

V&V Reference Report

L2 ASCDS Version : 10.6.4

Observation 21666 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Aug 7 2018

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1 Front

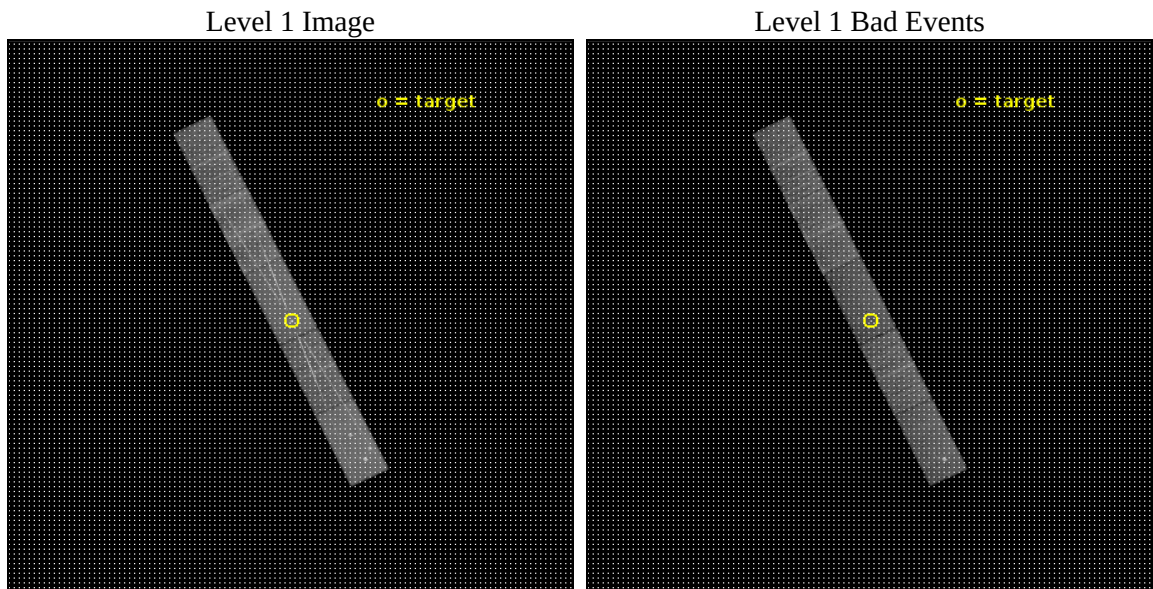
seq_num	401899	Sequence number
obs_id	21666	Observation id
title	An X-ray Outflow in an Ultracompact X-ray Binary	Proposal title
observer	Jon Miller	Principal investigator
object	4U 1916-053	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	289.699583	Observer's specified target RA [deg]
dec_targ	-5.238083	Observer's specified target Dec [deg]
ra_nom	289.70187175446	Nominal RA [deg]
dec_nom	-5.243462494969	Nominal Dec [deg]
roll_nom	244.15682008989	Nominal Roll [deg]
revision	1	Processing version of data
ontime	19087.600535393	Sum of GTIs [s]
livetime	18637.665366774	Livetime [s]
ontime5	19087.600535393	Sum of GTIs [s]
ontime6	19087.600535393	Sum of GTIs [s]
ontime7	19087.600535393	Sum of GTIs [s]
ontime8	19087.600535393	Sum of GTIs [s]
ontime9	19087.600535393	Sum of GTIs [s]
l2events	191918	Number of level 2 events



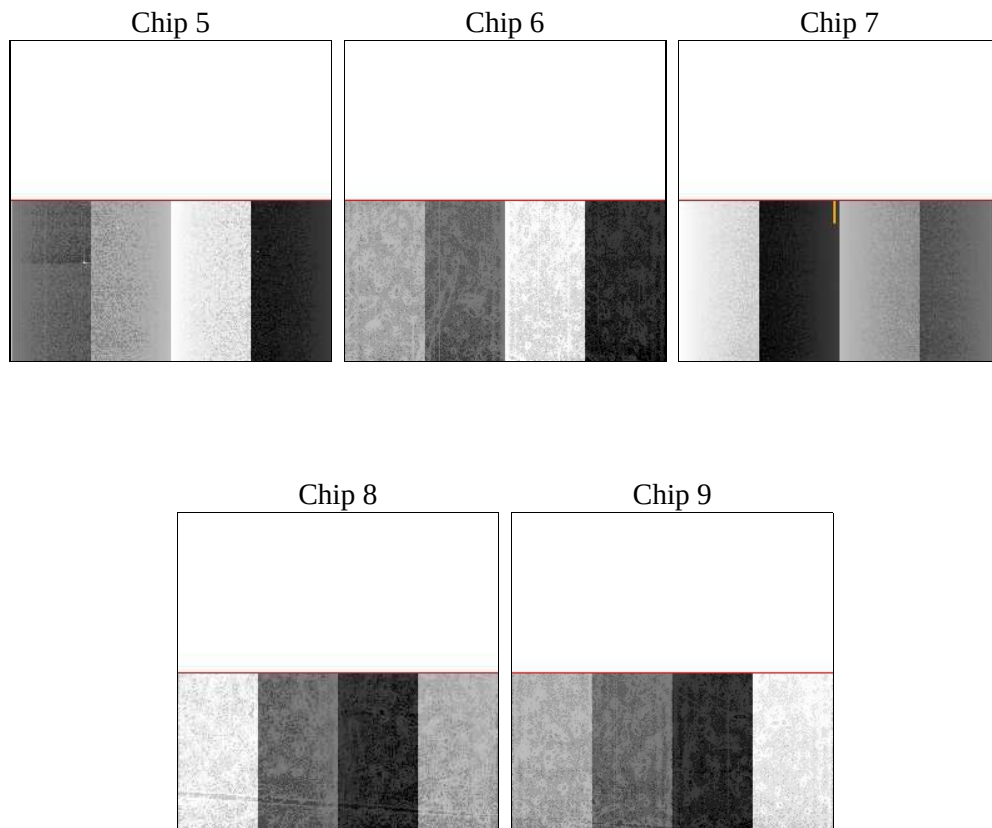
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4	Processing system revision	ontime	19087.600535393	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	19087.600535393	Sum of GTIs [s]
date	2018-08-07T06:08:41	Date and time of file creation	ontime6	19087.600535393	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	19087.600535393	Sum of GTIs [s]
			ontime8	19087.600535393	Sum of GTIs [s]
			ontime9	19087.600535393	Sum of GTIs [s]
			l1events	555810	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4114.42, 4135.11)	src1a sky pixel position
					src1a sky pixel position via

2.1.4 Events

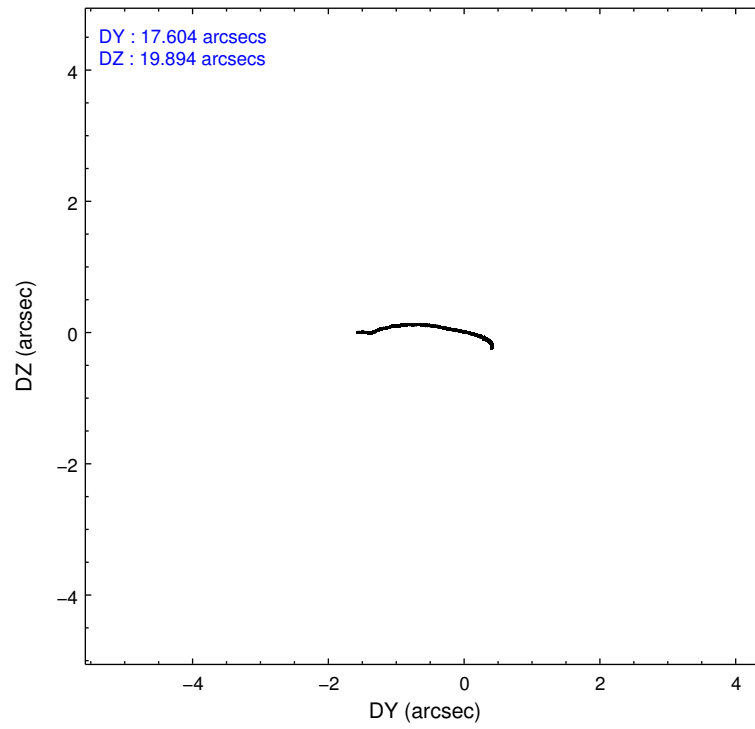
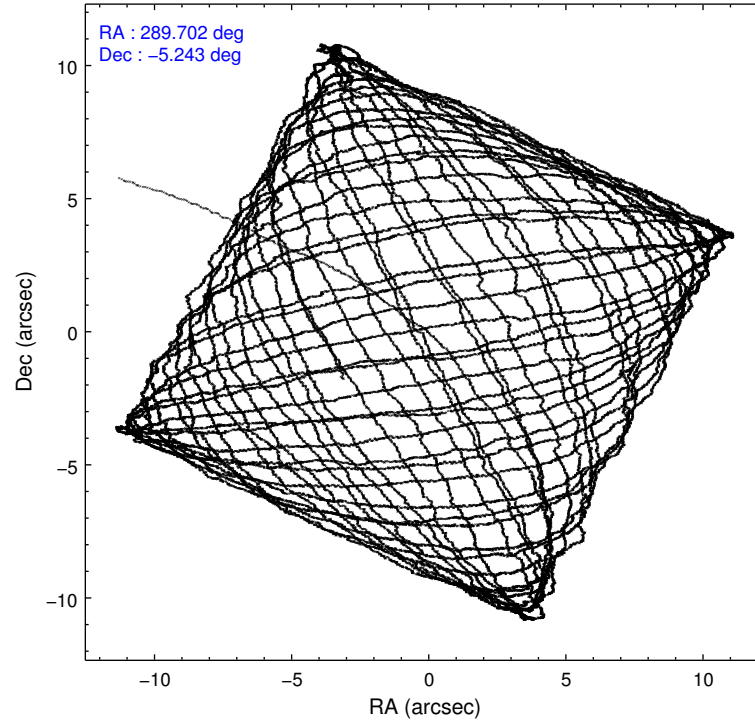
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	133106	101350	131848	112328	77178
rejected events	64117	67943	56256	73749	65997
rejected %	48%	67%	42%	65%	85%

