

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3354 - L2 Version 4
Chandra X-Ray Center

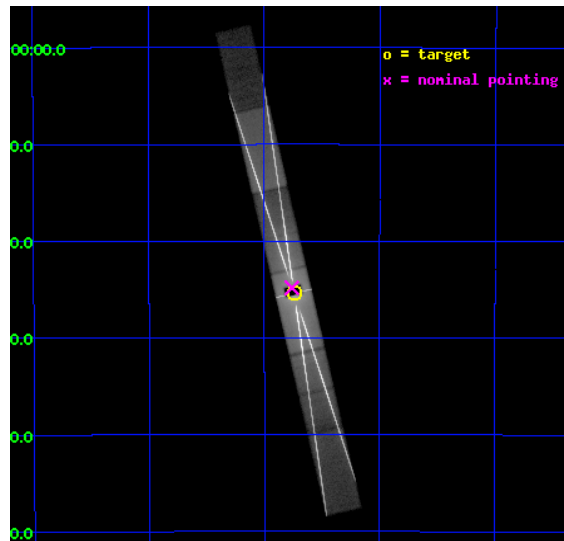
L2 Processing Date : Oct 6 2012

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1 Front

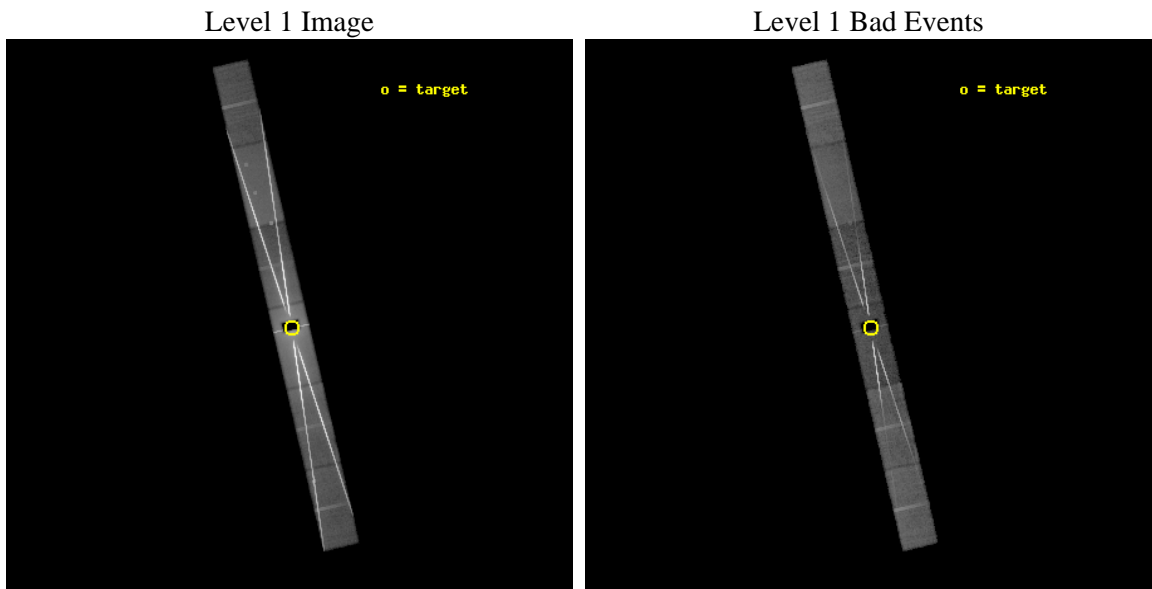
seq_num	900193	Sequence number
obs_id	3354	Observation id
title	PROBING THE INTERSTELLAR MEDIUM: X-RAY ABSORPTION AT IRON AND OXYGEN WITH GX 349+2	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	GX 349+2	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	256.435417	Observer's specified target RA [deg]
dec_targ	-36.422778	Observer's specified target Dec [deg]
ra_nom	256.4401921022	Nominal RA [deg]
dec_nom	-36.413856024338	Nominal Dec [deg]
roll_nom	76.860856826358	Nominal Roll [deg]
revision	4	Processing version of data
ontime	17923.388572574	Sum of GTIs [s]
livetime	17446.064254569	Livetime [s]
ontime4	31171.485420853	Sum of GTIs [s]
ontime5	35213.47295627	Sum of GTIs [s]
ontime6	15497.726488203	Sum of GTIs [s]
ontime7	17923.388572574	Sum of GTIs [s]
ontime8	24138.153409421	Sum of GTIs [s]
ontime9	34684.783080935	Sum of GTIs [s]
l2events	4925075	Number of level 2 events



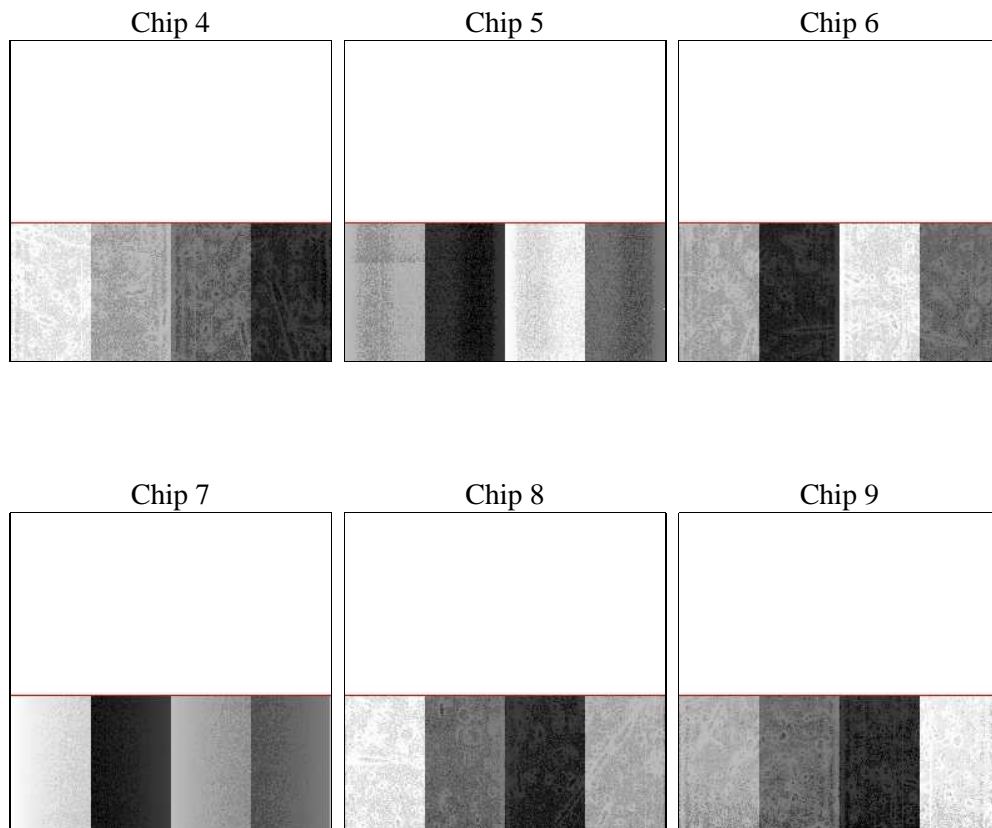
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	35000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	17923.388572574	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	31171.485420853	Sum of GTIs [s]
date	2012-10-04T22:43:36	Date and time of file creation	ontime5	35213.47295627	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	15497.726488203	Sum of GTIs [s]
			ontime7	17923.388572574	Sum of GTIs [s]
			ontime8	24138.153409421	Sum of GTIs [s]
			ontime9	34684.783080935	Sum of GTIs [s]
			l1events	6015097	Number of level 1 events

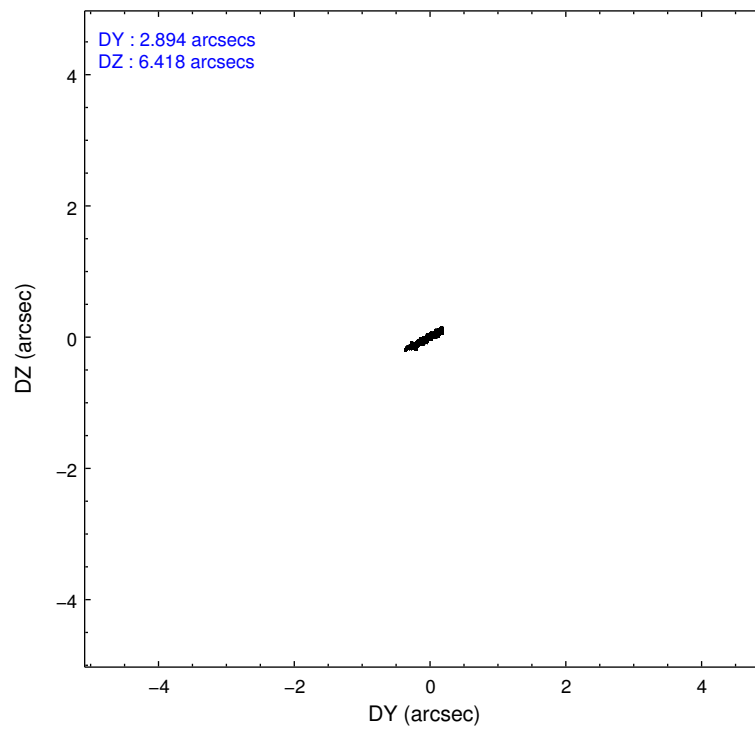
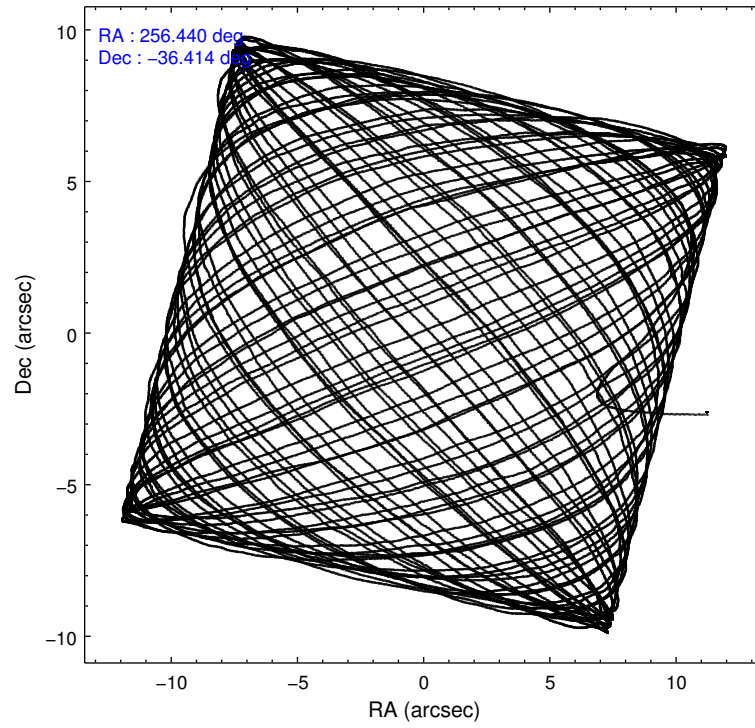
2.1.4 Events

