

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2705 - L2 Version 4
Chandra X-Ray Center

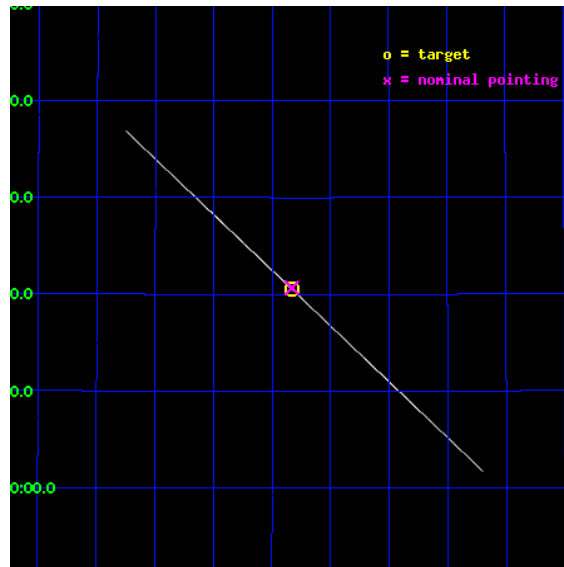
L2 Processing Date : Oct 11 2012

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1 Front

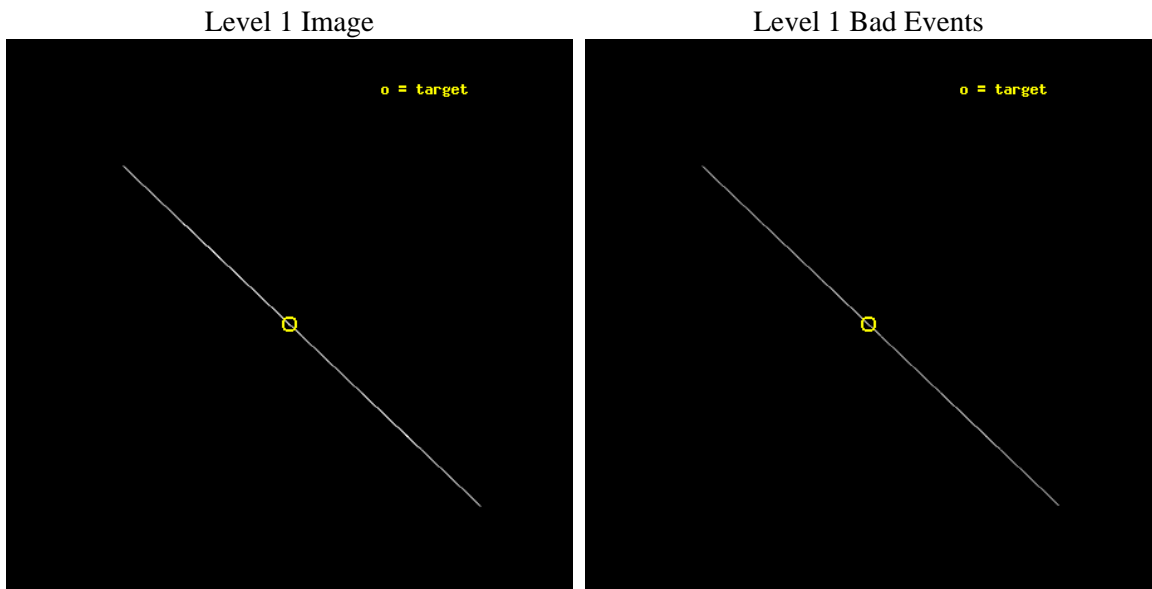
seq_num	400185	Sequence number
obs_id	2705	Observation id
title	HIGH RESOLUTION SPECTROSCOPY OF HERCULES X-1	Proposal title
observer	Dr. Daniel Scott	Principal investigator
object	HER X-1 SHORT HI	Source name
ra_targ	254.4575	Observer's specified target RA [deg]
dec_targ	35.342472	Observer's specified target Dec [deg]
ra_nom	254.4574120011	Nominal RA [deg]
dec_nom	35.344691564216	Nominal Dec [deg]
roll_nom	223.21064245083	Nominal Roll [deg]
revision	4	Processing version of data
ontime	19067.75	Sum of GTIs [s]
livetime	18993.266601562	Livetime [s]
ontime4	19067.75	Sum of GTIs [s]
ontime5	19067.75	Sum of GTIs [s]
ontime6	19067.75	Sum of GTIs [s]
ontime7	19067.75	Sum of GTIs [s]
ontime8	19067.75	Sum of GTIs [s]
ontime9	19067.75	Sum of GTIs [s]
l2events	285570	Number of level 2 events



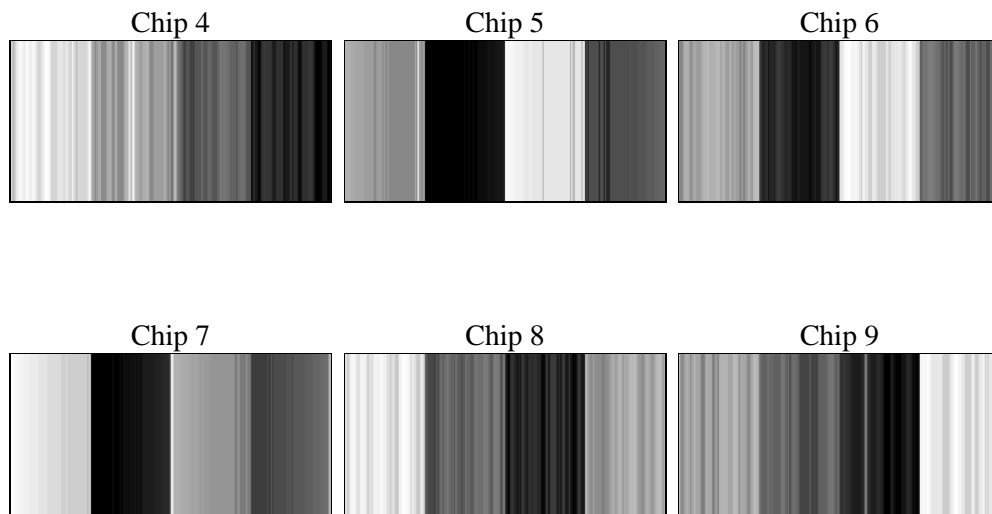
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	19000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	19067.75	Sum of GTIs [s]
caldsver	4.5.2	 	ontime4	19067.75	Sum of GTIs [s]
date	2012-10-11T15:12:20	Date and time of file creation	ontime5	19067.75	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	19067.75	Sum of GTIs [s]
			ontime7	19067.75	Sum of GTIs [s]
			ontime8	19067.75	Sum of GTIs [s]
			ontime9	19067.75	Sum of GTIs [s]
			l1events	576126	Number of level 1 events

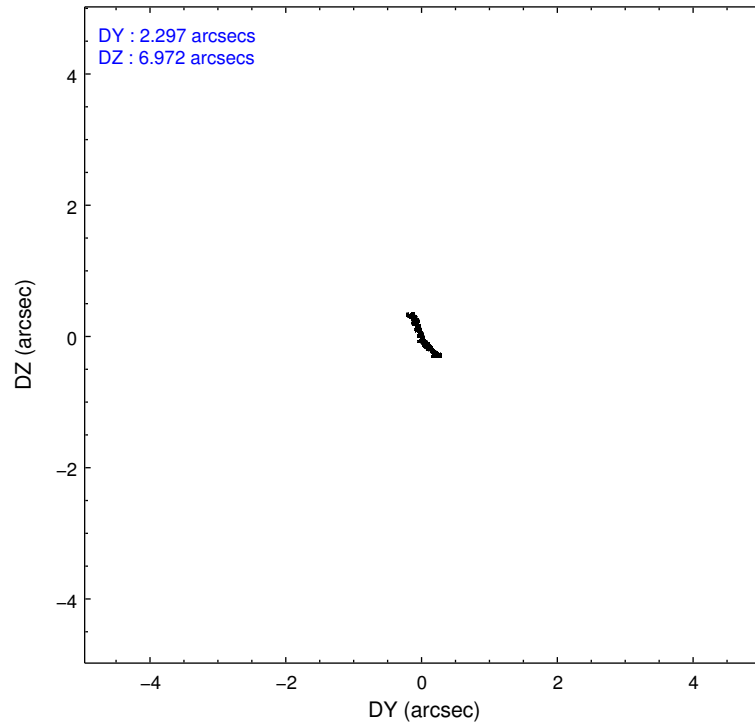
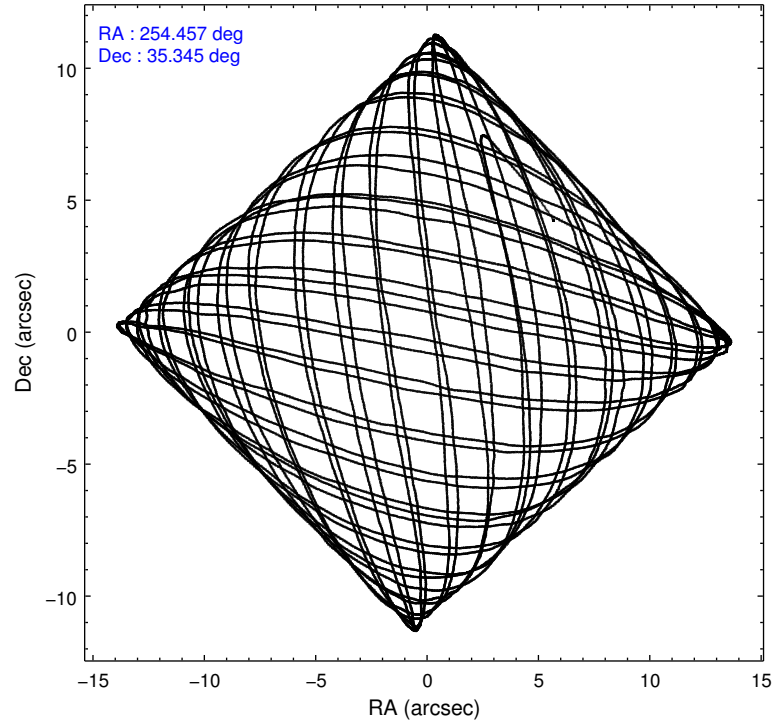
2.1.4 Events

