

V&V Reference Report

L2 ASCDS Version : 10.8.1

Observation 23087 - L2 Version 2
Chandra X-Ray Center

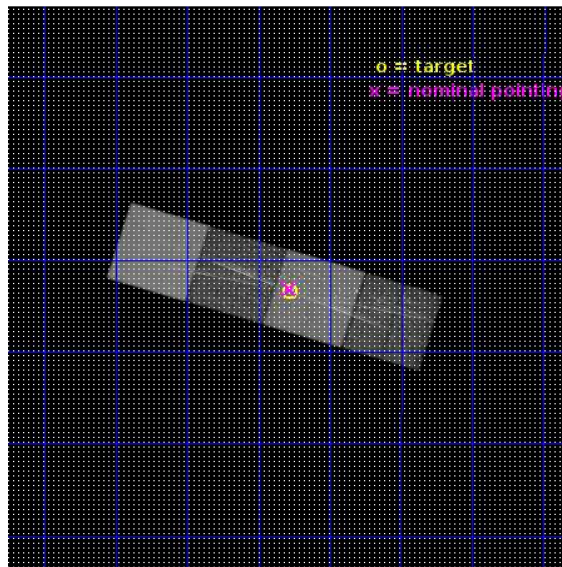
L2 Processing Date : Jan 3 2020

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1 Front

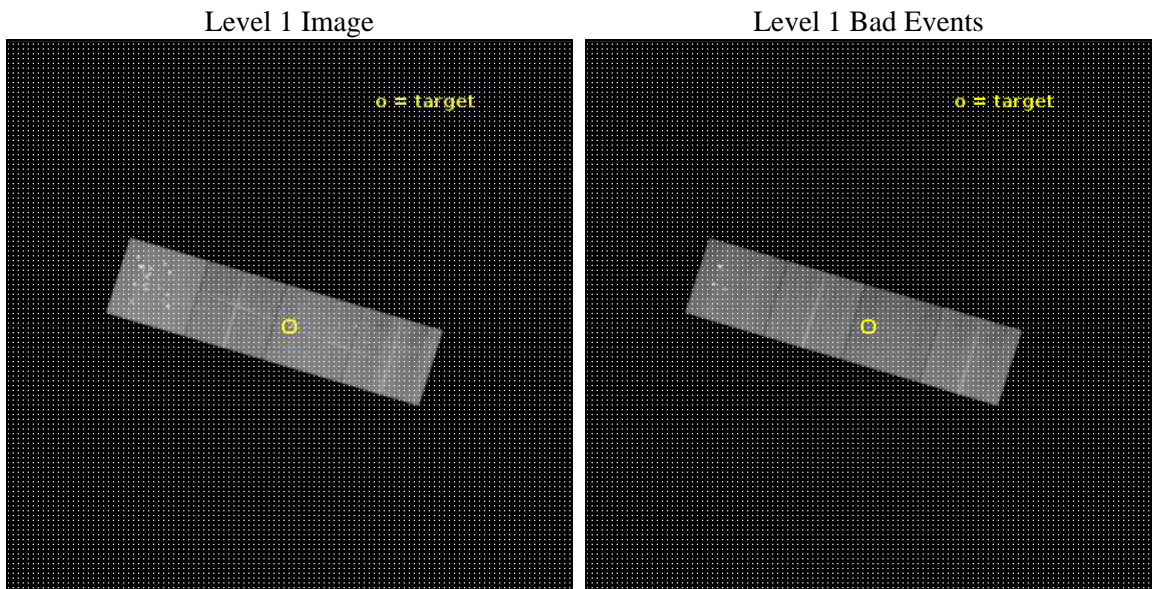
seq_num	201298	Sequence number
obs_id	23087	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.820539630929	Nominal RA [deg]
dec_nom	-5.3847844492458	Nominal Dec [deg]
roll_nom	17.180902924397	Nominal Roll [deg]
revision	2	Processing version of data
ontime	40061.300308228	Sum of GTIs [s]
livetime	39537.869927	Livetime [s]
ontime5	40061.300308228	Sum of GTIs [s]
ontime6	40061.300308228	Sum of GTIs [s]
ontime7	40061.300308228	Sum of GTIs [s]
ontime8	40061.300308228	Sum of GTIs [s]
l2events	570258	Number of level 2 events



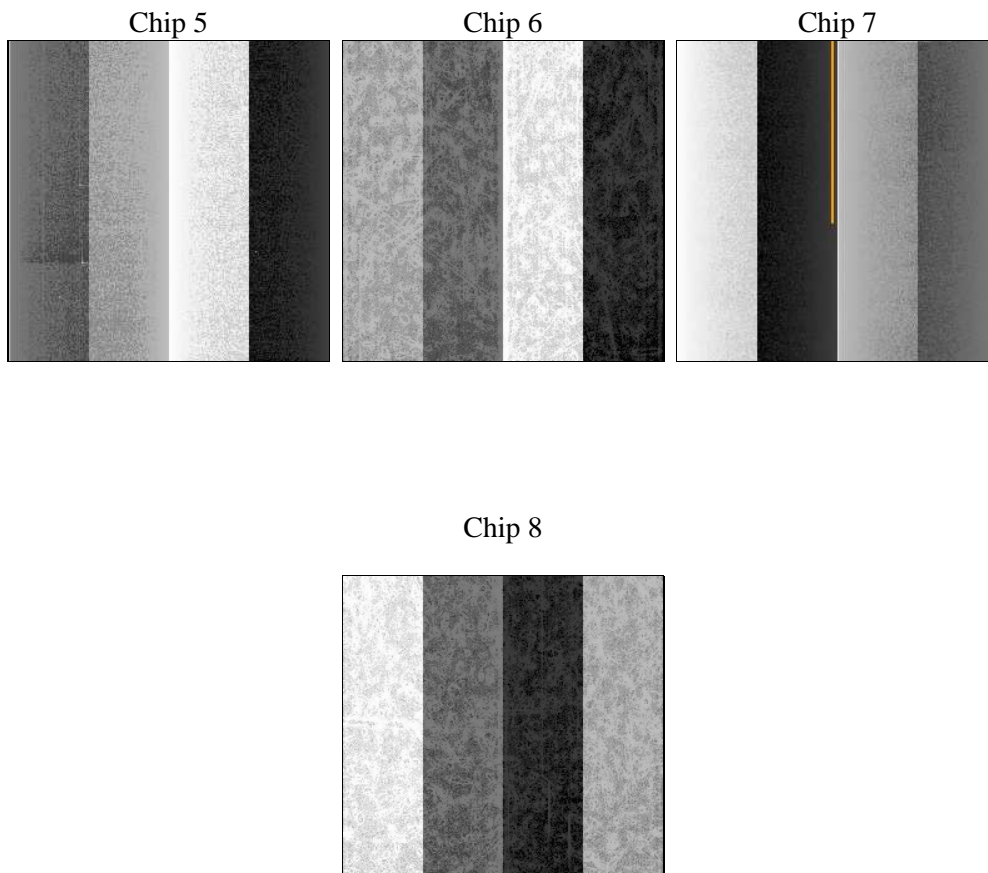
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	40061.300308228	Sum of GTIs [s]
caldsver	4.8.4.2	 	ontime5	40061.300308228	Sum of GTIs [s]
date	2020-01-03T19:52:34	Date and time of file creation	ontime6	40061.300308228	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	40061.300308228	Sum of GTIs [s]
			ontime8	40061.300308228	Sum of GTIs [s]
			l1events	1869205	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4110.73, 4060.02)	src1a sky pixel position

2.1.4 Events

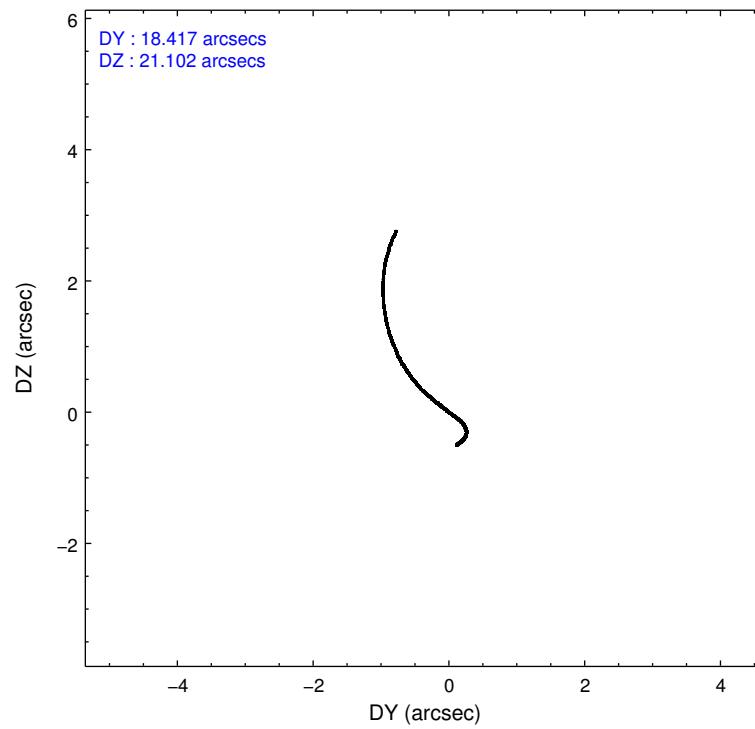
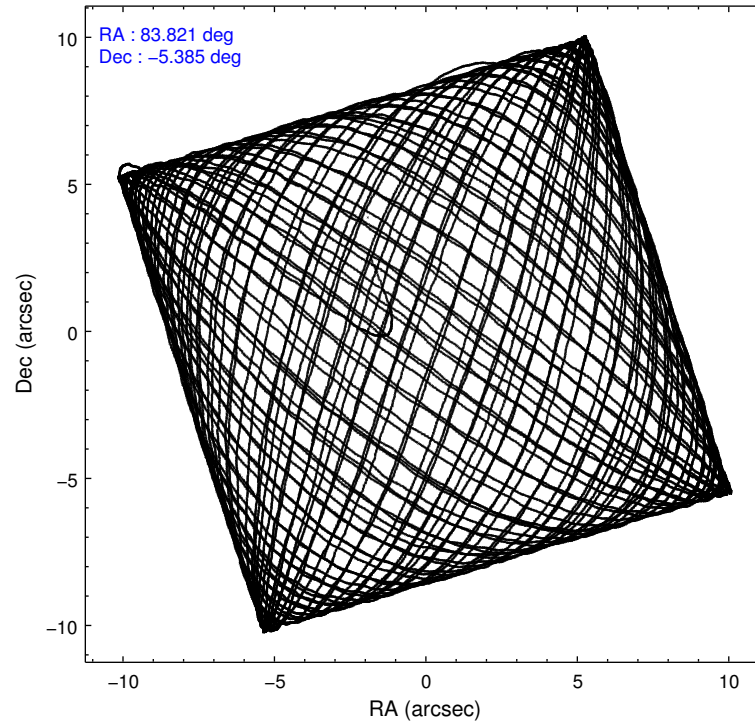
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	613502	355670	471377	428656
rejected events	285593	292820	235023	304525
rejected %	46%	82%	49%	71%

