

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 16710 - L2 Version 1
Chandra X-Ray Center

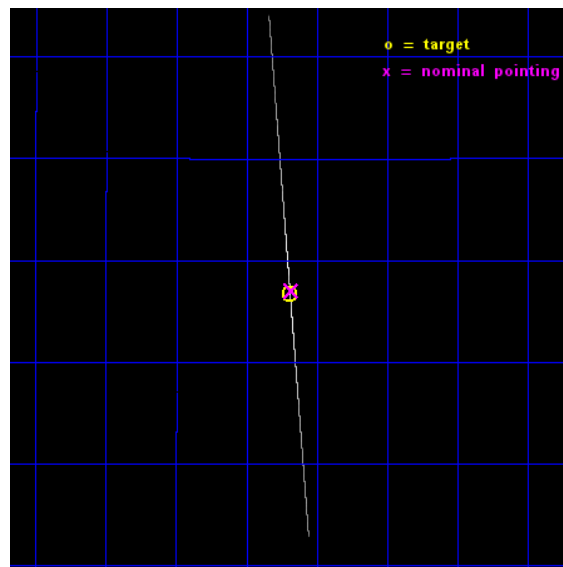
L2 Processing Date : Mar 20 2015

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1 Front

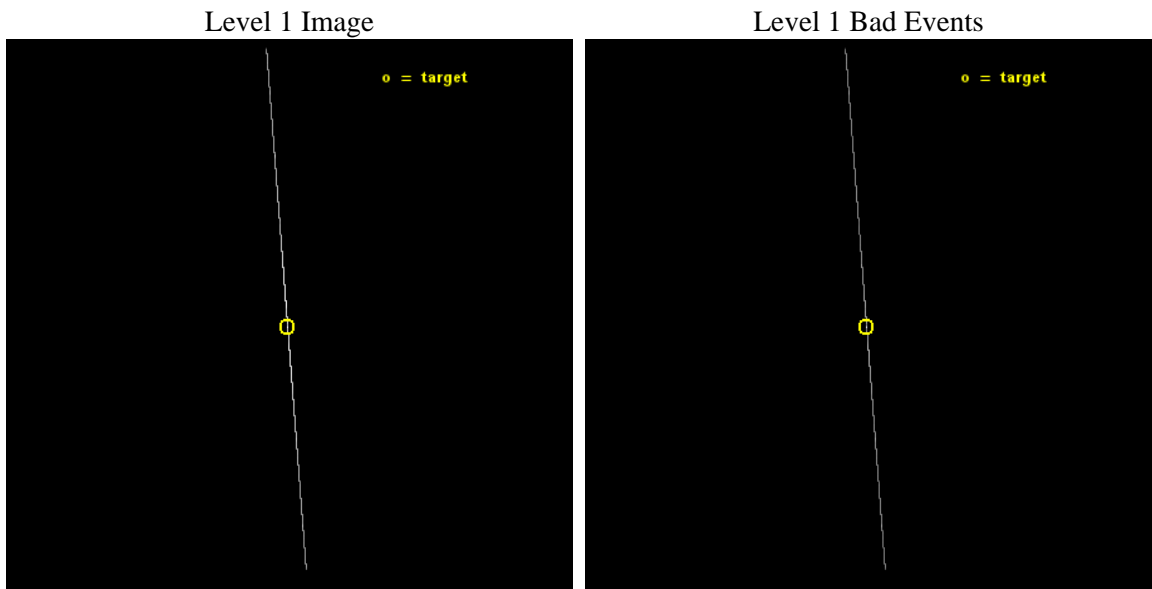
seq_num	401632	Sequence number
obs_id	16710	Observation id
title	Wind-Triggered Disk Wind Spectroscopy of GRS 1915+105	Proposal tit
observer	Dr. Jon Miller	Principal investigator
object	GRS 1915+105	Source name
ra_targ	288.798333	Observer's specified target RA [deg]
dec_targ	10.945778	Observer's specified target Dec [deg]
ra_nom	288.79521100083	Nominal RA [deg]
dec_nom	10.95027262042	Nominal Dec [deg]
roll_nom	85.32740268113	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30707.24271059	Sum of GTIs [s]
livetime	30587.292543752	Livetime [s]
ontime4	40072.25	Sum of GTIs [s]
ontime5	40072.25	Sum of GTIs [s]
ontime6	38160.713341117	Sum of GTIs [s]
ontime7	30707.24271059	Sum of GTIs [s]
ontime8	40062.041849971	Sum of GTIs [s]
ontime9	40072.25	Sum of GTIs [s]
l2events	10824213	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	2	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	30707.24271059	Sum of GTIs [s]
caldbver	4.6.7	 	ontime4	40072.25	Sum of GTIs [s]
date	2015-03-20T12:38:09	Date and time of file creation	ontime5	40072.25	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	38160.713341117	Sum of GTIs [s]
			ontime7	30707.24271059	Sum of GTIs [s]
			ontime8	40062.041849971	Sum of GTIs [s]
			ontime9	40072.25	Sum of GTIs [s]
			l1events	13521150	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			z0_pos	(4074.30, 4063.00)	src1a sky level position

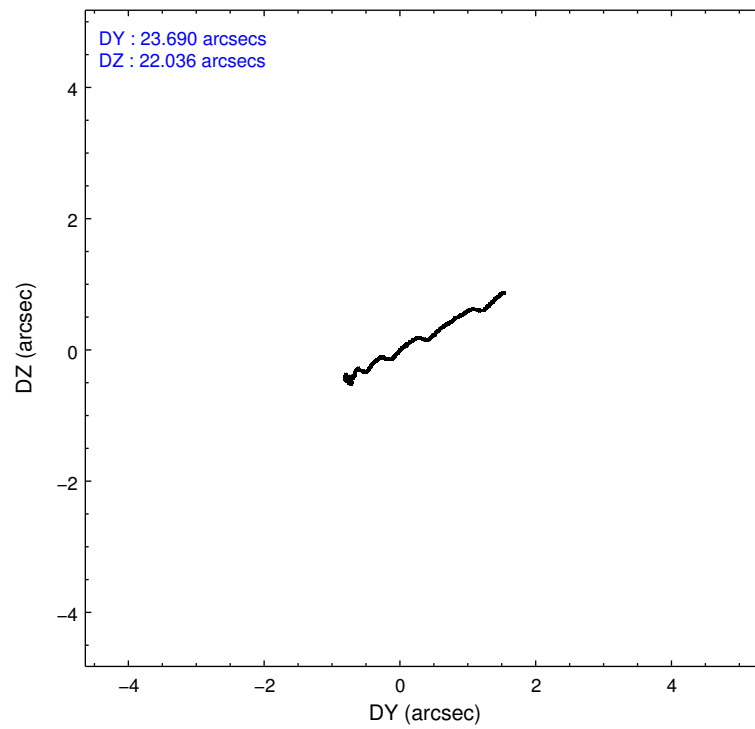
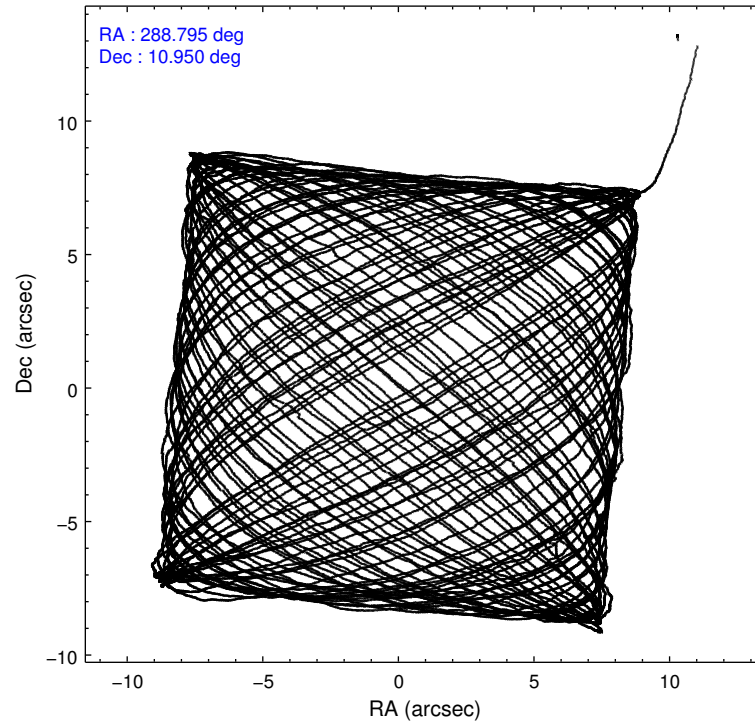
2.1.3 Events

