

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6143 - L2 Version 5
Chandra X-Ray Center

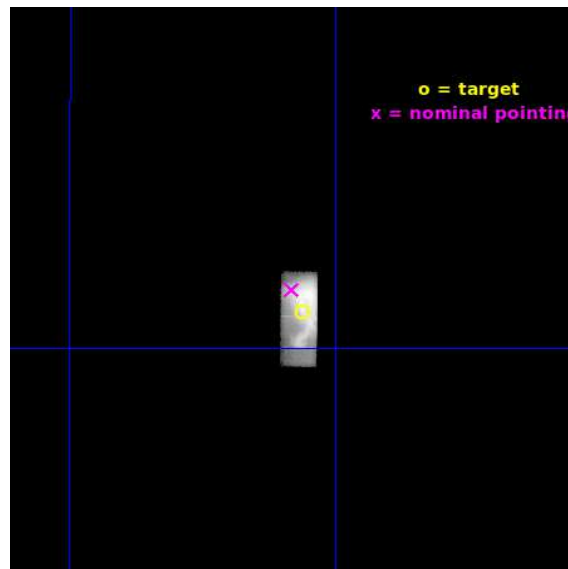
L2 Processing Date : Oct 11 2020

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1 Front

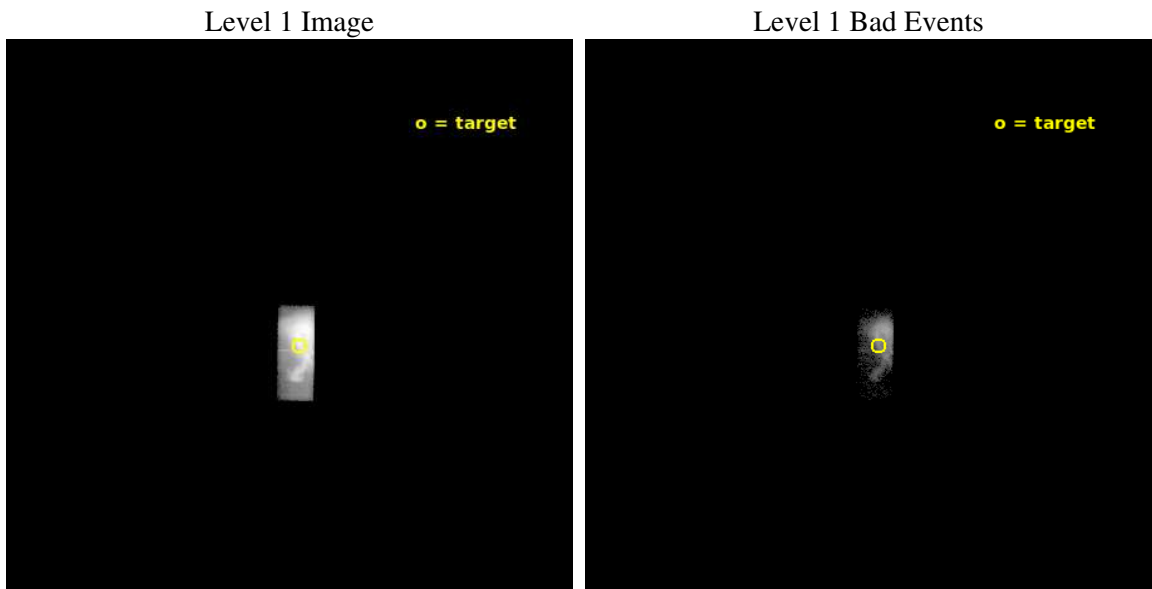
seq_num	500596	Sequence number
obs_id	6143	Observation id
title	Monitoring of the Relativistic Magnetohydrodynamic Shock in the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.640417	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.645570940938	Nominal RA [deg]
dec_nom	22.026664514982	Nominal Dec [deg]
roll_nom	90.805934631069	Nominal Roll [deg]
revision	5	Processing version of data
ontime	10181.700404584	Sum of GTIs [s]
livetime	8956.4570765169	Livetime [s]
ontime7	10181.700404584	Sum of GTIs [s]
l2events	1167199	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]
caldsver	4.9.2	 	ontime7	10181.700404584	Sum of GTIs [s]
date	2020-10-11T13:38:41	Date and time of file creation	l1events	1239025	Number of level 1 events
revision	5	Processing version of data	tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4147.33, 4028.48)	src1a sky pixel position
			zo_pos_tgd	(4153.47, 3987.80)	src1a sky pixel position via tgdetect

2.1.3 Events

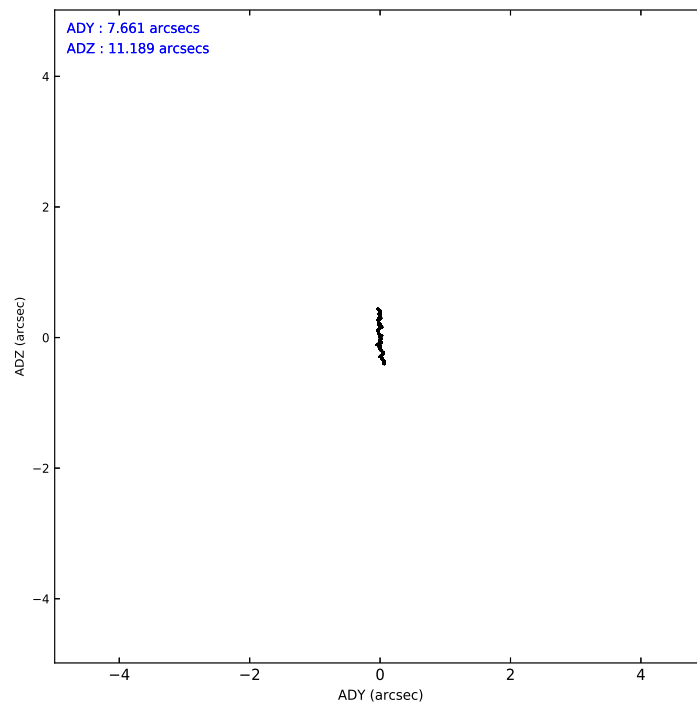
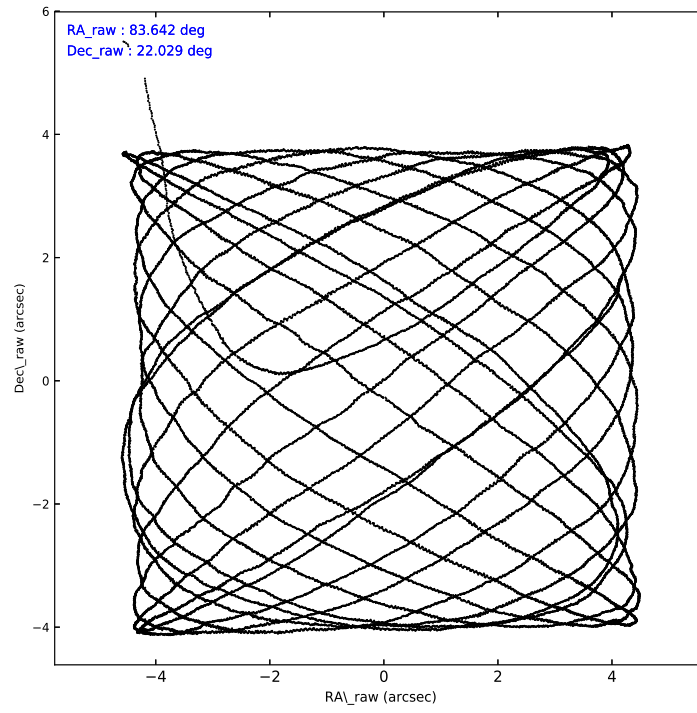
	ccd 7
level 1 events	1239025
rejected events	51113
rejected %	4%

