

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 704 - L2 Version 7
Chandra X-Ray Center

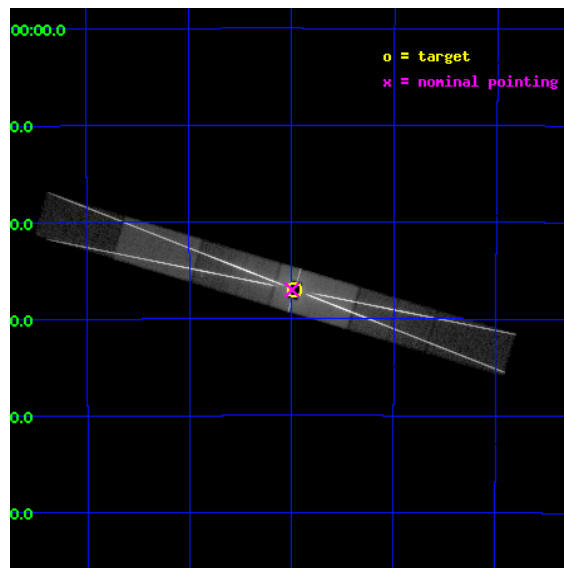
L2 Processing Date : Sep 14 2012

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1 Front

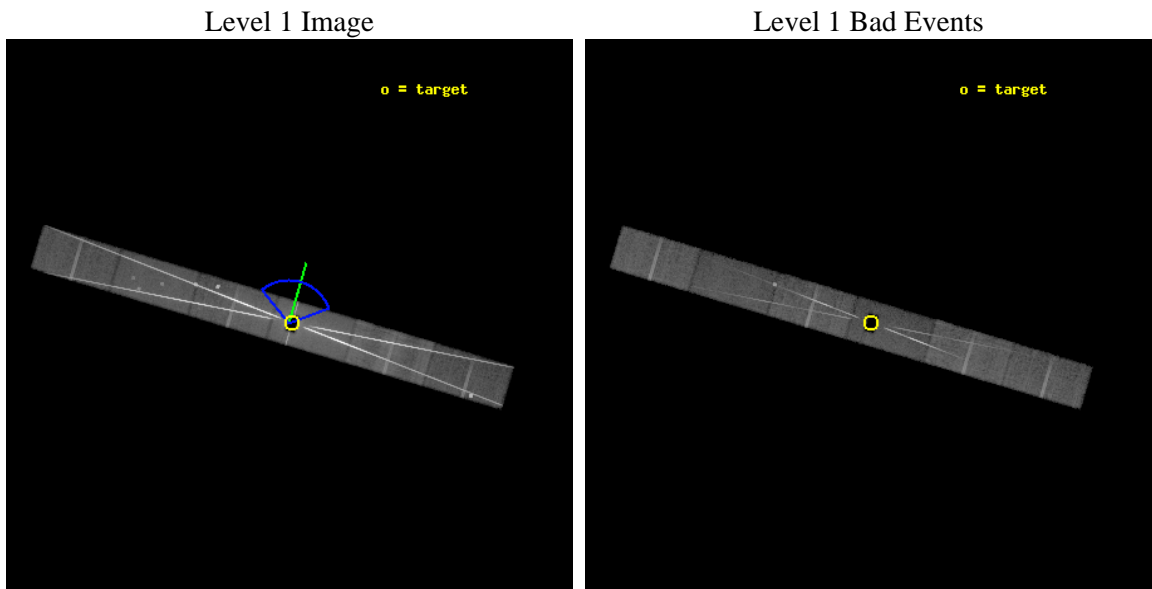
seq_num	400071	Sequence number
obs_id	704	Observation id
title	HIGH RESOLUTION X-RAY SPECTROSCOPY OF COMPACT BINARIES	Proposal ti
observer	Dr. Saeqa Vrtilek	Principal investigator
object	4U 1735-44	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	264.74275	Observer's specified target RA [deg]
dec_targ	-44.450036	Observer's specified target Dec [deg]
ra_nom	264.74926244484	Nominal RA [deg]
dec_nom	-44.450557916212	Nominal Dec [deg]
roll_nom	16.520652225629	Nominal Roll [deg]
revision	7	Processing version of data
ontime	24907.85844928	Sum of GTIs [s]
livetime	24352.618741964	Livetime [s]
ontime4	24904.217459112	Sum of GTIs [s]
ontime5	24907.817409277	Sum of GTIs [s]
ontime6	24905.935349196	Sum of GTIs [s]
ontime7	24907.85844928	Sum of GTIs [s]
ontime8	24907.735329285	Sum of GTIs [s]
ontime9	24902.171288878	Sum of GTIs [s]
l2events	2234315	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	2	Obi number	sched_exp_time	24575.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	24907.85844928	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	24904.217459112	Sum of GTIs [s]
date	2012-08-28T23:41:09	Date and time of file creation	ontime5	24907.817409277	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	24905.935349196	Sum of GTIs [s]
			ontime7	24907.85844928	Sum of GTIs [s]
			ontime8	24907.735329285	Sum of GTIs [s]
			ontime9	24902.171288878	Sum of GTIs [s]
			l1events	2947053	Number of level 1 events

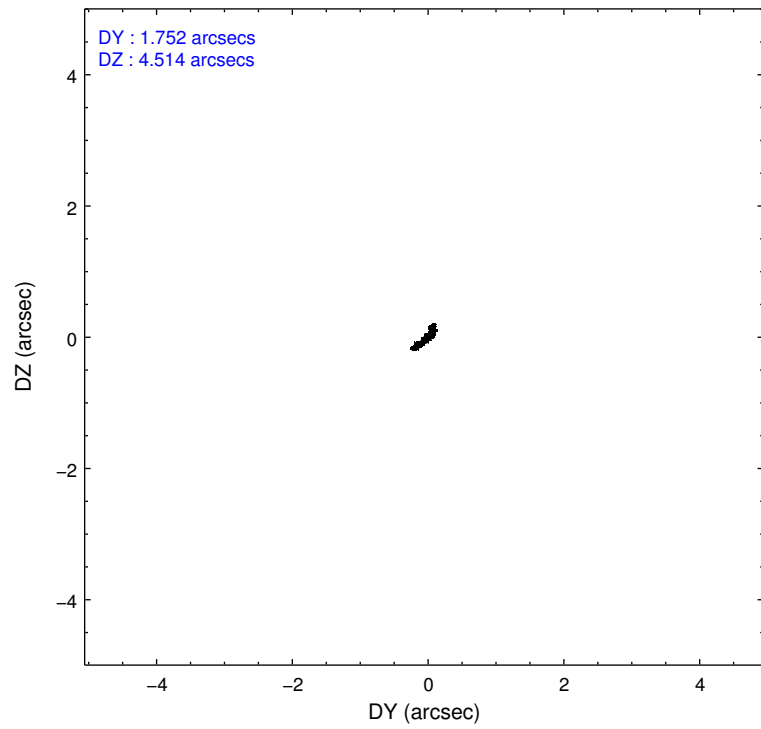
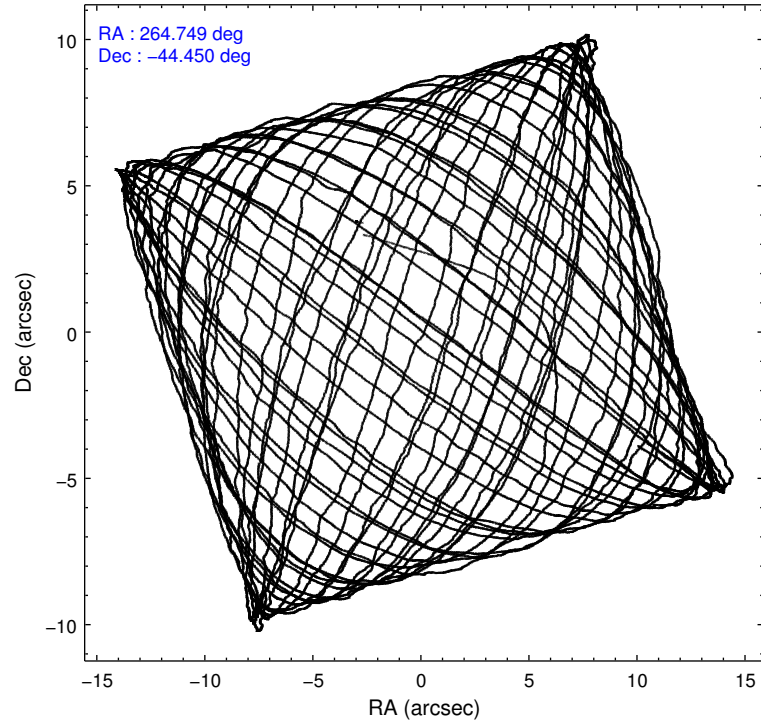
2.1.3 Events

