

V&V Reference Report

L2 ASCDS Version : 8.5

Observation 6149 - L2 Version 3
Chandra X-Ray Center

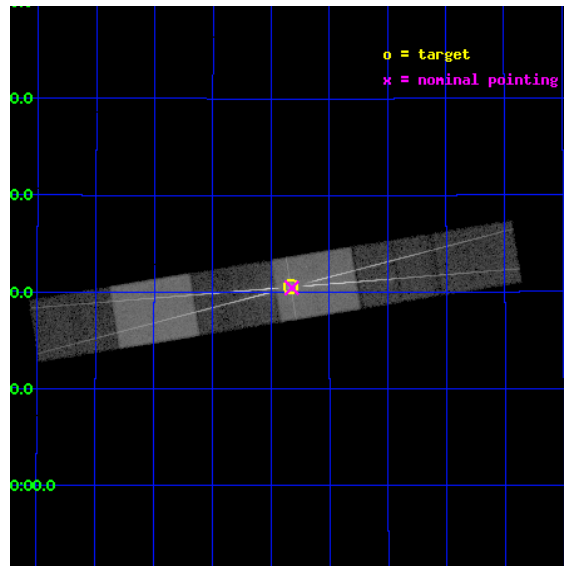
L2 Processing Date : Dec 15 2012

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1 Front

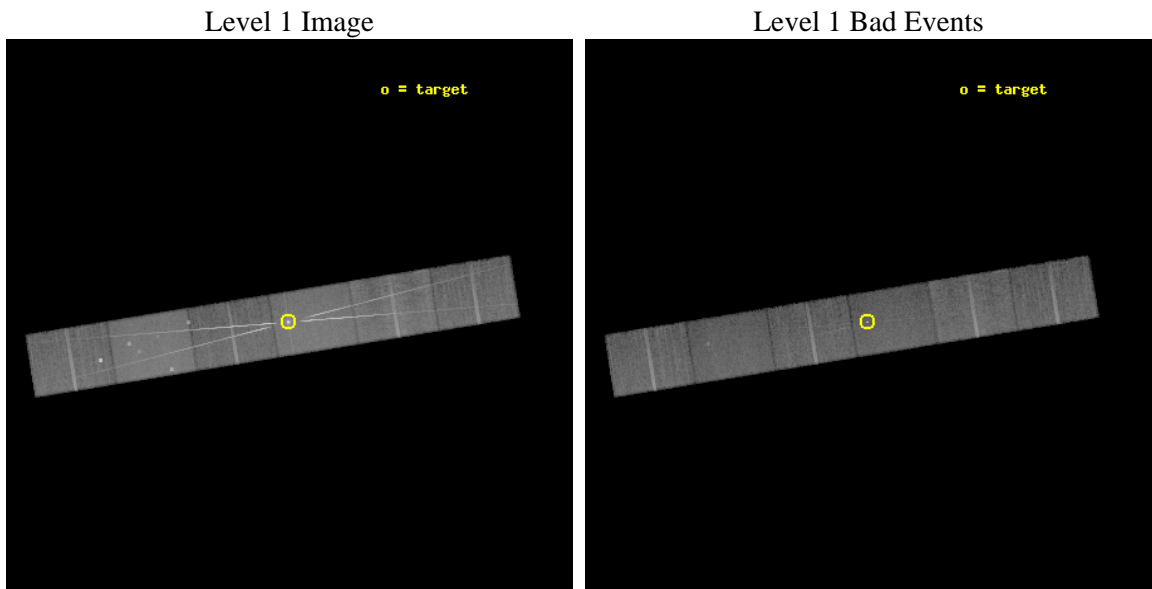
seq_num	400367	Sequence number
obs_id	6149	Observation id
title	Using the Intensity Dips in Hercules X-1 to Probe the Inner Accretion Disk	Proposal title
observer	Dr. Mario Jimenez-Garate	Principal investigator
object	Her X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	254.4575	Observer's specified target RA [deg]
dec_targ	35.342389	Observer's specified target Dec [deg]
ra_nom	254.45534779769	Nominal RA [deg]
dec_nom	35.341009092757	Nominal Dec [deg]
roll_nom	350.70429091456	Nominal Roll [deg]
revision	3	Processing version of data
ontime	22140.0	Sum of GTIs [s]
livetime	21782.419796619	Livetime [s]
ontime4	22140.0	Sum of GTIs [s]
ontime5	22140.0	Sum of GTIs [s]
ontime6	22140.0	Sum of GTIs [s]
ontime7	22140.0	Sum of GTIs [s]
ontime8	22140.0	Sum of GTIs [s]
ontime9	22140.0	Sum of GTIs [s]
l2events	355077	Number of level 2 events



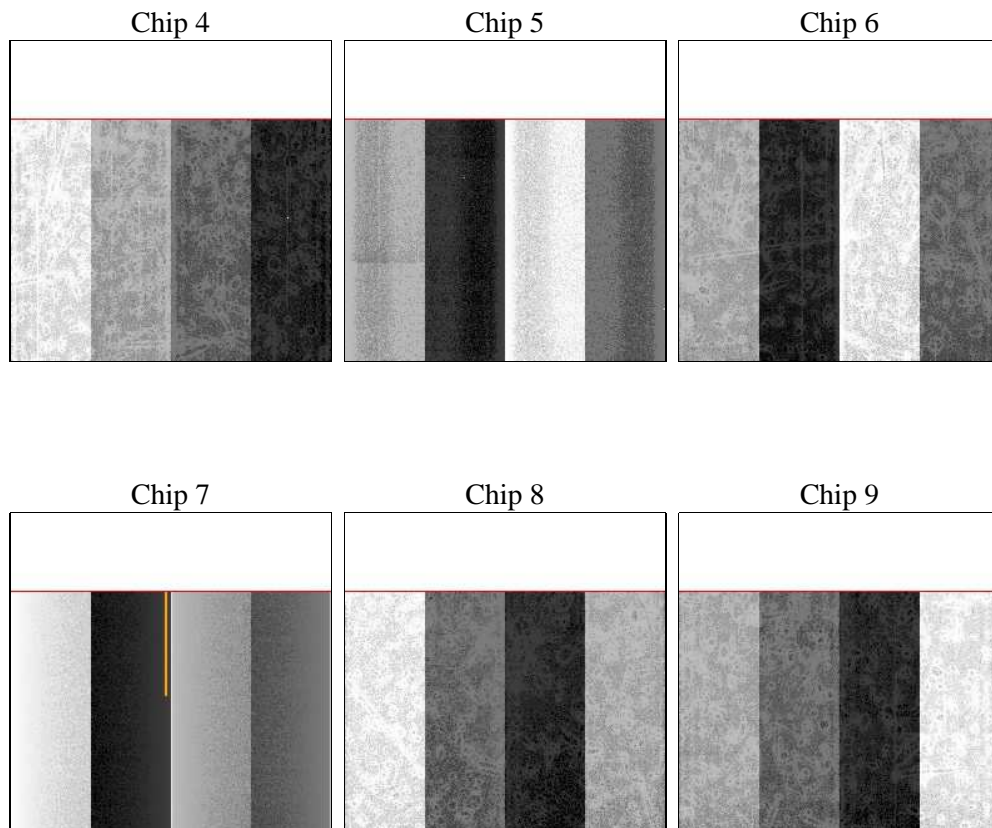
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	8.5	Processing system revision	ontime	22140.0	Sum of GTIs [s]
caldsver	4.5.4	 	ontime4	22140.0	Sum of GTIs [s]
date	2012-12-12T03:12:47	Date and time of file creation	ontime5	22140.0	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	22140.0	Sum of GTIs [s]
			ontime7	22140.0	Sum of GTIs [s]
			ontime8	22140.0	Sum of GTIs [s]
			ontime9	22140.0	Sum of GTIs [s]
			l1events	1137808	Number of level 1 events

