

V&V Reference Report

L2 ASCDS Version : 8.4.3.1

Observation 8450 - L2 Version 2
Chandra X-Ray Center

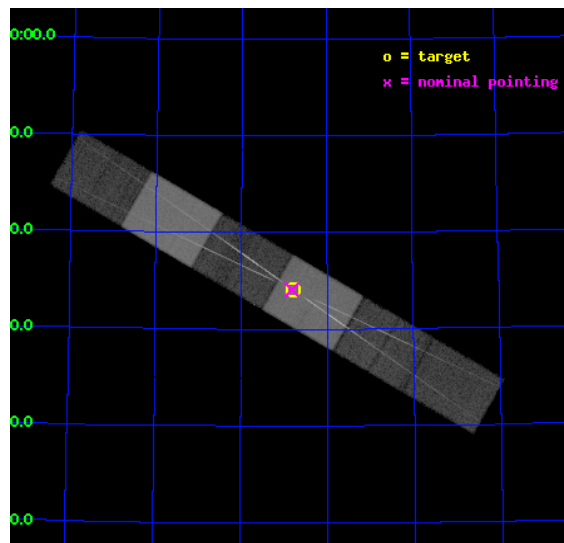
L2 Processing Date : Apr 11 2012

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

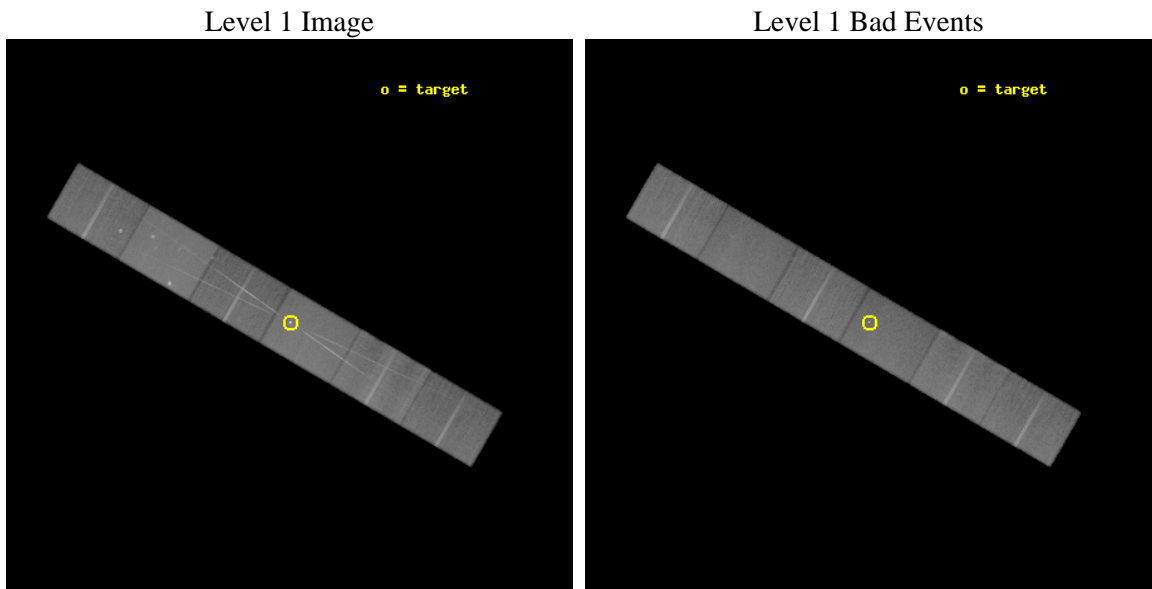
seq_num	701337	Sequence number
obs_id	8450	Observation id
title	NGC 3516: Disk Diagnostics from a Windy BLSy1 in a High-State	Prop
observer	Dr Tracey Turner	Principal investigator
object	NGC 3516	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.698333	Observer's specified target RA [deg]
dec_targ	72.568972	Observer's specified target Dec [deg]
ra_nom	166.70471722288	Nominal RA [deg]
dec_nom	72.568161553535	Nominal Dec [deg]
roll_nom	30.150536814948	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39137.5	Sum of GTIs [s]
livetime	38505.395428643	Livetime [s]
ontime4	39137.5	Sum of GTIs [s]
ontime5	39137.5	Sum of GTIs [s]
ontime6	39137.5	Sum of GTIs [s]
ontime7	39137.5	Sum of GTIs [s]
ontime8	39137.5	Sum of GTIs [s]
ontime9	39137.5	Sum of GTIs [s]
l2events	524514	Number of level 2 events



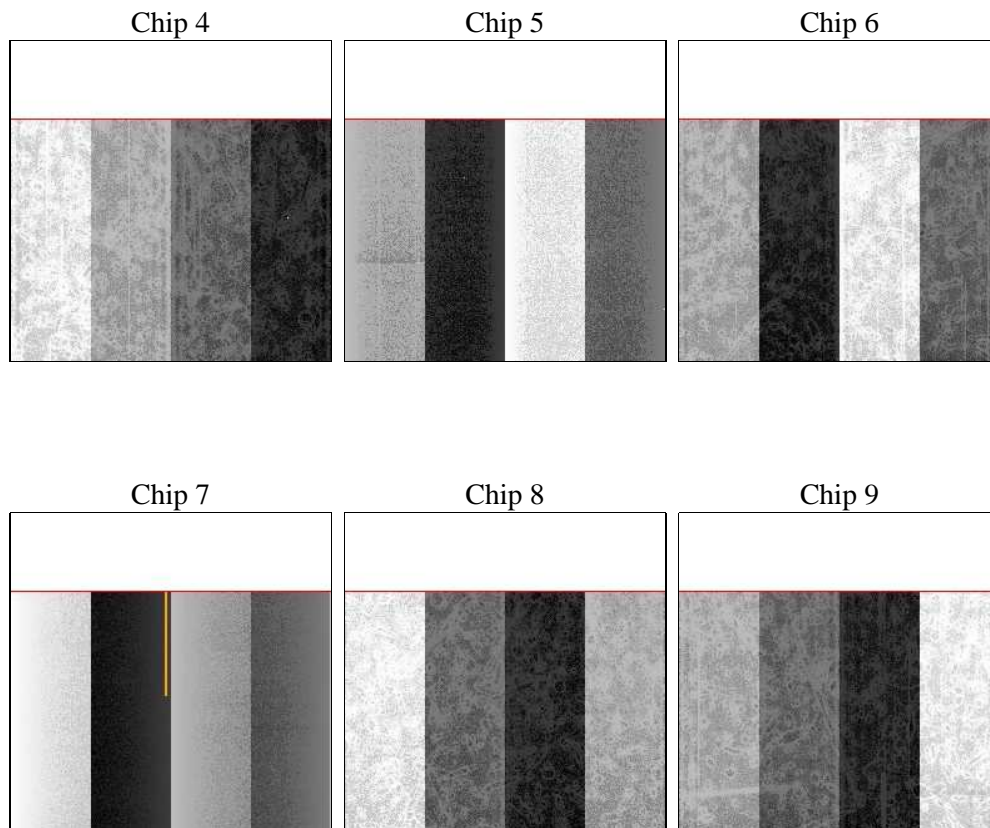
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	39000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3.1	Processing system revision	ontime	39137.5	Sum of GTIs [s]
caldbver	4.4.9	 	ontime4	39137.5	Sum of GTIs [s]
date	2012-04-11T15:47:43	Date and time of file creation	ontime5	39137.5	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	39137.5	Sum of GTIs [s]
			ontime7	39137.5	Sum of GTIs [s]
			ontime8	39137.5	Sum of GTIs [s]
			ontime9	39137.5	Sum of GTIs [s]
			l1events	2084143	Number of level 1 events

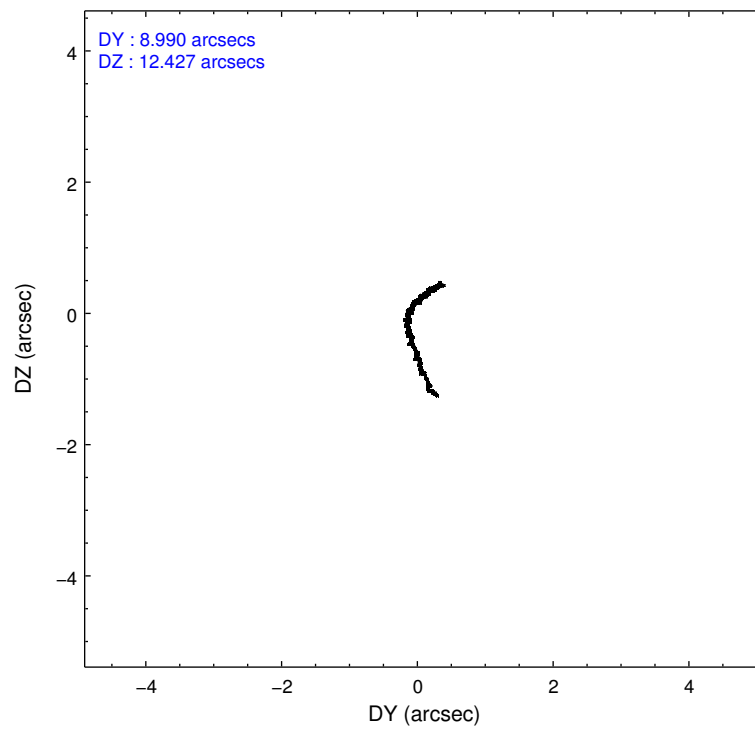
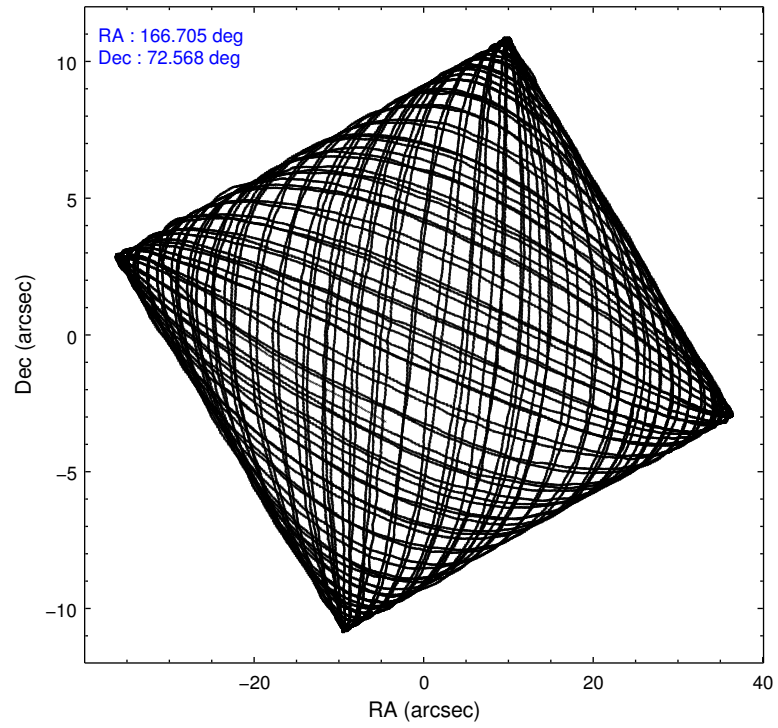
2.1.4 Events

