

V&V Reference Report

L2 ASCDS Version : 10.8.1

Observation 23097 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Jan 3 2020

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1 Front

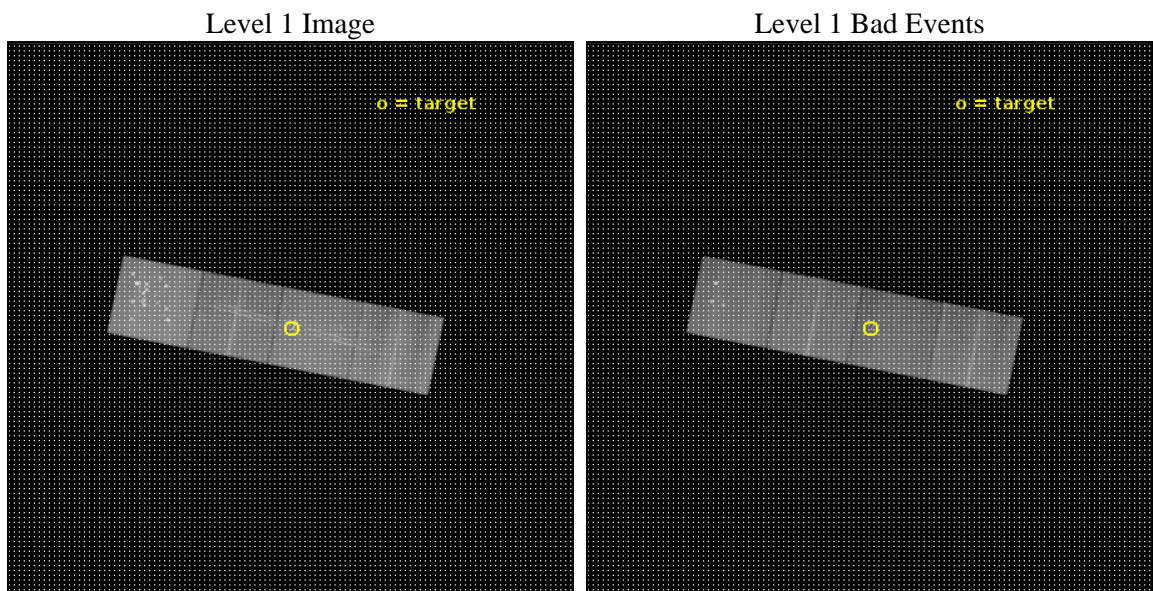
seq_num	201298	Sequence number
obs_id	23097	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.821628348374	Nominal RA [deg]
dec_nom	-5.3845814377352	Nominal Dec [deg]
roll_nom	11.441406202259	Nominal Roll [deg]
revision	2	Processing version of data
ontime	36359.90027976	Sum of GTIs [s]
livetime	35884.831414836	Livetime [s]
ontime5	36359.90027976	Sum of GTIs [s]
ontime6	36356.759189487	Sum of GTIs [s]
ontime7	36359.90027976	Sum of GTIs [s]
ontime8	36359.90027976	Sum of GTIs [s]
l2events	527183	Number of level 2 events



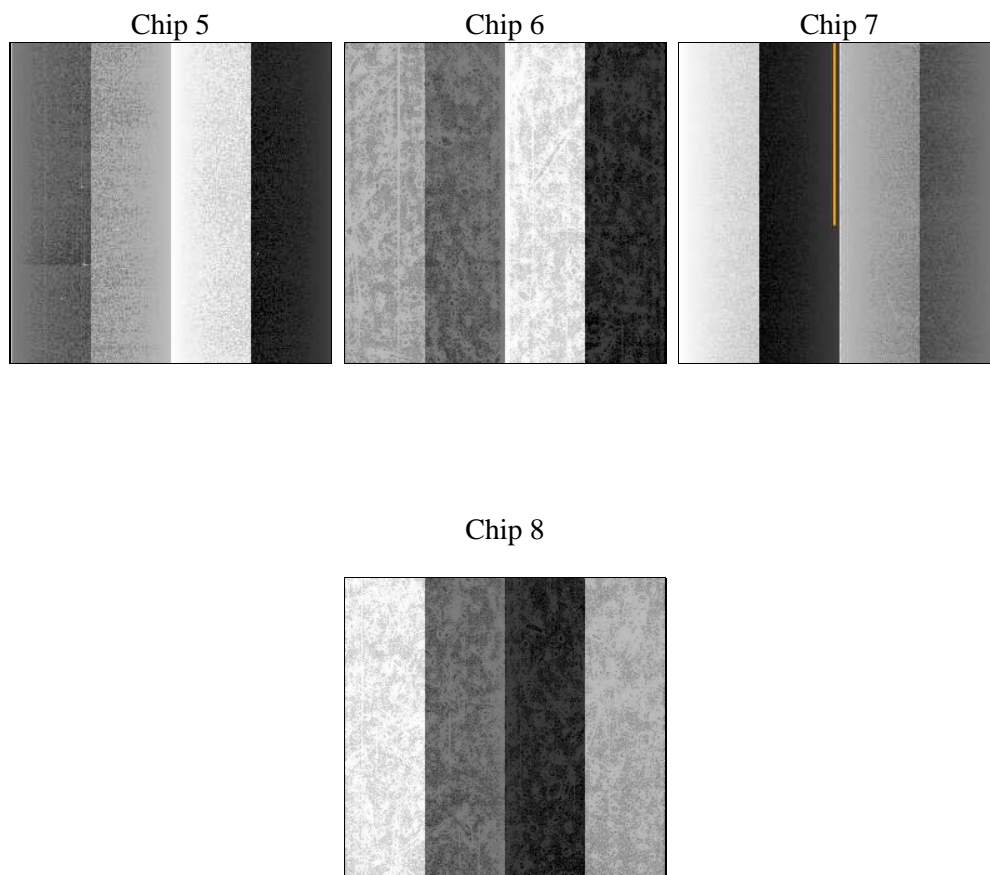
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	36300.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	36359.90027976	Sum of GTIs [s]
caldbver	4.8.4.2	 	ontime5	36359.90027976	Sum of GTIs [s]
date	2020-01-03T21:15:00	Date and time of file creation	ontime6	36356.759189487	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	36359.90027976	Sum of GTIs [s]
			ontime8	36359.90027976	Sum of GTIs [s]
			l1events	1673797	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4118.91, 4058.89)	src1a sky pixel position

2.1.4 Events

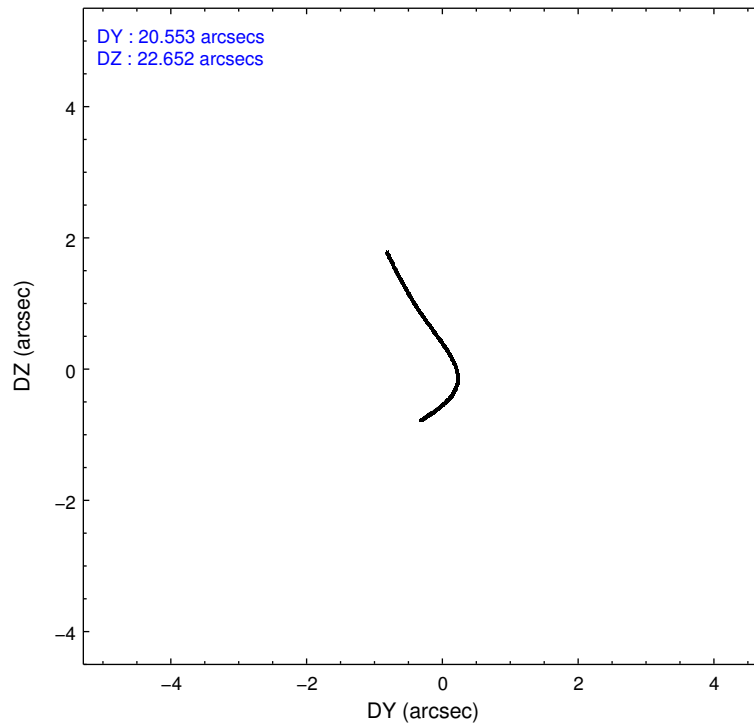
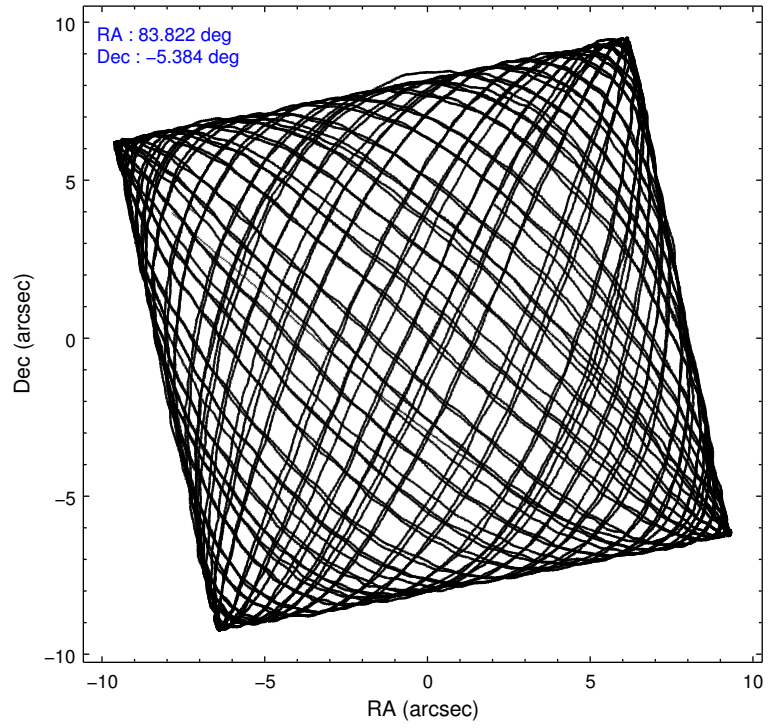
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	539926	323331	431868	378672
rejected events	250784	260844	210959	269312
rejected %	46%	80%	48%	71%

