

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 4900 - L2 Version 3
Chandra X-Ray Center

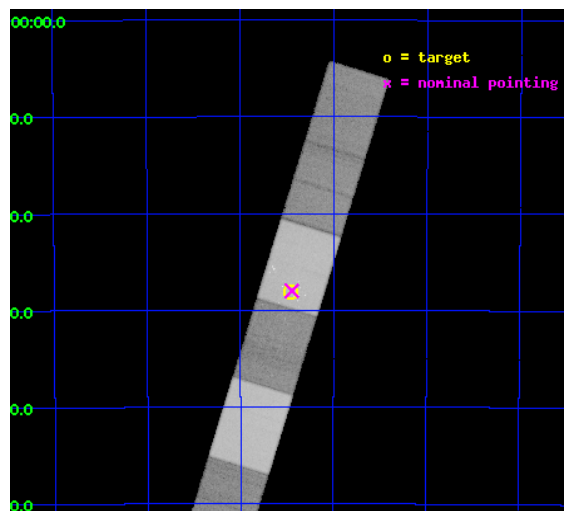
L2 Processing Date : Jan 3 2013

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1 Front

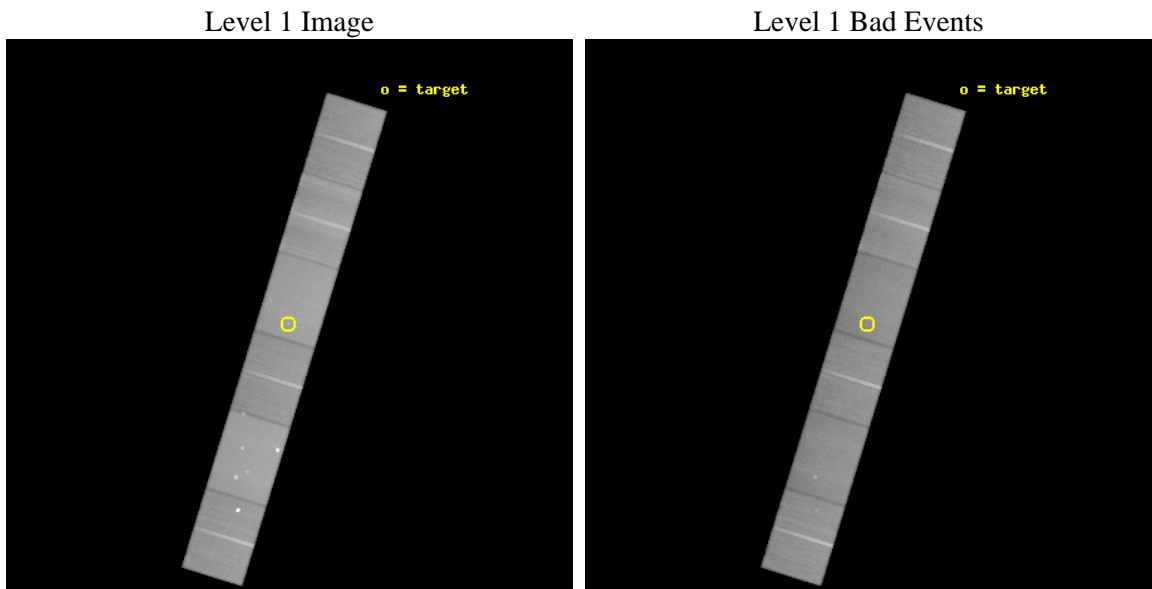
seq_num	700981	Sequence number
obs_id	4900	Observation id
title	X-ray Spectroscopy of the Nuclear Region of the Seyfert 2 Galaxy NGC 4945	Proposal title
observer	Dr Greg Madejski	Principal investigator
object	NGC 4945	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	196.364583	Observer's specified target RA [deg]
dec_targ	-49.4675	Observer's specified target Dec [deg]
ra_nom	196.36147465267	Nominal RA [deg]
dec_nom	-49.466587925513	Nominal Dec [deg]
roll_nom	287.15427102647	Nominal Roll [deg]
revision	3	Processing version of data
ontime	97167.5	Sum of GTIs [s]
livetime	95598.160595661	Livetime [s]
ontime4	97159.877029449	Sum of GTIs [s]
ontime5	97167.5	Sum of GTIs [s]
ontime6	97167.5	Sum of GTIs [s]
ontime7	97167.5	Sum of GTIs [s]
ontime8	97164.959009737	Sum of GTIs [s]
ontime9	97164.958999813	Sum of GTIs [s]
l2events	868076	Number of level 2 events



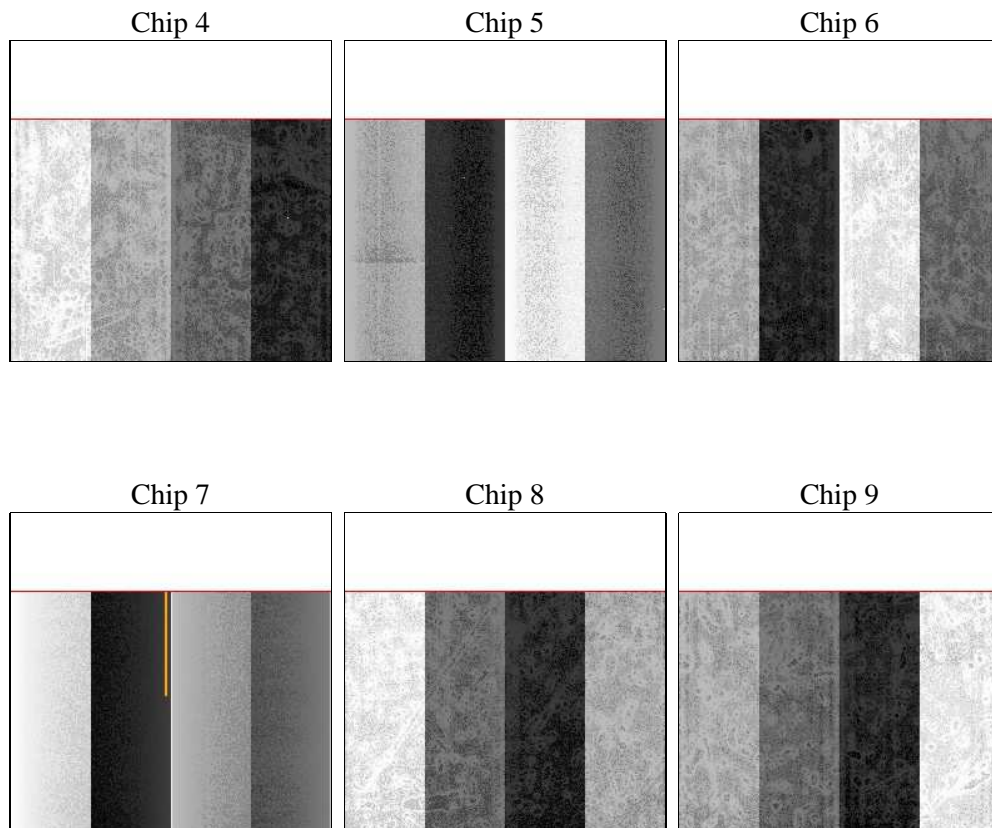
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	97000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	97167.5	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	97159.877029449	Sum of GTIs [s]
date	2012-12-01T22:11:58	Date and time of file creation	ontime5	97167.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	97167.5	Sum of GTIs [s]
			ontime7	97167.5	Sum of GTIs [s]
			ontime8	97164.959009737	Sum of GTIs [s]
			ontime9	97164.958999813	Sum of GTIs [s]
			l1events	3955999	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	634722	822452	547977	728840	689415	532593	grade 0 events	64945	61491	25948	28029	44620	26009
rejected events	530963	431767	482512	421703	543339	467696		10%	7%	4%	3%	6%	4%
rejected %	83%	52%	88%	57%	78%	87%	grade 1 events	604	938	238	691	432	251
								0%	0%	0%	0%	0%	0%
							grade 2 events	14137	107476	13147	62113	31732	12599
								2%	13%	2%	8%	4%	2%
							grade 3 events	7219	17298	6804	28361	15928	6827
								1%	2%	1%	3%	2%	1%
							grade 4 events	6825	16023	6769	28004	15032	6752
								1%	1%	1%	3%	2%	1%
							grade 5 events	22916	61632	24208	69229	31694	25356
								3%	7%	4%	9%	4%	4%
							grade 6 events	10851	189265	12945	161229	39025	12837
								1%	23%	2%	22%	5%	2%
							grade 7 events	507225	368329	457918	351184	510952	441962
								79%	44%	83%	48%	74%	82%

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	196.330379	196.3614746526676	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-49.448324	-49.46658792551273	Subarray start row	1	1
[deg] Pointing Roll	286.974008	287.1542710264671	Subarray row count	774	774
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	2.5
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	202244045.184000	202242982.19073			
Observation start date	2004-05-29T18:53:01	2004-05-29T18:36:22			
[s] Observation end time (MET)	202341045.184000	202342667.03264			
Observation end date	2004-05-30T21:49:41	2004-05-30T22:17:47			
Read mode	TIMED	TIMED			

