

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 102 - L2 Version 4
Chandra X-Ray Center

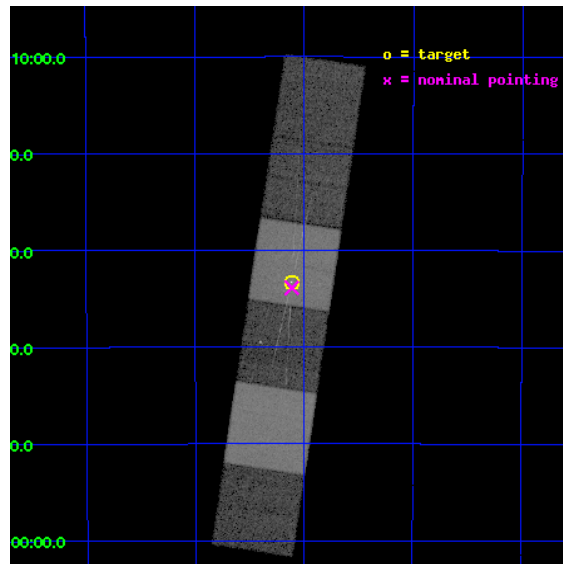
L2 Processing Date : Aug 25 2012

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1 Front

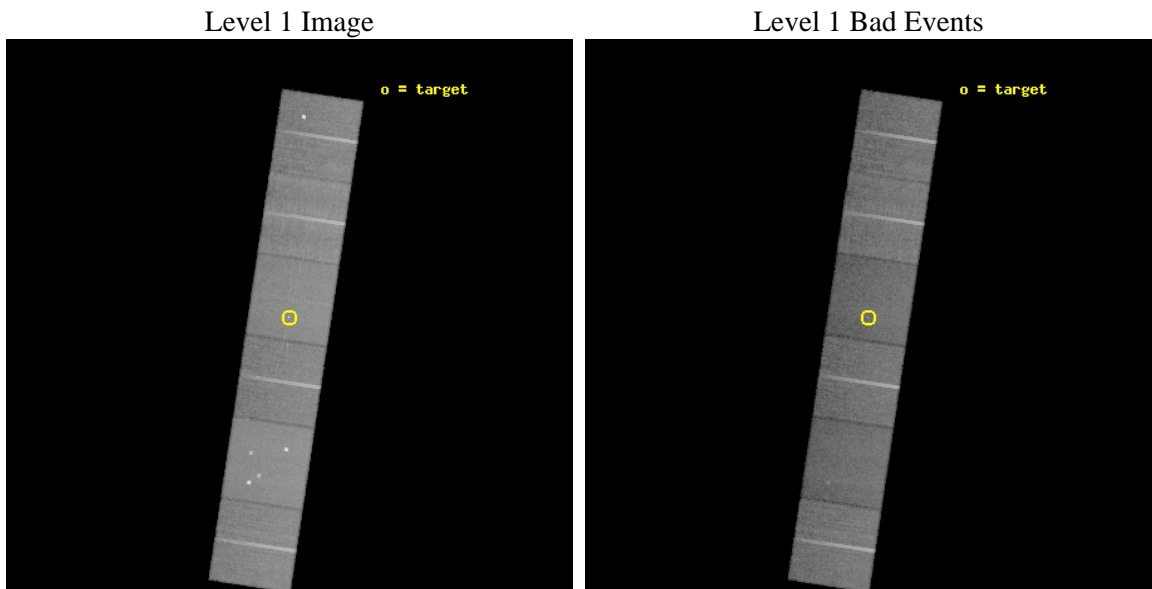
seq_num	400015	Sequence number
obs_id	102	Observation id
title	HETG OBSERVATIONS OF X-RAY BINARIES	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	VELA X-1	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	135.528333	Observer's specified target RA [deg]
dec_targ	-40.554722	Observer's specified target Dec [deg]
ra_nom	135.5278819599	Nominal RA [deg]
dec_nom	-40.564734233063	Nominal Dec [deg]
roll_nom	278.5877980164	Nominal Roll [deg]
revision	4	Processing version of data
ontime	28371.200026408	Sum of GTIs [s]
livetime	28011.946808588	Livetime [s]
ontime4	28371.200026408	Sum of GTIs [s]
ontime5	28367.959096104	Sum of GTIs [s]
ontime6	28367.959066167	Sum of GTIs [s]
ontime7	28371.200026408	Sum of GTIs [s]
ontime8	28371.200026408	Sum of GTIs [s]
ontime9	28371.200026408	Sum of GTIs [s]
l2events	290477	Number of level 2 events



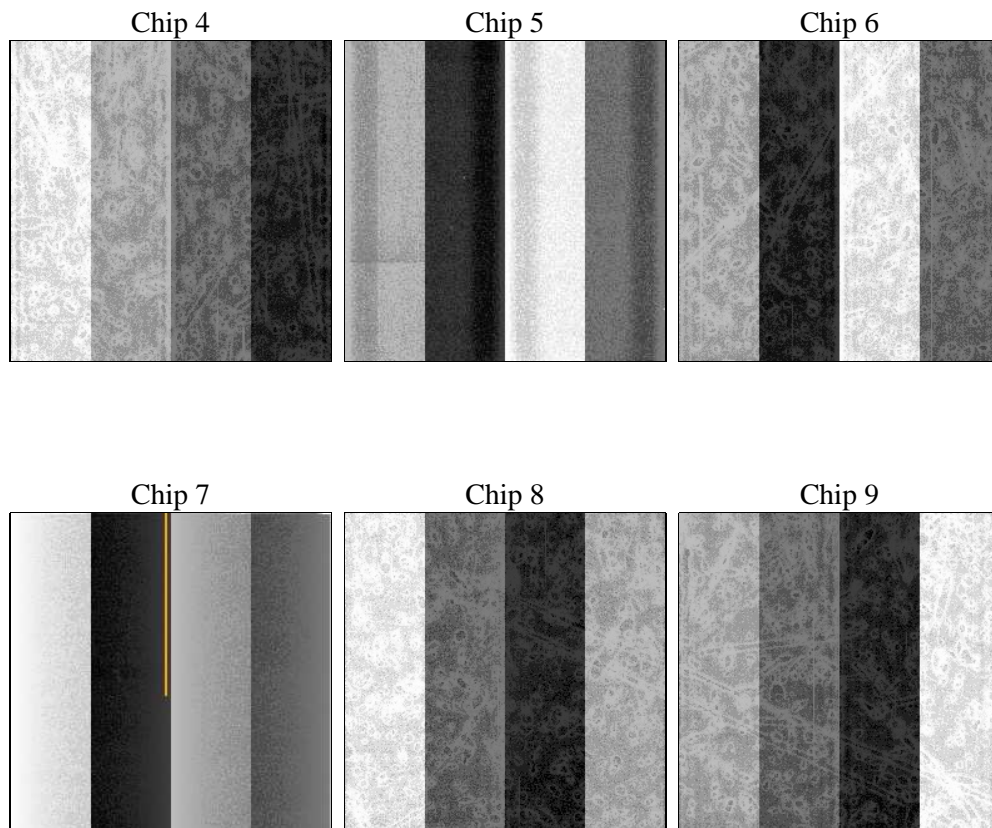
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	28371.200026408	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime4	28371.200026408	Sum of GTIs [s]
date	2012-08-25T16:05:50	Date and time of file creation	ontime5	28367.959096104	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	28367.959066167	Sum of GTIs [s]
			ontime7	28371.200026408	Sum of GTIs [s]
			ontime8	28371.200026408	Sum of GTIs [s]
			ontime9	28371.200026408	Sum of GTIs [s]
			l1events	1409493	Number of level 1 events

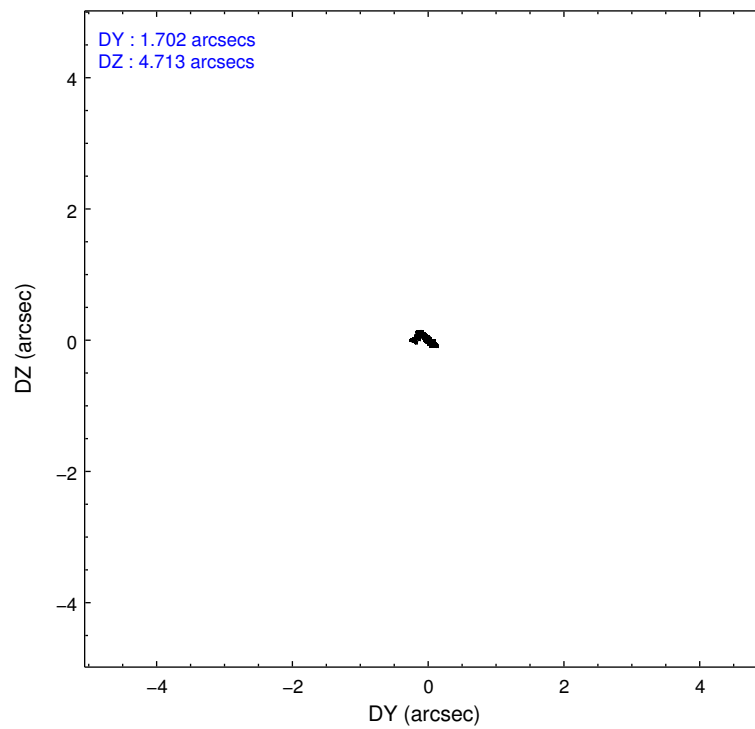
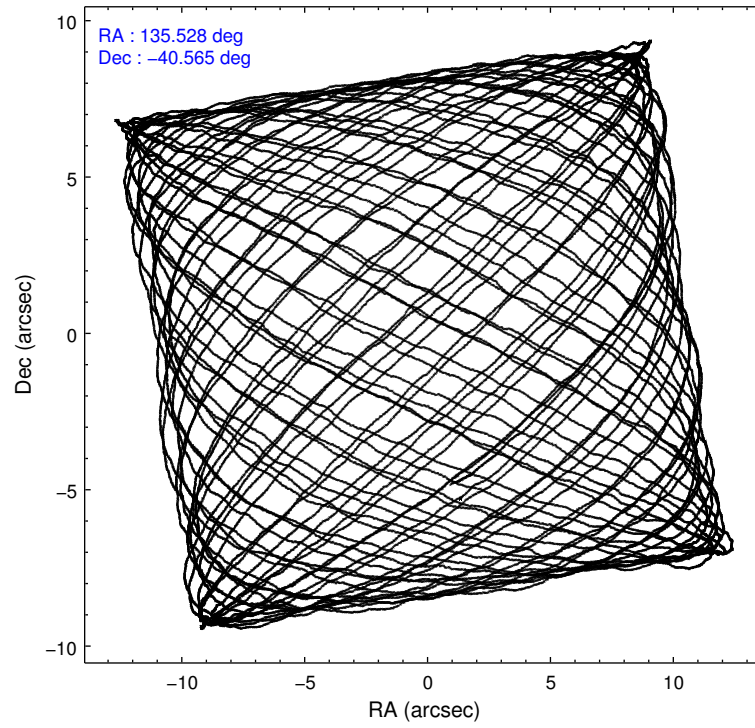
2.1.4 Events

