

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1939 - L2 Version 4
Chandra X-Ray Center

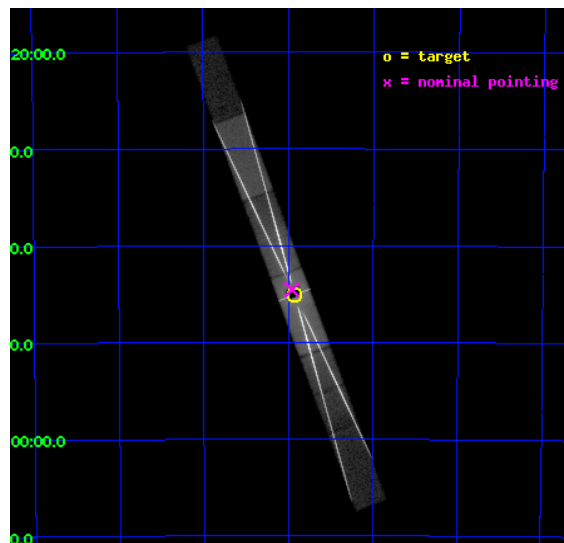
L2 Processing Date : Sep 18 2012

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1 Front

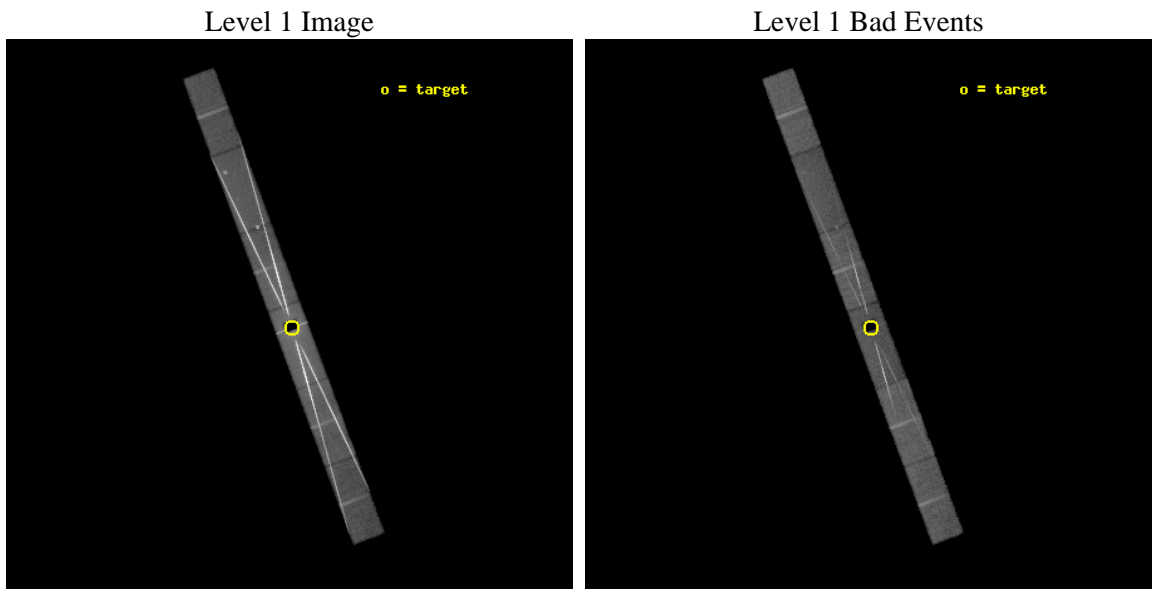
seq_num	400152	Sequence number
obs_id	1939	Observation id
title	HIGH RESOLUTION SPECTROSCOPY OF THE X-RAY BURSTER 4U 1636-53	Propo
observer	Dr. Norbert Schulz	Principal investigator
object	4U 1636-53	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	250.23125	Observer's specified target RA [deg]
dec_targ	-53.751389	Observer's specified target Dec [deg]
ra_nom	250.23970869658	Nominal RA [deg]
dec_nom	-53.742955291564	Nominal Dec [deg]
roll_nom	69.62392232999	Nominal Roll [deg]
revision	4	Processing version of data
ontime	27061.959125072	Sum of GTIs [s]
livetime	26291.249913327	Livetime [s]
ontime4	27063.400115222	Sum of GTIs [s]
ontime5	27063.400115222	Sum of GTIs [s]
ontime6	27063.400115222	Sum of GTIs [s]
ontime7	27061.959125072	Sum of GTIs [s]
ontime8	27063.400115222	Sum of GTIs [s]
ontime9	27063.400115222	Sum of GTIs [s]
l2events	2454952	Number of level 2 events



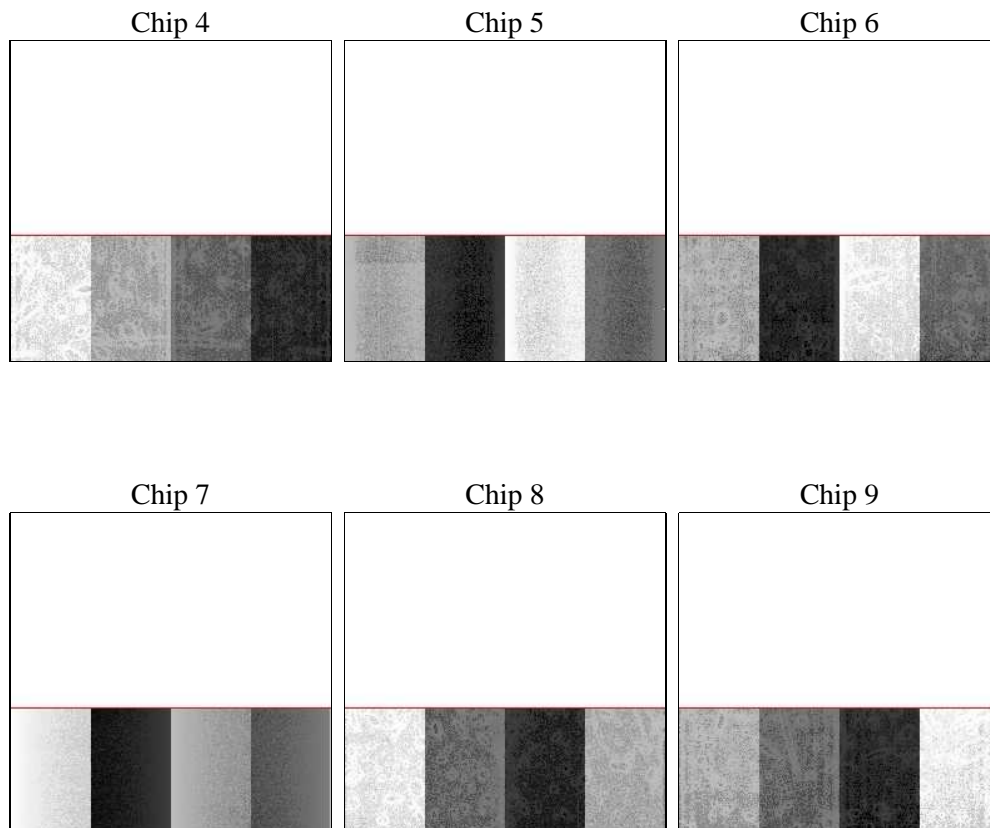
2 OBI

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	27061.959125072	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	27063.400115222	Sum of GTIs [s]
date	2012-09-14T21:04:11	Date and time of file creation	ontime5	27063.400115222	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	27063.400115222	Sum of GTIs [s]
			ontime7	27061.959125072	Sum of GTIs [s]
			ontime8	27063.400115222	Sum of GTIs [s]
			ontime9	27063.400115222	Sum of GTIs [s]
			l1events	3164538	Number of level 1 events

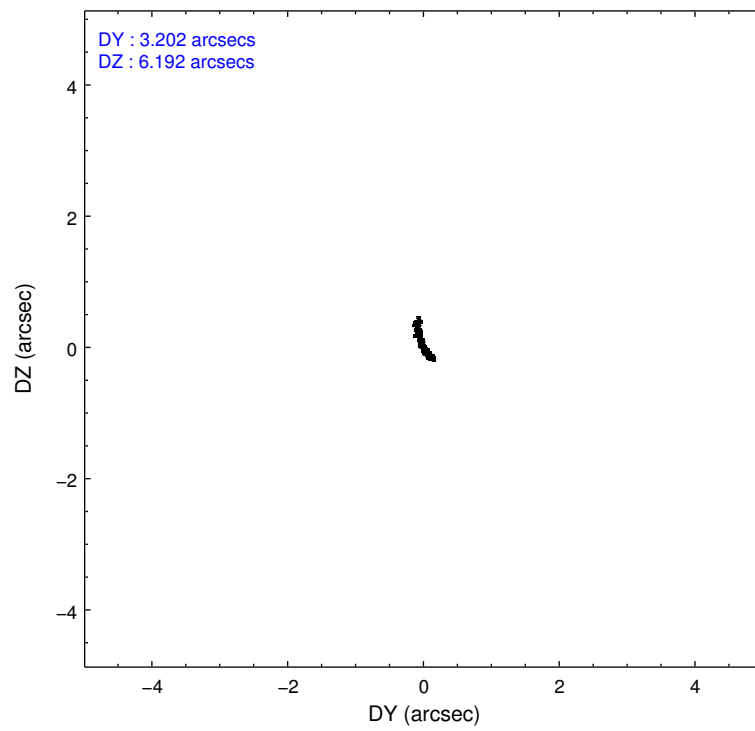
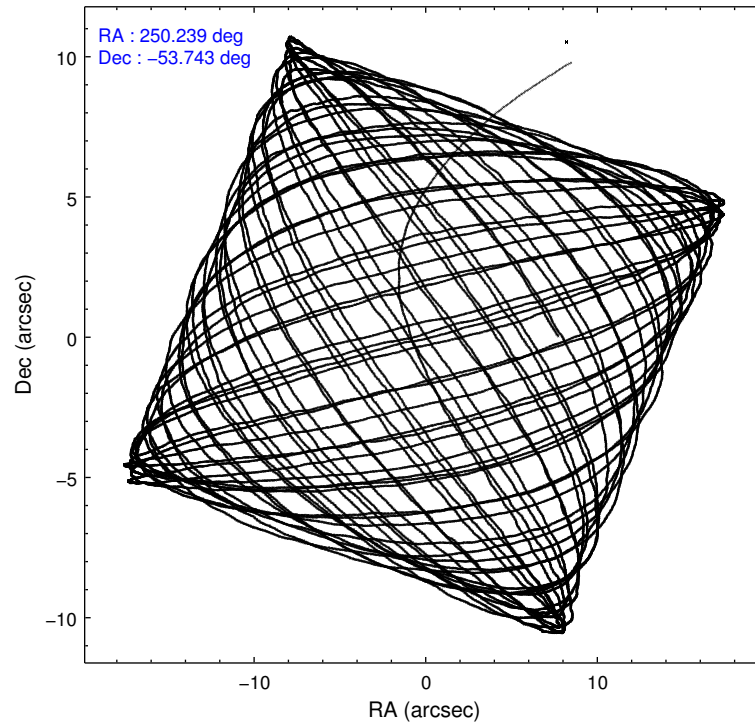
2.1.4 Events

