

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 5478 - L2 Version 3
Chandra X-Ray Center

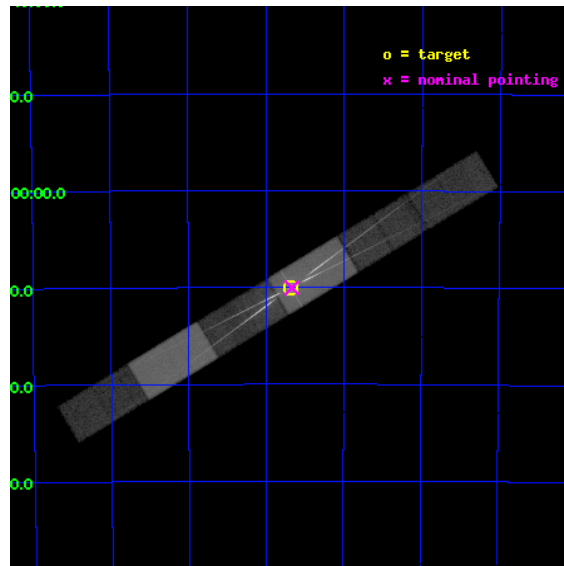
L2 Processing Date : Dec 28 2012

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1 Front

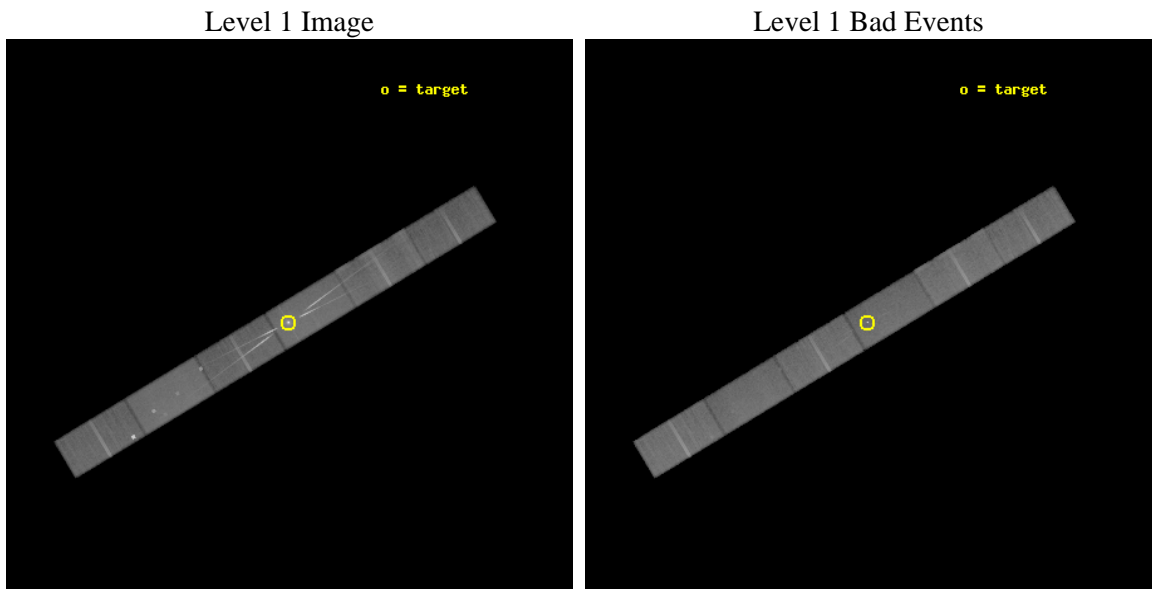
seq_num	400408	Sequence number
obs_id	5478	Observation id
title	Accretion Disk Mapping using the P Cygni Line Profiles in Circinus X-1	Proposal title
observer	Dr. Norbert Schulz	Principal investigator
object	Cir X-1	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	230.170833	Observer's specified target RA [deg]
dec_targ	-57.166667	Observer's specified target Dec [deg]
ra_nom	230.16691159557	Nominal RA [deg]
dec_nom	-57.16732752318	Nominal Dec [deg]
roll_nom	328.89702917439	Nominal Roll [deg]
revision	3	Processing version of data
ontime	52652.399630785	Sum of GTIs [s]
livetime	51411.271063465	Livetime [s]
ontime4	52648.917550802	Sum of GTIs [s]
ontime5	52652.399630785	Sum of GTIs [s]
ontime6	52650.658610702	Sum of GTIs [s]
ontime7	52652.399630785	Sum of GTIs [s]
ontime8	52652.399630785	Sum of GTIs [s]
ontime9	52652.399630785	Sum of GTIs [s]
l2events	510081	Number of level 2 events



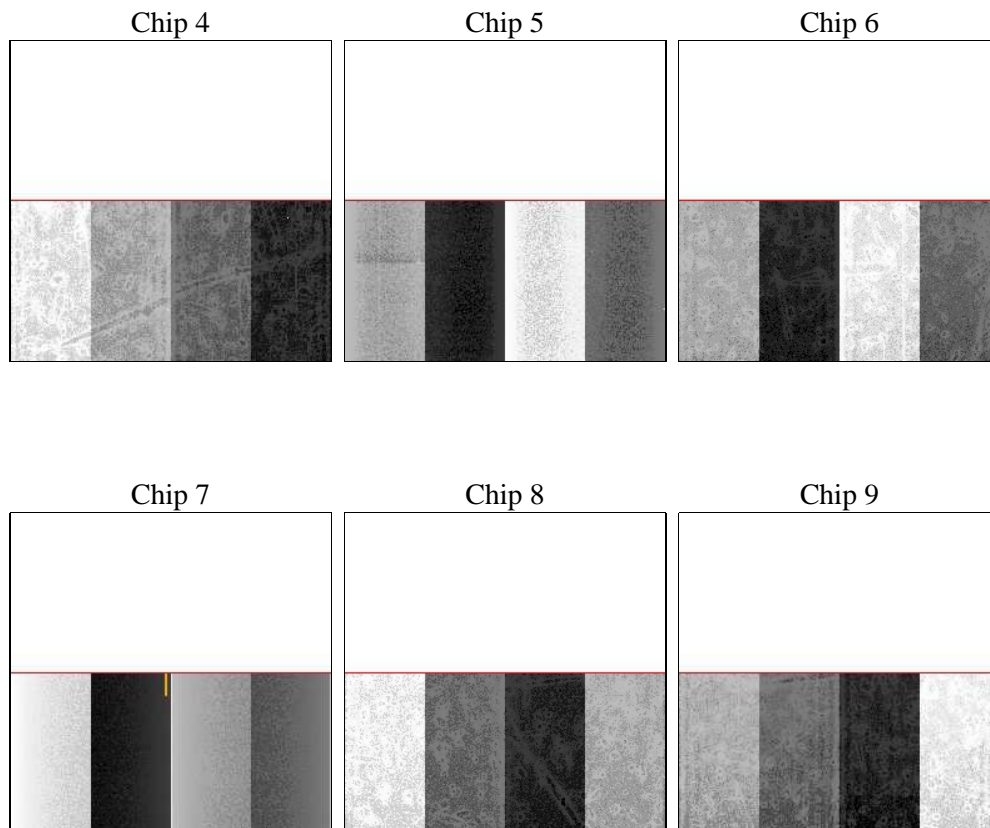
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	52500.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	52652.399630785	Sum of GTIs [s]
caldbver	4.5.5	 	ontime4	52648.917550802	Sum of GTIs [s]
date	2012-12-24T13:20:27	Date and time of file creation	ontime5	52652.399630785	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	52650.658610702	Sum of GTIs [s]
			ontime7	52652.399630785	Sum of GTIs [s]
			ontime8	52652.399630785	Sum of GTIs [s]
			ontime9	52652.399630785	Sum of GTIs [s]
			l1events	1711919	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	261172	310860	273182	389421	275557	201727	grade 0 events	38549	15829	46695	32709	22152	11355
rejected events	206478	163763	188199	166167	210227	174589		14%	5%	17%	8%	8%	5%
rejected %	79%	52%	68%	42%	76%	86%	grade 1 events	216	461	261	1053	152	91
								0%	0%	0%	0%	0%	0%
							grade 2 events	5954	43465	14575	48231	13431	5081
								2%	13%	5%	12%	4%	2%
							grade 3 events	3115	8360	6281	21844	6958	3006
								1%	2%	2%	5%	2%	1%
							grade 4 events	2993	7917	6170	21535	6580	2879
								1%	2%	2%	5%	2%	1%
							grade 5 events	8509	24662	9343	29165	11844	9286
								3%	7%	3%	7%	4%	4%
							grade 6 events	4306	72153	11426	99563	16405	4935
								1%	23%	4%	25%	5%	2%
							grade 7 events	197530	138013	178431	135321	198035	165094
								75%	44%	65%	34%	71%	81%

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	230.116700	230.1669115955739	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-57.167158	-57.16732752318005	Subarray start row	1	1
[deg] Pointing Roll	328.698206	328.8970291743893	Subarray row count	512	512
[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	1.7
[mm] SIM translation stage pos	-183.992523	-183.985022191653			
[mm] SIM translation stage offset	-6.14	-6.147500391354811			
Phase constraints	Y	Y			
[d] Phase period	16.539600	16.539600			
[d] Phase epoch (MJD)	53522.276300	53522.276300			
Phase start	0.020000	0.020000			
Phase end	0.100000	0.100000			
Phase start error	0.000000	0.000000			
Phase end error	0.000000	0.000000			
[s] Observation start time (MET)	234089666.184000	234088558.45898			
Observation start date	2005-06-02T08:53:22	2005-06-02T08:35:58			
[s] Observation end time (MET)	234142166.184000	234143091.02396			
Observation end date	2005-06-02T23:28:22	2005-06-02T23:44:51			
Read mode	TIMED	TIMED			

