

V&V Reference Report

L2 ASCDS Version : 10.5.1.1

Observation 18084 - L2 Version 2
Chandra X-Ray Center

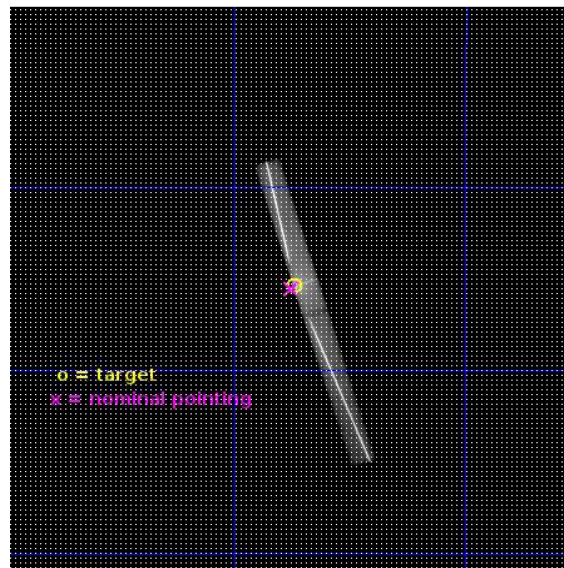
L2 Processing Date : Oct 26 2016

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1 Front

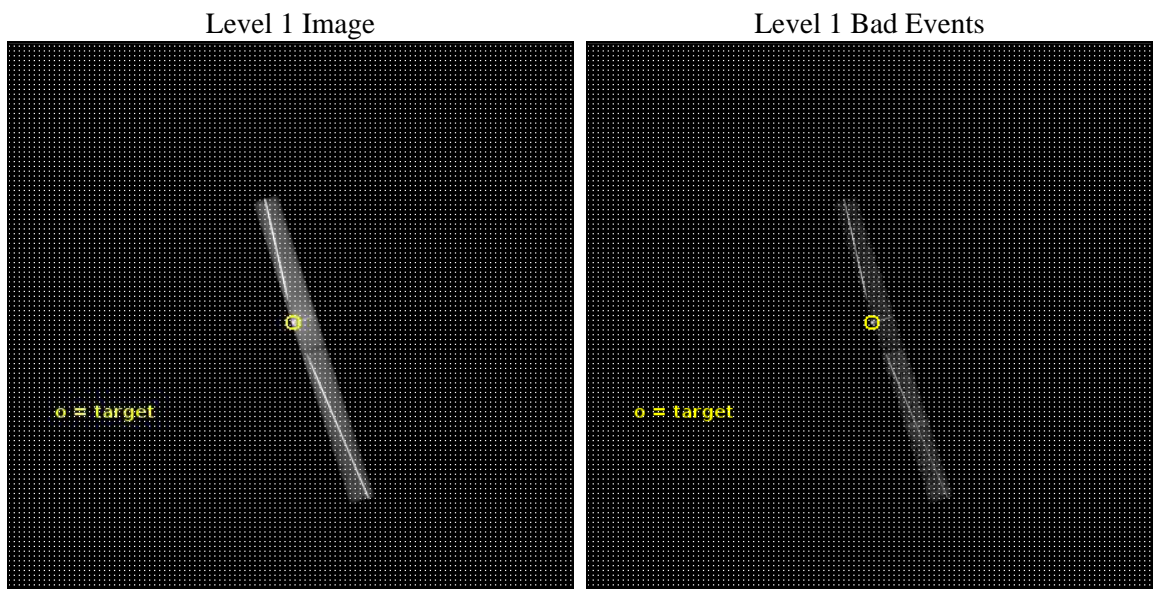
seq_num	901198	Sequence number
obs_id	18084	Observation id
title	Optical Depth of Si K in Bright Low-Mass X-Ray Binaries	Proposal t
observer	Norbert Schulz	Principal investigator
object	GX349+2	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	256.435417	Observer's specified target RA [deg]
dec_targ	-36.423083	Observer's specified target Dec [deg]
ra_nom	256.43844196267	Nominal RA [deg]
dec_nom	-36.426241605139	Nominal Dec [deg]
roll_nom	252.81820171995	Nominal Roll [deg]
revision	2	Processing version of data
ontime	22092.484503746	Sum of GTIs [s]
livetime	20416.683150734	Livetime [s]
ontime6	22092.443463802	Sum of GTIs [s]
ontime7	22092.484503746	Sum of GTIs [s]
l2events	1935081	Number of level 2 events



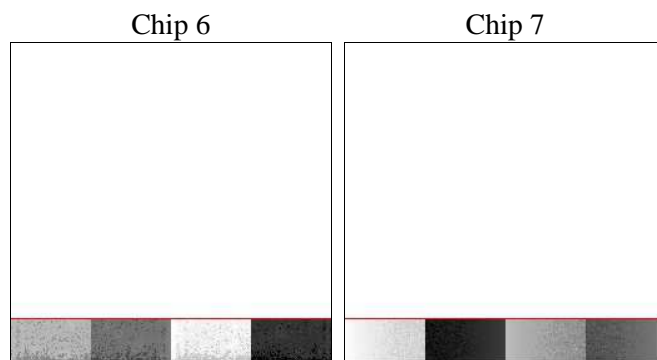
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	22092.484503746	Sum of GTIs [s]
caldsver	4.7.2	 	ontime6	22092.443463802	Sum of GTIs [s]
date	2016-10-24T15:19:15	Date and time of file creation	ontime7	22092.484503746	Sum of GTIs [s]
revision	1	Processing version of data	l1events	2113775	Number of level 1 events
			tgmetho	MANUAL	Method used to create src1a file
			zo_pos	(4114.70, 4119.20)	src1a sky pixel position
			zo_pos_tgd	(4117.17, 4118.51)	src1a sky pixel position via tgdetect

2.1.4 Events

	ccd 6	ccd 7
level 1 events	756750	1357025
rejected events	42279	84056
rejected %	5%	6%

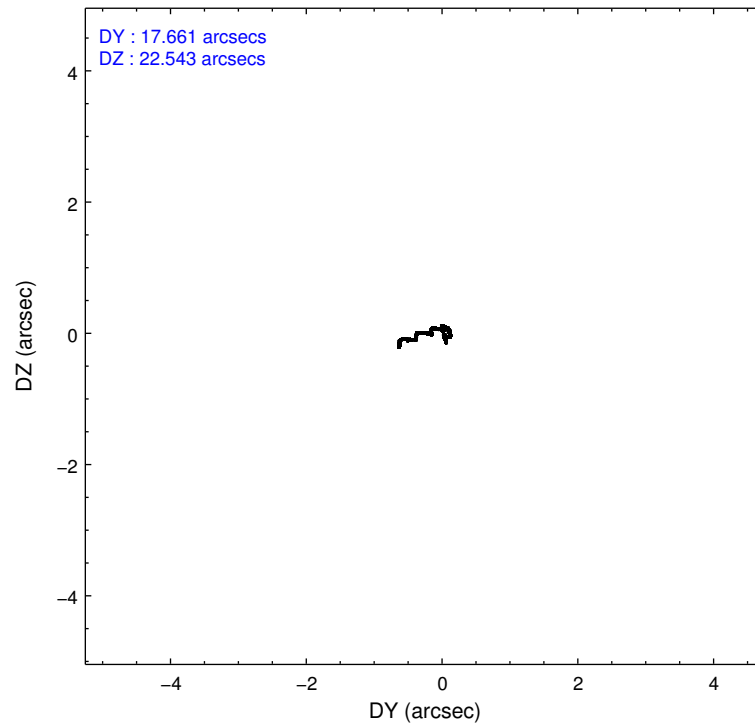
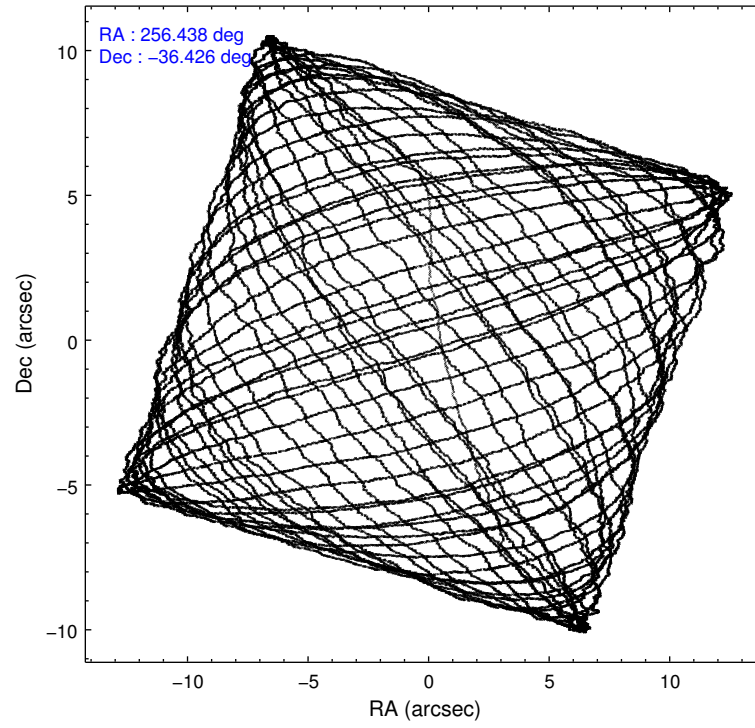
	ccd 6	ccd 7
grade 0 events	482885	235229
	63%	17%
grade 1 events	5391	5887
	0%	0%
grade 2 events	100019	309971
	13%	22%
grade 3 events	35878	142296
	4%	10%
grade 4 events	35543	140711
	4%	10%
grade 5 events	6308	30487
	0%	2%
grade 6 events	60186	444868
	7%	32%
grade 7 events	30540	47576
	4%	3%

