

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 14455 - L2 Version 1
Chandra X-Ray Center

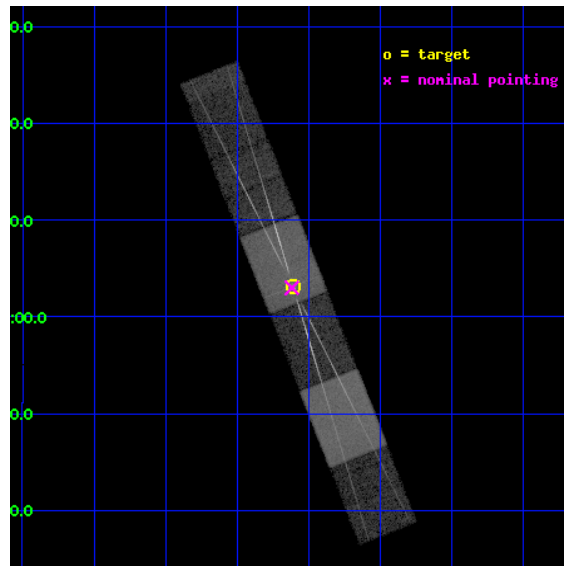
L2 Processing Date : Jul 17 2012

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1 Front

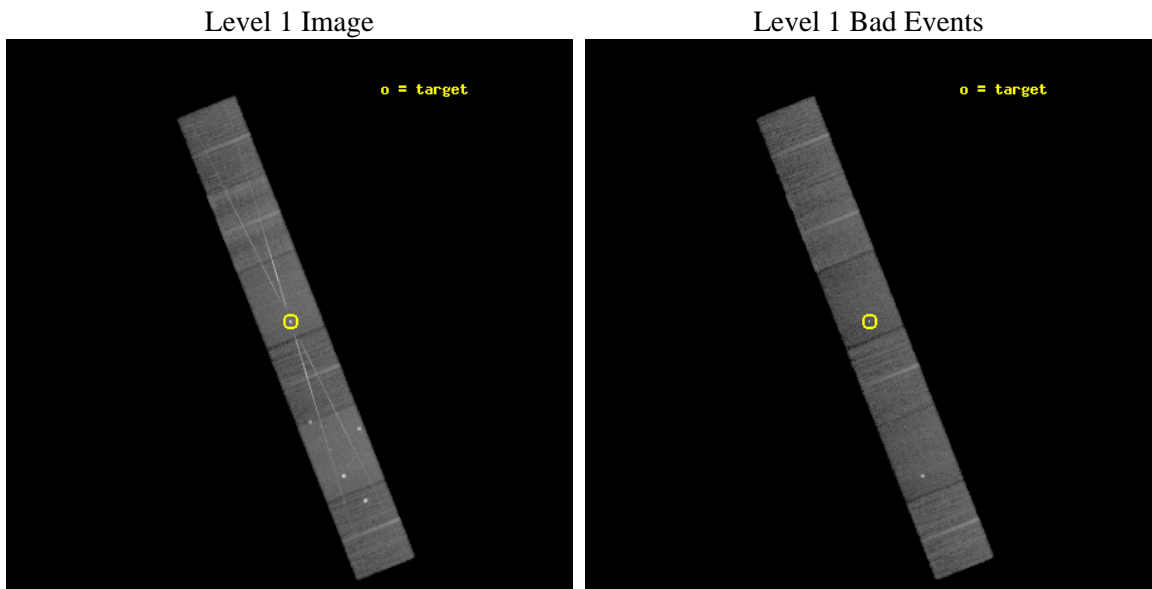
seq_num	790249	Sequence number
obs_id	14455	Observation id
title	Coordinated Observation of 3C 273 with NuSTAR	Proposal title
observer	CXC Calibration	Principal investigator
object	3C 273	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.277917	Observer's specified target RA [deg]
dec_targ	2.052389	Observer's specified target Dec [deg]
ra_nom	187.27970891257	Nominal RA [deg]
dec_nom	2.049941932186	Nominal Dec [deg]
roll_nom	248.44370048818	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30034.946464658	Sum of GTIs [s]
livetime	29549.8560281	Livetime [s]
ontime4	30034.987504661	Sum of GTIs [s]
ontime5	30034.905424654	Sum of GTIs [s]
ontime6	30034.864384651	Sum of GTIs [s]
ontime7	30034.946464658	Sum of GTIs [s]
ontime8	30034.823344648	Sum of GTIs [s]
ontime9	30034.782304645	Sum of GTIs [s]
l2events	274710	Number of level 2 events



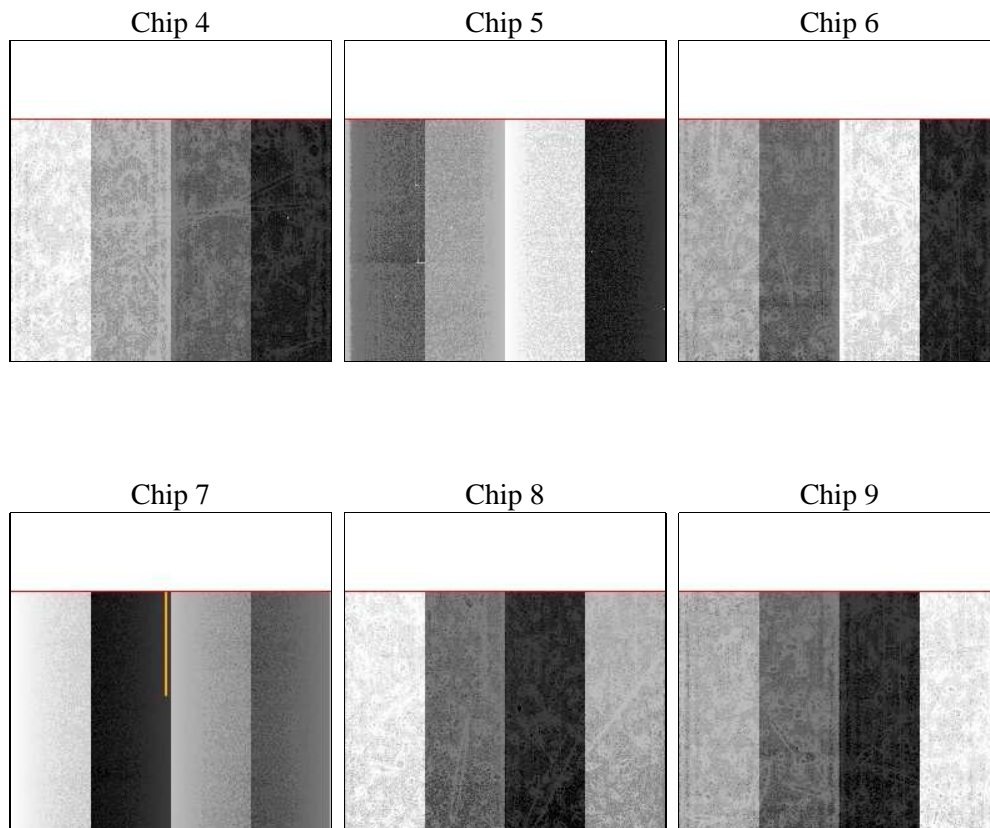
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30034.946464658	Sum of GTIs [s]
caldbver	4.5.0	 	ontime4	30034.987504661	Sum of GTIs [s]
date	2012-07-17T04:22:17	Date and time of file creation	ontime5	30034.905424654	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	30034.864384651	Sum of GTIs [s]
			ontime7	30034.946464658	Sum of GTIs [s]
			ontime8	30034.823344648	Sum of GTIs [s]
			ontime9	30034.782304645	Sum of GTIs [s]
			l1events	954657	Number of level 1 events

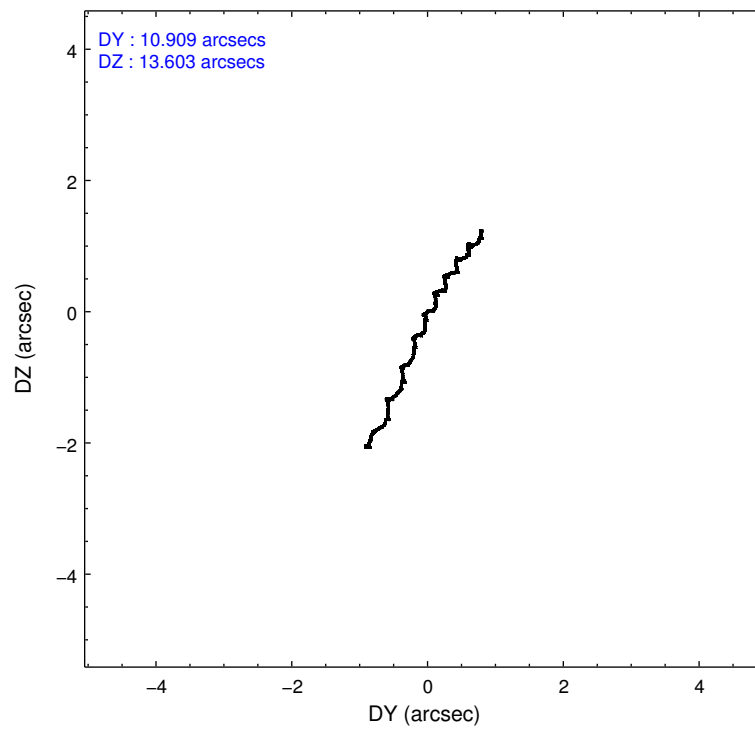
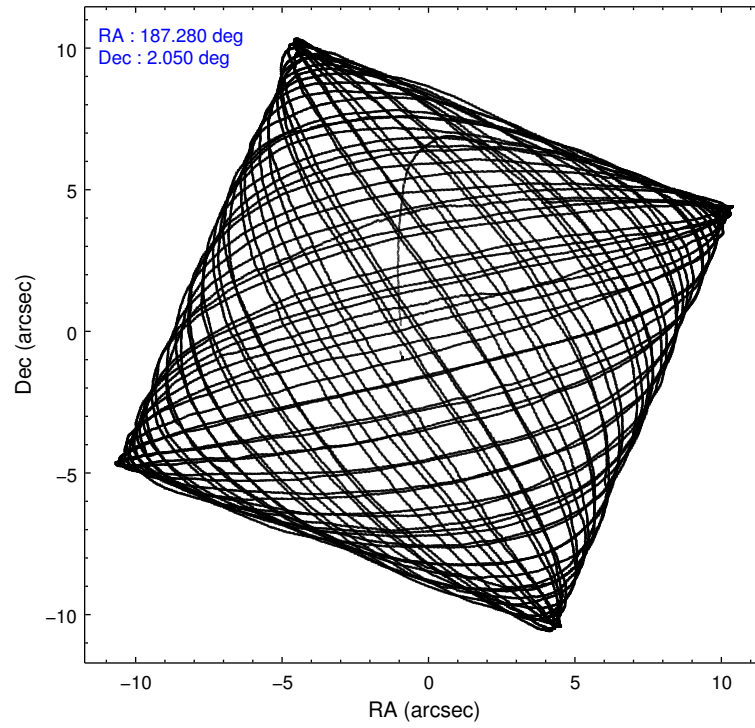
2.1.4 Events