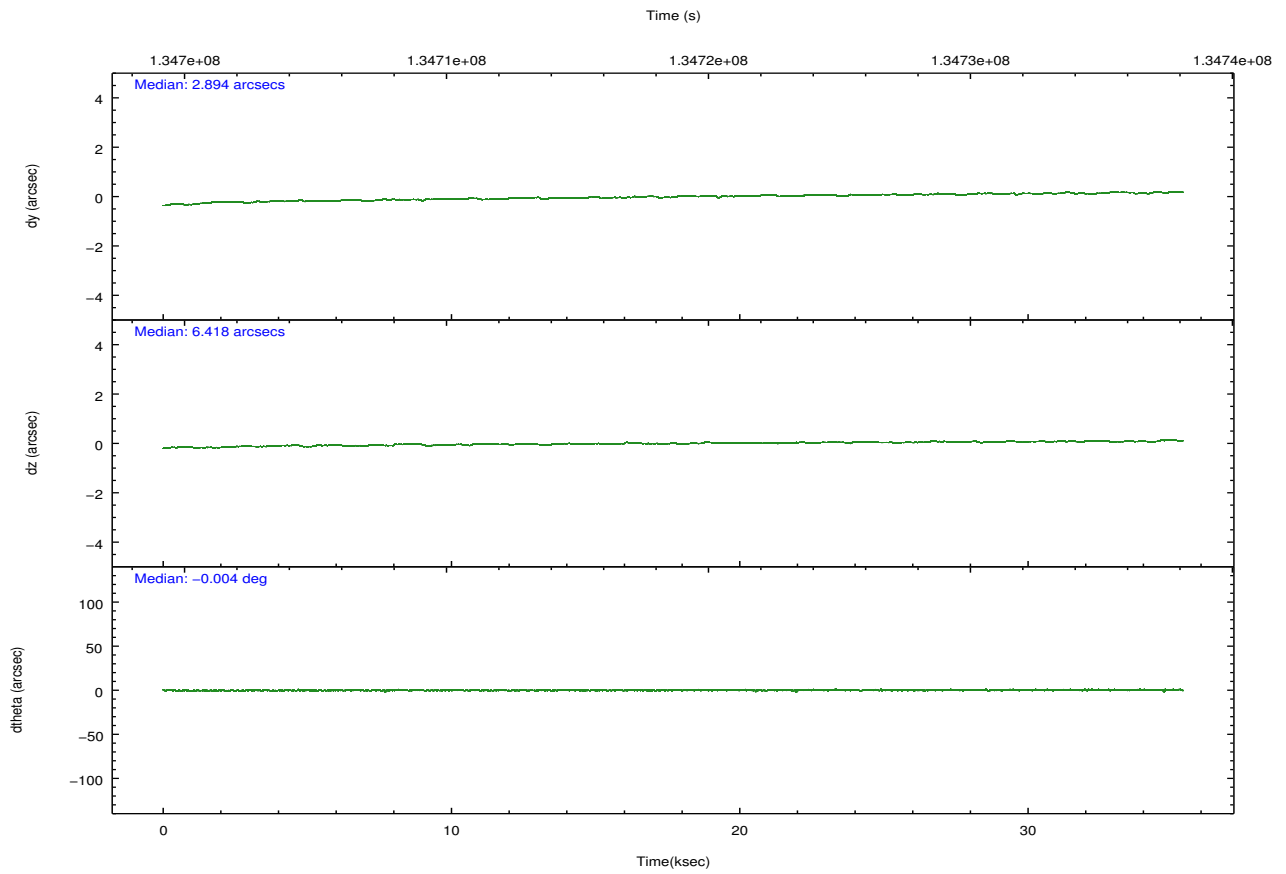
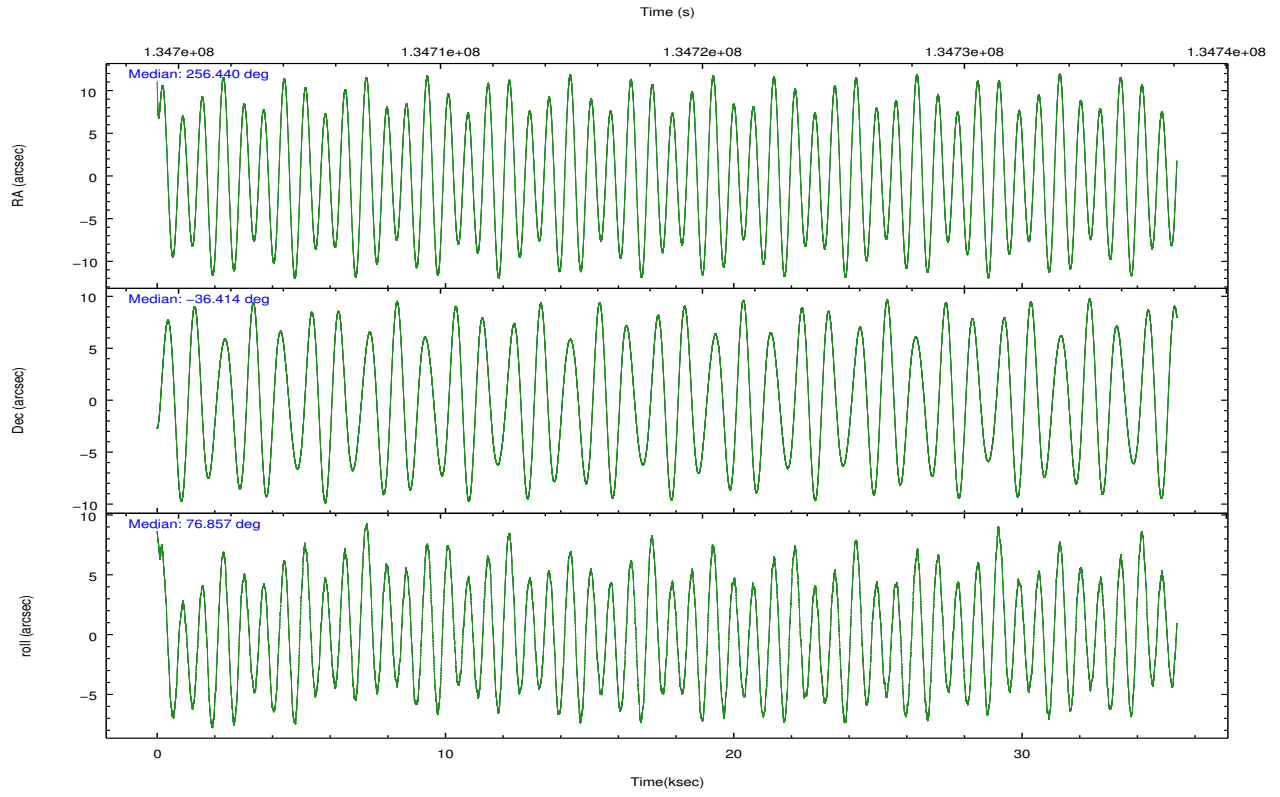
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	140707	747258	1620195	2069266	1112905	324766	grade 0 events	29866	215082	1031831	328305	772671	176116
rejected events	96578	91803	159860	294380	111854	94808		21%	28%	63%	15%	69%	54%
rejected %	68%	12%	9%	14%	10%	29%	grade 1 events	148	2267	53970	22949	17175	823
								0%	0%	3%	1%	1%	0%
							grade 2 events	6370	182134	197923	413950	114967	27187
								4%	24%	12%	20%	10%	8%
							grade 3 events	2571	62703	76843	189768	41004	9222
								1%	8%	4%	9%	3%	2%
							grade 4 events	2465	62165	74804	189246	40380	9266
								1%	8%	4%	9%	3%	2%
							grade 5 events	3363	19525	40835	97112	12842	4785
								2%	2%	2%	4%	1%	1%
							grade 6 events	2857	133401	79056	653751	32095	8183
								2%	17%	4%	31%	2%	2%
							grade 7 events	93067	69981	64933	174185	81771	89184
								66%	9%	4%	8%	7%	27%

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	256.450409	256.4401921022007	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-36.439841	-36.41385602433764	Subarray start row	1	1
[deg] Pointing Roll	76.710292	76.86085682635799	Subarray row count	440	440
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	1.5
[mm] SIM translation stage pos	-183.124523	-183.1251263585195			
[mm] SIM translation stage offset	-7.008	-7.007396224488332			
[s] Observation start time (MET)	134701331.184000	134700270.17891			
Observation start date	2002-04-09T01:01:07	2002-04-09T00:44:30			
[s] Observation end time (MET)	134736331.184000	134736714.56789			
Observation end date	2002-04-09T10:44:27	2002-04-09T10:51:54			
Read mode	TIMED	TIMED			