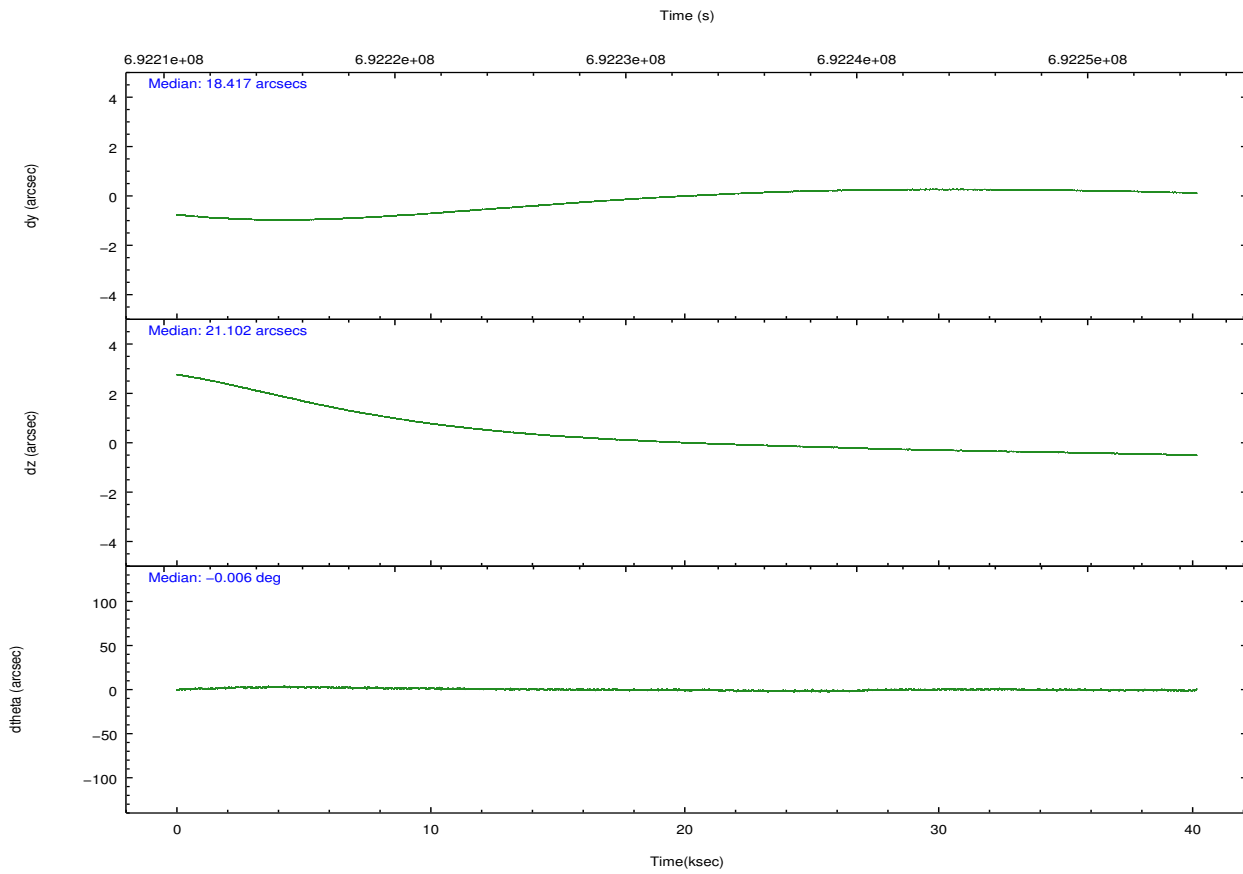
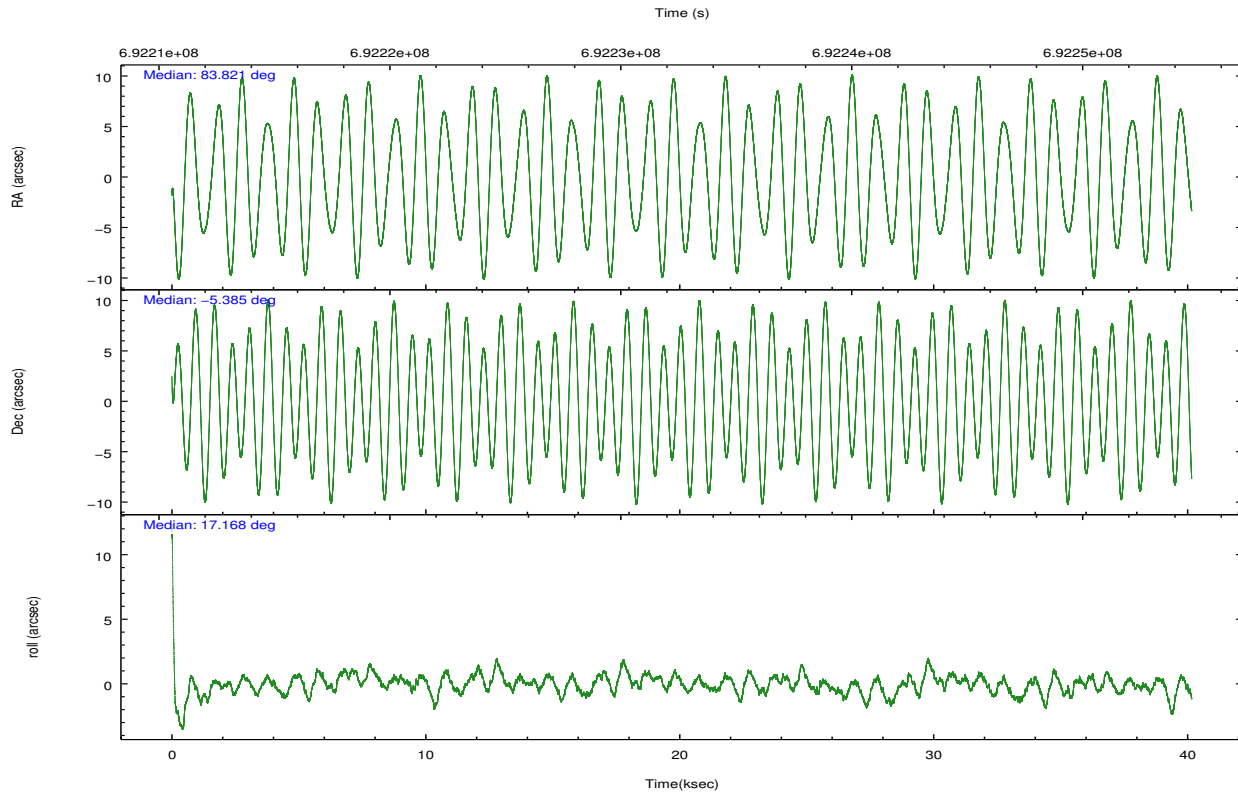
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	83434	31615	27257	42577
	13%	8%	5%	9%
grade 1 events	1421	231	807	394
	0%	0%	0%	0%
grade 2 events	91794	13083	53075	28530
	14%	3%	11%	6%
grade 3 events	8611	3994	20103	11546
	1%	1%	4%	2%
grade 4 events	7269	4039	19588	11050
	1%	1%	4%	2%
grade 5 events	36067	13921	40592	21731
	5%	3%	8%	5%
grade 6 events	136870	10131	116376	30443
	22%	2%	24%	7%
grade 7 events	248036	278656	193579	282385
	40%	78%	41%	65%

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	83.802078	83.82053963092932	CCD I2 on	N	N
[deg] Pointing Dec	-5.405172	-5.384784449245801	CCD I3 on	N	N
[deg] Pointing Roll	17.022529	17.18090292439702	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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	692212742.184000	692211485.19646	CCD S5 on	O2	N
Observation start date	2019-12-08T17:17:53	2019-12-08T16:58:05	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	692252742.184000	692253362.59899	On-chip summing requested	N	N
Observation end date	2019-12-09T04:24:33	2019-12-09T04:36:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





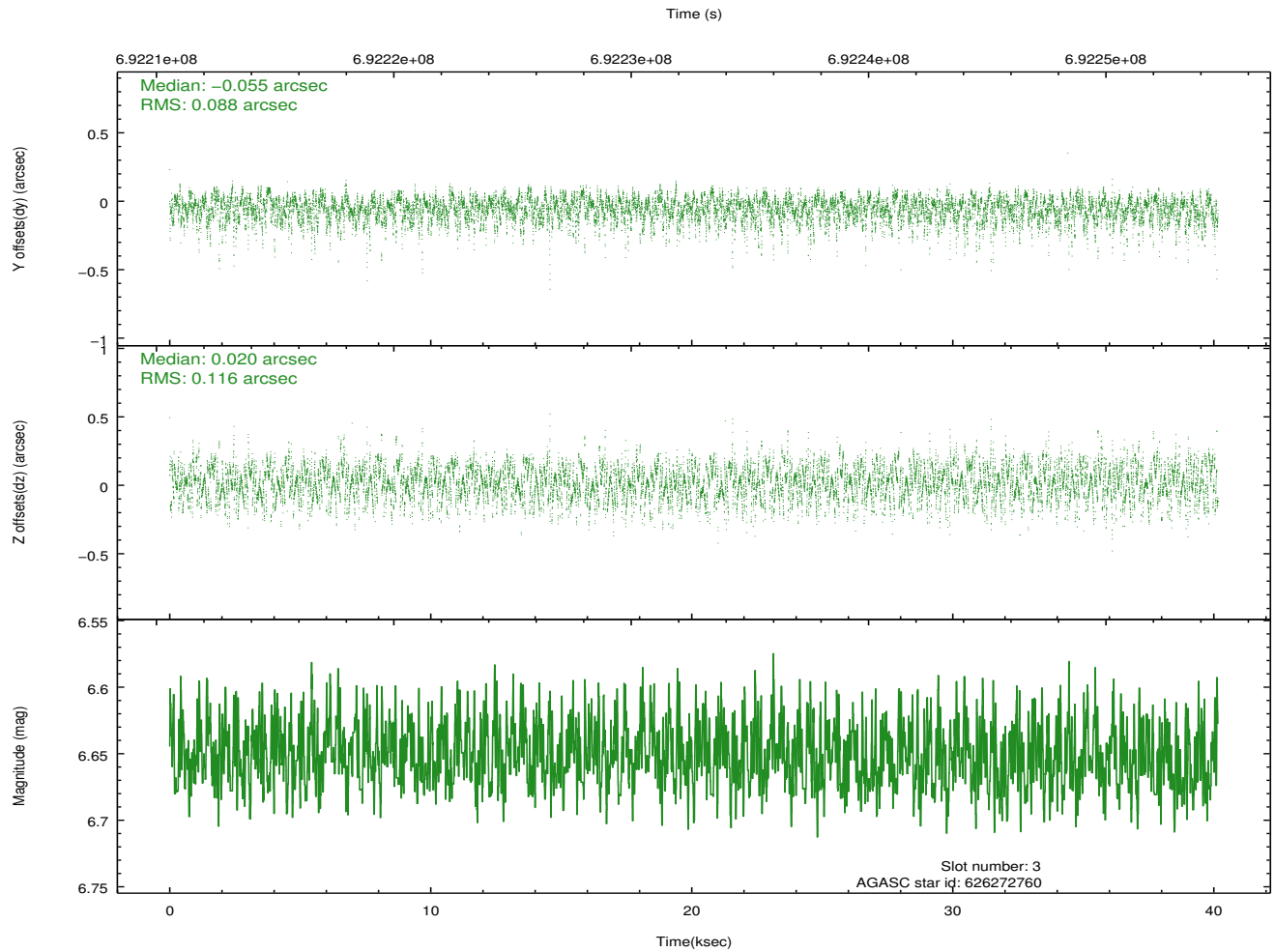
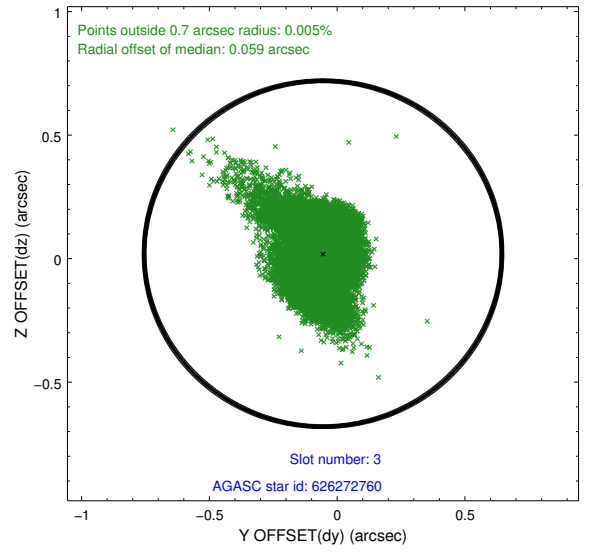
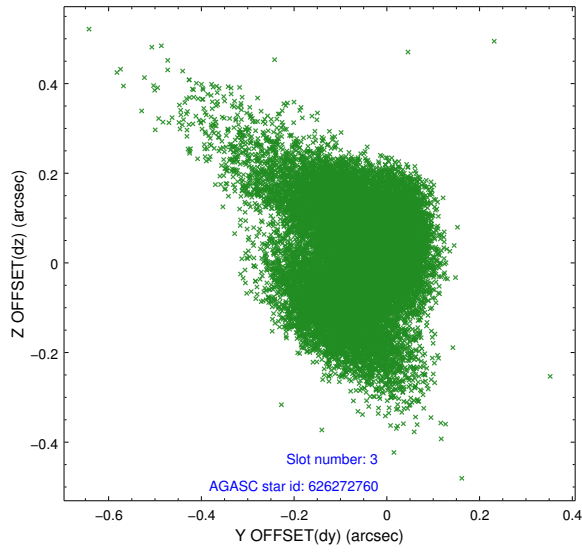
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	9796	1.000	-0.339	-0.278	0.031	0.046	0.000000	0.000000	-771.54	-1743
1	FID		ACIS-S-4	7.21	9793	1.000	0.825	0.235	0.041	0.072	0.000000	0.000000	2142.81	165
2	FID		ACIS-S-5	7.17	9795	1.000	-0.511	0.051	0.022	0.032	0.000000	0.000000	-1824.61	159
3	GUIDE	used	626272760	6.65	19591	1.000	-0.055	0.020	0.149	0.254	84.363987	-5.938389	1362.48	-2424
4	GUIDE	used	625745136	7.21	19590	1.000	-0.113	-0.451	0.167	0.253	83.600341	-4.804339	-58.79	2279
5	GUIDE	used	626272976	7.96	19579	1.000	0.188	0.476	0.115	0.182	83.795875	-5.926912	-570.24	-1788
6	GUIDE	used	626272880	7.66	19586	1.000	0.126	0.659	0.125	0.202	83.815609	-6.032748	-614.23	-2173
7	GUIDE	used	625745128	7.82	19576	1.000	-0.140	-0.689	0.113	0.183	83.769930	-4.731835	598.97	2351