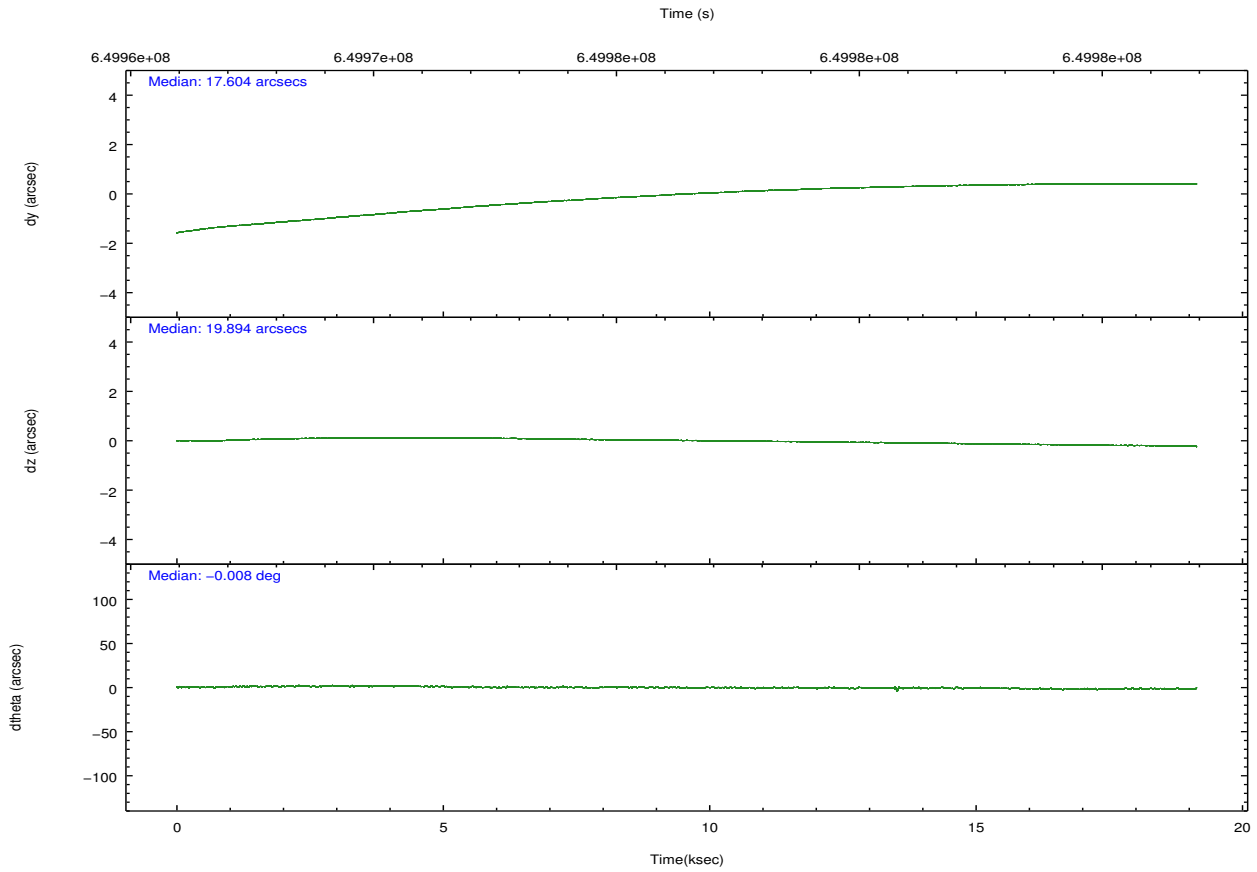
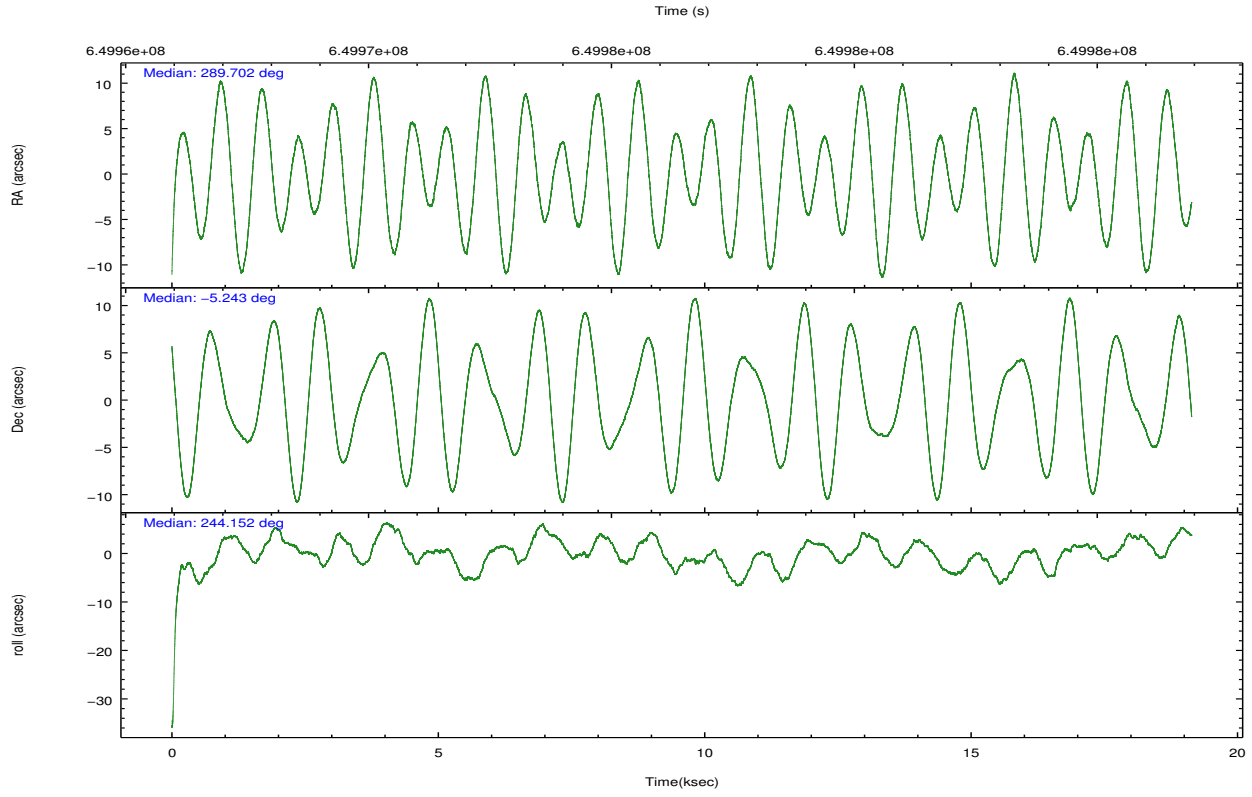
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	11147	21502	10402	15074	4587
	8%	21%	7%	13%	5%
grade 1 events	245	99	353	85	33
	0%	0%	0%	0%	0%
grade 2 events	19970	5104	16825	8041	2320
	15%	5%	12%	7%	3%
grade 3 events	3815	1893	7476	3489	1130
	2%	1%	5%	3%	1%
grade 4 events	3149	2024	7445	3311	1144
	2%	1%	5%	2%	1%
grade 5 events	11836	3315	11162	5093	3671
	8%	3%	8%	4%	4%
grade 6 events	30913	2887	33448	8678	2000
	23%	2%	25%	7%	2%
grade 7 events	52031	64526	44737	68557	62293
	39%	63%	33%	61%	80%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	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	289.699506	289.7018717544608	CCD I2 on	N	N
[deg] Pointing Dec	-5.216115	-5.243462494968973	CCD I3 on	N	N
[deg] Pointing Roll	243.999993	244.156820089892	CCD S0 on	O1	N
[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	-183.992523	-183.9875365069546	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.14	-6.144986076053243	CCD S4 on	Y	Y
[s] Observation start time (MET)	649967017.184000	649965940.00047	CCD S5 on	Y	Y
Observation start date	2018-08-06T18:22:28	2018-08-06T18:05:40	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	649986017.184000	649986853.07671	On-chip summing requested	N	N
Observation end date	2018-08-06T23:39:08	2018-08-06T23:54:13	Subarray requested	CUSTOM	1/2
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	512	512
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.7

