

V&V Reference Report

L2 ASCDS Version : 10.6.4

Observation 21106 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Aug 6 2018

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1 Front

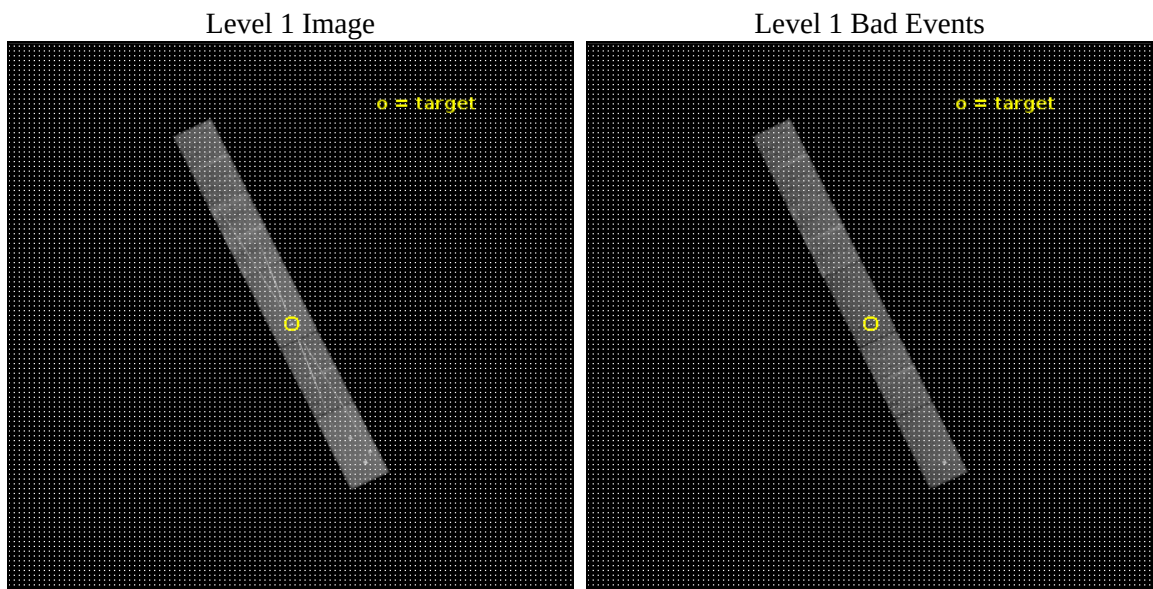
seq_num	401899	Sequence number
obs_id	21106	Observation id
title	An X-ray Outflow in an Ultracompact X-ray Binary	Proposal title
observer	Jon Miller	Principal investigator
object	4U 1916-053	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	289.699583	Observer's specified target RA [deg]
dec_targ	-5.238083	Observer's specified target Dec [deg]
ra_nom	289.70188396044	Nominal RA [deg]
dec_nom	-5.2419097430723	Nominal Dec [deg]
roll_nom	244.15684633963	Nominal Roll [deg]
revision	1	Processing version of data
ontime	21088.056933403	Sum of GTIs [s]
livetime	20590.966770887	Livetime [s]
ontime5	21088.015893459	Sum of GTIs [s]
ontime6	21087.974853396	Sum of GTIs [s]
ontime7	21088.056933403	Sum of GTIs [s]
ontime8	21087.933813453	Sum of GTIs [s]
ontime9	21087.89277339	Sum of GTIs [s]
l2events	217356	Number of level 2 events



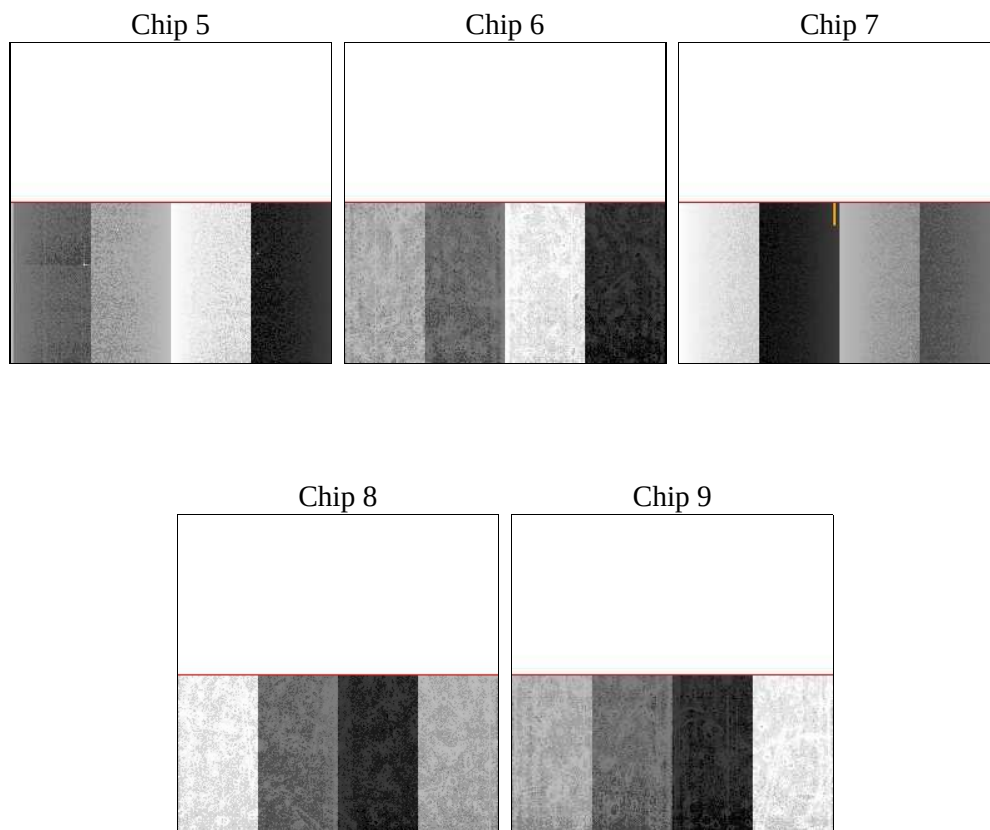
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4	Processing system revision	ontime	21088.056933403	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	21088.015893459	Sum of GTIs [s]
date	2018-08-06T22:10:43	Date and time of file creation	ontime6	21087.974853396	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	21088.056933403	Sum of GTIs [s]
			ontime8	21087.933813453	Sum of GTIs [s]
			ontime9	21087.89277339	Sum of GTIs [s]
			l1events	616882	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4114.36, 4123.07)	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	151451	112569	148790	123429	80643
rejected events	71015	73454	62914	81291	68405
rejected %	46%	65%	42%	65%	84%

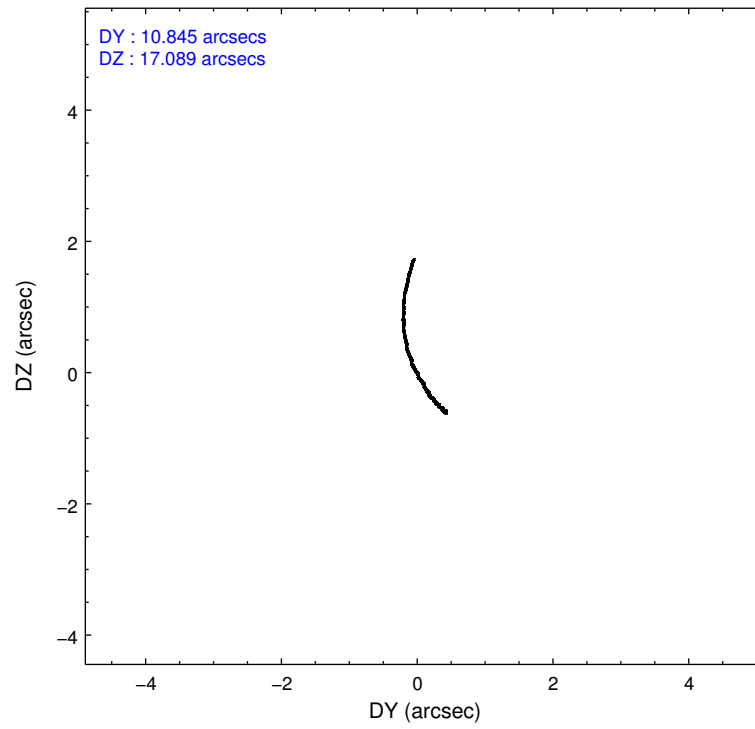
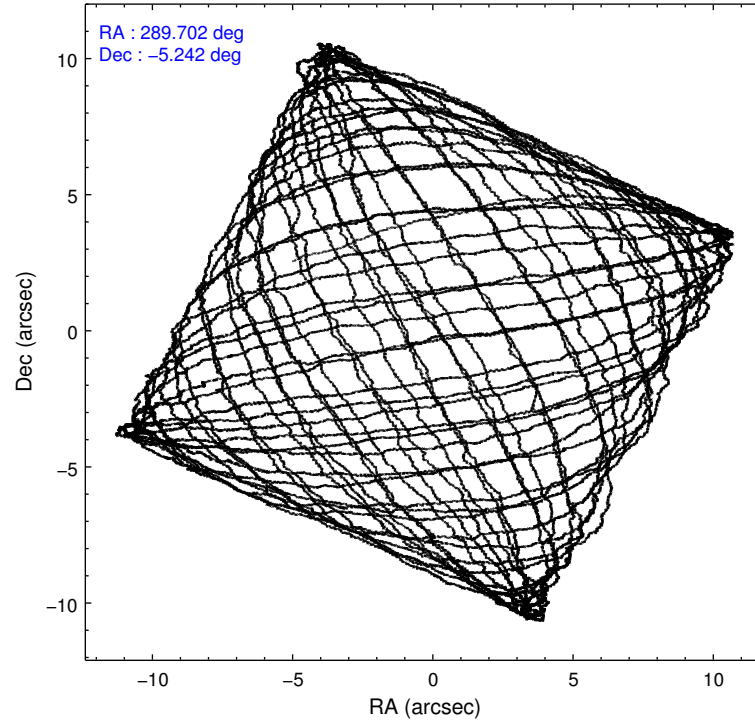
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	15941	25268	12182	16897	5044
	10%	22%	8%	13%	6%
grade 1 events	286	107	444	108	40
	0%	0%	0%	0%	0%
grade 2 events	22459	5745	19444	8743	2460
	14%	5%	13%	7%	3%
grade 3 events	4324	2338	8256	3815	1276
	2%	2%	5%	3%	1%
grade 4 events	3413	2362	8237	3478	1217
	2%	2%	5%	2%	1%
grade 5 events	12938	3848	12145	5513	4041
	8%	3%	8%	4%	5%
grade 6 events	34318	3409	37773	9211	2242
	22%	3%	25%	7%	2%
grade 7 events	57772	69492	50309	75664	64323
	38%	61%	33%	61%	79%

