

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19782 - L2 Version 1
Chandra X-Ray Center

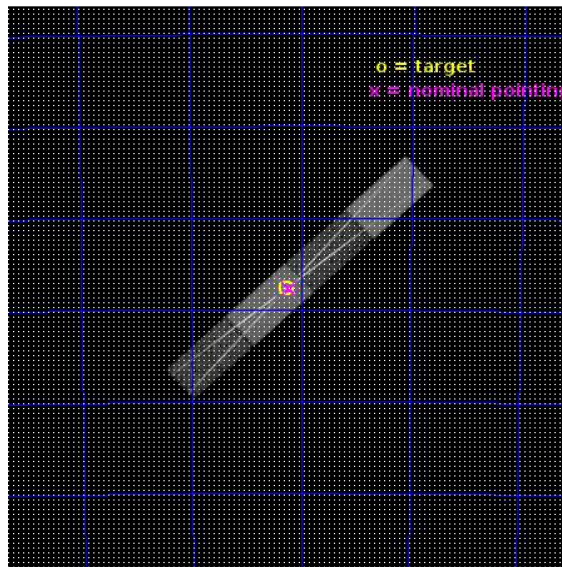
L2 Processing Date : Jan 1 2018

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1 Front

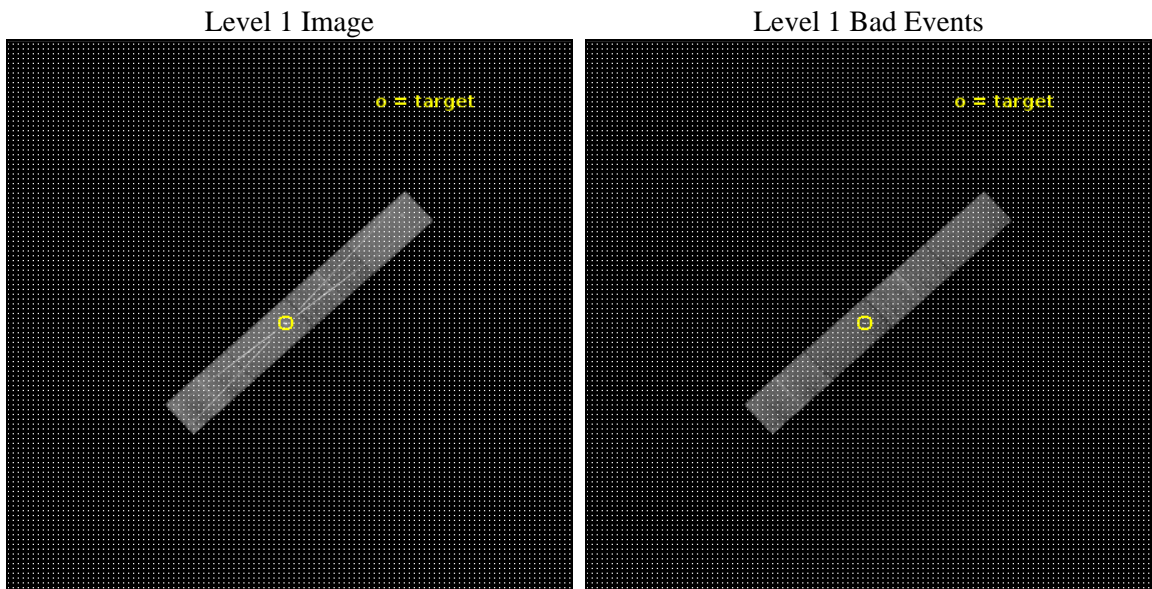
seq_num	901398	Sequence number
obs_id	19782	Observation id
title	The Narrow Fe K Line in 4U 1626-67	Proposal title
observer	Claude Canizares	Principal investigator
object	4U 1626-67	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	248.069583	Observer's specified target RA [deg]
dec_targ	-67.461667	Observer's specified target Dec [deg]
ra_nom	248.05287989851	Nominal RA [deg]
dec_nom	-67.462069039382	Nominal Dec [deg]
roll_nom	137.14120667617	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20358.117144227	Sum of GTIs [s]
livetime	19848.990536954	Livetime [s]
ontime5	20358.076104283	Sum of GTIs [s]
ontime6	20358.03506422	Sum of GTIs [s]
ontime7	20358.117144227	Sum of GTIs [s]
ontime8	20357.994024277	Sum of GTIs [s]
l2events	230941	Number of level 2 events



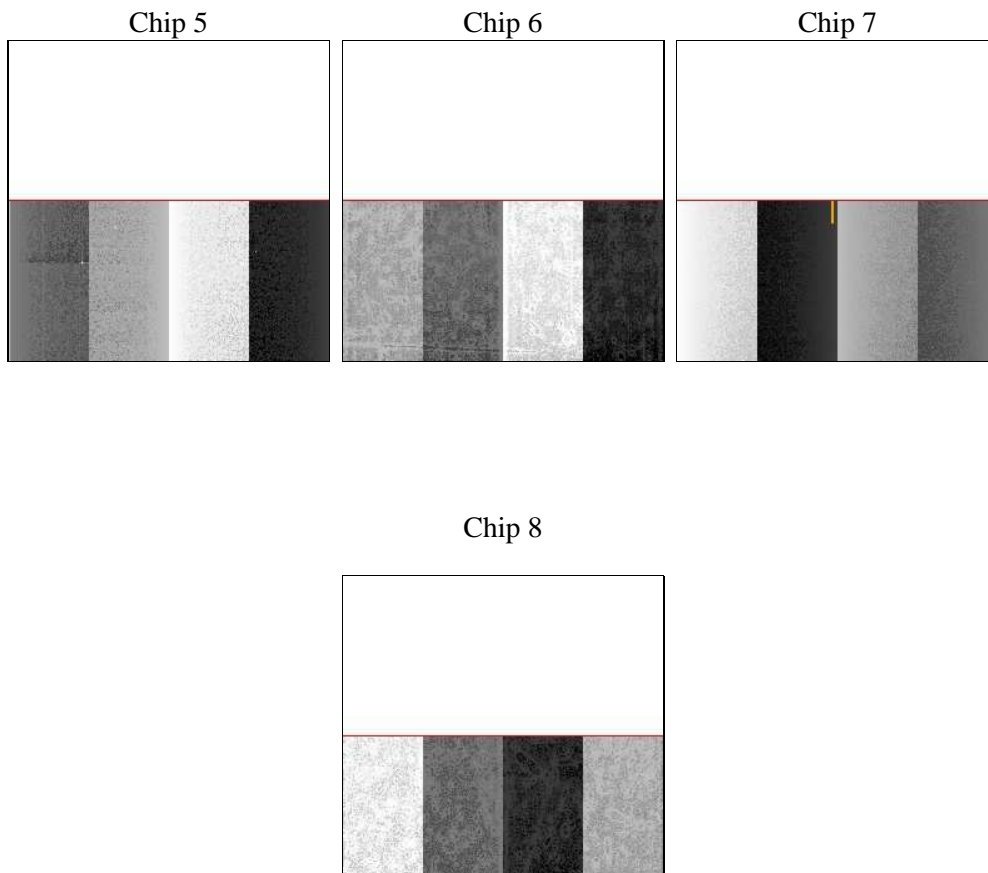
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20300.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	20358.117144227	Sum of GTIs [s]
caldbver	4.7.7	 	ontime5	20358.076104283	Sum of GTIs [s]
date	2018-01-01T15:10:08	Date and time of file creation	ontime6	20358.03506422	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	20358.117144227	Sum of GTIs [s]
			ontime8	20357.994024277	Sum of GTIs [s]
			l1events	519241	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4050.13, 4103.03)	src1a sky pixel position
			zo_pos_tgd	(4050.18, 4103.31)	src1a sky pixel position via todetect

2.1.4 Events

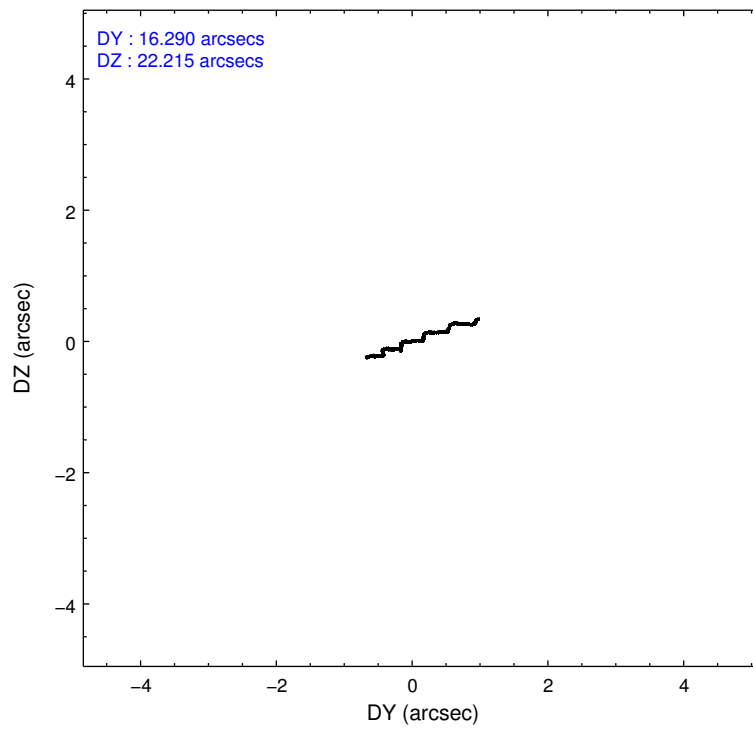
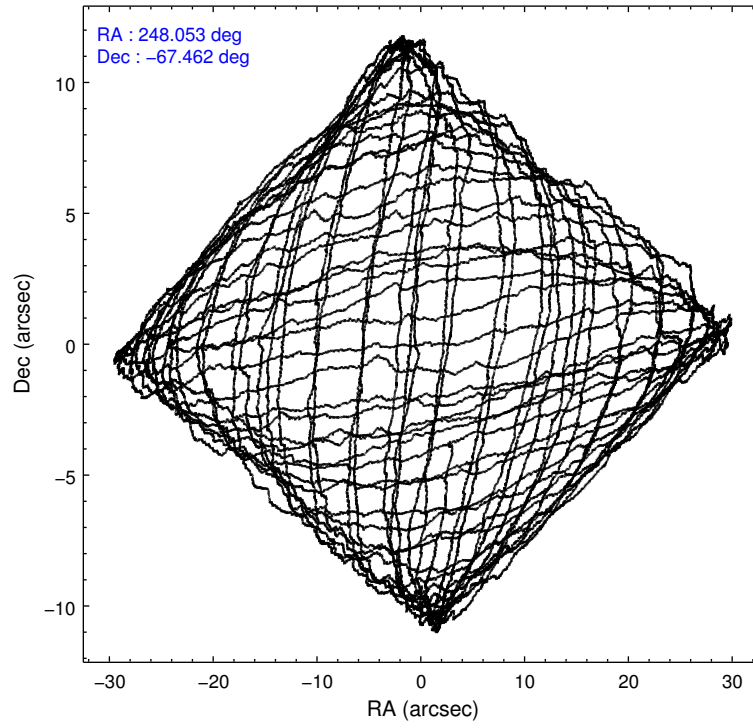
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	126834	120015	152799	119593
rejected events	59907	68174	56604	73702
rejected %	47%	56%	37%	61%

