

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3167 - L2 Version 4
Chandra X-Ray Center

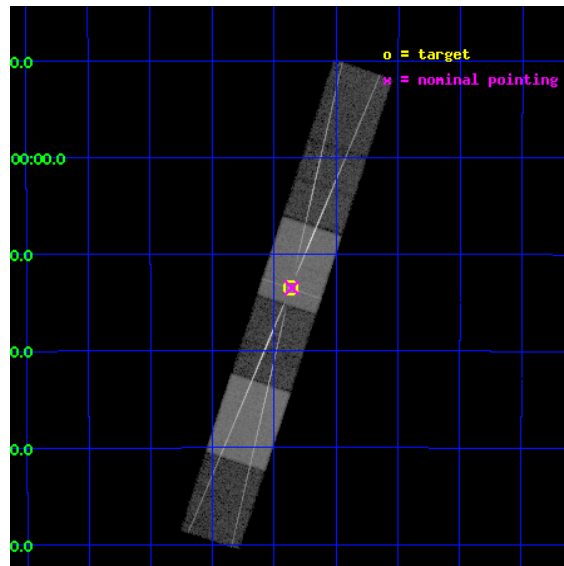
L2 Processing Date : Sep 28 2012

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1 Front

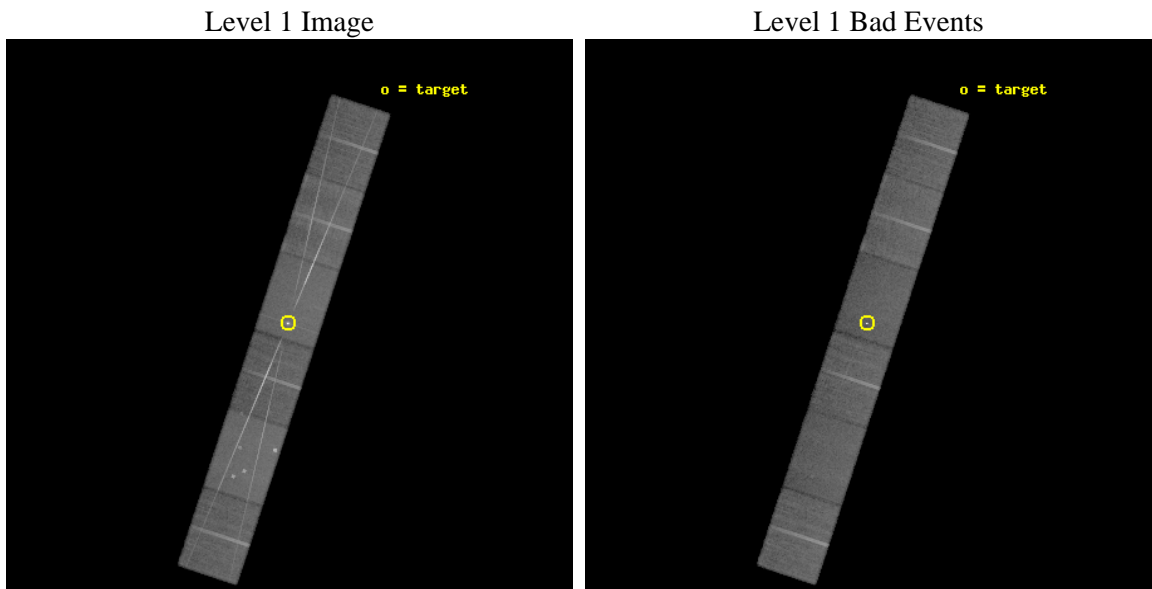
seq_num	790061	Sequence number
obs_id	3167	Observation id
title	AO3 CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.7142944037	Nominal RA [deg]
dec_nom	-30.224729208904	Nominal Dec [deg]
roll_nom	288.25907708593	Nominal Roll [deg]
revision	4	Processing version of data
ontime	30132.5	Sum of GTIs [s]
livetime	29645.833989233	Livetime [s]
ontime4	30132.5	Sum of GTIs [s]
ontime5	30132.5	Sum of GTIs [s]
ontime6	30129.959009841	Sum of GTIs [s]
ontime7	30132.5	Sum of GTIs [s]
ontime8	30132.5	Sum of GTIs [s]
ontime9	30132.5	Sum of GTIs [s]
l2events	386587	Number of level 2 events



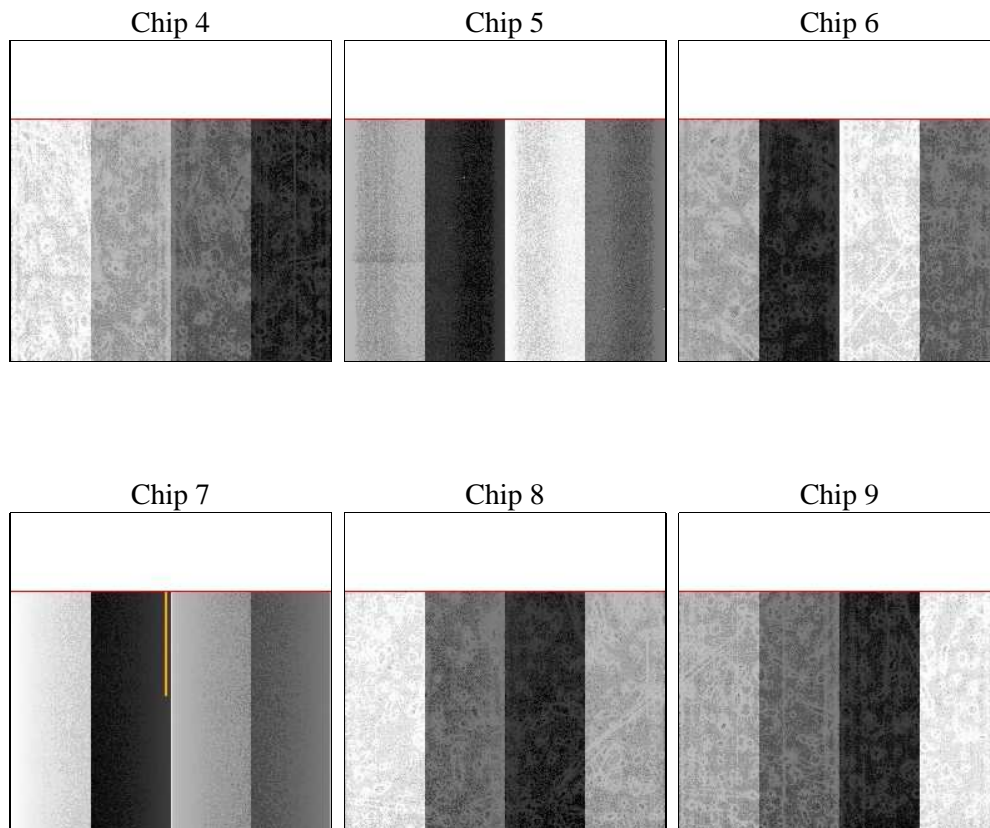
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30132.5	Sum of GTIs [s]
caldsver	4.5.2	 	ontime4	30132.5	Sum of GTIs [s]
date	2012-09-28T07:07:11	Date and time of file creation	ontime5	30132.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	30129.959009841	Sum of GTIs [s]
			ontime7	30132.5	Sum of GTIs [s]
			ontime8	30132.5	Sum of GTIs [s]
			ontime9	30132.5	Sum of GTIs [s]
			l1events	1254836	Number of level 1 events

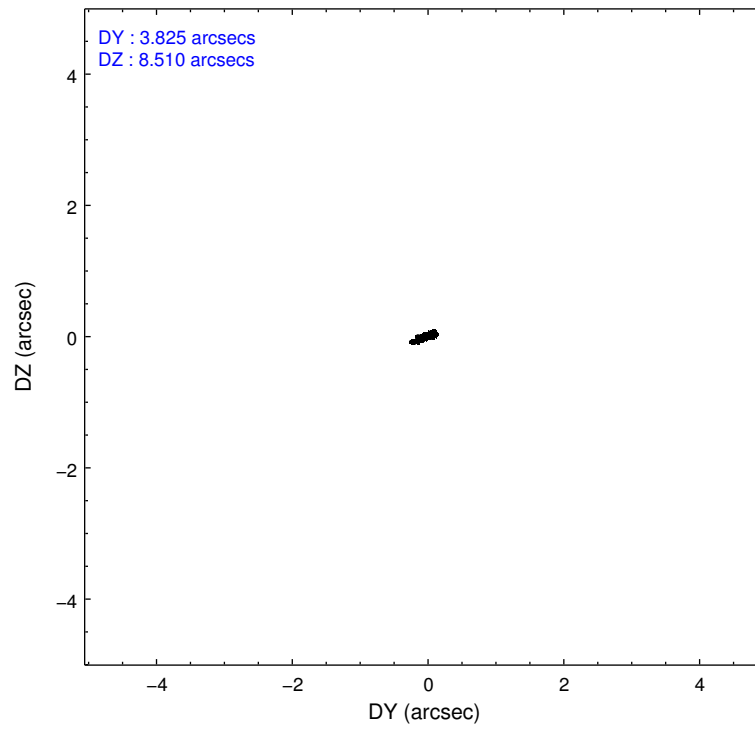
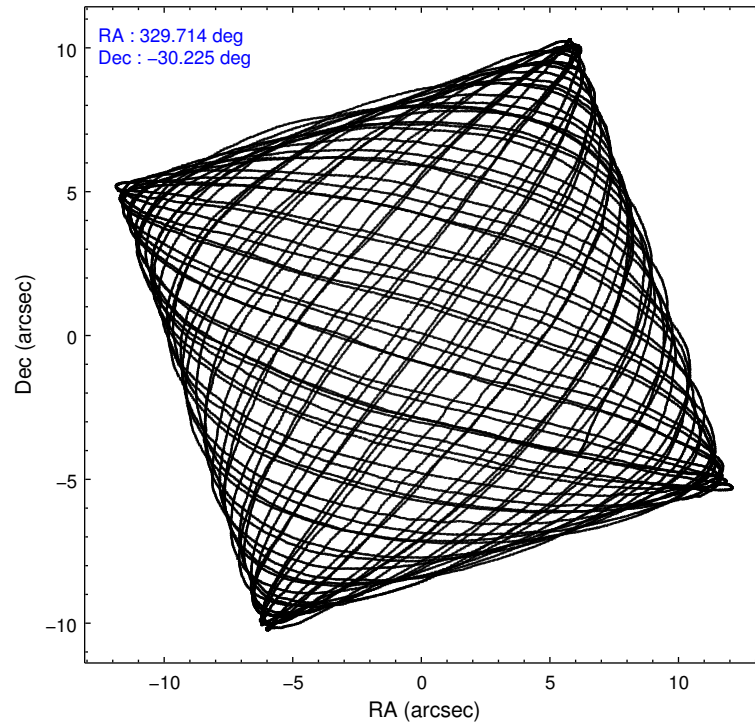
2.1.4 Events