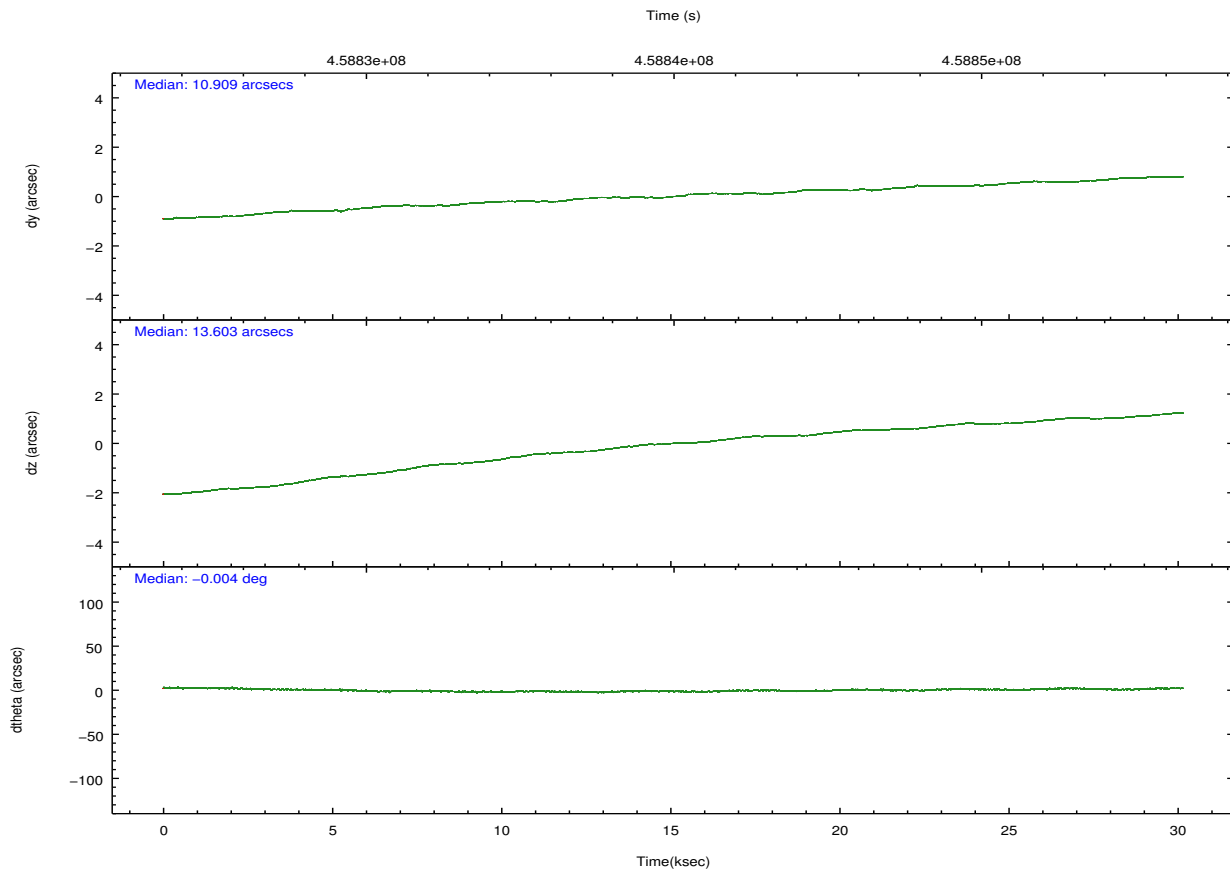
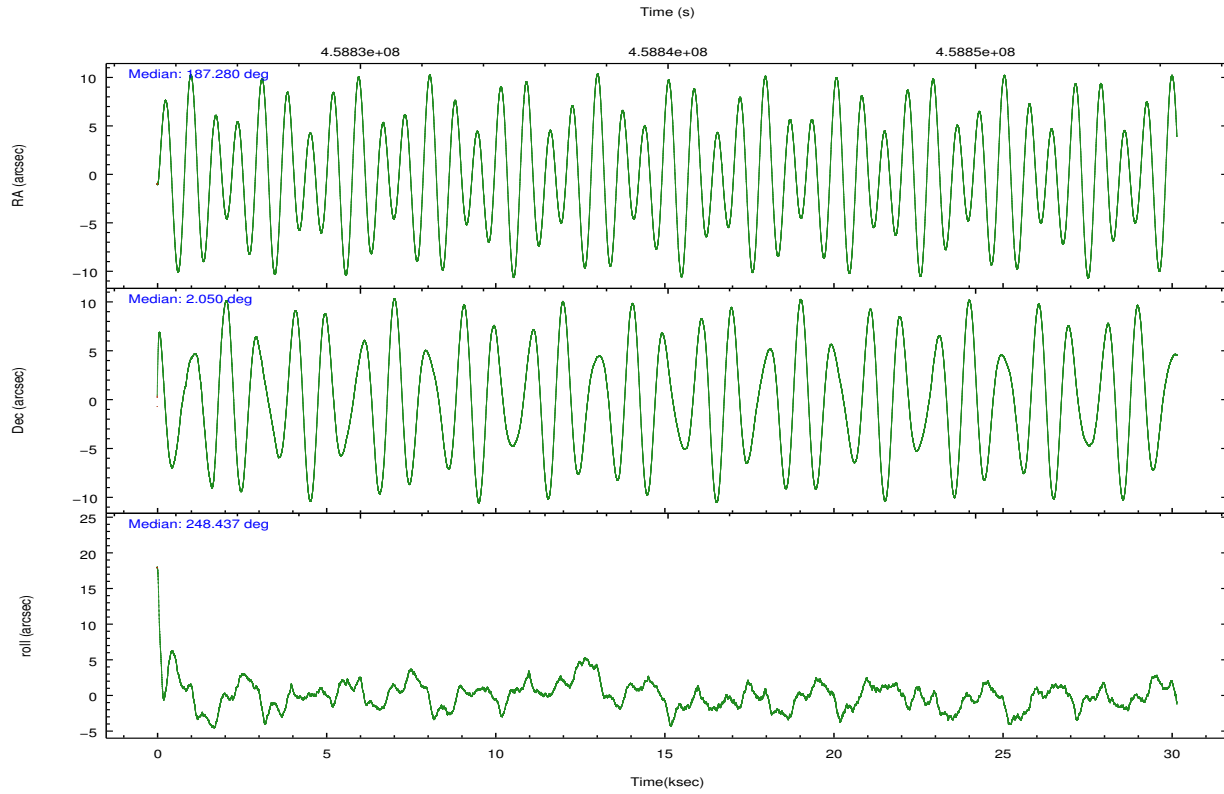
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	138255	204876	139733	185890	169639	116264	grade 0 events	16467	19759	23890	12622	23970	6896
rejected events	111967	96635	101284	87902	109939	99678		11%	9%	17%	6%	14%	5%
rejected %	80%	47%	72%	47%	64%	85%	grade 1 events	122	3070	98	418	126	56
								0%	1%	0%	0%	0%	0%
							grade 2 events	3961	31928	5932	21232	11251	3402
								2%	15%	4%	11%	6%	2%
							grade 3 events	1649	4686	2395	9226	6321	1617
								1%	2%	1%	4%	3%	1%
							grade 4 events	1588	4291	2313	9099	5822	1534
								1%	2%	1%	4%	3%	1%
							grade 5 events	5601	14465	5739	16755	8162	6143
								4%	7%	4%	9%	4%	5%
							grade 6 events	2626	47594	3921	45823	12376	3138
								1%	23%	2%	24%	7%	2%
							grade 7 events	106241	79083	95445	70715	101611	93478
								76%	38%	68%	38%	59%	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	187.275314	187.2797089125737	CCD I2 on	N	N
[deg] Pointing Dec	2.076927	2.049941932186036	CCD I3 on	N	N
[deg] Pointing Roll	248.287227	248.4437004881804	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)	458825039.184000	458823936.18512	CCD S5 on	Y	Y
Observation start date	2012-07-16T11:22:52	2012-07-16T11:05:36	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	458855039.184000	458856071.98683	On-chip summing requested	N	N
Observation end date	2012-07-16T19:42:52	2012-07-16T20:01:11	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



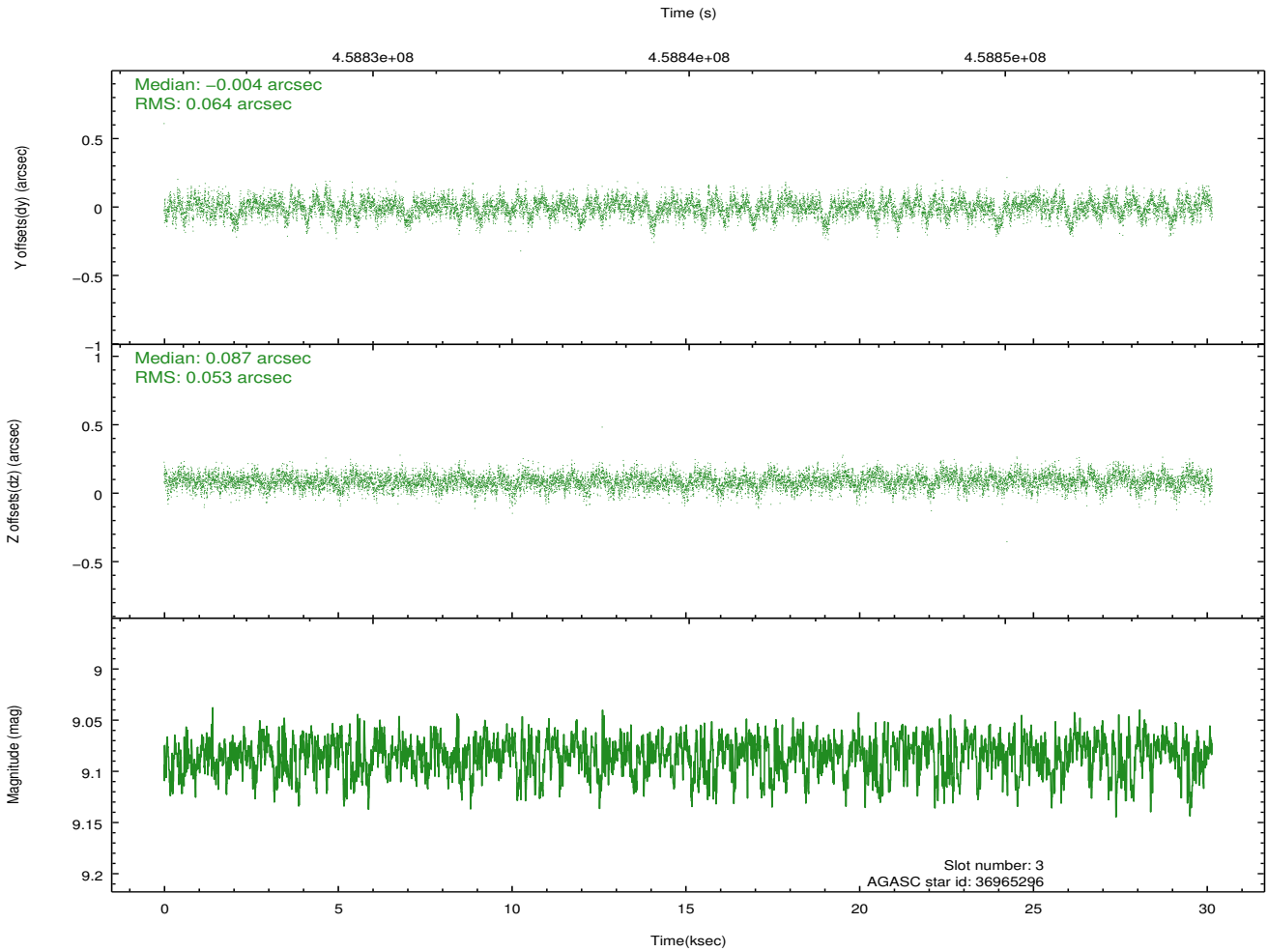
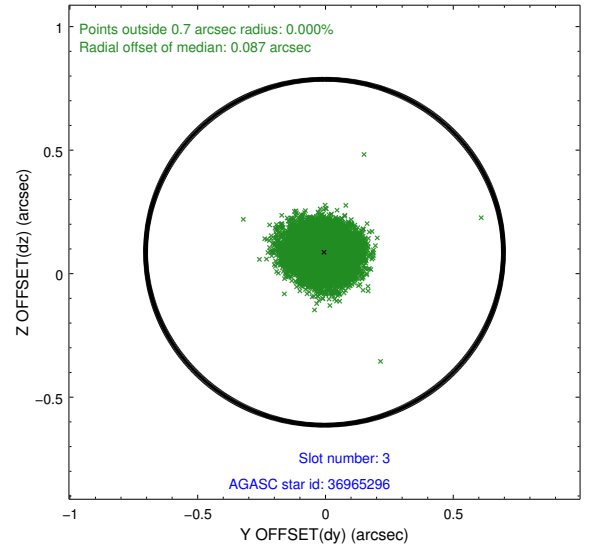
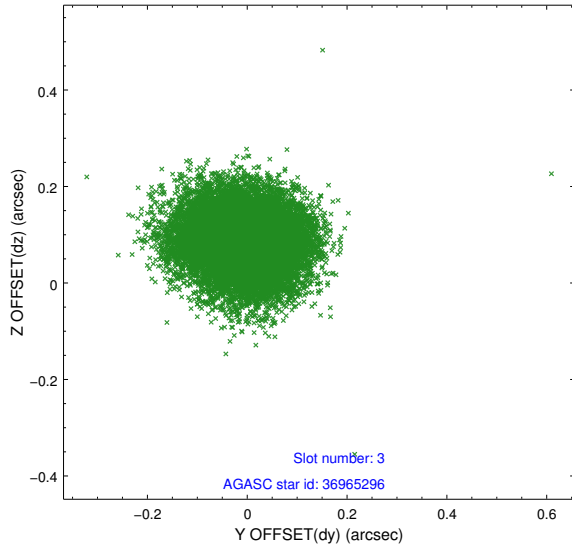