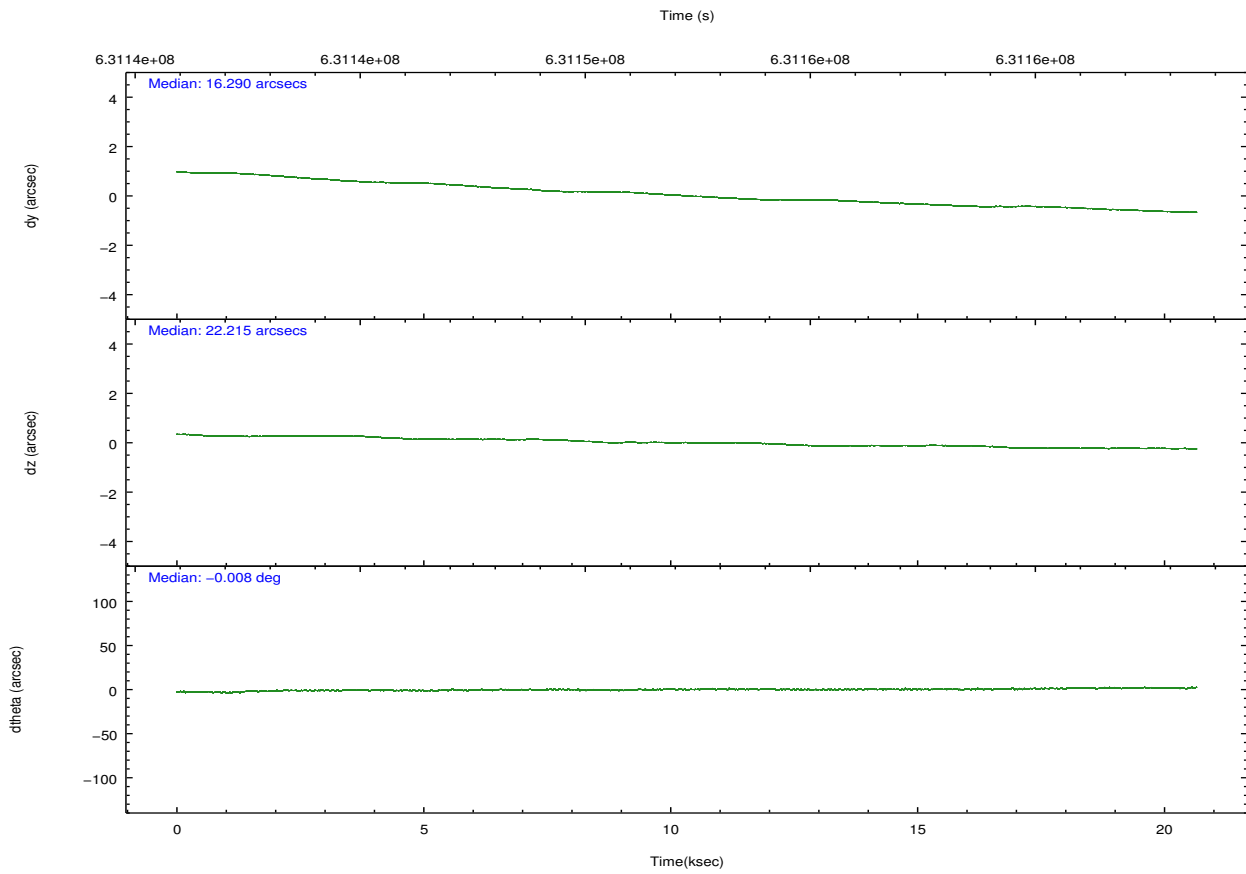
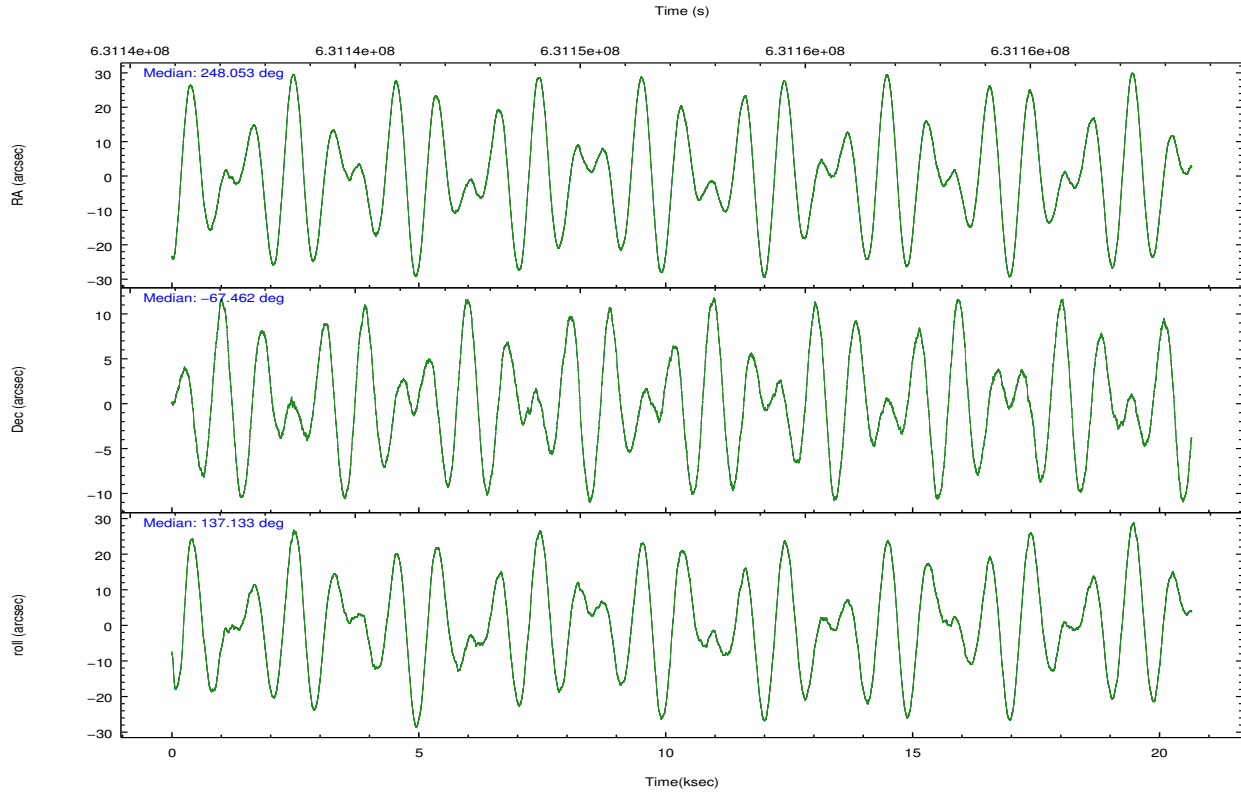
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	8692	35105	15202	21618
	6%	29%	9%	18%
grade 1 events	250	172	469	99
	0%	0%	0%	0%
grade 2 events	19642	7335	22094	8538
	15%	6%	14%	7%
grade 3 events	3734	2659	9494	3697
	2%	2%	6%	3%
grade 4 events	3639	2719	9353	3727
	2%	2%	6%	3%
grade 5 events	9793	3465	11437	5162
	7%	2%	7%	4%
grade 6 events	31226	4030	40064	8317
	24%	3%	26%	6%
grade 7 events	49858	64530	44686	68435
	39%	53%	29%	57%

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	248.122880	248.0528798985095	CCD I2 on	N	N
[deg] Pointing Dec	-67.467786	-67.46206903938221	CCD I3 on	N	N
[deg] Pointing Roll	137.049225	137.1412066761713	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	-183.992523	-183.9875365069546	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.14	-6.144986076053243	CCD S4 on	Y	Y
[s] Observation start time (MET)	631142282.184000	631141473.07643	CCD S5 on	O2	N
Observation start date	2017-12-31T21:16:53	2017-12-31T21:04:33	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	631162582.184000	631163626.91523	On-chip summing requested	N	N
Observation end date	2018-01-01T02:55:13	2018-01-01T03:13:46	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.6

2.3 Aspect





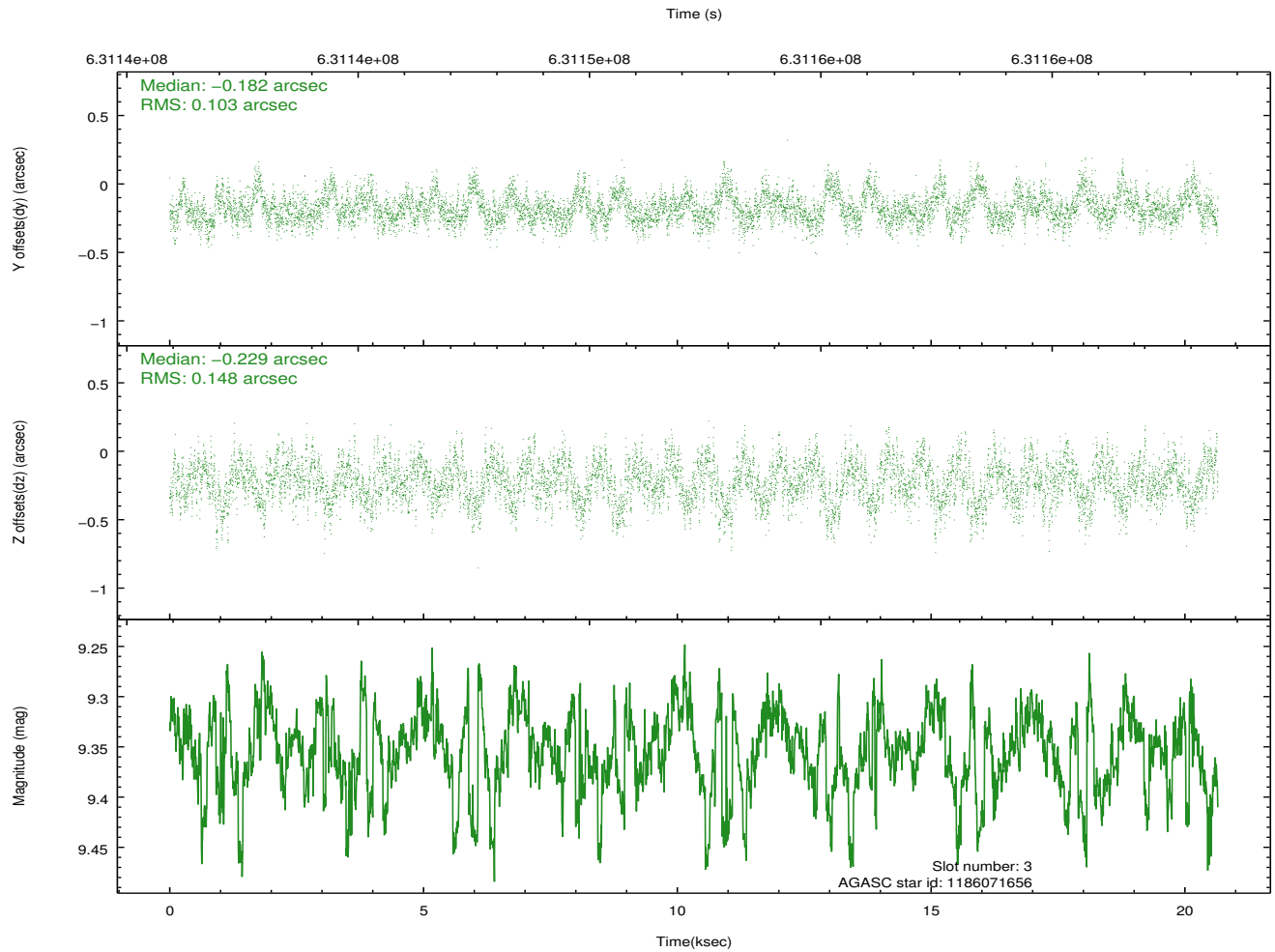
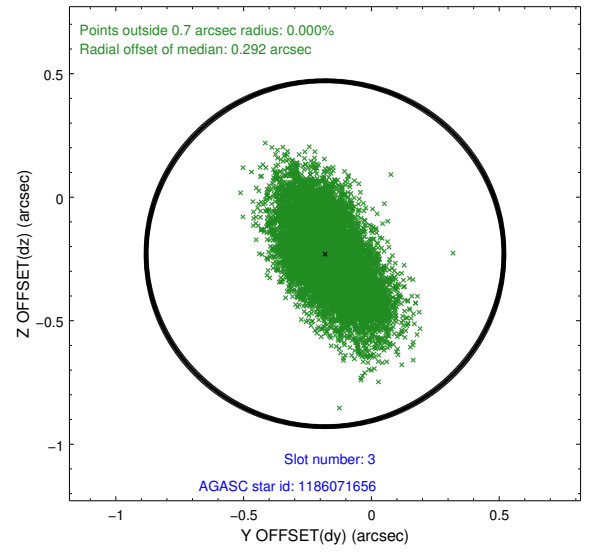
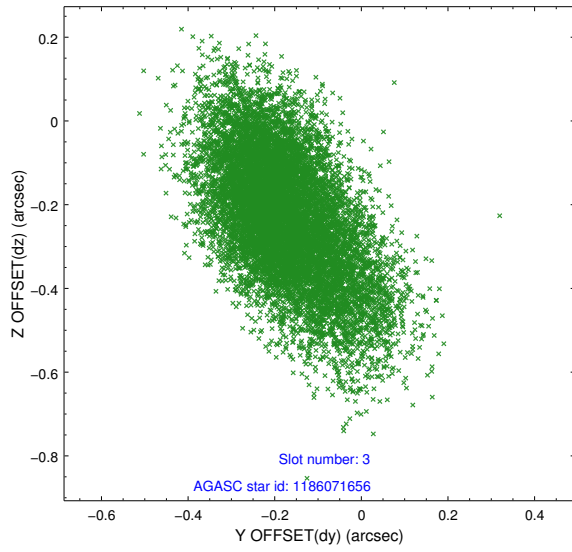
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.05	5036	-0.018	0.054	0.013	0.024	0.000000	0.000000	927.17	-1866.00
1	FID		ACIS-S-4	7.06	5037	0.339	-0.026	0.011	0.016	0.000000	0.000000	2144.94	37.92
2	FID		ACIS-S-5	7.08	5038	-0.347	-0.017	0.013	0.031	0.000000	0.000000	-1821.90	31.53
3	GUIDE	used	1186071656	9.35	10062	-0.182	-0.229	0.187	0.327	247.561655	-67.321127	927.42	148.31
4	GUIDE	used	1186072296	9.33	10011	0.063	0.020	0.163	0.271	247.909553	-67.035246	1280.62	-934.73
5	GUIDE	used	1215569992	9.21	10066	0.224	0.482	0.151	0.249	249.398538	-67.627995	-1683.58	-755.50
6	GUIDE	used	1186076360	8.48	10069	0.234	0.338	0.156	0.257	248.266100	-67.434021	-61.54	-223.40
7	GUIDE	used	1215570568	8.39	10073	-0.362	-0.615	0.128	0.225	246.859352	-67.889721	205.55	2291.15

