

V&V Reference Report

L2 ASCDS Version : 10.5.1.1

Observation 19791 - L2 Version 2
Chandra X-Ray Center

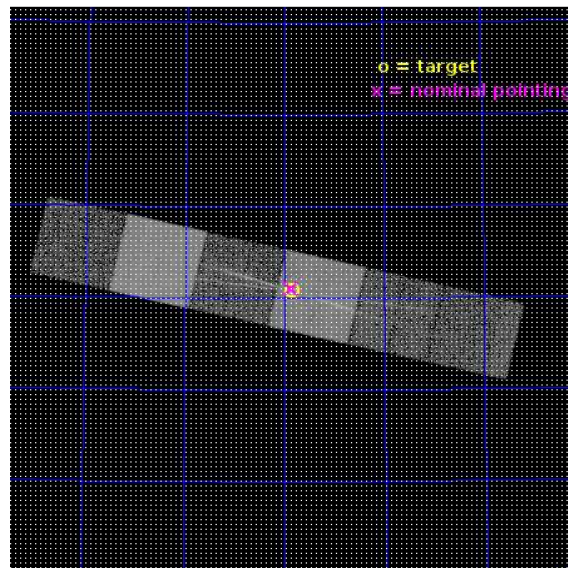
L2 Processing Date : Sep 12 2016

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1 Front

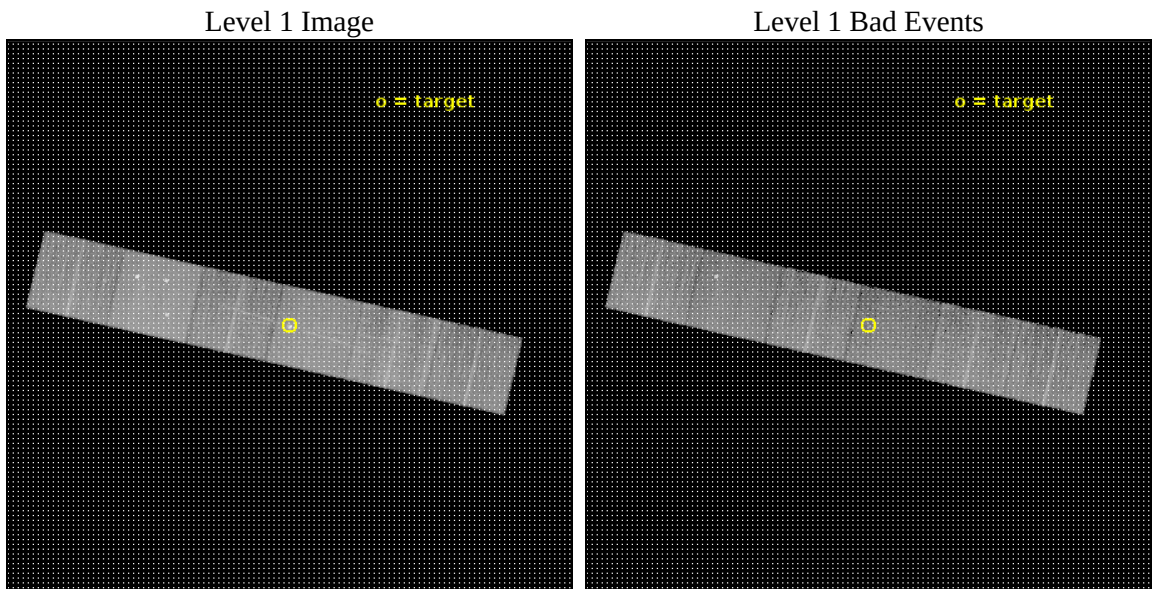
seq_num	401792	Sequence number
obs_id	19791	Observation id
title	Broadband X-ray Observations of a High-State from the HLX M82 X-1	
observer	Dominic Walton	Principal investigator
object	M82 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	148.959167	Observer's specified target RA [deg]
dec_targ	69.679722	Observer's specified target Dec [deg]
ra_nom	148.96512789726	Nominal RA [deg]
dec_nom	69.683852738717	Nominal Dec [deg]
roll_nom	13.151039606055	Nominal Roll [deg]
revision	2	Processing version of data
ontime	15312.000228167	Sum of GTIs [s]
livetime	15118.110461498	Livetime [s]
ontime4	15312.000228167	Sum of GTIs [s]
ontime5	15312.000228167	Sum of GTIs [s]
ontime6	15312.000228167	Sum of GTIs [s]
ontime7	15312.000228167	Sum of GTIs [s]
ontime8	15312.000228167	Sum of GTIs [s]
ontime9	15312.000228167	Sum of GTIs [s]
l2events	181758	Number of level 2 events



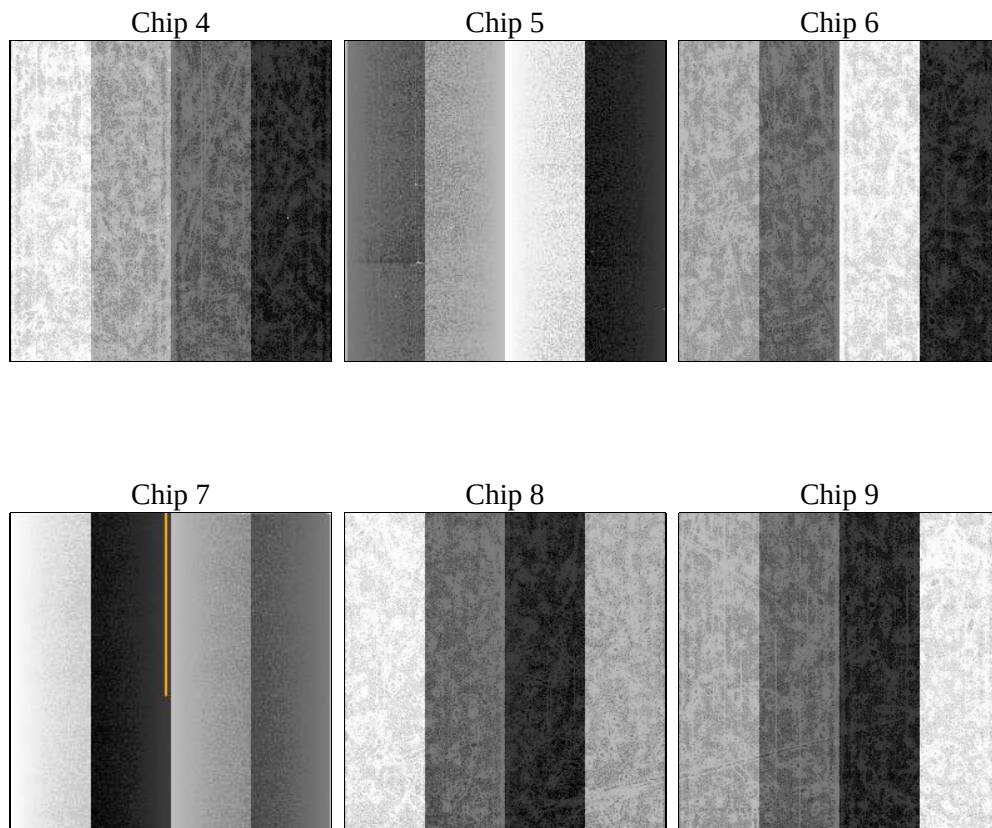
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15387.240000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	15312.000228167	Sum of GTIs [s]
caldsver	4.7.2	 	ontime4	15312.000228167	Sum of GTIs [s]
date	2016-09-11T06:32:56	Date and time of file creation	ontime5	15312.000228167	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	15312.000228167	Sum of GTIs [s]
			ontime7	15312.000228167	Sum of GTIs [s]
			ontime8	15312.000228167	Sum of GTIs [s]
			ontime9	15312.000228167	Sum of GTIs [s]
			l1events	746383	Number of level 1 events
			tgmethod	MANUAL	Method used to create src1a file
			src1a_pos	(4112.28, 4065.28)	src1a sky pixel position

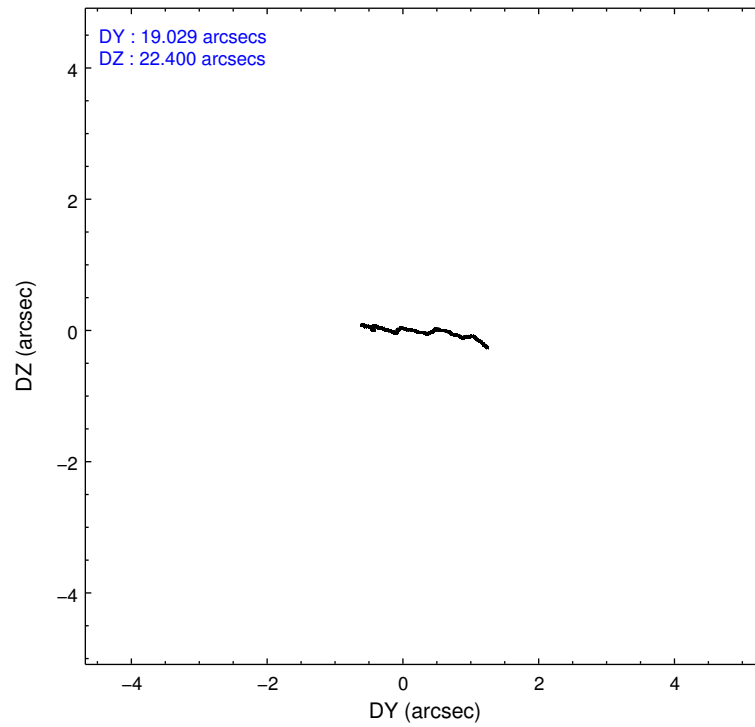
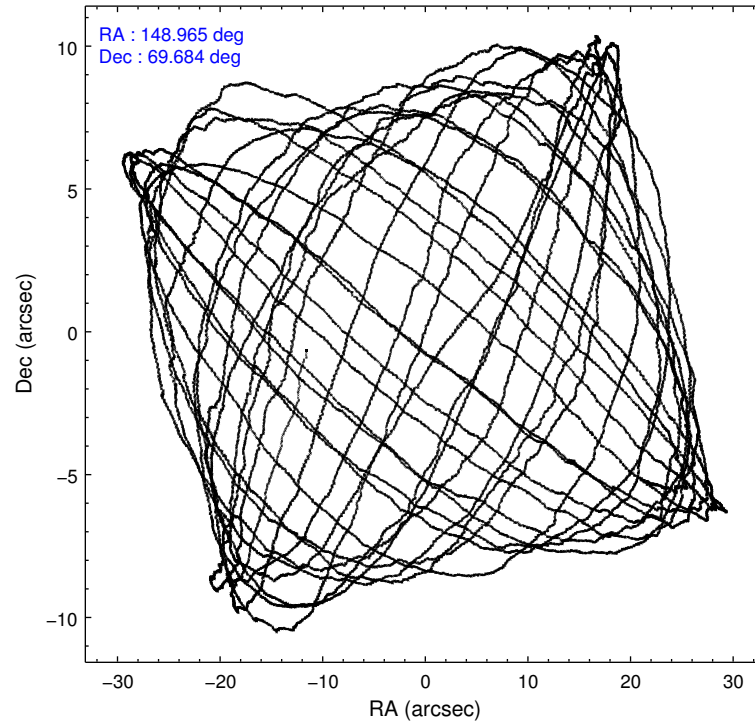
2.1.4 Events

