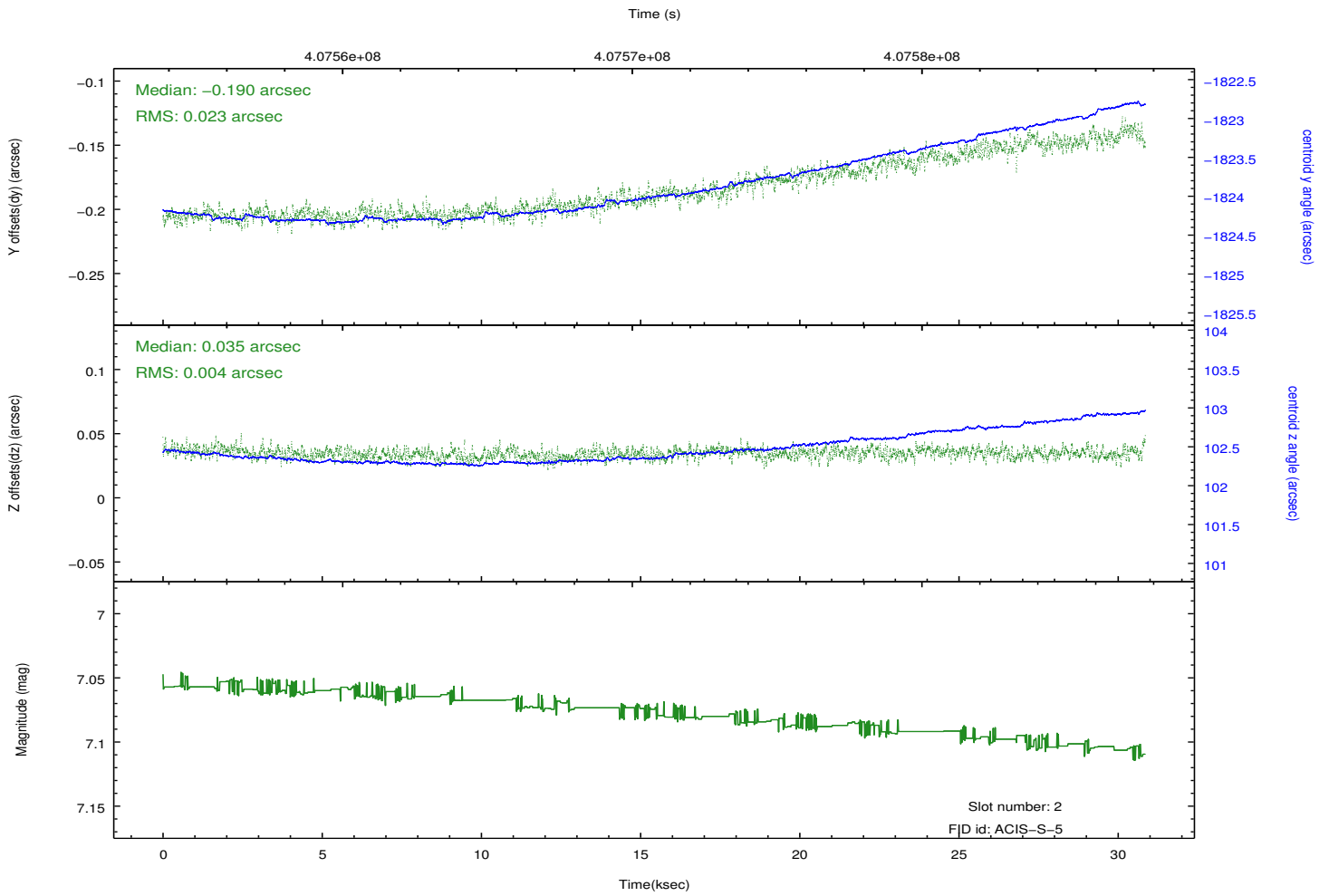
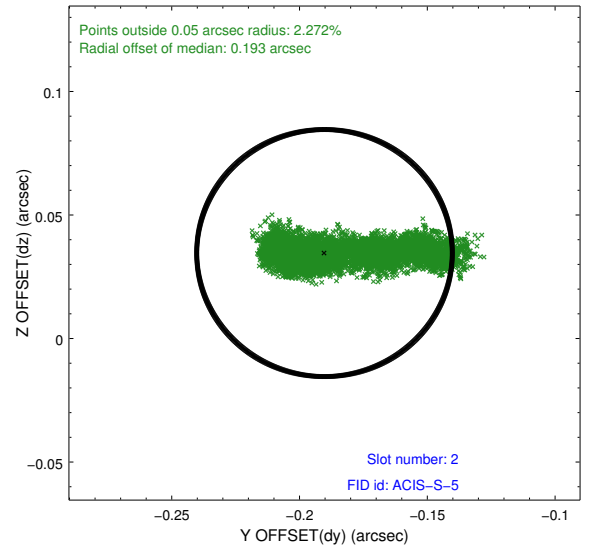
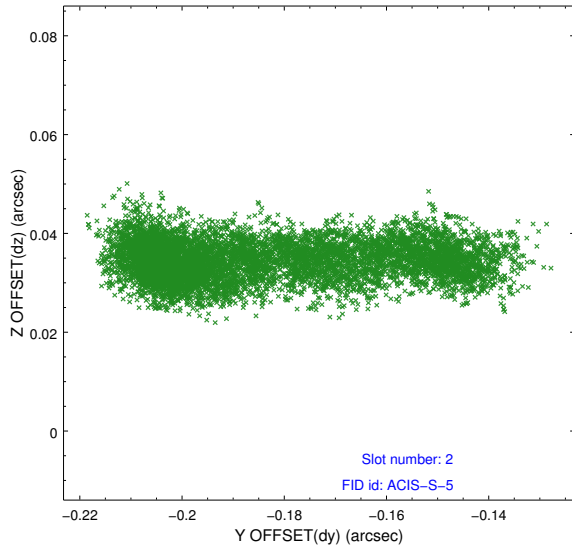
2.5.1 Slot 0



