

V&V Reference Report

L2 ASCDS Version : 10.2.2

Observation 16629 - L2 Version 2
Chandra X-Ray Center

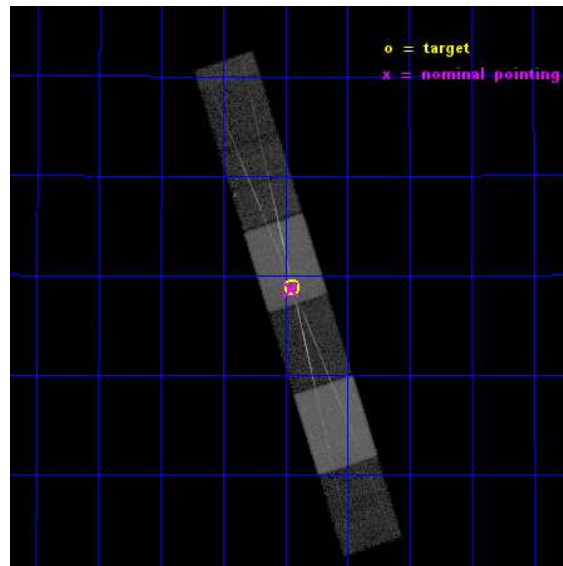
L2 Processing Date : Dec 12 2014

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1 Front

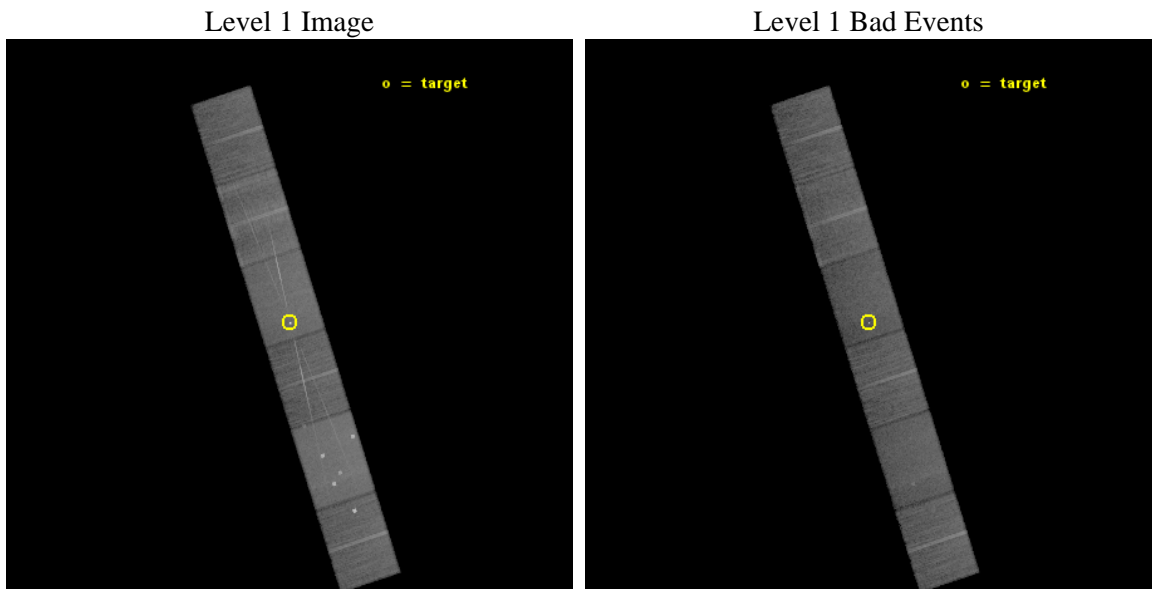
seq_num	703022	Sequence number
obs_id	16629	Observation id
title	A Warm Absorber Study of Mk 766	Proposal title
observer	Prof. Claude Canizares	Principal investigator
object	Mkn 766	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	184.610417	Observer's specified target RA [deg]
dec_targ	29.812778	Observer's specified target Dec [deg]
ra_nom	184.61263135945	Nominal RA [deg]
dec_nom	29.810461238685	Nominal Dec [deg]
roll_nom	252.15554175856	Nominal Roll [deg]
revision	2	Processing version of data
ontime	35665.0	Sum of GTIs [s]
livetime	35088.979315556	Livetime [s]
ontime4	35665.0	Sum of GTIs [s]
ontime5	35665.0	Sum of GTIs [s]
ontime6	35665.0	Sum of GTIs [s]
ontime7	35665.0	Sum of GTIs [s]
ontime8	35665.0	Sum of GTIs [s]
ontime9	35665.0	Sum of GTIs [s]
l2events	258343	Number of level 2 events



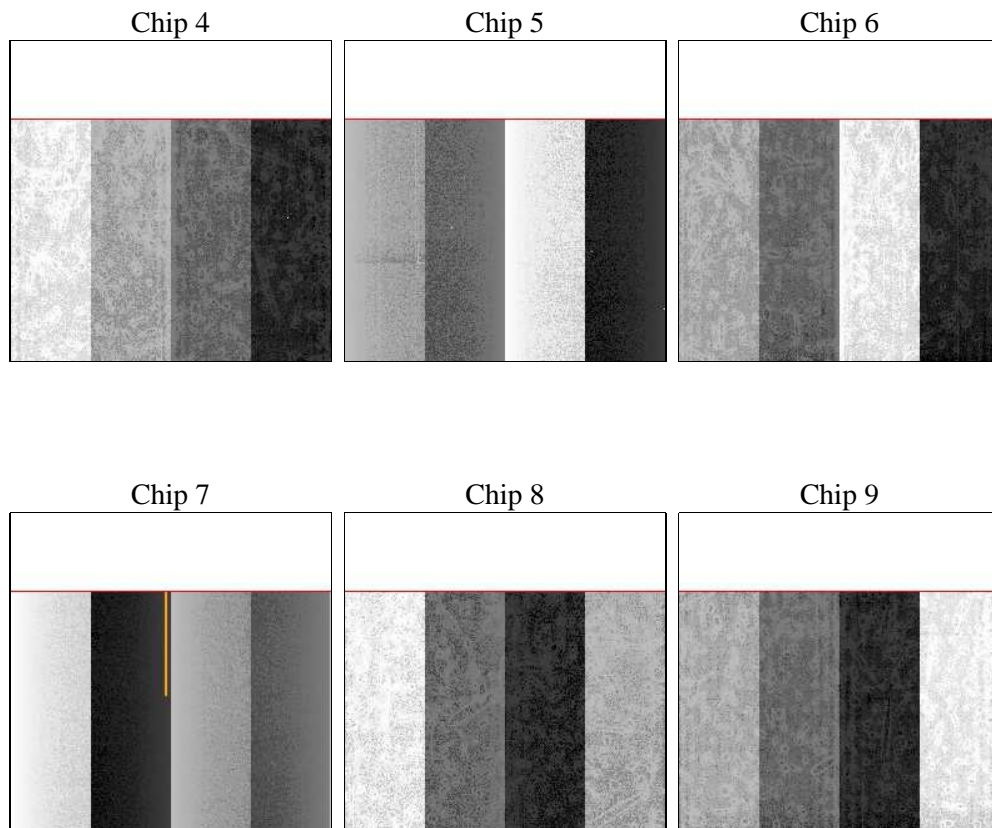
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35630.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	35665.0	Sum of GTIs [s]
caldsver	4.6.4	 	ontime4	35665.0	Sum of GTIs [s]
date	2014-12-12T06:57:09	Date and time of file creation	ontime5	35665.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	35665.0	Sum of GTIs [s]
			ontime7	35665.0	Sum of GTIs [s]
			ontime8	35665.0	Sum of GTIs [s]
			ontime9	35665.0	Sum of GTIs [s]
			l1events	995274	Number of level 1 events
			tgmetho	FINDZO	Method used to create src1a file
				4110.37	

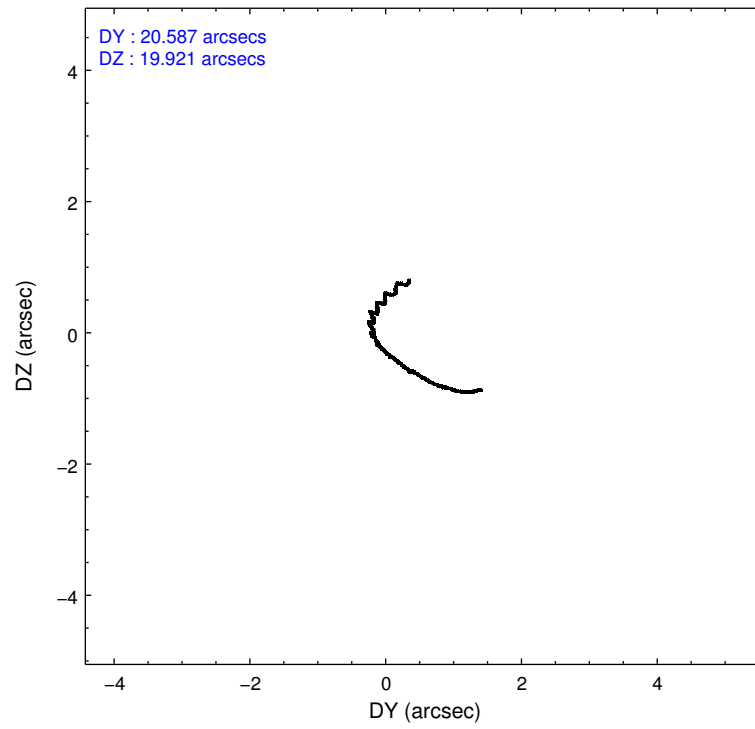
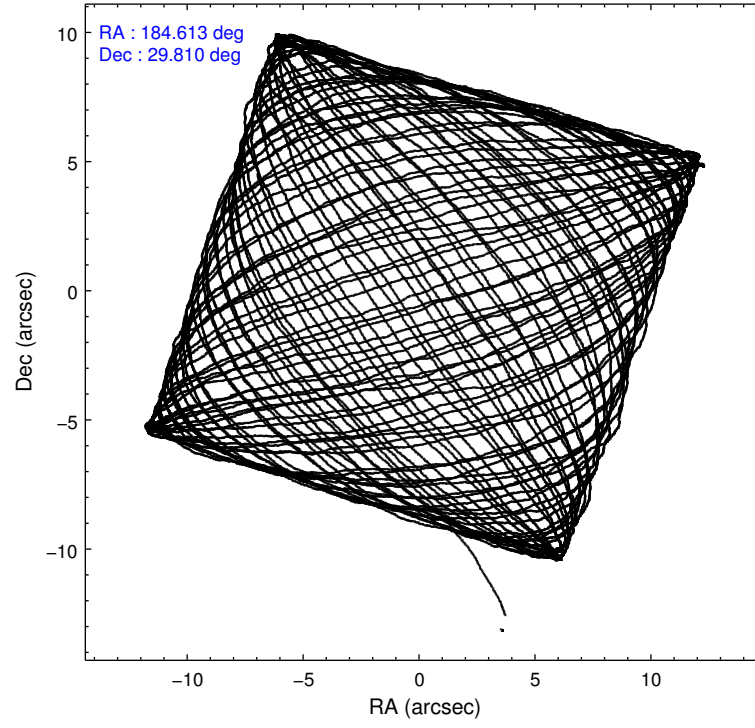
2.1.4 Events

