

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 5461 - L2 Version 4
Chandra X-Ray Center

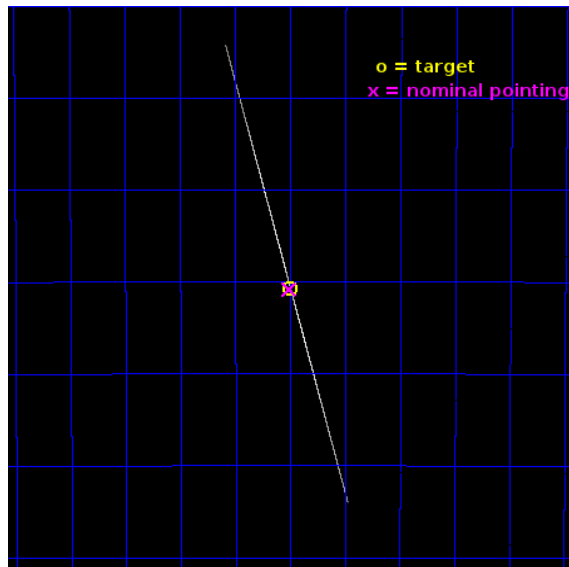
L2 Processing Date : Jun 6 2013

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1 Front

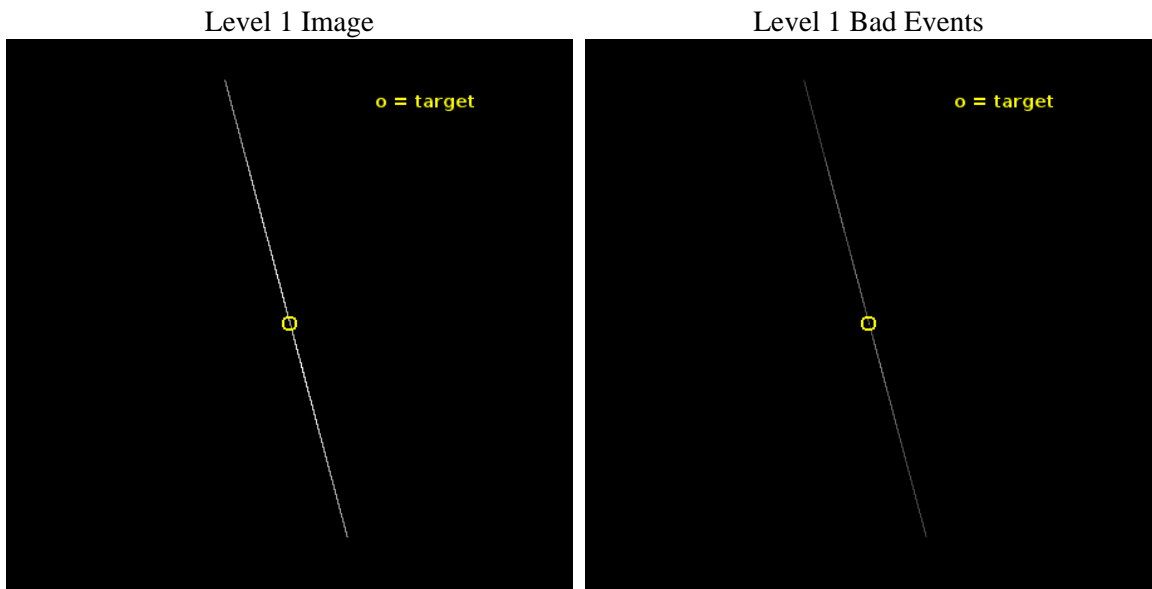
seq_num	400391	Sequence number
obs_id	5461	Observation id
title	Relativistic Effects and Outflows in a Black Hole Transient	Propos
observer	Dr Jon Miller	Principal investigator
object	GROJ1655-40	Source name
ra_targ	253.500583	Observer's specified target RA [deg]
dec_targ	-39.845806	Observer's specified target Dec [deg]
ra_nom	253.50220597057	Nominal RA [deg]
dec_nom	-39.847642118046	Nominal Dec [deg]
roll_nom	75.517586590826	Nominal Roll [deg]
revision	4	Processing version of data
ontime	25570.689033717	Sum of GTIs [s]
livetime	25470.803529679	Livetime [s]
ontime4	53811.506850719	Sum of GTIs [s]
ontime5	62152.25	Sum of GTIs [s]
ontime6	25953.001649648	Sum of GTIs [s]
ontime7	25570.689033717	Sum of GTIs [s]
ontime8	41798.19216314	Sum of GTIs [s]
ontime9	58164.230055541	Sum of GTIs [s]
l2events	21434401	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	62000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	25570.689033717	Sum of GTIs [s]
caldsver	4.5.5	 	ontime4	53811.506850719	Sum of GTIs [s]
date	2012-12-21T19:34:44	Date and time of file creation	ontime5	62152.25	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	25953.001649648	Sum of GTIs [s]
			ontime7	25570.689033717	Sum of GTIs [s]
			ontime8	41798.19216314	Sum of GTIs [s]
			ontime9	58164.230055541	Sum of GTIs [s]
			l1events	23368941	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	506072	4019732	6726086	7005852	4248885	862314	grade 0 events	29144	825113	2293864	1384706	2687591	11101
rejected events	19181	96299	91711	127134	58042	26440		5%	20%	34%	19%	63%	12%
rejected %	3%	2%	1%	1%	1%	3%	grade 1 events	318	1281	10081	8642	8789	602
								0%	0%	0%	0%	0%	0%
							grade 2 events	395251	1697061	3700290	2019398	1151803	63181
								78%	42%	55%	28%	27%	73%
							grade 3 events	9758	211444	107252	691378	113557	13097
								1%	5%	1%	9%	2%	1%
							grade 4 events	10137	209145	107605	685513	112526	13907
								2%	5%	1%	9%	2%	1%
							grade 5 events	16214	79409	47263	80508	32623	22413
								3%	1%	0%	1%	0%	2%
							grade 6 events	45250	996279	459731	2135707	141996	69462
								8%	24%	6%	30%	3%	8%
							grade 7 events	0	0	0	0	0	0
								0%	0%	0%	0%	0%	0%

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	CC33_GRADED	CC33_GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	253.512156	253.5022059705714	Subarray requested	NONE	NONE
[deg] Pointing Dec	-39.873786	-39.84764211804616	Alternating exposures requested	N	N
[deg] Pointing Roll	75.367335	75.5175865908263	[s] Primary exposure time	0.000000	0
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.632523	-182.6373491900168			
[mm] SIM translation stage offset	-7.5	-7.495173392990978			
[s] Observation start time (MET)	228747461.184000	228746504.72835			
Observation start date	2005-04-01T12:56:37	2005-04-01T12:41:44			
[s] Observation end time (MET)	228809461.184000	228810013.21873			
Observation end date	2005-04-02T06:09:57	2005-04-02T06:20:13			
Read mode	CONTINUOUS	CONTINUOUS			

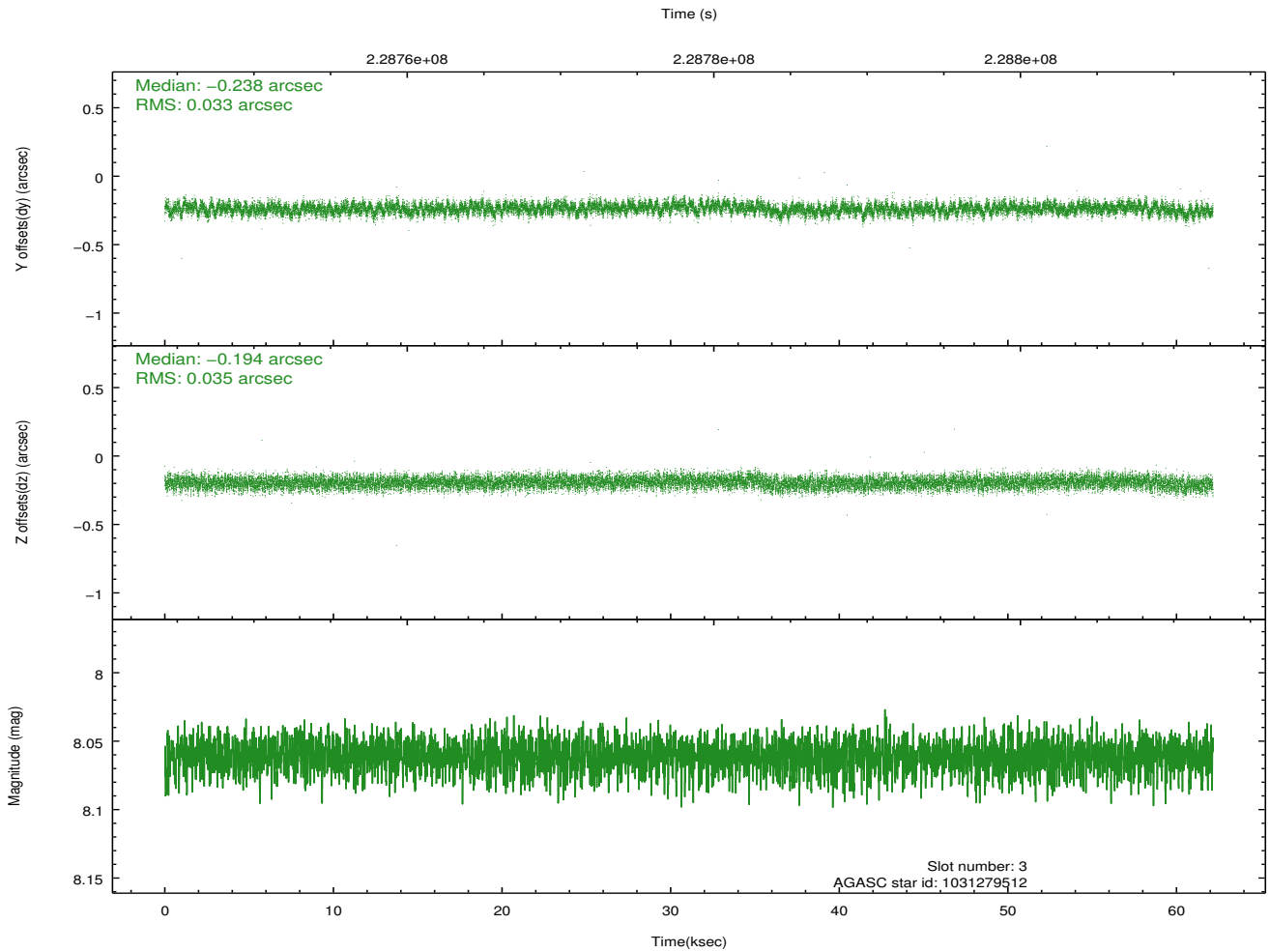
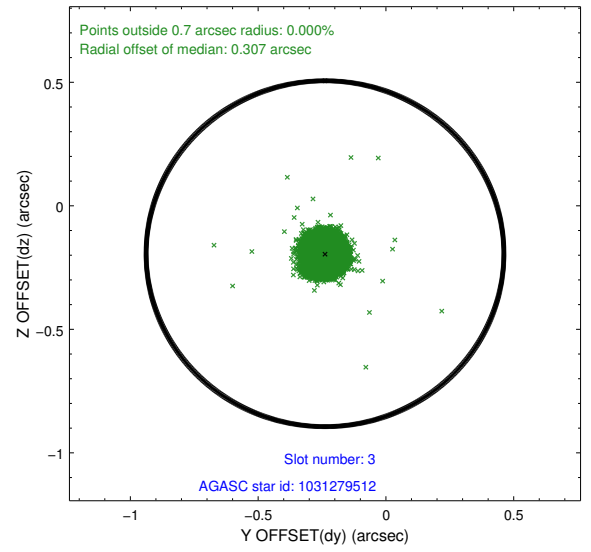
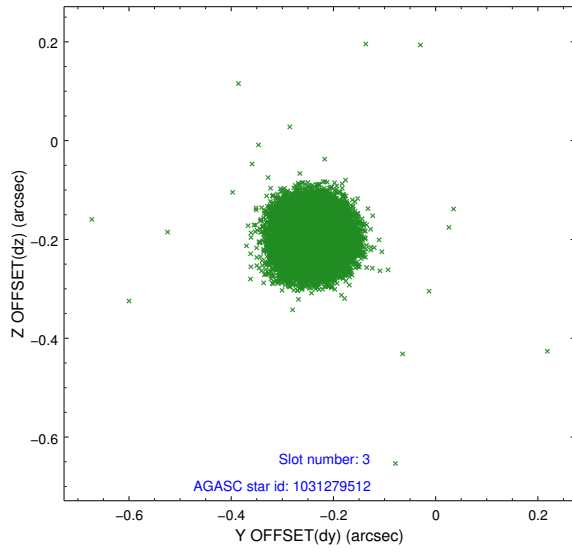
2.3 Aspect

