

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1010 - L2 Version 3
Chandra X-Ray Center

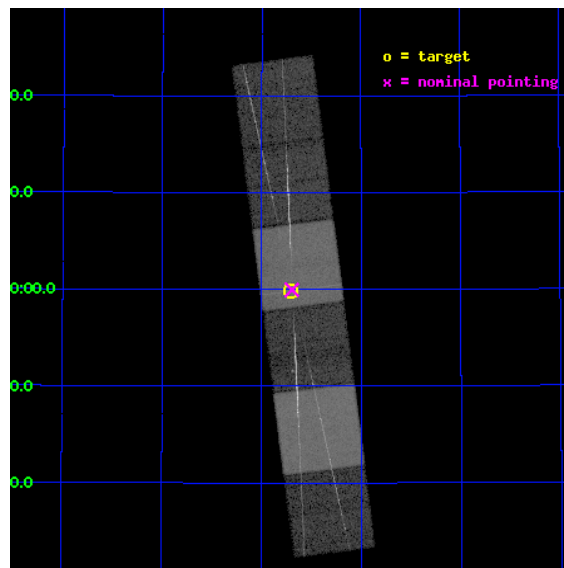
L2 Processing Date : Sep 18 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

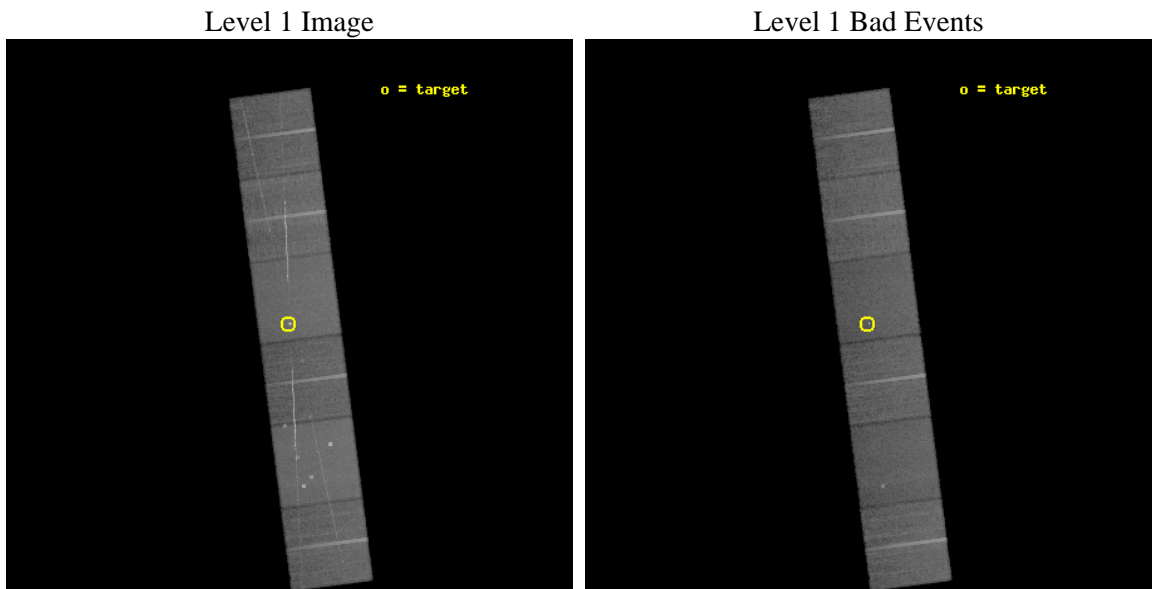
seq_num	390002	Sequence number
obs_id	1010	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF HZ43 AND CAPELLA	Proposal tit
observer	Dr. CXC Calibration	Principal investigator
object	CAPELLA	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA [deg]
dec_targ	45.997889	Observer's specified target Dec [deg]
ra_nom	79.17403684045	Nominal RA [deg]
dec_nom	45.999450807943	Nominal Dec [deg]
roll_nom	262.6519425892	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29916.800027847	Sum of GTIs [s]
livetime	29537.97549216	Livetime [s]
ontime4	29916.800027847	Sum of GTIs [s]
ontime5	29916.800027847	Sum of GTIs [s]
ontime6	29913.559067622	Sum of GTIs [s]
ontime7	29916.800027847	Sum of GTIs [s]
ontime8	29916.800027847	Sum of GTIs [s]
ontime9	29916.800027847	Sum of GTIs [s]
l2events	340411	Number of level 2 events



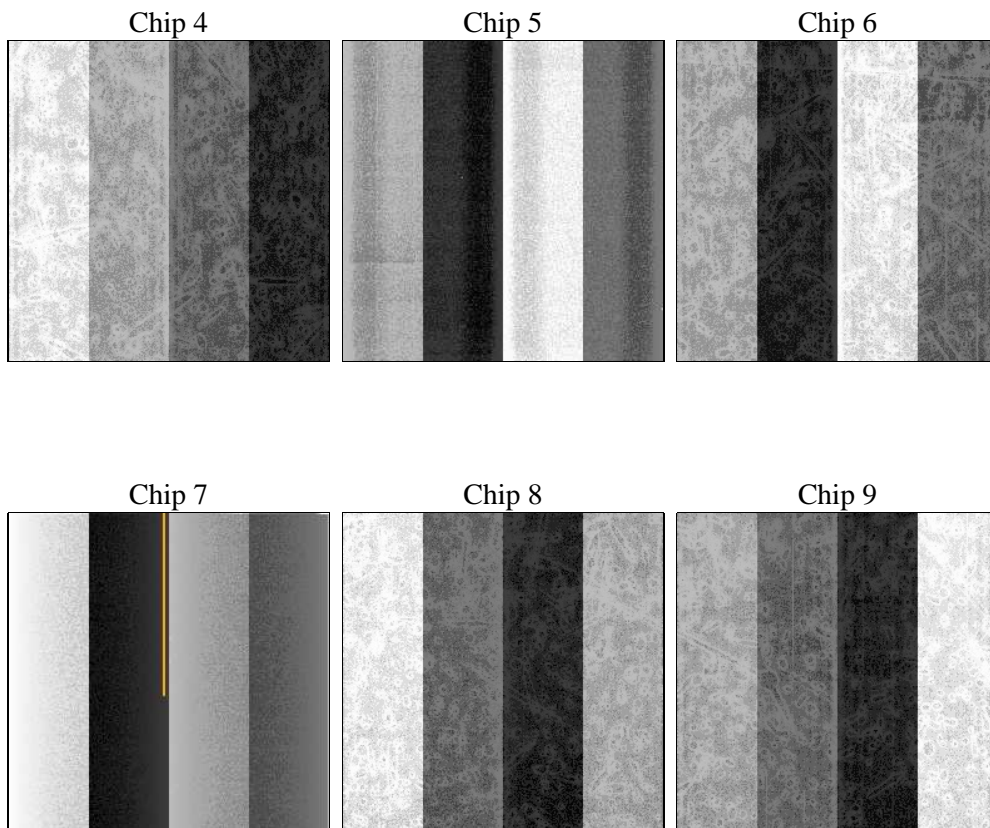
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	29916.800027847	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	29916.800027847	Sum of GTIs [s]
date	2012-09-16T05:18:39	Date and time of file creation	ontime5	29916.800027847	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	29913.559067622	Sum of GTIs [s]
			ontime7	29916.800027847	Sum of GTIs [s]
			ontime8	29916.800027847	Sum of GTIs [s]
			ontime9	29916.800027847	Sum of GTIs [s]
			l1events	1375572	Number of level 1 events

2.1.4 Events

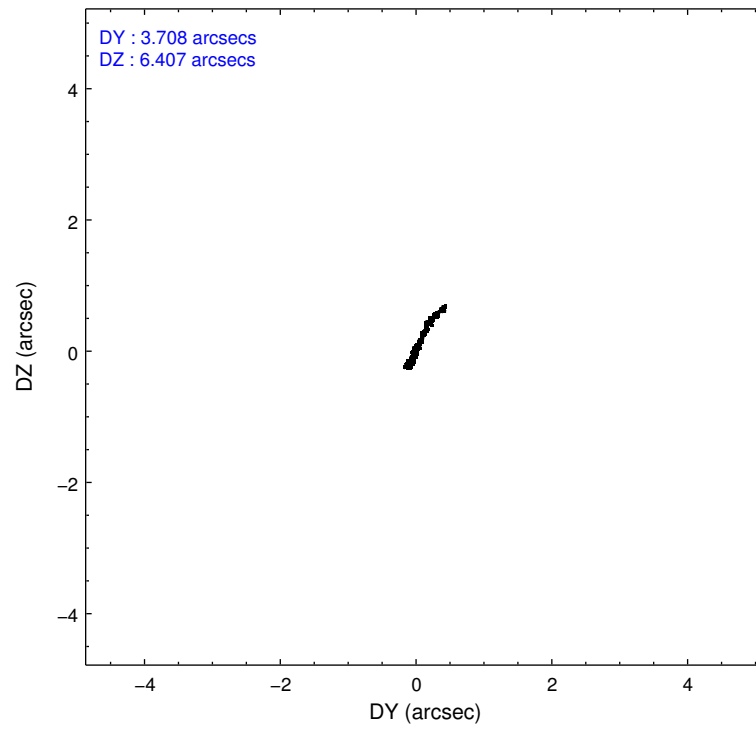
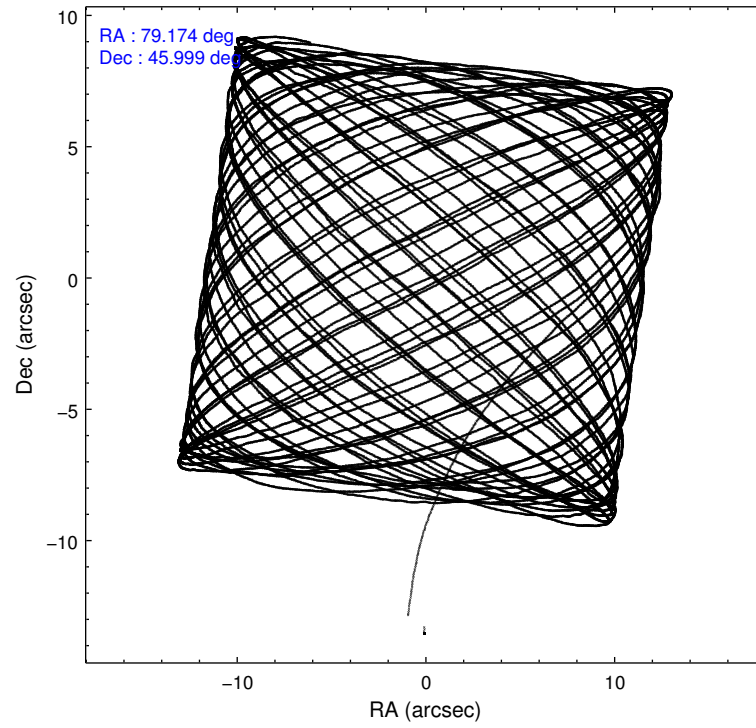
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	206107	280182	200752	253271	250507	184753	grade 0 events	11715	26409	20852	11267	29932	12021
rejected events	181062	139539	165444	146106	187597	159361		5%	9%	10%	4%	11%	6%
rejected %	87%	49%	82%	57%	74%	86%	grade 1 events	103	298	148	360	227	84
								0%	0%	0%	0%	0%	0%
							grade 2 events	5387	39069	5364	21341	11018	4739
								2%	13%	2%	8%	4%	2%
							grade 3 events	2095	6758	2434	9904	5099	2224
								1%	2%	1%	3%	2%	1%
							grade 4 events	2010	6533	2401	9878	4717	2127
								0%	2%	1%	3%	1%	1%
							grade 5 events	6628	19493	7853	23464	9702	7783
								3%	6%	3%	9%	3%	4%
							grade 6 events	3841	61905	4264	54795	12152	4293
								1%	22%	2%	21%	4%	2%
							grade 7 events	174328	119717	157436	122262	177660	151482
								84%	42%	78%	48%	70%	81%

