

V&V Reference Report

L2 ASCDS Version : 10.2.4

Observation 16530 - L2 Version 1
Chandra X-Ray Center

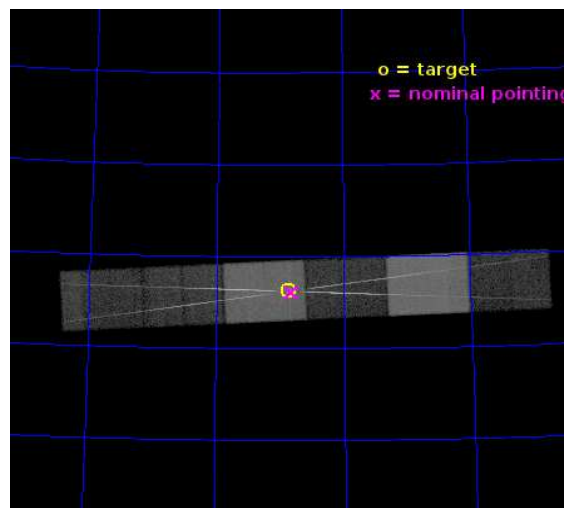
L2 Processing Date : Jul 13 2014

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1 Front

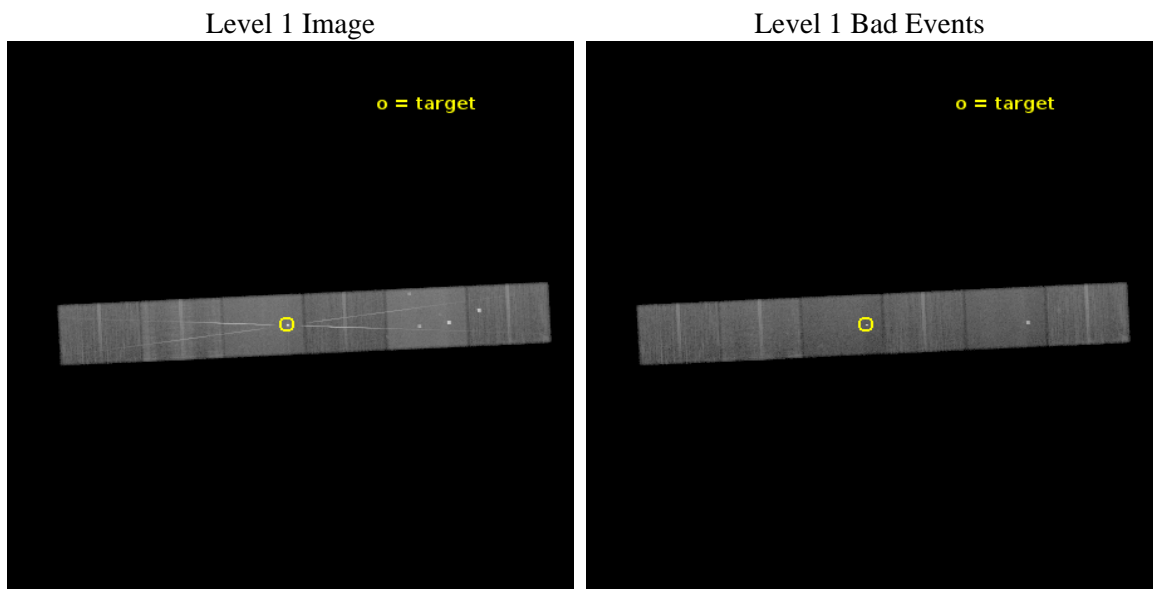
seq_num	703008	Sequence number
obs_id	16530	Observation id
title	Unifying X-ray winds in radio galaxies with Chandra HETG	Proposal
observer	Dr. Francesco Tombesi	Principal investigator
object	3C 390.3	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	280.5375	Observer's specified target RA [deg]
dec_targ	79.771417	Observer's specified target Dec [deg]
ra_nom	280.51301360485	Nominal RA [deg]
dec_nom	79.769040123233	Nominal Dec [deg]
roll_nom	177.18072552666	Nominal Roll [deg]
revision	1	Processing version of data
ontime	50033.995550752	Sum of GTIs [s]
livetime	49225.903125051	Livetime [s]
ontime4	50034.036590755	Sum of GTIs [s]
ontime5	50033.954510748	Sum of GTIs [s]
ontime6	50033.913470745	Sum of GTIs [s]
ontime7	50033.995550752	Sum of GTIs [s]
ontime8	50033.872430742	Sum of GTIs [s]
ontime9	50033.831390738	Sum of GTIs [s]
l2events	418153	Number of level 2 events



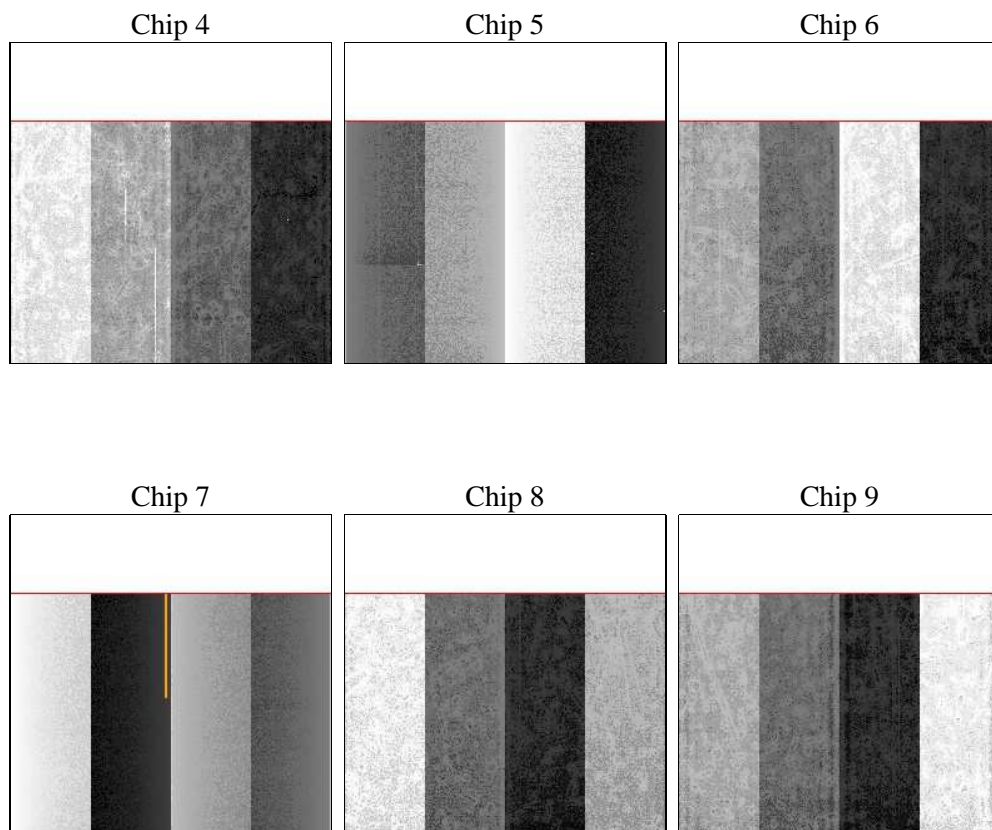
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	50000.000000	[s] Scheduled observation exposure time
ascdsver	10.2.4	Processing system revision	ontime	50033.995550752	Sum of GTIs [s]
caldsver	4.6.2	 	ontime4	50034.036590755	Sum of GTIs [s]
date	2014-07-13T09:22:18	Date and time of file creation	ontime5	50033.954510748	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	50033.913470745	Sum of GTIs [s]
			ontime7	50033.995550752	Sum of GTIs [s]
			ontime8	50033.872430742	Sum of GTIs [s]
			ontime9	50033.831390738	Sum of GTIs [s]
			l1events	1503188	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4064.16, 4114.57)	Grade 0 sky pixel position

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	222694	326469	213596	298961	257095	184373	grade 0 events	23436	19765	29997	18337	29554	10173
rejected events	183978	160206	162064	147358	177359	158553		10%	6%	14%	6%	11%	5%
rejected %	82%	49%	75%	49%	68%	85%	grade 1 events	201	459	151	733	214	108
								0%	0%	0%	0%	0%	0%
							grade 2 events	5958	55121	8522	32497	16865	5393
								2%	16%	3%	10%	6%	2%
							grade 3 events	2561	6710	3478	13949	7537	2694
								1%	2%	1%	4%	2%	1%
							grade 4 events	2449	6409	3528	13985	7124	2466
								1%	1%	1%	4%	2%	1%
							grade 5 events	9289	24795	9372	28360	13554	10400
								4%	7%	4%	9%	5%	5%
							grade 6 events	4314	78271	6010	72847	18663	5099
								1%	23%	2%	24%	7%	2%
							grade 7 events	174486	134939	152538	118253	163584	148040
								78%	41%	71%	39%	63%	80%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	280.649765	280.5130136048464	CCD I2 on	N	N
[deg] Pointing Dec	79.781880	79.76904012323291	CCD I3 on	N	N
[deg] Pointing Roll	176.889513	177.1807255266625	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	-187.132523	-187.1254020033014	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.007120579706367	CCD S4 on	Y	Y
[s] Observation start time (MET)	521529039.184000	521527728.80982	CCD S5 on	O2	Y
Observation start date	2014-07-12T05:09:32	2014-07-12T04:48:48	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	521579039.184000	521580172.93772	On-chip summing requested	N	N
Observation end date	2014-07-12T19:02:52	2014-07-12T19:22:52	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