Slot Statistics

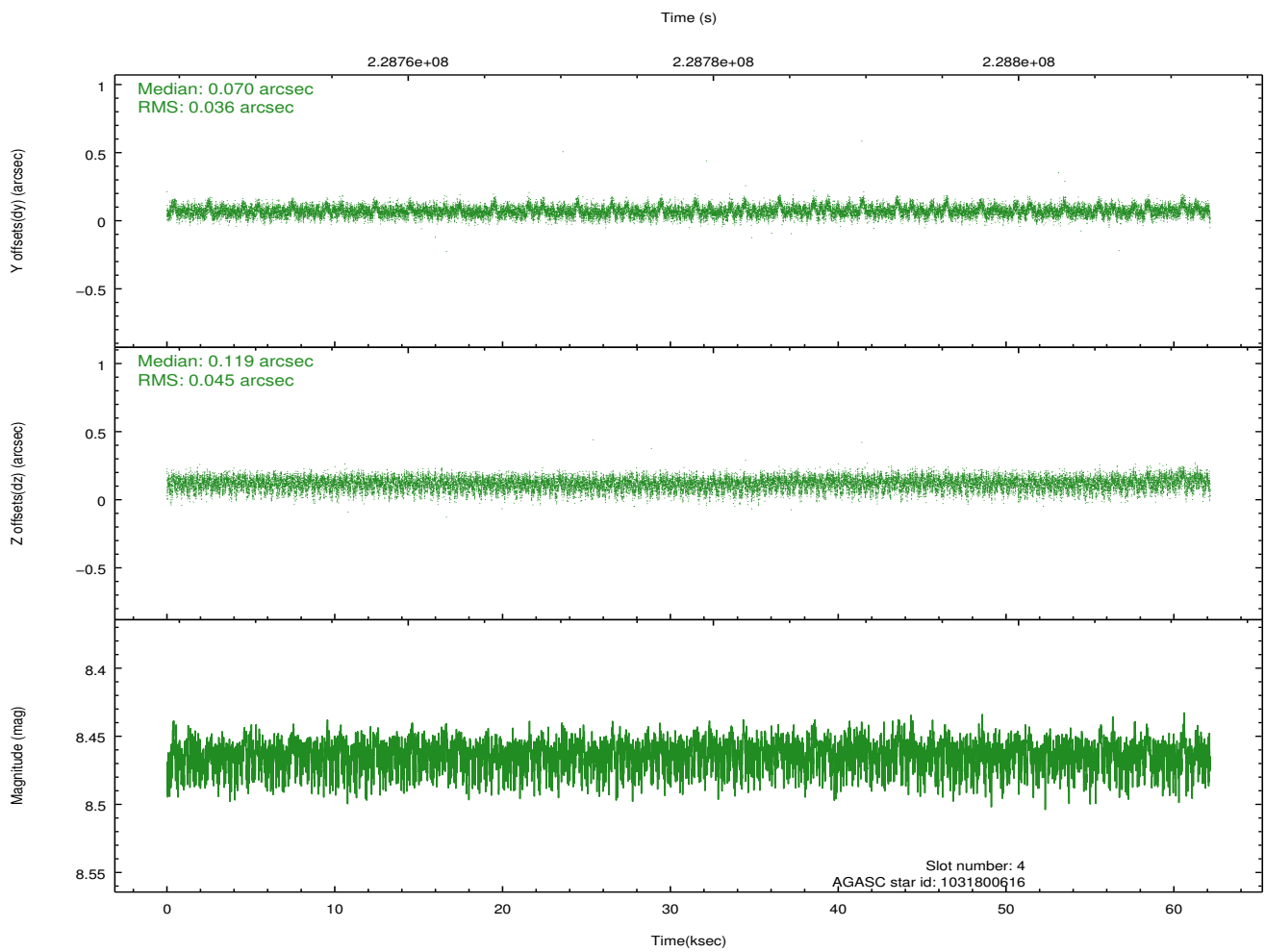
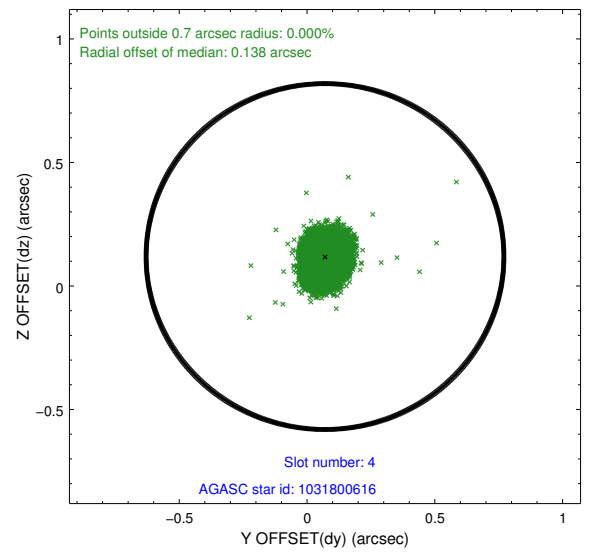
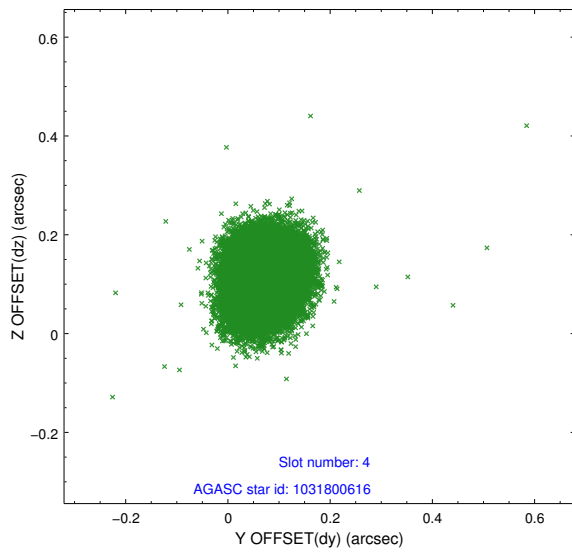
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	15161	0.102	0.073	0.026	0.036	0.000000	0.000000	937.57	-1880.59
1	FID	ACIS-S-2	7.09	15160	-0.139	-0.147	0.029	0.053	0.000000	0.000000	-758.59	-1885.37
2	FID	ACIS-S-5	7.22	15161	0.013	0.076	0.026	0.038	0.000000	0.000000	-1811.70	16.91
3	GUIDE	1031279512	8.06	30322	-0.238	-0.194	0.052	0.082	253.011652	-39.245400	1832.39	1920.69
4	GUIDE	1031800616	8.46	30318	0.070	0.119	0.061	0.100	253.926761	-40.253570	-1037.50	-1448.00
5	GUIDE	1031802536	8.41	30313	0.132	0.138	0.086	0.136	254.071271	-40.495693	-1783.89	-2047.83
6	GUIDE	1031808256	6.89	30322	0.120	0.143	0.045	0.068	253.549379	-40.452817	-1990.97	-625.25
7	GUIDE	1031807512	8.24	30317	-0.083	-0.209	0.068	0.106	252.886468	-39.697545	170.10	1835.48