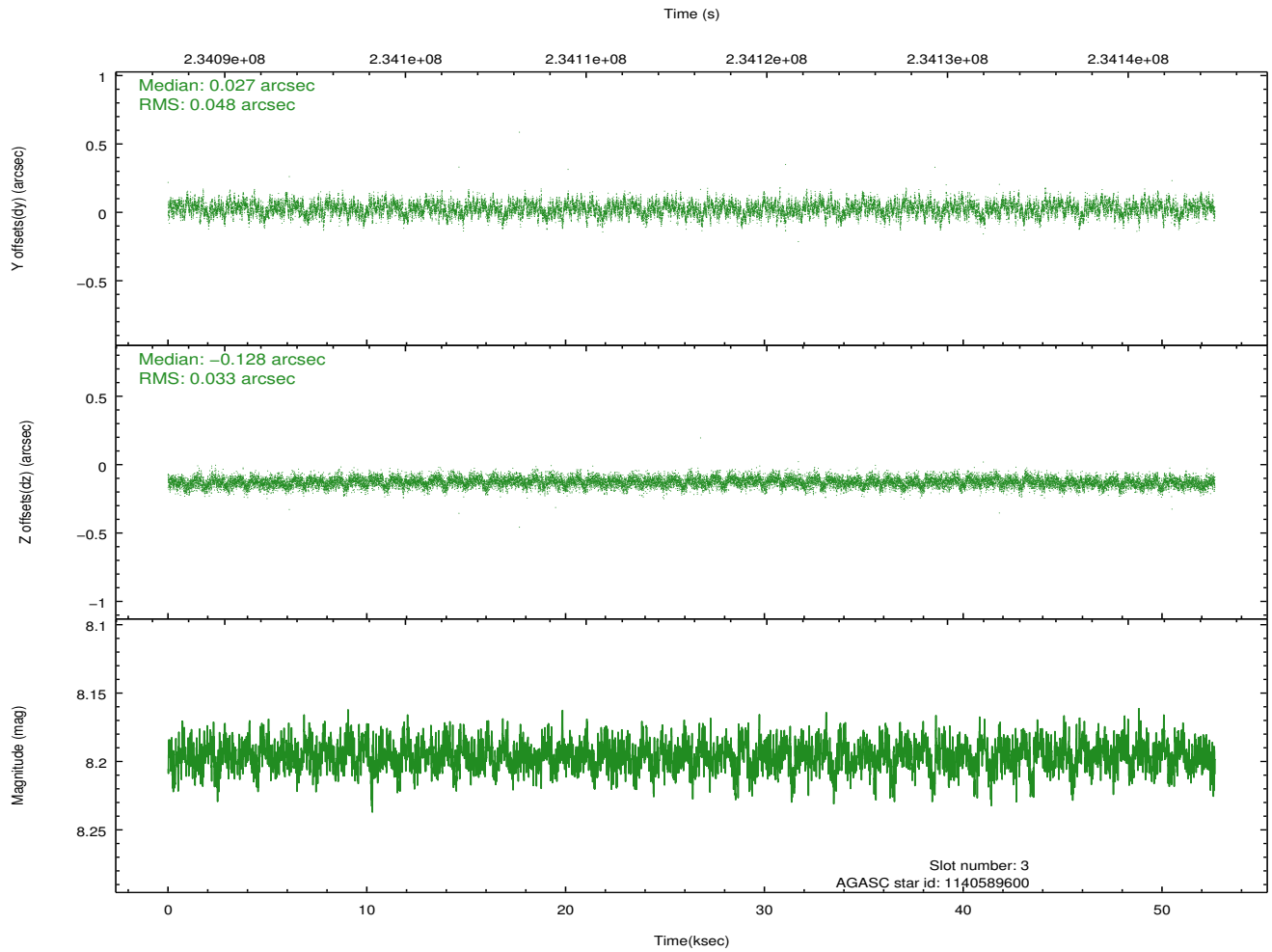
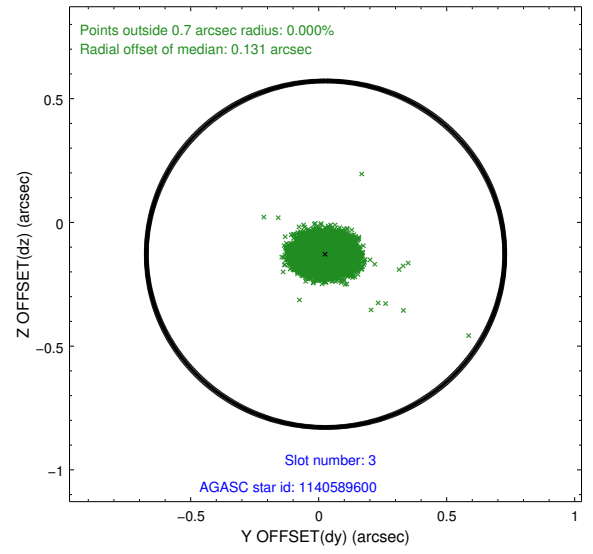
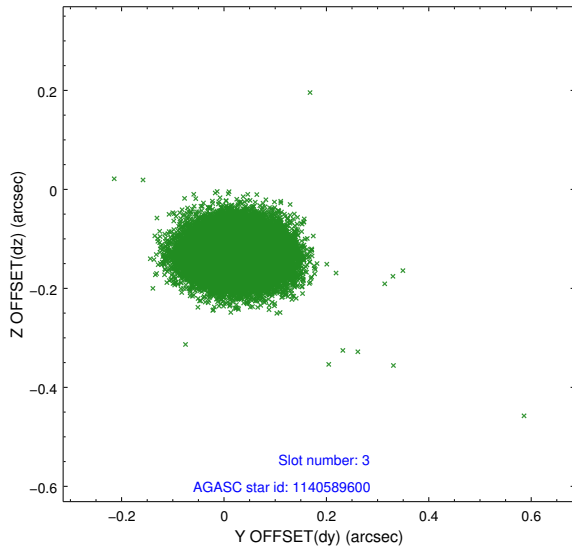
2.3 Aspect

Slot Statistics

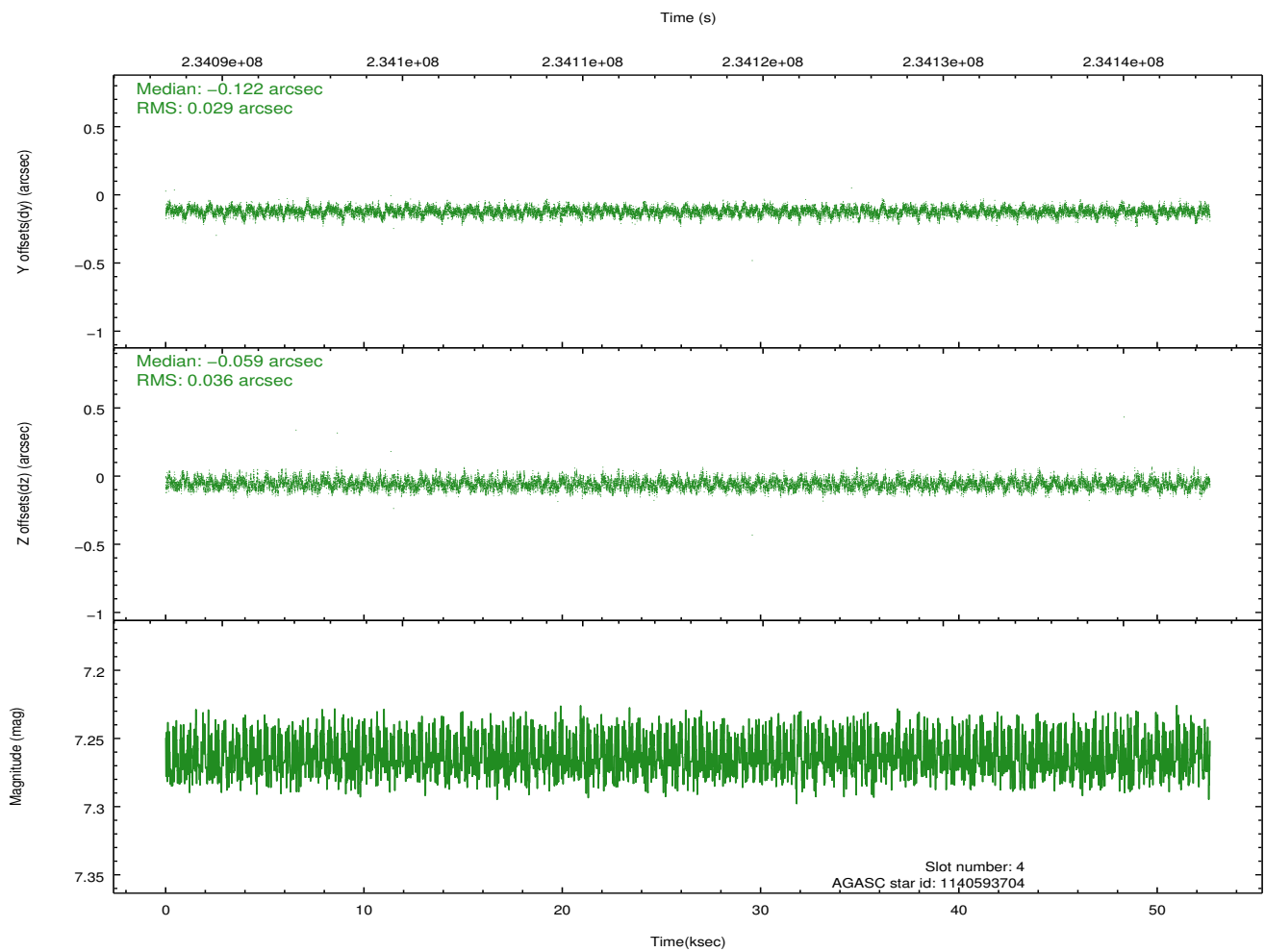
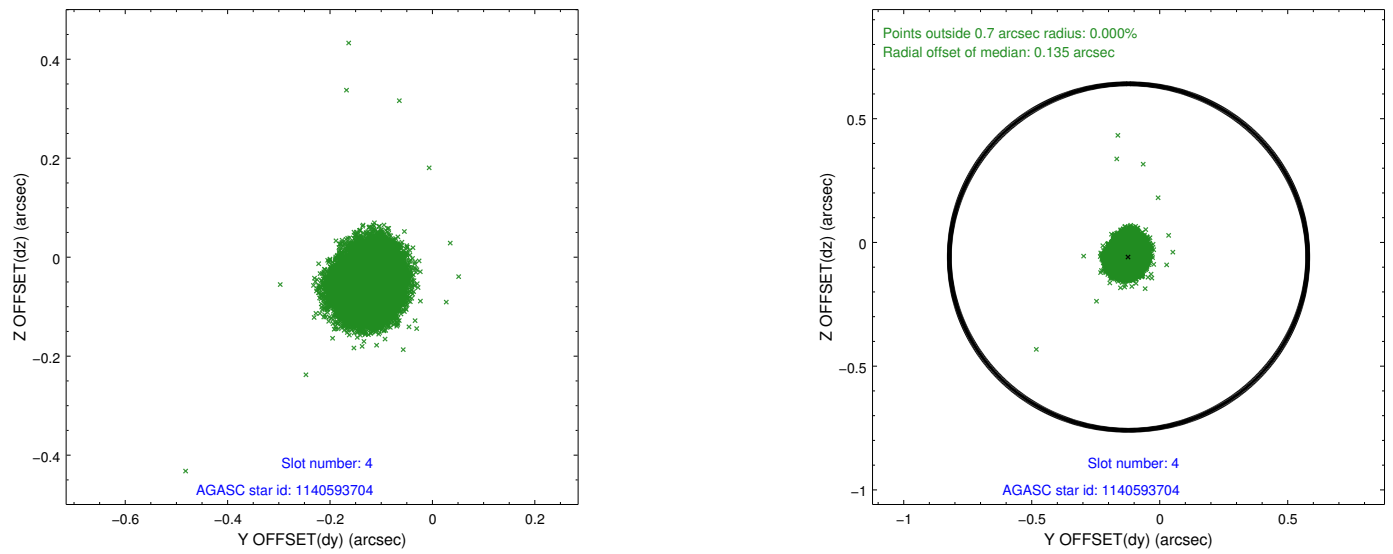
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	12843	-0.048	-0.130	0.009	0.014	0.000000	0.000000	-760.86	-1858.34
1	FID	ACIS-S-4	7.18	12841	0.117	0.058	0.011	0.025	0.000000	0.000000	2152.60	50.32
2	FID	ACIS-S-5	7.23	12842	-0.100	0.080	0.011	0.023	0.000000	0.000000	-1813.78	44.01
3	GUIDE	1140589600	8.20	25683	0.027	-0.128	0.061	0.102	229.869393	-56.335120	-1977.48	2302.14
4	GUIDE	1140593704	7.26	25685	-0.122	-0.059	0.048	0.078	229.741417	-57.540991	80.89	-1528.07
5	GUIDE	1140722888	8.13	25685	-0.061	0.096	0.052	0.085	230.457489	-57.599243	1371.01	-988.58
6	GUIDE	1140726128	7.85	25683	0.090	0.046	0.059	0.097	231.437568	-57.014209	1939.08	1794.38
7	GUIDE	1140591736	8.61	25675	0.067	0.047	0.080	0.125	228.676984	-57.228571	-2266.20	-1671.64

