

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1014 - L2 Version 3
Chandra X-Ray Center

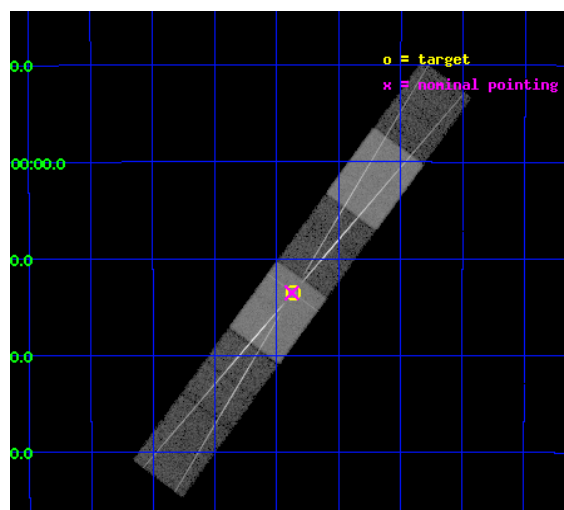
L2 Processing Date : Sep 18 2012

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1 Front

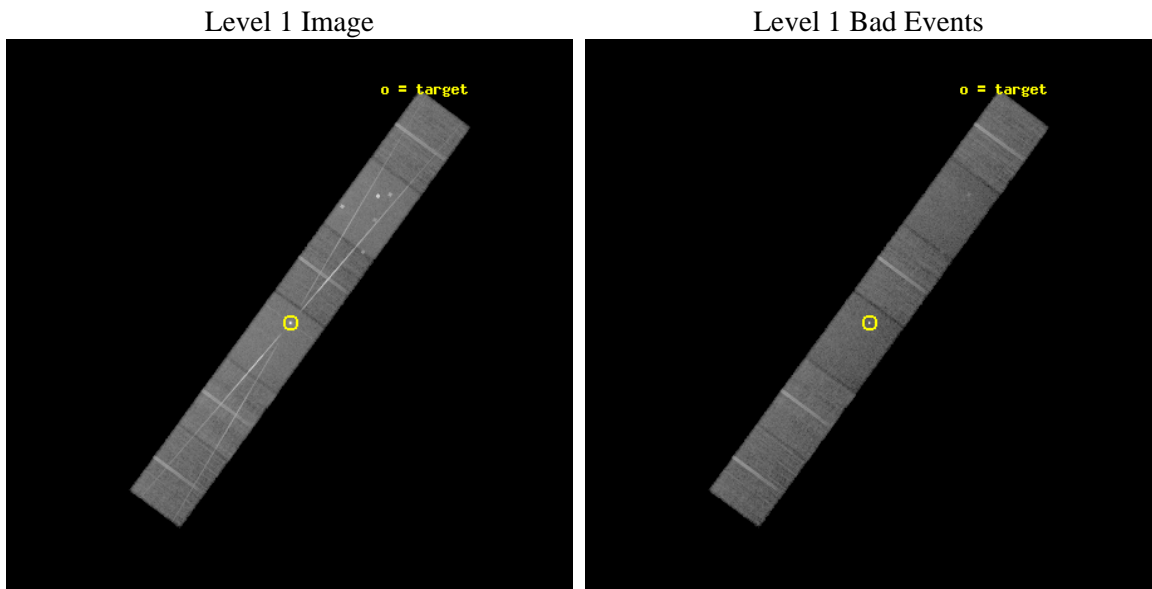
seq_num	390006	Sequence number
obs_id	1014	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.71924004128	Nominal RA [deg]
dec_nom	-30.225665970493	Nominal Dec [deg]
roll_nom	126.22652676589	Nominal Roll [deg]
revision	3	Processing version of data
ontime	27127.5	Sum of GTIs [s]
livetime	26689.367345654	Livetime [s]
ontime4	27127.5	Sum of GTIs [s]
ontime5	27127.5	Sum of GTIs [s]
ontime6	27127.5	Sum of GTIs [s]
ontime7	27127.5	Sum of GTIs [s]
ontime8	27127.5	Sum of GTIs [s]
ontime9	27127.5	Sum of GTIs [s]
l2events	319652	Number of level 2 events



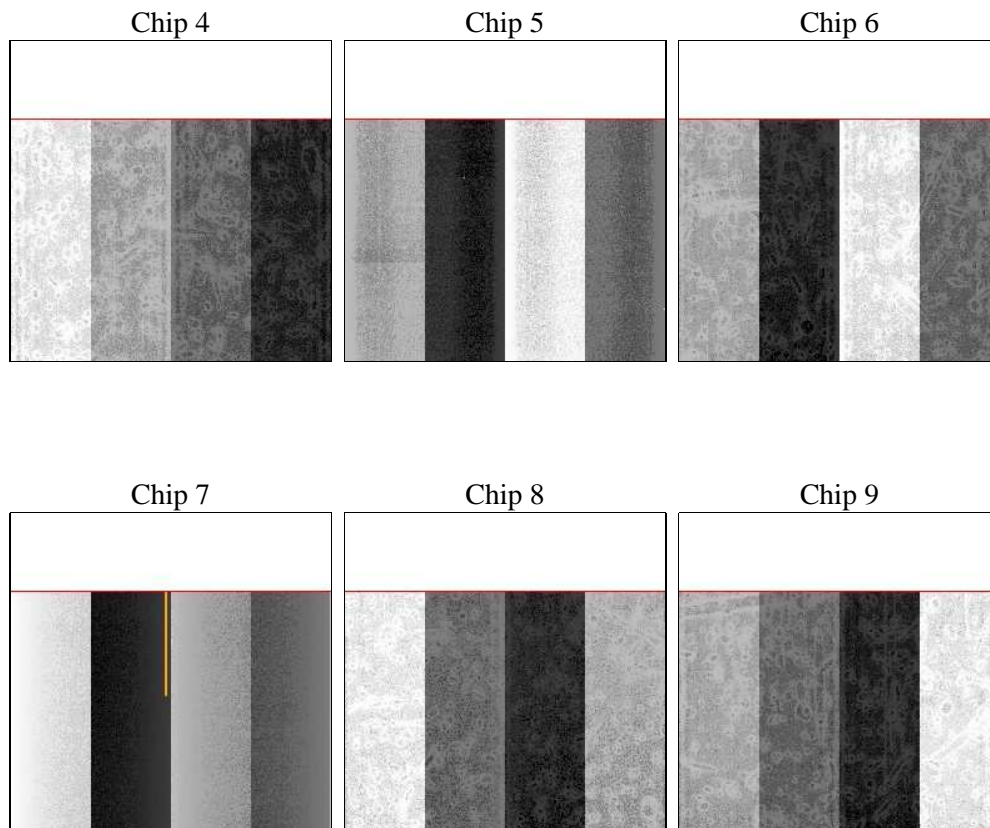
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	27127.5	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	27127.5	Sum of GTIs [s]
date	2012-09-14T20:10:12	Date and time of file creation	ontime5	27127.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	27127.5	Sum of GTIs [s]
			ontime7	27127.5	Sum of GTIs [s]
			ontime8	27127.5	Sum of GTIs [s]
			ontime9	27127.5	Sum of GTIs [s]
			l1events	1071230	Number of level 1 events

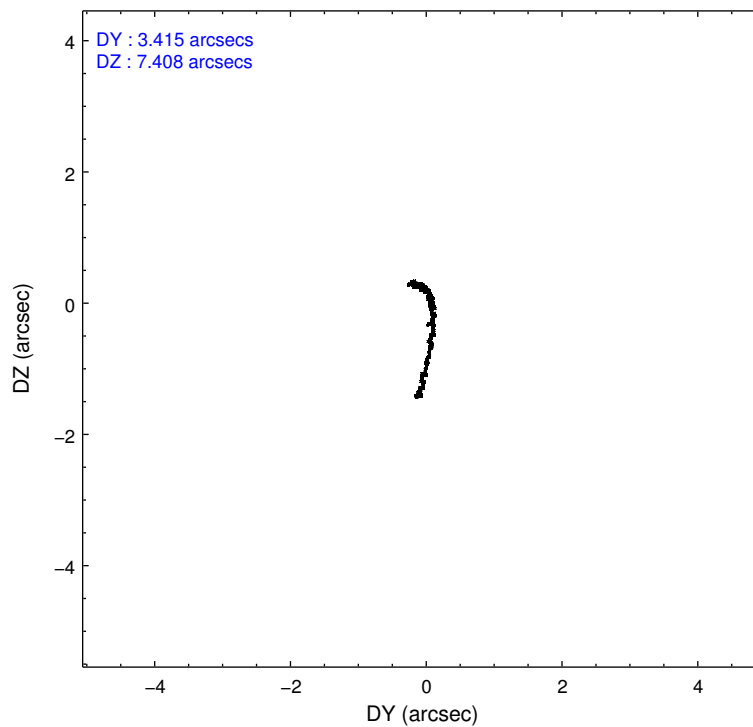
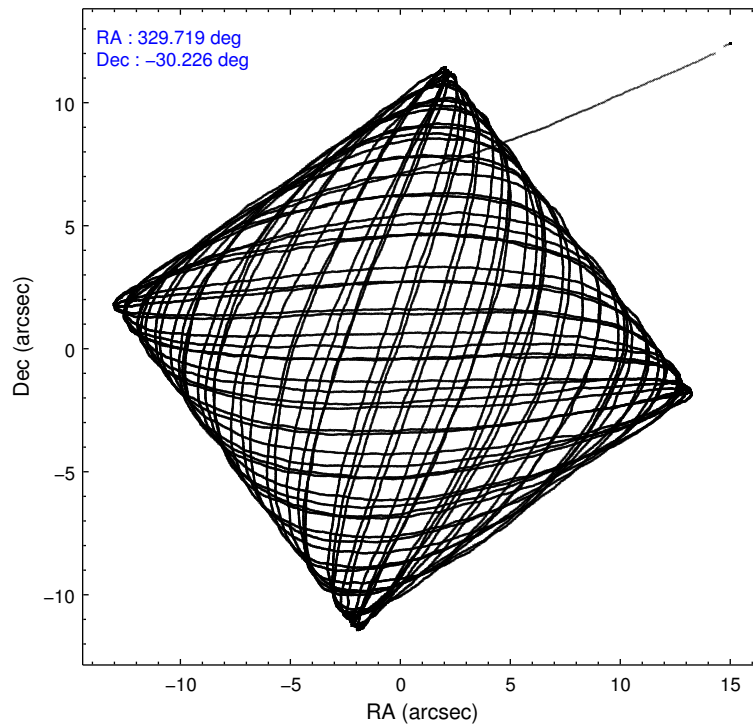
2.1.4 Events

