

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10659 - L2 Version 3
Chandra X-Ray Center

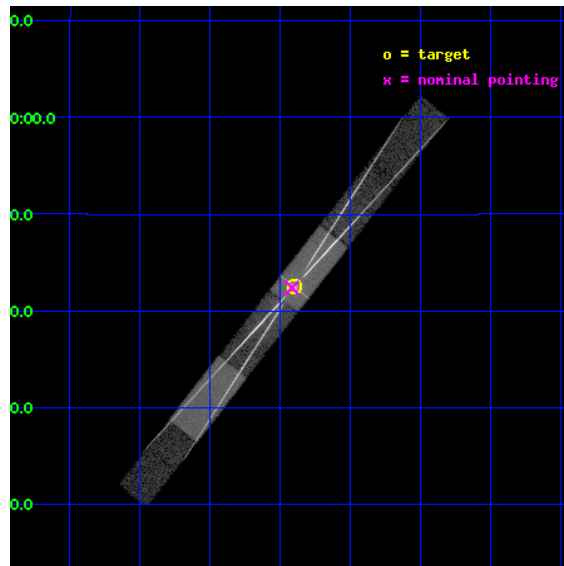
L2 Processing Date : May 29 2012

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

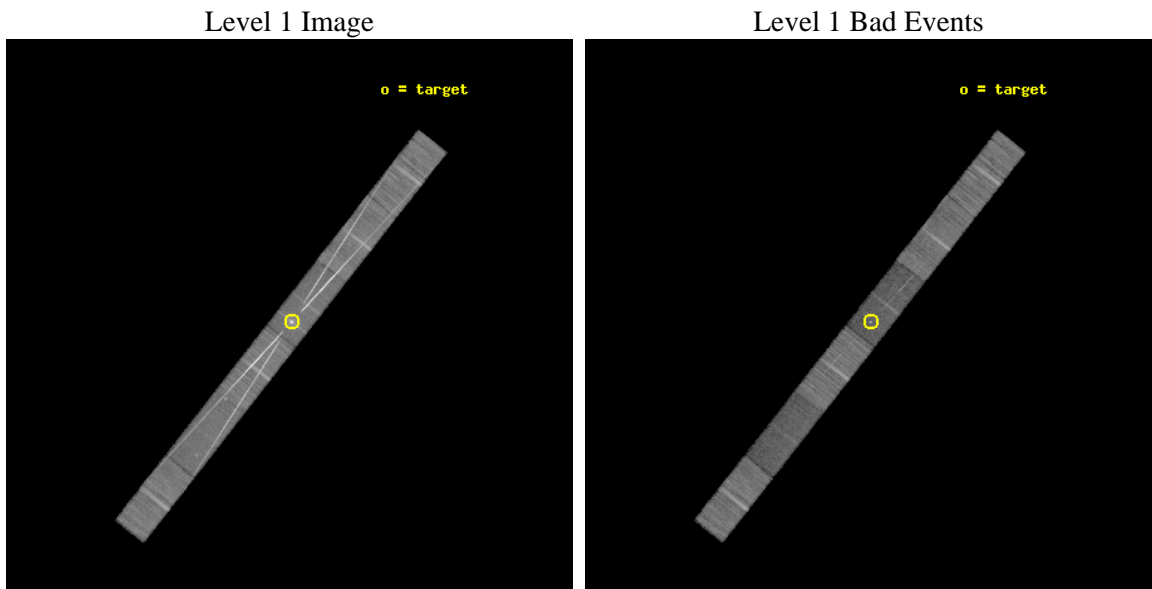
seq_num	790196	Sequence number
obs_id	10659	Observation id
title	AO-10 Calibration Observations of 4U 1957+11	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	4U 1957+11	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.849583	Observer's specified target RA [deg]
dec_targ	11.708333	Observer's specified target Dec [deg]
ra_nom	299.85422098575	Nominal RA [deg]
dec_nom	11.70661624767	Nominal Dec [deg]
roll_nom	308.12022542224	Nominal Roll [deg]
revision	3	Processing version of data
ontime	10137.0	Sum of GTIs [s]
livetime	9867.0378445725	Livetime [s]
ontime4	10137.0	Sum of GTIs [s]
ontime5	10137.0	Sum of GTIs [s]
ontime6	10137.0	Sum of GTIs [s]
ontime7	10137.0	Sum of GTIs [s]
ontime8	10137.0	Sum of GTIs [s]
ontime9	10137.0	Sum of GTIs [s]
l2events	414838	Number of level 2 events



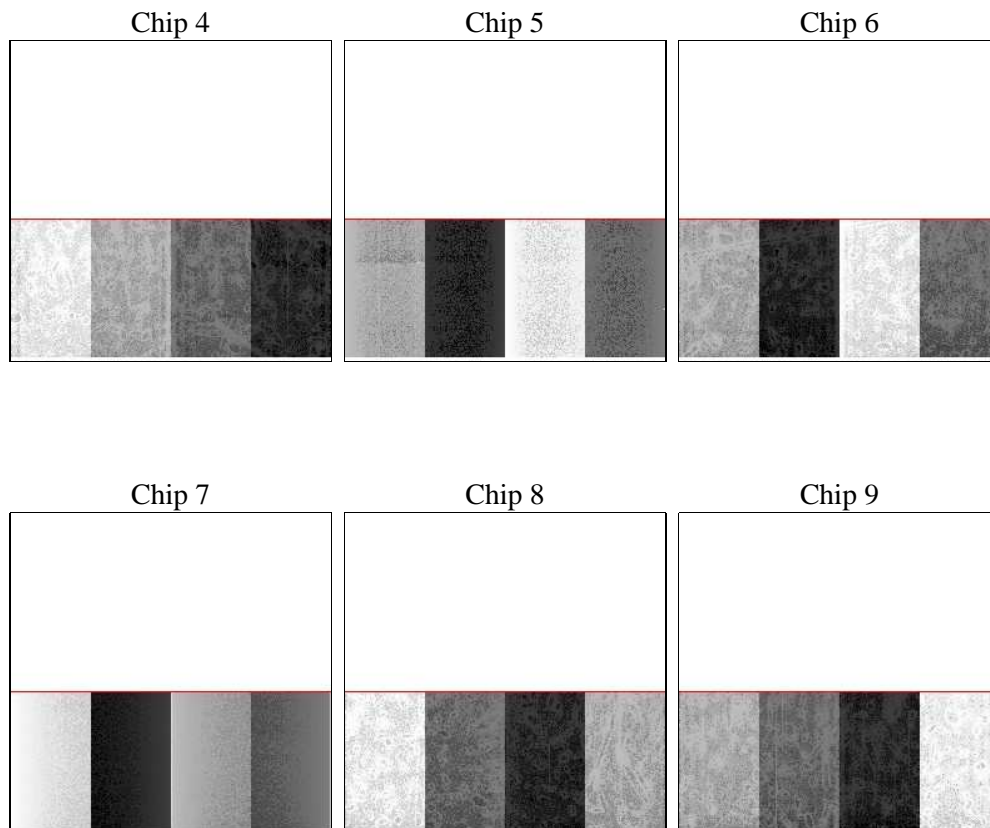
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	10137.0	Sum of GTIs [s]
caldbver	4.4.9	 	ontime4	10137.0	Sum of GTIs [s]
date	2012-05-25T19:12:53	Date and time of file creation	ontime5	10137.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	10137.0	Sum of GTIs [s]
			ontime7	10137.0	Sum of GTIs [s]
			ontime8	10137.0	Sum of GTIs [s]
			ontime9	10137.0	Sum of GTIs [s]
			l1events	1064480	Number of level 1 events

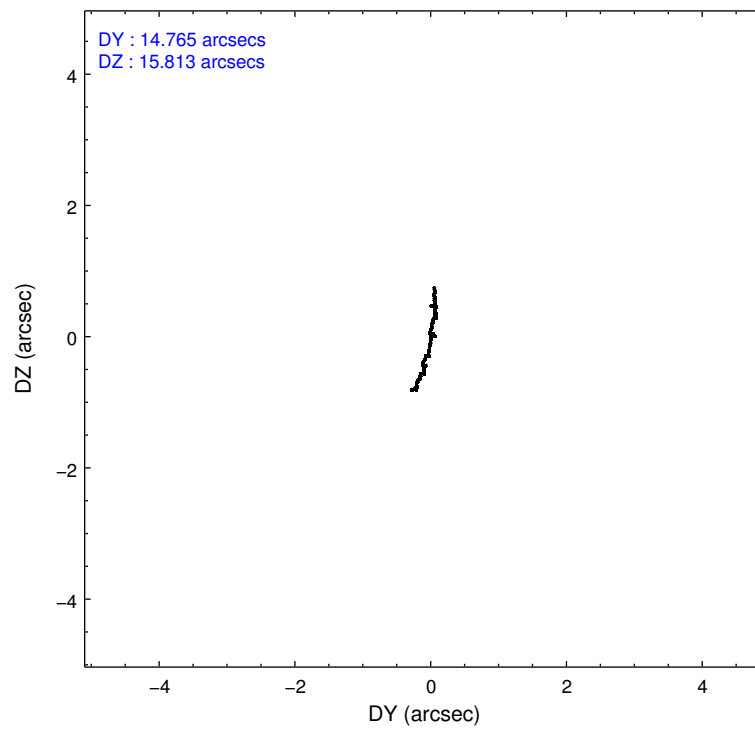
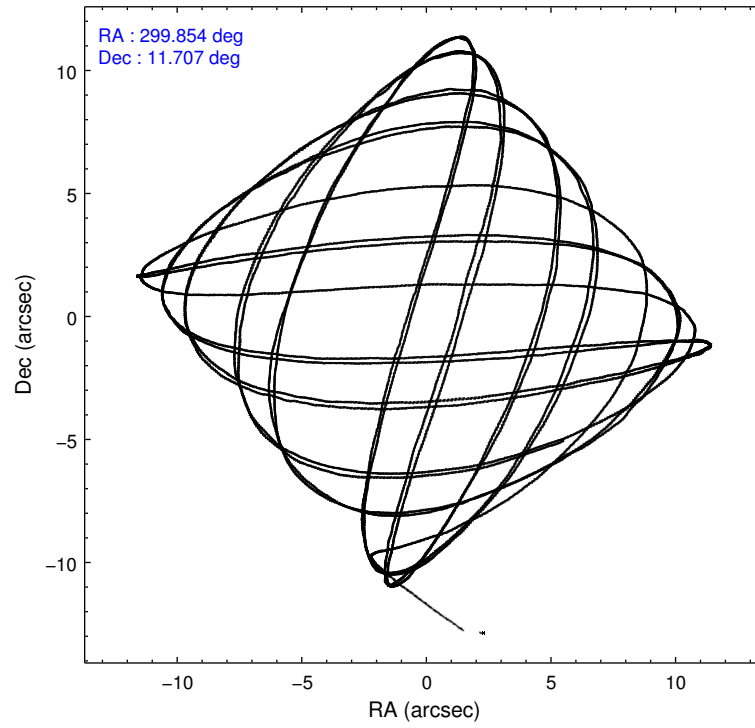
2.1.4 Events