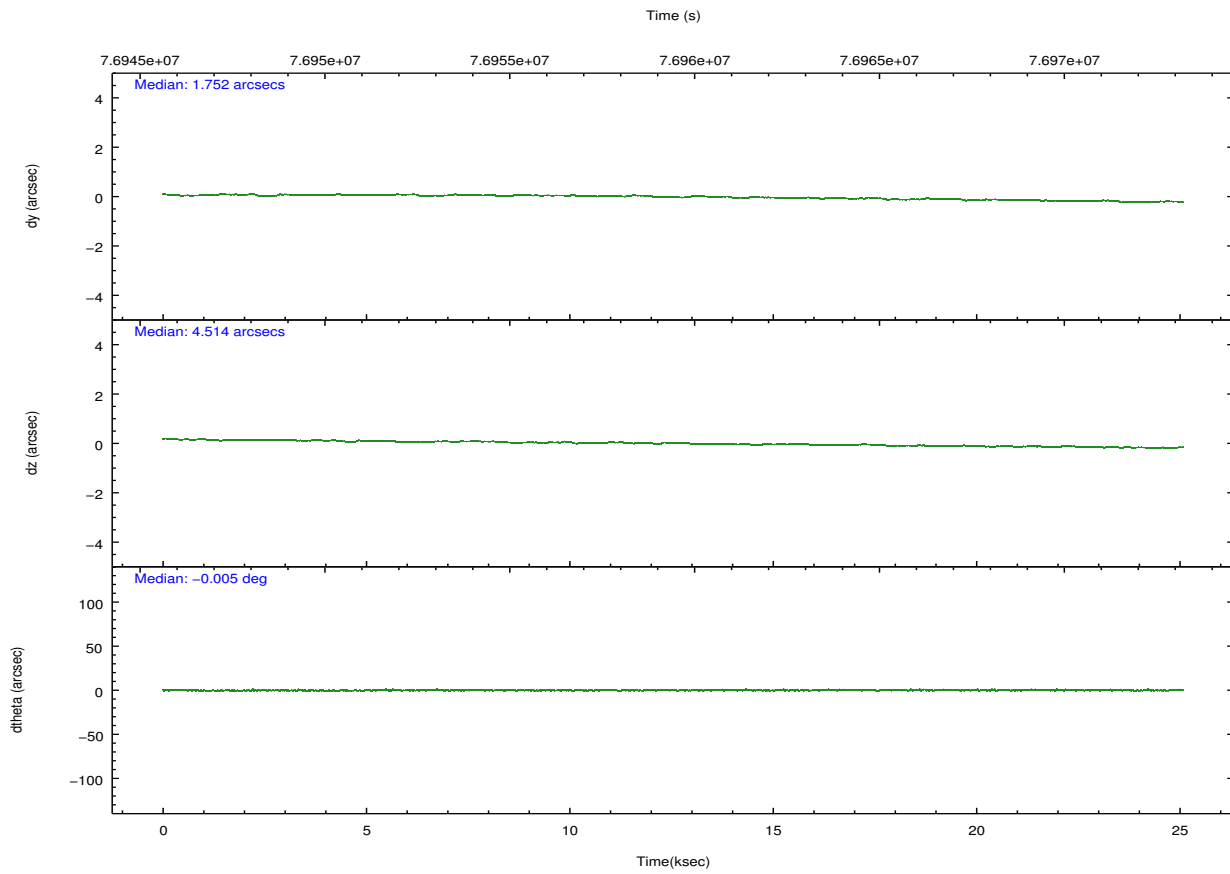
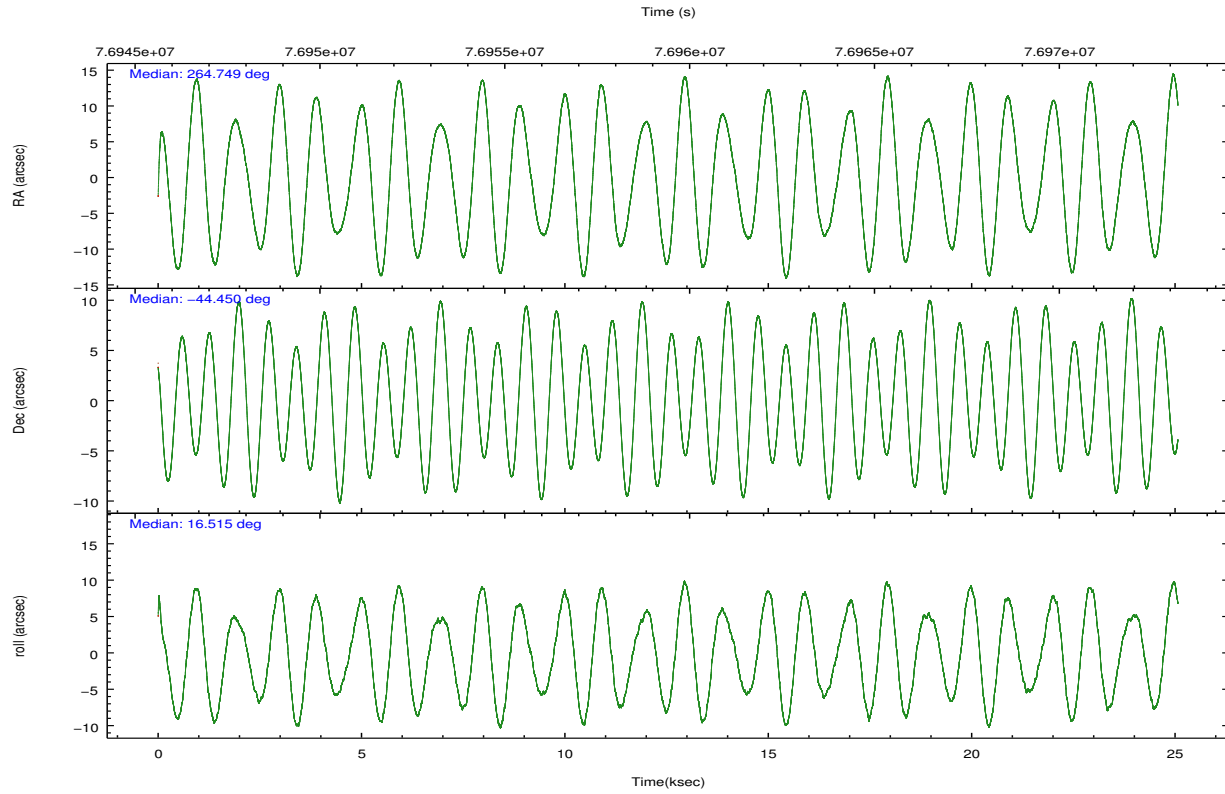
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	137963	319326	944406	829451	538998	176909	grade 0 events	37555	72648	626814	138781	332764	80691
rejected events	85448	65054	110503	94092	101137	75089		27%	22%	66%	16%	61%	45%
rejected %	61%	20%	11%	11%	18%	42%	grade 1 events	106	1874	14005	3926	3883	238
								0%	0%	1%	0%	0%	0%
							grade 2 events	7740	82320	104071	194792	47481	10703
								5%	25%	11%	23%	8%	6%
							grade 3 events	2254	19792	35520	74157	20741	3539
								1%	6%	3%	8%	3%	2%
							grade 4 events	2233	19355	34638	74065	19359	3397
								1%	6%	3%	8%	3%	1%
							grade 5 events	2259	9425	12013	24597	5633	2845
								1%	2%	1%	2%	1%	1%
							grade 6 events	2746	60196	32998	253672	17621	3531
								1%	18%	3%	30%	3%	1%
							grade 7 events	83070	53716	84347	65461	91516	71965
								60%	16%	8%	7%	16%	40%

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	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	264.722939	264.7492624448407	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-44.470519	-44.45055791621159	Subarray start row	15	15
[deg] Pointing Roll	16.345581	16.52065222562905	Subarray row count	542	542
[deg] Roll angle	15.000000	15.000000	Alternating exposures requested	N	N
[deg] Roll tolerance	55.000000	55.000000	[s] Primary exposure time	0.000000	1.8
Roll constraint allows 180D rotation	N	N			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-184.532523	-184.52811429679			
[mm] SIM translation stage offset	-5.6	-5.604408286217847			
[s] Observation start time (MET)	76947376.184000	76946266.24655201			
Observation start date	2000-06-09T14:15:12	2000-06-09T13:57:46			
[s] Observation end time (MET)	76971951.184000	76972442.69751599			
Observation end date	2000-06-09T21:04:47	2000-06-09T21:14:02			
Read mode	TIMED	TIMED			

2.3 Aspect



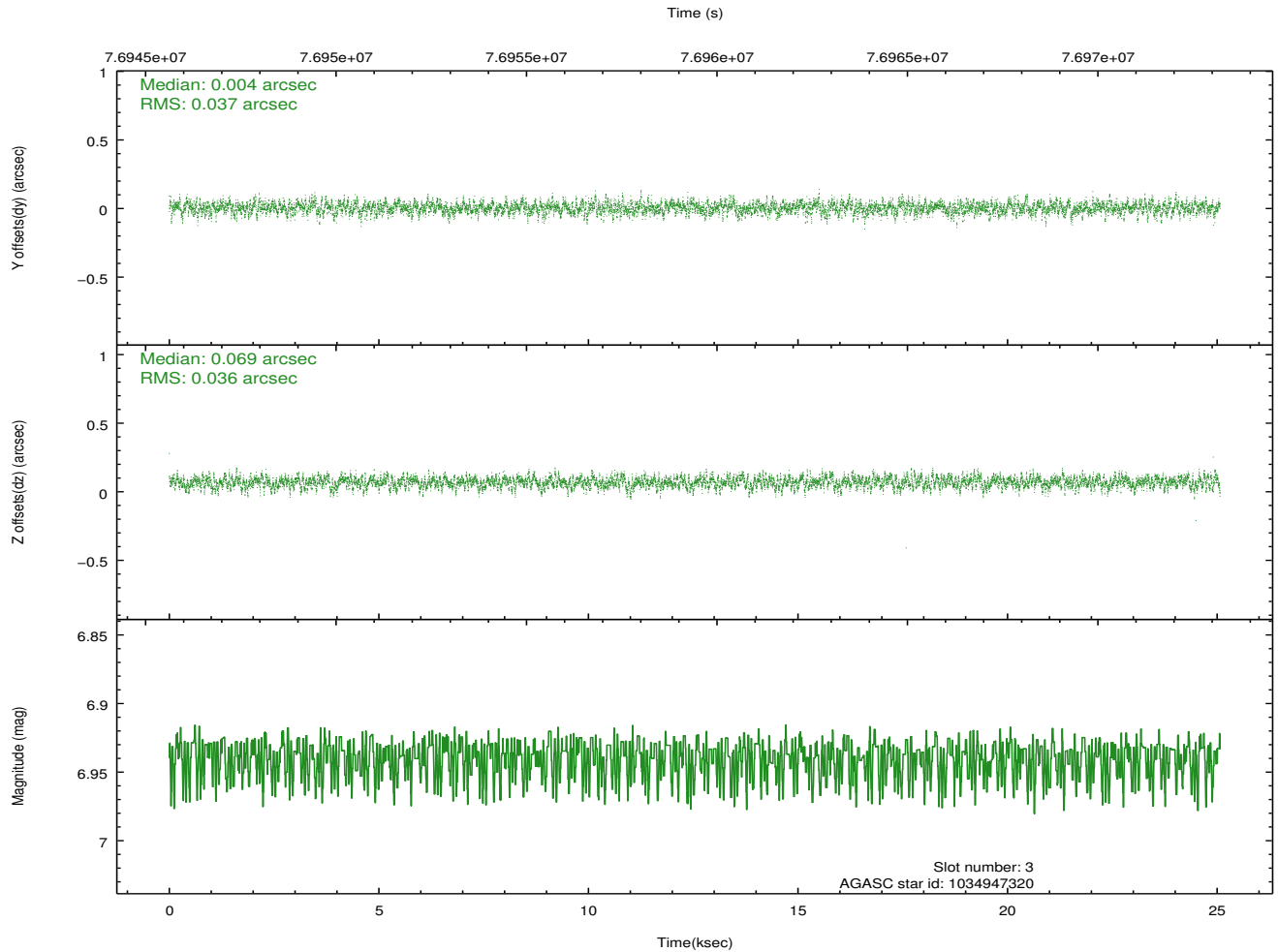
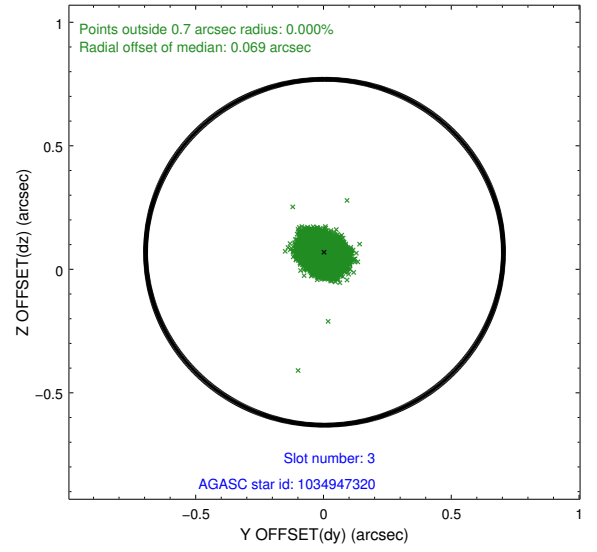
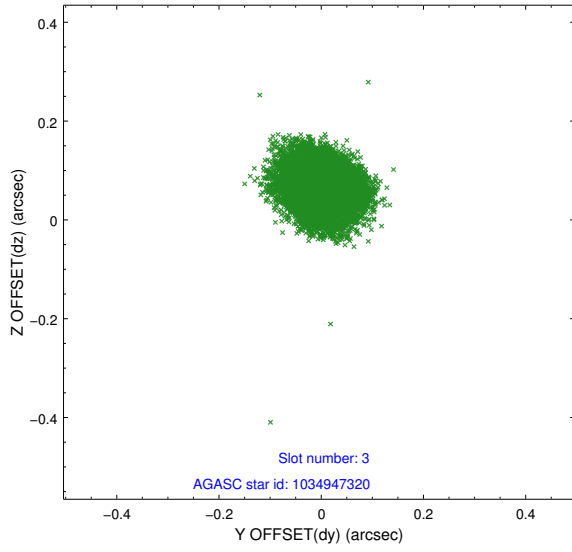