2.3 Aspect



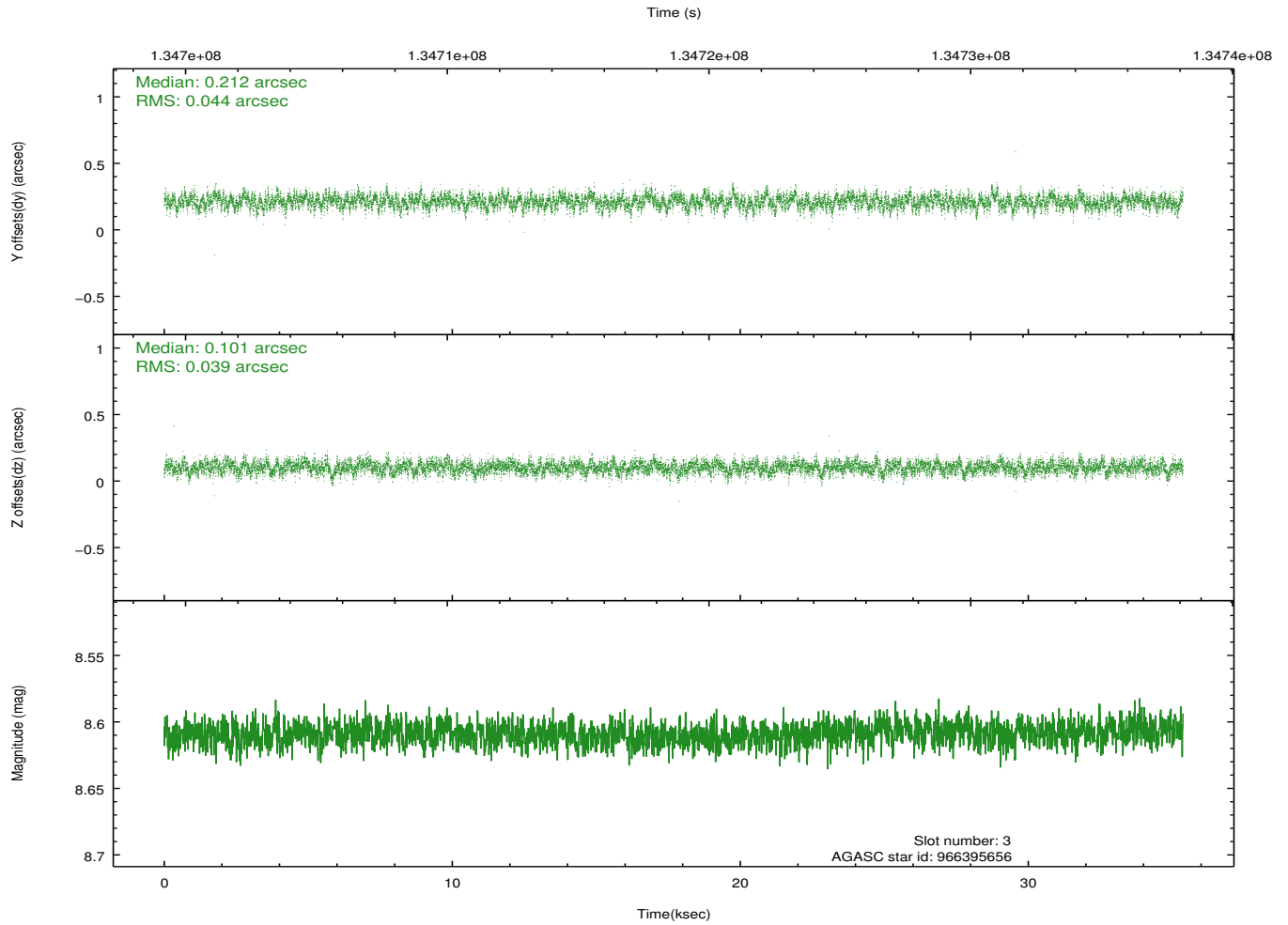
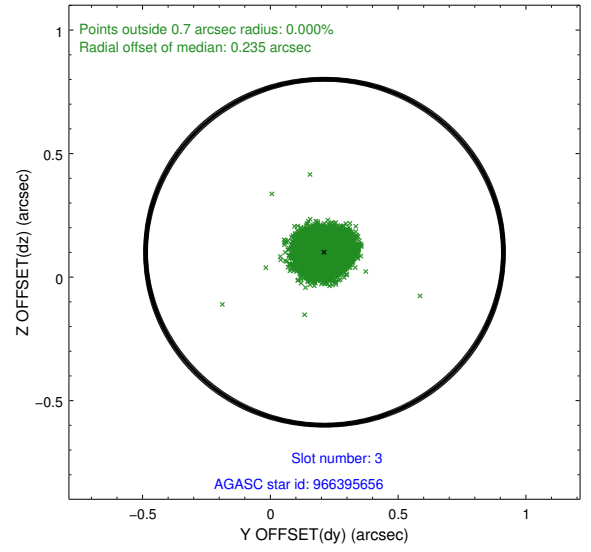
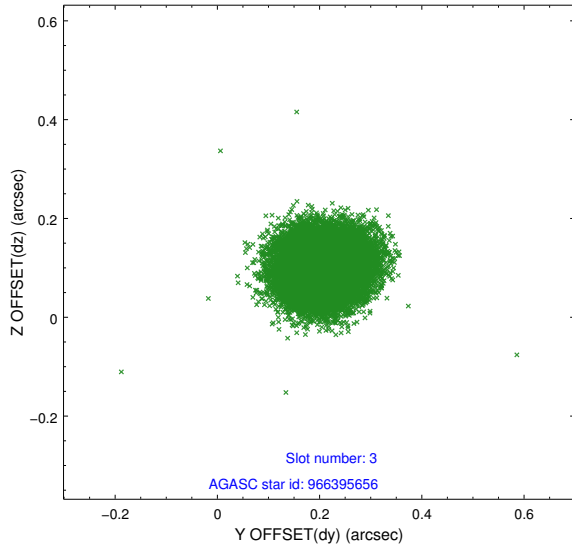


Slot Statistics

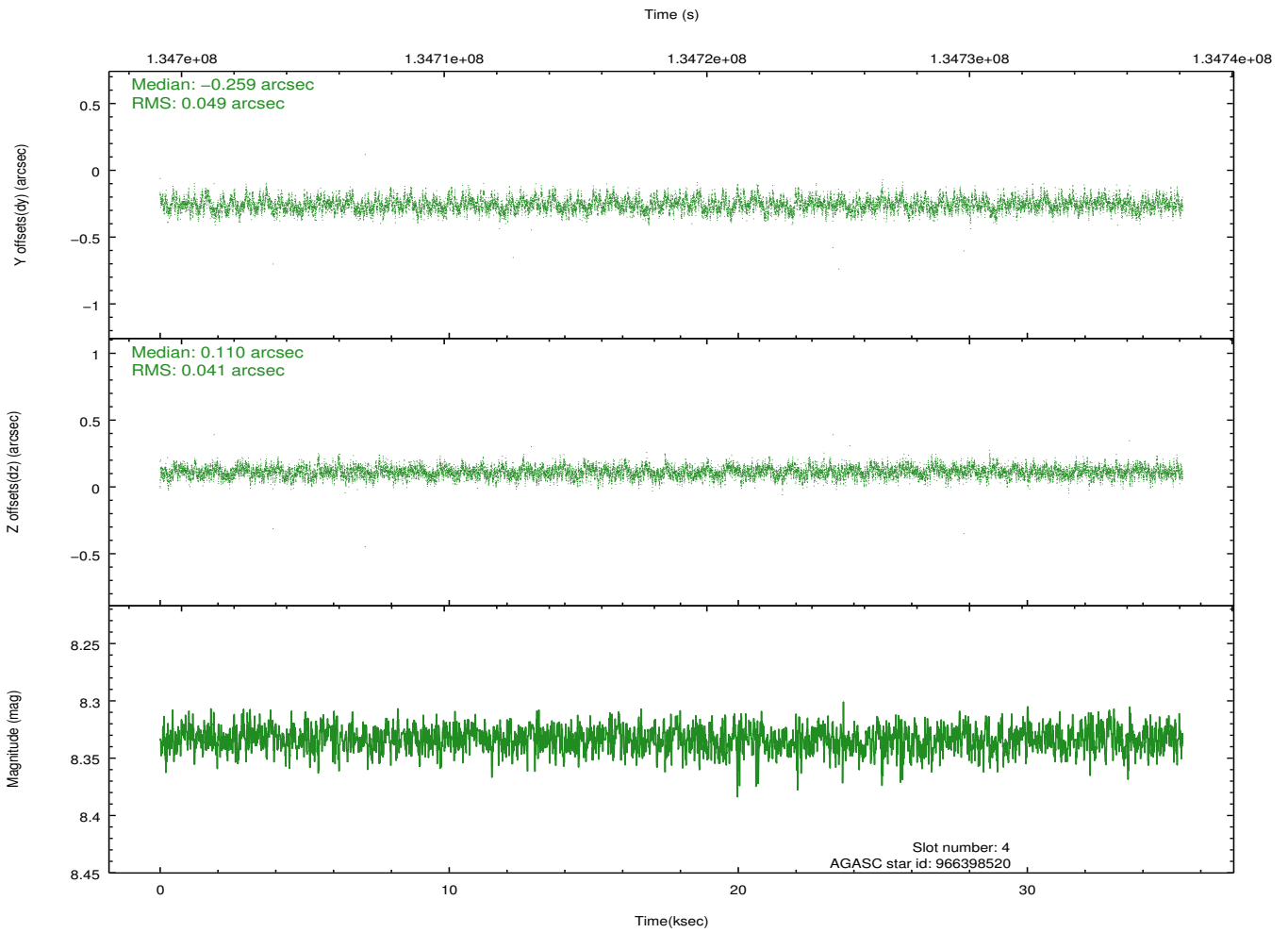
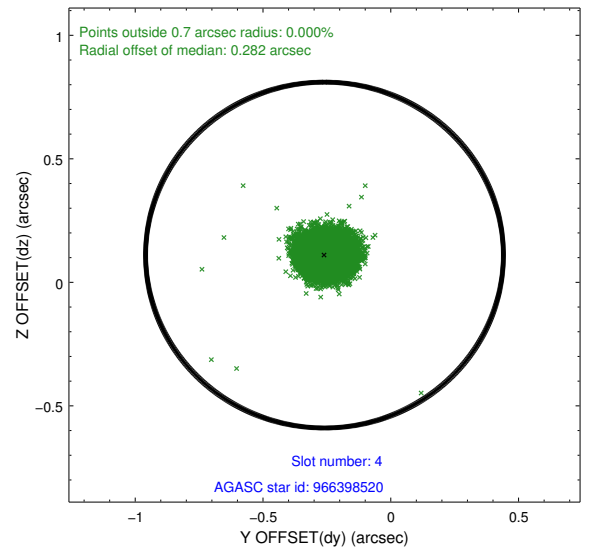
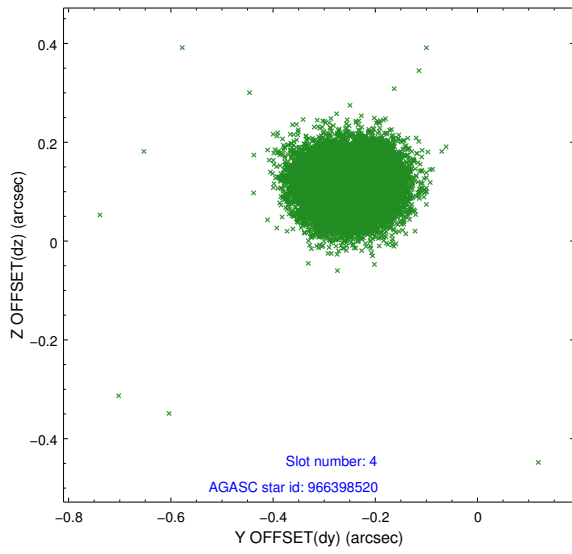
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	8628	-0.046	-0.056	0.008	0.013	0.000000	0.000000	-755.06	-1872.01
1	FID	ACIS-S-4	7.19	8625	-0.000	0.037	0.006	0.012	0.000000	0.000000	2158.25	36.49
2	FID	ACIS-S-5	7.23	8628	0.016	0.027	0.009	0.015	0.000000	0.000000	-1807.79	30.21
3	GUIDE	966395656	8.61	17253	0.212	0.101	0.062	0.101	256.614510	-37.032666	-1968.89	-950.28
4	GUIDE	966398520	8.33	17254	-0.259	0.110	0.067	0.110	256.842646	-35.892866	2176.53	-661.61
5	GUIDE	966394144	8.63	17255	0.115	0.091	0.057	0.091	256.902901	-37.062041	-1884.01	-1781.31
6	GUIDE	966263464	8.66	17251	-0.153	-0.148	0.064	0.106	256.403645	-35.929342	1756.75	554.48
7	GUIDE	966267584	8.86	17243	0.084	-0.155	0.069	0.112	256.057206	-36.642617	-973.84	936.30