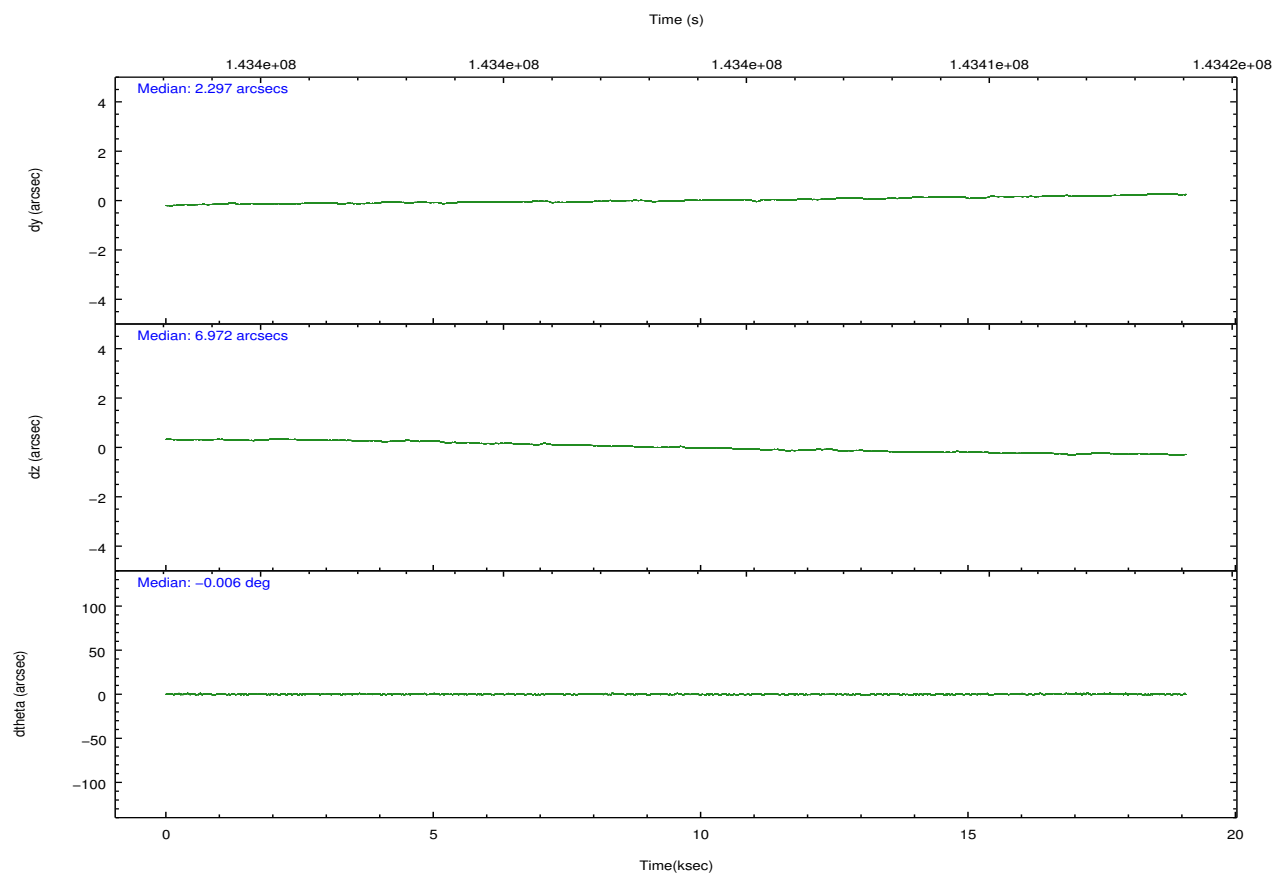
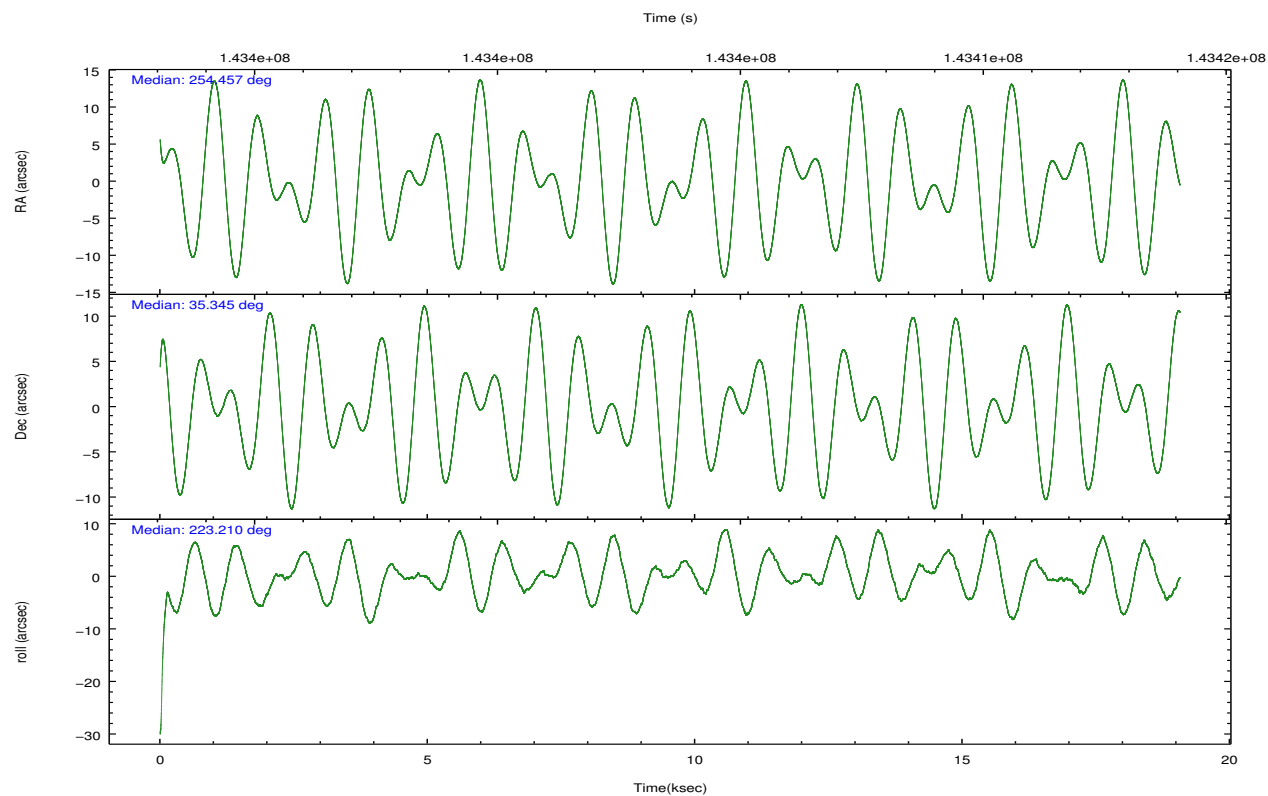
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	35693	155338	40470	112948	193046	38631	grade 0 events	3306	38555	4135	12218	57864	4103
rejected events	11041	31495	14124	34206	18517	13940		9%	24%	10%	10%	29%	10%
rejected %	30%	20%	34%	30%	9%	36%	grade 1 events	89	234	84	262	527	91
								0%	0%	0%	0%	0%	0%
							grade 2 events	15465	43509	17571	26106	30639	15442
								43%	28%	43%	23%	15%	39%
							grade 3 events	3216	3508	3024	7584	35705	2846
								9%	2%	7%	6%	18%	7%
							grade 4 events	3206	3257	2955	7471	31992	3141
								8%	2%	7%	6%	16%	8%
							grade 5 events	4195	11571	5057	13919	7966	5279
								11%	7%	12%	12%	4%	13%
							grade 6 events	6216	54704	7644	45388	28353	7729
								17%	35%	18%	40%	14%	20%
							grade 7 events	0	0	0	0	0	0
								0%	0%	0%	0%	0%	0%

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	CC33_FAINT	CC33_FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	254.466631	254.4574120010964	Subarray requested	NONE	NONE
[deg] Pointing Dec	35.370864	35.34469156421584	Alternating exposures requested	N	N
[deg] Pointing Roll	223.048691	223.2106424508309	[s] Primary exposure time	0.000000	0
[s] Window start time (MET)	143326864.184000	143326864.184000			
[s] Window stop time (MET)	143910064.184000	143910064.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-186.132523	-186.1372760897884			
[mm] SIM translation stage offset	-4	-3.99524649321944			
Phase constraints	Y	Y			
[d] Phase period	34.853430	34.853430			
[d] Phase epoch (MJD)	52242.791000	52242.791000			
Phase start	0.600000	0.600000			
Phase end	0.700000	0.700000			
Phase start error	0.001000	0.001000			
Phase end error	0.001000	0.001000			
[s] Observation start time (MET)	143394093.184000	143393189.95904			
Observation start date	2002-07-18T15:40:29	2002-07-18T15:26:29			
[s] Observation end time (MET)	143413093.184000	143414038.97239			