Slot Statistics

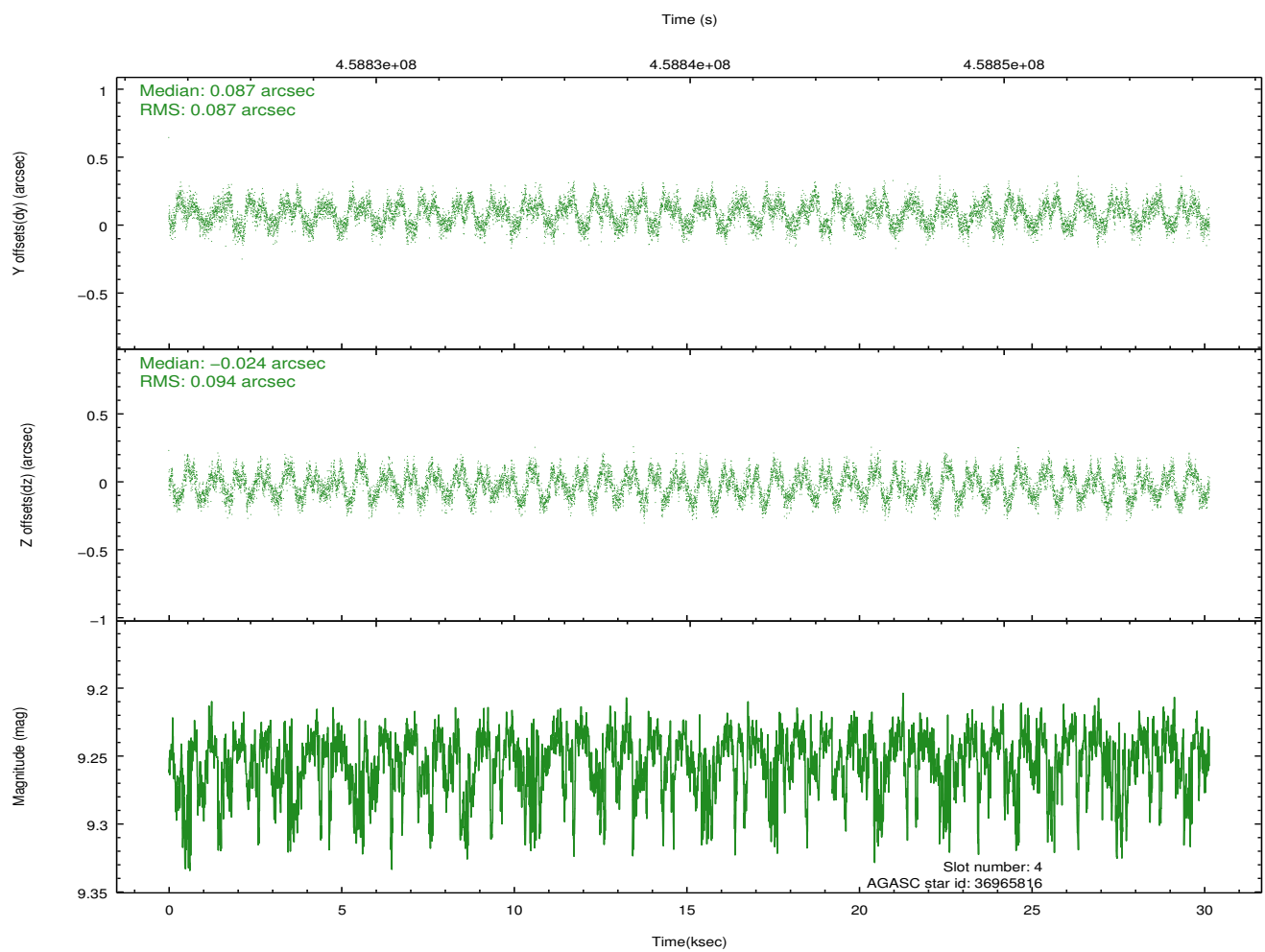
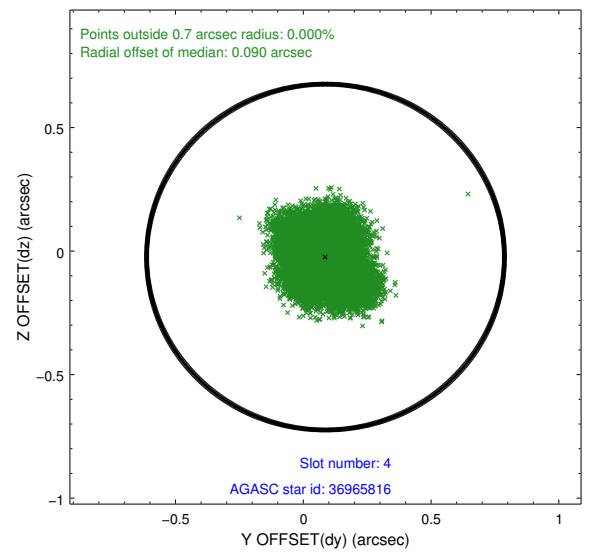
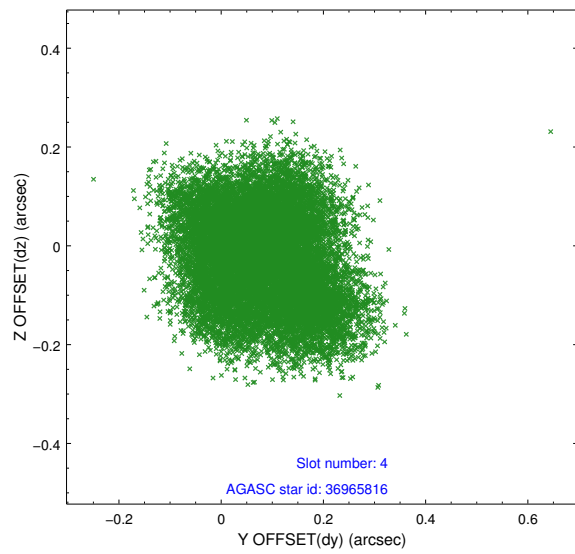
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.93	7355	-0.110	-0.061	0.019	0.030	0.000000	0.000000	-763.68	-1796.89
1	FID	ACIS-S-4	7.00	7355	0.226	0.070	0.030	0.045	0.000000	0.000000	2149.90	111.61
2	FID	ACIS-S-5	7.04	7355	-0.138	-0.001	0.024	0.042	0.000000	0.000000	-1816.45	105.33
3	GUIDE	36965296	9.08	14695	-0.004	0.087	0.088	0.145	186.926292	1.837429	1266.03	-847.91
4	GUIDE	36965816	9.25	14701	0.087	-0.024	0.140	0.209	186.823353	1.771455	1623.88	-1104.06
5	GUIDE	37356352	7.68	14710	-0.290	-0.084	0.078	0.118	187.433784	2.618460	-2021.78	-192.20
6	GUIDE	37883040	9.98	14685	0.198	0.157	0.192	0.296	187.575516	1.280402	2264.83	2065.11
7	GUIDE	36965896	9.71	14665	0.014	-0.122	0.113	0.183	187.153754	1.617178	1700.07	206.11