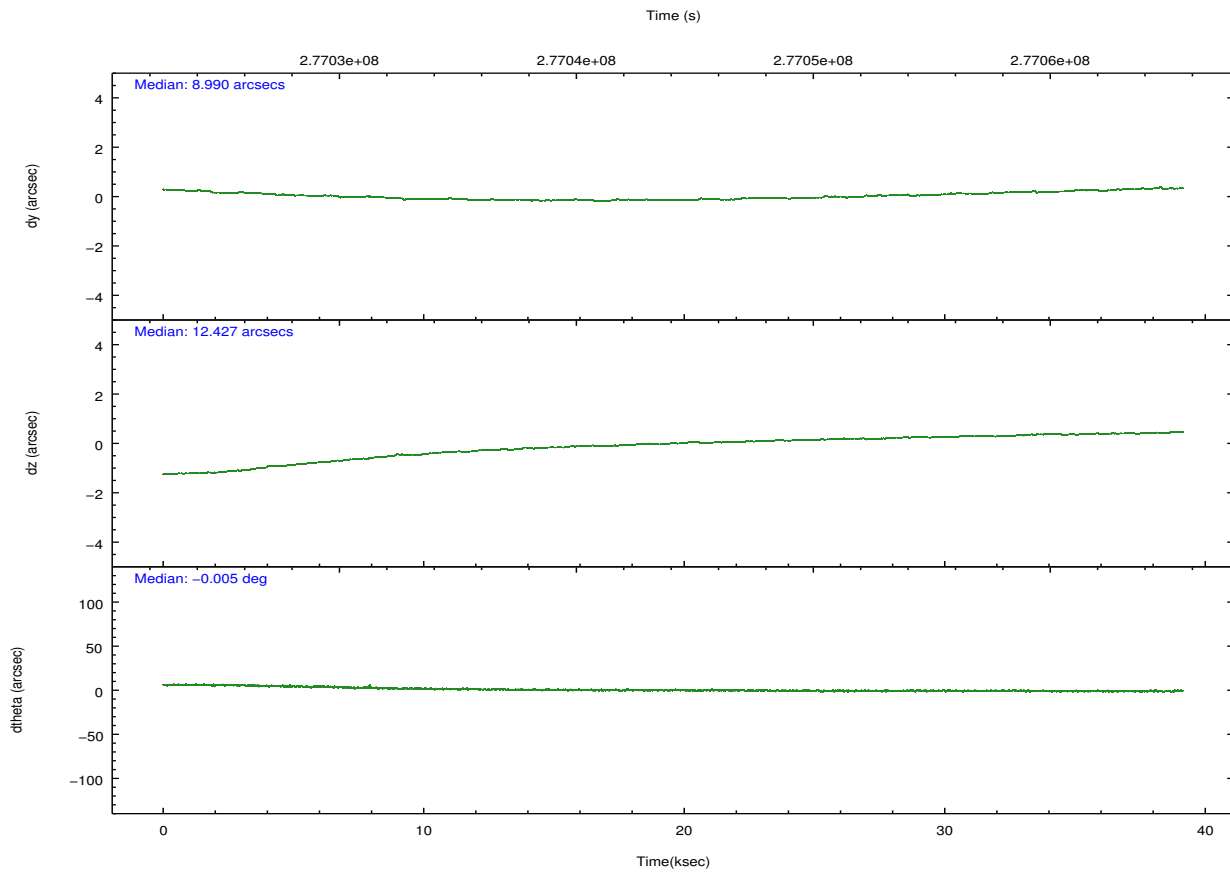
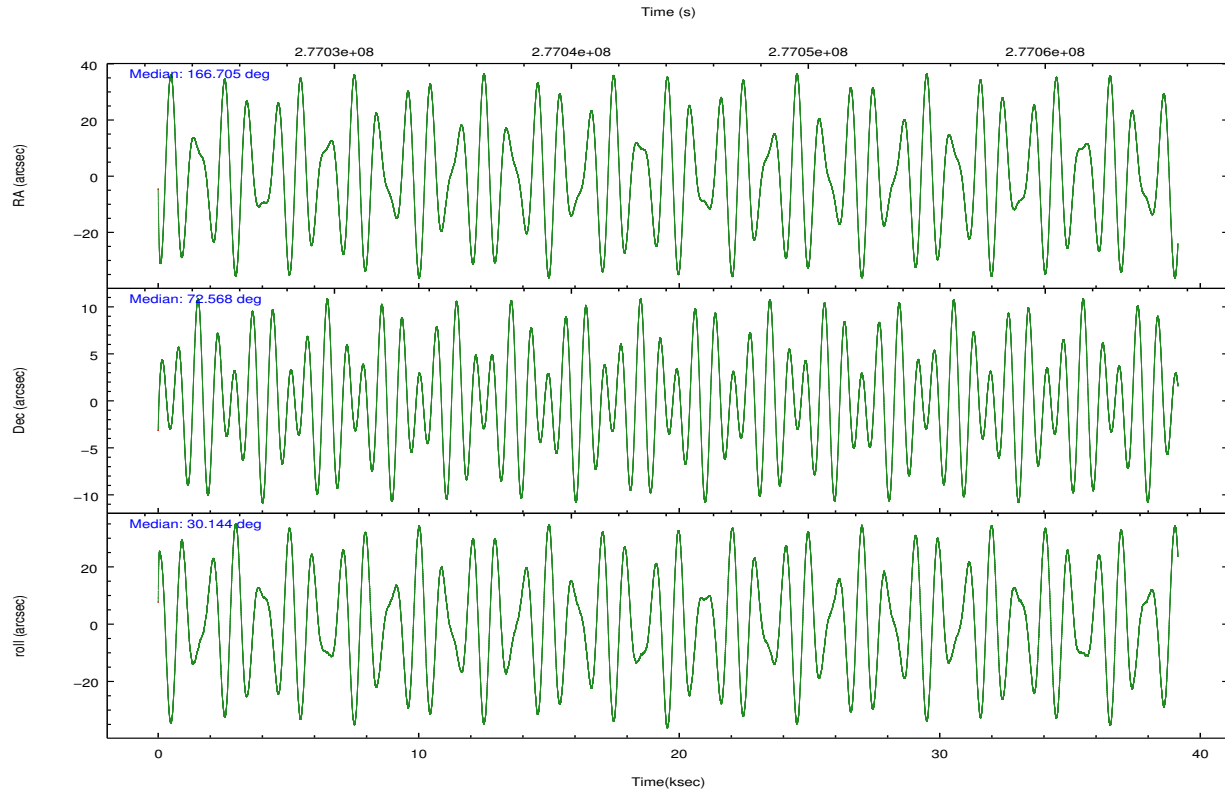
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	308581	423954	297478	410502	368002	275626	grade 0 events	19111	24365	29275	19882	31679	15182
rejected events	269024	222488	243067	221636	279100	239718		6%	5%	9%	4%	8%	5%
rejected %	87%	52%	81%	53%	75%	86%	grade 1 events	244	847	218	656	252	167
								0%	0%	0%	0%	0%	0%
							grade 2 events	7768	57660	9469	38922	18564	7003
								2%	13%	3%	9%	5%	2%
							grade 3 events	3719	9356	4181	17378	8726	3633
								1%	2%	1%	4%	2%	1%
							grade 4 events	3375	9022	4039	17318	8350	3475
								1%	2%	1%	4%	2%	1%
							grade 5 events	12213	31695	12679	37057	16643	13458
								3%	7%	4%	9%	4%	4%
							grade 6 events	5654	101339	7502	95600	21648	6659
								1%	23%	2%	23%	5%	2%
							grade 7 events	256497	189670	230115	183689	262140	226049
								83%	44%	77%	44%	71%	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	166.660615	166.7047172228767	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	72.544351	72.56816155353484	Subarray start row	1	1
[deg] Pointing Roll	30.035981	30.15053681494836	Subarray row count	774	774
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	2.5
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	277024655.184000	277023626.68813			
Observation start date	2006-10-12T07:16:30	2006-10-12T07:00:26			
[s] Observation end time (MET)	277063655.184000	277064058.84003			
Observation end date	2006-10-12T18:06:30	2006-10-12T18:14:18			
Read mode	TIMED	TIMED			

2.3 Aspect



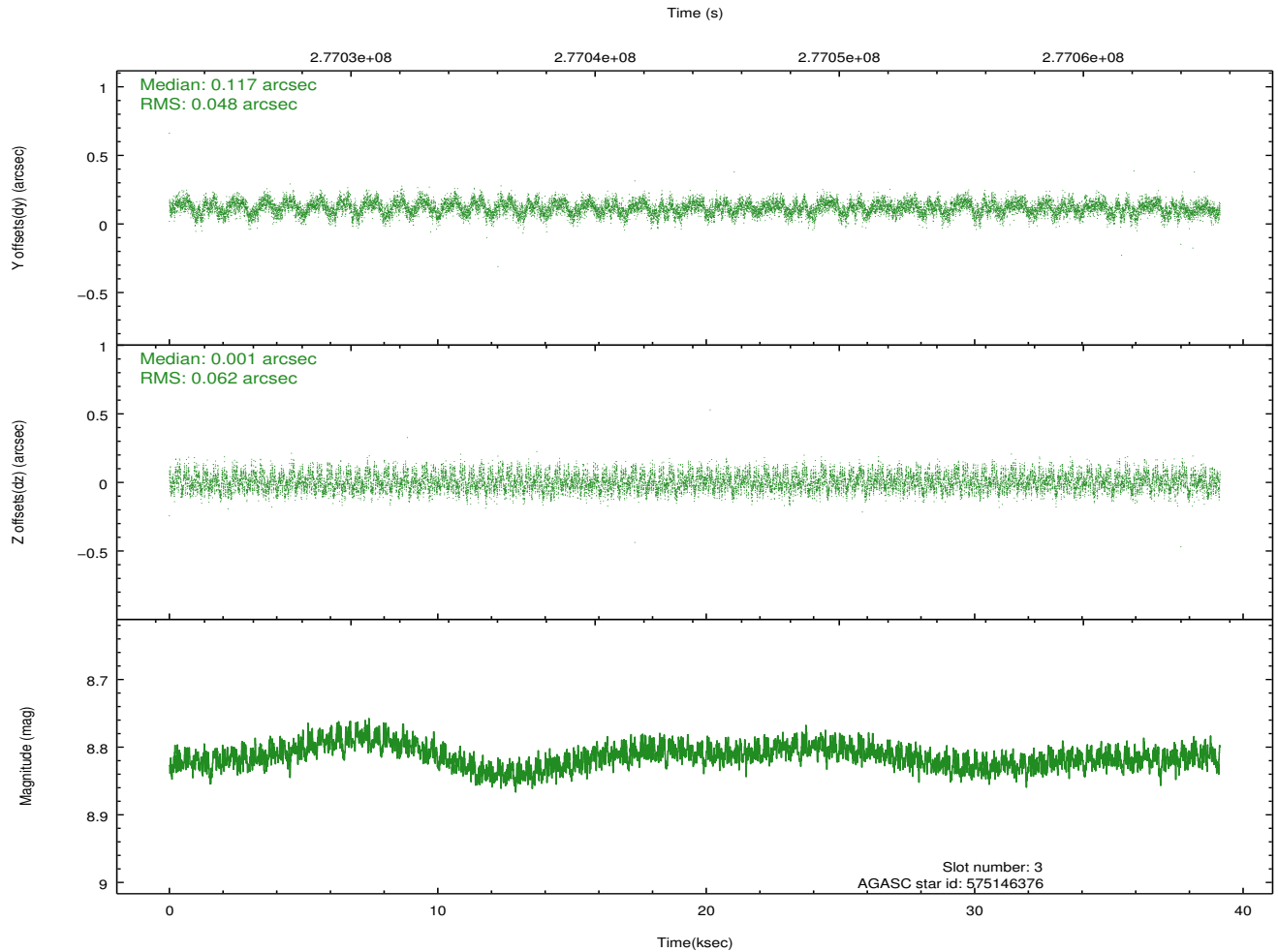
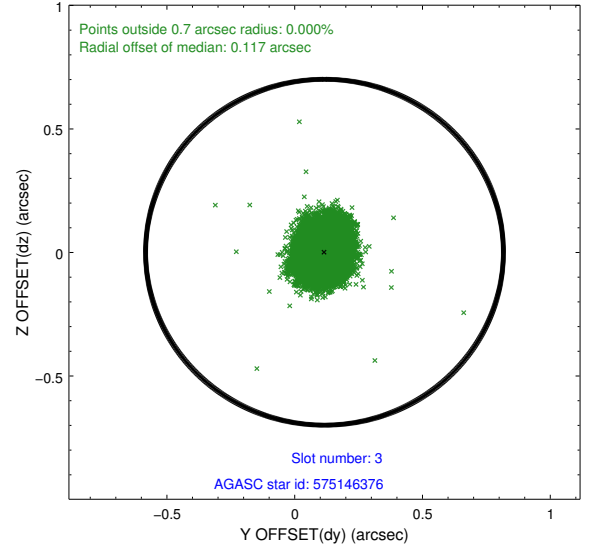
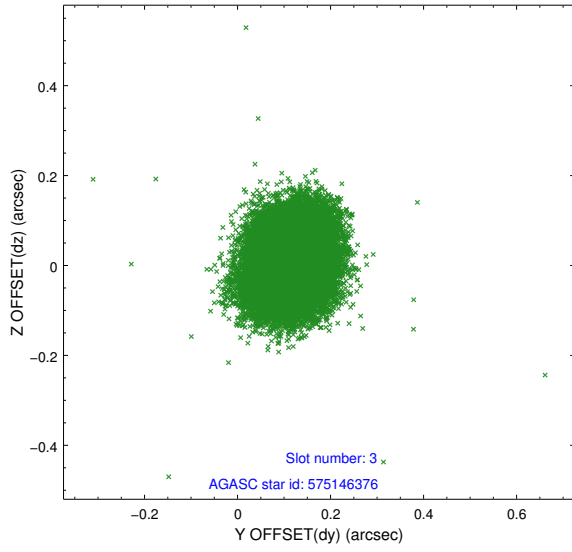


