

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 49898 - L2 Version 5
Chandra X-Ray Center

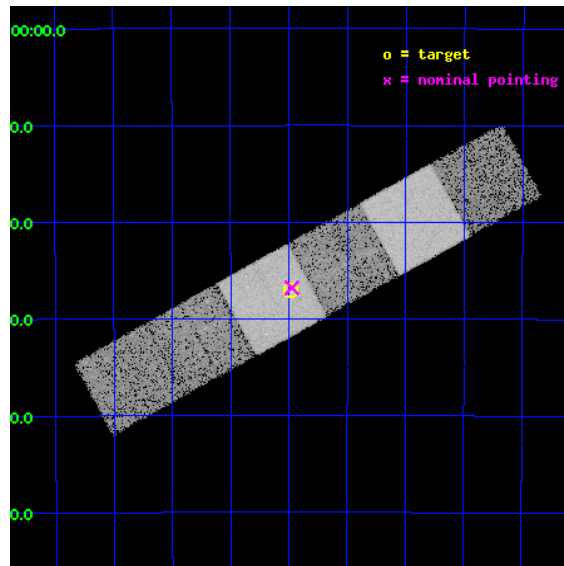
L2 Processing Date : Sep 14 2012

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1 Front

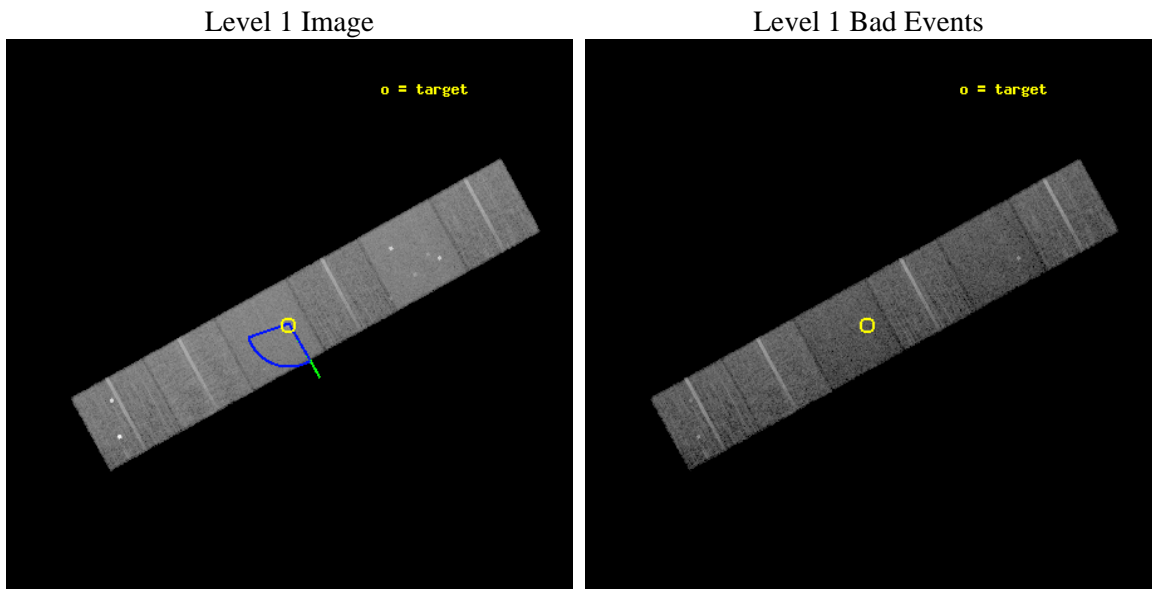
seq_num	600214	Sequence number
obs_id	49898	Observation id
title	THE DETAILED X-RAY SPECTRA OF ELLIPTICAL GALAXIES	Proposal title
observer	DR. CLAUDE CANIZARES	Principal investigator
object	NGC 1399	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	54.622083	Observer's specified target RA [deg]
dec_targ	-35.450278	Observer's specified target Dec [deg]
ra_nom	54.618570726731	Nominal RA [deg]
dec_nom	-35.446646787374	Nominal Dec [deg]
roll_nom	151.10458755018	Nominal Roll [deg]
revision	5	Processing version of data
ontime	13251.200012326	Sum of GTIs [s]
livetime	13083.405338855	Livetime [s]
ontime4	13247.959082022	Sum of GTIs [s]
ontime5	13251.200012326	Sum of GTIs [s]
ontime6	13247.959062085	Sum of GTIs [s]
ontime7	13251.200012326	Sum of GTIs [s]
ontime8	13247.959082022	Sum of GTIs [s]
ontime9	13251.200012326	Sum of GTIs [s]
l2events	128938	Number of level 2 events



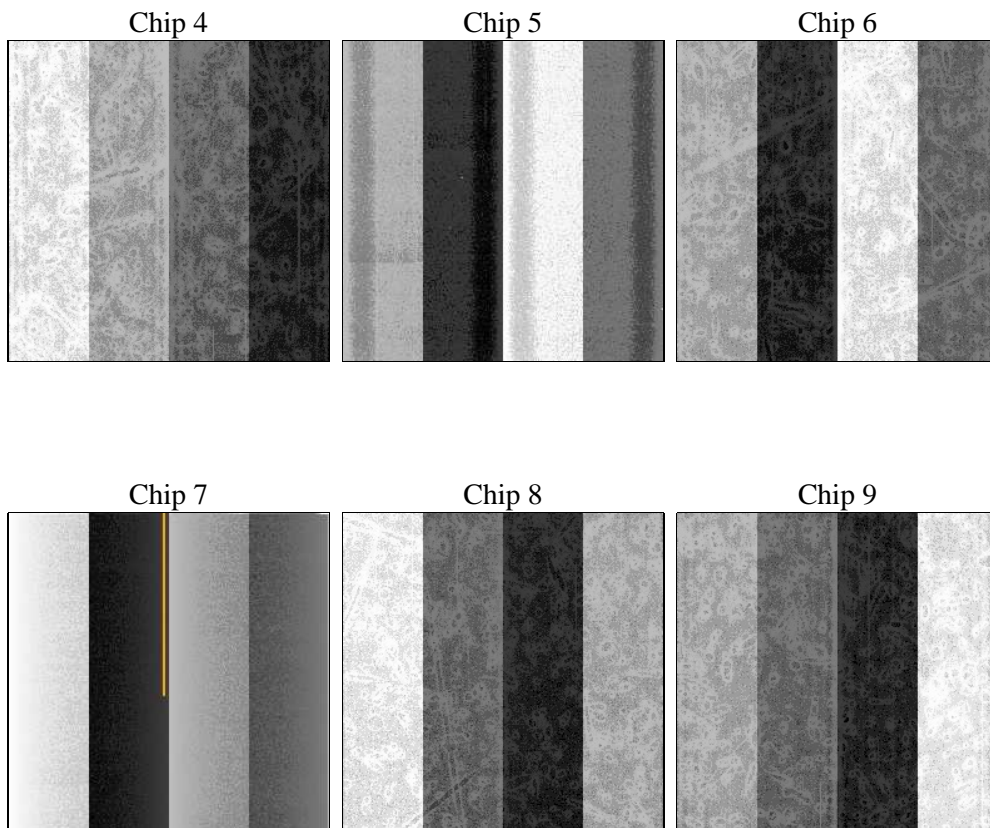
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16298.286000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	13251.200012326	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	13247.959082022	Sum of GTIs [s]
date	2012-08-29T07:37:22	Date and time of file creation	ontime5	13251.200012326	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	13247.959062085	Sum of GTIs [s]
			ontime7	13251.200012326	Sum of GTIs [s]
			ontime8	13247.959082022	Sum of GTIs [s]
			ontime9	13251.200012326	Sum of GTIs [s]
			l1events	602715	Number of level 1 events

2.1.4 Events

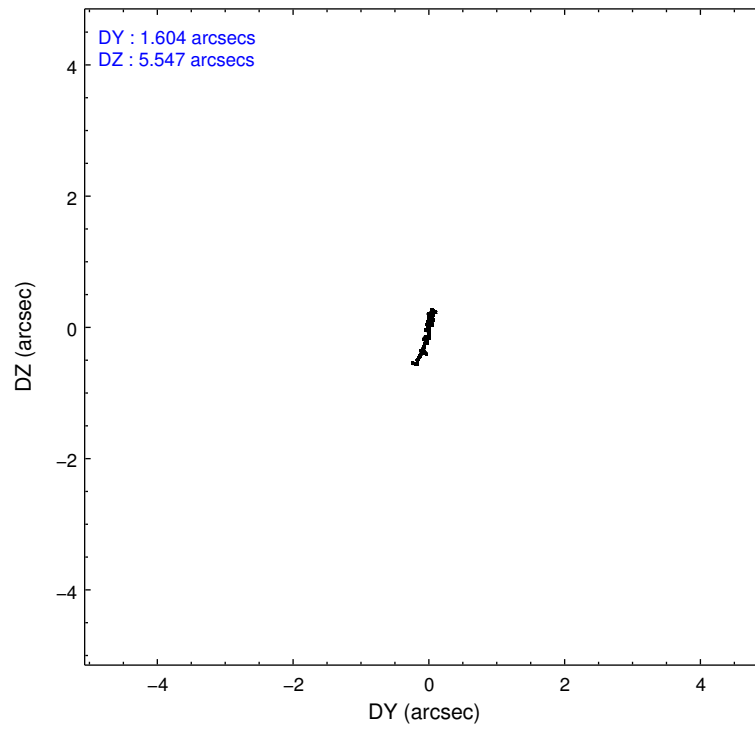
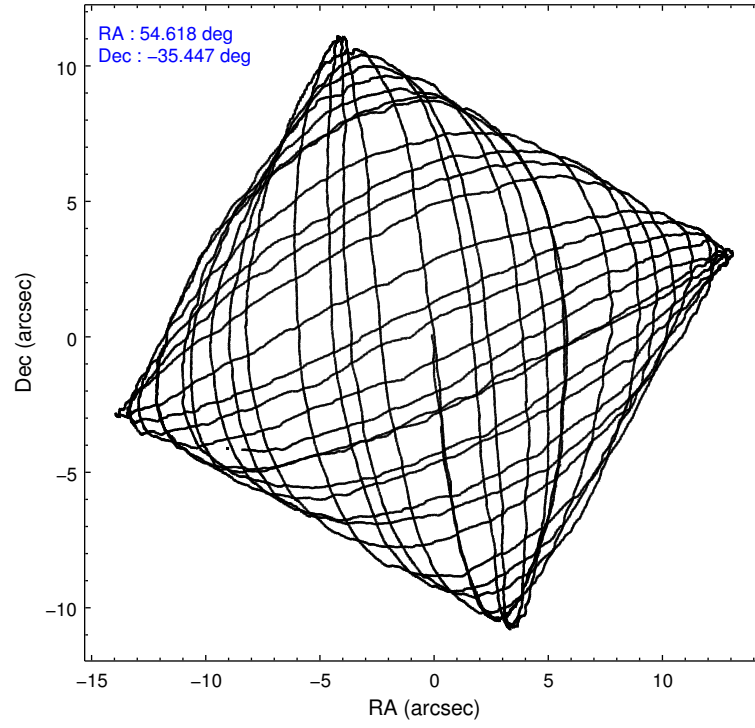
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	94025	112772	86708	102293	106752	100165	grade 0 events	4122	9375	5740	5094	7799	8240
rejected events	84334	57953	75327	56876	84815	73731		4%	8%	6%	4%	7%	8%
rejected %	89%	51%	86%	55%	79%	73%	grade 1 events	29	579	42	99	63	211
								0%	0%	0%	0%	0%	0%
							grade 2 events	2239	14661	1954	9291	4497	14424
								2%	13%	2%	9%	4%	14%
							grade 3 events	938	2435	931	4277	2317	991
								0%	2%	1%	4%	2%	0%
							grade 4 events	852	2452	984	4396	2087	972
								0%	2%	1%	4%	1%	0%
							grade 5 events	2655	8562	3185	9631	3962	3455
								2%	7%	3%	9%	3%	3%
							grade 6 events	1549	25960	1788	22422	5263	1844
								1%	23%	2%	21%	4%	1%
							grade 7 events	81641	48748	72084	47083	80764	70028
								86%	43%	83%	46%	75%	69%

