

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5432 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Oct 10 2020

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1 Front

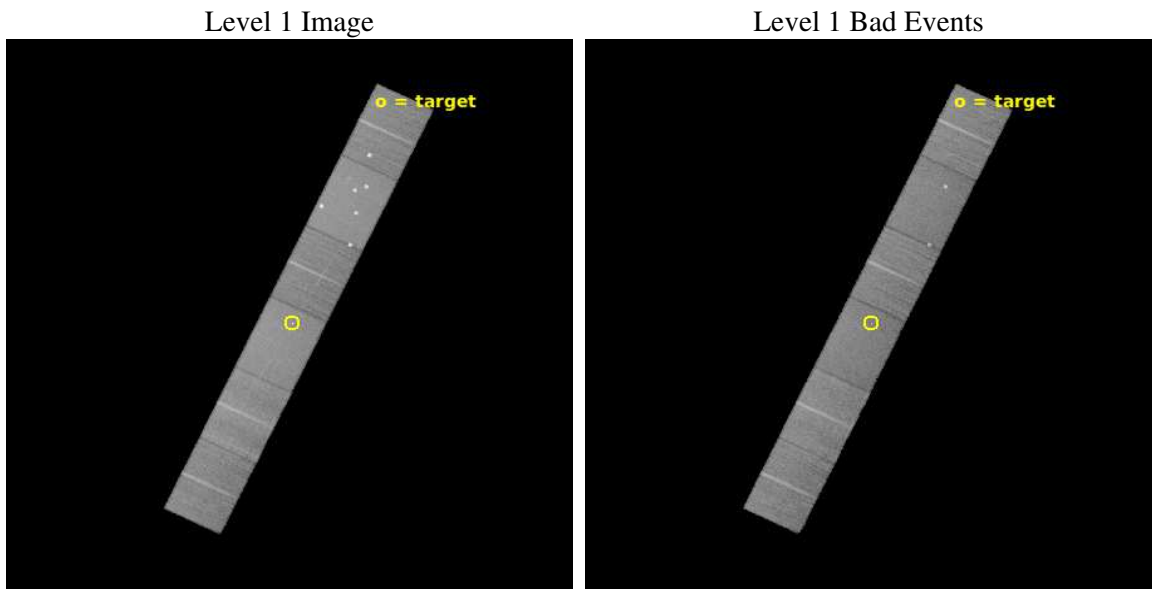
seq_num	300148	Sequence number
obs_id	5432	Observation id
title	Chandra HETG Spectroscopy of the VY Sculptoris Star TT Ari	Proposa
observer	Christopher Mauche	Principal investigator
object	TT Ari	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	31.72125	Observer's specified target RA [deg]
dec_targ	15.295278	Observer's specified target Dec [deg]
ra_nom	31.72732198373	Nominal RA [deg]
dec_nom	15.294127775838	Nominal Dec [deg]
roll_nom	115.65853714907	Nominal Roll [deg]
revision	5	Processing version of data
ontime	24212.335979313	Sum of GTIs [s]
livetime	23821.285752401	Livetime [s]
ontime4	24214.876999438	Sum of GTIs [s]
ontime5	24217.417979687	Sum of GTIs [s]
ontime6	24214.87697953	Sum of GTIs [s]
ontime7	24212.335979313	Sum of GTIs [s]
ontime8	24212.335989237	Sum of GTIs [s]
ontime9	24219.958999783	Sum of GTIs [s]
l2events	230242	Number of level 2 events



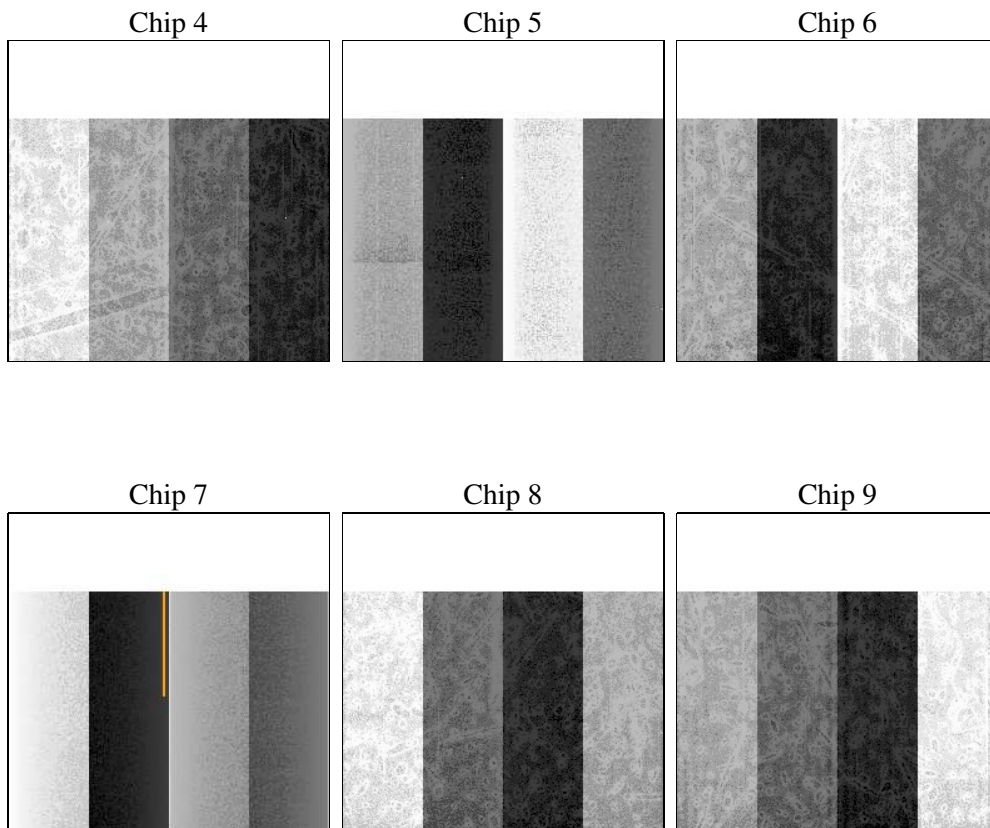
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	24100.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	24212.335979313	Sum of GTIs [s]
caldsver	4.9.2	 	ontime4	24214.876999438	Sum of GTIs [s]
date	2020-10-11T01:38:25	Date and time of file creation	ontime5	24217.417979687	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	24214.87697953	Sum of GTIs [s]
			ontime7	24212.335979313	Sum of GTIs [s]
			ontime8	24212.335989237	Sum of GTIs [s]
			ontime9	24219.958999783	Sum of GTIs [s]
			l1events	1070089	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			ra_pos	(4130.06, 4102.50)	src1a sky pixel position

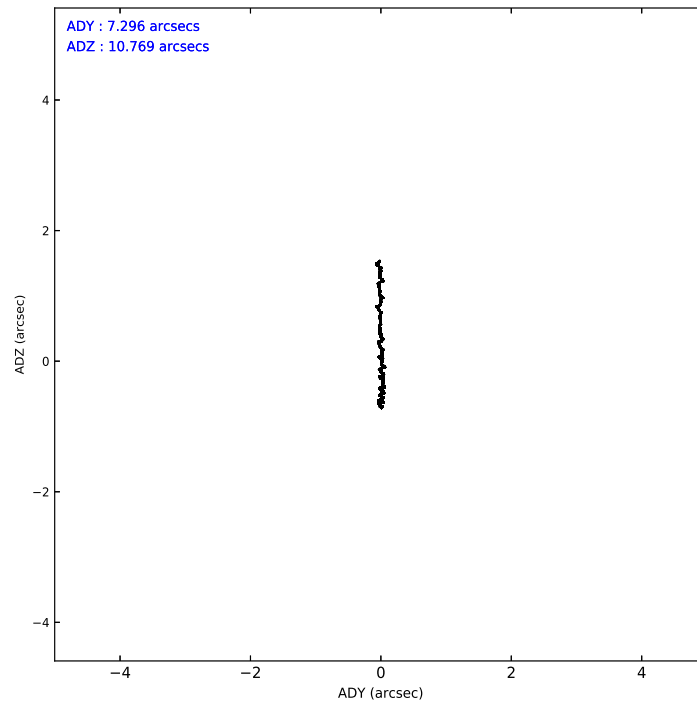
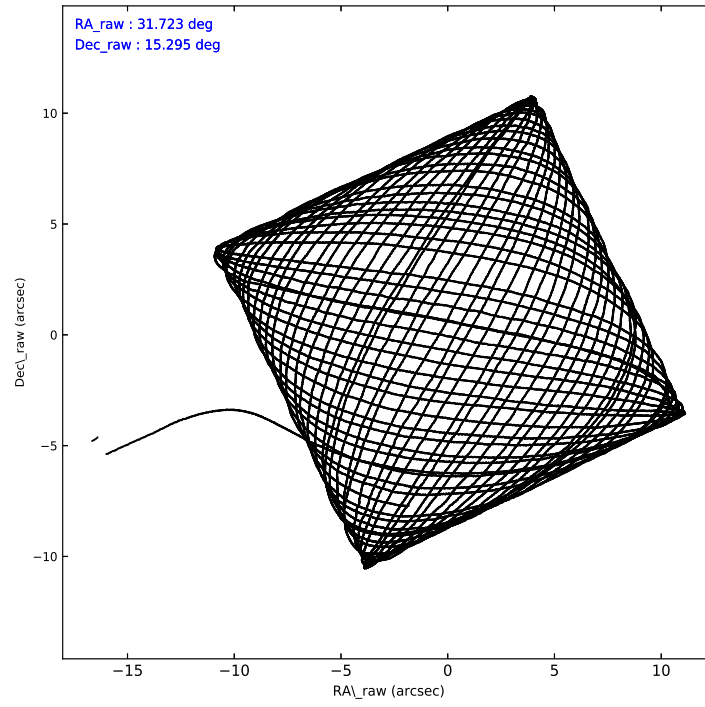
2.1.4 Events