Slot Statistics

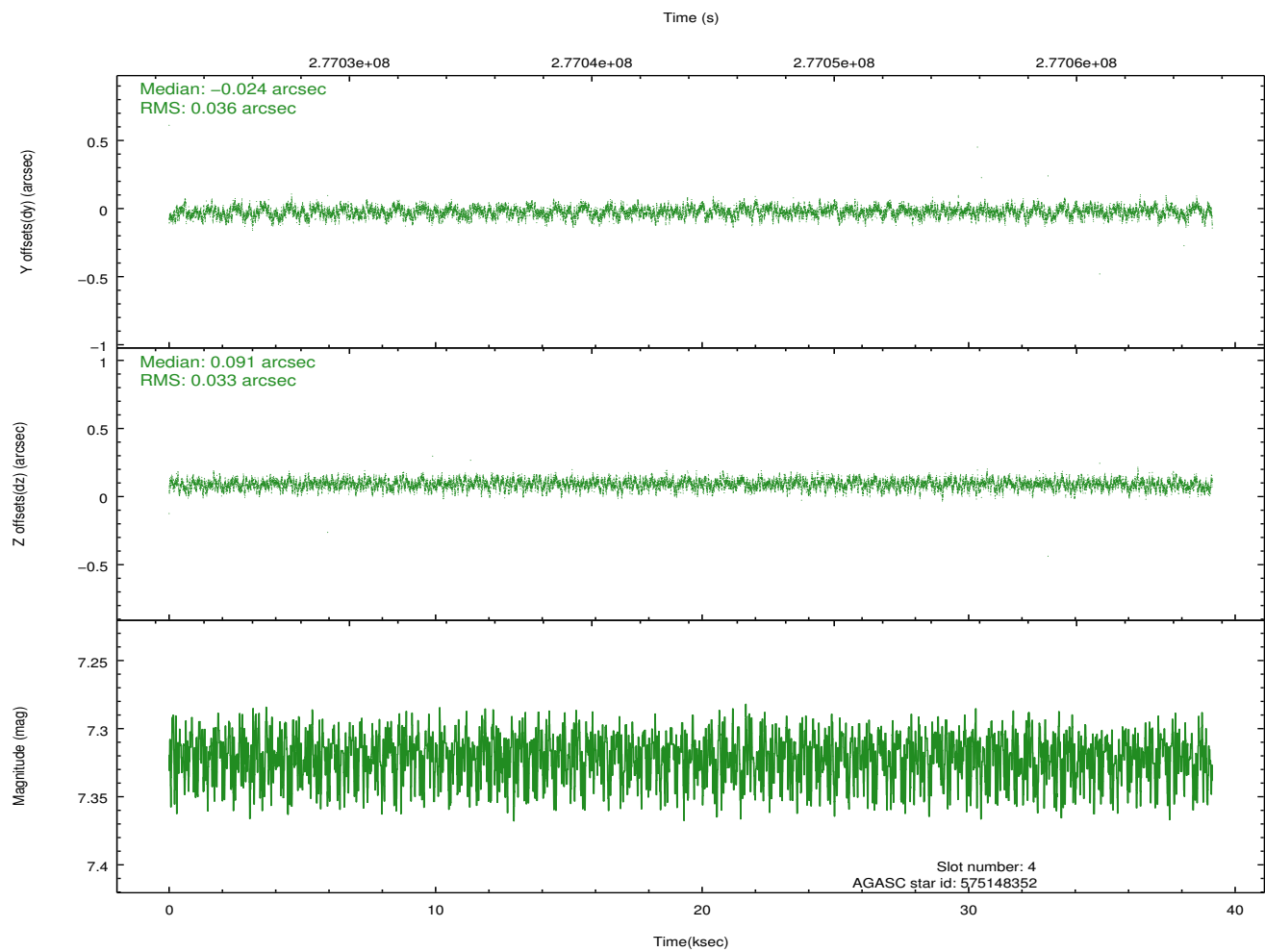
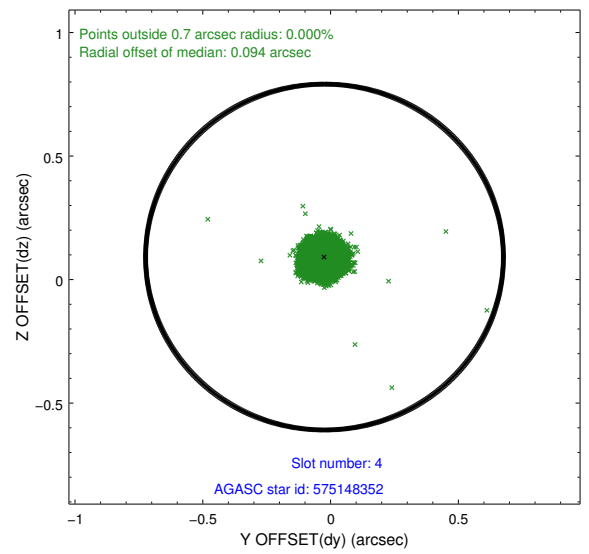
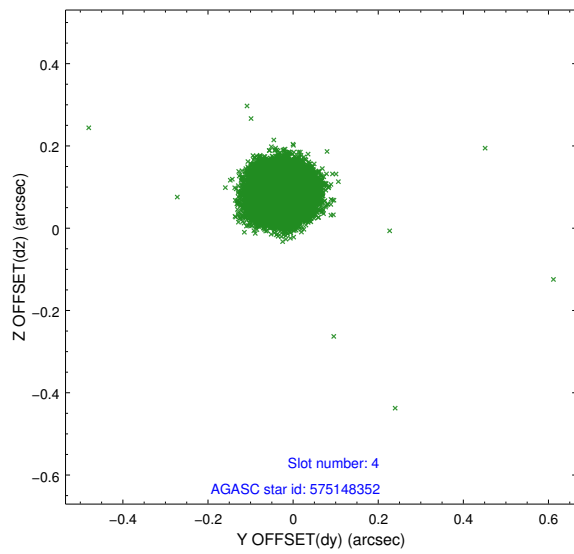
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-4	7.19	9548	0.138	0.018	0.008	0.014	0.000000	0.000000	2151.87	113.00
1	FID	ACIS-S-5	7.24	9547	-0.199	0.004	0.009	0.014	0.000000	0.000000	-1814.64	106.45
2	FID	ACIS-S-6	7.37	9546	0.032	-0.008	0.013	0.023	0.000000	0.000000	400.00	750.19
3	GUIDE	575146376	8.81	19083	0.117	0.001	0.084	0.131	166.888472	72.124920	-536.92	-1432.59
4	GUIDE	575148352	7.32	19093	-0.024	0.091	0.052	0.082	167.090916	71.958979	-638.28	-2062.82
5	GUIDE	575150616	8.22	19092	0.009	0.111	0.063	0.104	167.218511	72.045663	-360.58	-1861.23
6	GUIDE	575541080	8.96	19078	-0.365	0.037	0.077	0.126	167.870403	73.115273	2130.09	1157.72
7	GUIDE	575541344	9.37	19072	0.265	-0.239	0.087	0.140	166.947366	72.953762	1000.73	1125.33