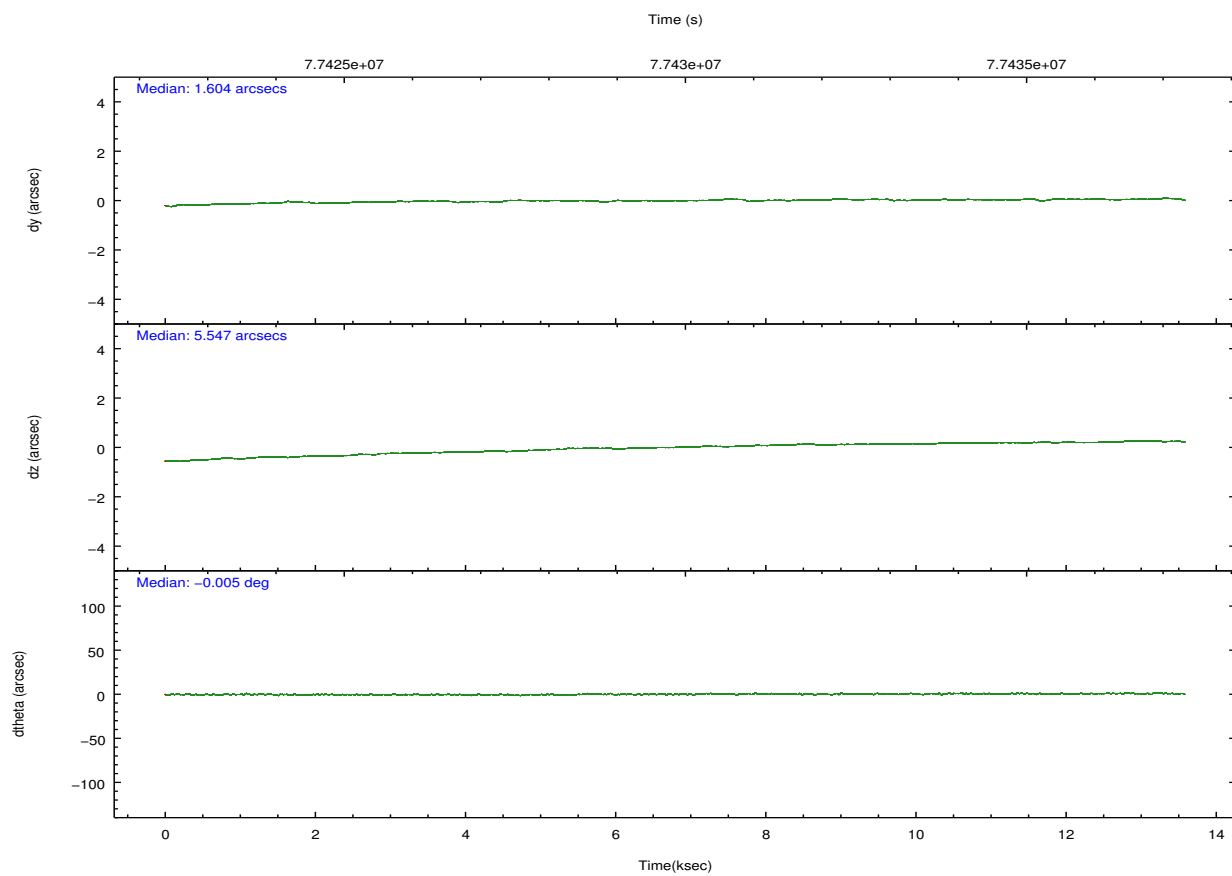
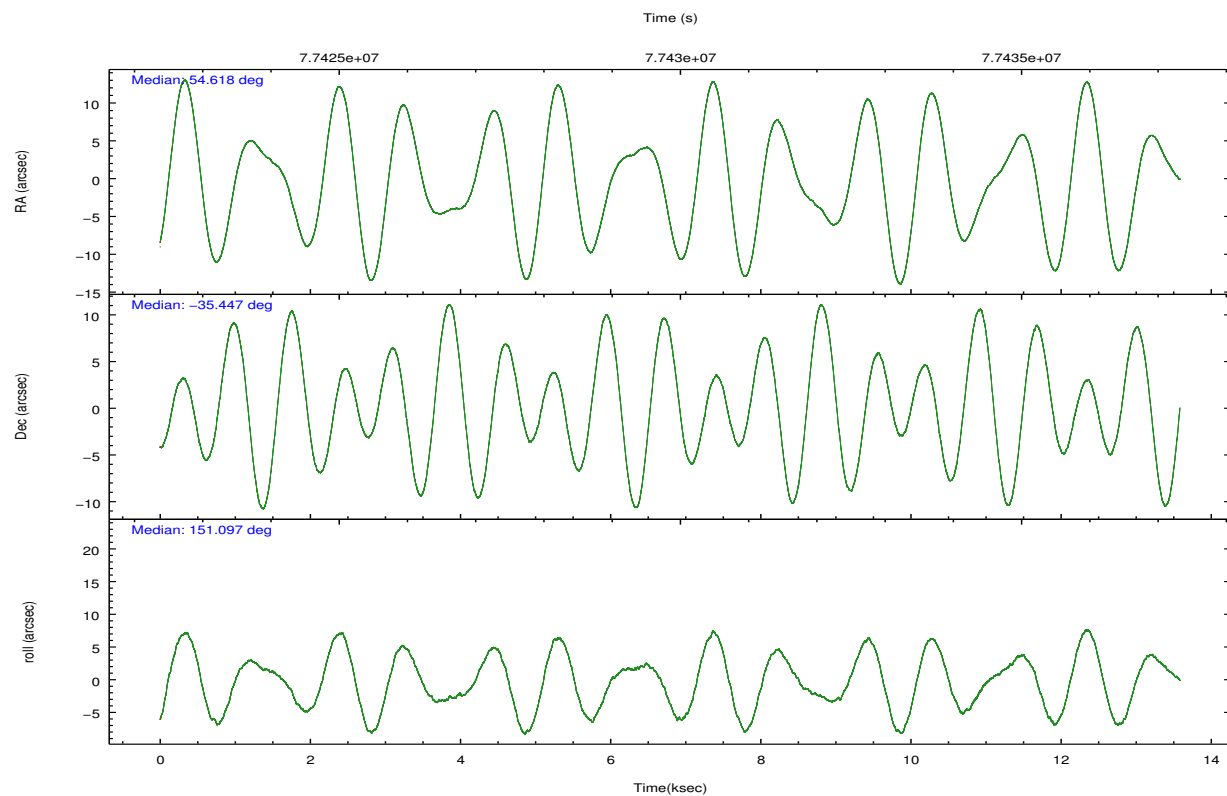
2.2 Compared Parameters

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	54.61857072673068	54.61857072673079
[deg] Pointing Dec	-35.44664678737438	-35.44664678737419
[deg] Pointing Roll	151.1045875501816	151.1045875501817
[deg] Roll angle	200	200
[deg] Roll tolerance	50.000000	50.000000
Roll constraint allows 180D rotation	N	N
[mm] SIM focus pos	-0.68282252473119	-0.68282252473119
[mm] SIM defocus	0.001444942264670734	0.001444942264670734
[mm] SIM translation stage pos	-190.1400660499	-190.1400660499
[mm] SIM translation stage offset	0.007542945932812017	0.007542945932812017
[s] Observation start time (MET)	77423054.23882601	77423054.23882601
Observation start date	2000-06-15T01:38:02	2000-06-15T02:24:14
[s] Observation end time (MET)	77436640.614326	77436640.614326
Observation end date	2000-06-15T06:09:40	2000-06-15T06:10:40
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	OVERRIDE	OVERRIDE
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	3.2	3.2

