

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5600 - L2 Version 4
Chandra X-Ray Center

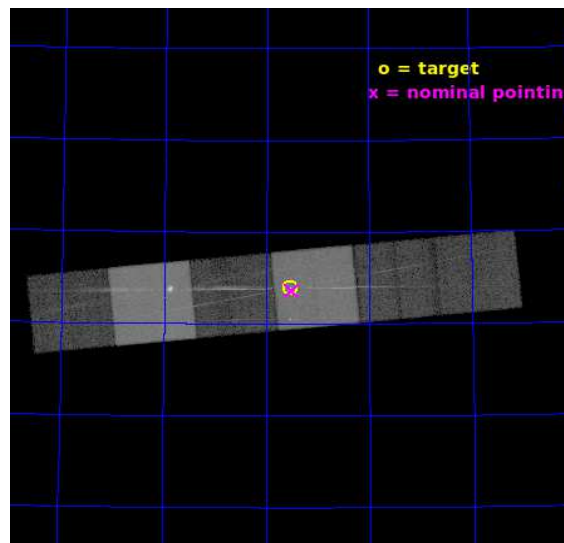
L2 Processing Date : Oct 9 2020

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1 Front

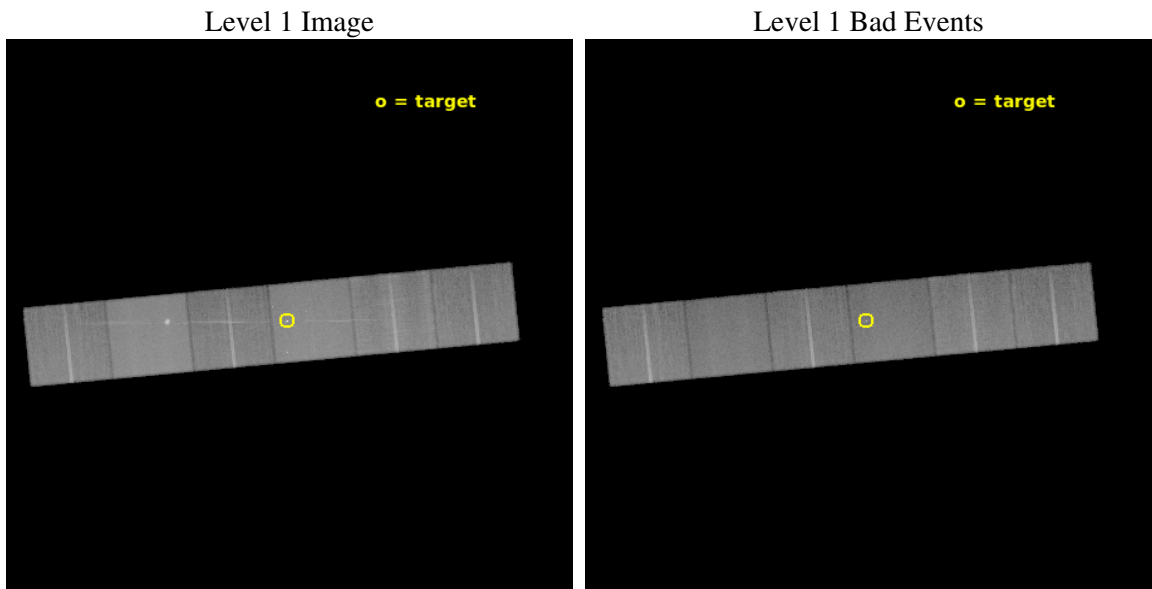
seq_num	701024	Sequence number
obs_id	5600	Observation id
title	Understanding the accretion process in a Low-Luminosity AGN: is M81* a starved black hole?	Proposal title
observer	Dr. Claude Canizares	Principal investigator
object	M81	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	148.888333	Observer's specified target RA [deg]
dec_targ	69.065306	Observer's specified target Dec [deg]
ra_nom	148.87647842798	Nominal RA [deg]
dec_nom	69.060419292217	Nominal Dec [deg]
roll_nom	354.37264820109	Nominal Roll [deg]
revision	4	Processing version of data
ontime	36422.399864316	Sum of GTIs [s]
livetime	35961.197506298	Livetime [s]
ontime4	36422.399864316	Sum of GTIs [s]
ontime5	36422.399864316	Sum of GTIs [s]
ontime6	36422.399864316	Sum of GTIs [s]
ontime7	36422.399864316	Sum of GTIs [s]
ontime8	36422.399864316	Sum of GTIs [s]
ontime9	36422.399864316	Sum of GTIs [s]
l2events	460027	Number of level 2 events



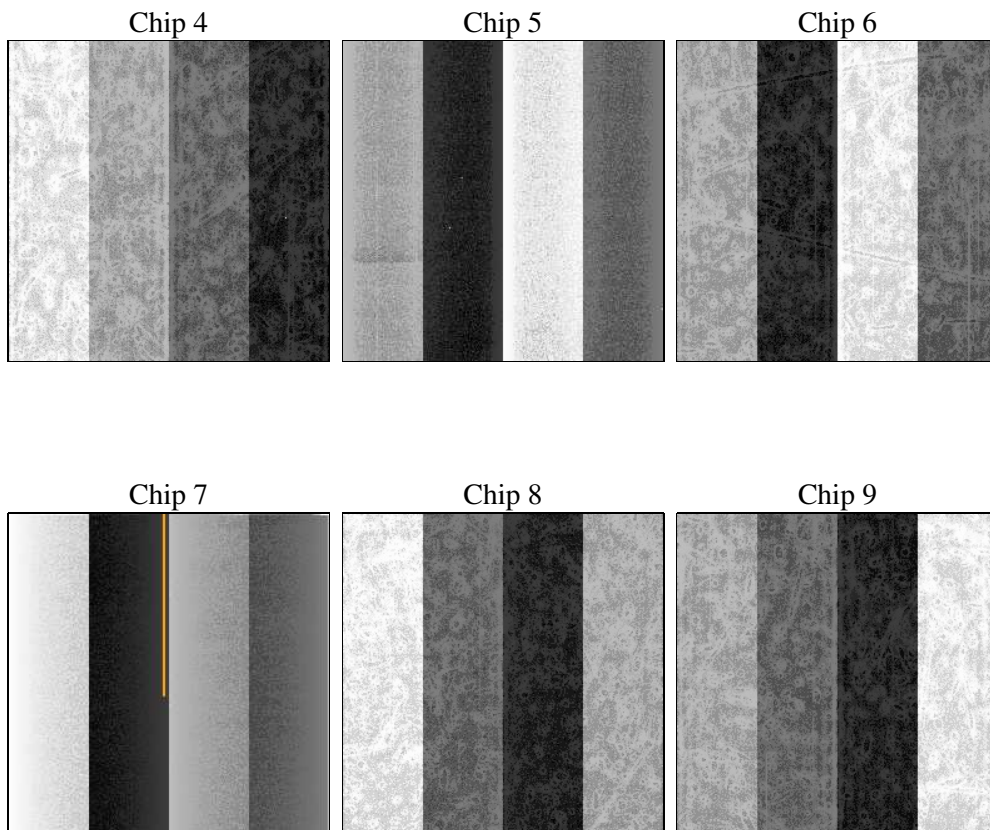
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	36300.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	36422.399864316	Sum of GTIs [s]
caldbver	4.9.2	 	ontime4	36422.399864316	Sum of GTIs [s]
date	2020-10-09T19:58:50	Date and time of file creation	ontime5	36422.399864316	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	36422.399864316	Sum of GTIs [s]
			ontime7	36422.399864316	Sum of GTIs [s]
			ontime8	36422.399864316	Sum of GTIs [s]
			ontime9	36422.399864316	Sum of GTIs [s]
			l1events	2045175	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4061.01 4132.24)	src1a sky pixel position

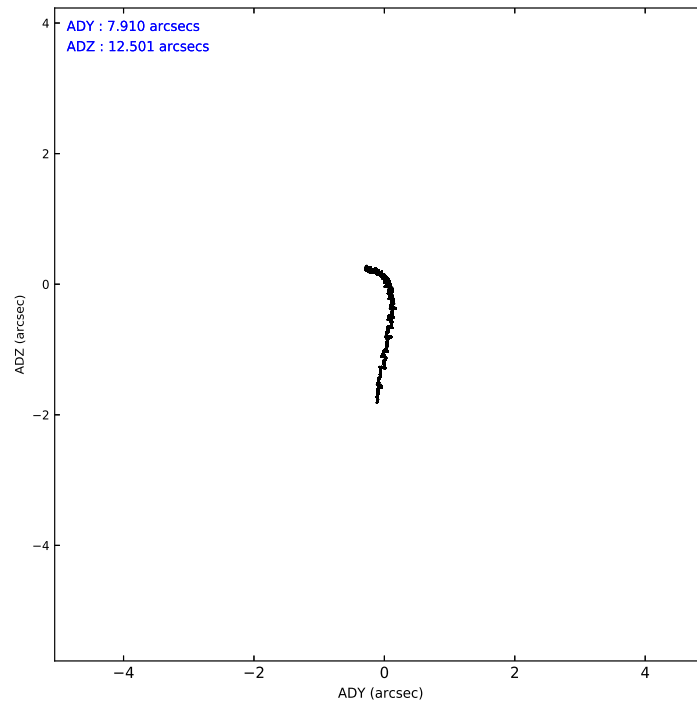
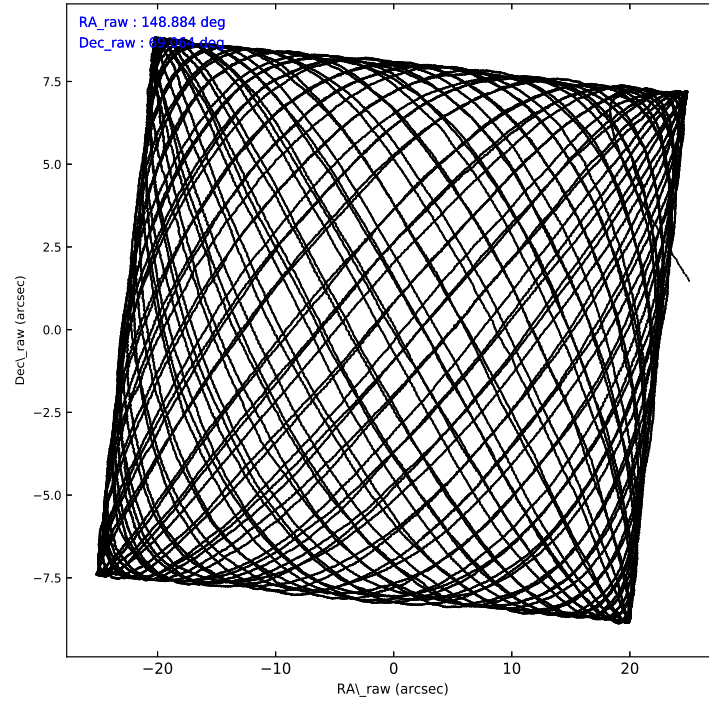
2.1.4 Events