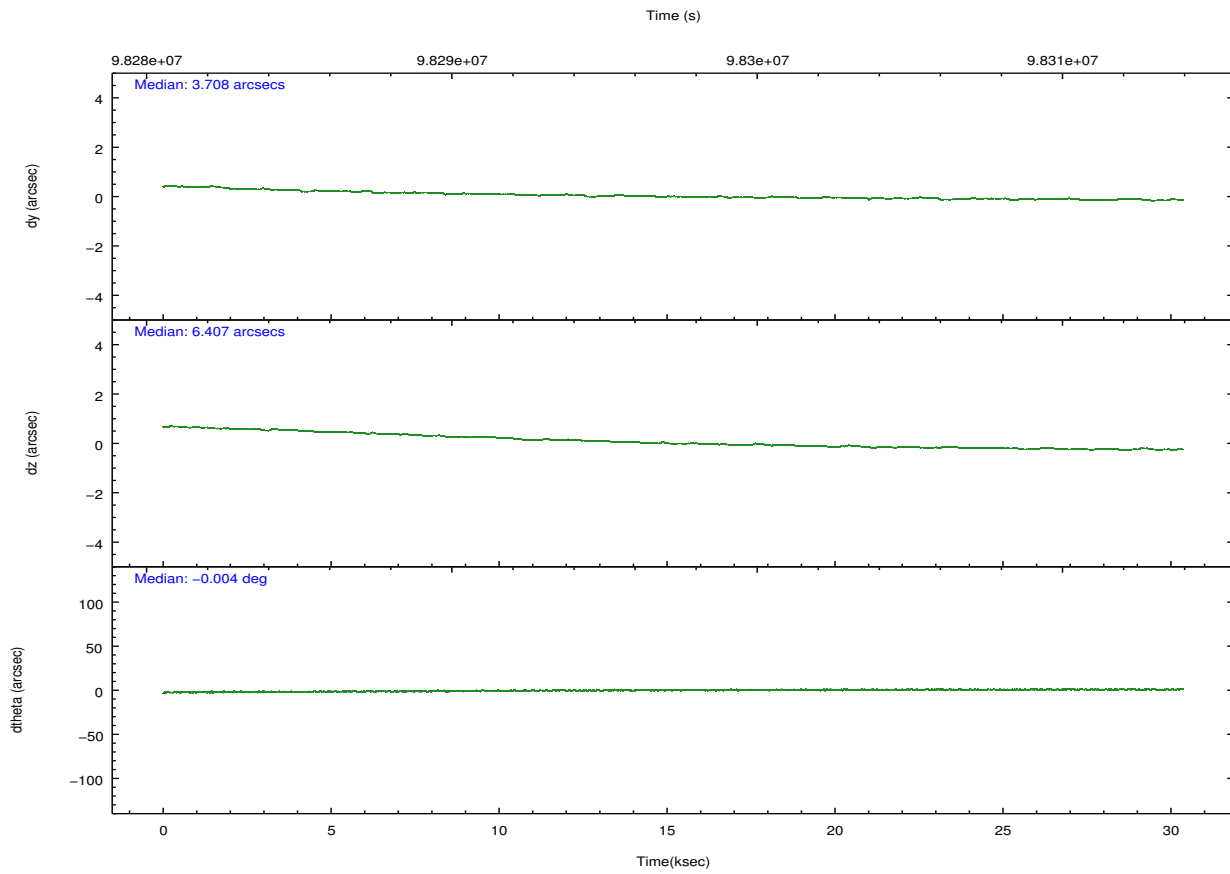
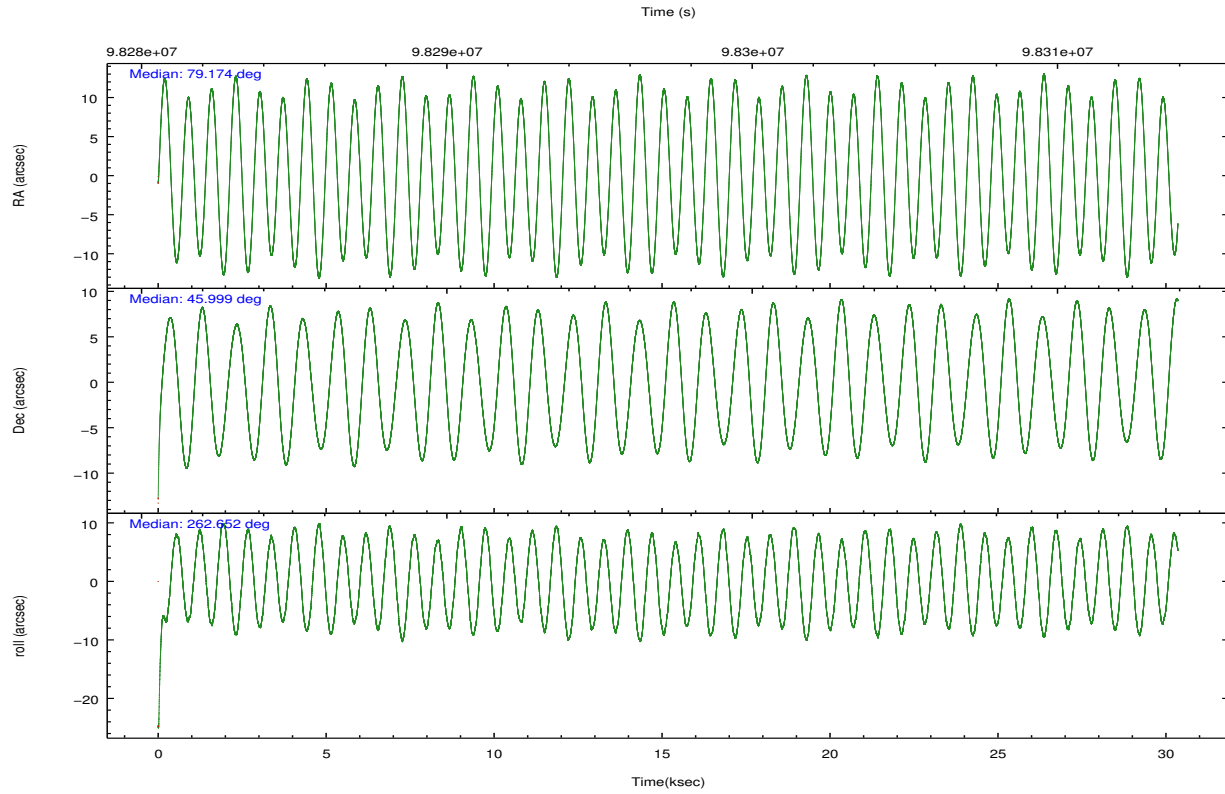
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	79.158551	79.17403684045026
[deg] Pointing Dec	46.024546	45.99945080794342
[deg] Pointing Roll	262.506466	262.6519425891989
[s] Window start time (MET)	97372864.184000	97372864.184000
[s] Window stop time (MET)	99705664.184000	99705664.184000
[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)	98282421.184000	98281369.914151
Observation start date	2001-02-11T12:39:17	2001-02-11T12:22:49
[s] Observation end time (MET)	98312421.184000	98313617.440394
Observation end date	2001-02-11T20:59:17	2001-02-11T21:20:17
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