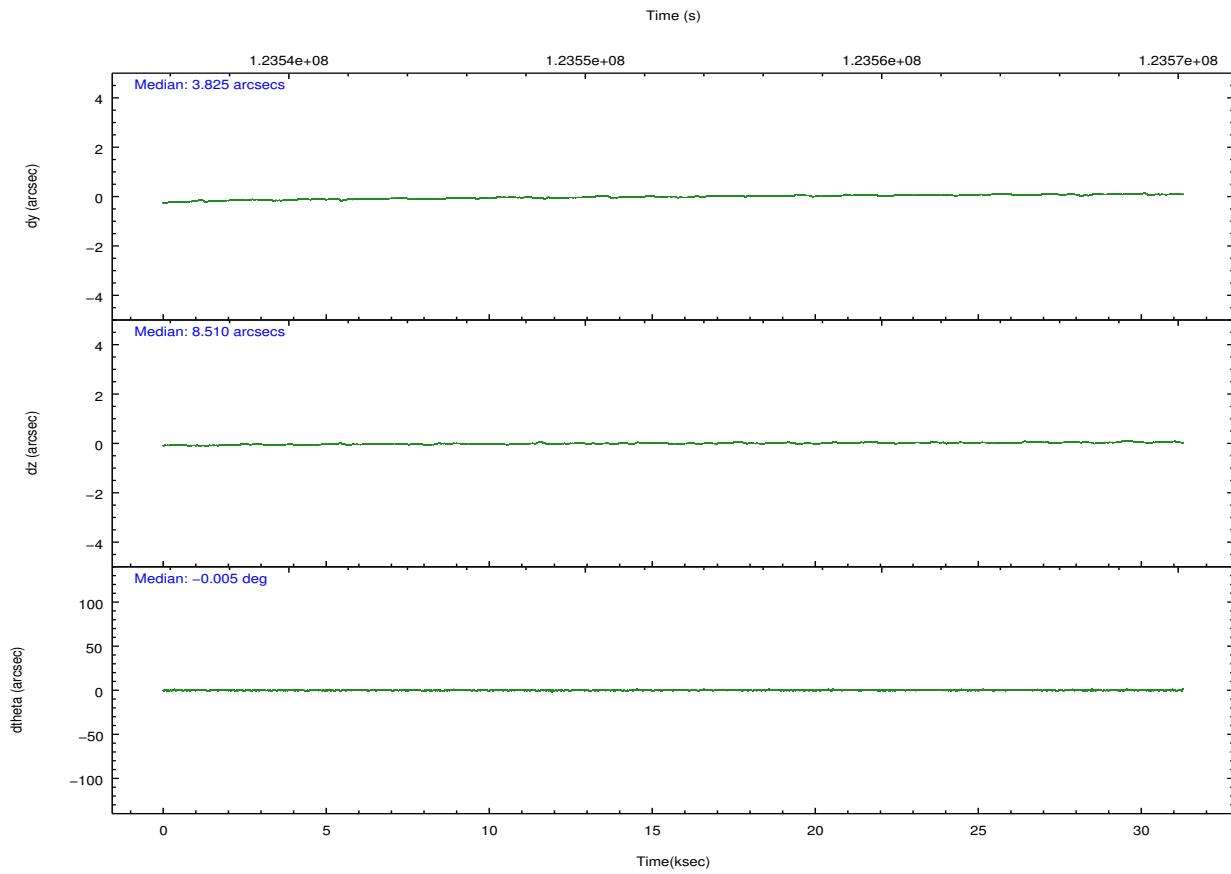
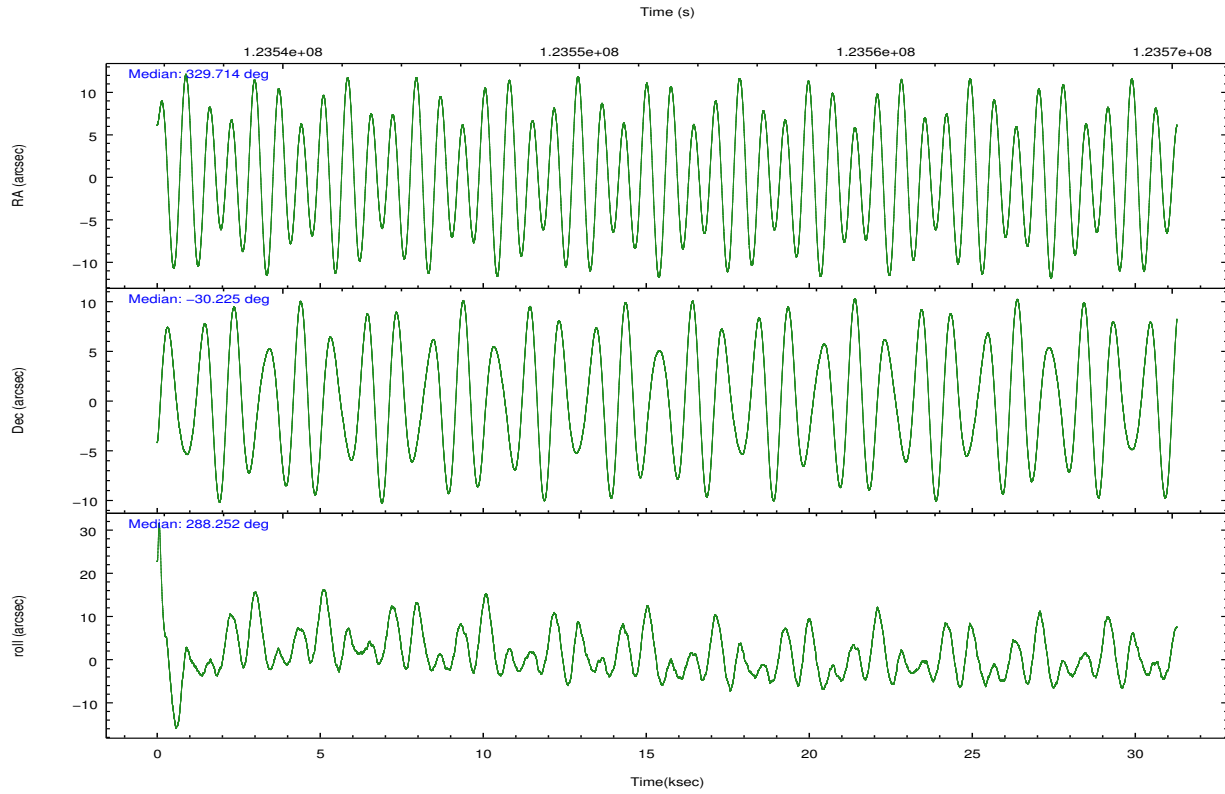
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	172817	249060	200598	246989	226597	158775	grade 0 events	11650	31698	44981	18834	40055	13759
rejected events	149319	115161	136071	123074	153283	133371		6%	12%	22%	7%	17%	8%
rejected %	86%	46%	67%	49%	67%	84%	grade 1 events	80	436	263	457	198	66
								0%	0%	0%	0%	0%	0%
							grade 2 events	4776	34454	8593	26950	11370	4148
								2%	13%	4%	10%	5%	2%
							grade 3 events	1973	7367	3228	12223	5599	1972
								1%	2%	1%	4%	2%	1%
							grade 4 events	1881	7231	3285	12144	5191	1976
								1%	2%	1%	4%	2%	1%
							grade 5 events	5520	16896	6425	20023	8066	6539
								3%	6%	3%	8%	3%	4%
							grade 6 events	3220	53161	4444	53773	11106	3554
								1%	21%	2%	21%	4%	2%
							grade 7 events	143717	97817	129379	102585	145012	126761
								83%	39%	64%	41%	63%	79%

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	329.690501	329.7142944036954	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-30.206821	-30.224729208904	Subarray start row	1	1
[deg] Pointing Roll	288.090484	288.2590770859297	Subarray row count	774	774
[s] Window start time (MET)	123284524.184000	123284524.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	123582904.184000	123582904.184000	[s] Primary exposure time	0.000000	2.5
[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)	123538598.184000	123536807.66641			
Observation start date	2001-11-30T20:15:34	2001-11-30T19:46:47			
[s] Observation end time (MET)	123568598.184000	123569062.3677			
Observation end date	2001-12-01T04:35:34	2001-12-01T04:44:22			
Read mode	TIMED	TIMED			

