

V&V Reference Report

L2 ASCDS Version : 10.8.1

Observation 23007 - L2 Version 2
Chandra X-Ray Center

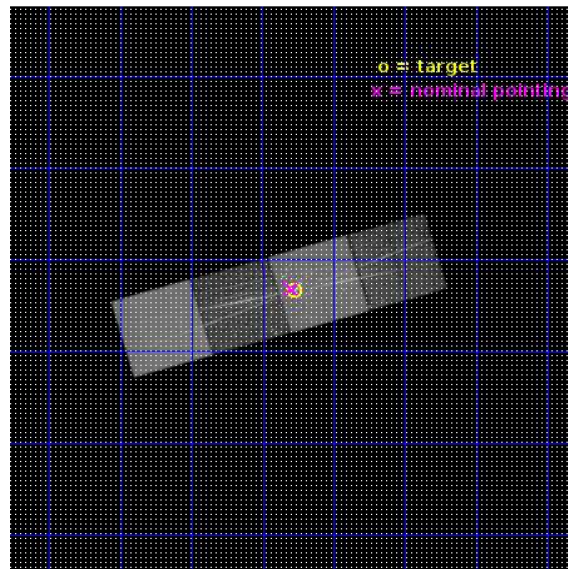
L2 Processing Date : Jan 2 2020

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1 Front

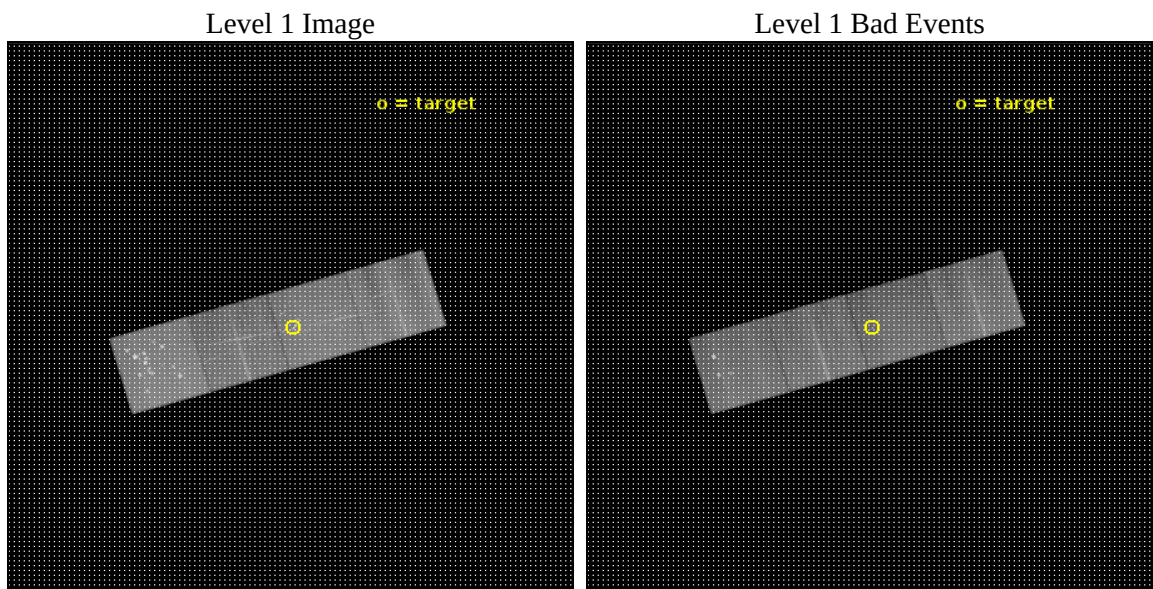
seq_num	201298	Sequence number
obs_id	23007	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.824480315081	Nominal RA [deg]
dec_nom	-5.3863832336274	Nominal Dec [deg]
roll_nom	343.57326875147	Nominal Roll [deg]
revision	2	Processing version of data
ontime	37906.800291657	Sum of GTIs [s]
livetime	37411.520039267	Livetime [s]
ontime5	37906.800291657	Sum of GTIs [s]
ontime6	37903.659211397	Sum of GTIs [s]
ontime7	37906.800291657	Sum of GTIs [s]
ontime8	37906.800291657	Sum of GTIs [s]
l2events	537314	Number of level 2 events



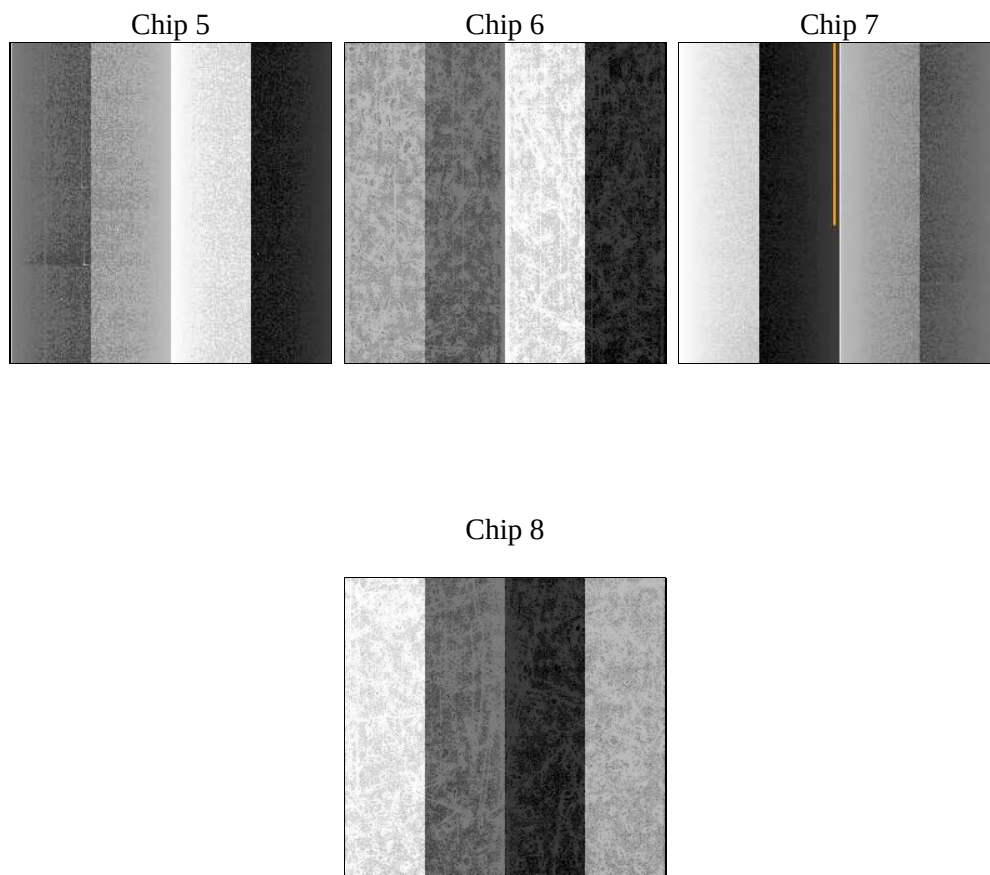
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	37844.008000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	37906.800291657	Sum of GTIs [s]
caldsver	4.8.4.2	 	ontime5	37906.800291657	Sum of GTIs [s]
date	2020-01-02T21:42:36	Date and time of file creation	ontime6	37903.659211397	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	37906.800291657	Sum of GTIs [s]
			ontime8	37906.800291657	Sum of GTIs [s]
			l1events	1744343	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4140.22, 4071.83)	src1a sky pixel position

2.1.4 Events

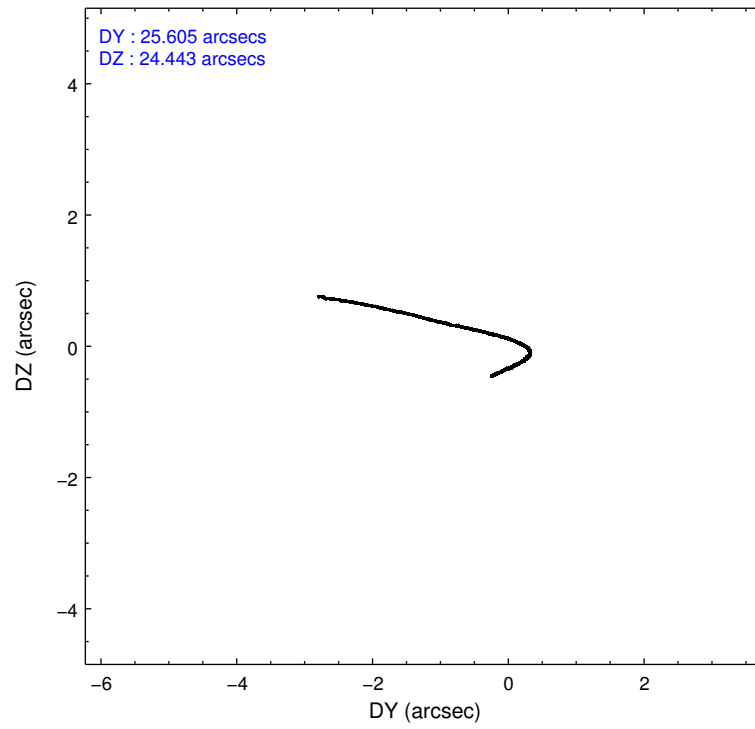
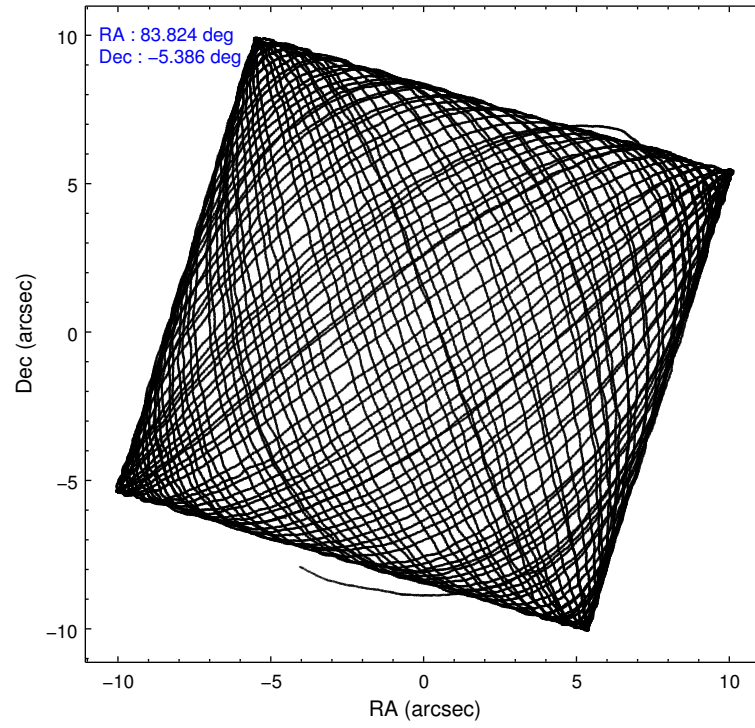
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	566417	331404	444283	402239
rejected events	265301	270518	222708	287285
rejected %	46%	81%	50%	71%