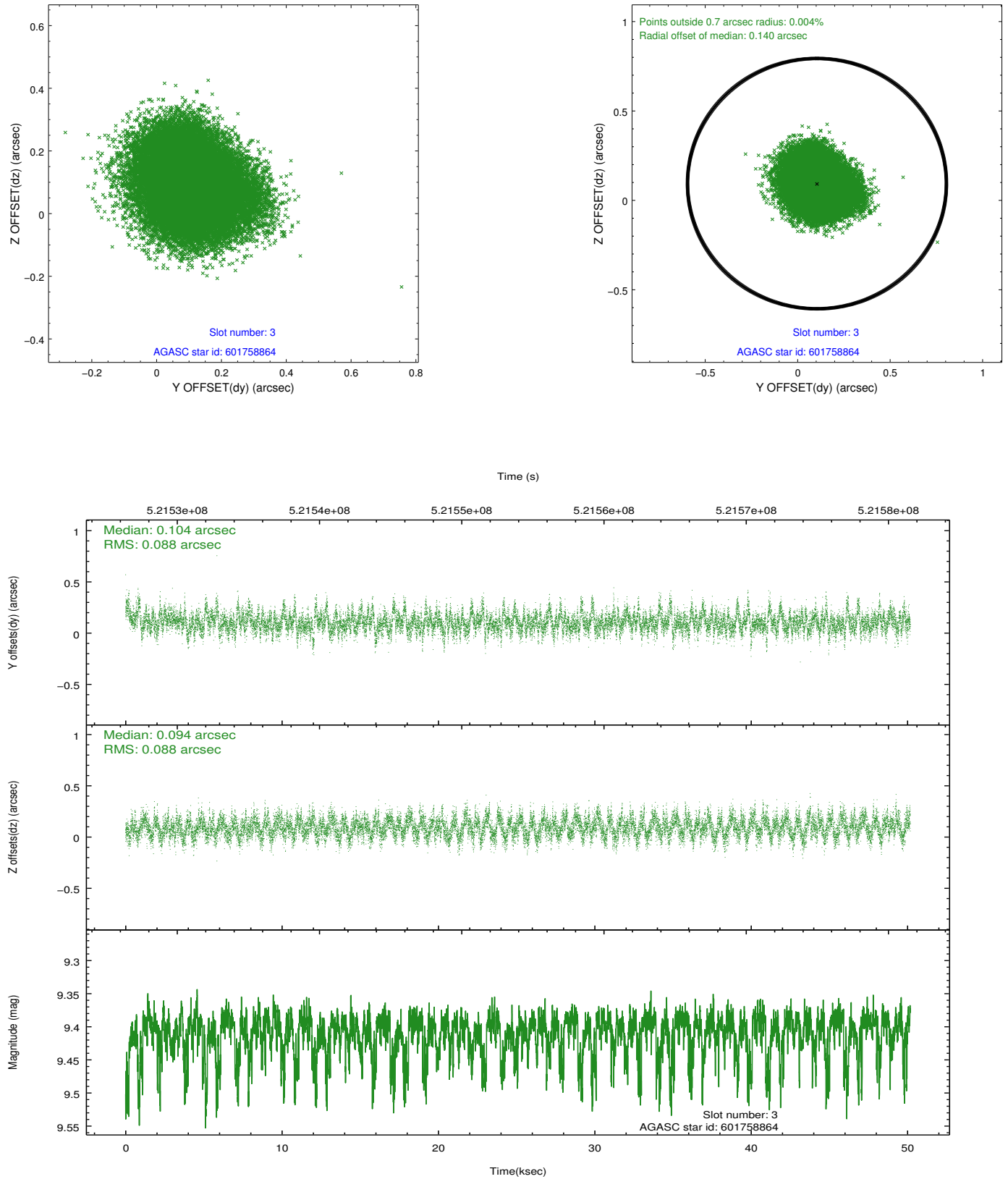
2.3 Aspect

Slot Statistics

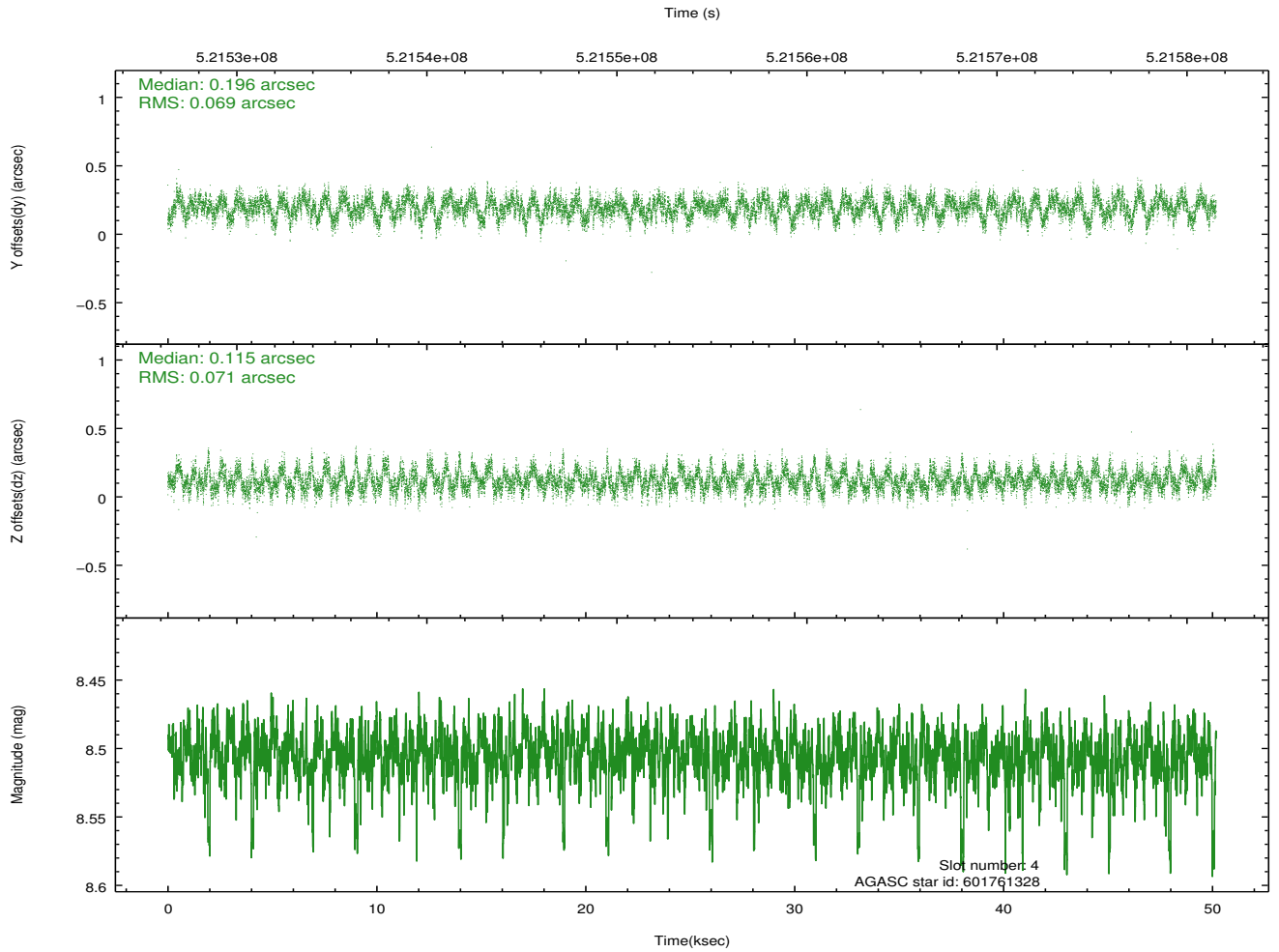
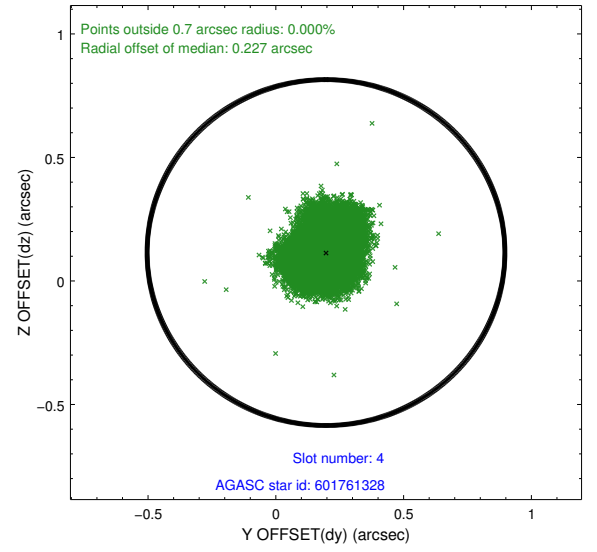
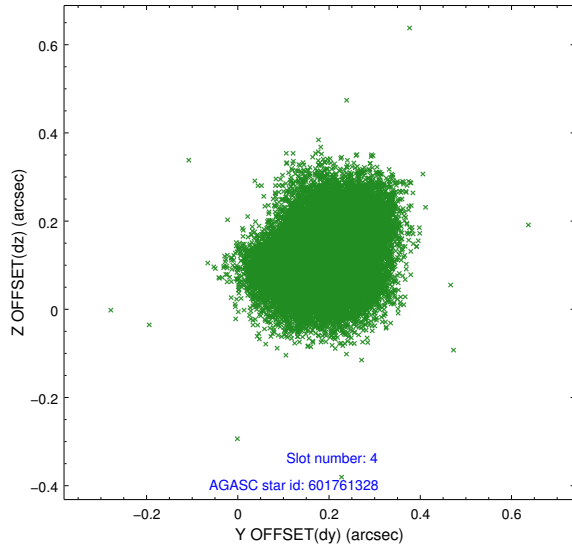
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.96	12241	-0.231	-0.016	0.009	0.014	0.000000	0.000000	-778.41	-1806.70
1	FID	ACIS-S-4	7.03	12240	0.370	0.116	0.011	0.020	0.000000	0.000000	2135.46	101.95
2	FID	ACIS-S-5	7.08	12241	-0.169	-0.092	0.012	0.018	0.000000	0.000000	-1831.23	95.35
3	GUIDE	601758864	9.41	24470	0.104	0.094	0.133	0.212	282.780403	79.812904	-1346.29	-209.91
4	GUIDE	601761328	8.50	24467	0.196	0.115	0.107	0.167	281.886981	80.160540	-684.94	-1411.49
5	GUIDE	601765424	6.74	24481	0.052	0.054	0.115	0.190	281.408829	79.942663	-444.53	-607.84
6	GUIDE	601759896	8.57	24464	-0.080	0.111	0.140	0.214	280.559343	80.320538	160.56	-1933.14
7	GUIDE	600052640	9.73	24396	-0.288	-0.386	0.143	0.243	278.415810	79.242030	1394.42	1992.96