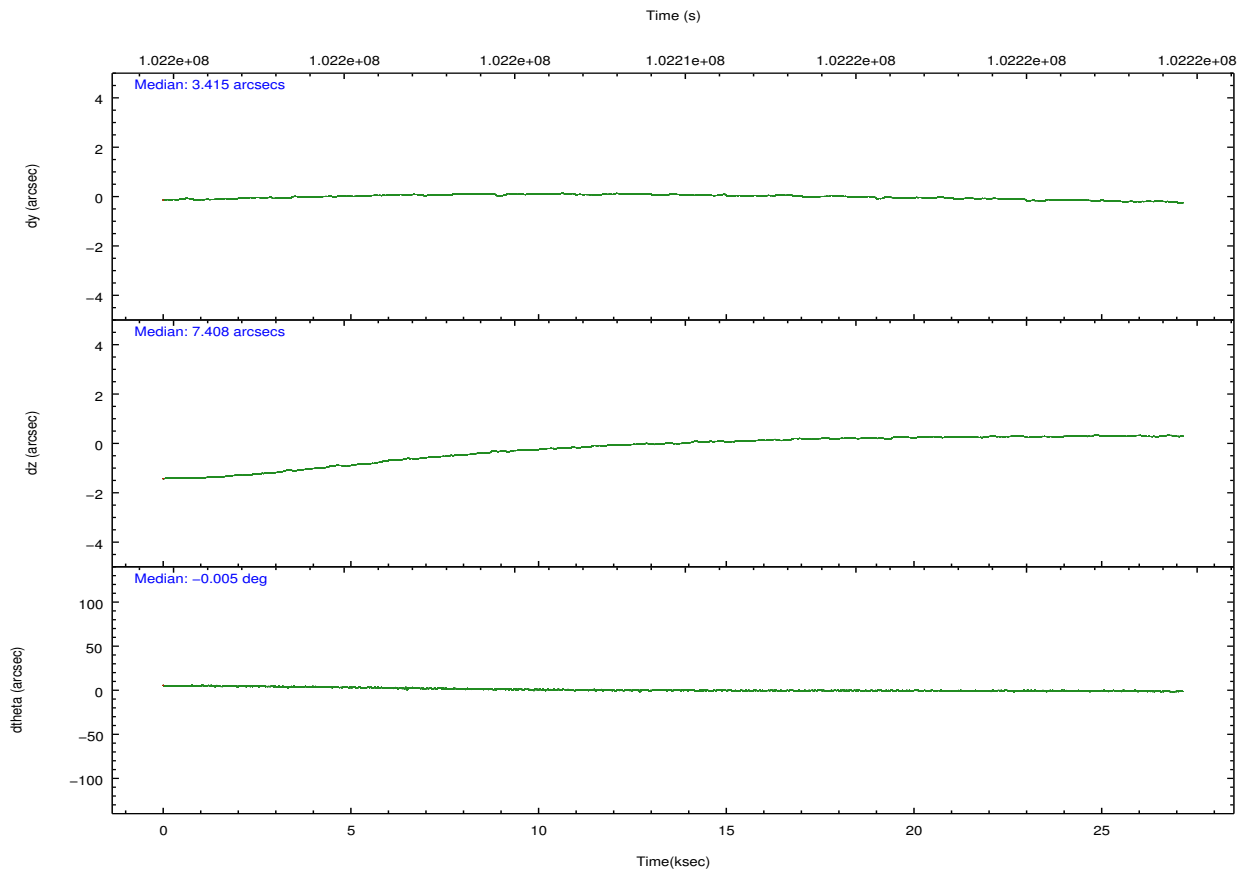
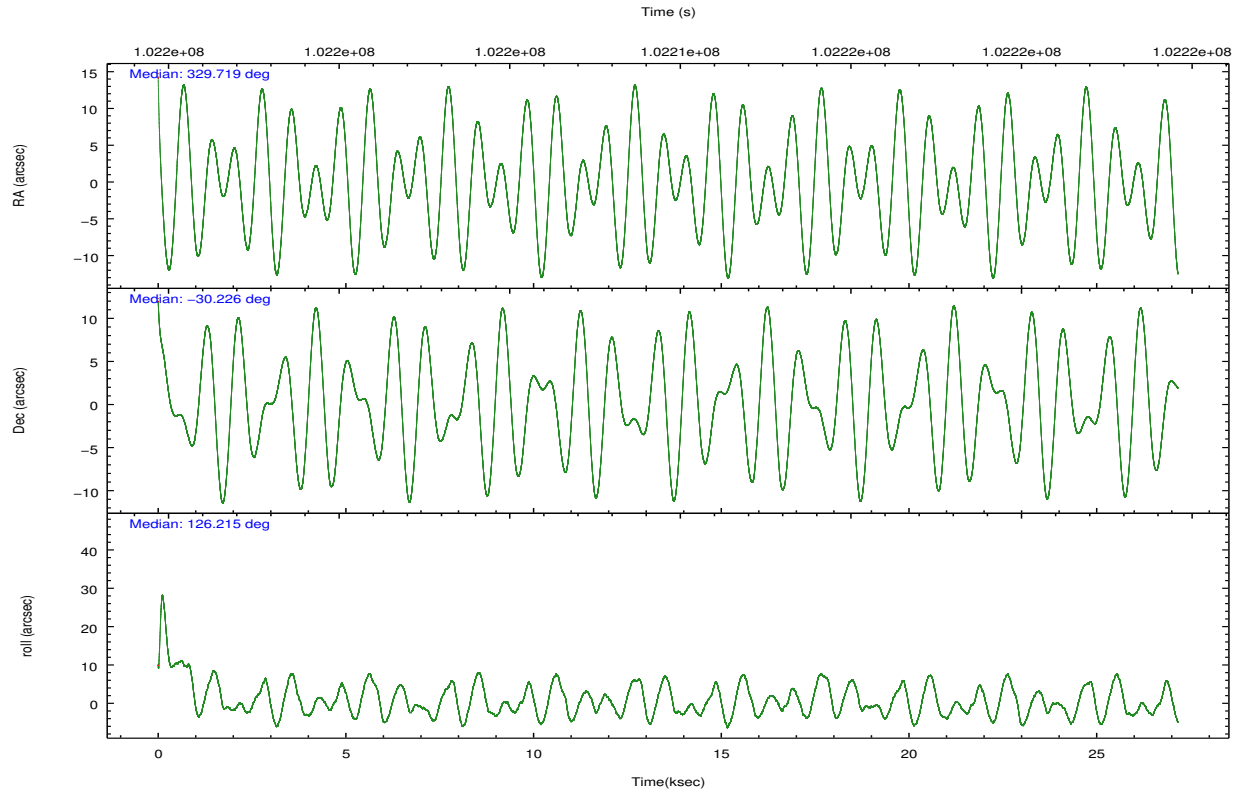
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	151210	211628	172519	207323	194286	134264	grade 0 events	9974	30528	36901	15290	32367	11069
rejected events	131140	96740	118914	103253	133187	113121		6%	14%	21%	7%	16%	8%
rejected %	86%	45%	68%	49%	68%	84%	grade 1 events	71	622	206	359	157	58
								0%	0%	0%	0%	0%	0%
							grade 2 events	4080	28408	7075	22243	9419	3496
								2%	13%	4%	10%	4%	2%
							grade 3 events	1623	6235	2867	10191	4987	1801
								1%	2%	1%	4%	2%	1%
							grade 4 events	1572	6087	2861	10339	4791	1695
								1%	2%	1%	4%	2%	1%
							grade 5 events	4541	14483	5328	16737	6656	5432
								3%	6%	3%	8%	3%	4%
							grade 6 events	2828	43651	3911	46022	9542	3085
								1%	20%	2%	22%	4%	2%
							grade 7 events	126521	81614	113370	86142	126367	107628
								83%	38%	65%	41%	65%	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	329.748281	329.7192400412839	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-30.236449	-30.22566597049346	Subarray start row	1	1
[deg] Pointing Roll	126.084535	126.2265267658946	Subarray row count	774	774
[s] Window start time (MET)	99792064.184000	99792064.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	102124864.184000	102124864.184000	[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	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	102196221.184000	102195234.67786			
Observation start date	2001-03-28T19:49:17	2001-03-28T19:33:54			
[s] Observation end time (MET)	102223221.184000	102224082.79147			
Observation end date	2001-03-29T03:19:17	2001-03-29T03:34:42			
Read mode	TIMED	TIMED			

2.3 Aspect



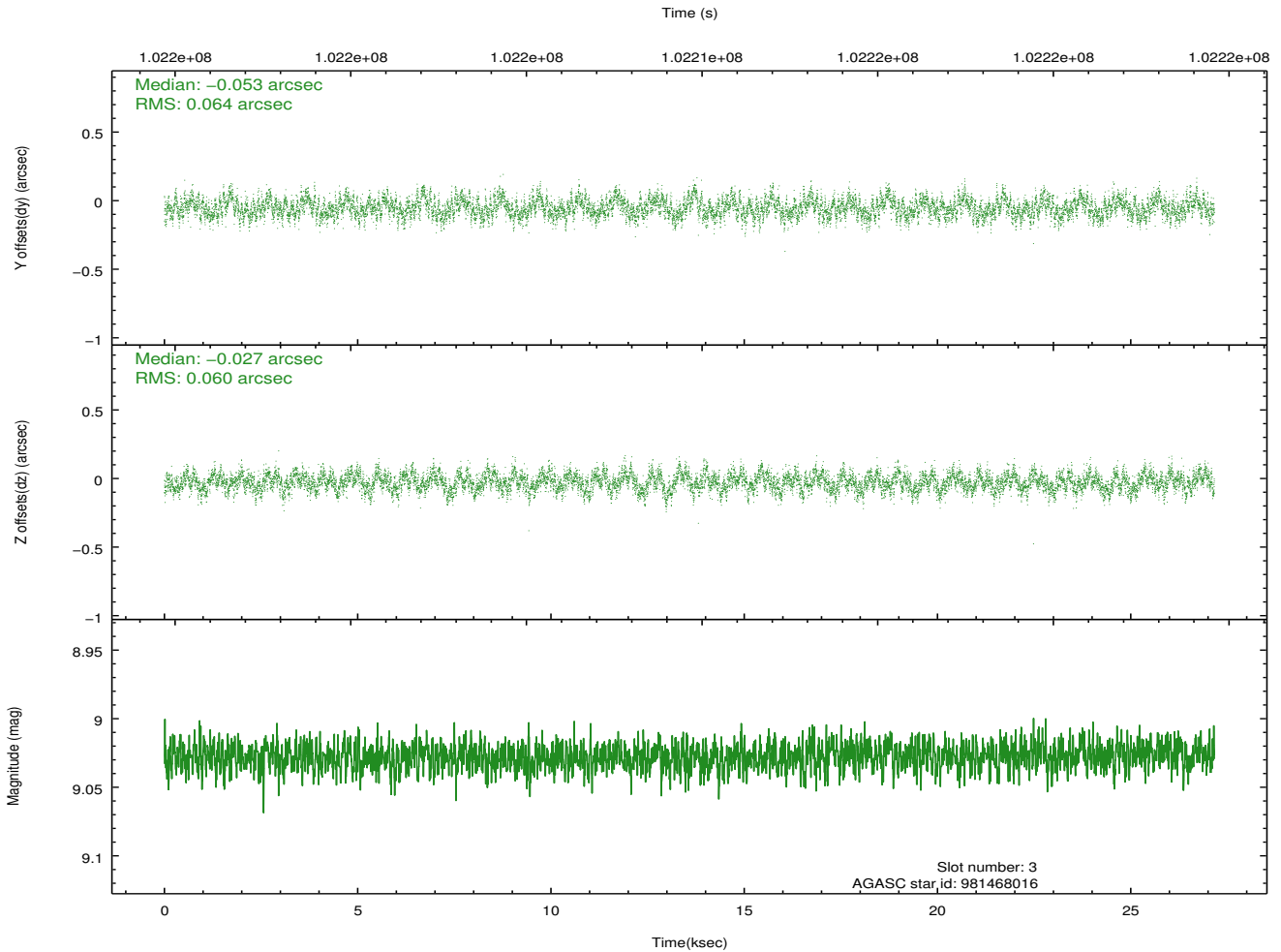
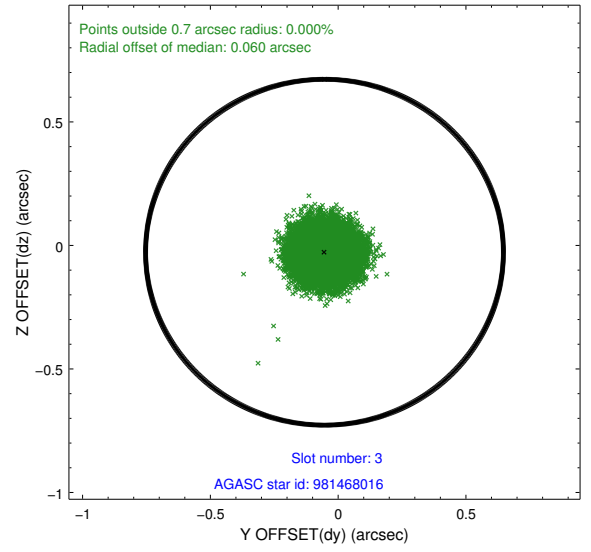
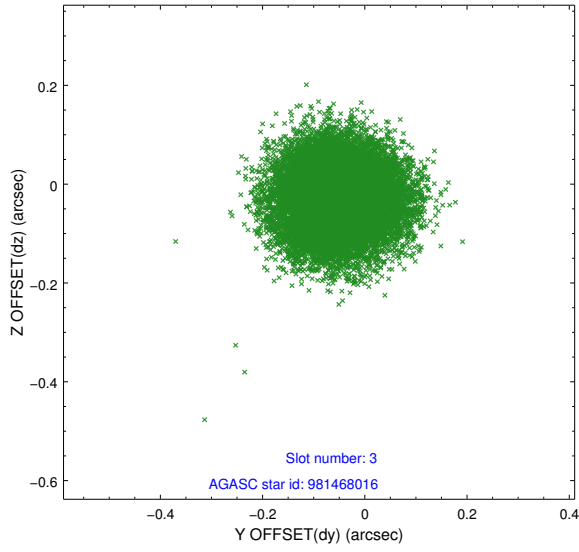


