

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20192 - L2 Version 1
Chandra X-Ray Center

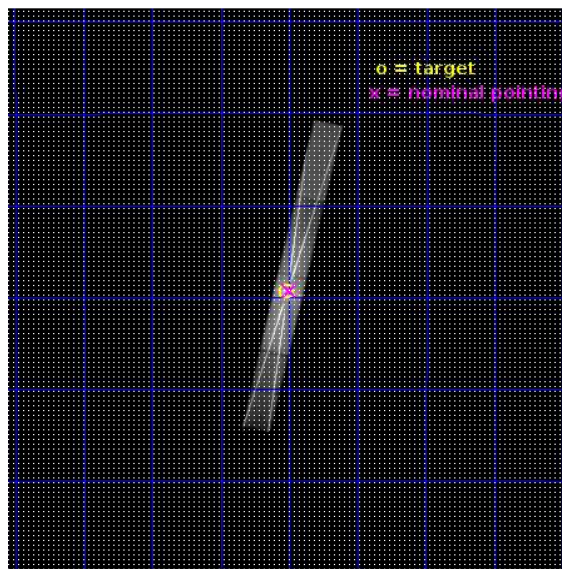
L2 Processing Date : May 26 2018

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1 Front

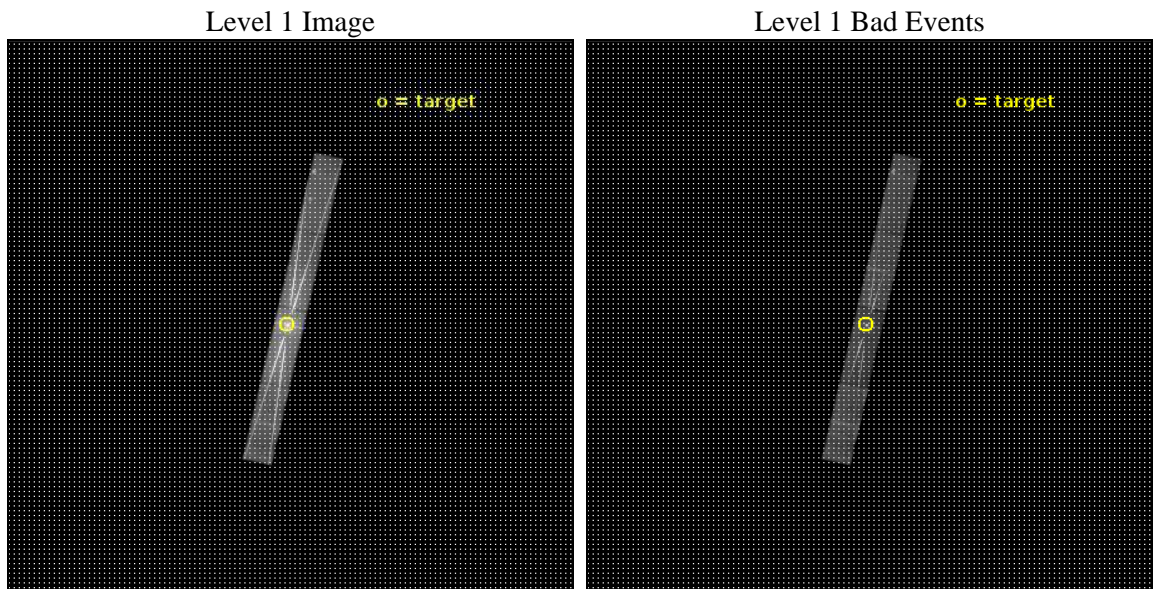
seq_num	401919	Sequence number
obs_id	20192	Observation id
title	Winds and jets in GX 13+1: a multi-wavelength campaign	Proposal ti
observer	Jeroen Homan	Principal investigator
object	GX 13+1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	273.6295	Observer's specified target RA [deg]
dec_targ	-17.157208	Observer's specified target Dec [deg]
ra_nom	273.62472557189	Nominal RA [deg]
dec_nom	-17.155140759849	Nominal Dec [deg]
roll_nom	102.71109235787	Nominal Roll [deg]
revision	1	Processing version of data
ontime	23079.225067258	Sum of GTIs [s]
livetime	22316.017276405	Livetime [s]
ontime5	23079.184027314	Sum of GTIs [s]
ontime6	23079.142987251	Sum of GTIs [s]
ontime7	23079.225067258	Sum of GTIs [s]
ontime8	23079.101947308	Sum of GTIs [s]
l2events	1968483	Number of level 2 events



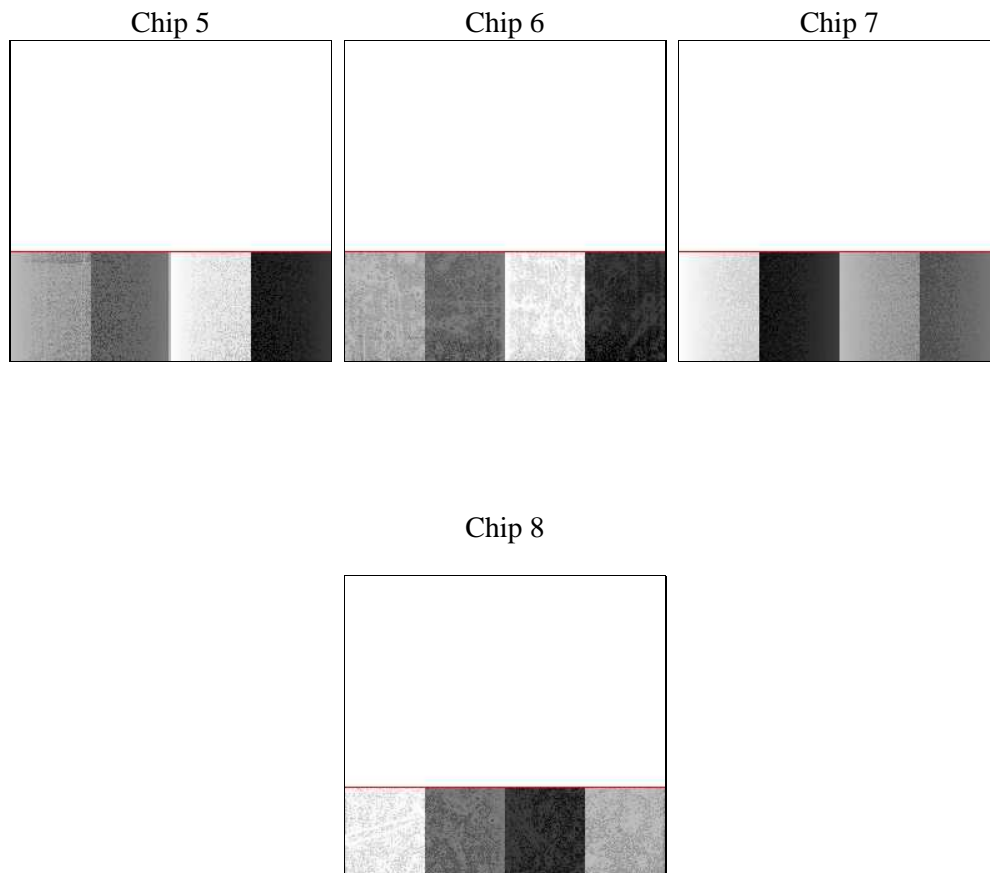
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	23000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	23079.225067258	Sum of GTIs [s]
caldbver	4.7.8	 	ontime5	23079.184027314	Sum of GTIs [s]
date	2018-05-26T23:11:29	Date and time of file creation	ontime6	23079.142987251	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	23079.225067258	Sum of GTIs [s]
			ontime8	23079.101947308	Sum of GTIs [s]
			l1events	2331794	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4063.19, 4081.83)	src1a sky pixel position
			zo_pos_tgd	(4062.77, 4082.34)	src1a sky pixel position via todetect

2.1.4 Events

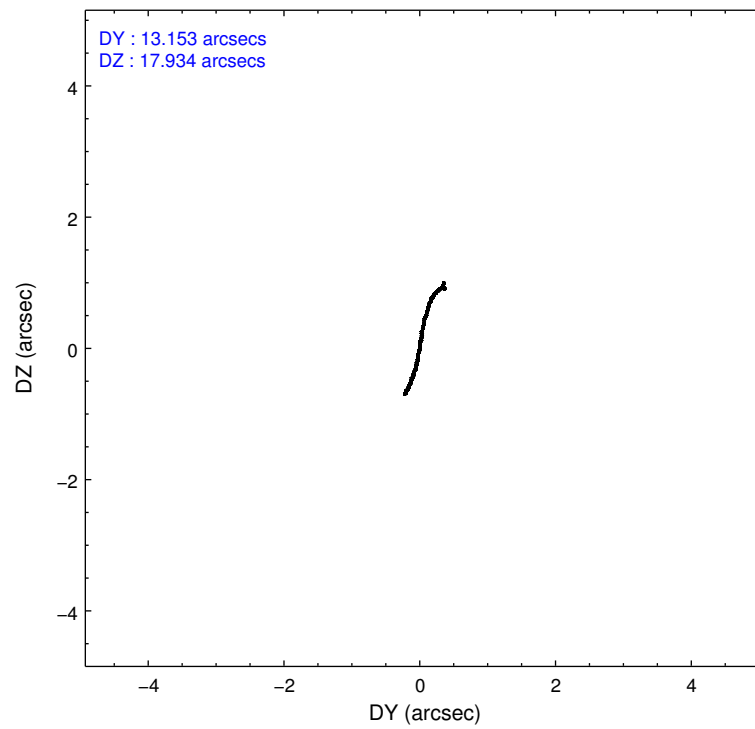
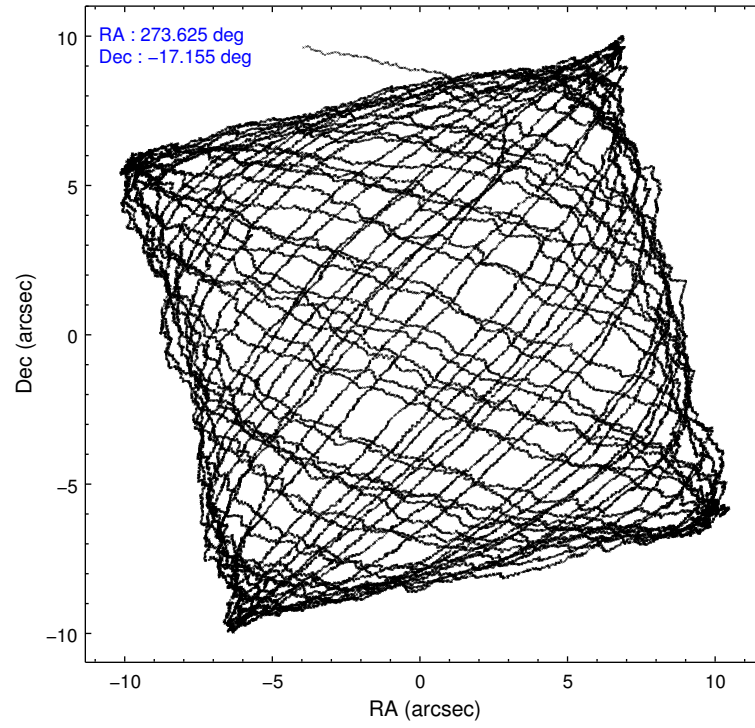
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	153103	773054	1185470	220167
rejected events	52411	80240	90747	63603
rejected %	34%	10%	7%	28%

