

V&V Reference Report

L2 ASCDS Version : 10.8.1

Observation 22995 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Jan 2 2020

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1 Front

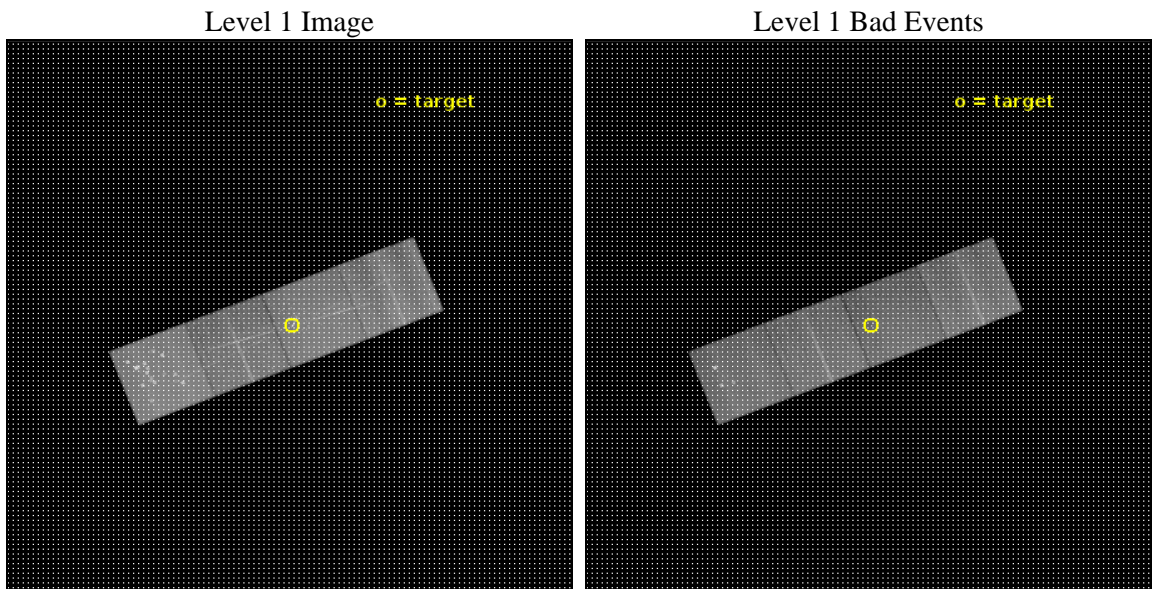
seq_num	201298	Sequence number
obs_id	22995	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.823789844653	Nominal RA [deg]
dec_nom	-5.3869400243351	Nominal Dec [deg]
roll_nom	338.57373763469	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39252.200302005	Sum of GTIs [s]
livetime	38739.34140801	Livetime [s]
ontime5	39252.200302005	Sum of GTIs [s]
ontime6	39249.059201717	Sum of GTIs [s]
ontime7	39252.200302005	Sum of GTIs [s]
ontime8	39252.200302005	Sum of GTIs [s]
l2events	551306	Number of level 2 events



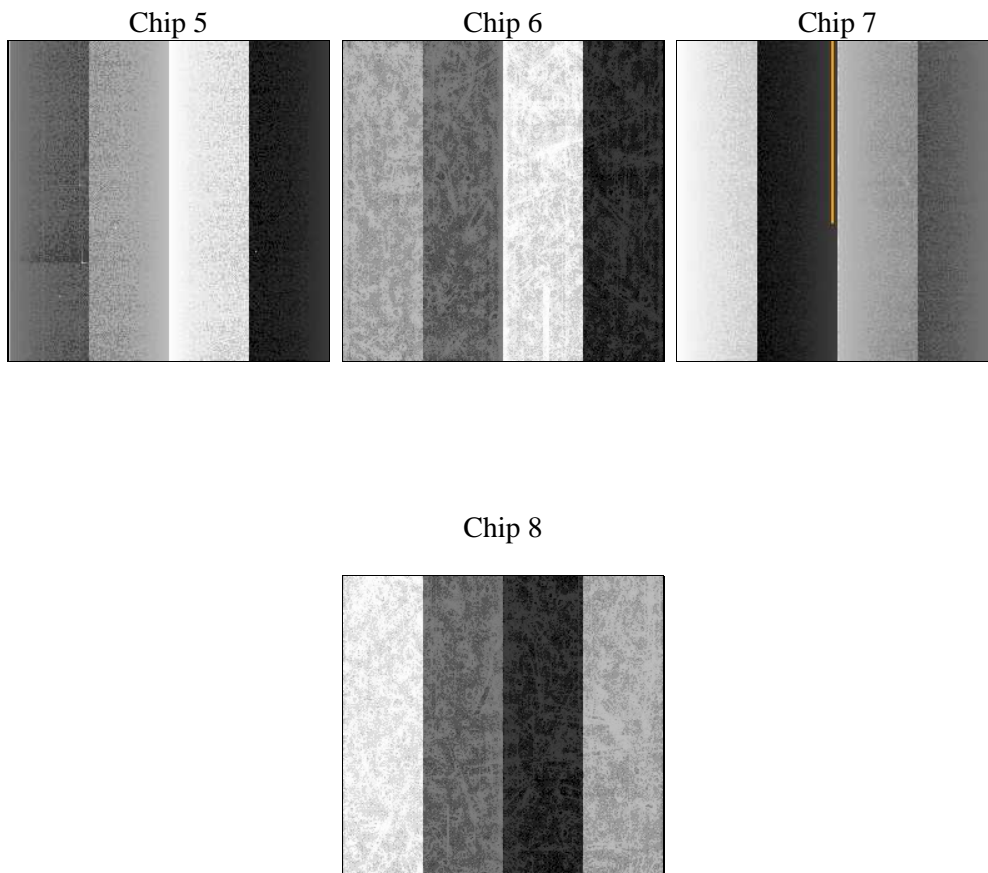
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	39188.985000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	39252.200302005	Sum of GTIs [s]
caldsver	4.8.4.2	 	ontime5	39252.200302005	Sum of GTIs [s]
date	2020-01-02T21:38:33	Date and time of file creation	ontime6	39249.059201717	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	39252.200302005	Sum of GTIs [s]
			ontime8	39252.200302005	Sum of GTIs [s]
			l1events	1799955	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4134.39, 4076.04)	src1a sky pixel position

2.1.4 Events

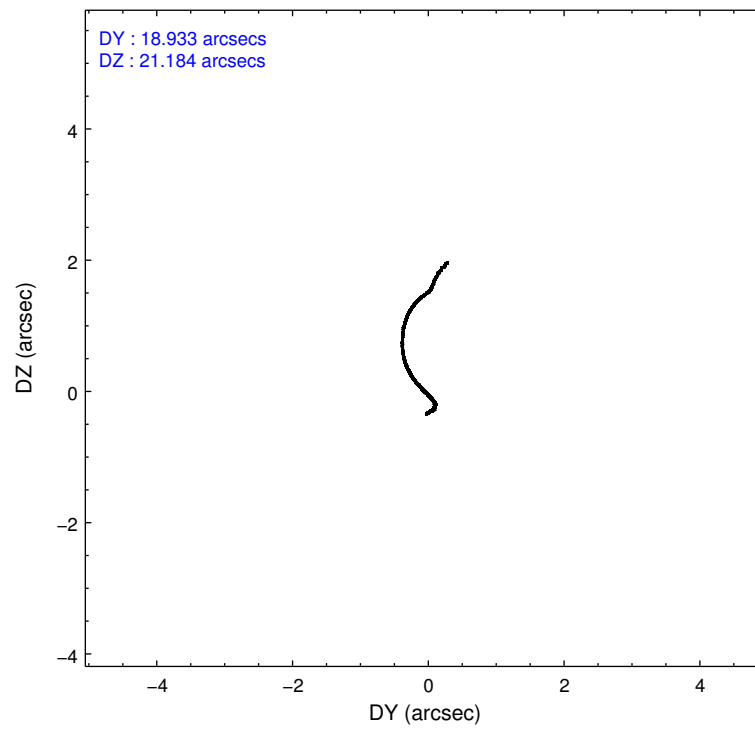
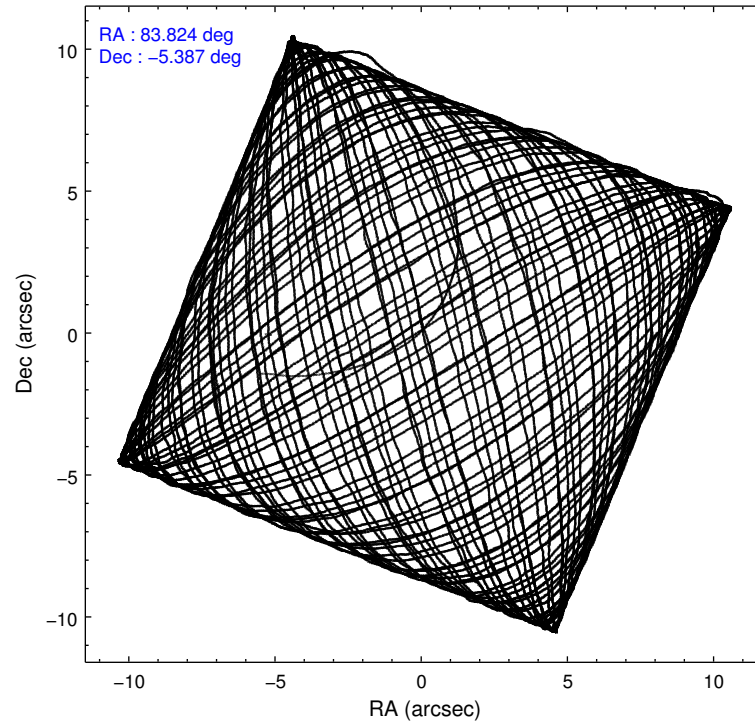
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	581938	344111	456959	416947
rejected events	272820	281941	229733	298222
rejected %	46%	81%	50%	71%