2.4 Star Slots

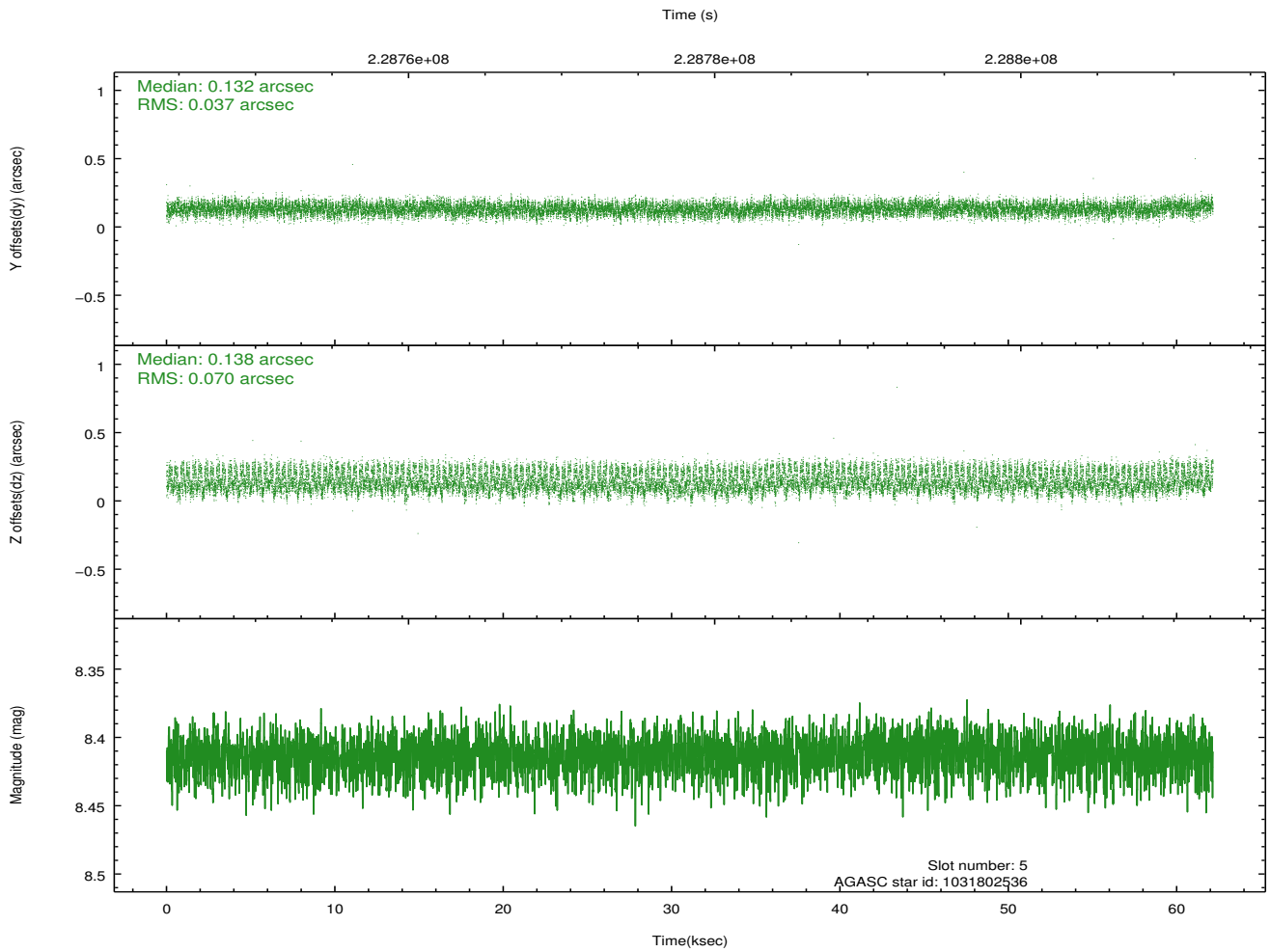
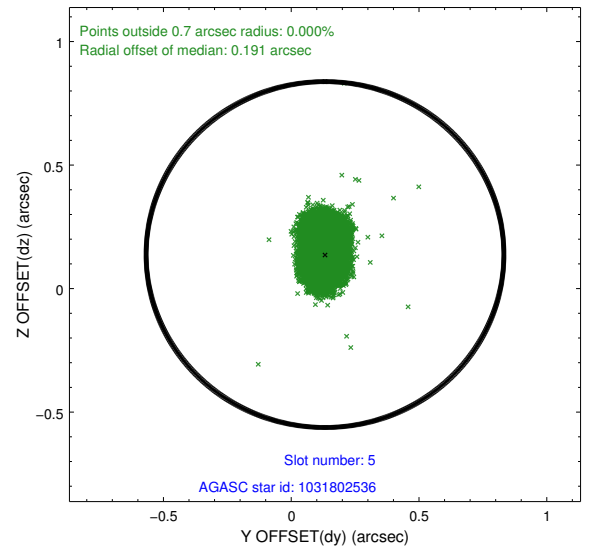
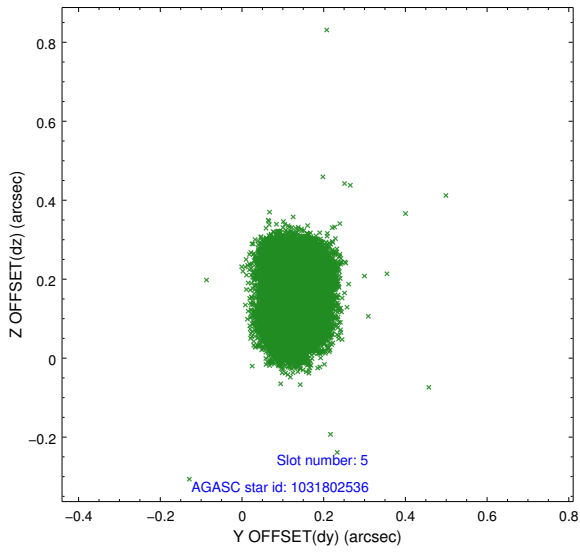
2.4.1 Slot 3



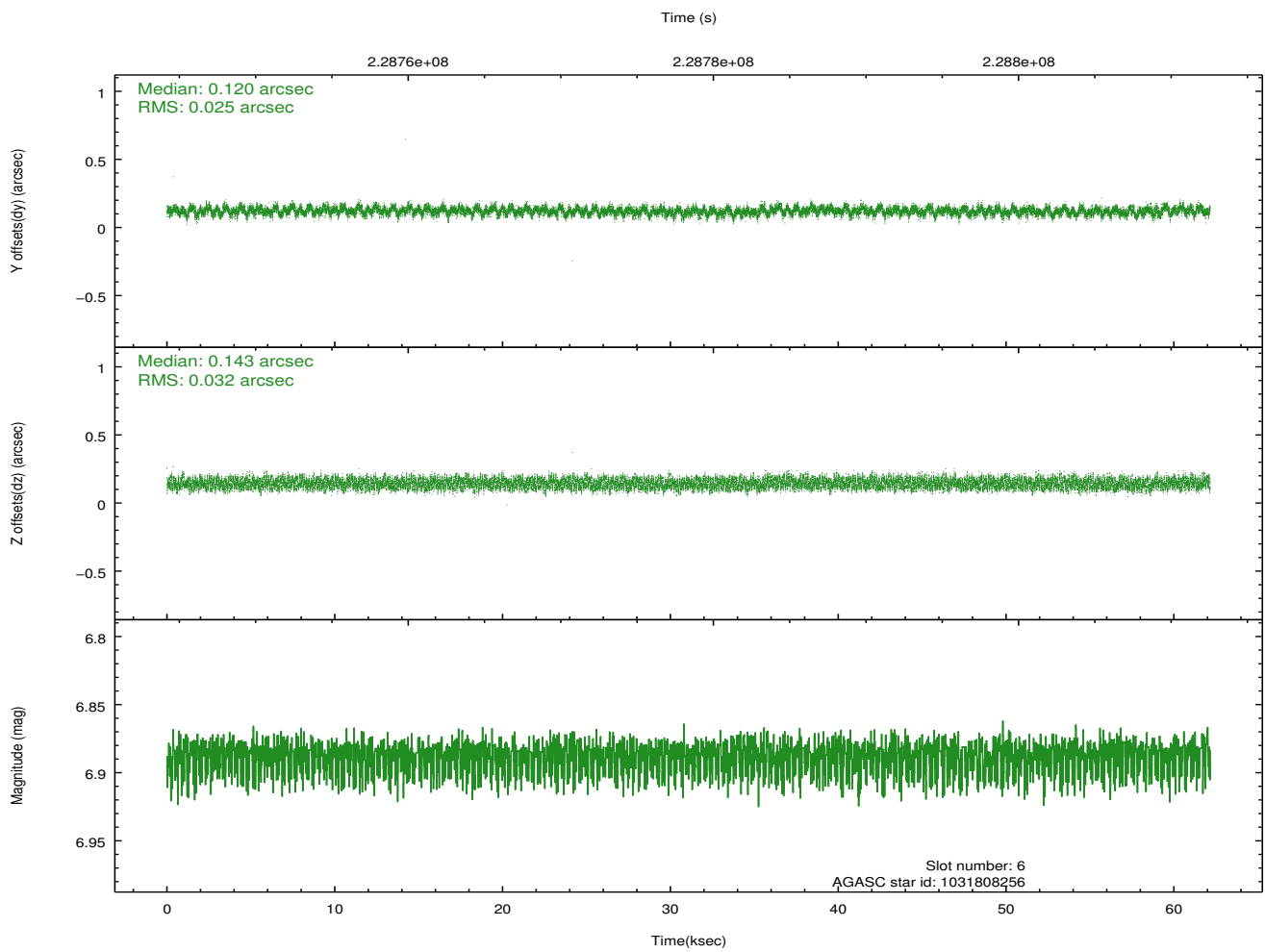
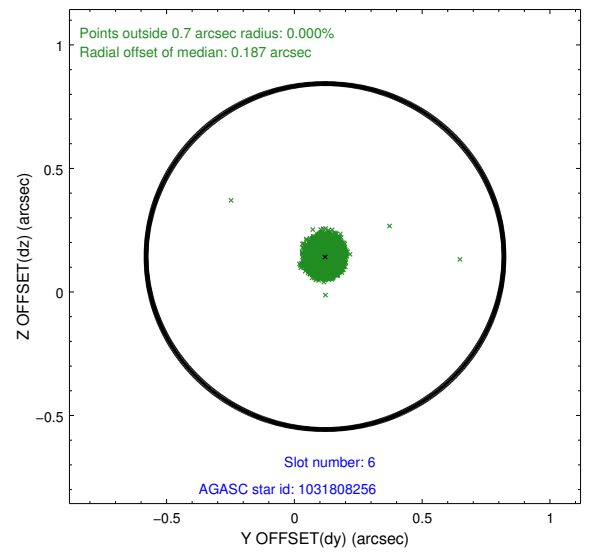
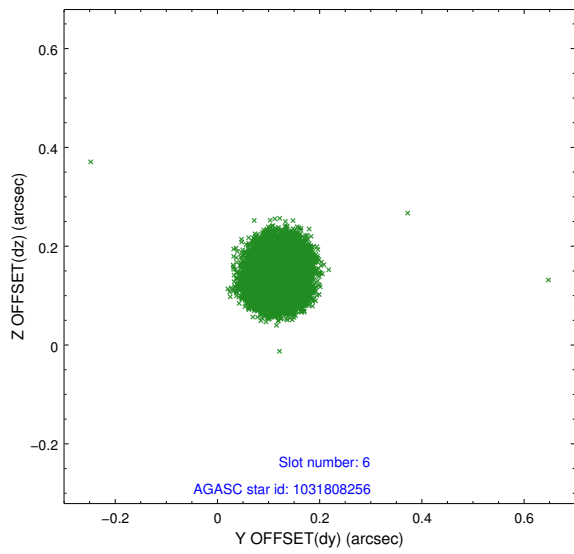
2.4.2 Slot 4