Slot Statistics

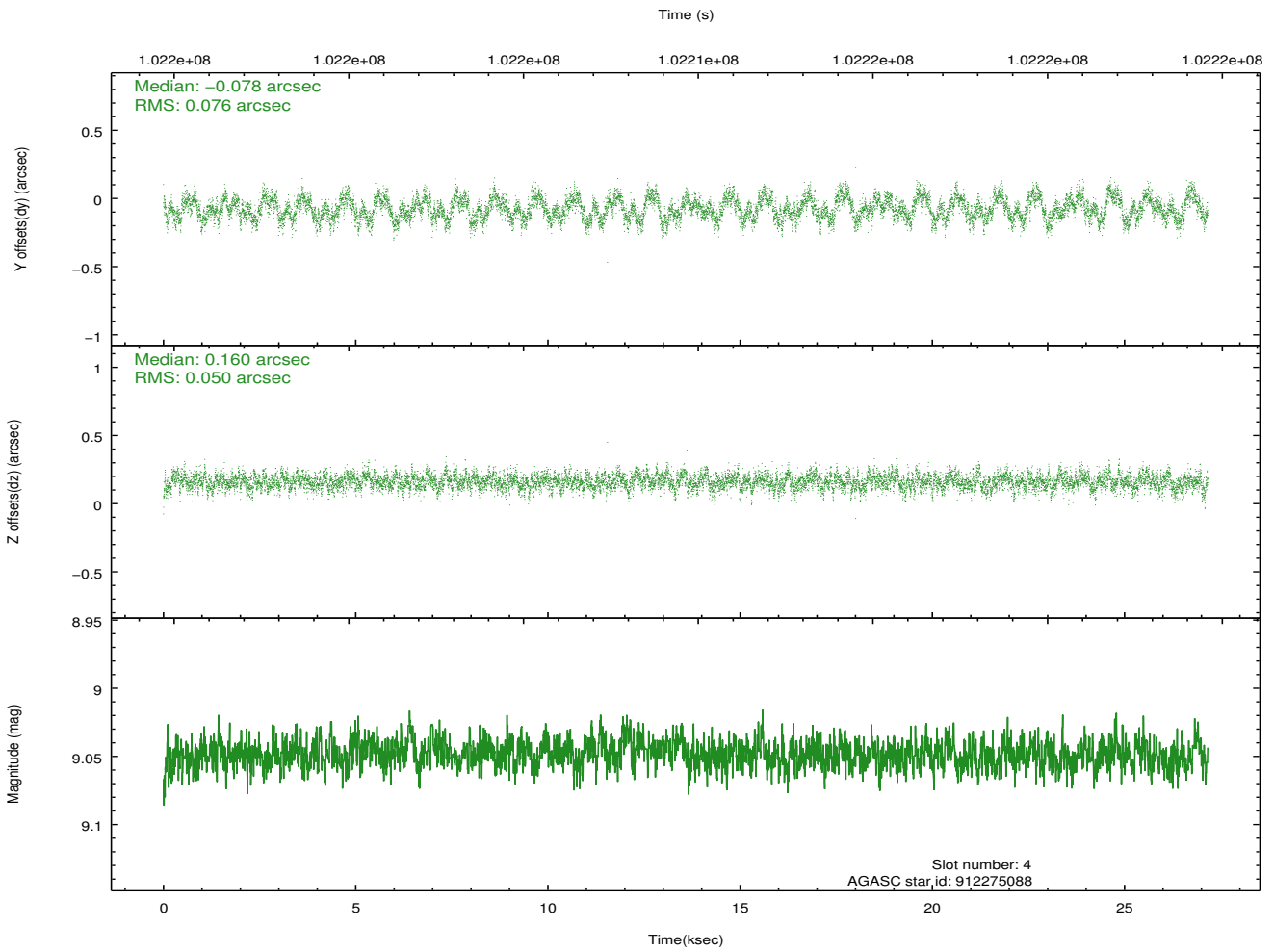
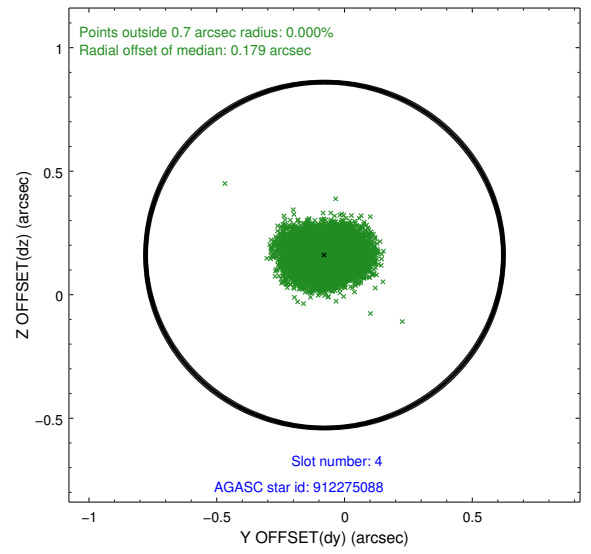
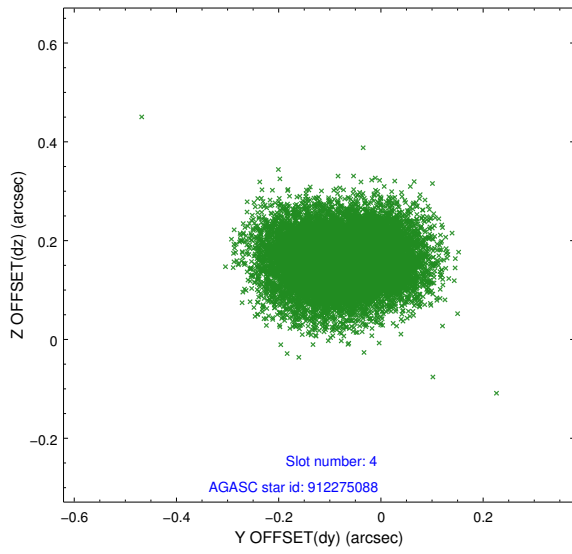
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	6626	-0.043	-0.032	0.017	0.034	0.000000	0.000000	-755.87	-1790.53
1	FID	ACIS-S-4	7.19	6625	-0.001	0.028	0.009	0.018	0.000000	0.000000	2157.39	117.92
2	FID	ACIS-S-5	7.23	6625	0.009	0.010	0.018	0.032	0.000000	0.000000	-1808.55	111.66
3	GUIDE	981468016	9.03	13243	-0.053	-0.027	0.095	0.147	328.842457	-30.034984	2240.27	1861.15
4	GUIDE	912275088	9.05	13242	-0.078	0.160	0.098	0.155	329.619228	-29.738698	1686.62	-728.84
5	GUIDE	981478152	9.40	13245	0.020	-0.171	0.084	0.140	329.415589	-30.057192	1131.75	458.35
6	GUIDE	981468128	9.35	13246	0.175	0.152	0.095	0.151	329.756350	-30.158334	213.58	-185.92
7	GUIDE	981469488	9.57	13233	-0.054	-0.111	0.215	0.291	329.261199	-30.045155	1448.56	822.92

