

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 17630 - L2 Version 1
Chandra X-Ray Center

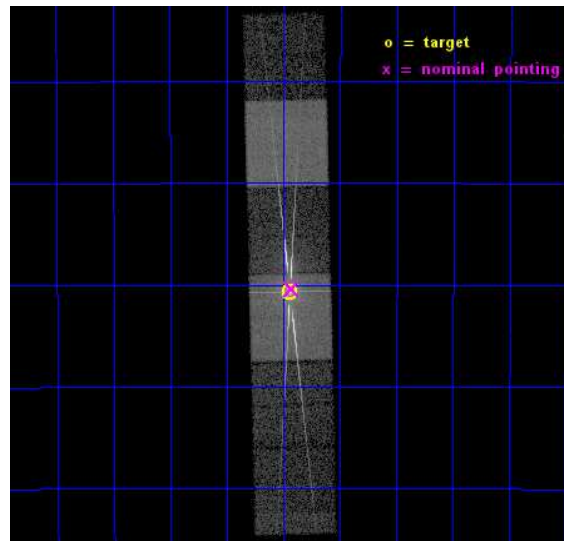
L2 Processing Date : Feb 22 2015

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

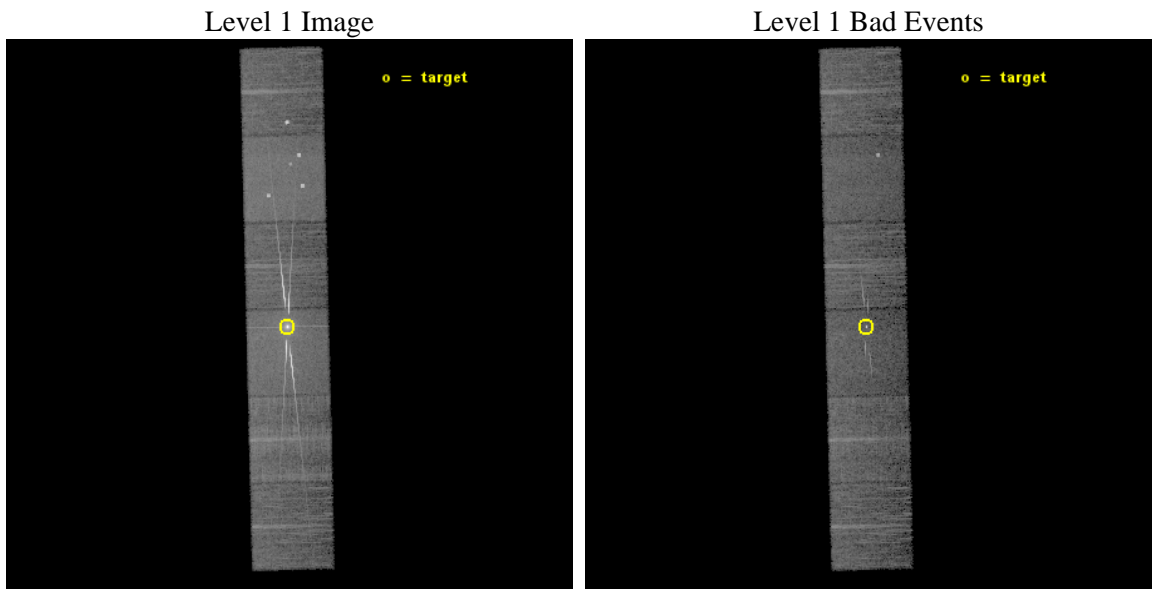
seq_num	401688	Sequence number
obs_id	17630	Observation id
title	Simultaneous UV and X-ray spectroscopy with HST and Chandra: observing wind accretion onto a NS	Proposal title
observer	Dr. Lidia Oskinova	Principal investigator
object	4U1700-37	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	255.986667	Observer's specified target RA [deg]
dec_targ	-37.844139	Observer's specified target Dec [deg]
ra_nom	255.98247880082	Nominal RA [deg]
dec_nom	-37.839830711878	Nominal Dec [deg]
roll_nom	88.5373523624	Nominal Roll [deg]
revision	1	Processing version of data
ontime	14457.600215435	Sum of GTIs [s]
livetime	14274.529376185	Livetime [s]
ontime4	14457.600215435	Sum of GTIs [s]
ontime5	14457.600215435	Sum of GTIs [s]
ontime6	14457.57674551	Sum of GTIs [s]
ontime7	14457.600215435	Sum of GTIs [s]
ontime8	14457.535705447	Sum of GTIs [s]
ontime9	14457.494665504	Sum of GTIs [s]
l2events	241199	Number of level 2 events



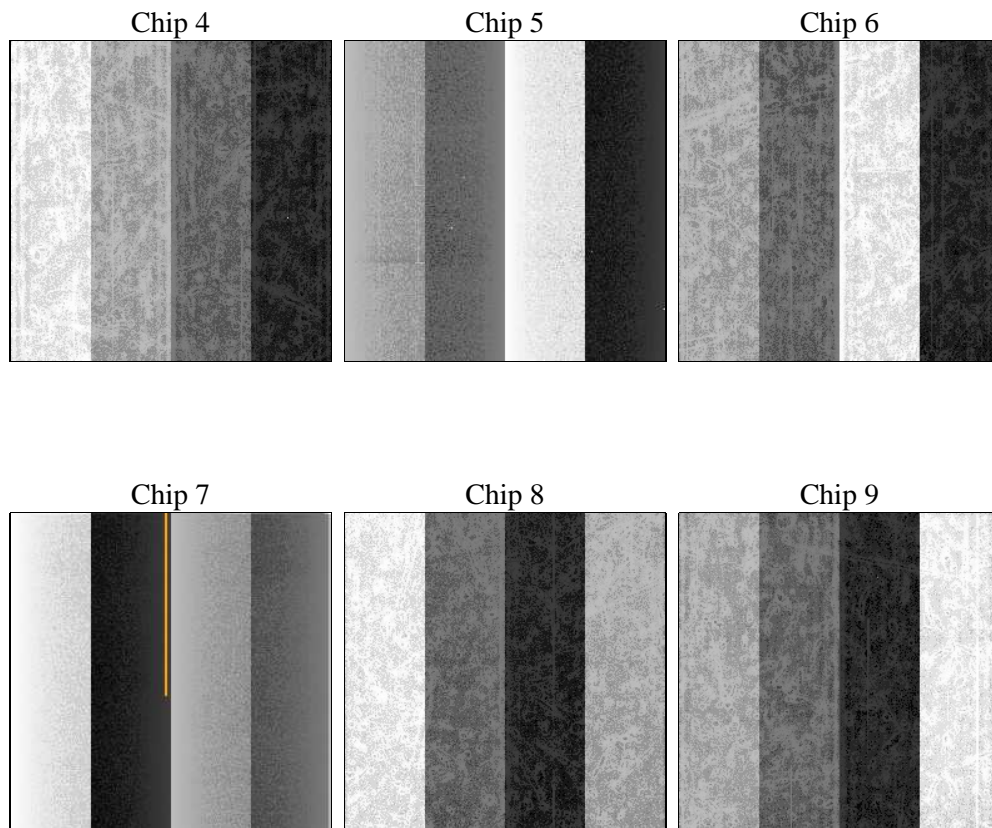
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14500.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	14457.600215435	Sum of GTIs [s]
caldsver	4.6.6	 	ontime4	14457.600215435	Sum of GTIs [s]
date	2015-02-22T15:45:07	Date and time of file creation	ontime5	14457.600215435	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	14457.57674551	Sum of GTIs [s]
			ontime7	14457.600215435	Sum of GTIs [s]
			ontime8	14457.535705447	Sum of GTIs [s]
			ontime9	14457.494665504	Sum of GTIs [s]
			l1events	664545	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4072.01, 4065.42)	src1a sky pixel position

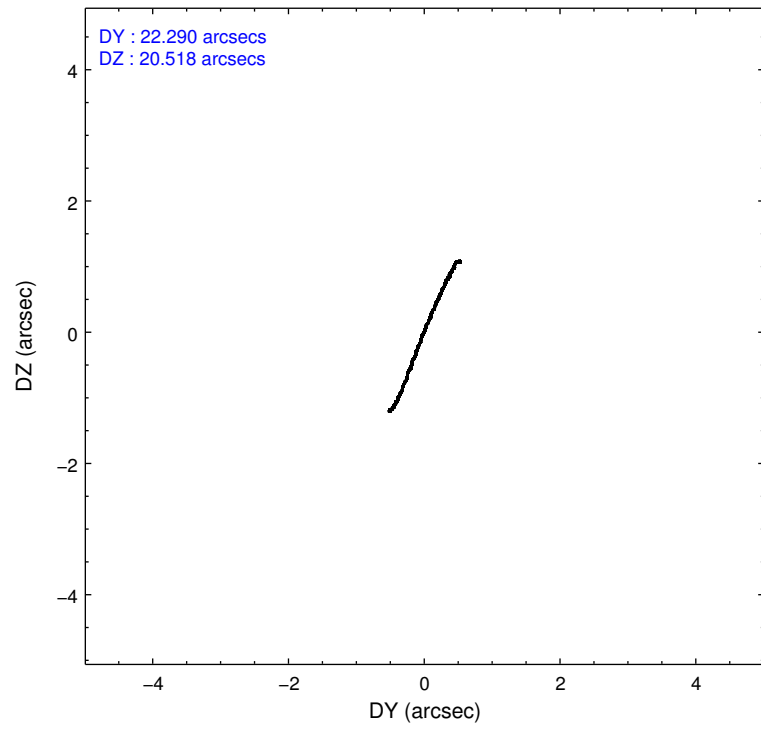
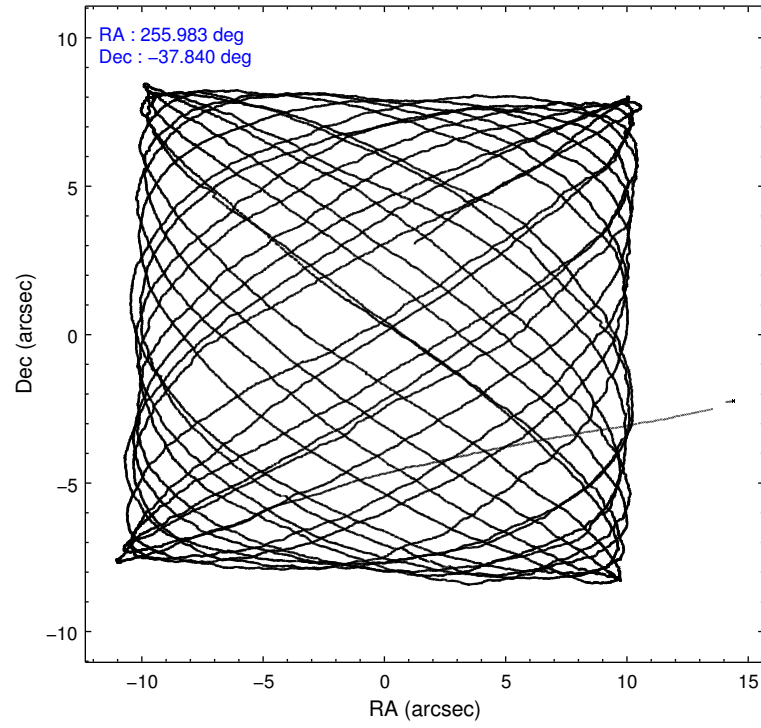
2.1.4 Events