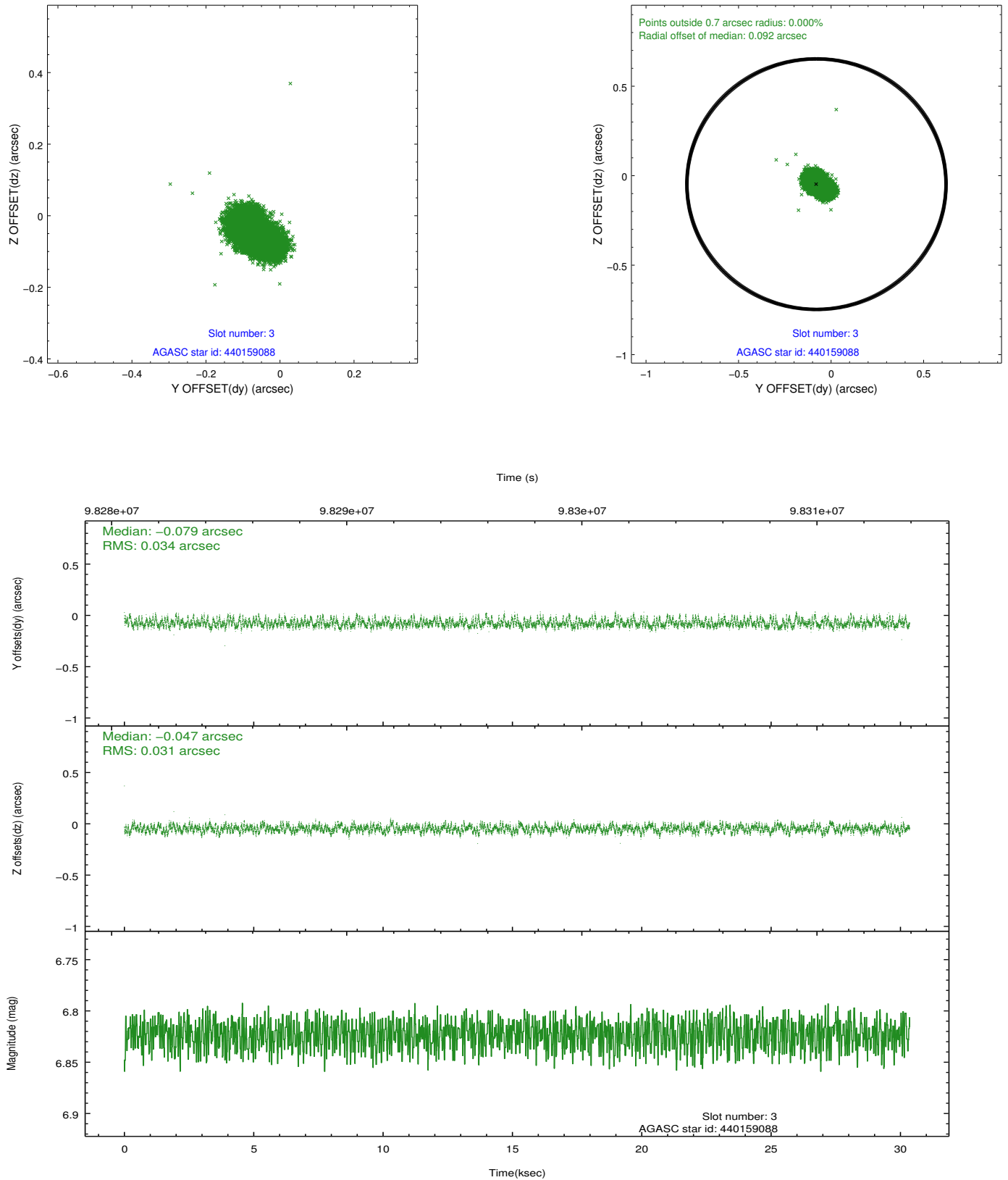


Slot Statistics

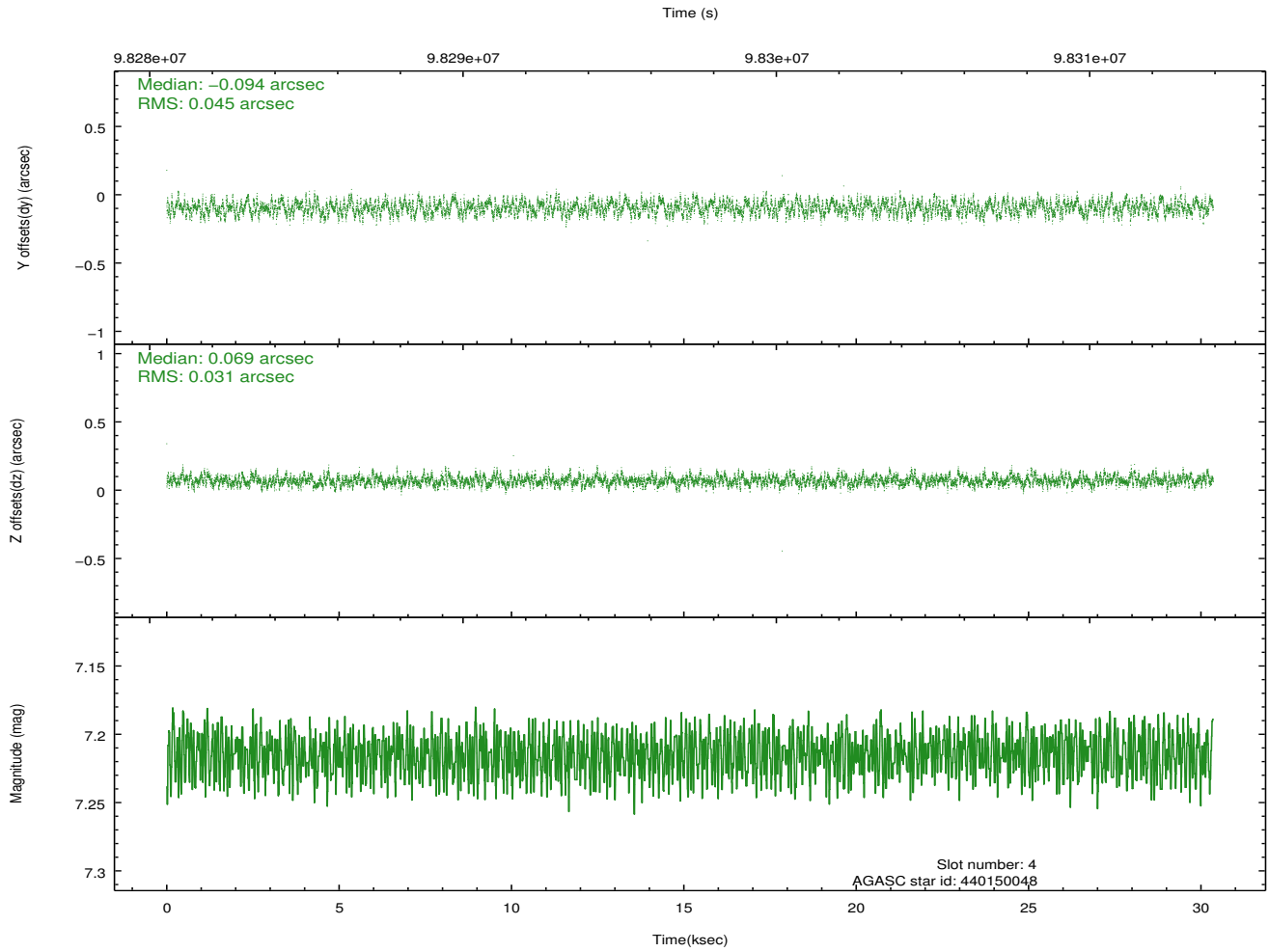
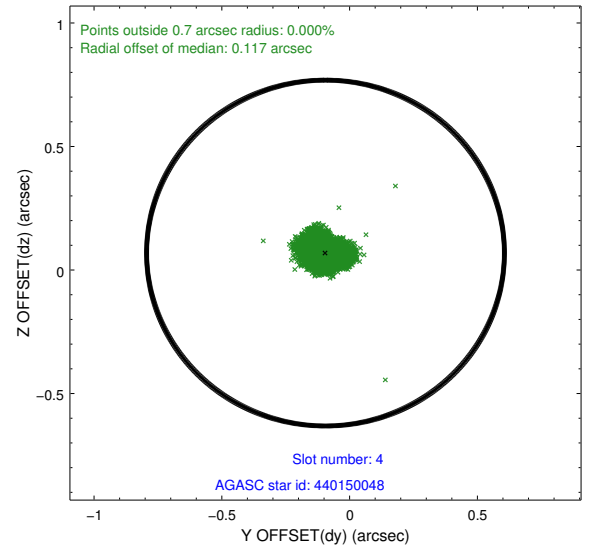
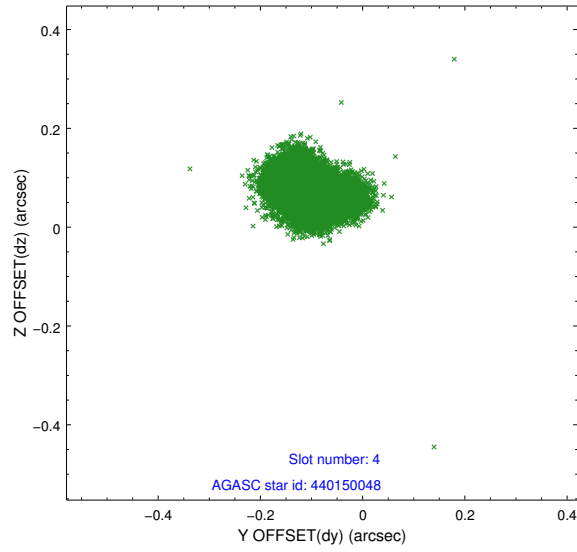
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	7405	-0.032	-0.060	0.012	0.021	0.000000	0.000000	-756.25	-1789.84
1	FID	ACIS-S-4	7.20	7405	0.019	0.032	0.013	0.027	0.000000	0.000000	2157.06	118.63
2	FID	ACIS-S-5	7.23	7405	-0.019	0.037	0.009	0.017	0.000000	0.000000	-1808.98	112.41
3	GUIDE	440159088	6.82	14806	-0.079	-0.047	0.048	0.081	79.453034	46.128063	-467.52	679.11
4	GUIDE	440150048	7.21	14806	-0.094	0.069	0.059	0.091	79.112838	46.416060	-1383.57	-296.71
5	GUIDE	440158344	7.94	14805	0.113	0.024	0.051	0.081	79.344888	45.394991	2184.36	762.11
6	GUIDE	440164960	8.30	14805	0.080	0.049	0.051	0.085	79.132526	46.140947	-407.52	-119.41
7	GUIDE	440149808	8.43	14803	-0.024	-0.089	0.054	0.092	78.873930	46.405955	-1271.31	-880.37