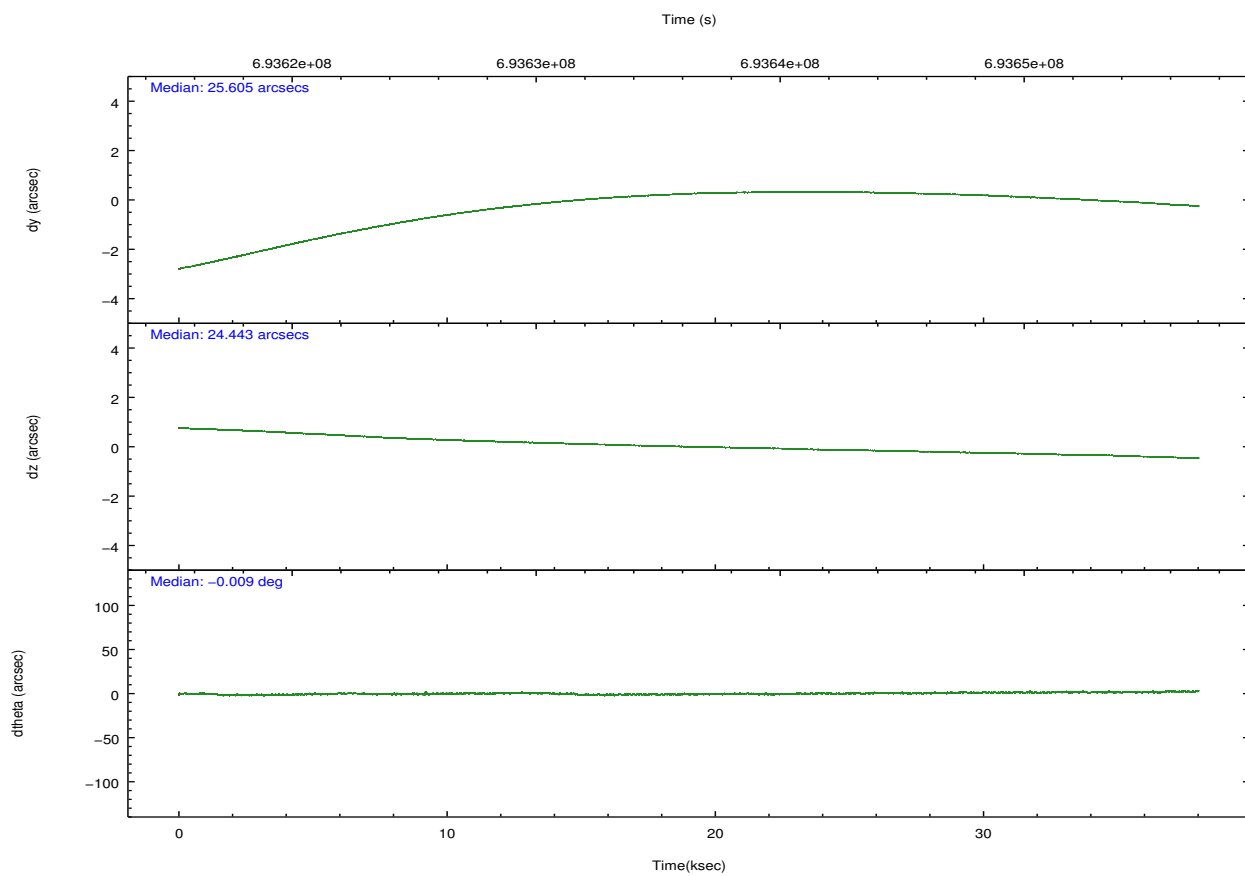
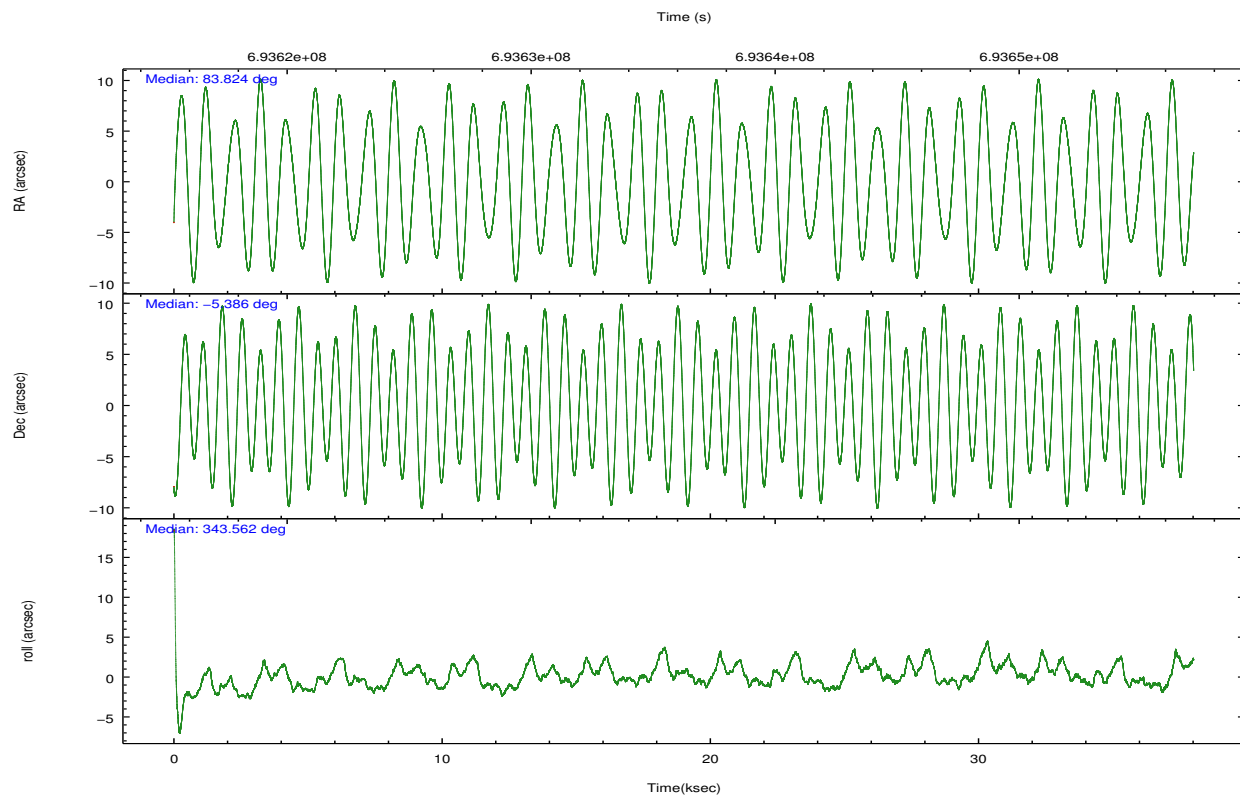
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	74284	31556	25600	38627
	13%	9%	5%	9%
grade 1 events	1331	257	793	354
	0%	0%	0%	0%
grade 2 events	84988	12113	49952	26334
	15%	3%	11%	6%
grade 3 events	7968	3986	18727	10883
	1%	1%	4%	2%
grade 4 events	6630	3923	18449	10635
	1%	1%	4%	2%
grade 5 events	33560	13168	38511	20963
	5%	3%	8%	5%
grade 6 events	127281	9313	108866	28477
	22%	2%	24%	7%
grade 7 events	230375	257088	183385	265966
	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	83.797775	83.82448031508093	CCD I2 on	N	N
[deg] Pointing Dec	-5.393180	-5.386383233627443	CCD I3 on	N	N
[deg] Pointing Roll	343.414125	343.5732687514724	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)	693617426.184000	693616454.83134	CCD S5 on	O2	N
Observation start date	2019-12-24T23:29:17	2019-12-24T23:14:14	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	693655270.184000	693656069.54624	On-chip summing requested	N	N
Observation end date	2019-12-25T10:00:01	2019-12-25T10:14:29	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