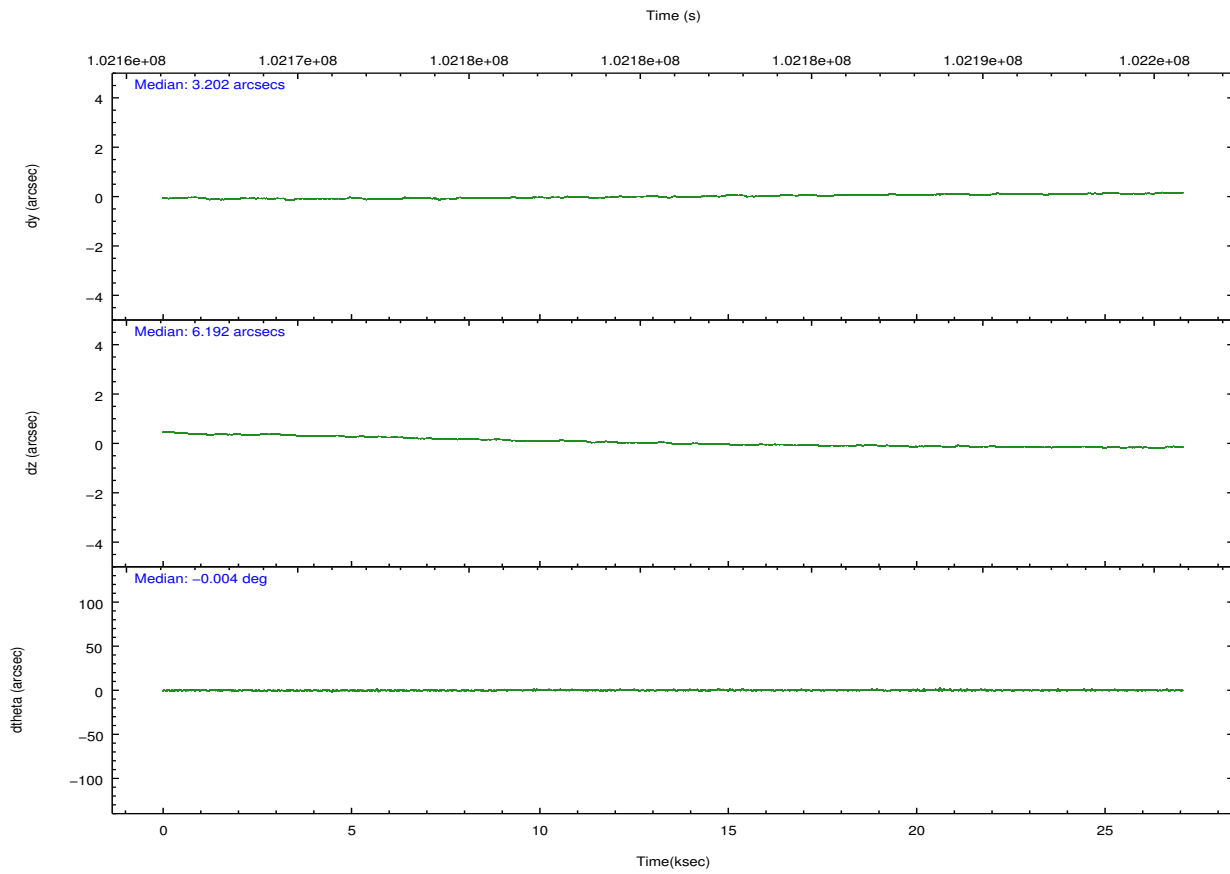
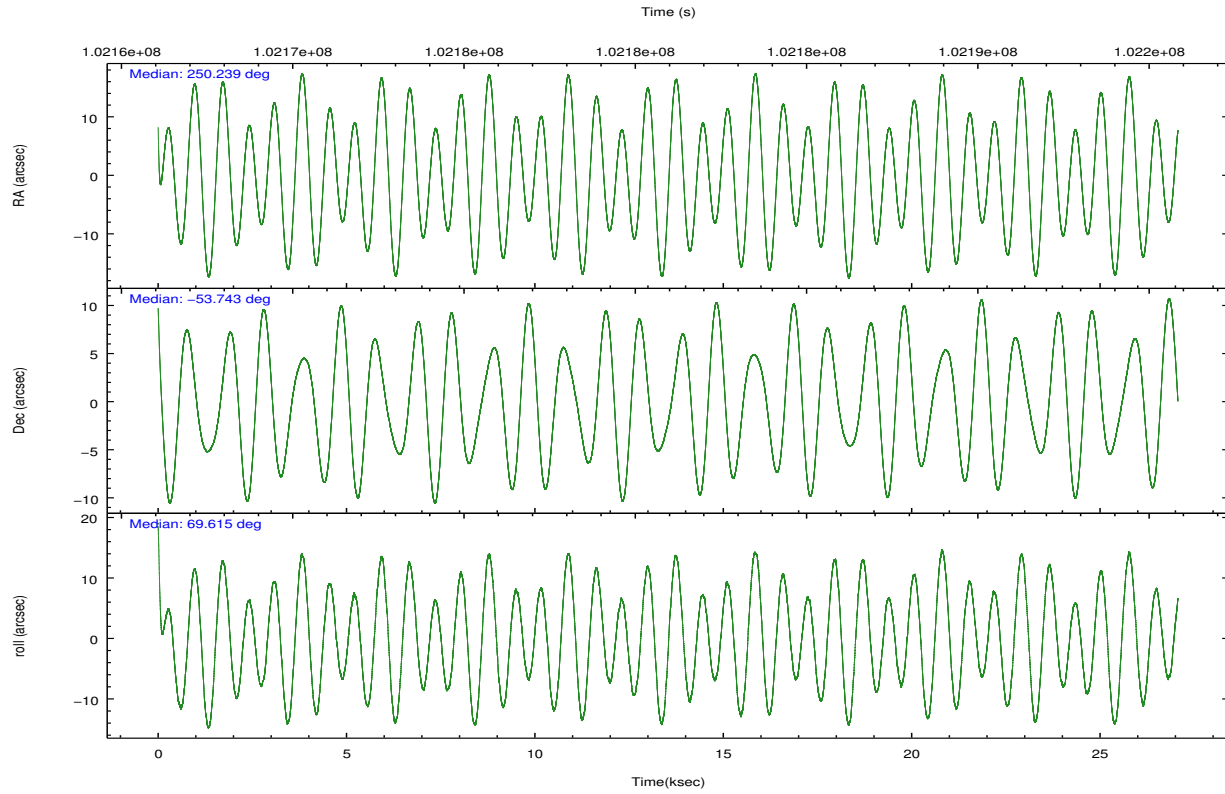
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	103262	321676	1060120	919644	617054	142782	grade 0 events	12586	90726	726156	168537	413296	54363
rejected events	90316	67684	120495	103927	107678	78519		12%	28%	68%	18%	66%	38%
rejected %	87%	21%	11%	11%	17%	54%	grade 1 events	56	860	14821	4525	4604	175
								0%	0%	1%	0%	0%	0%
							grade 2 events	4478	73278	115602	204106	56785	9824
								4%	22%	10%	22%	9%	6%
							grade 3 events	2016	24803	40811	93296	19818	3654
								1%	7%	3%	10%	3%	2%
							grade 4 events	1931	24747	40397	92752	19348	3579
								1%	7%	3%	10%	3%	2%
							grade 5 events	2401	10430	12119	25725	5887	2900
								2%	3%	1%	2%	0%	2%
							grade 6 events	3151	53342	35739	274551	16524	4676
								3%	16%	3%	29%	2%	3%
							grade 7 events	76643	43490	74475	56152	80792	63611
								74%	13%	7%	6%	13%	44%

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	250.247860	250.2397086965781	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-53.769841	-53.74295529156432	Subarray start row	1	1
[deg] Pointing Roll	69.473865	69.62392232999011	Subarray row count	400	400
[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	1.4
[mm] SIM translation stage pos	-182.642523	-182.6373491900168			
[mm] SIM translation stage offset	-7.49	-7.495173392990978			
[s] Observation start time (MET)	102167490.184000	102166316.86424			
Observation start date	2001-03-28T11:50:26	2001-03-28T11:31:56			
[s] Observation end time (MET)	102194490.184000	102195234.67786			
Observation end date	2001-03-28T19:20:26	2001-03-28T19:33:54			
Read mode	TIMED	TIMED			

2.3 Aspect



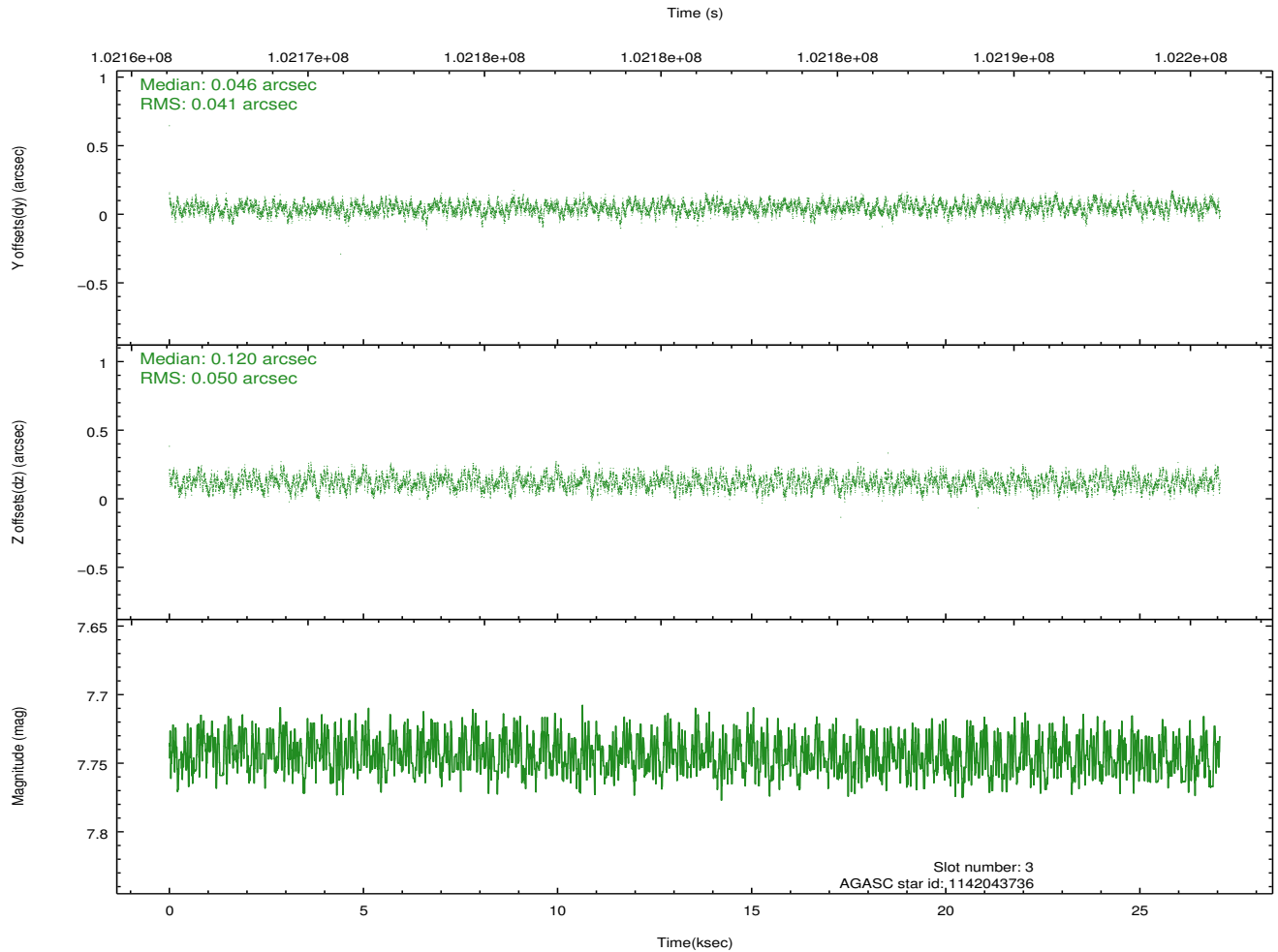
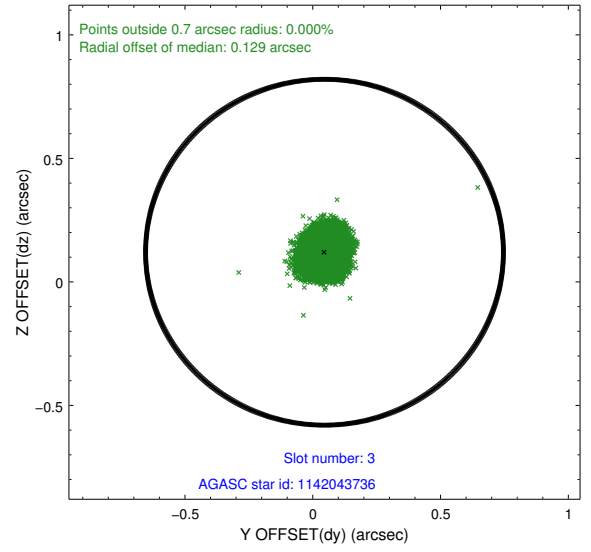
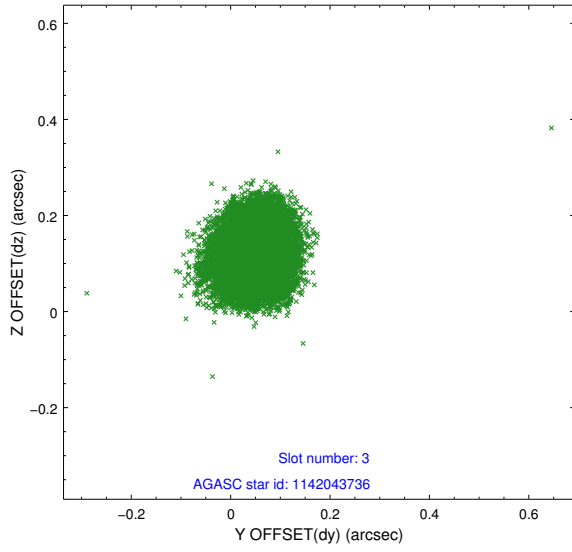


