

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5551 - L2 Version 4
Chandra X-Ray Center

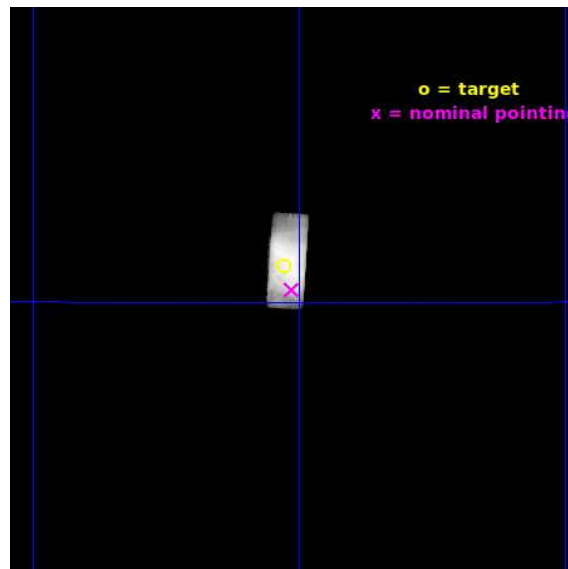
L2 Processing Date : Oct 6 2020

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1 Front

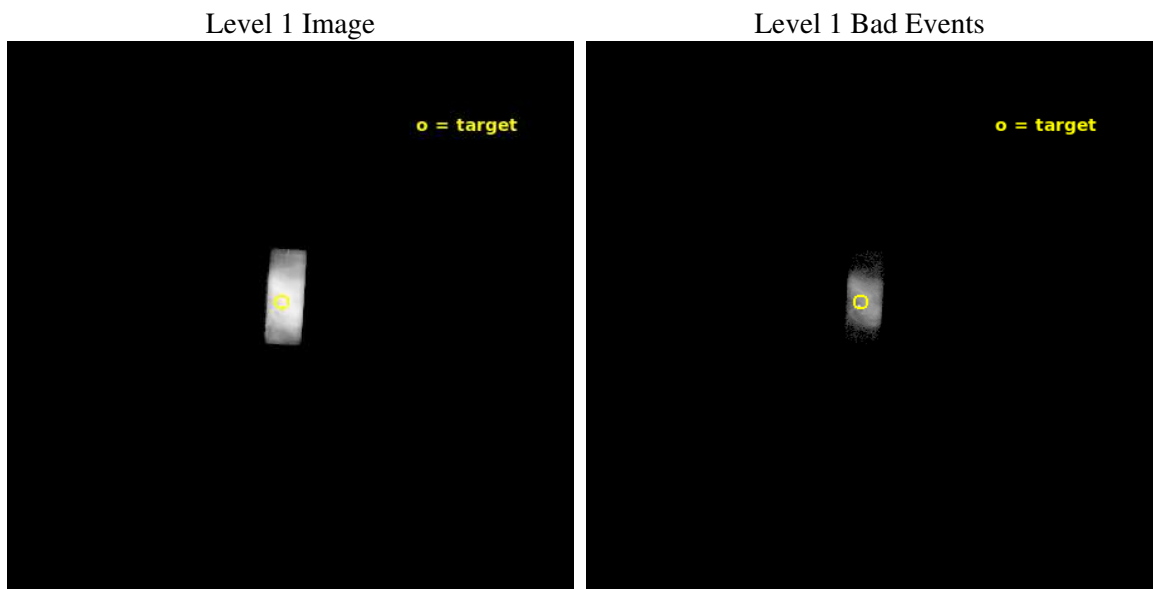
seq_num	500540	Sequence number
obs_id	5551	Observation id
title	Monitoring of the Relativistic Magnetohydrodynamic Shock in the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.632083	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.628116173012	Nominal RA [deg]
dec_nom	22.0054870981	Nominal Dec [deg]
roll_nom	273.51293064827	Nominal Roll [deg]
revision	4	Processing version of data
ontime	10181.700404584	Sum of GTIs [s]
livetime	8956.4570765169	Livetime [s]
ontime7	10181.700404584	Sum of GTIs [s]
l2events	2663521	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	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	10181.700404584	Sum of GTIs [s]
caldbver	4.9.2	 	ontime7	10181.700404584	Sum of GTIs [s]
date	2020-10-06T16:04:24	Date and time of file creation	l1events	2820158	Number of level 1 events
revision	4	Processing version of data	tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4103.84, 4180.76)	src1a sky pixel position
			zo_pos_tgd	(4052.75, 4158.36)	src1a sky pixel position via tgdetect

2.1.3 Events

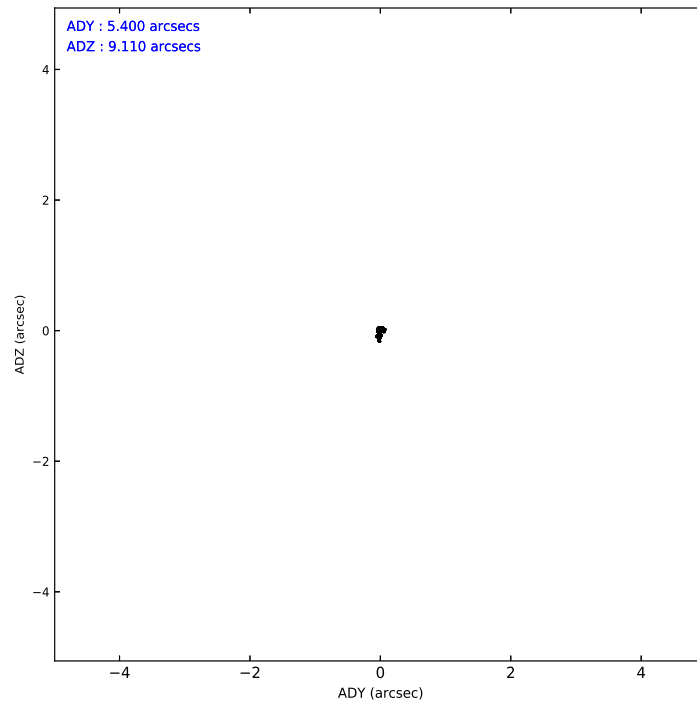
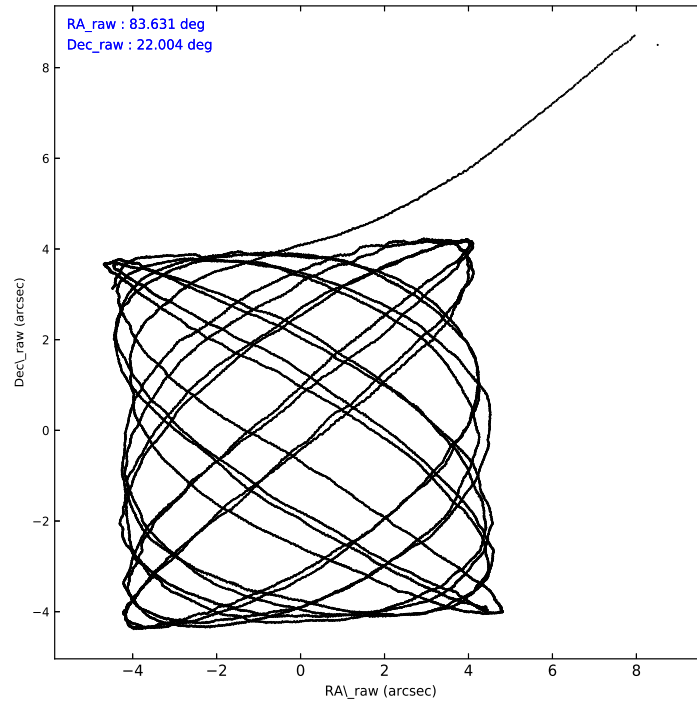
	ccd 7
level 1 events	2820158
rejected events	129925
rejected %	4%