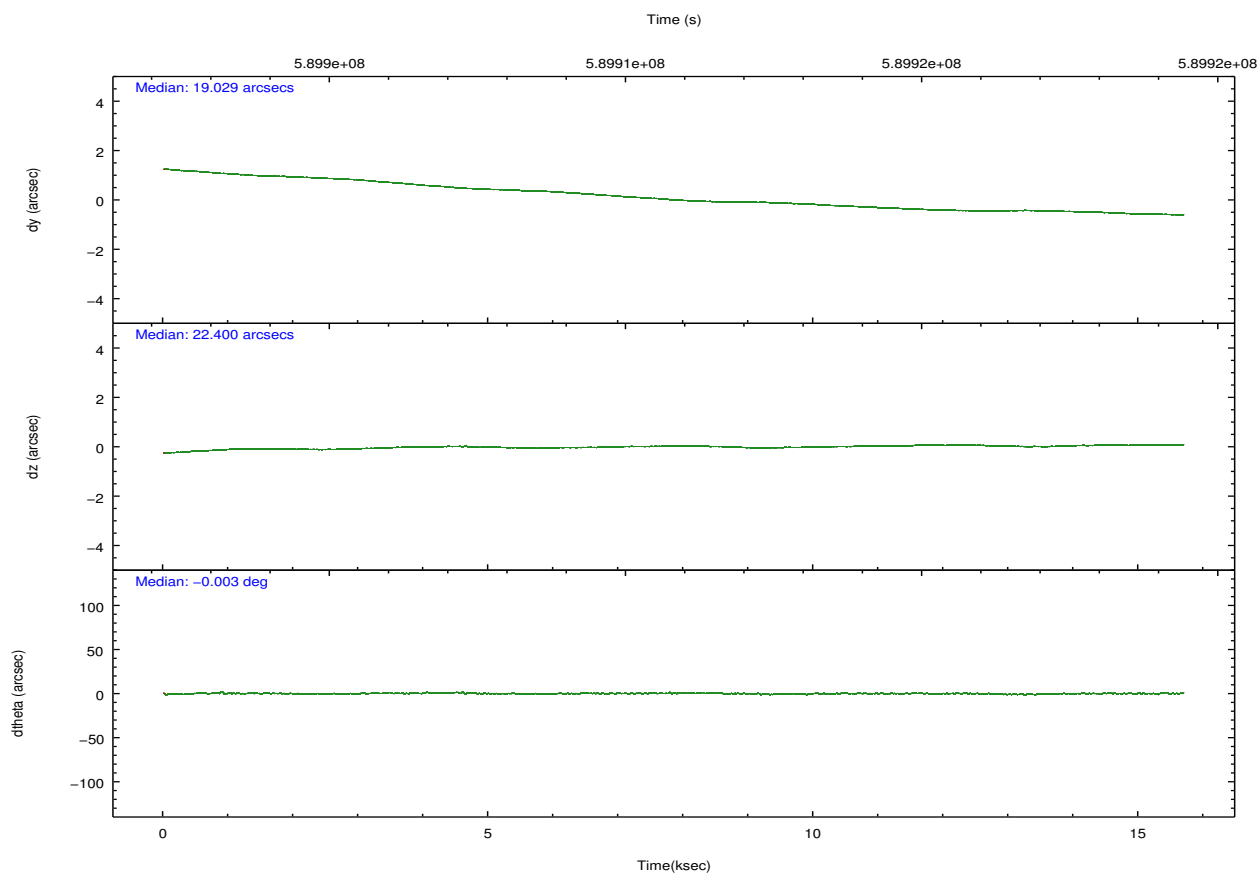
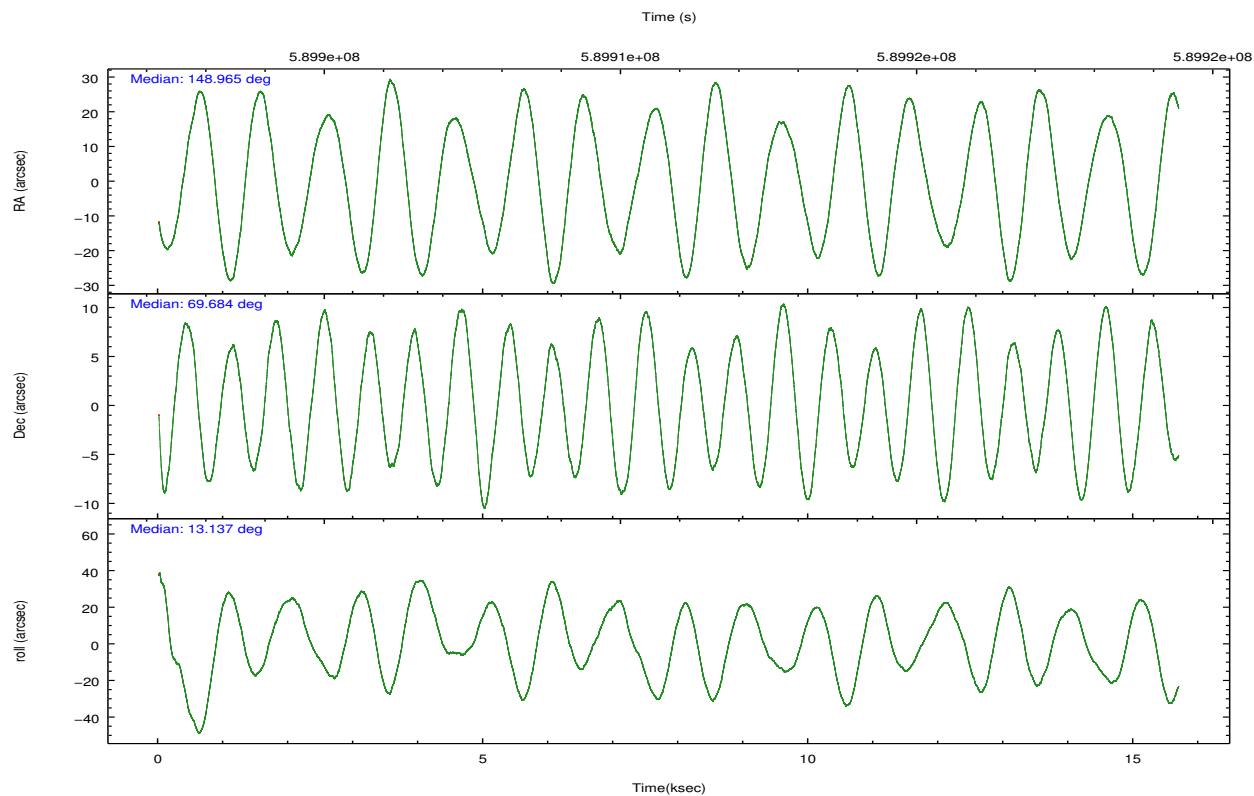
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	111995	164175	103532	136364	133191	97126	grade 0 events	5050	10412	6335	7038	11443	4333
rejected events	99216	82315	88918	71362	95520	85024		4%	6%	6%	5%	8%	4%
rejected %	88%	50%	85%	52%	71%	87%	grade 1 events	89	397	61	186	96	53
								0%	0%	0%	0%	0%	0%
							grade 2 events	3130	25315	2994	14303	8960	2700
								2%	15%	2%	10%	6%	2%
							grade 3 events	1247	2511	1213	5570	3729	1250
								1%	1%	1%	4%	2%	1%
							grade 4 events	1205	2439	1264	5495	3457	1185
								1%	1%	1%	4%	2%	1%
							grade 5 events	4886	12034	4732	13081	7109	5252
								4%	7%	4%	9%	5%	5%
							grade 6 events	2149	41197	2811	32612	10084	2635
								1%	25%	2%	23%	7%	2%
							grade 7 events	94239	69870	84122	58079	88313	79718
								84%	42%	81%	42%	66%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	148.908203	148.965127897258	CCD I2 on	N	N
[deg] Pointing Dec	69.664816	69.68385273871689	CCD I3 on	N	N
[deg] Pointing Roll	13.047791	13.15103960605513	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	589903295.184000	589902132.66544	CCD S5 on	Y	Y
Observation start date	2016-09-10T14:00:27	2016-09-10T13:42:12	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	589918683.184000	589918901.66641	On-chip summing requested	N	N
Observation end date	2016-09-10T18:16:55	2016-09-10T18:21:41	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