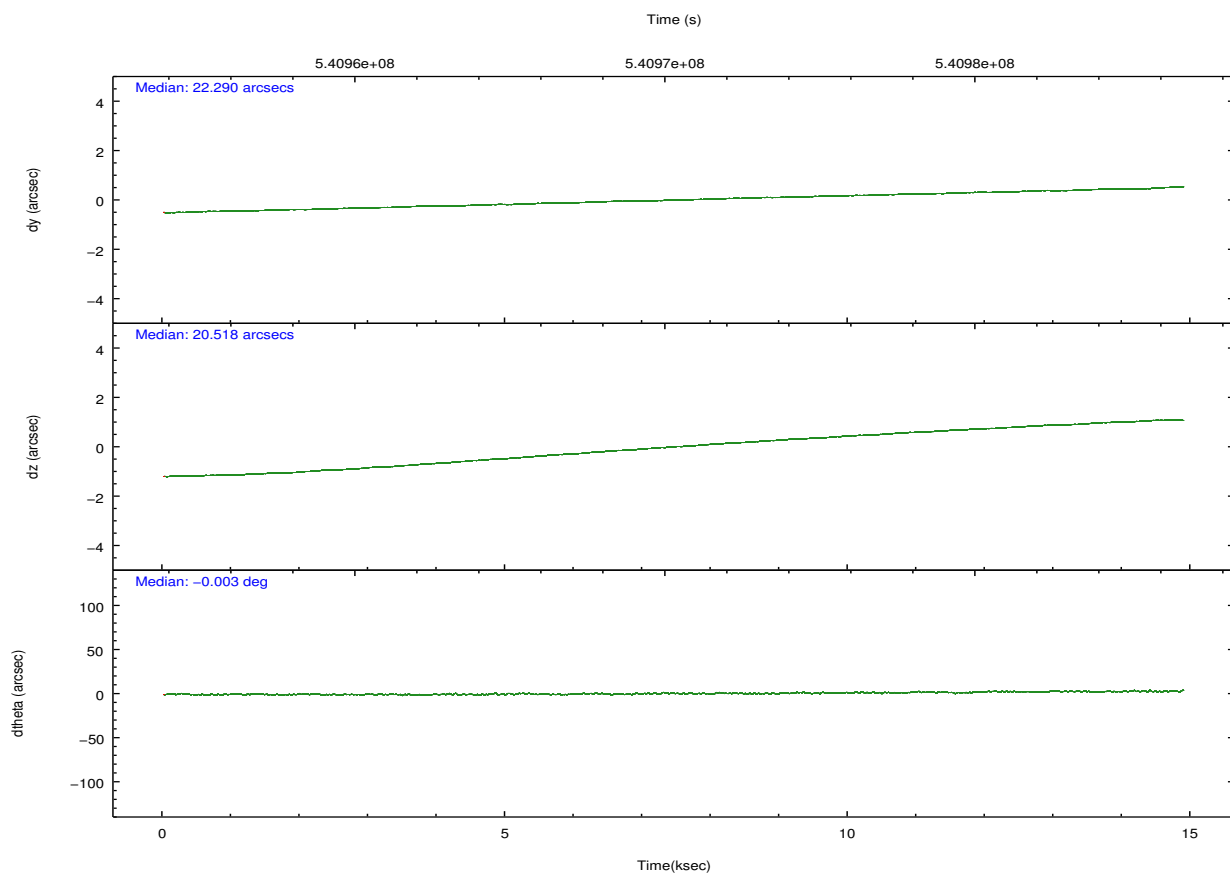
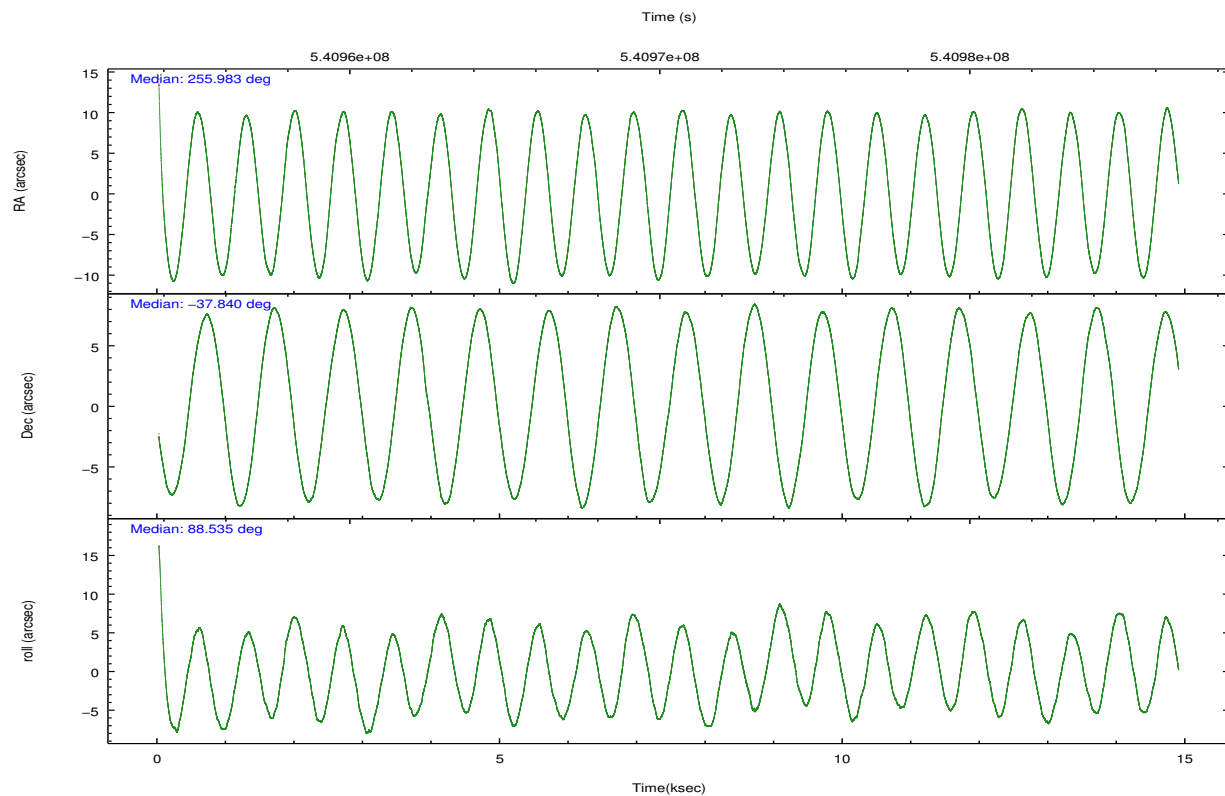
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	82866	125847	117236	167625	100394	70577	grade 0 events	7640	11810	28672	18648	10250	3885
rejected events	69399	60515	66087	57620	69723	60478		9%	9%	24%	11%	10%	5%
rejected %	83%	48%	56%	34%	69%	85%	grade 1 events	84	1449	338	435	85	48
								0%	1%	0%	0%	0%	0%
							grade 2 events	2289	18273	8808	24891	6968	2200
								2%	14%	7%	14%	6%	3%
							grade 3 events	1025	2104	3250	10209	2872	959
								1%	1%	2%	6%	2%	1%
							grade 4 events	929	2047	3213	9947	2757	965
								1%	1%	2%	5%	2%	1%
							grade 5 events	3740	8475	4085	10868	5429	3958
								4%	6%	3%	6%	5%	5%
							grade 6 events	1586	31108	7211	46319	7847	2093
								1%	24%	6%	27%	7%	2%
							grade 7 events	65573	50581	61659	46308	64186	56469
								79%	40%	52%	27%	63%	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	255.999488	255.9824788008153	CCD I2 on	N	N
[deg] Pointing Dec	-37.863757	-37.83983071187787	CCD I3 on	N	N
[deg] Pointing Roll	88.391163	88.53735236240036	CCD S0 on	O2	Y
[s] Window start time (MET)	540961267.184000	540961267.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	540968467.184000	540968467.184000	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	-190.132523	-190.1400660498719	CCD S5 on	O1	Y
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	540963099.184000	540961876.466	On-chip summing requested	N	N
Observation start date	2015-02-22T03:30:32	2015-02-22T03:11:16	Subarray requested	NONE	NONE
[s] Observation end time (MET)	540977599.184000	540978508.11693	Alternating exposures requested	N	N
Observation end date	2015-02-22T07:32:12	2015-02-22T07:48:28	[s] Primary exposure time	0.000000	3.2
Read mode	TIMED	TIMED			

