

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 4899 - L2 Version 3
Chandra X-Ray Center

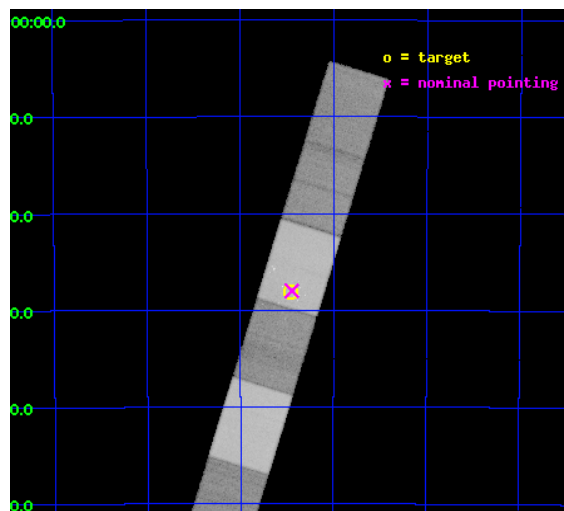
L2 Processing Date : Jan 3 2013

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1 Front

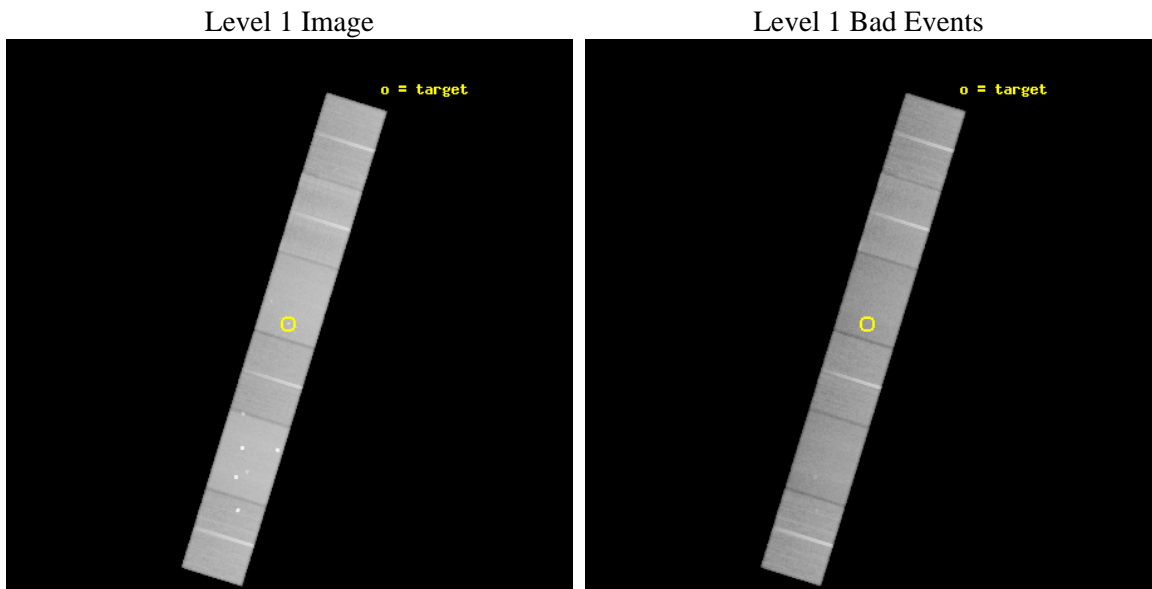
seq_num	700981	Sequence number
obs_id	4899	Observation id
title	X-ray Spectroscopy of the Nuclear Region of the Seyfert 2 Galaxy NGC 4945	Proposal title
observer	Dr Greg Madejski	Principal investigator
object	NGC 4945	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	196.364583	Observer's specified target RA [deg]
dec_targ	-49.4675	Observer's specified target Dec [deg]
ra_nom	196.3614730998	Nominal RA [deg]
dec_nom	-49.466585247026	Nominal Dec [deg]
roll_nom	287.15426745247	Nominal Roll [deg]
revision	3	Processing version of data
ontime	78640.0	Sum of GTIs [s]
livetime	77369.8957907	Livetime [s]
ontime4	78640.0	Sum of GTIs [s]
ontime5	78640.0	Sum of GTIs [s]
ontime6	78637.458999813	Sum of GTIs [s]
ontime7	78640.0	Sum of GTIs [s]
ontime8	78640.0	Sum of GTIs [s]
ontime9	78640.0	Sum of GTIs [s]
l2events	752857	Number of level 2 events



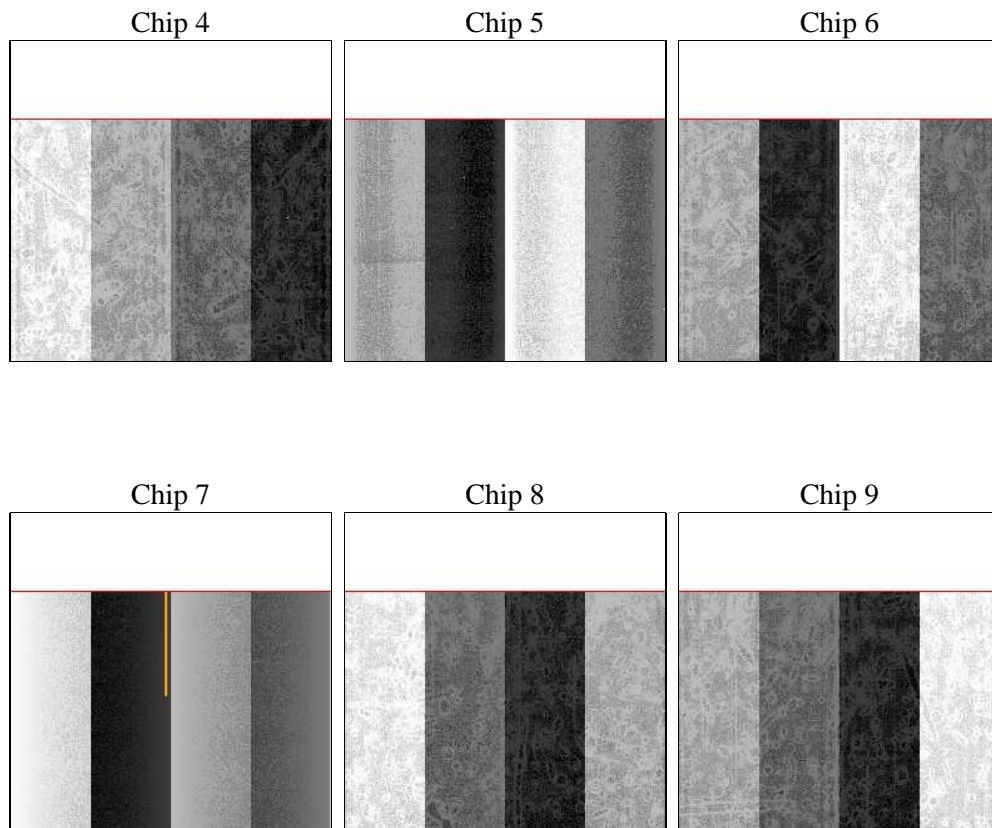
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	78461.934000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	78640.0	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	78640.0	Sum of GTIs [s]
date	2012-12-01T20:34:14	Date and time of file creation	ontime5	78640.0	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	78637.458999813	Sum of GTIs [s]
			ontime7	78640.0	Sum of GTIs [s]
			ontime8	78640.0	Sum of GTIs [s]
			ontime9	78640.0	Sum of GTIs [s]
			l1events	3289596	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	510841	688198	458297	608138	575665	448457	grade 0 events	39204	58439	26407	24682	42209	26656
rejected events	436941	362535	395671	352931	447732	386527		7%	8%	5%	4%	7%	5%
rejected %	85%	52%	86%	58%	77%	86%	grade 1 events	448	1335	185	565	346	245
								0%	0%	0%	0%	0%	0%
							grade 2 events	13186	88479	12372	52315	27733	11807
								2%	12%	2%	8%	4%	2%
							grade 3 events	6310	14329	6090	23881	13501	6379
								1%	2%	1%	3%	2%	1%
							grade 4 events	6093	13598	5951	23445	12738	5978
								1%	1%	1%	3%	2%	1%
							grade 5 events	19053	50980	20001	57075	26525	21376
								3%	7%	4%	9%	4%	4%
							grade 6 events	10412	157795	12817	135920	34171	12256
								2%	22%	2%	22%	5%	2%
							grade 7 events	416135	303243	374474	290255	418442	363760
								81%	44%	81%	47%	72%	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	196.330379	196.3614730997996	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-49.448324	-49.46658524702595	Subarray start row	1	1
[deg] Pointing Roll	286.974008	287.1542674524741	Subarray row count	774	774
[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	2.5
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	202108739.184000	202106824.77222			
Observation start date	2004-05-28T05:17:55	2004-05-28T04:47:04			
[s] Observation end time (MET)	202187201.184000	202187419.50078			
Observation end date	2004-05-29T03:05:37	2004-05-29T03:10:19			
Read mode	TIMED	TIMED			