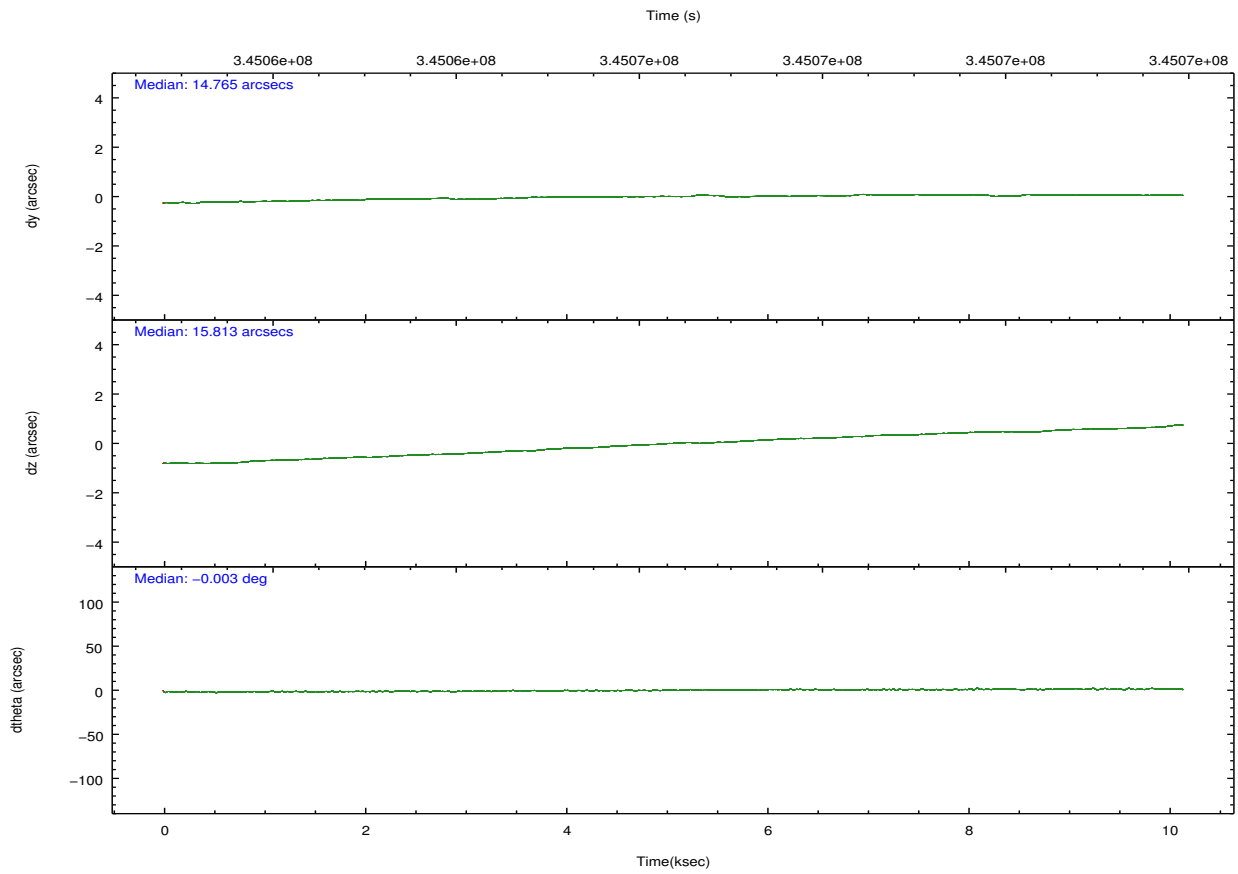
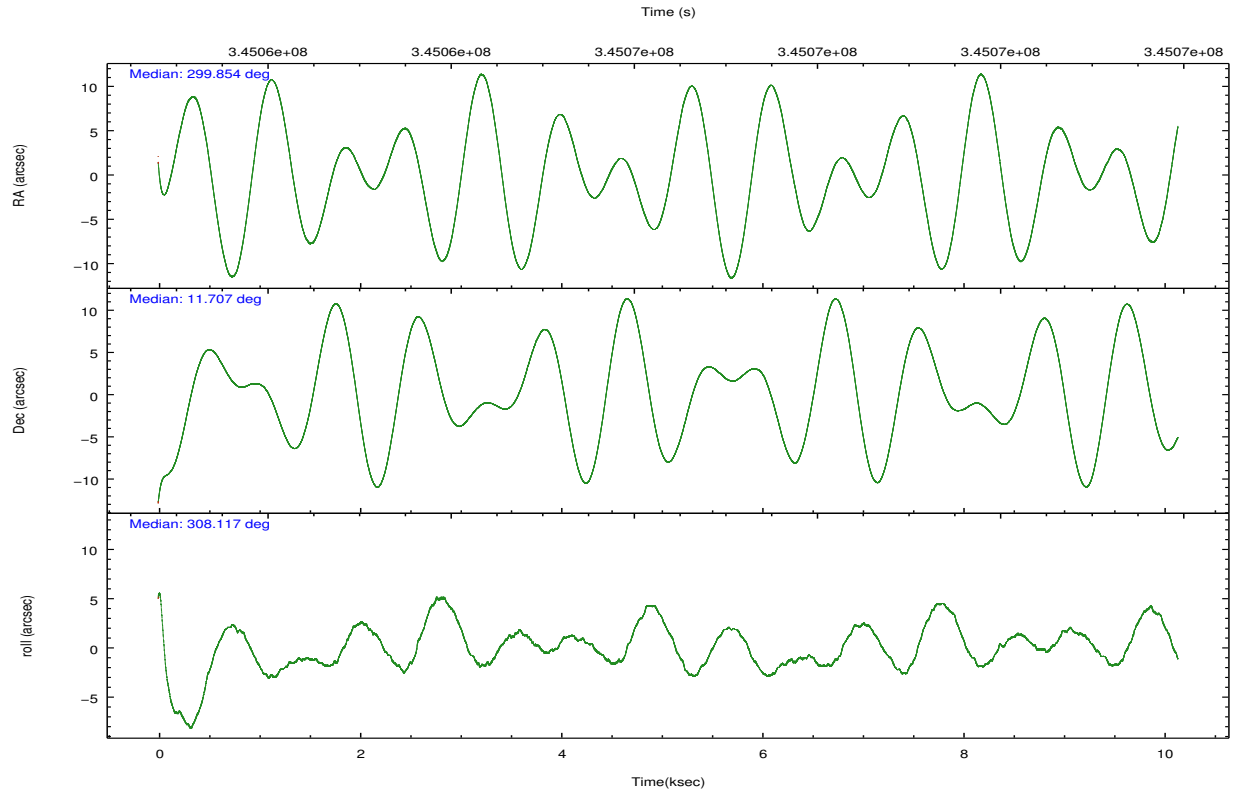
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	130833	125071	259178	224870	185064	139464	grade 0 events	4436	14839	100513	31545	48947	9026
rejected events	122390	61309	127666	66380	117601	125710		3%	11%	38%	14%	26%	6%
rejected %	93%	49%	49%	29%	63%	90%	grade 1 events	34	176	987	559	285	40
								0%	0%	0%	0%	0%	0%
							grade 2 events	1802	19870	16383	40533	8763	2148
								1%	15%	6%	18%	4%	1%
							grade 3 events	756	5081	5634	17583	3365	910
								0%	4%	2%	7%	1%	0%
							grade 4 events	803	4897	5731	17377	3252	966
								0%	3%	2%	7%	1%	0%
							grade 5 events	2144	5874	2901	8471	3047	2339
								1%	4%	1%	3%	1%	1%
							grade 6 events	1108	22015	5670	55565	5196	1317
								0%	17%	2%	24%	2%	0%
							grade 7 events	119750	52319	121359	53237	112209	122718
								91%	41%	46%	23%	60%	87%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	299.828174	299.8542209857509	CCD I2 on	N	N
[deg] Pointing Dec	11.716502	11.70661624767038	CCD I3 on	N	N
[deg] Pointing Roll	307.968878	308.1202254222388	CCD S0 on	O1	Y
[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	-183.332523	-183.3237572673427	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.8	-6.808765315665084	CCD S4 on	Y	Y
[s] Observation start time (MET)	345061439.184000	345060159.29408	CCD S5 on	O2	Y
Observation start date	2008-12-07T18:22:54	2008-12-07T18:02:39	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	345071439.184000	345071573.18215	On-chip summing requested	N	N
Observation end date	2008-12-07T21:09:34	2008-12-07T21:12:53	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	15	15
			Subarray row count	440	440
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.5

