

V&V Reference Report

L2 ASCDS Version : 10

Observation 15647 - L2 Version 2
Chandra X-Ray Center

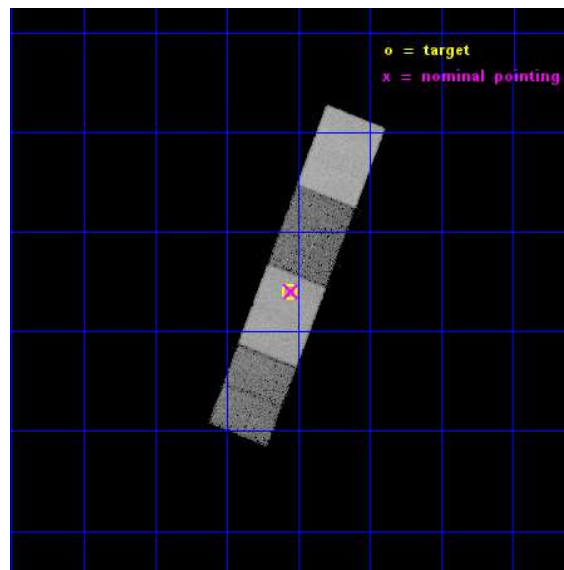
L2 Processing Date : Dec 3 2014

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

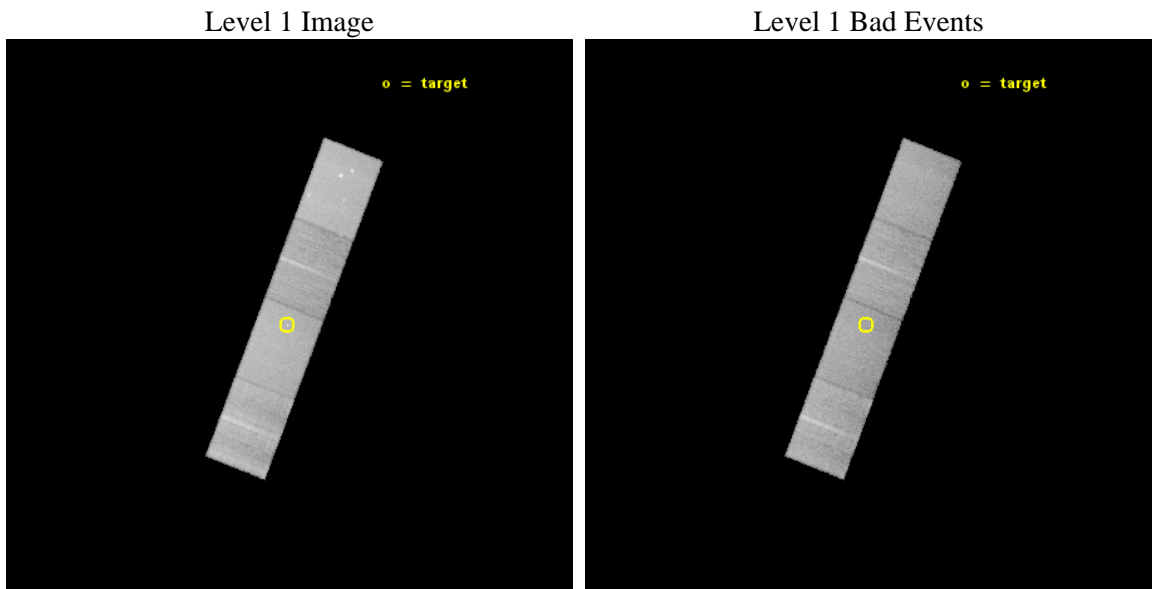
seq_num	702923	Sequence number
obs_id	15647	Observation id
title	The unusual state of Mrk 590	Proposal title
observer	Prof. Smita Mathur	Principal investigator
object	Mrk 590	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	33.64	Observer's specified target RA [deg]
dec_targ	-0.766694	Observer's specified target Dec [deg]
ra_nom	33.637038983973	Nominal RA [deg]
dec_nom	-0.76612020127847	Nominal Dec [deg]
roll_nom	111.15658579728	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30554.399696469	Sum of GTIs [s]
livetime	30040.703663818	Livetime [s]
ontime5	30554.399696469	Sum of GTIs [s]
ontime6	30554.399696469	Sum of GTIs [s]
ontime7	30554.399696469	Sum of GTIs [s]
ontime8	30554.399696469	Sum of GTIs [s]
l2events	174945	Number of level 2 events



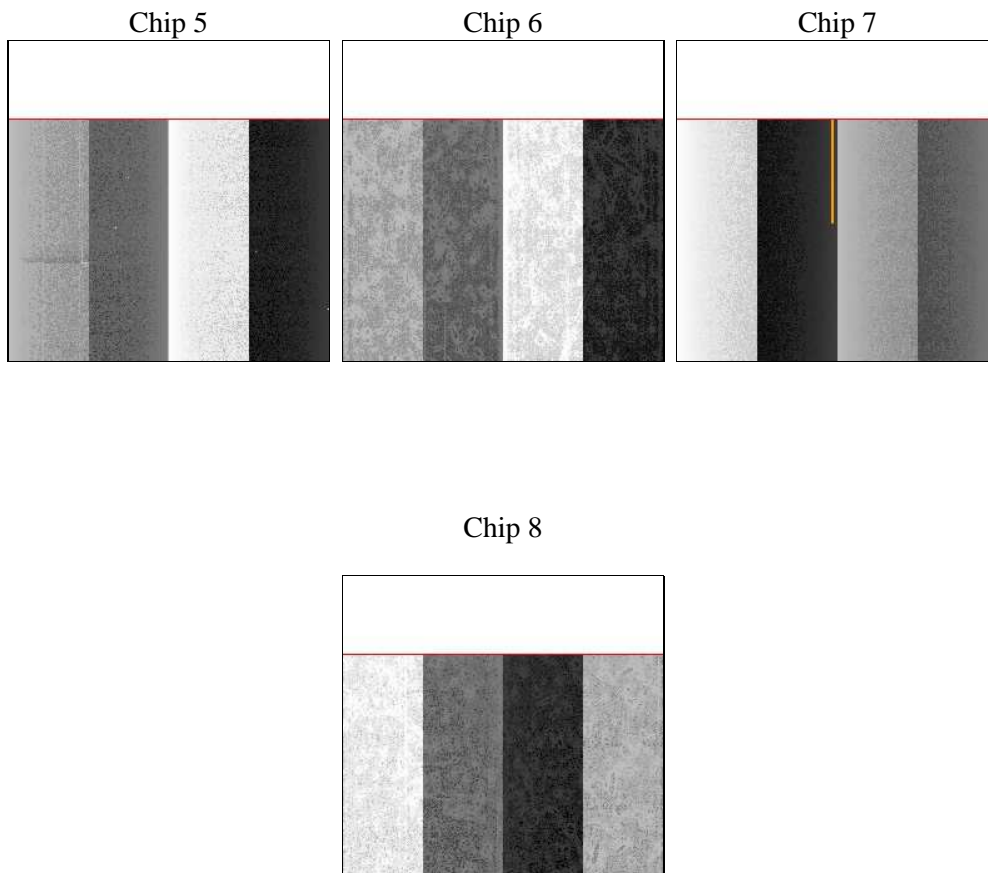
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	30461.976000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	30554.399696469	Sum of GTIs [s]
caldsver	4.6.4	 	ontime5	30554.399696469	Sum of GTIs [s]
date	2014-12-03T16:47:29	Date and time of file creation	ontime6	30554.399696469	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	30554.399696469	Sum of GTIs [s]
			ontime8	30554.399696469	Sum of GTIs [s]
			l1events	594379	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4076.55, 4092.78)	src1a sky pixel position

2.1.4 Events

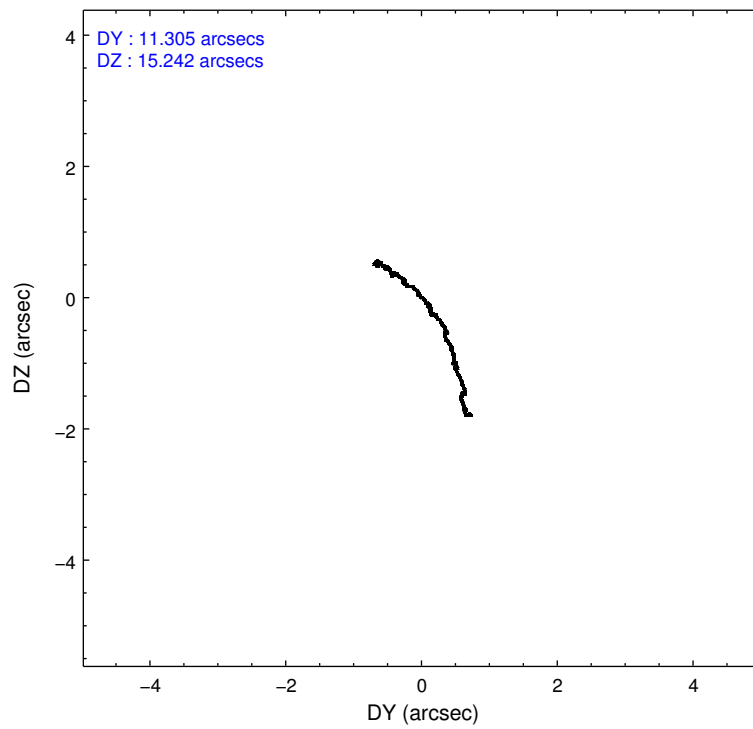
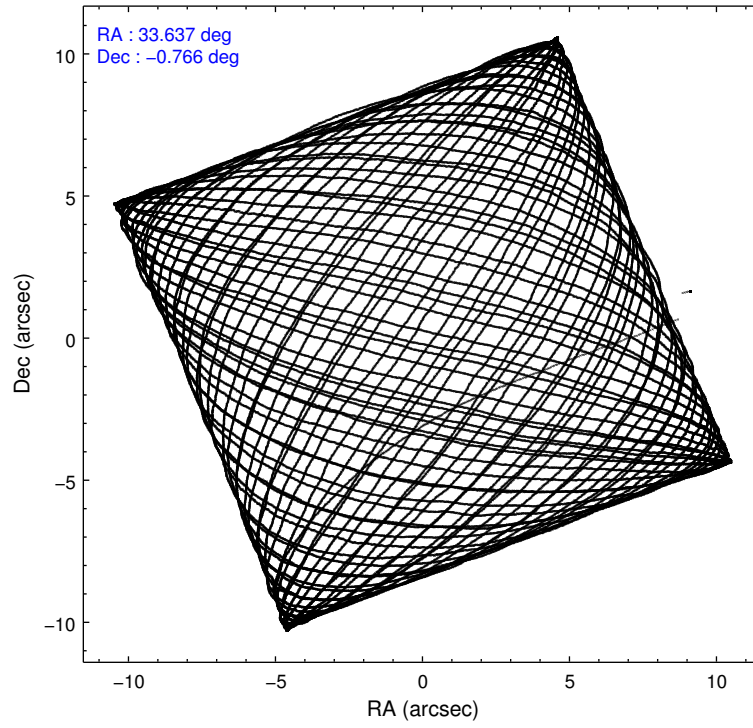
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	184036	110149	150705	149489
rejected events	94875	96098	83674	108515
rejected %	51%	87%	55%	72%