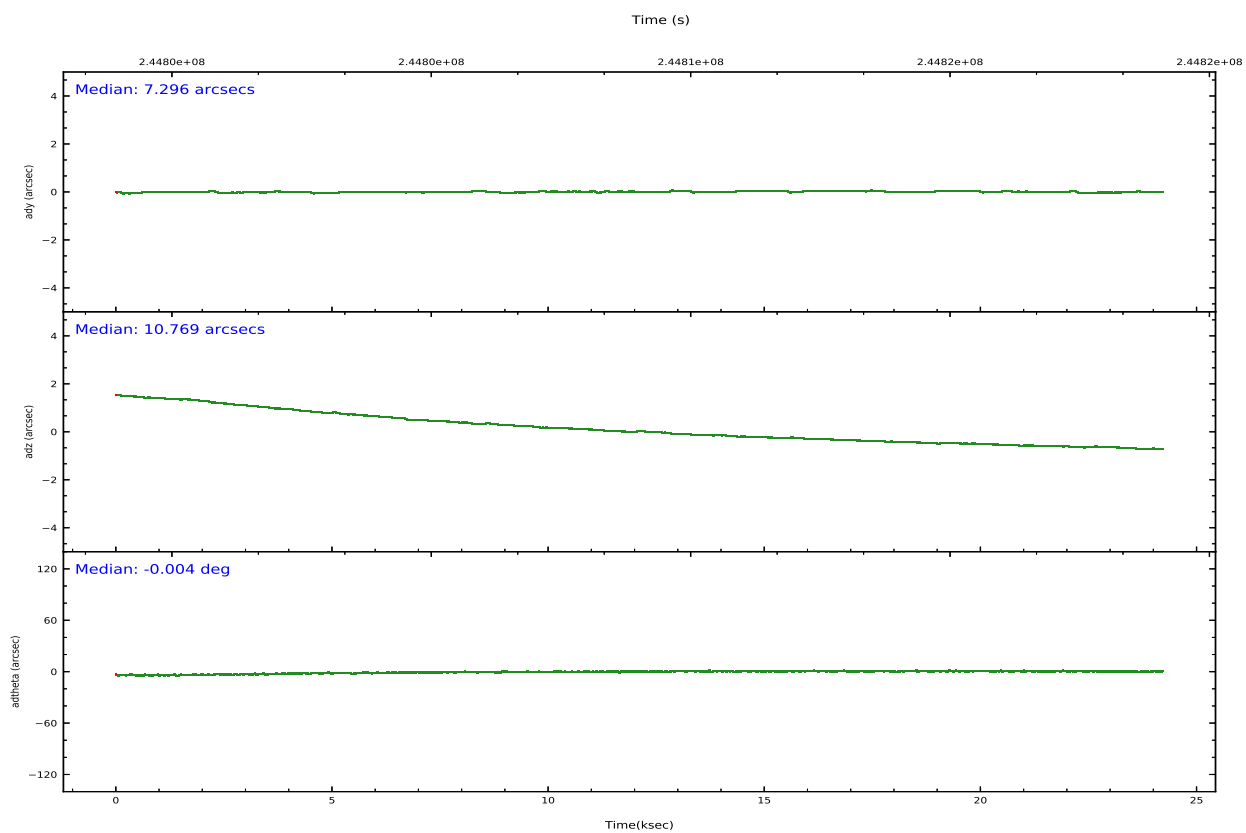
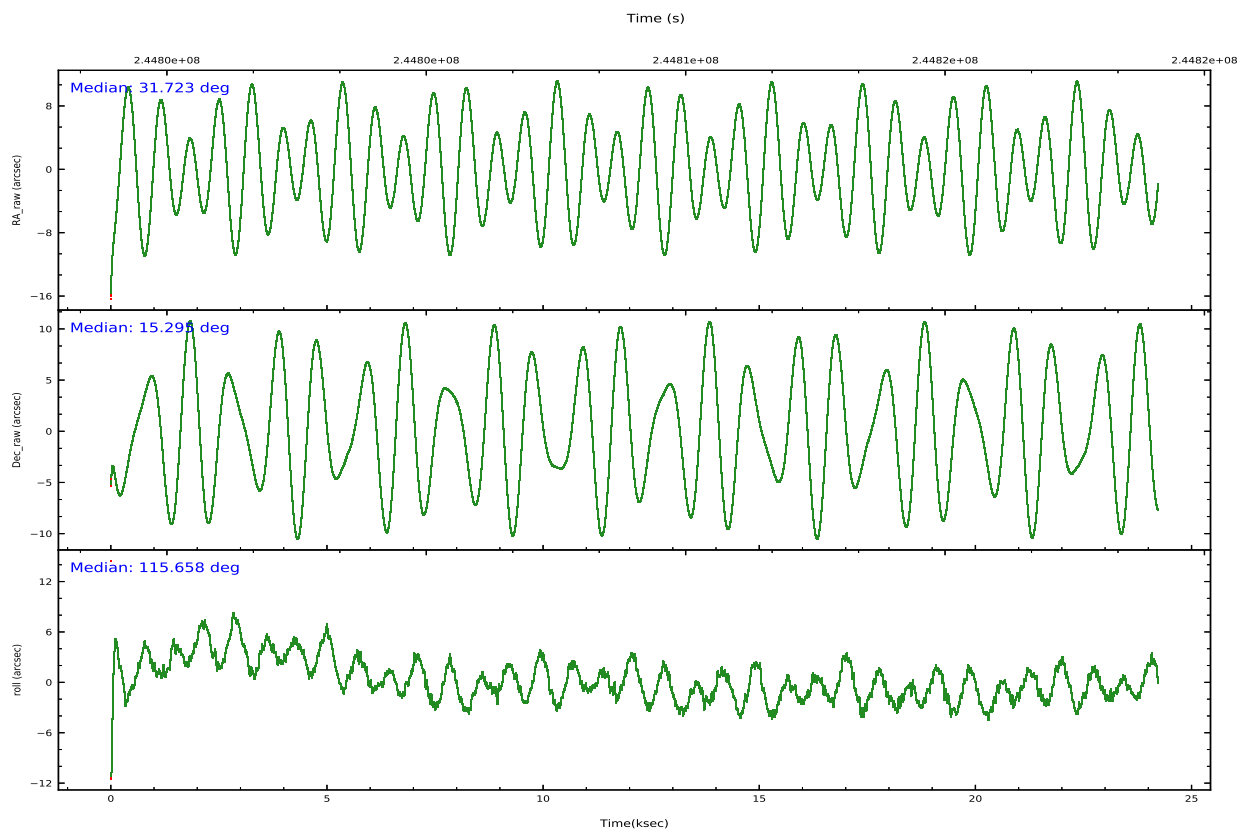
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	164889	239924	144180	197102	185894	138100	grade 0 events	16425	28266	7731	7793	12953	7203
rejected events	138425	121060	126043	115010	145372	120978		9%	11%	5%	3%	6%	5%
rejected %	83%	50%	87%	58%	78%	87%	grade 1 events	142	755	49	200	103	83
								0%	0%	0%	0%	0%	0%
							grade 2 events	3879	30492	3734	17099	9031	3455
								2%	12%	2%	8%	4%	2%
							grade 3 events	1962	6199	1837	7721	4498	1813
								1%	2%	1%	3%	2%	1%
							grade 4 events	1817	5270	1786	7645	4133	1764
								1%	2%	1%	3%	2%	1%
							grade 5 events	6089	19091	6521	18732	8516	6901
								3%	7%	4%	9%	4%	4%
							grade 6 events	2915	51035	3459	43764	10784	3309
								1%	21%	2%	22%	5%	2%
							grade 7 events	131660	98816	119063	94148	135876	113572
								79%	41%	82%	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	31.746992	31.72732198373	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	15.279613	15.294127775838	Subarray start row	1	1
[deg] Pointing Roll	115.493208	115.65853714907	Subarray row count	774	774
[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	2.5
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	244796830.184000	244795539.31204			
Observation start date	2005-10-04T07:06:06	2005-10-04T06:45:39			
[s] Observation end time (MET)	244820930.184000	244821766.50074			
Observation end date	2005-10-04T13:47:46	2005-10-04T14:02:46			
Read mode	TIMED	TIMED			