2.3 Aspect



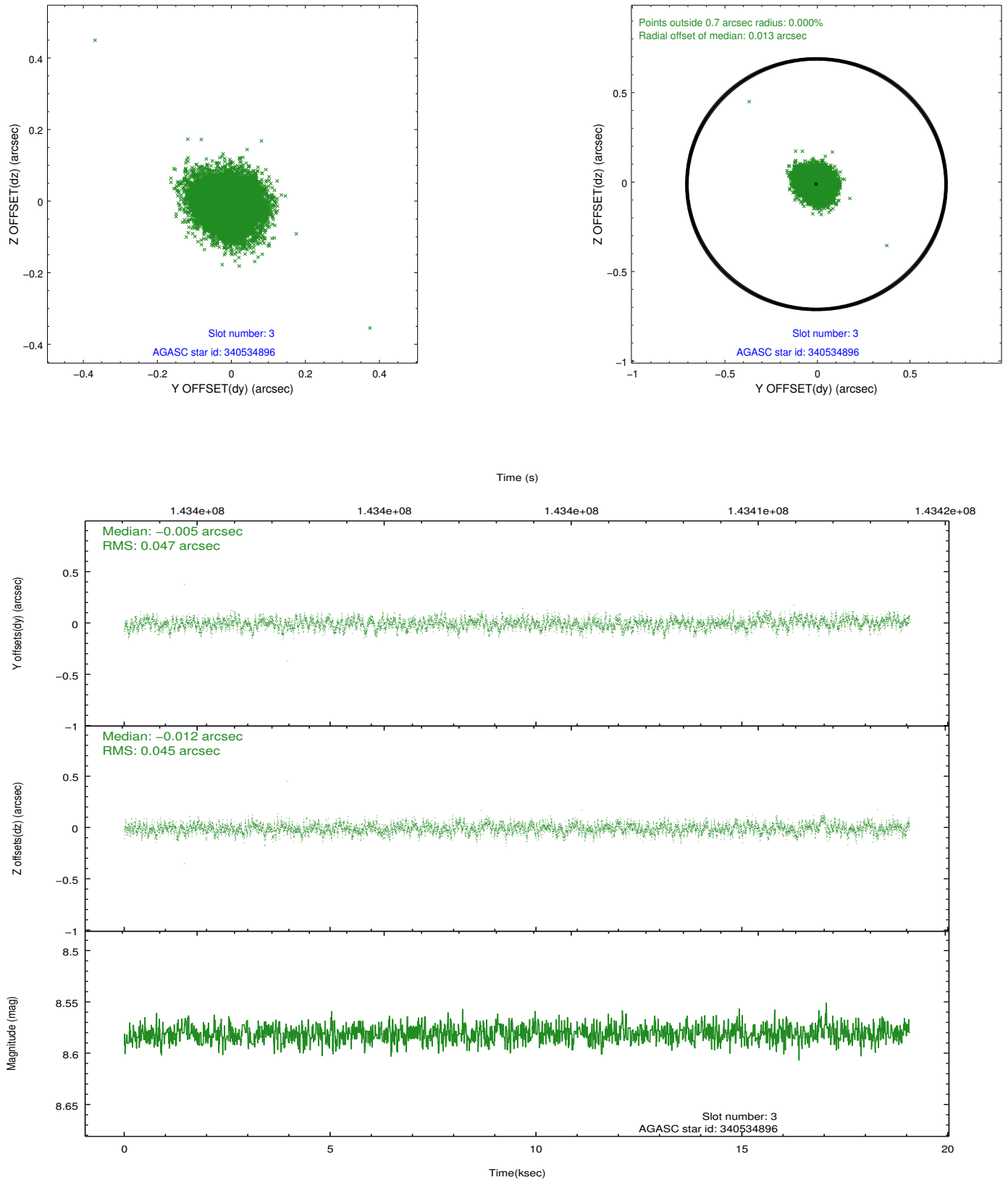


Slot Statistics

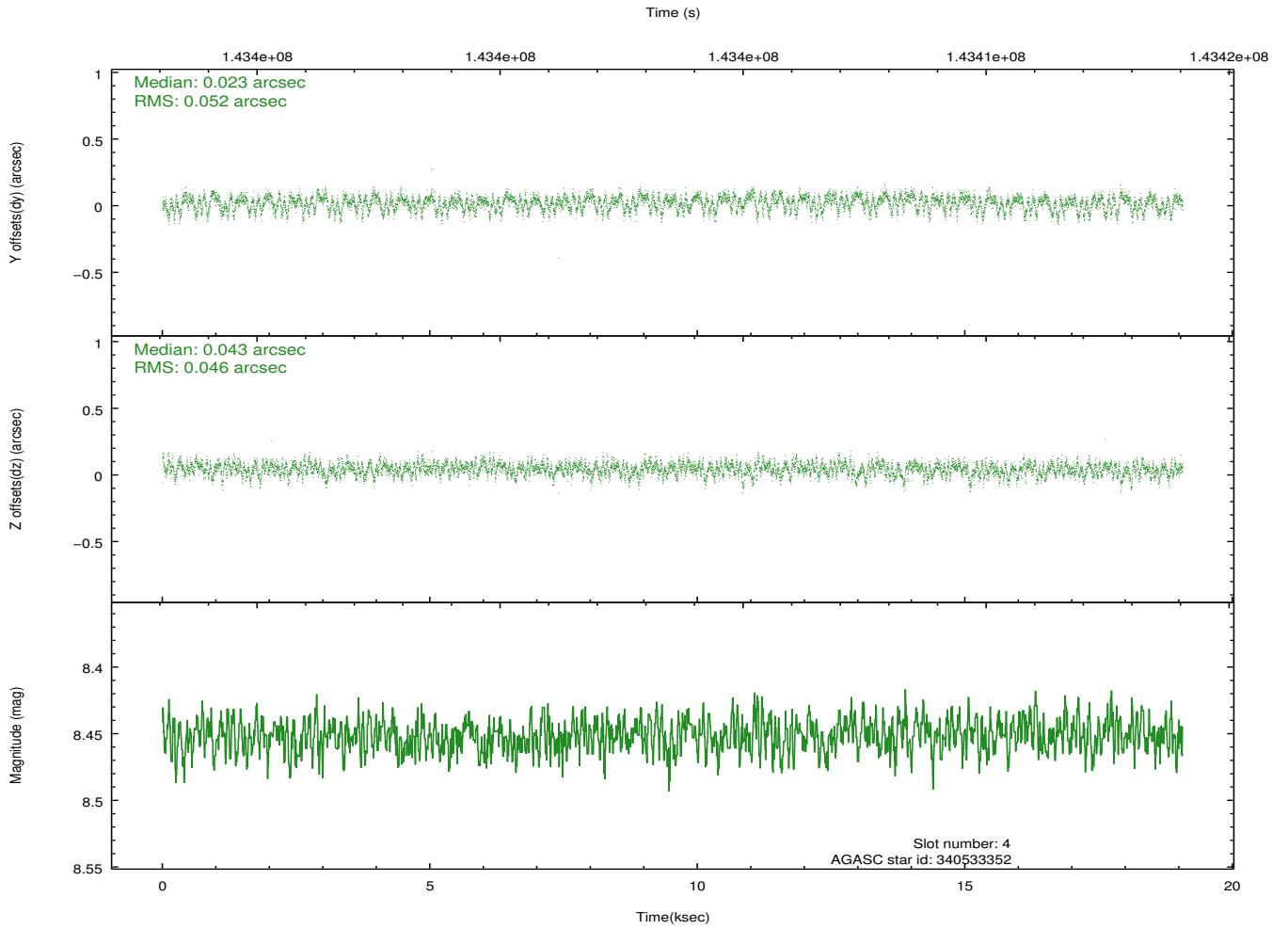
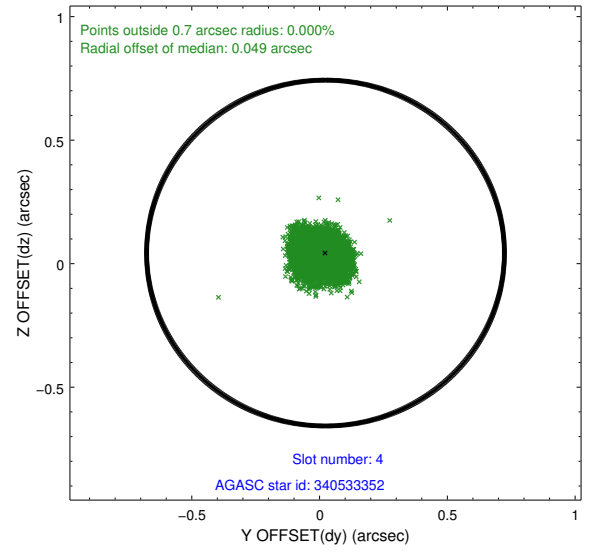
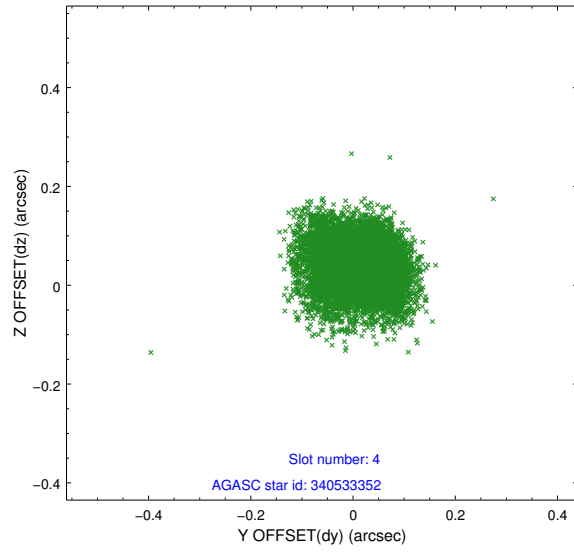
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	4652	-0.027	0.078	0.013	0.026	0.000000	0.000000	941.38	-1806.11
1	FID	ACIS-S-5	7.24	4652	0.009	0.005	0.011	0.018	0.000000	0.000000	-1807.49	91.09
2	FID	ACIS-S-6	7.39	4652	-0.004	-0.072	0.019	0.035	0.000000	0.000000	406.70	735.24
3	GUIDE	340534896	8.58	9302	-0.005	-0.012	0.070	0.111	255.288450	35.541682	-2185.97	1187.26
4	GUIDE	340533352	8.45	9303	0.023	0.043	0.073	0.123	254.563691	34.717962	1394.24	1914.48
5	GUIDE	340529672	8.78	9303	0.009	-0.058	0.098	0.155	254.827180	34.864332	465.22	2059.02
6	GUIDE	340536192	7.71	9297	0.015	-0.001	0.056	0.088	254.294567	35.286536	576.38	-122.74
7	GUIDE	340534080	8.82	9297	-0.038	0.029	0.084	0.135	255.228954	35.471551	-1886.71	1255.22

