

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1705 - L2 Version 5
Chandra X-Ray Center

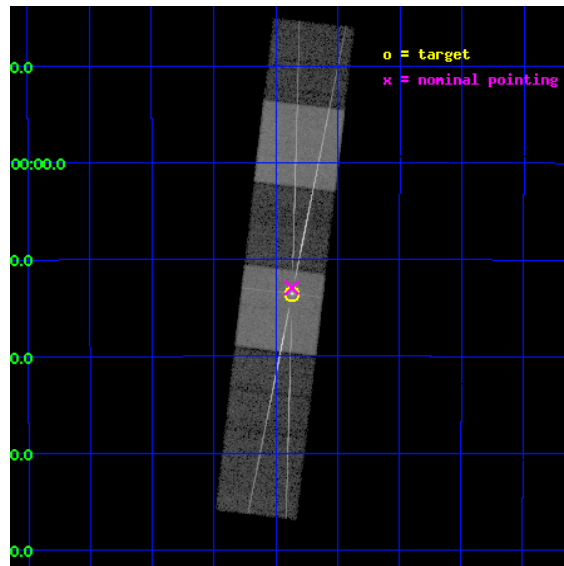
L2 Processing Date : Sep 14 2012

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1 Front

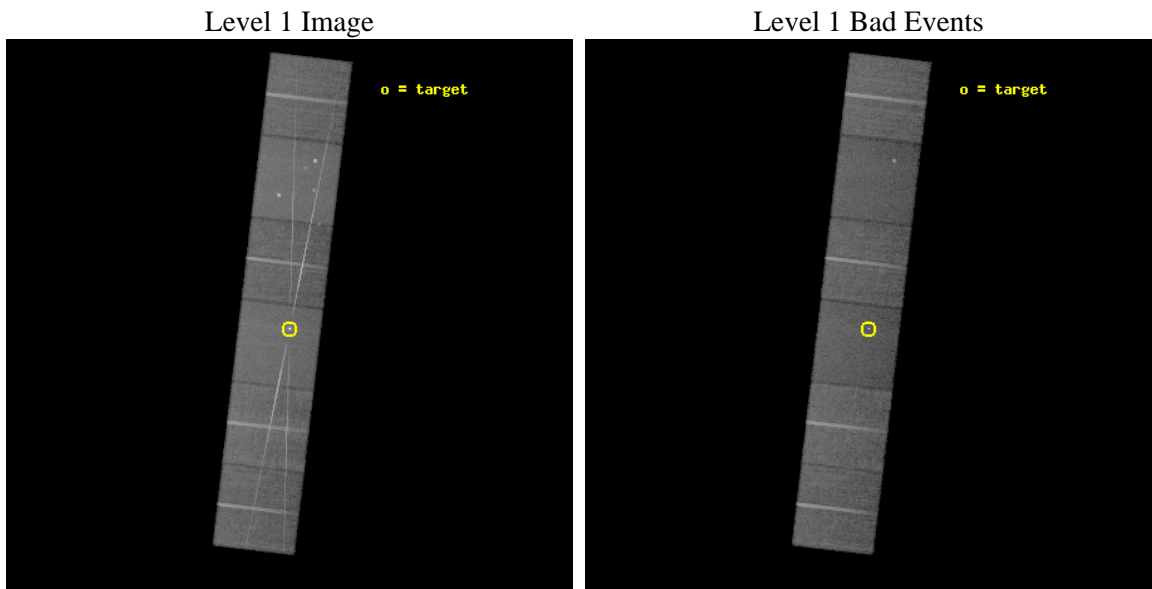
seq_num	700263	Sequence number
obs_id	1705	Observation id
title	HETG OBSERVATIONS OF VARIOUS ACTIVE GALACTIC NUCLEI	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS 2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.71741438505	Nominal RA [deg]
dec_nom	-30.215562362986	Nominal Dec [deg]
roll_nom	96.760314009829	Nominal Roll [deg]
revision	5	Processing version of data
ontime	25827.200024039	Sum of GTIs [s]
livetime	25500.160466061	Livetime [s]
ontime4	25823.959173501	Sum of GTIs [s]
ontime5	25827.200024039	Sum of GTIs [s]
ontime6	25823.959173501	Sum of GTIs [s]
ontime7	25827.200024039	Sum of GTIs [s]
ontime8	25827.200024039	Sum of GTIs [s]
ontime9	25823.959033892	Sum of GTIs [s]
l2events	341889	Number of level 2 events



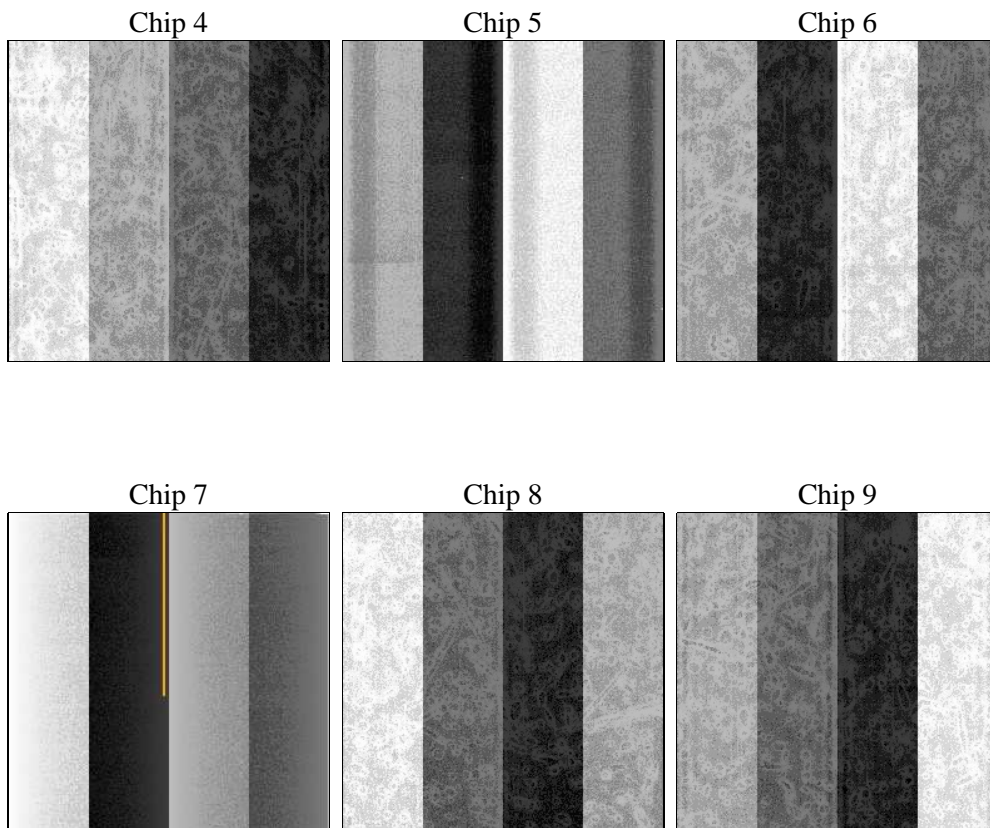
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	26000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	25827.200024039	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	25823.959173501	Sum of GTIs [s]
date	2012-08-28T19:14:06	Date and time of file creation	ontime5	25827.200024039	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	25823.959173501	Sum of GTIs [s]
			ontime7	25827.200024039	Sum of GTIs [s]
			ontime8	25827.200024039	Sum of GTIs [s]
			ontime9	25823.959033892	Sum of GTIs [s]
			l1events	1292584	Number of level 1 events

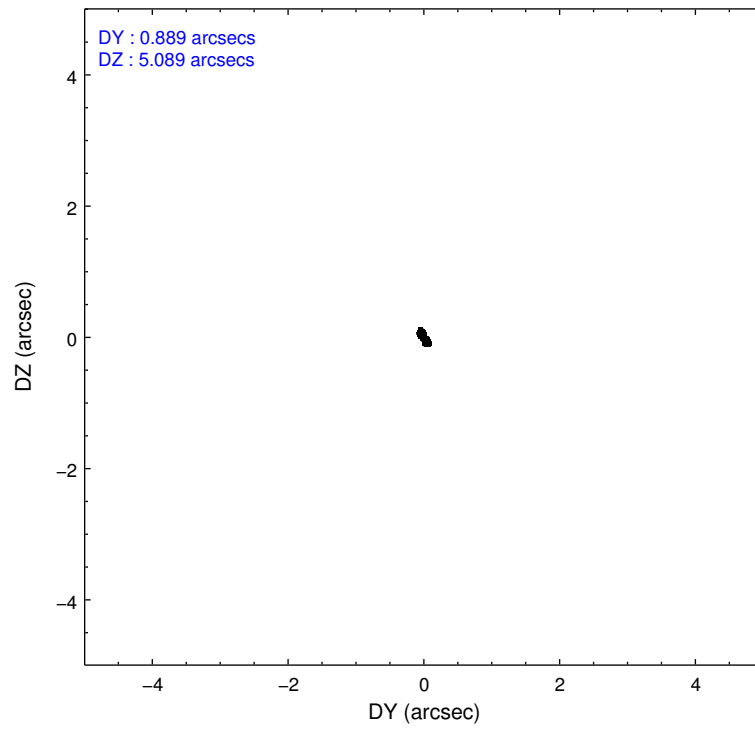
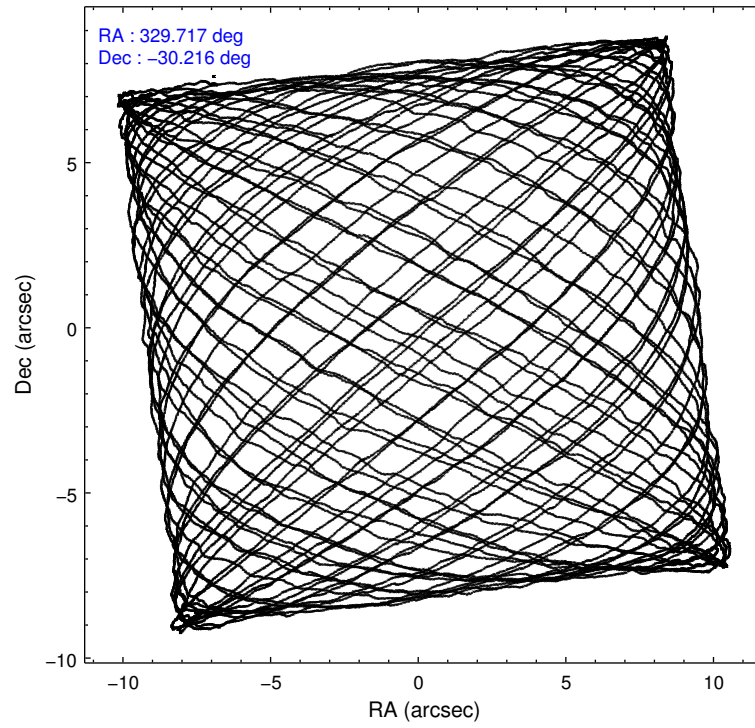
2.1.4 Events