2.3 Aspect



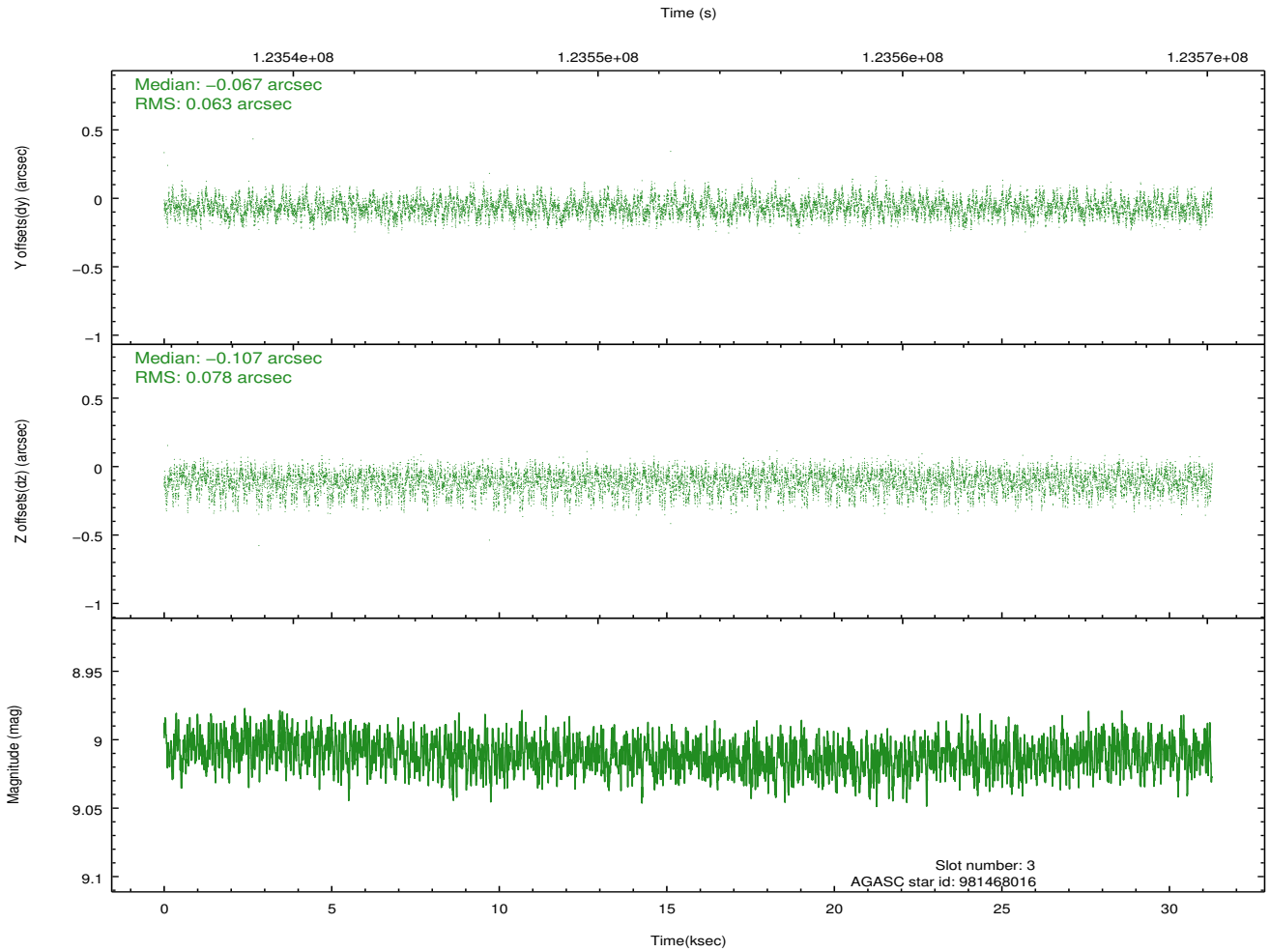
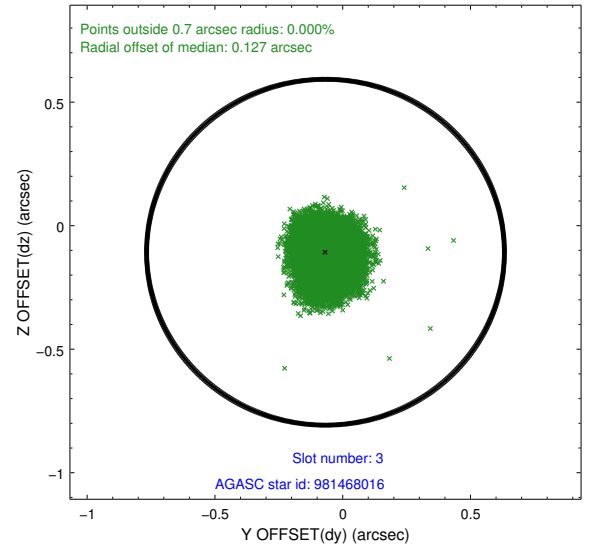
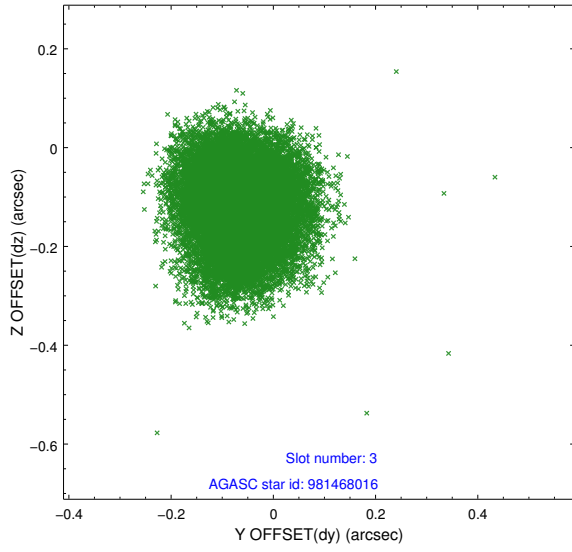


Slot Statistics

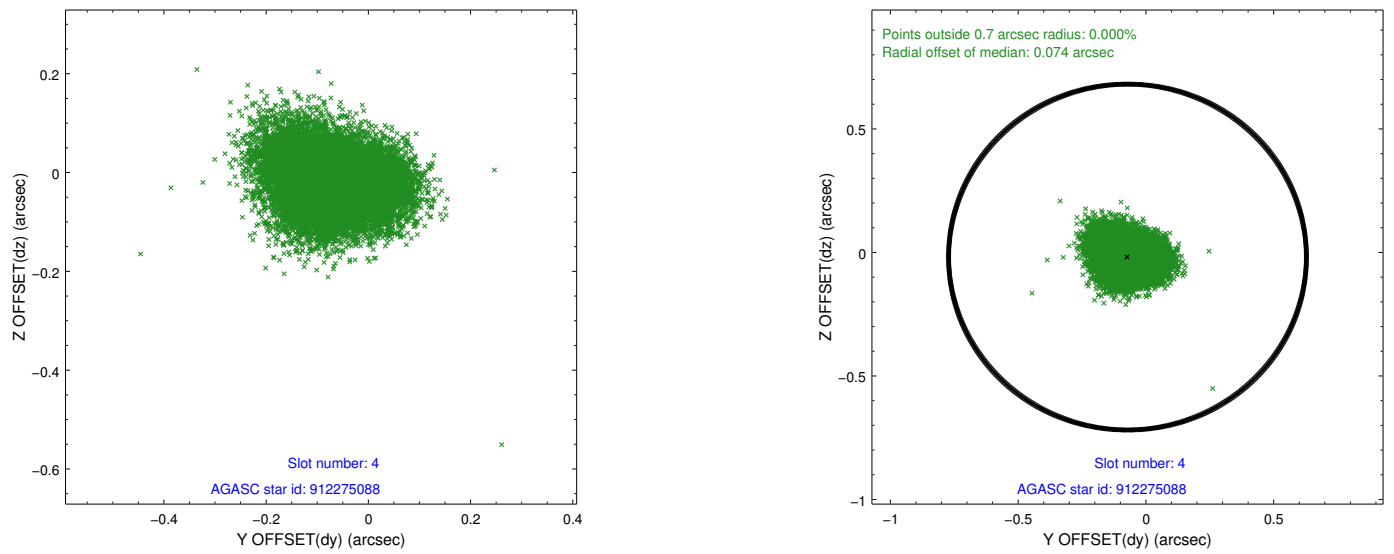
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	7628	-0.052	-0.017	0.007	0.011	0.000000	0.000000	-756.28	-1791.88
1	FID	ACIS-S-4	7.20	7628	0.029	0.030	0.007	0.012	0.000000	0.000000	2157.01	116.62
2	FID	ACIS-S-5	7.23	7626	-0.009	-0.004	0.008	0.014	0.000000	0.000000	-1809.03	110.26
3	GUIDE	981468016	9.01	15253	-0.067	-0.107	0.109	0.167	328.842457	-30.034984	-1398.17	-2322.93
4	GUIDE	912275088	9.05	15255	-0.072	-0.019	0.090	0.147	329.619228	-29.738698	-1670.21	311.81
5	GUIDE	981478152	9.40	15249	0.015	0.097	0.078	0.126	329.415589	-30.057192	-776.02	-646.61
6	GUIDE	981468128	9.37	15251	0.056	-0.014	0.099	0.164	329.756350	-30.158334	-101.16	249.65
7	GUIDE	981469488	9.59	15247	0.057	0.052	0.116	0.181	329.261199	-30.045155	-965.04	-1091.12