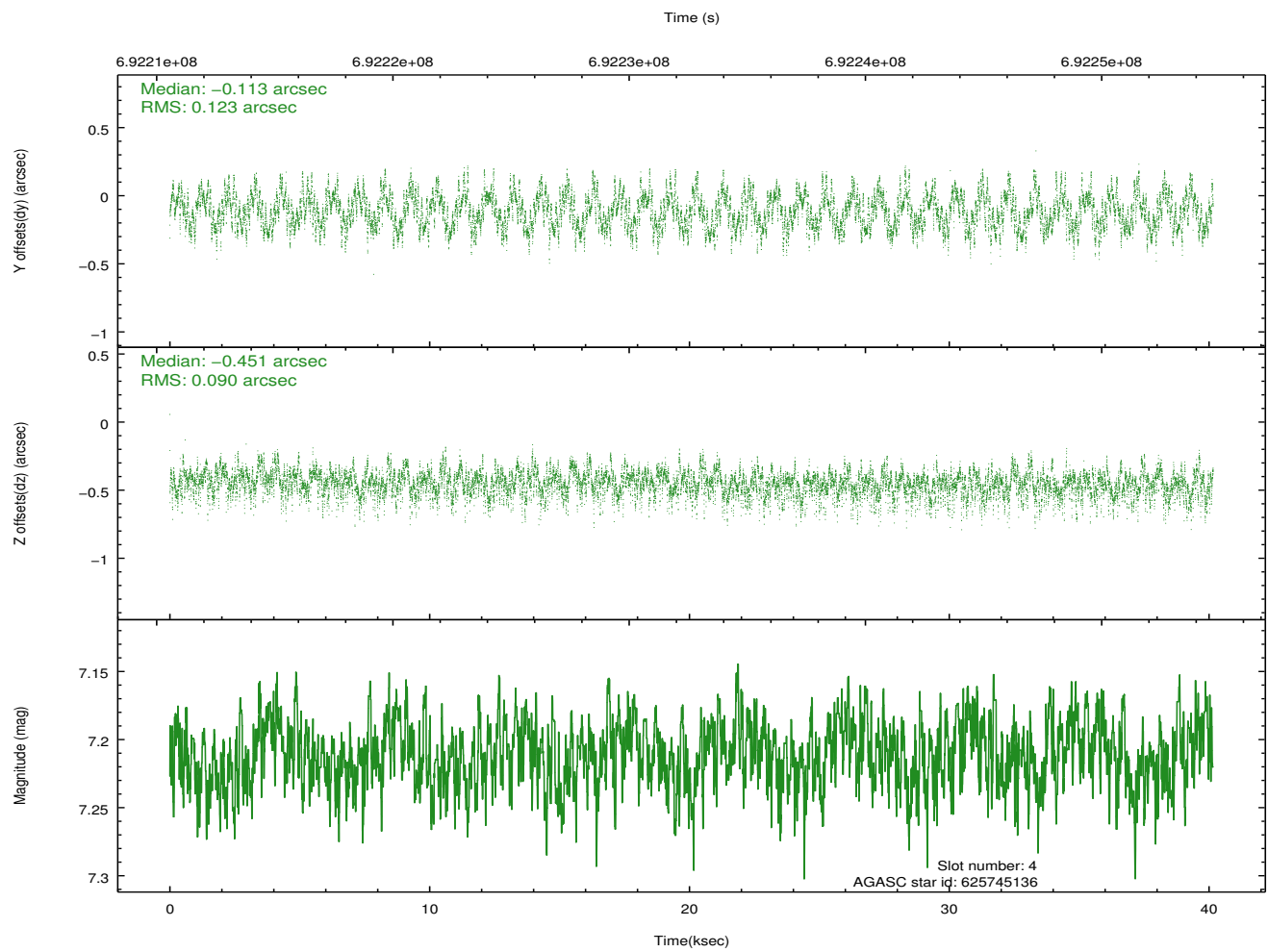
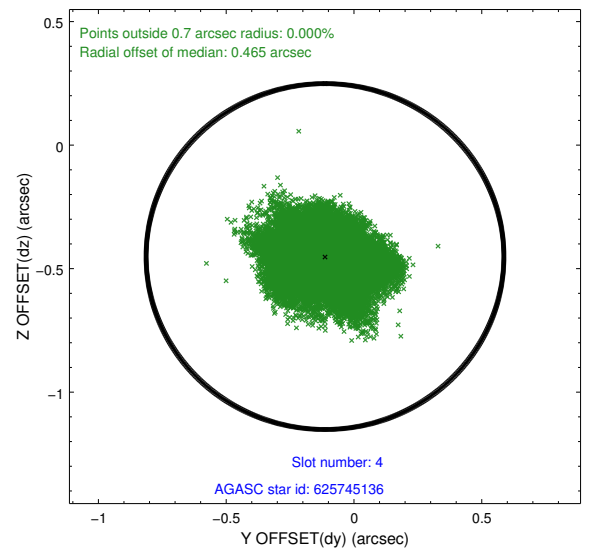
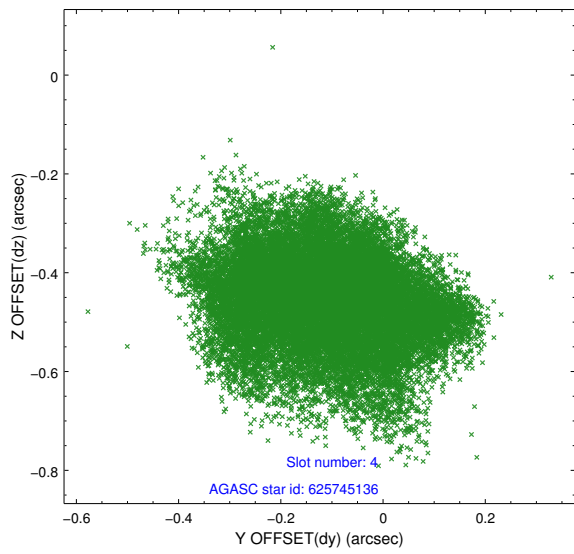
∞