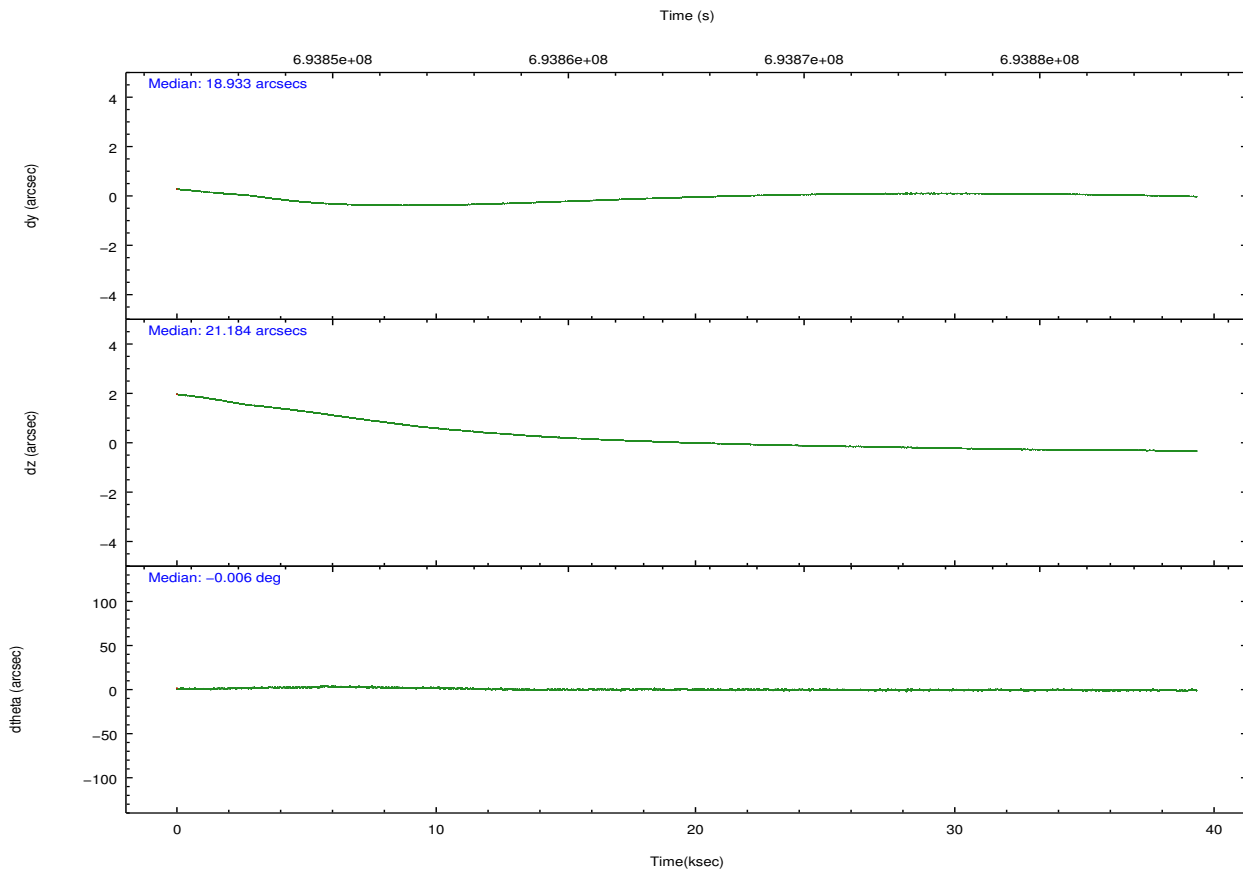
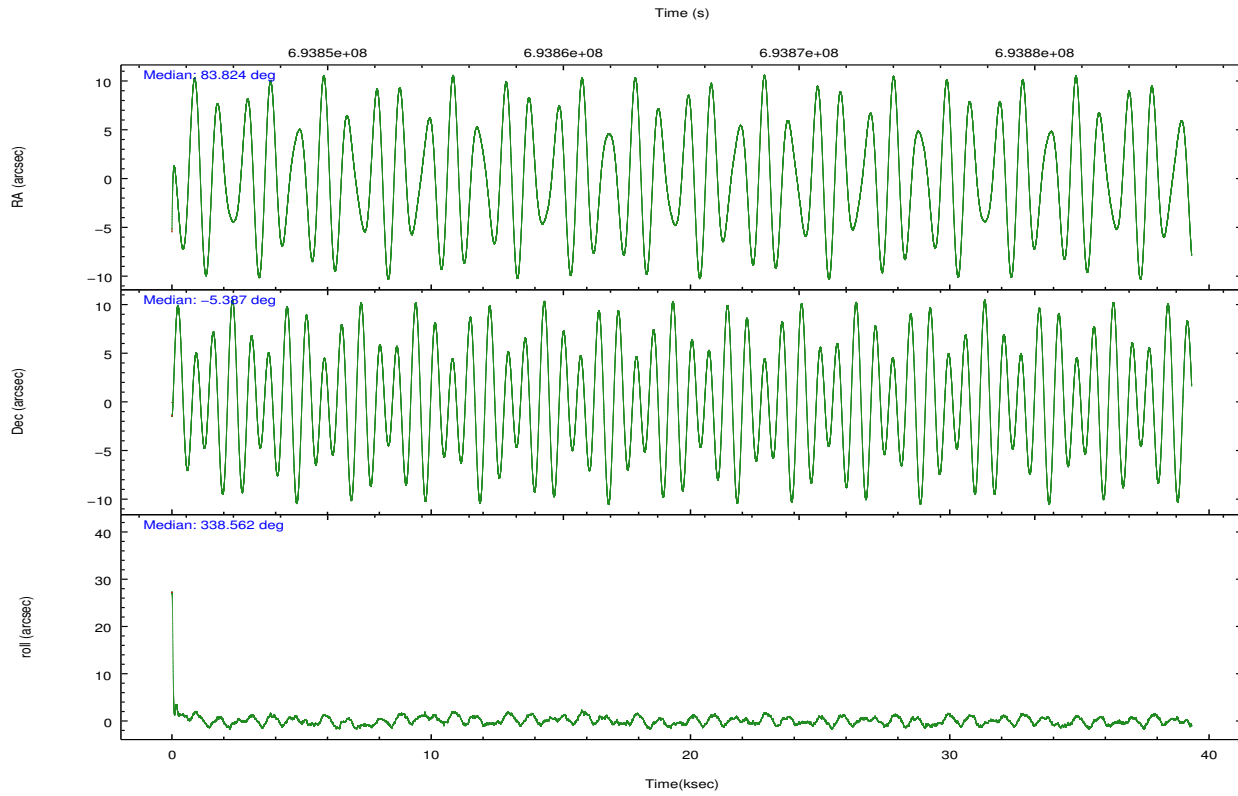
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	73983	31505	25920	39070
	12%	9%	5%	9%
grade 1 events	1316	230	826	354
	0%	0%	0%	0%
grade 2 events	87548	12750	50955	27906
	15%	3%	11%	6%
grade 3 events	8334	4060	19274	11061
	1%	1%	4%	2%
grade 4 events	7113	4043	18989	10471
	1%	1%	4%	2%
grade 5 events	35225	13569	39613	21814
	6%	3%	8%	5%
grade 6 events	132171	9818	112113	30221
	22%	2%	24%	7%
grade 7 events	236248	268136	189269	276050
	40%	77%	41%	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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.796588	83.82378984465322	CCD I2 on	N	N
[deg] Pointing Dec	-5.391406	-5.386940024335105	CCD I3 on	N	N
[deg] Pointing Roll	338.414550	338.5737376346942	CCD S0 on	O1	N
[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	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	693845488.184000	693844225.2201101	CCD S5 on	O2	N
Observation start date	2019-12-27T14:50:19	2019-12-27T14:30:25	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	693884677.184000	693885338.48509	On-chip summing requested	N	N
Observation end date	2019-12-28T01:43:28	2019-12-28T01:55:38	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





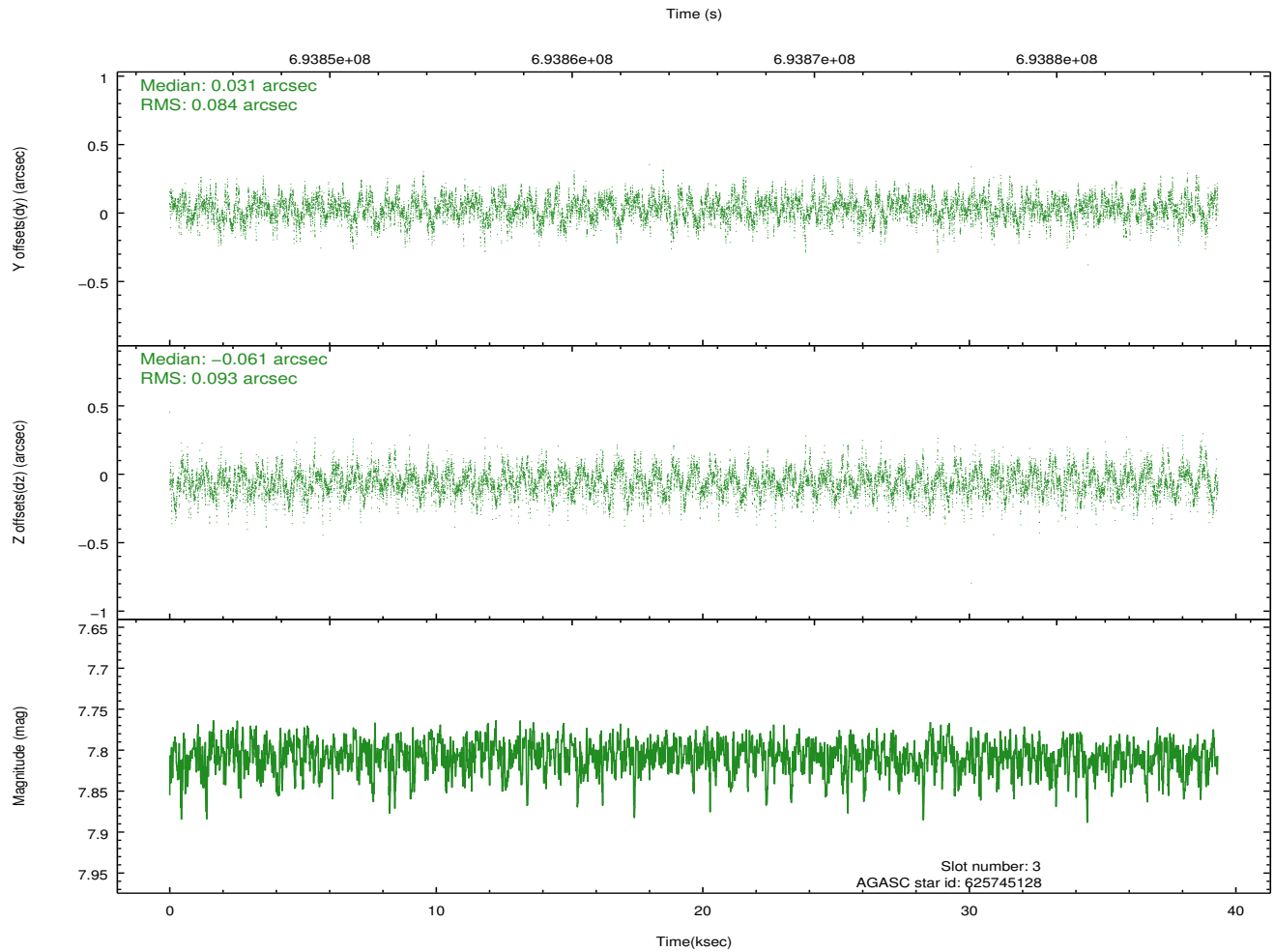
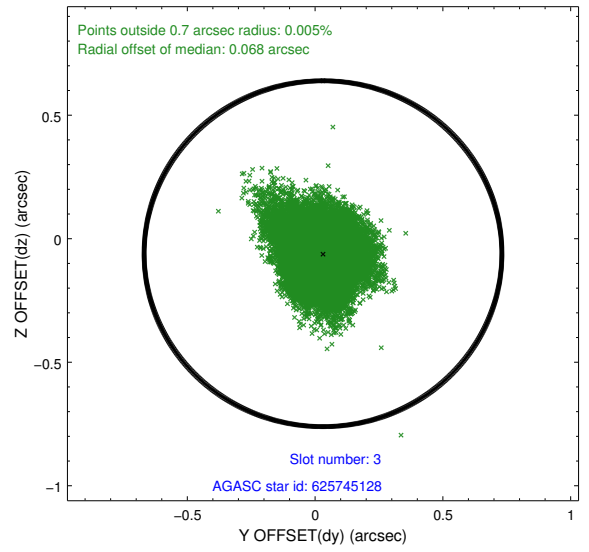
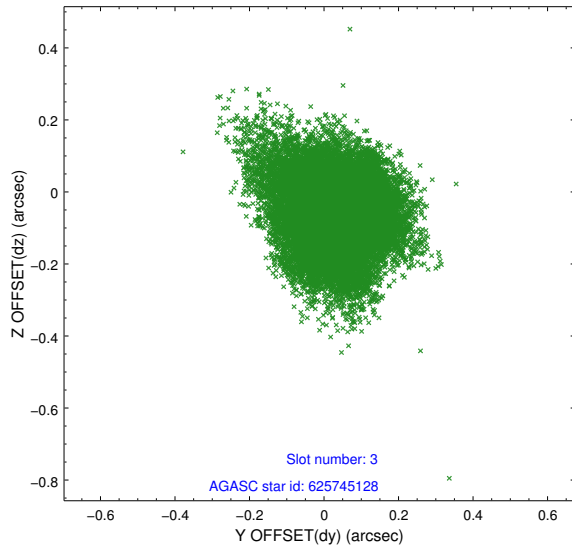
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	7.09	9592	1.000	-0.357	-0.290	0.020	0.039	0.000000	0.000000	-772.24	-1743
1	FID		ACIS-S-4	7.19	9592	1.000	0.847	0.249	0.018	0.039	0.000000	0.000000	2142.17	165
2	FID		ACIS-S-5	7.15	9593	1.000	-0.522	0.048	0.016	0.033	0.000000	0.000000	-1825.28	159
3	GUIDE	used	625745128	7.81	19176	1.000	0.031	-0.061	0.132	0.215	83.769930	-4.731835	-962.55	2172
4	GUIDE	used	625745136	7.21	19181	1.000	-0.086	0.240	0.114	0.189	83.600341	-4.804339	-1432.09	1706
5	GUIDE	used	625874672	7.65	19176	1.000	-0.153	-0.672	0.109	0.170	84.403143	-4.934124	1417.44	2329
6	GUIDE	used	626272880	7.68	19176	1.000	0.095	0.249	0.129	0.221	83.815609	-6.032748	913.71	-2121
7	GUIDE	used	626272976	7.95	19178	1.000	0.121	0.250	0.124	0.212	83.795875	-5.926912	707.76	-1793

