

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 4623 - L2 Version 5
Chandra X-Ray Center

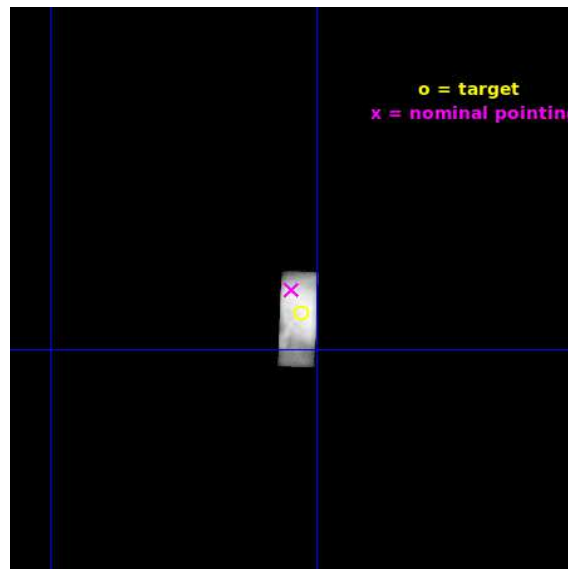
L2 Processing Date : Oct 2 2020

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1 Front

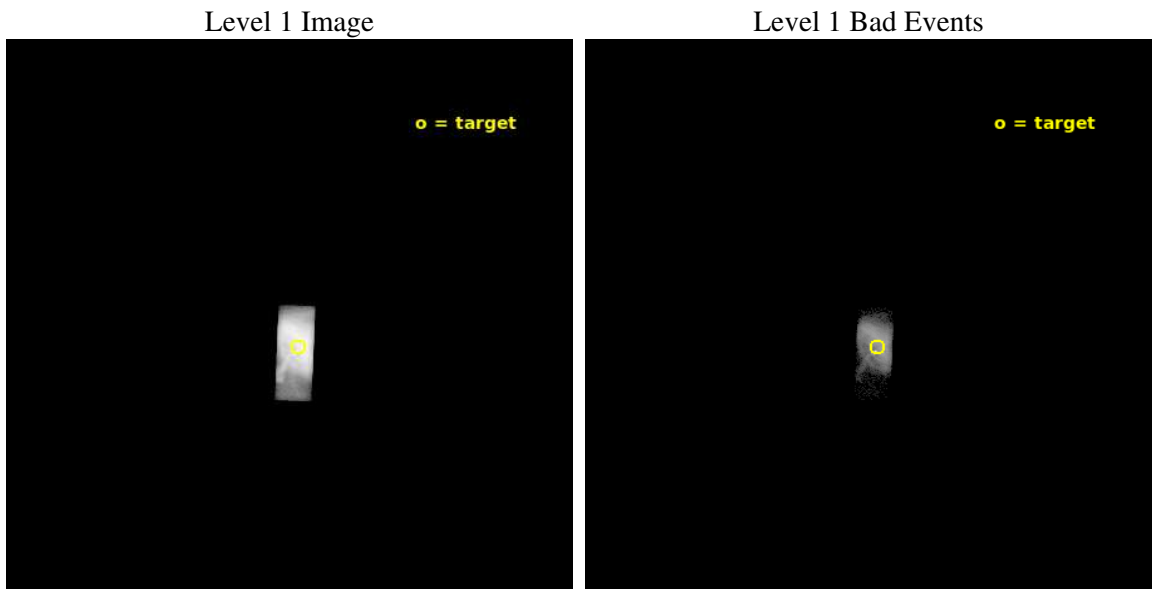
seq_num	500448	Sequence number
obs_id	4623	Observation id
title	Spectroscopic Study of the Dynamic Shock in the Pulsar Wind of the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.632083	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.636408048722	Nominal RA [deg]
dec_nom	22.027021372013	Nominal Dec [deg]
roll_nom	92.305769923971	Nominal Roll [deg]
revision	5	Processing version of data
ontime	9168.9003643394	Sum of GTIs [s]
liveltime	8065.5351551191	Livetime [s]
ontime7	9168.9003643394	Sum of GTIs [s]
l2events	2238732	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	9168.9003643394	Sum of GTIs [s]
caldsver	4.9.2	 	ontime7	9168.9003643394	Sum of GTIs [s]
date	2020-10-02T20:32:36	Date and time of file creation	l1events	2389198	Number of level 1 events
revision	5	Processing version of data	tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4130.73, 4027.02)	src1a sky pixel position
			zo_pos_tgd	(4109.17, 3997.97)	src1a sky pixel position via tgdetect

2.1.3 Events

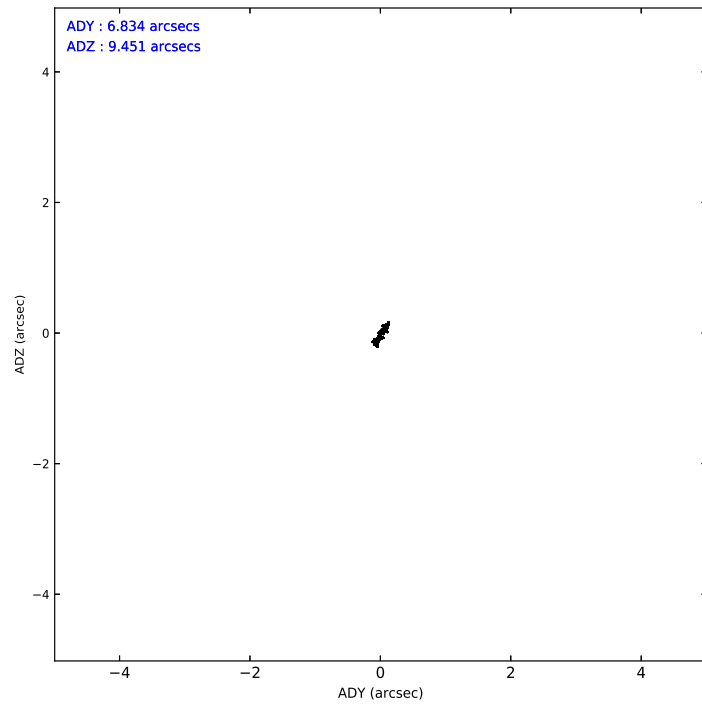
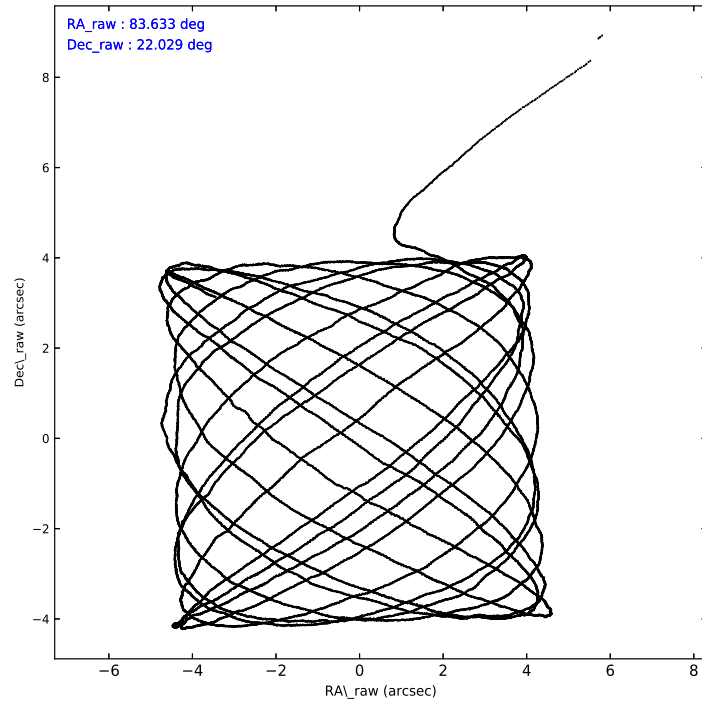
	ccd 7
level 1 events	2389198
rejected events	115816
rejected %	4%