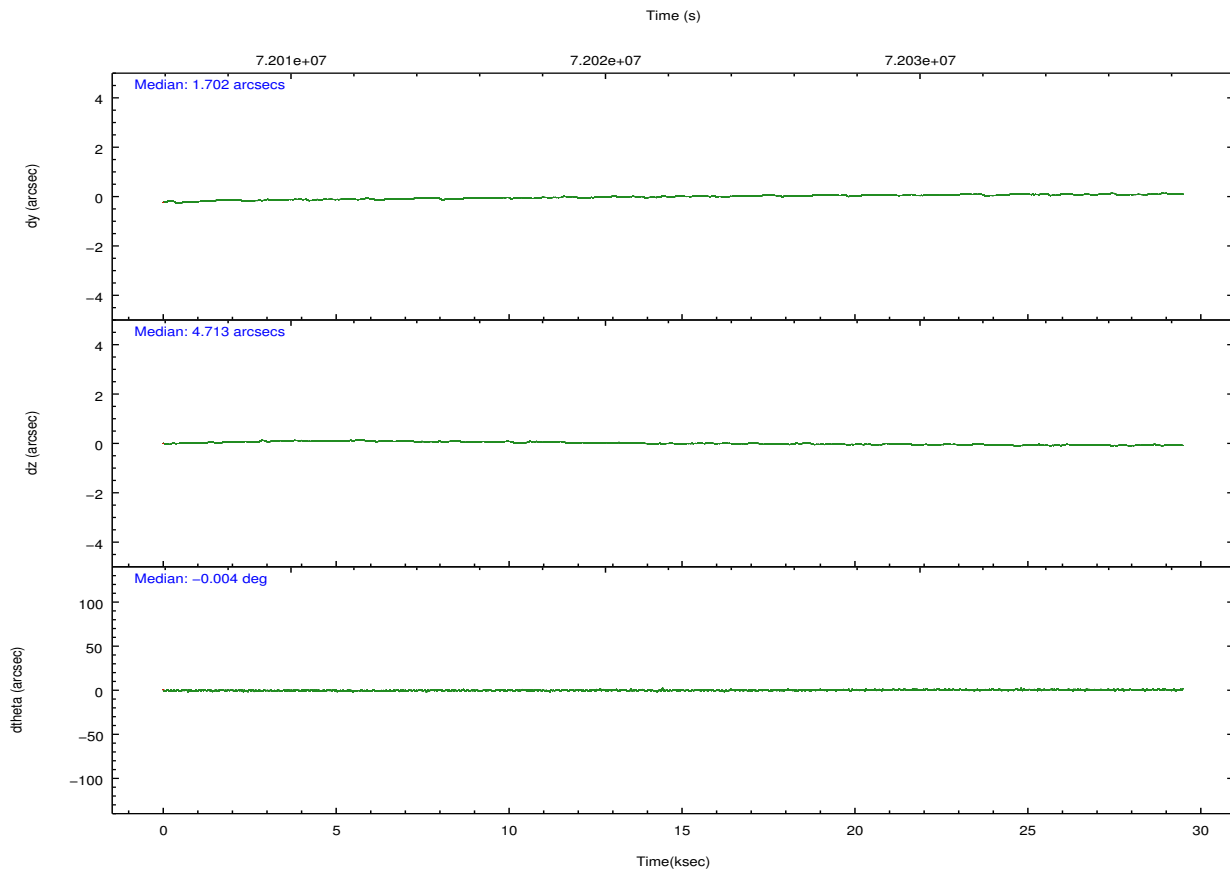
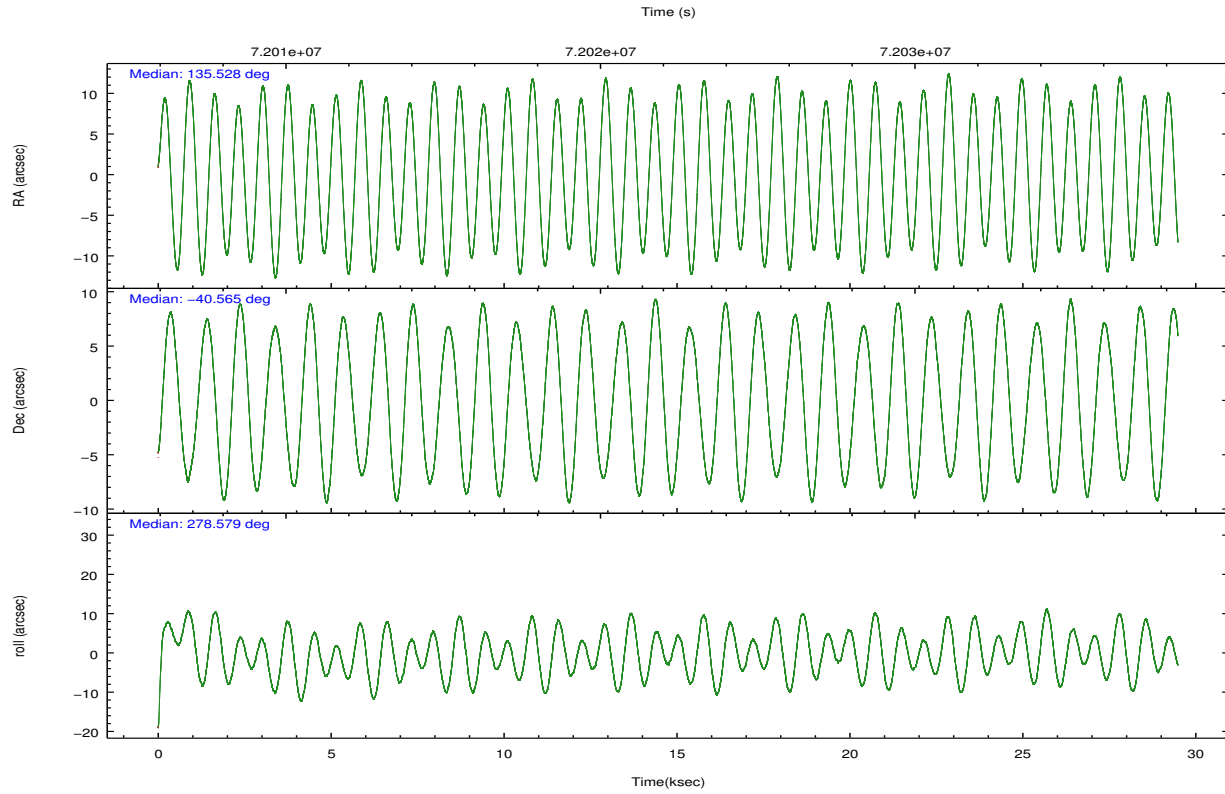
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	226882	273563	204492	241878	251842	210836	grade 0 events	8937	21325	9647	10152	14860	8773
rejected events	204662	140937	181508	137676	204937	180861		3%	7%	4%	4%	5%	4%
rejected %	90%	51%	88%	56%	81%	85%	grade 1 events	116	532	84	266	128	86
								0%	0%	0%	0%	0%	0%
							grade 2 events	5187	38531	4586	20633	9882	12679
								2%	14%	2%	8%	3%	6%
							grade 3 events	2164	5416	2335	9538	5408	2294
								0%	1%	1%	3%	2%	1%
							grade 4 events	2080	5181	2259	9653	4906	2150
								0%	1%	1%	3%	1%	1%
							grade 5 events	6392	20239	7635	22899	9753	7798
								2%	7%	3%	9%	3%	3%
							grade 6 events	3858	62204	4161	54256	11854	4085
								1%	22%	2%	22%	4%	1%
							grade 7 events	198148	120135	173785	114481	195051	172971
								87%	43%	84%	47%	77%	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	135.505260	135.5278819599023	Subarray requested	NONE	NONE
[deg] Pointing Dec	-40.543334	-40.56473423306271	Alternating exposures requested	N	N
[deg] Pointing Roll	278.416471	278.5877980164	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
Phase constraints	Y	Y			
[d] Phase period	8.964400	8.964400			
[d] Phase epoch (MJD)	49164.353000	49164.353000			
Phase start	0.980000	0.980000			
Phase end	0.020000	0.020000			
Phase start error	0.010000	0.010000			
Phase end error	0.010000	0.010000			
[s] Observation start time (MET)	72007892.184000	72007072.94011199			
Observation start date	2000-04-13T10:10:28	2000-04-13T09:57:52			
[s] Observation end time (MET)	72036892.184000	72038003.853746			
Observation end date	2000-04-13T18:13:48	2000-04-13T18:33:23			
Read mode	TIMED	TIMED			

2.3 Aspect



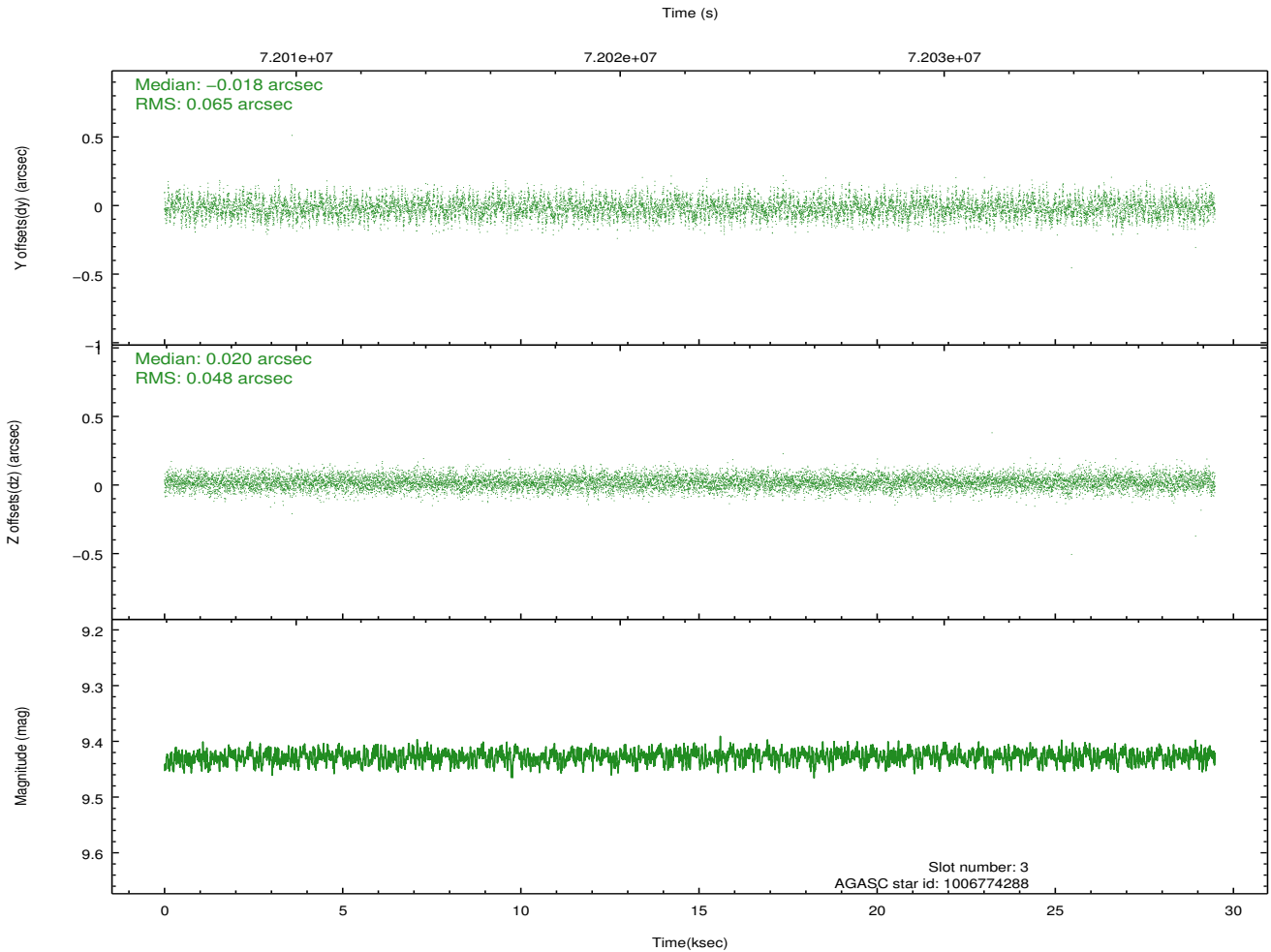
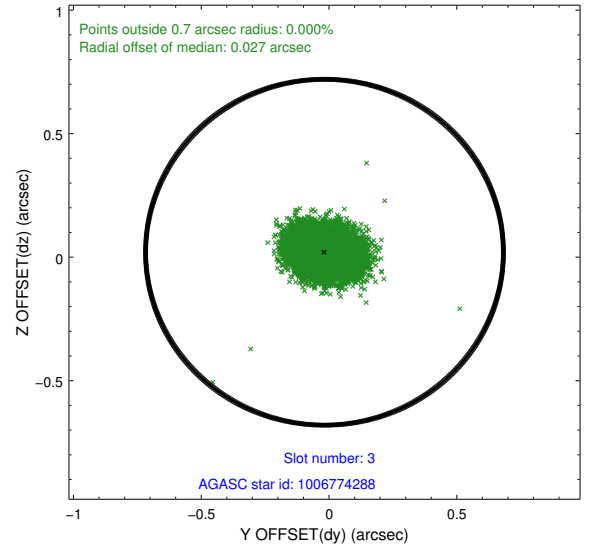
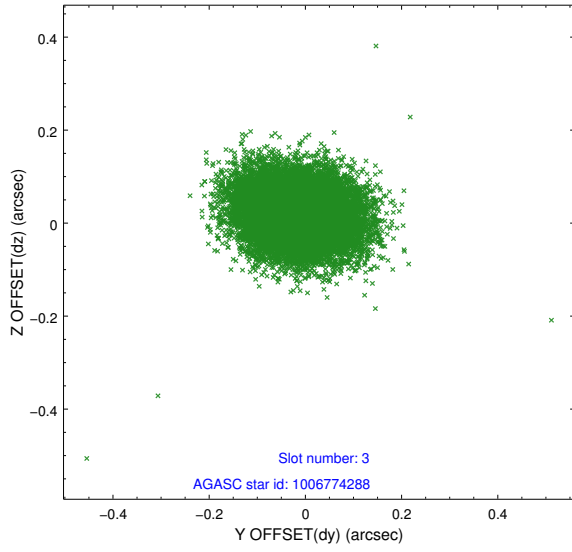