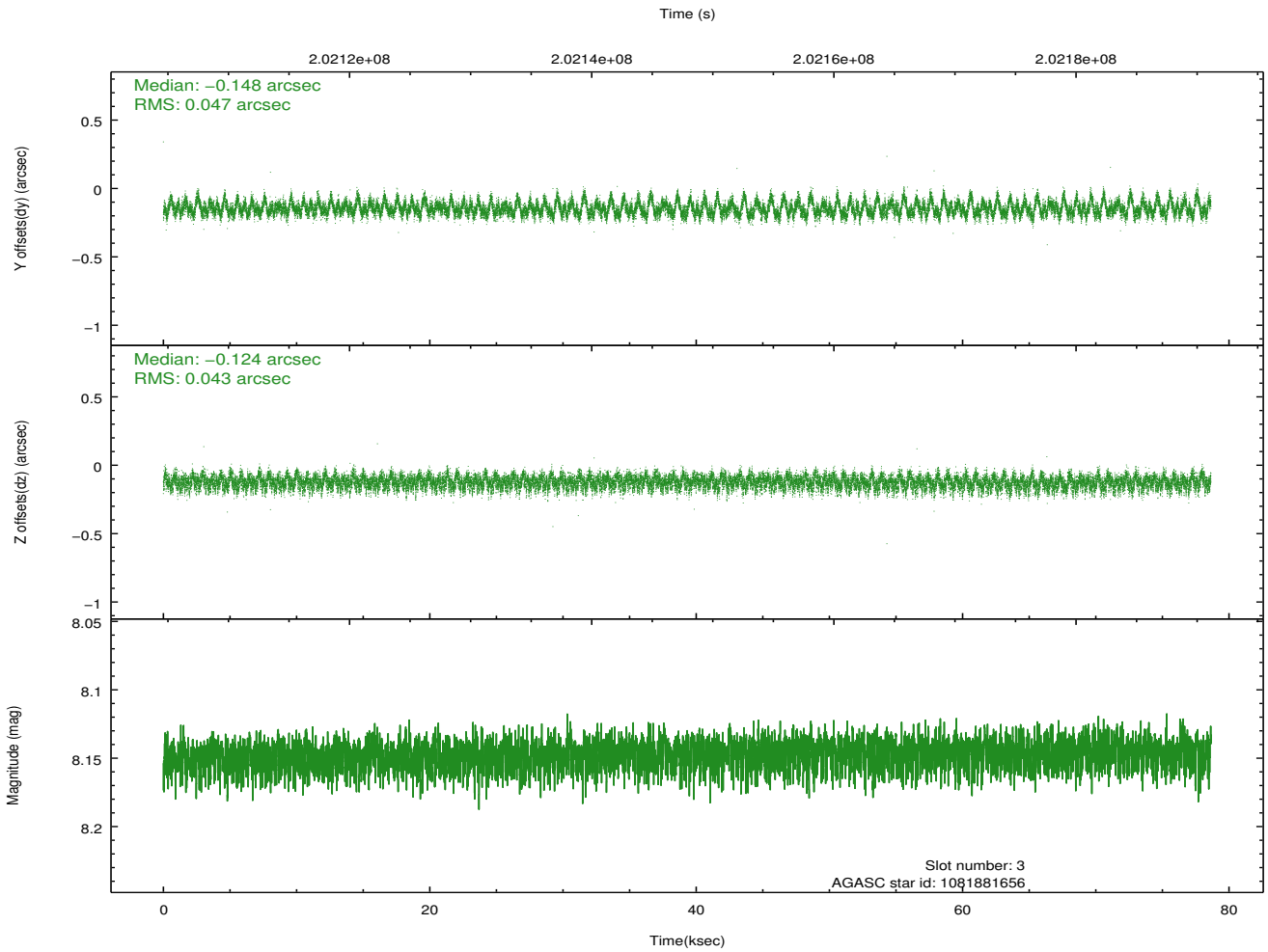
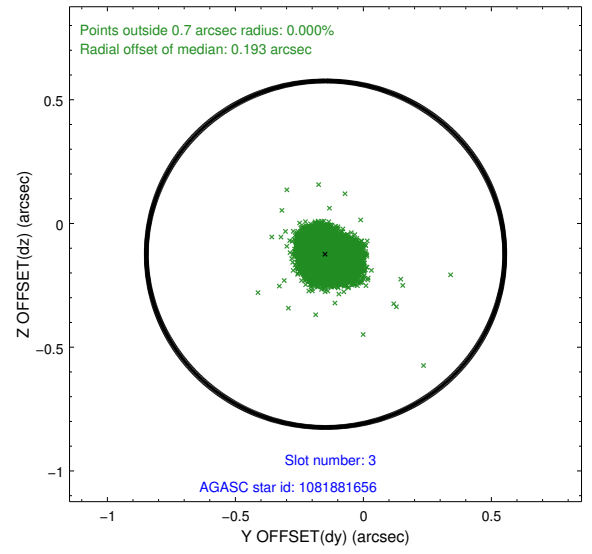
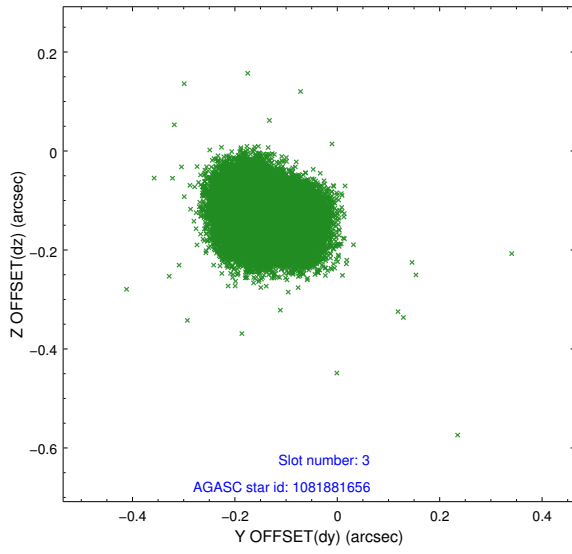
2.3 Aspect

Slot Statistics

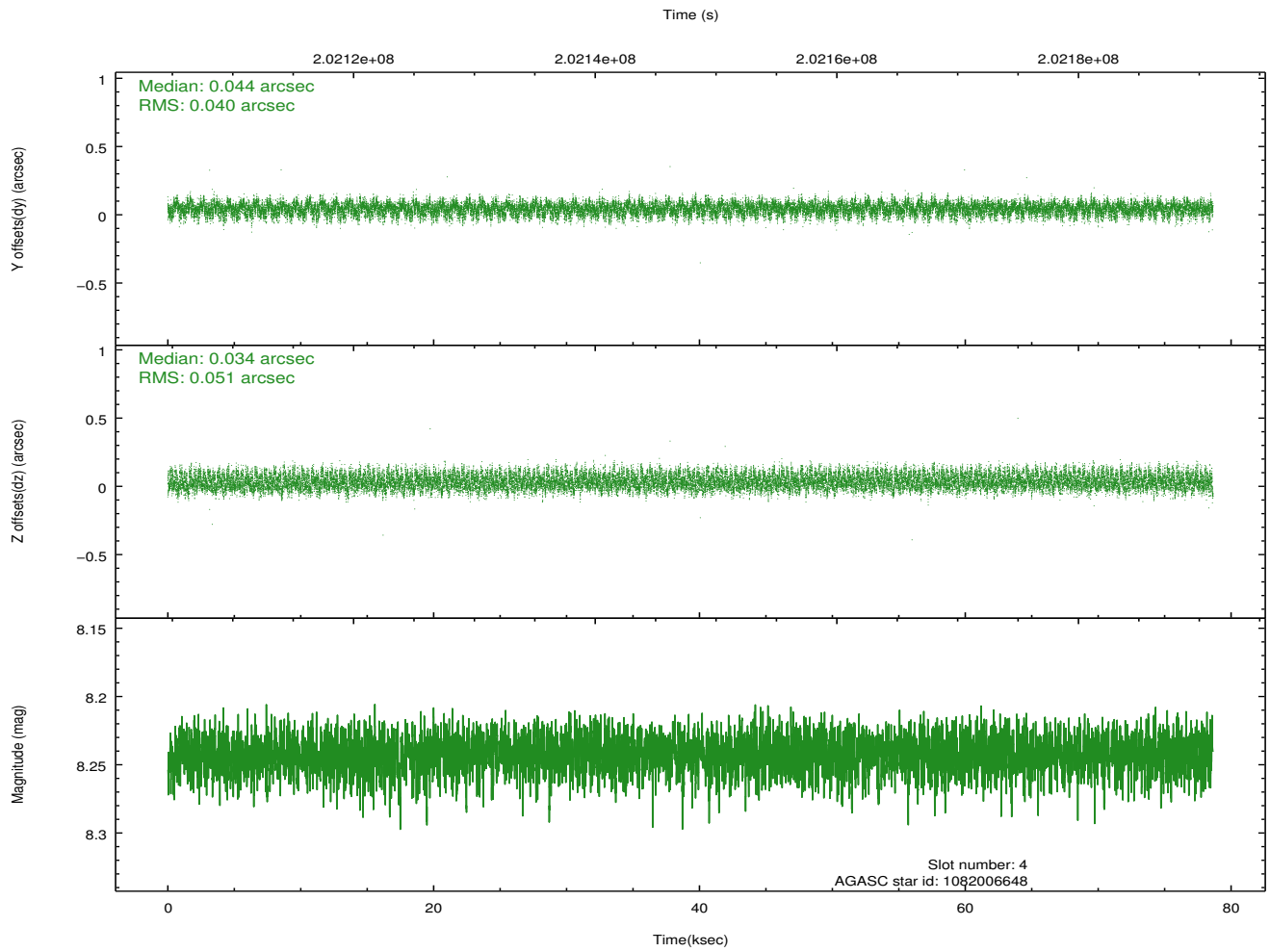
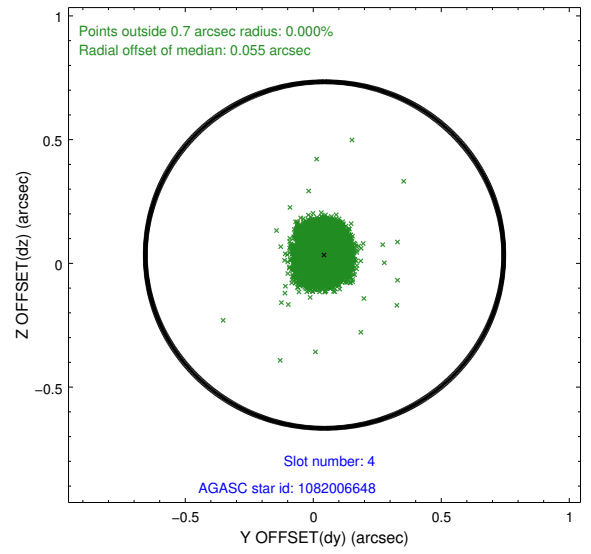
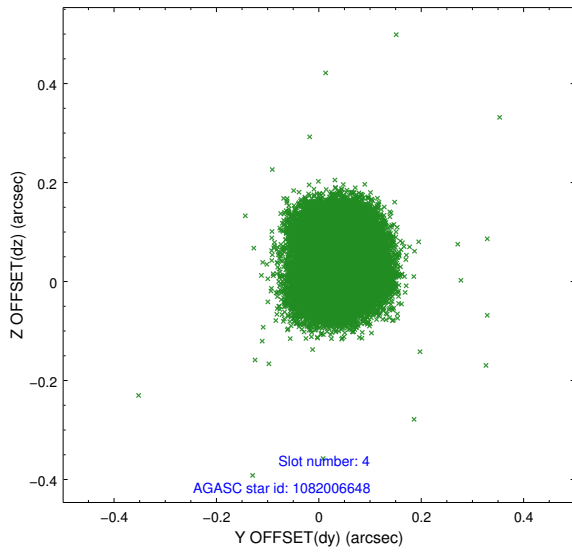
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	19180	-0.033	-0.039	0.007	0.012	0.000000	0.000000	-758.95	-1791.57
1	FID	ACIS-S-5	7.23	19179	-0.052	-0.015	0.010	0.016	0.000000	0.000000	-1812.02	110.50
2	FID	ACIS-S-6	7.37	19180	0.060	0.062	0.009	0.015	0.000000	0.000000	402.87	754.37
3	GUIDE	1081881656	8.15	38356	-0.148	-0.124	0.068	0.108	196.213950	-49.649201	612.86	-470.87
4	GUIDE	1082006648	8.24	38354	0.044	0.034	0.070	0.110	197.274351	-49.494968	818.17	2057.87
5	GUIDE	1082007984	8.20	38353	0.081	0.007	0.059	0.093	196.927081	-49.725914	1366.63	1034.95
6	GUIDE	1082011856	8.16	38354	-0.053	-0.028	0.062	0.096	197.058878	-49.171293	-445.47	1928.49
7	GUIDE	1081871496	9.30	38265	0.075	0.110	0.083	0.137	196.322420	-49.798146	1199.44	-384.97