2.3 Aspect



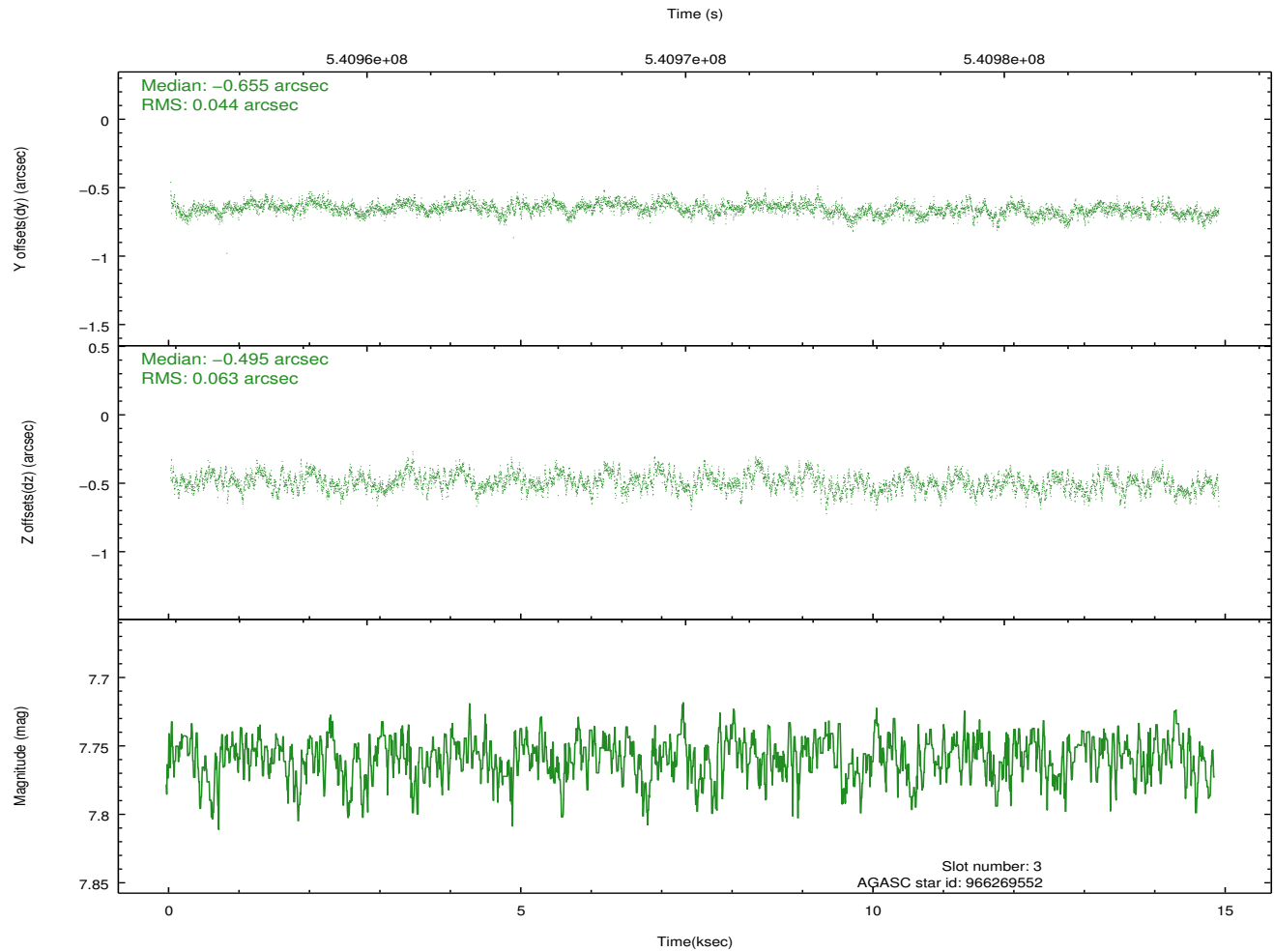
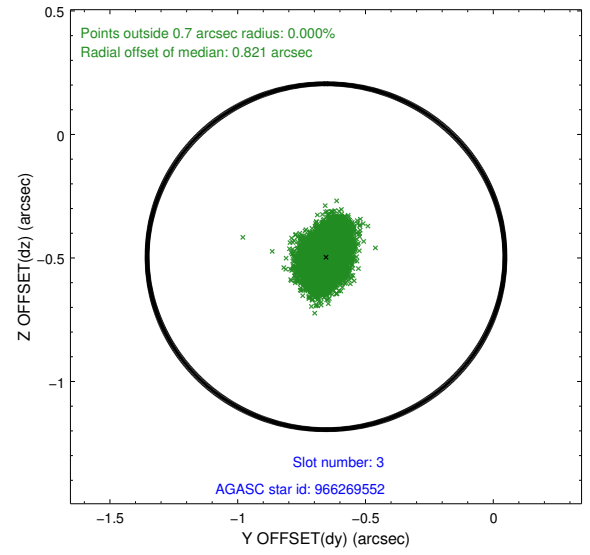
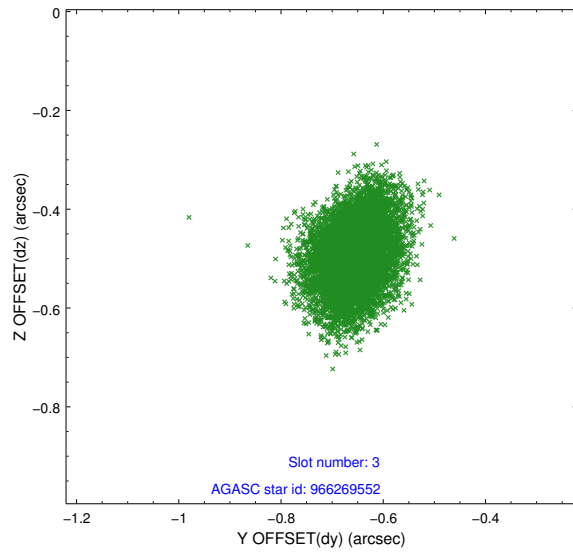


Slot Statistics

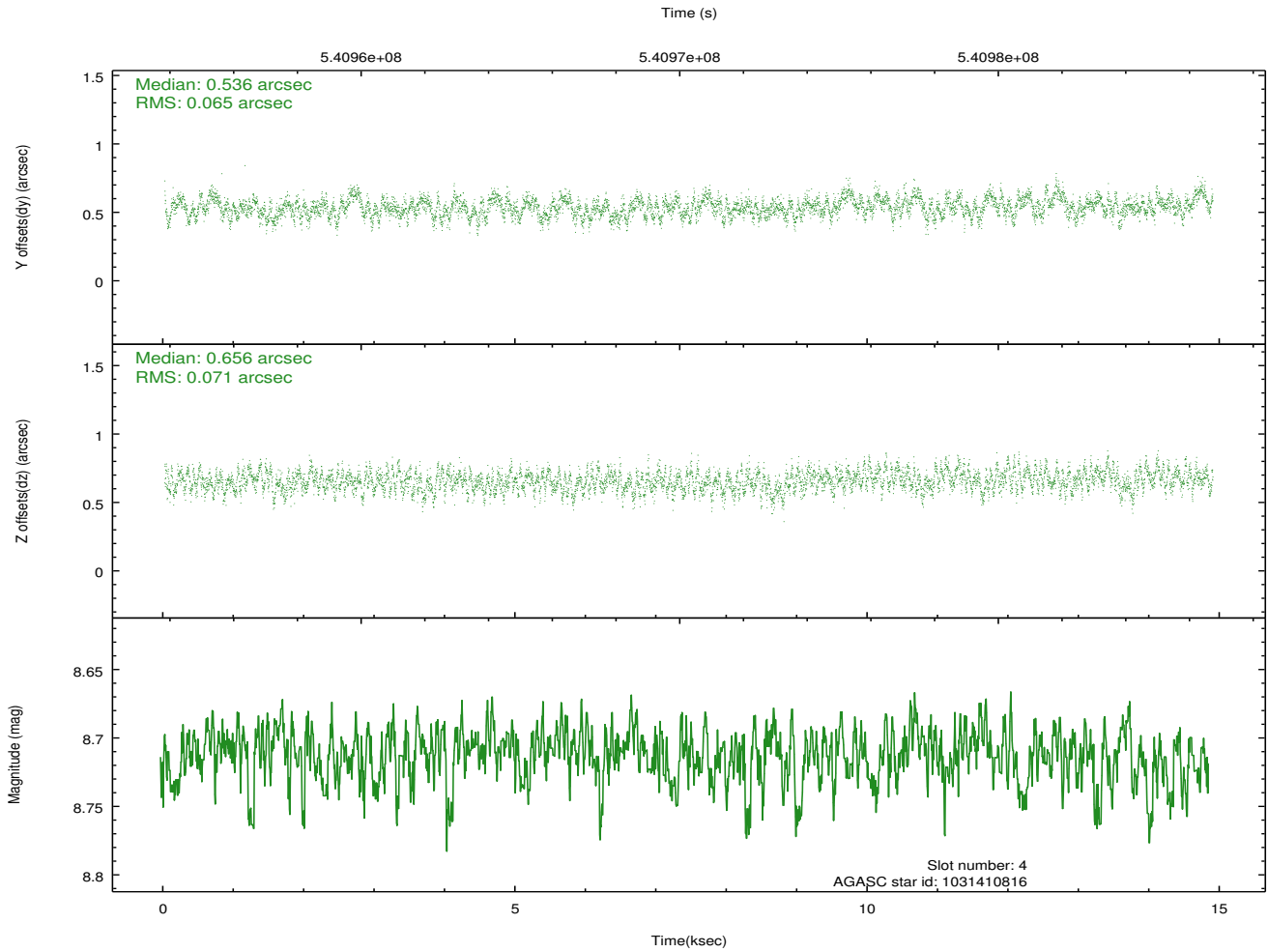
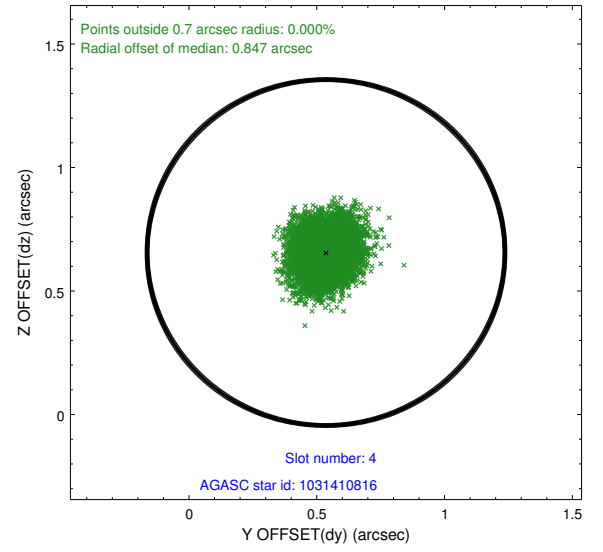
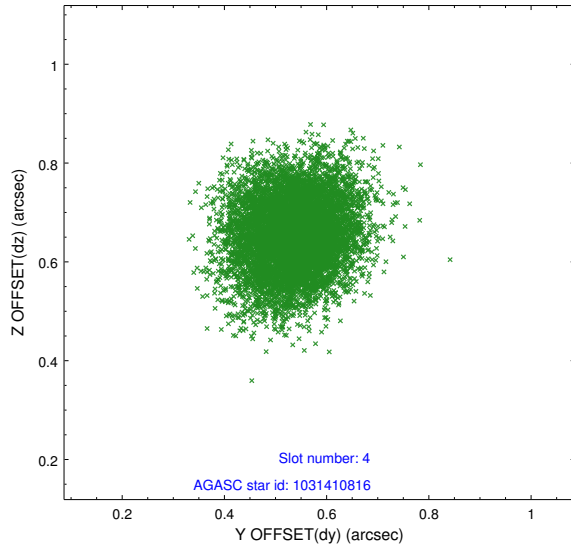
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.05	3630	-0.210	-0.137	0.011	0.019	0.000000	0.000000	-775.70	-1742.11
1	FID		ACIS-S-4	7.14	3630	0.257	0.111	0.009	0.014	0.000000	0.000000	2137.95	166.23
2	FID		ACIS-S-6	7.27	3630	-0.074	0.034	0.014	0.024	0.000000	0.000000	386.87	803.93
3	GUIDE	used	966269552	7.76	7258	-0.655	-0.495	0.081	0.135	255.299822	-37.331349	1851.58	2055.41
4	GUIDE	used	1031410816	8.71	7256	0.536	0.656	0.104	0.164	256.738352	-38.426570	-1974.21	-2139.18
5	GUIDE	used	966264944	8.04	7258	-0.497	-0.392	0.080	0.127	255.480590	-37.301475	1976.85	1541.68
6	GUIDE	used	1031413088	8.16	7260	0.147	-0.317	0.088	0.146	255.341116	-38.316351	-1687.32	1813.13
7	GUIDE	used	1031410360	8.54	7258	0.470	0.543	0.088	0.140	256.485485	-38.492361	-2226.87	-1431.74