2.4 Star Slots

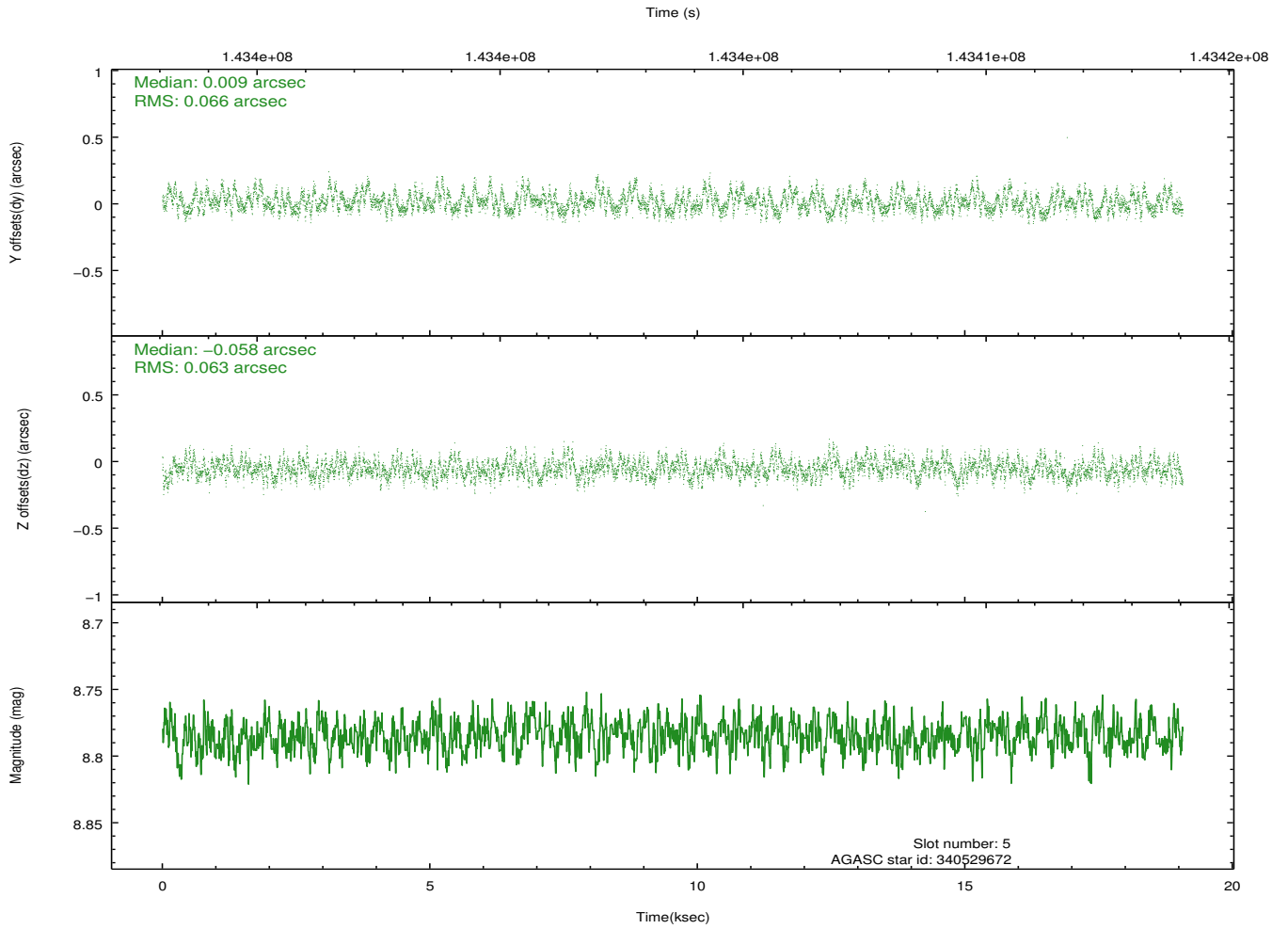
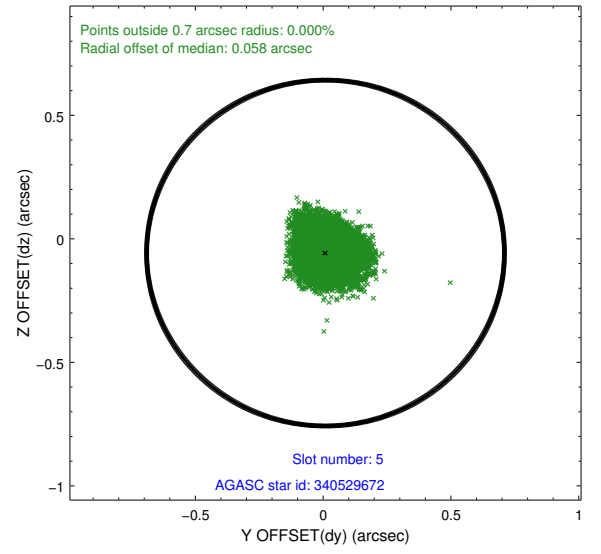
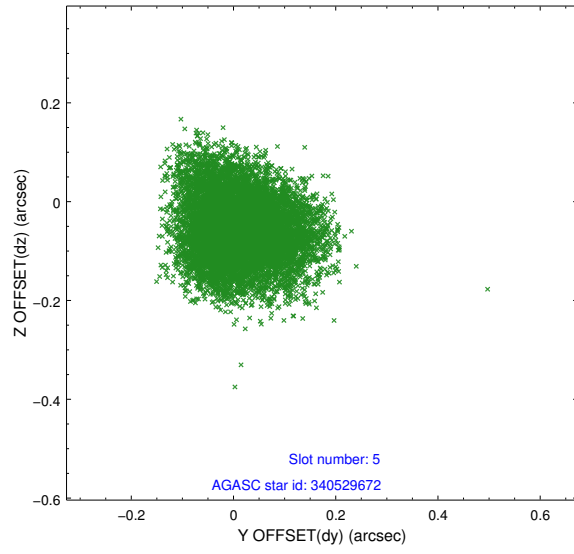
2.4.1 Slot 3



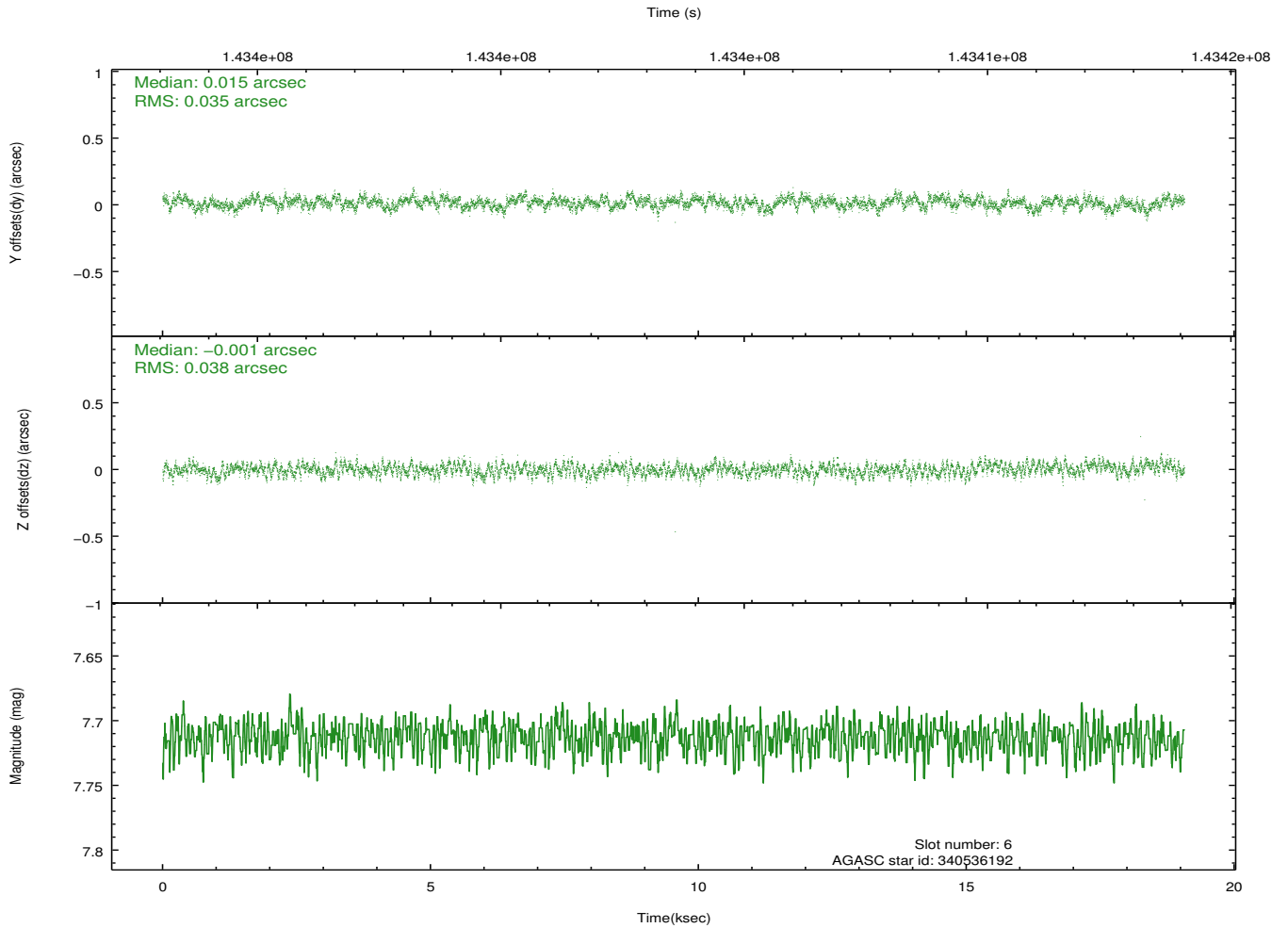
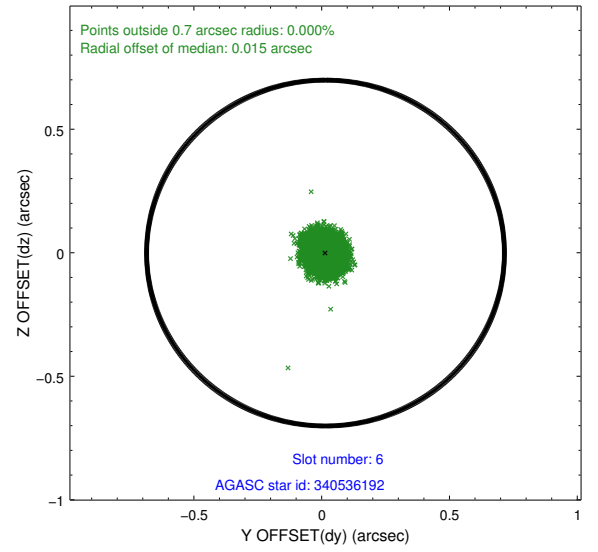
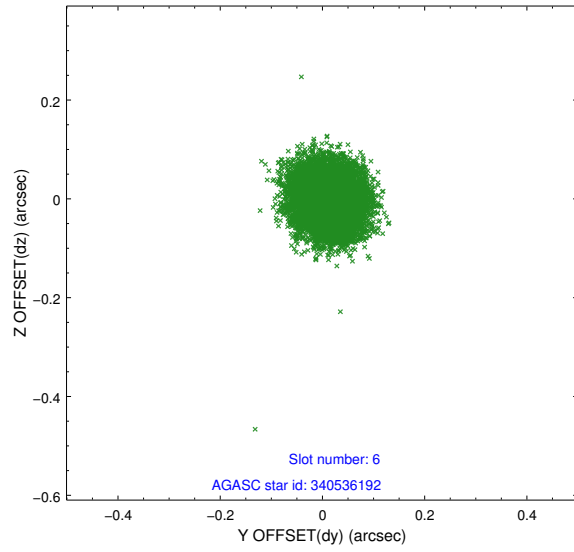
2.4.2 Slot 4