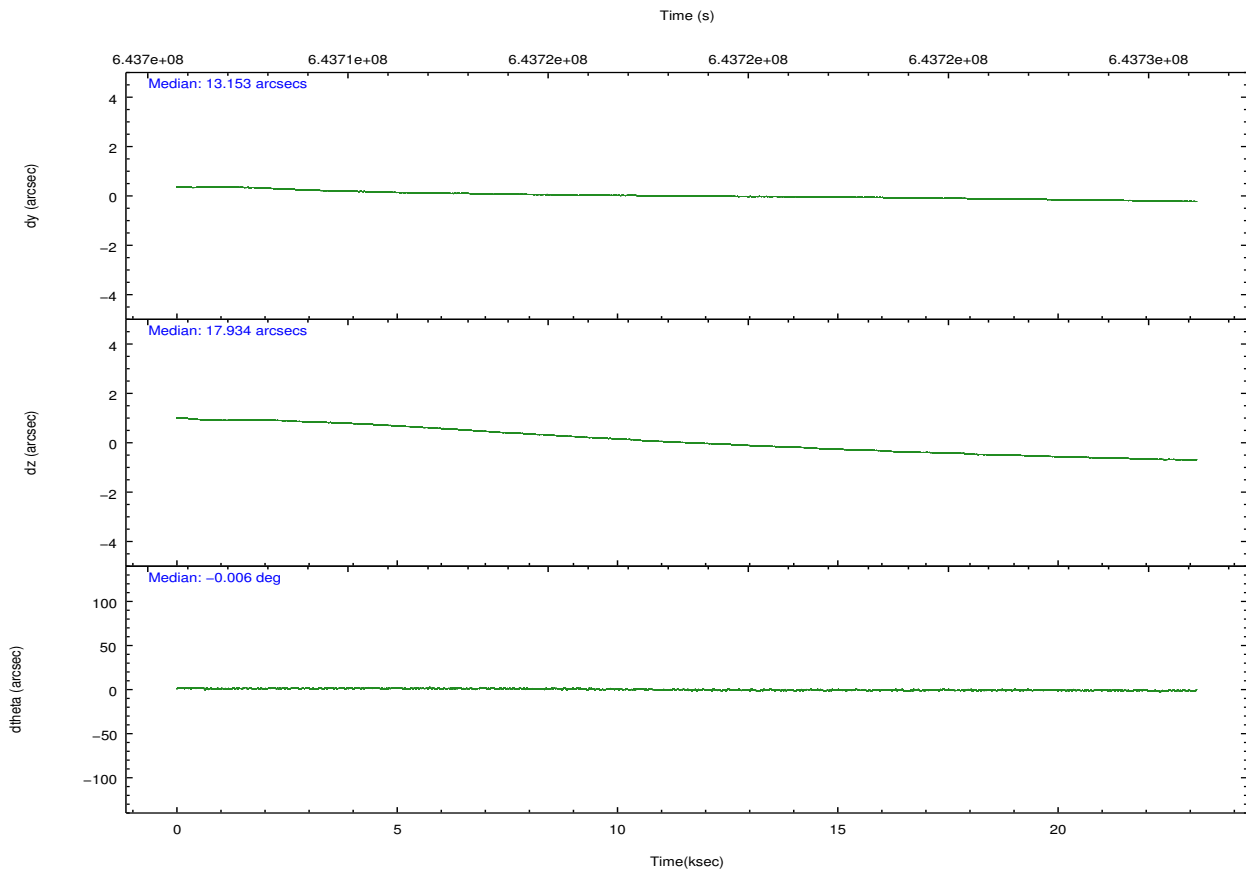
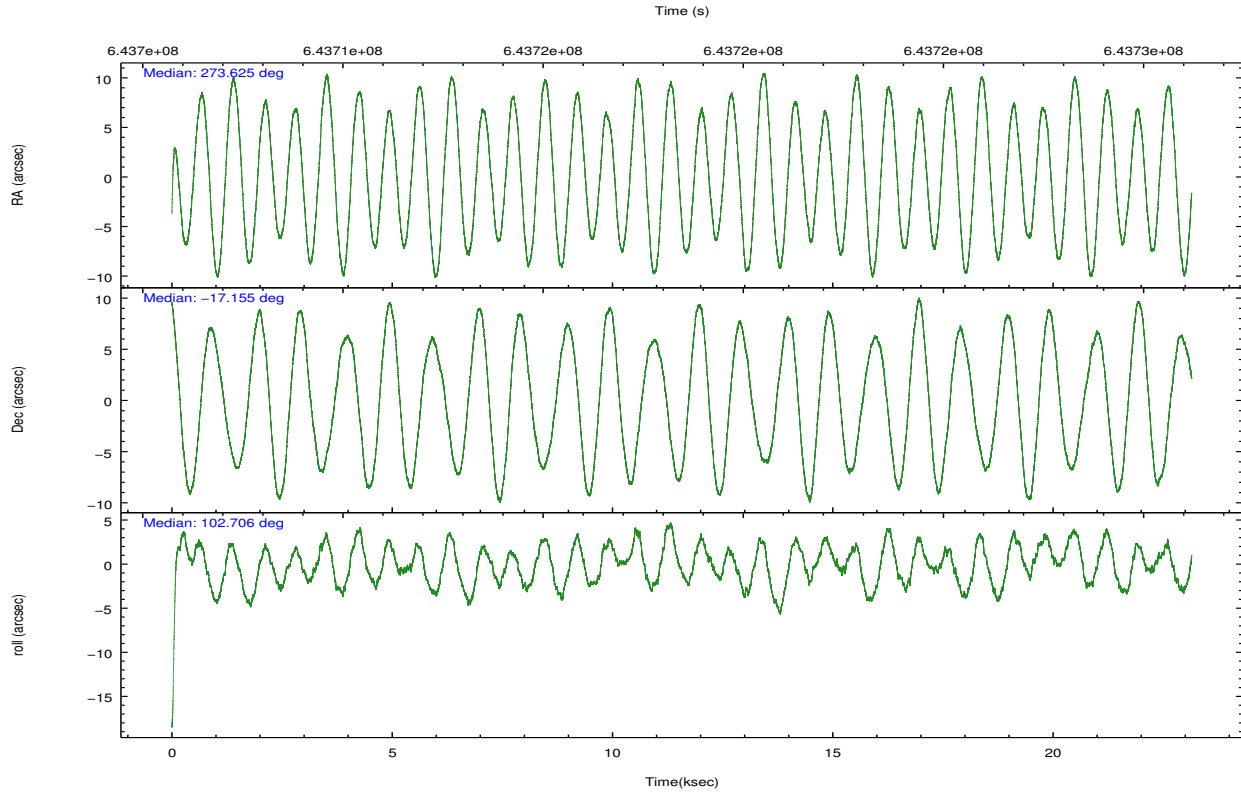
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	19987	483763	199367	108610
	13%	62%	16%	49%
grade 1 events	211	7256	3992	467
	0%	0%	0%	0%
grade 2 events	31991	97427	262701	20863
	20%	12%	22%	9%
grade 3 events	6911	33556	114456	7971
	4%	4%	9%	3%
grade 4 events	6319	33262	114605	7755
	4%	4%	9%	3%
grade 5 events	9047	9387	26846	4394
	5%	1%	2%	1%
grade 6 events	35491	44849	403646	11372
	23%	5%	34%	5%
grade 7 events	43146	63554	59857	58735
	28%	8%	5%	26%

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	273.644515	273.6247255718864	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-17.175066	-17.15514075984884	Subarray start row	1	1
[deg] Pointing Roll	102.560315	102.7110923578678	Subarray row count	350	350
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	1.2
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	643707059.184000	643705857.19232			
Observation start date	2018-05-26T07:29:50	2018-05-26T07:10:57			
[s] Observation end time (MET)	643730059.184000	643730588.39378			
Observation end date	2018-05-26T13:53:10	2018-05-26T14:03:08			
Read mode	TIMED	TIMED			

2.3 Aspect





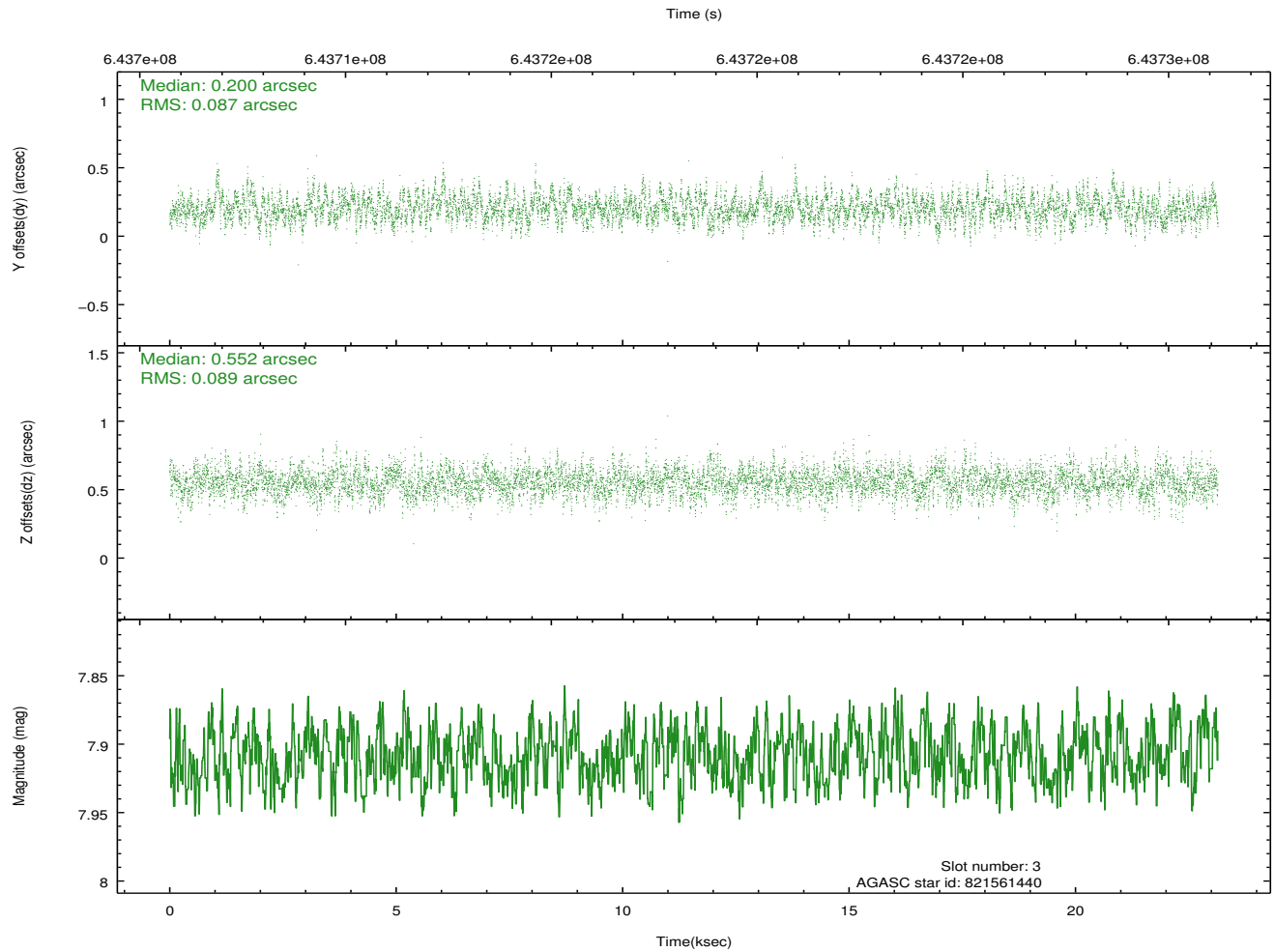
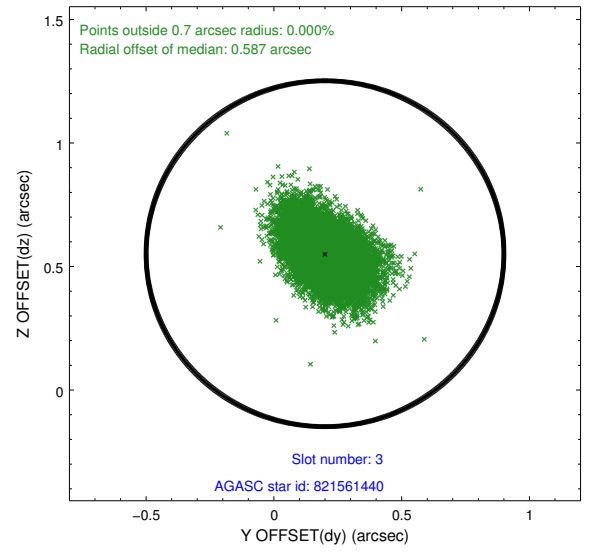
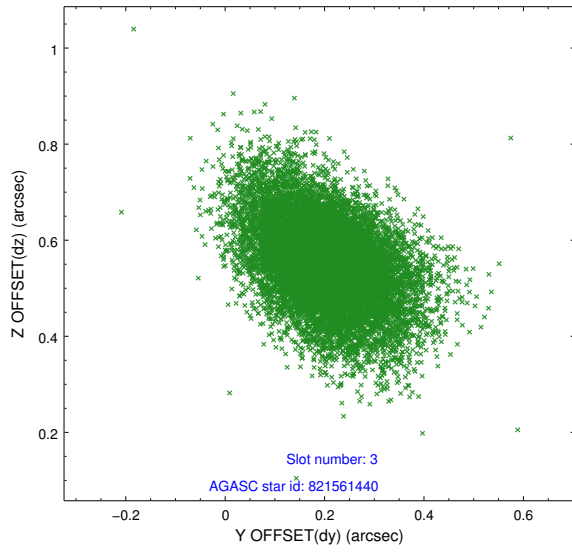
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.15	5644	0.142	0.176	0.025	0.046	0.000000	0.000000	930.68	-1899.64
1	FID		ACIS-S-2	7.05	5646	-0.263	-0.158	0.026	0.034	0.000000	0.000000	-765.56	-1904.71
2	FID		ACIS-S-6	7.37	5644	0.101	-0.011	0.018	0.024	0.000000	0.000000	396.20	641.32
3	GUIDE	used	821561440	7.91	11291	0.200	0.552	0.130	0.221	273.991252	-17.607934	-1780.37	-821.91
4	GUIDE	used	821570064	6.53	11292	-0.133	-0.415	0.100	0.182	273.185111	-17.414521	-500.35	1727.54
5	GUIDE	used	821053528	8.26	11283	-0.191	0.063	0.105	0.190	273.625019	-16.498449	2391.92	-463.38
6	GUIDE	used	821183504	8.35	11284	0.175	0.241	0.151	0.254	274.206900	-16.517860	1885.36	-2408.32
7	GUIDE	used	821566976	8.41	11286	-0.051	-0.442	0.125	0.214	272.948338	-16.893938	1505.32	2120.97