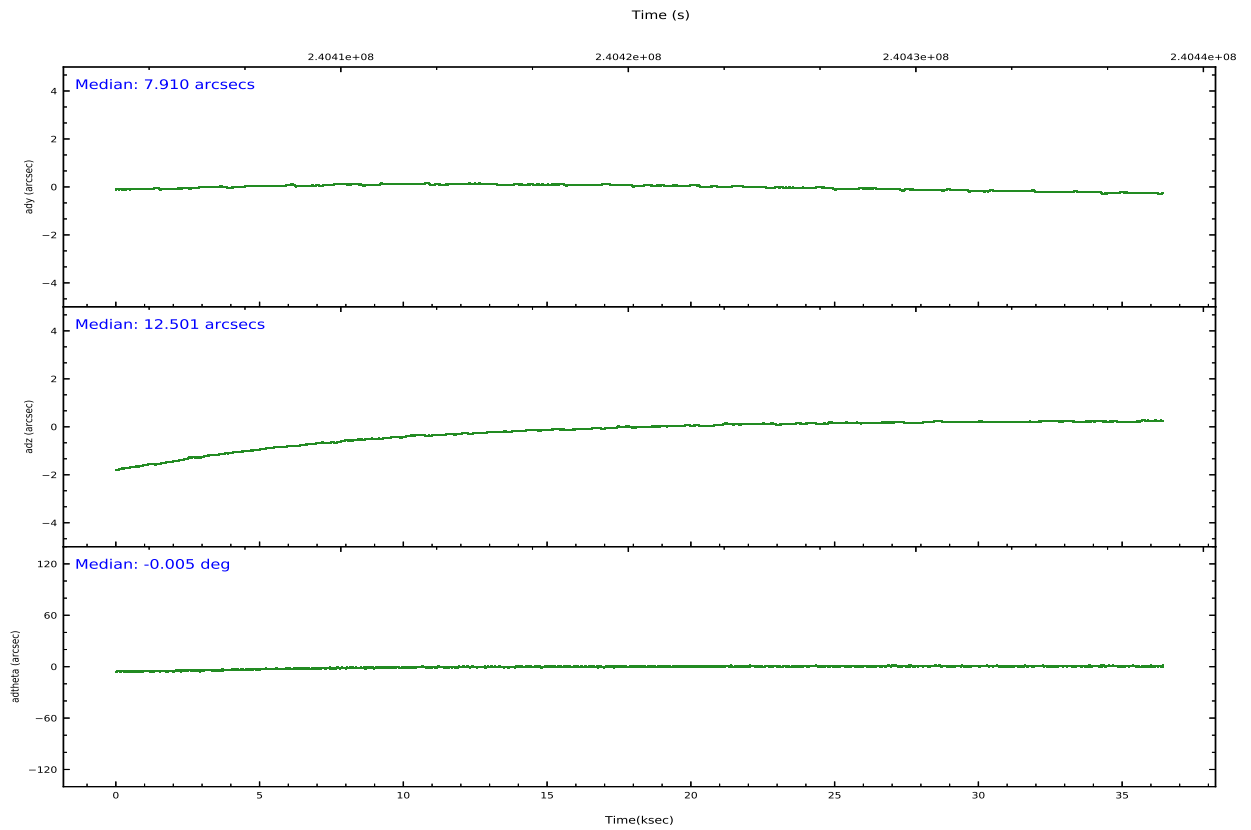
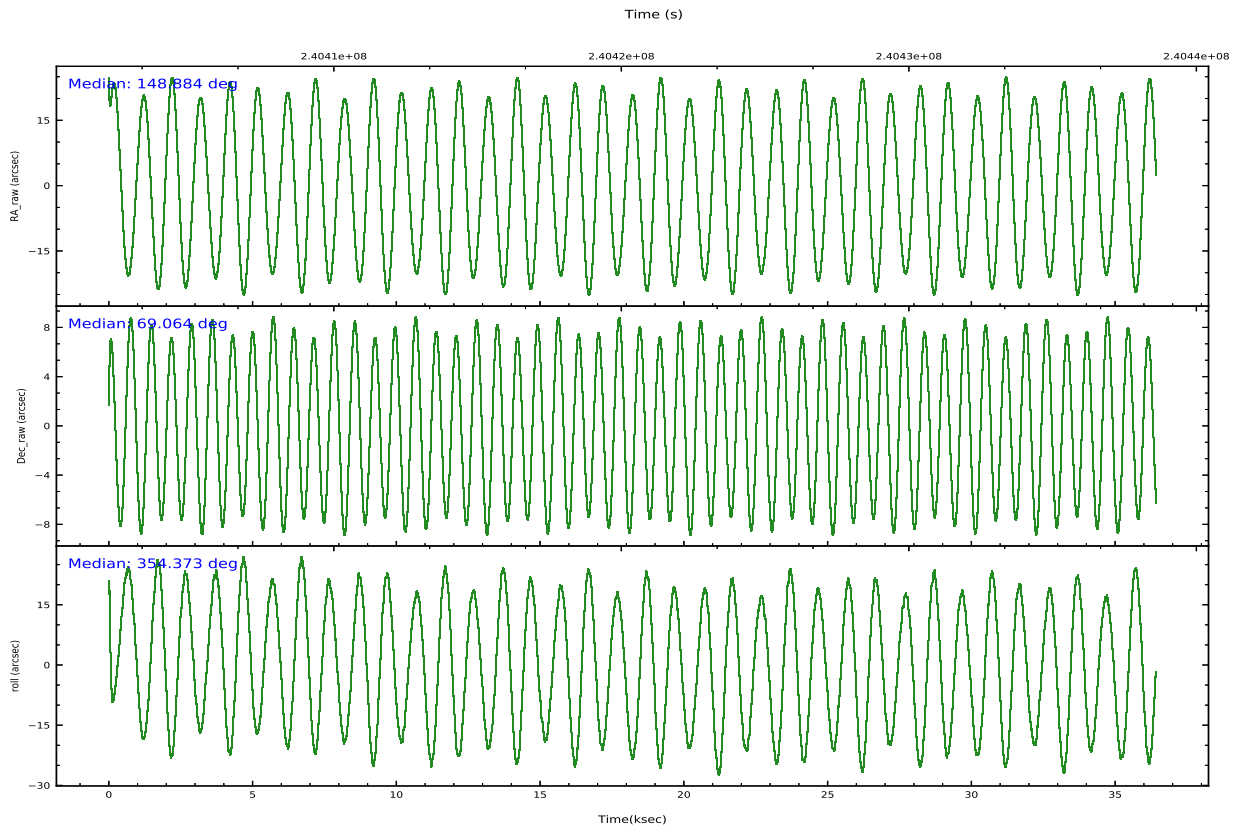
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	314962	421125	287342	390895	353269	277582	grade 0 events	17235	14489	19619	16446	25383	14098
rejected events	279306	237145	247130	230210	279713	244832		5%	3%	6%	4%	7%	5%
rejected %	88%	56%	86%	58%	79%	88%	grade 1 events	280	542	146	399	235	163
								0%	0%	0%	0%	0%	0%
							grade 2 events	7500	59146	8120	33805	16847	6717
								2%	14%	2%	8%	4%	2%
							grade 3 events	3531	8333	3447	15195	7910	3356
								1%	1%	1%	3%	2%	1%
							grade 4 events	3474	8080	3542	15064	7356	3344
								1%	1%	1%	3%	2%	1%
							grade 5 events	12664	30359	13189	36600	17339	14102
								4%	7%	4%	9%	4%	5%
							grade 6 events	5580	102818	7116	87435	19399	6783
								1%	24%	2%	22%	5%	2%
							grade 7 events	264698	197358	232163	185951	258800	229019
								84%	46%	80%	47%	73%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-456789	ACIS-456789	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	148.814813	148.87647842798	Subarray requested	NONE	NONE
[deg] Pointing Dec	69.052214	69.06041929221701	Alternating exposures requested	N	N
[deg] Pointing Roll	354.283780	354.37264820109	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	240402300.184000	240400306.82264			
Observation start date	2005-08-14T10:23:56	2005-08-14T09:51:46			
[s] Observation end time (MET)	240438600.184000	240440380.22447			
Observation end date	2005-08-14T20:28:56	2005-08-14T20:59:40			
Read mode	TIMED	TIMED			

2.3 Aspect





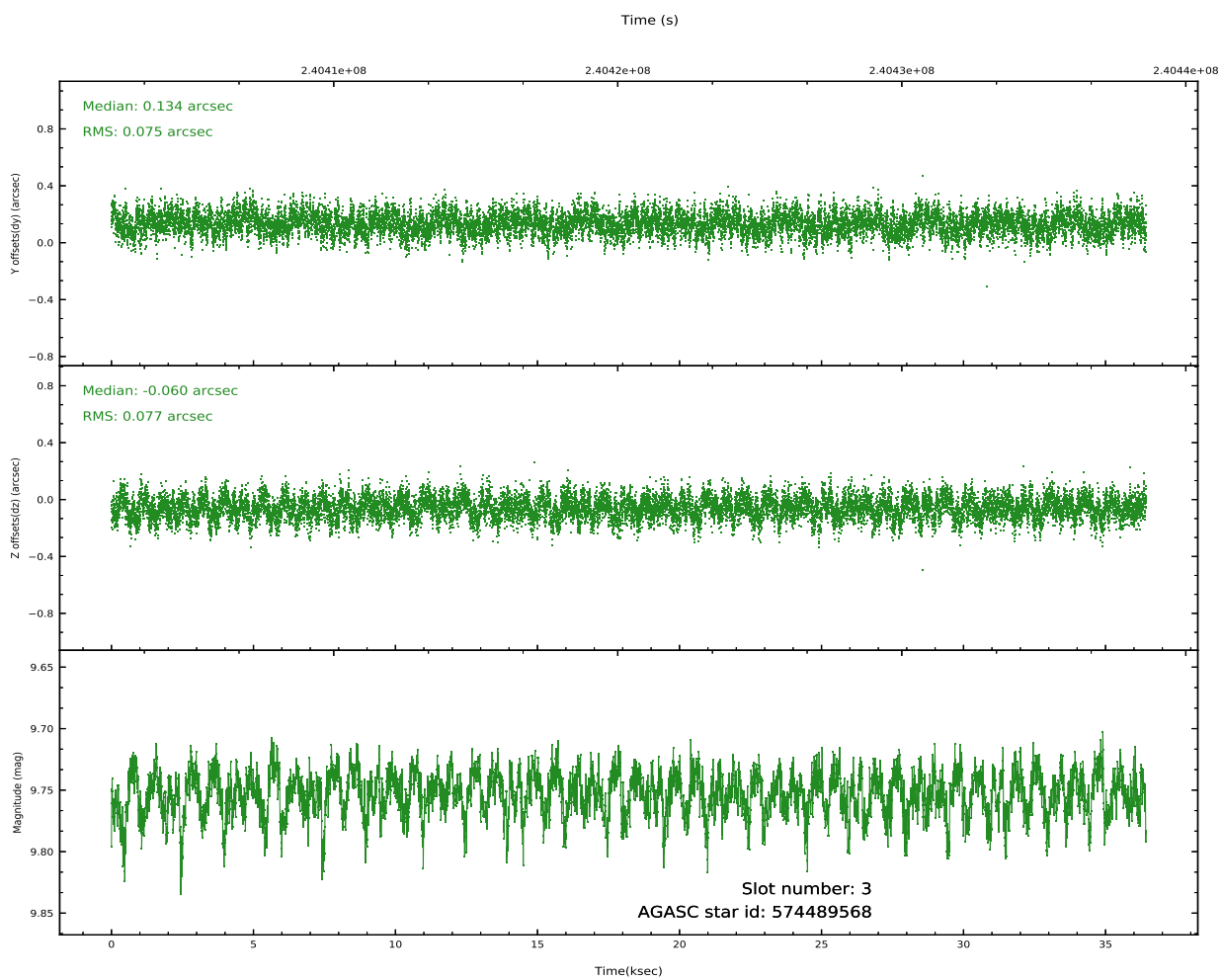
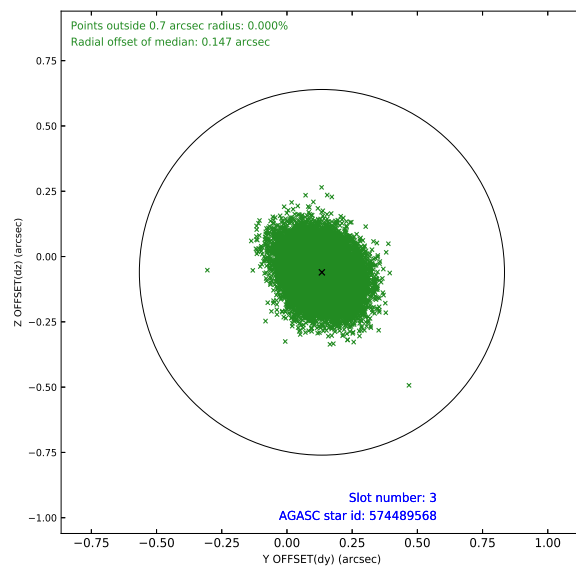
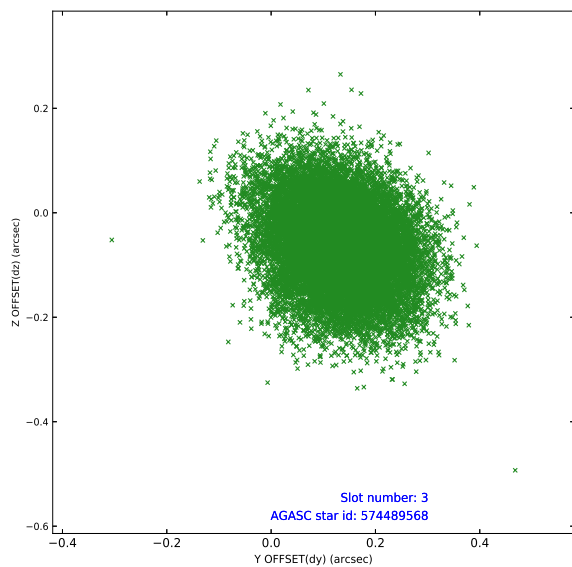
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-2	7.10	8884	1.000	-0.038	-0.068	0.011	0.035	0.000000	0.000000	-760.67	-1733
1	FID		ACIS-S-4	7.20	8885	1.000	0.139	0.037	0.011	0.020	0.000000	0.000000	2152.74	174
2	FID		ACIS-S-5	7.23	8885	1.000	-0.130	0.041	0.013	0.031	0.000000	0.000000	-1813.59	168
3	GUIDE	used	574489568	9.75	17757	1.000	0.134	-0.060	0.115	0.186	147.223974	69.438157	-2142.18	1208
4	GUIDE	used	574490960	9.77	17752	1.000	0.004	-0.075	0.132	0.210	148.185918	69.658768	-1001.45	2098
5	GUIDE	used	574491280	9.33	17751	1.000	0.005	0.057	0.197	0.284	148.611567	69.450135	-399.08	1400
6	GUIDE	used	574498696	9.03	17761	1.000	-0.043	0.128	0.088	0.139	146.881317	68.486979	-2340.57	-2238
7	GUIDE	used	574491872	9.27	17763	1.000	-0.113	-0.065	0.111	0.176	147.207613	69.765453	-2249.98	2379