2.4 Star Slots

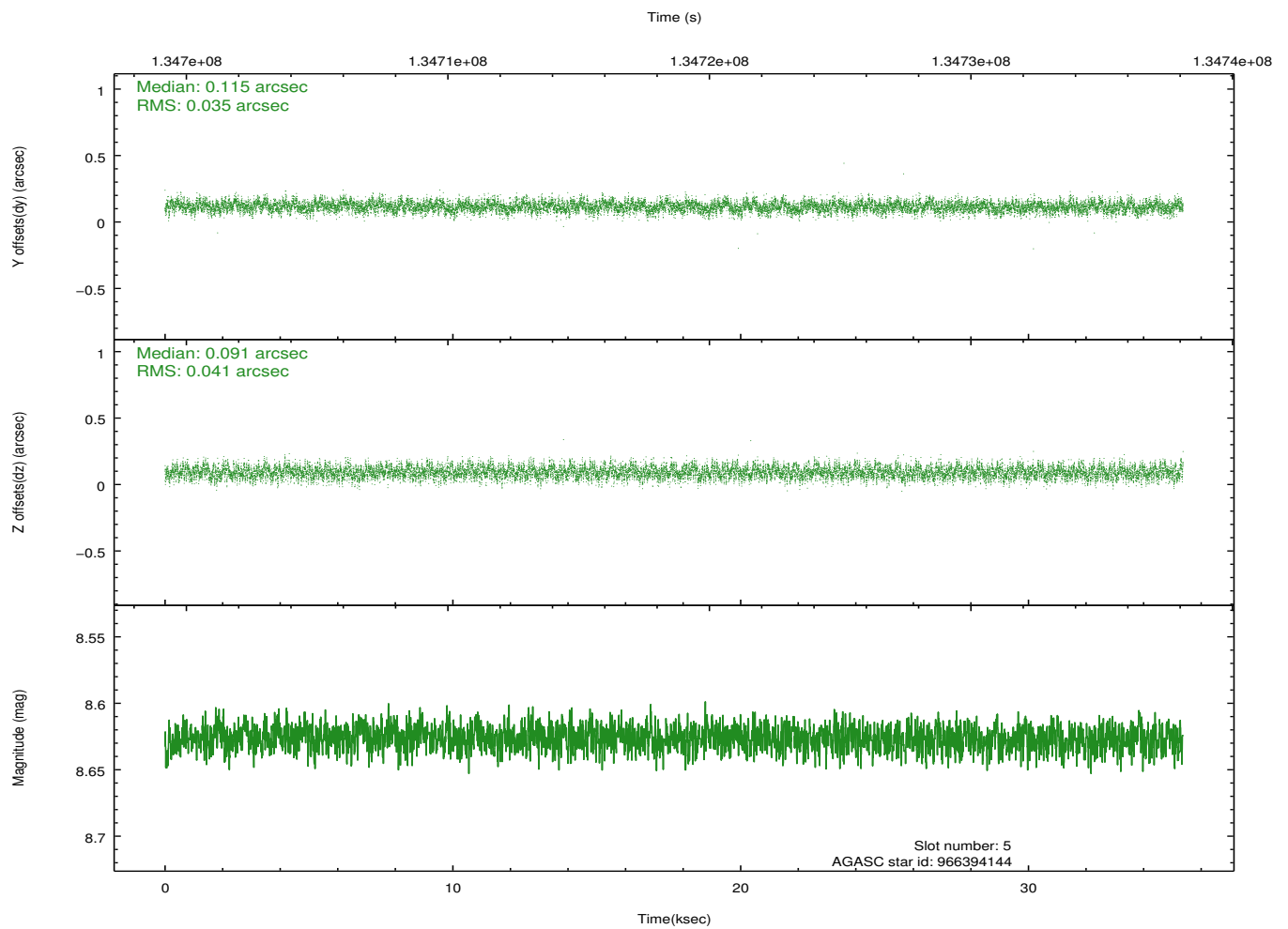
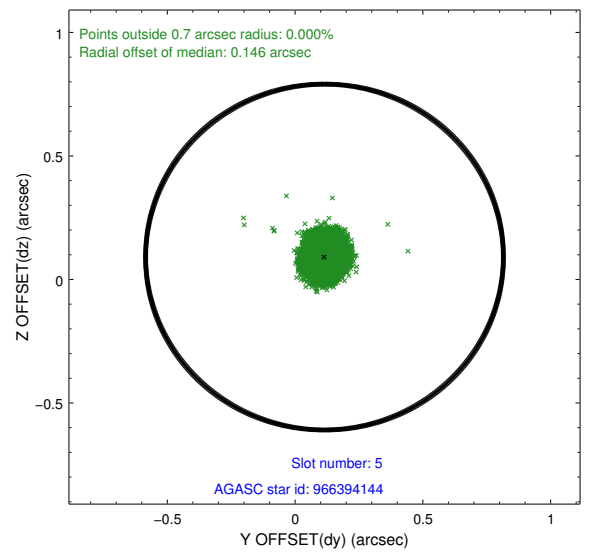
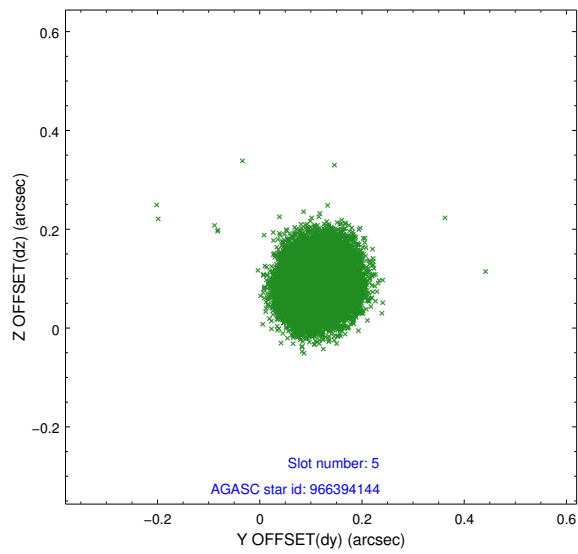
2.4.1 Slot 3