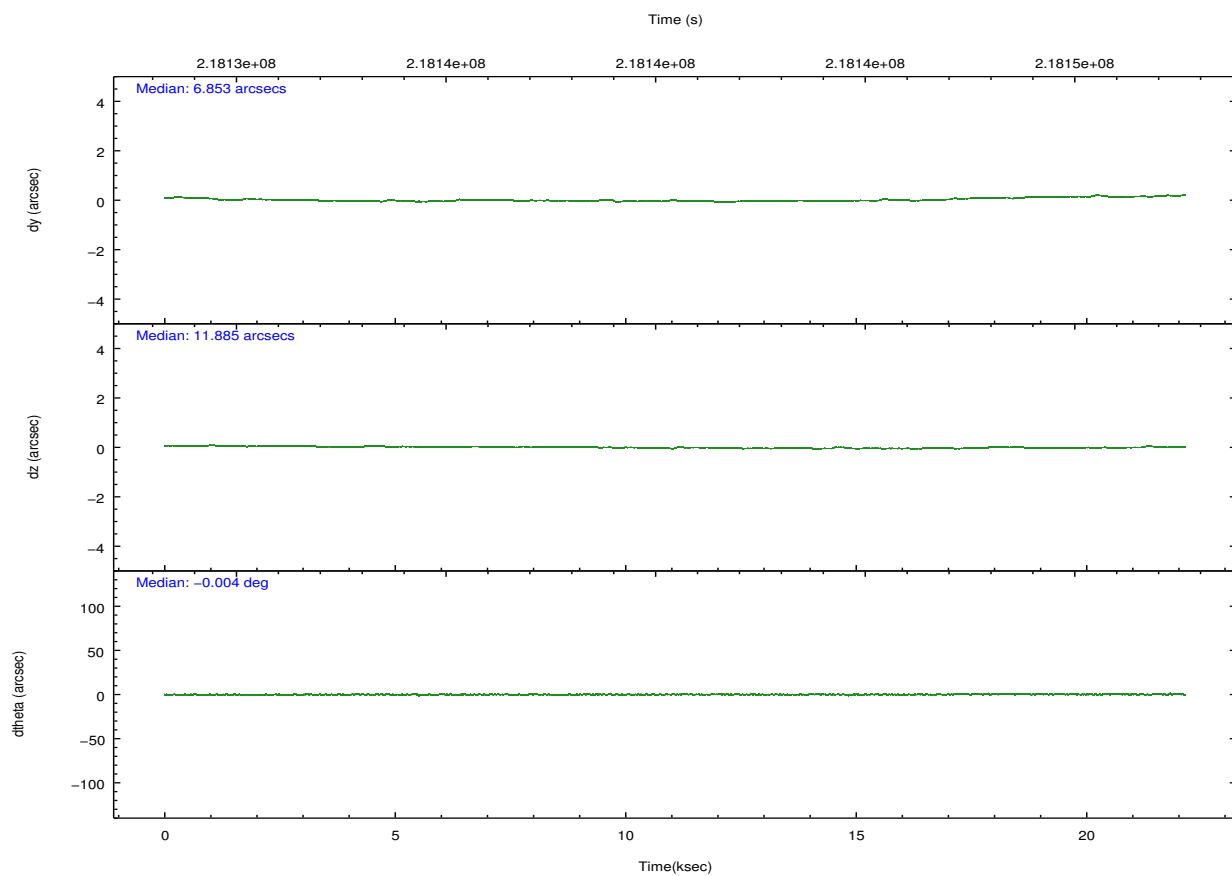
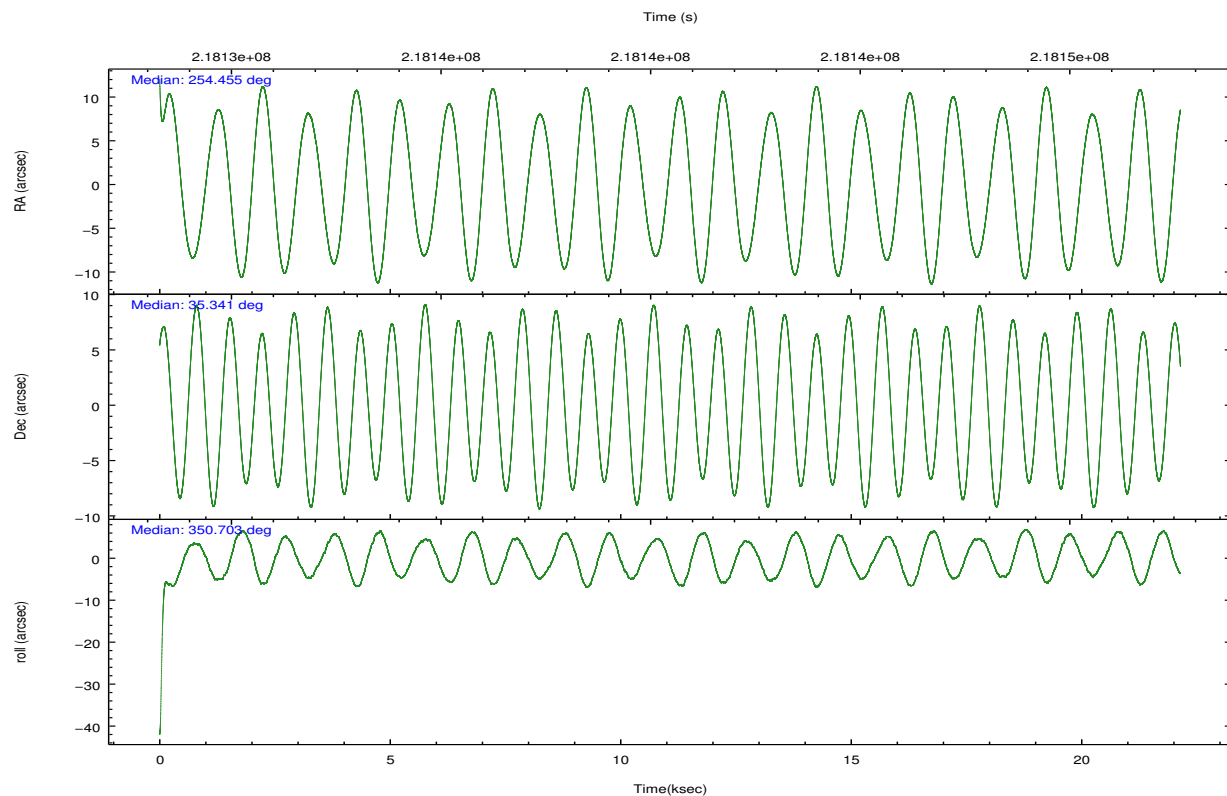
2.1.4 Events

	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	160798	215837	186345	248107	190274	136447	grade 0 events	17065	17182	42265	21400	25573	9910
rejected events	134333	112205	120775	111745	137060	116429		10%	7%	22%	8%	13%	7%
rejected %	83%	51%	64%	45%	72%	85%	grade 1 events	148	636	314	488	184	75
								0%	0%	0%	0%	0%	0%
							grade 2 events	3829	29633	9887	30331	9916	3639
								2%	13%	5%	12%	5%	2%
							grade 3 events	1911	5545	3861	13384	4429	1879
								1%	2%	2%	5%	2%	1%
							grade 4 events	1783	5373	3860	13595	4239	1834
								1%	2%	2%	5%	2%	1%
							grade 5 events	5741	15397	6344	18568	8207	6445
								3%	7%	3%	7%	4%	4%
							grade 6 events	2785	49280	6631	60554	10286	3308
								1%	22%	3%	24%	5%	2%
							grade 7 events	127536	92791	113183	89787	127440	109357
								79%	42%	60%	36%	66%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	254.424260	254.4553477976861	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	35.331013	35.34100909275681	Subarray start row	1	1
[deg] Pointing Roll	350.565668	350.70429091456	Subarray row count	774	774
[s] Window start time (MET)	218125864.184000	218125864.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	218152864.184000	218152864.184000	[s] Primary exposure time	0.000000	2.5
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
Phase constraints	Y	Y			
[d] Phase period	1.700167	1.700167			
[d] Phase epoch (MJD)	51310.760000	51310.760000			
Phase start	0.750000	0.750000			
Phase end	0.900000	0.900000			
Phase start error	0.020000	0.020000			
Phase end error	0.010000	0.010000			
[s] Observation start time (MET)	218129534.184000	218128061.84861			
Observation start date	2004-11-29T15:31:10	2004-11-29T15:07:41			
[s] Observation end time (MET)	218151534.184000	218152489.64971			