2.3 Aspect



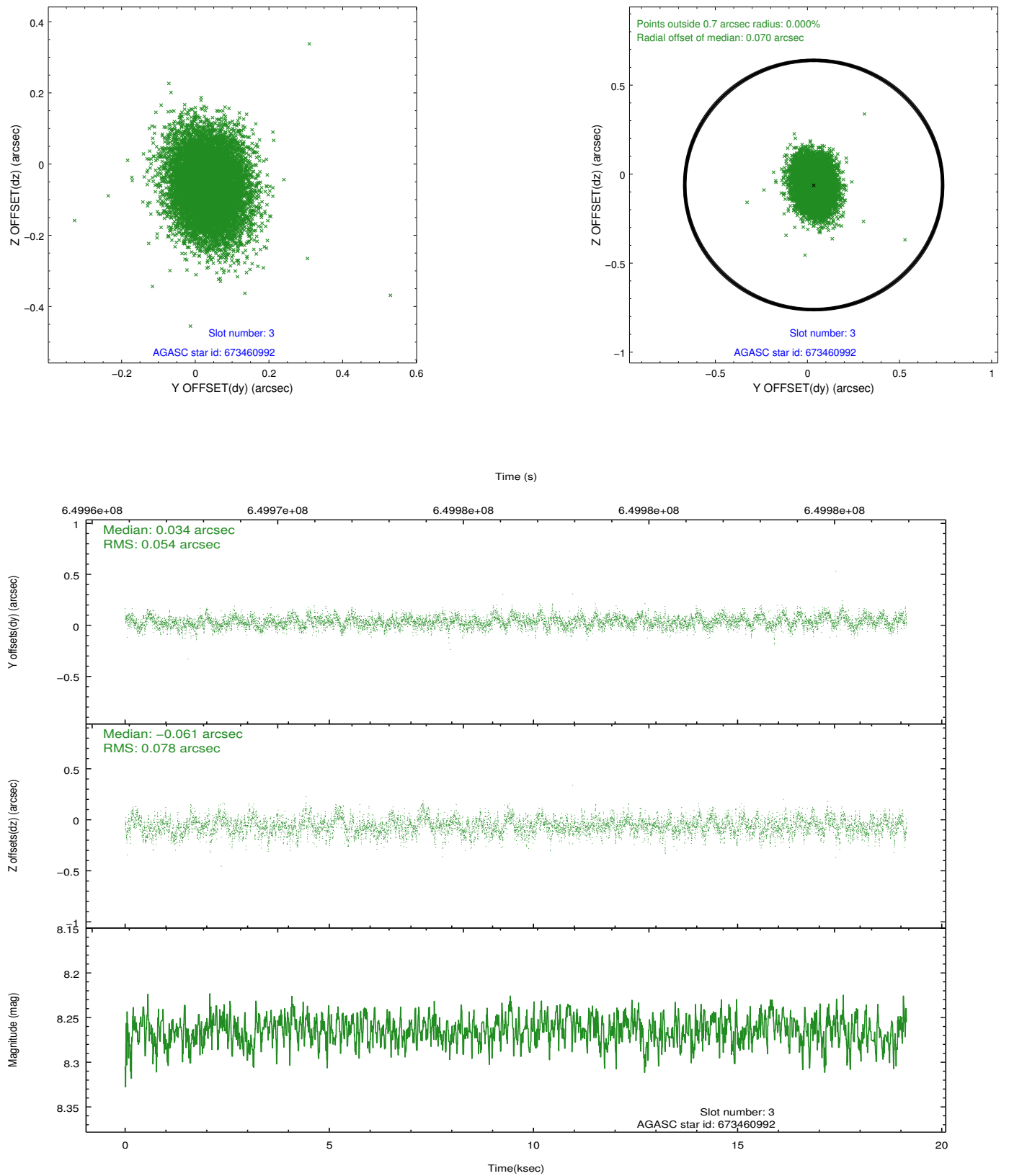


Slot Statistics

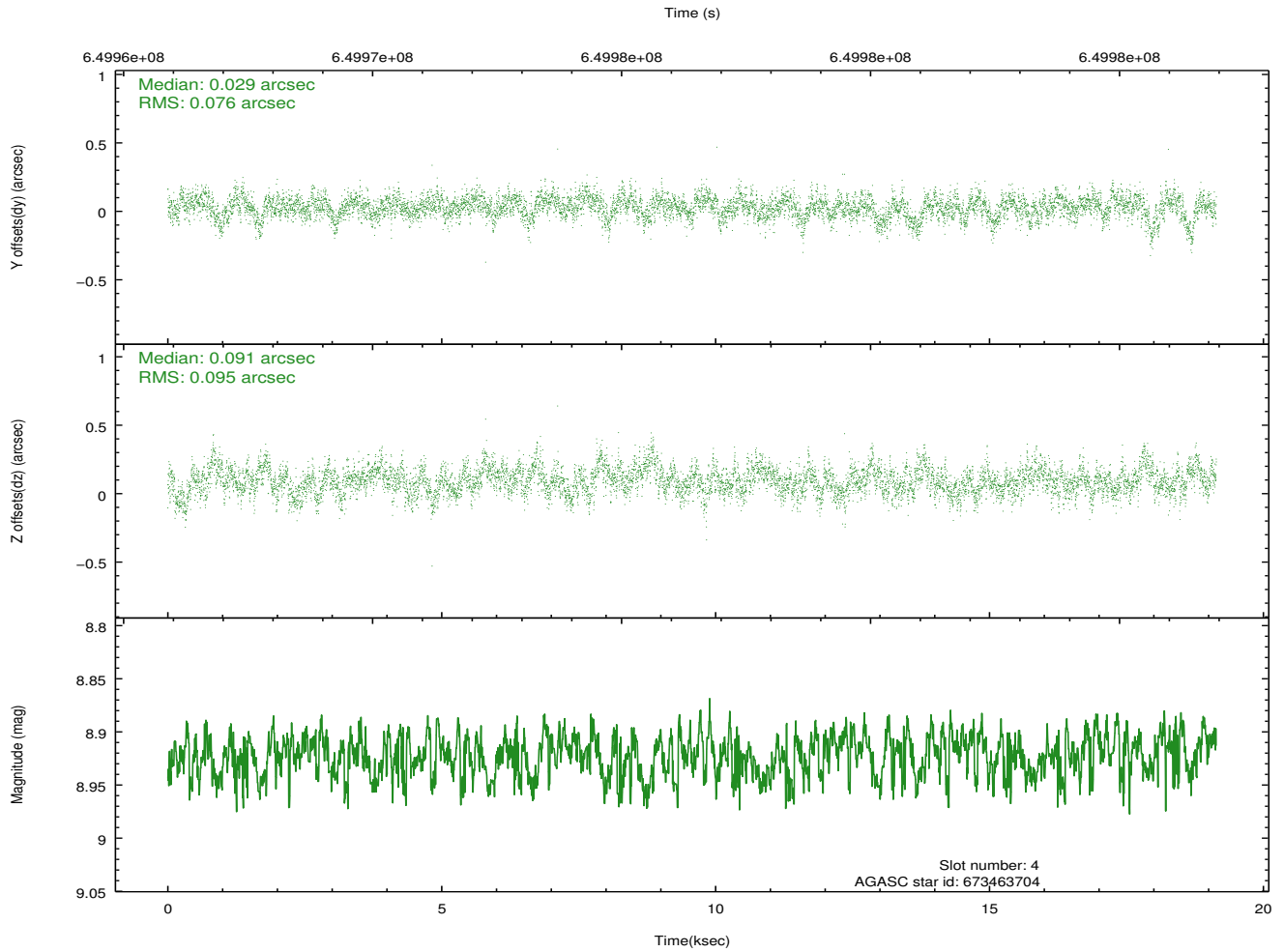
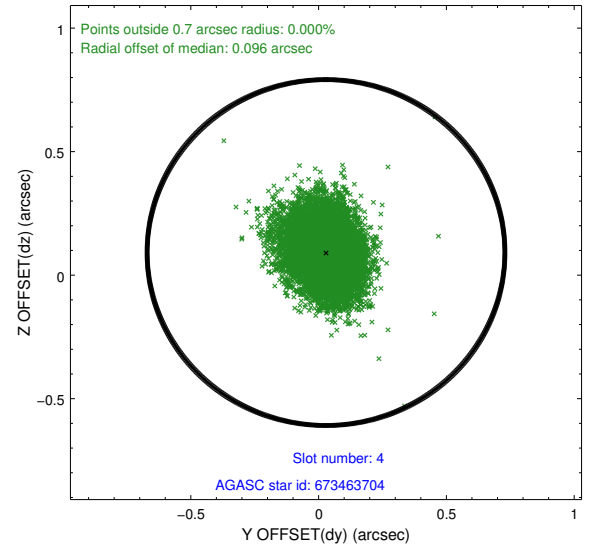
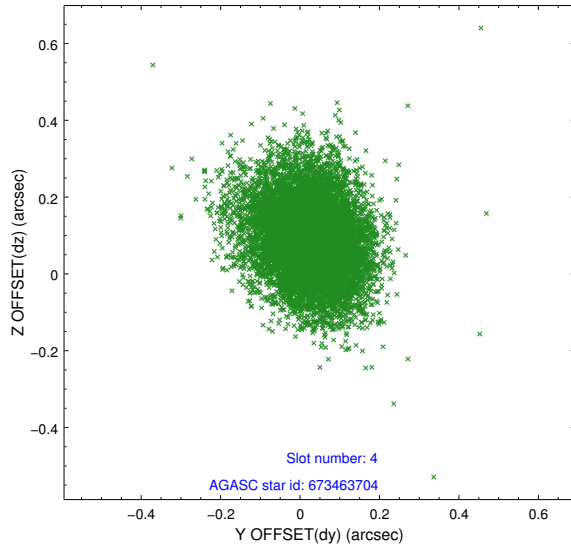
id	status	used	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		7.10	4669	1.000	0.085	0.047	0.014	0.023	0.000000	0.000000	926.20	-1863
1	FID		7.13	4669	1.000	-0.301	0.034	0.019	0.027	0.000000	0.000000	-1823.15	33
2	FID		7.31	4668	1.000	0.195	-0.069	0.015	0.022	0.000000	0.000000	391.53	677
3	GUIDE	used	8.26	9331	1.000	0.034	-0.061	0.100	0.168	289.799374	-5.232721	-102.56	348
4	GUIDE	used	8.92	9321	1.000	0.029	0.091	0.128	0.215	289.894494	-4.869892	-1426.15	82
5	GUIDE	used	9.21	9323	1.000	-0.148	-0.187	0.160	0.257	289.850458	-5.613937	1050.02	1114
6	GUIDE	used	8.82	9333	1.000	0.081	0.129	0.106	0.176	289.246637	-5.373686	1222.72	-1209
7	GUIDE	used	9.70	9321	1.000	0.019	0.031	0.154	0.262	290.476169	-5.097872	-1601.54	2317