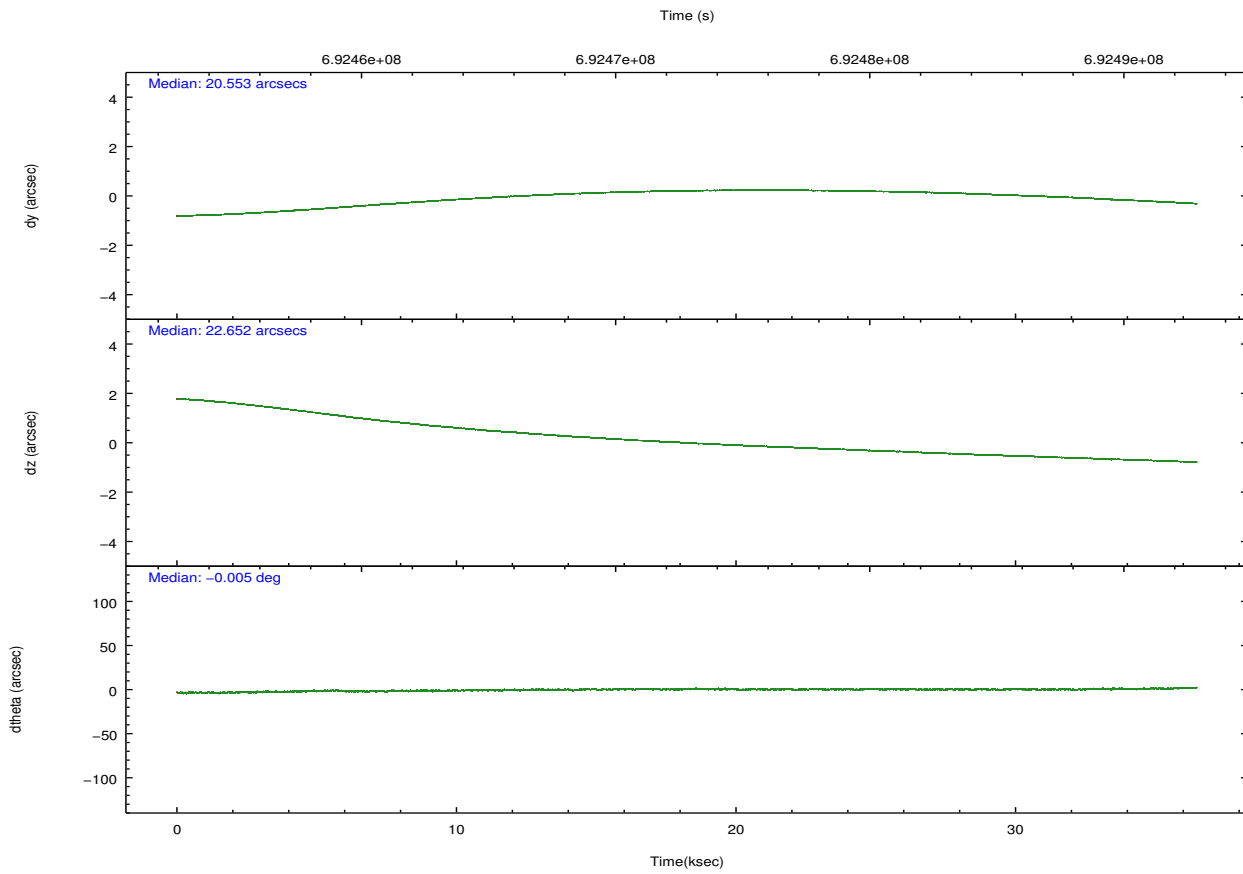
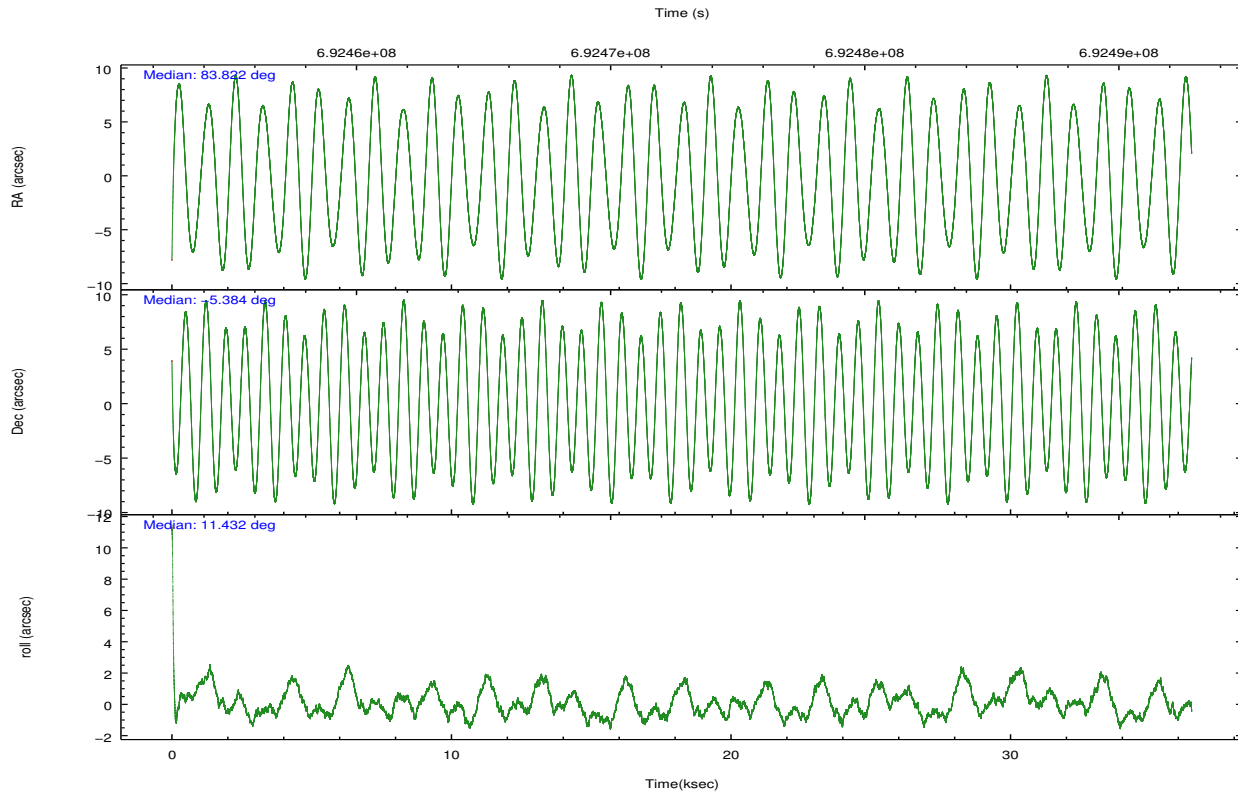
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	71052	32751	26709	38174
	13%	10%	6%	10%
grade 1 events	1281	235	864	333
	0%	0%	0%	0%
grade 2 events	82453	12686	49585	25016
	15%	3%	11%	6%
grade 3 events	7625	3881	18725	10242
	1%	1%	4%	2%
grade 4 events	6420	3863	18631	9416
	1%	1%	4%	2%
grade 5 events	31496	12227	36520	19327
	5%	3%	8%	5%
grade 6 events	121670	9307	107291	26550
	22%	2%	24%	7%
grade 7 events	217929	248381	173543	249614
	40%	76%	40%	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	83.801193	83.82162834837354	CCD I2 on	N	N
[deg] Pointing Dec	-5.403006	-5.384581437735156	CCD I3 on	N	N
[deg] Pointing Roll	11.282850	11.44140620225902	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)	692454770.184000	692453612.76109	CCD S5 on	O2	N
Observation start date	2019-12-11T12:31:41	2019-12-11T12:13:32	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	692491070.184000	692491915.9884	On-chip summing requested	N	N
Observation end date	2019-12-11T22:36:41	2019-12-11T22:51:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





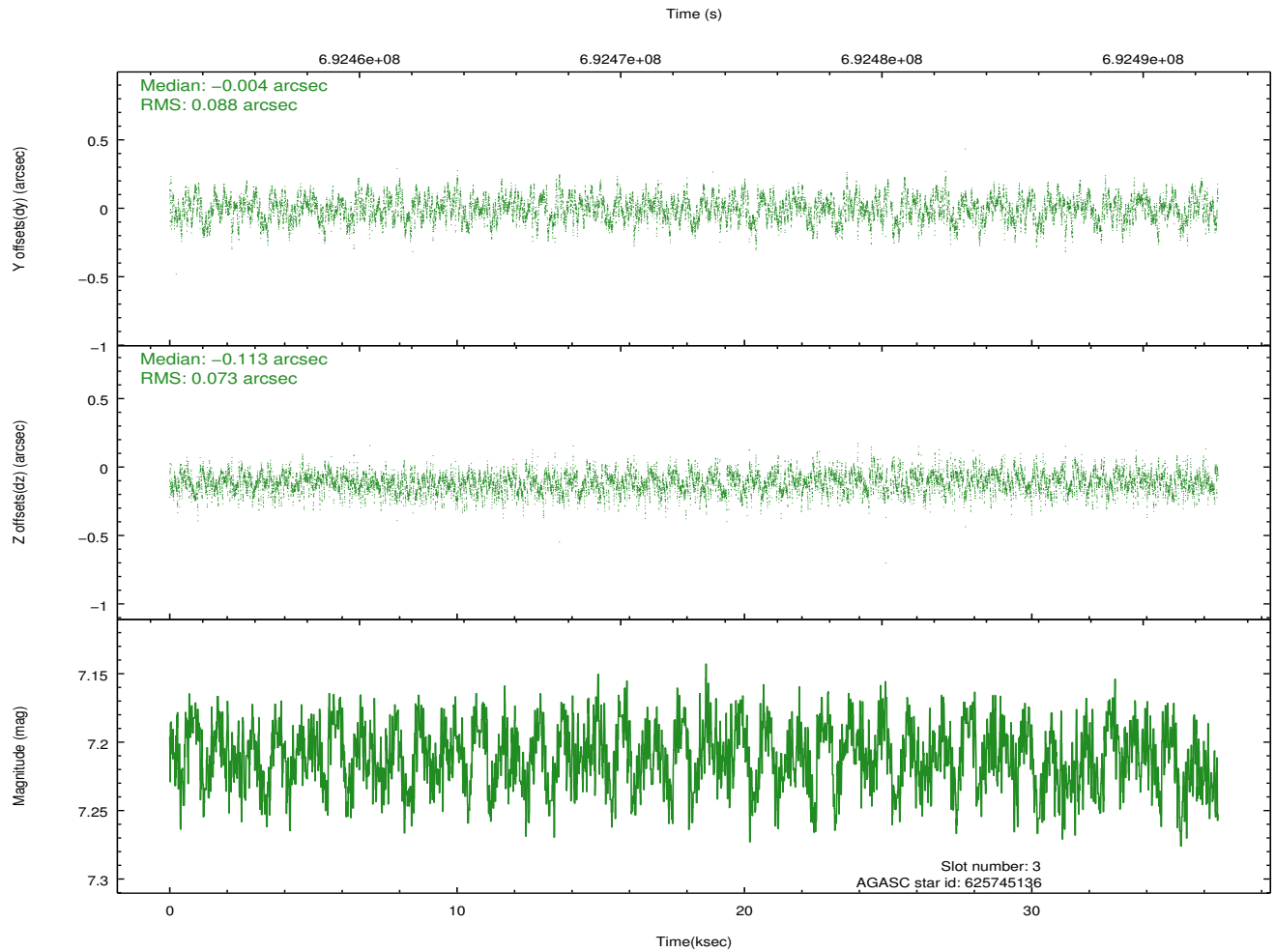
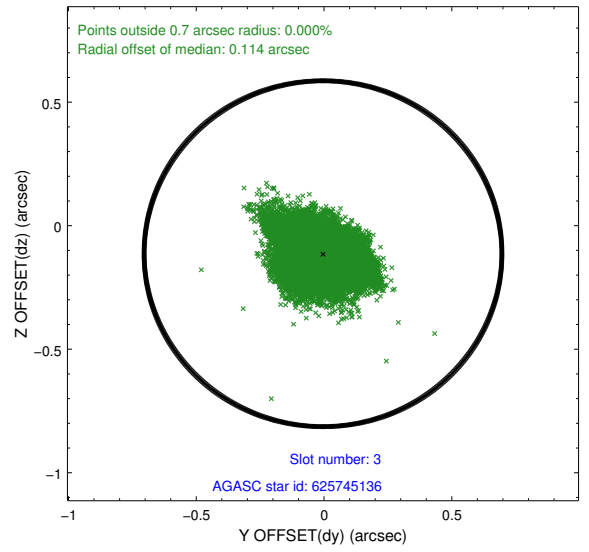
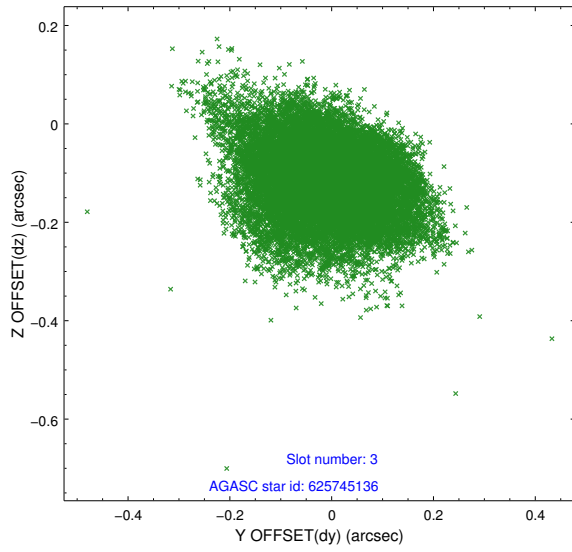
Slot Statistics