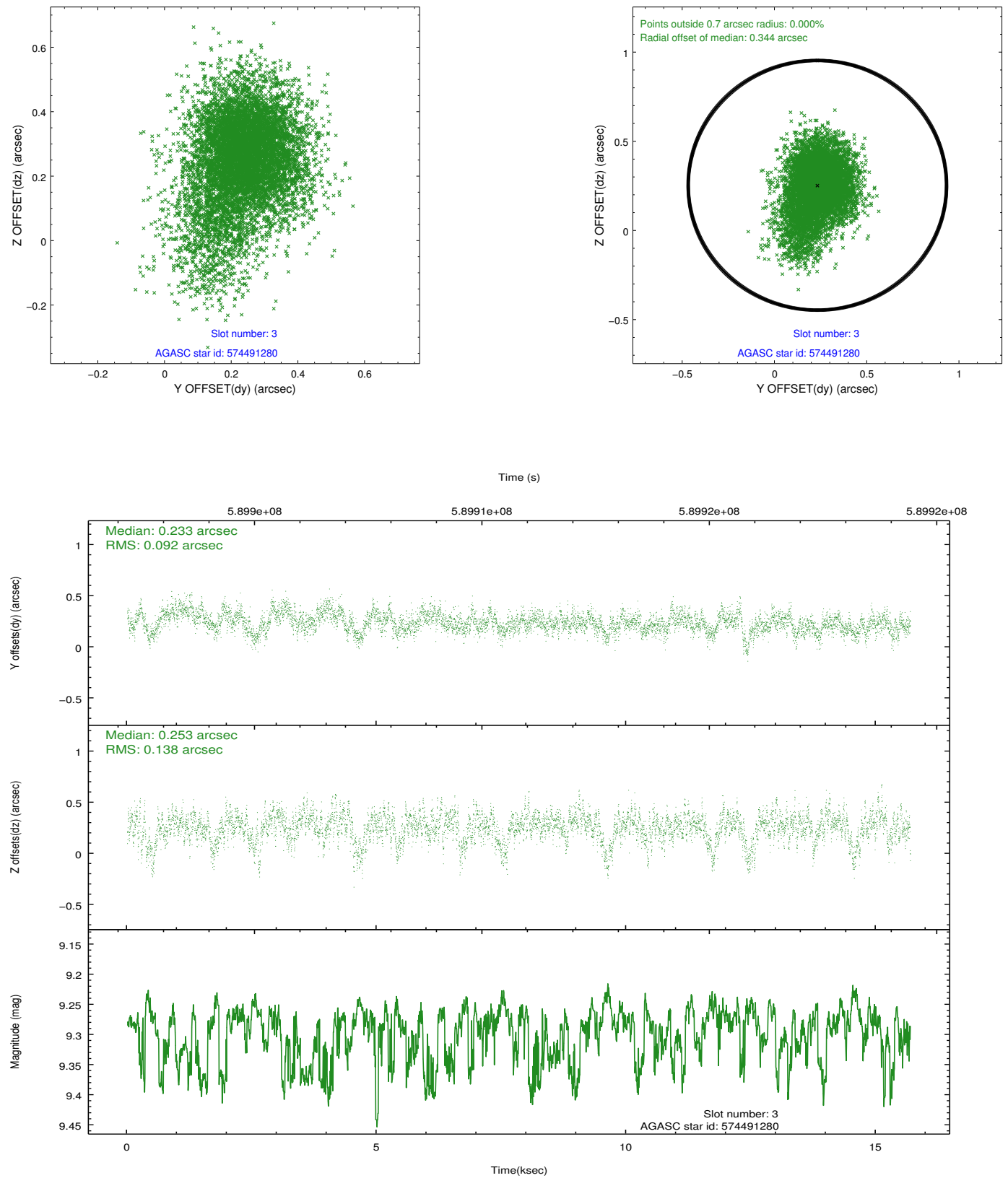


Slot Statistics

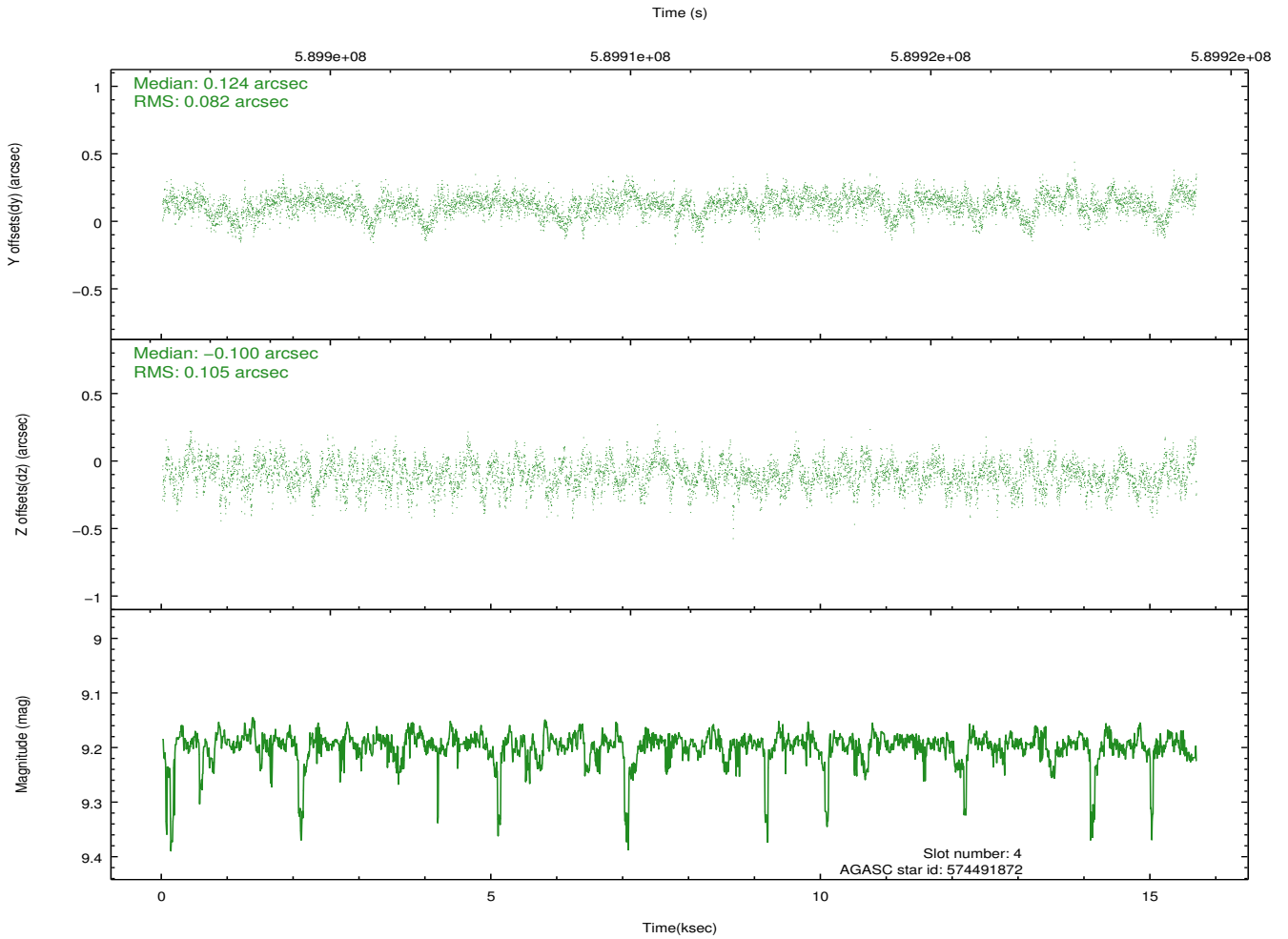
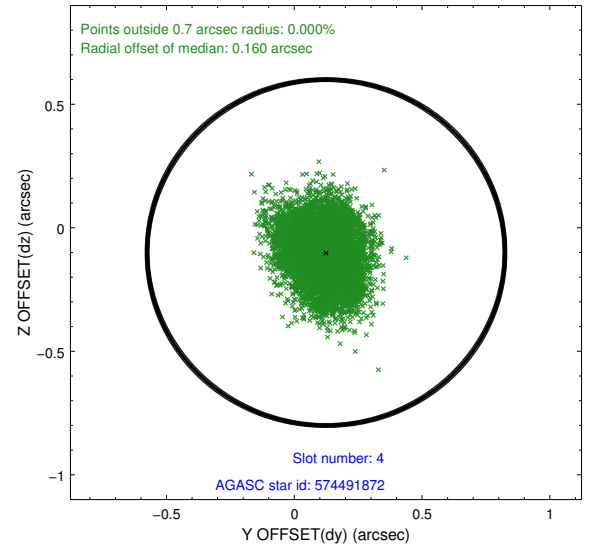
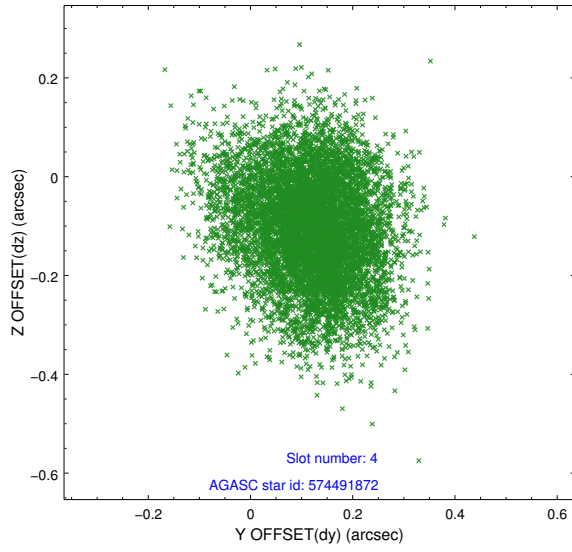
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.98	3827	-0.204	-0.125	0.016	0.024	0.000000	0.000000	-772.48	-1744.03
1	FID		ACIS-S-4	7.08	3826	0.449	0.131	0.013	0.023	0.000000	0.000000	2141.34	164.39
2	FID		ACIS-S-5	7.09	3827	-0.276	0.001	0.010	0.018	0.000000	0.000000	-1825.01	158.29
3	GUIDE	used	574491280	9.29	7642	0.233	0.253	0.167	0.308	148.611567	69.450135	-540.65	-668.20
4	GUIDE	used	574491872	9.19	7642	0.124	-0.100	0.142	0.231	147.207613	69.765453	-1975.25	854.04
5	GUIDE	used	574886496	8.47	7581	-0.548	-0.294	0.189	0.278	148.945563	70.041136	350.17	1310.01
6	GUIDE	used	574491184	9.04	7644	0.063	-0.211	0.128	0.213	148.582453	69.768699	-309.61	457.06
7	GUIDE	used	574489568	9.67	7640	0.119	0.361	0.281	0.446	147.223974	69.438157	-2250.92	-285.54