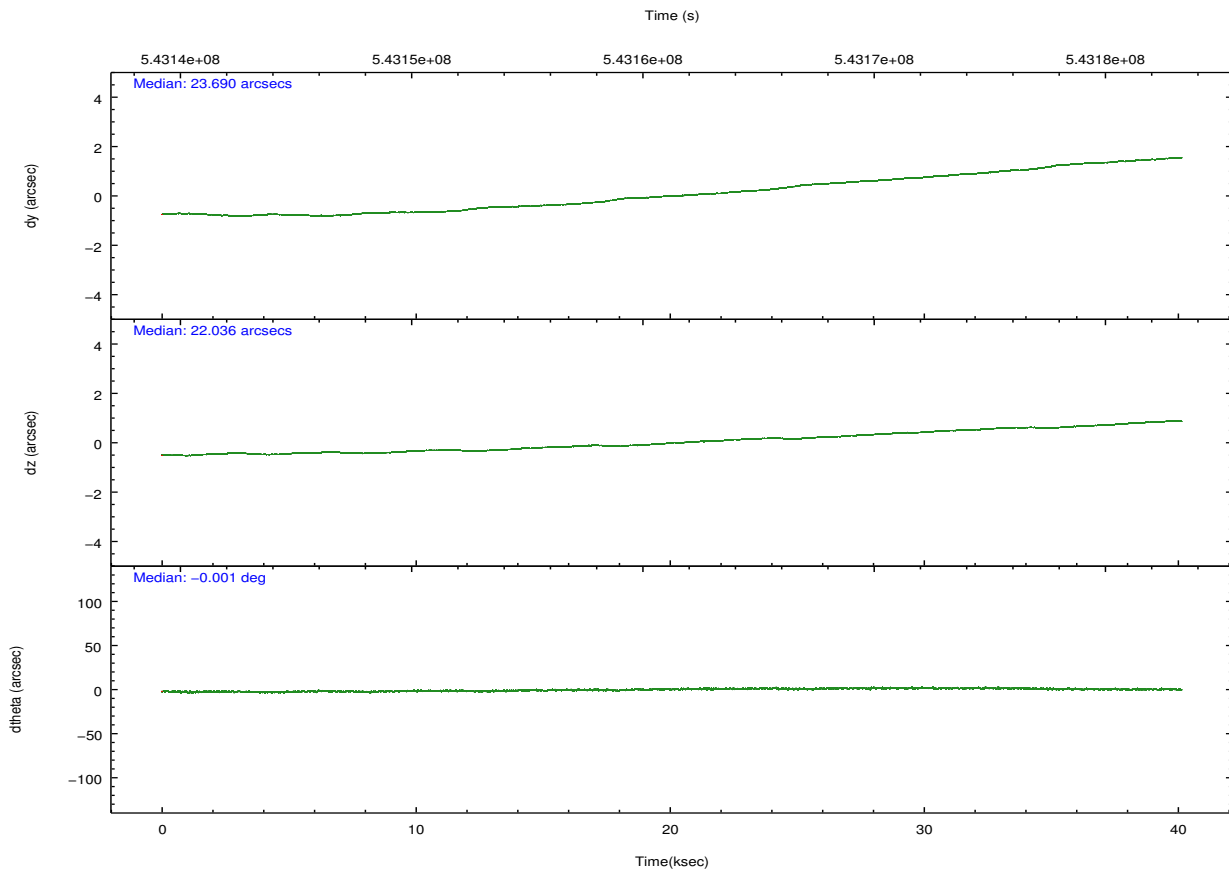
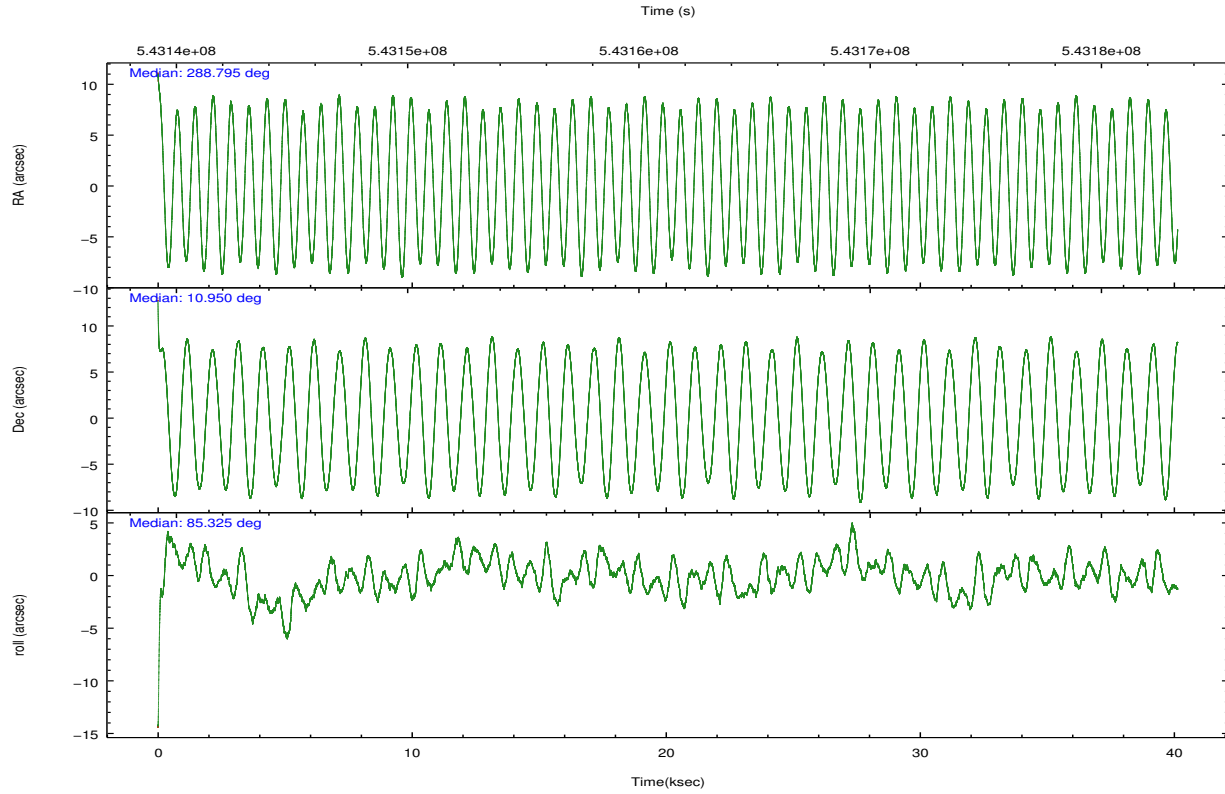
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	436476	945435	4986624	5289633	1363150	499832	grade 0 events	4969	113172	33406	274024	54398	7884
rejected events	184711	224506	309081	706113	262267	184870		1%	11%	0%	5%	3%	1%
rejected %	42%	23%	6%	13%	19%	36%	grade 1 events	127	265	270	2698	401	157
								0%	0%	0%	0%	0%	0%
							grade 2 events	221526	377245	4083813	2163912	927782	273274
								50%	39%	81%	40%	68%	54%
							grade 3 events	4021	5394	5336	156115	11463	3784
								0%	0%	0%	2%	0%	0%
							grade 4 events	4049	5173	5084	152930	11373	4119
								0%	0%	0%	2%	0%	0%
							grade 5 events	8440	19387	25793	76455	16137	10427
								1%	2%	0%	1%	1%	2%
							grade 6 events	17211	219987	550292	1836868	95958	25918
								3%	23%	11%	34%	7%	5%
							grade 7 events	176133	204812	282630	626631	245638	174269
								40%	21%	5%	11%	18%	34%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	288.807507	288.795211000828	CCD I2 on	N	N
[deg] Pointing Dec	10.925617	10.95027262042037	CCD I3 on	N	N
[deg] Pointing Roll	85.168448	85.32740268113001	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	543141315.184000	543139665.38781	CCD S5 on	Y	Y
Observation start date	2015-03-19T08:34:08	2015-03-19T08:07:45	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	543181315.184000	543182321.7902	On-chip summing requested	N	N
Observation end date	2015-03-19T19:40:48	2015-03-19T19:58:41	Subarray requested	NONE	NONE
Read mode	CONTINUOUS	CONTINUOUS	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0

2.3 Aspect





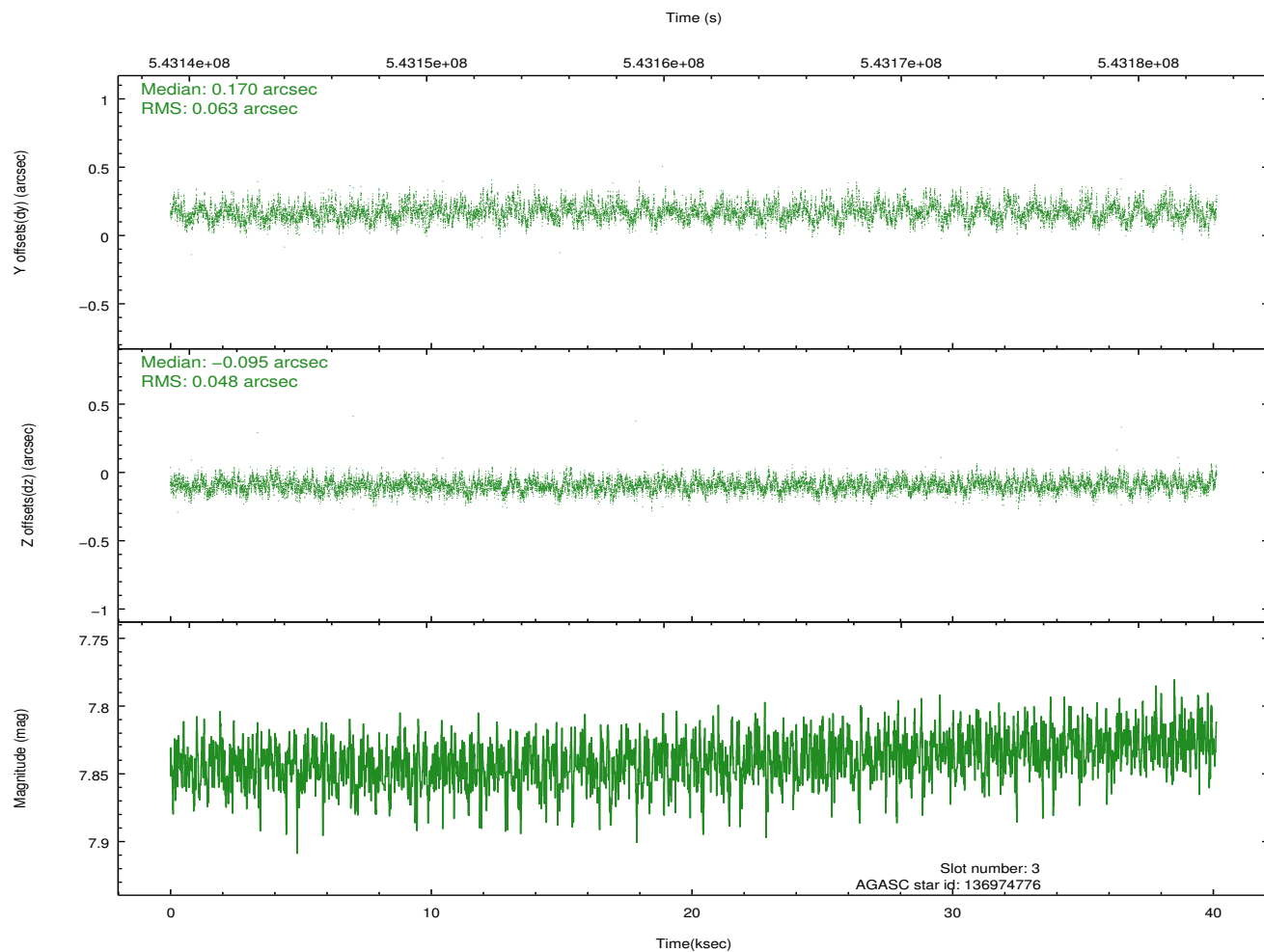
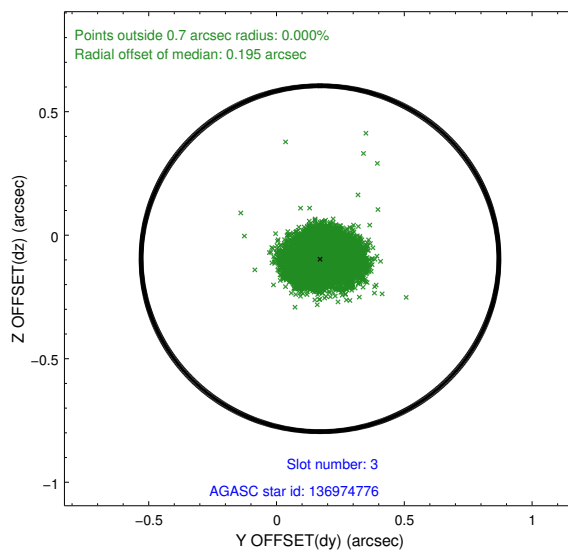
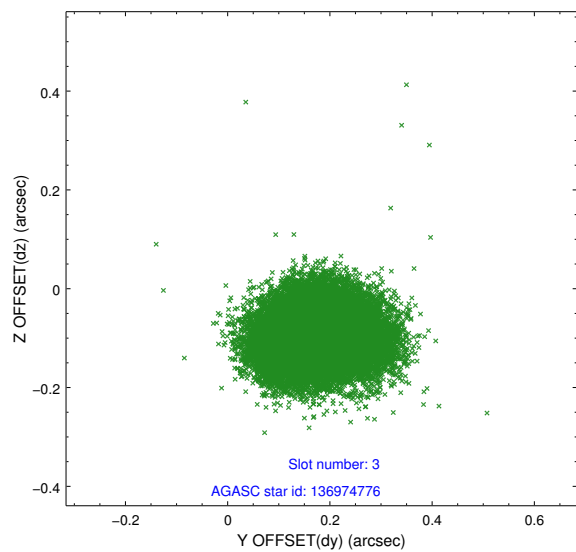
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	6.99	9790	0.068	-0.002	0.036	0.047	0.000000	0.000000	918.95	-1739.31
1	FID		ACIS-S-2	6.92	9791	-0.279	-0.128	0.036	0.043	0.000000	0.000000	-777.29	-1743.87
2	FID		ACIS-S-4	7.00	9791	0.184	0.135	0.029	0.036	0.000000	0.000000	2136.45	164.88
3	GUIDE	used	136974776	7.84	19579	0.170	-0.095	0.085	0.136	288.742109	10.409402	-1870.92	74.23
4	GUIDE	used	136979152	8.74	19579	0.253	-0.114	0.087	0.142	288.538081	10.461256	-1745.40	809.69
5	GUIDE	used	137108368	9.21	19571	0.353	0.671	0.142	0.243	289.421925	10.352056	-1871.62	-2341.18
6	GUIDE	used	137497048	7.99	19576	-0.272	0.047	0.073	0.116	288.896055	11.554718	2280.49	-123.27
7	GUIDE	used	137498872	7.05	19579	-0.507	-0.501	0.105	0.164	288.350862	11.344926	1368.98	1732.86