2.3 Aspect



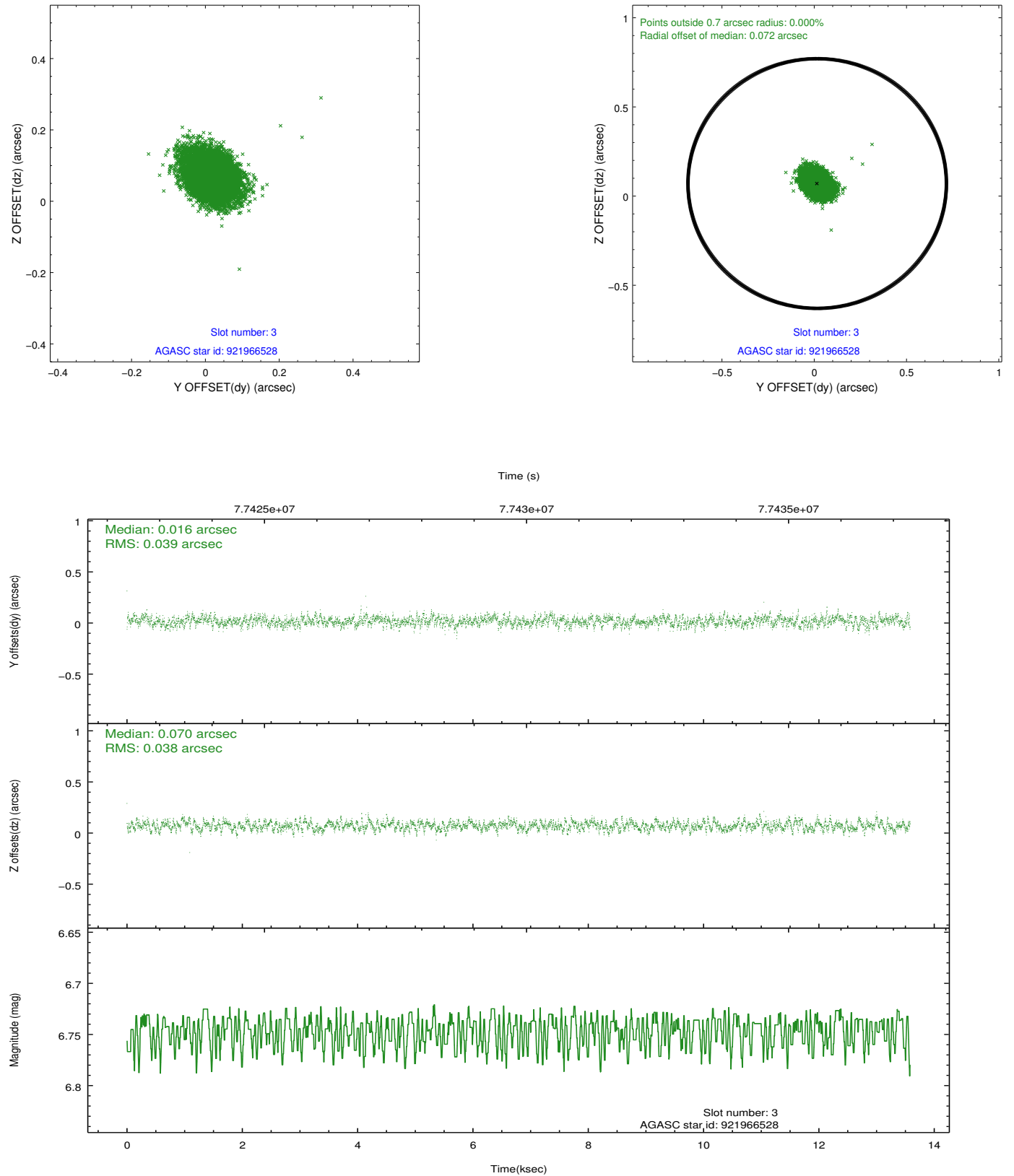


Slot Statistics

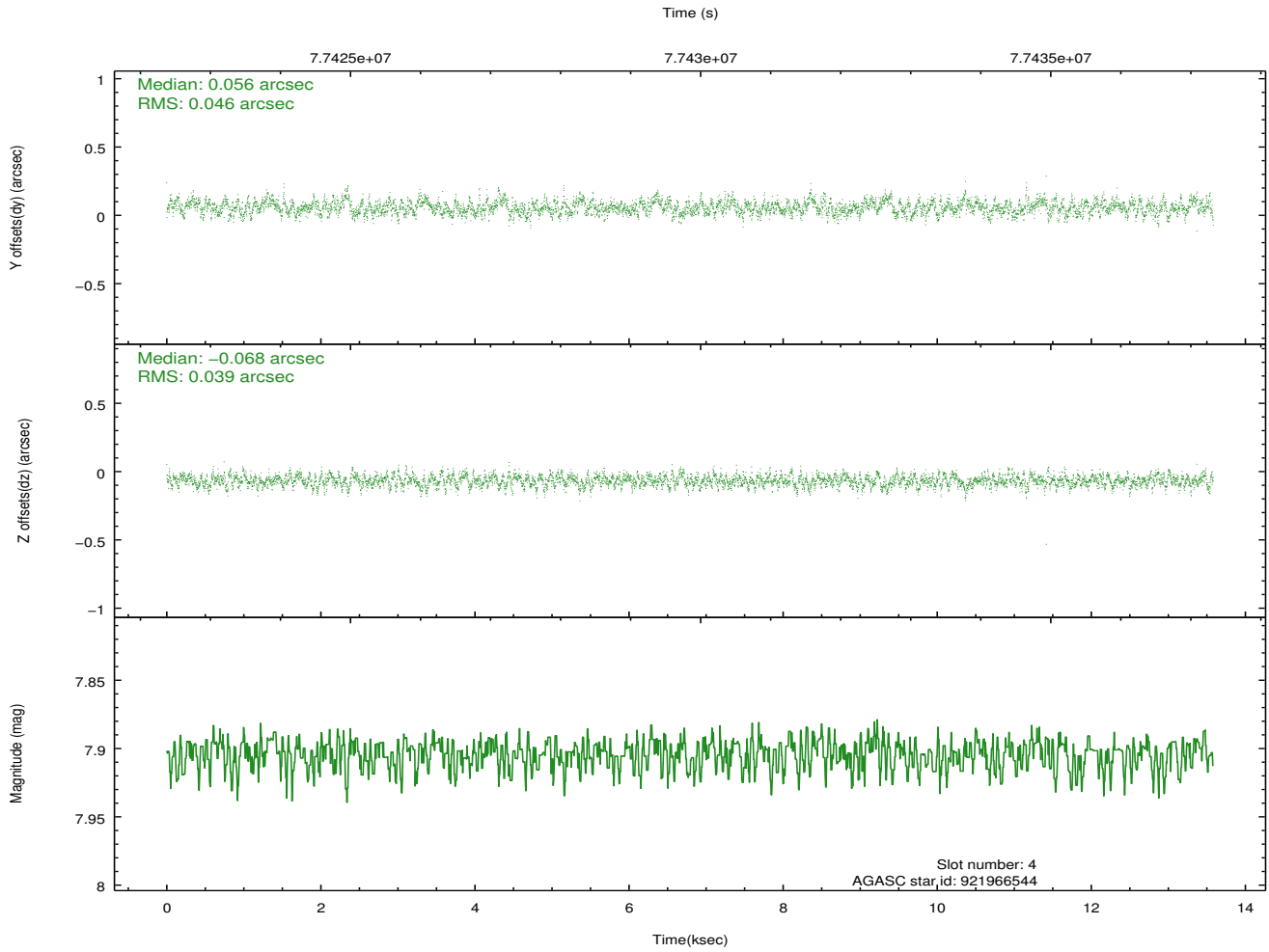
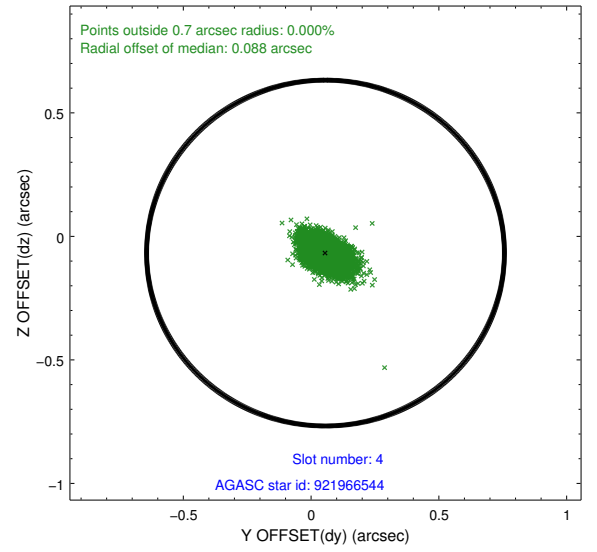
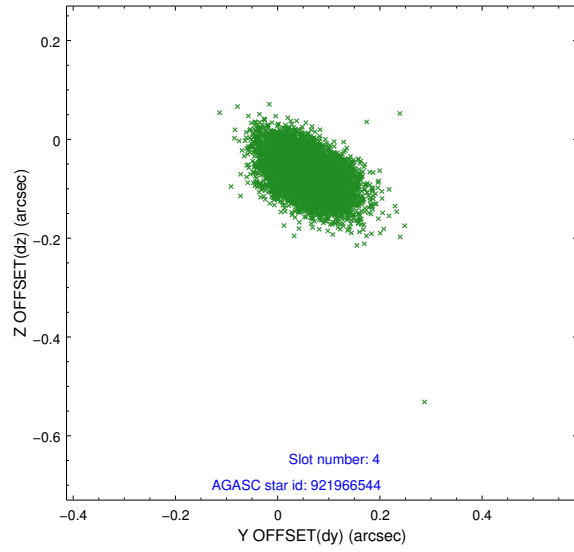
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	3314	-0.020	-0.006	0.015	0.026	0.000000	0.000000	941.82	-1722.26
1	FID	ACIS-S-5	7.24	3314	0.009	-0.008	0.006	0.011	0.000000	0.000000	-1806.94	174.94
2	FID	ACIS-S-6	7.36	3313	-0.010	0.026	0.015	0.029	0.000000	0.000000	407.02	819.32
3	GUIDE	921966528	6.75	6627	0.016	0.070	0.058	0.094	54.675841	-35.204254	361.21	-794.72
4	GUIDE	921966544	7.90	6626	0.056	-0.068	0.063	0.105	54.743508	-35.636012	-566.03	468.14
5	GUIDE	921575736	8.54	6626	-0.116	0.218	0.068	0.119	54.586331	-34.827401	1250.54	-1852.33
6	GUIDE	921965624	8.63	6626	0.105	-0.047	0.074	0.122	54.900706	-35.940077	-1497.31	1203.78
7	GUIDE	921048648	9.06	6623	-0.067	-0.176	0.103	0.161	53.884610	-35.870023	1211.79	2429.04