Slot Statistics

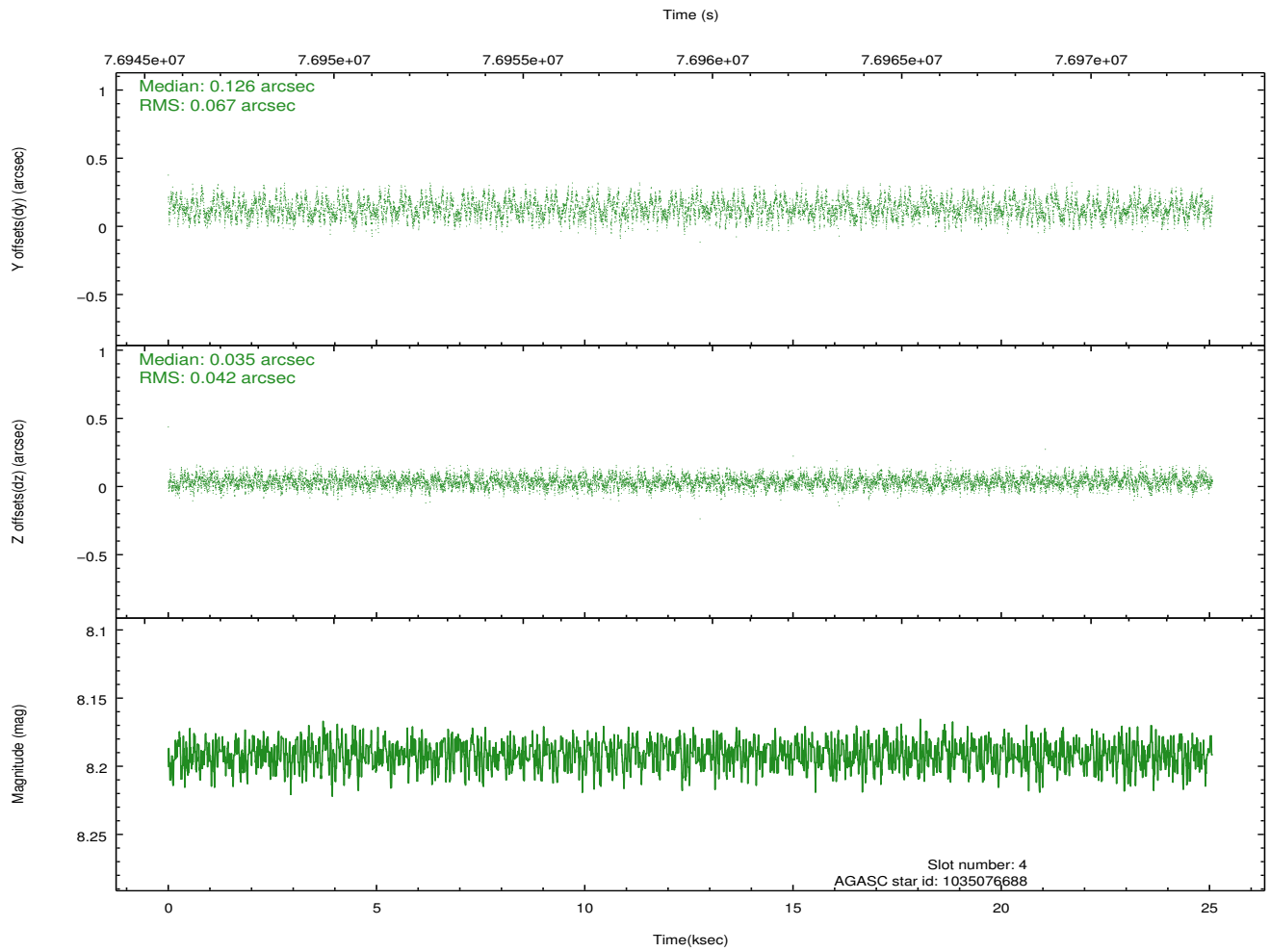
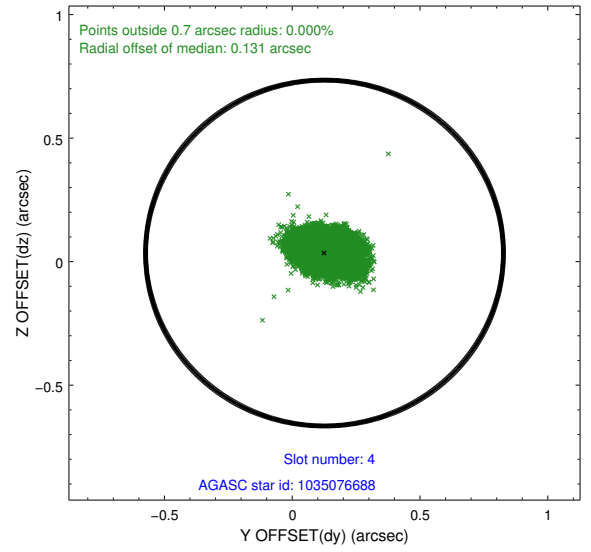
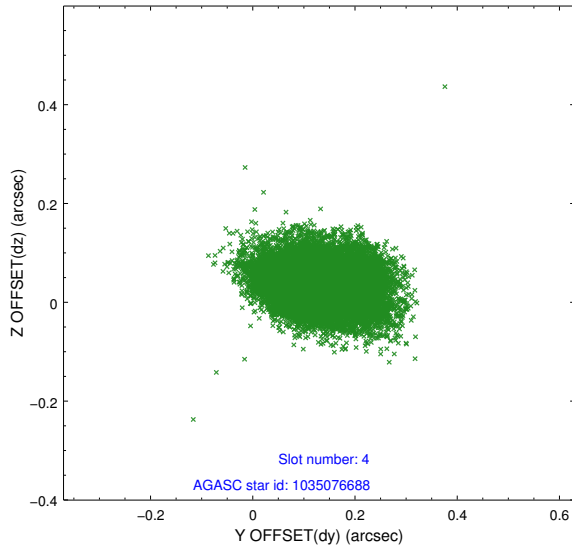
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	6115	0.001	0.046	0.009	0.015	0.000000	0.000000	942.10	-1836.72
1	FID	ACIS-S-5	7.24	6113	-0.027	0.018	0.007	0.012	0.000000	0.000000	-1806.85	60.66
2	FID	ACIS-S-6	7.40	6112	0.004	-0.053	0.010	0.017	0.000000	0.000000	407.54	704.68
3	GUIDE	1034947320	6.94	12227	0.004	0.069	0.054	0.087	264.173264	-44.879236	-1760.80	-1022.85
4	GUIDE	1035076688	8.19	12228	0.126	0.035	0.085	0.136	265.780908	-44.766732	2289.97	-1801.86
5	GUIDE	1035079304	7.79	12229	-0.170	-0.140	0.062	0.101	265.287192	-43.791891	2093.14	1925.91
6	GUIDE	1093415704	8.48	12228	-0.019	0.073	0.088	0.139	264.307658	-45.157399	-1707.96	-2079.58
7	GUIDE	1034965840	9.39	12224	0.058	-0.030	0.090	0.147	264.114303	-44.055620	-1092.55	1869.63

2.4 Star Slots

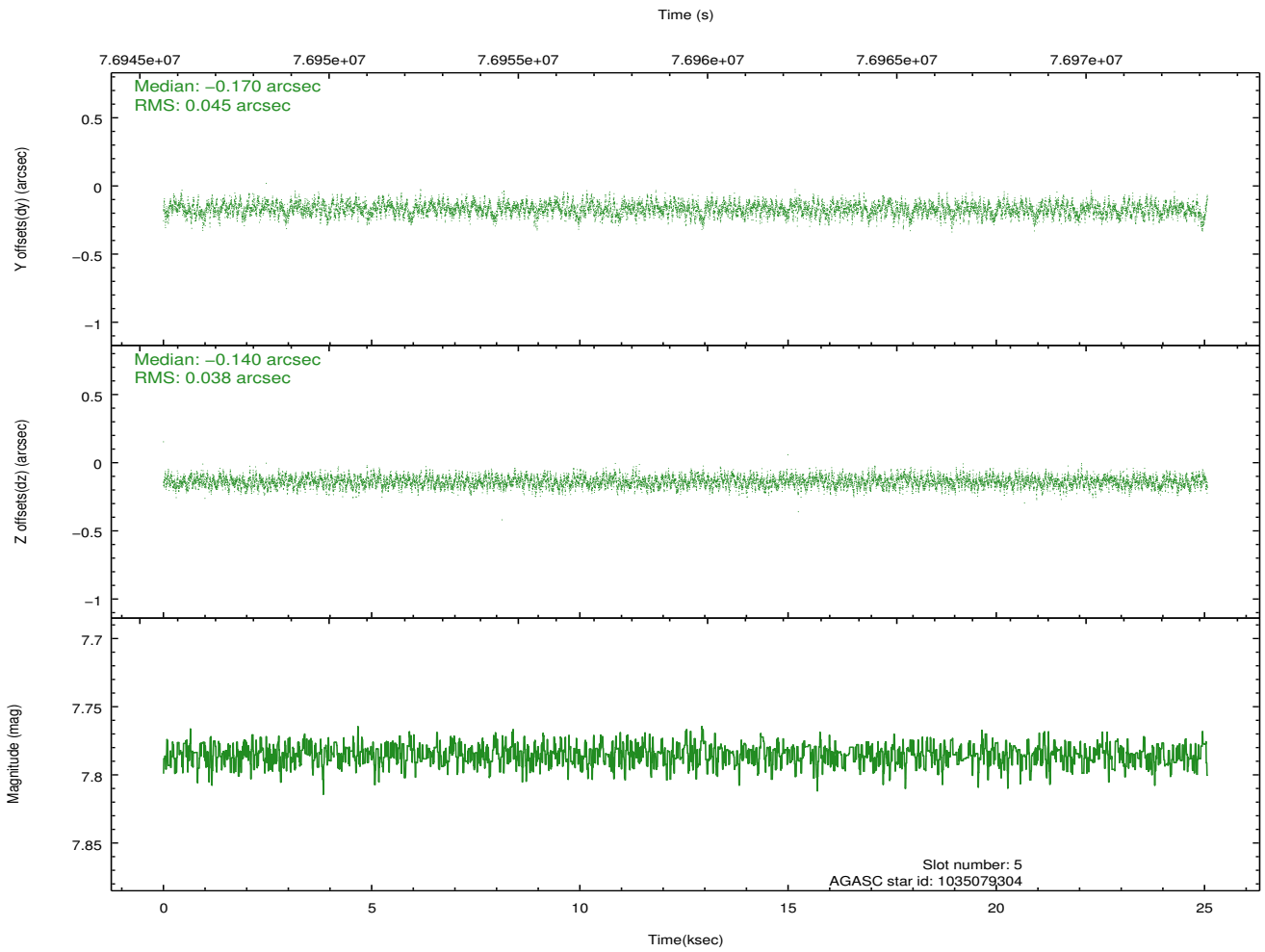
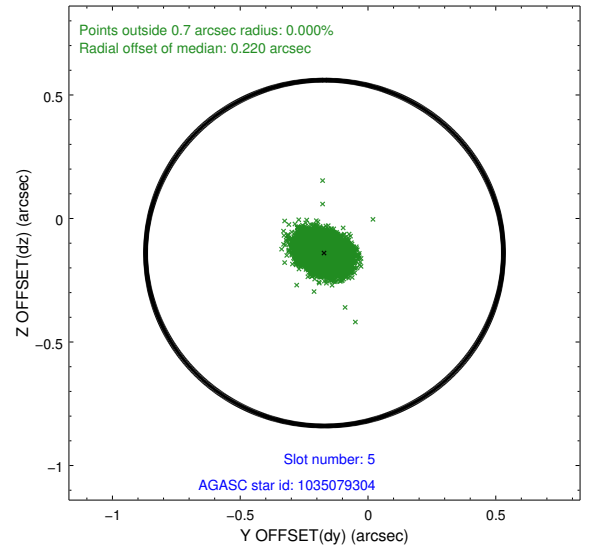
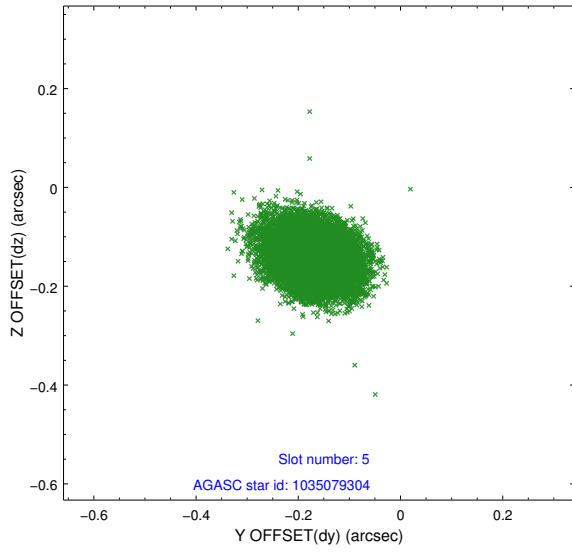
2.4.1 Slot 3