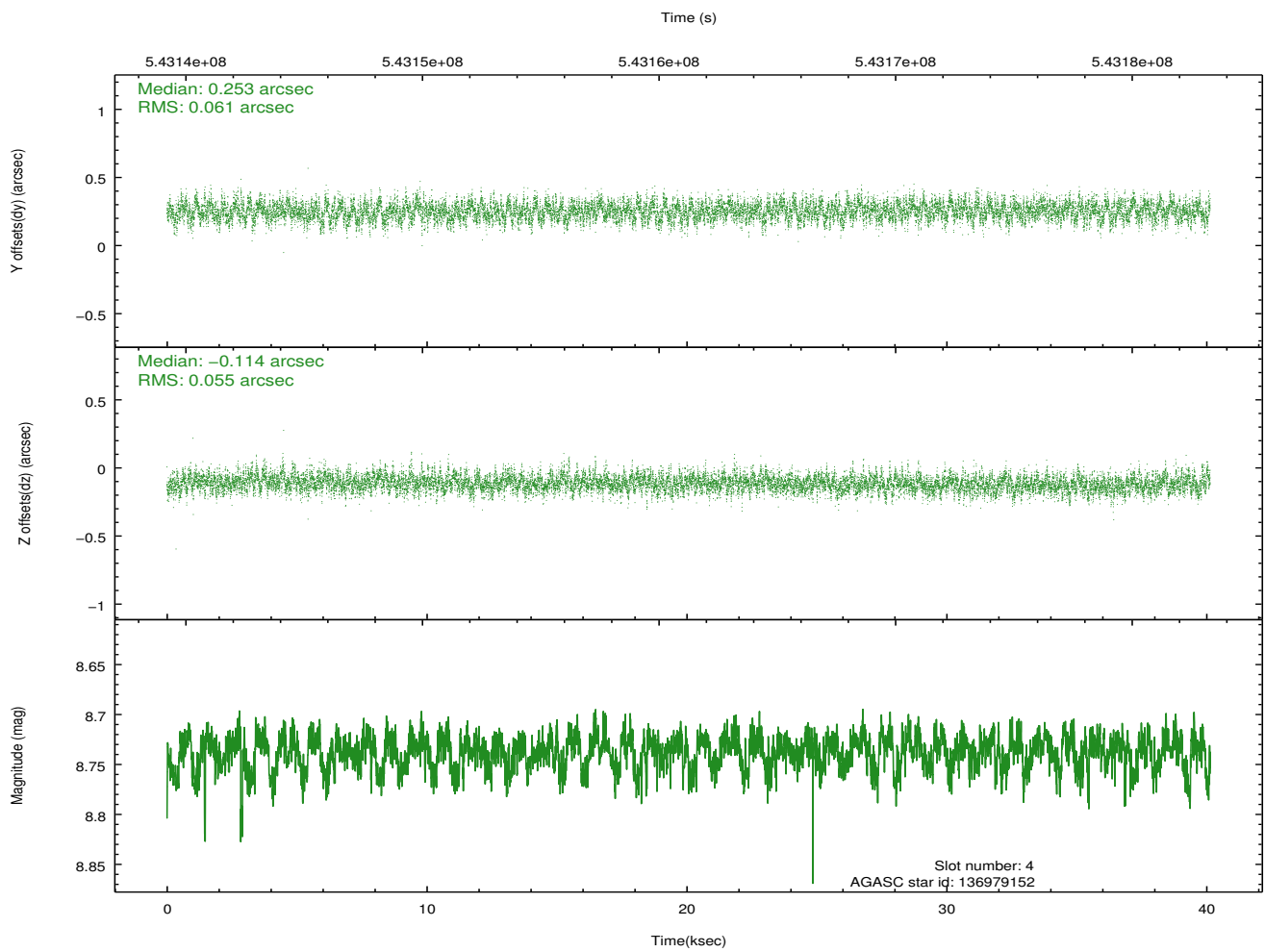
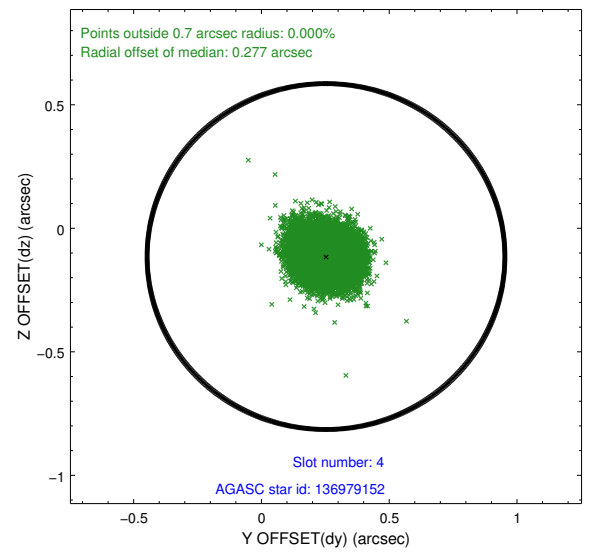
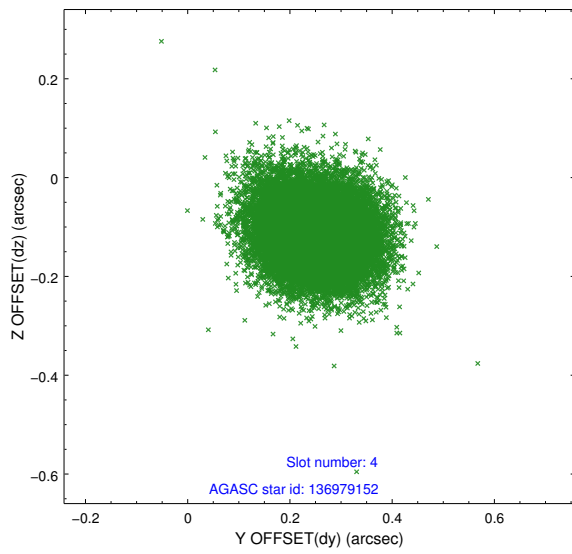
∞

2.4 Star Slots

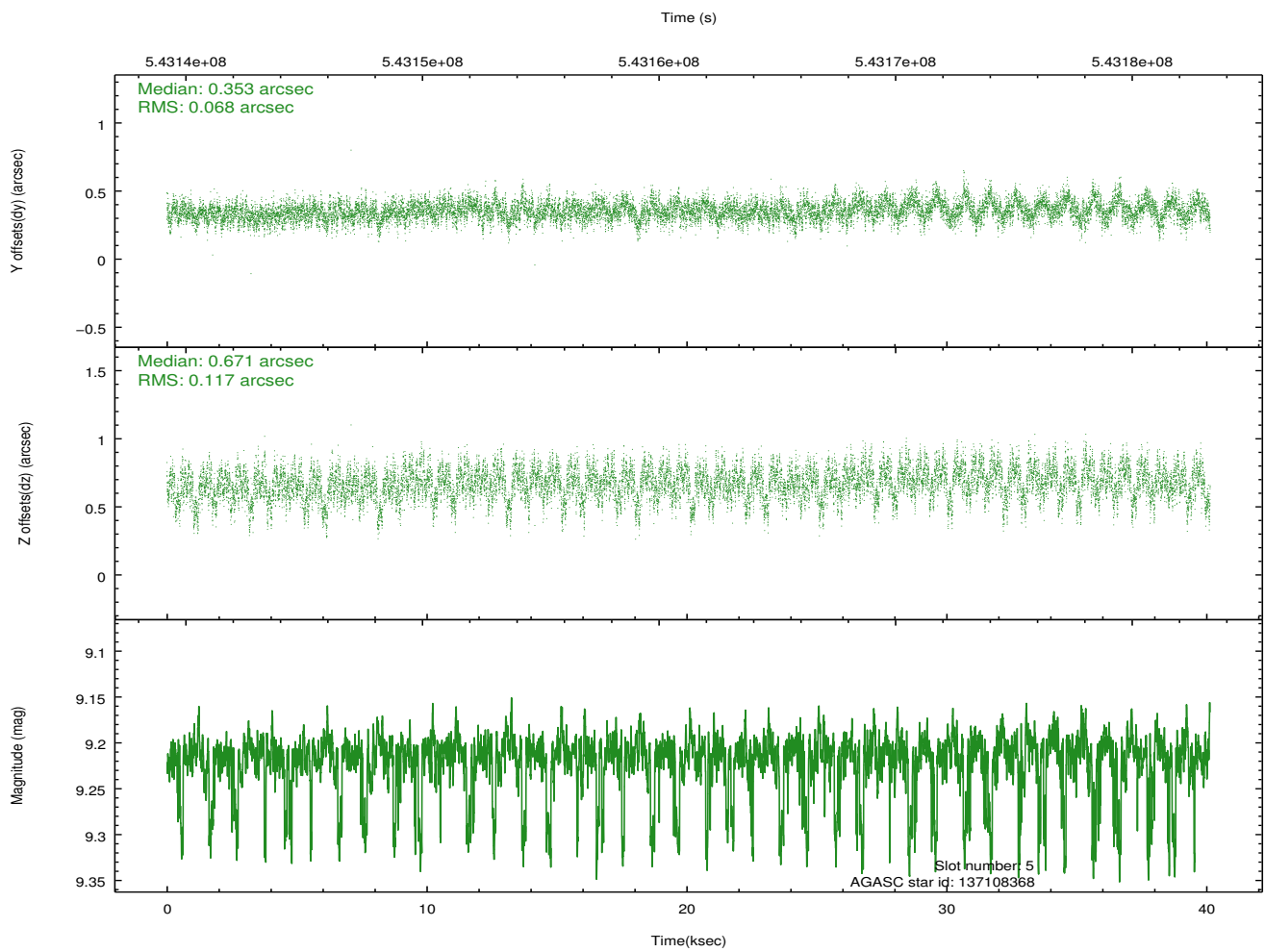
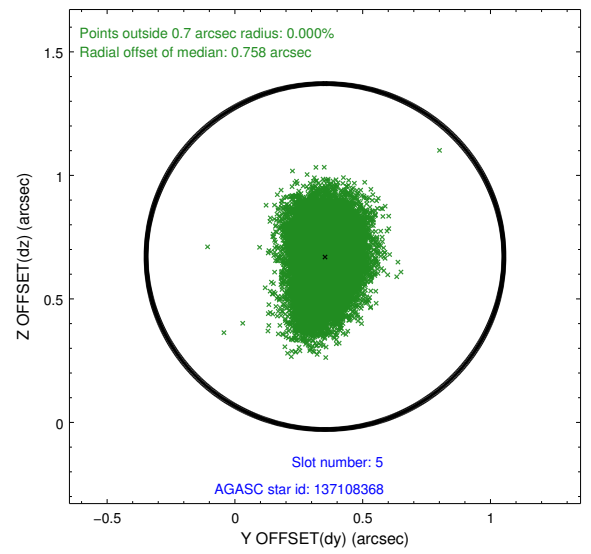
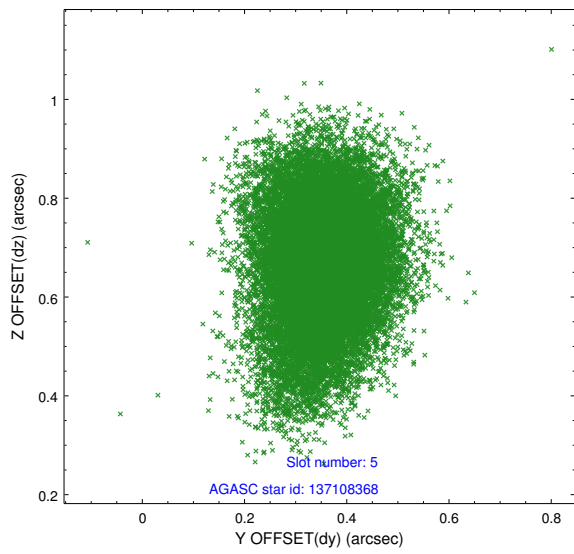
2.4.1 Slot 3