2.4 Star Slots

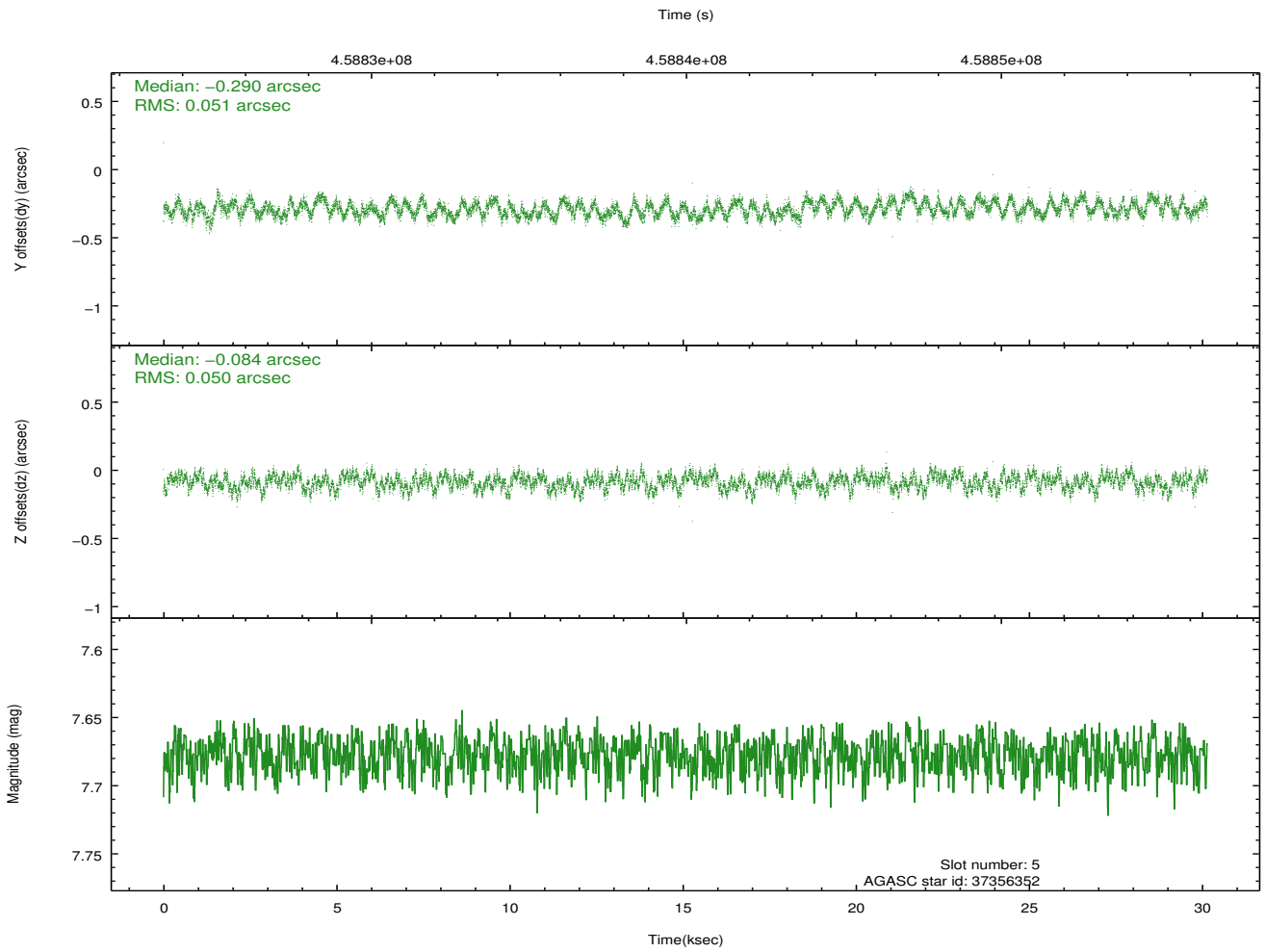
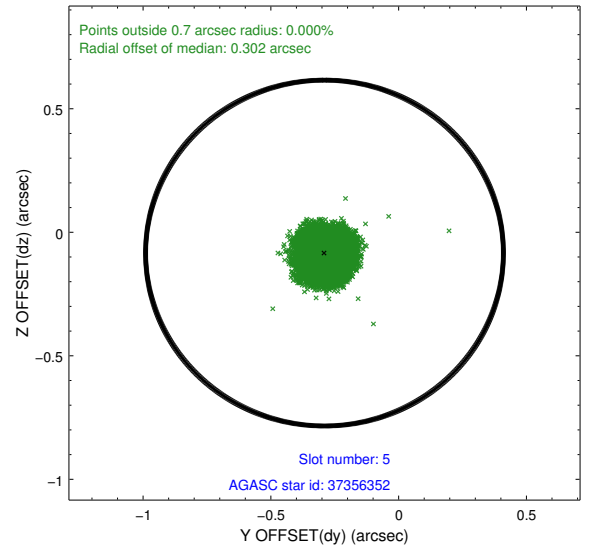
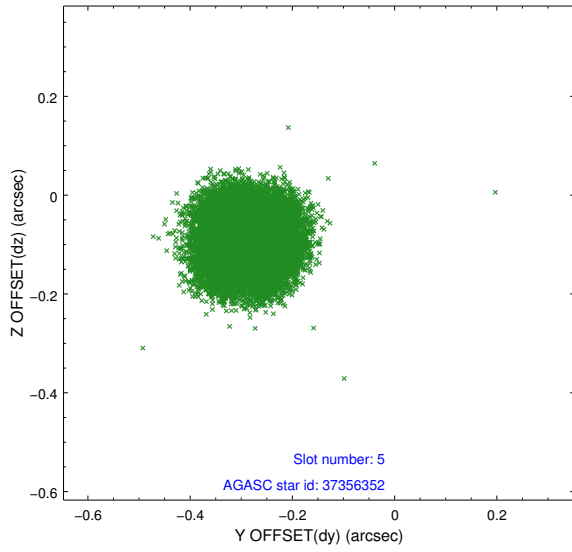
2.4.1 Slot 3



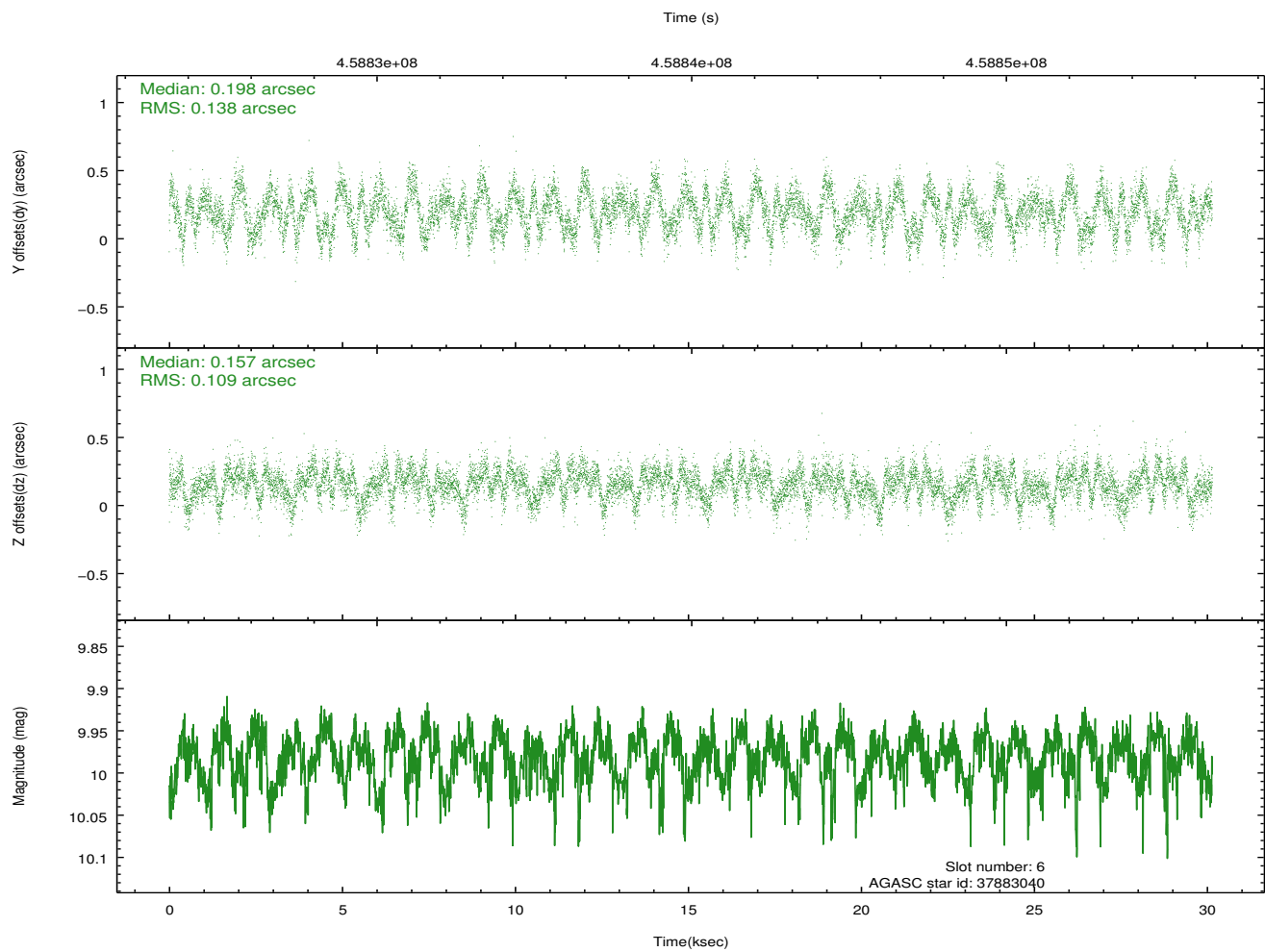
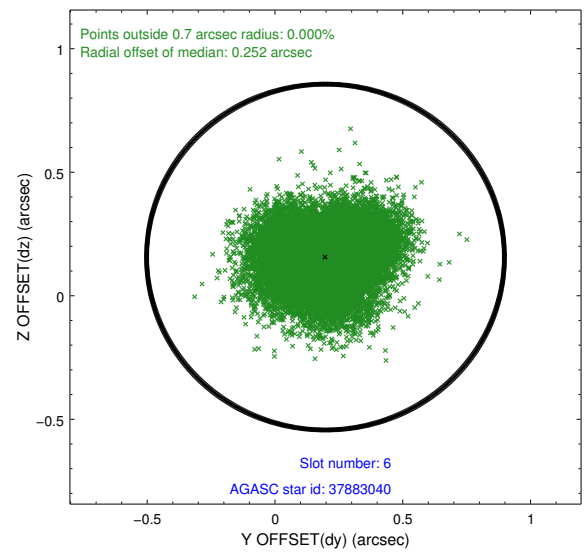
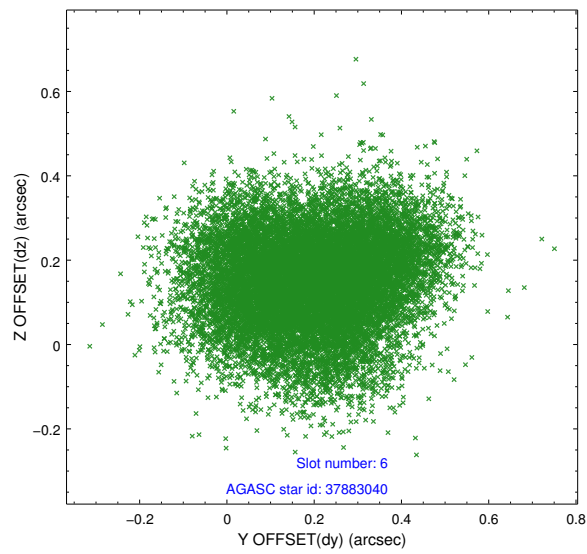
2.4.2 Slot 4