Slot Statistics

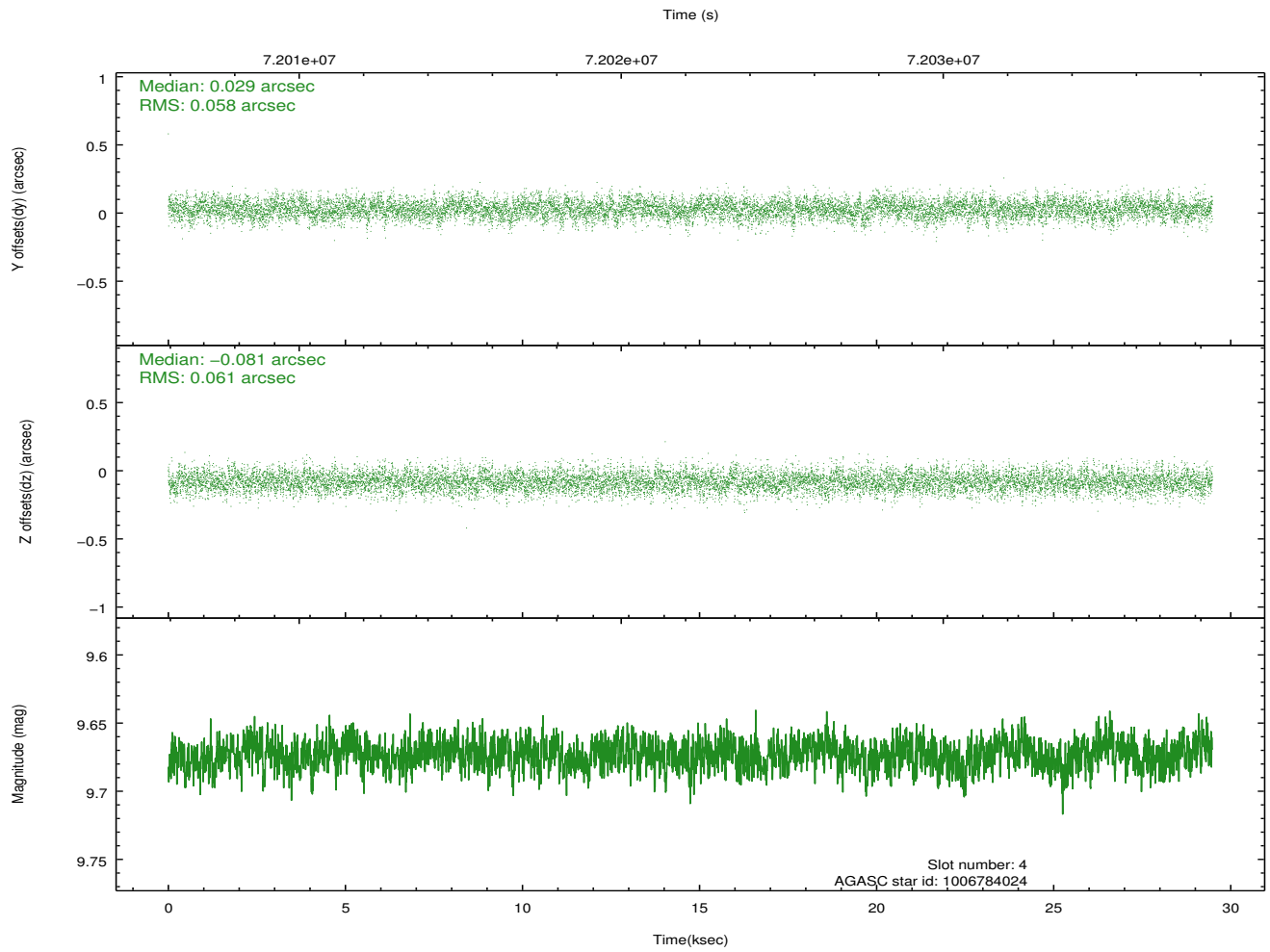
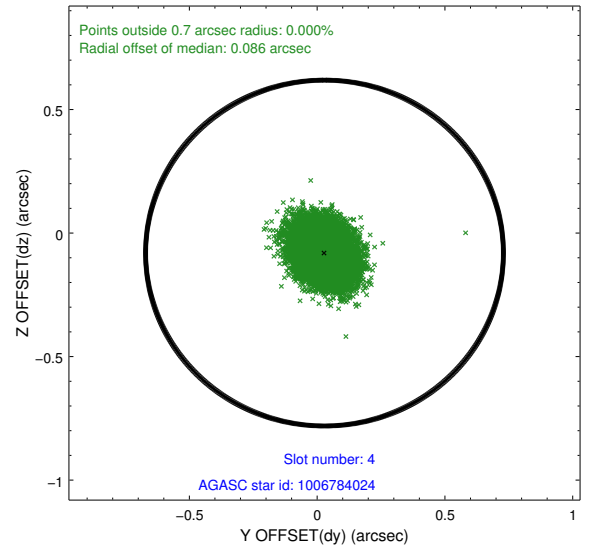
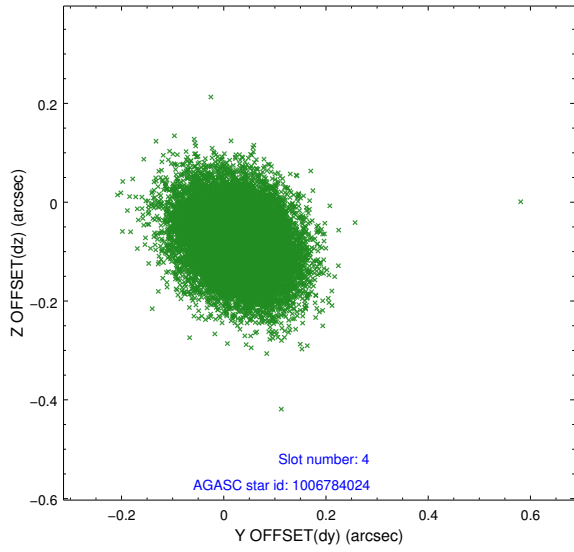
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.36	7192	-0.028	-0.018	0.006	0.011	0.000000	0.000000	58.88	-1854.90
1	FID	ACIS-S-5	7.24	7191	0.014	-0.011	0.007	0.012	0.000000	0.000000	-1807.31	176.05
2	FID	ACIS-S-6	7.36	7190	-0.009	0.038	0.007	0.012	0.000000	0.000000	407.23	820.10
3	GUIDE	1006774288	9.43	14377	-0.018	0.020	0.085	0.139	136.151715	-40.161117	-1094.07	1960.33
4	GUIDE	1006784024	9.67	14368	0.029	-0.081	0.090	0.146	135.140125	-40.518811	-230.75	-975.25
5	GUIDE	1006782736	9.56	14369	-0.007	0.001	0.093	0.152	135.116566	-40.356768	-817.34	-956.44
6	GUIDE	1006781496	9.45	14376	-0.033	-0.024	0.091	0.147	135.176515	-41.032939	1615.38	-1140.61
7	GUIDE	1006786152	10.05	14365	0.031	0.084	0.117	0.193	135.989142	-40.695700	740.16	1226.44