2.4 Star Slots

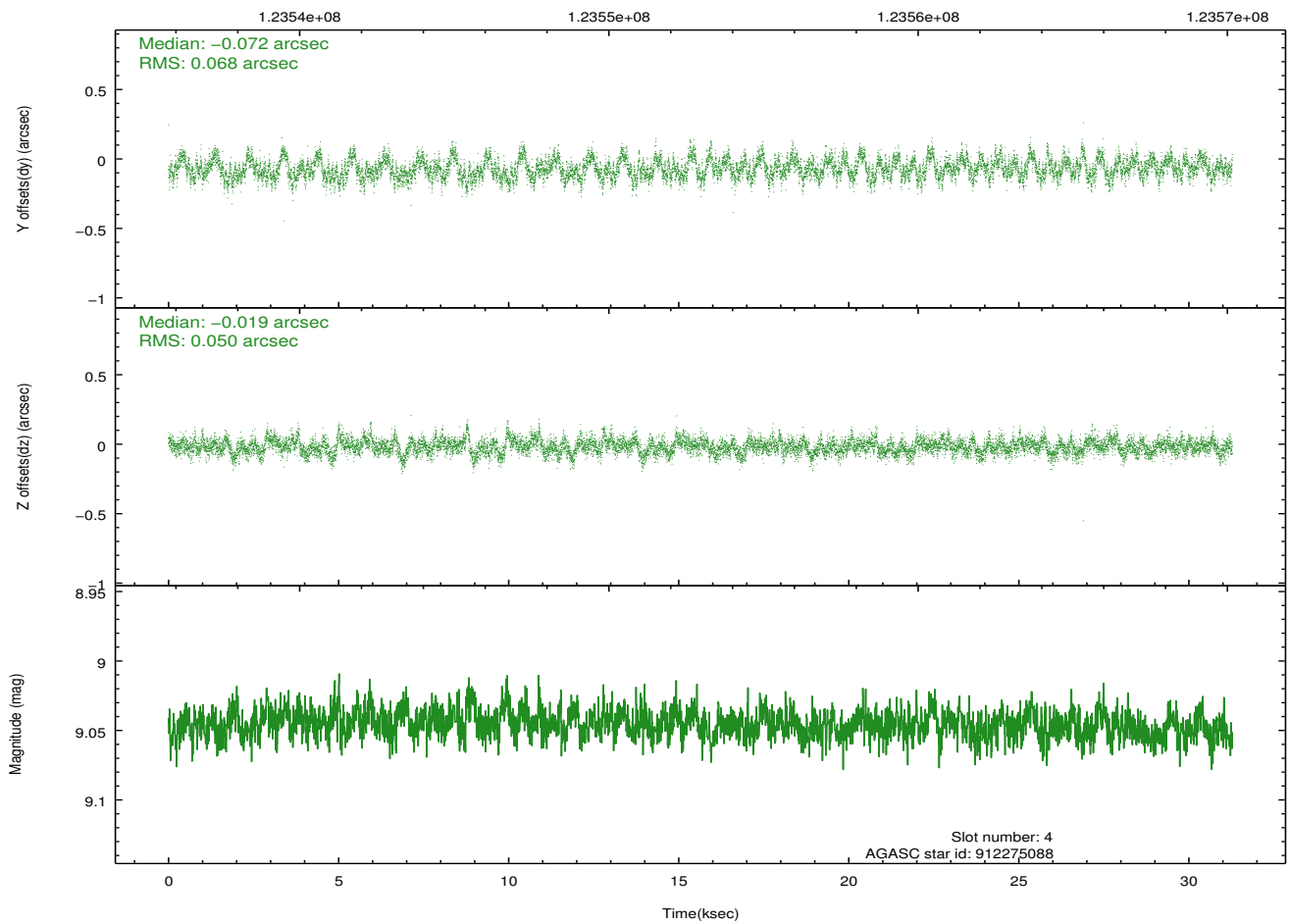
2.4.1 Slot 3



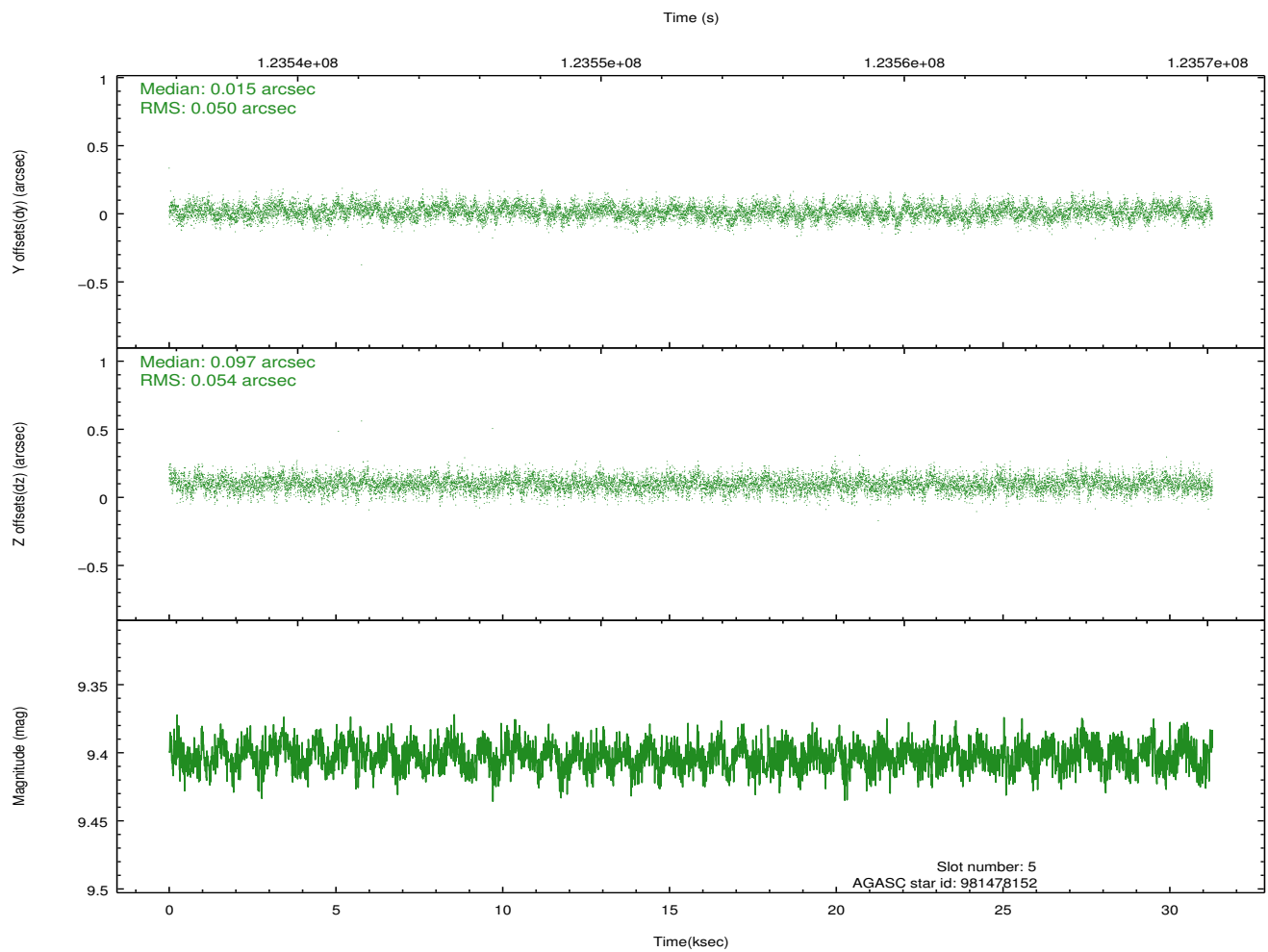
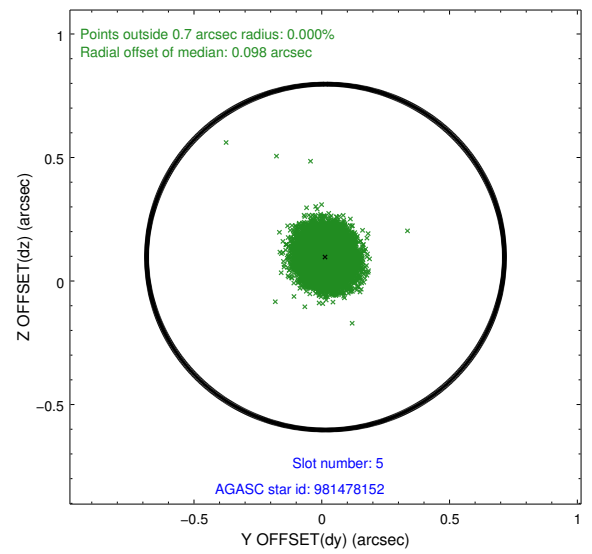
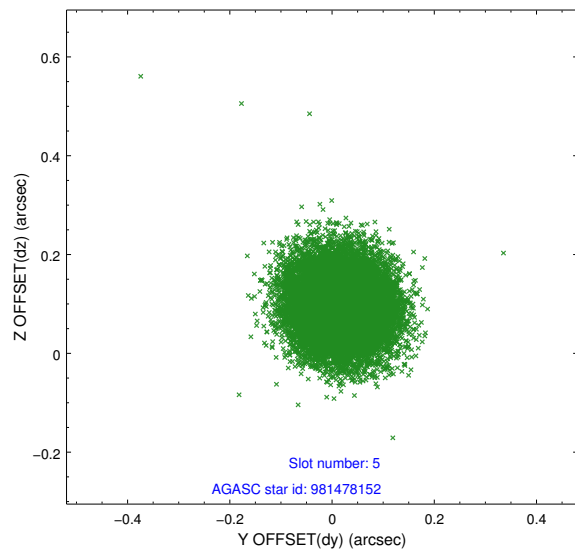
2.4.2 Slot 4



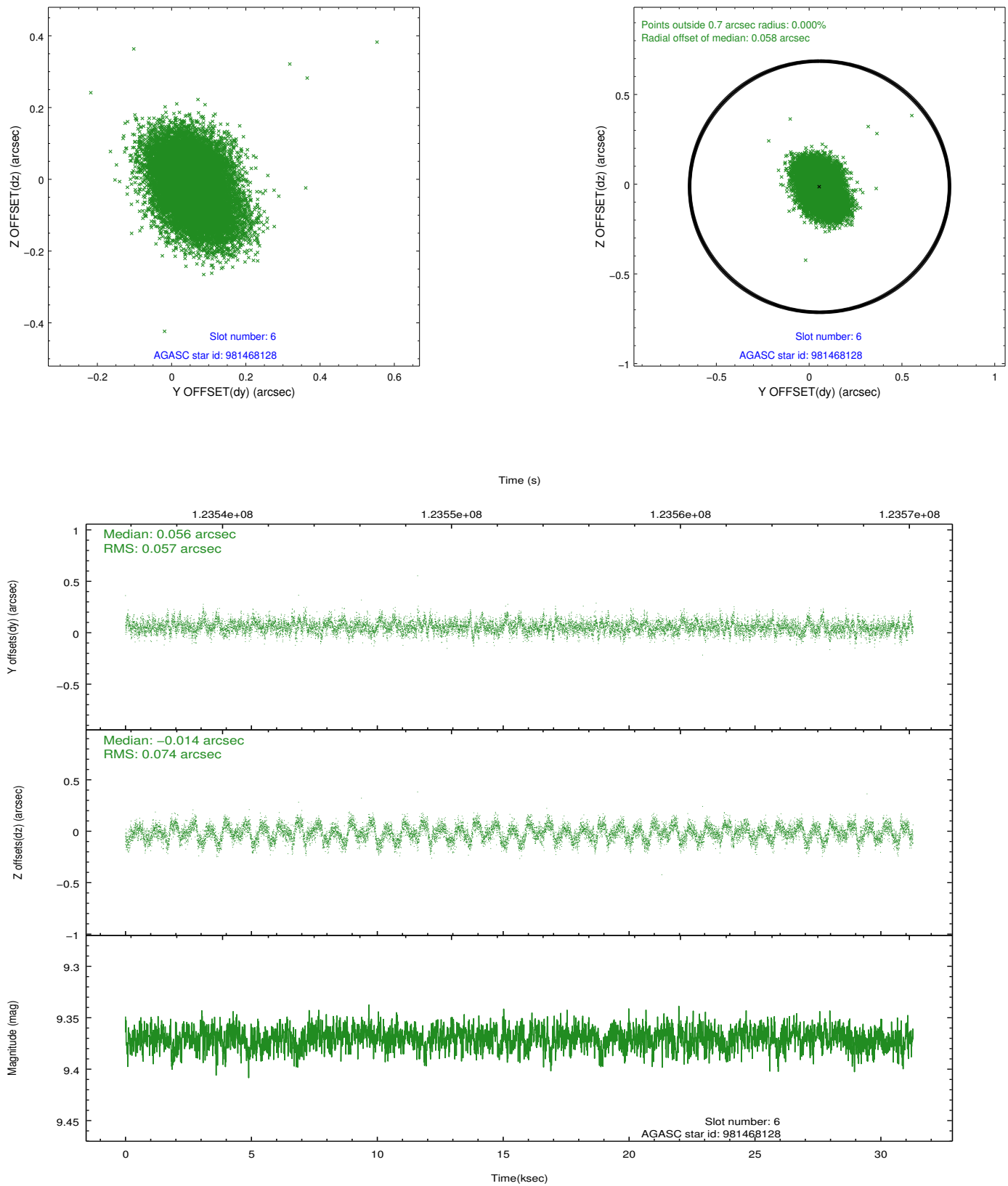
Time (s)