Slot Statistics

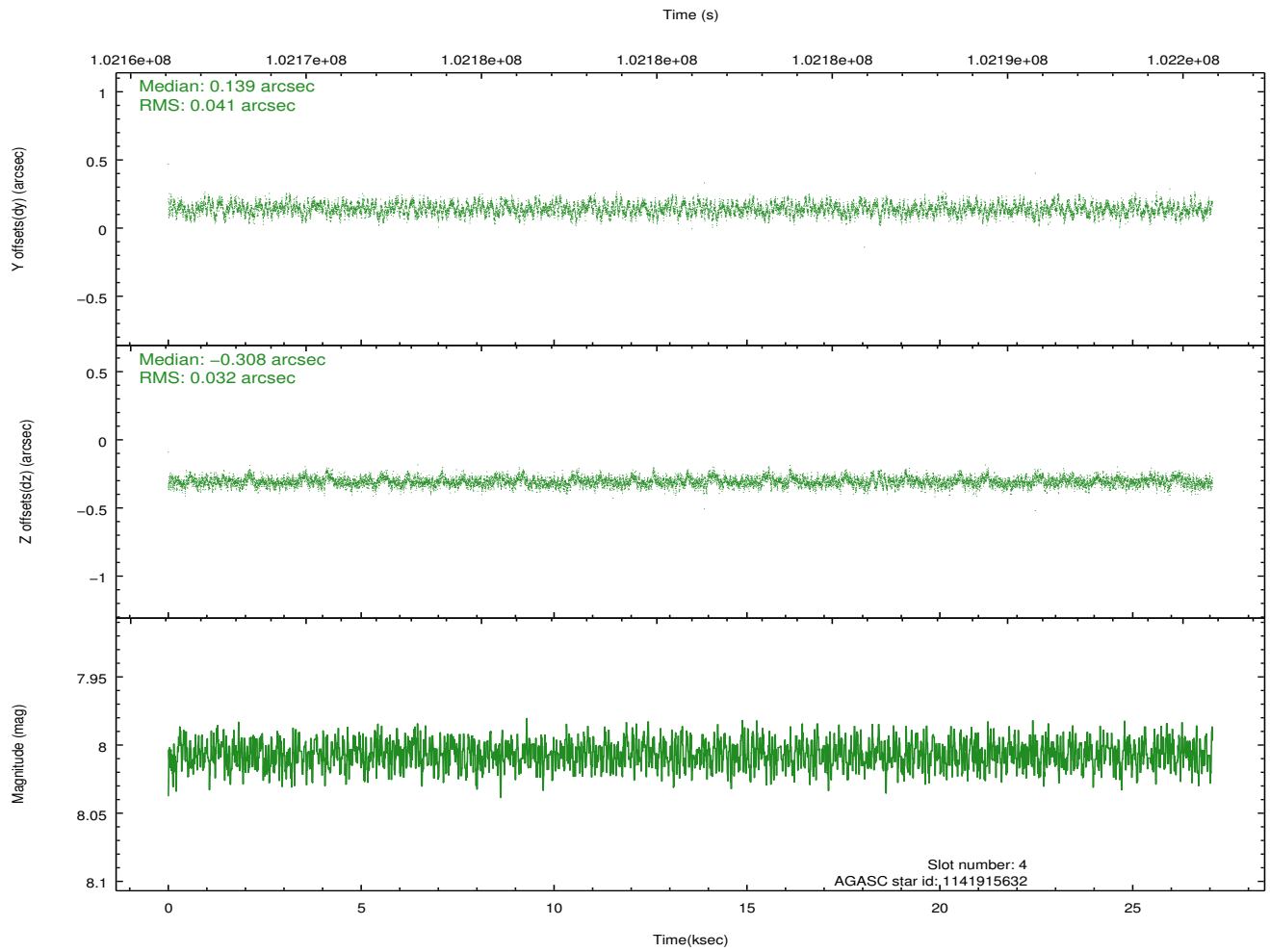
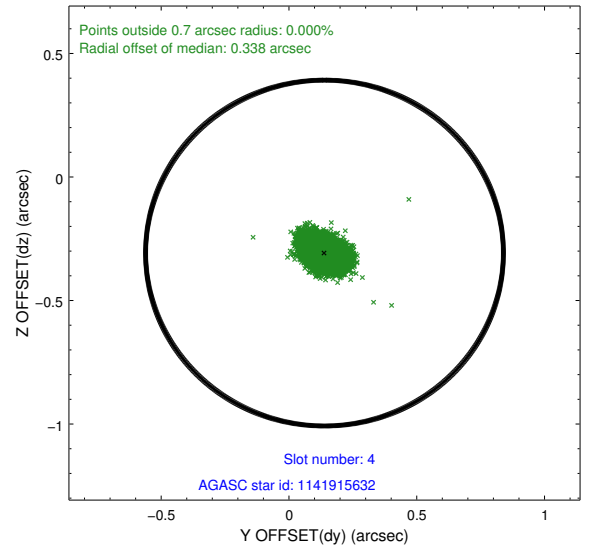
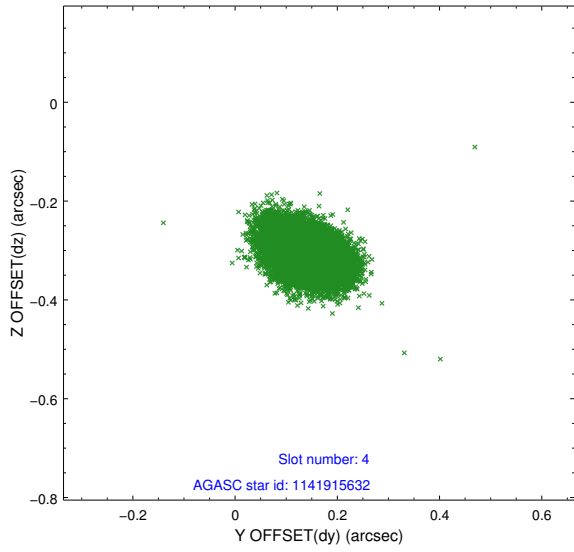
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	6602	0.019	-0.051	0.007	0.012	0.000000	0.000000	-755.31	-1881.87
1	FID	ACIS-S-3	7.36	6602	-0.088	0.011	0.011	0.017	0.000000	0.000000	57.67	-2011.15
2	FID	ACIS-S-4	7.18	6602	0.042	0.041	0.007	0.013	0.000000	0.000000	2158.08	26.55
3	GUIDE	1142043736	7.75	13204	0.046	0.120	0.069	0.107	250.861726	-54.284643	-1286.80	-1860.16
4	GUIDE	1141915632	8.01	13203	0.139	-0.308	0.055	0.091	249.175229	-53.921117	-1322.28	1931.84
5	GUIDE	1141904960	8.28	13203	-0.125	-0.197	0.057	0.091	249.830144	-53.372737	1022.79	1340.53
6	GUIDE	1142049296	8.31	13200	0.136	0.106	0.069	0.111	250.151068	-54.136674	-1306.78	-272.03
7	GUIDE	1142065272	8.01	13194	-0.198	0.280	0.064	0.104	251.648424	-53.486700	1980.39	-2462.02

