

V&V Reference Report

L2 ASCDS Version : 10.4.3

Observation 18736 - L2 Version 1
Chandra X-Ray Center

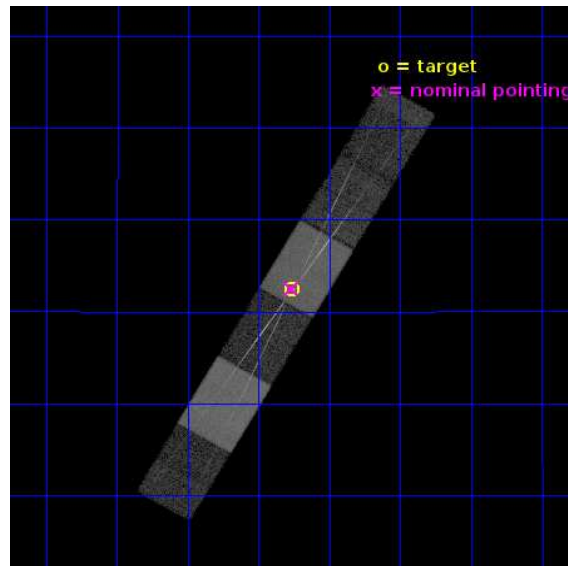
L2 Processing Date : Jan 2 2016

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1 Front

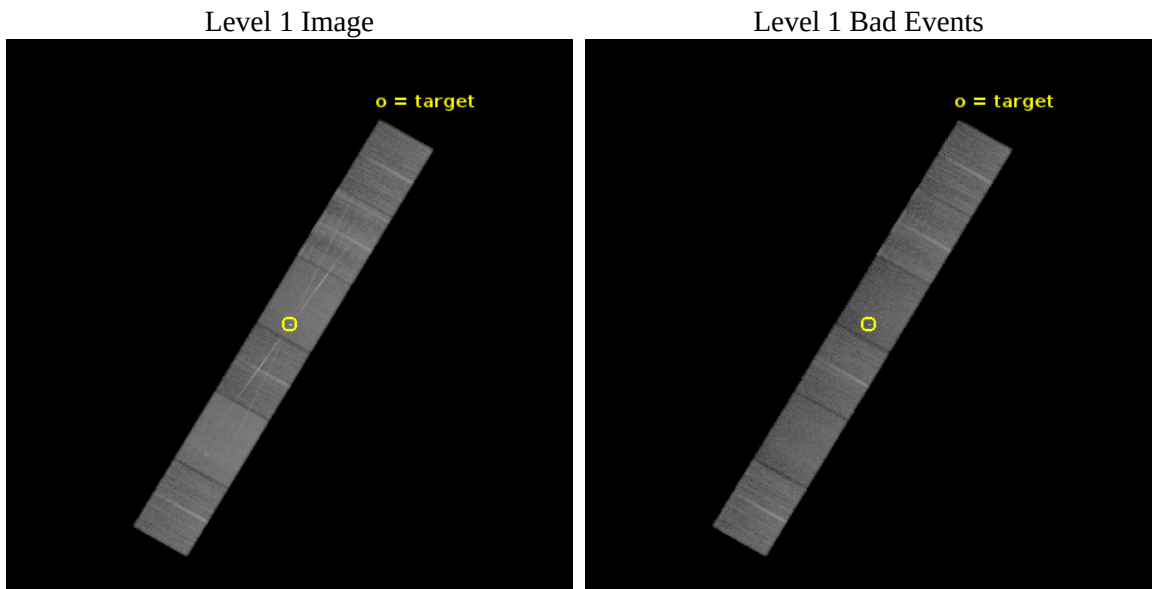
seq_num	703293	Sequence number
obs_id	18736	Observation id
title	Deciphering the ionised outflows in NGC 7469	Proposal title
observer	Prof Jelle Kaastra	Principal investigator
object	NGC 7469	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	345.815	Observer's specified target RA [deg]
dec_targ	8.873917	Observer's specified target Dec [deg]
ra_nom	345.81716202169	Nominal RA [deg]
dec_nom	8.8750108033089	Nominal Dec [deg]
roll_nom	300.15629212313	Nominal Roll [deg]
revision	1	Processing version of data
ontime	31522.221662998	Sum of GTIs [s]
livetime	31013.110441982	Livetime [s]
ontime4	31522.262702942	Sum of GTIs [s]
ontime5	31522.180622935	Sum of GTIs [s]
ontime6	31522.139582992	Sum of GTIs [s]
ontime7	31522.221662998	Sum of GTIs [s]
ontime8	31522.098542929	Sum of GTIs [s]
ontime9	31522.057502985	Sum of GTIs [s]
l2events	267815	Number of level 2 events



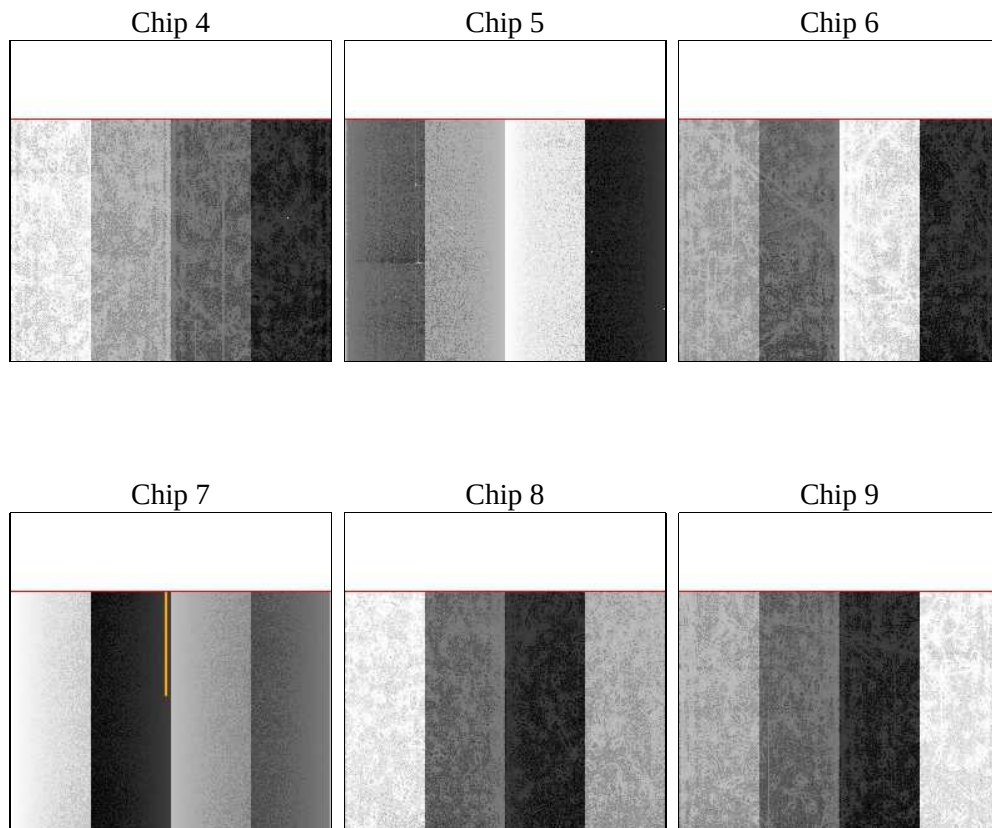
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	31500.000000	[s] Scheduled observation exposure time
ascdsver	10.4.3	Processing system revision	ontime	31522.221662998	Sum of GTIs [s]
caldsver	4.7.0	 	ontime4	31522.262702942	Sum of GTIs [s]
date	2016-01-02T12:00:02	Date and time of file creation	ontime5	31522.180622935	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	31522.139582992	Sum of GTIs [s]
			ontime7	31522.221662998	Sum of GTIs [s]
			ontime8	31522.098542929	Sum of GTIs [s]
			ontime9	31522.057502985	Sum of GTIs [s]
			l1events	1034599	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			src1a_pos	(4111.22, 4088.81)	src1a sky pixel position

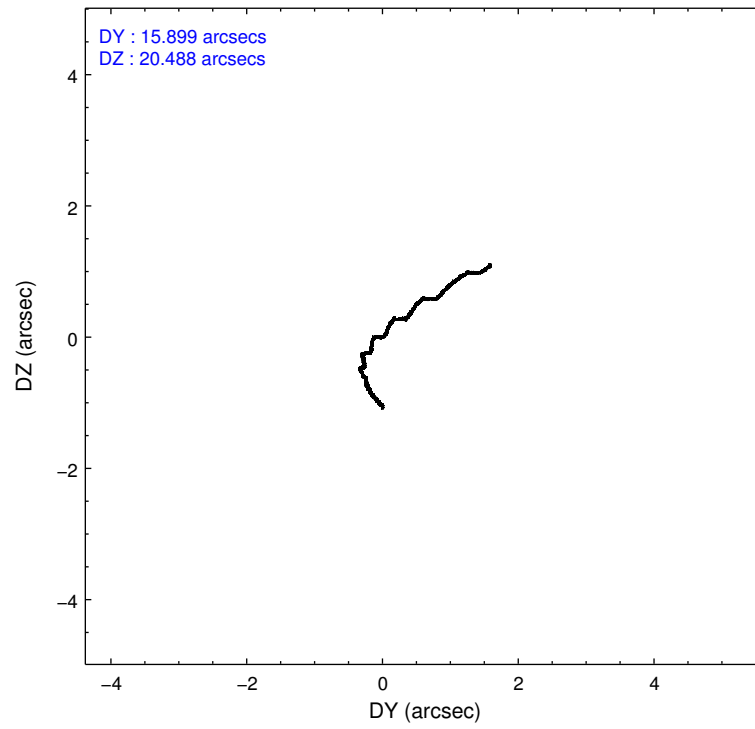
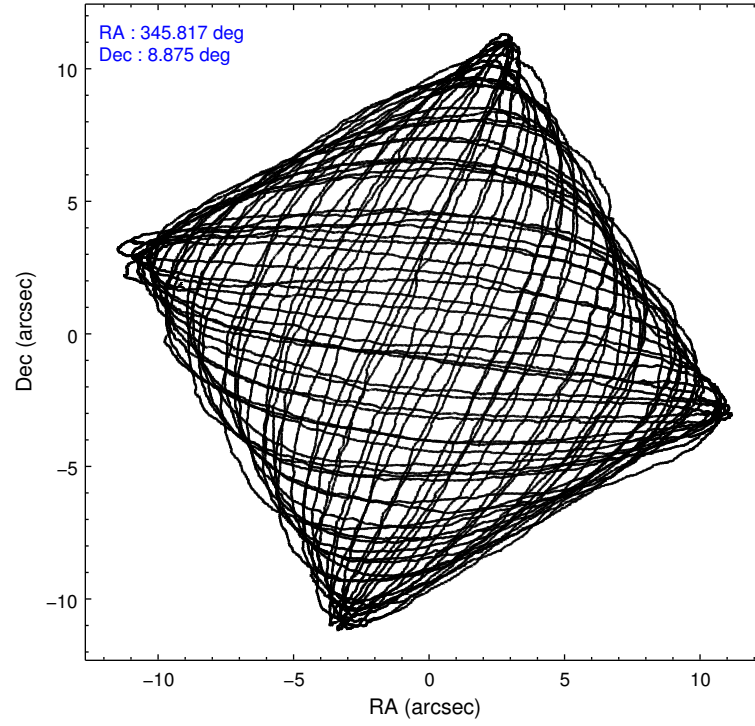
2.1.4 Events