2.4 Star Slots

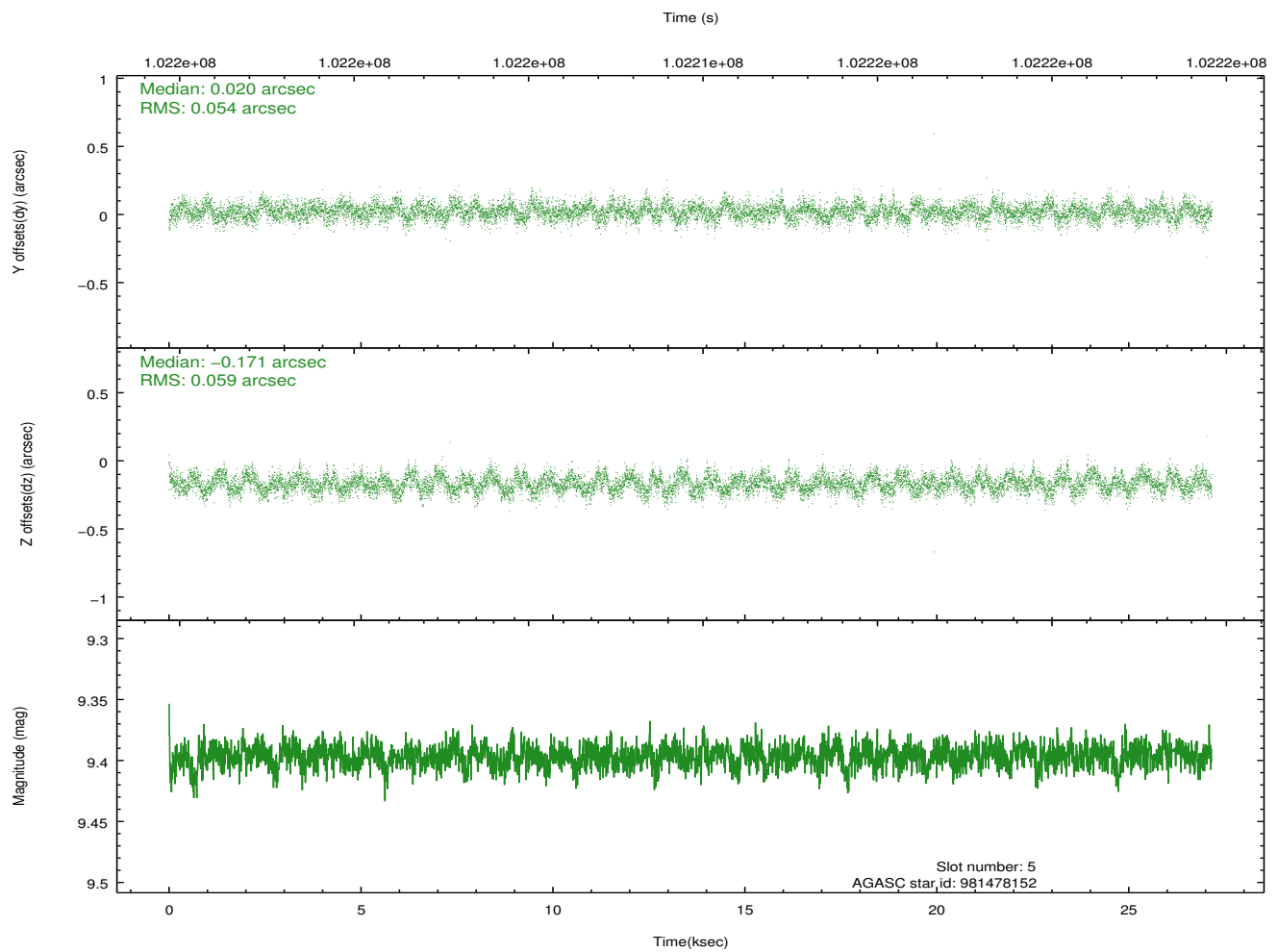
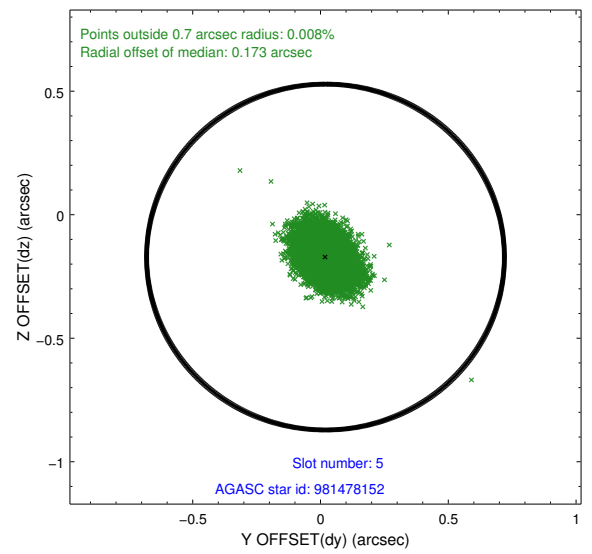
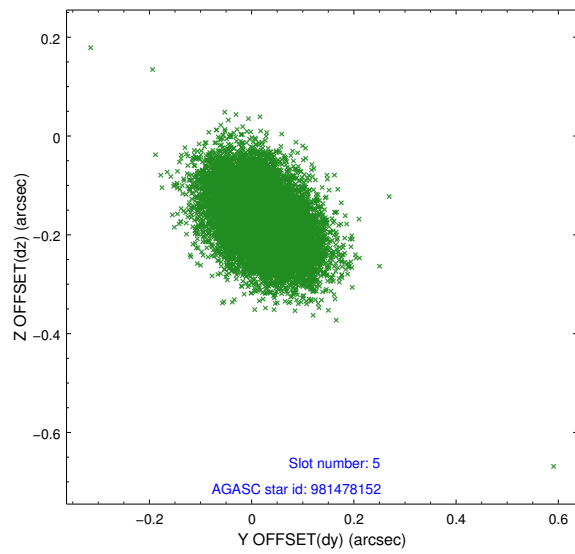
2.4.1 Slot 3



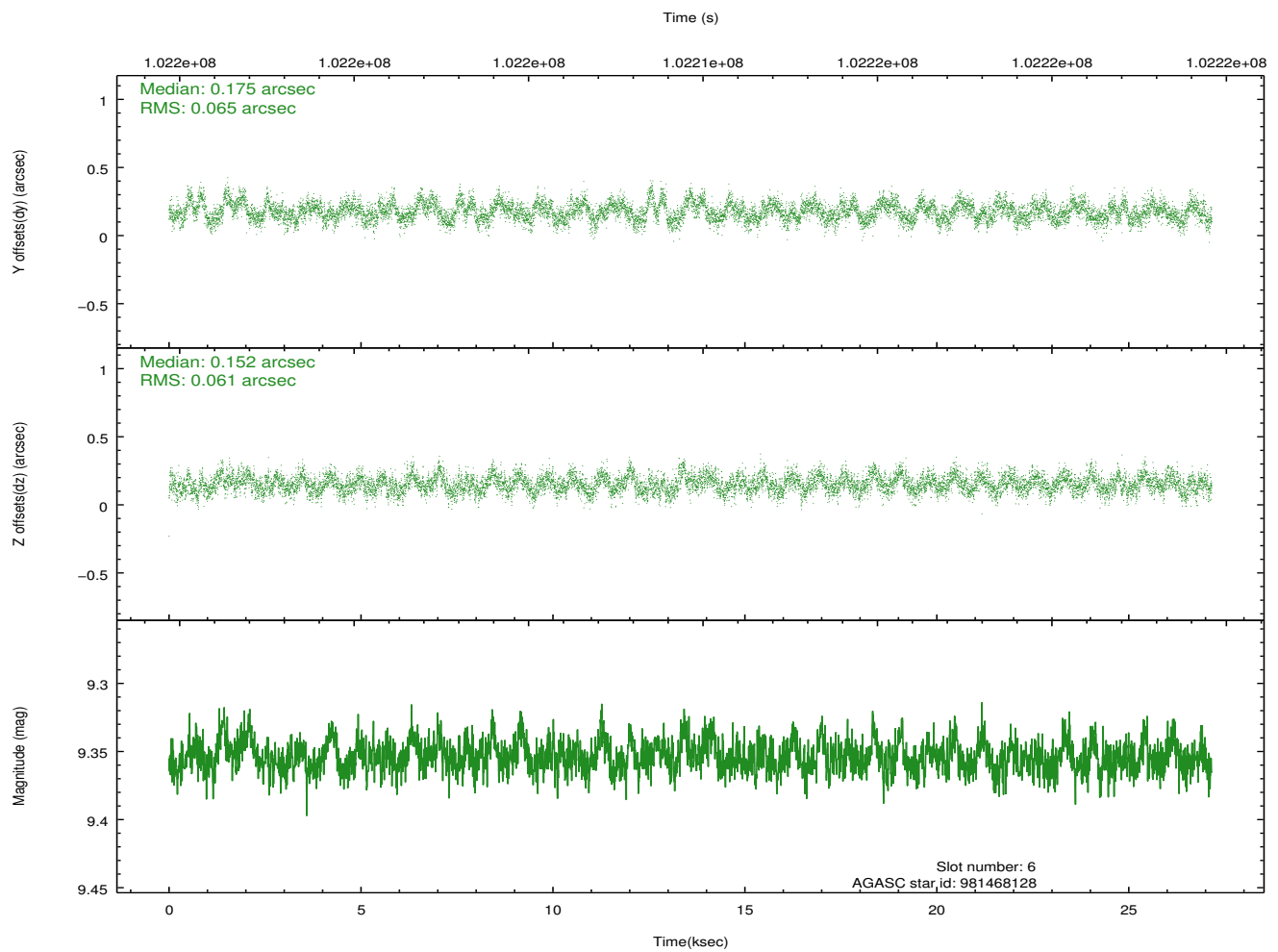
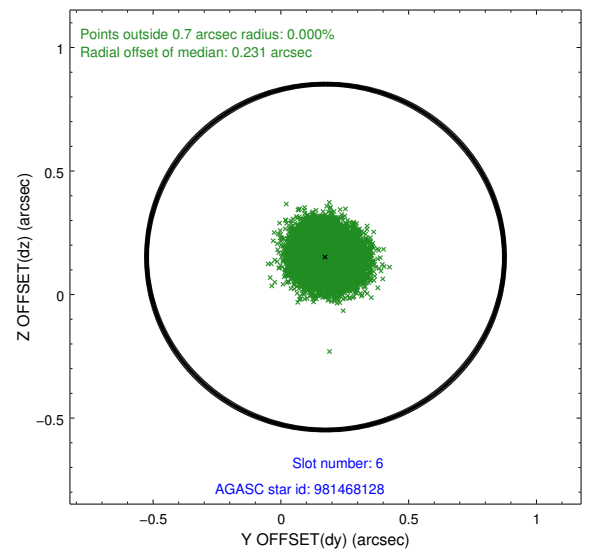
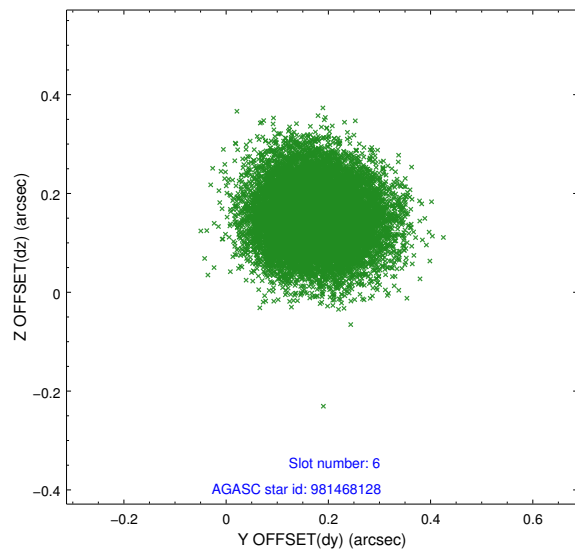
2.4.2 Slot 4