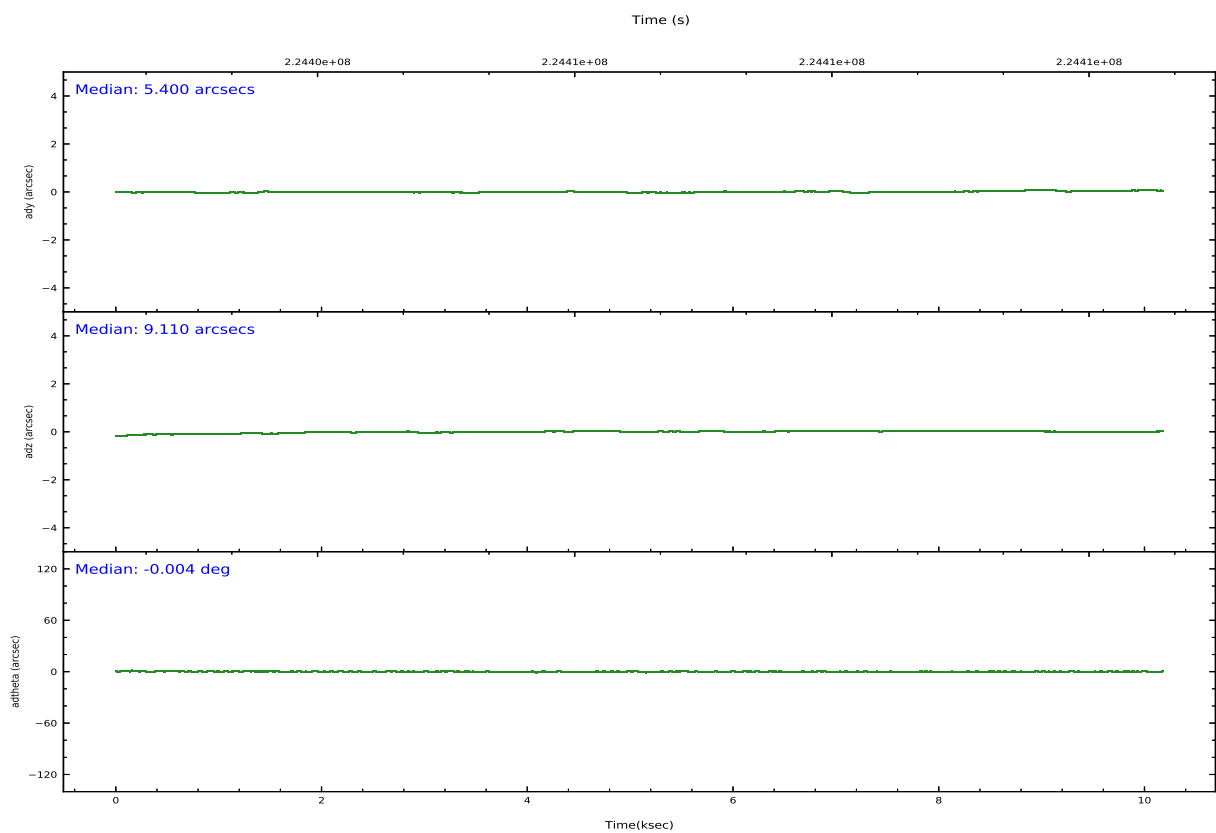
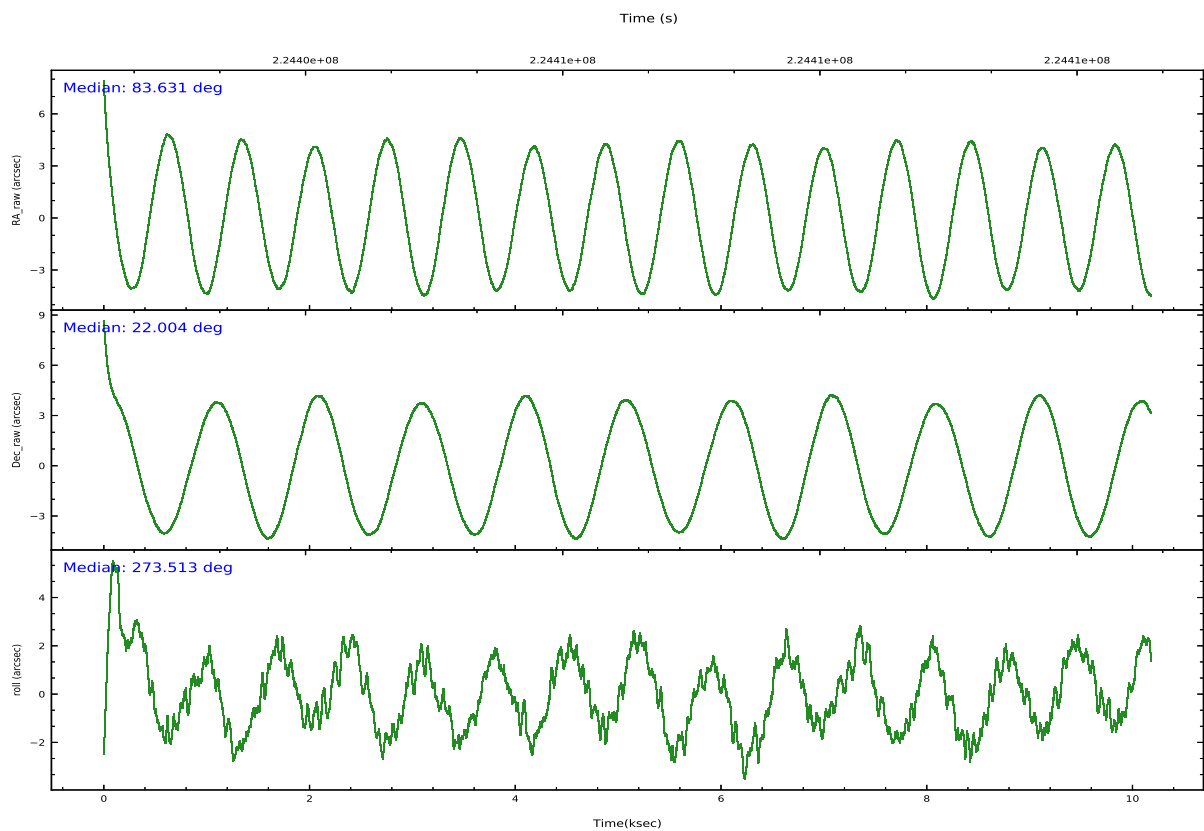
	ccd 7
grade 0 events	554722
	19%
grade 1 events	10749
	0%
grade 2 events	694139
	24%
grade 3 events	310346
	11%
grade 4 events	296964
	10%
grade 5 events	42913
	1%
grade 6 events	860333
	30%
grade 7 events	49992
	1%

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	83.614515	83.628116173012	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.026534	22.0054870981	Subarray start row	127	127
[deg] Pointing Roll	273.365885	273.51293064827	Subarray row count	101	101
[s] Window start time (MET)	224121664.184000	224121664.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	224726464.184000	224726464.184000	[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	-182.1344861297048			
[mm] SIM translation stage offset	-8	-7.998036453302973			
[s] Observation start time (MET)	224403221.184000	224402334.15649			
Observation start date	2005-02-10T06:12:37	2005-02-10T05:58:54			
[s] Observation end time (MET)	224413221.184000	224414021.71952			
Observation end date	2005-02-10T08:59:17	2005-02-10T09:13:41			
Read mode	TIMED	TIMED			

2.3 Aspect



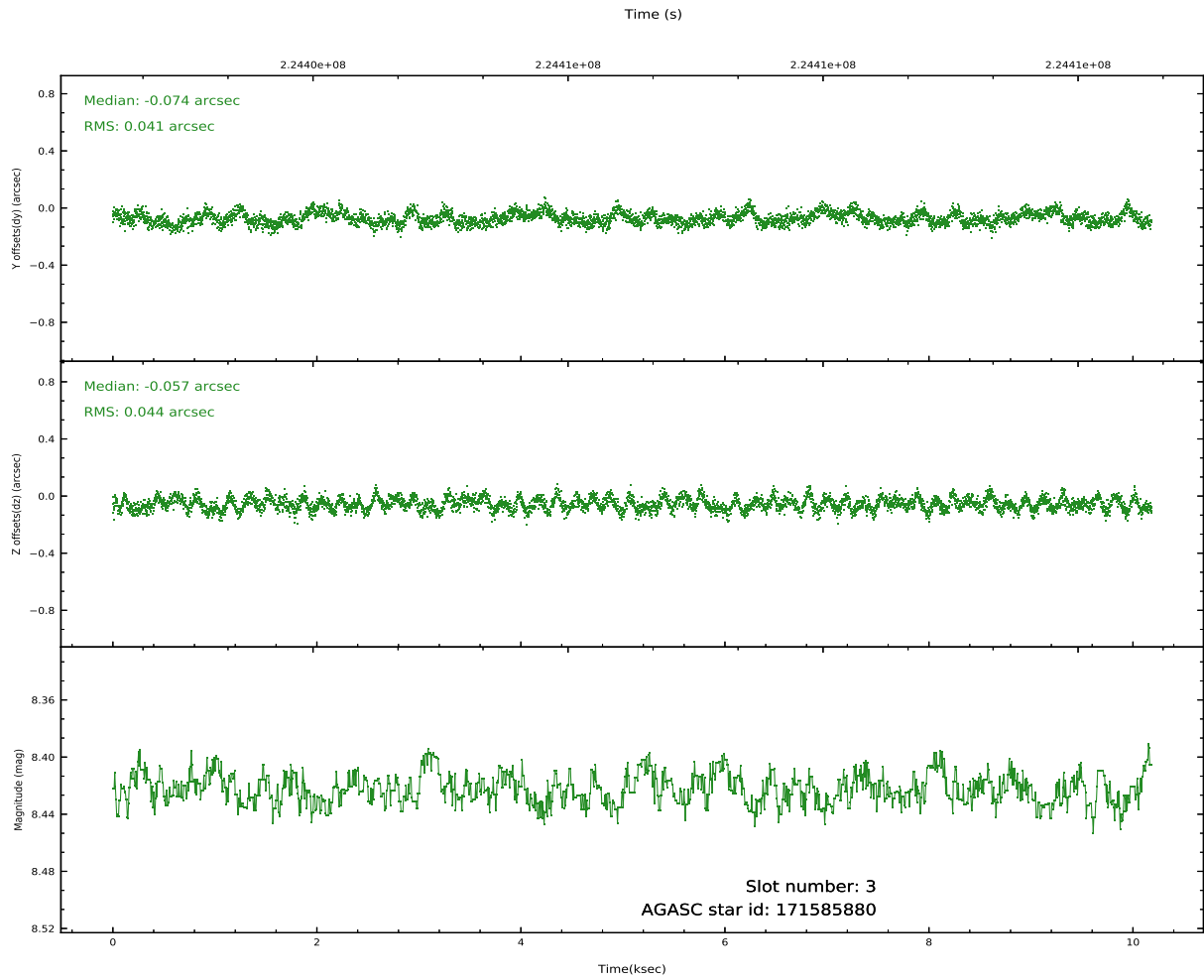
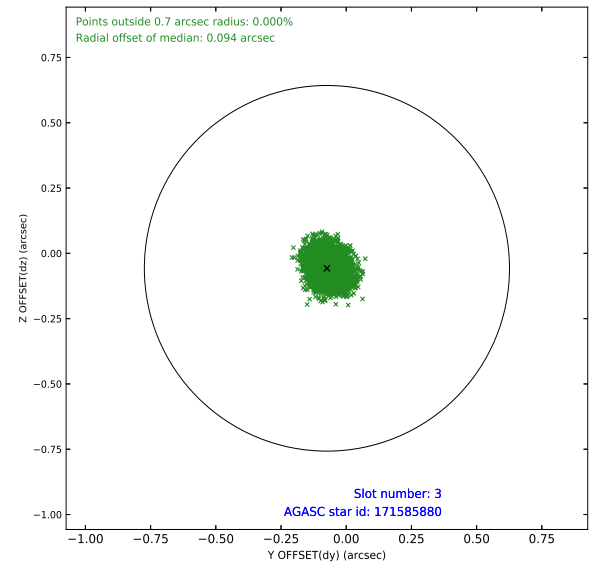
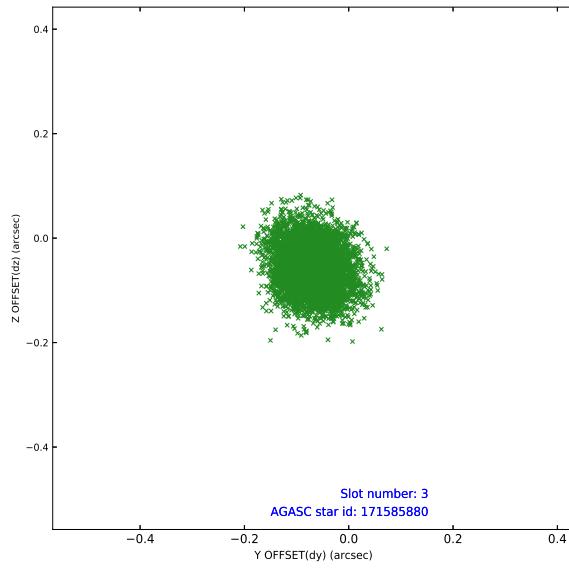