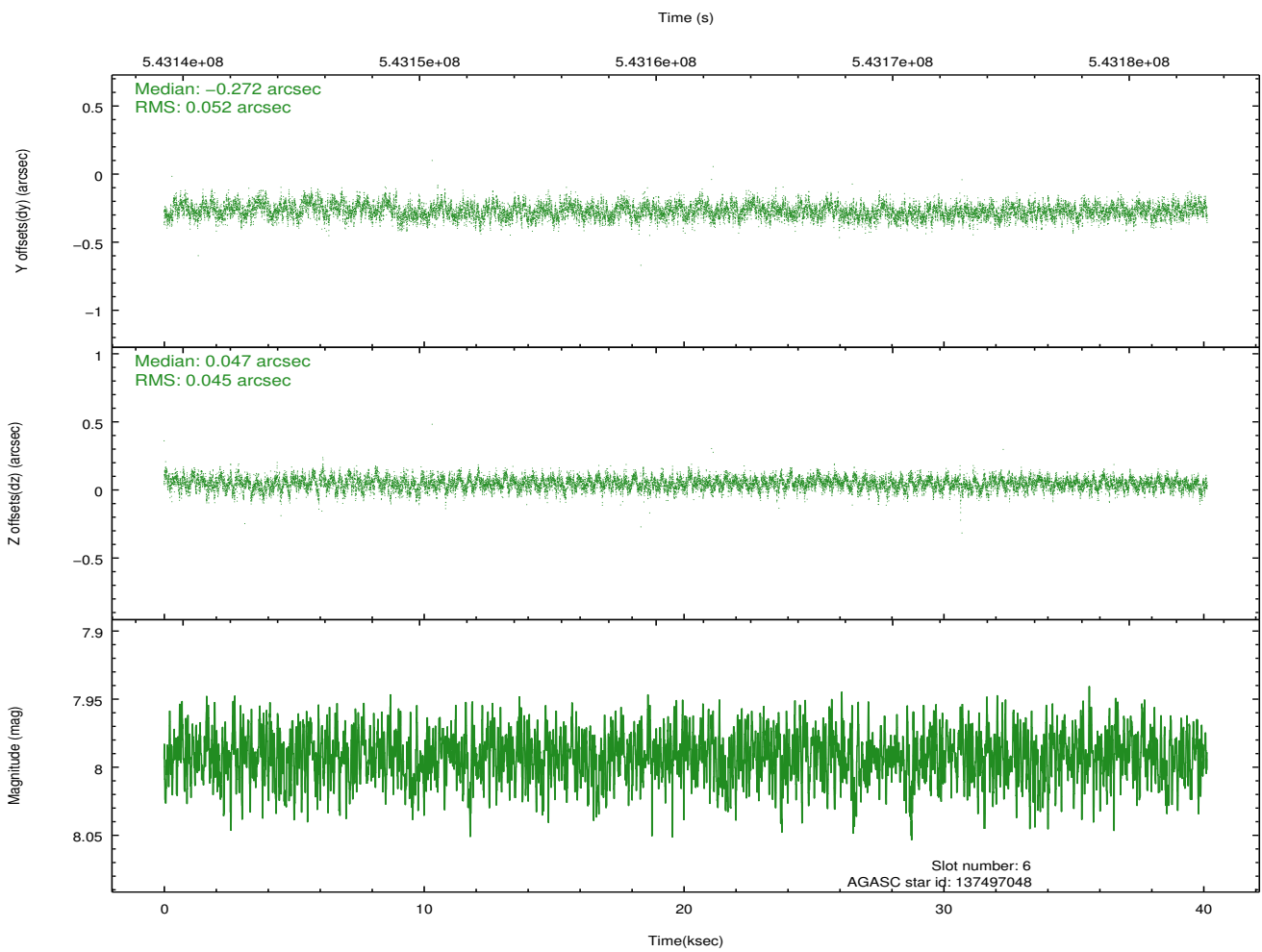
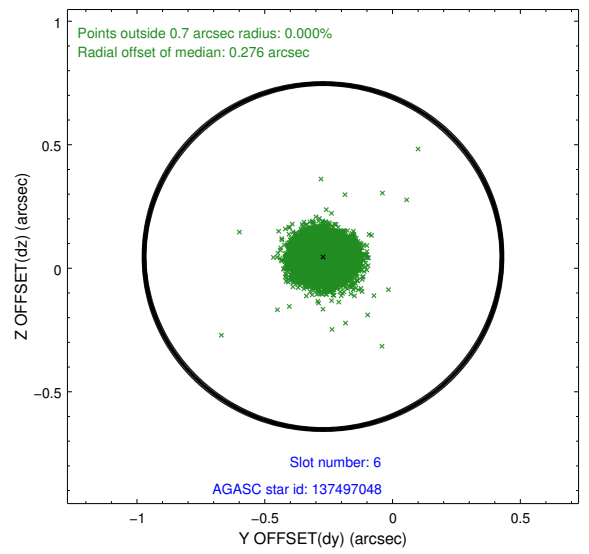
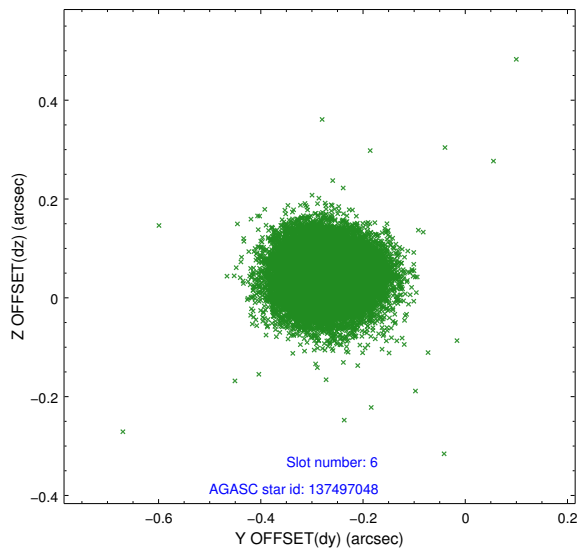
2.4.2 Slot 4