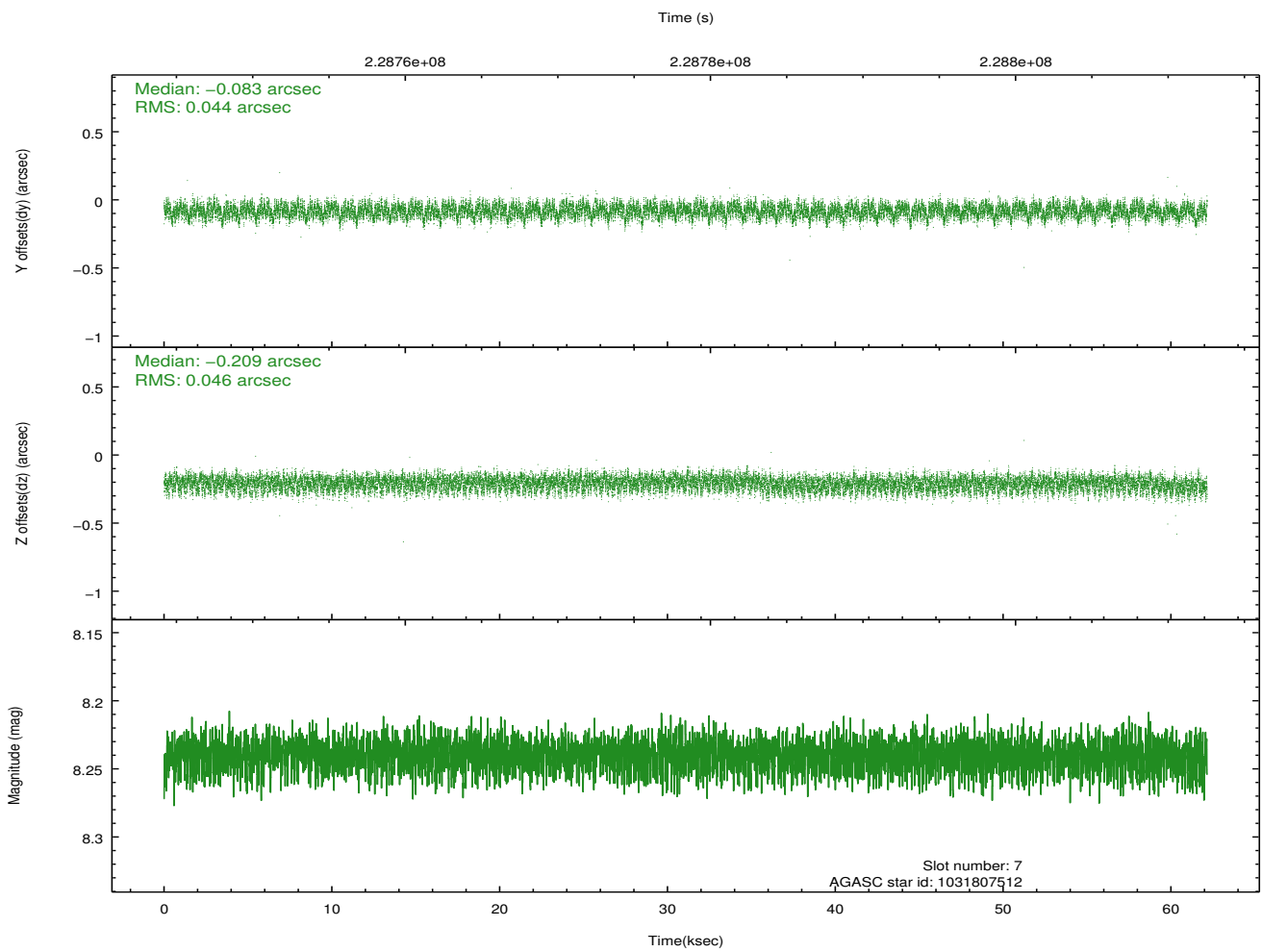
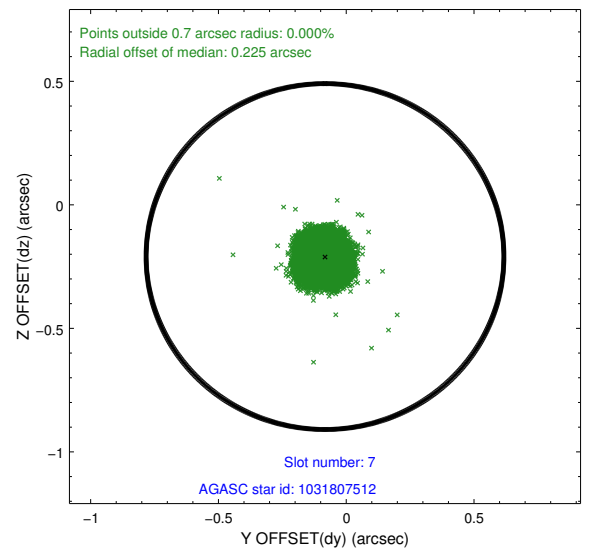
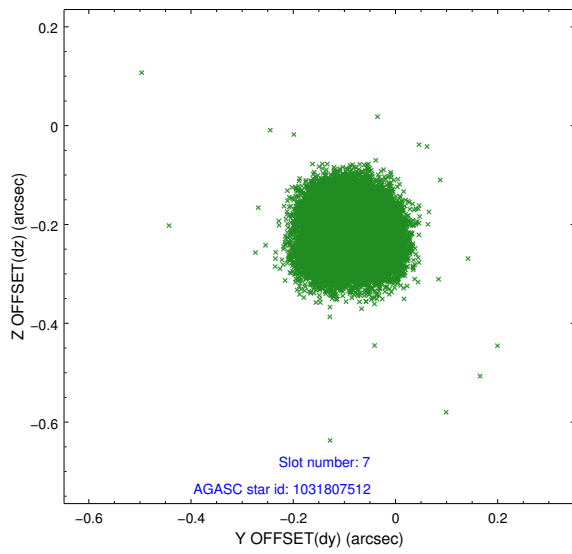
2.4.3 Slot 5