2.4 Star Slots

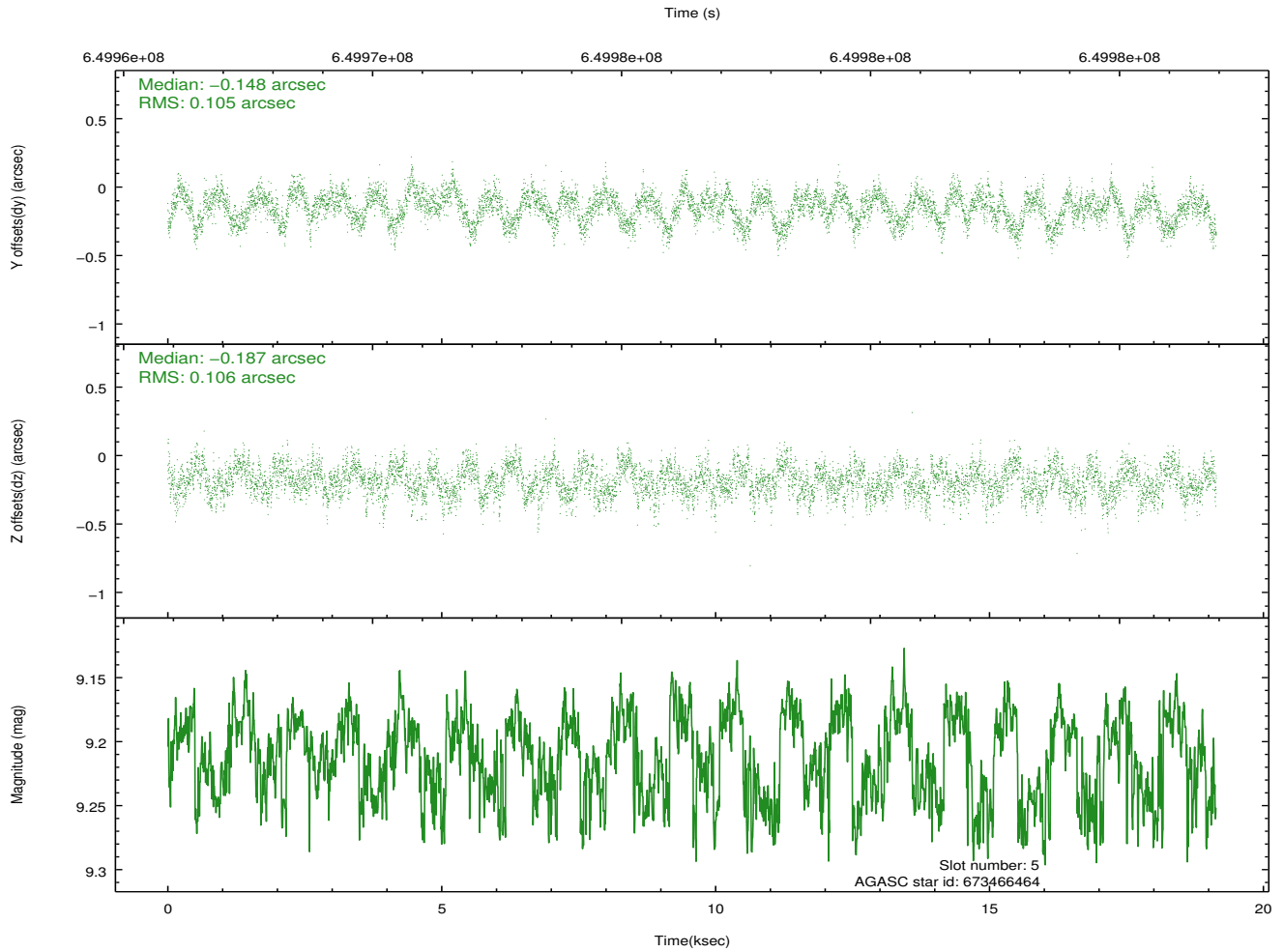
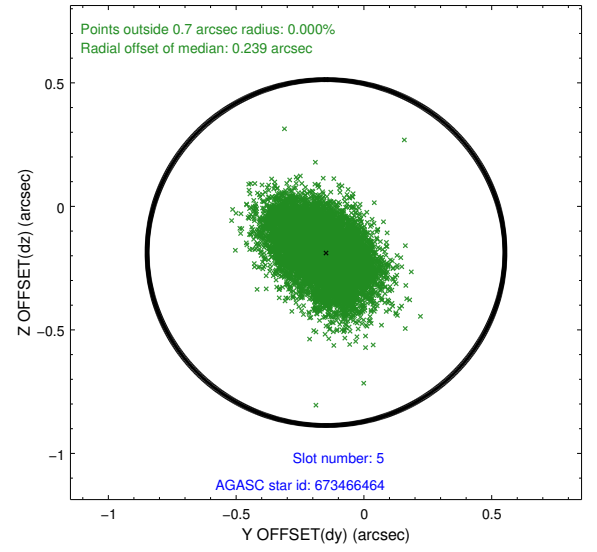
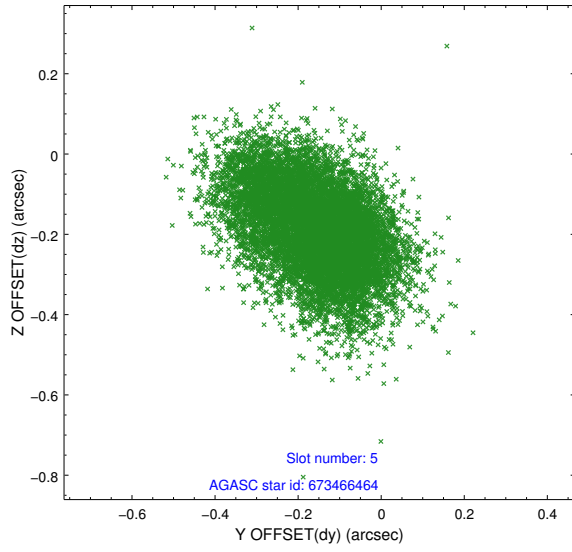
2.4.1 Slot 3



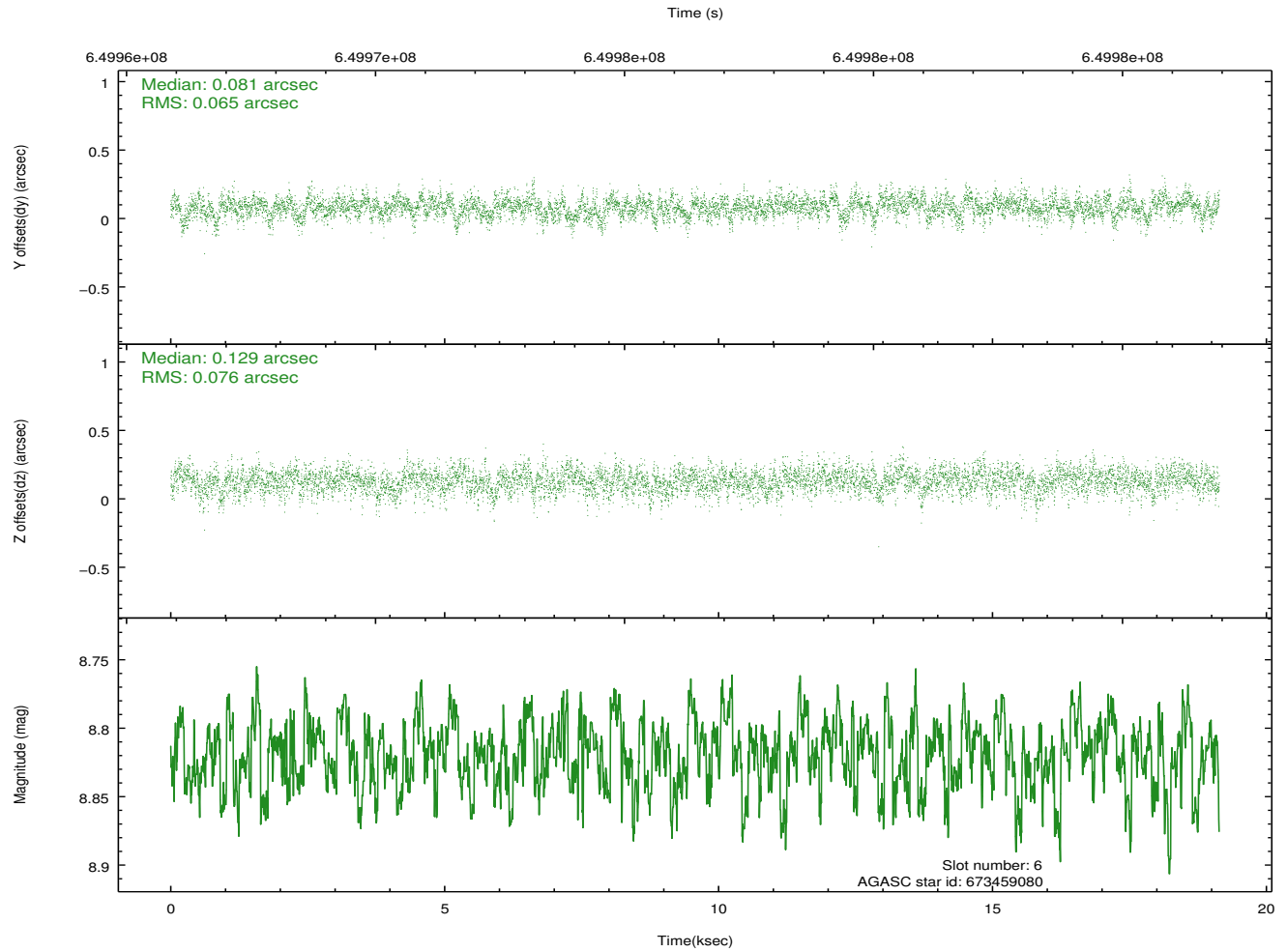
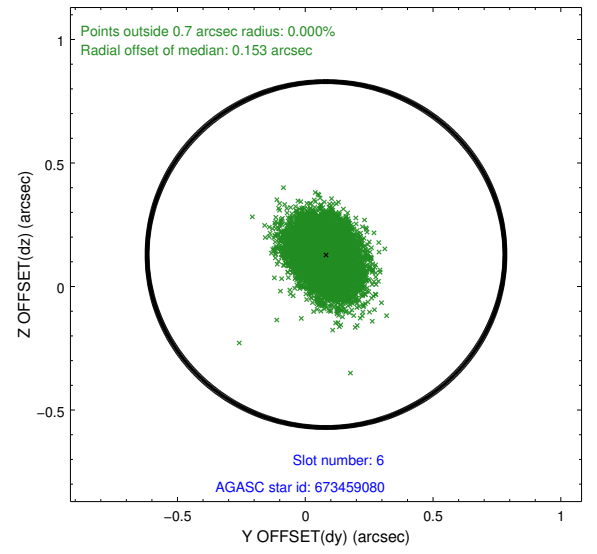
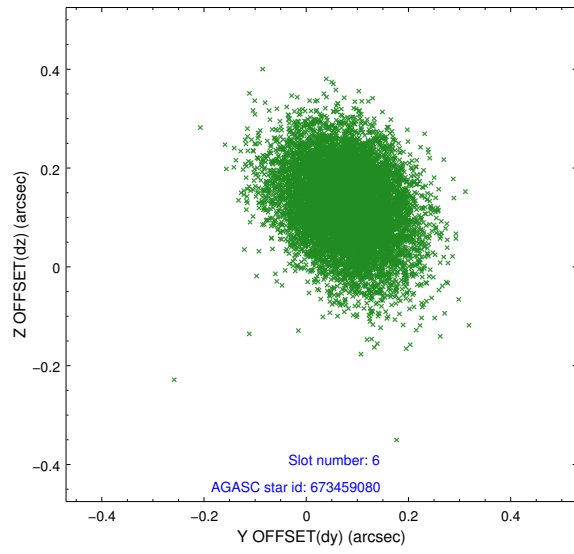
2.4.2 Slot 4