2.4 Star Slots

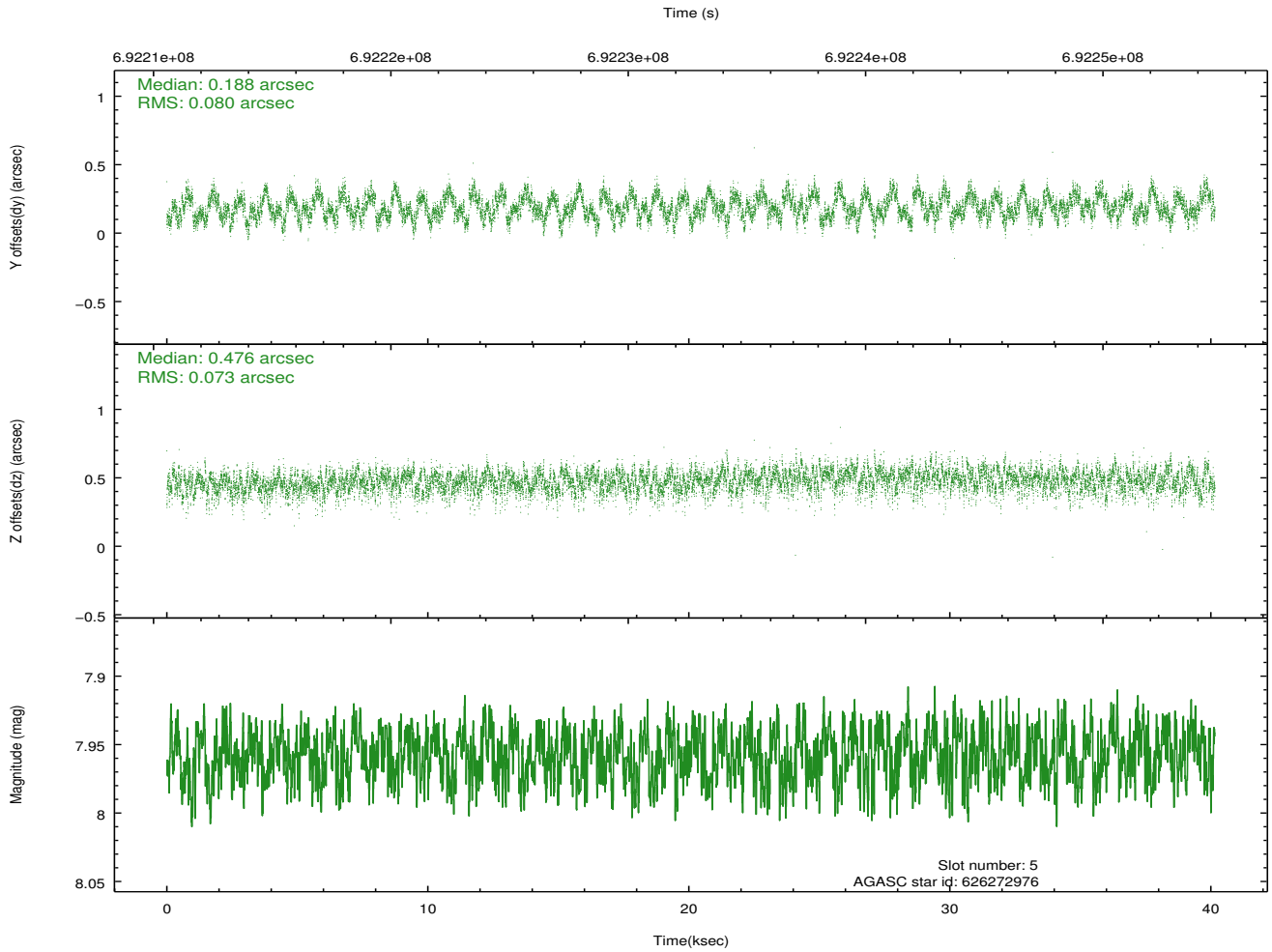
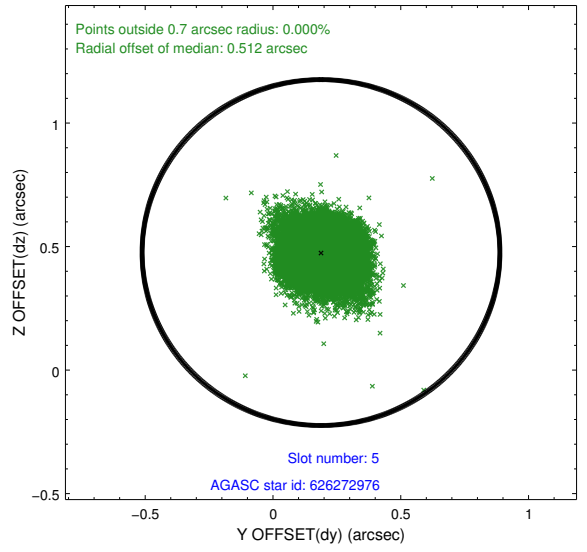
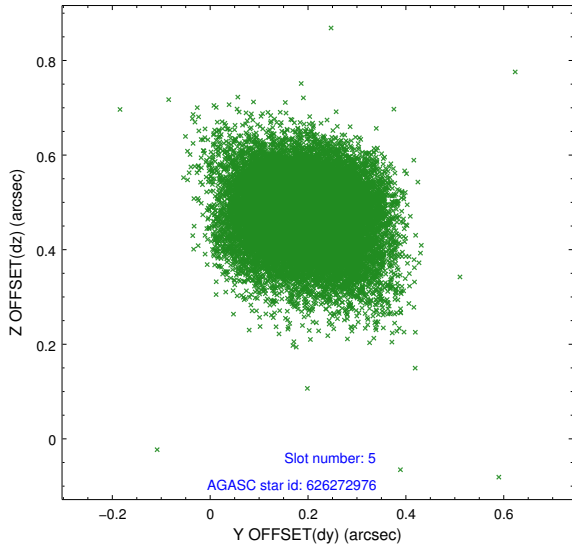
2.4.1 Slot 3



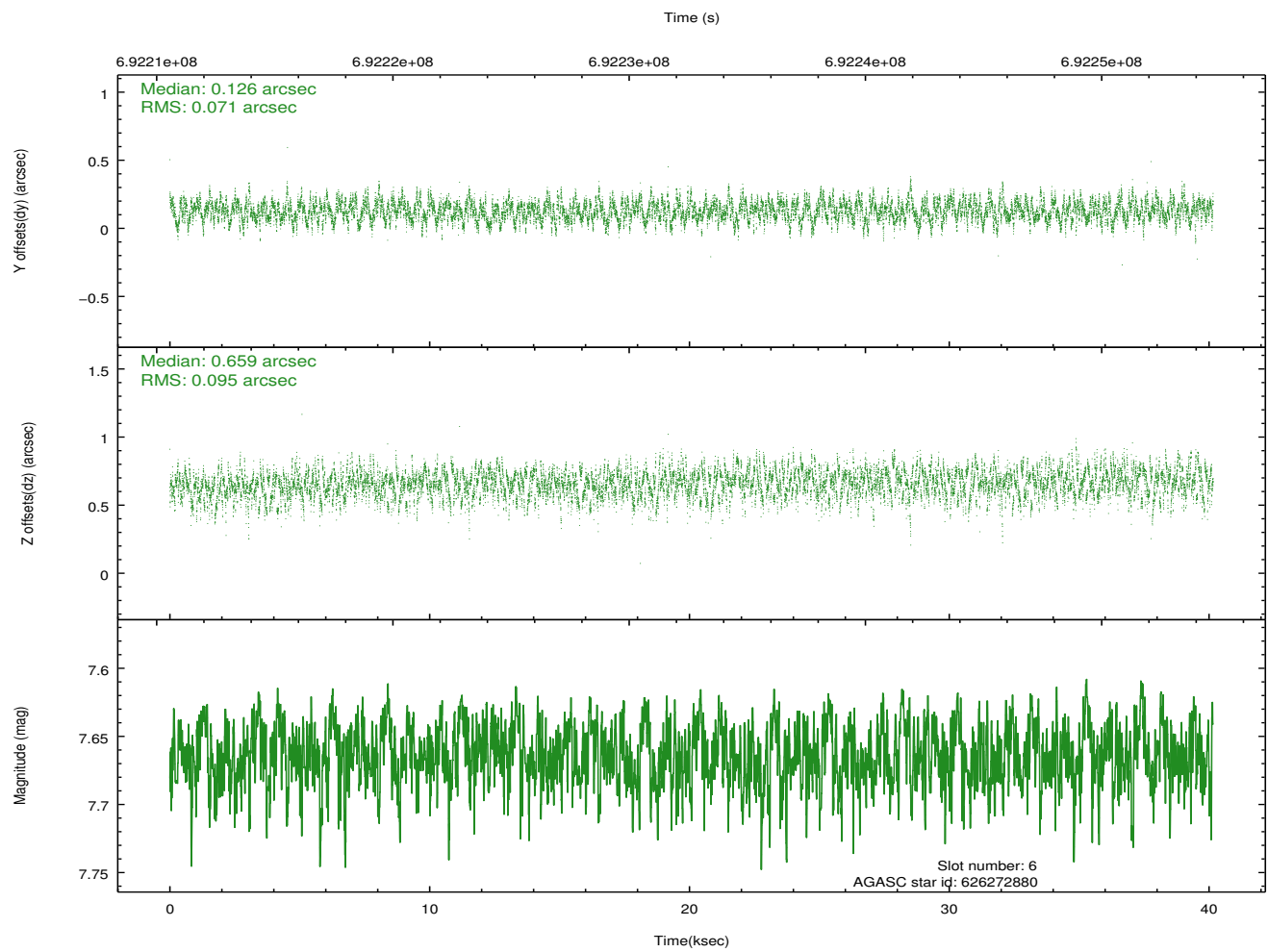
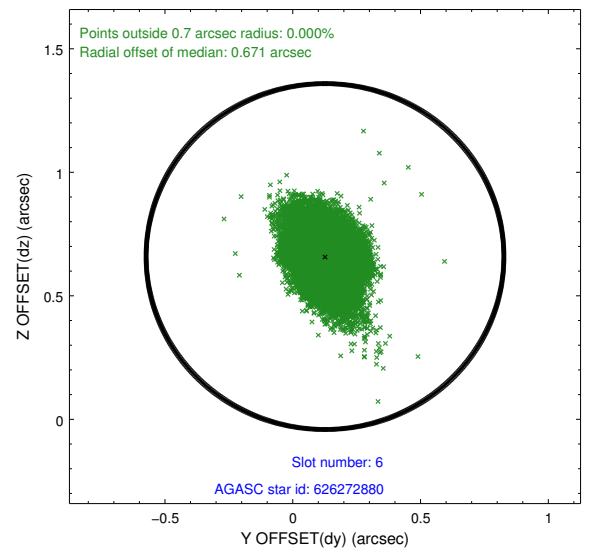
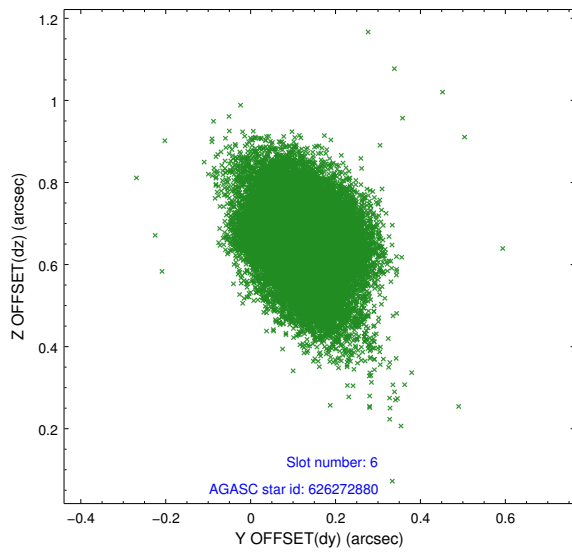
2.4.2 Slot 4