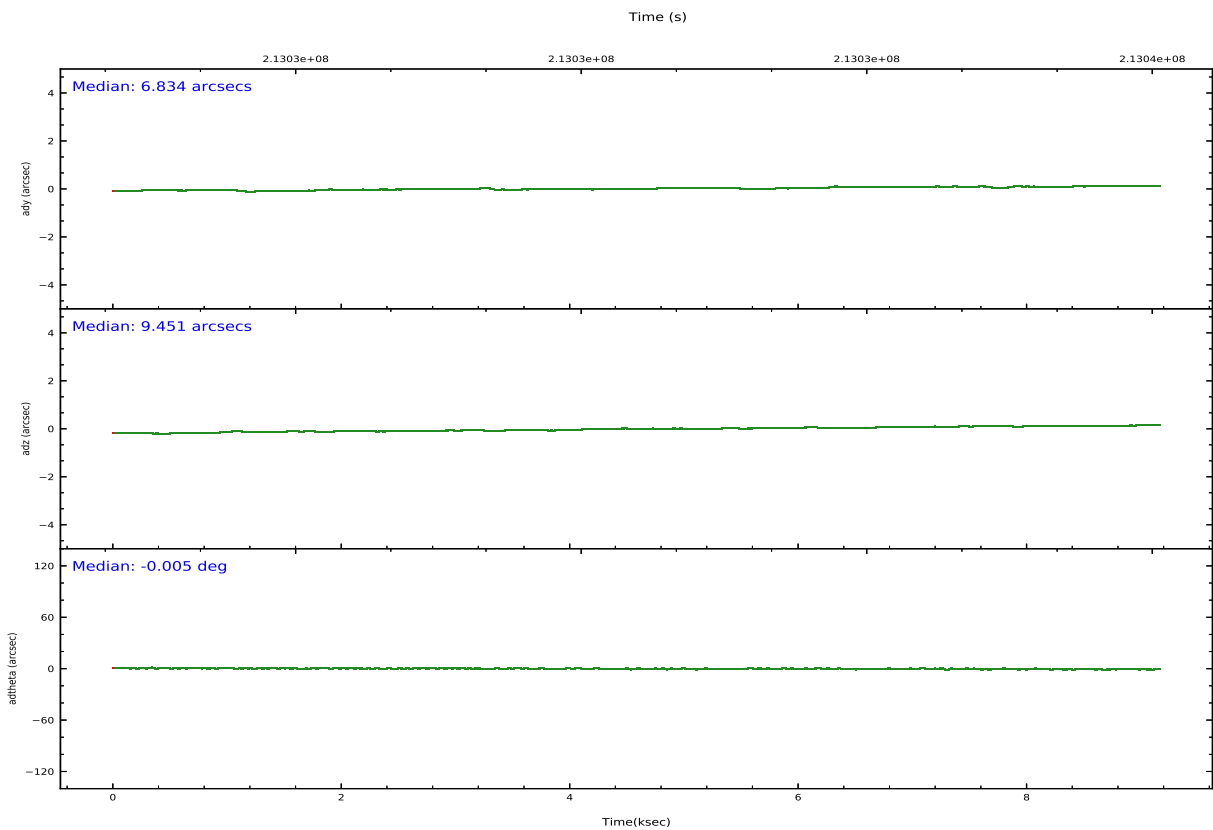
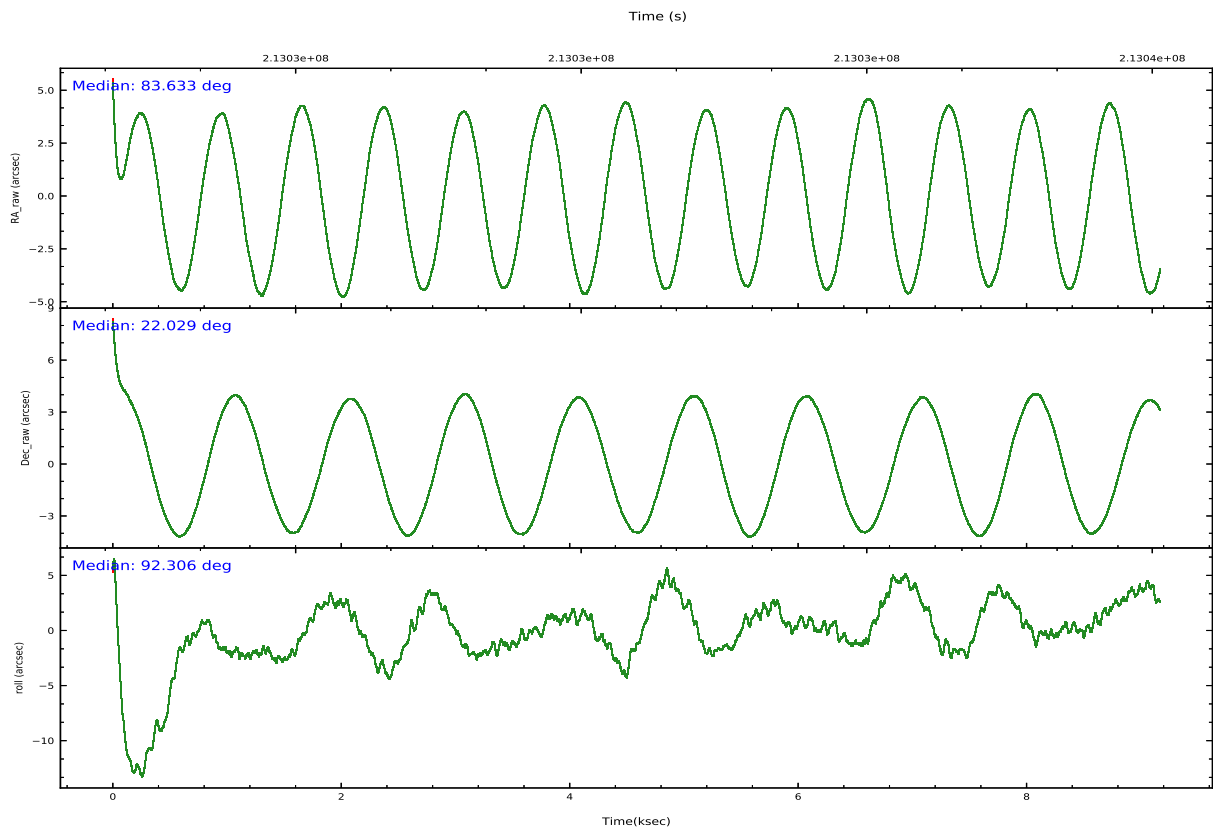
	ccd 7
grade 0 events	455364
	19%
grade 1 events	8482
	0%
grade 2 events	585877
	24%
grade 3 events	260793
	10%
grade 4 events	250608
	10%
grade 5 events	35733
	1%
grade 6 events	749086
	31%
grade 7 events	43255
	1%

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	83.649417	83.636408048722	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.006064	22.027021372013	Subarray start row	127	127
[deg] Pointing Roll	92.146098	92.305769923971	Subarray row count	101	101
[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	0.3
[mm] SIM translation stage pos	-182.132523	-182.139514760308			
[mm] SIM translation stage offset	-8	-7.993007822699838			
[s] Observation start time (MET)	213026069.184000	213024213.00744			
Observation start date	2004-10-01T13:53:25	2004-10-01T13:23:33			
[s] Observation end time (MET)	213035069.184000	213035765.78295			
Observation end date	2004-10-01T16:23:25	2004-10-01T16:36:05			
Read mode	TIMED	TIMED			

2.3 Aspect



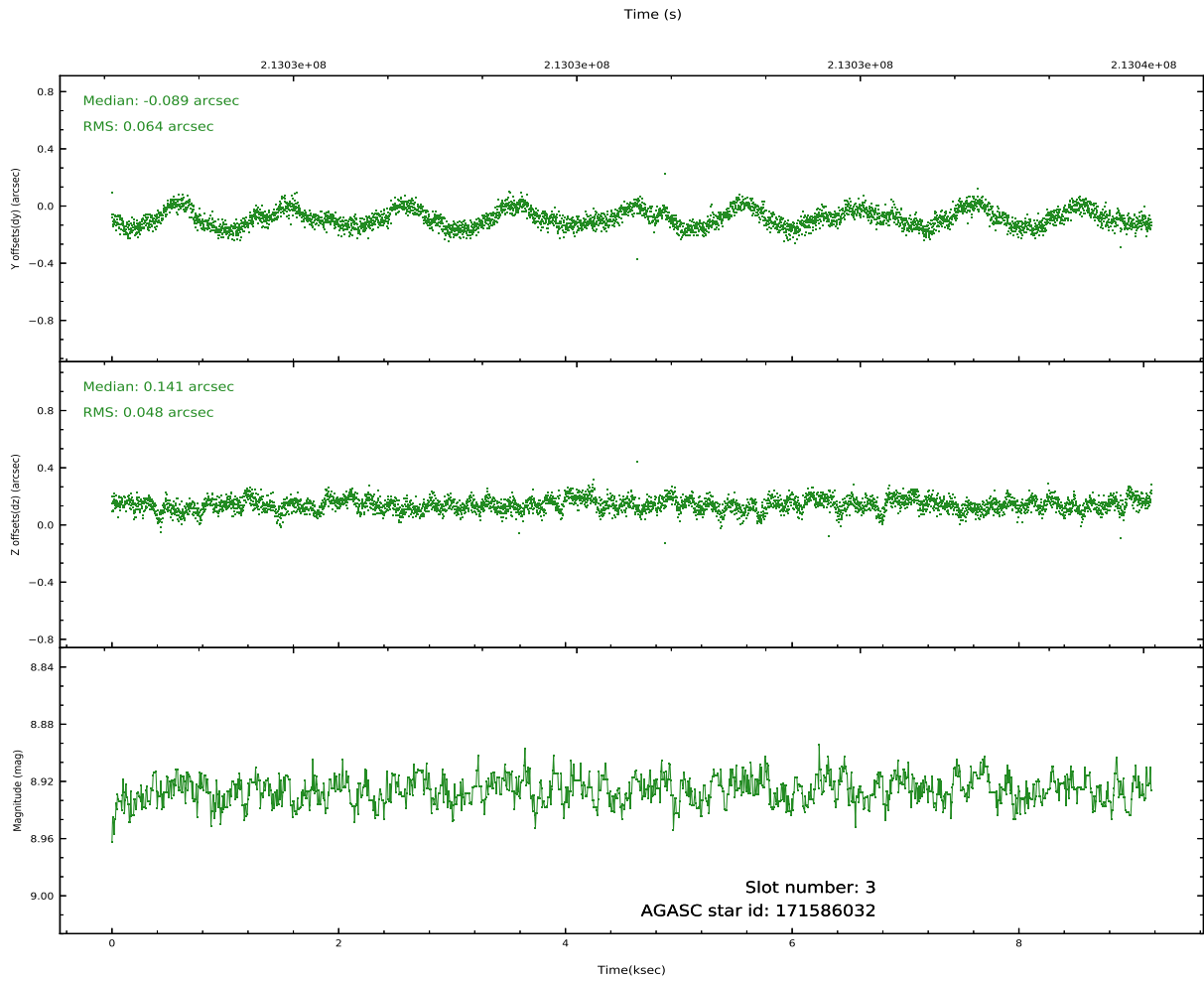
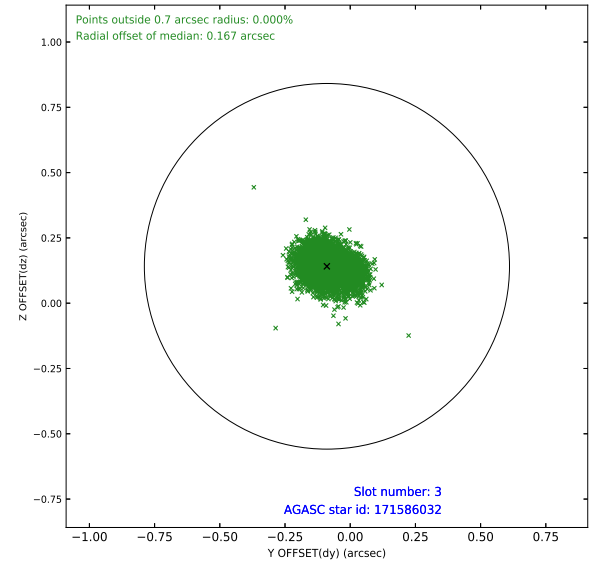
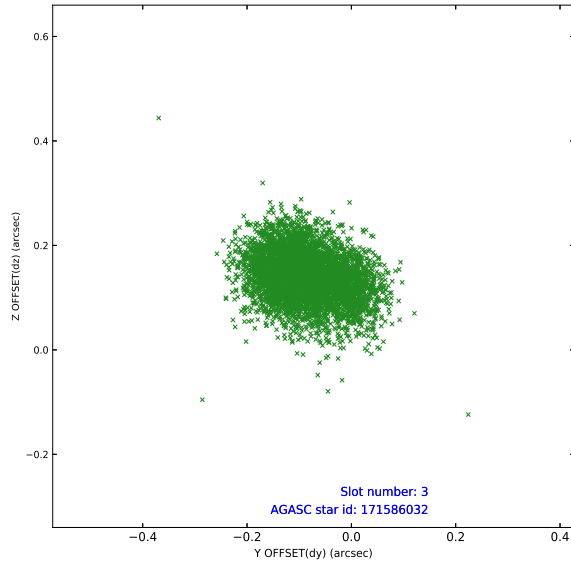