2.4 Star Slots

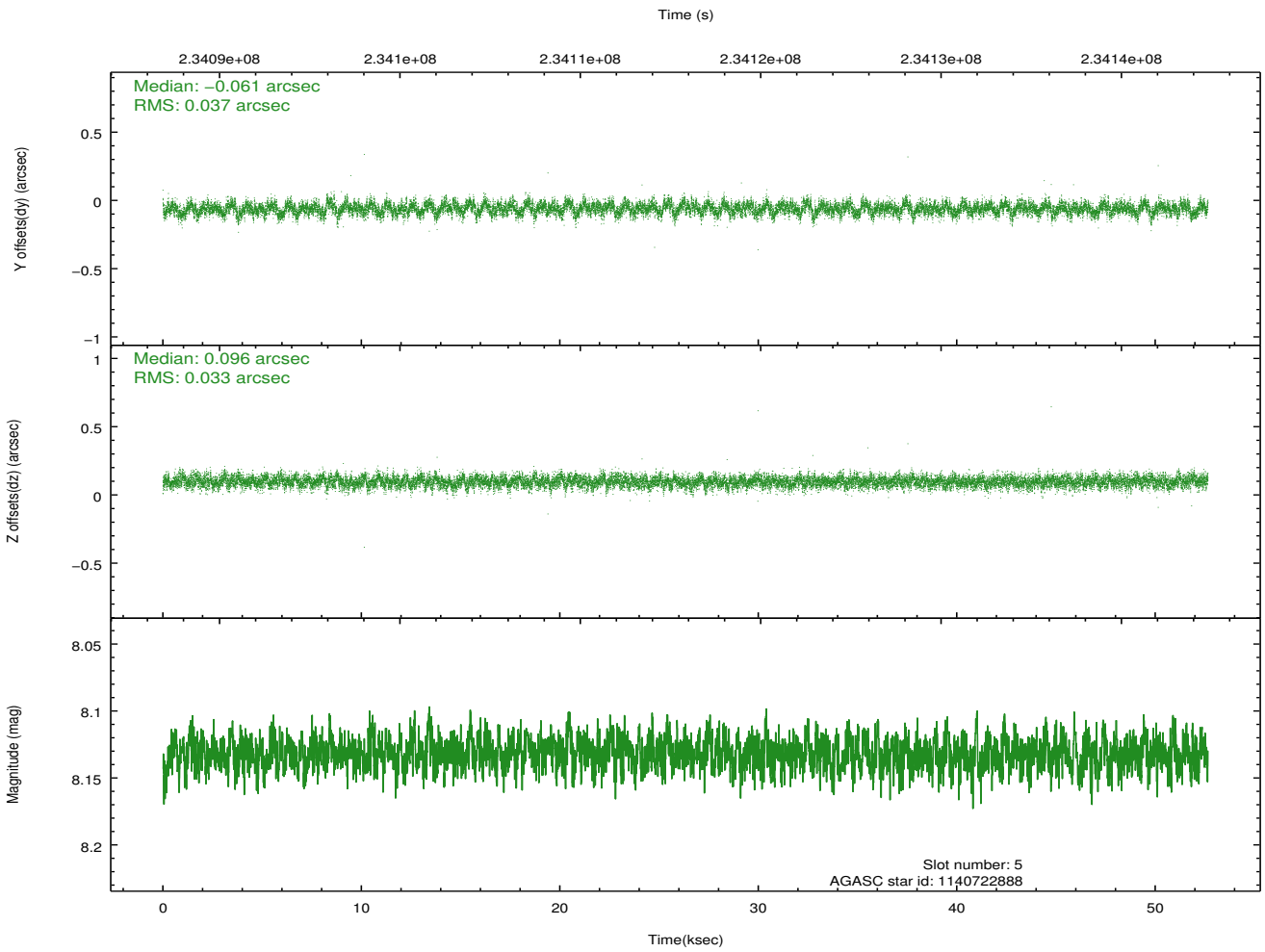
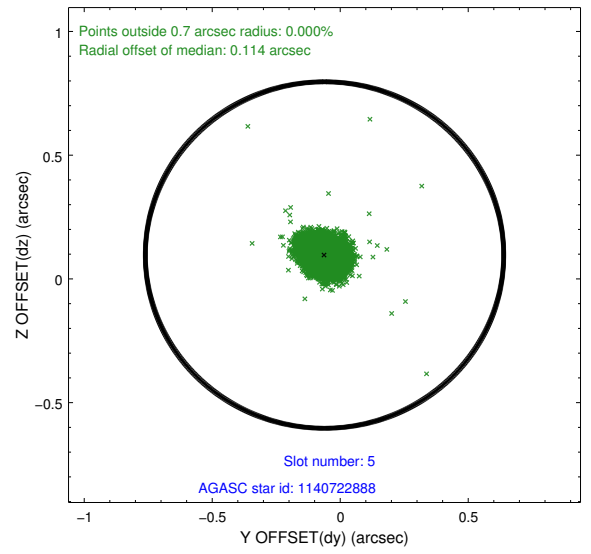
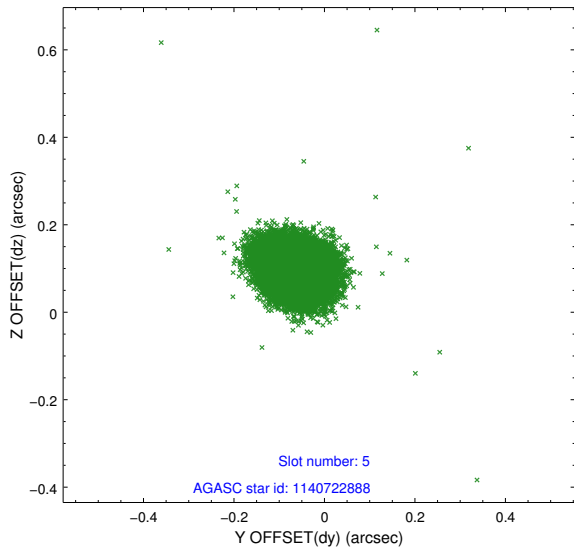
2.4.1 Slot 3