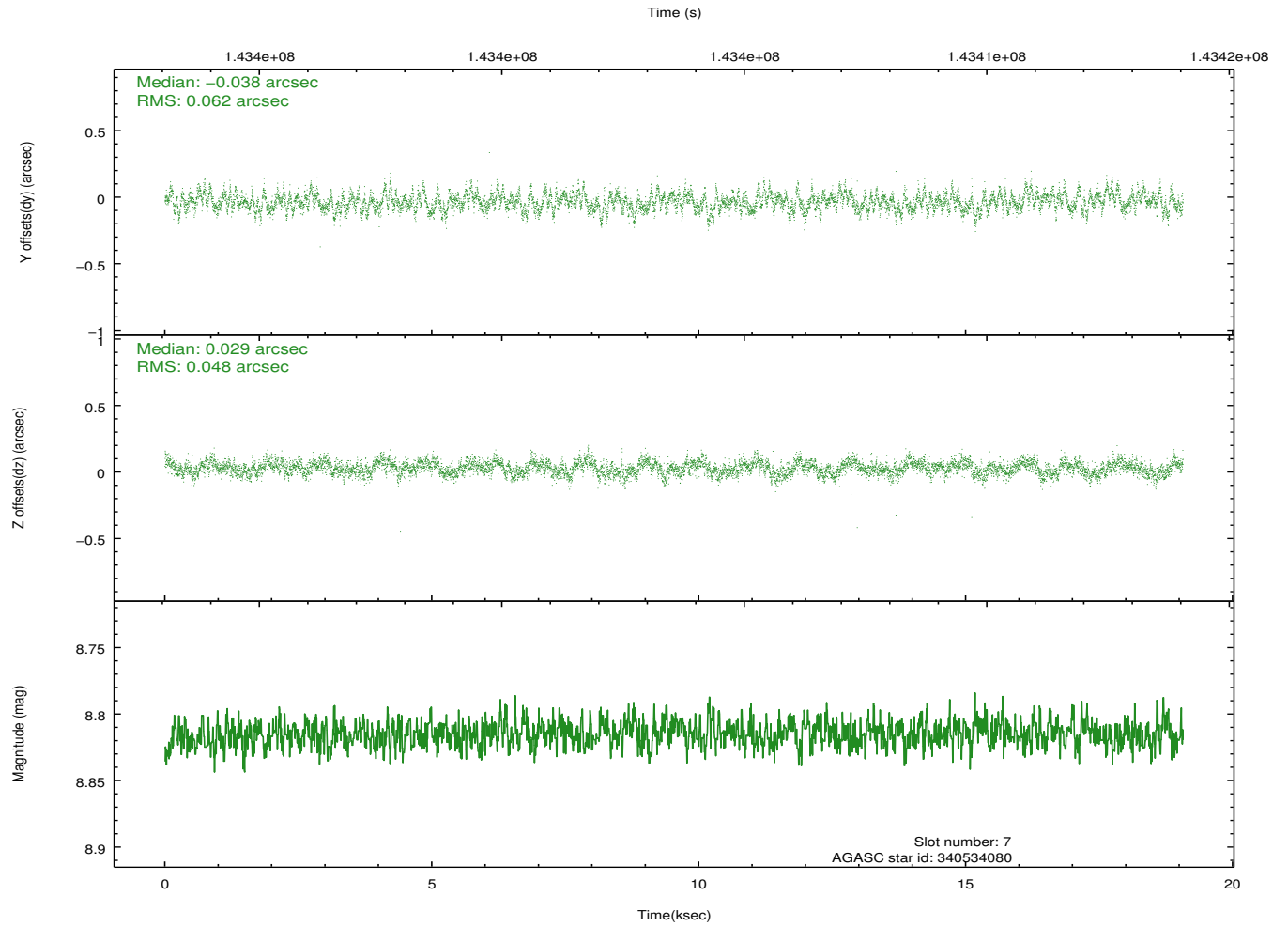
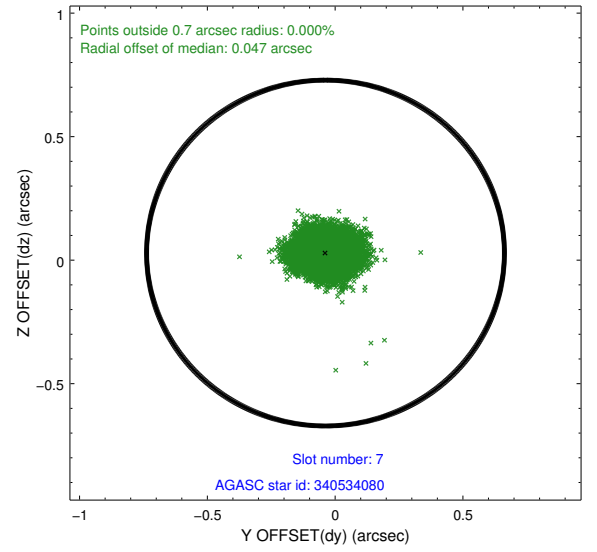
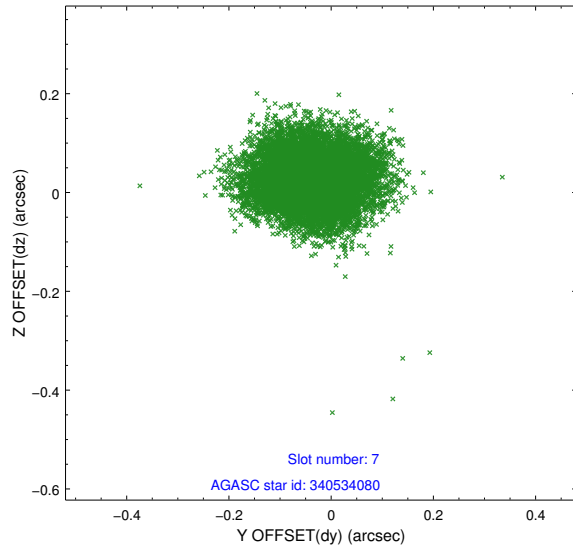
2.4.3 Slot 5