2.3 Aspect



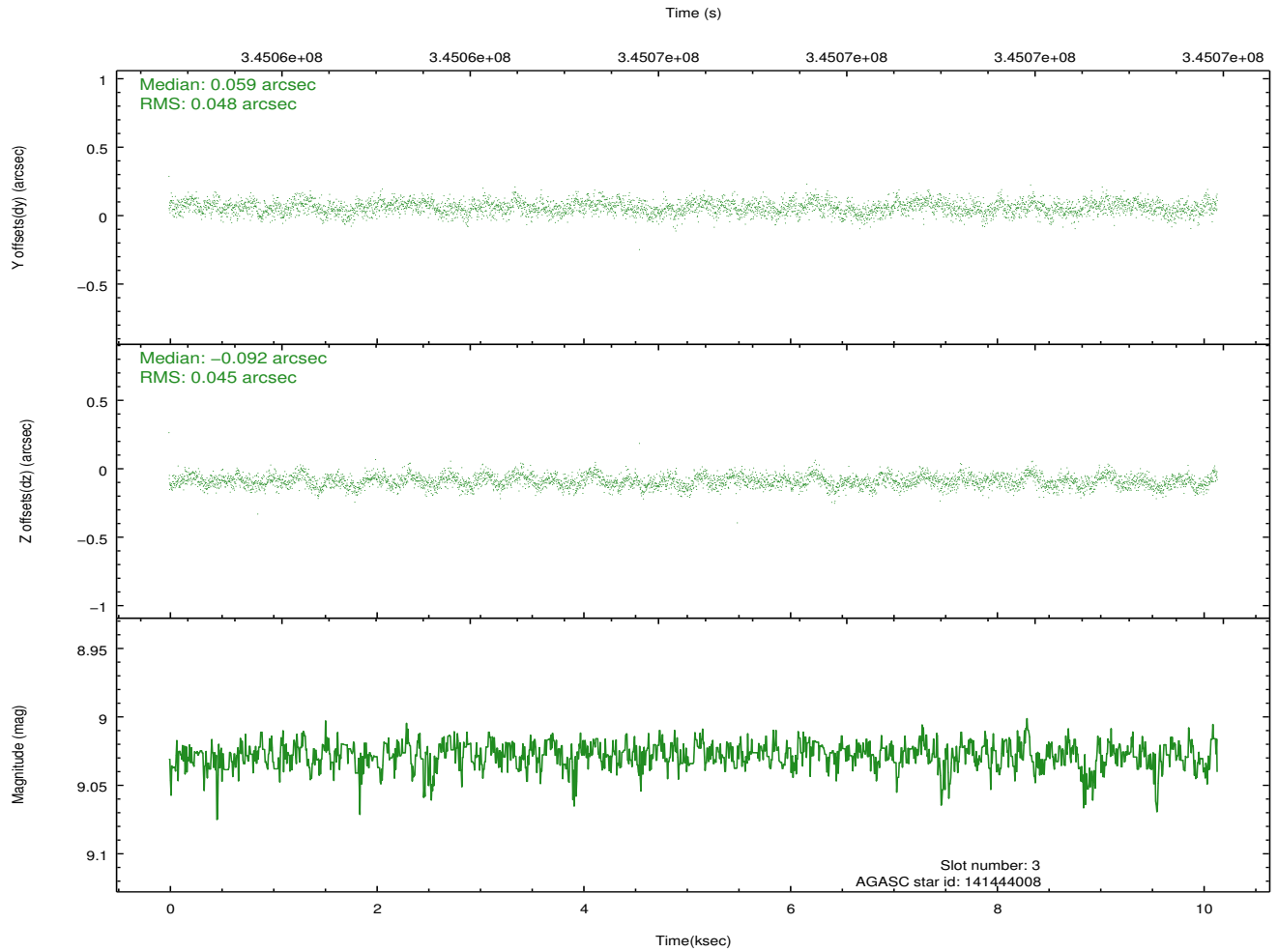
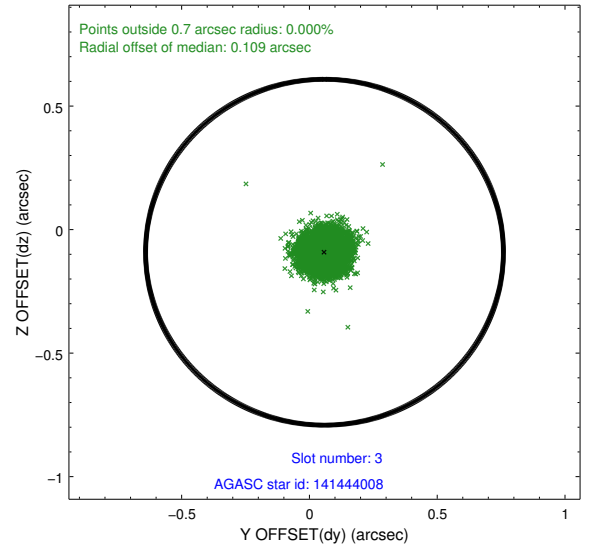
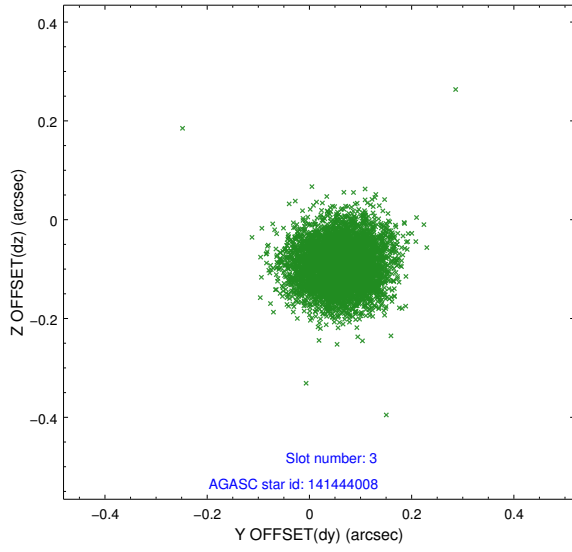


Slot Statistics

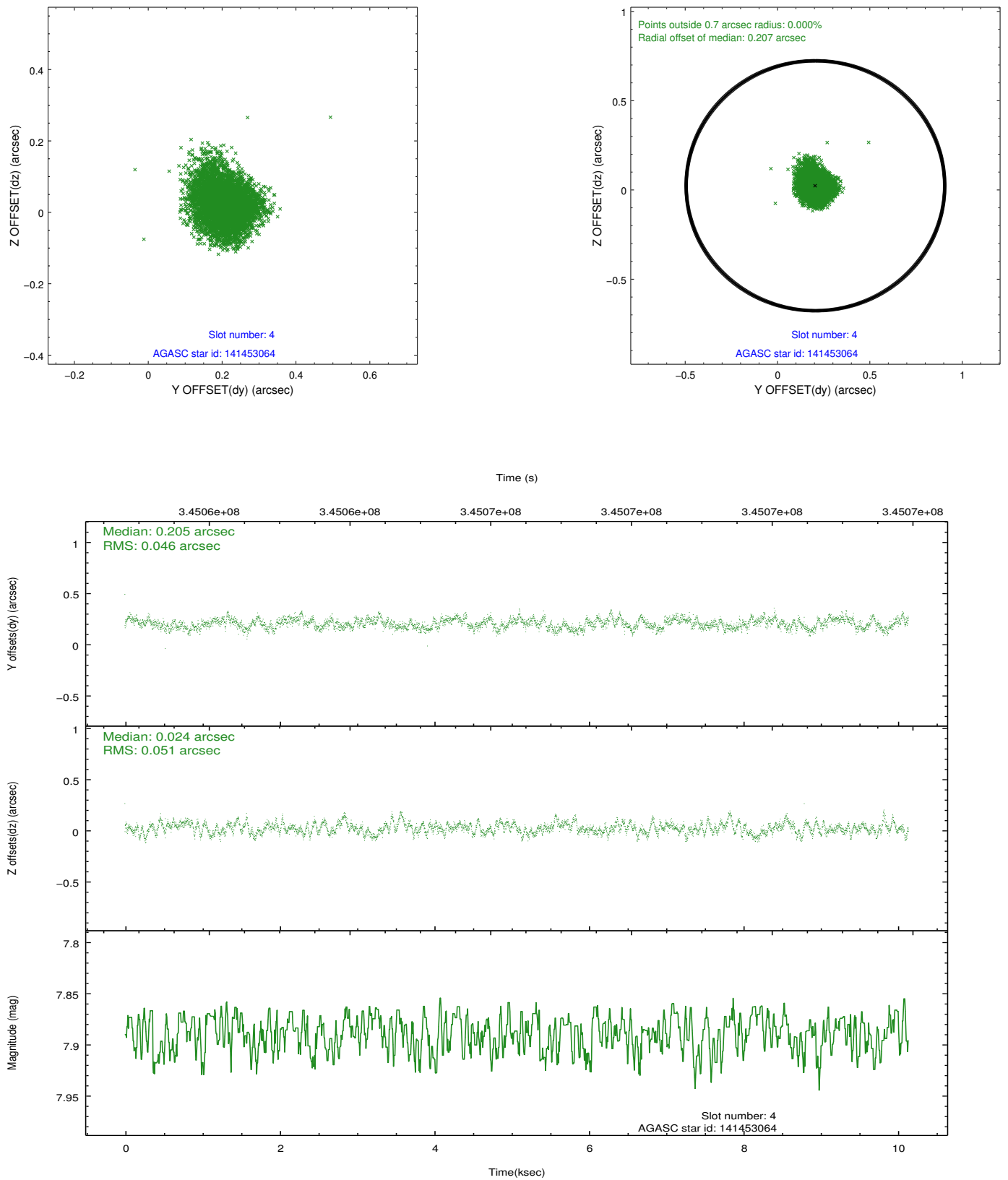
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	2474	-0.095	-0.118	0.026	0.043	0.000000	0.000000	-767.33	-1877.58
1	FID	ACIS-S-4	6.96	2474	0.222	0.077	0.008	0.013	0.000000	0.000000	2146.05	30.45
2	FID	ACIS-S-5	7.01	2474	-0.159	0.049	0.022	0.033	0.000000	0.000000	-1819.54	24.73
3	GUIDE	141444008	9.03	4943	0.059	-0.092	0.069	0.112	300.296191	11.310054	2169.07	403.34
4	GUIDE	141453064	7.89	4945	0.205	0.024	0.073	0.115	299.483987	11.414705	109.56	-1625.17
5	GUIDE	141443480	7.66	4947	-0.146	-0.009	0.058	0.089	299.015789	11.932401	-2376.37	-1775.40
6	GUIDE	141453280	8.53	4947	-0.161	0.034	0.065	0.107	299.888387	12.264129	-1424.51	1379.72
7	GUIDE	141563816	9.14	4943	0.043	0.042	0.121	0.185	300.647752	11.777144	1601.40	2414.60