2.4 Star Slots

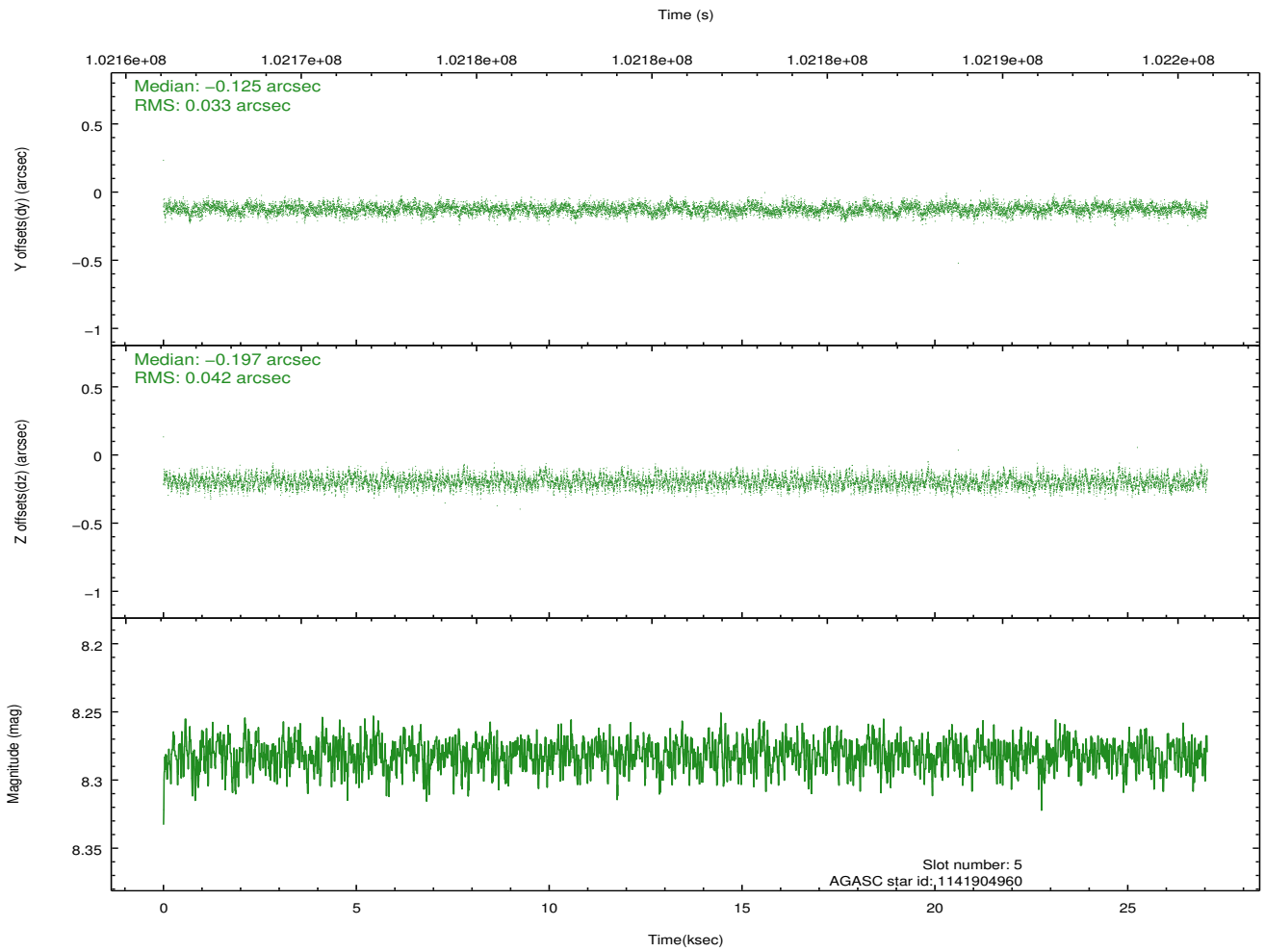
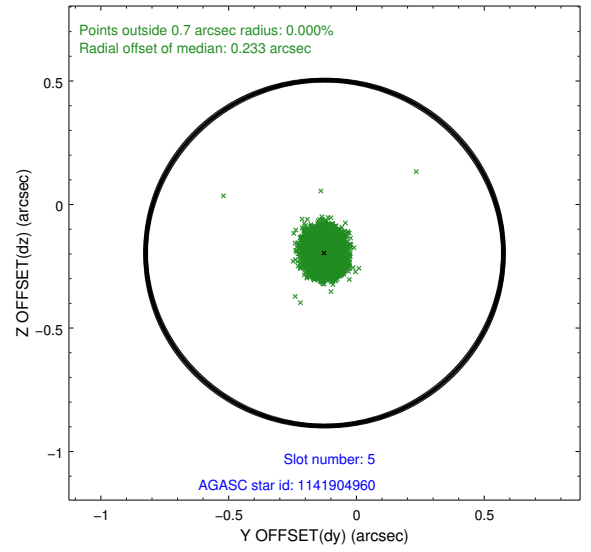
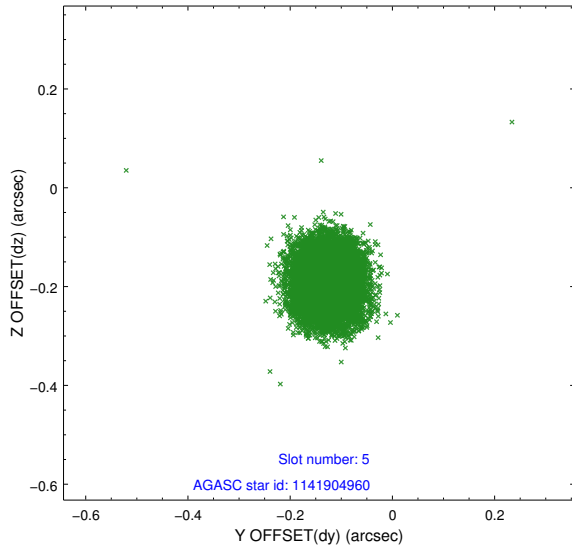
2.4.1 Slot 3



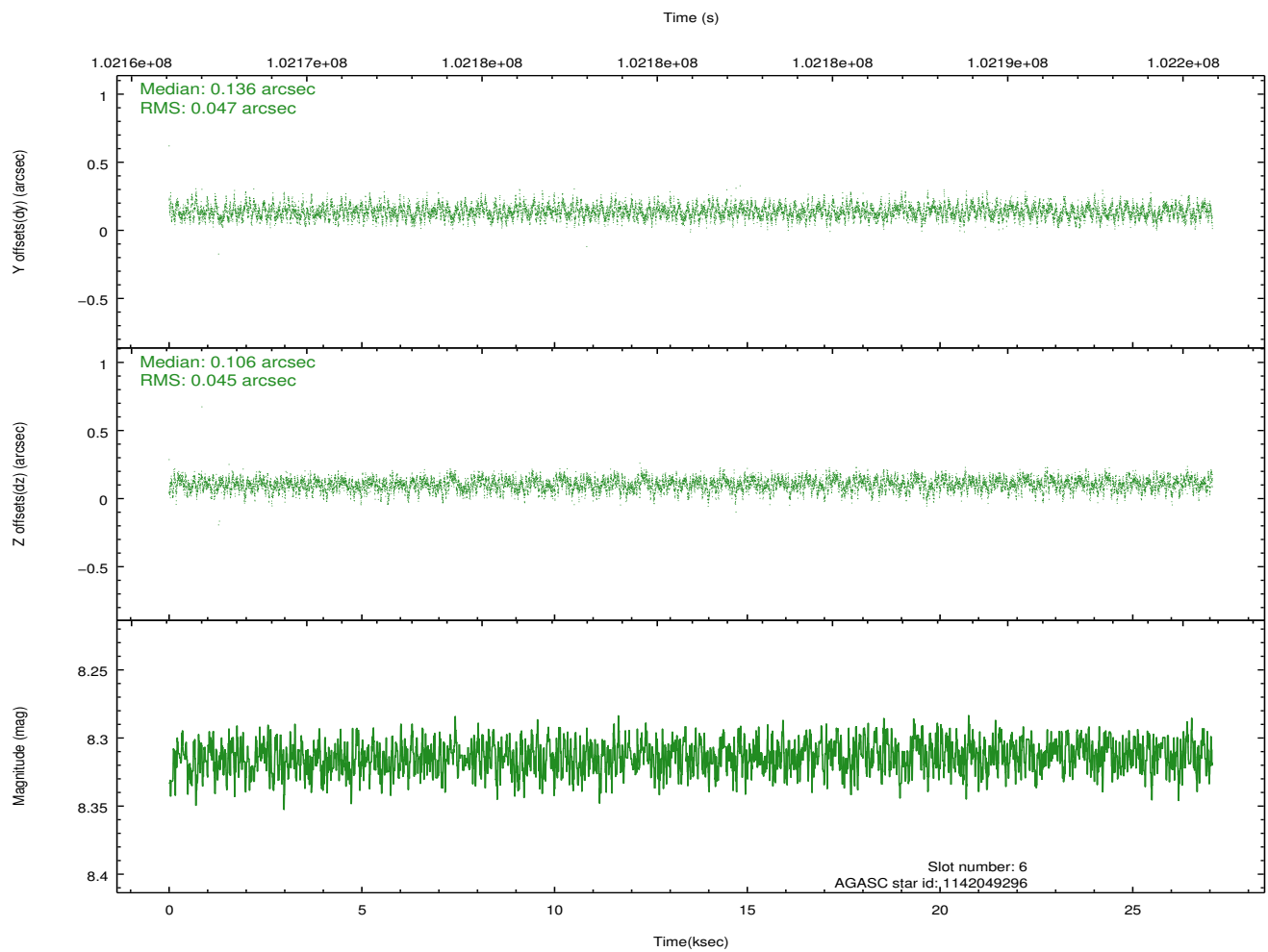
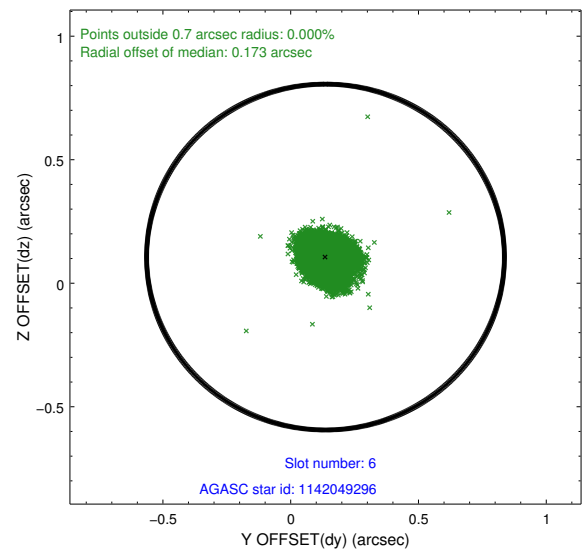
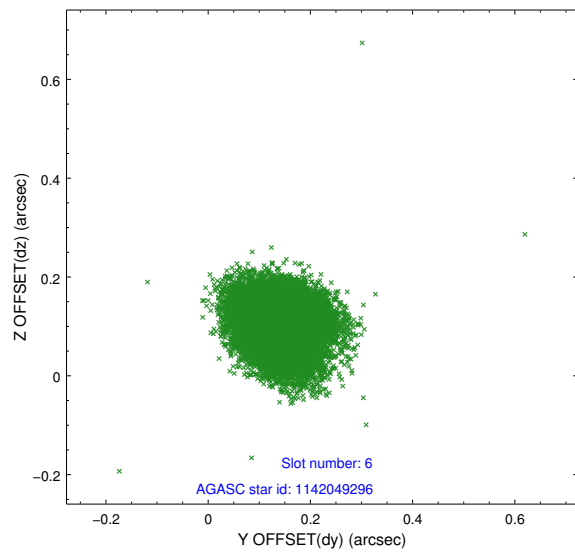
2.4.2 Slot 4