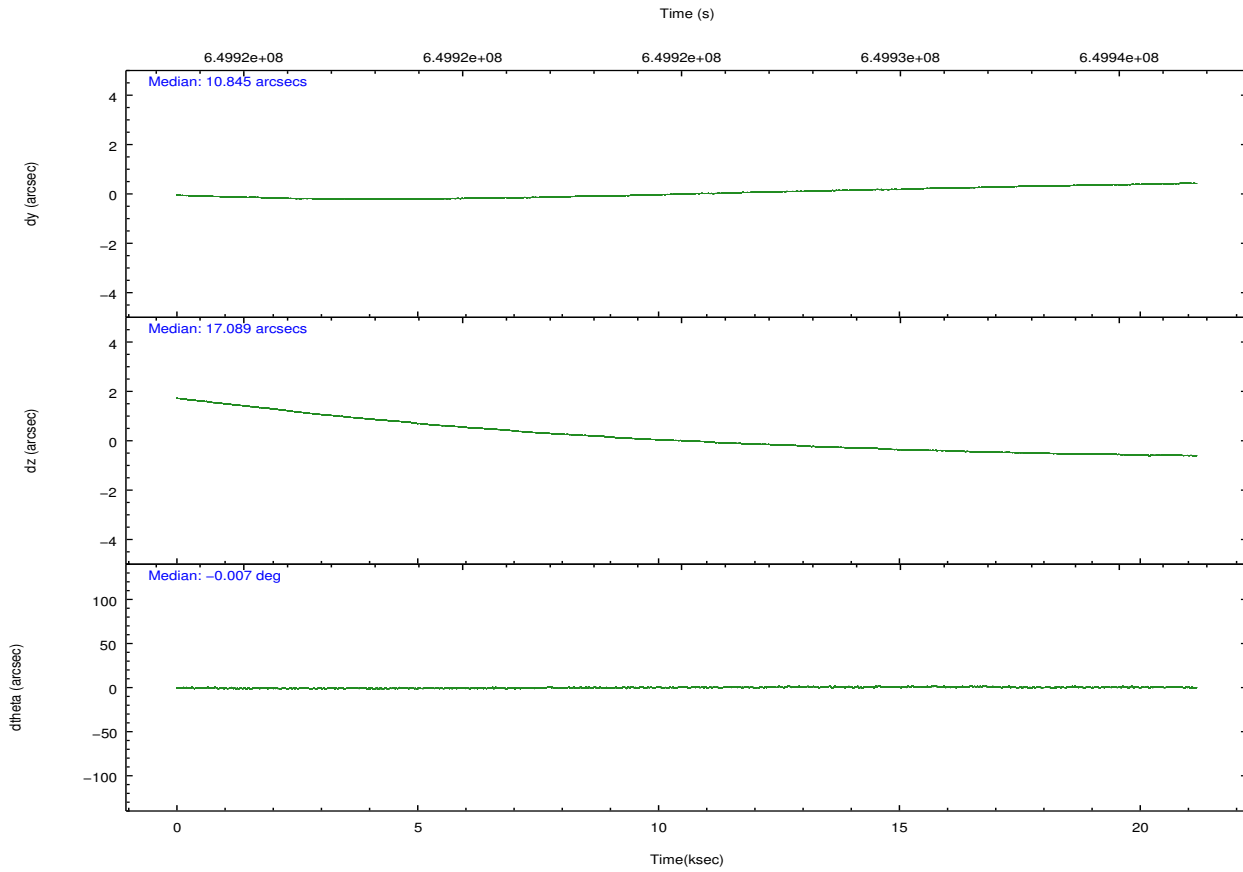
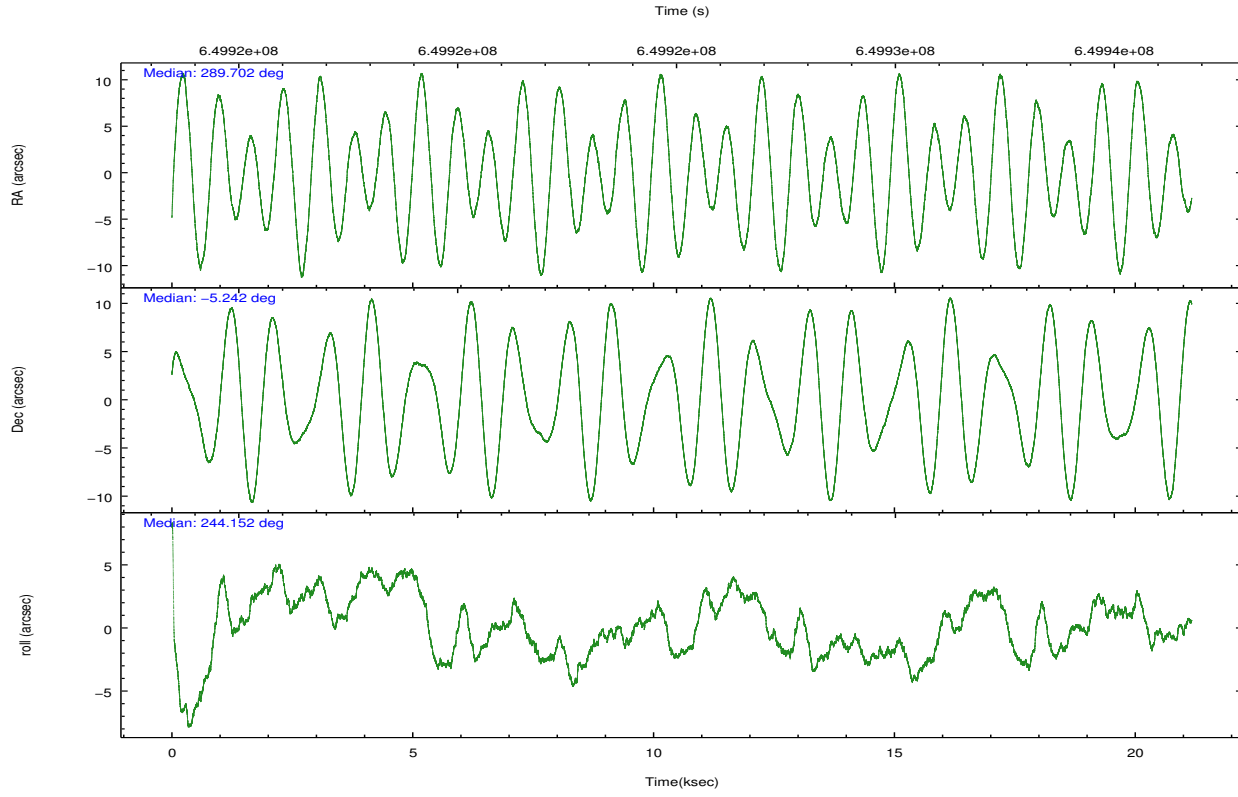
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	289.699503	289.7018839604407
[deg] Pointing Dec	-5.214576	-5.241909743072324
[deg] Pointing Roll	243.999993	244.1568463396301
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-183.992523	-183.9875365069546
[mm] SIM translation stage offset	-6.14	-6.144986076053243
[s] Observation start time (MET)	649914692.184000	649913262.17235
Observation start date	2018-08-06T03:50:23	2018-08-06T03:27:42
[s] Observation end time (MET)	649935692.184000	649936527.6237299
Observation end date	2018-08-06T09:40:23	2018-08-06T09:55:27
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	O1	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	Y	Y
Number of optional ACIS chips dropped	1	1
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/2
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