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	7.16	8896	1.000	-0.368	-0.335	0.030	0.087	0.000000	0.000000	-773.90	-1744
1	FID		ACIS-S-4	7.24	8897	1.000	0.830	0.263	0.016	0.028	0.000000	0.000000	2140.51	164
2	FID		ACIS-S-5	7.22	8896	1.000	-0.492	0.079	0.030	0.072	0.000000	0.000000	-1826.88	157
3	GUIDE	used	625745136	7.21	17762	1.000	-0.004	-0.113	0.121	0.196	83.600341	-4.804339	-285.30	2253
4	GUIDE	used	626272760	6.66	17796	1.000	0.098	0.218	0.128	0.273	84.363987	-5.938389	1599.30	-2285
5	GUIDE	used	626272880	7.67	17787	1.000	0.280	0.855	0.126	0.223	83.815609	-6.032748	-392.42	-2233
6	GUIDE	used	625874672	7.70	17791	1.000	-0.254	-0.538	0.092	0.150	84.403143	-4.934124	2446.67	1231
7	GUIDE	used	625745128	7.82	17785	1.000	-0.114	-0.401	0.115	0.192	83.769930	-4.731835	362.16	2390

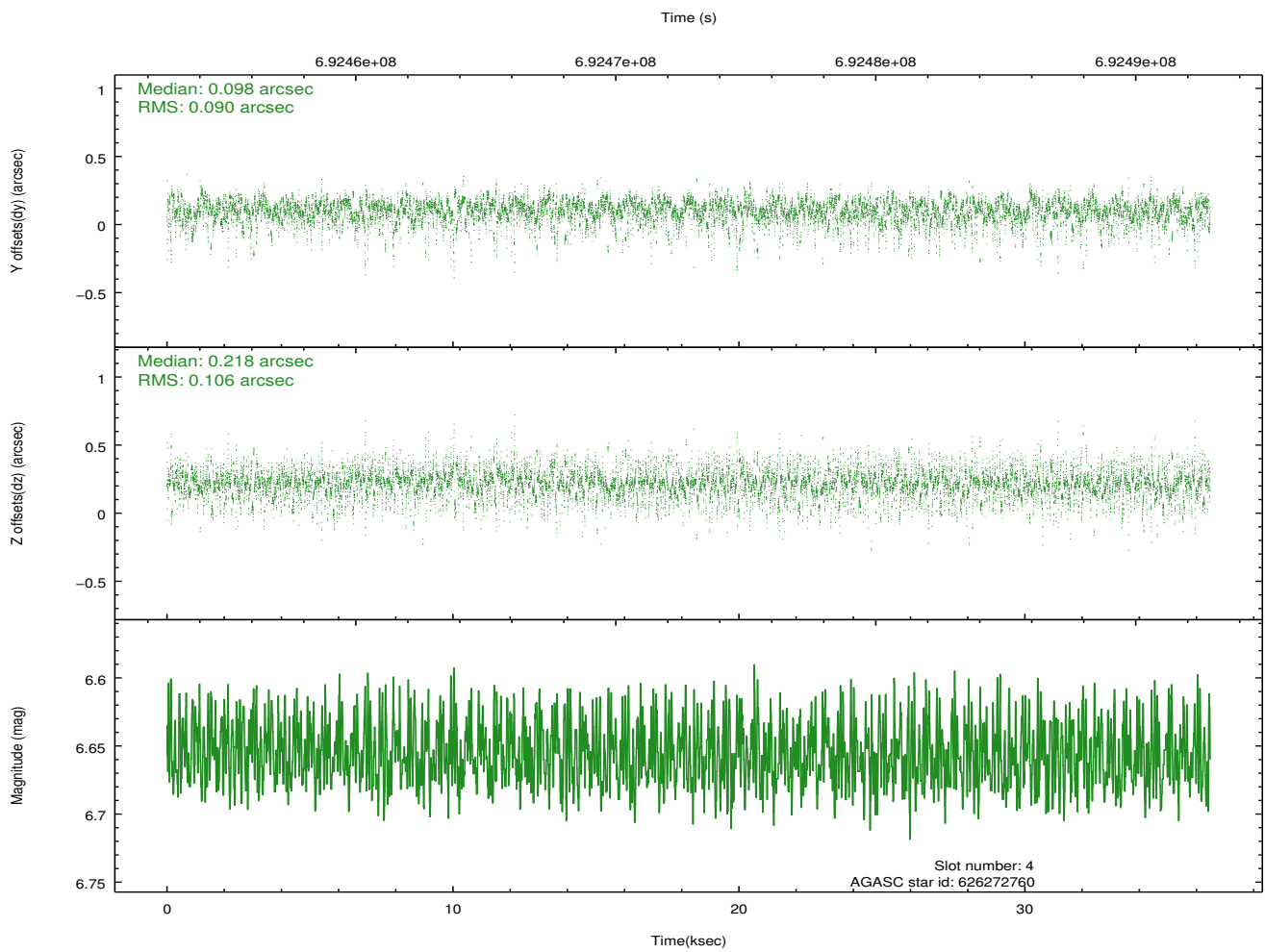
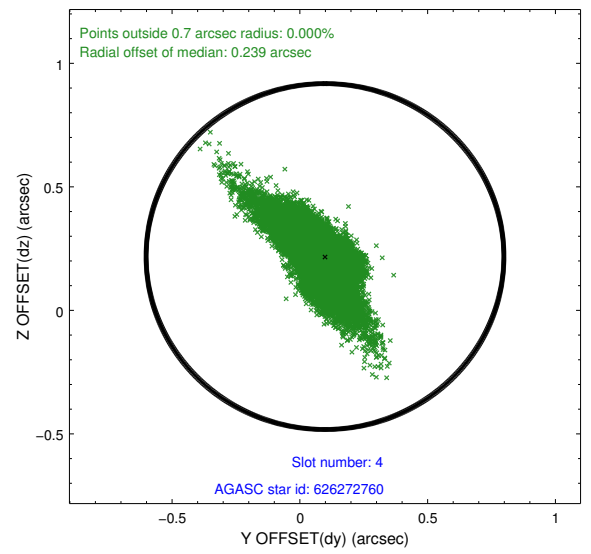
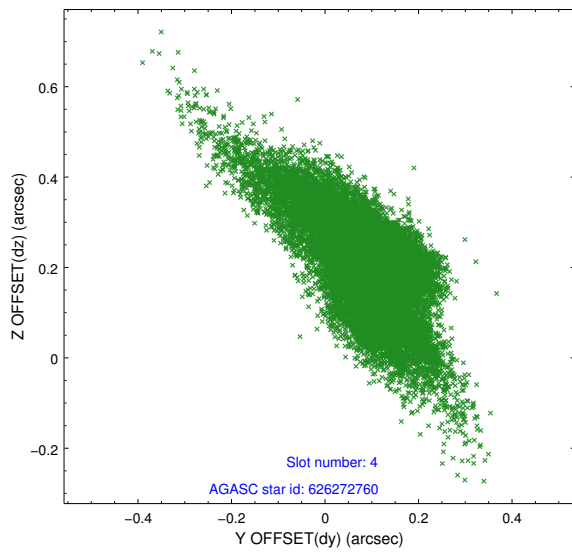
∞