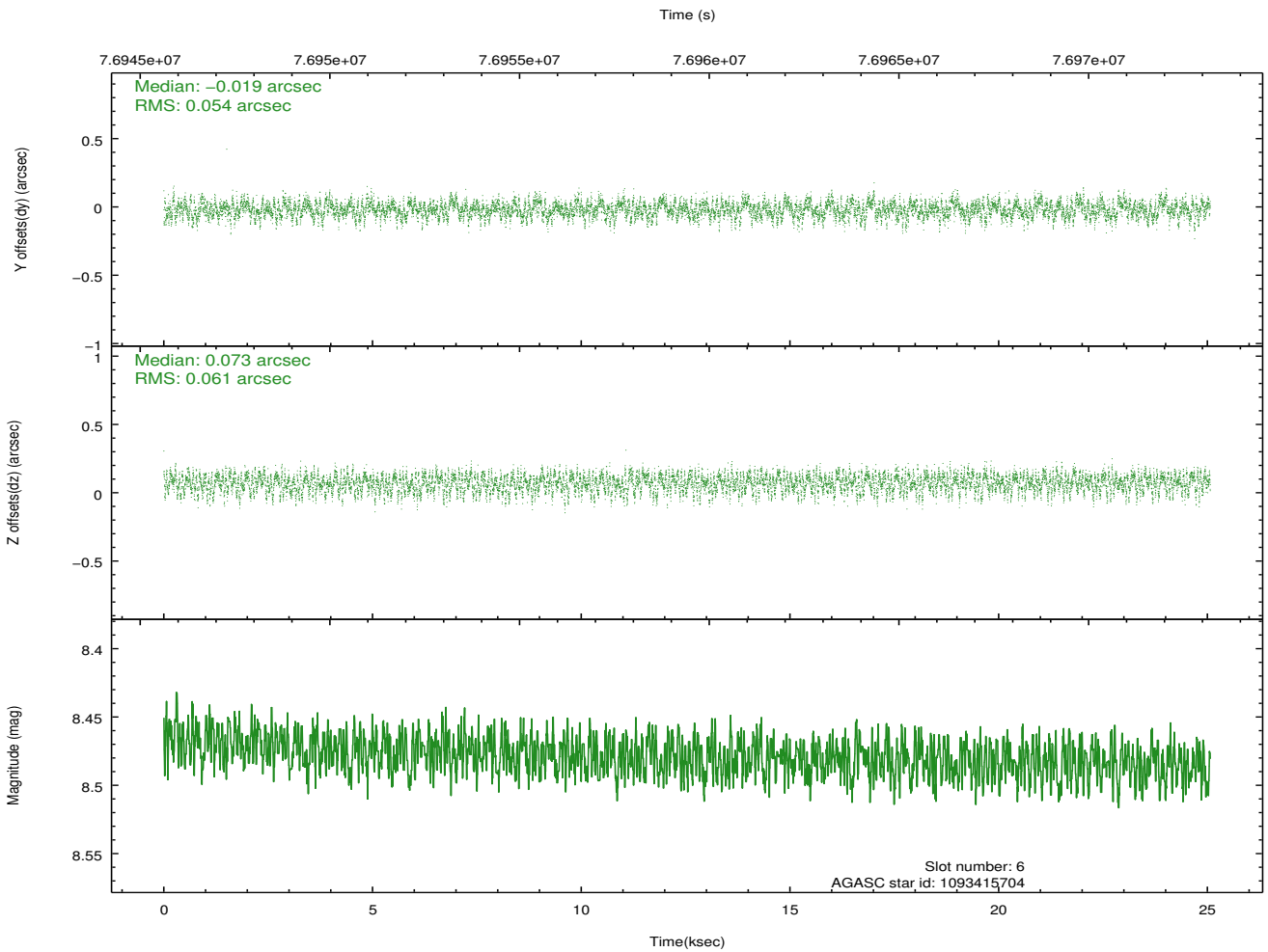
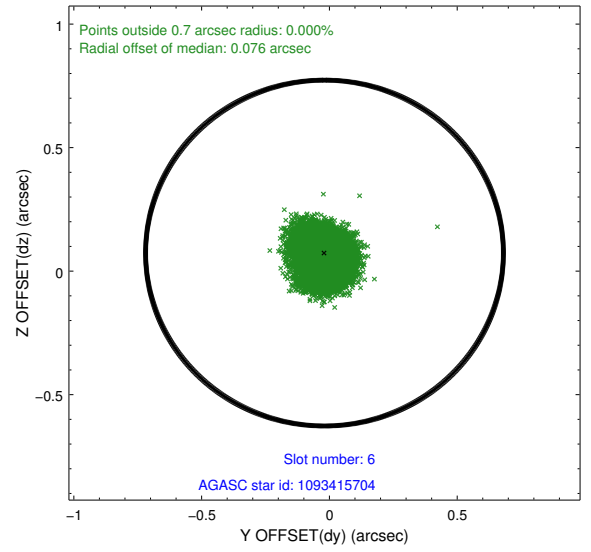
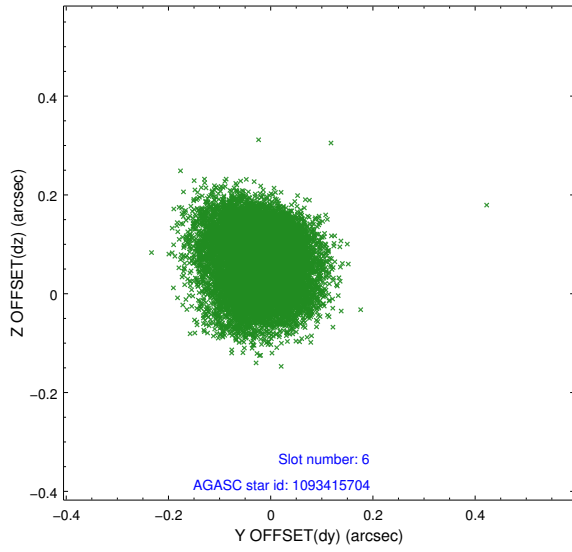
2.4.2 Slot 4



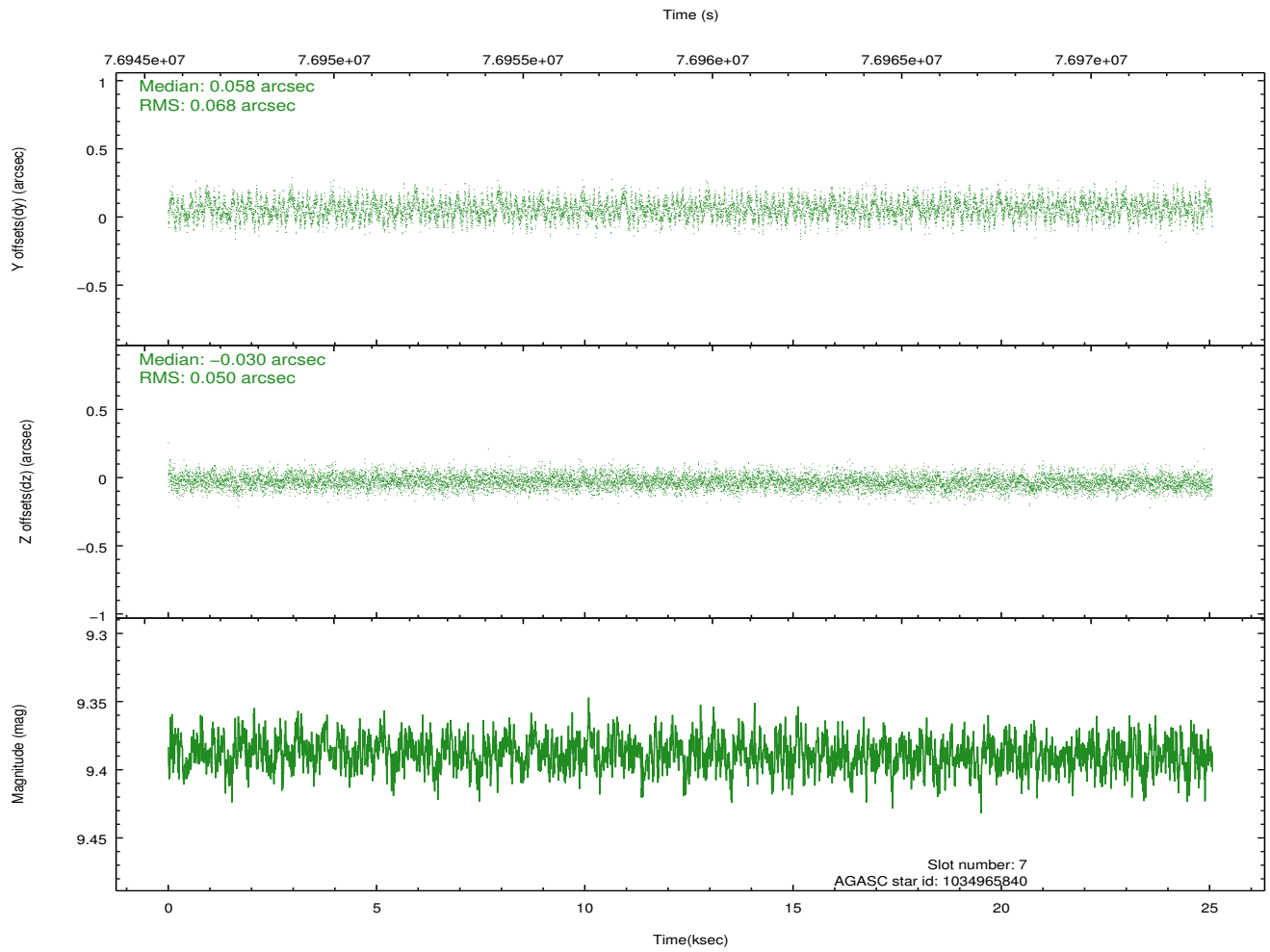
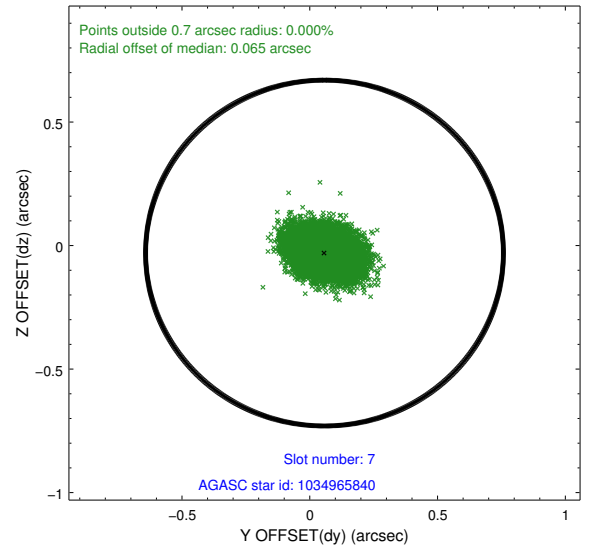
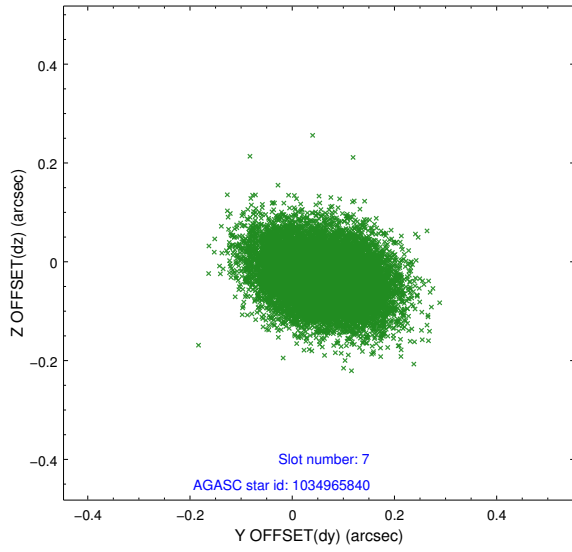
2.4.3 Slot 5