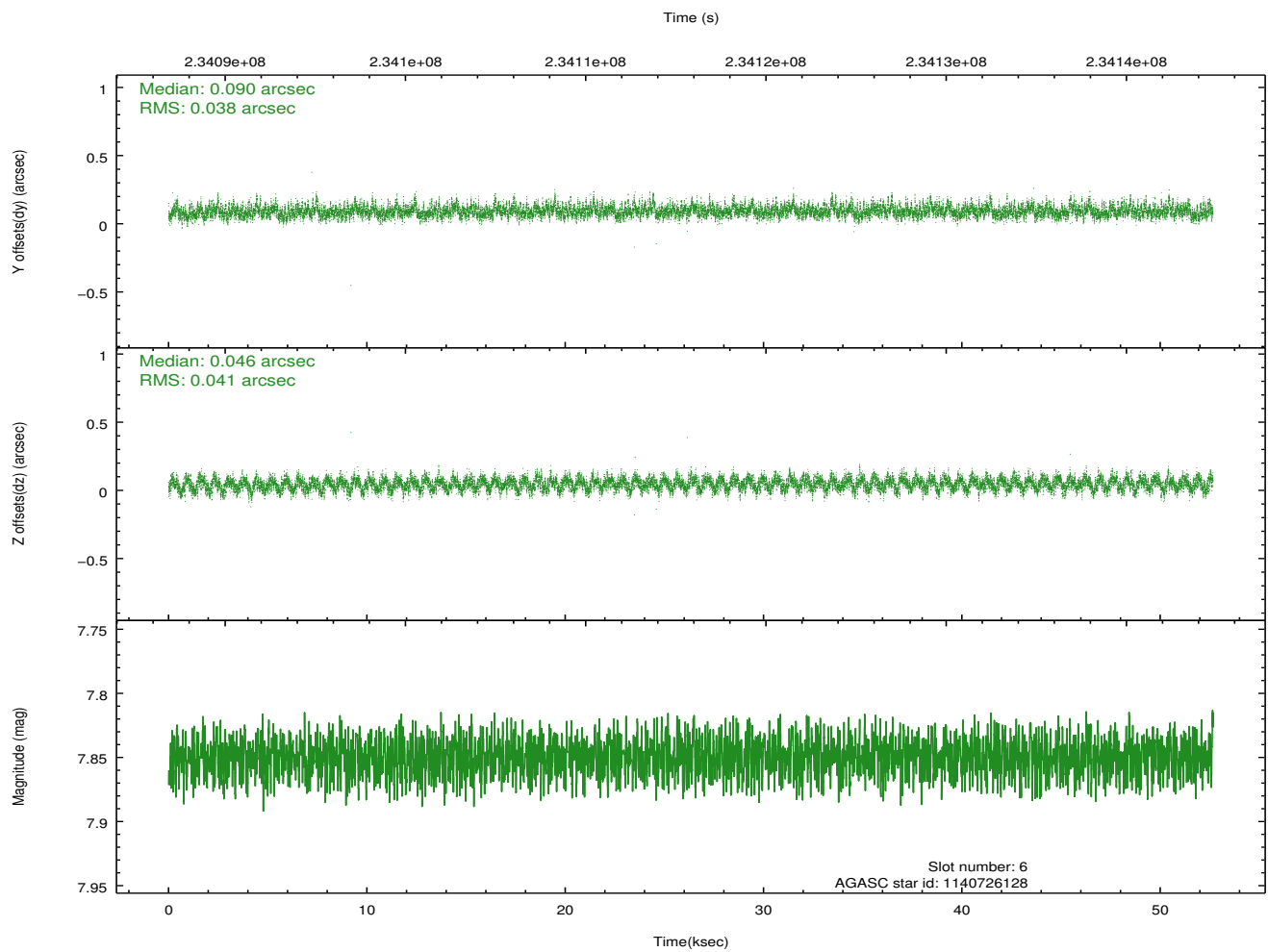
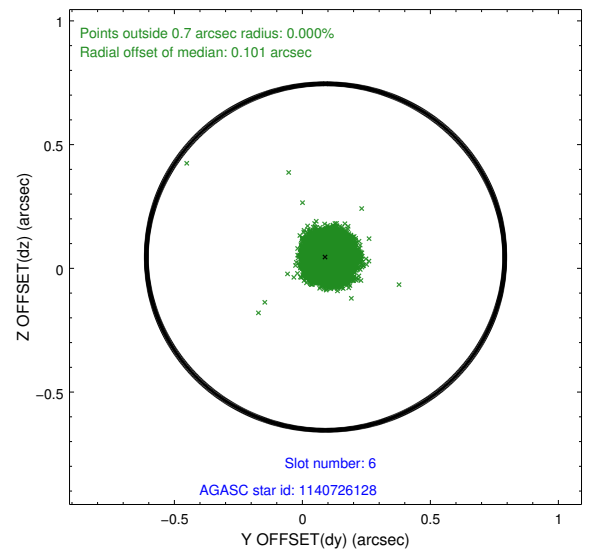
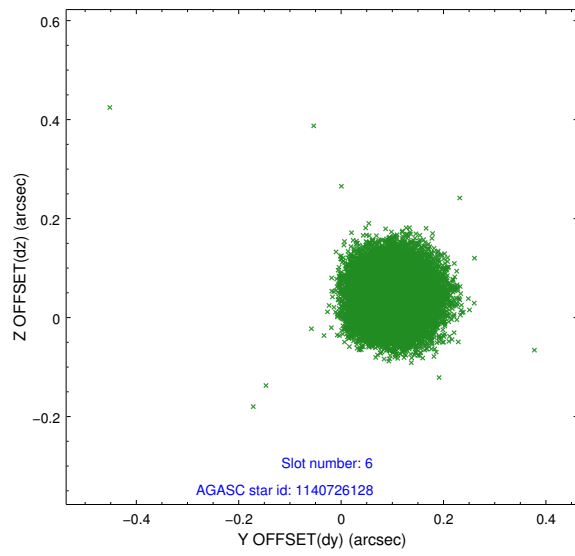
2.4.2 Slot 4



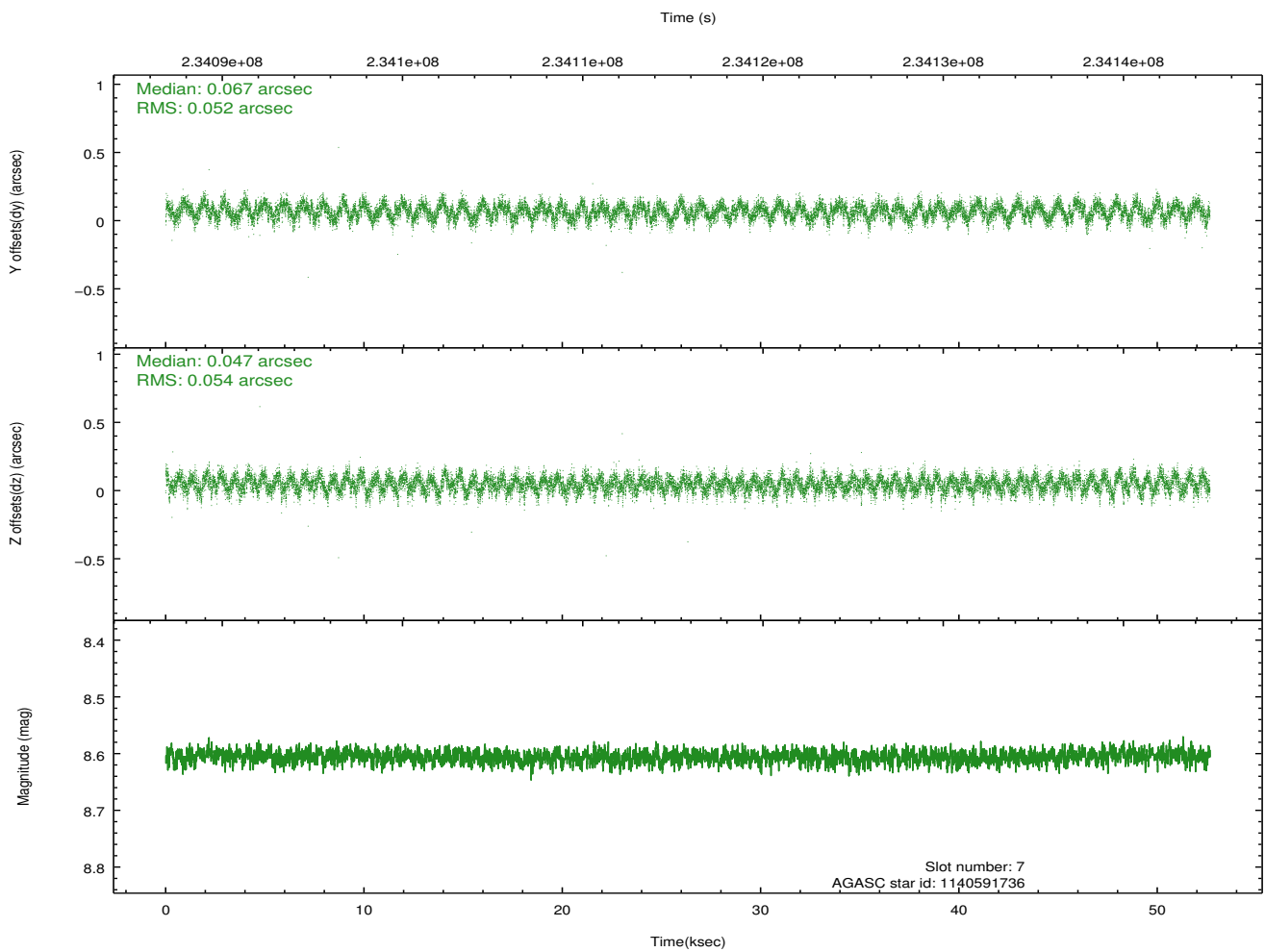
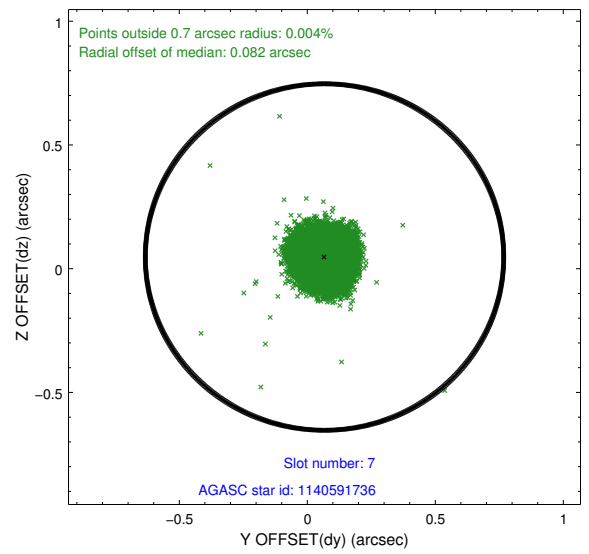
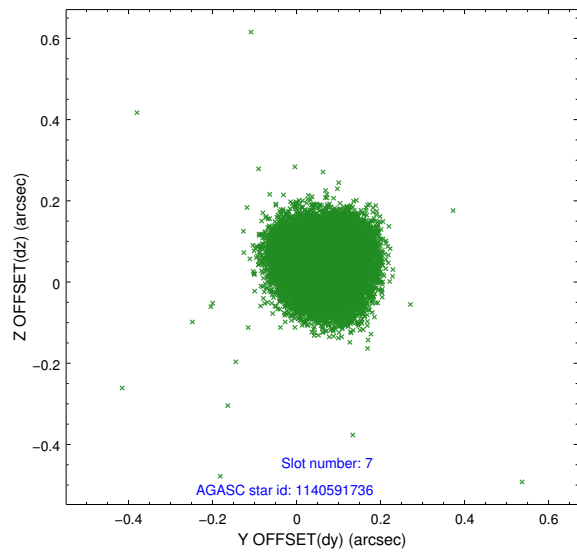
2.4.3 Slot 5