2.4 Star Slots

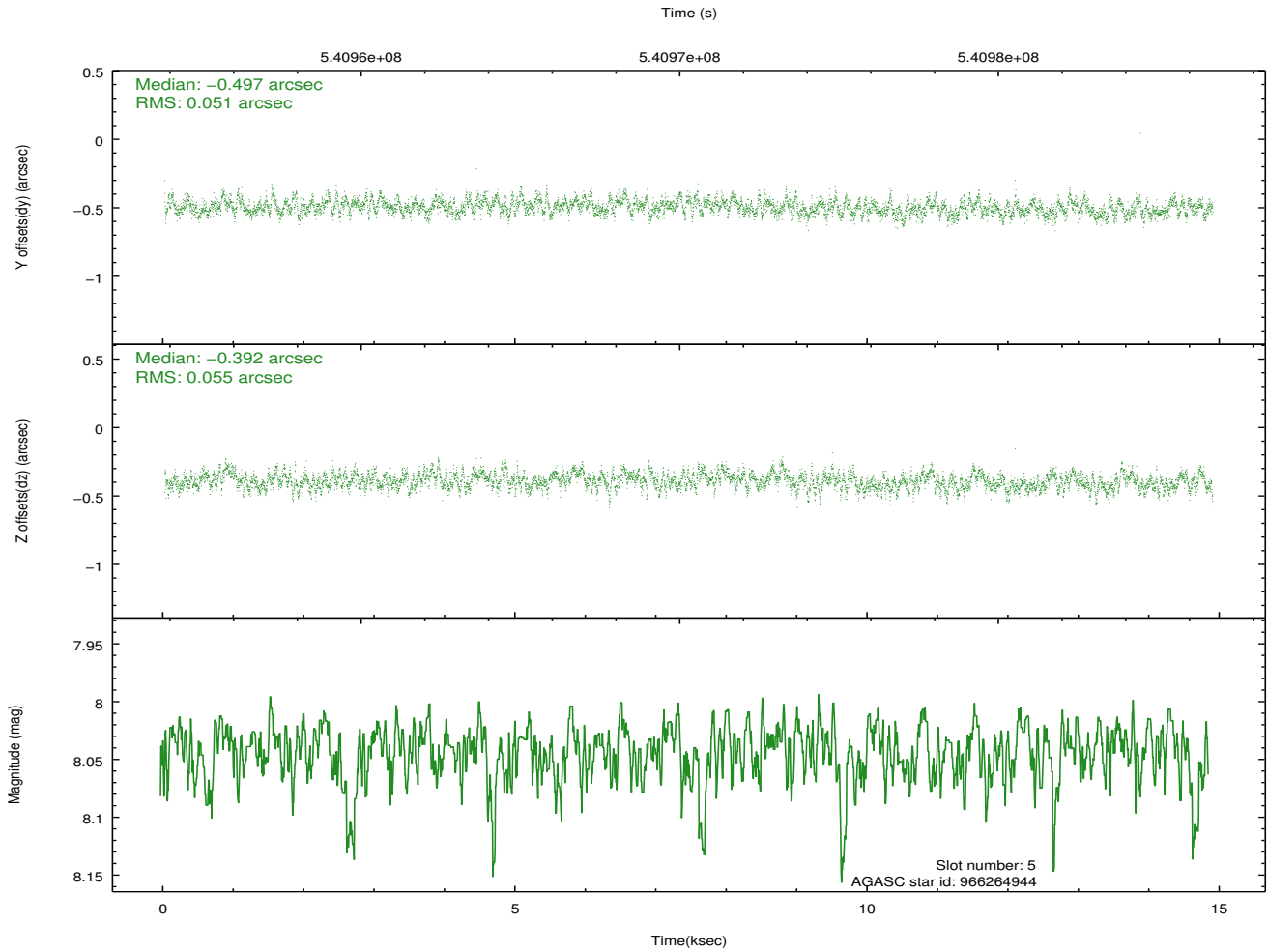
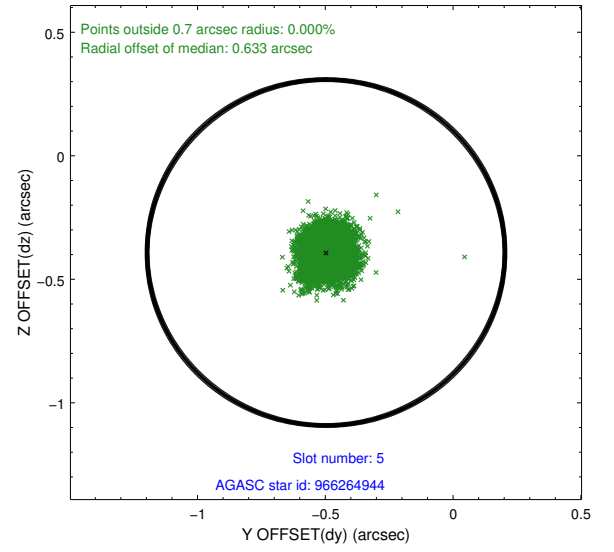
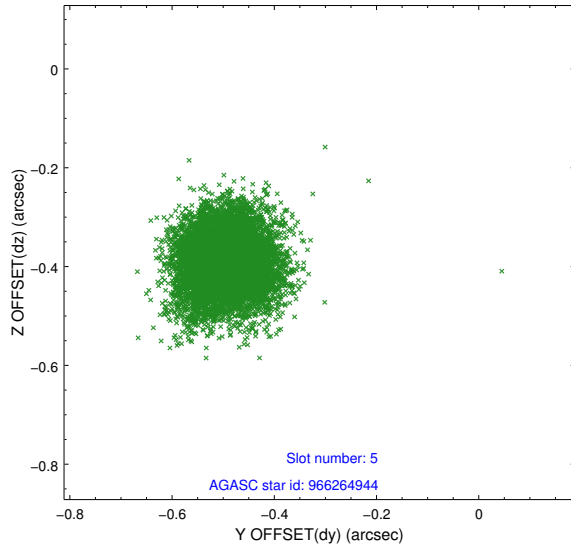
2.4.1 Slot 3



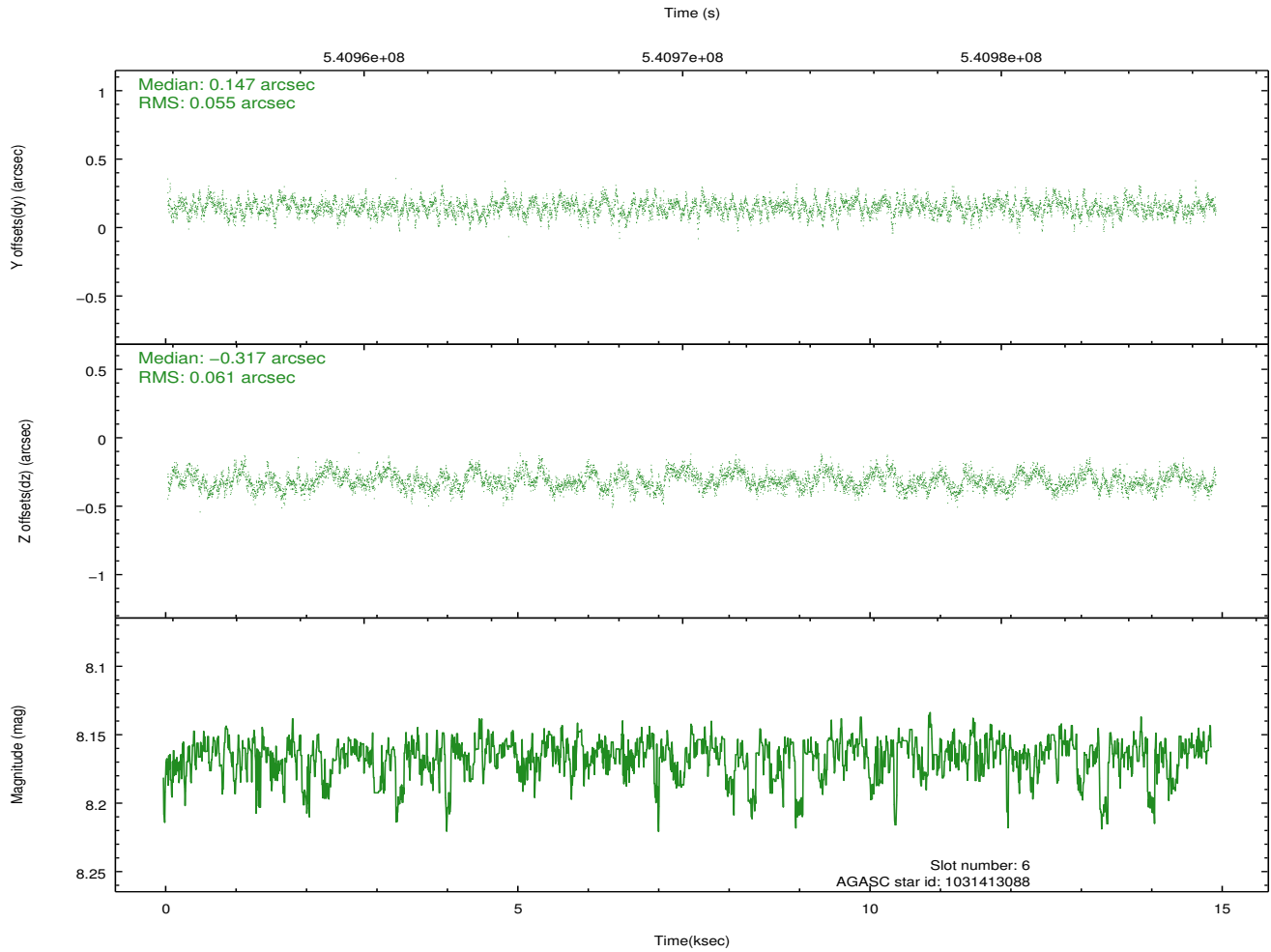
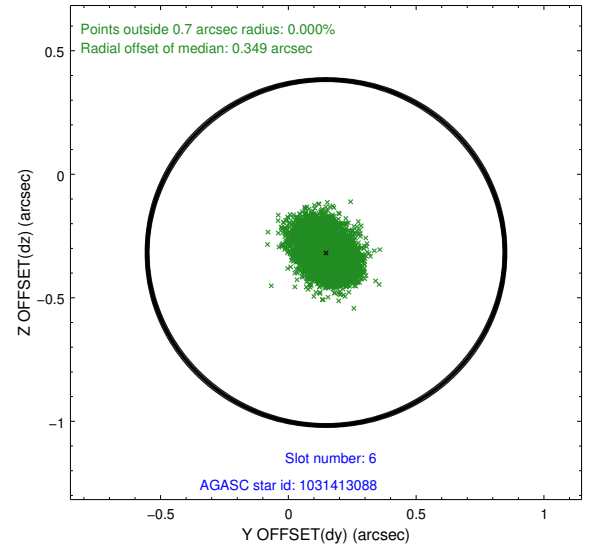
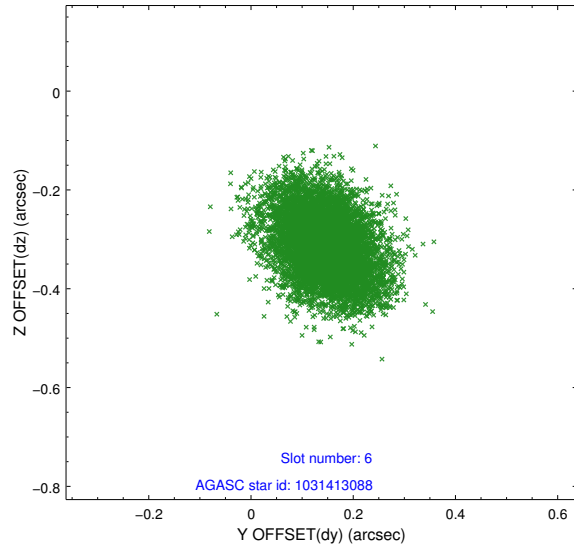
2.4.2 Slot 4