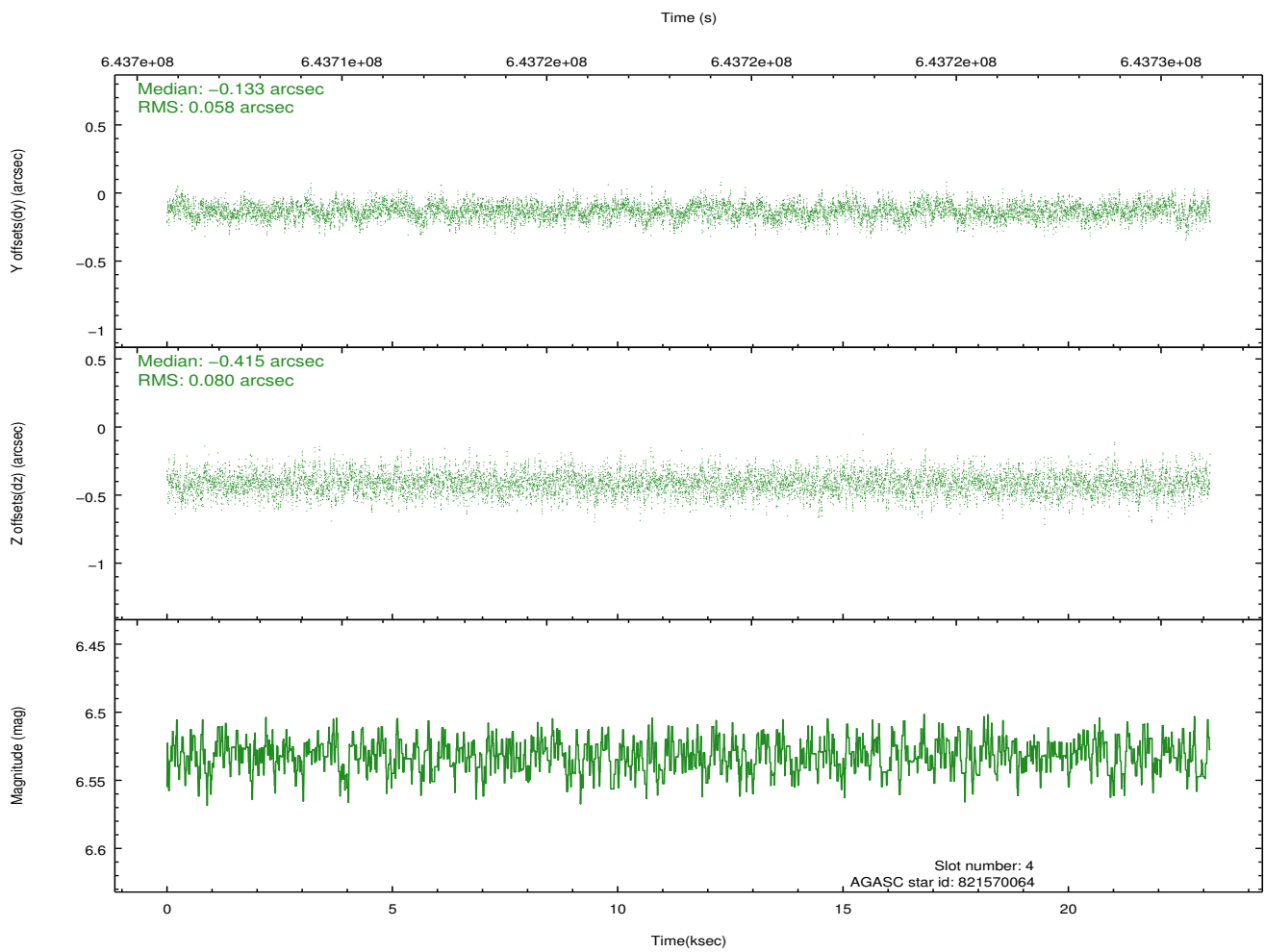
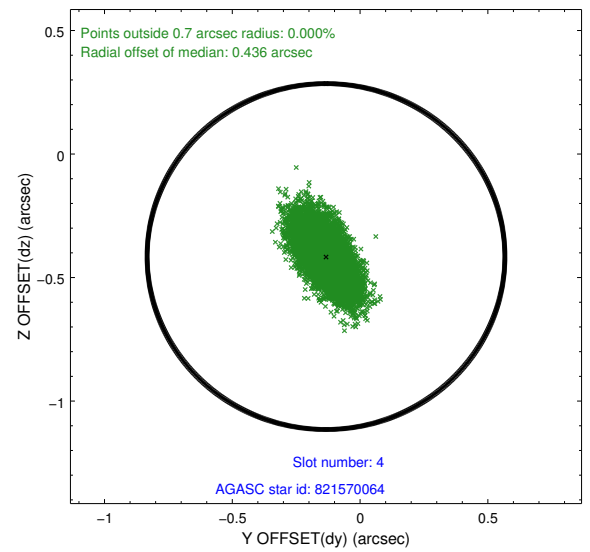
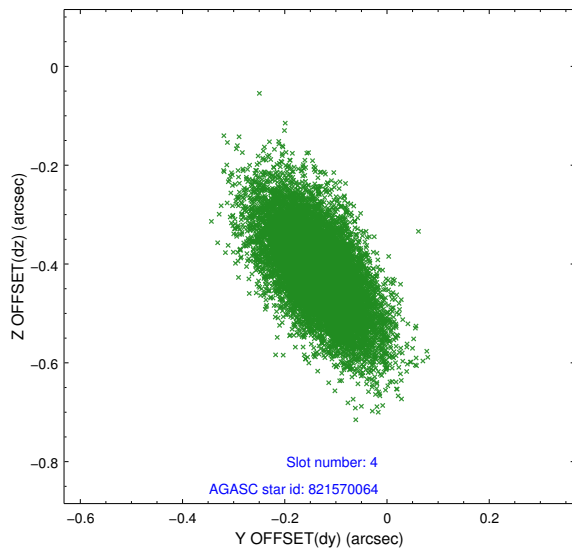
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2.4 Star Slots