Slot Statistics

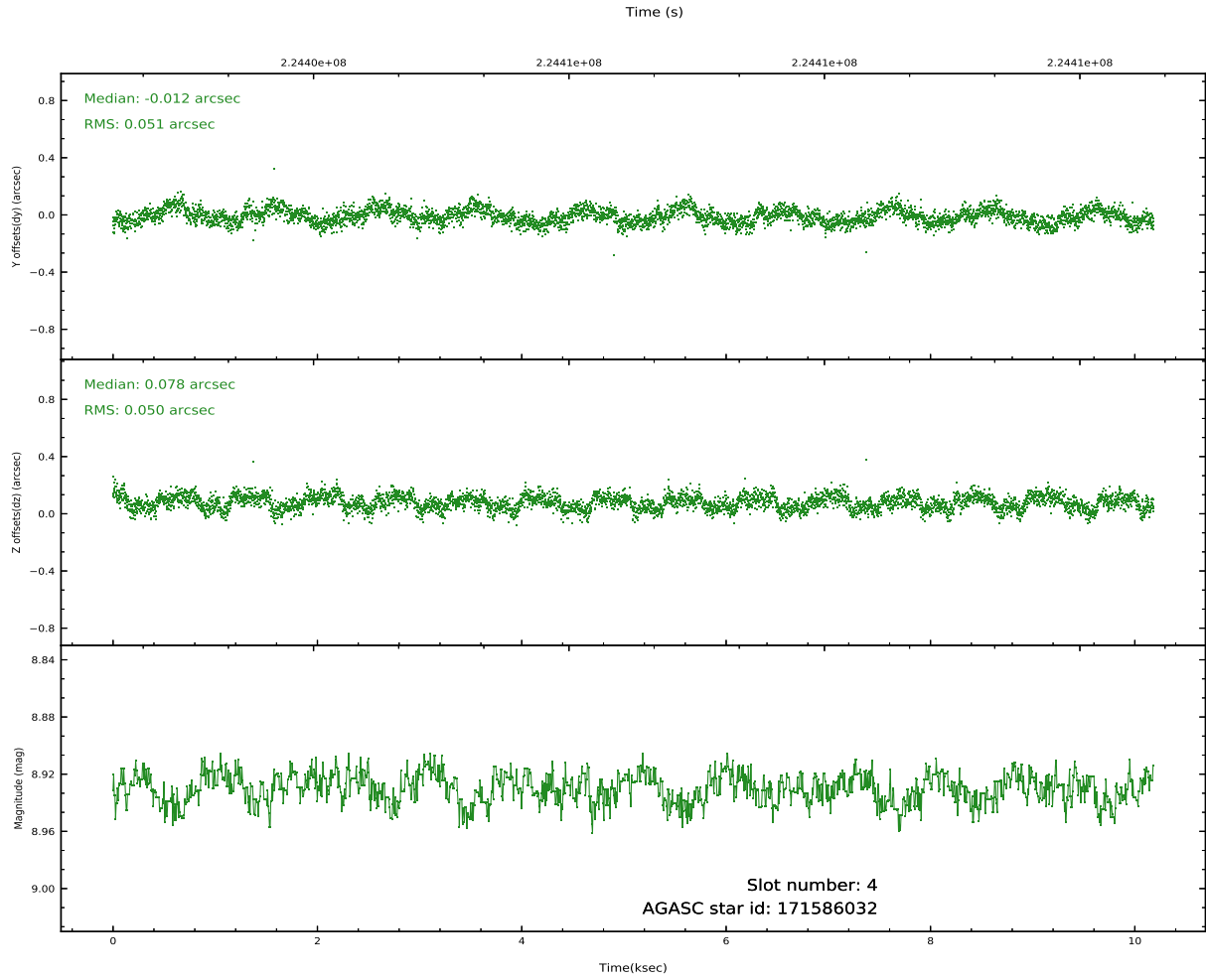
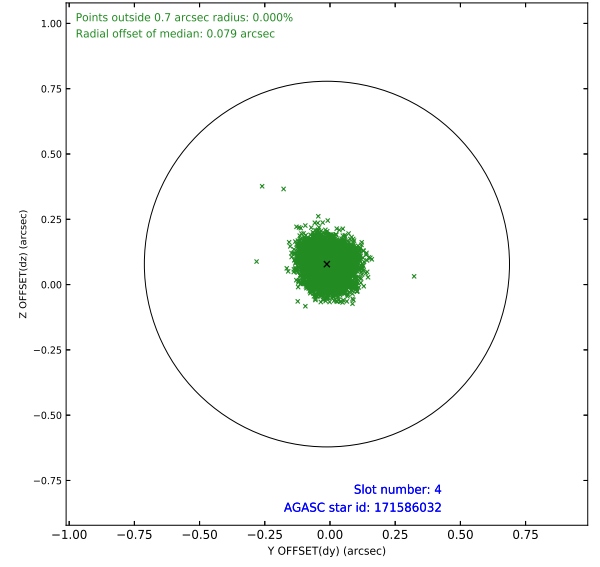
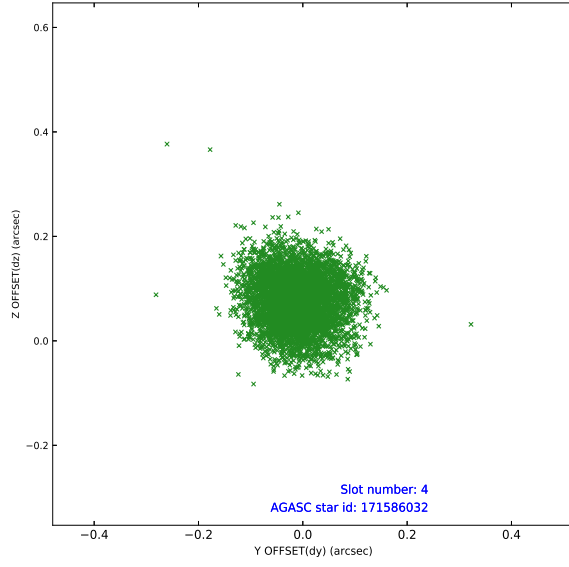
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	2484	1.000	-0.108	-0.149	0.006	0.011	0.000000	0.000000	-757.63	-1895
1	FID		ACIS-S-4	7.18	2484	1.000	0.233	0.092	0.005	0.009	0.000000	0.000000	2155.74	12
2	FID		ACIS-S-5	7.23	2484	1.000	-0.157	0.065	0.006	0.011	0.000000	0.000000	-1809.87	7
3	GUIDE	used	171585880	8.42	4966	1.000	-0.074	-0.057	0.065	0.102	83.676260	22.176319	-525.98	237
4	GUIDE	used	171586032	8.93	4968	1.000	-0.012	0.078	0.077	0.121	83.950197	22.083225	-139.10	1130
5	GUIDE	used	171597832	9.17	4965	1.000	0.179	-0.134	0.107	0.173	83.183230	21.366702	2285.16	-1582
6	GUIDE	used	171721904	9.22	4965	1.000	0.078	0.167	0.089	0.143	84.272676	22.116922	-200.14	2210
7	GUIDE	used	243941560	8.29	4965	1.000	-0.173	-0.049	0.062	0.094	83.733264	22.568598	-1924.93	508

2.4 Star Slots

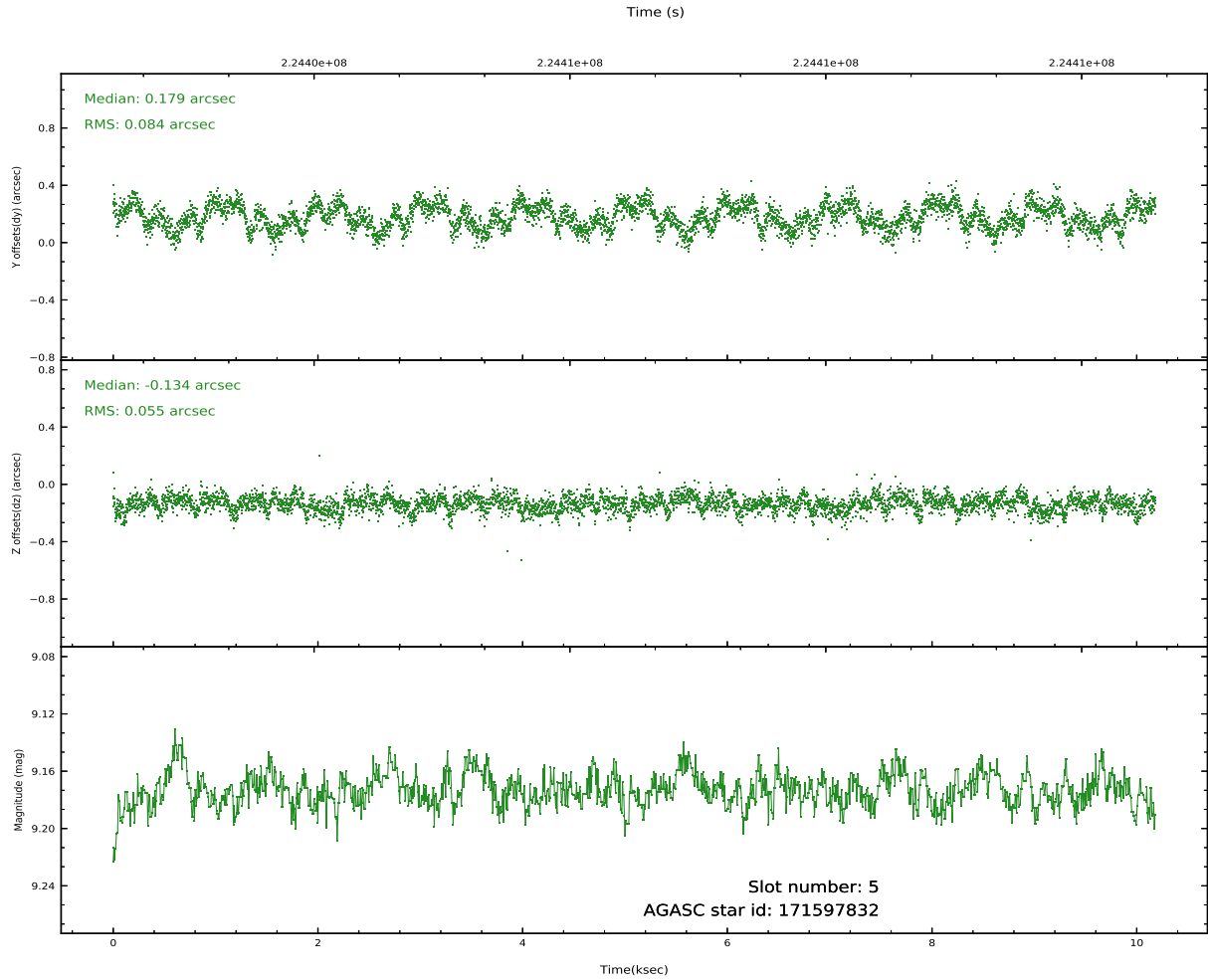
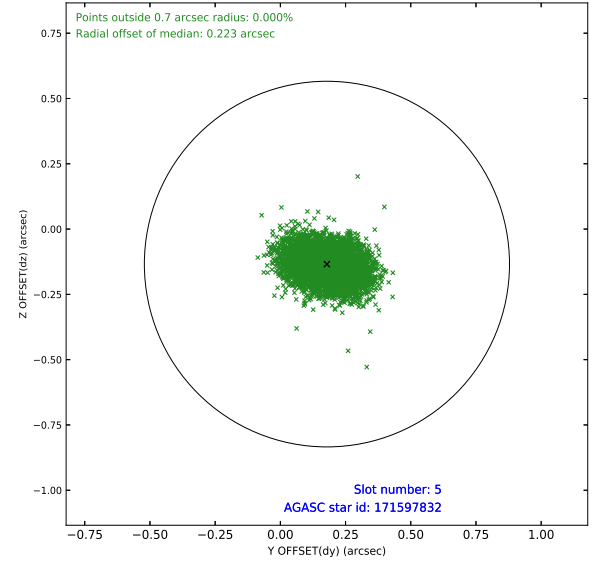
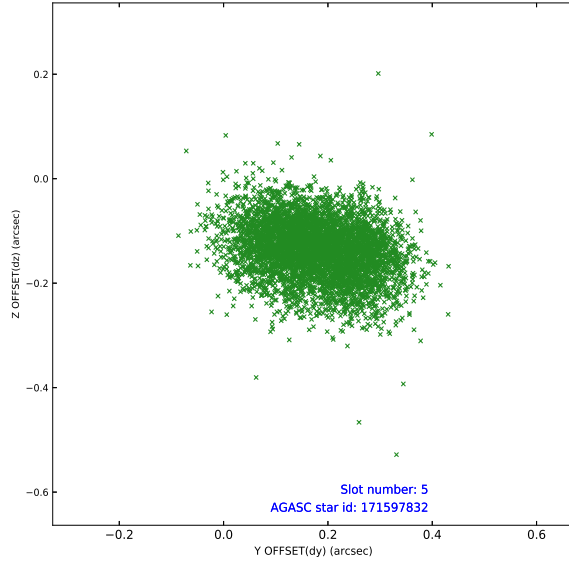
2.4.1 Slot 3