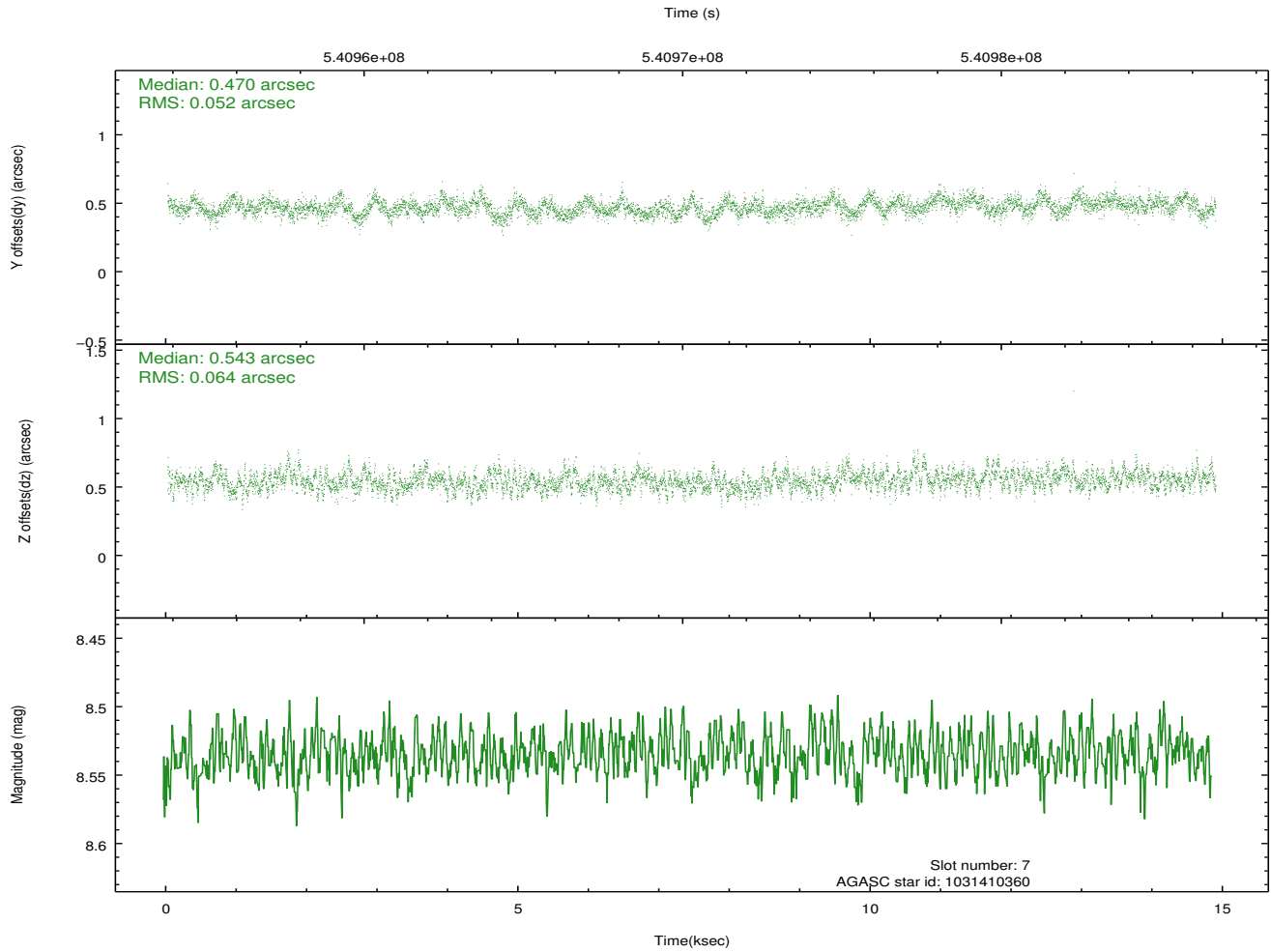
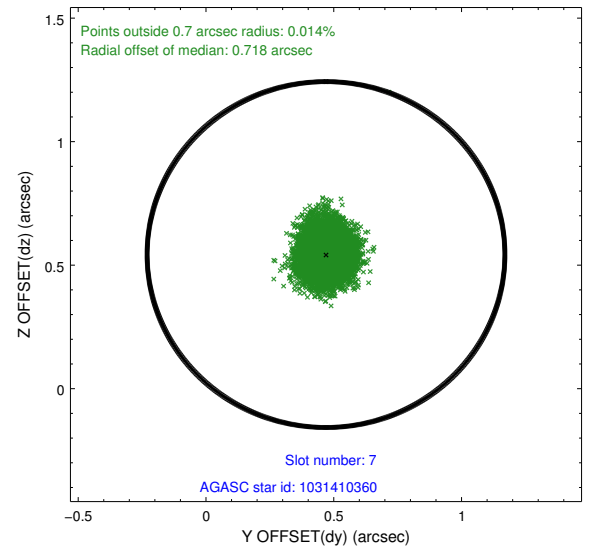
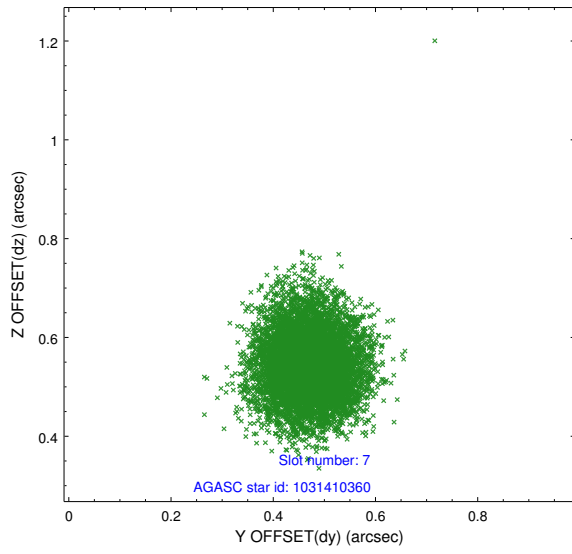
2.4.3 Slot 5