2.4 Star Slots

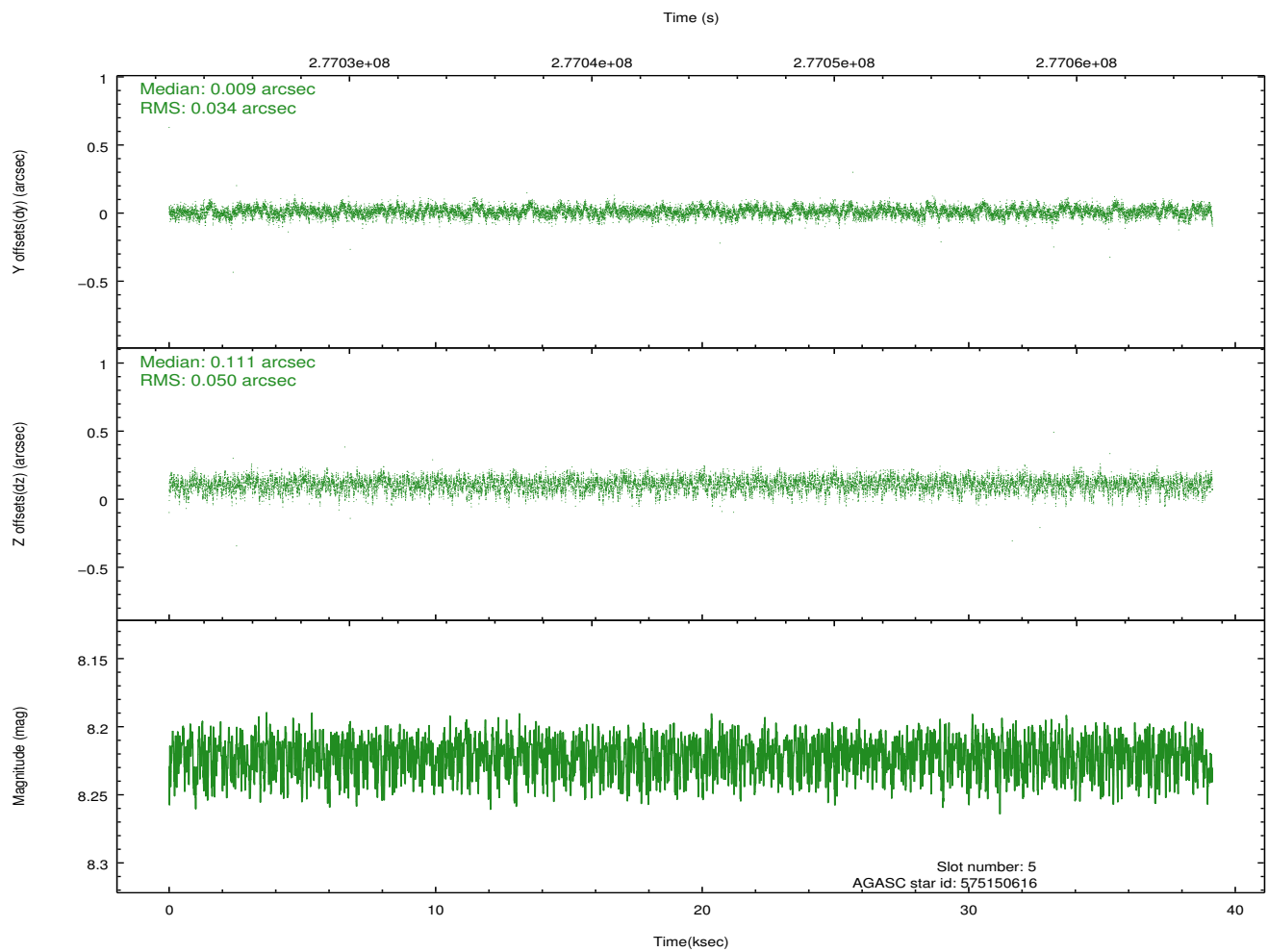
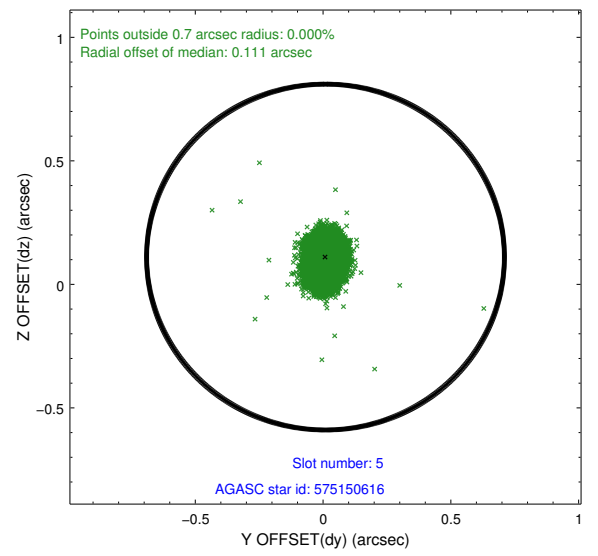
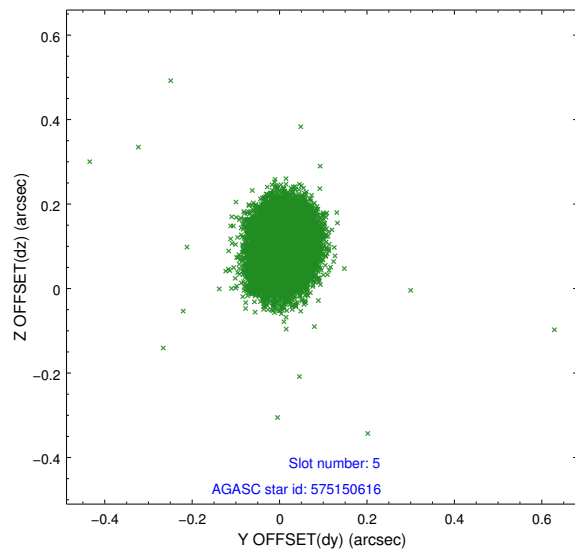
2.4.1 Slot 3



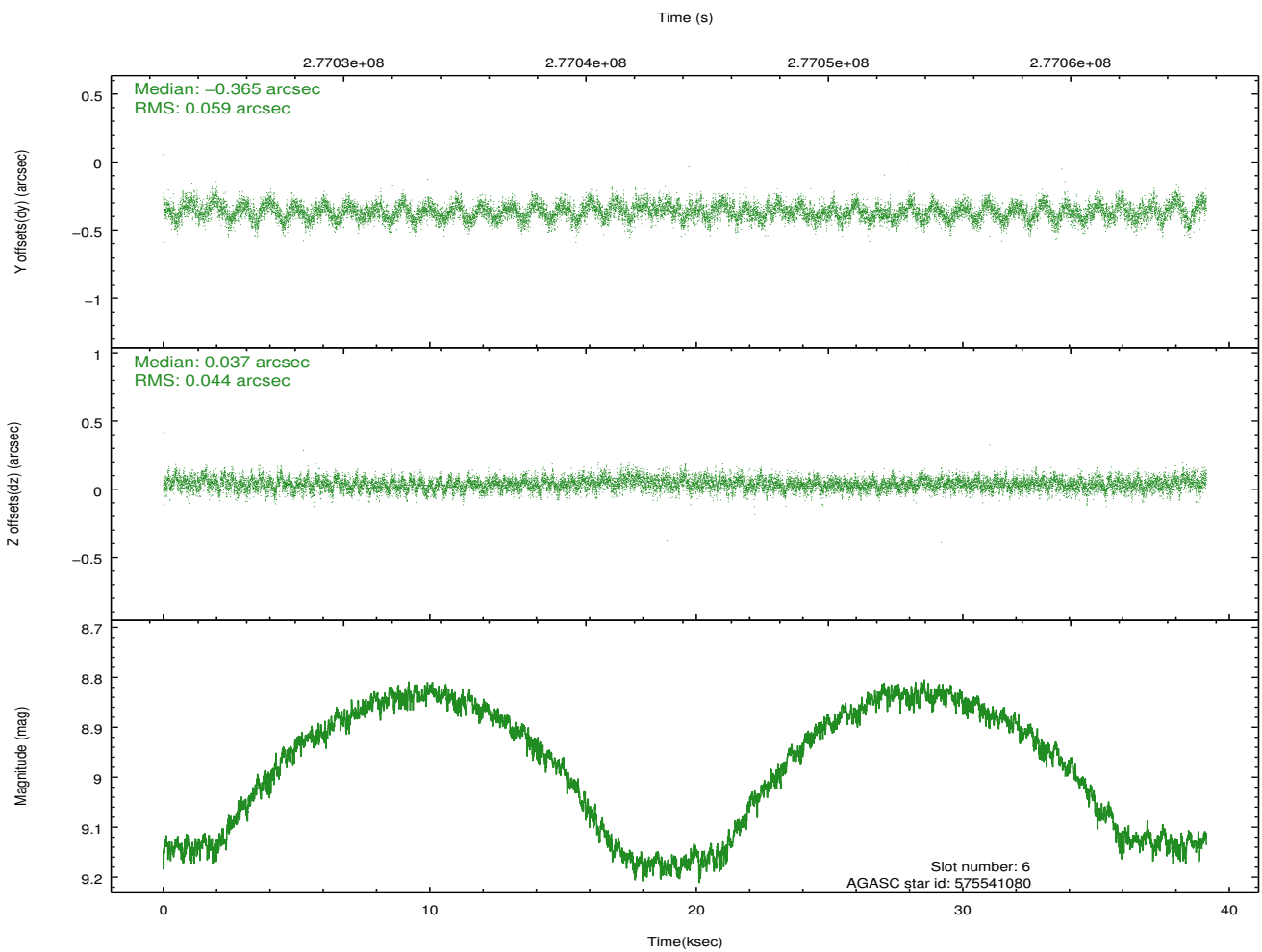
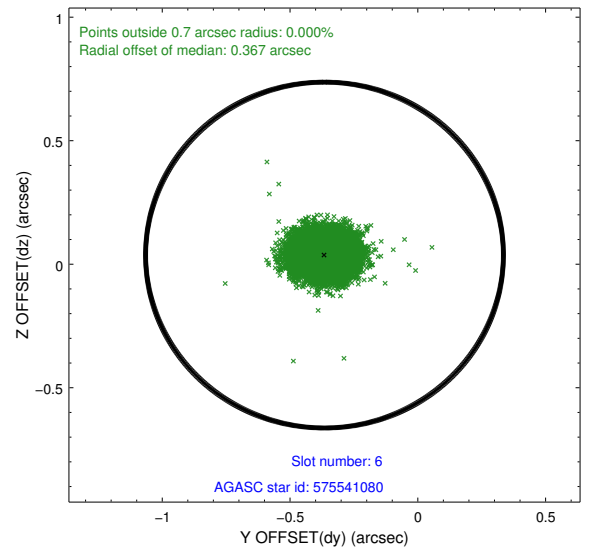
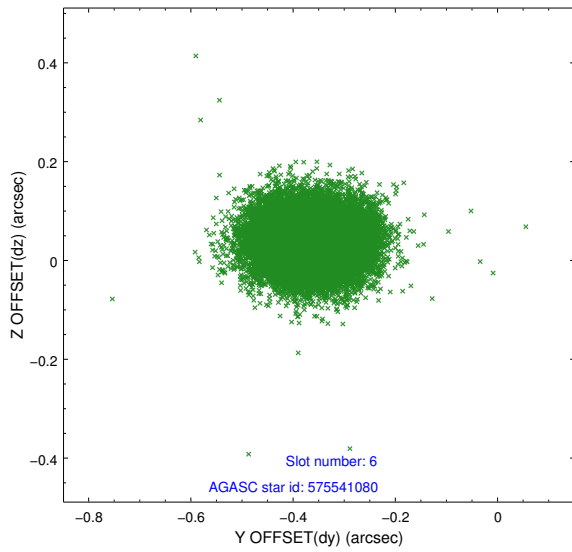
2.4.2 Slot 4



