

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10831 - L2 Version 3
Chandra X-Ray Center

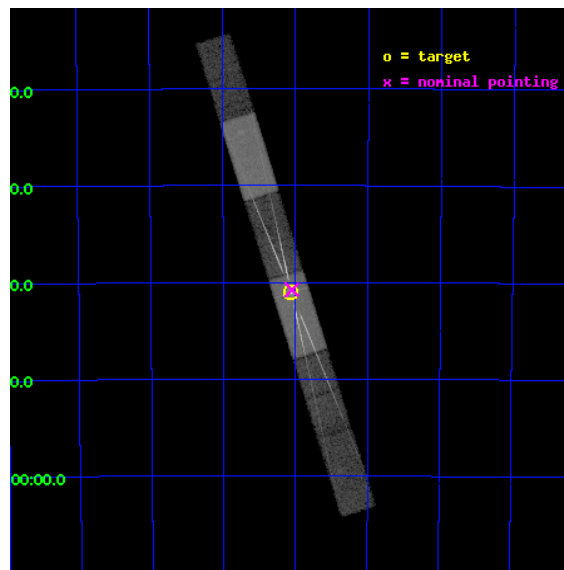
L2 Processing Date : May 29 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

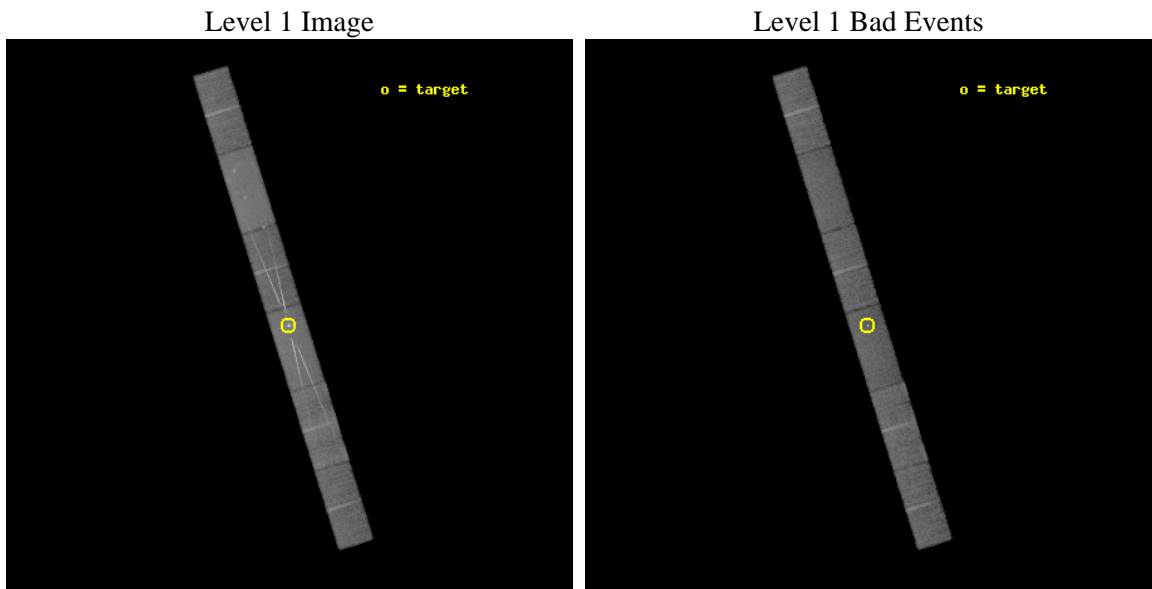
seq_num	200511	Sequence number
obs_id	10831	Observation id
title	Shock Dynamics in Eta Carinae Approaching the 2009 Periastron Passage: A Twisted Tail	Proposal title
observer	Dr Michael Corcoran	Principal investigator
object	Eta Car	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	161.265	Observer's specified target RA [deg]
dec_targ	-59.684528	Observer's specified target Dec [deg]
ra_nom	161.2626747378	Nominal RA [deg]
dec_nom	-59.679839669787	Nominal Dec [deg]
roll_nom	72.654620953204	Nominal Roll [deg]
revision	3	Processing version of data
ontime	18070.5	Sum of GTIs [s]
livetime	17589.257903753	Livetime [s]
ontime4	18070.5	Sum of GTIs [s]
ontime5	18070.5	Sum of GTIs [s]
ontime6	18070.5	Sum of GTIs [s]
ontime7	18070.5	Sum of GTIs [s]
ontime8	18070.5	Sum of GTIs [s]
ontime9	18070.5	Sum of GTIs [s]
l2events	213433	Number of level 2 events



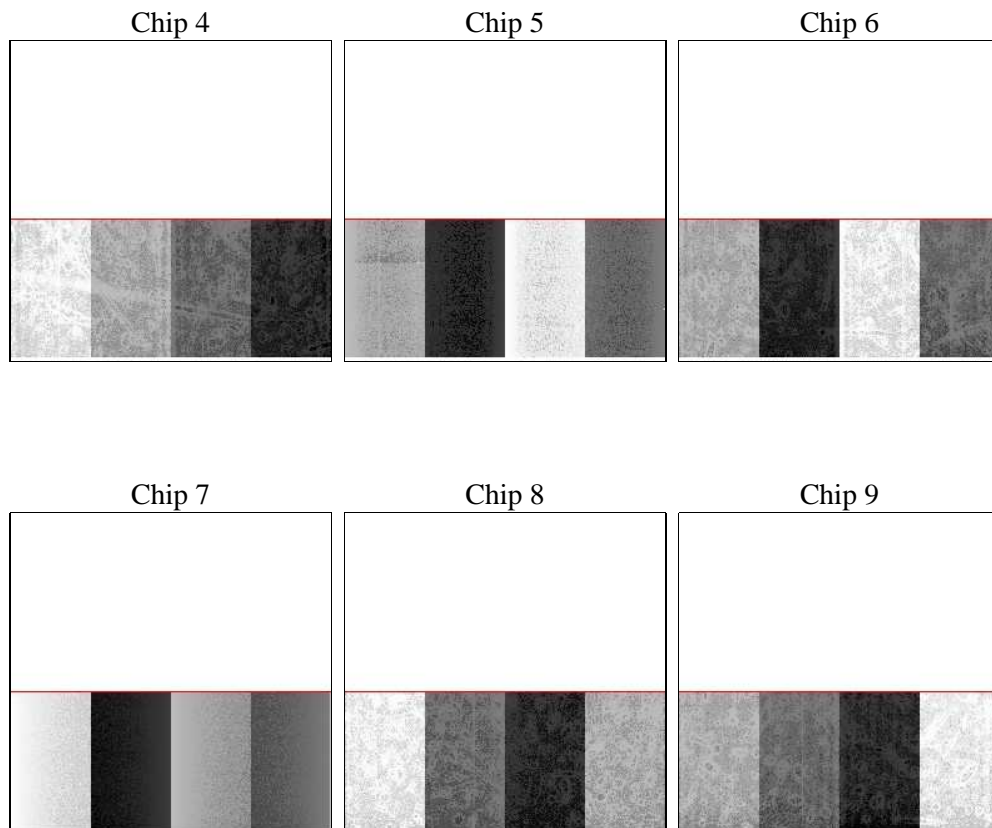
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	17890.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	18070.5	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	18070.5	Sum of GTIs [s]
date	2012-05-25T20:35:26	Date and time of file creation	ontime5	18070.5	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	18070.5	Sum of GTIs [s]
			ontime7	18070.5	Sum of GTIs [s]
			ontime8	18070.5	Sum of GTIs [s]
			ontime9	18070.5	Sum of GTIs [s]
			l1events	695923	Number of level 1 events

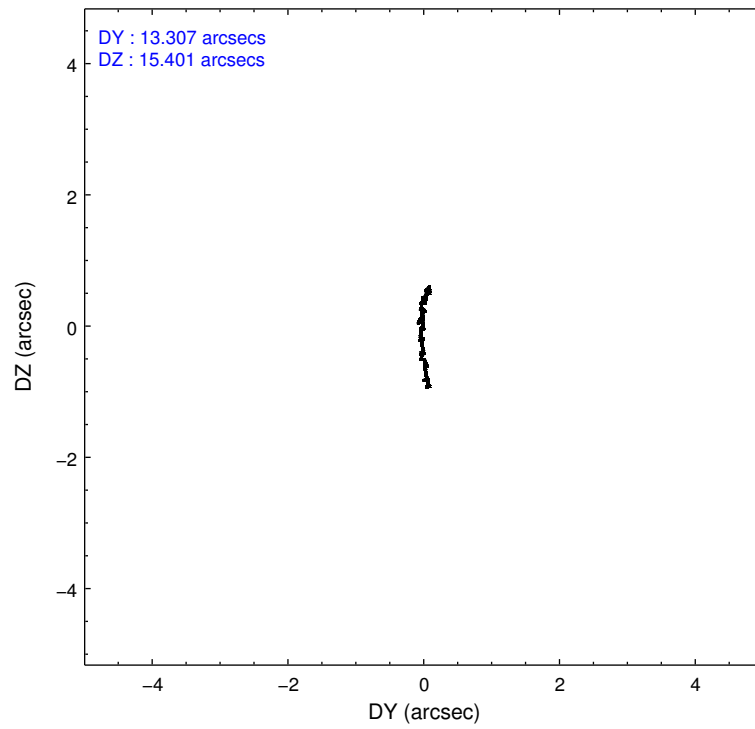
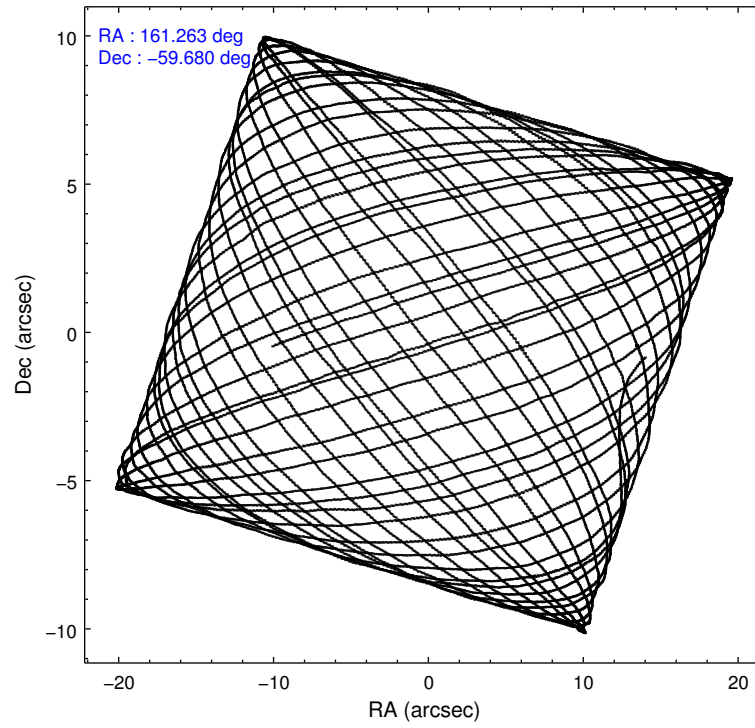
2.1.4 Events