2.4 Star Slots

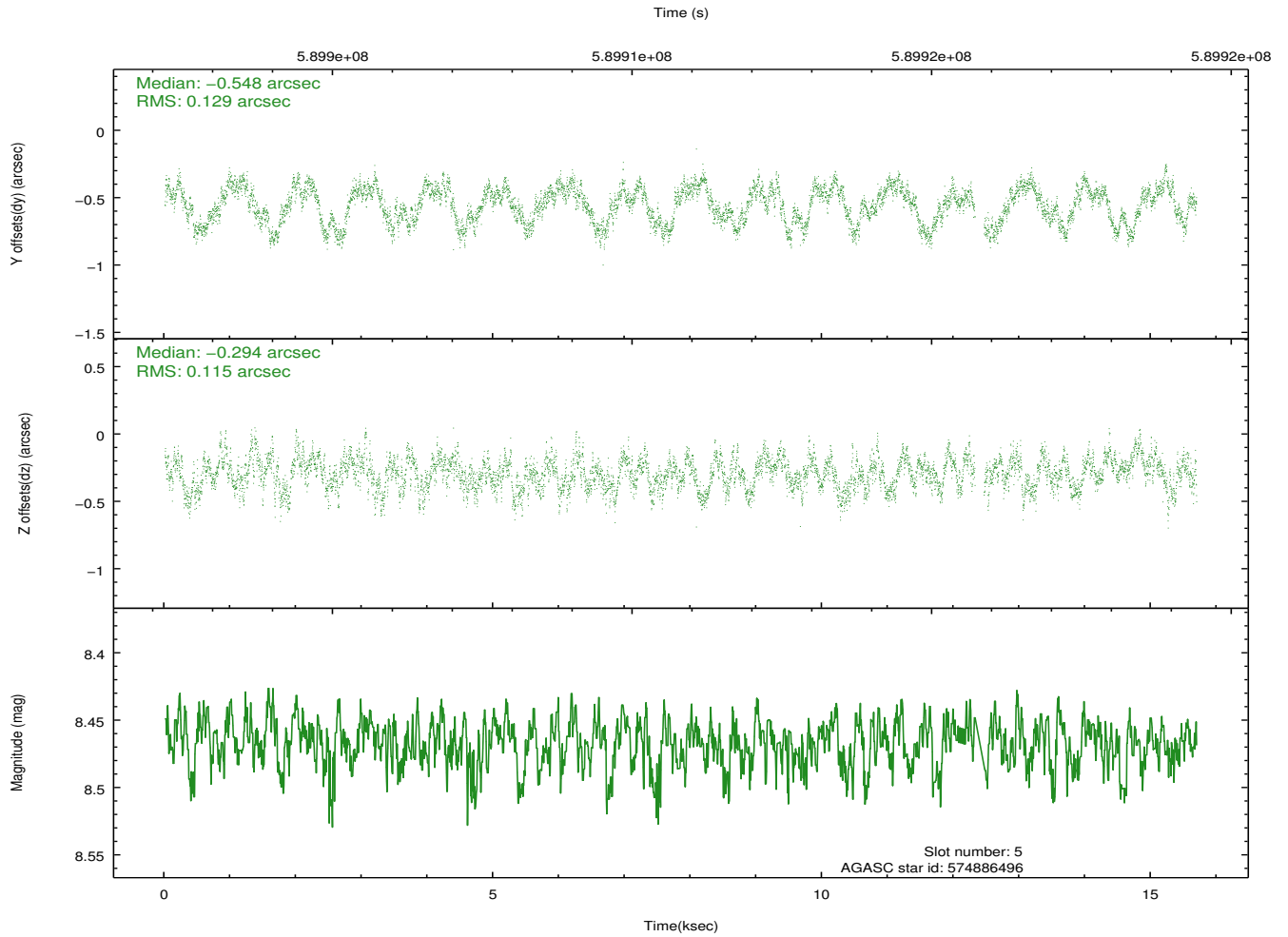
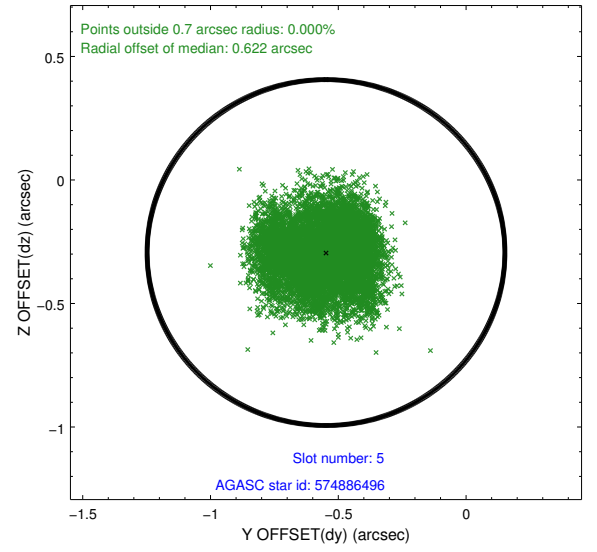
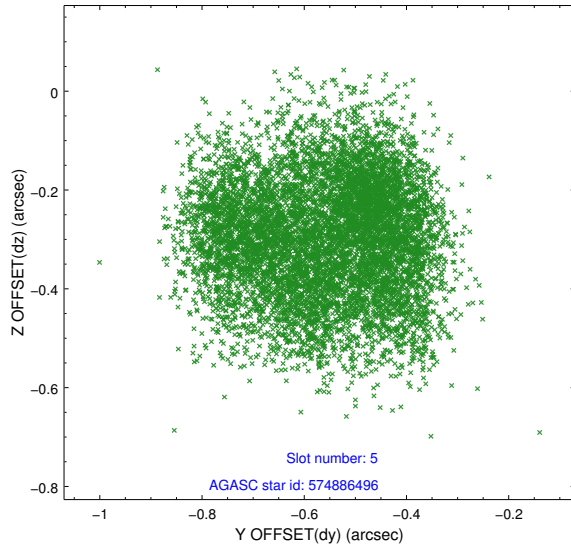
2.4.1 Slot 3



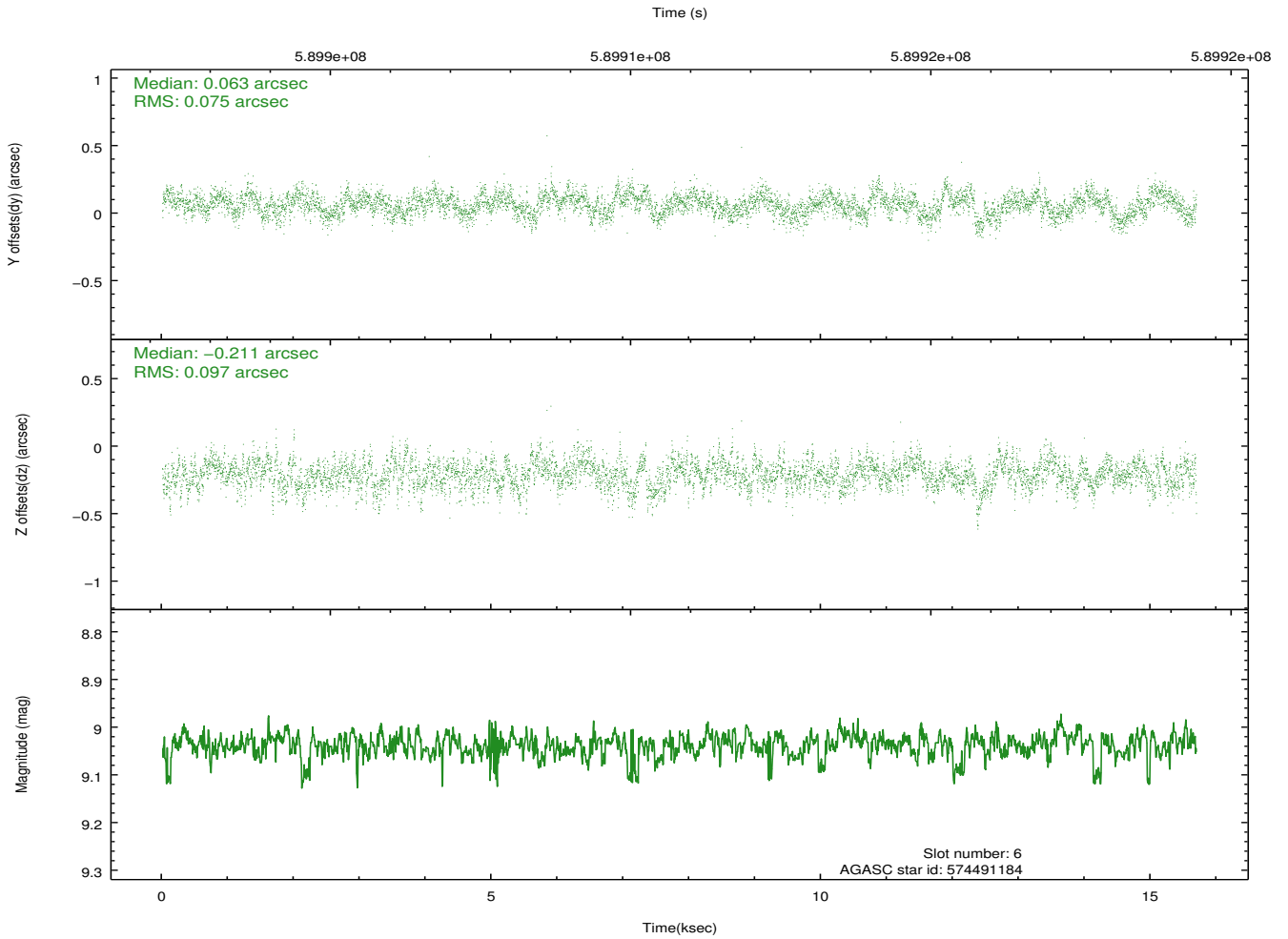
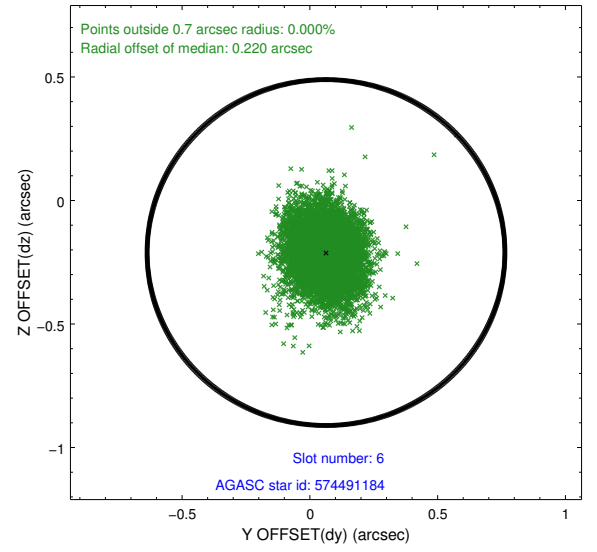
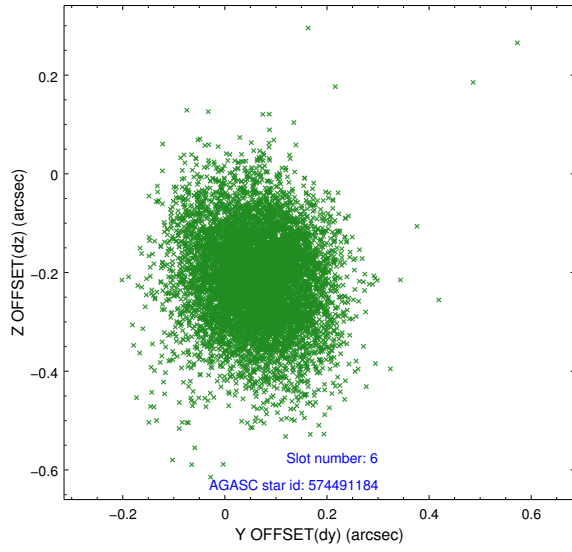
2.4.2 Slot 4