2.4.4 Slot 6

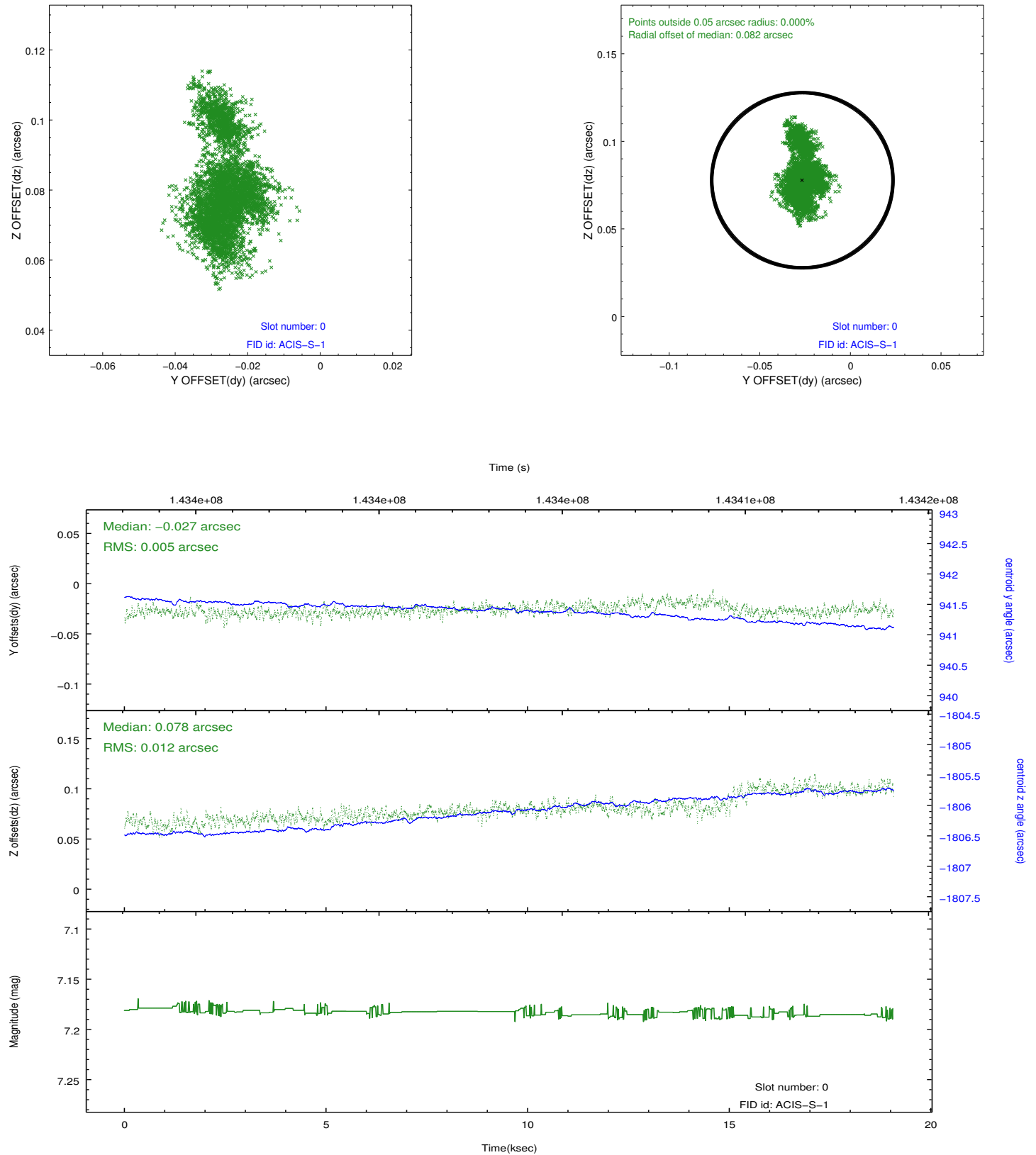


2.4.5 Slot 7

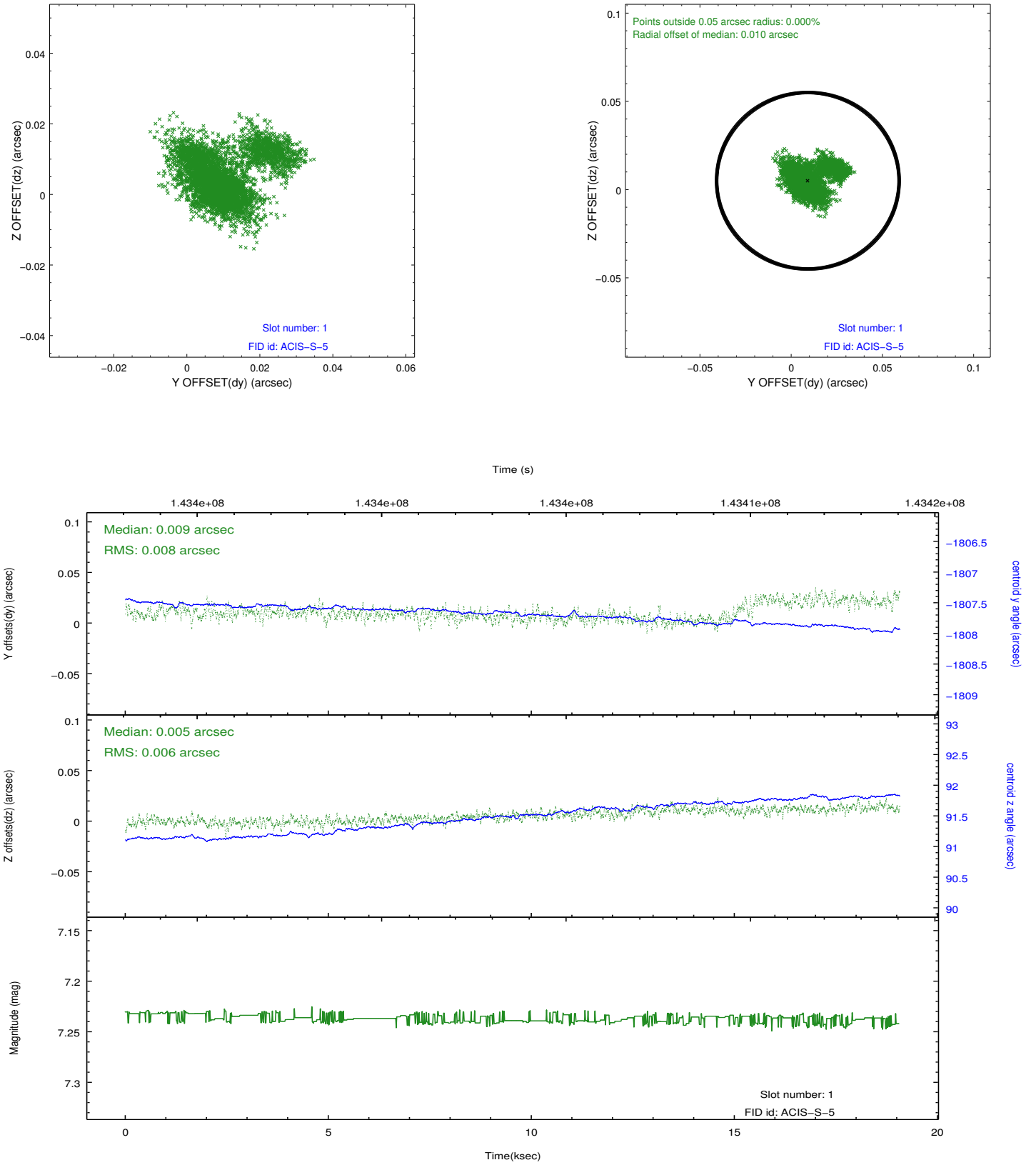


2.5 FID Slots

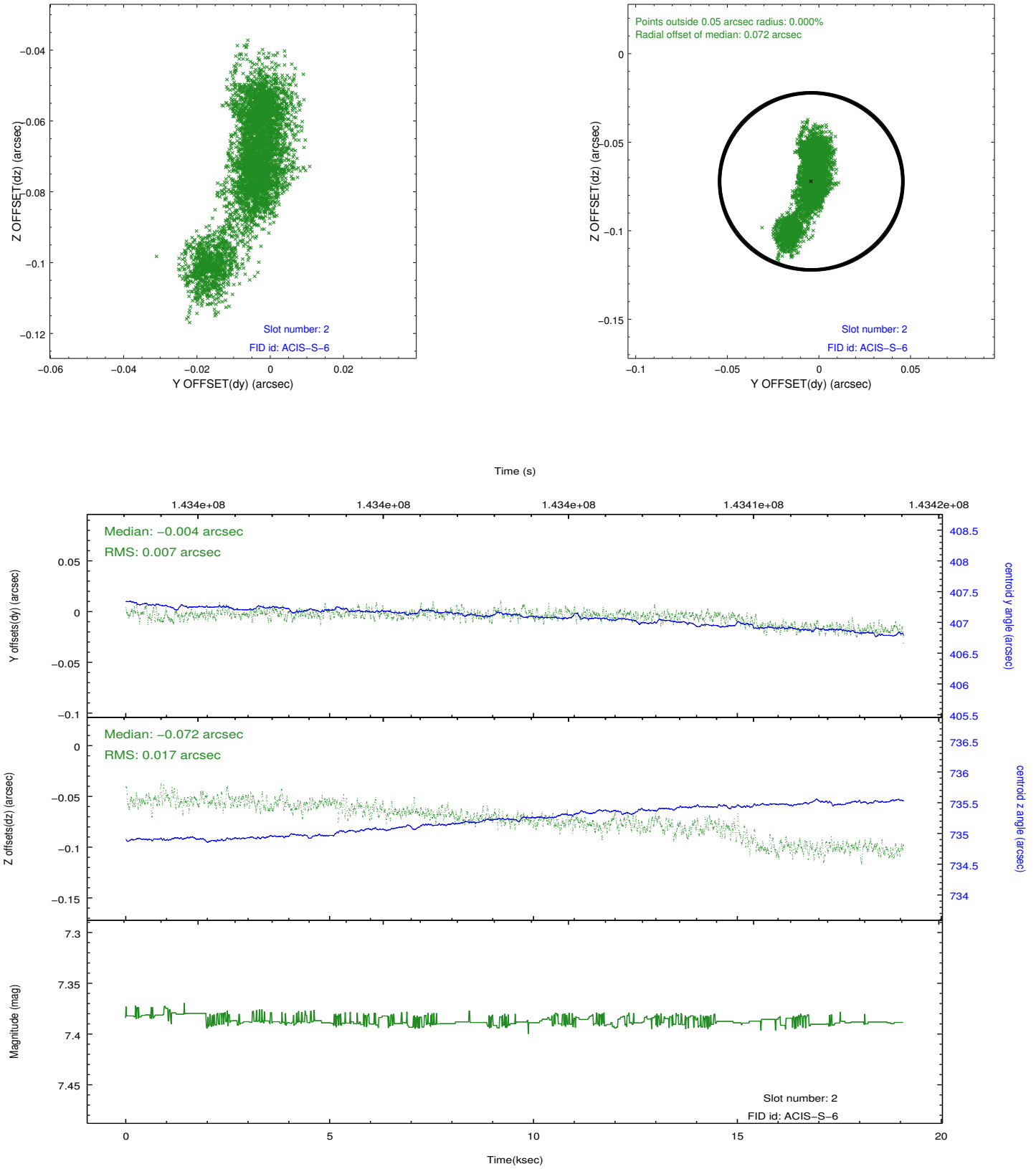
2.5.1 Slot 0



2.5.2 Slot 1

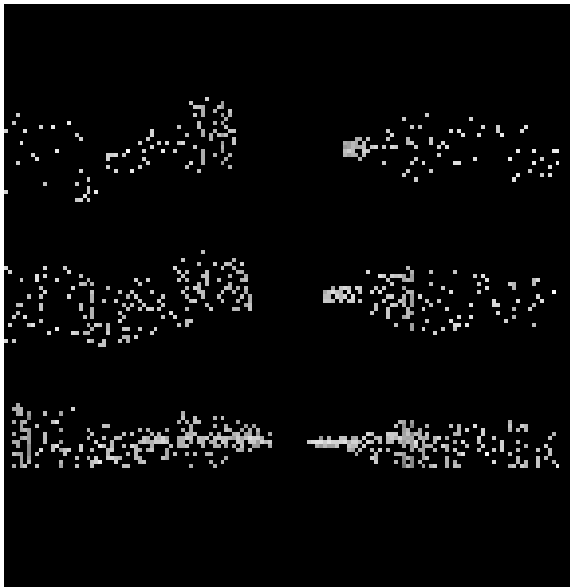


2.5.3 Slot 2



3 Gratings

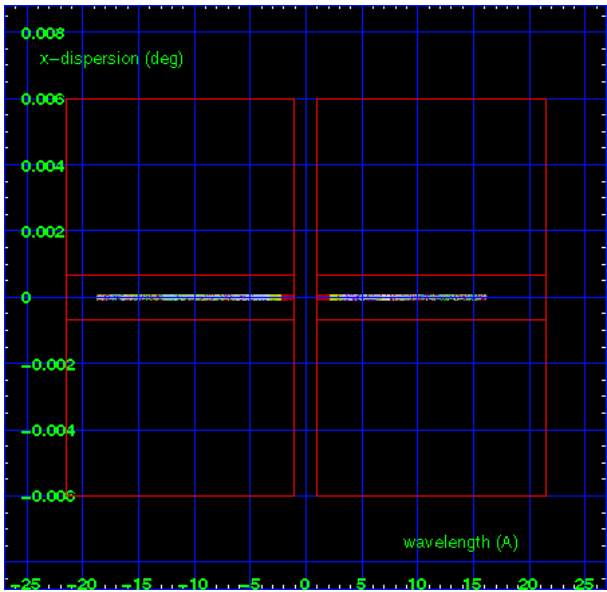