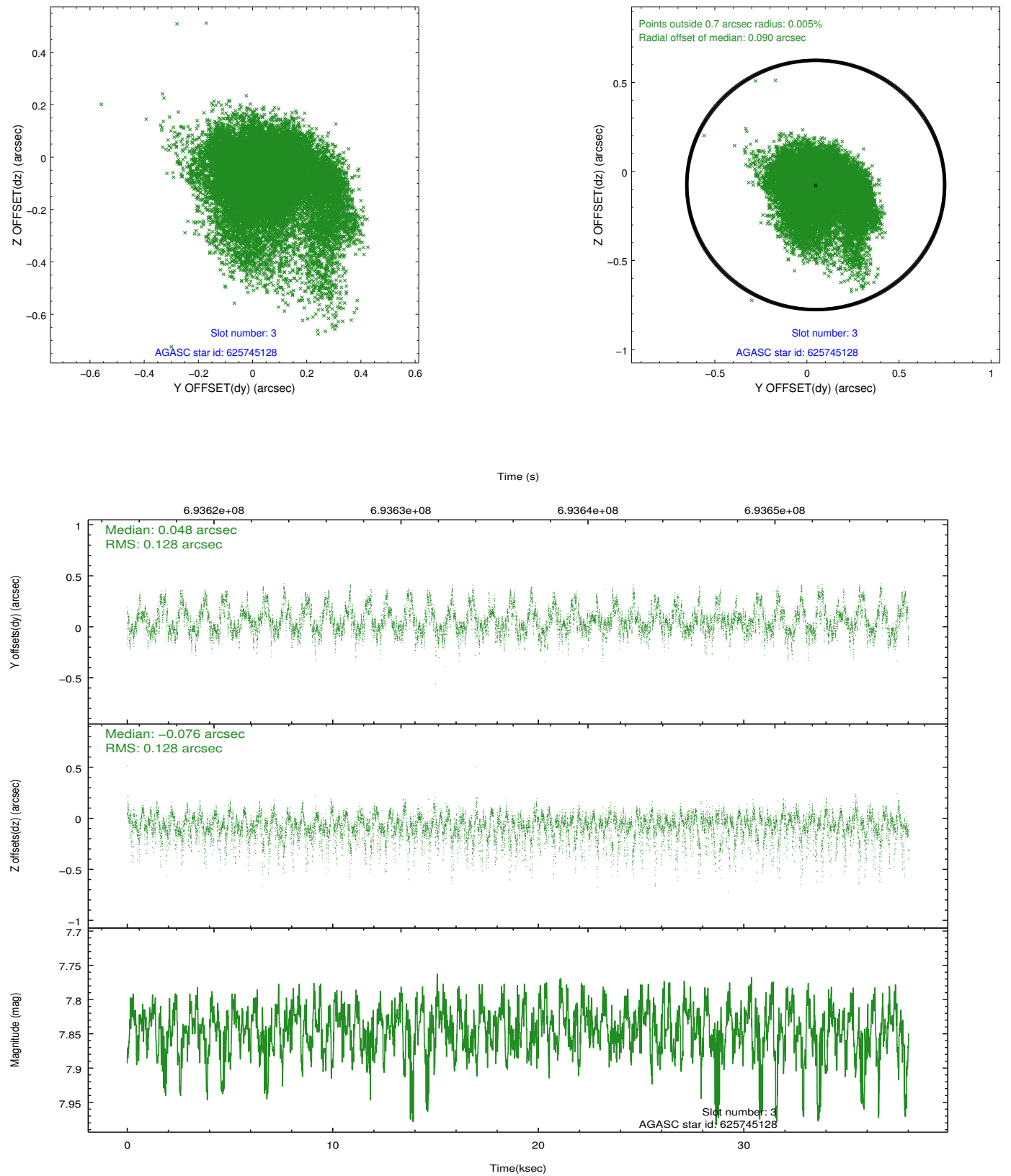


Slot Statistics

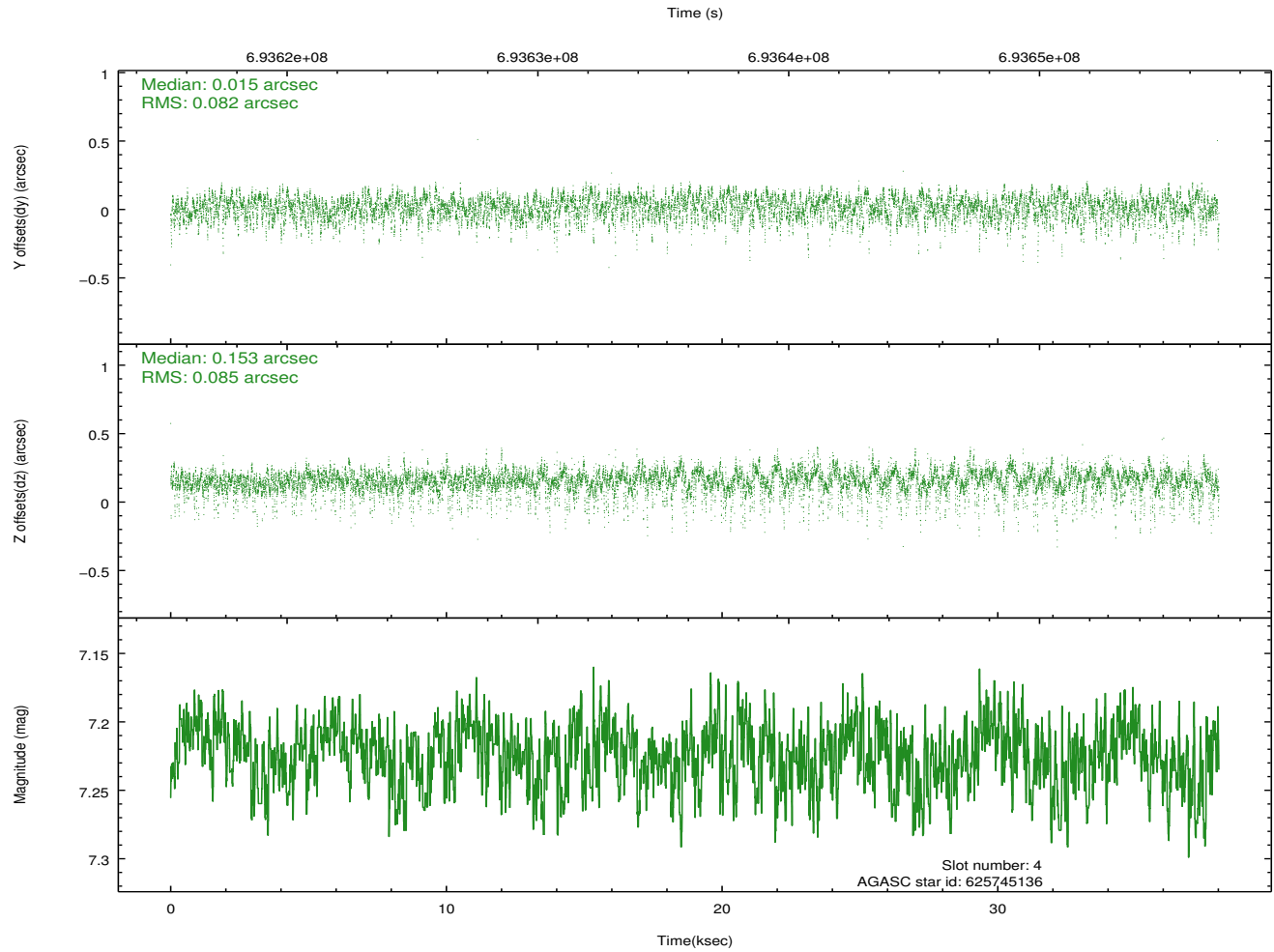
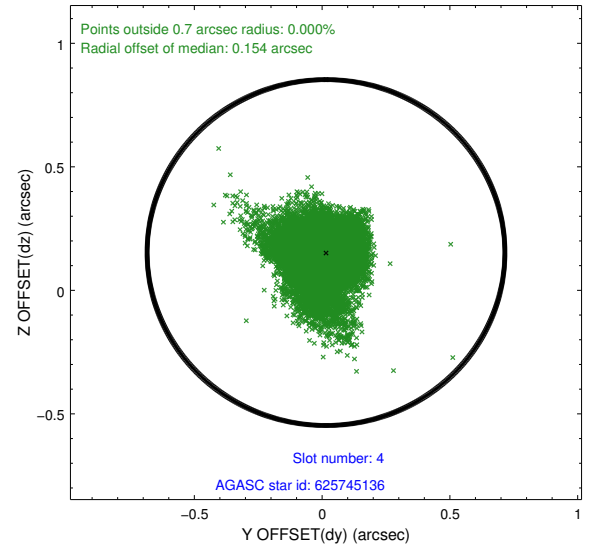
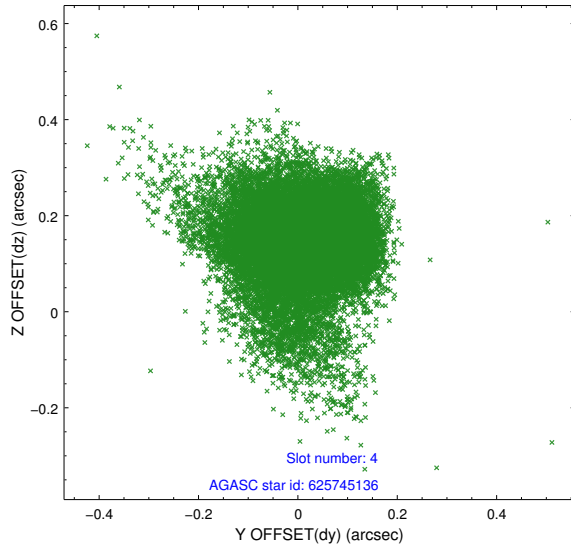
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.07	9273	1.000	-0.479	-0.203	0.029	0.077	0.000000	0.000000	-778.80	-1746
1	FID		ACIS-S-4	7.20	9274	1.000	0.966	0.286	0.018	0.109	0.000000	0.000000	2135.73	162
2	FID		ACIS-S-5	7.21	9271	1.000	-0.518	-0.068	0.017	0.037	0.000000	0.000000	-1831.82	155
3	GUIDE	used	625745128	7.84	18534	1.000	0.048	-0.076	0.182	0.331	83.769930	-4.731835	-775.46	2252
4	GUIDE	used	625745136	7.22	18545	1.000	0.015	0.153	0.118	0.216	83.600341	-4.804339	-1283.79	1829
5	GUIDE	used	625874672	7.68	18540	1.000	-0.289	-0.781	0.130	0.195	84.403143	-4.934124	1609.08	2202
6	GUIDE	used	626272880	7.67	18544	1.000	0.078	0.385	0.131	0.223	83.815609	-6.032748	719.35	-2188
7	GUIDE	used	626272976	7.95	18541	1.000	0.151	0.349	0.181	0.274	83.795875	-5.926912	542.82	-1843