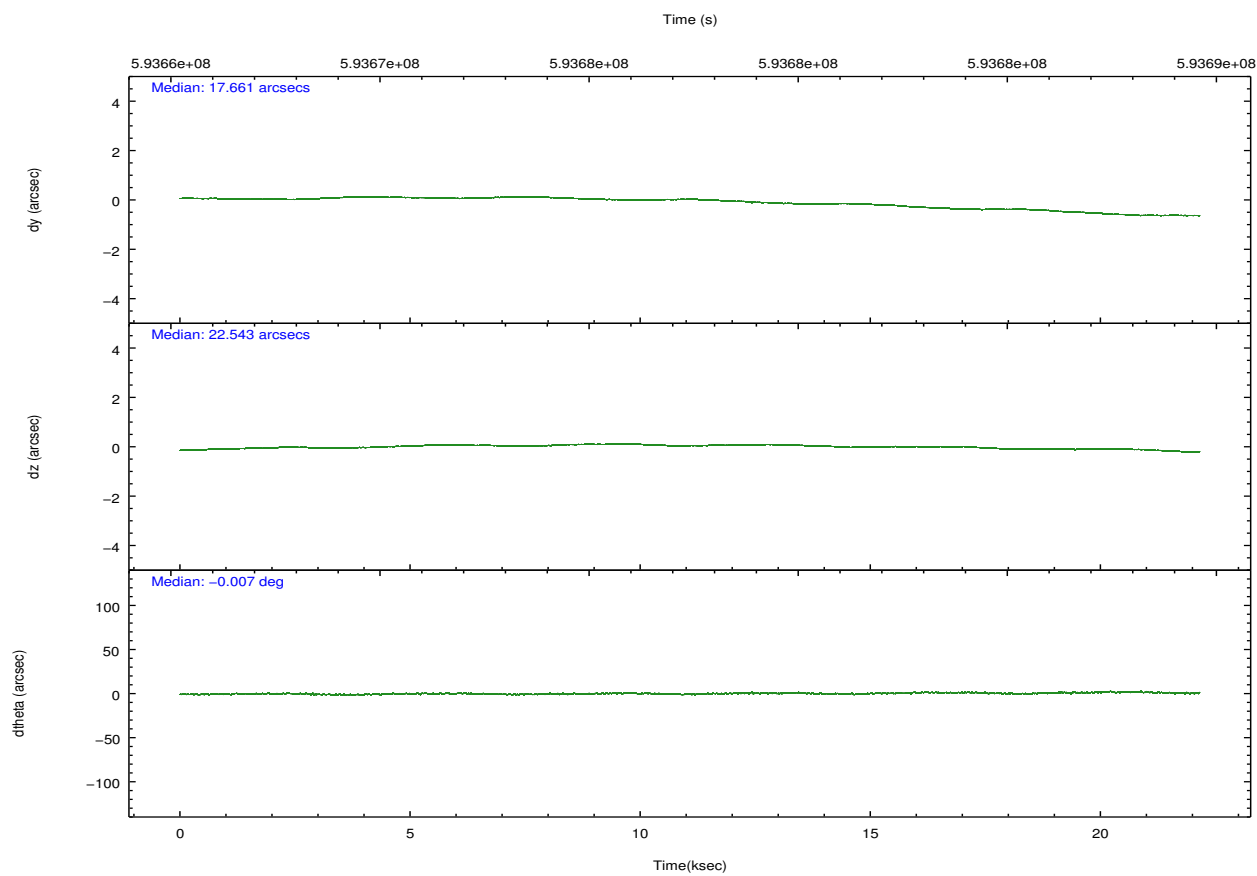
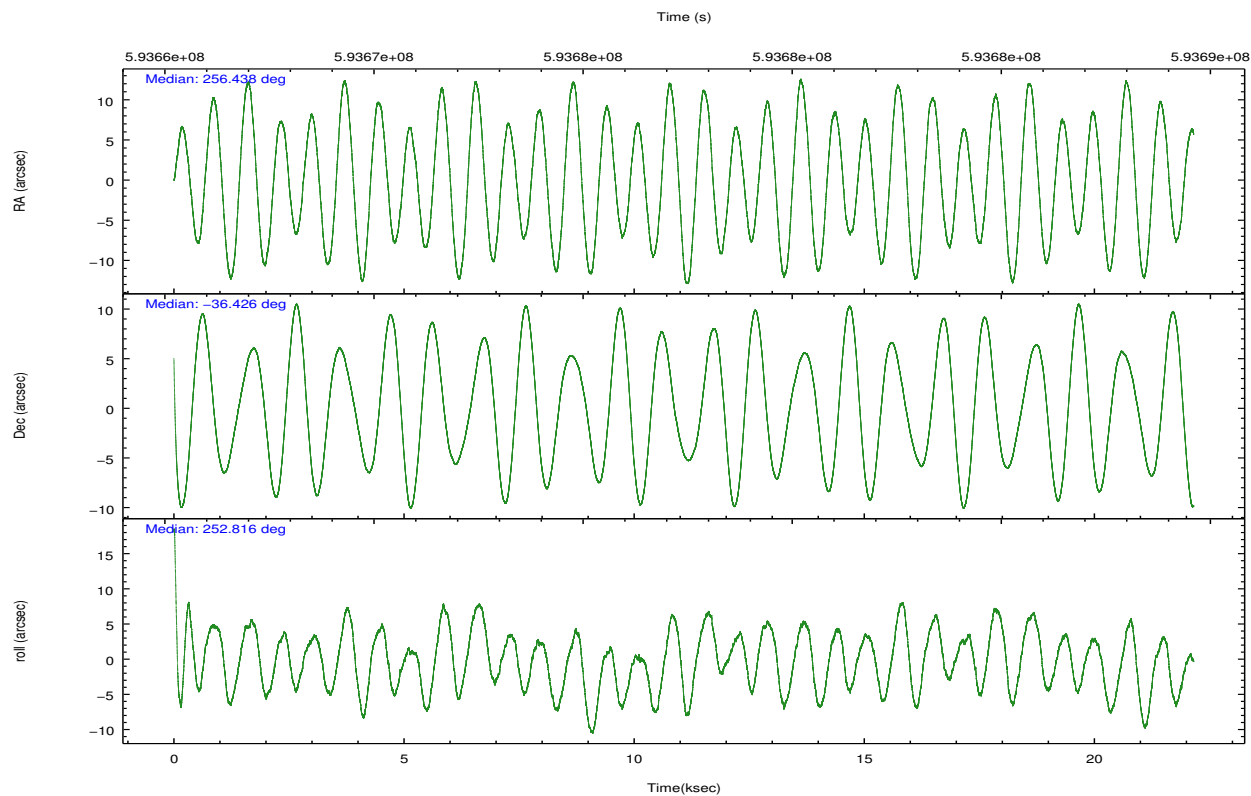
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-67	ACIS-67
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	256.430422	256.4384419626696
[deg] Pointing Dec	-36.399551	-36.42624160513906
[deg] Pointing Roll	252.656801	252.8182017199524
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-178.032523	-178.0336378728605
[mm] SIM translation stage offset	-12.1	-12.09888471014733
[s] Observation start time (MET)	593666488.184000	593664897.11967
Observation start date	2016-10-24T03:20:20	2016-10-24T02:54:57
[s] Observation end time (MET)	593688488.184000	593689530.4335901
Observation end date	2016-10-24T09:27:00	2016-10-24T09:45:30
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	10	10
Subarray row count	134	134
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0.5