2.3 Aspect

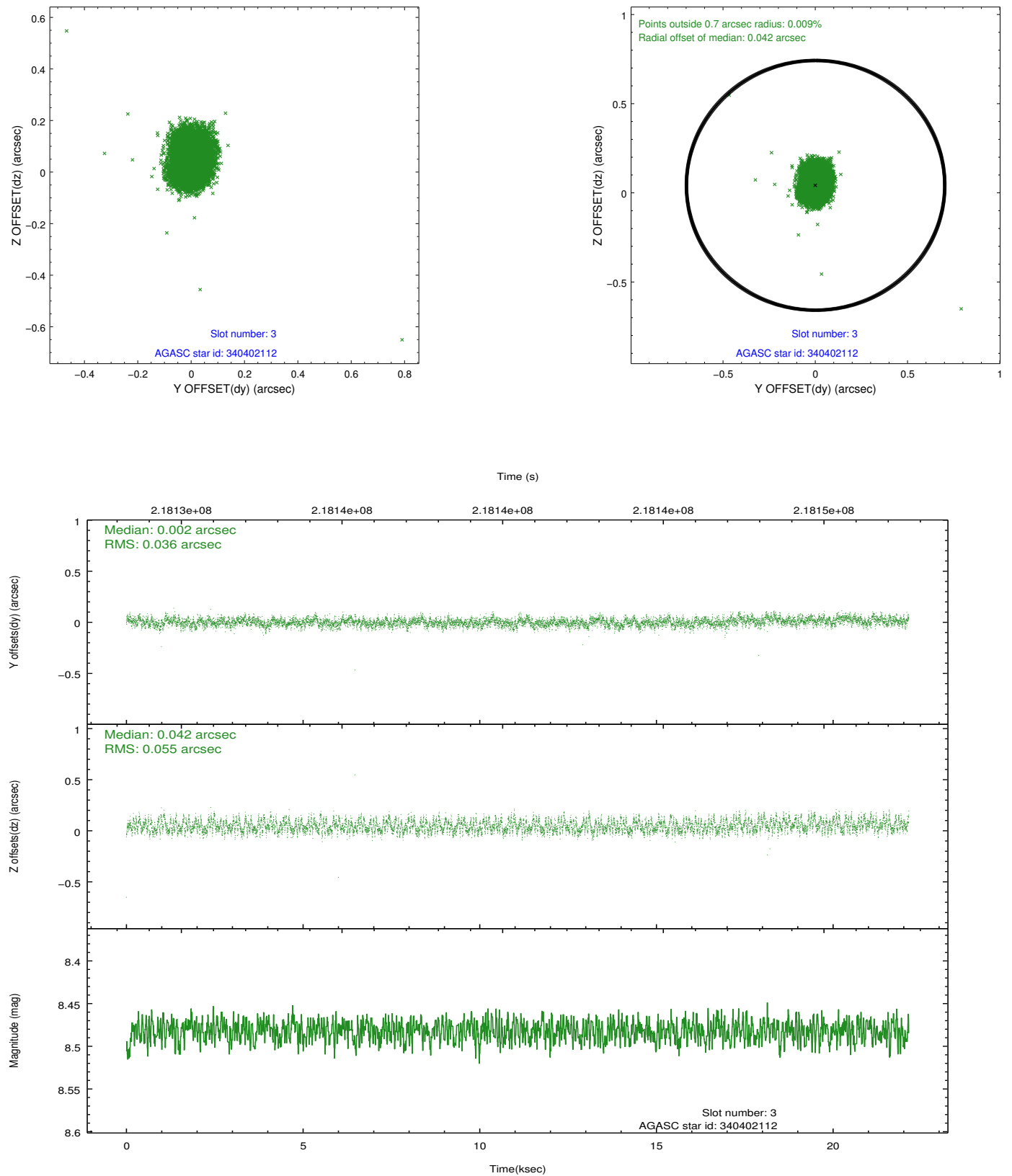


Slot Statistics

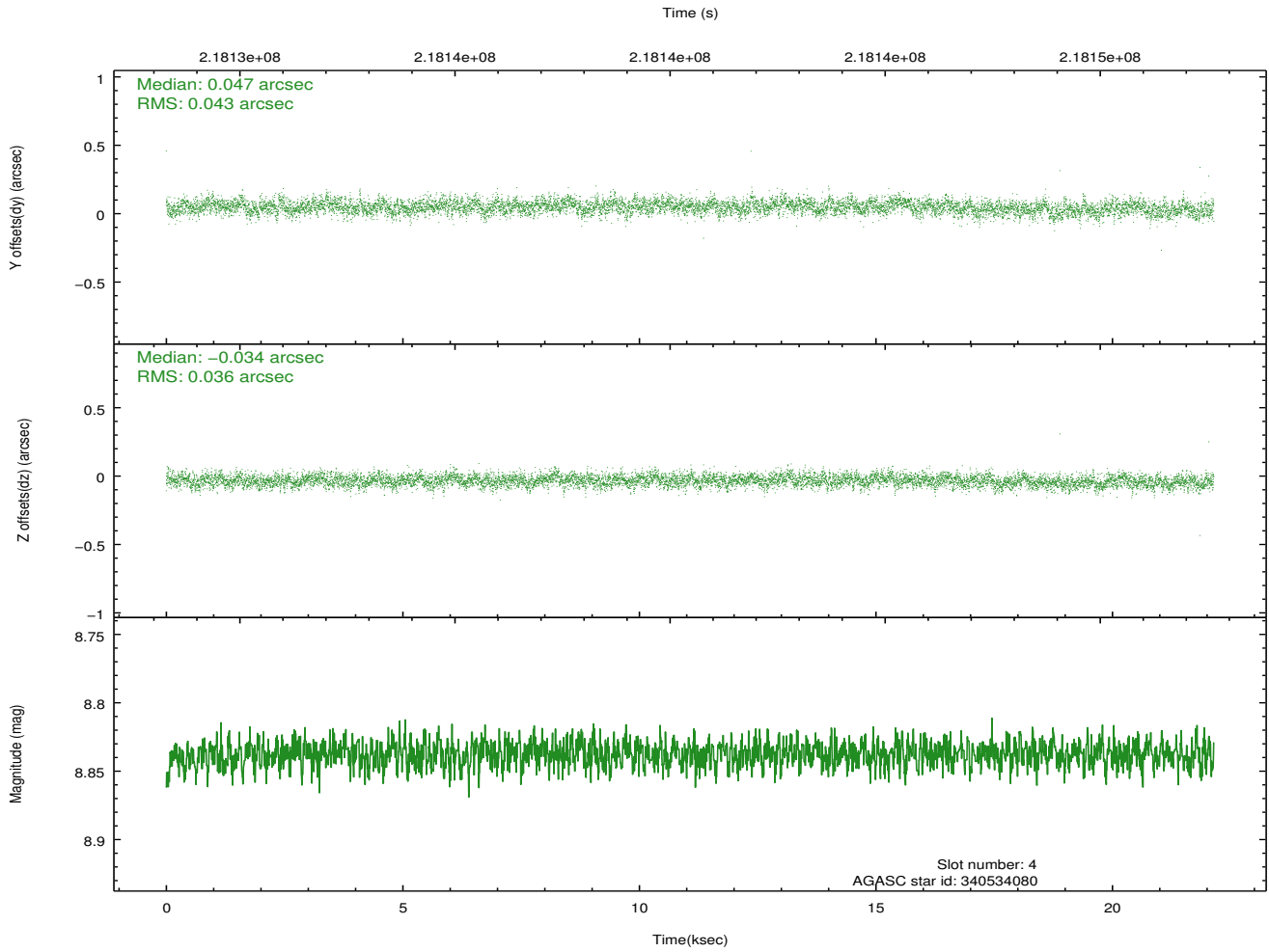
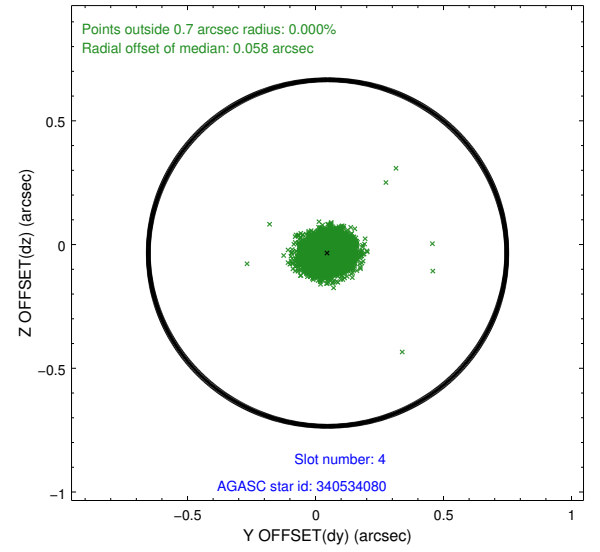
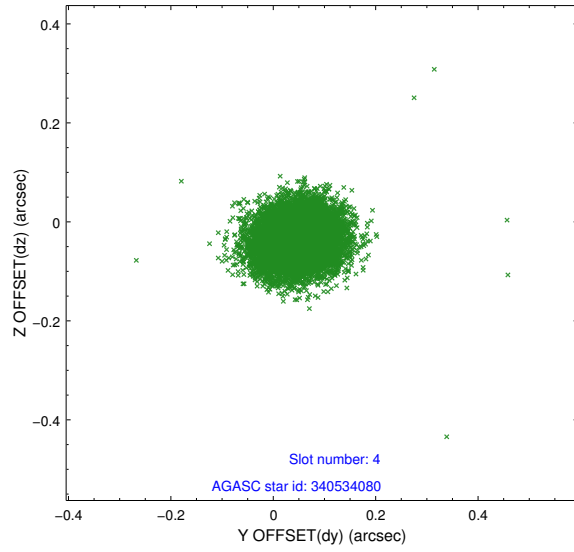
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	5401	-0.071	-0.091	0.009	0.021	0.000000	0.000000	-759.48	-1795.36
1	FID	ACIS-S-4	7.18	5401	0.115	0.059	0.009	0.030	0.000000	0.000000	2153.90	113.11
2	FID	ACIS-S-5	7.23	5402	-0.073	0.040	0.009	0.019	0.000000	0.000000	-1812.13	106.91
3	GUIDE	340402112	8.48	10799	0.002	0.042	0.069	0.110	253.640936	34.860529	-2006.21	-2041.21
4	GUIDE	340534080	8.84	10800	0.047	-0.034	0.059	0.096	255.228954	35.471551	2243.01	895.08
5	GUIDE	340536192	7.73	10797	0.028	0.057	0.051	0.083	254.294567	35.286536	-349.24	-220.05
6	GUIDE	340401120	8.17	10800	0.047	-0.039	0.059	0.096	253.574895	35.128140	-2348.55	-1120.07
7	GUIDE	340534896	8.59	10795	-0.122	-0.028	0.061	0.098	255.288450	35.541682	2371.00	1173.99

2.4 Star Slots

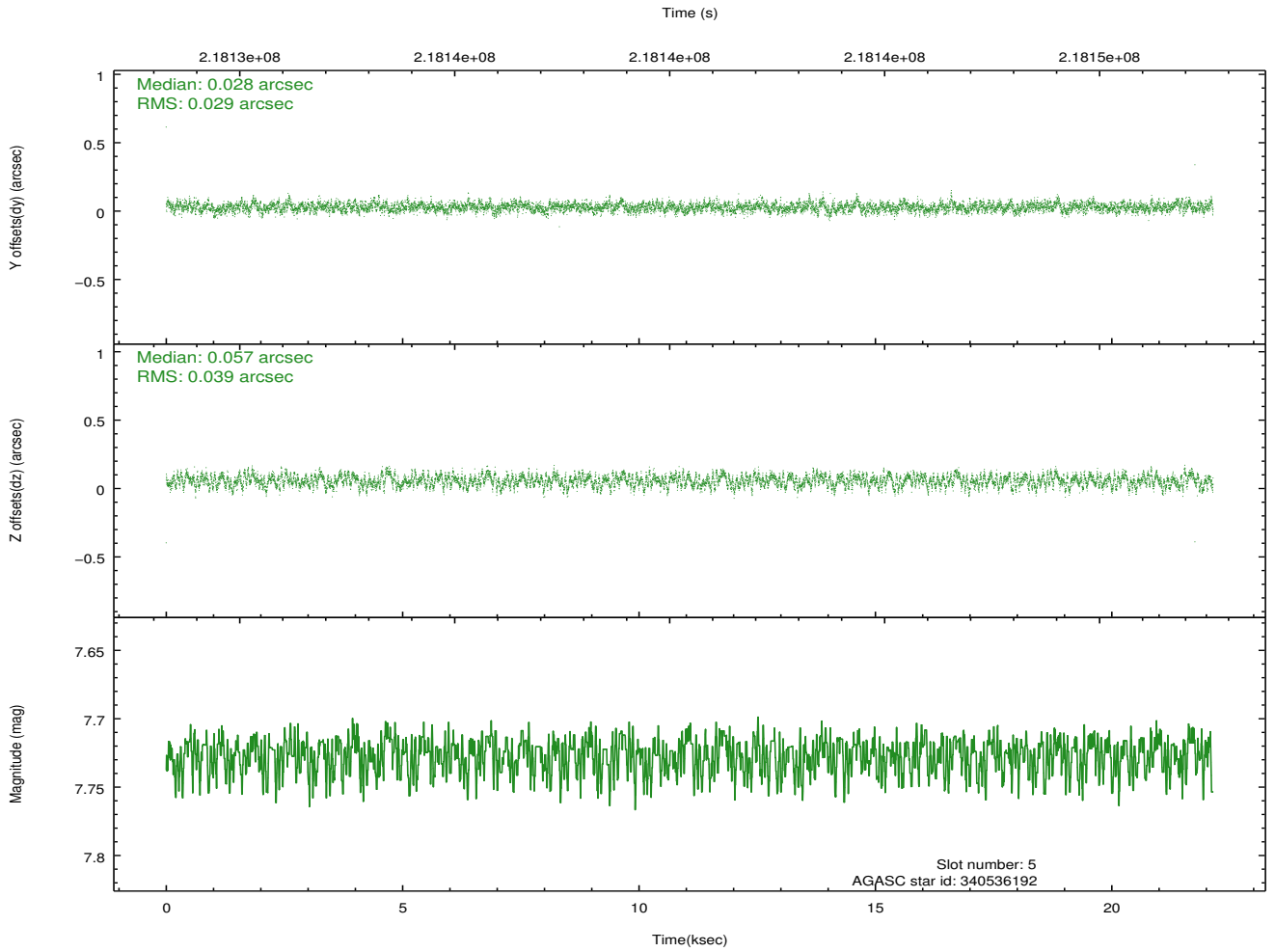
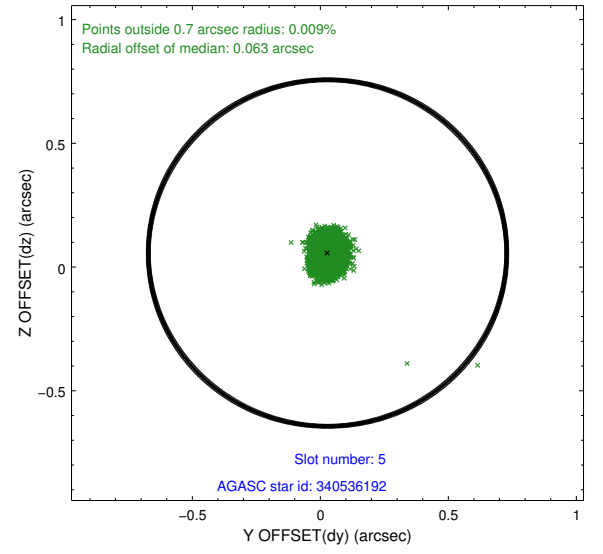
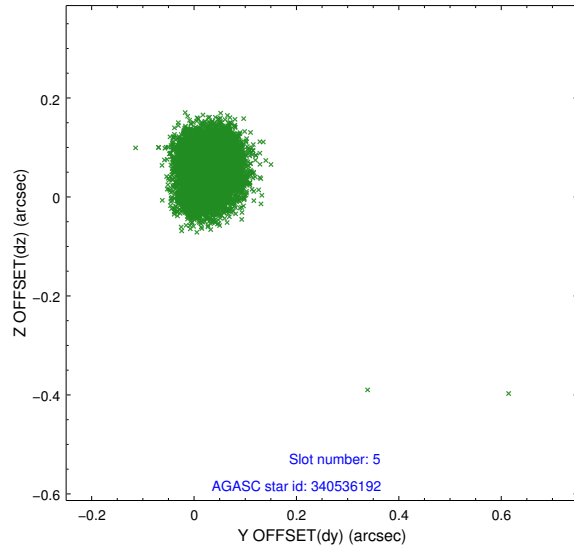
2.4.1 Slot 3