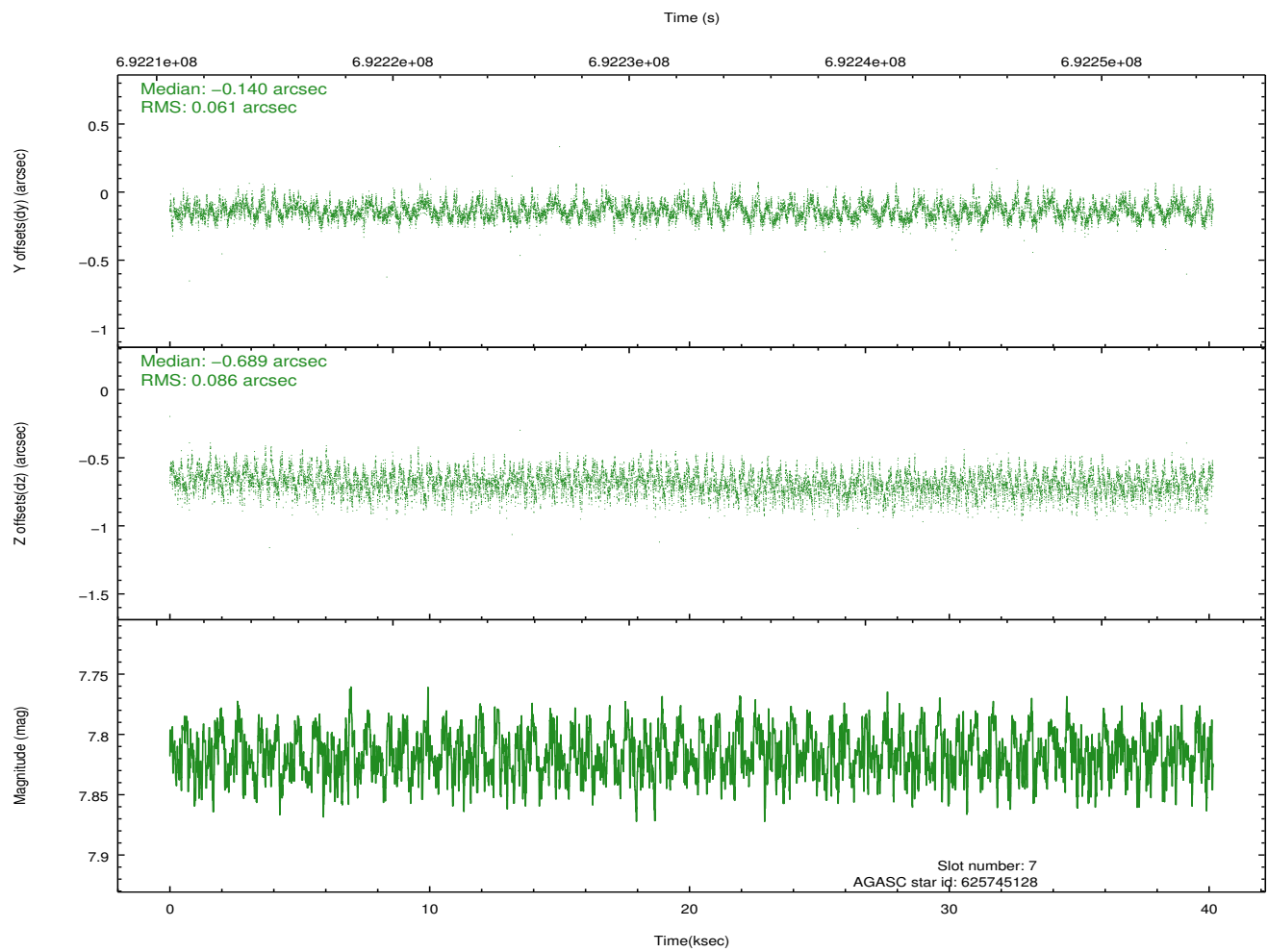
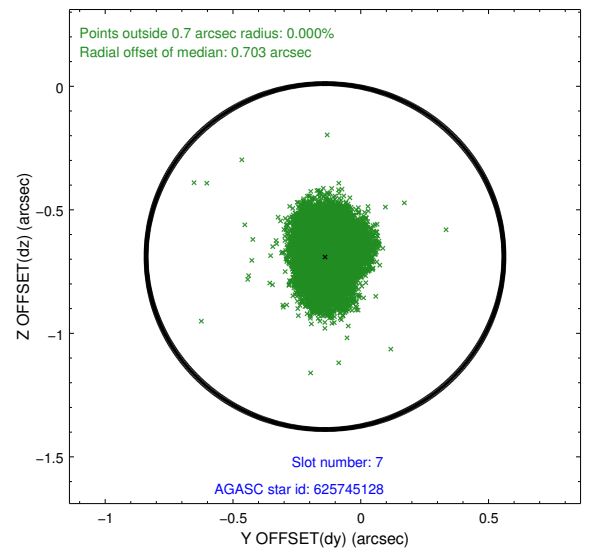
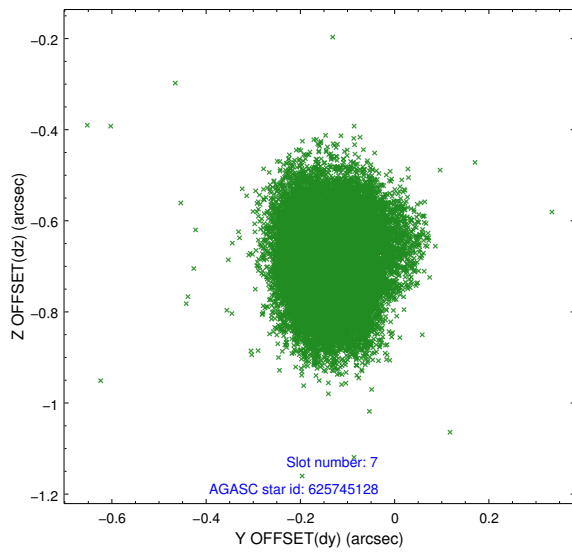
2.4.3 Slot 5



2.4.4 Slot 6

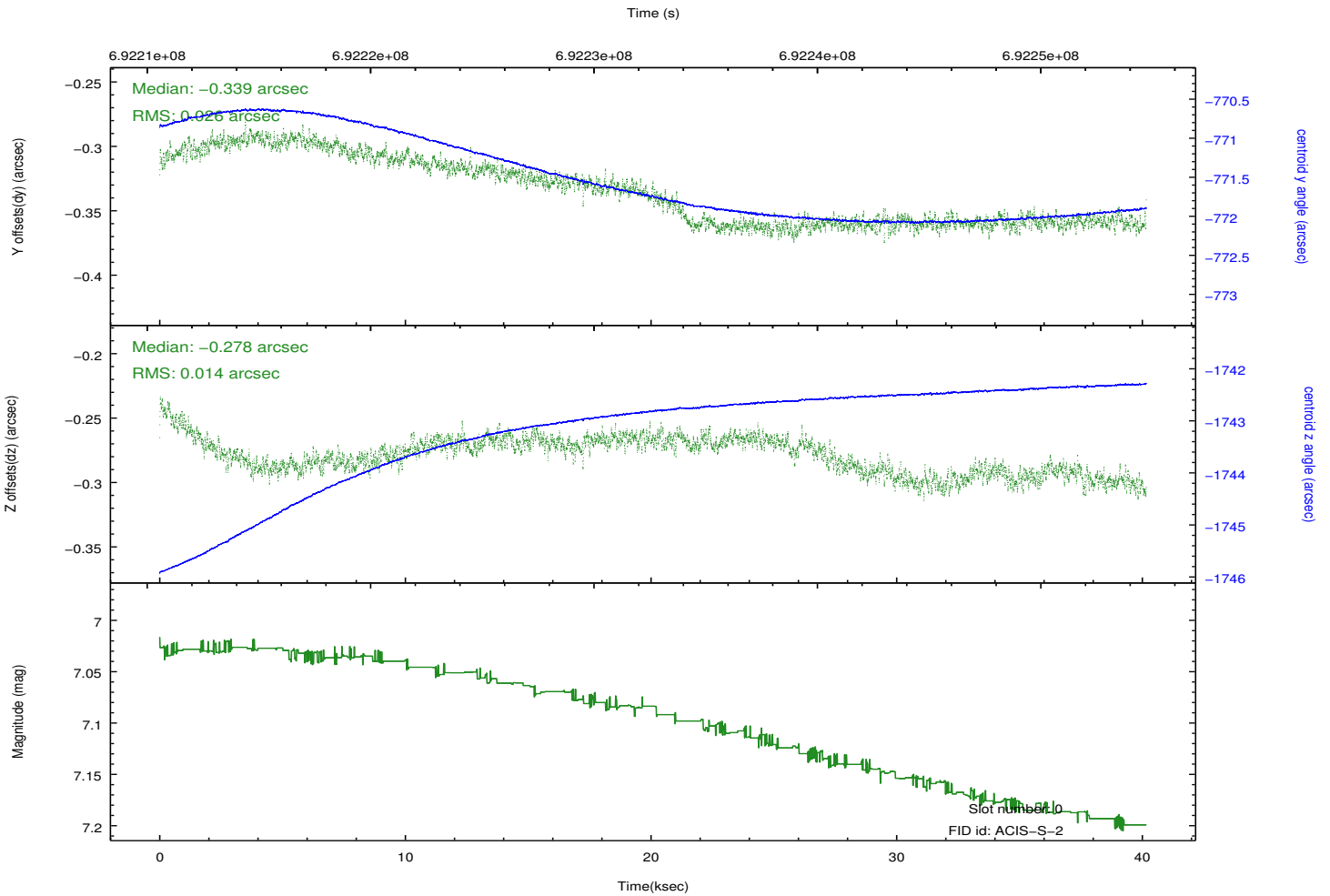
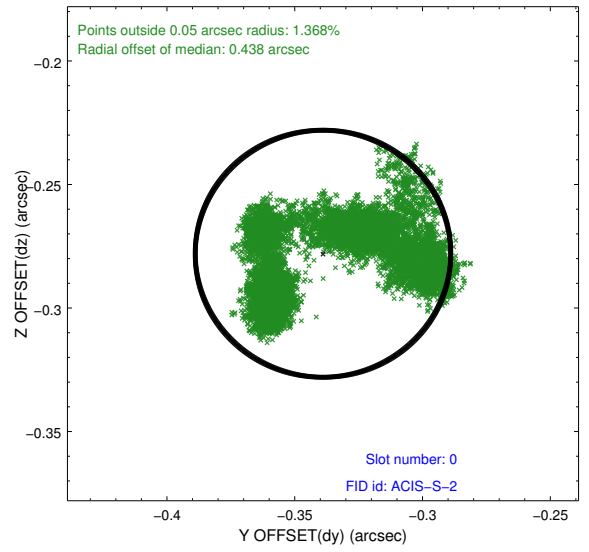
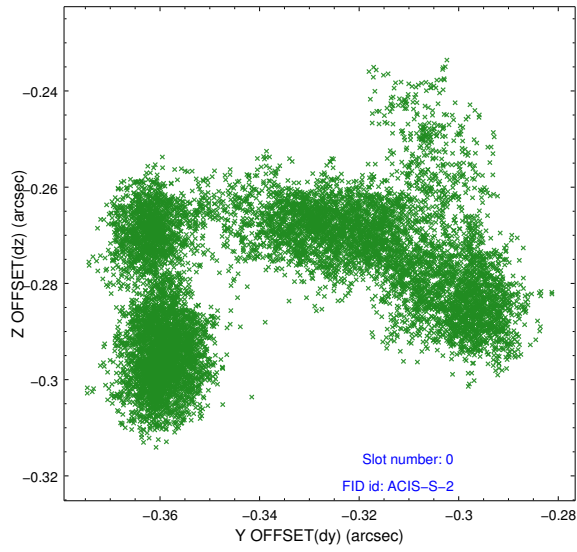