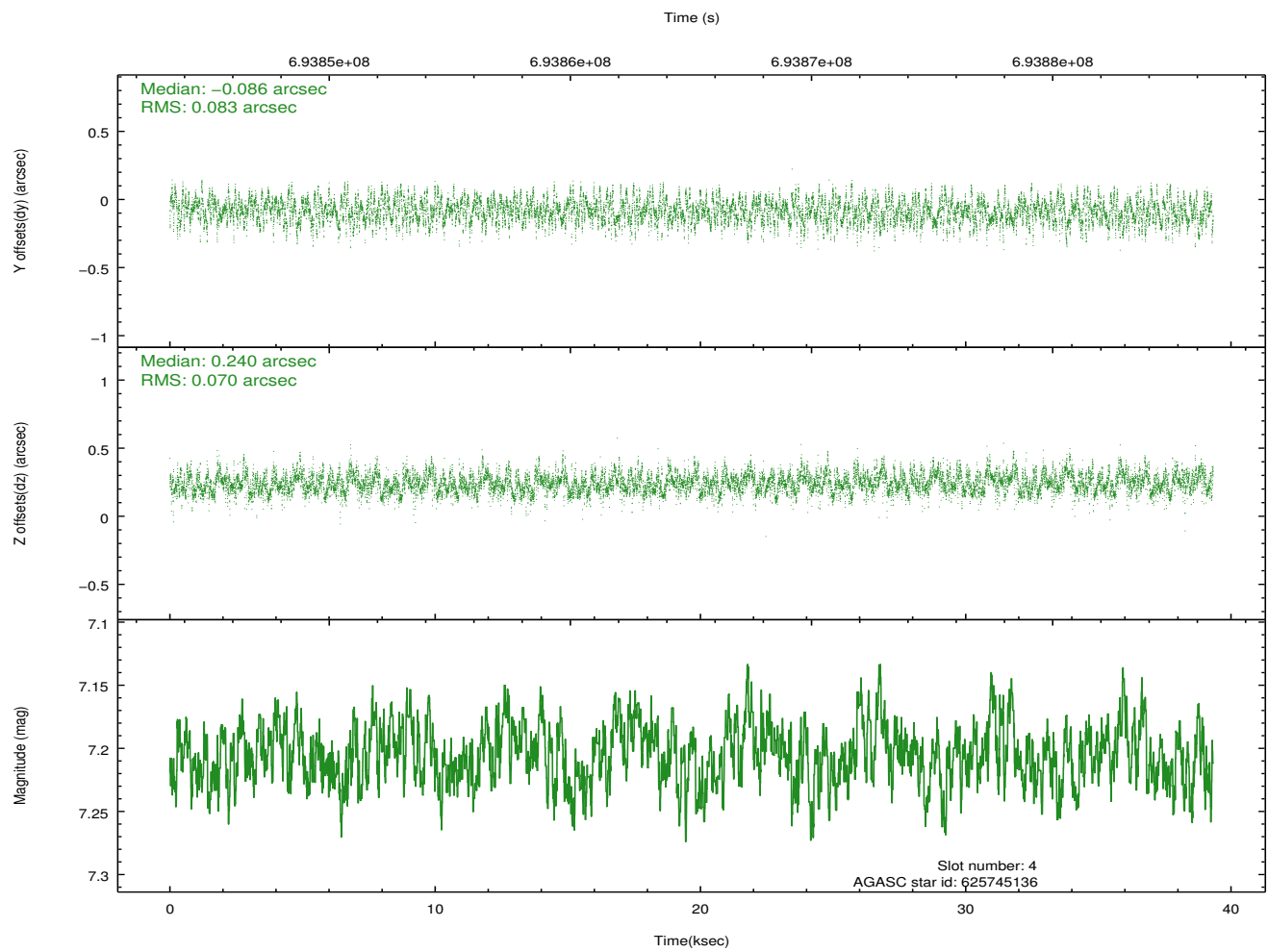
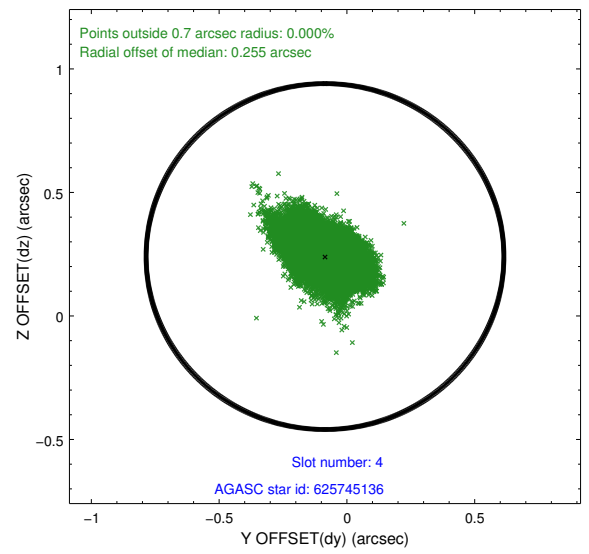
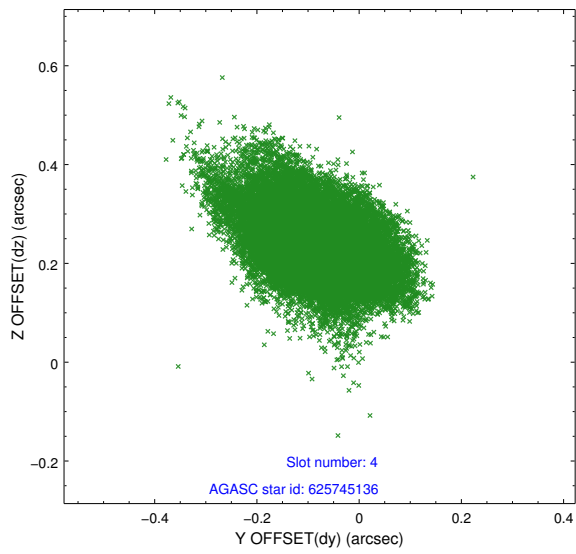
∞

2.4 Star Slots

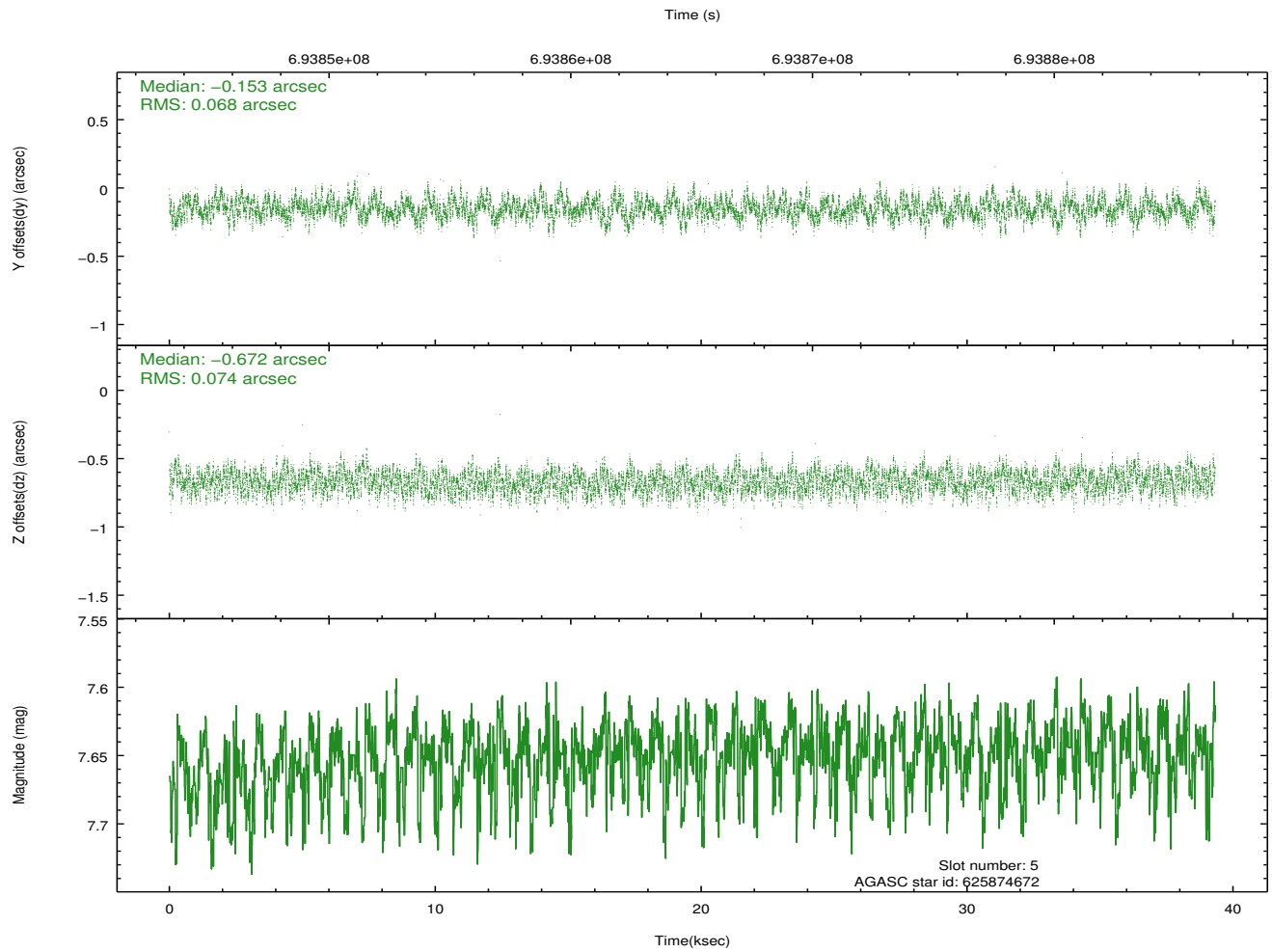
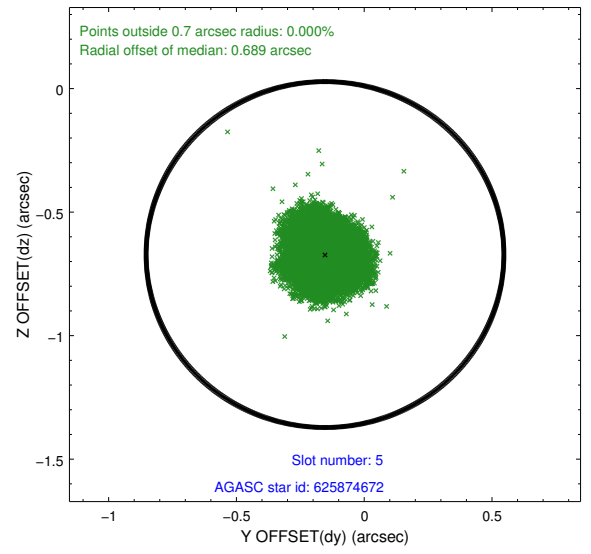
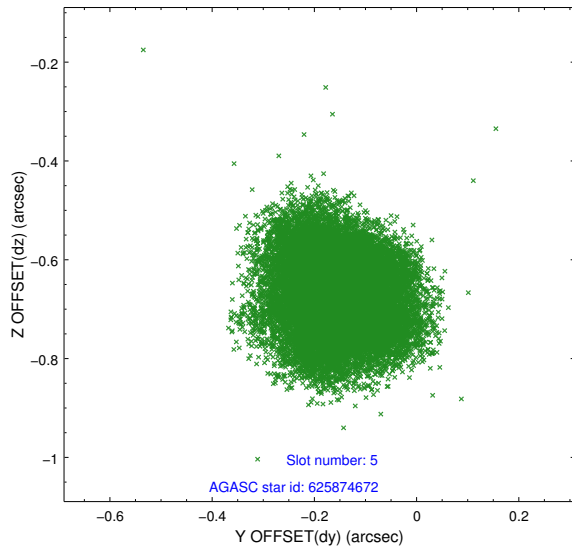
2.4.1 Slot 3