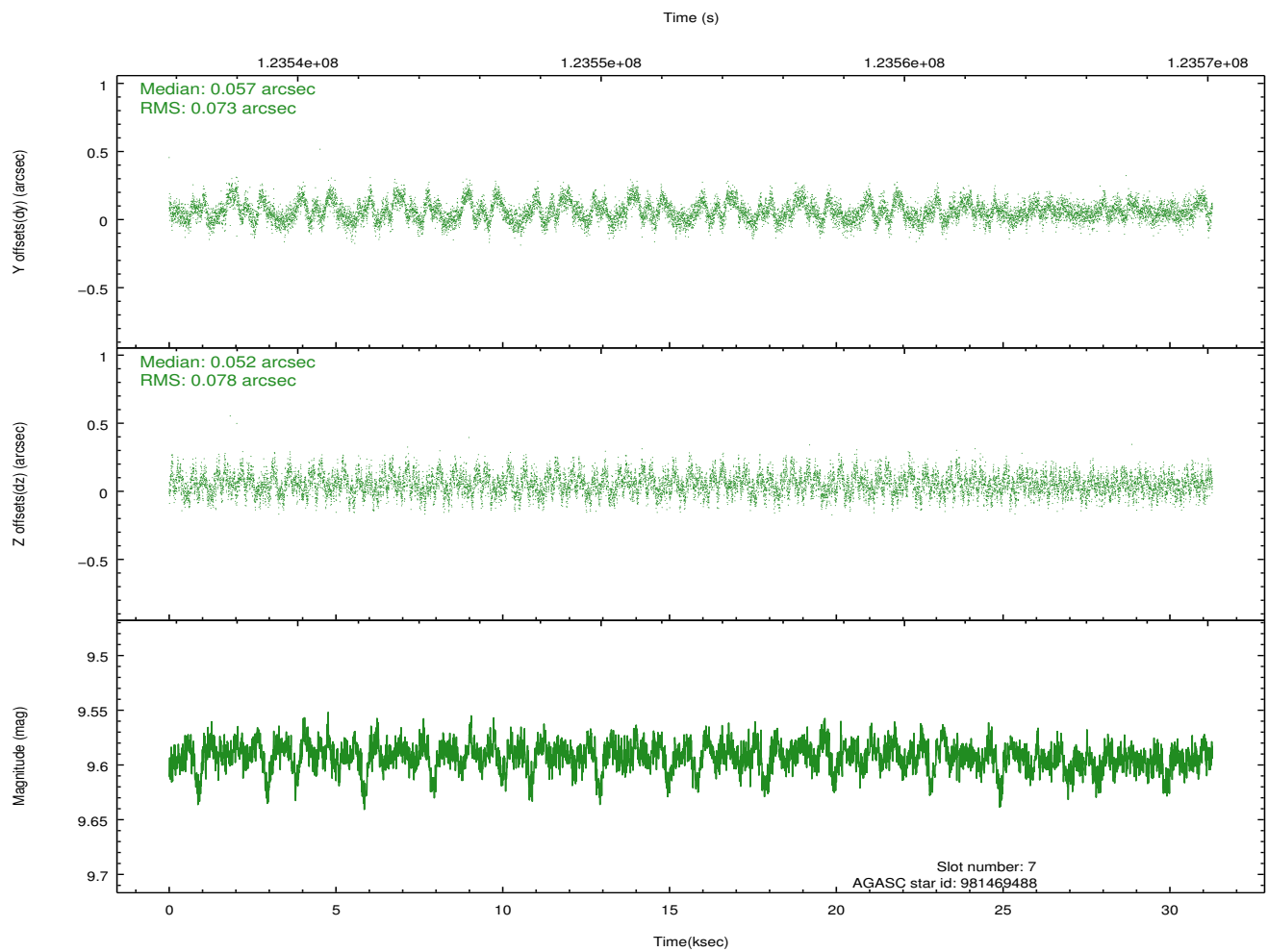
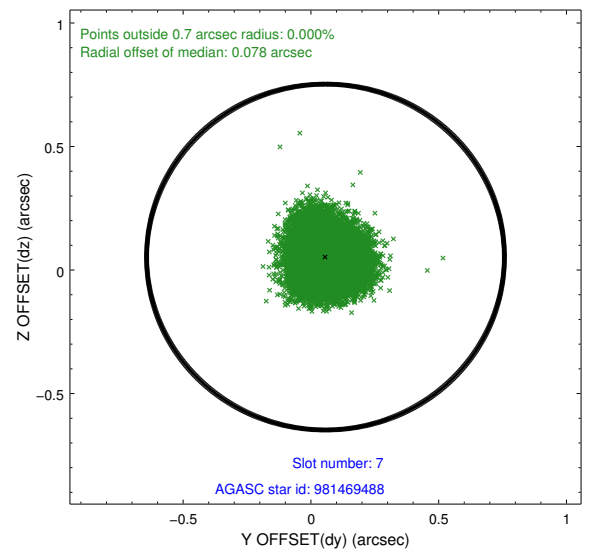
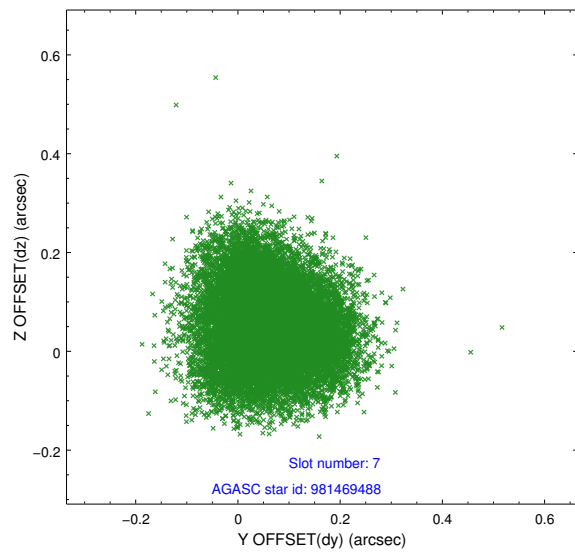
2.4.3 Slot 5