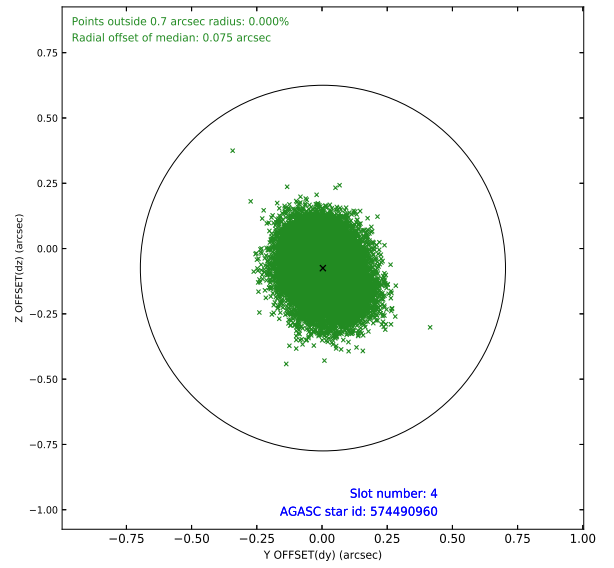
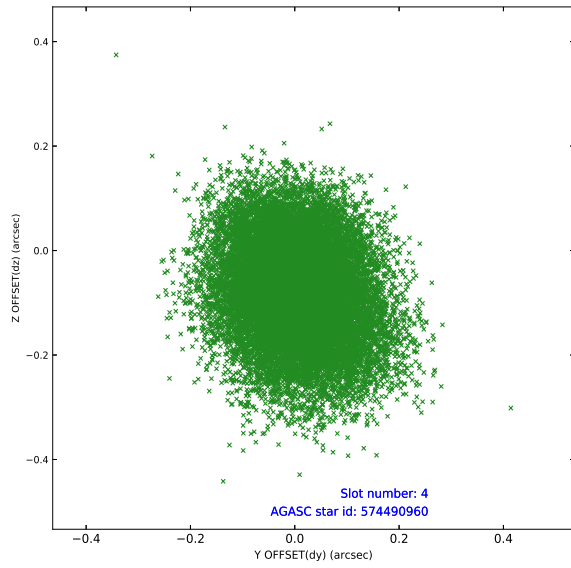
∞

2.4 Star Slots

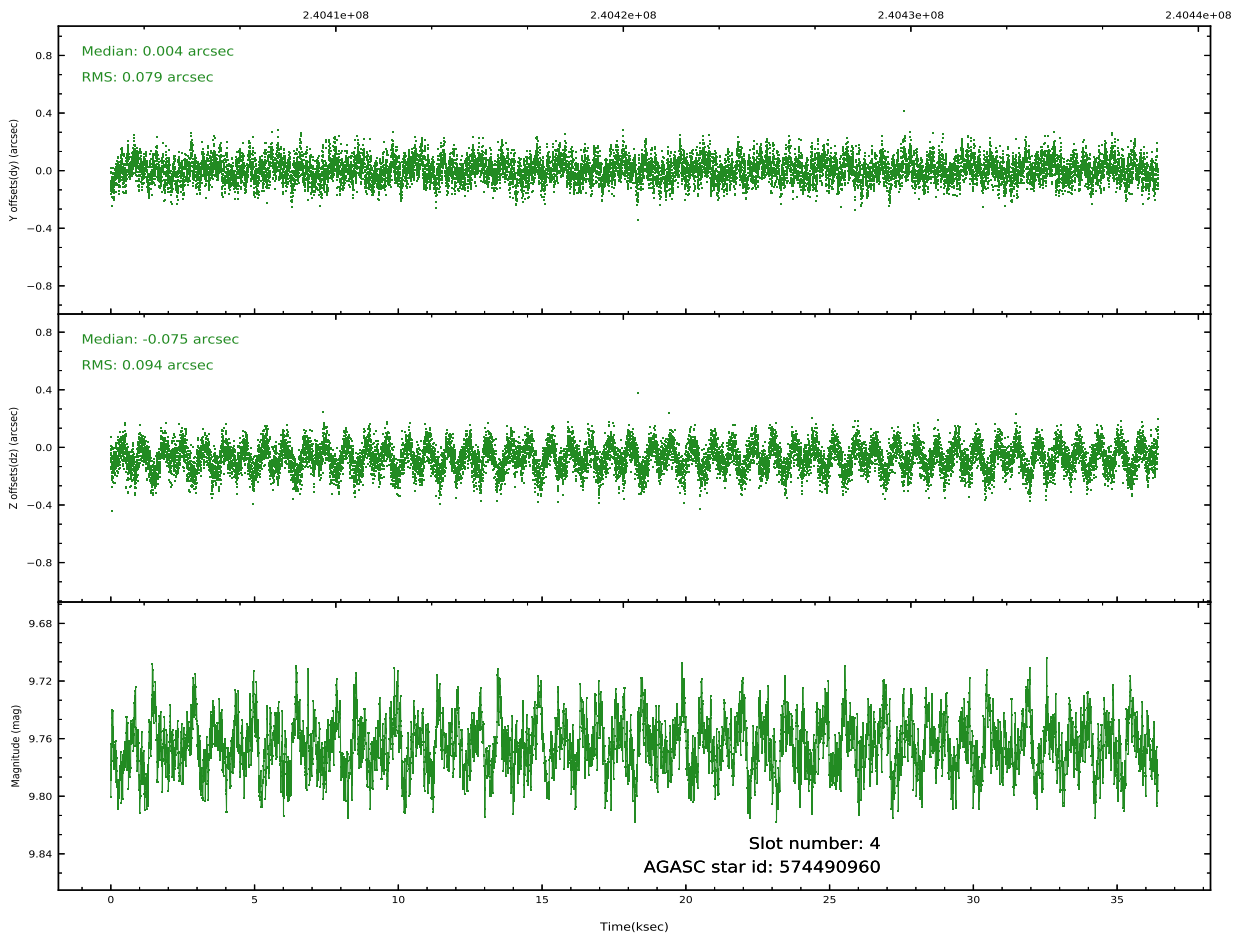
2.4.1 Slot 3



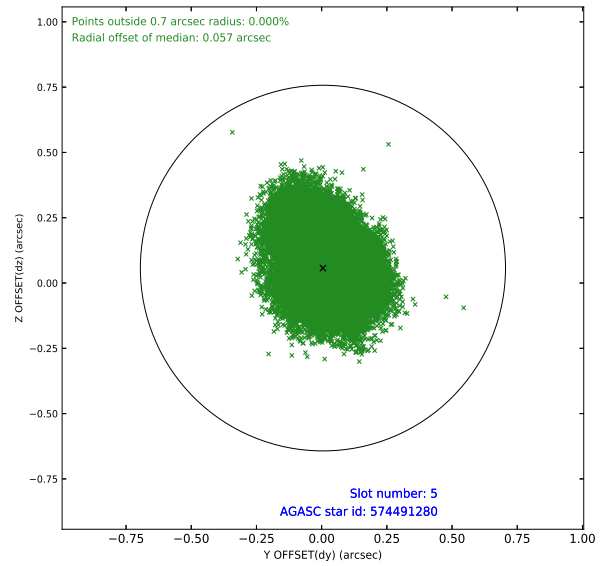
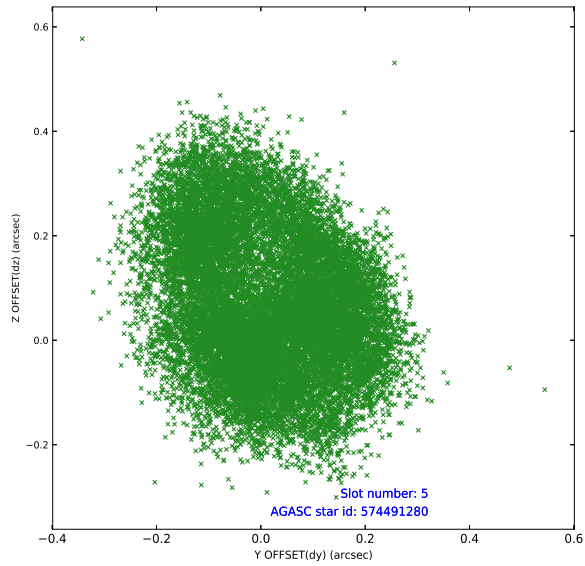
2.4.2 Slot 4