2.4 Star Slots

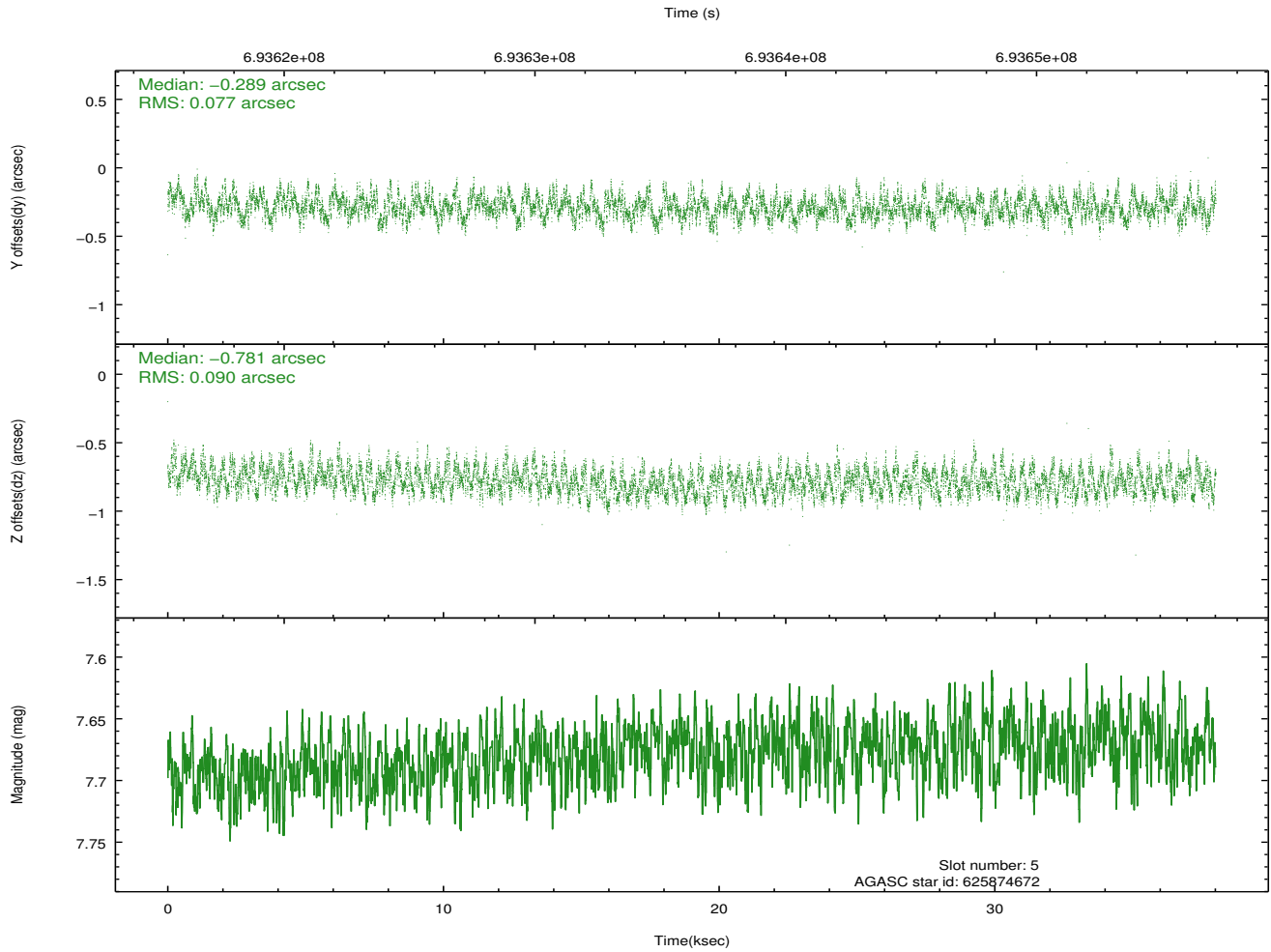
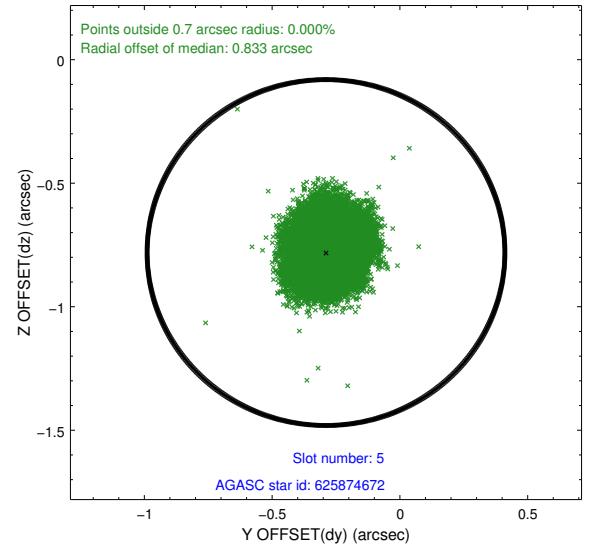
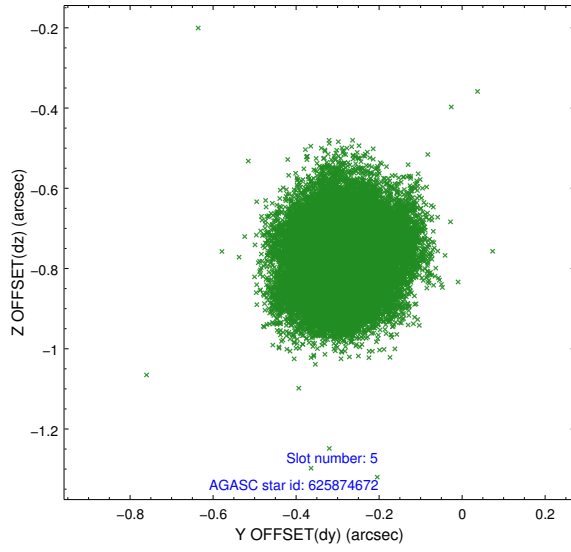
2.4.1 Slot 3



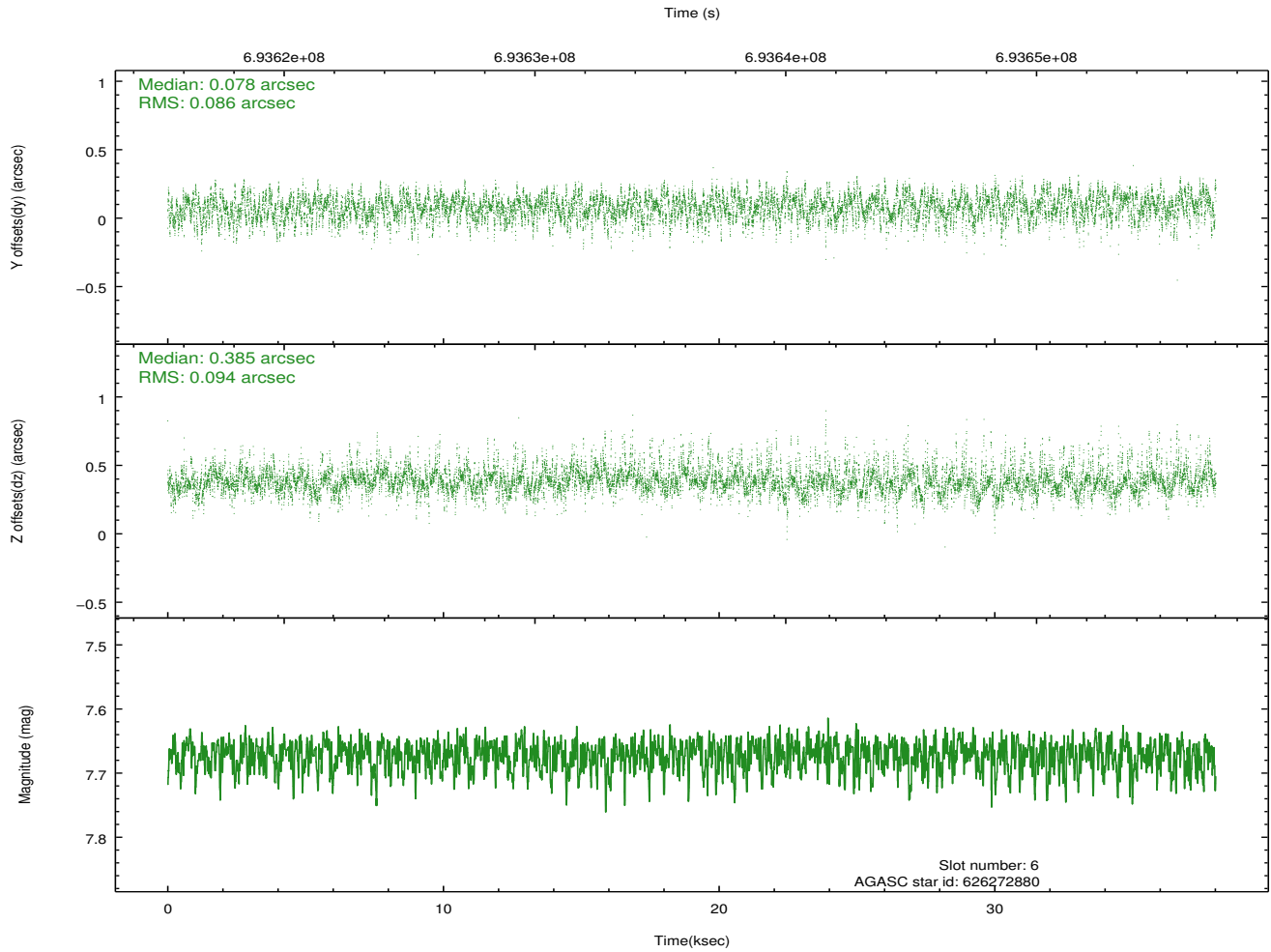
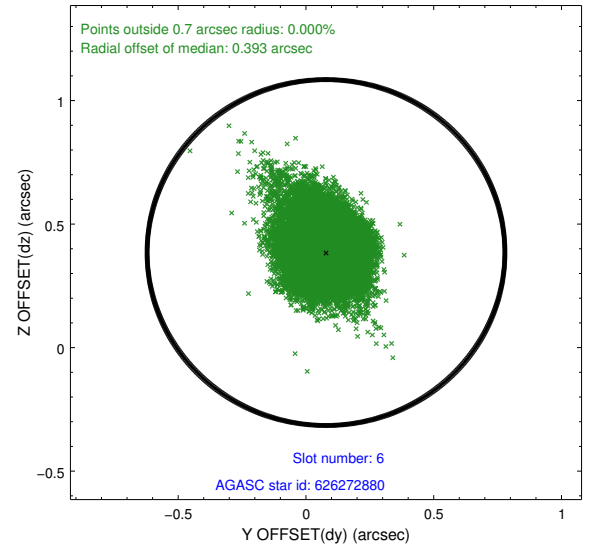
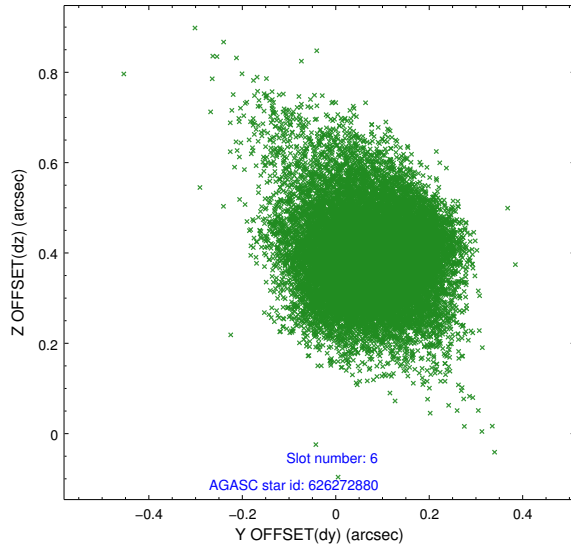
2.4.2 Slot 4