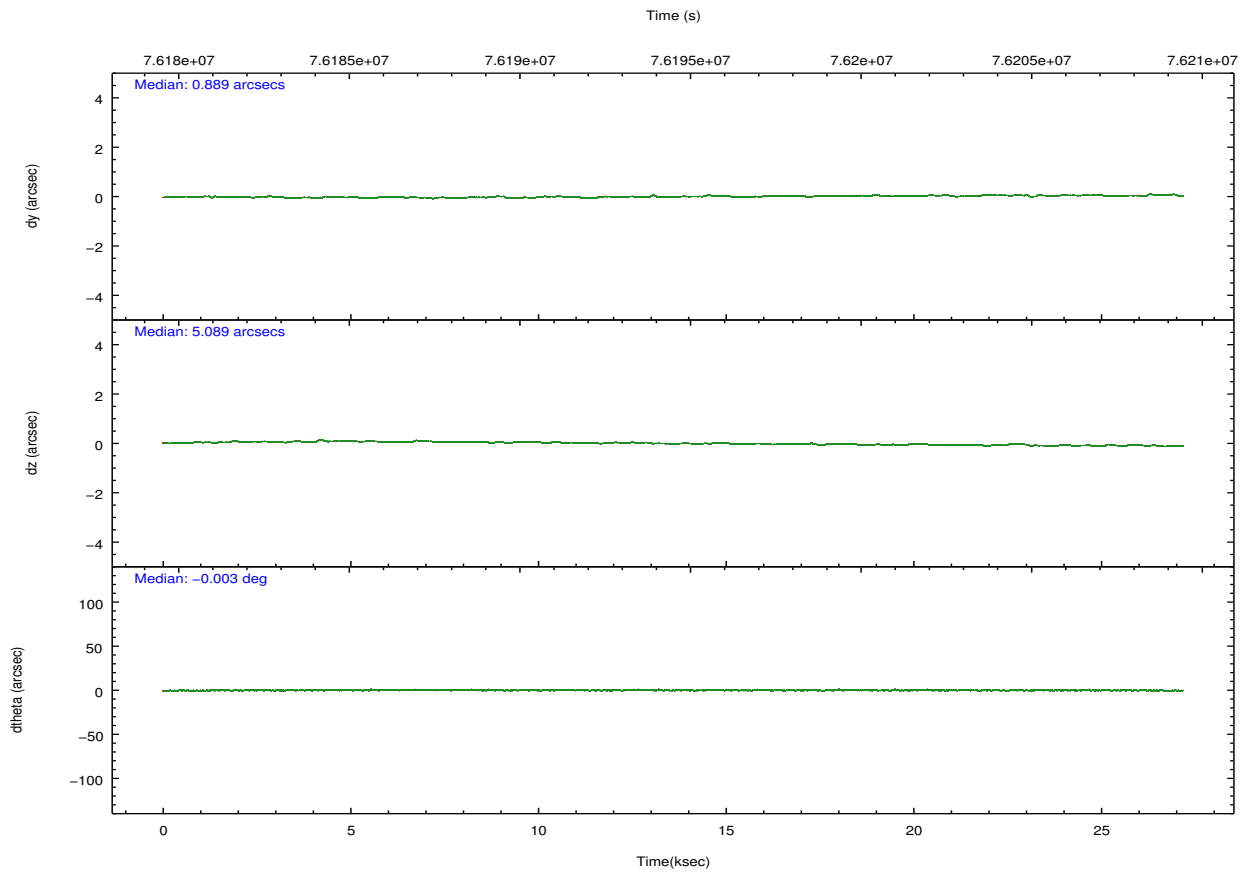
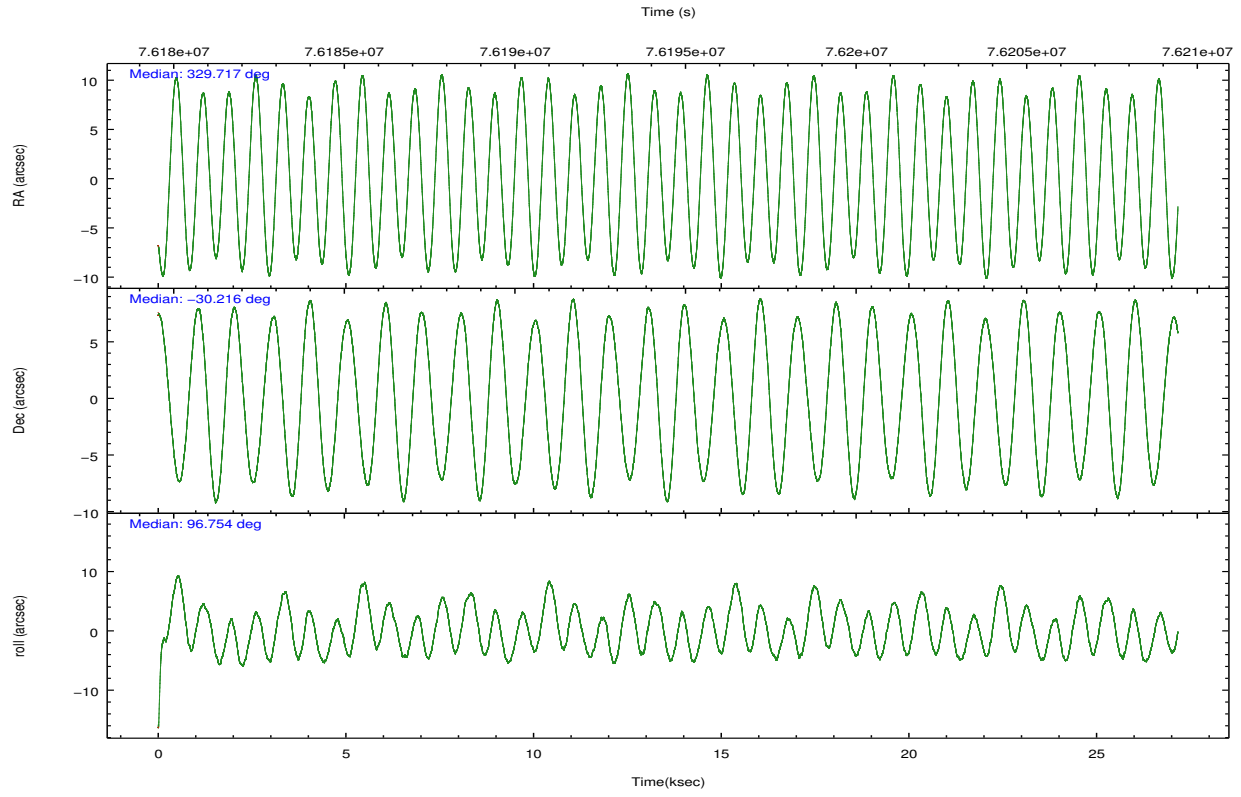
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	198121	243694	205818	233312	238413	173226	grade 0 events	10309	20730	33291	14142	33618	12291
rejected events	176034	121703	155471	123697	174057	148942		5%	8%	16%	6%	14%	7%
rejected %	88%	49%	75%	53%	73%	85%	grade 1 events	84	274	209	382	220	110
								0%	0%	0%	0%	0%	0%
							grade 2 events	4811	34253	6980	22709	10745	4205
								2%	14%	3%	9%	4%	2%
							grade 3 events	1867	6359	2950	10652	4900	2044
								0%	2%	1%	4%	2%	1%
							grade 4 events	1846	5877	2883	10249	4610	1989
								0%	2%	1%	4%	1%	1%
							grade 5 events	5385	17400	6639	20428	8263	6541
								2%	7%	3%	8%	3%	3%
							grade 6 events	3259	54805	4260	51892	10496	3758
								1%	22%	2%	22%	4%	2%
							grade 7 events	170560	103996	148606	102858	165561	142288
								86%	42%	72%	44%	69%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	329.736515	329.7174143850501	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.237497	-30.21556236298595	Alternating exposures requested	N	N
[deg] Pointing Roll	96.613309	96.7603140098286	[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	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
[s] Observation start time (MET)	76182072.184000	76180317.030852			
Observation start date	2000-05-31T17:40:08	2000-05-31T17:11:57			
[s] Observation end time (MET)	76208072.184000	76208385.63188501			
Observation end date	2000-06-01T00:53:28	2000-06-01T00:59:45			
Read mode	TIMED	TIMED			