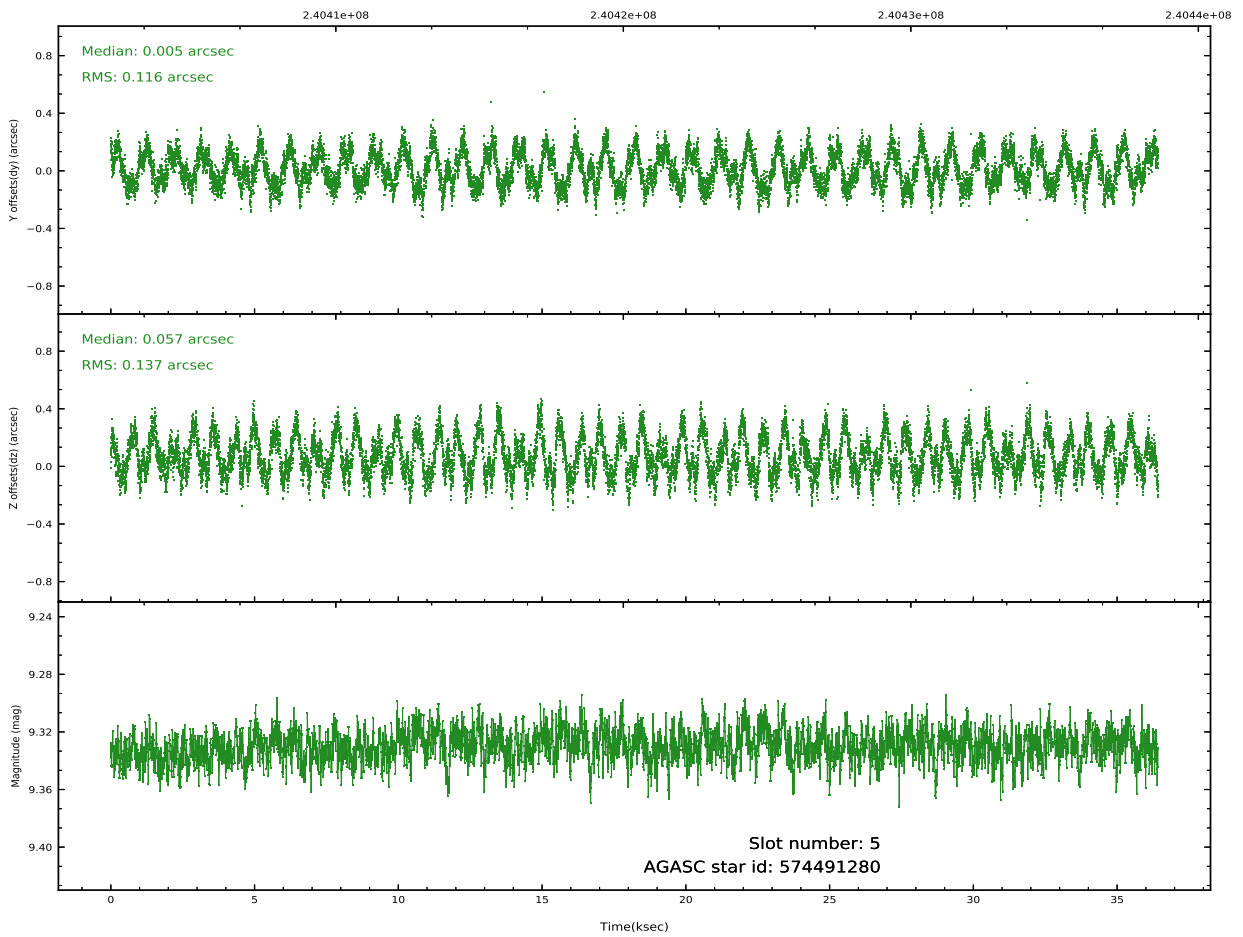
Time (s)



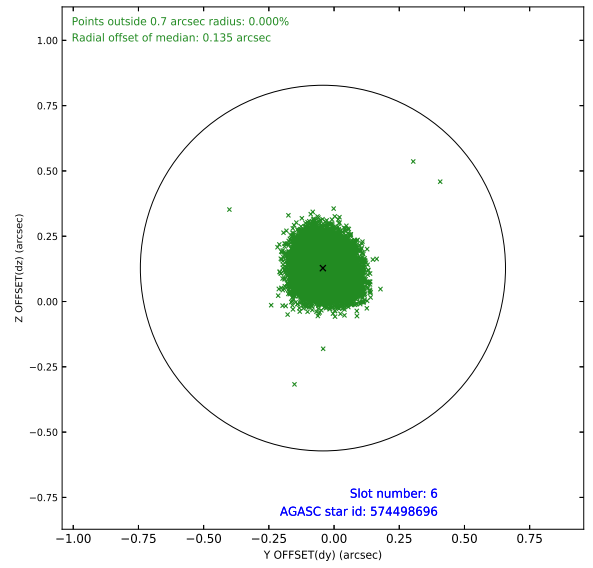
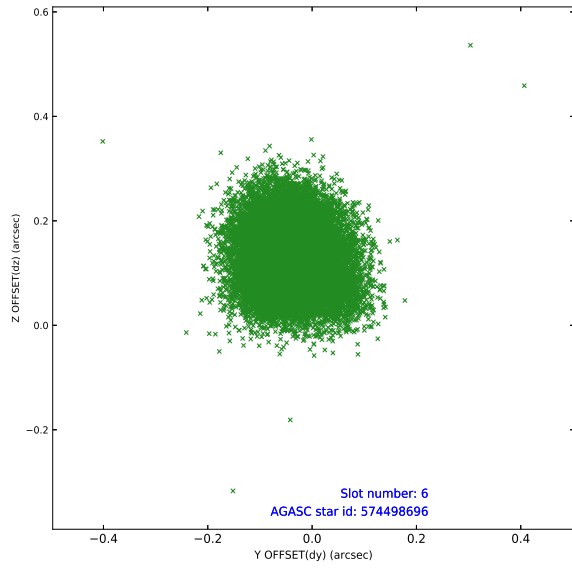
2.4.3 Slot 5



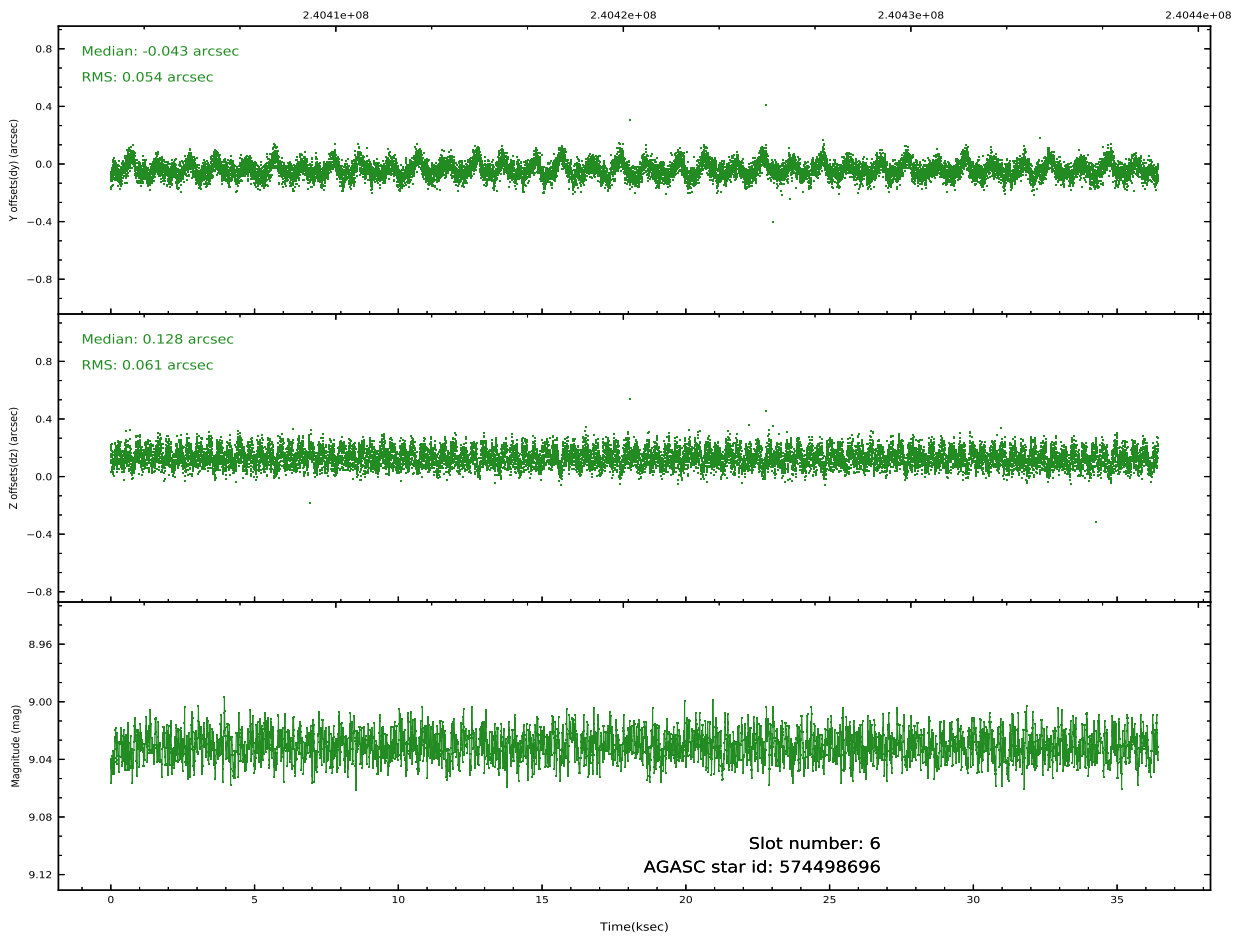
Time (s)



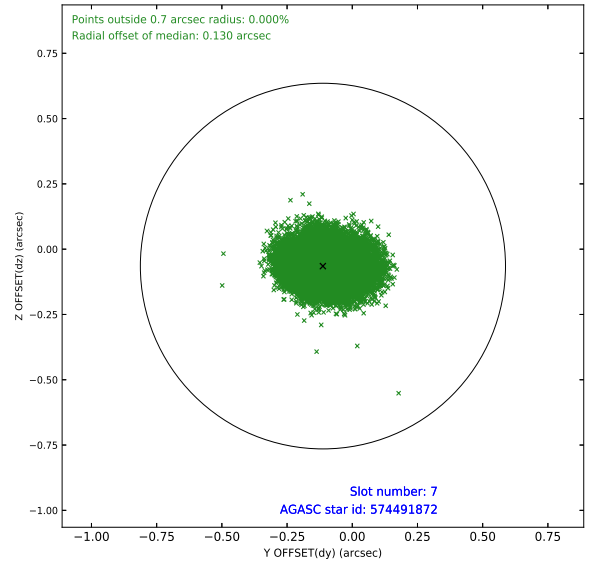
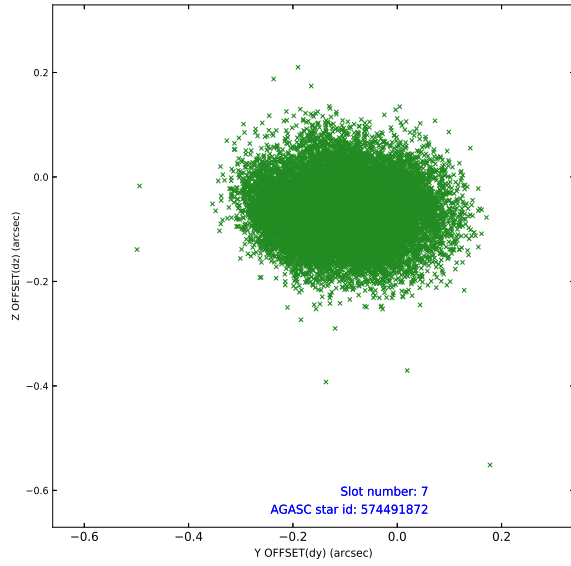
2.4.4 Slot 6