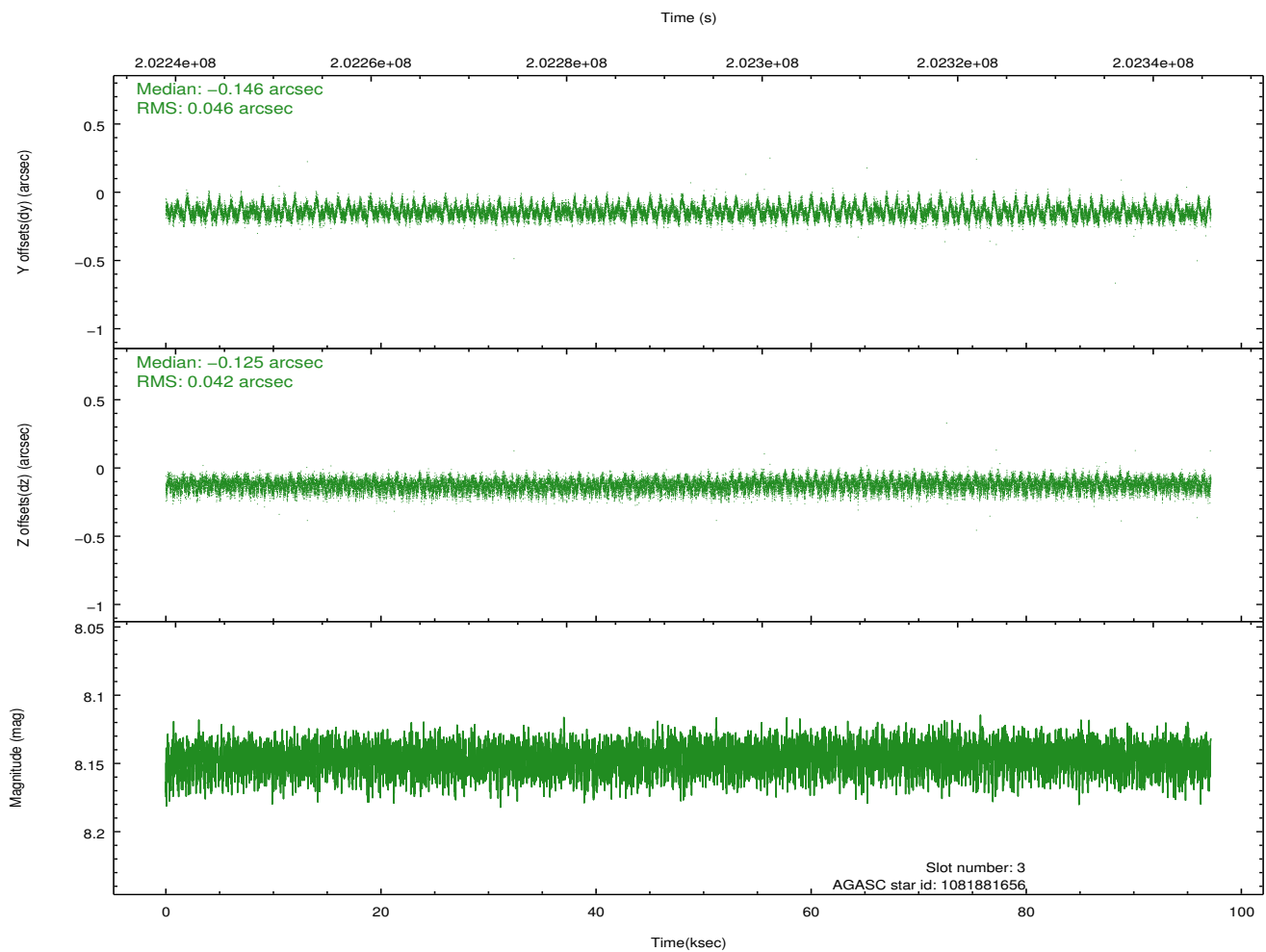
2.3 Aspect

Slot Statistics

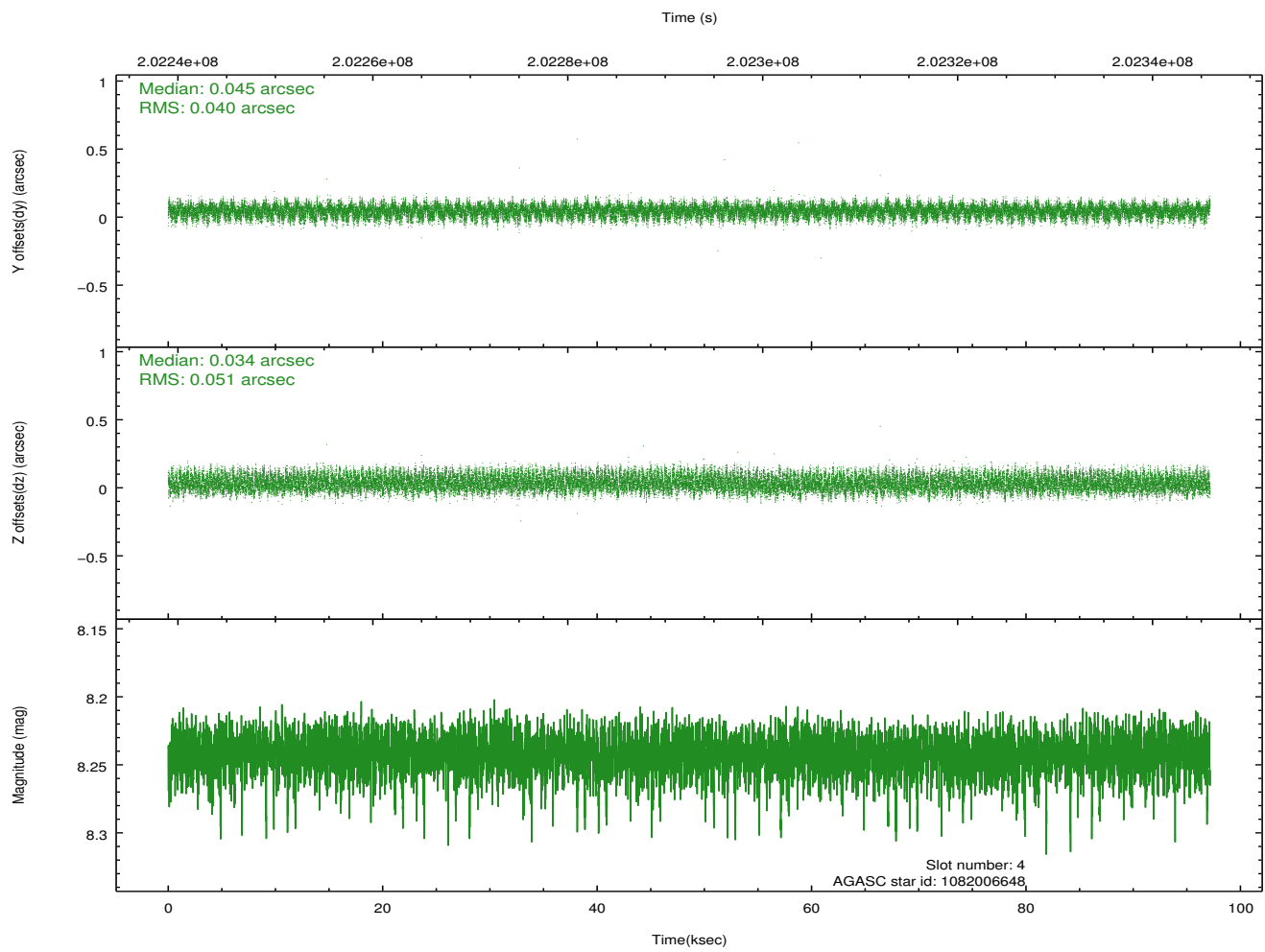
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	23699	-0.026	-0.037	0.010	0.018	0.000000	0.000000	-759.40	-1792.29
1	FID	ACIS-S-5	7.23	23700	-0.044	-0.006	0.013	0.023	0.000000	0.000000	-1812.47	109.81
2	FID	ACIS-S-6	7.37	23701	0.047	0.051	0.017	0.024	0.000000	0.000000	402.41	753.64
3	GUIDE	1081881656	8.15	47395	-0.146	-0.125	0.067	0.106	196.213950	-49.649201	612.86	-470.87
4	GUIDE	1082006648	8.24	47390	0.045	0.034	0.070	0.111	197.274351	-49.494968	818.16	2057.88
5	GUIDE	1082007984	8.19	47395	0.081	0.008	0.058	0.093	196.927081	-49.725914	1366.62	1034.95
6	GUIDE	1082011856	8.16	47395	-0.054	-0.028	0.064	0.099	197.058878	-49.171293	-445.49	1928.48
7	GUIDE	1081871496	9.30	47373	0.071	0.110	0.085	0.139	196.322420	-49.798146	1199.43	-384.98