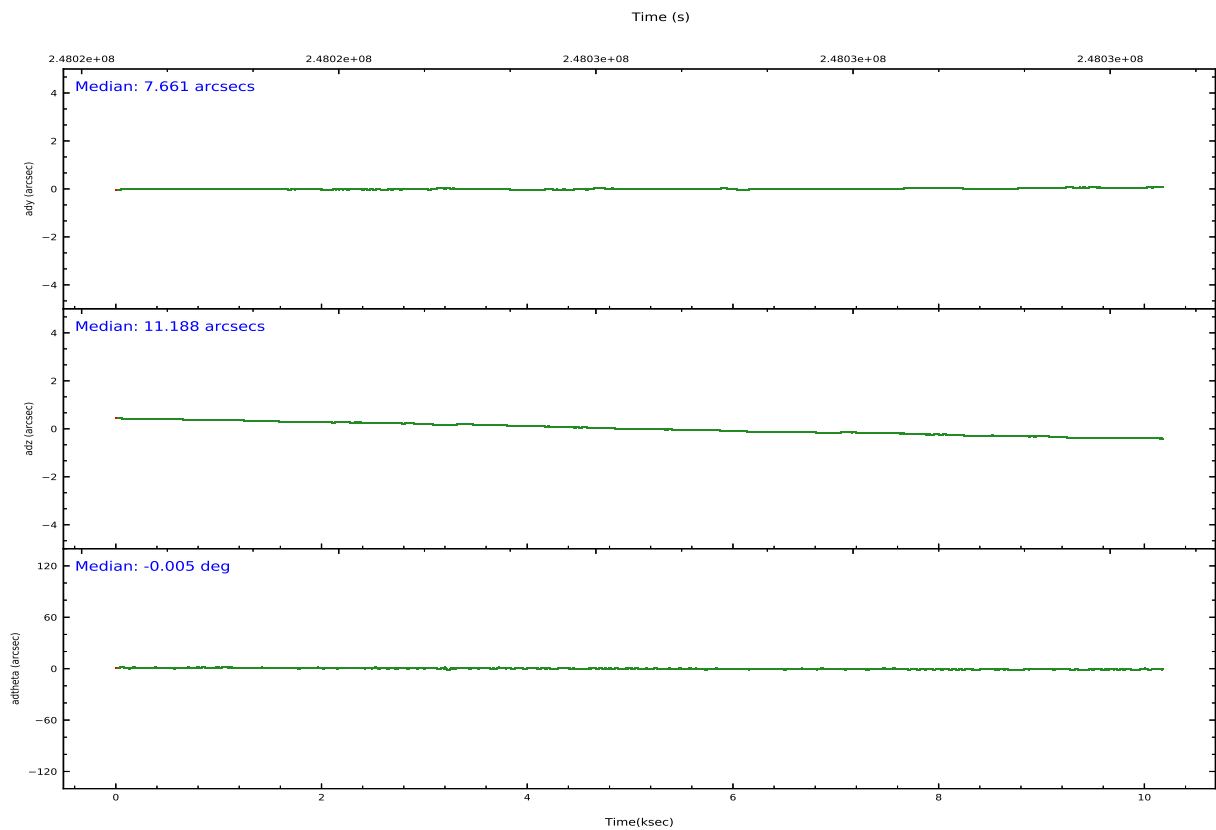
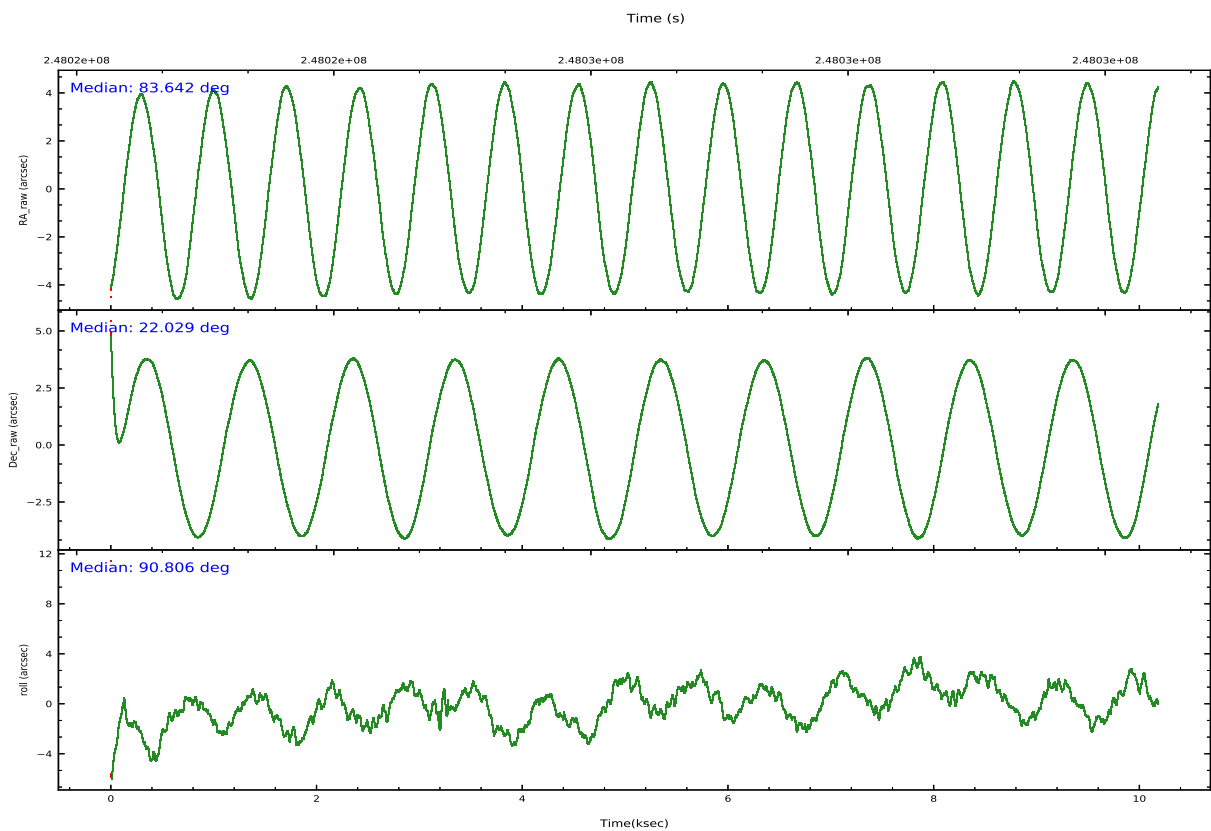
	ccd 7
grade 0 events	238732
	19%
grade 1 events	2828
	0%
grade 2 events	305381
	24%
grade 3 events	135595
	10%
grade 4 events	131998
	10%
grade 5 events	14154
	1%
grade 6 events	394621
	31%
grade 7 events	15716
	1%

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	83.657442	83.645570940938	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.005650	22.026664514982	Subarray start row	127	127
[deg] Pointing Roll	90.641636	90.80593463106899	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	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	248023016.184000	248022038.56072			
Observation start date	2005-11-10T15:15:52	2005-11-10T15:00:38			
[s] Observation end time (MET)	248033016.184000	248034031.06128			
Observation end date	2005-11-10T18:02:32	2005-11-10T18:20:31			
Read mode	TIMED	TIMED			