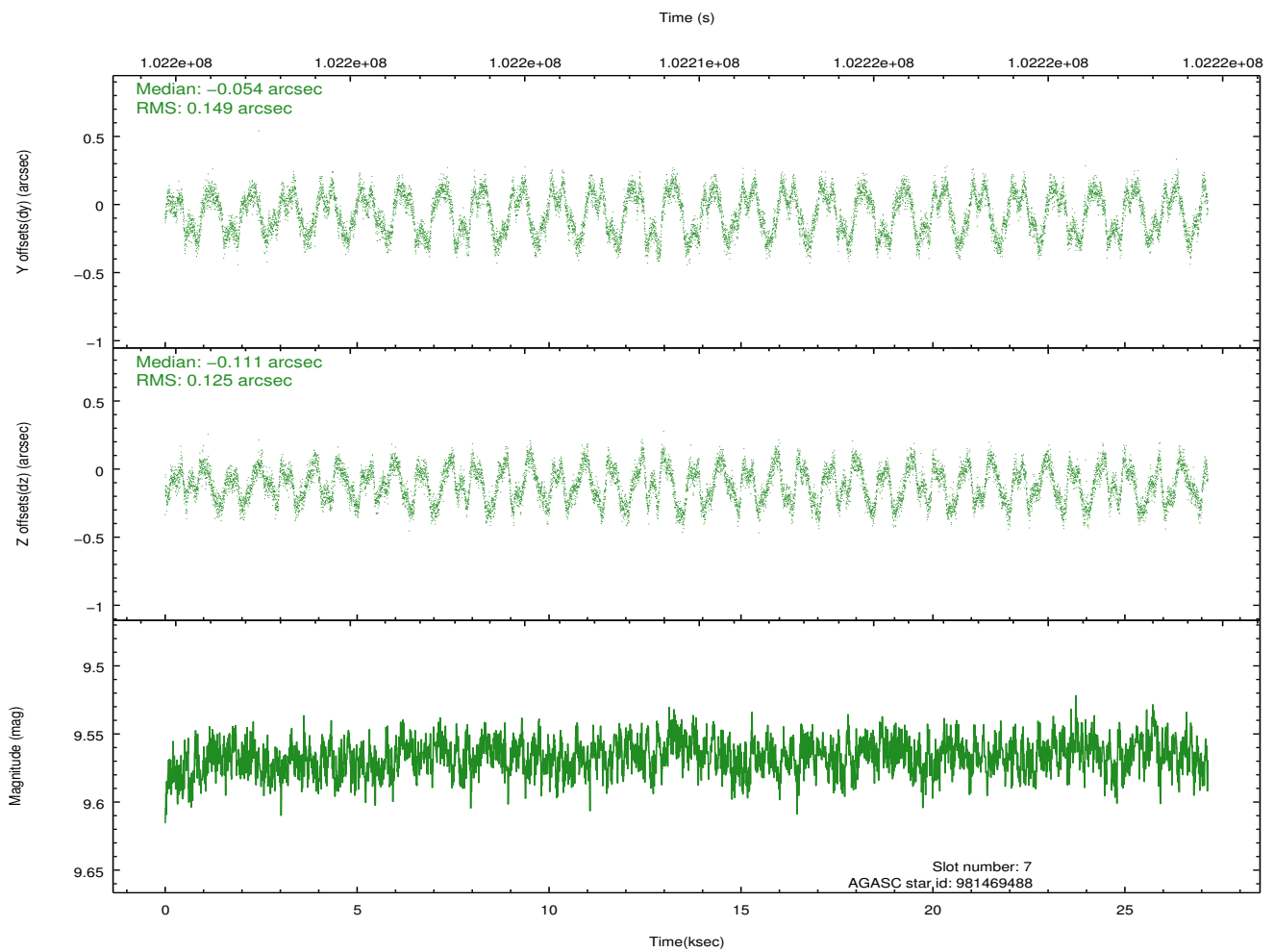
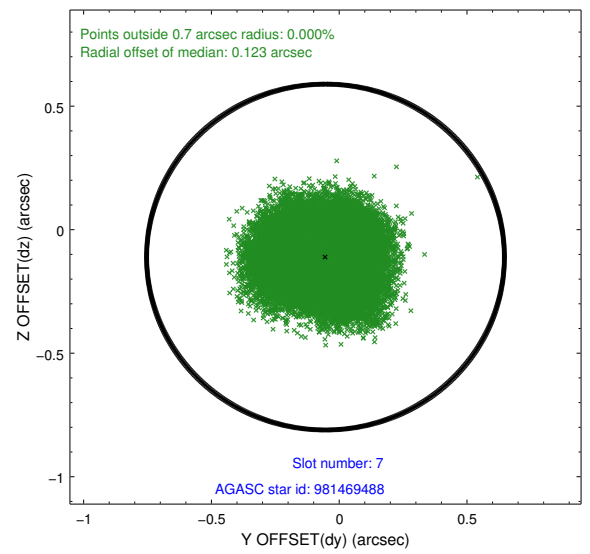
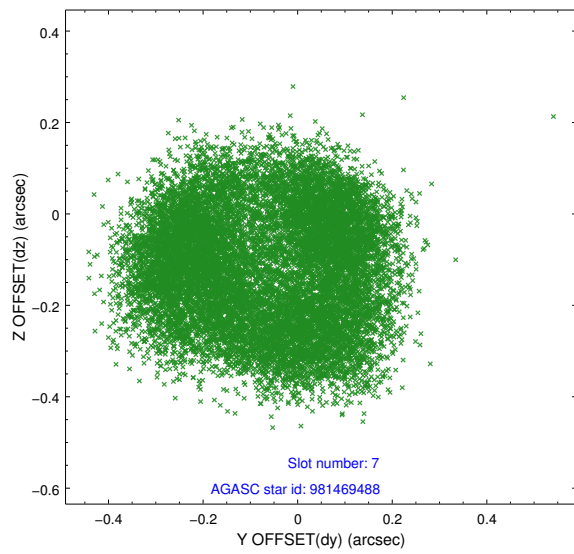
2.4.3 Slot 5



2.4.4 Slot 6

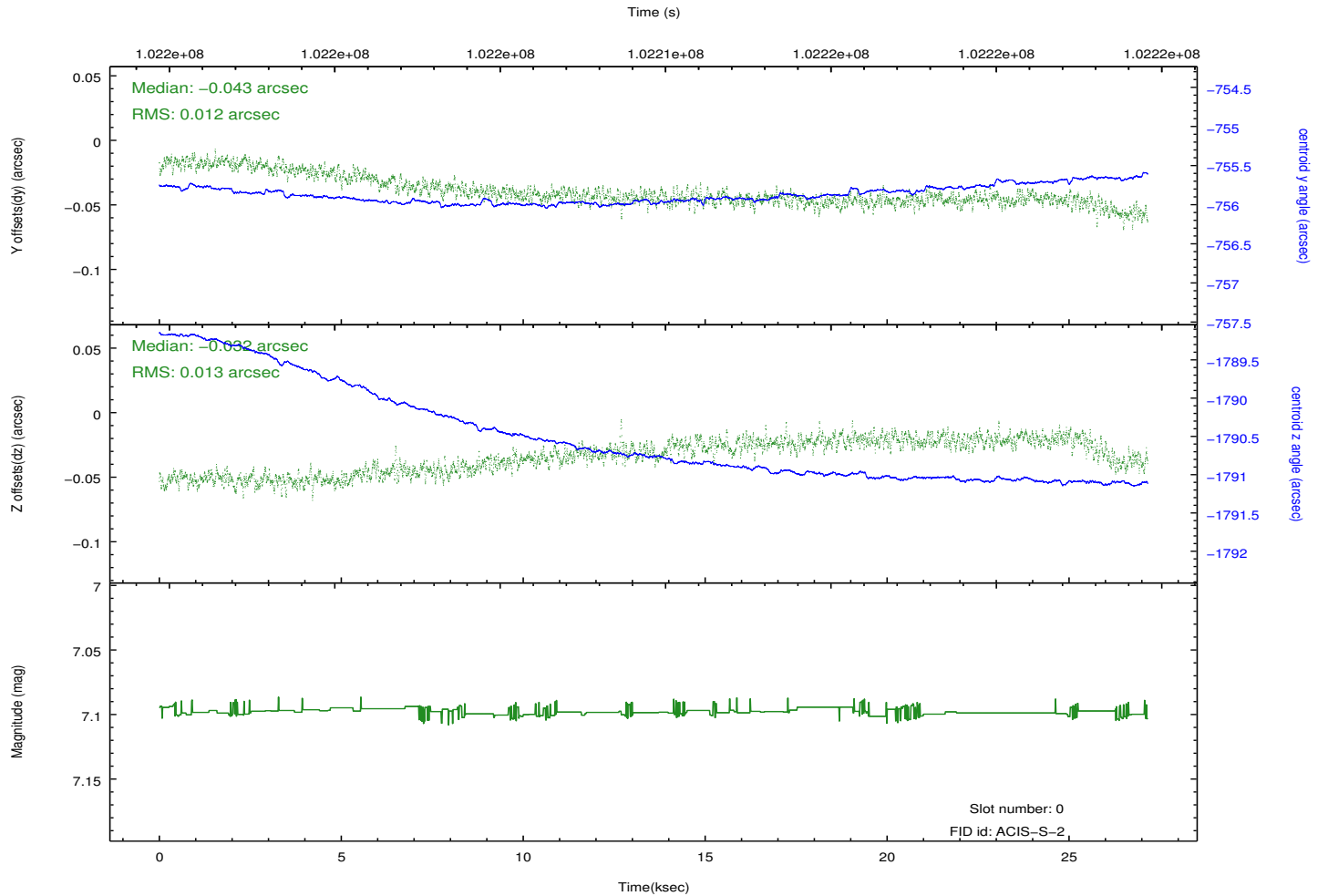
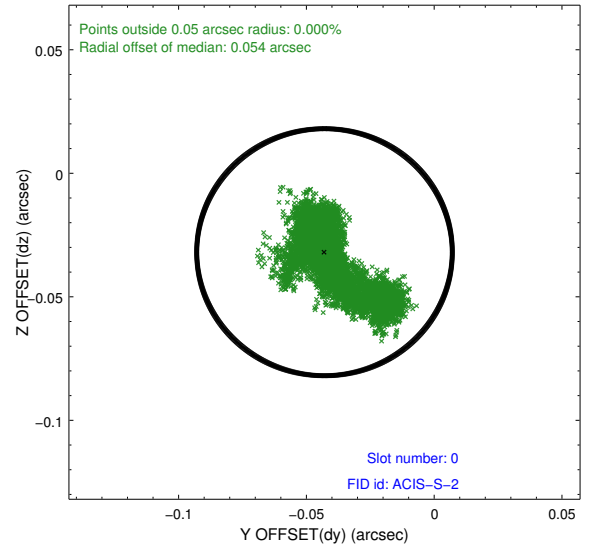
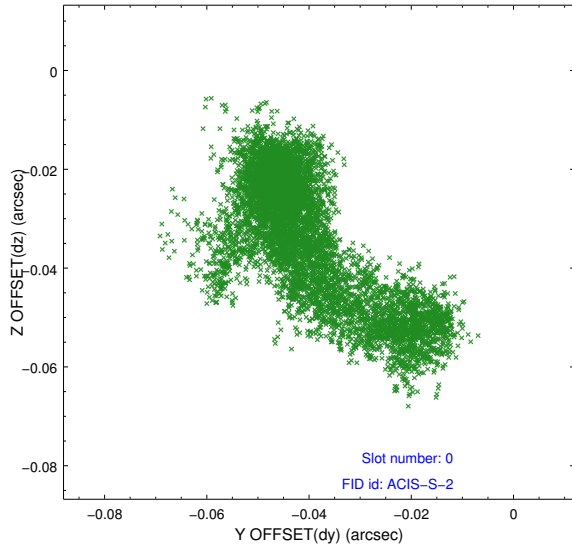