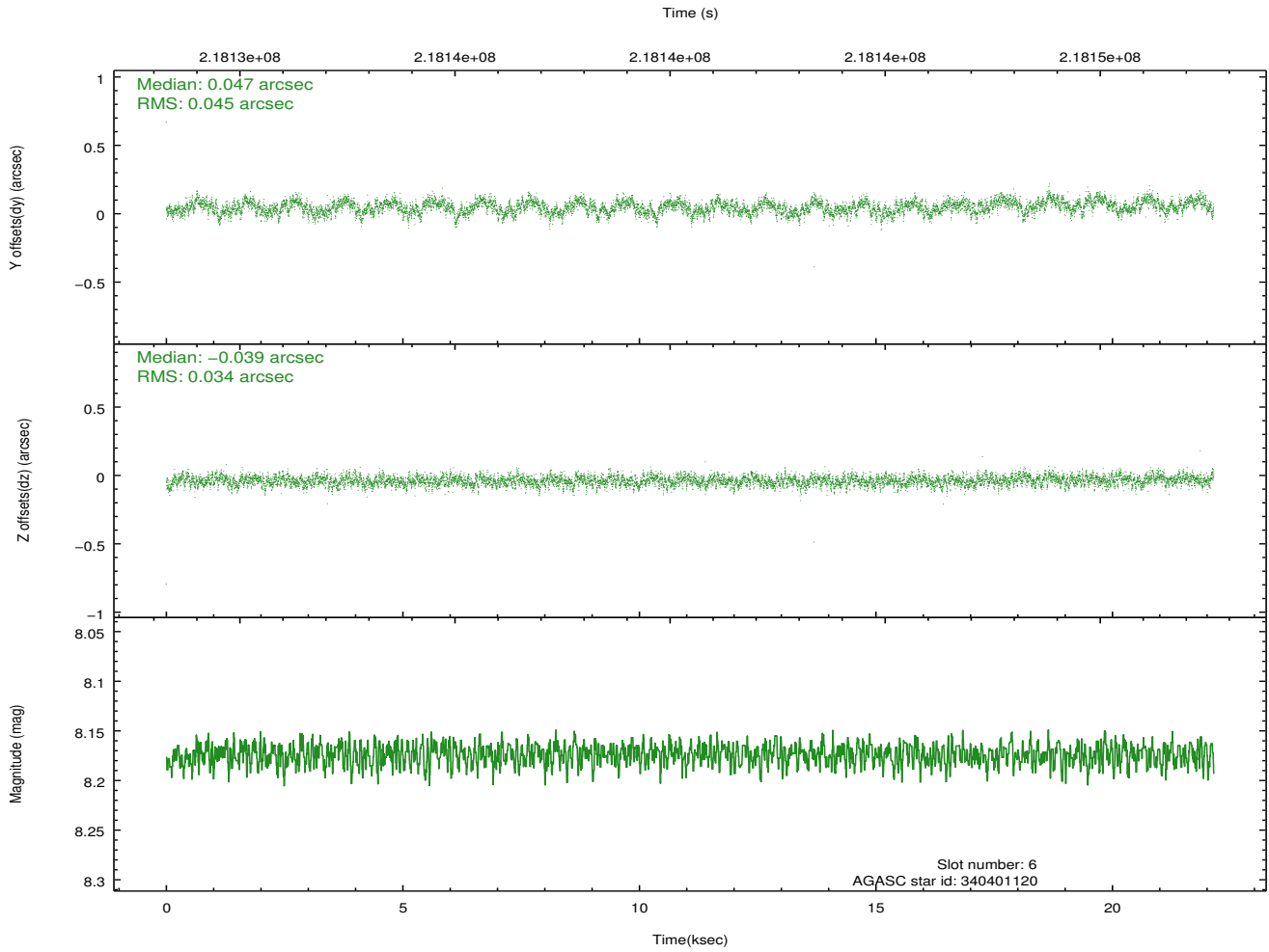
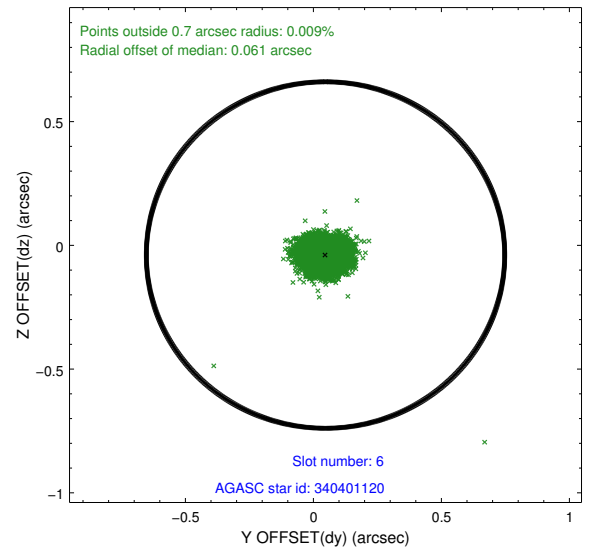
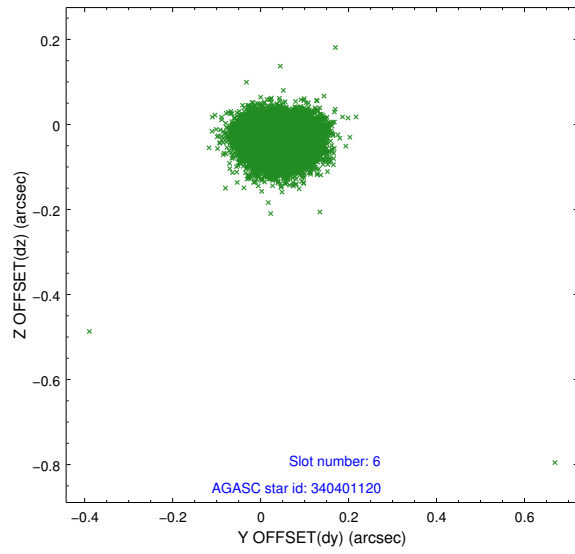
2.4.2 Slot 4