2.4.4 Slot 6

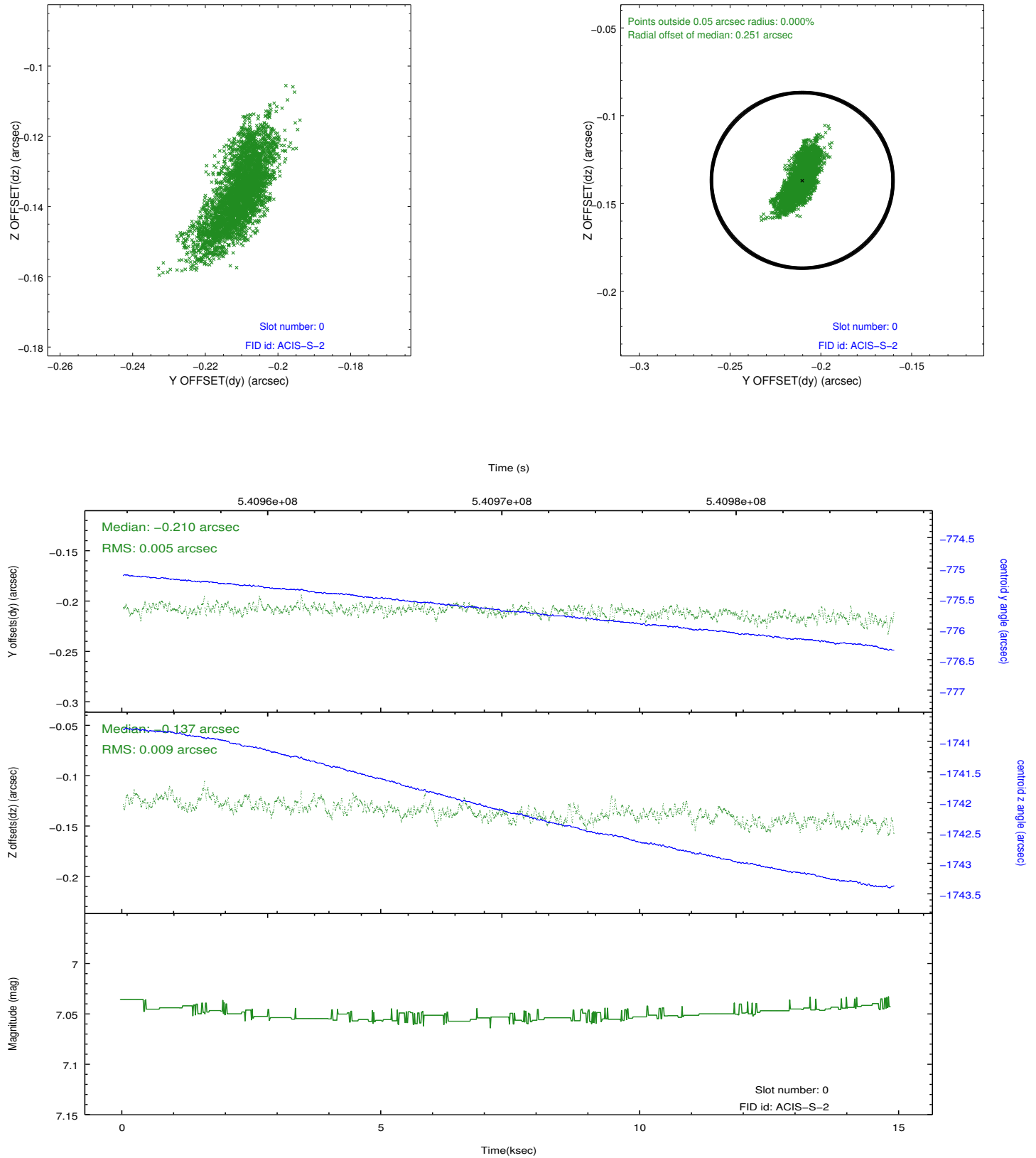


2.4.5 Slot 7

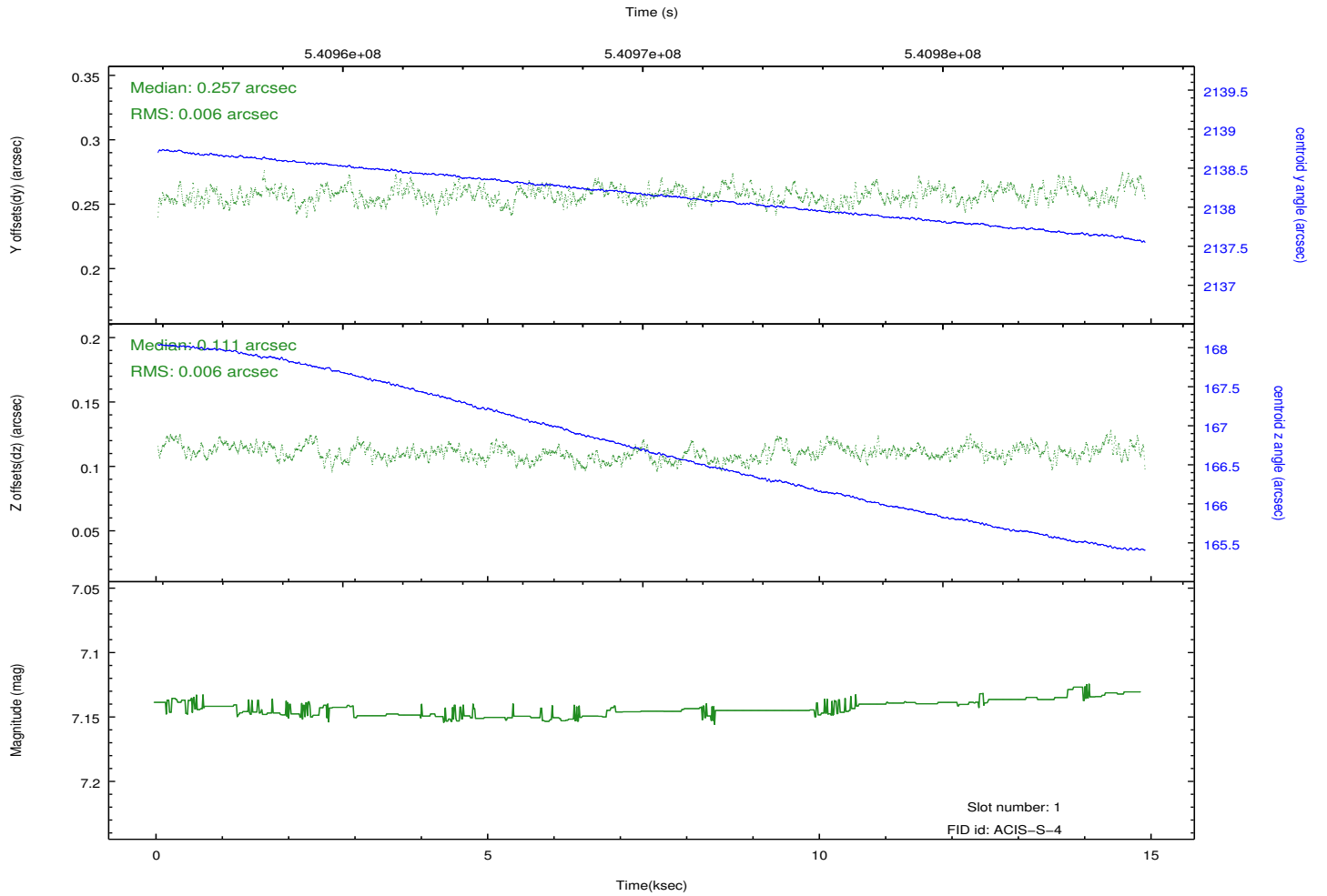
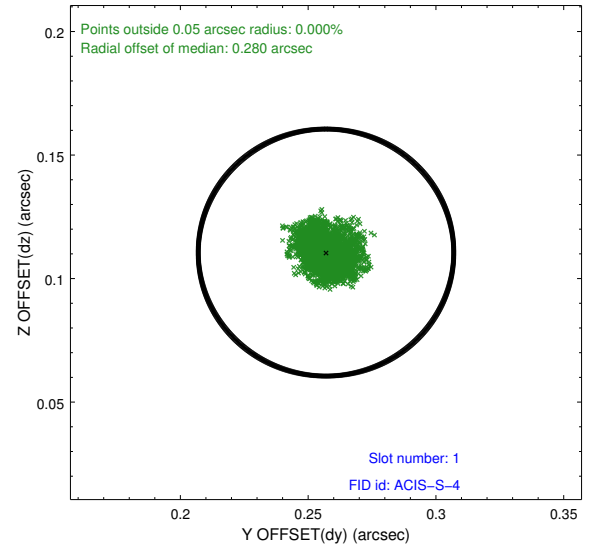
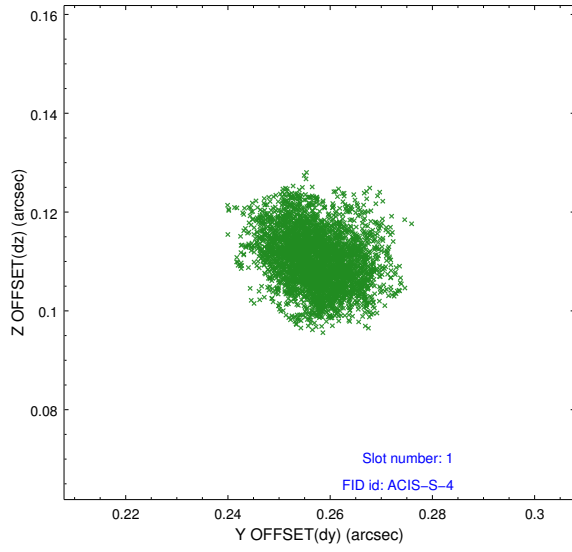