2.3 Aspect



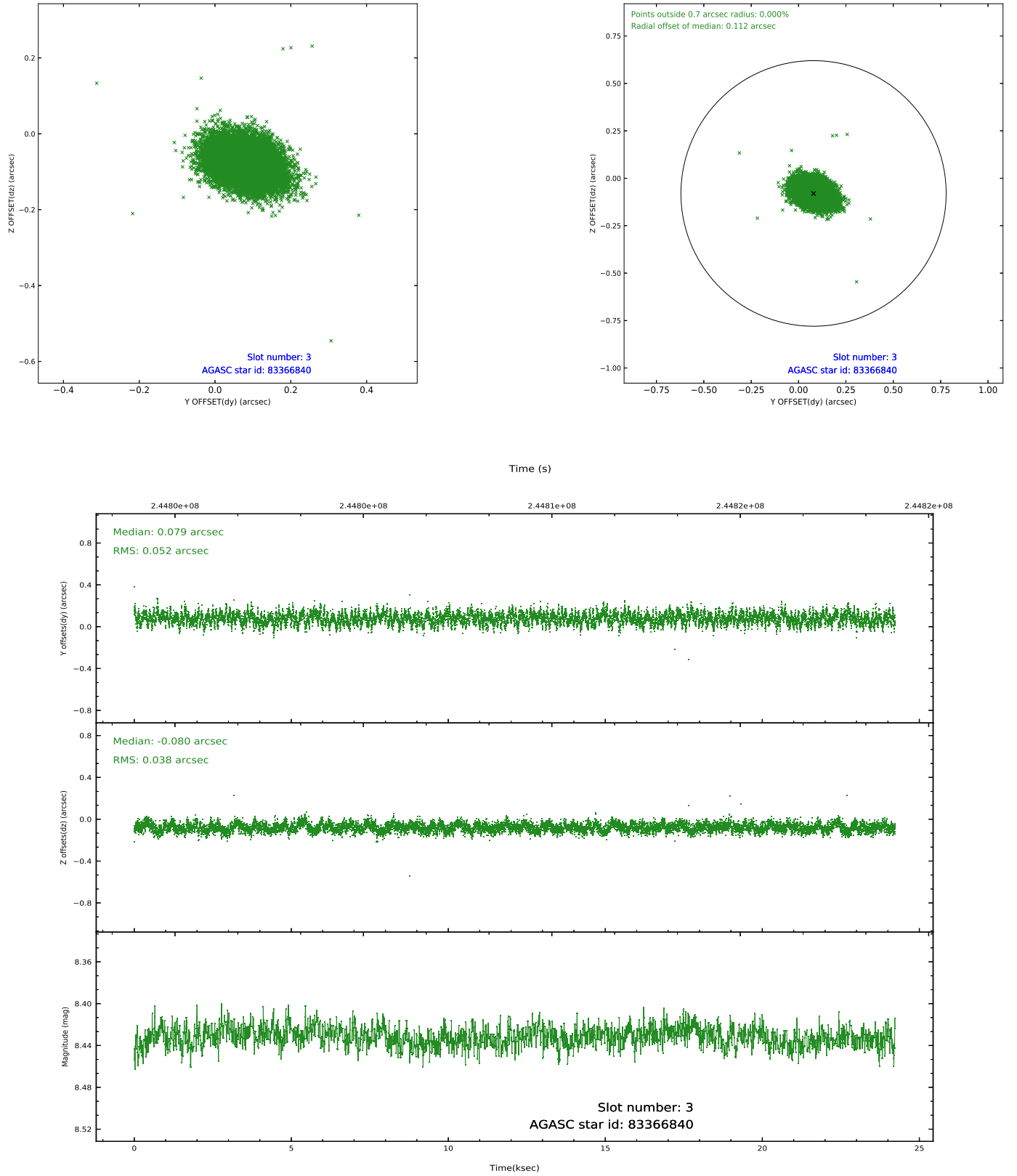


Slot Statistics

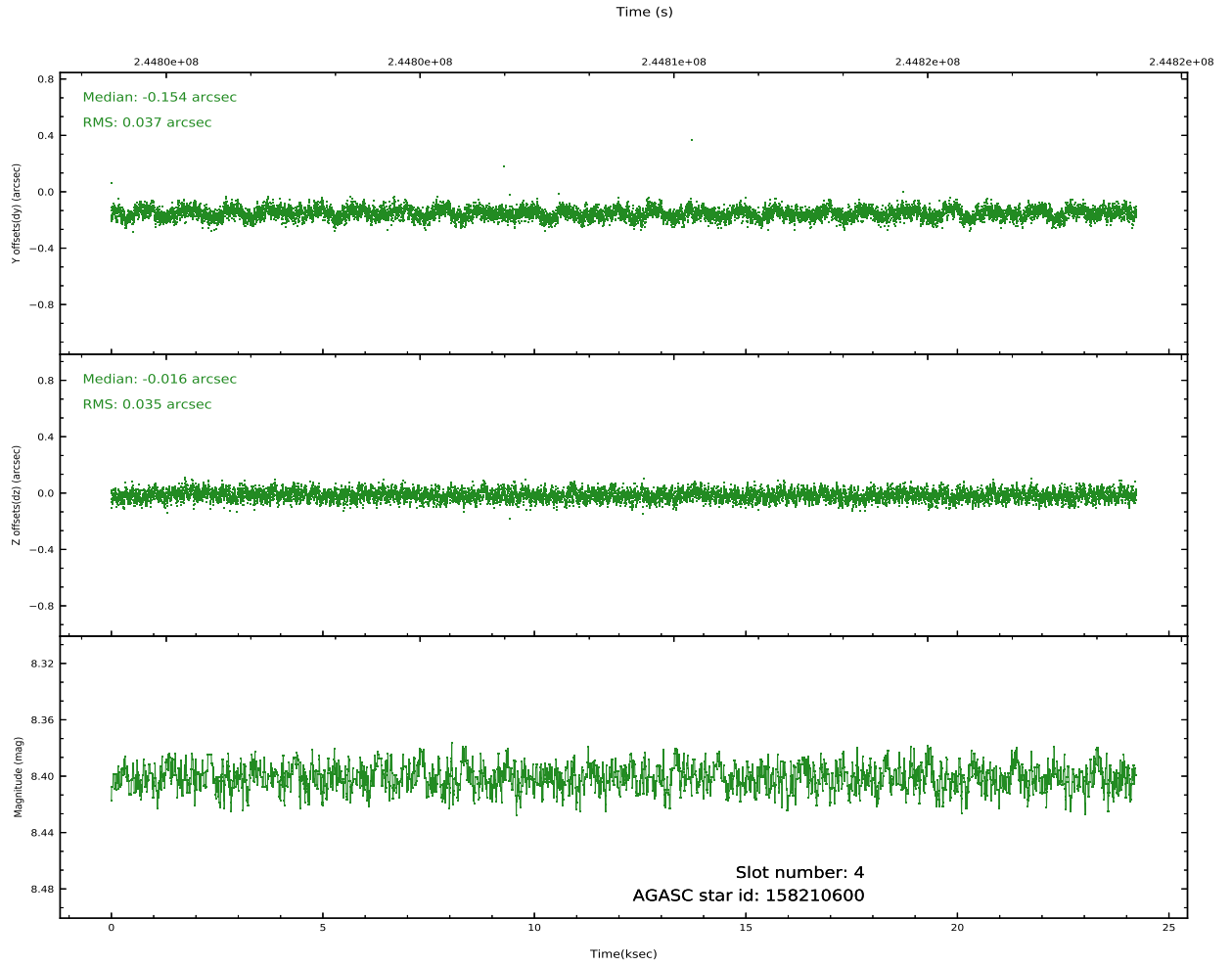
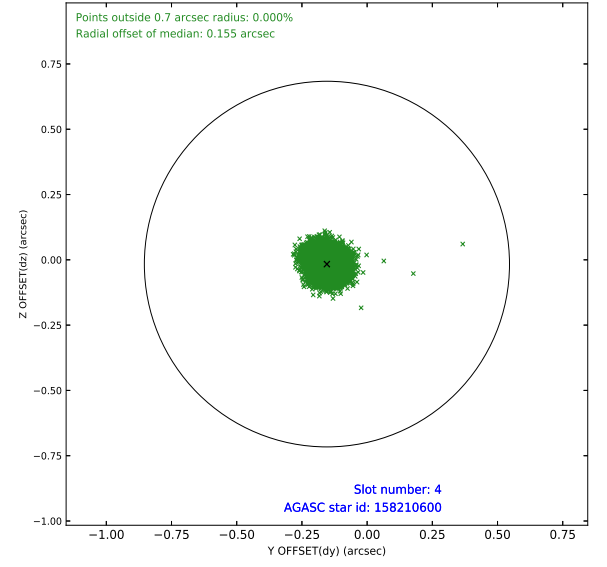
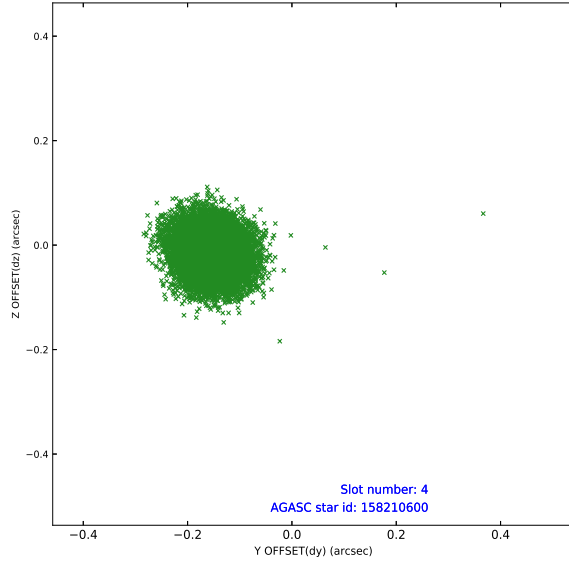
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	5908	1.000	-0.083	-0.132	0.012	0.024	0.000000	0.000000	-759.92	-1794
1	FID		ACIS-S-4	7.19	5907	1.000	0.166	0.076	0.010	0.022	0.000000	0.000000	2153.54	114
2	FID		ACIS-S-5	7.23	5908	1.000	-0.114	0.065	0.009	0.019	0.000000	0.000000	-1812.64	107
3	GUIDE	used	83366840	8.43	11813	1.000	0.079	-0.080	0.068	0.110	31.673303	14.583774	-2150.48	1309
4	GUIDE	used	158210600	8.40	11814	1.000	-0.154	-0.016	0.055	0.087	31.131603	15.630068	2059.57	1381
5	GUIDE	used	158211640	9.28	11811	1.000	0.071	-0.038	0.081	0.133	31.349537	15.537415	1432.47	844
6	GUIDE	used	158215416	9.23	11810	1.000	0.027	0.081	0.098	0.153	31.249092	15.295299	797.07	1535
7	GUIDE	used	159131712	7.91	11814	1.000	-0.023	0.054	0.063	0.101	32.565244	15.023039	-2053.27	-2172

2.4 Star Slots

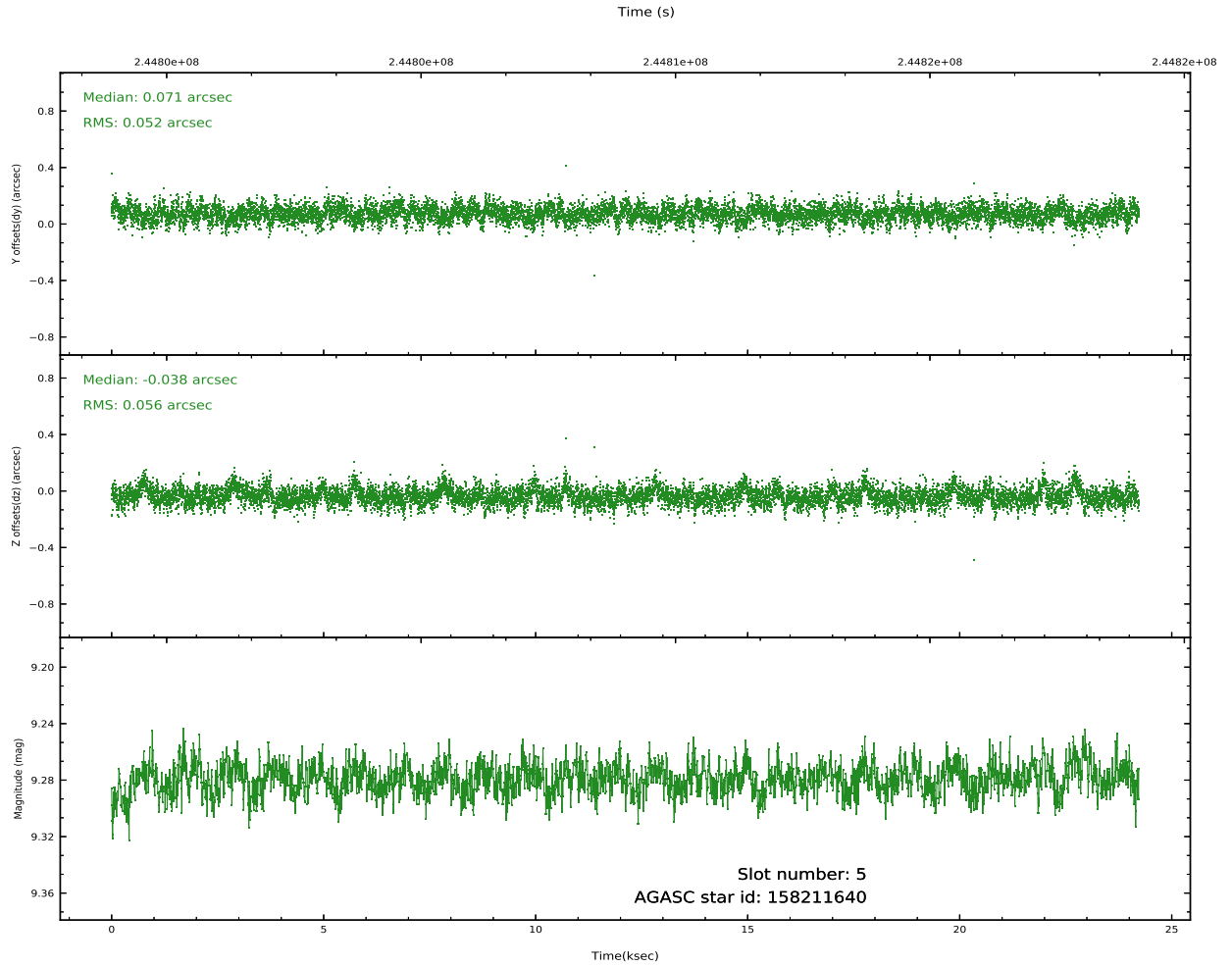
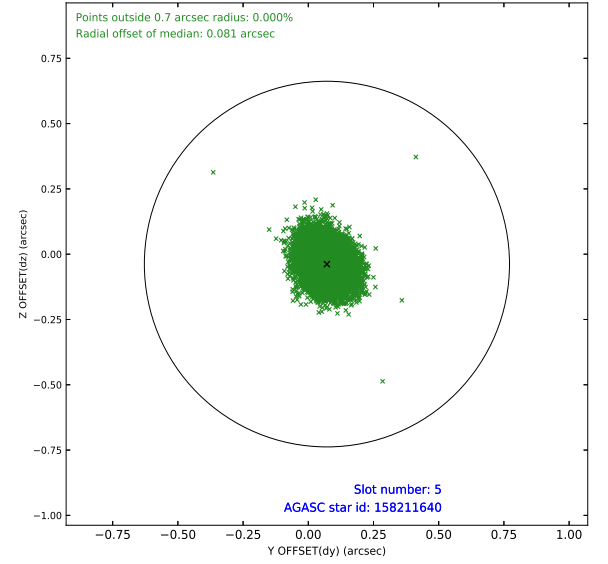
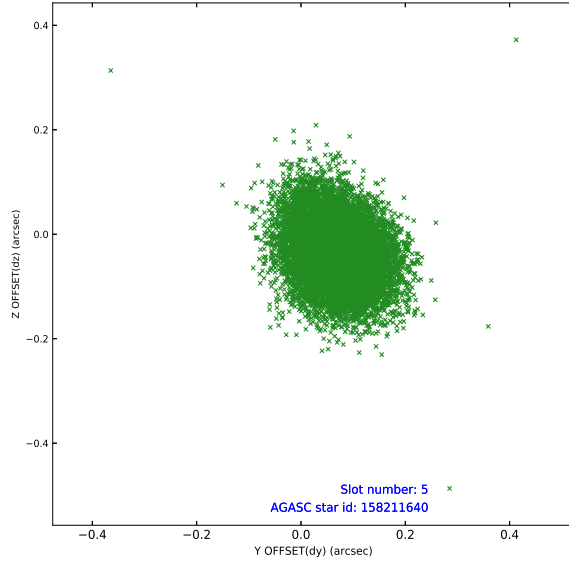
2.4.1 Slot 3