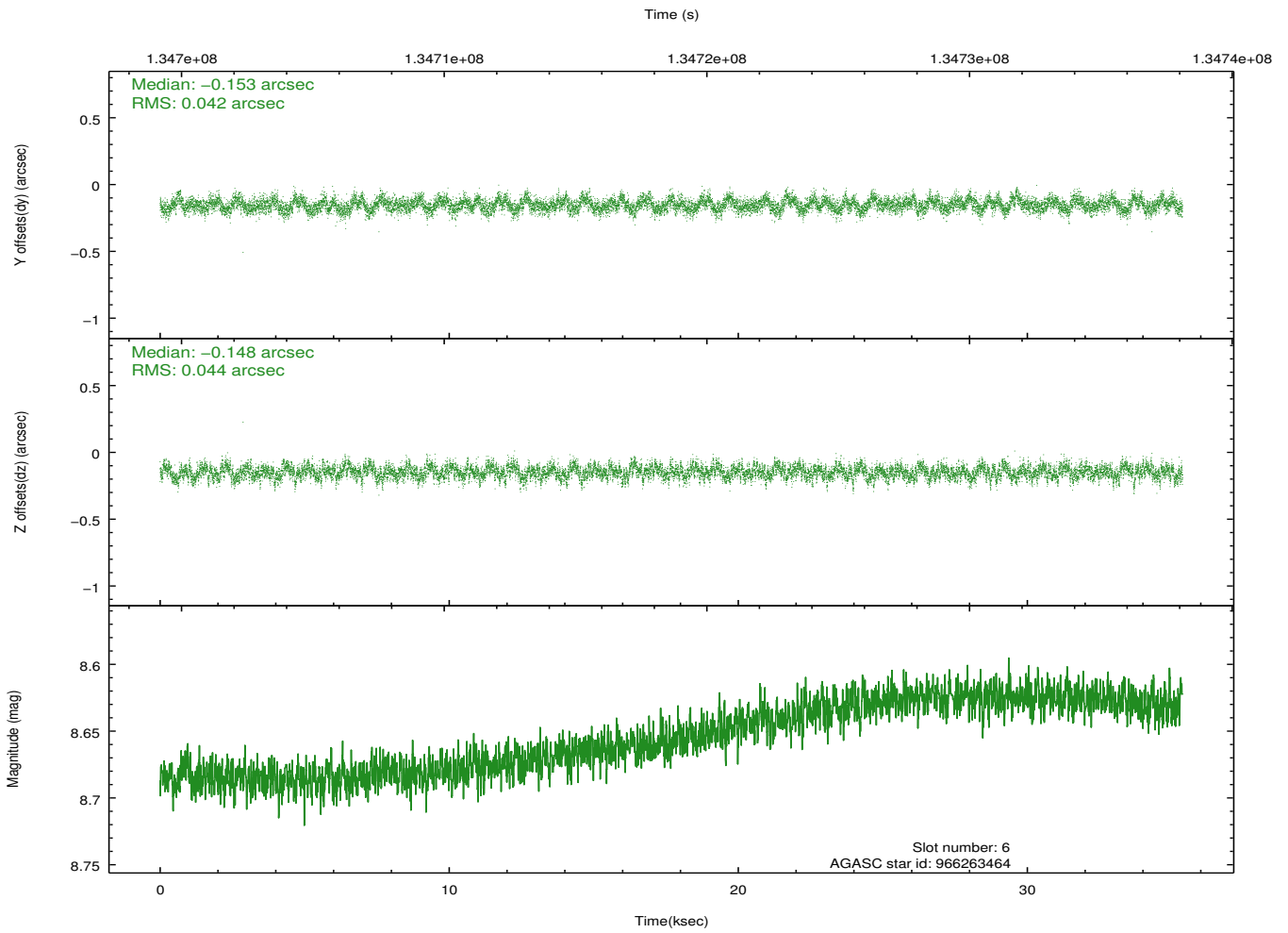
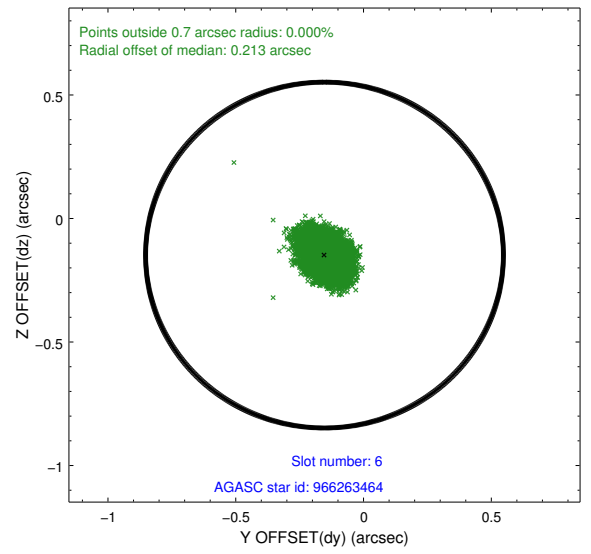
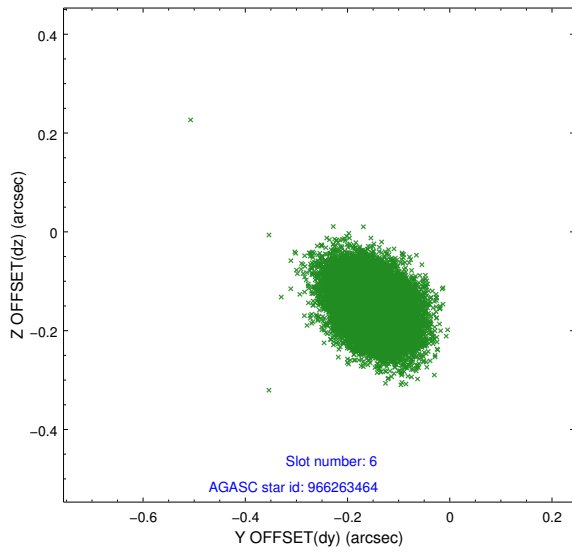
2.4.2 Slot 4



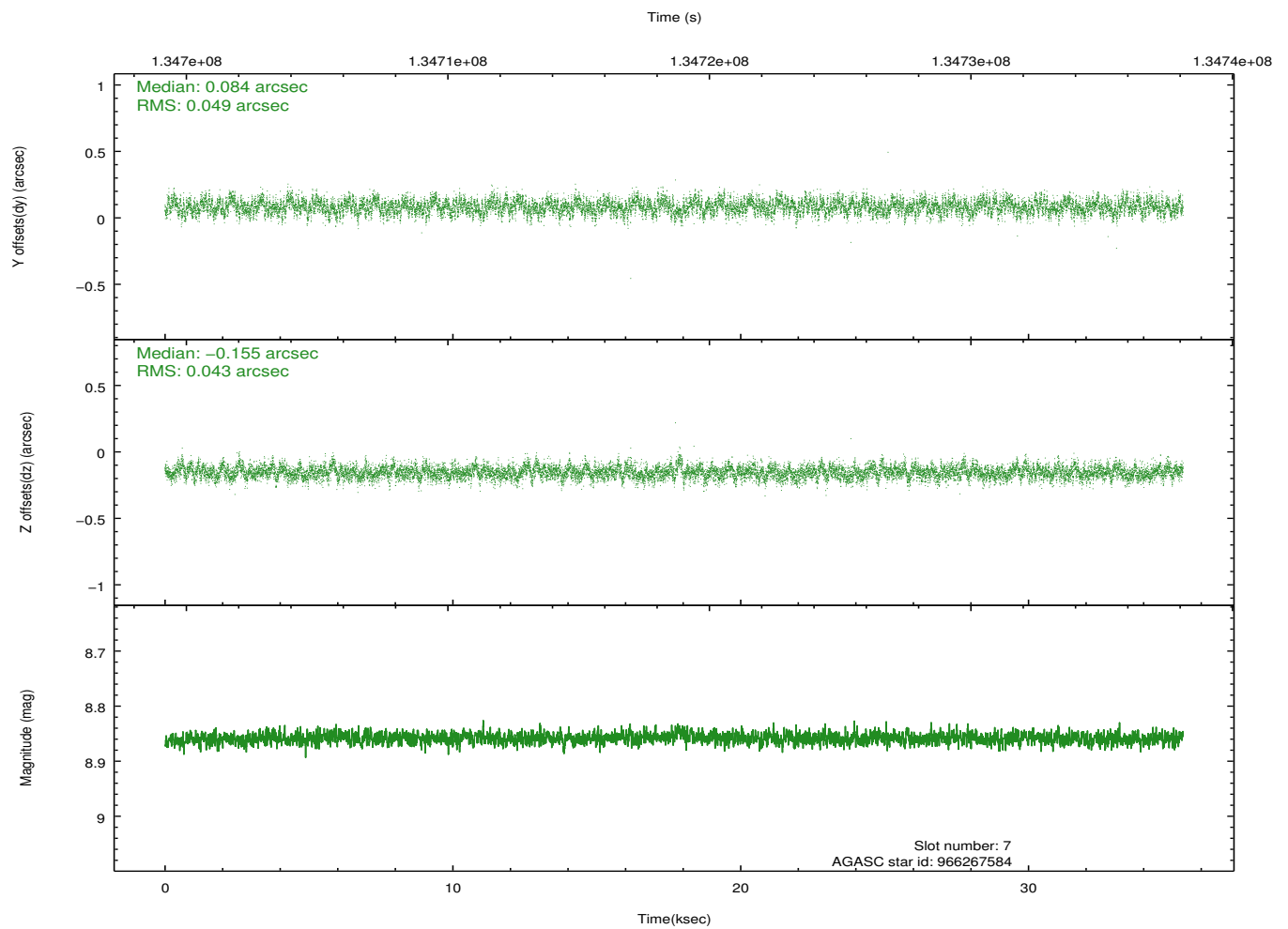
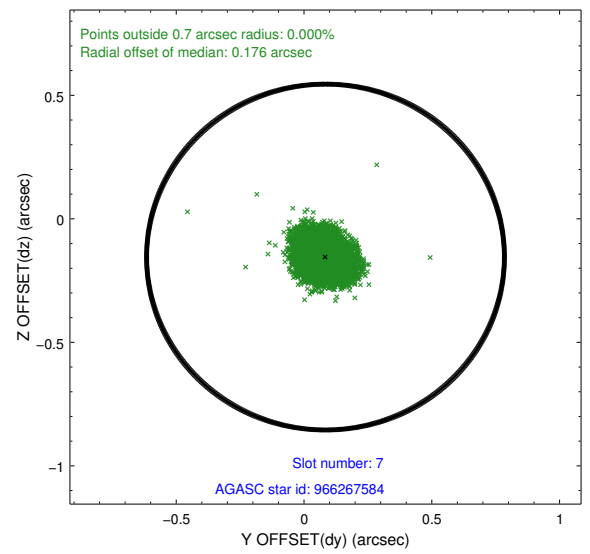
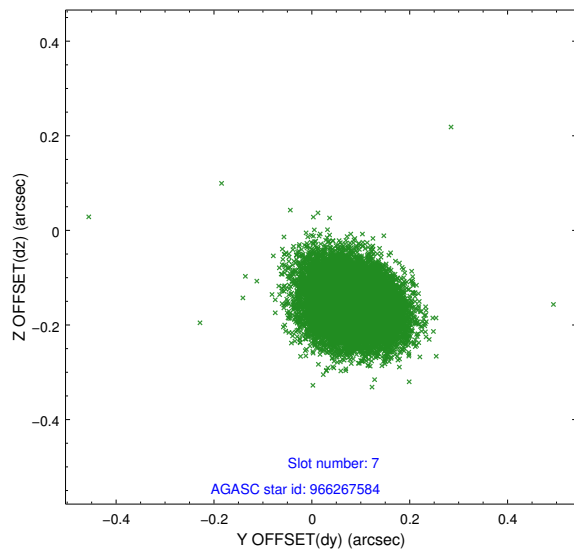
2.4.3 Slot 5