2.3 Aspect



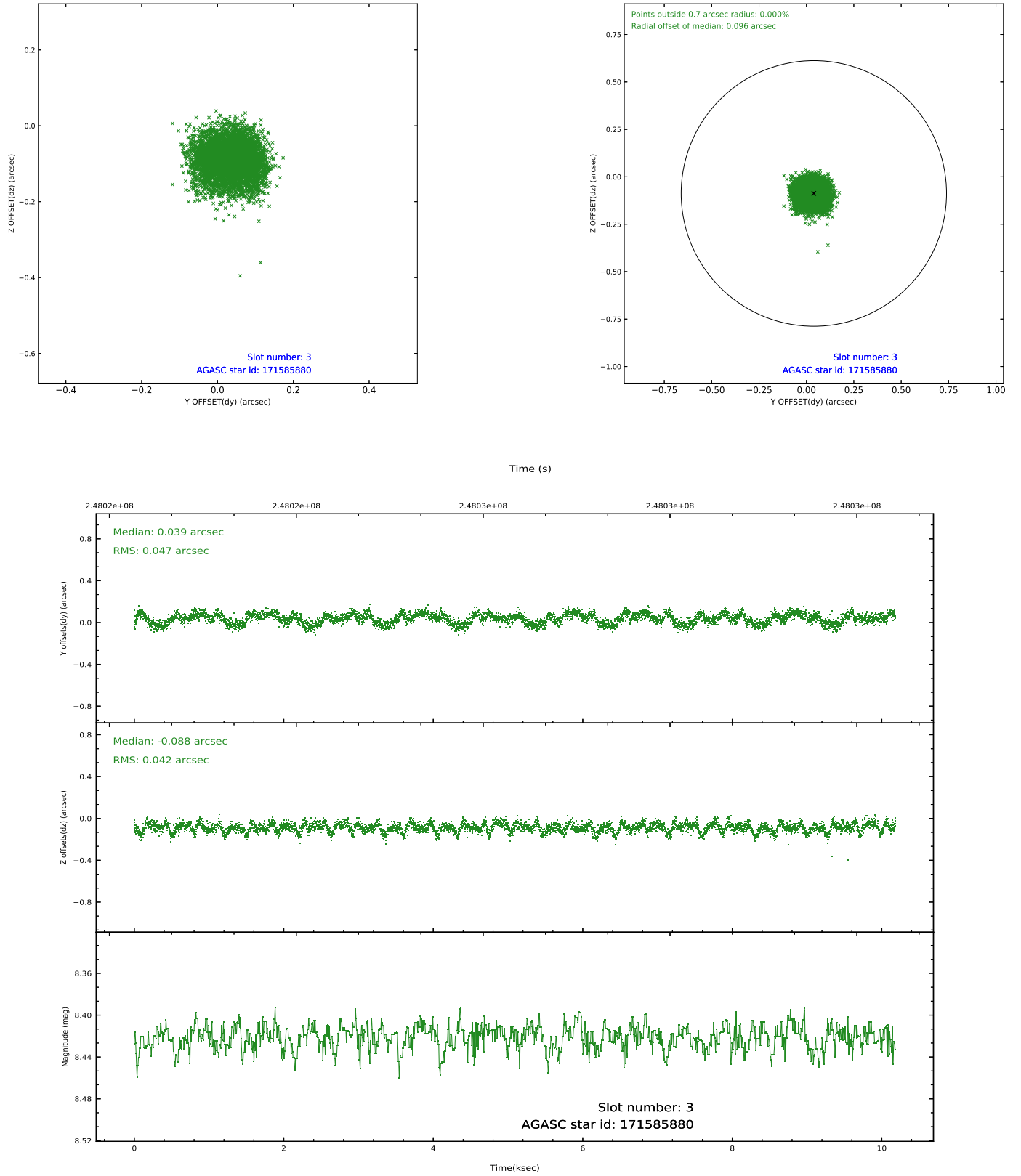


Slot Statistics

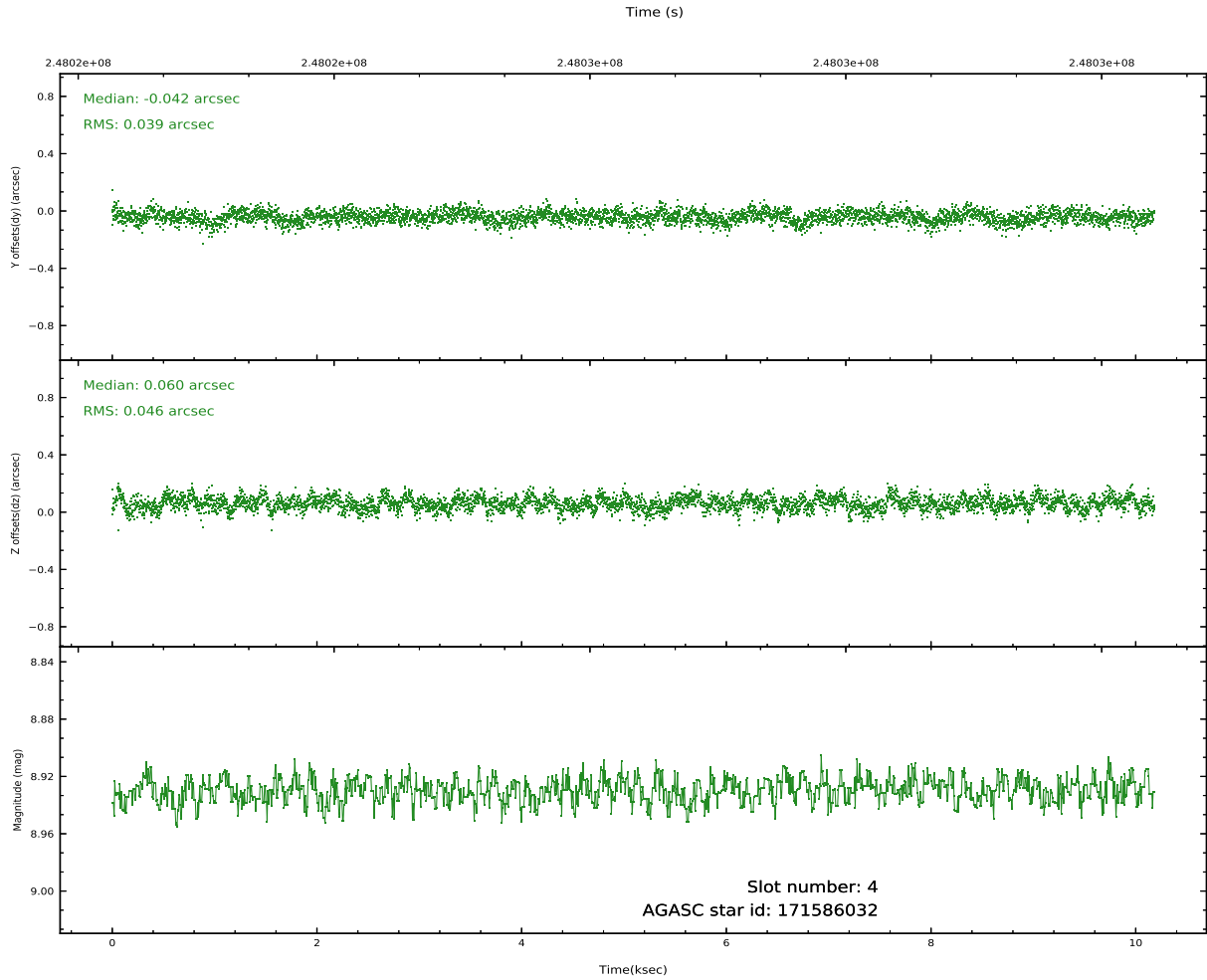
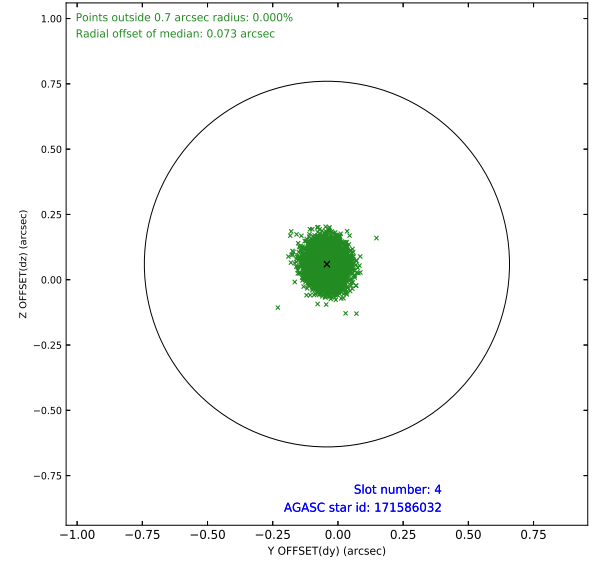
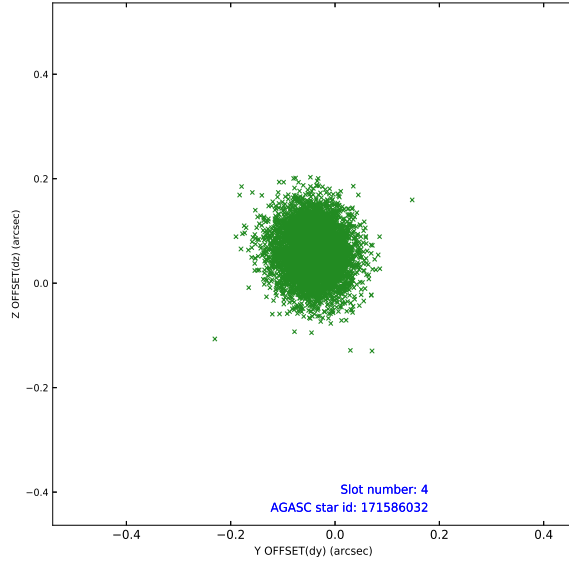
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	2484	1.000	-0.090	-0.170	0.016	0.023	0.000000	0.000000	-759.92	-1897
1	FID		ACIS-S-4	7.18	2484	1.000	0.165	0.089	0.006	0.011	0.000000	0.000000	2153.35	10
2	FID		ACIS-S-5	7.23	2484	1.000	-0.106	0.089	0.014	0.020	0.000000	0.000000	-1812.14	5
3	GUIDE	used	171585880	8.42	4967	1.000	0.039	-0.088	0.068	0.107	83.676260	22.176319	613.86	-69
4	GUIDE	used	171586032	8.93	4966	1.000	-0.042	0.060	0.065	0.103	83.950197	22.083225	269.52	-979
5	GUIDE	used	171721904	9.20	4964	1.000	-0.071	0.023	0.073	0.121	84.272676	22.116922	382.03	-2056
6	GUIDE	used	243941560	8.31	4968	1.000	-0.104	0.127	0.066	0.105	83.733264	22.568598	2023.83	-274
7	GUIDE	used	171597832	9.15	4959	1.000	0.181	-0.122	0.072	0.119	83.183230	21.366702	-2279.20	1615

2.4 Star Slots

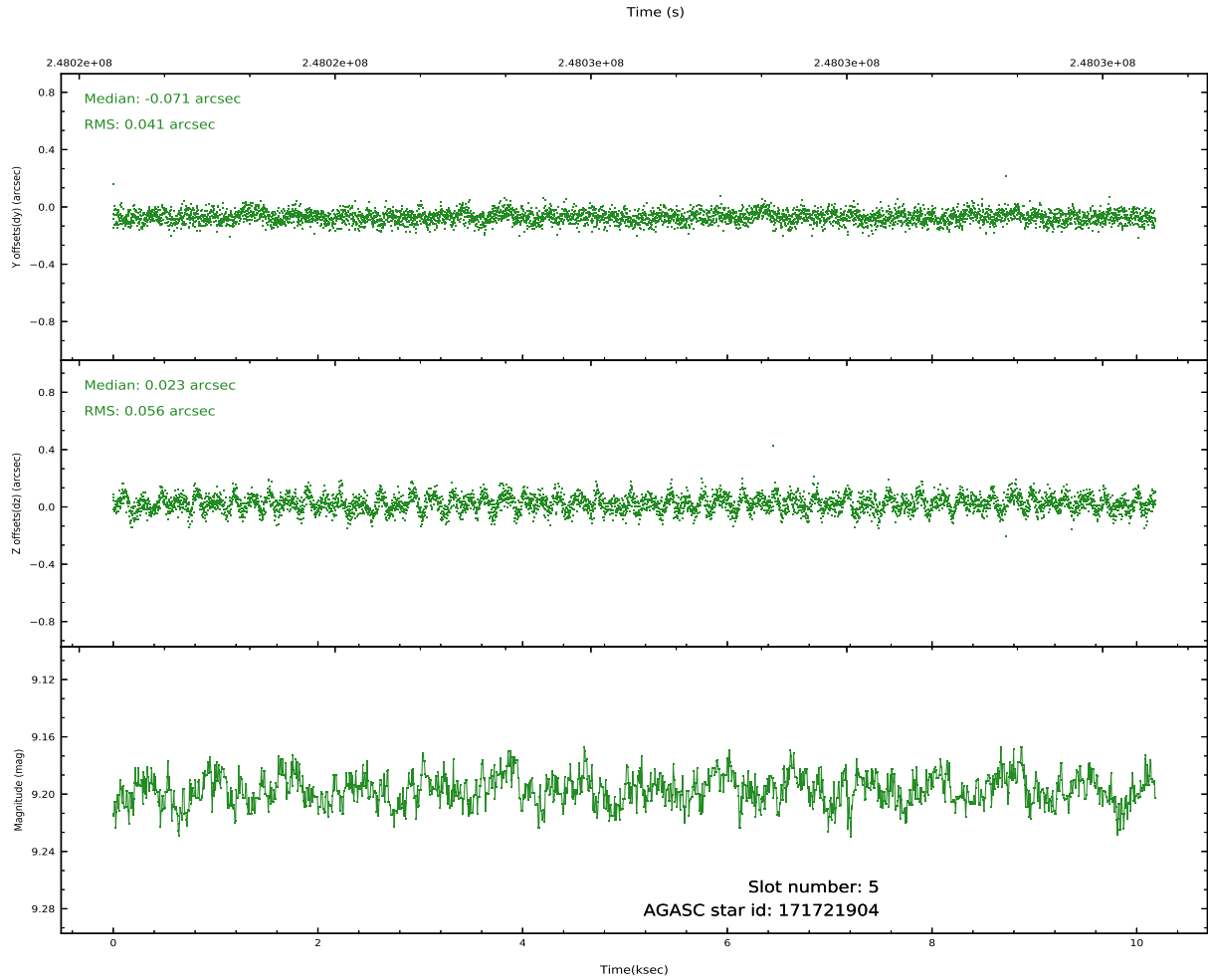
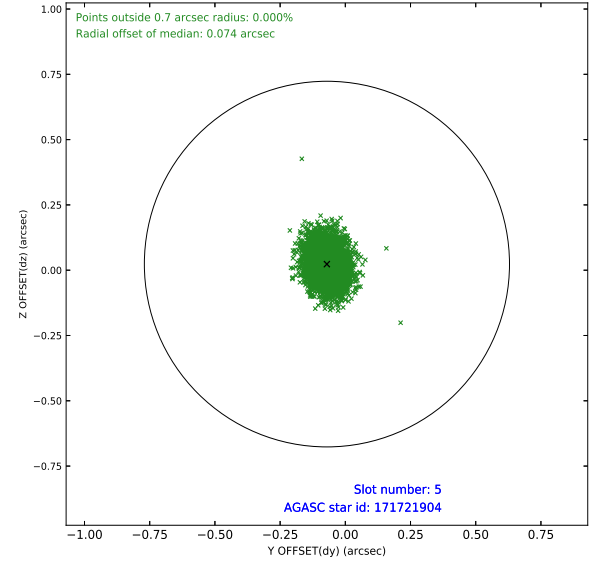
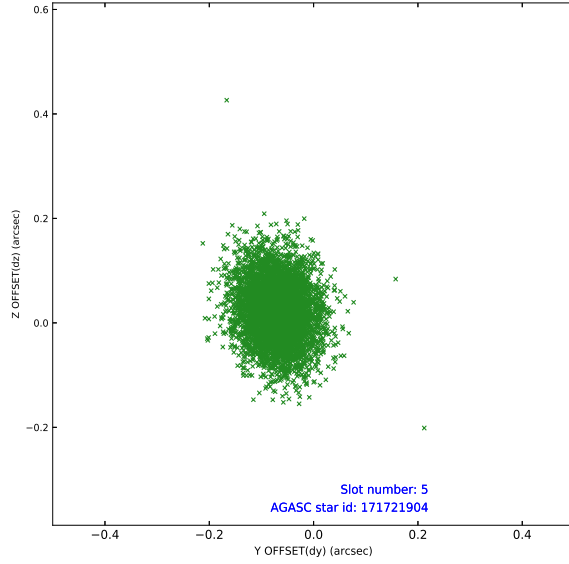
2.4.1 Slot 3