2.4 Star Slots

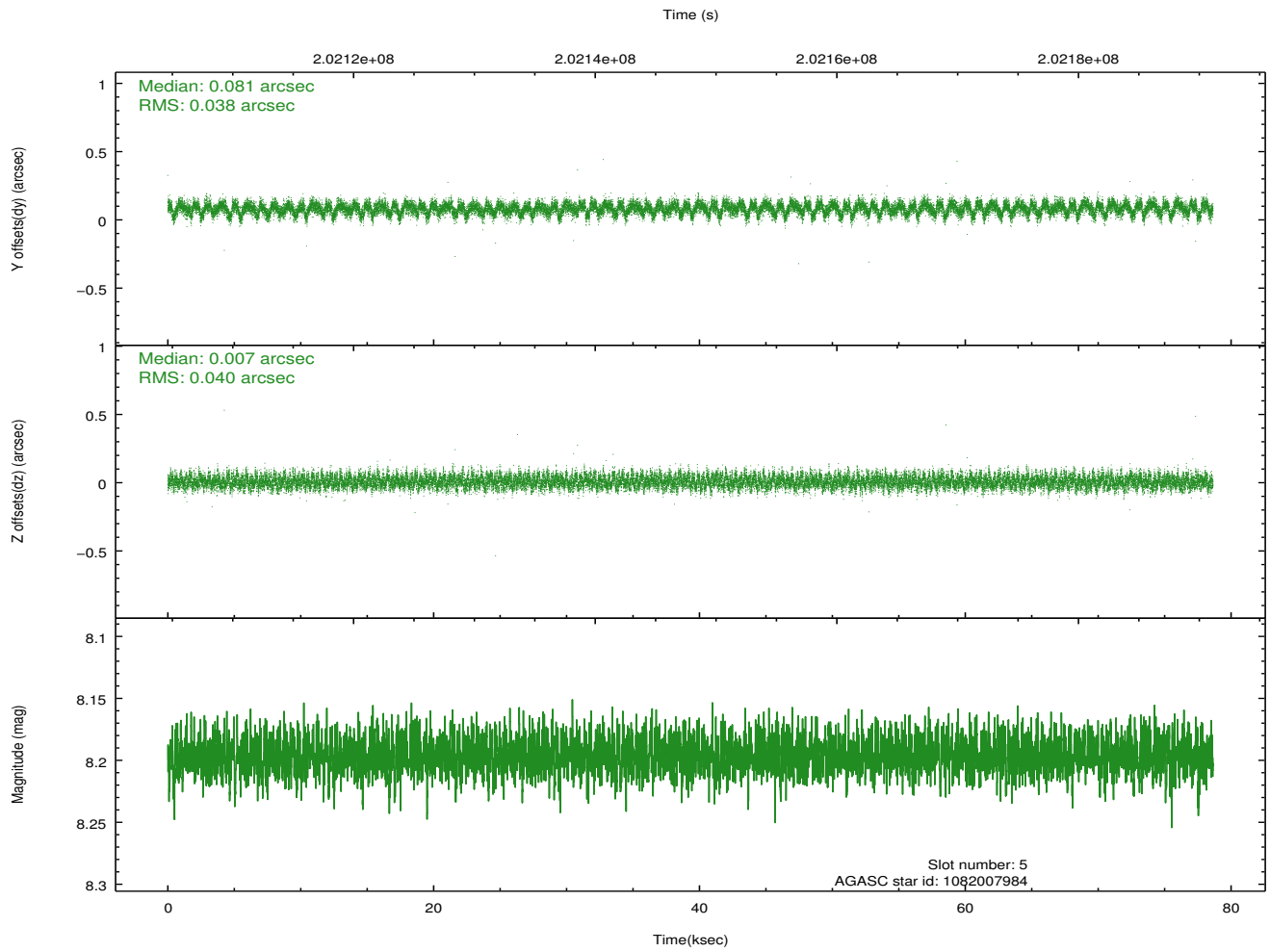
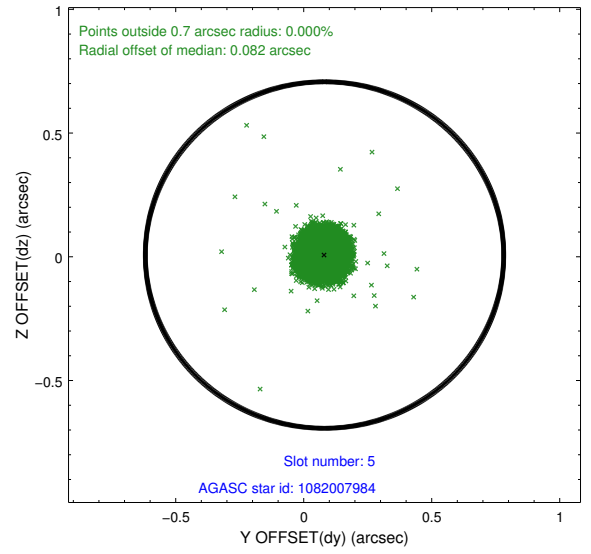
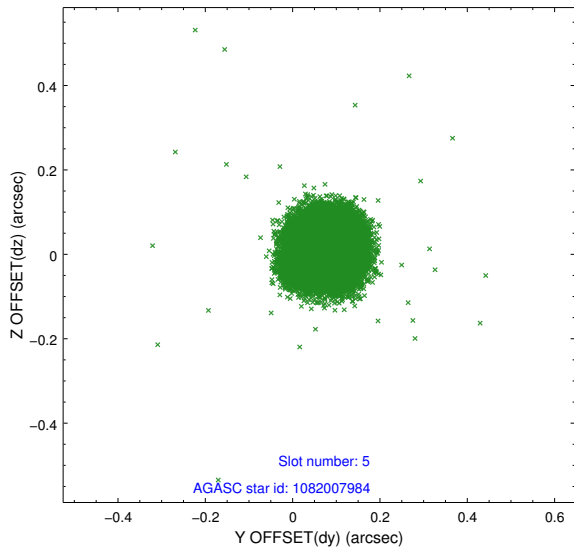
2.4.1 Slot 3