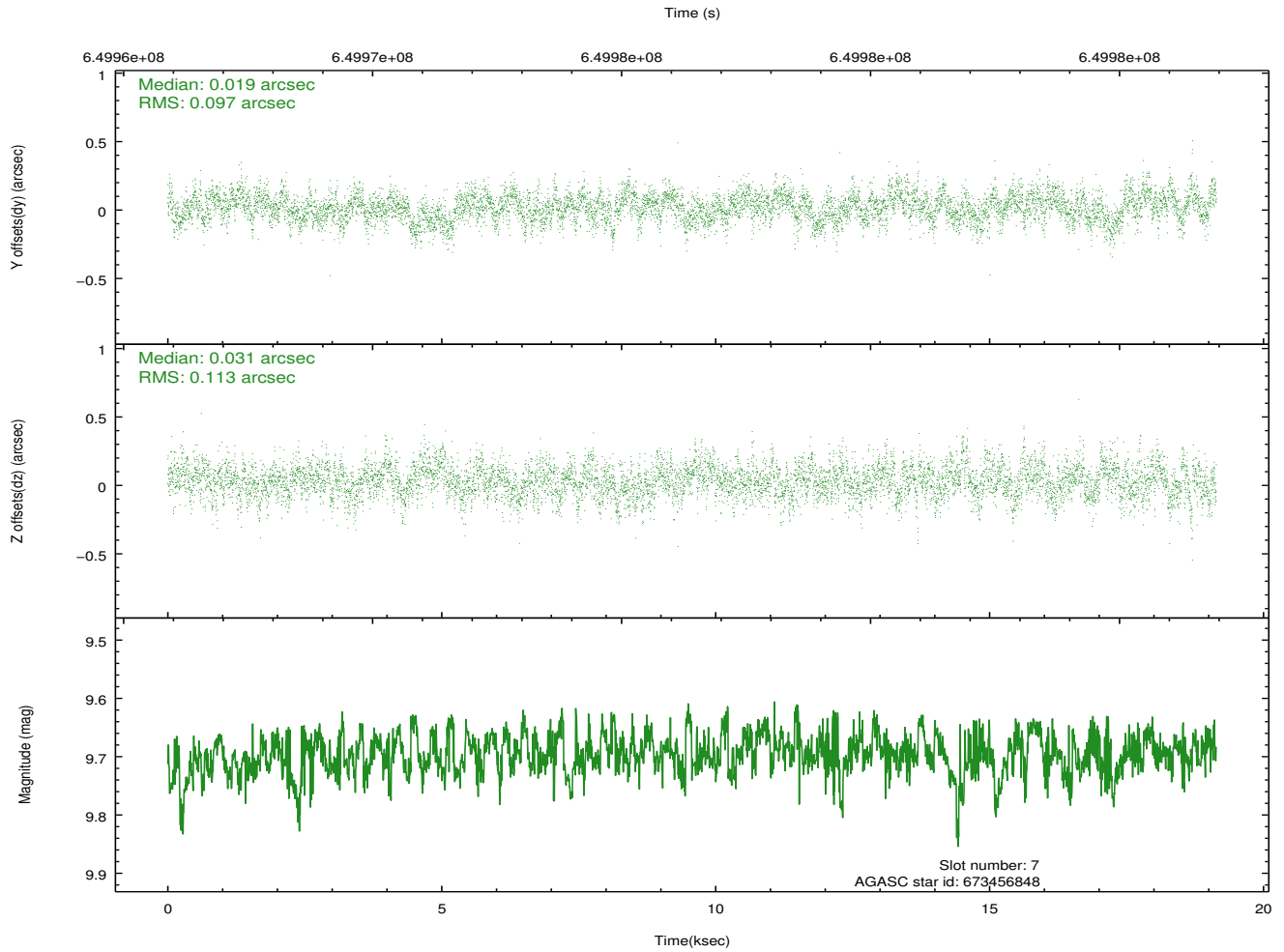
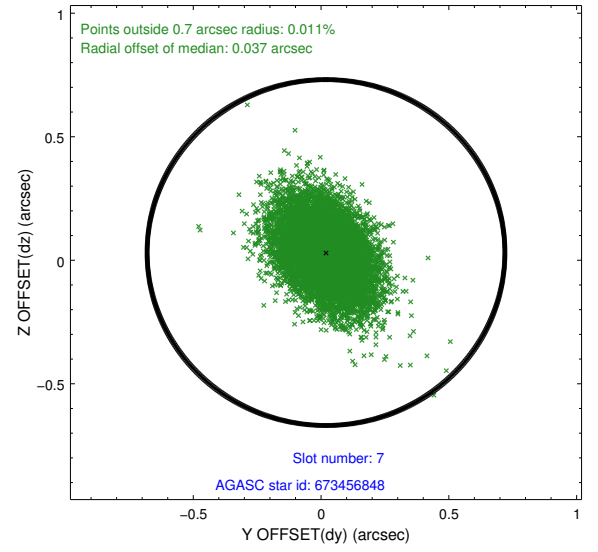
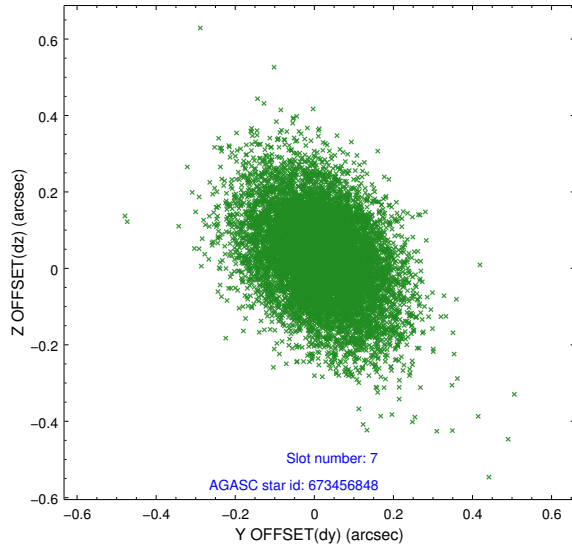
2.4.3 Slot 5