2.4 Star Slots

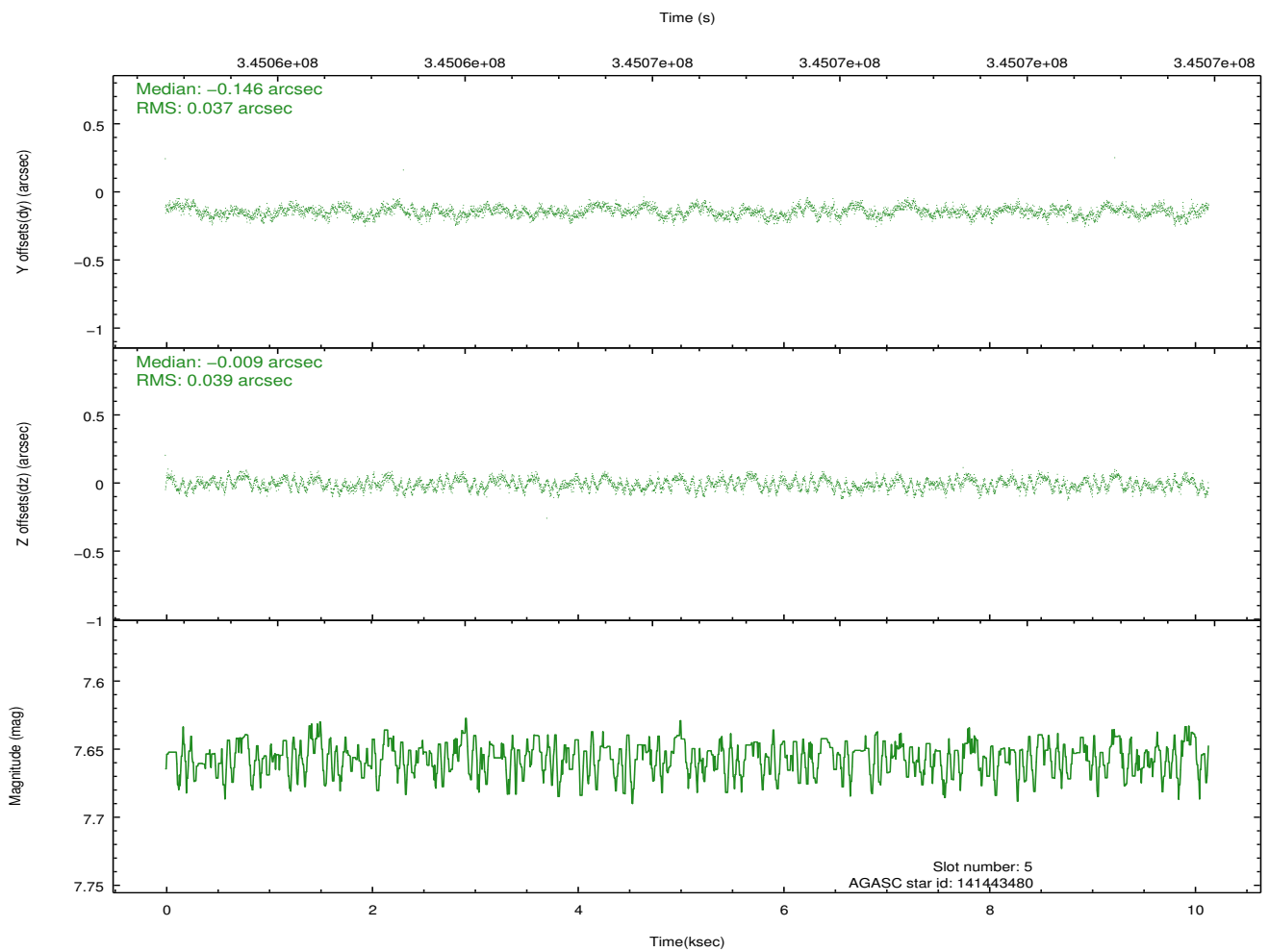
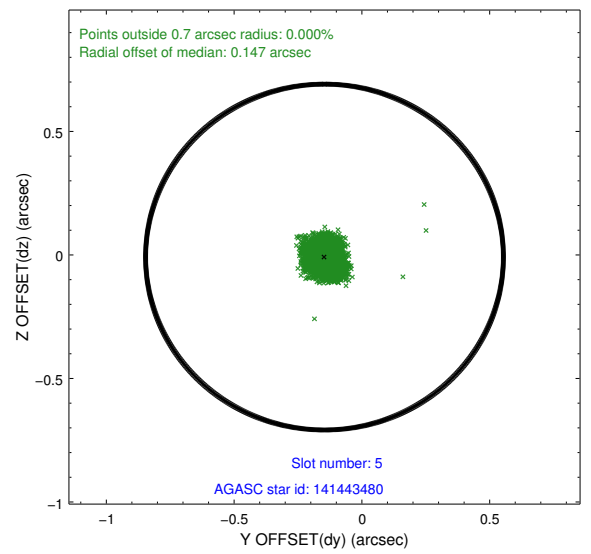
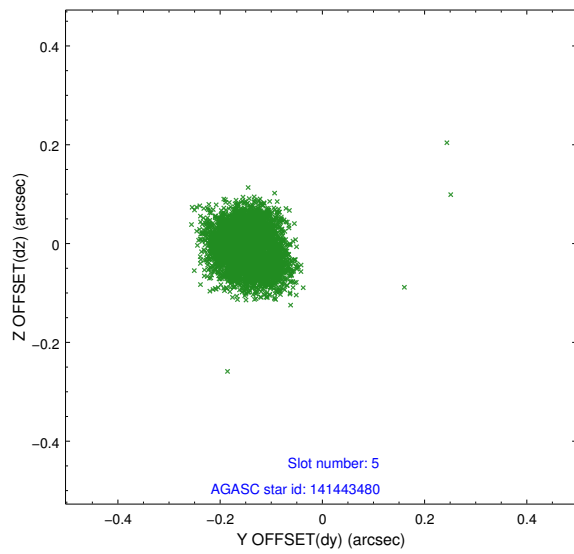
2.4.1 Slot 3