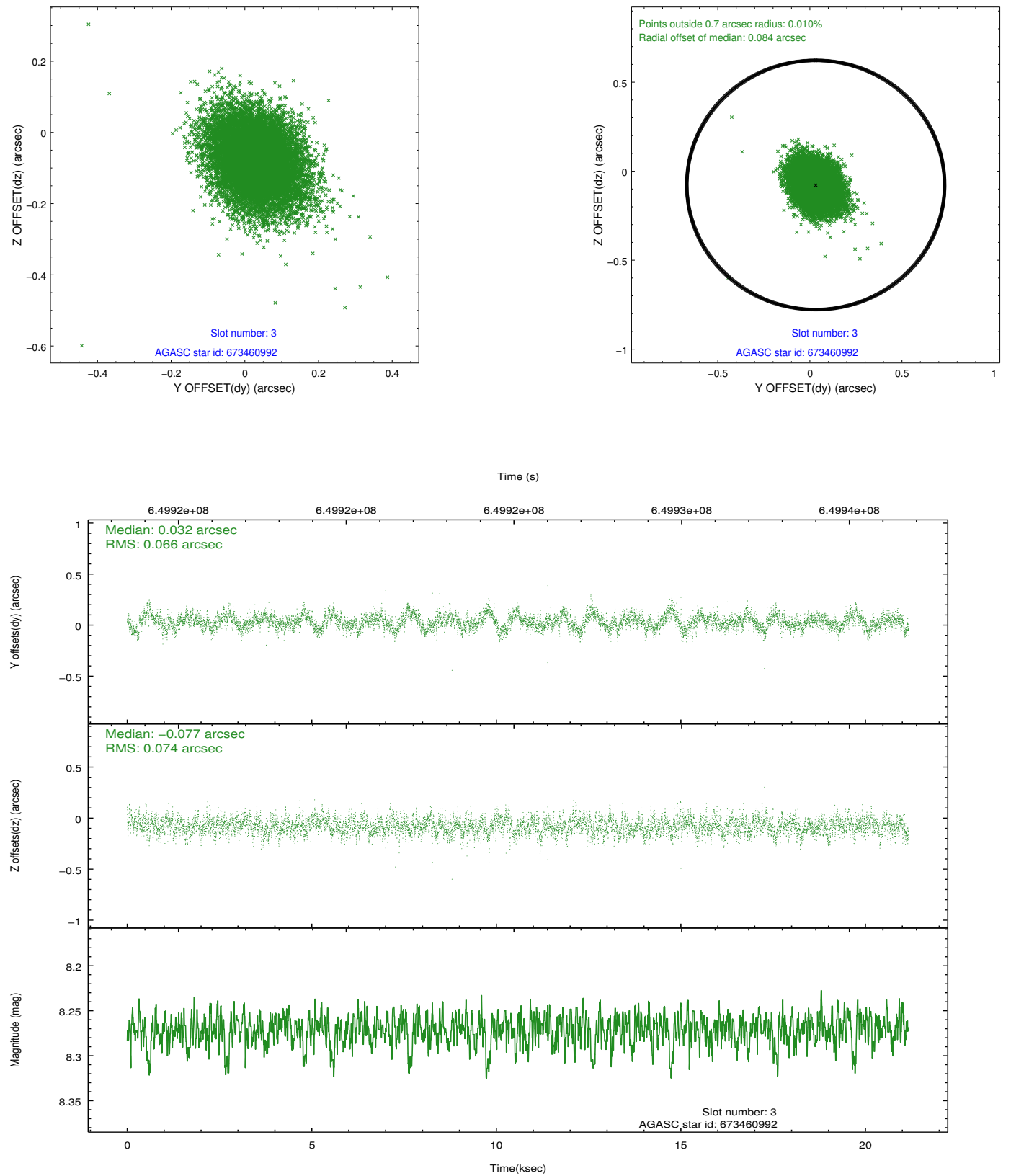


Slot Statistics

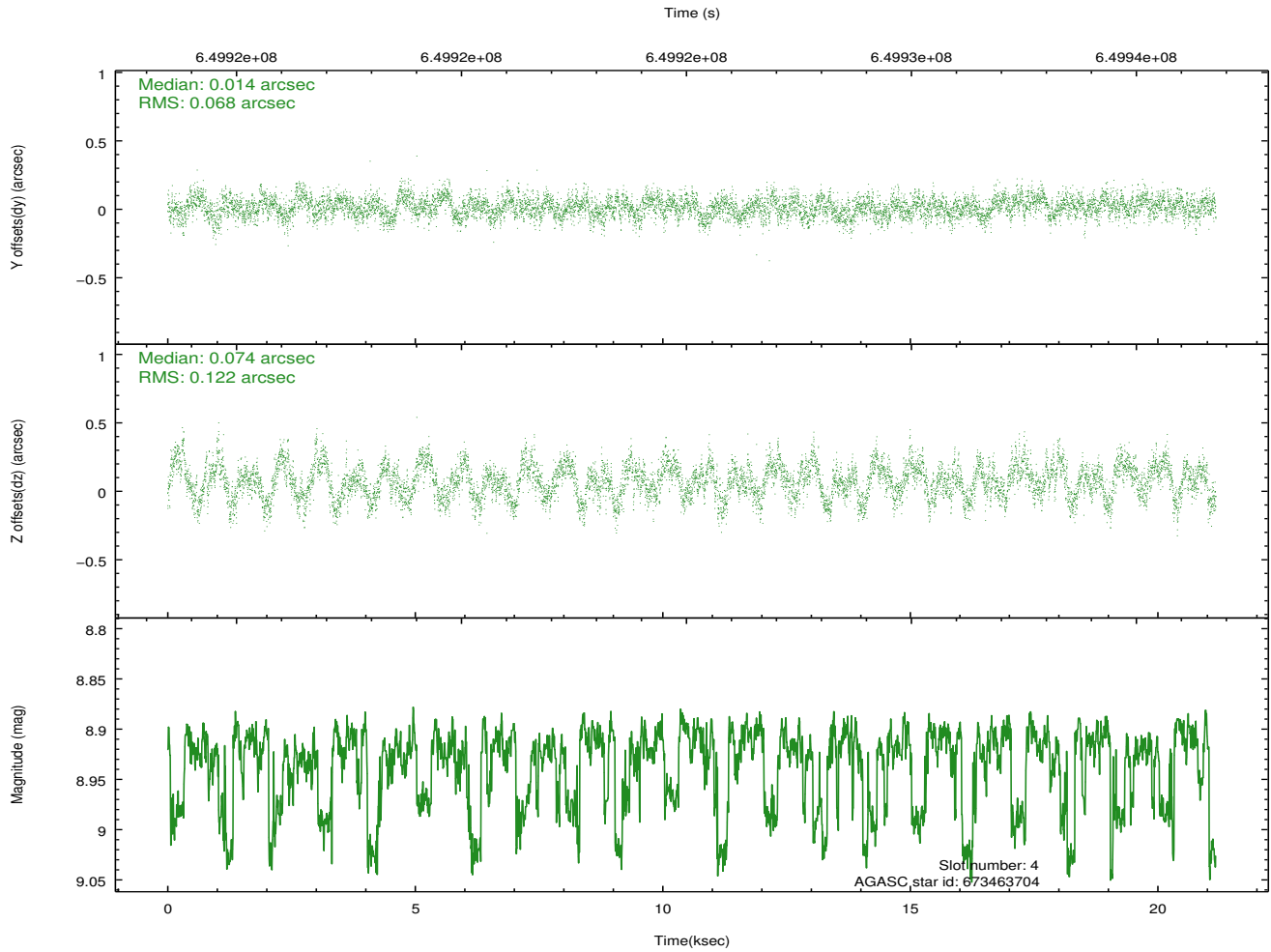
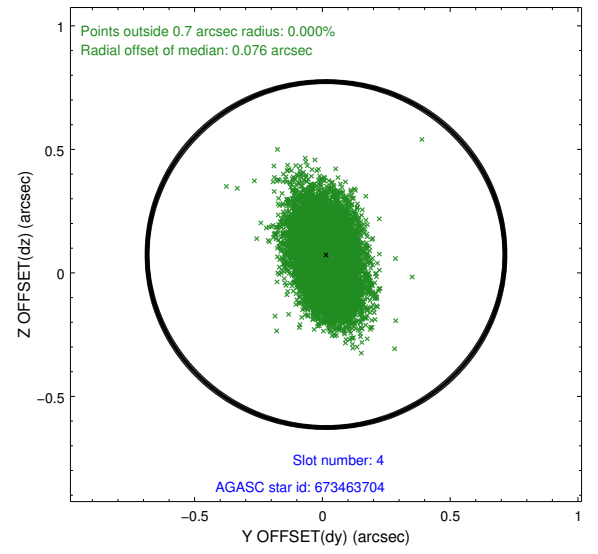
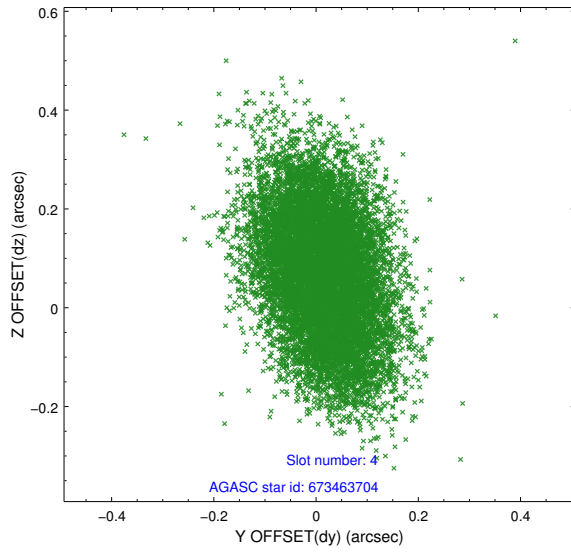
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.09	5163	1.000	0.081	0.048	0.020	0.032	0.000000	0.000000	932.87	-1860
1	FID		ACIS-S-5	7.10	5165	1.000	-0.243	0.046	0.009	0.018	0.000000	0.000000	-1816.41	36
2	FID		ACIS-S-6	7.29	5164	1.000	0.140	-0.086	0.022	0.032	0.000000	0.000000	398.22	680
3	GUIDE	used	673460992	8.27	10325	1.000	0.032	-0.077	0.104	0.172	289.799374	-5.232721	-97.58	350
4	GUIDE	used	673463704	8.93	10321	1.000	0.014	0.074	0.147	0.246	289.894494	-4.869892	-1421.18	85
5	GUIDE	used	673466464	9.21	10317	1.000	-0.135	-0.134	0.142	0.228	289.850458	-5.613937	1055.04	1116
6	GUIDE	used	673459080	8.82	10318	1.000	0.036	0.142	0.103	0.179	289.246637	-5.373686	1227.63	-1207
7	GUIDE	used	673456848	9.68	10311	1.000	0.052	0.003	0.155	0.269	290.476169	-5.097872	-1596.53	2319