2.4.4 Slot 6

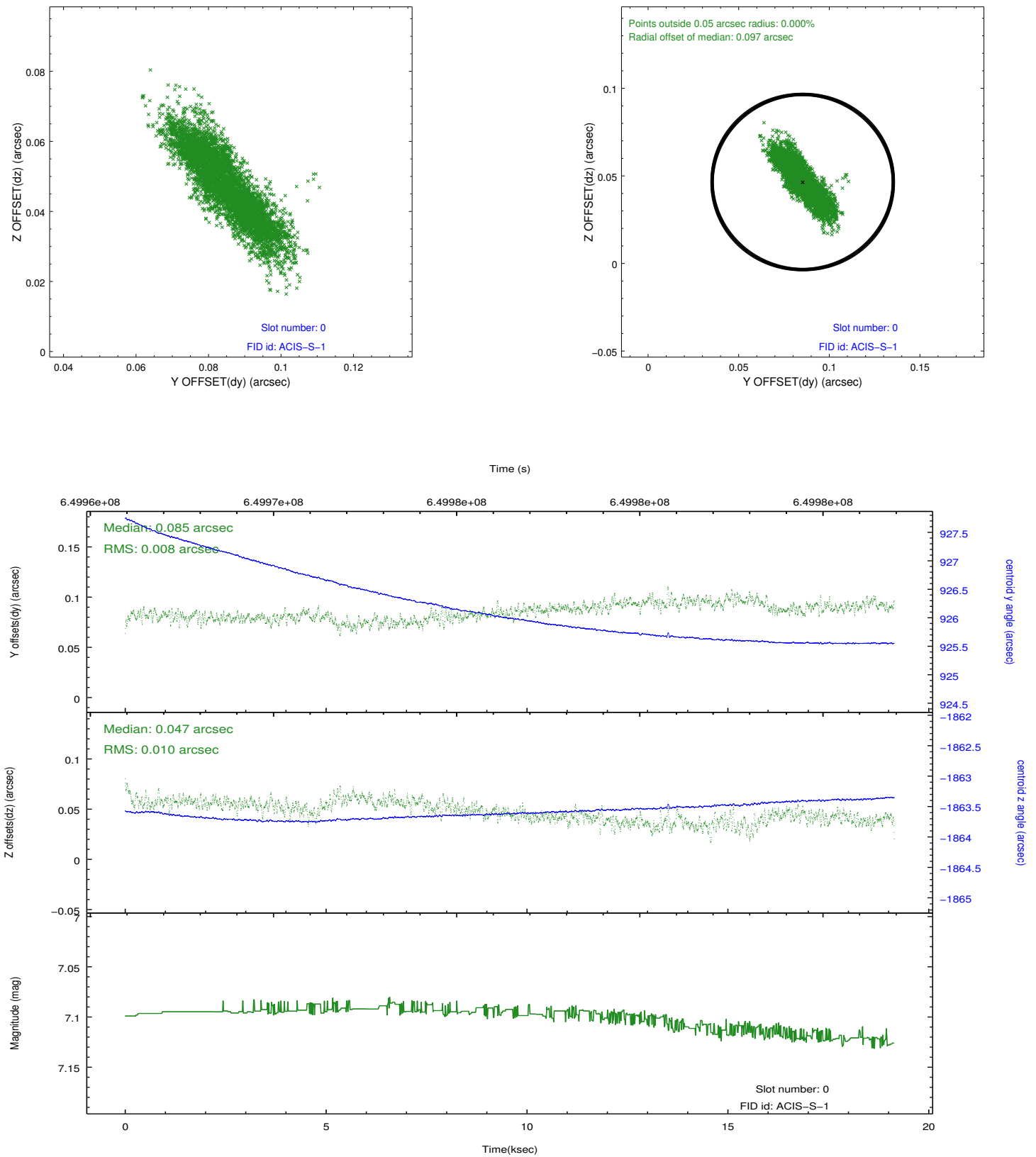


2.4.5 Slot 7

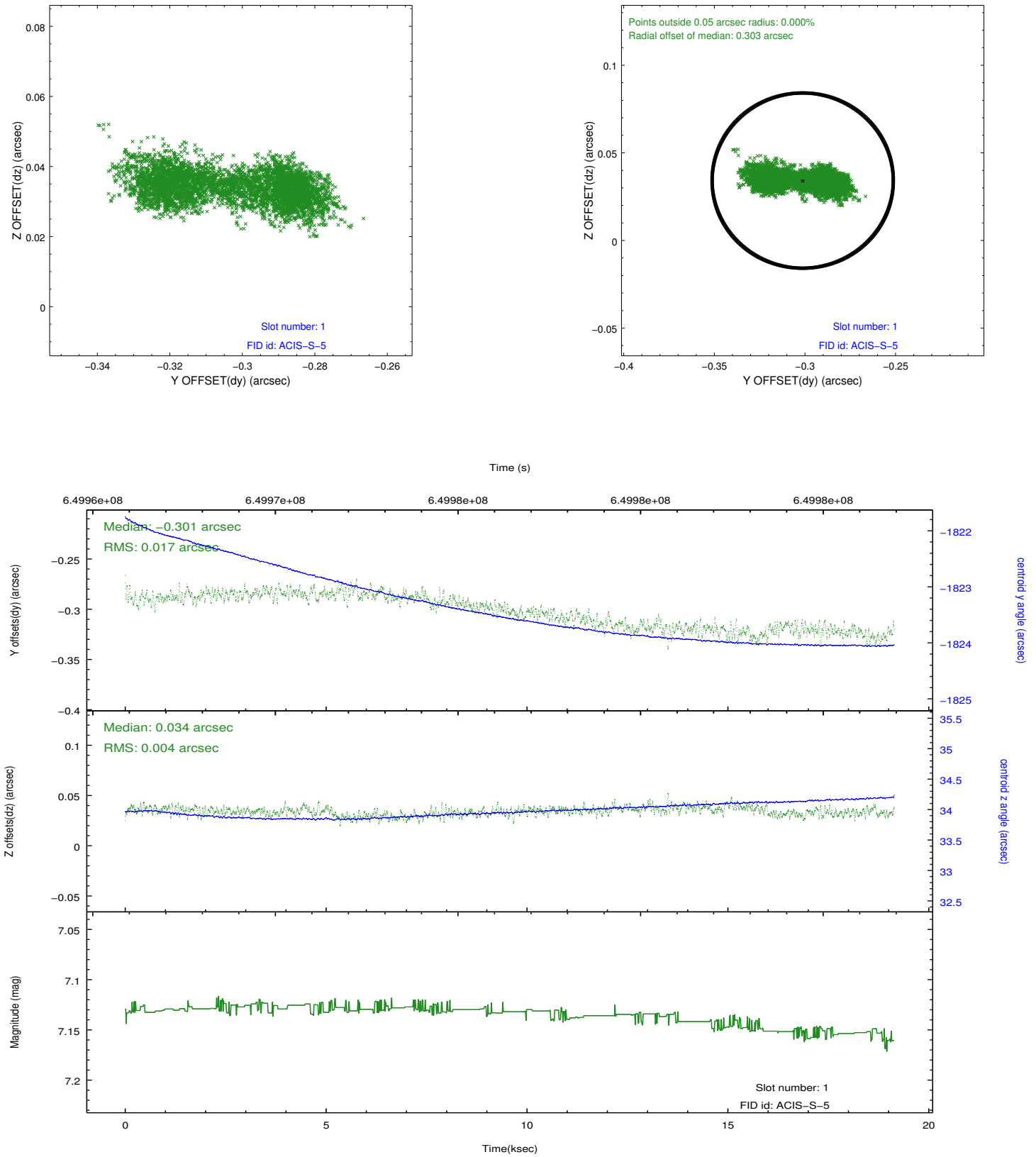


2.5 FID Slots

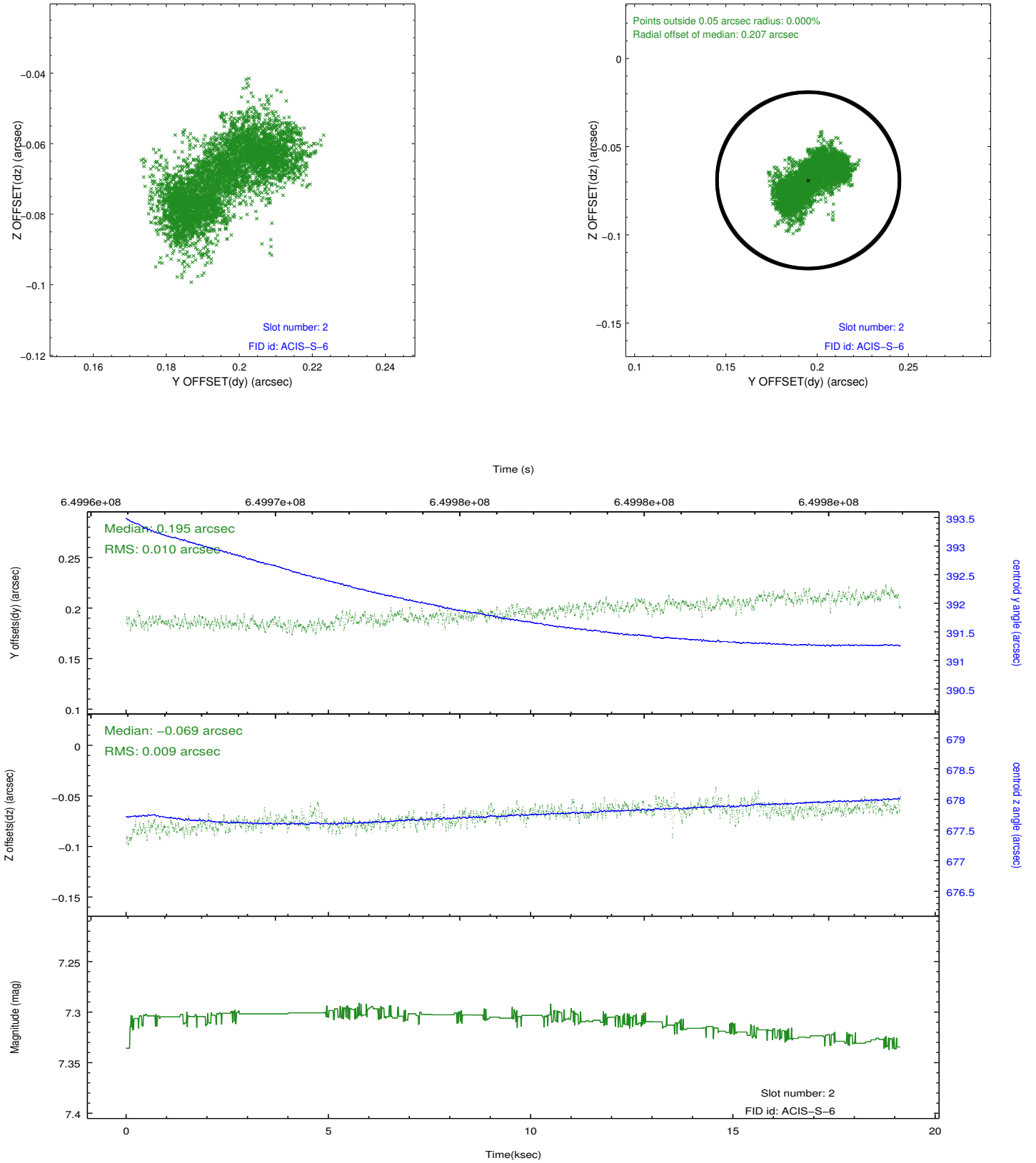
2.5.1 Slot 0



2.5.2 Slot 1

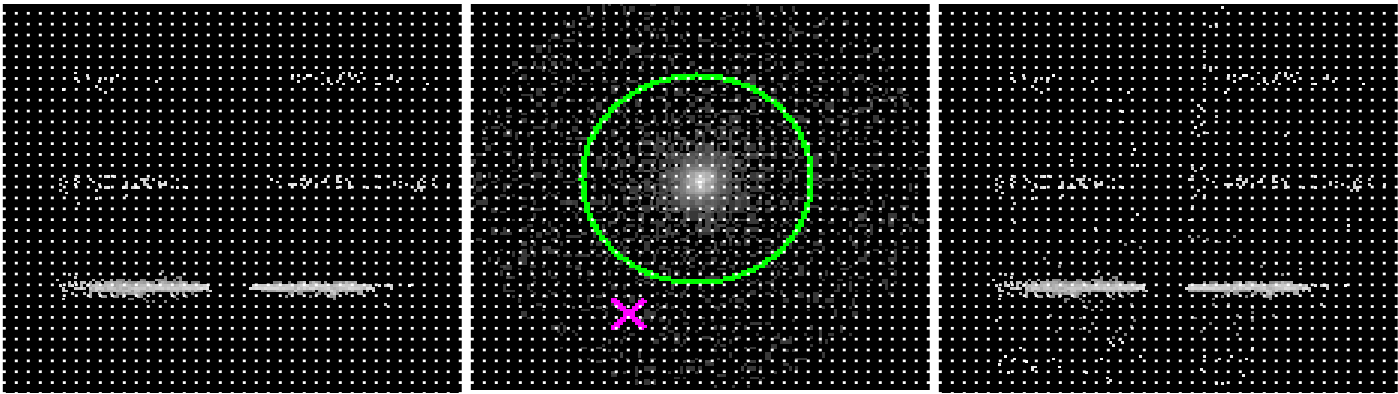


2.5.3 Slot 2



3 Gratings

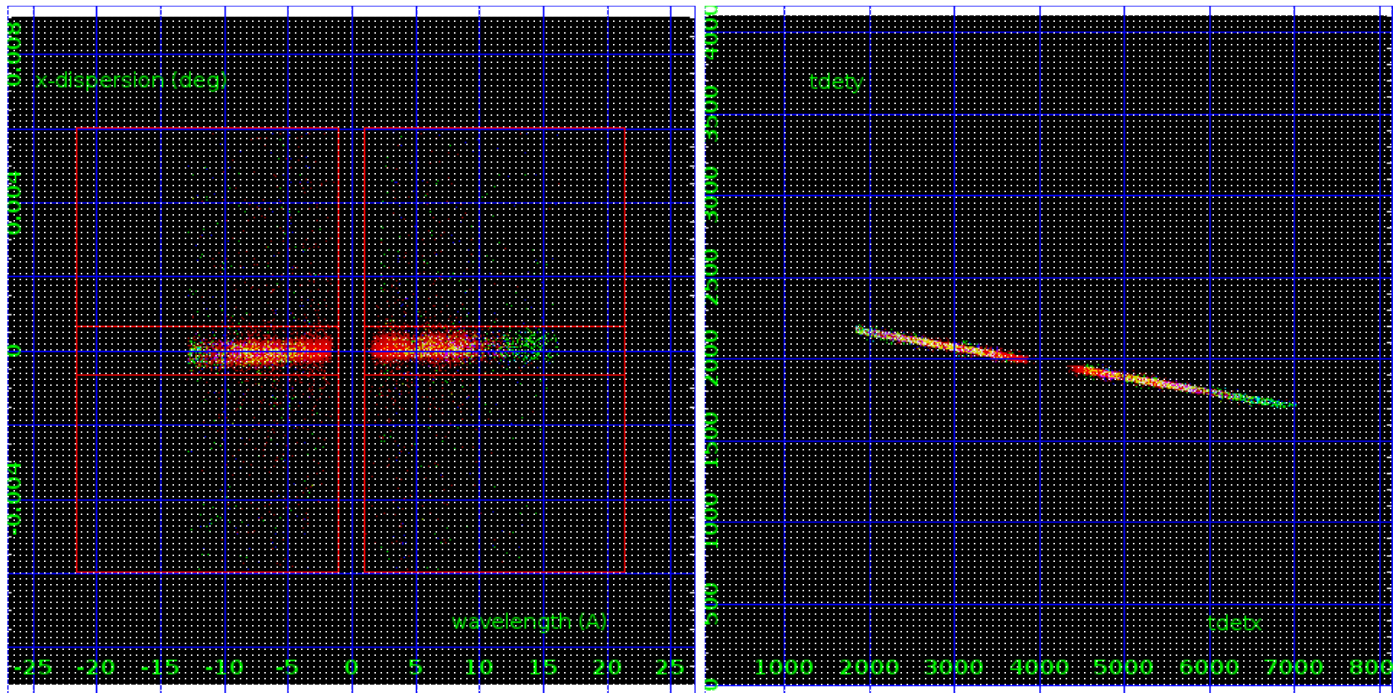