2.4.4 Slot 6

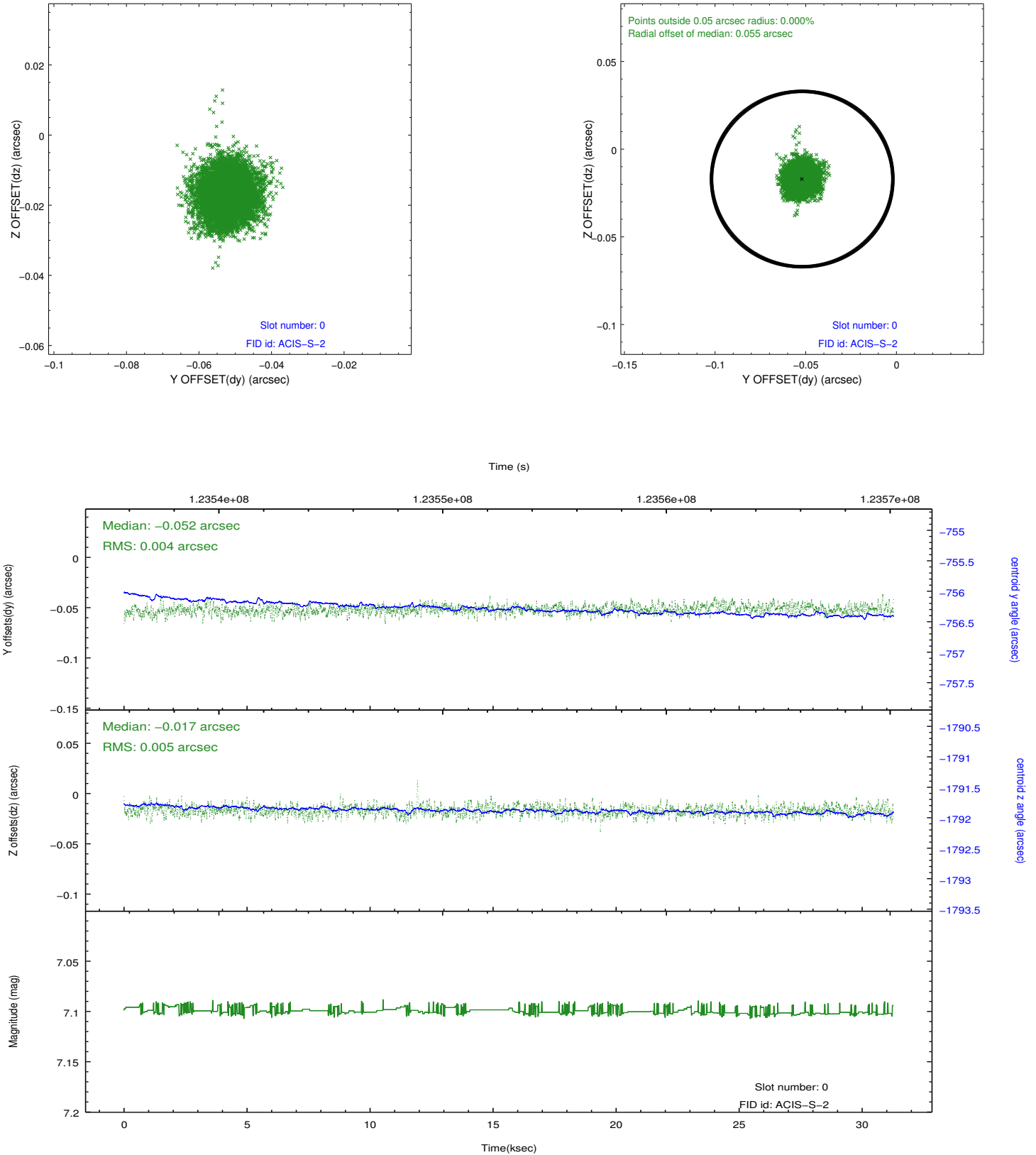


2.4.5 Slot 7

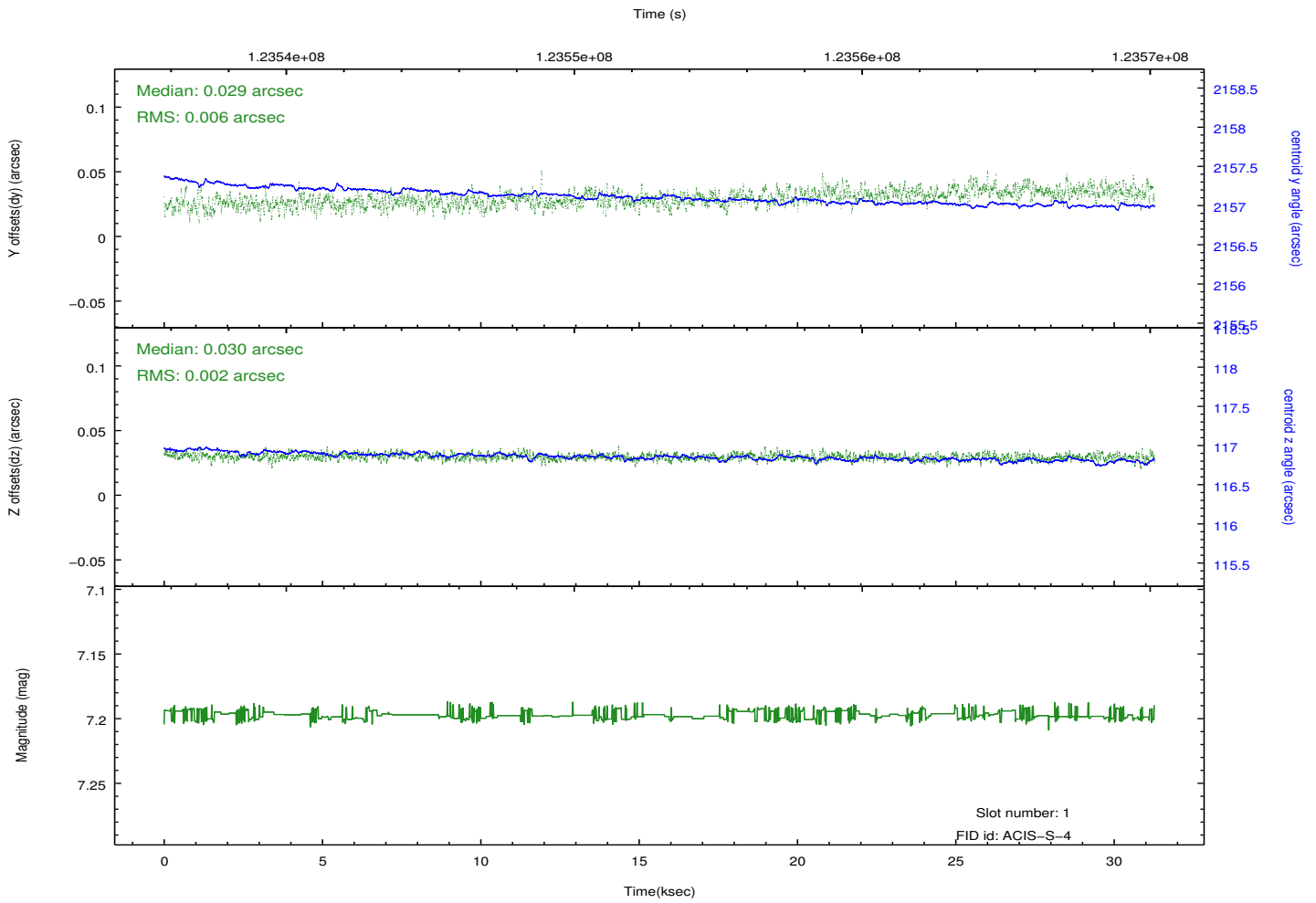
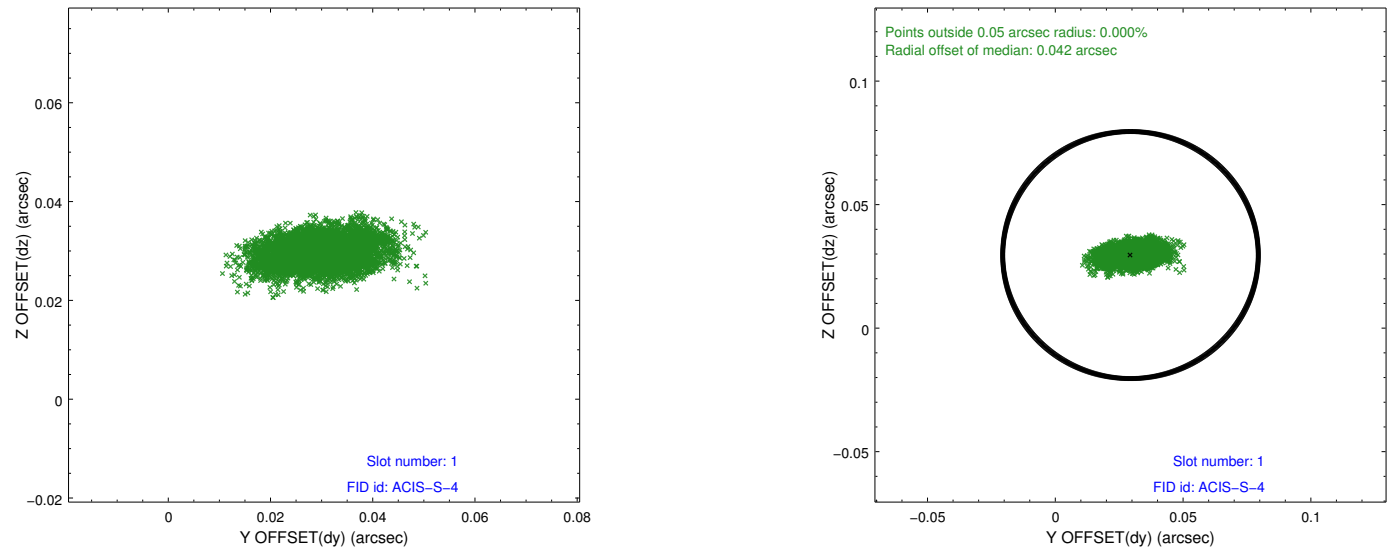


2.5 FID Slots

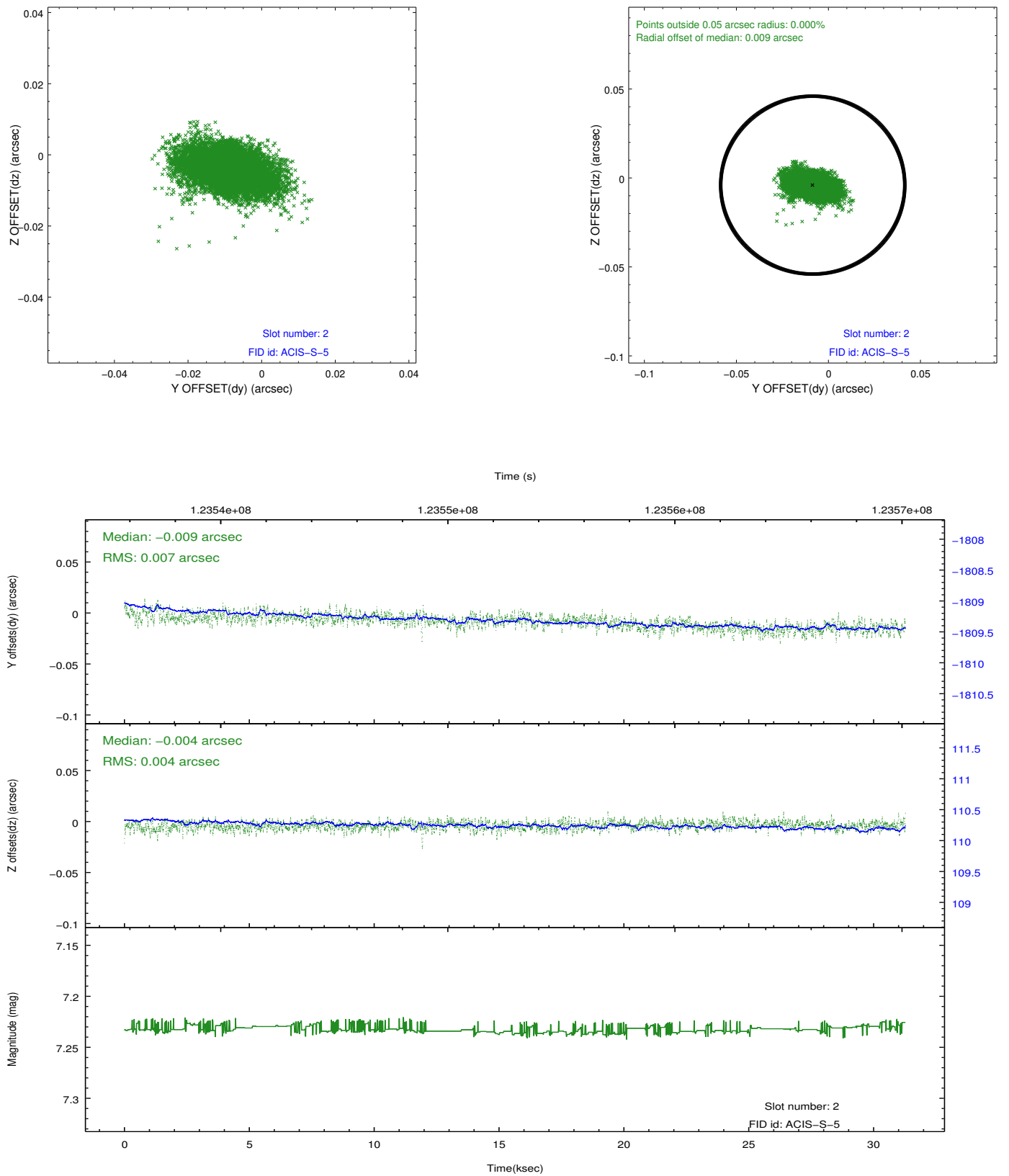
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