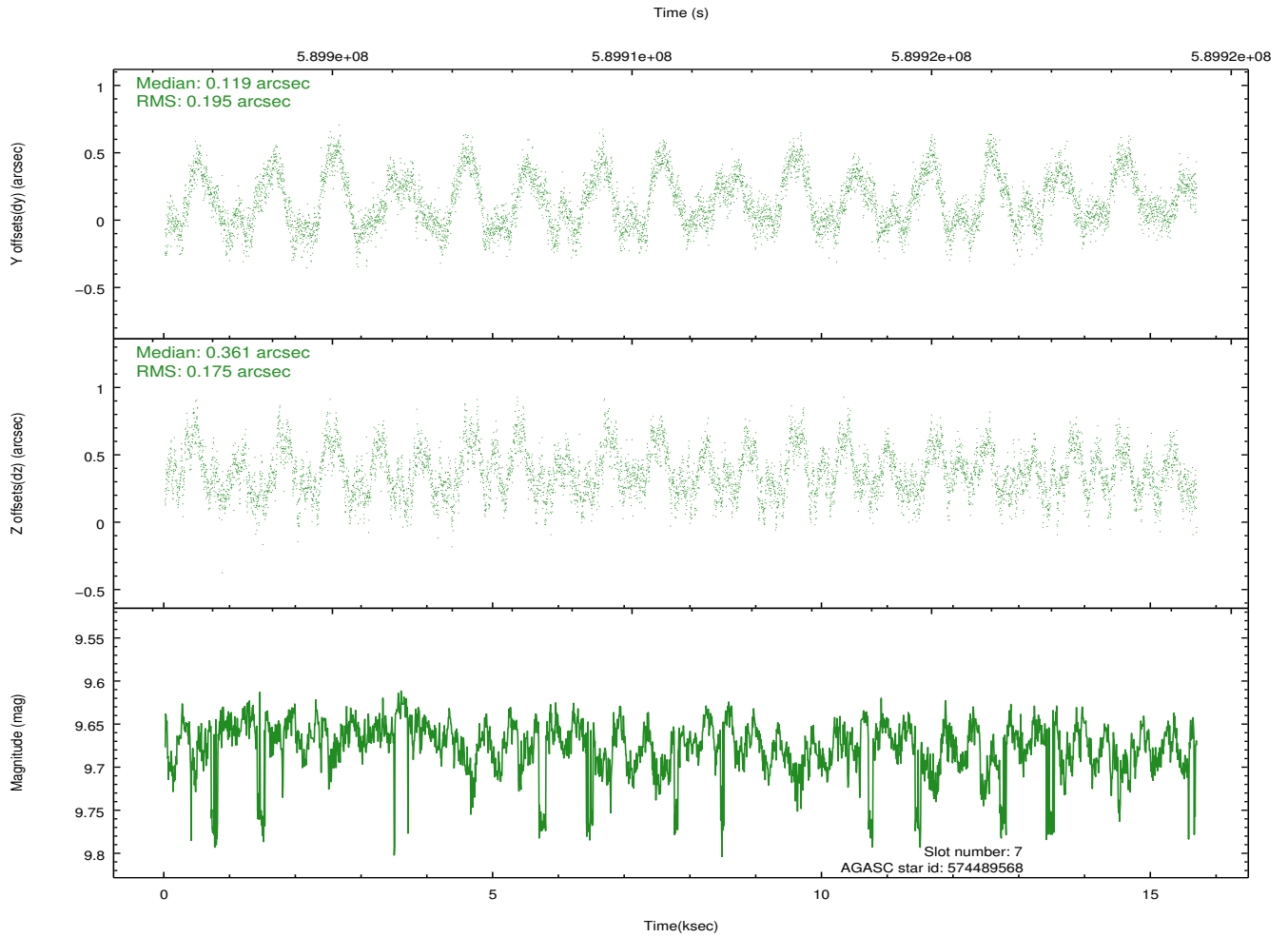
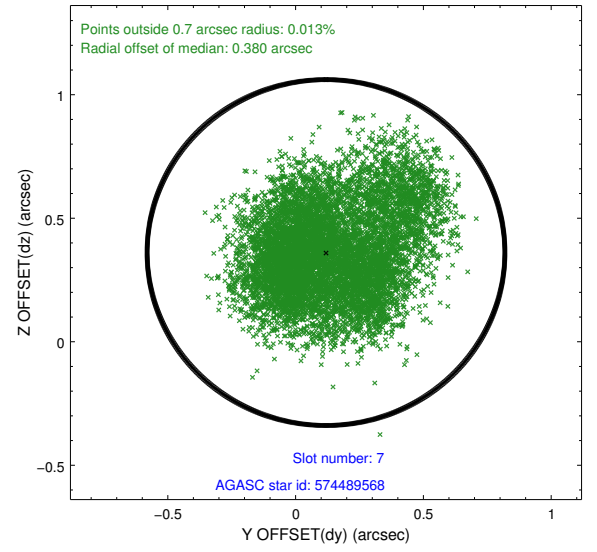
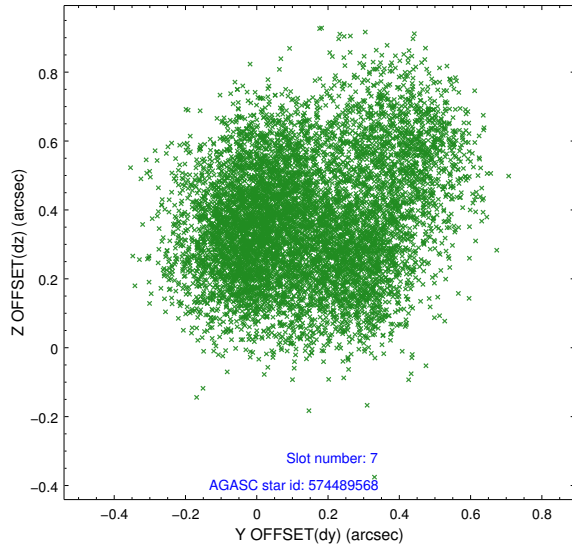
2.4.3 Slot 5