2.4 Star Slots

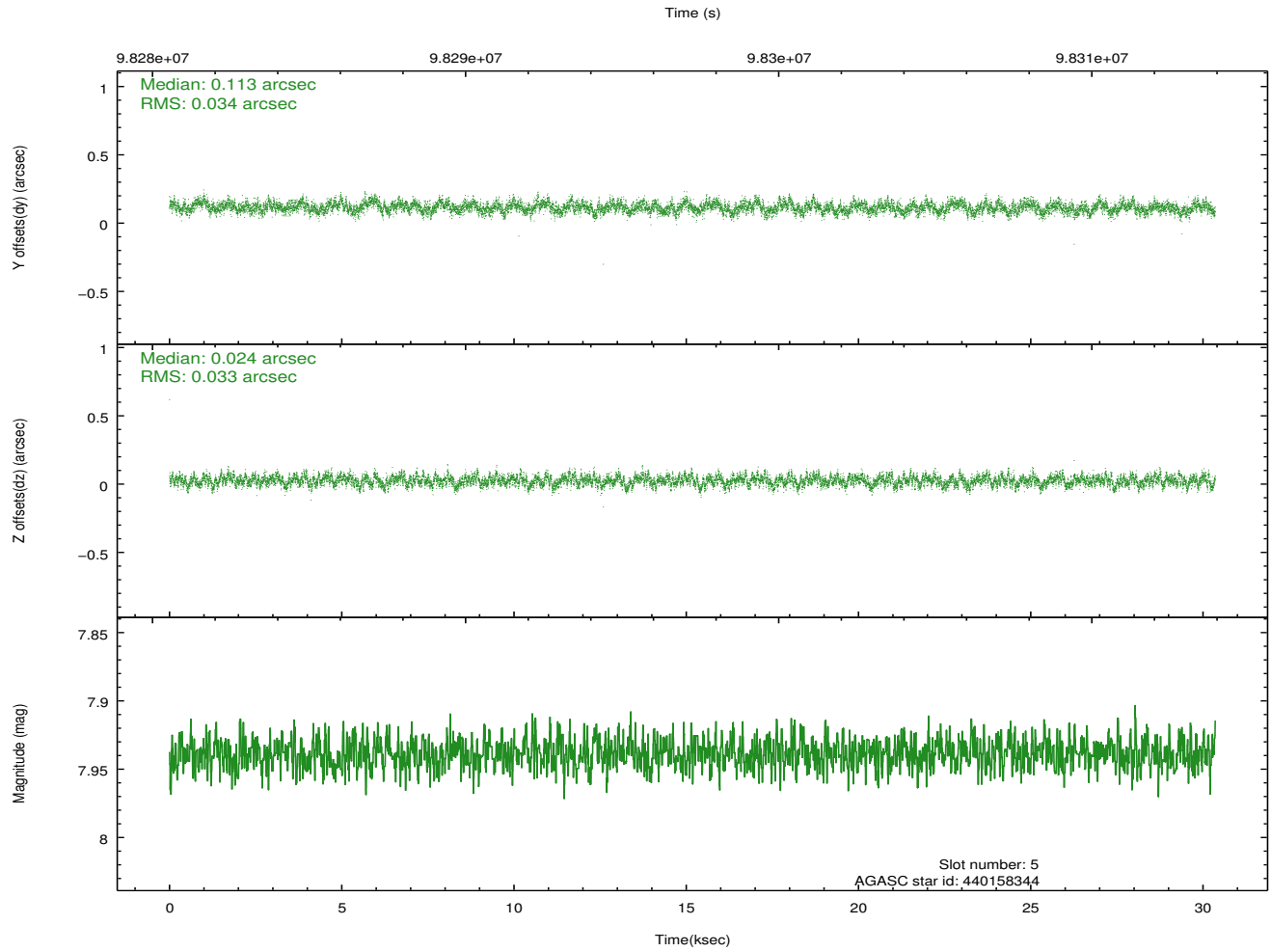
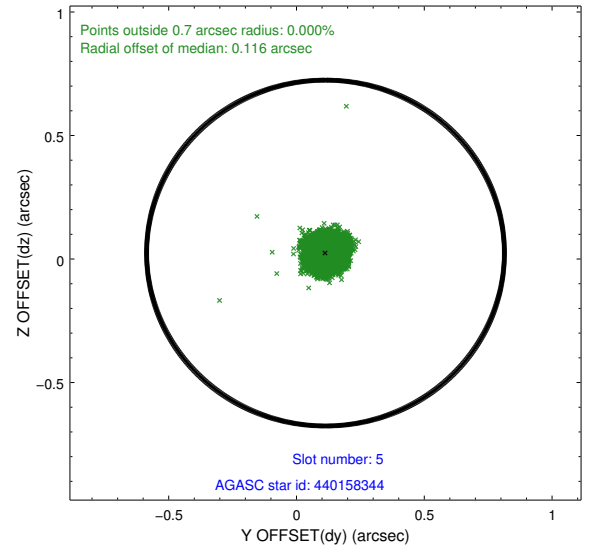
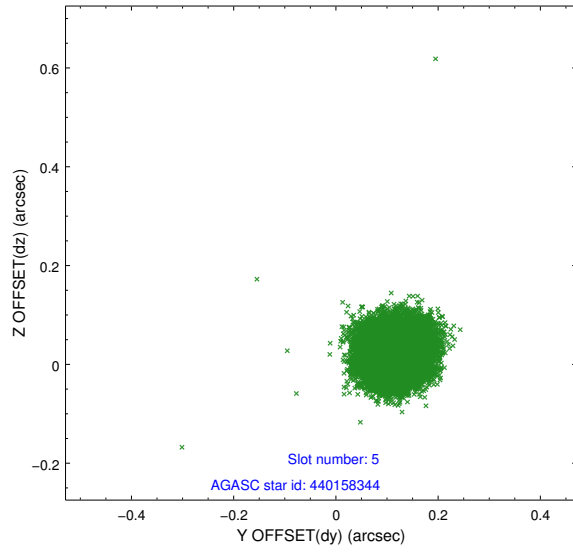
2.4.1 Slot 3



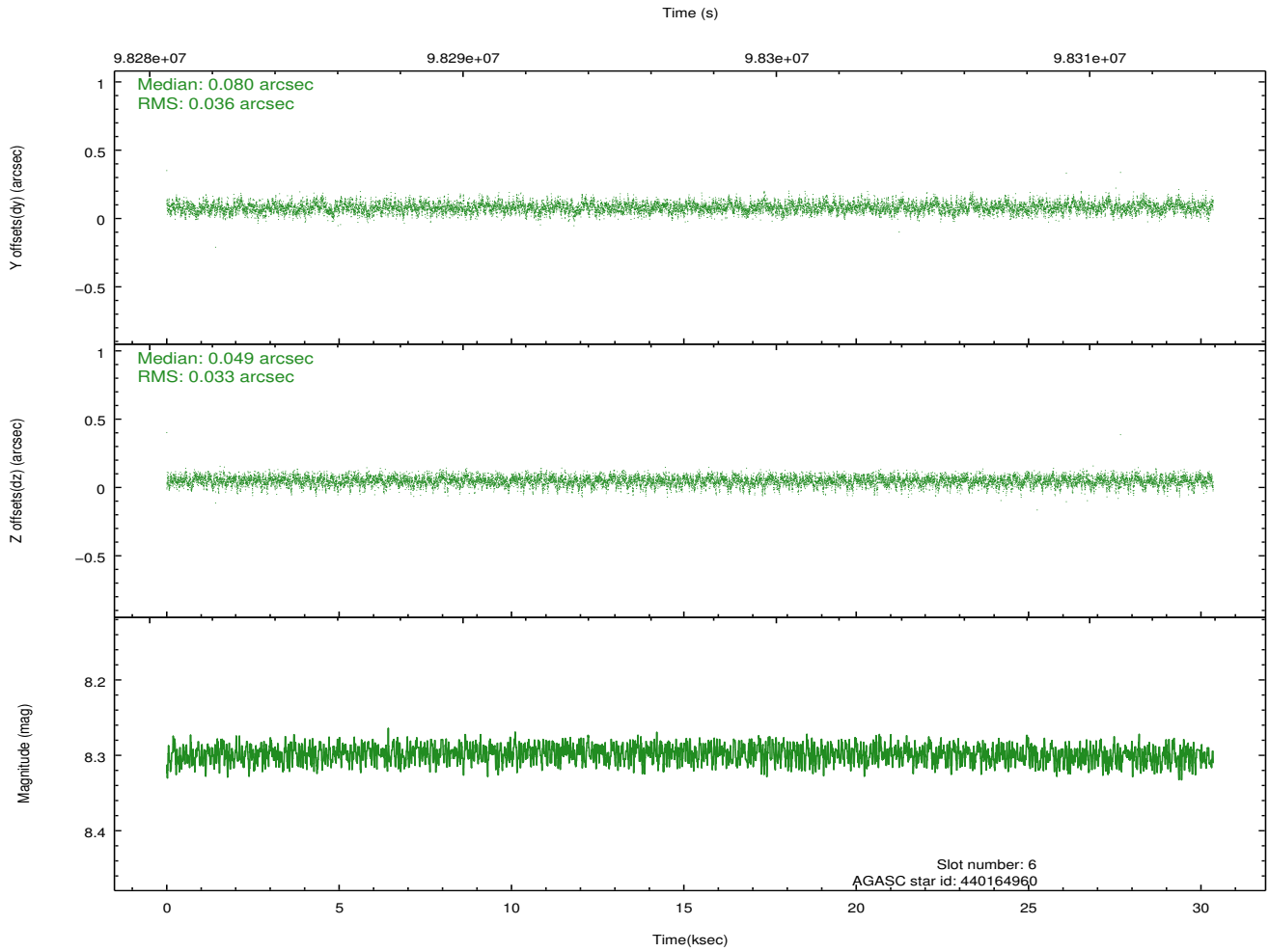
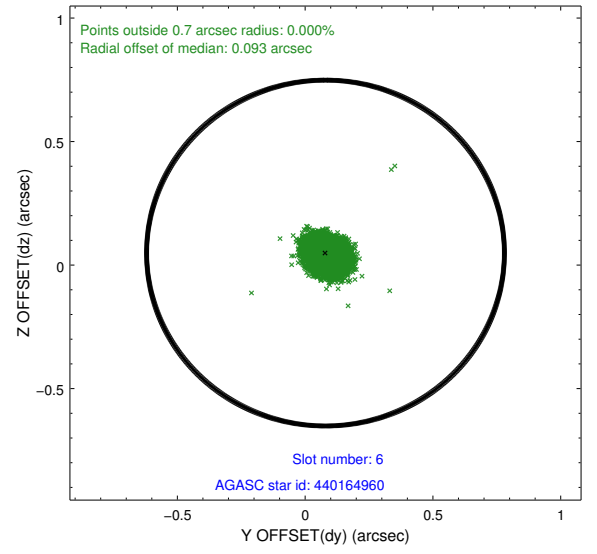
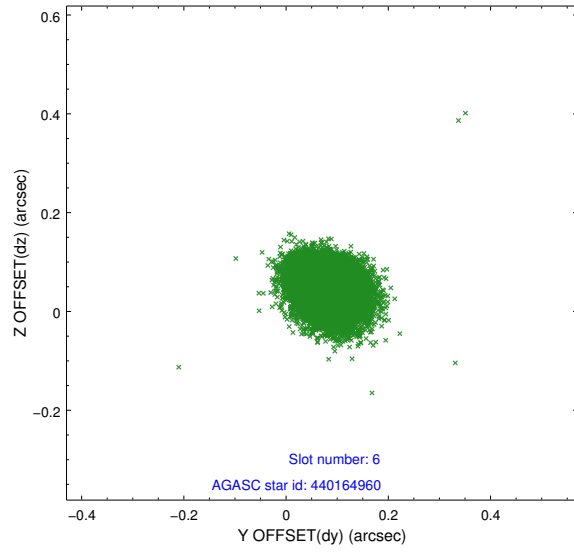
2.4.2 Slot 4