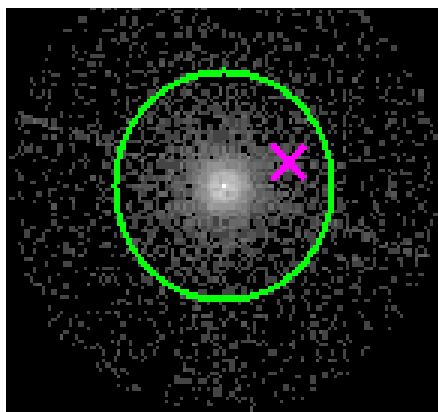


3 Gratings

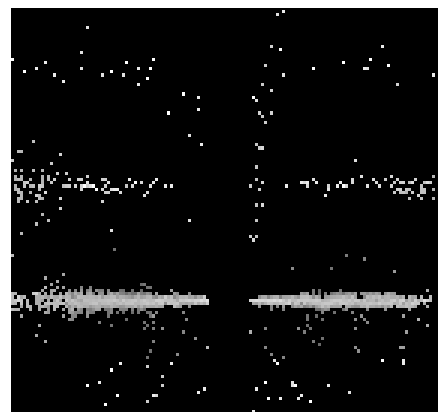
3.1 HEG Arm



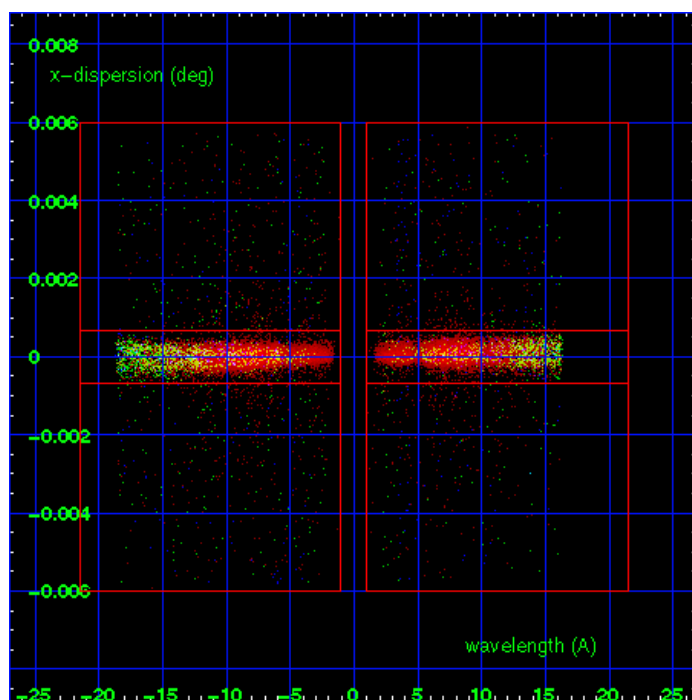
HEG Order Sort 123



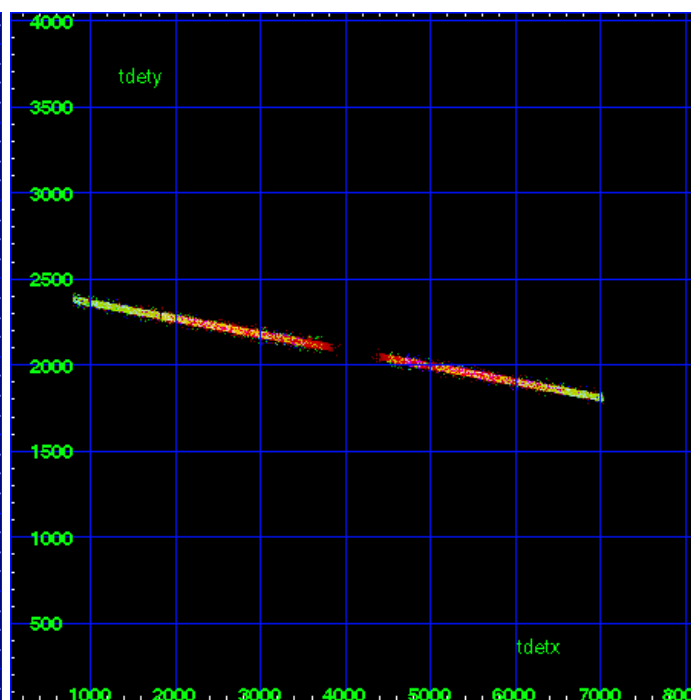
HEG Zero Order



HEG Order Sort ALL

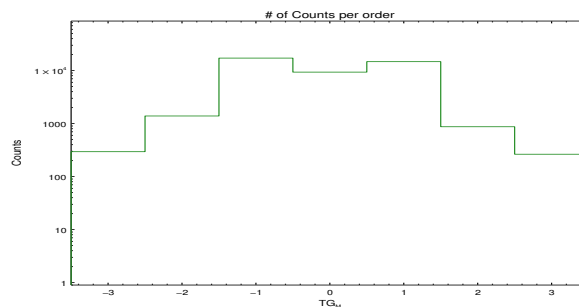


Spot Image HEG

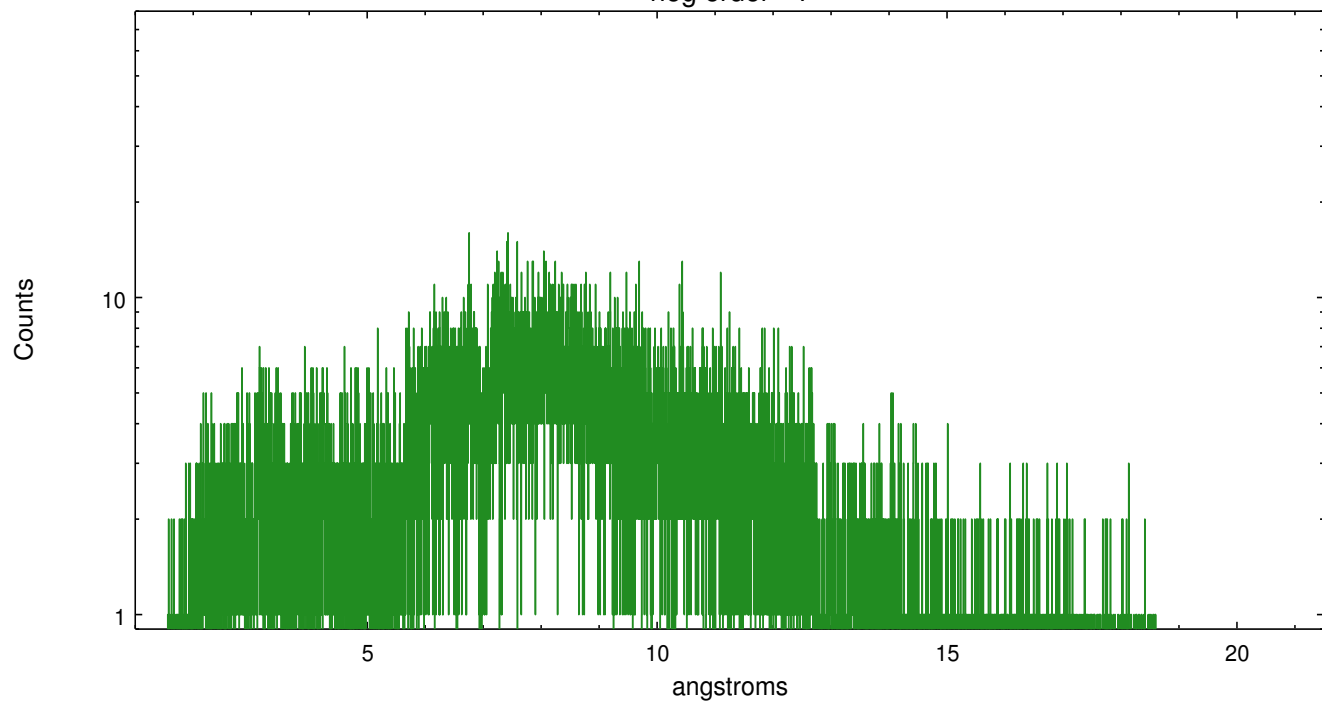


Full Detector HEG

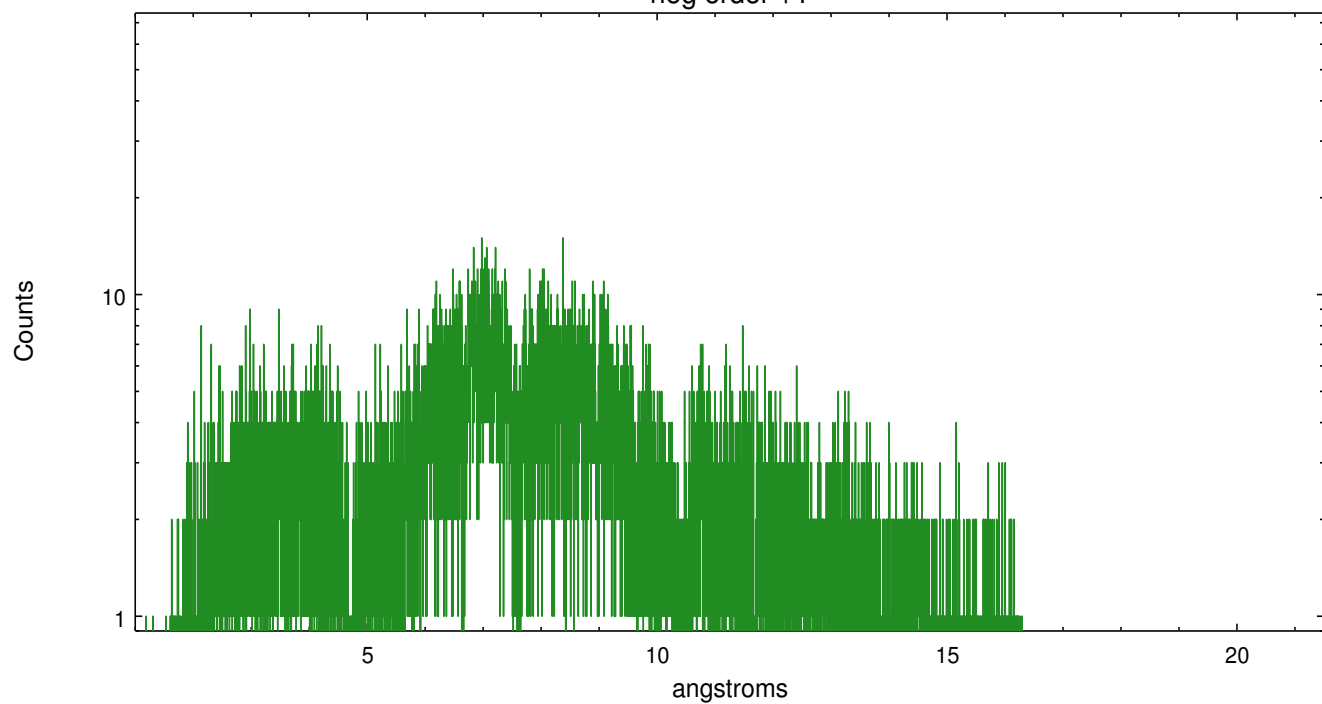
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	295	1391	17179	9342	14728	872	264