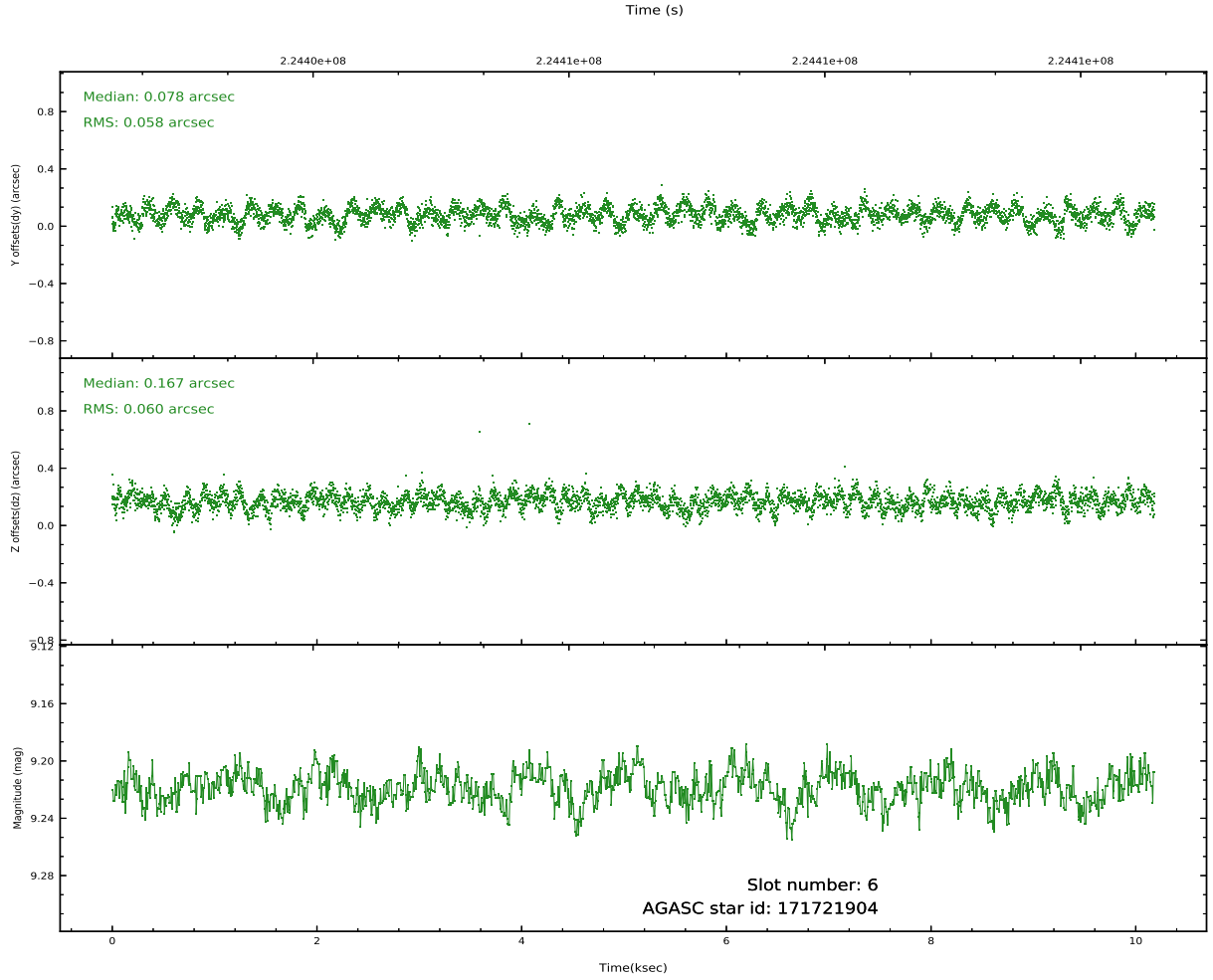
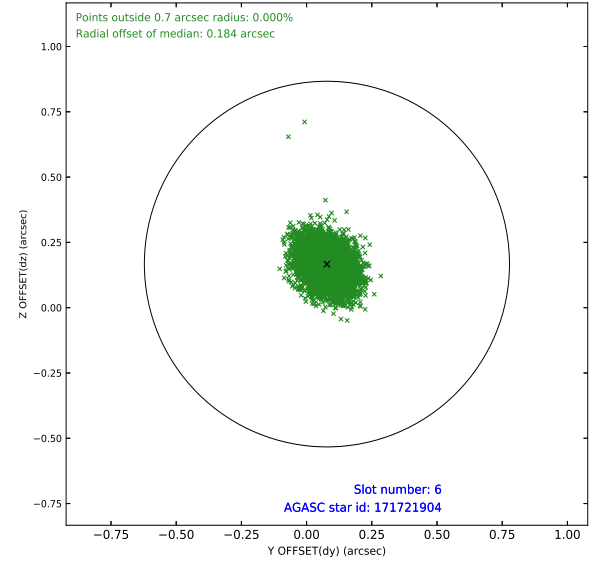
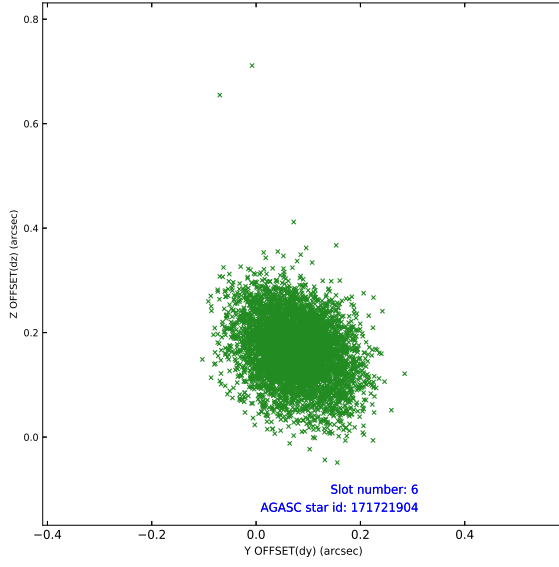
2.4.2 Slot 4