Slot Statistics

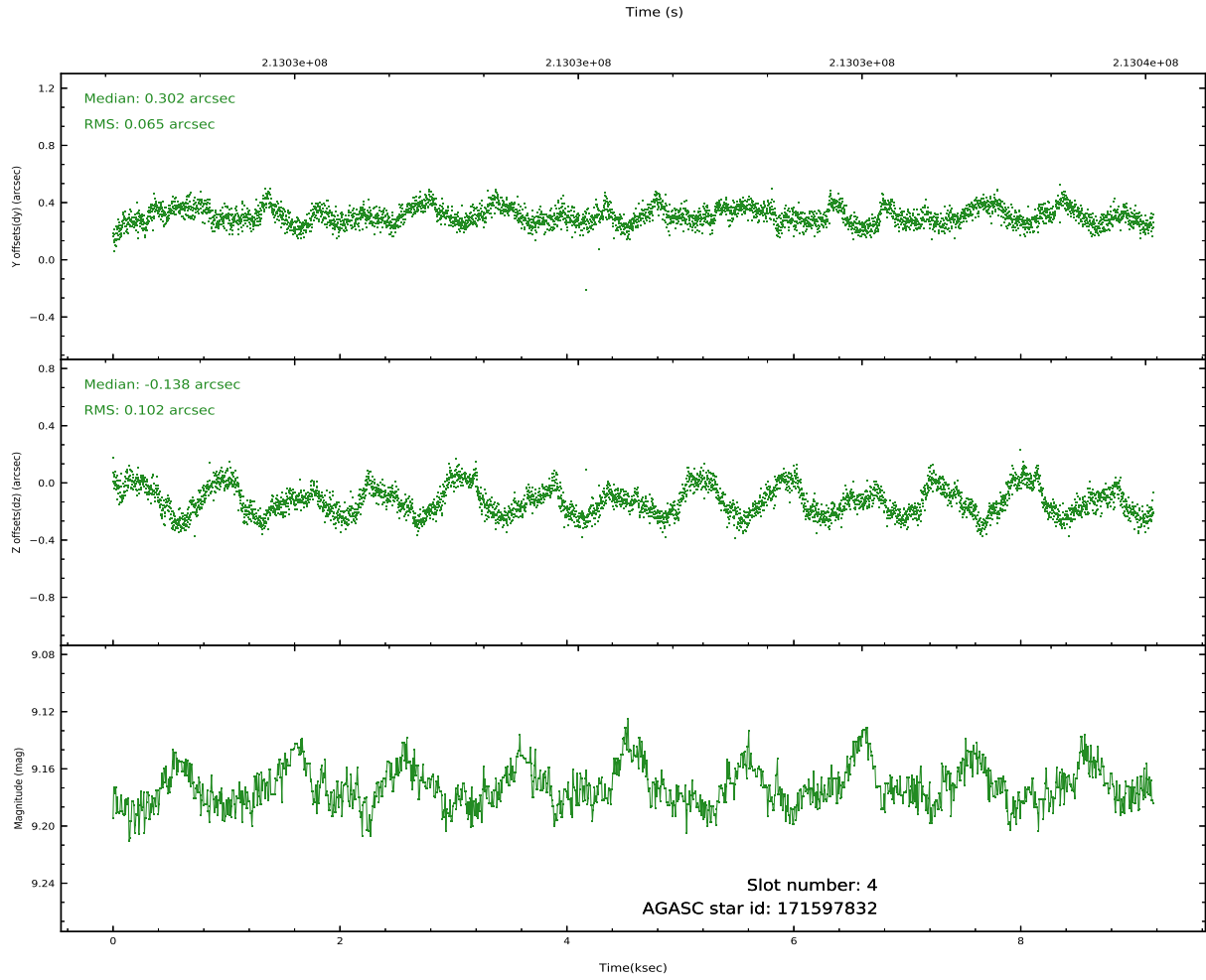
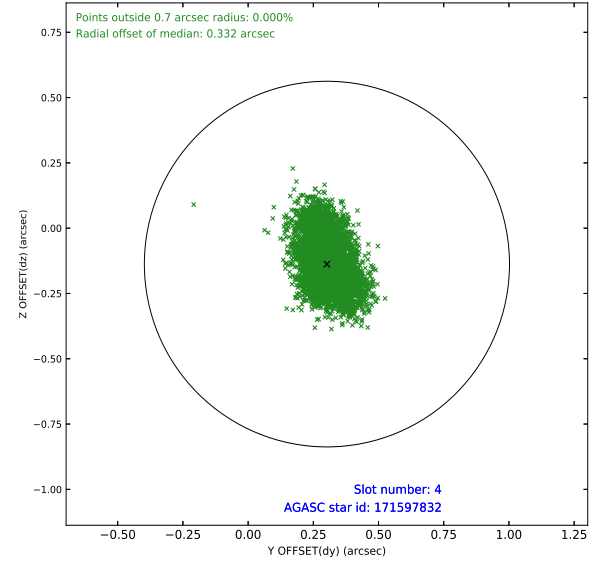
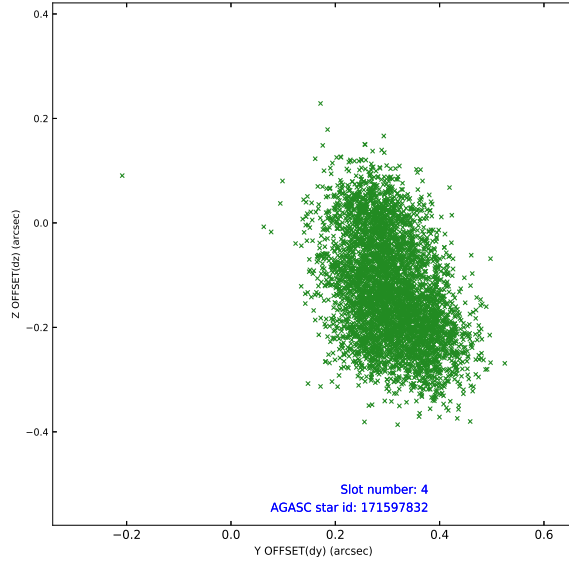
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	2237	1.000	-0.106	-0.139	0.007	0.011	0.000000	0.000000	-759.11	-1895
1	FID		ACIS-S-4	7.18	2237	1.000	0.182	0.088	0.005	0.010	0.000000	0.000000	2154.17	12
2	FID		ACIS-S-5	7.23	2237	1.000	-0.108	0.059	0.007	0.011	0.000000	0.000000	-1811.21	6
3	GUIDE	used	171586032	8.93	4473	1.000	-0.089	0.141	0.086	0.135	83.950197	22.083225	241.11	-1012
4	GUIDE	used	171597832	9.17	4473	1.000	0.302	-0.138	0.130	0.205	83.183230	21.366702	-2239.02	1647
5	GUIDE	used	171721904	9.19	4474	1.000	-0.148	0.235	0.119	0.179	84.272676	22.116922	324.97	-2091
6	GUIDE	used	243941560	8.31	4470	1.000	-0.199	0.165	0.060	0.098	83.733264	22.568598	2013.30	-354
7	GUIDE	used	171600224	9.62	4469	1.000	0.131	-0.404	0.210	0.341	82.941815	21.636094	-1236.57	2415

2.4 Star Slots

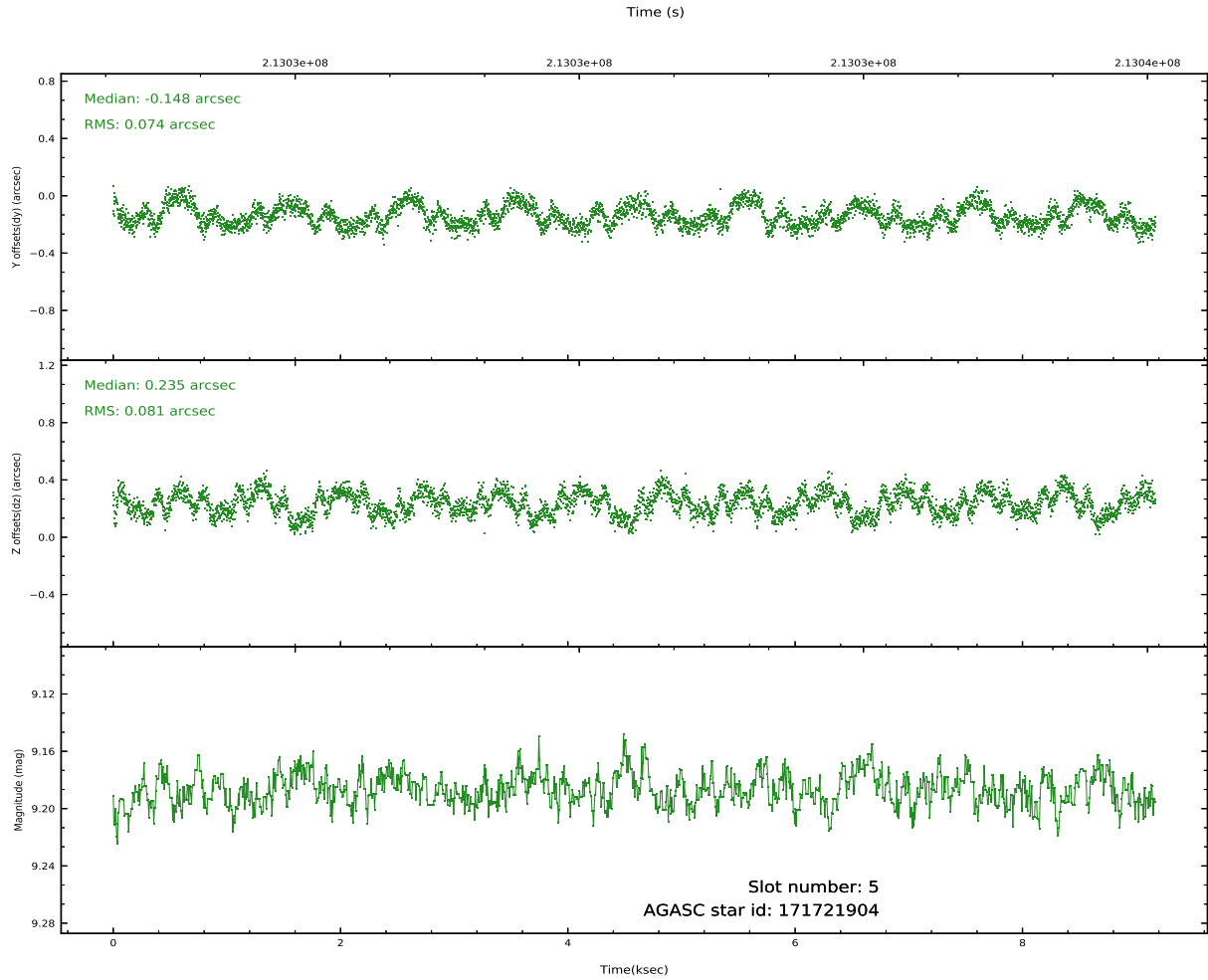
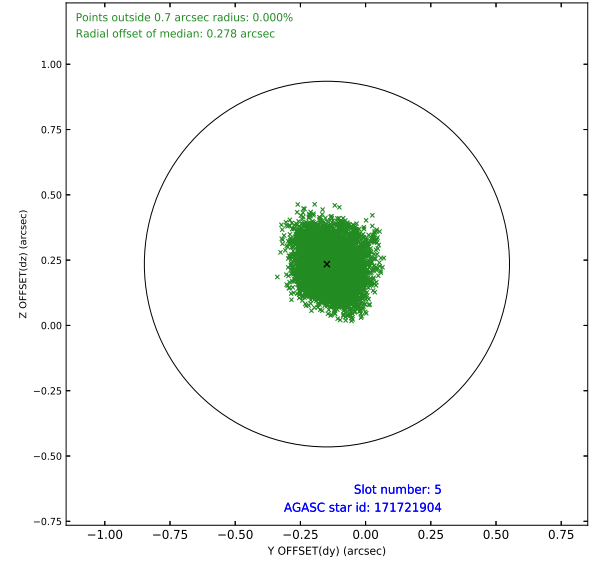
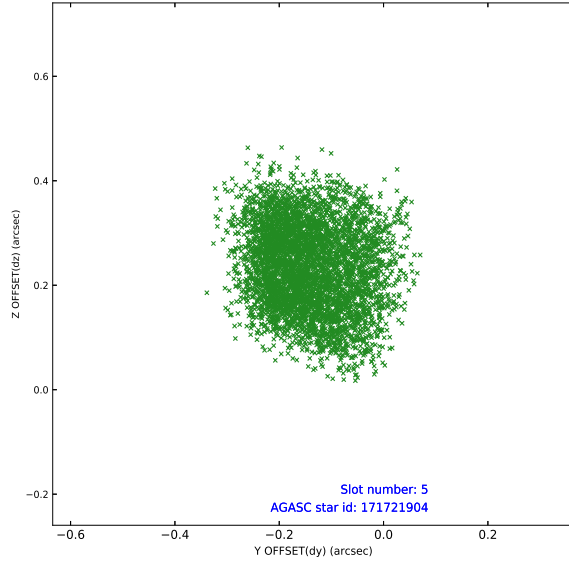
2.4.1 Slot 3