2.4 Star Slots

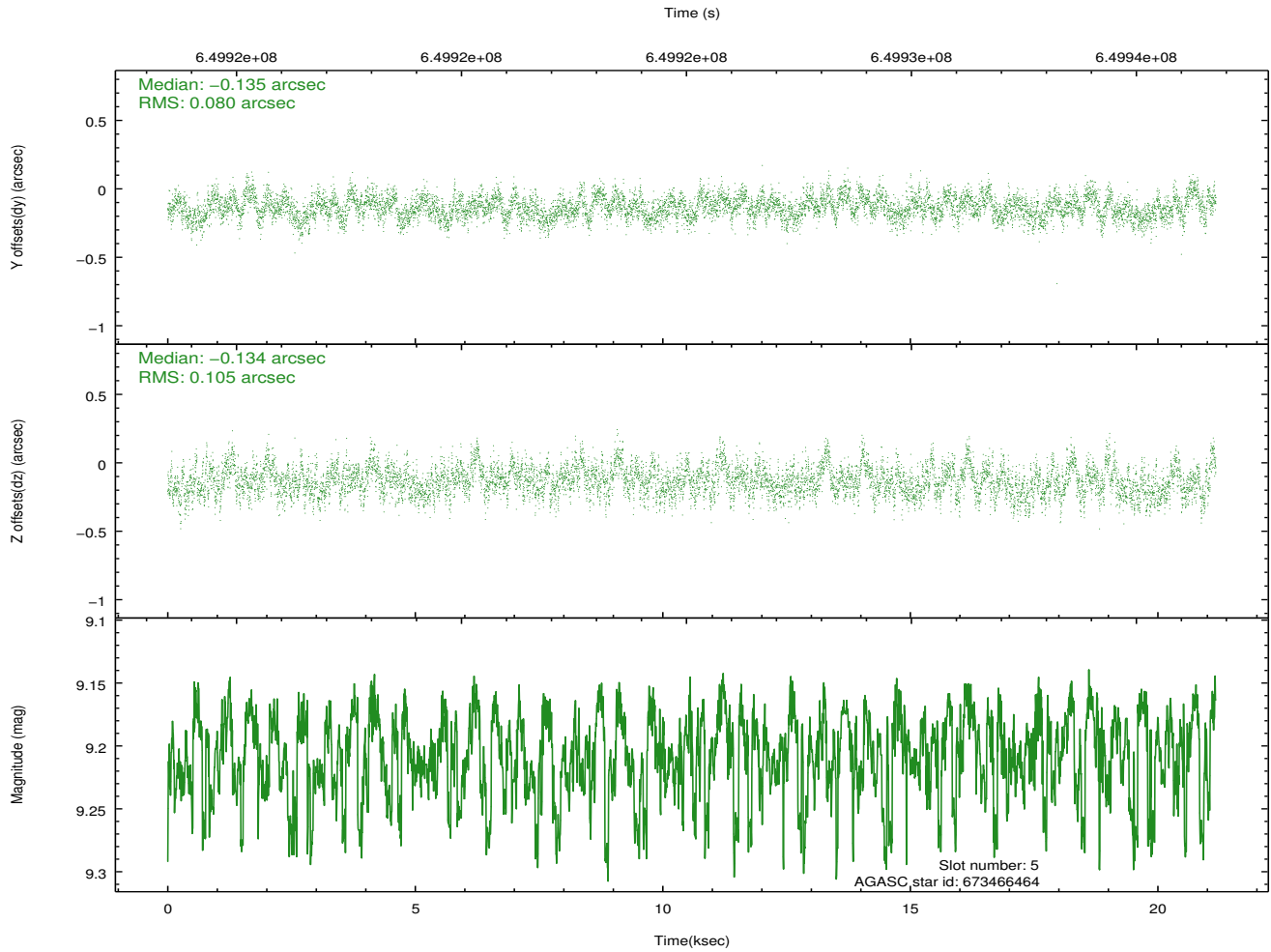
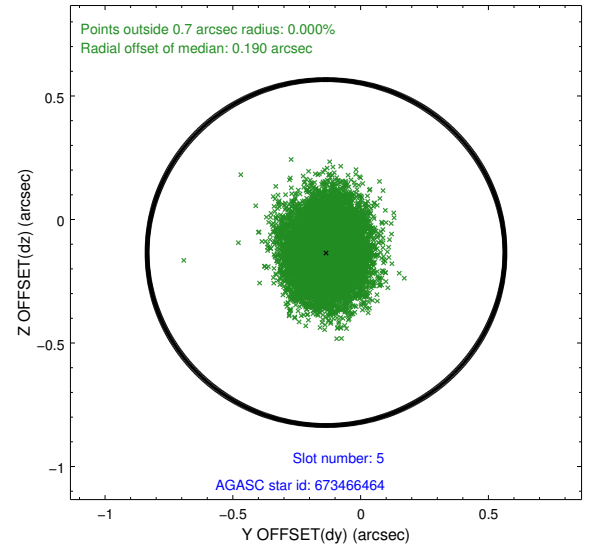
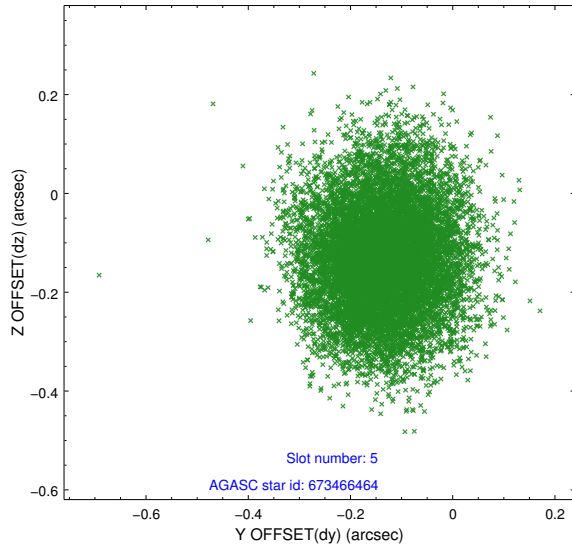
2.4.1 Slot 3



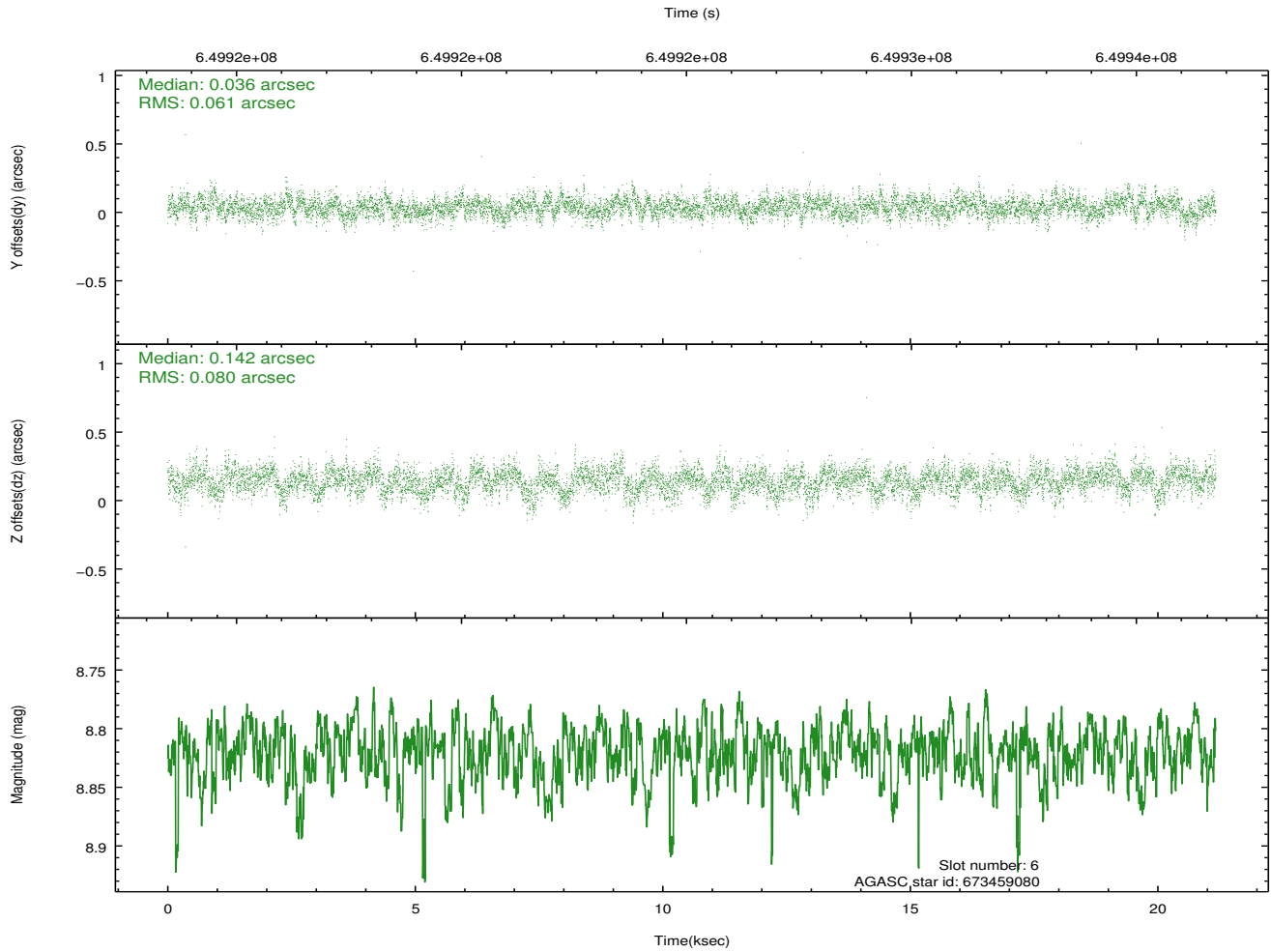
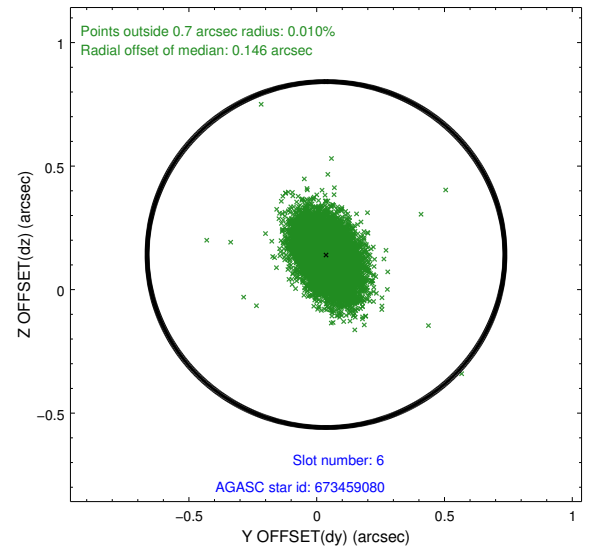
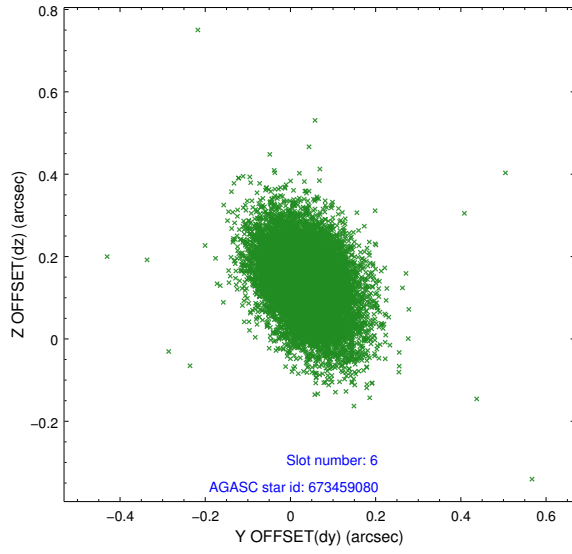
2.4.2 Slot 4