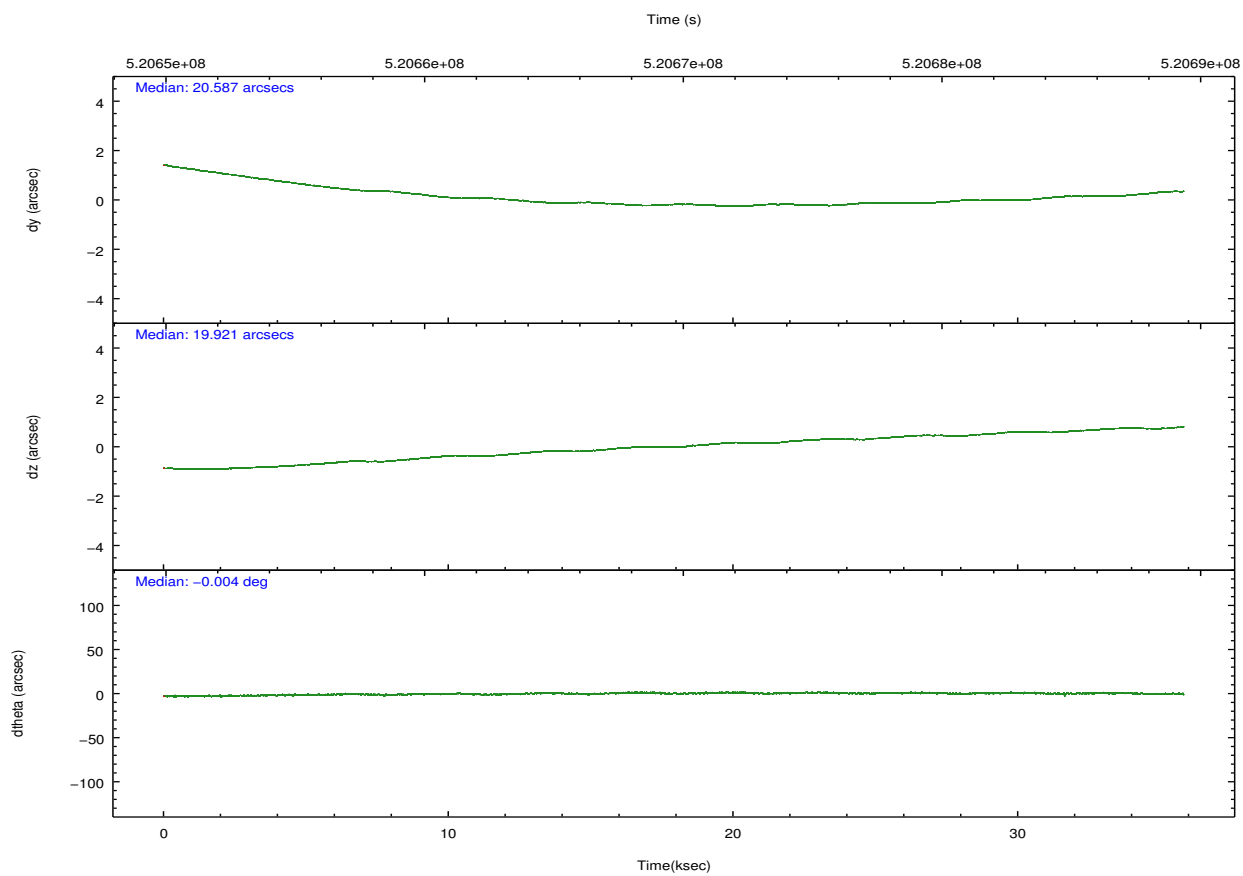
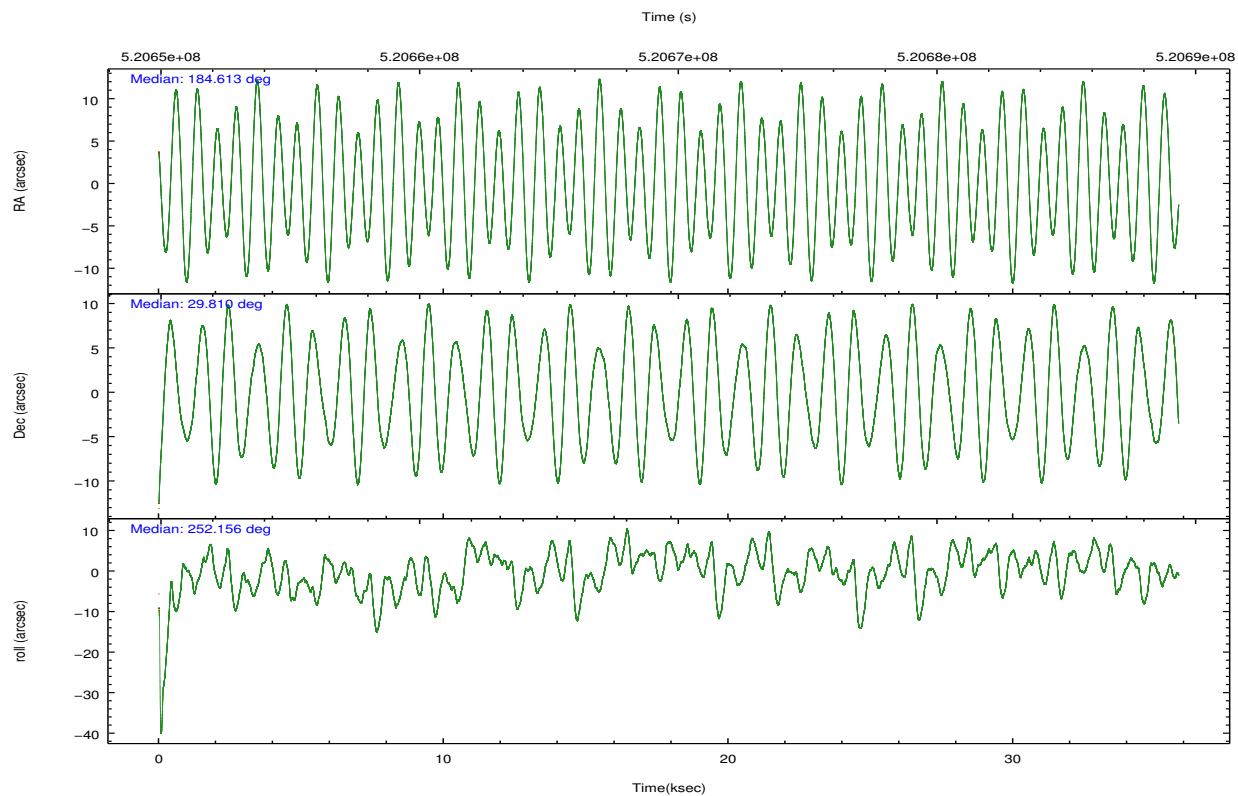
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	144940	225426	136283	191093	173294	124238	grade 0 events	13863	21041	12230	10626	16045	6341
rejected events	120546	108482	111699	98112	123695	107174		9%	9%	8%	5%	9%	5%
rejected %	83%	48%	81%	51%	71%	86%	grade 1 events	127	598	69	387	127	48
								0%	0%	0%	0%	0%	0%
							grade 2 events	4049	33423	4537	19964	11256	3710
								2%	14%	3%	10%	6%	2%
							grade 3 events	1769	4231	2058	8380	4730	1806
								1%	1%	1%	4%	2%	1%
							grade 4 events	1754	4237	1949	8251	4417	1687
								1%	1%	1%	4%	2%	1%
							grade 5 events	6561	16168	6307	18830	9510	7153
								4%	7%	4%	9%	5%	5%
							grade 6 events	2959	54018	3810	45768	13154	3522
								2%	23%	2%	23%	7%	2%
							grade 7 events	113858	91710	105323	78887	114055	99971
								78%	40%	77%	41%	65%	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	184.605585	184.6126313594475	CCD I2 on	N	N
[deg] Pointing Dec	29.837094	29.81046123868463	CCD I3 on	N	N
[deg] Pointing Roll	252.002408	252.1555417585626	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)	520651913.184000	520650726.46127	CCD S5 on	Y	Y
Observation start date	2014-07-02T01:30:46	2014-07-02T01:12:06	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	520687543.184000	520687697.18832	On-chip summing requested	N	N
Observation end date	2014-07-02T11:24:36	2014-07-02T11:28:17	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