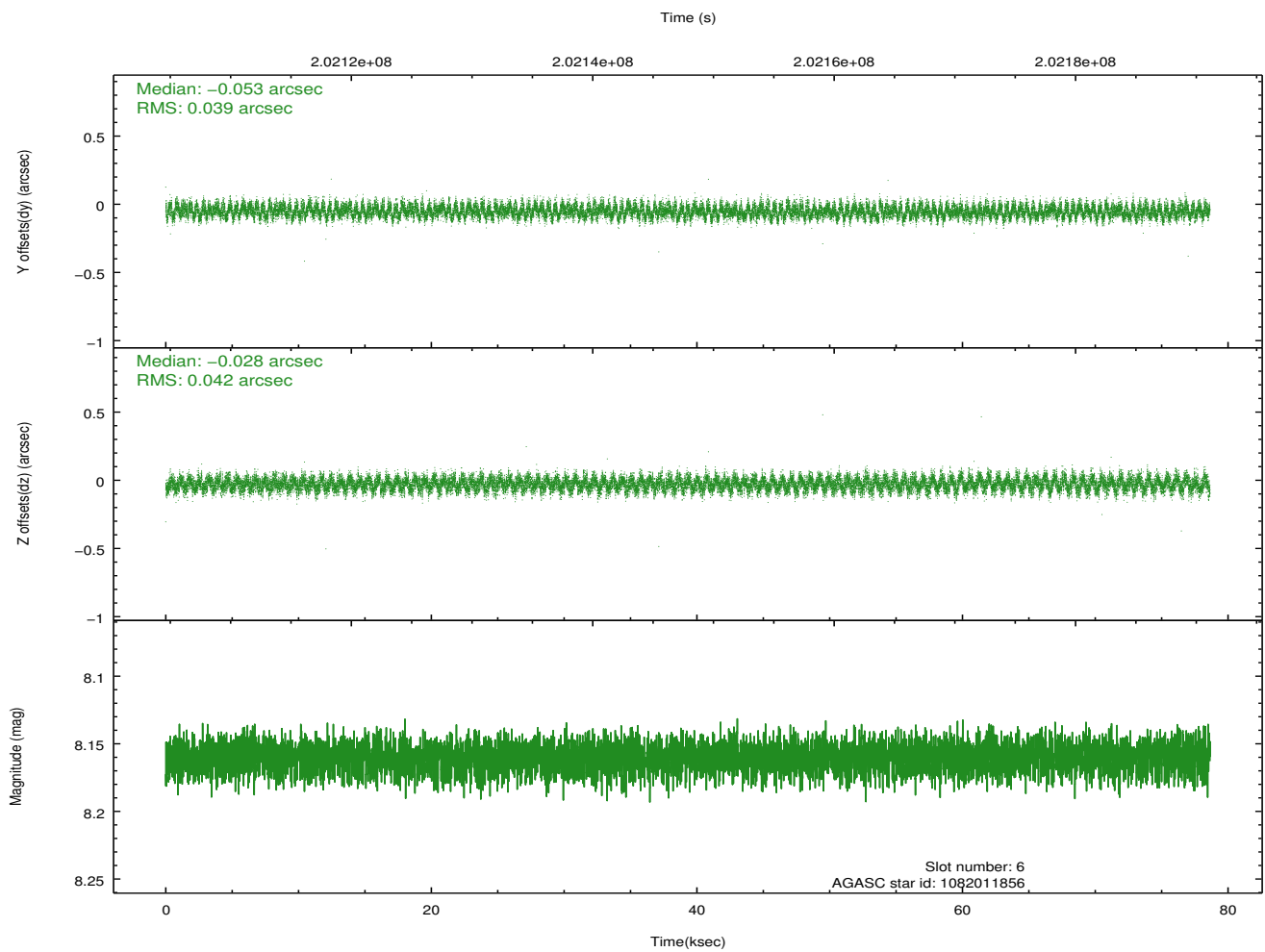
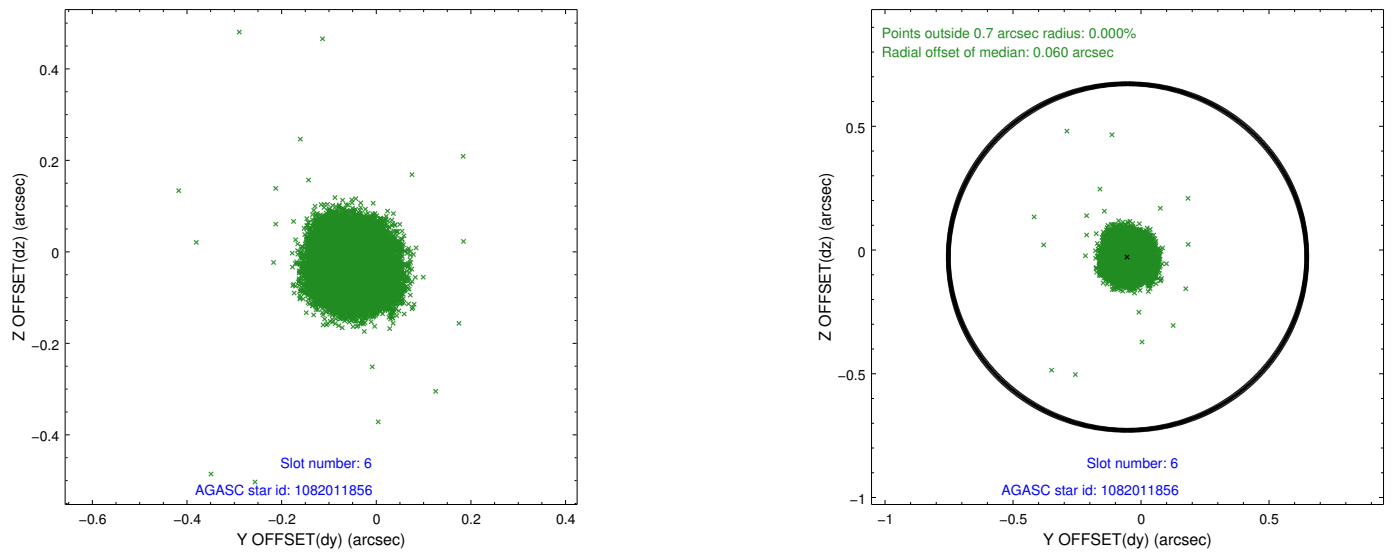
2.4.2 Slot 4



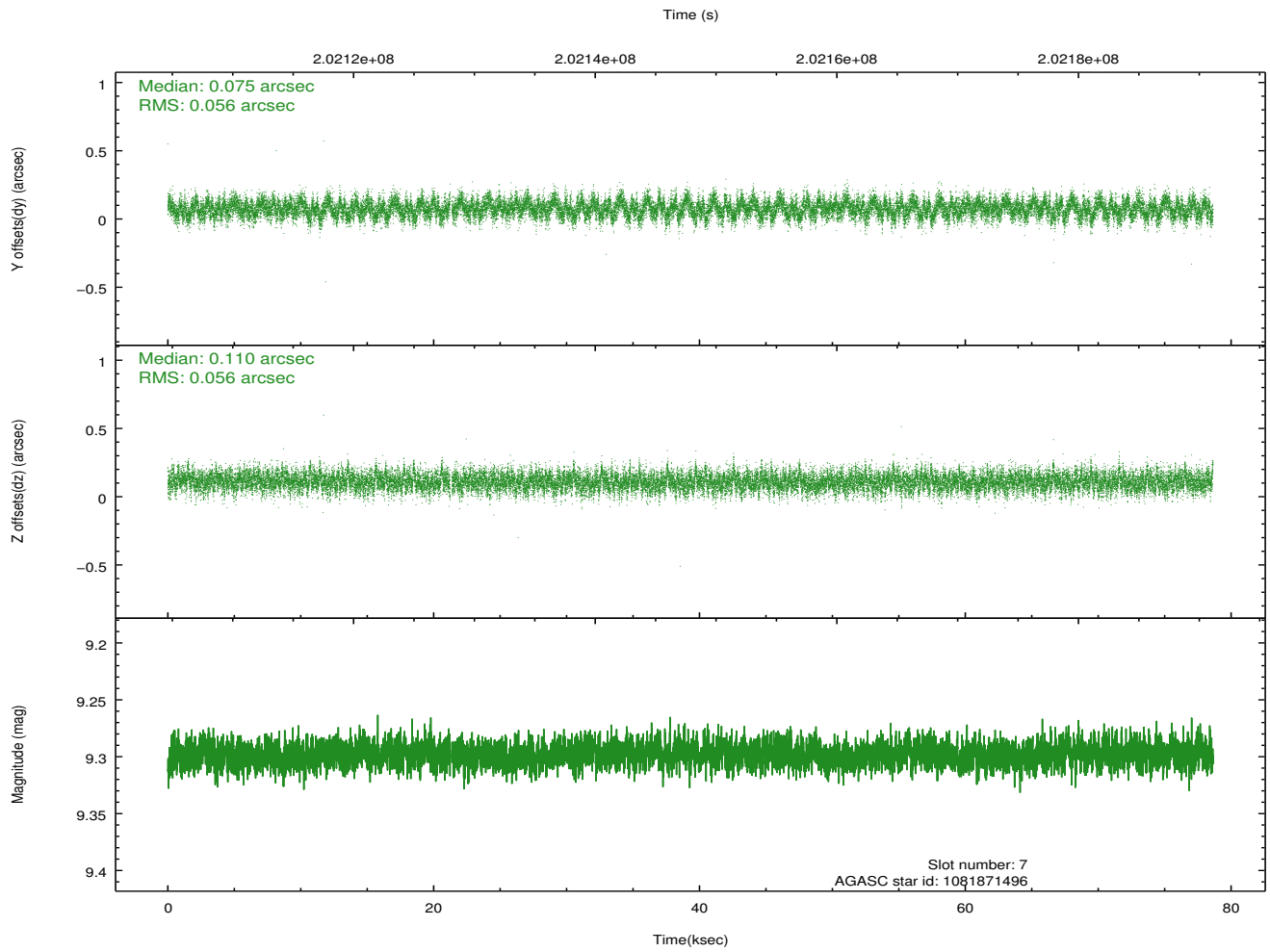
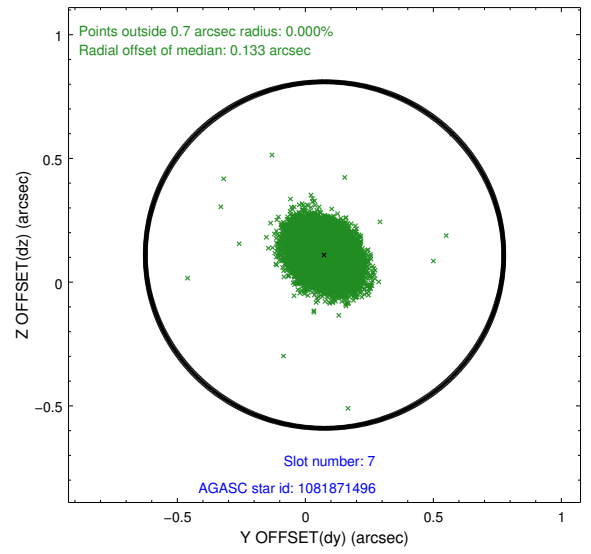
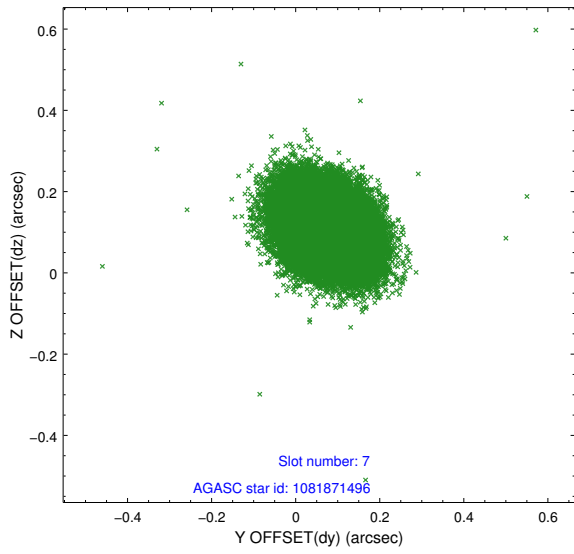
2.4.3 Slot 5