2.4 Star Slots

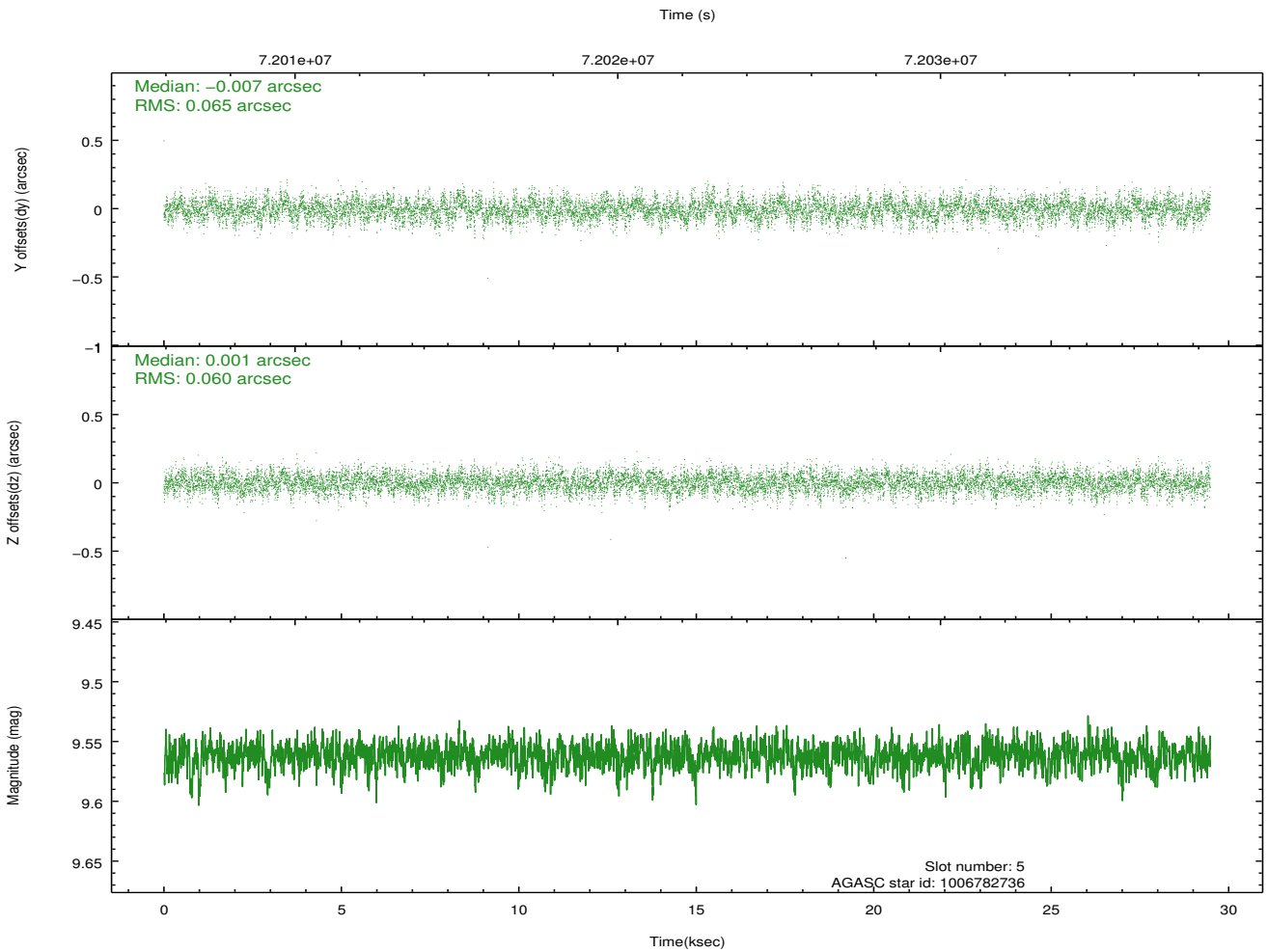
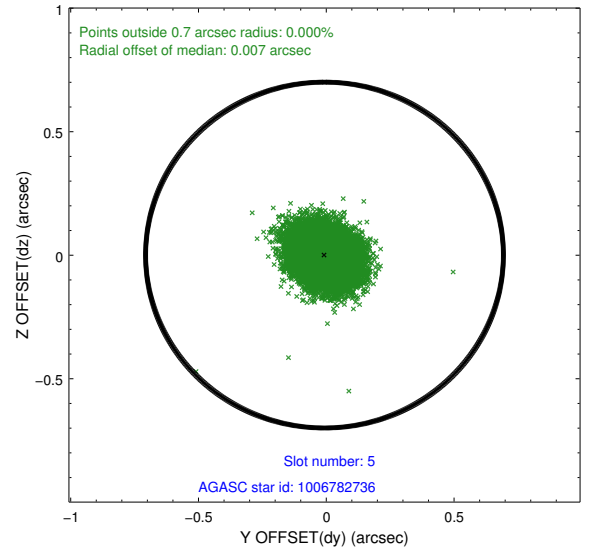
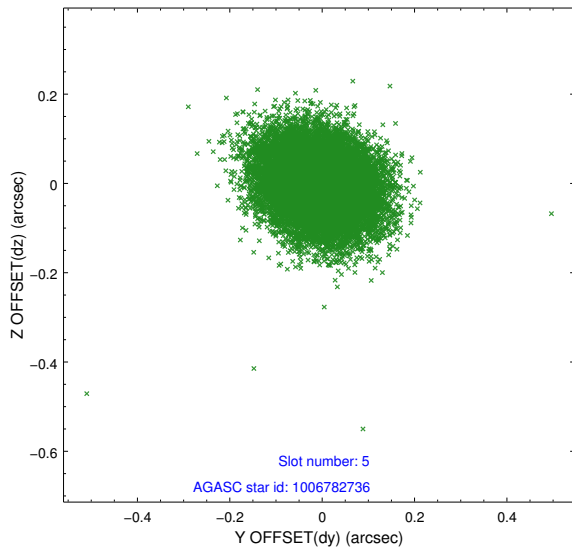
2.4.1 Slot 3



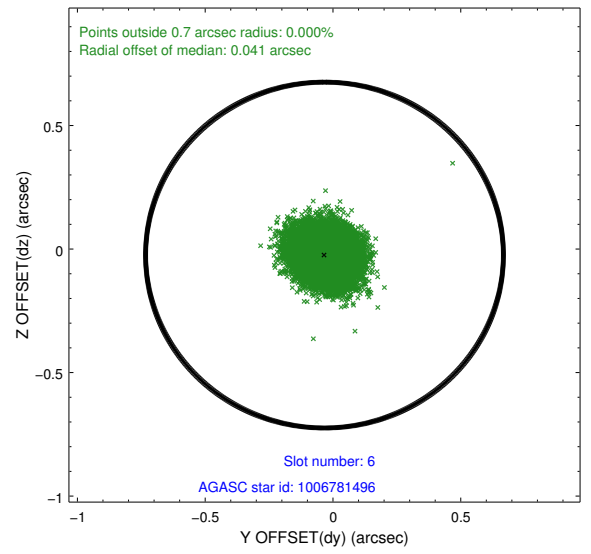
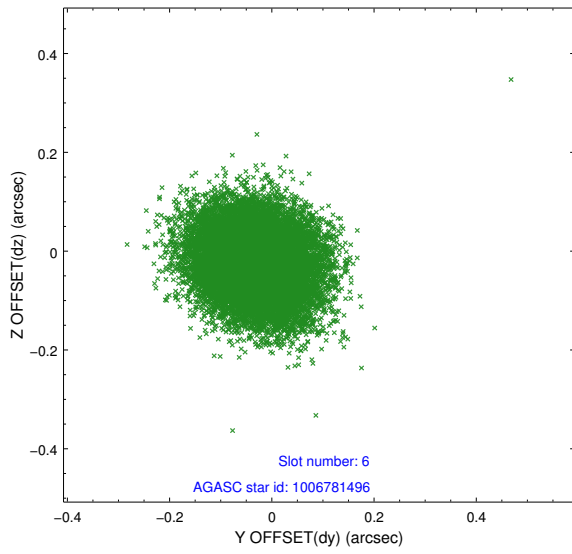
2.4.2 Slot 4