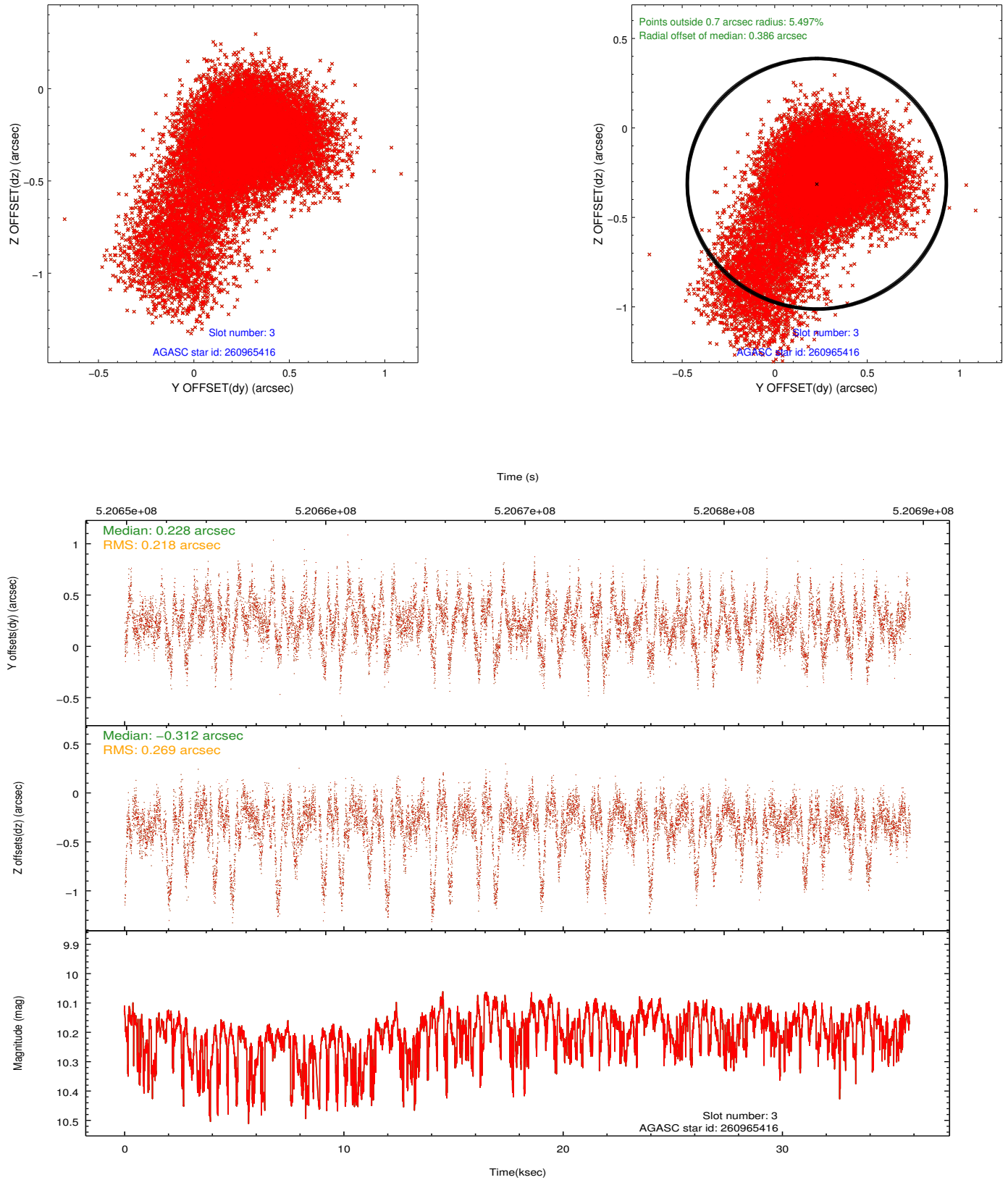


Slot Statistics

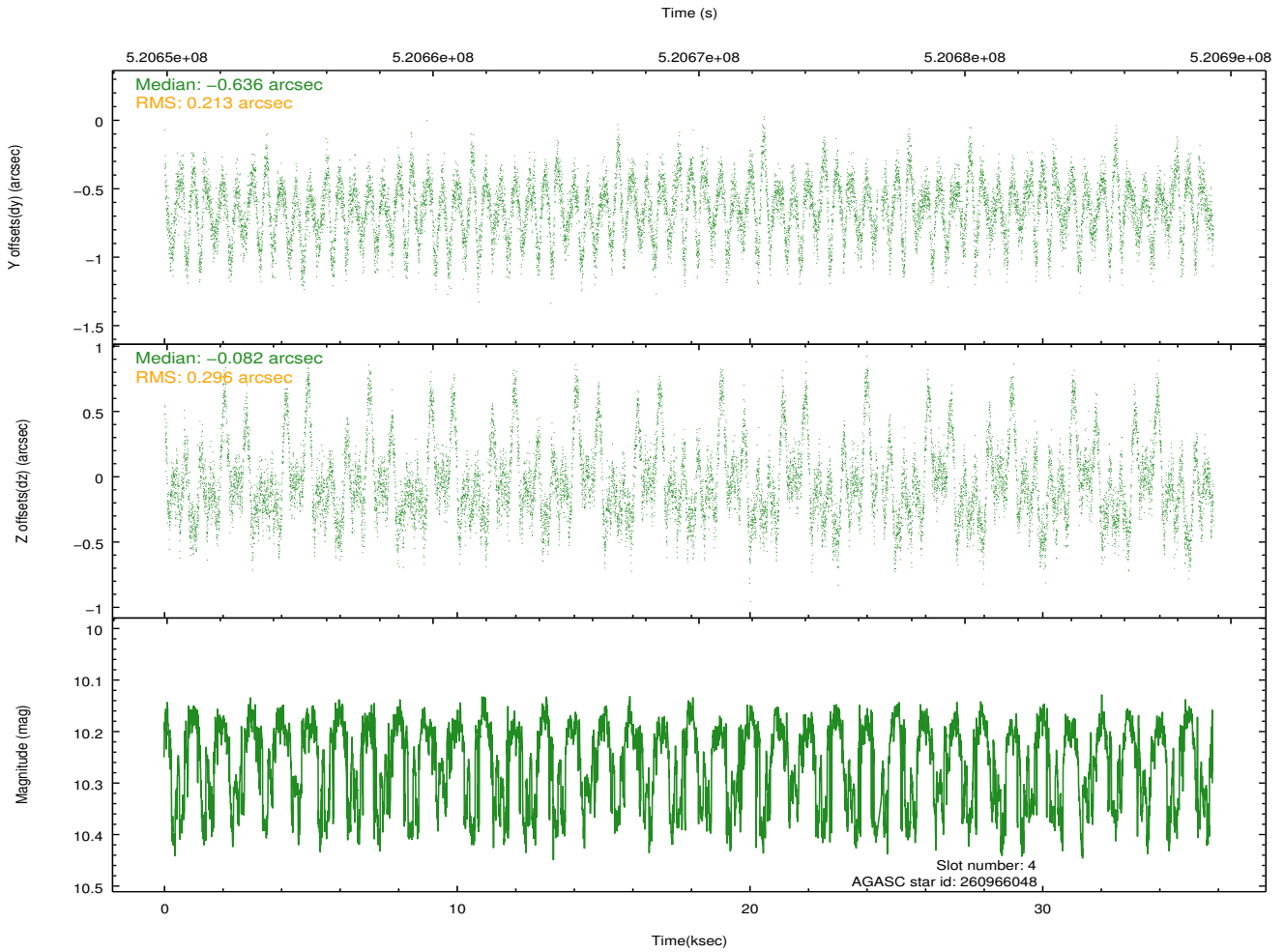
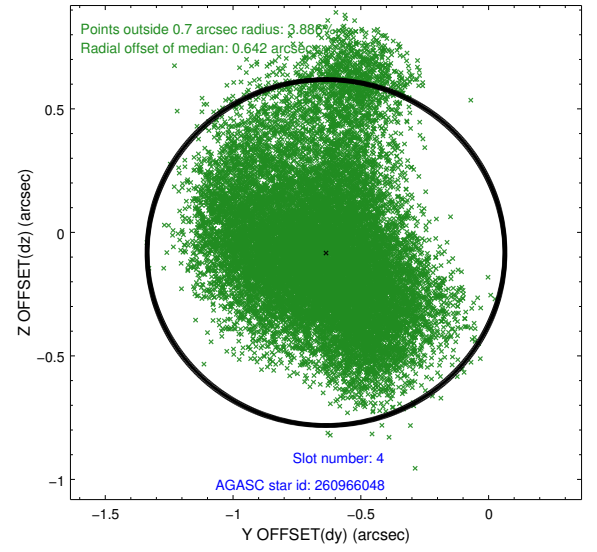
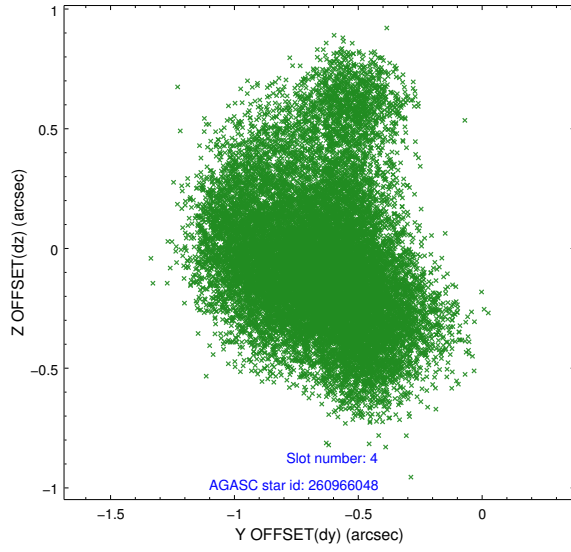
lot	status	used	id	mag	n_pts	med_dy	med_dz	drl	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	7.00	8736	-0.146	-0.077	0.018	0.037	0.000000	0.000000	-773.81	-1803.56
1	FID		ACIS-S-4	7.09	8736	0.305	0.090	0.010	0.018	0.000000	0.000000	2139.91	105.02
2	FID		ACIS-S-5	7.12	8736	-0.188	-0.005	0.017	0.032	0.000000	0.000000	-1826.64	98.65
3	BAD	used	260965416	10.20	16755	0.228	-0.312	0.323	0.715	184.798422	29.200373	1992.84	1283.77
4	GUIDE	used	260966048	10.25	17164	-0.636	-0.082	0.382	0.667	185.169624	29.533581	488.83	2016.29
5	GUIDE	used	331368240	6.53	17472	-0.147	0.108	0.140	0.216	184.631757	30.249046	-1434.17	-378.73
6	GUIDE	used	331352880	9.65	17439	0.143	0.246	0.184	0.297	184.726920	30.468207	-2276.41	-344.13
7	GUIDE	used	260968144	10.23	17334	0.431	0.035	0.205	0.356	184.193166	29.586641	1254.78	-949.84