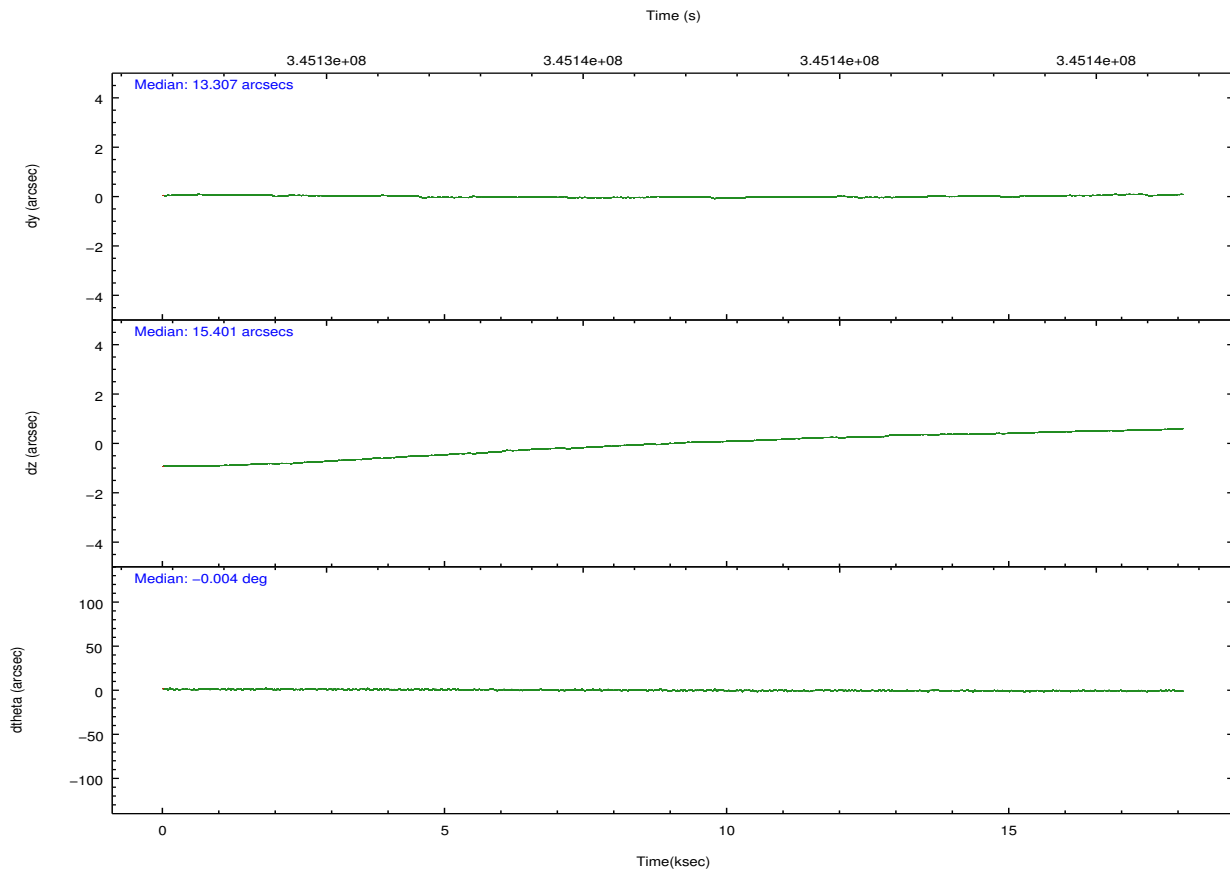
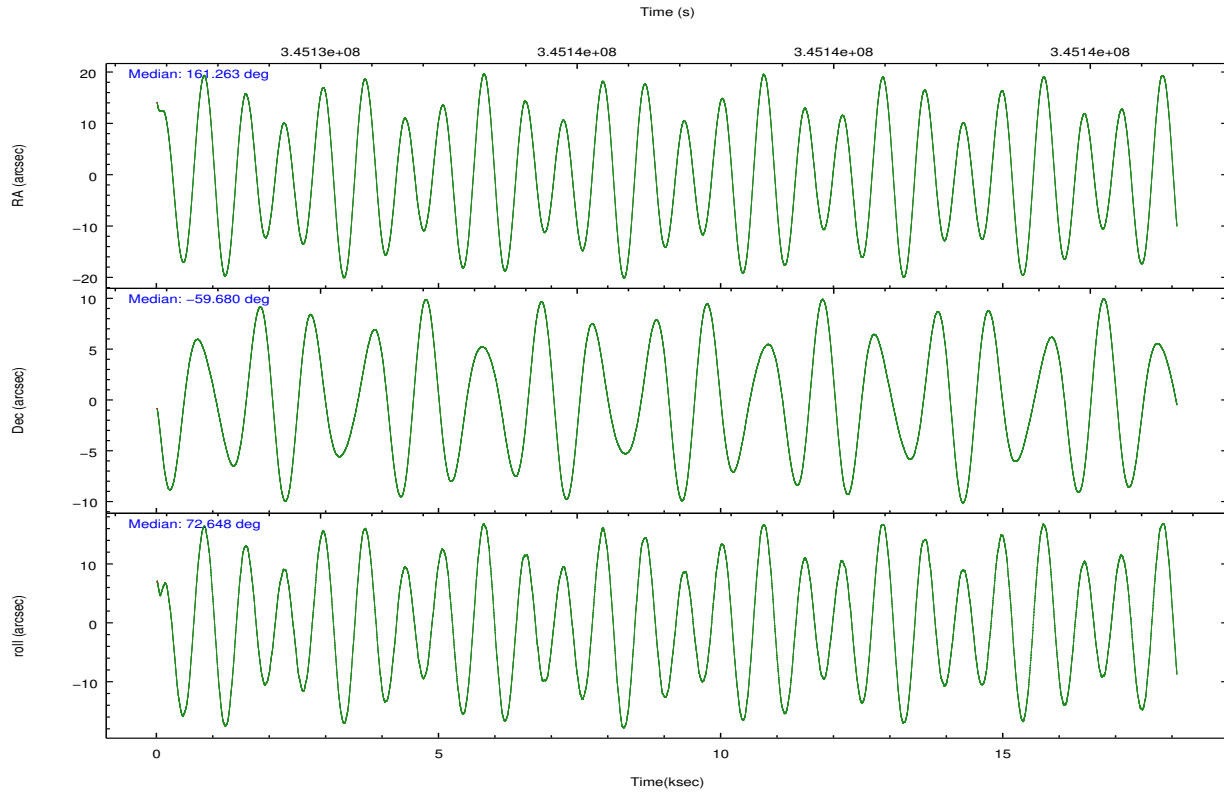
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	94645	130671	109902	159788	116855	84062	grade 0 events	5139	7370	21908	12235	12595	5655
rejected events	82898	69248	74543	71417	84809	71968		5%	5%	19%	7%	10%	6%
rejected %	87%	52%	67%	44%	72%	85%	grade 1 events	56	263	113	406	67	37
								0%	0%	0%	0%	0%	0%
							grade 2 events	2596	18124	5539	19903	6542	2191
								2%	13%	5%	12%	5%	2%
							grade 3 events	1342	3540	2304	8704	3174	1311
								1%	2%	2%	5%	2%	1%
							grade 4 events	1184	3426	2302	8800	2996	1269
								1%	2%	2%	5%	2%	1%
							grade 5 events	3419	10073	3880	12008	5042	3946
								3%	7%	3%	7%	4%	4%
							grade 6 events	1842	30719	3781	40377	7419	1981
								1%	23%	3%	25%	6%	2%
							grade 7 events	79067	57156	70075	57355	79020	67672
								83%	43%	63%	35%	67%	80%

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	161.275211	161.2626747378043	CCD I2 on	N	N
[deg] Pointing Dec	-59.706423	-59.67983966978673	CCD I3 on	N	N
[deg] Pointing Roll	72.508816	72.65462095320434	CCD S0 on	O1	Y
[s] Window start time (MET)	344476865.184000	344476865.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	347155266.184000	347155266.184000	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	-183.332523	-183.3237572673427	CCD S5 on	O2	Y
[mm] SIM translation stage offset	-6.8	-6.808765315665084	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	345127909.184000	345126701.78487	On-chip summing requested	N	N
Observation start date	2008-12-08T12:50:44	2008-12-08T12:31:41	Subarray requested	CUSTOM	CUSTOM
[s] Observation end time (MET)	345145799.184000	345146291.07334	Subarray start row	15	15
Observation end date	2008-12-08T17:48:54	2008-12-08T17:58:11	Subarray row count	440	440
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.5