2.3 Aspect



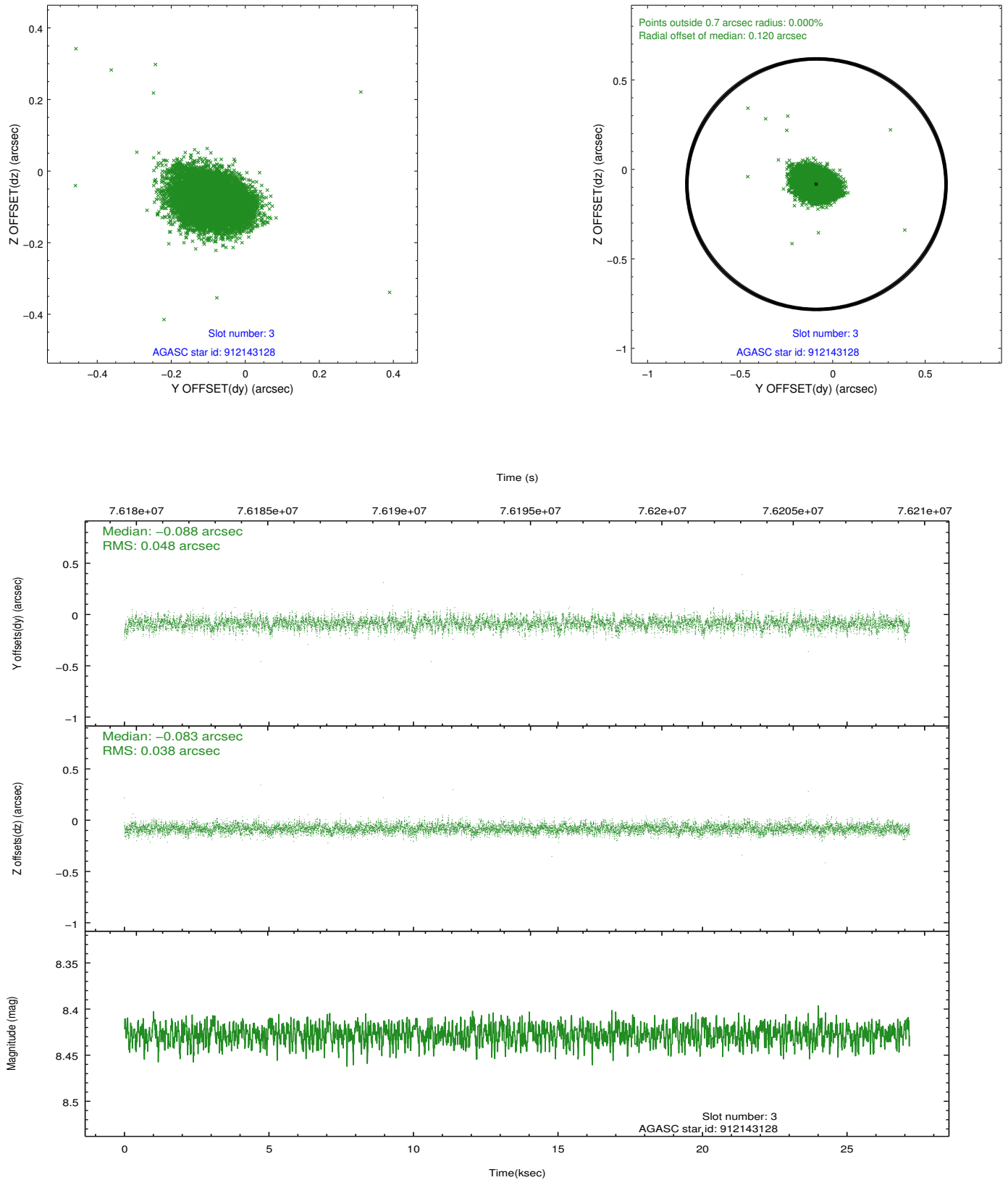


Slot Statistics

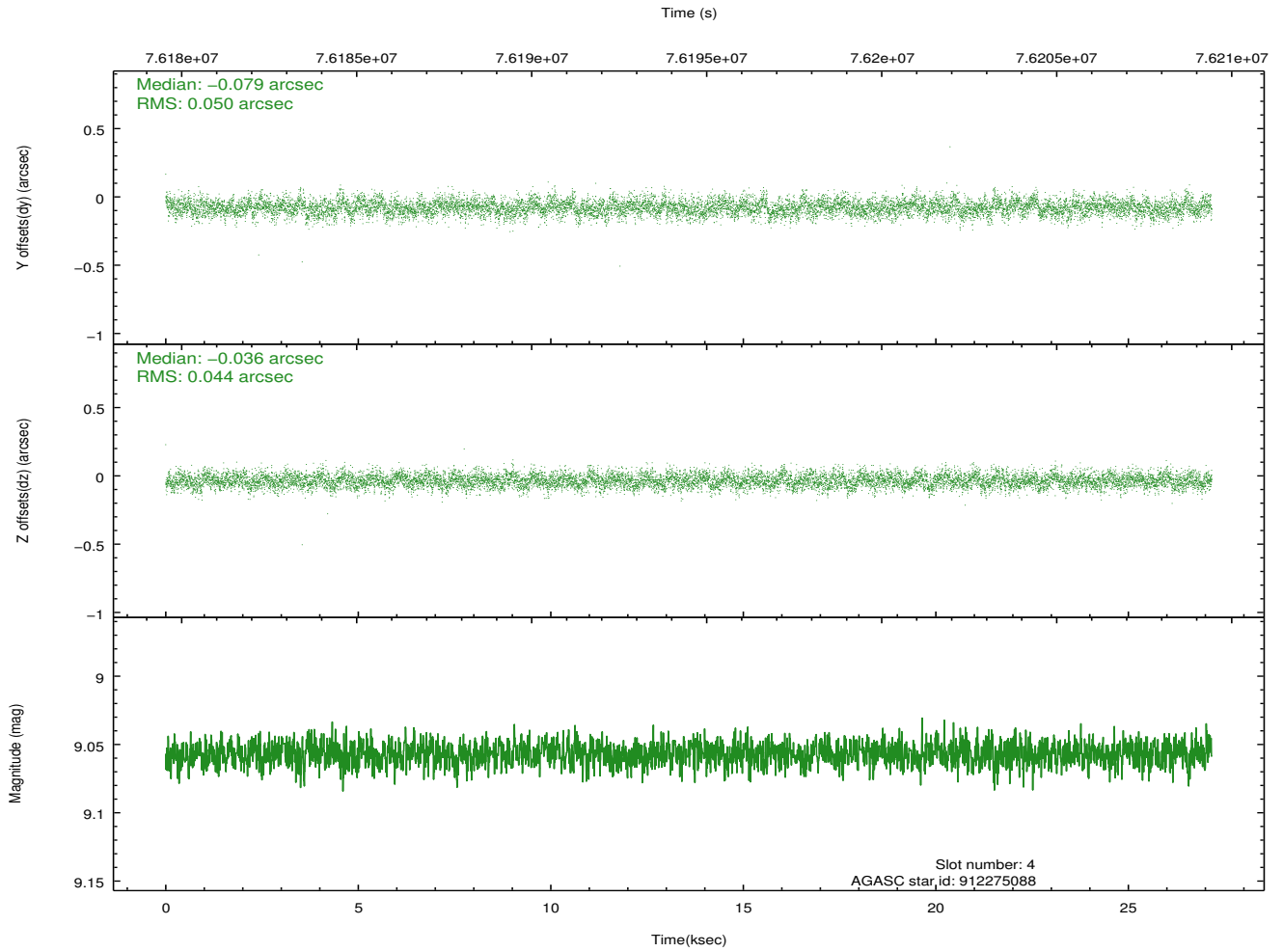
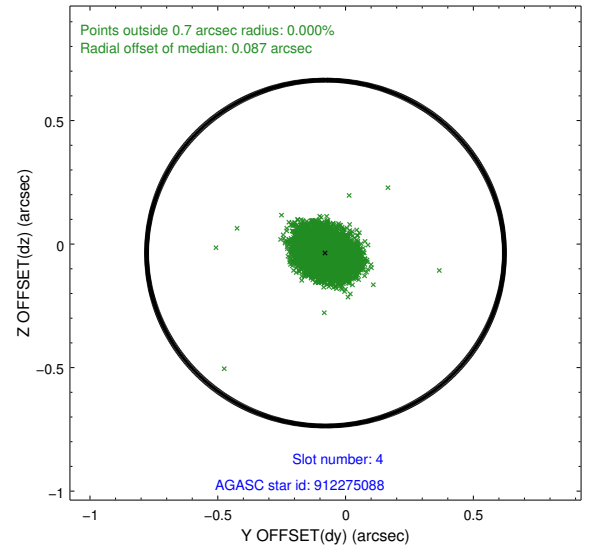
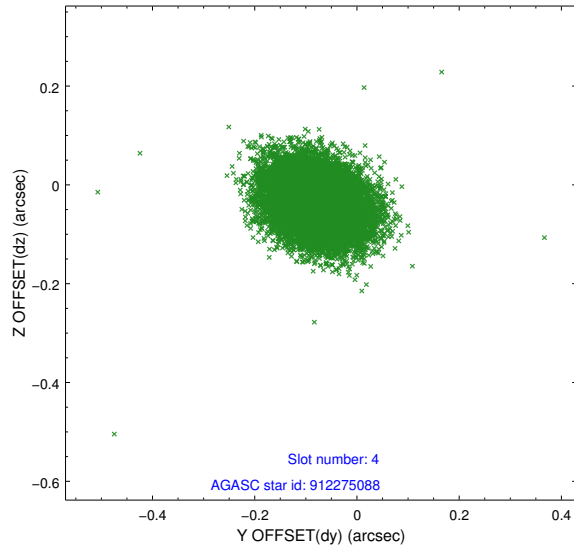
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	6627	-0.029	-0.048	0.007	0.012	0.000000	0.000000	-753.34	-1788.37
1	FID	ACIS-S-4	7.20	6626	0.005	0.027	0.006	0.010	0.000000	0.000000	2159.97	120.01
2	FID	ACIS-S-5	7.23	6626	-0.007	0.030	0.006	0.011	0.000000	0.000000	-1805.99	113.88
3	GUIDE	912143128	8.43	13249	-0.088	-0.083	0.063	0.108	328.924992	-29.706140	2183.47	2301.31
4	GUIDE	912275088	9.06	13246	-0.079	-0.036	0.070	0.116	329.619228	-29.738698	1826.16	157.43
5	GUIDE	981478152	9.40	13241	0.012	-0.053	0.084	0.144	329.415589	-30.057192	758.93	918.46
6	GUIDE	981468128	9.36	13243	0.195	0.240	0.081	0.136	329.756350	-30.158334	276.56	-94.13
7	GUIDE	981469488	9.60	13245	-0.038	-0.070	0.094	0.156	329.261199	-30.045155	855.52	1391.67