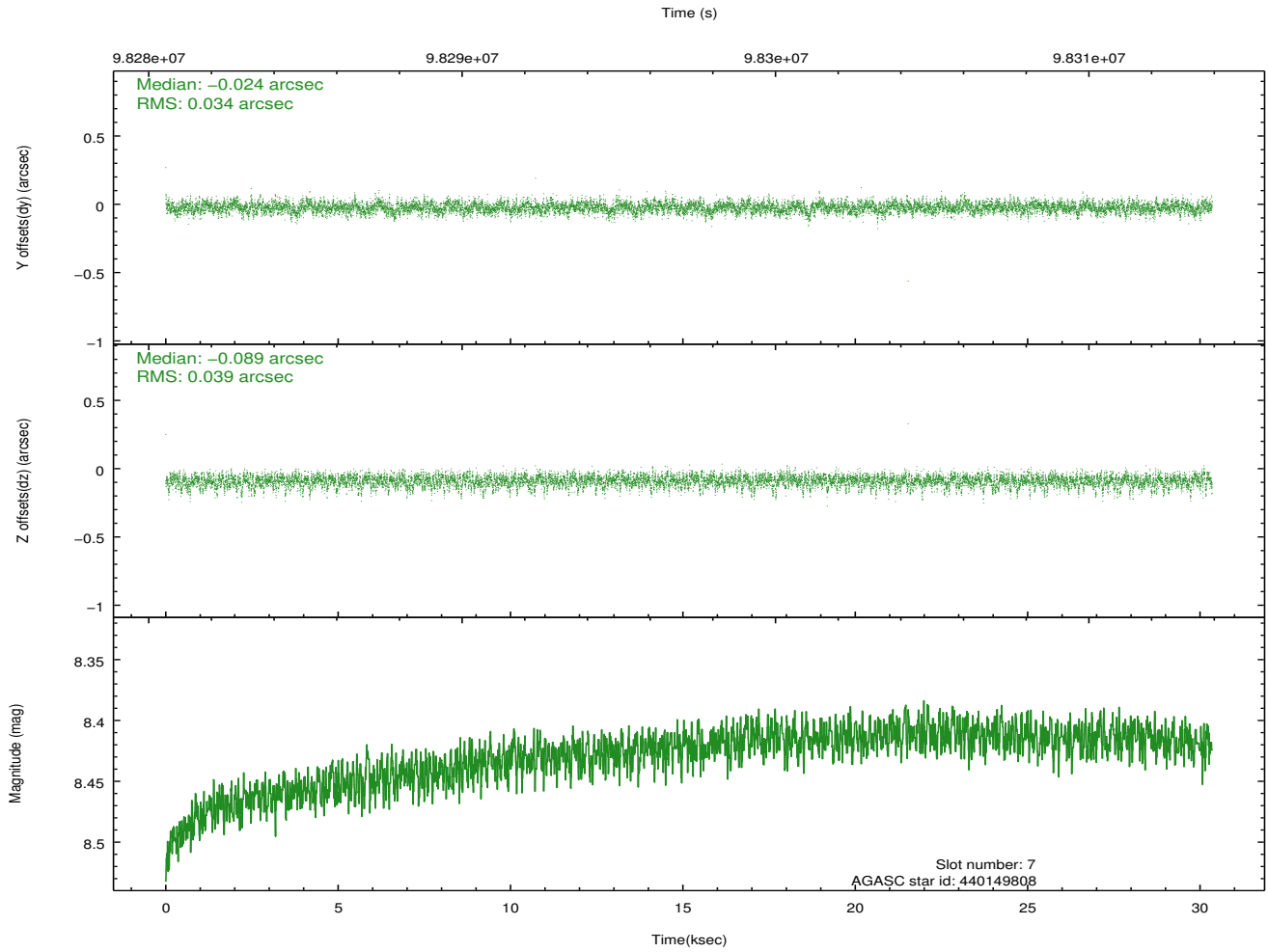
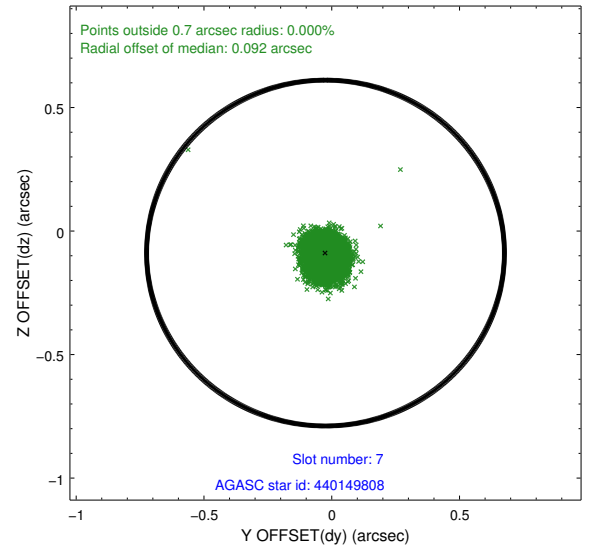
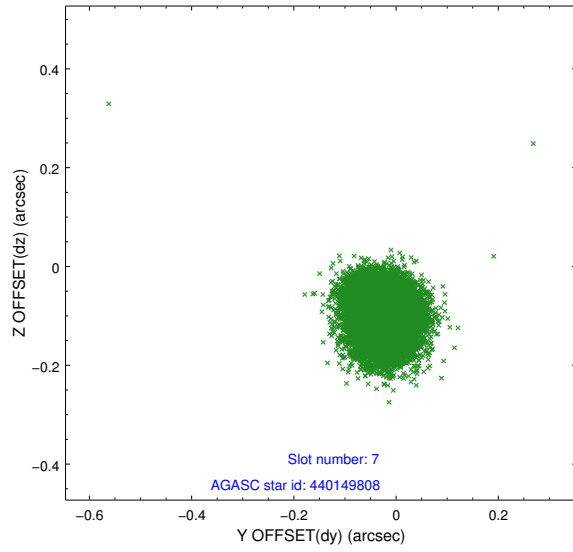
2.4.3 Slot 5