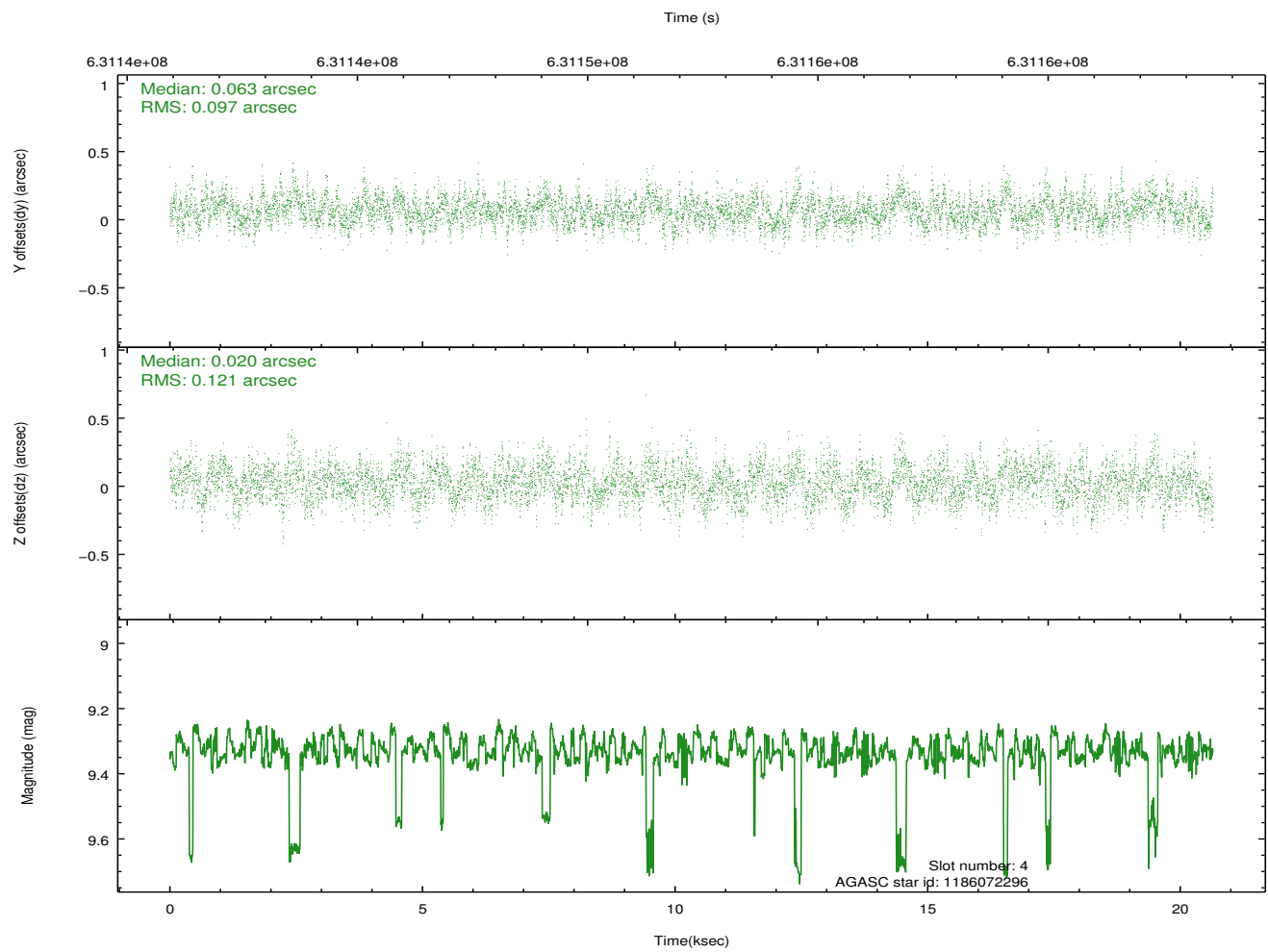
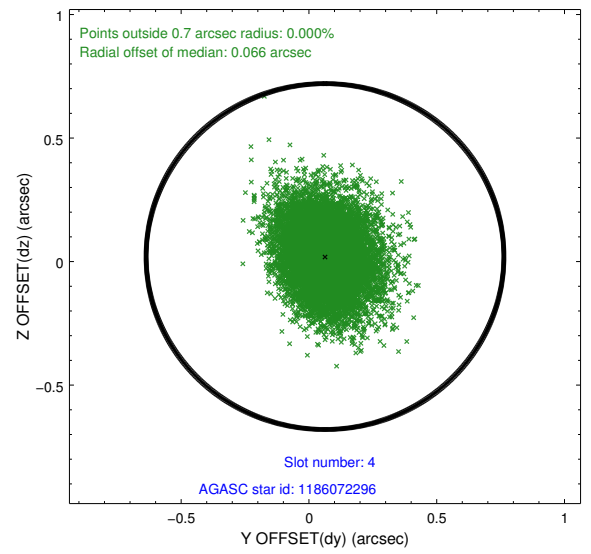
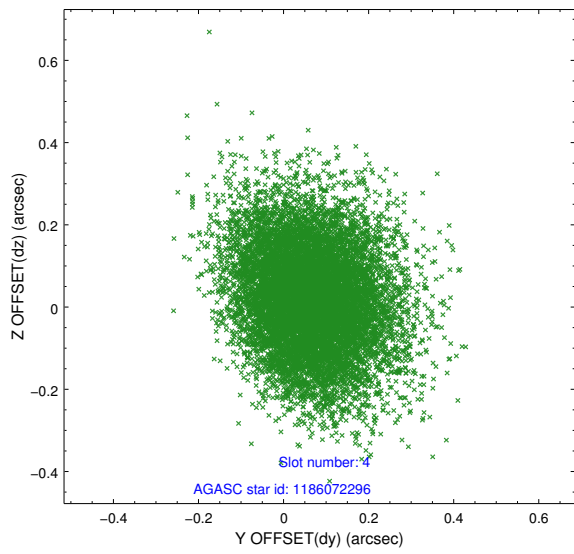
∞