2.3 Aspect



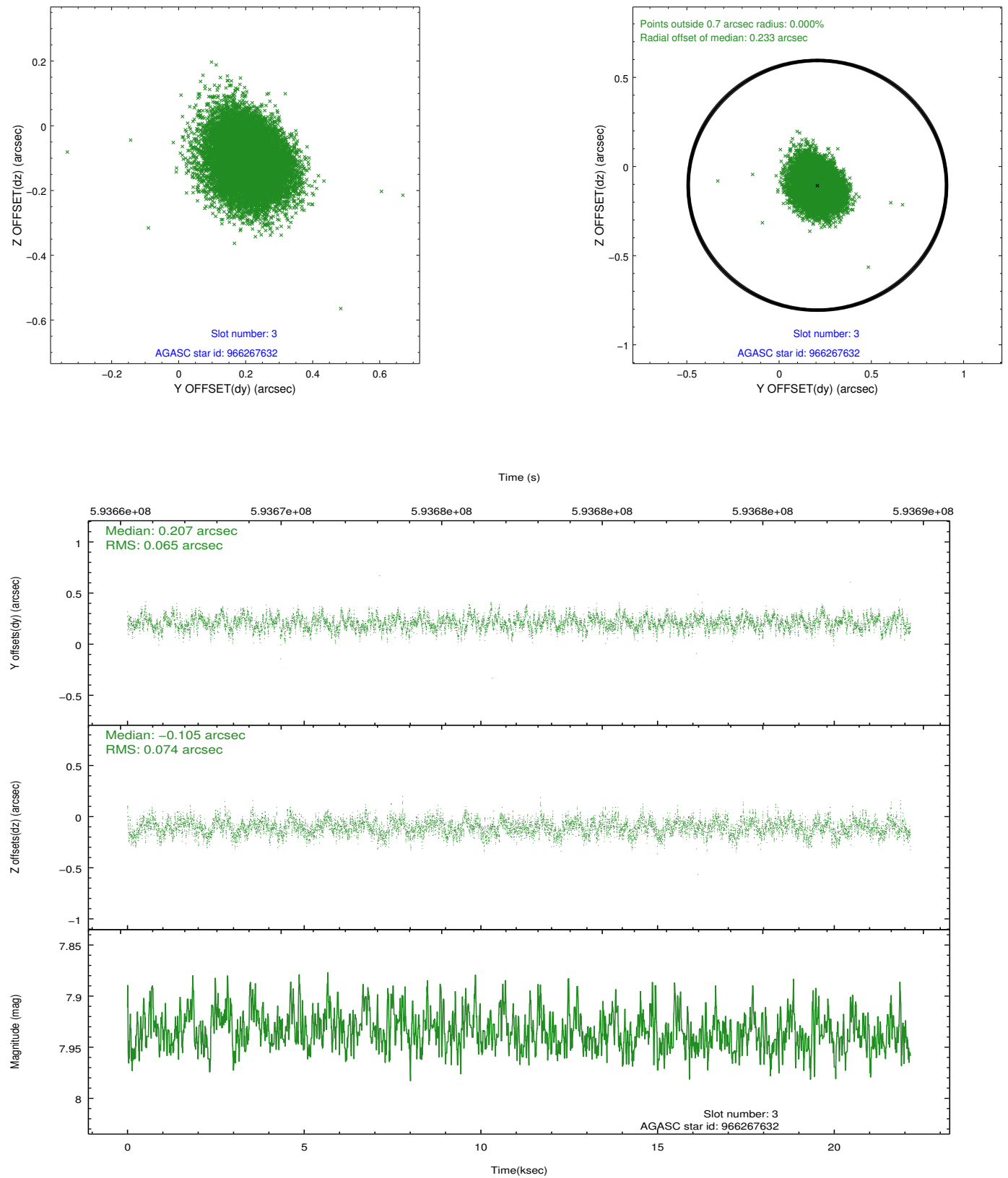


Slot Statistics

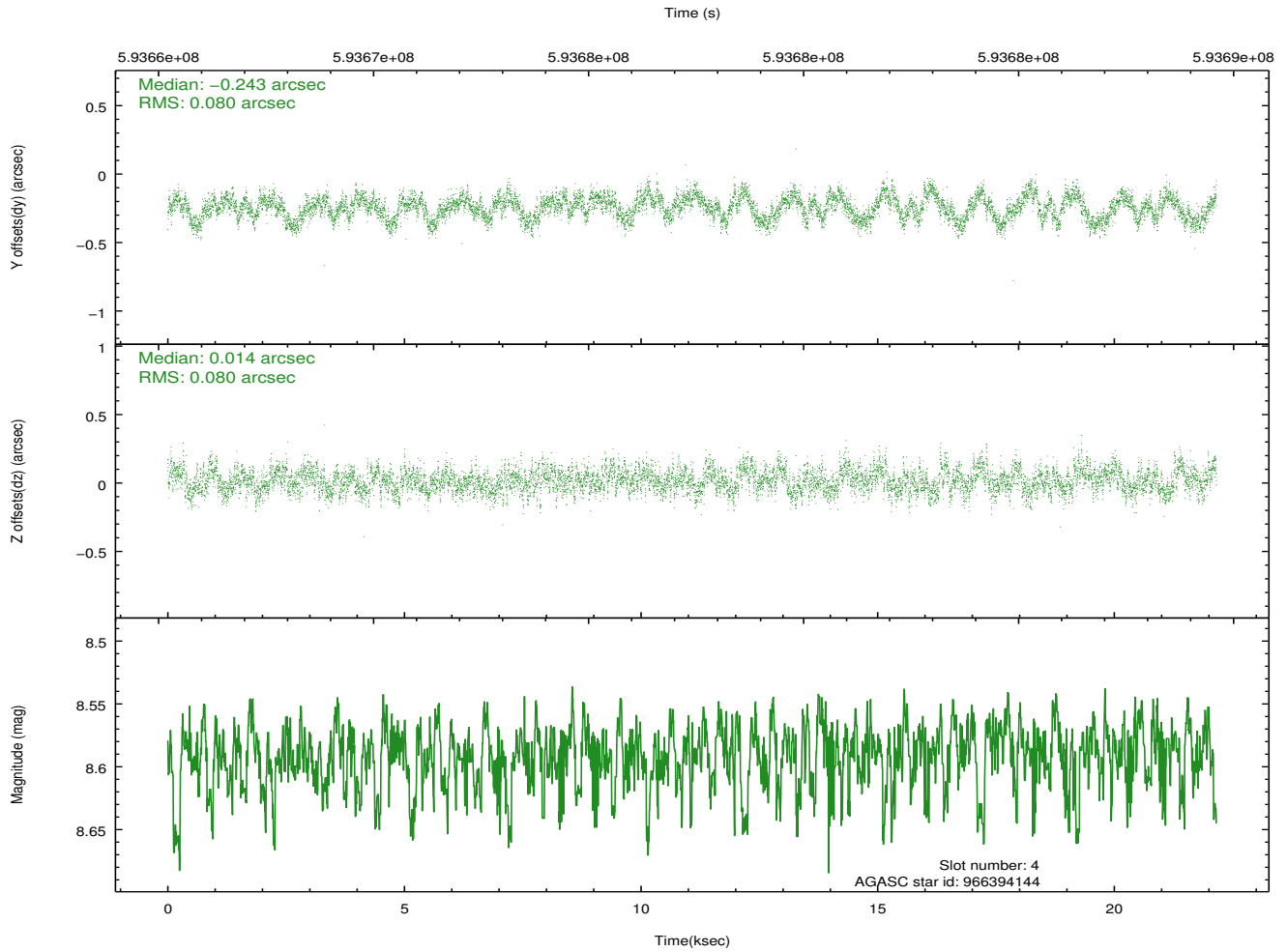
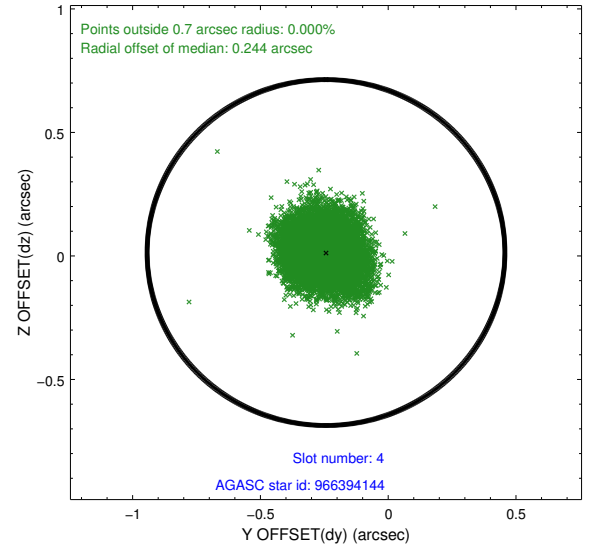
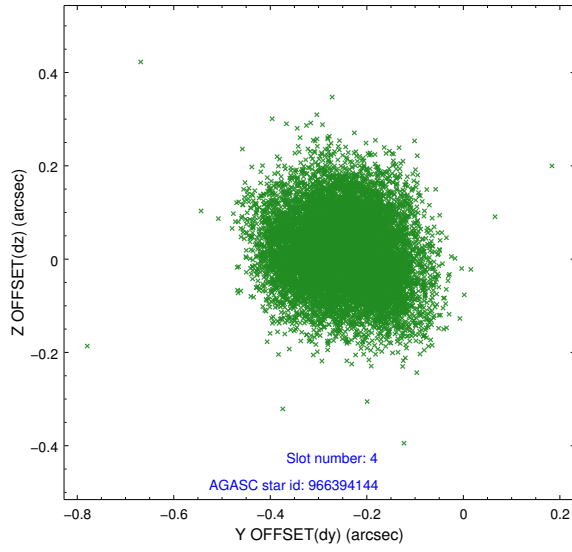
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.94	5404	-0.413	-0.275	0.008	0.014	0.000000	0.000000	-769.99	-1993.46
1	FID		ACIS-S-4	7.01	5405	0.346	0.283	0.008	0.013	0.000000	0.000000	2143.89	-84.52
2	FID		ACIS-S-6	7.26	5405	0.040	-0.001	0.009	0.014	0.000000	0.000000	392.53	552.69
3	GUIDE	used	966267632	7.93	10806	0.207	-0.105	0.105	0.166	256.428991	-36.740525	1173.32	361.86
4	GUIDE	used	966394144	8.59	10803	-0.243	0.014	0.123	0.191	256.902901	-37.062041	1875.78	2007.22
5	GUIDE	used	966395984	9.18	10801	0.236	0.314	0.139	0.226	256.535204	-35.907673	-1780.56	-235.79
6	GUIDE	used	966396120	7.82	10807	-0.168	-0.176	0.103	0.174	256.737004	-36.720258	839.67	1189.07
7	GUIDE	used	966398520	8.28	10803	-0.029	-0.056	0.106	0.171	256.842646	-35.892866	-2096.26	605.05

2.4 Star Slots

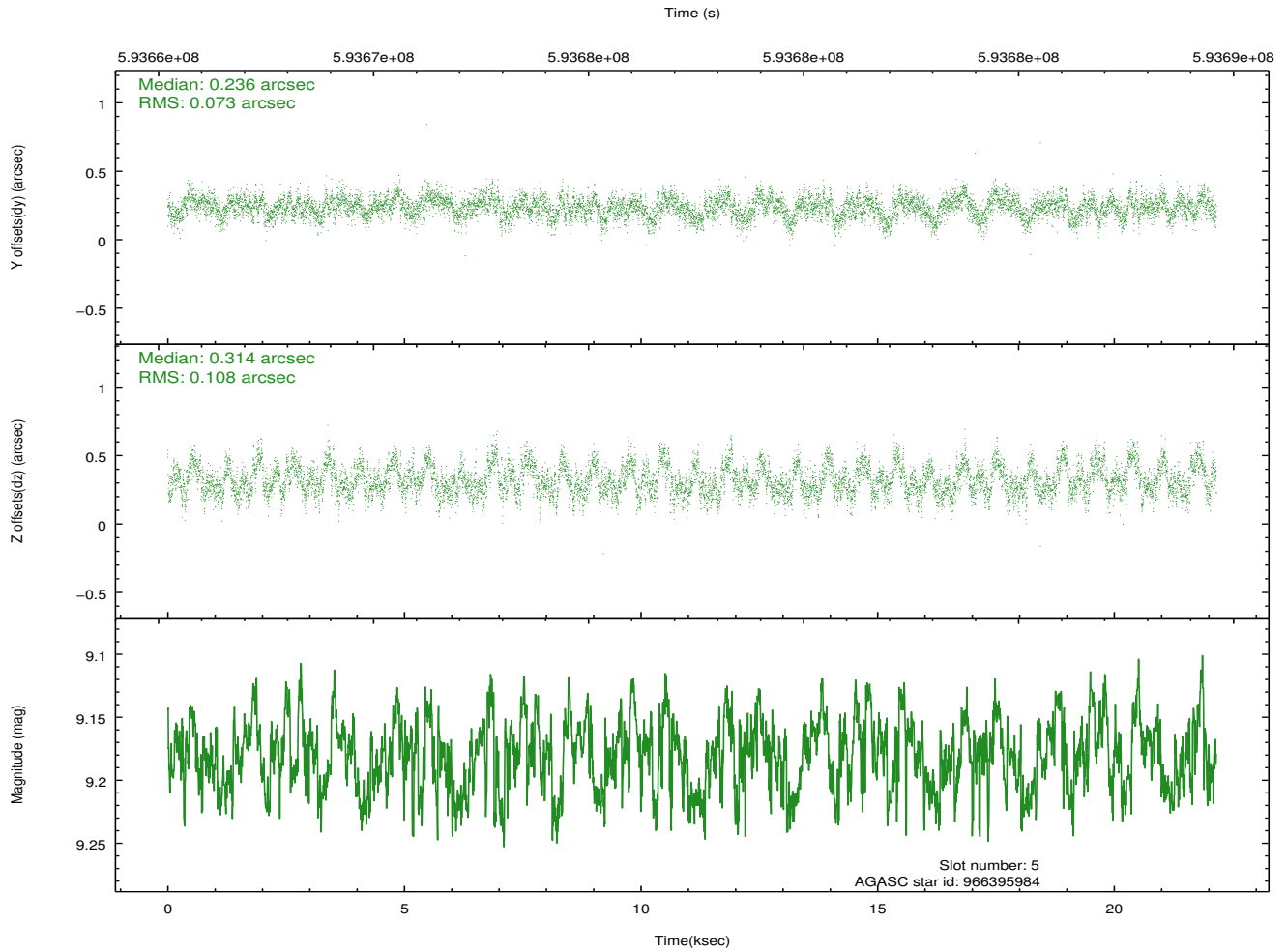
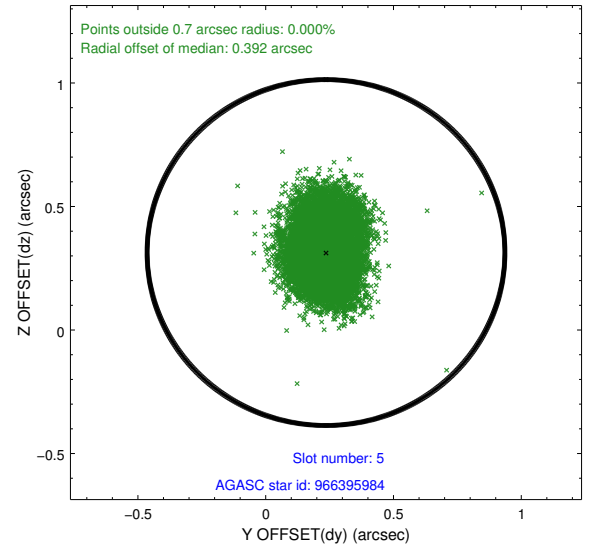
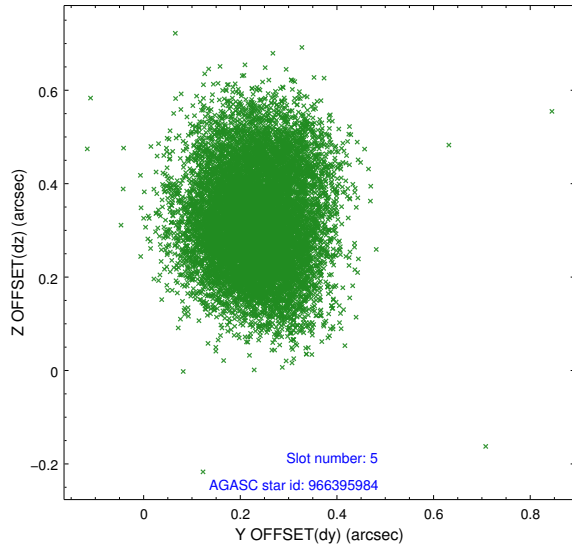
2.4.1 Slot 3