2.4.4 Slot 6

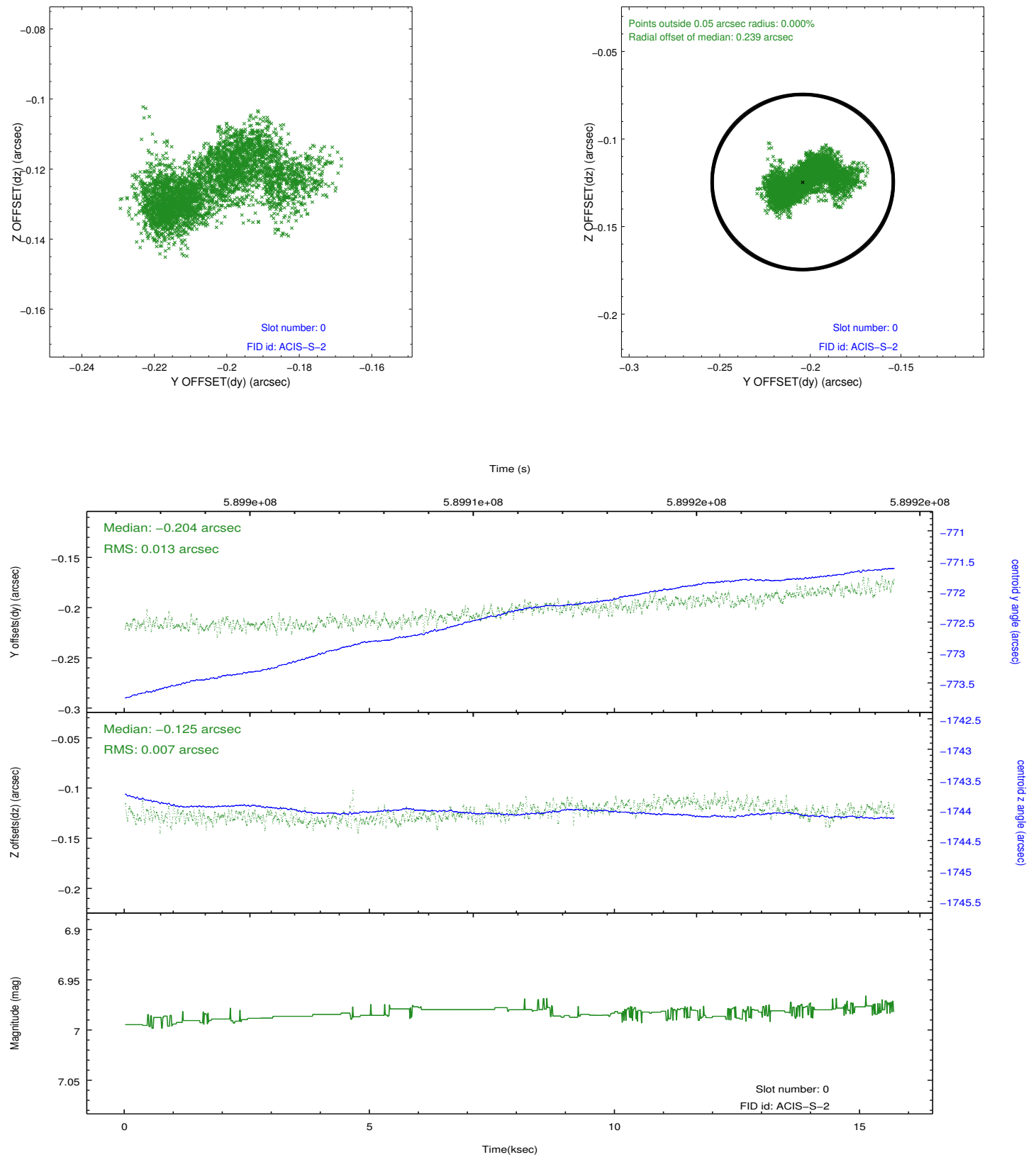


2.4.5 Slot 7

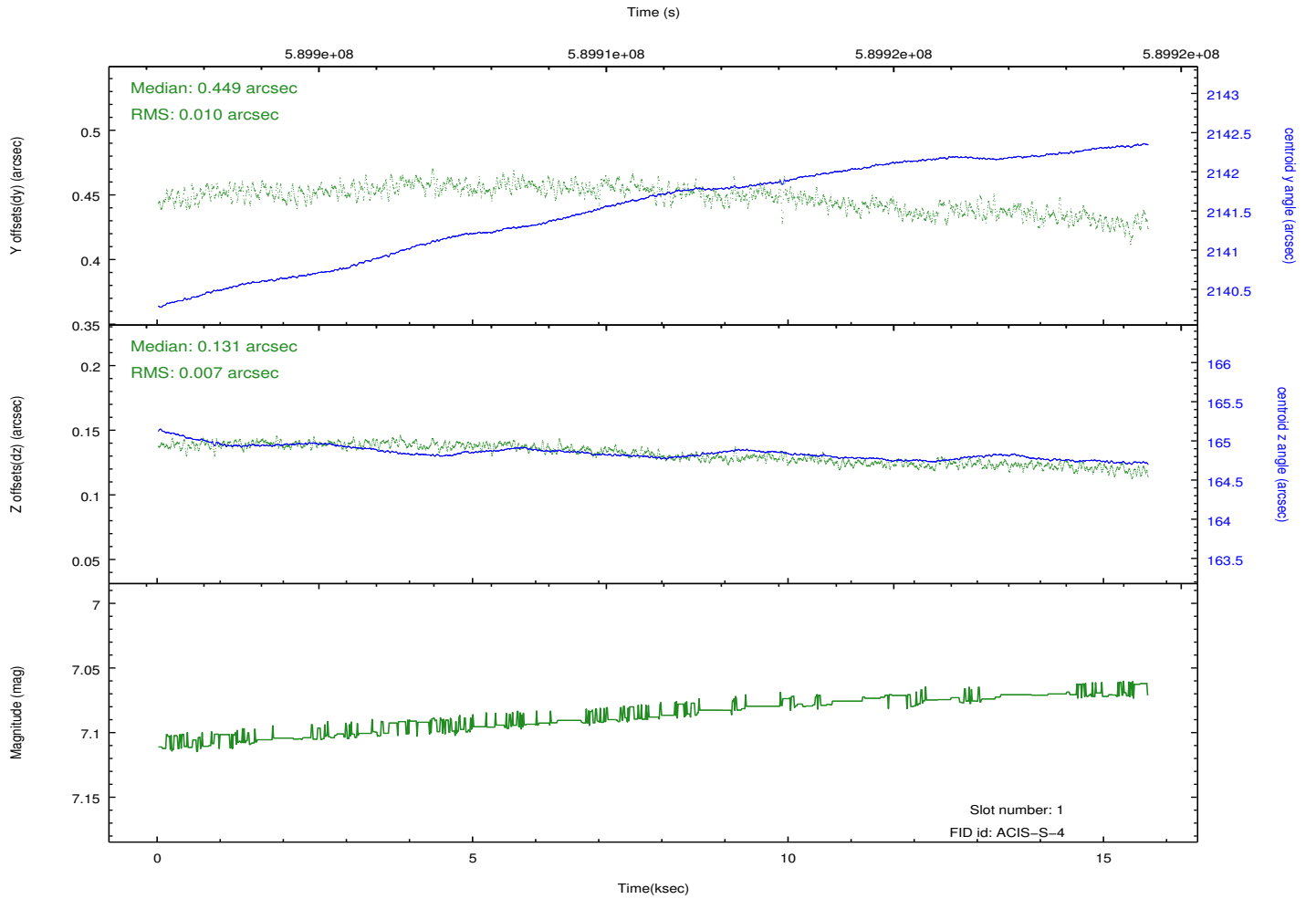
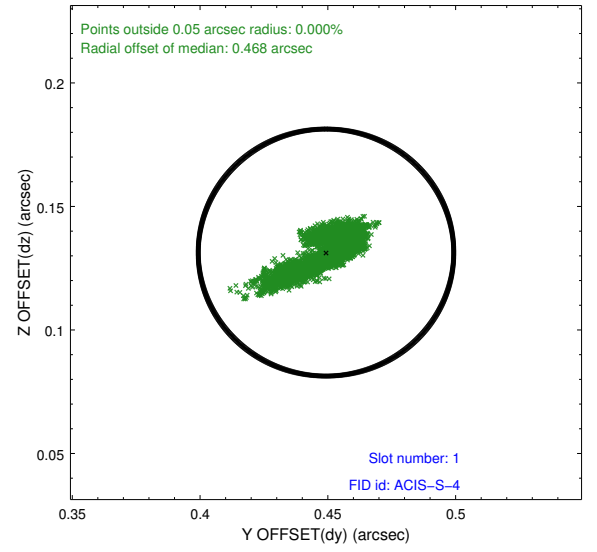
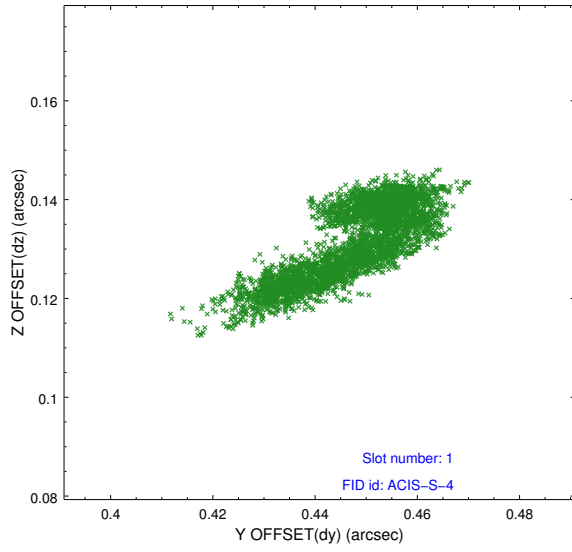