2.4 Star Slots

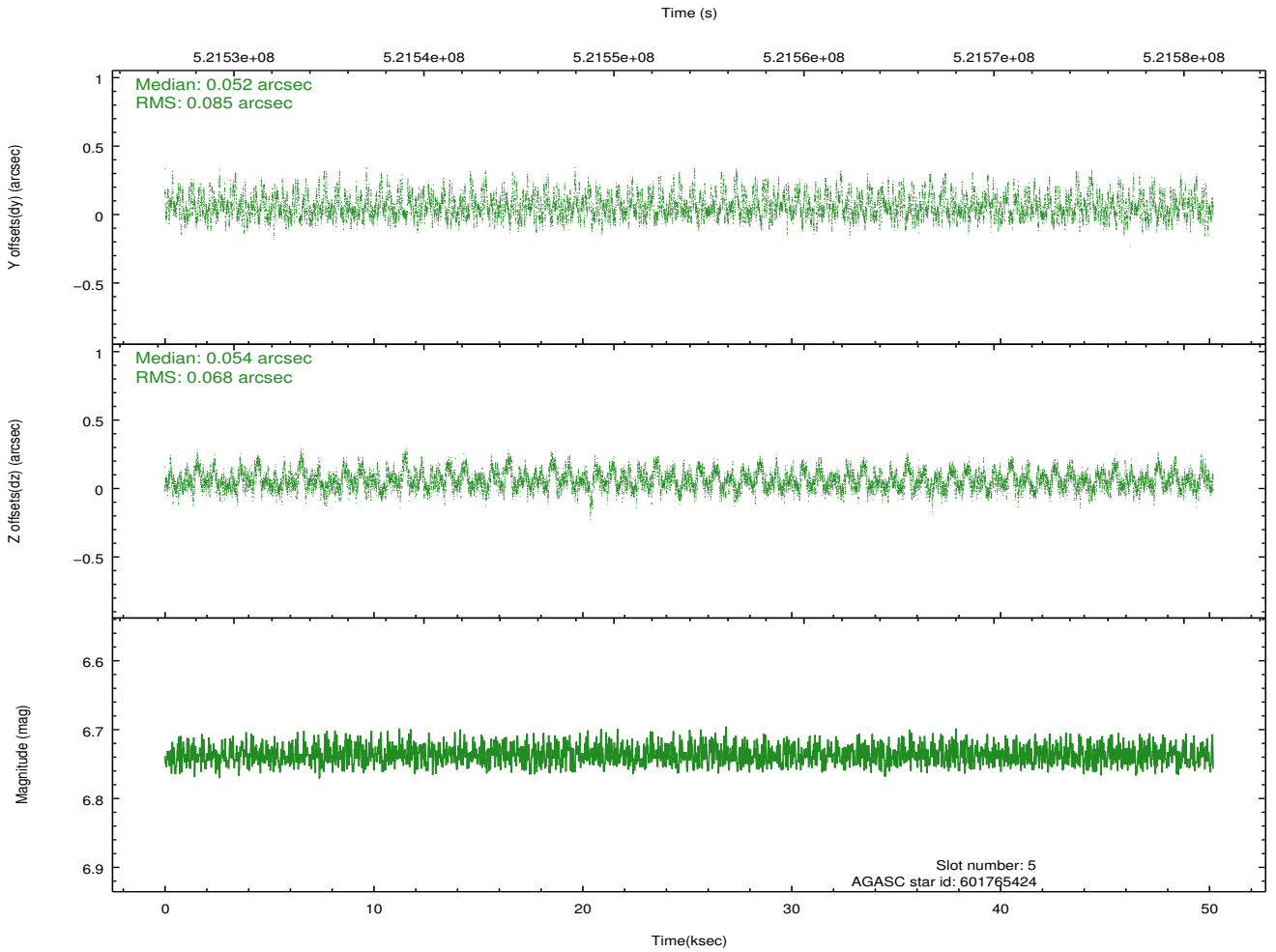
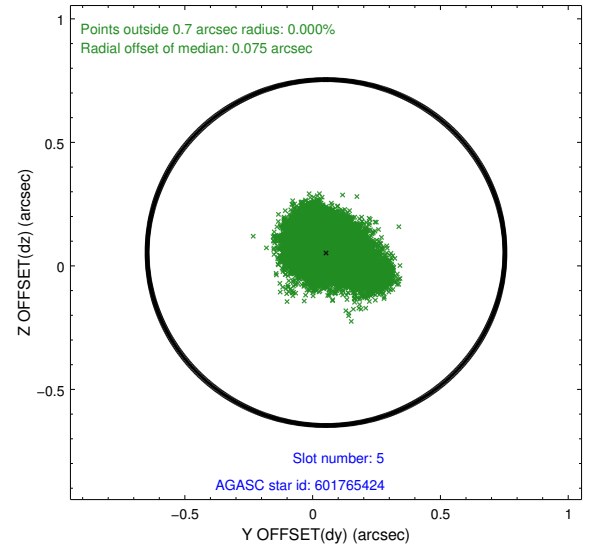
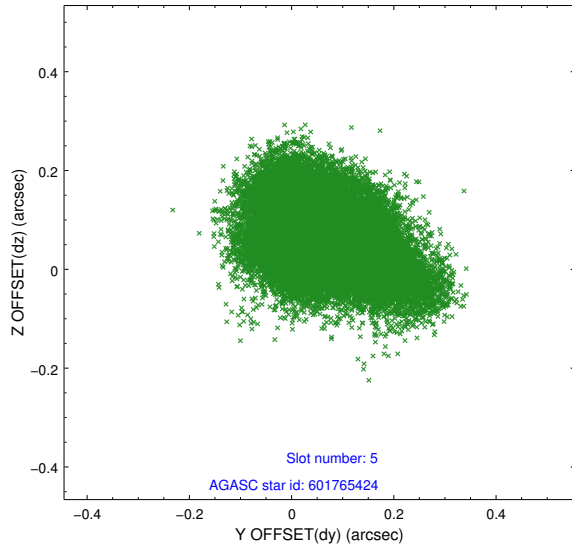
2.4.1 Slot 3