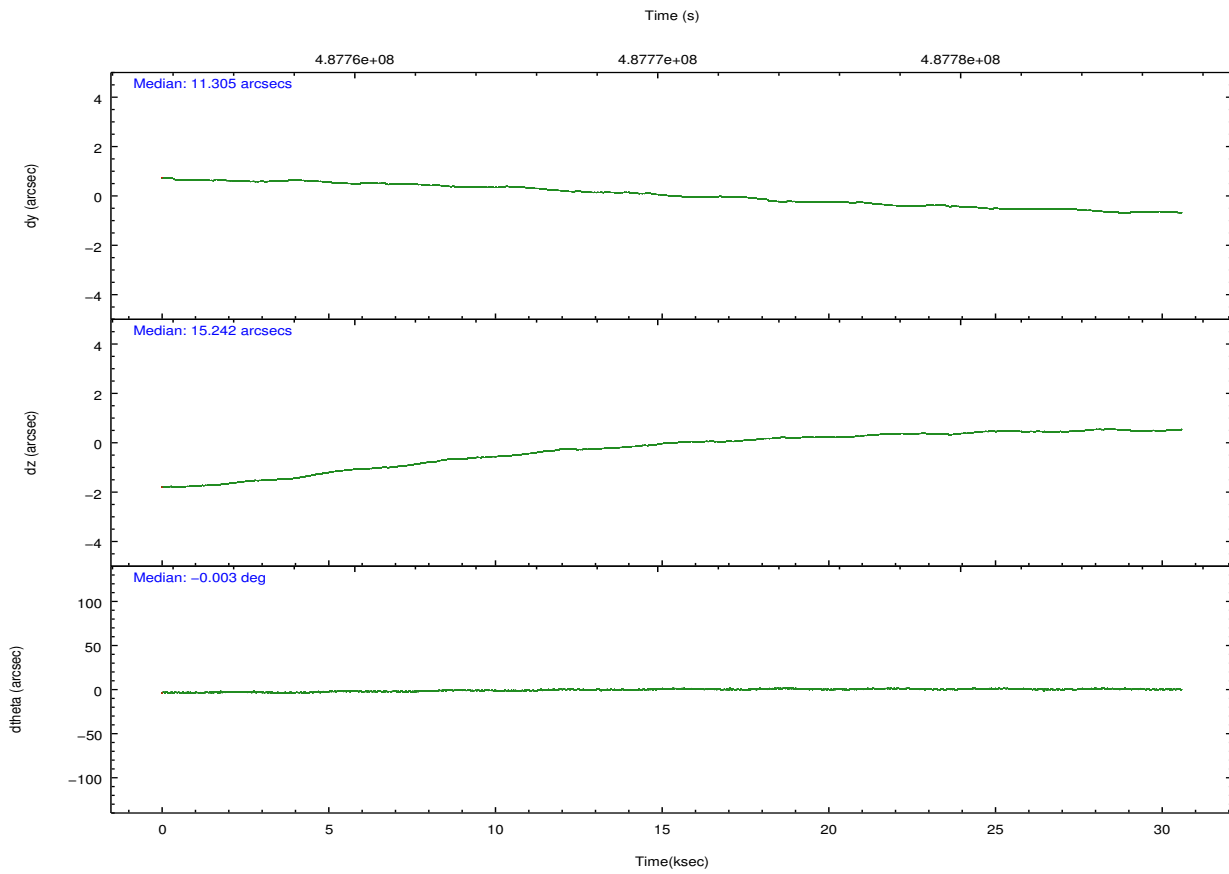
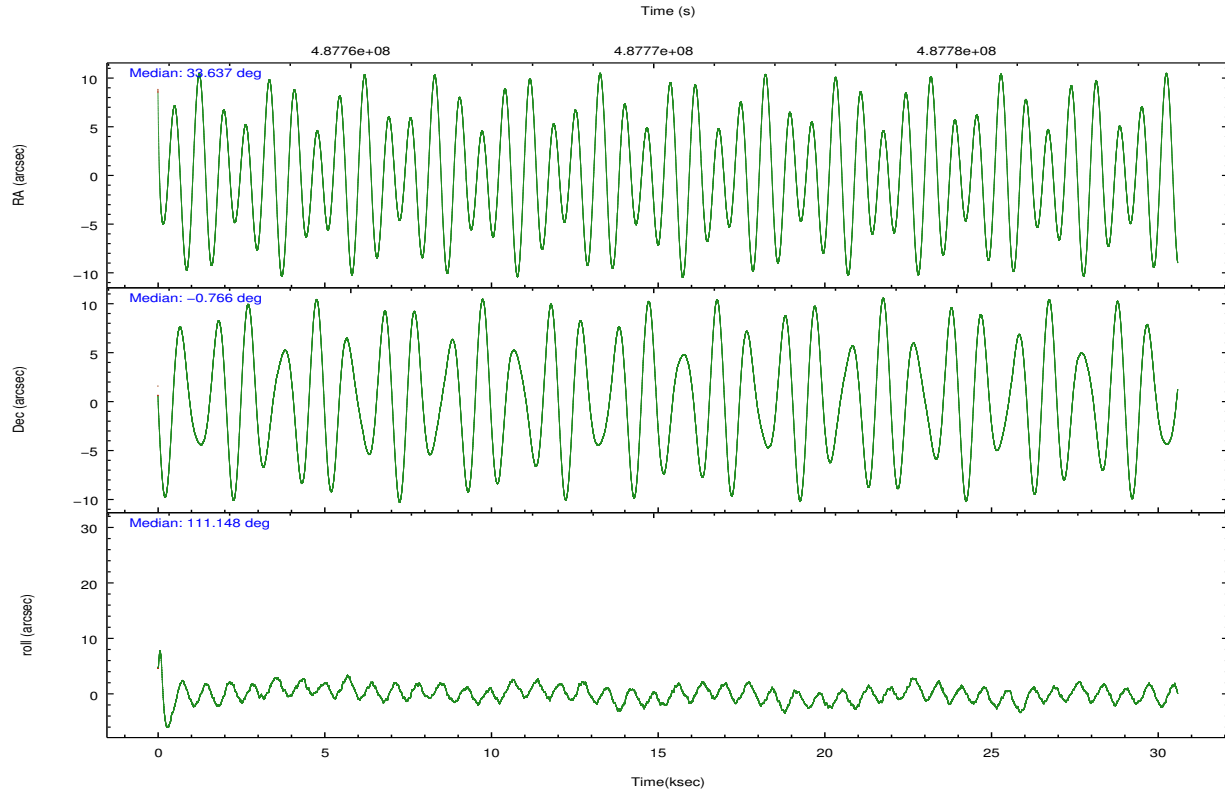
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	9044	4683	5998	11798
	4%	4%	3%	7%
grade 1 events	423	52	178	91
	0%	0%	0%	0%
grade 2 events	25994	3108	13718	9390
	14%	2%	9%	6%
grade 3 events	3430	1549	5966	4343
	1%	1%	3%	2%
grade 4 events	3424	1566	5882	4262
	1%	1%	3%	2%
grade 5 events	13860	5646	15523	8326
	7%	5%	10%	5%
grade 6 events	47278	3147	35478	11185
	25%	2%	23%	7%
grade 7 events	80583	90398	67962	100094
	43%	82%	45%	66%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	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	33.658564	33.63703898397317	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-0.782960	-0.7661202012784725	Subarray start row	1	1
[deg] Pointing Roll	111.000261	111.1565857972786	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	2.4
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	487755289.184000	487753996.43115			
Observation start date	2013-06-16T07:33:42	2013-06-16T07:13:16			
[s] Observation end time (MET)	487785751.184000	487785976.43288			
Observation end date	2013-06-16T16:01:24	2013-06-16T16:06:16			
Read mode	TIMED	TIMED			