2.4.4 Slot 6

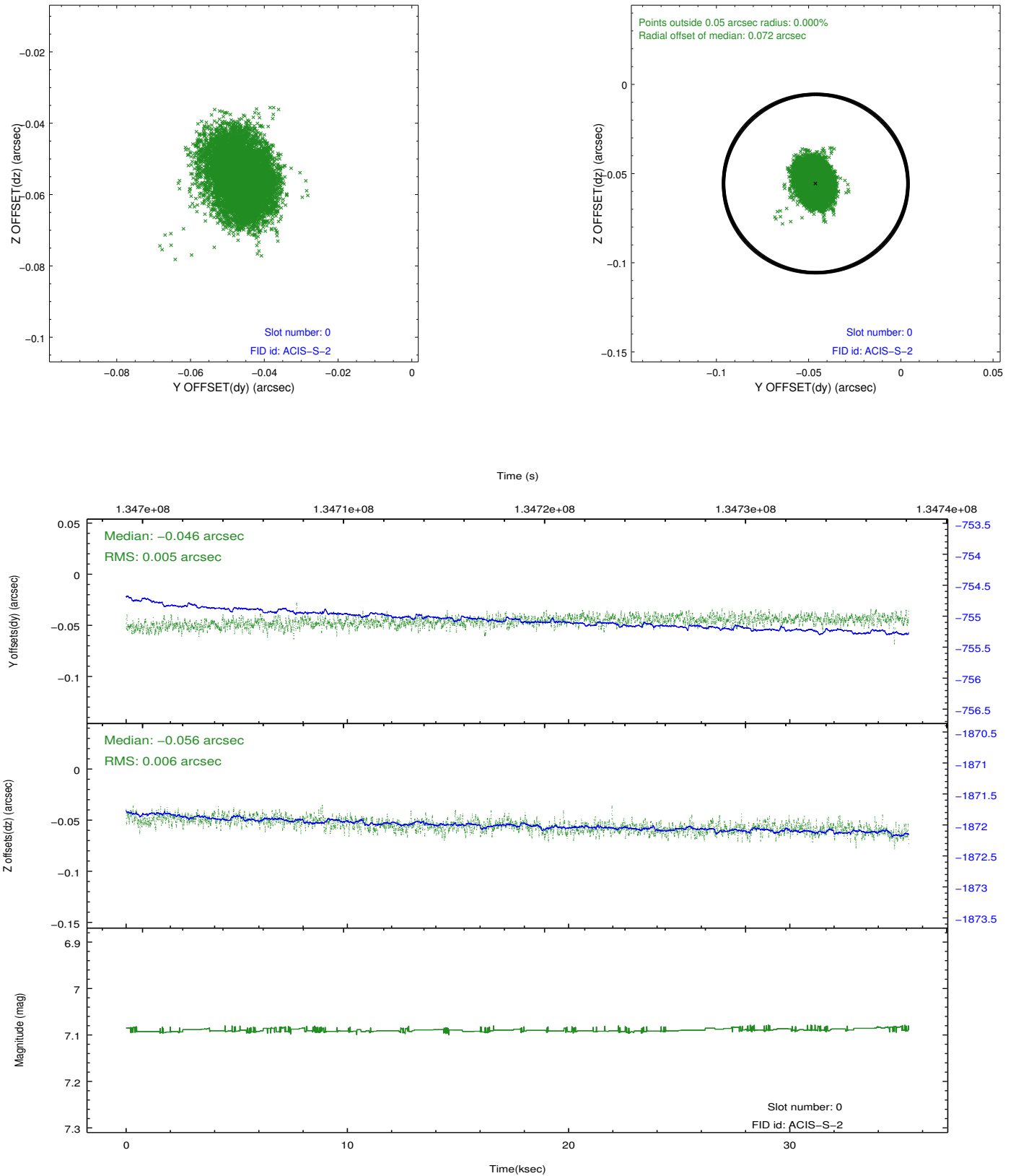


2.4.5 Slot 7

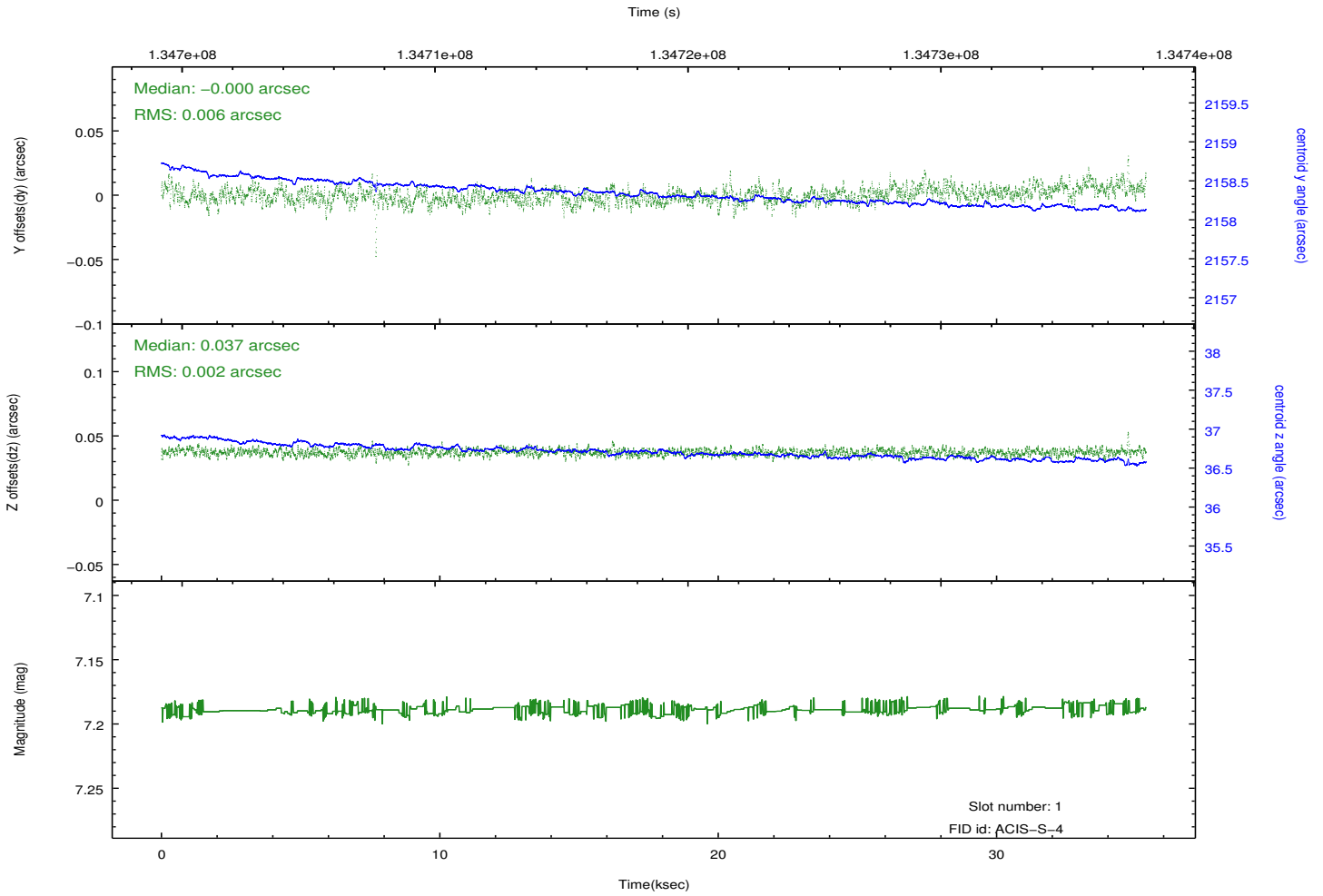
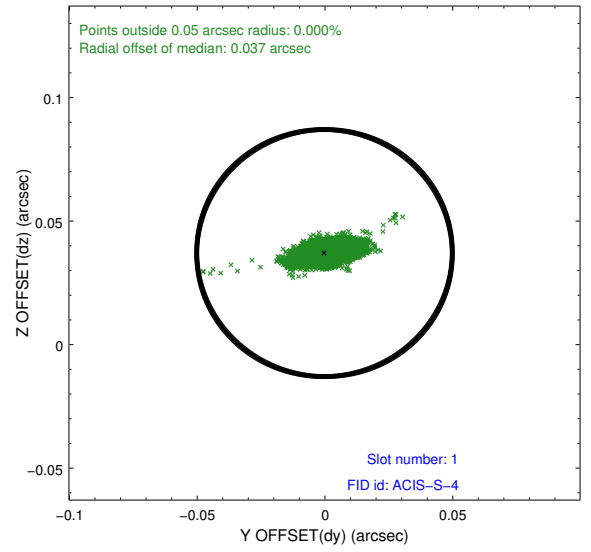
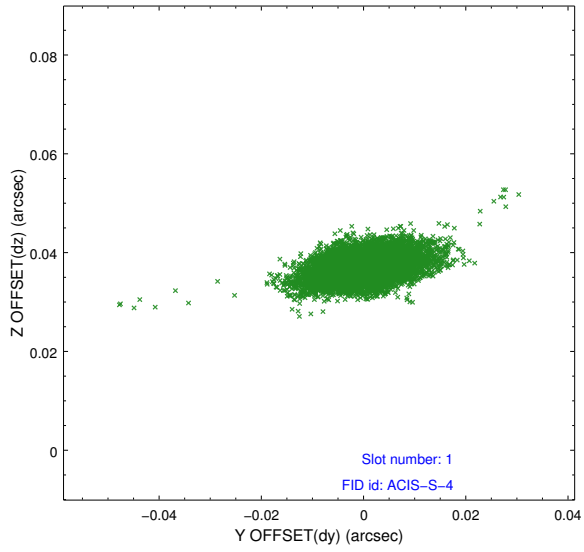