2.4 Star Slots

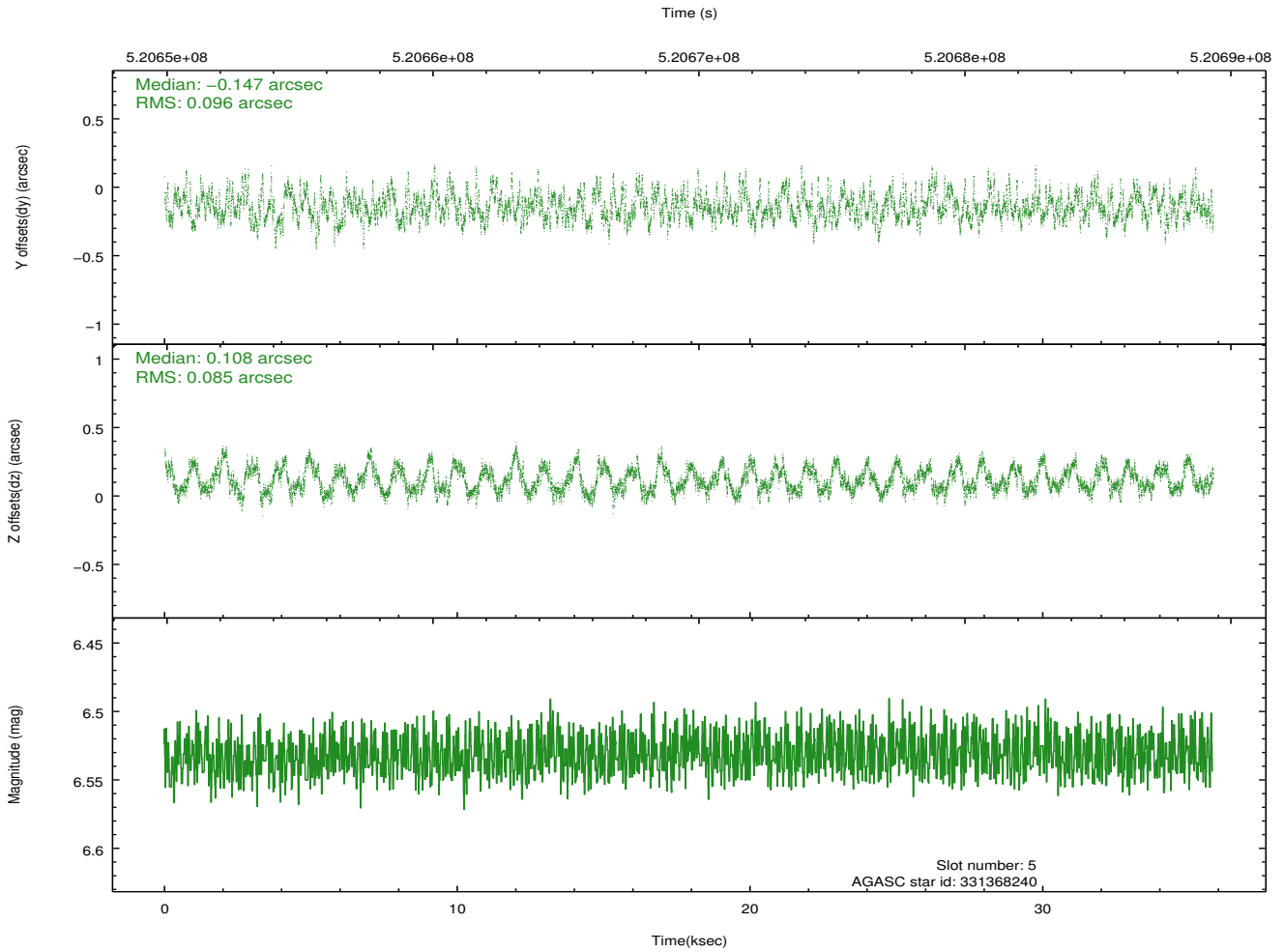
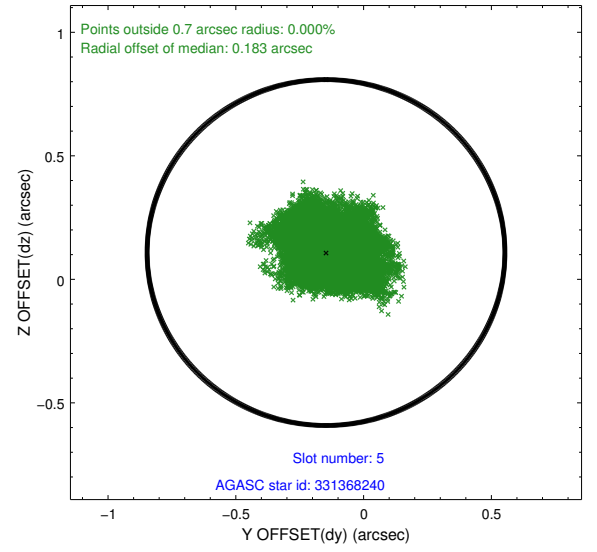
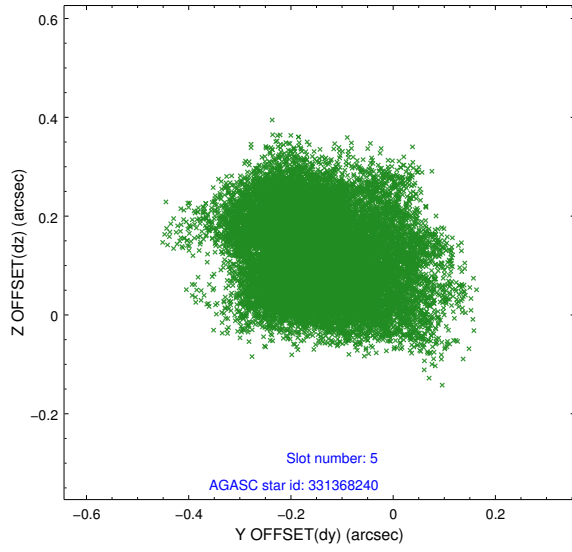
2.4.1 Slot 3



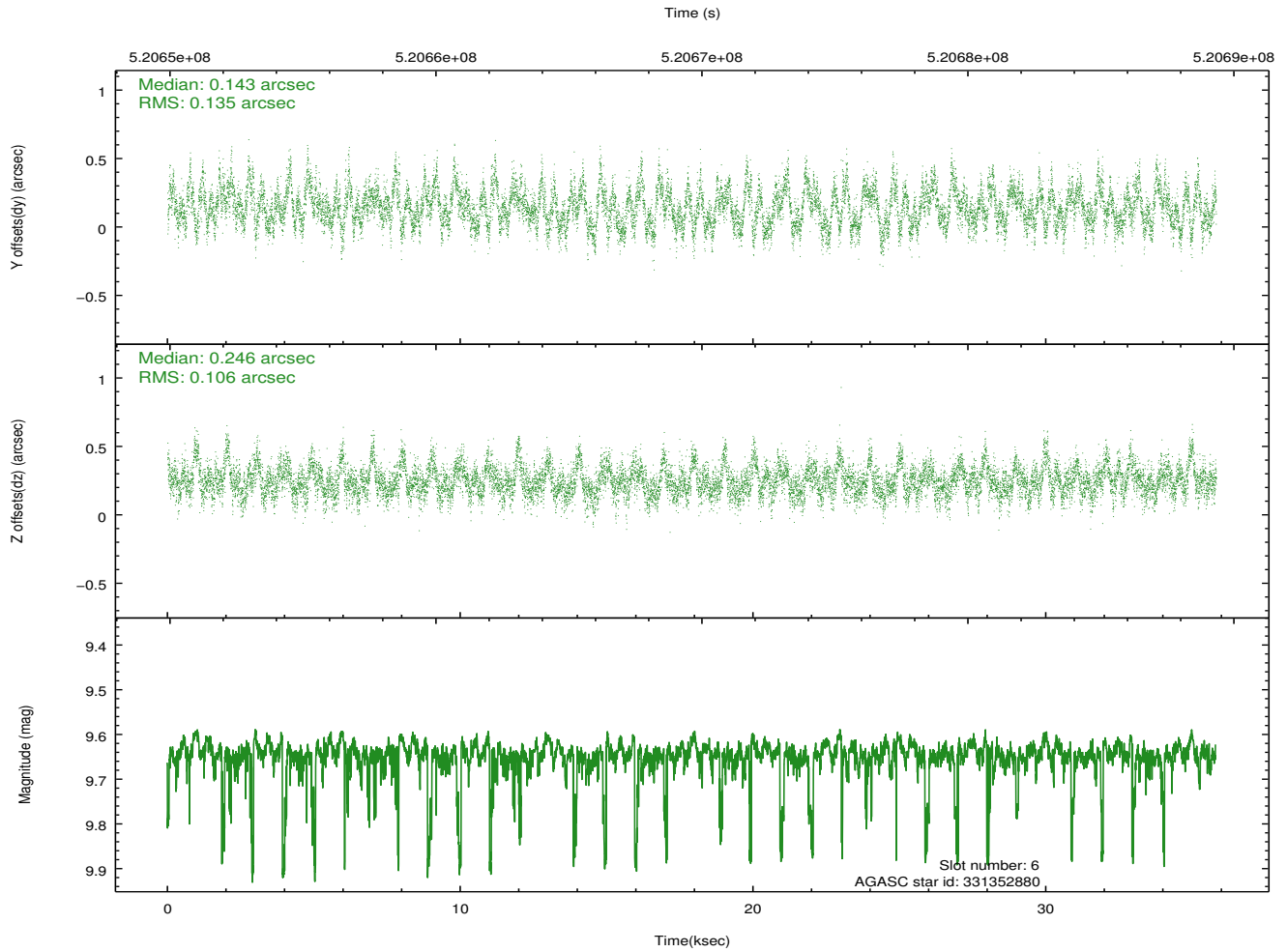
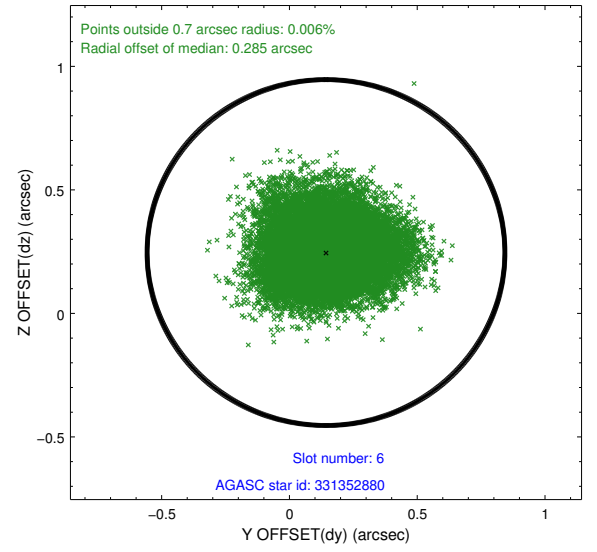
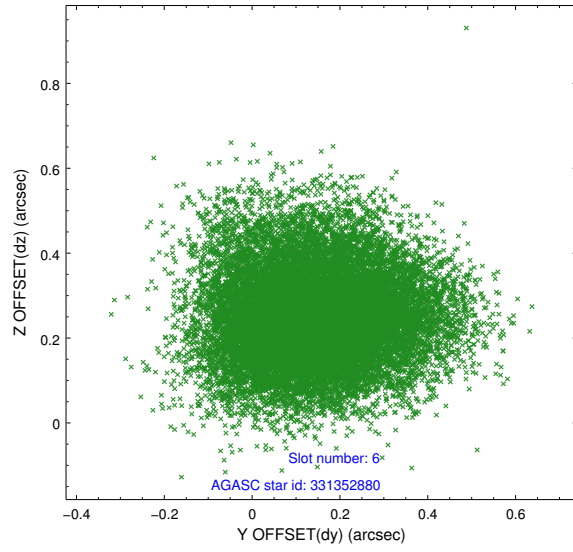
2.4.2 Slot 4