2.3 Aspect





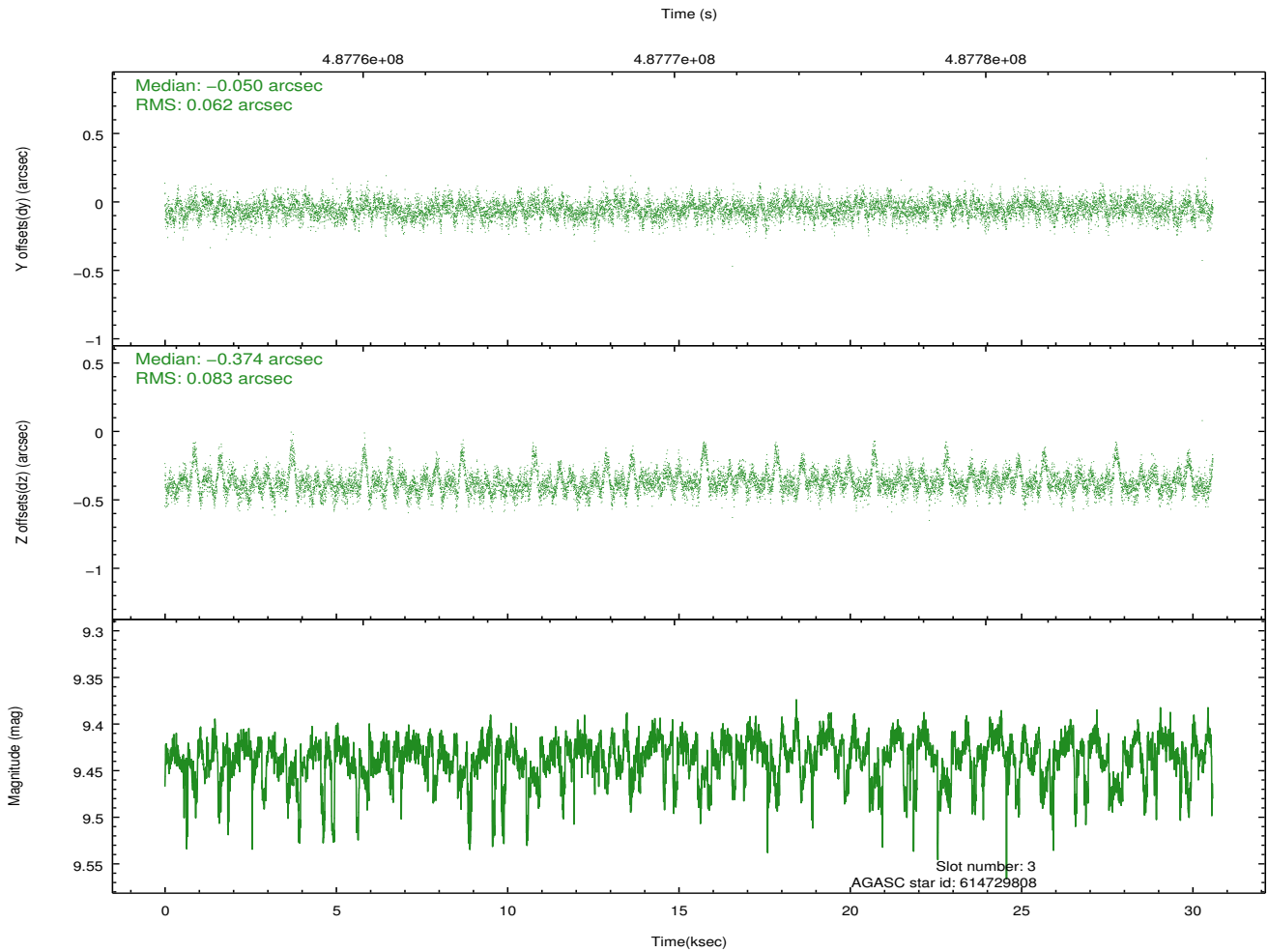
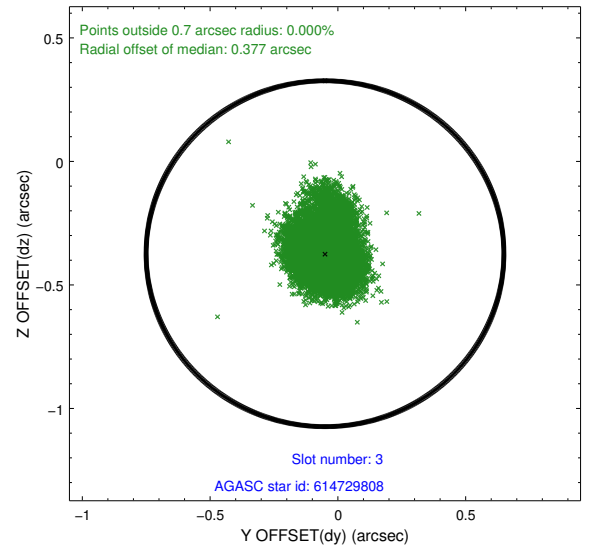
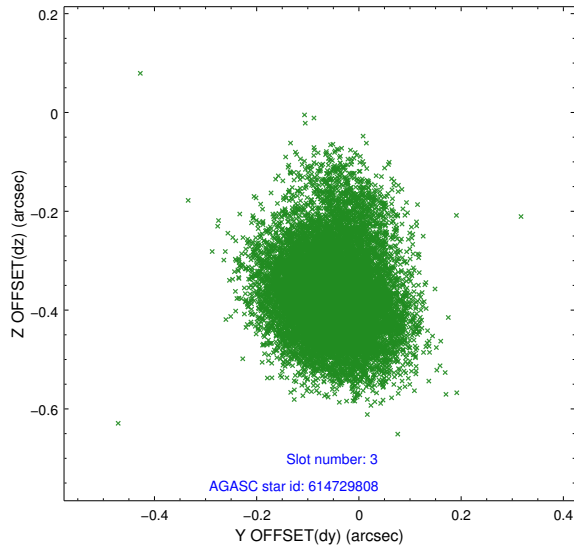
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	7461	-0.092	-0.098	0.019	0.056	0.000000	0.000000	-764.12	-1798.55
1	FID		ACIS-S-4	7.08	7462	0.196	0.069	0.013	0.022	0.000000	0.000000	2149.45	109.95
2	FID		ACIS-S-5	7.13	7462	-0.133	0.036	0.019	0.045	0.000000	0.000000	-1816.87	103.74
3	GUIDE	used	614729808	9.43	14889	-0.050	-0.374	0.106	0.189	33.406423	-1.488100	-2044.84	1756.71
4	GUIDE	used	614732048	9.64	14915	0.184	0.021	0.169	0.255	34.031797	-1.288185	-2179.11	-602.34
5	GUIDE	used	614733136	8.72	14918	0.090	0.099	0.212	0.317	34.330010	-0.958675	-1456.59	-2029.47
6	GUIDE	used	614733776	9.26	14917	-0.251	-0.006	0.131	0.207	34.070767	-0.119925	1696.58	-2240.79
7	GUIDE	used	614731728	9.43	14884	0.045	0.242	0.140	0.223	34.470092	-0.998742	-1771.64	-2448.62

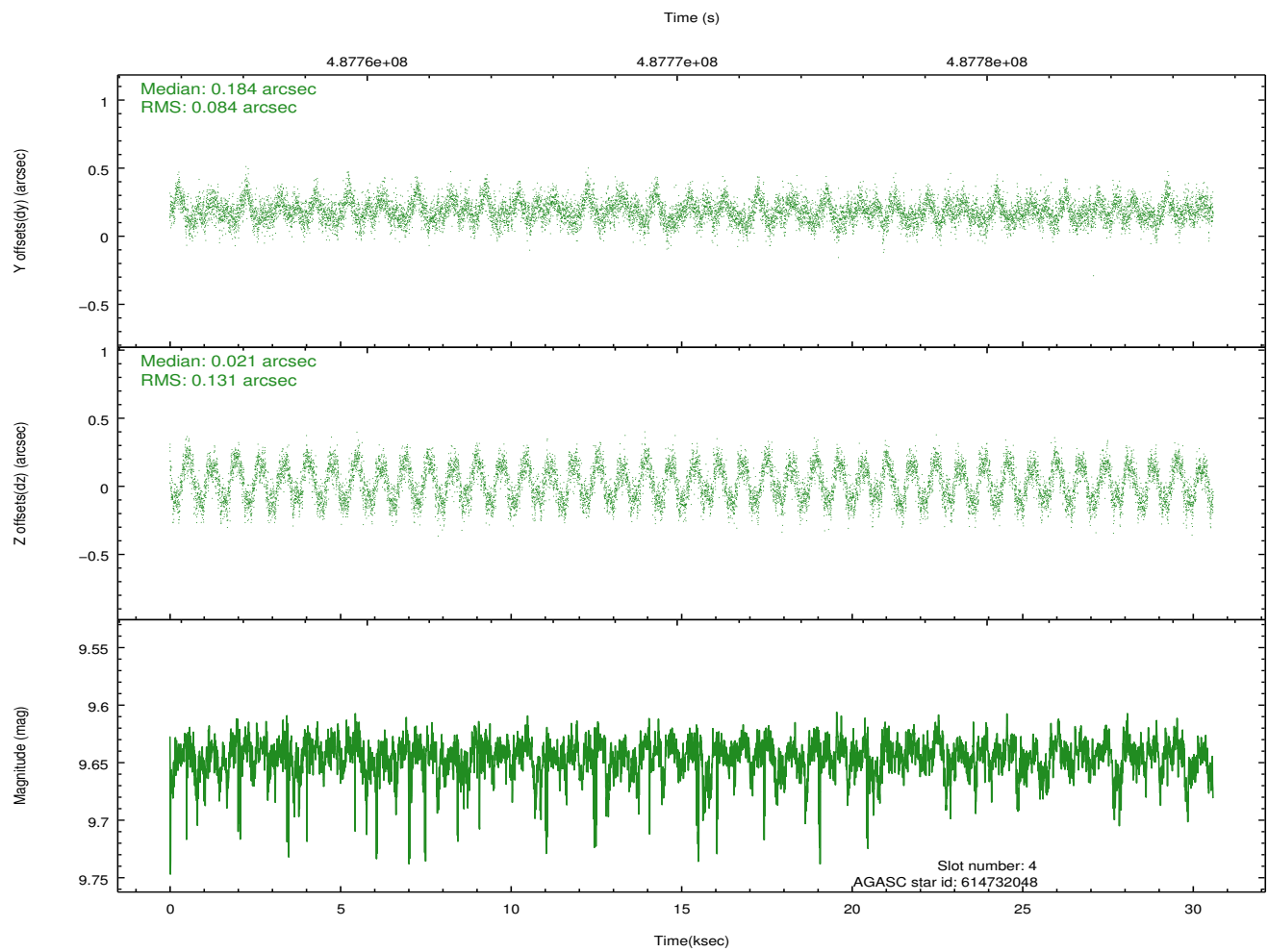
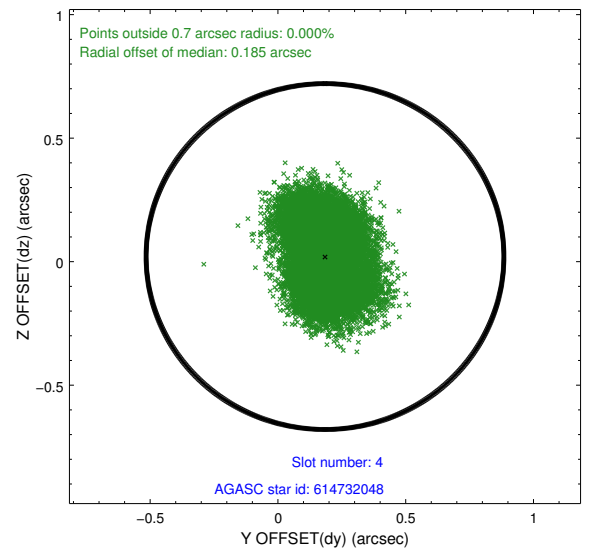
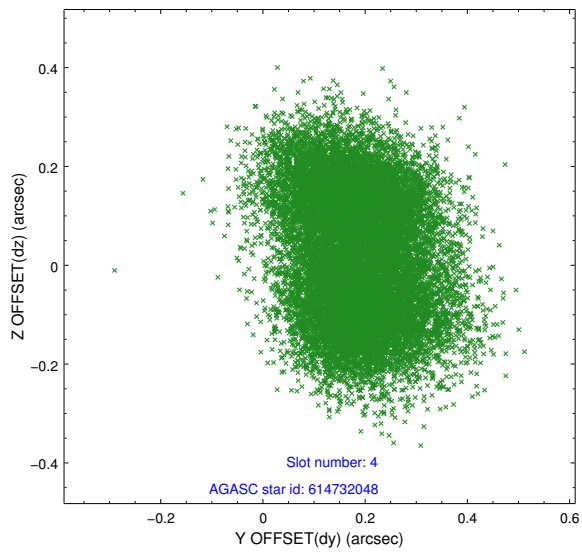
∞