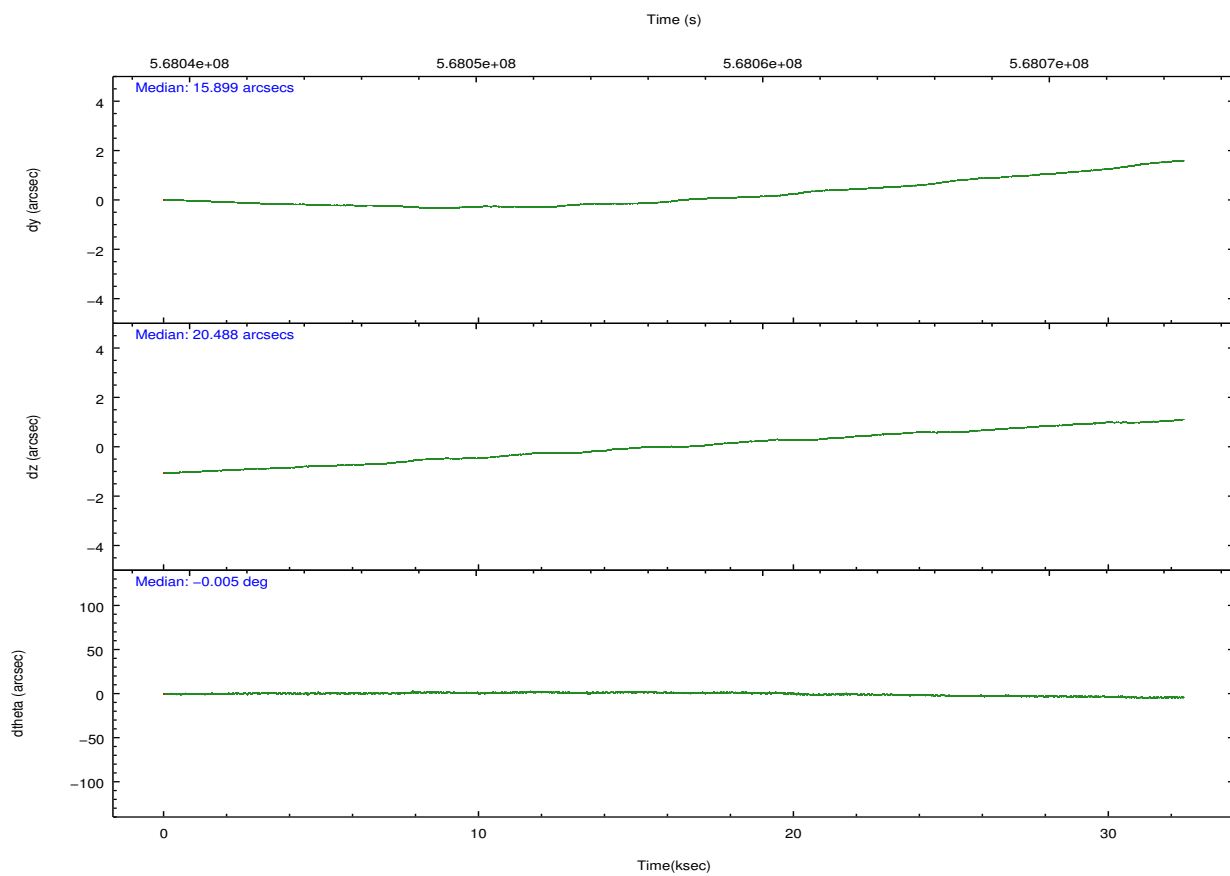
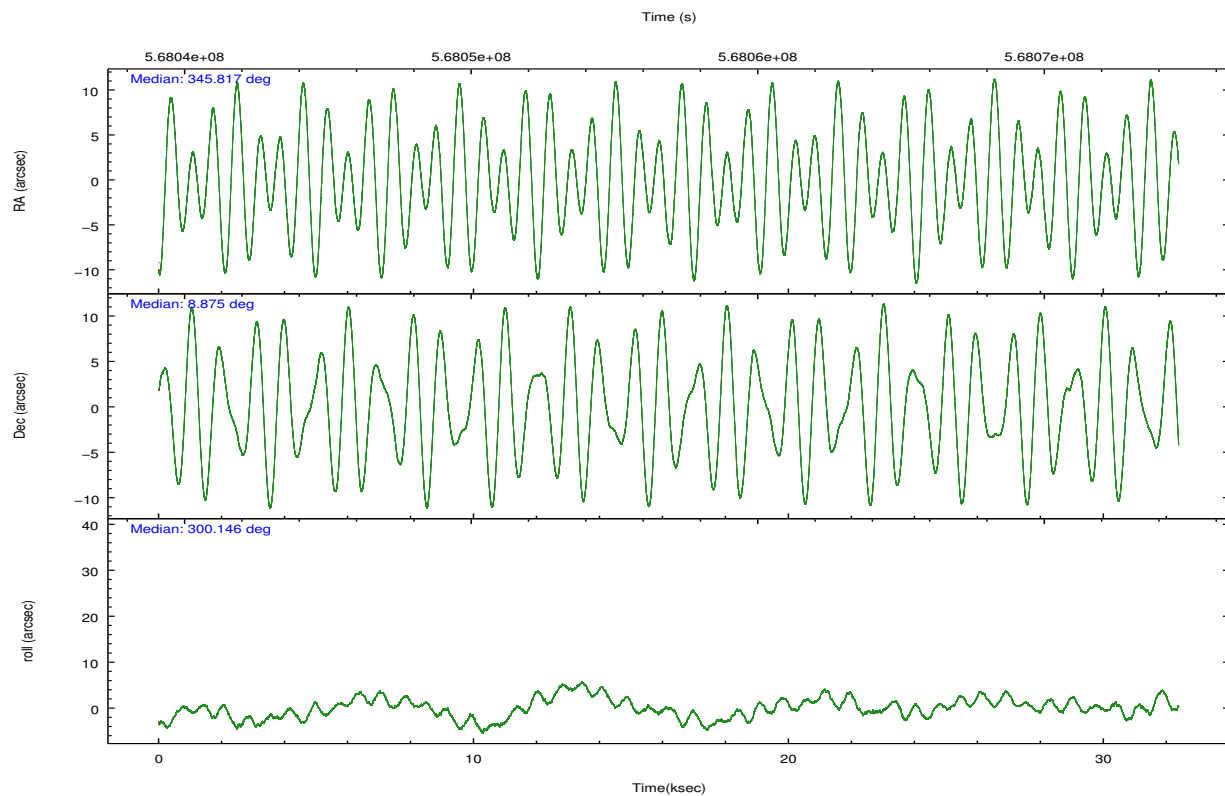
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	154747	214043	146730	195563	185083	138433	grade 0 events	7332	7391	12315	10547	18570	6507
rejected events	136409	109933	121749	100290	130456	120694		4%	3%	8%	5%	10%	4%
rejected %	88%	51%	82%	51%	70%	87%	grade 1 events	110	343	82	381	125	72
								0%	0%	0%	0%	0%	0%
							grade 2 events	4332	32018	4743	20410	12213	4023
								2%	14%	3%	10%	6%	2%
							grade 3 events	1865	4391	1970	8644	5543	1794
								1%	2%	1%	4%	2%	1%
							grade 4 events	1796	4153	2049	8635	5055	1708
								1%	1%	1%	4%	2%	1%
							grade 5 events	6420	16274	6503	19005	9855	7479
								4%	7%	4%	9%	5%	5%
							grade 6 events	3016	56164	3907	47053	13251	3711
								1%	26%	2%	24%	7%	2%
							grade 7 events	129876	93309	115161	80888	120471	113139
								83%	43%	78%	41%	65%	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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	345.792893	345.81716202169	CCD I2 on	N	N
[deg] Pointing Dec	8.888339	8.875010803308889	CCD I3 on	N	N
[deg] Pointing Roll	300.003412	300.156292123128	CCD S0 on	O1	Y
[s] Window start time (MET)	567075668.184000	567075668.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	568000868.184000	568000868.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-187.132523	-187.1228876879999	CCD S5 on	Y	Y
[mm] SIM translation stage offset	-3	-3.009634895007935	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	568041597.184000	568040240.63002	On-chip summing requested	N	N
Observation start date	2016-01-01T13:18:49	2016-01-01T12:57:20	Subarray requested	CUSTOM	CUSTOM
[s] Observation end time (MET)	568073097.184000	568074242.44445	Subarray start row	1	1
Observation end date	2016-01-01T22:03:49	2016-01-01T22:24:02	Subarray row count	774	774
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