2.4 Star Slots

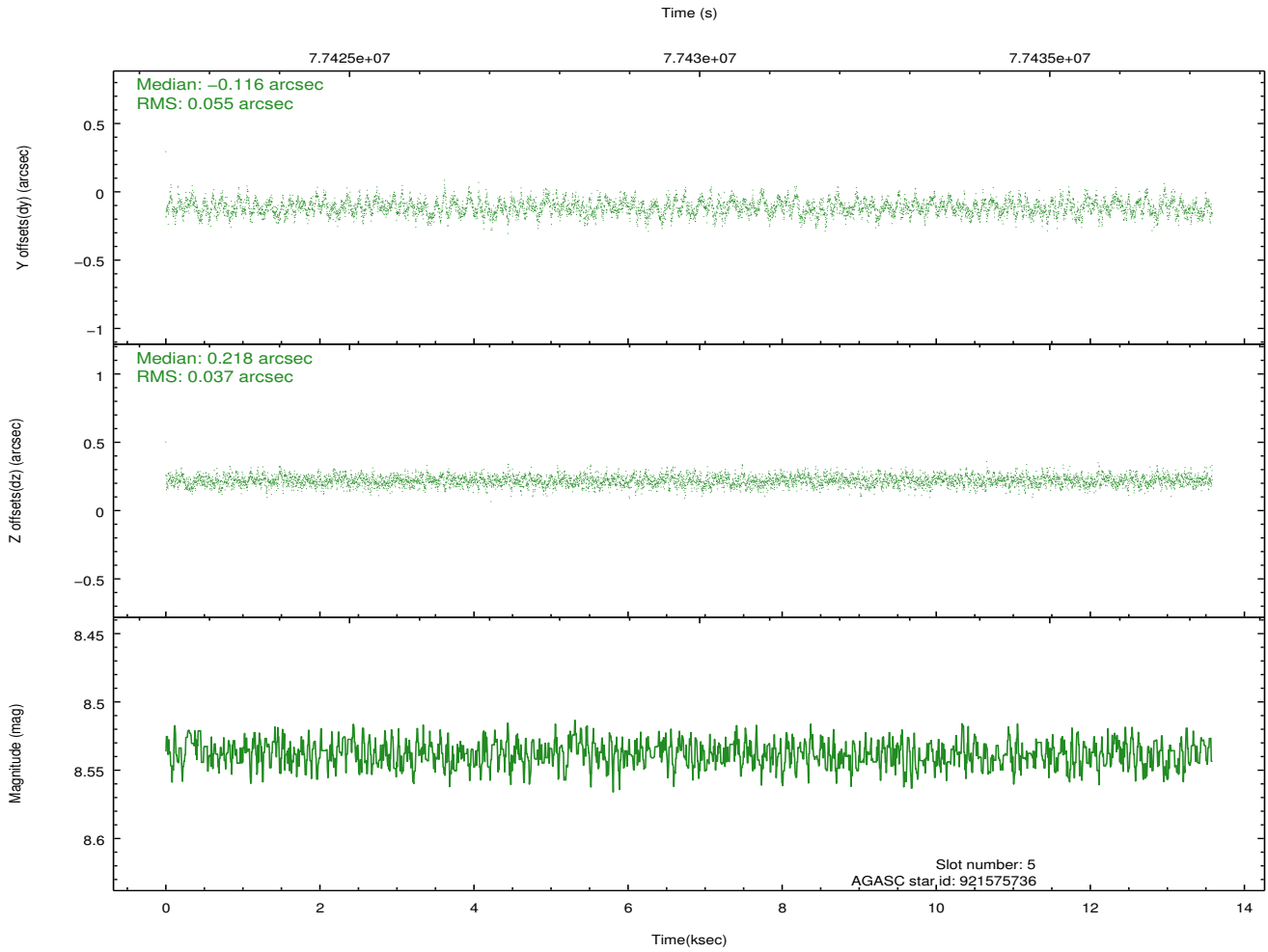
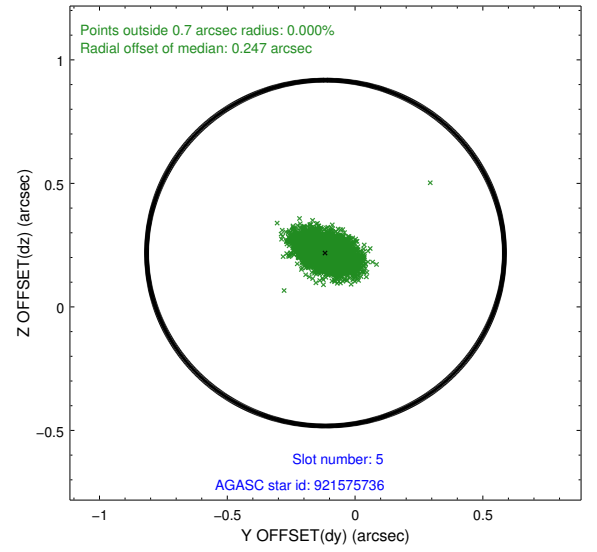
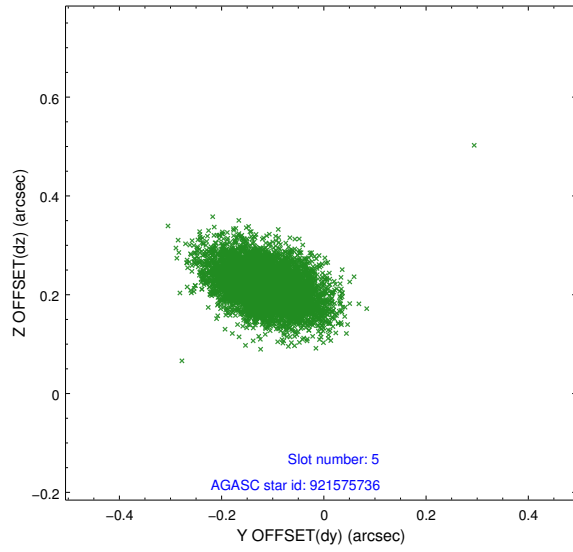
2.4.1 Slot 3



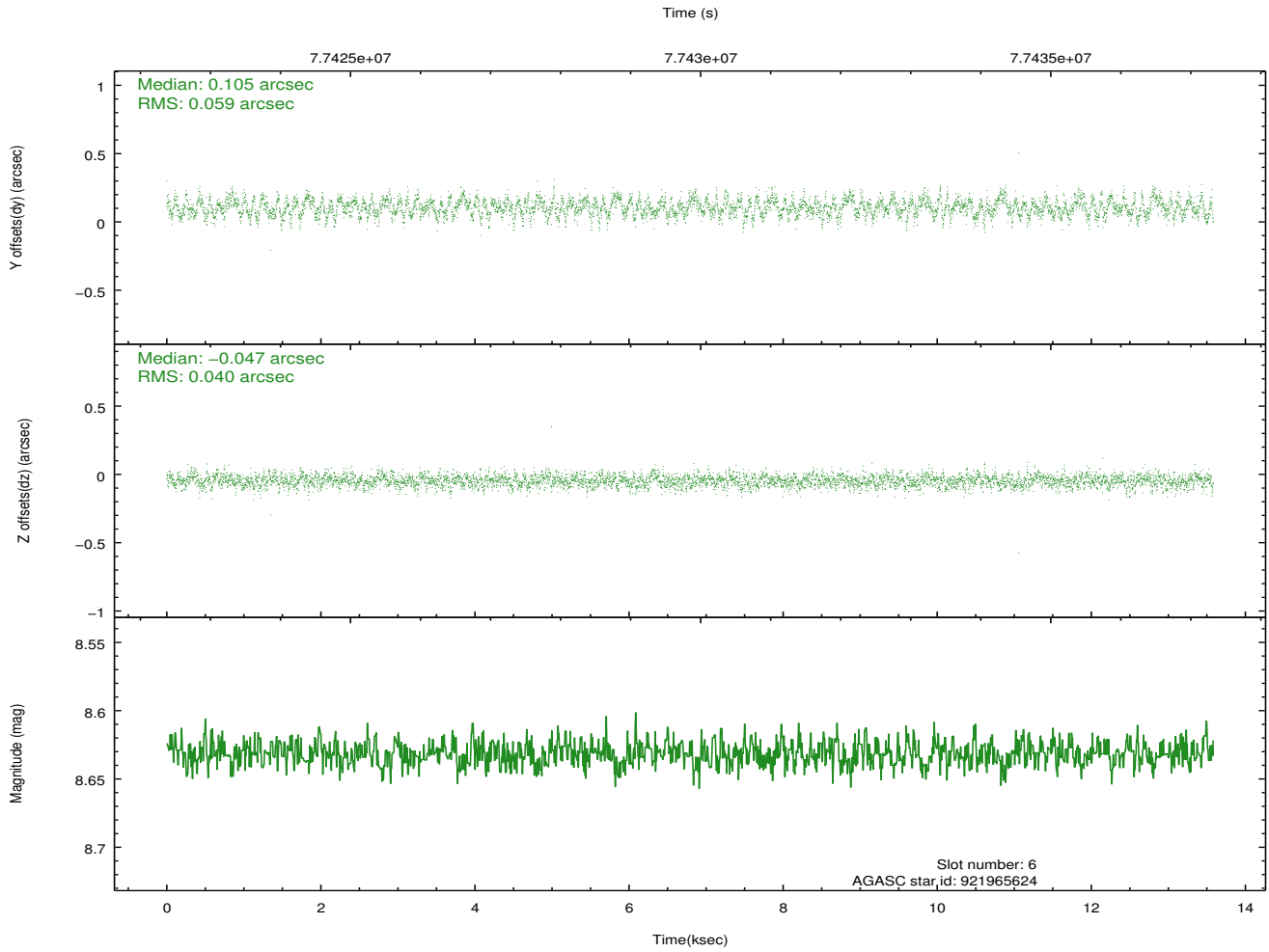
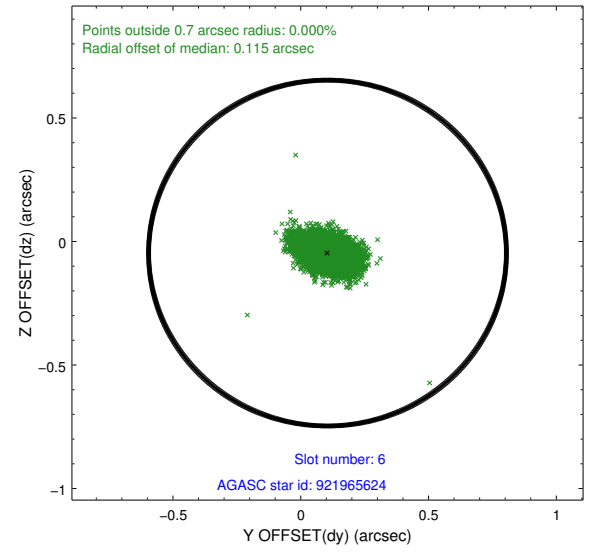
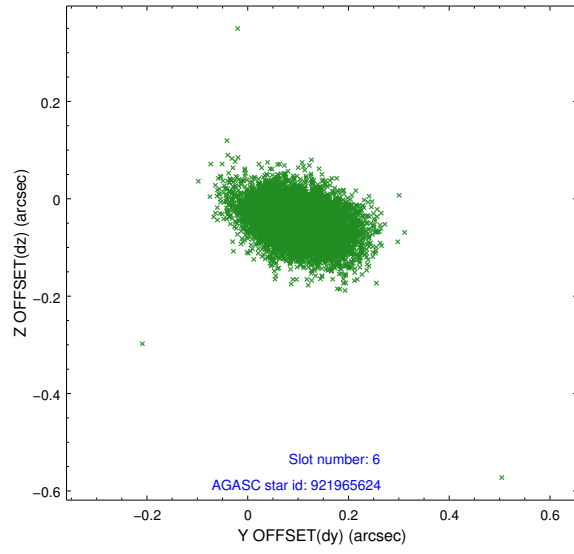
2.4.2 Slot 4