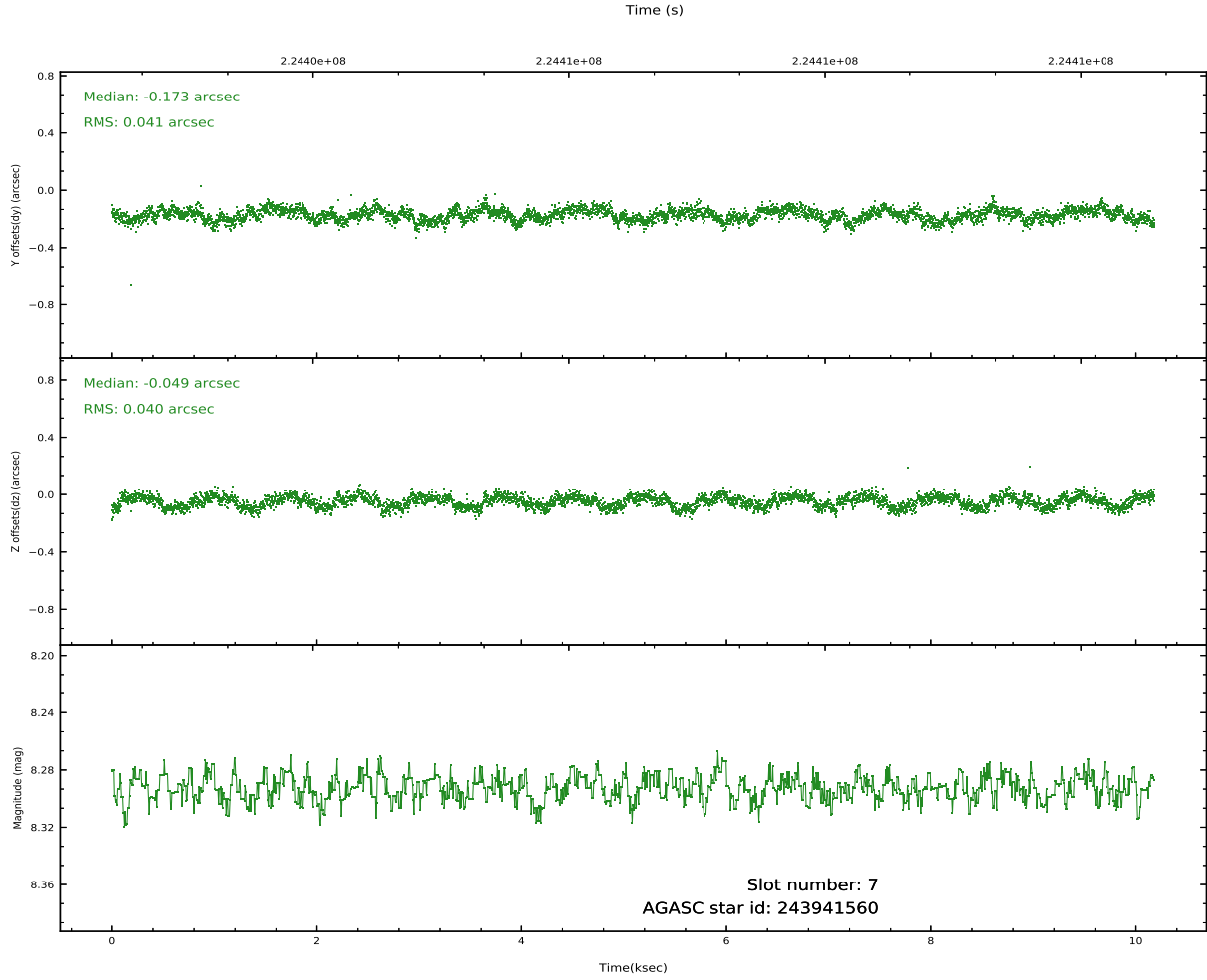
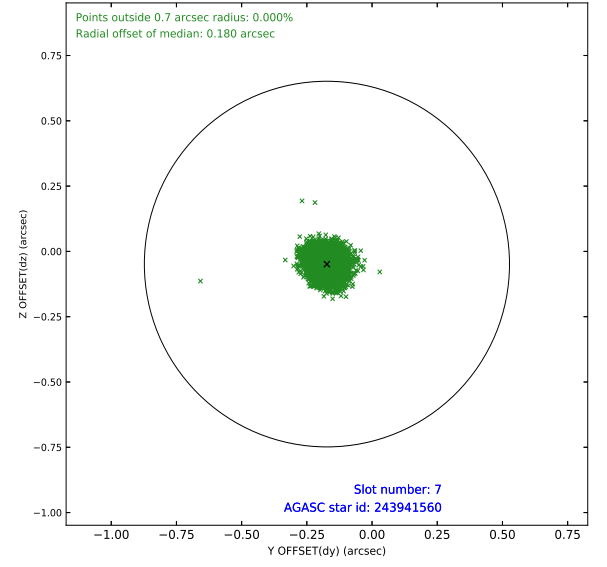
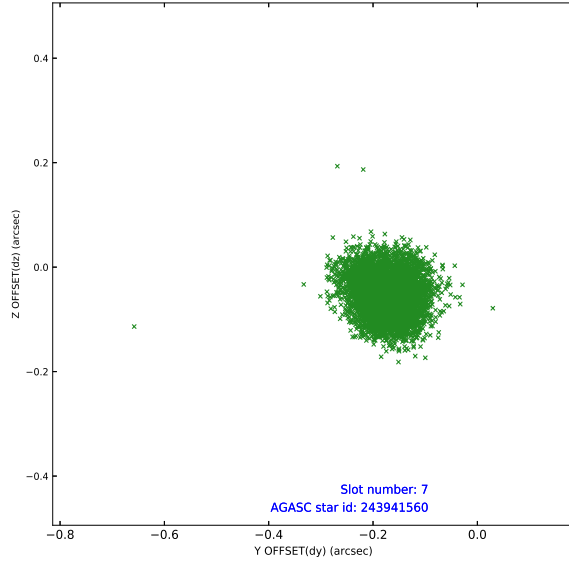
2.4.3 Slot 5



2.4.4 Slot 6

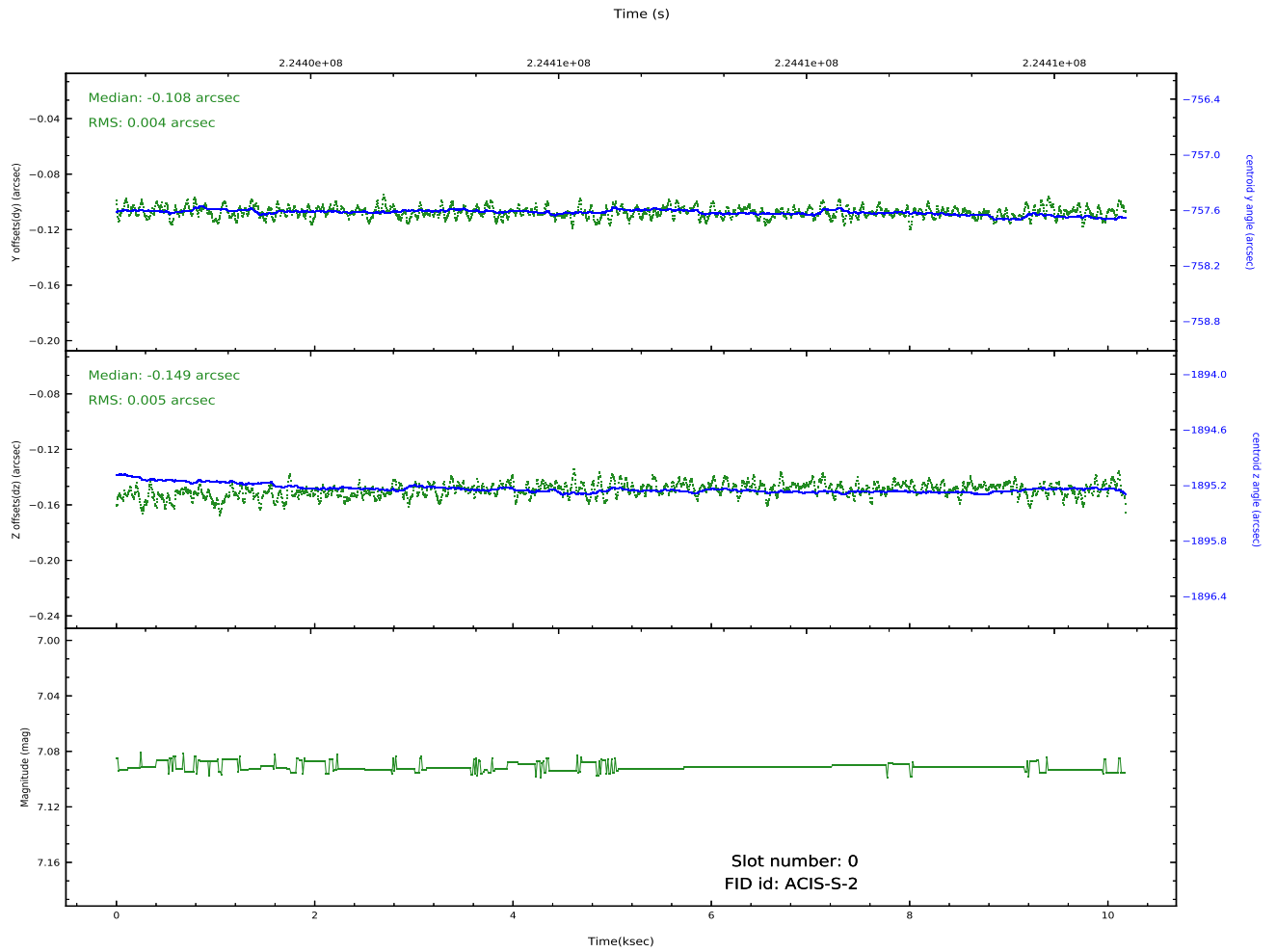
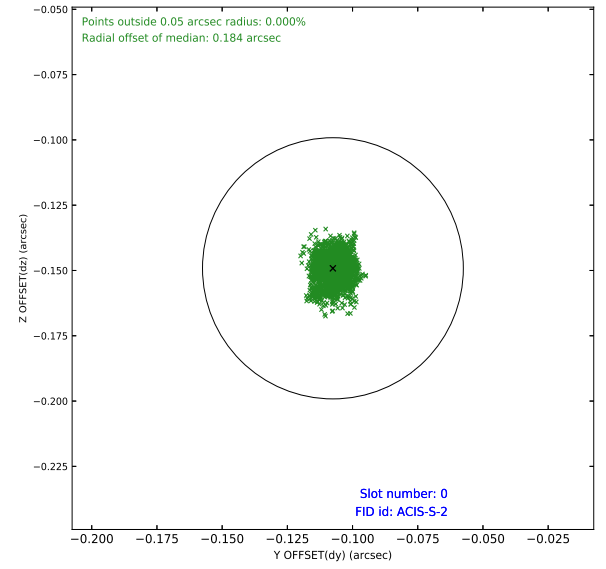
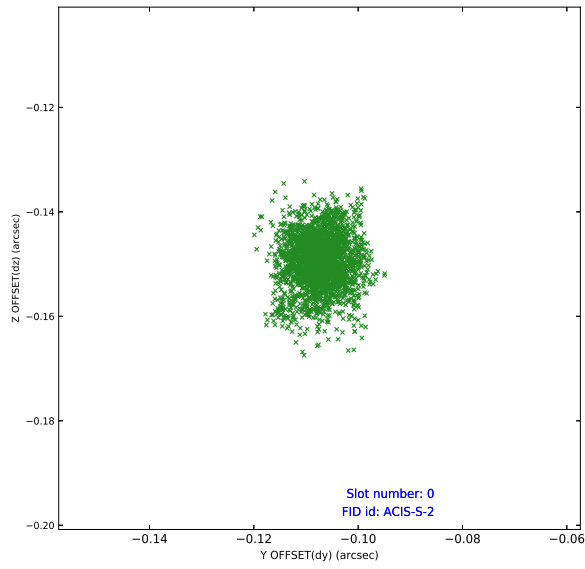