2.4.4 Slot 6

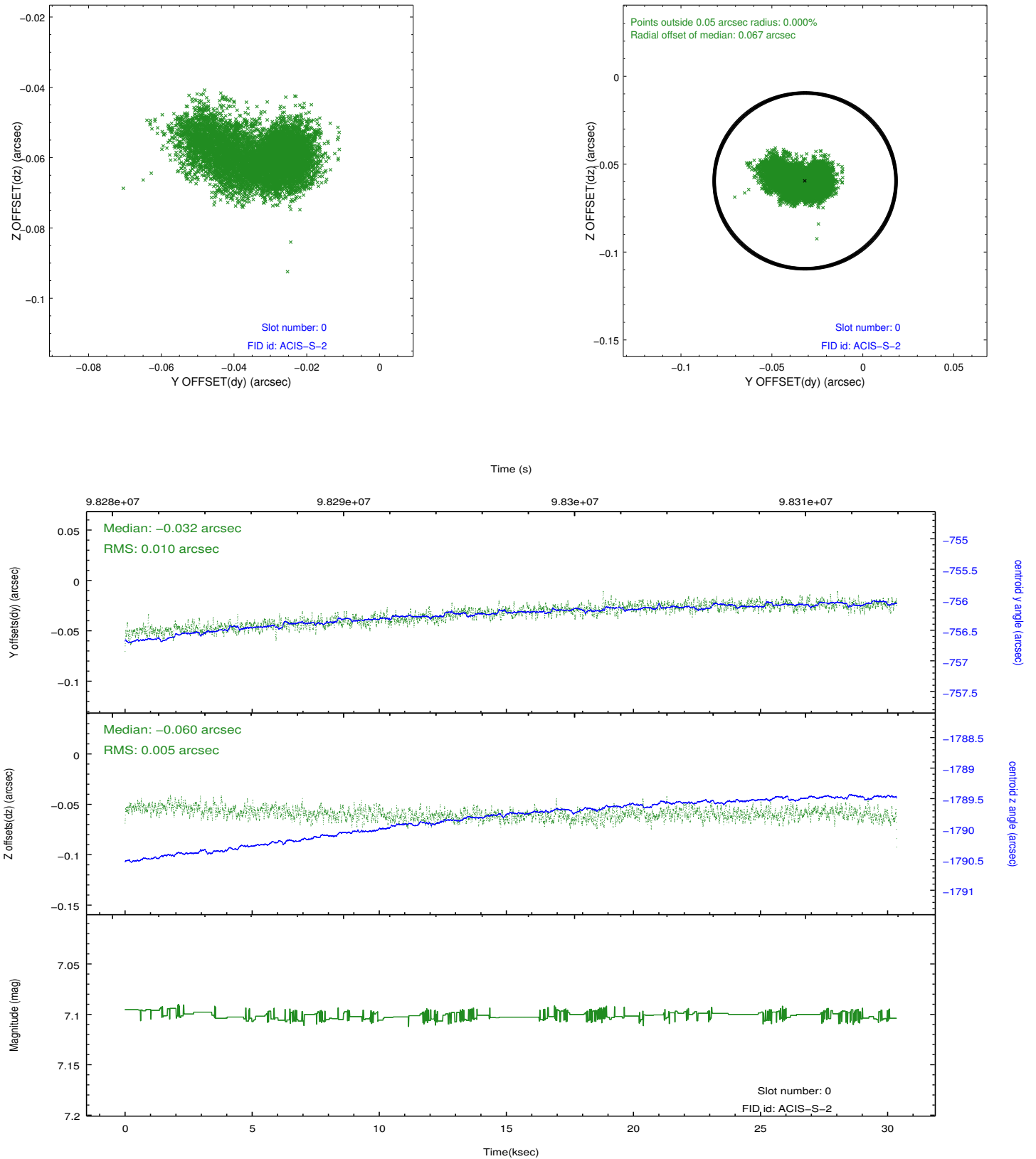


2.4.5 Slot 7

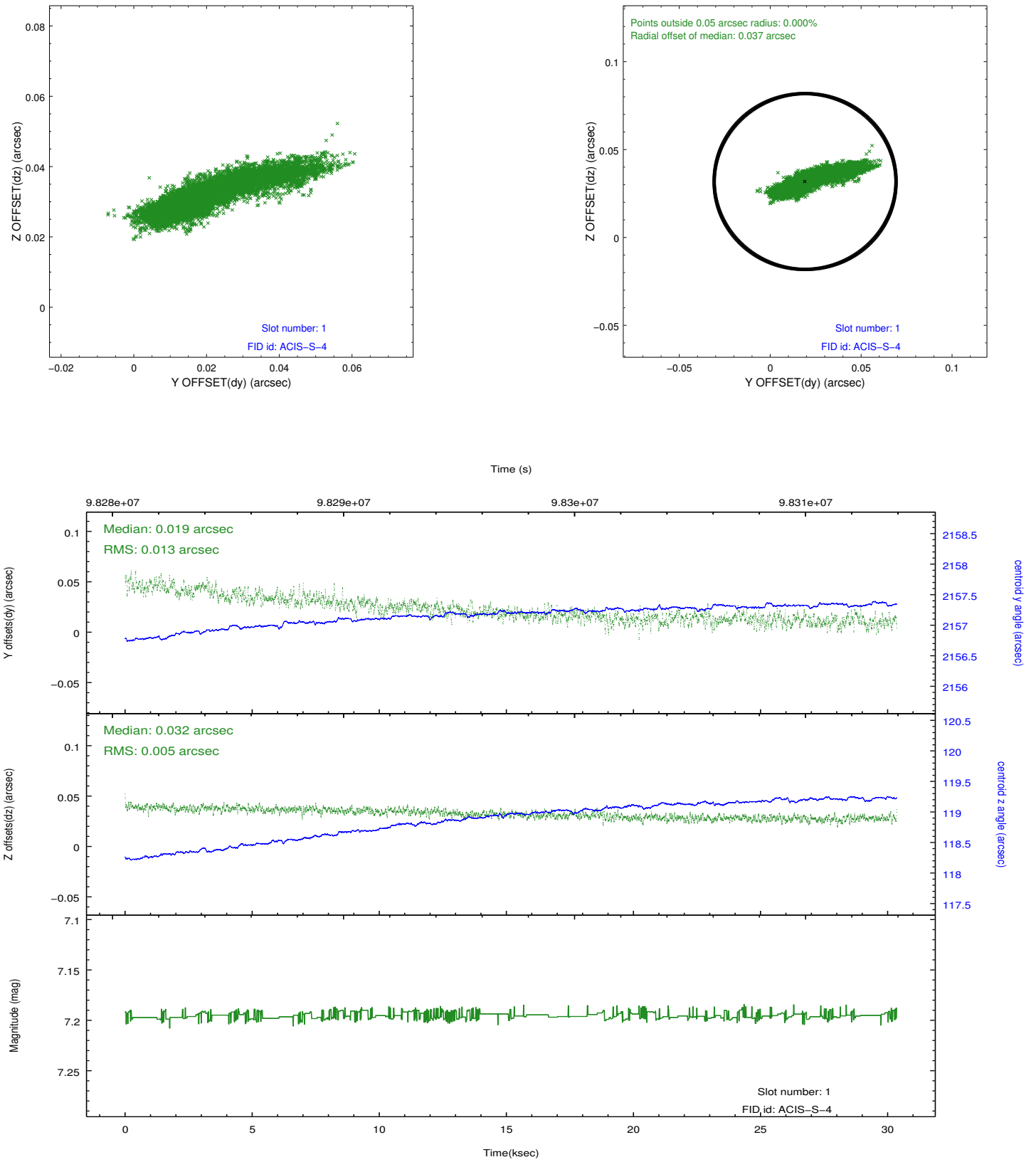


2.5 FID Slots

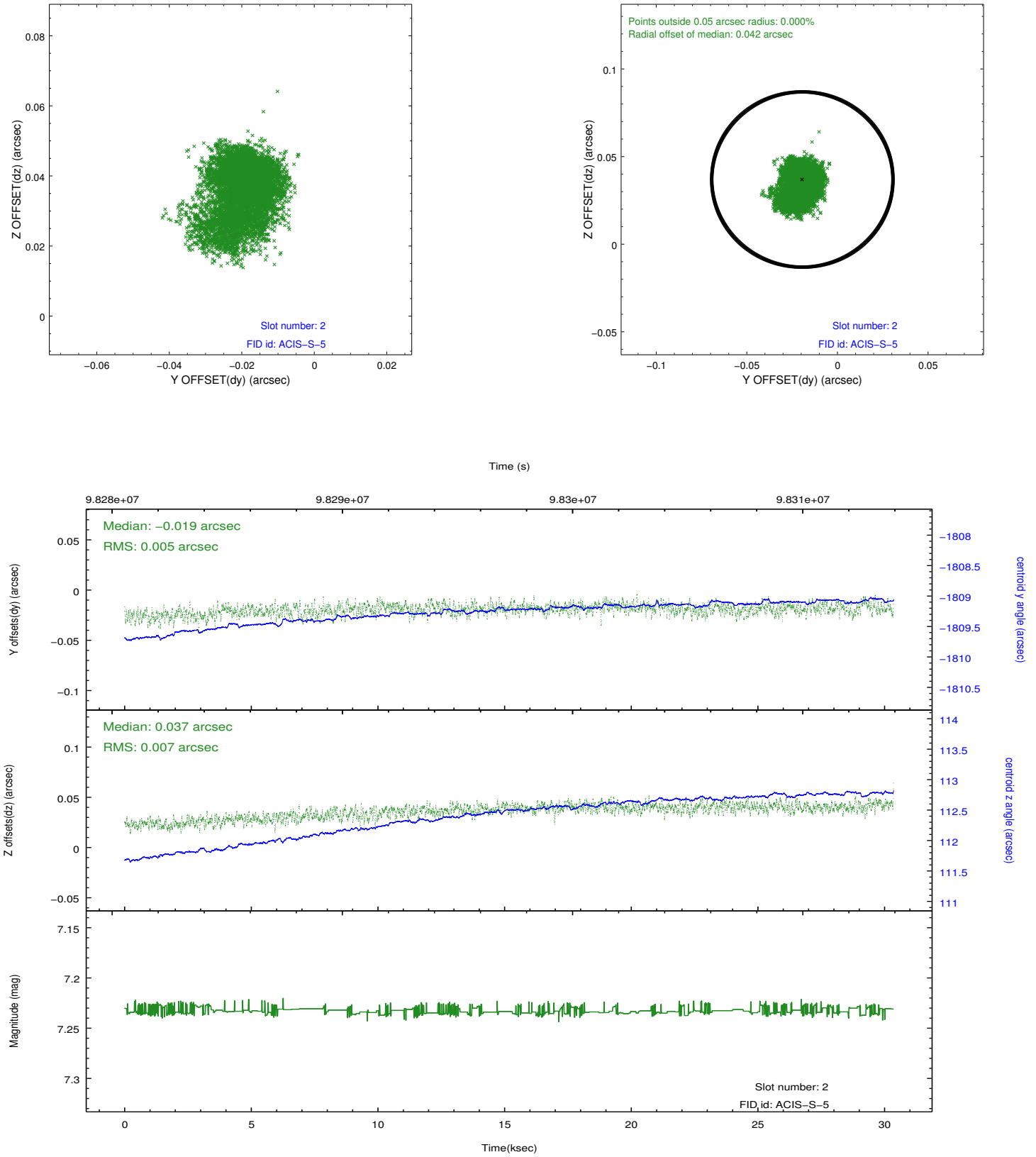
2.5.1 Slot 0



2.5.2 Slot 1

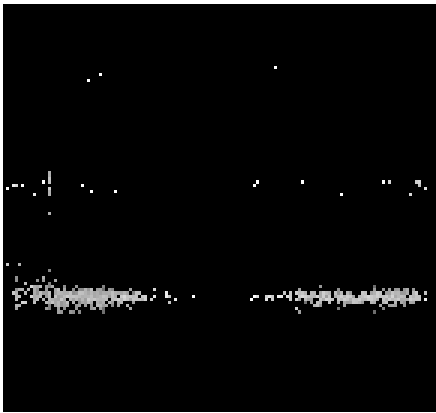


2.5.3 Slot 2

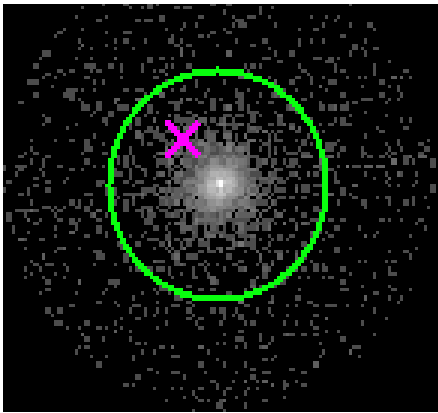


3 Gratings

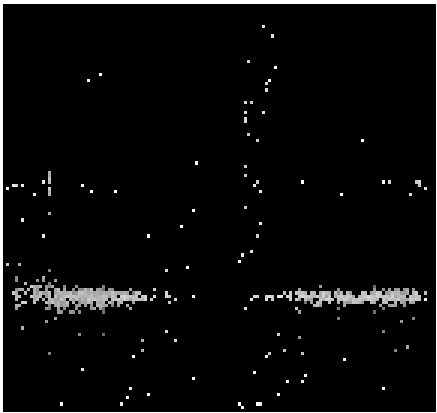
3.1 HEG Arm



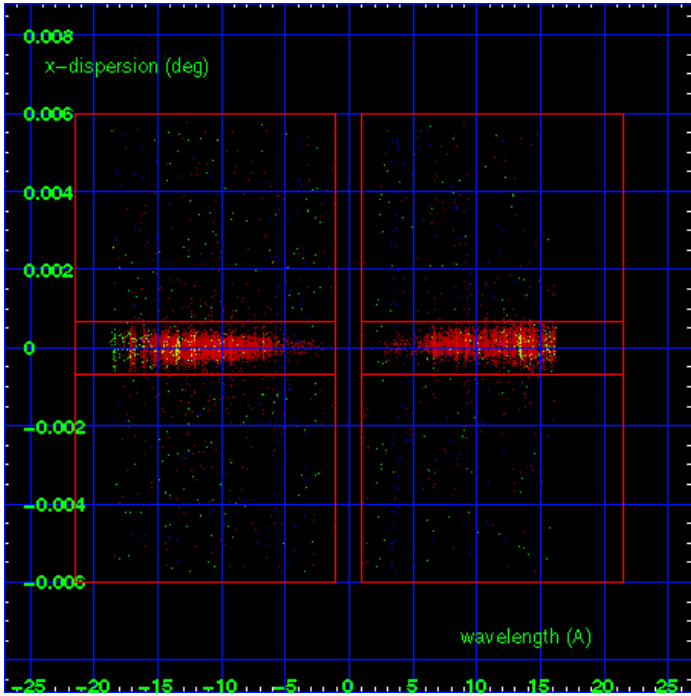