2.4 Star Slots

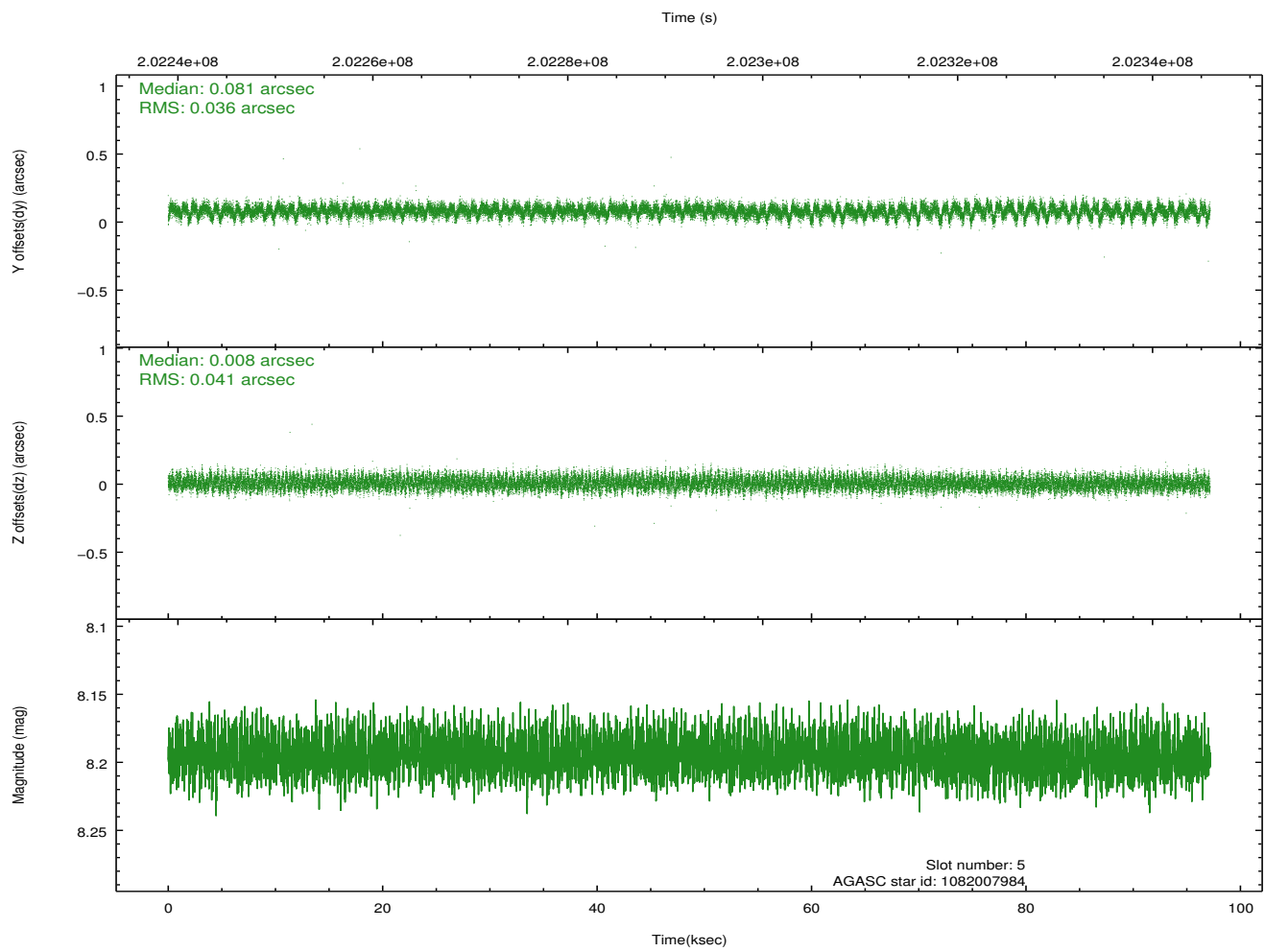
2.4.1 Slot 3



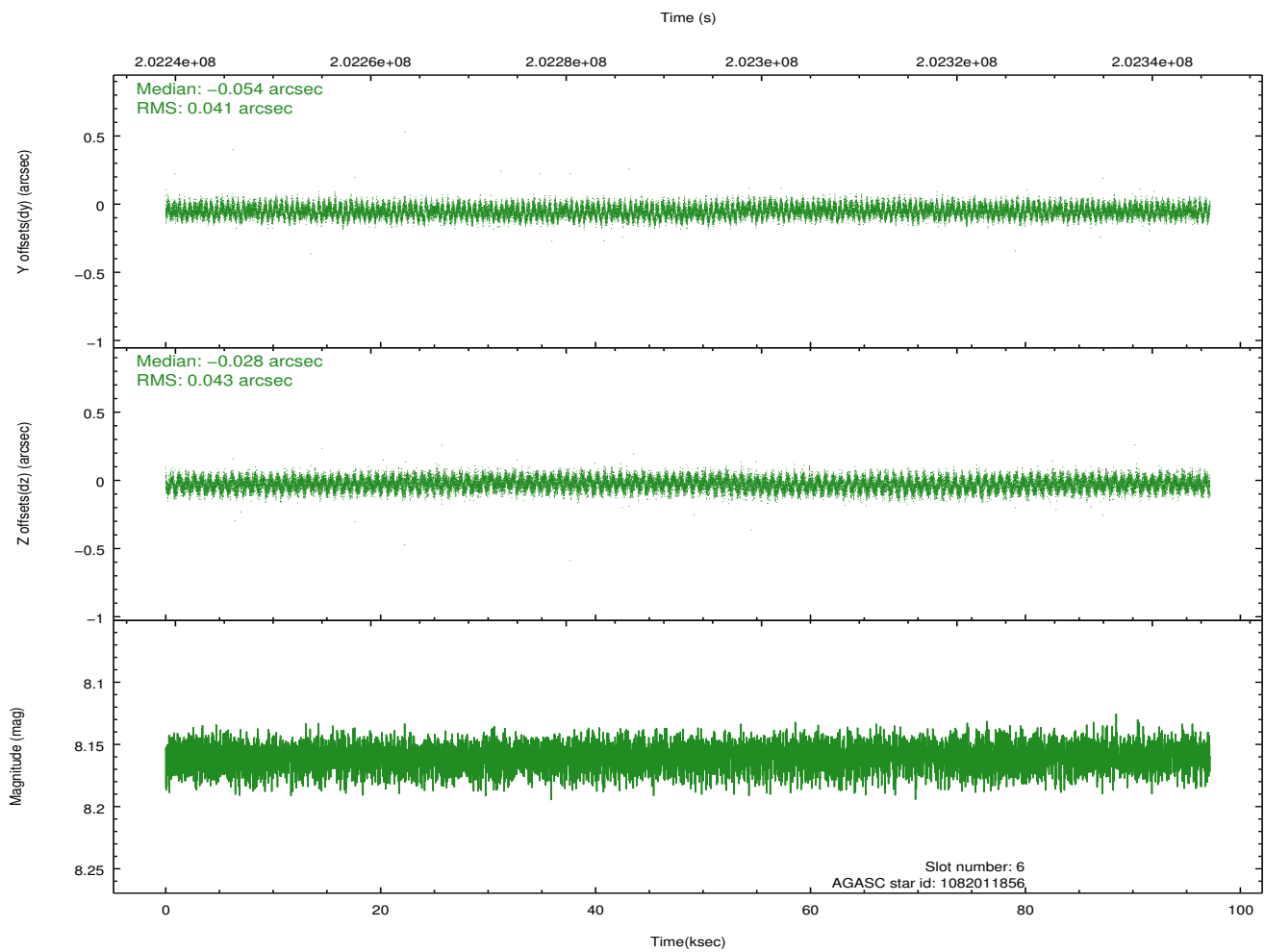
2.4.2 Slot 4



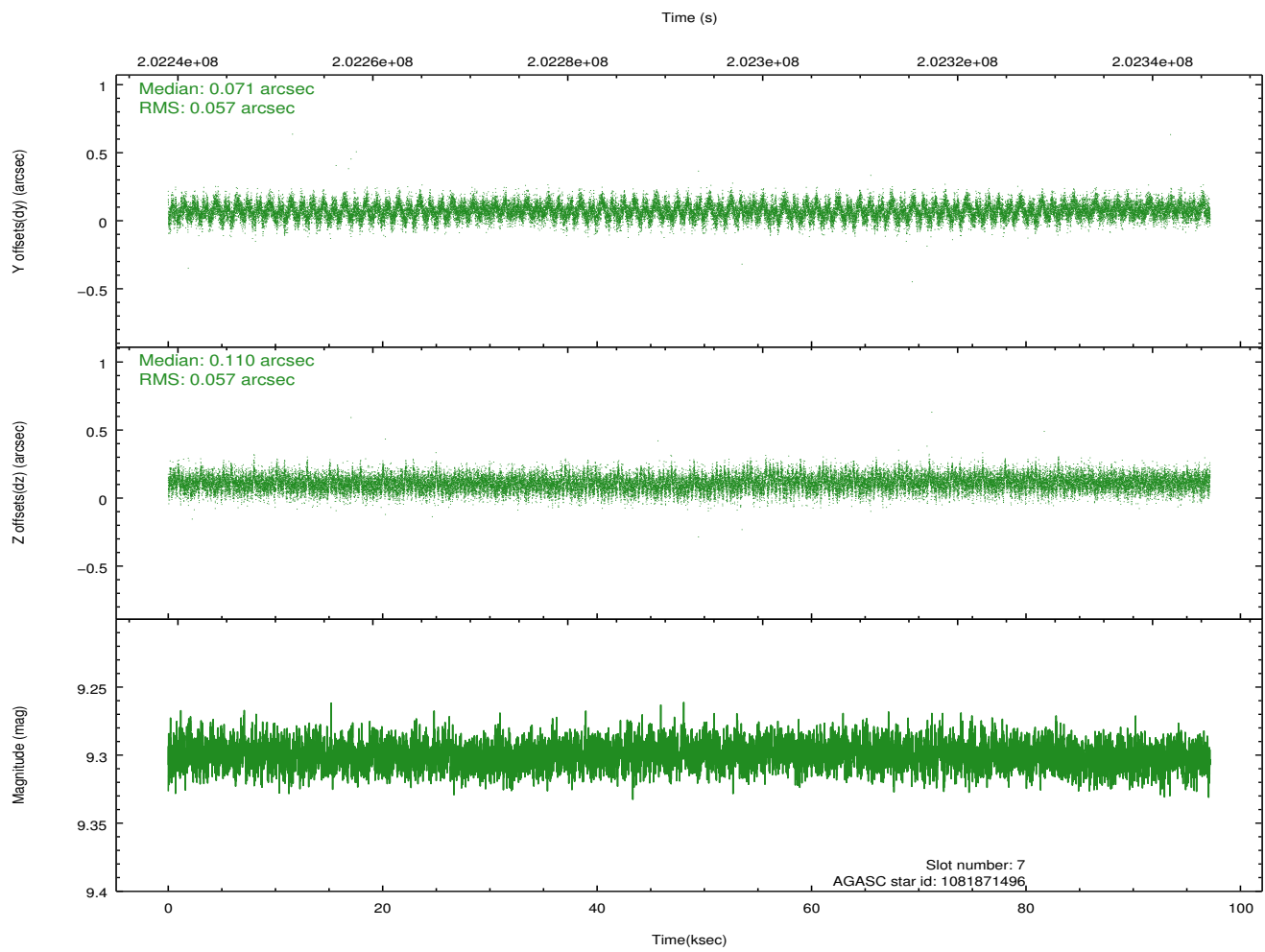