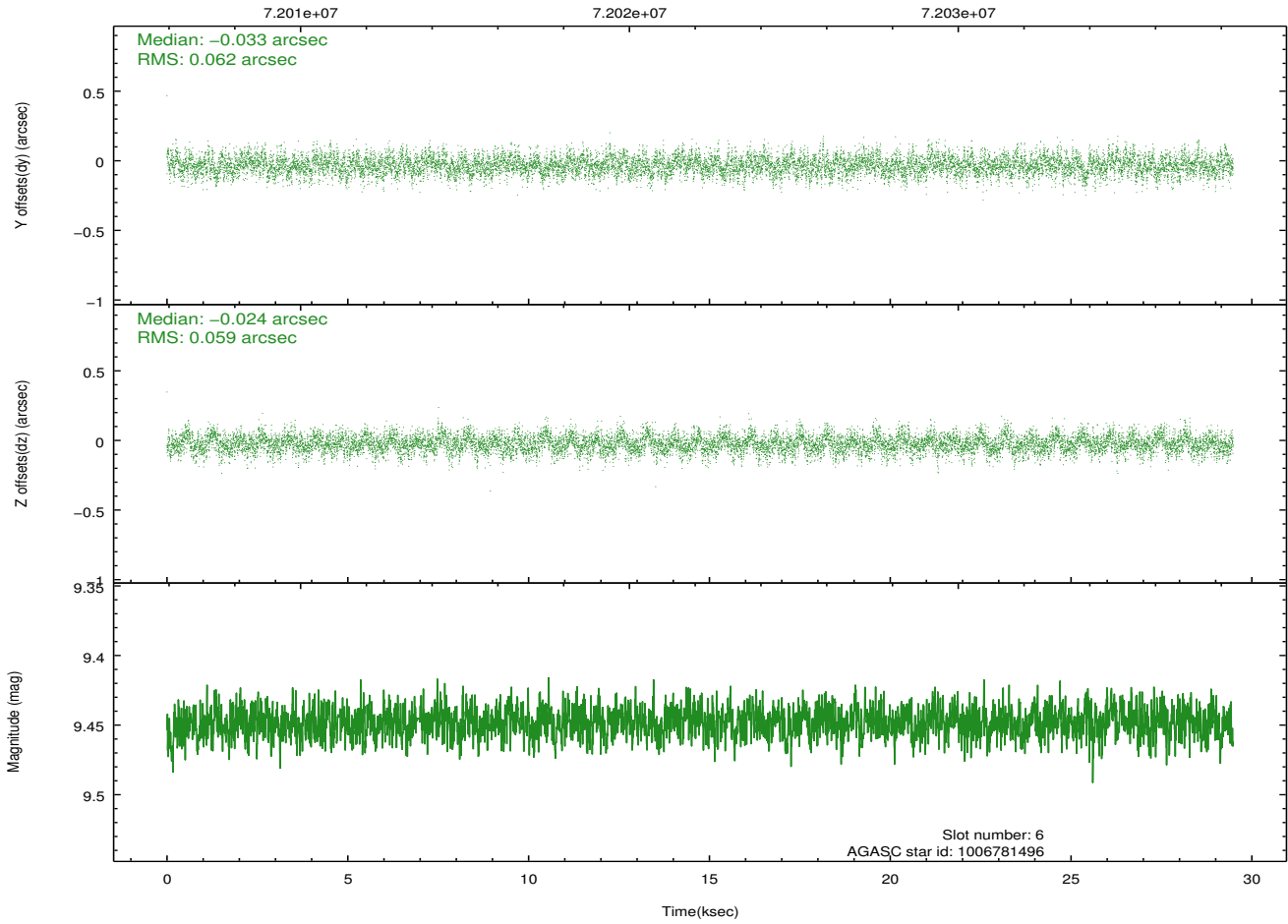
2.4.3 Slot 5



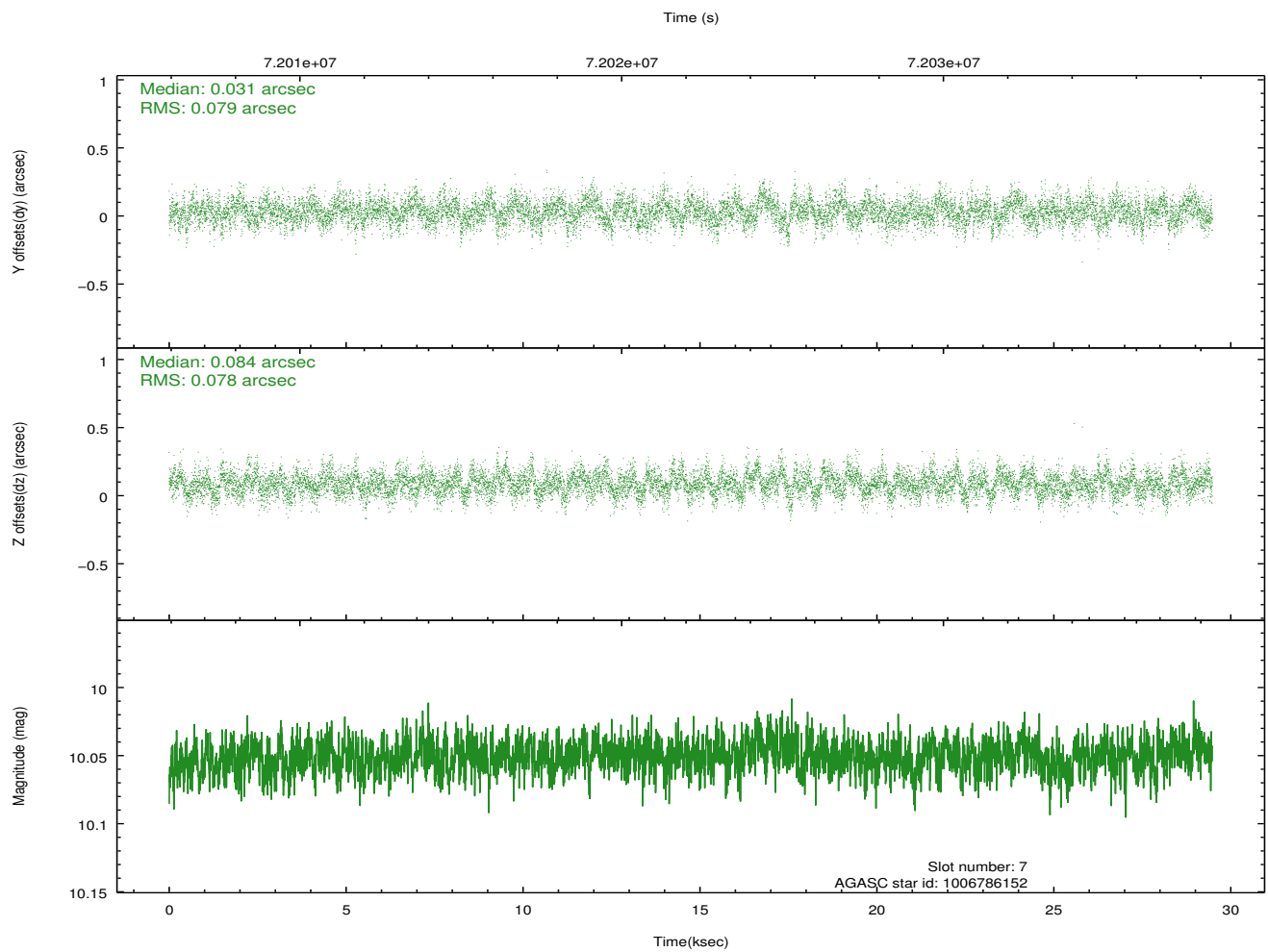
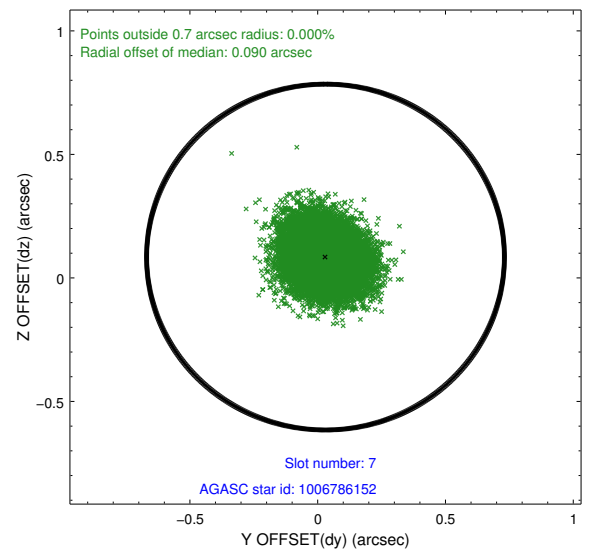
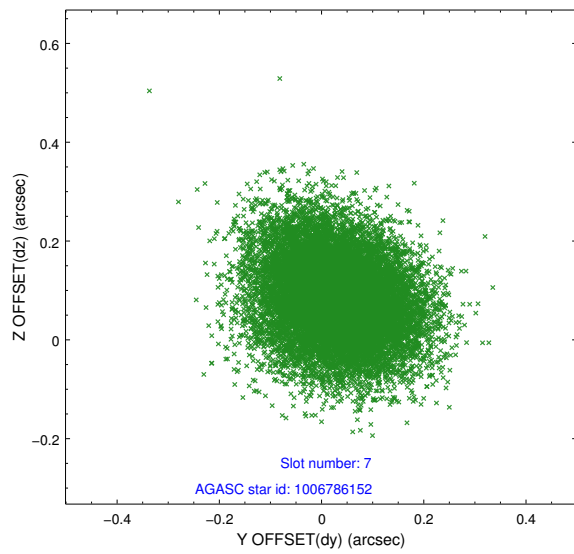
2.4.4 Slot 6



Time (s)

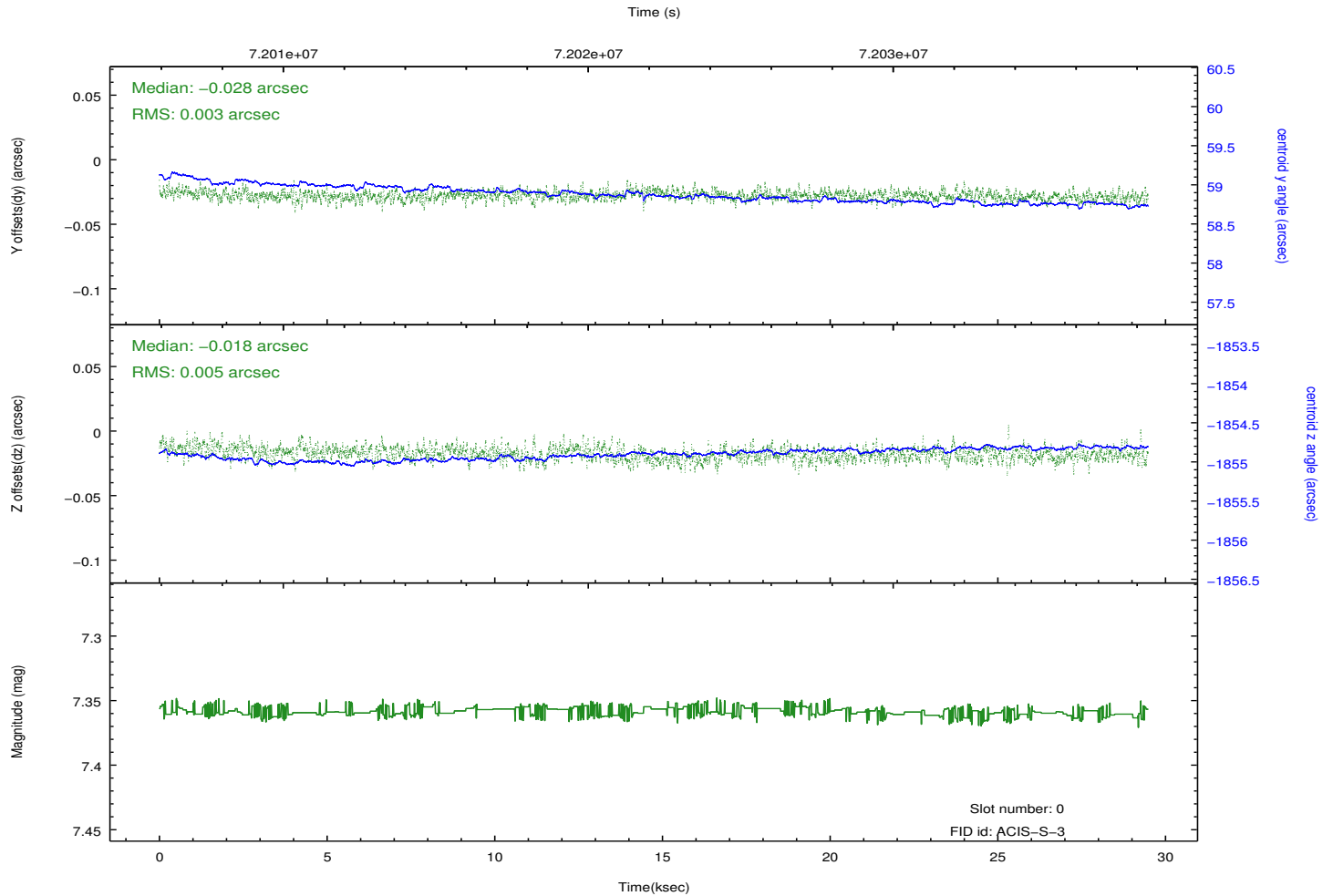
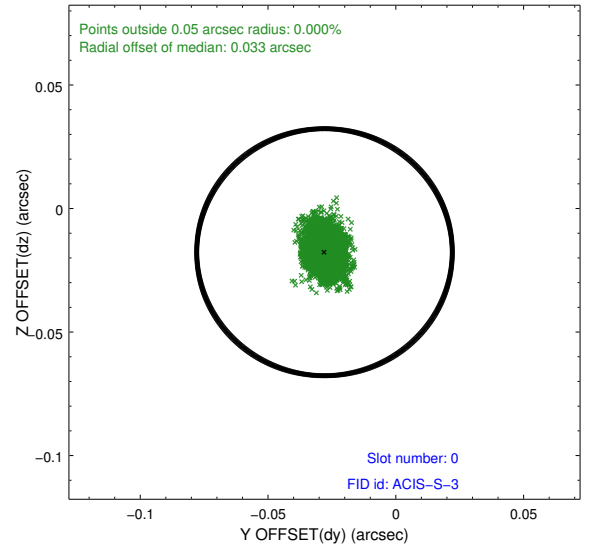
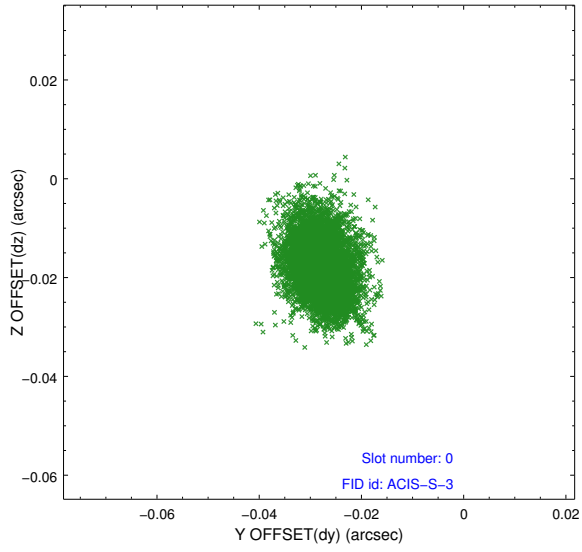