2.5.2 Slot 1

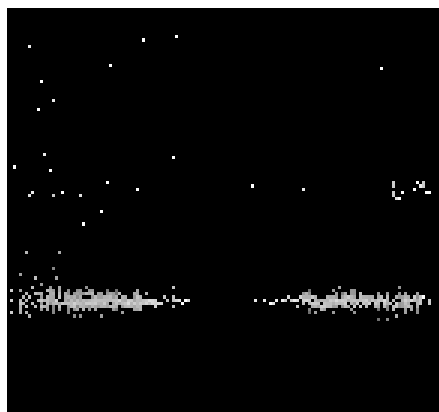


2.5.3 Slot 2

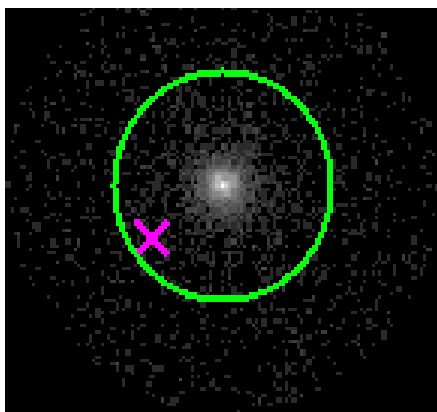


3 Gratings

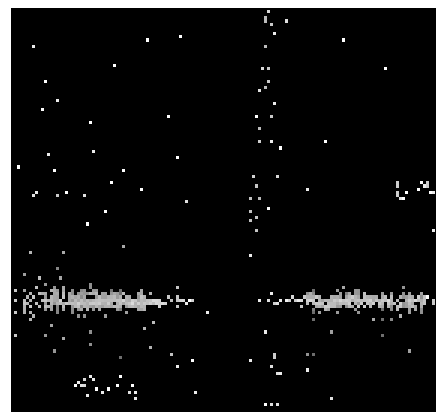