2.5 FID Slots

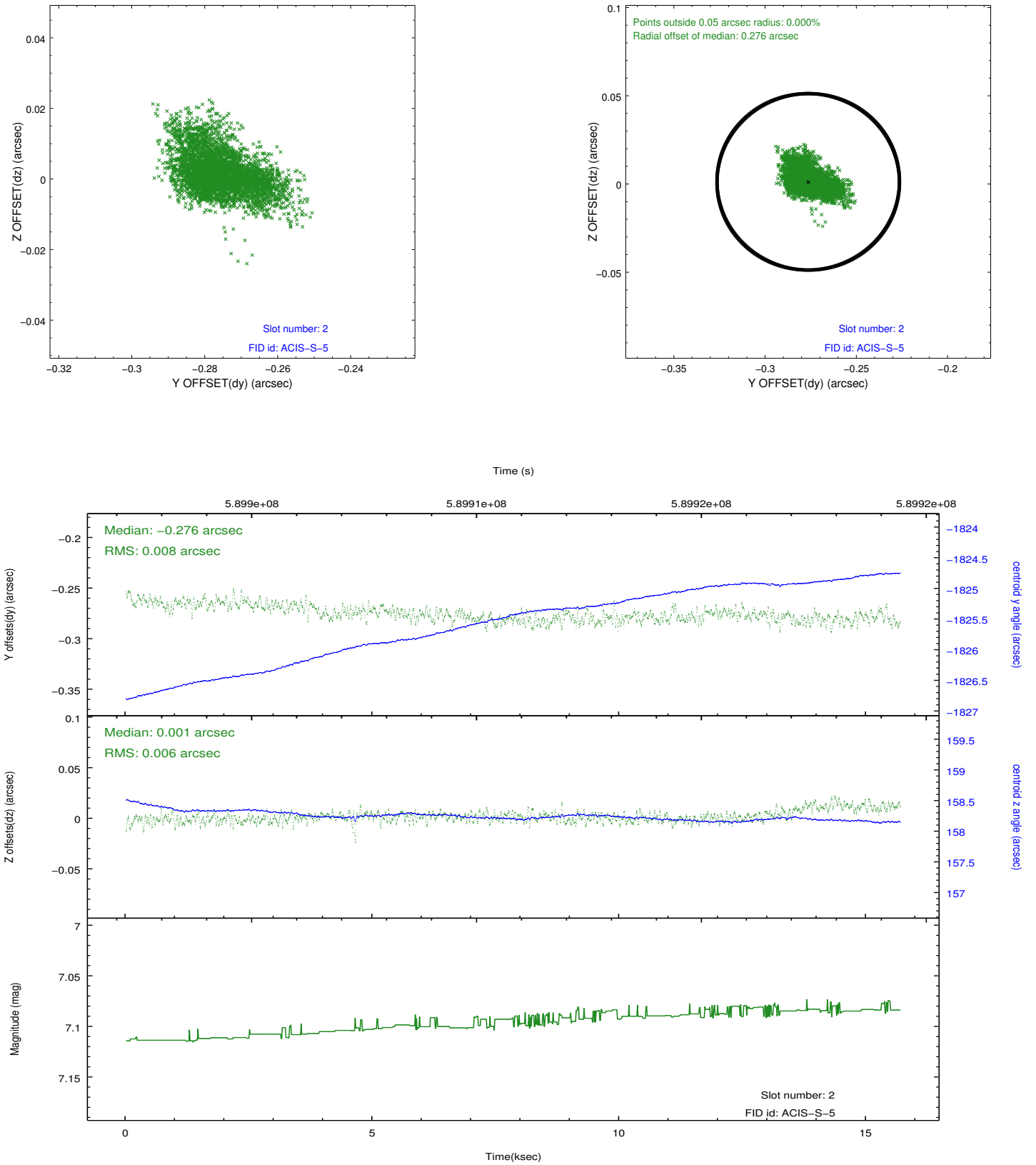
2.5.1 Slot 0



2.5.2 Slot 1

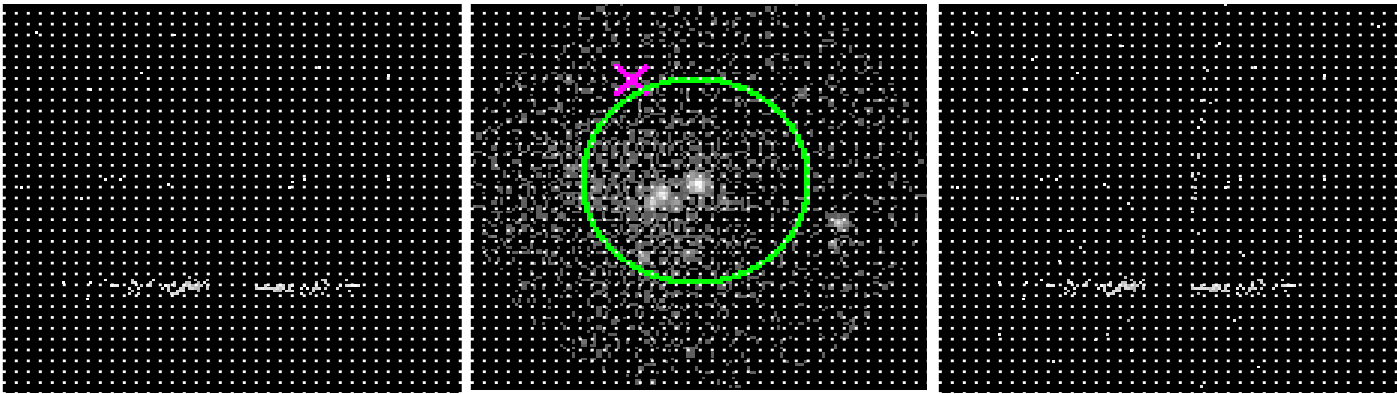


2.5.3 Slot 2



3 Gratings

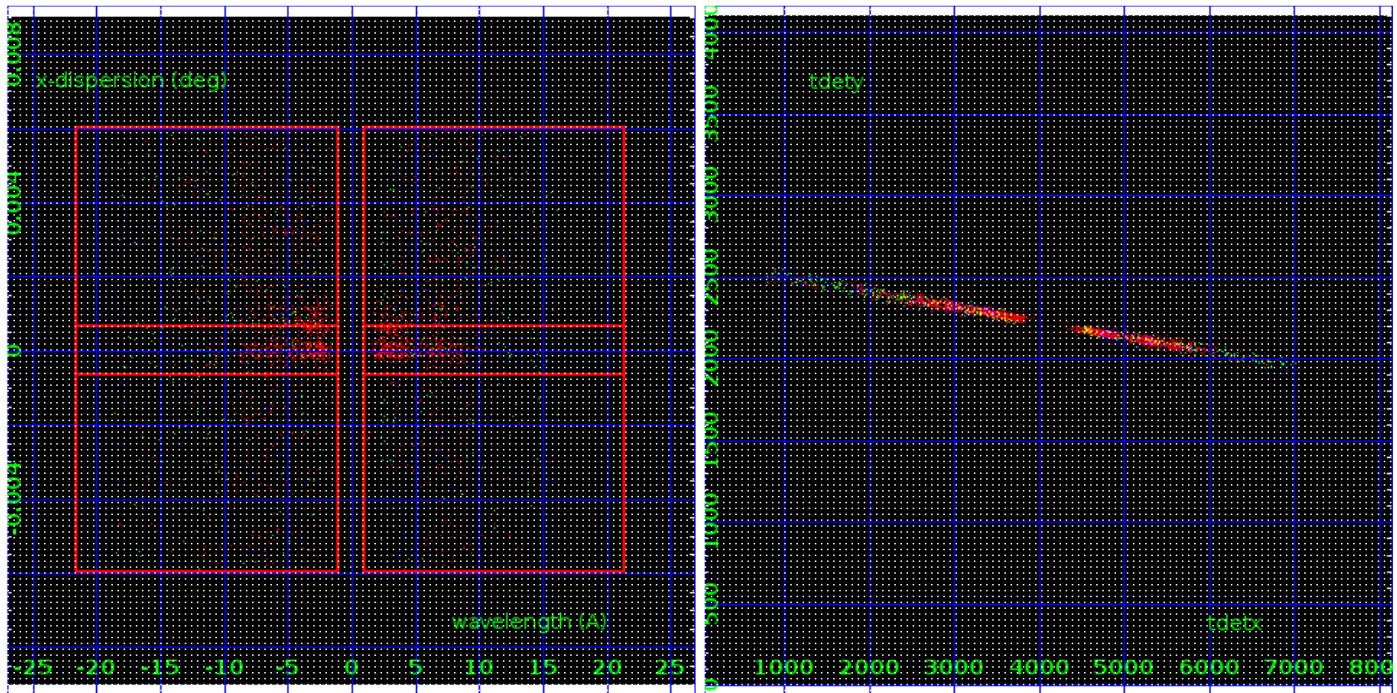
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

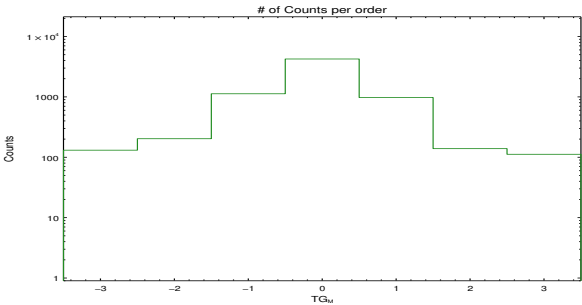
HEG Order Sort ALL

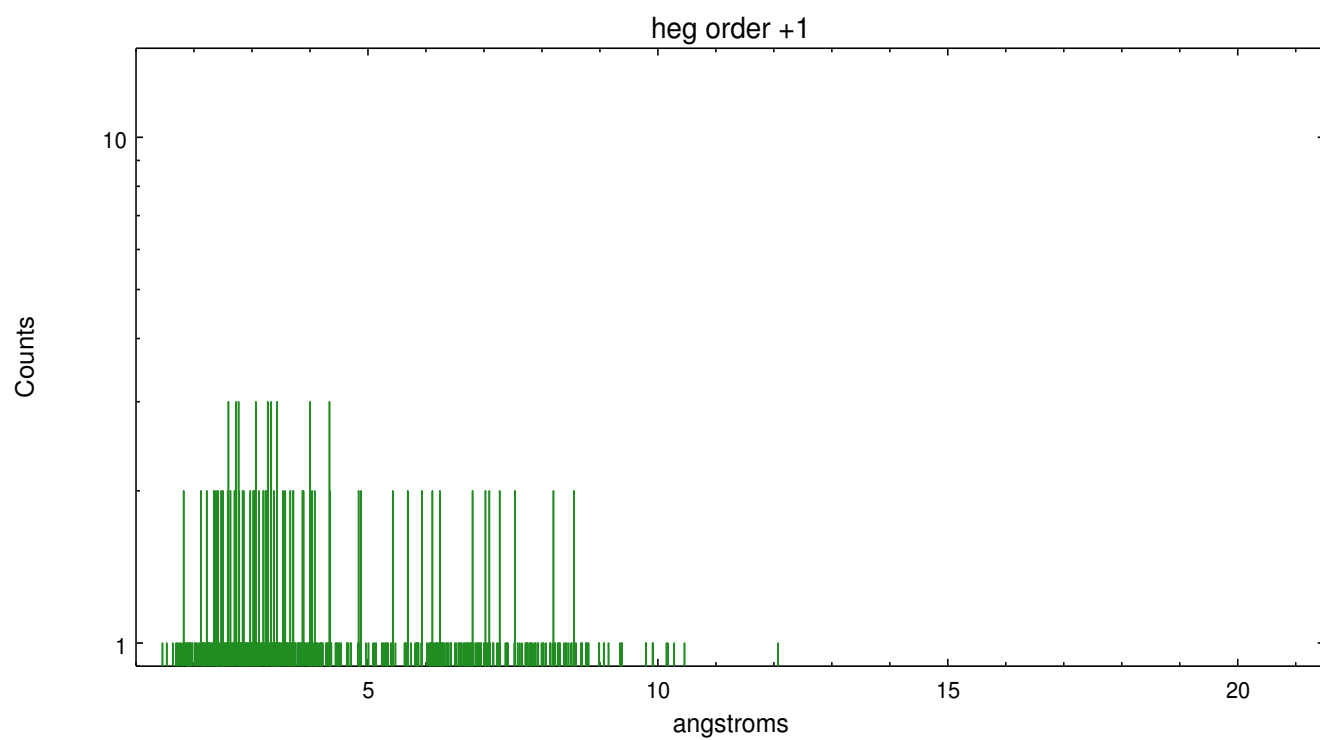
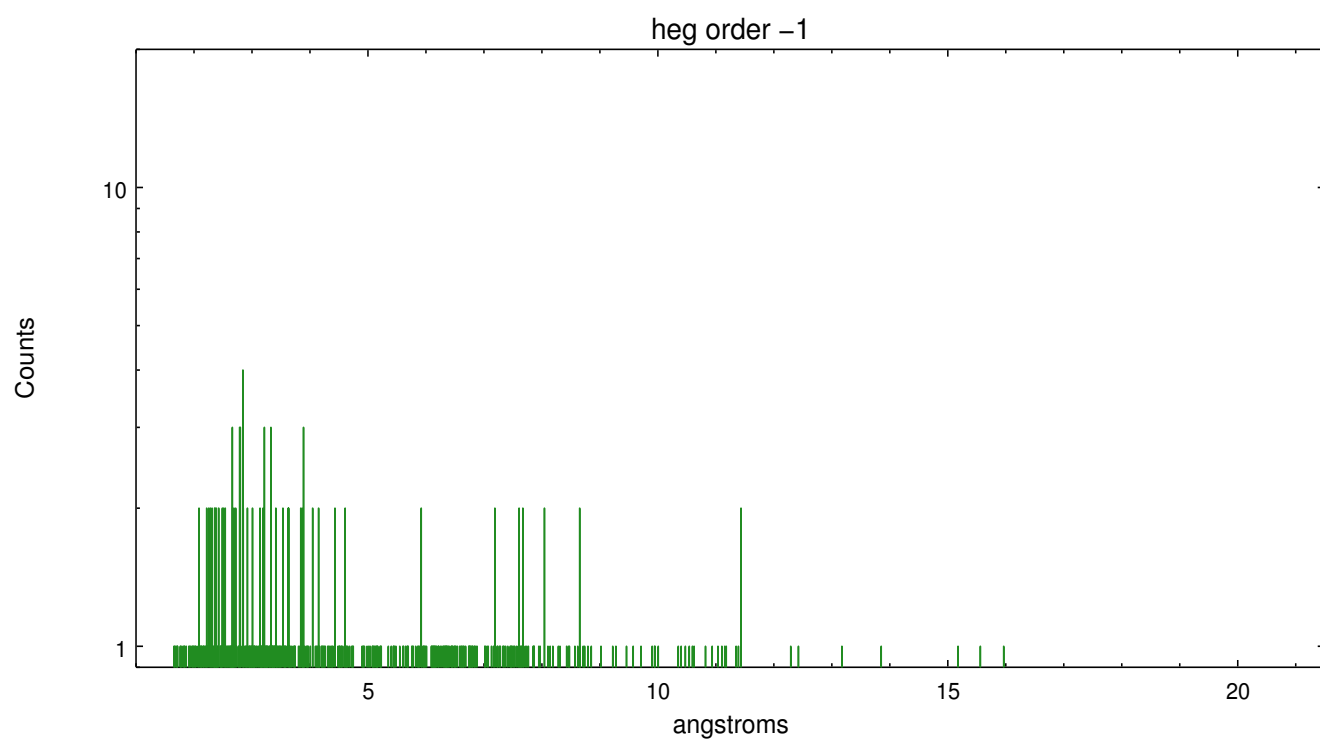


Spot Image HEG

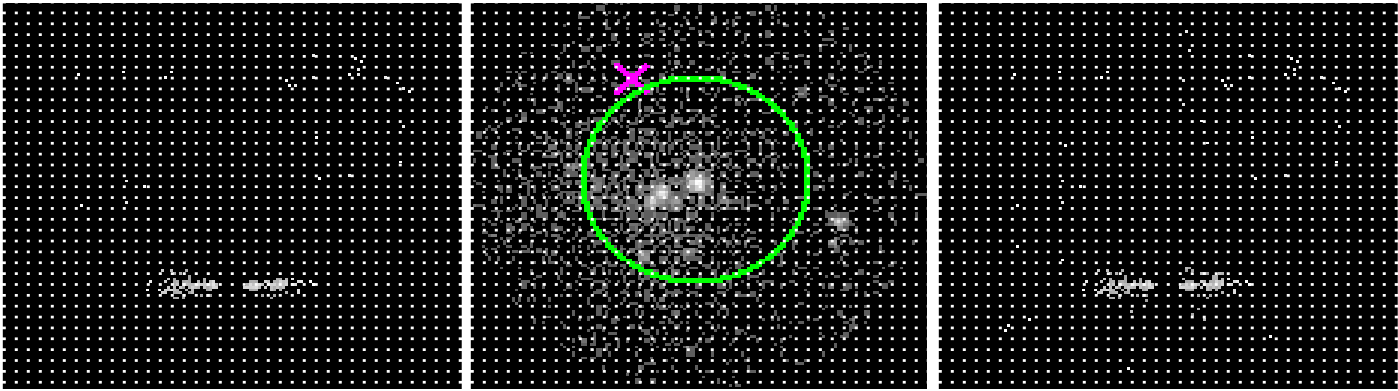
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	131	203	1127	4244	976	139	112