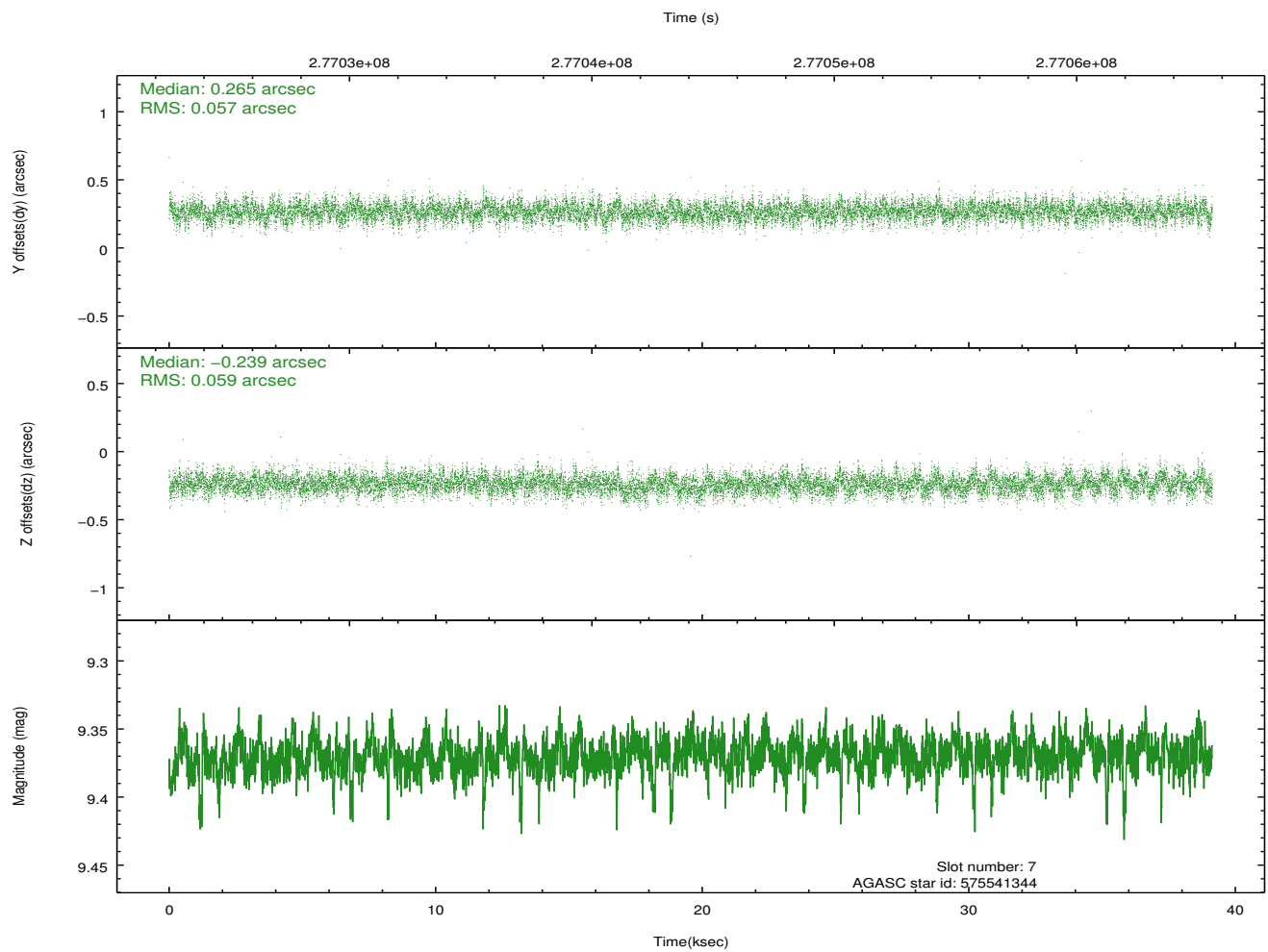
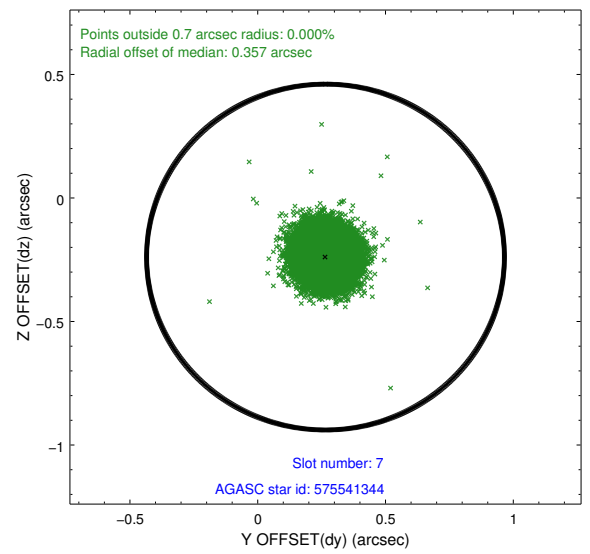
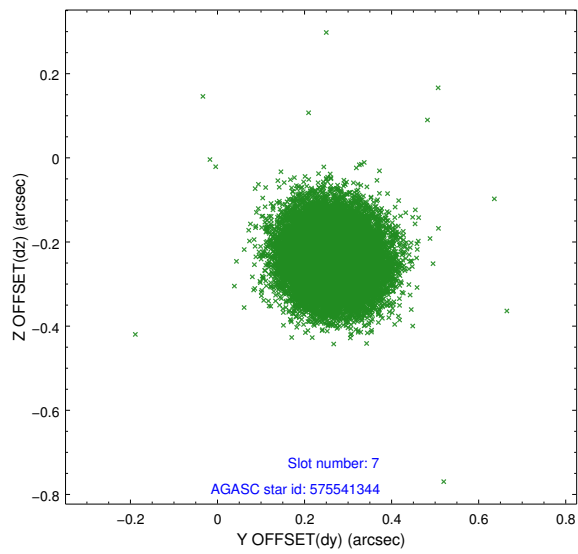
2.4.3 Slot 5