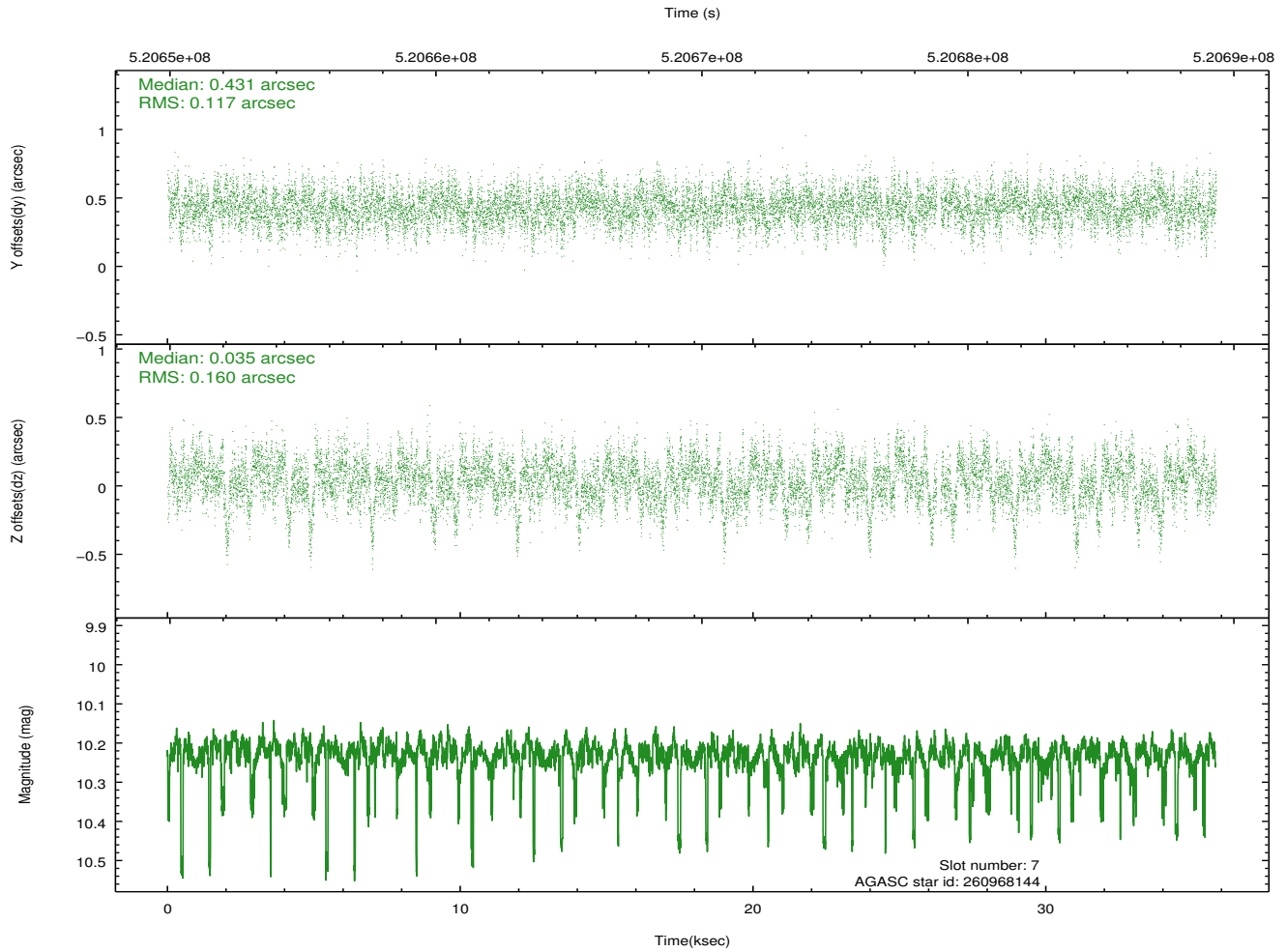
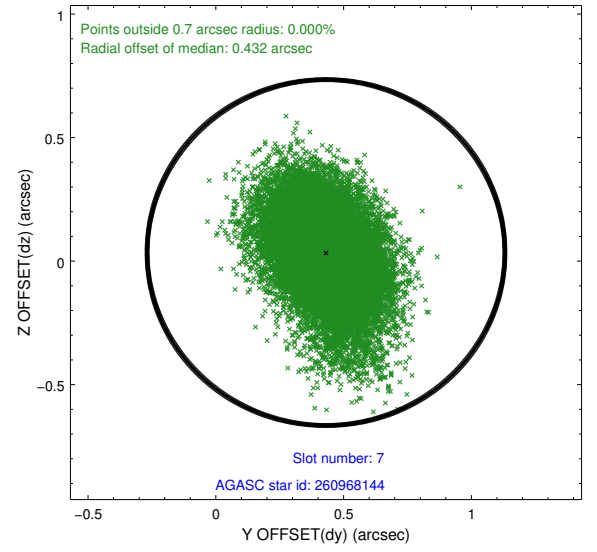
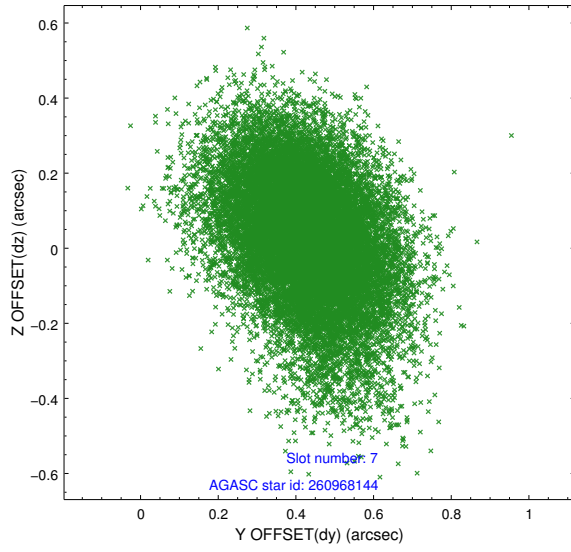
2.4.3 Slot 5