3.1 HEG Arm



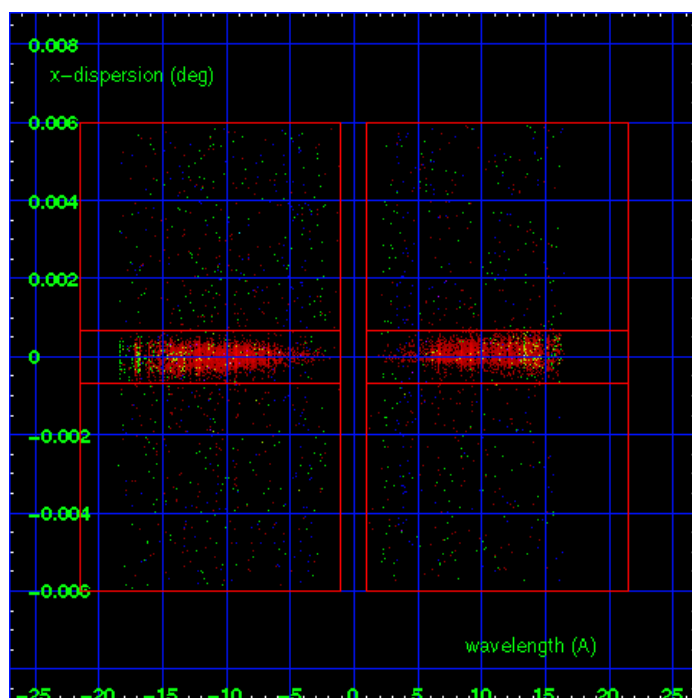
HEG Order Sort 123



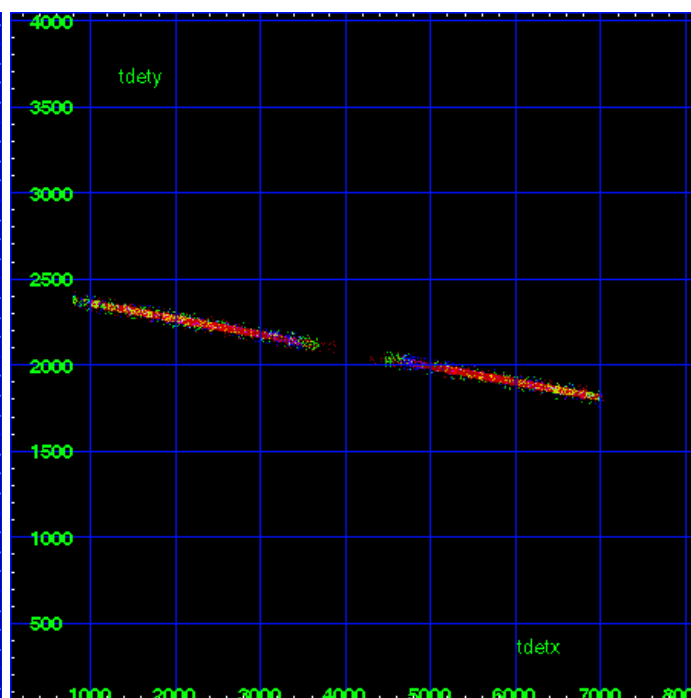
HEG Zero Order