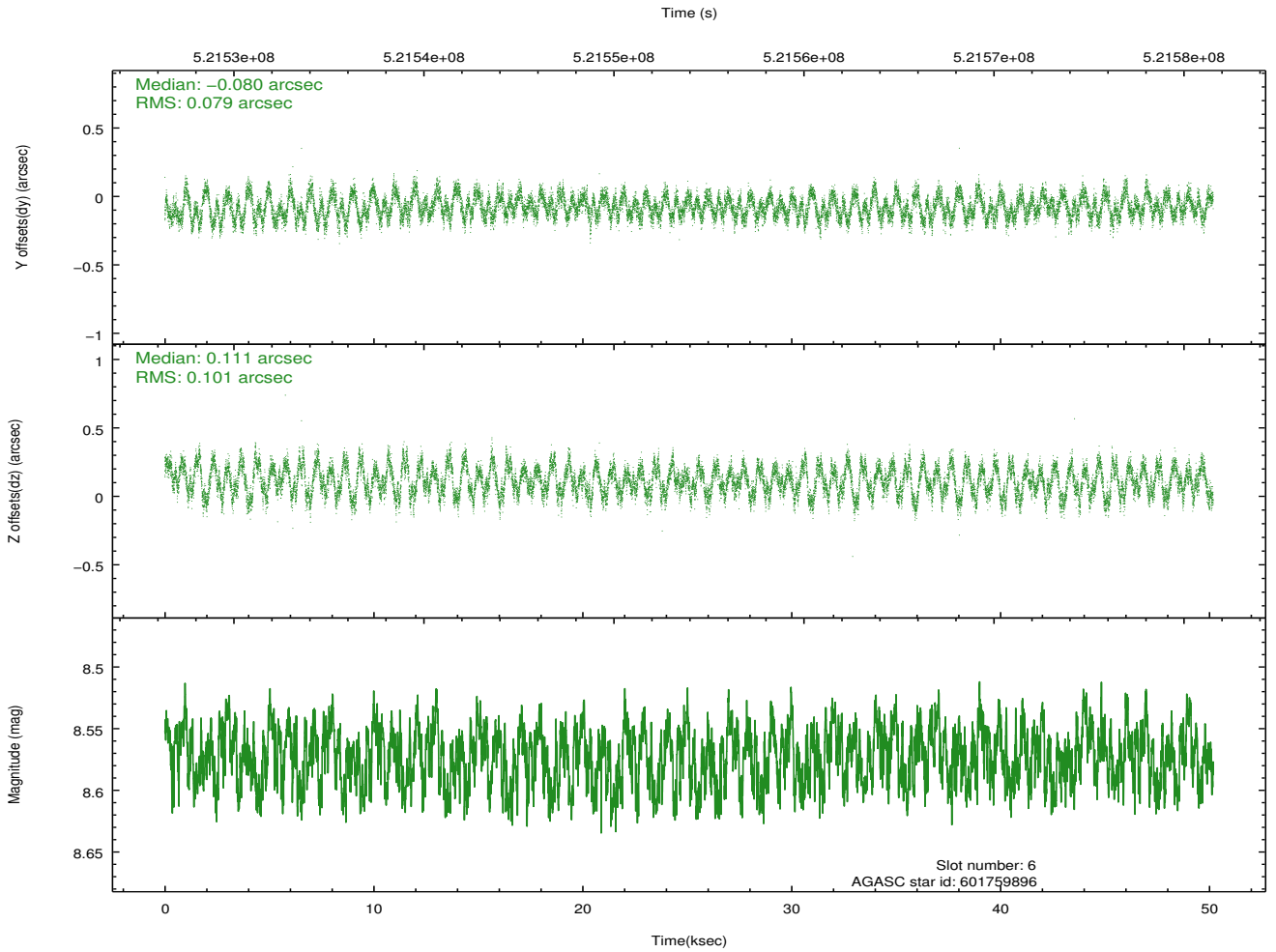
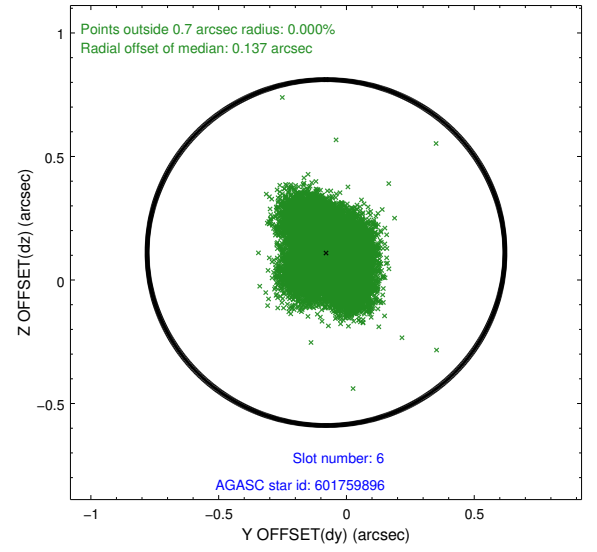
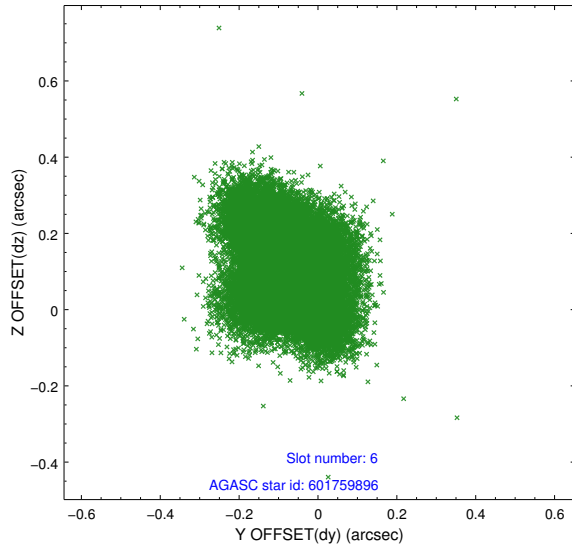
2.4.2 Slot 4



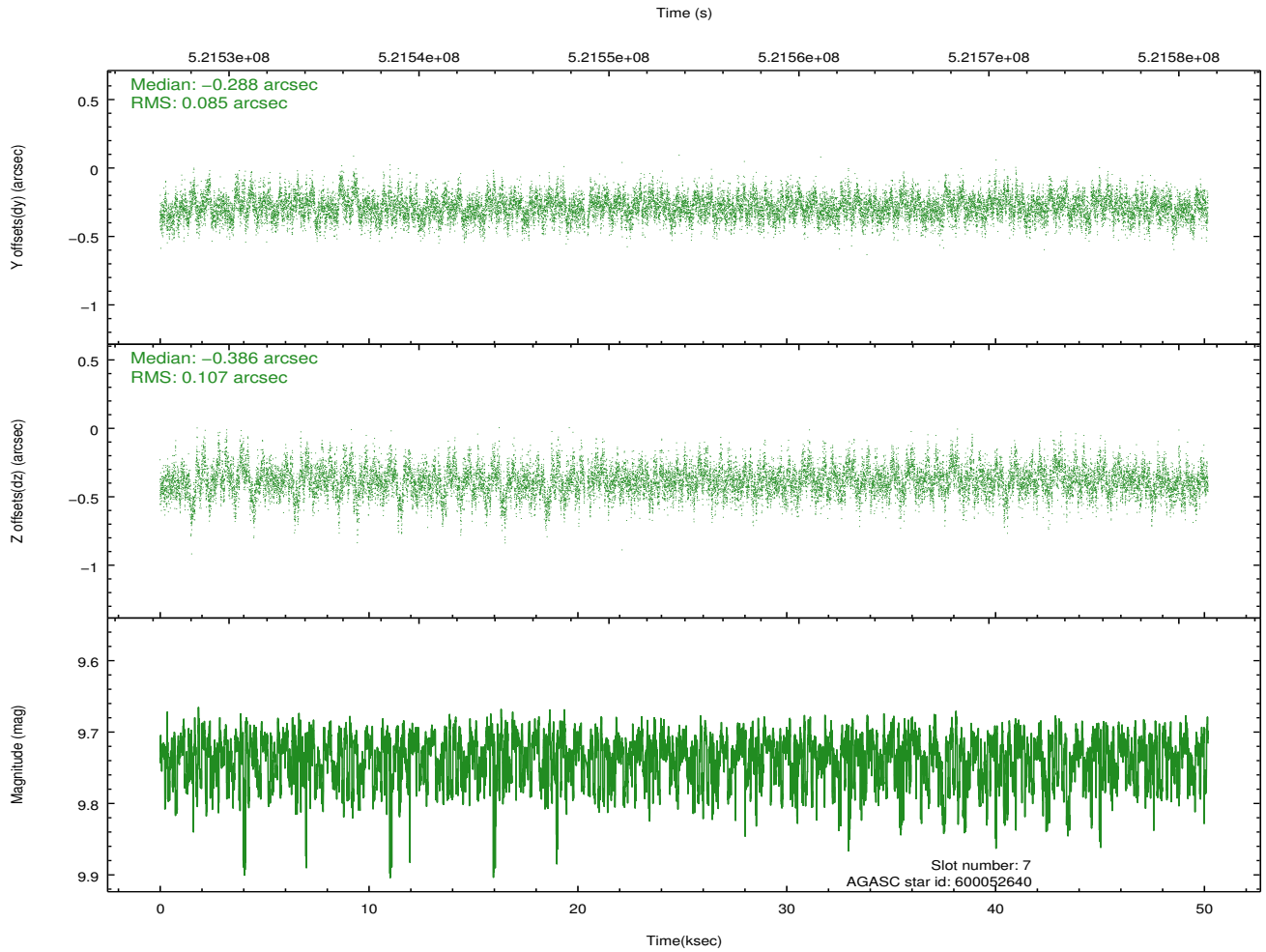
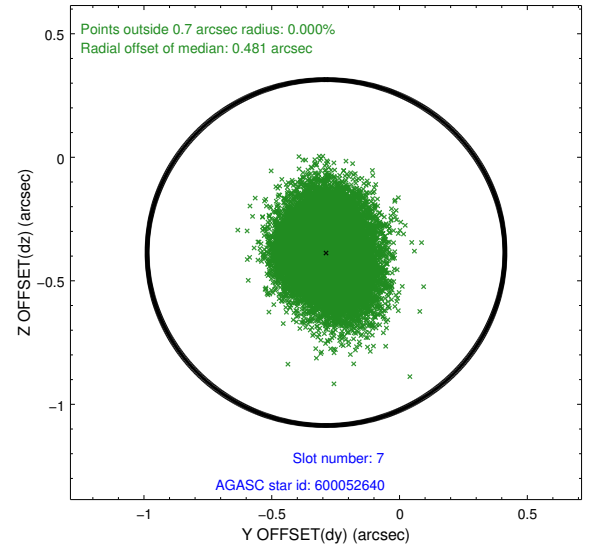
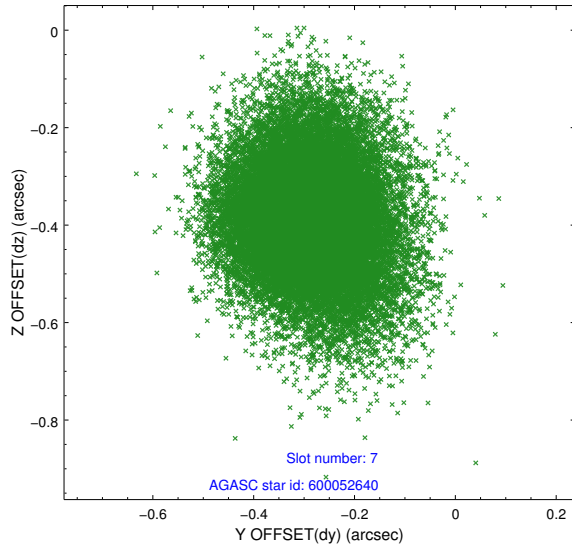
2.4.3 Slot 5