2.4 Star Slots

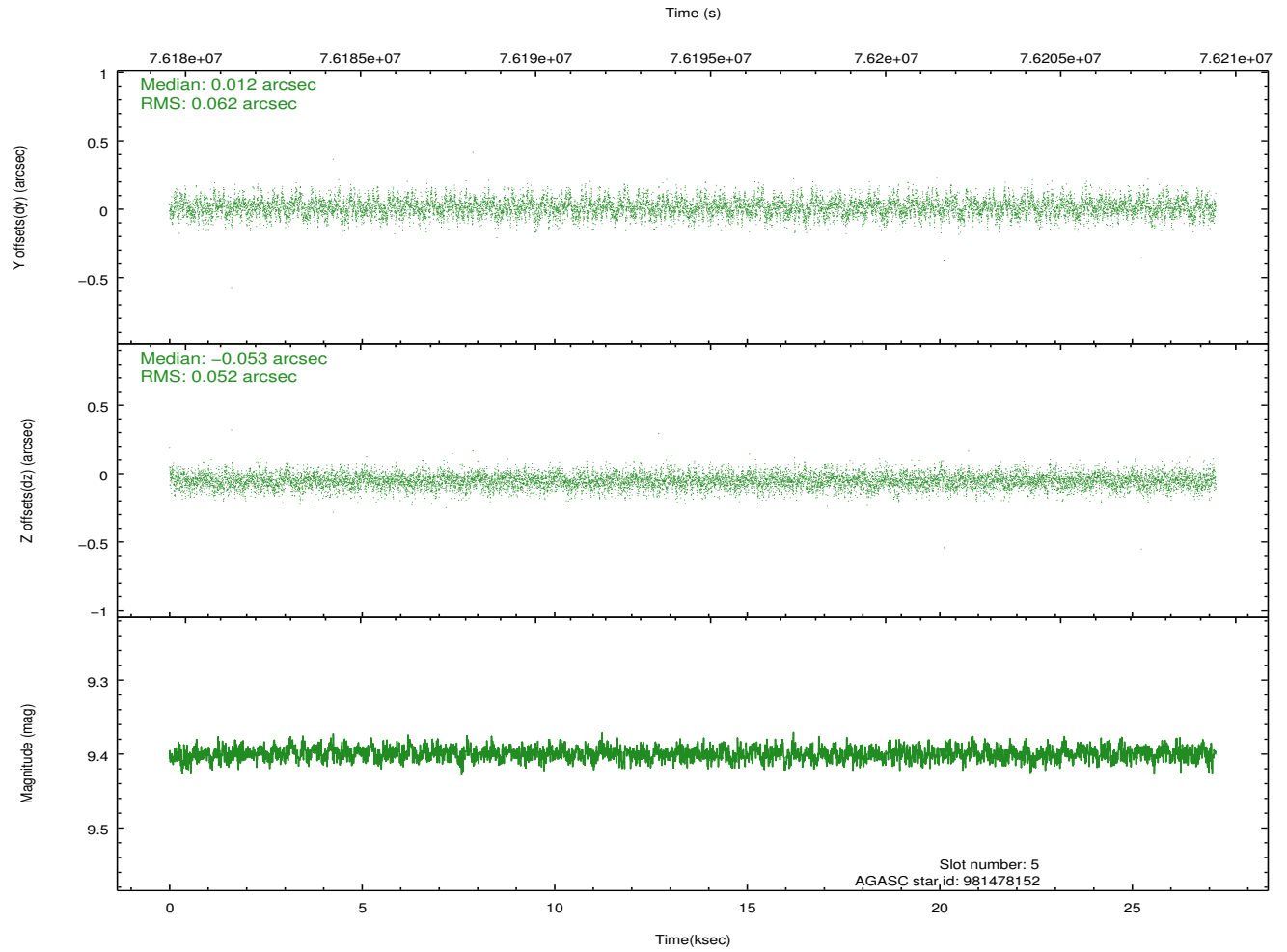
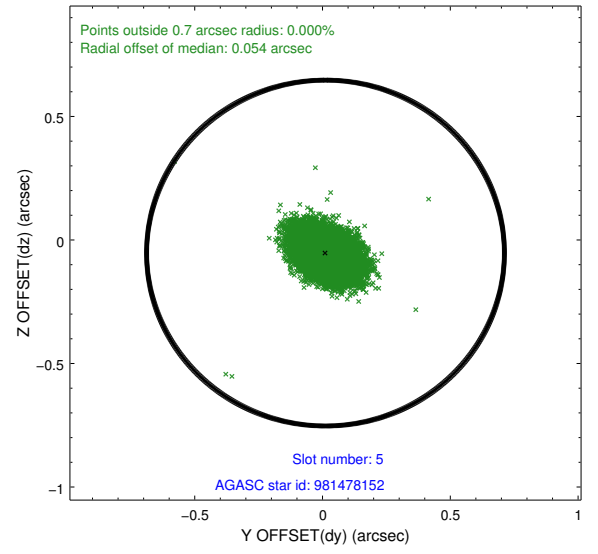
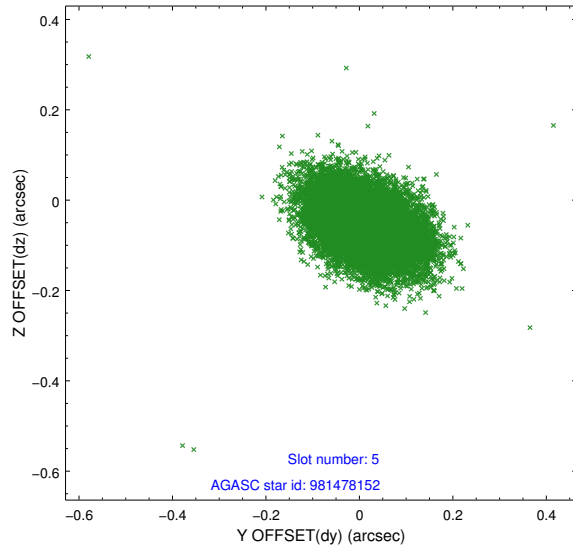
2.4.1 Slot 3



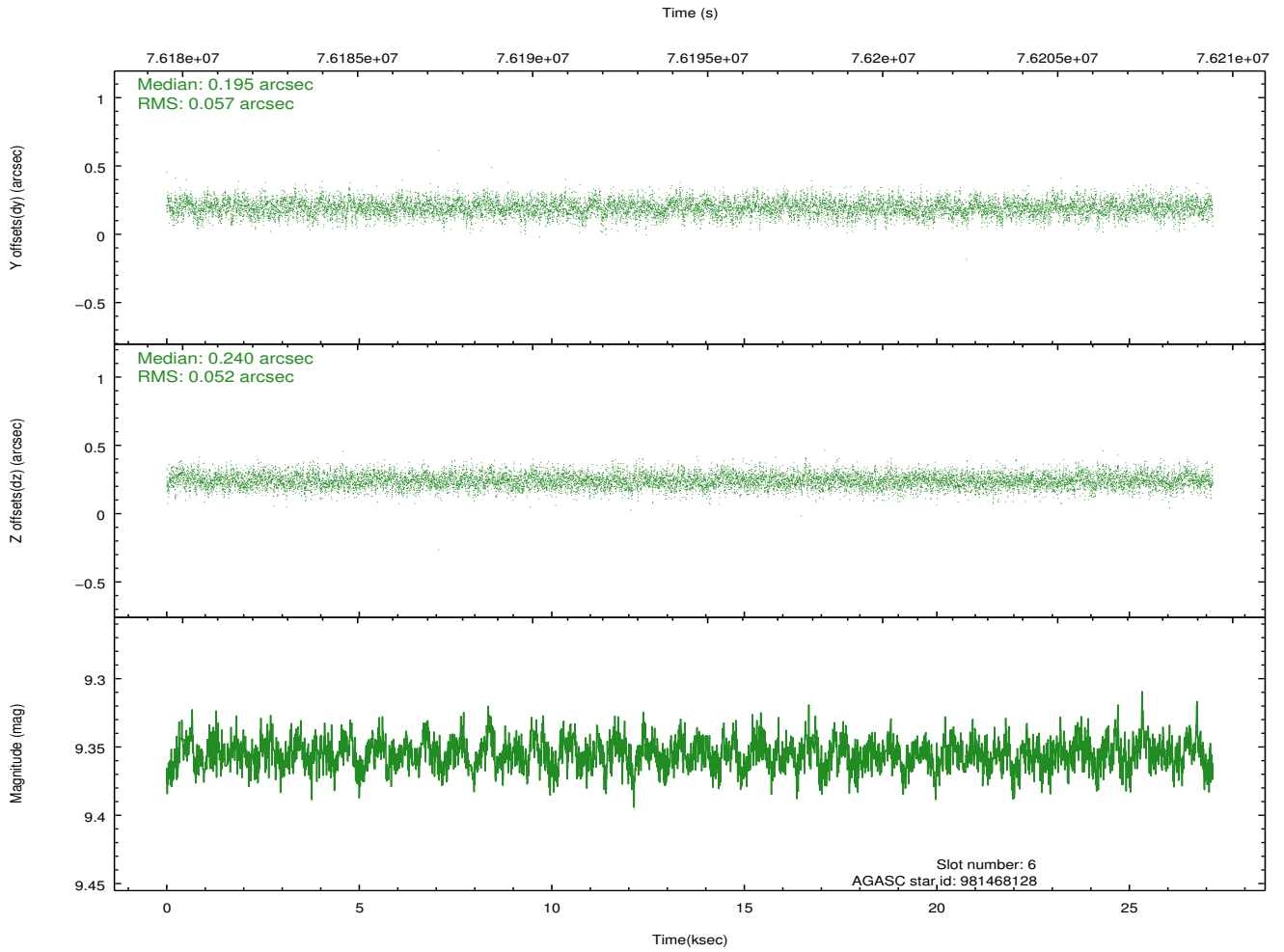
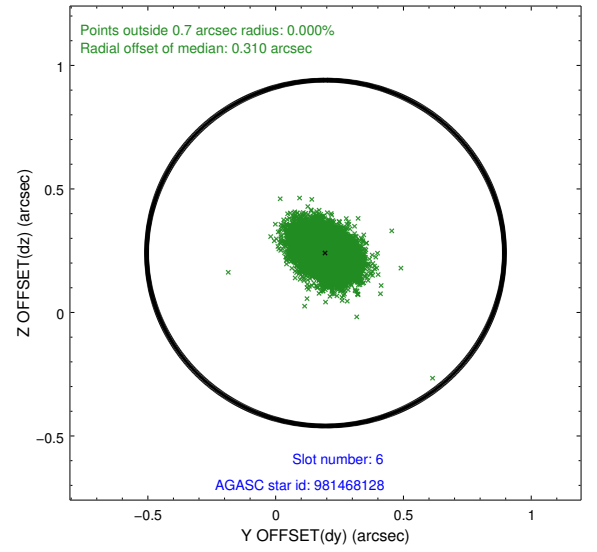
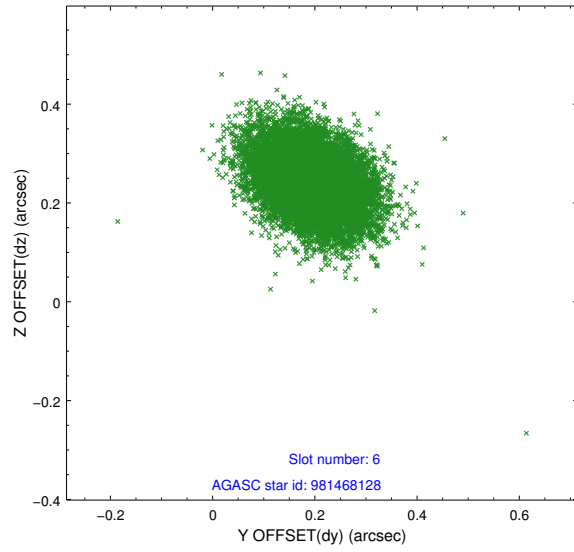
2.4.2 Slot 4