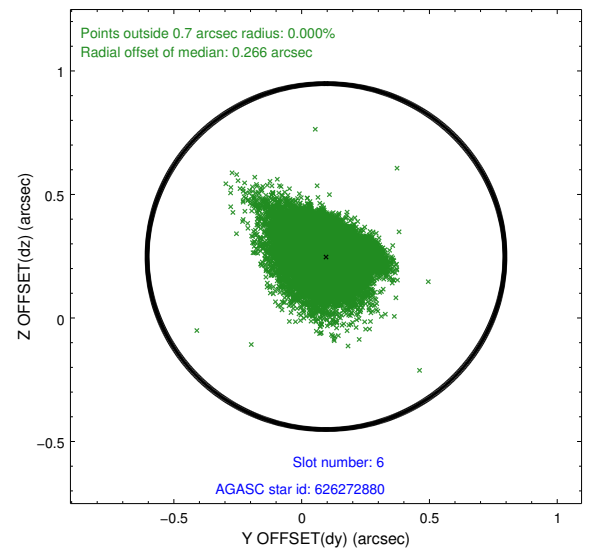
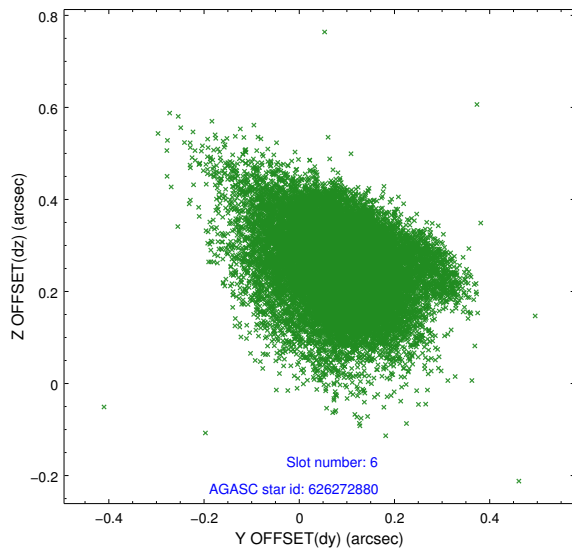
2.4.2 Slot 4