2.4.3 Slot 5



2.4.4 Slot 6

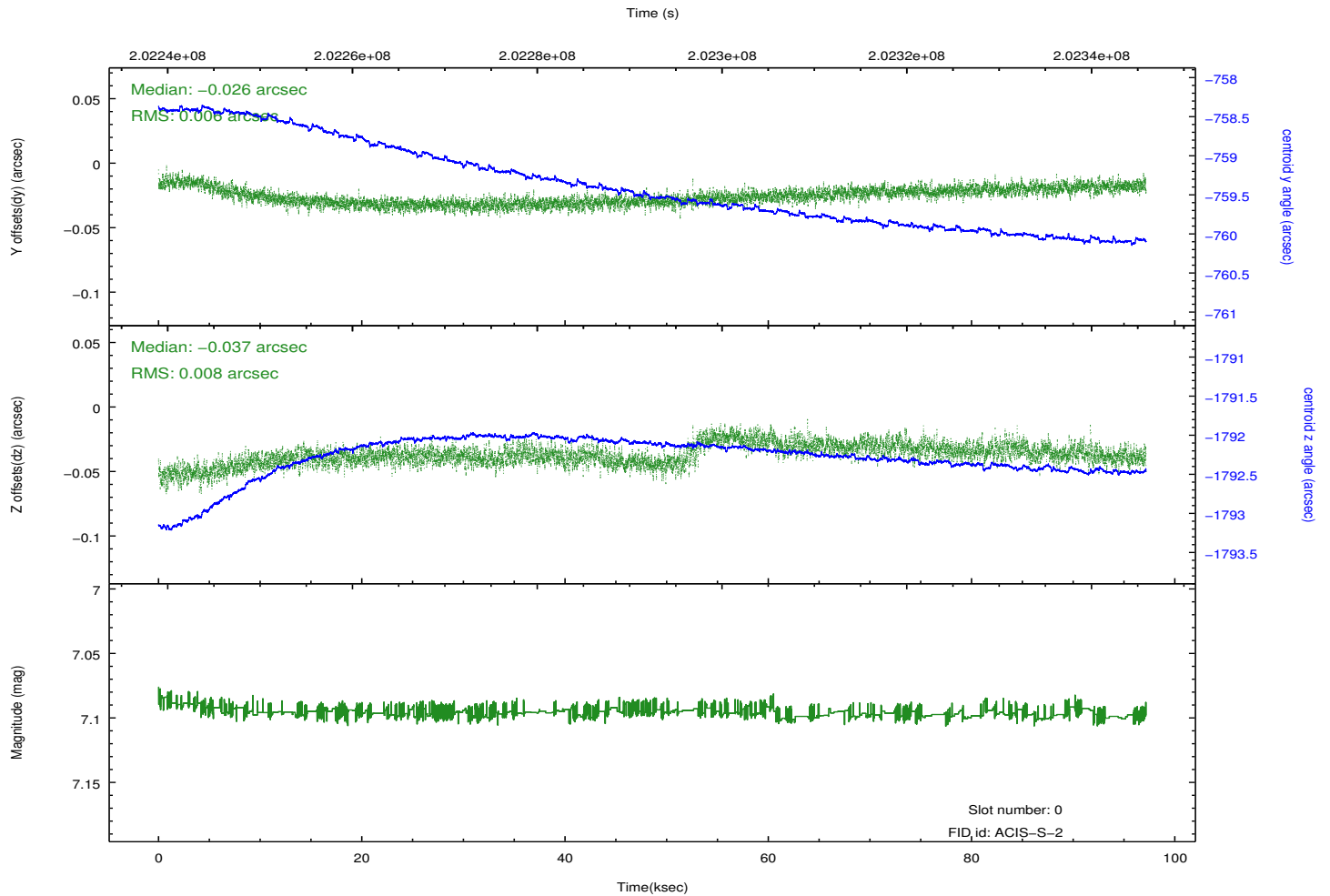
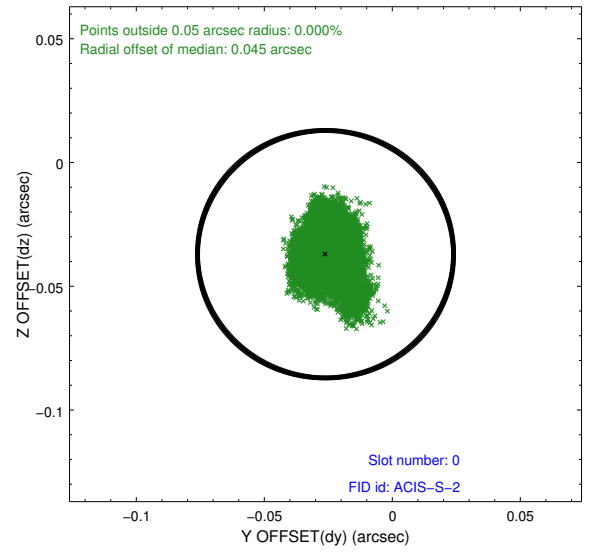
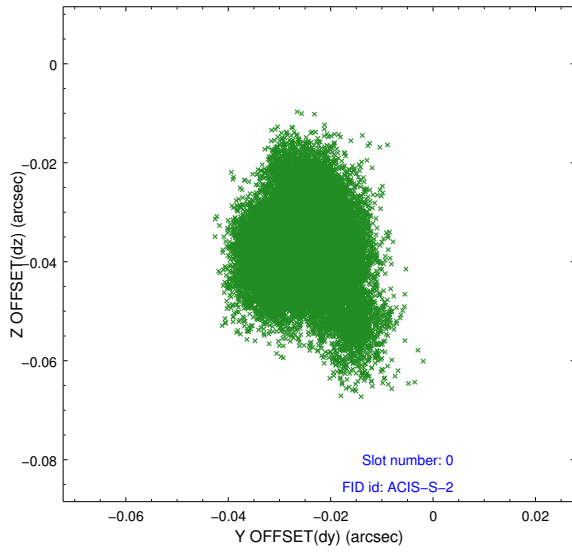