2.4 Star Slots

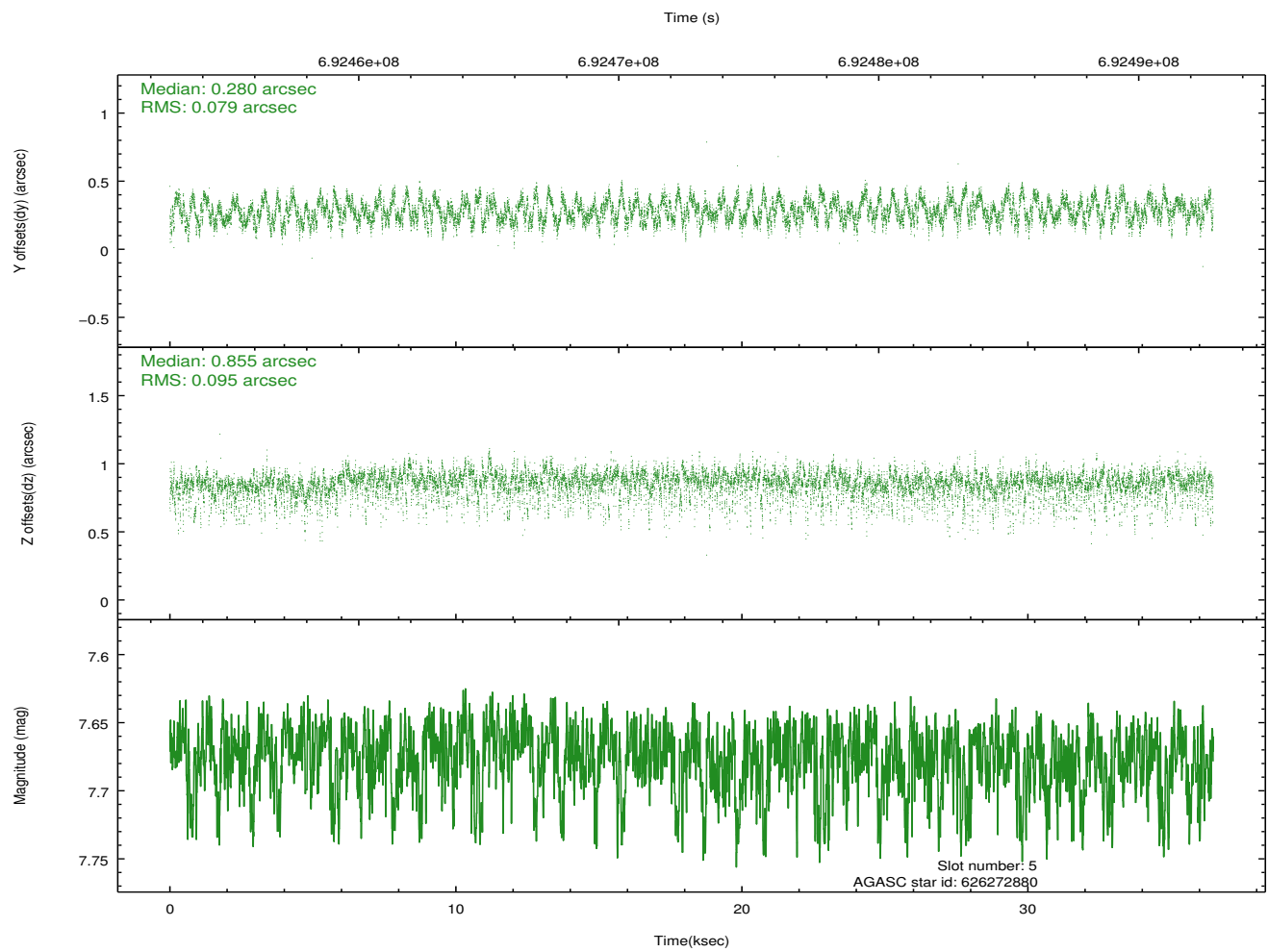
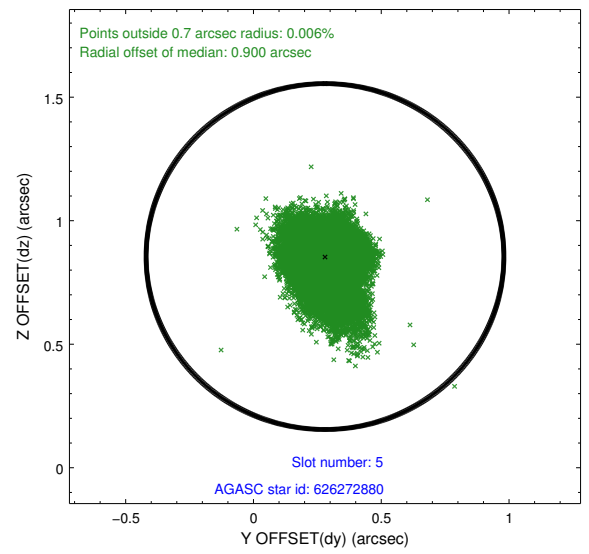
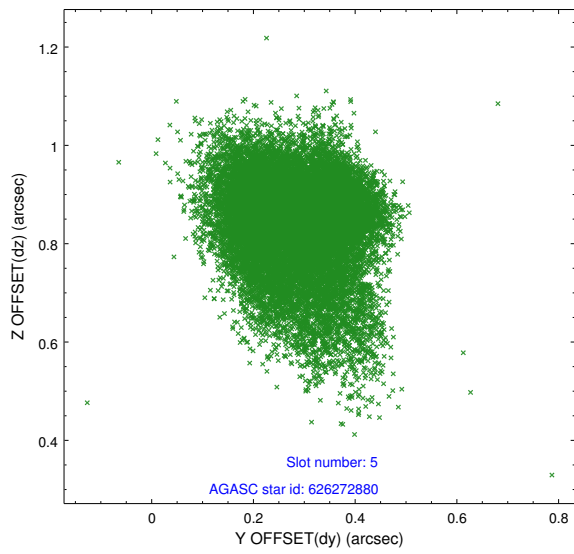
2.4.1 Slot 3



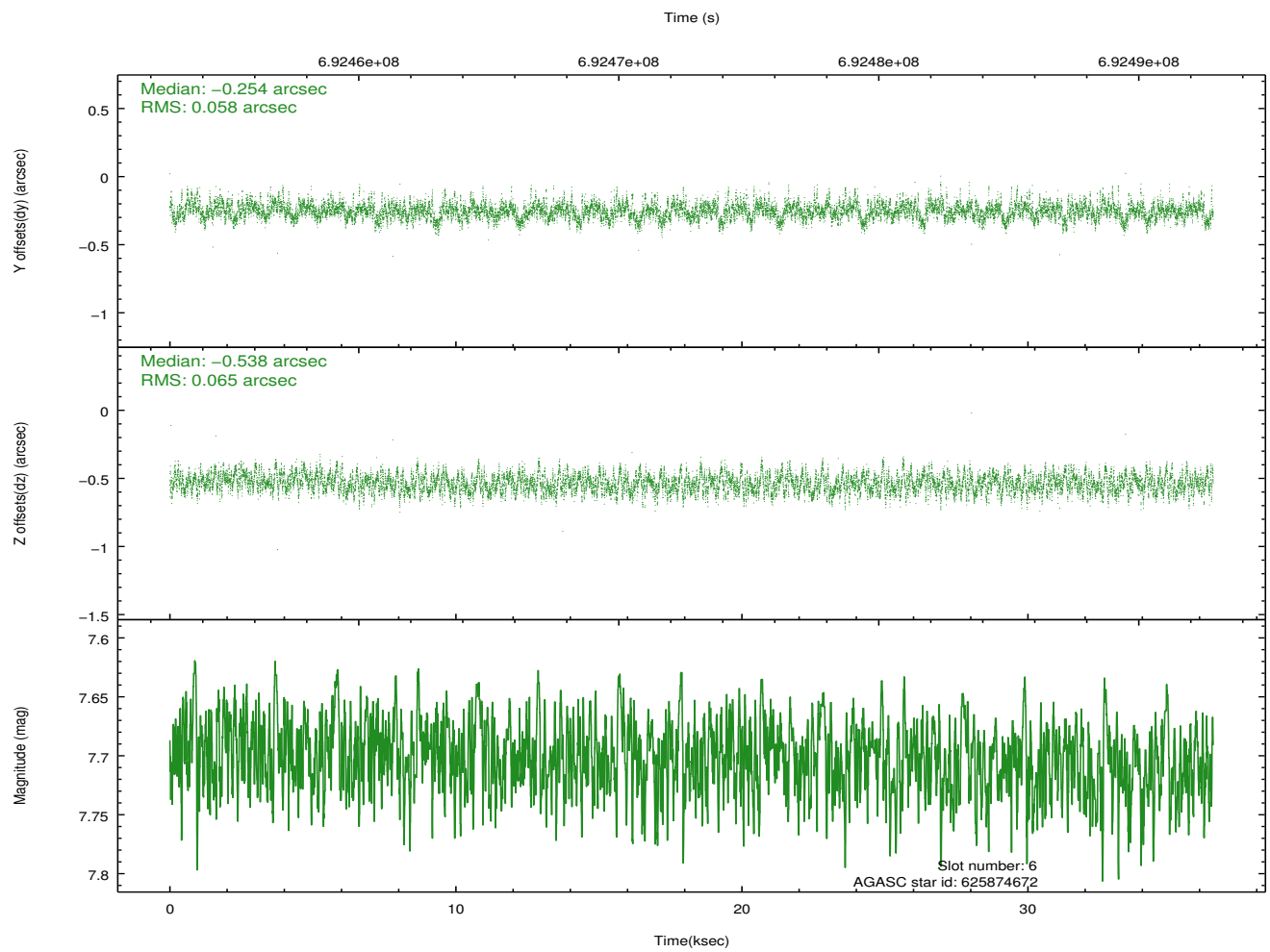
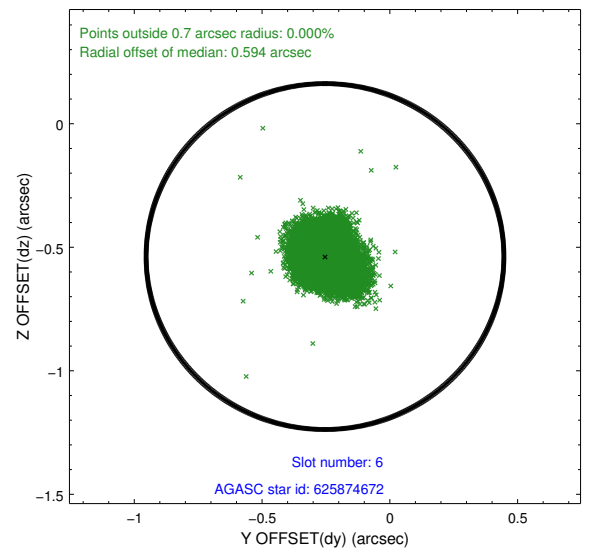
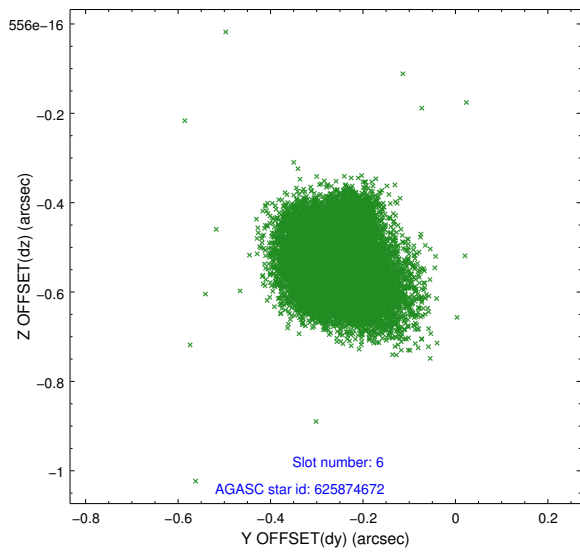
2.4.2 Slot 4