2.4.4 Slot 6

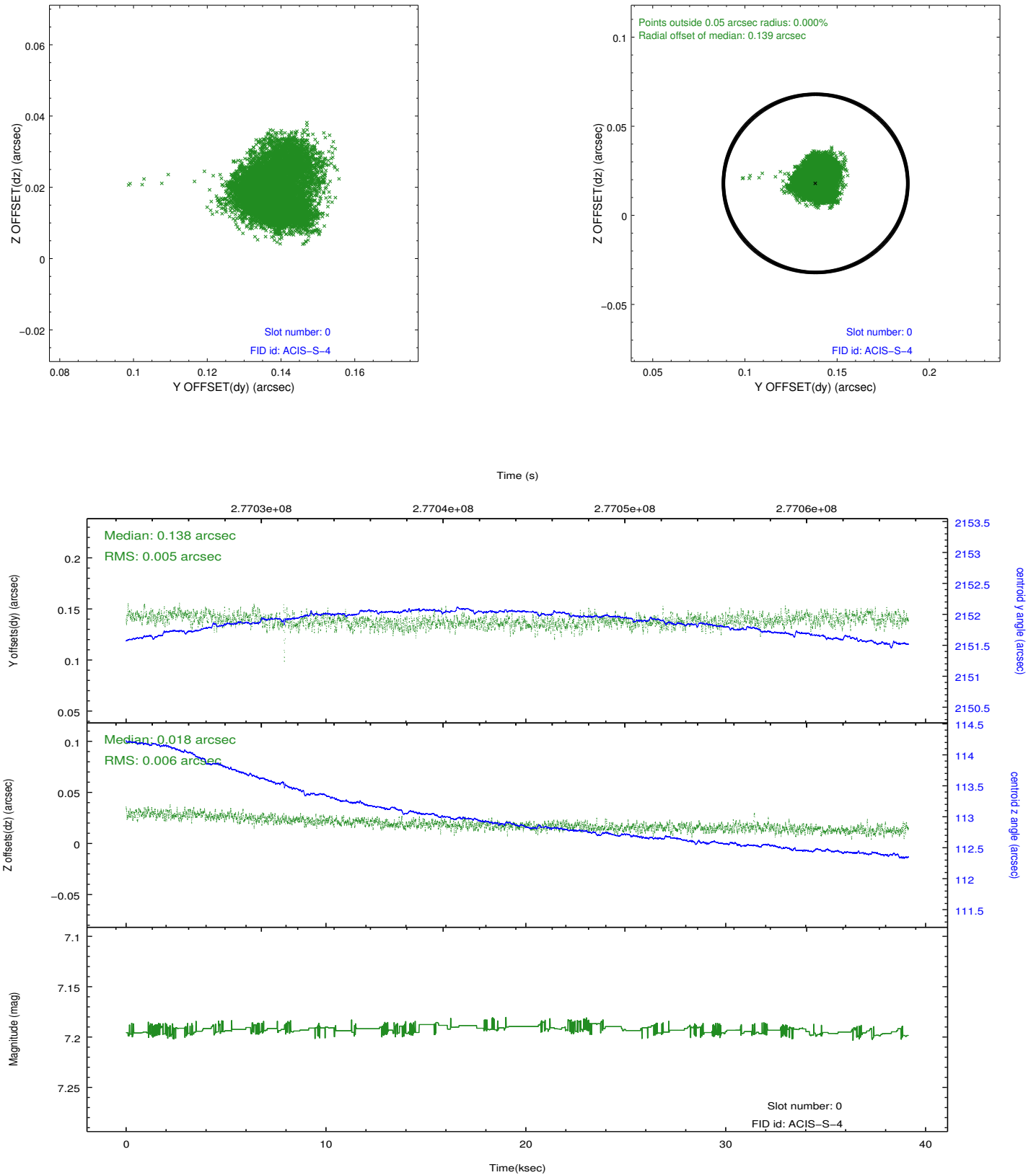


2.4.5 Slot 7

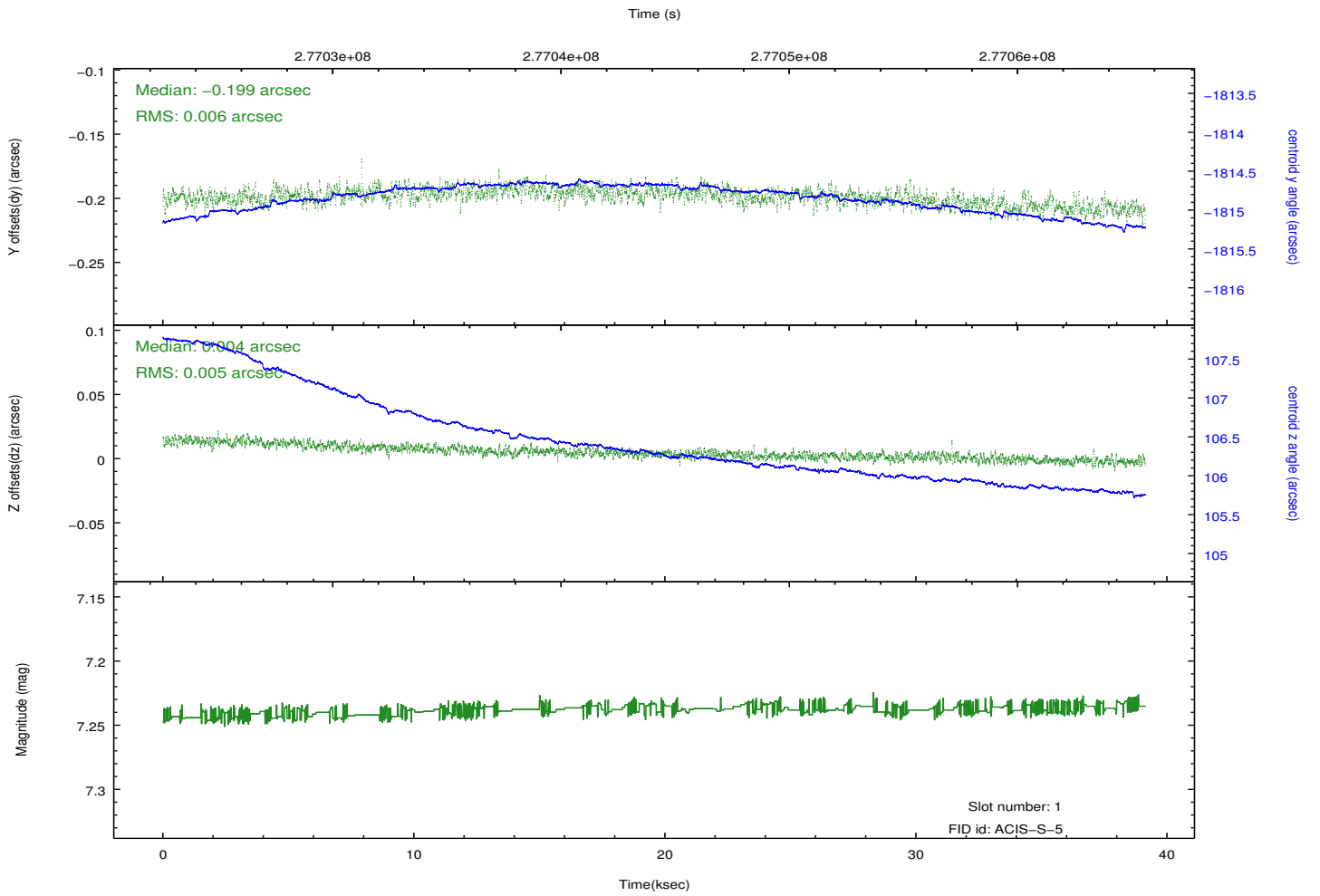
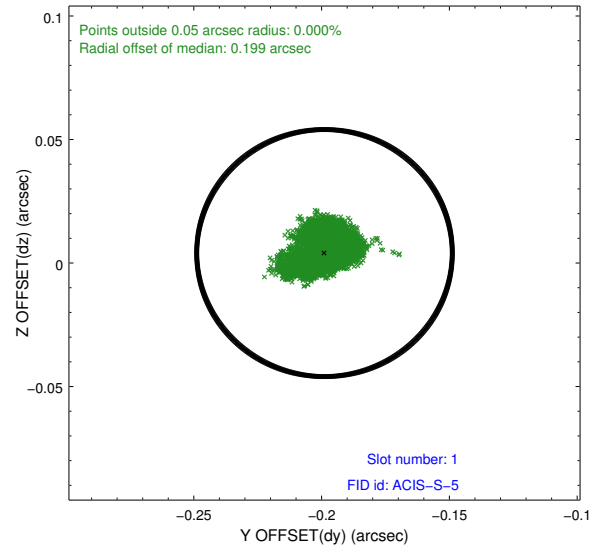
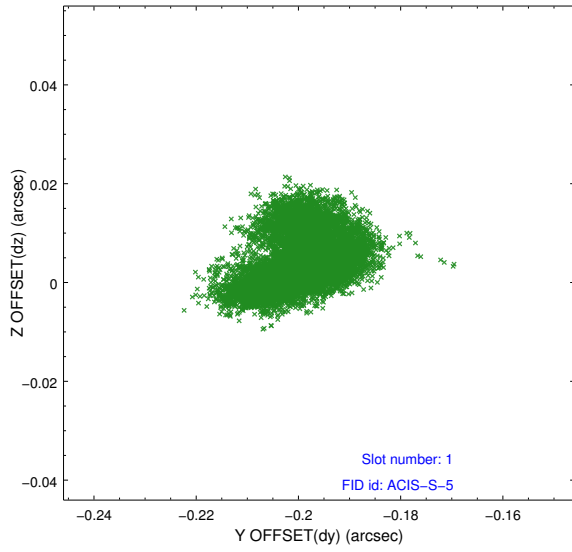


2.5 FID Slots

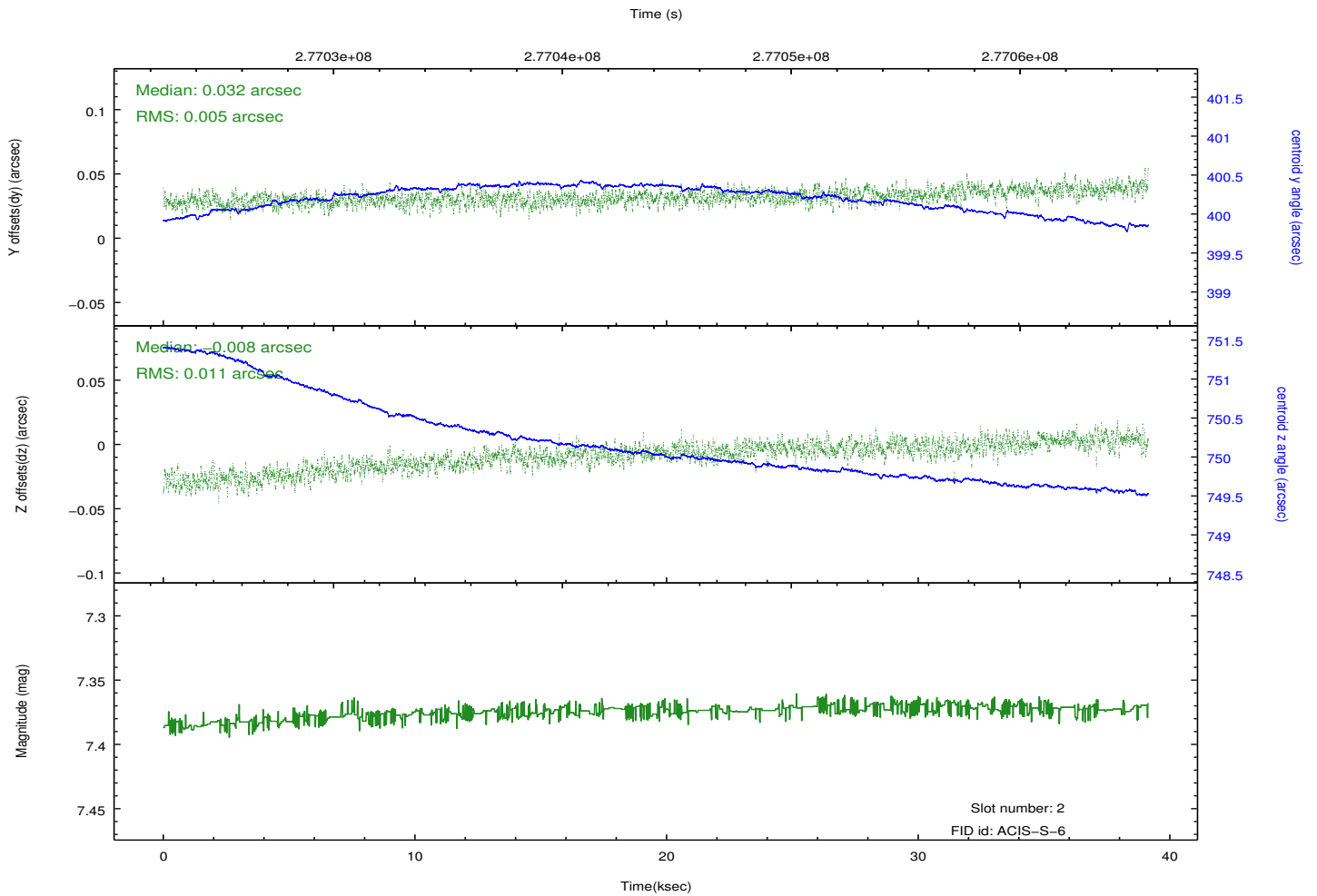
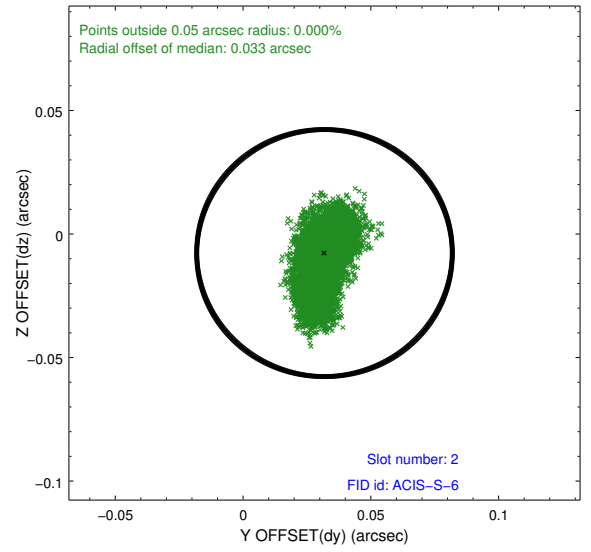
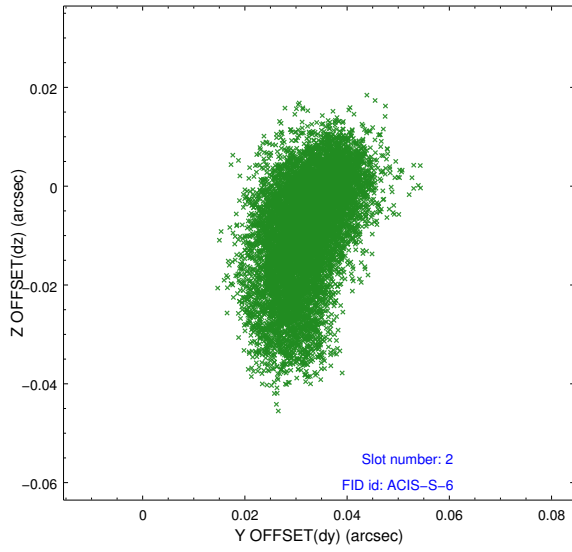
2.5.1 Slot 0