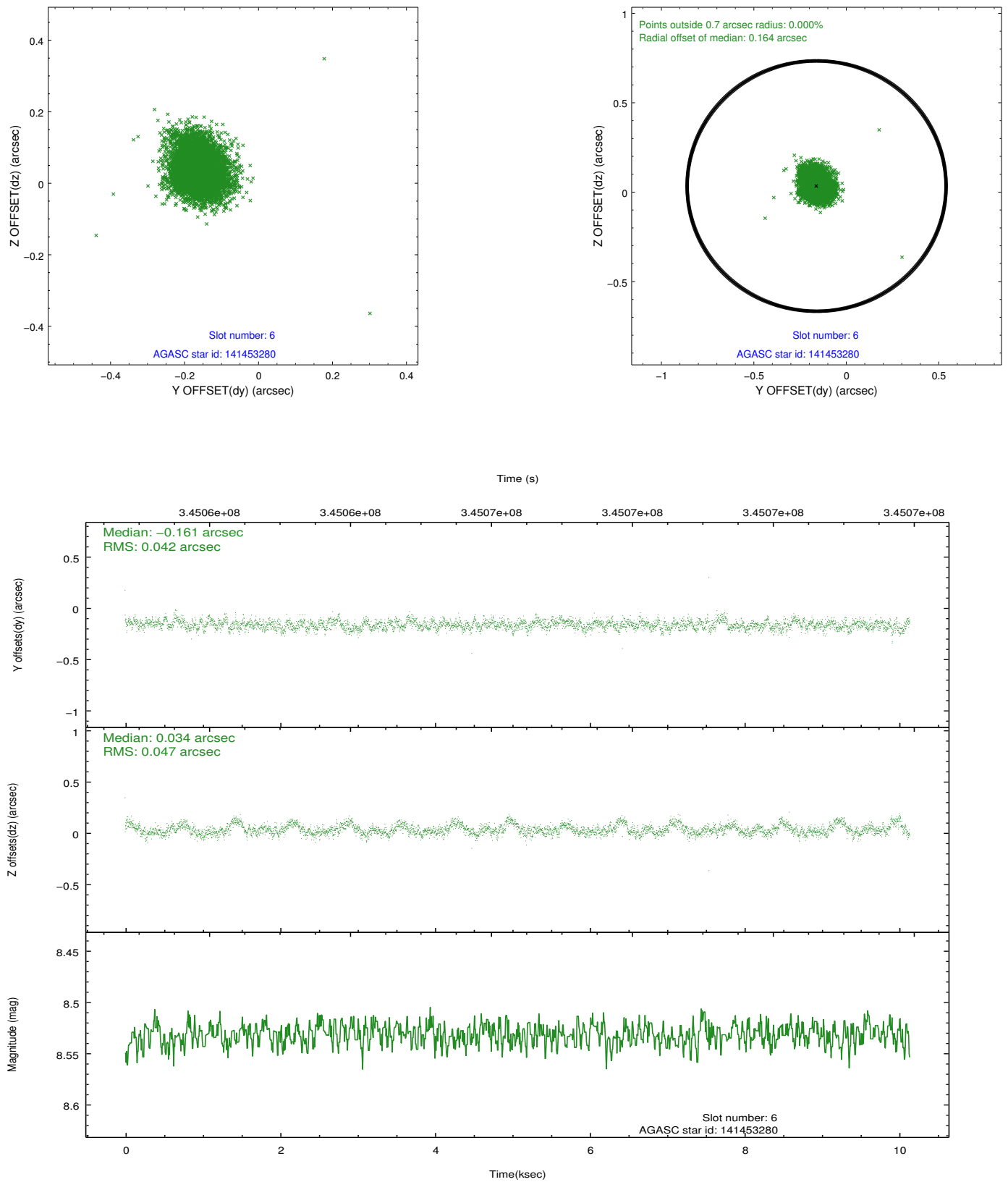
2.4.2 Slot 4



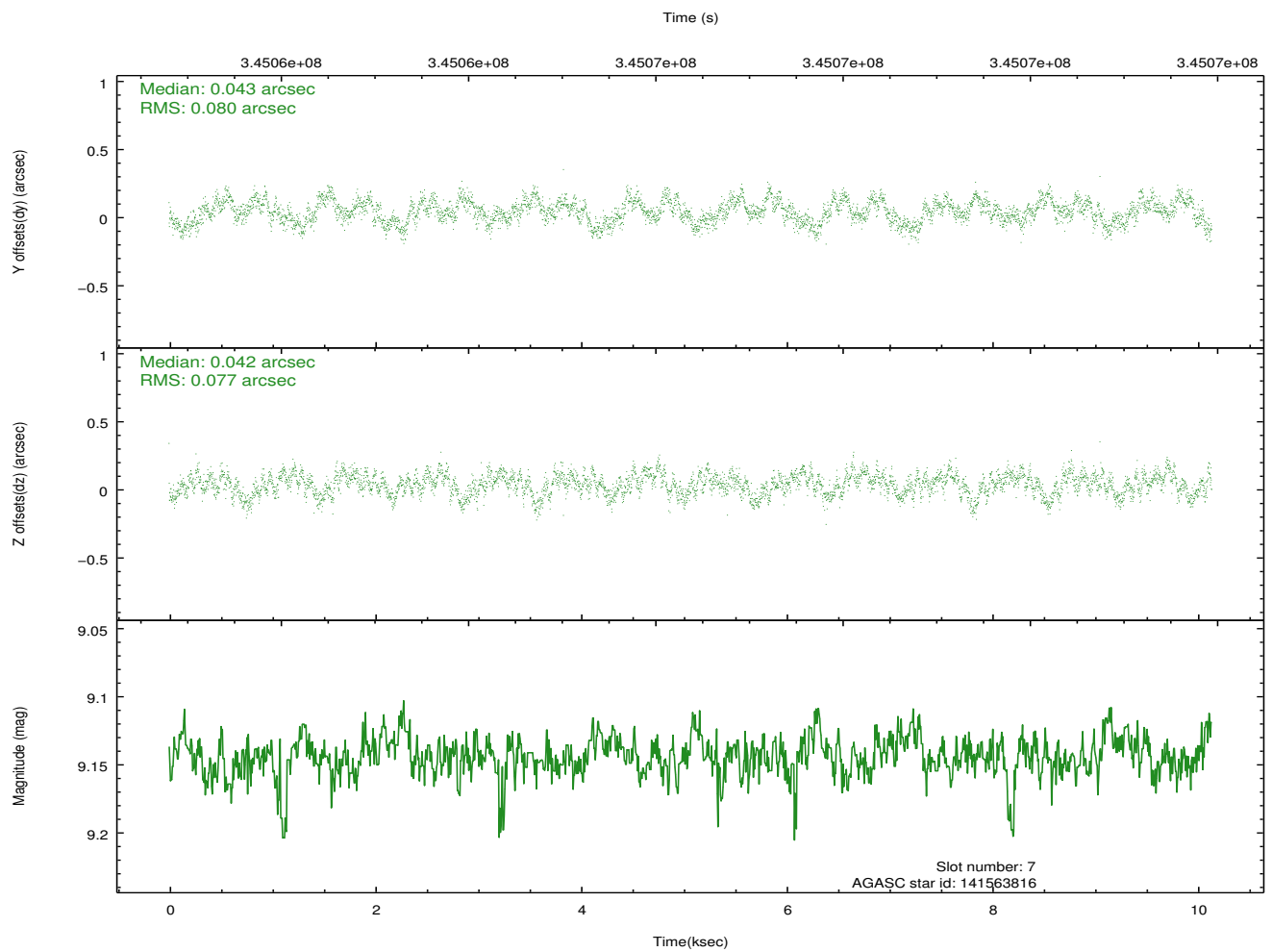
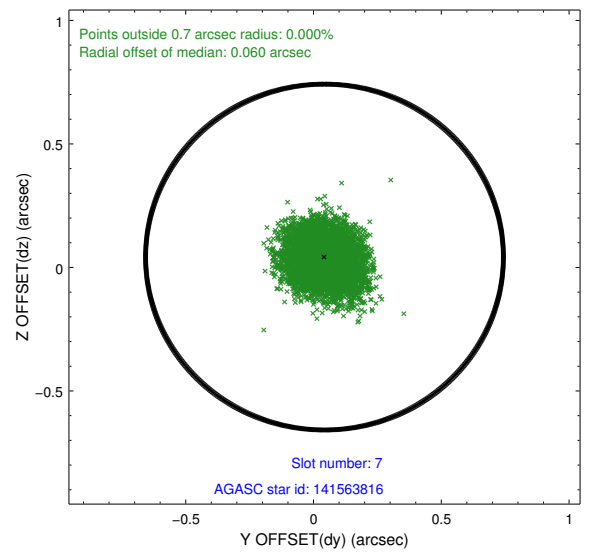
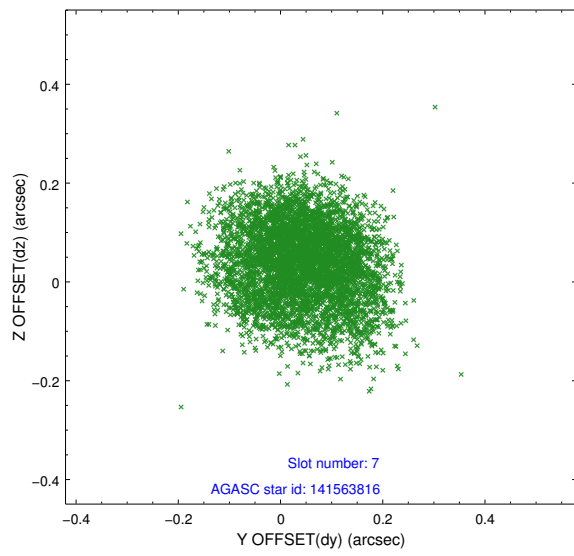
2.4.3 Slot 5



2.4.4 Slot 6

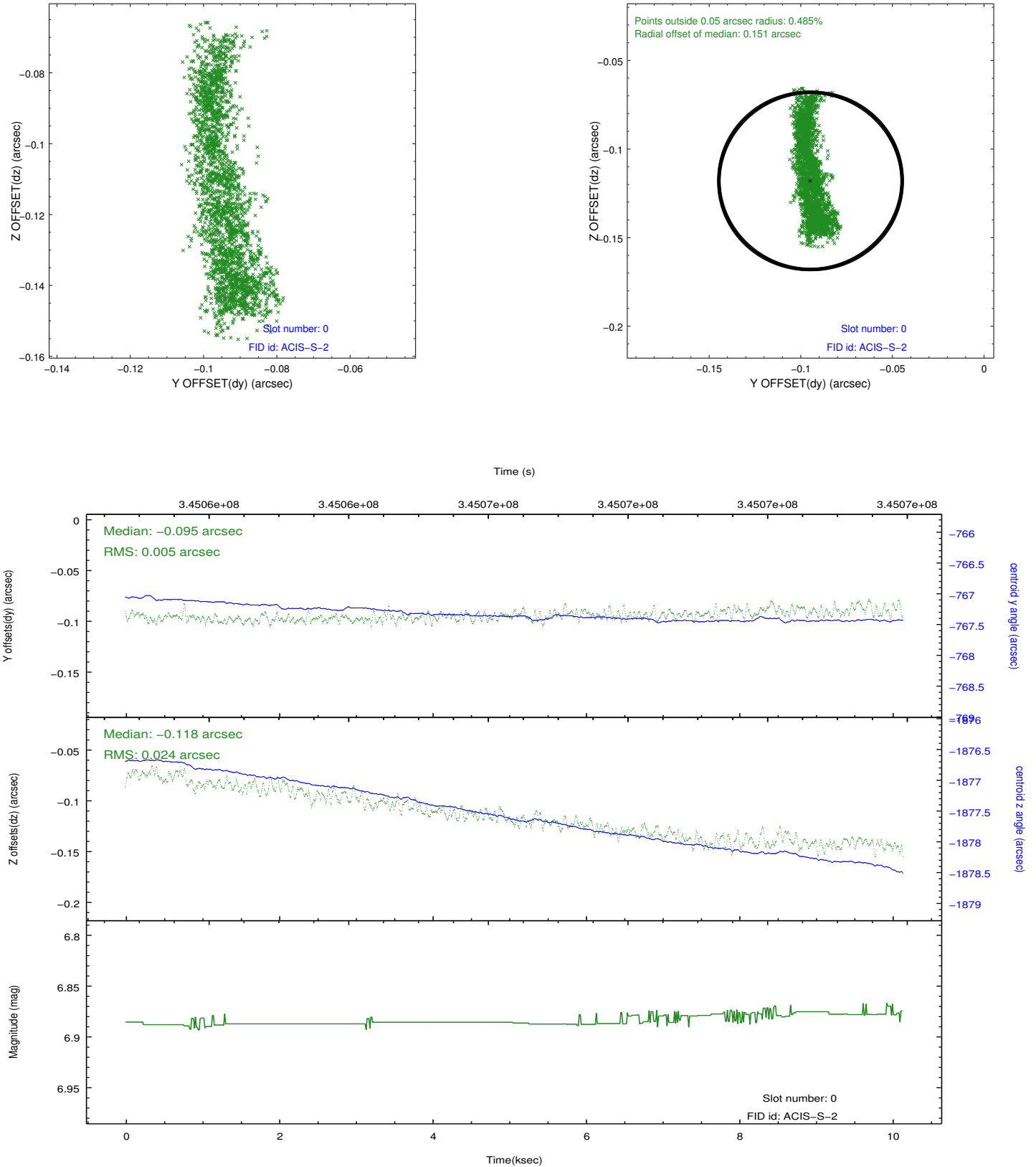


2.4.5 Slot 7

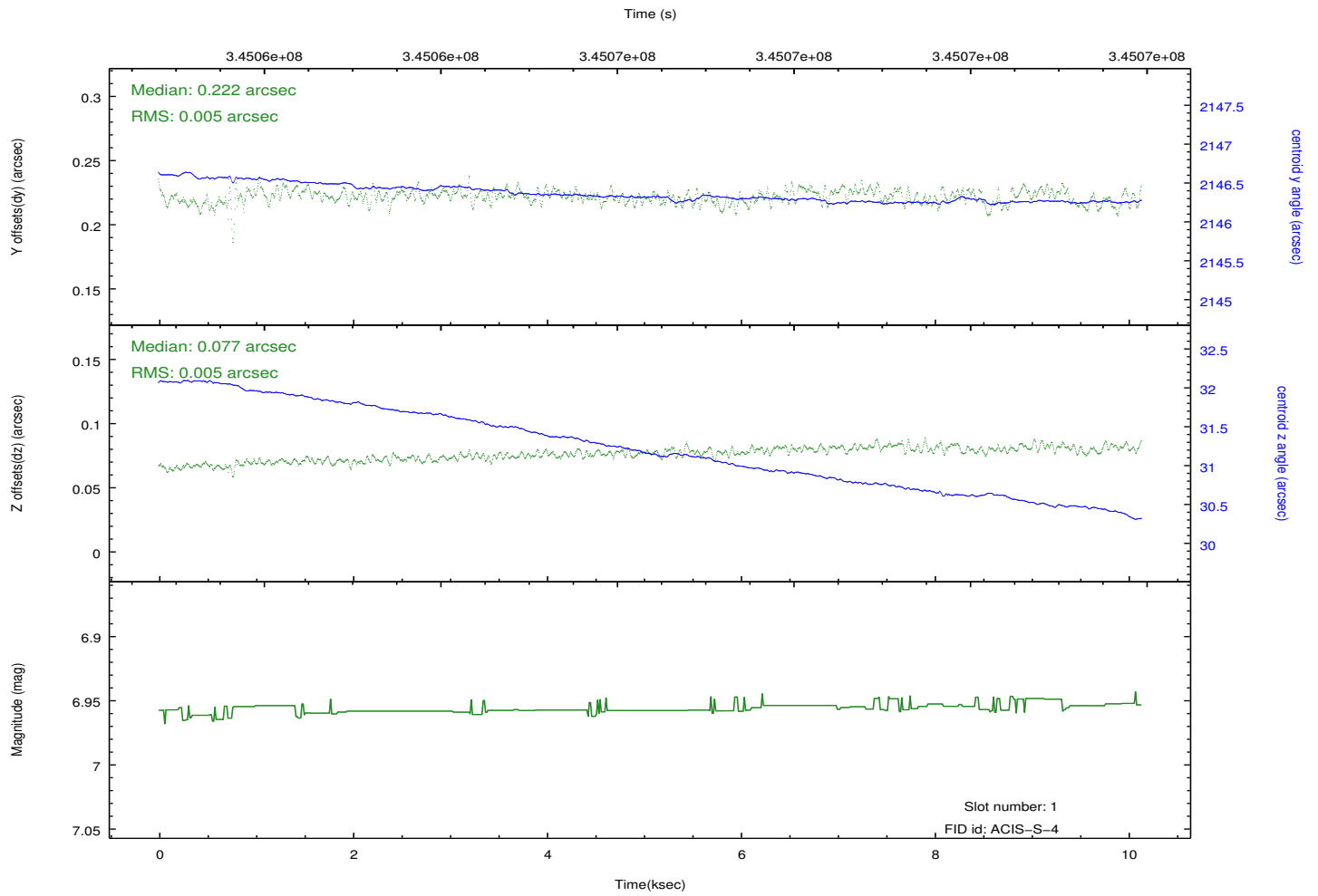
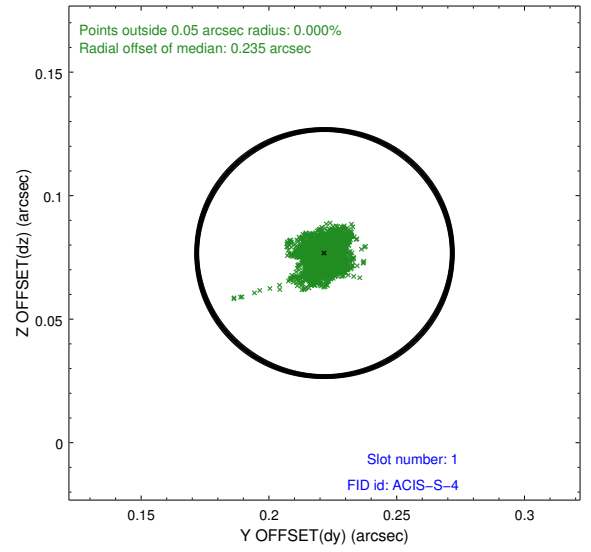
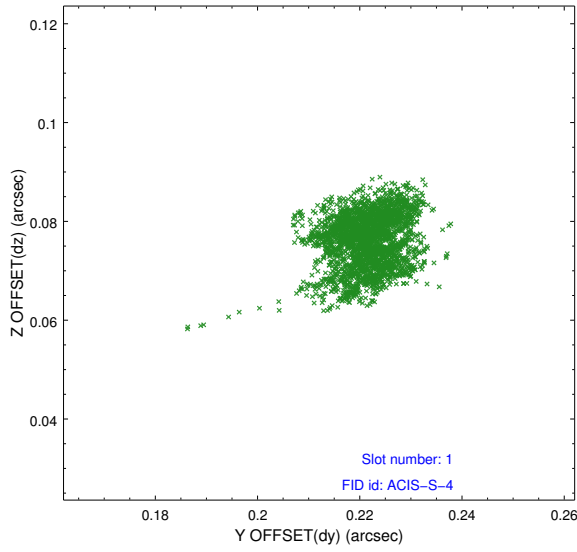