2.3 Aspect





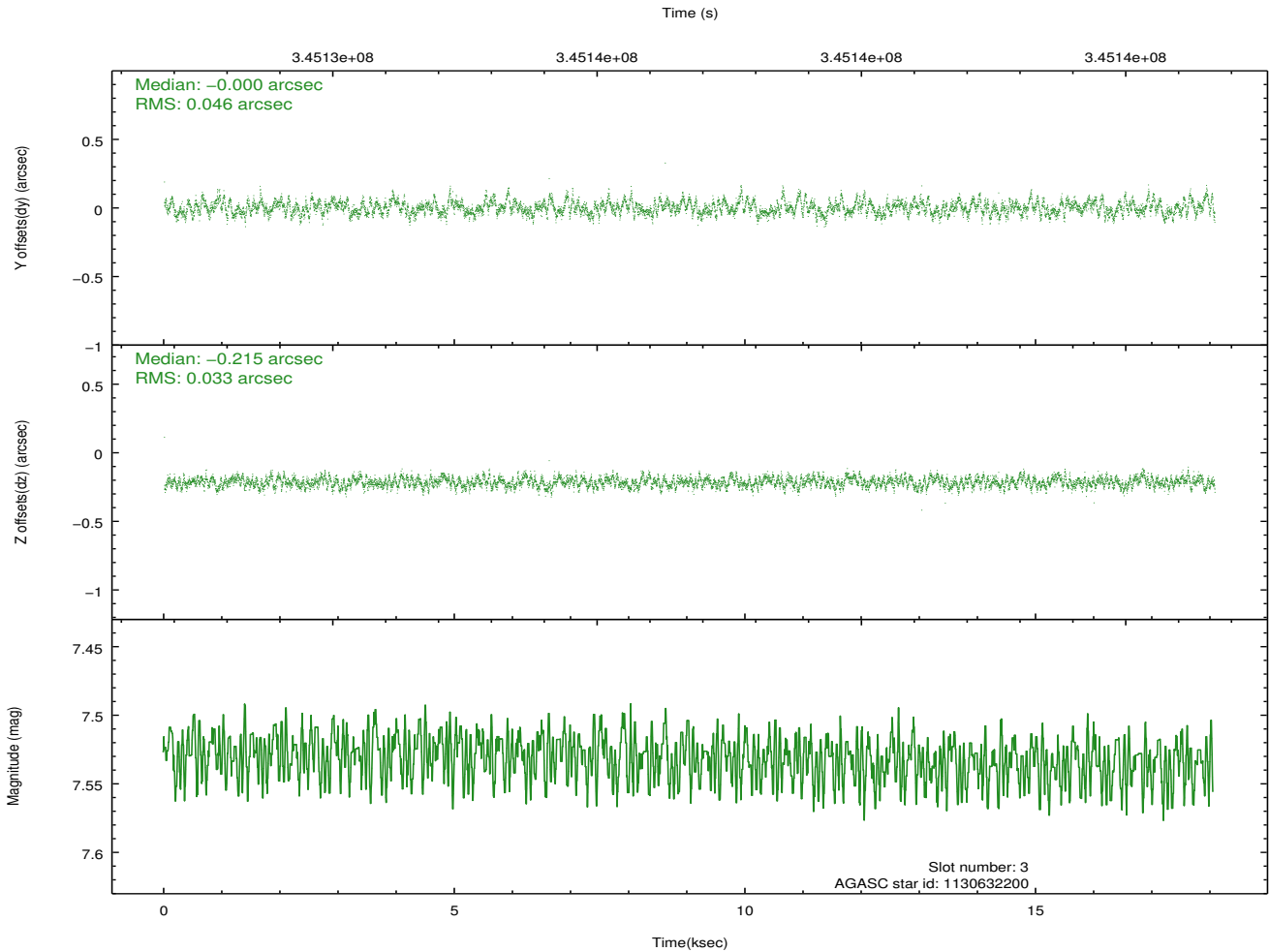
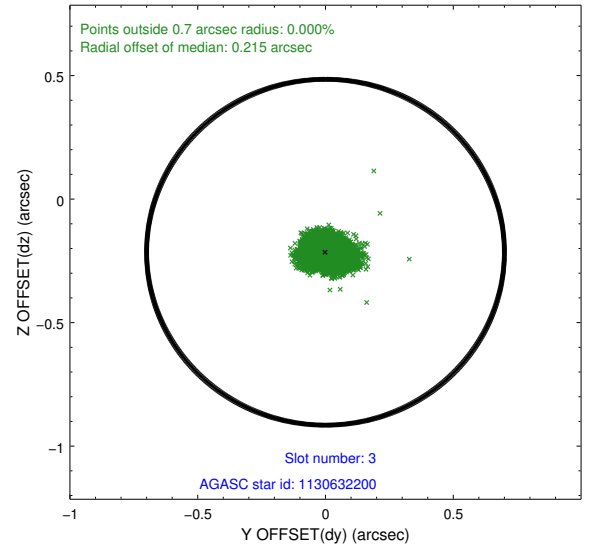
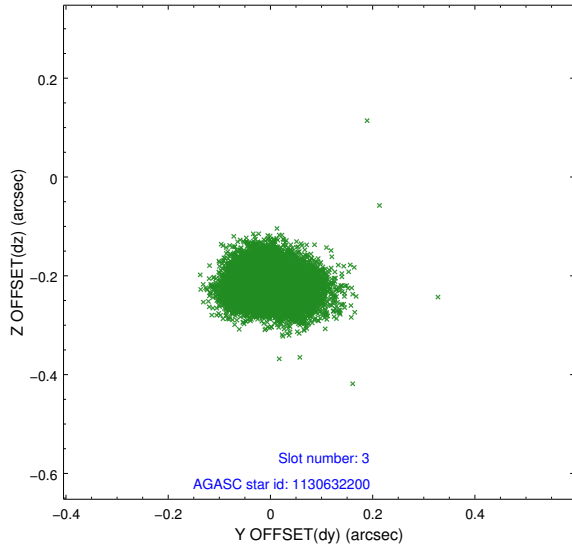
Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.99	4408	0.042	0.115	0.021	0.035	0.000000	0.000000	930.29	-1872.53
1	FID	ACIS-S-2	6.90	4408	-0.153	-0.113	0.013	0.021	0.000000	0.000000	-765.68	-1877.55
2	FID	ACIS-S-4	6.97	4409	0.086	0.002	0.011	0.017	0.000000	0.000000	2147.51	31.21
3	GUIDE	1130632200	7.53	8816	-0.000	-0.215	0.060	0.097	161.433843	-59.407820	1112.57	46.09
4	GUIDE	1130643264	6.65	8816	-0.098	-0.161	0.069	0.113	160.322990	-59.676912	-430.56	1679.03
5	GUIDE	1130640672	8.27	8813	-0.035	0.098	0.067	0.109	162.096044	-59.540805	1010.39	-1251.46
6	GUIDE	1174012960	7.14	8817	0.063	-0.058	0.057	0.086	160.855674	-60.332270	-2375.37	35.06
7	GUIDE	1174033752	8.45	8814	0.063	0.333	0.073	0.114	162.418977	-60.164599	-974.06	-2454.19

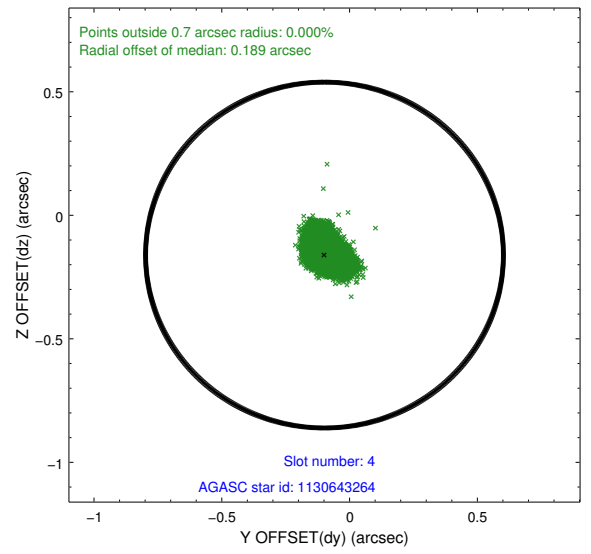
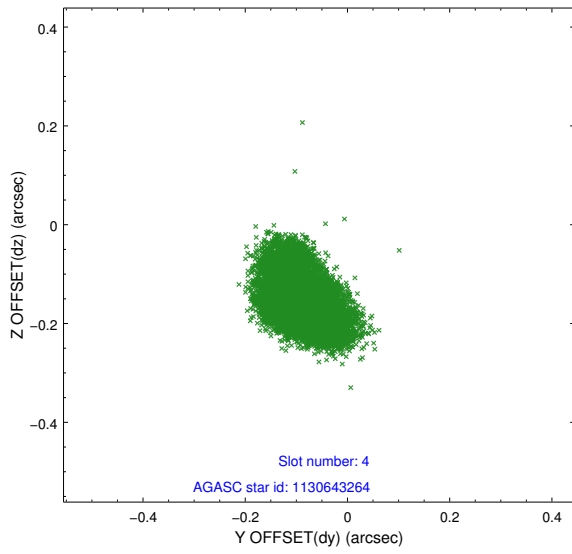
∞

2.4 Star Slots

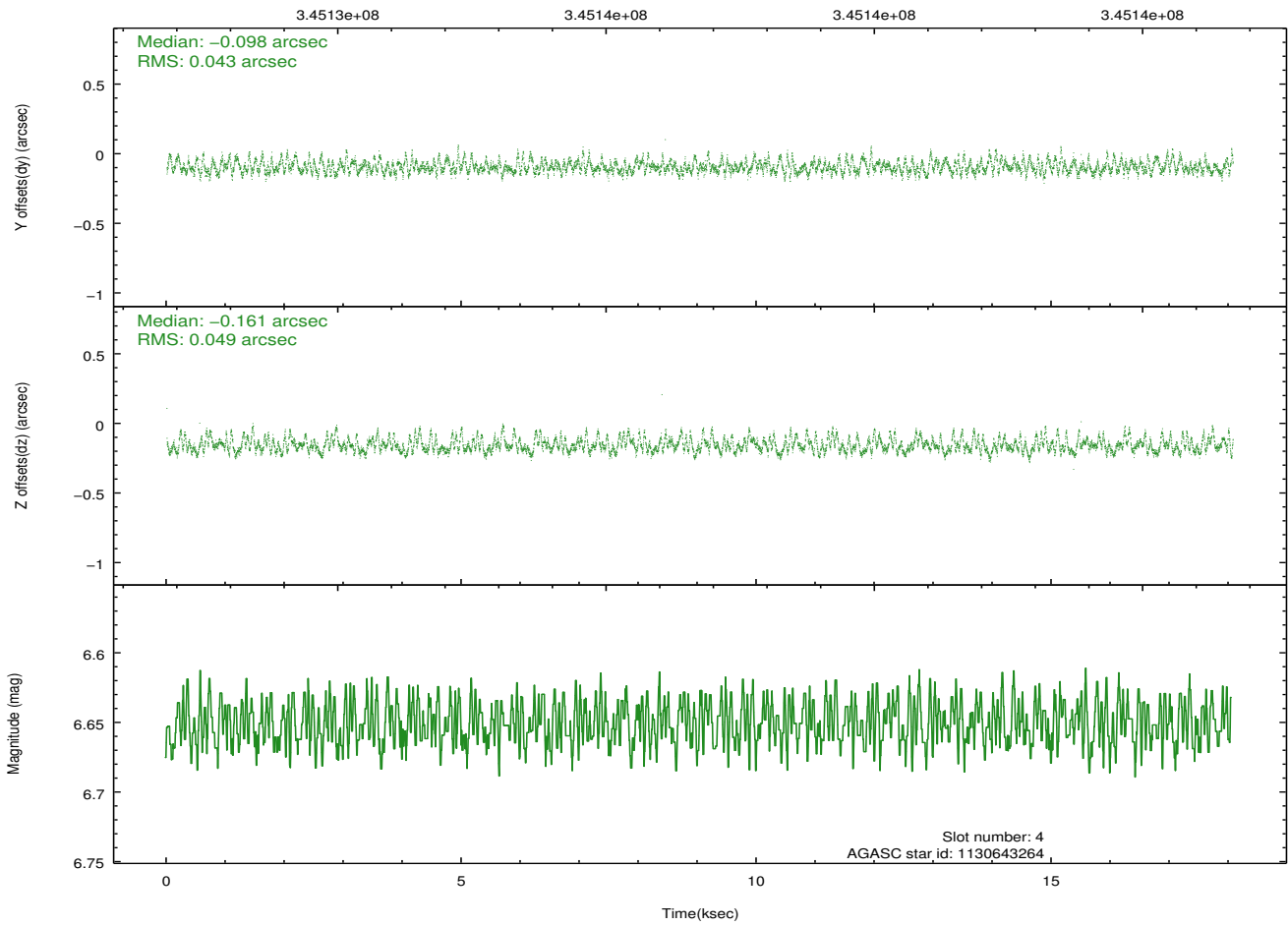
2.4.1 Slot 3



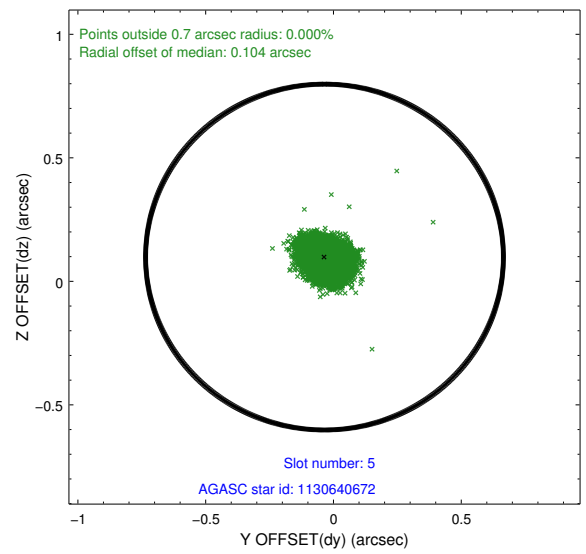
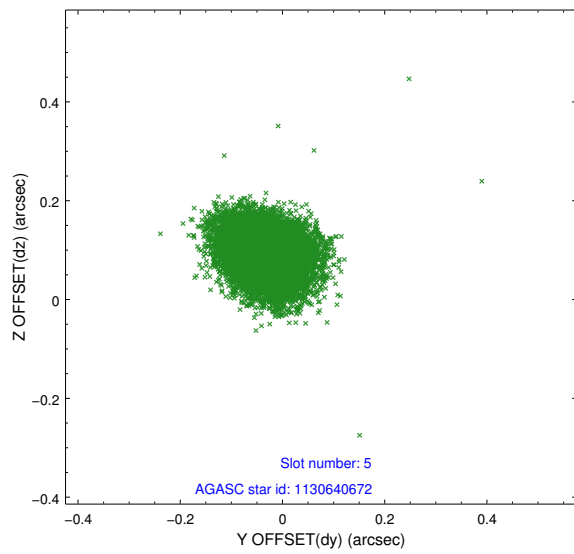
2.4.2 Slot 4