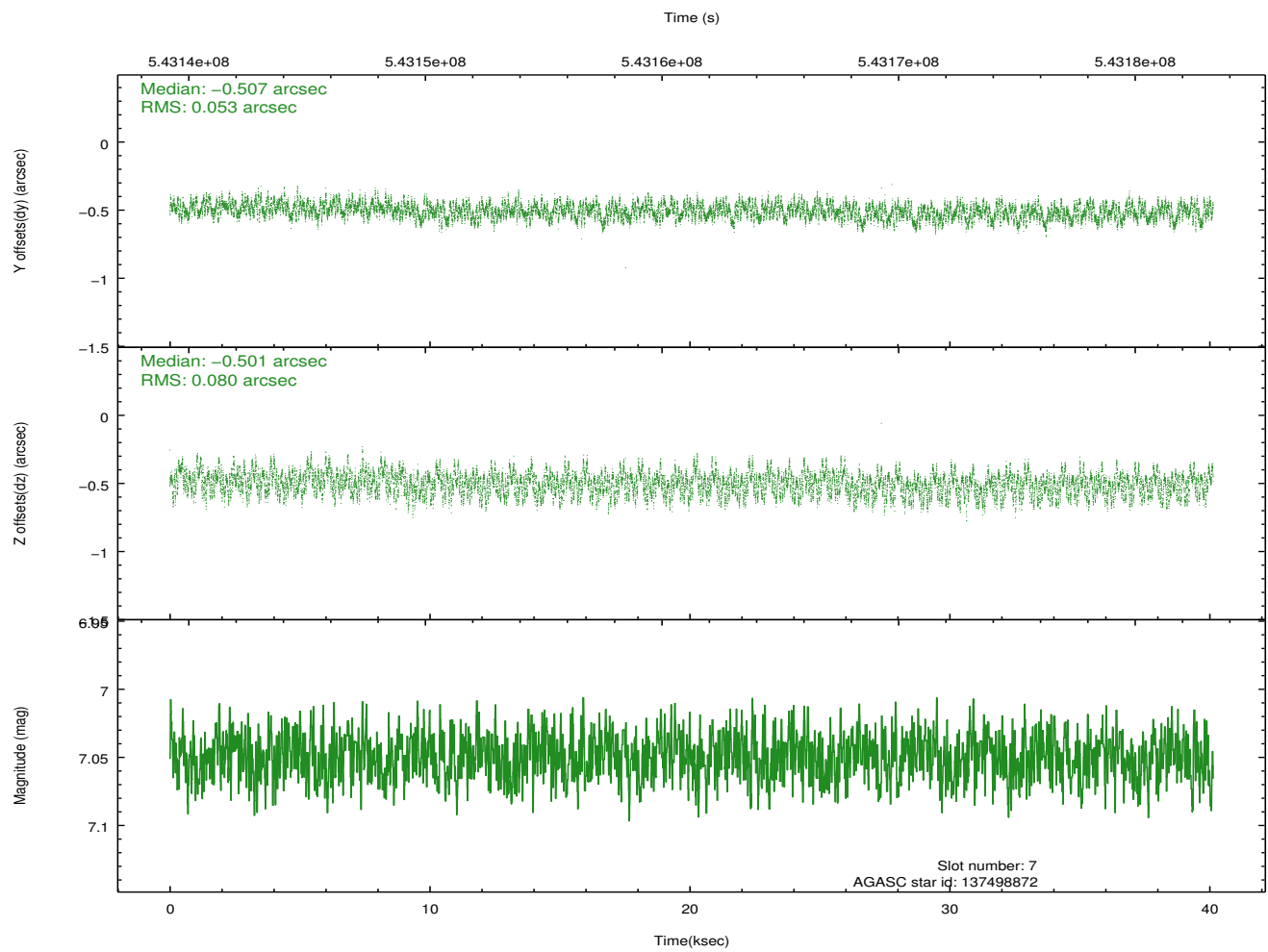
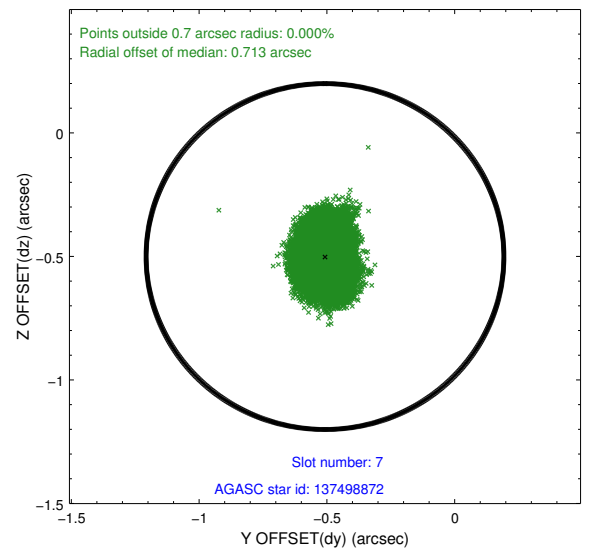
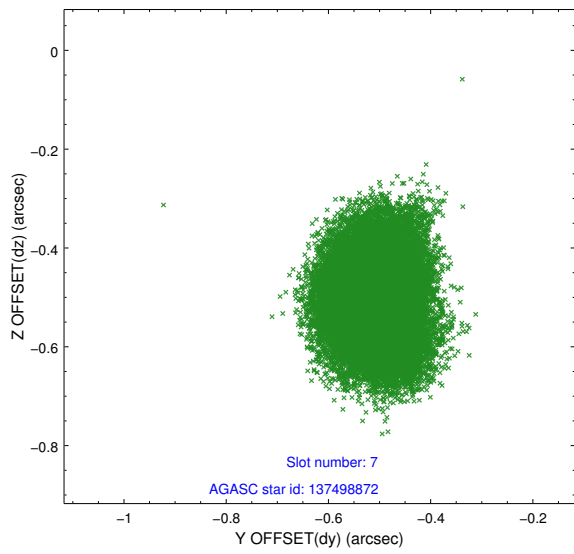
2.4.3 Slot 5



2.4.4 Slot 6

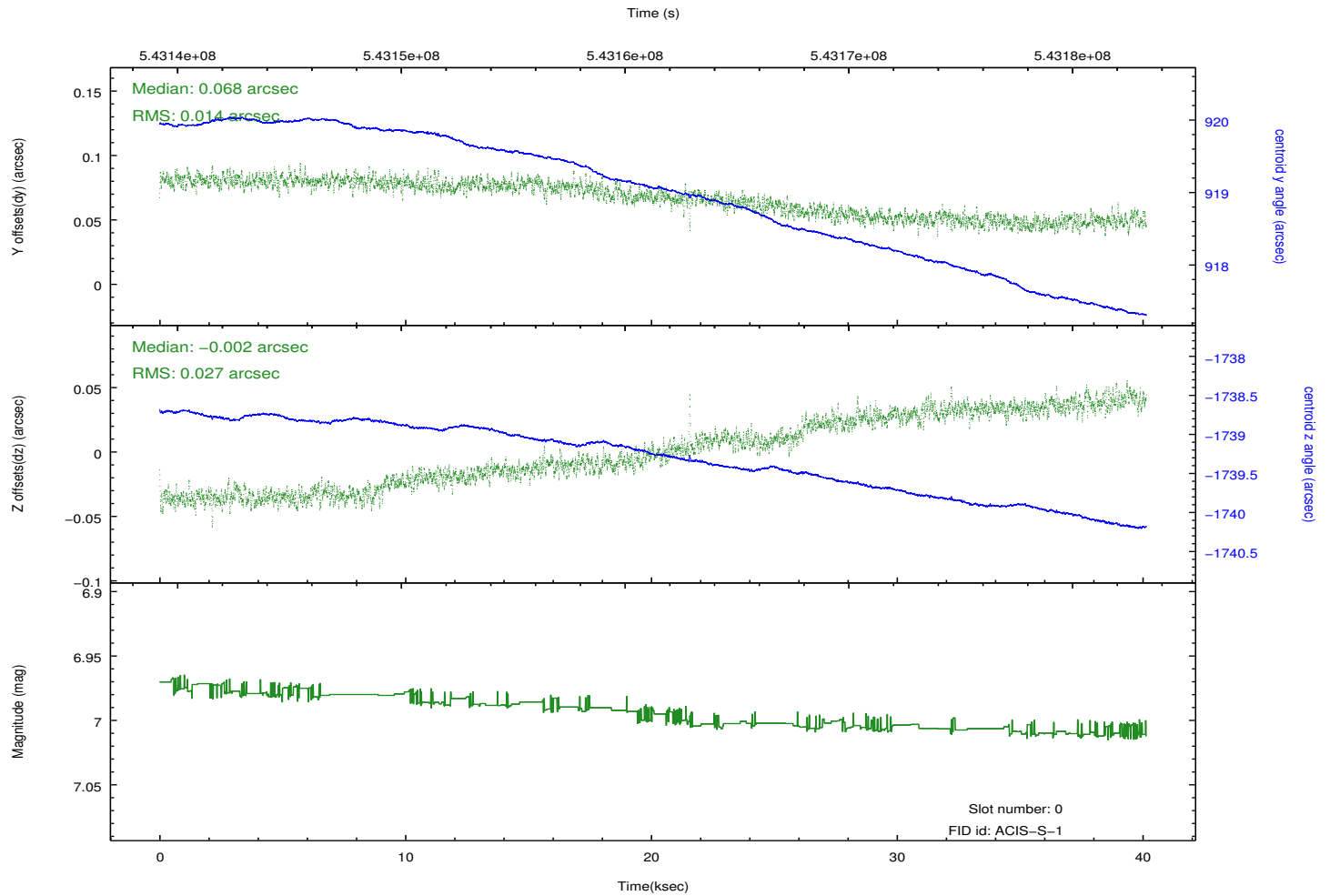
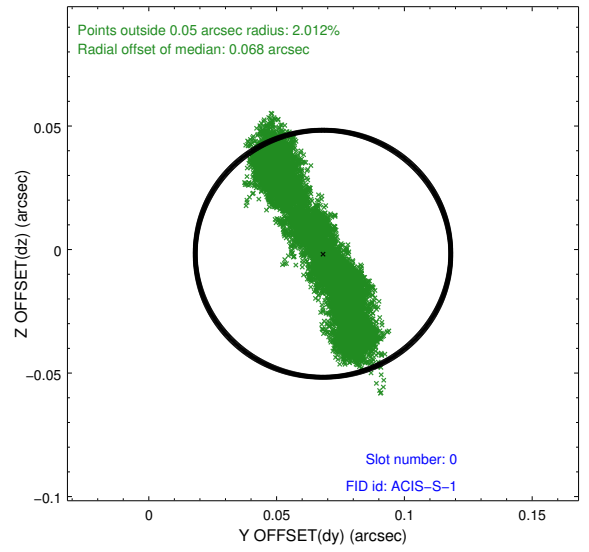
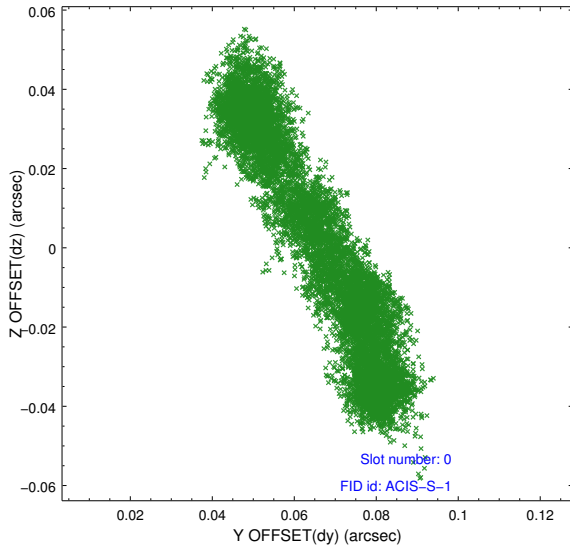


