

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5550 - L2 Version 4
Chandra X-Ray Center

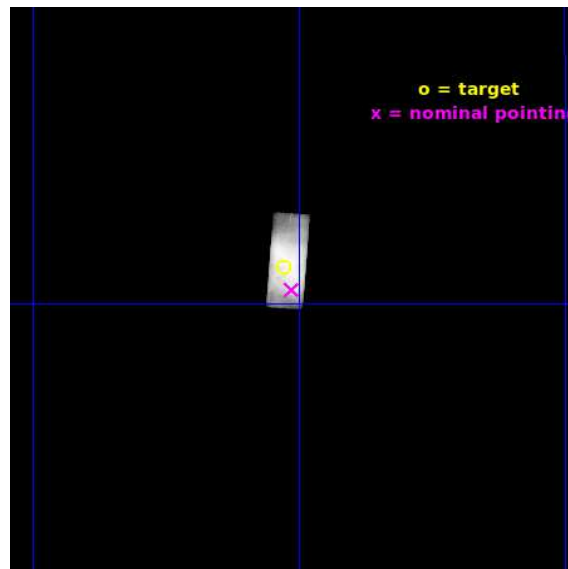
L2 Processing Date : Oct 6 2020

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1 Front

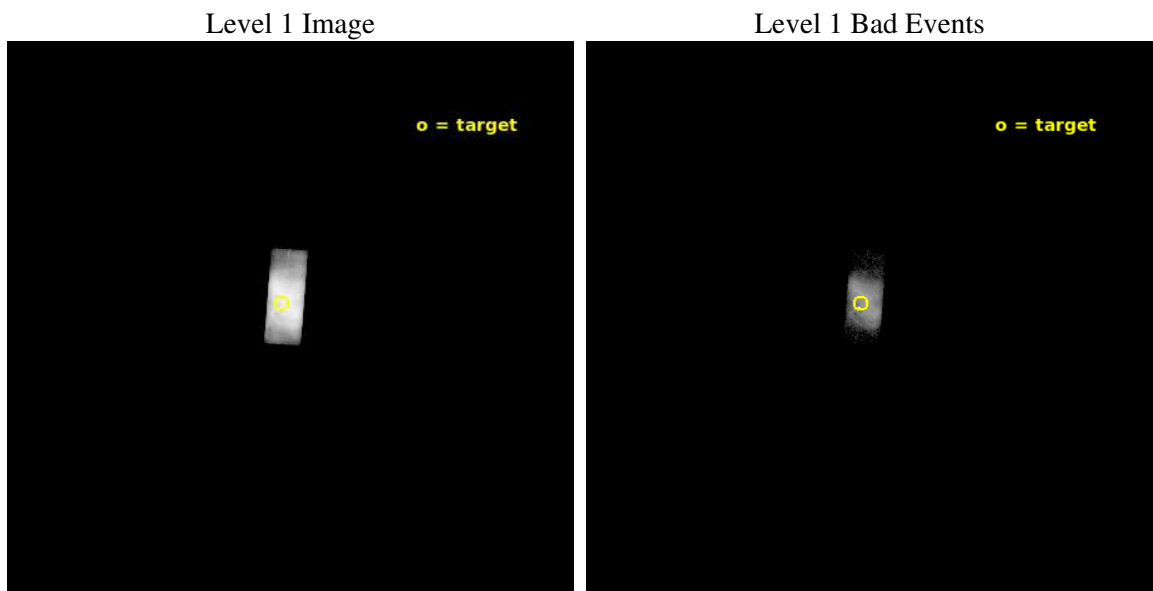
seq_num	500539	Sequence number
obs_id	5550	Observation id
title	Monitoring of the Relativistic Magnetohydrodynamic Shock in the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.632083	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.628039911137	Nominal RA [deg]
dec_nom	22.006168634076	Nominal Dec [deg]
roll_nom	274.24076626358	Nominal Roll [deg]
revision	4	Processing version of data
ontime	10681.500424445	Sum of GTIs [s]
livetime	9396.112266401	Livetime [s]
ontime7	10681.500424445	Sum of GTIs [s]
l2events	2788139	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	1	Obi number	sched_exp_time	10500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	10681.500424445	Sum of GTIs [s]
caldsver	4.9.2	 	ontime7	10681.500424445	Sum of GTIs [s]
date	2020-10-06T08:42:19	Date and time of file creation	l1events	2933460	Number of level 1 events
revision	4	Processing version of data	tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4103.39, 4175.54)	src1a sky pixel position
			zo_pos_tgd	(4052.73, 4152.74)	src1a sky pixel position via tgdetect

2.1.3 Events

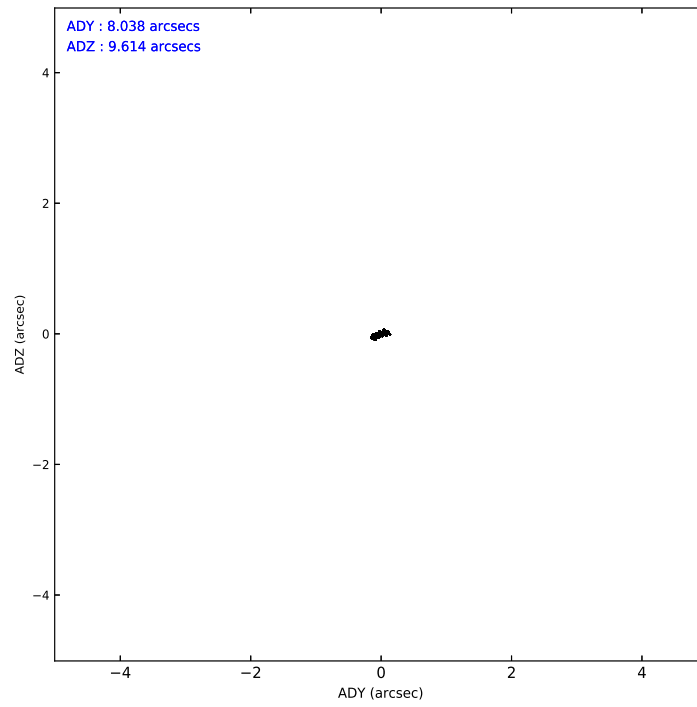
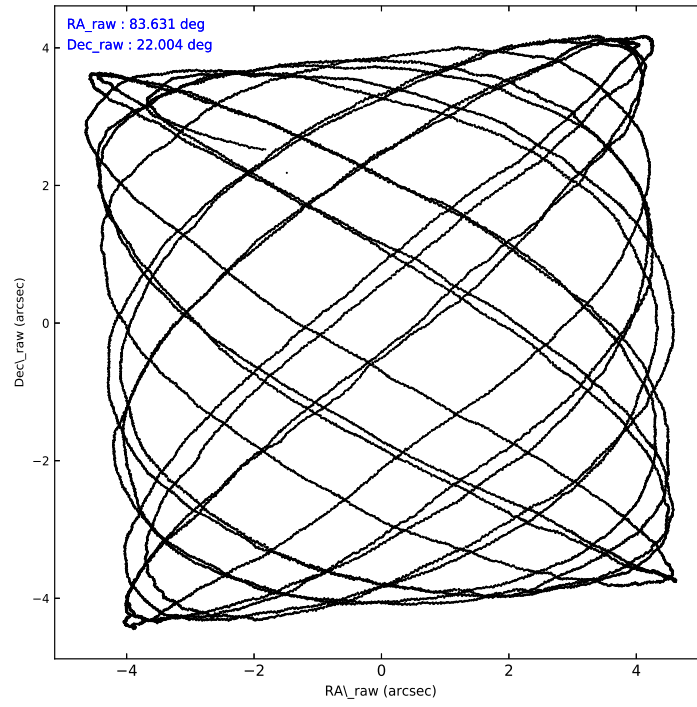
	ccd 7
level 1 events	2933460
rejected events	113929
rejected %	3%