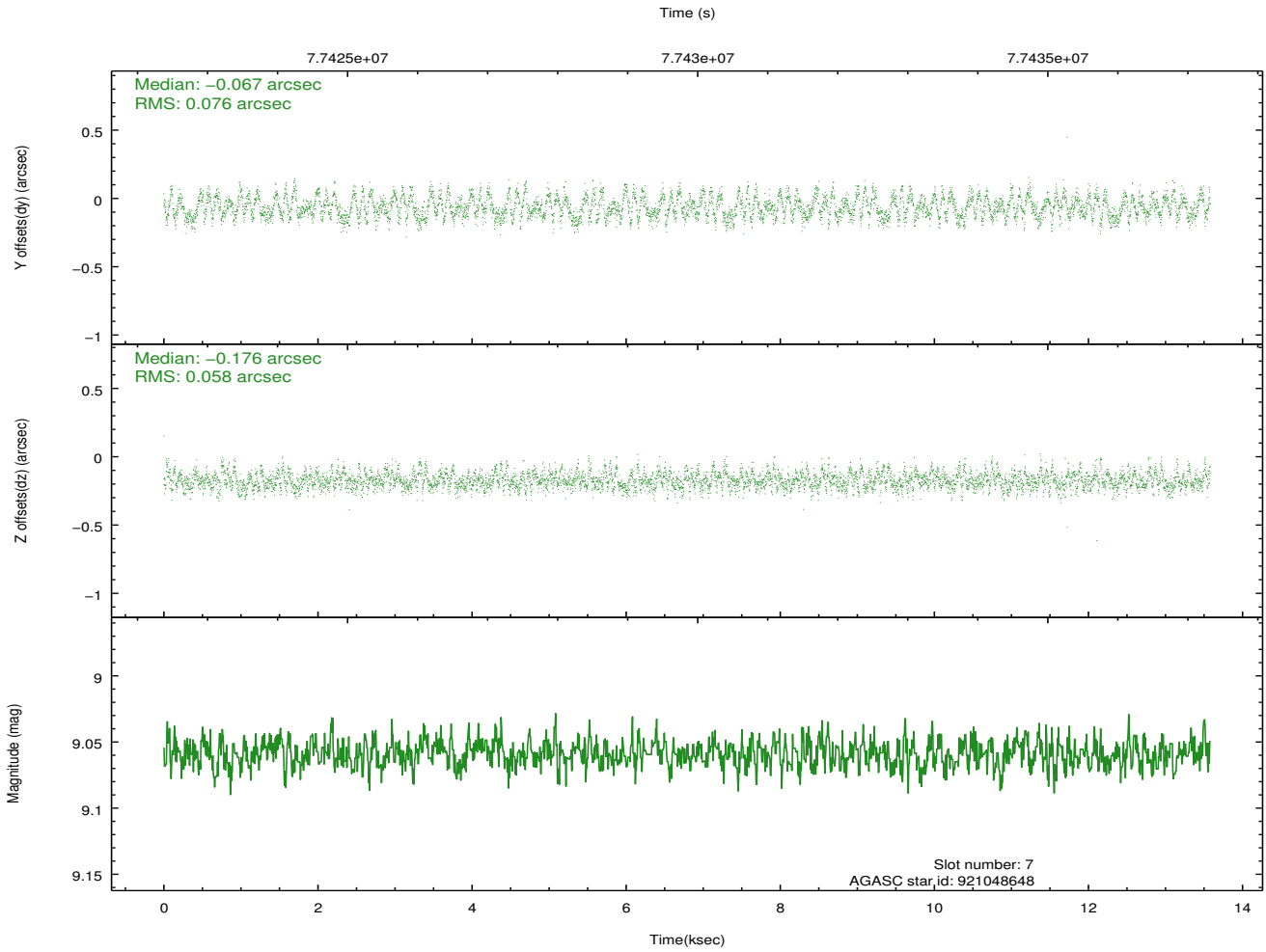
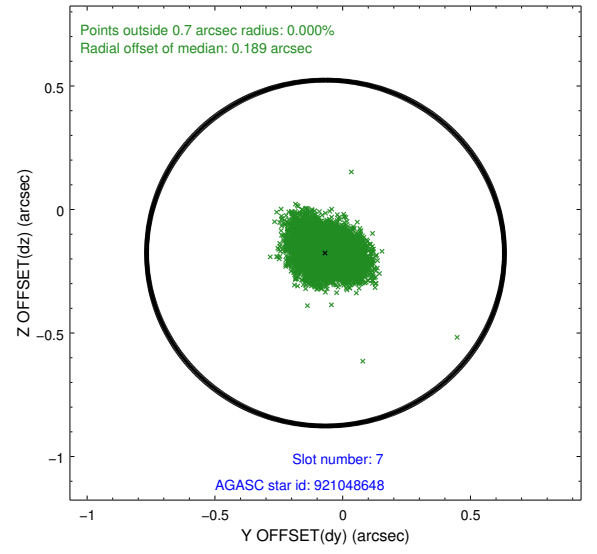
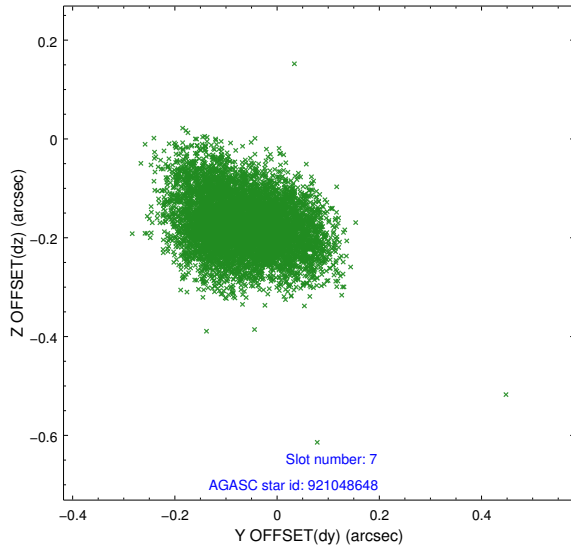
2.4.3 Slot 5