2.4.5 Slot 7

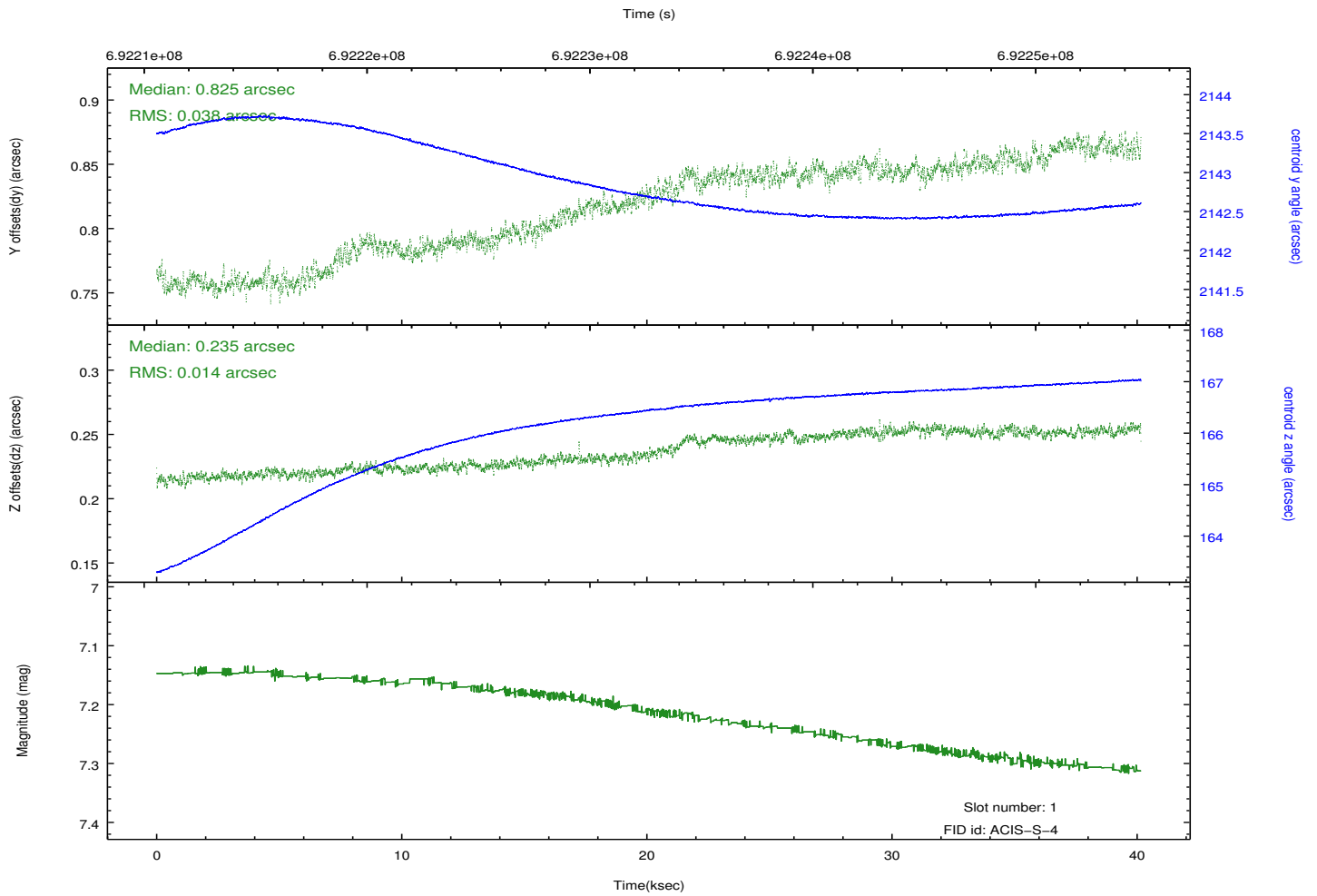
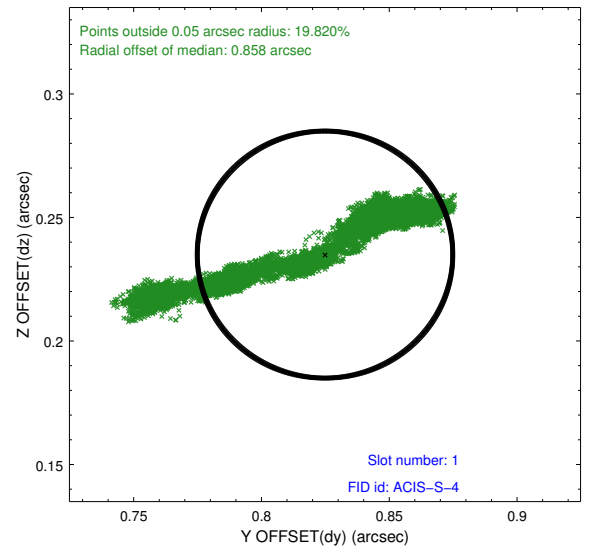
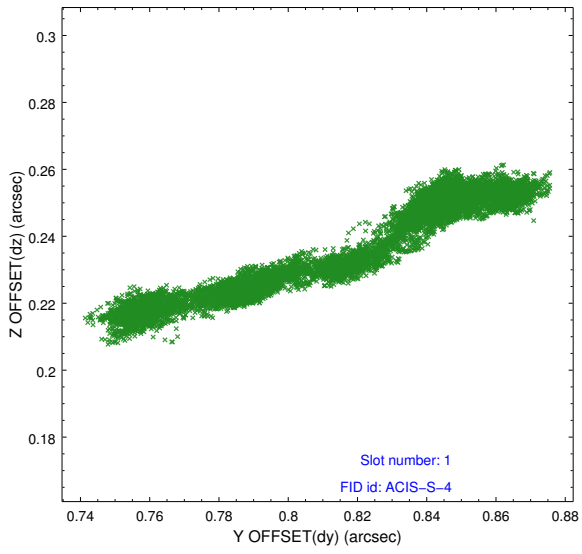


2.5 FID Slots

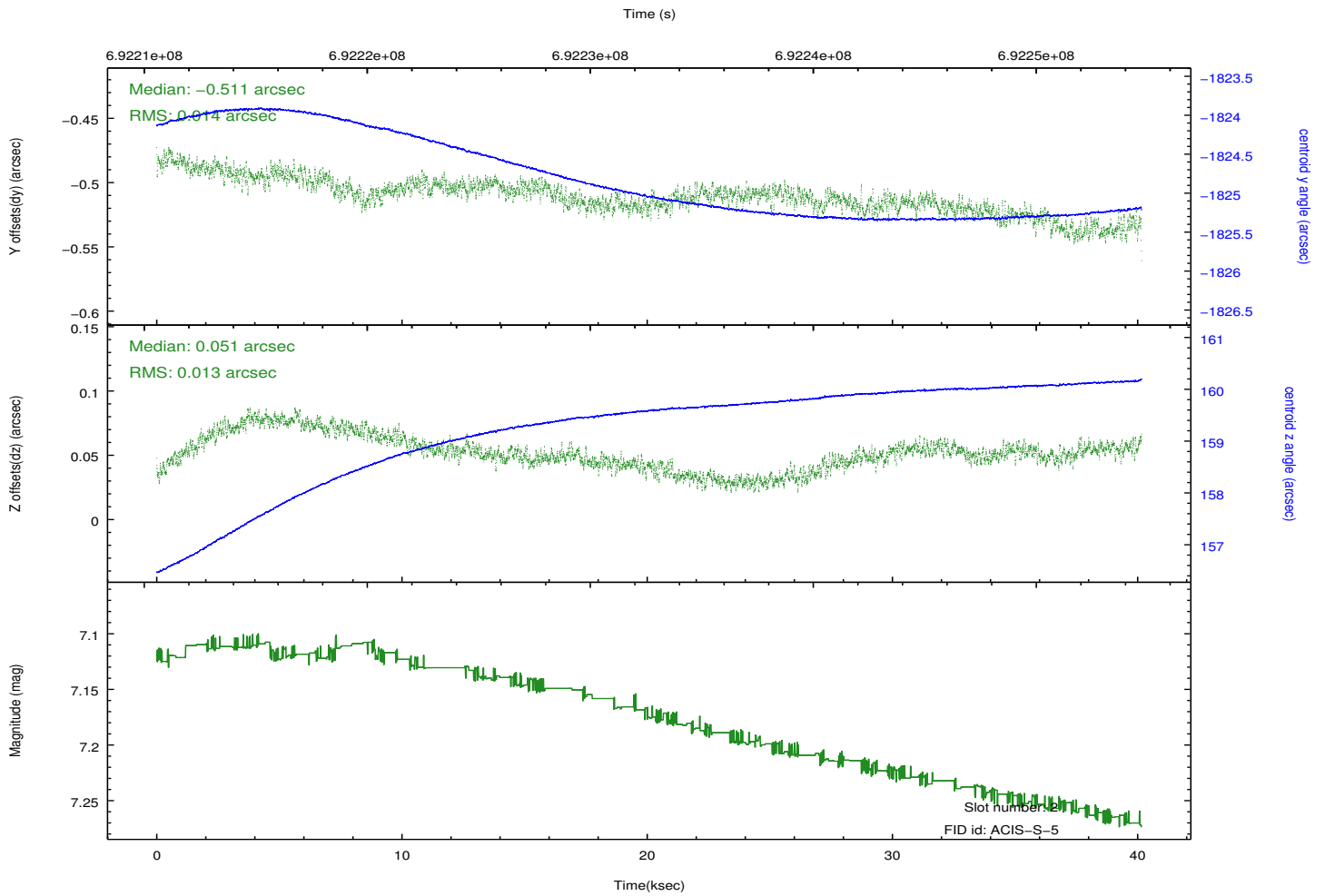
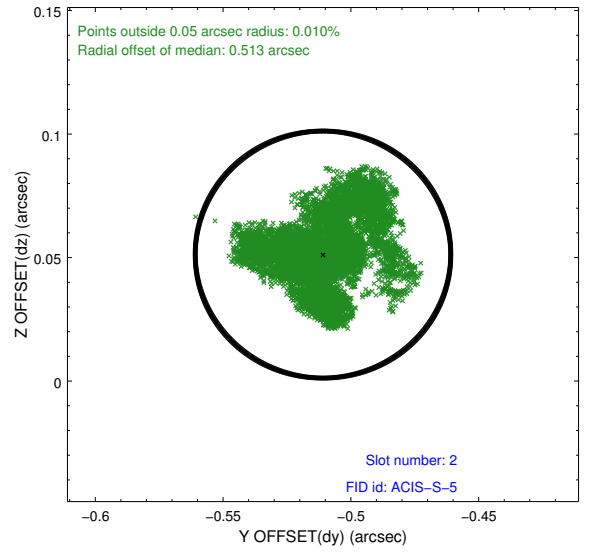
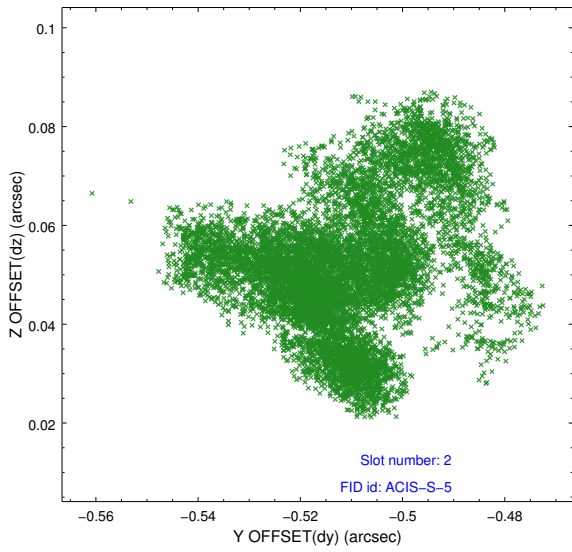
2.5.1 Slot 0