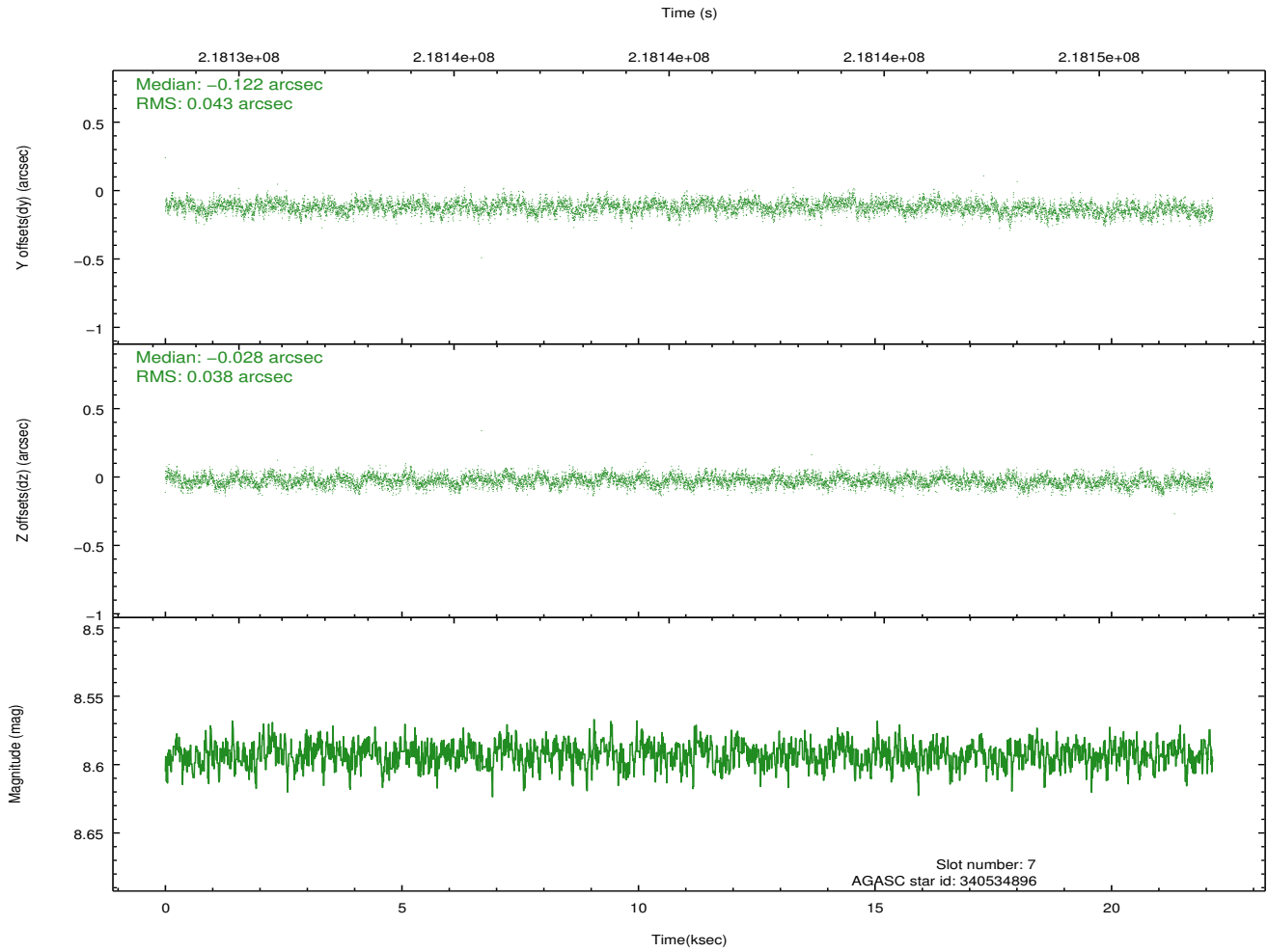
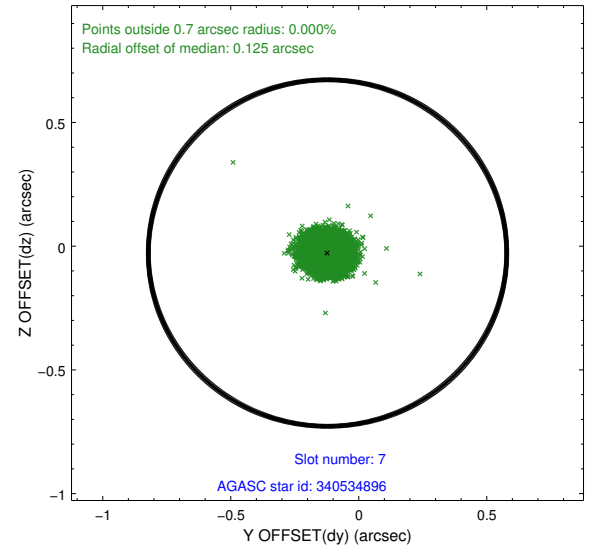
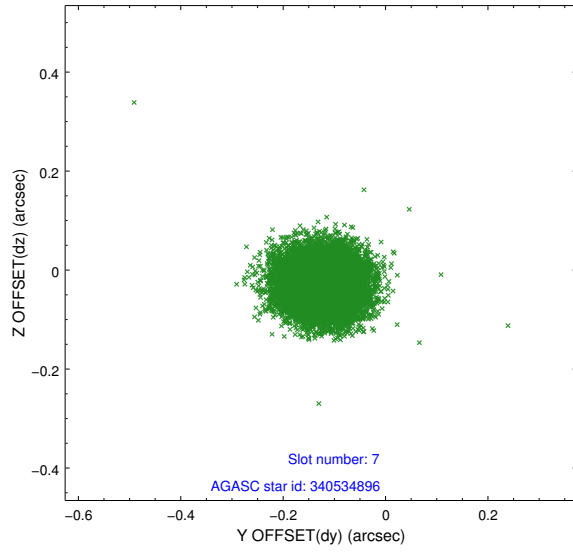
2.4.3 Slot 5