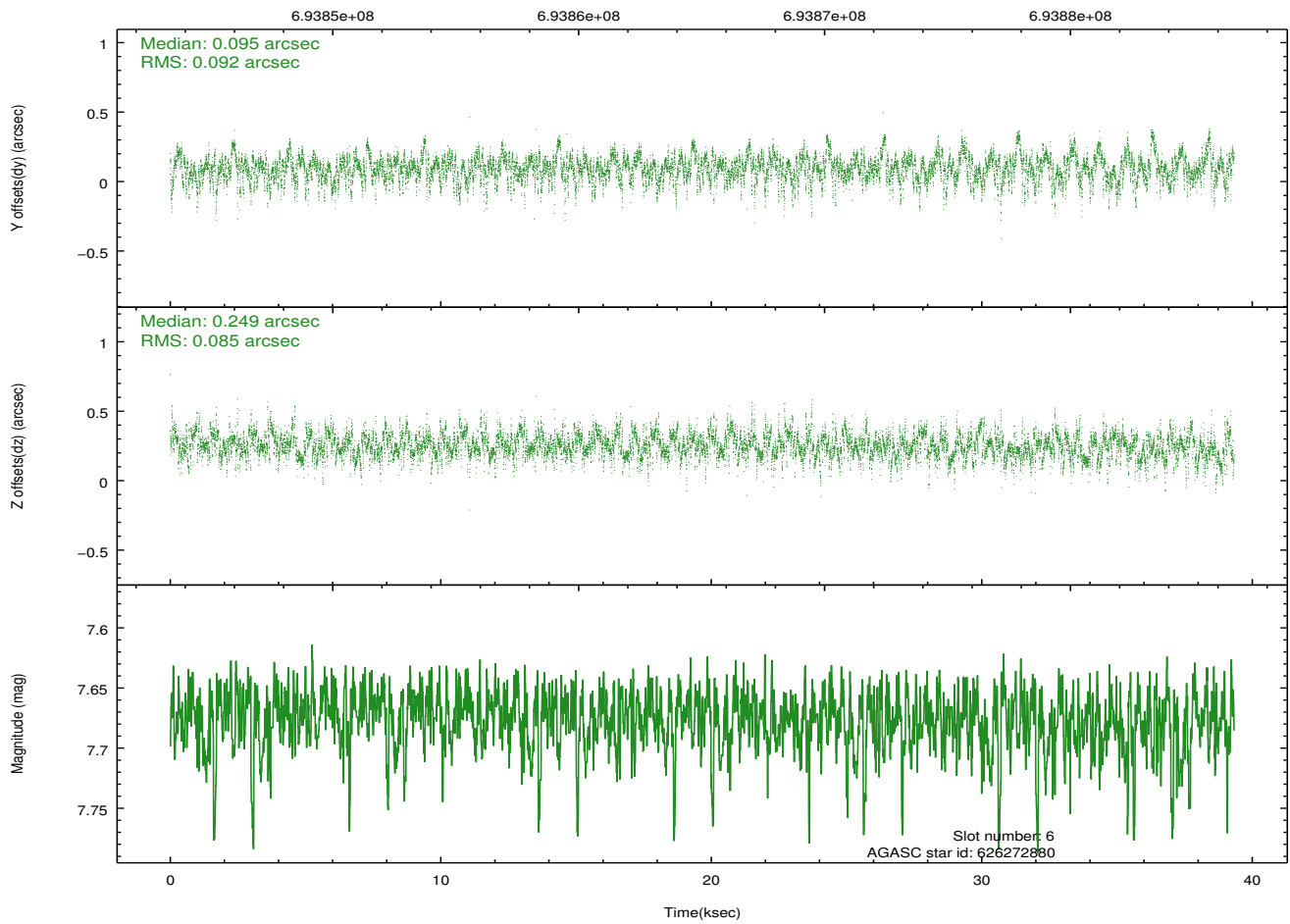
2.4.3 Slot 5



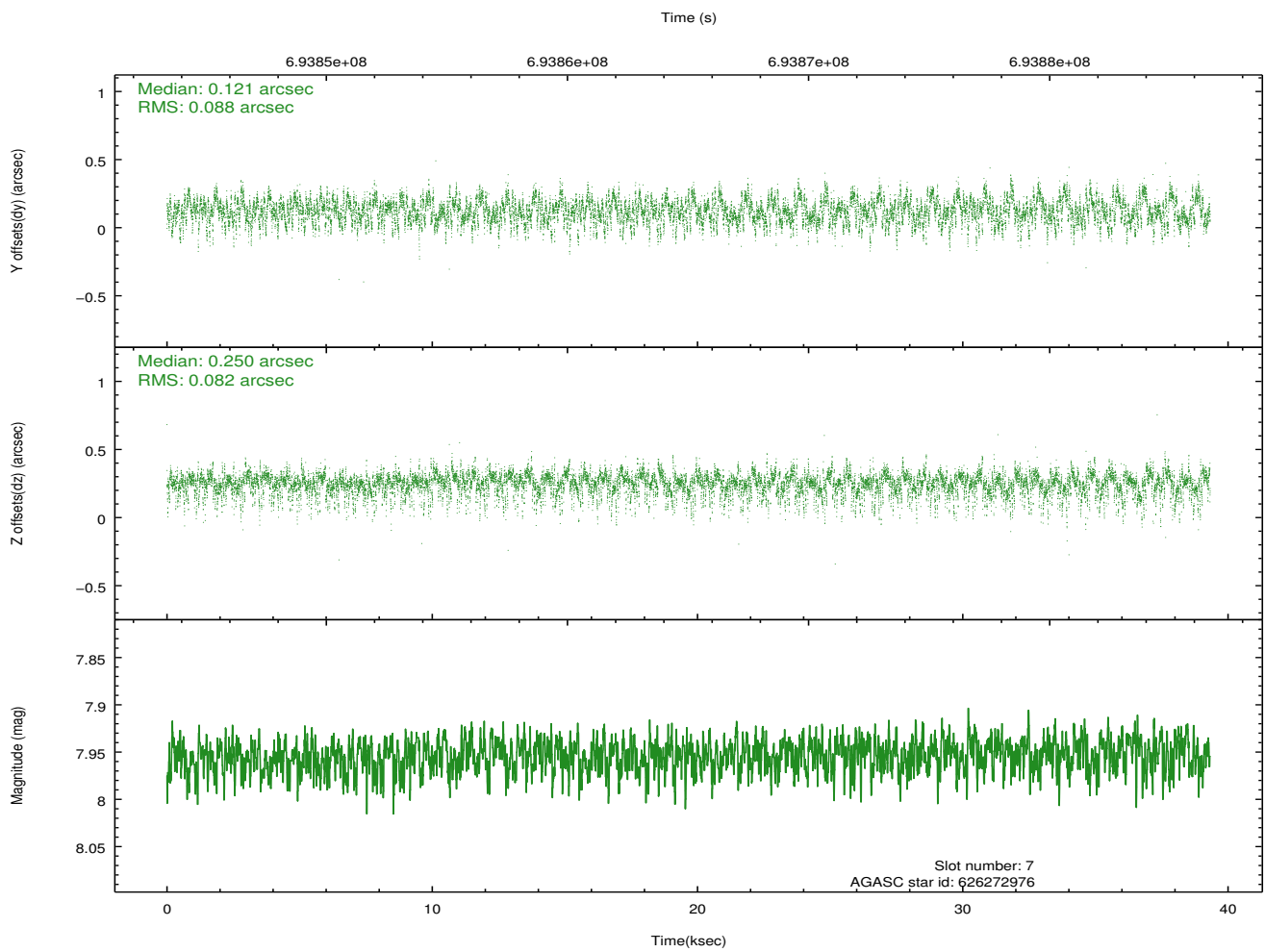
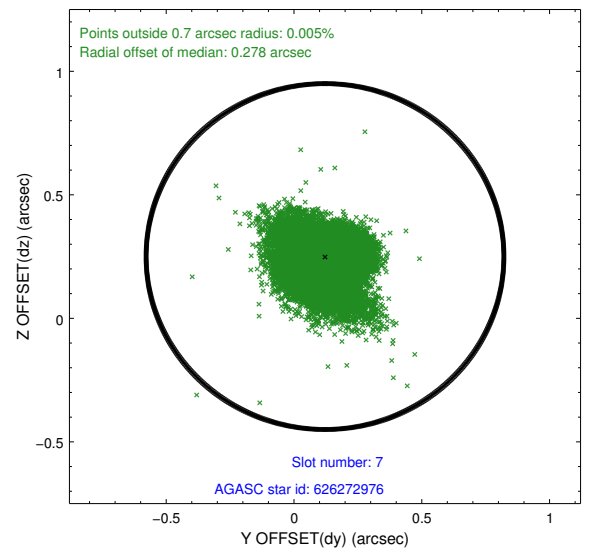
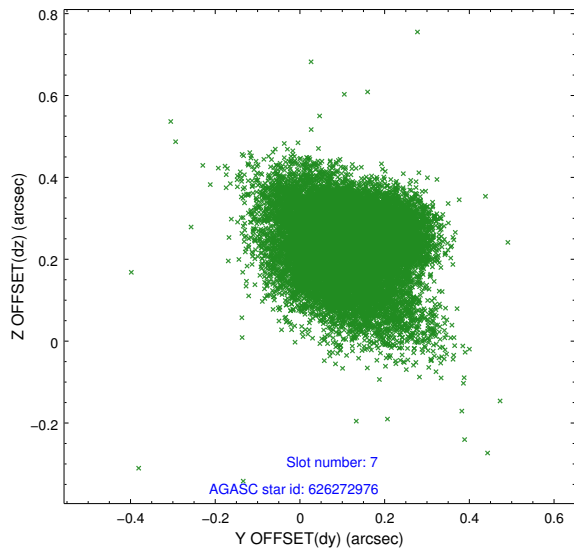
2.4.4 Slot 6



Time (s)

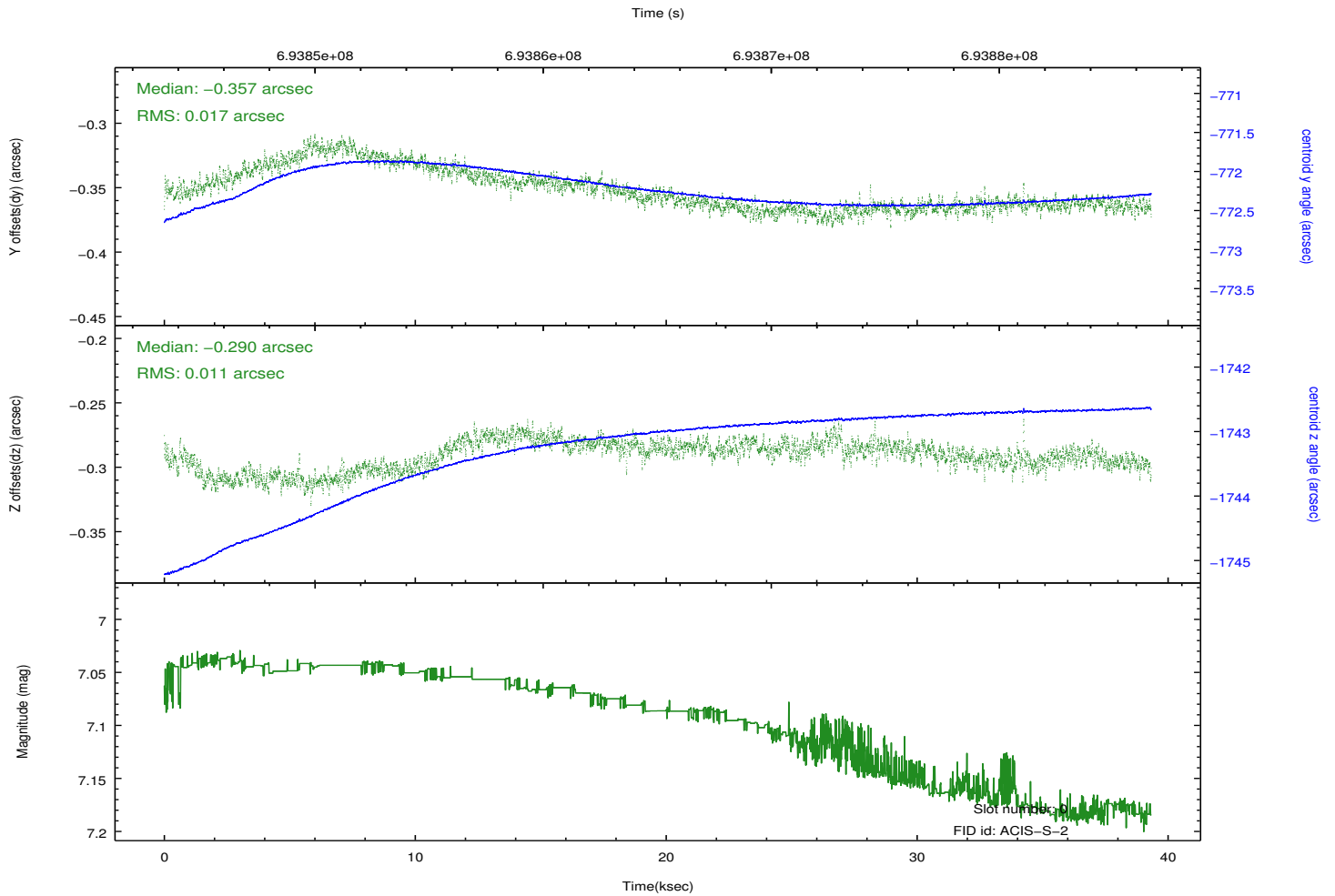
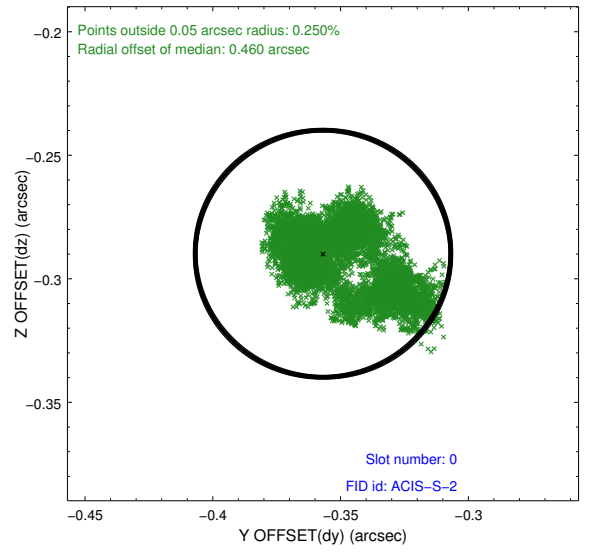
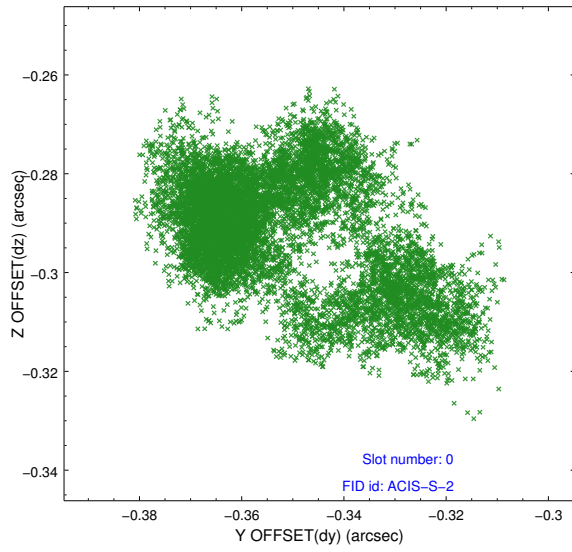