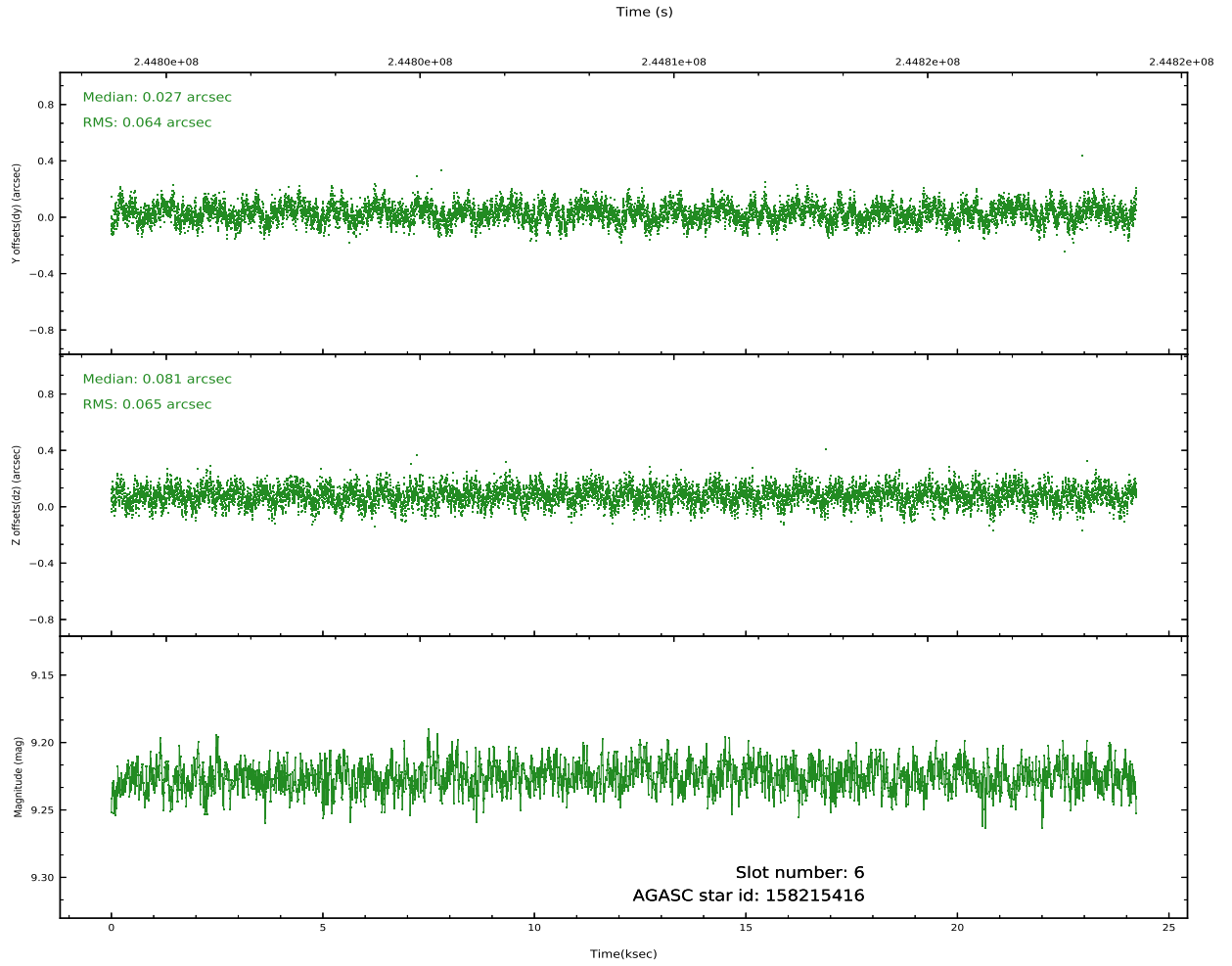
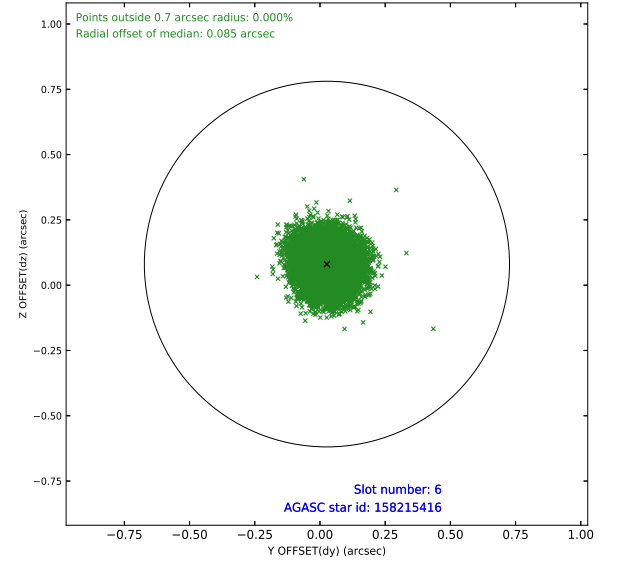
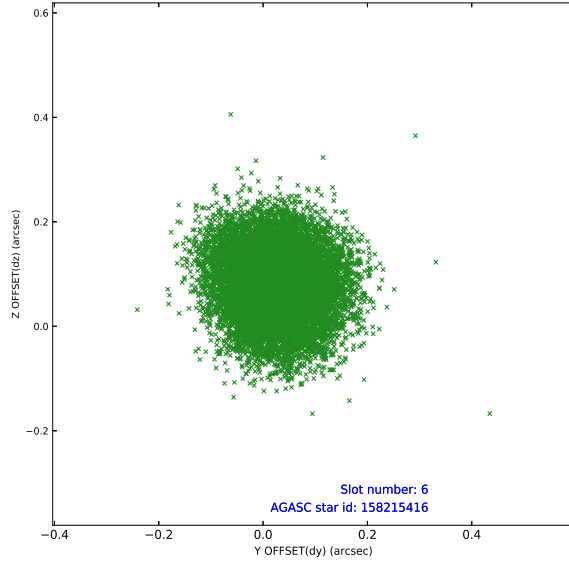
2.4.2 Slot 4