2.4.4 Slot 6

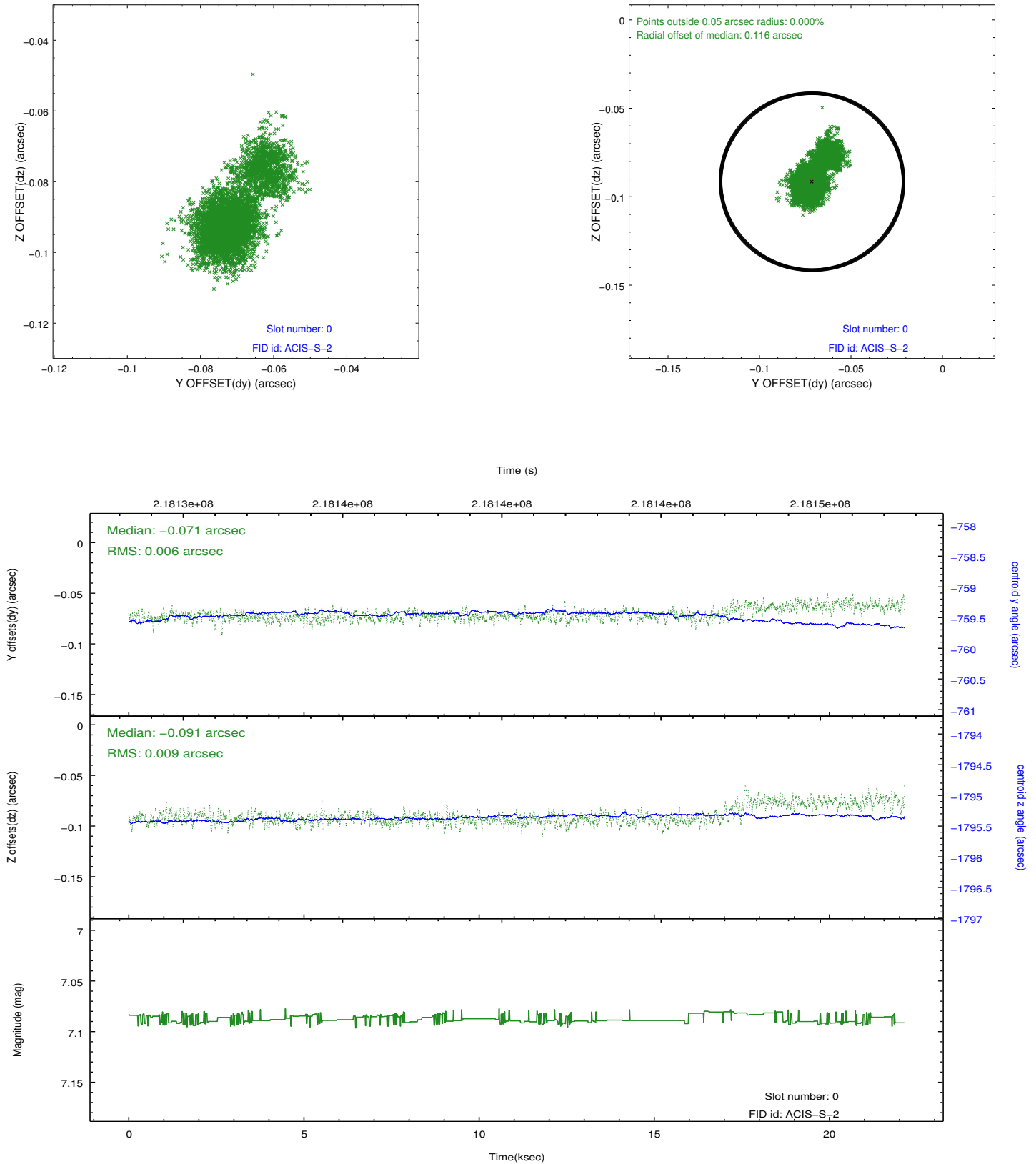


2.4.5 Slot 7

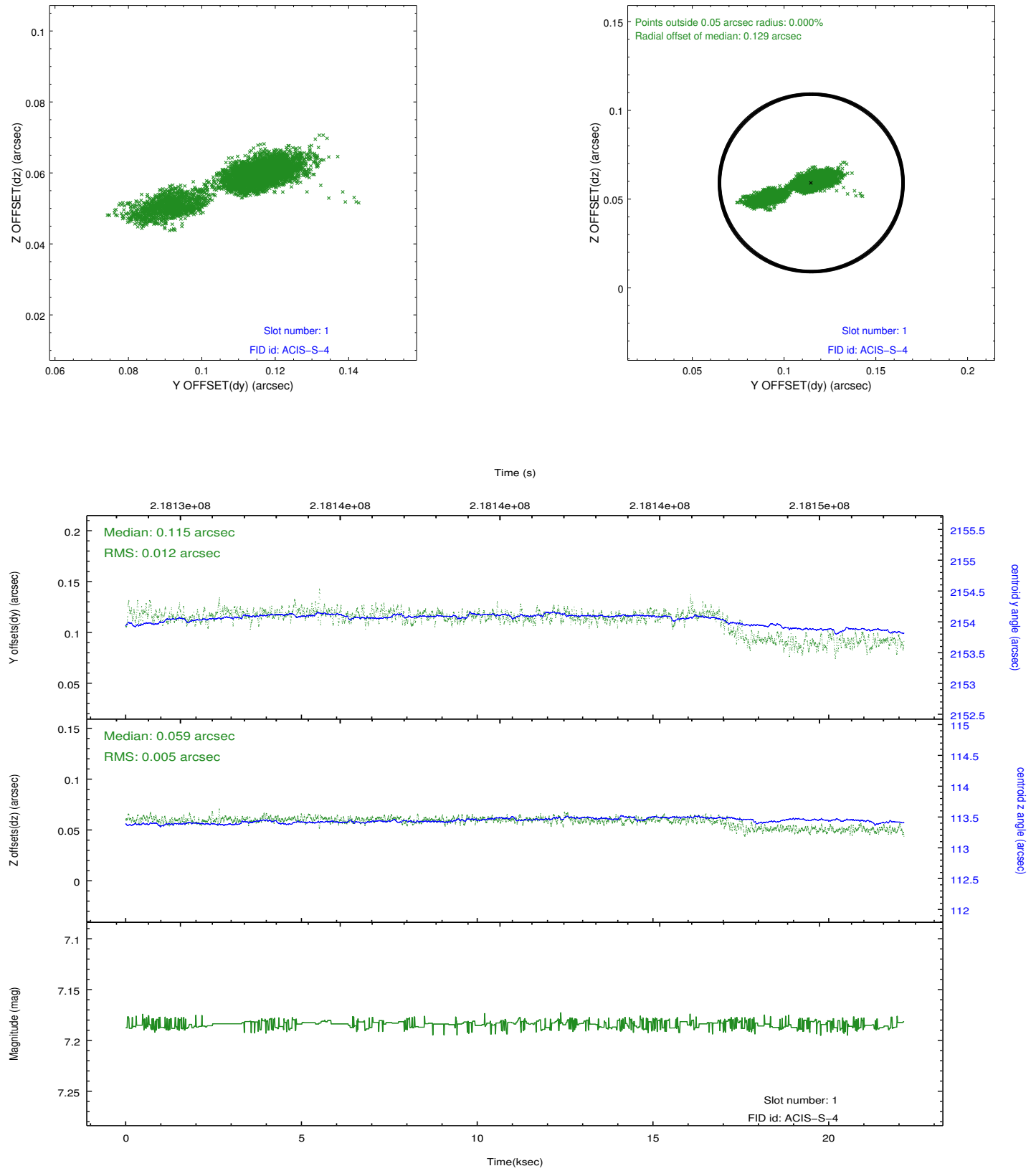


2.5 FID Slots

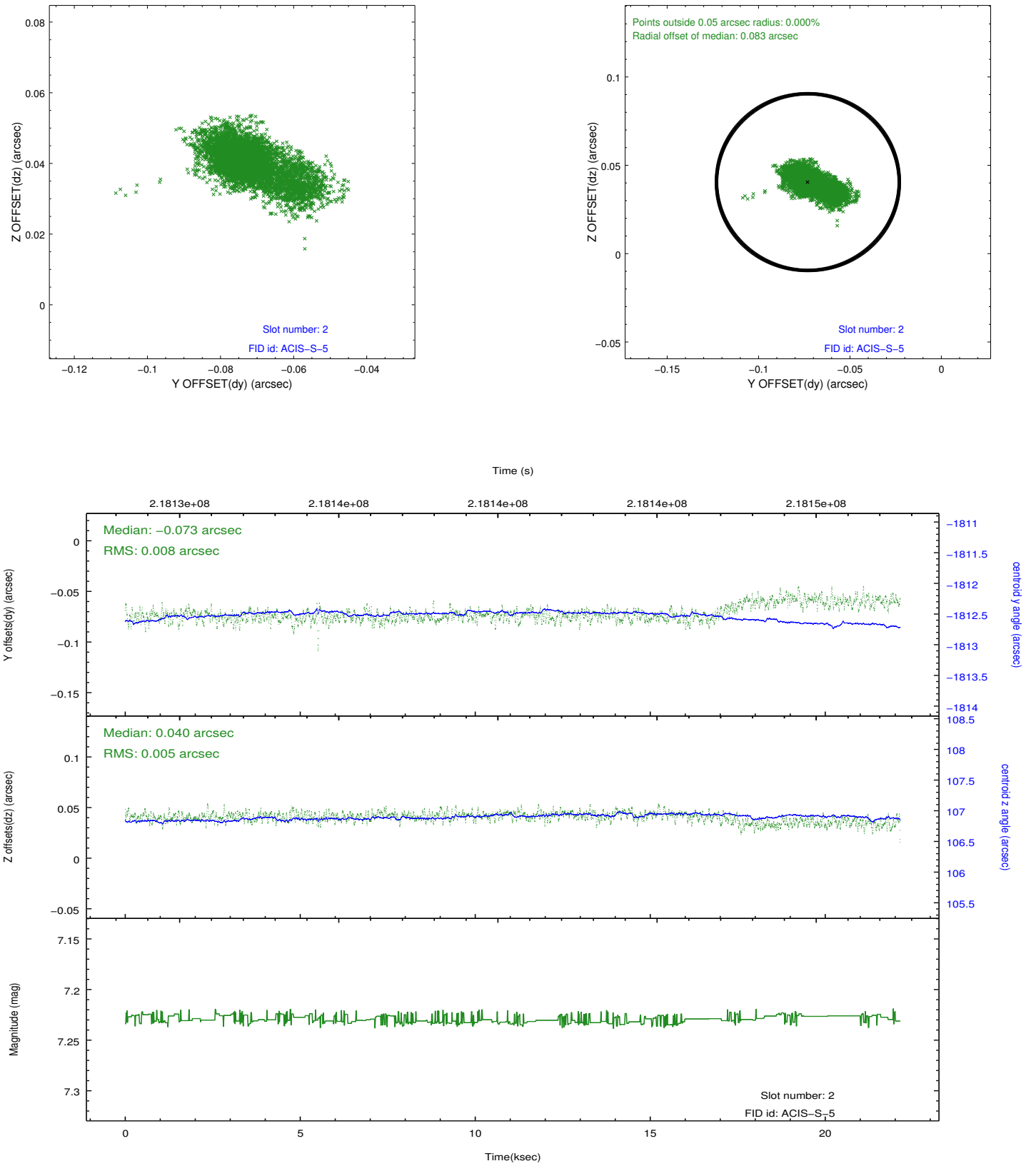
2.5.1 Slot 0



2.5.2 Slot 1

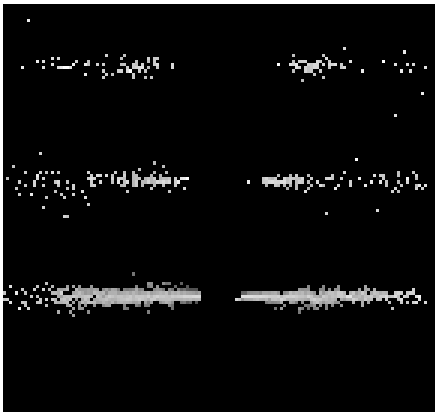


2.5.3 Slot 2

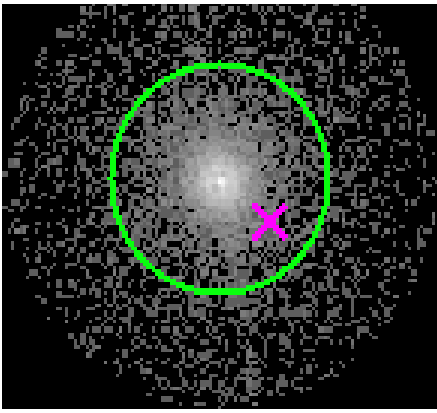


3 Gratings

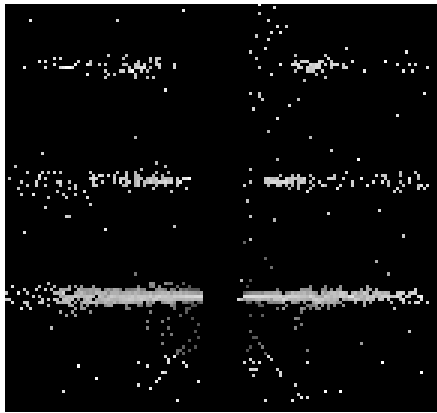
3.1 HEG Arm



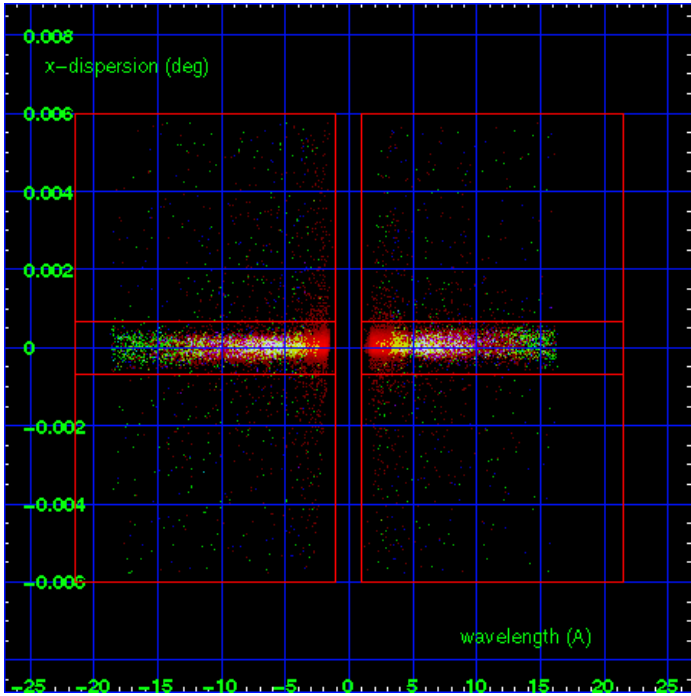