2.4.5 Slot 7

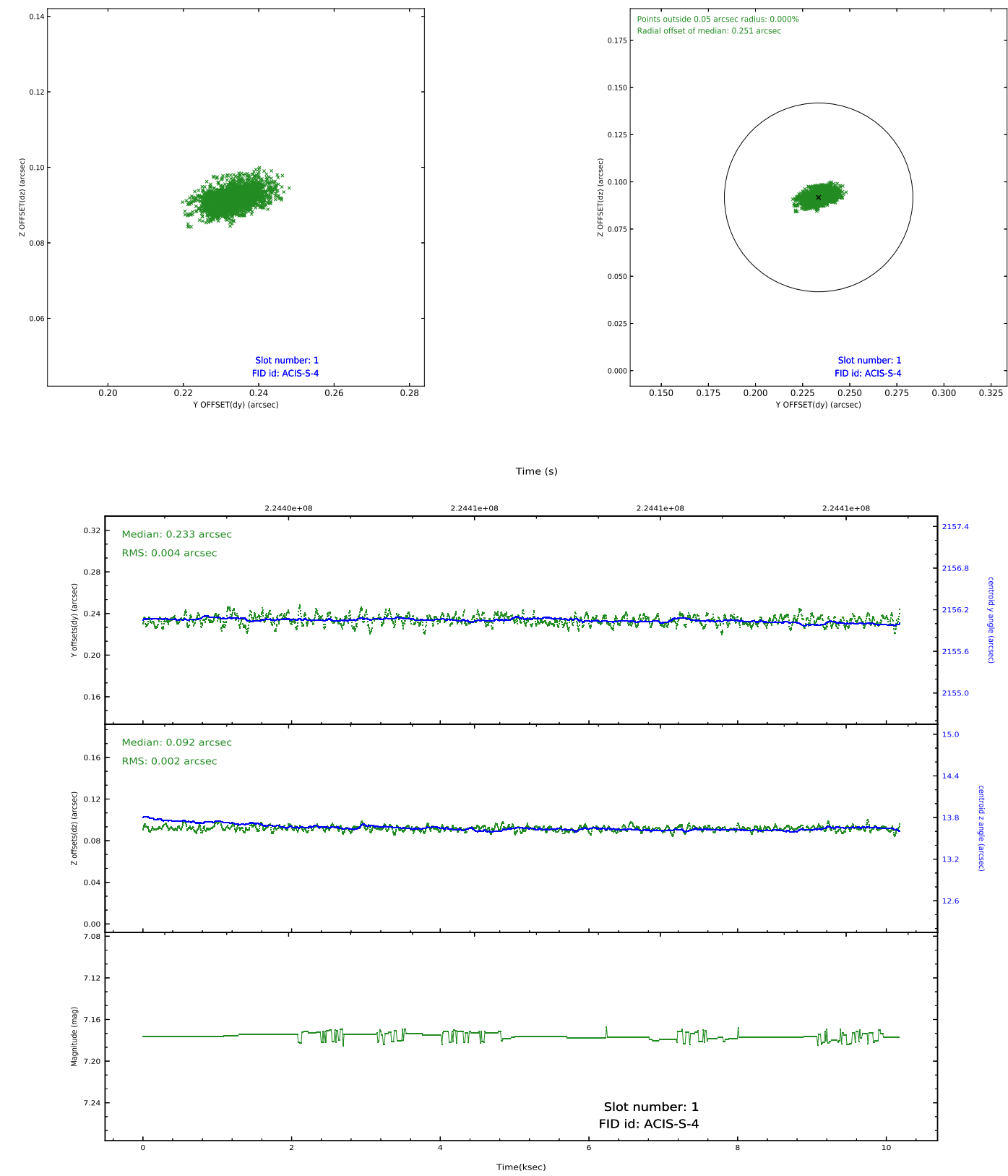


2.5 FID Slots

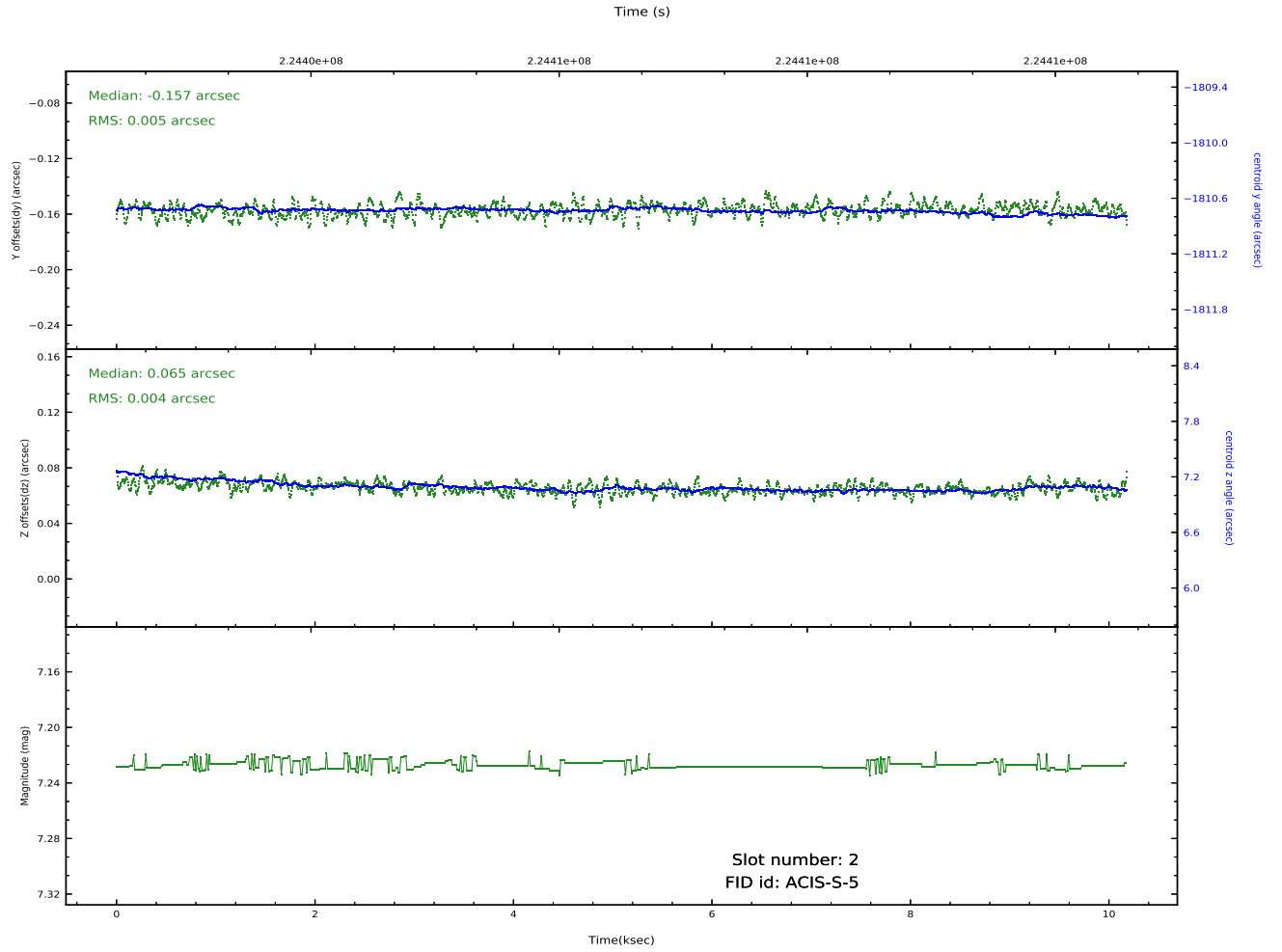
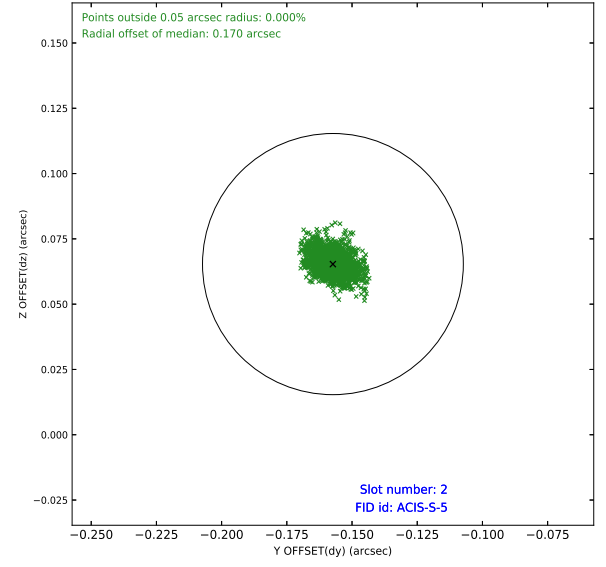
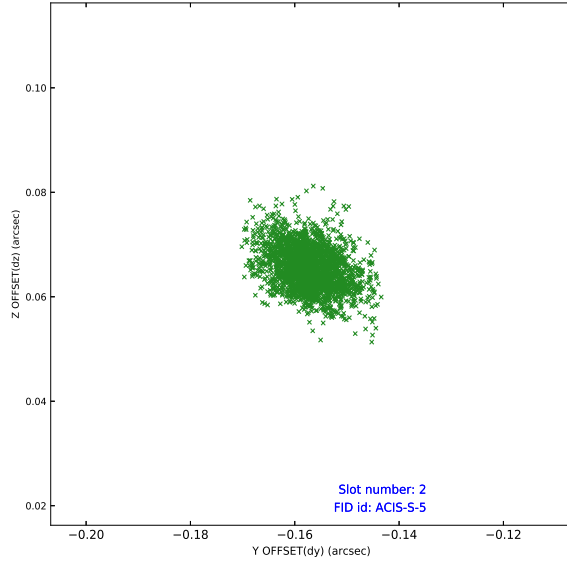
2.5.1 Slot 0