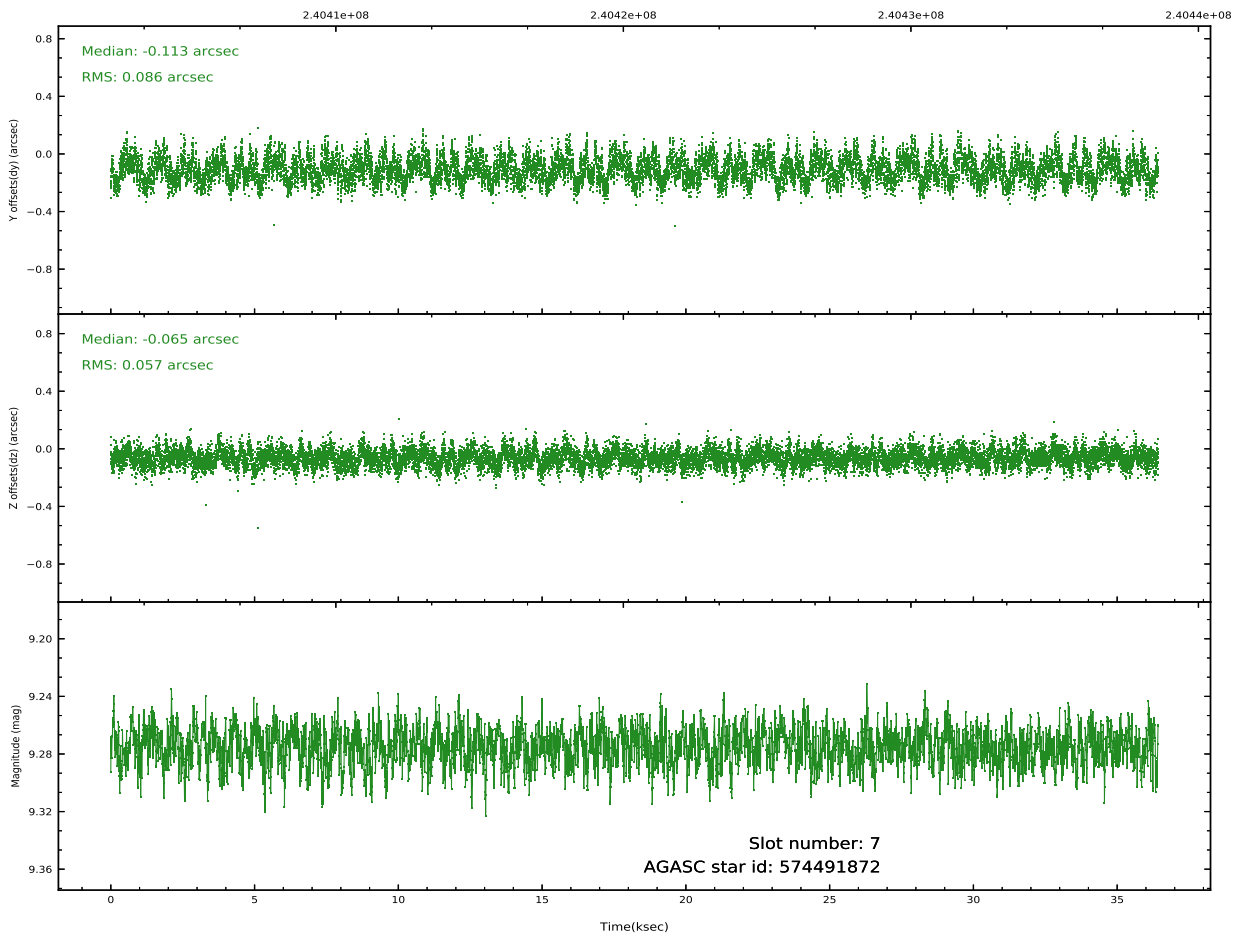
Time (s)



2.4.5 Slot 7

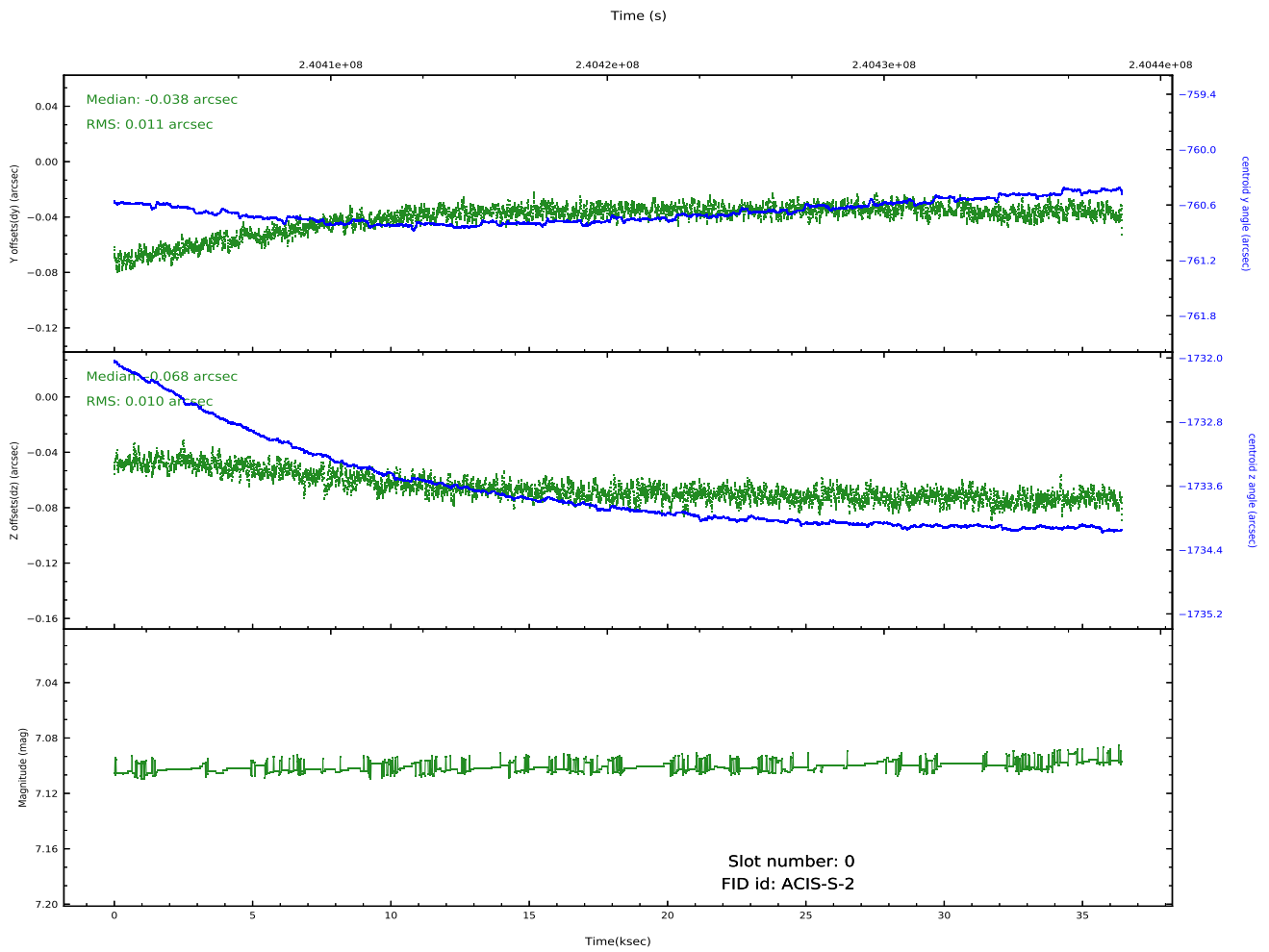
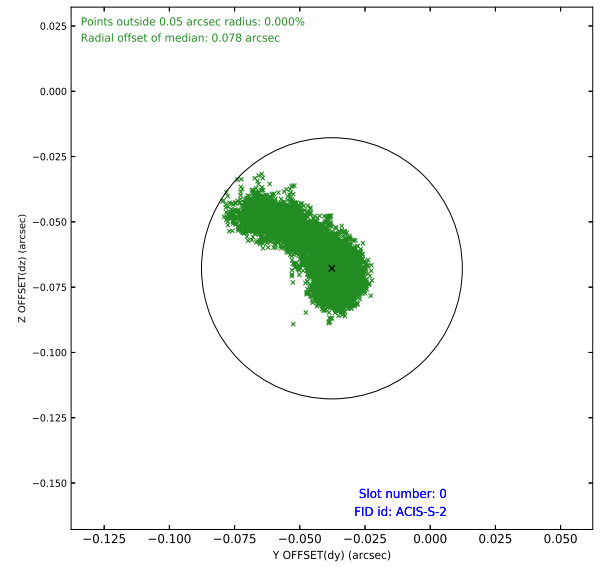
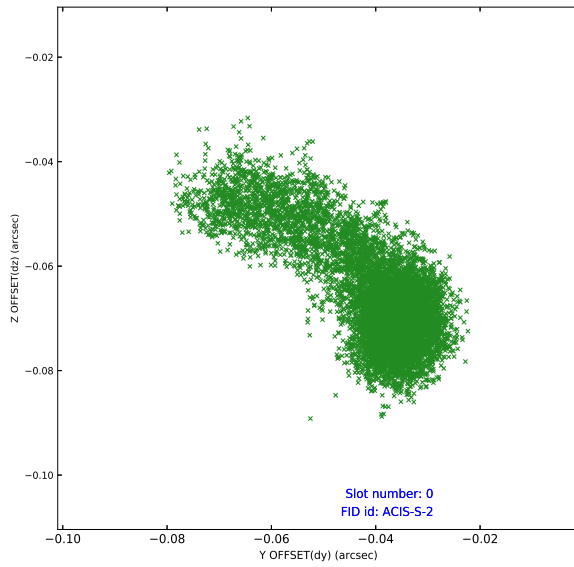


Time (s)

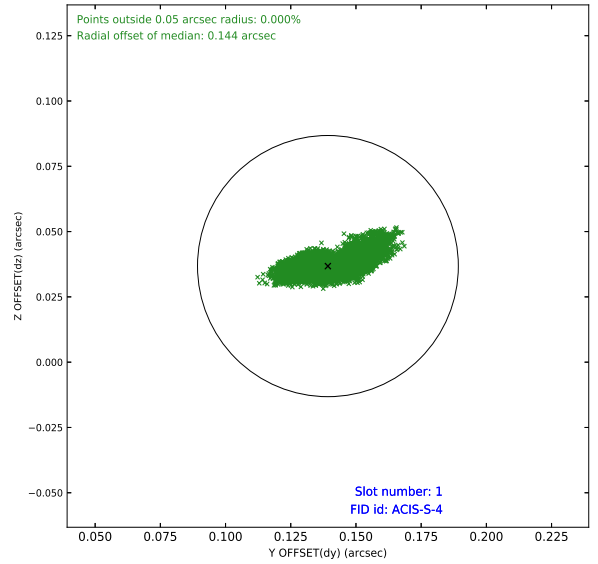
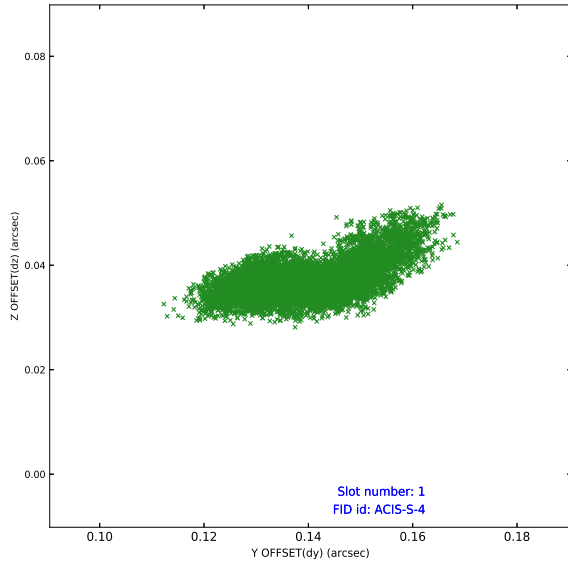