2.4.4 Slot 6

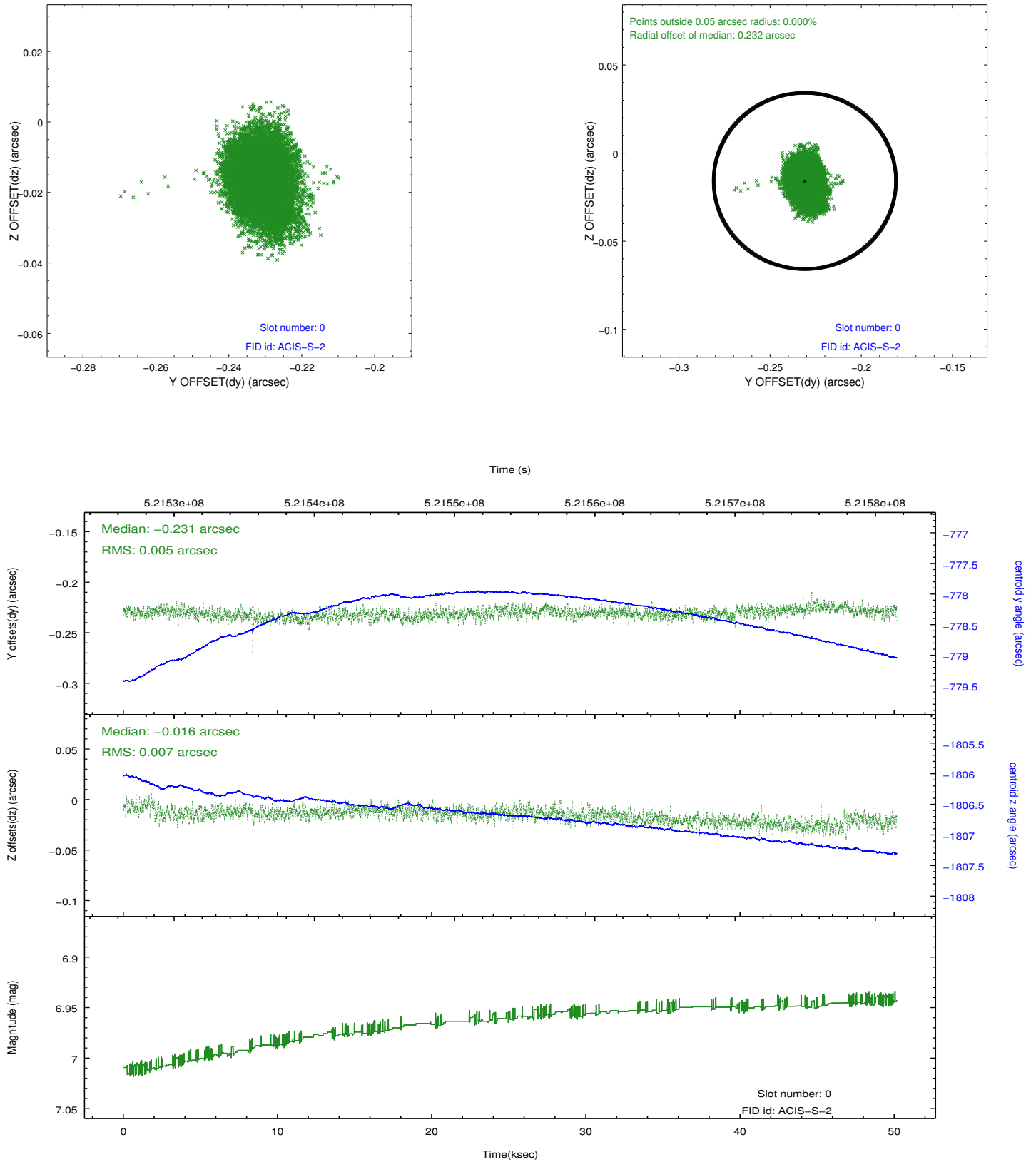


2.4.5 Slot 7

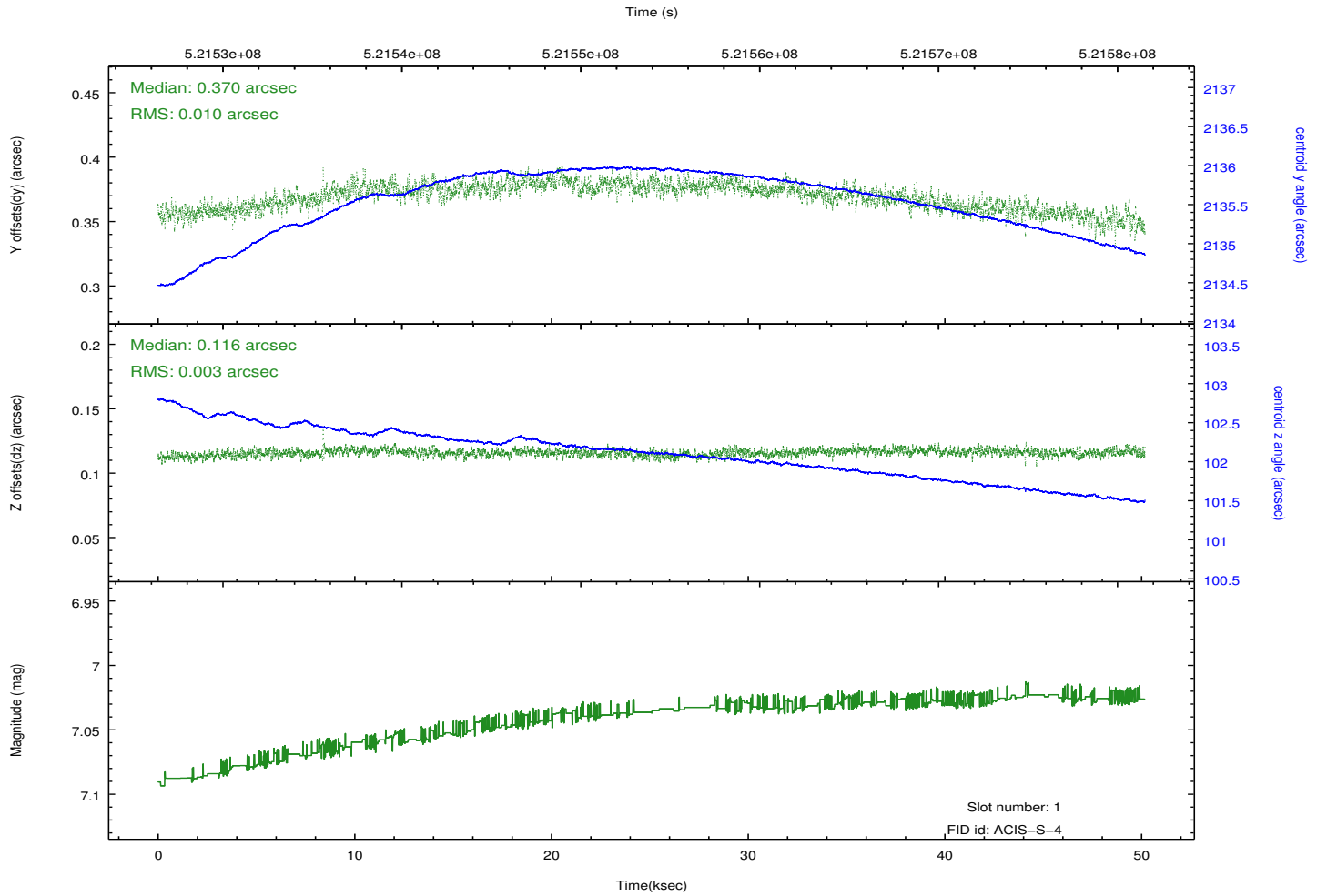
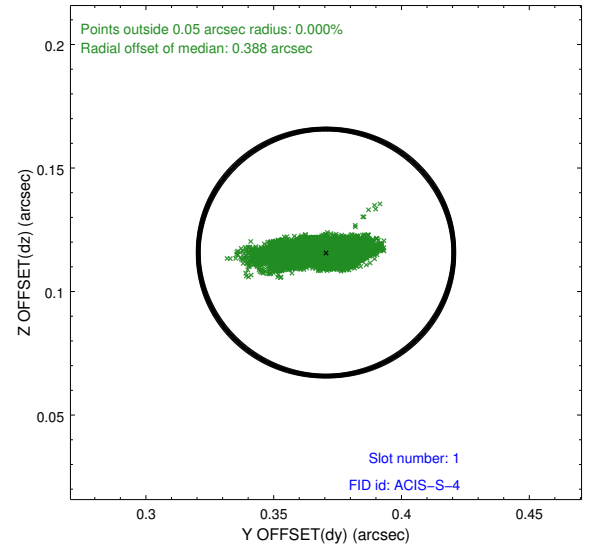
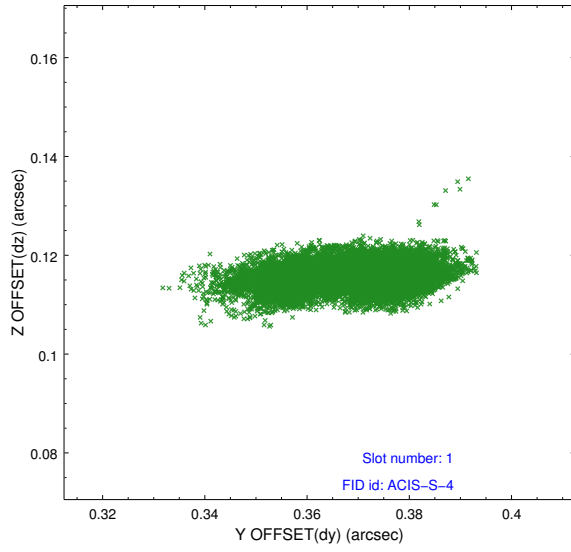