2.4.4 Slot 6

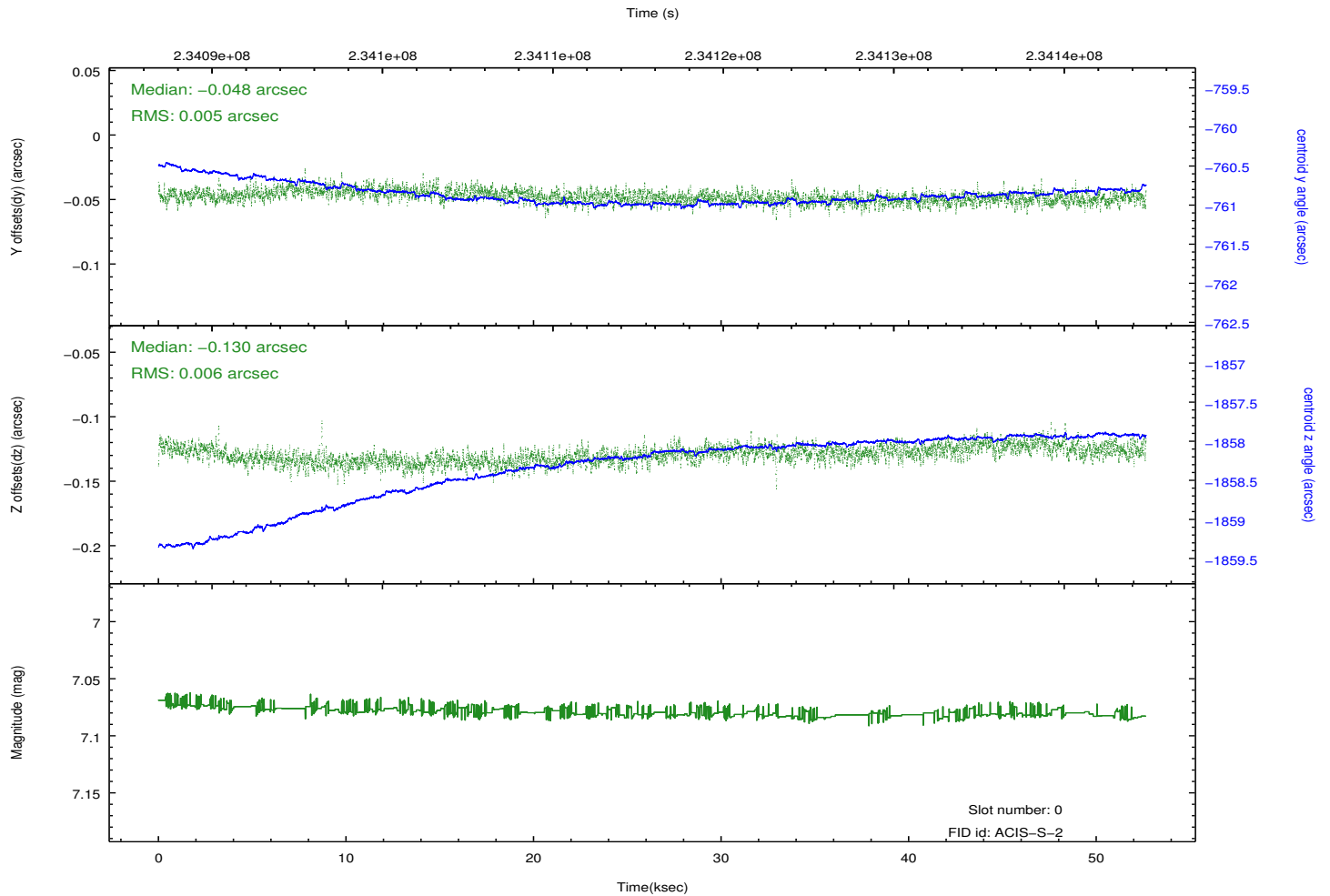
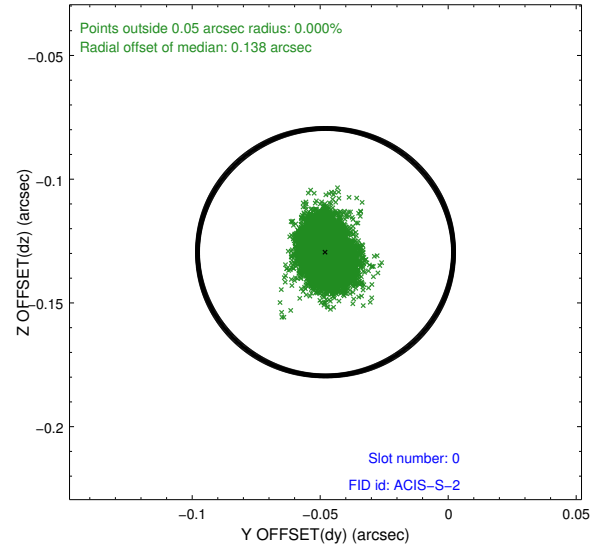
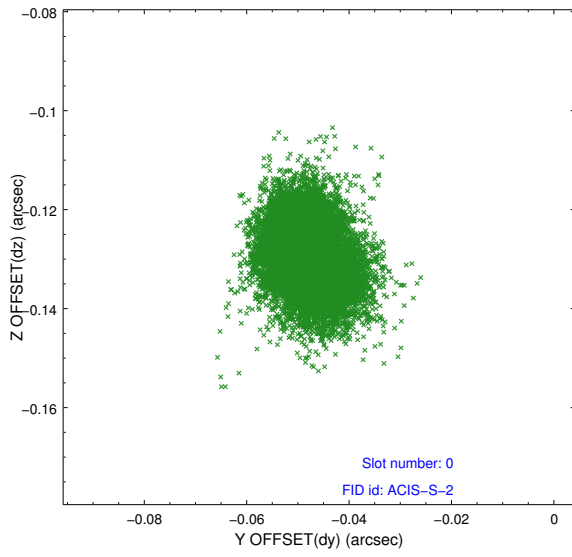


2.4.5 Slot 7

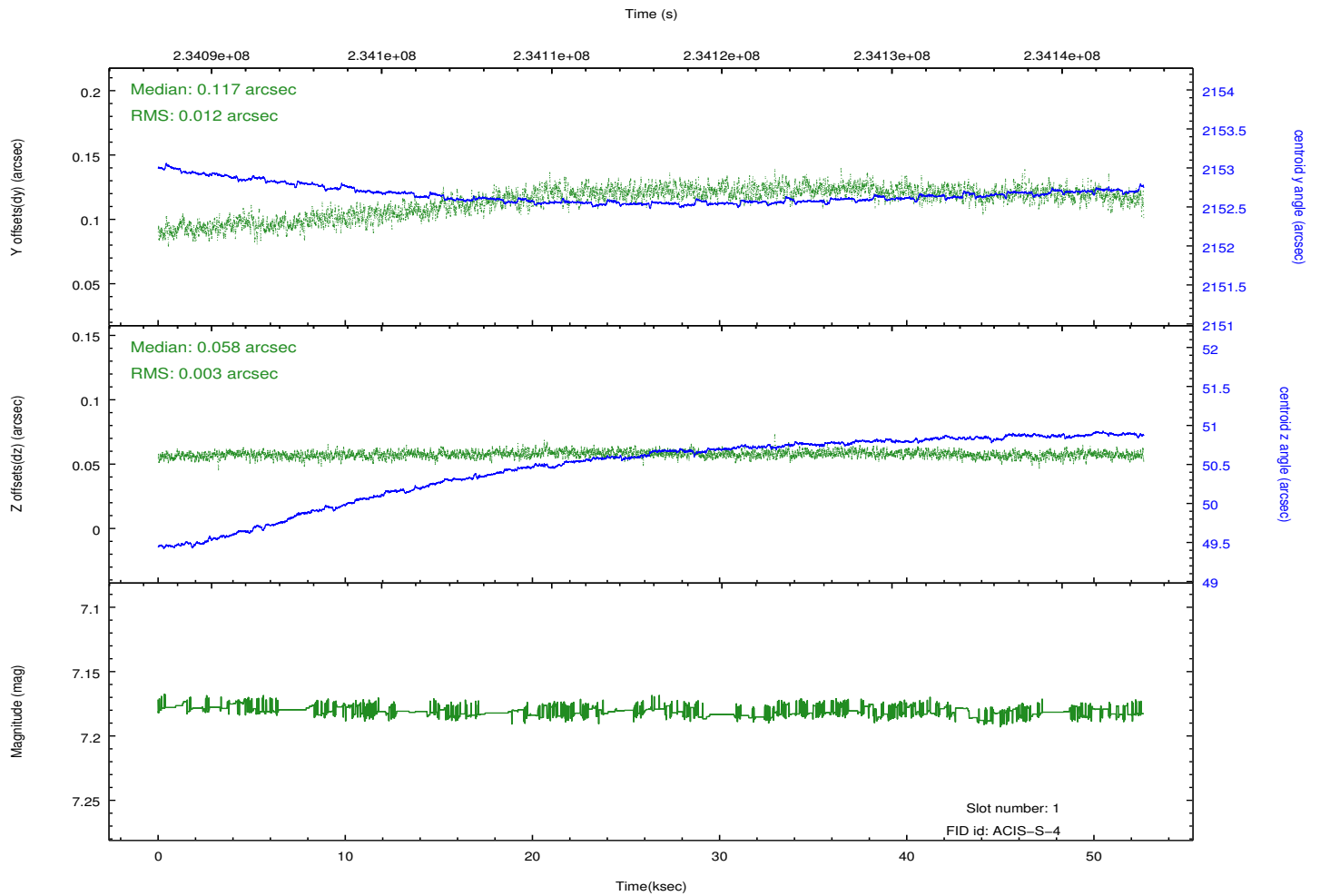
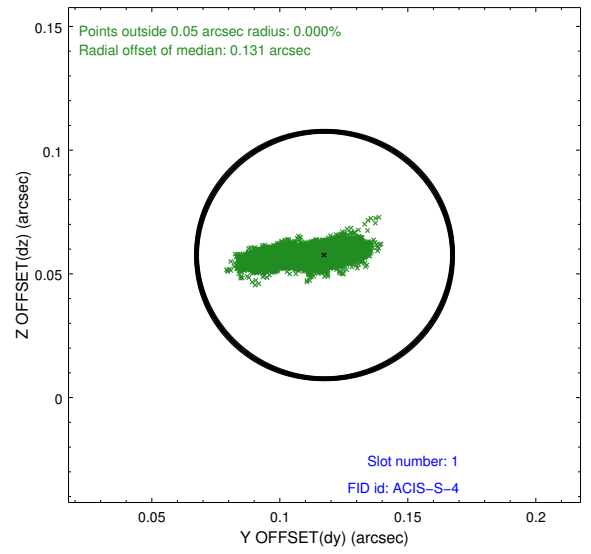
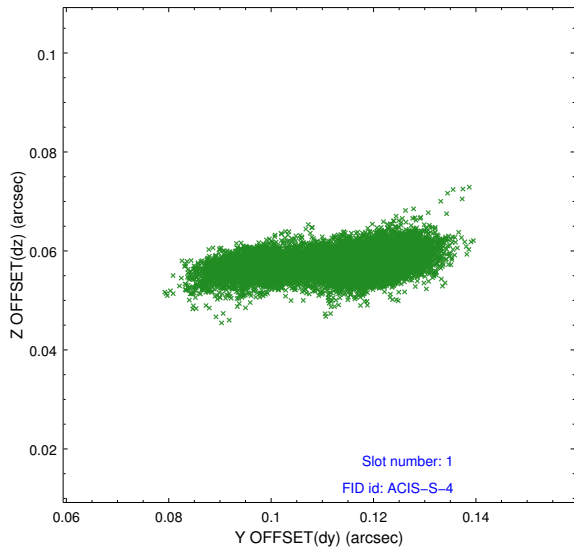