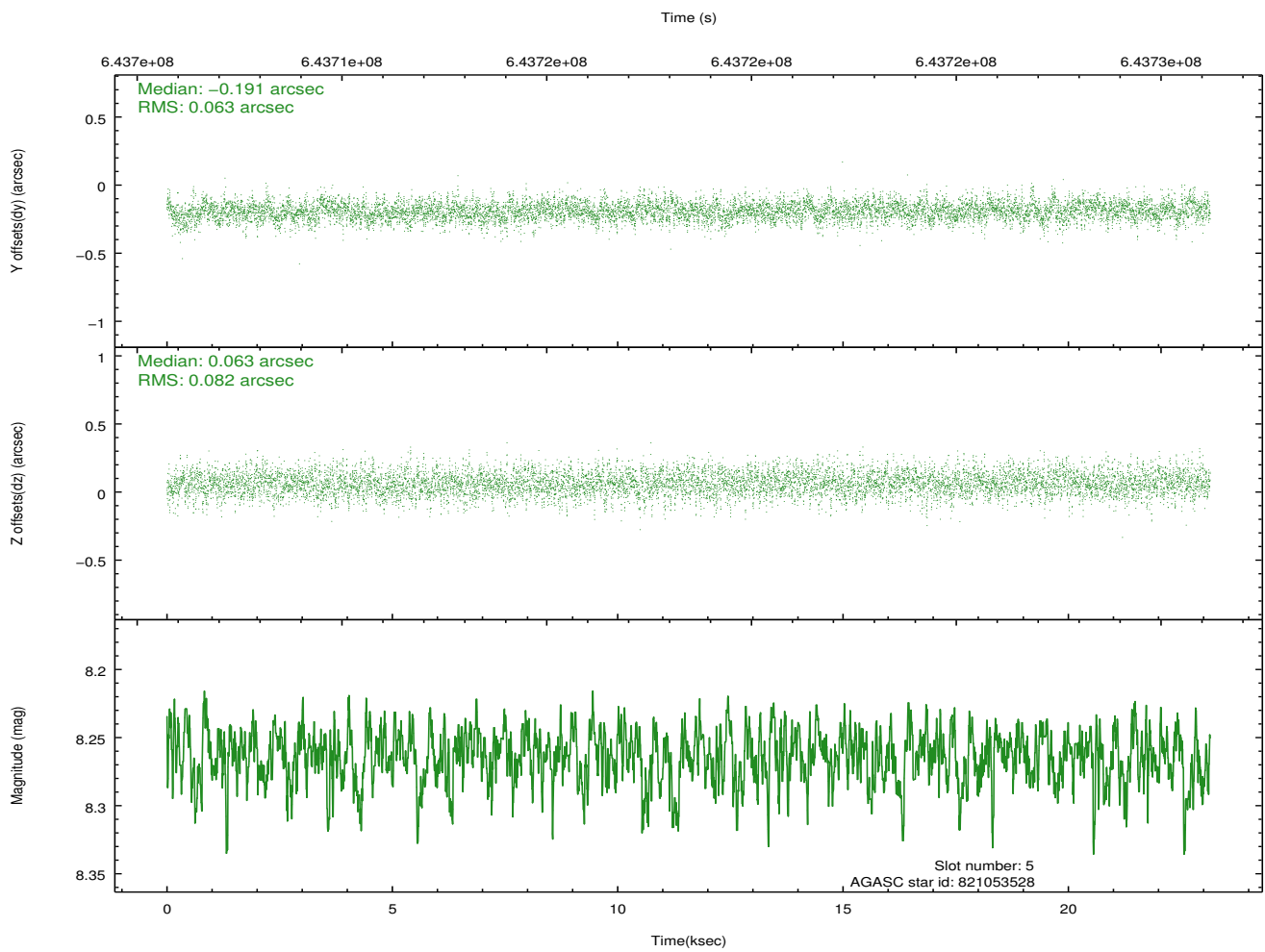
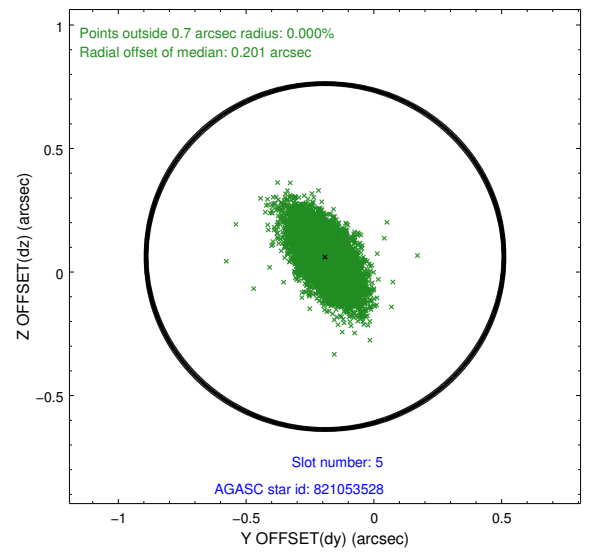
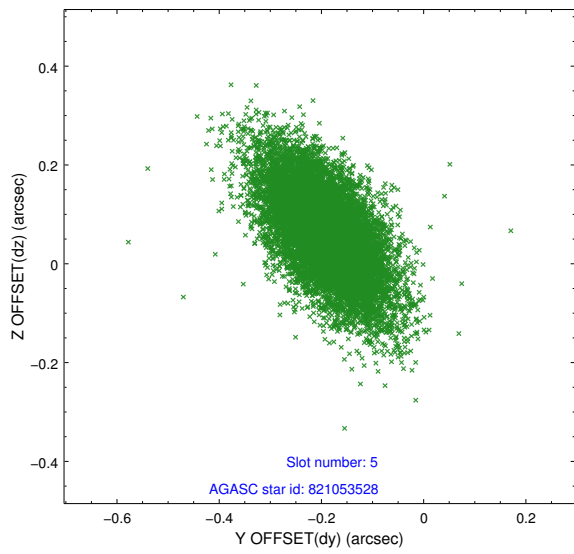
2.4.1 Slot 3



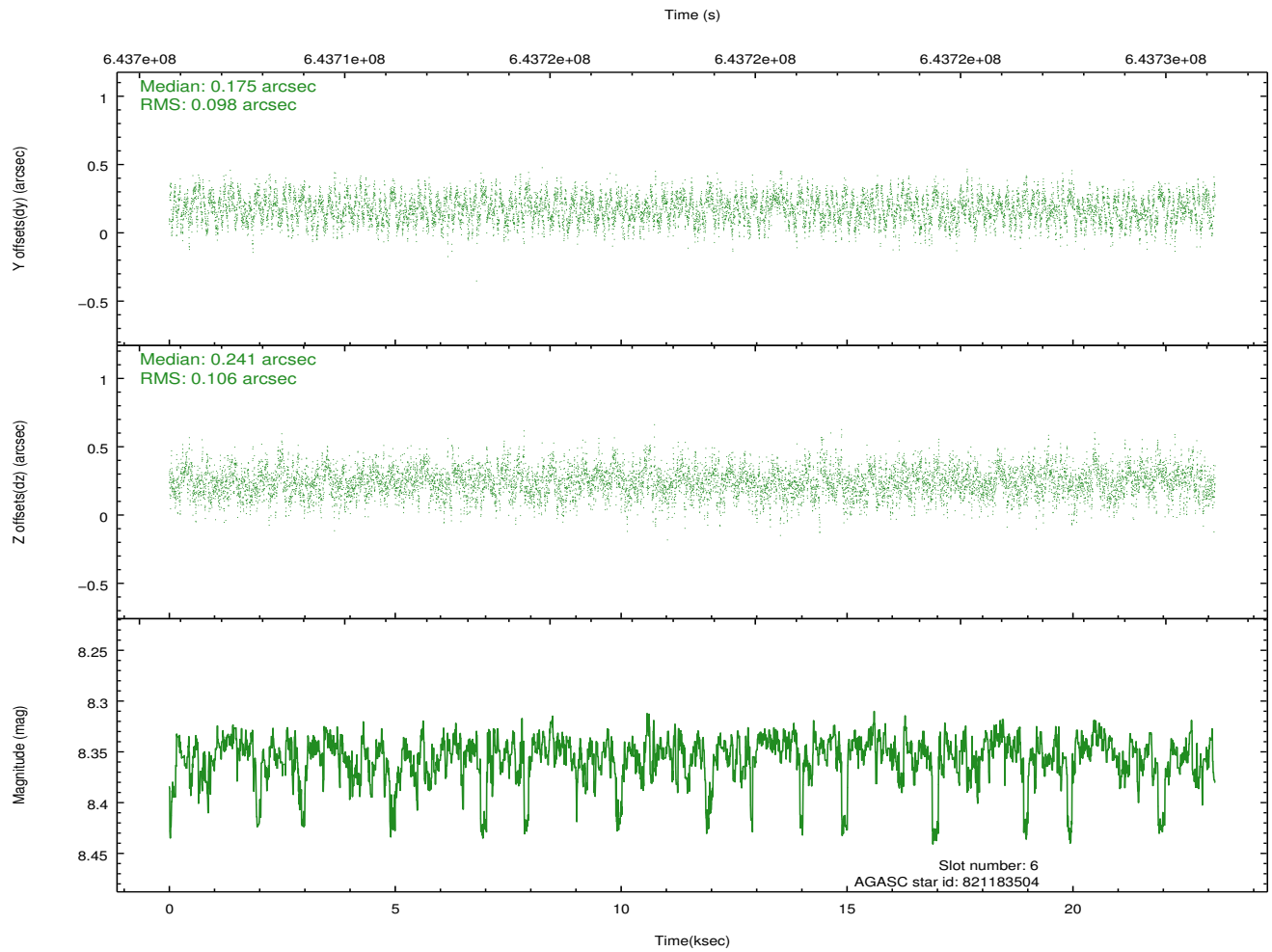
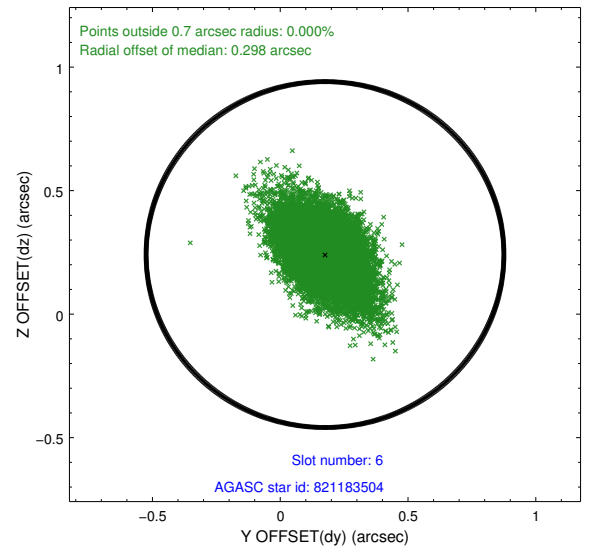
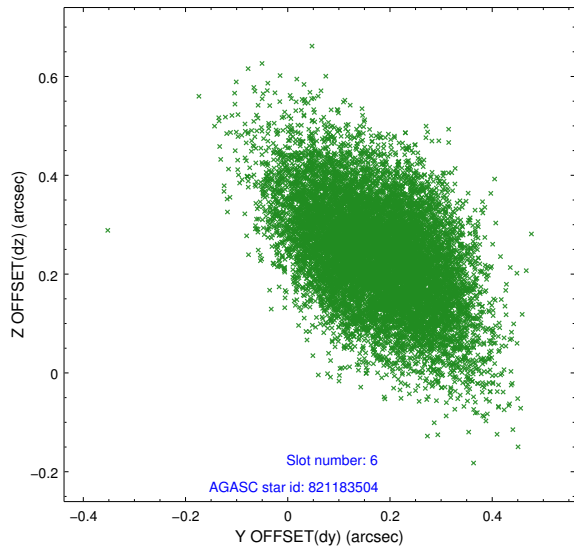
2.4.2 Slot 4