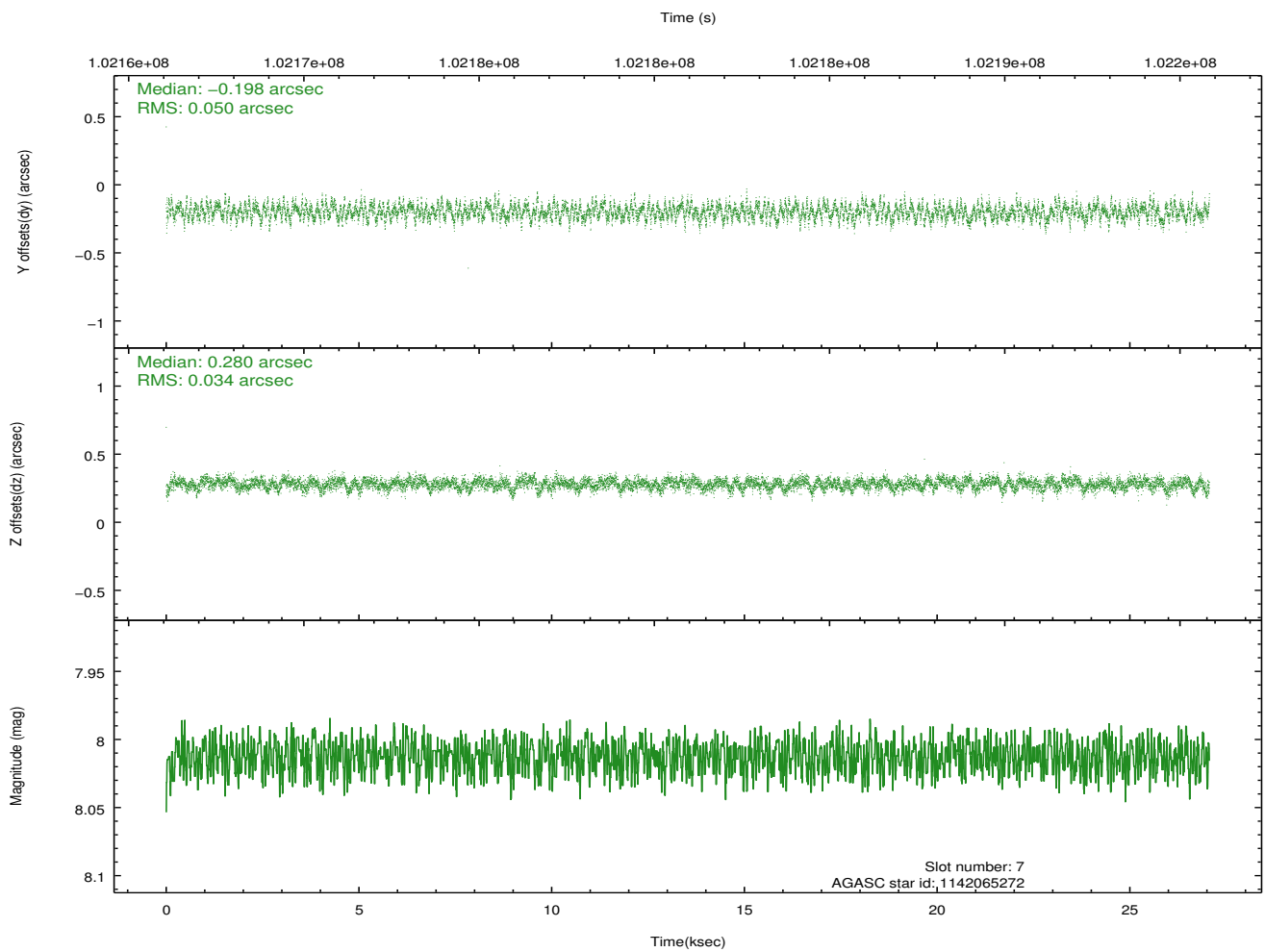
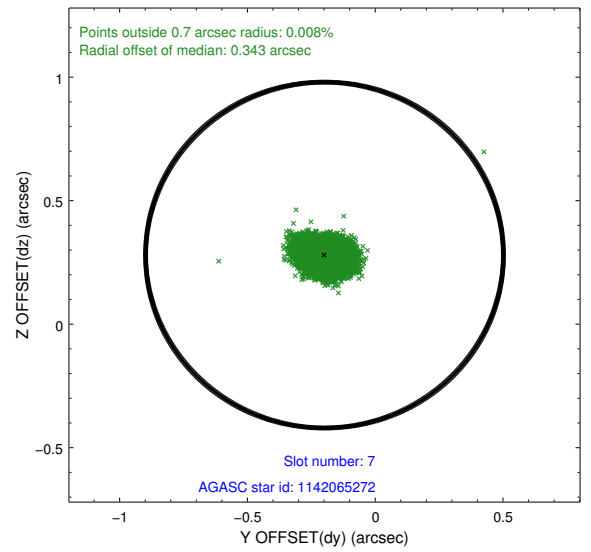
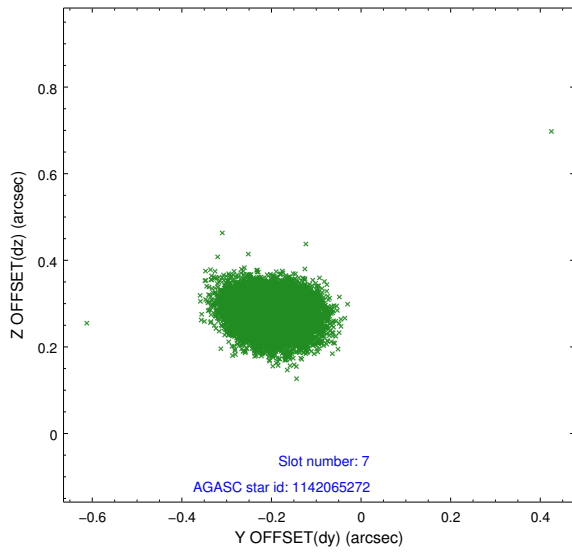
2.4.3 Slot 5



2.4.4 Slot 6

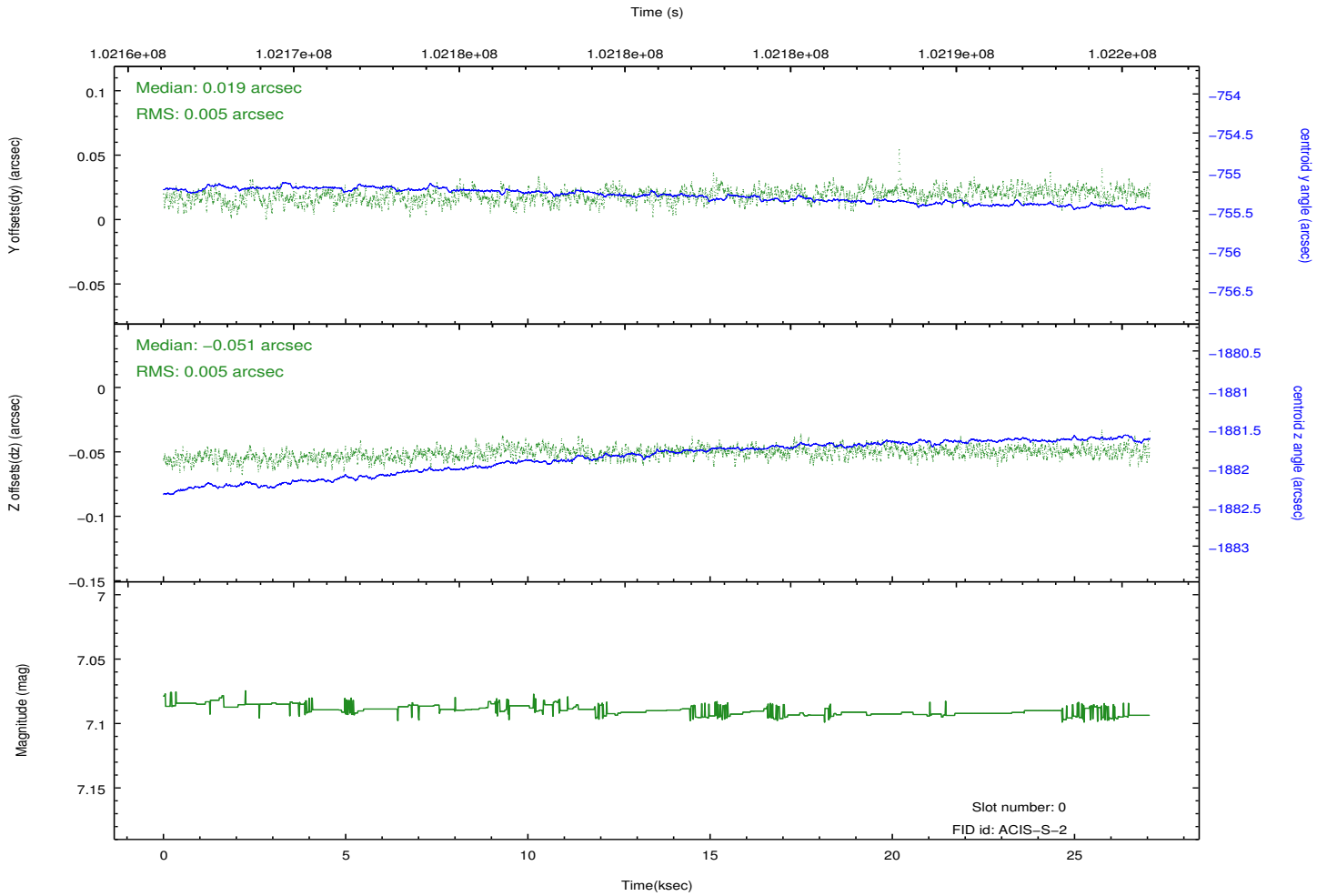
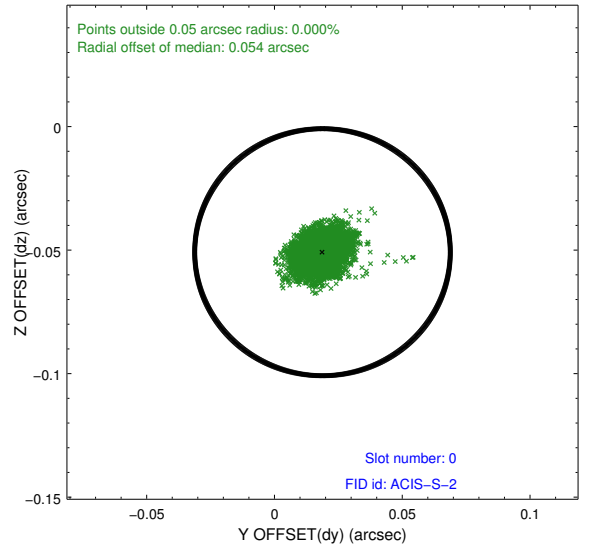
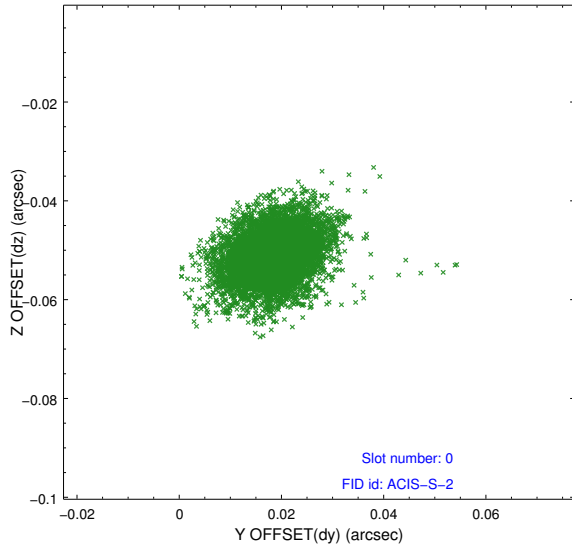