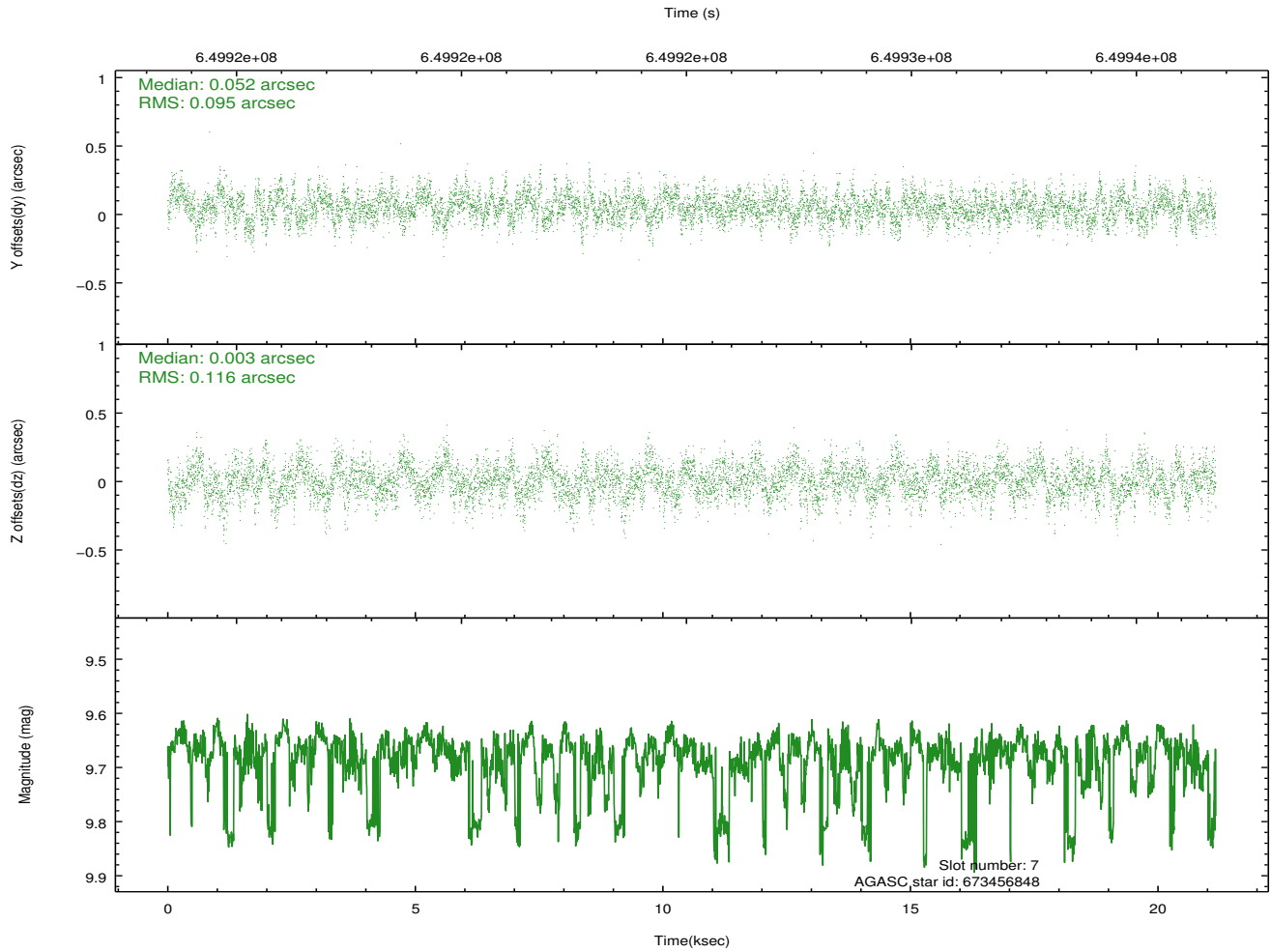
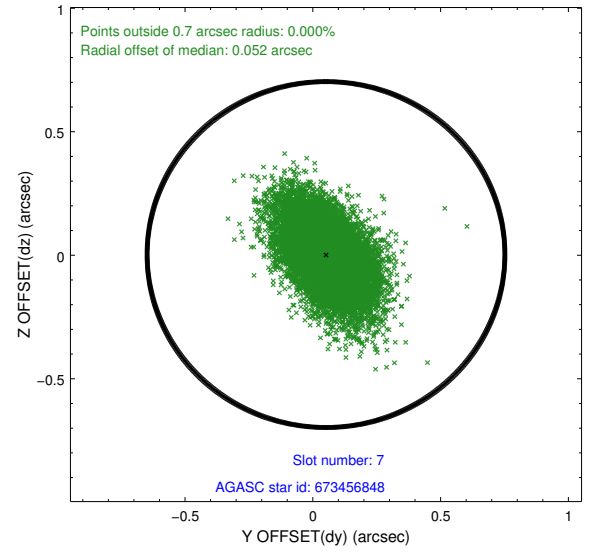
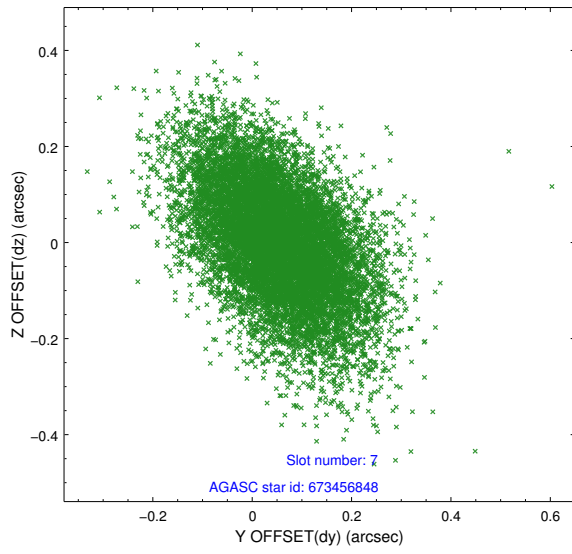
2.4.3 Slot 5