HEG Order Sort 123



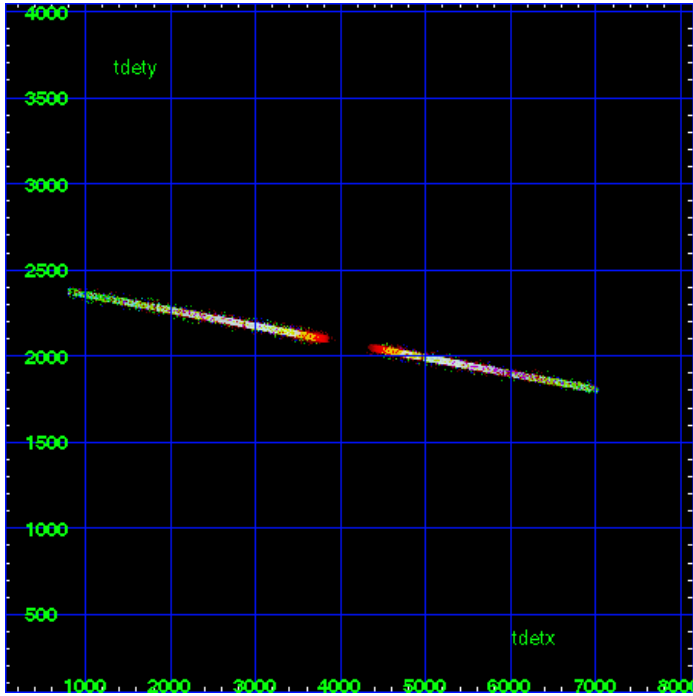
HEG Zero Order



HEG Order Sort ALL

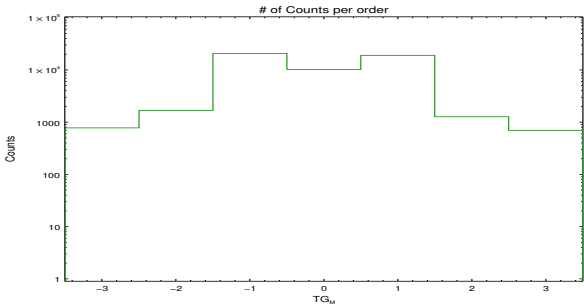


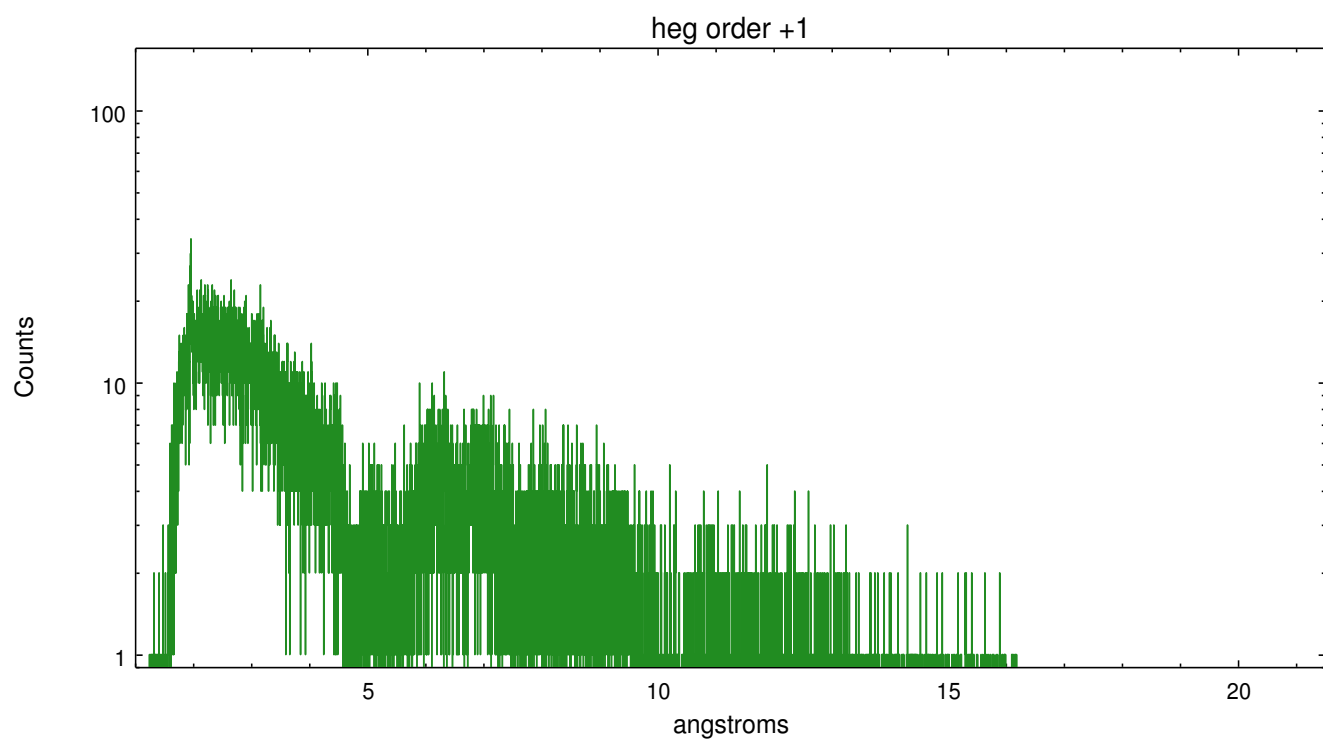
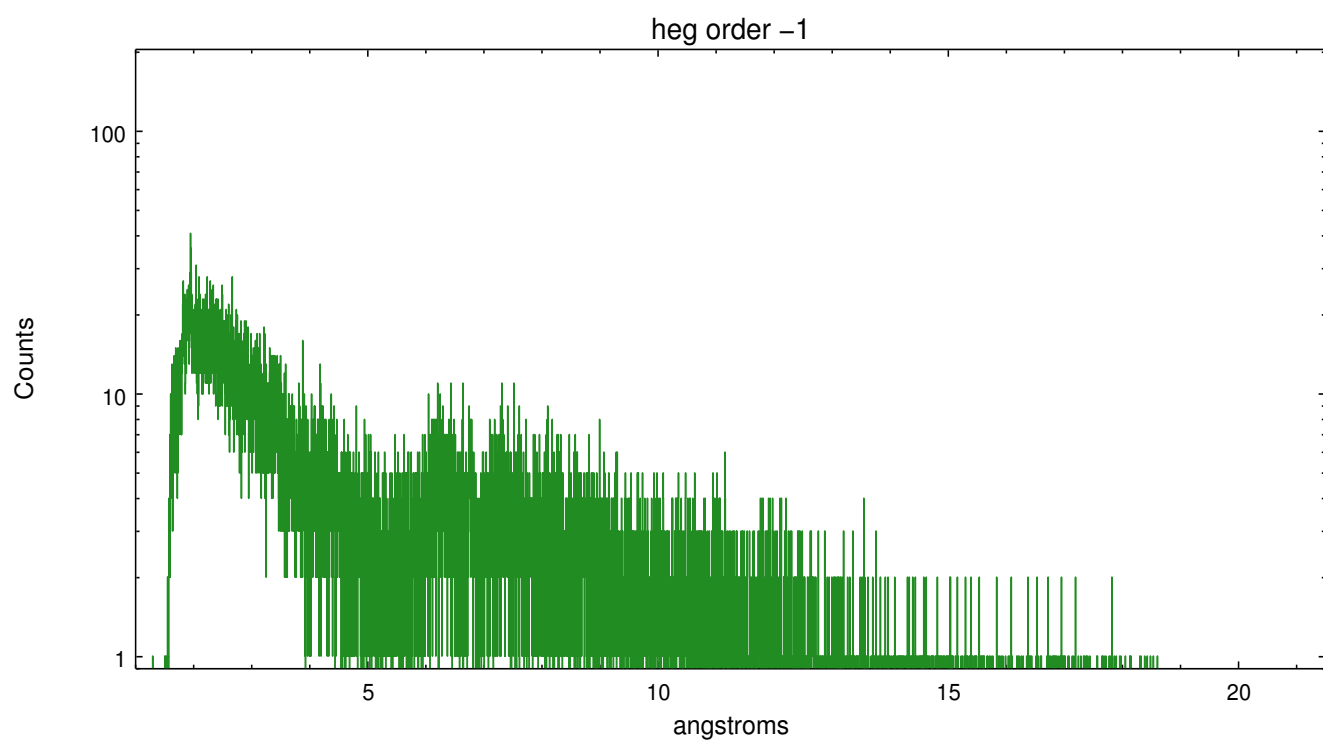
Spot Image HEG



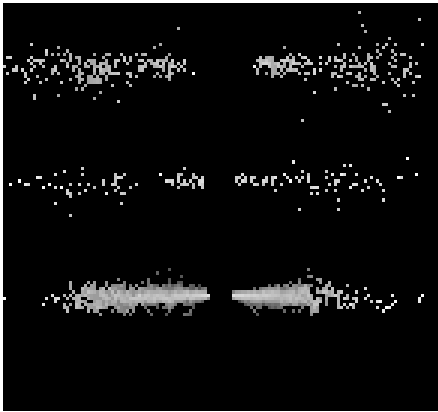
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	779	1686	20797	10281	19164	1274	698