2.4.5 Slot 7

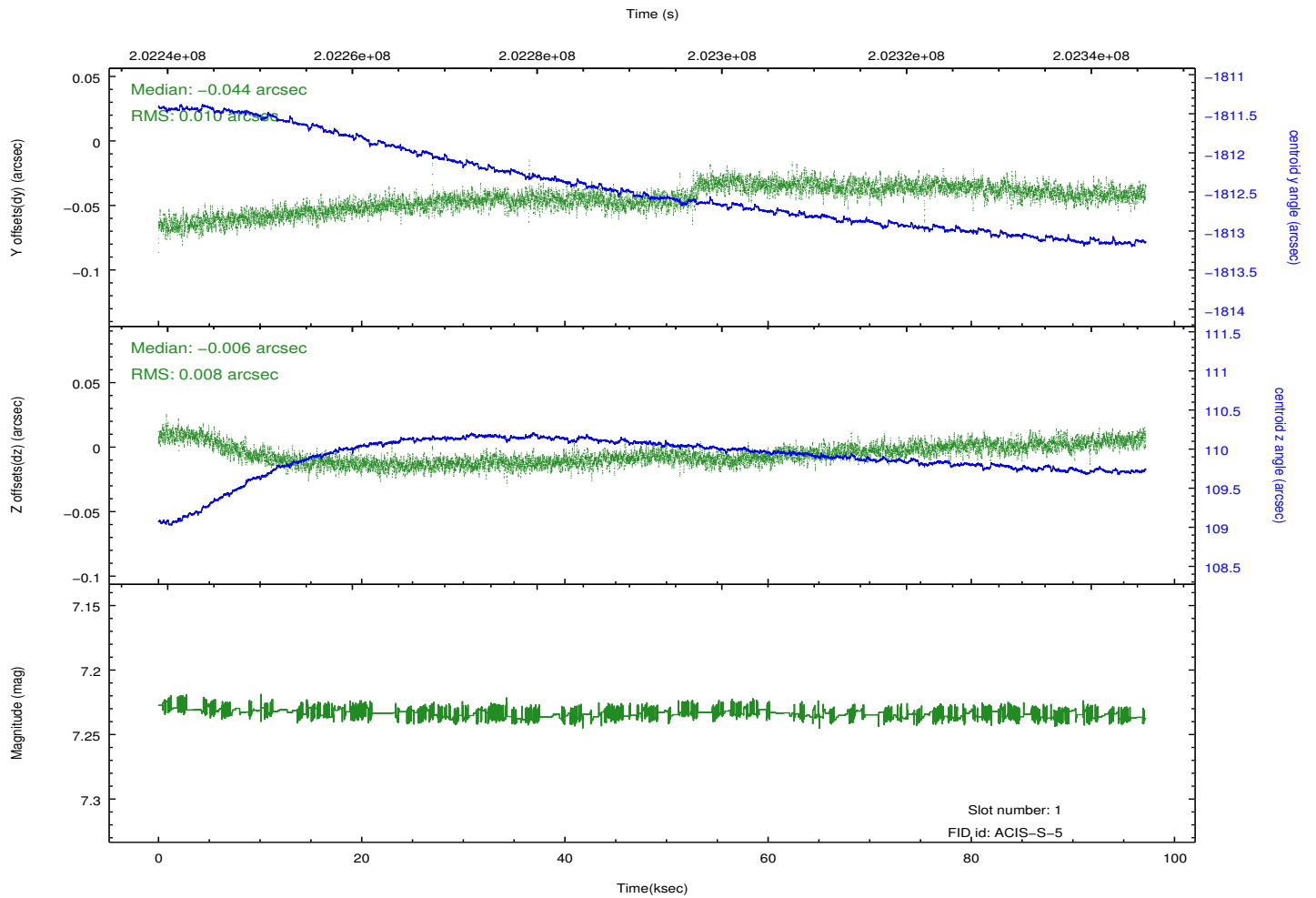
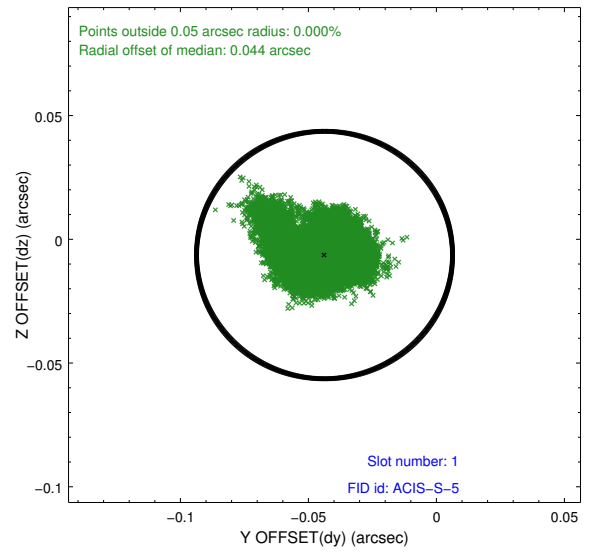
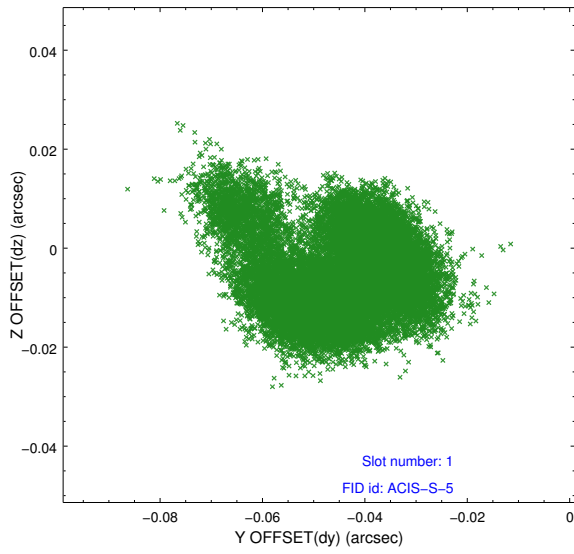


2.5 FID Slots

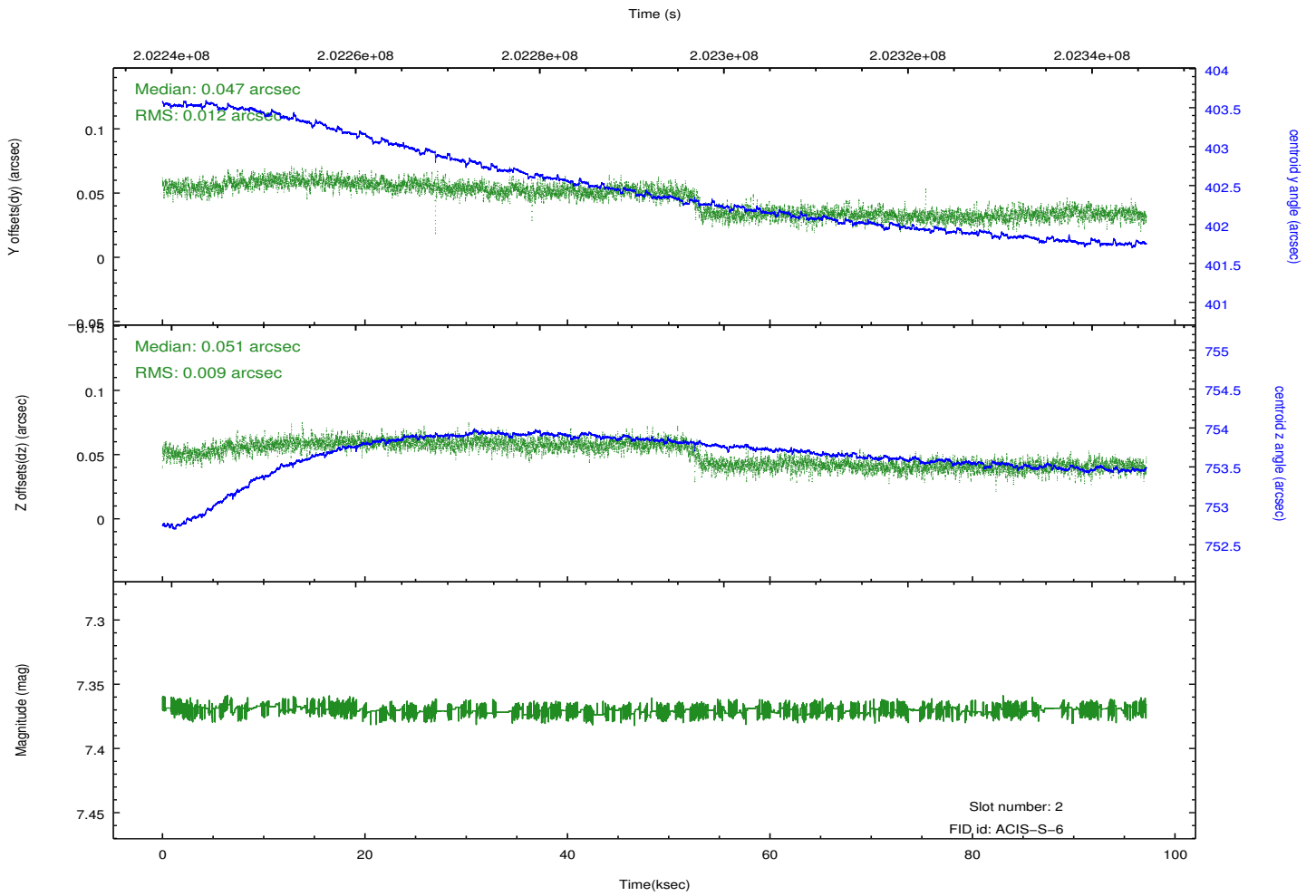
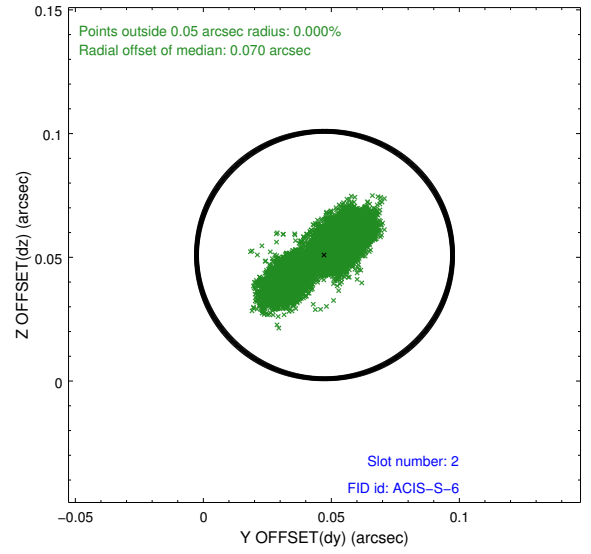
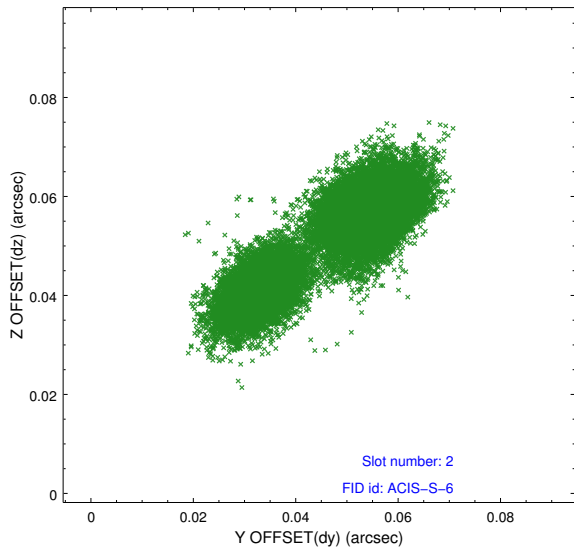
2.5.1 Slot 0