2.4 Star Slots

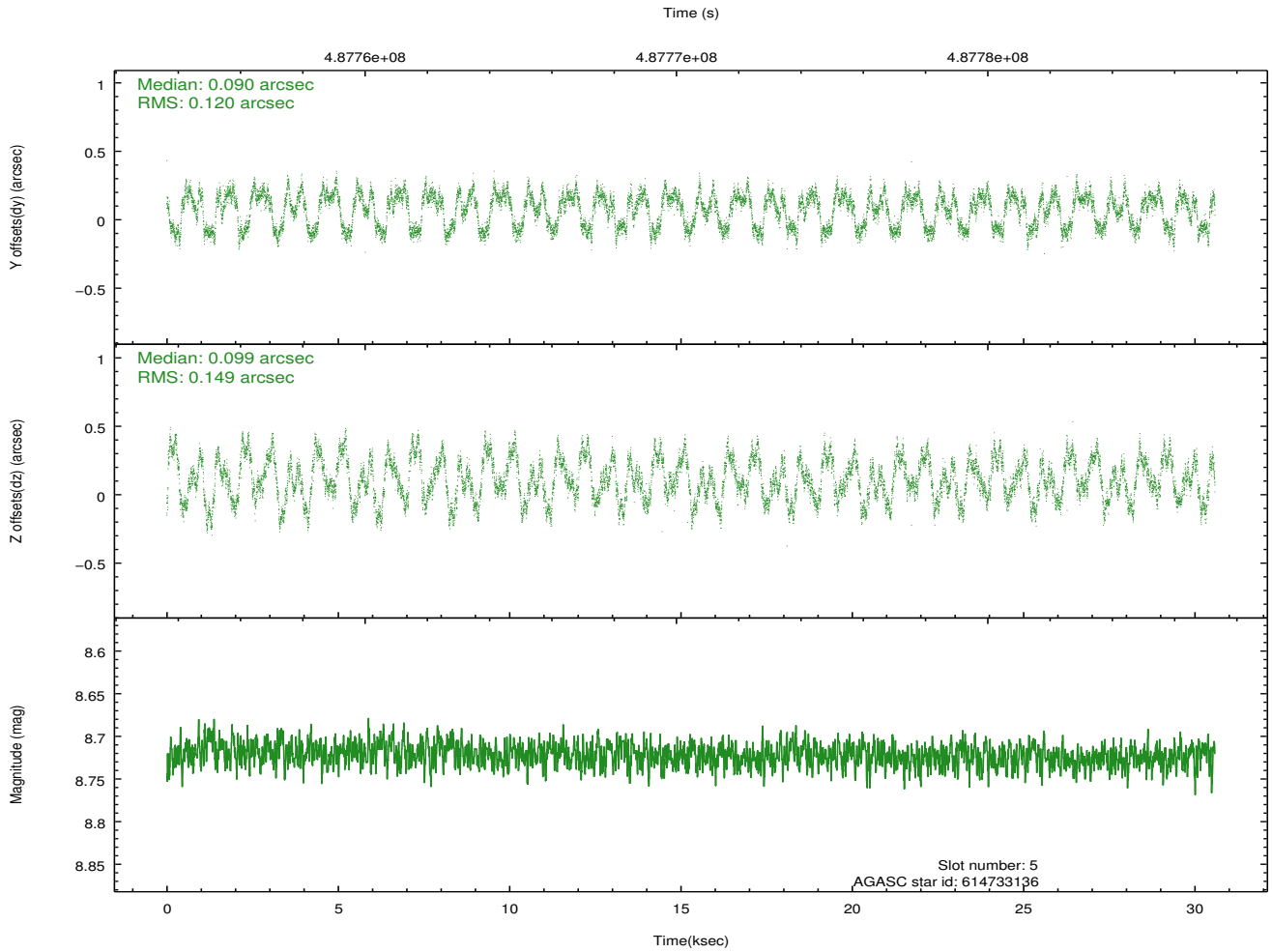
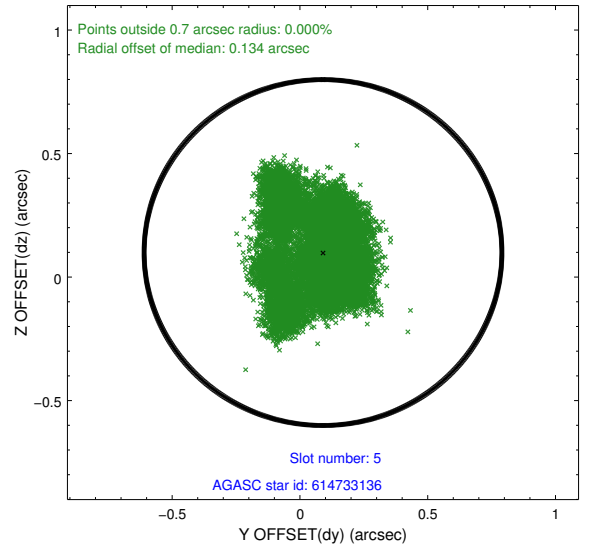
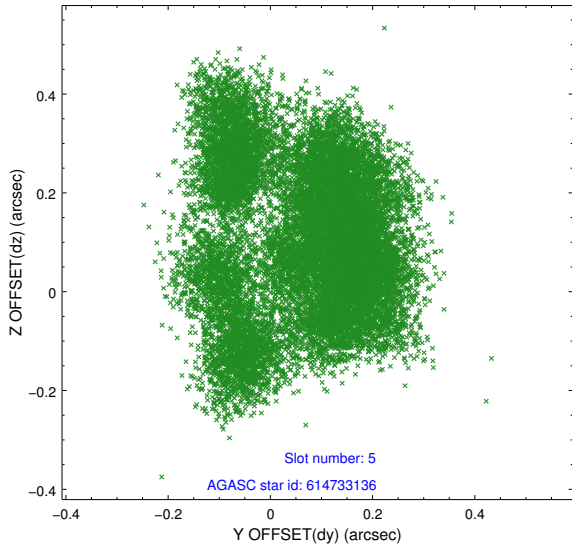
2.4.1 Slot 3



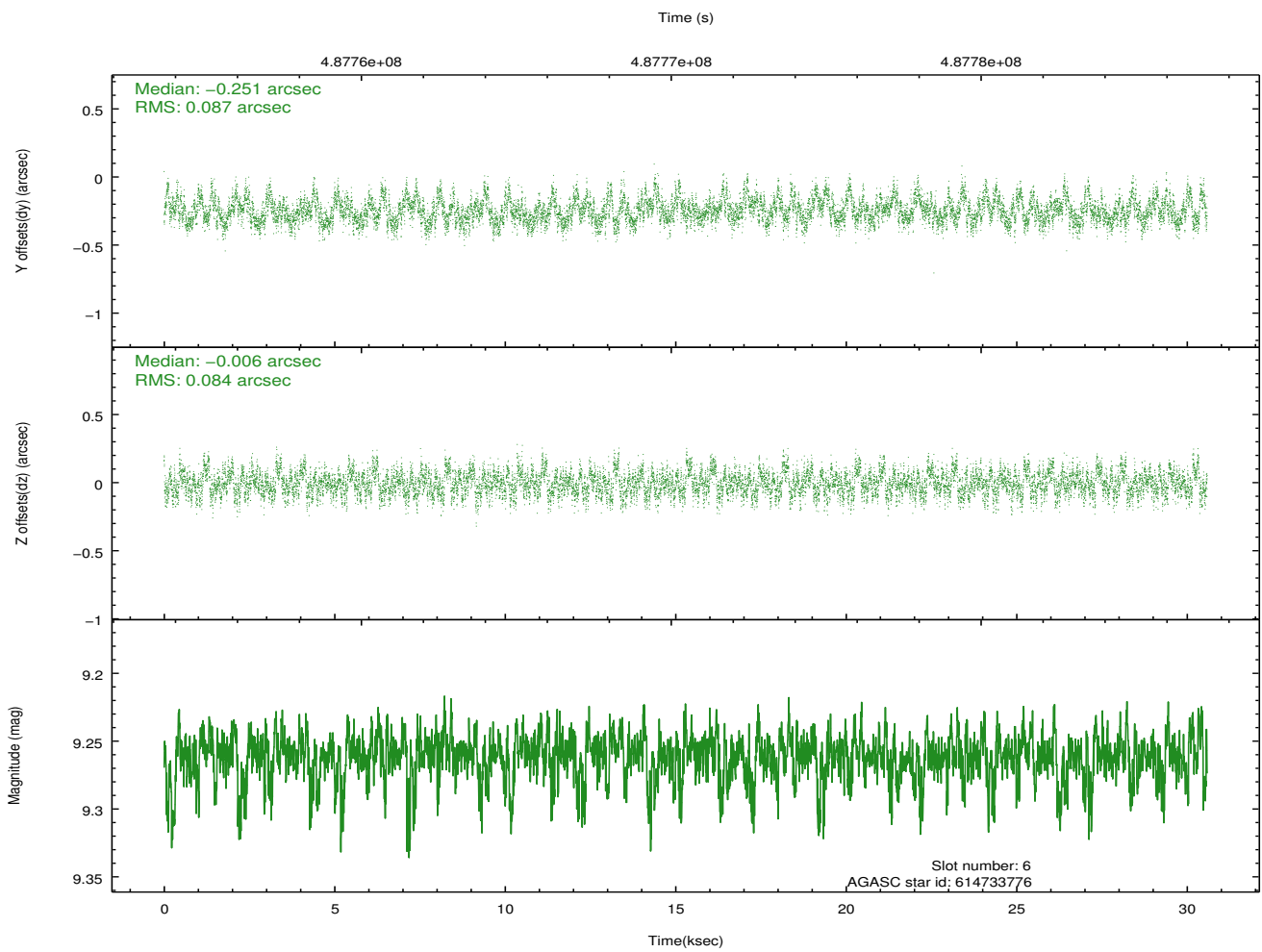
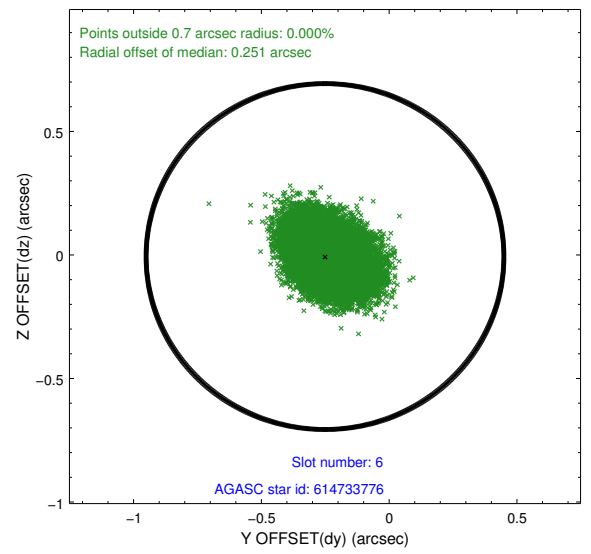
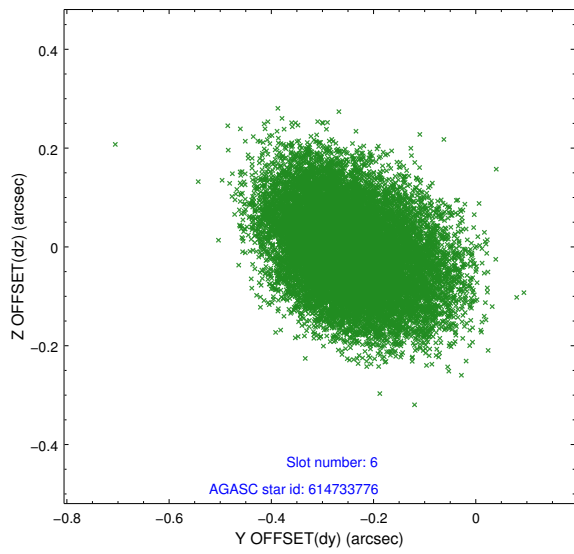
2.4.2 Slot 4