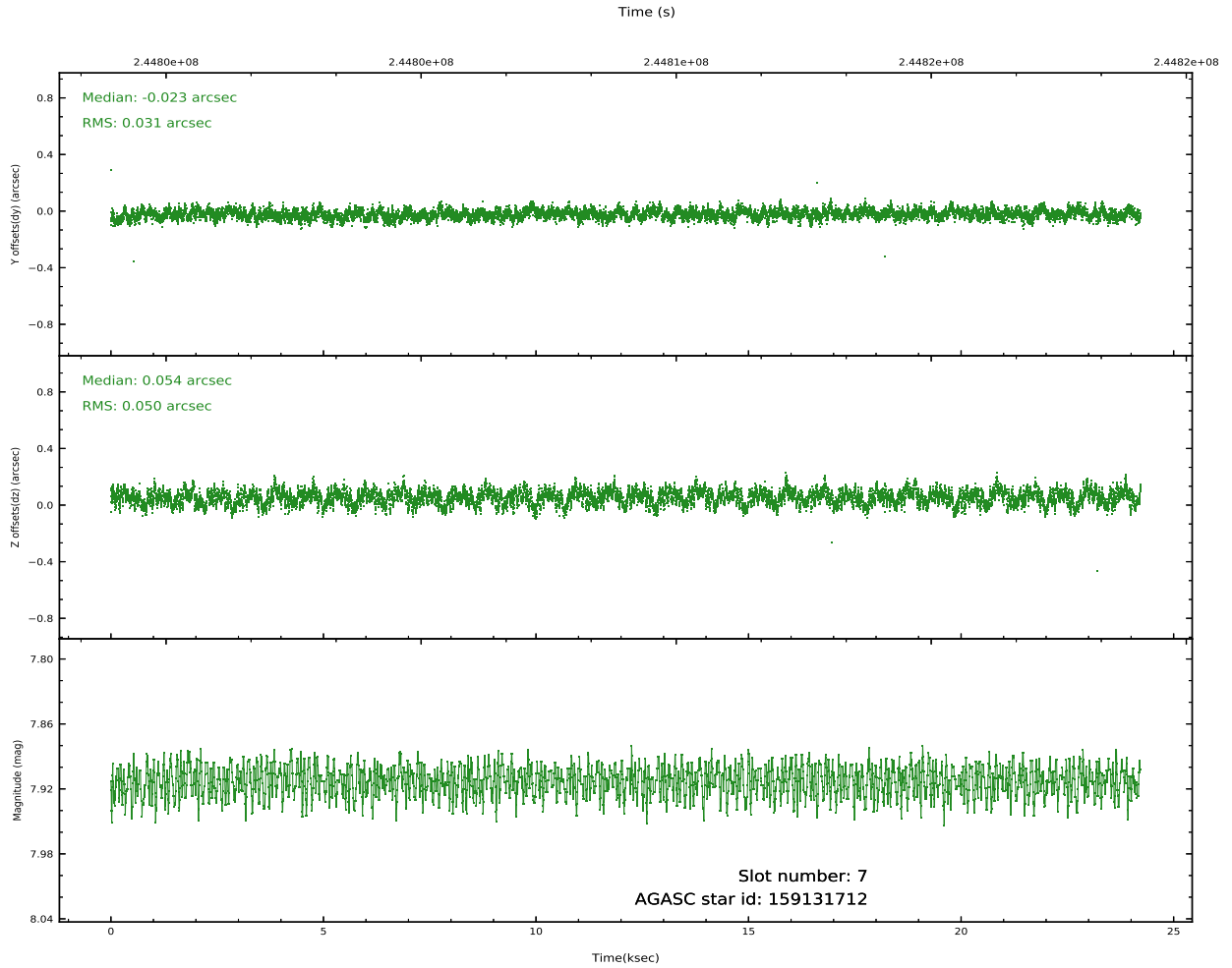
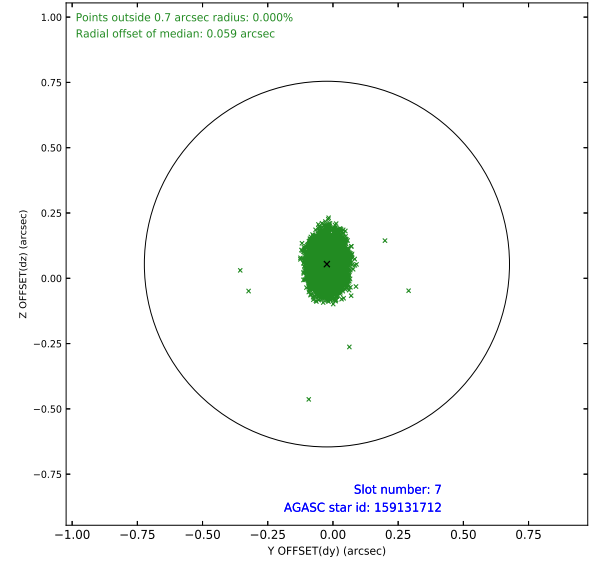
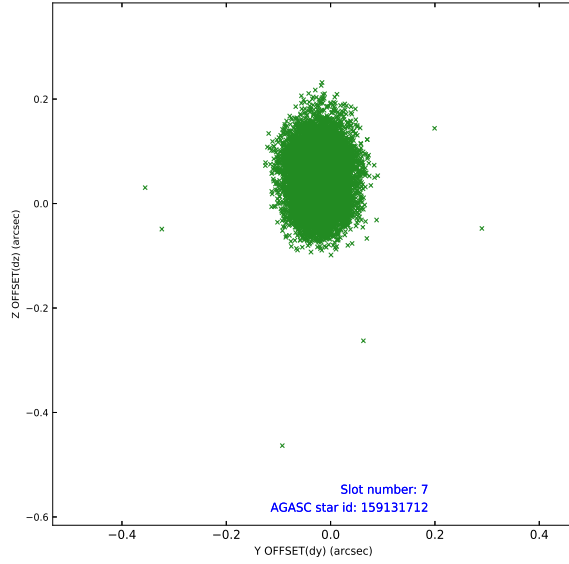
2.4.3 Slot 5



2.4.4 Slot 6

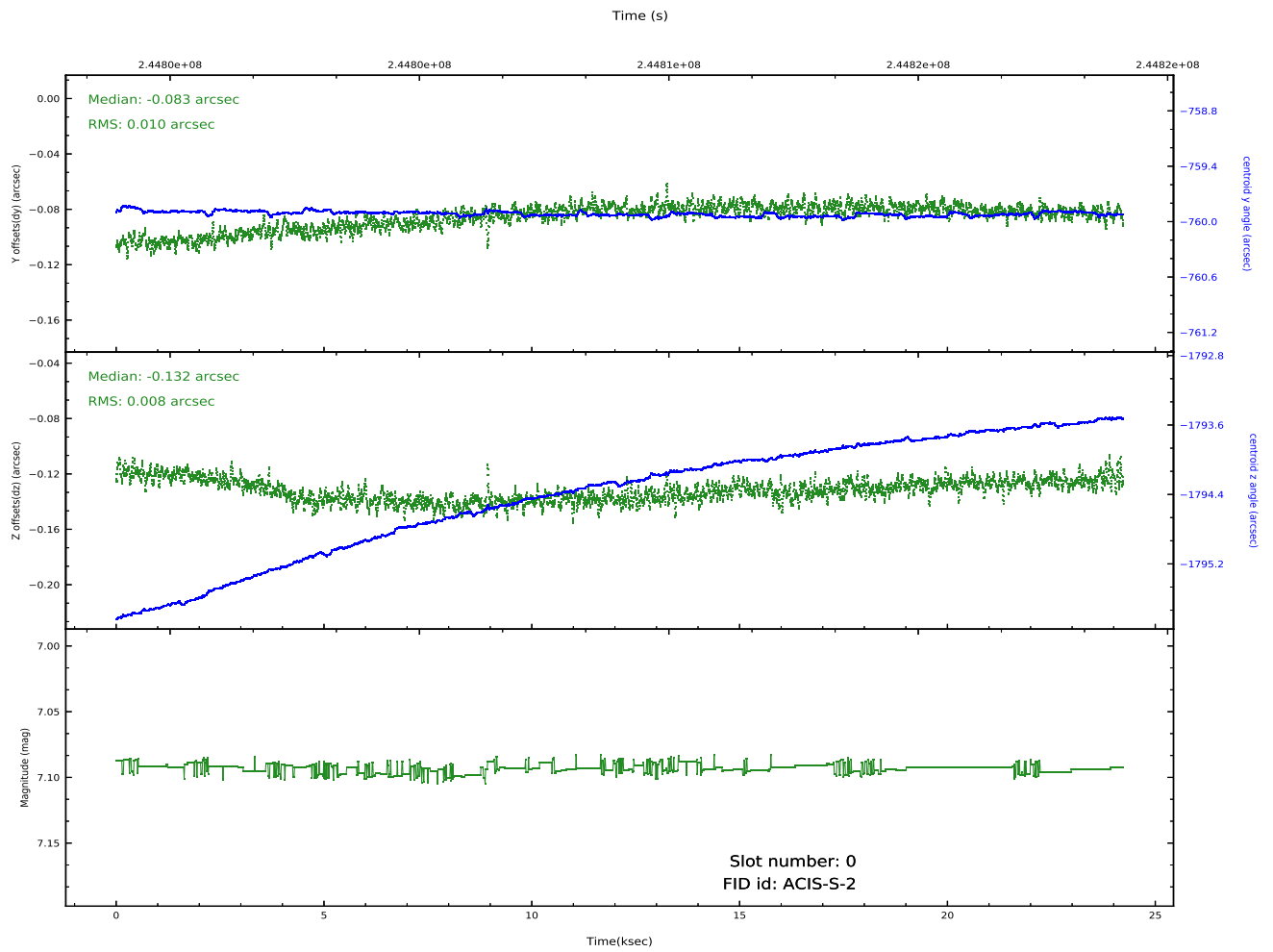
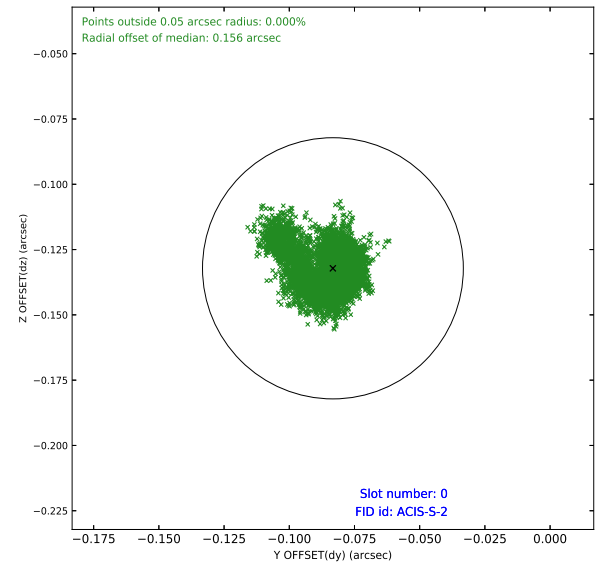
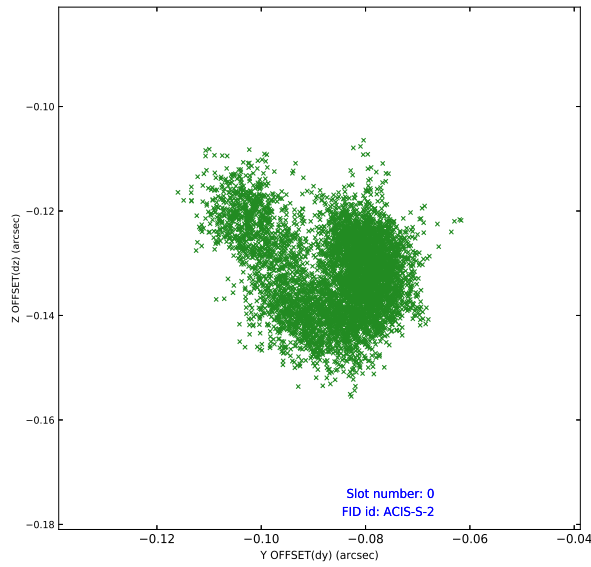