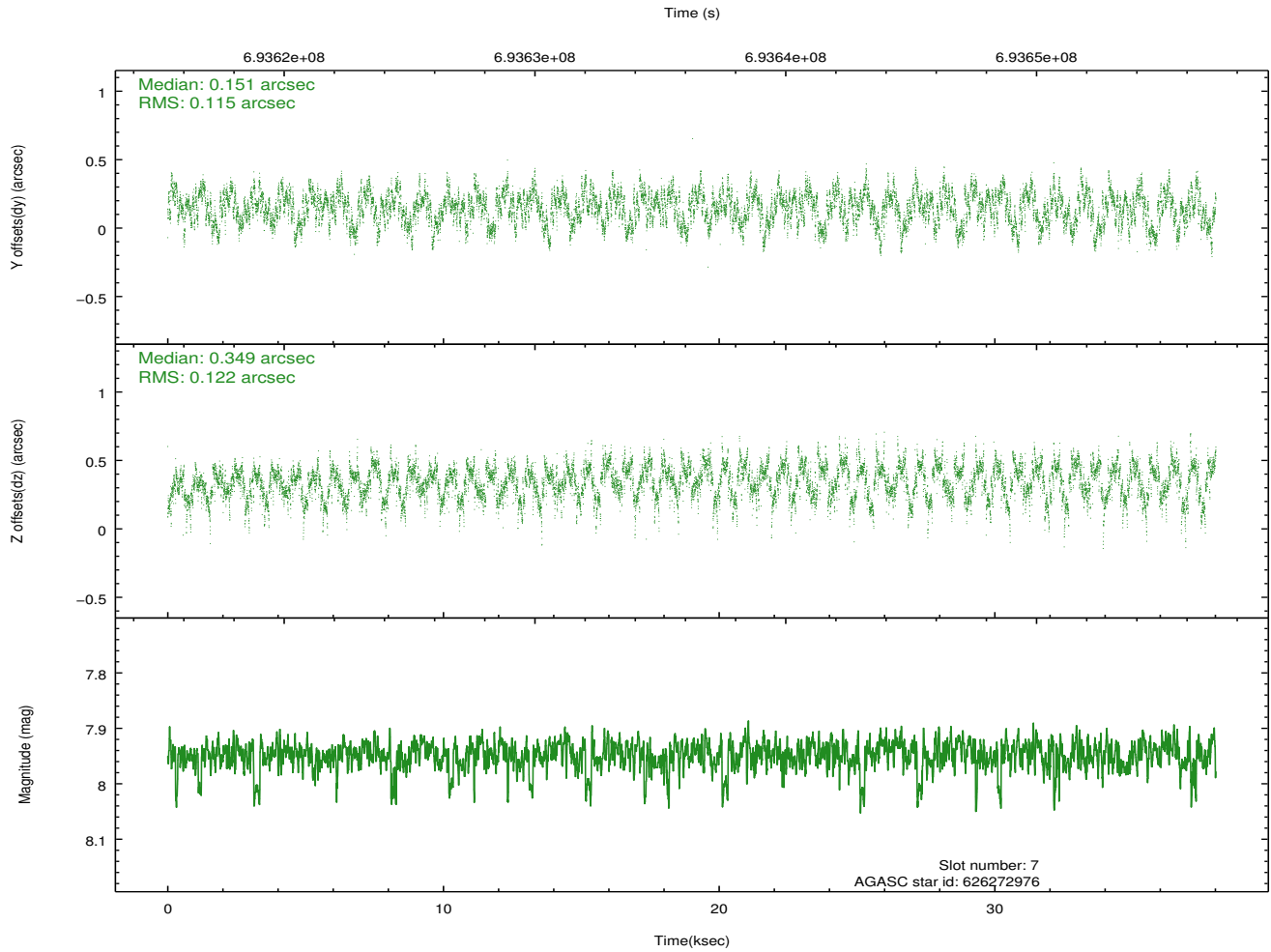
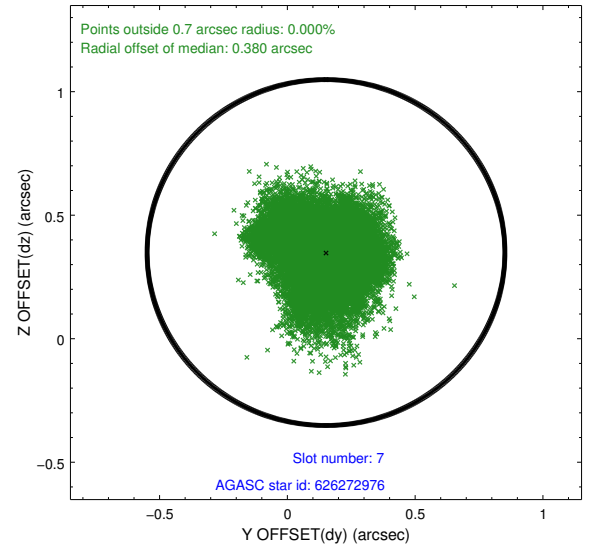
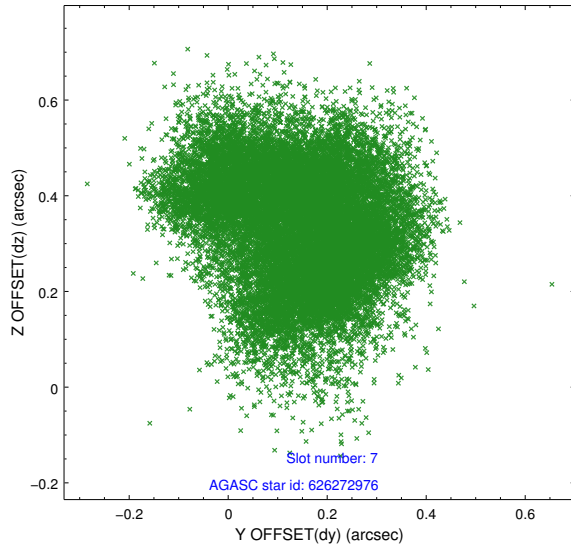
2.4.3 Slot 5