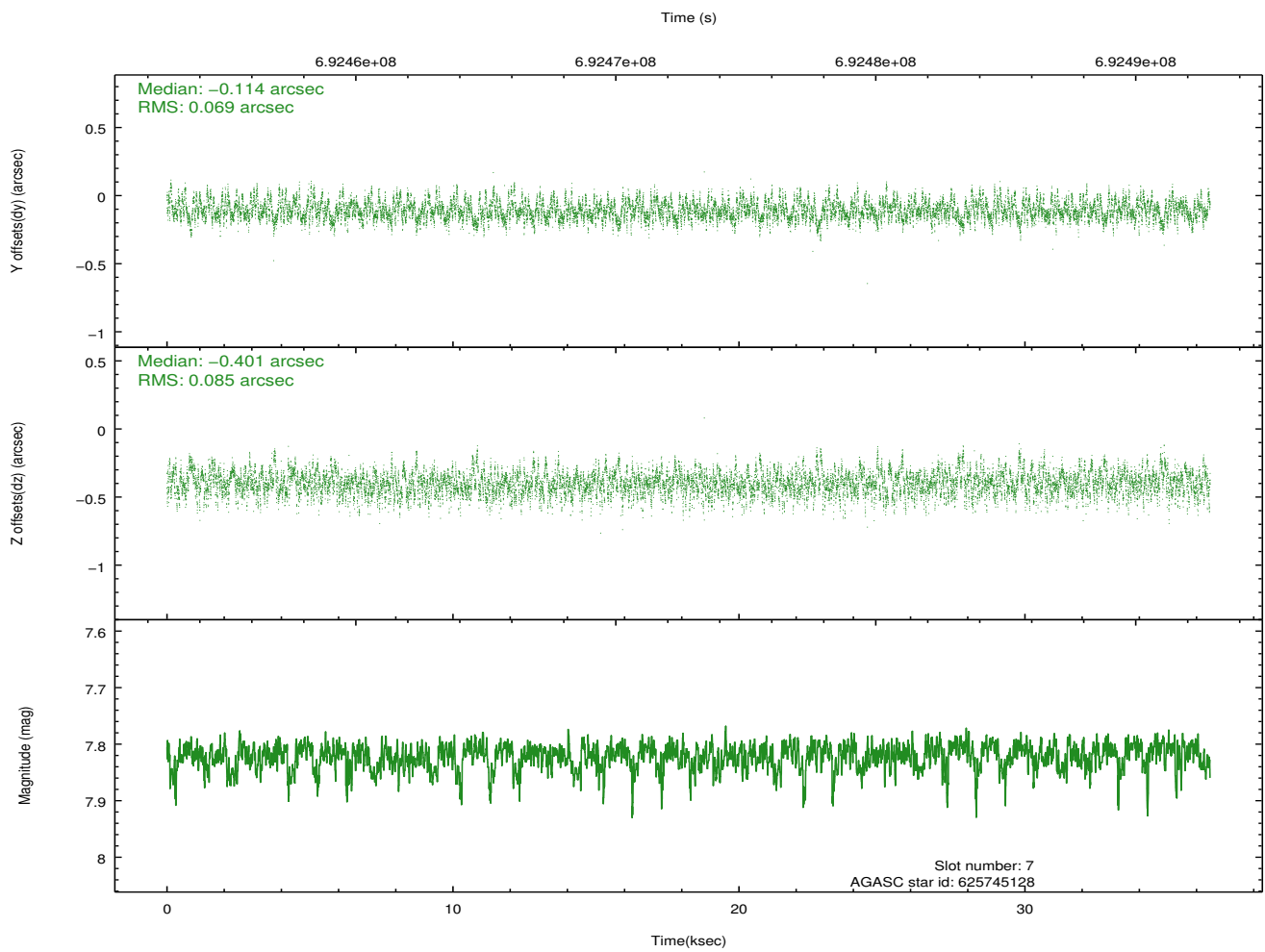
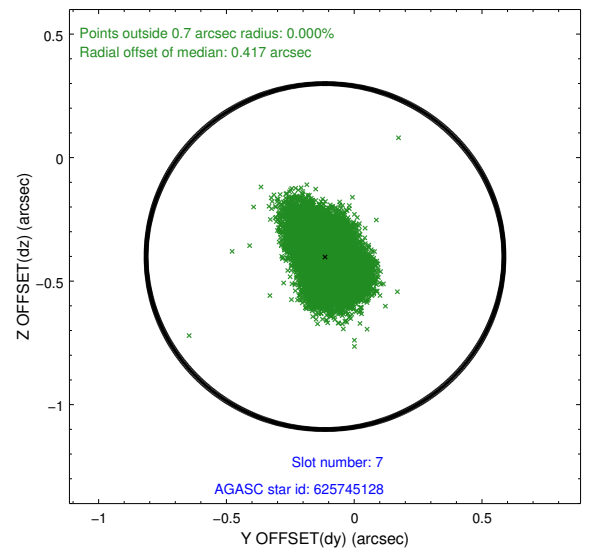
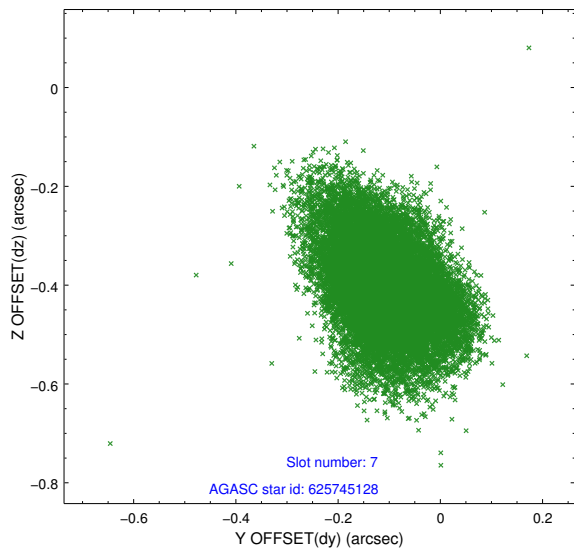
2.4.3 Slot 5