3.1 HEG Arm



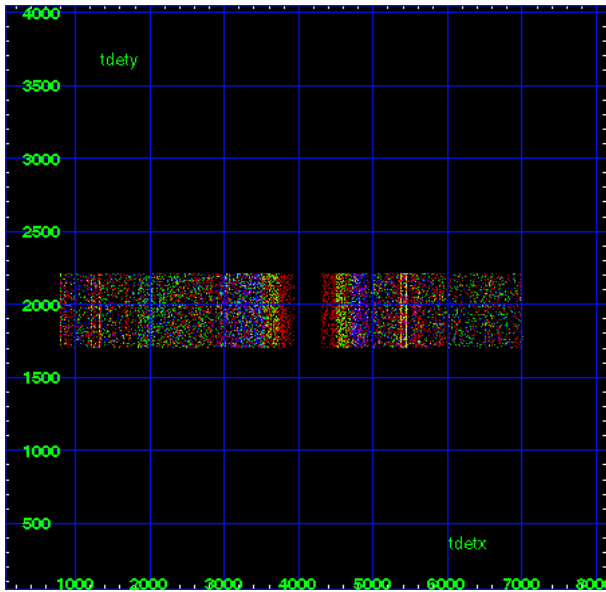
HEG Order Sort 123



HEG Order Sort ALL

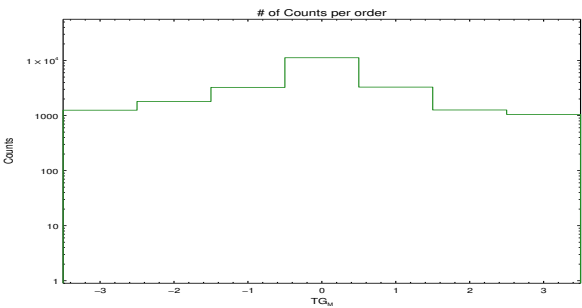


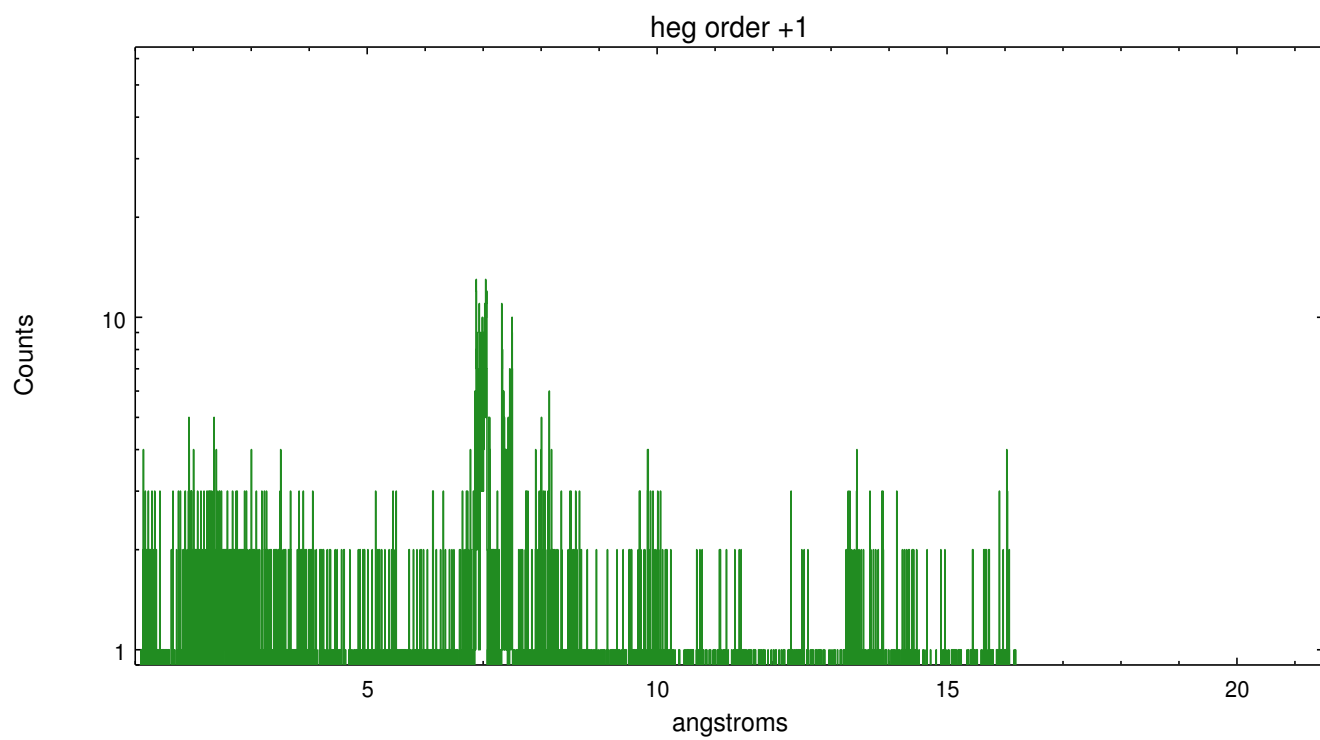
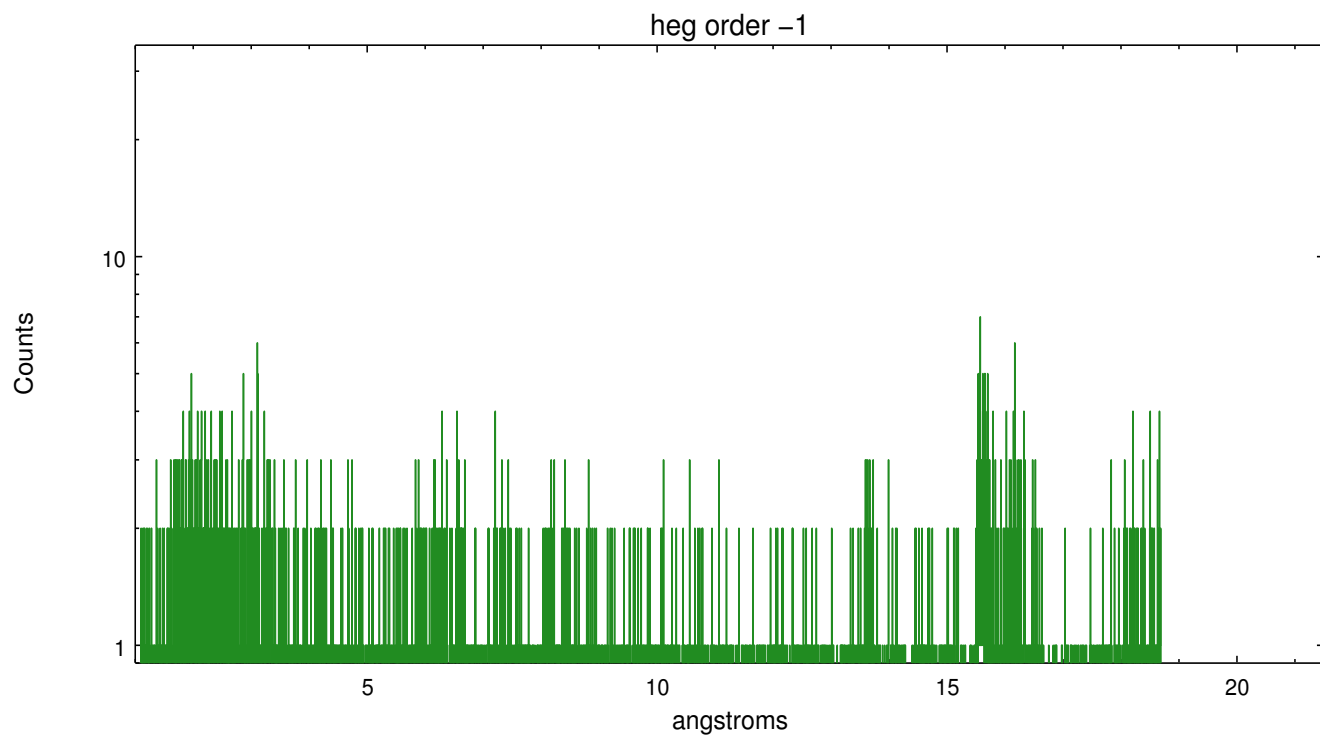
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1251	1804	3248	11231	3286	1263	1049