2.4.5 Slot 7

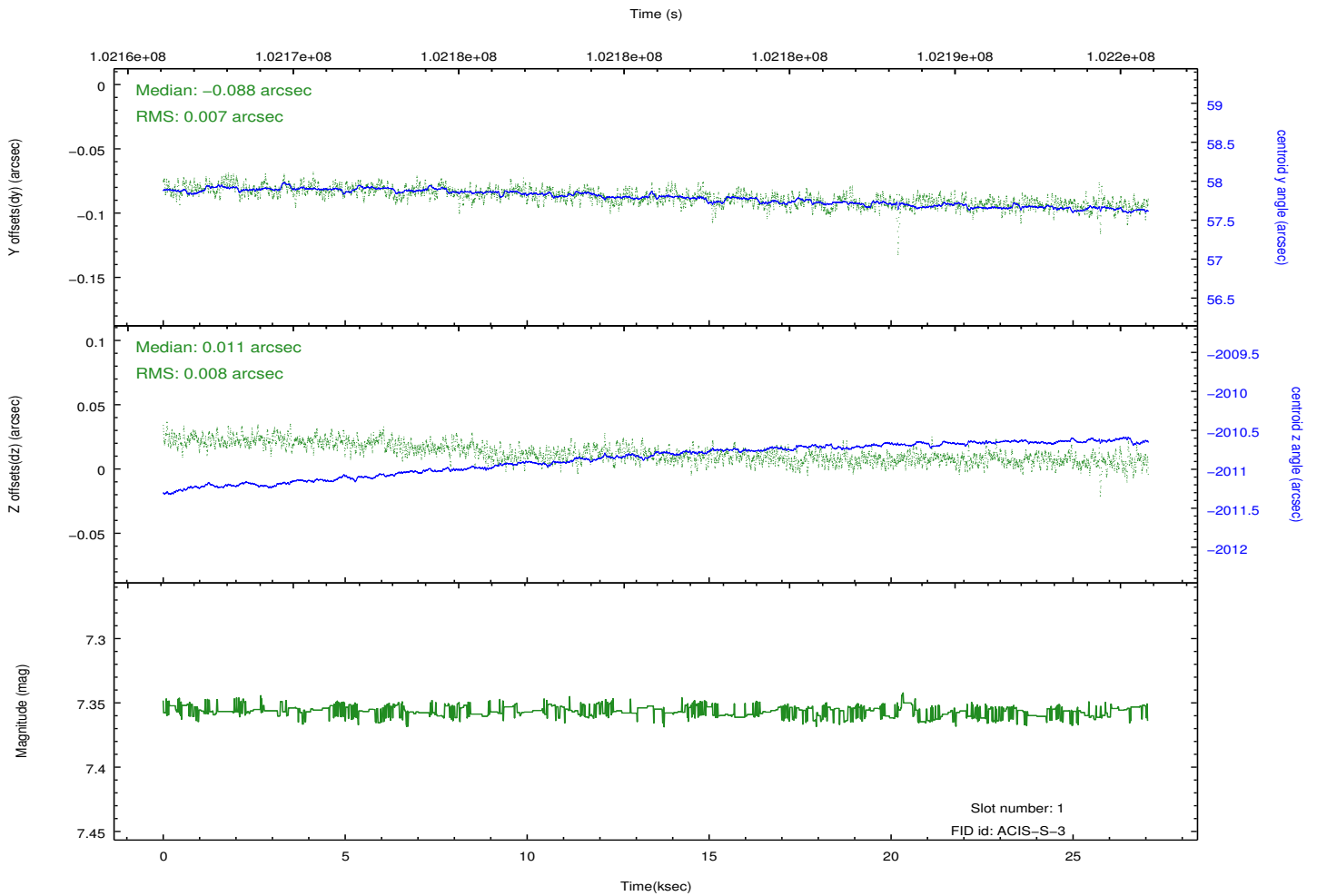
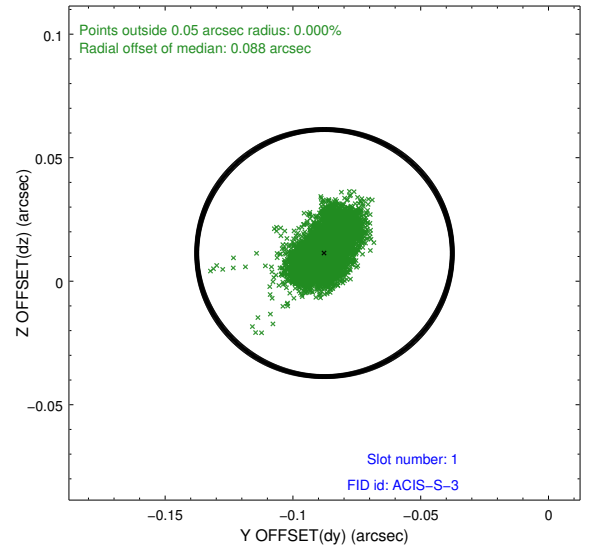
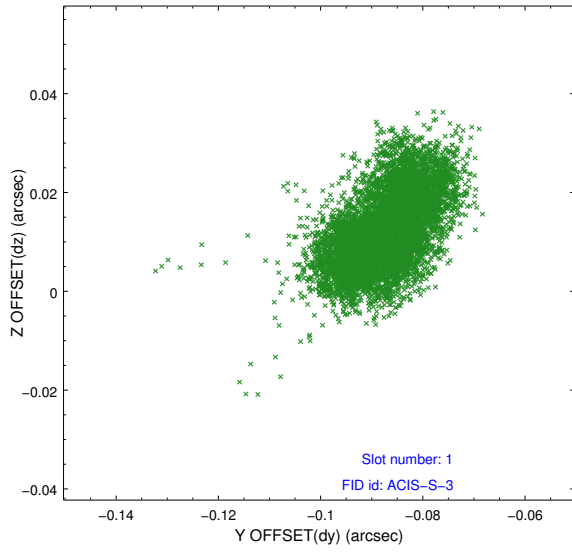


2.5 FID Slots

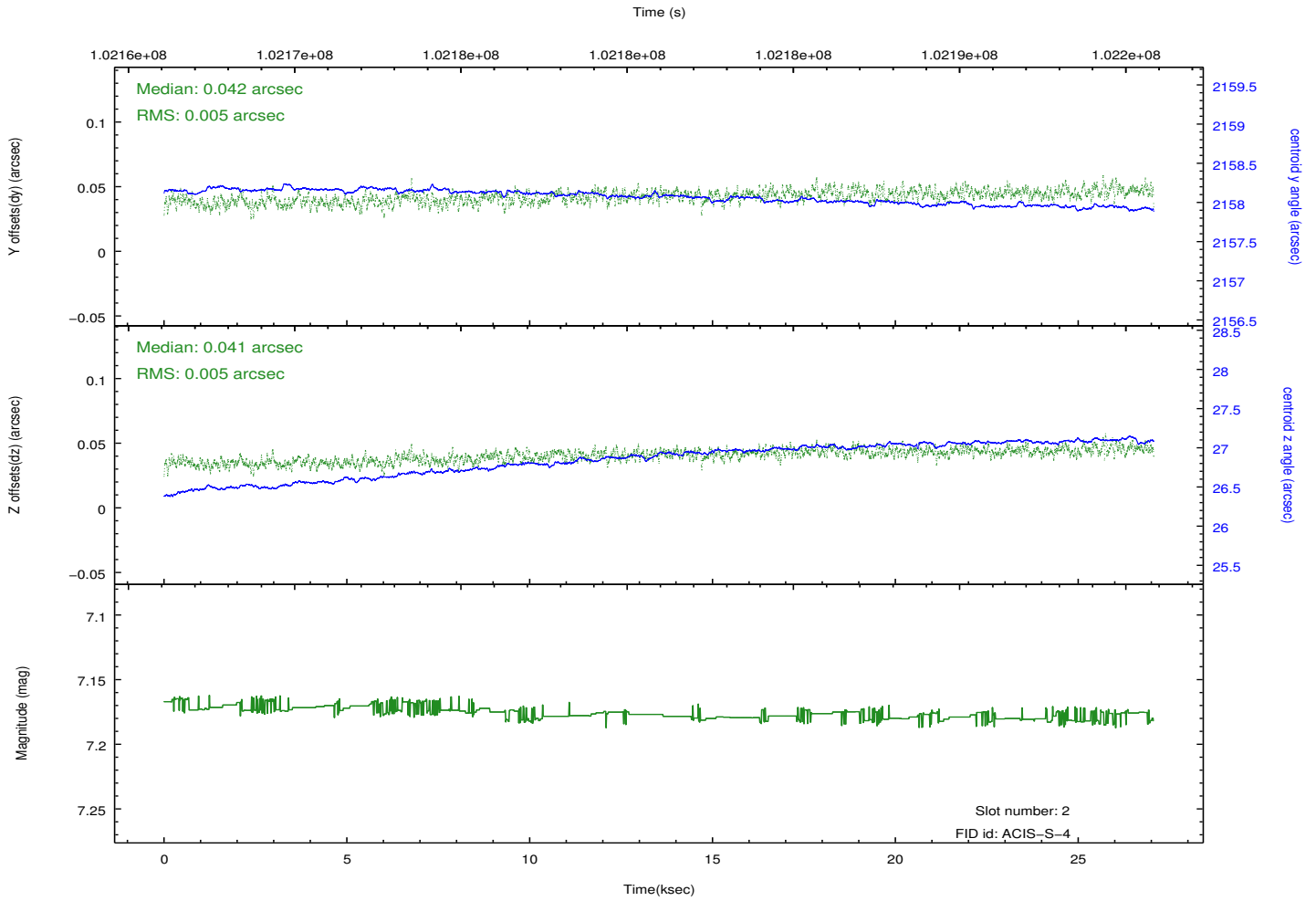
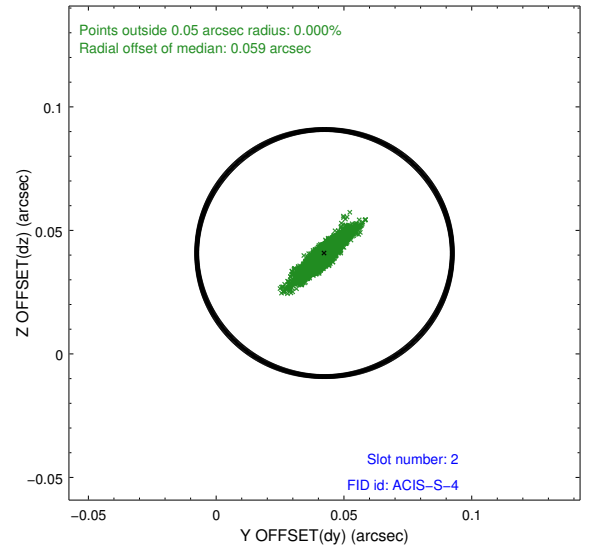
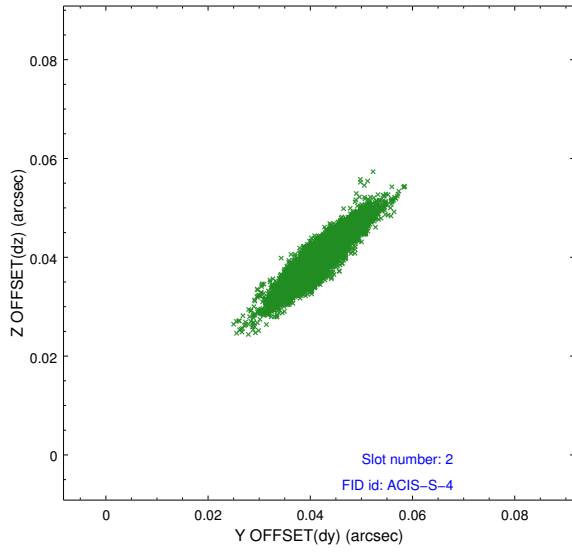
2.5.1 Slot 0