2.4.4 Slot 6

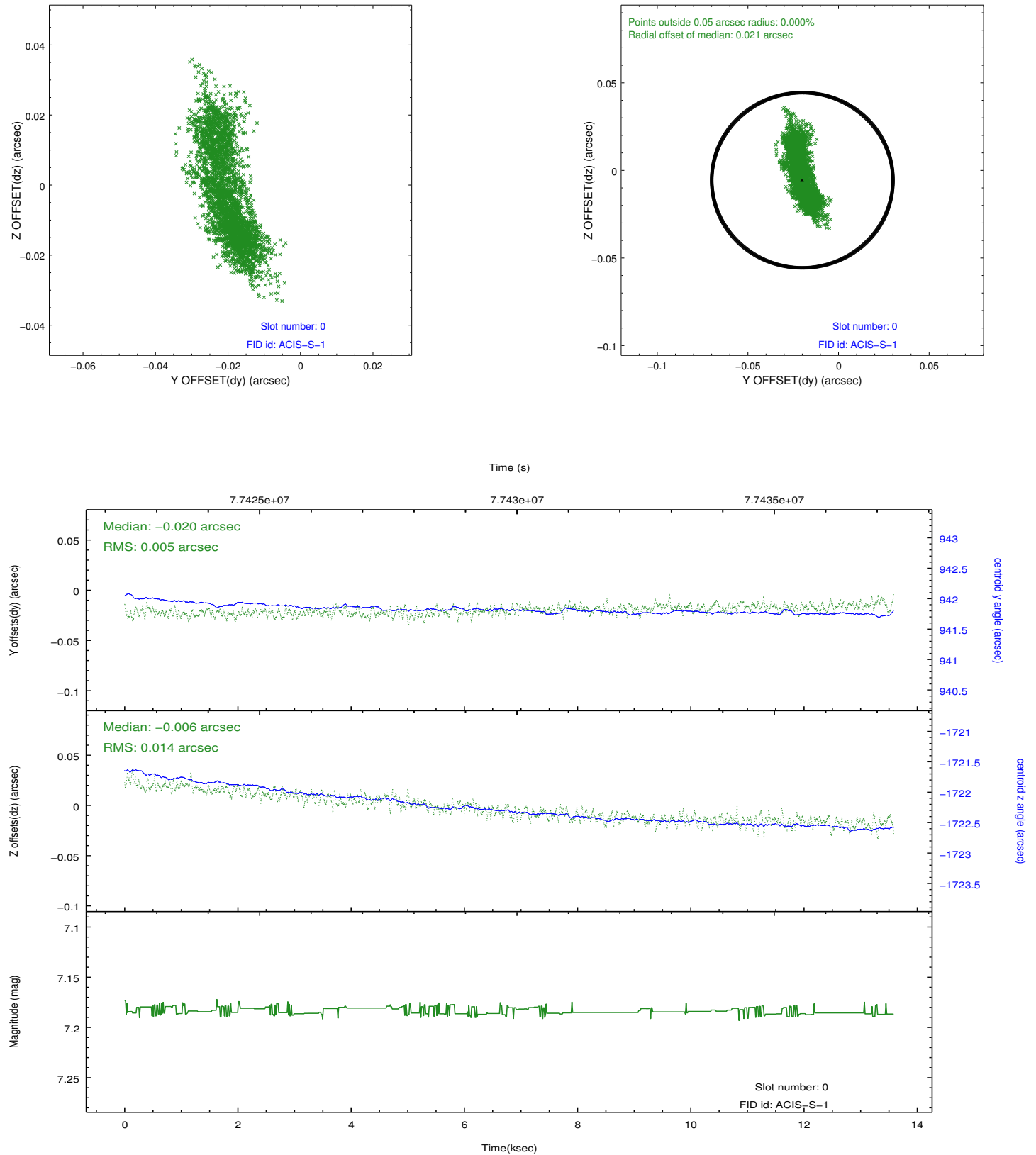


2.4.5 Slot 7

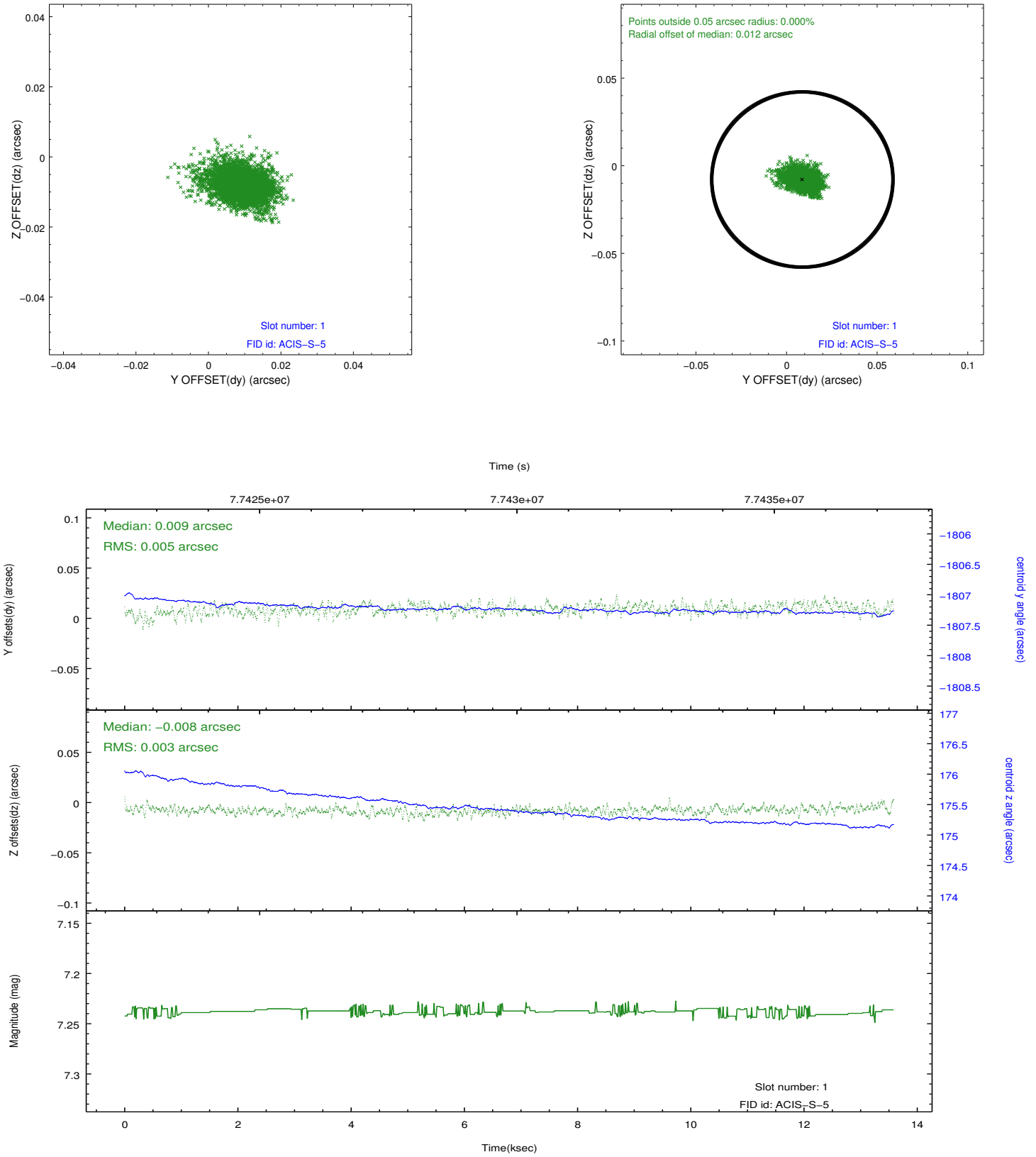


2.5 FID Slots

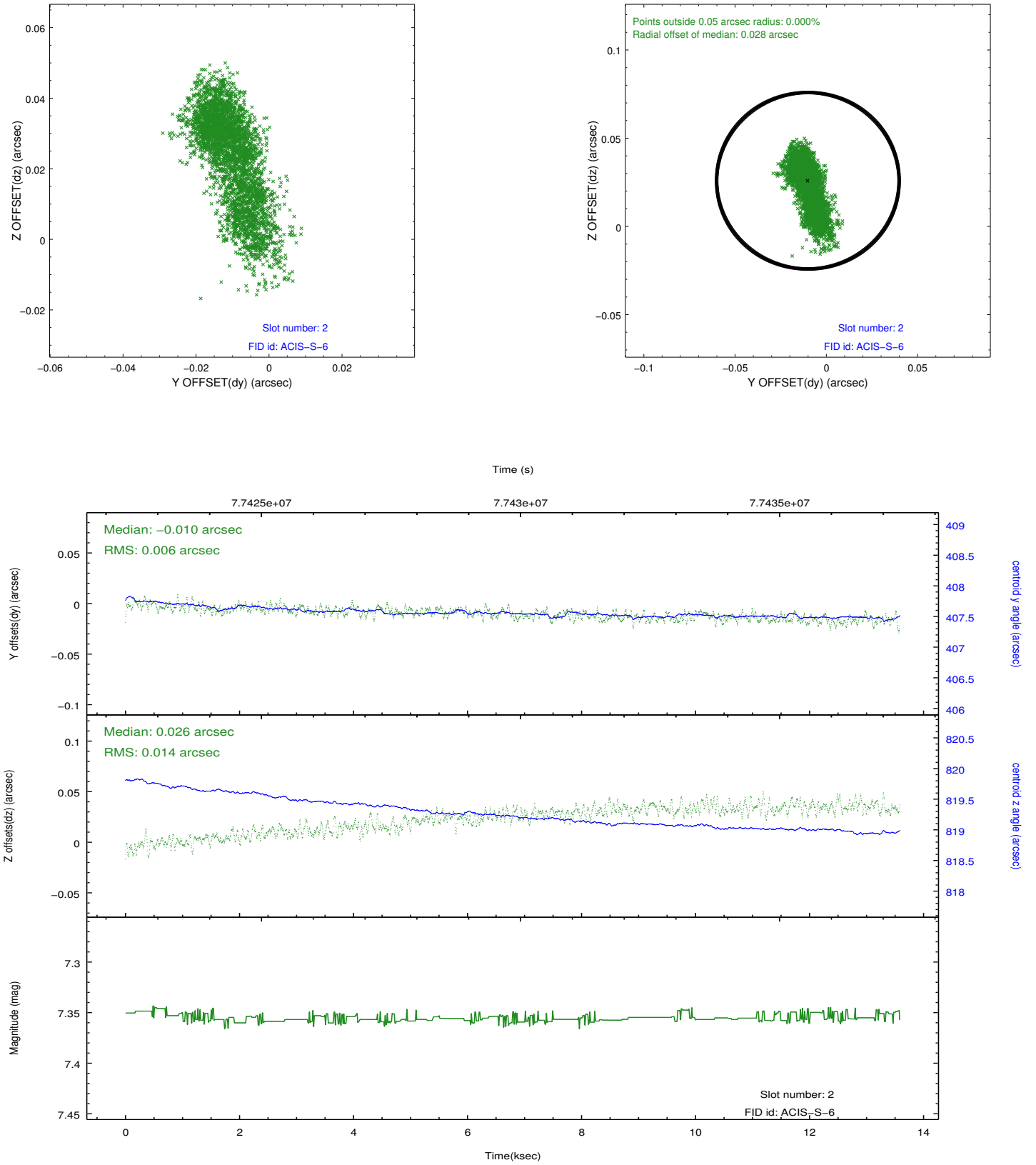
2.5.1 Slot 0



2.5.2 Slot 1

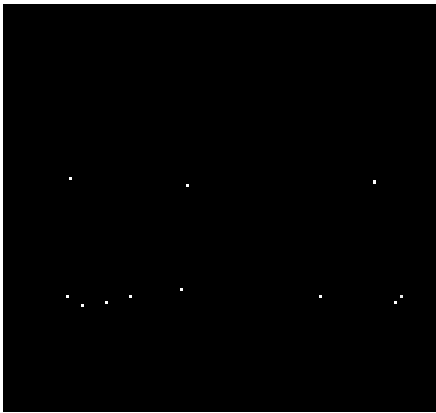


2.5.3 Slot 2

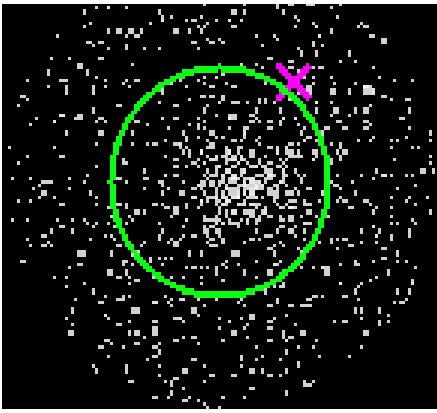


3 Gratings

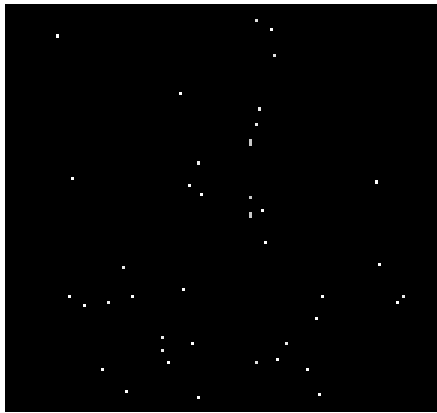
3.1 HEG Arm