2.4.5 Slot 7

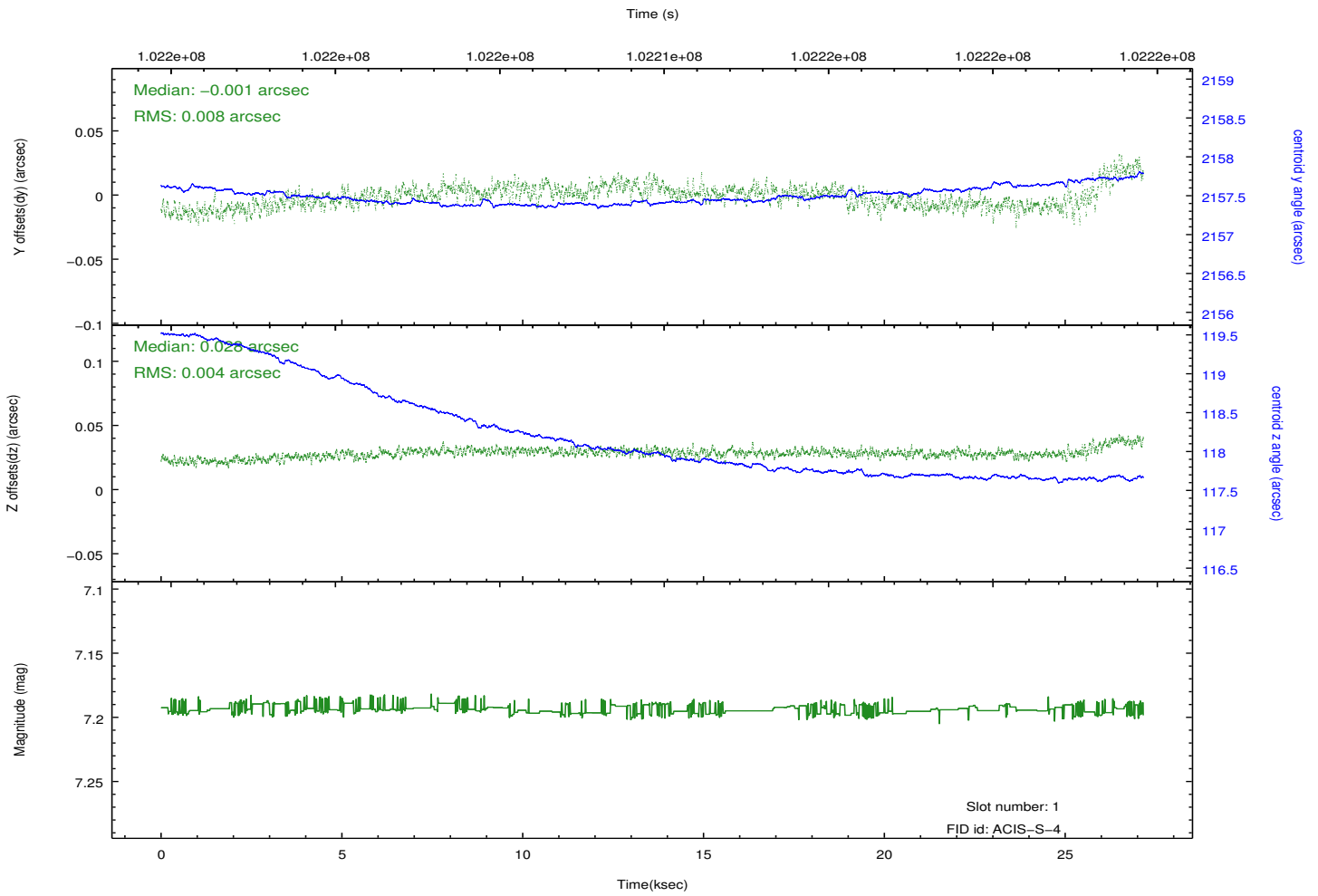
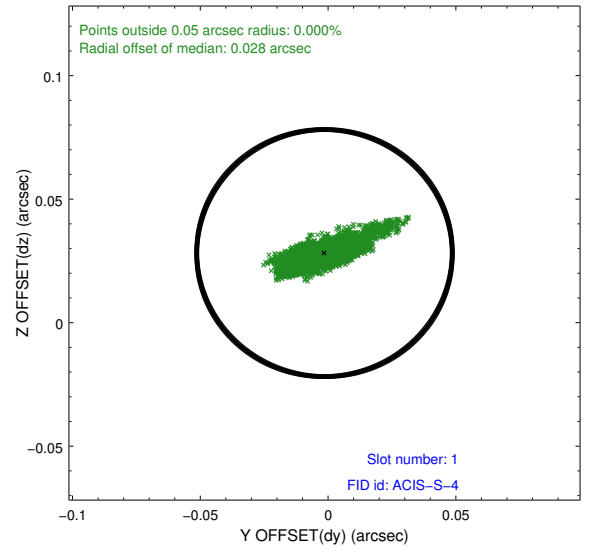
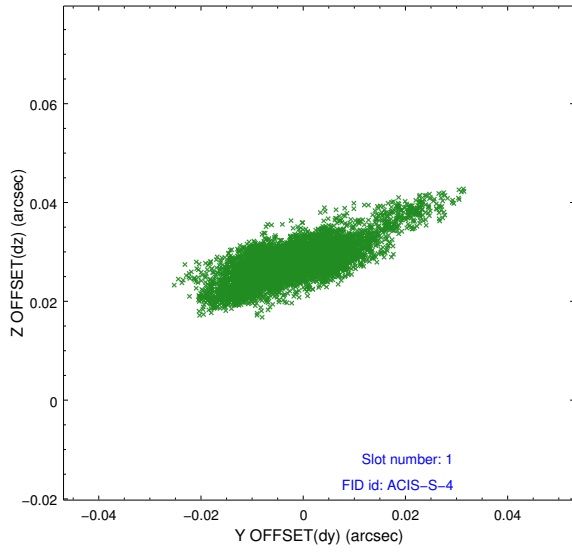


2.5 FID Slots

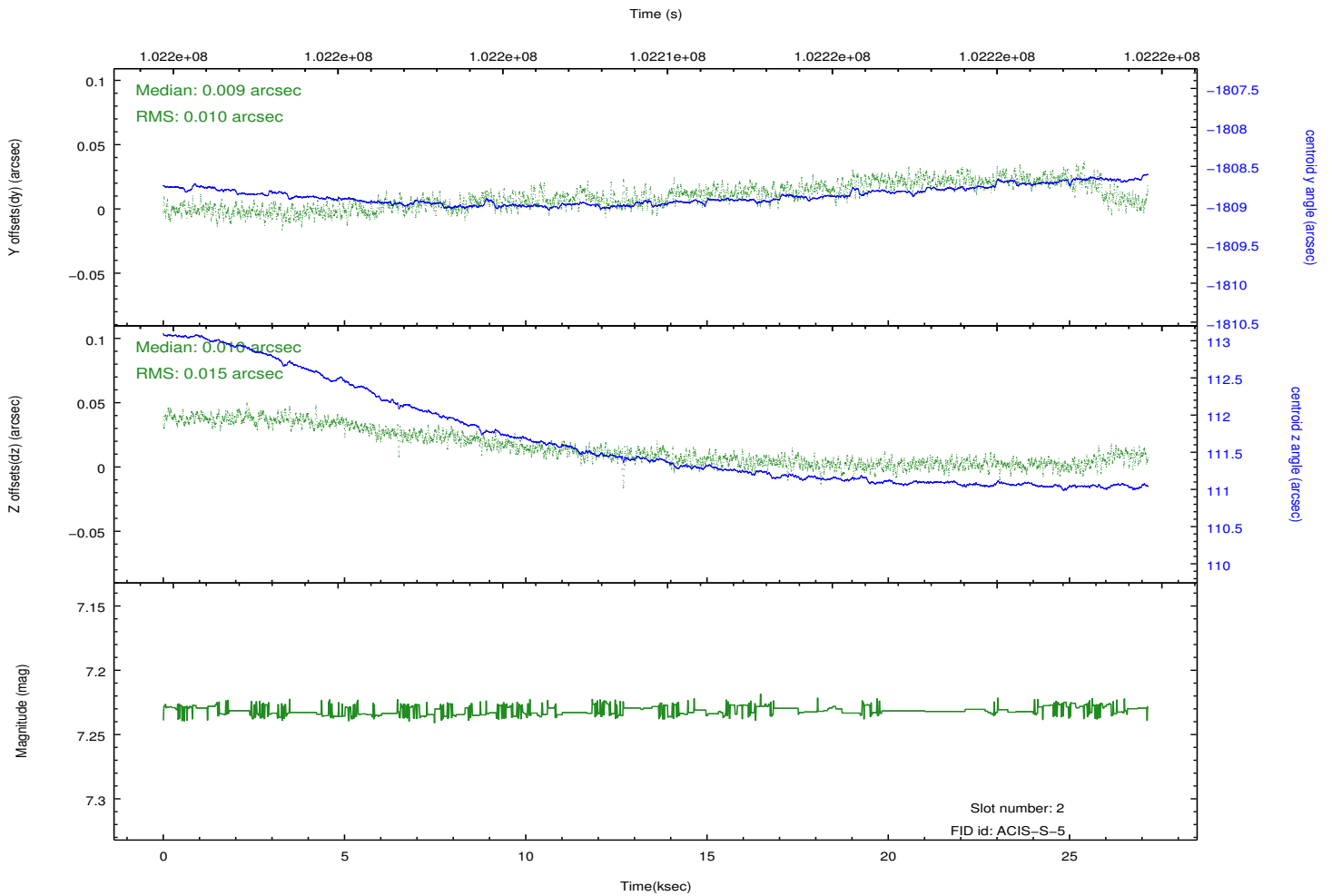
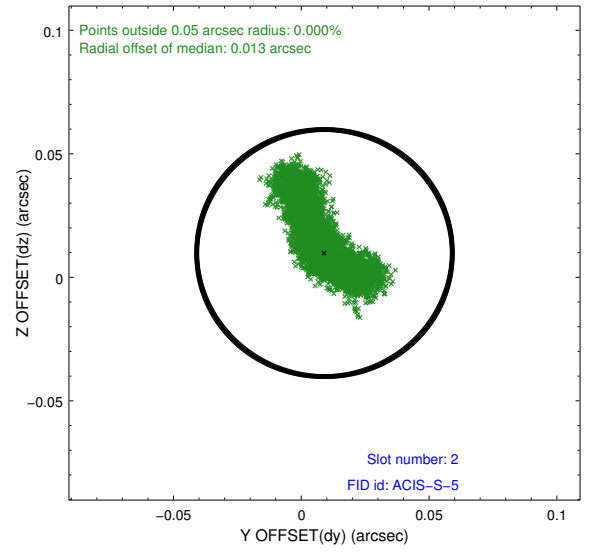
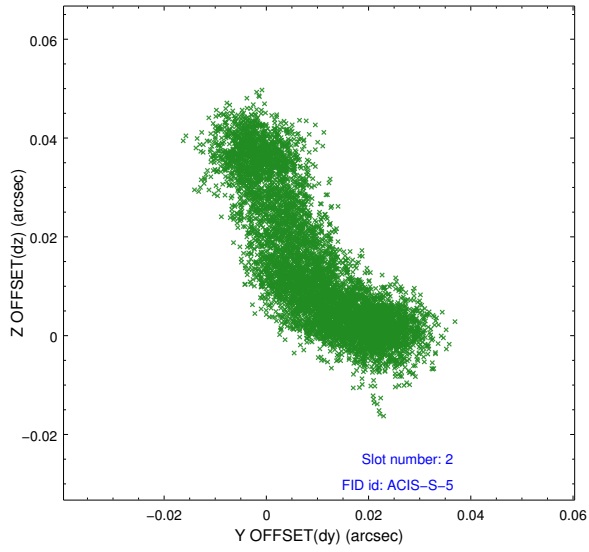
2.5.1 Slot 0