2.4 Star Slots

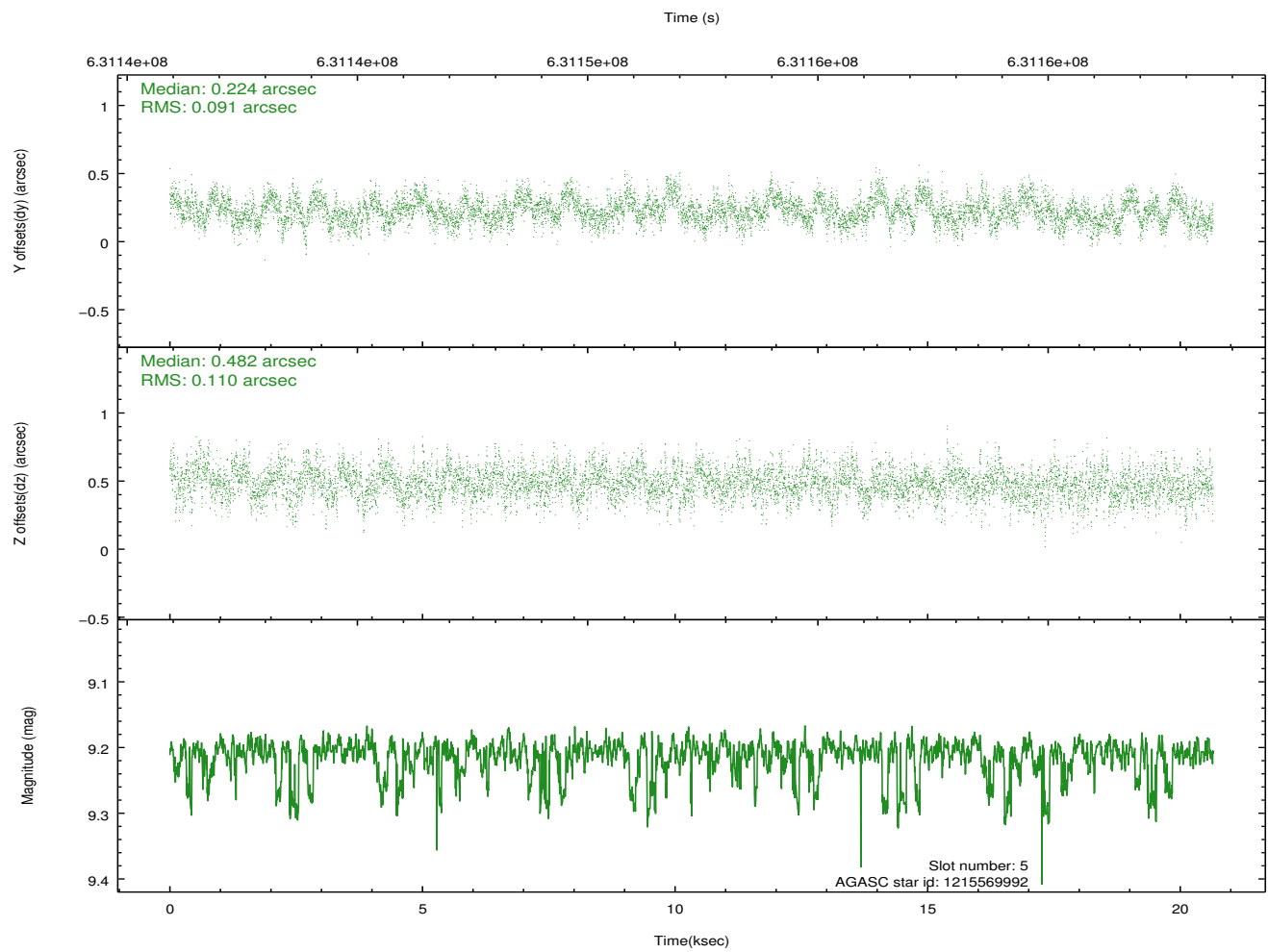
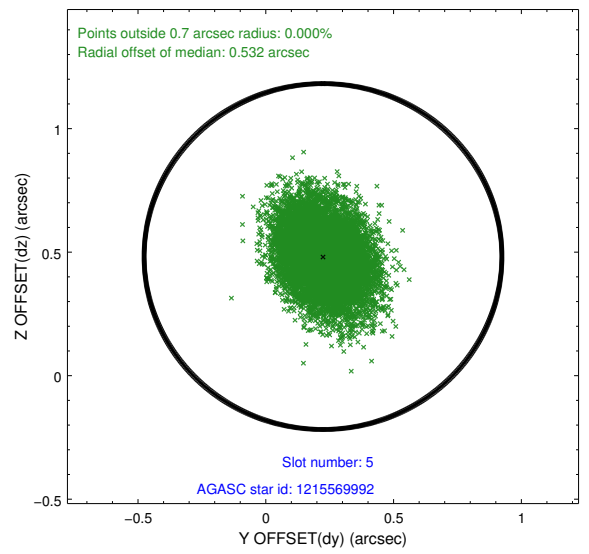
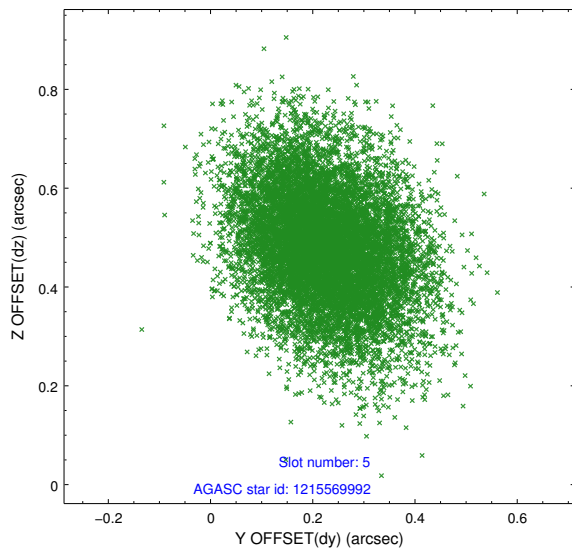
2.4.1 Slot 3



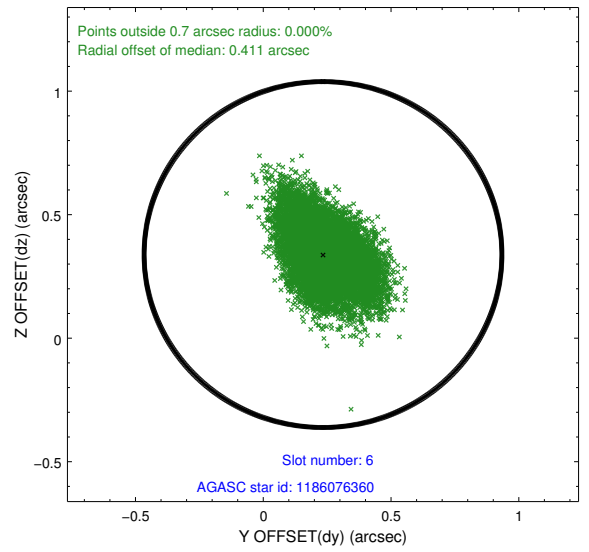
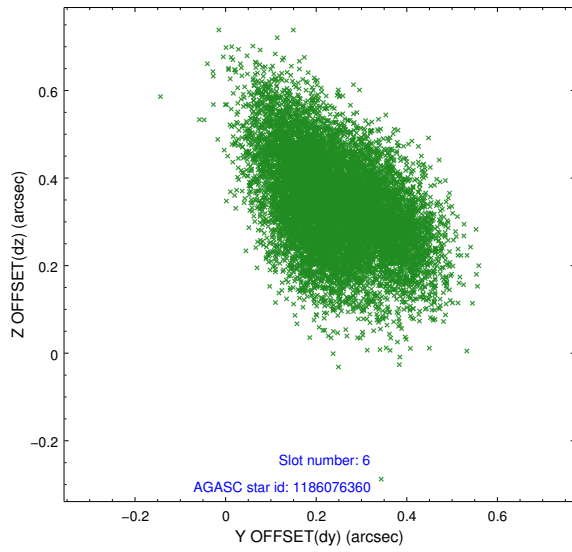
2.4.2 Slot 4