2.5.2 Slot 1

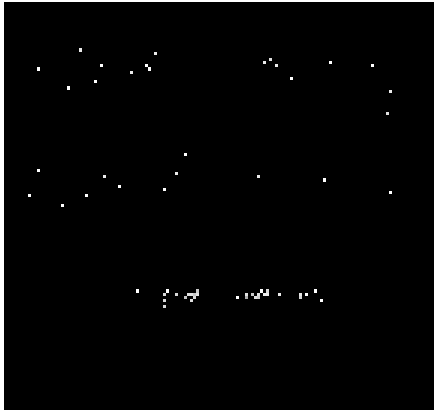


2.5.3 Slot 2

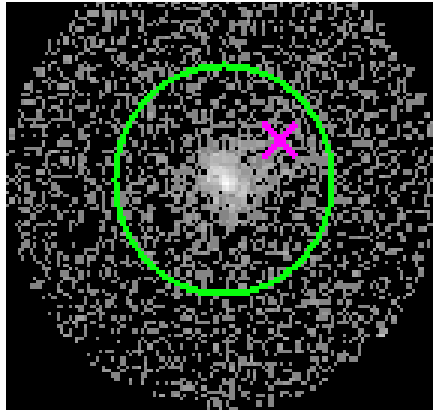


3 Gratings

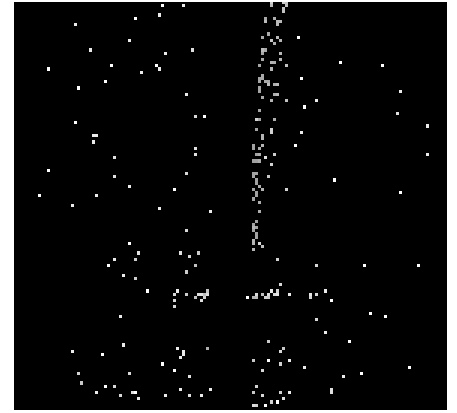
3.1 HEG Arm



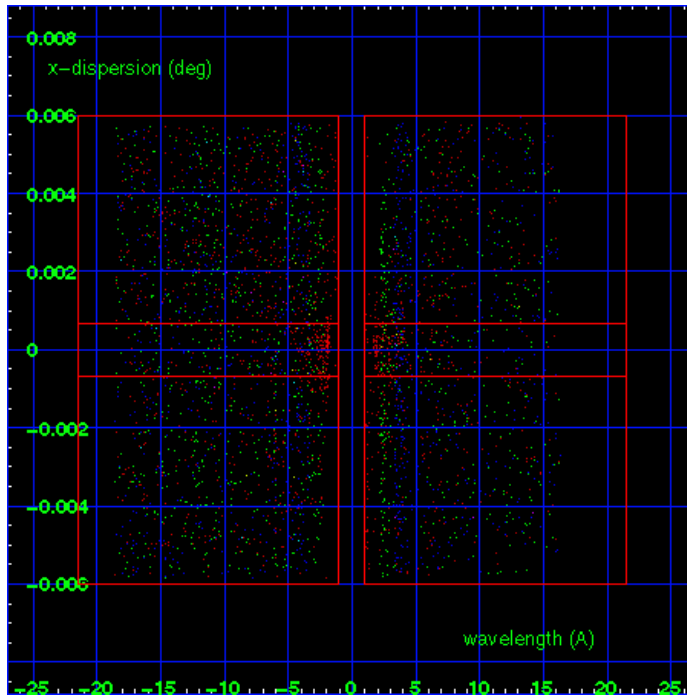
HEG Order Sort 123



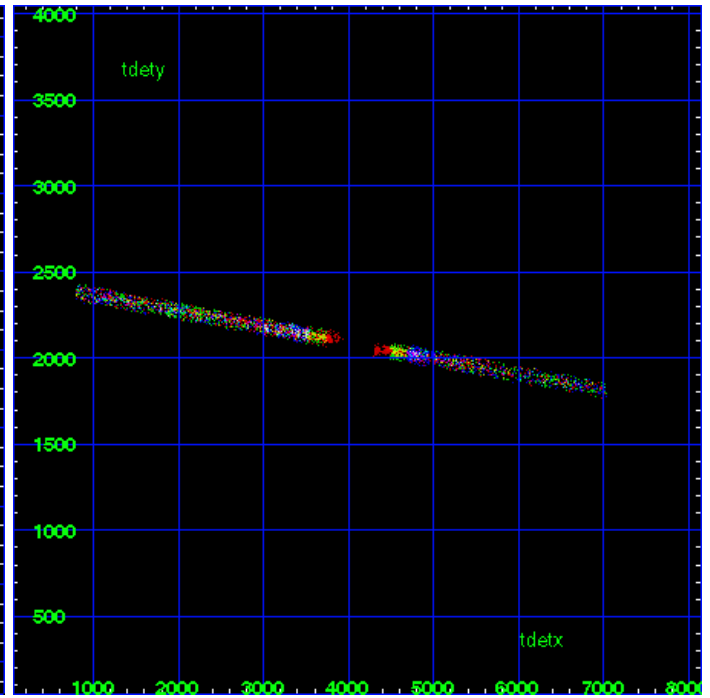
HEG Zero Order