2.4.4 Slot 6

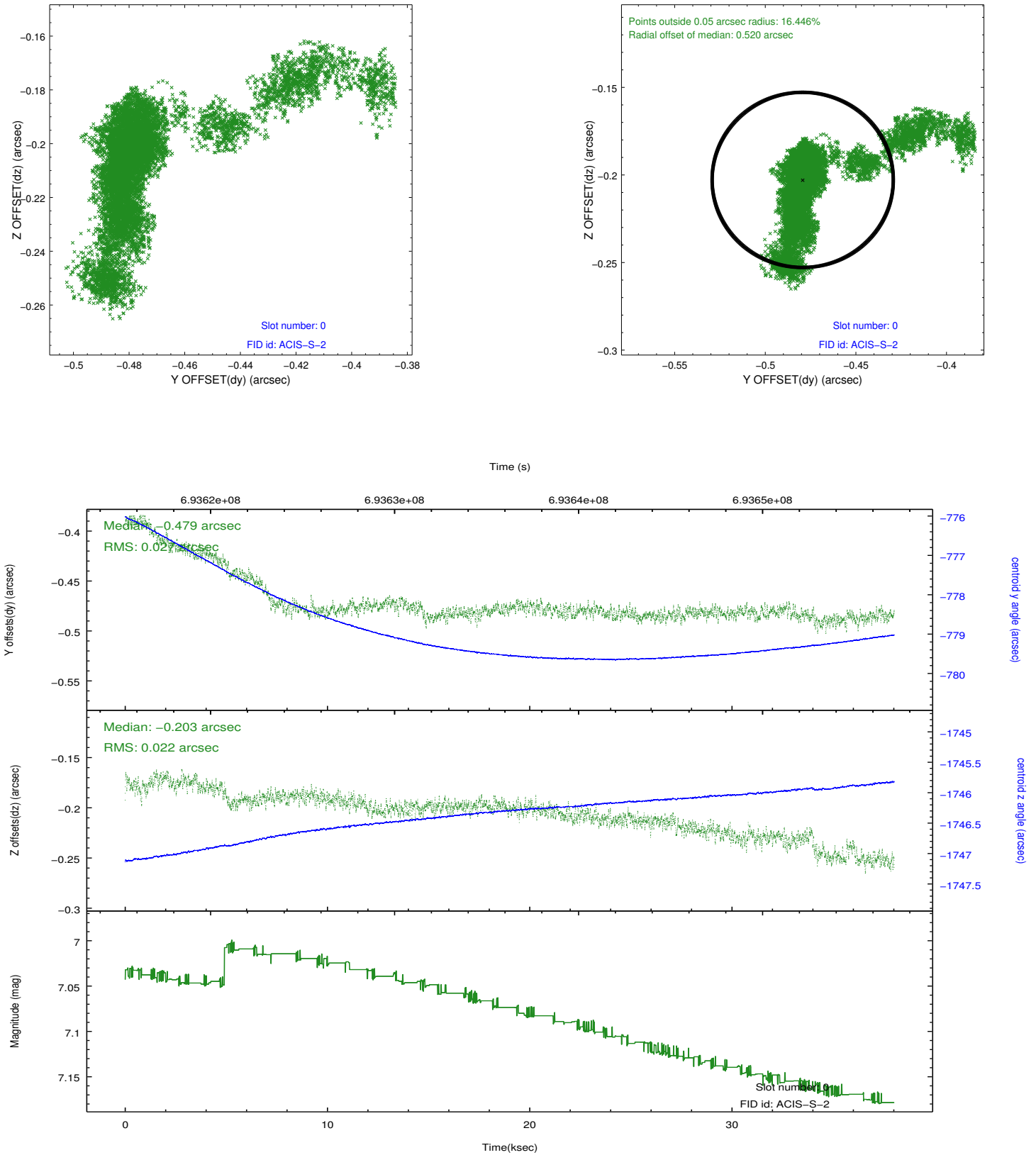


2.4.5 Slot 7

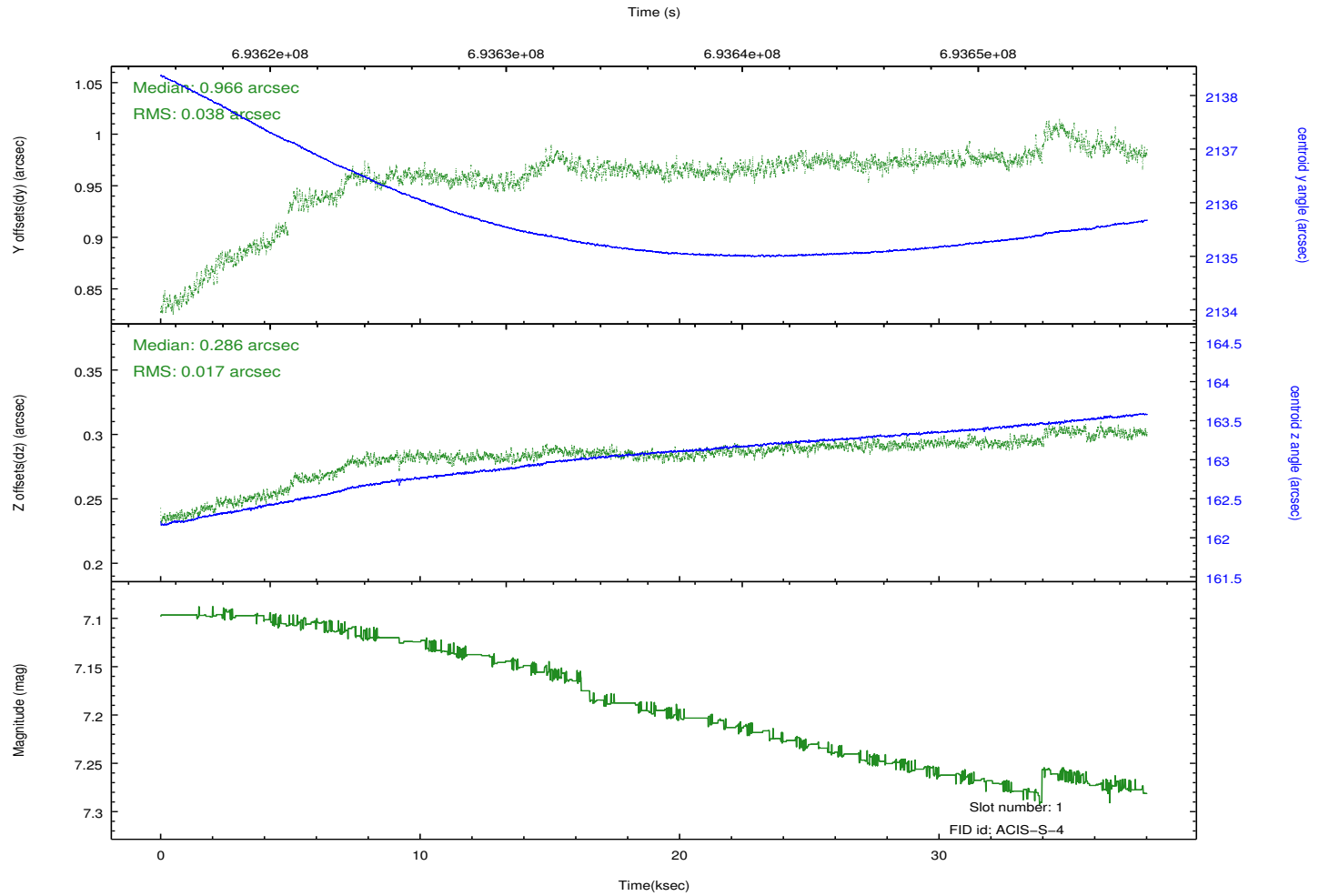
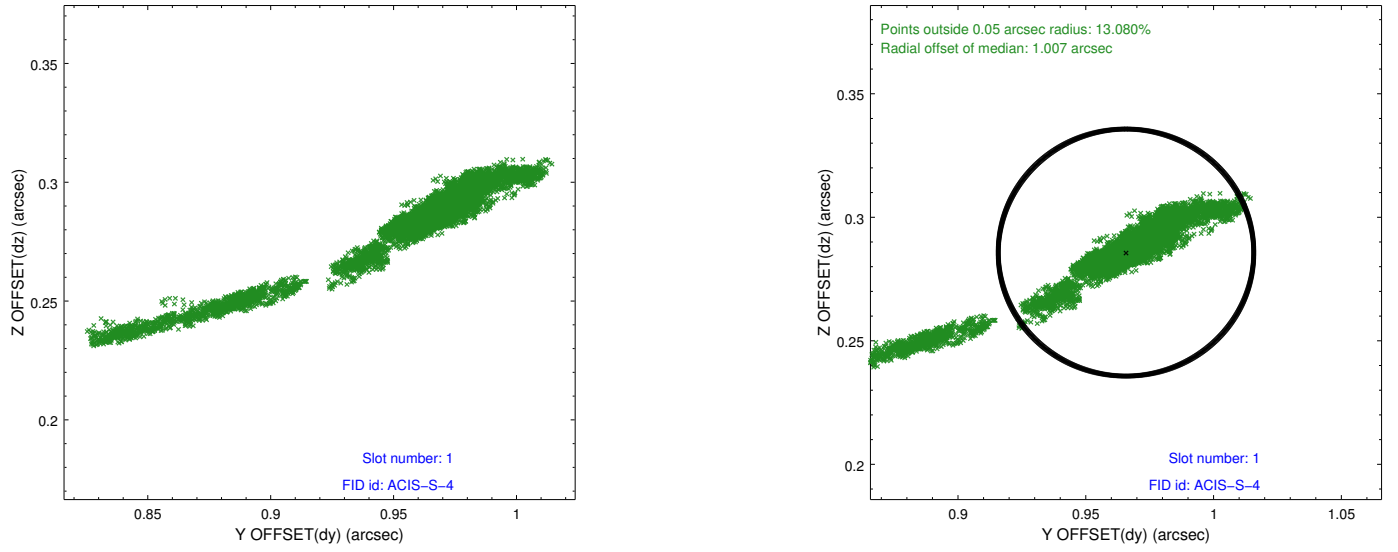