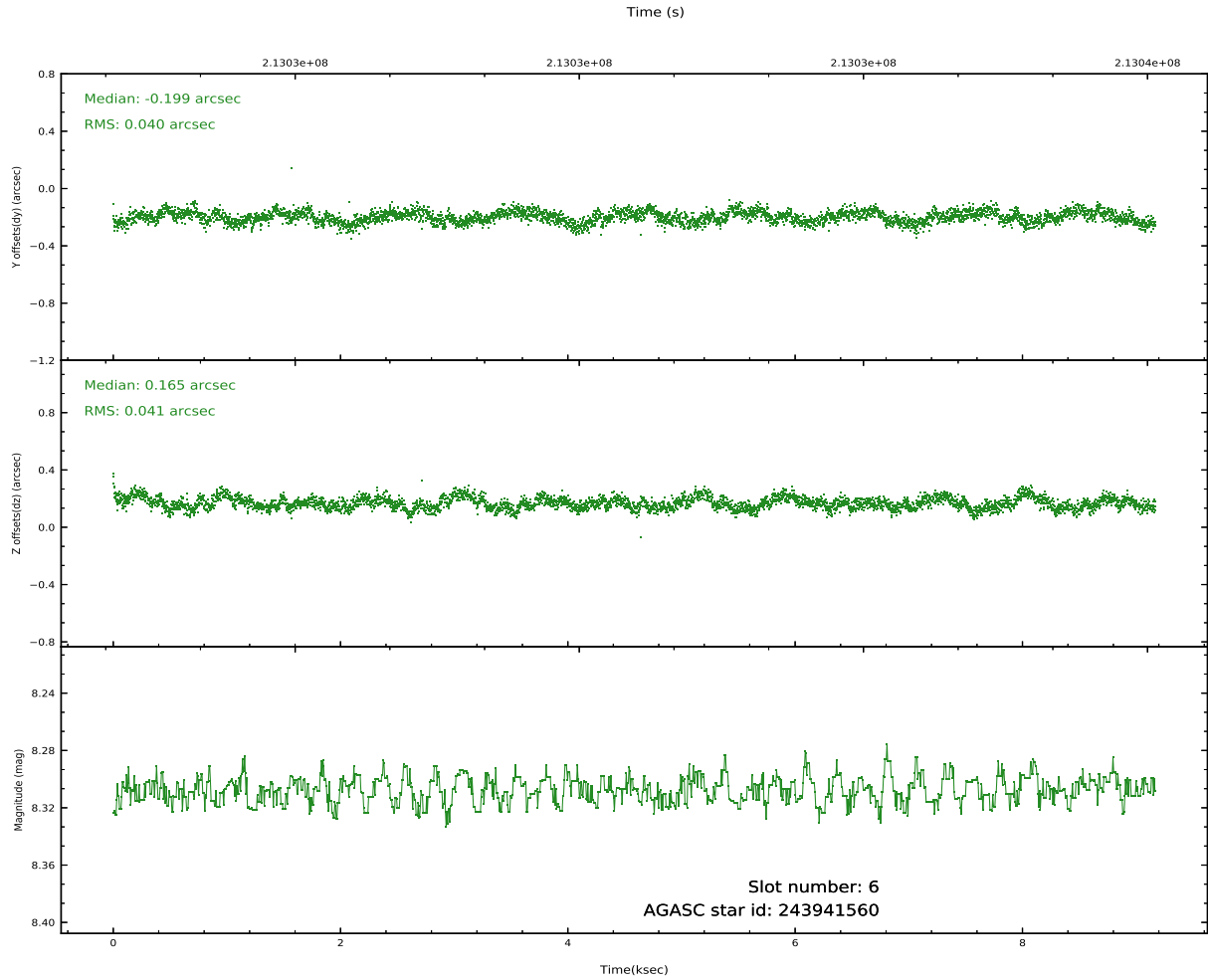
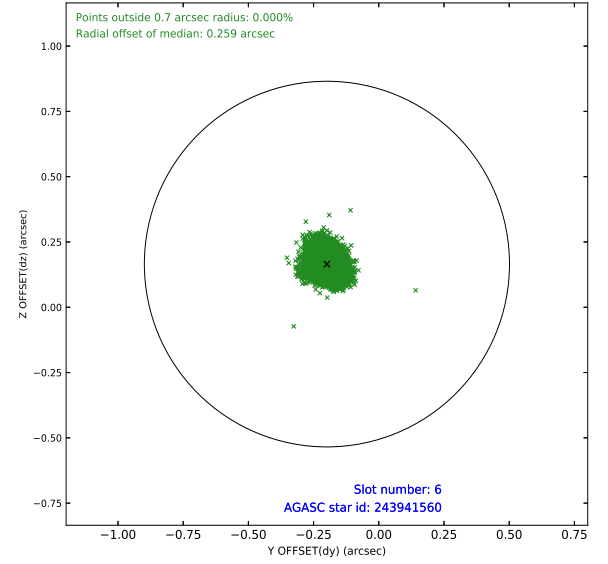
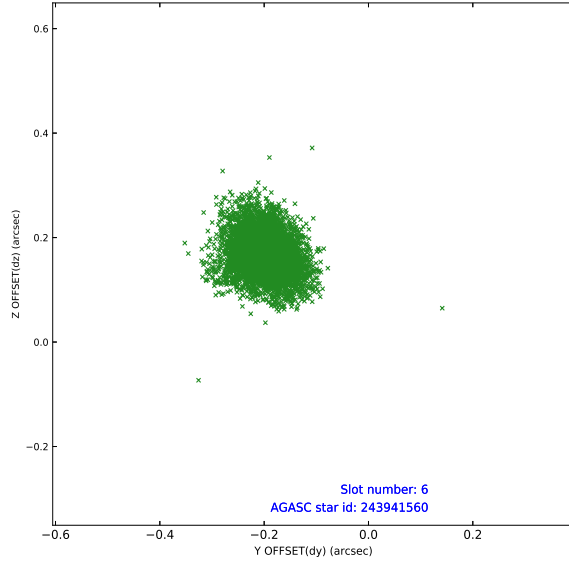
2.4.2 Slot 4



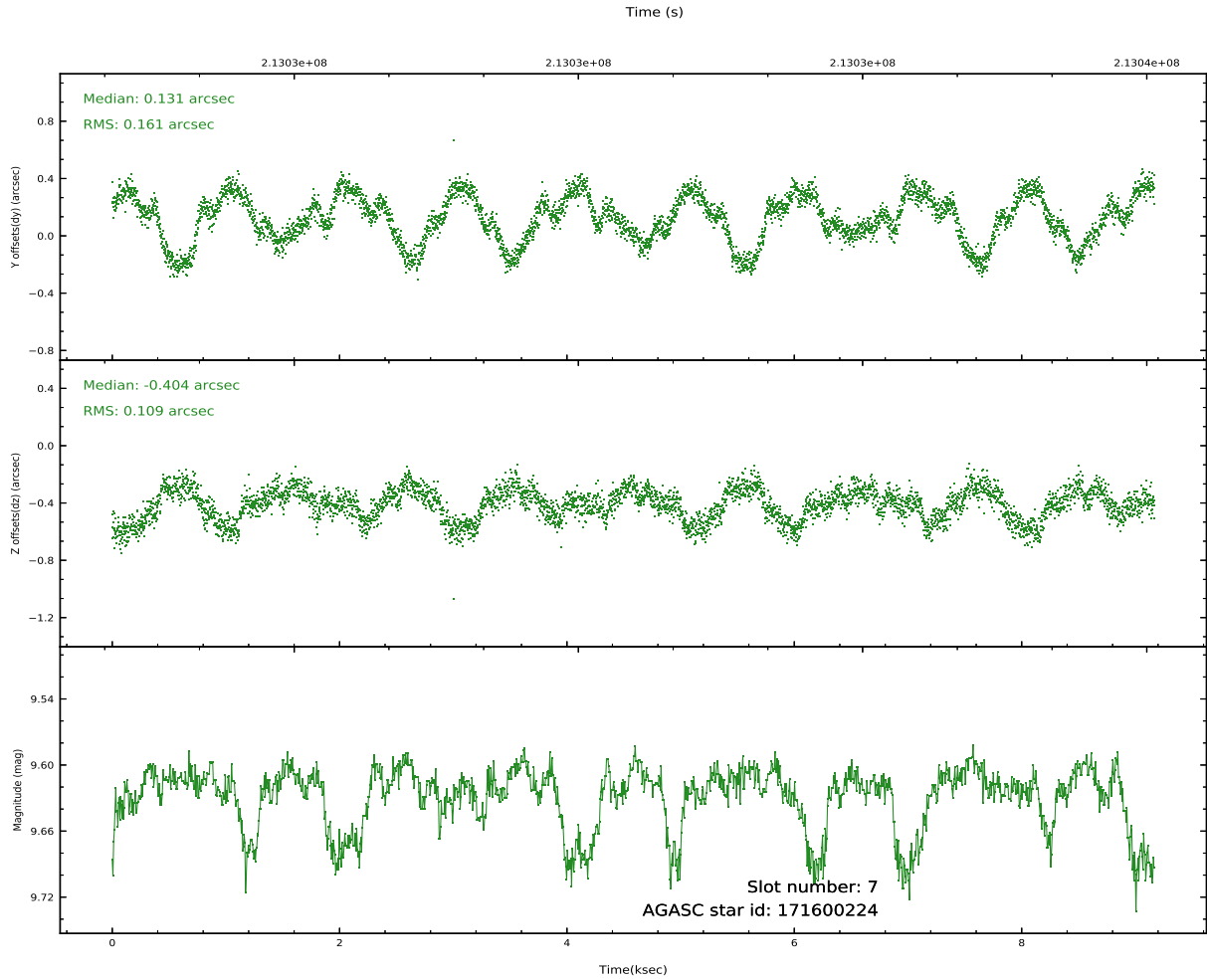
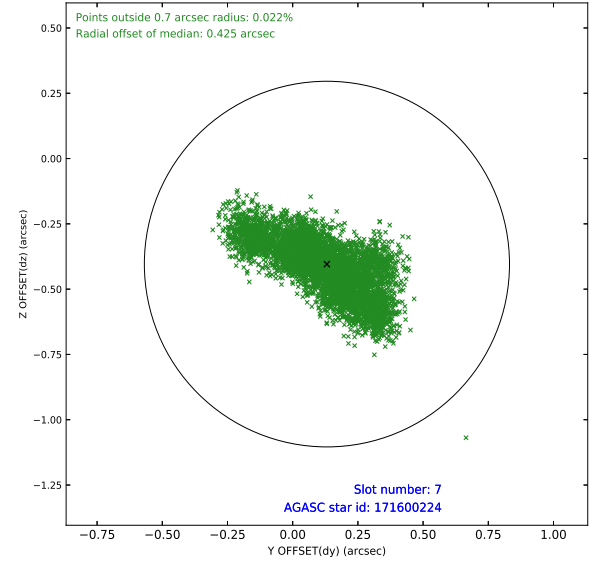
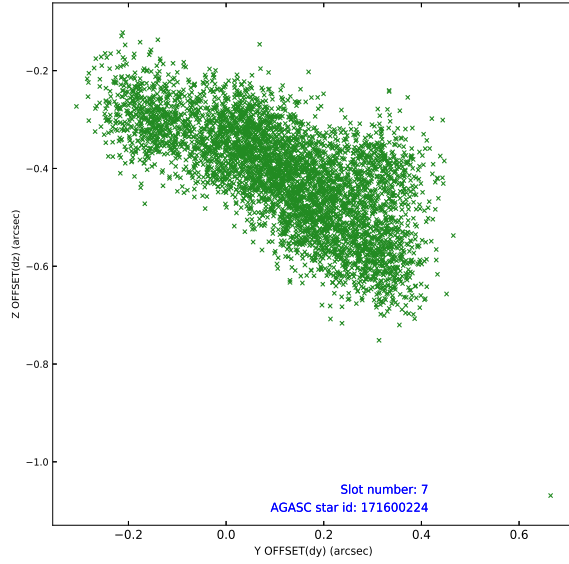
2.4.3 Slot 5