2.5 FID Slots

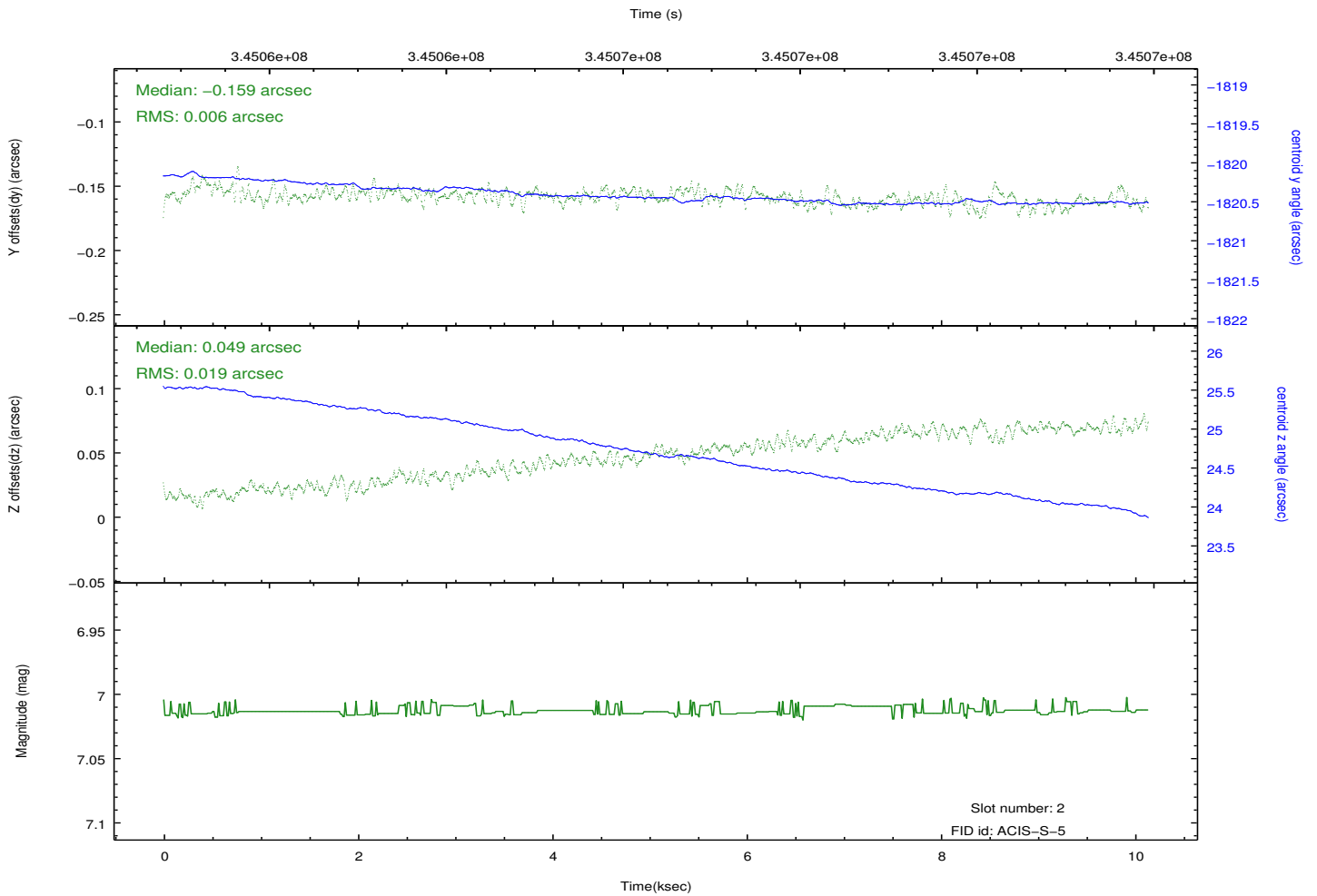
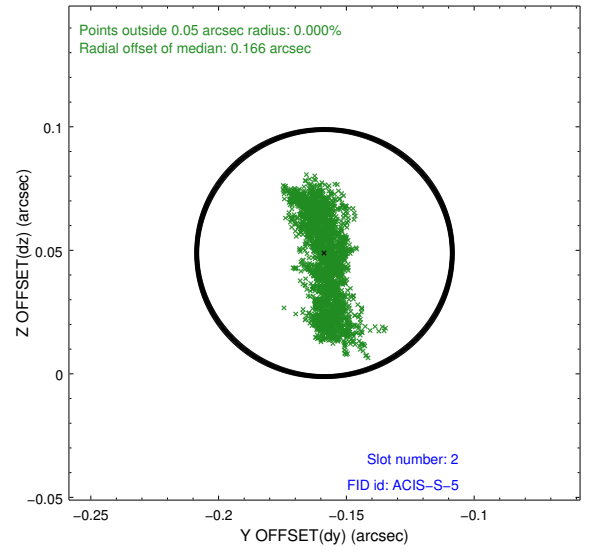
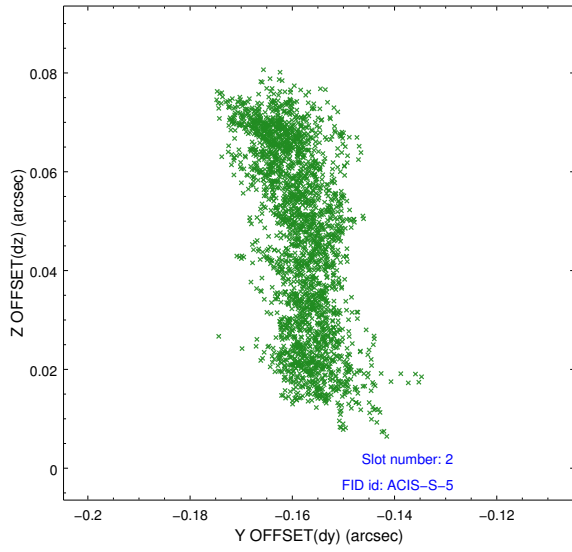
2.5.1 Slot 0