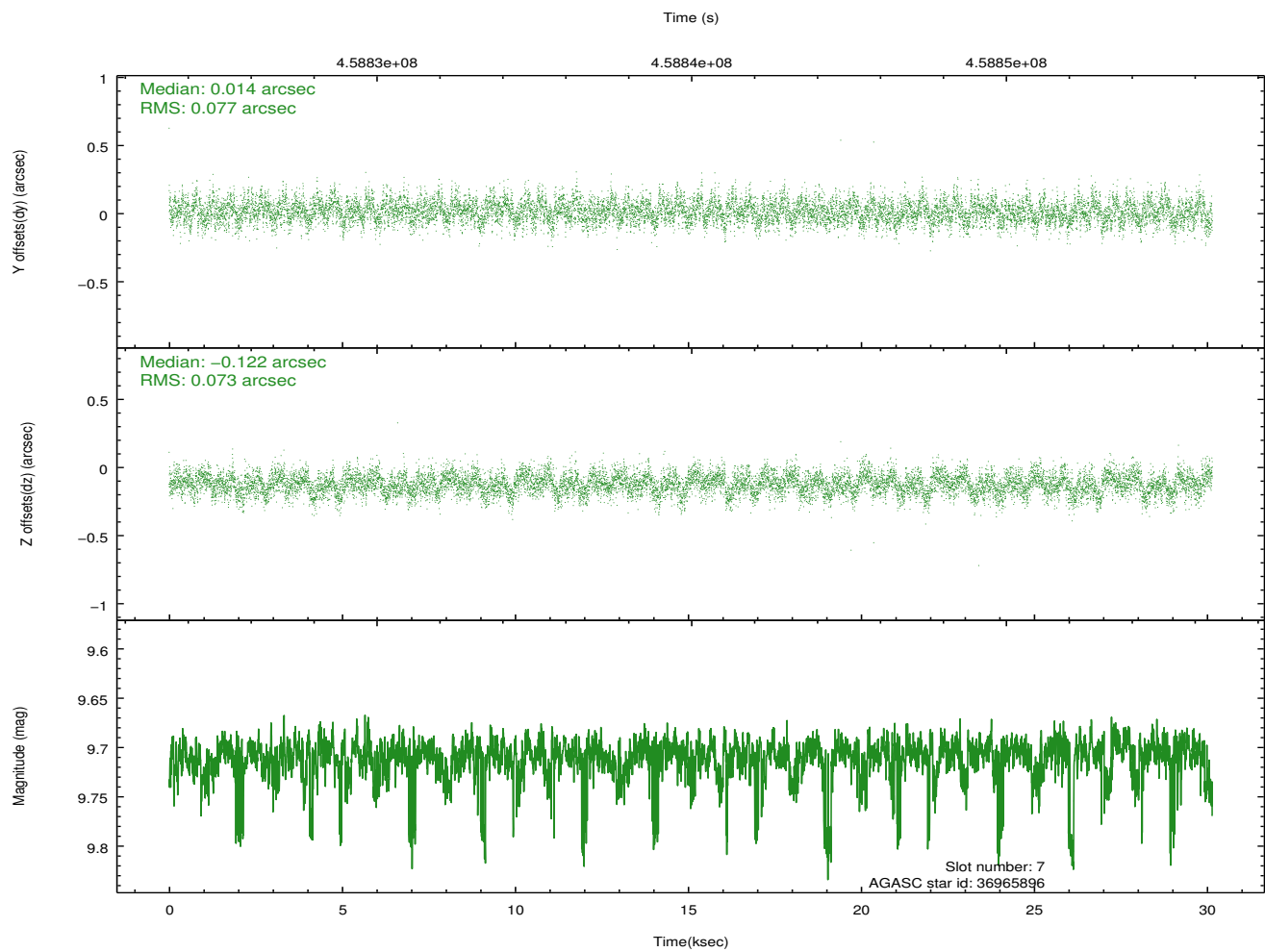
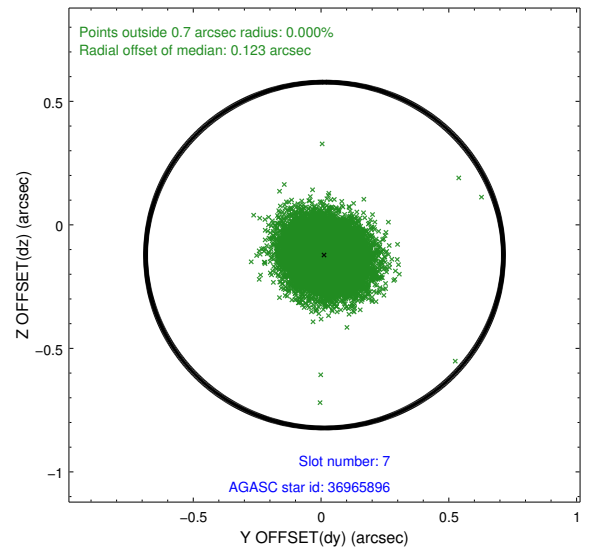
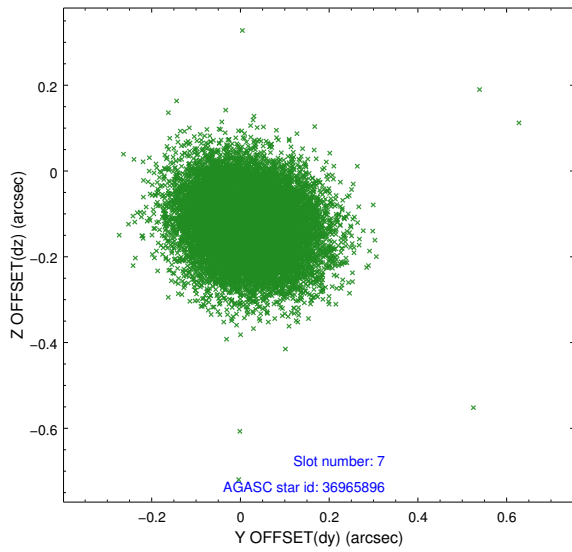
2.4.3 Slot 5



2.4.4 Slot 6

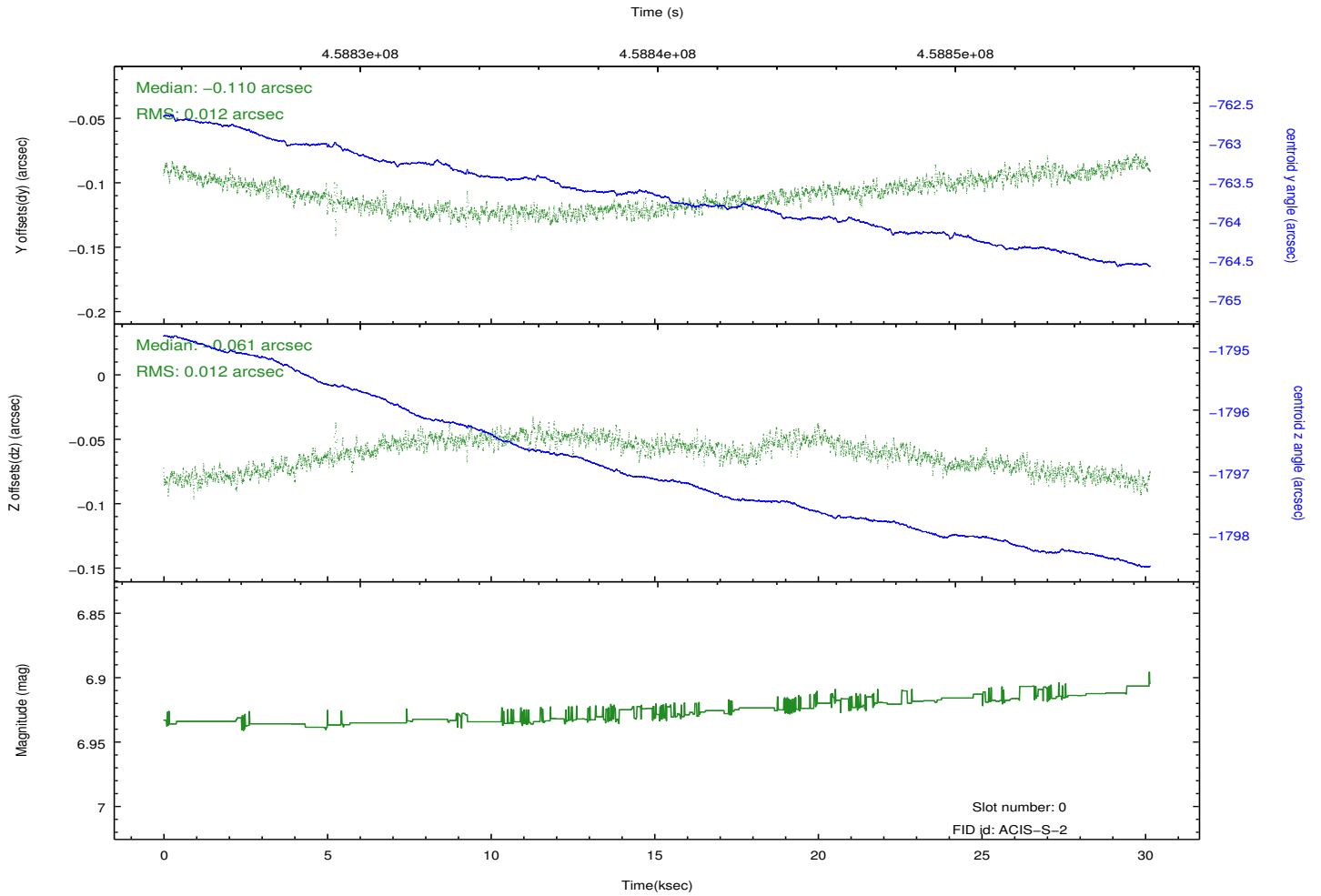
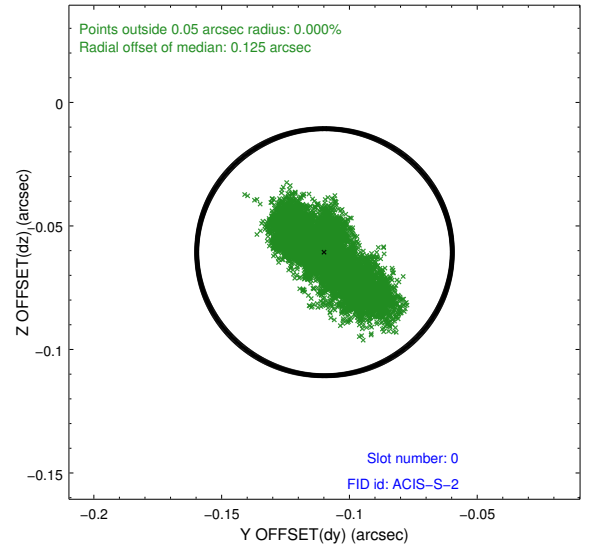
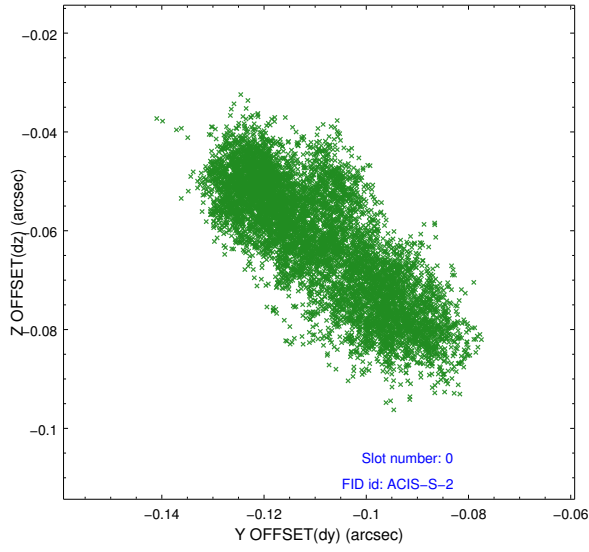