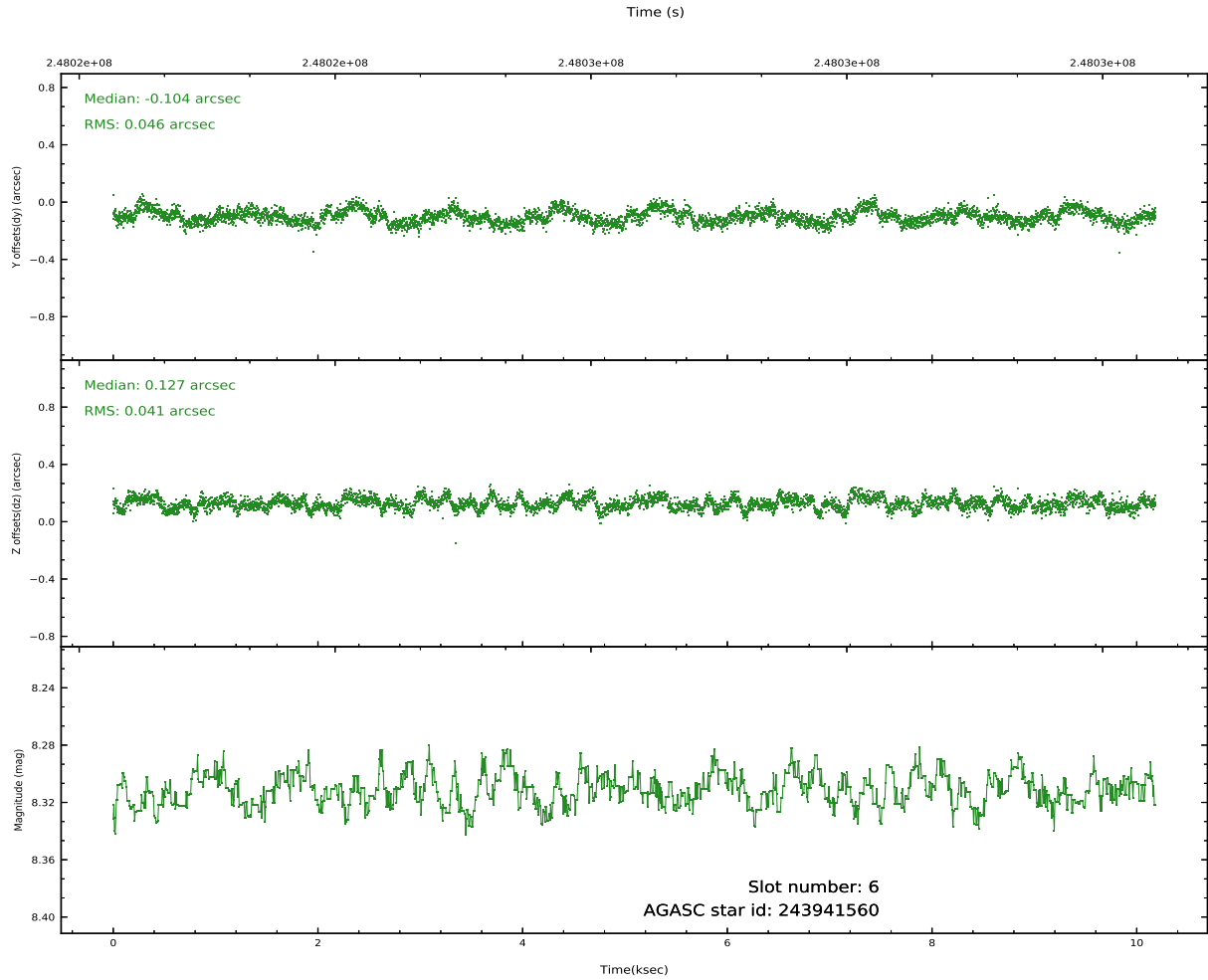
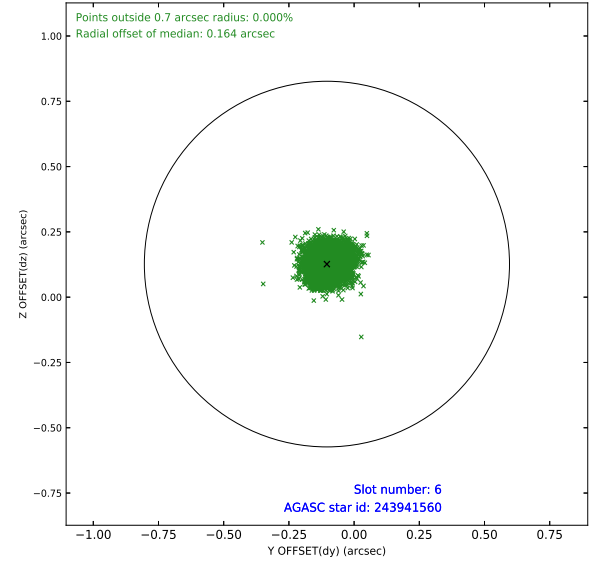
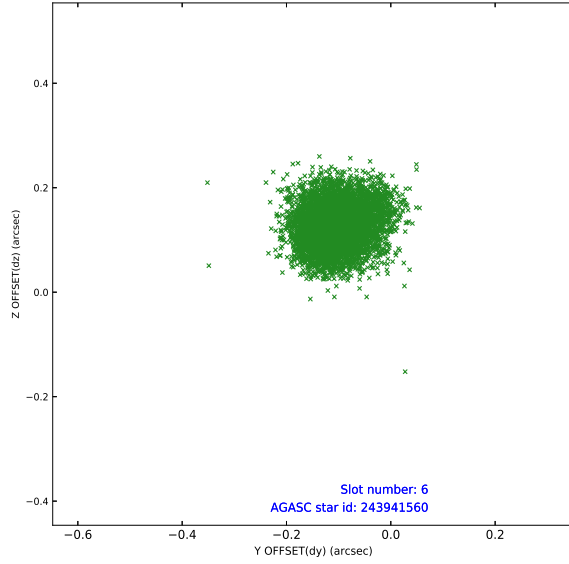
2.4.2 Slot 4



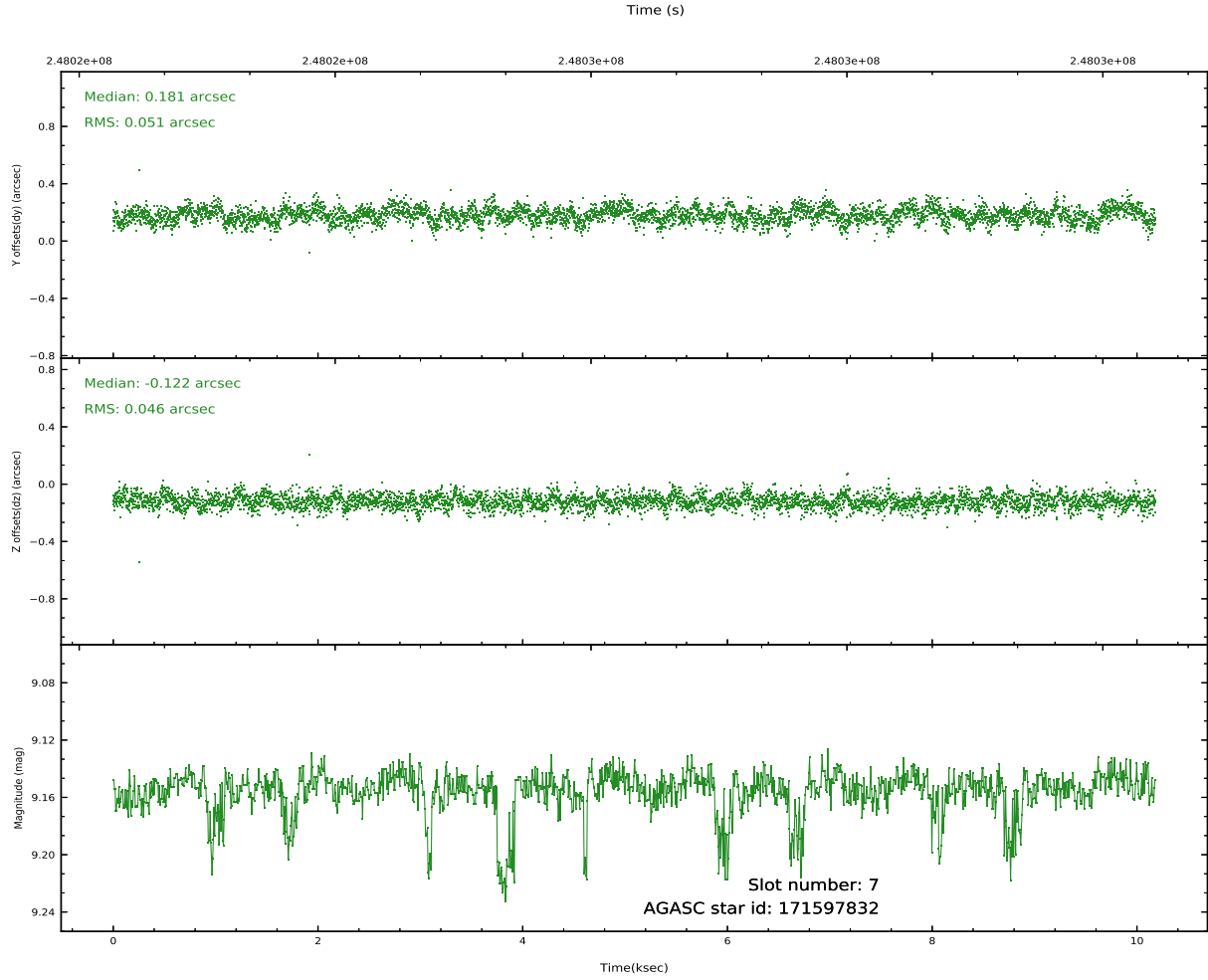
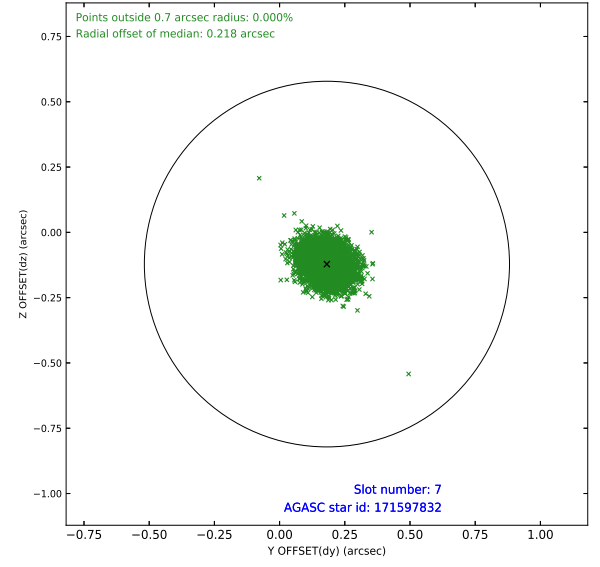
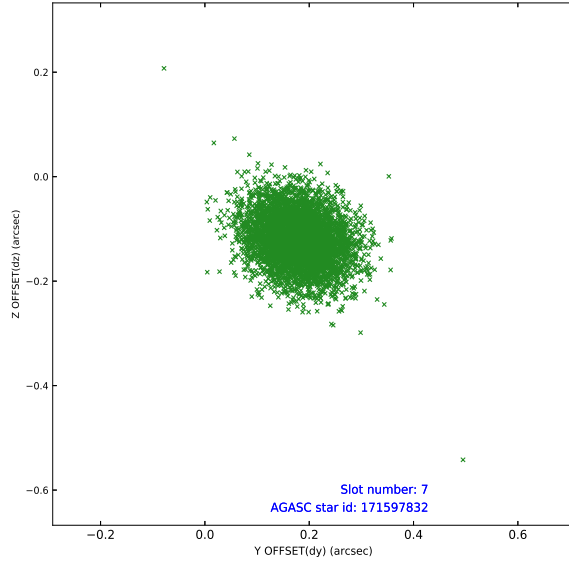
2.4.3 Slot 5