2.5.2 Slot 1

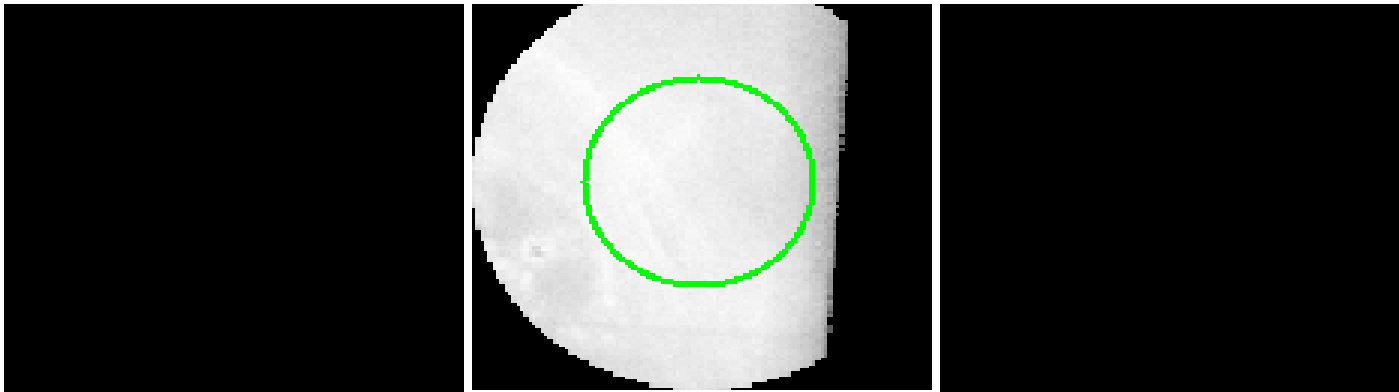


2.5.3 Slot 2



3 Gratings

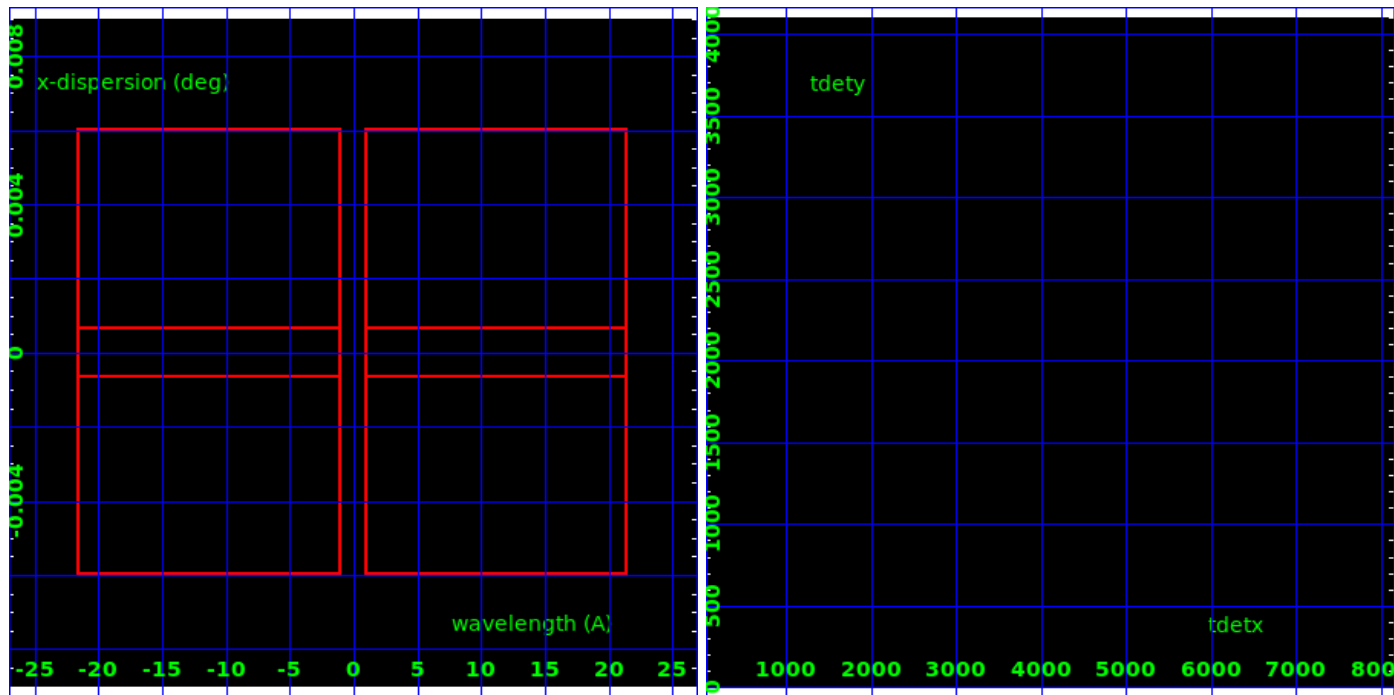
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

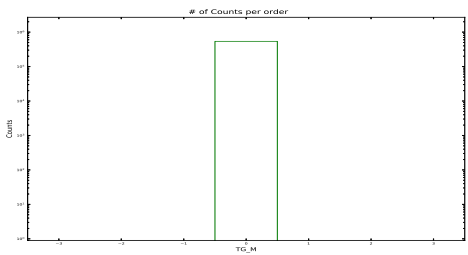
HEG Order Sort ALL

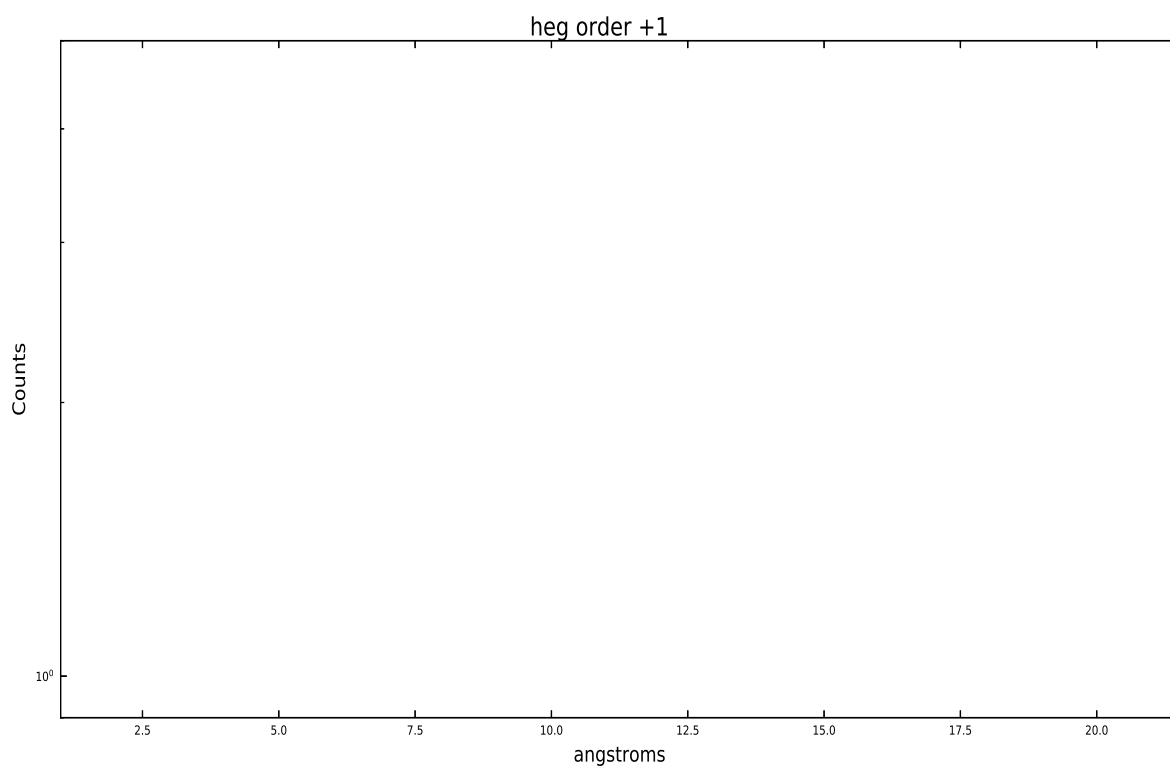
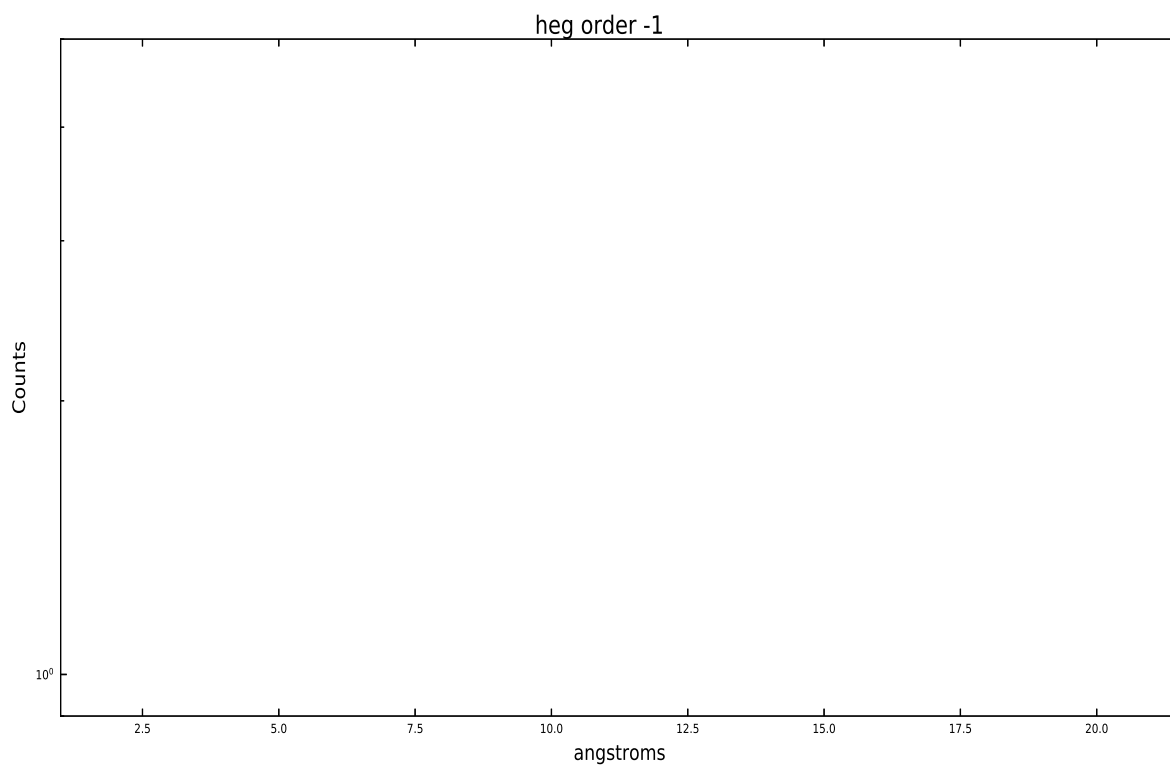