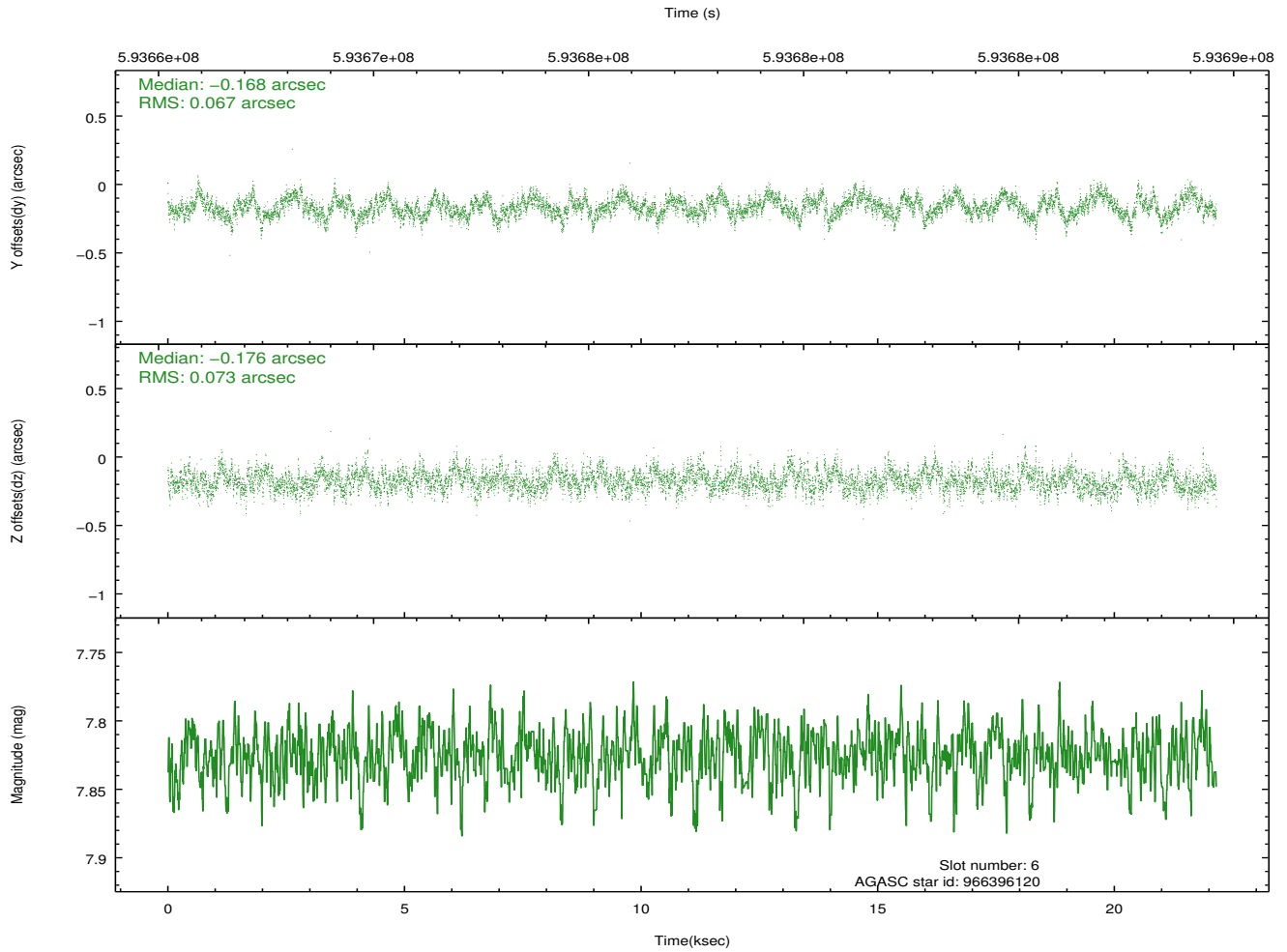
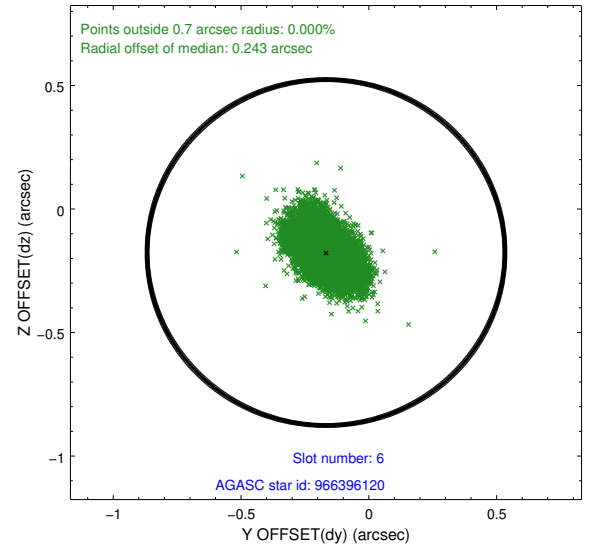
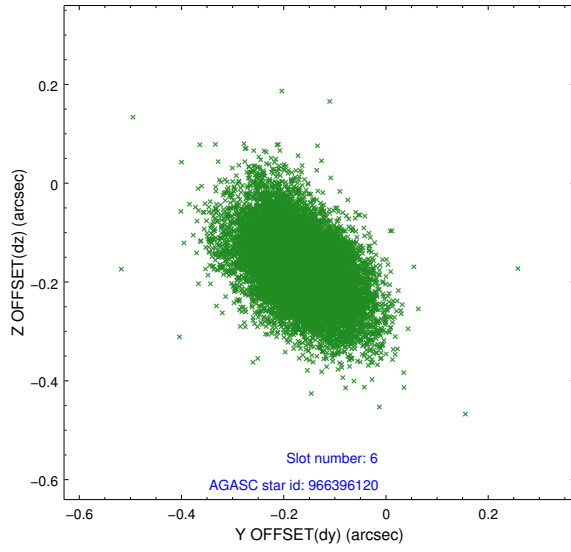
2.4.2 Slot 4