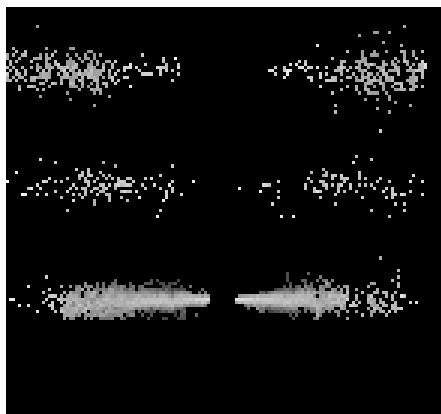
heg order -1



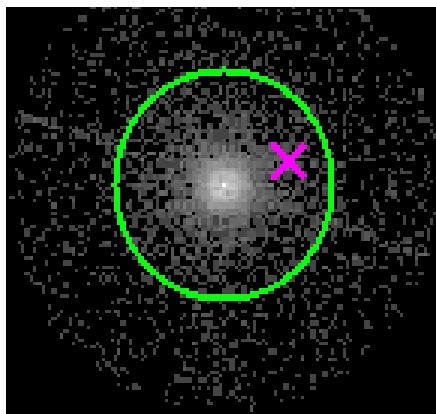
heg order +1



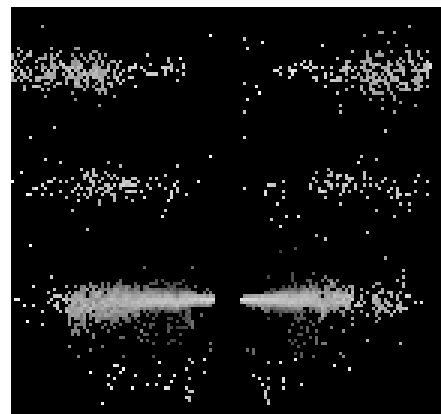
3.2 MEG Arm



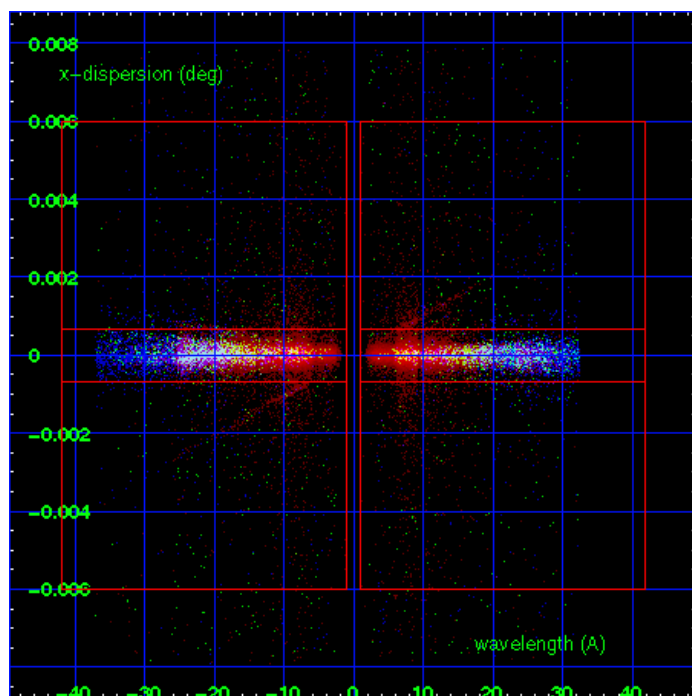
MEG Order Sort 123



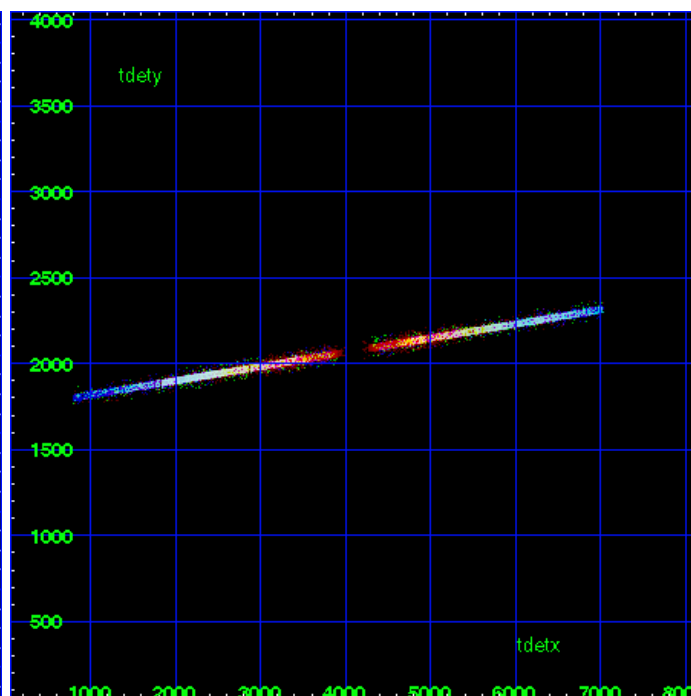
MEG Zero Order



MEG Order Sort ALL

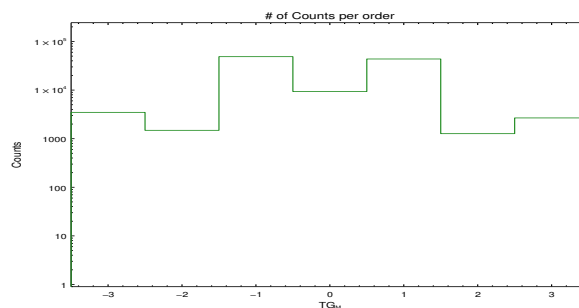


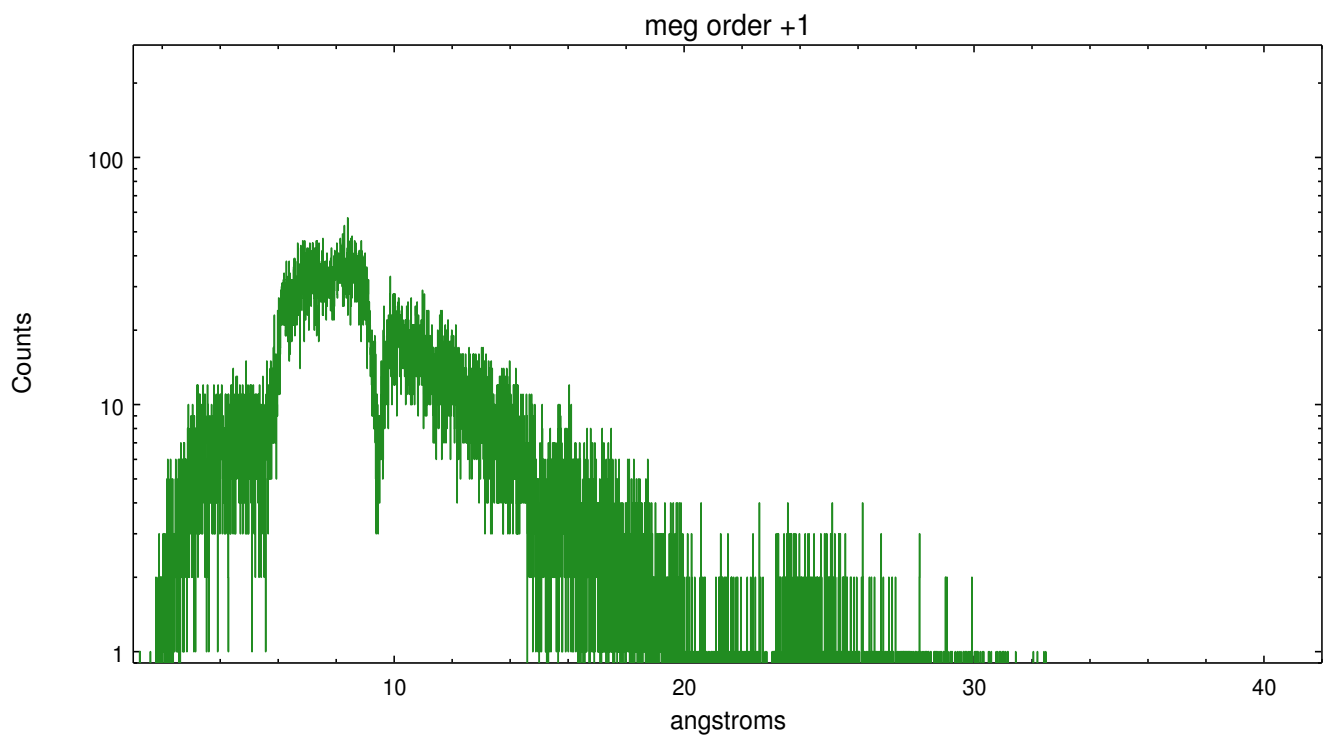
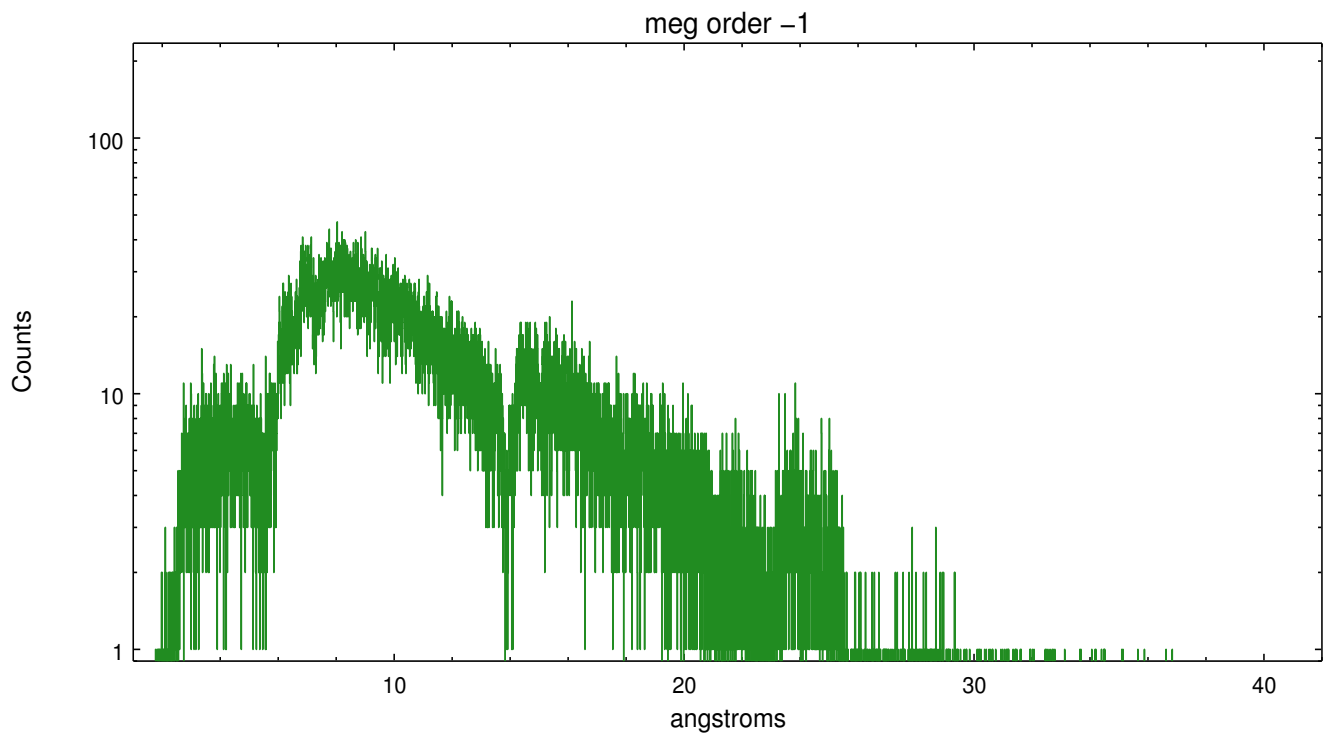
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3479	1485	48762	9342	43657	1269	2674





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.135

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=4079.49, y=4090.22) 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.