2.3 Aspect



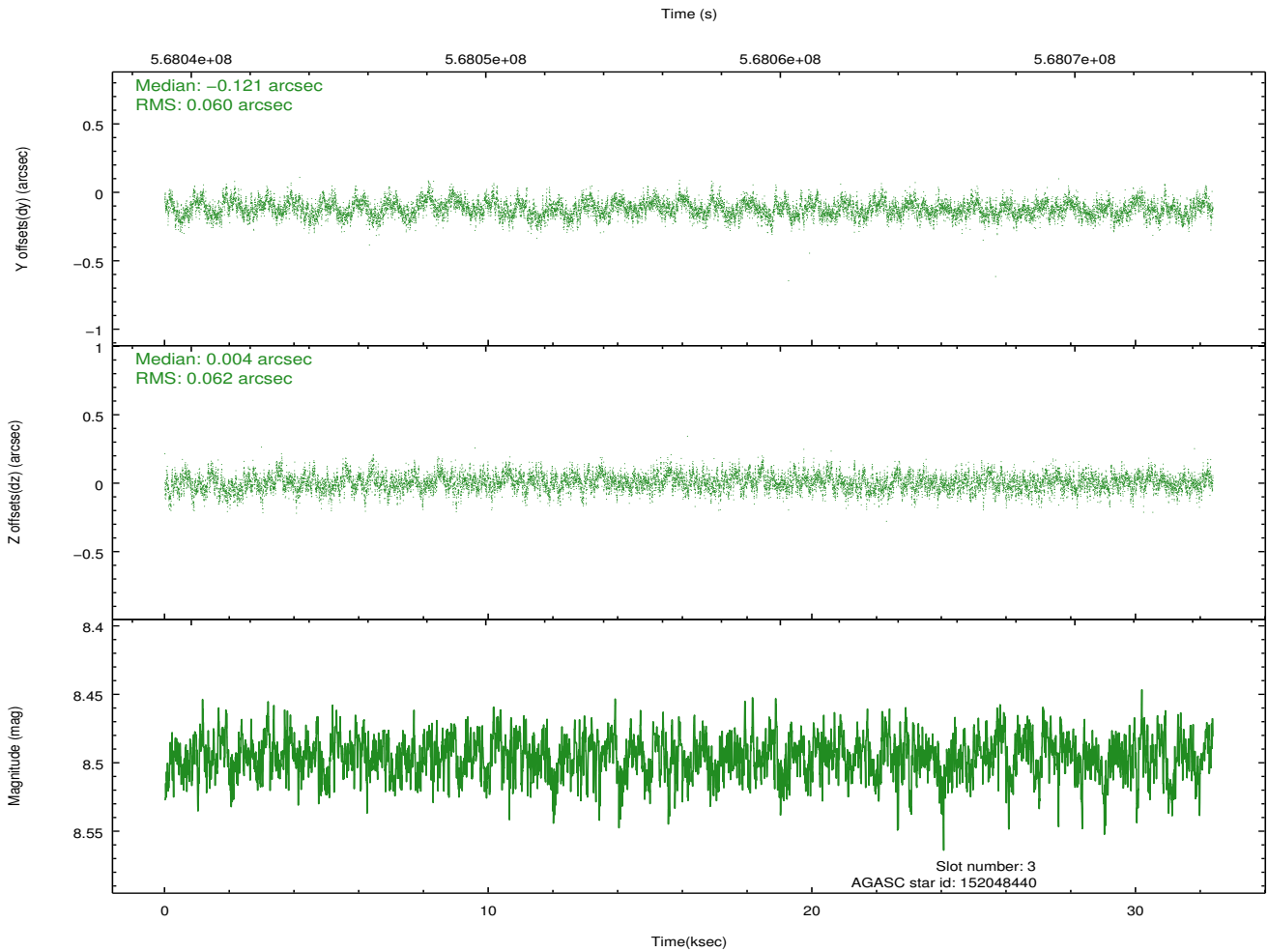
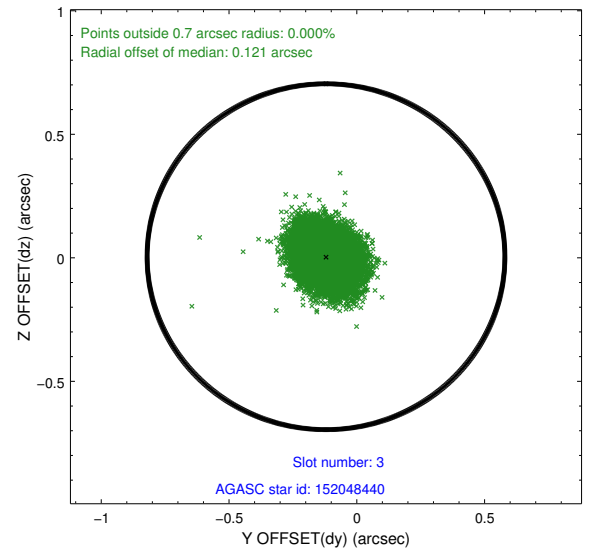
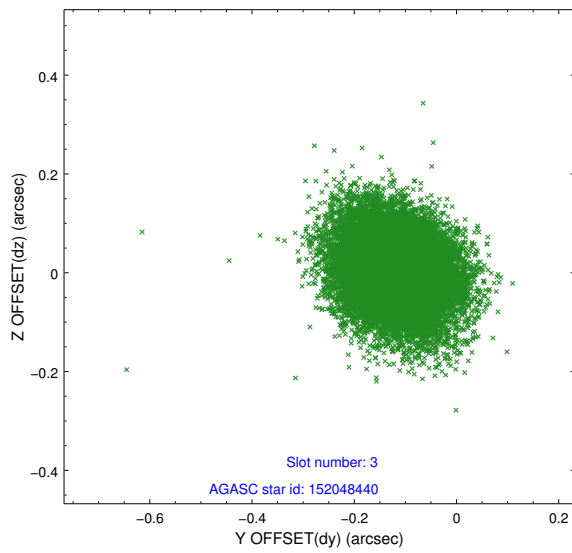


Slot Statistics

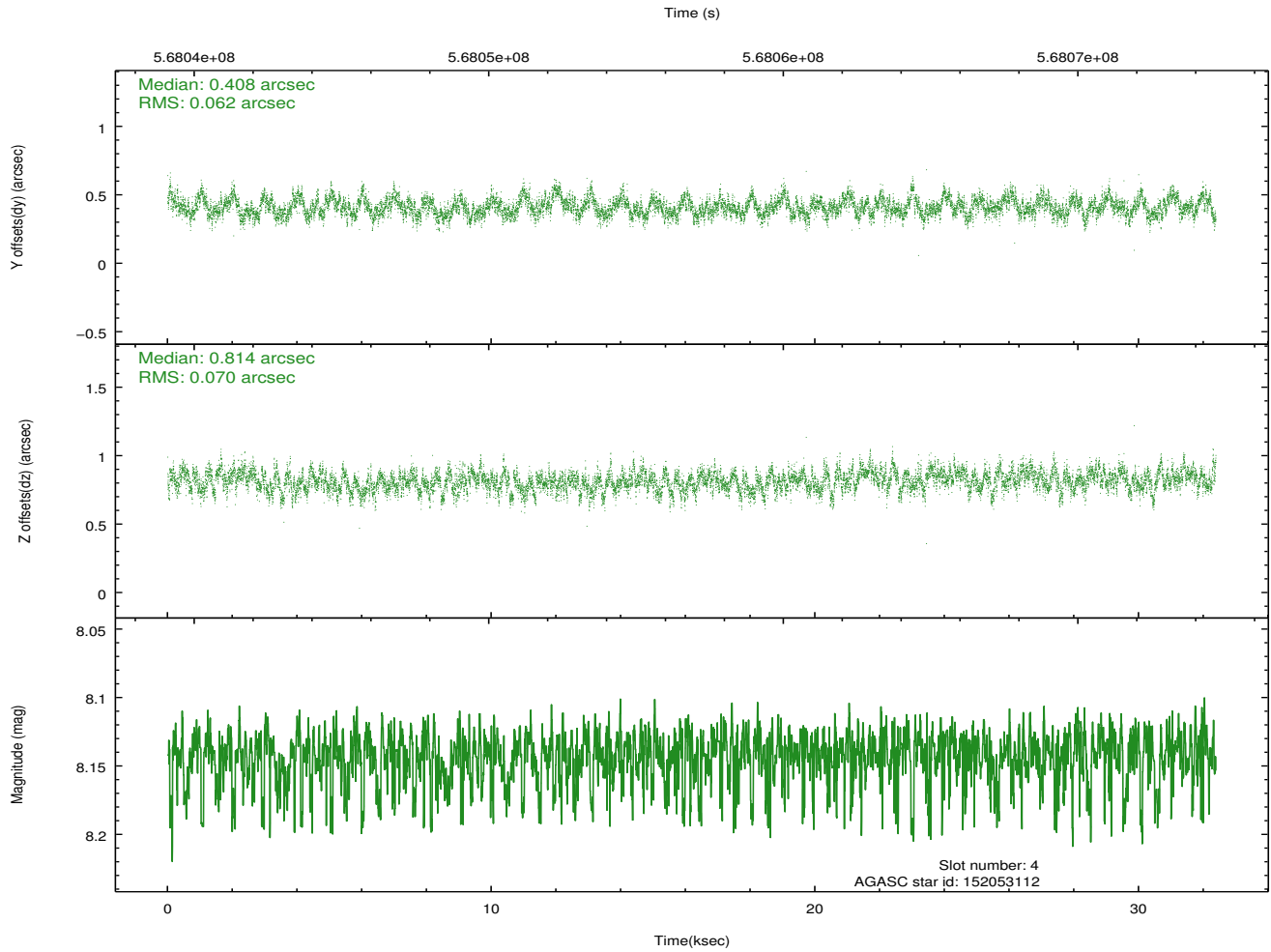
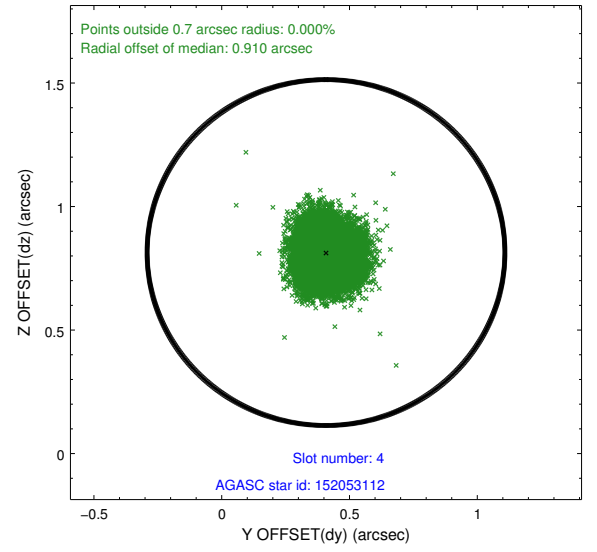
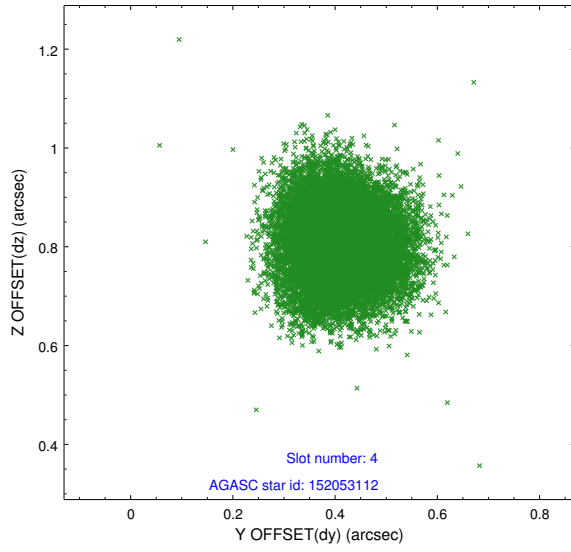
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.11	7899	-0.201	-0.125	0.019	0.040	0.000000	0.000000	-769.12	-1804.29
1	FID		ACIS-S-4	7.20	7898	0.413	0.131	0.013	0.019	0.000000	0.000000	2144.72	104.41
2	FID		ACIS-S-5	7.23	7896	-0.244	0.002	0.016	0.026	0.000000	0.000000	-1821.96	97.96
3	GUIDE	used	152048440	8.50	15788	-0.121	0.004	0.091	0.149	346.200519	9.070077	157.38	1582.81
4	GUIDE	used	152053112	8.14	15792	0.408	0.814	0.099	0.160	345.154715	8.750450	-706.03	-2212.60
5	GUIDE	used	152056136	6.64	15797	-0.128	-0.452	0.077	0.122	346.466795	8.896005	1172.61	2089.94
6	GUIDE	used	152051576	8.83	15785	-0.069	-0.170	0.113	0.192	345.475827	8.657019	157.05	-1393.54
7	GUIDE	used	152052088	8.98	15779	-0.088	-0.200	0.118	0.191	345.509667	8.677615	153.18	-1251.99