2.5.2 Slot 1

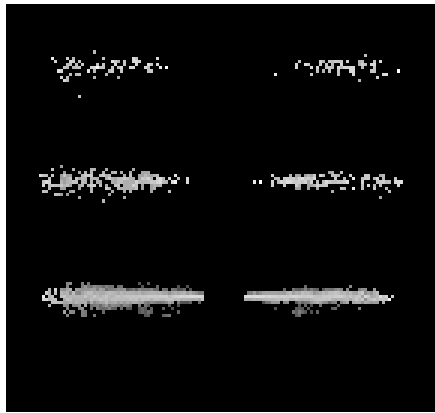


2.5.3 Slot 2

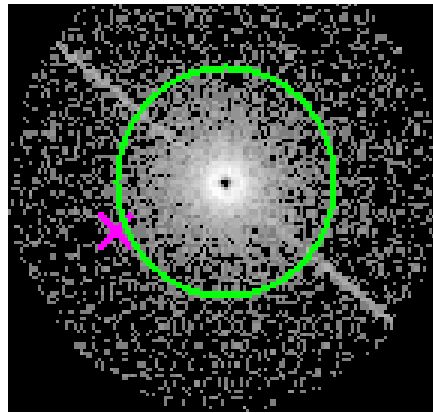


3 Gratings

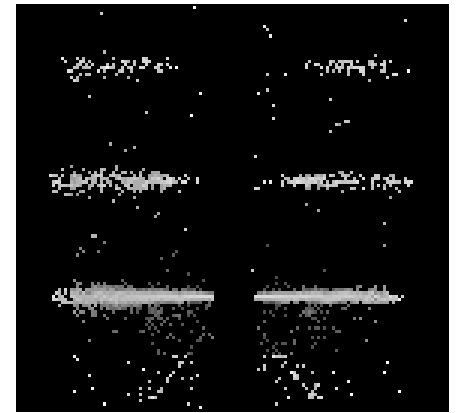
3.1 HEG Arm



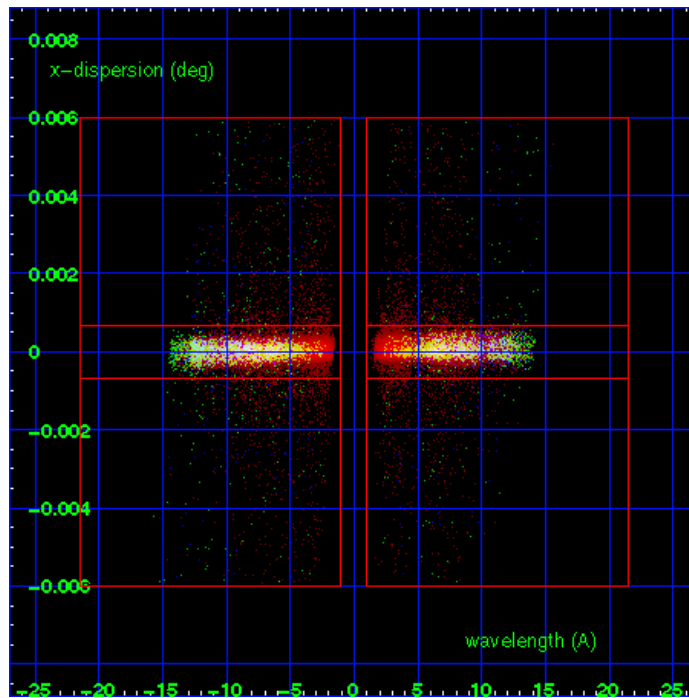
HEG Order Sort 123



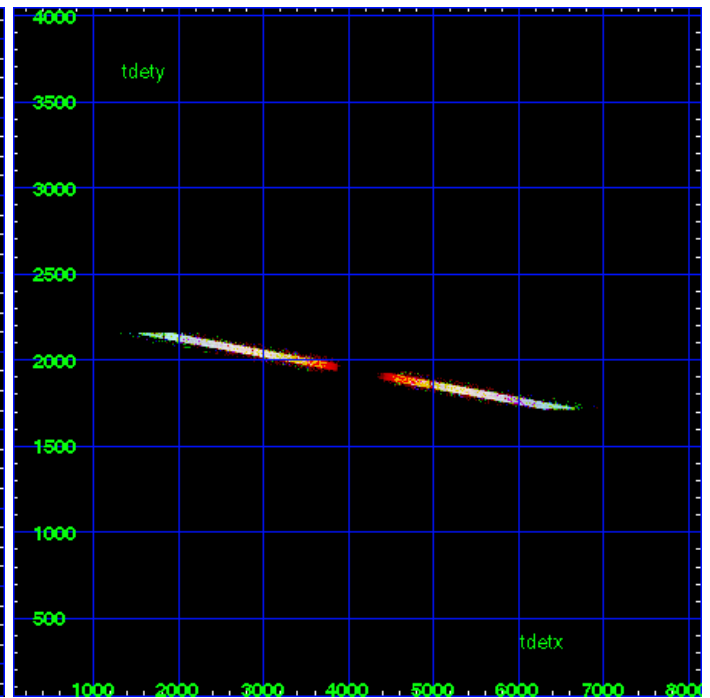
HEG Zero Order



HEG Order Sort ALL

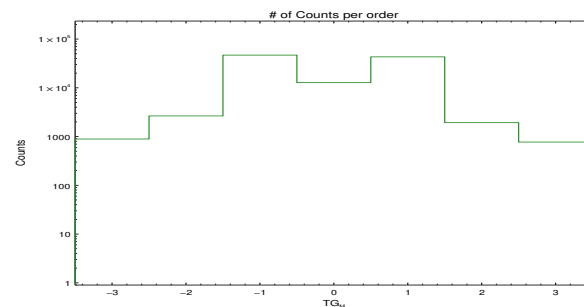


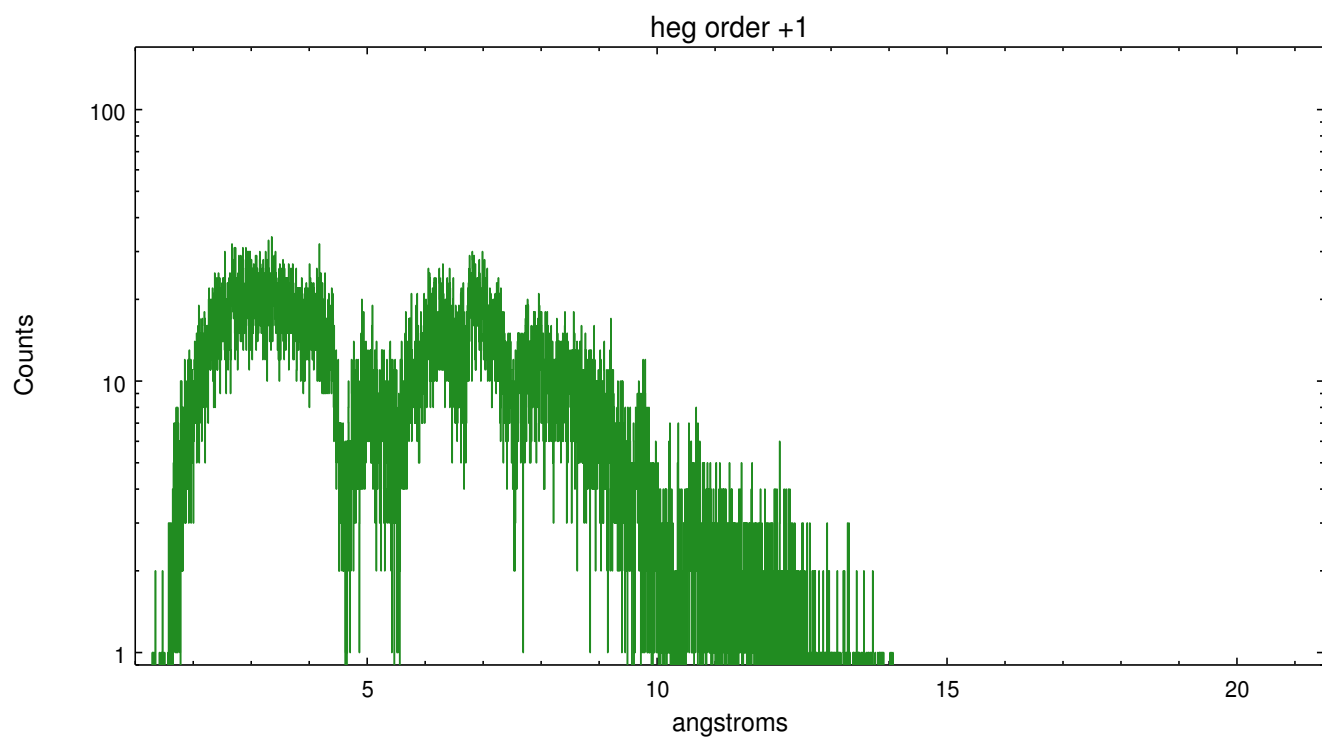
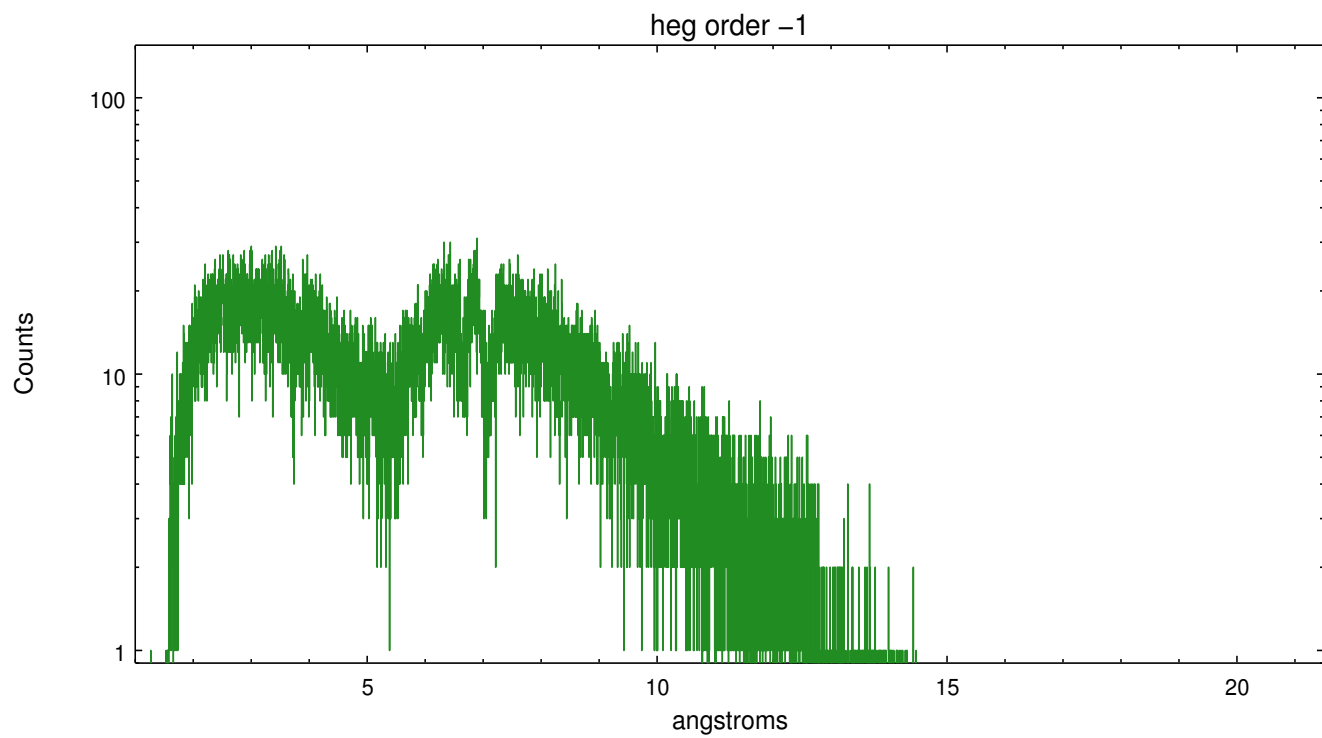
Spot Image HEG



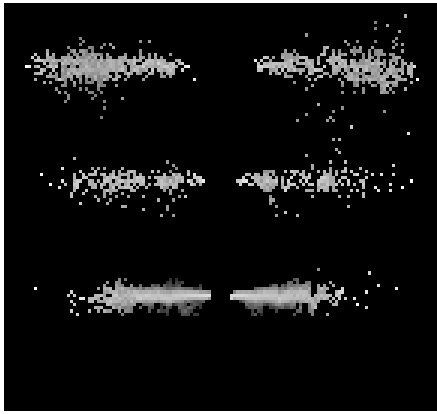
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	891	2651	46839	12782	43153	1929	772