2.5.2 Slot 1

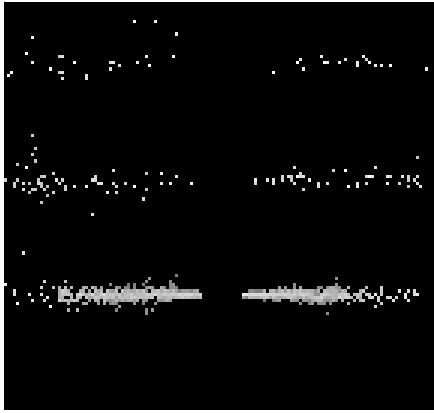


2.5.3 Slot 2

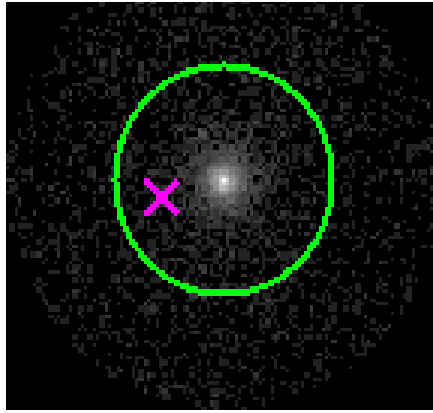


3 Gratings

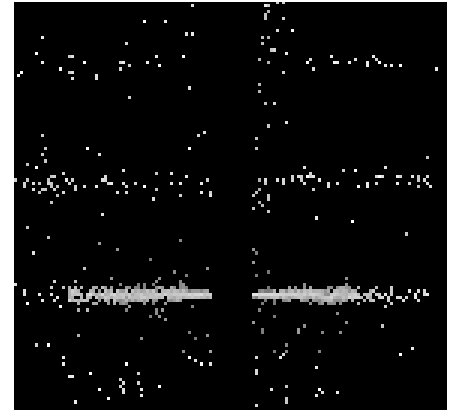
3.1 HEG Arm



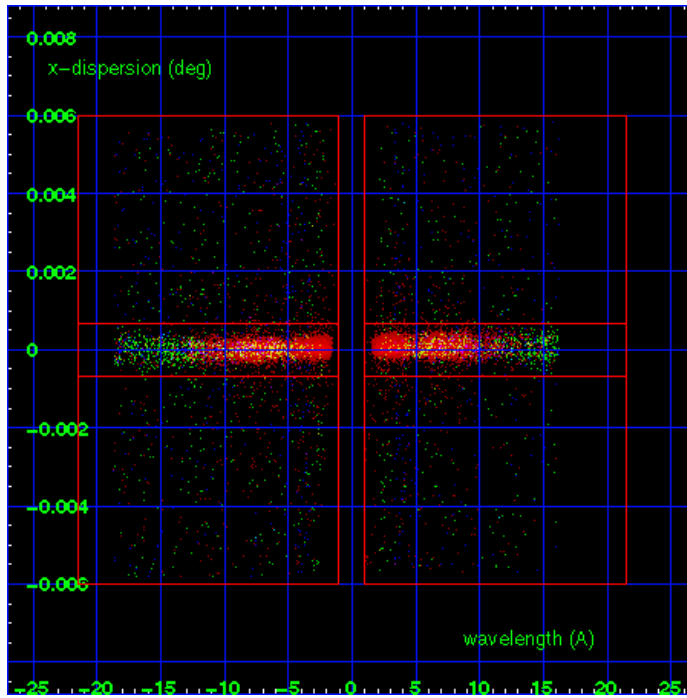
HEG Order Sort 123



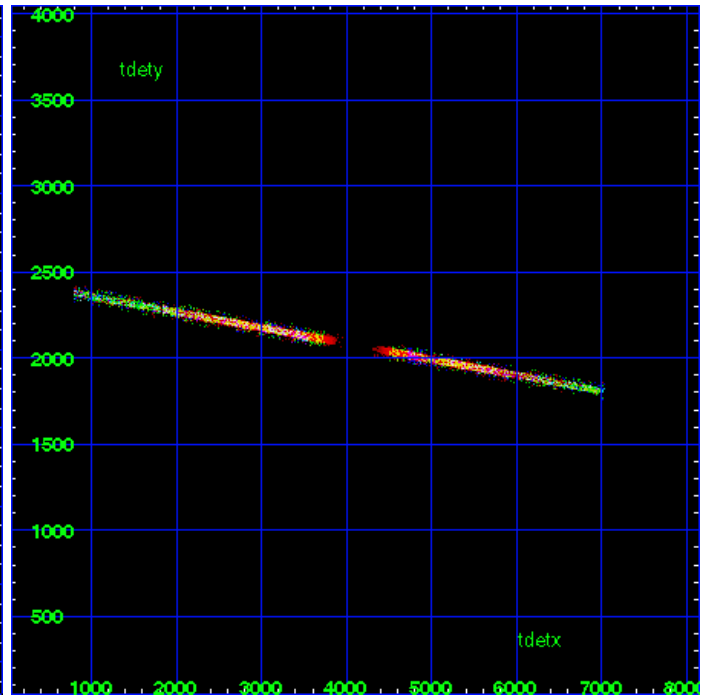
HEG Zero Order



HEG Order Sort ALL

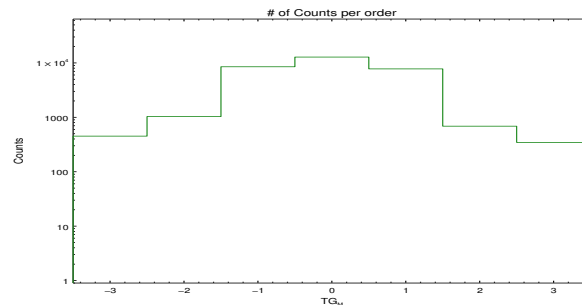


Spot Image HEG

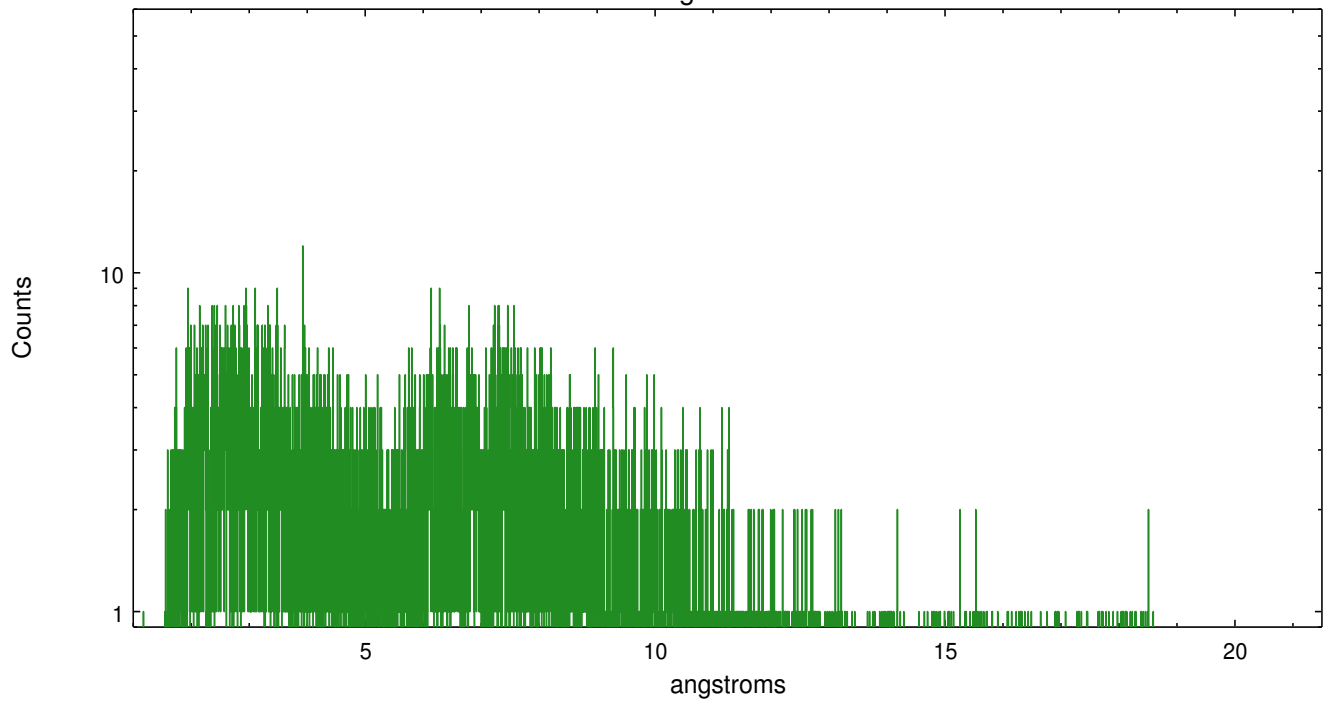


Full Detector HEG

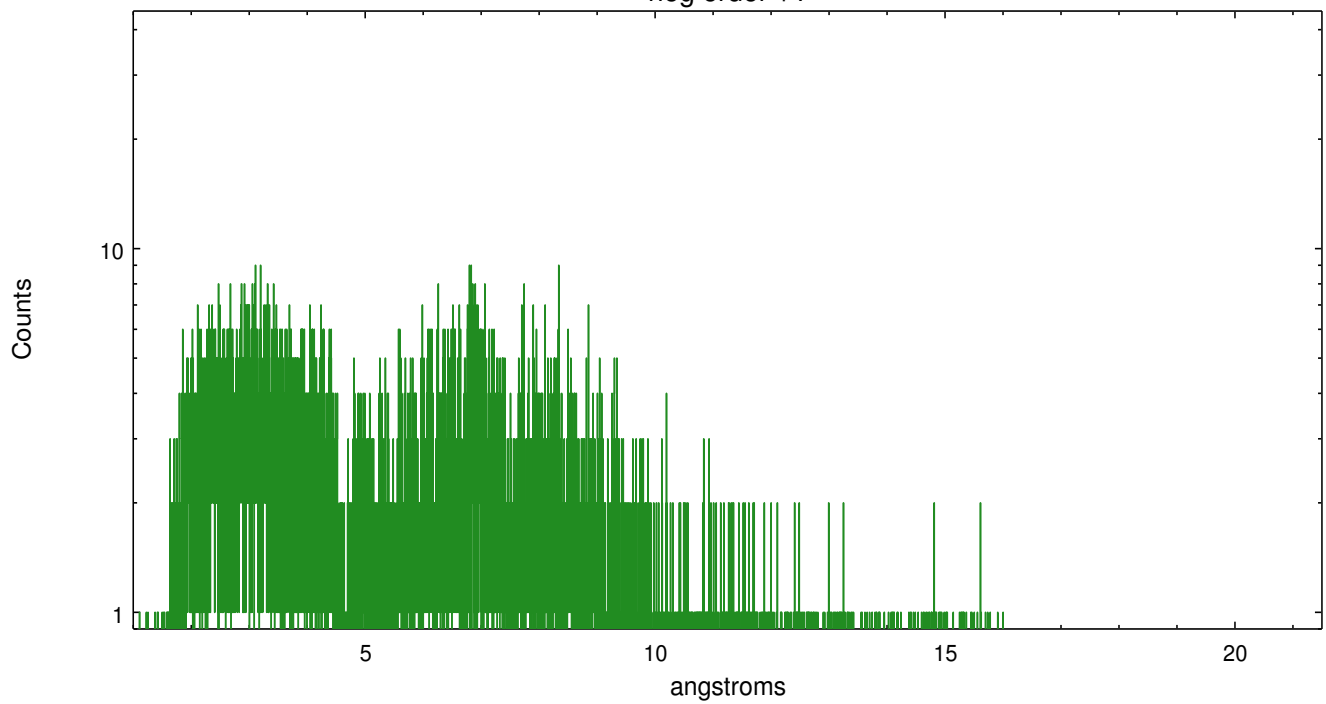
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	451	1032	8502	12803	7769	687	346