2.4.5 Slot 7

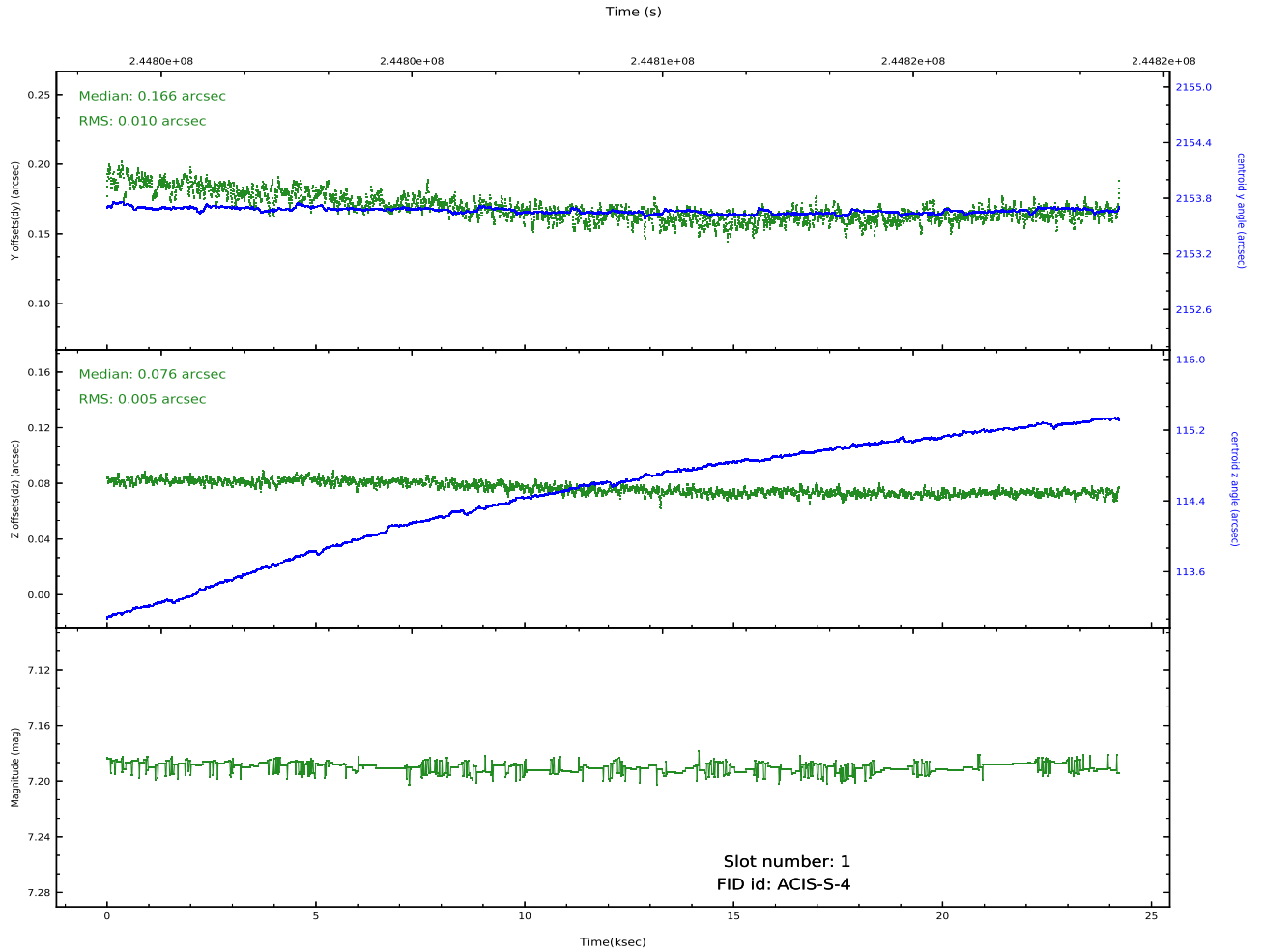
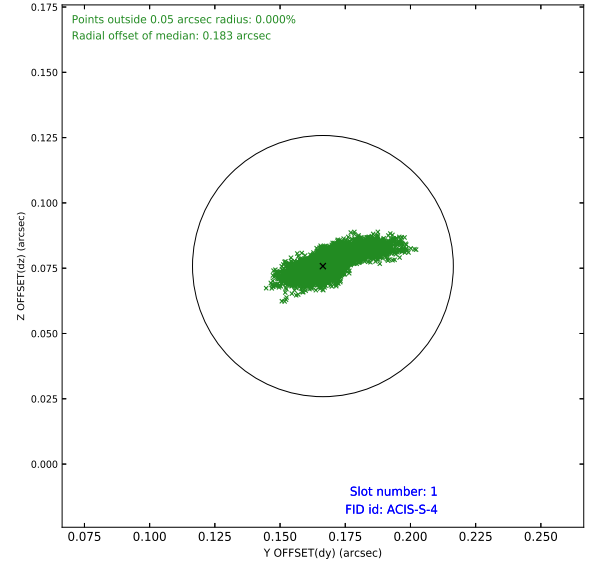
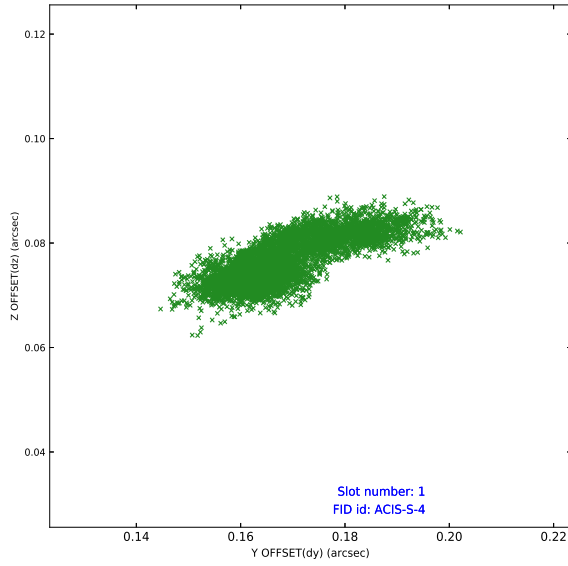


2.5 FID Slots

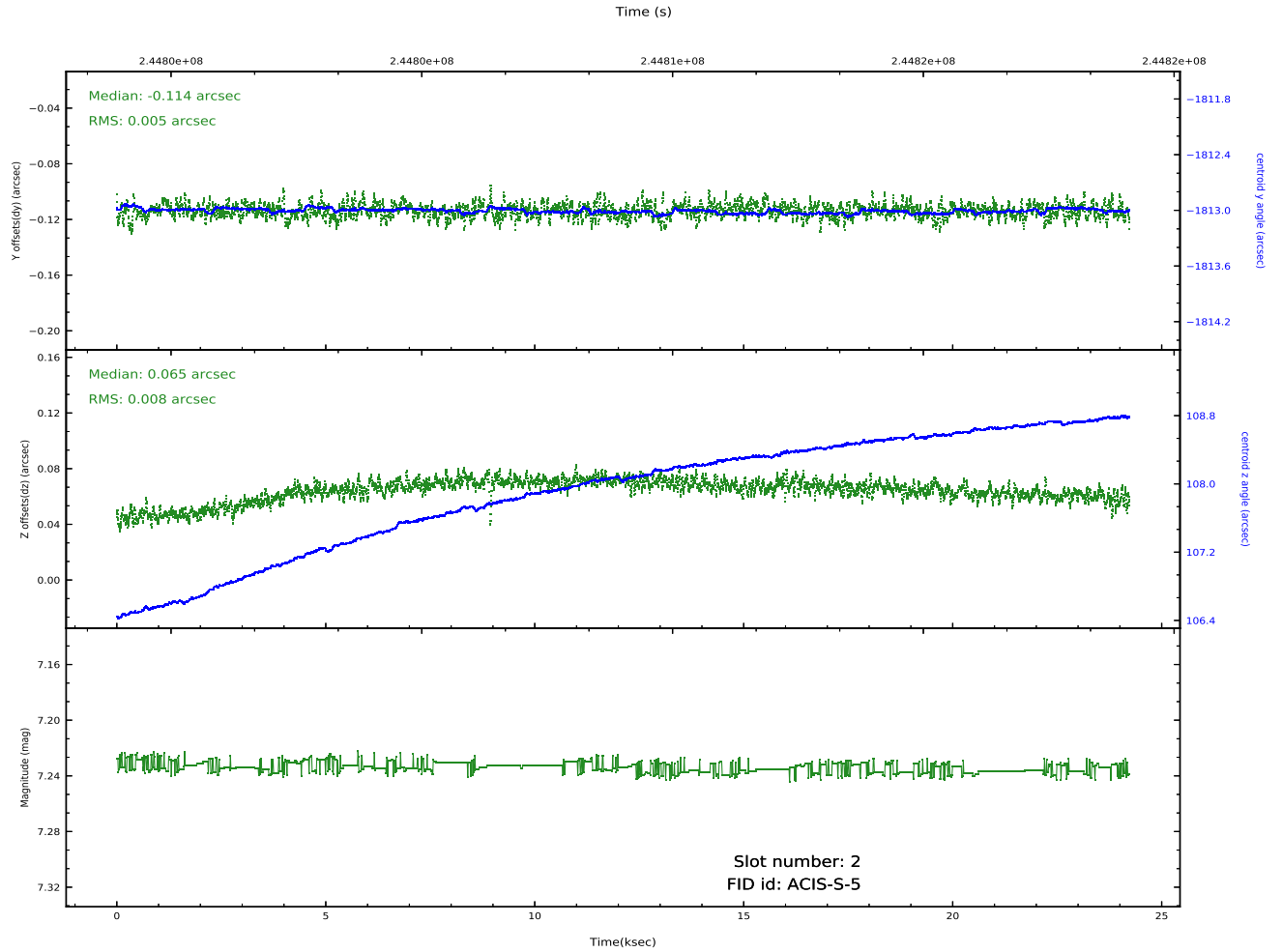
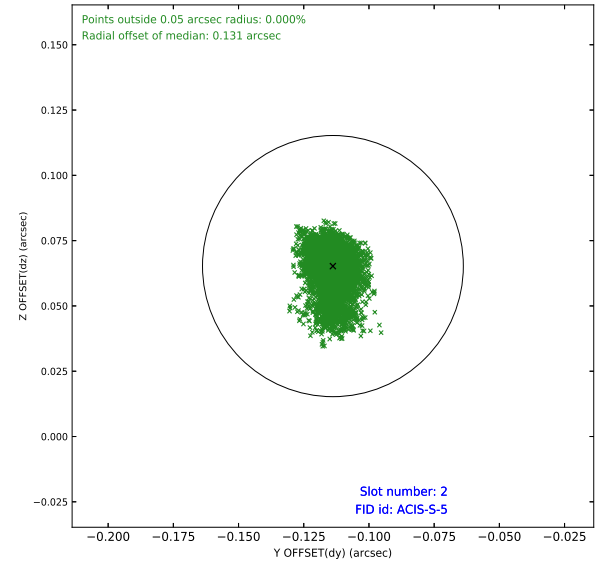
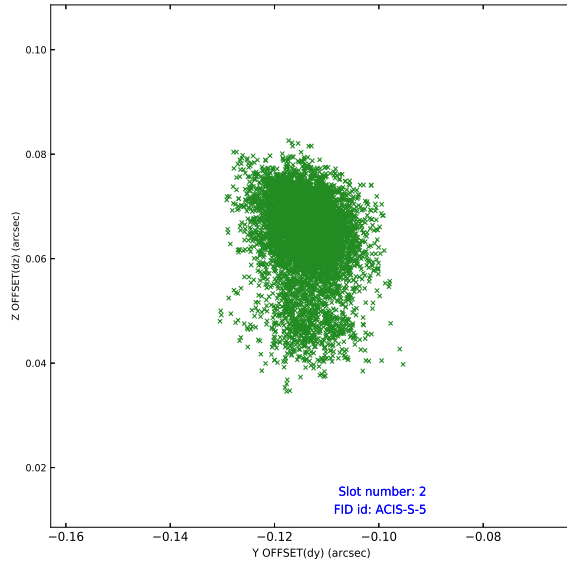
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