2.5 FID Slots

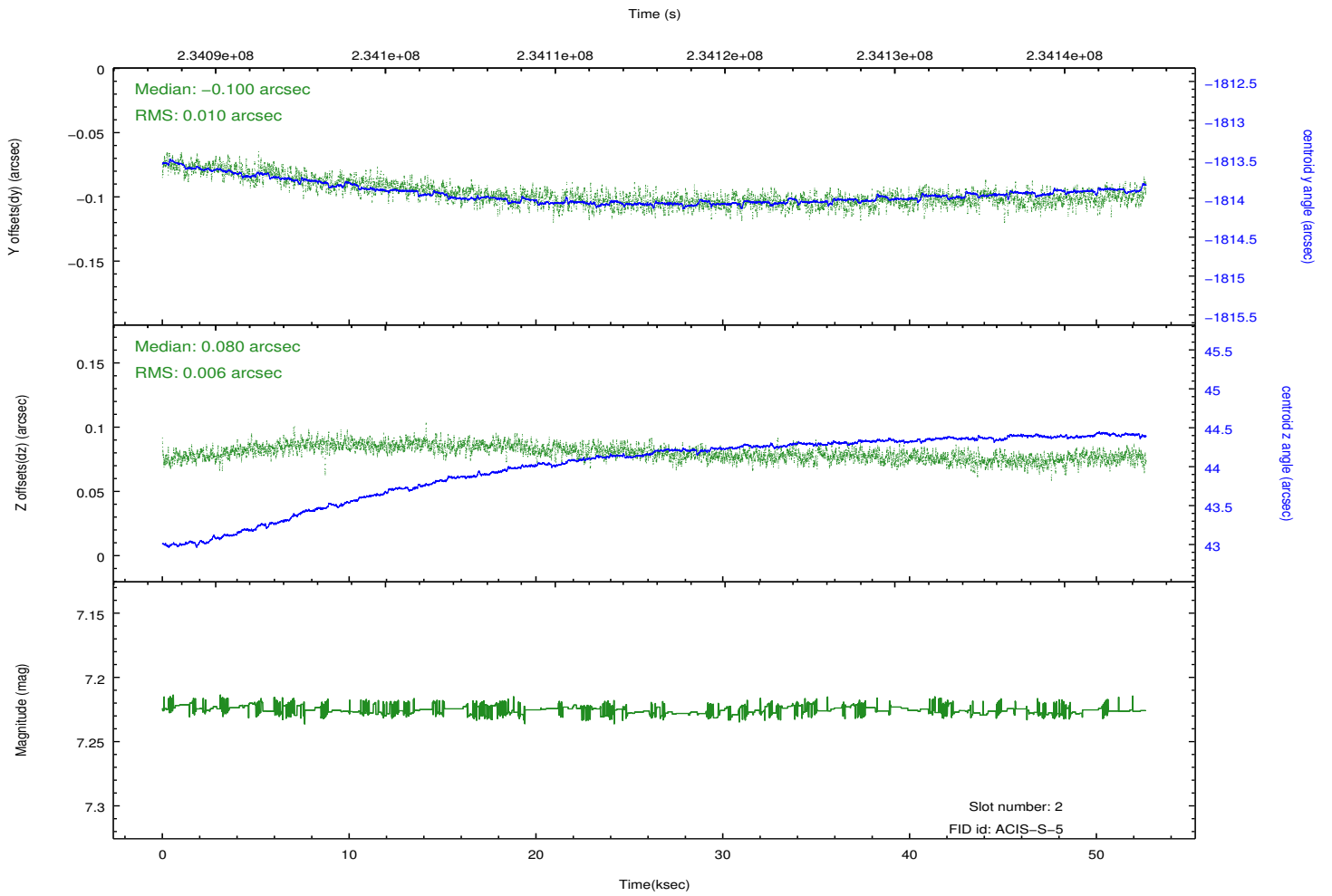
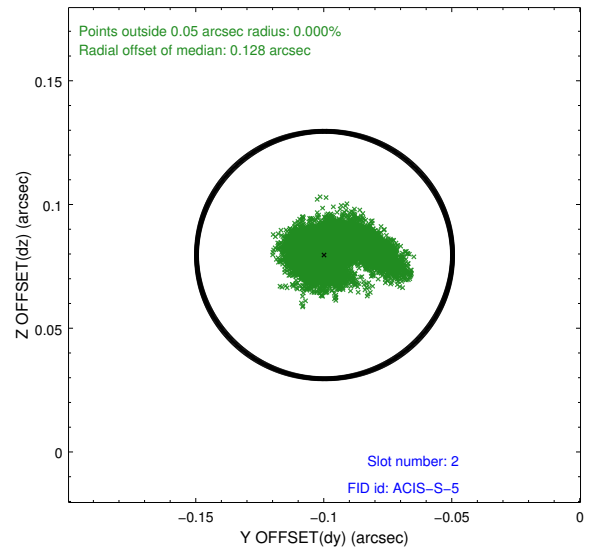
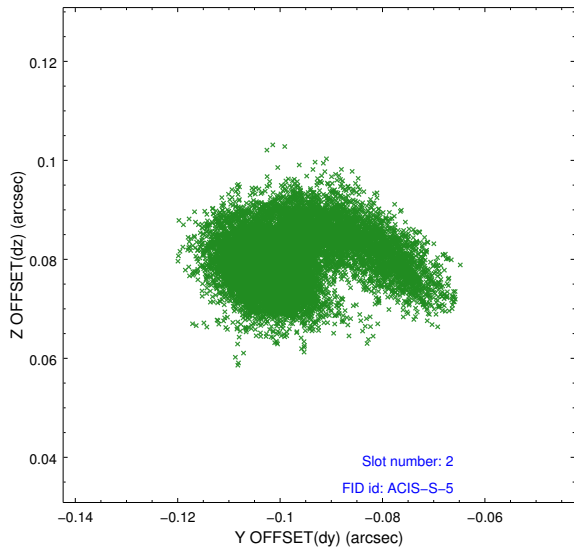
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