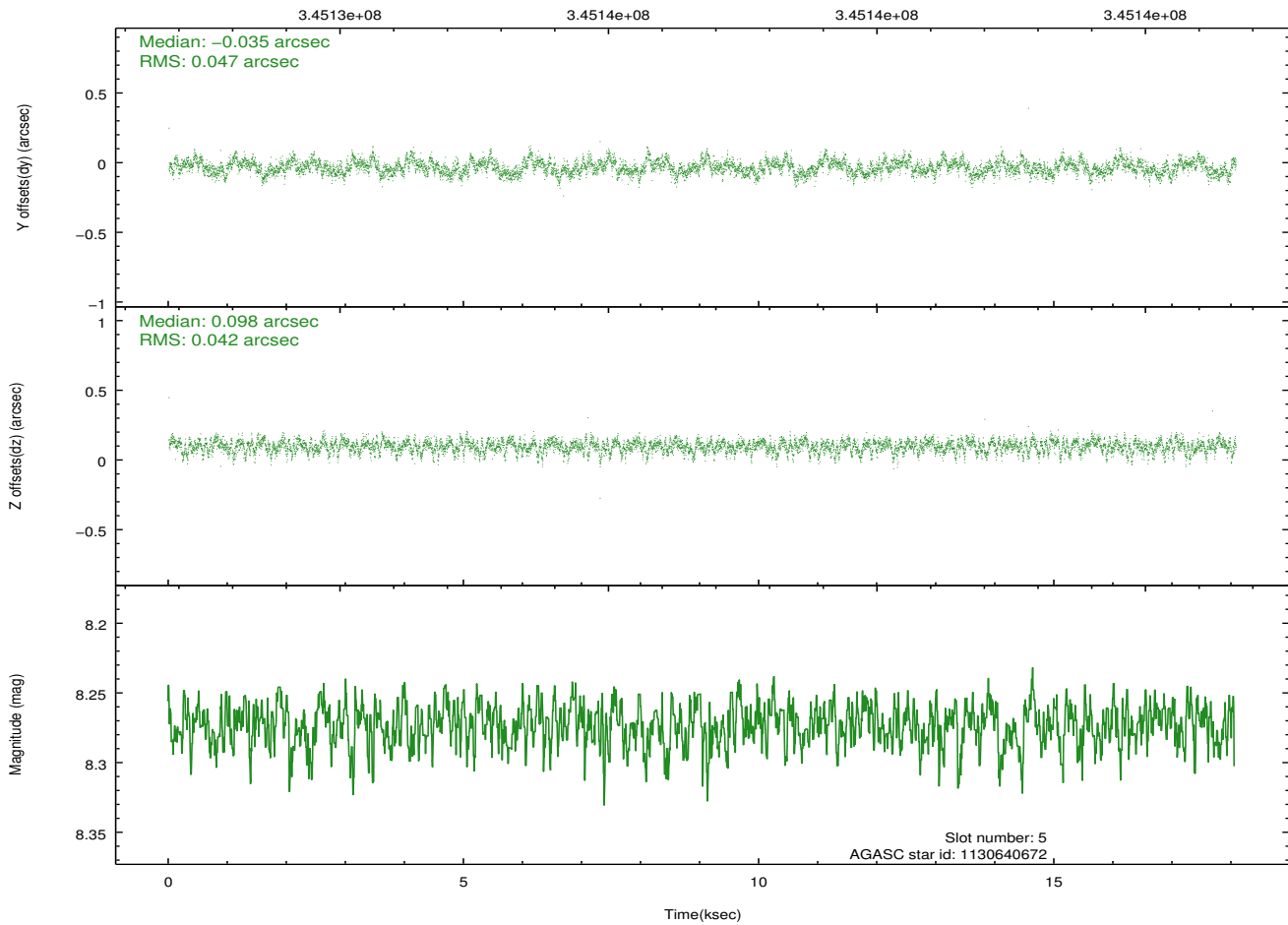
Time (s)



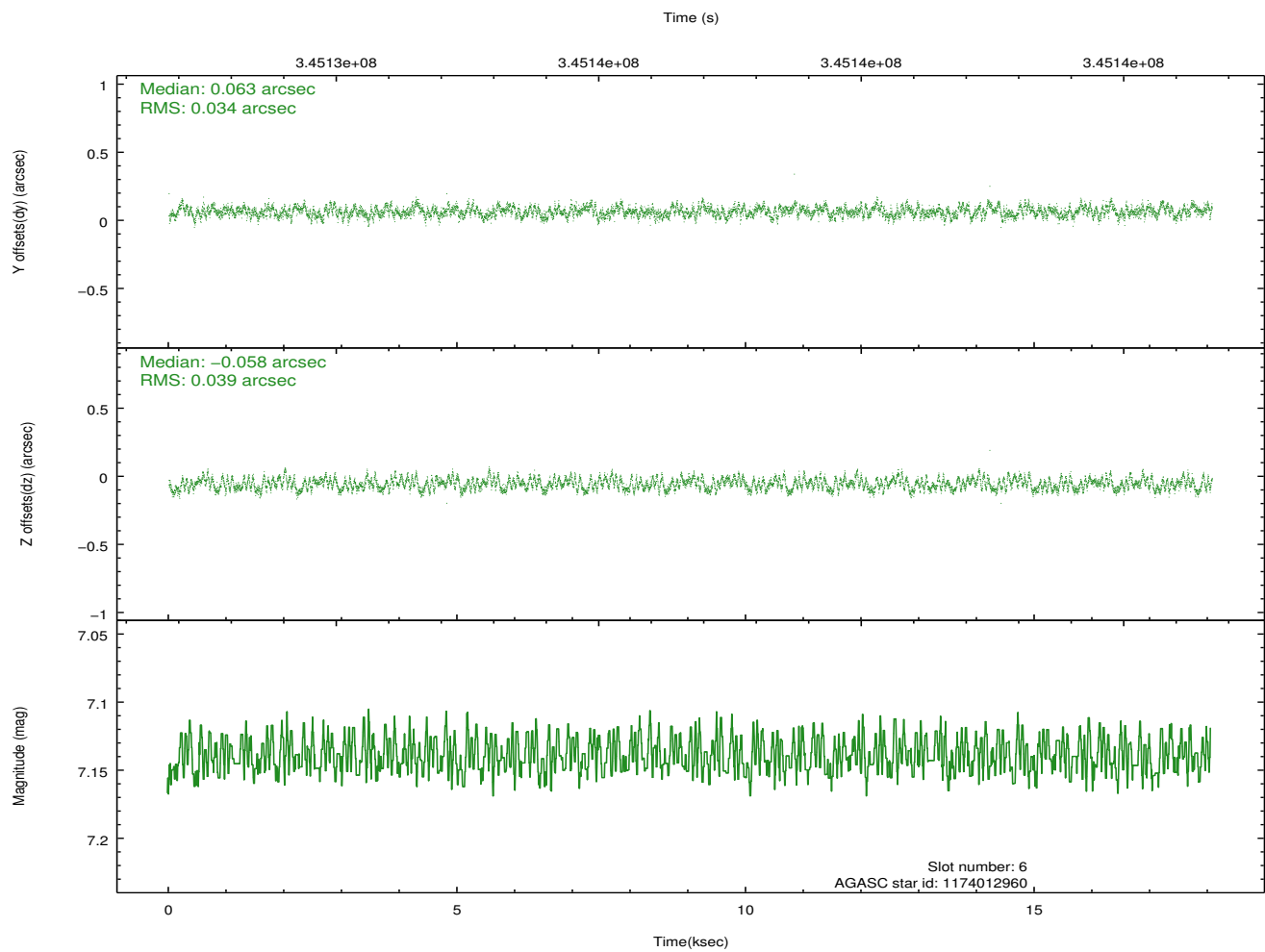
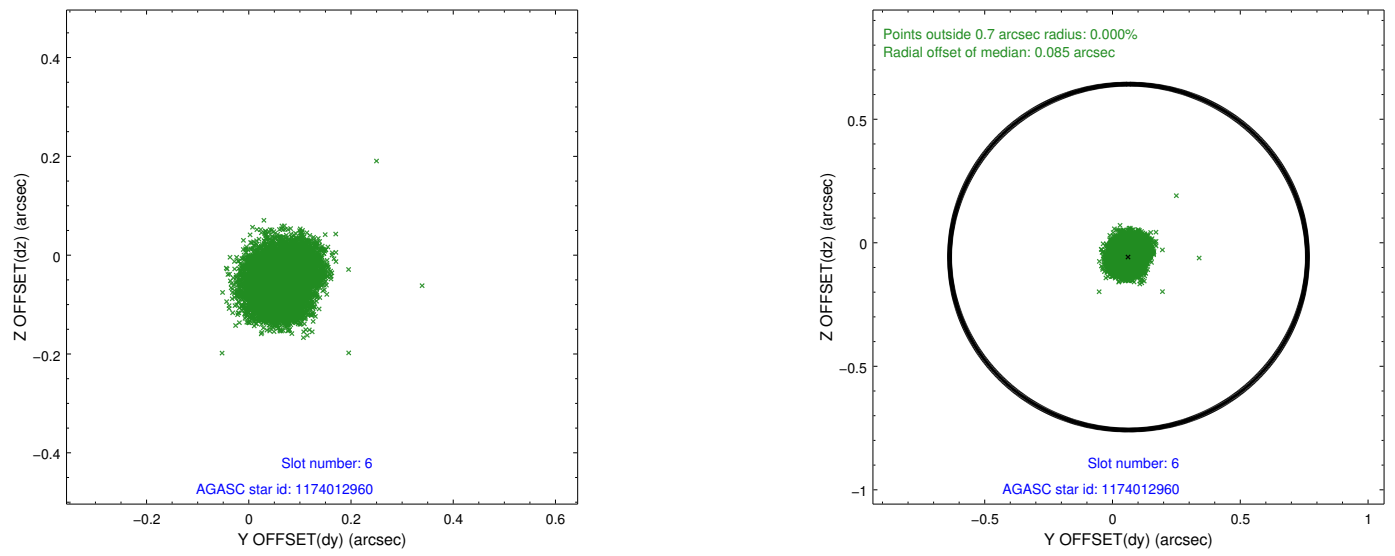
2.4.3 Slot 5