2.4.5 Slot 7

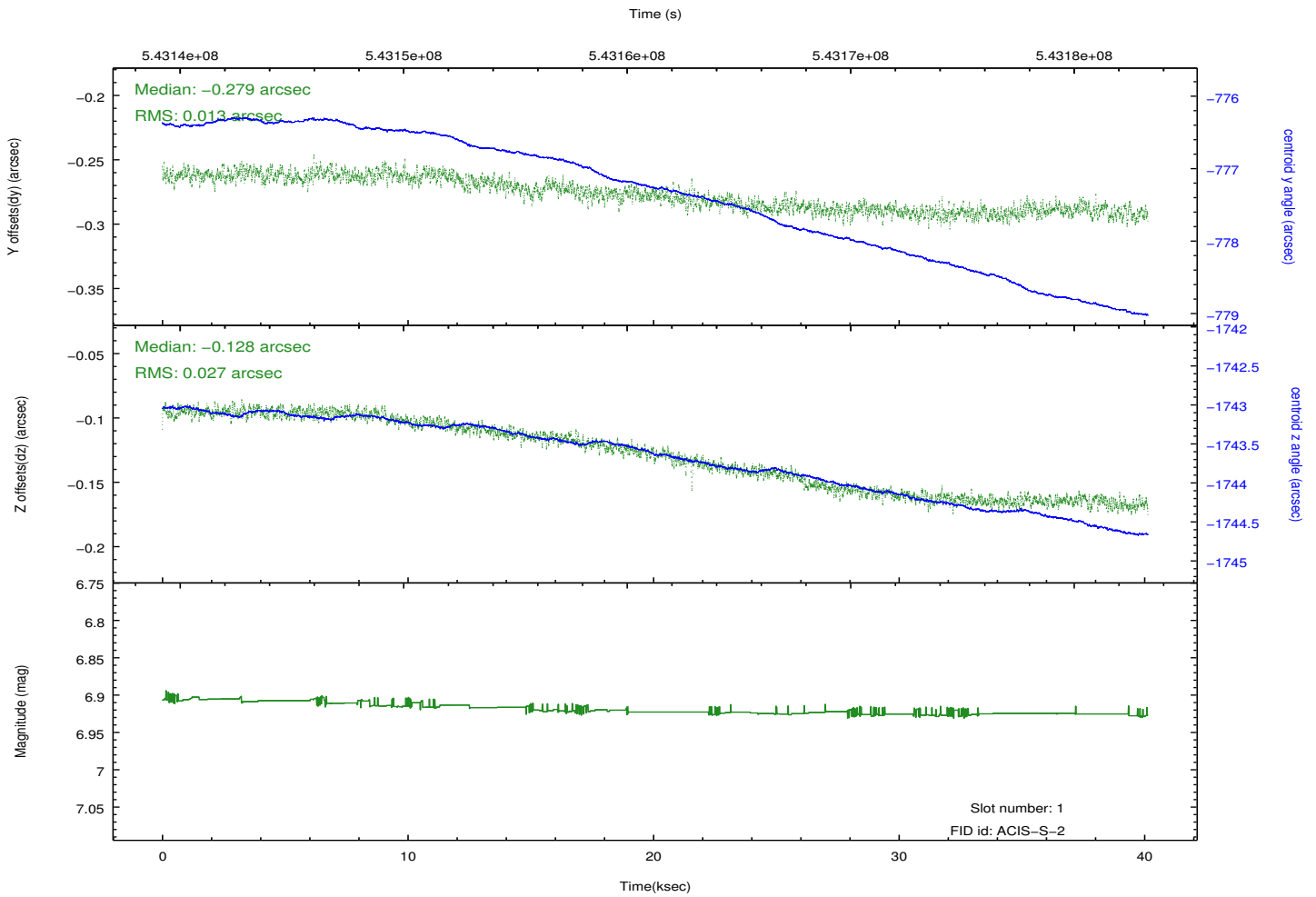
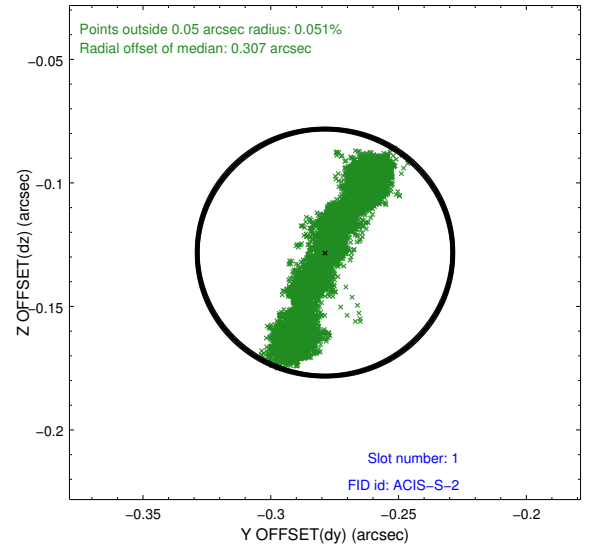
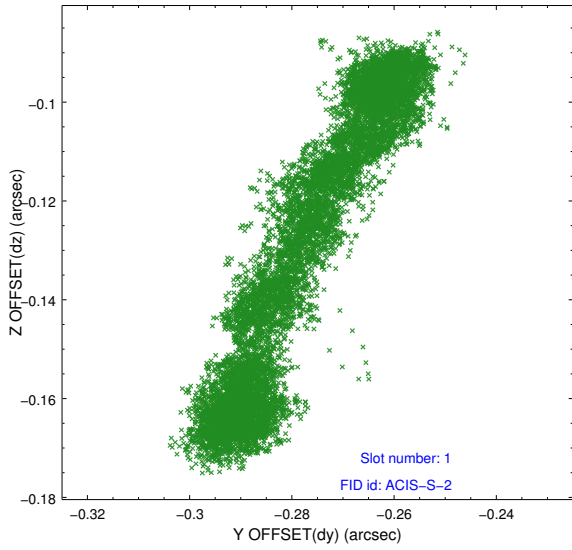


2.5 FID Slots

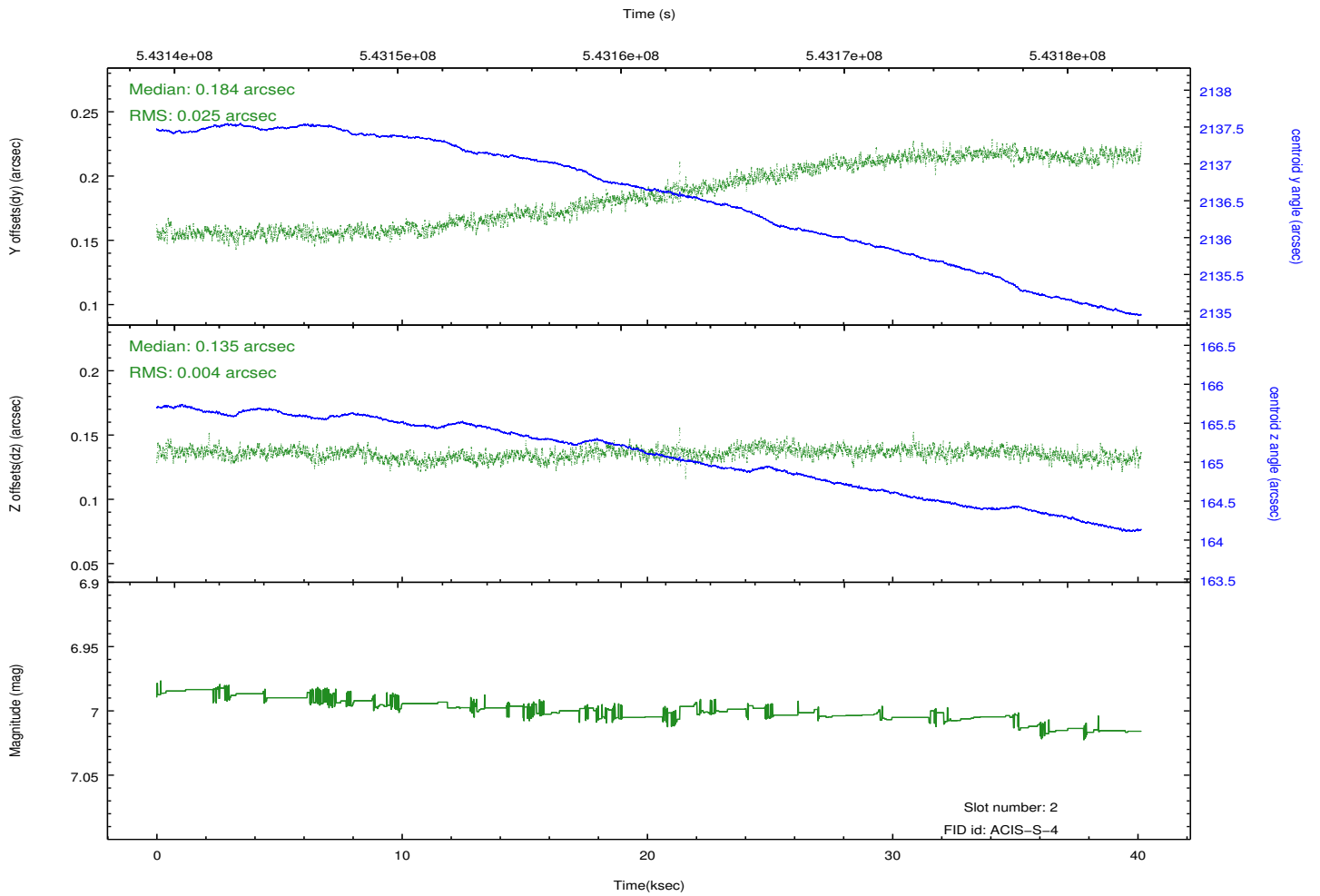
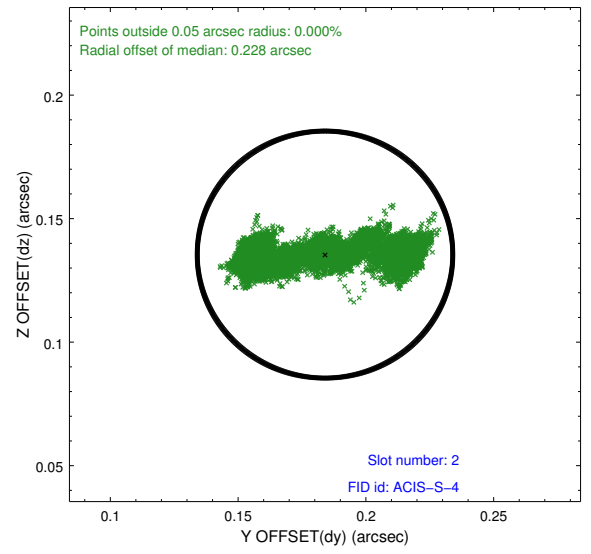
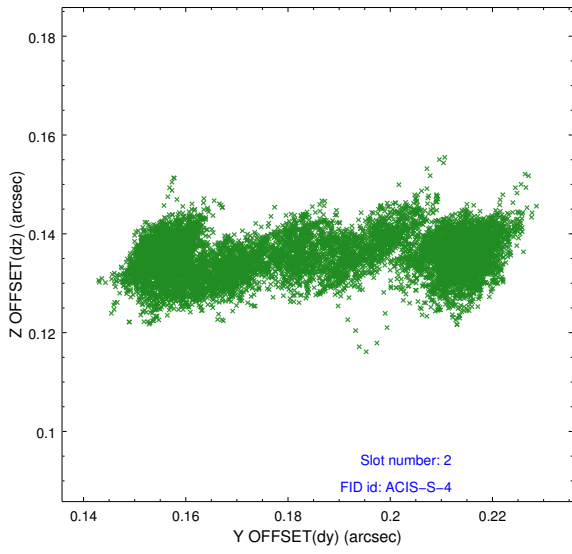
2.5.1 Slot 0