2.4.4 Slot 6

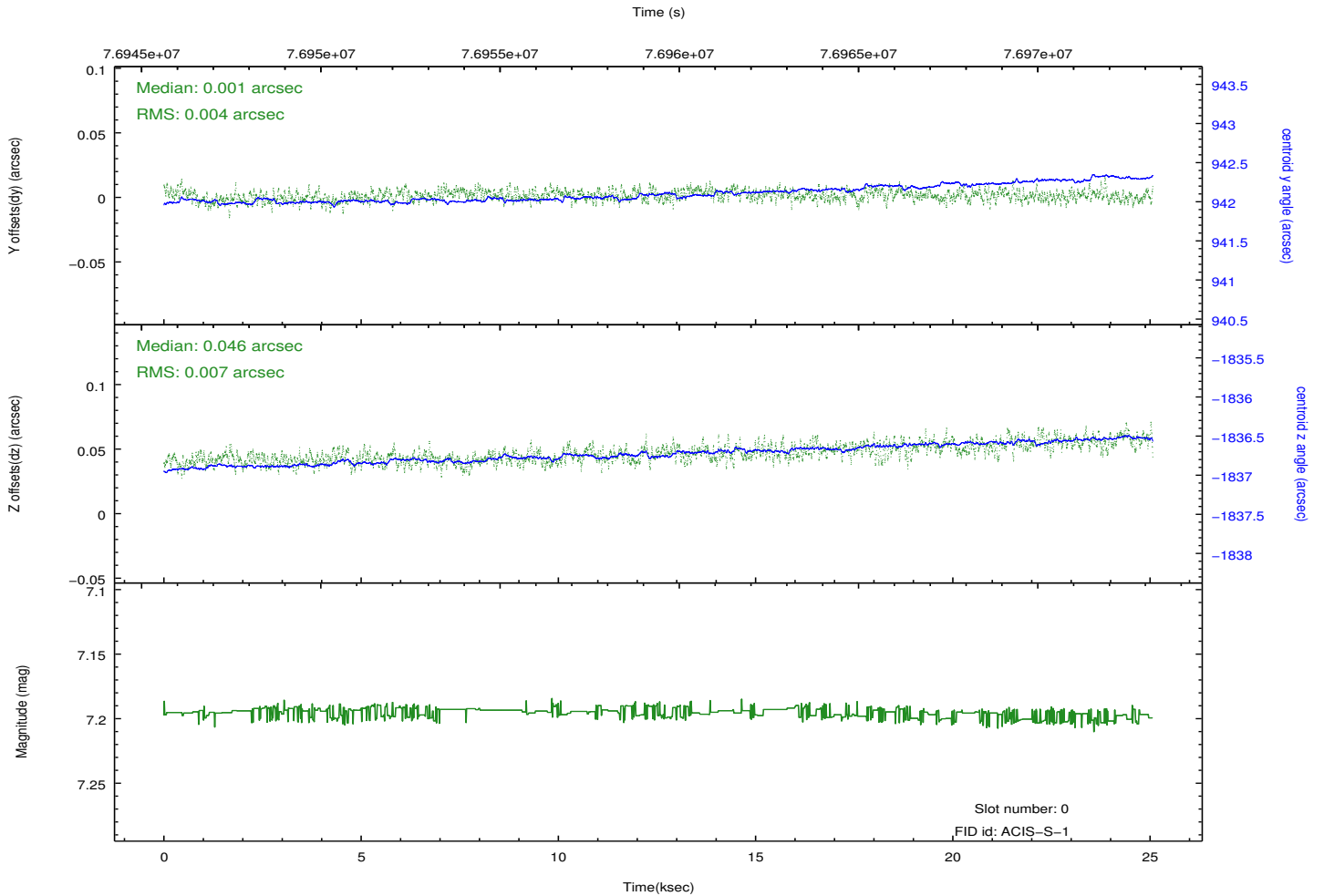
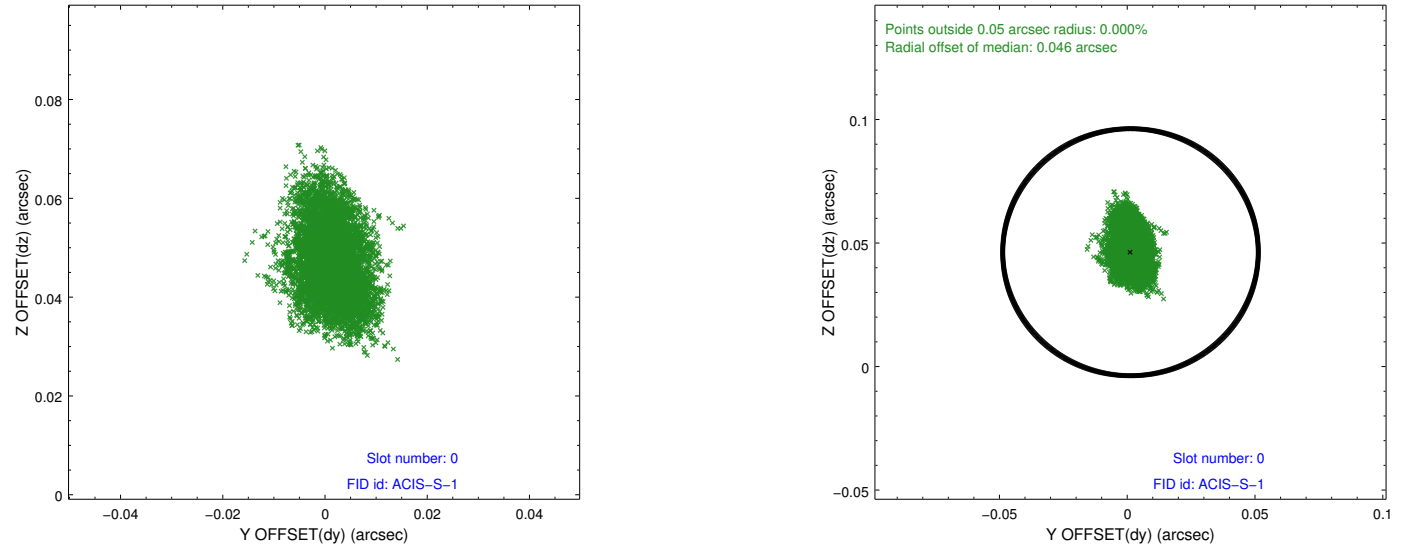