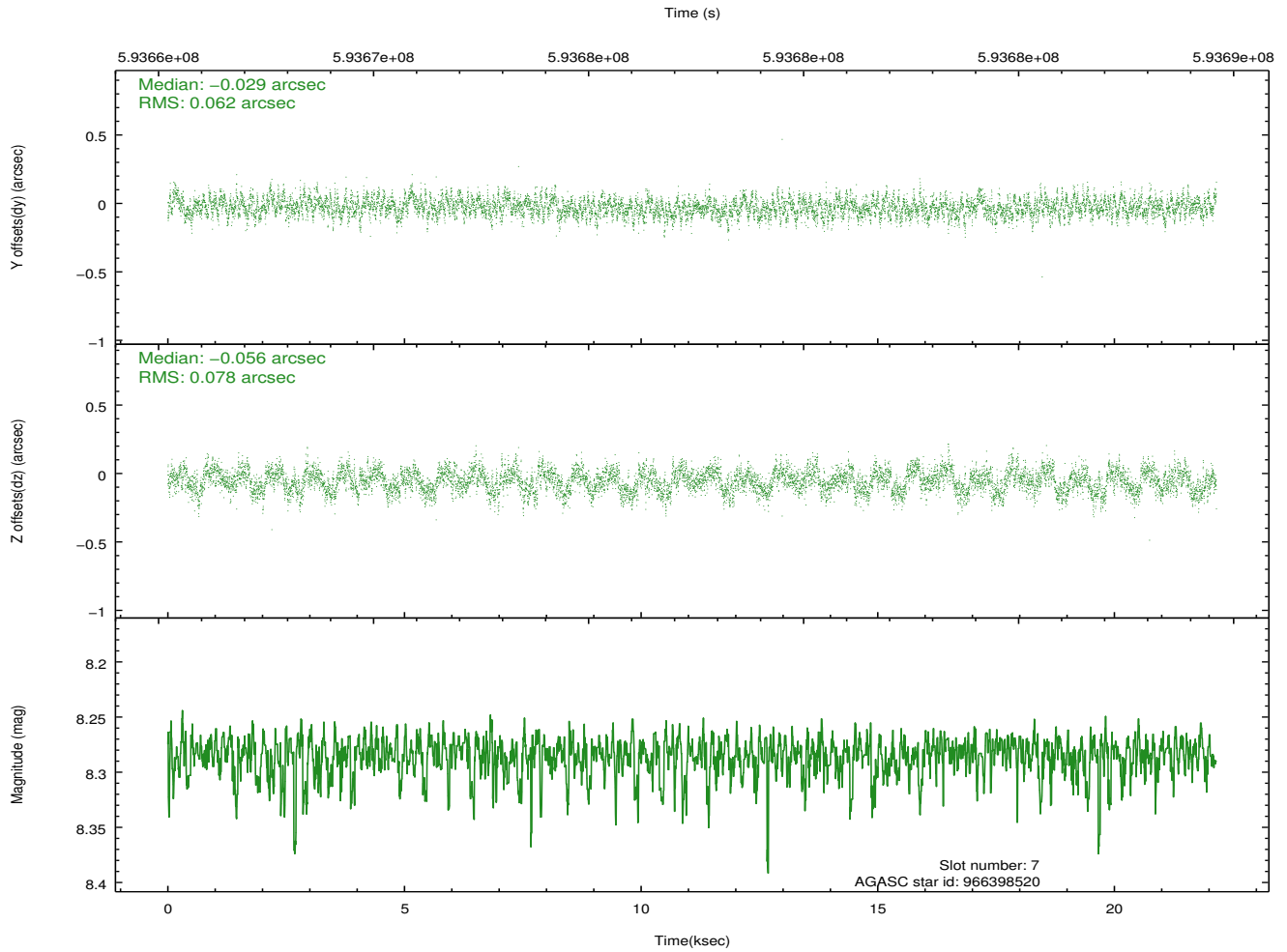
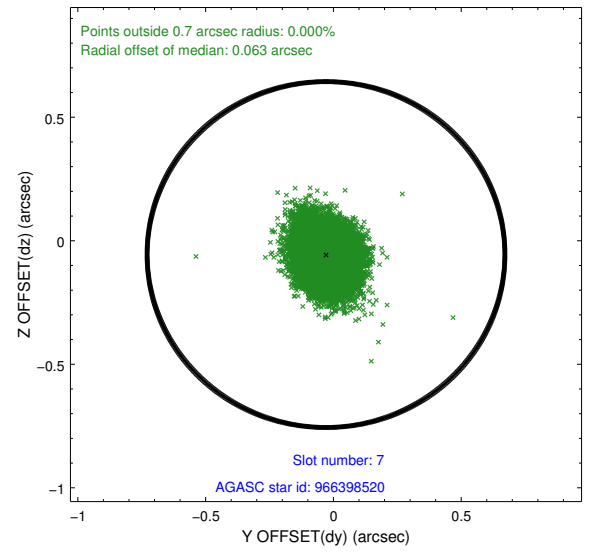
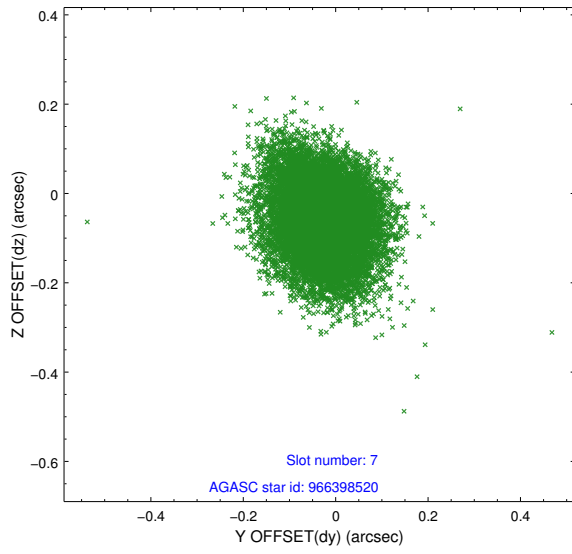
2.4.3 Slot 5