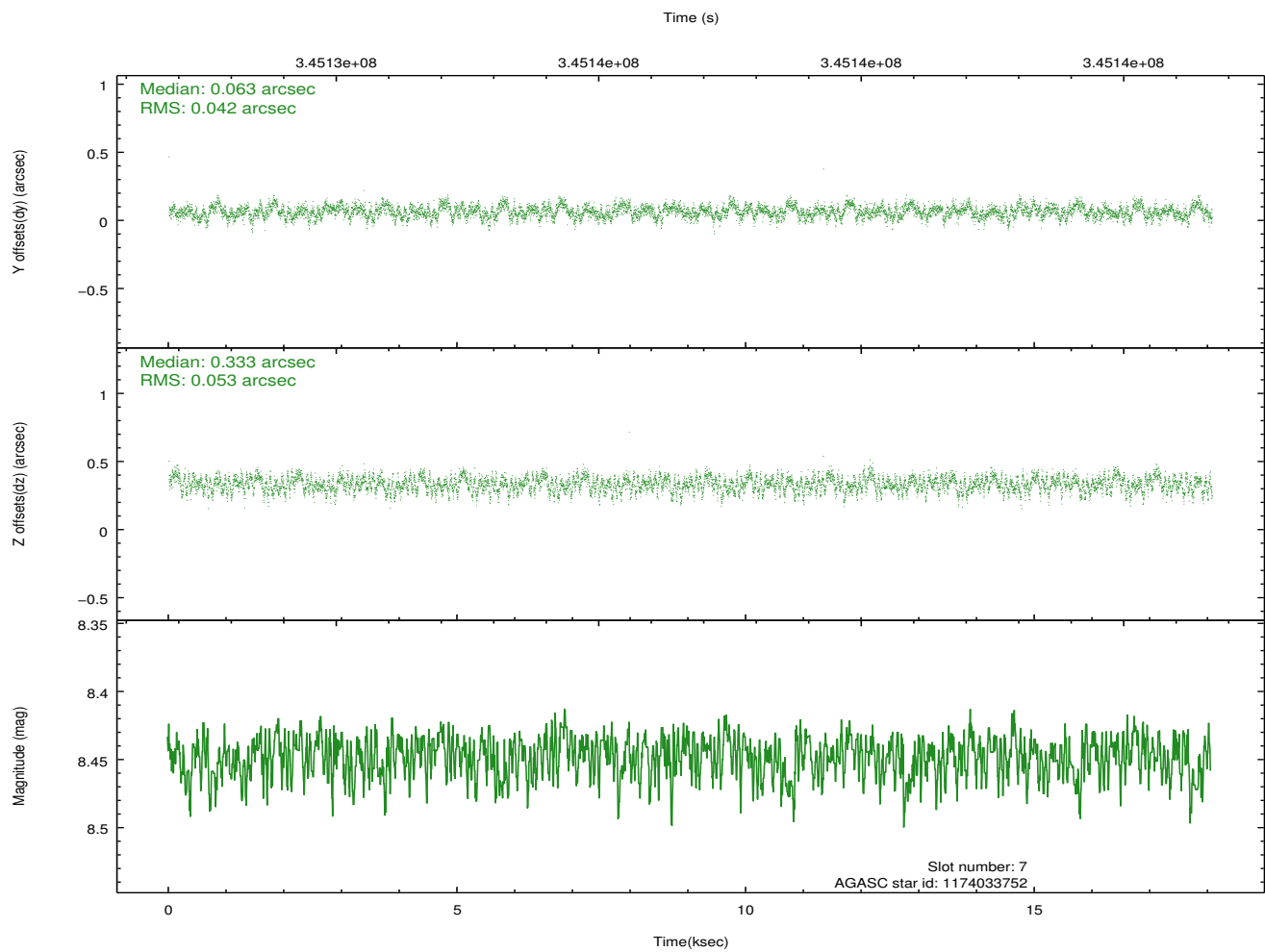
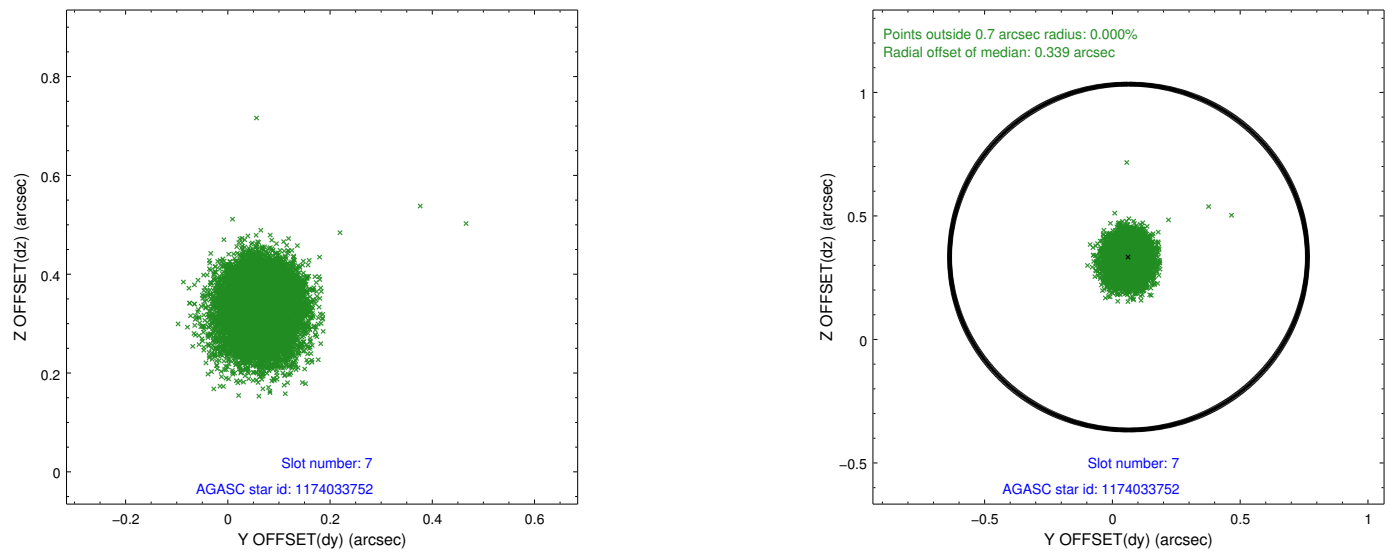
Time (s)