2.4.4 Slot 6

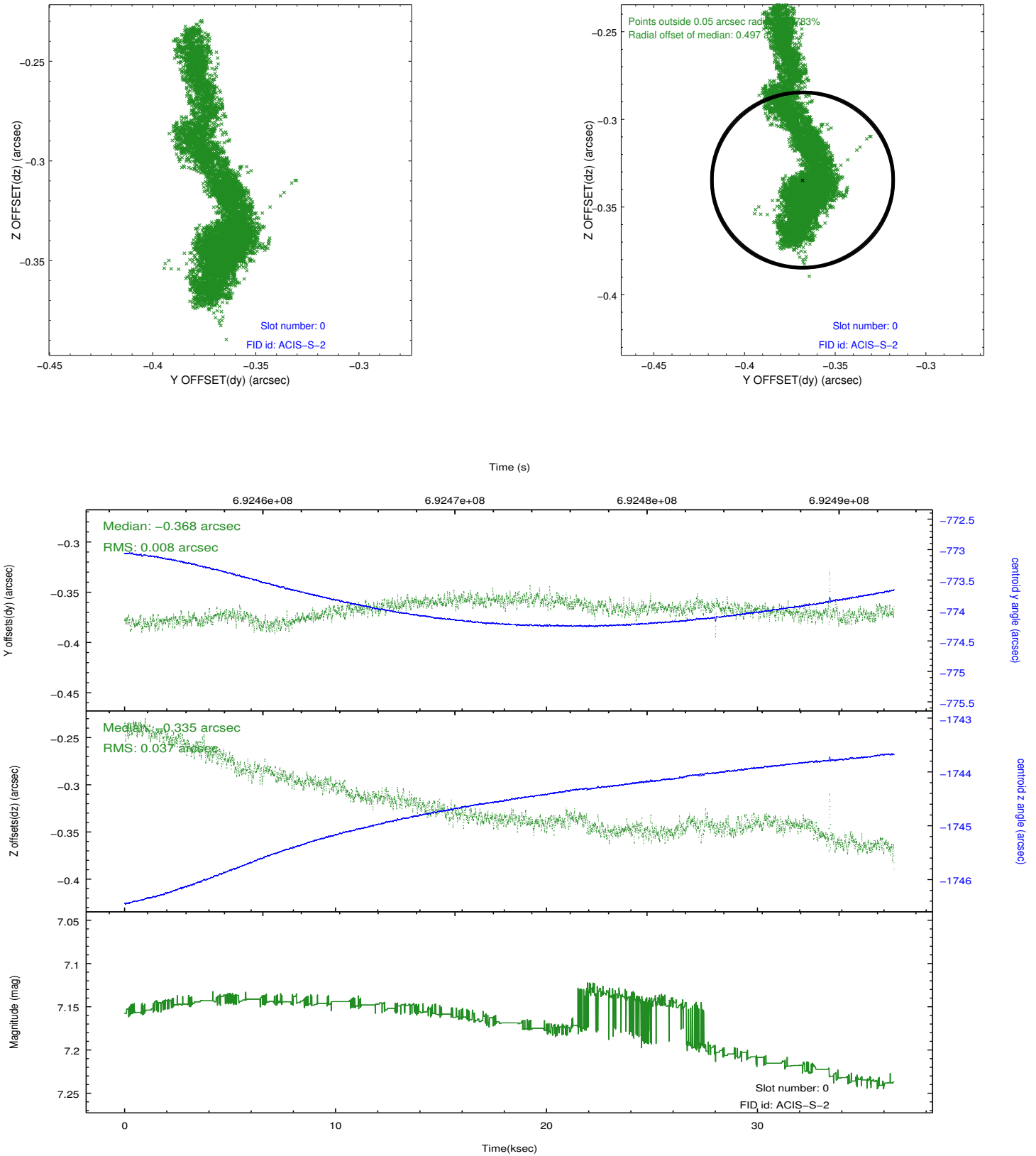


2.4.5 Slot 7

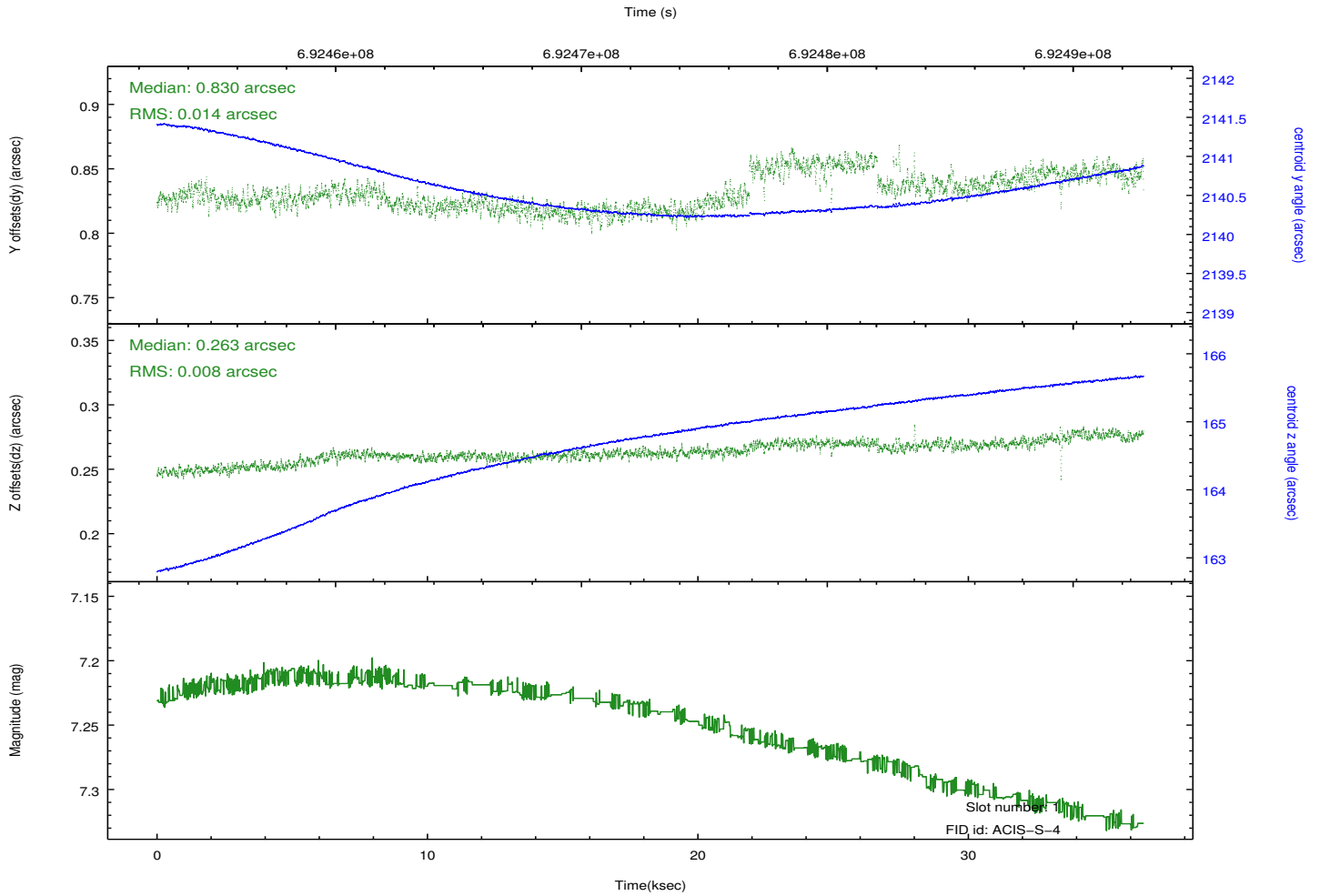
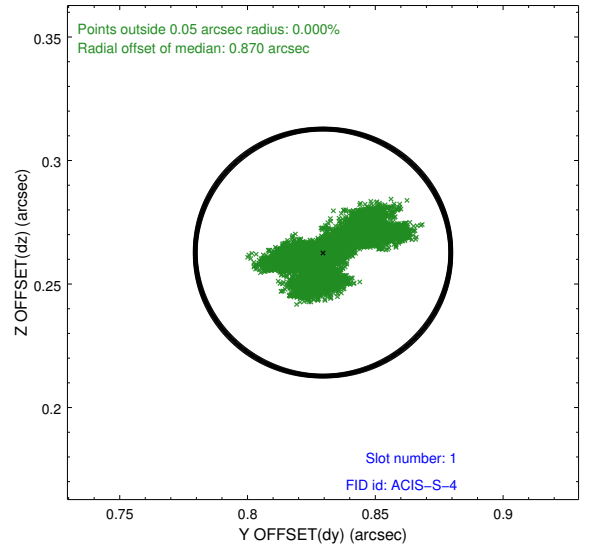
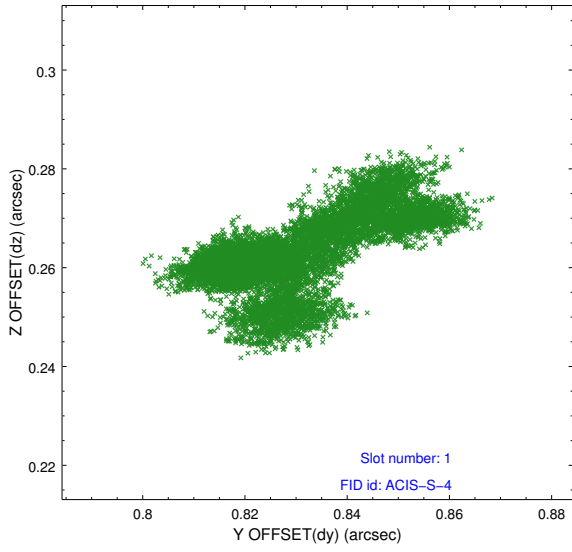


2.5 FID Slots

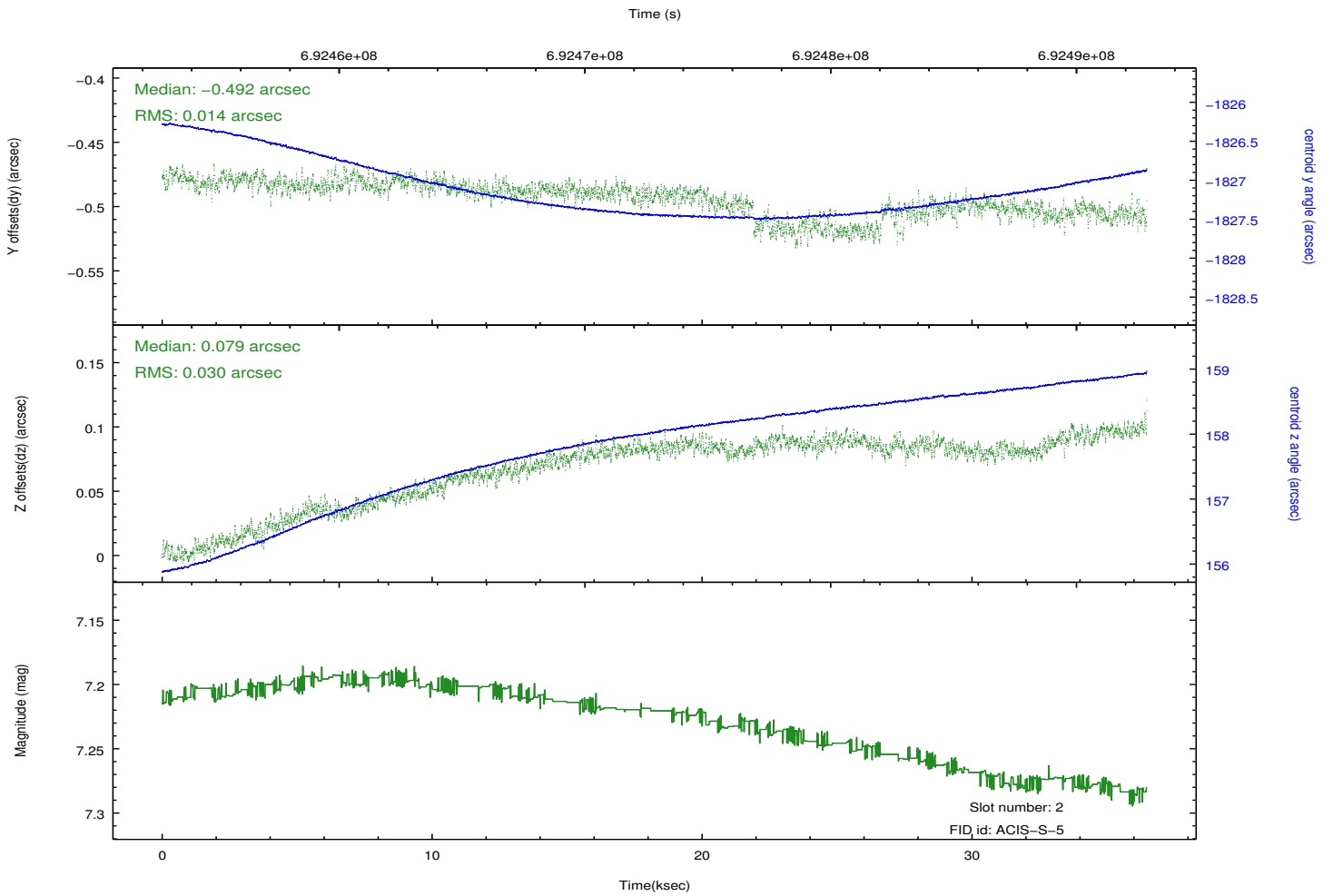
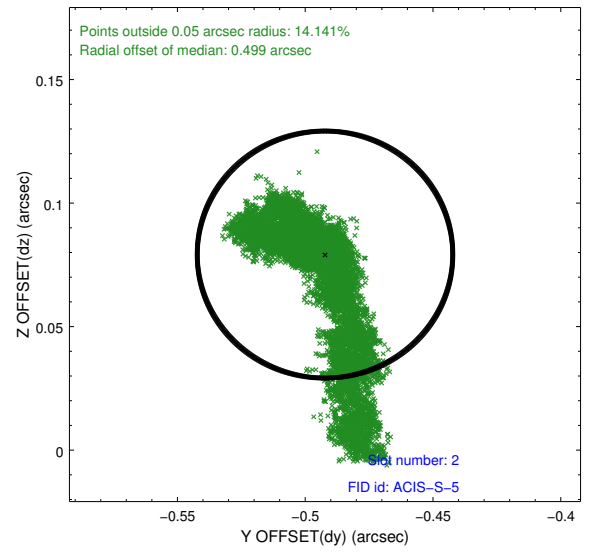
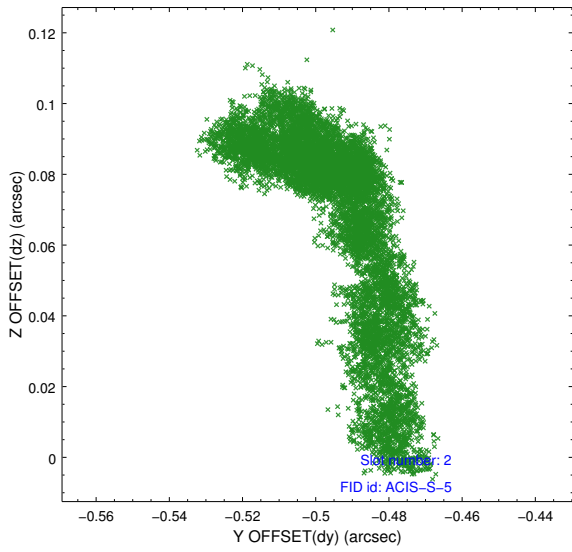
2.5.1 Slot 0