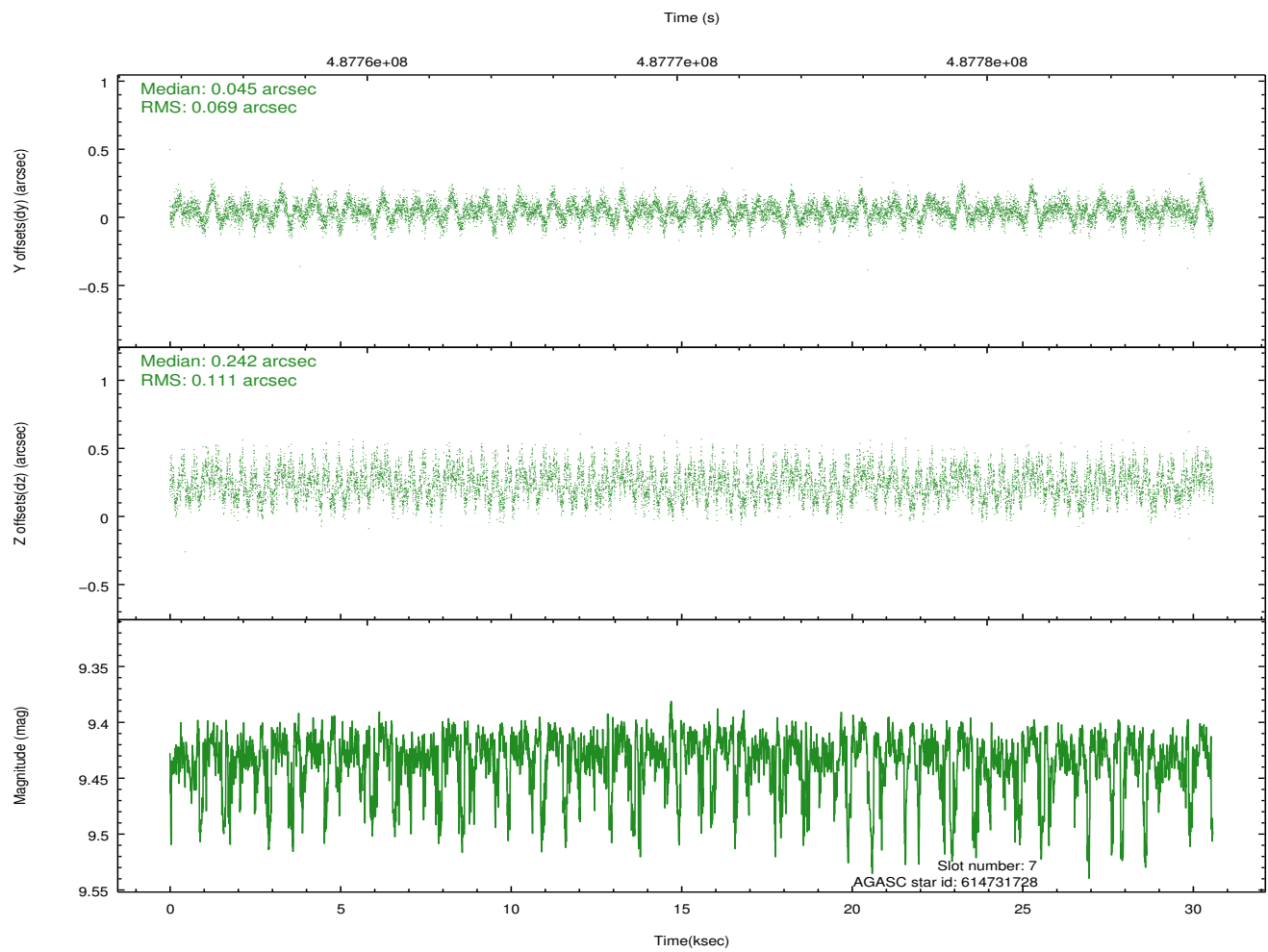
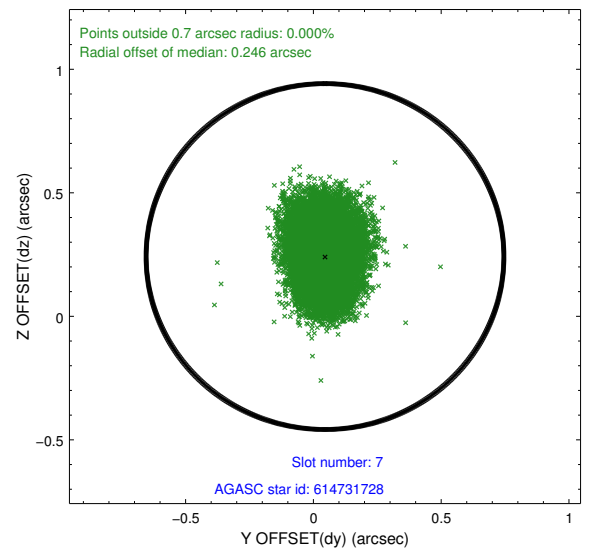
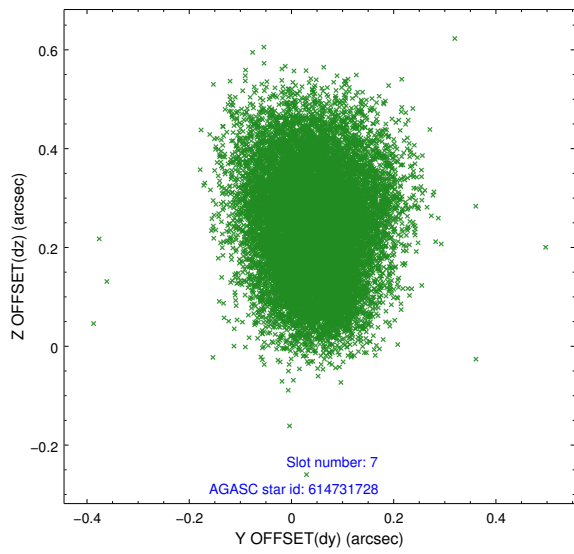
2.4.3 Slot 5