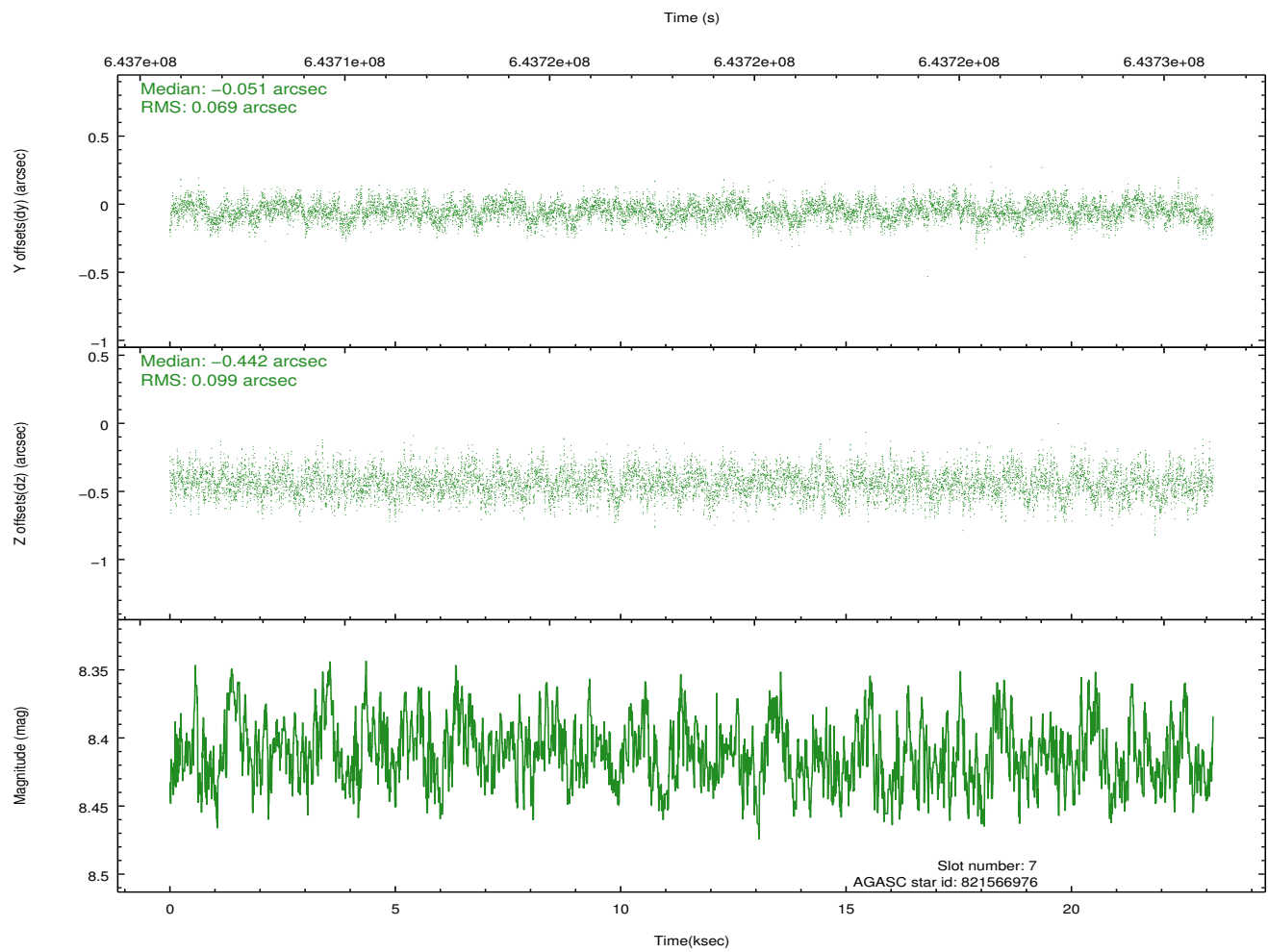
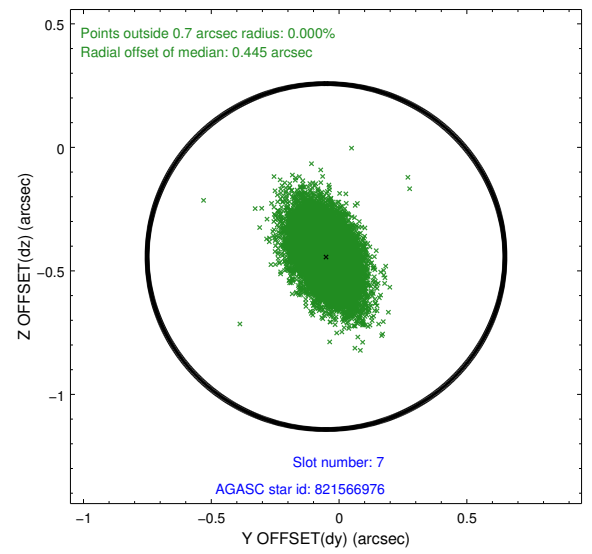
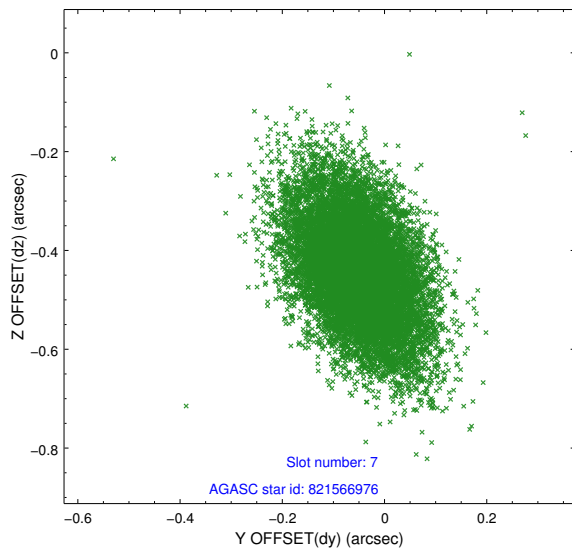
2.4.3 Slot 5



2.4.4 Slot 6

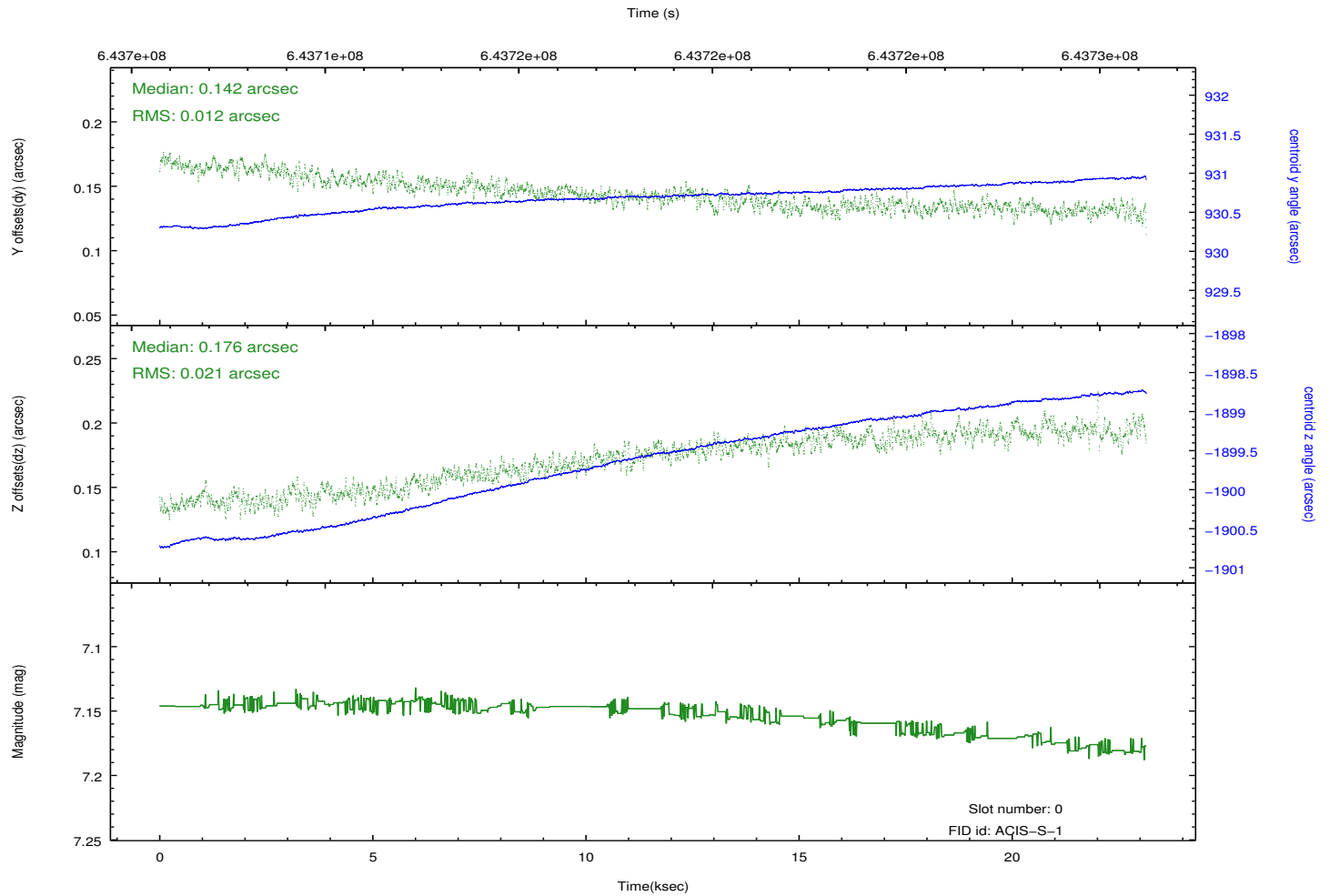
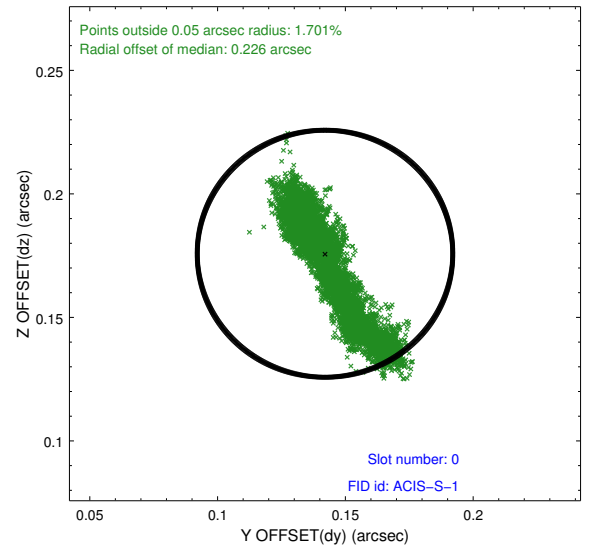
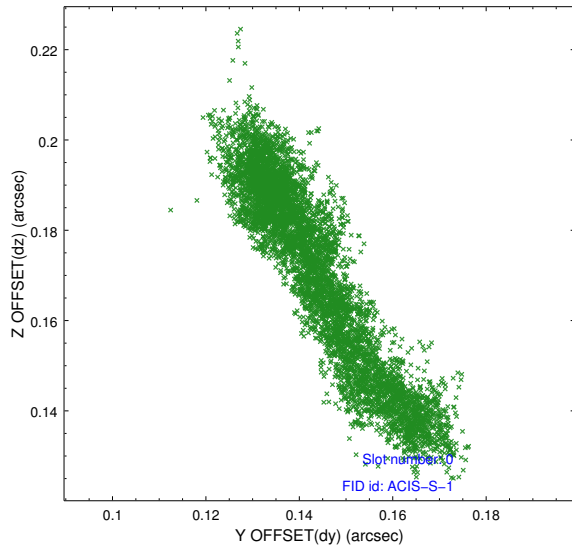