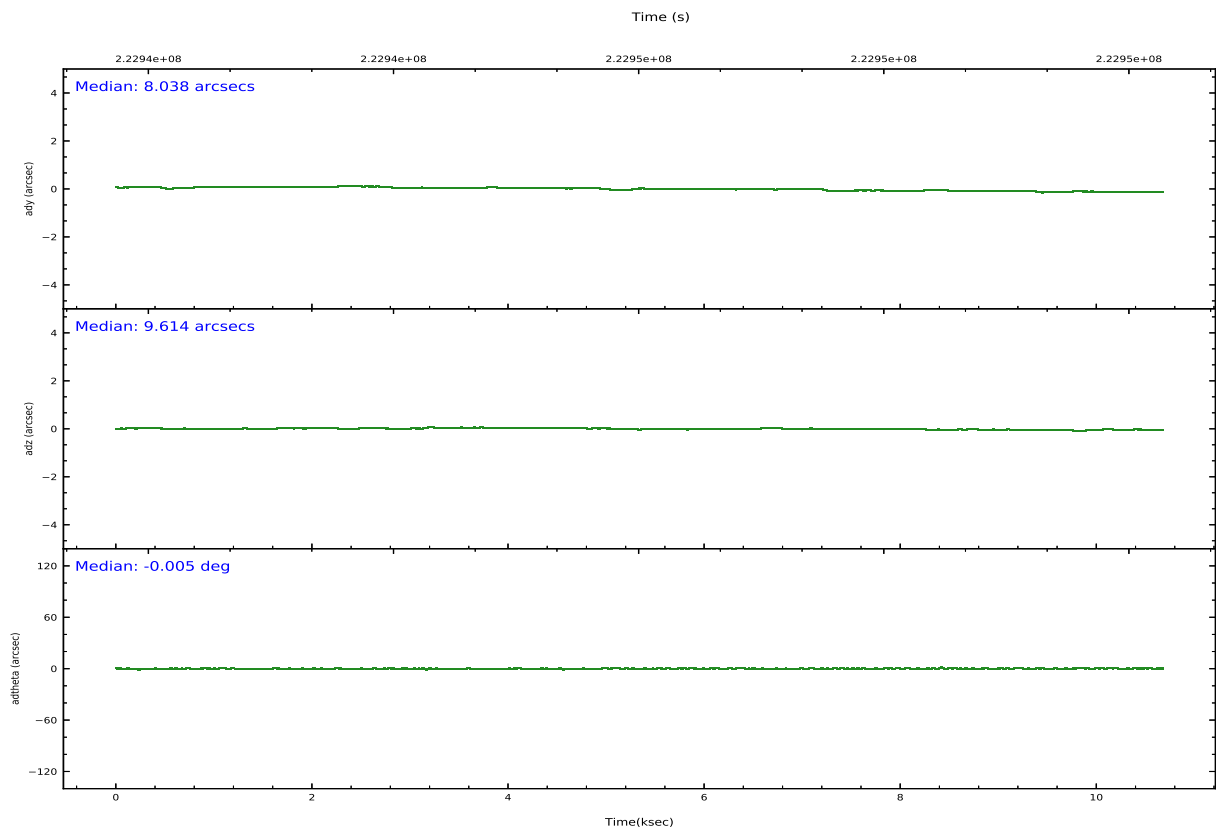
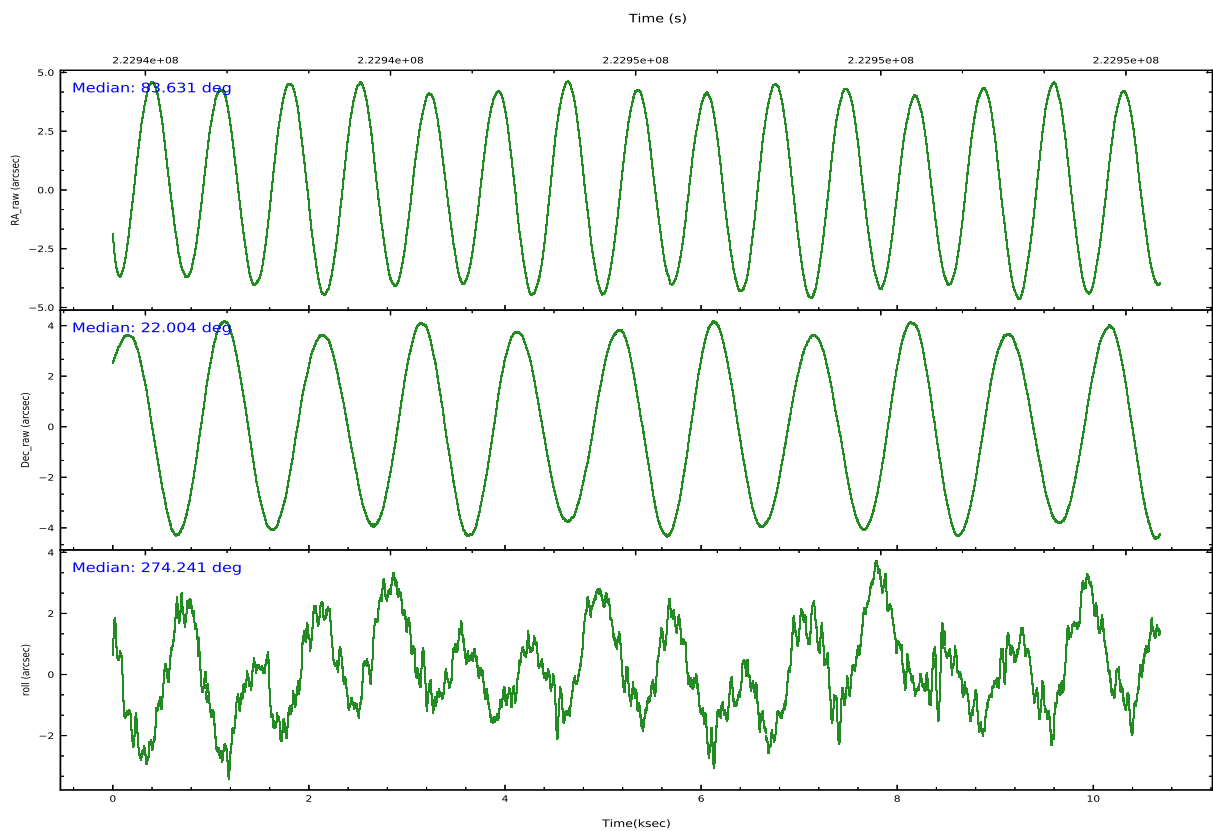
	ccd 7
grade 0 events	574261
	19%
grade 1 events	10987
	0%
grade 2 events	722267
	24%
grade 3 events	322697
	11%
grade 4 events	310069
	10%
grade 5 events	44942
	1%
grade 6 events	896100
	30%
grade 7 events	52137
	1%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-7	ACIS-7	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.614382	83.62803991113699	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.026325	22.006168634076	Subarray start row	127	127
[deg] Pointing Roll	274.092330	274.24076626358	Subarray row count	101	101
[s] Window start time (MET)	222307264.184000	222307264.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	222912064.184000	222912064.184000	[s] Primary exposure time	0.000000	0.3
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	222942350.184000	222941654.76543			
Observation start date	2005-01-24T08:24:46	2005-01-24T08:14:14			
[s] Observation end time (MET)	222952850.184000	222953691.85348			
Observation end date	2005-01-24T11:19:46	2005-01-24T11:34:51			
Read mode	TIMED	TIMED			

2.3 Aspect



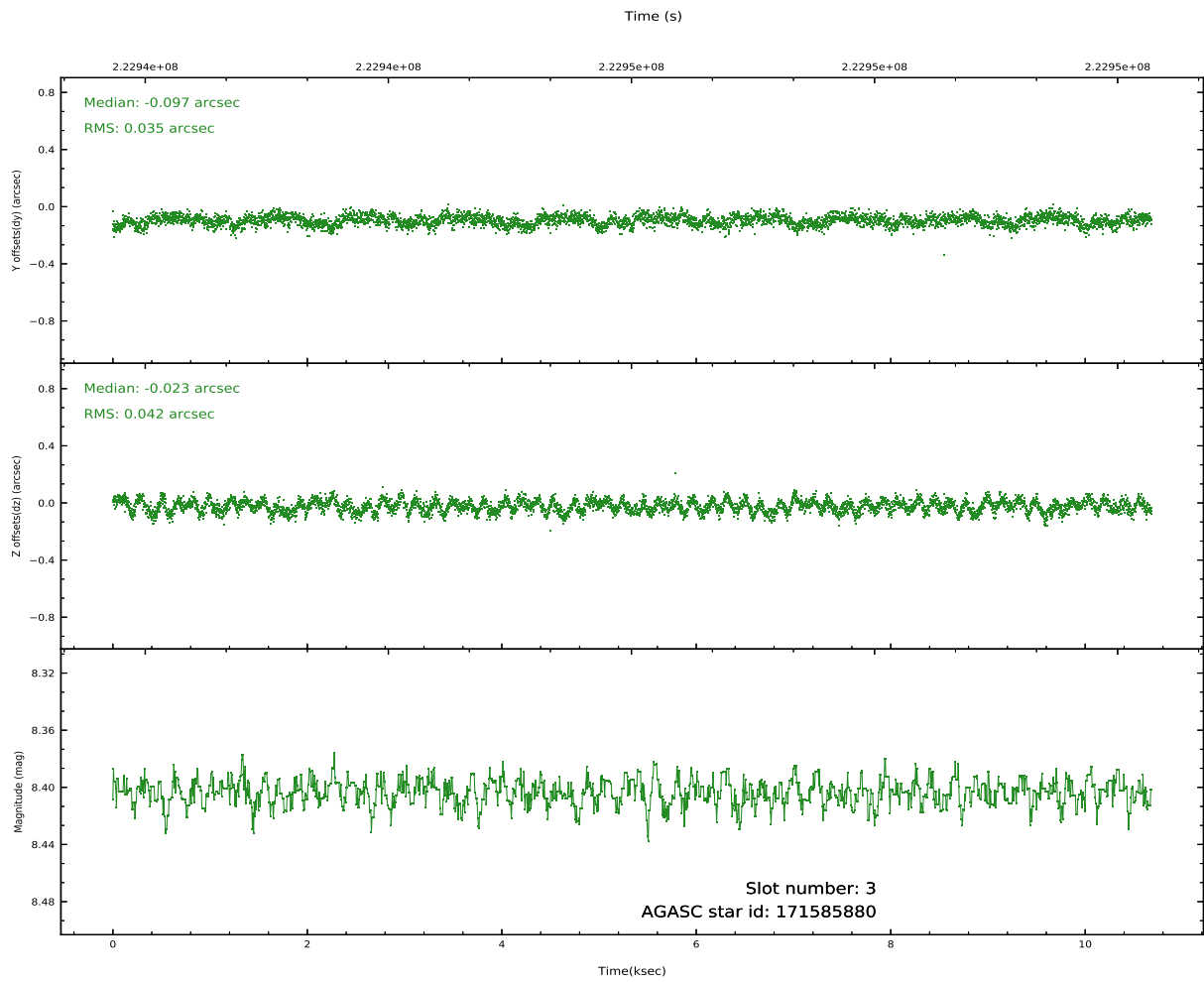
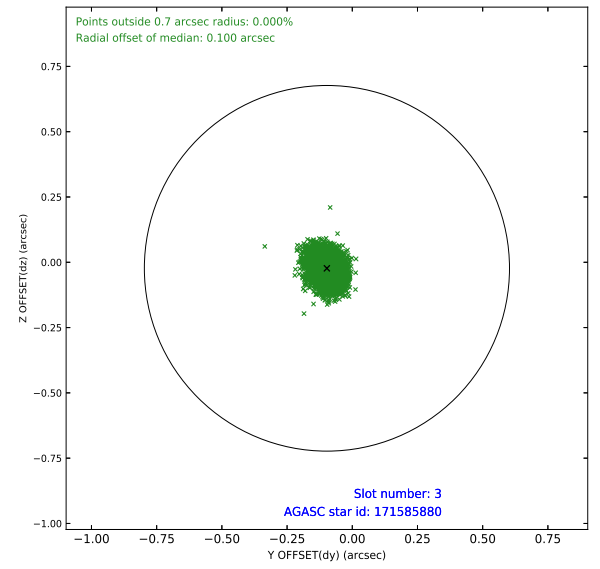
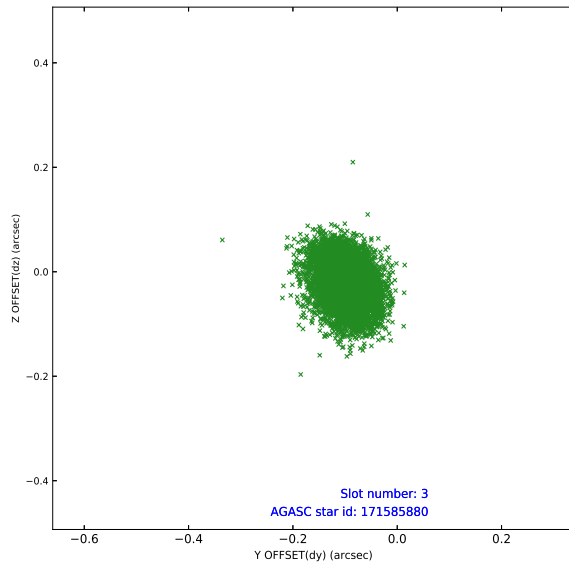