HEG Order Sort 123



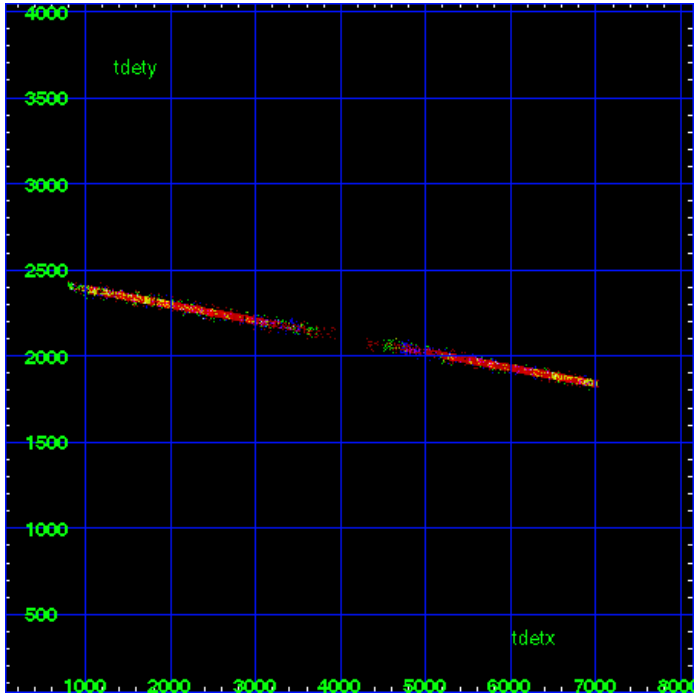
HEG Zero Order



HEG Order Sort ALL

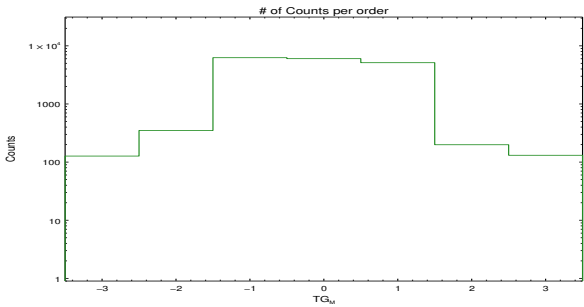


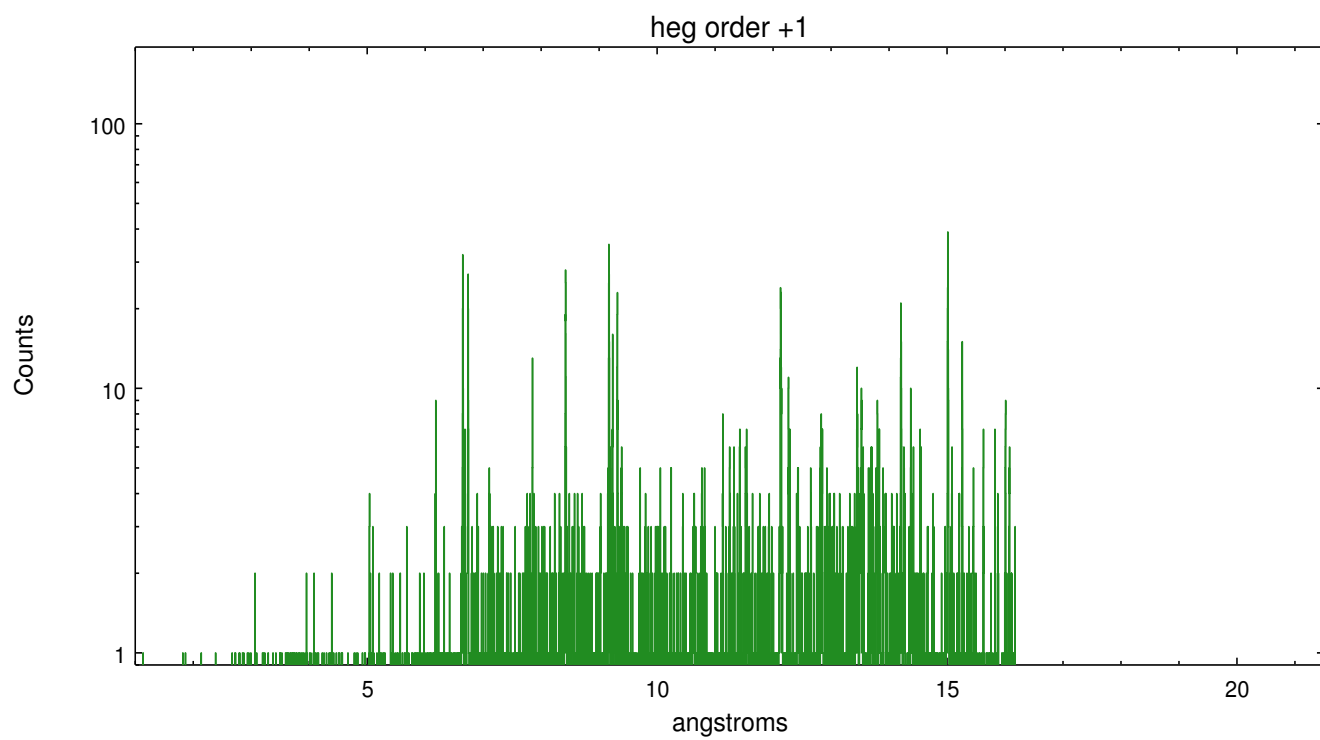
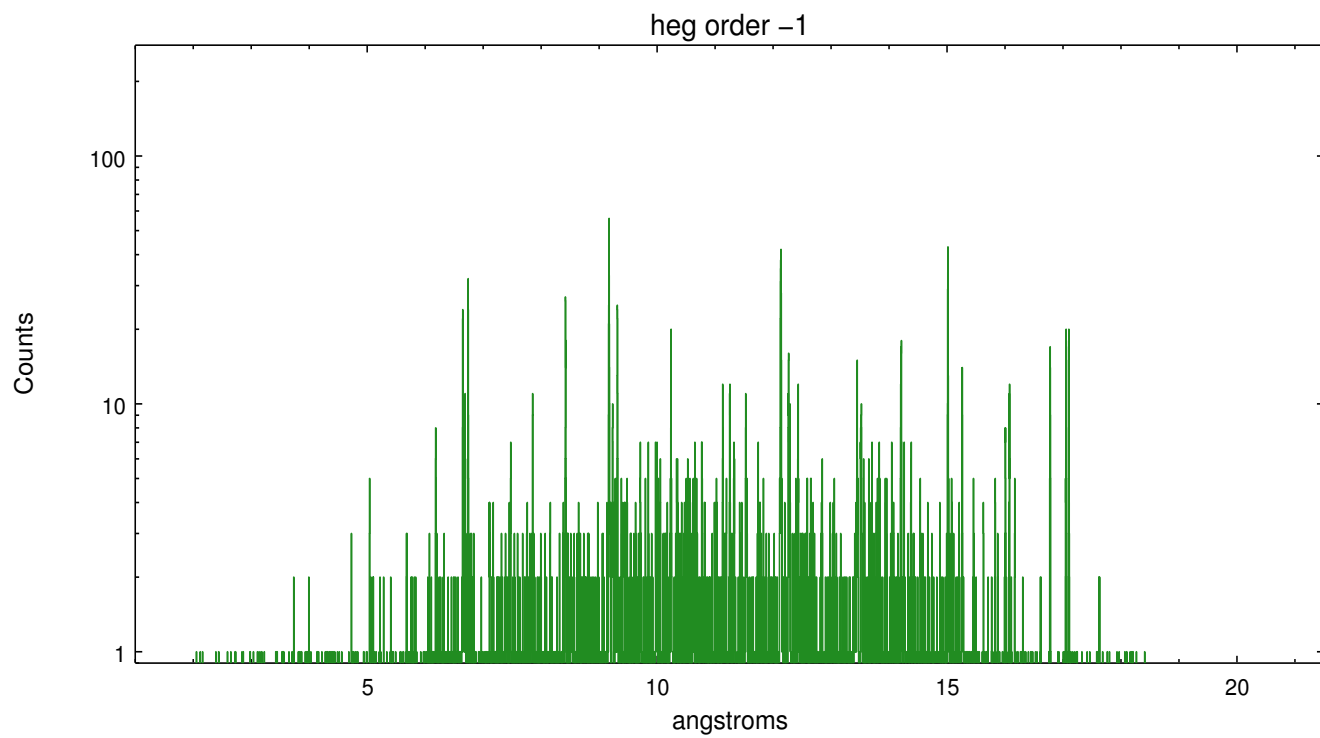
Spot Image HEG



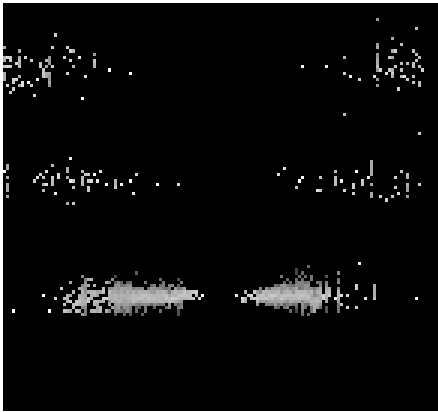
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	127	350	6254	6020	5130	199	131