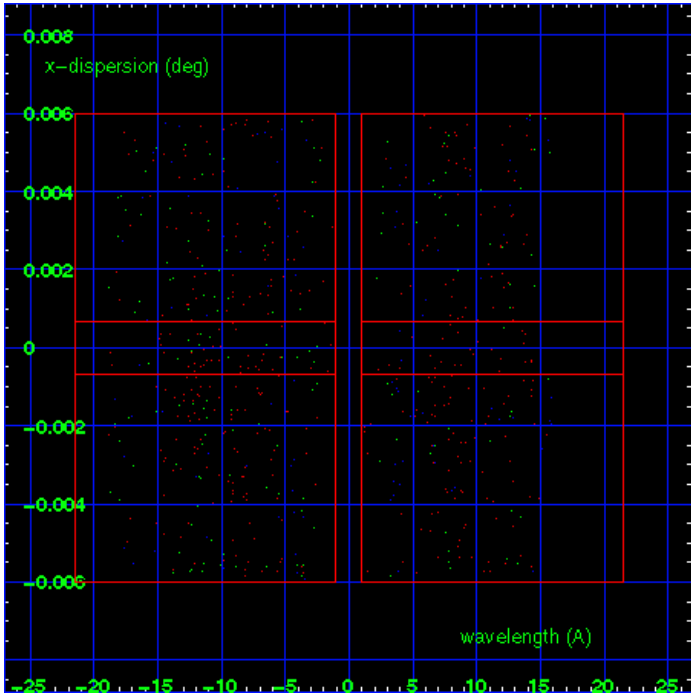
HEG Order Sort 123



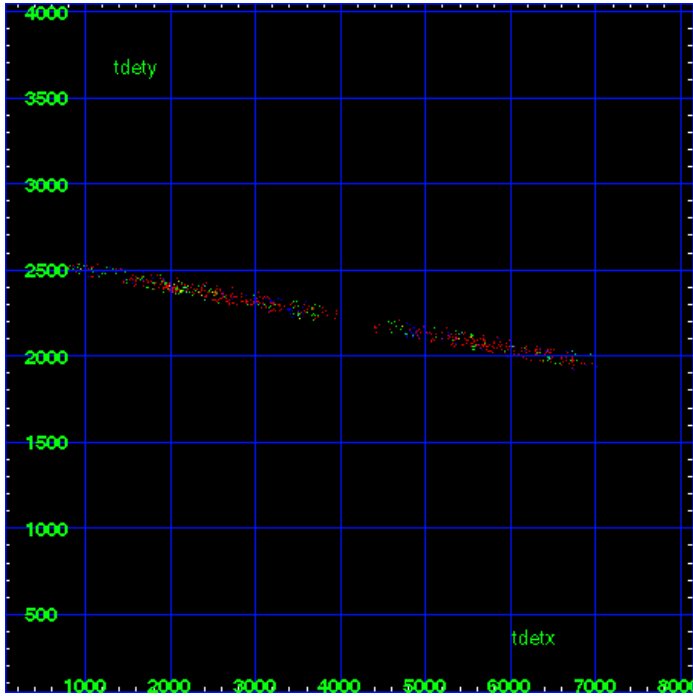
HEG Zero Order



HEG Order Sort ALL

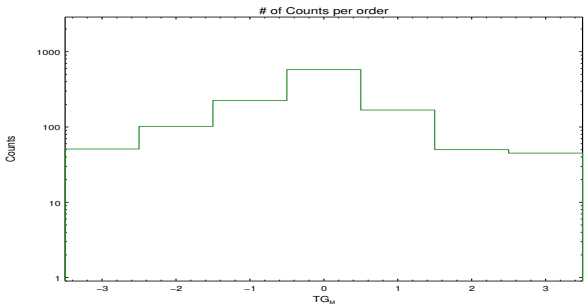


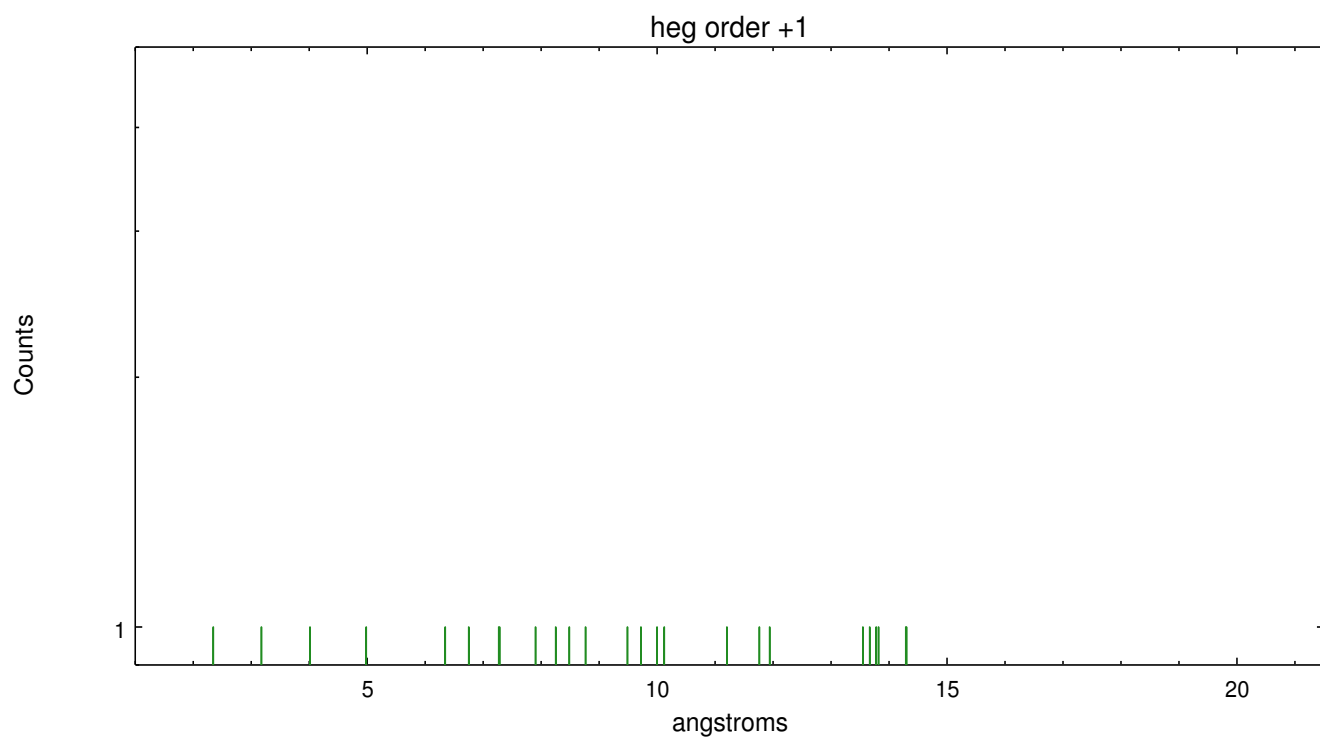
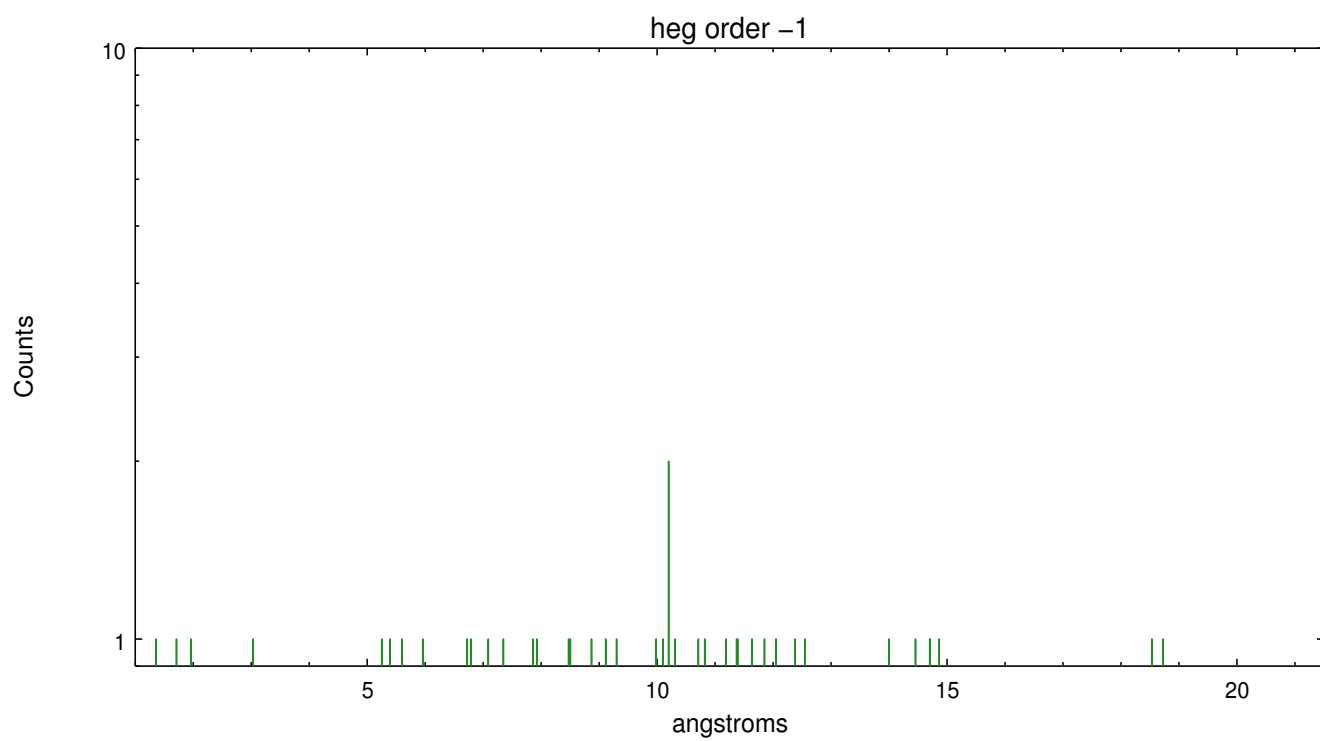
Spot Image HEG



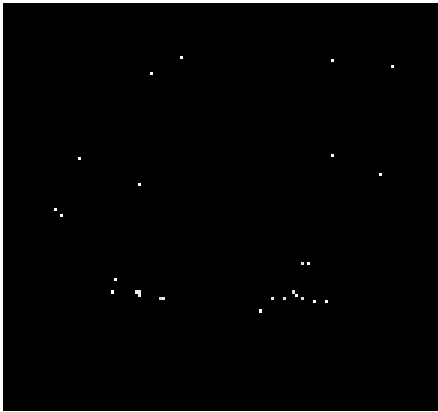
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	51	102	225	577	168	50	45