2.4.4 Slot 6

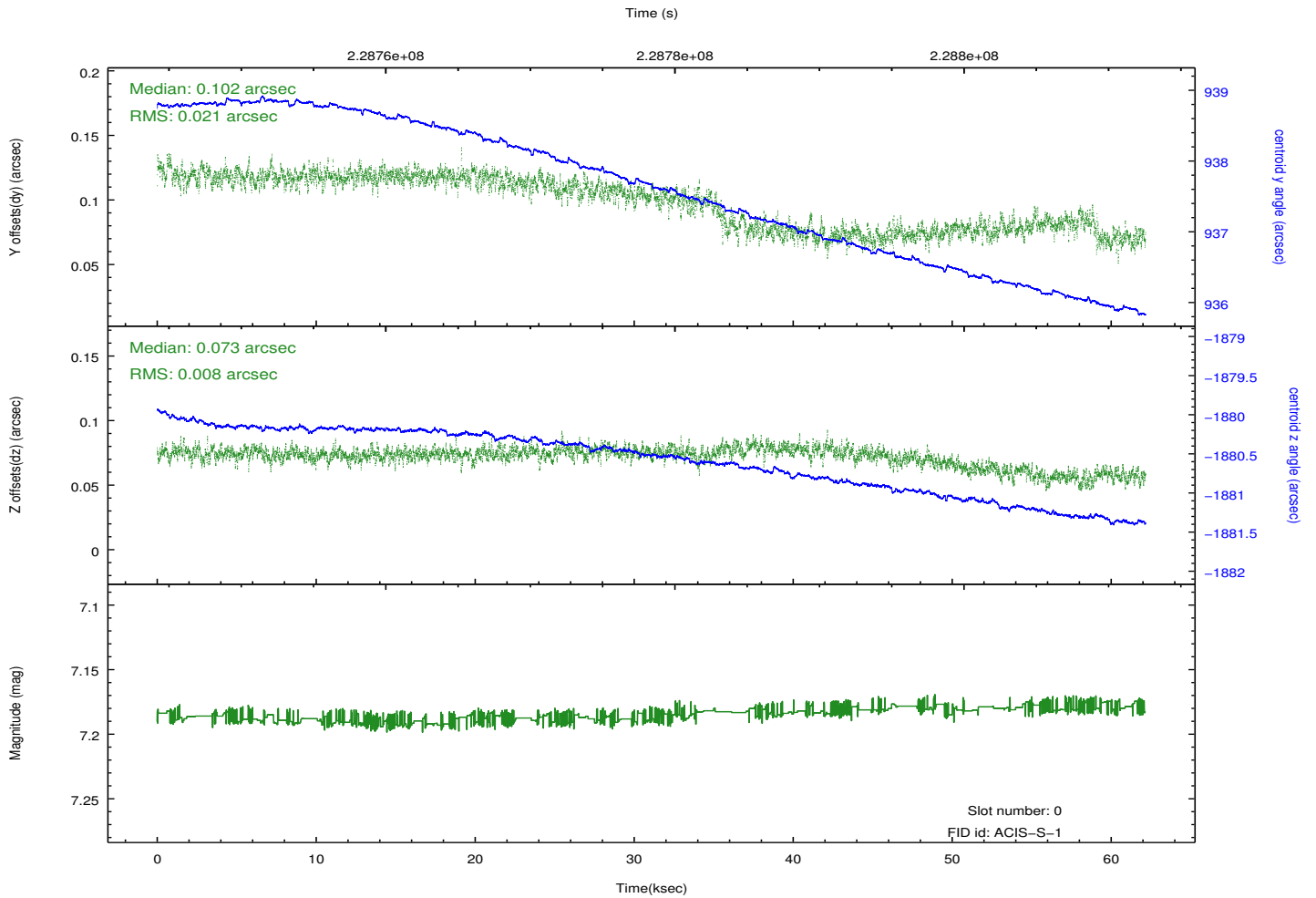
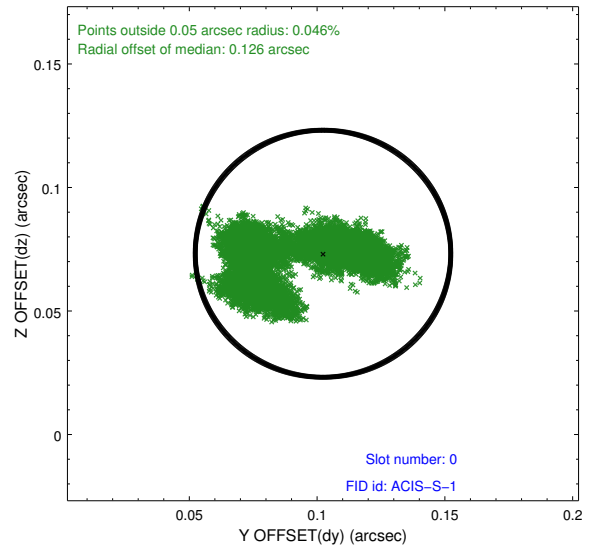
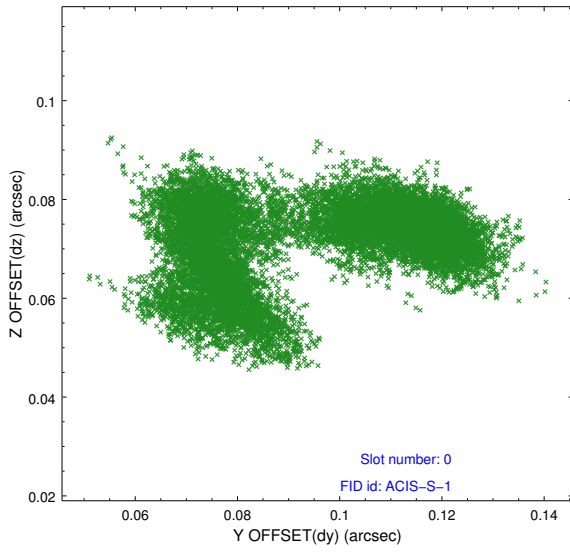


2.4.5 Slot 7

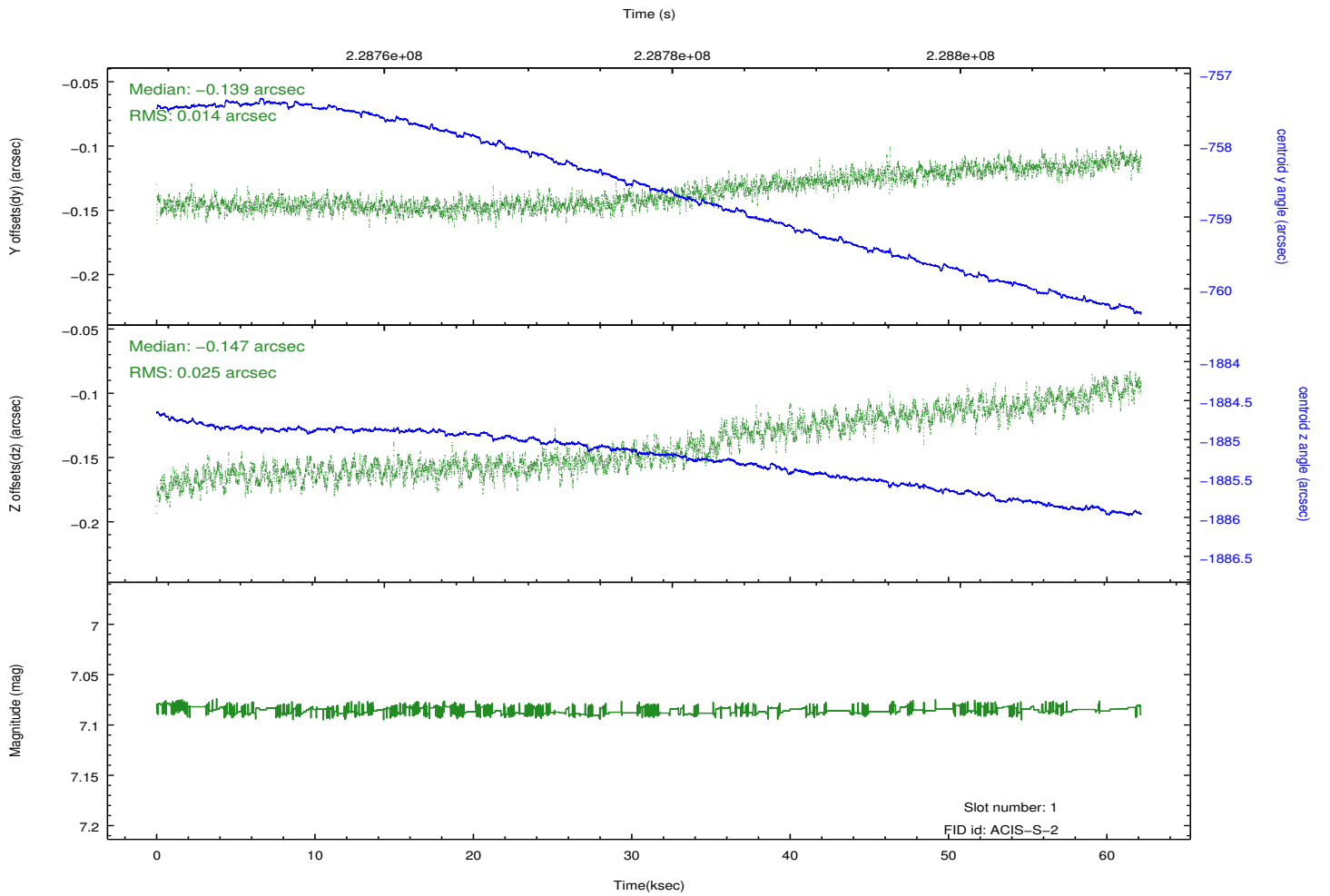
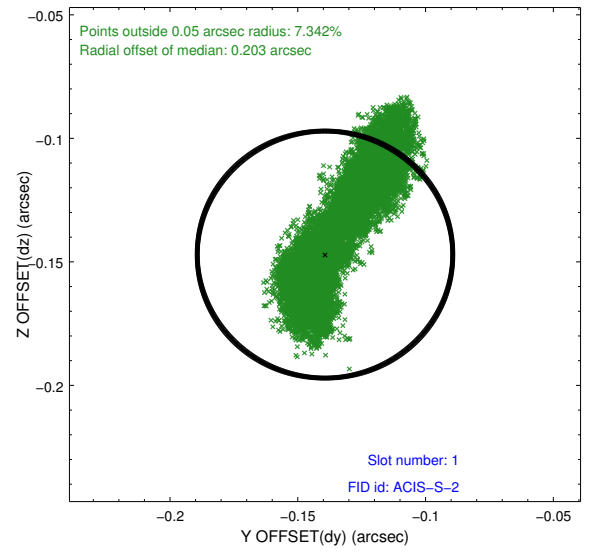
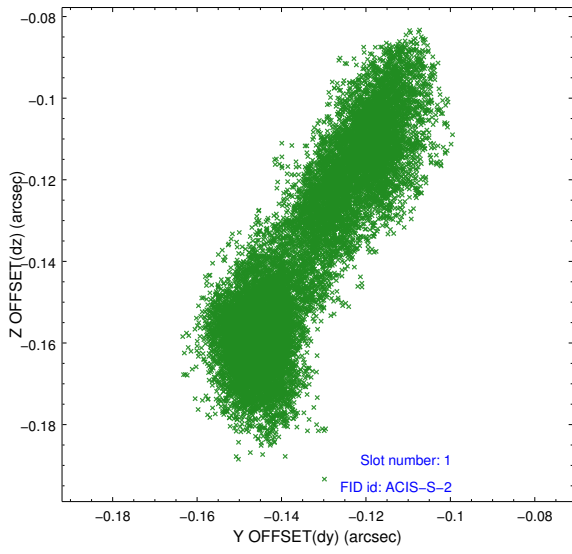