2.4.4 Slot 6

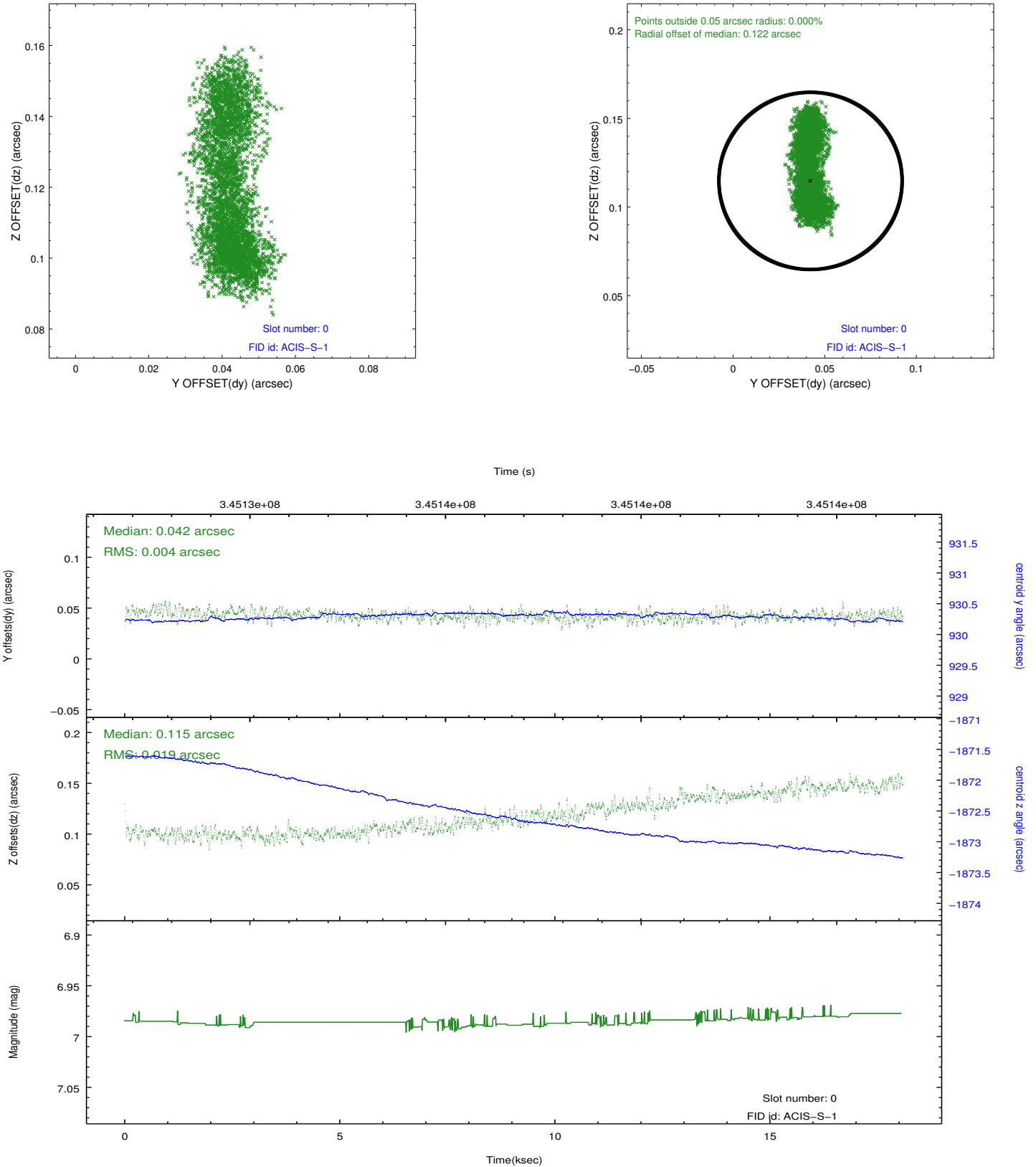


2.4.5 Slot 7

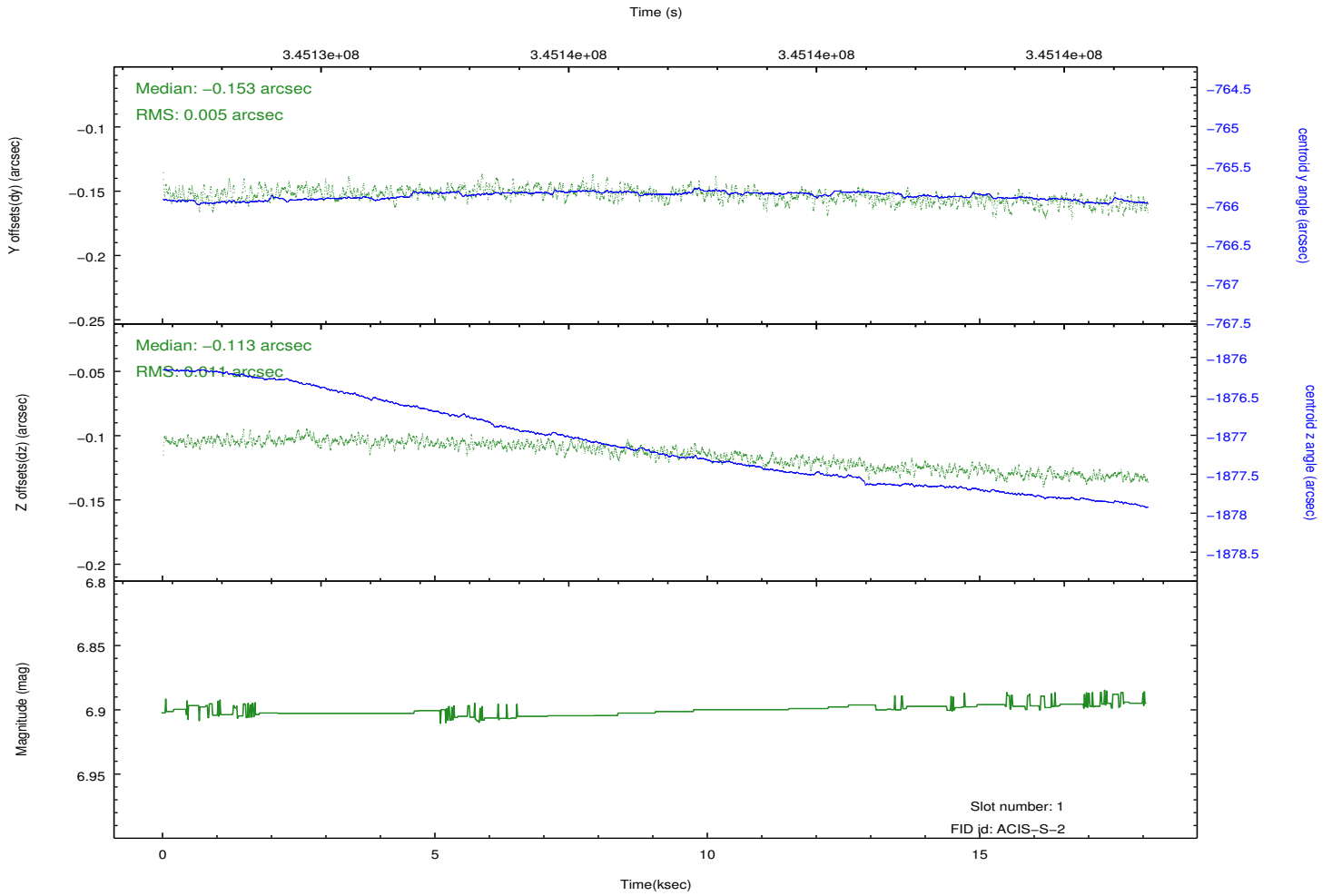
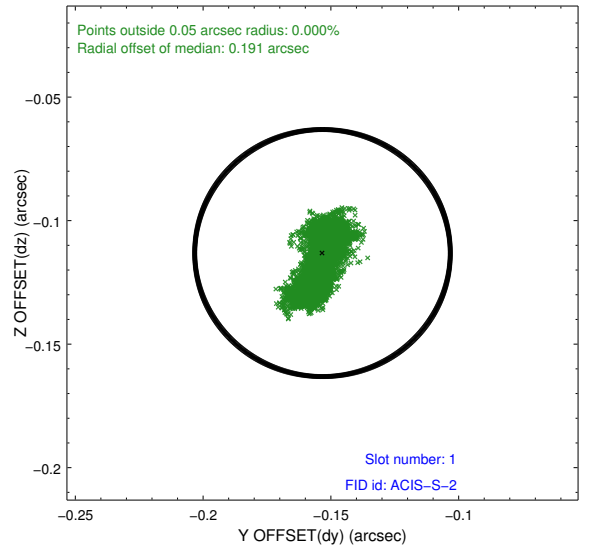
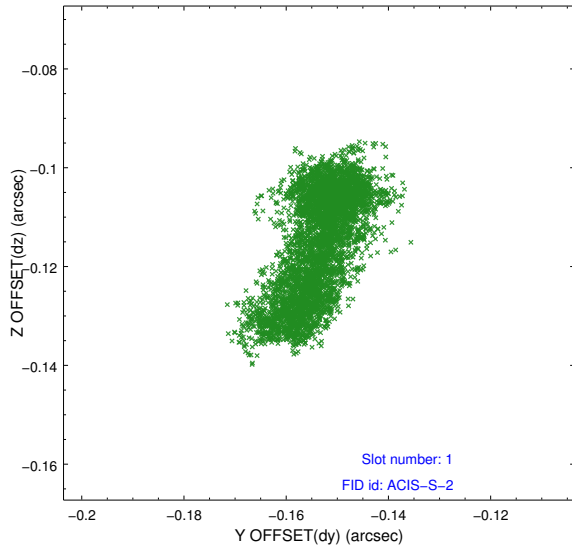


2.5 FID Slots

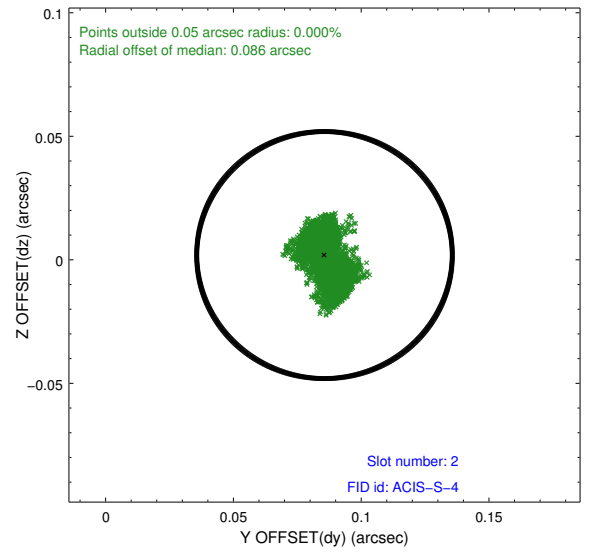
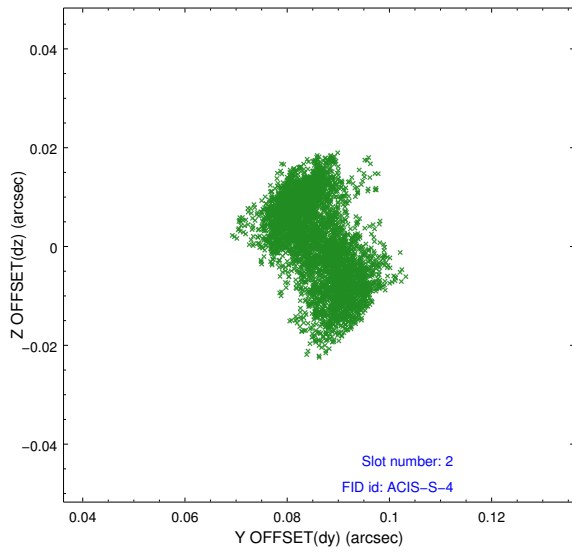
2.5.1 Slot 0



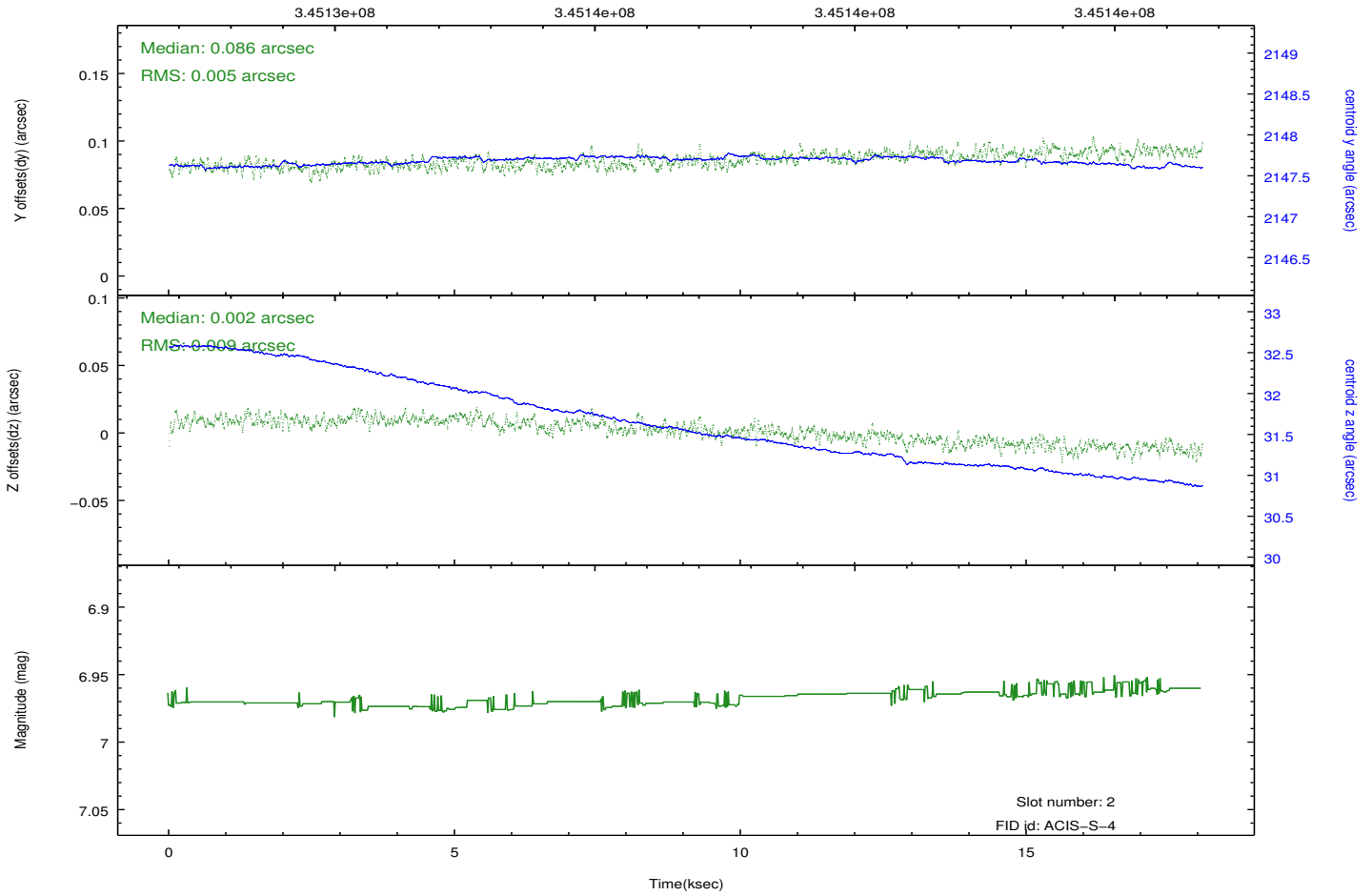
2.5.2 Slot 1



2.5.3 Slot 2



Time (s)