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

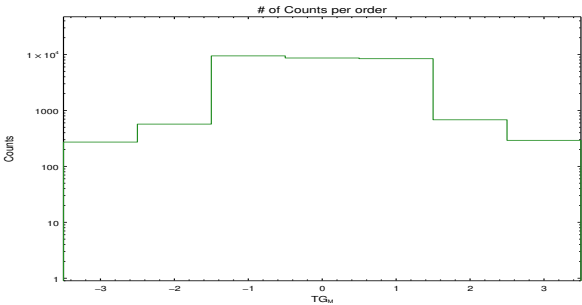
HEG Order Sort ALL

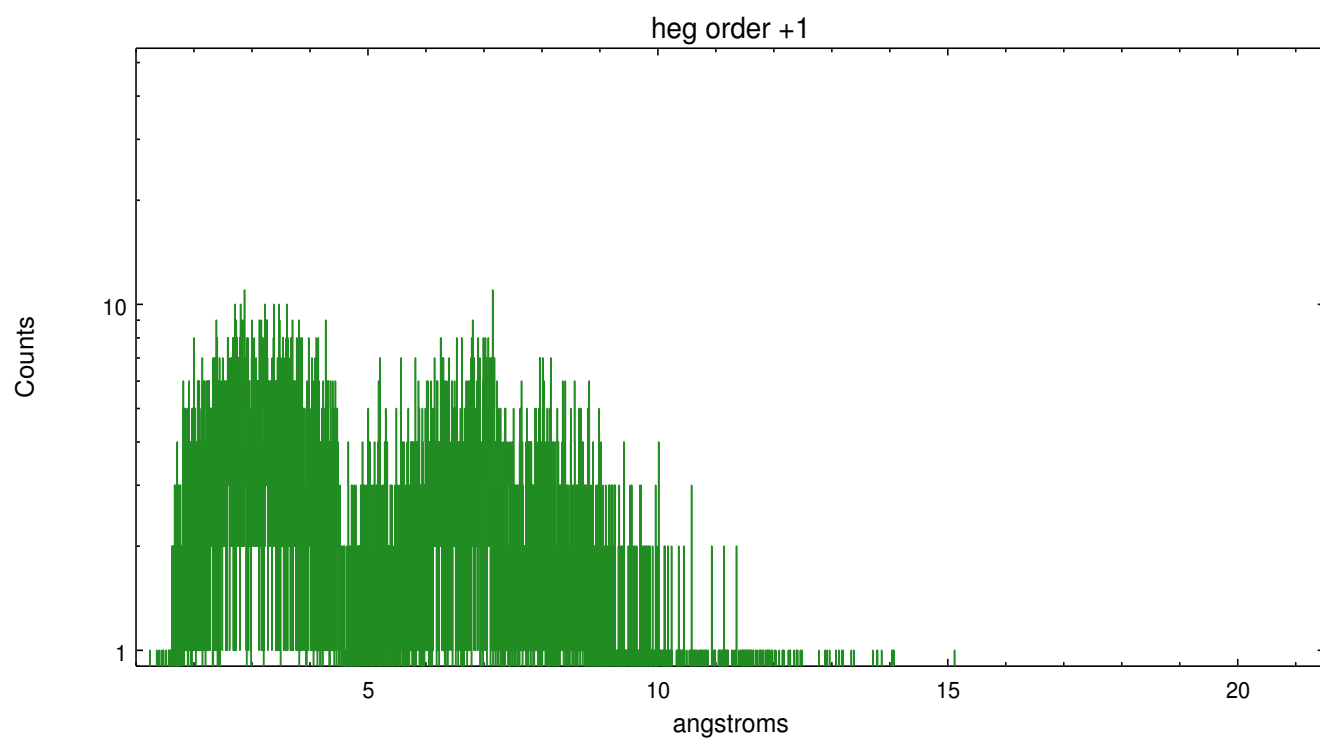
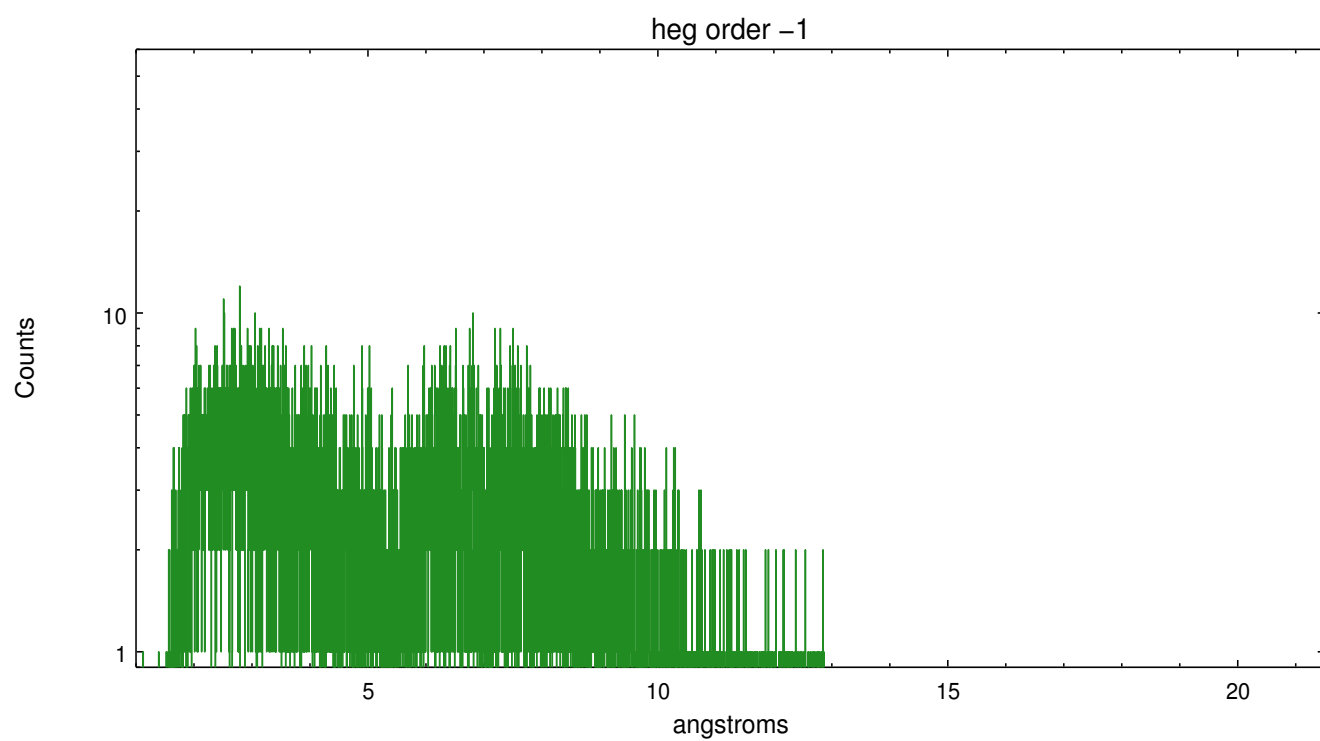


Spot Image HEG

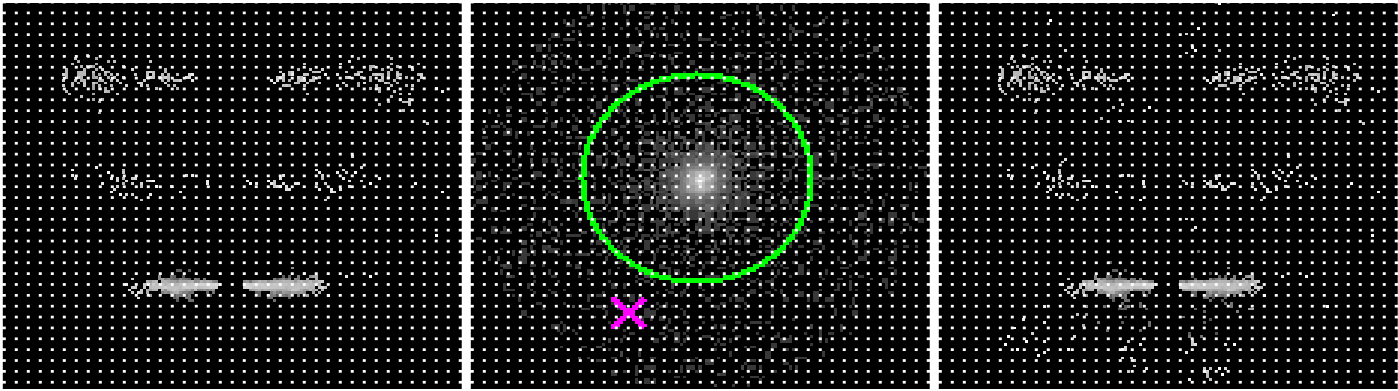
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	272	570	9464	8672	8430	681	292