2.5.2 Slot 1

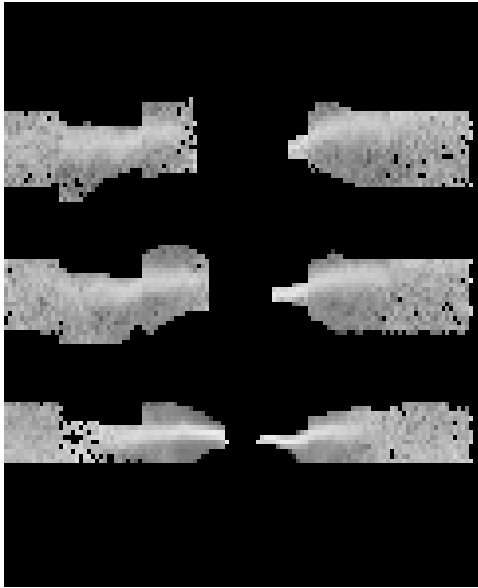


2.5.3 Slot 2

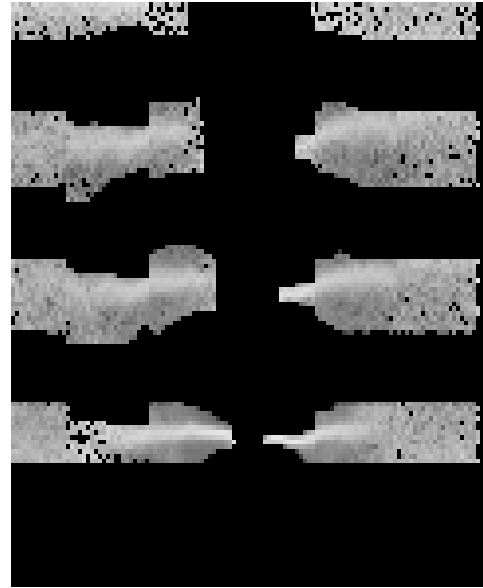


3 Gratings

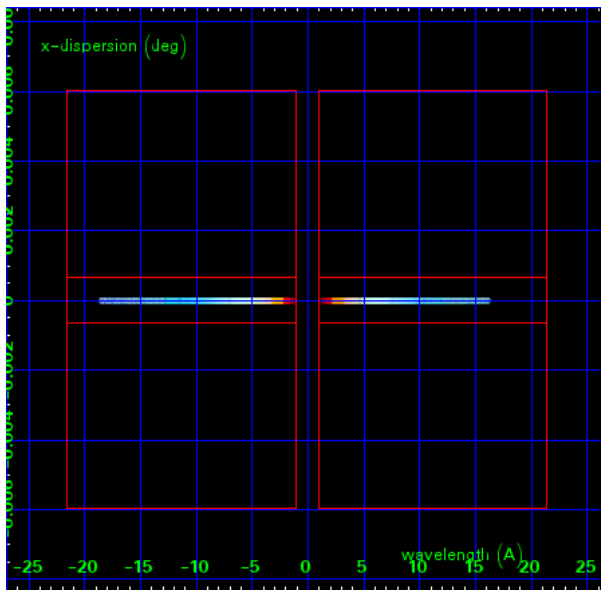
3.1 HEG Arm



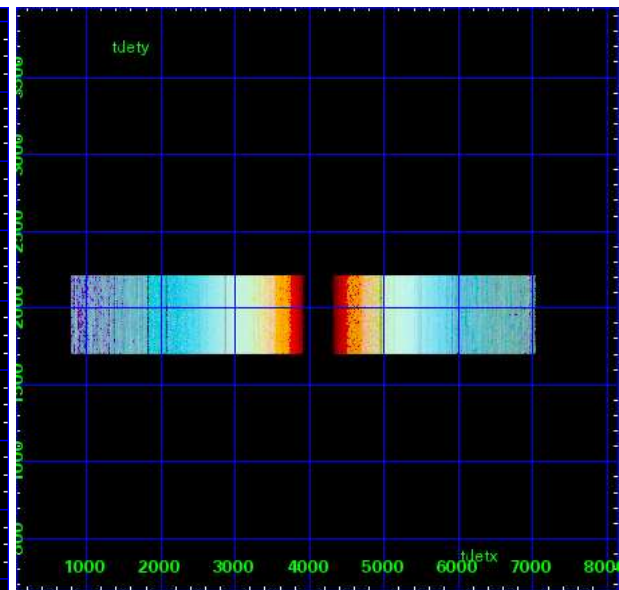
HEG Order Sort 123



HEG Order Sort ALL

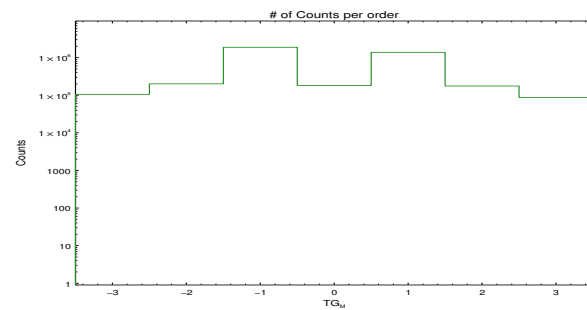


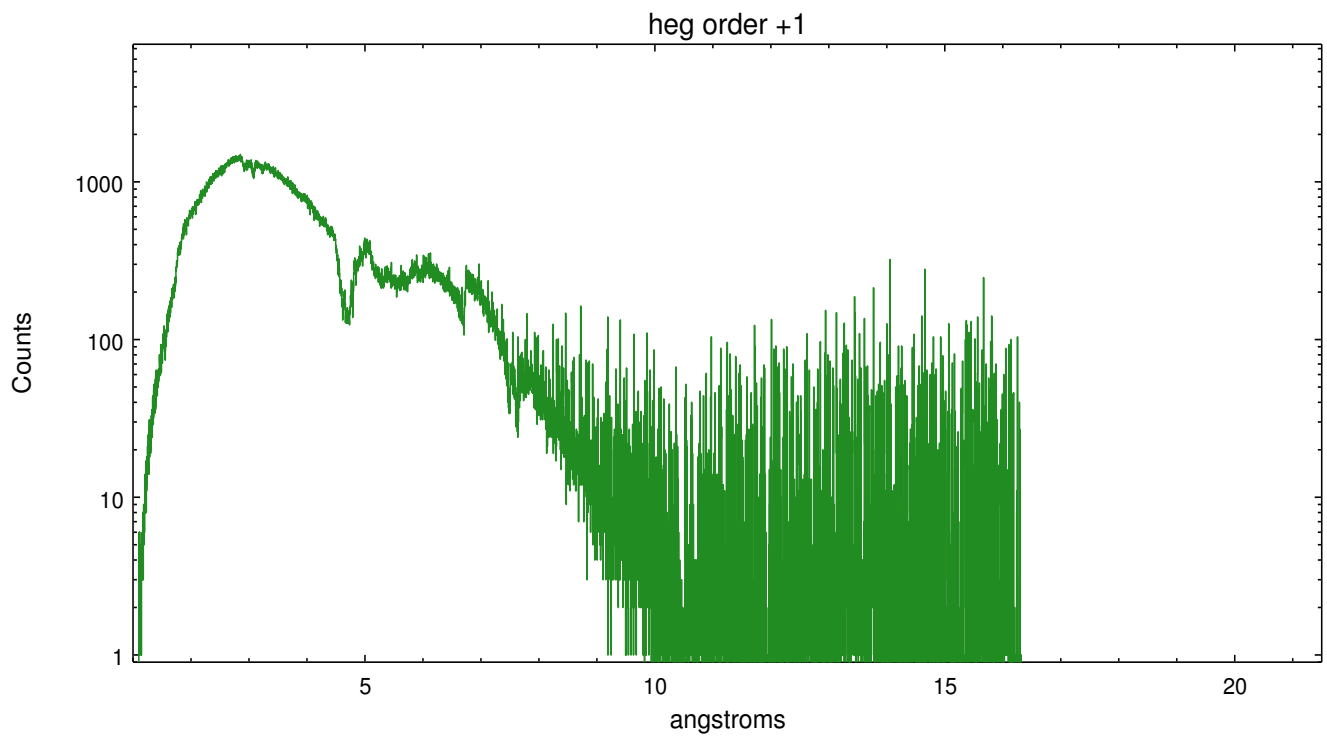
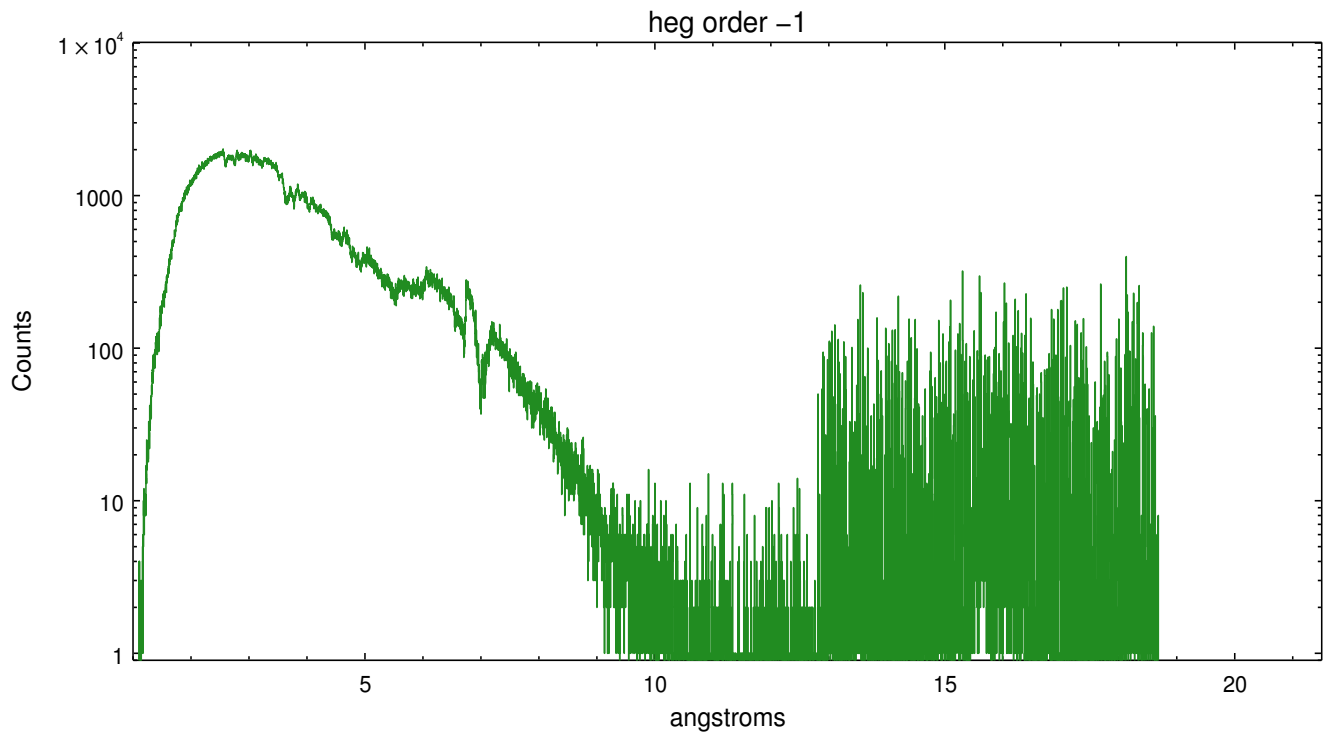
Spot Image HEG



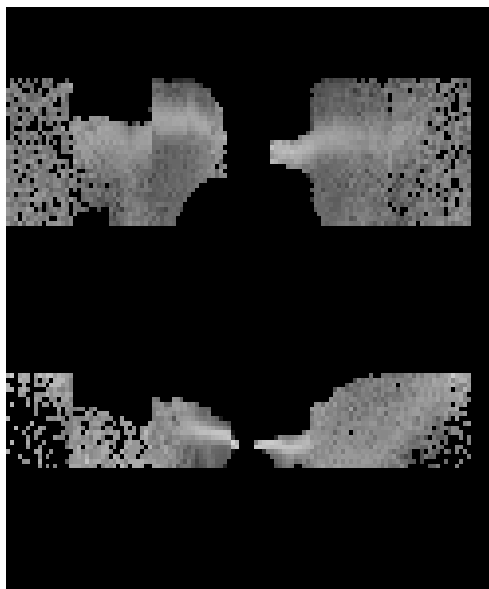
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	105577	200816	1881928	181349	1379804	175699	87134