2.4.5 Slot 7

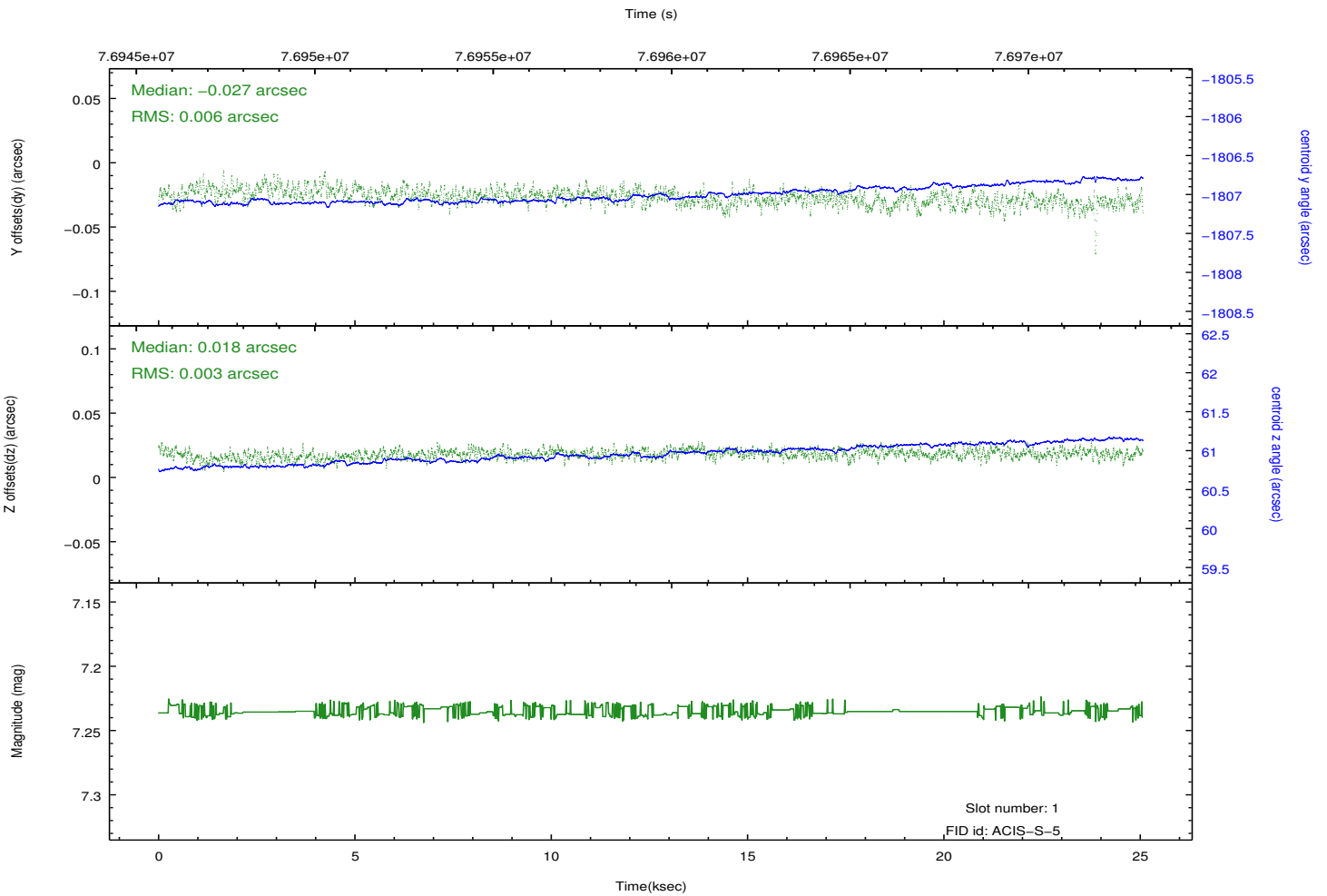
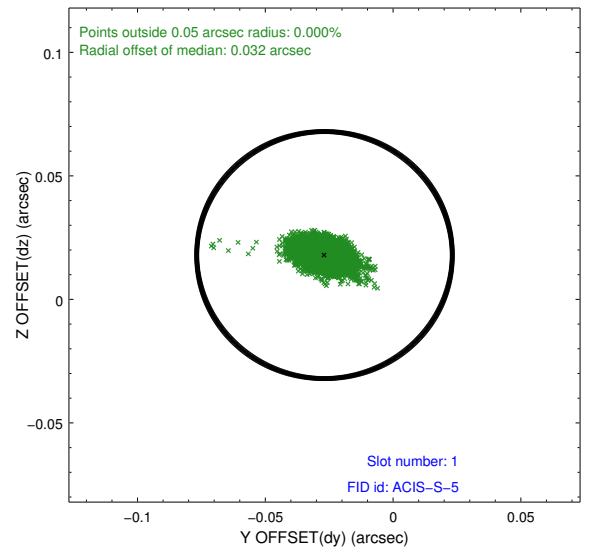
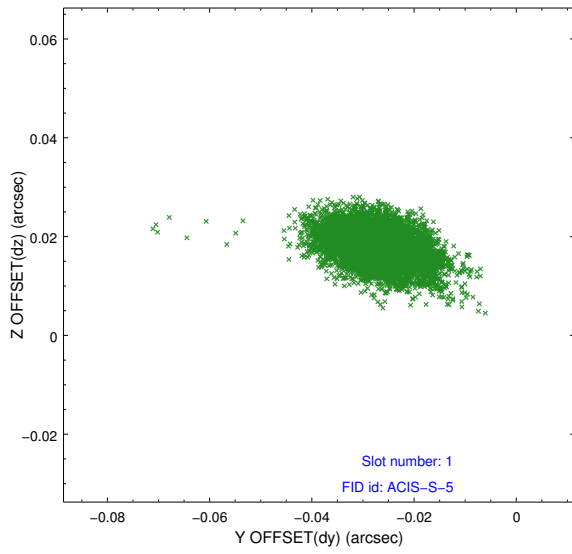


2.5 FID Slots

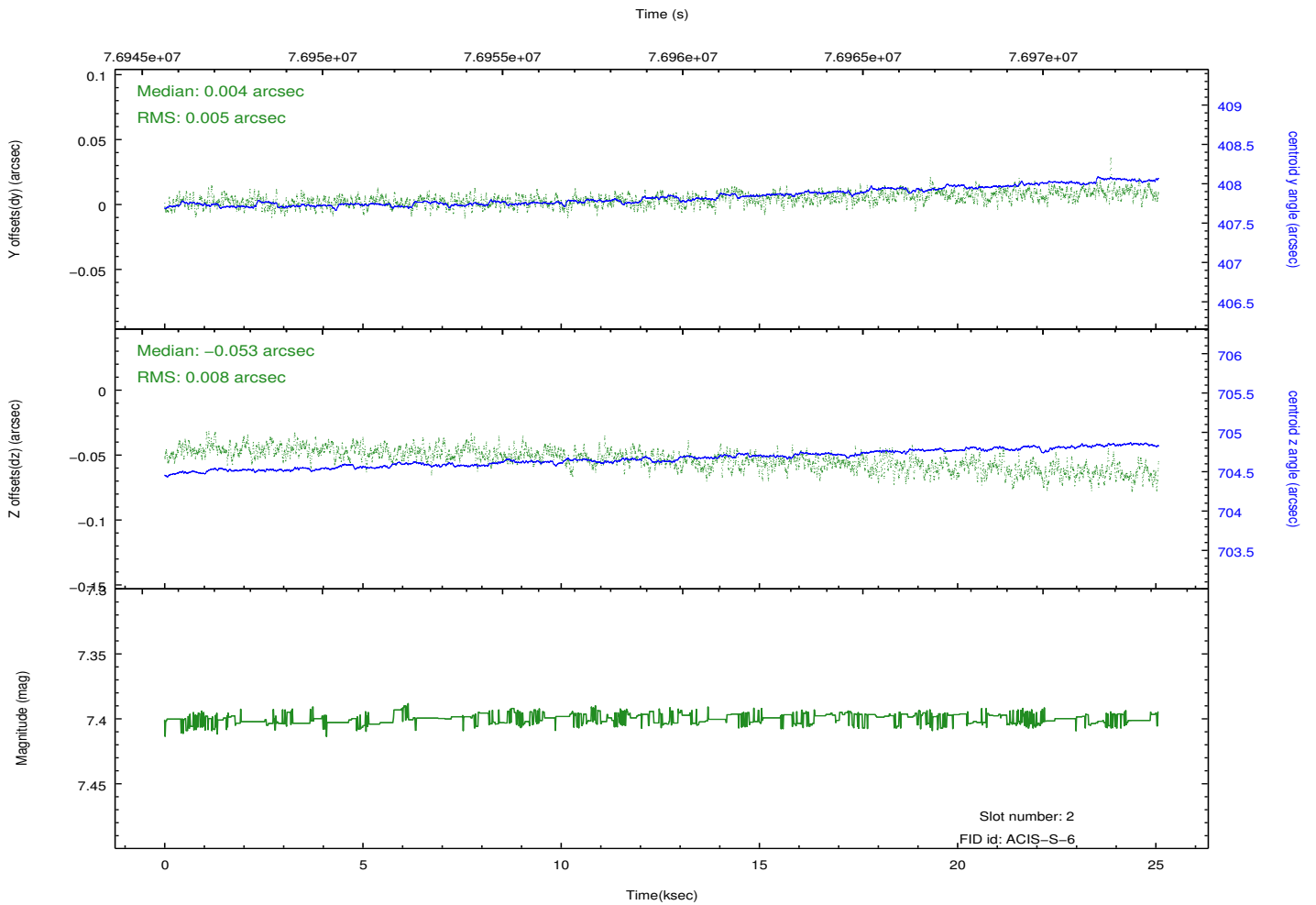
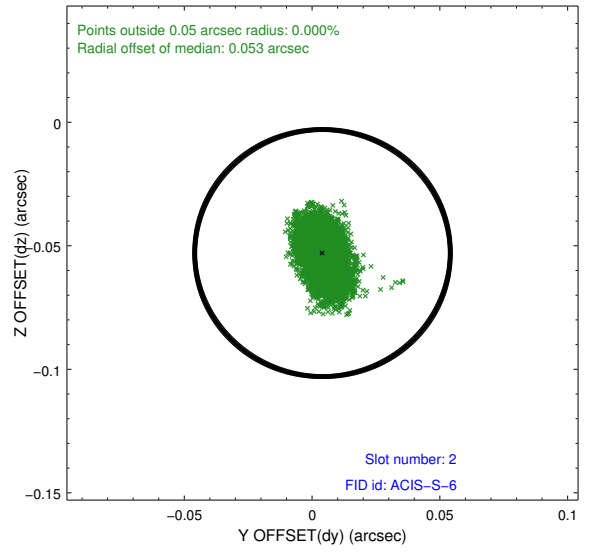
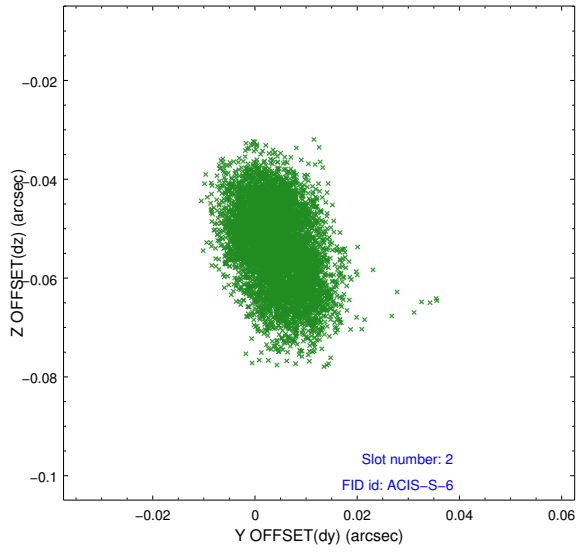
2.5.1 Slot 0