2.5 FID Slots

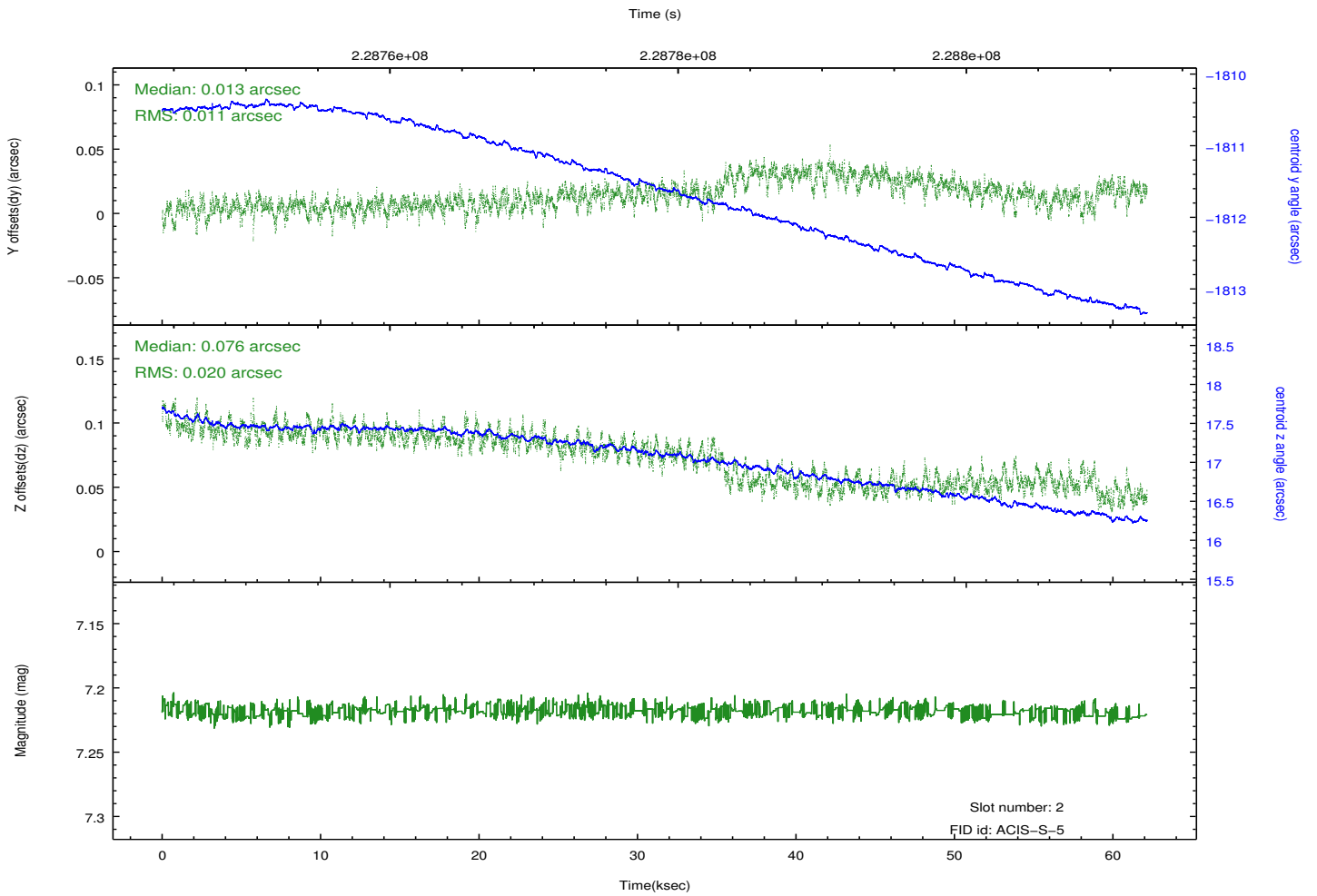
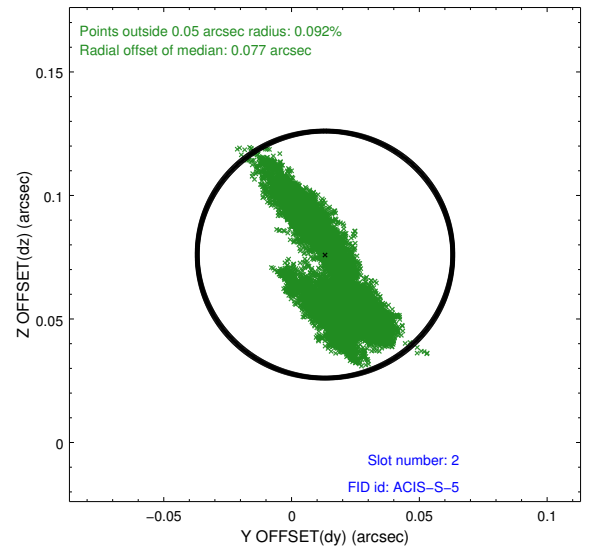
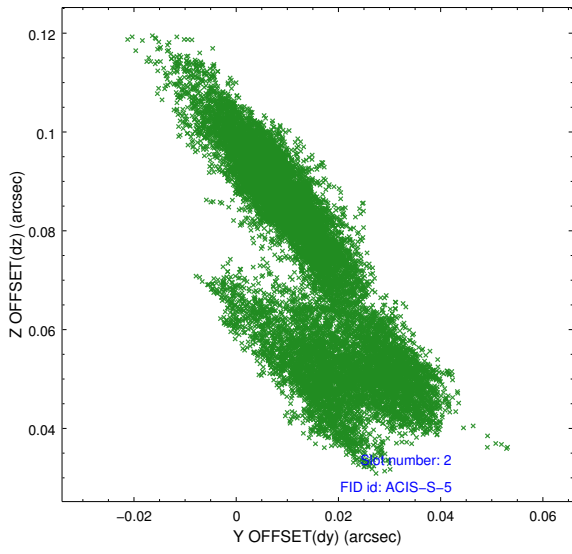
2.5.1 Slot 0