2.4.4 Slot 6

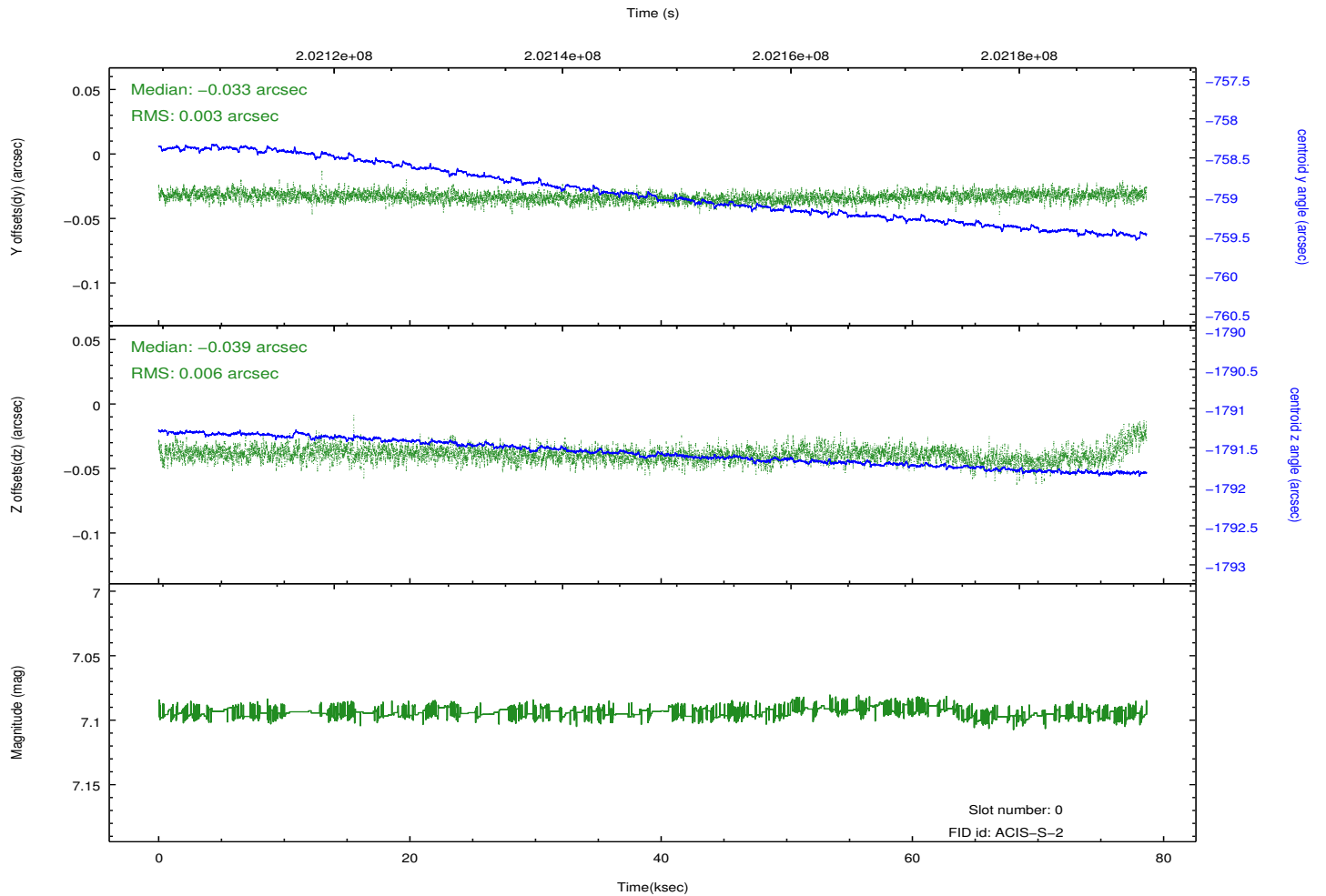
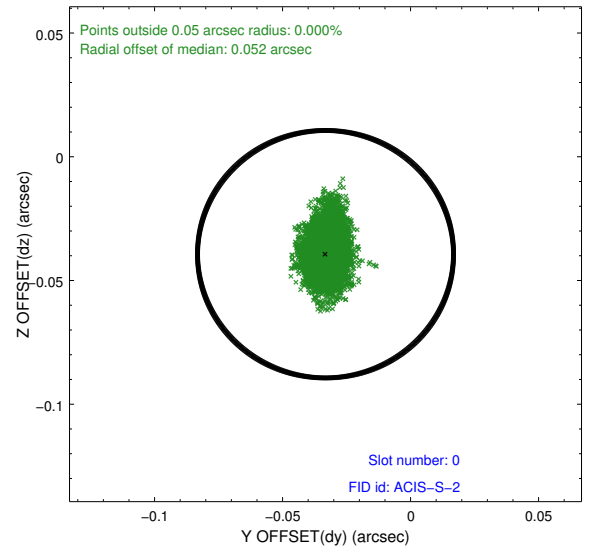
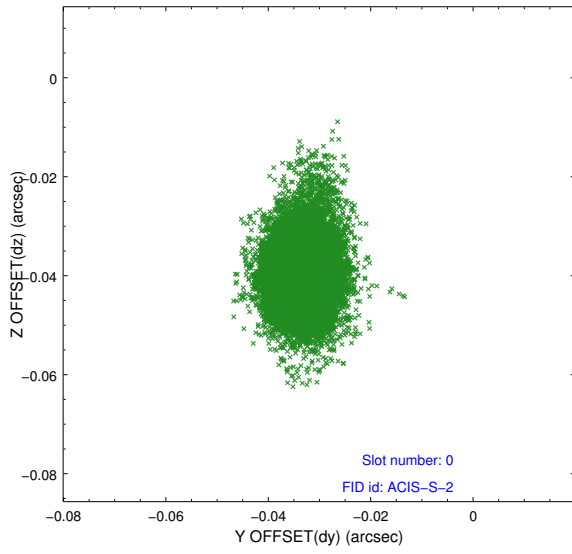