2.4.4 Slot 6

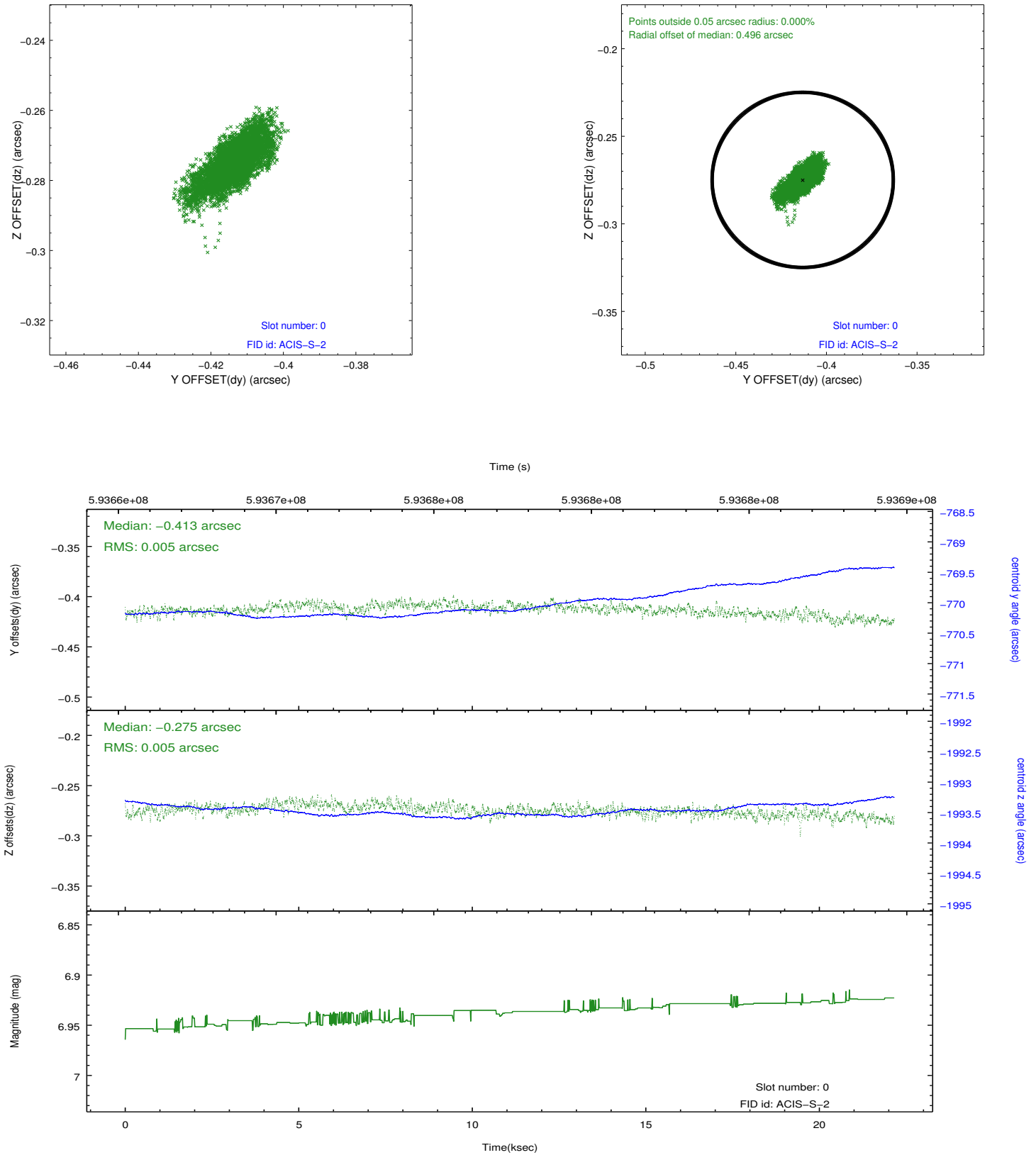


2.4.5 Slot 7

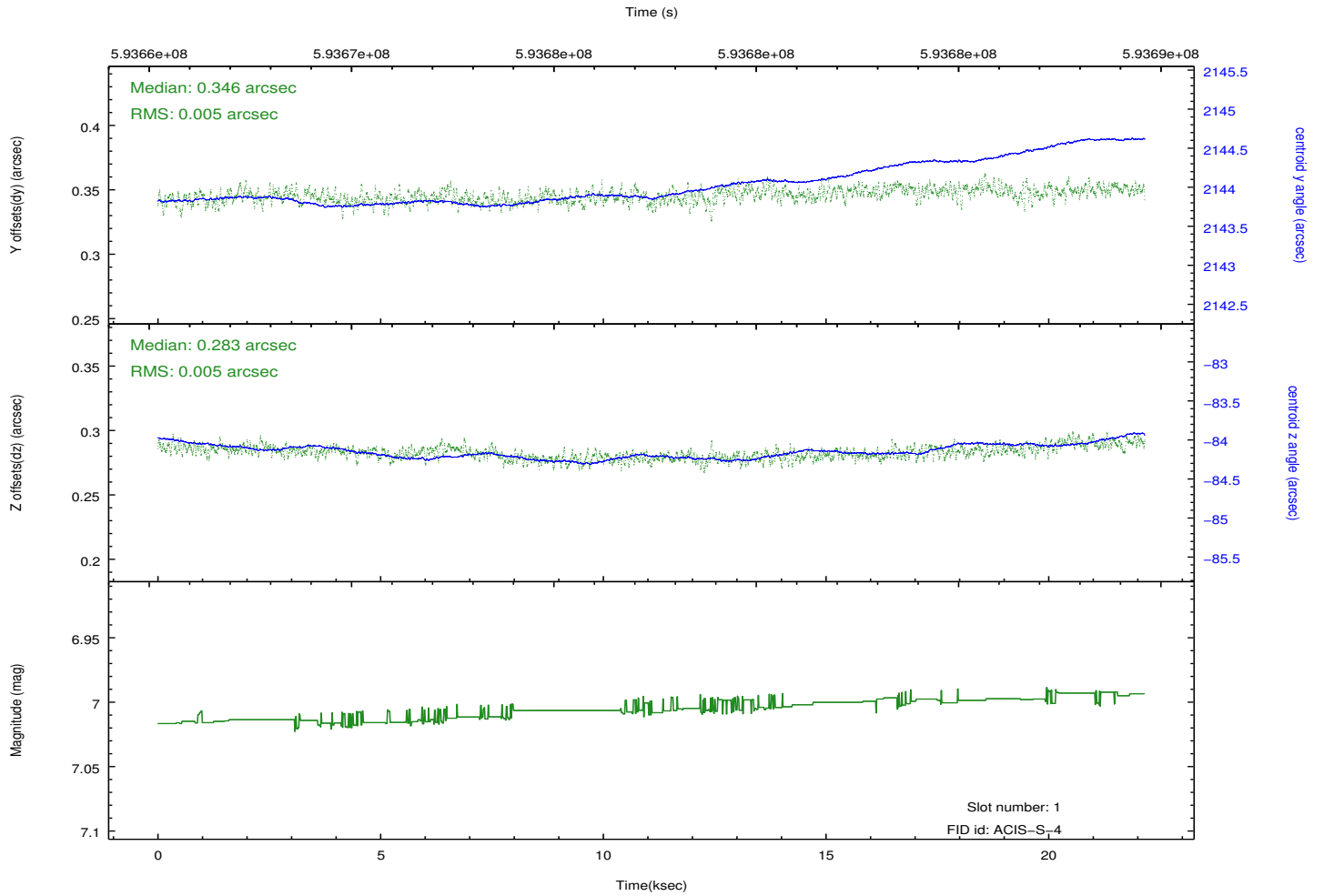
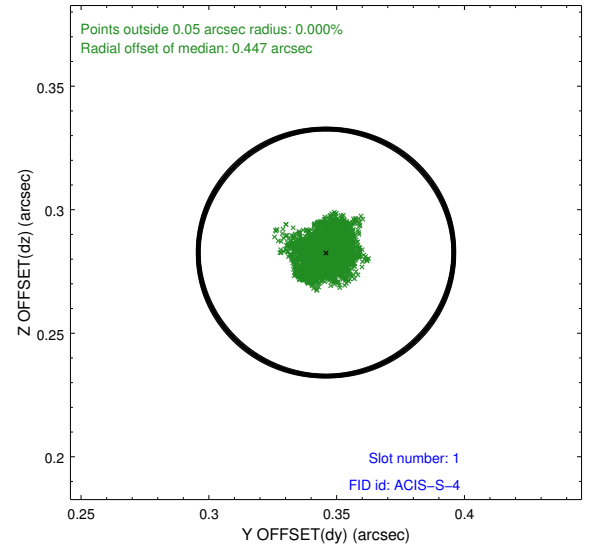
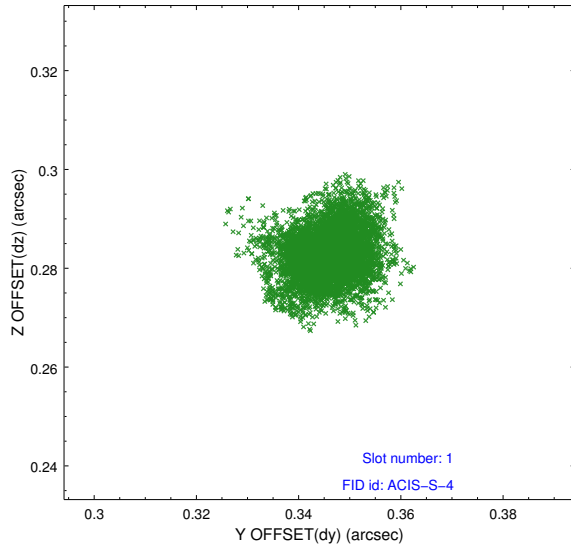