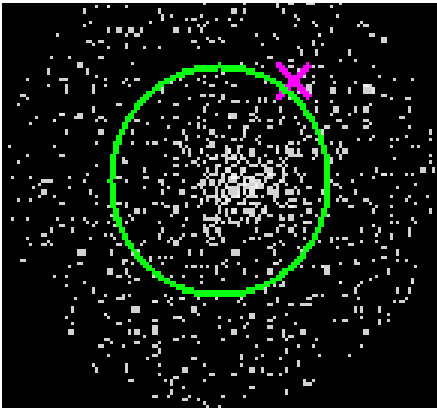




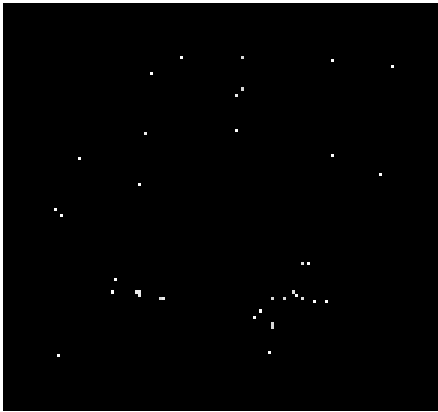
3.2 MEG Arm



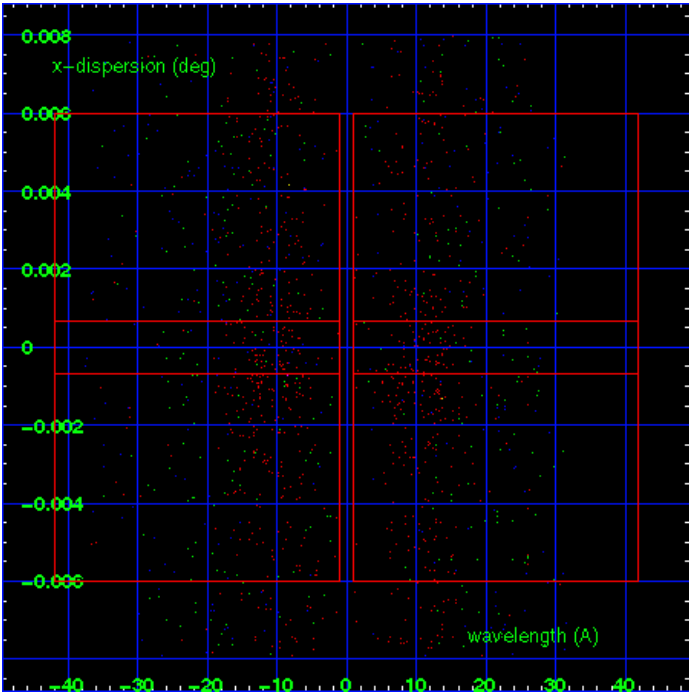
MEG Order Sort 123



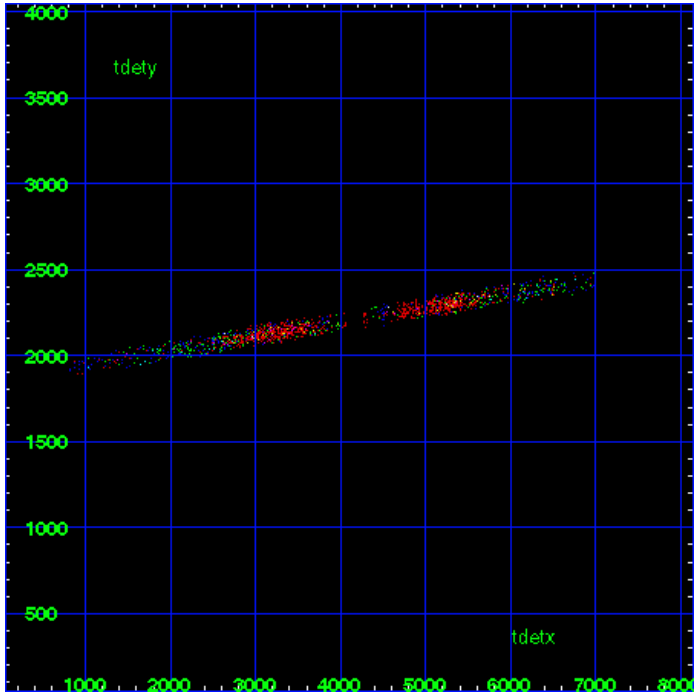
MEG Zero Order



MEG Order Sort ALL

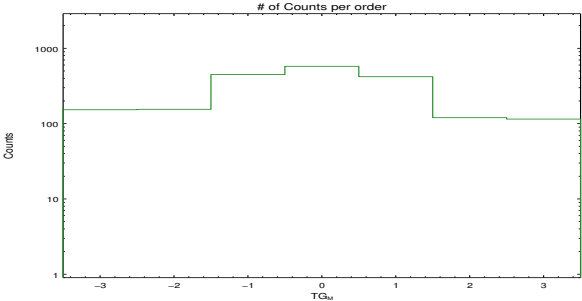


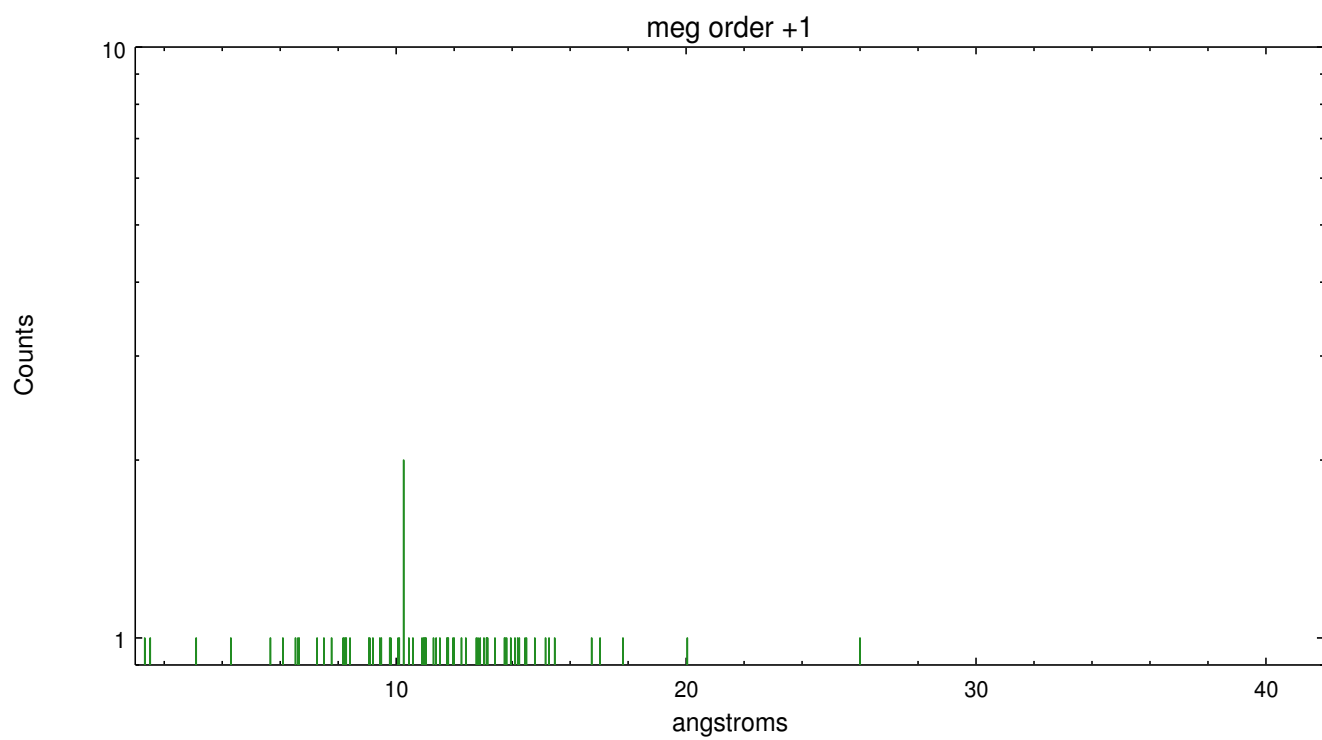
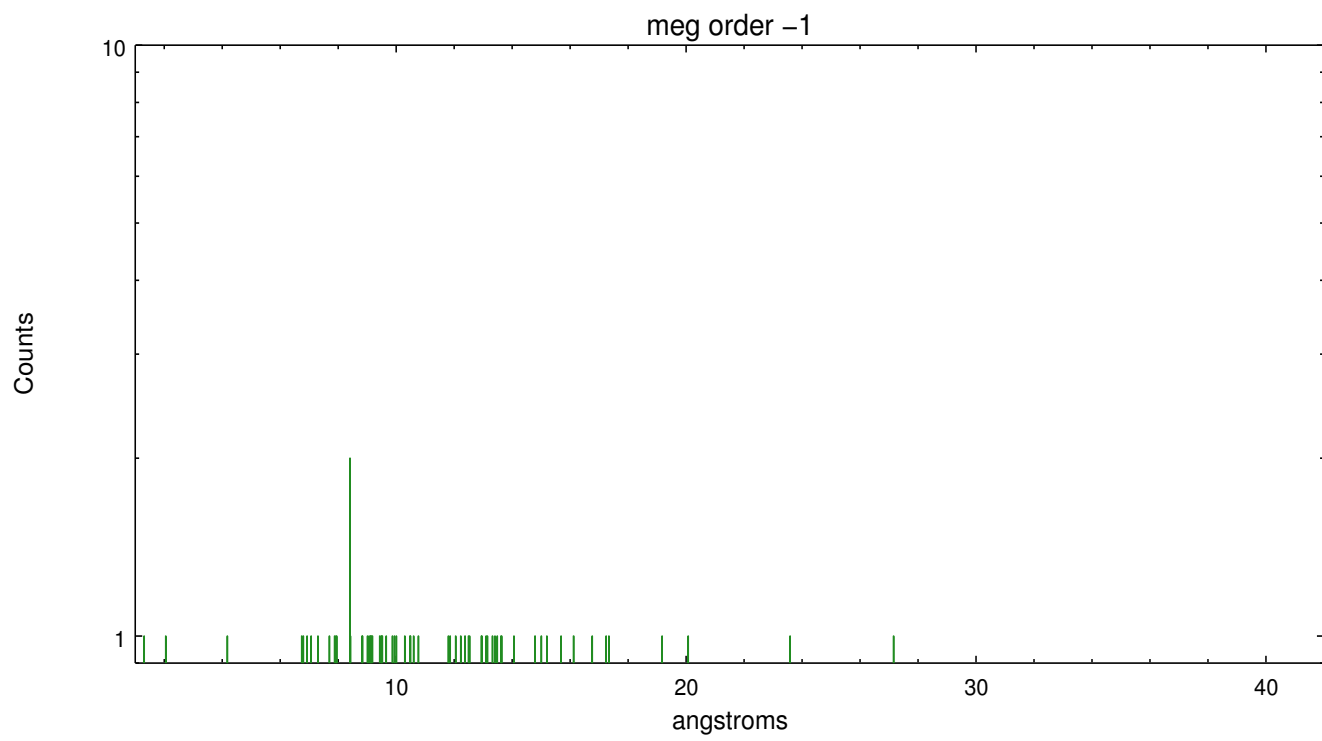
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	153	155	448	577	420	120	115





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	13.247

A.2 Comments

Due to an operational problem onboard the spacecraft, the HETG grating was not inserted at the beginning of this observation. There is a period of exposure with no grating, followed by the grating observation. The initial observation with no grating is filtered out of the processing in the level 1 and level 2 data by manually setting the time interval to be processed. However, it is possible for the user to recover all the data, both with and without the grating inserted.

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Standard software processing technique using the tool `tgdetect` failed to determine an accurate position for the zeroth order for this observation. The source is extended and asymmetric. The processing software defaulted to the coordinates supplied by the user for the position of the zeroth order for the grating spectral extraction. For grating analysis of localized X-ray emission within the extended emission, the investigator will need to extract one or more dispersed spectra using user-defined zeroth order positions for all positions of interest.