2.4.4 Slot 6

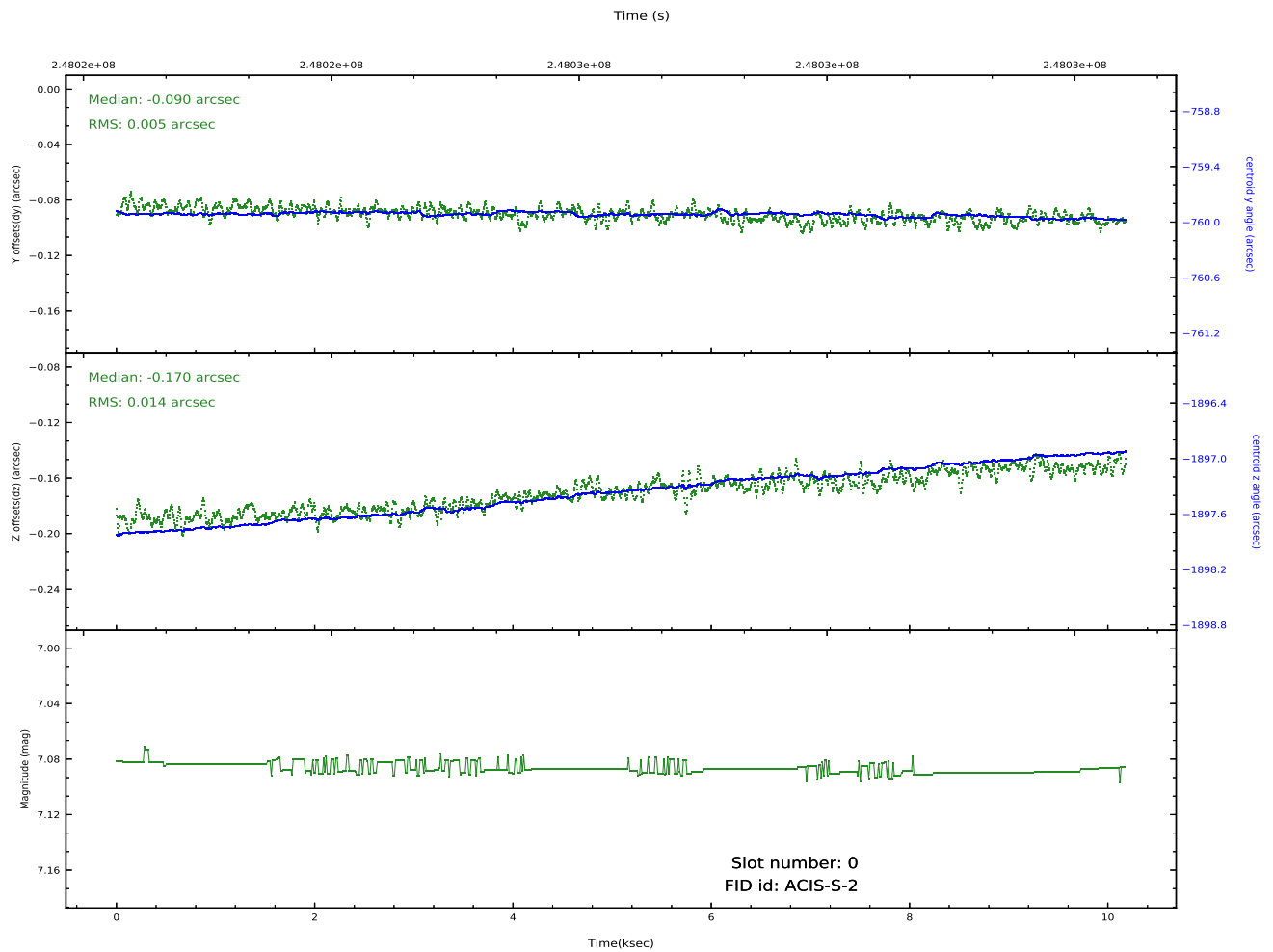
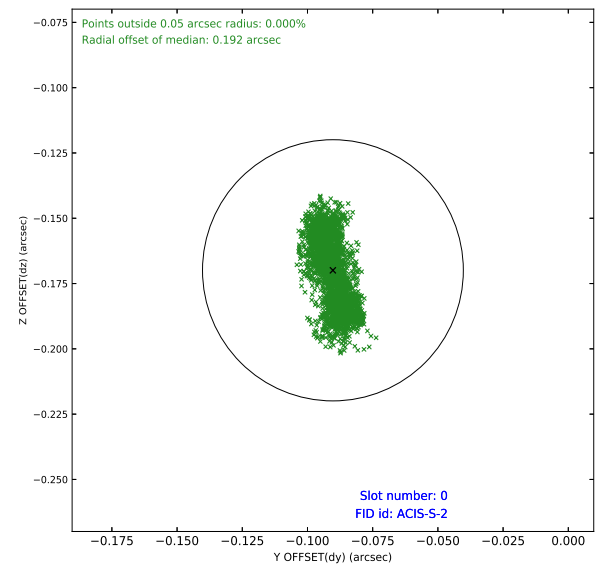
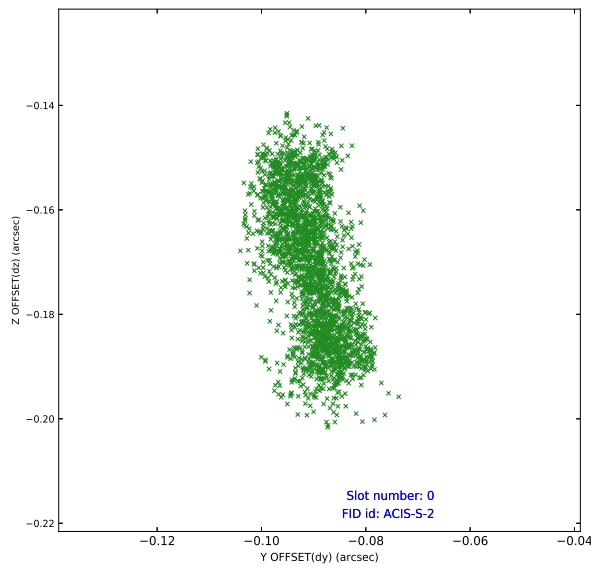