2.5.2 Slot 1

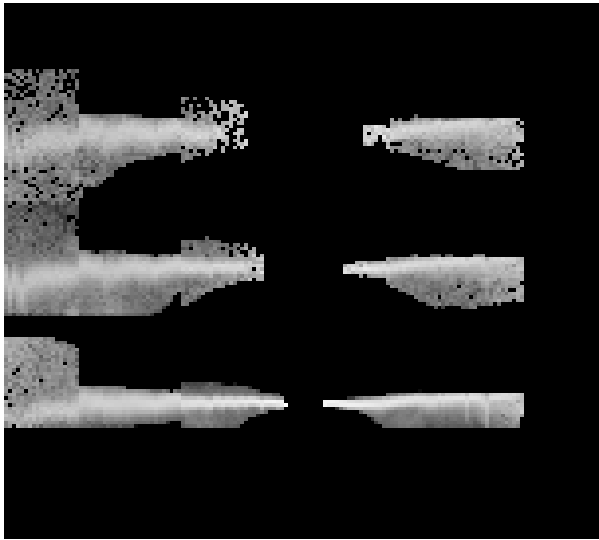


2.5.3 Slot 2

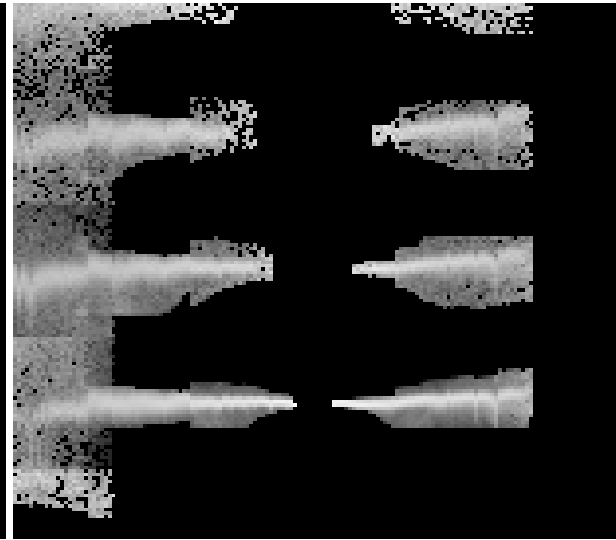


3 Gratings

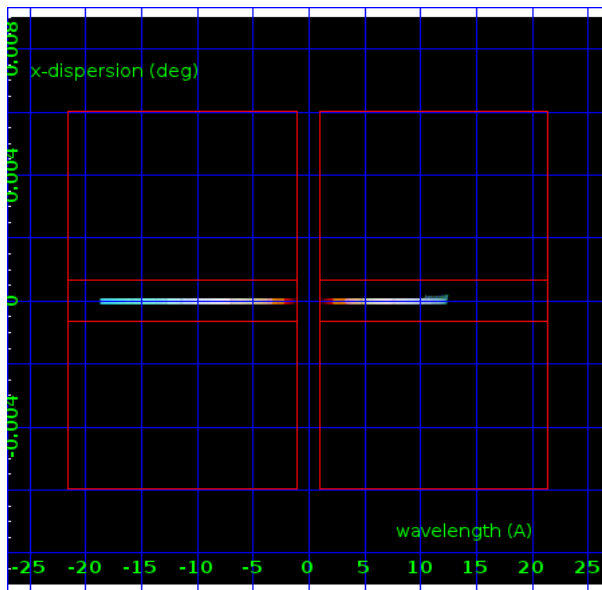
3.1 HEG Arm



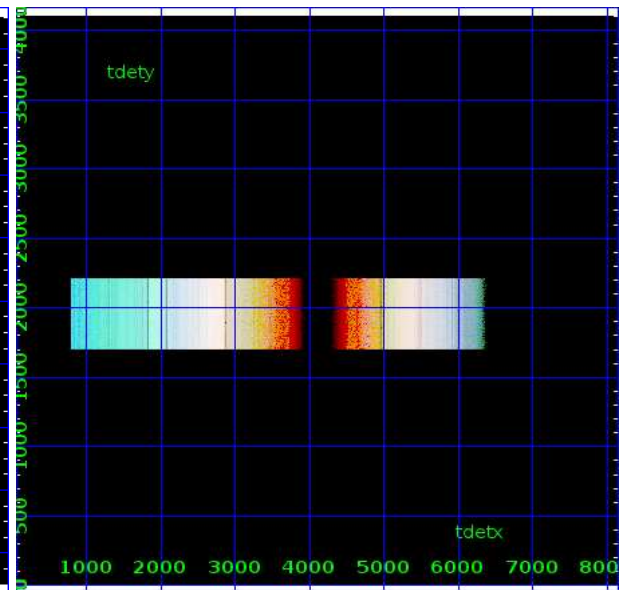
HEG Order Sort 123



HEG Order Sort ALL

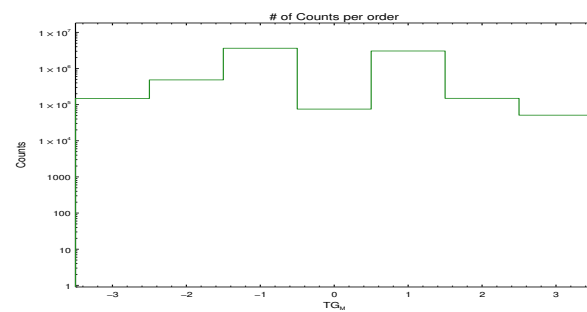


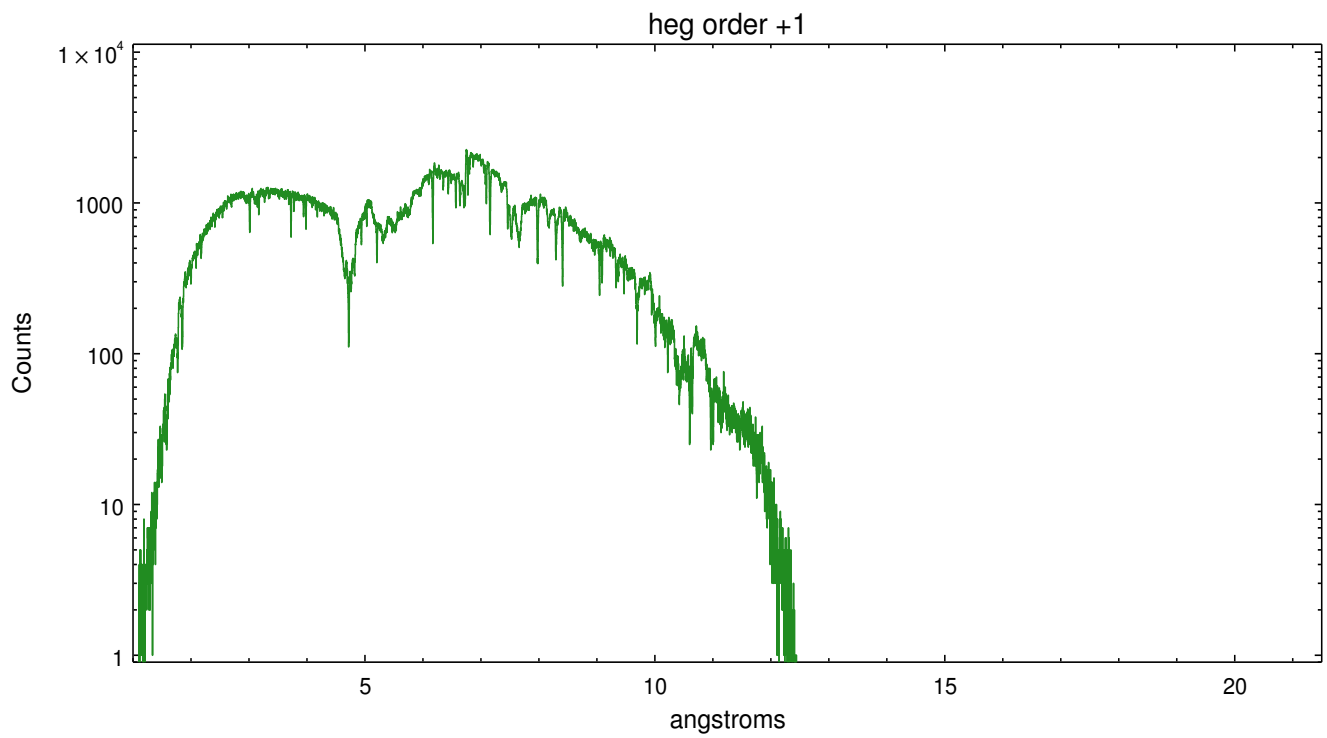
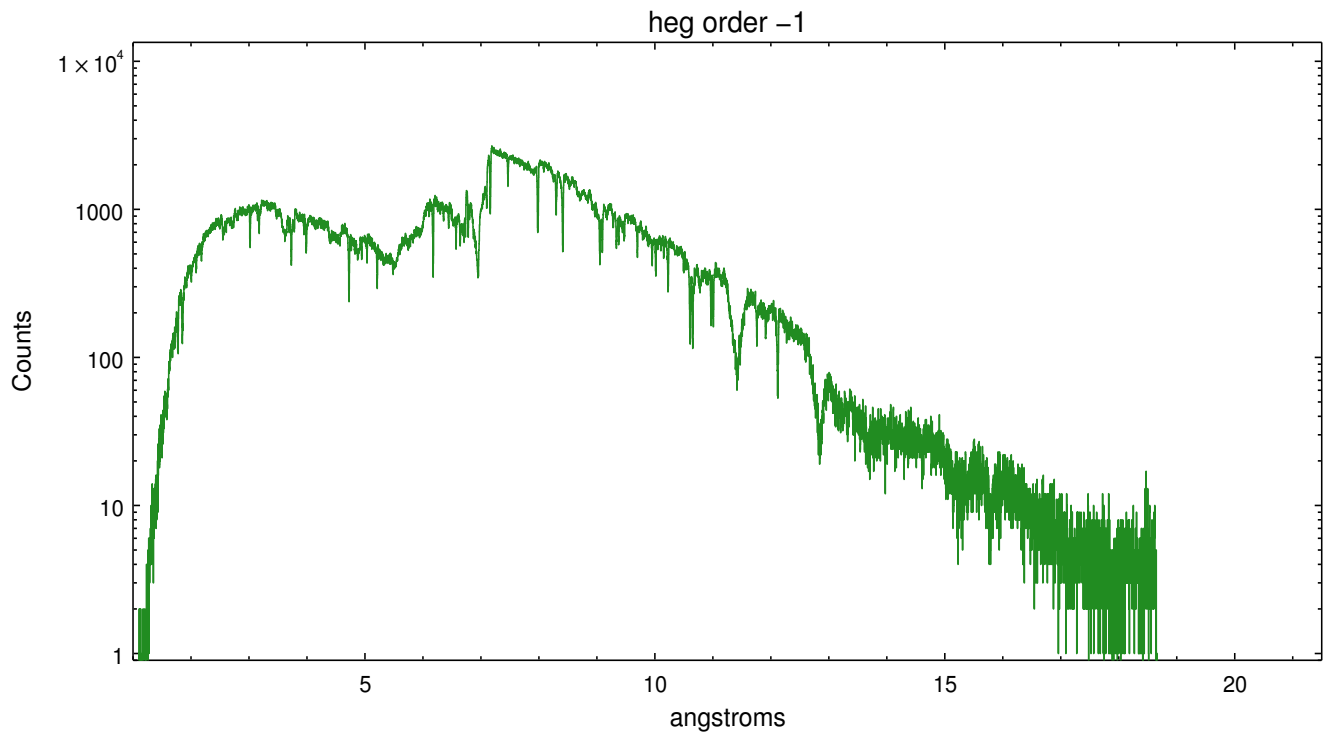
Spot Image HEG



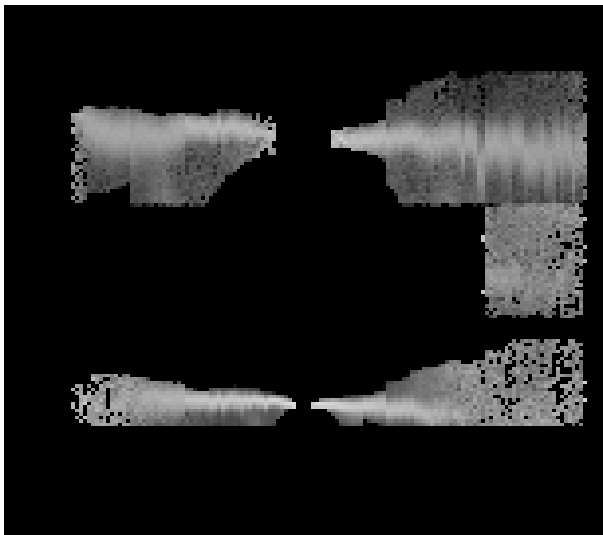
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	147756	483184	3629848	75202	3047820	149131	51028