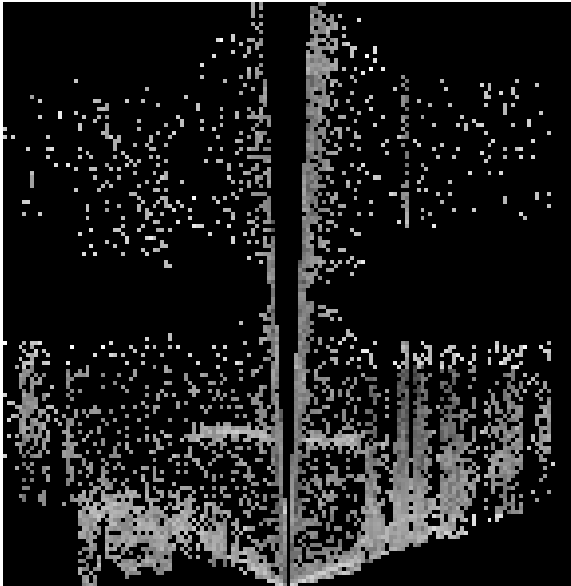




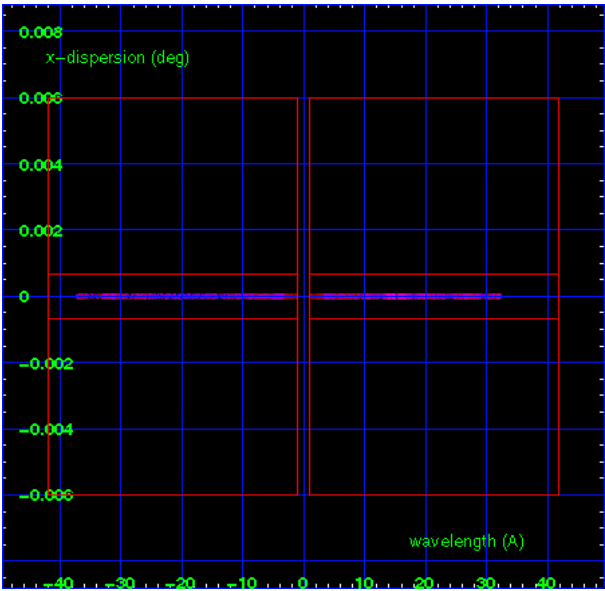
3.2 MEG Arm



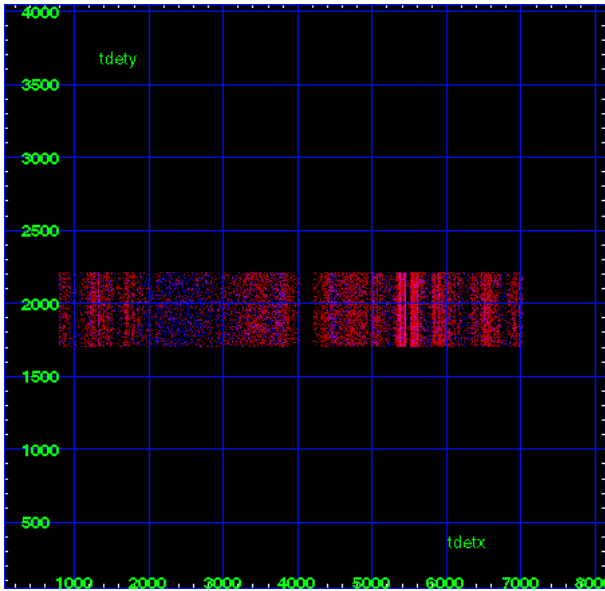
MEG Order Sort 123



MEG Order Sort ALL

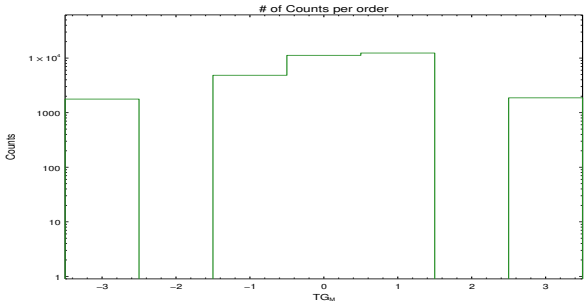


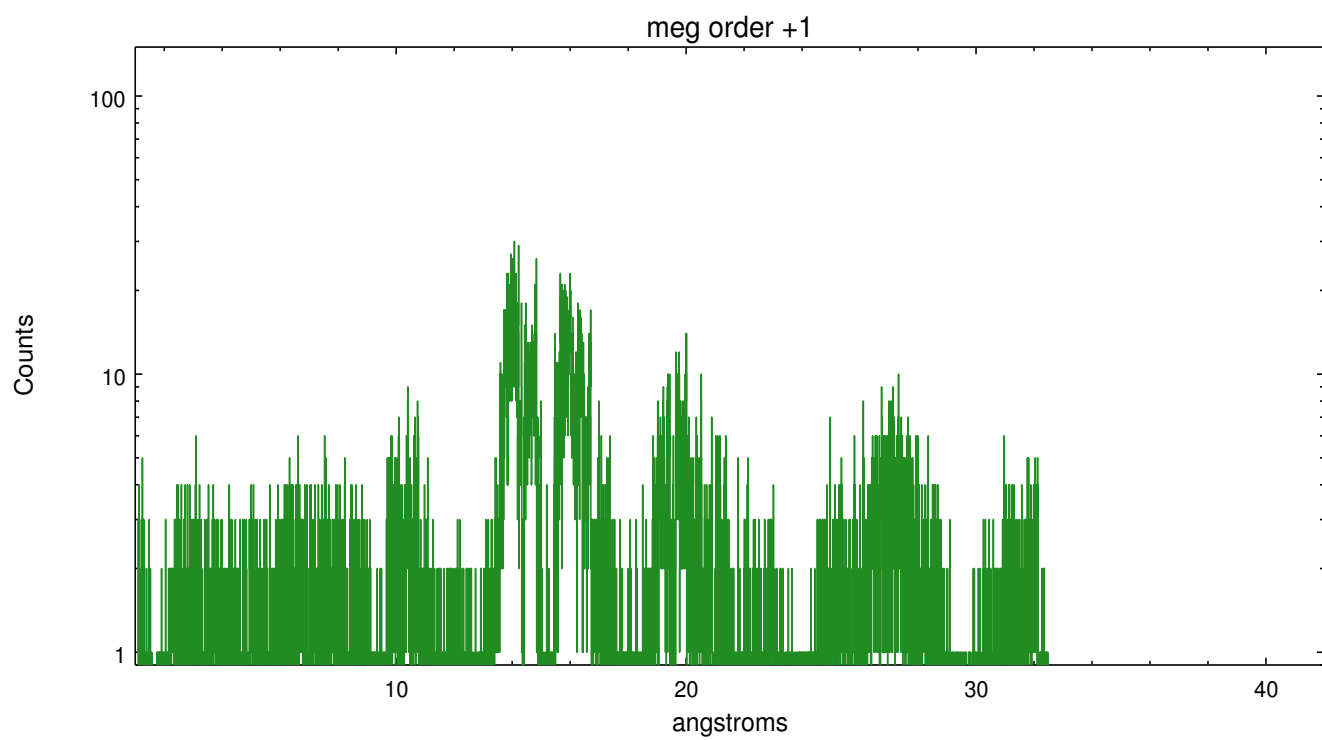
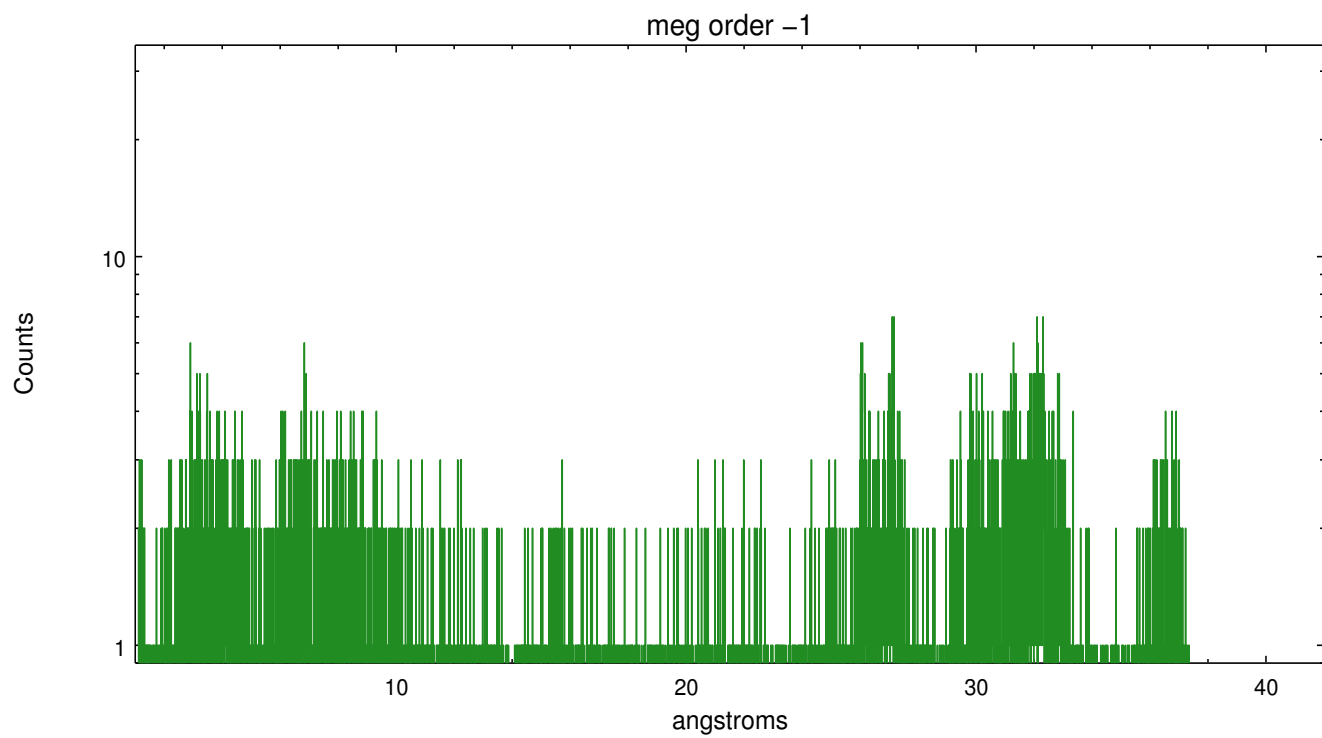
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1773	0	4844	11231	12377	0	1869





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.07

A.2 Comments

phase constraint met ($\phi_{\text{start}} \sim 0.62$)