Slot Statistics

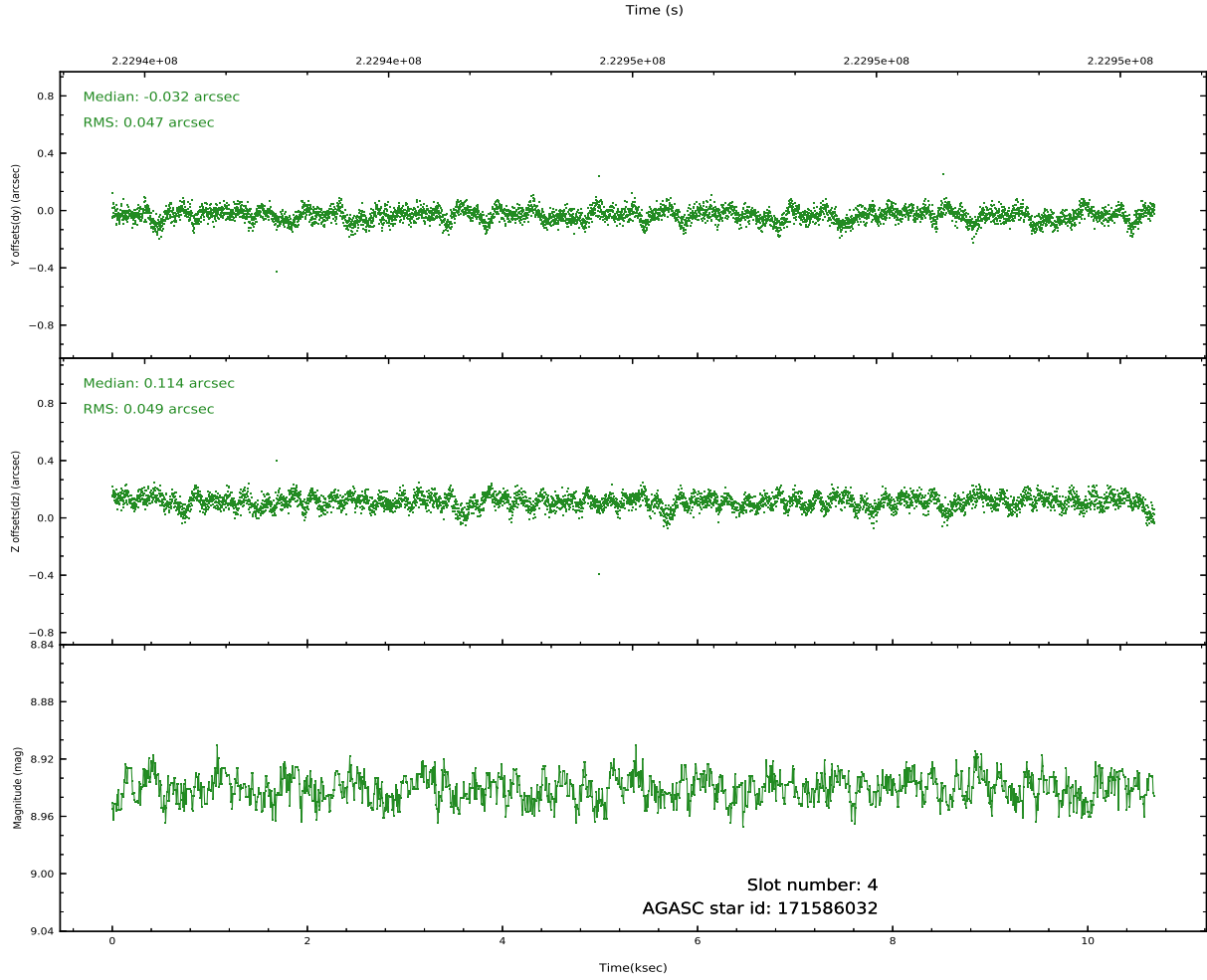
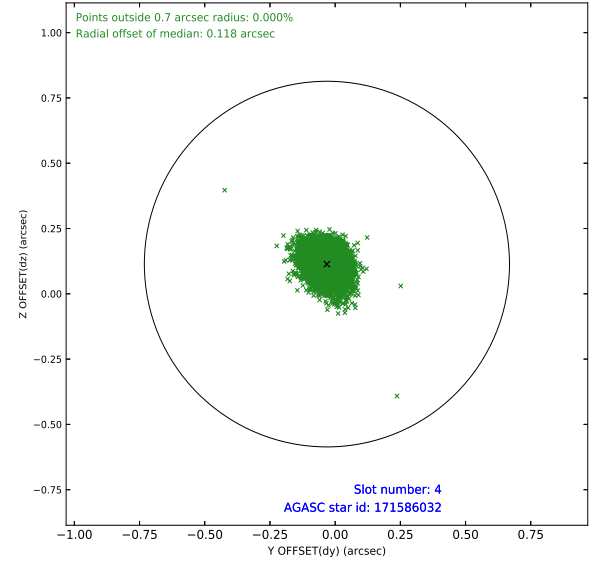
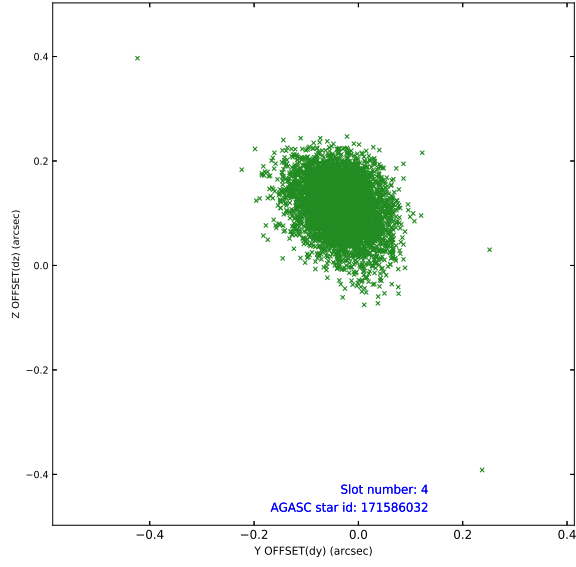
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	2606	1.000	-0.092	-0.130	0.006	0.011	0.000000	0.000000	-760.29	-1895
1	FID		ACIS-S-4	7.18	2606	1.000	0.169	0.079	0.005	0.009	0.000000	0.000000	2152.99	12
2	FID		ACIS-S-5	7.22	2606	1.000	-0.108	0.058	0.006	0.011	0.000000	0.000000	-1812.56	6
3	GUIDE	used	171585880	8.40	5210	1.000	-0.097	-0.023	0.058	0.093	83.676260	22.176319	-523.69	244
4	GUIDE	used	171586032	8.94	5212	1.000	-0.032	0.114	0.071	0.118	83.950197	22.083225	-125.51	1132
5	GUIDE	used	171597832	9.16	5211	1.000	0.141	-0.089	0.096	0.147	83.183230	21.366702	2264.11	-1610
6	GUIDE	used	171721904	9.22	5177	1.000	0.108	0.050	0.106	0.166	84.272676	22.116922	-172.81	2213
7	GUIDE	used	243941560	8.28	5210	1.000	-0.111	-0.043	0.082	0.122	83.733264	22.568598	-1918.99	533

2.4 Star Slots

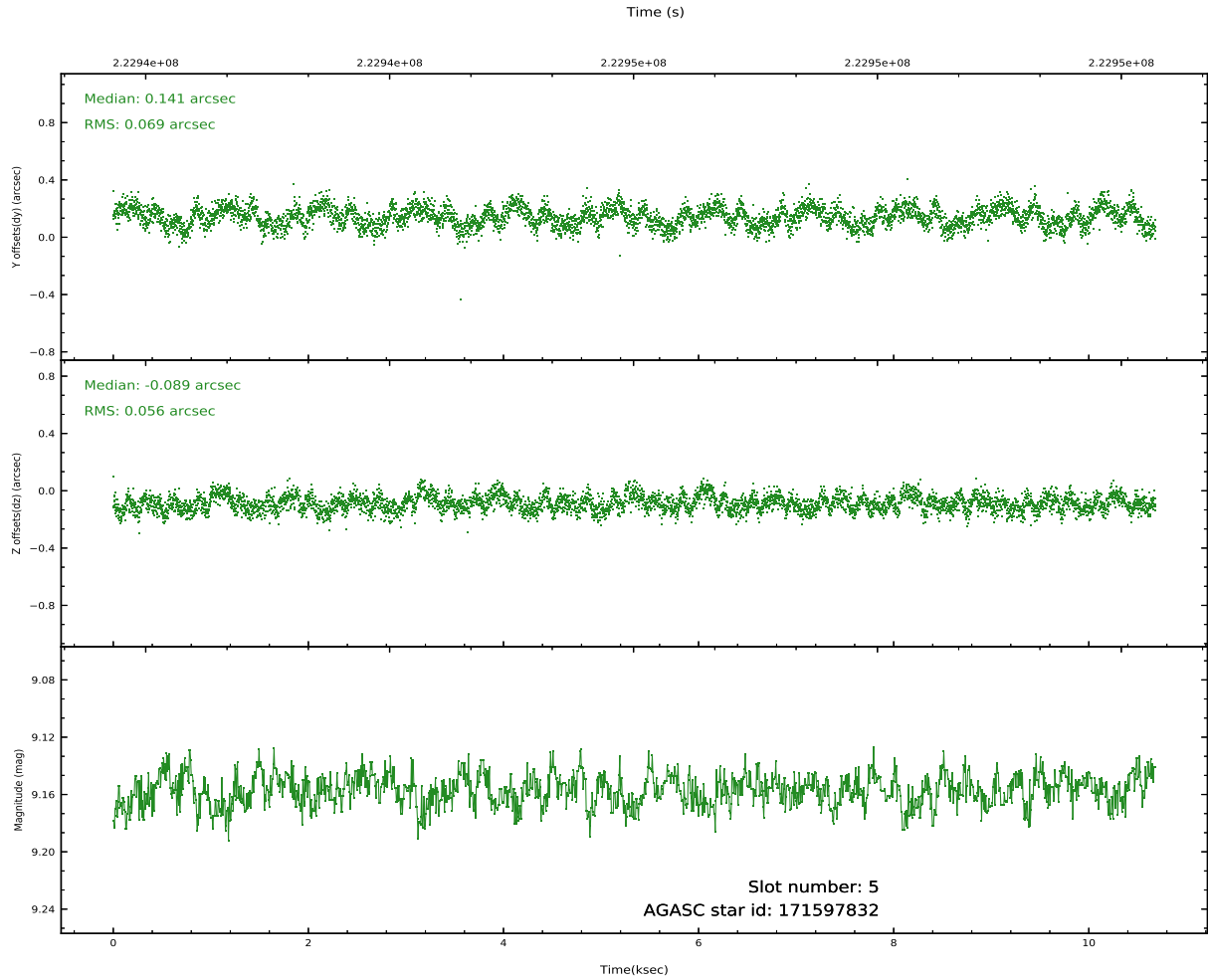
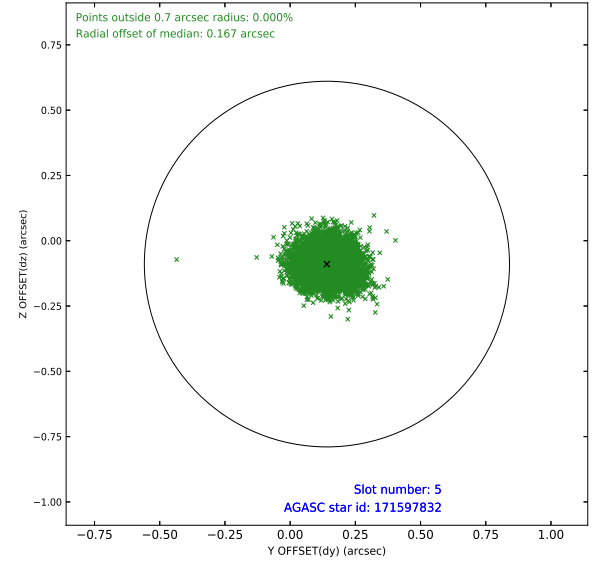
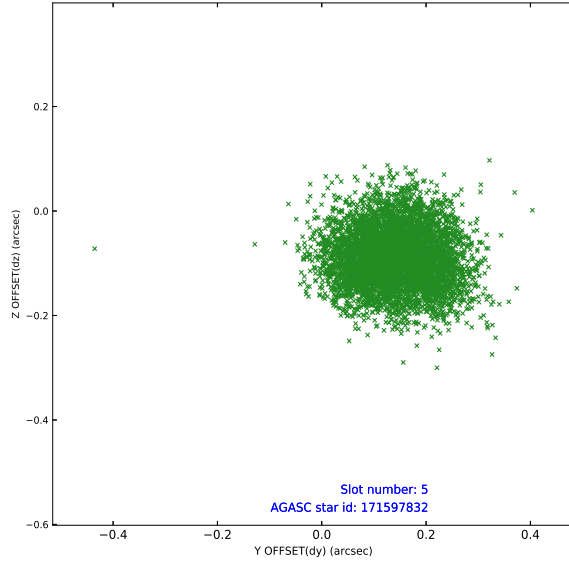
2.4.1 Slot 3