2.4 Star Slots

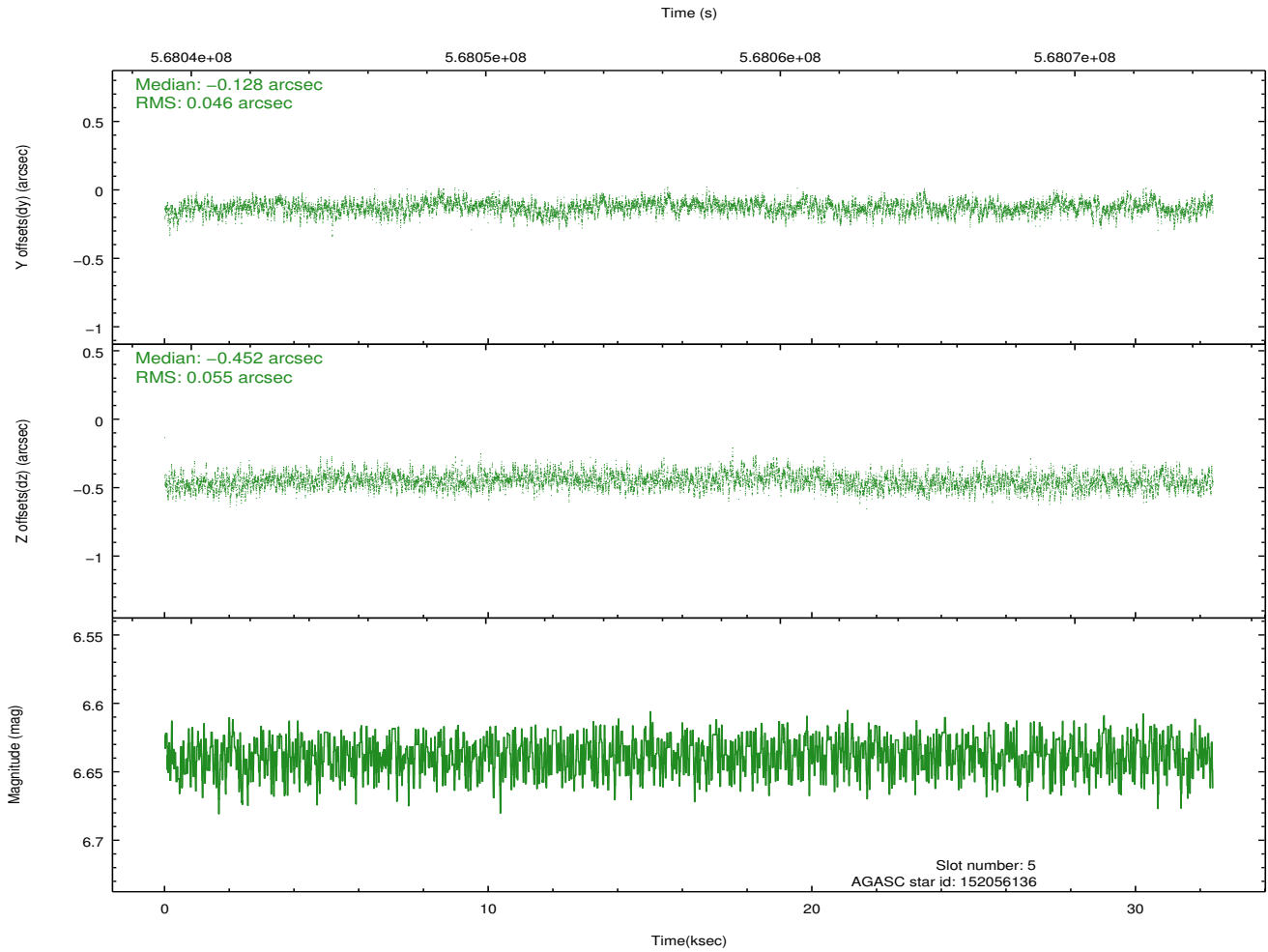
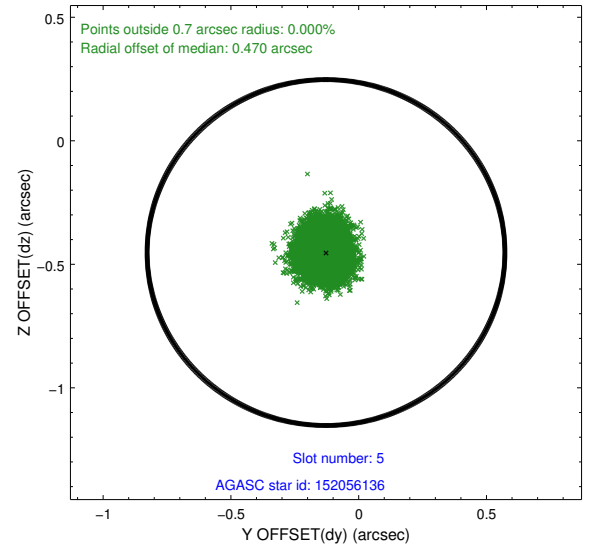
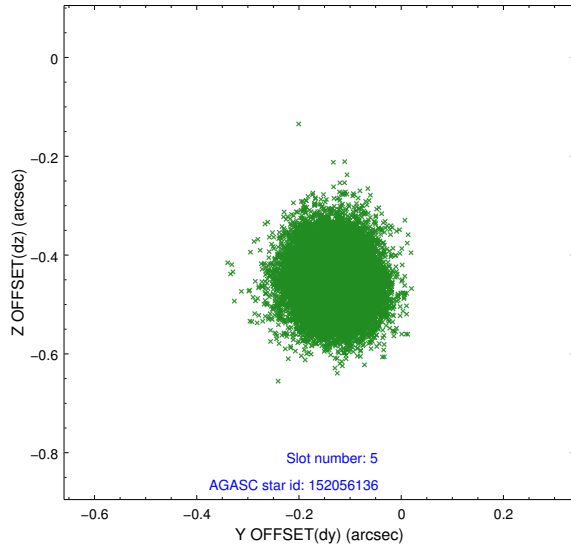
2.4.1 Slot 3



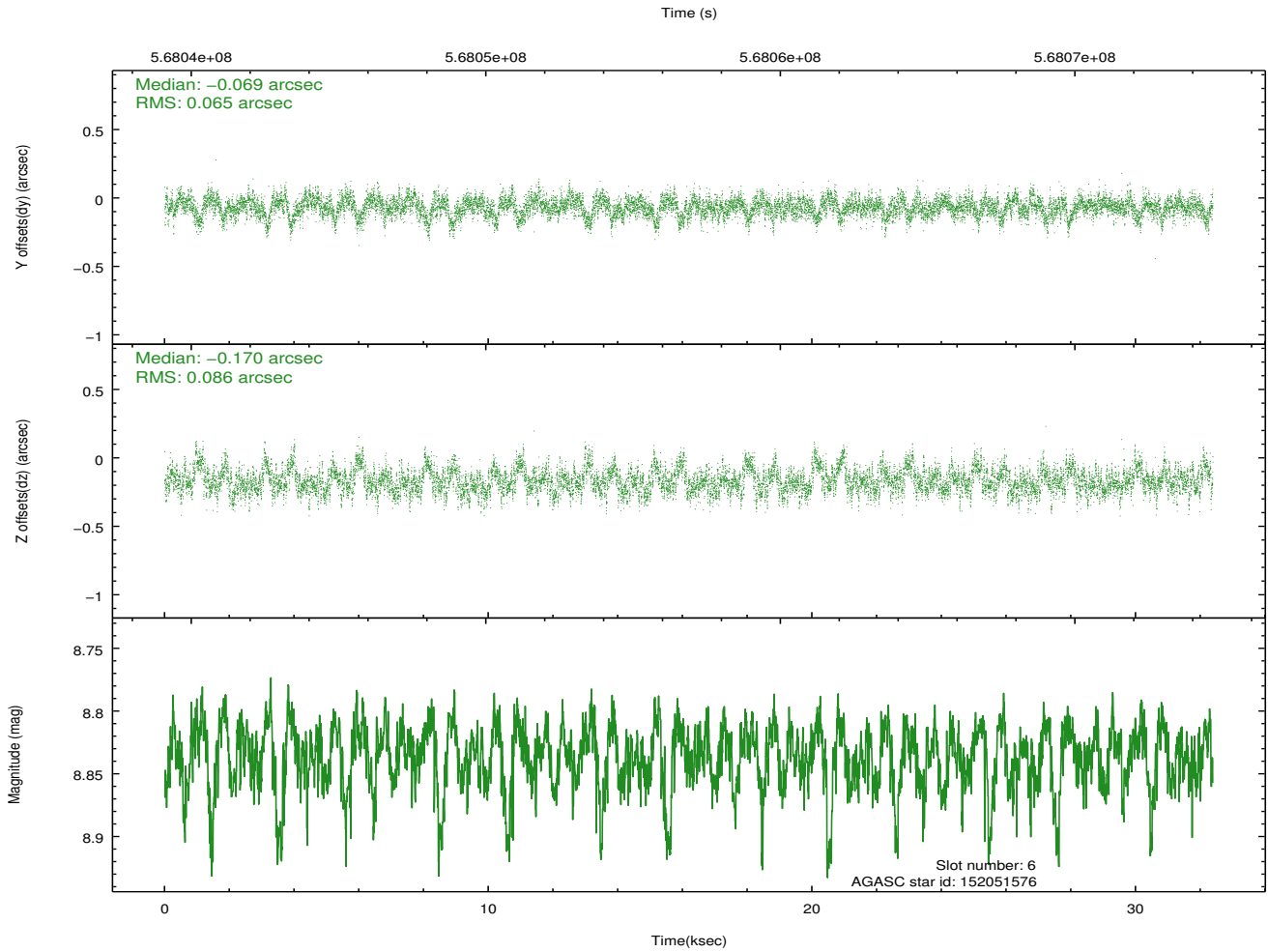
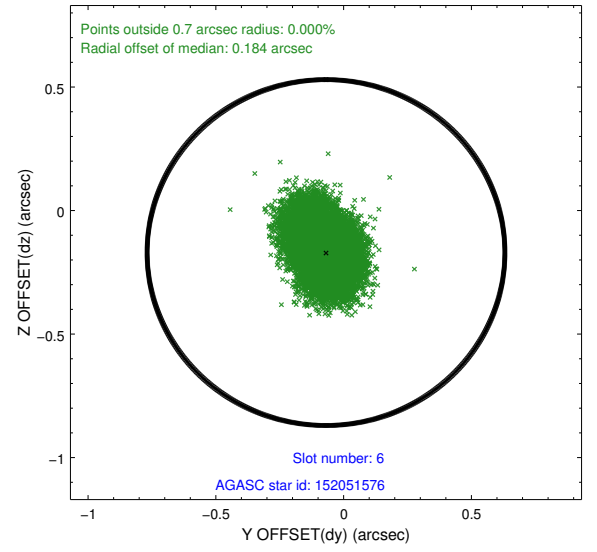
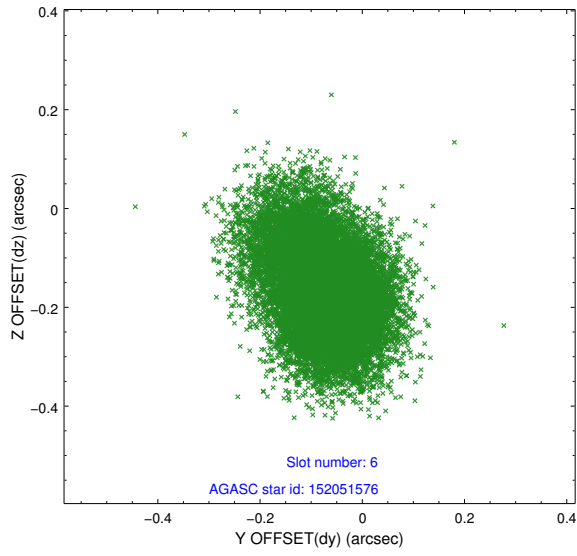
2.4.2 Slot 4