2.5 FID Slots

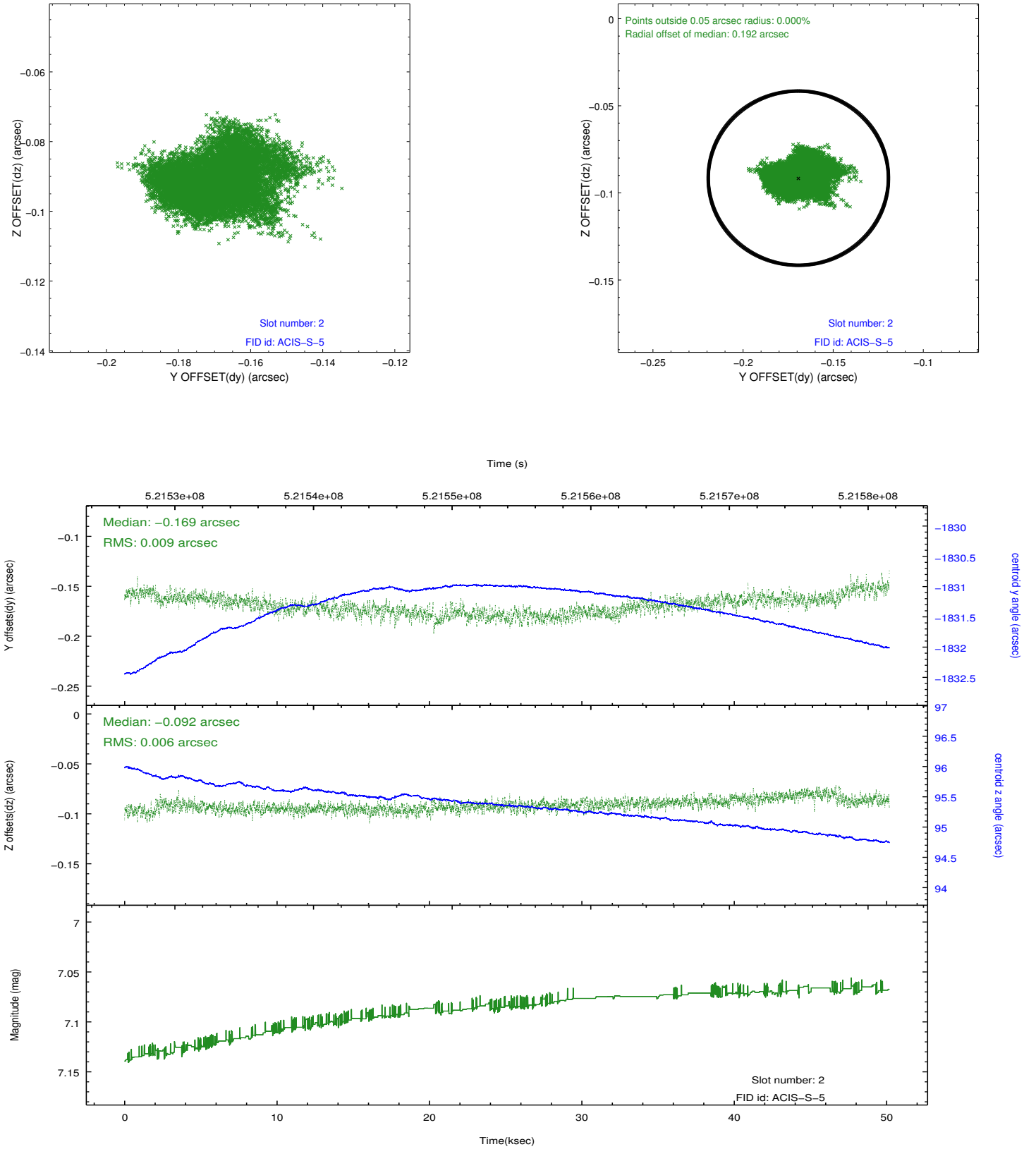
2.5.1 Slot 0



2.5.2 Slot 1

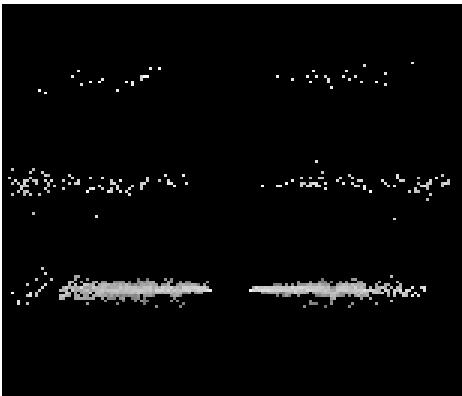


2.5.3 Slot 2

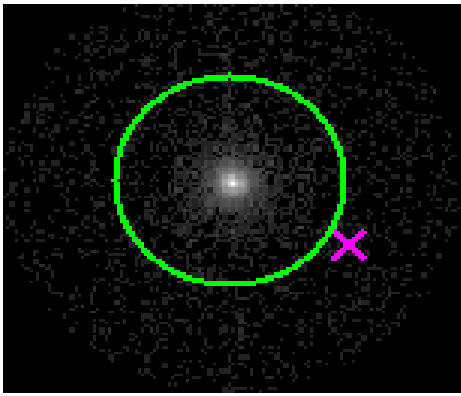


3 Gratings

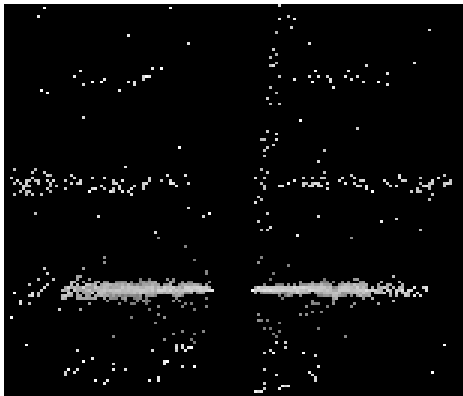
3.1 HEG Arm



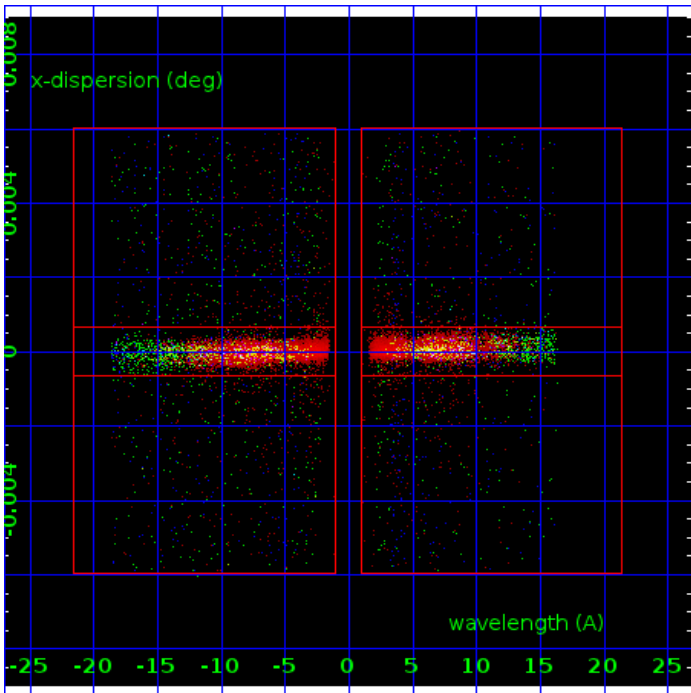
HEG Order Sort 123