2.5.2 Slot 1

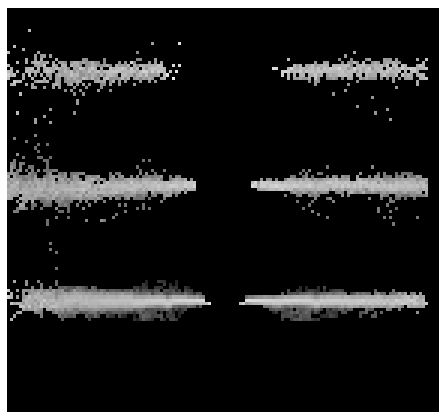


2.5.3 Slot 2

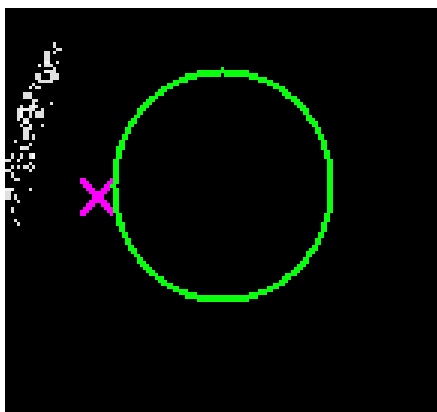


3 Gratings

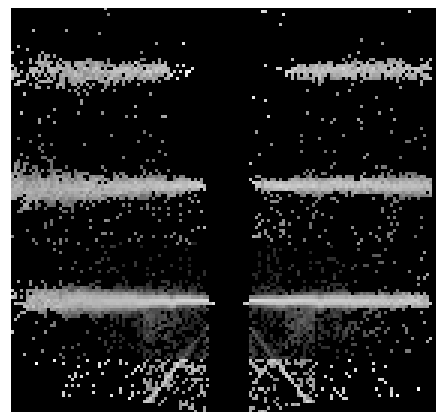
3.1 HEG Arm



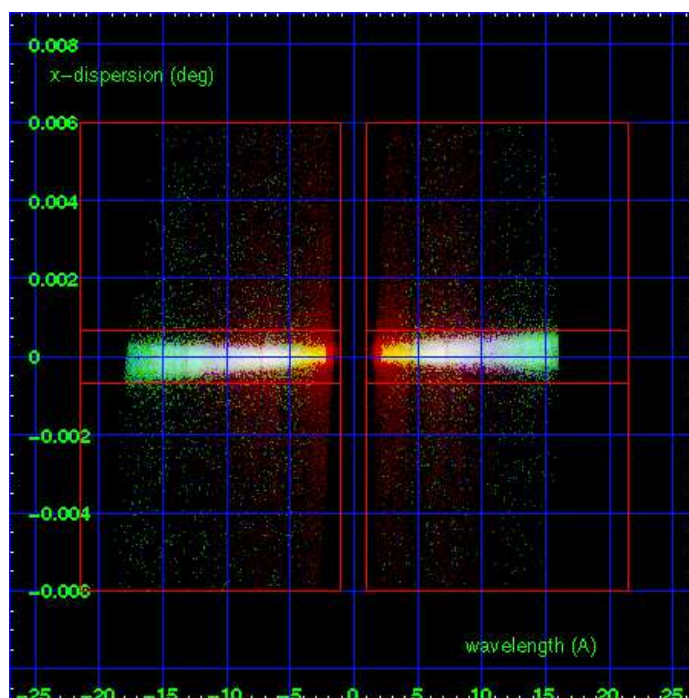
HEG Order Sort 123



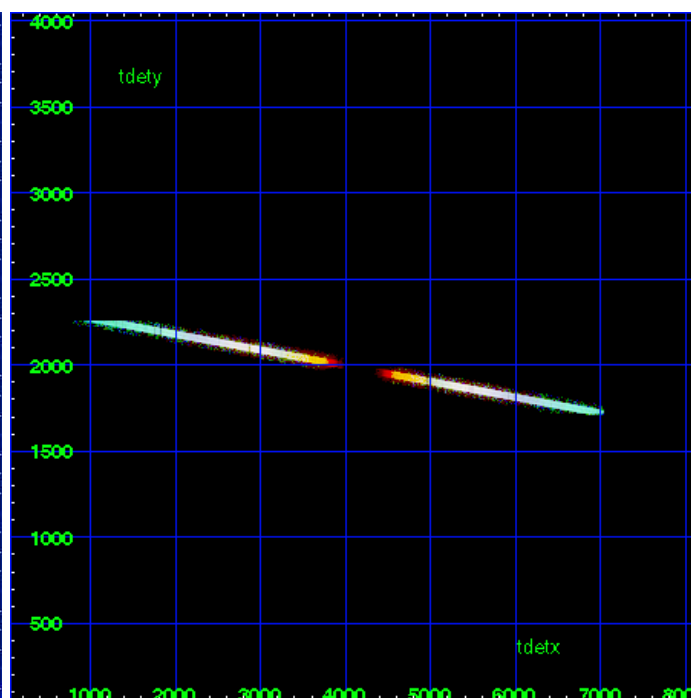
HEG Zero Order



HEG Order Sort ALL

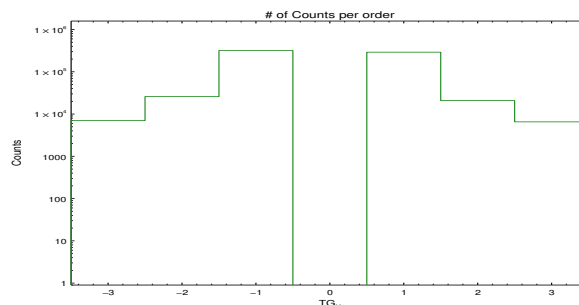


Spot Image HEG

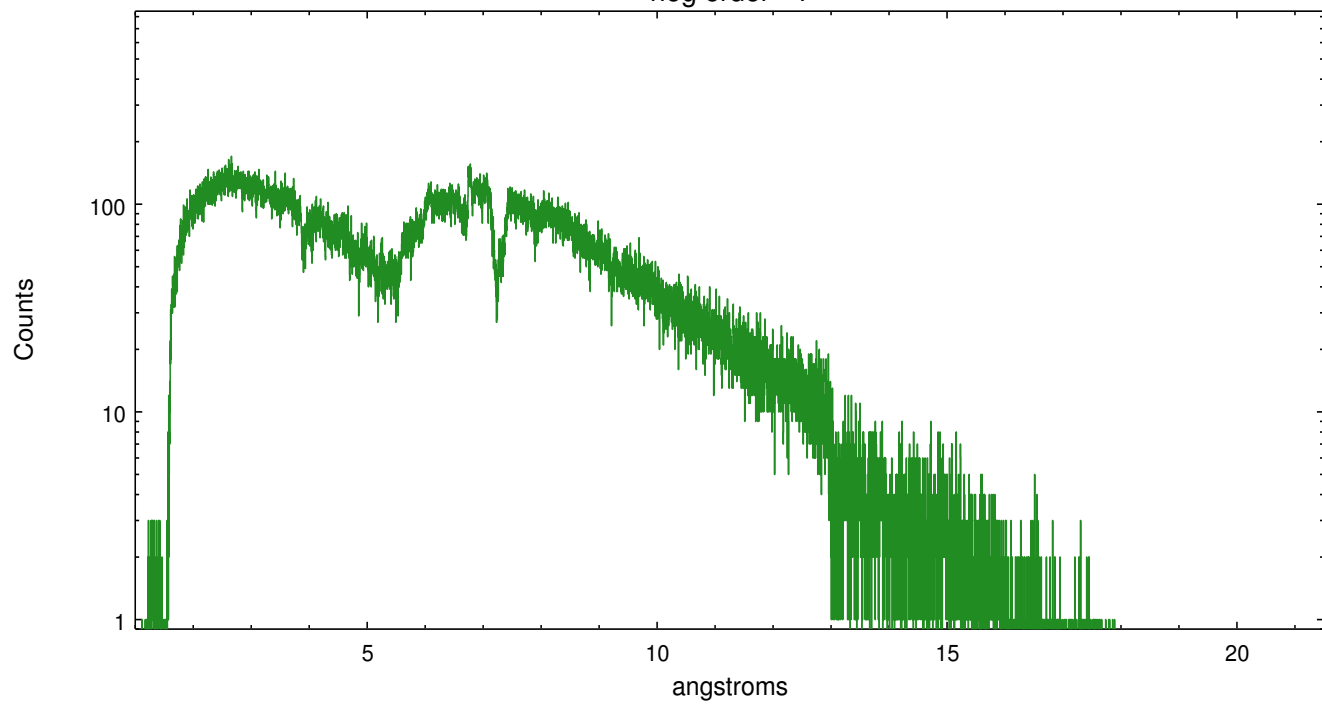


Full Detector HEG

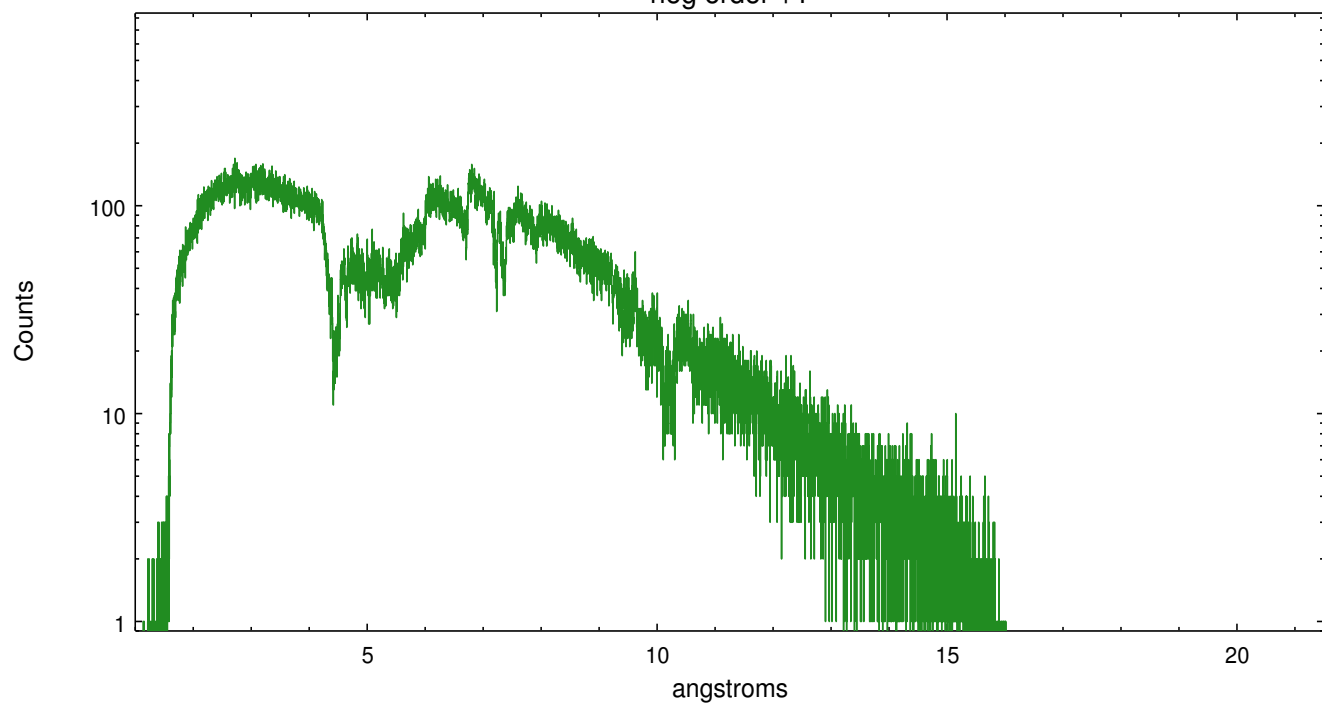
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	6995	25856	317205	0	290677	20816	6536