2.4.4 Slot 6

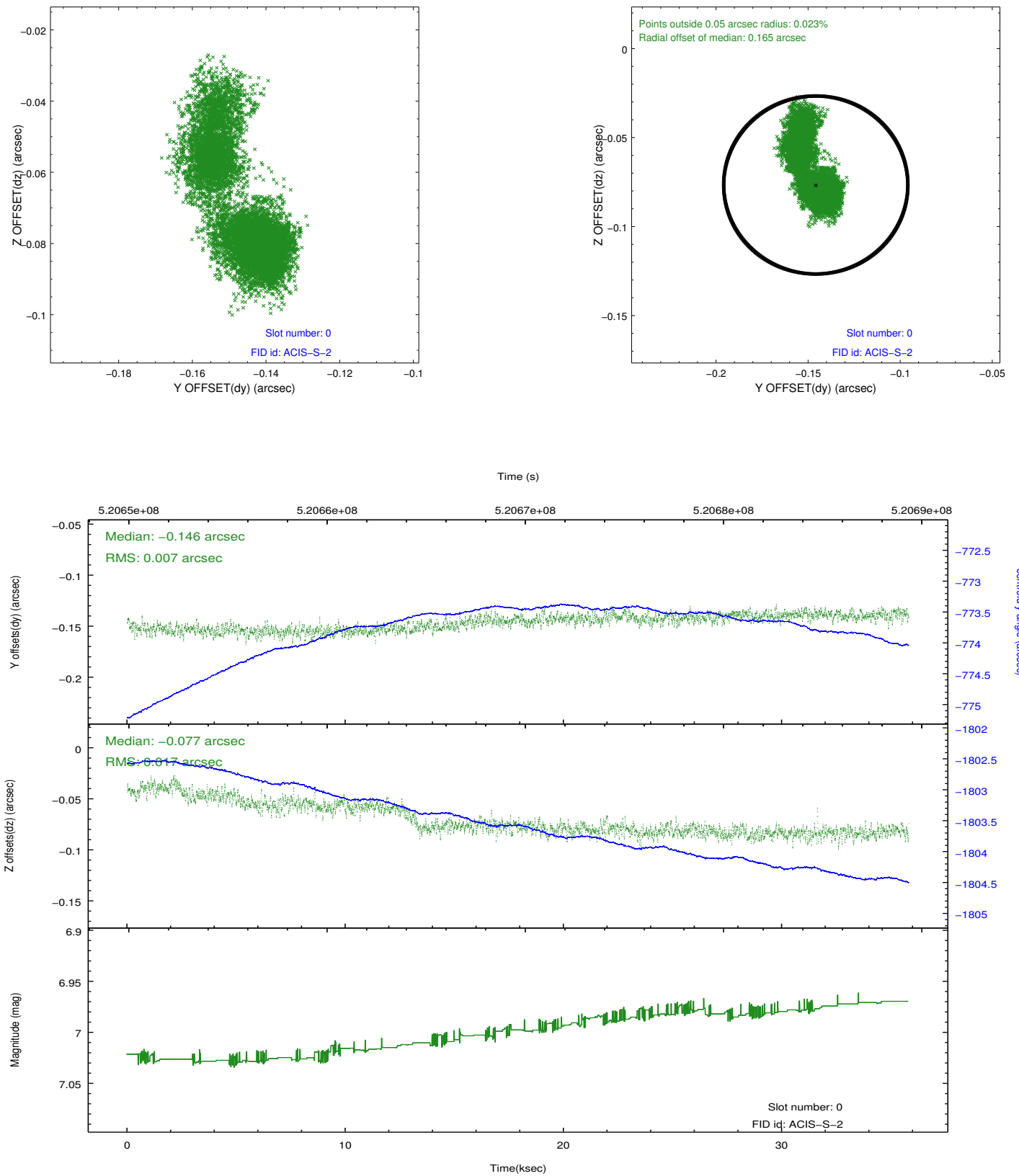


2.4.5 Slot 7

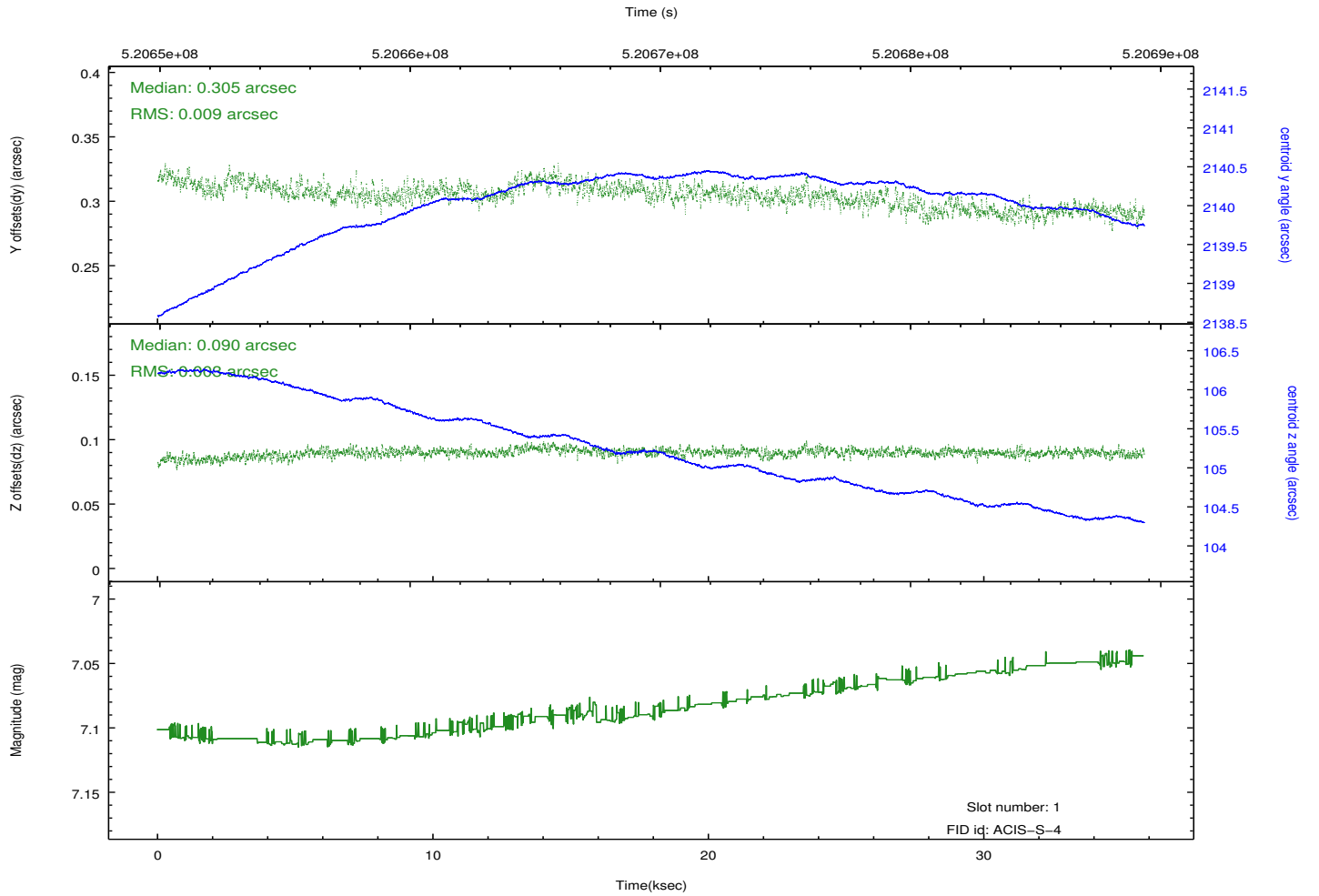
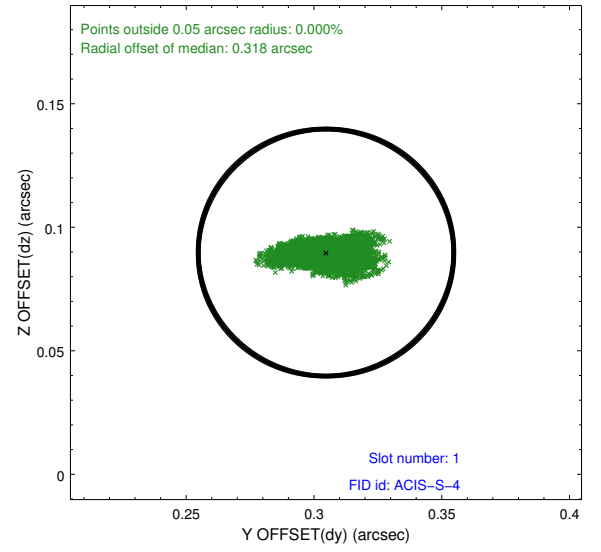
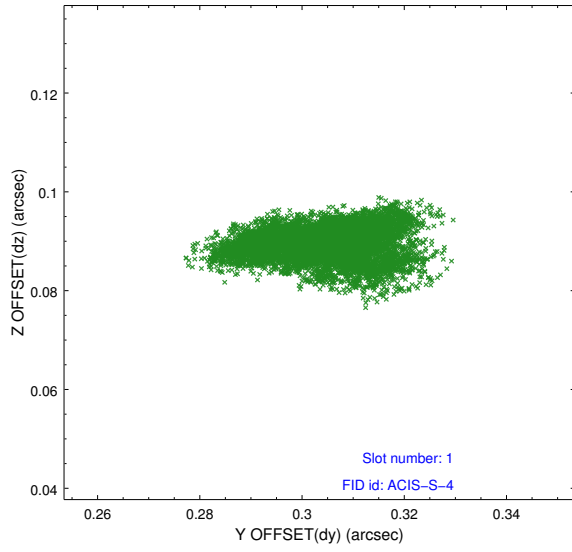


2.5 FID Slots

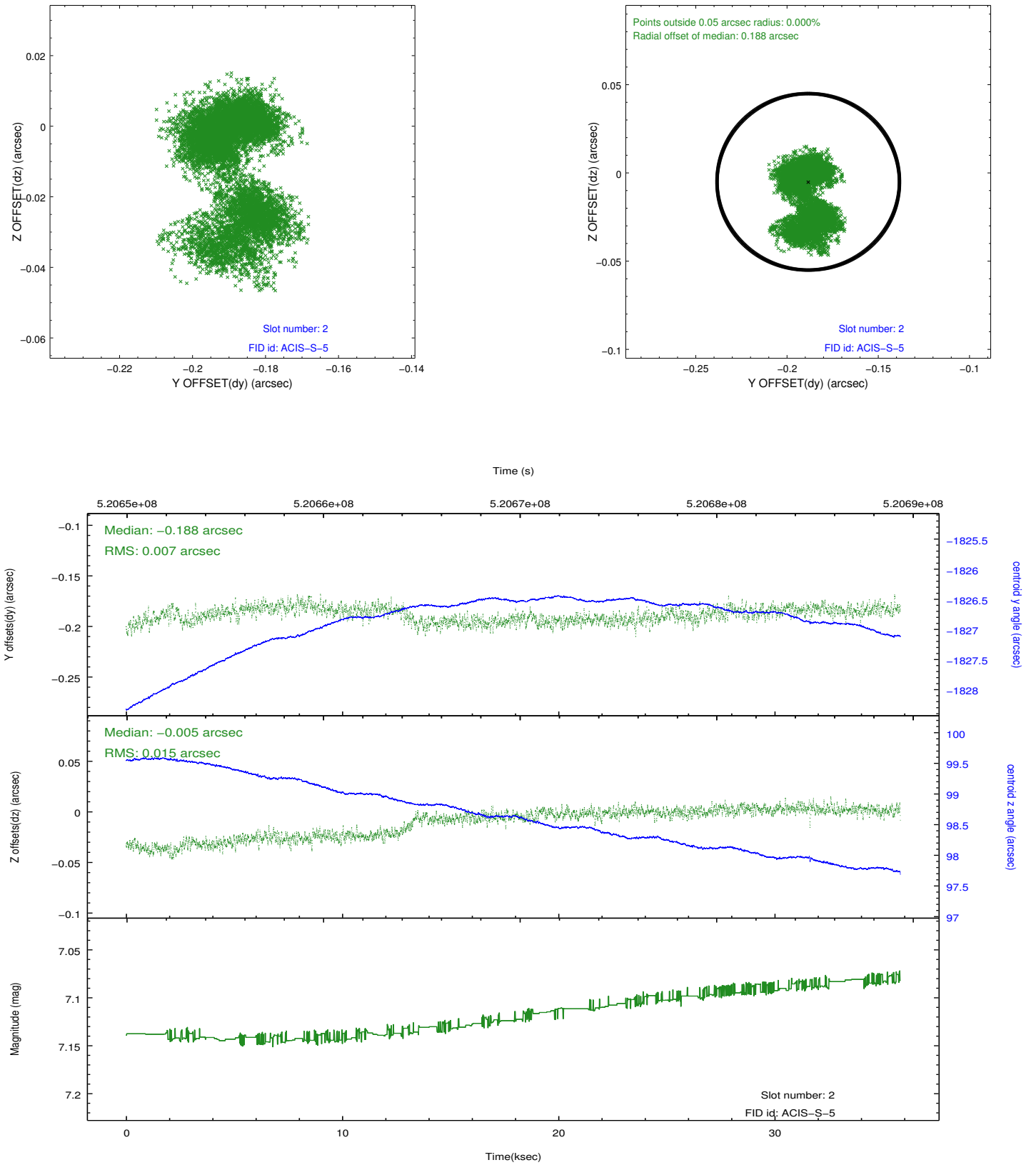
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