HEG Order Sort ALL

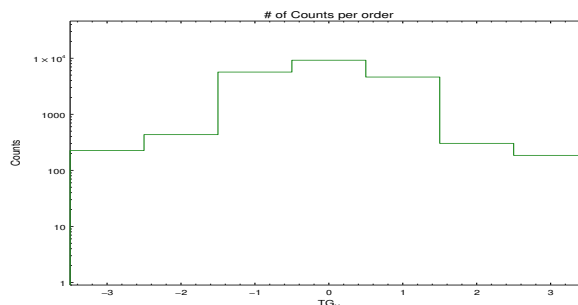


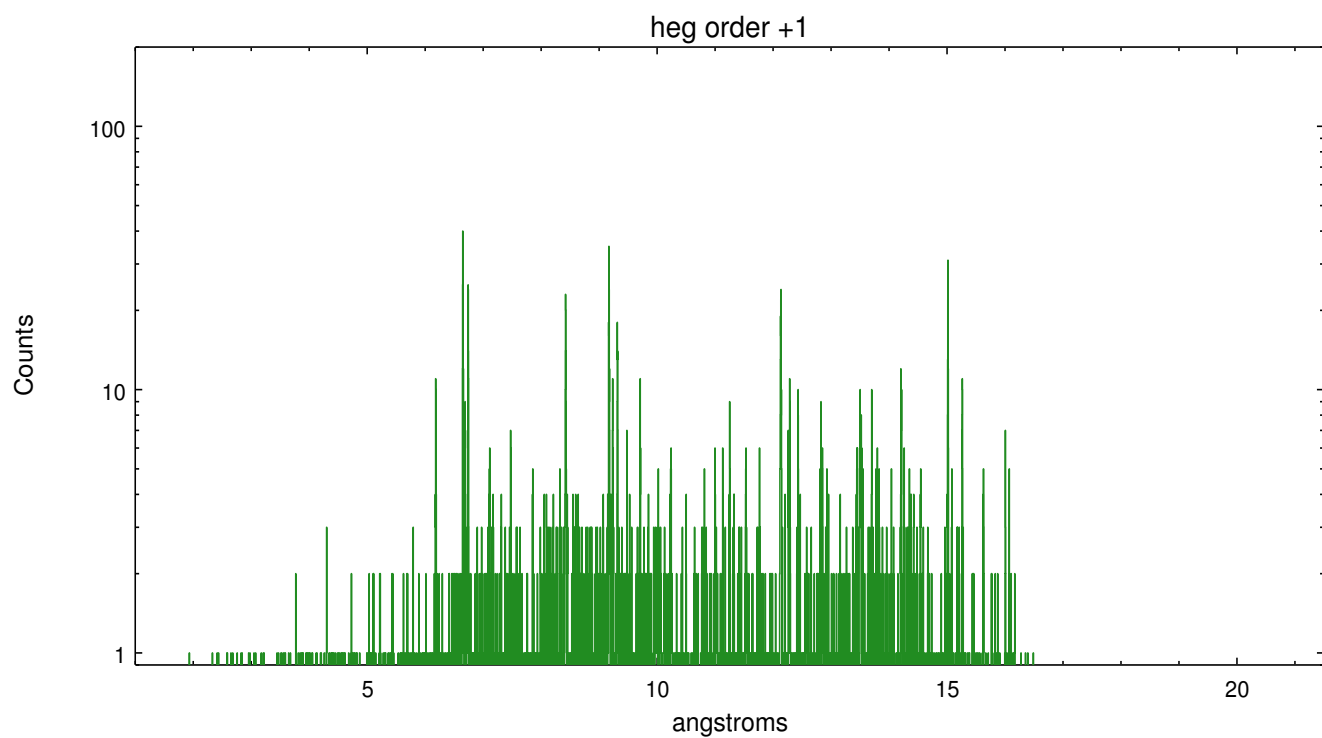
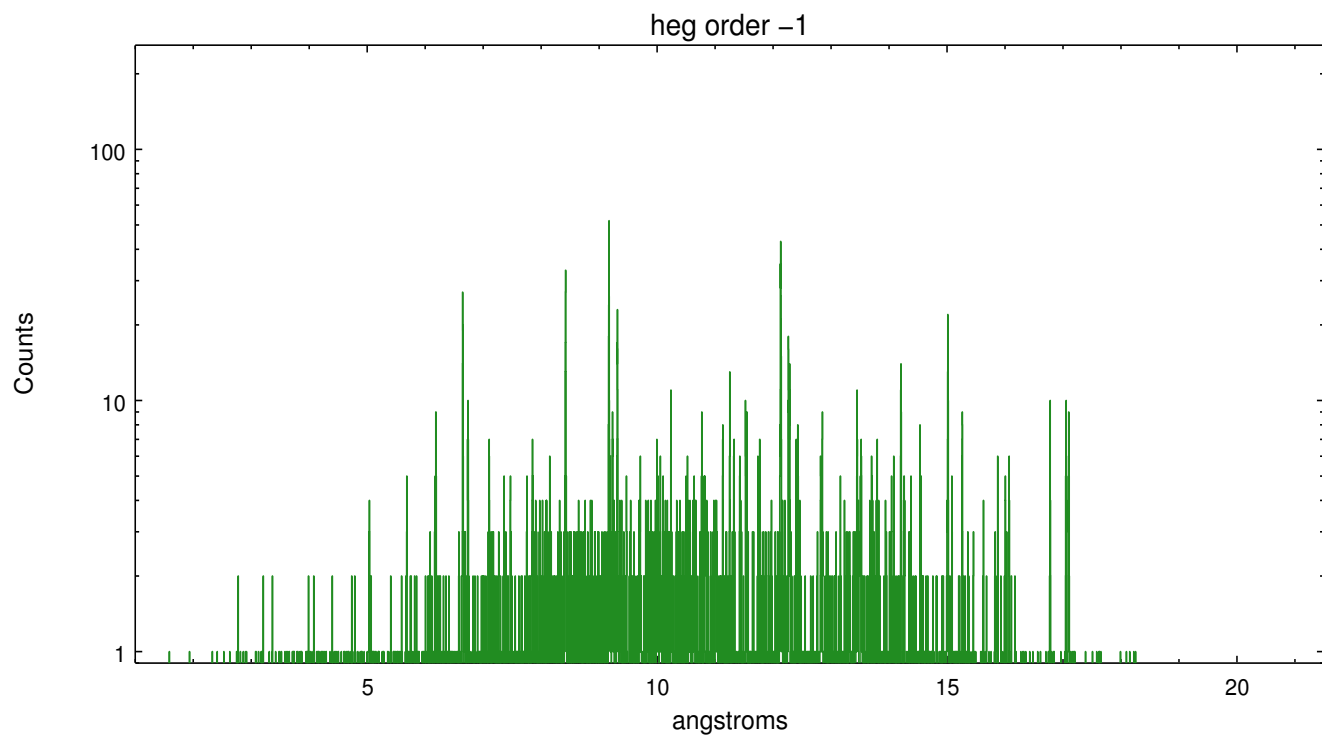
Spot Image HEG