2.5.2 Slot 1

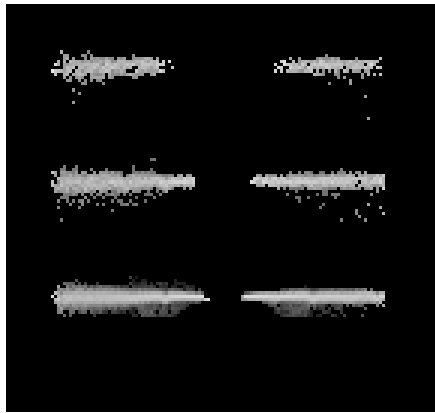


2.5.3 Slot 2

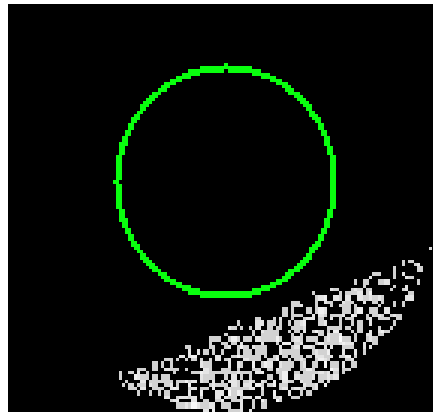


3 Gratings

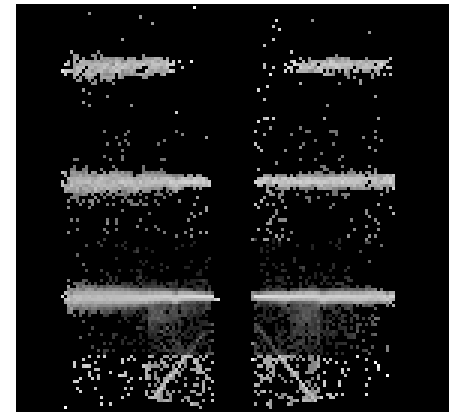
3.1 HEG Arm



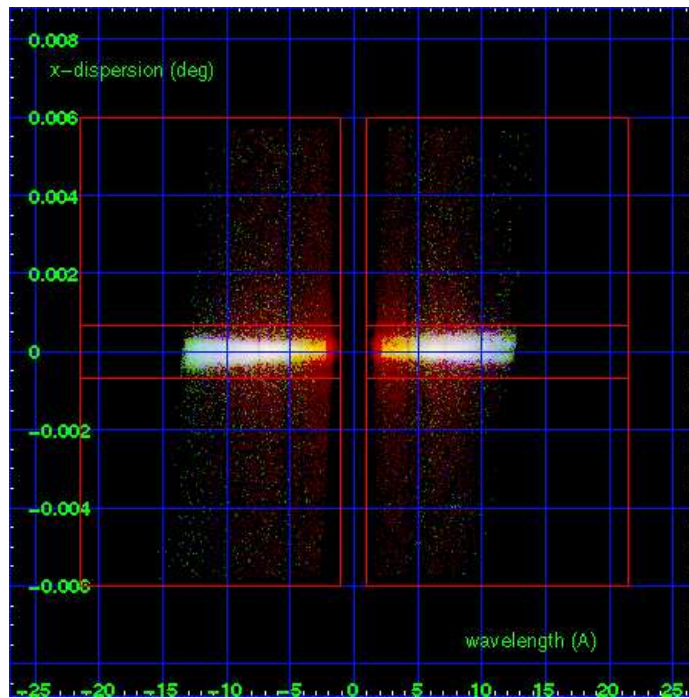
HEG Order Sort 123



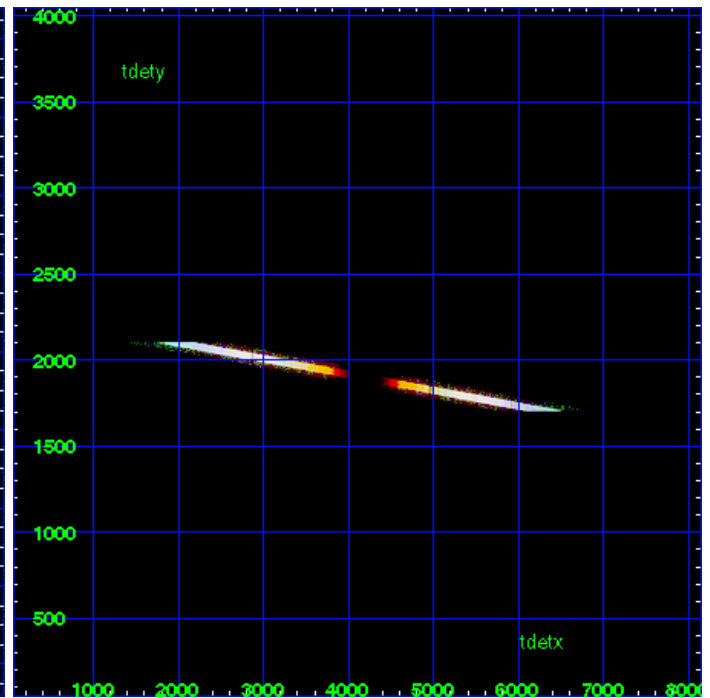
HEG Zero Order



HEG Order Sort ALL

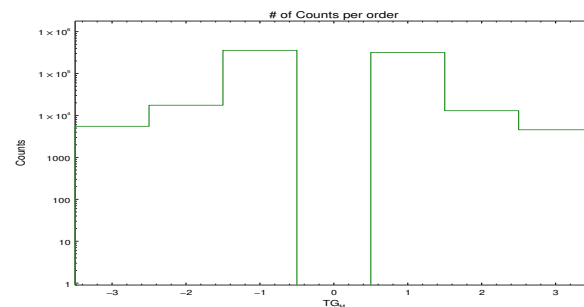


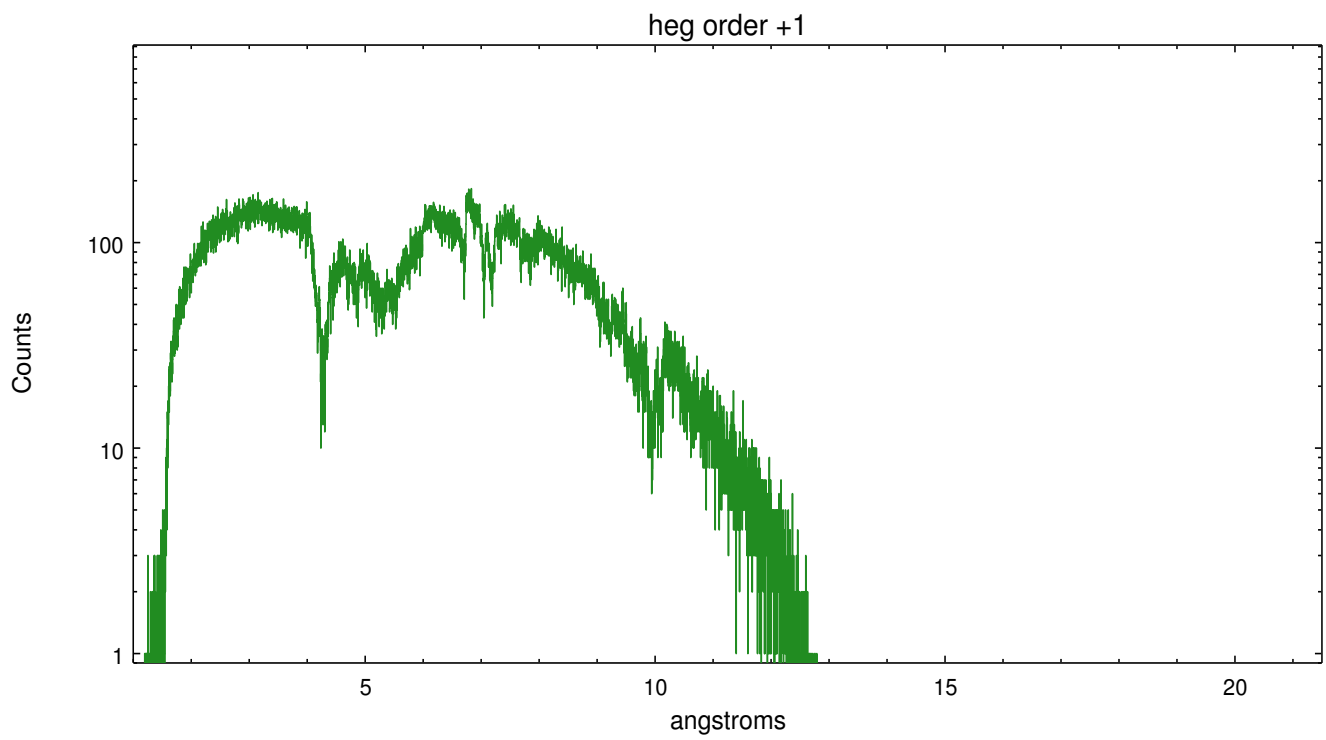
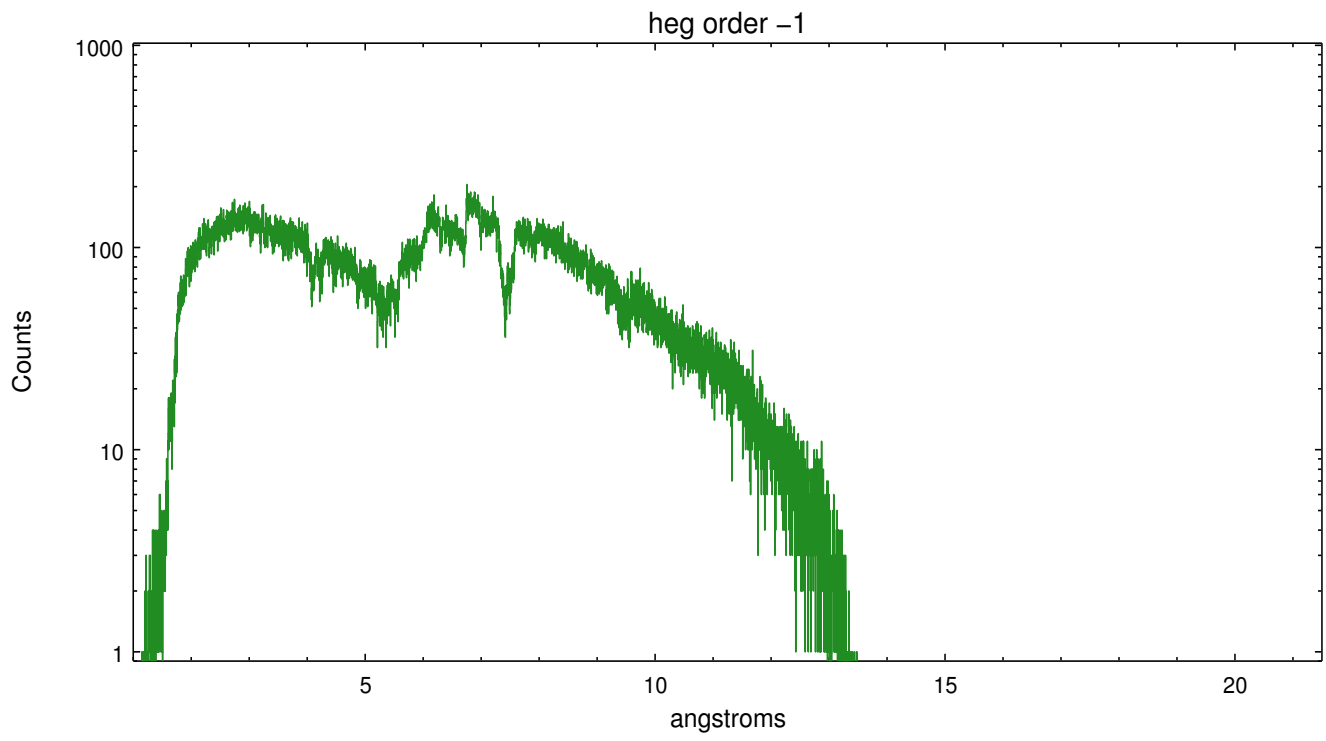
Spot Image HEG



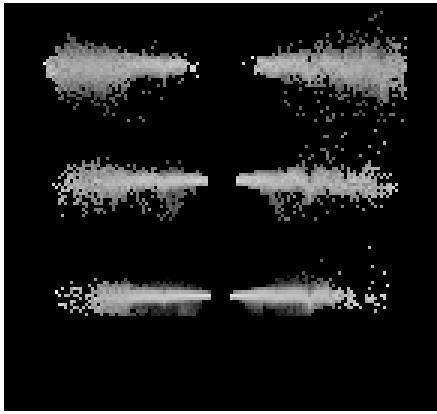
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	5517	17567	358261	0	319485	13005	4560