2.5.2 Slot 1

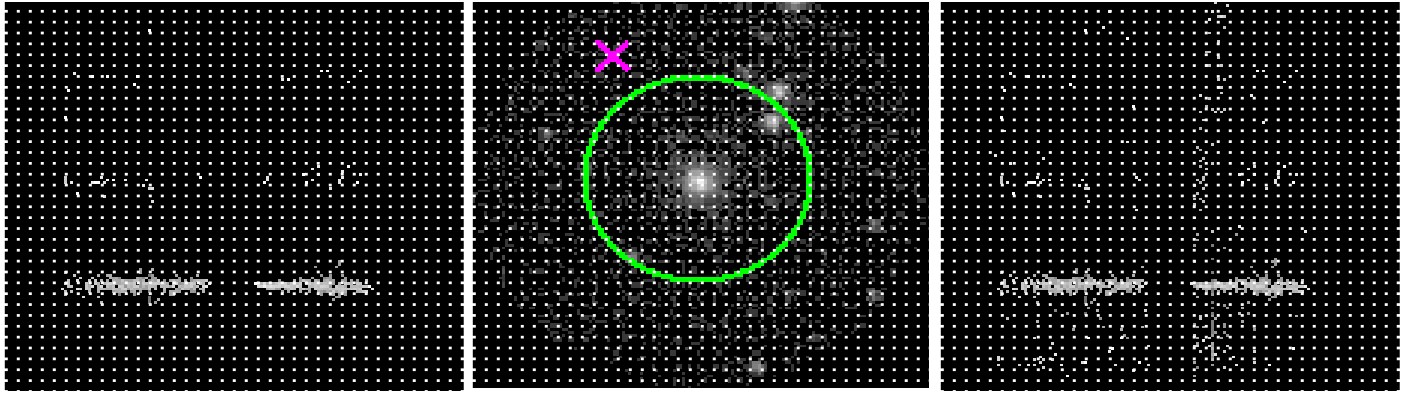


2.5.3 Slot 2



3 Gratings

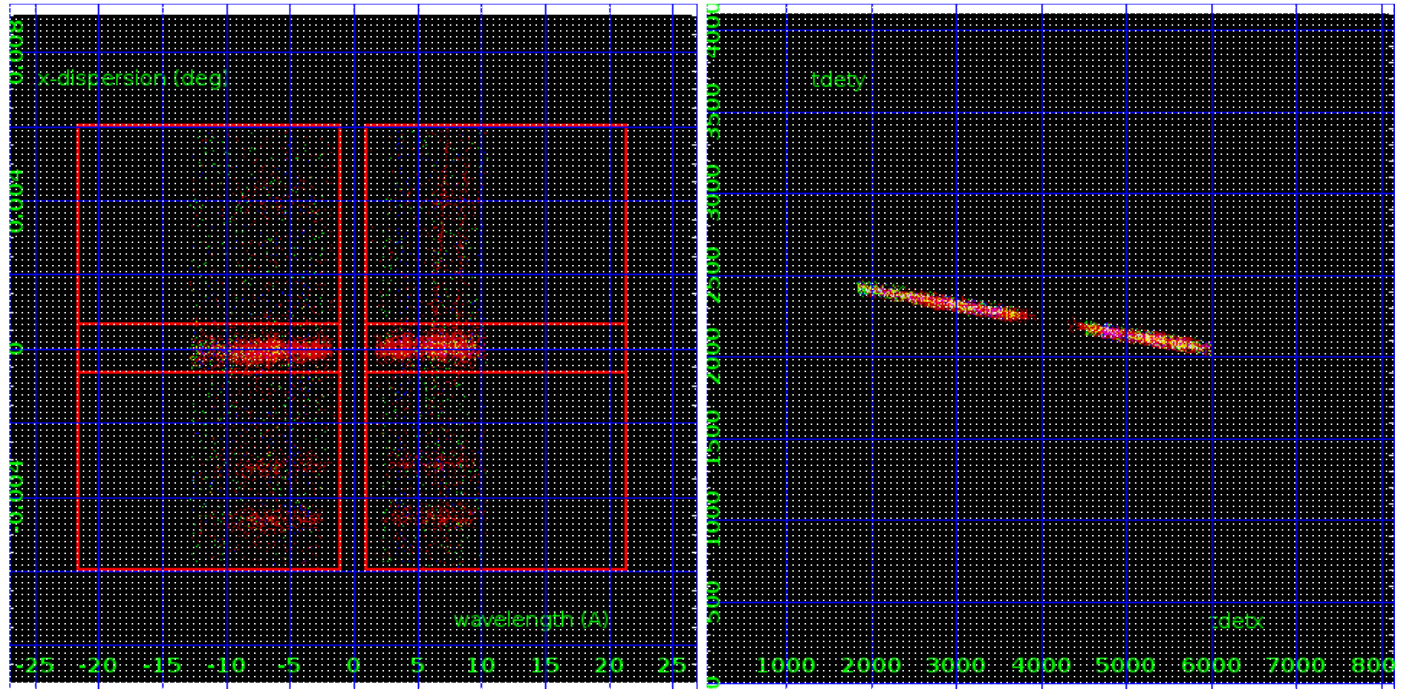
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

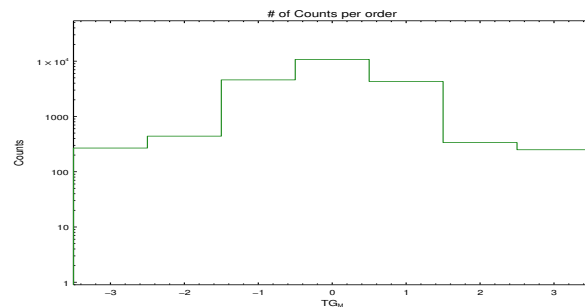
HEG Order Sort ALL



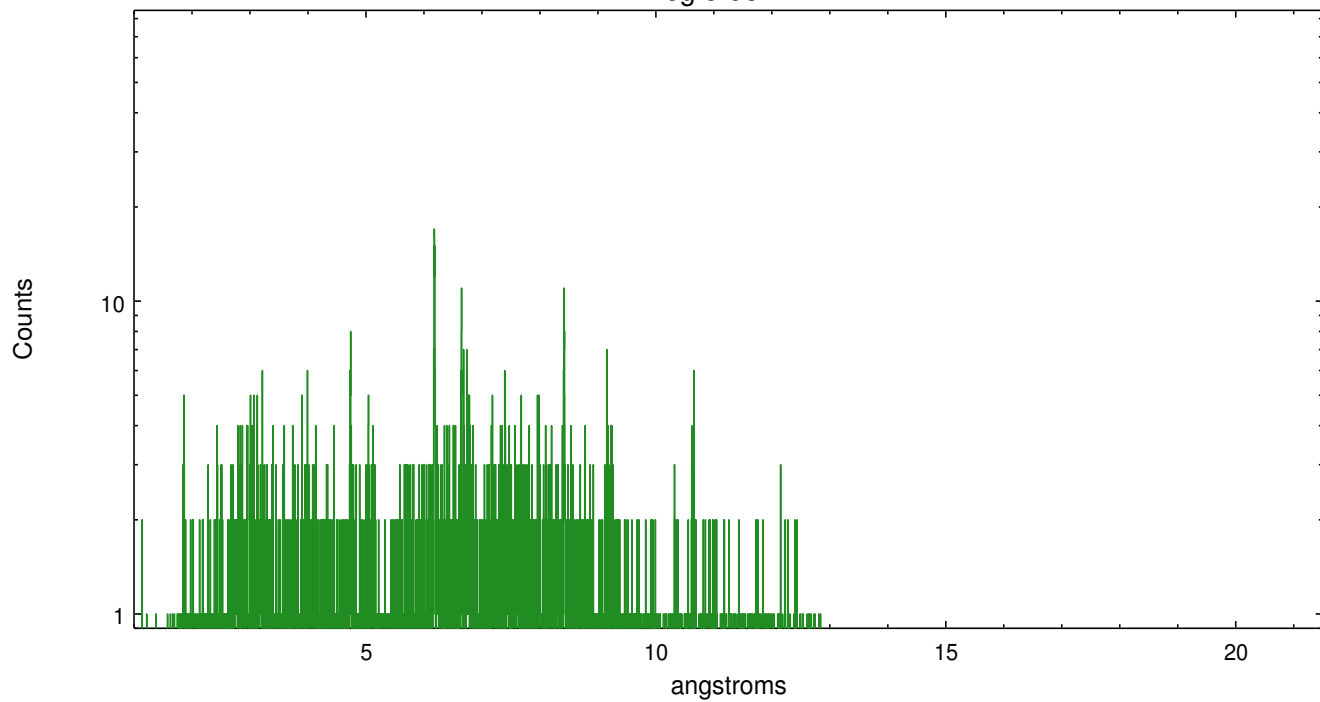
Spot Image HEG

Full Detector HEG

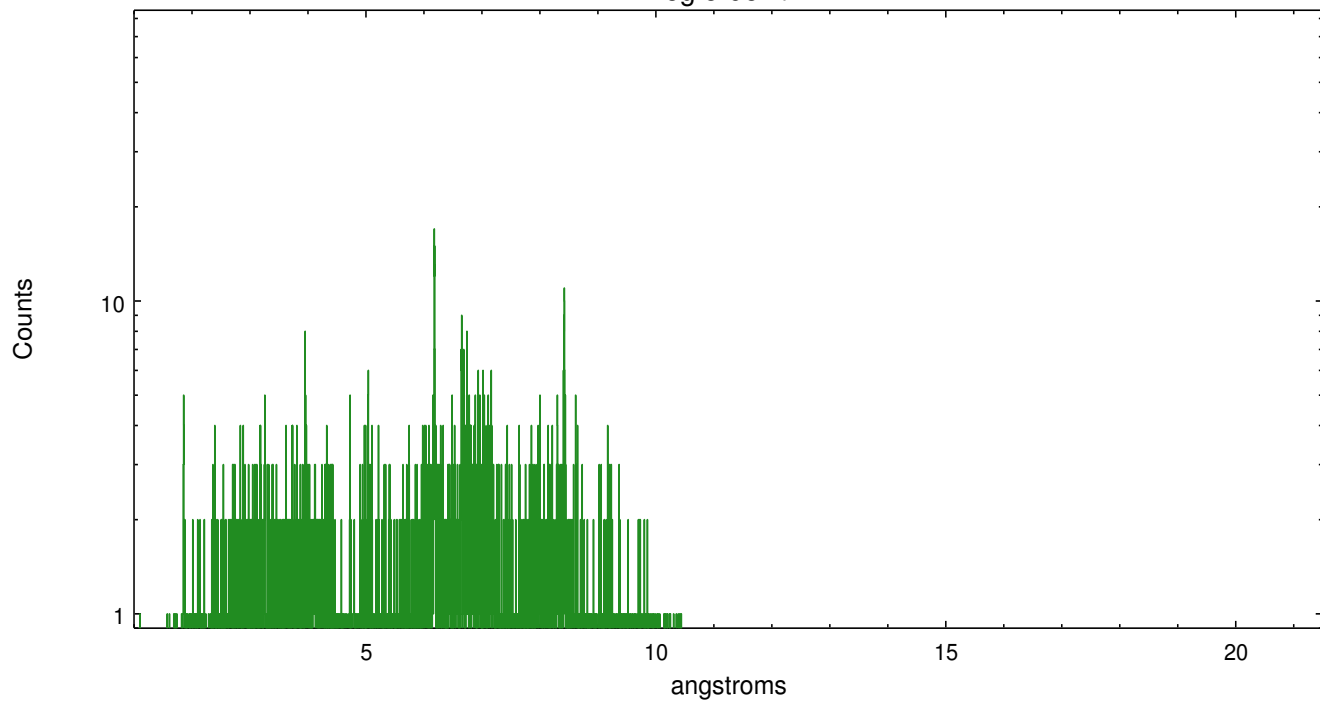
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	268	440	4590	10763	4295	337	250