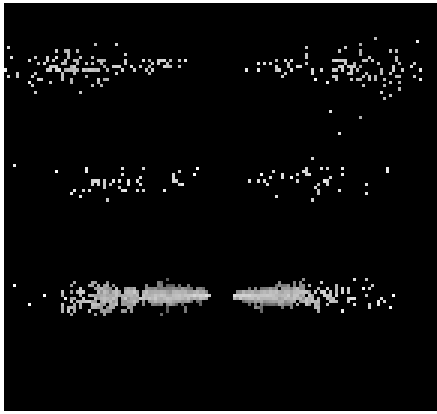
heg order -1



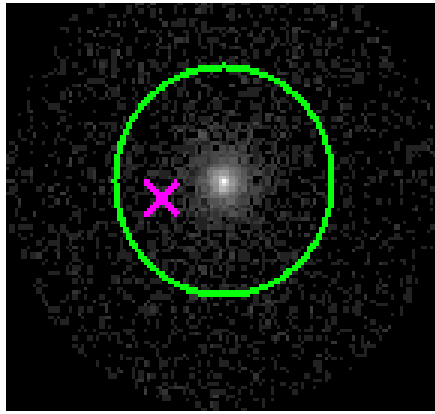
heg order +1



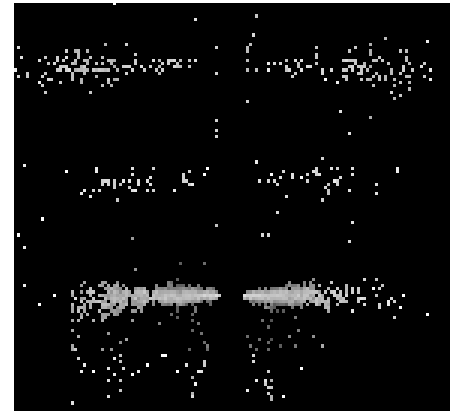
3.2 MEG Arm



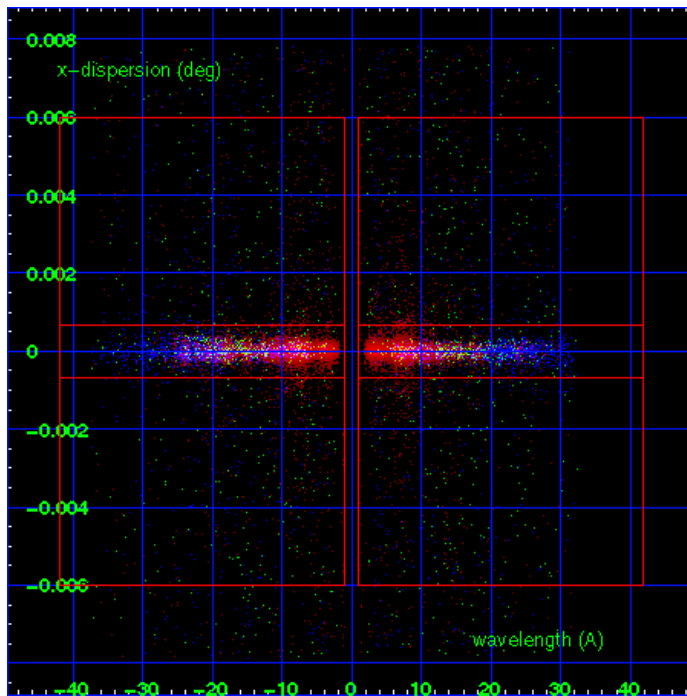
MEG Order Sort 123



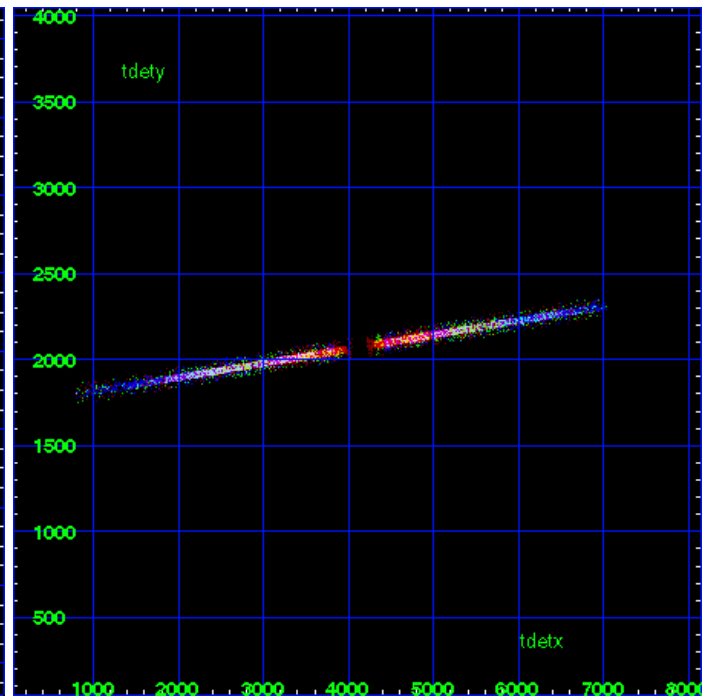
MEG Zero Order



MEG Order Sort ALL

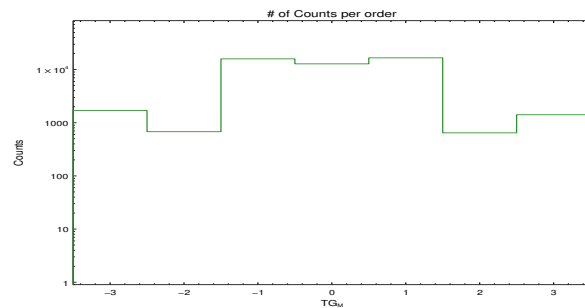


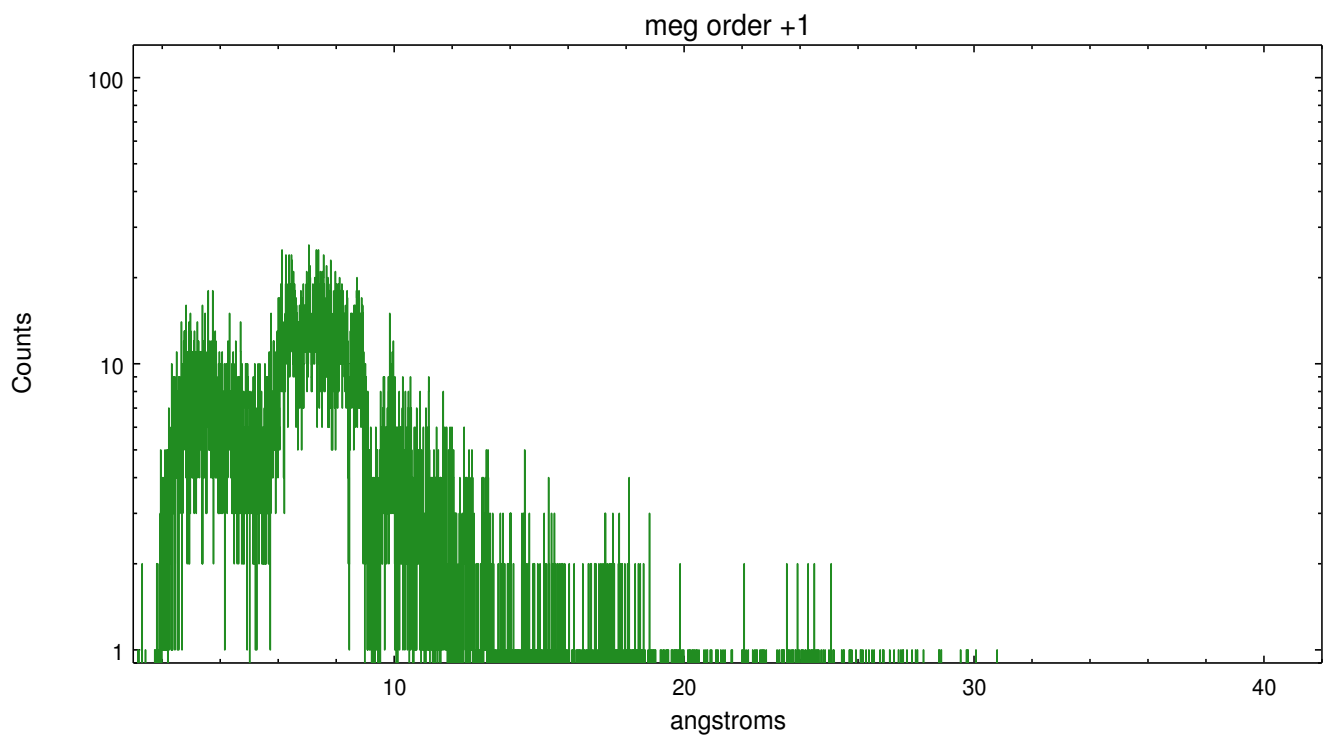
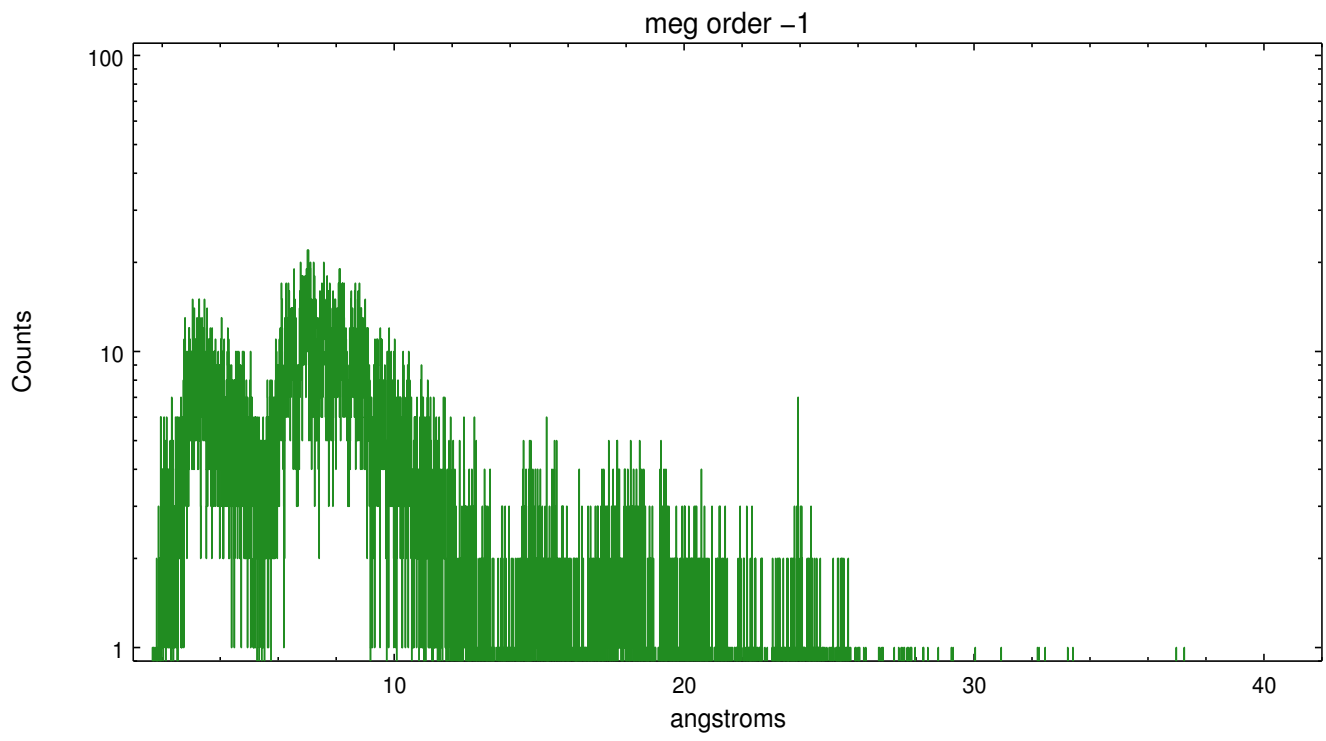
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1699	678	15898	12803	16604	645	1413





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.04.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.1375

A.2 Comments

Zeroth order moderately 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 ($x=4111.26$, $y=4100.44$) 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 (preferred position), or the readout streak and the heg 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.