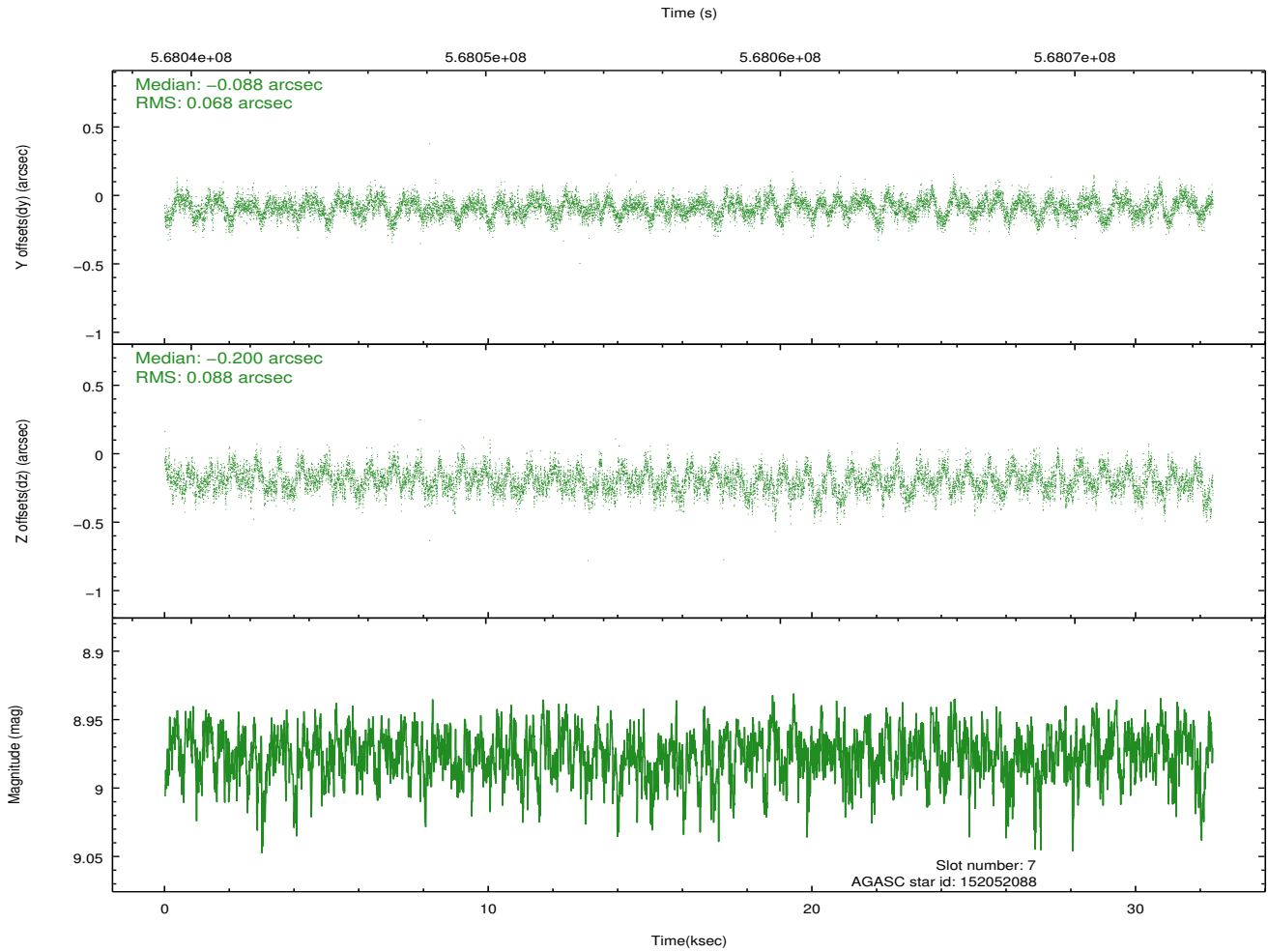
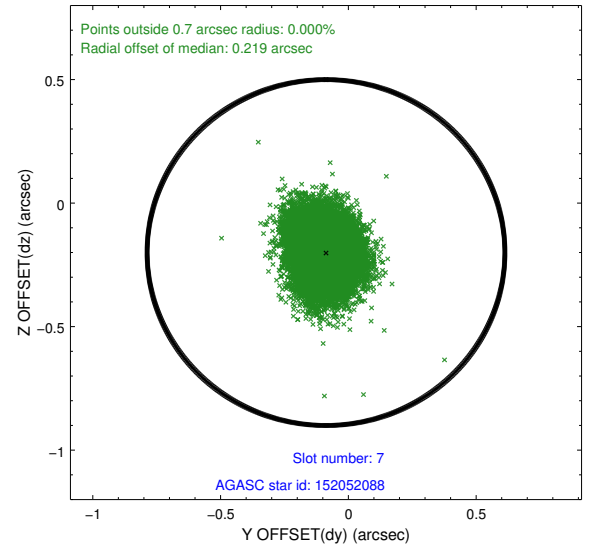
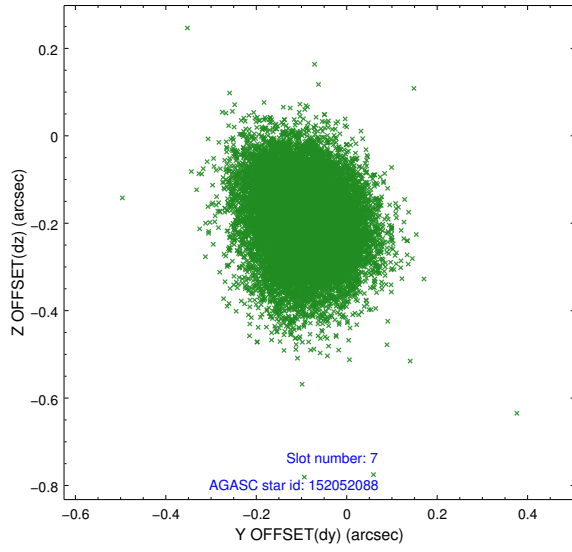
2.4.3 Slot 5