2.5 FID Slots

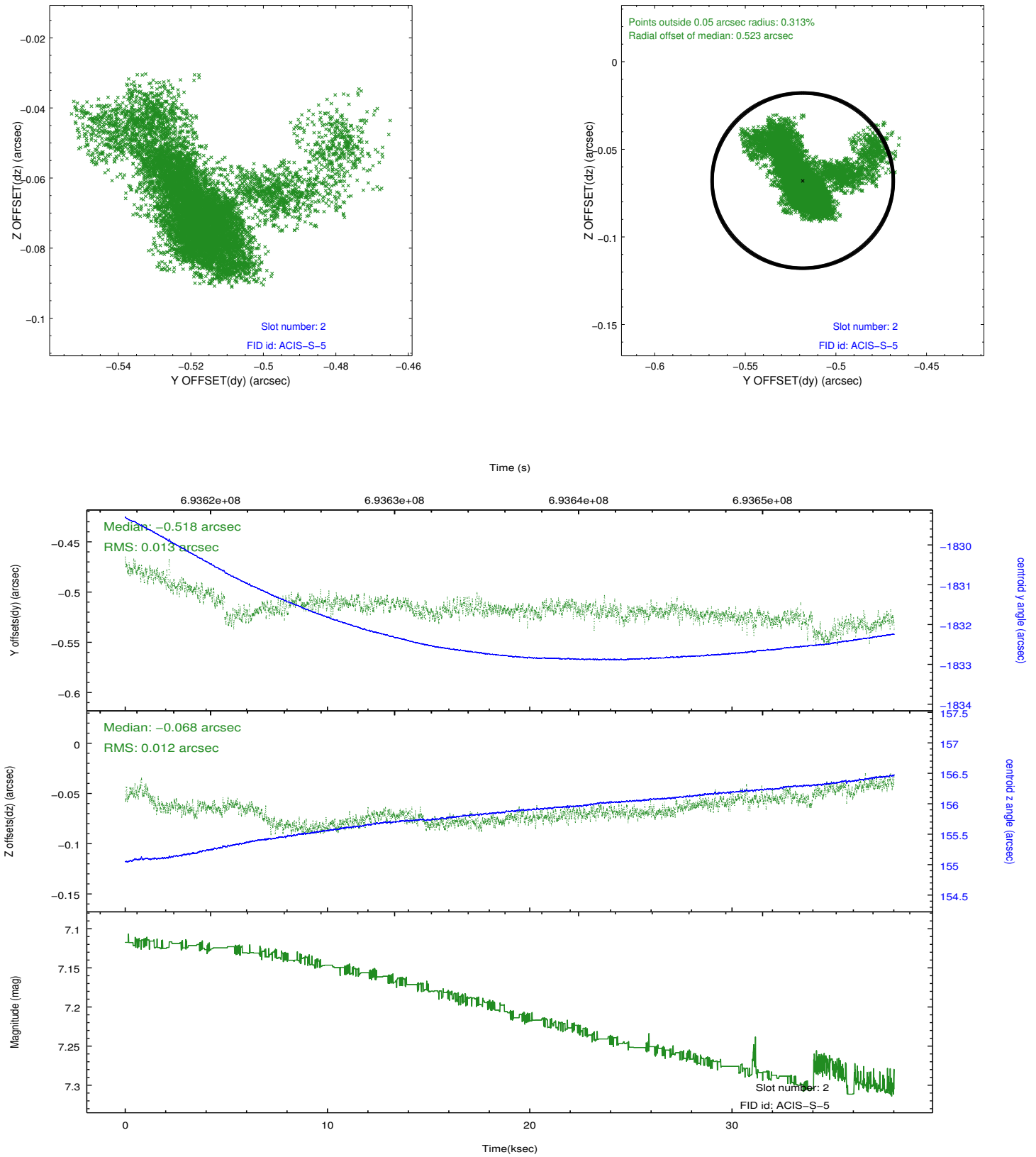
2.5.1 Slot 0



2.5.2 Slot 1

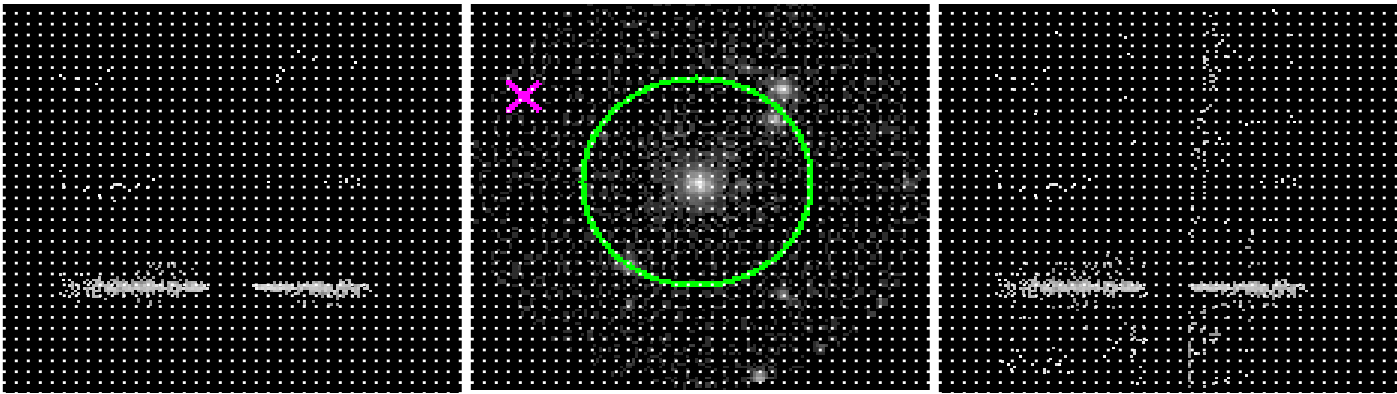


2.5.3 Slot 2



3 Gratings

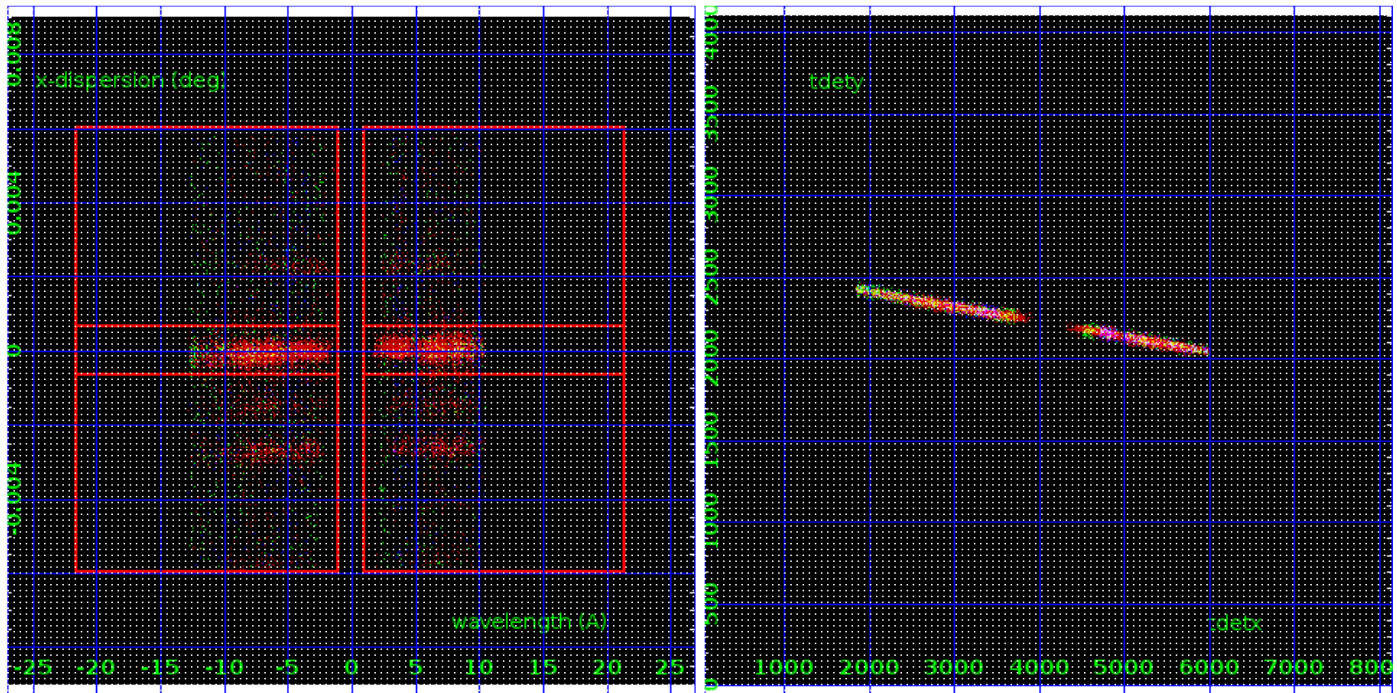
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

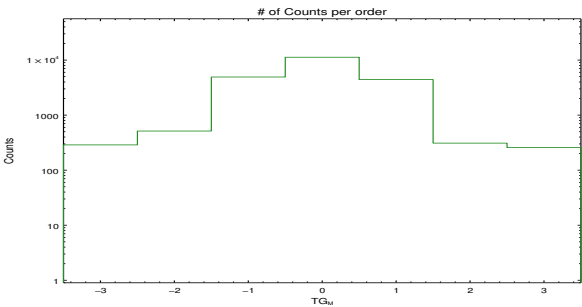
HEG Order Sort ALL

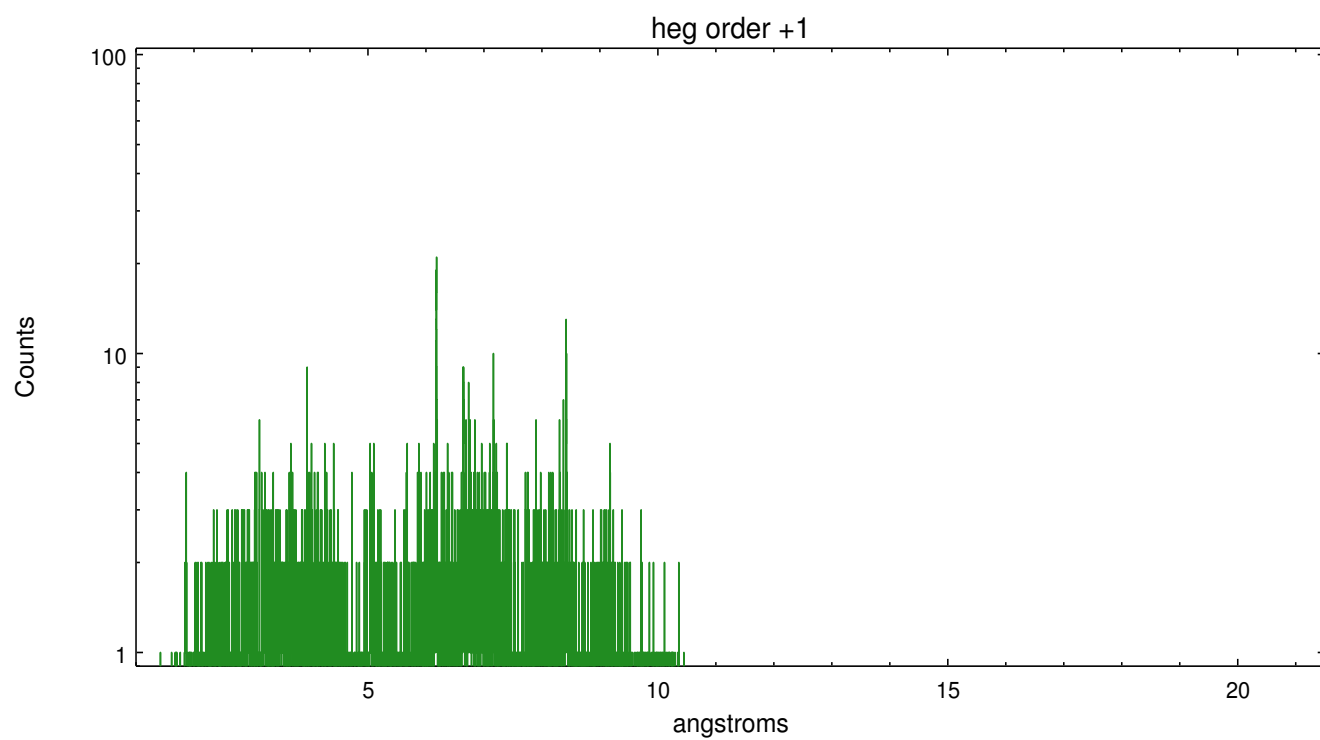
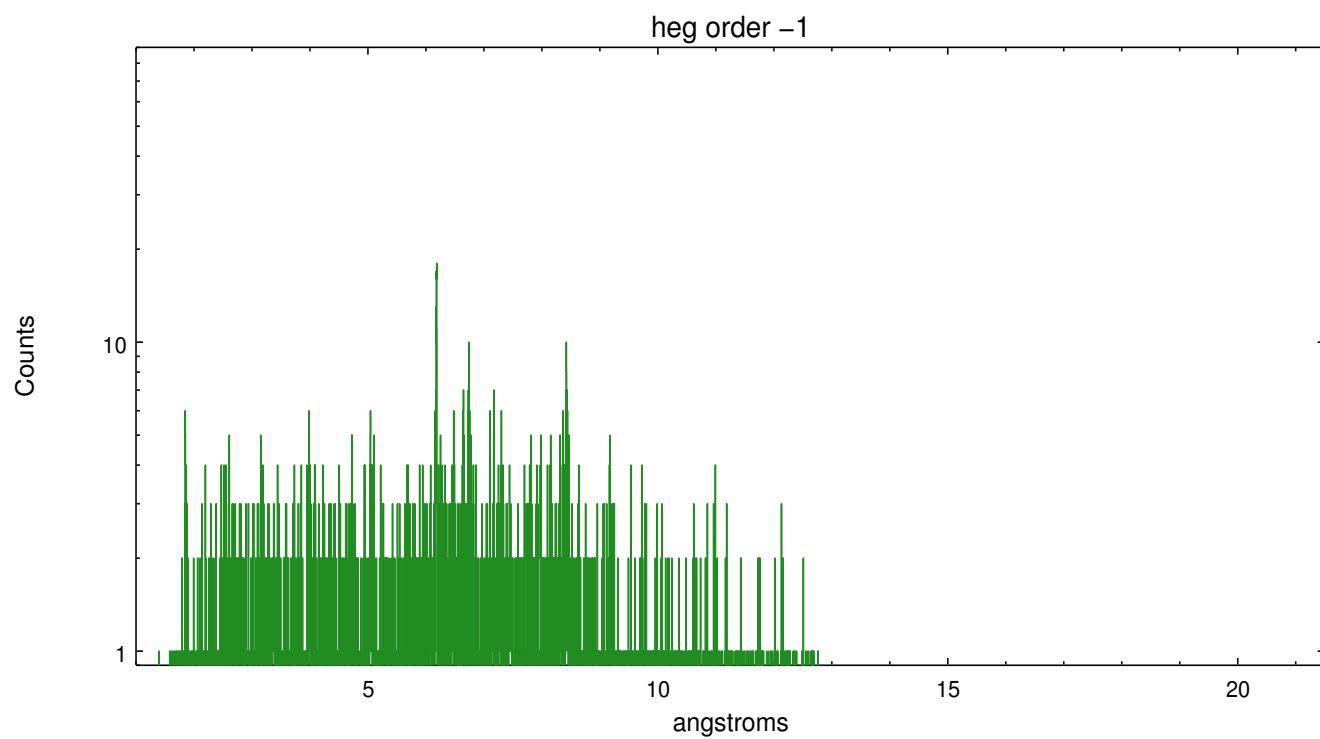


Spot Image HEG

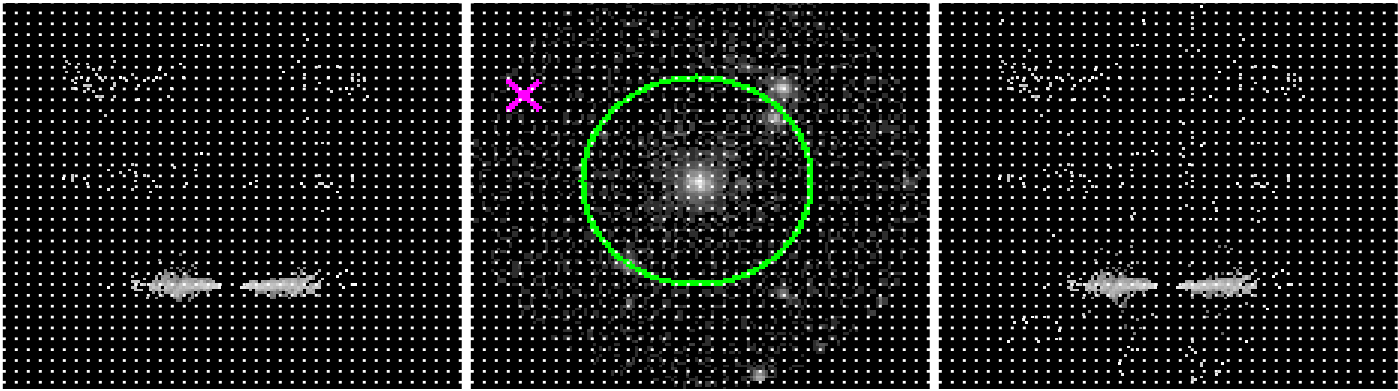
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	288	514	4928	11255	4424	310	258