2.4.4 Slot 6

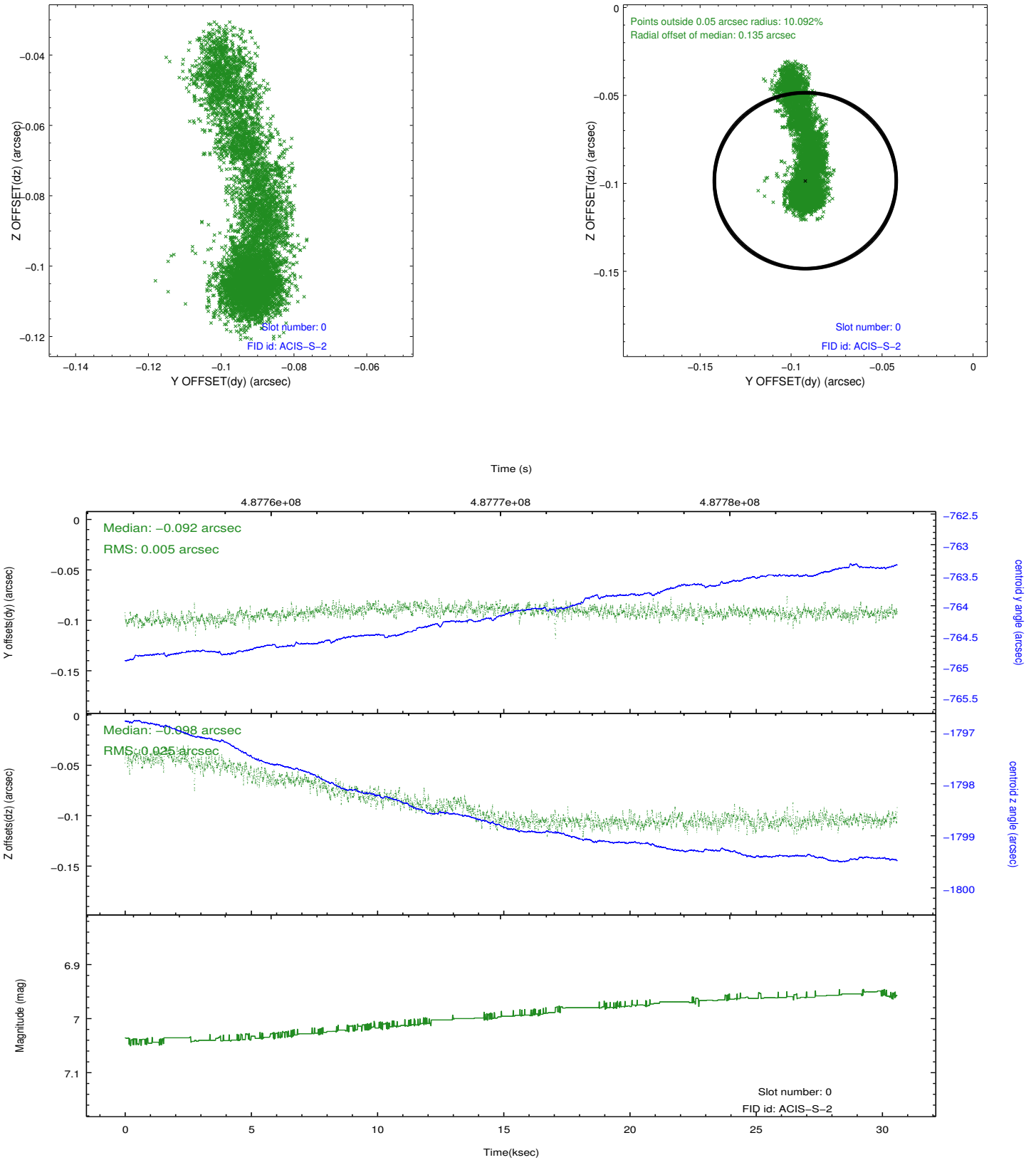


2.4.5 Slot 7

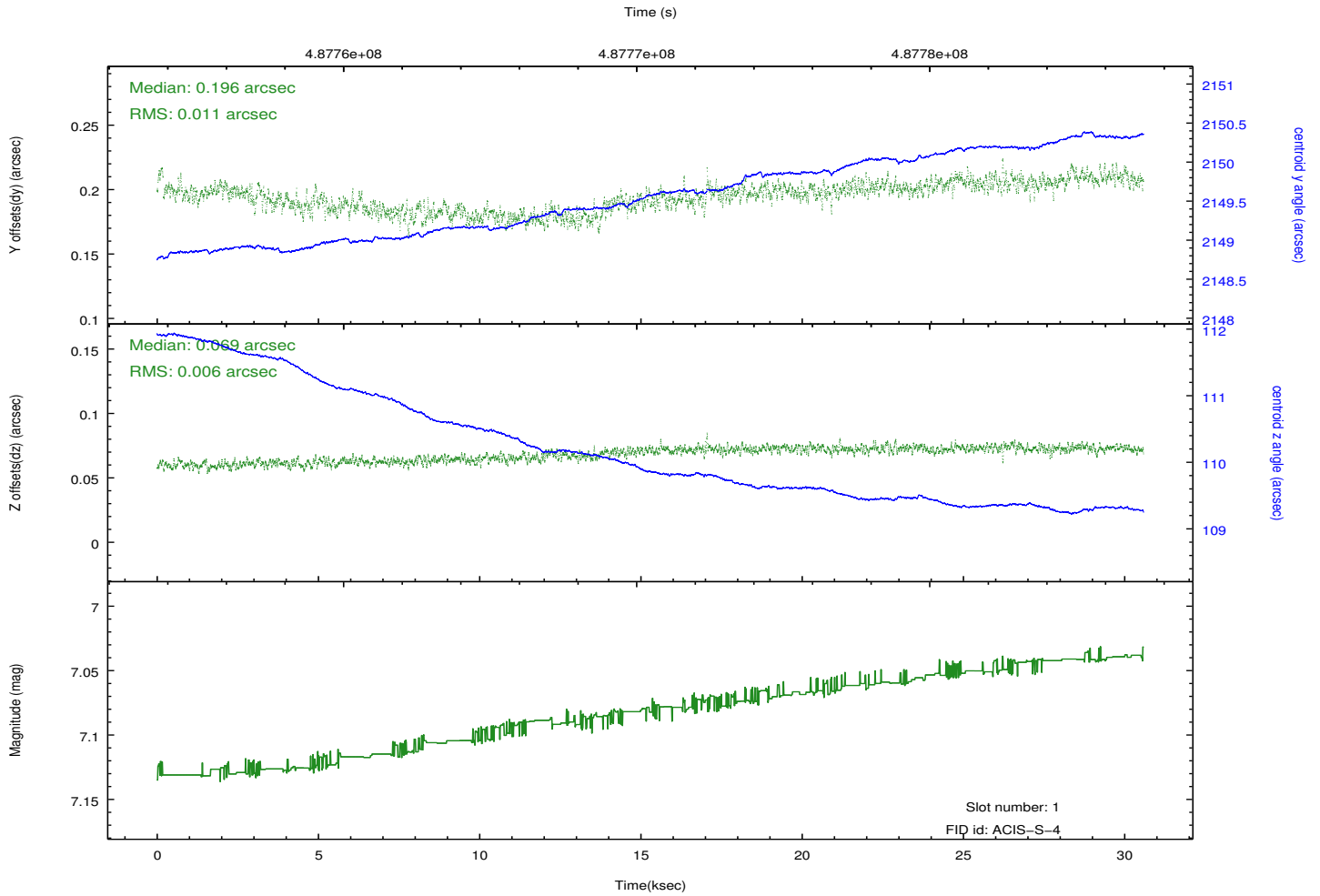
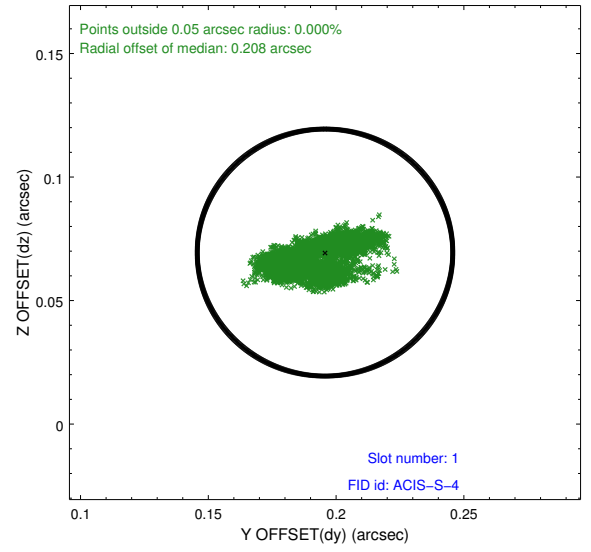
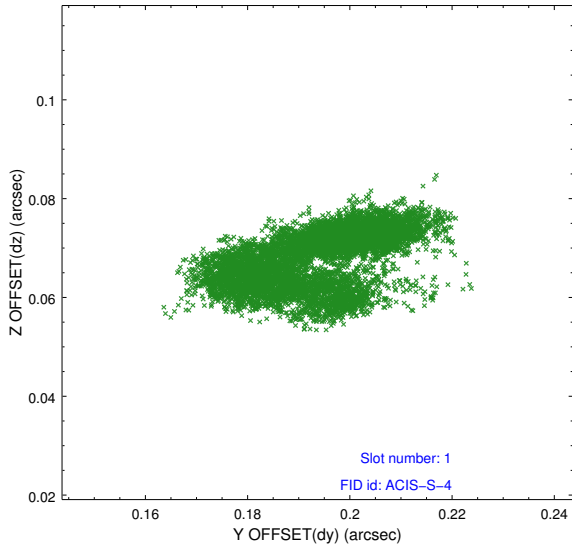


2.5 FID Slots

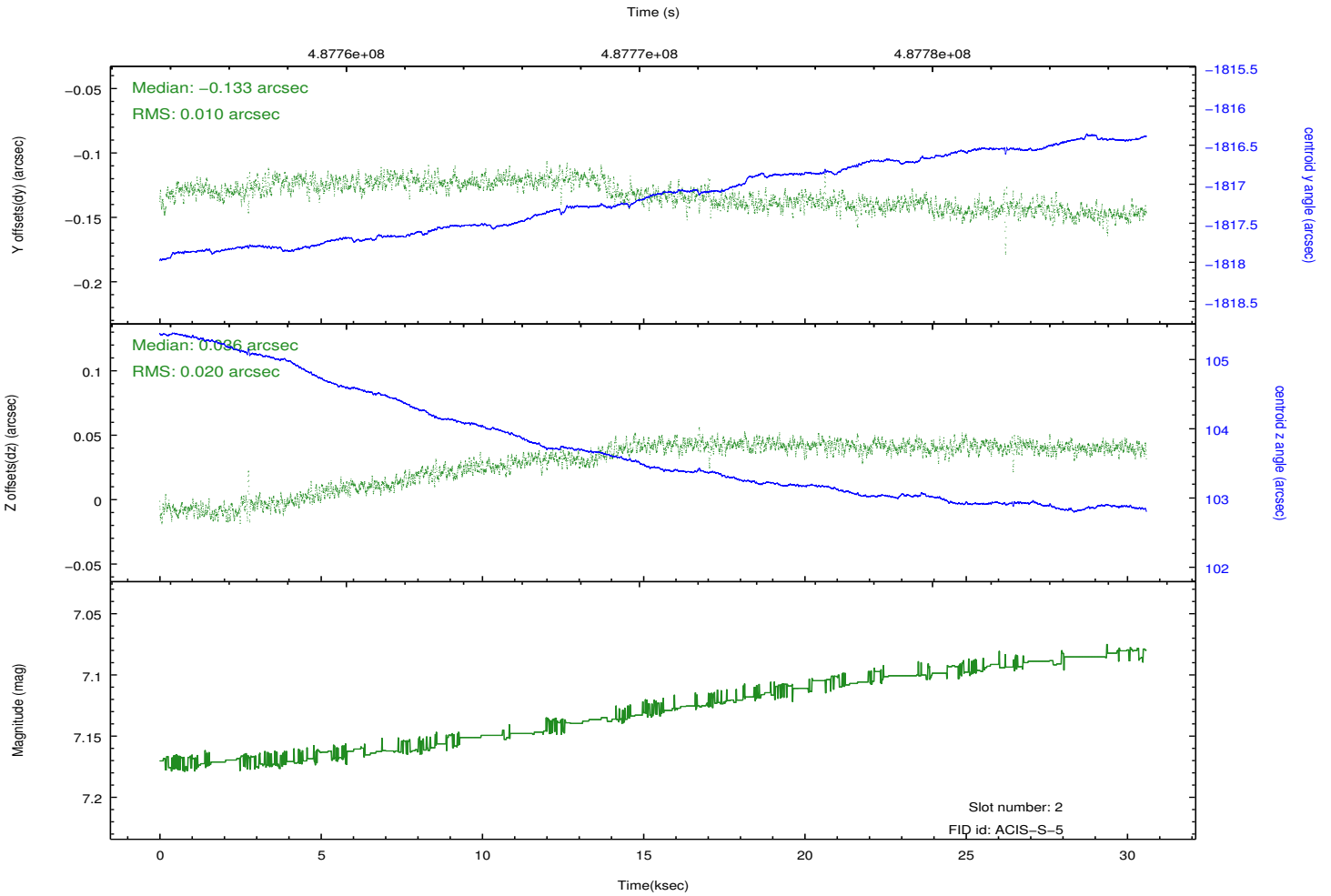
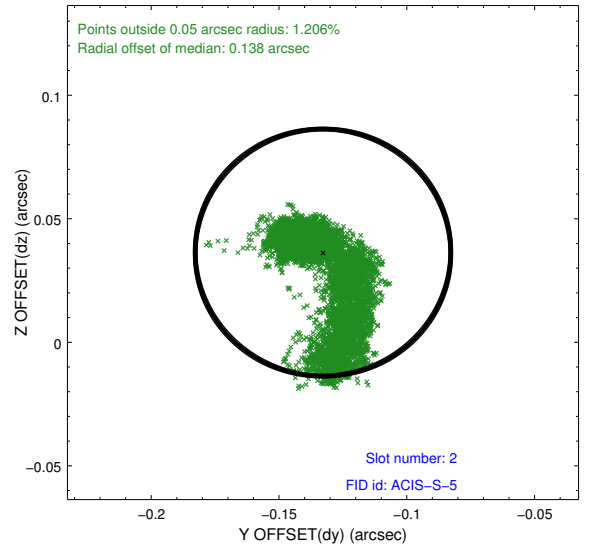
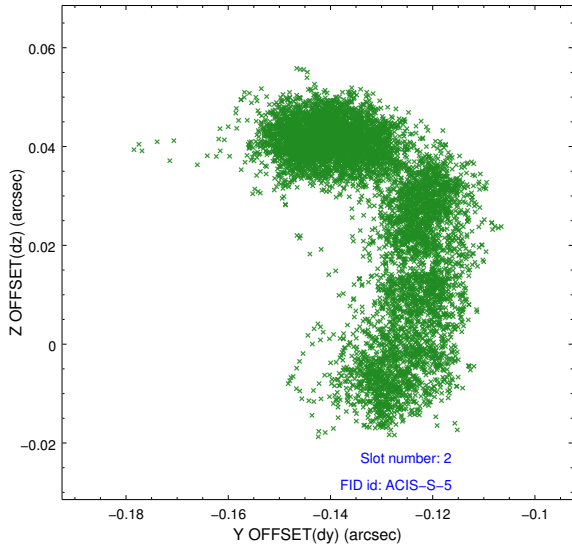
2.5.1 Slot 0