2.5 FID Slots

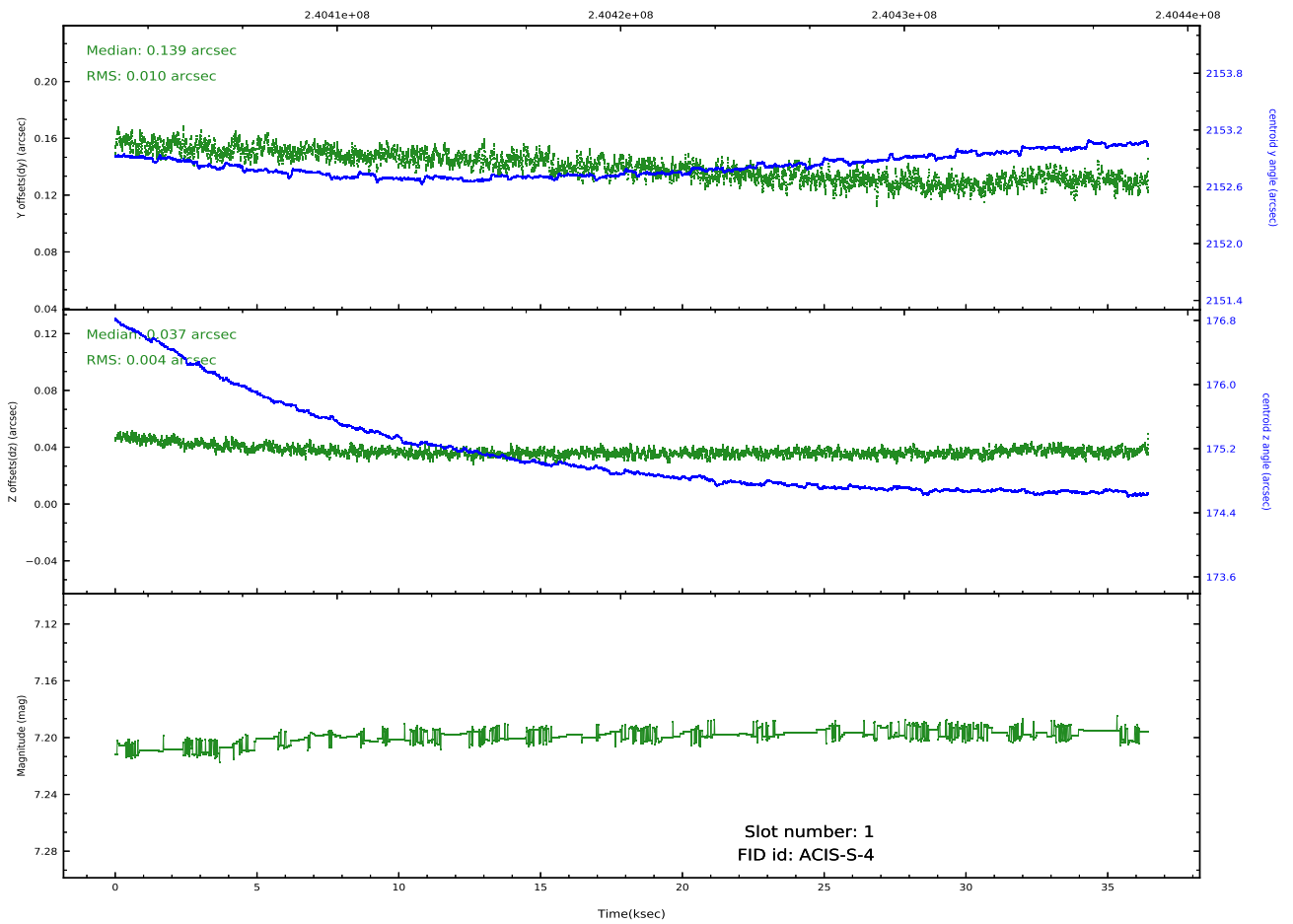
2.5.1 Slot 0



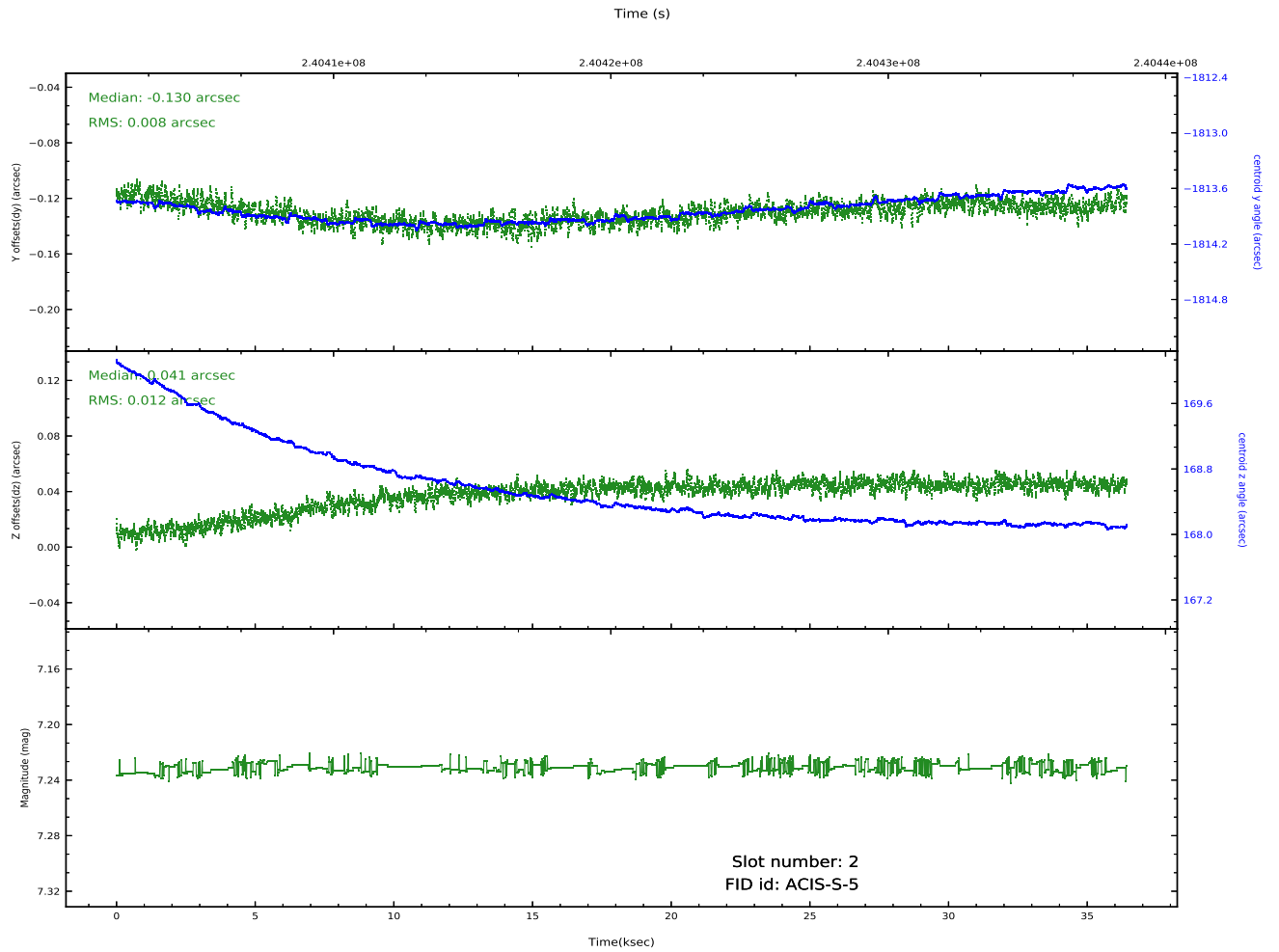
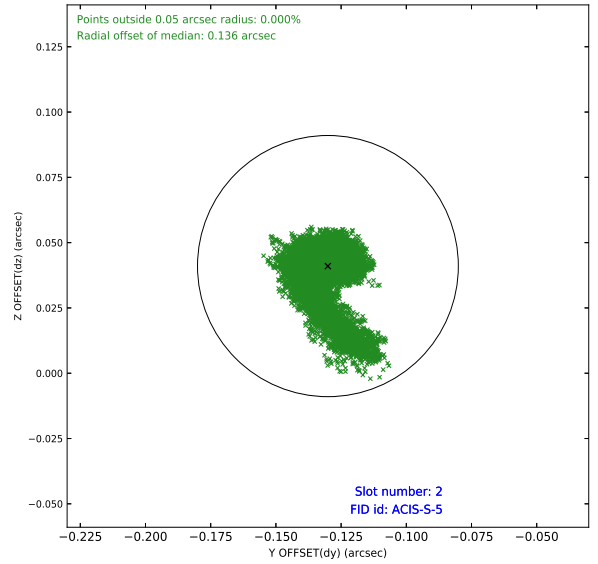
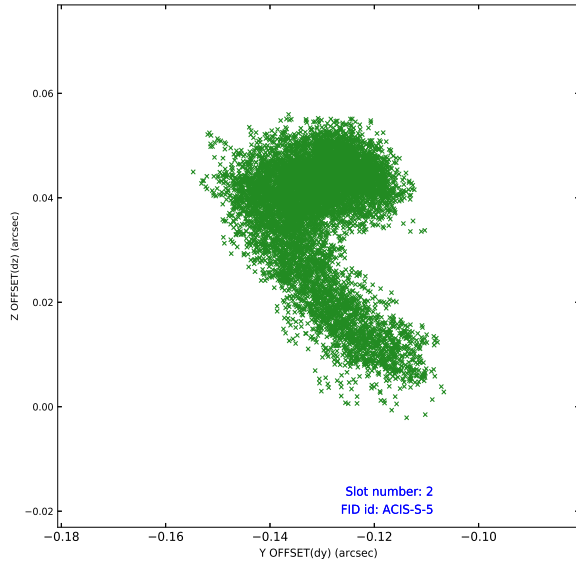
2.5.2 Slot 1



Time (s)