2.4.4 Slot 6

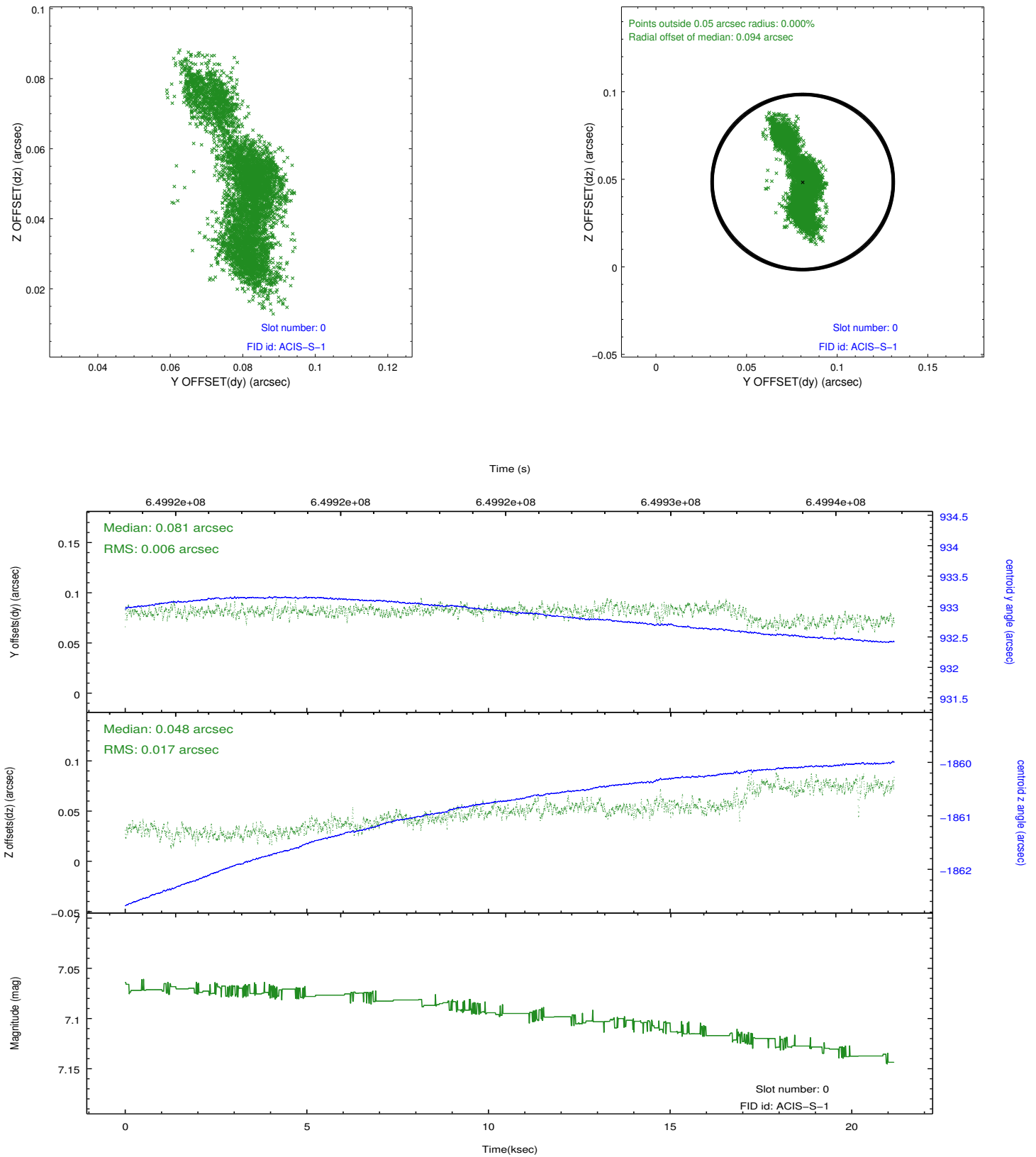


2.4.5 Slot 7

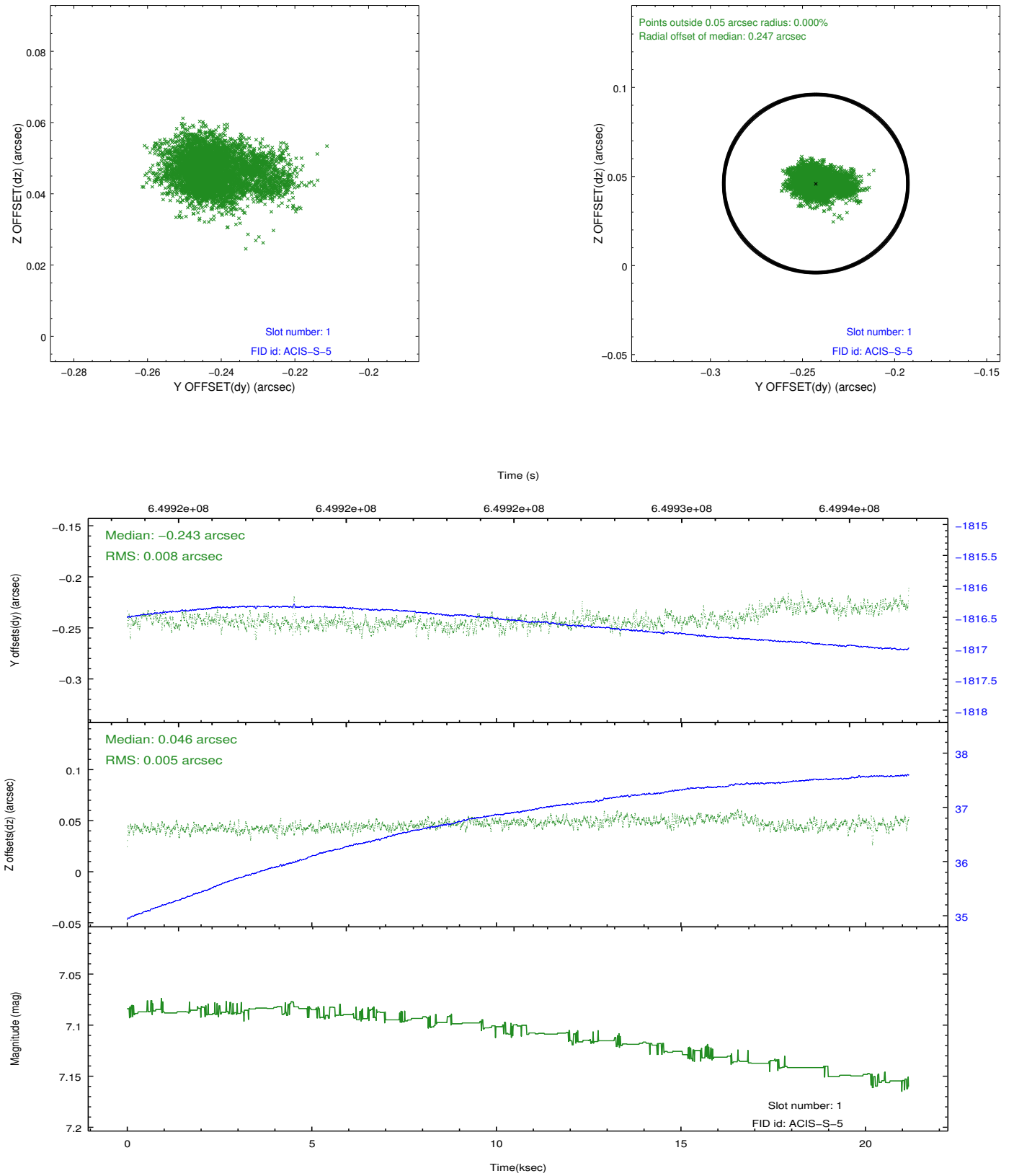


2.5 FID Slots

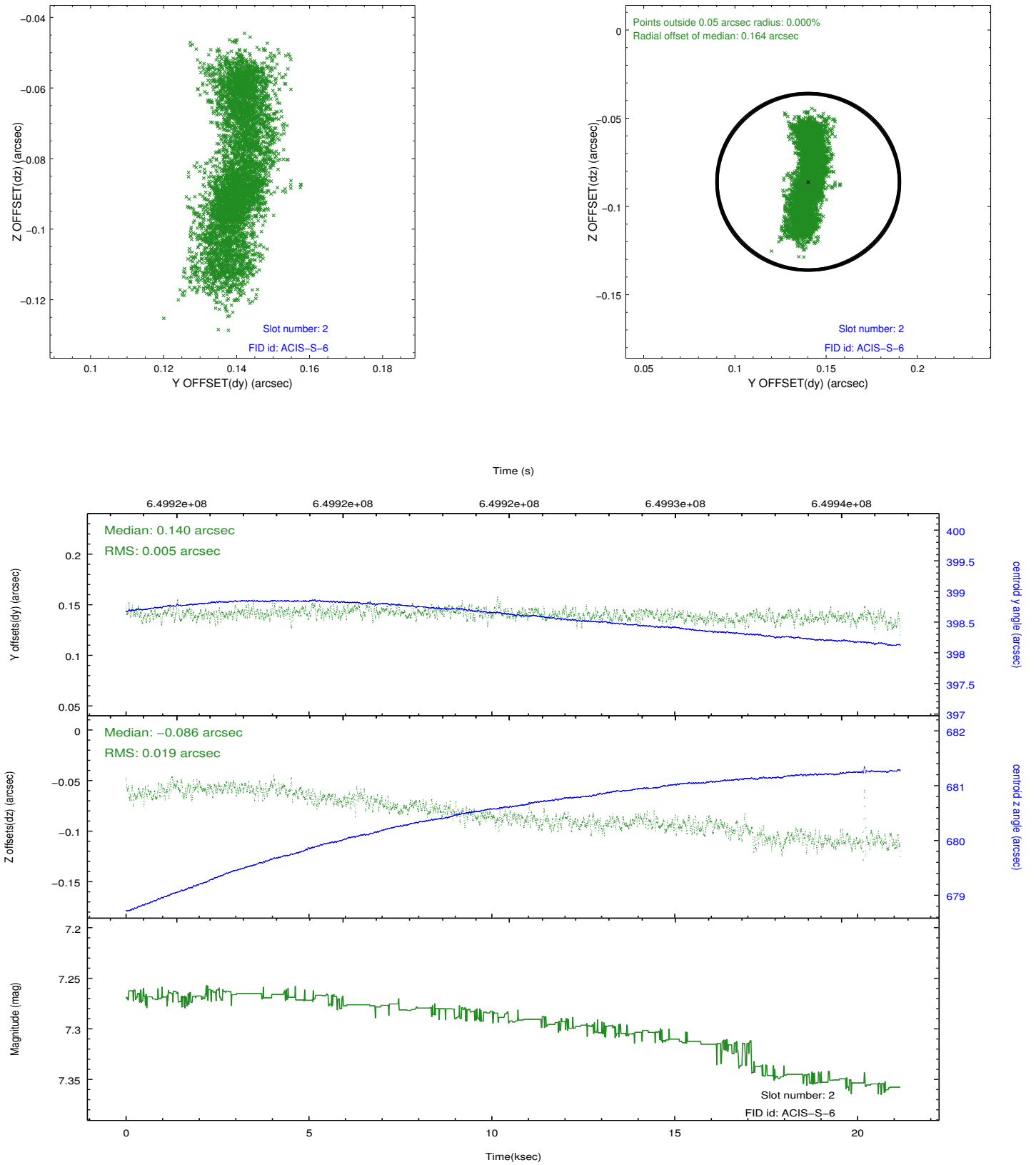
2.5.1 Slot 0



2.5.2 Slot 1

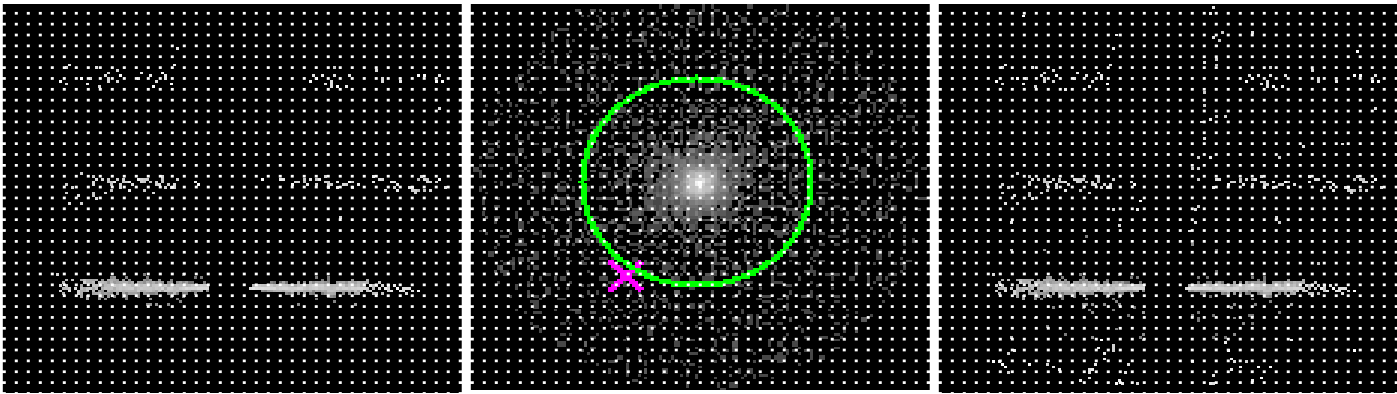


2.5.3 Slot 2



3 Gratings

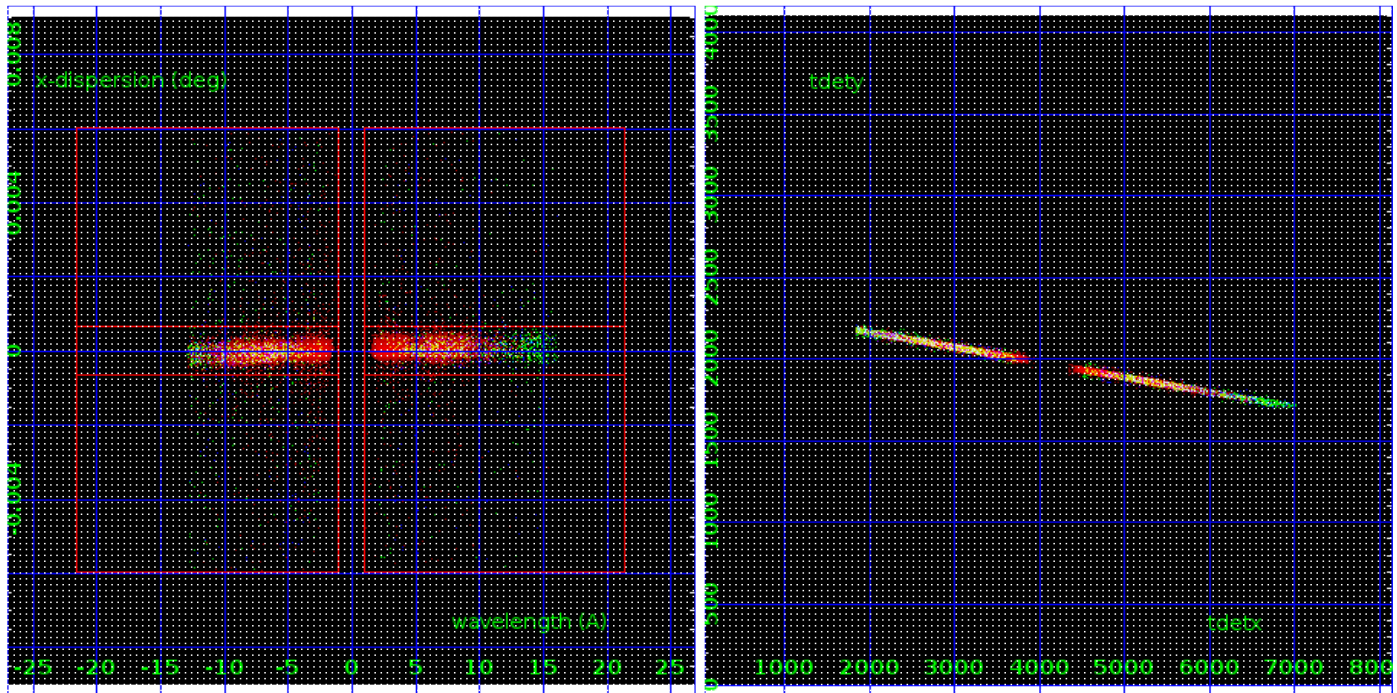