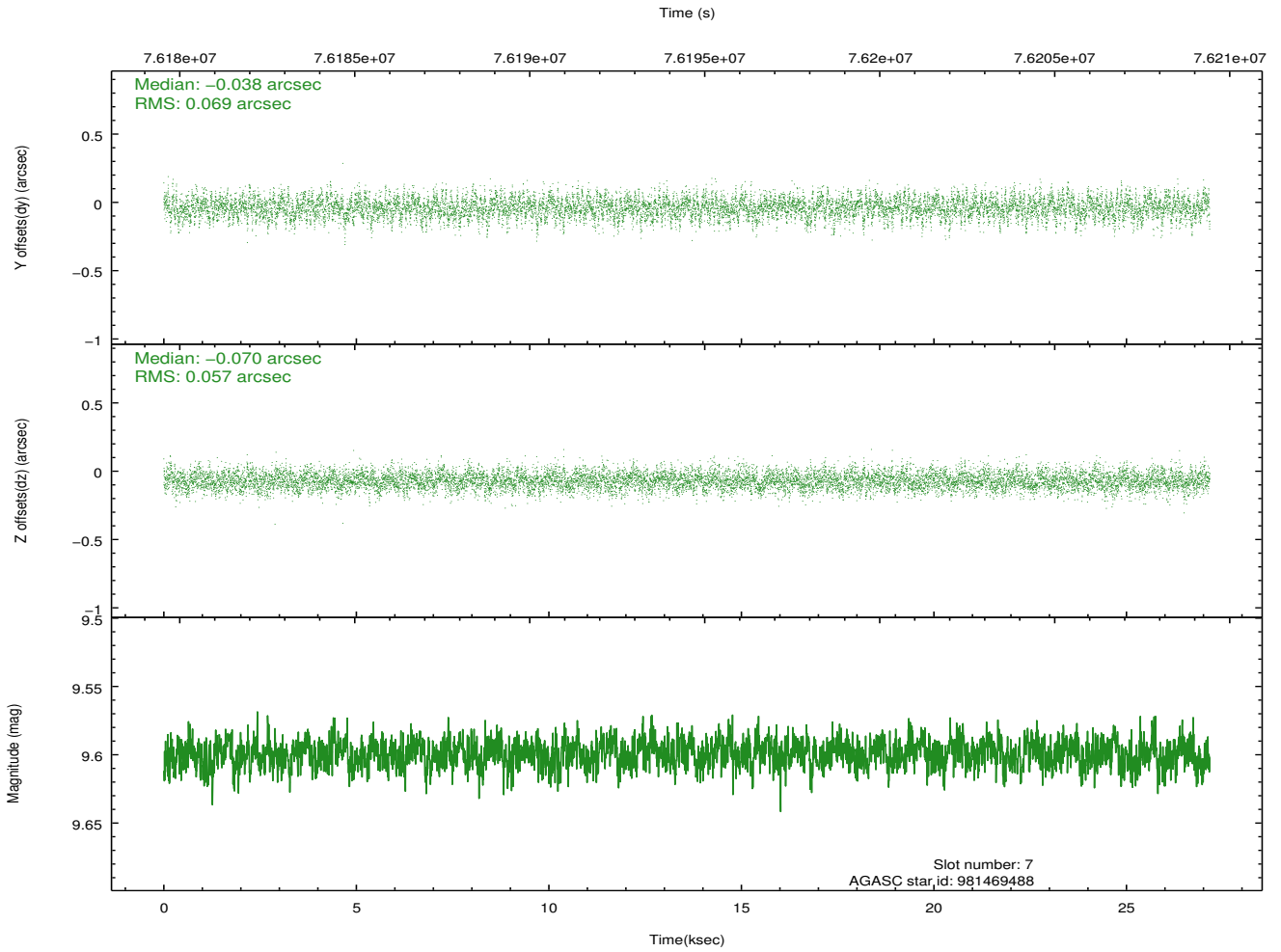
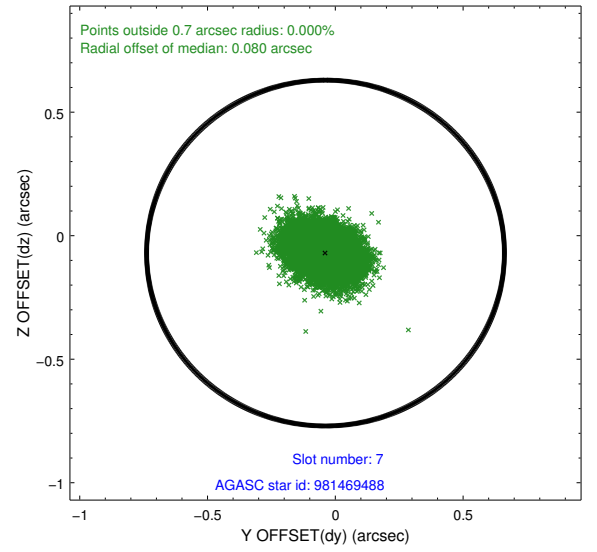
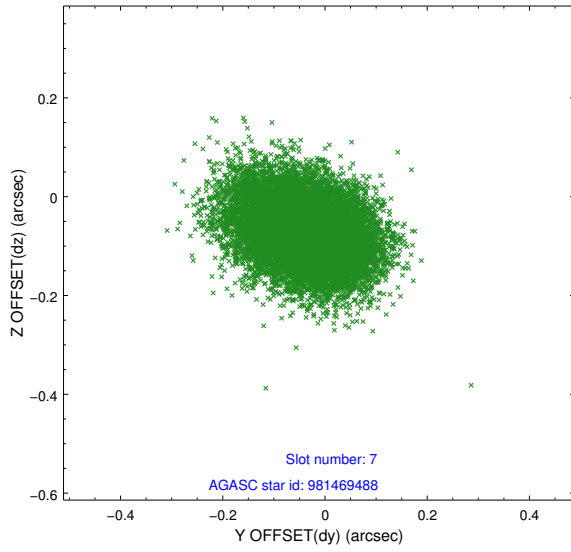
2.4.3 Slot 5