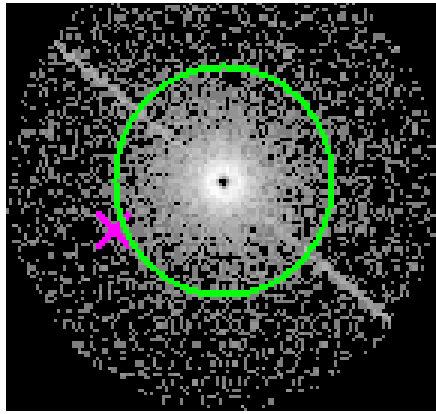




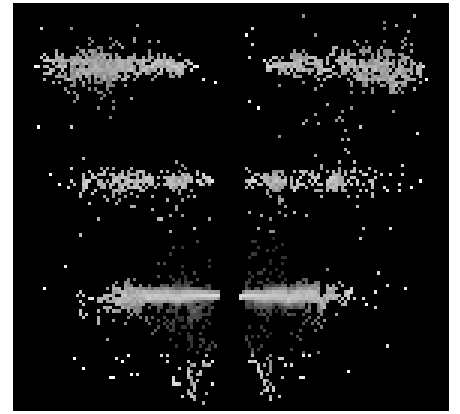
3.2 MEG Arm



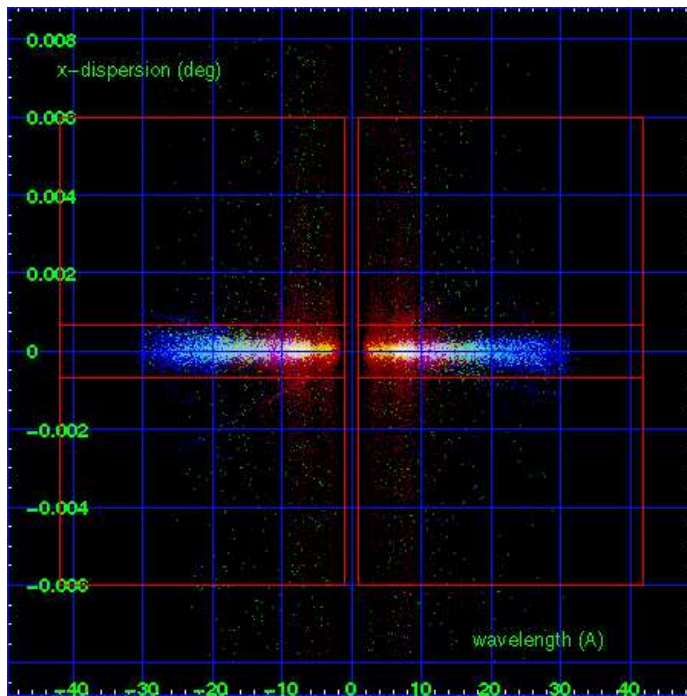
MEG Order Sort 123



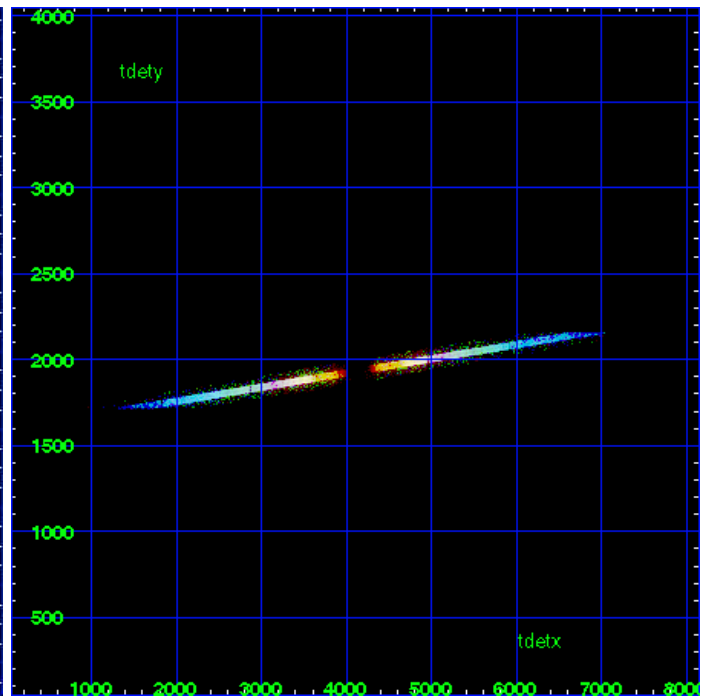
MEG Zero Order



MEG Order Sort ALL

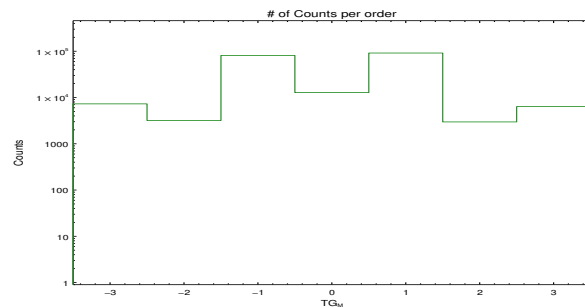


Spot Image MEG

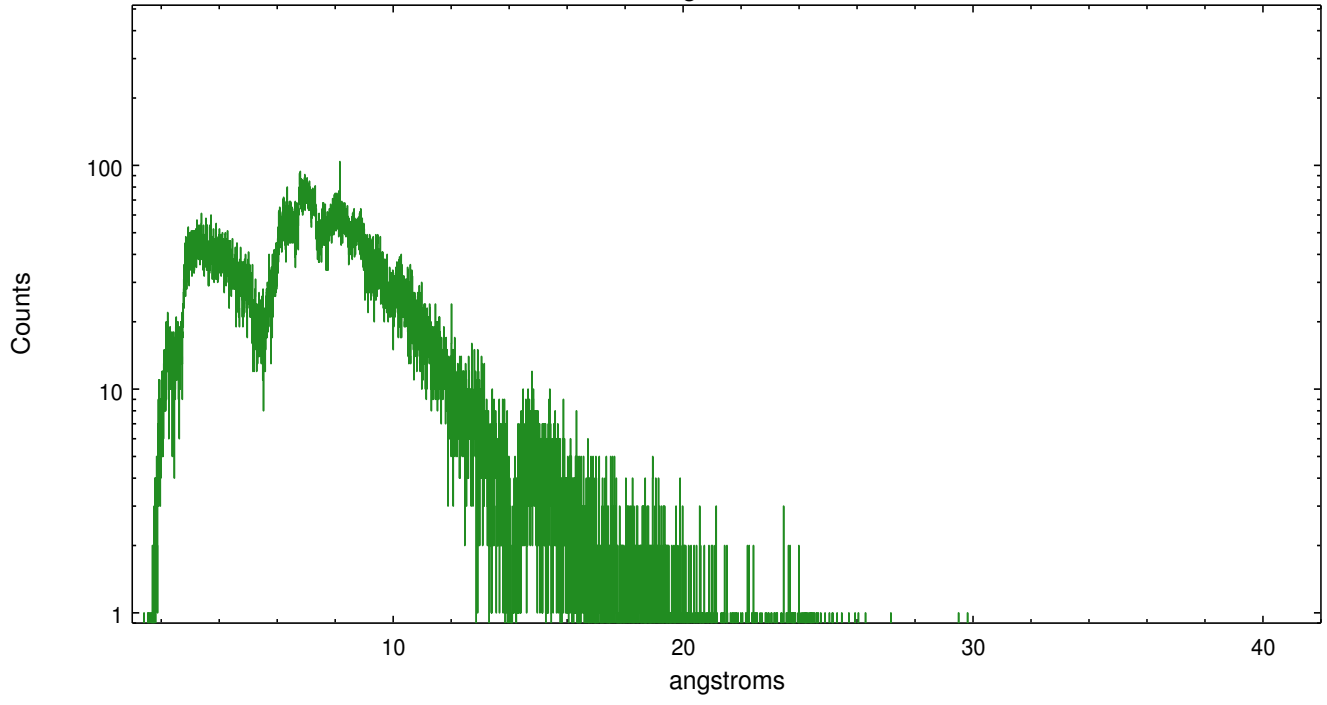


Full Detector MEG

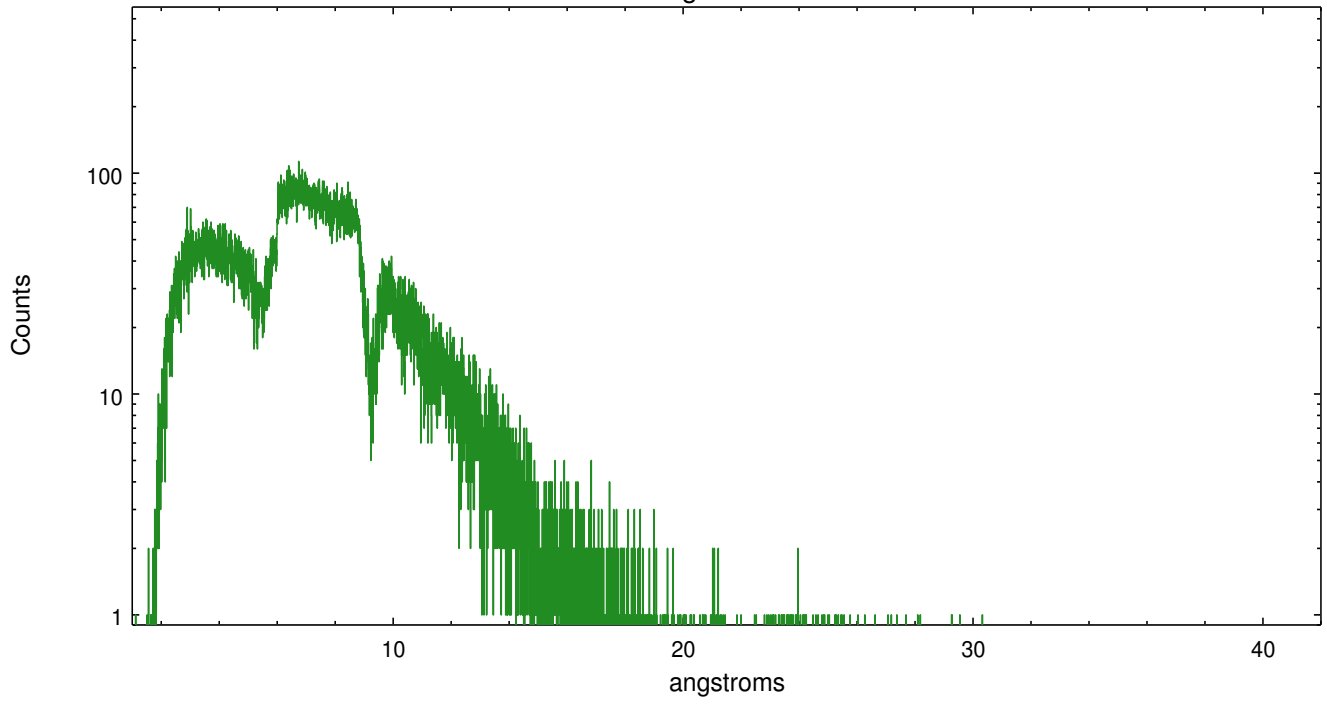
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	7290	3184	81190	12782	91516	2968	6360



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.137

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=4126.45, y=4108.74) into the *srcla.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 (currently in ISIS). 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 *srcla.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.