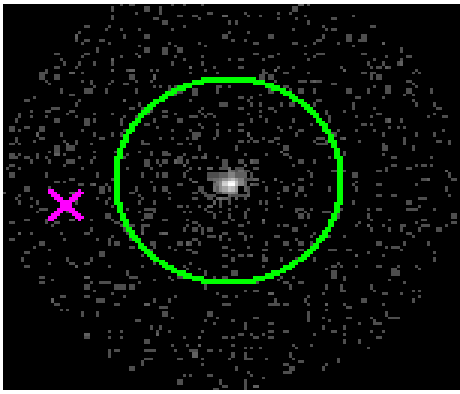


3 Gratings

3.1 HEG Arm



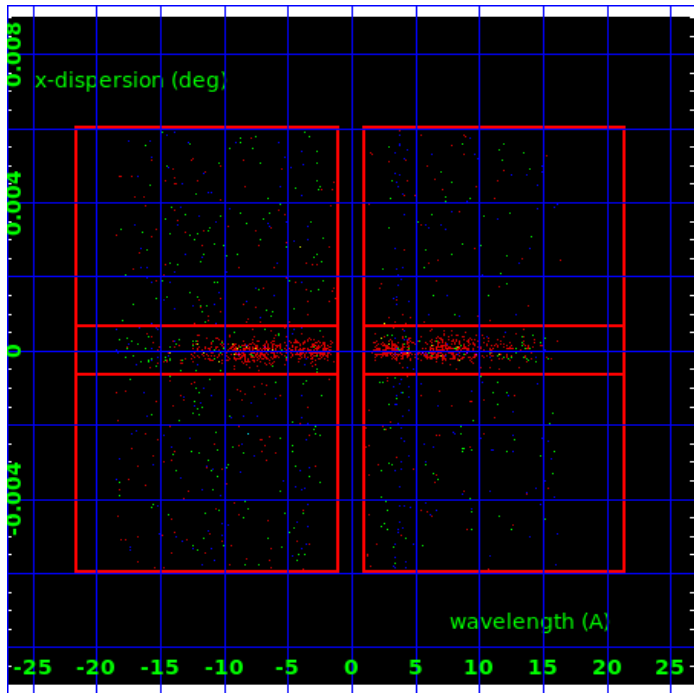
HEG Order Sort 123



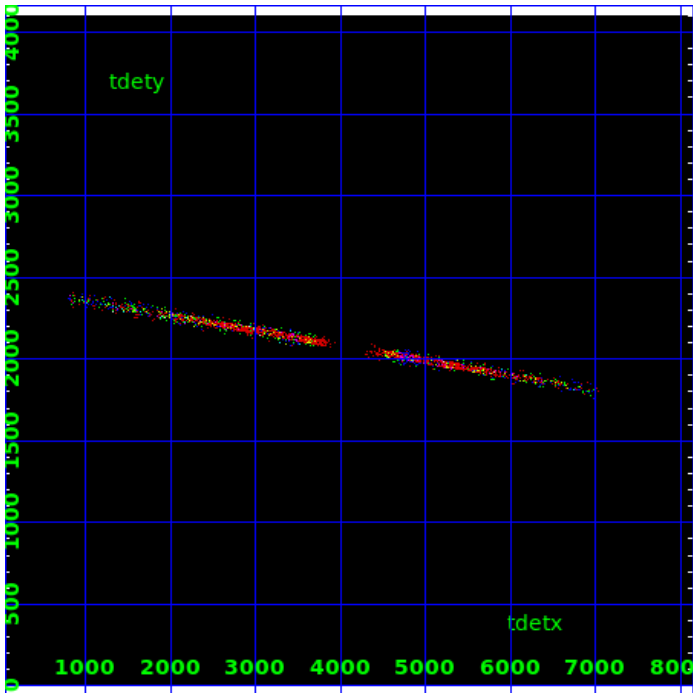
HEG Zero Order



HEG Order Sort ALL

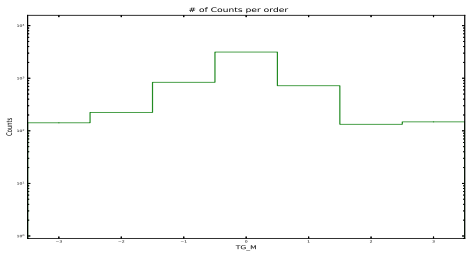


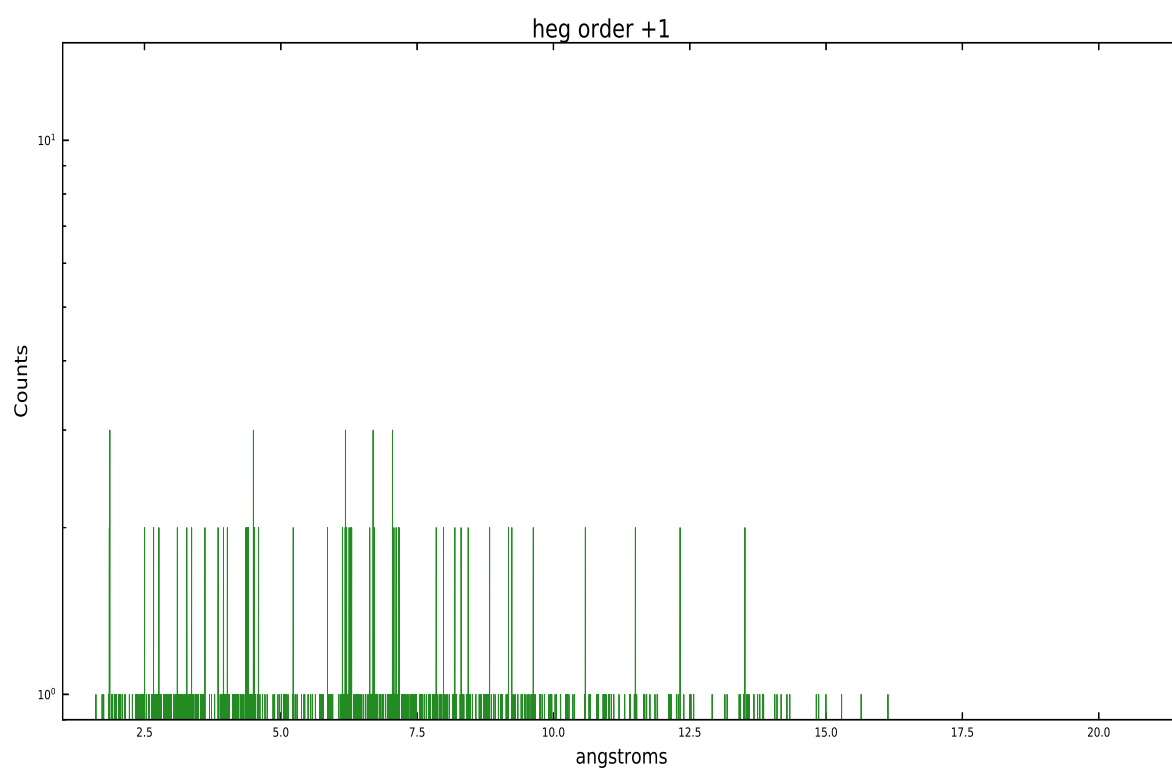
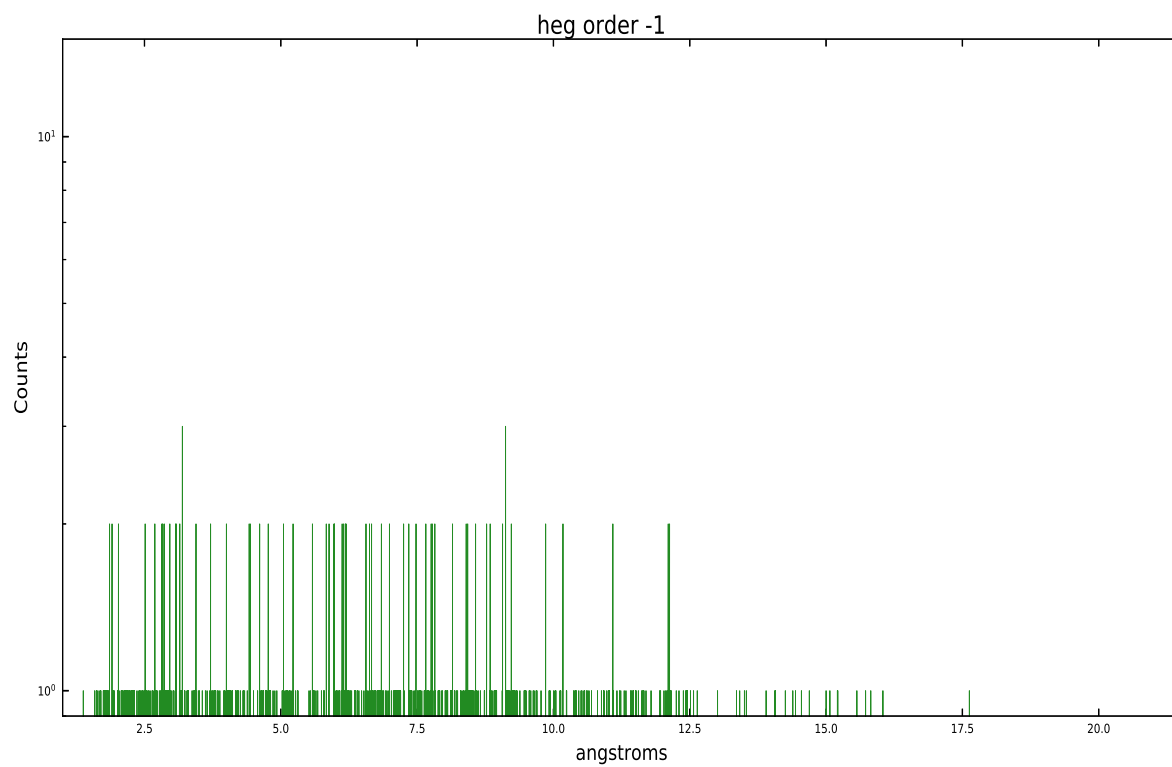
Spot Image HEG



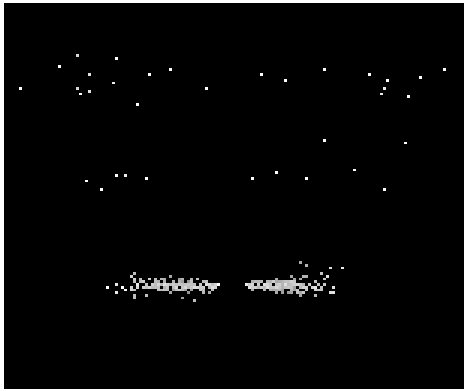
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	142	224	837	3146	720	133	148