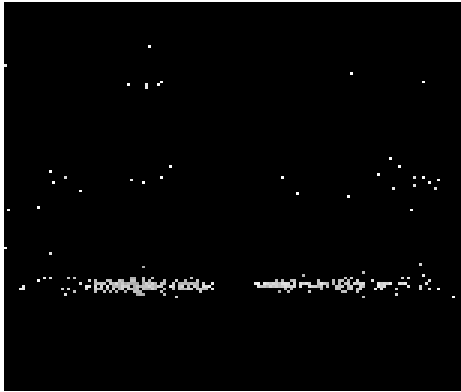


2.5.3 Slot 2

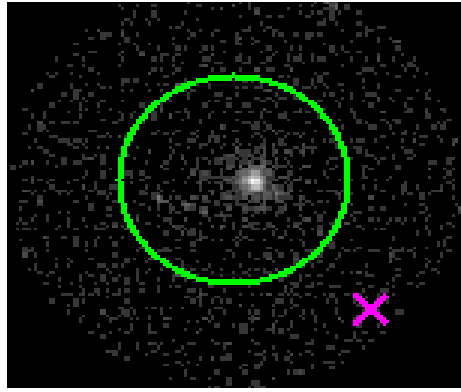


3 Gratings

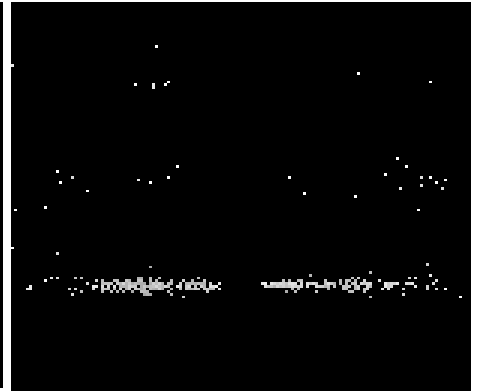
3.1 HEG Arm



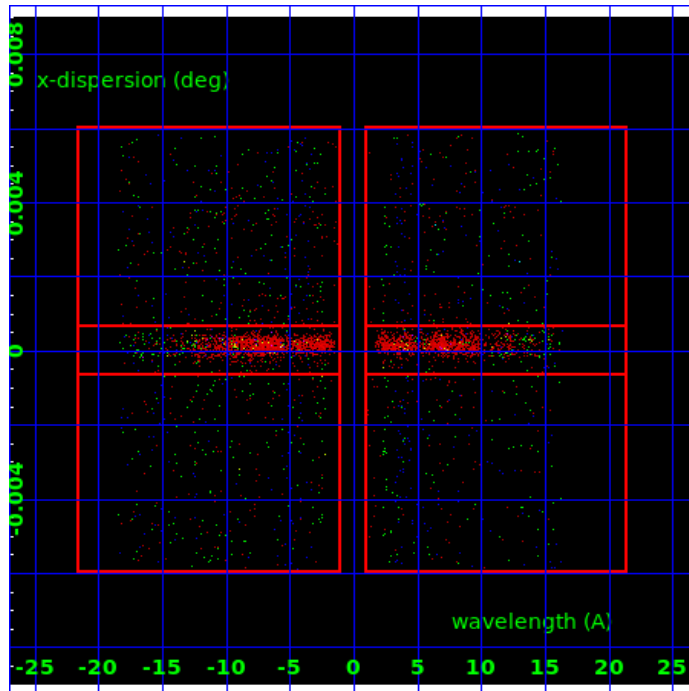
HEG Order Sort 123



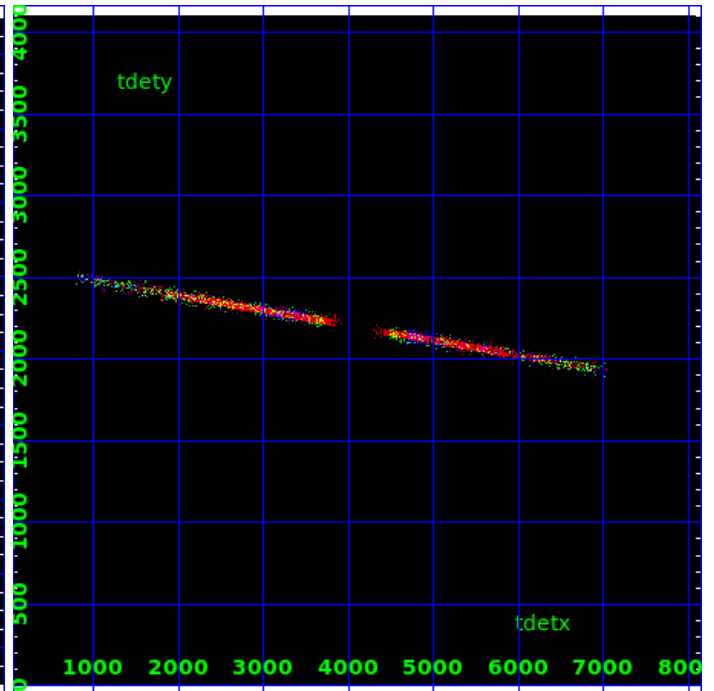
HEG Zero Order



HEG Order Sort ALL

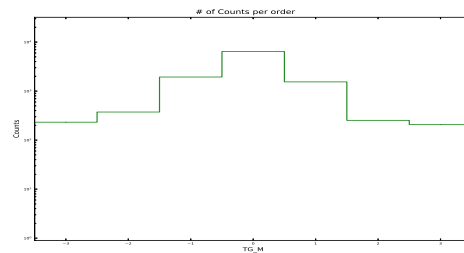


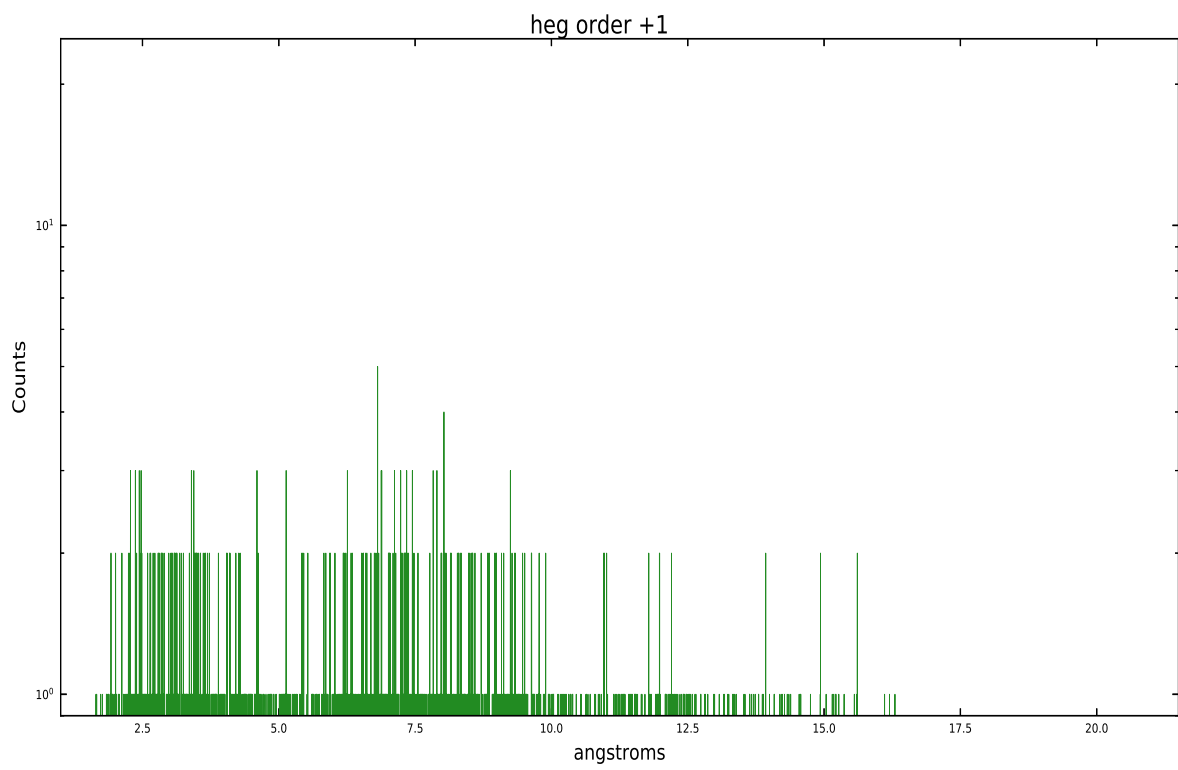
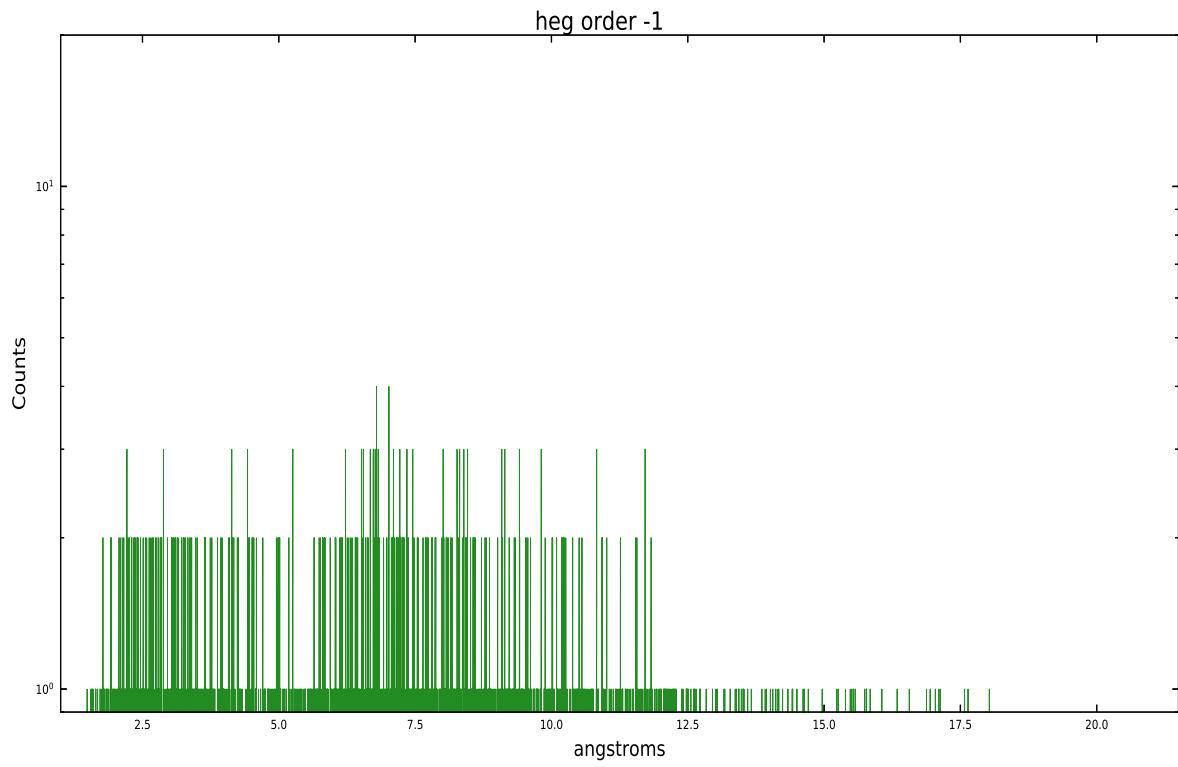
Spot Image HEG