2.4.4 Slot 6

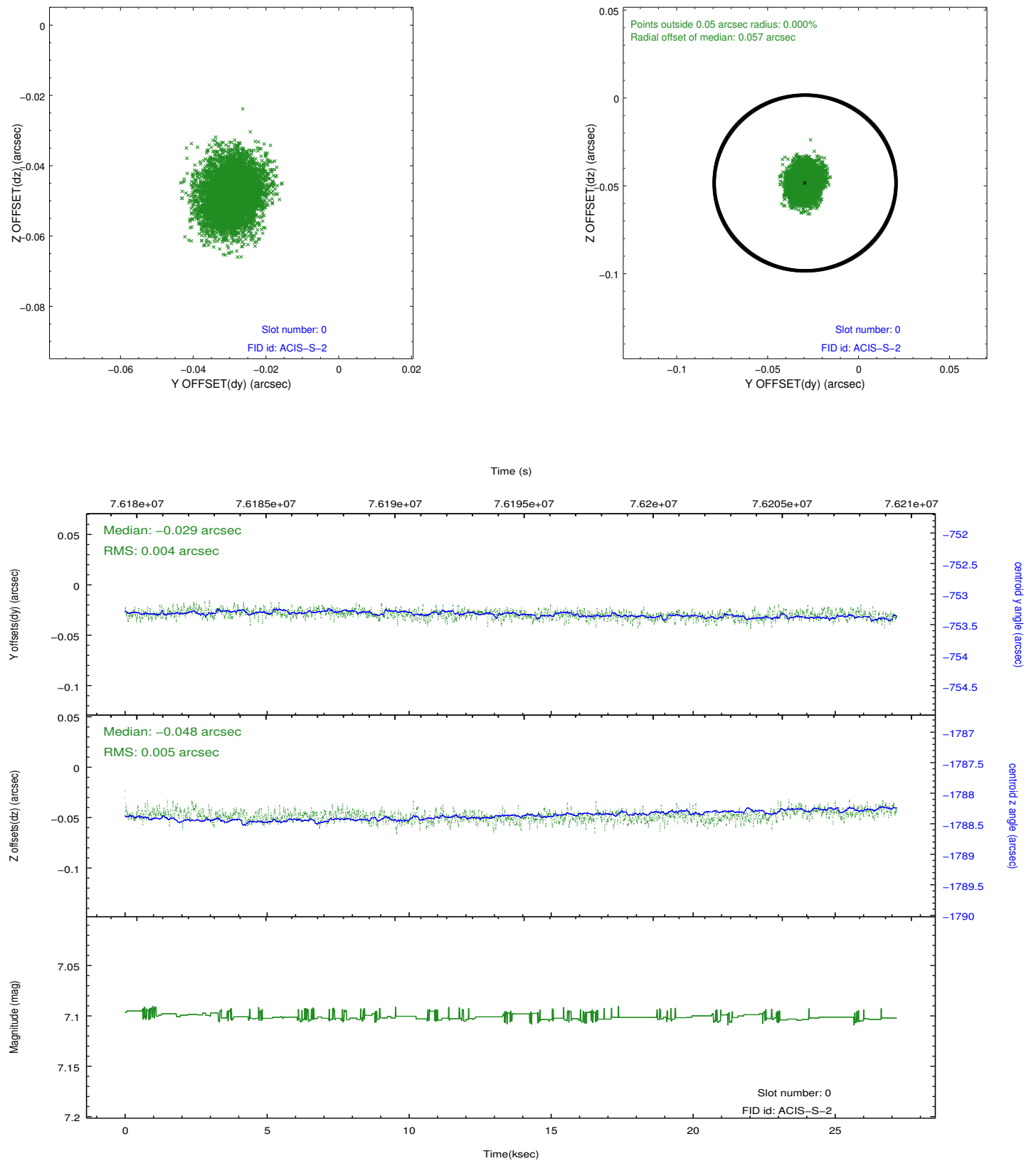


2.4.5 Slot 7

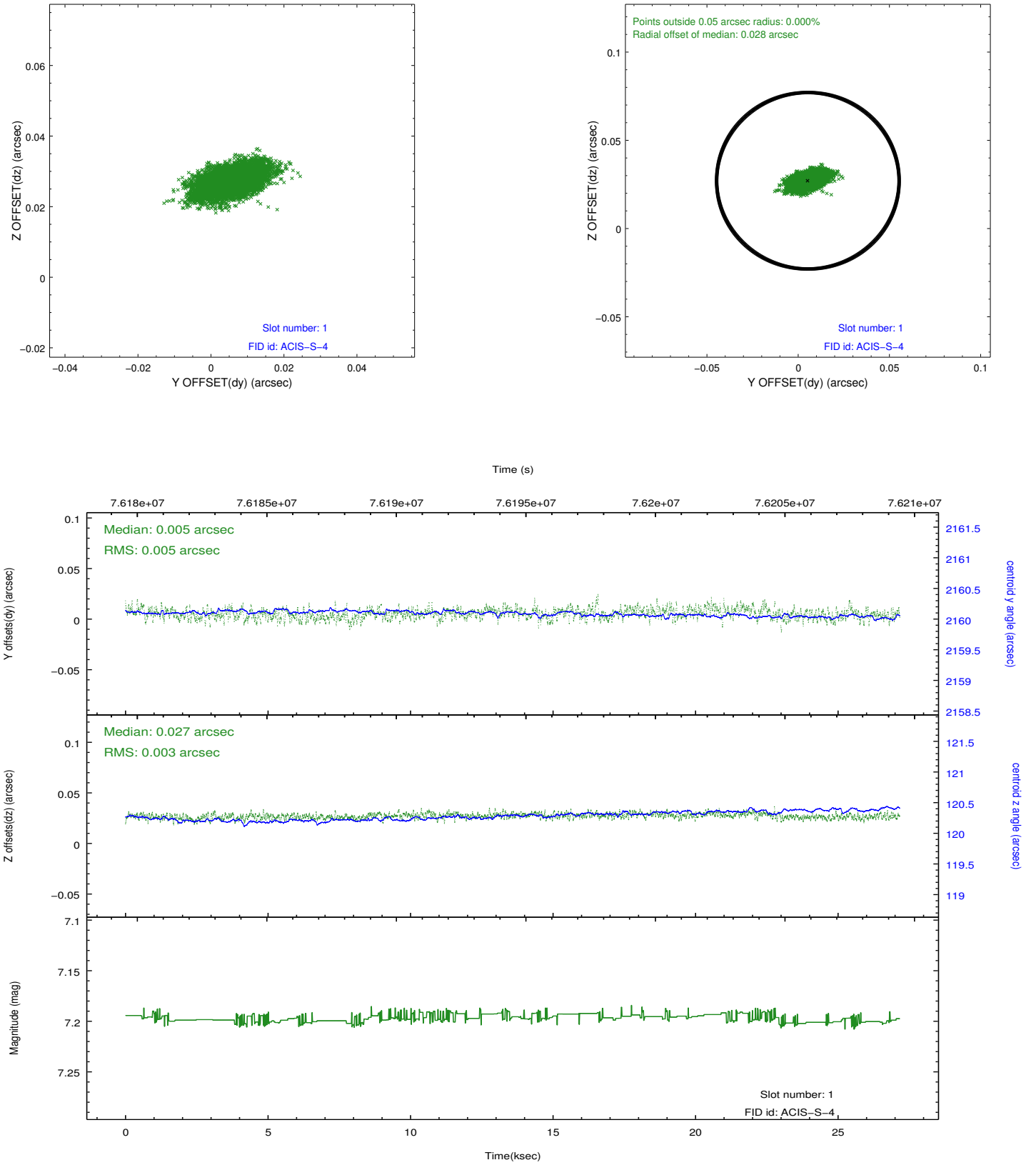


2.5 FID Slots

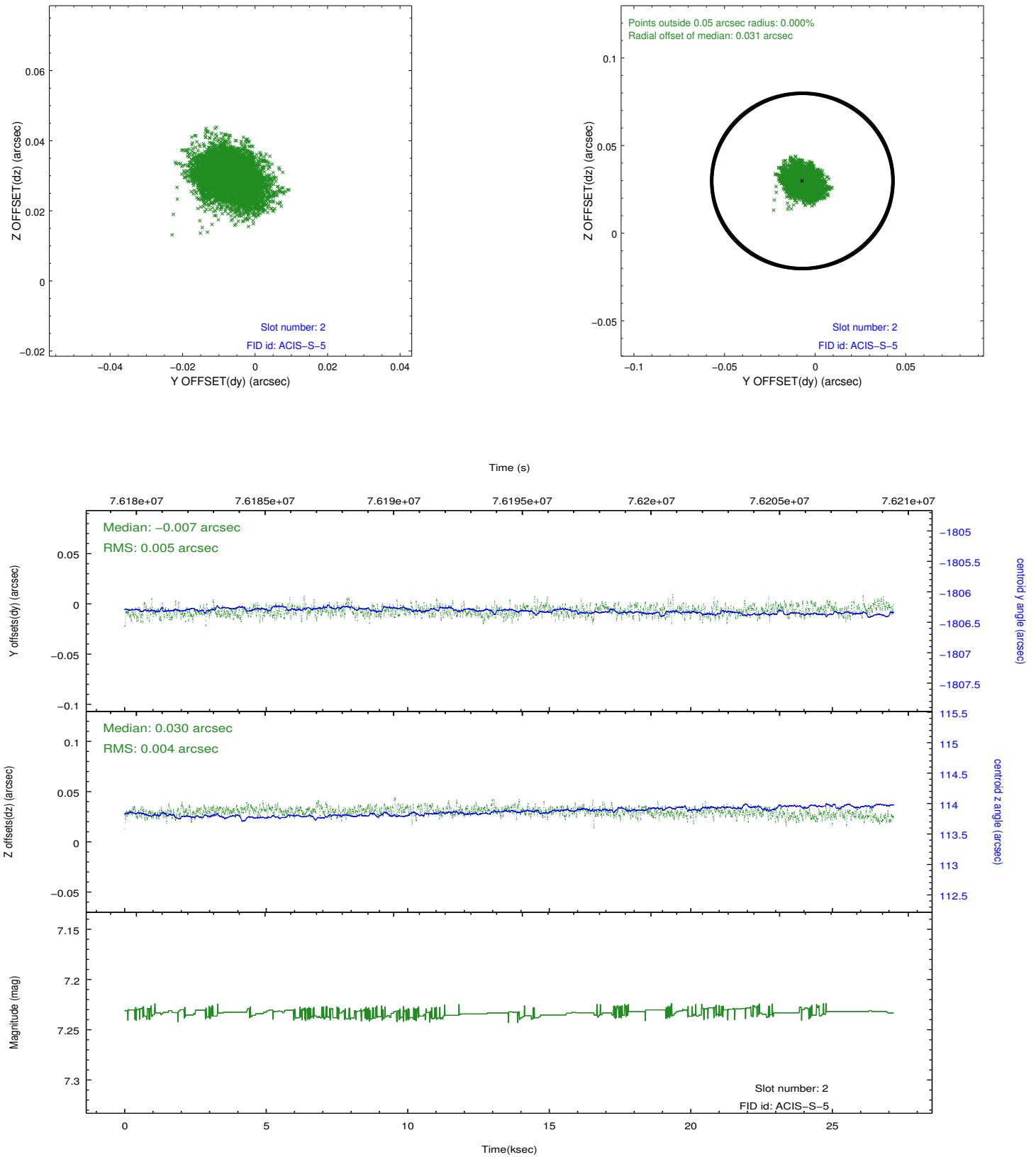
2.5.1 Slot 0



2.5.2 Slot 1

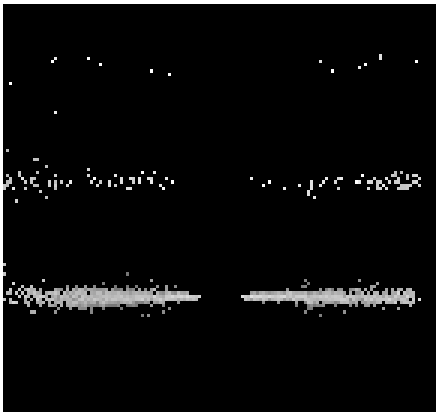


2.5.3 Slot 2

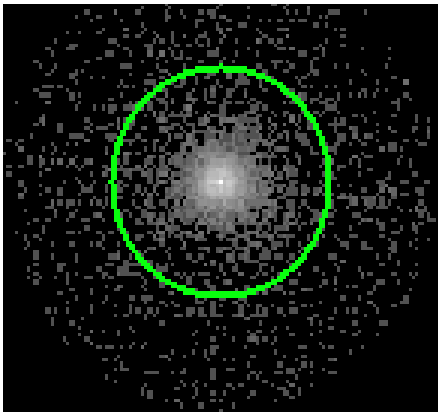


3 Gratings

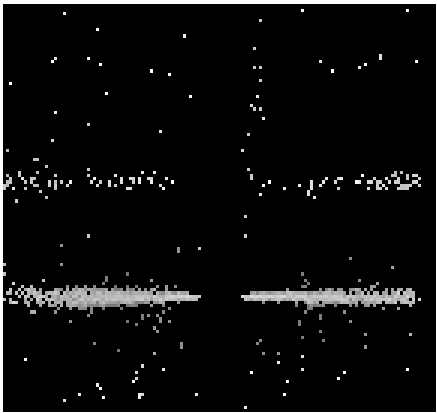
3.1 HEG Arm



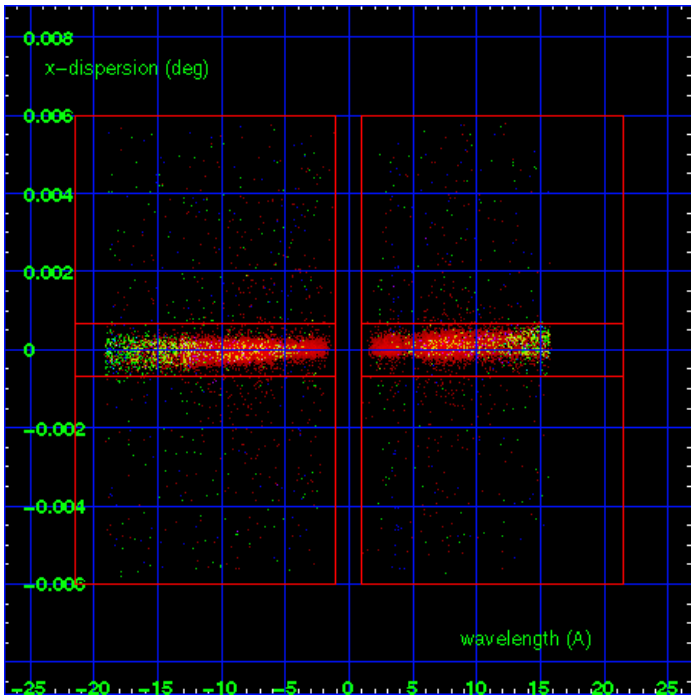