2.4.5 Slot 7

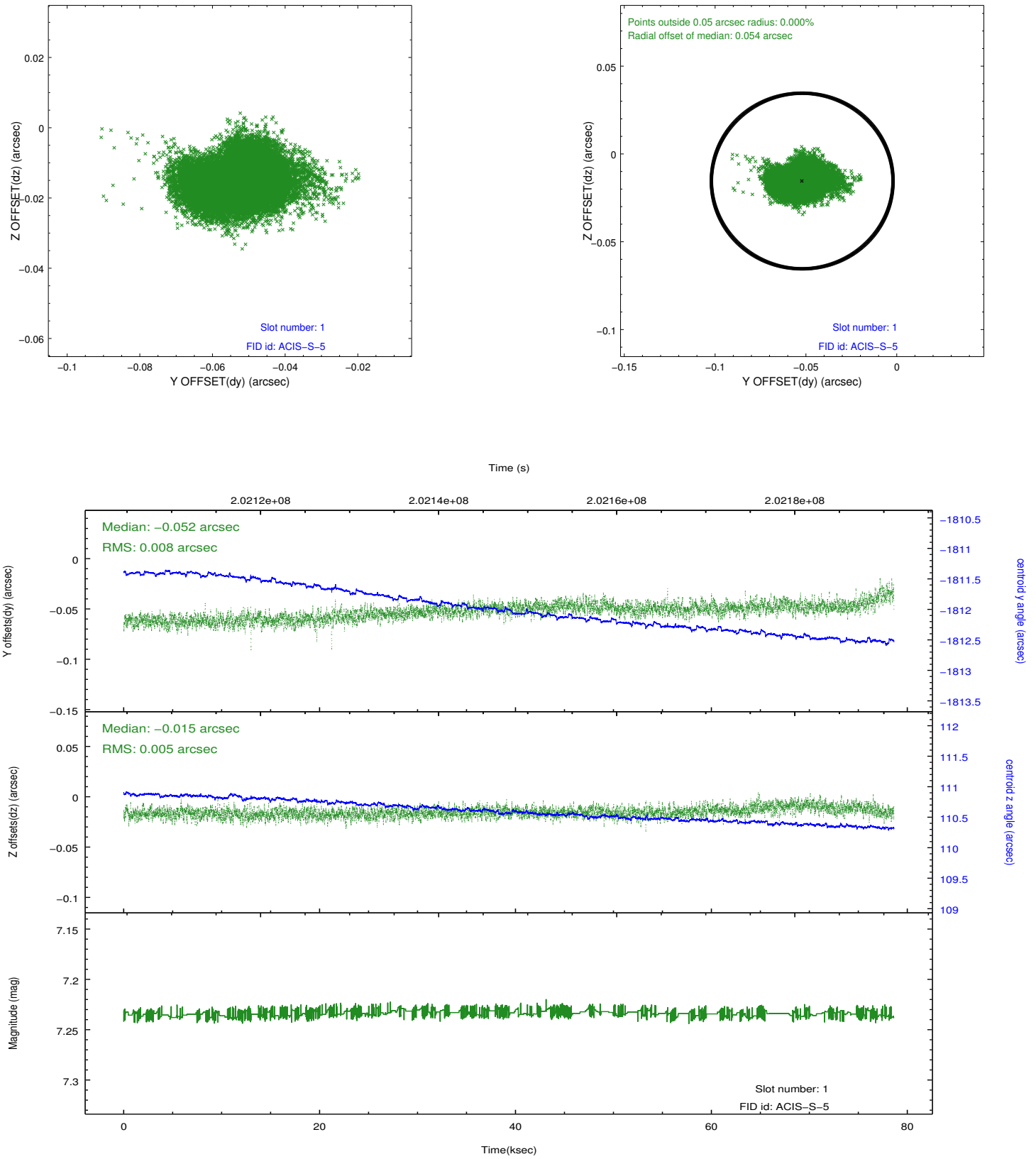


2.5 FID Slots

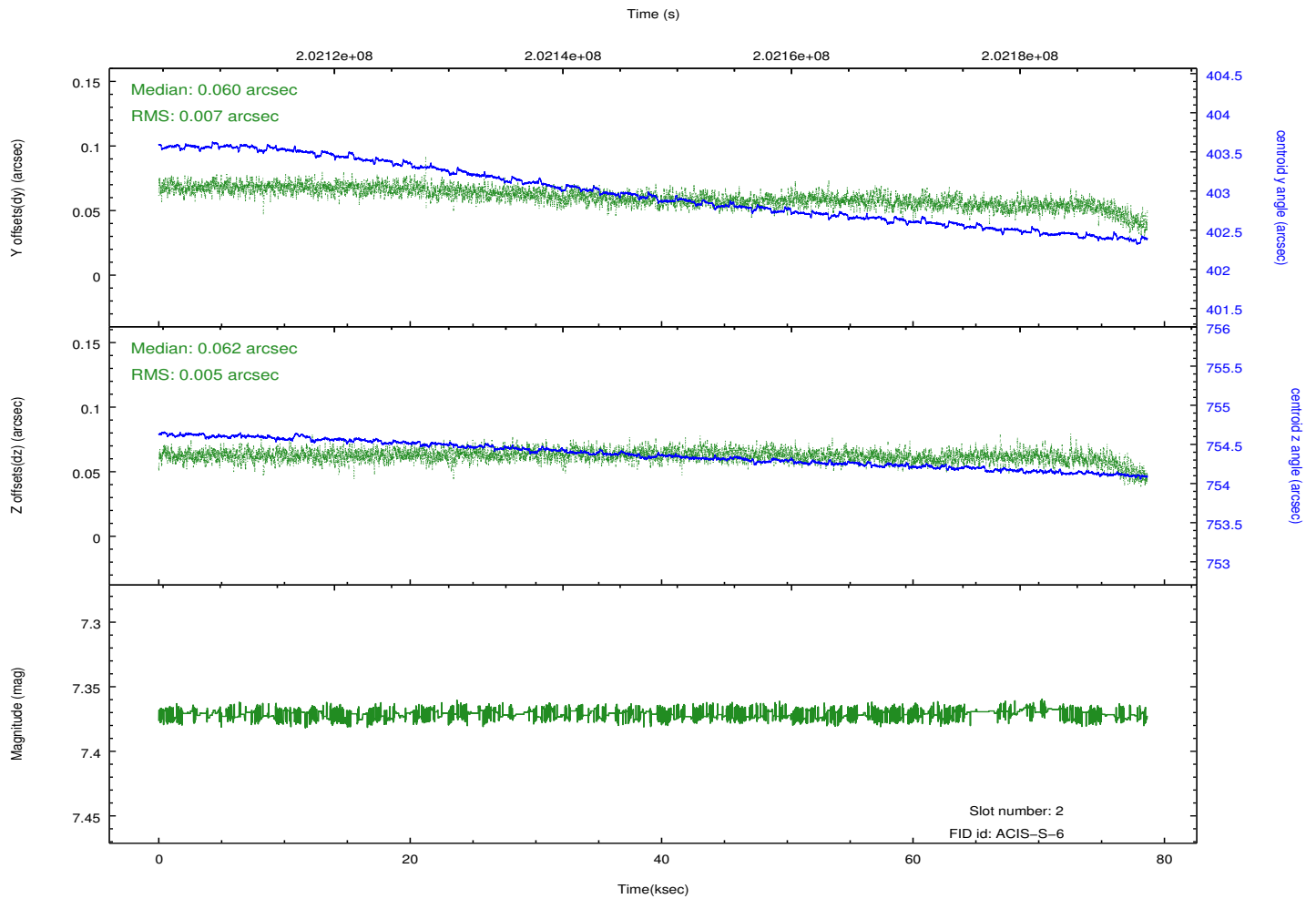
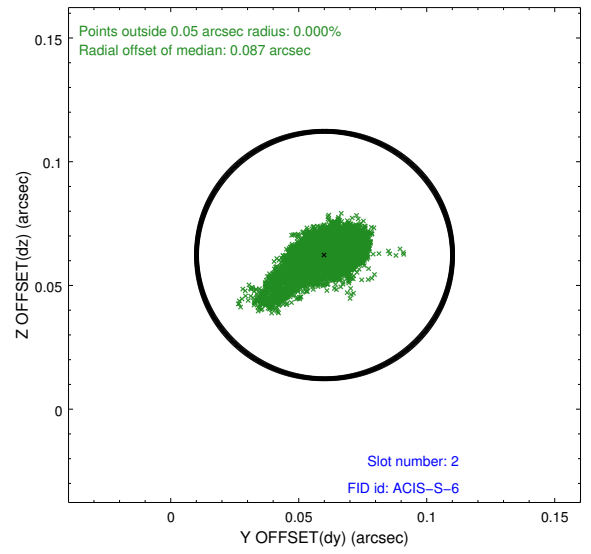
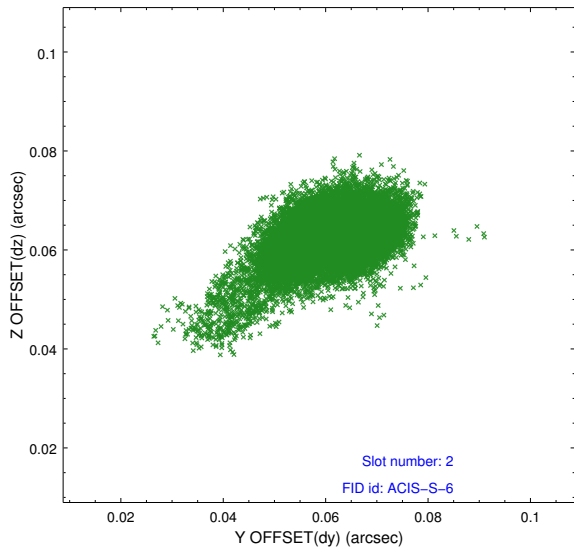
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