2.4.4 Slot 6

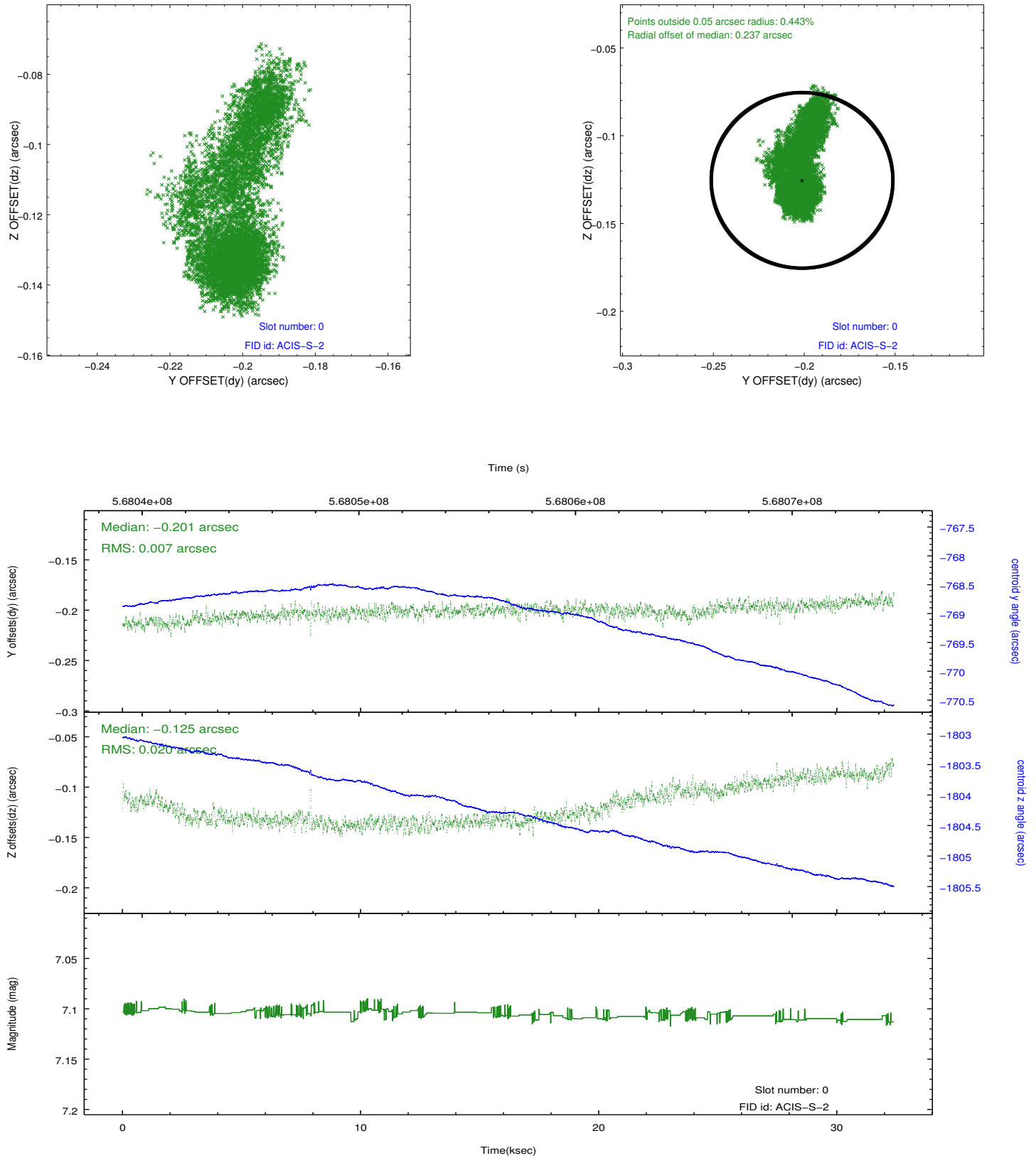


2.4.5 Slot 7

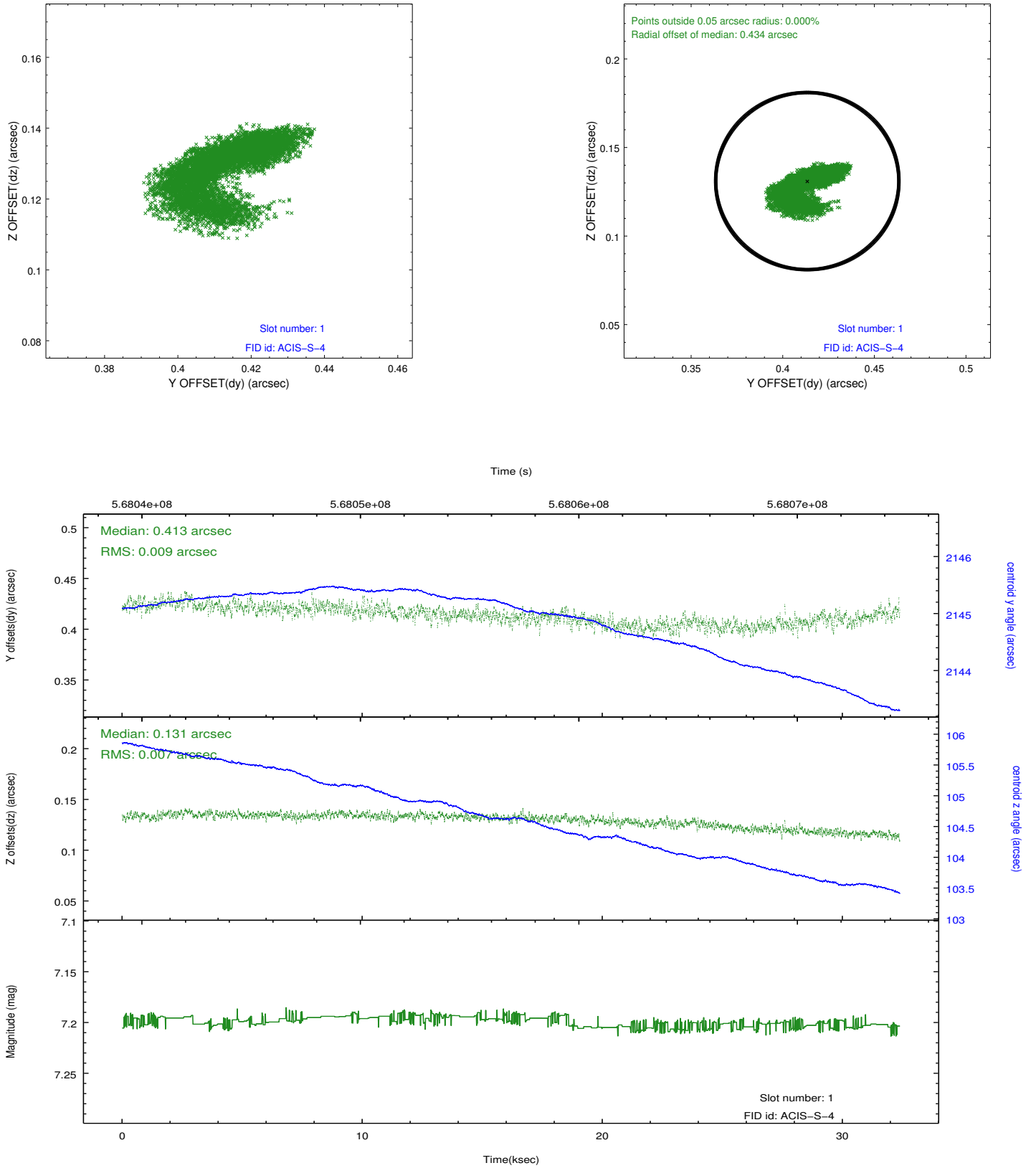


2.5 FID Slots

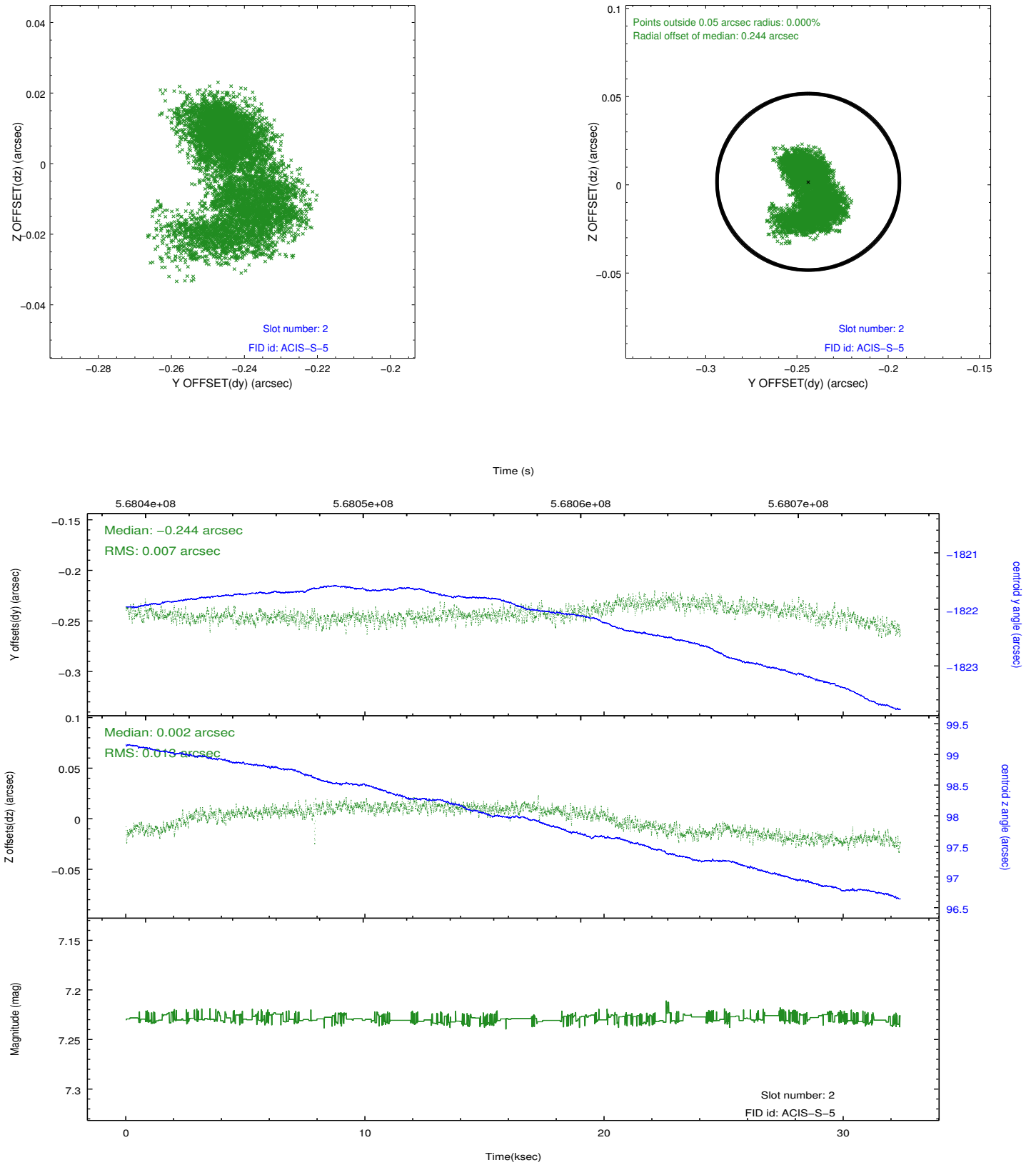
2.5.1 Slot 0



2.5.2 Slot 1

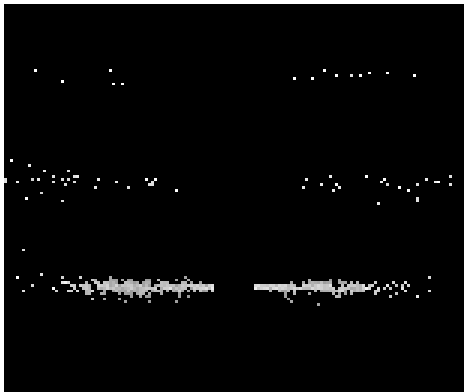


2.5.3 Slot 2

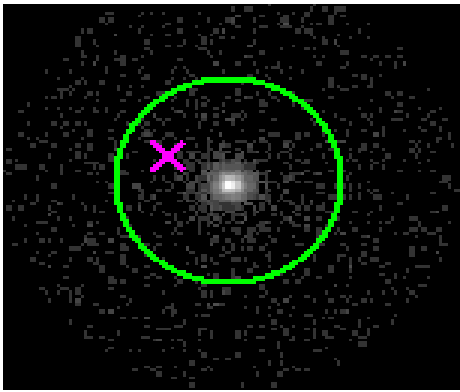


3 Gratings

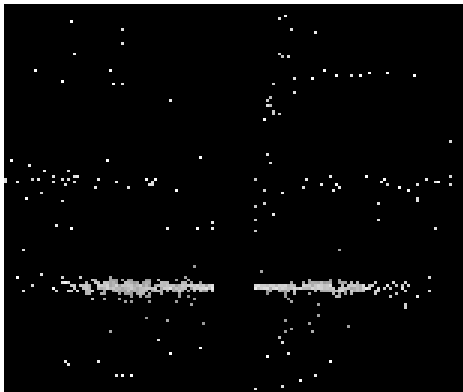