2.5 FID Slots

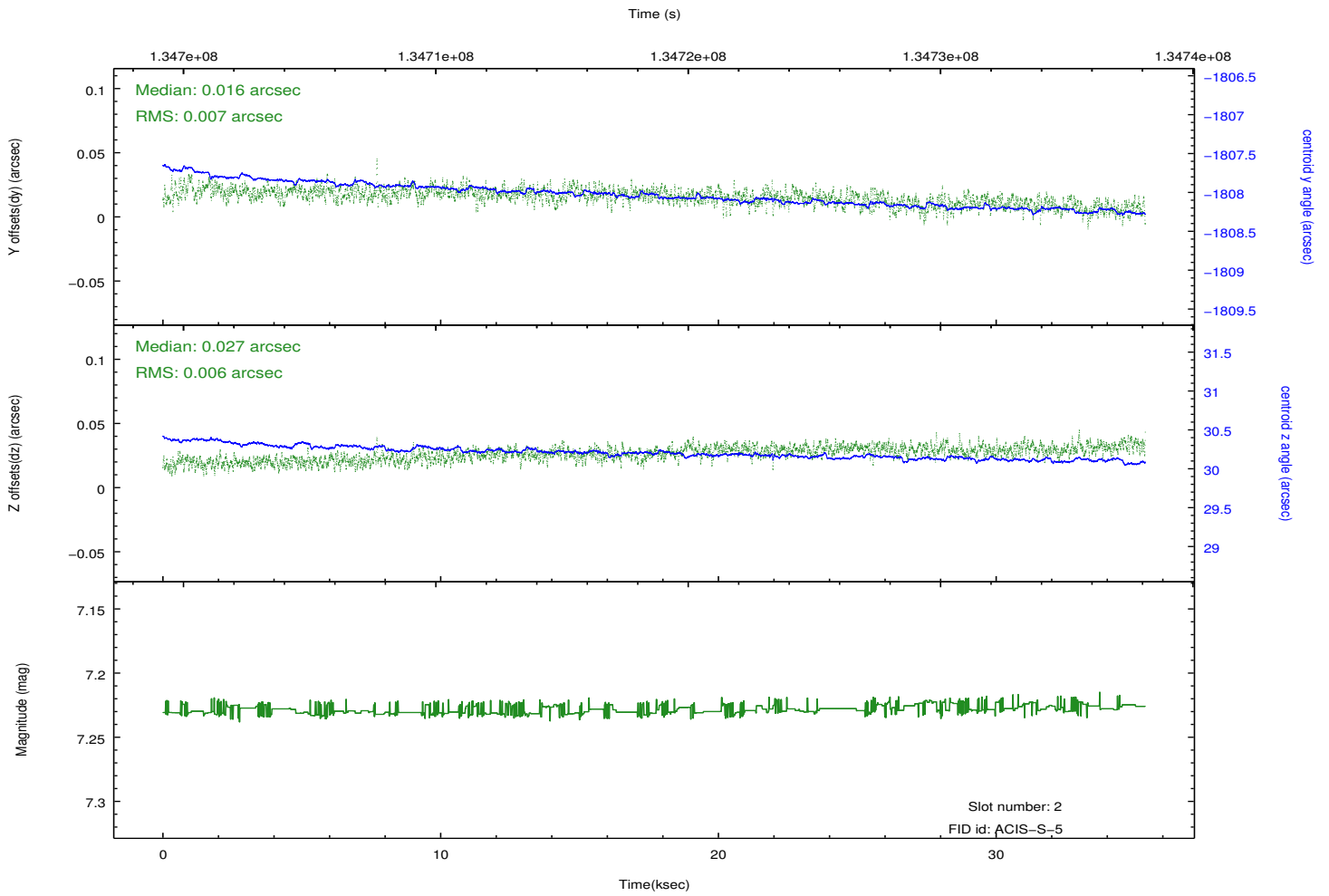
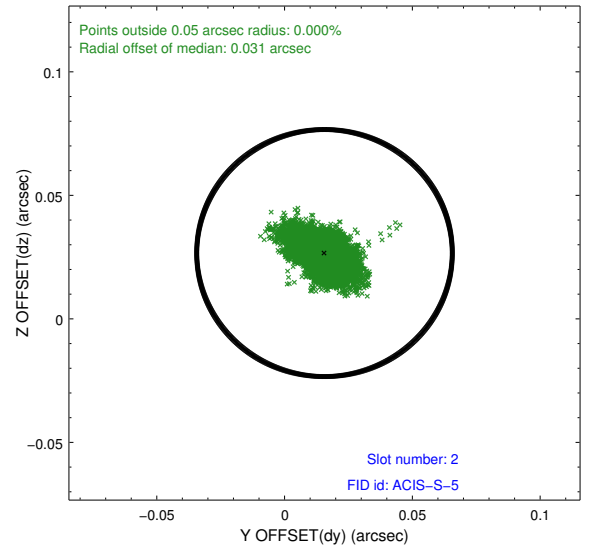
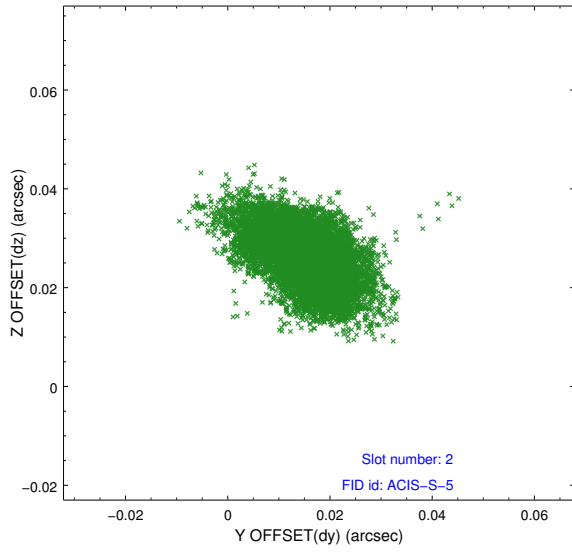
2.5.1 Slot 0