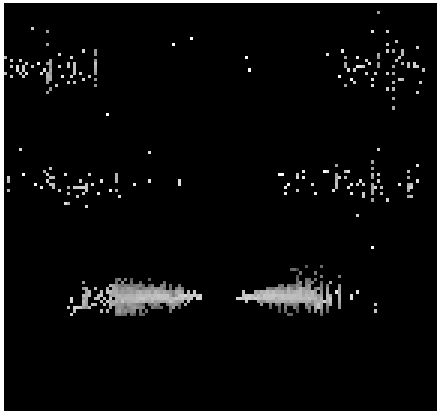
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	226	434	5666	9216	4619	303	185

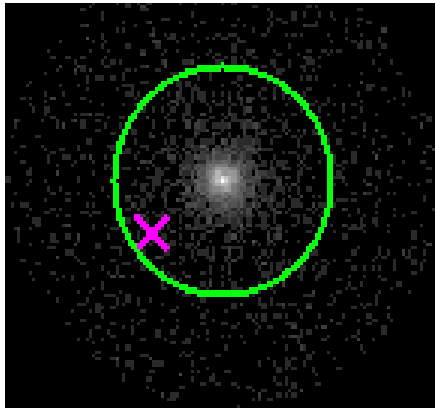




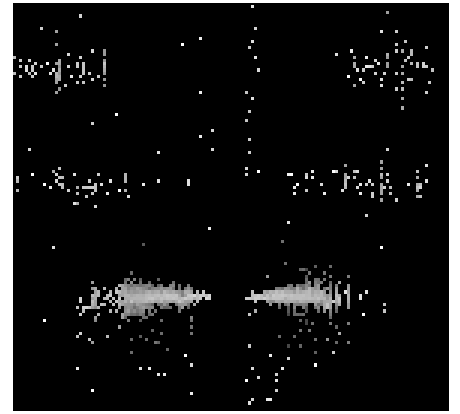
3.2 MEG Arm



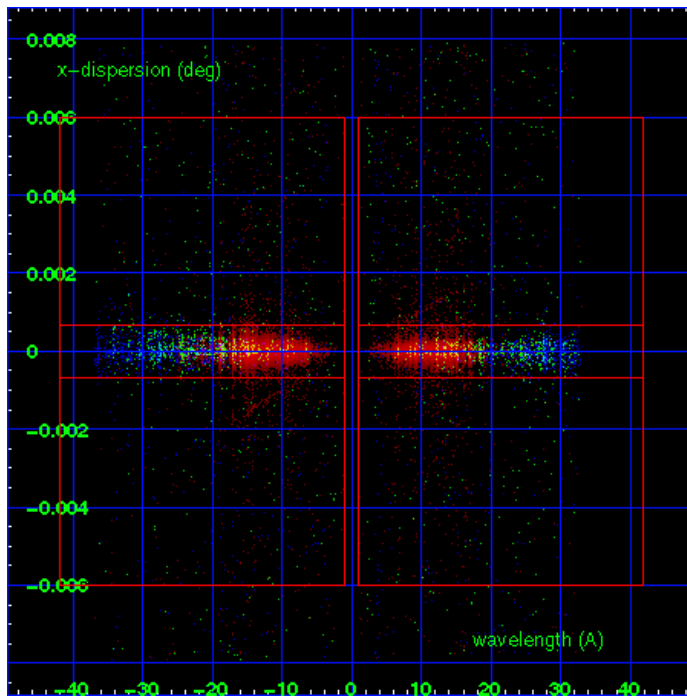