2.4.5 Slot 7

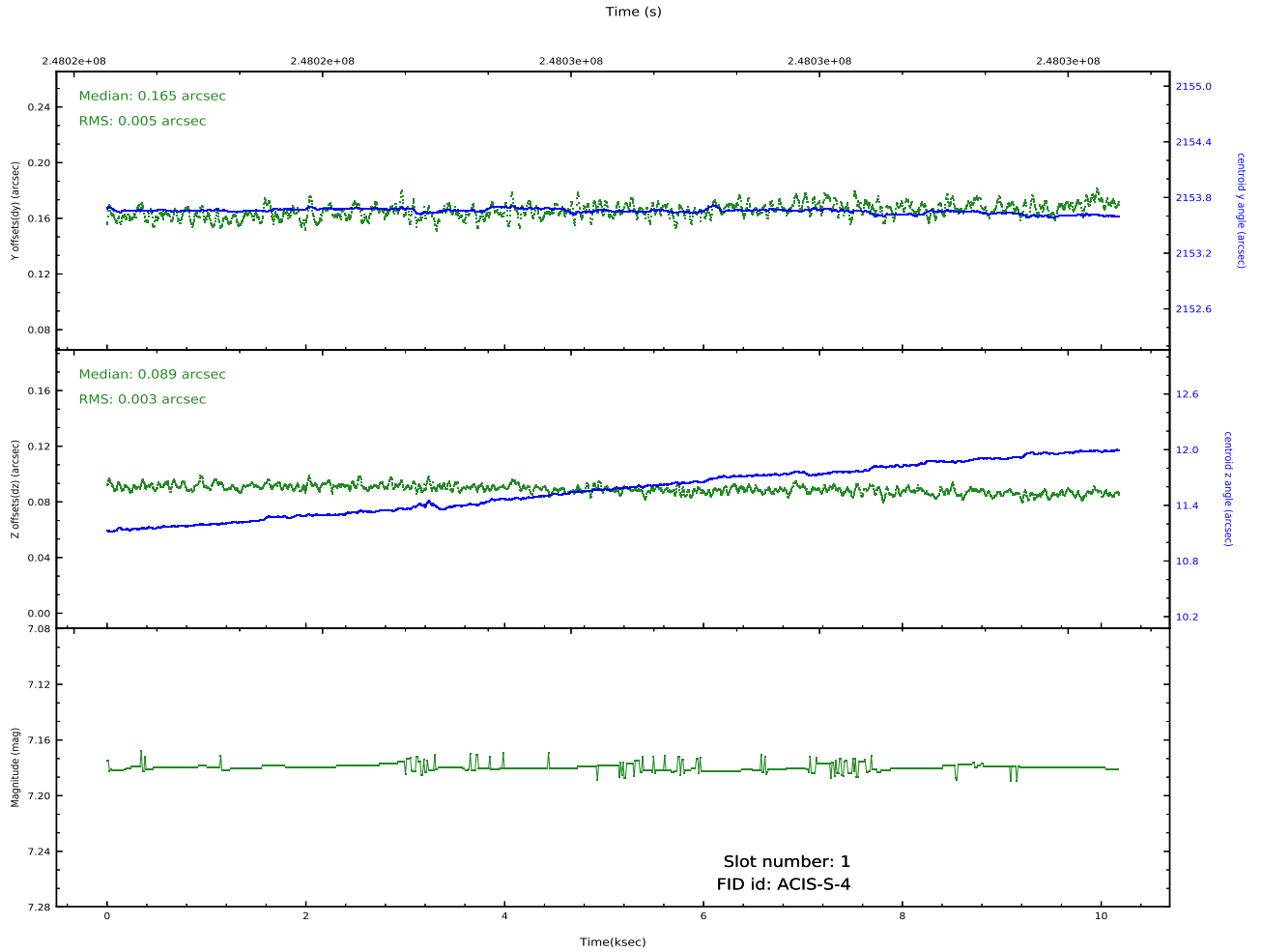
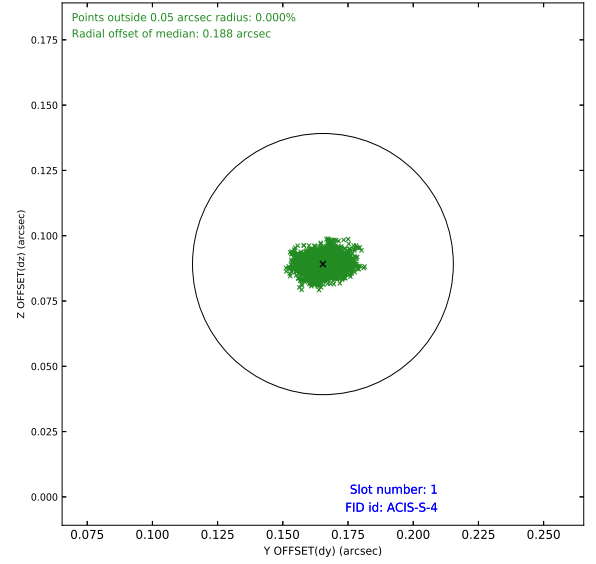
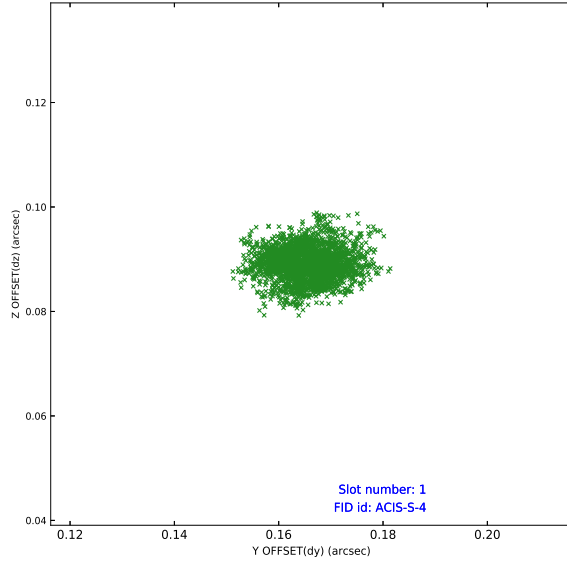


2.5 FID Slots

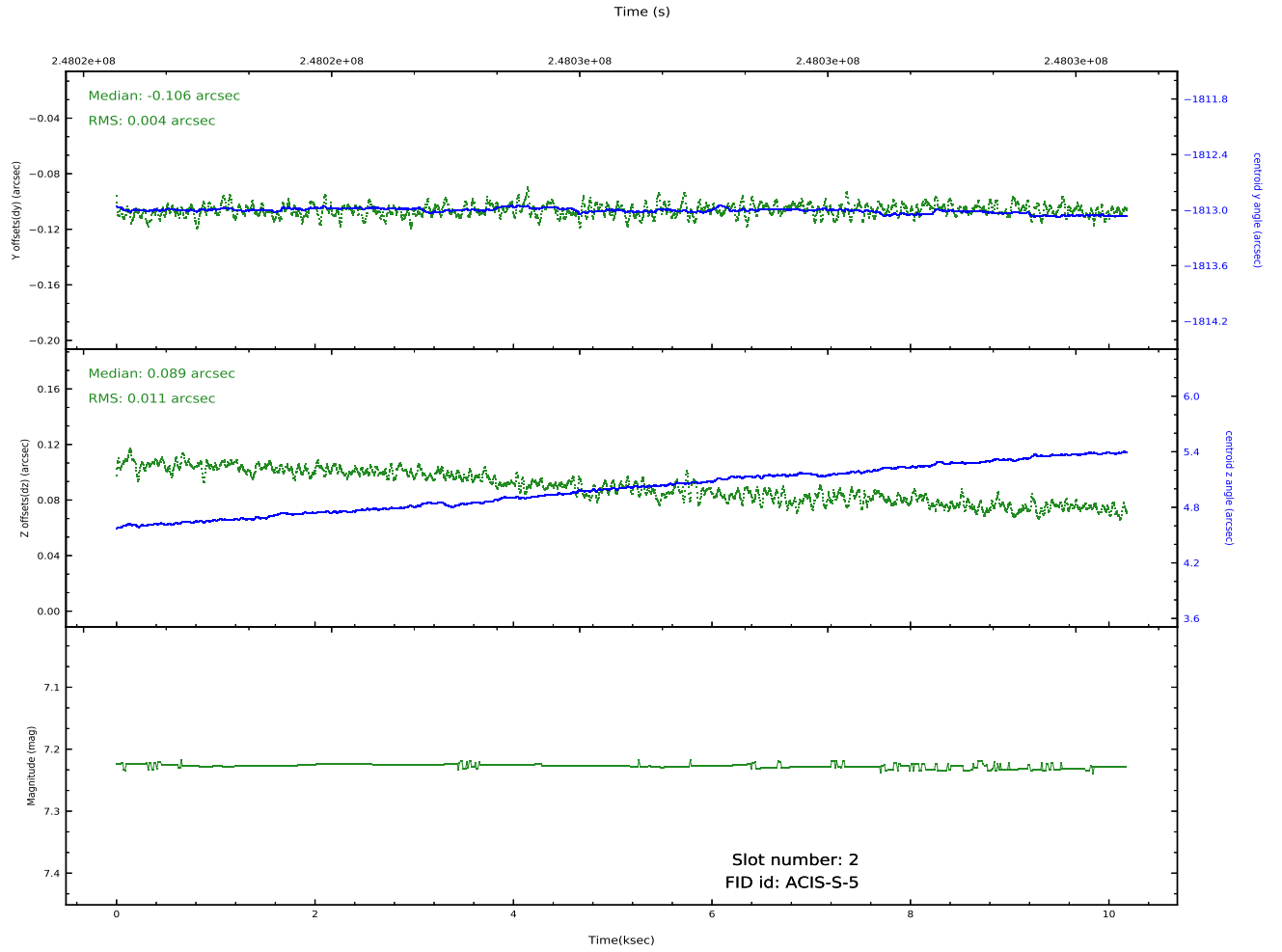
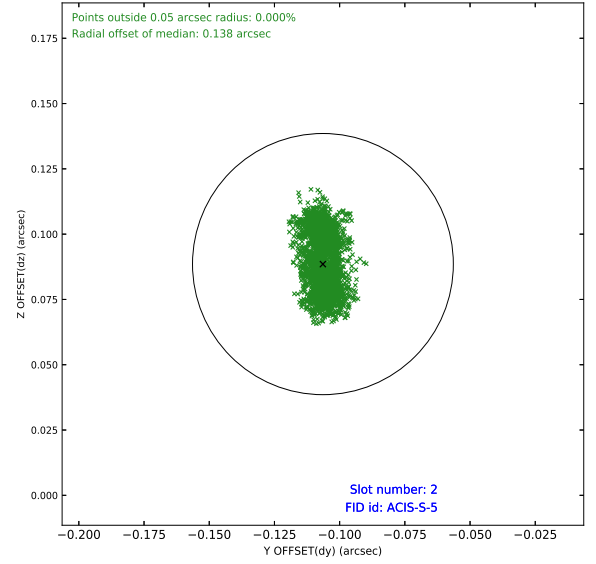
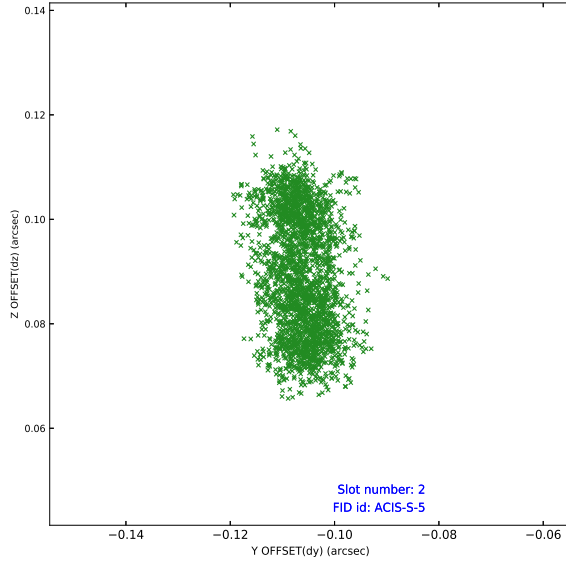
2.5.1 Slot 0