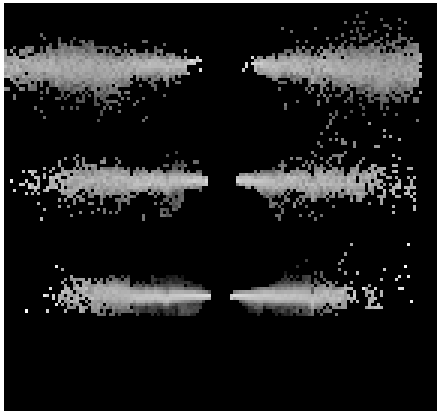
heg order -1



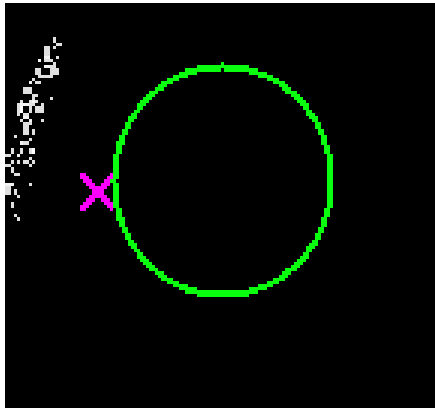
heg order +1



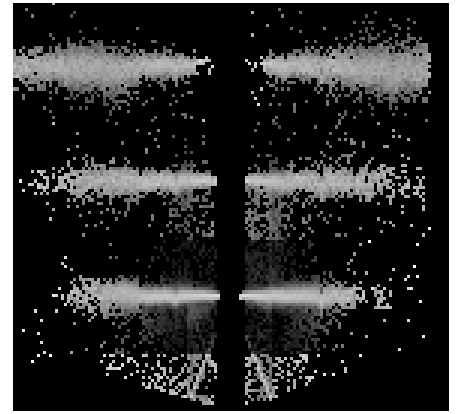
3.2 MEG Arm



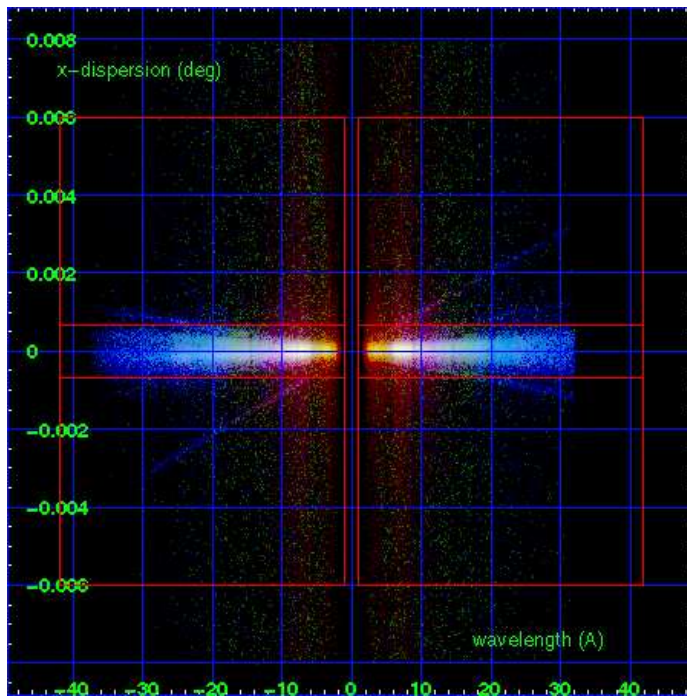
MEG Order Sort 123



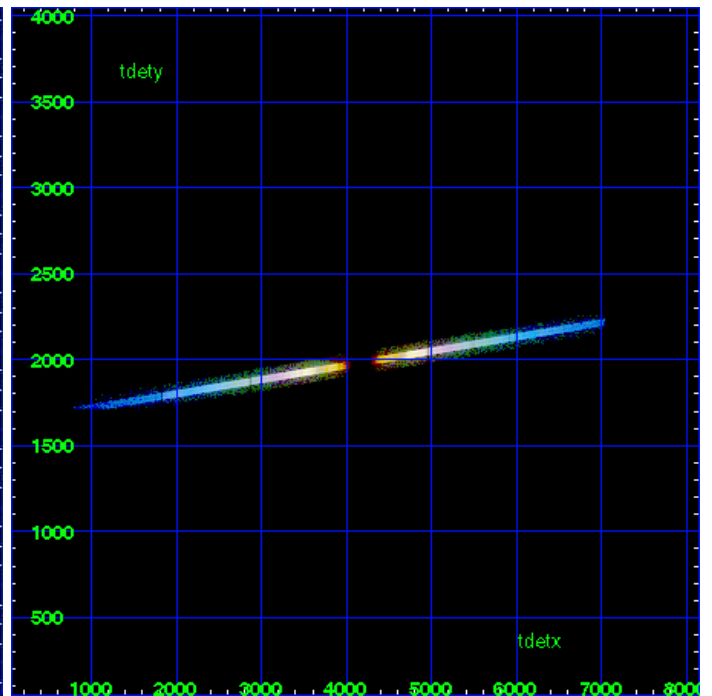
MEG Zero Order



MEG Order Sort ALL

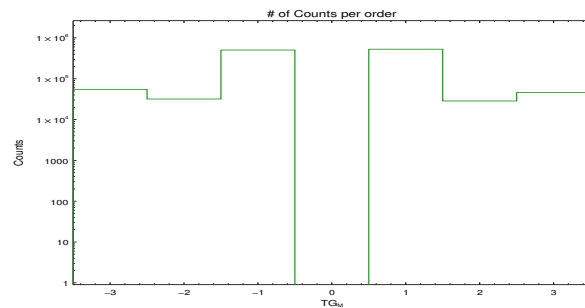


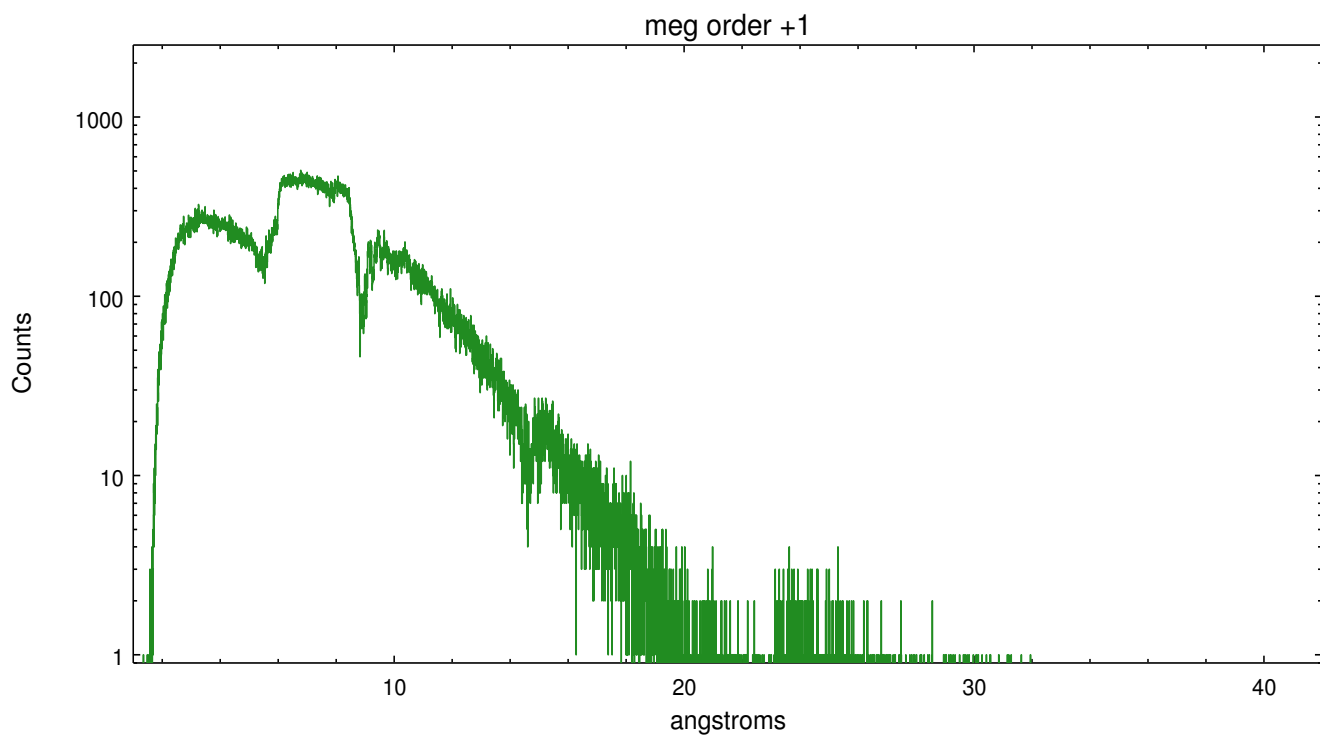
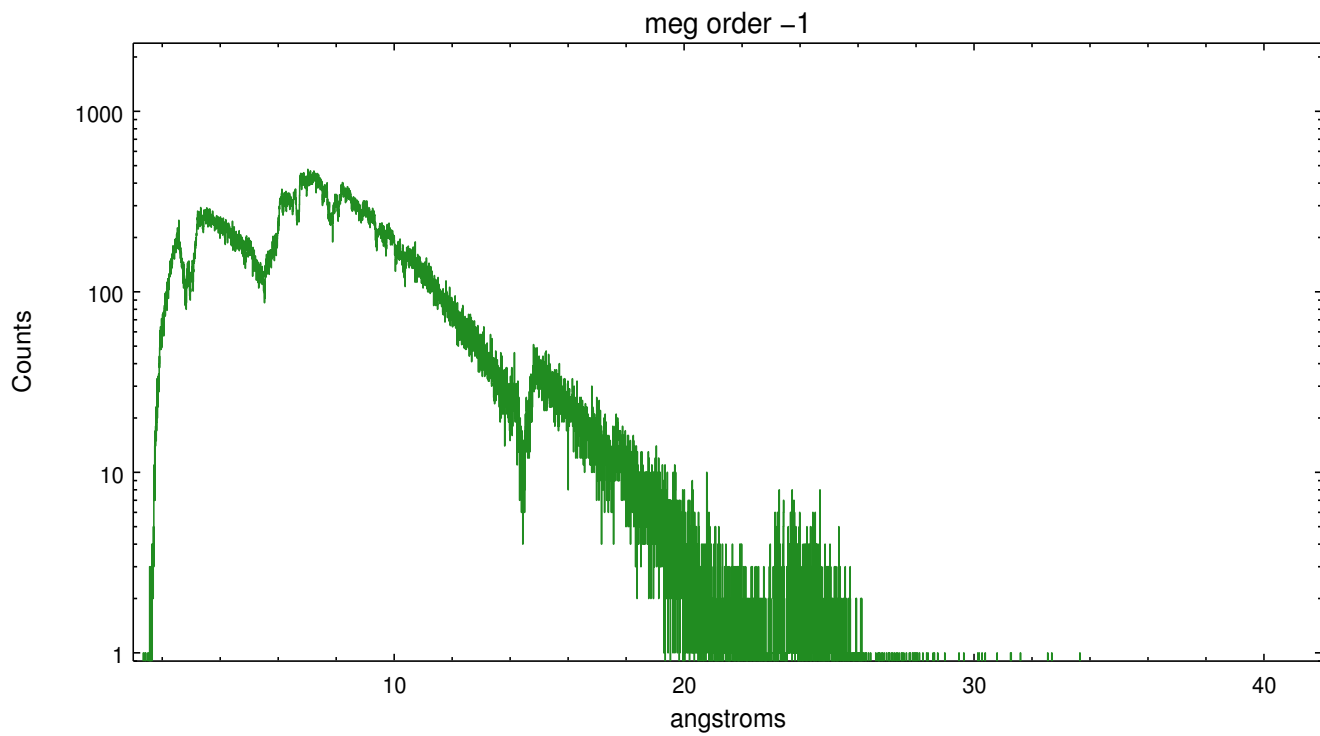
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	54894	31843	504718	0	528198	28504	45759





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.908

A.2 Comments

Roll constraint met.

===

Standard data processing software did not correctly locate the zeroth order because a spatial exclusion window was used to block the zeroth order image. Manual intervention was used to input the correct sky coordinates (x=4130.98, y=4099.23) into the *src1a.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 *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.