2.5.2 Slot 1

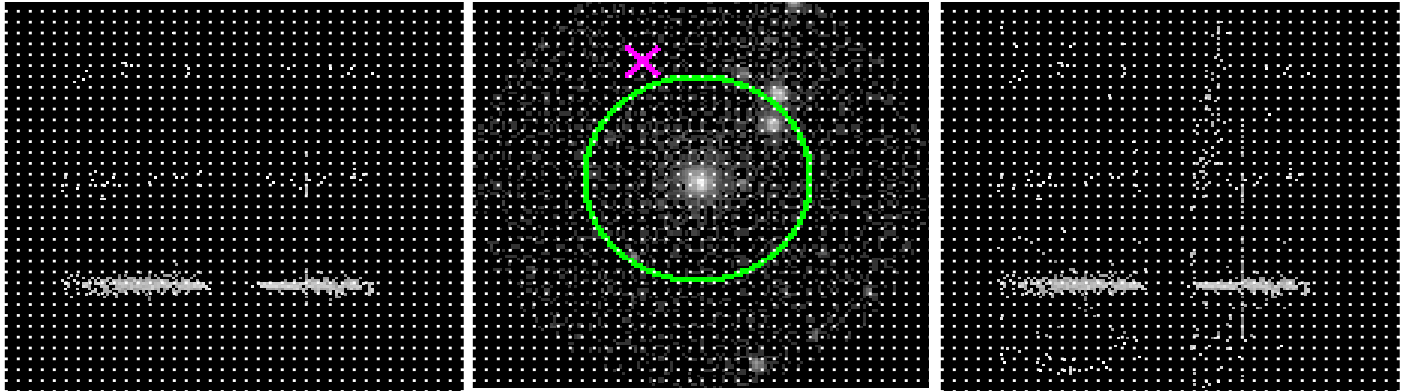


2.5.3 Slot 2



3 Gratings

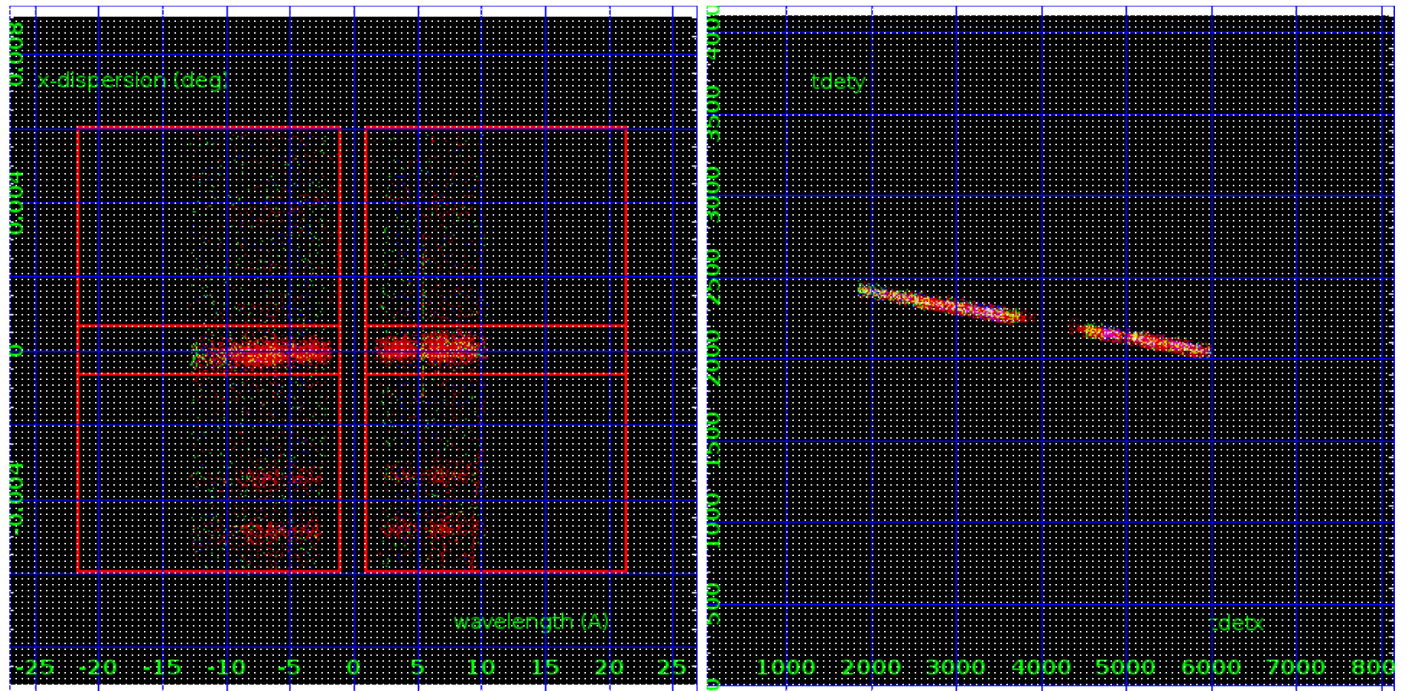
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

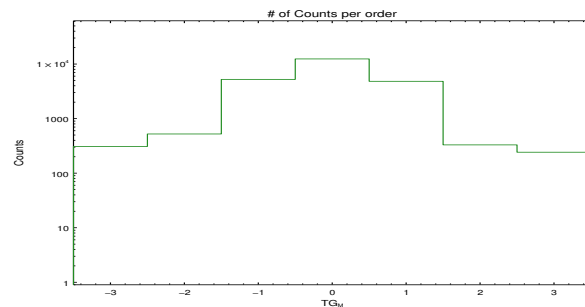
HEG Order Sort ALL

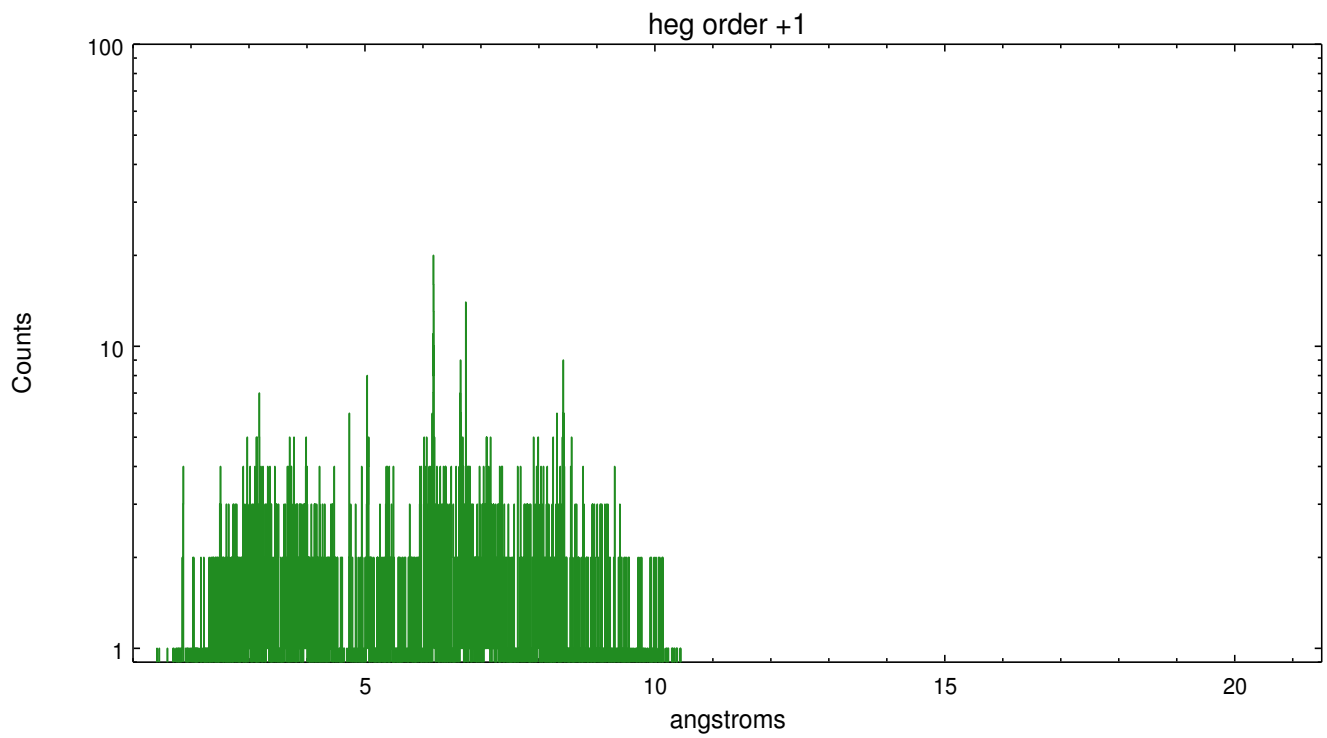
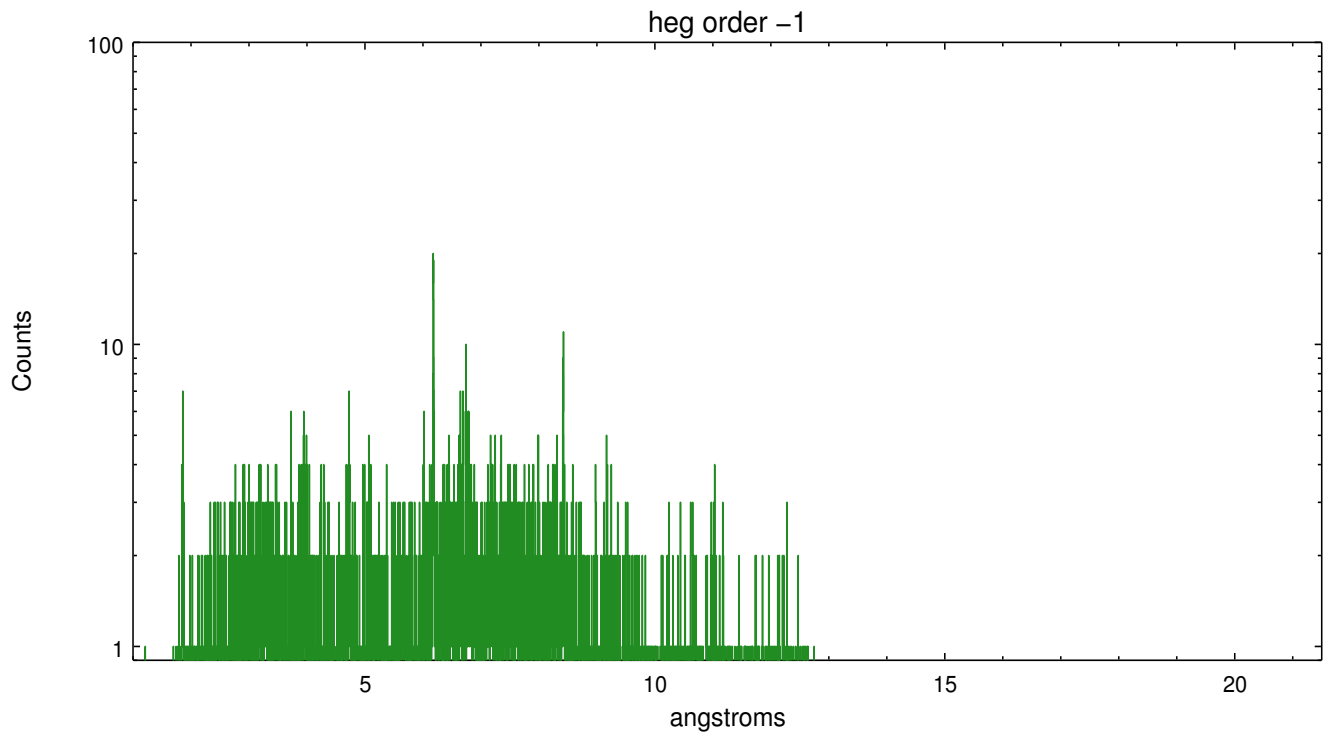