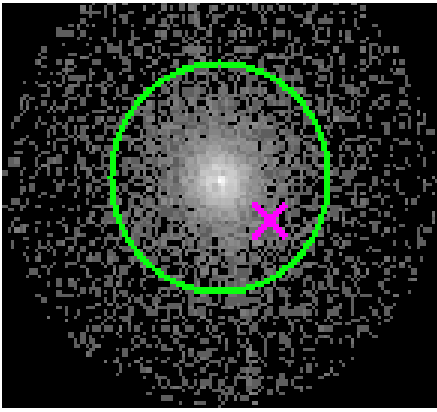




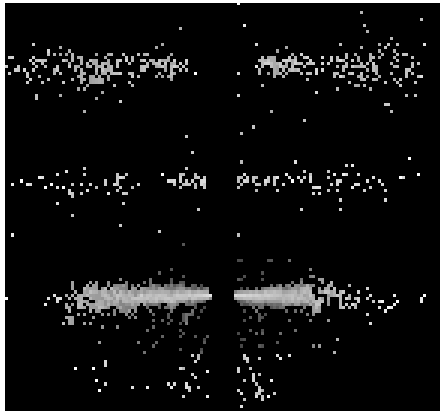
3.2 MEG Arm



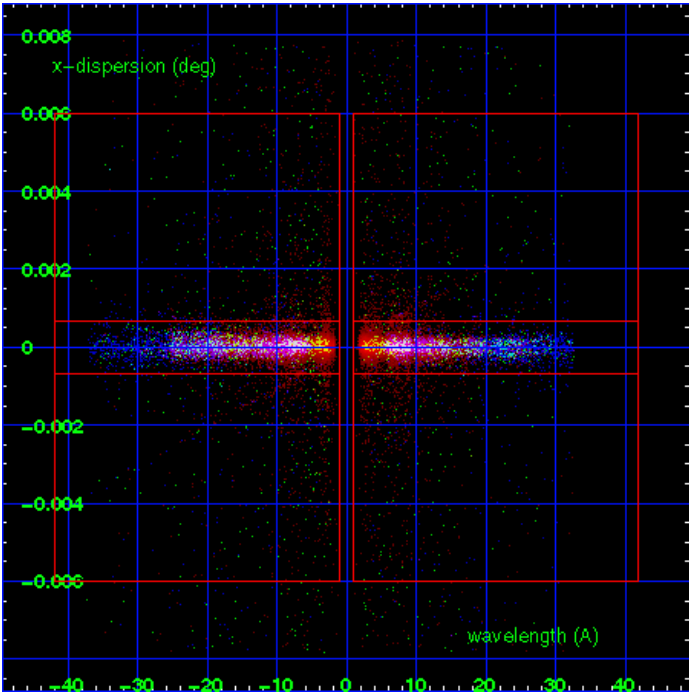
MEG Order Sort 123



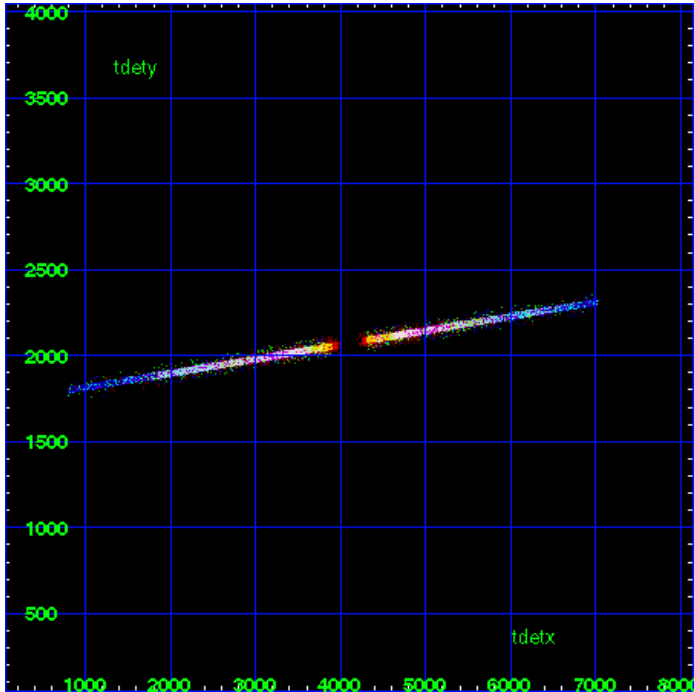
MEG Zero Order



MEG Order Sort ALL

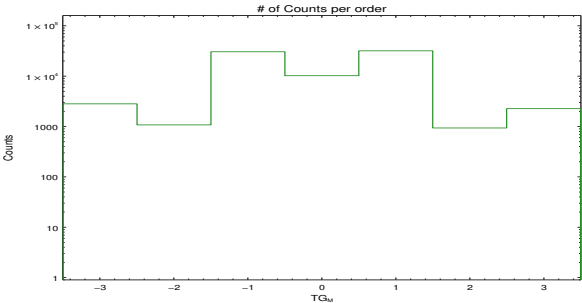


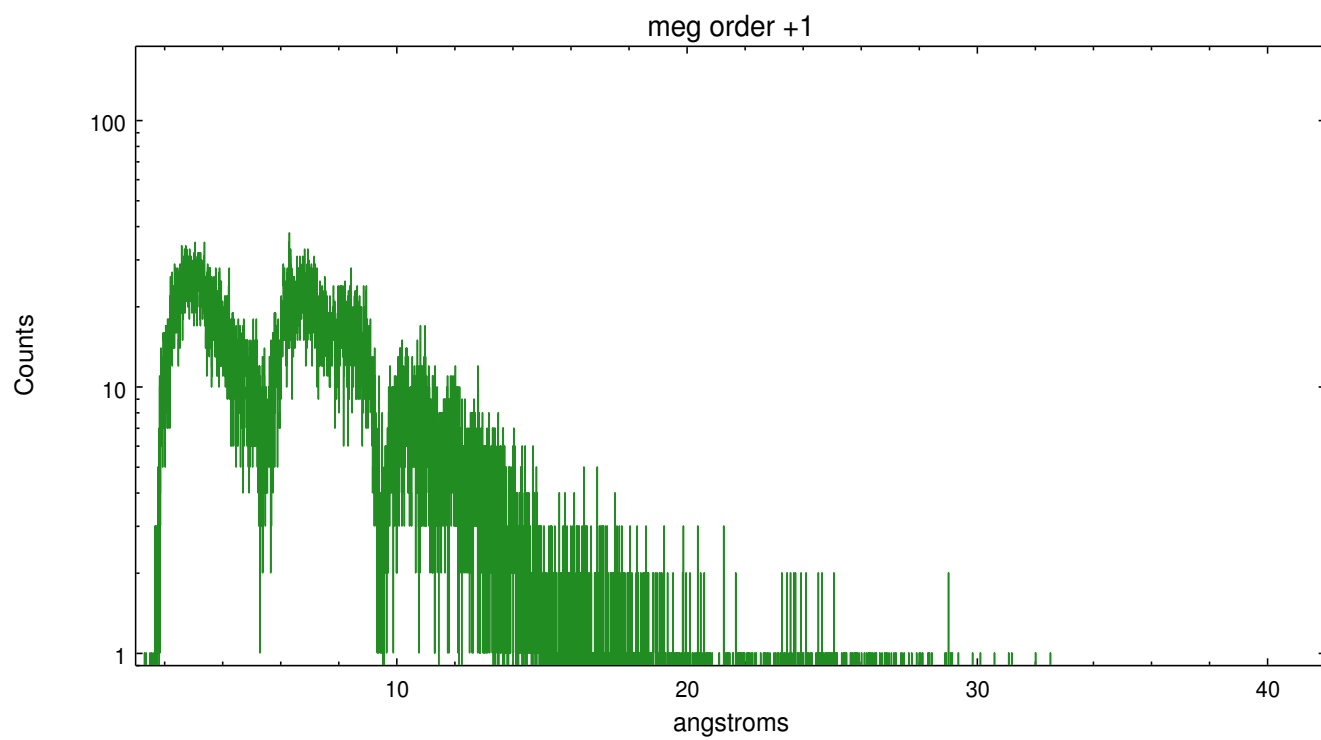
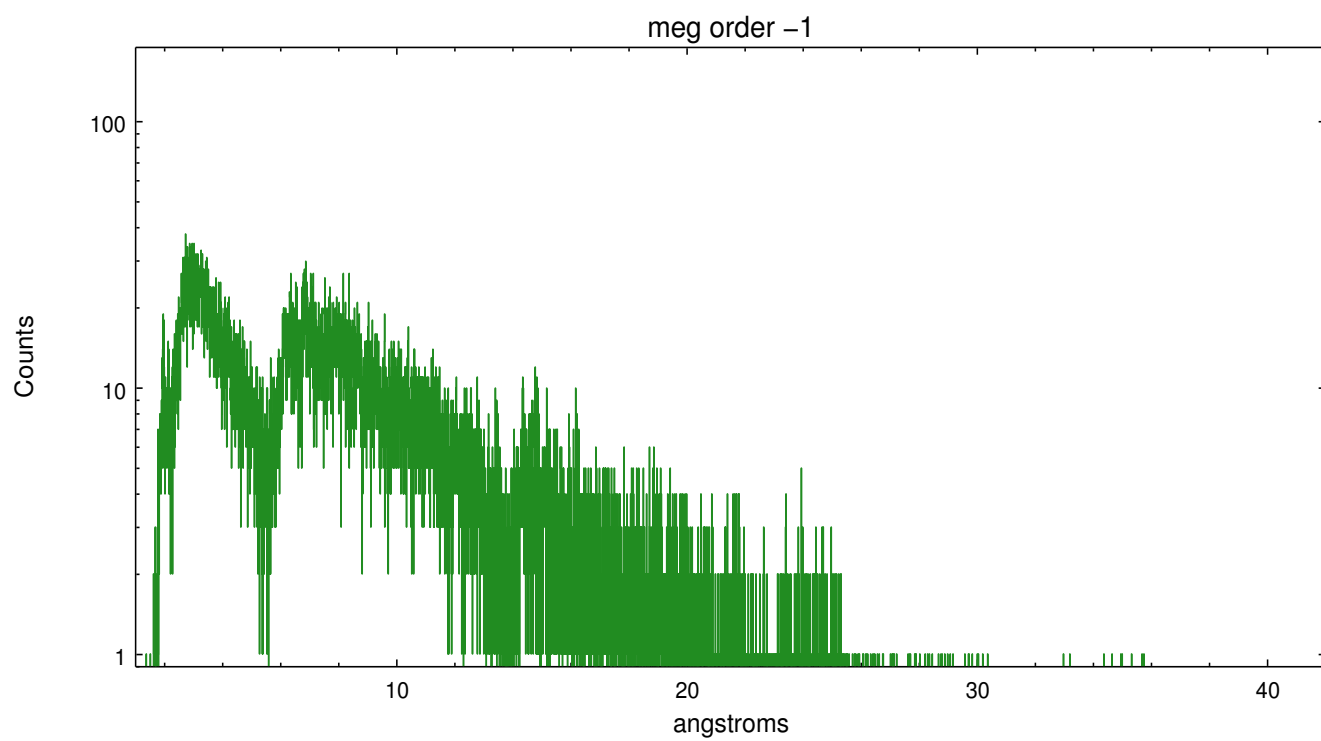
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2833	1079	30760	10281	32125	938	2274





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.14

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=4083.12, y=4106.41) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called tg_findzo, available in CIAO. 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 *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.