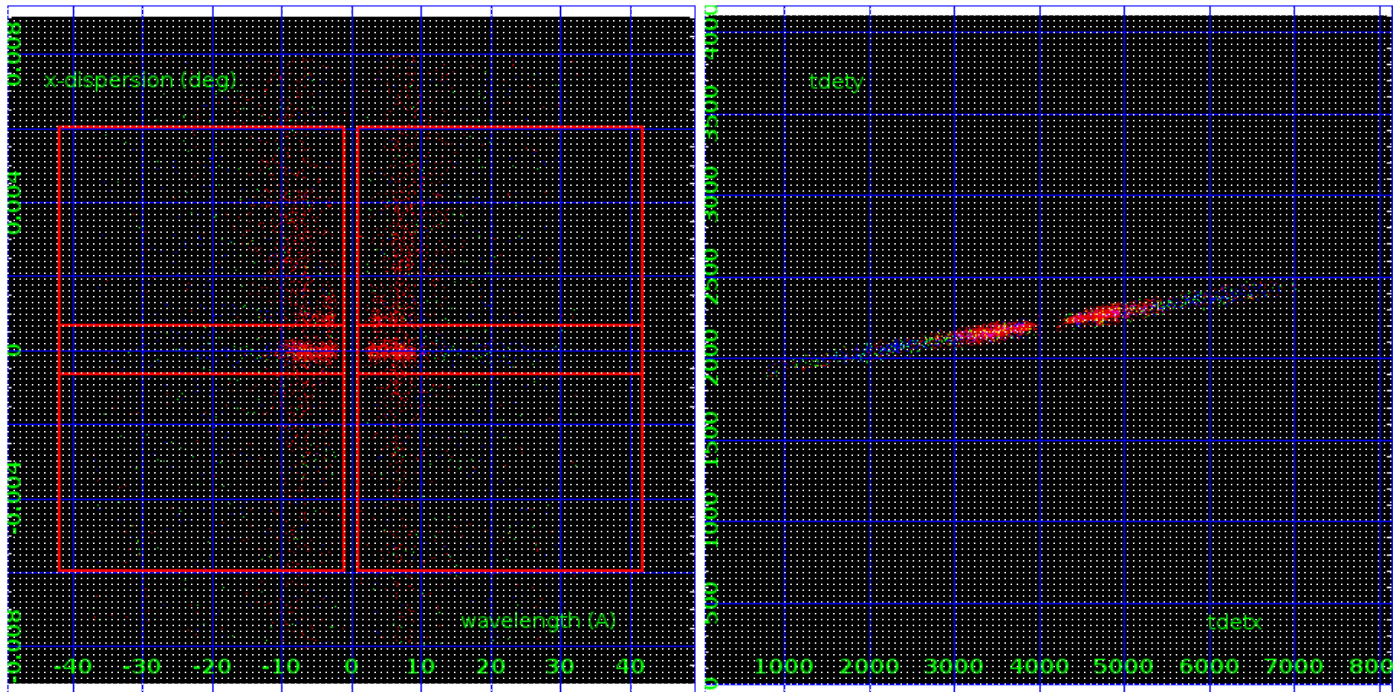
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

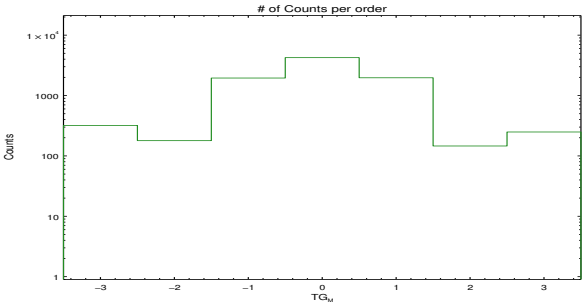
MEG Order Sort ALL

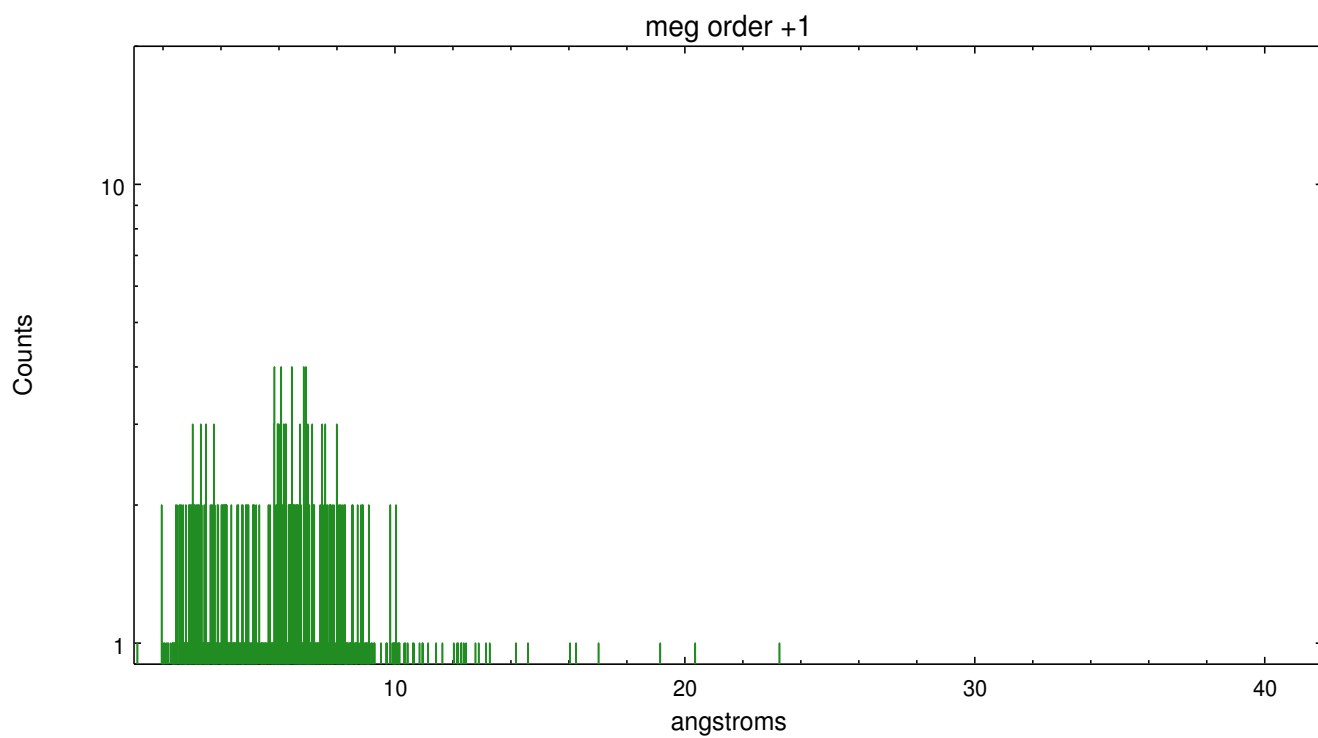
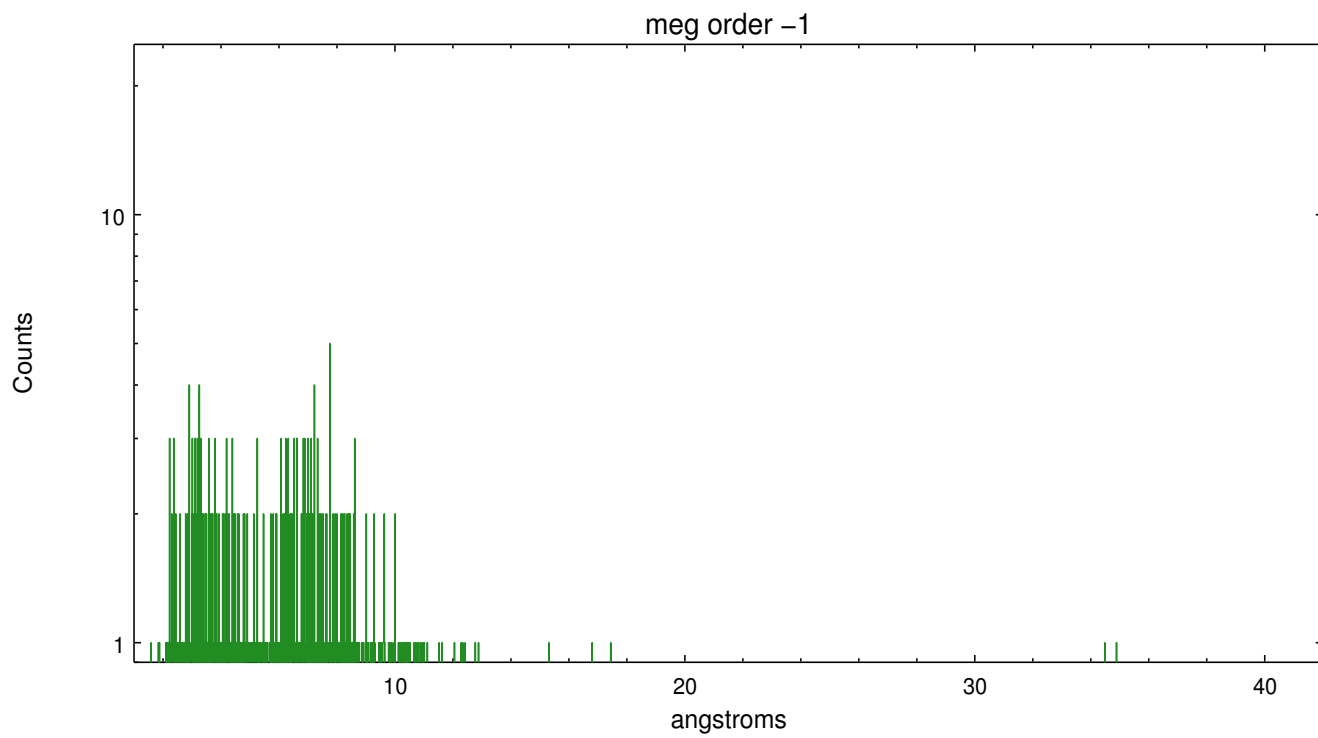


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	320	179	1949	4244	1969	146	249





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2016.09.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.312000228167

A.2 Comments

warning: spatially complicated, with several bright sources in the zeroth order region; the extraction was centered on the brightest knot with default extraction parameters. The dispersed spectra contain multiple sources which might be resolved with customized regions.