2.4.5 Slot 7

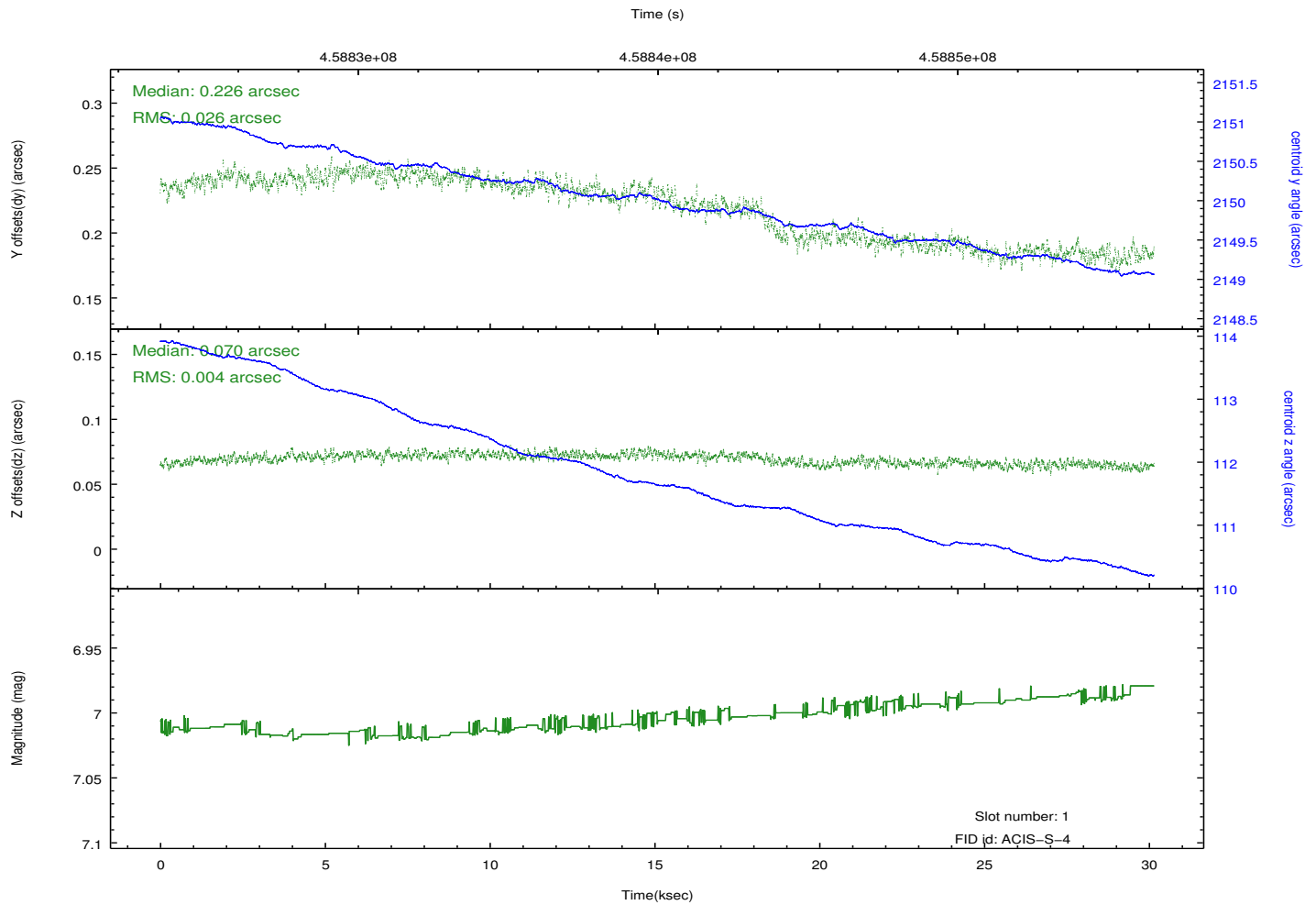
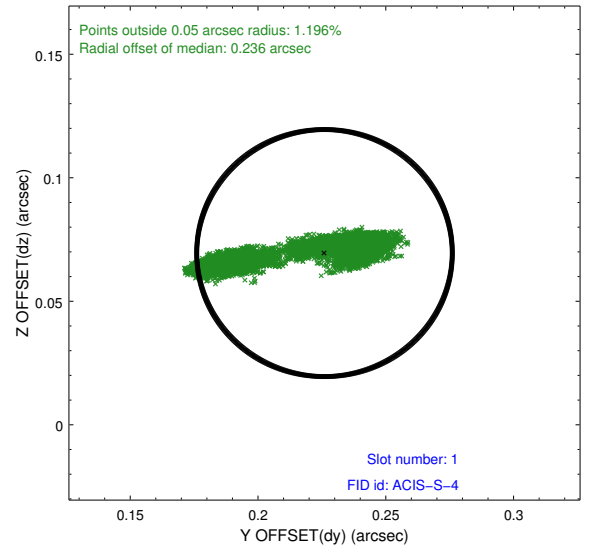
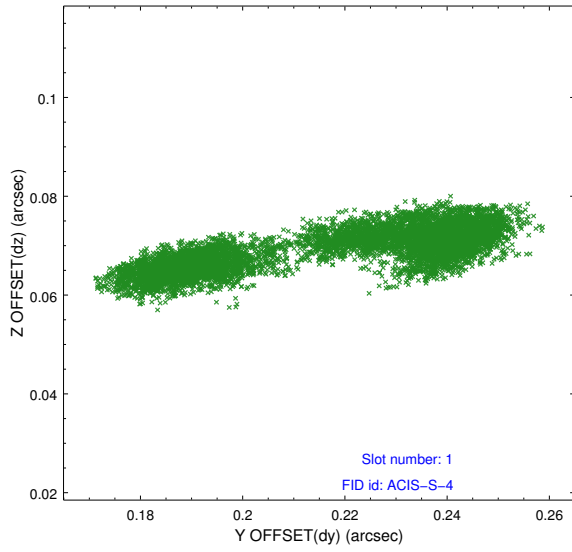


2.5 FID Slots

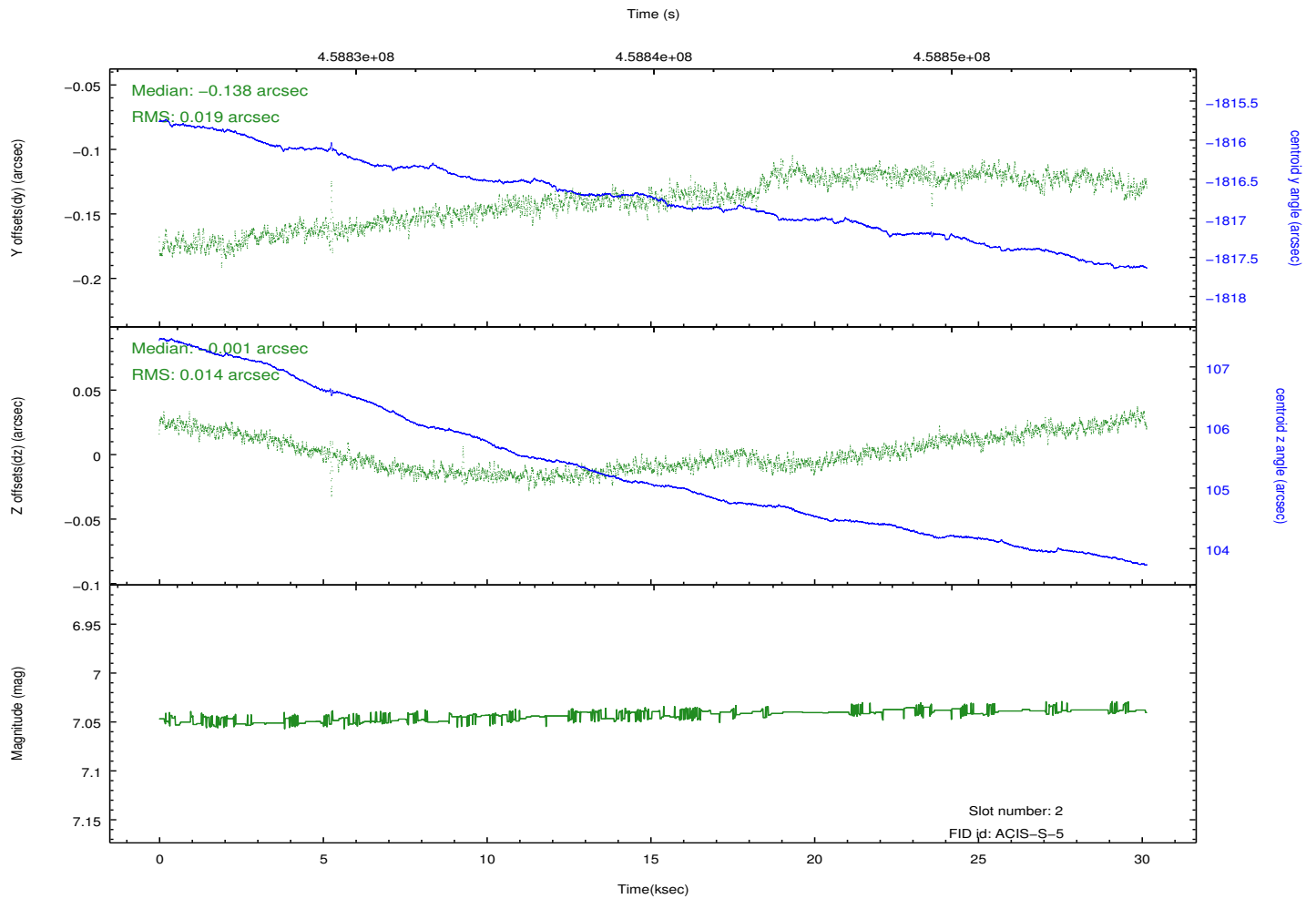
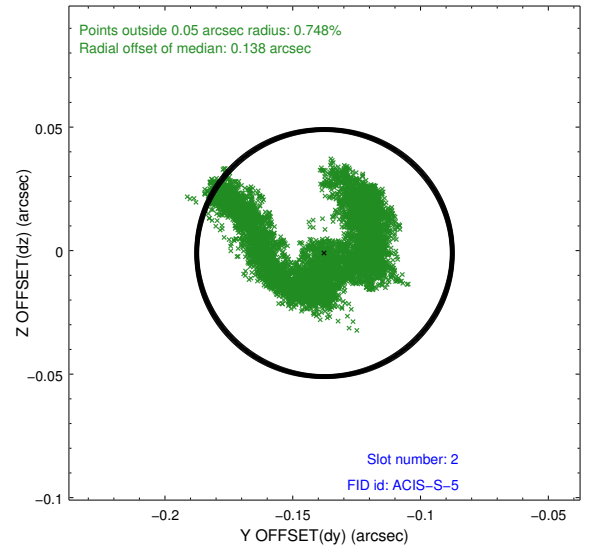
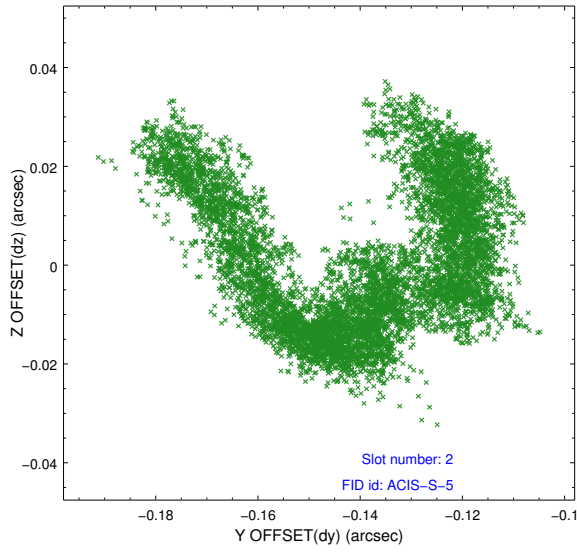
2.5.1 Slot 0