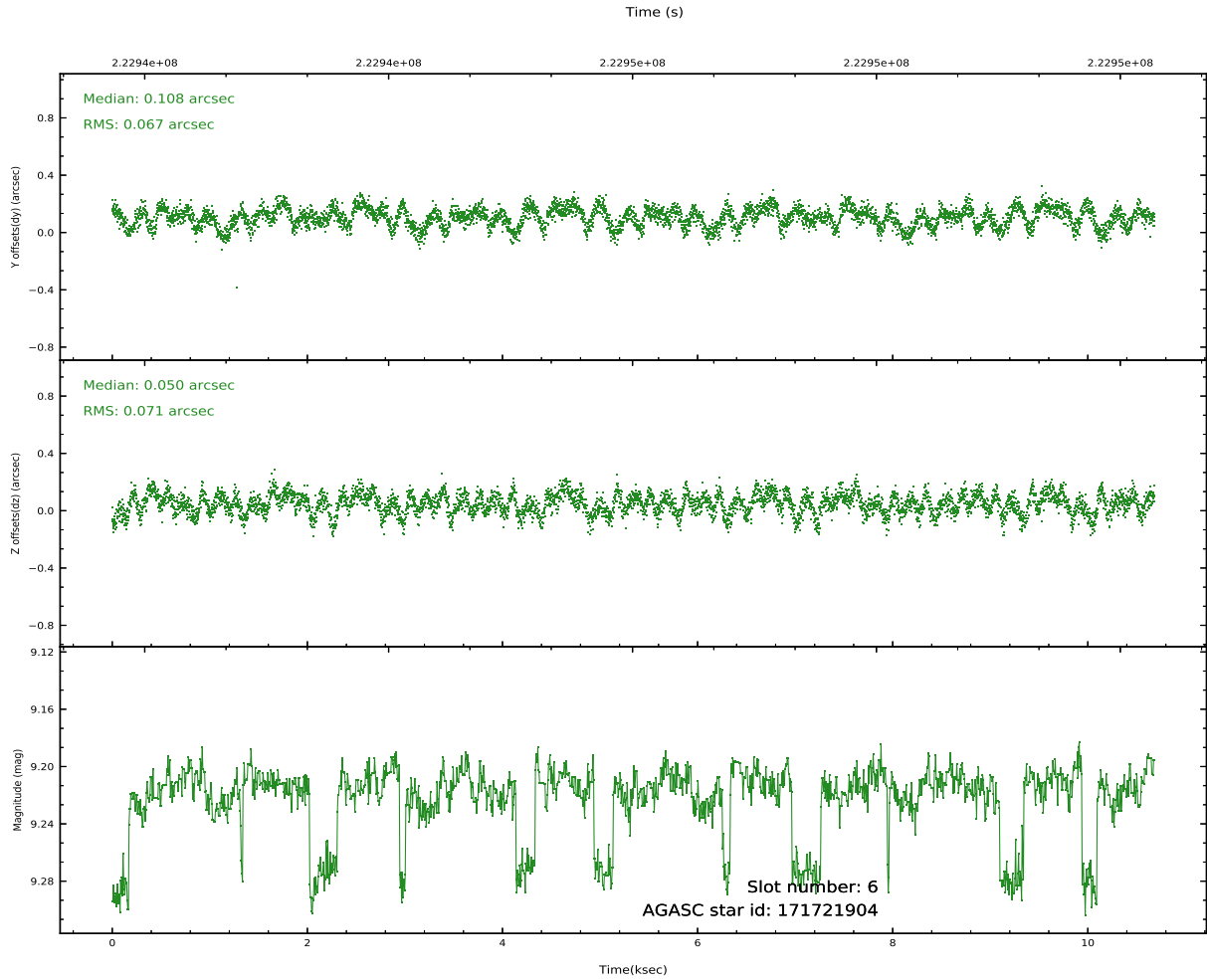
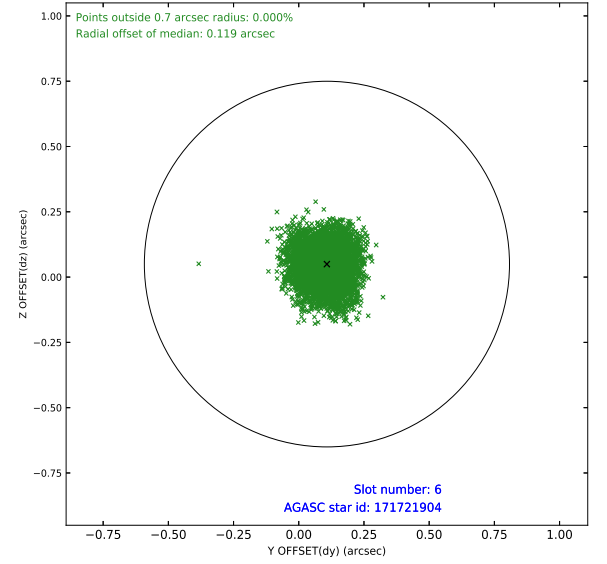
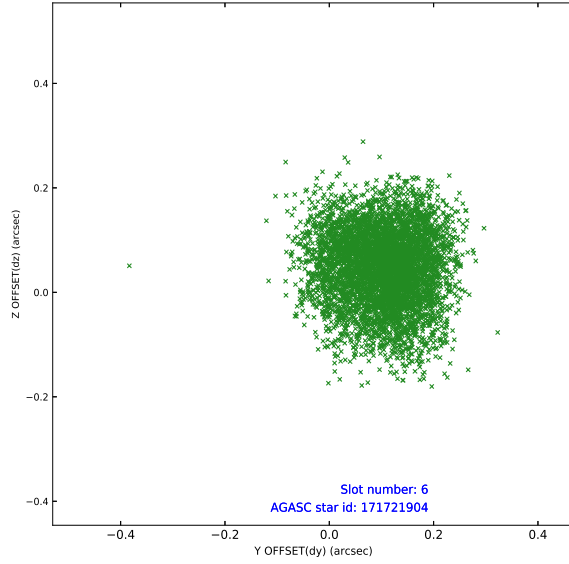
2.4.2 Slot 4



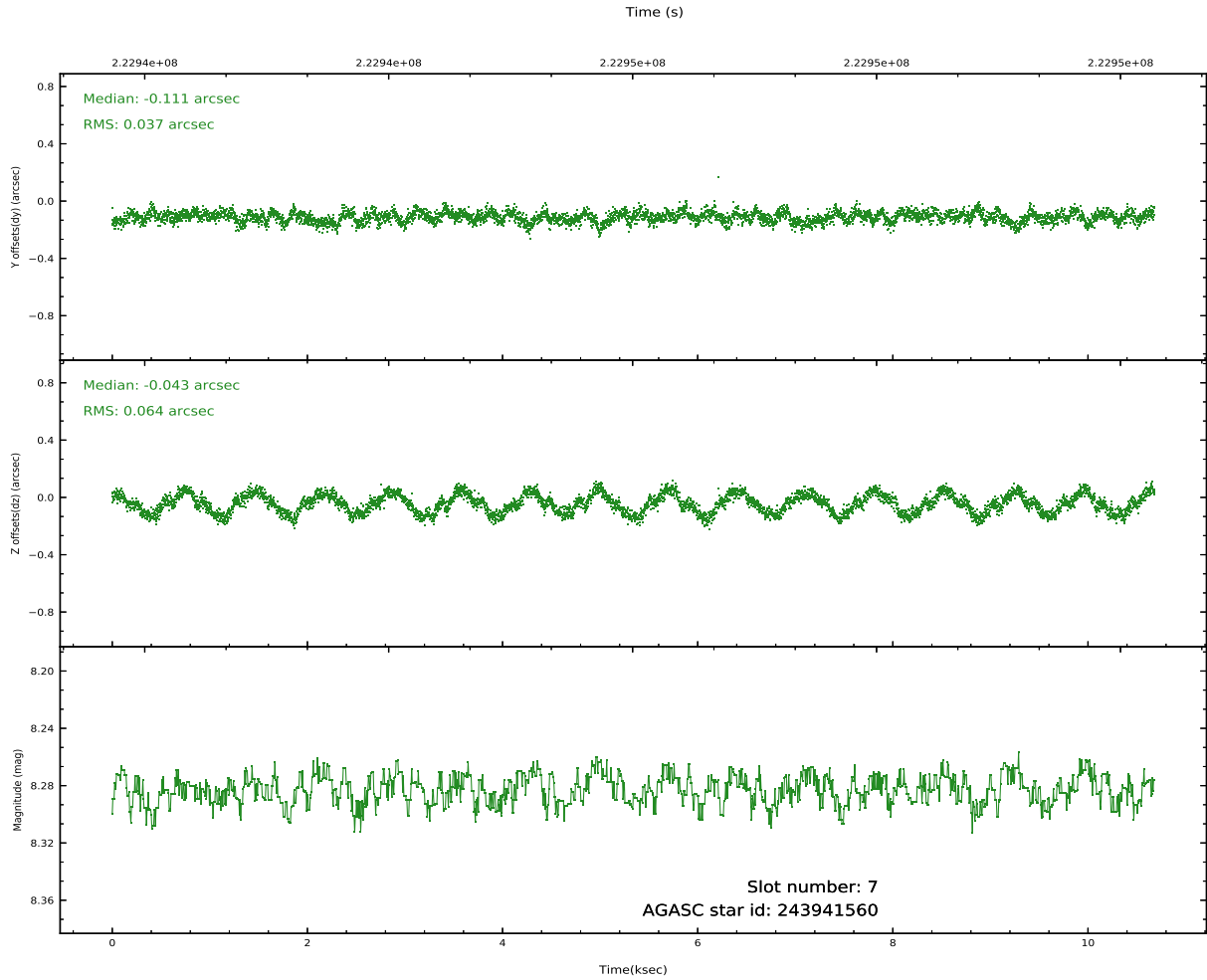
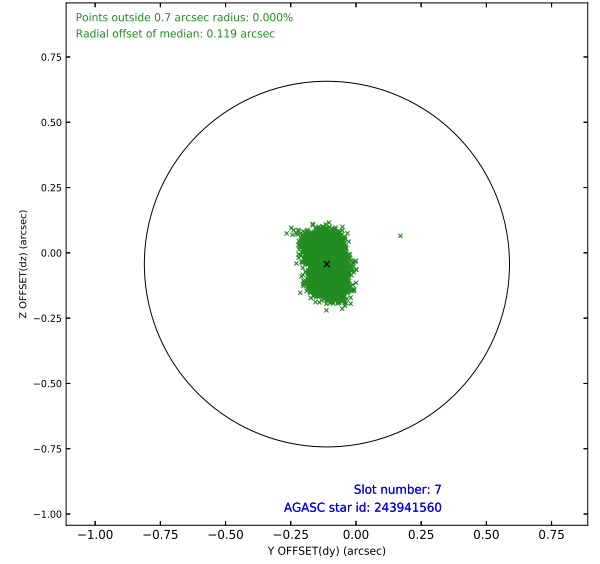
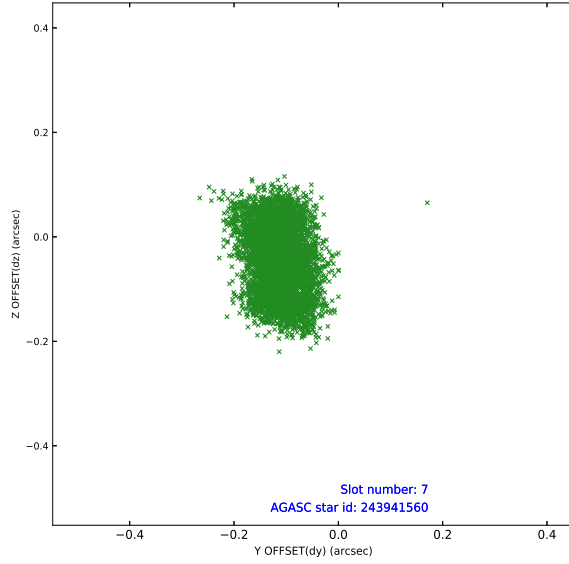
2.4.3 Slot 5