2.5.2 Slot 1

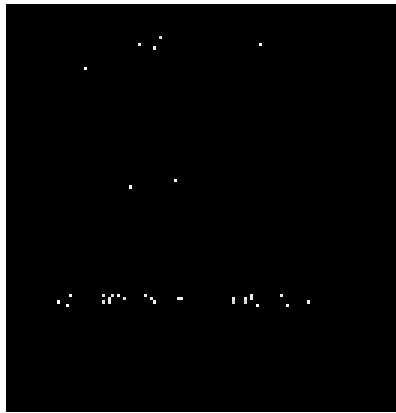


2.5.3 Slot 2

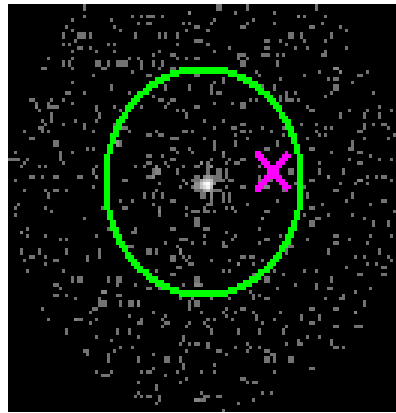


3 Gratings

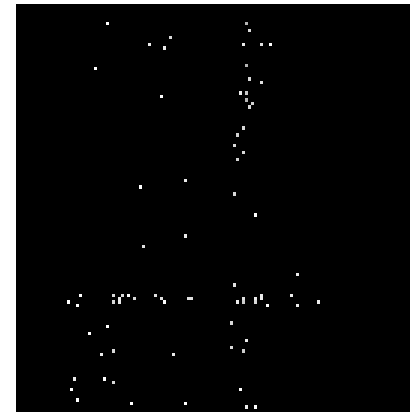
3.1 HEG Arm



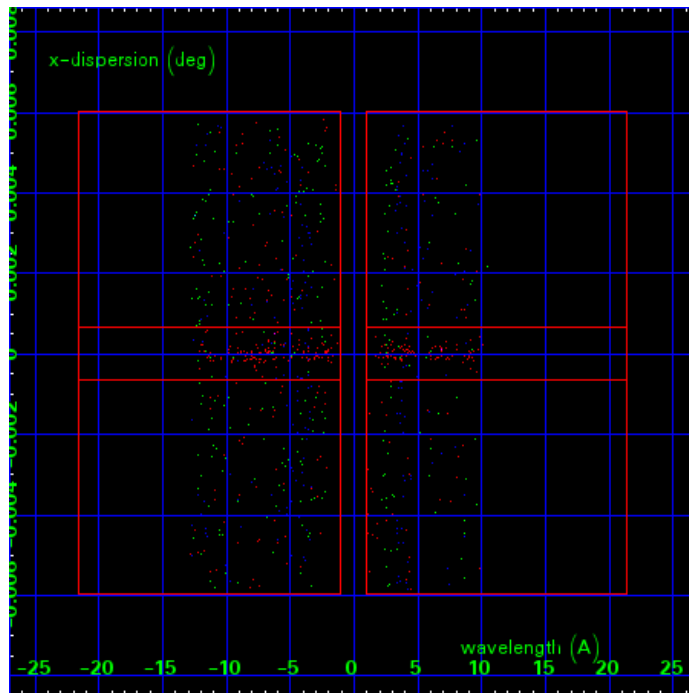
HEG Order Sort 123



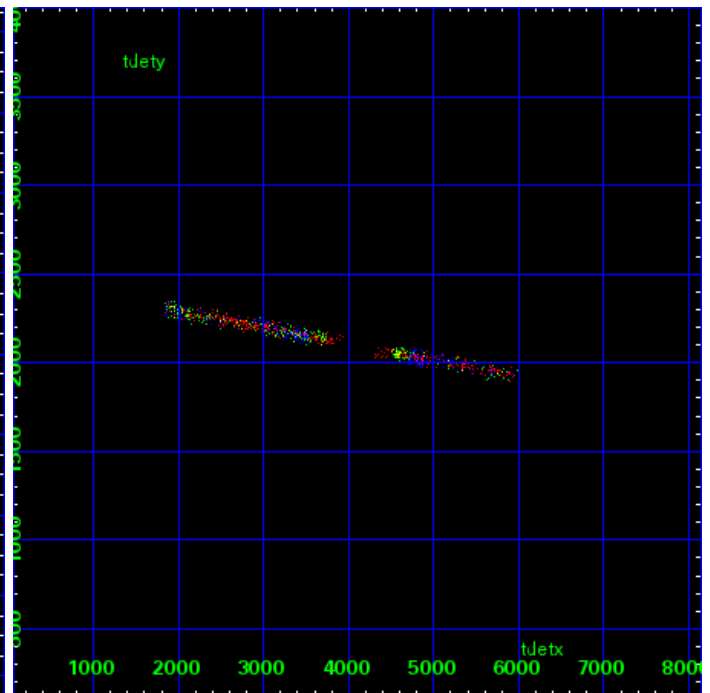
HEG Zero Order



HEG Order Sort ALL

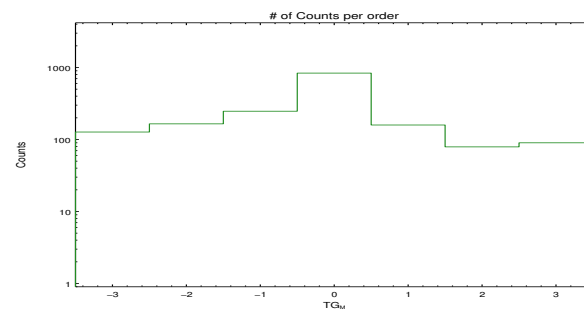


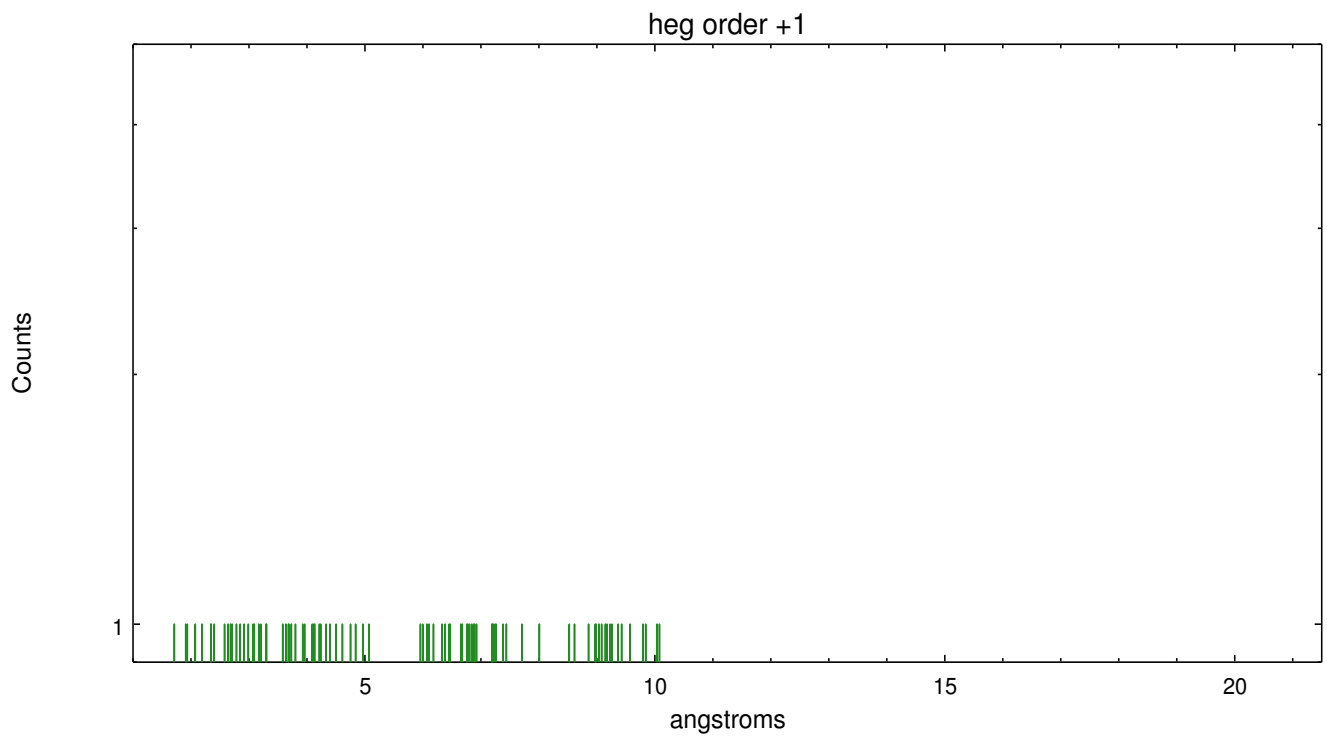
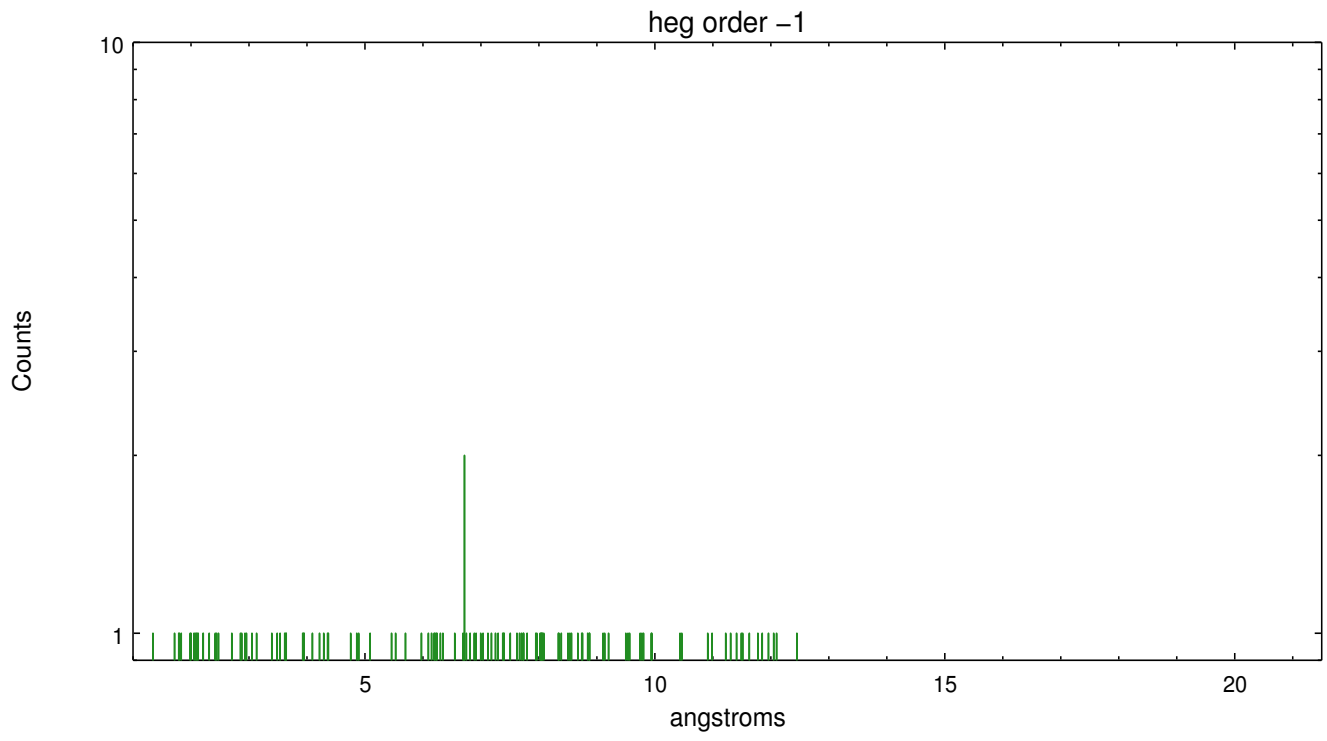
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	127	165	247	836	159	79	90