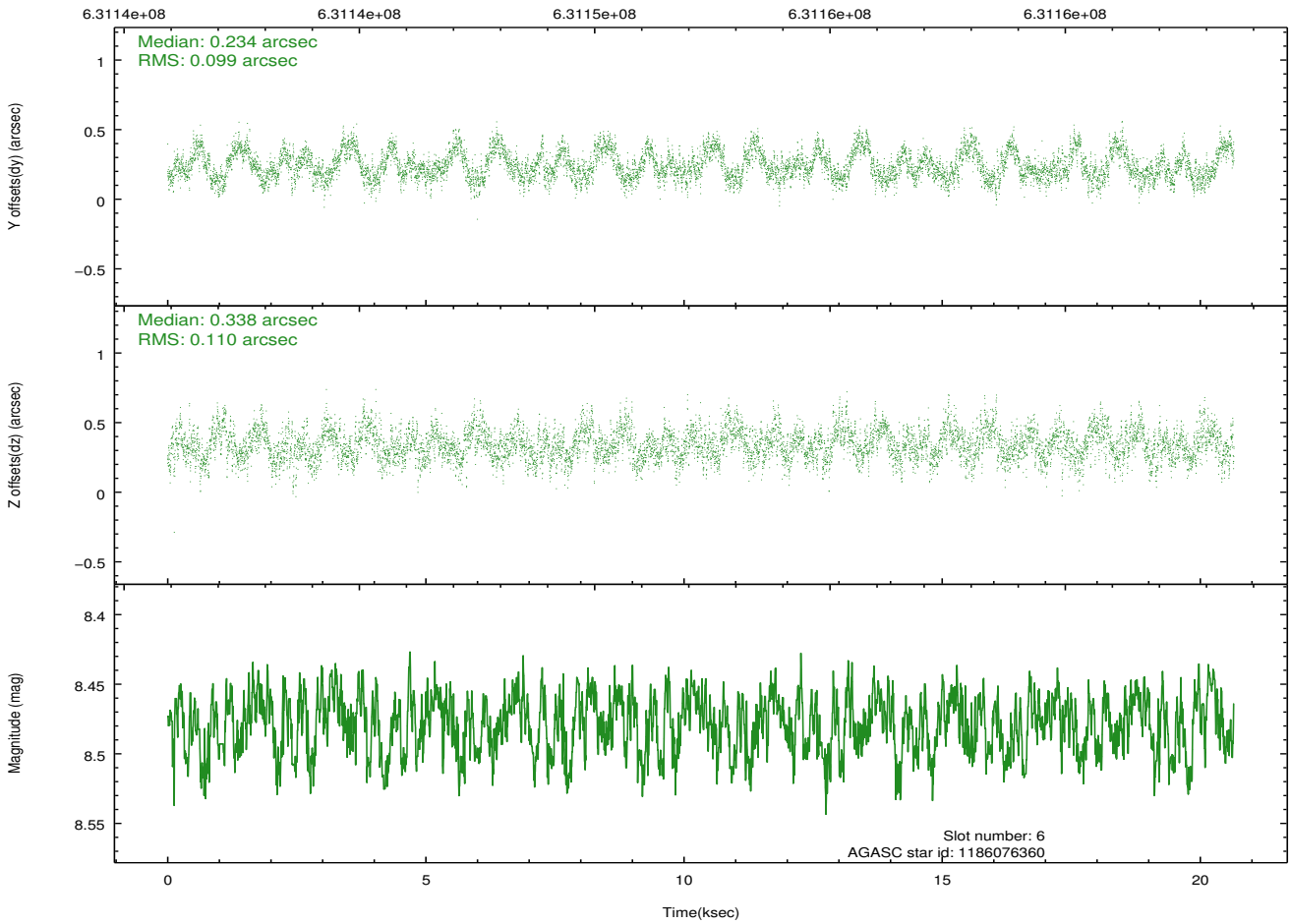
2.4.3 Slot 5



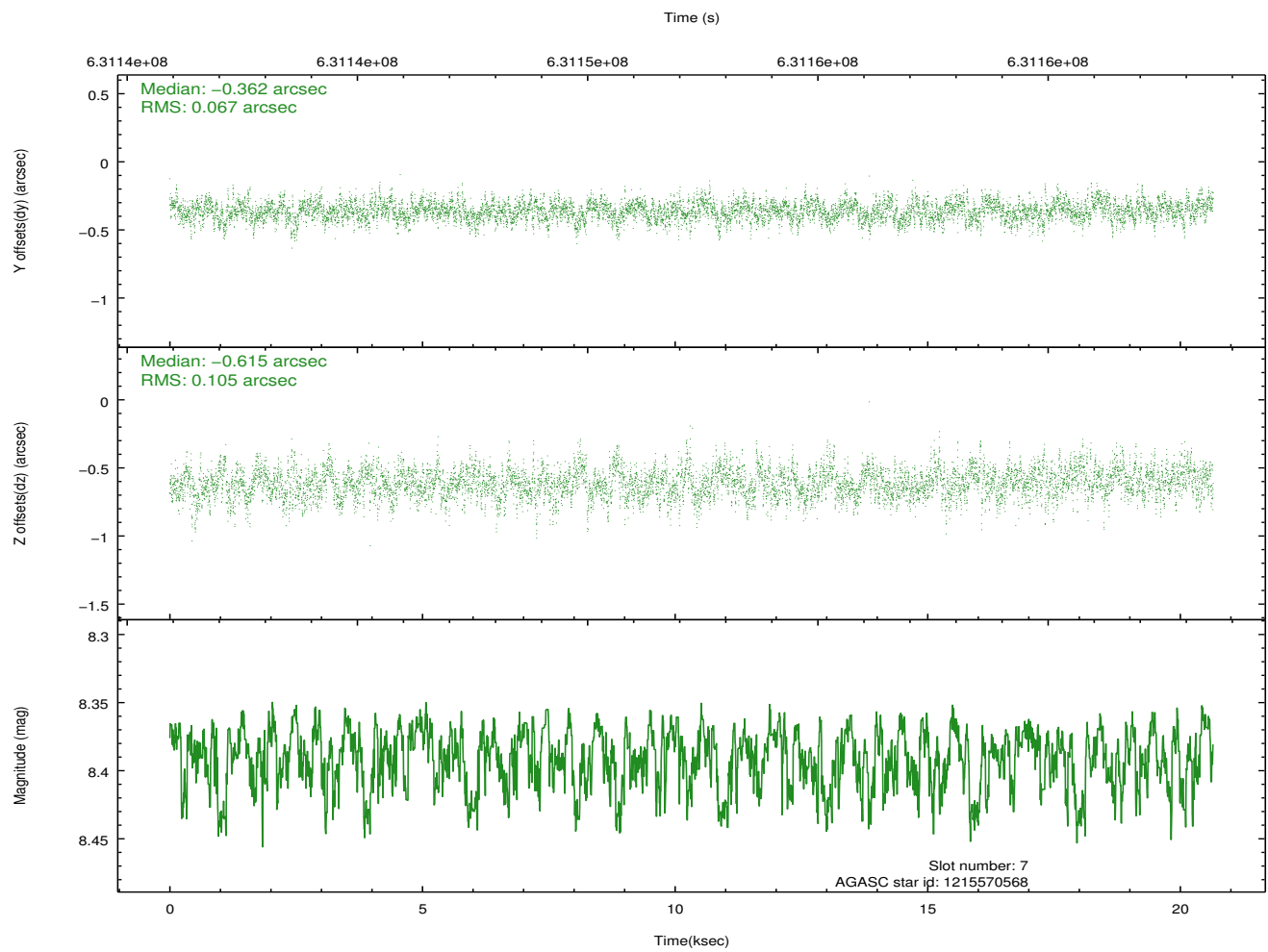
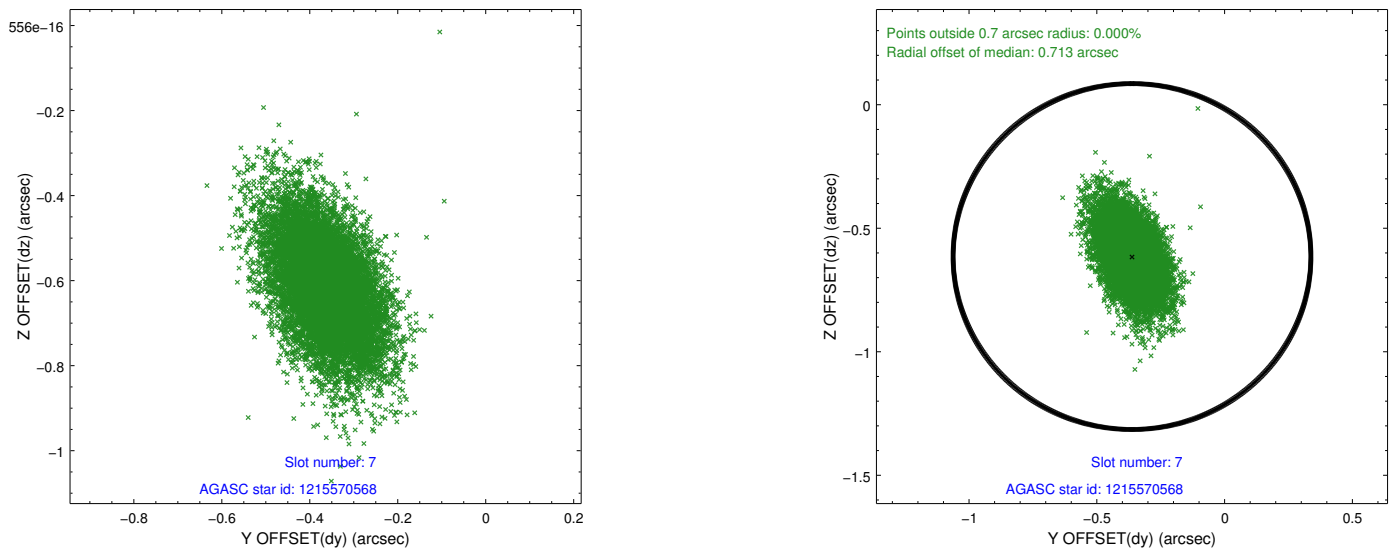
2.4.4 Slot 6



Time (s)

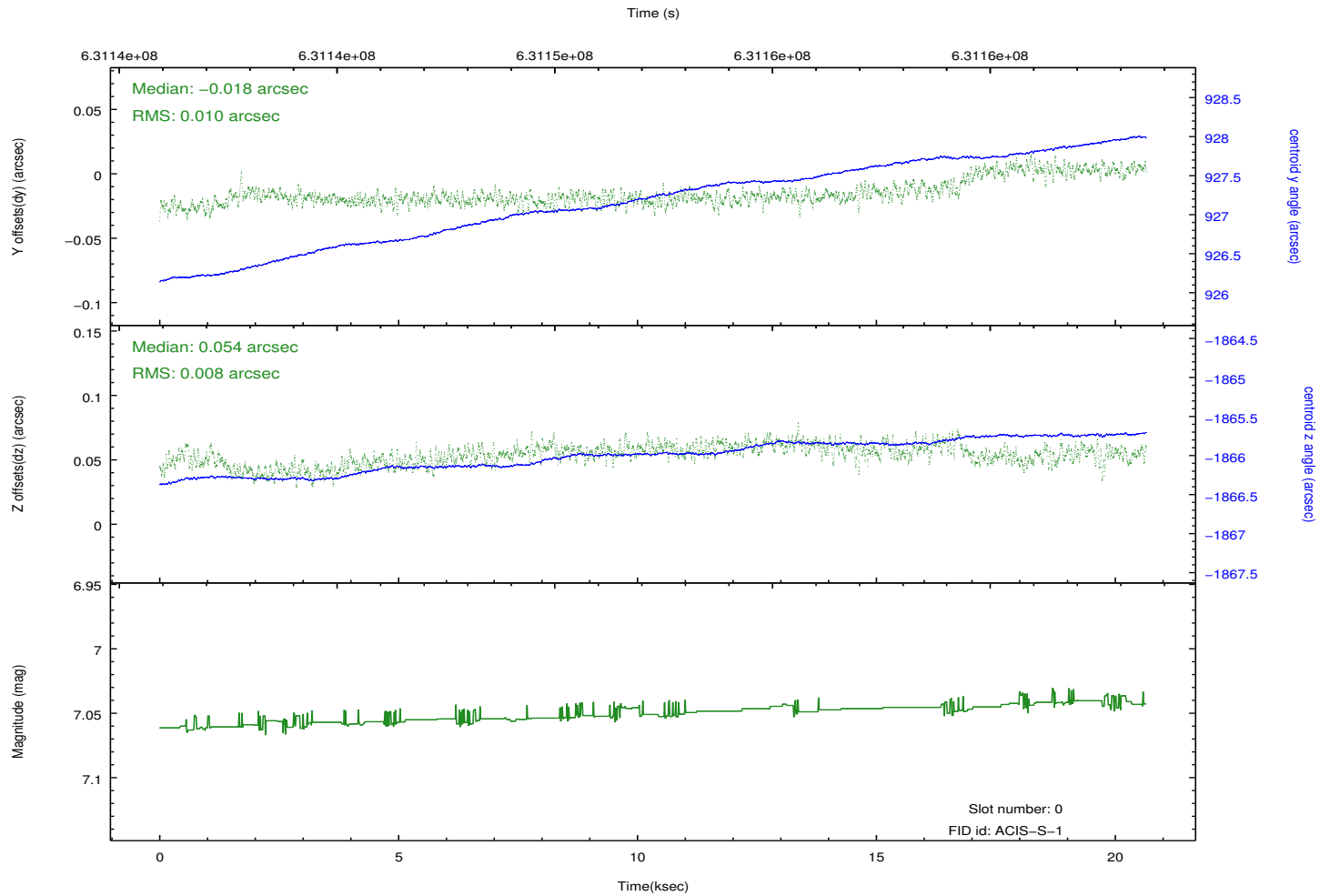
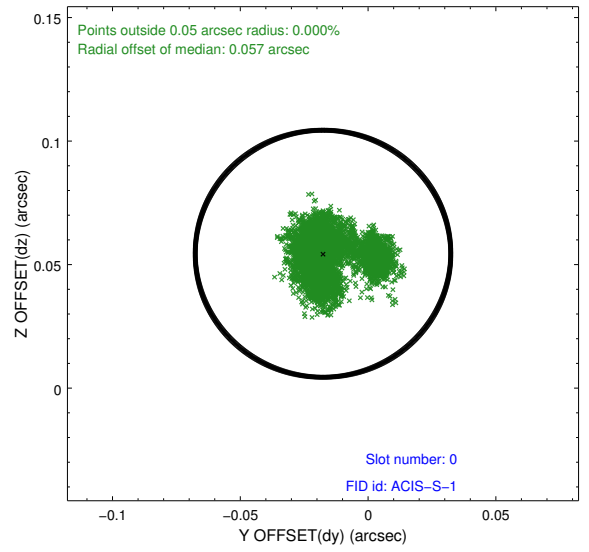
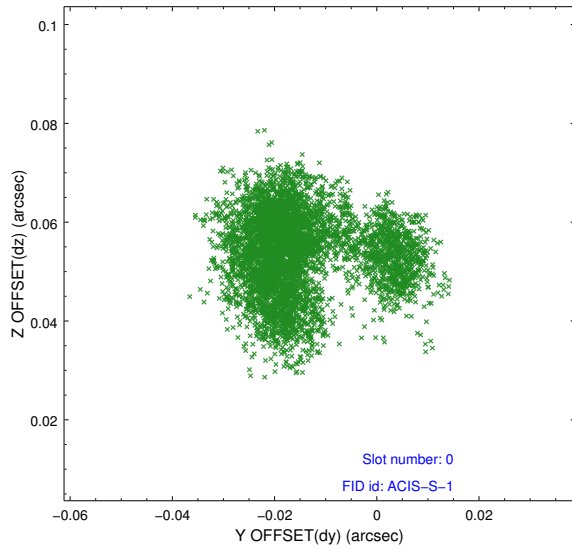


2.4.5 Slot 7

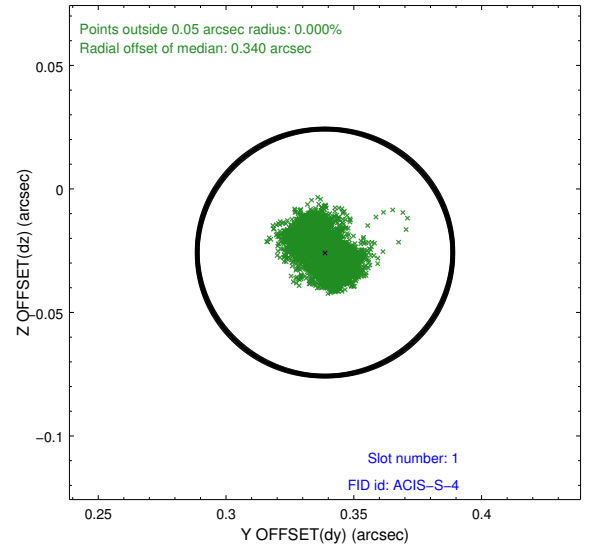
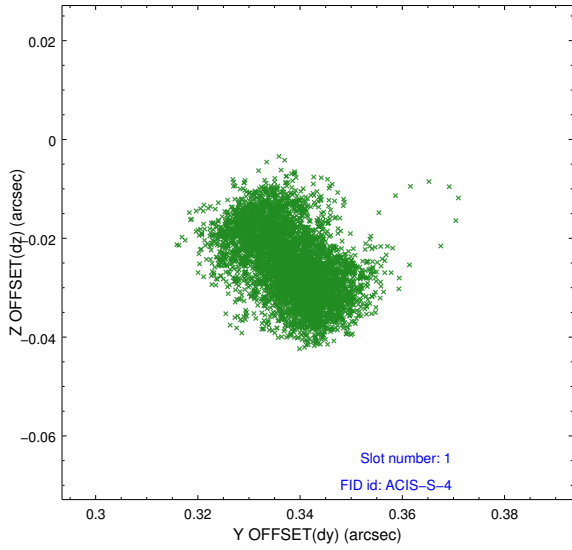