HEG Order Sort 123



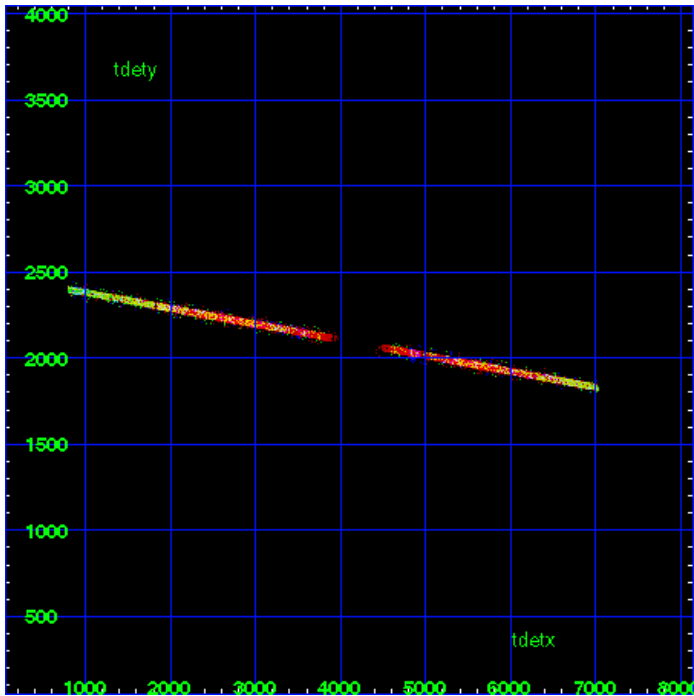
HEG Zero Order



HEG Order Sort ALL

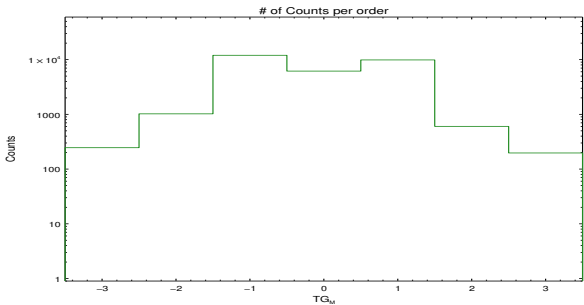


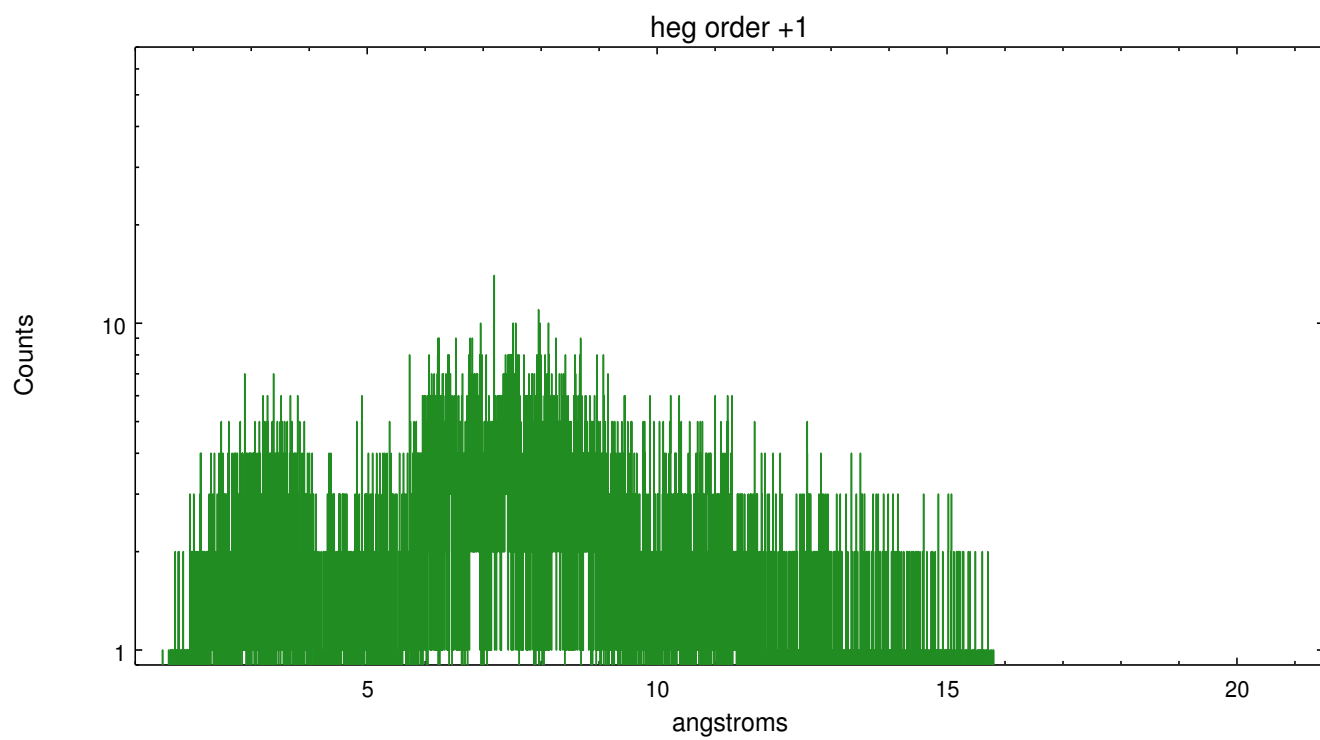
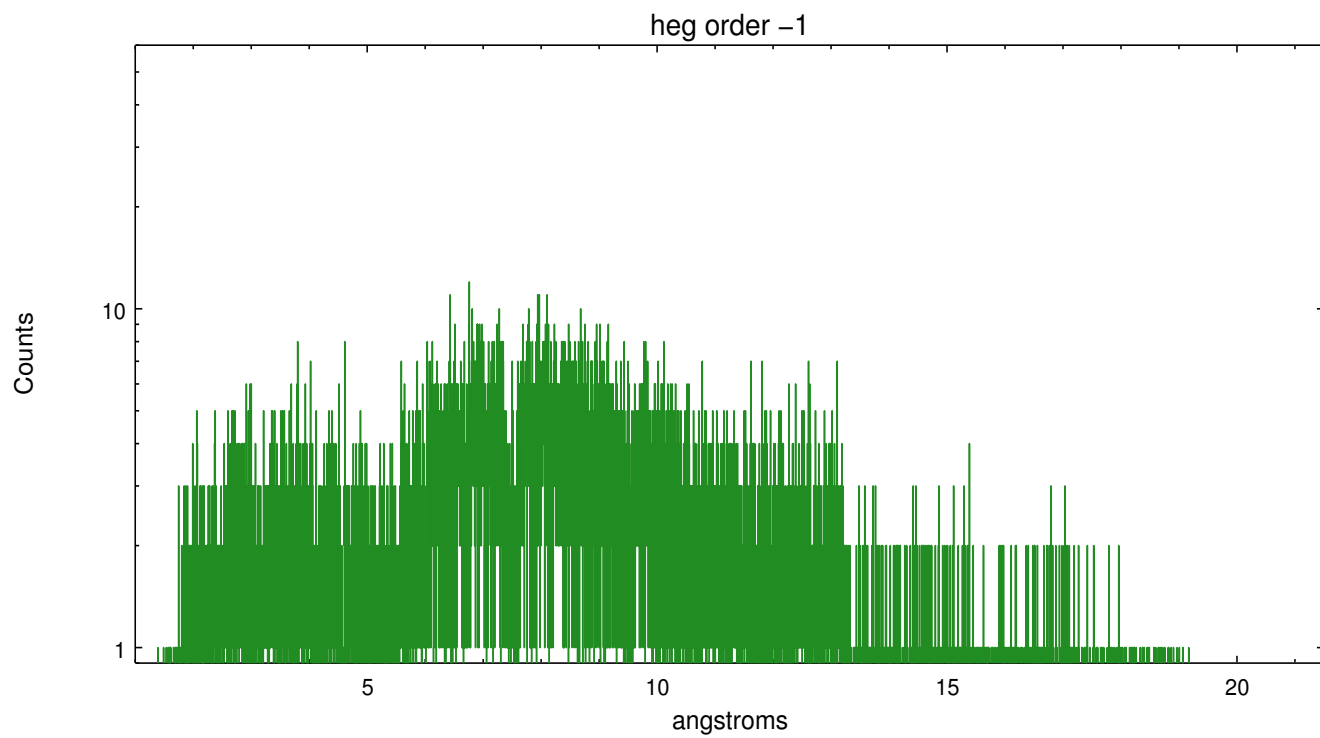
Spot Image HEG



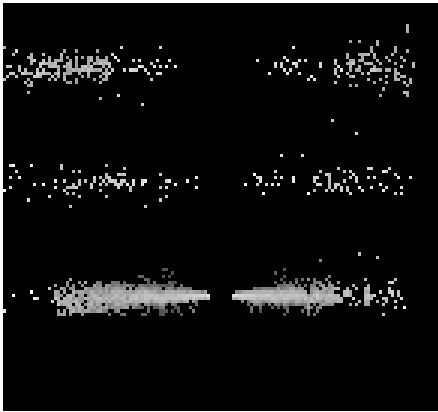
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	246	1022	11994	6169	9874	603	197