2.4.5 Slot 7

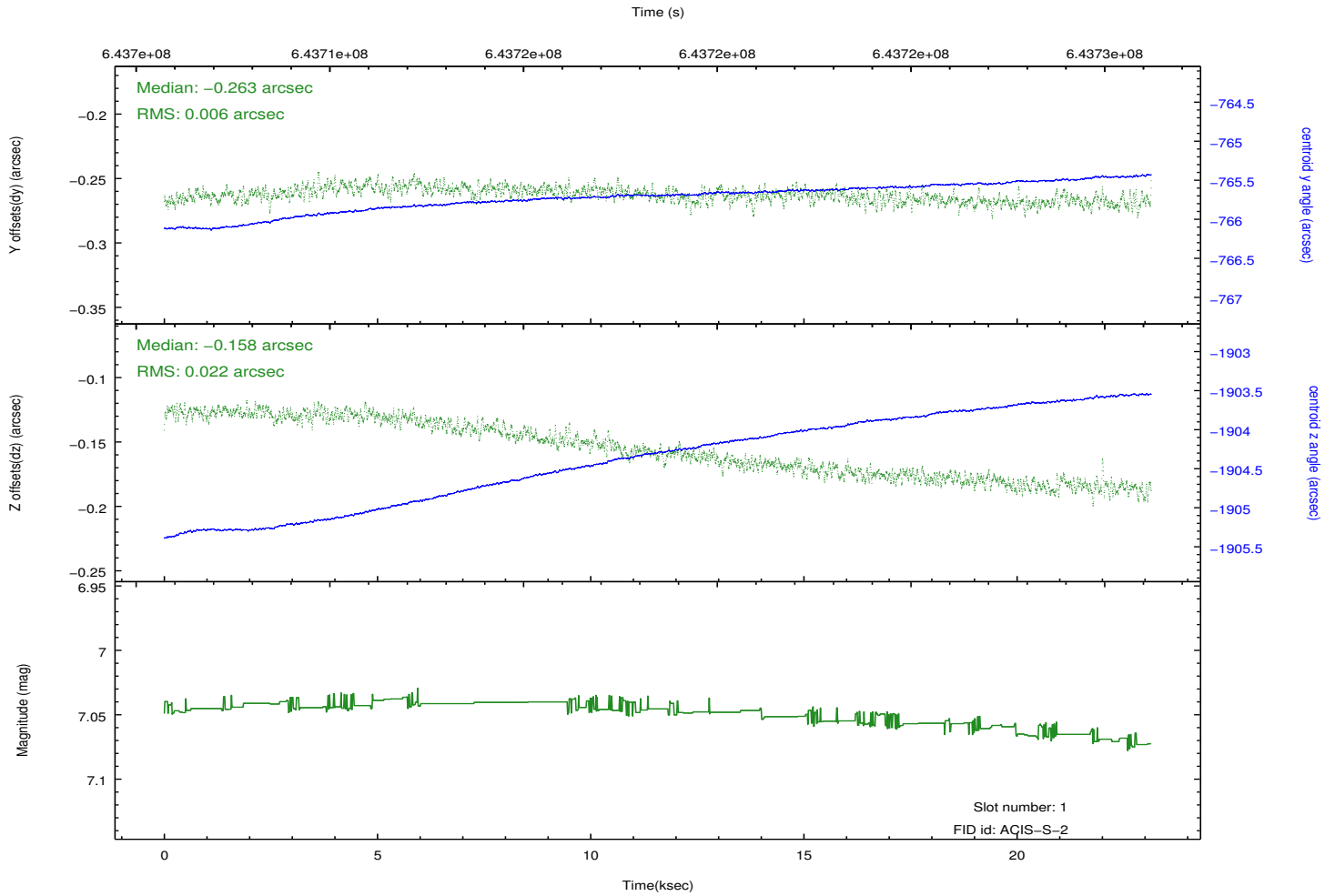
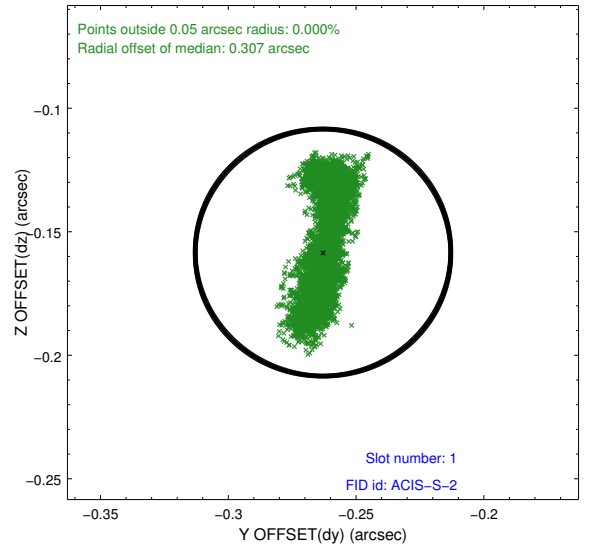
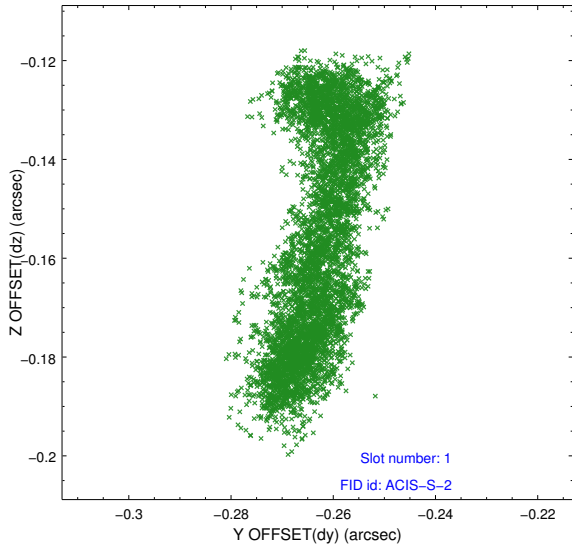


2.5 FID Slots

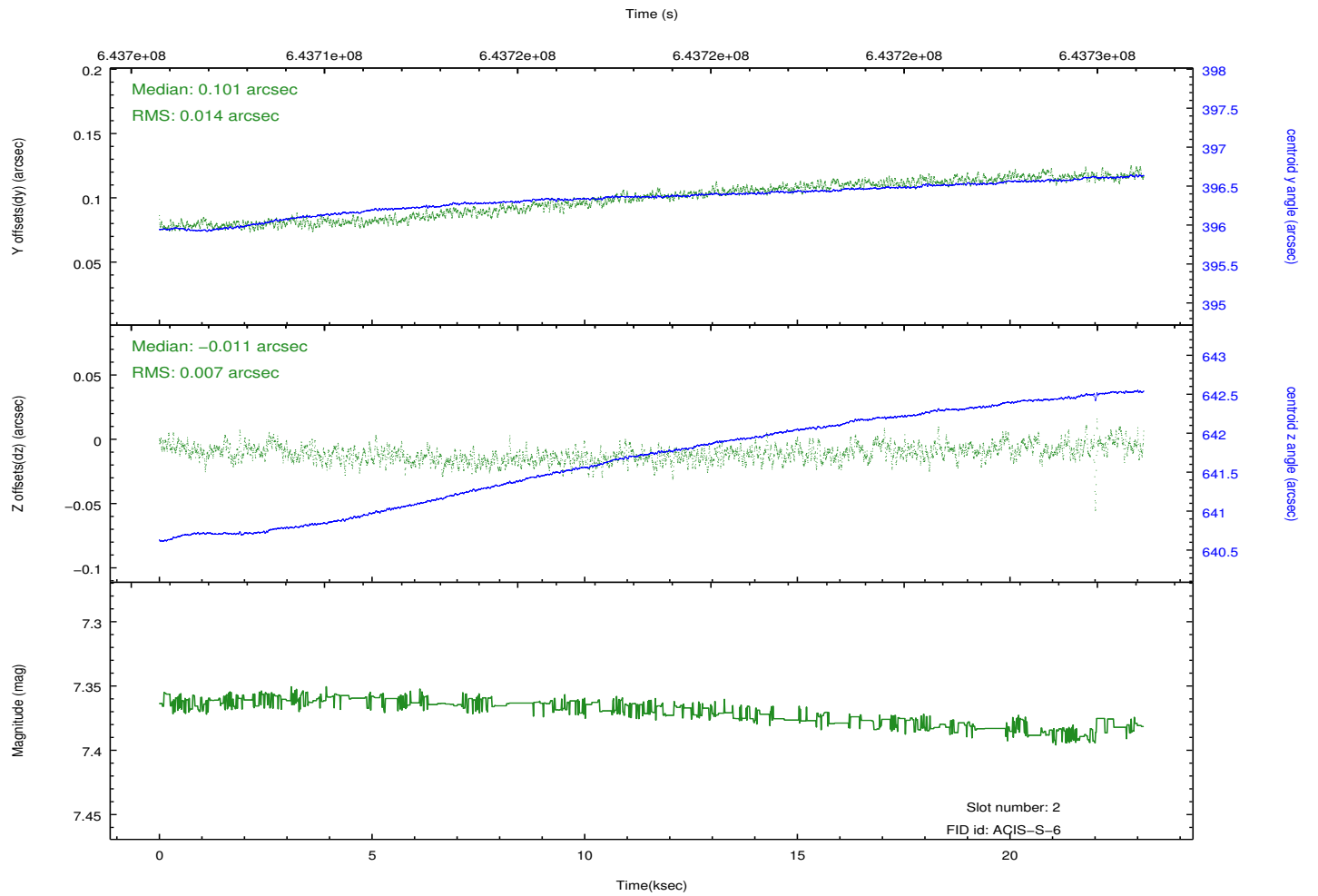
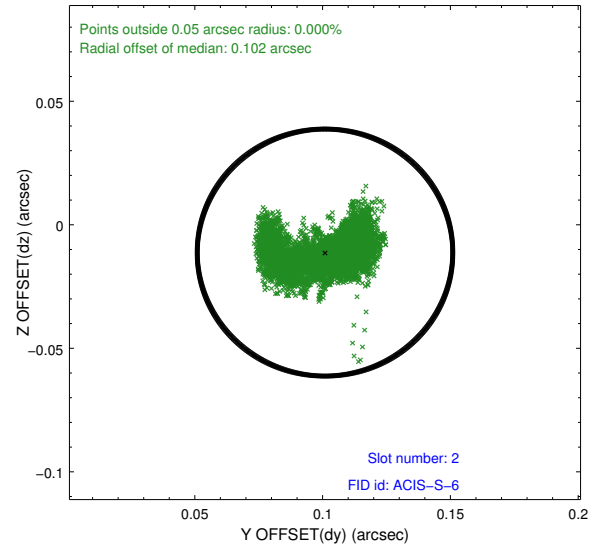
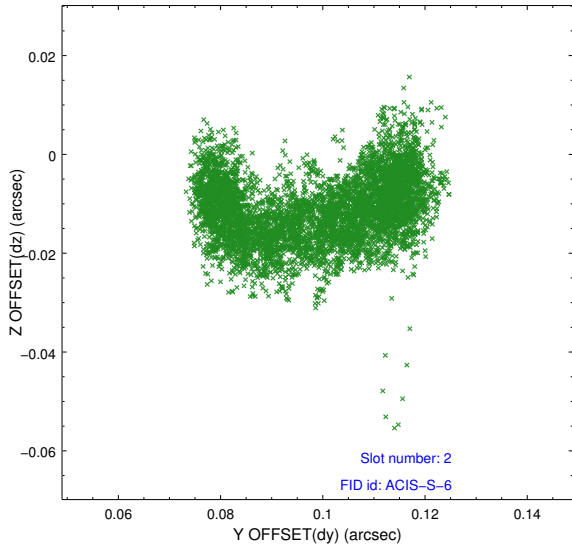
2.5.1 Slot 0