2.5.2 Slot 1

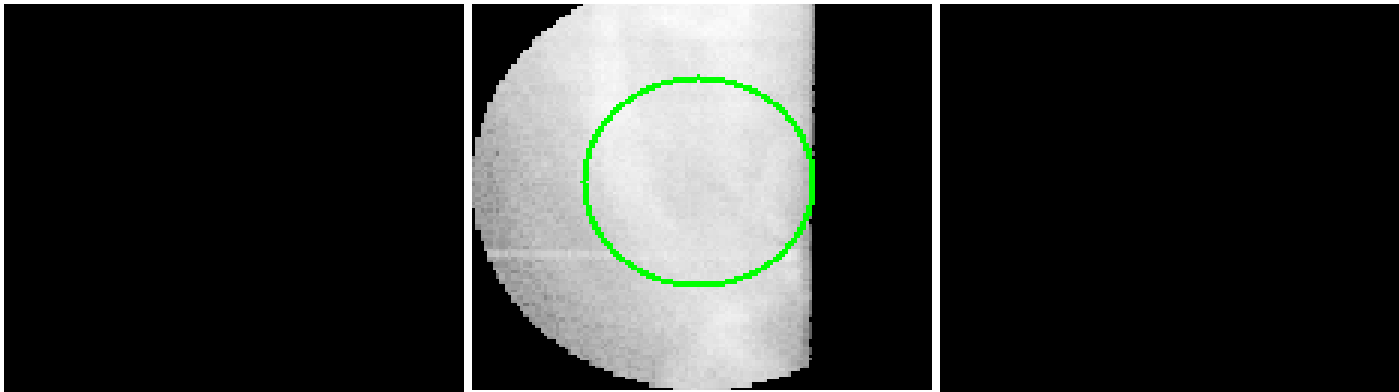


2.5.3 Slot 2



3 Gratings

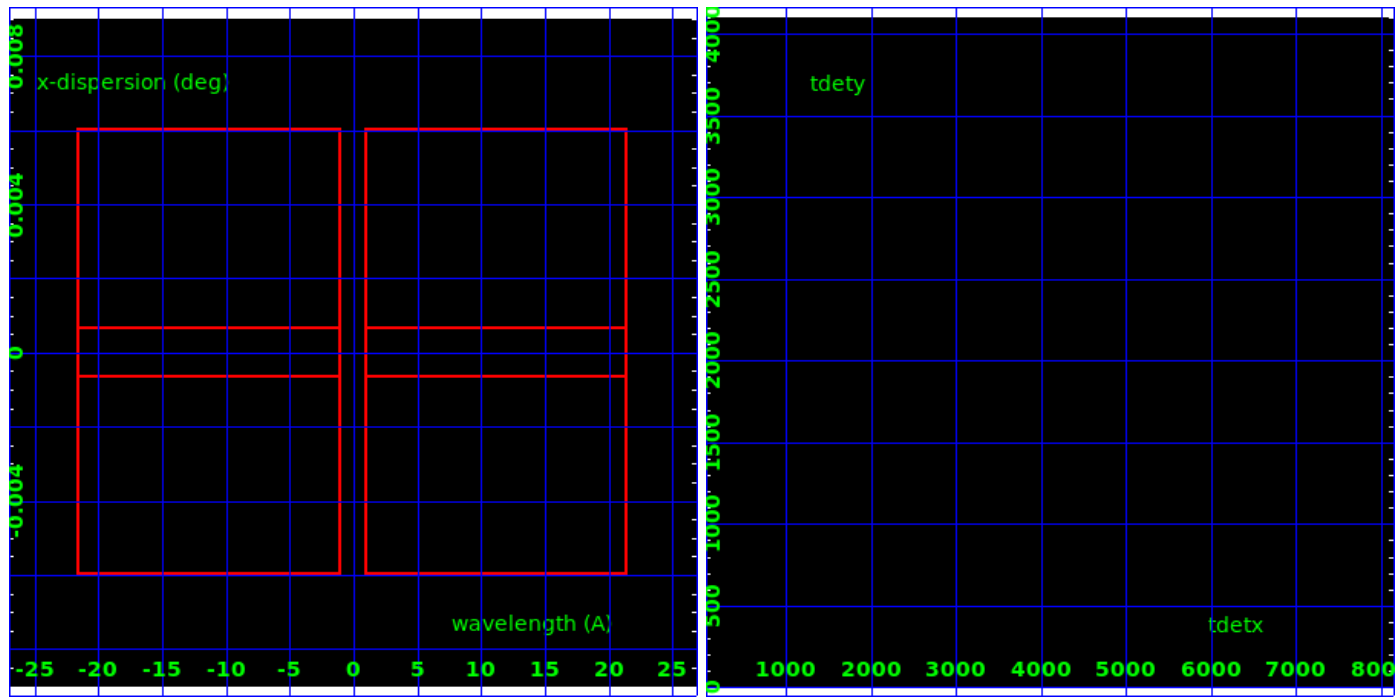
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

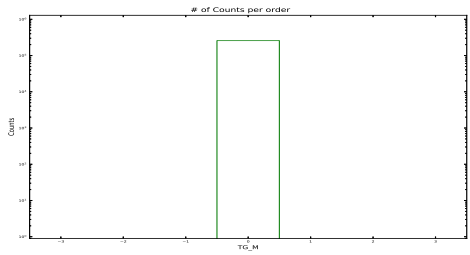
HEG Order Sort ALL

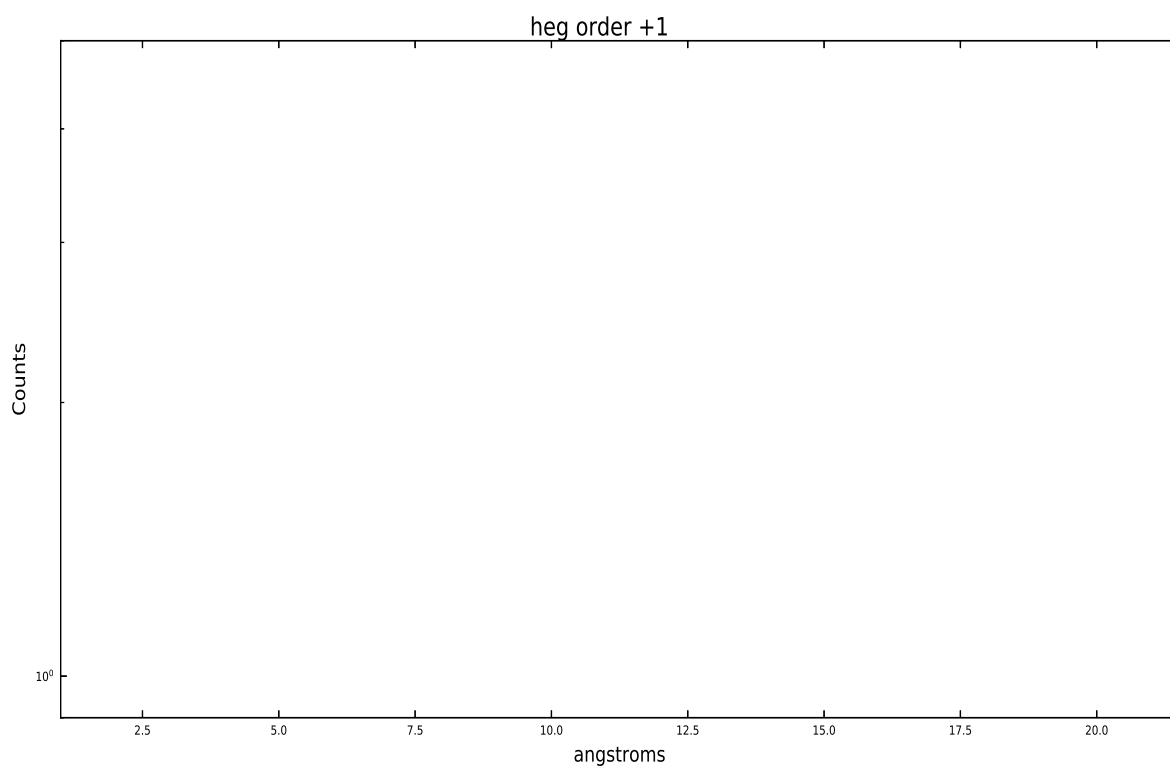
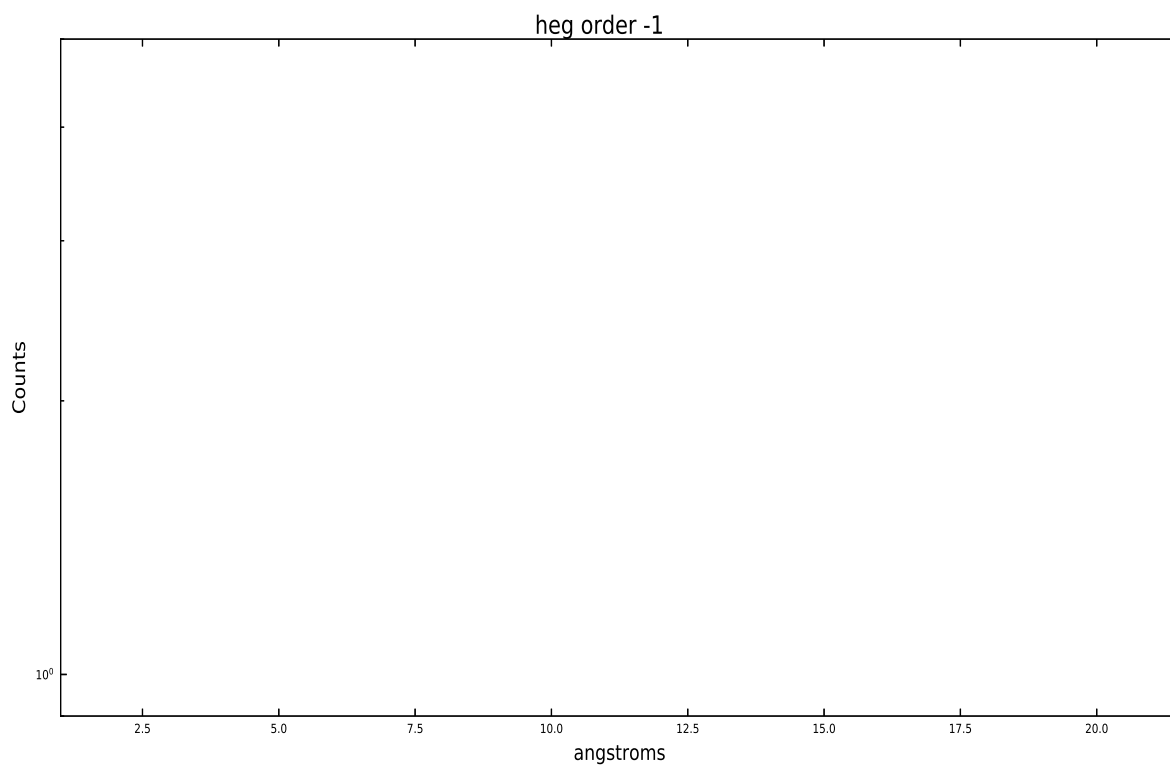