MEG Order Sort 123



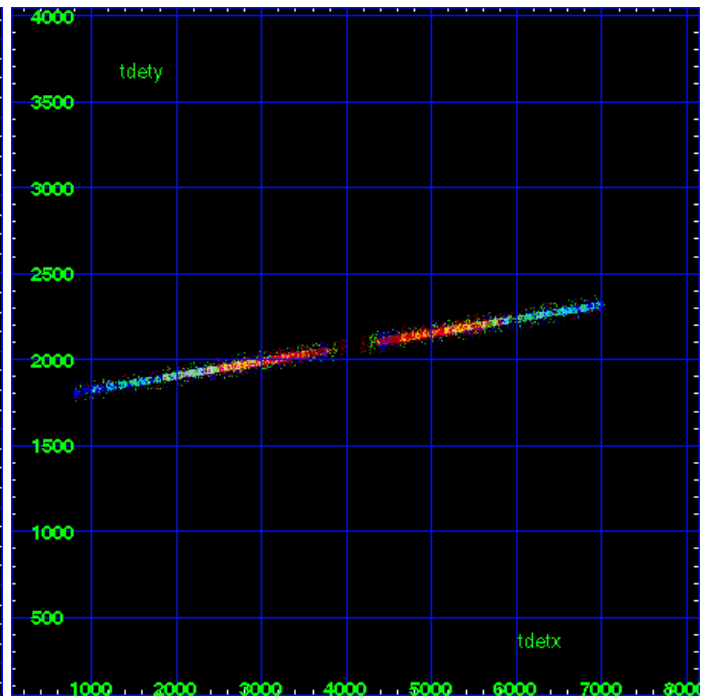
MEG Zero Order



MEG Order Sort ALL

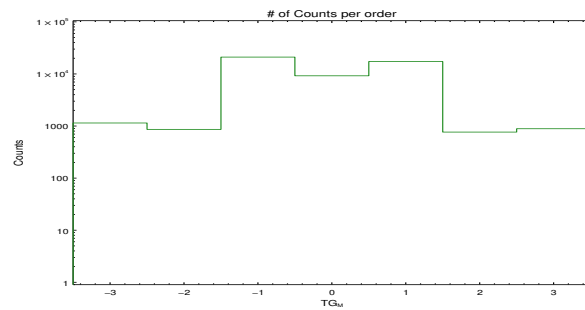


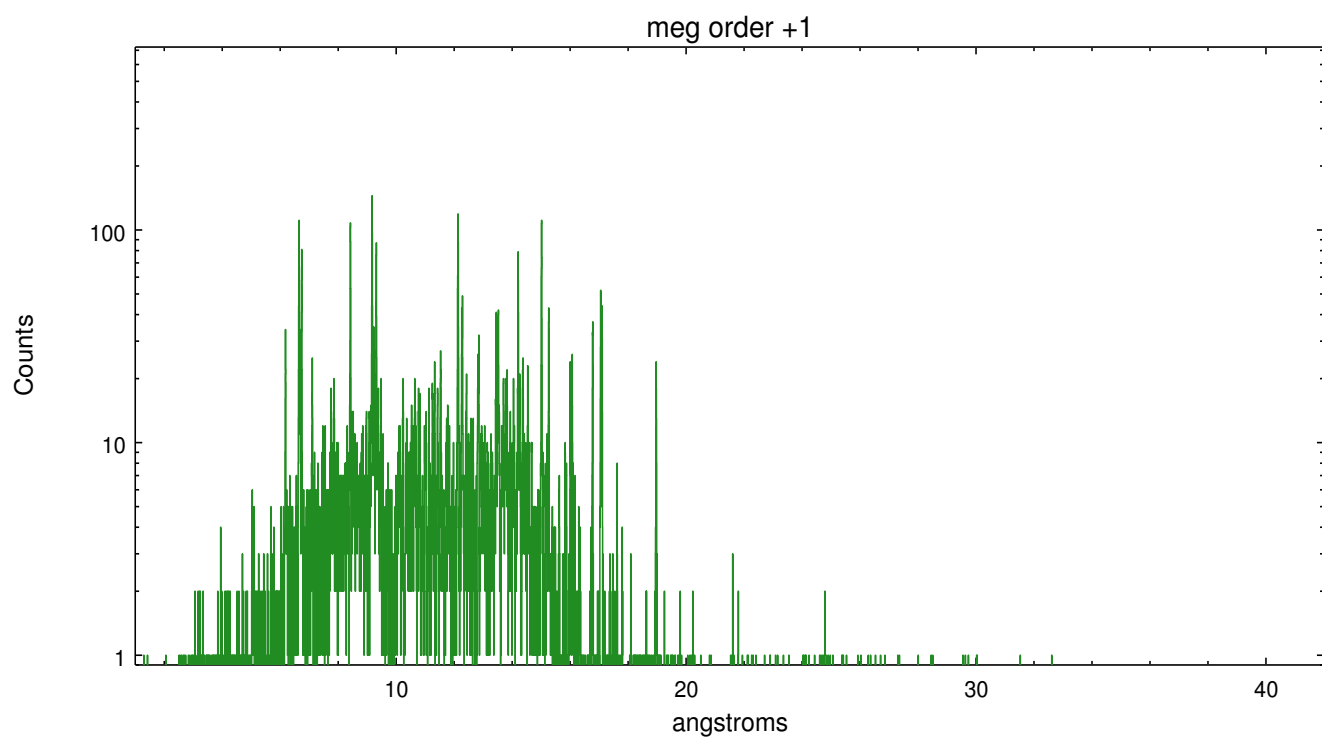
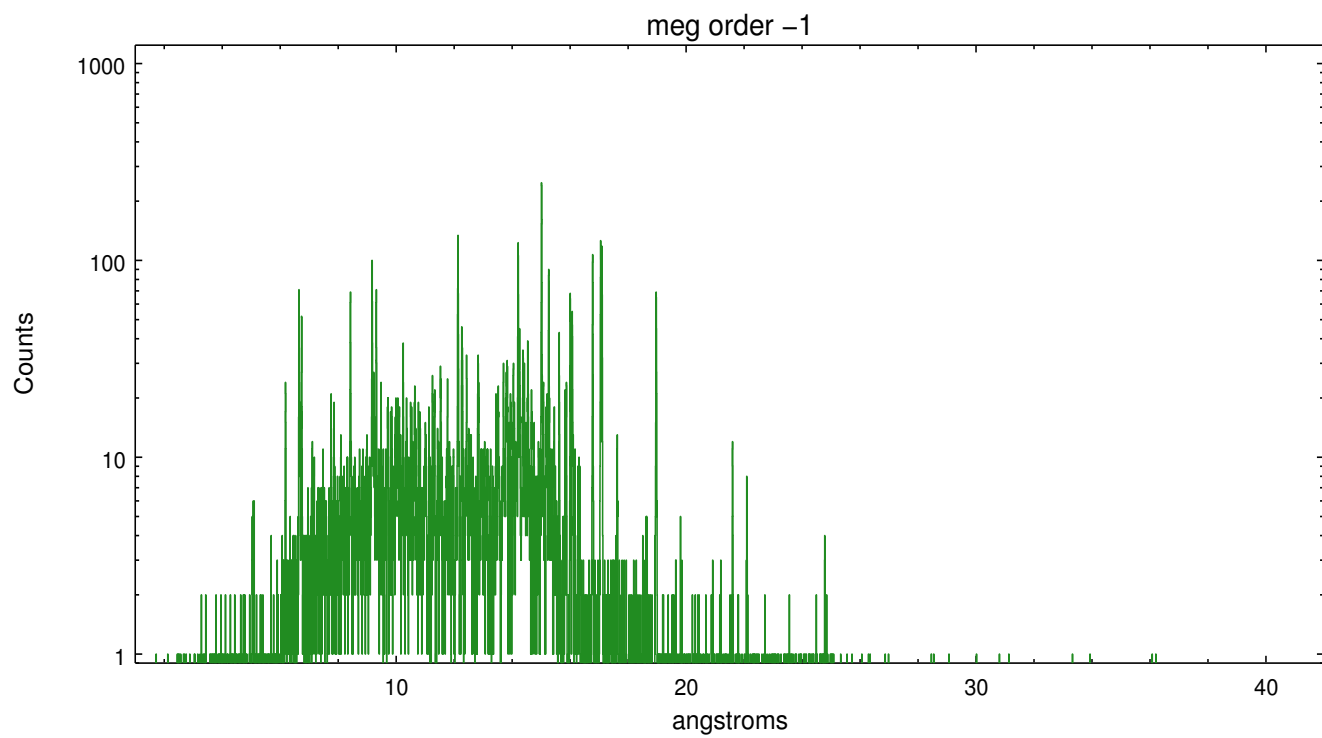
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1144	862	21059	9216	17299	765	888





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.07.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.0475

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=4114.95, y=4109.01) 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.