2.5 FID Slots

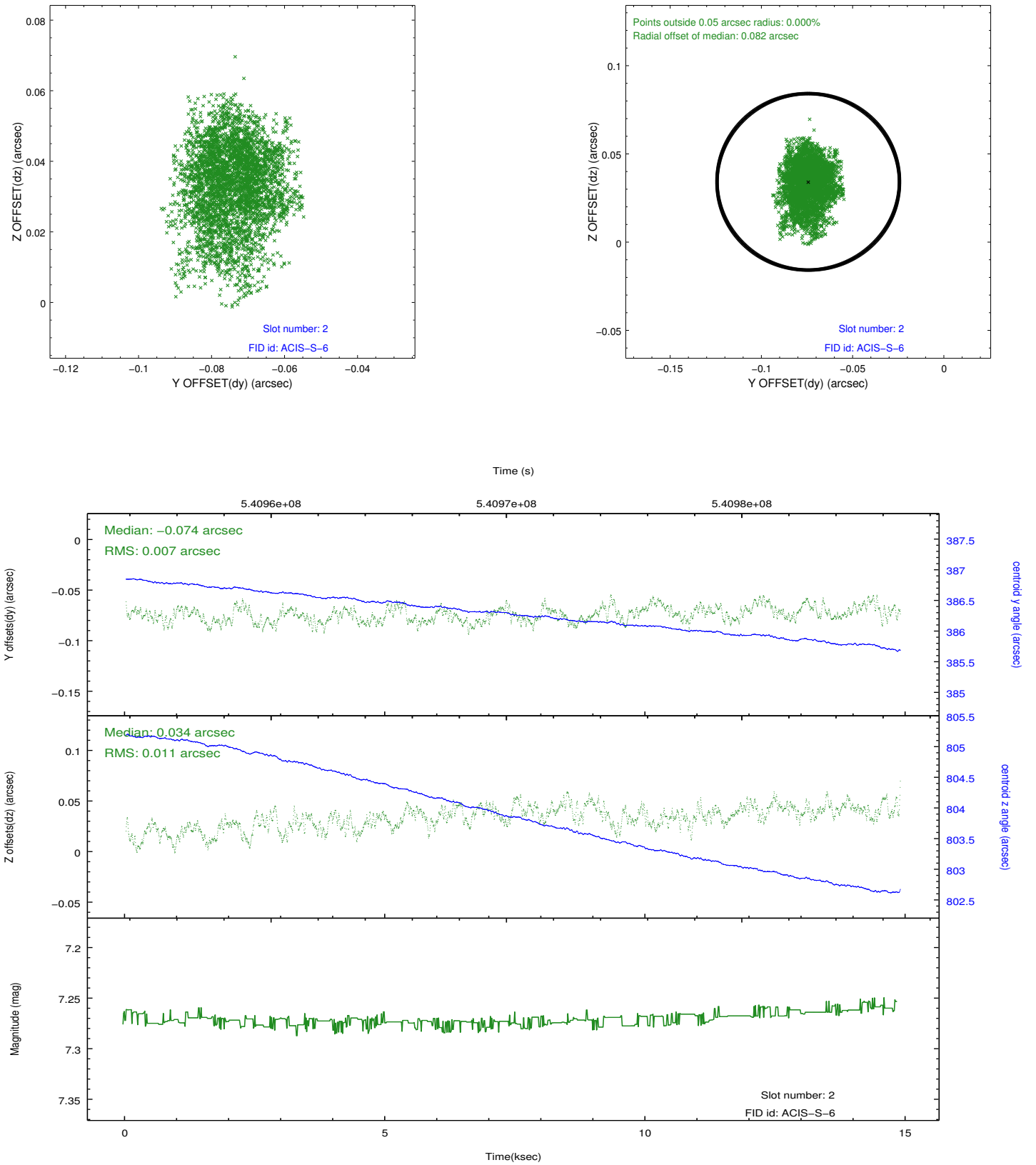
2.5.1 Slot 0



2.5.2 Slot 1

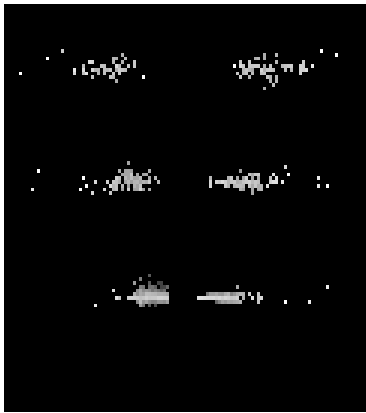


2.5.3 Slot 2

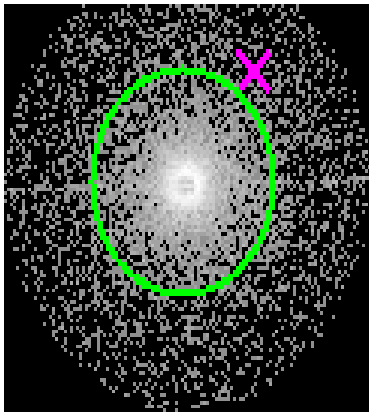


3 Gratings

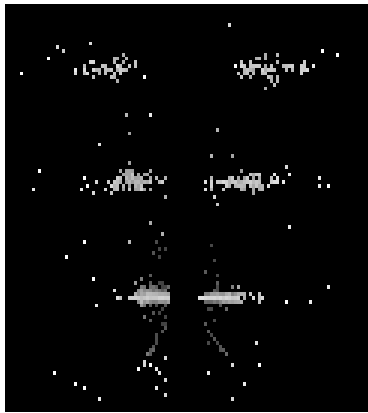
3.1 HEG Arm



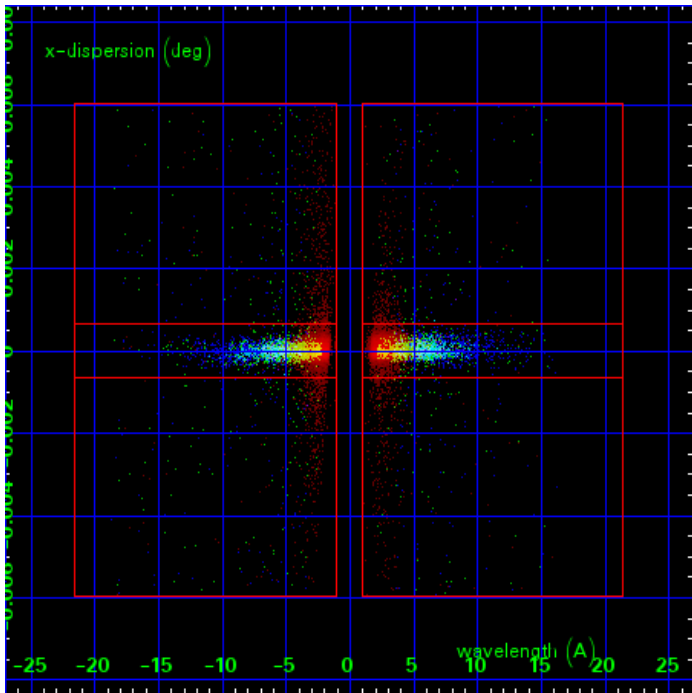
HEG Order Sort 123



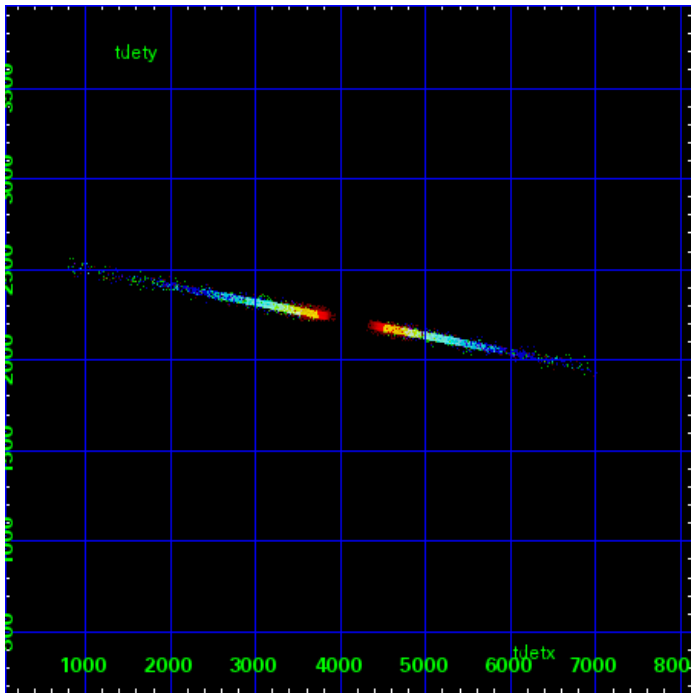
HEG Zero Order



HEG Order Sort ALL

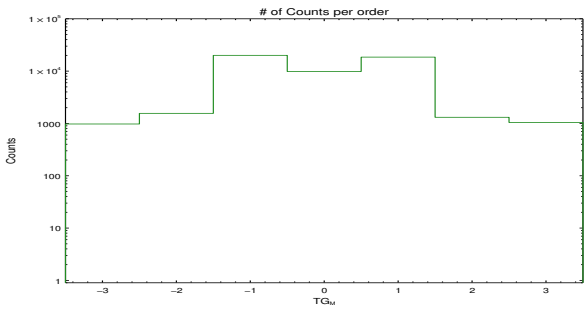


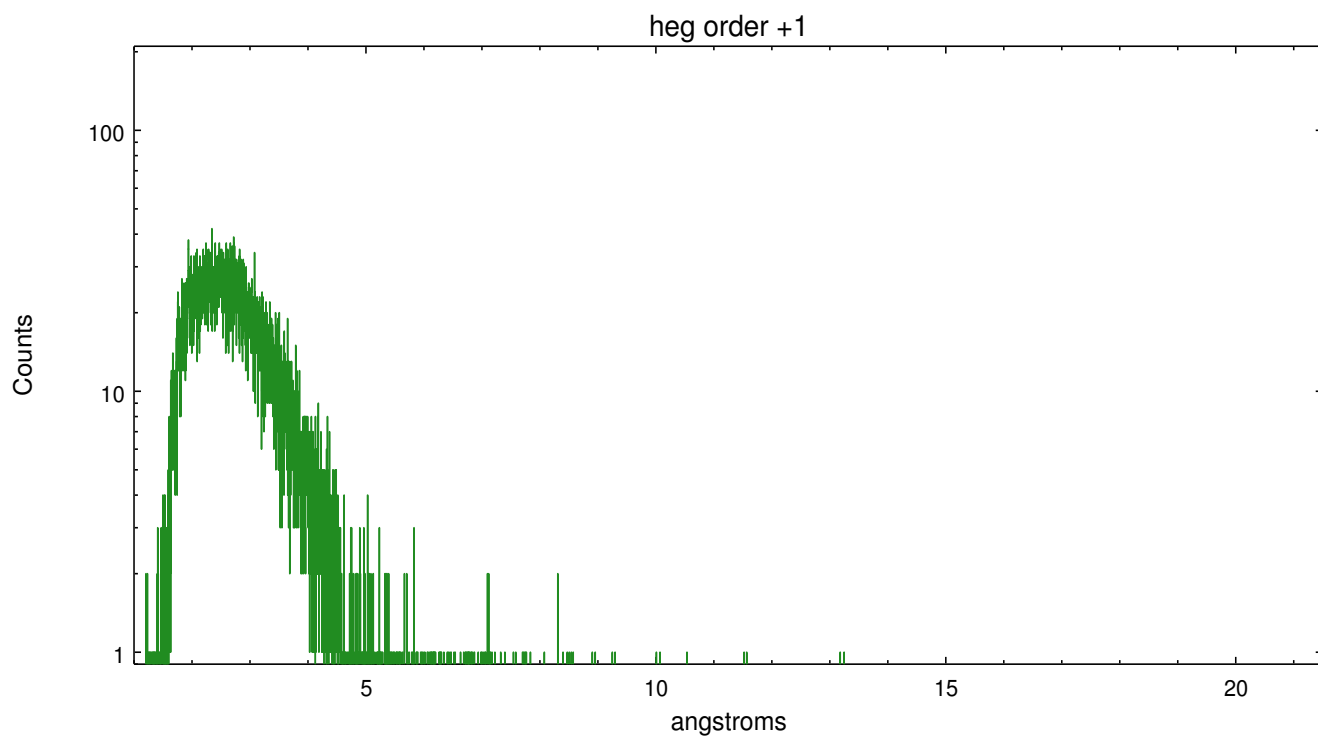
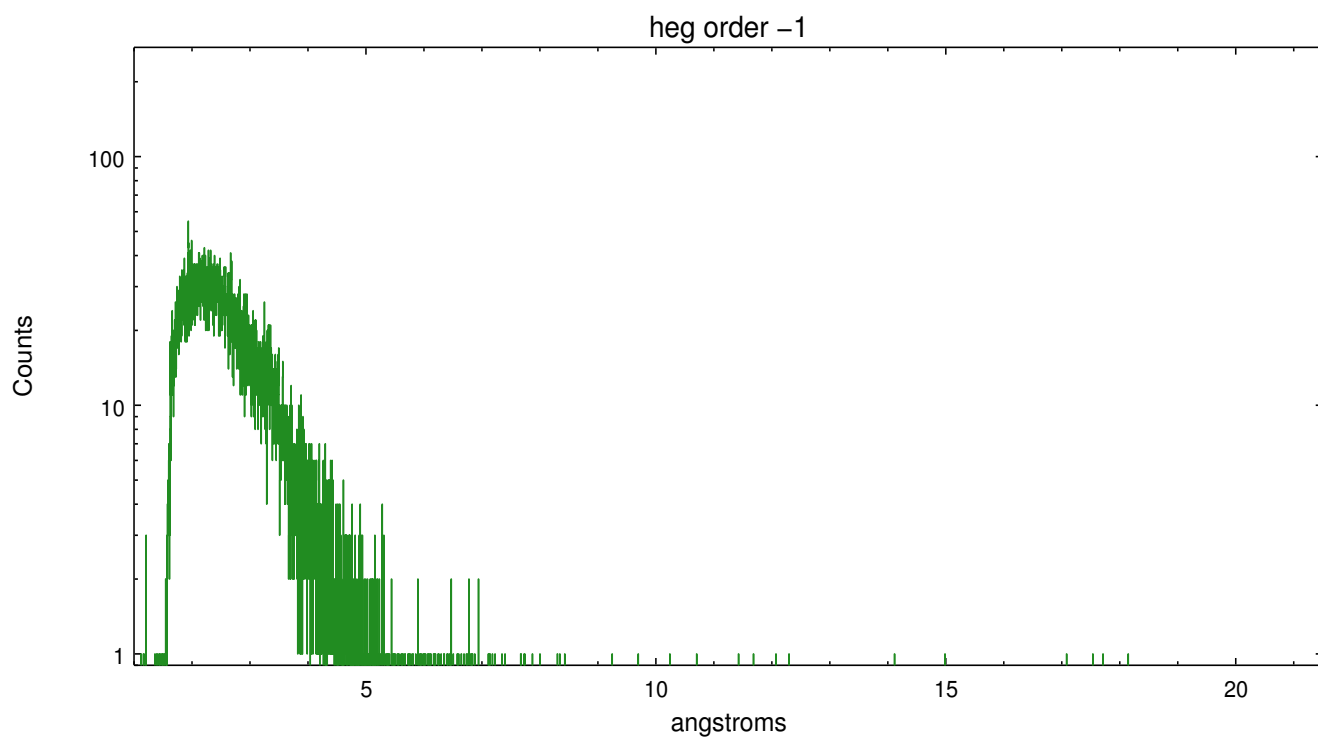
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	976	1558	20016	9845	18521	1310	1044