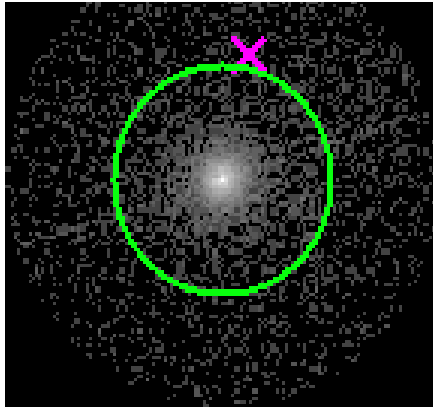


3 Gratings

3.1 HEG Arm



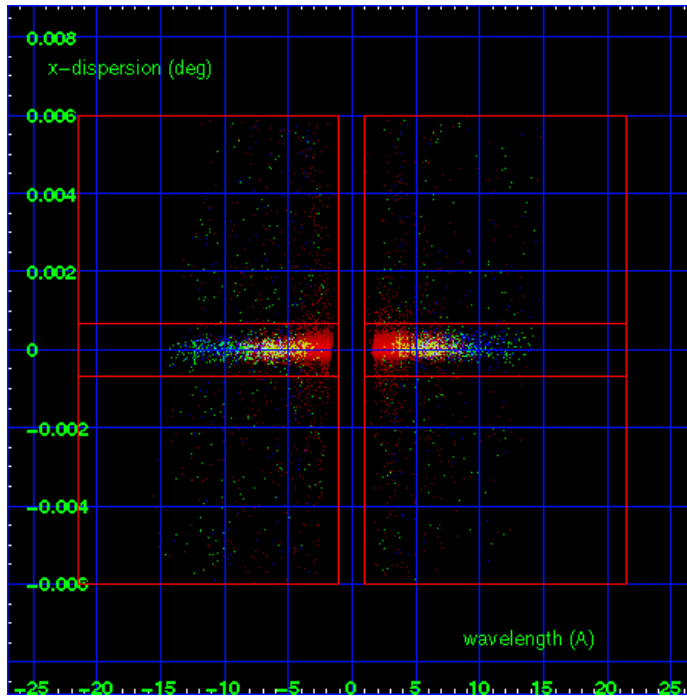
HEG Order Sort 123



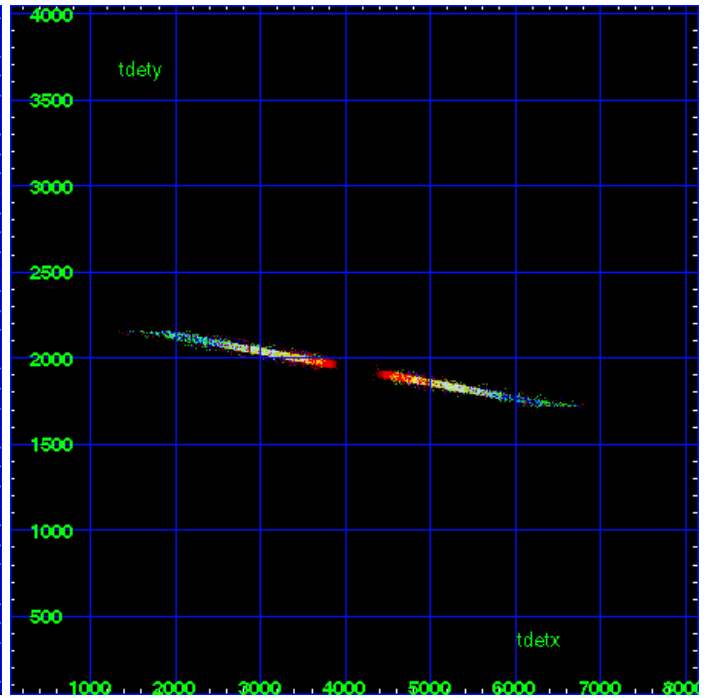
HEG Zero Order



HEG Order Sort ALL

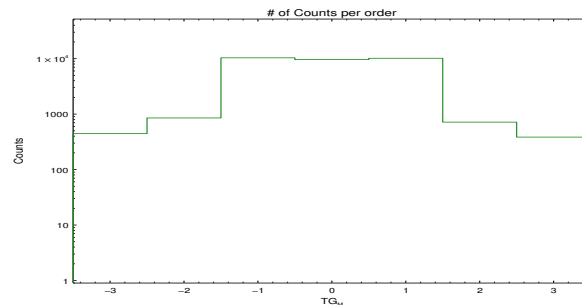


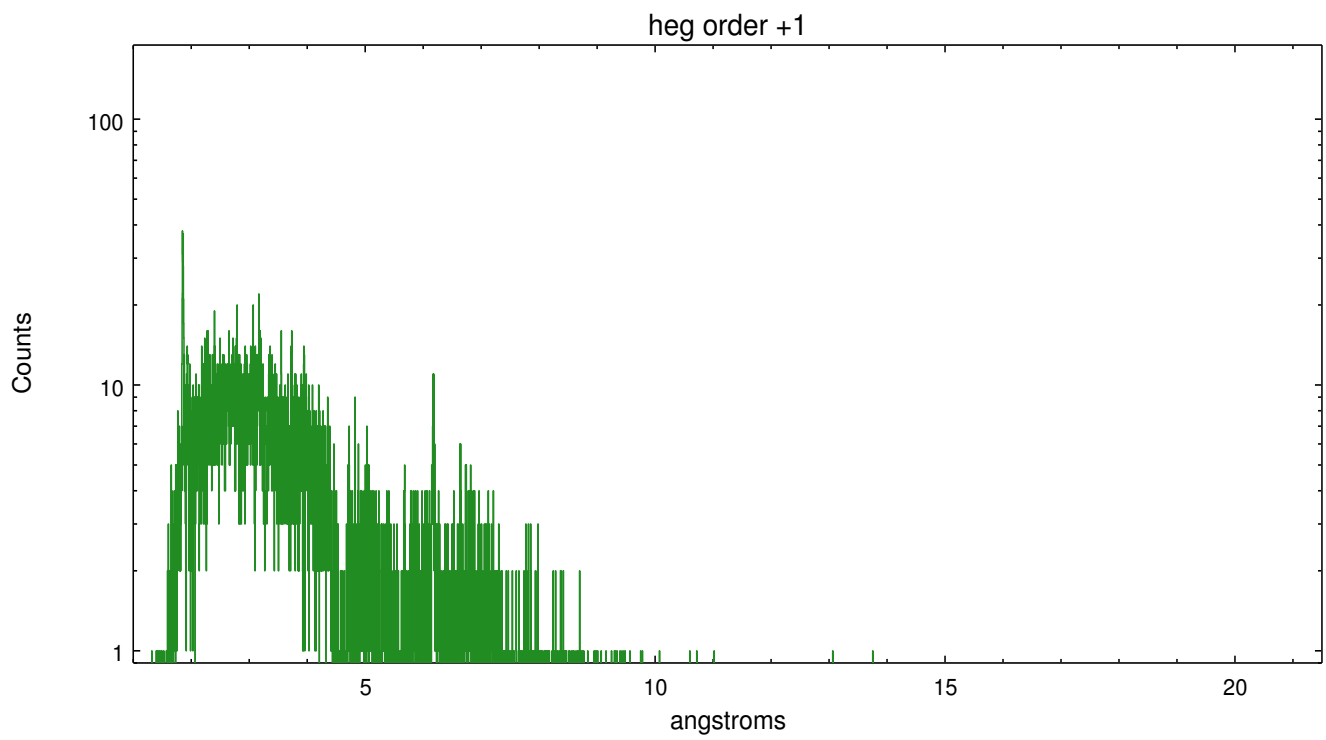
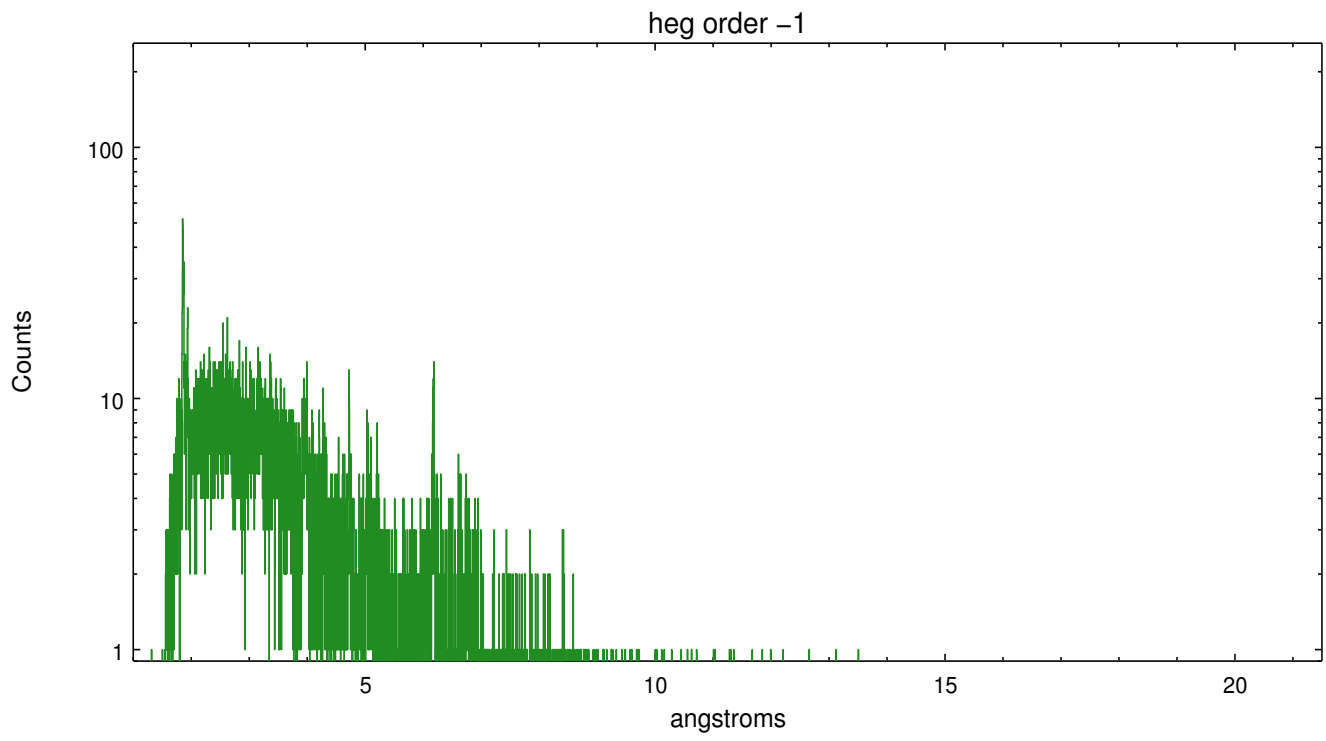
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	445	853	10357	9638	10157	717	385