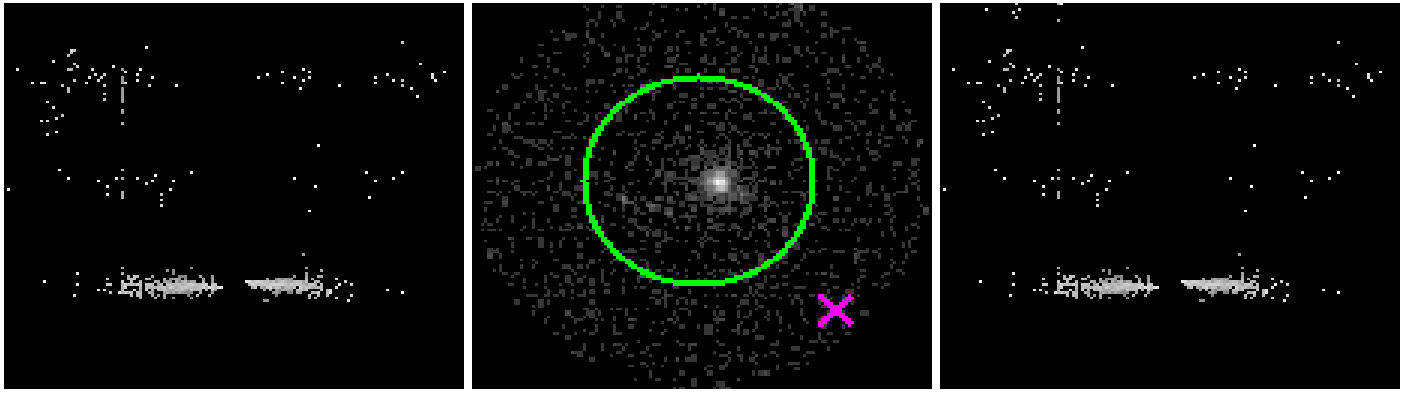
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	232	374	1938	6408	1542	253	207





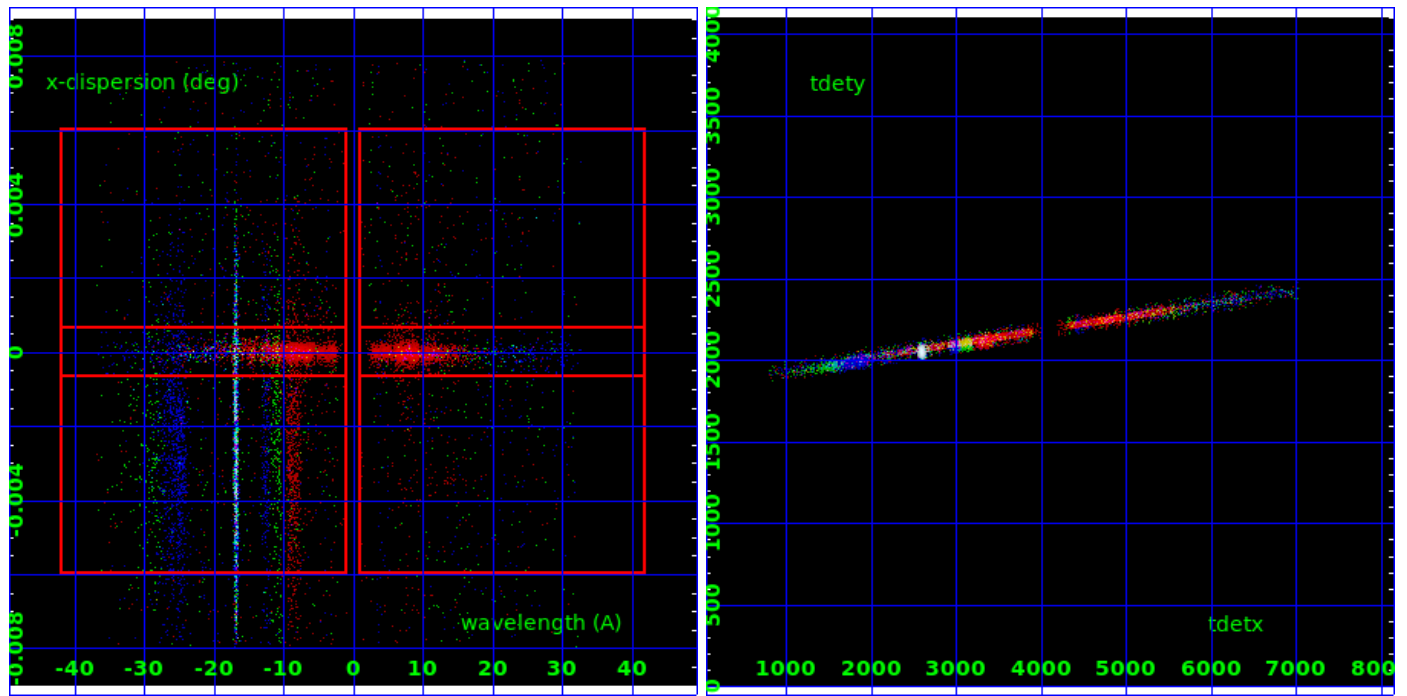
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

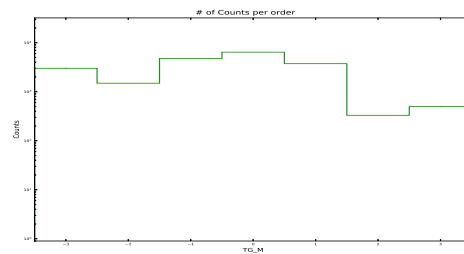
MEG Order Sort ALL

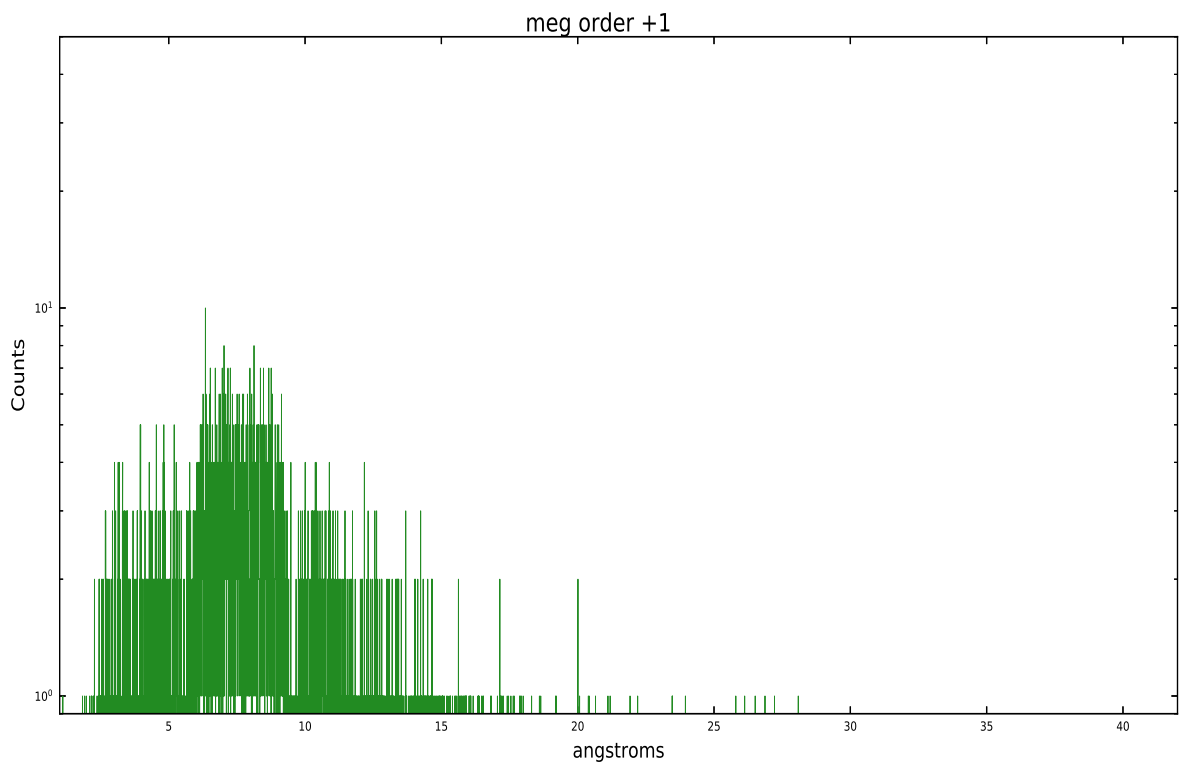
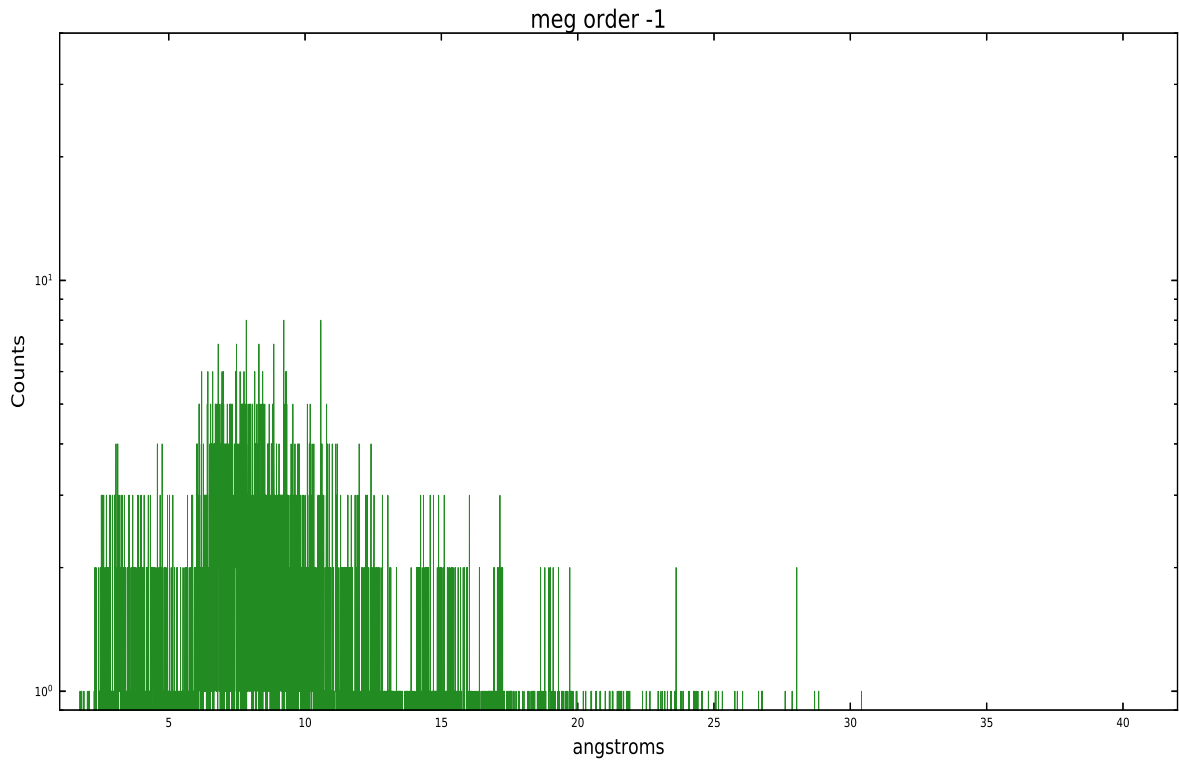


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3000	1490	4782	6408	3733	330	498





A Summary

A.1 Status

V&V Scientist	David Principe
V&V Date (YYYY-MM-DD)	2020.10.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	36.4223998

A.2 Comments

Spectral extraction is of M81*. Warning: bright off-axis source on MEG minus orders, near 17.5A MEG -1st order. Its MEG spectrum overlaps MEG of M81*, but is wider and mostly rejected by order-sorting, except near 8A on MEG -1 where it will make a broad feature. ===== This bright X-ray source, Holmberg IX X-1, falls on the MEG -1 spectral arm. The dispersed MEG spectrum from Holmberg IX X-1 overlays the MEG spectrum of the target. Because this bright source is off axis, it is spatially large compared to the spectrum of the target, and its dispersed spectrum is also extended in the spatial direction. There is evidence that the MEG dispersed spectrum from this bright X-ray source contaminates the zeroth order of the target as well as the dispersed spectrum, although more detailed analysis would be needed to verify this.