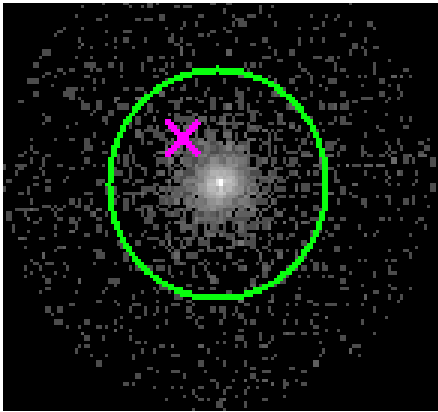




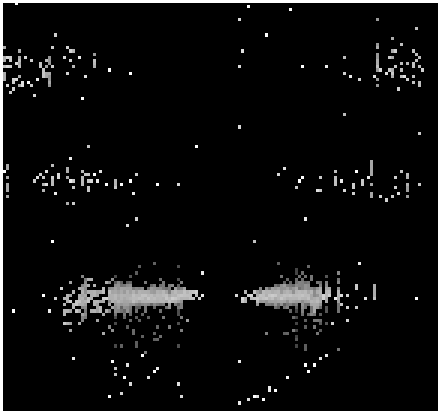
3.2 MEG Arm



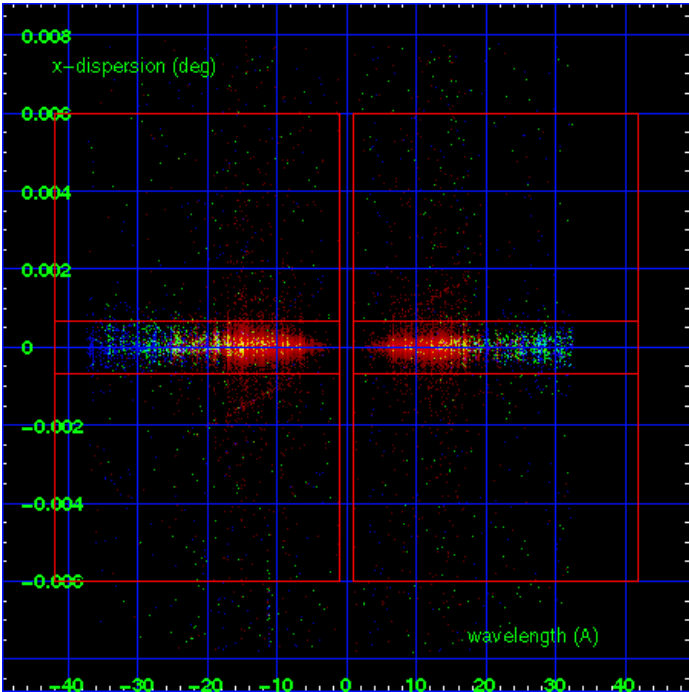
MEG Order Sort 123



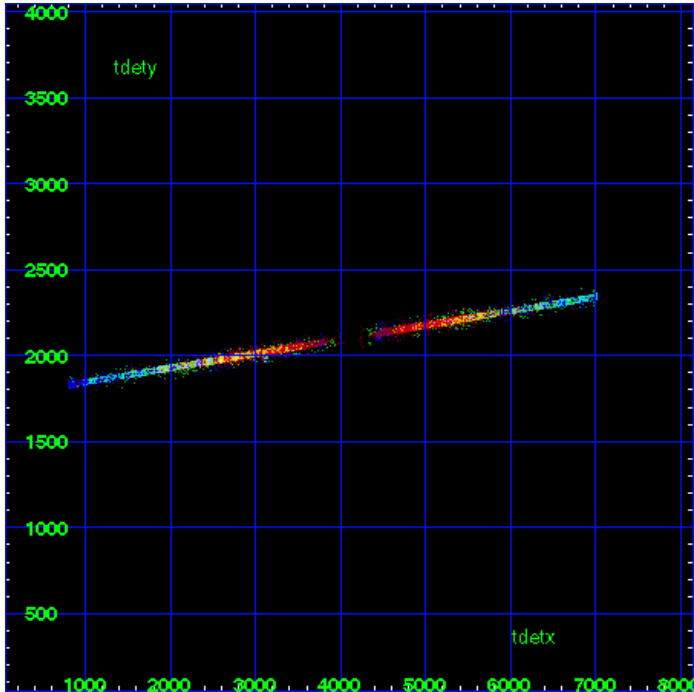
MEG Zero Order



MEG Order Sort ALL

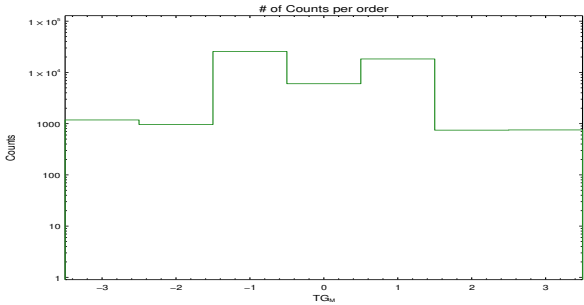


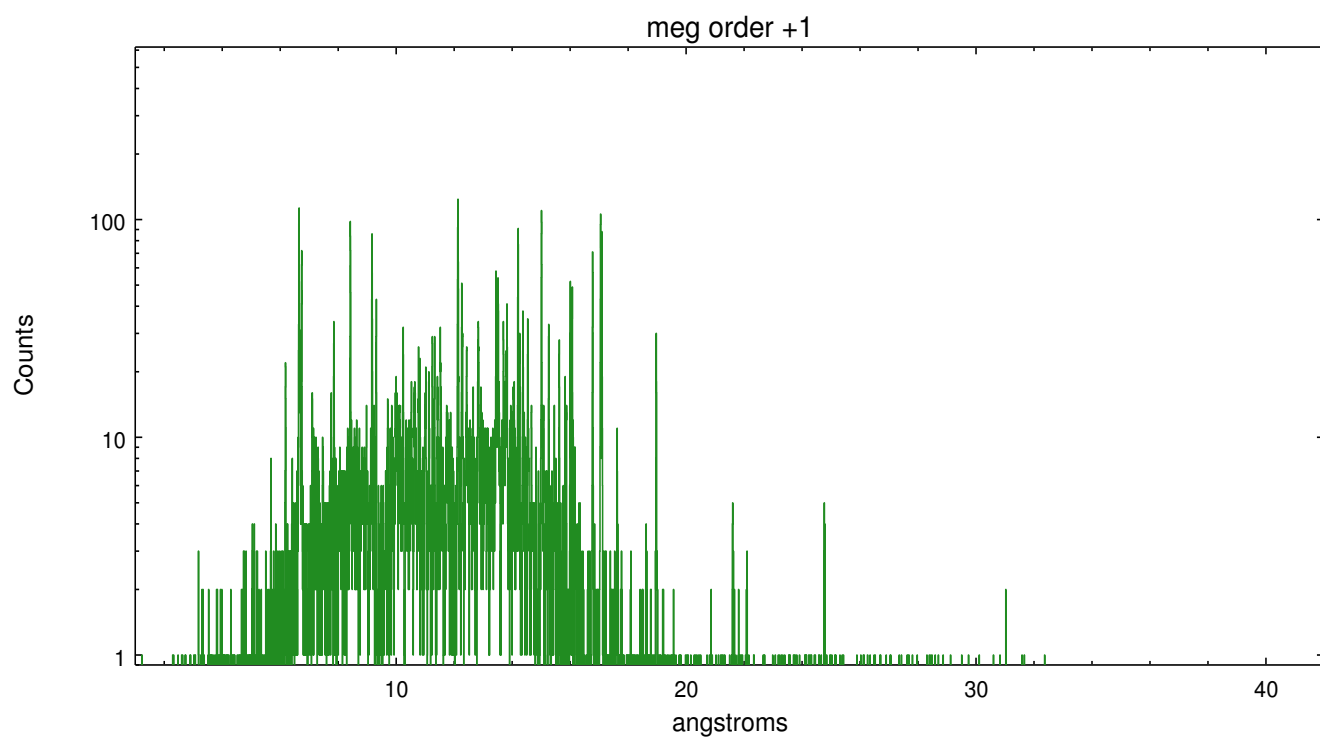
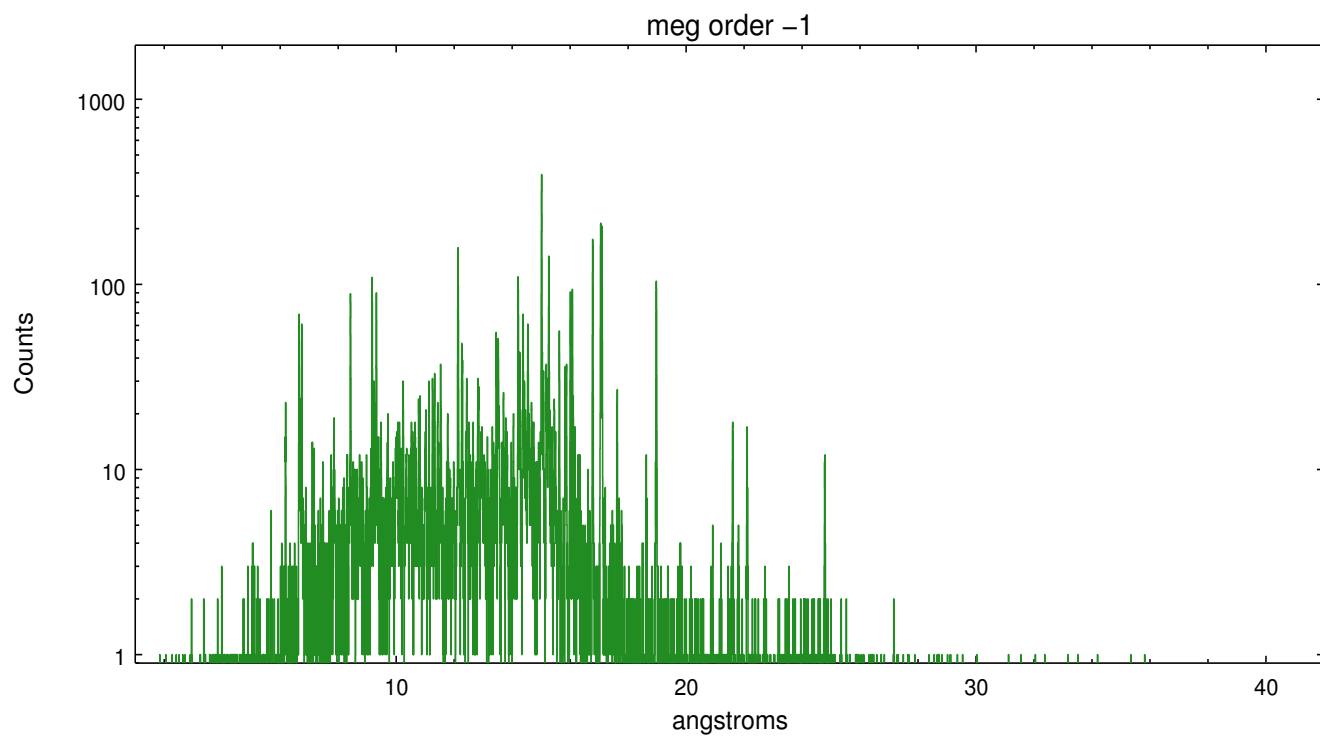
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1181	962	25604	6020	18315	746	754





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.92

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=4105.12, y=4085.14) 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.