HEG Order Sort ALL

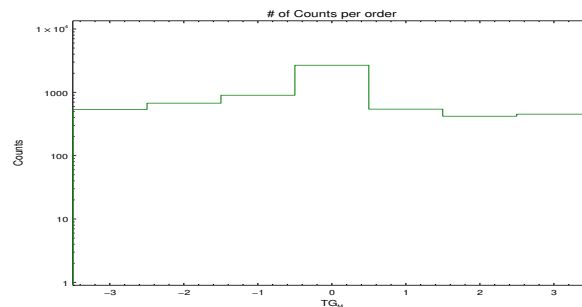


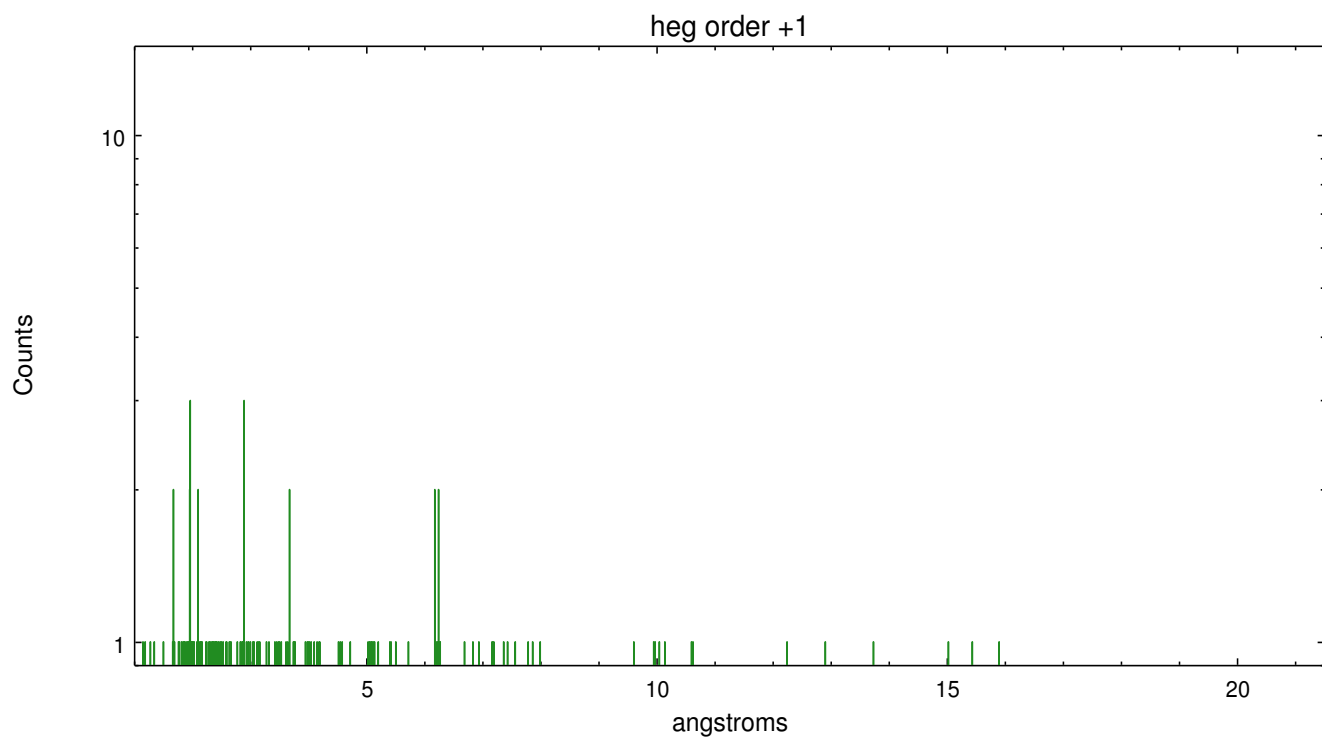
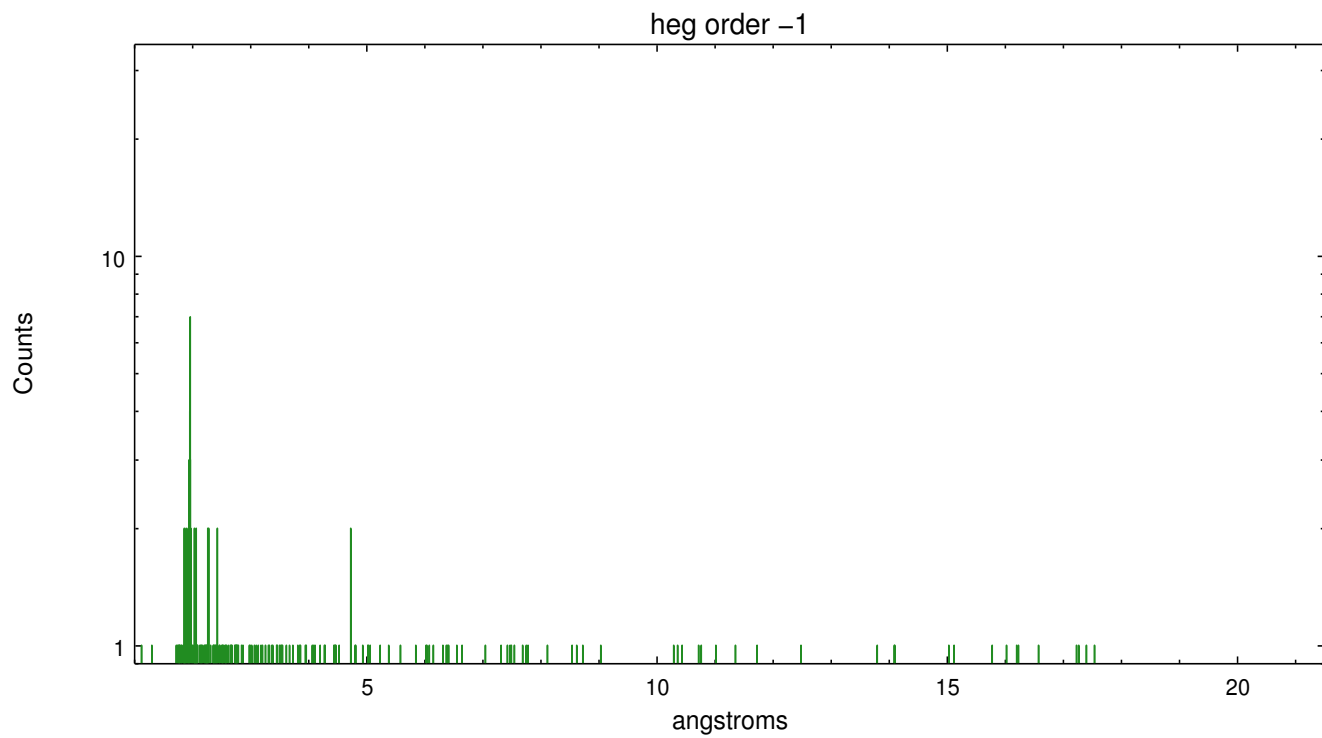
Spot Image HEG



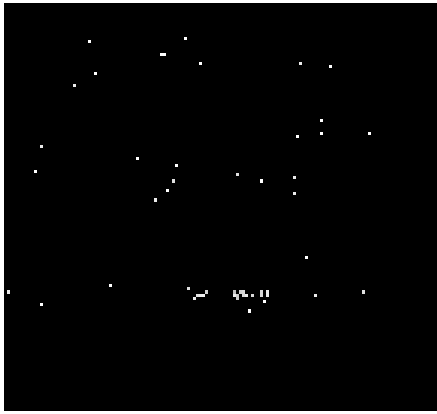
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	538	676	902	2690	544	420	453