2.4.5 Slot 7

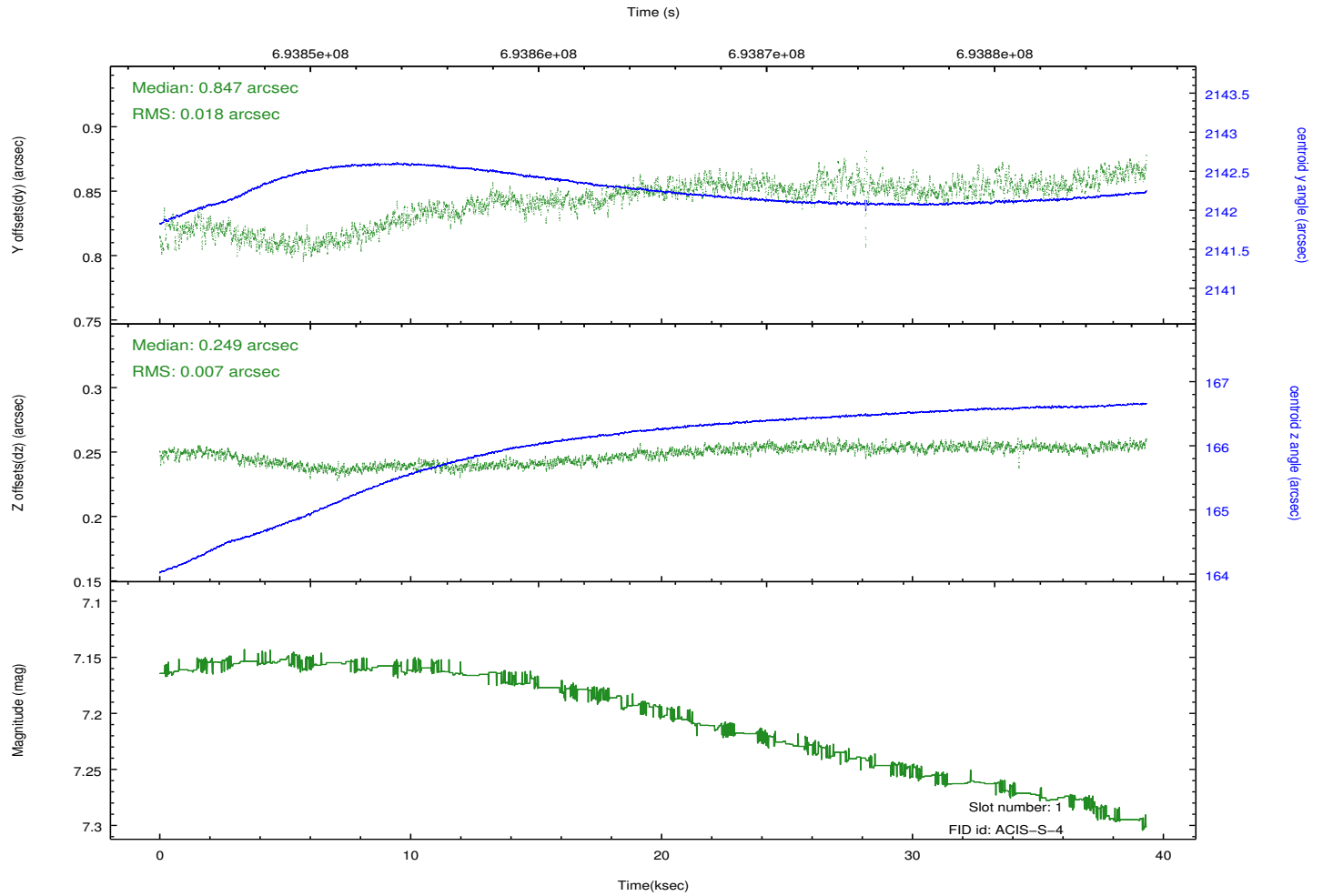
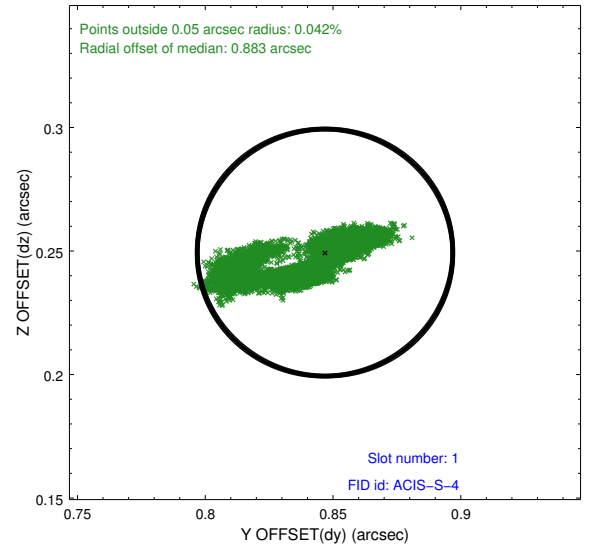
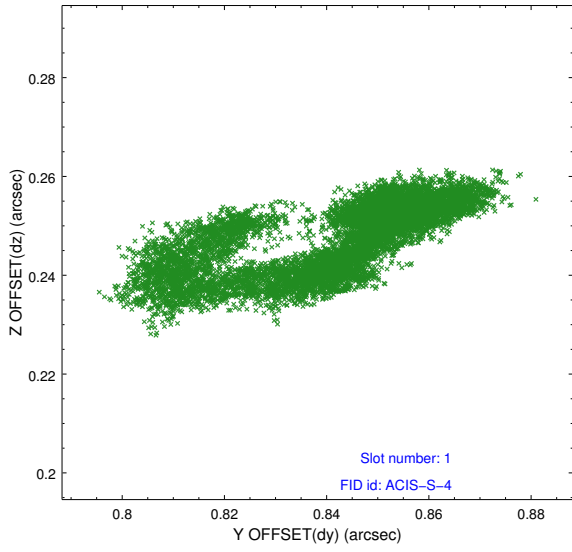


2.5 FID Slots

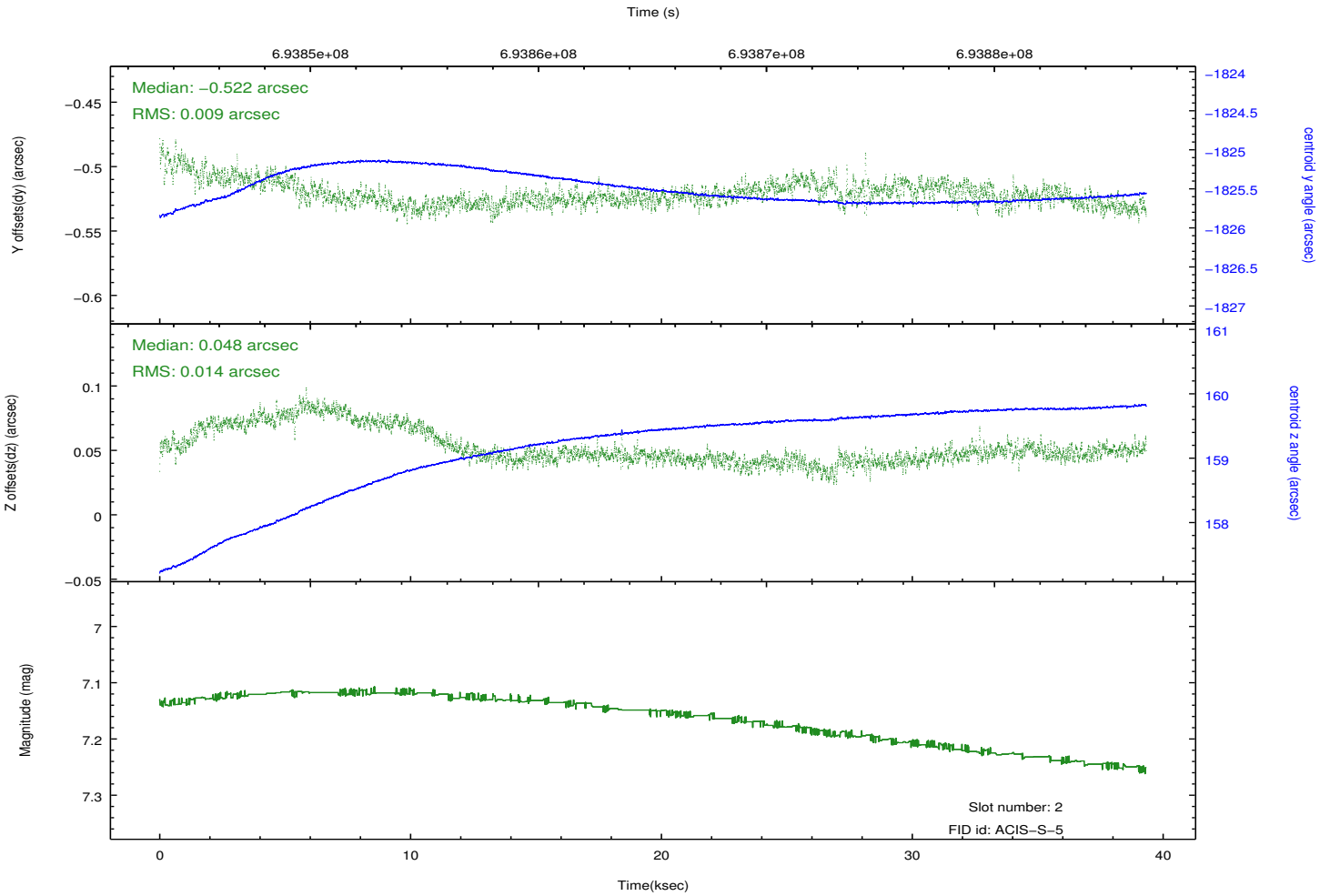
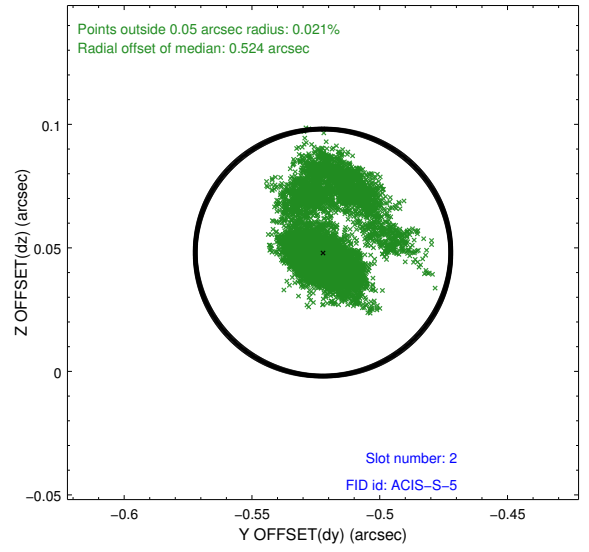
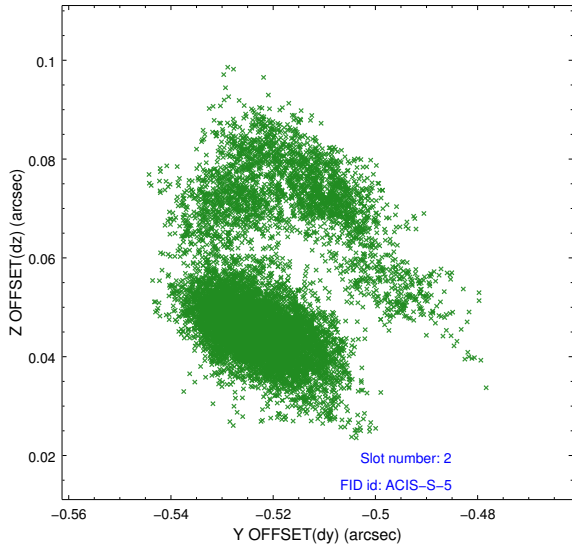
2.5.1 Slot 0