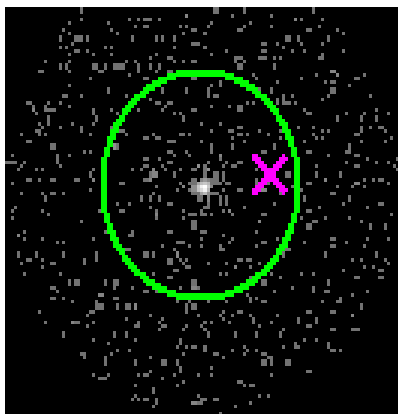




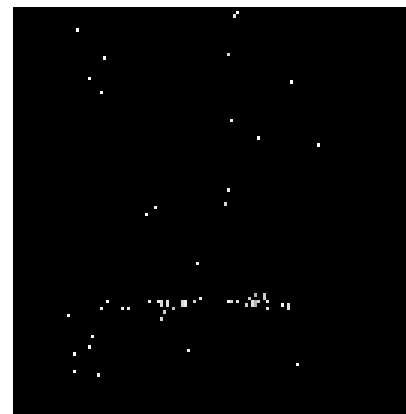
3.2 MEG Arm



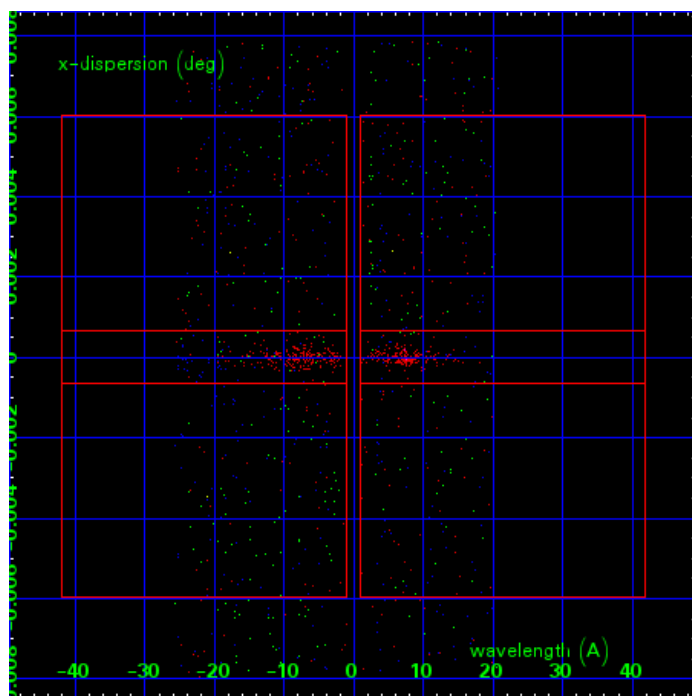
MEG Order Sort 123



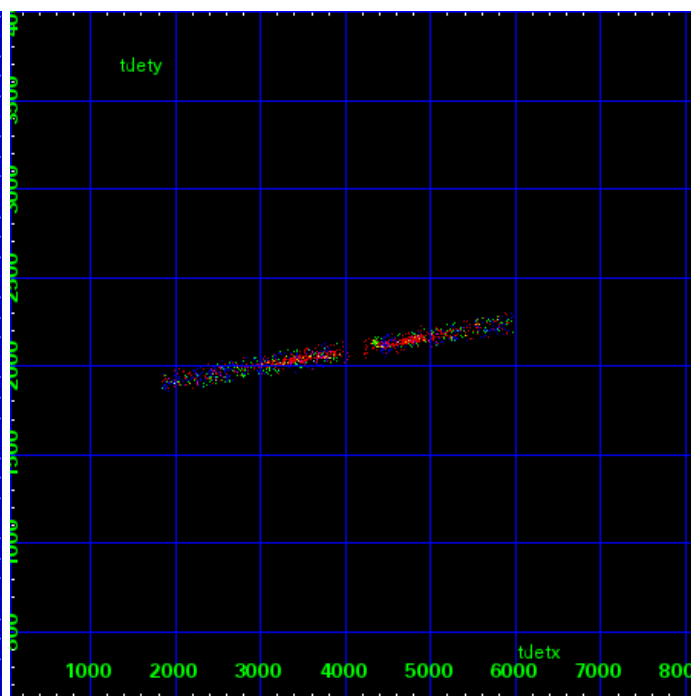
MEG Zero Order



MEG Order Sort ALL

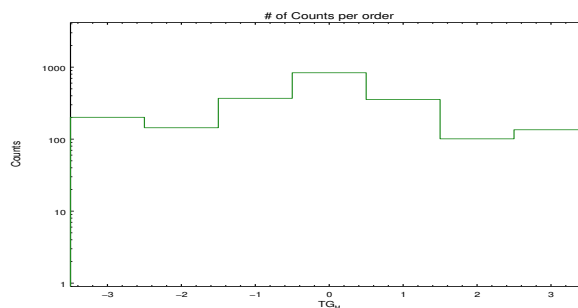


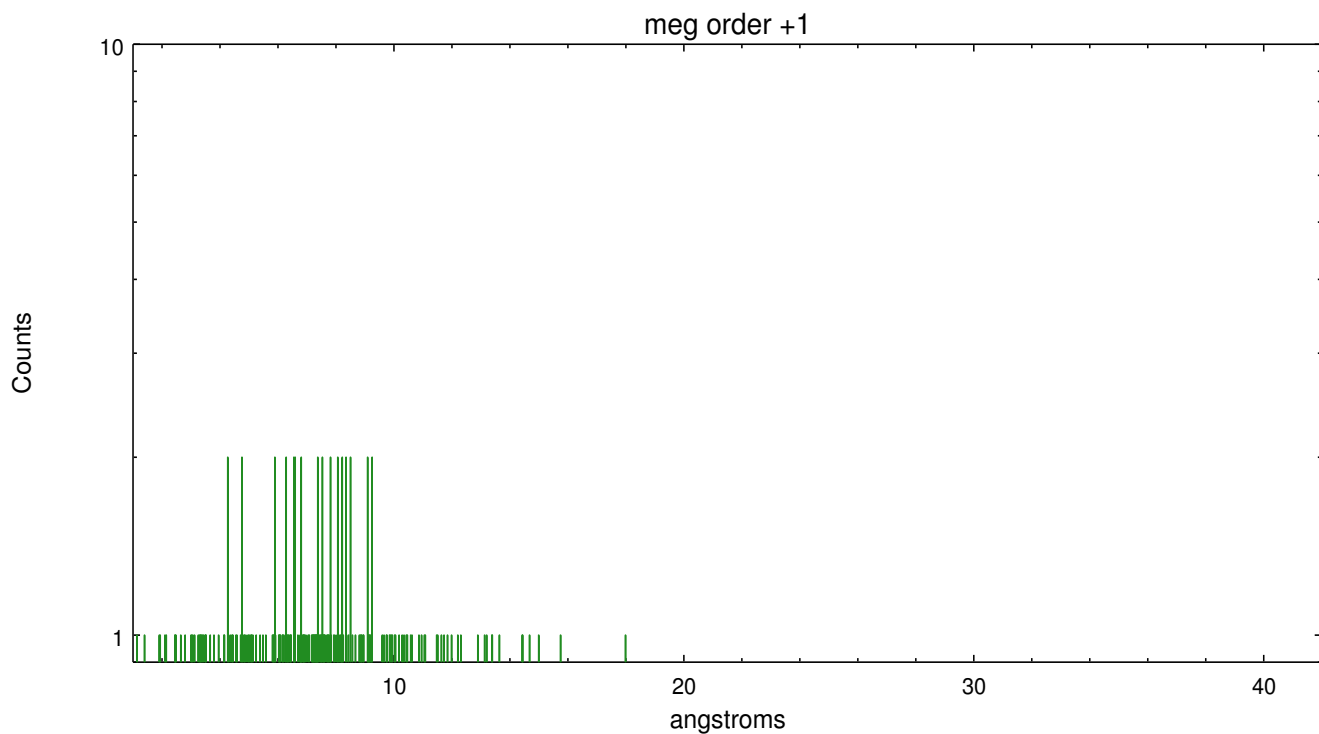
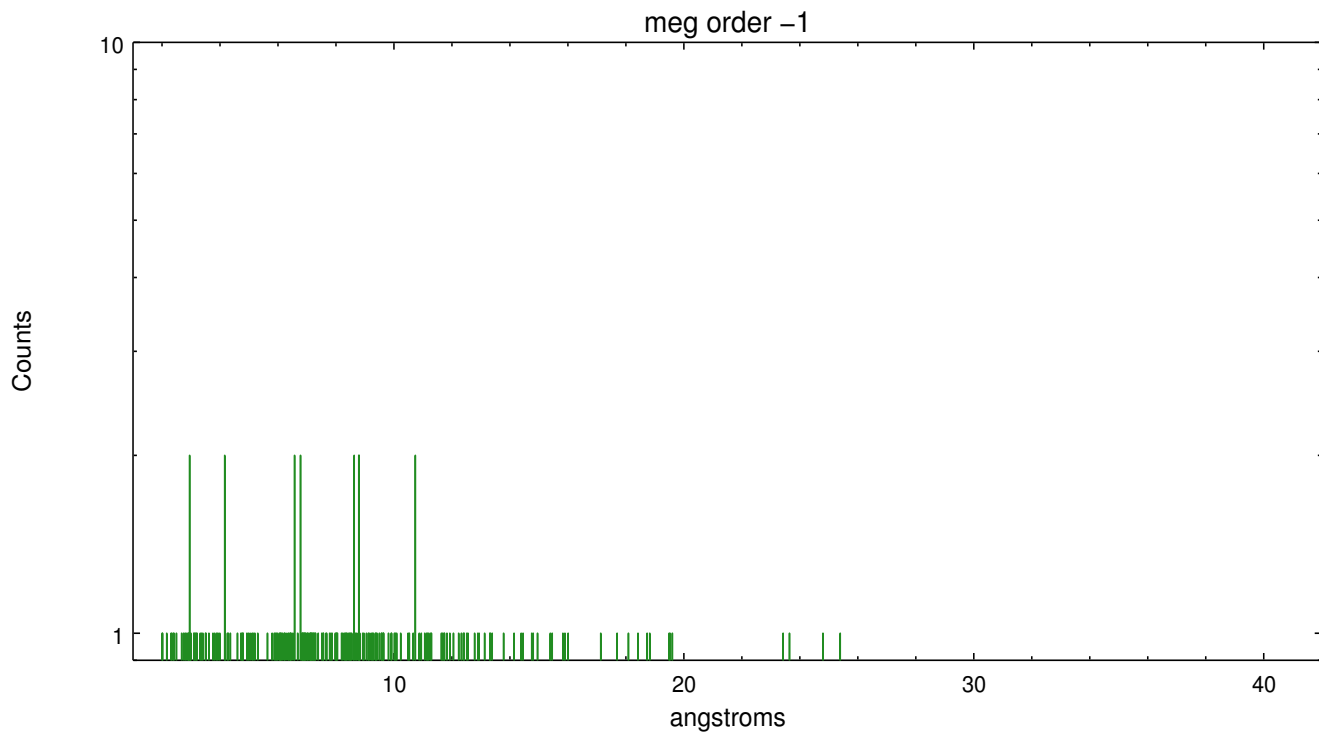
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	201	144	369	836	355	101	135





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.554399696469

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.