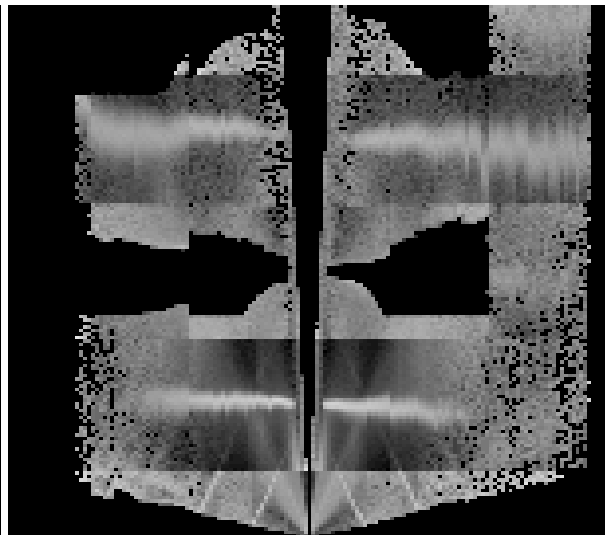




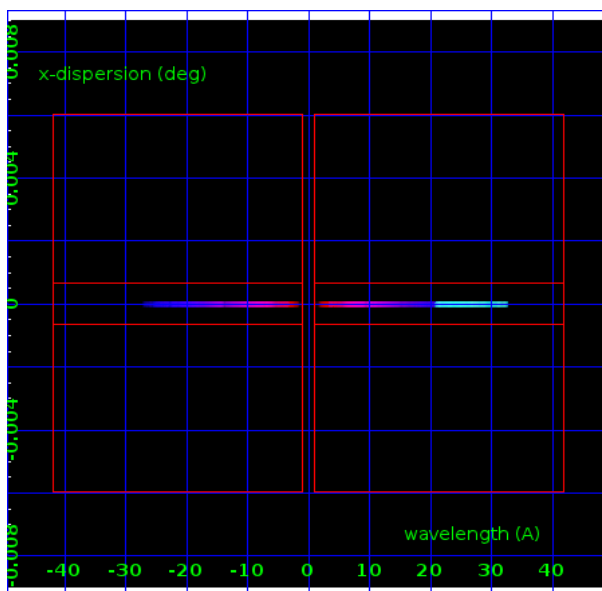
3.2 MEG Arm



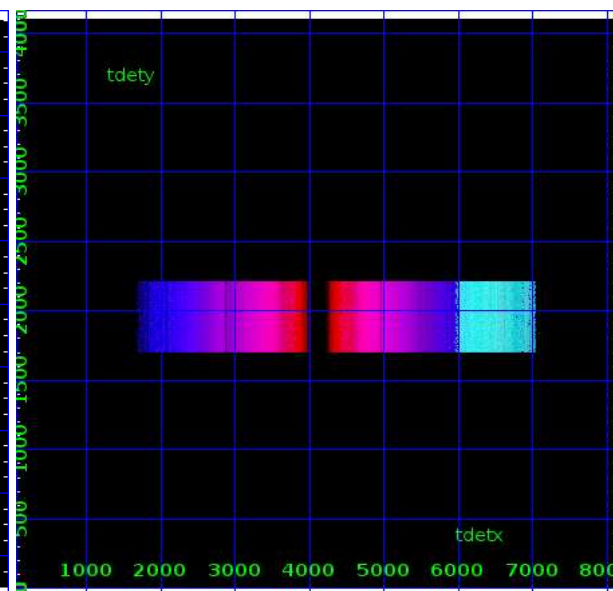
MEG Order Sort 123



MEG Order Sort ALL

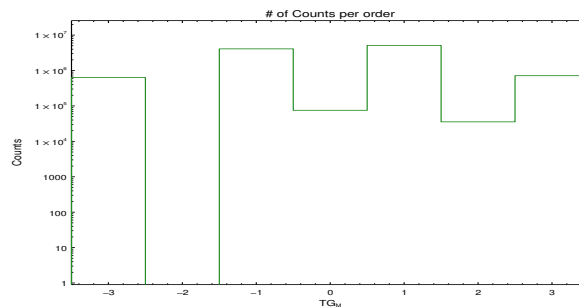


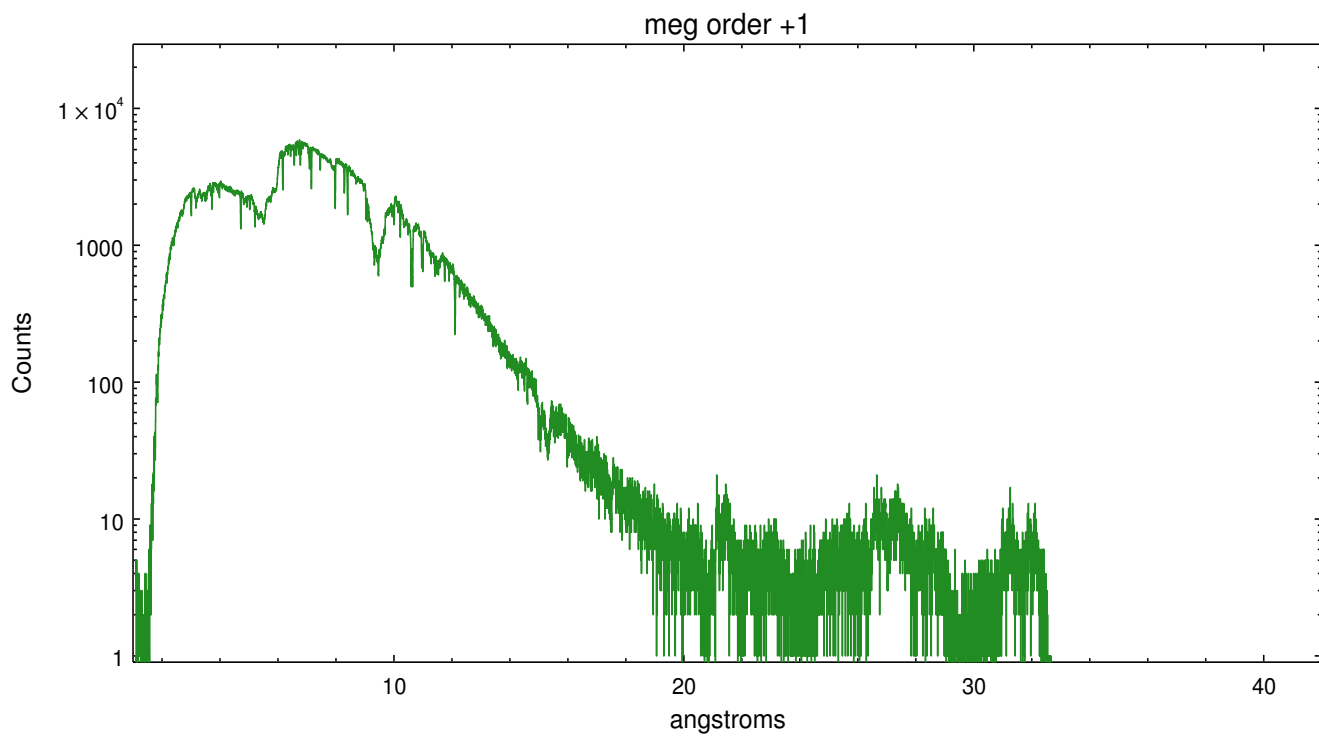
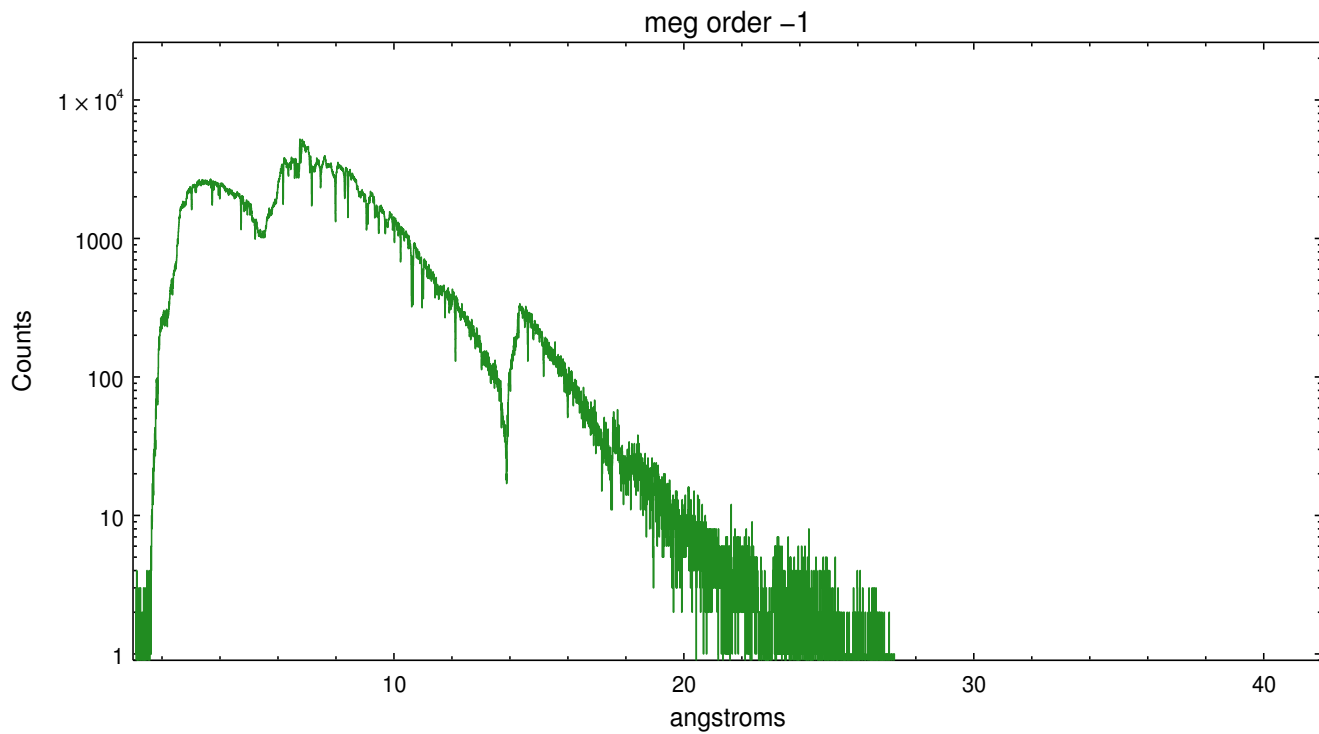
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	634974	0	4091056	75202	5126741	35560	715253





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.06.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	62.152

A.2 Comments

On-time varies w/ CCD chip due to telemetry saturation. The greatest time is for chip 5, and is used for the charge time. ===

A gray filtering area 100 columns wide around the zeroth order was used, allowing 1 in 20 zeroth order photons in this window to be telemetered.===

Gain and CTI correction are not well calibrated in CC-mode. Default order sorting can clip some regions, particularly in high orders. User-specified custom processing parameters may be required in `tg_resolve_events` (`osipfile=none`, `osort_lo`, `osort_hi ~0.3`) though this can allow more zeroth order background at short wavelengths.=== For ACIS/CC-mode w/ HETG, there are no MEG even order counts. MEG even orders overlap with HEG orders in energy, but MEG even order efficiencies are very low. Since HEG and MEG cannot be spatially separated, events are preferentially assigned to HEG. (MEG odd orders can be resolved.)

==

The charge time is based on CCD_ID=5 (S1), which had no dropped frames and does reflect the requested exposure. Other chips have dropped frames due to telemetry saturation. The other chips have effective exposures ranging from 25.5-58.2 ks.