2.5 FID Slots

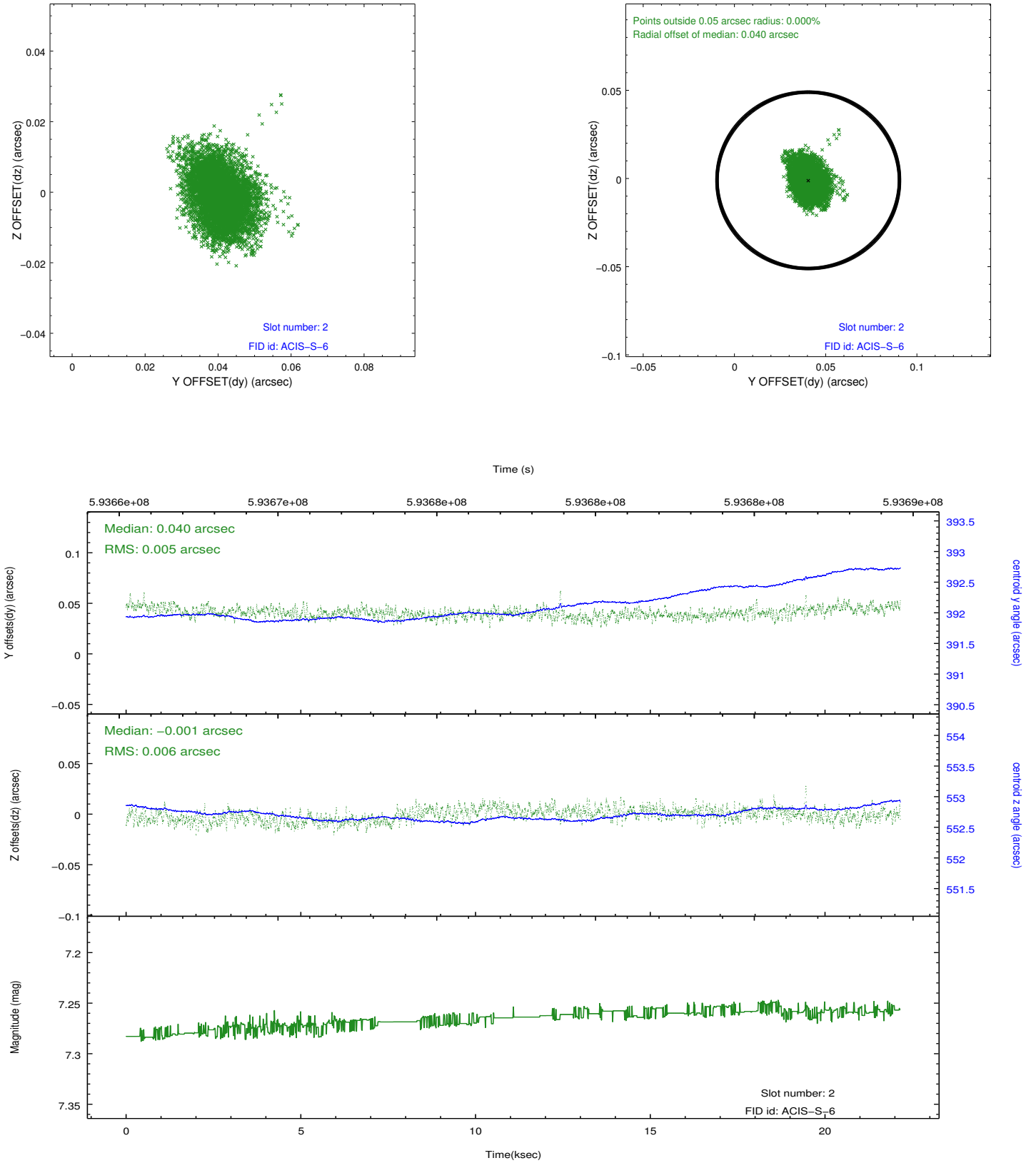
2.5.1 Slot 0



2.5.2 Slot 1

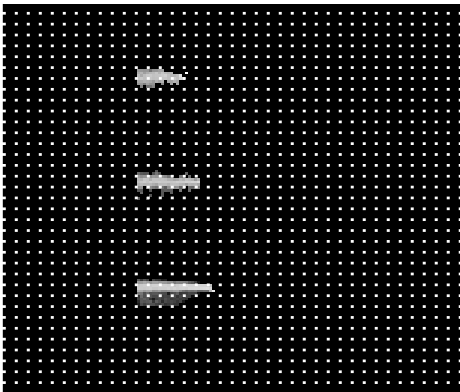


2.5.3 Slot 2

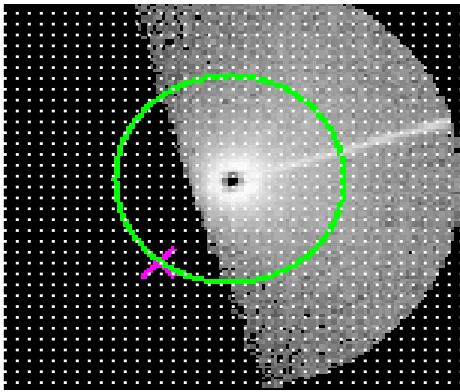


3 Gratings

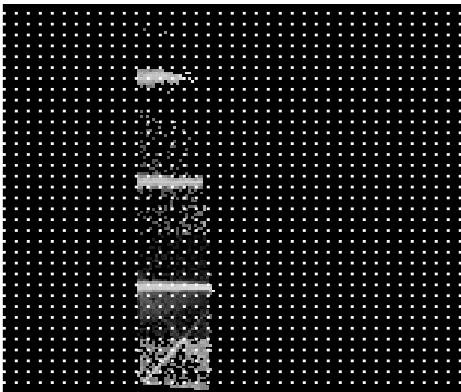
3.1 HEG Arm



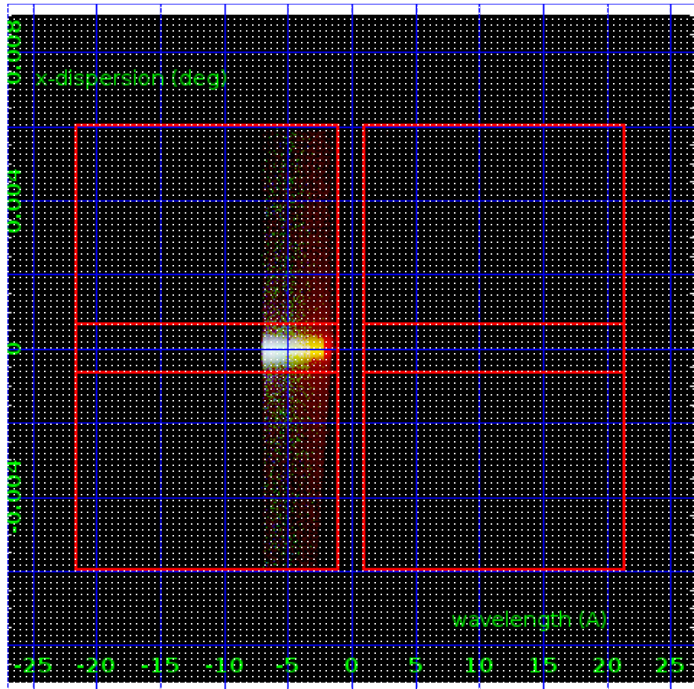
HEG Order Sort 123



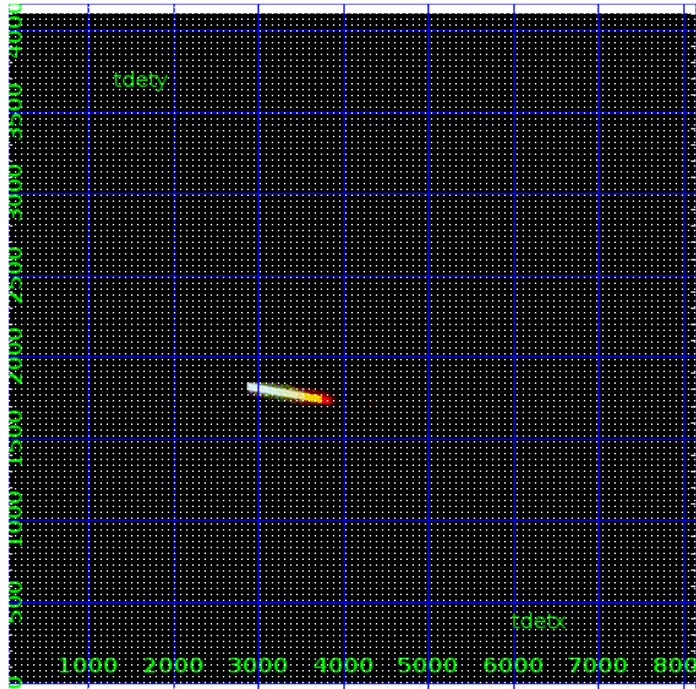
HEG Zero Order



HEG Order Sort ALL

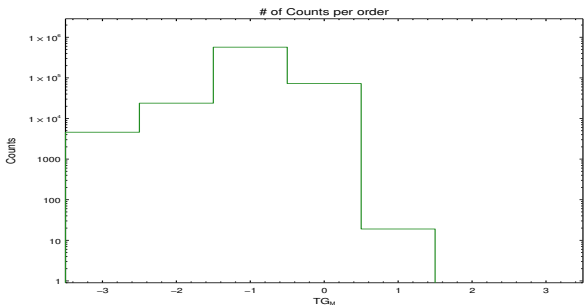


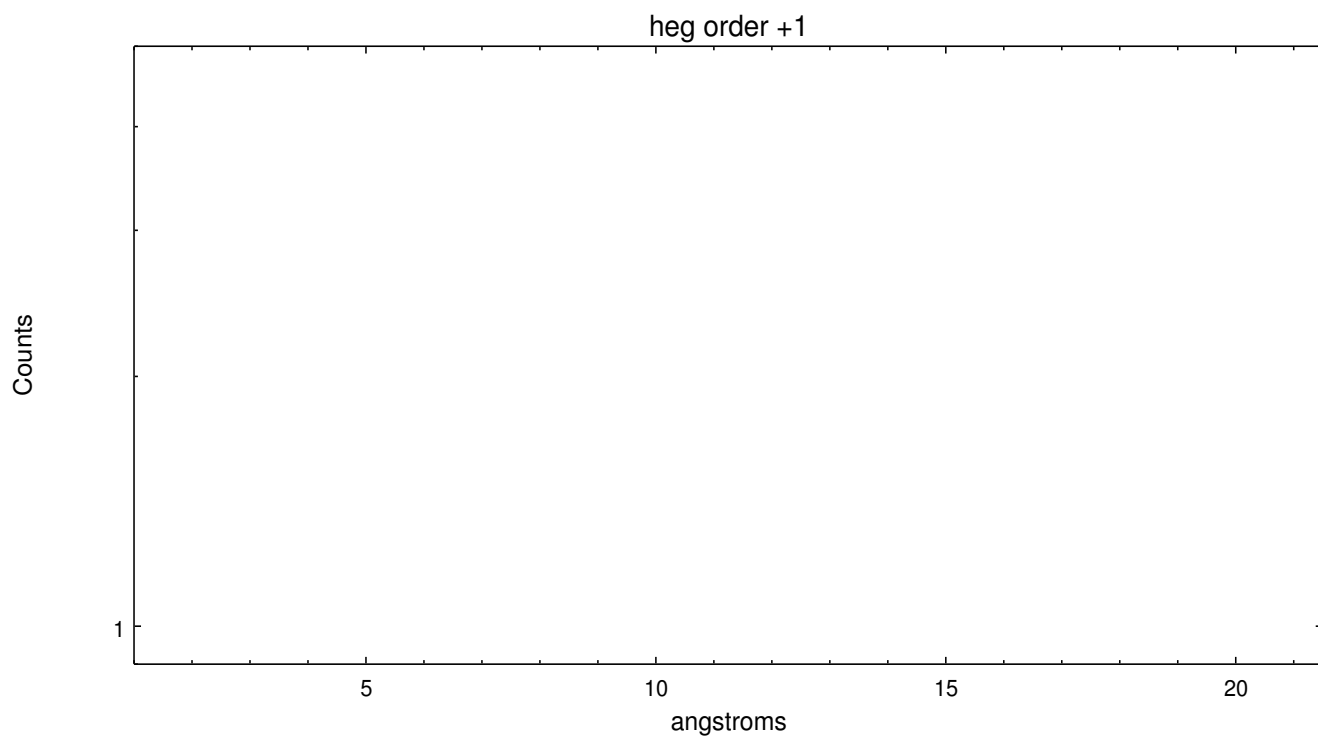
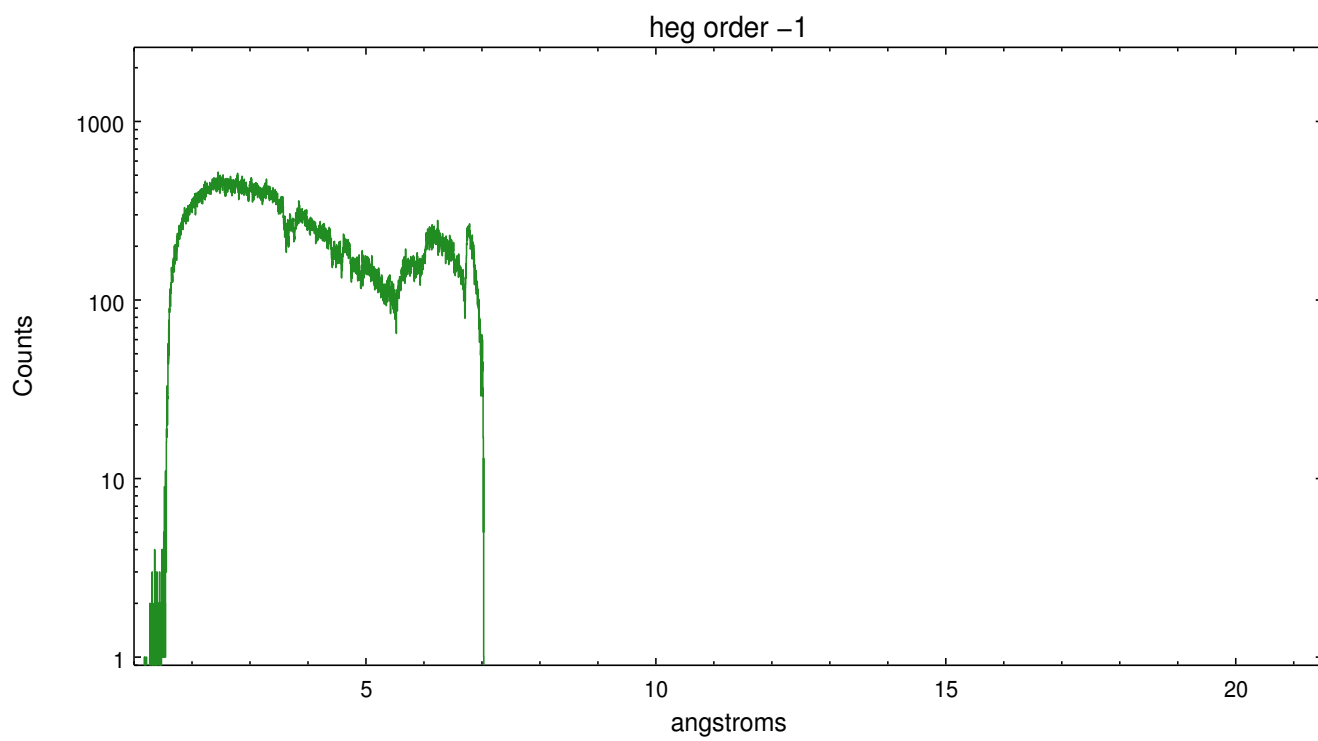
Spot Image HEG



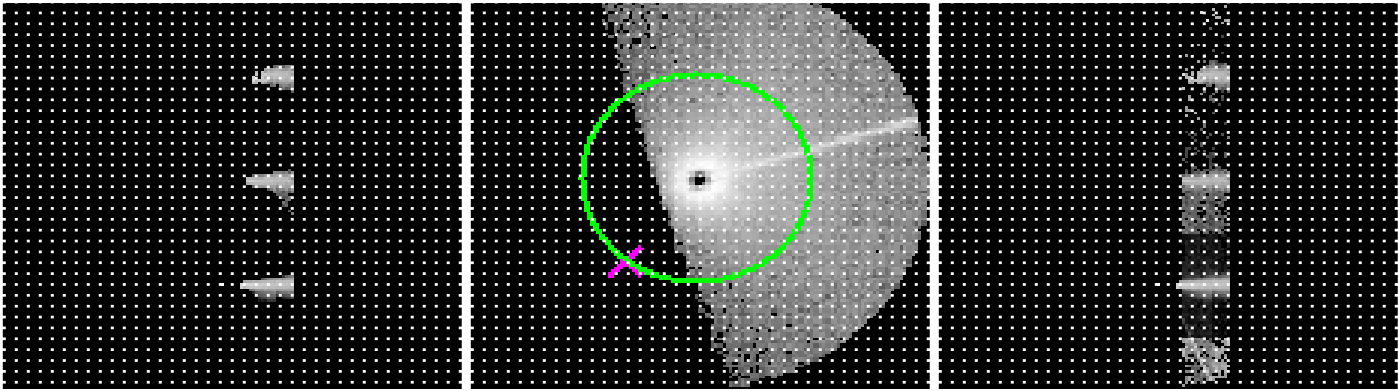
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	4590	23842	570309	72320	19	0	0