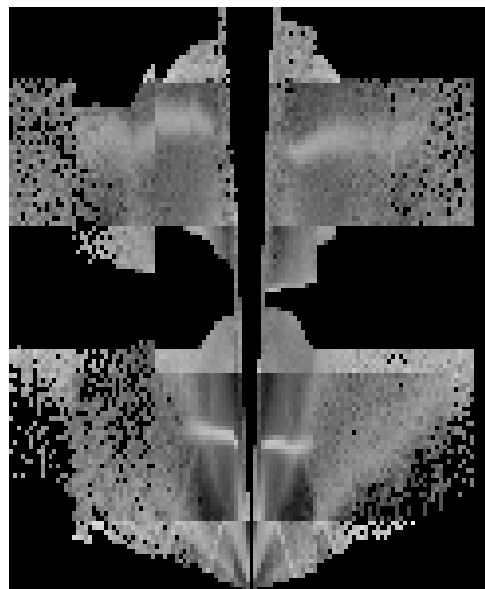




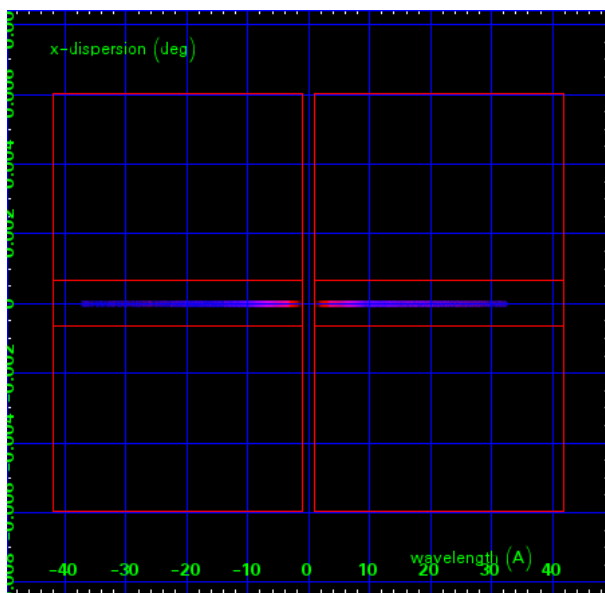
3.2 MEG Arm



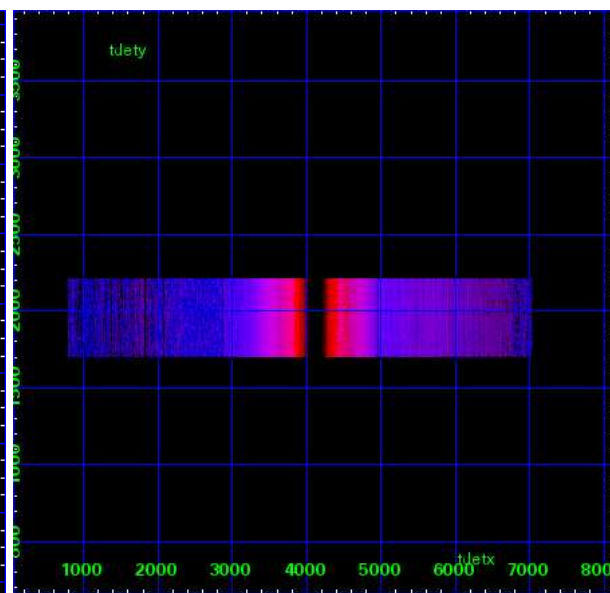
MEG Order Sort 123



MEG Order Sort ALL

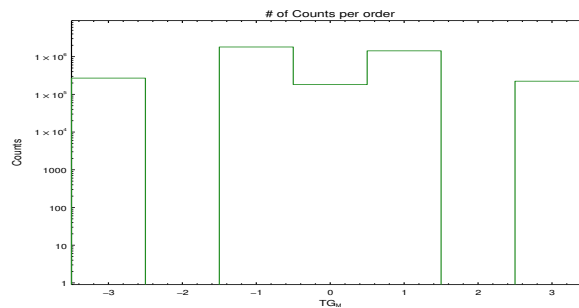


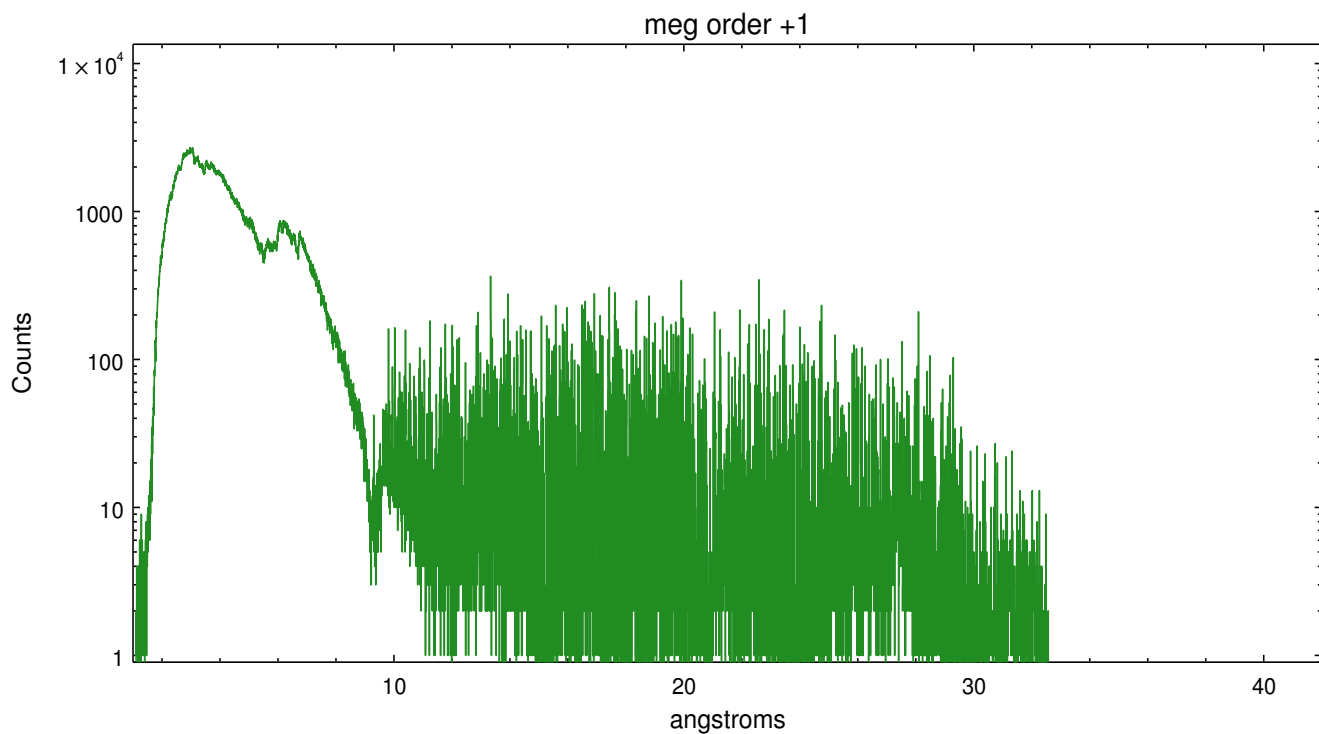
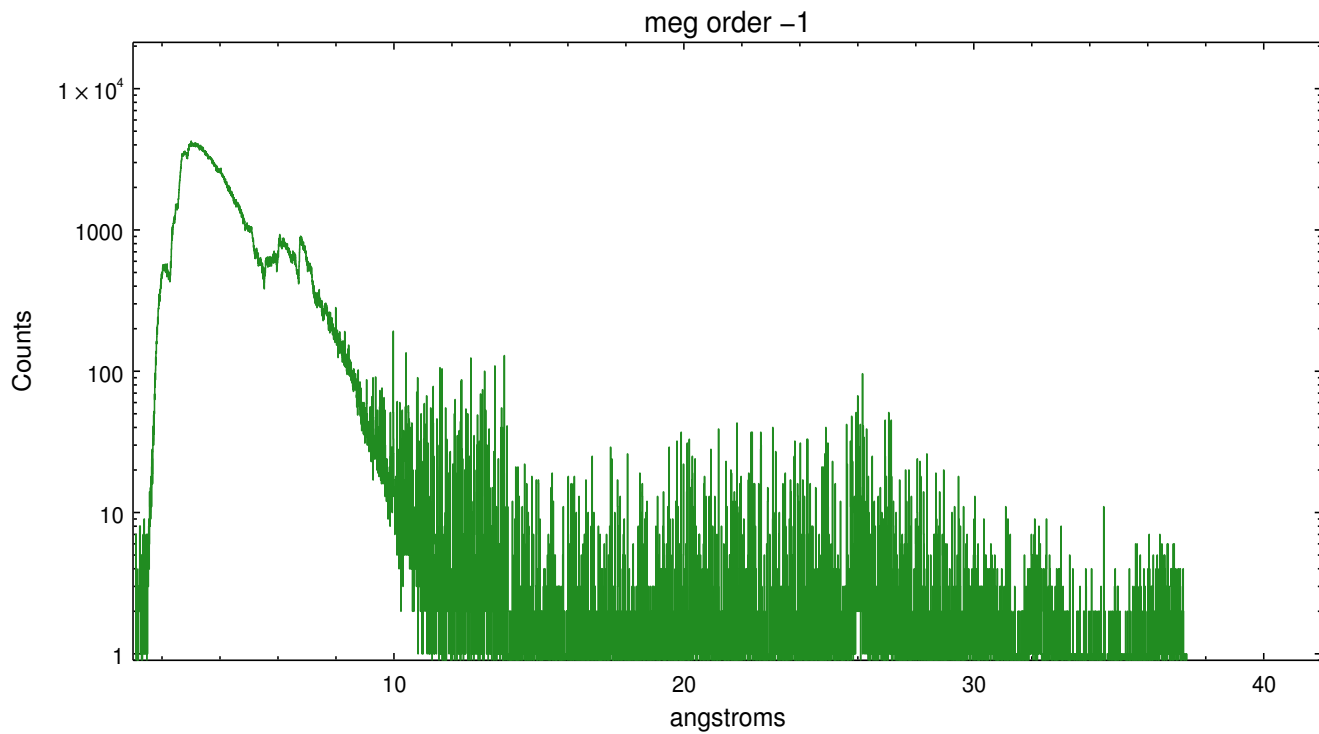
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	269528	0	1803029	181349	1425615	0	223244





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2015.03.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.072

A.2 Comments

Charge time: used the maximum over all chip ontimes, which reflects the requested duration of 40000 s.

ONTIME for the aim-point ccd of 30707 seconds is less than 85% of expected scheduled time of 40000 seconds. The high count rate resulted in telemetry saturation and a large number of dropped exposures. ONTIME varies among the chips. The ONTIME for each chip reflects the lost exposure time.

For ACIS/CC-mode w/ HETG, at with no SIM-Z offset, 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.) For observations with a SIM-Z offset, MEG negative and MEG positive orders will be missing (off the array), and remove some of the ambiguity.