2.4.4 Slot 6

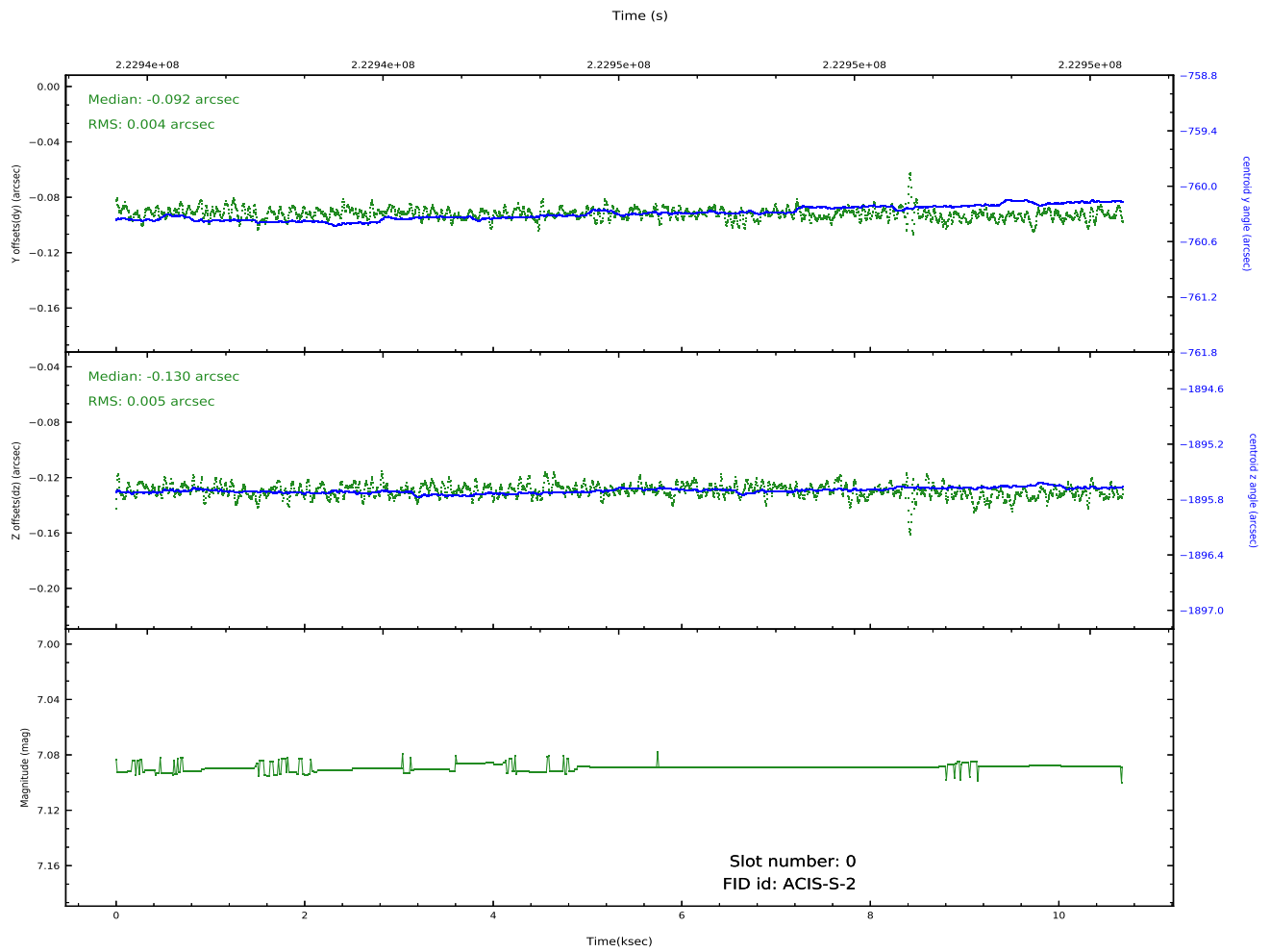
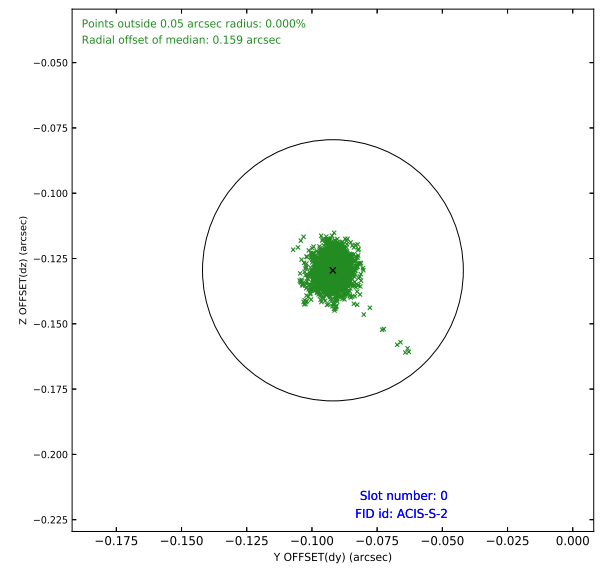
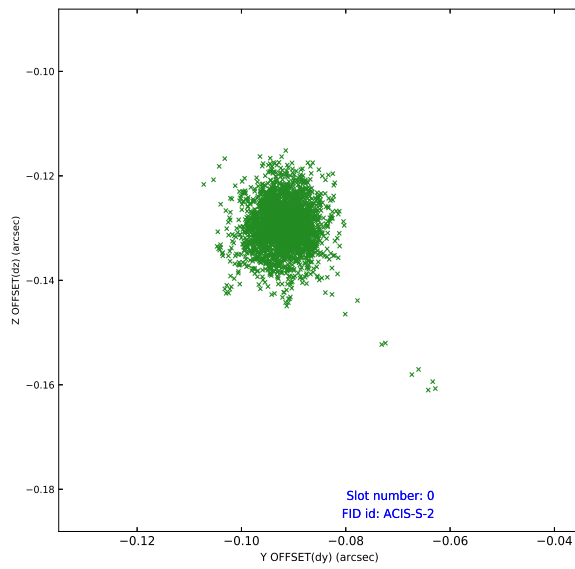