Spot Image HEG

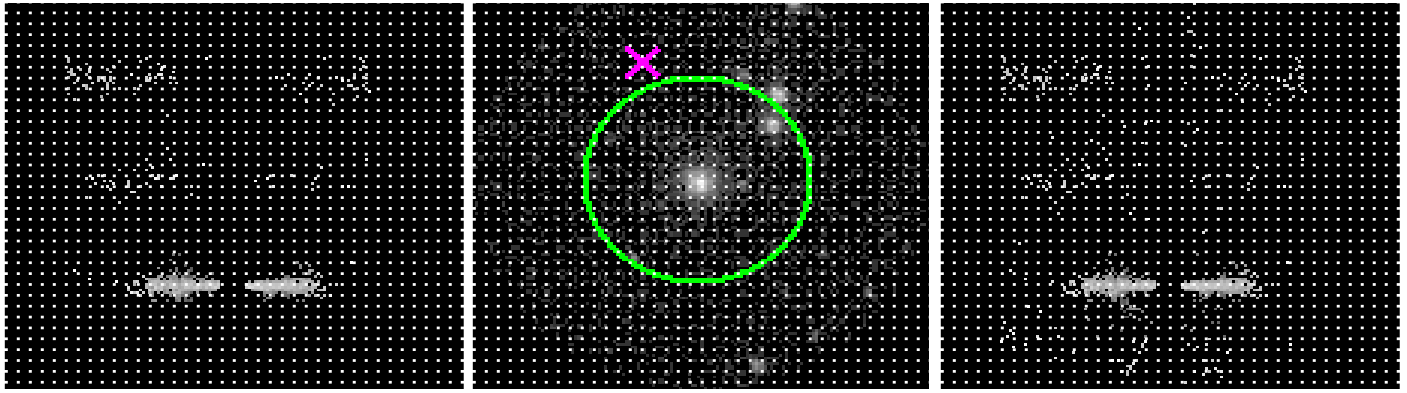
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	309	523	5234	12417	4824	330	242





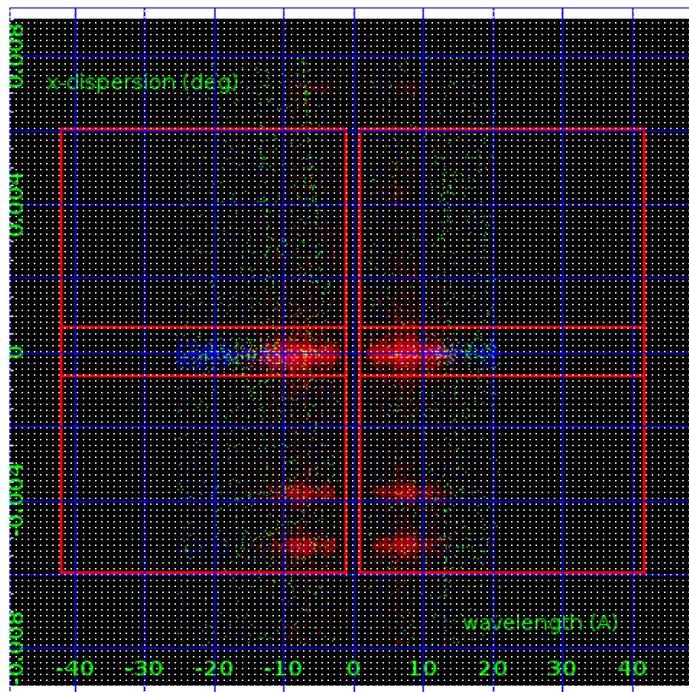
3.2 MEG Arm



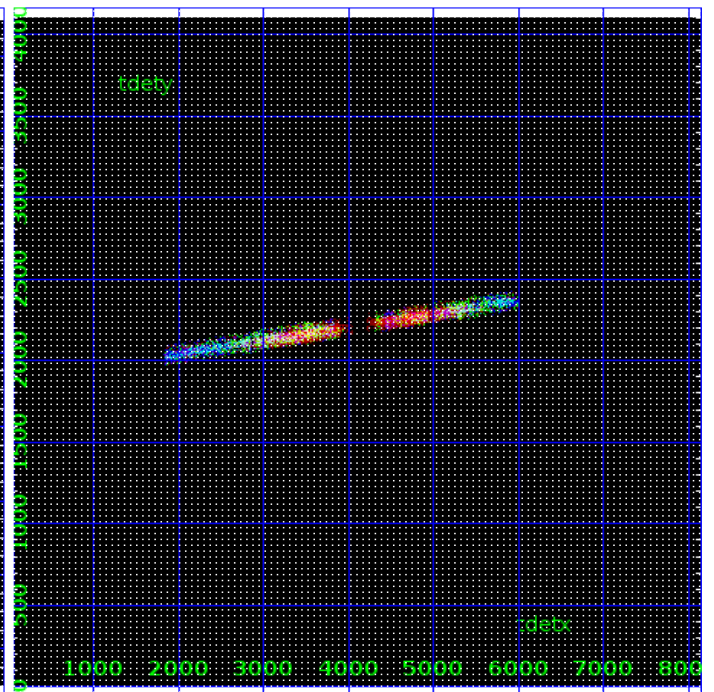
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

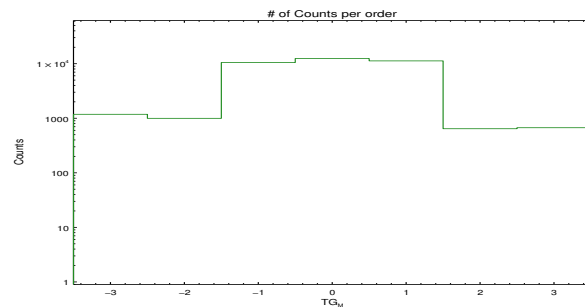


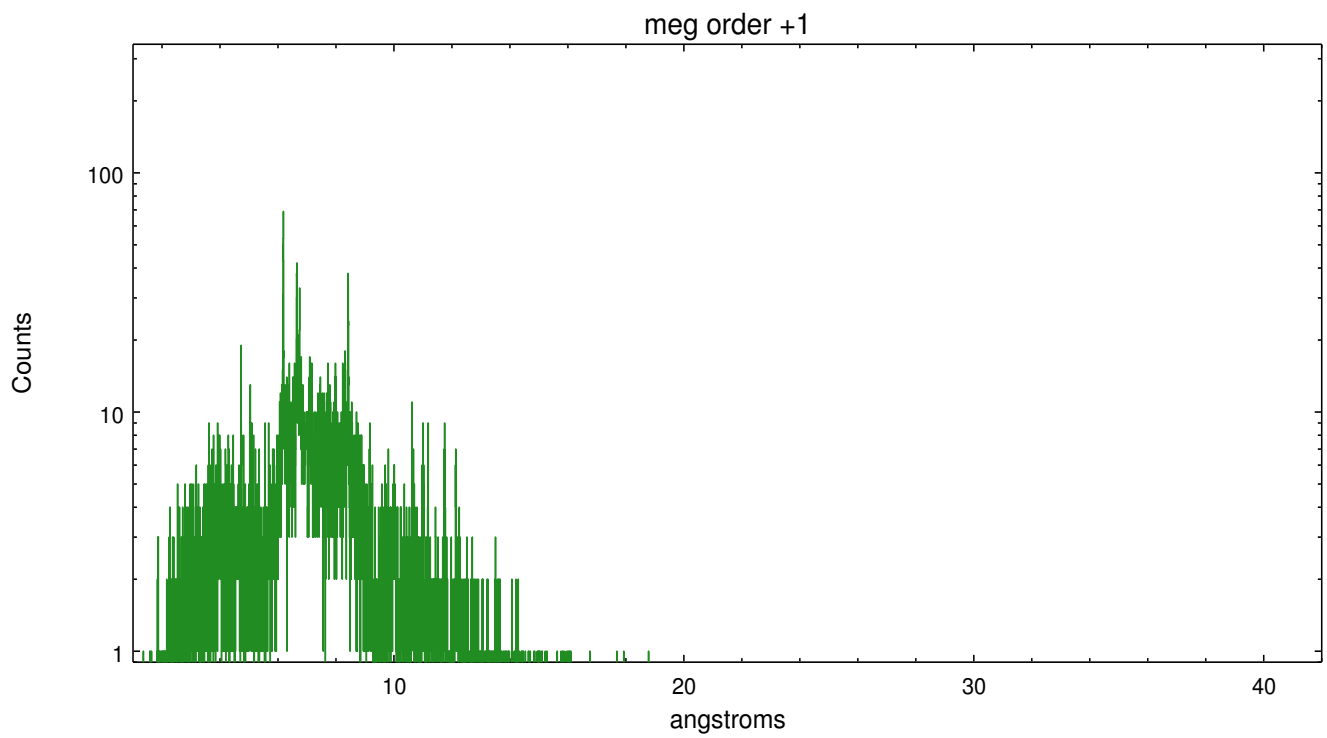
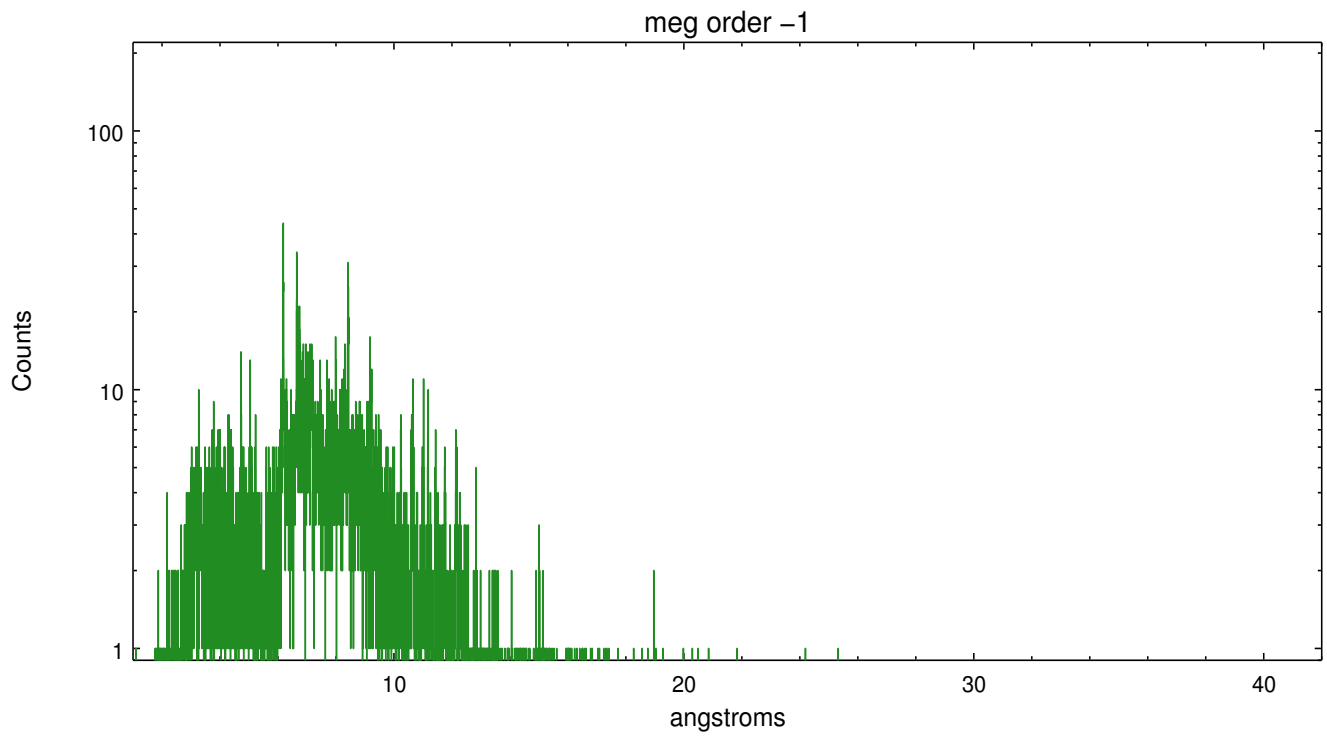
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1181	996	10500	12417	11259	643	671





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	40.061300308228

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).