2.4.4 Slot 6

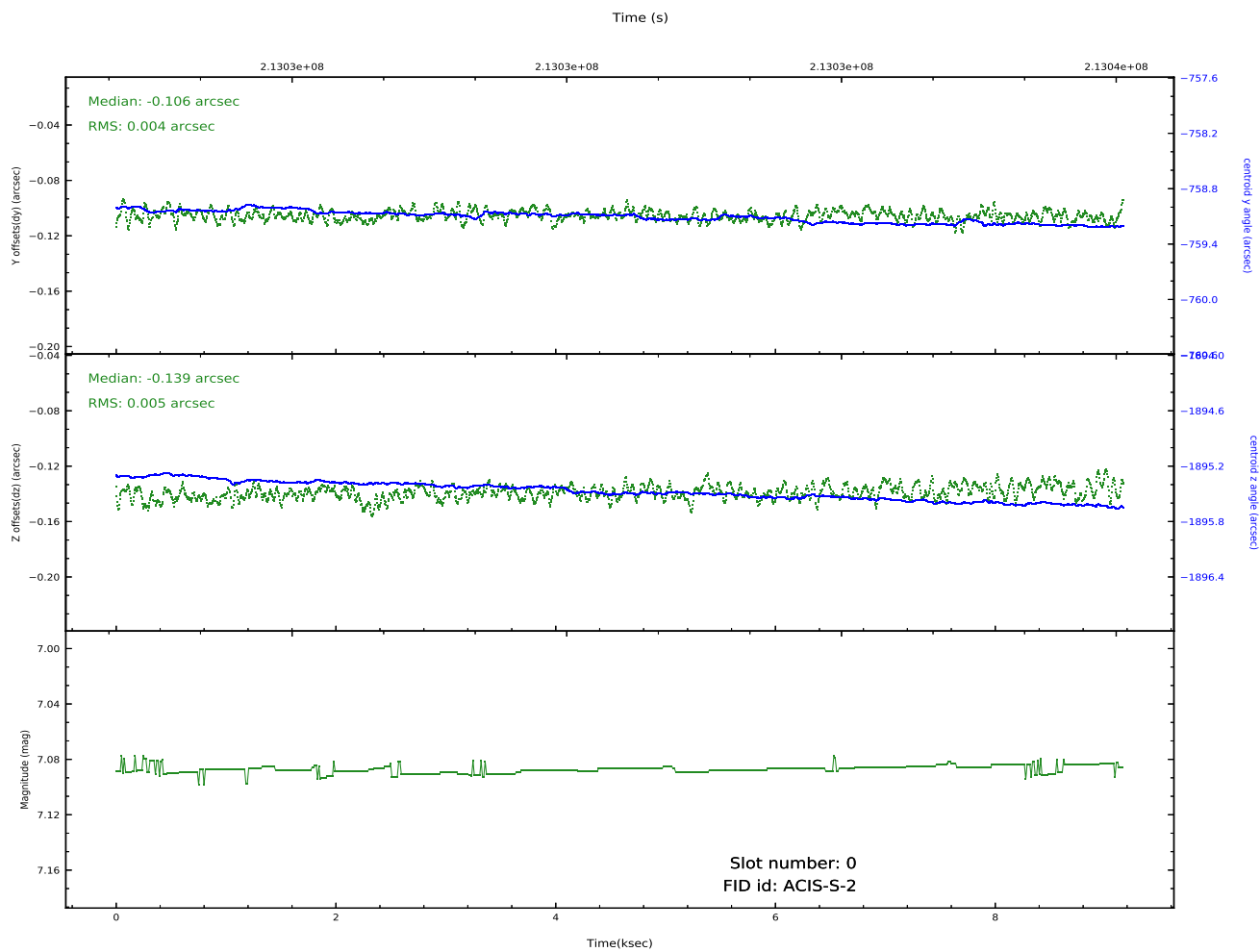
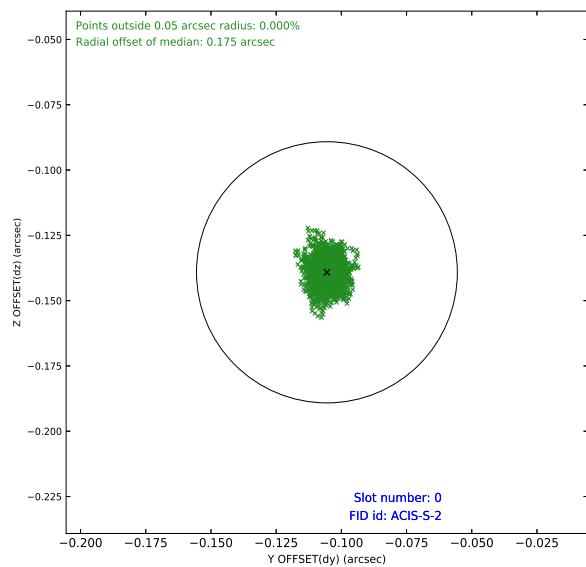
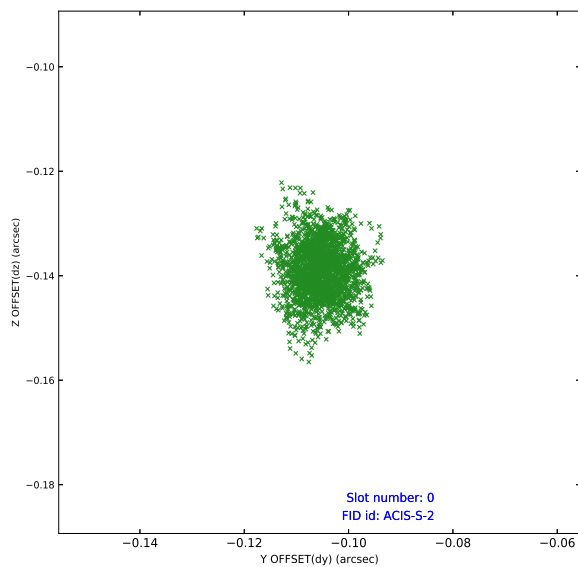