2.4.5 Slot 7

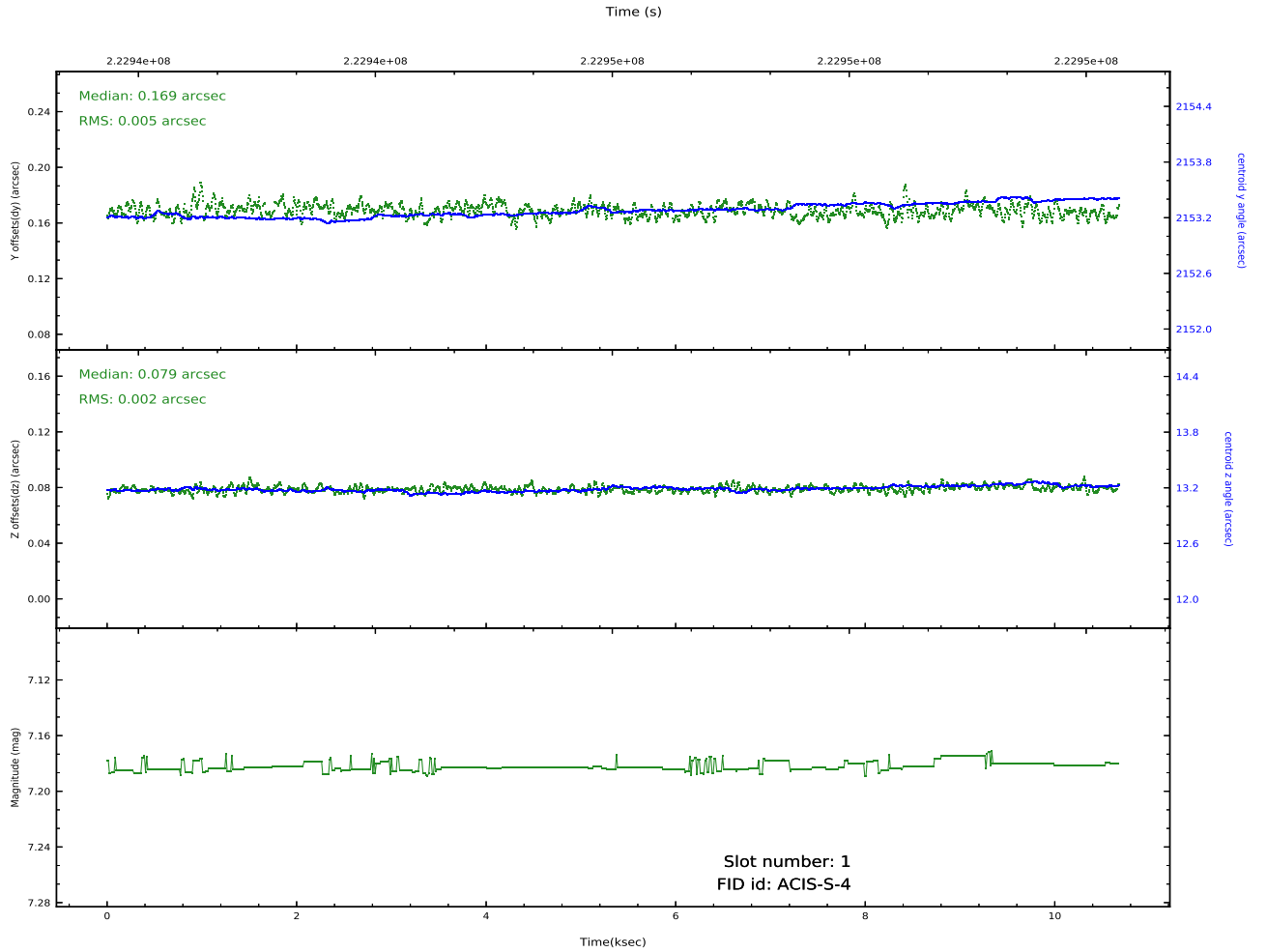
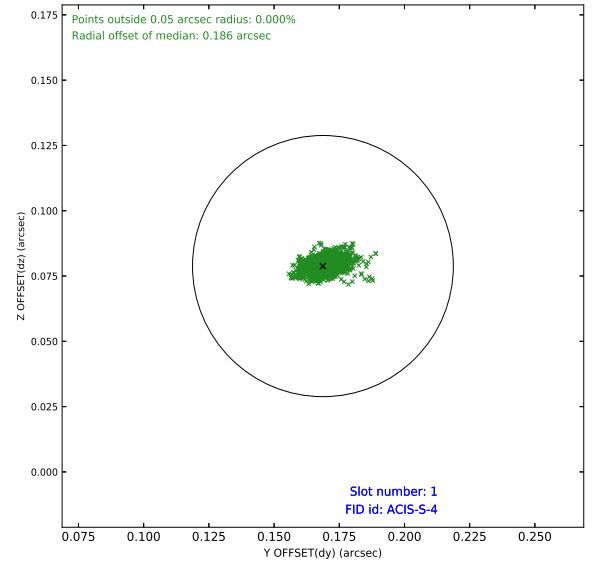
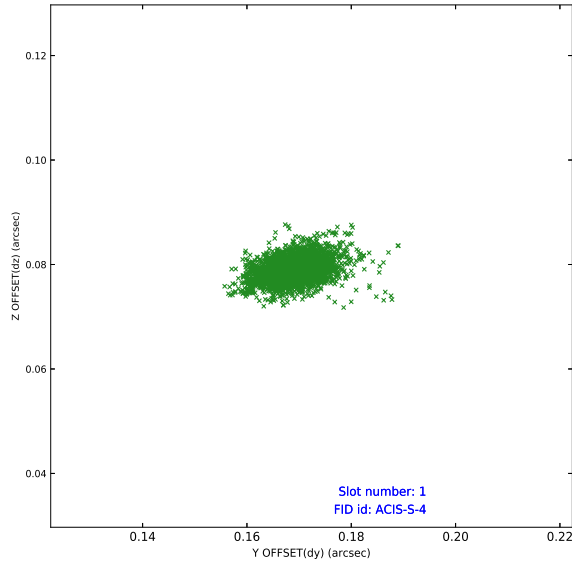


2.5 FID Slots

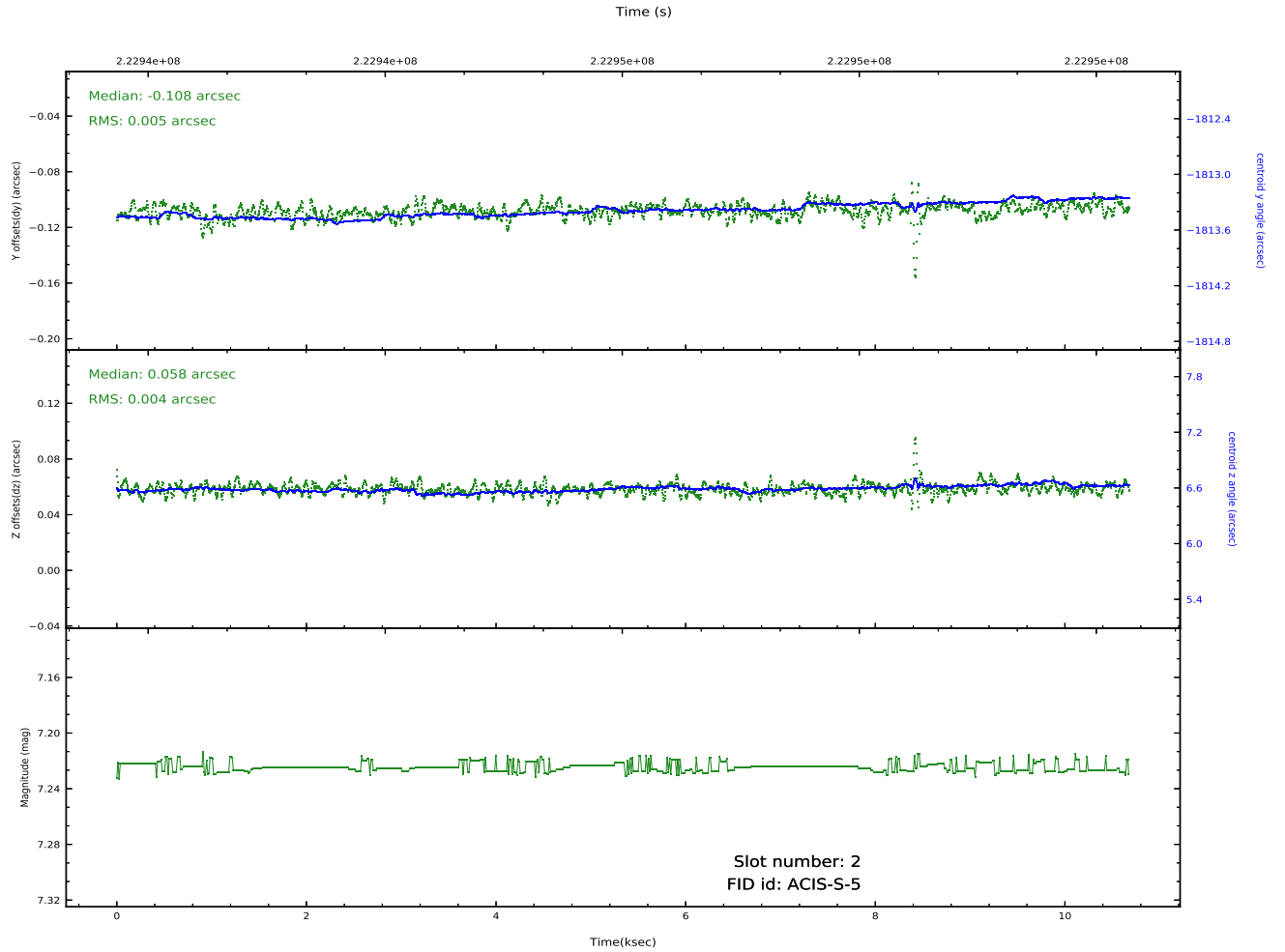
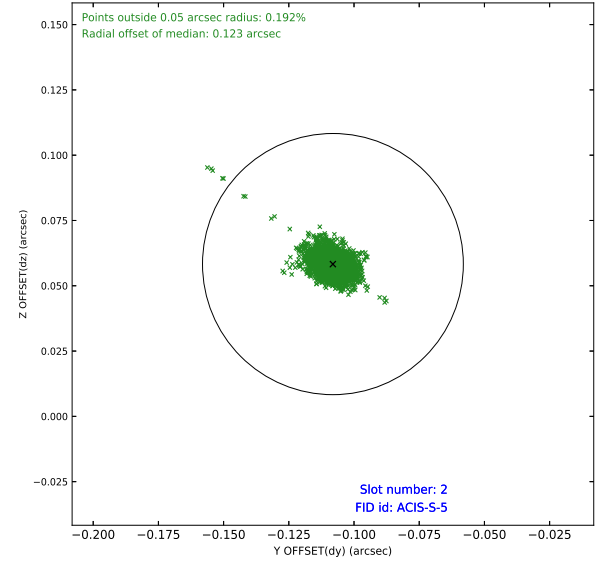
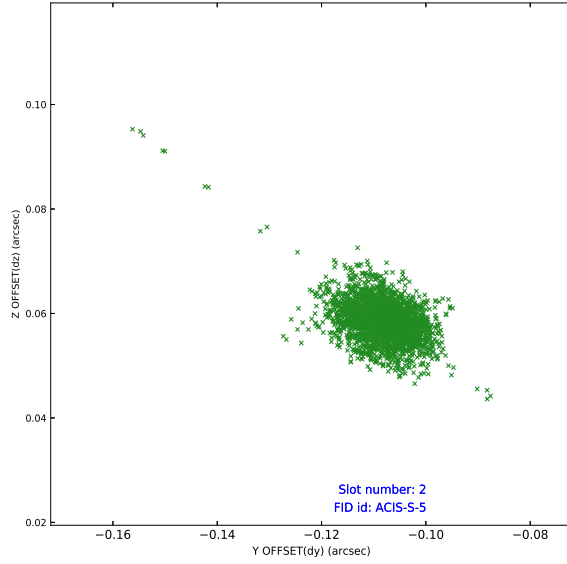
2.5.1 Slot 0