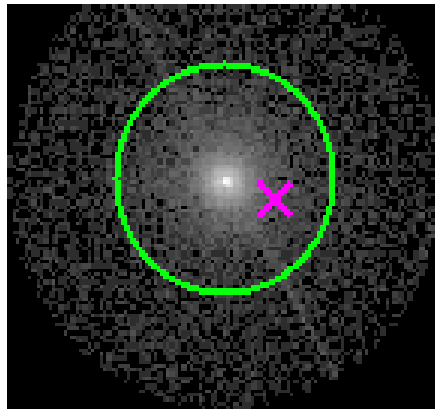


3 Gratings

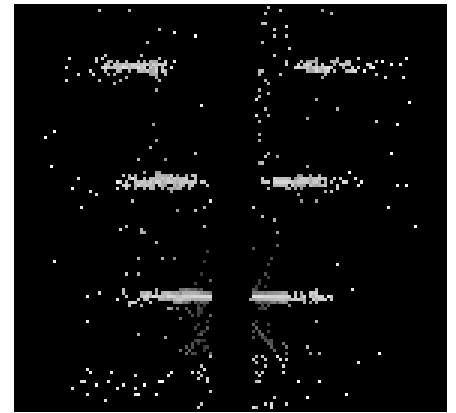
3.1 HEG Arm



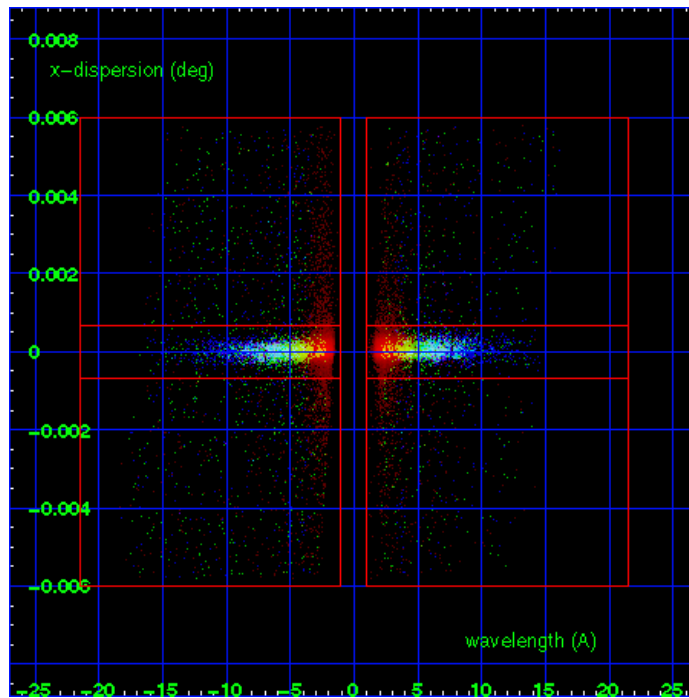
HEG Order Sort 123



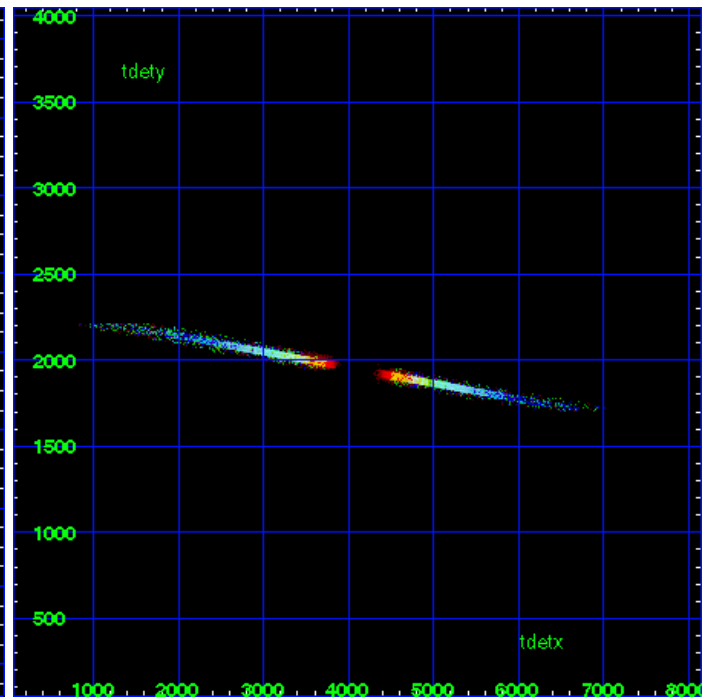
HEG Zero Order



HEG Order Sort ALL

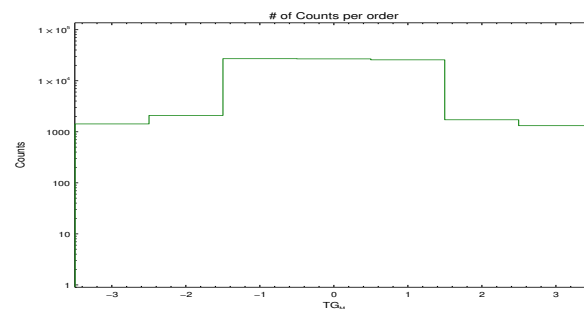


Spot Image HEG

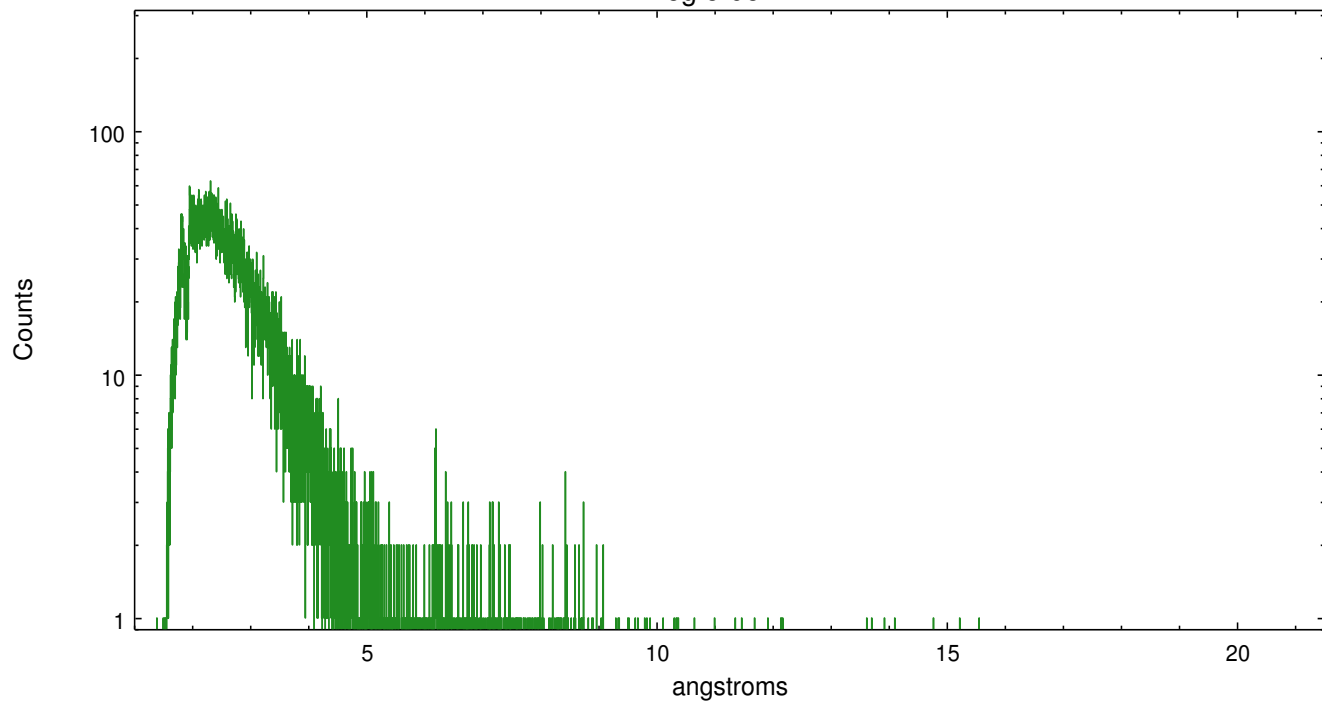


Full Detector HEG

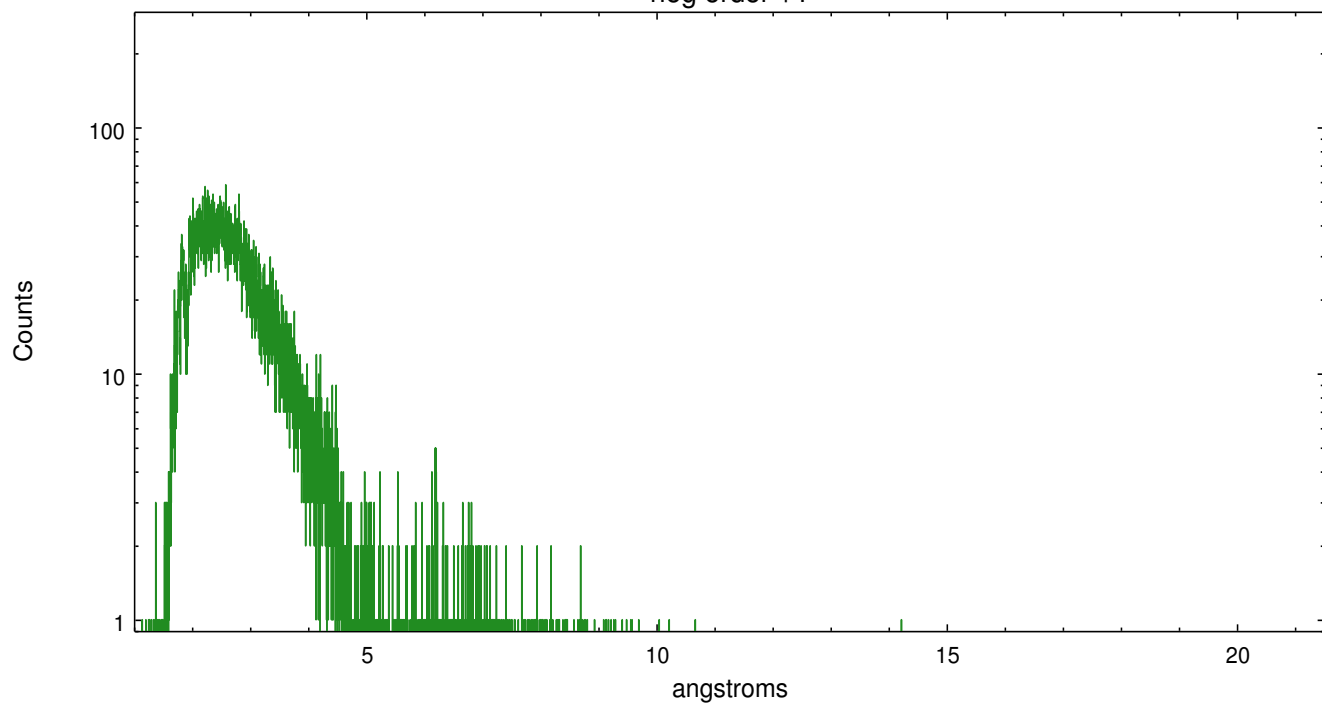
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1430	2098	27262	27013	25875	1725	1322