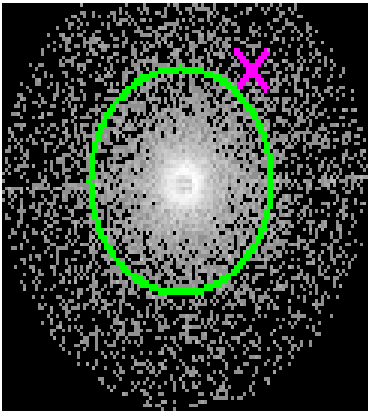




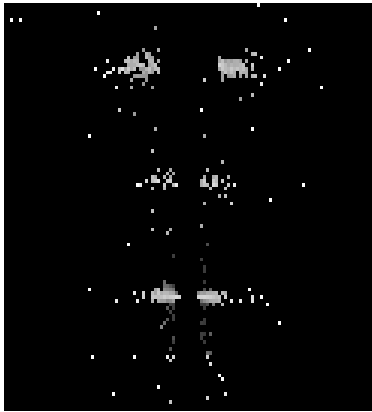
3.2 MEG Arm



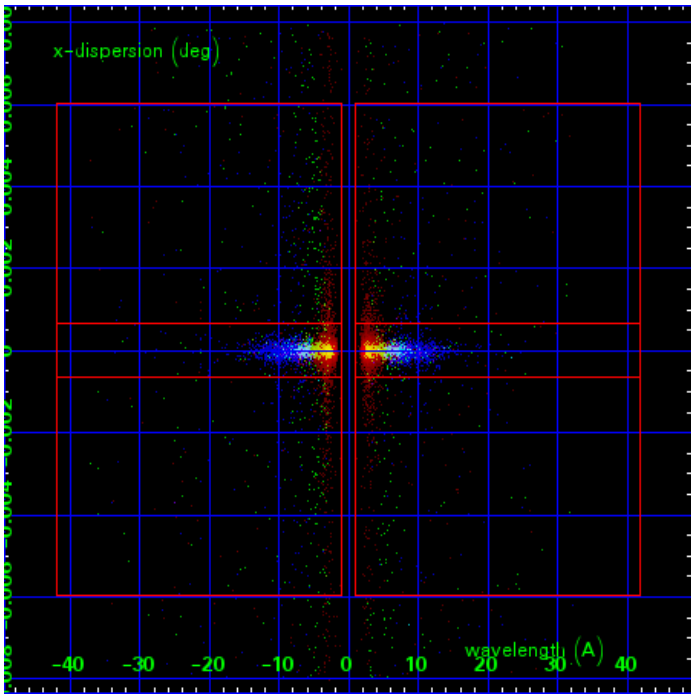
MEG Order Sort 123



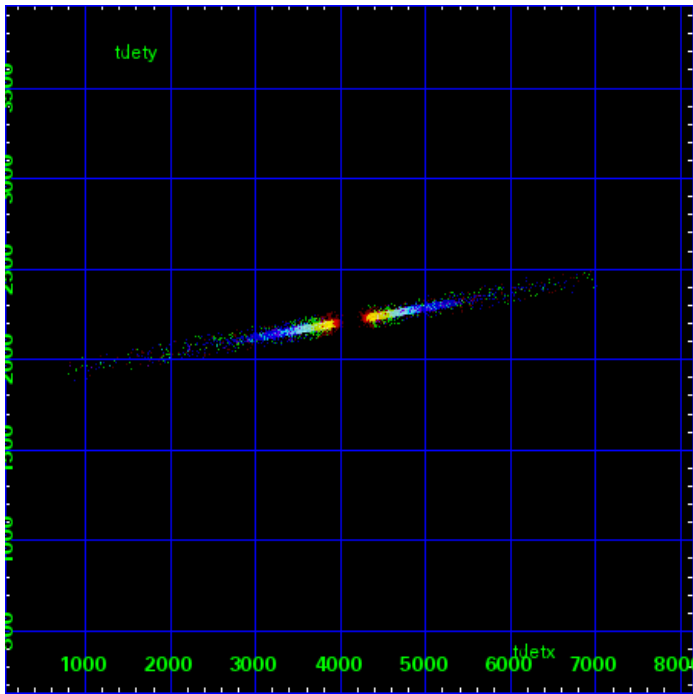
MEG Zero Order



MEG Order Sort ALL

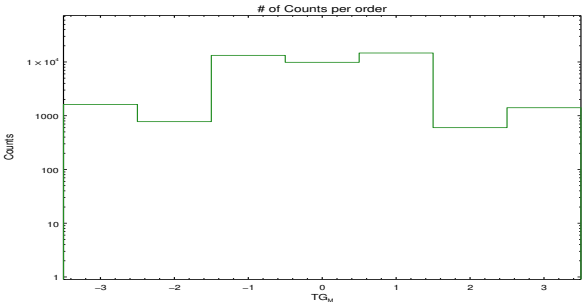


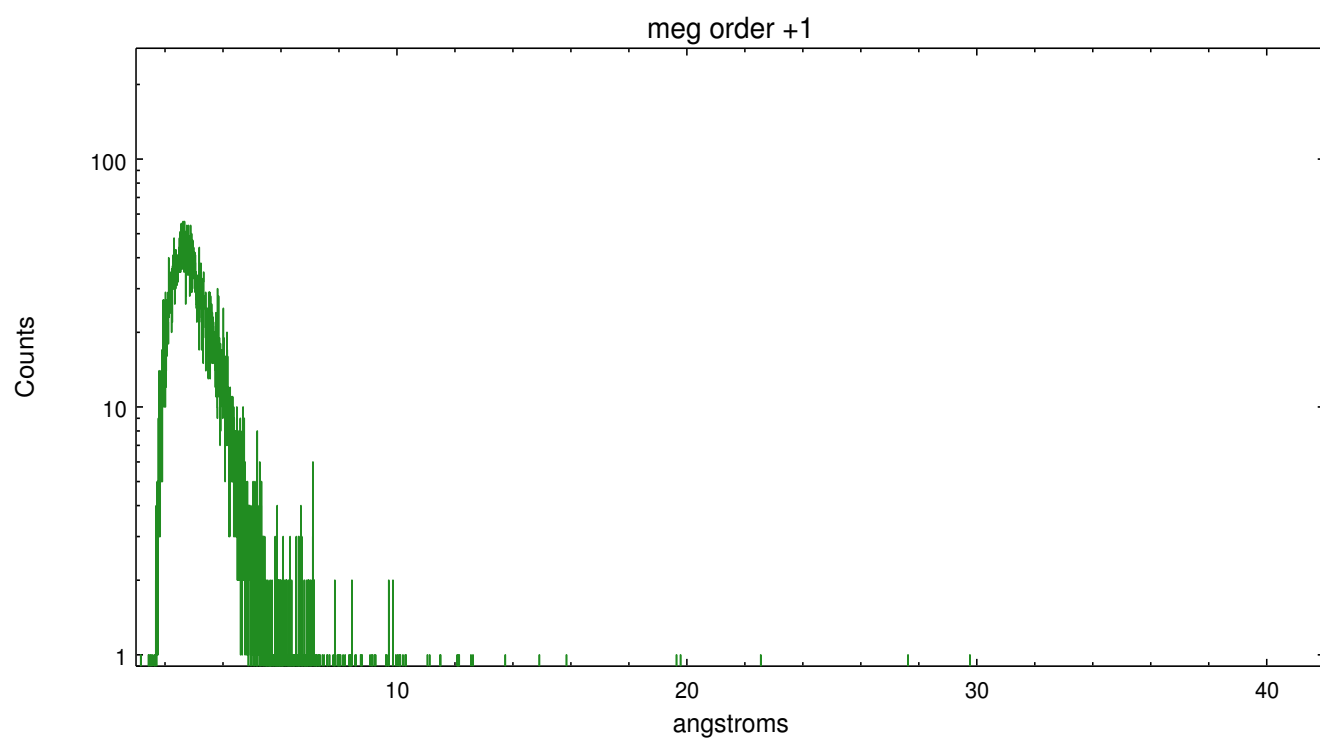
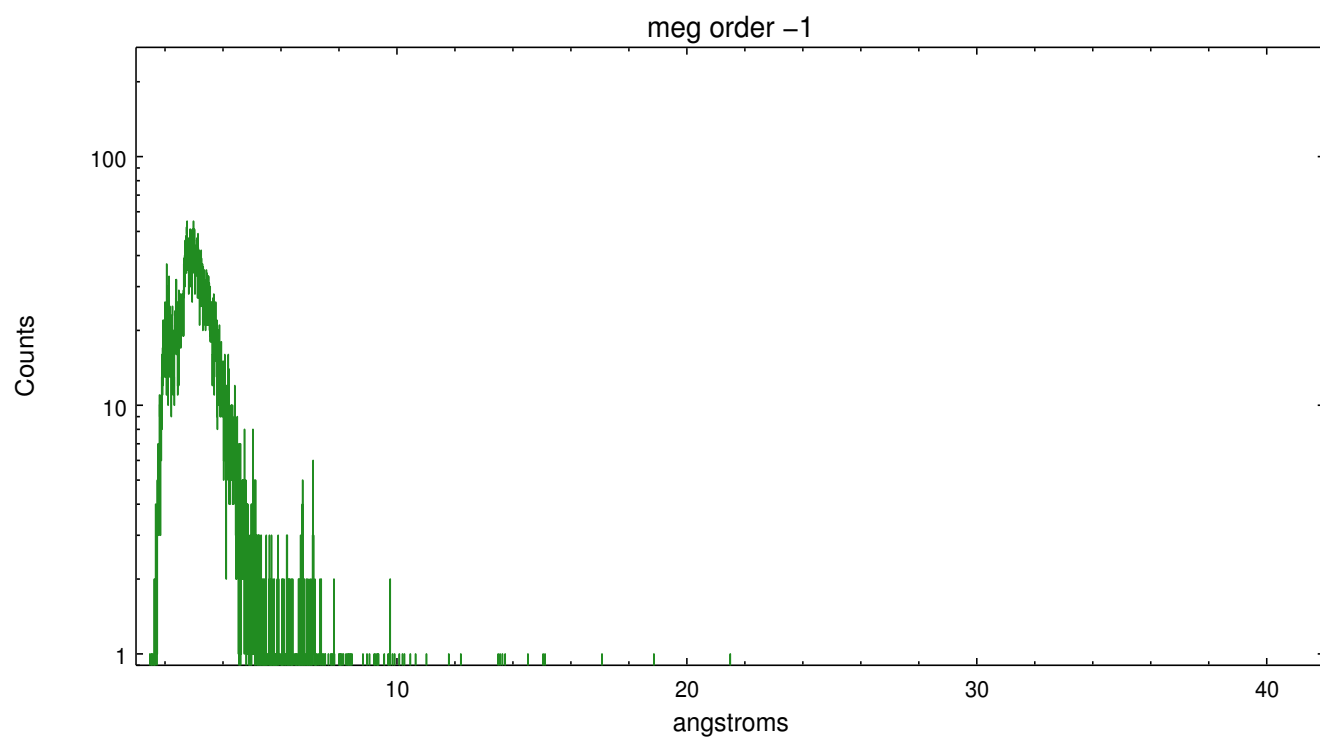
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1623	776	13261	9845	14683	600	1409





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.02.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.457600215435

A.2 Comments

Window constraint met. Simultaneous with HST.

===

Zeroth order is extended and piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.

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WARNING: Zeroth order selected by findzero software is near the center of the extended region. The zeroth order used for extracting the spectral data in this processing is not located at the position of the brightest X-ray emission. The user will need to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the particular zeroth order positio selected.

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WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.