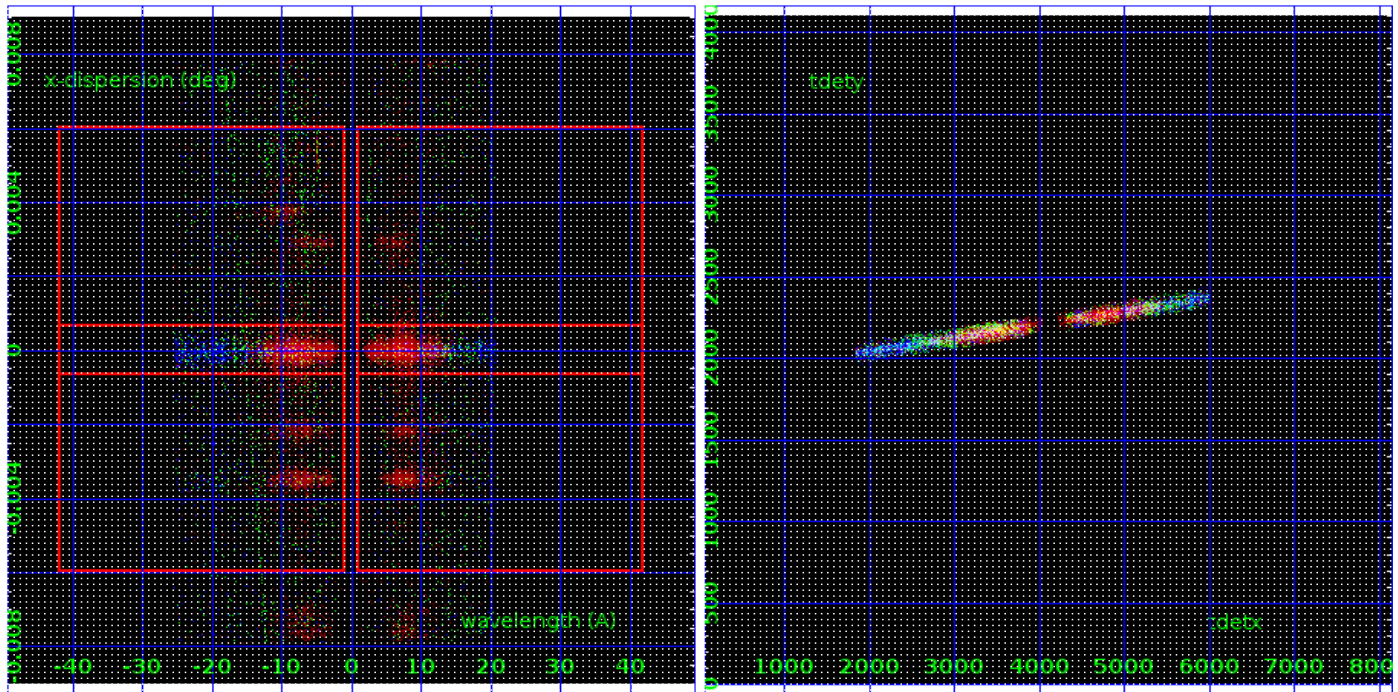
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

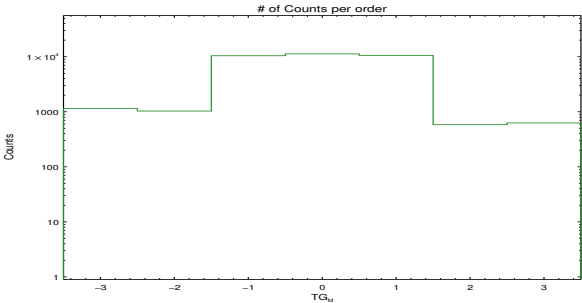
MEG Order Sort ALL

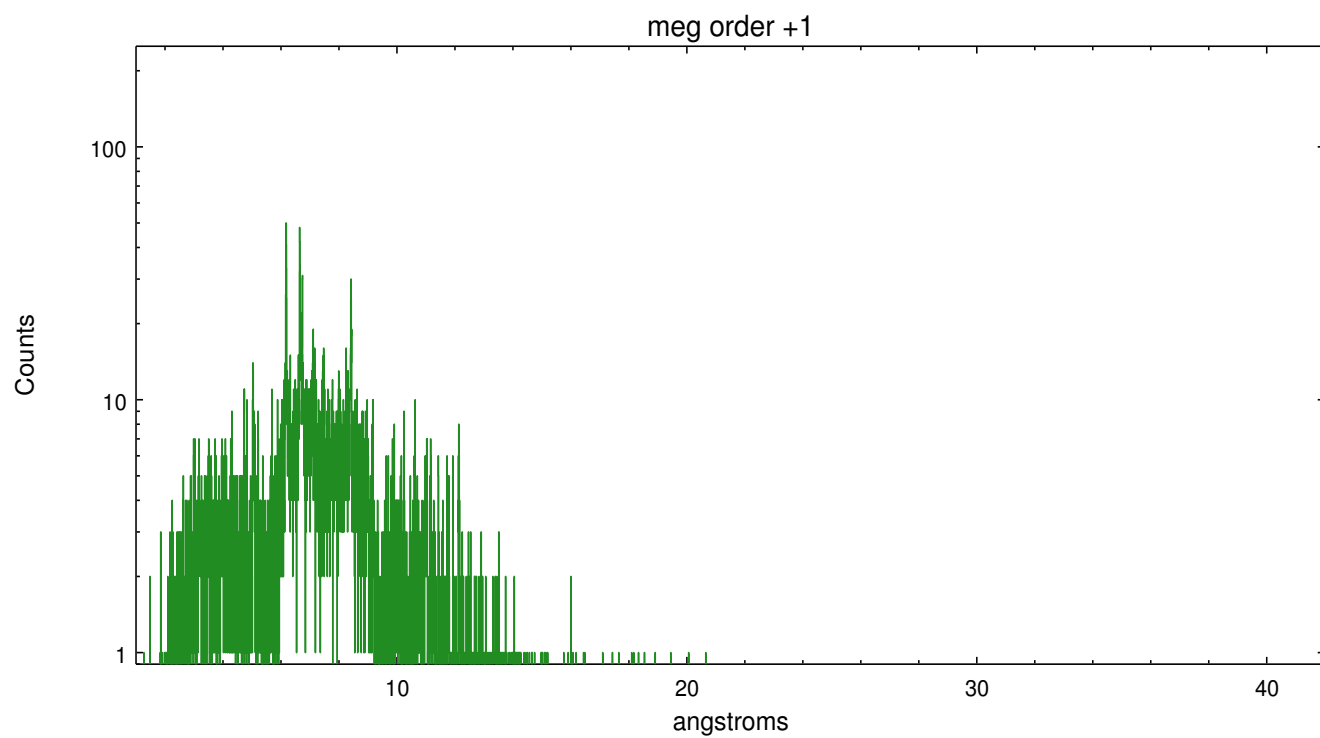
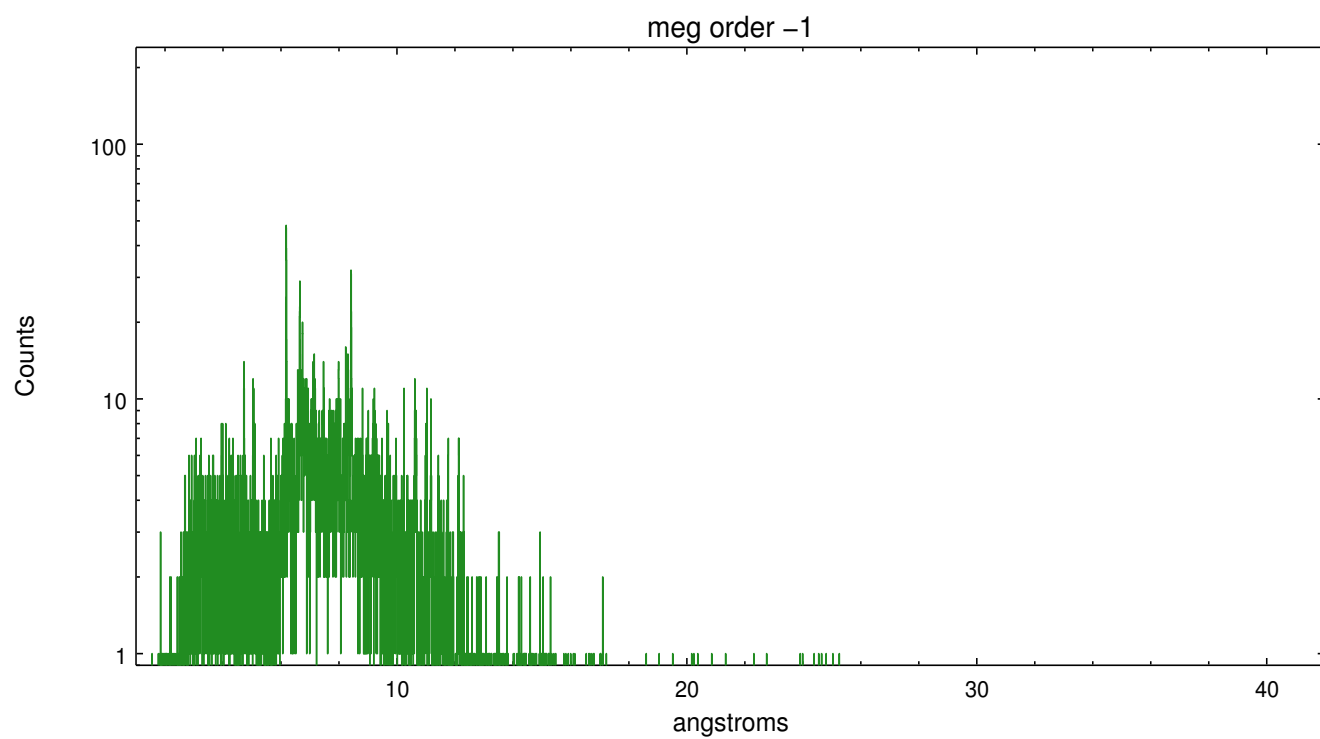


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1144	1030	10428	11255	10572	582	627





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	37.906800291657

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).