Spot Image HEG

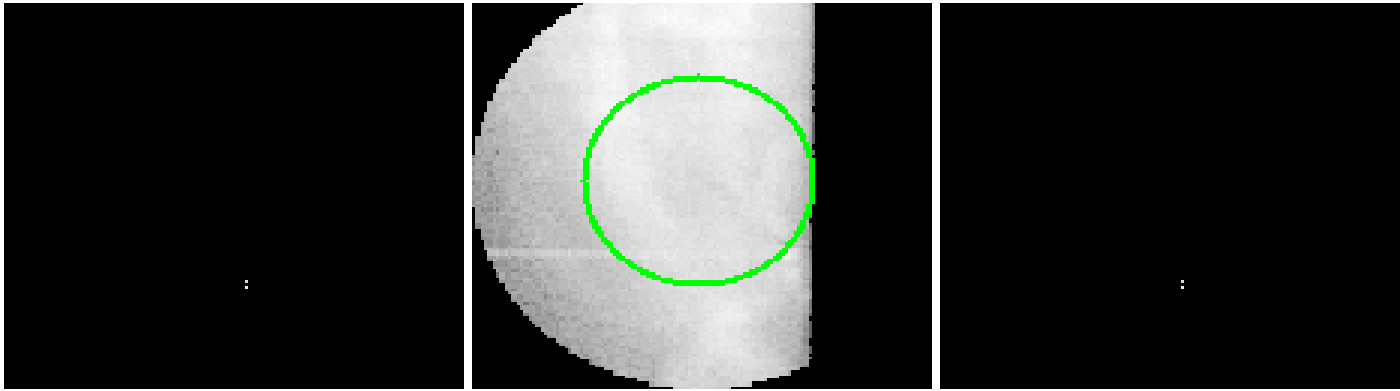
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	257763	0	0	0





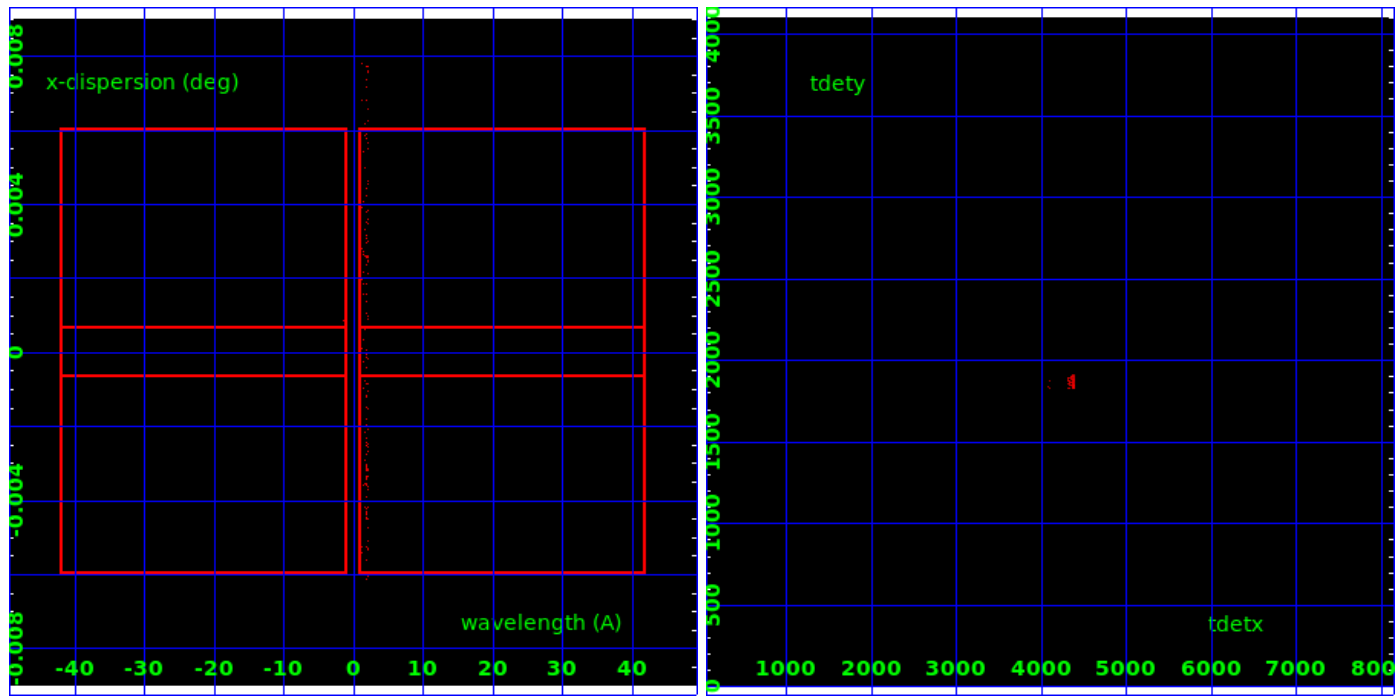
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

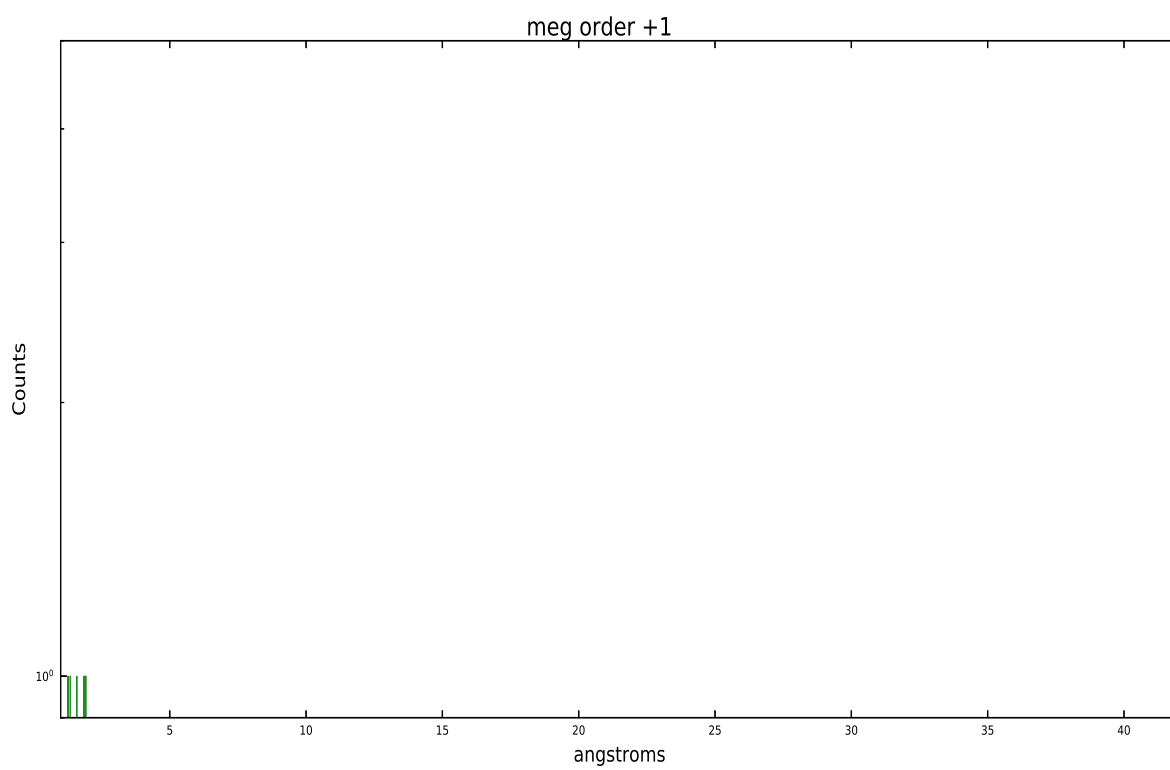
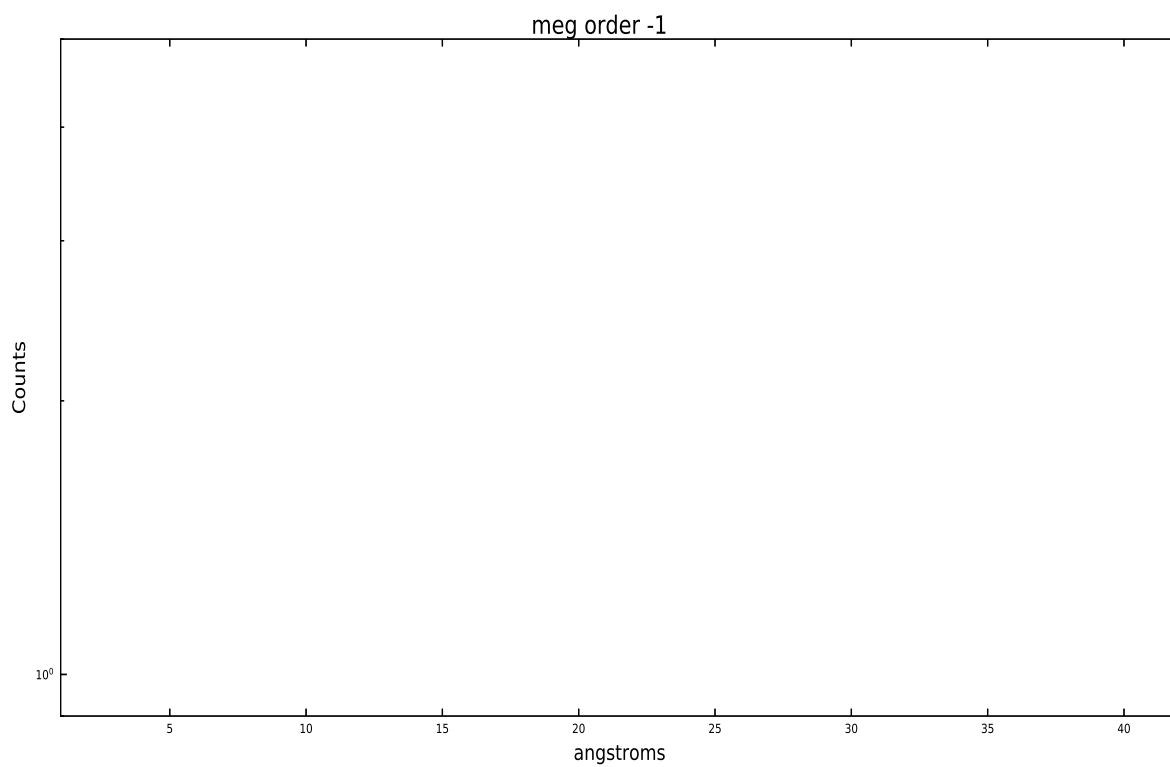


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	3	257763	136	0	0





A Summary

A.1 Status

V&V Scientist	David Principe
V&V Date (YYYY-MM-DD)	2020.10.26
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 region to the NE, along the outer ring that circumscribes the pulsar. Aim point is about 30 arcsec east of the aim points used for the other observations in this set, as requested by the proposer. 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. Broad east/west streak in Level 2 data is instrumental, due to the fact that the spacecraft dither during this observation was only 1 arcsec.