3.1 HEG Arm



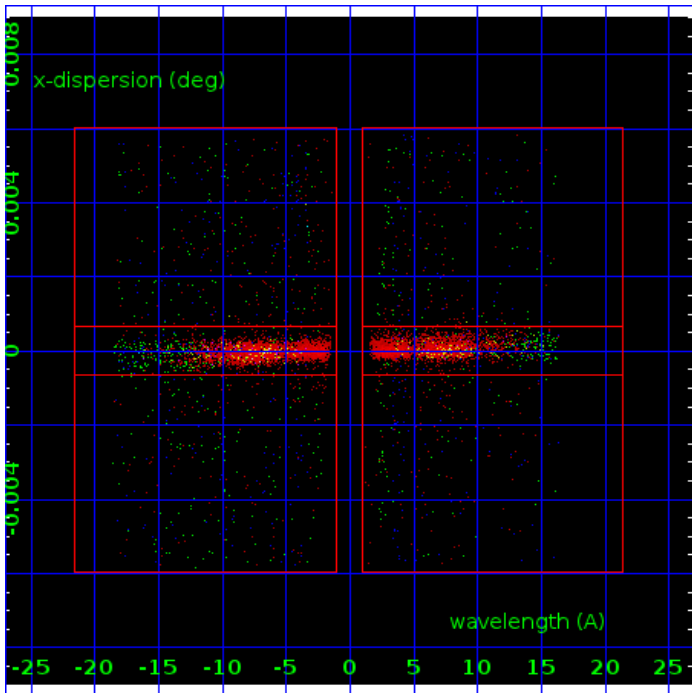
HEG Order Sort 123



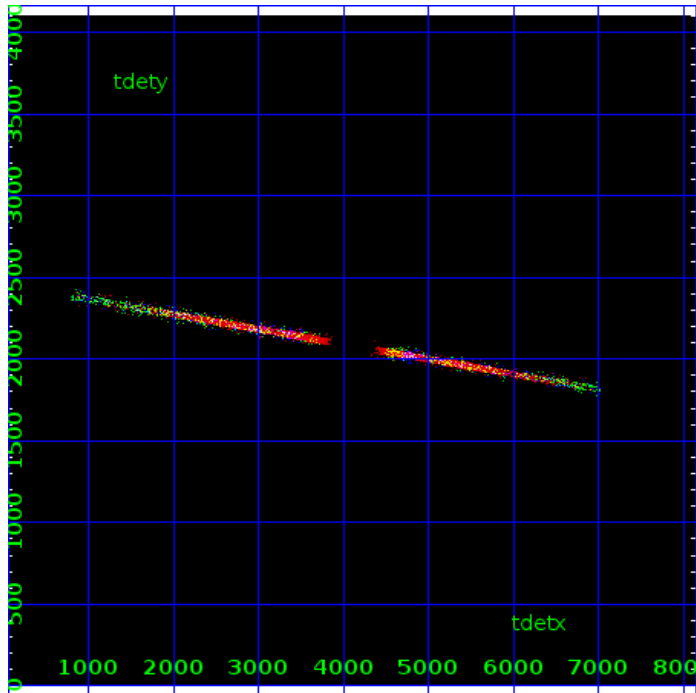
HEG Zero Order



HEG Order Sort ALL

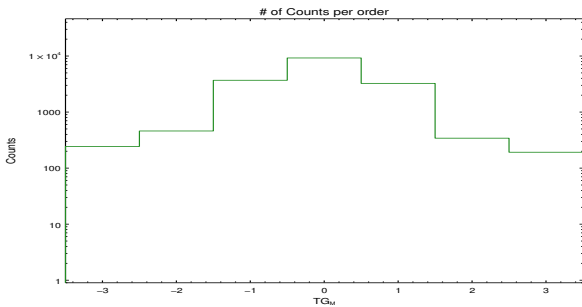


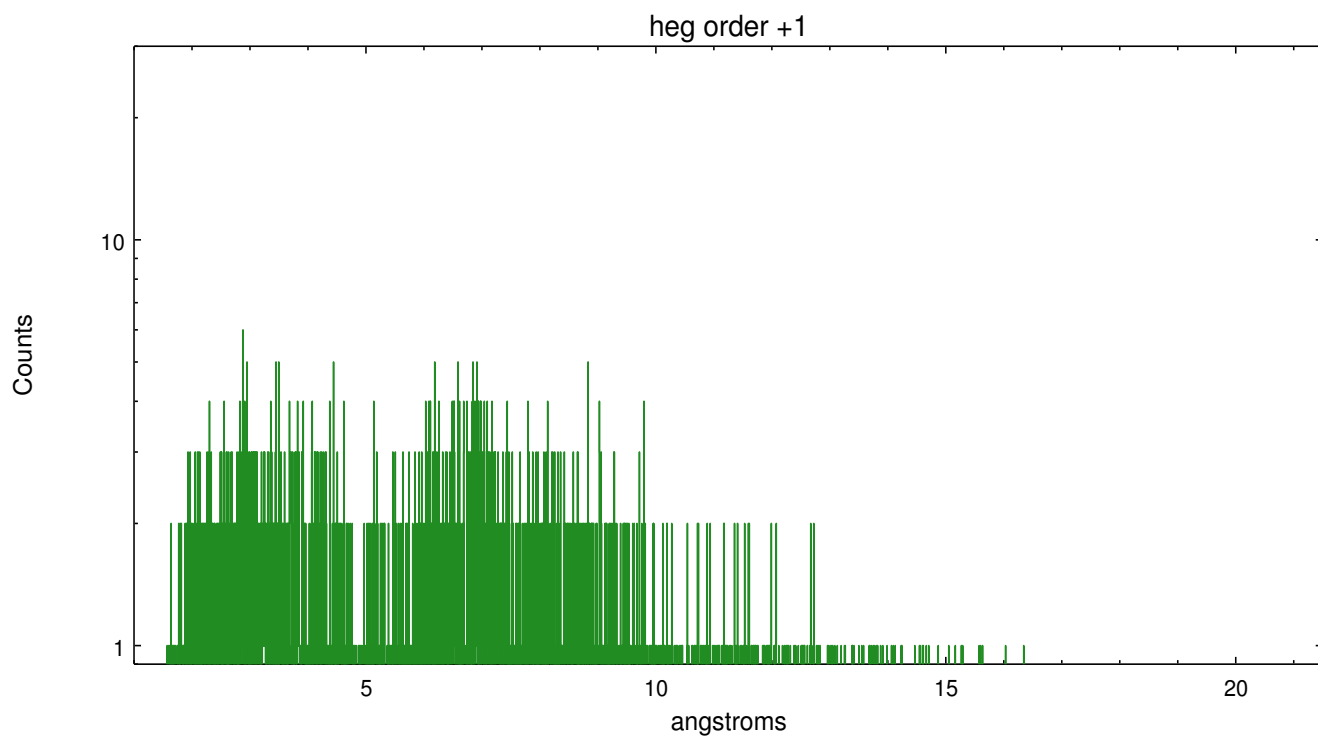
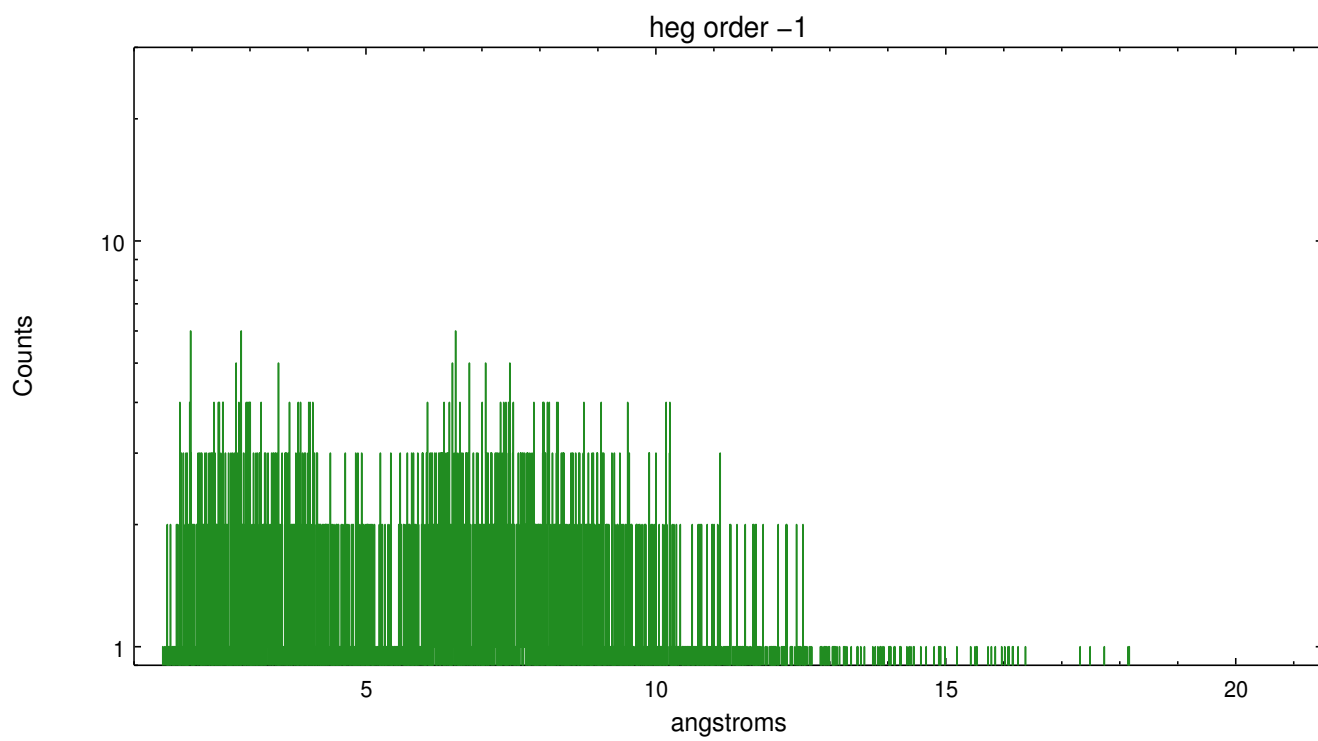
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	244	460	3692	9236	3250	342	192