heg order -1



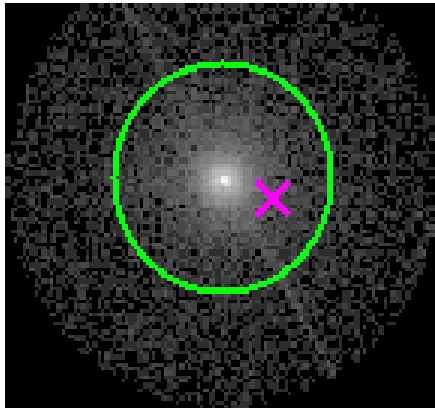
heg order +1



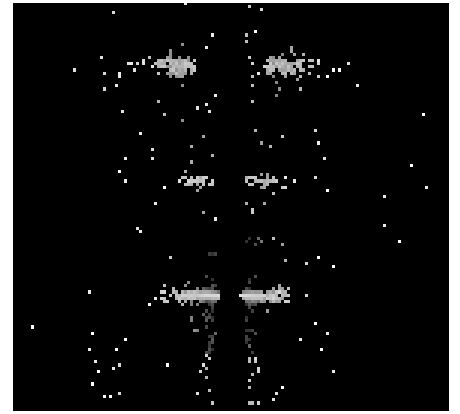
3.2 MEG Arm



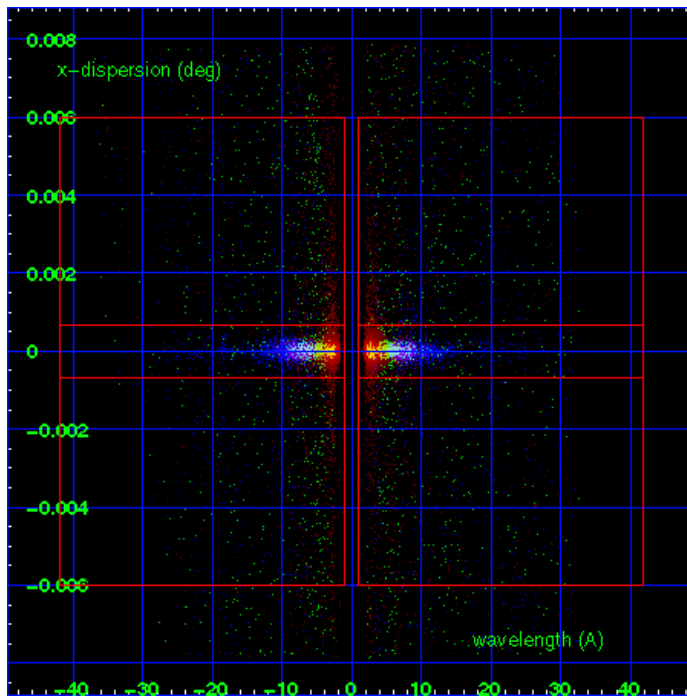
MEG Order Sort 123



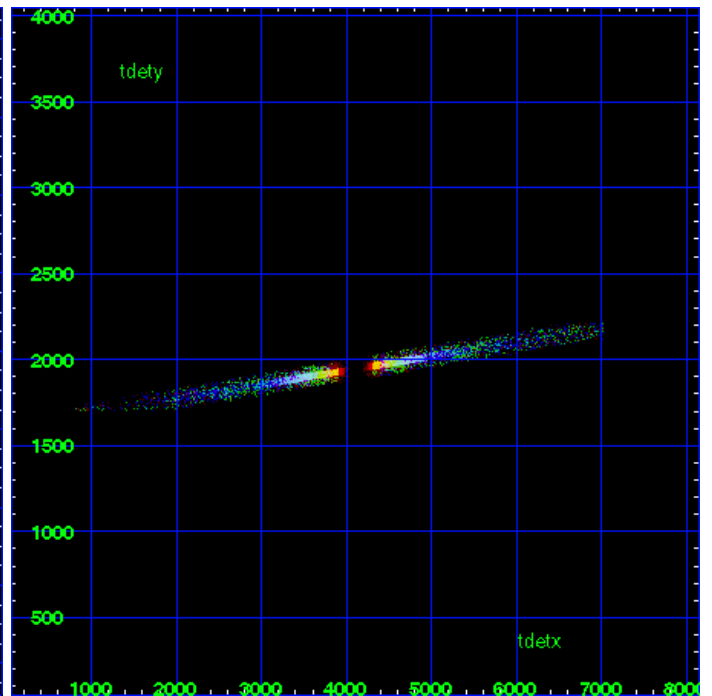
MEG Zero Order



MEG Order Sort ALL

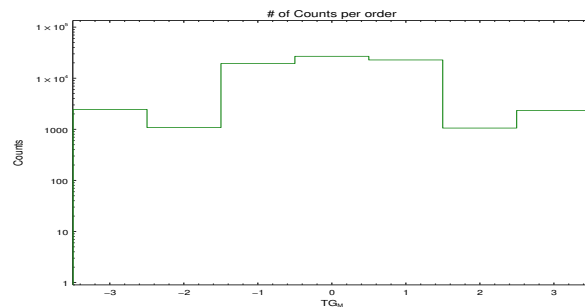


Spot Image MEG

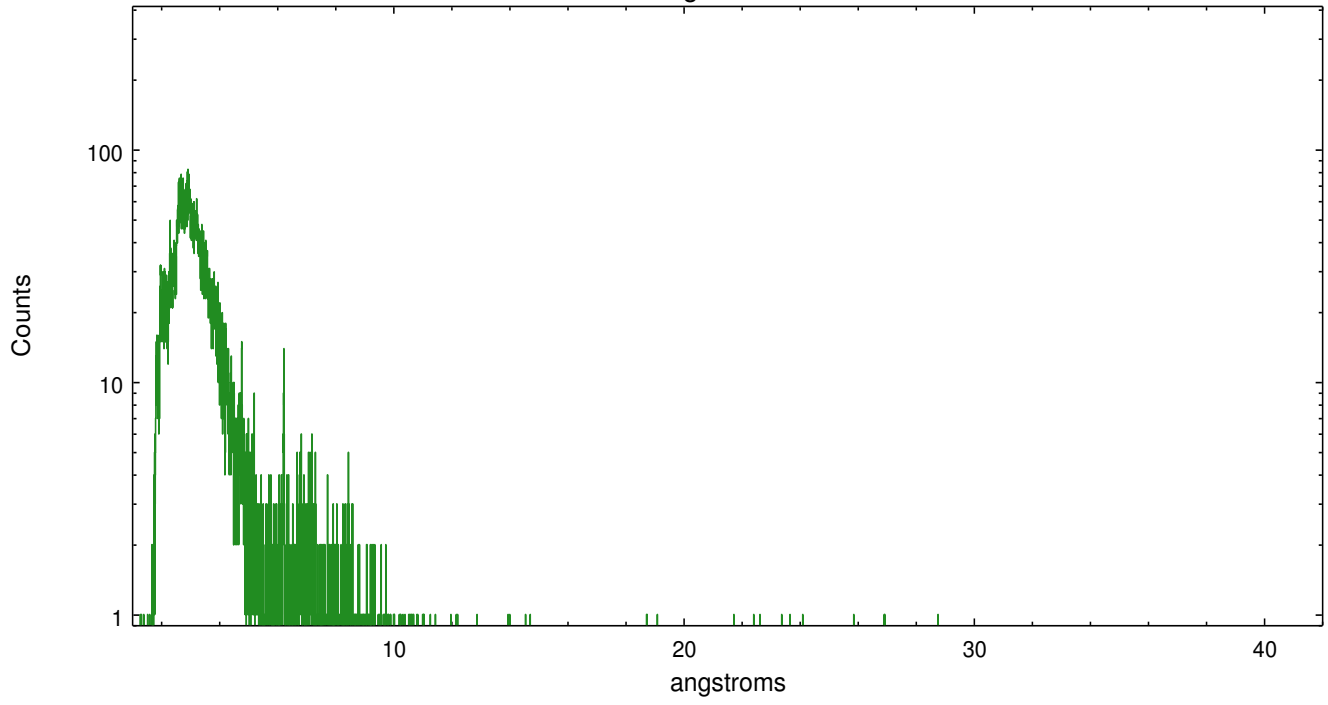


Full Detector MEG

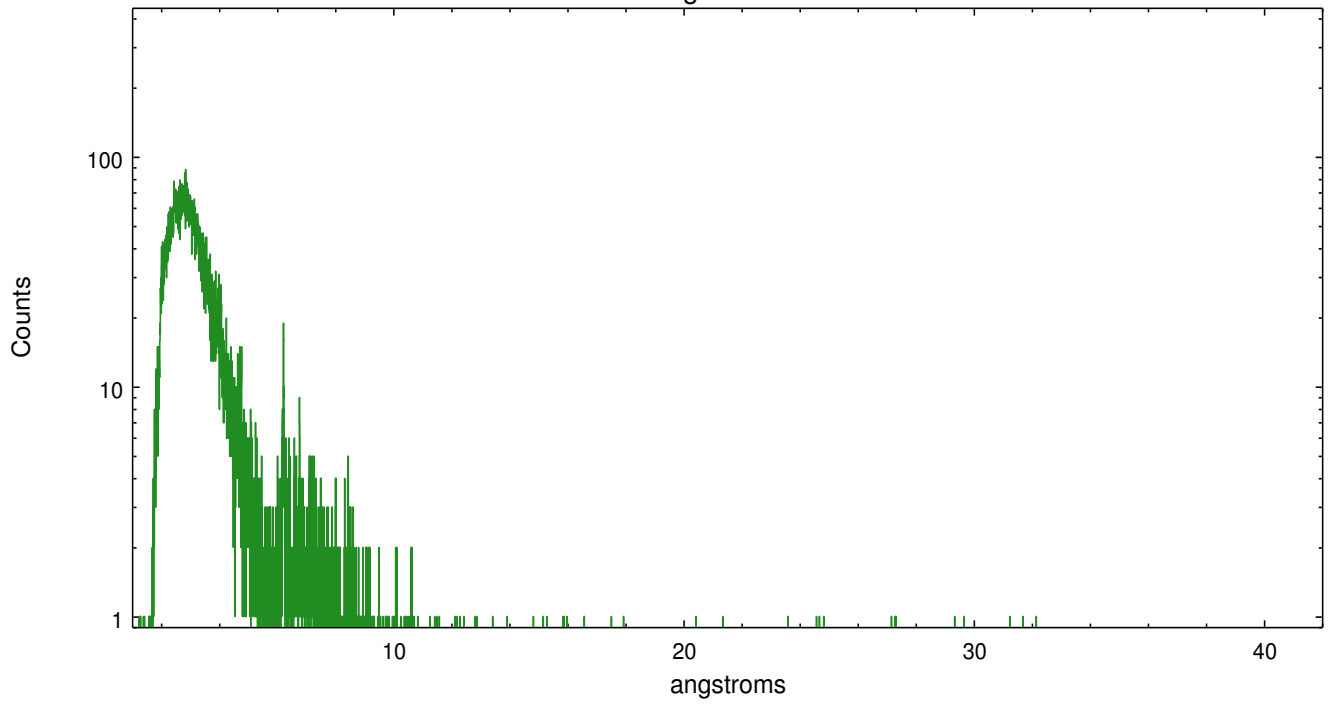
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2453	1083	19497	27013	22950	1059	2344



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	52.65239

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 ($x=4083.38$, $y=4100.69$) 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.