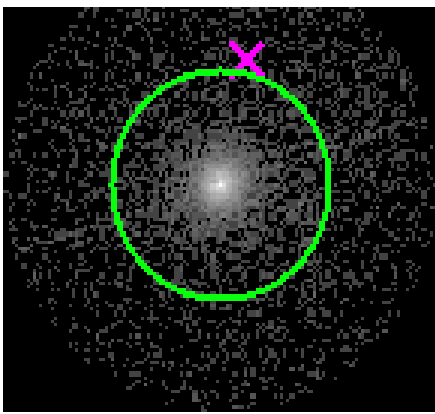




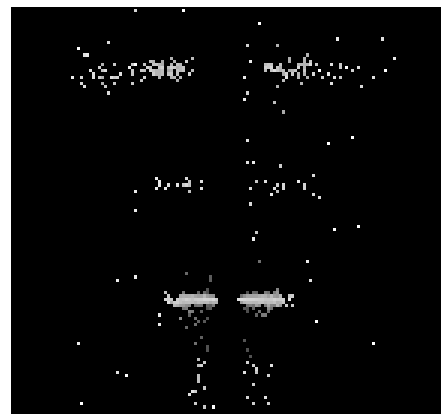
3.2 MEG Arm



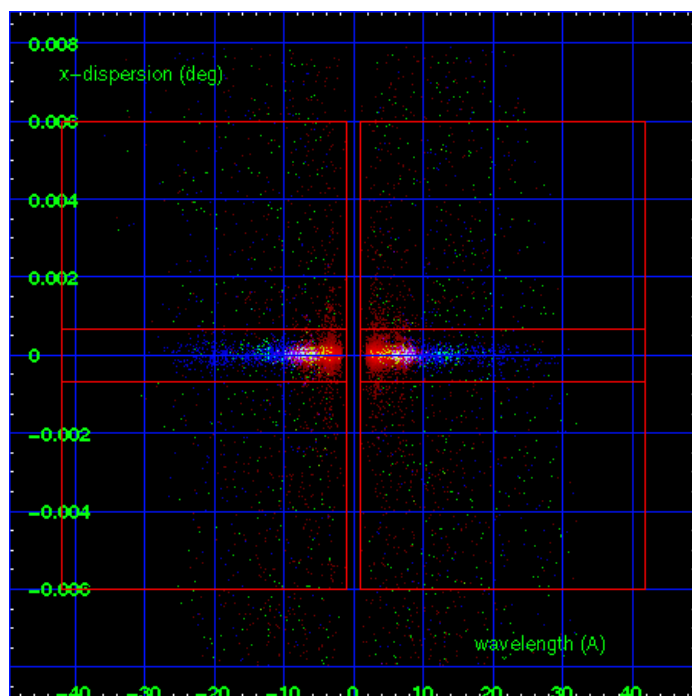
MEG Order Sort 123



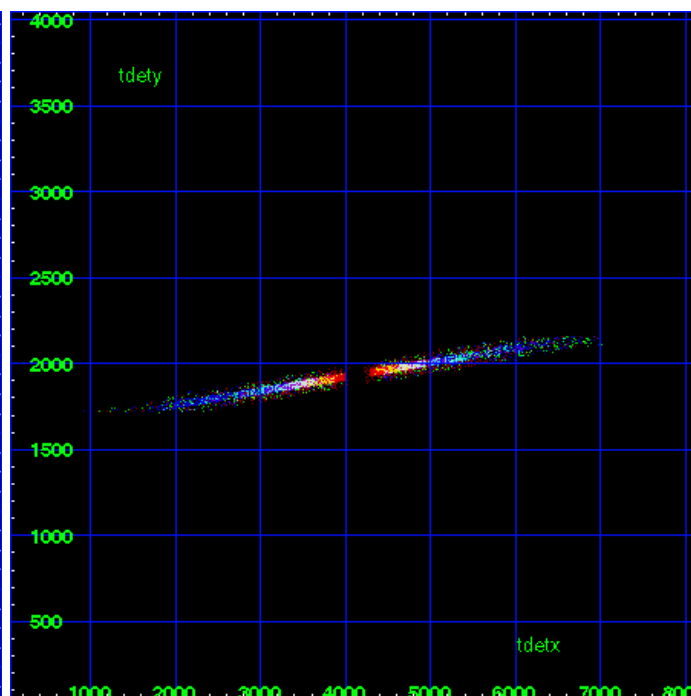
MEG Zero Order



MEG Order Sort ALL

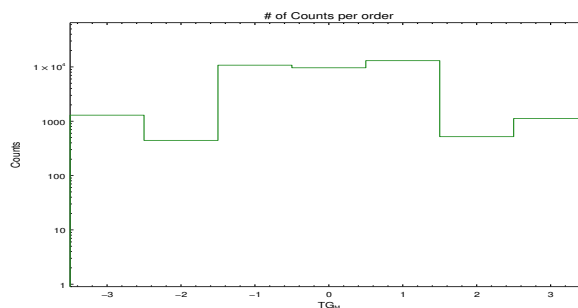


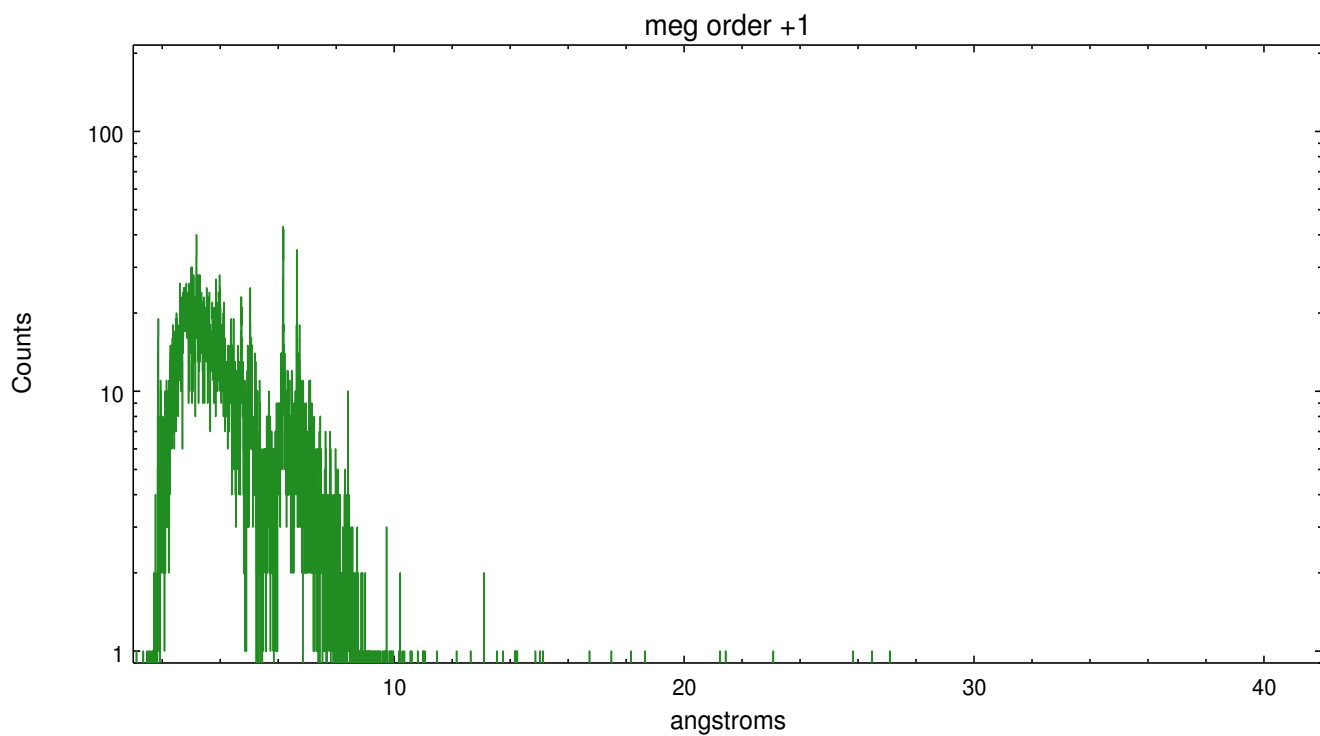
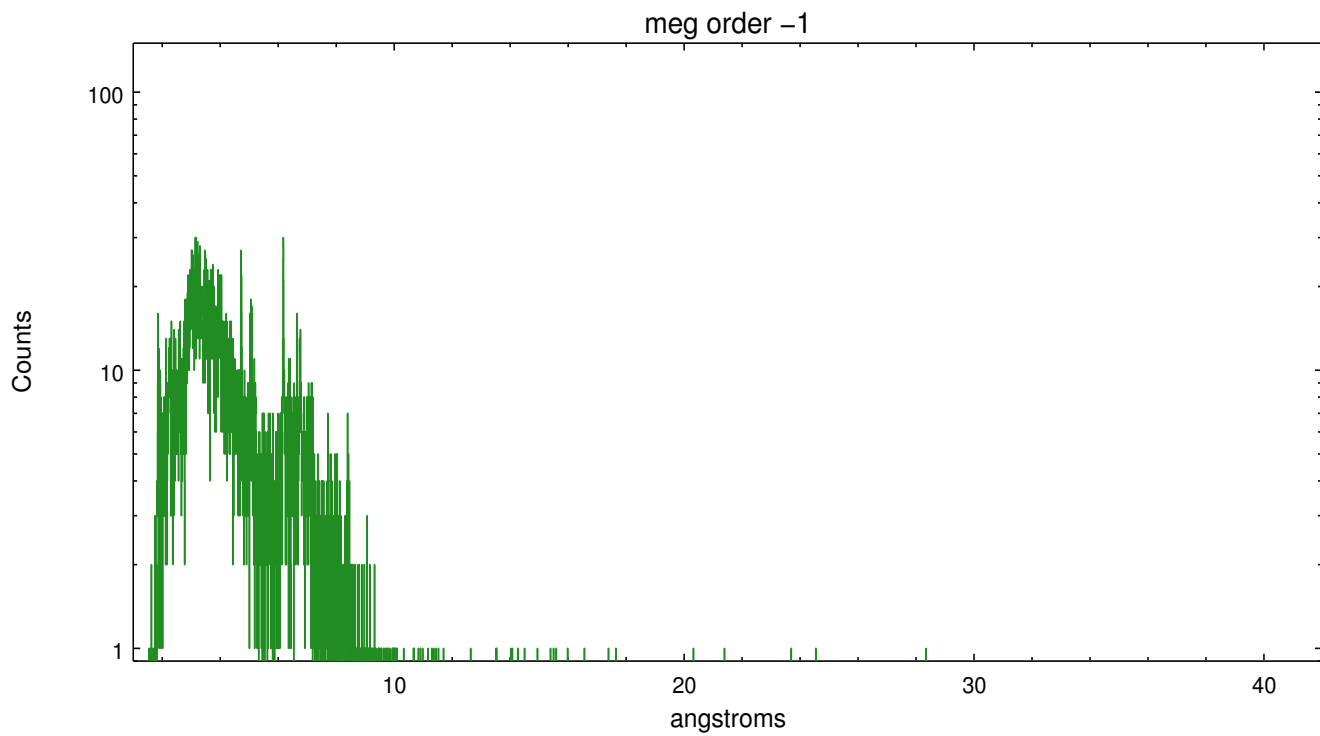
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1293	444	10762	9638	13036	520	1120





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.0705

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=4088.75, y=4063.05) into the *srcla.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. 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 *srcla.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.