2.4.5 Slot 7

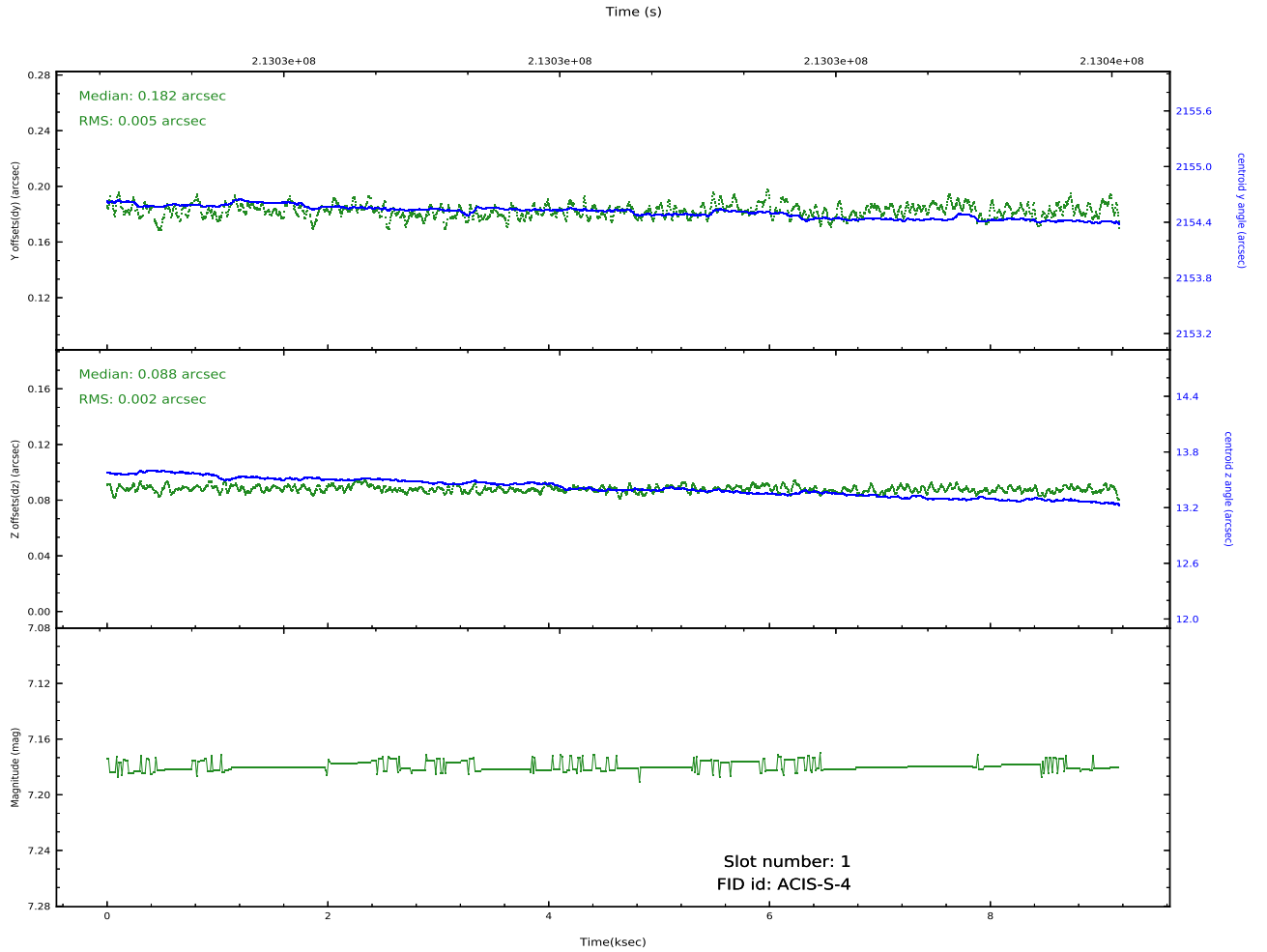
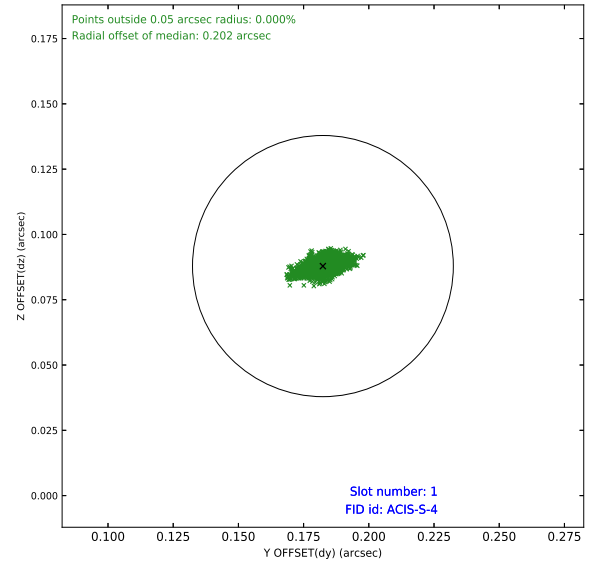
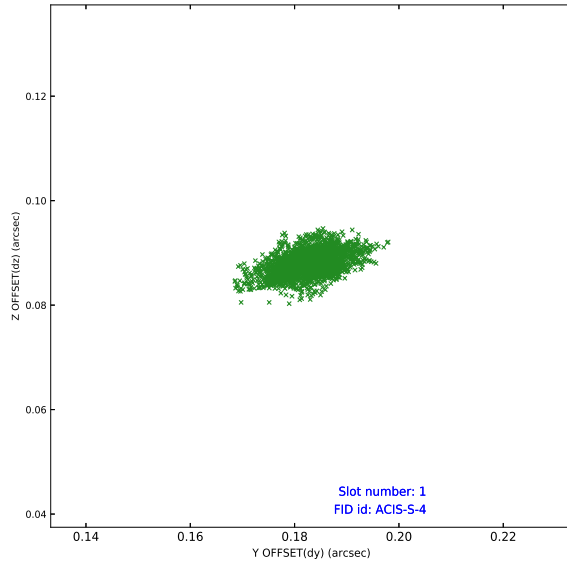


2.5 FID Slots

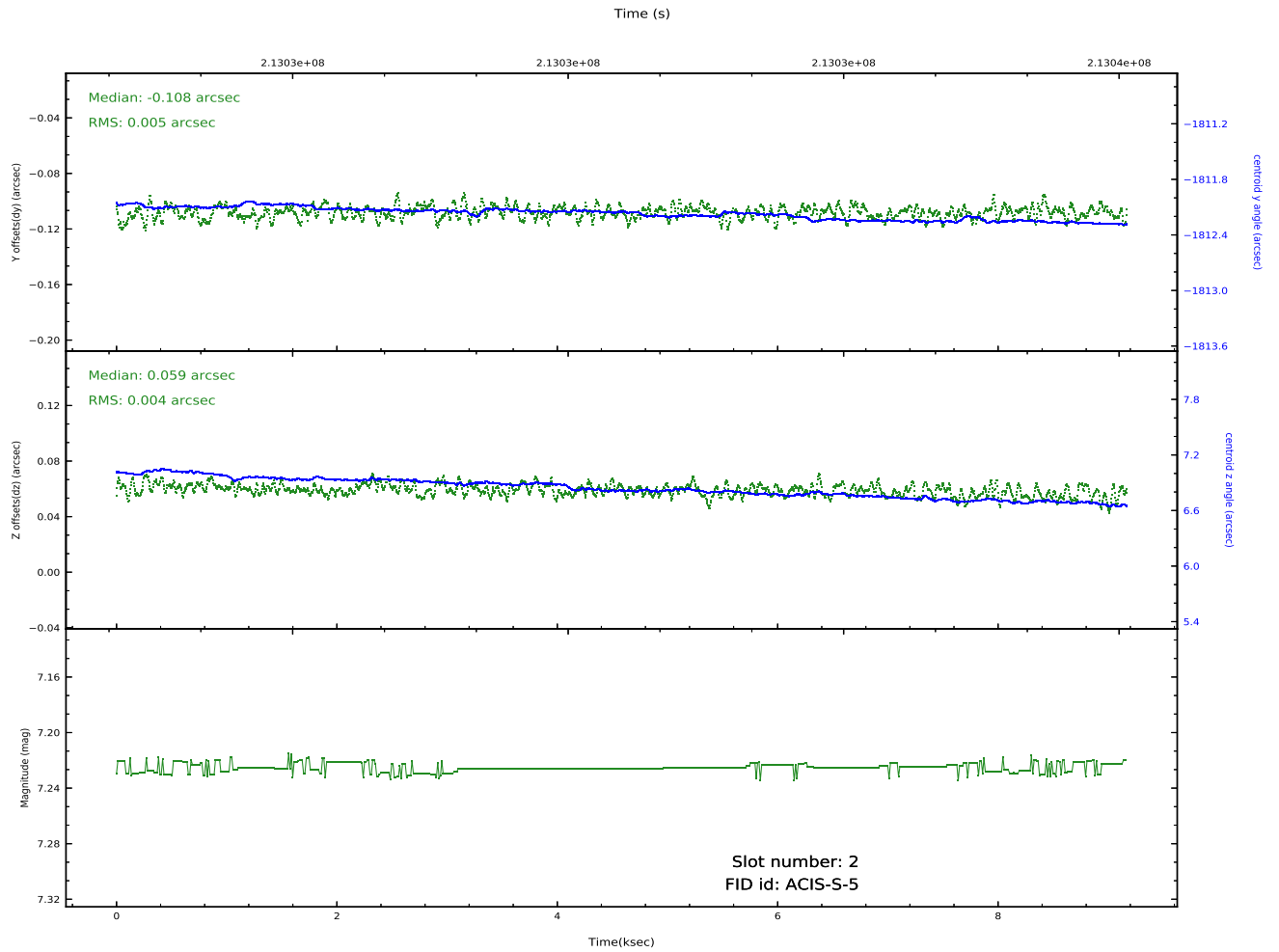
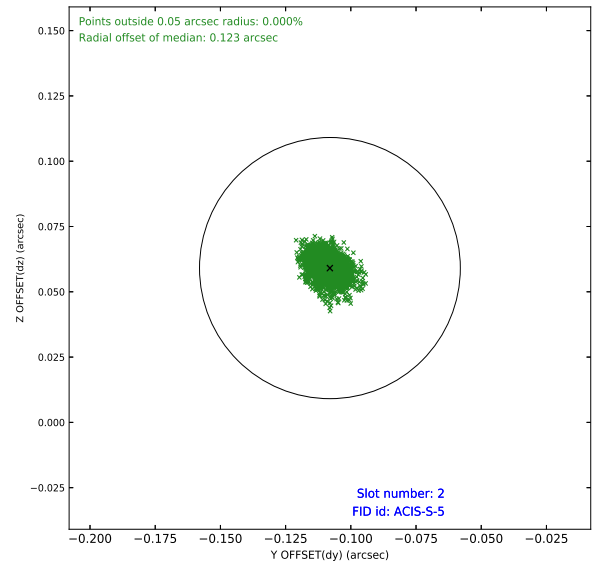
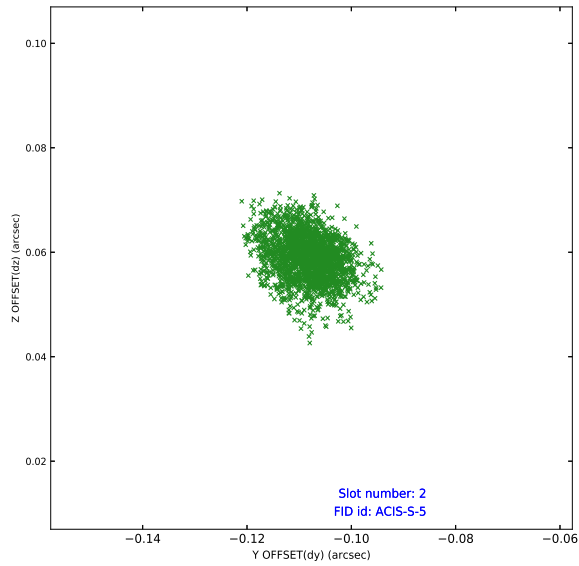
2.5.1 Slot 0