2.4.5 Slot 7

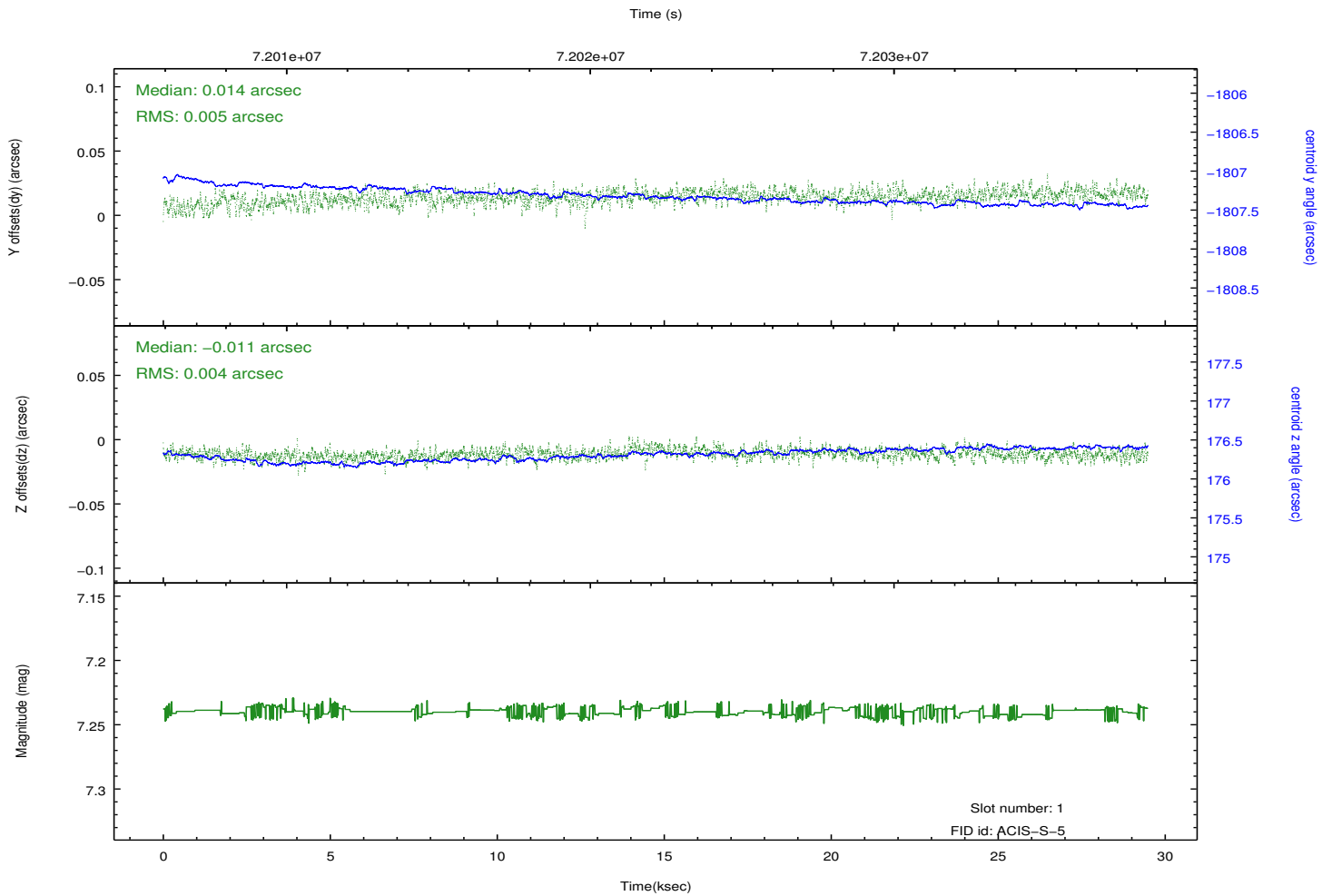
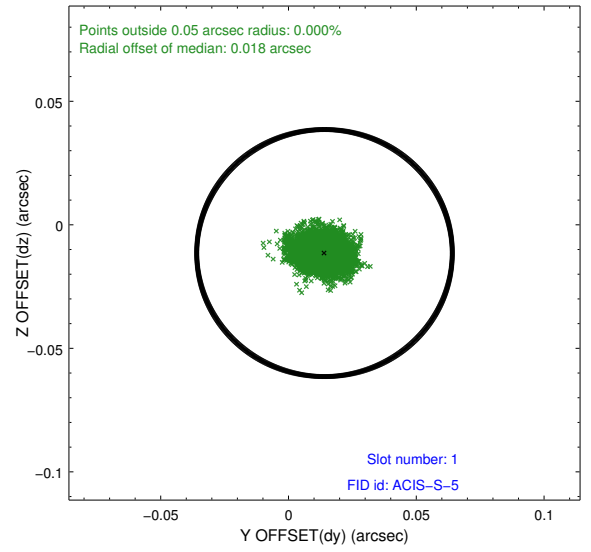
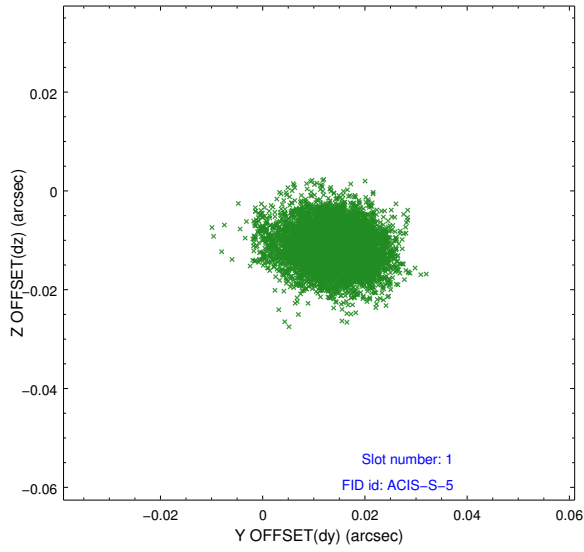


2.5 FID Slots

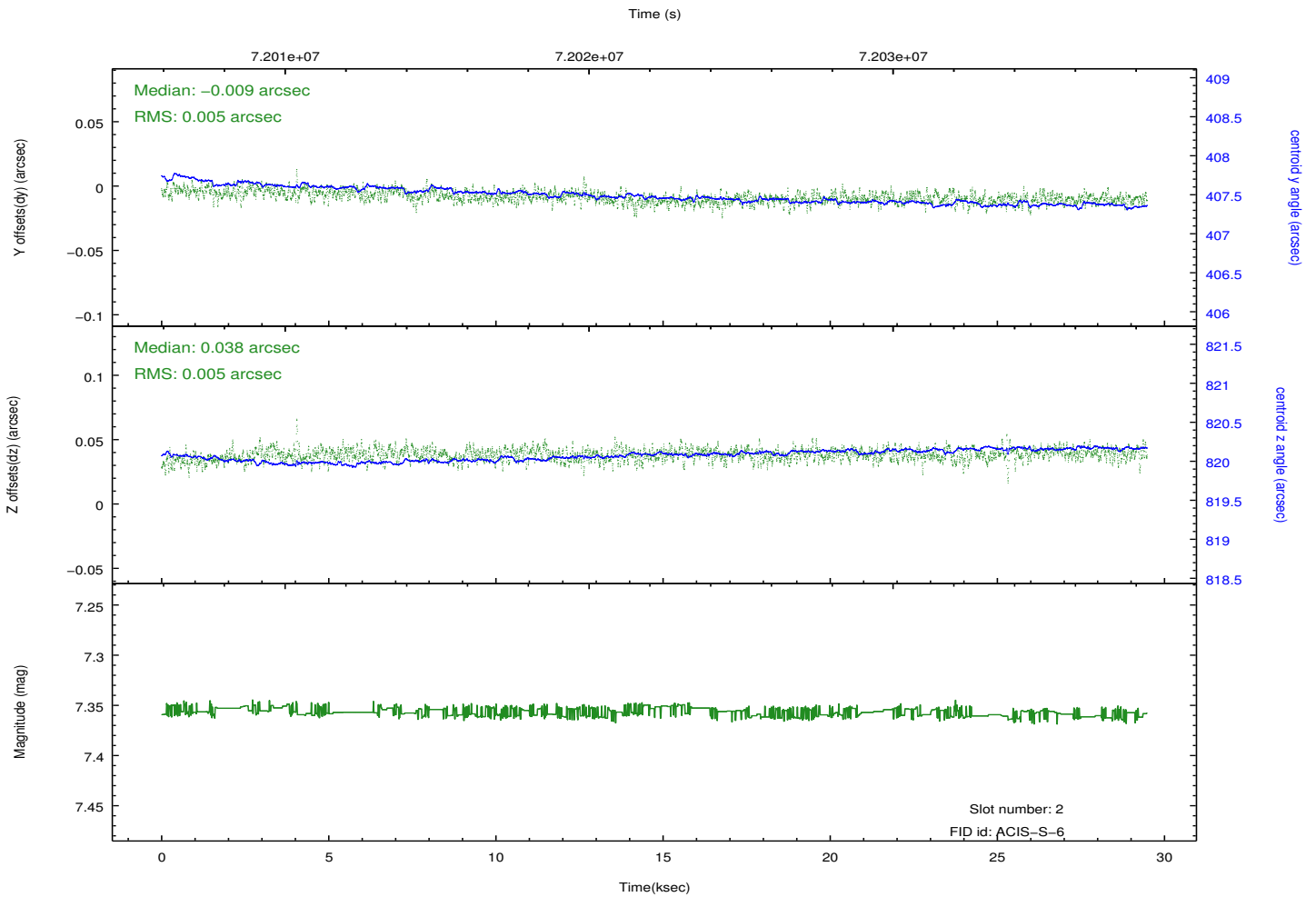
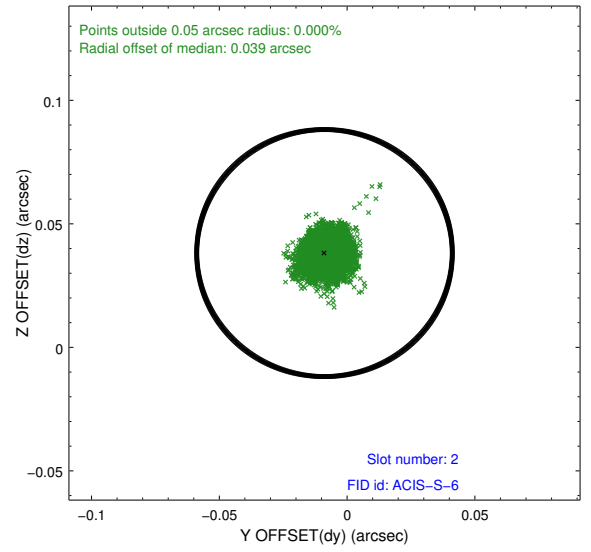
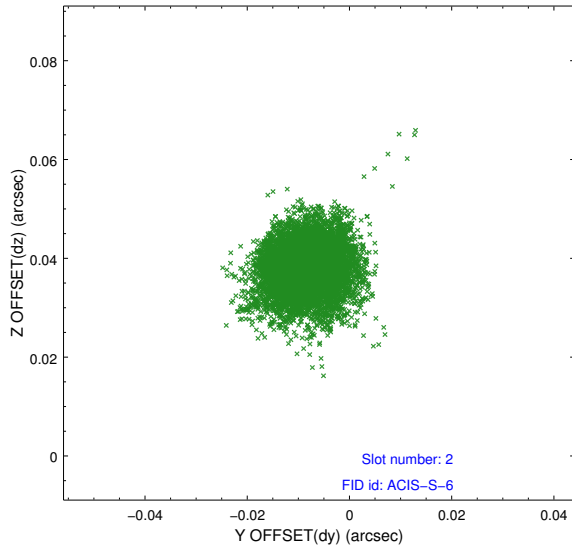
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