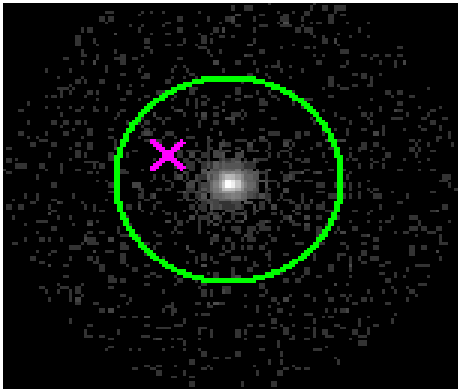




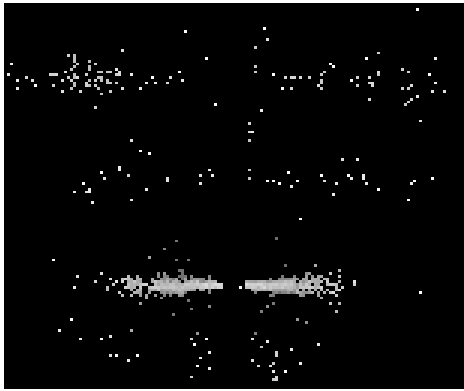
3.2 MEG Arm



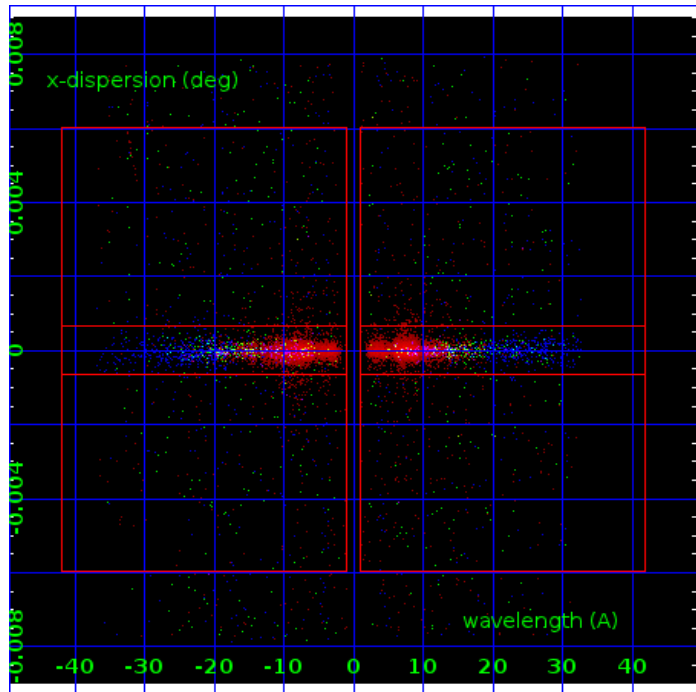
MEG Order Sort 123



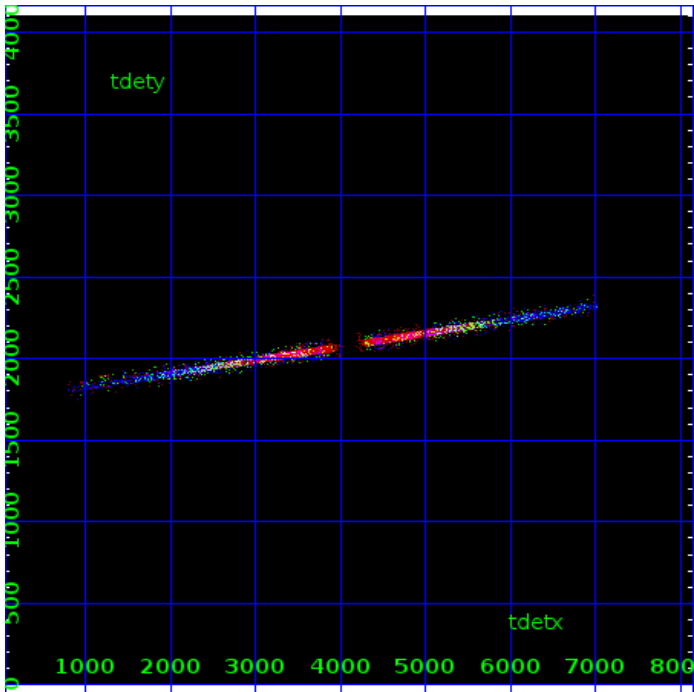
MEG Zero Order



MEG Order Sort ALL

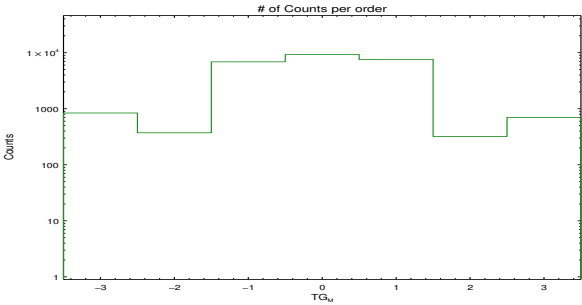


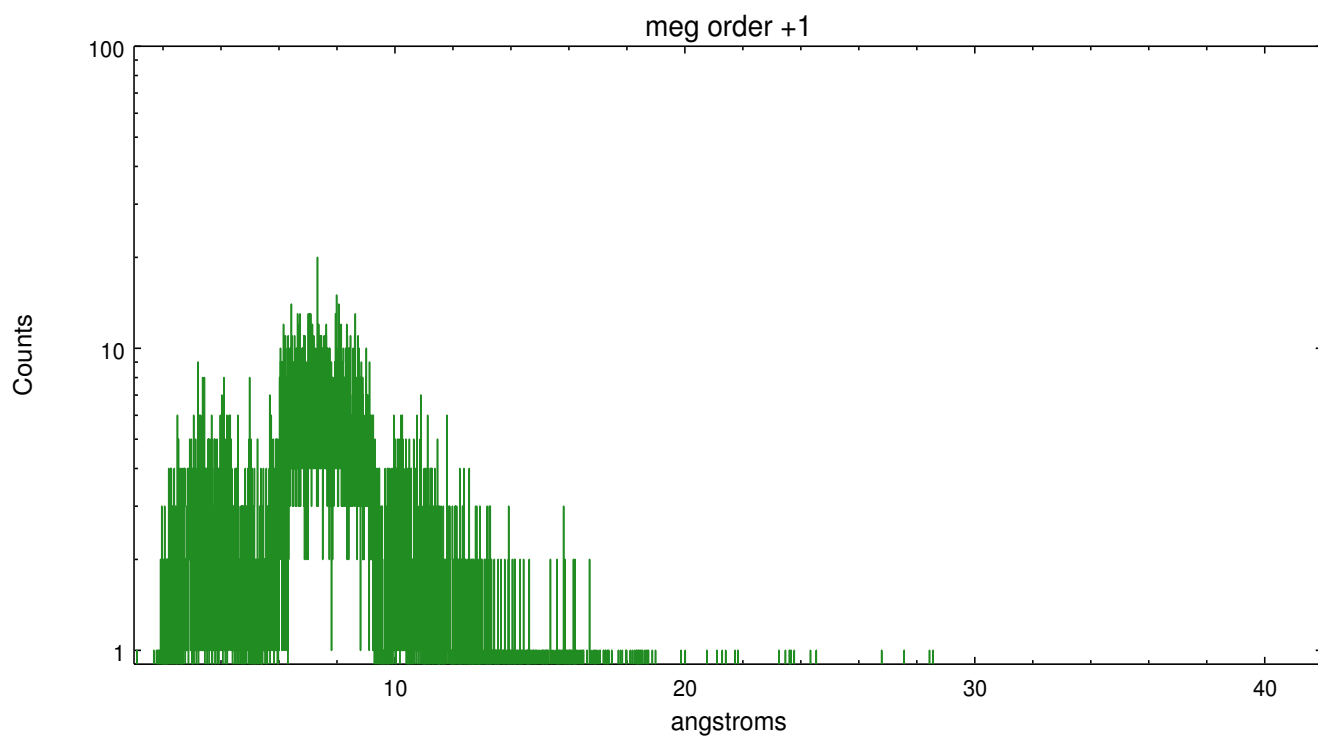
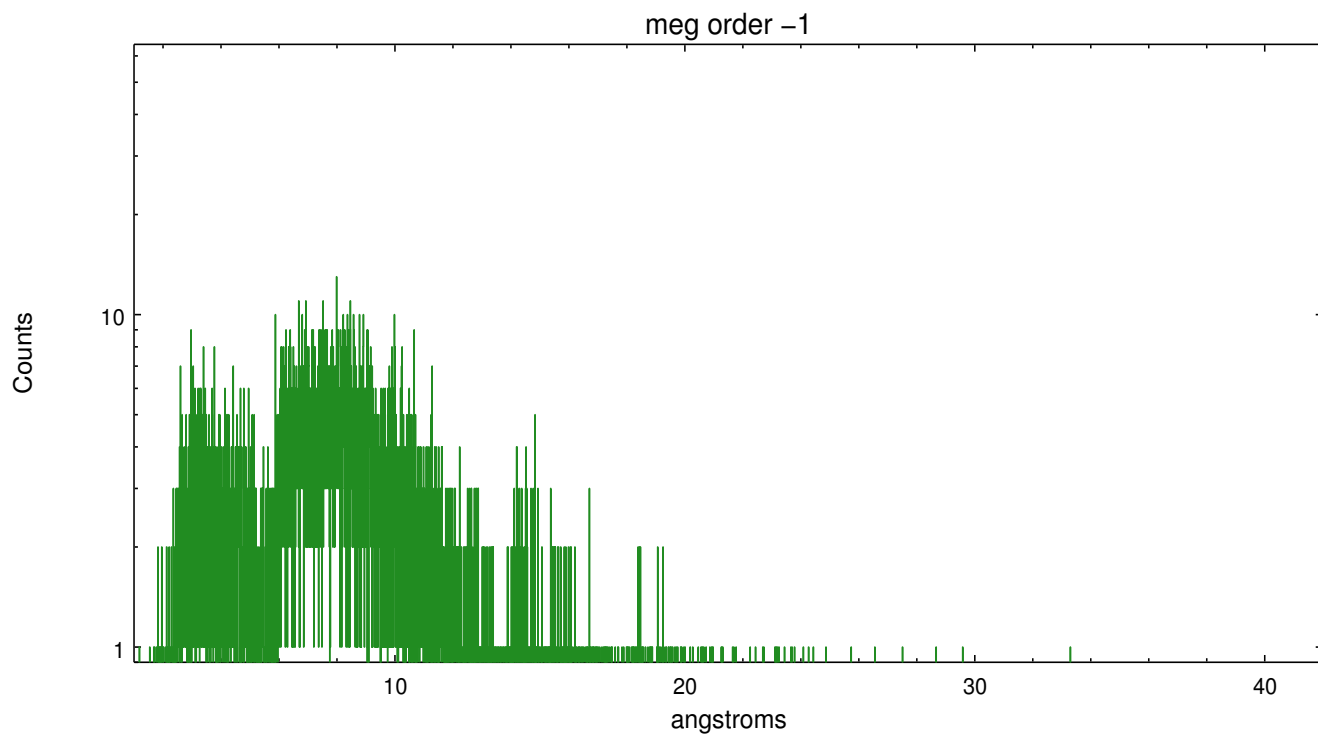
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	839	372	6862	9236	7556	320	699





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.01.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	31.522221662998

A.2 Comments

Time constraint met. 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 or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case