2.5 FID Slots

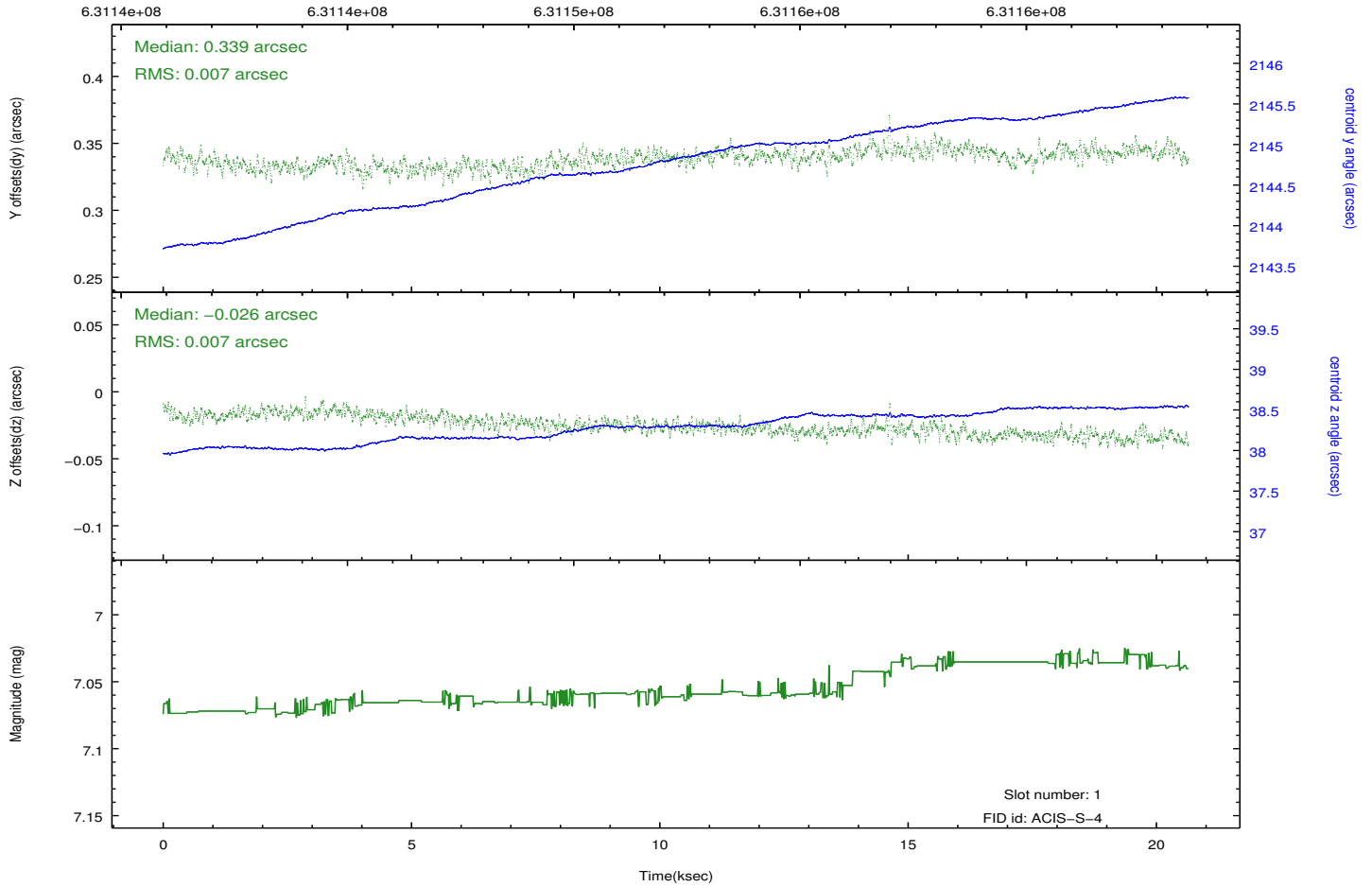
2.5.1 Slot 0



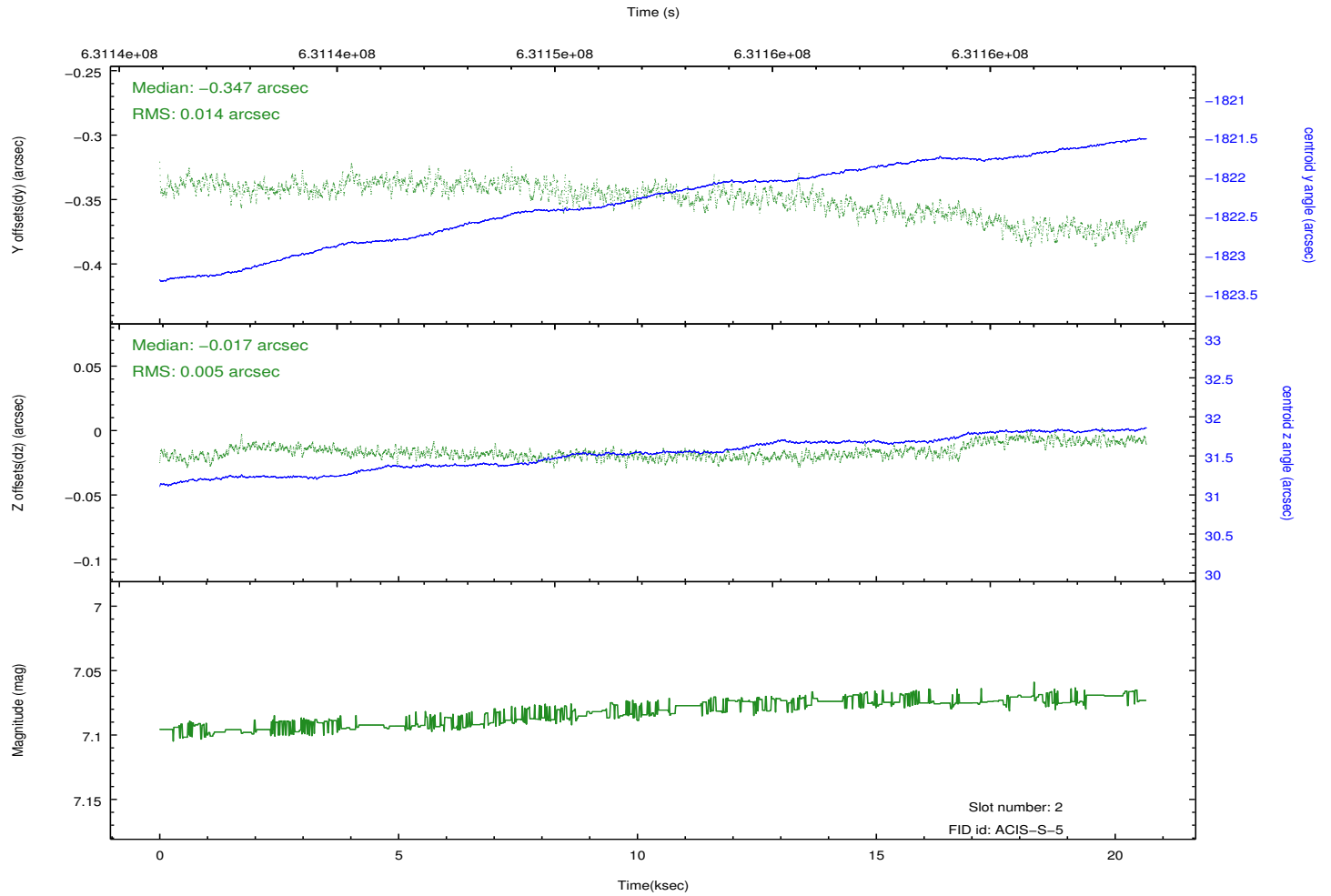
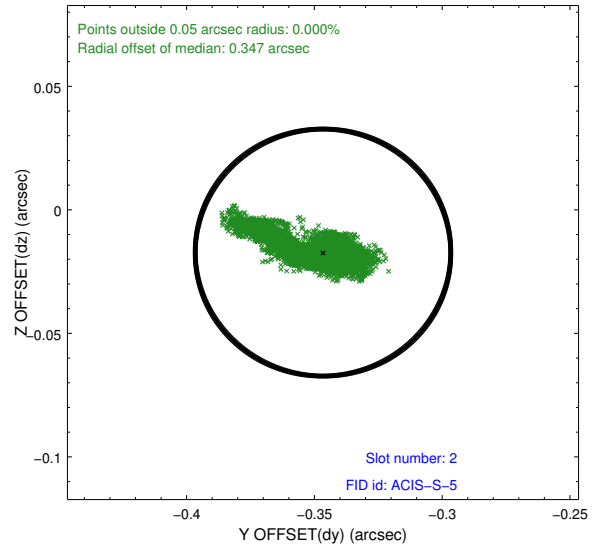
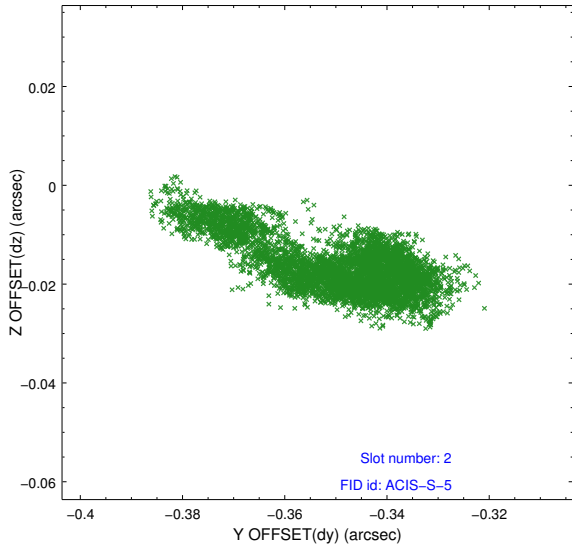
2.5.2 Slot 1



Time (s)