2.5.2 Slot 1

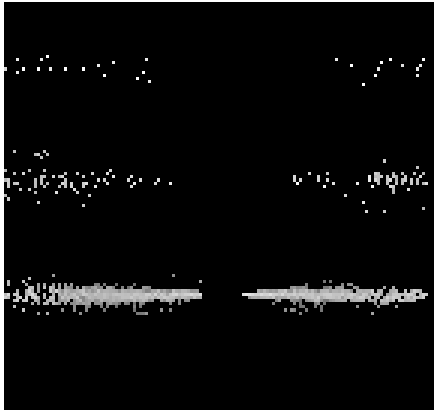


2.5.3 Slot 2

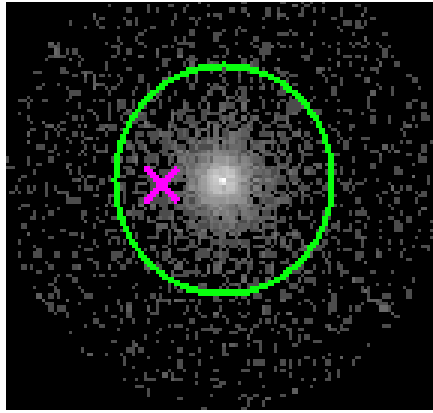


3 Gratings

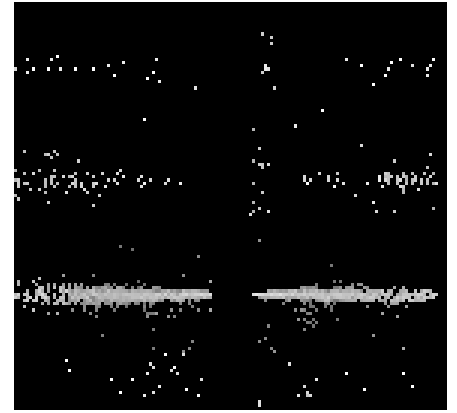
3.1 HEG Arm



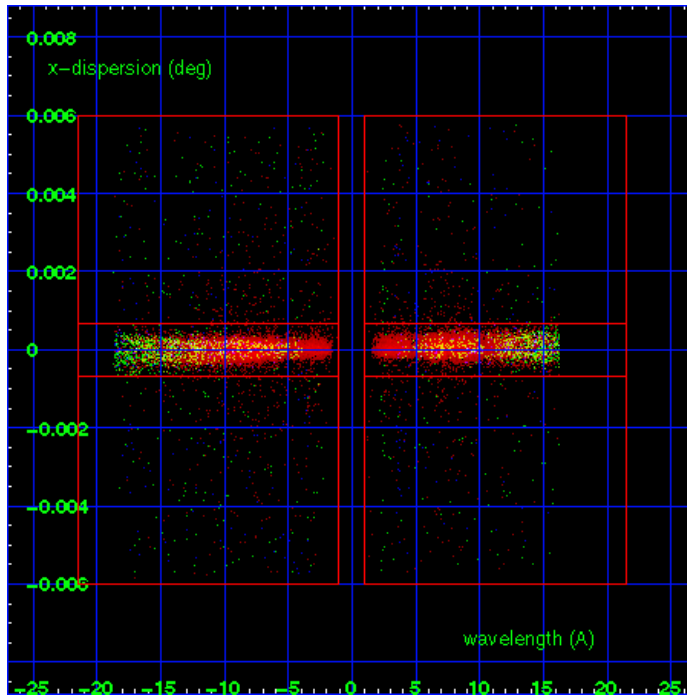
HEG Order Sort 123



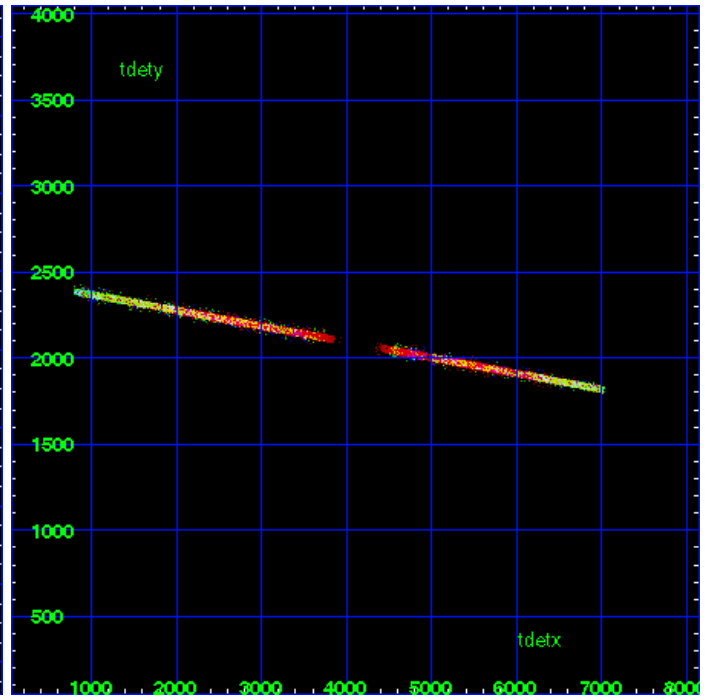
HEG Zero Order



HEG Order Sort ALL

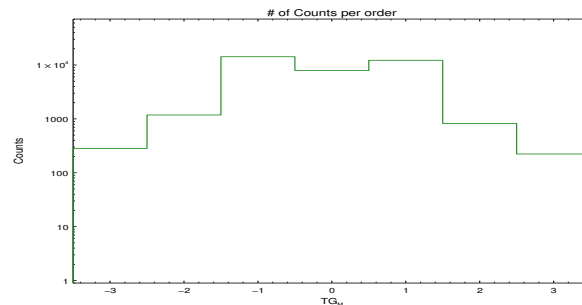


Spot Image HEG

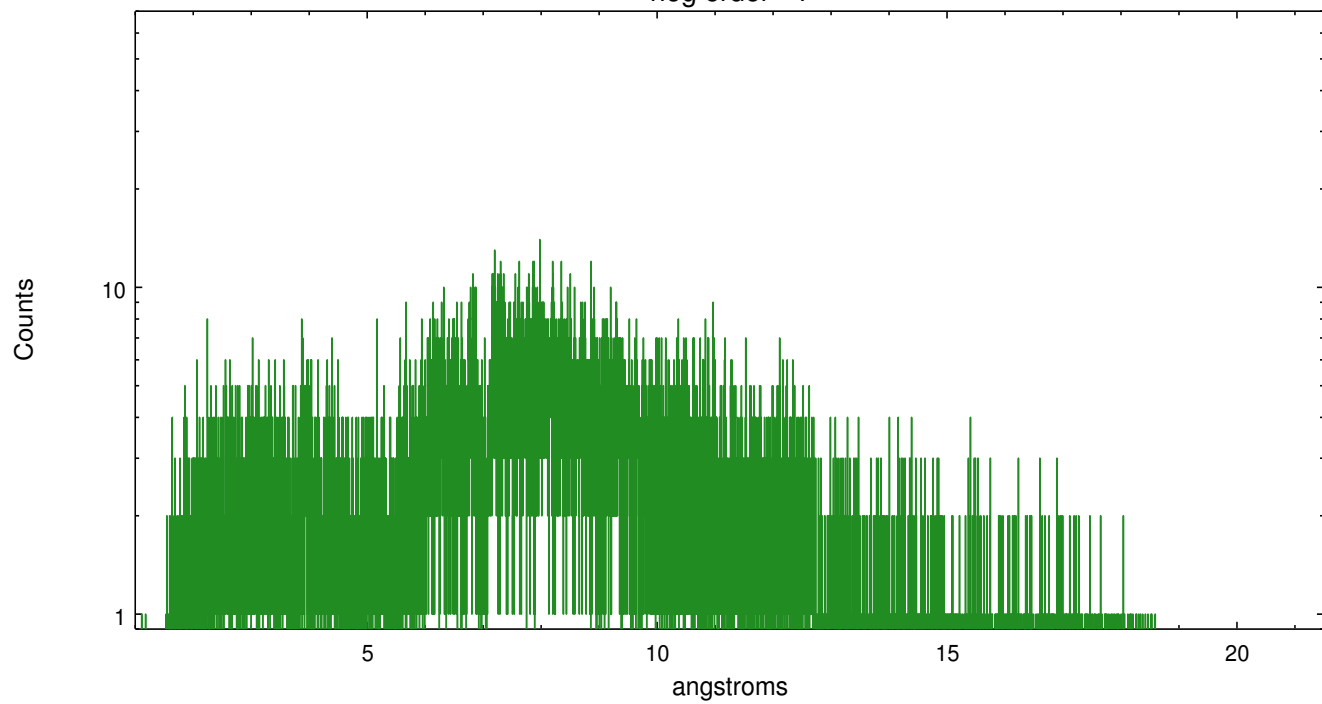


Full Detector HEG

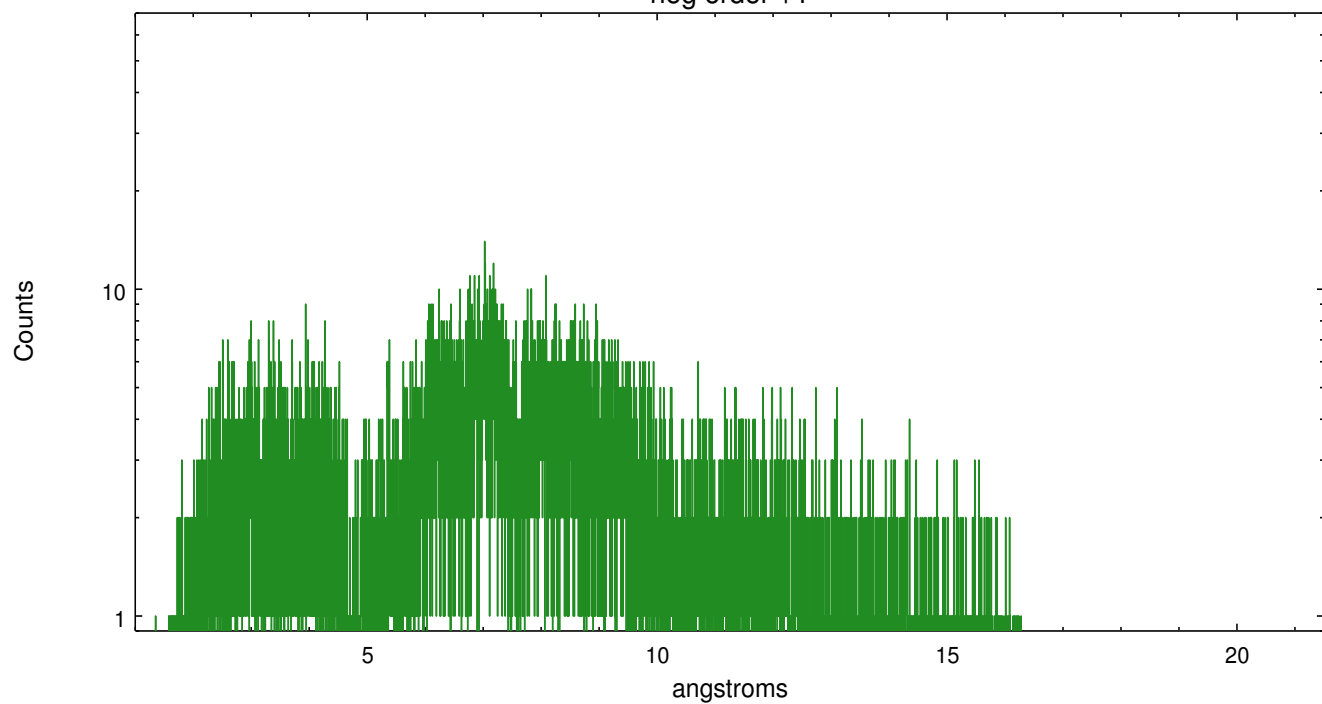
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	283	1181	14224	7922	12206	822	223