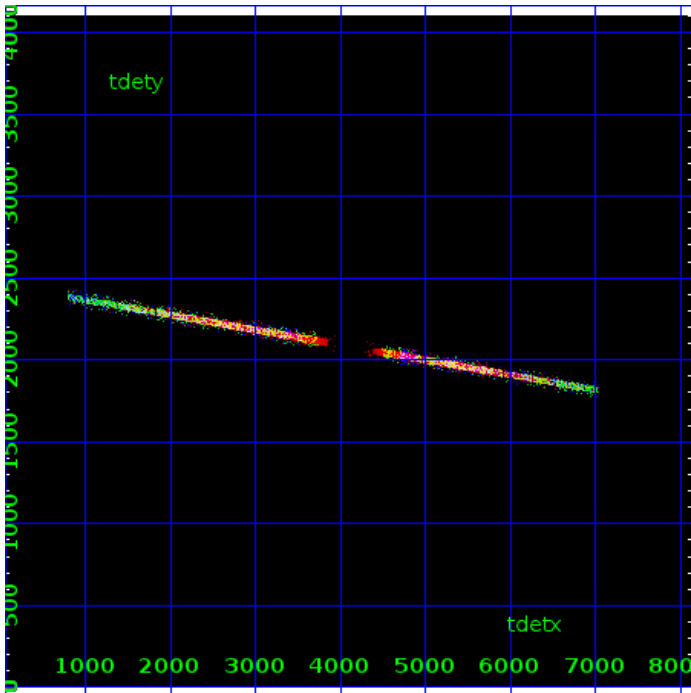
HEG Zero Order



HEG Order Sort ALL

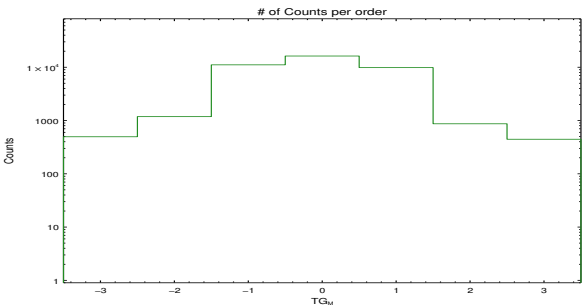


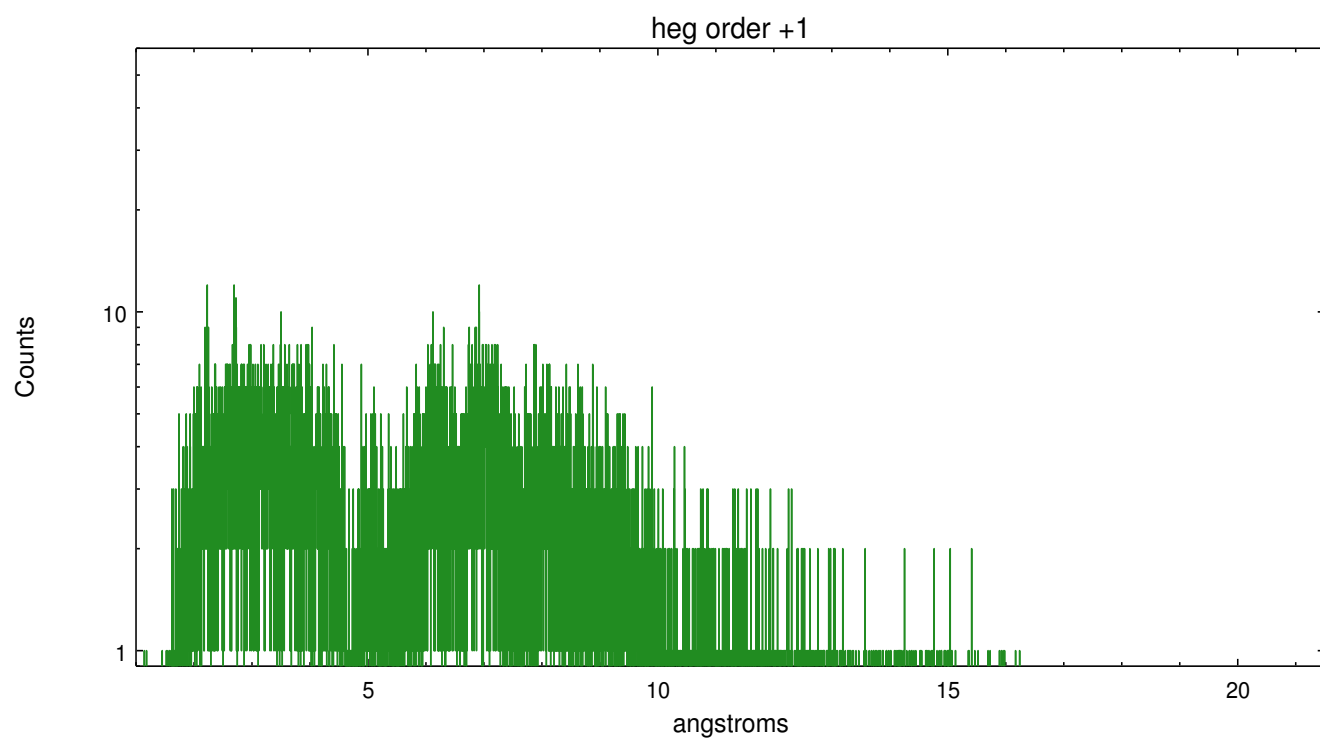
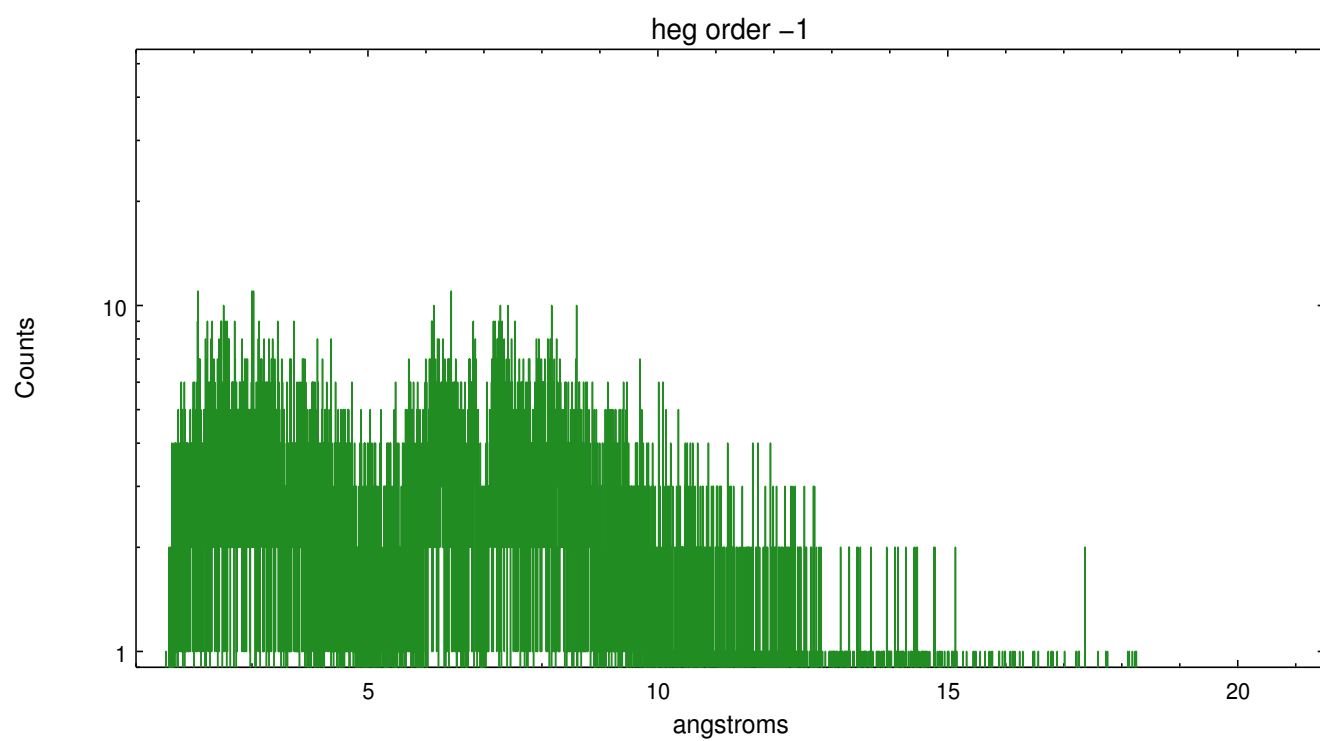
Spot Image HEG



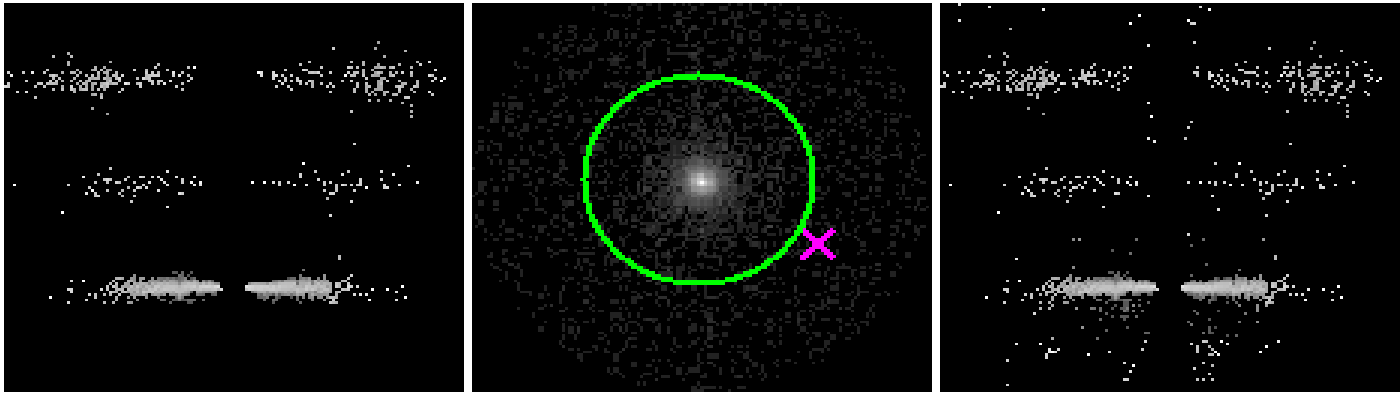
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	496	1184	11106	16250	9850	869	445