2.5.2 Slot 1

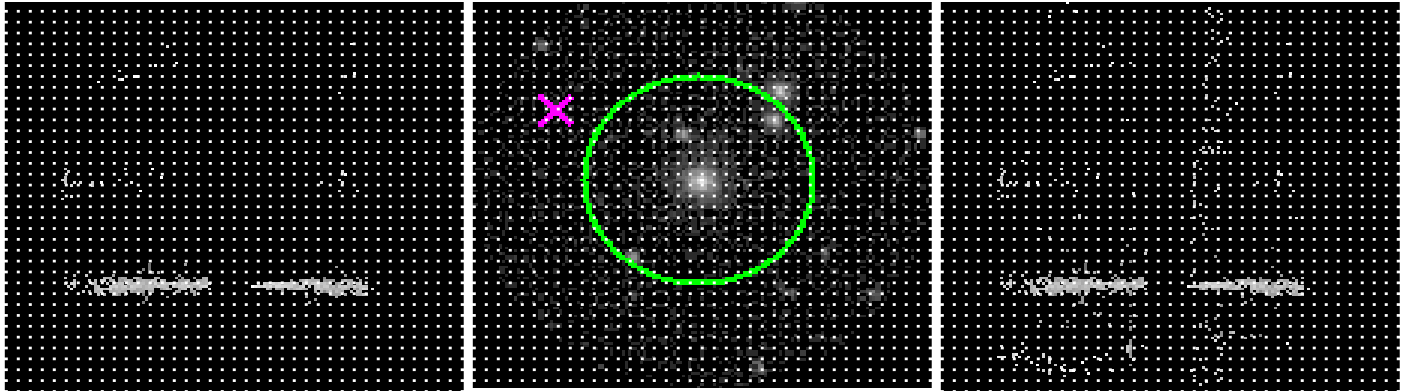


2.5.3 Slot 2



3 Gratings

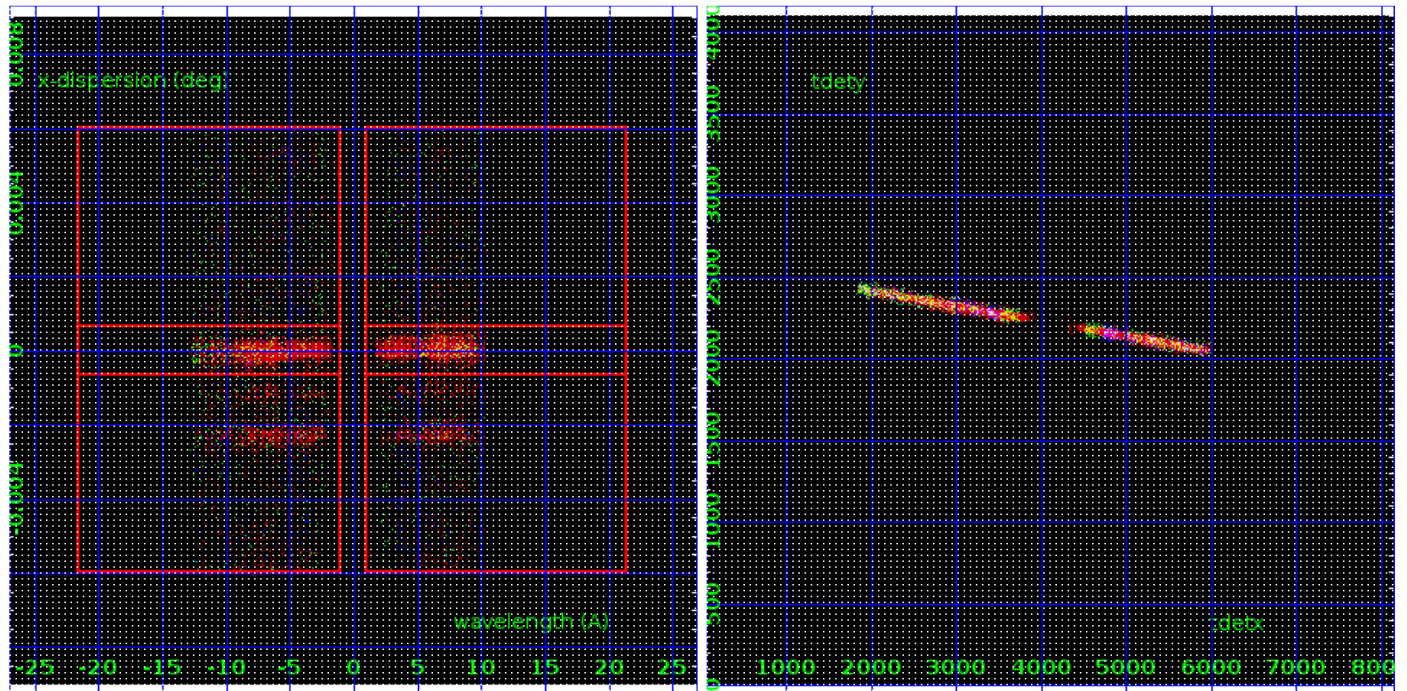
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

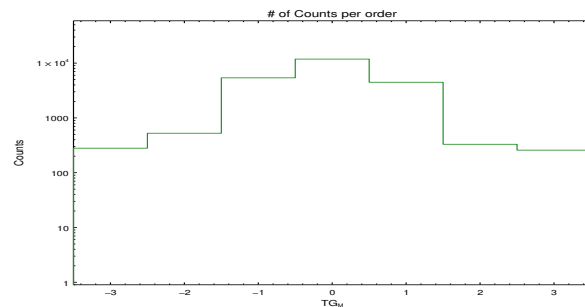
HEG Order Sort ALL

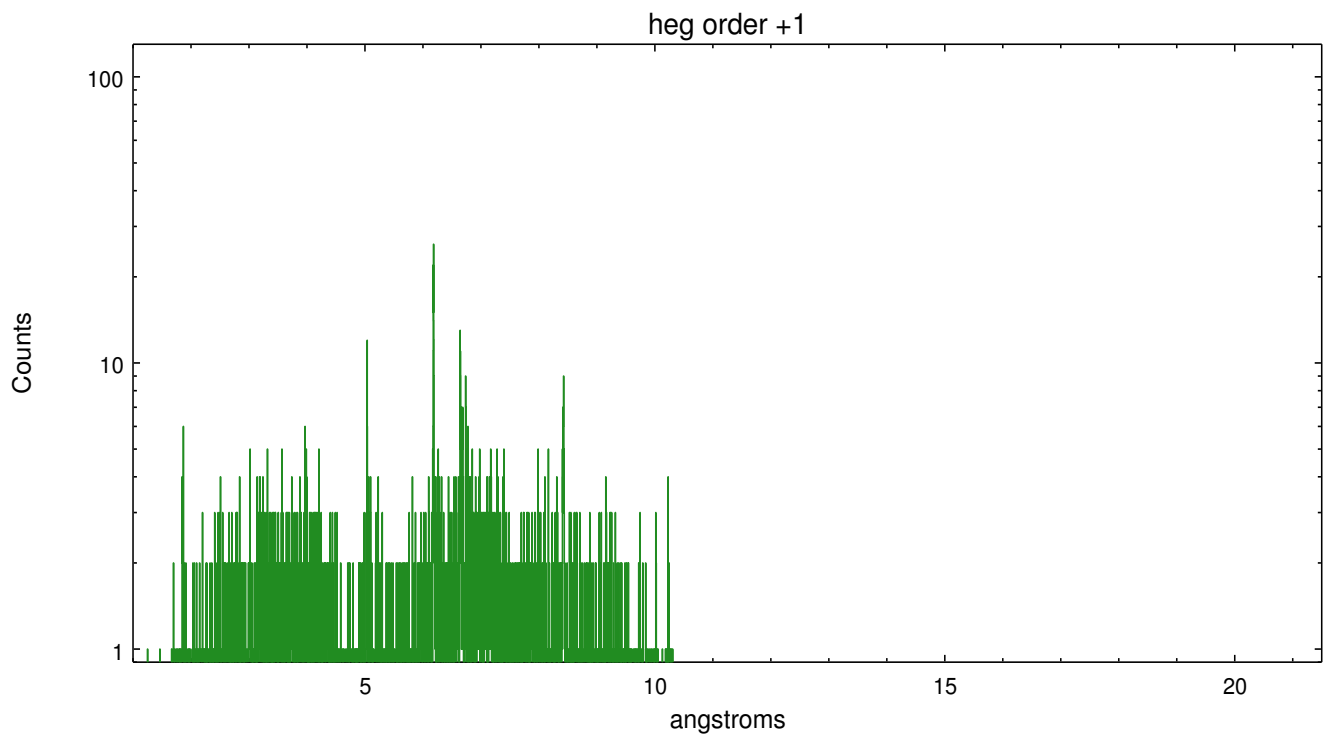
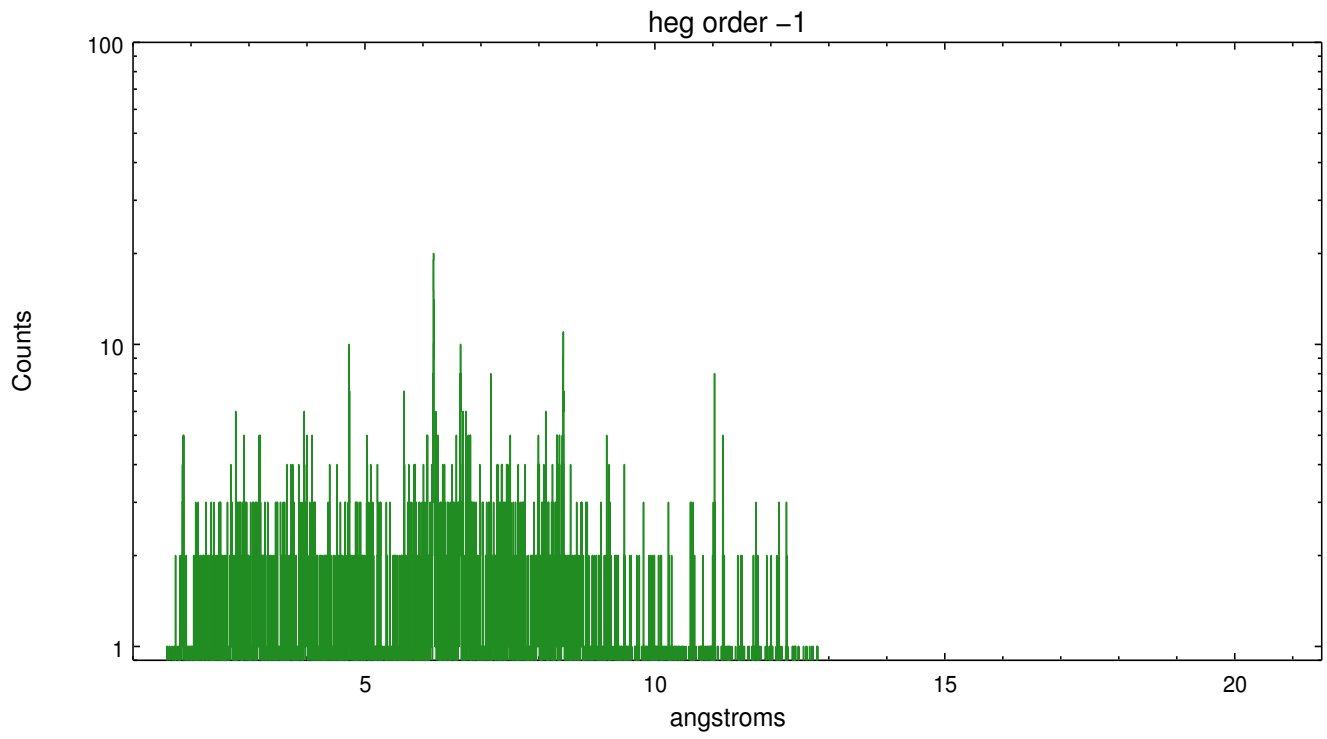


Spot Image HEG

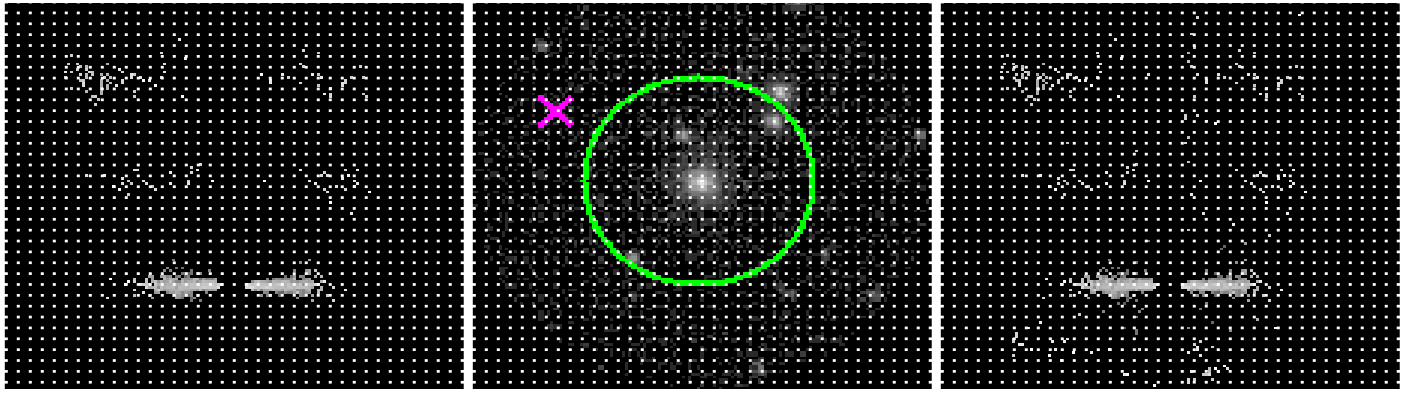
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	280	525	5385	11843	4472	330	258