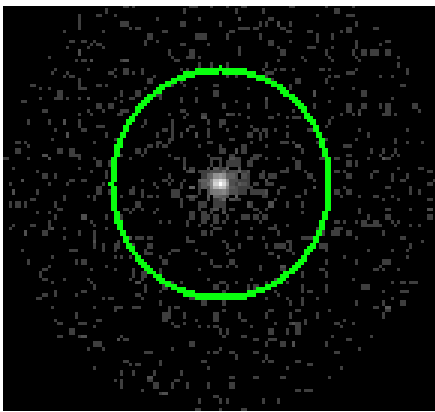


3 Gratings

3.1 HEG Arm



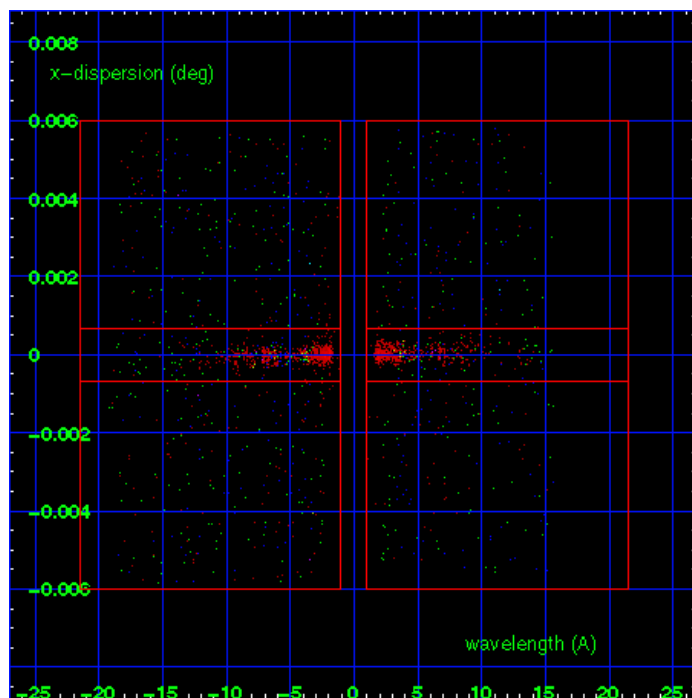
HEG Order Sort 123



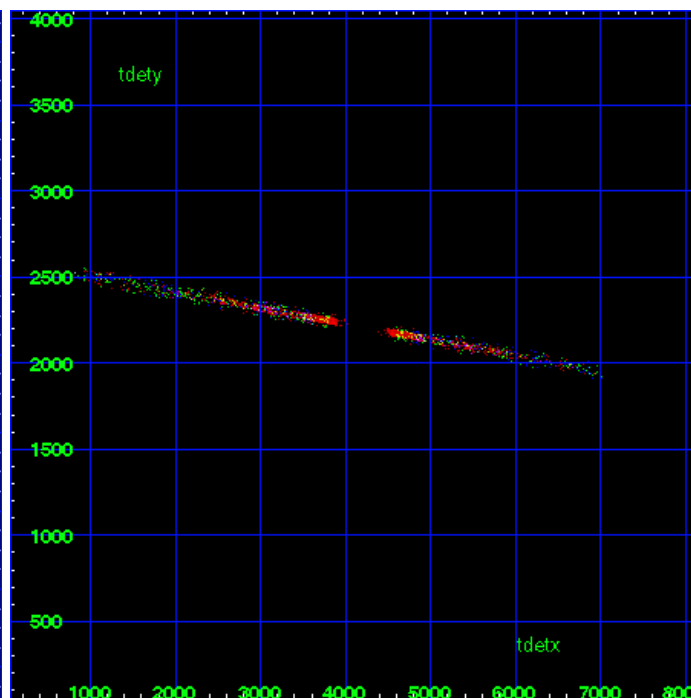
HEG Zero Order



HEG Order Sort ALL

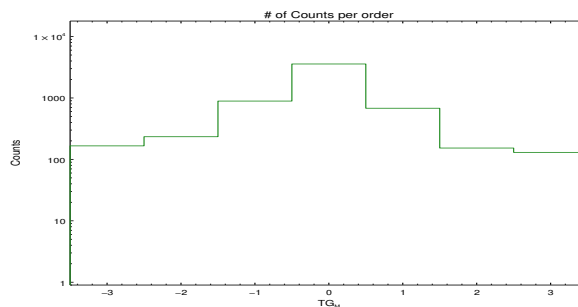


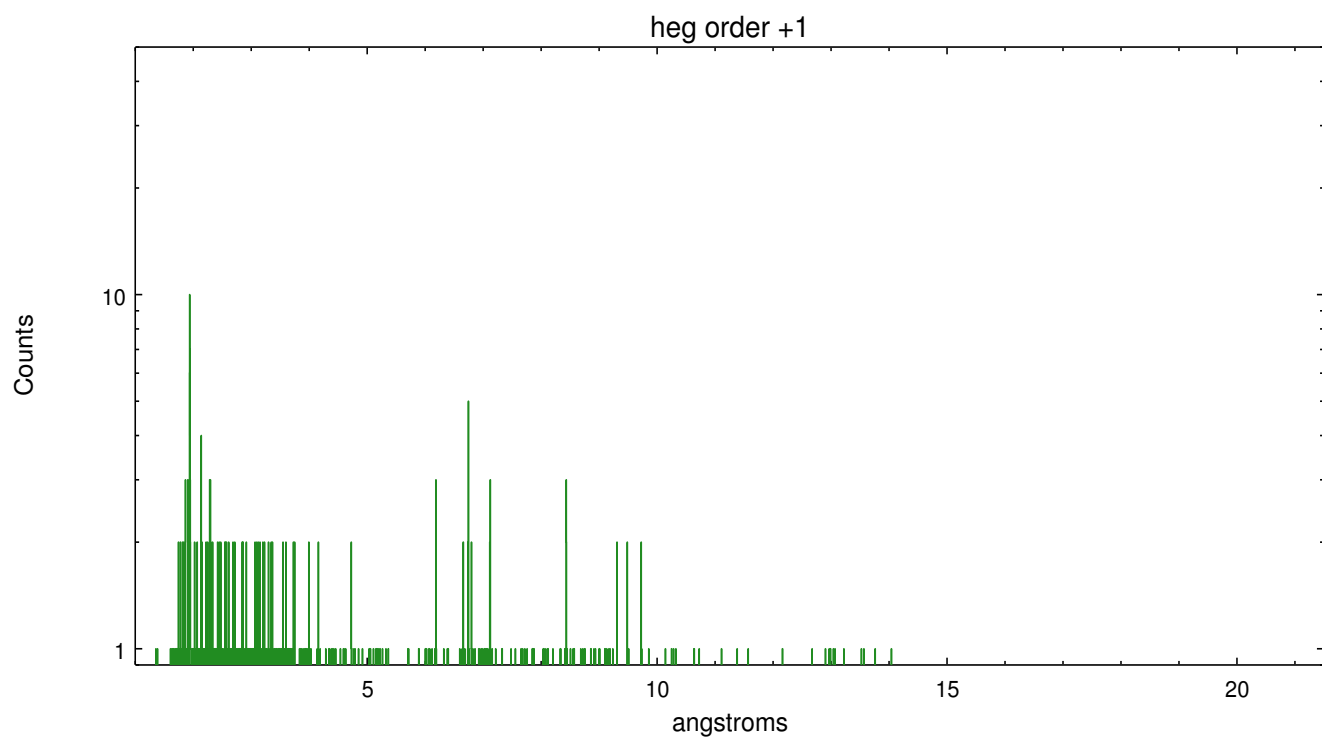
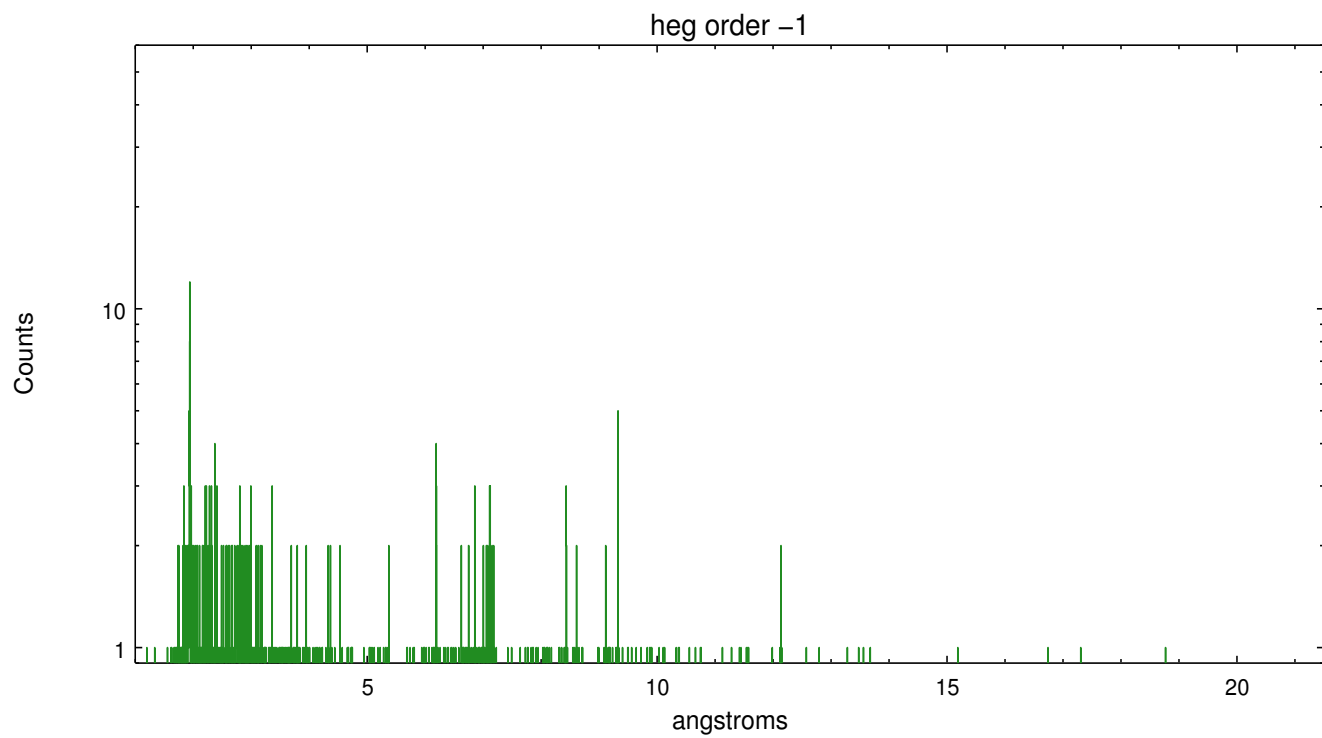
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	166	234	890	3575	680	153	130