Spot Image HEG

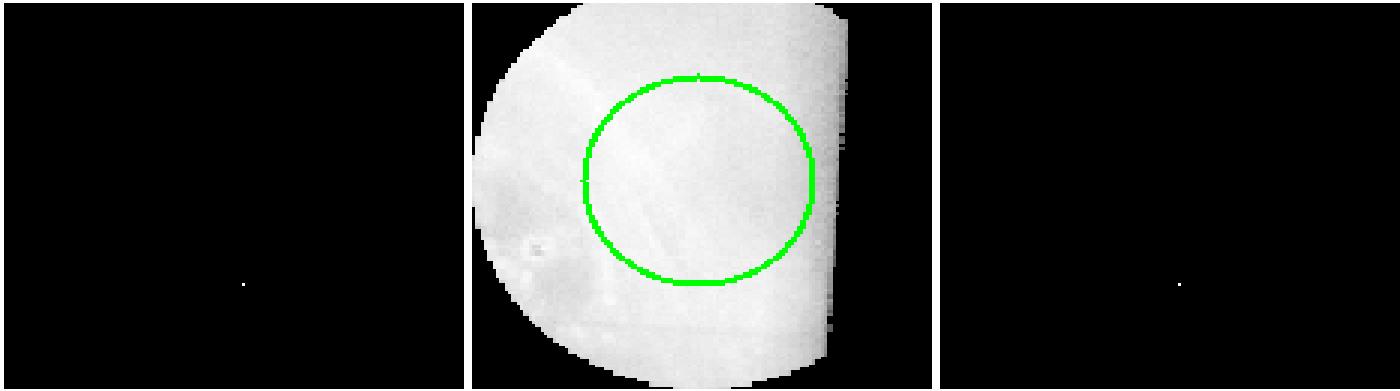
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	538557	0	0	0





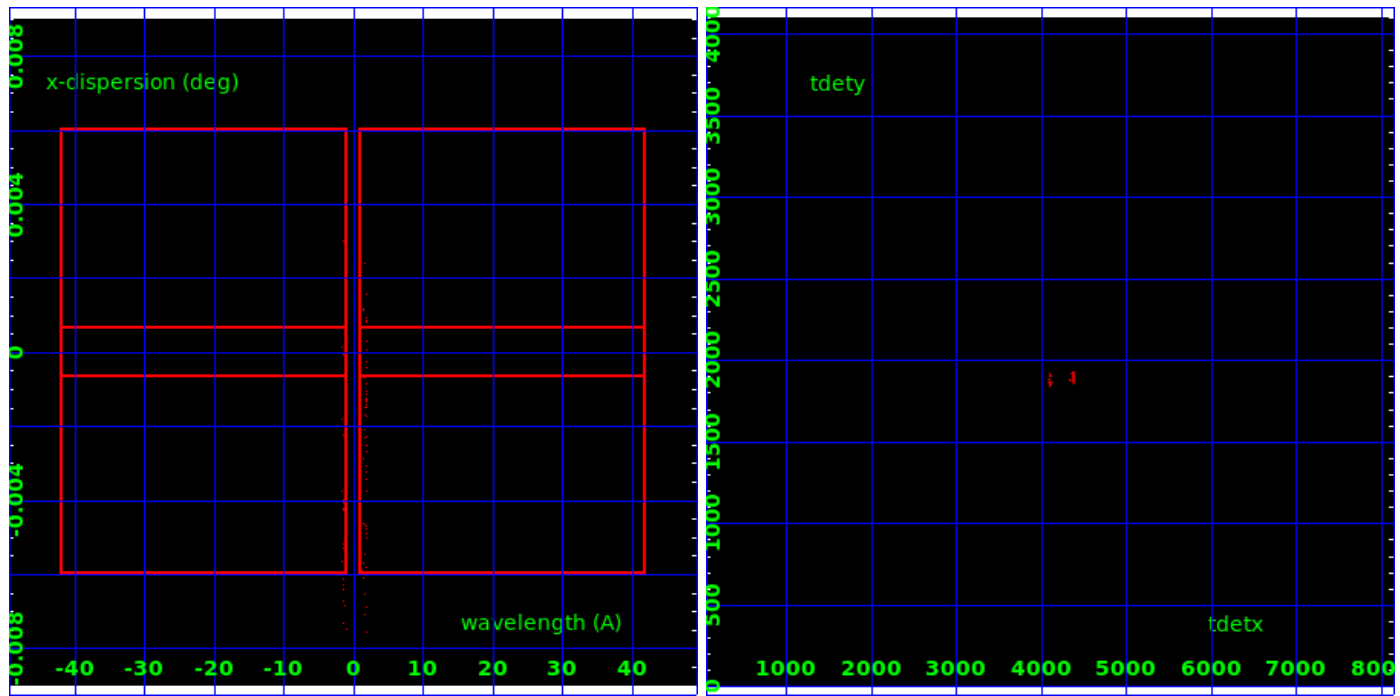
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

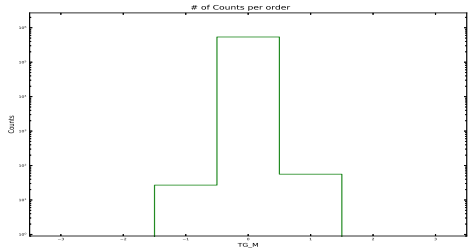
MEG Order Sort ALL

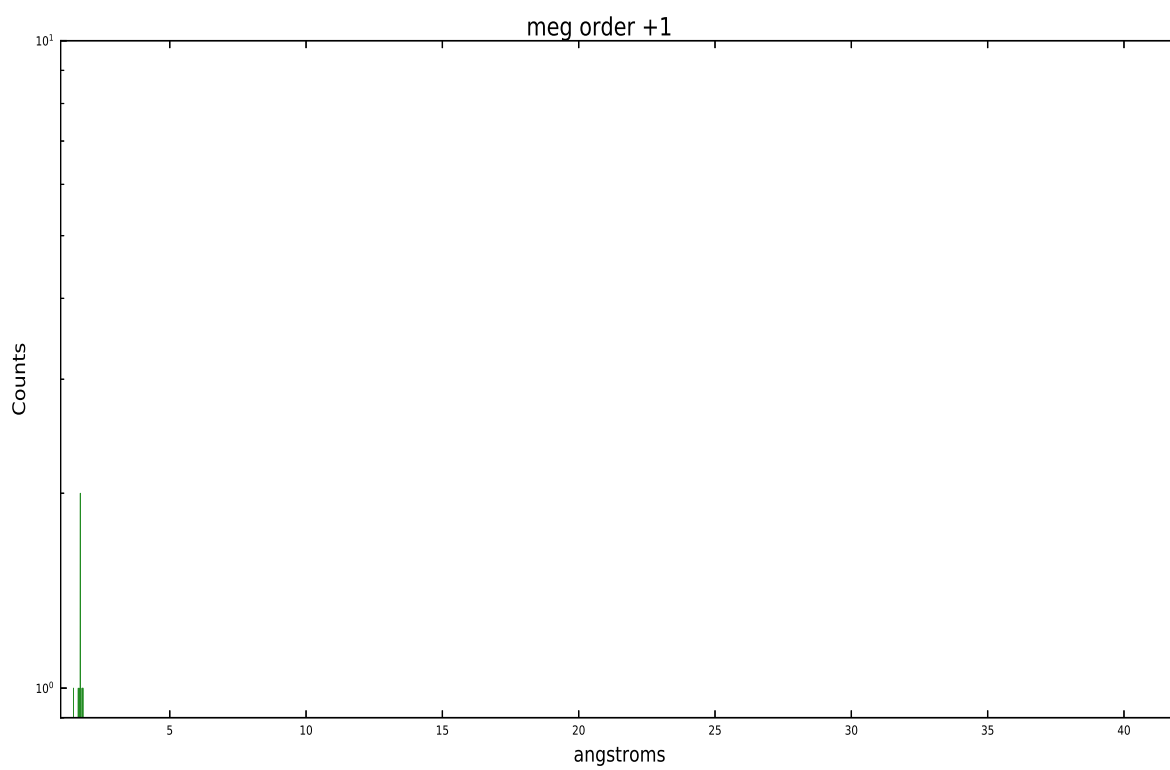
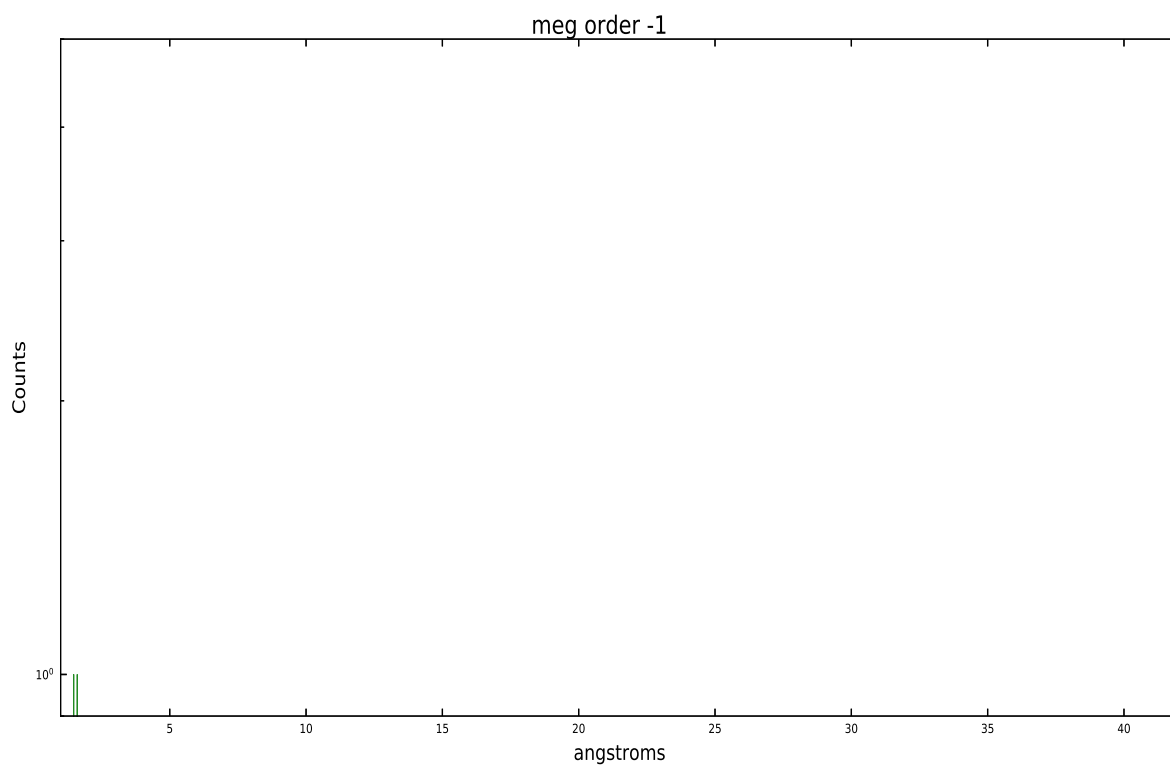


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	27	538557	56	0	0





A Summary

A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.1817

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.