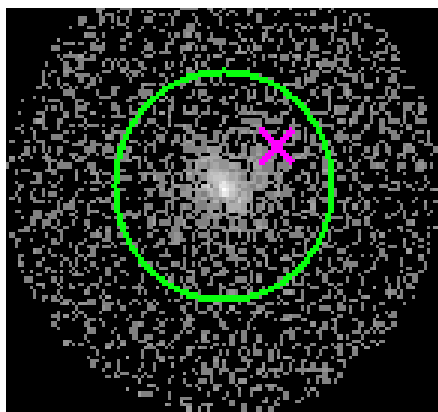


3 Gratings

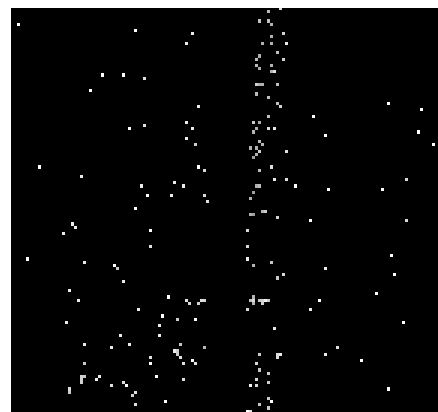
3.1 HEG Arm



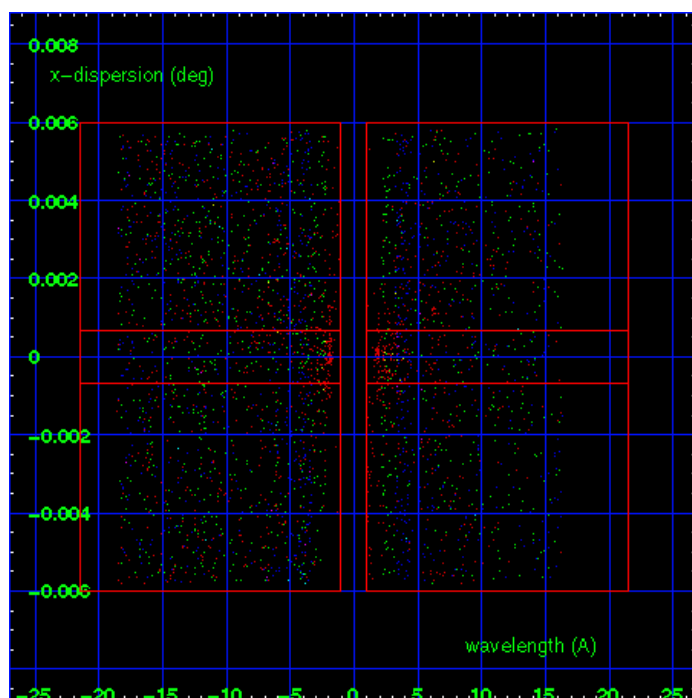
HEG Order Sort 123



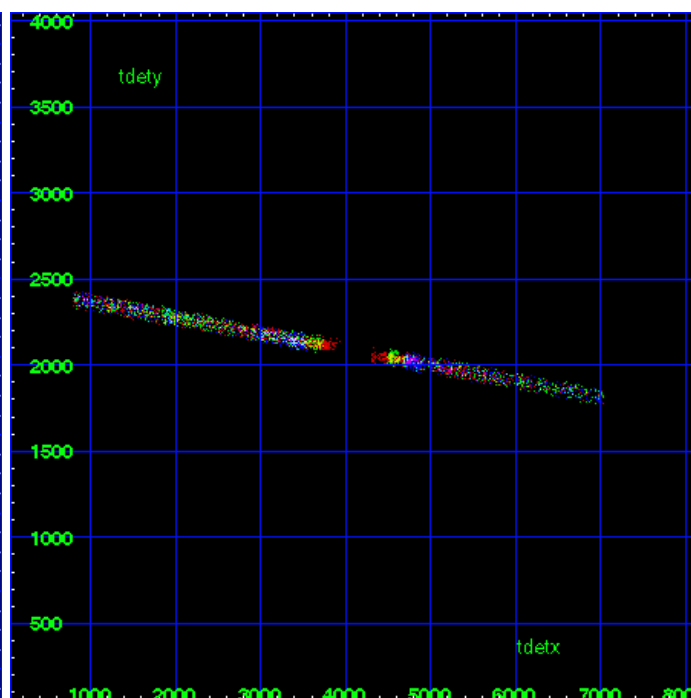
HEG Zero Order



HEG Order Sort ALL

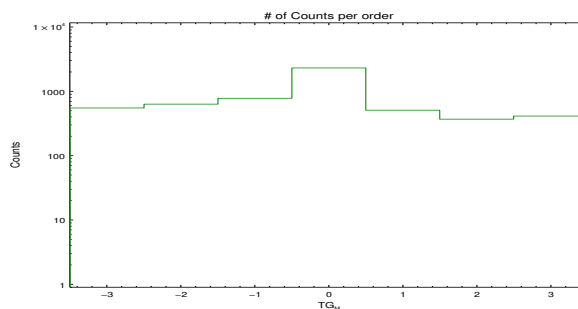


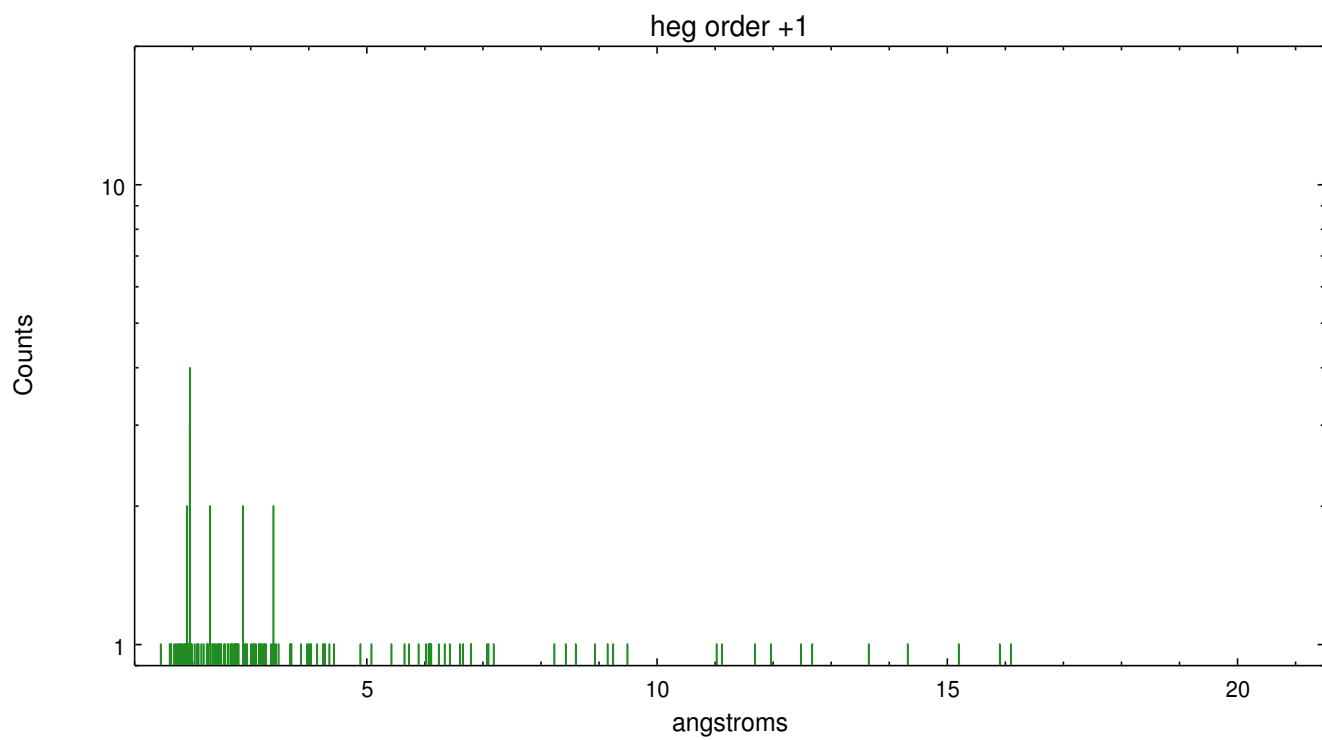
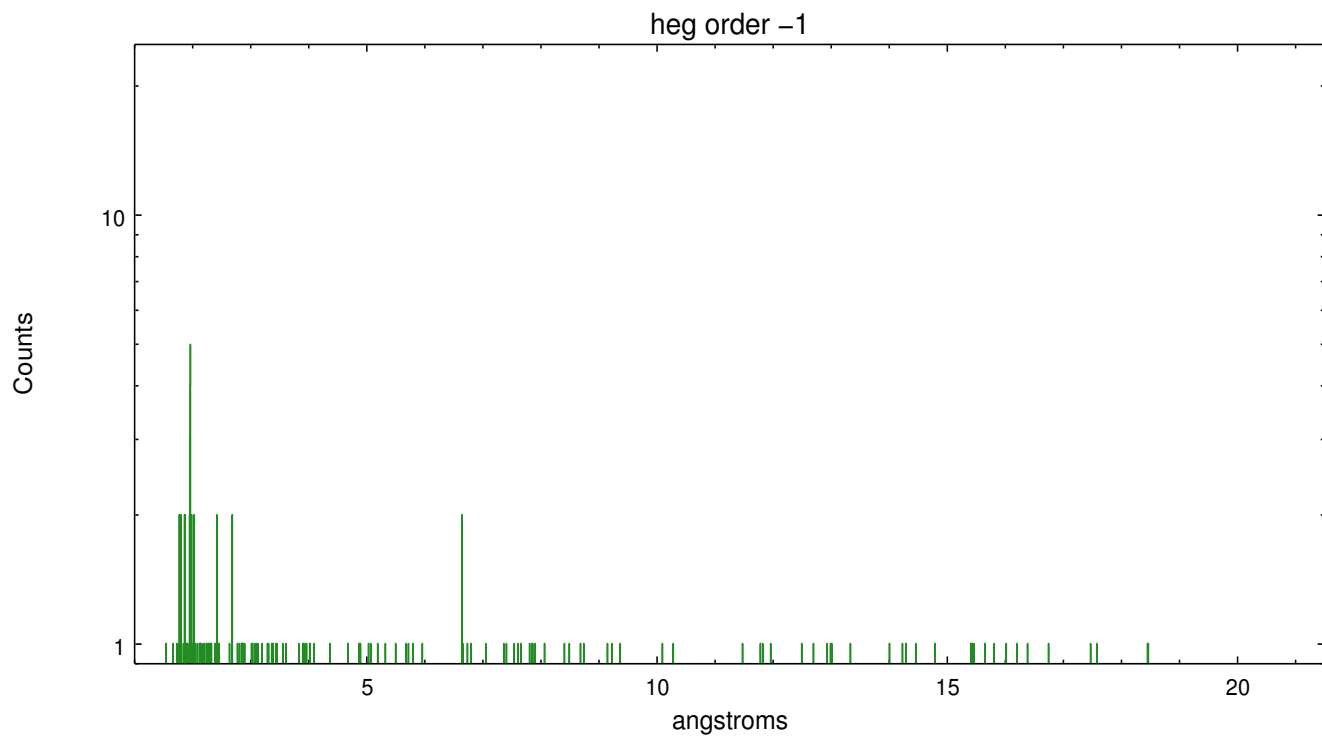
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	553	634	782	2323	510	370	414