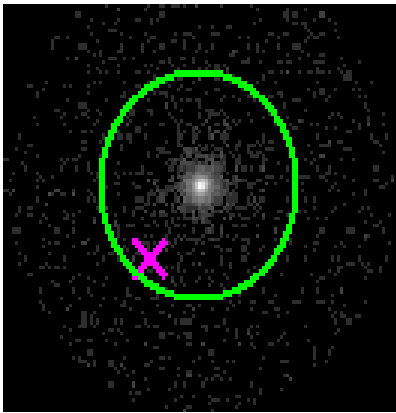


3 Gratings

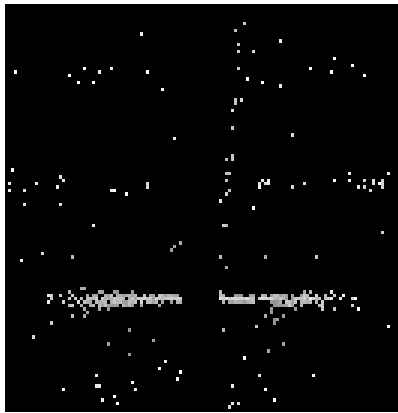
3.1 HEG Arm



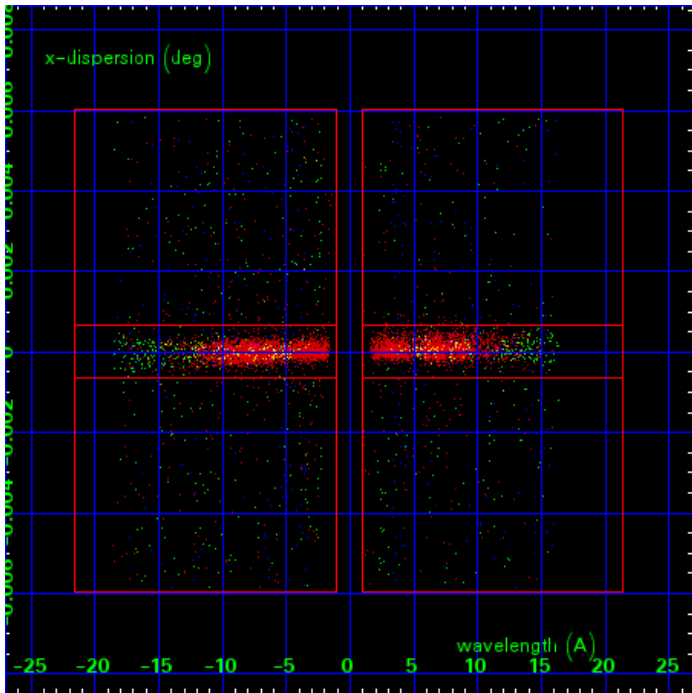
HEG Order Sort 123



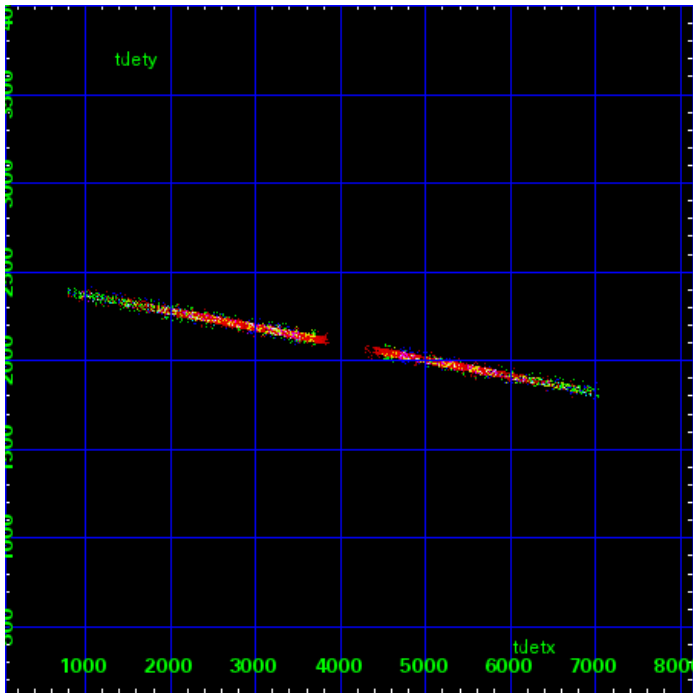
HEG Zero Order



HEG Order Sort ALL

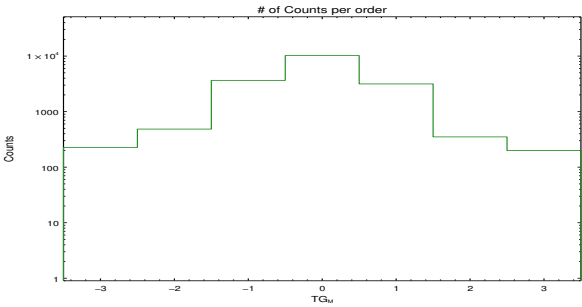


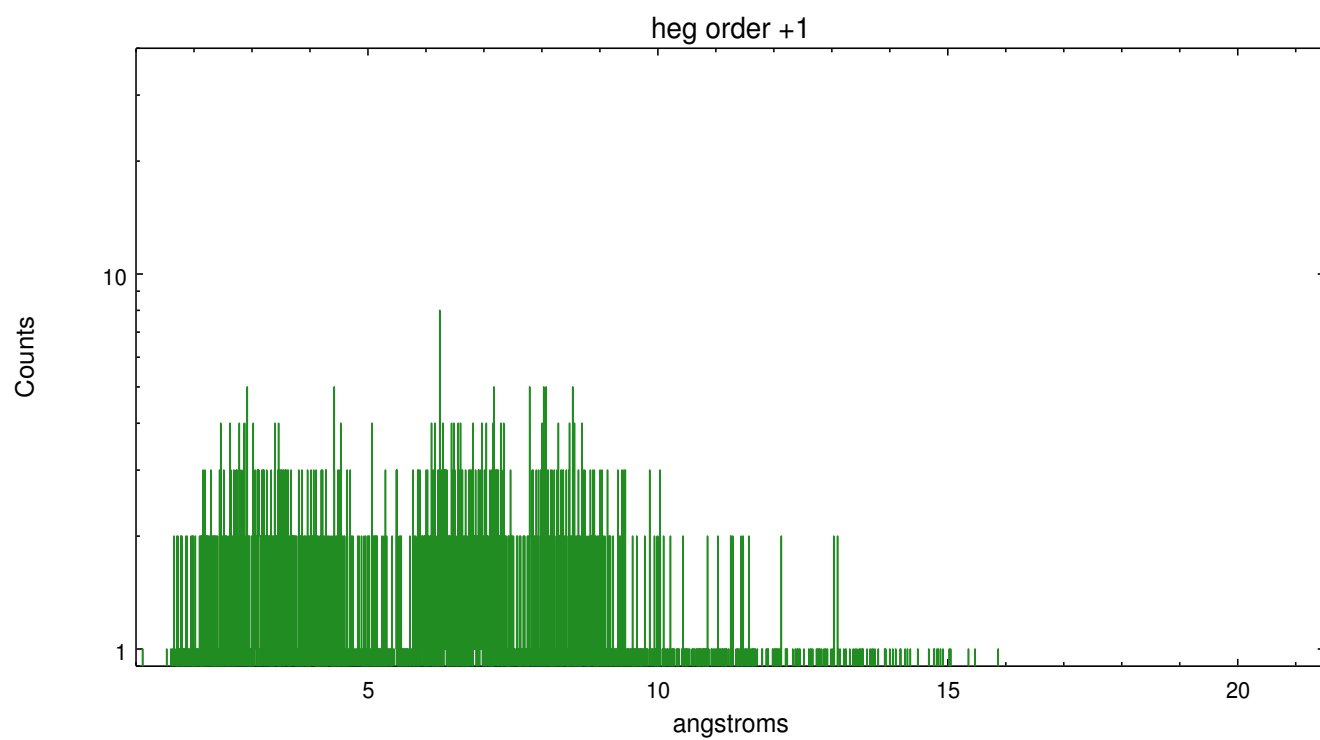
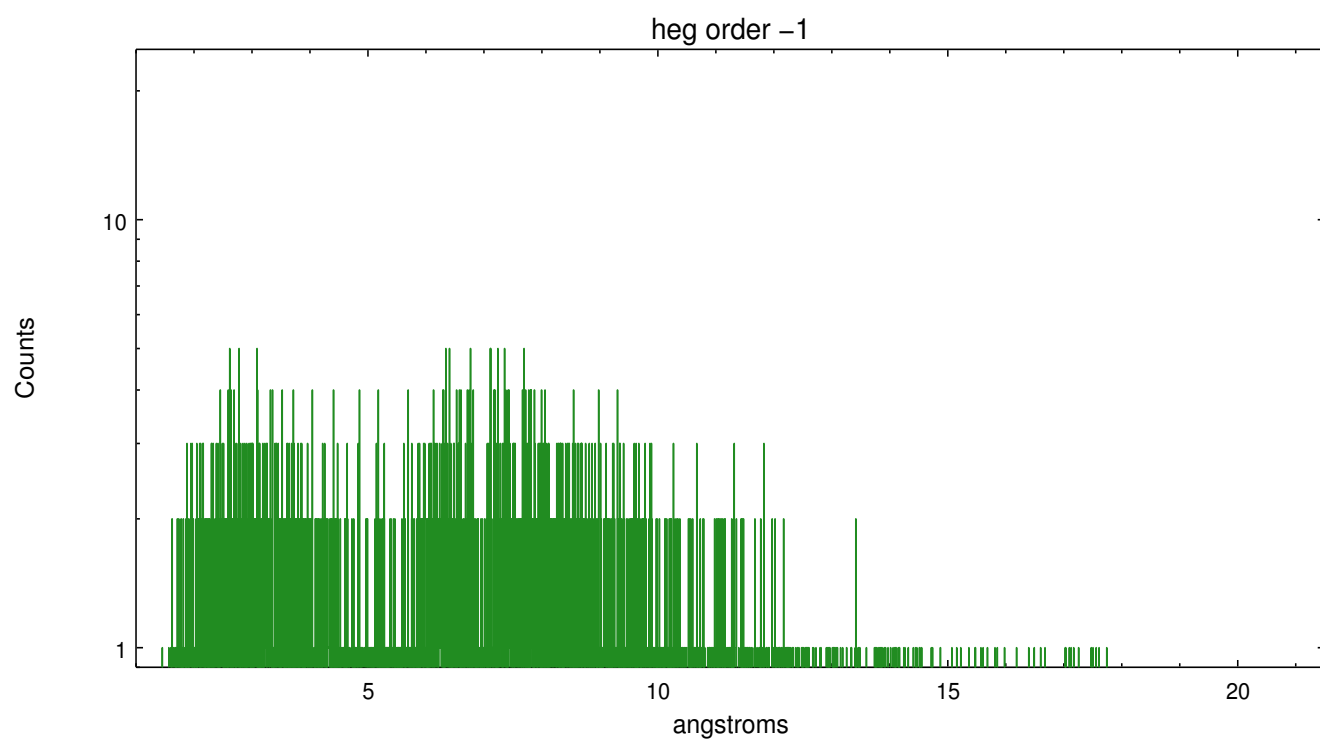
Spot Image HEG



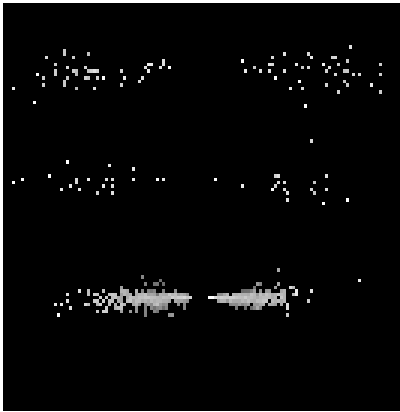
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	227	485	3654	10205	3157	351	199