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

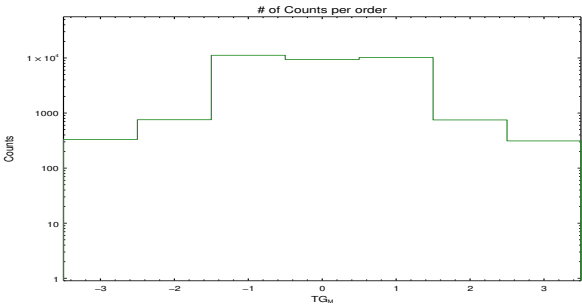
HEG Order Sort ALL

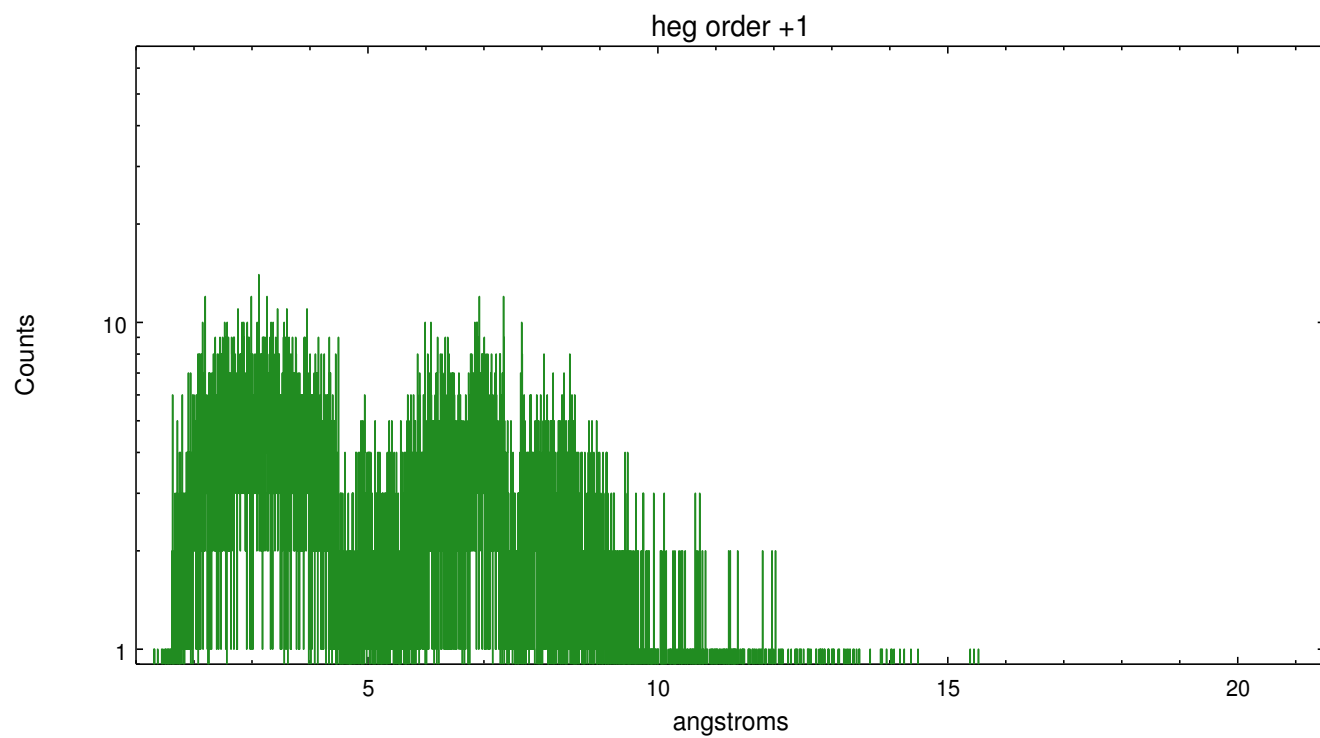
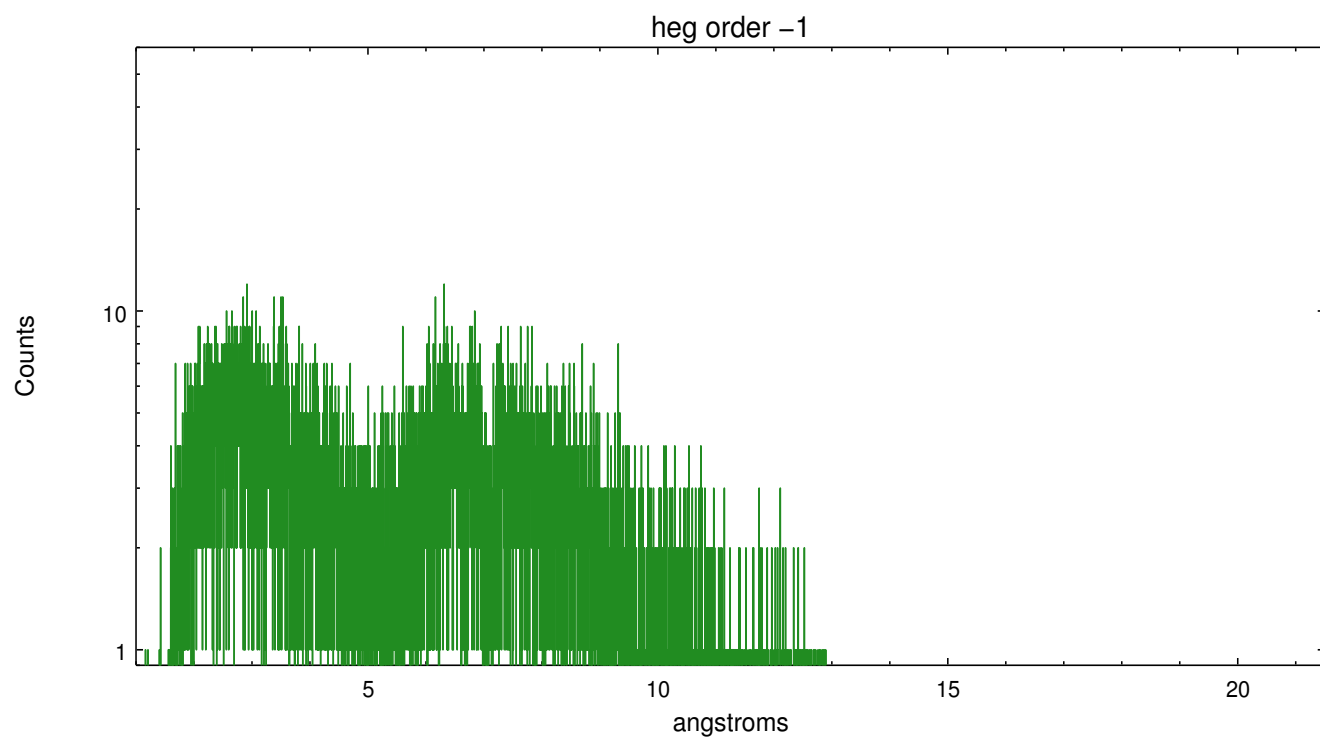


Spot Image HEG

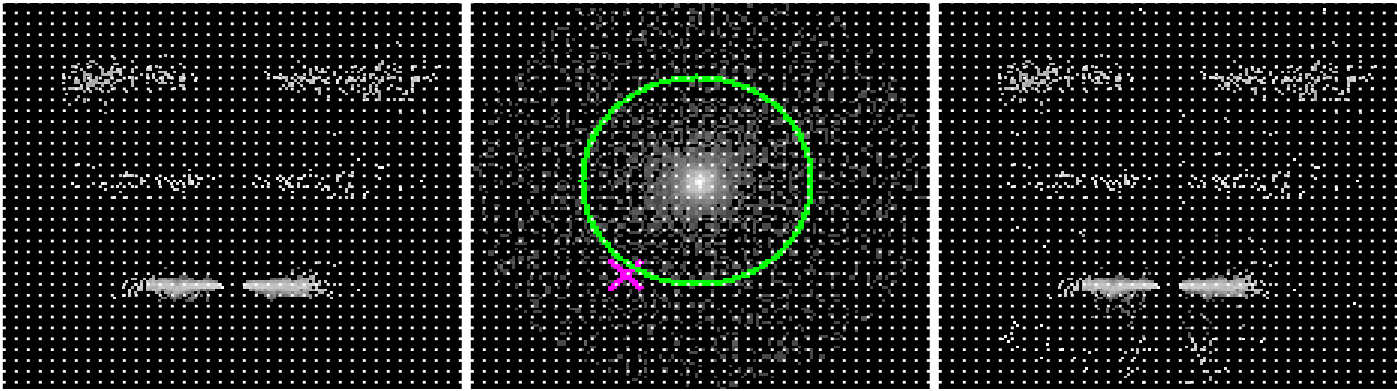
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	332	757	11193	9392	10182	750	312