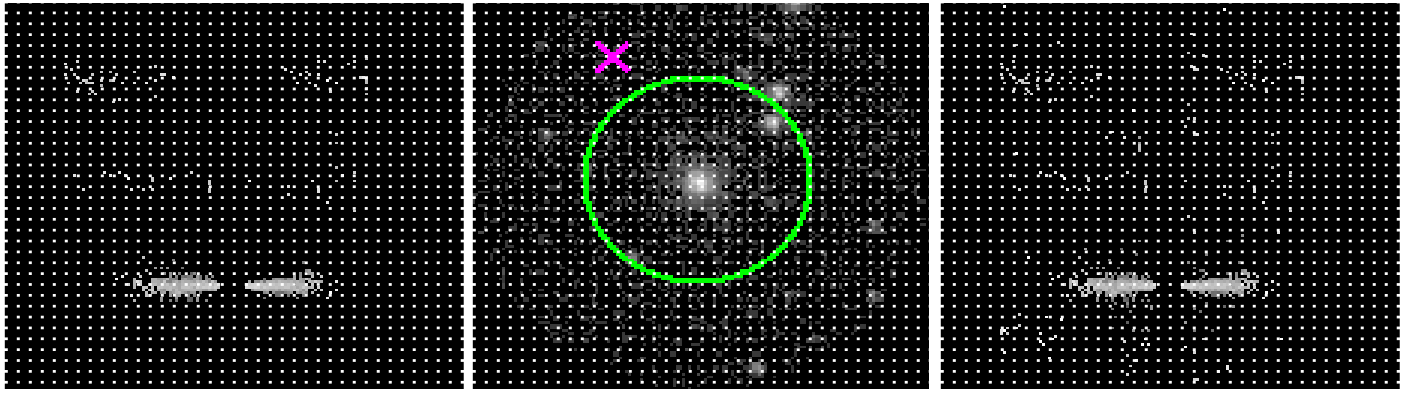
heg order -1



heg order +1



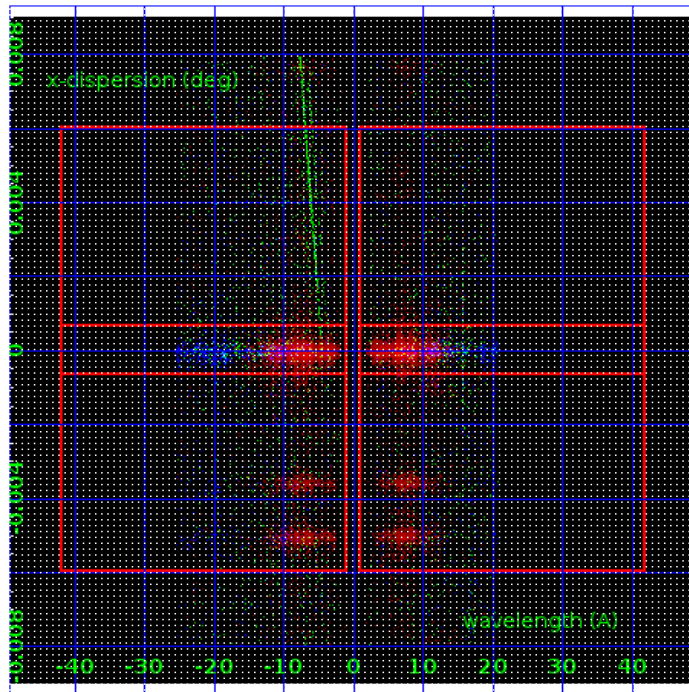
3.2 MEG Arm



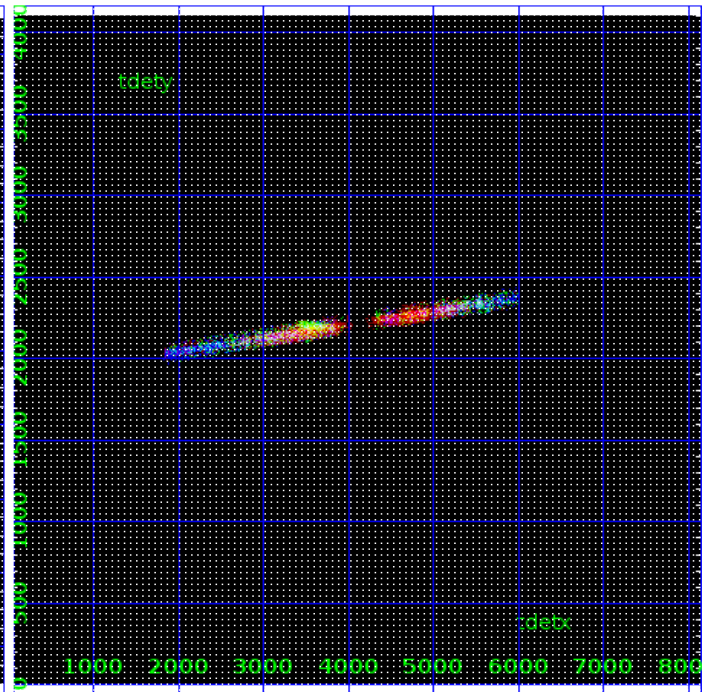
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

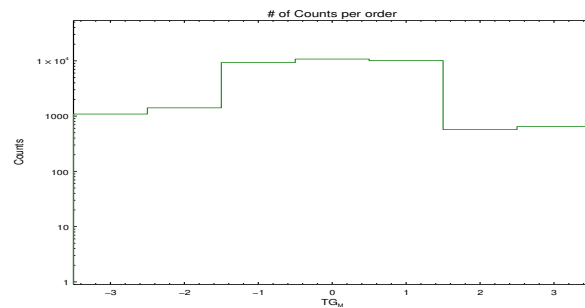


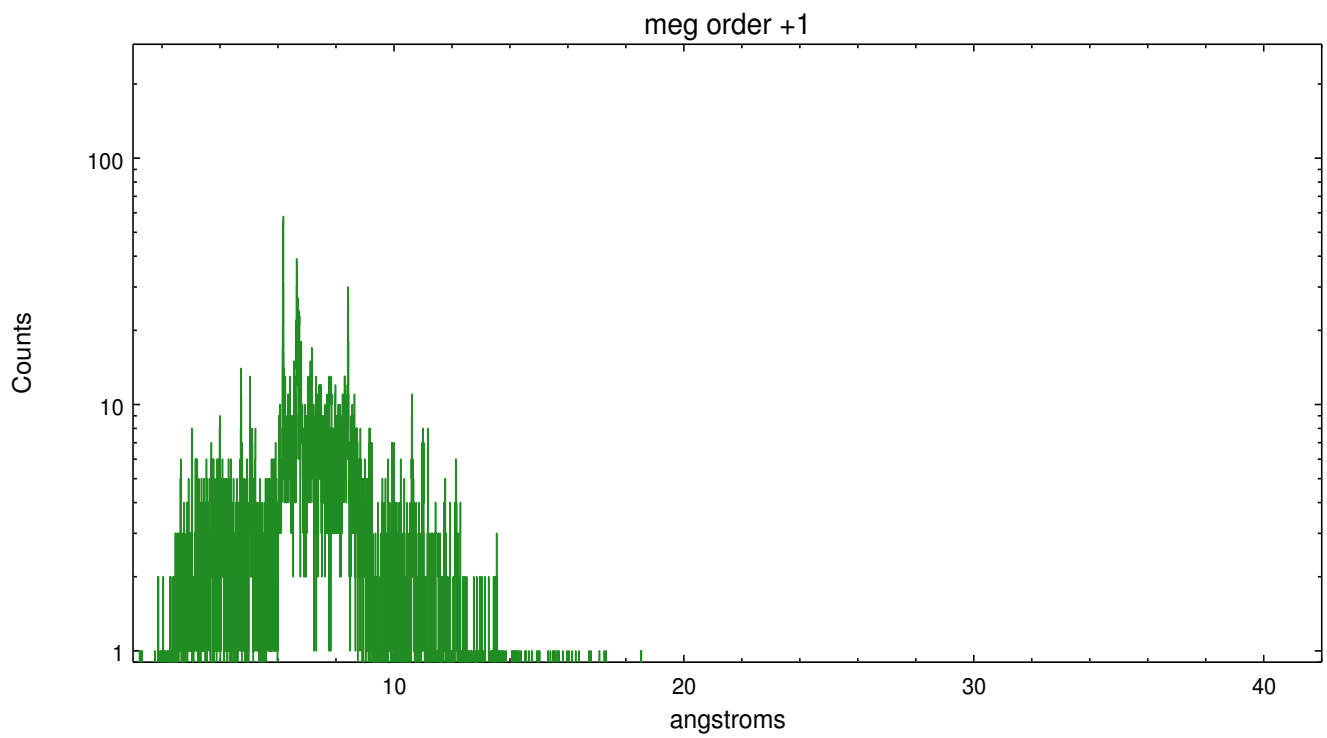
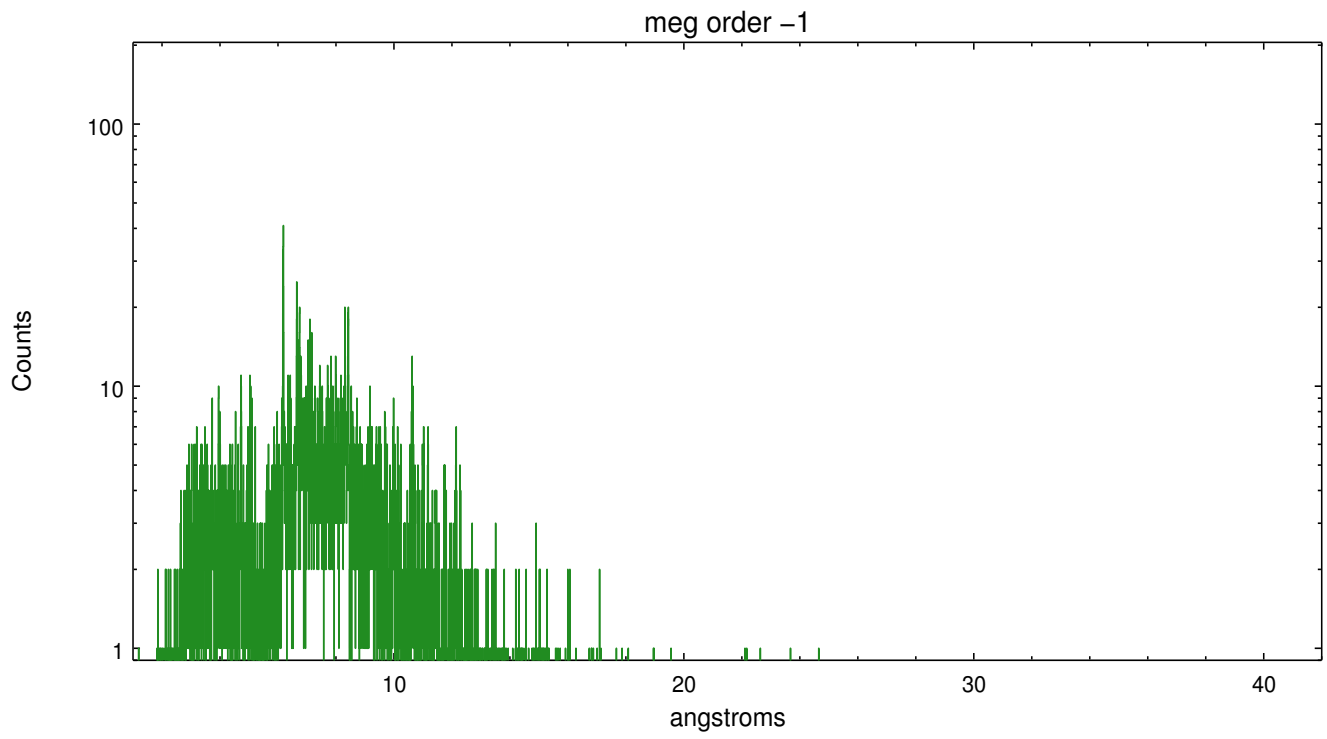
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1088	1411	9287	10763	10114	570	646





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	36.35990027976

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).