2.5.2 Slot 1

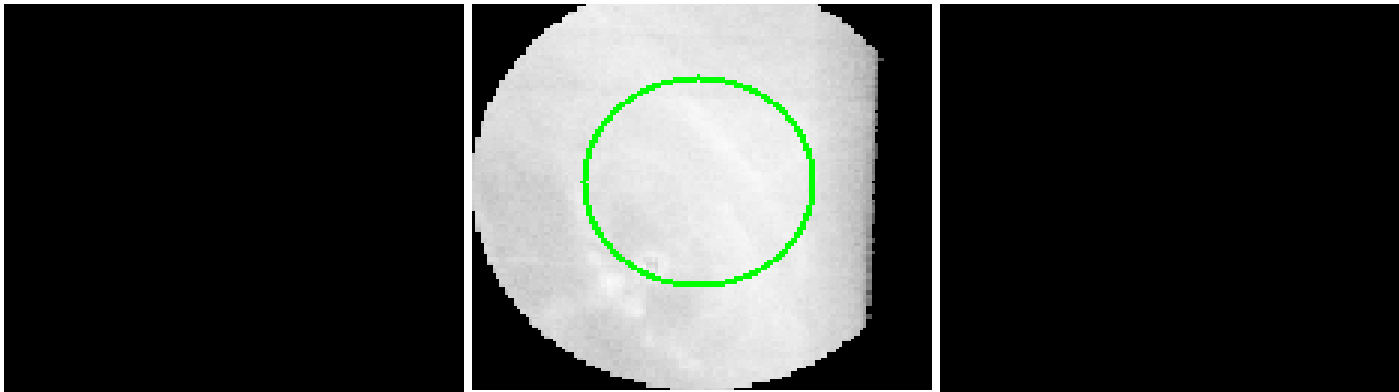


2.5.3 Slot 2



3 Gratings

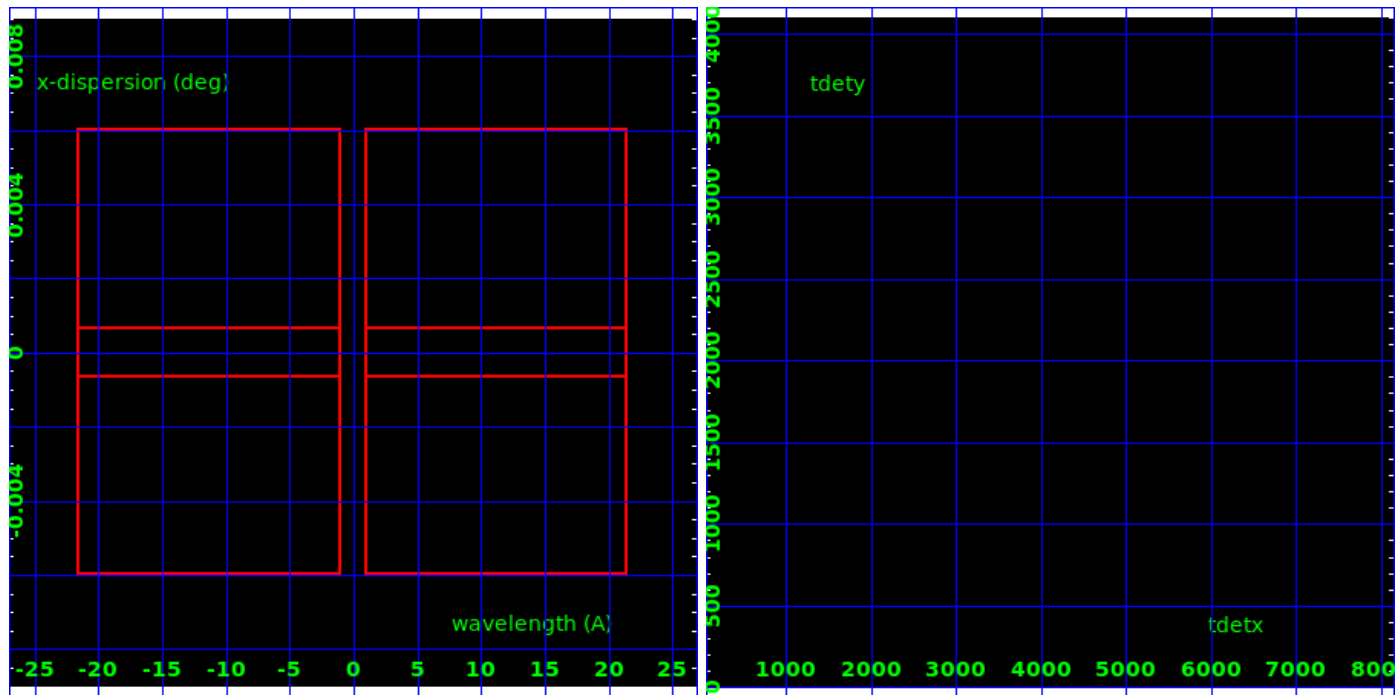
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

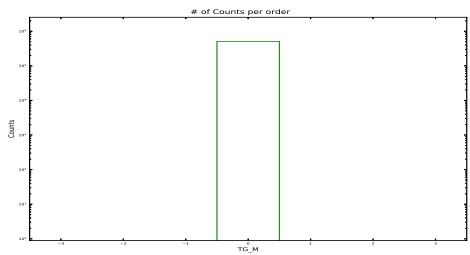
HEG Order Sort ALL

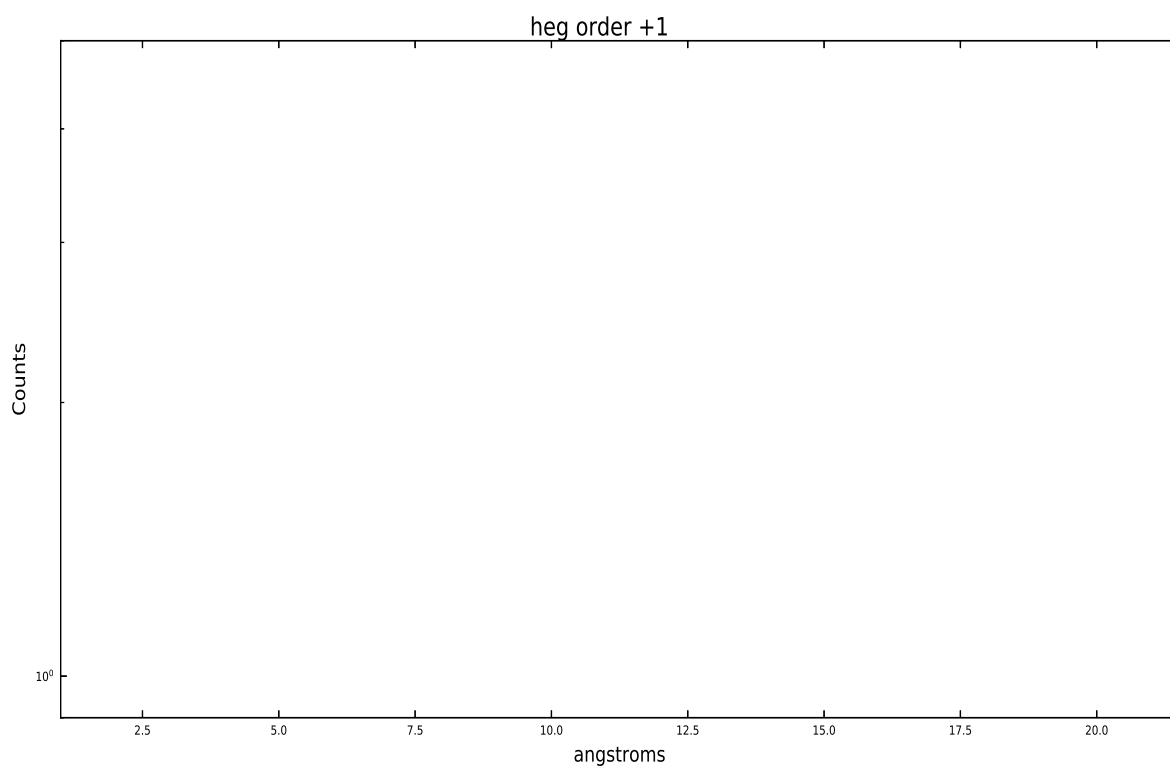
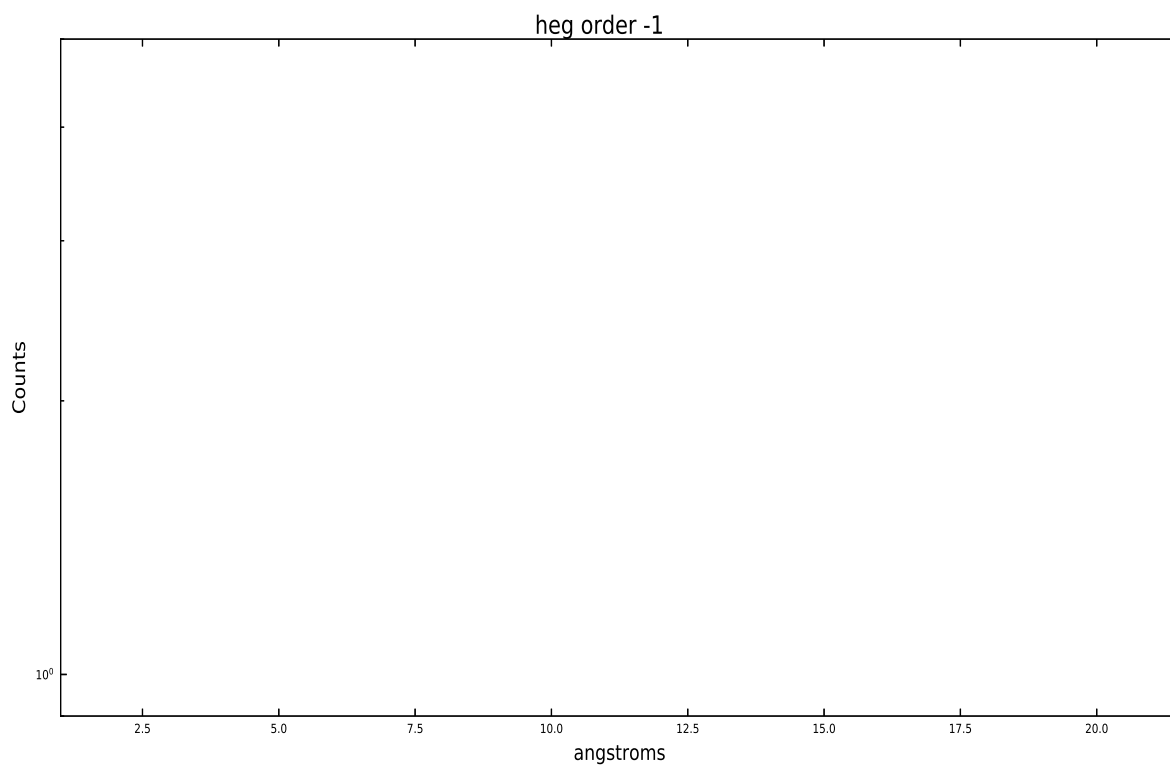