2.5.2 Slot 1

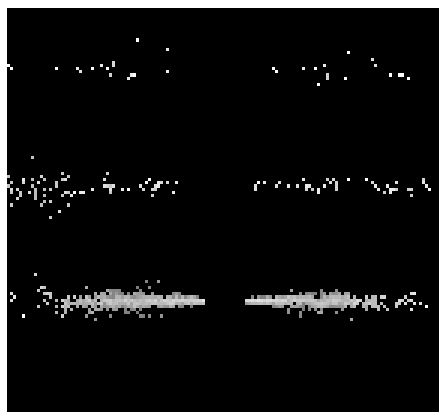


2.5.3 Slot 2

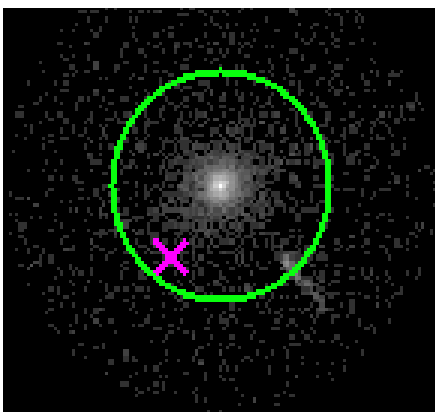


3 Gratings

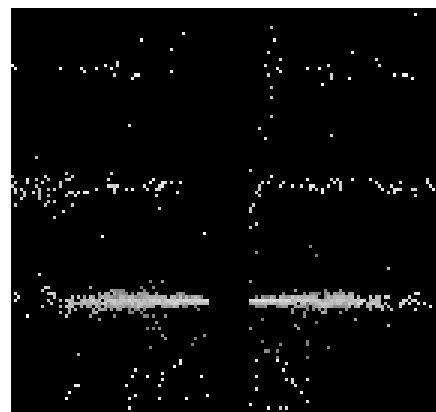
3.1 HEG Arm



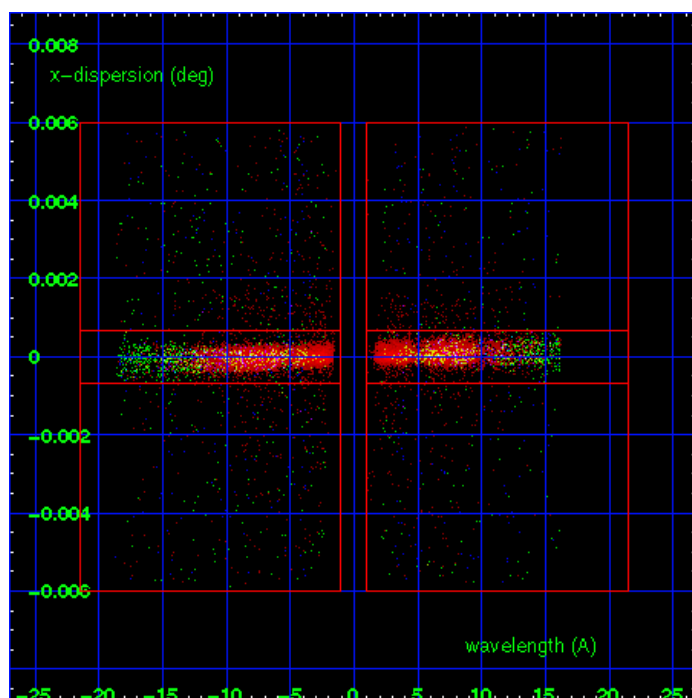
HEG Order Sort 123



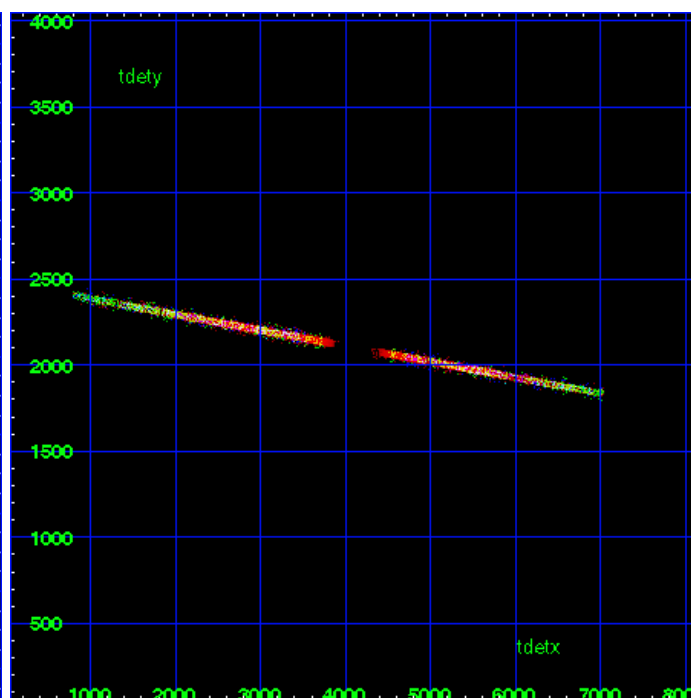
HEG Zero Order



HEG Order Sort ALL

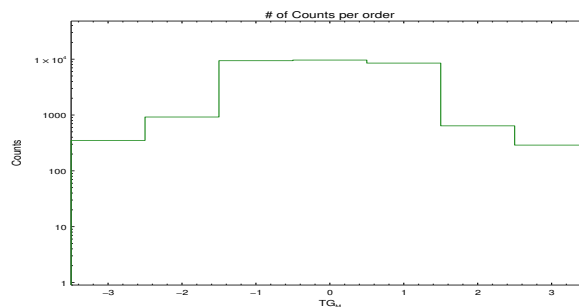


Spot Image HEG

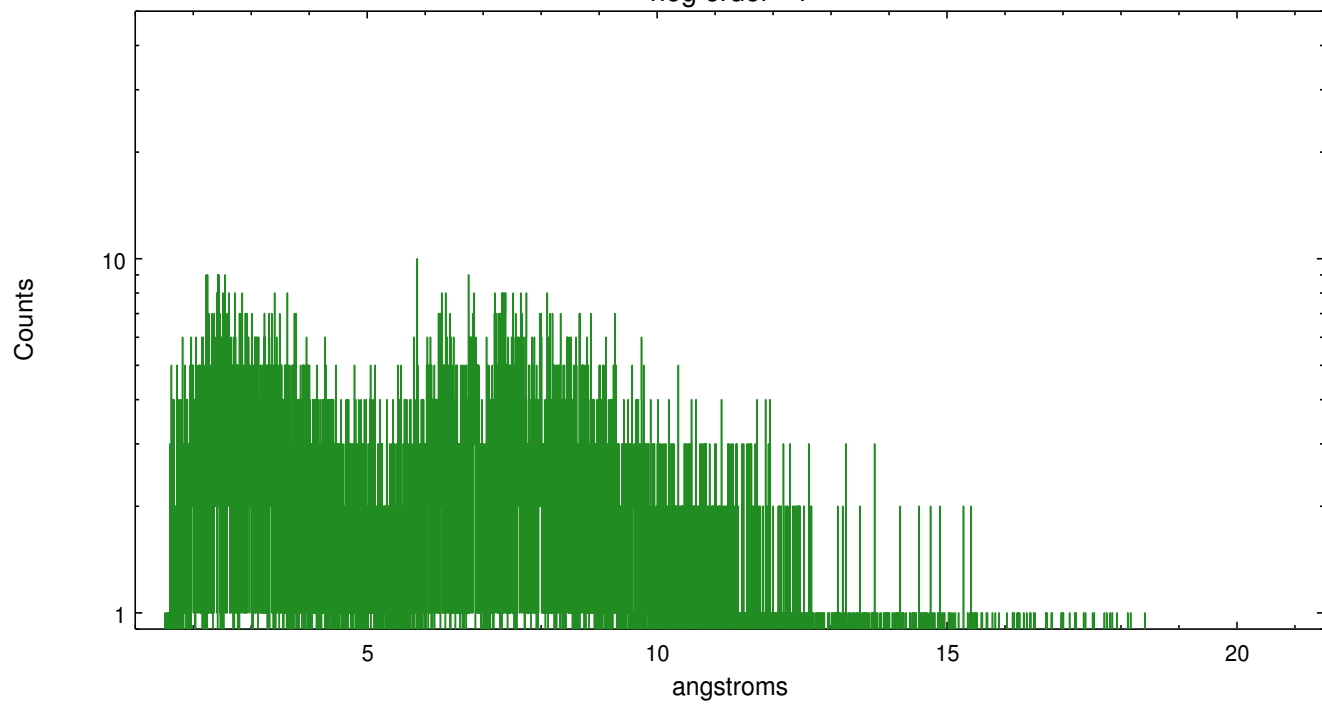


Full Detector HEG

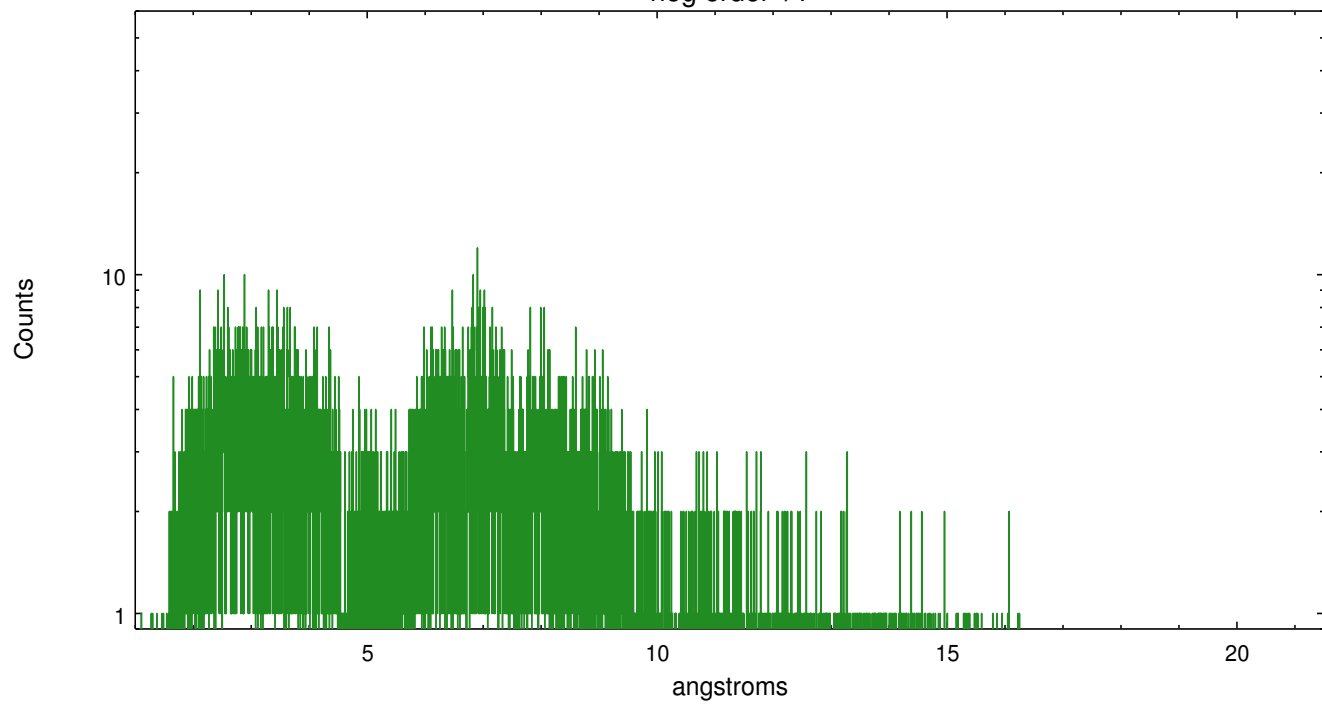
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	351	921	9399	9645	8510	640	289