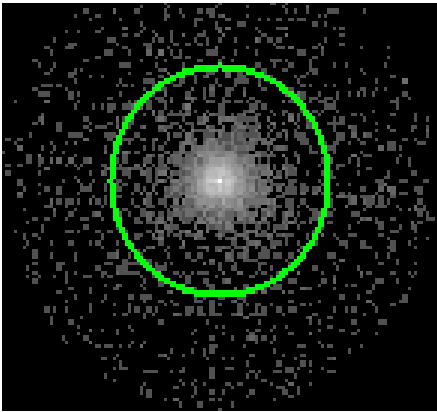




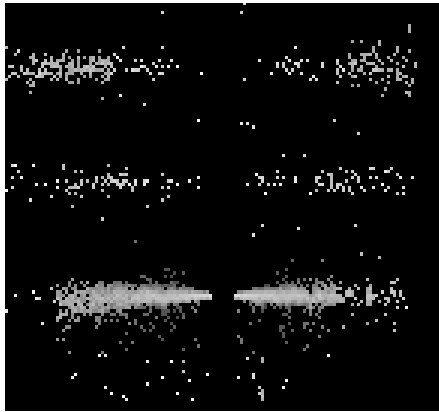
3.2 MEG Arm



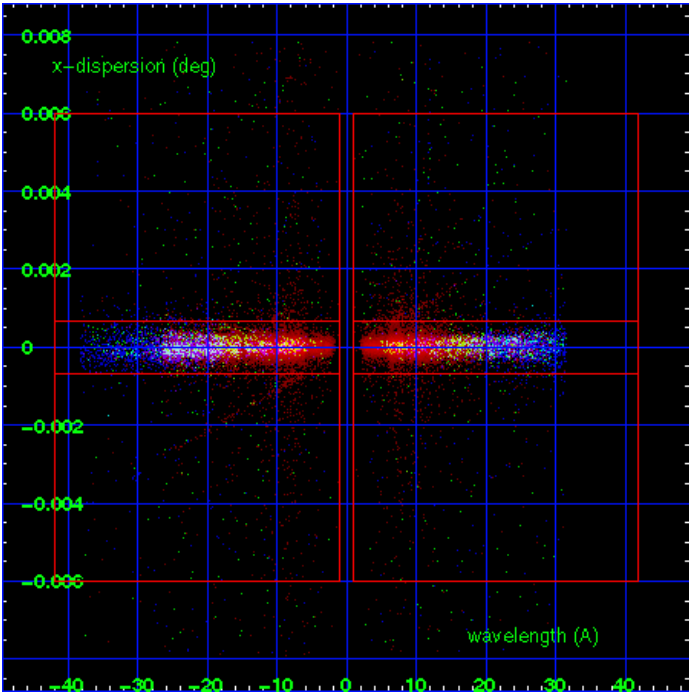
MEG Order Sort 123



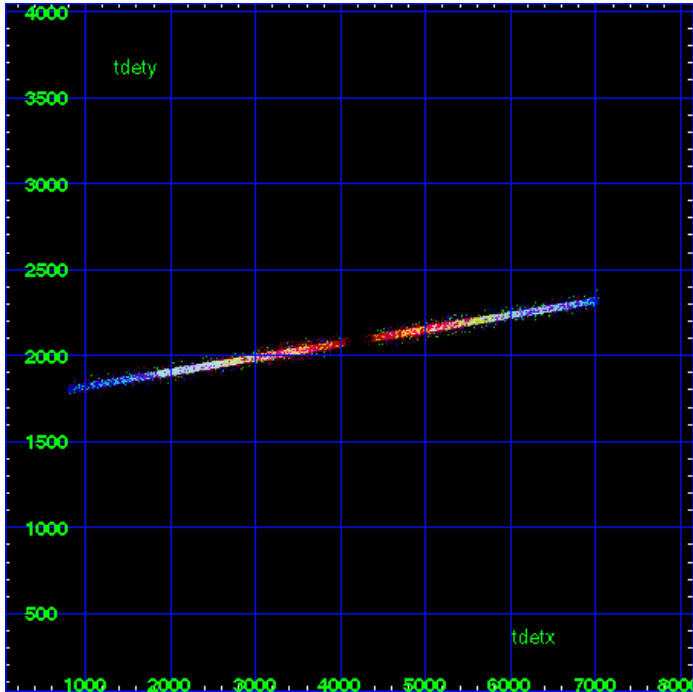
MEG Zero Order



MEG Order Sort ALL

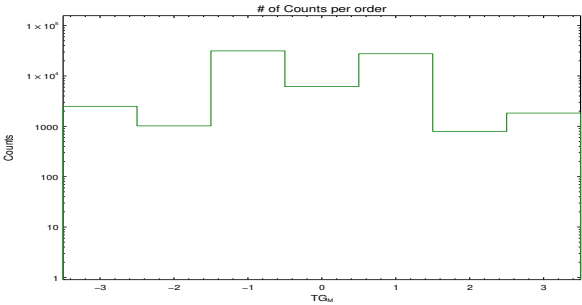


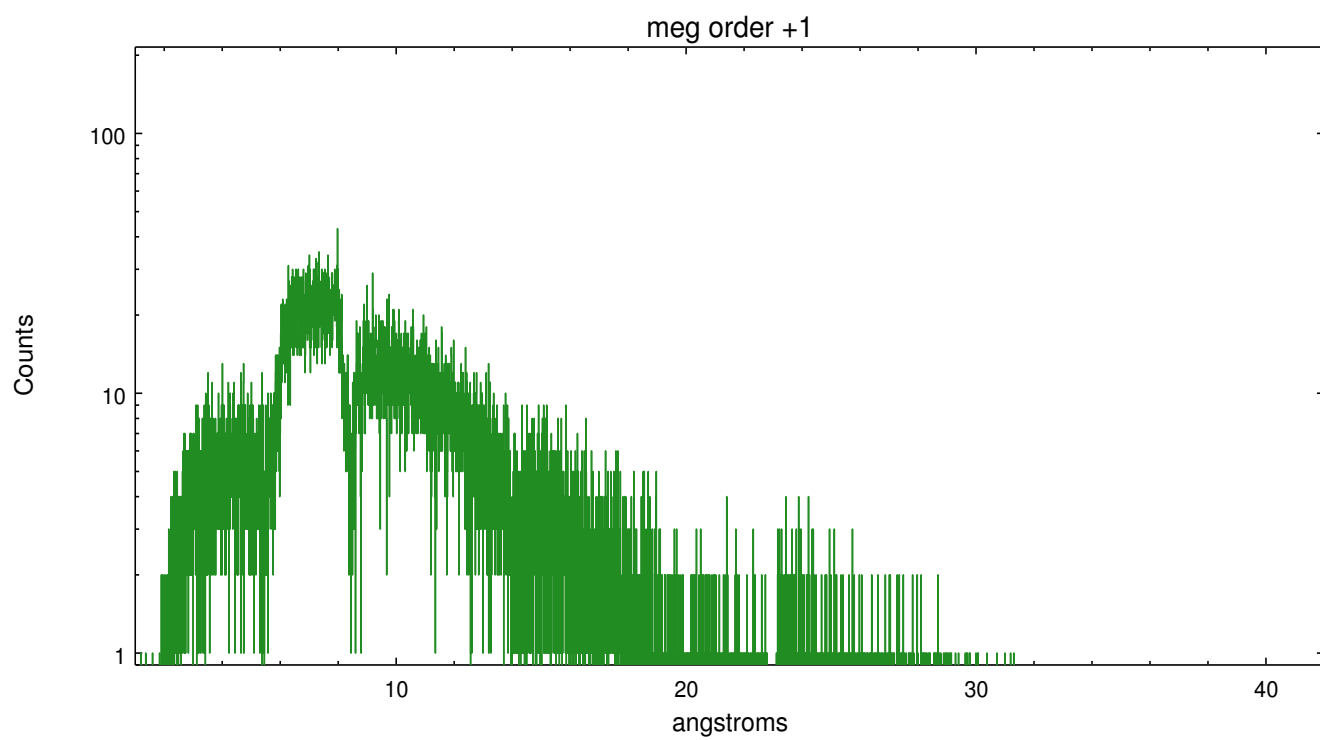
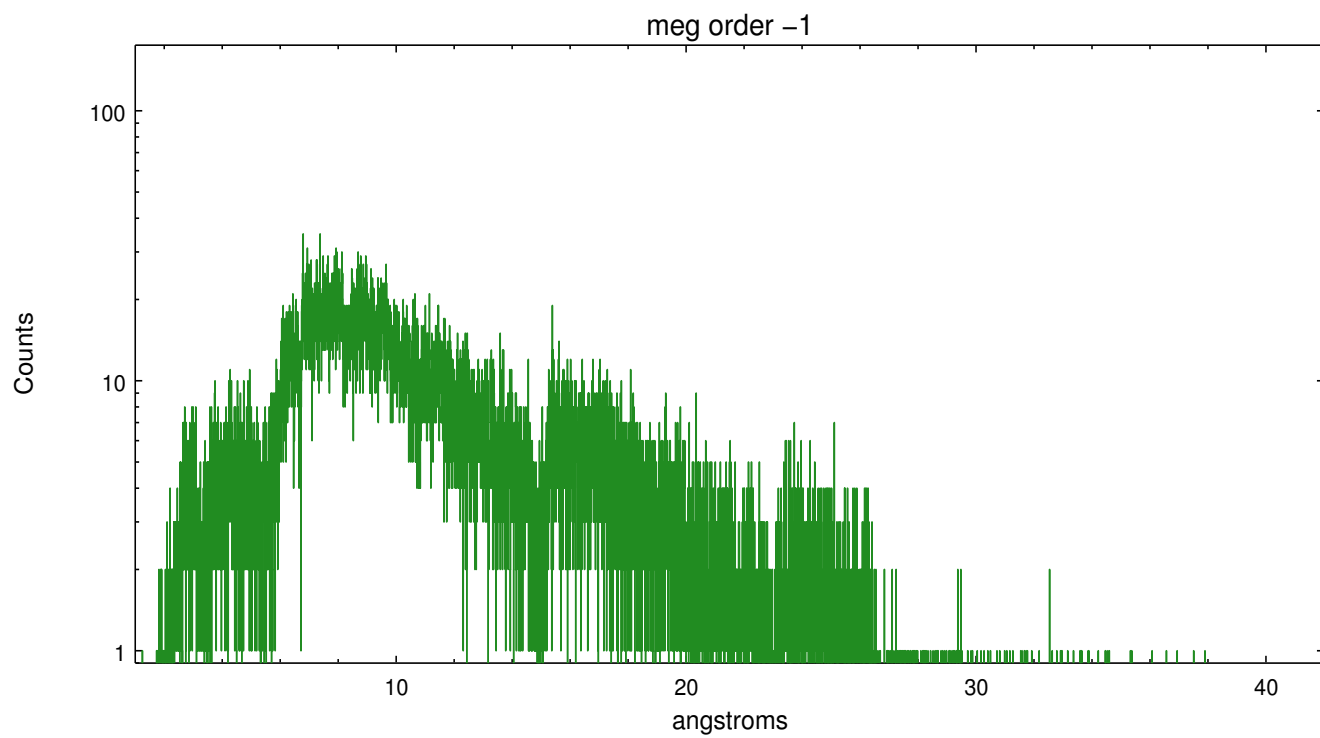
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2495	1021	31501	6169	27612	794	1833





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.83

A.2 Comments

Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates (x=4099.62, y=4023.33) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO as tg_findzo (currently in ISIS as findzo). The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool tgdetect was not used in this processing. The newly determined zeroth order coordinates have been placed in the *src1a.fits file, replacing the coordinates determined by tgdetect. Note that these corrected coordinates of the zeroth order cannot be reproduced by running tgdetect on the data.