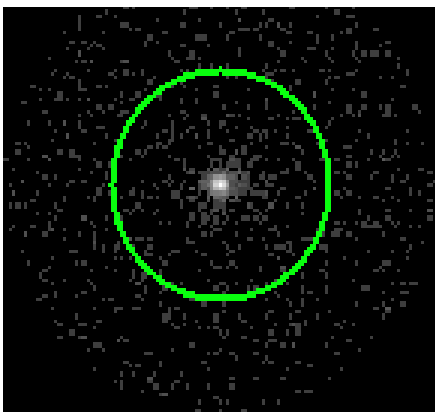




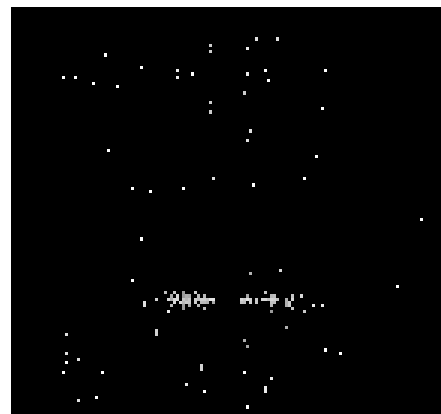
3.2 MEG Arm



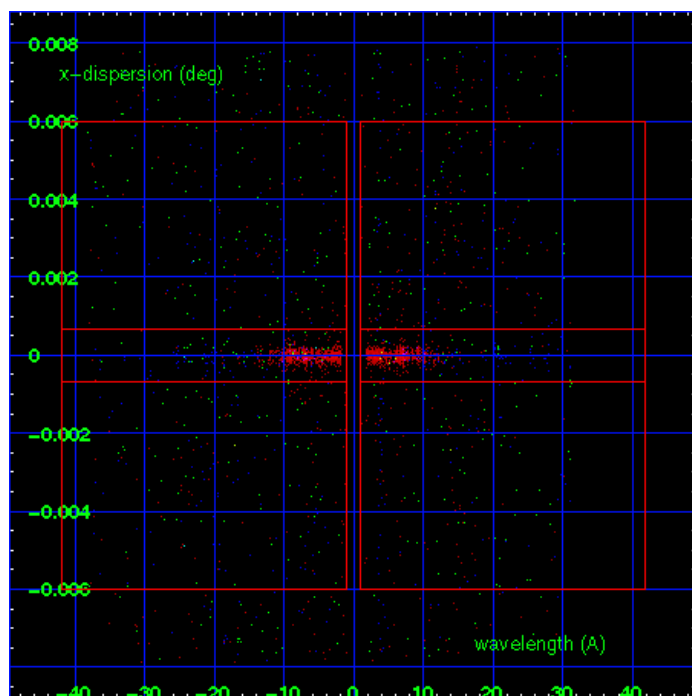
MEG Order Sort 123



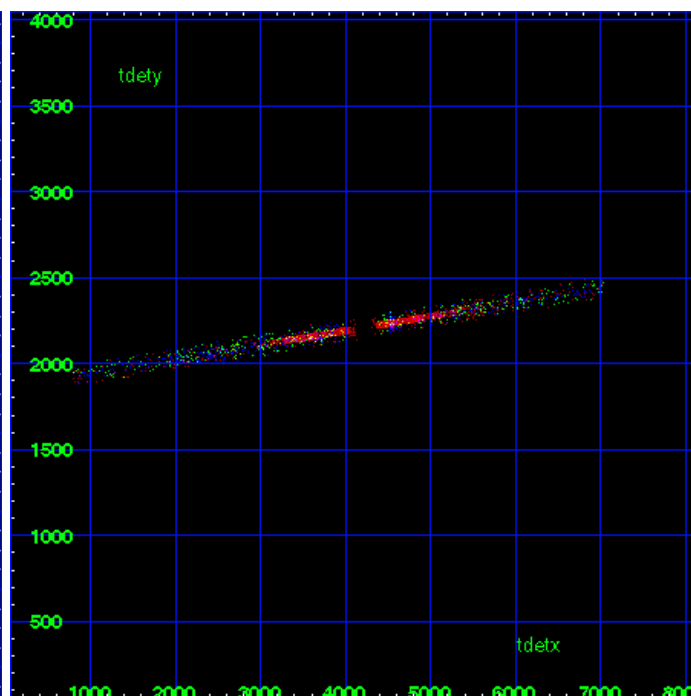
MEG Zero Order



MEG Order Sort ALL

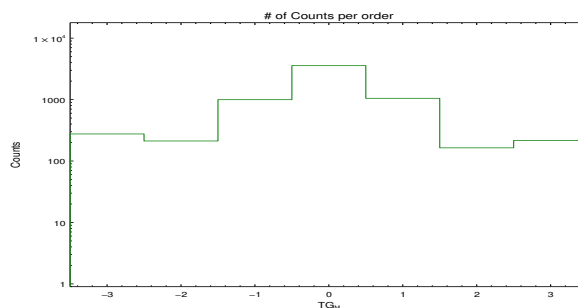


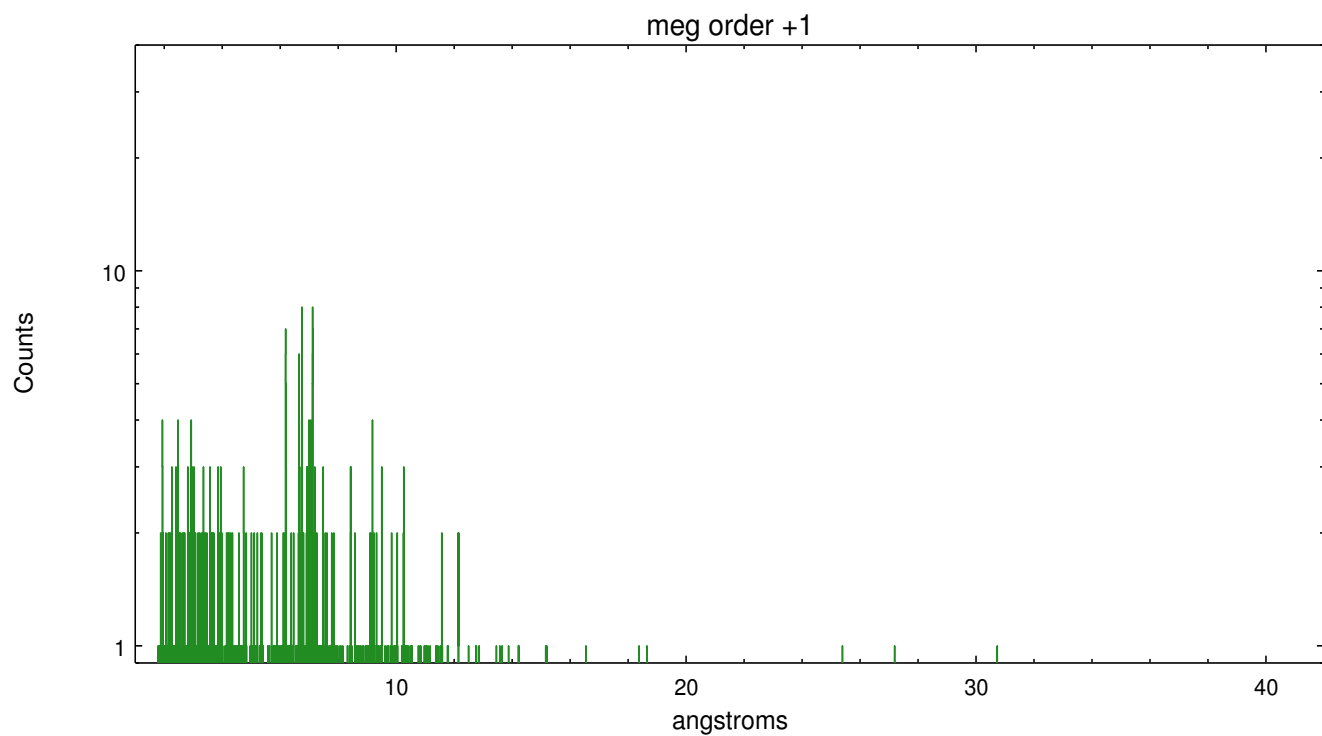
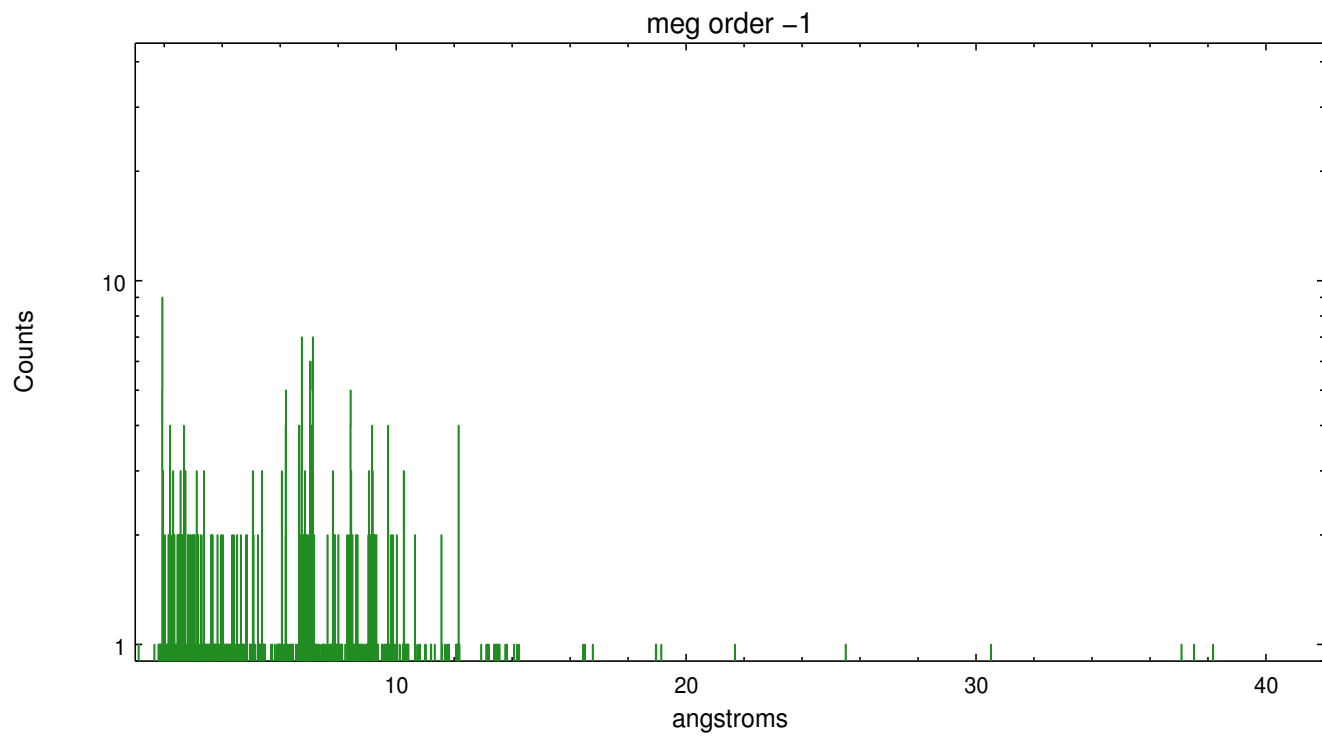
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	276	212	998	3575	1049	164	216





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.374

A.2 Comments

Phase constraint min was 0.98-0.02 +/- .01. Actual start was 0.9916.