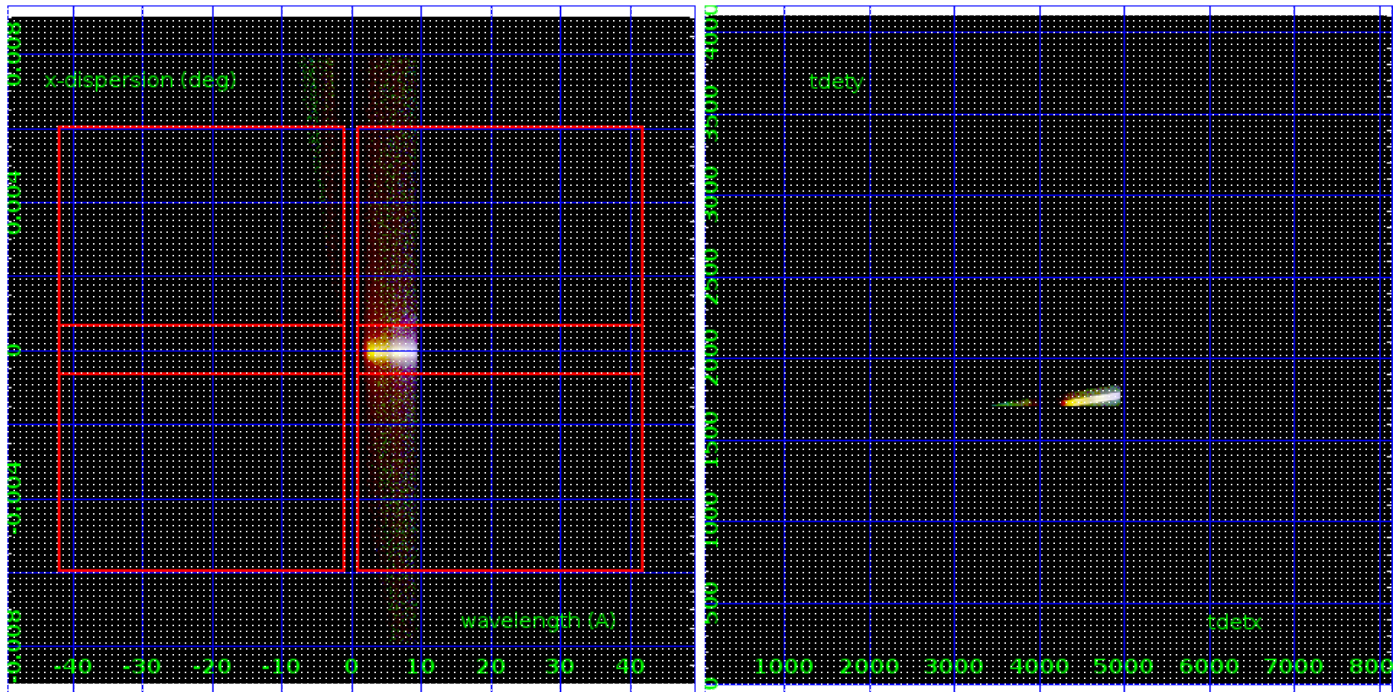
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

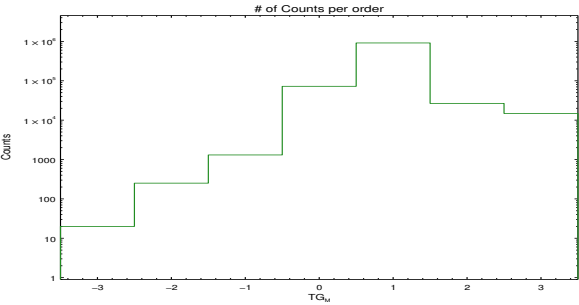
MEG Order Sort ALL

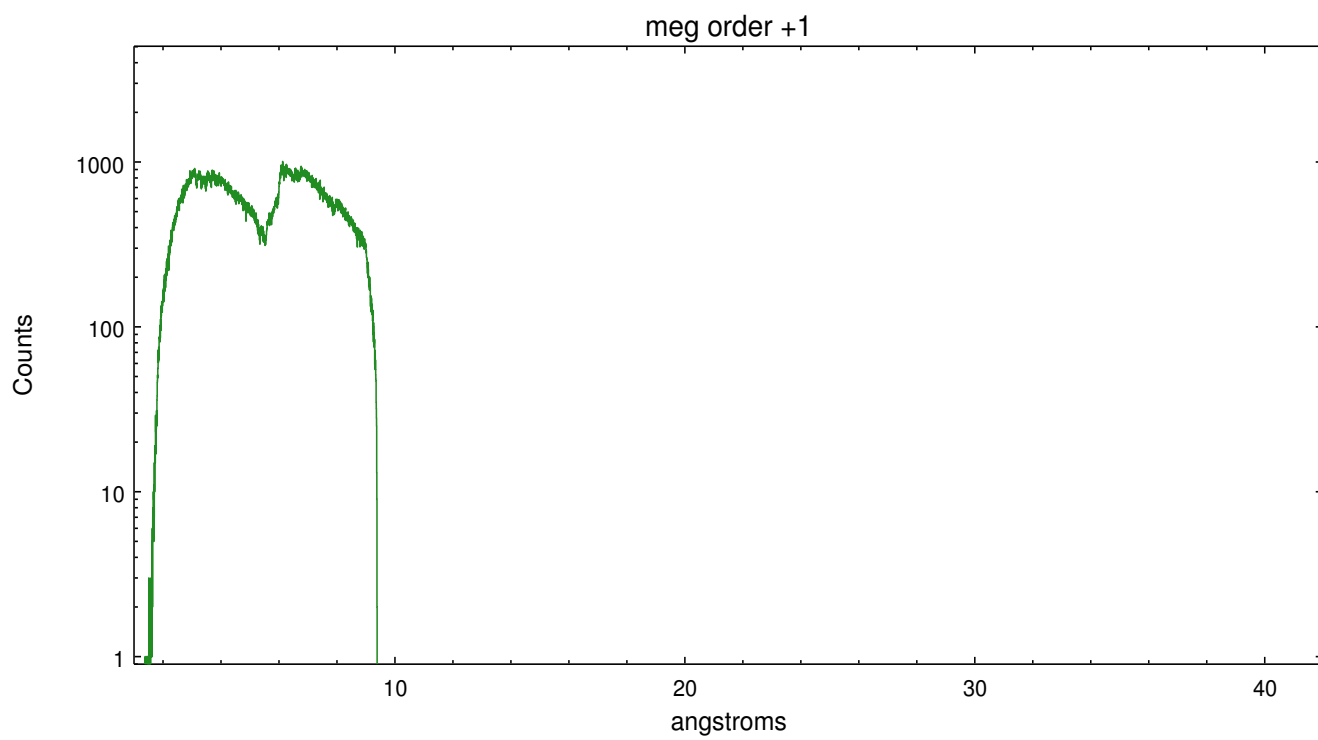
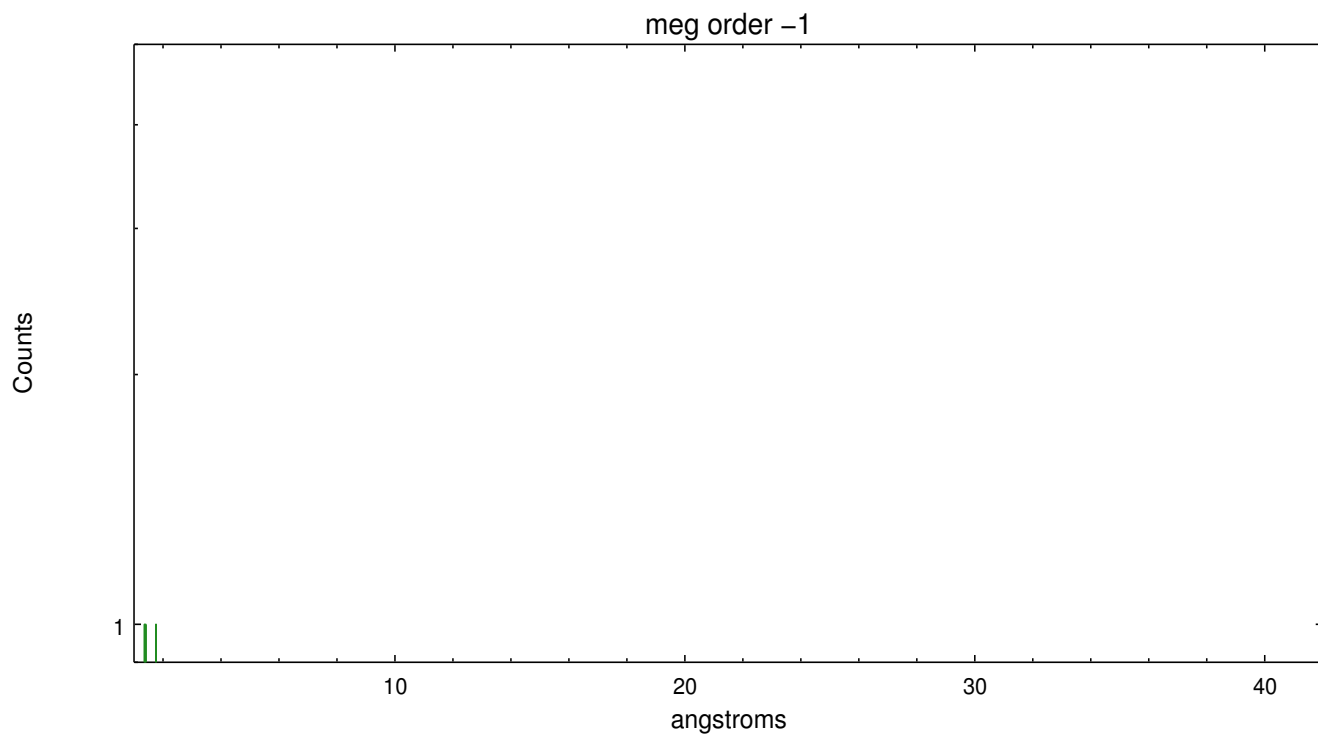


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	20	251	1307	72320	914487	26643	14814





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2016.10.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.092484503746

A.2 Comments

Zeroth order piled up and offset to edge of chip. Both methods of automatically finding the zeroth order failed (tgdetect and findzo). Zeroth order was determined manually. User may want to use a more exact method of locating the zeroth order and re-extract the spectra. Faint grating spectra can be seen in an image of bad events. This is probably due to pileup in the spectrum, causing migration to bad grades. This should be considered in analysis.