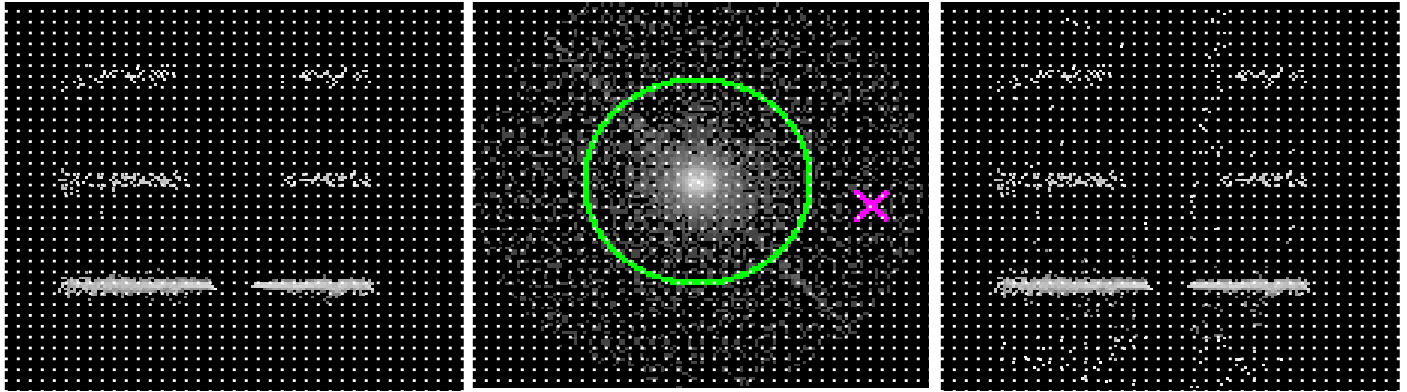


2.5.3 Slot 2



3 Gratings

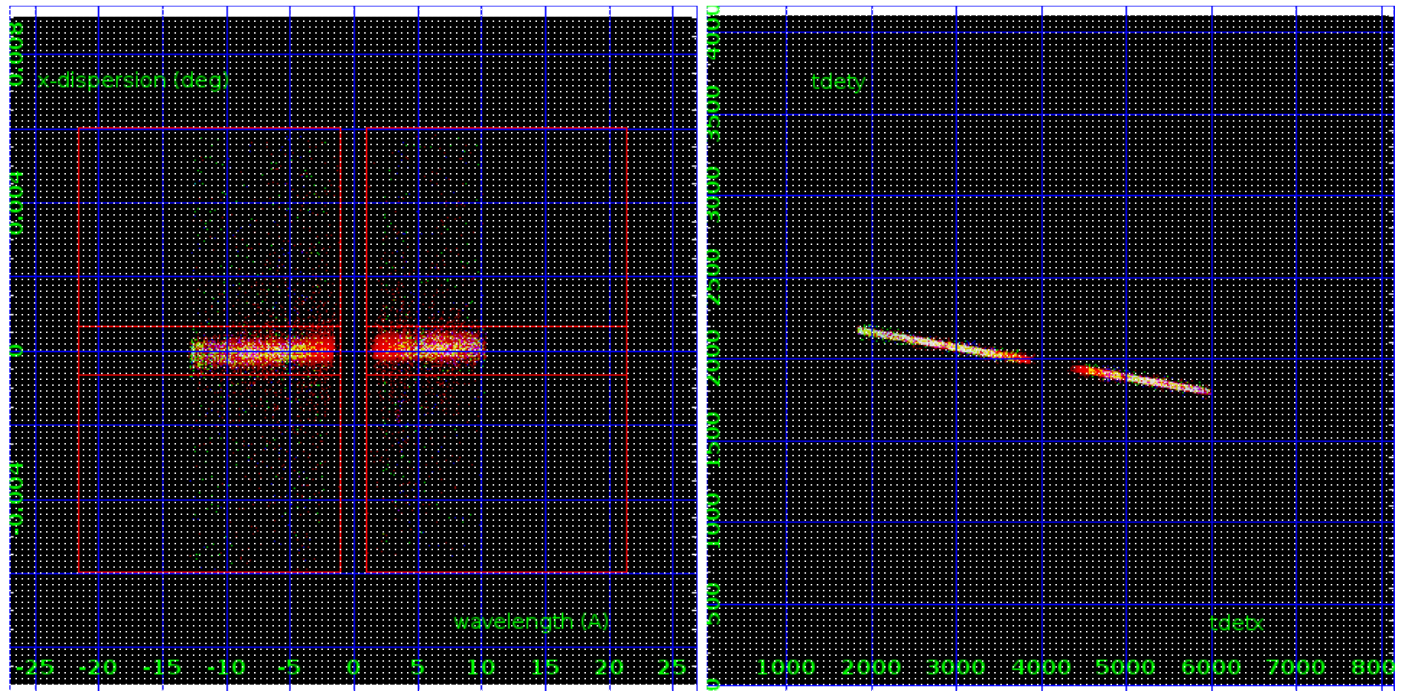
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

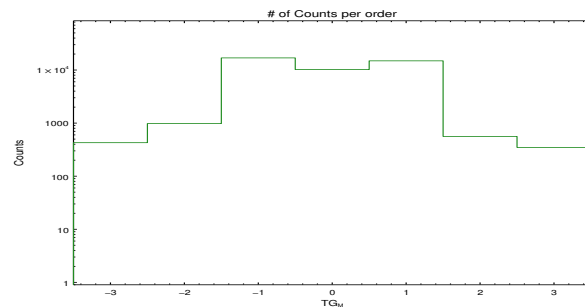
HEG Order Sort ALL



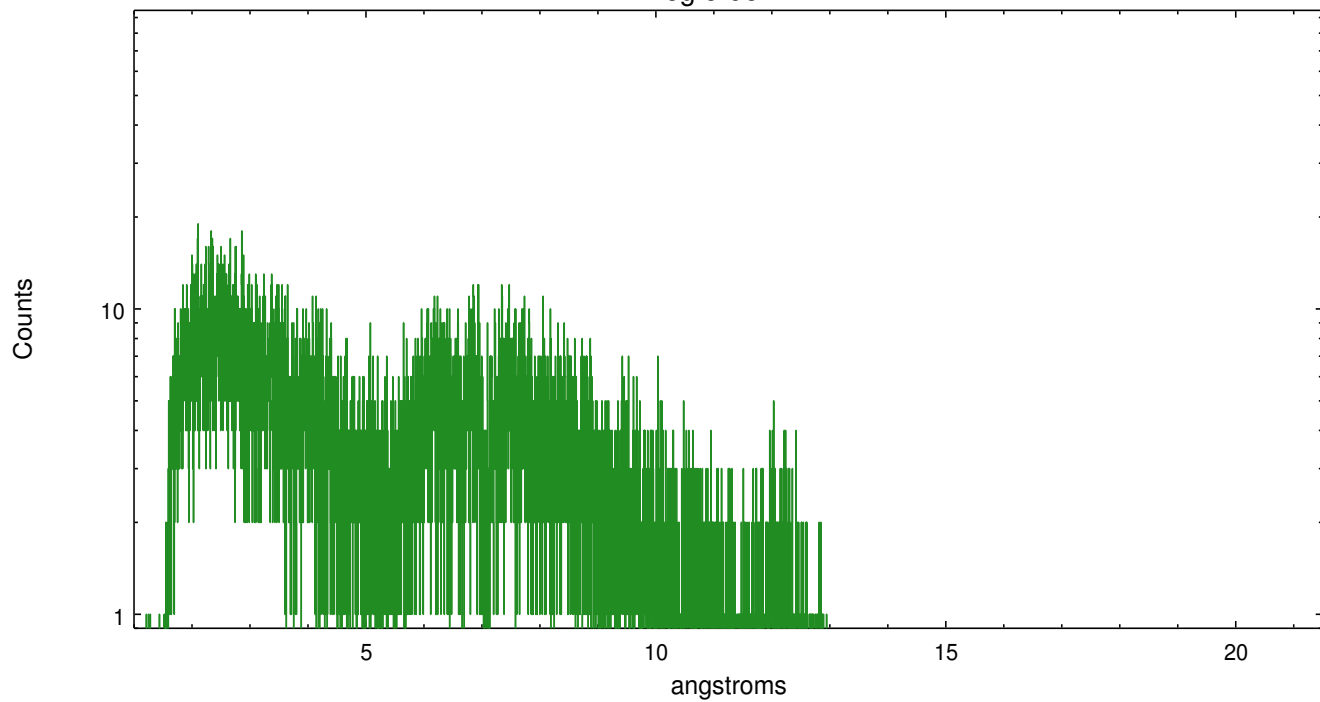
Spot Image HEG

Full Detector HEG

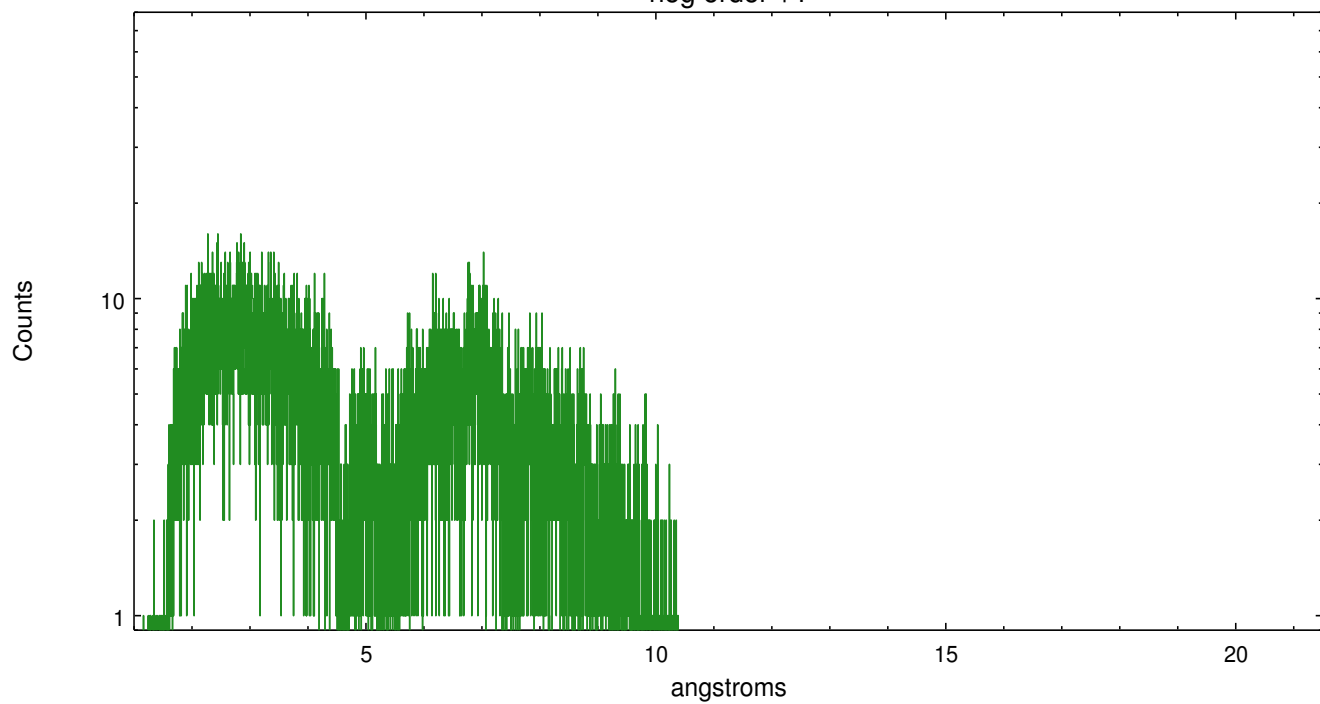
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	428	979	16925	10192	14900	561	348