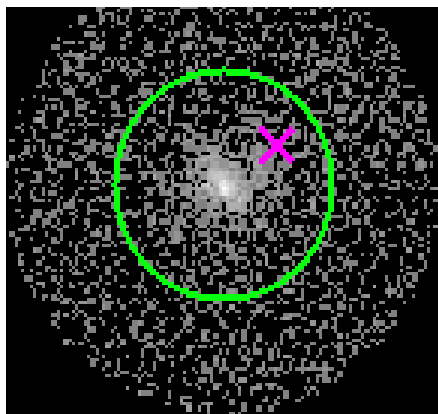




3.2 MEG Arm



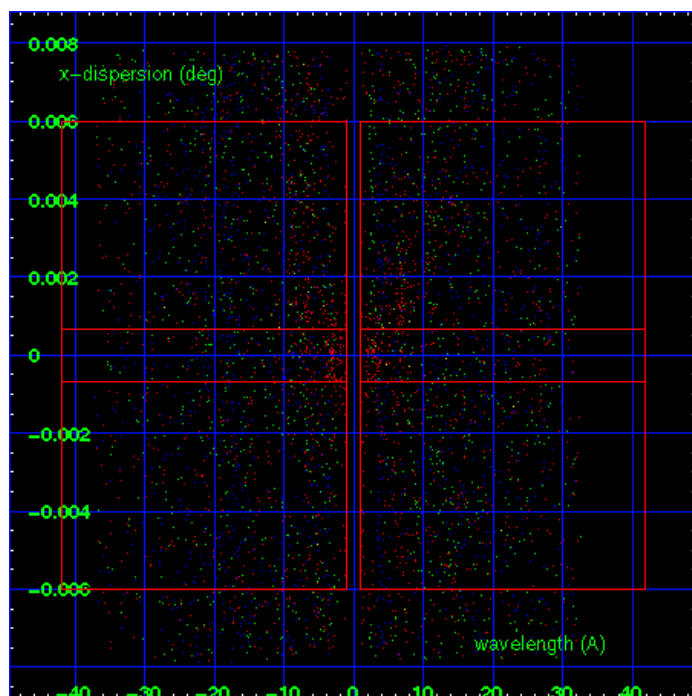
MEG Order Sort 123



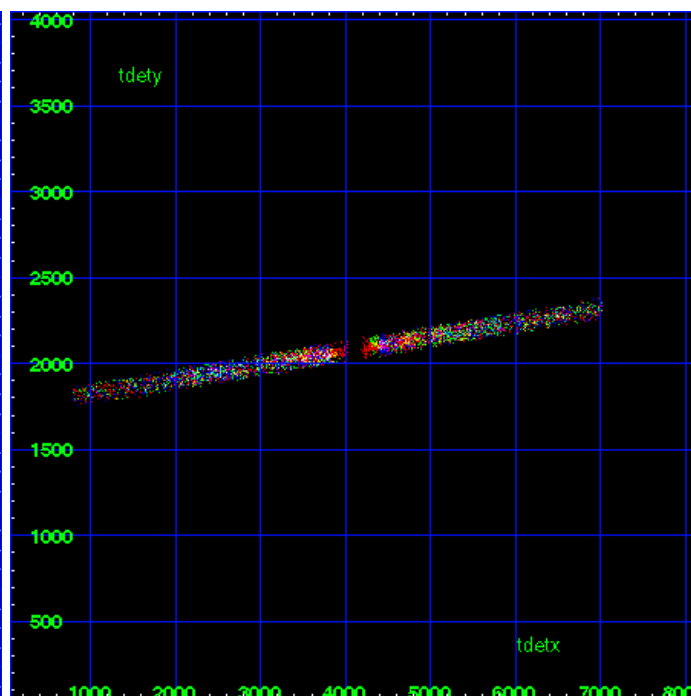
MEG Zero Order



MEG Order Sort ALL

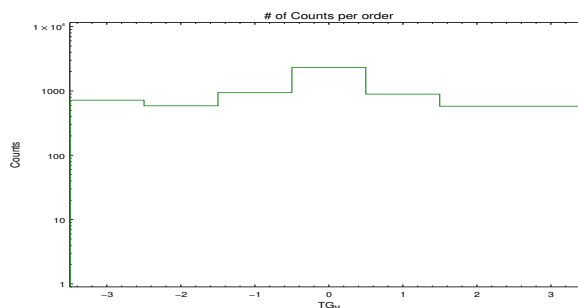


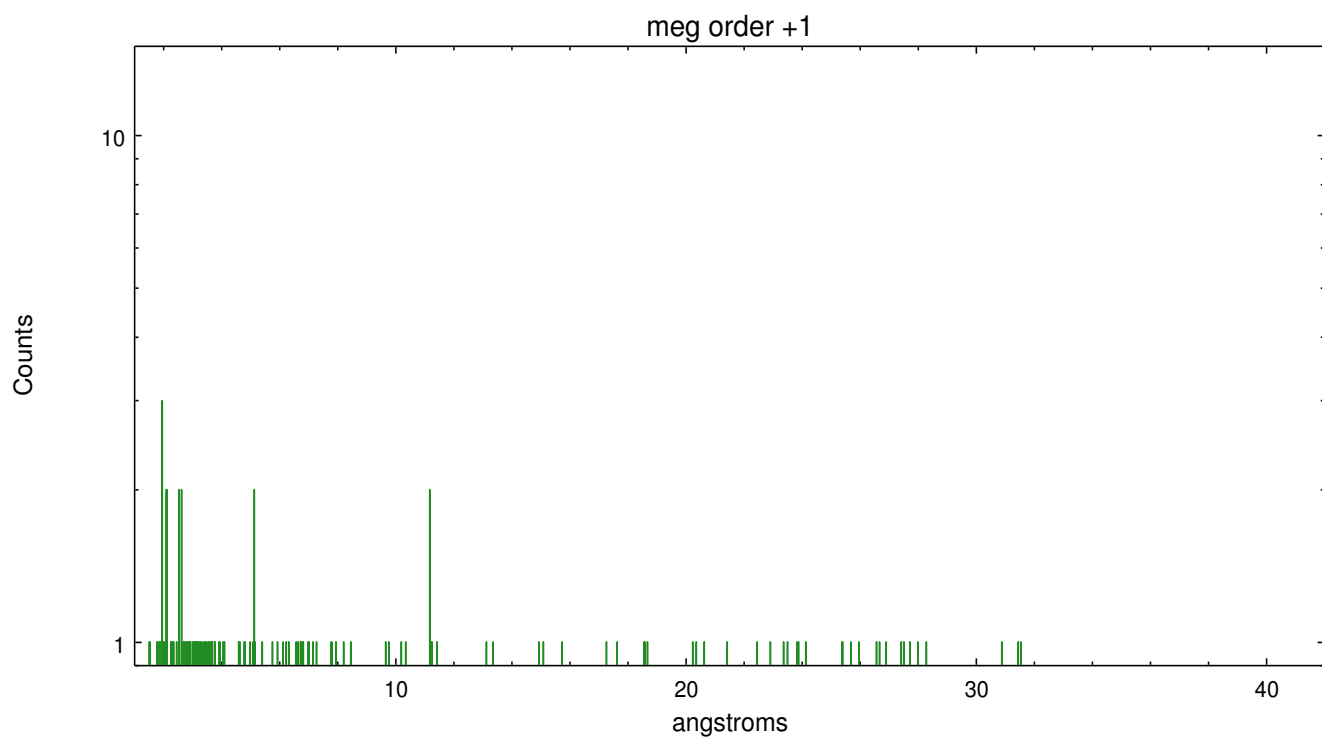
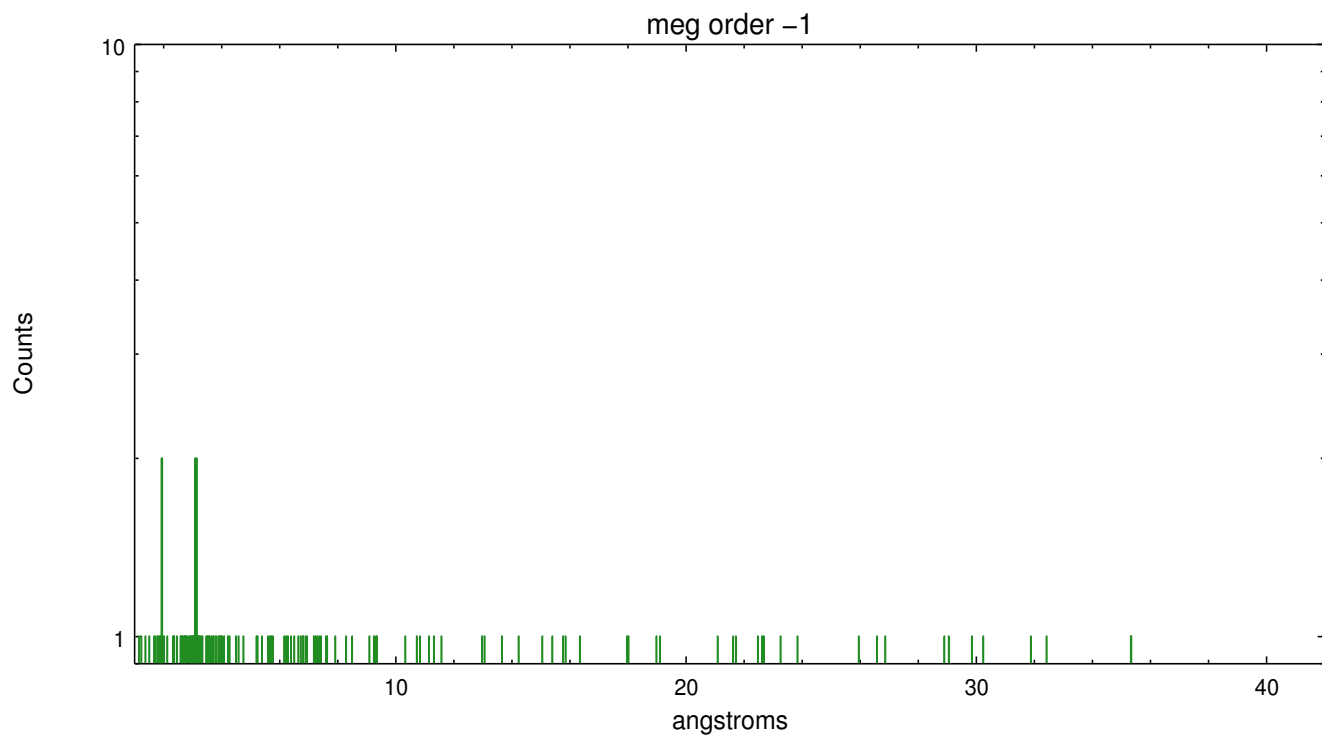
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	722	590	945	2323	896	581	581





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	78.64

A.2 Comments

Standard software processing technique using the tool `tgdetect` failed to determine an accurate position for the zeroth order for this observation. The source is extended. Zeroth order position used for spectral extraction was chosen to be the same position as used in `TGCat` for this observation. This position is centered on the brightest X-ray emission of the source. The position used has sky coordinates $x=4082.0436$, $y=4086.2344$. This position was entered manually into the processing pipeline.