2.5.2 Slot 1

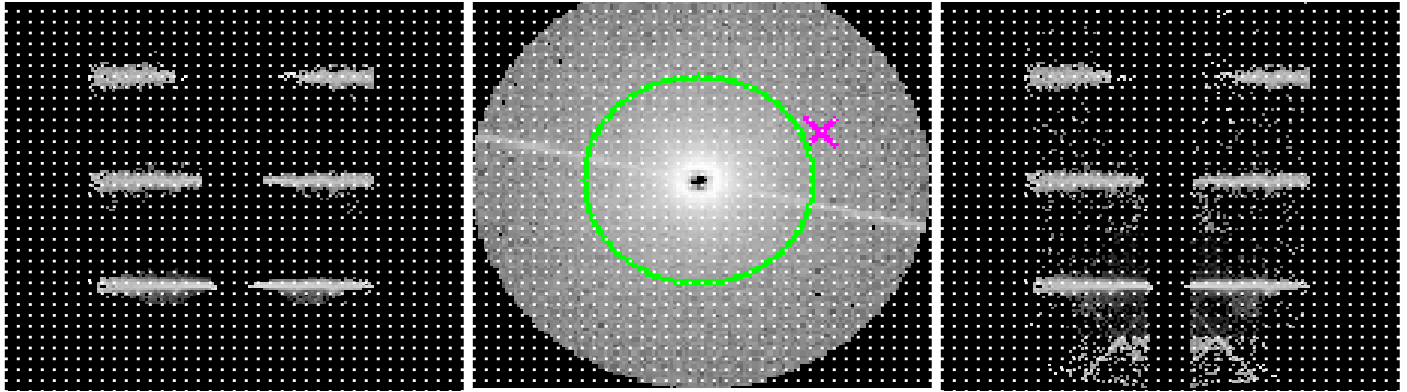


2.5.3 Slot 2



3 Gratings

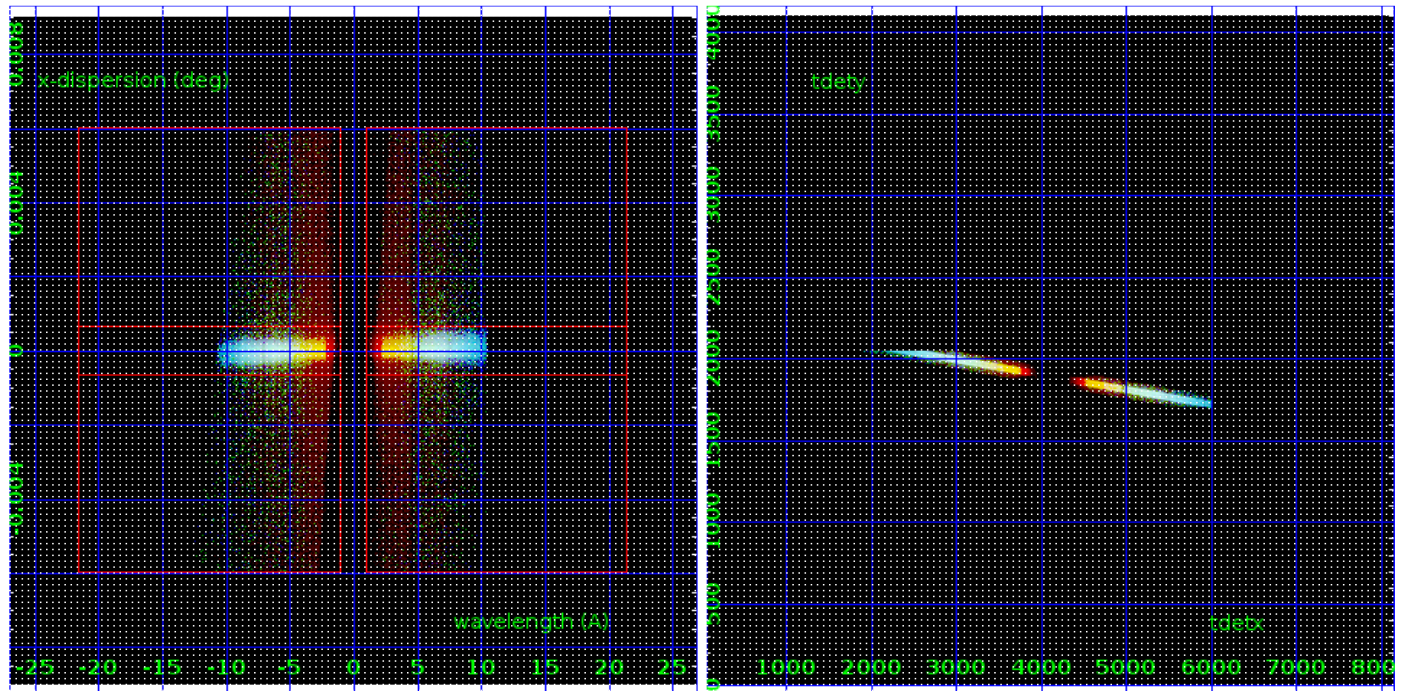
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

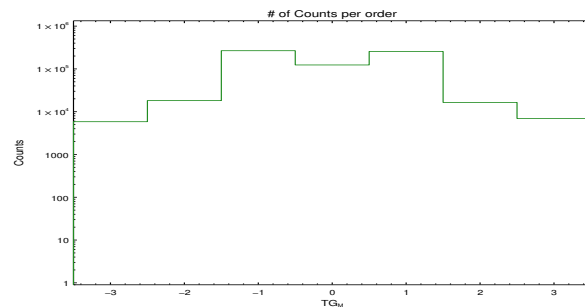
HEG Order Sort ALL

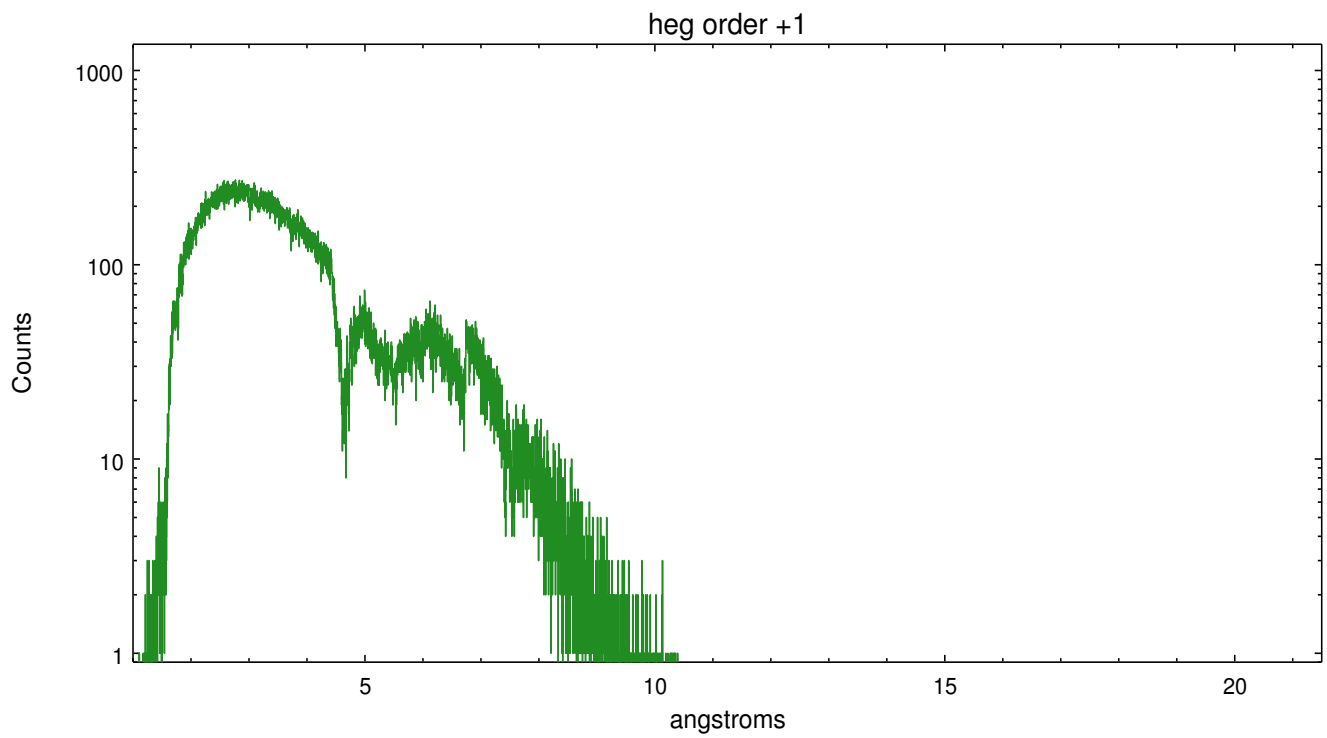
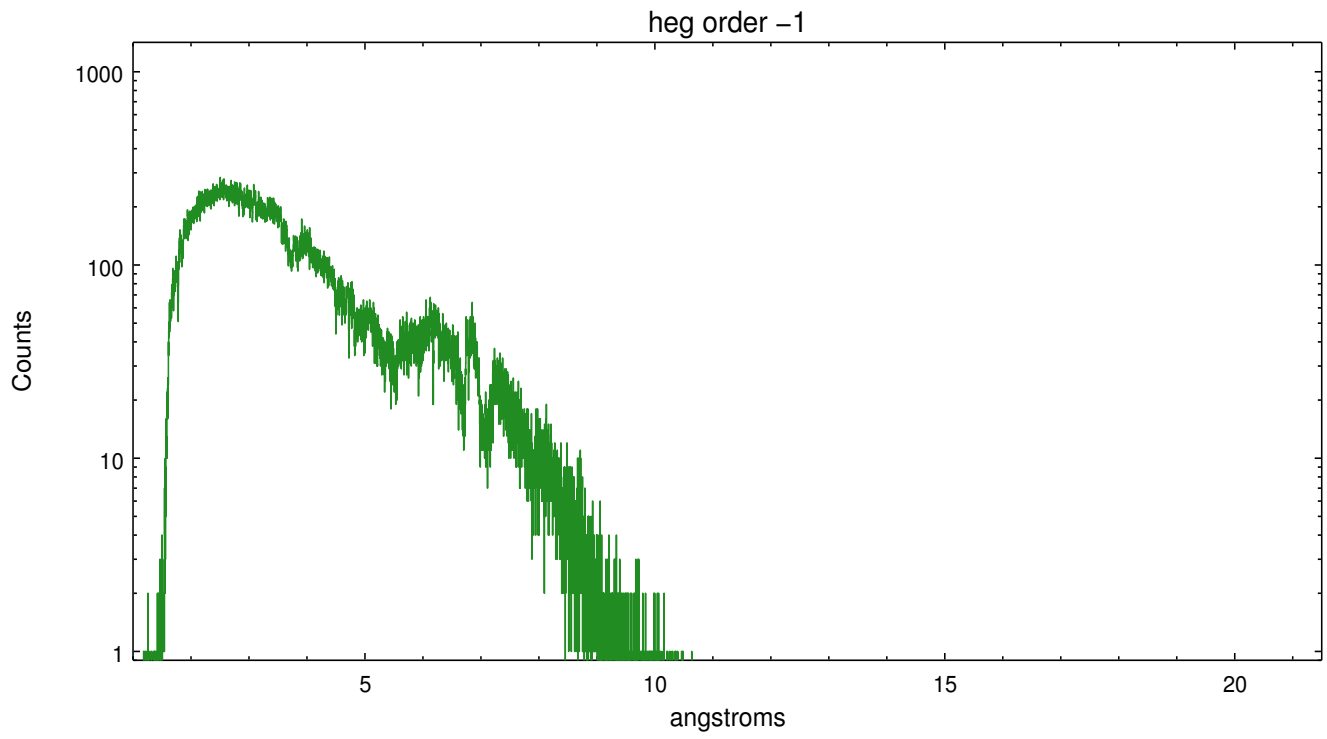