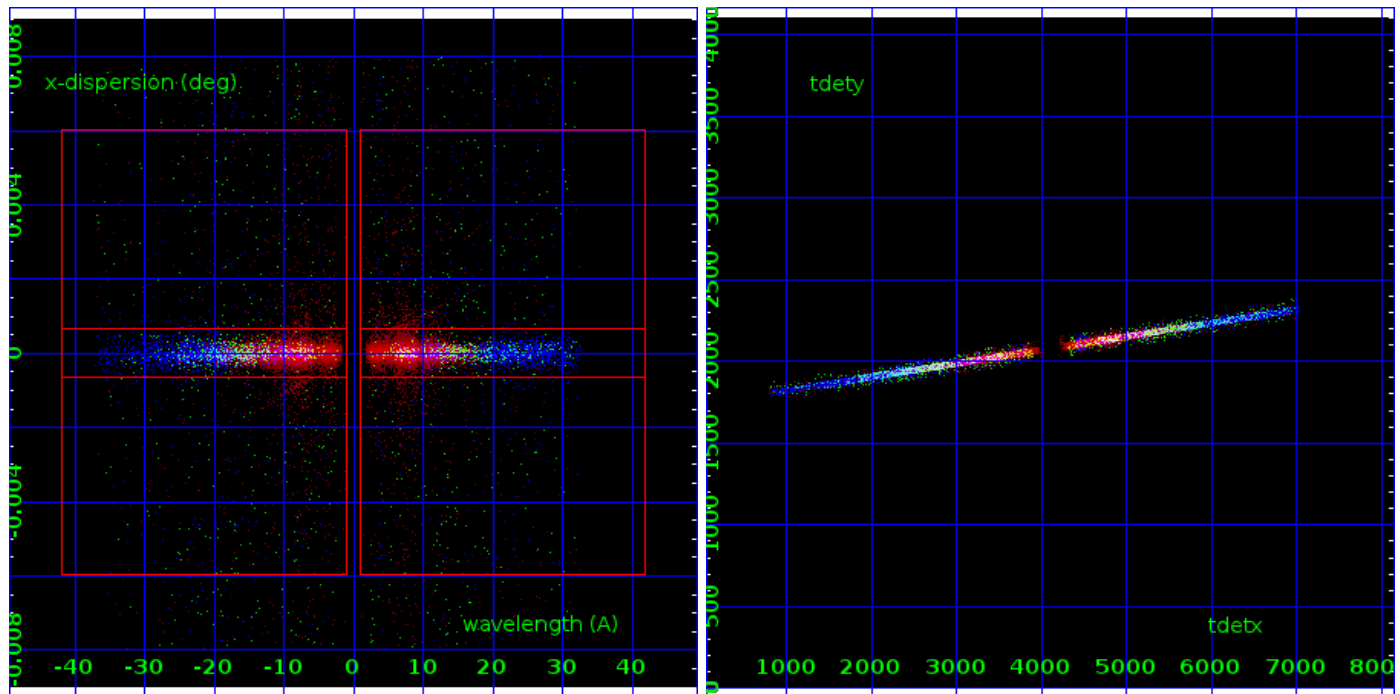
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

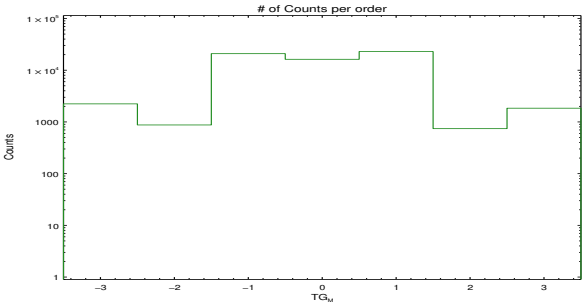
MEG Order Sort ALL

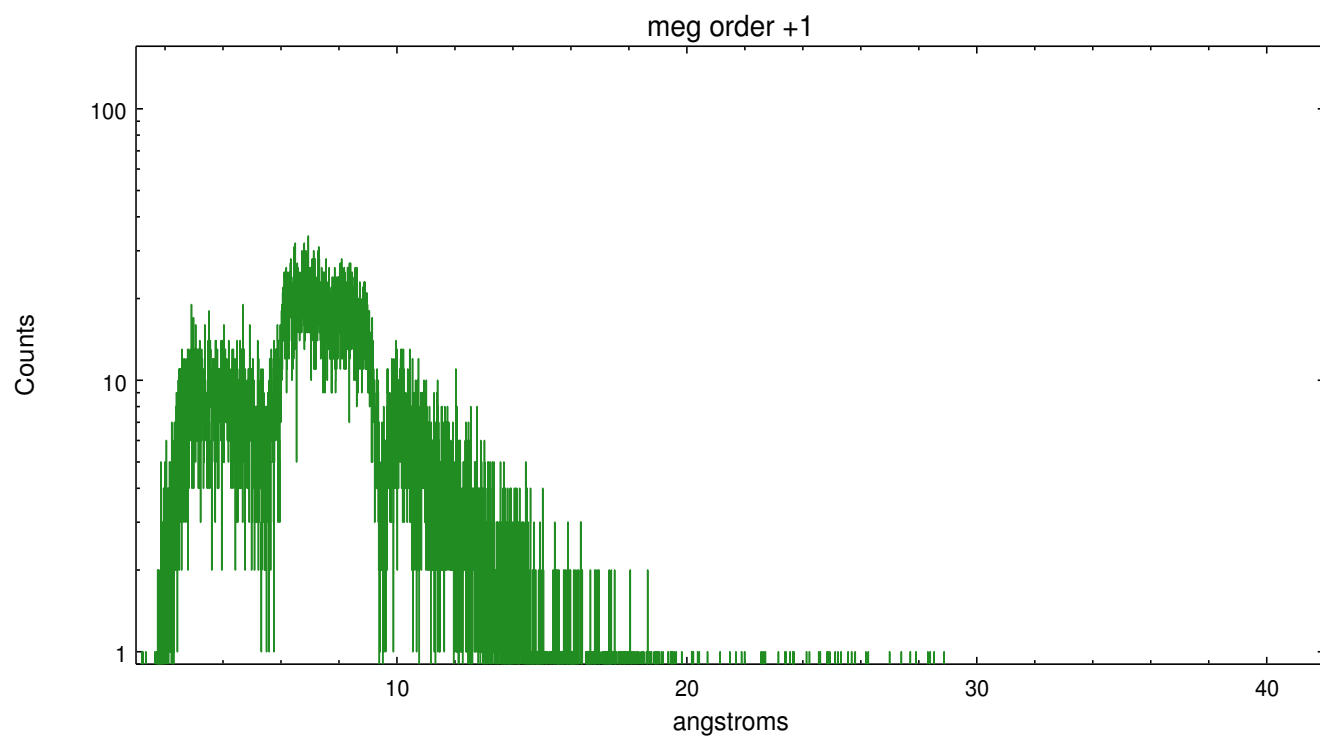
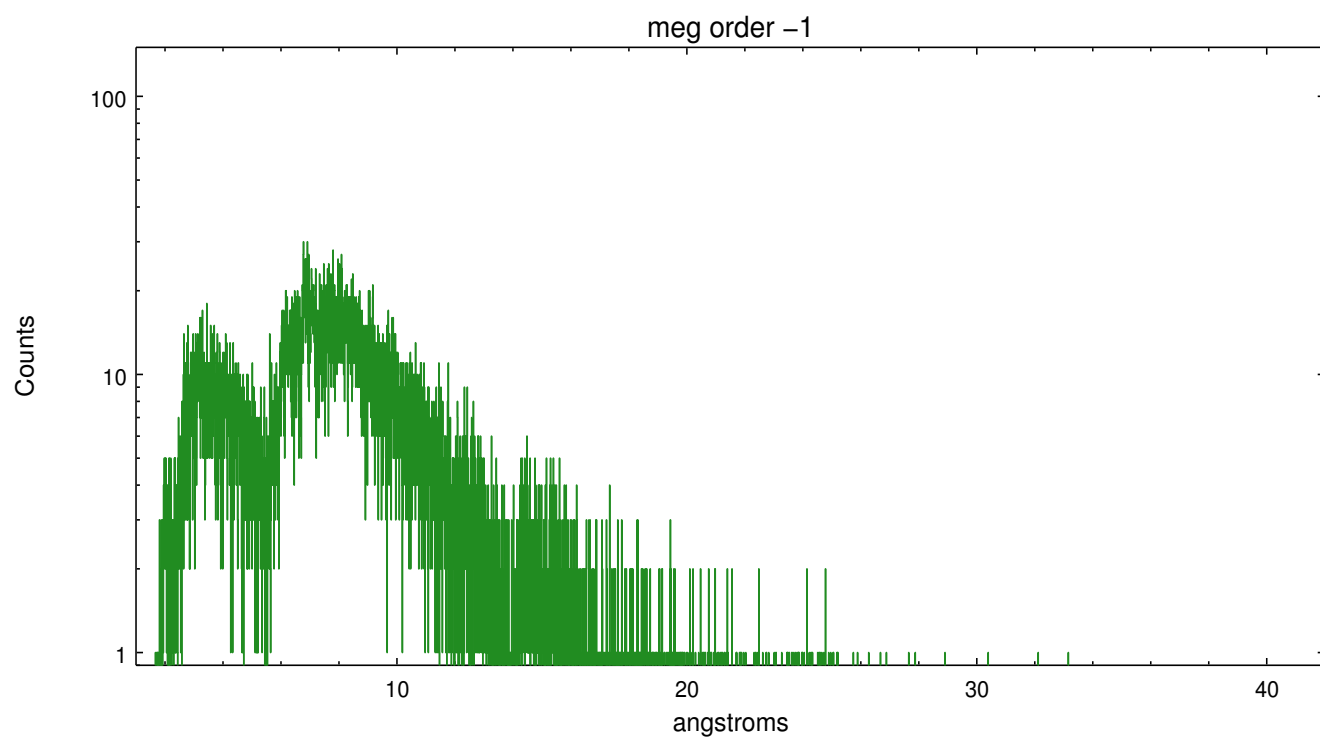


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2236	874	20911	16250	22939	742	1842





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2014.07.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.033995550752

A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.