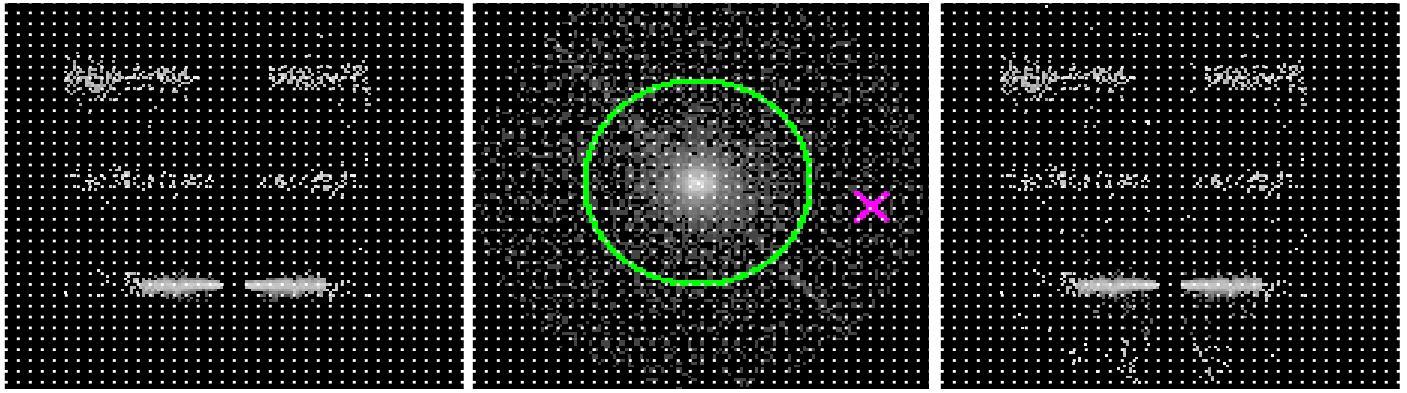
heg order -1



heg order +1



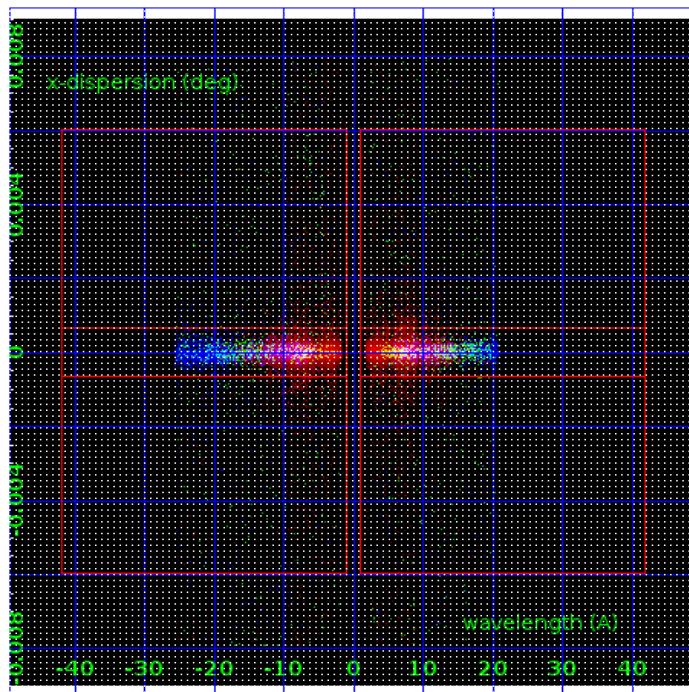
3.2 MEG Arm



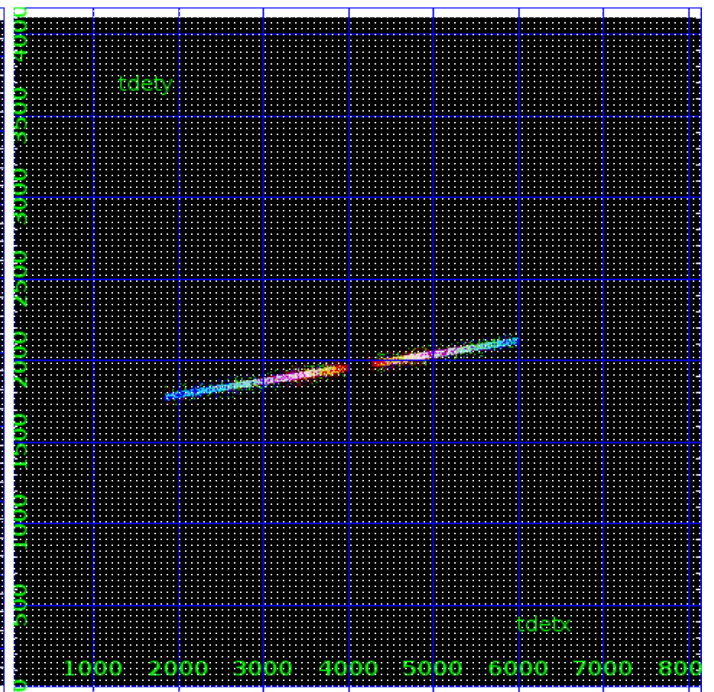
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

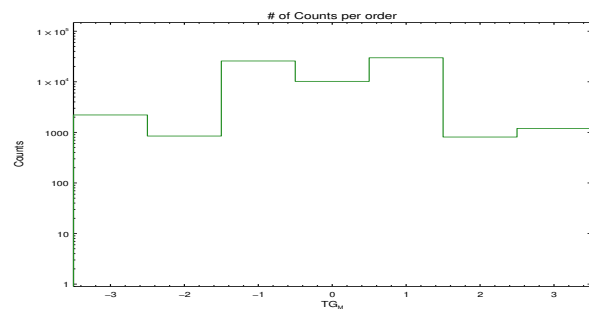


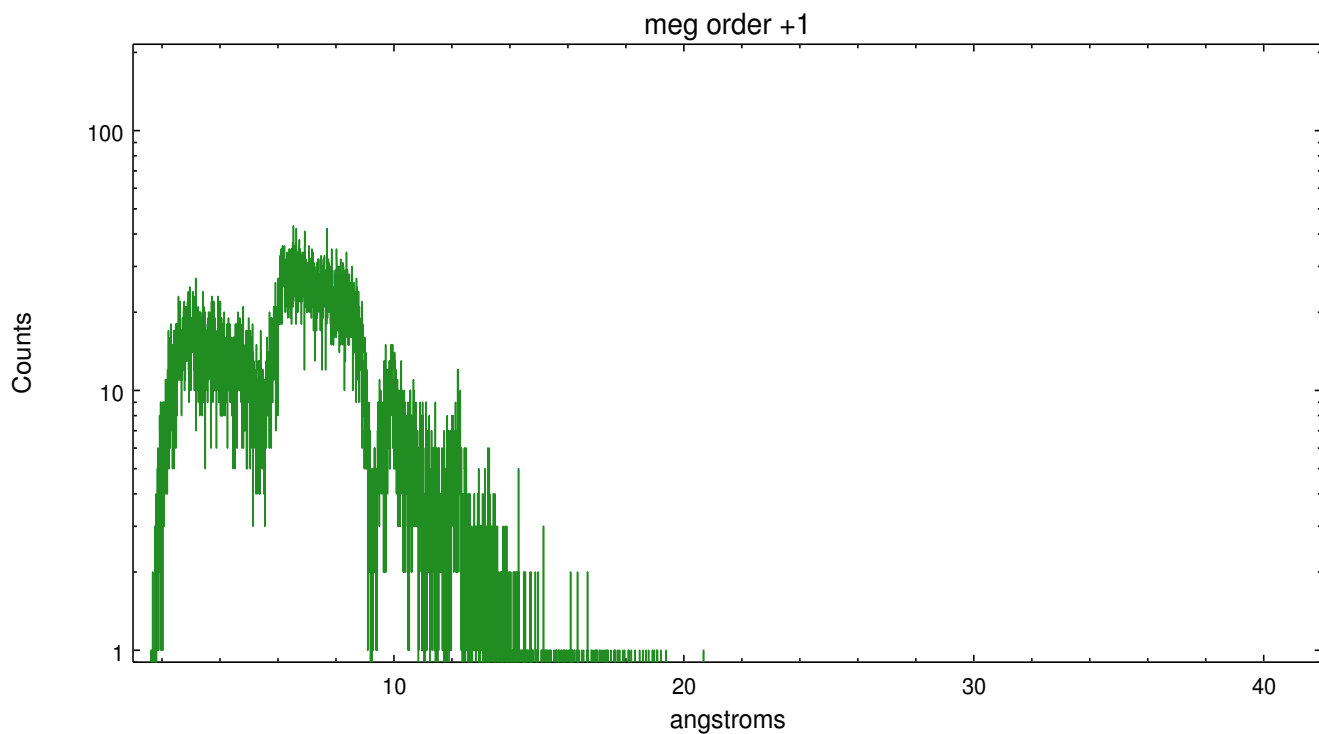
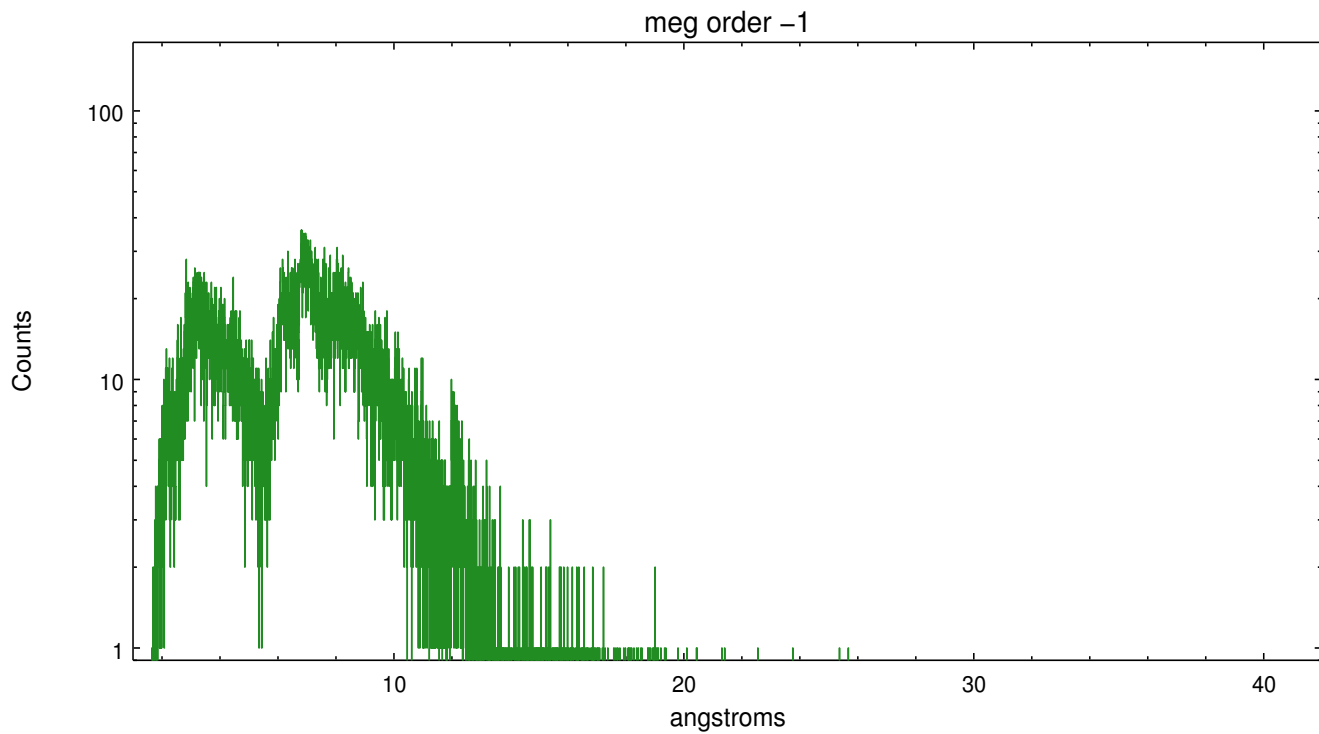
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2210	846	25798	10192	29847	809	1197





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.01.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.358117144227

A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is also available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.