Spot Image HEG

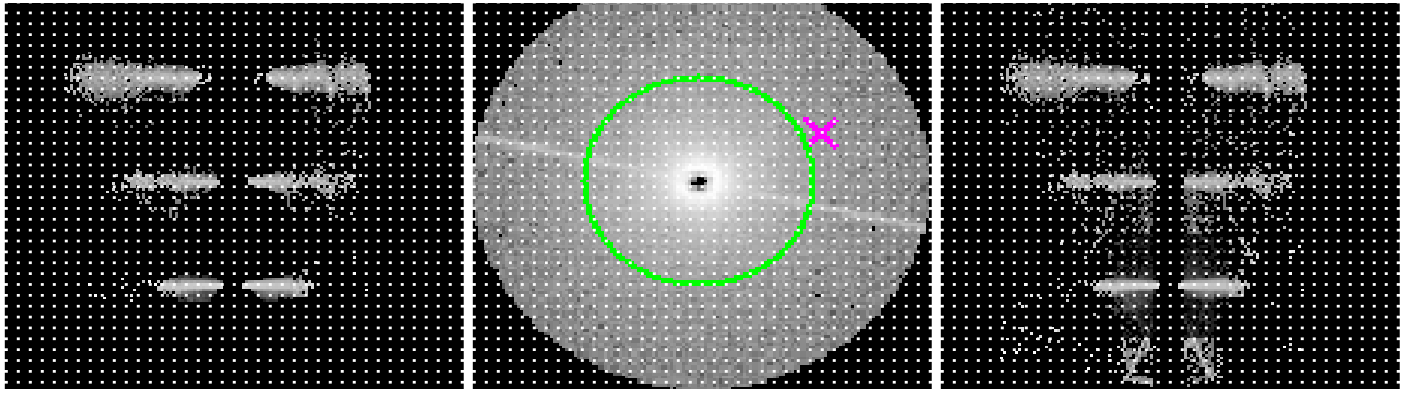
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	5839	18162	266523	123709	255800	16474	6936





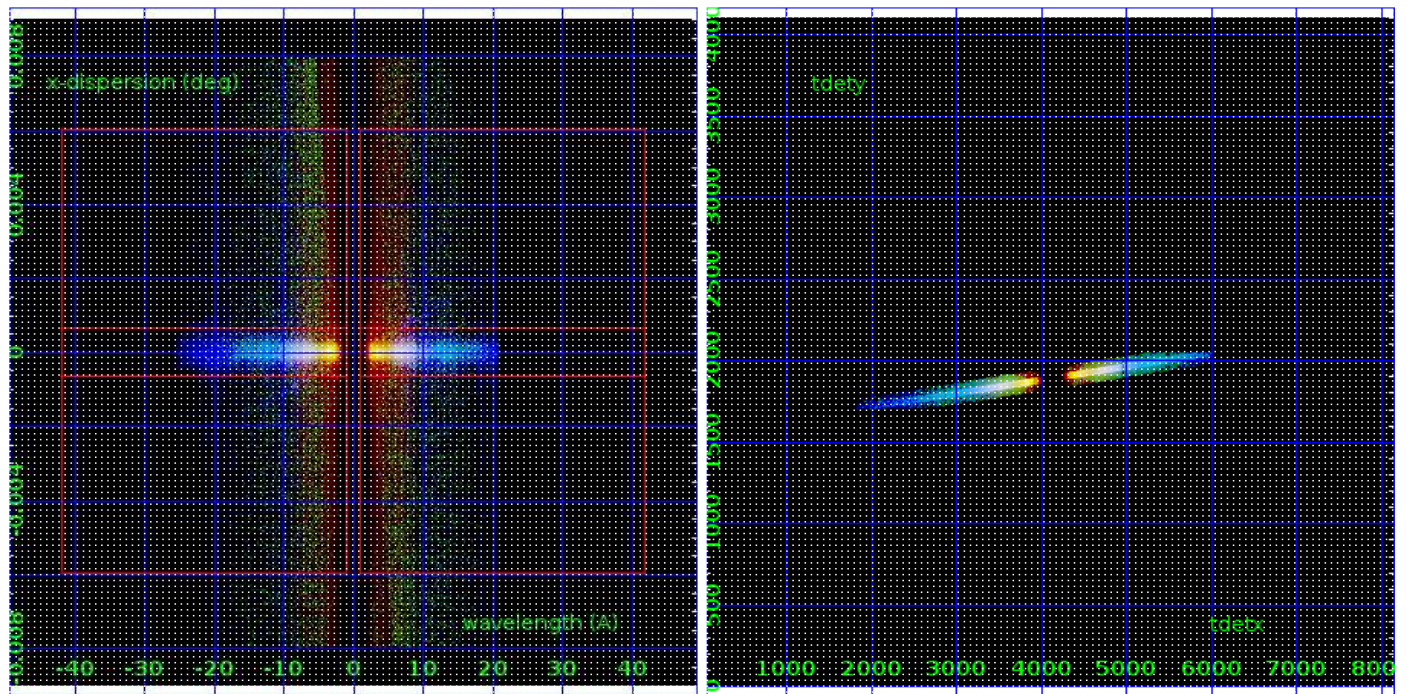
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

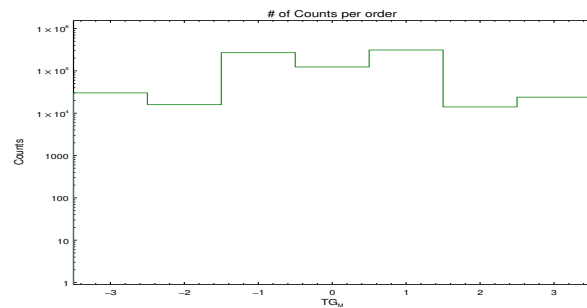
MEG Order Sort ALL

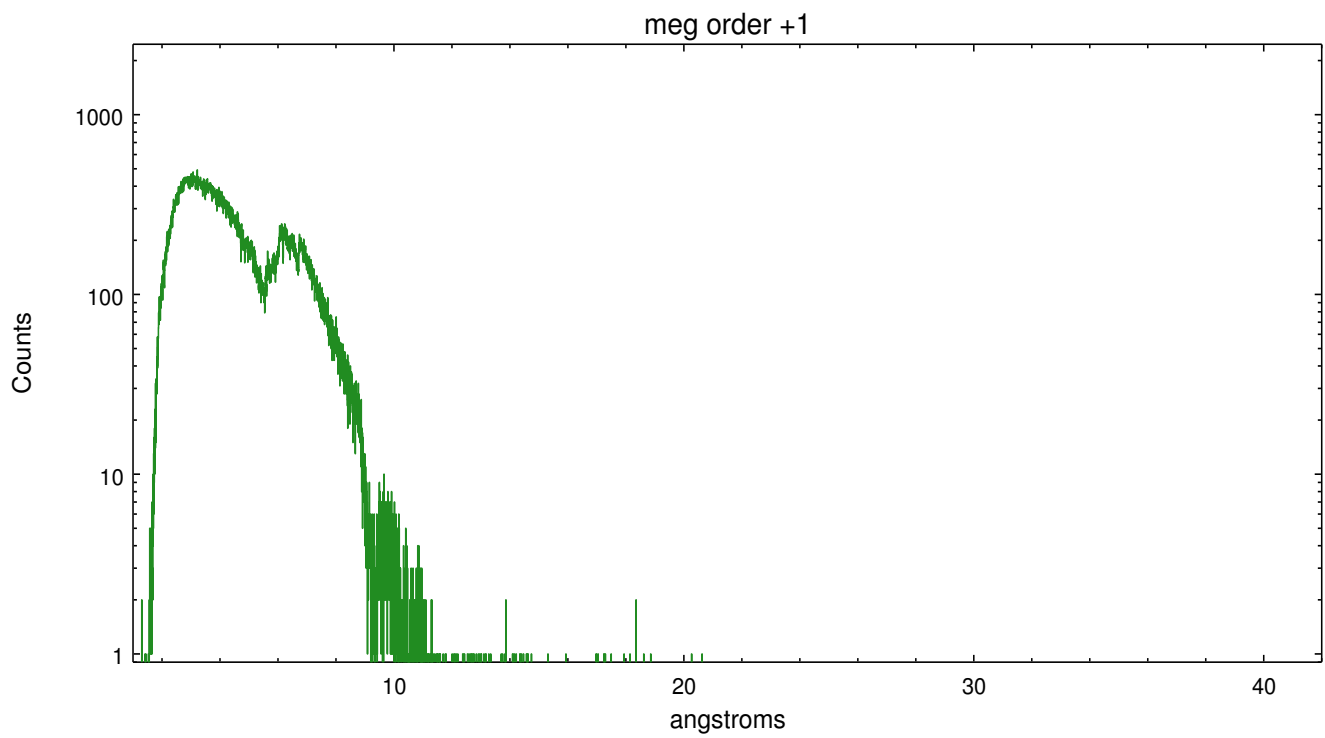
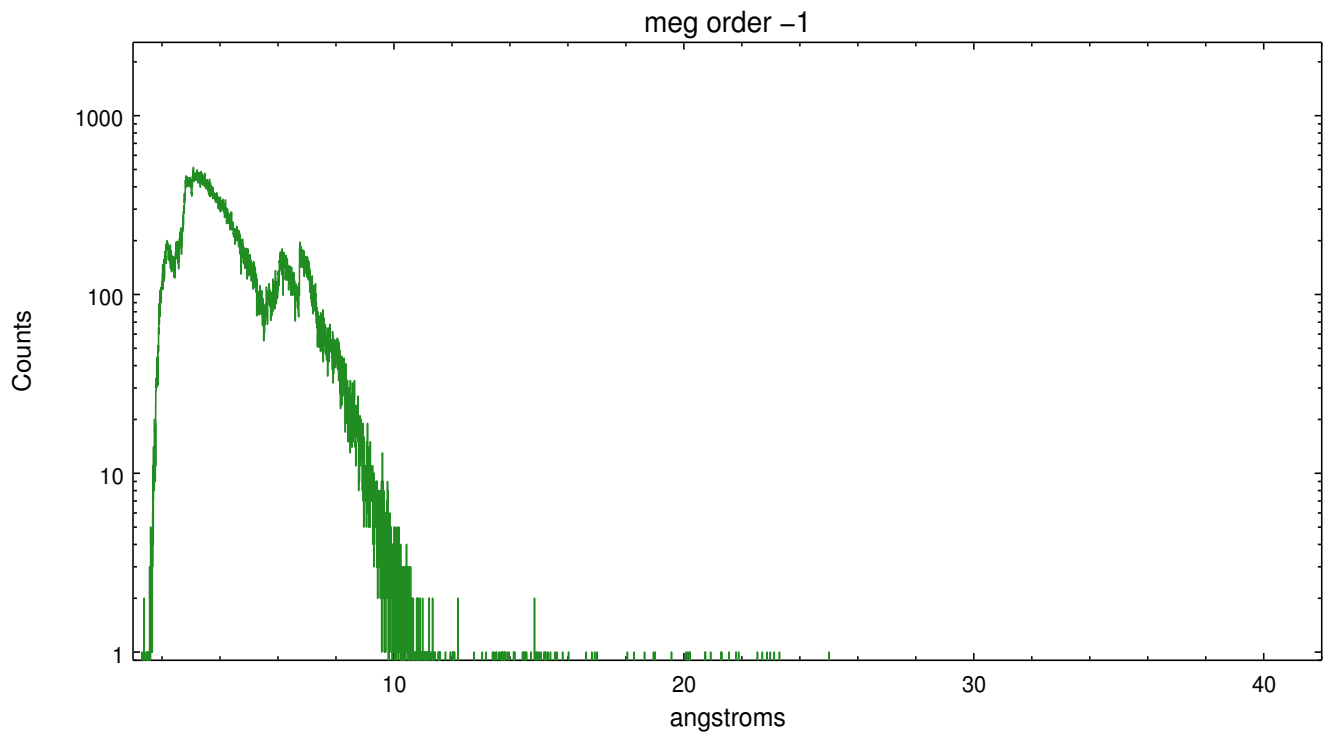


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	30190	15928	268923	123709	311009	14066	23921





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.05.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.079225067258

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 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.

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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.