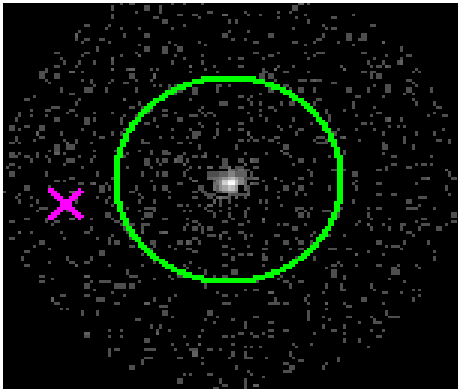




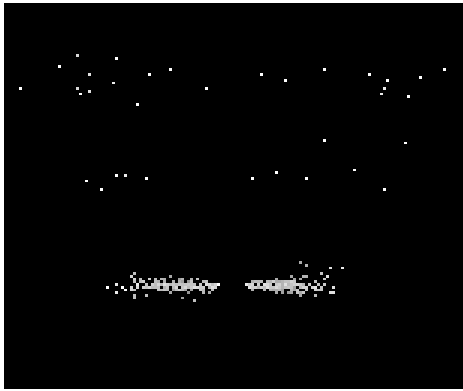
3.2 MEG Arm



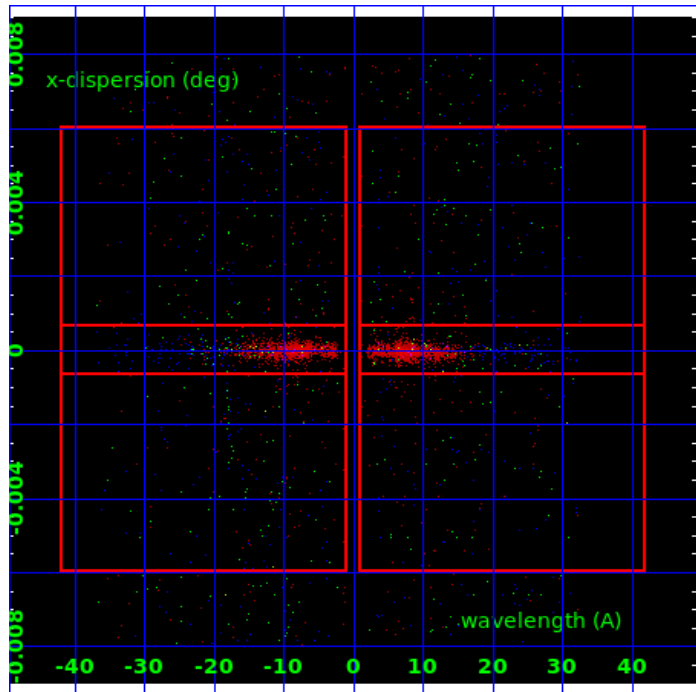
MEG Order Sort 123



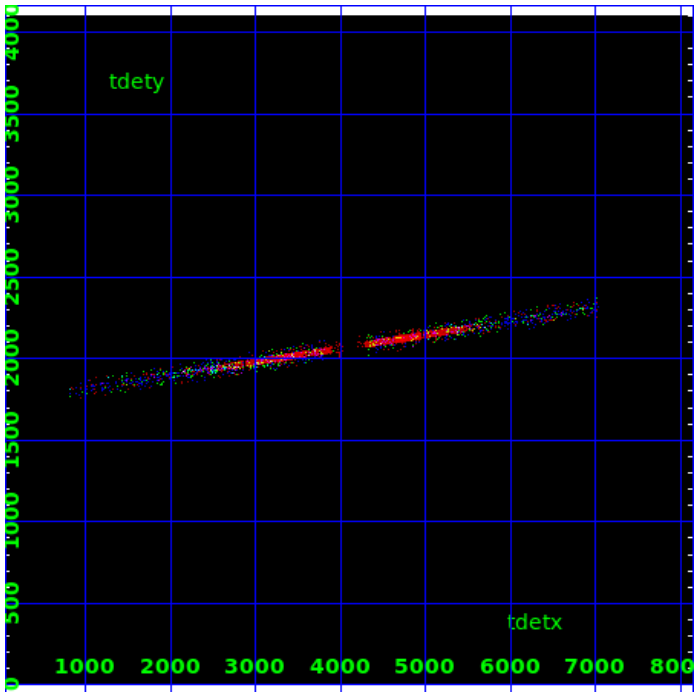
MEG Zero Order



MEG Order Sort ALL

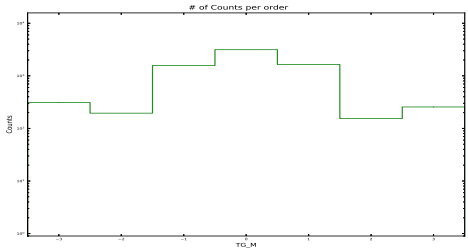


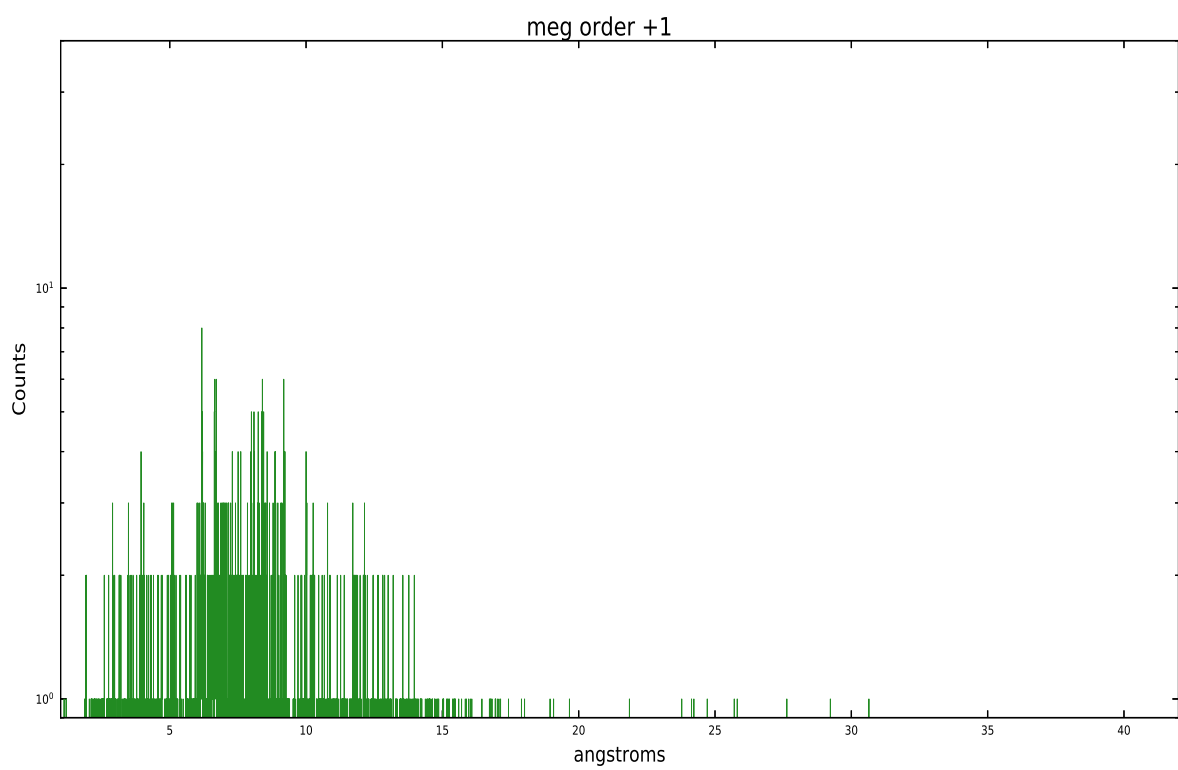
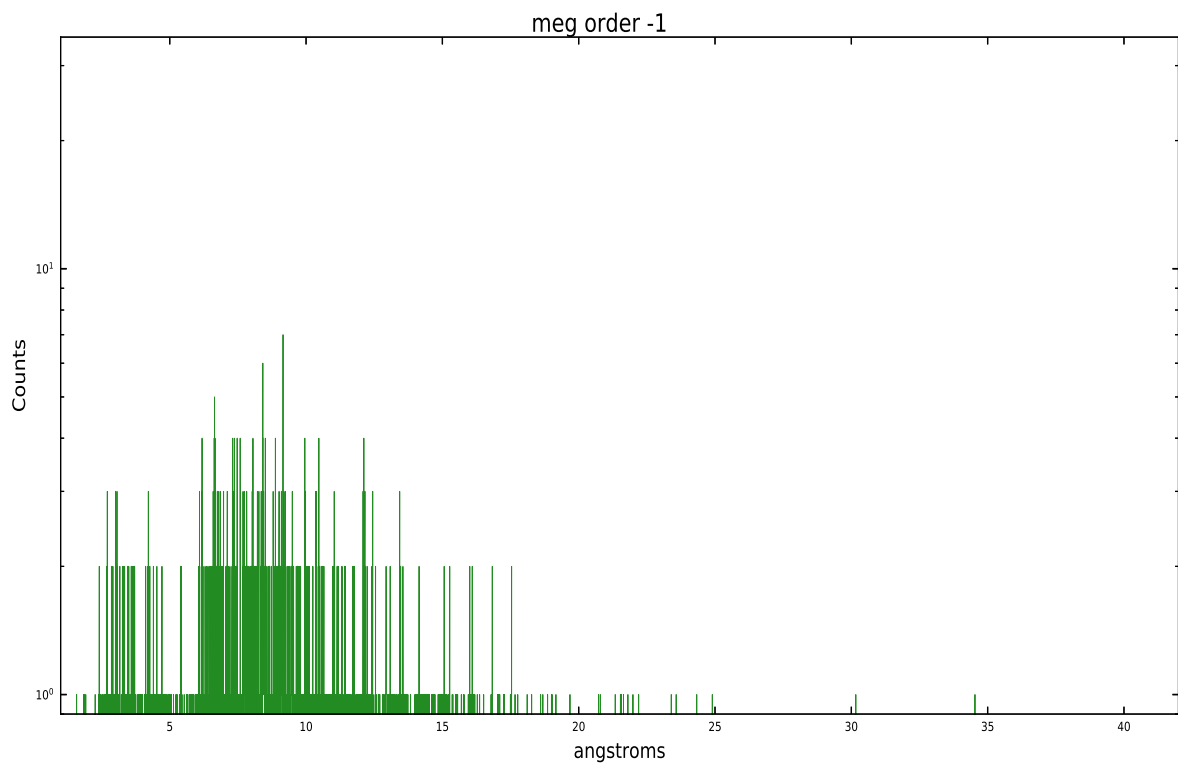
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	311	195	1574	3146	1641	154	256





A Summary

A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.10.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.21233

A.2 Comments

As a consequence of the DEA-A shutdown anomaly on Sep 15th (DOY258), the reported value of the ACIS FP temperature was ~1.3 degrees warmer than the actual temperature. The value for FP temperature reported in the headers of the Level 2 event file and the Mission Timeline files ARE INCORRECT by this amount for this processing. However, the temperature is corrected in the processing in order to obtain the correct temperature for the CTI correction. So the calibrated data are correct.