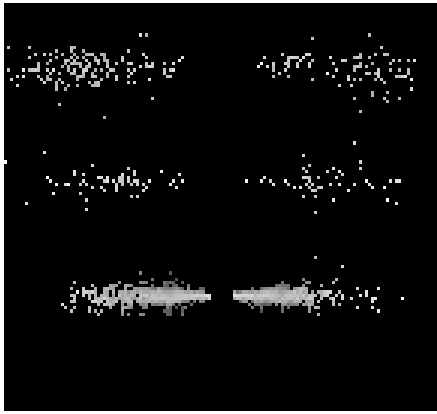
heg order -1



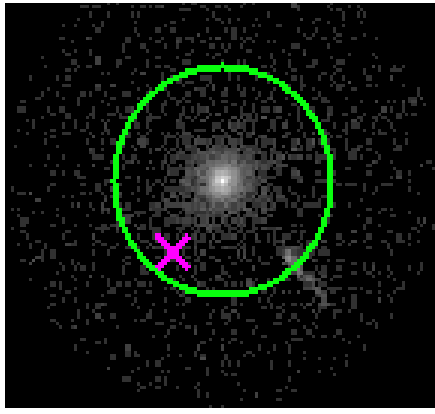
heg order +1



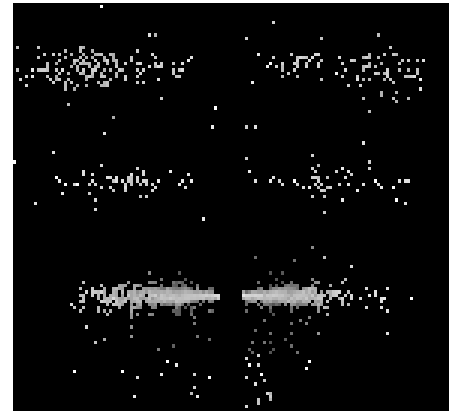
3.2 MEG Arm



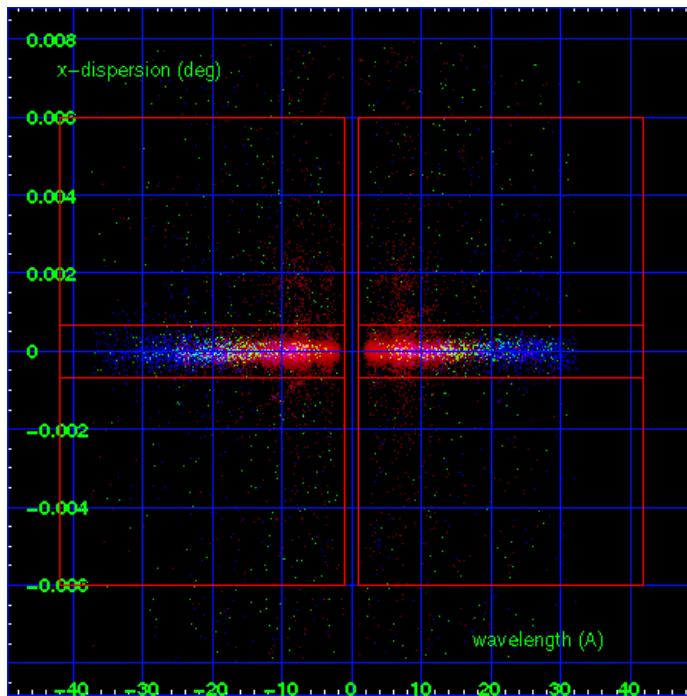
MEG Order Sort 123



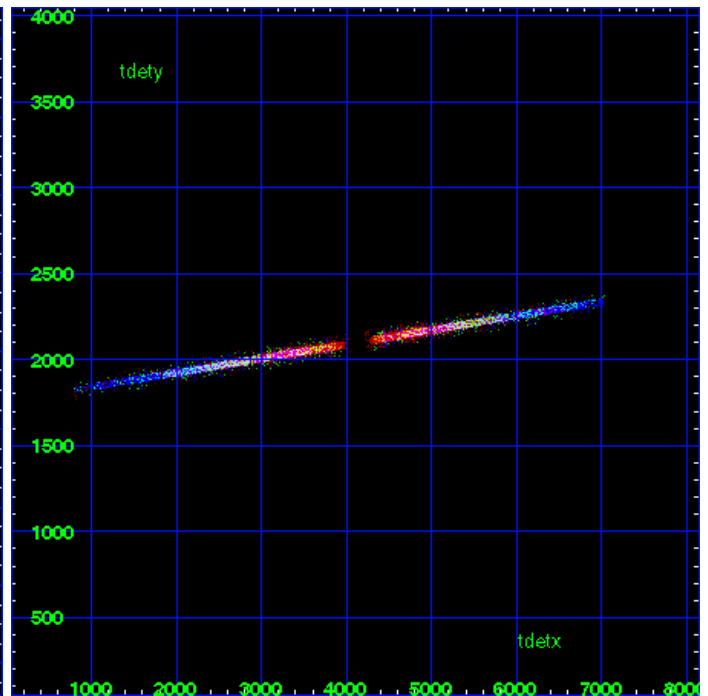
MEG Zero Order



MEG Order Sort ALL

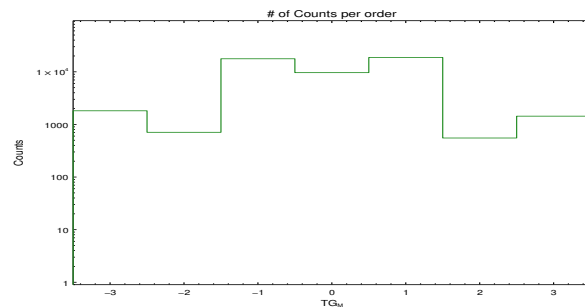


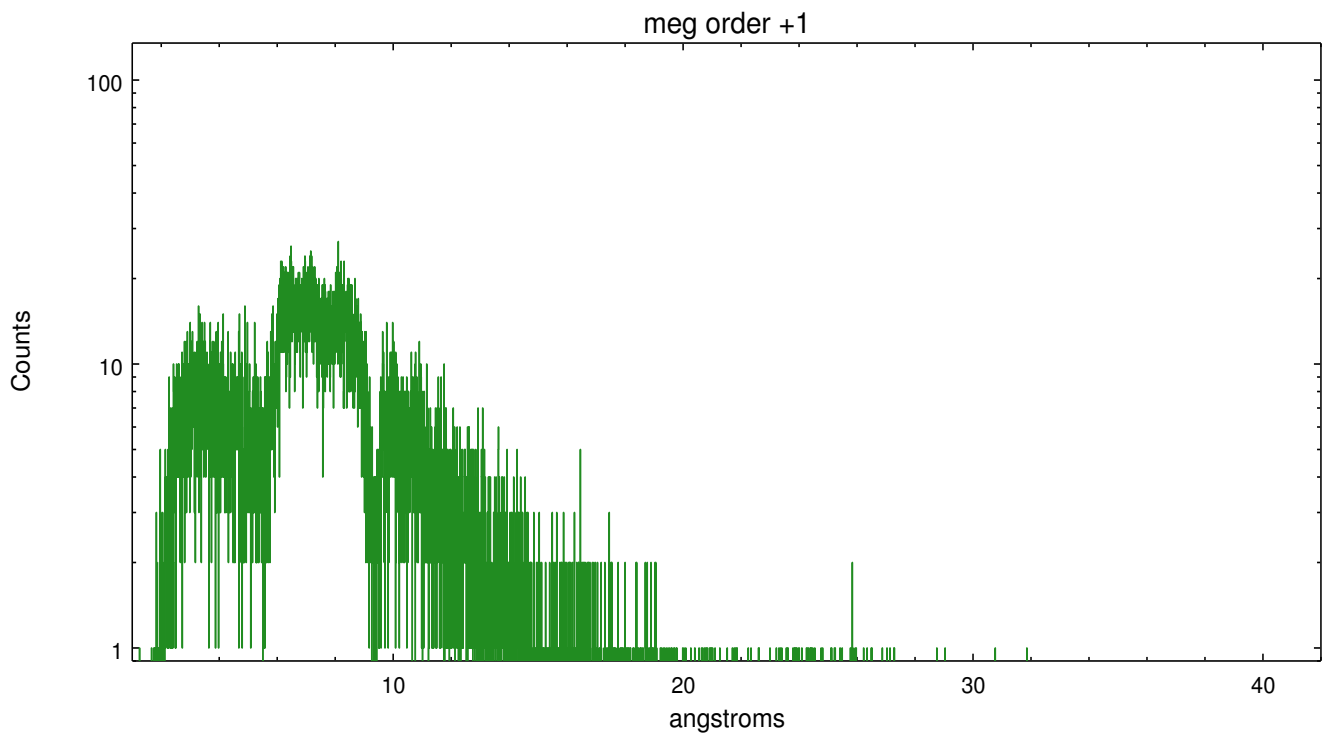
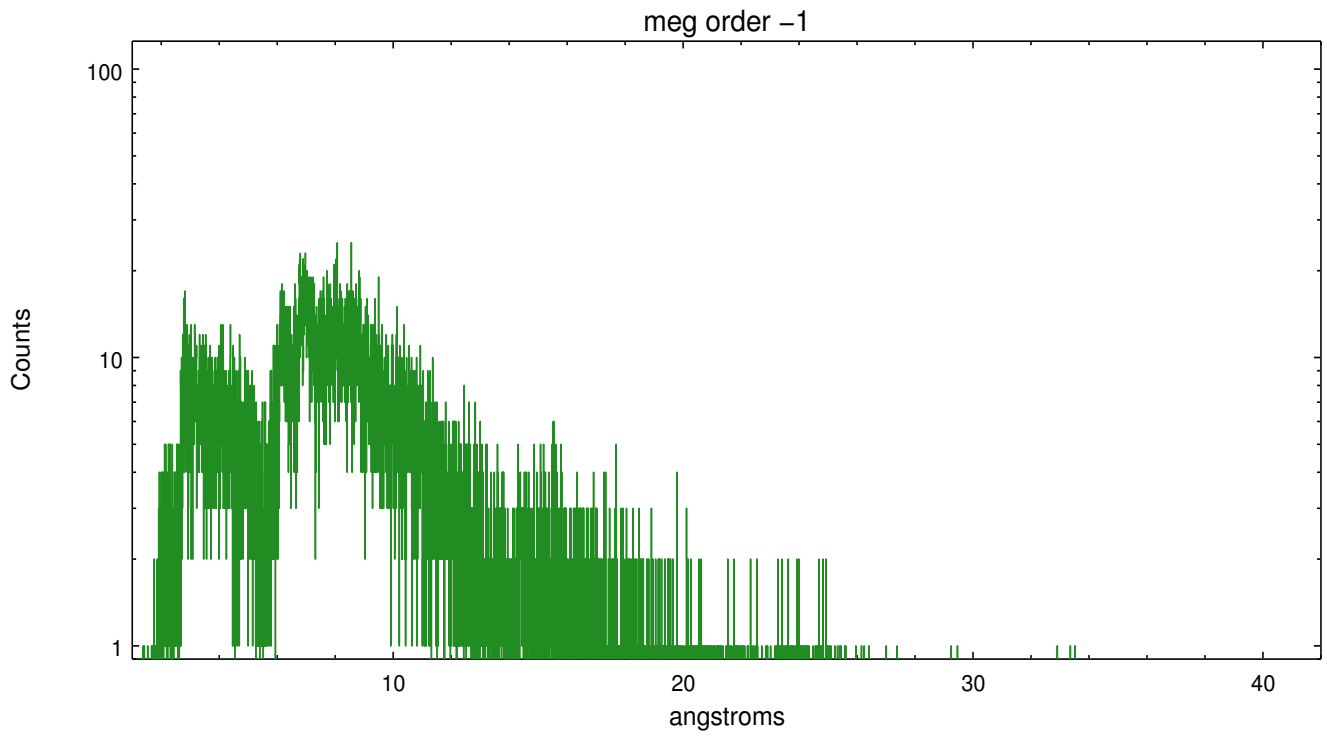
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1817	708	17700	9645	18735	552	1435





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.07.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.034946464658

A.2 Comments