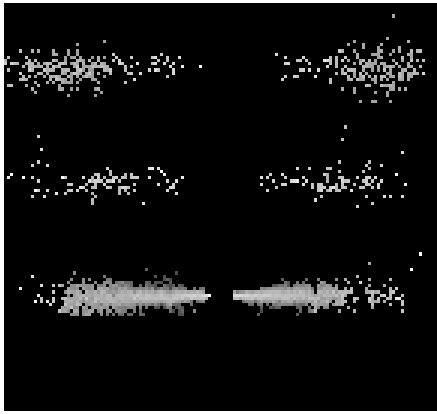
heg order -1



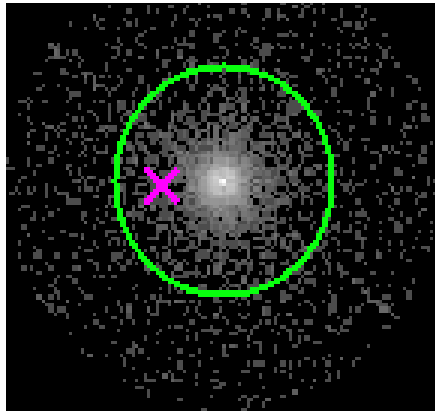
heg order +1



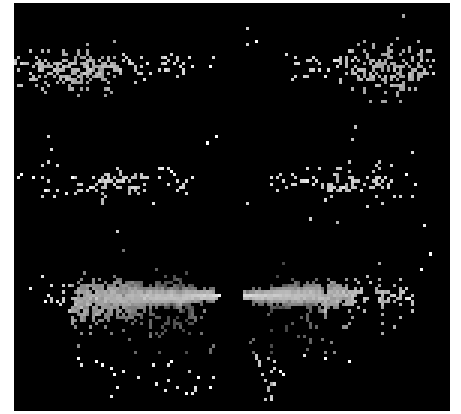
3.2 MEG Arm



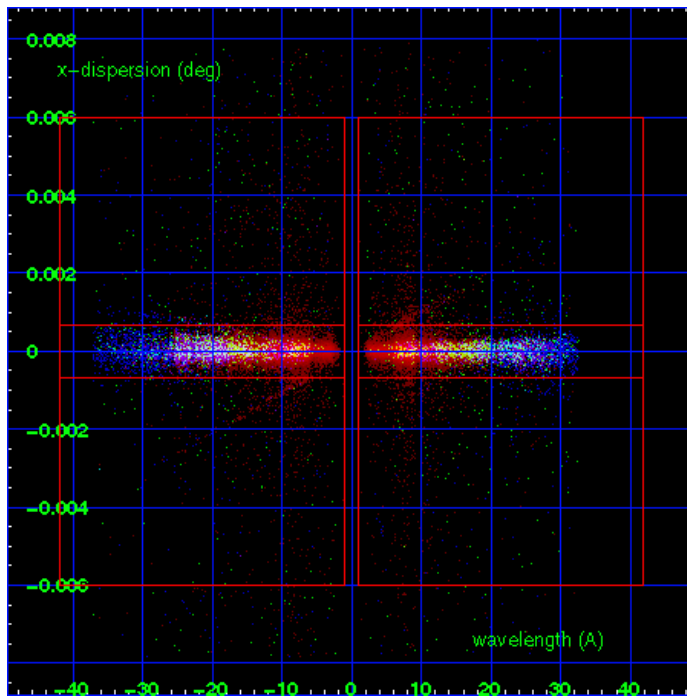
MEG Order Sort 123



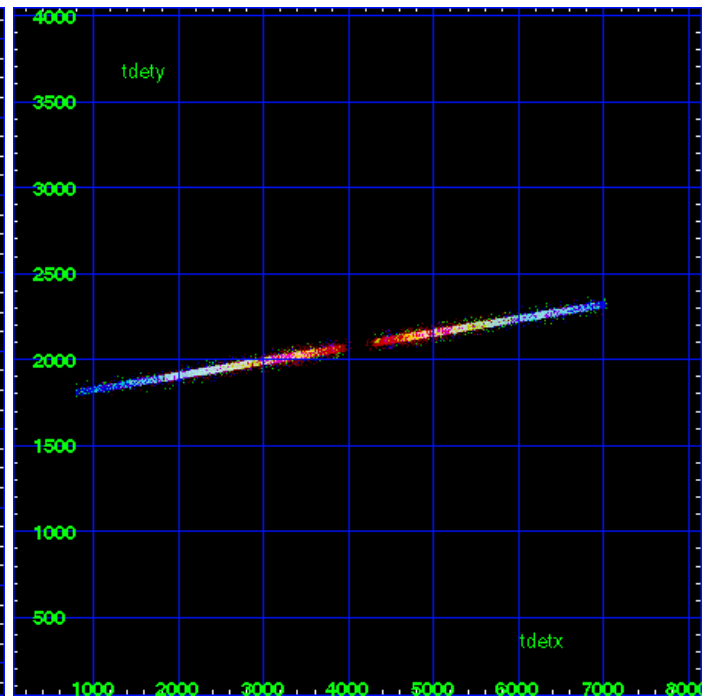
MEG Zero Order



MEG Order Sort ALL

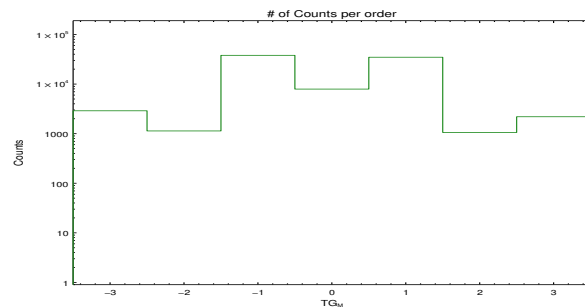


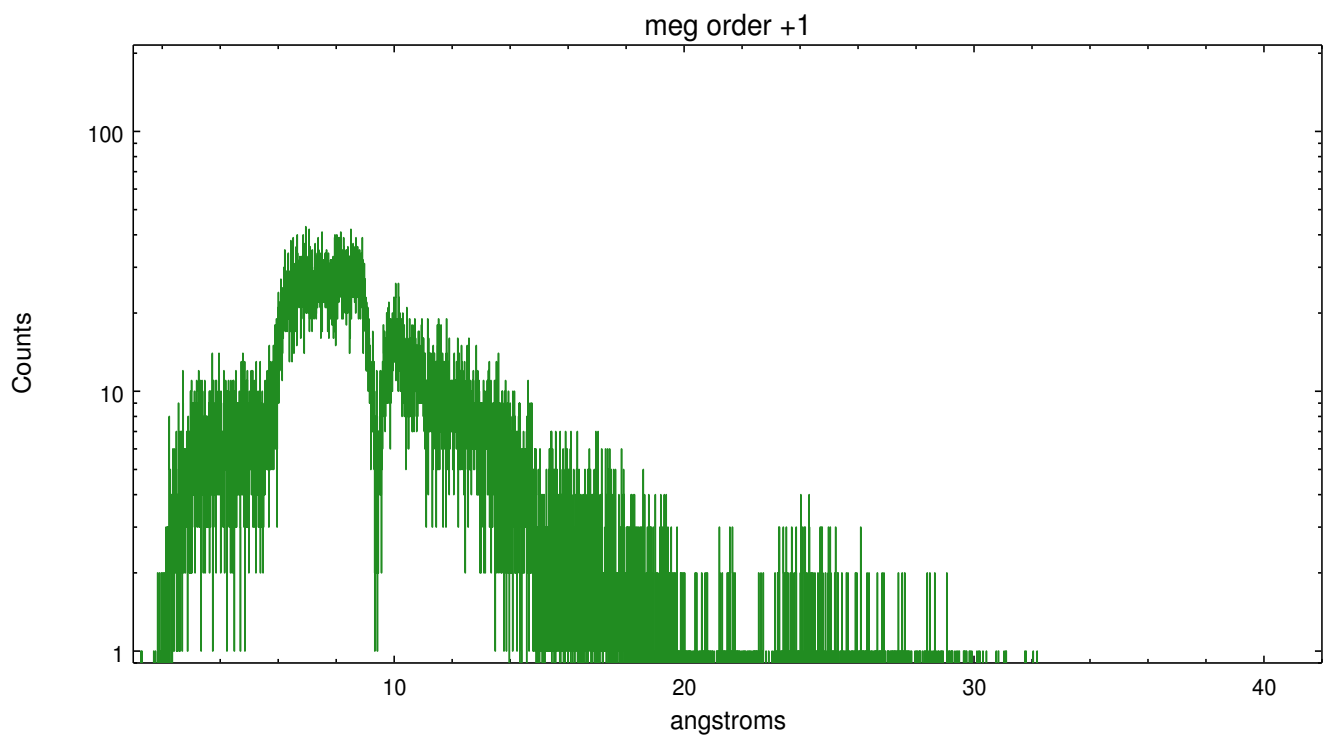
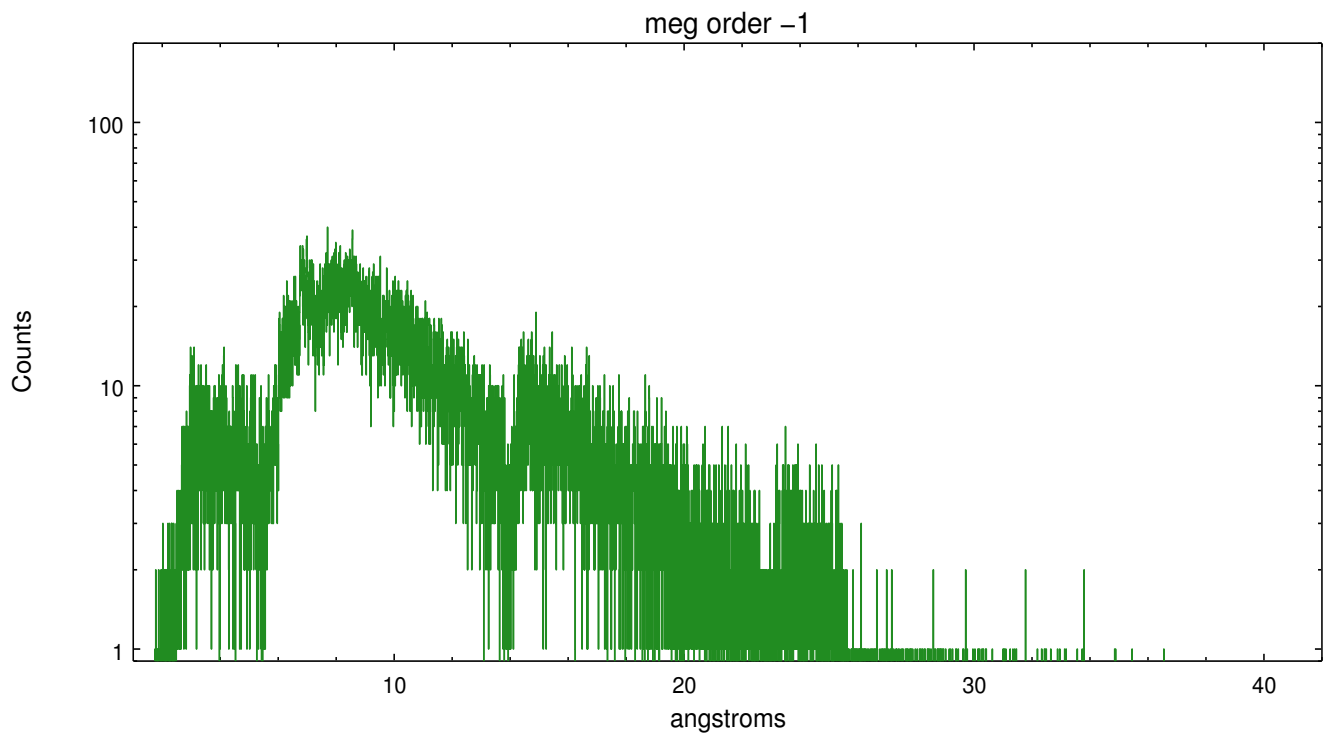
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2895	1135	37977	7922	34776	1058	2195





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	27.13

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=4111.04, y=4096.82) 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 as tg_findzo (currently in ISIS as findzo). 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.