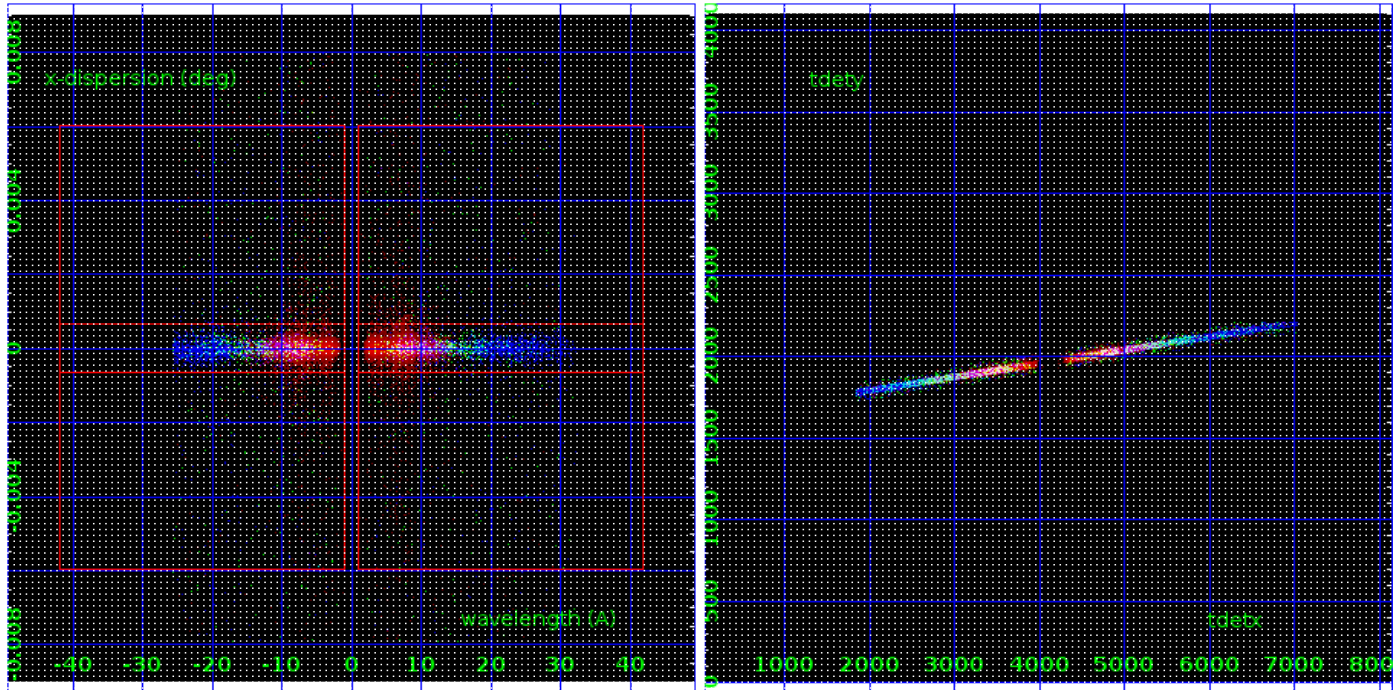
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

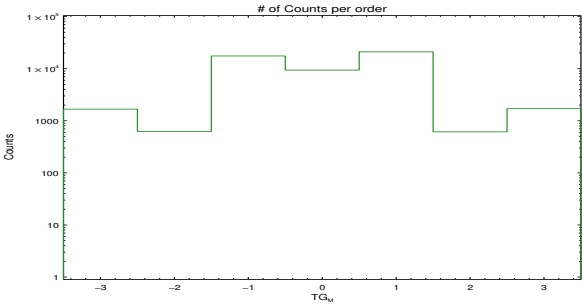
MEG Order Sort ALL

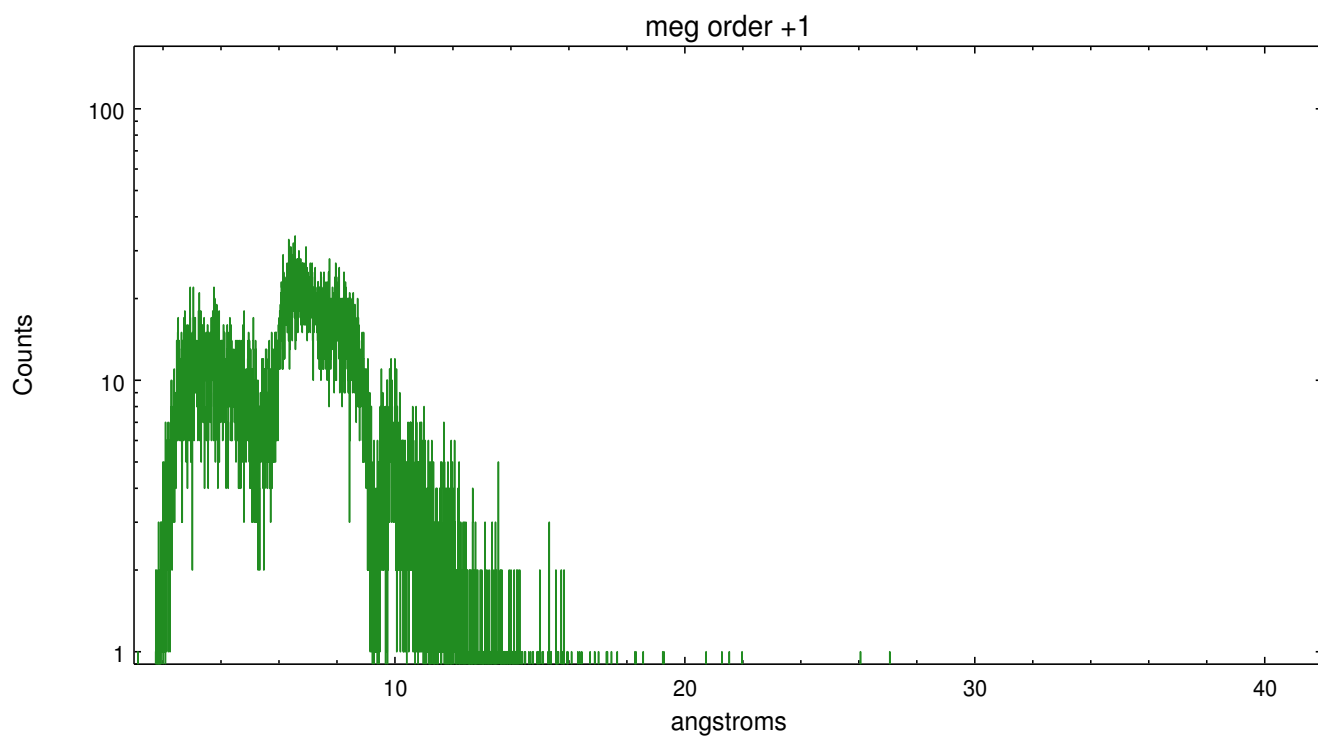
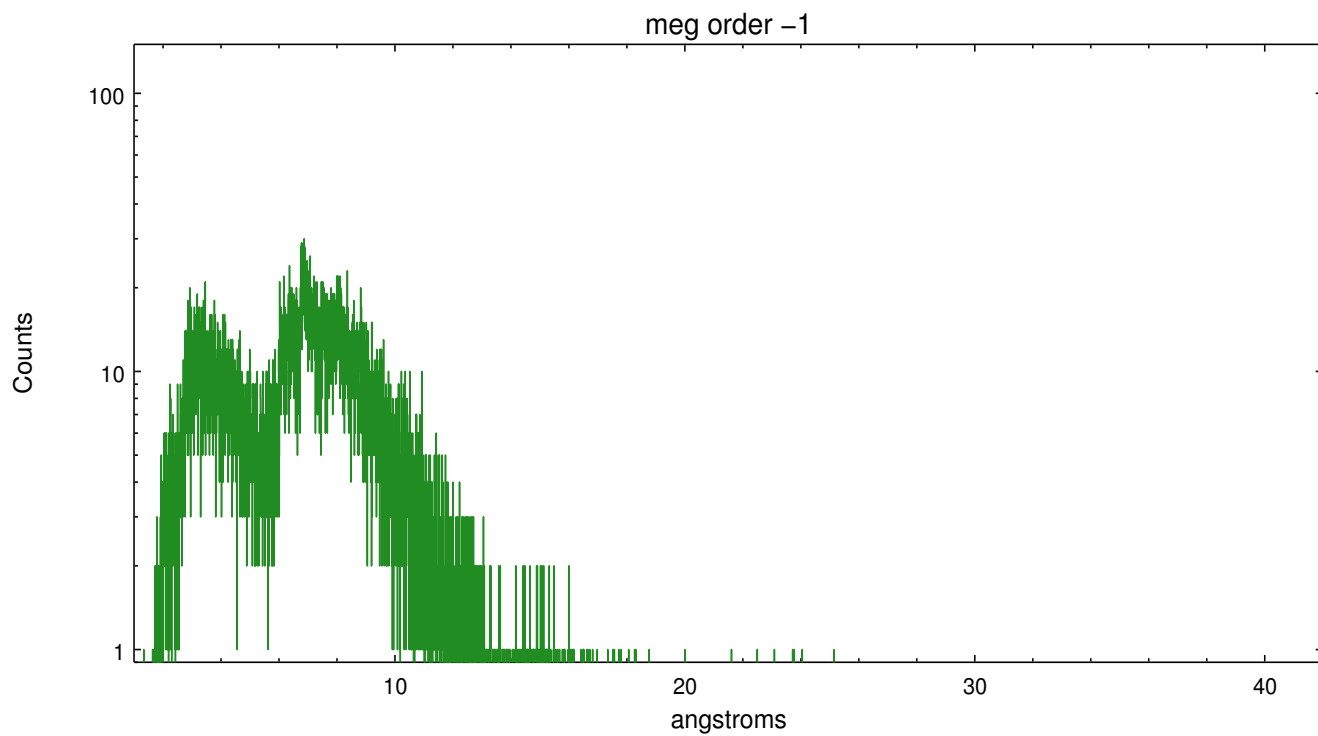


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1672	625	17553	9392	21066	613	1708





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	21.088056933403

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.