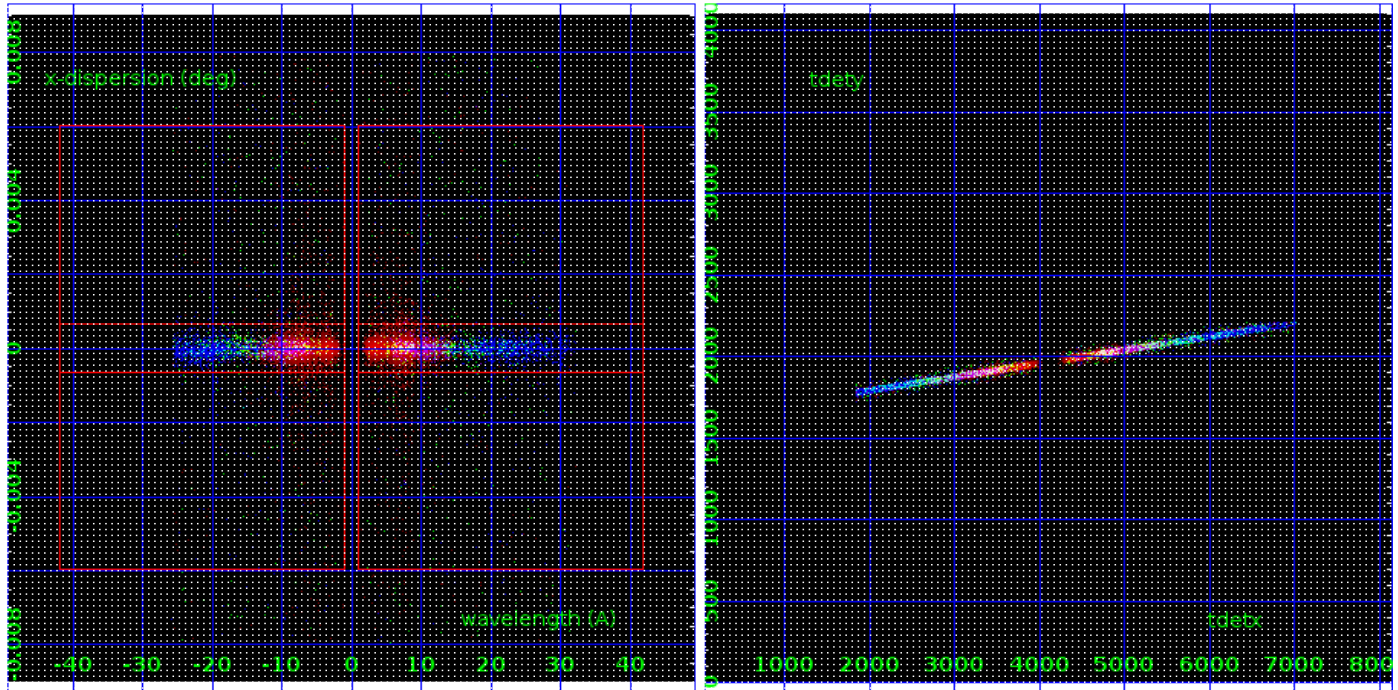
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

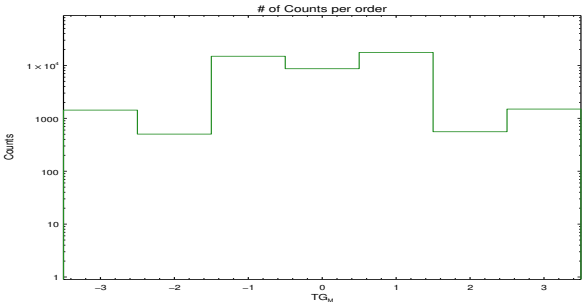
MEG Order Sort ALL

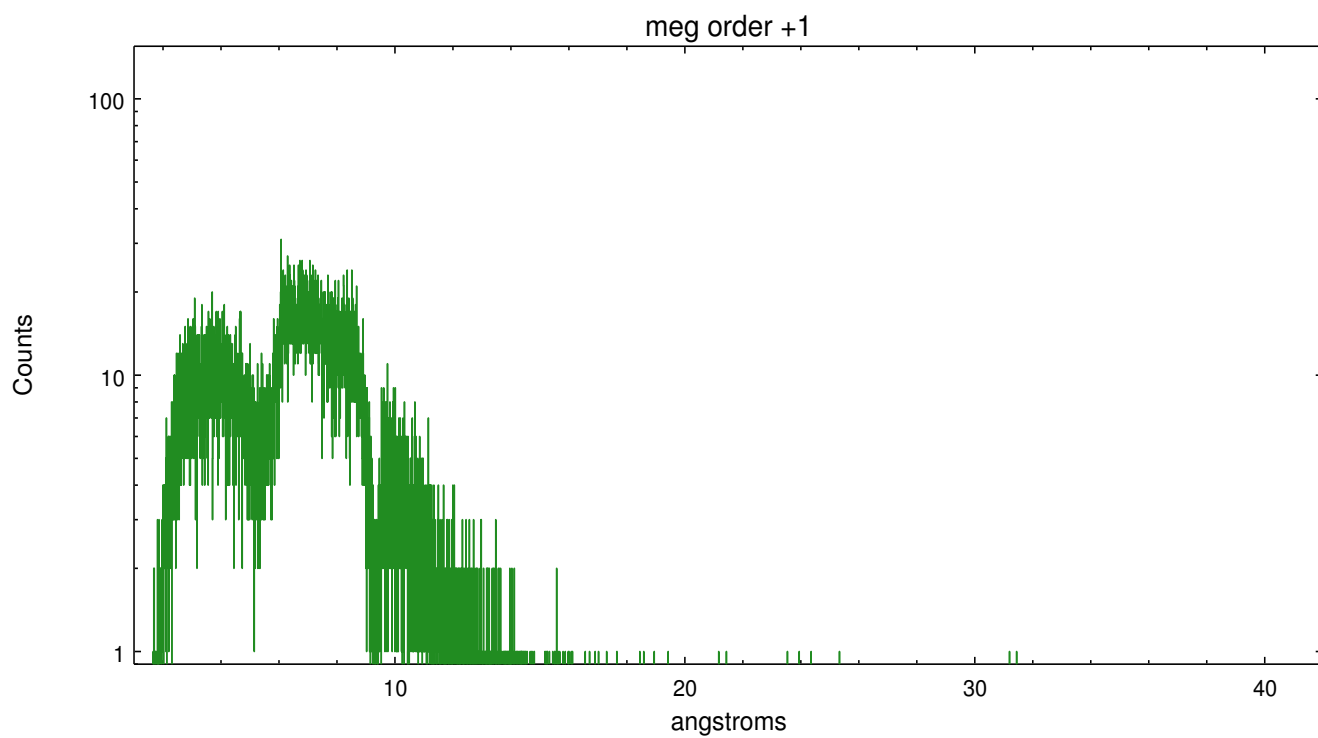
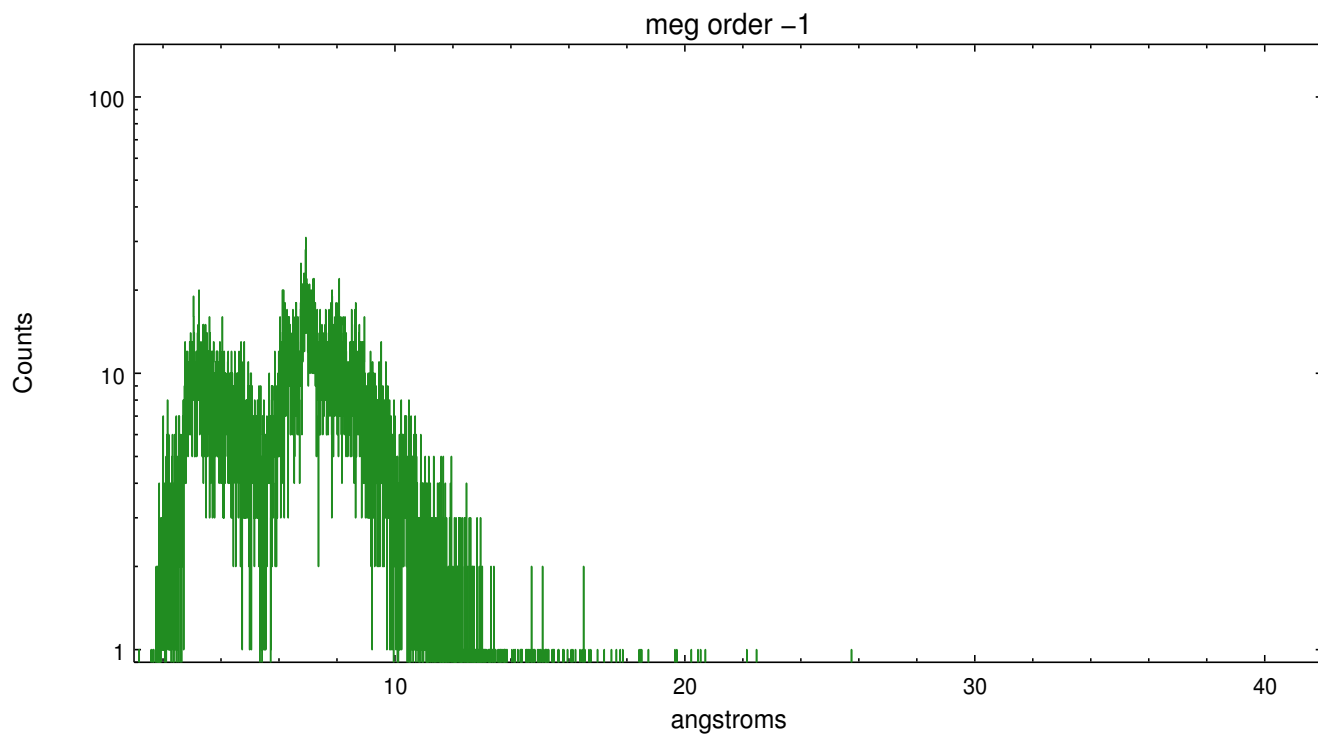


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1430	503	14909	8672	17637	558	1496





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.08.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.087600535393

A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.