2.5.2 Slot 1

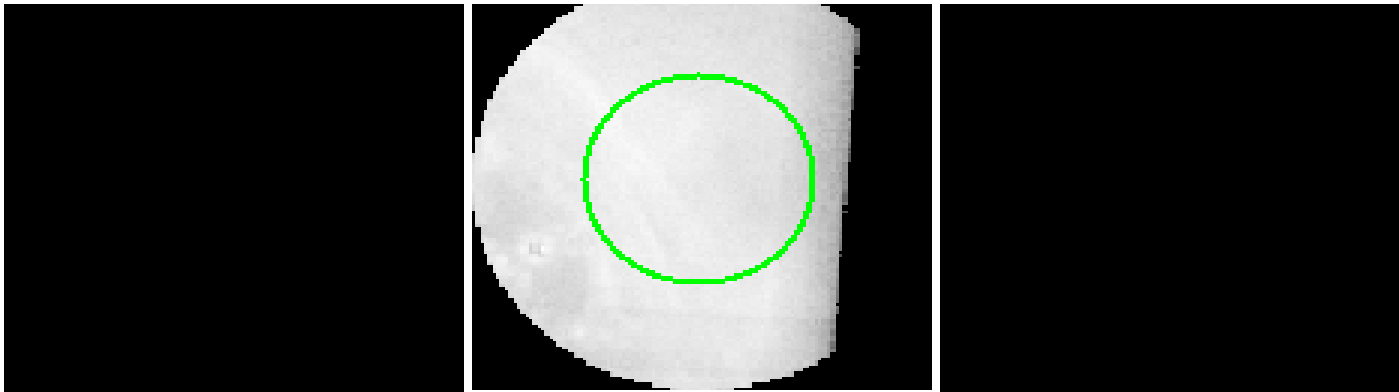


2.5.3 Slot 2



3 Gratings

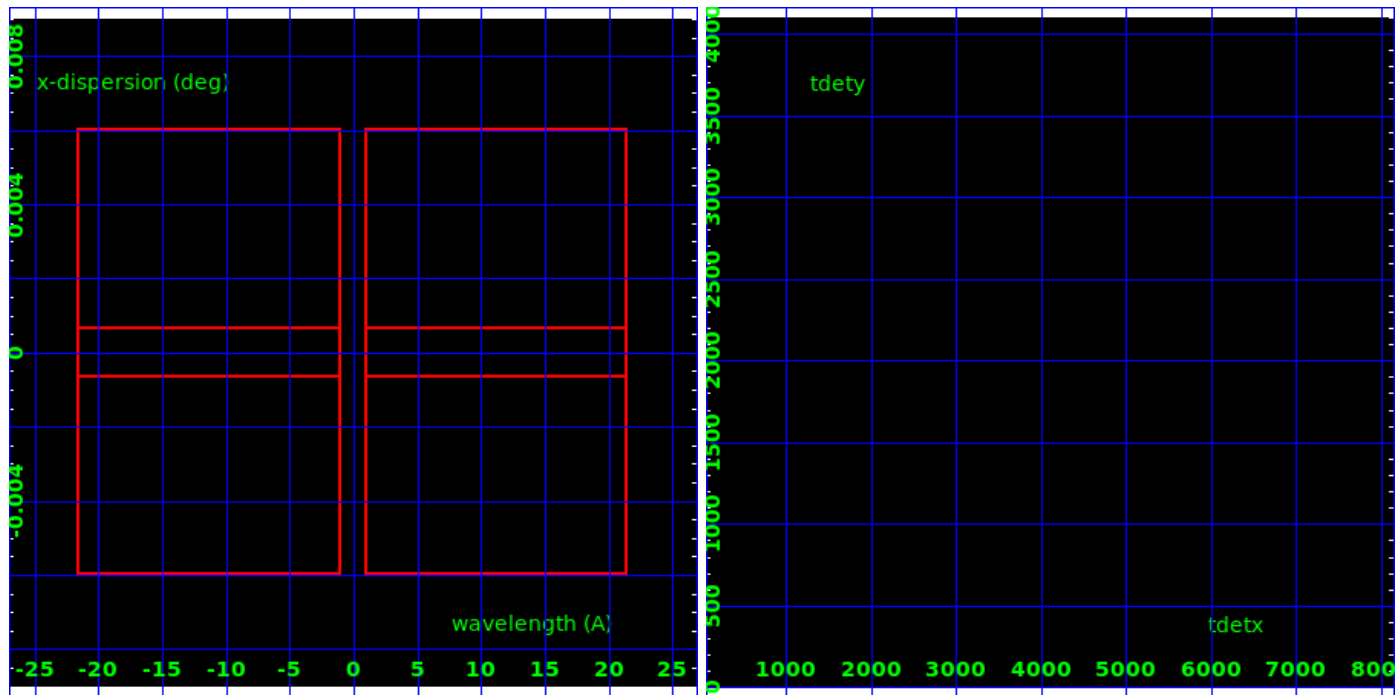
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

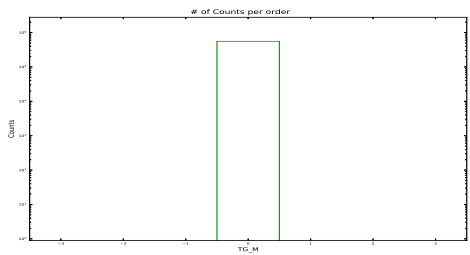
HEG Order Sort ALL

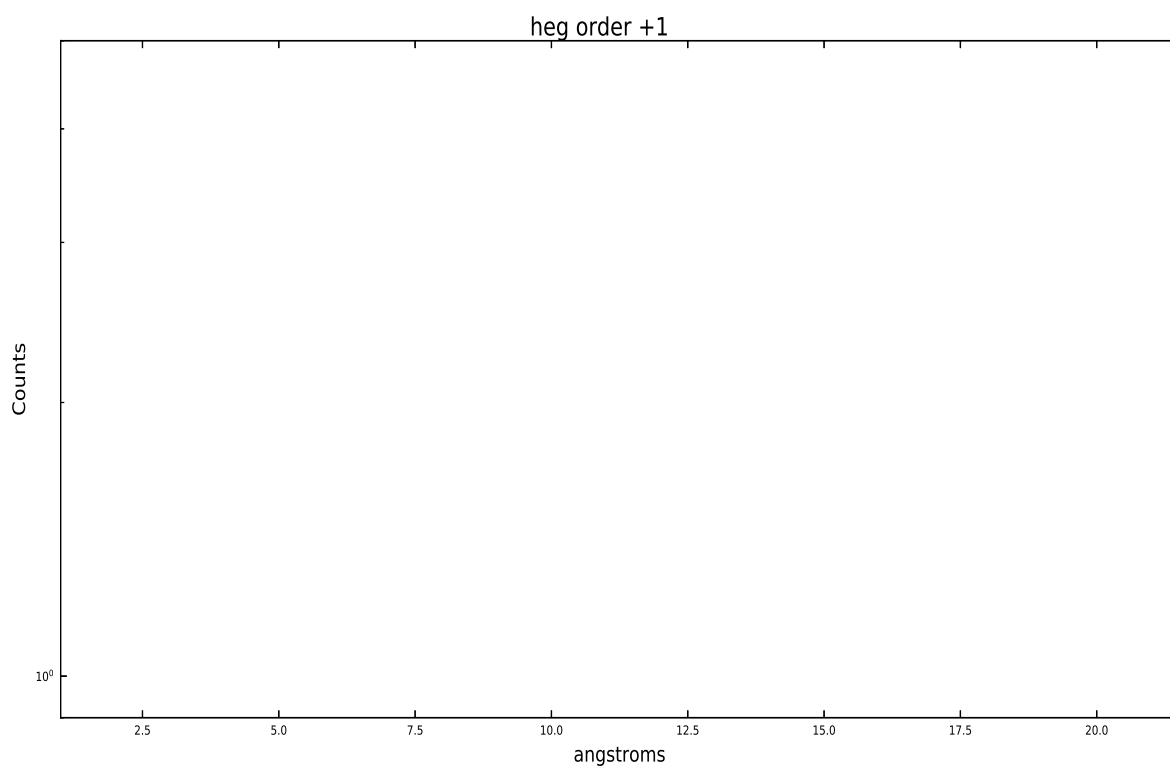
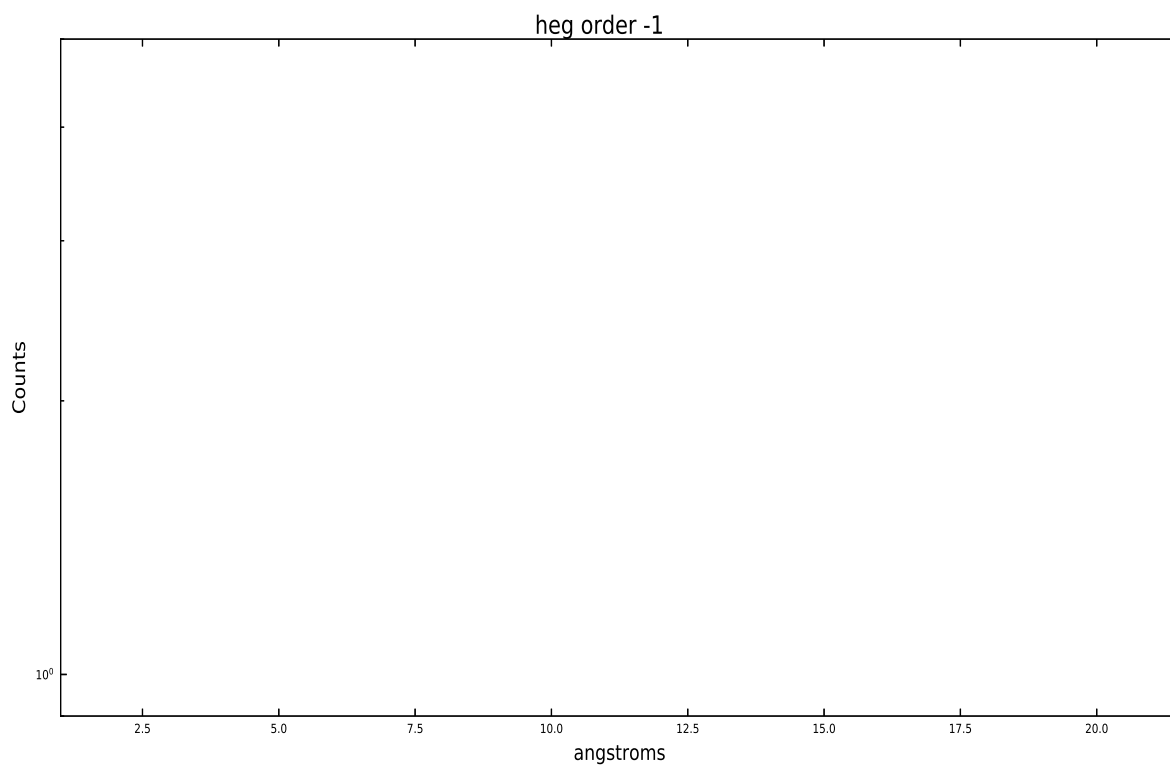