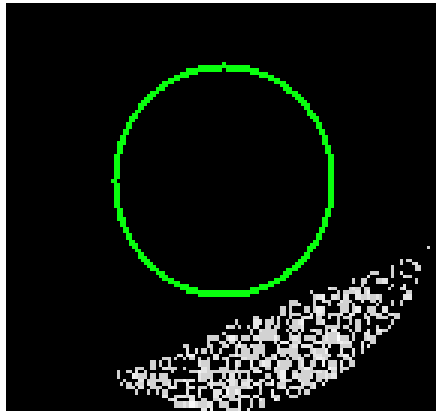




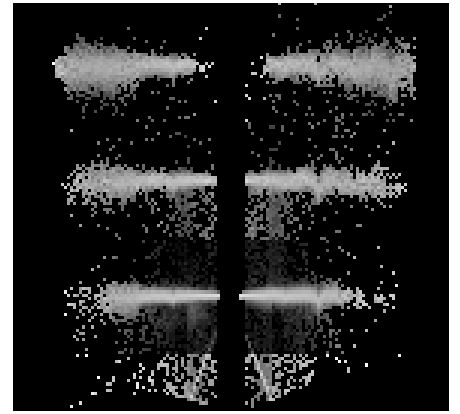
3.2 MEG Arm



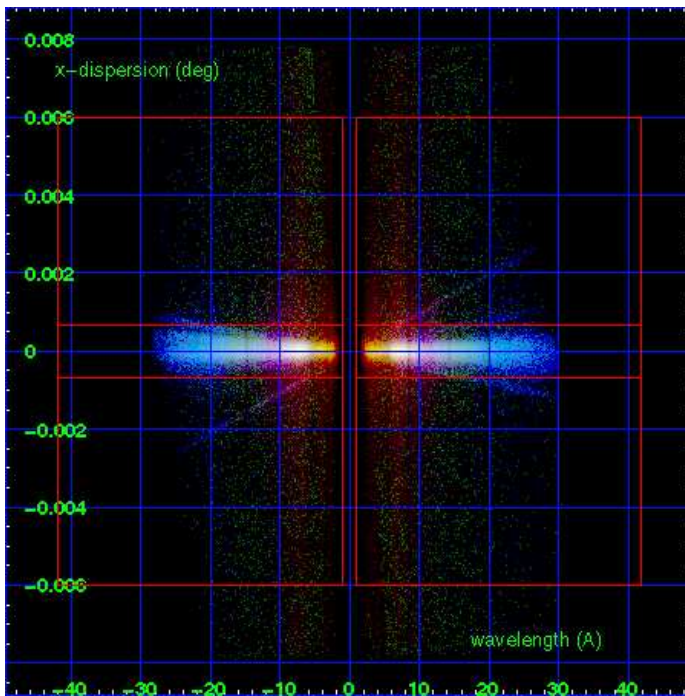
MEG Order Sort 123



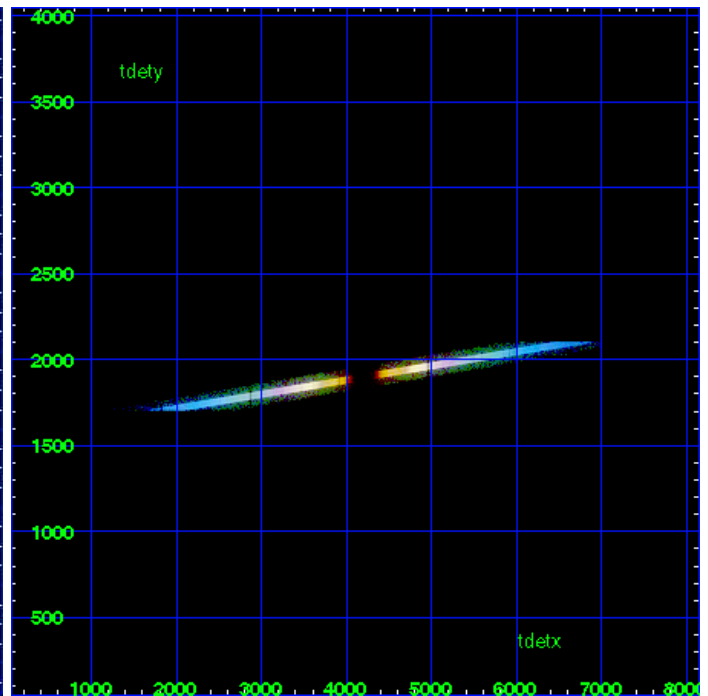
MEG Zero Order



MEG Order Sort ALL

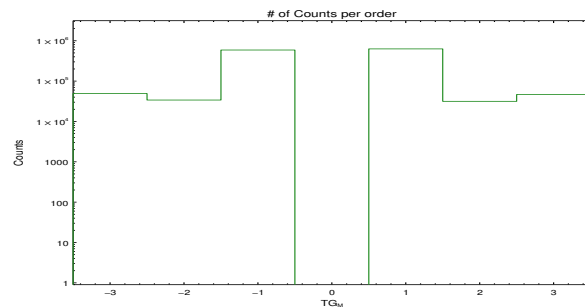


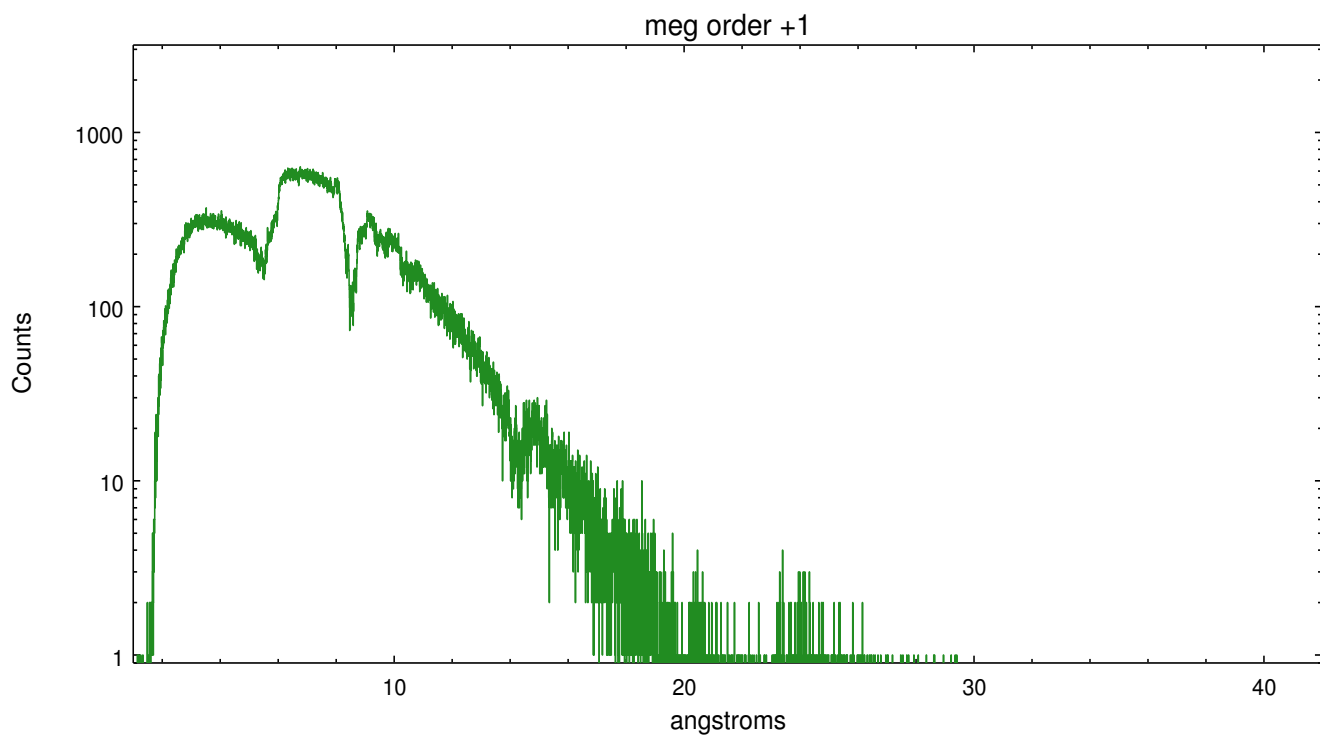
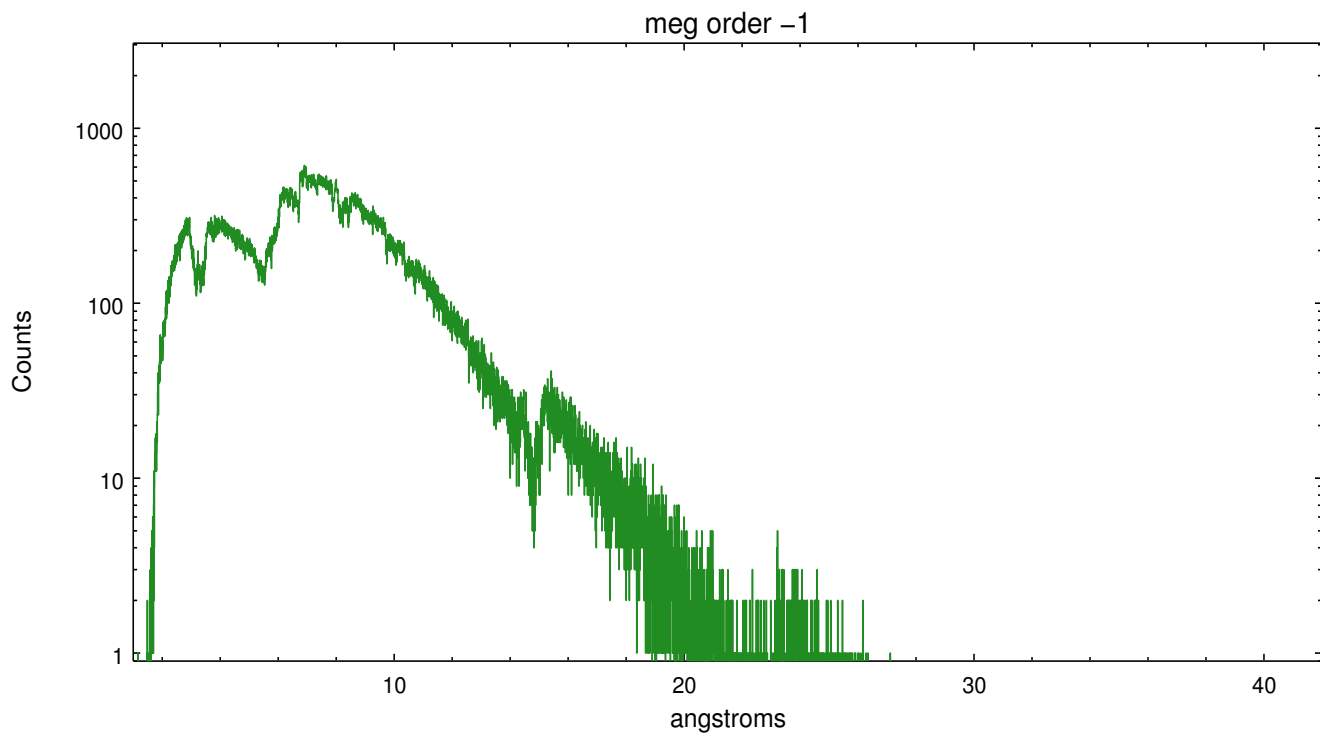
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	49169	33933	589643	0	628975	31502	46518





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.062

A.2 Comments

Spectral arms are piled up.

===

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=4131.33, y=4034.6) 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.