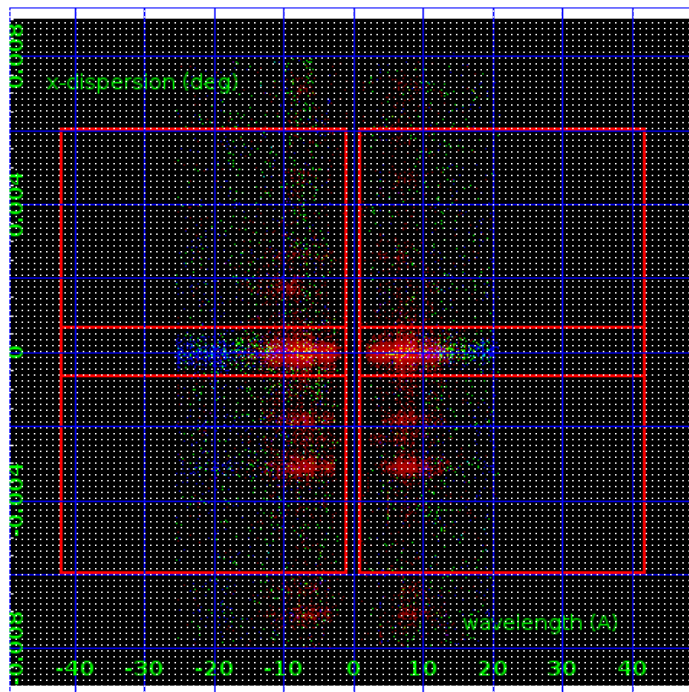
3.2 MEG Arm



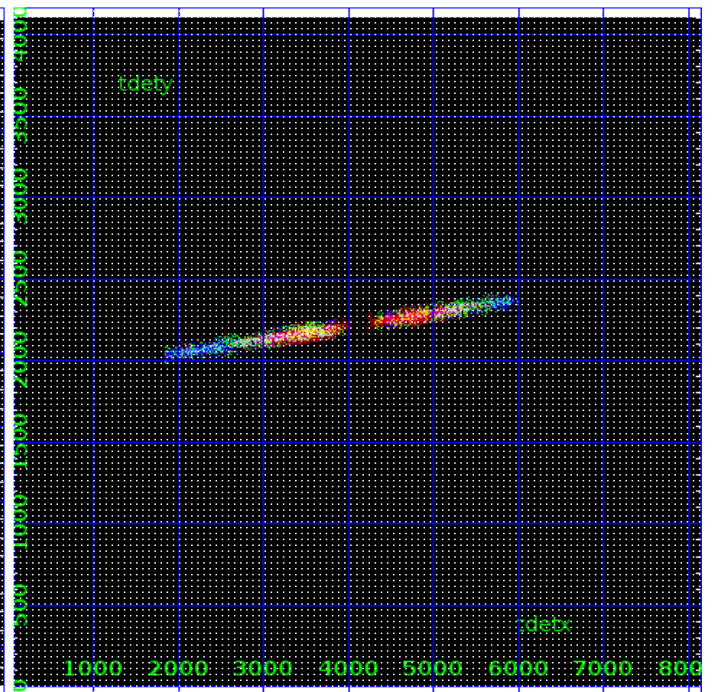
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

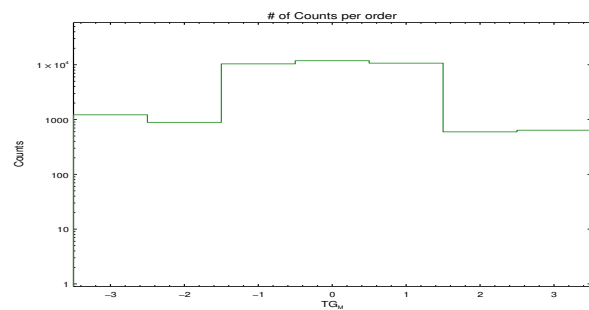


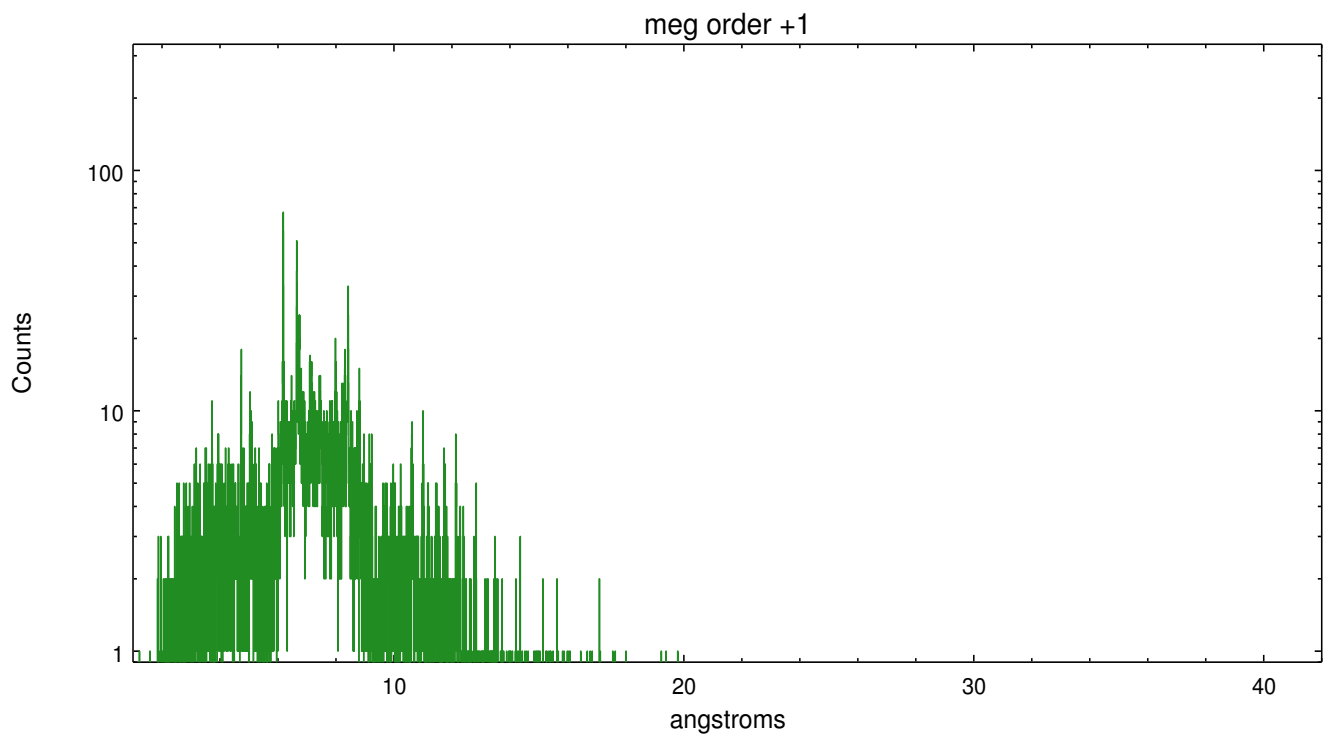
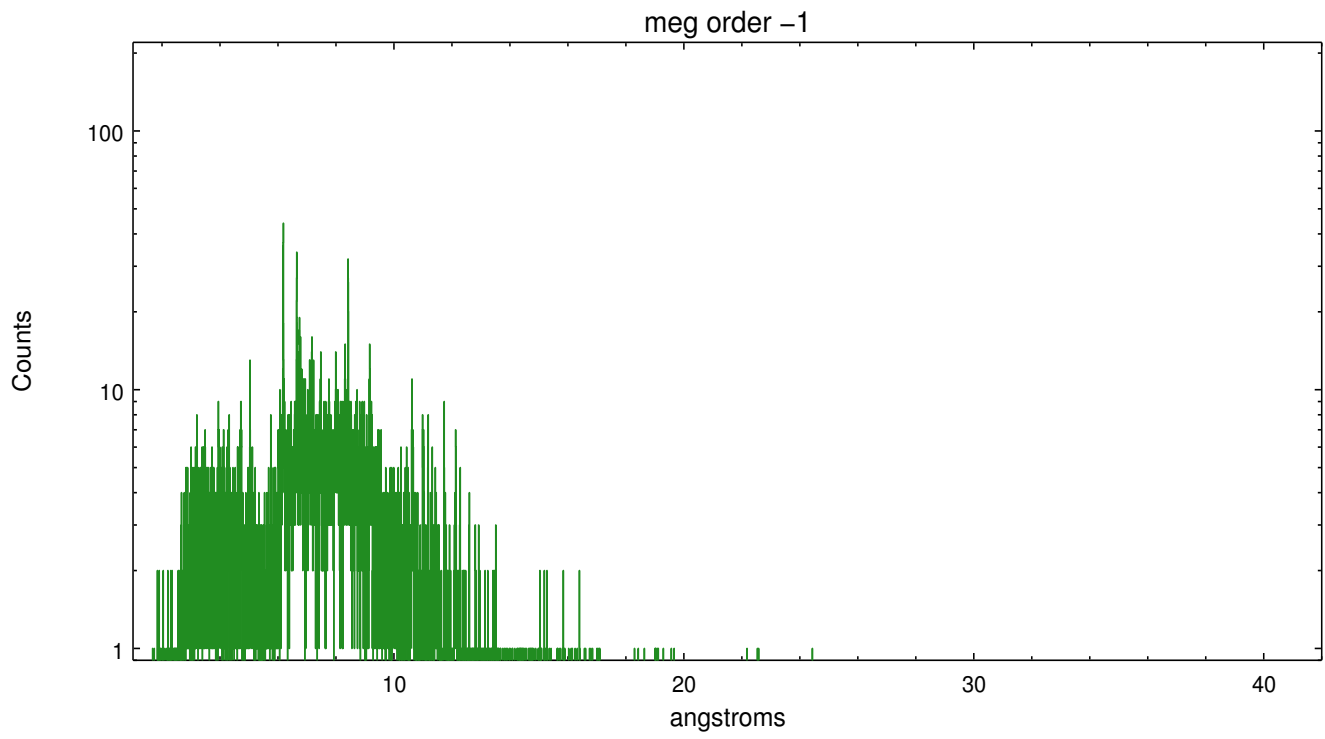
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1219	889	10378	11843	10696	596	639





A Summary

A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.01.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.252200302005

A.2 Comments

To compensate for a few bad pixels not marked as bad that were not removed in the Level 2 processing, a custom bad pixel file with additional bad pixels at (chipx, chipy) = (232:234,322:339) in S1 was added in this processing. As a result, the user will NOT find a relatively bright square of pixels on the S1 chip for level 2 data caused by the application of the dither algorithm to the bad pixels in question, as opposed to previous processing(s).