Spot Image HEG

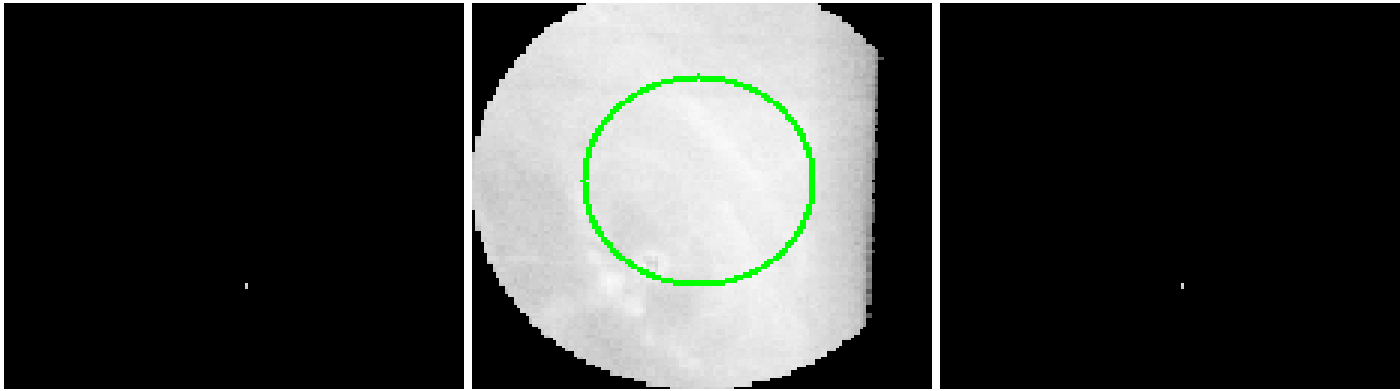
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	505026	0	0	0





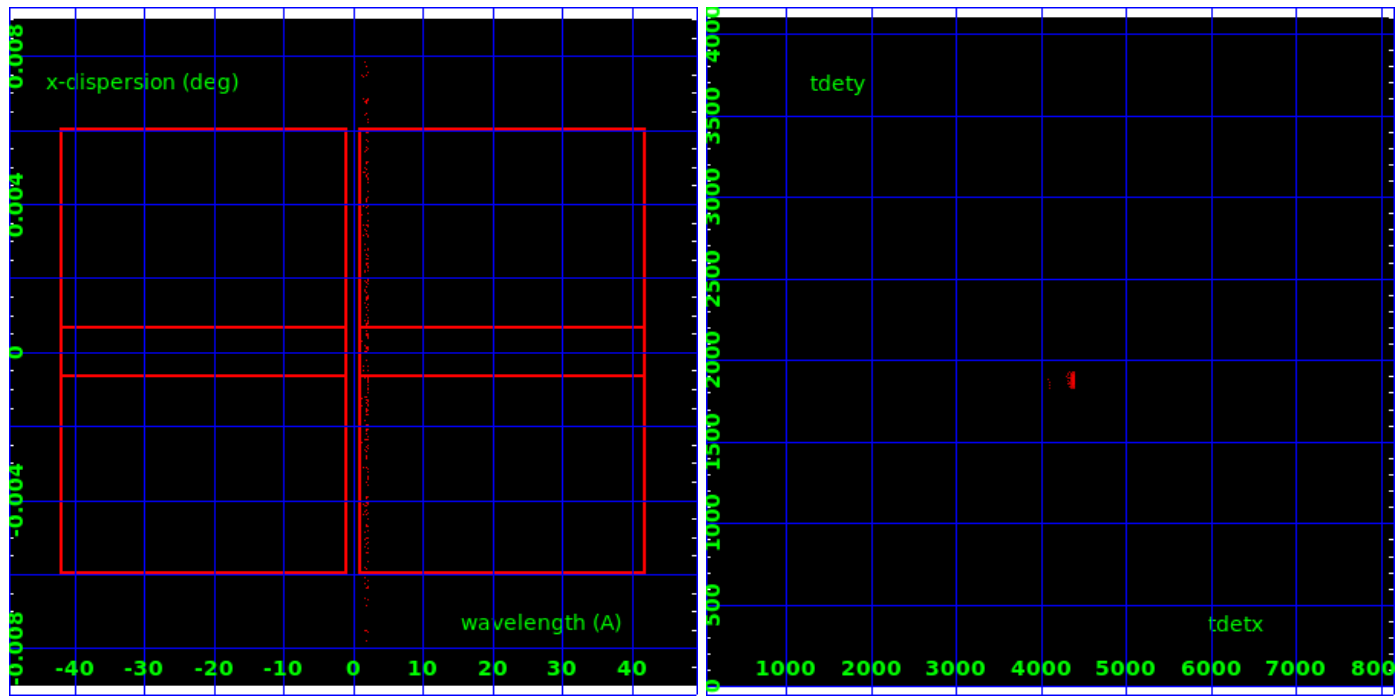
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

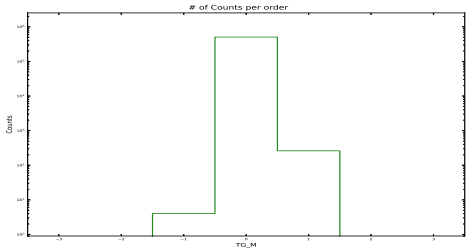
MEG Order Sort ALL

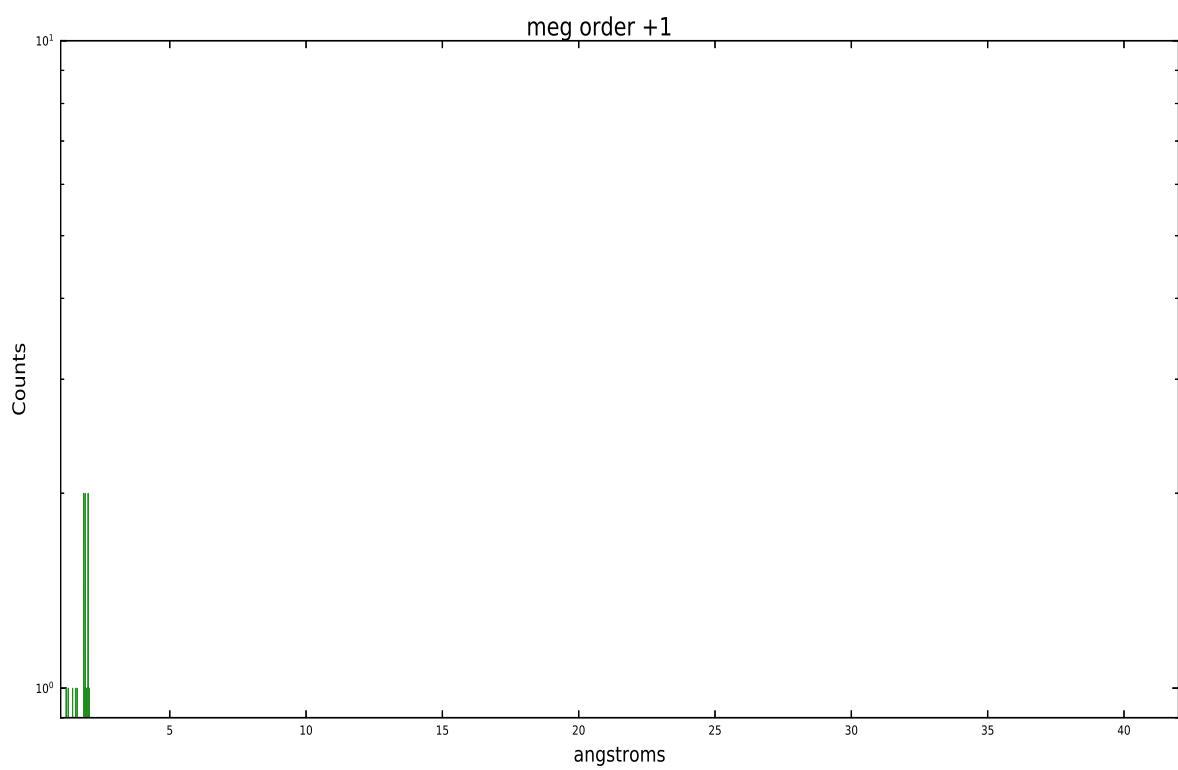
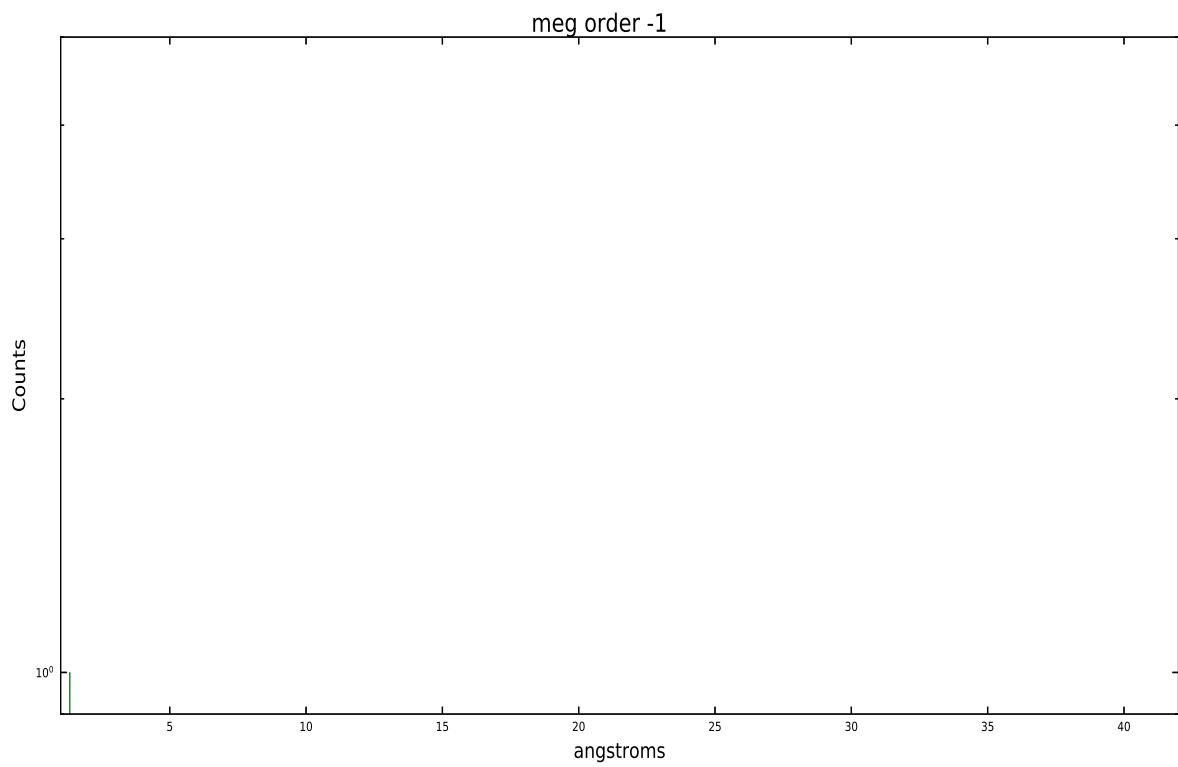


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	4	505026	261	0	0





A Summary

A.1 Status

V&V Scientist	David Principe
V&V Date (YYYY-MM-DD)	2020.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.168

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 centered on 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 orders between 1-2 A.