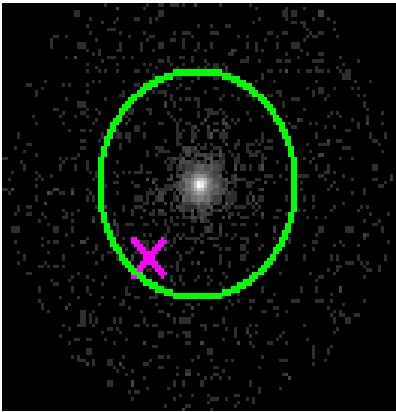




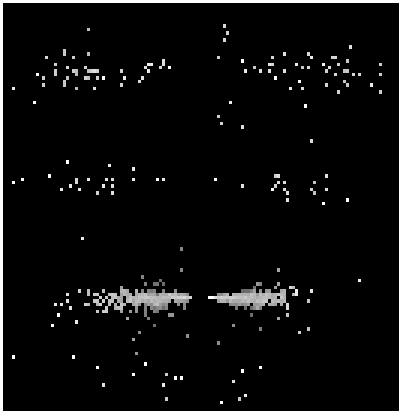
3.2 MEG Arm



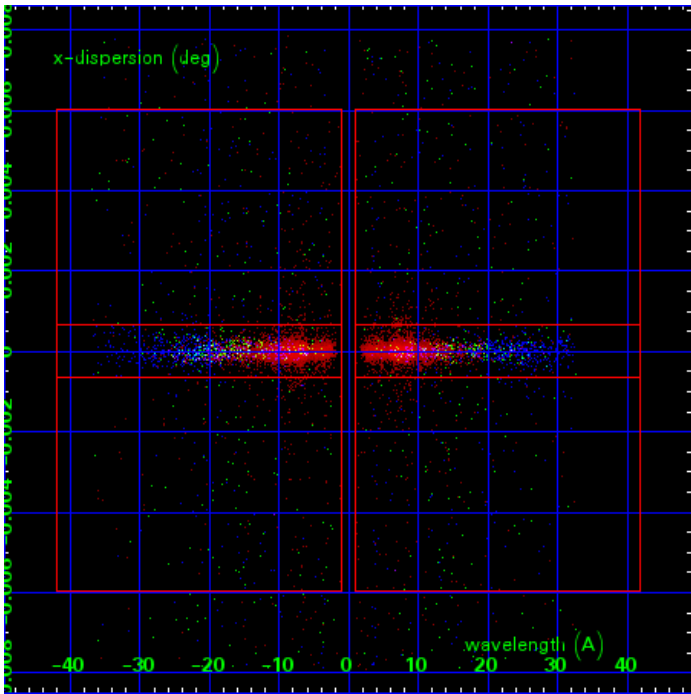
MEG Order Sort 123



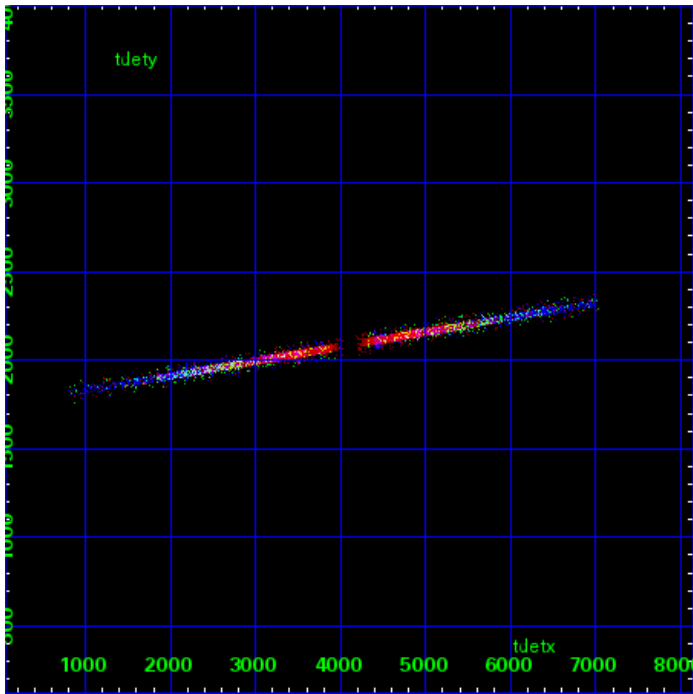
MEG Zero Order



MEG Order Sort ALL

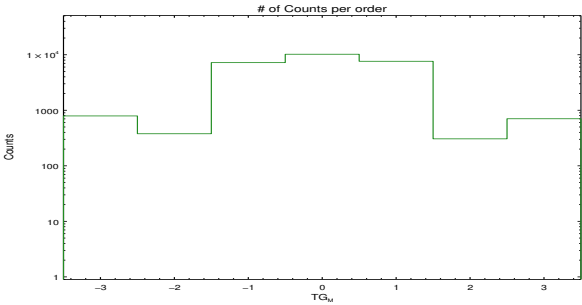


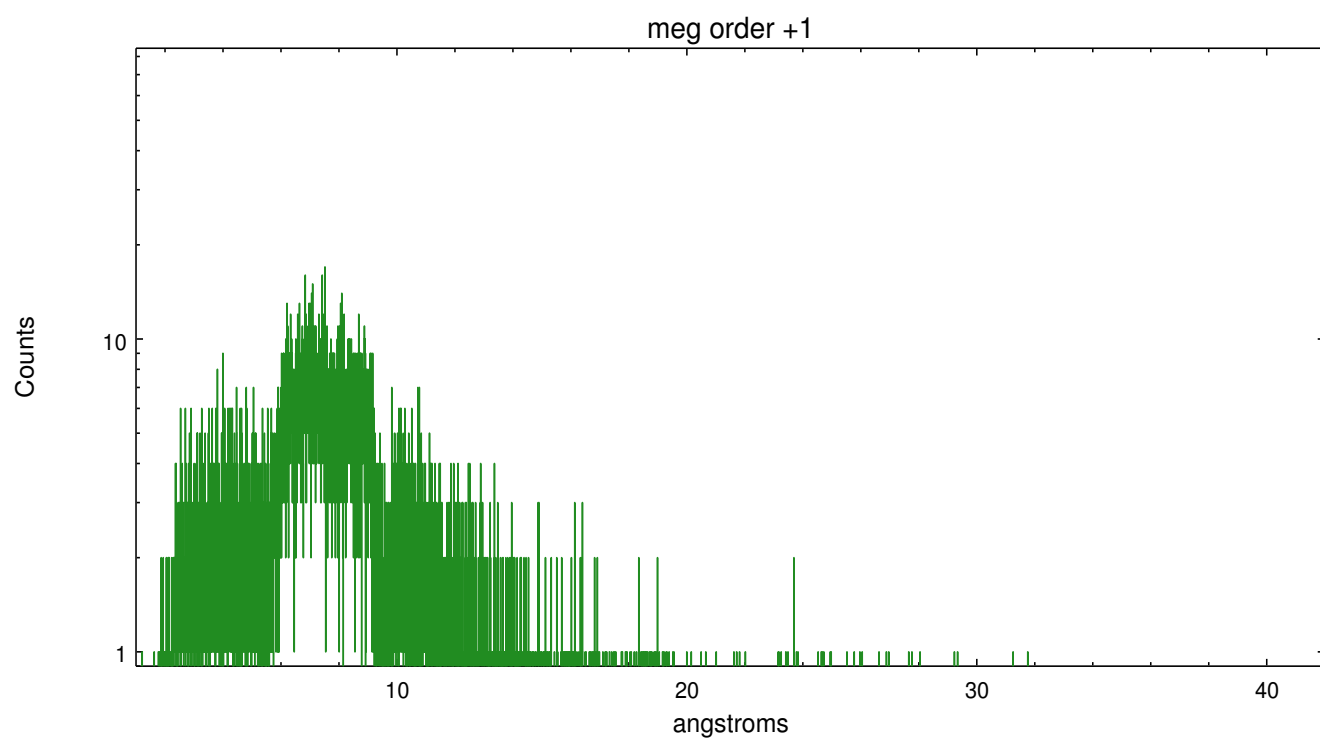
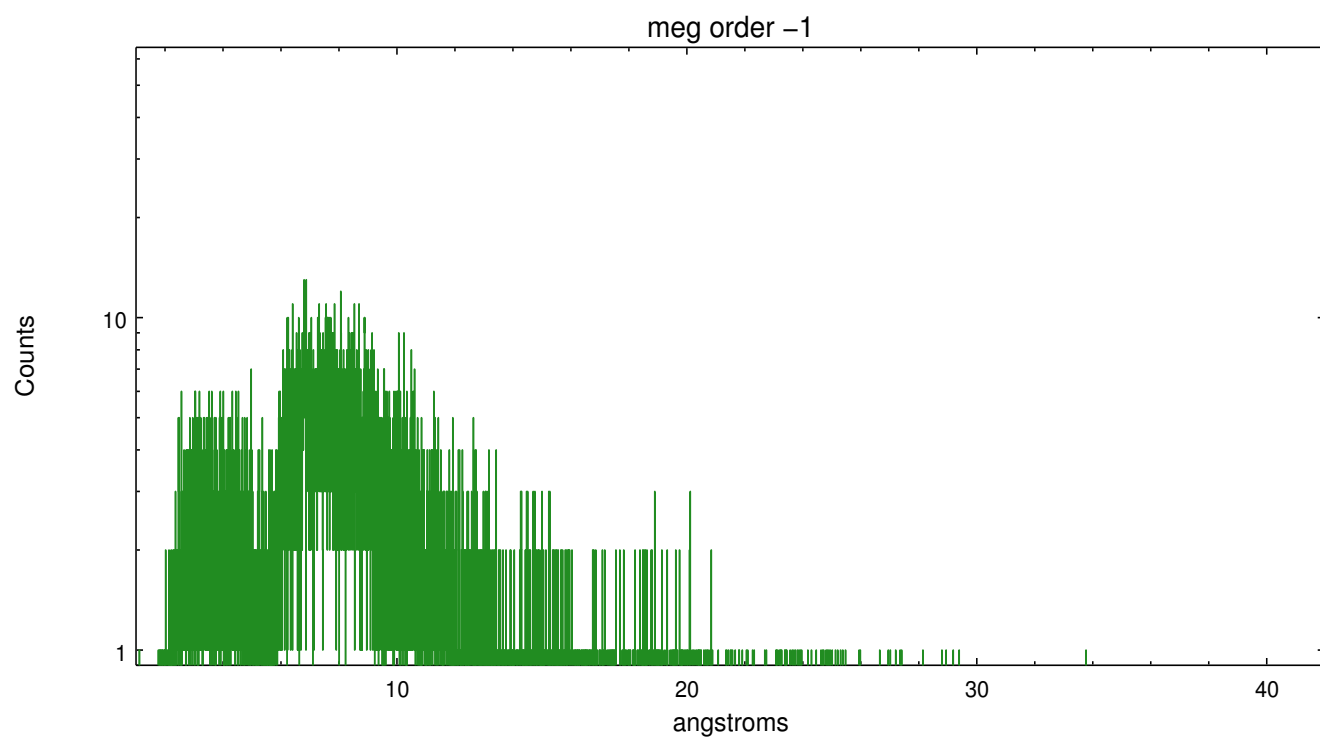
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	791	378	7212	10205	7619	306	704





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.11.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.665

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

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Aspect review has determined that the solution with the larger than nominal rms for some stars is still acceptable.