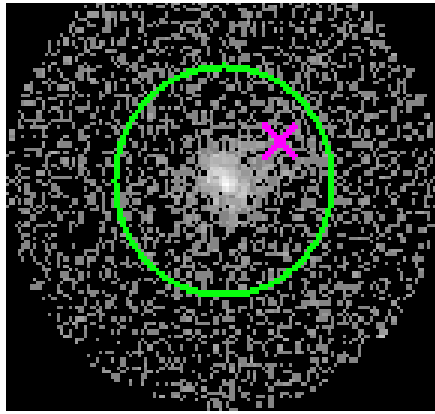




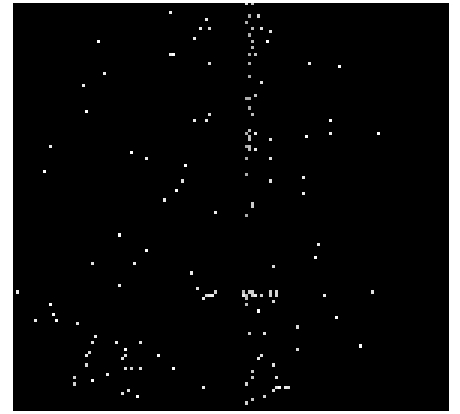
3.2 MEG Arm



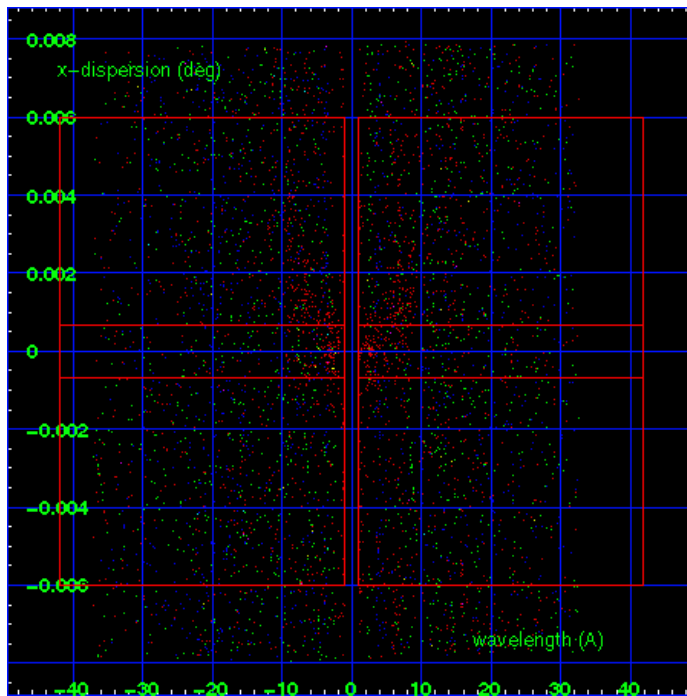
MEG Order Sort 123



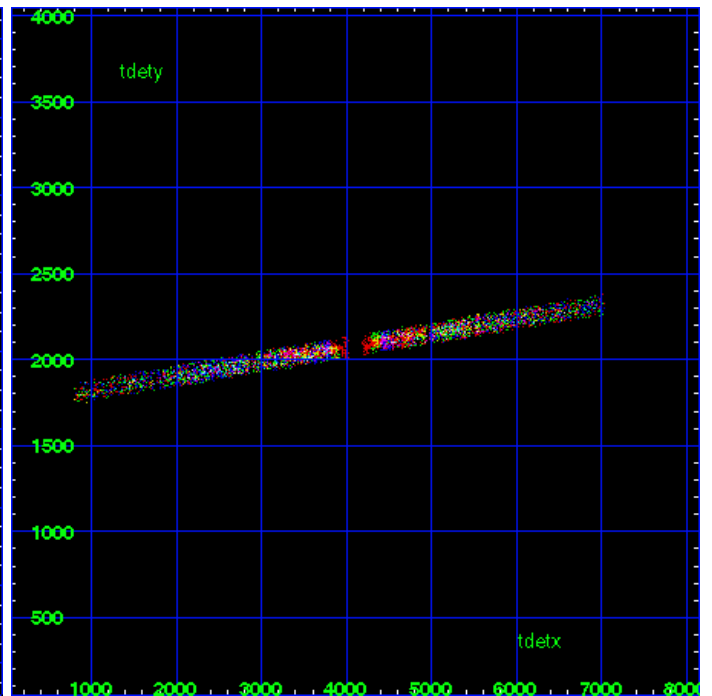
MEG Zero Order



MEG Order Sort ALL

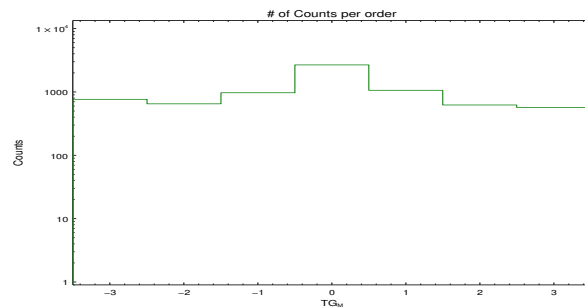


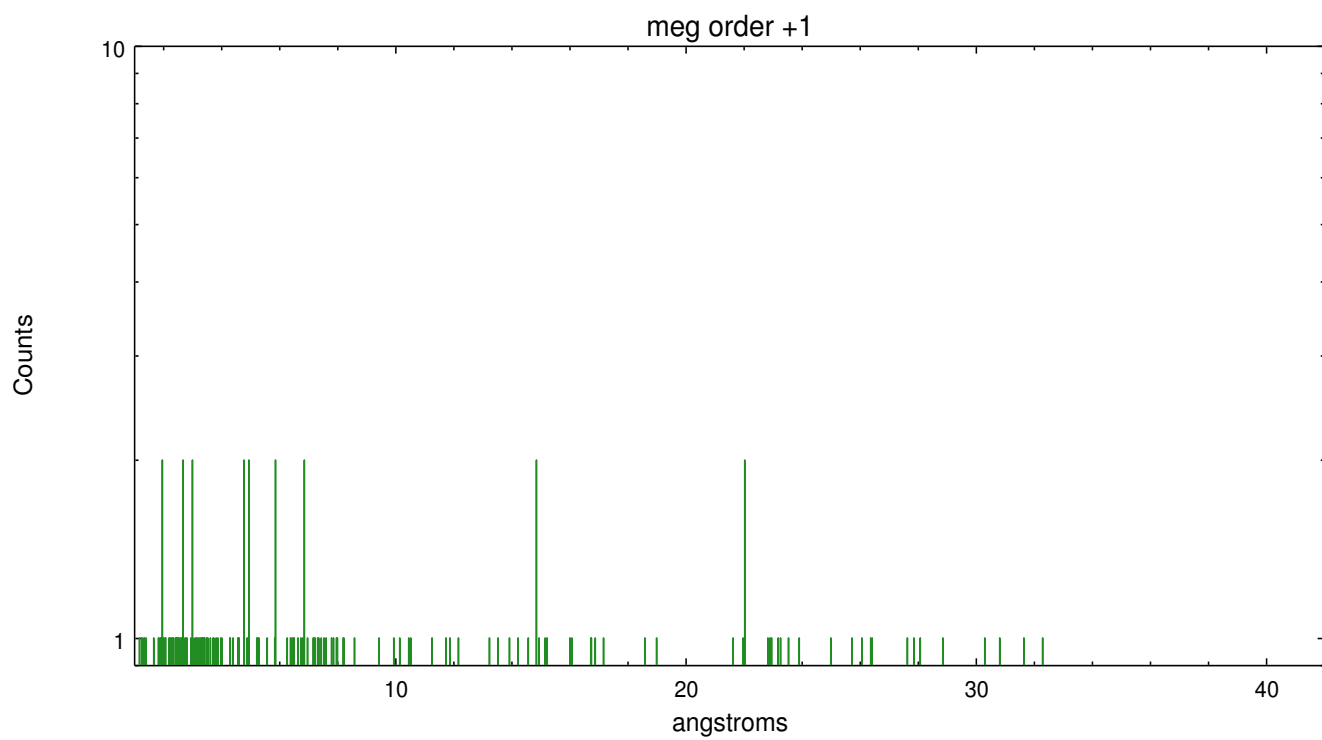
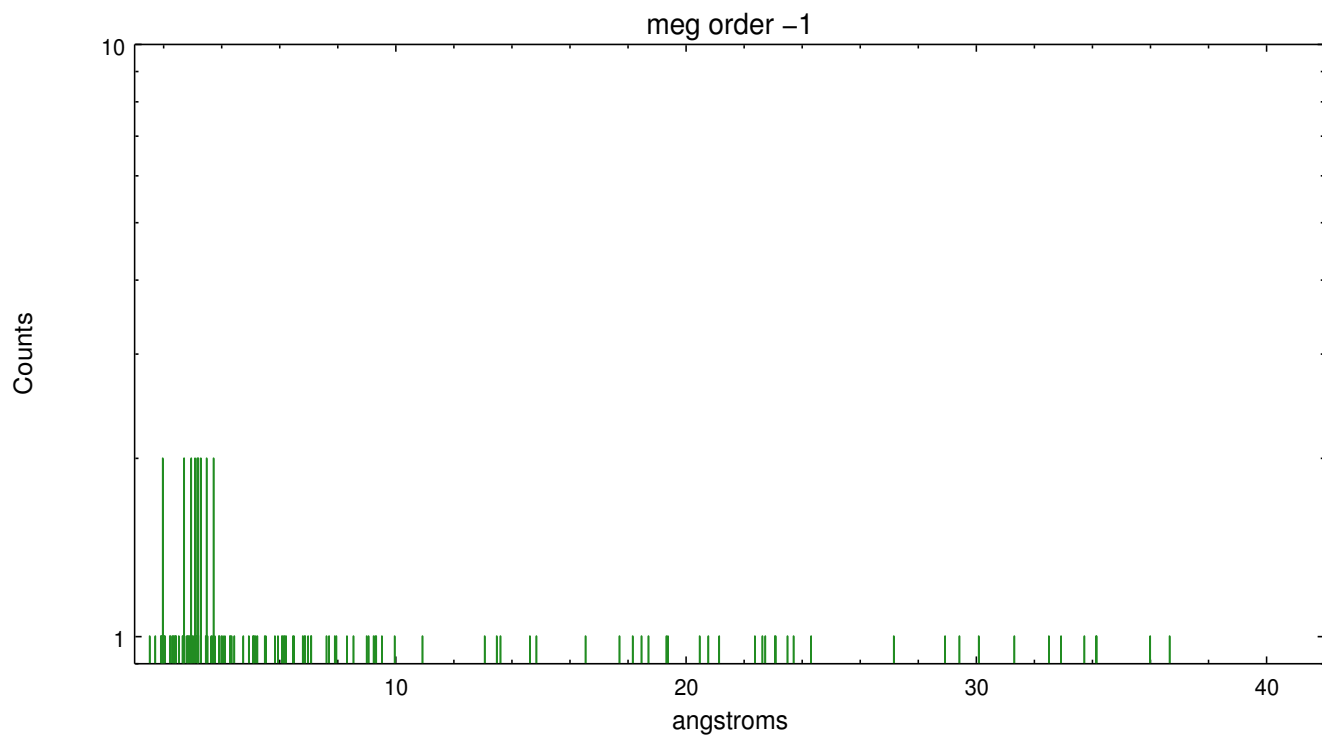
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	767	652	976	2690	1066	625	572





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	95.797

A.2 Comments

Charge time for this ObsId remains at previous value of 95.797 ks, although with the current processing the charge time would be 97.1675 ks.

===

Standard software processing technique using the tool `tgdetect` failed to determine an accurate position for the zeroth order for this observation. The source is extended and asymmetric. Zeroth order position was chosen to be same as was used in `TGCat` for this obsid, and is at sky coordinates $x=4081.7465$, $y=4086.1612$. These coordinates were entered manually during the processing. Zeroth order coordinates are centered near brightest x-ray region.

Zeroth order is extended and may be multiple sources. Multiple sources may have dispersed spectra in this observation. Some of the dispersed spectral arms from different sources may intersect.