Spot Image HEG

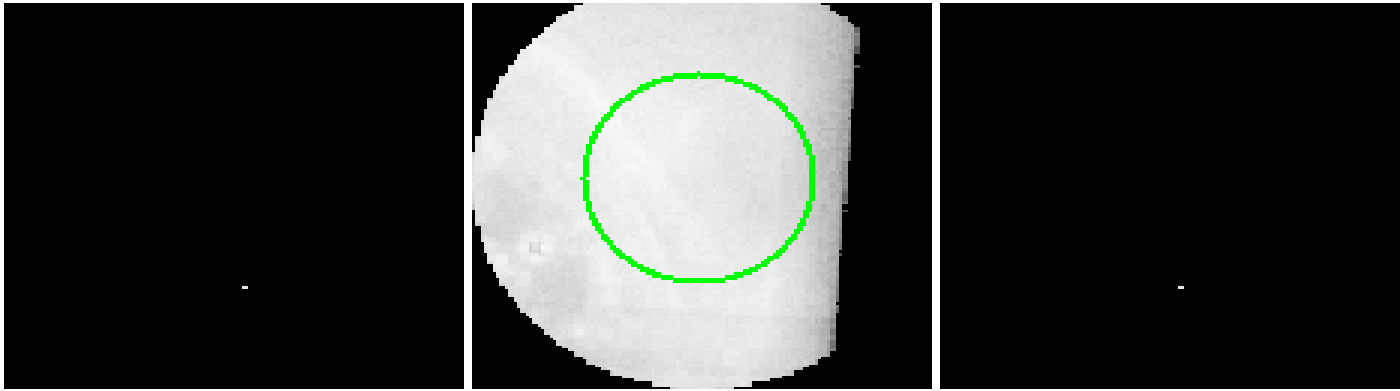
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	555014	0	0	0





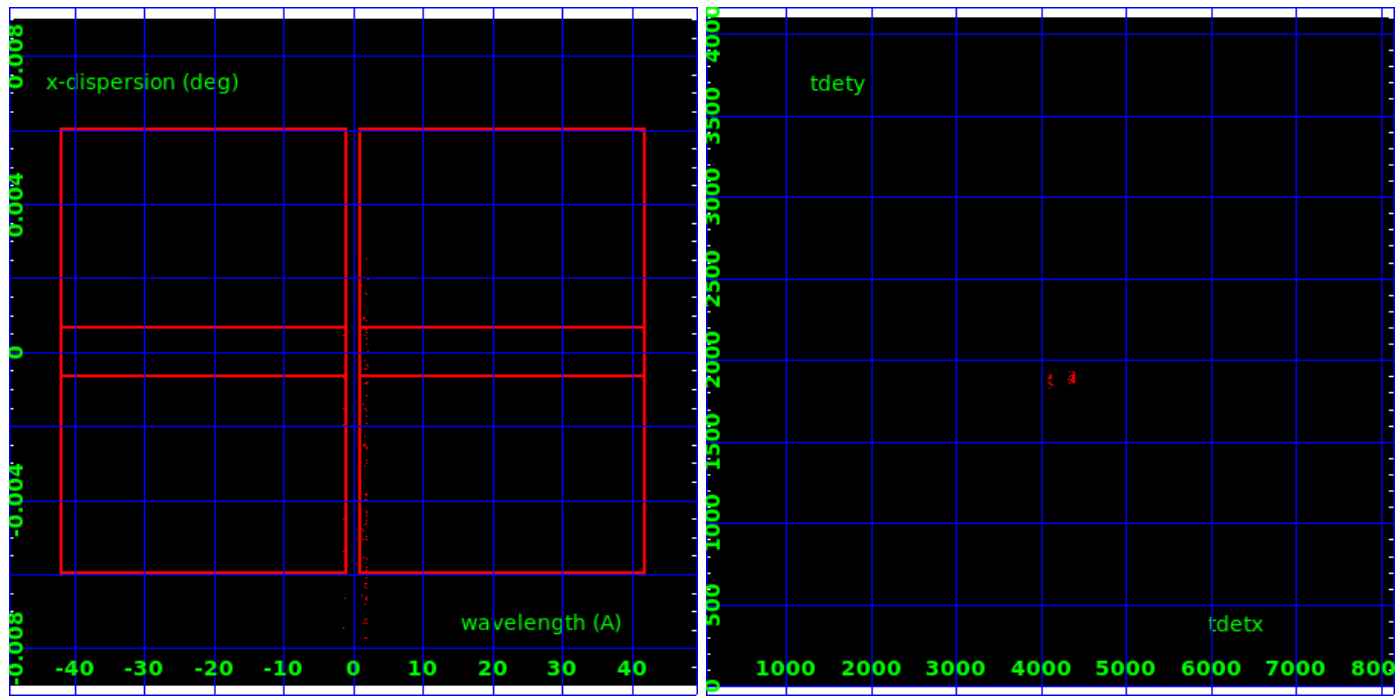
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

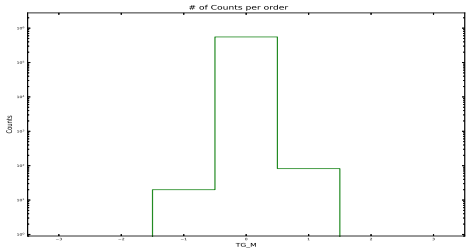
MEG Order Sort ALL

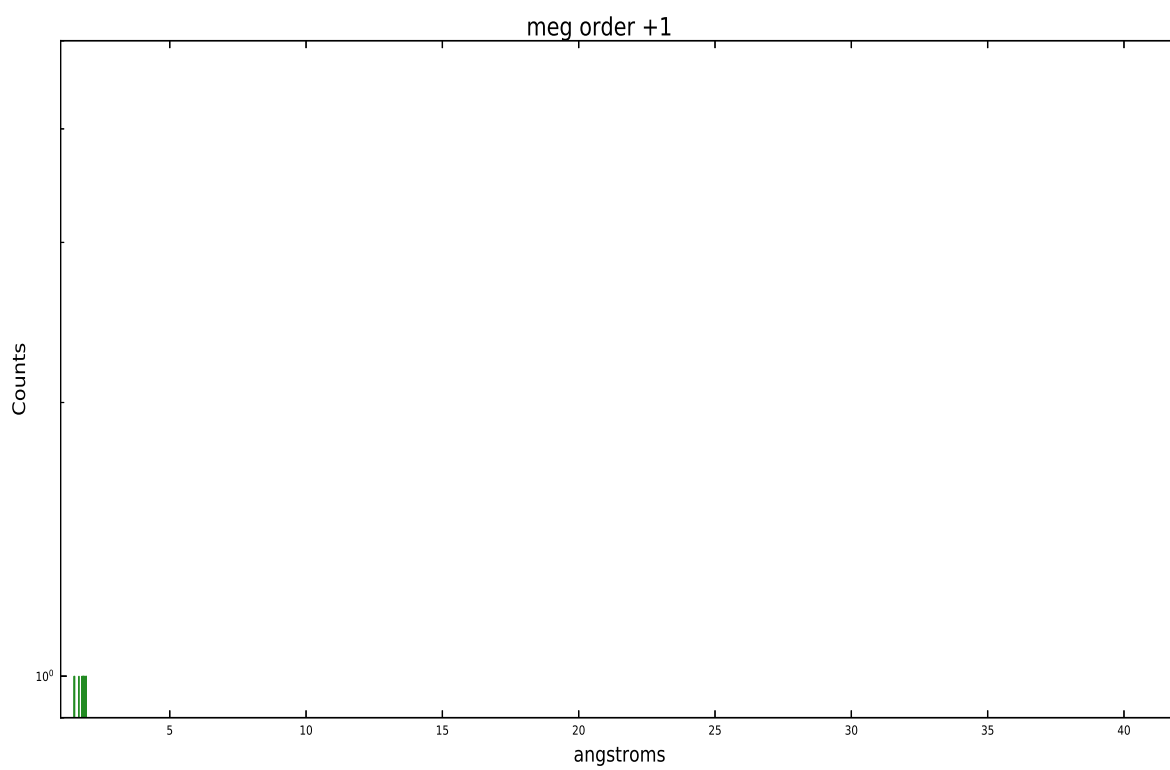
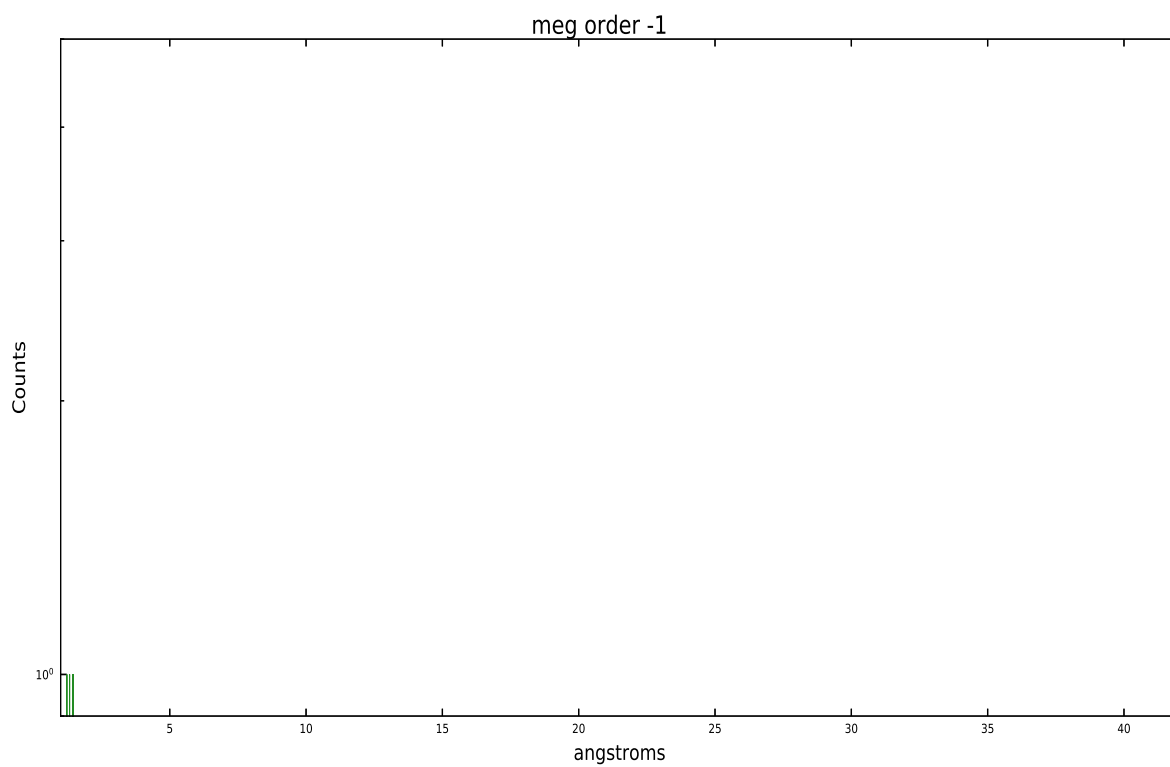


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	20	555014	82	0	0





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.10.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.6815

A.2 Comments

HETG is inserted as a filter; there is very little useful gratings information in the observation. The zeroth order position used in the grating extraction is NOT at the position of the pulsar, but is near a bright emission knot to the SE. If the dispersed grating spectrum is to be analyzed, it should be re-extracted using the exact position of the pulsar as the zeroth order position. The dispersed spectrum only contains data for the meg +1 order between 1-2 Å.