2.5.2 Slot 1

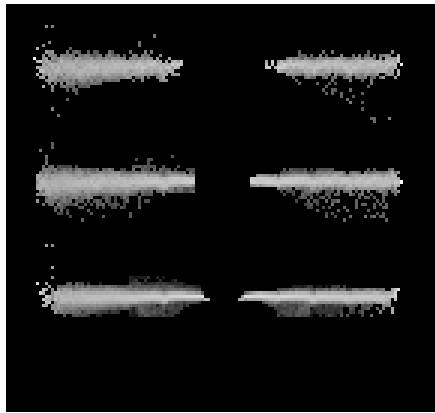


2.5.3 Slot 2

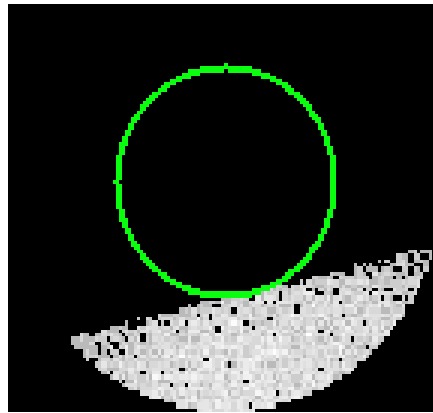


3 Gratings

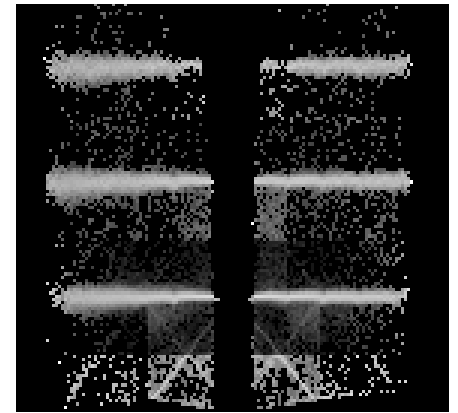
3.1 HEG Arm



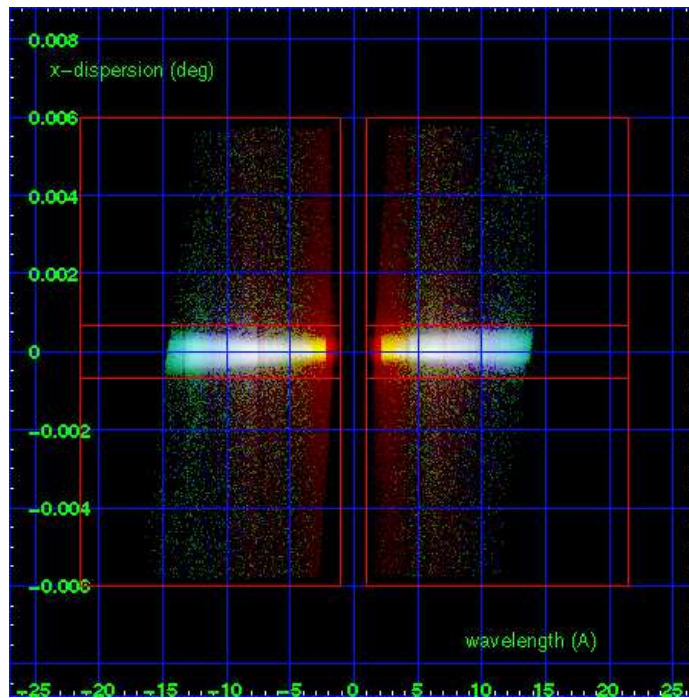
HEG Order Sort 123



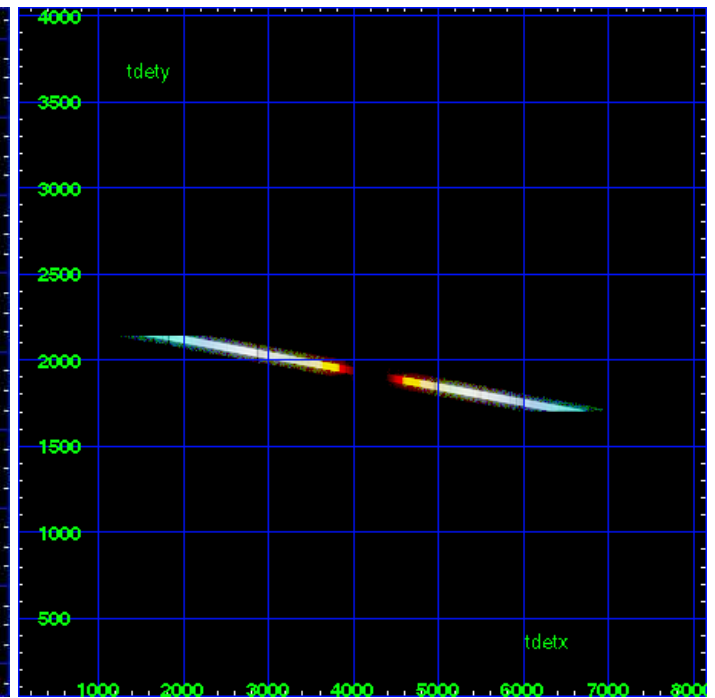
HEG Zero Order



HEG Order Sort ALL

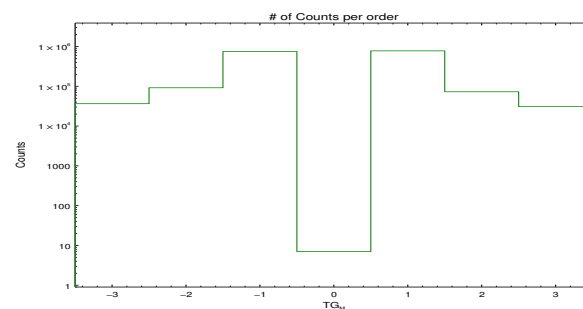


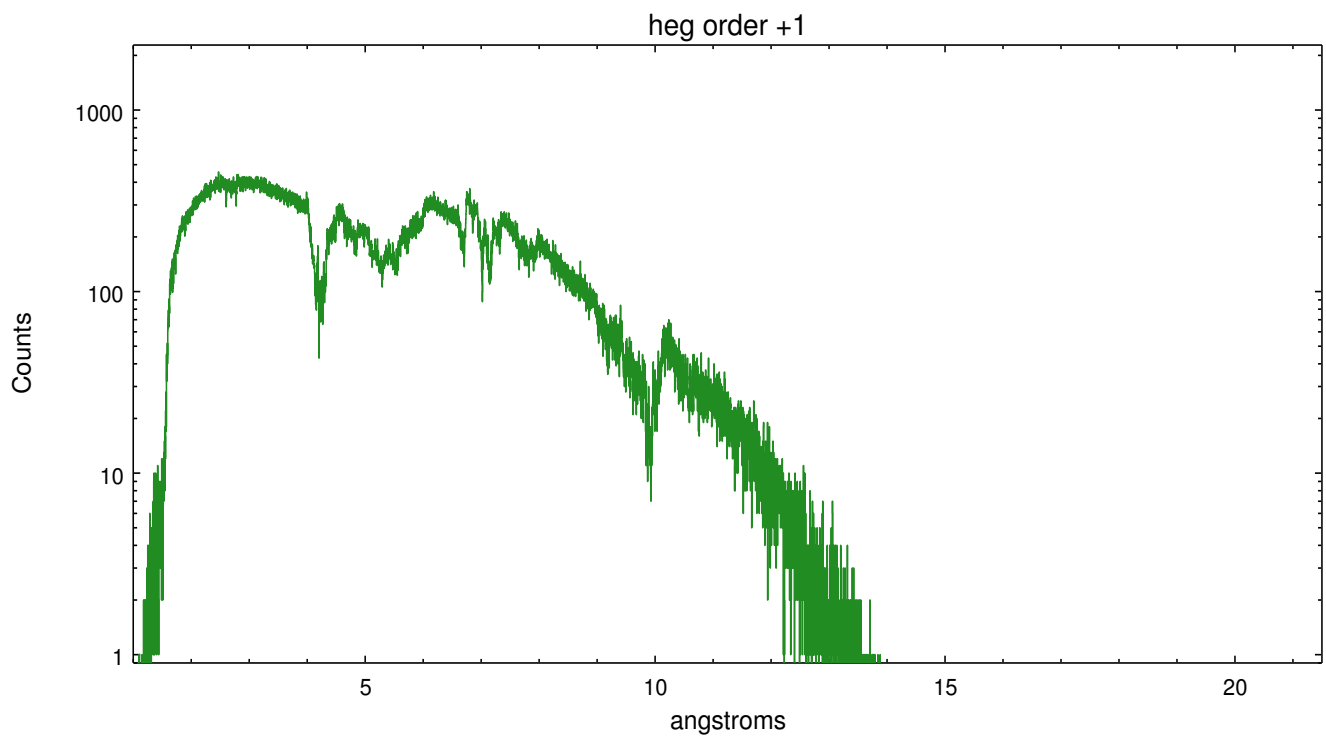
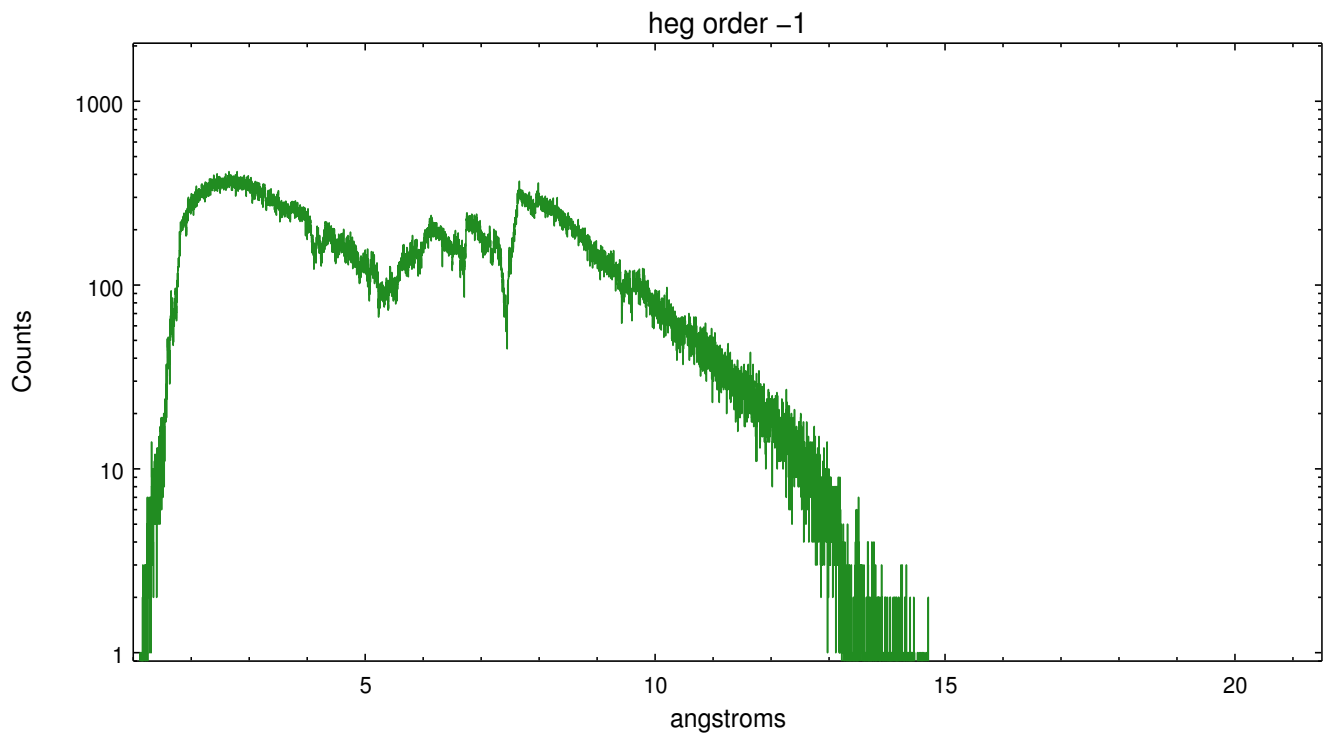
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	36583	91883	745411	7	777002	72846	30834

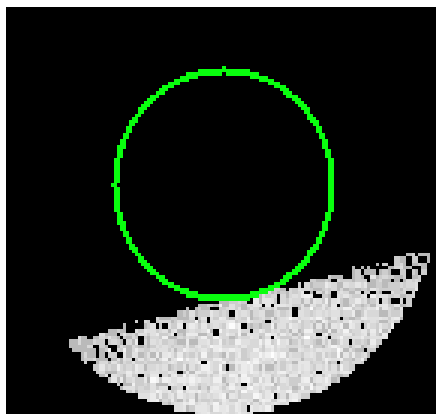




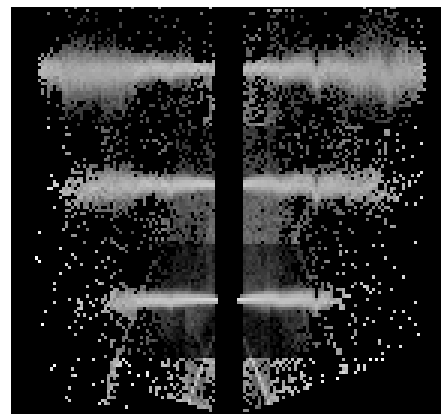
3.2 MEG Arm



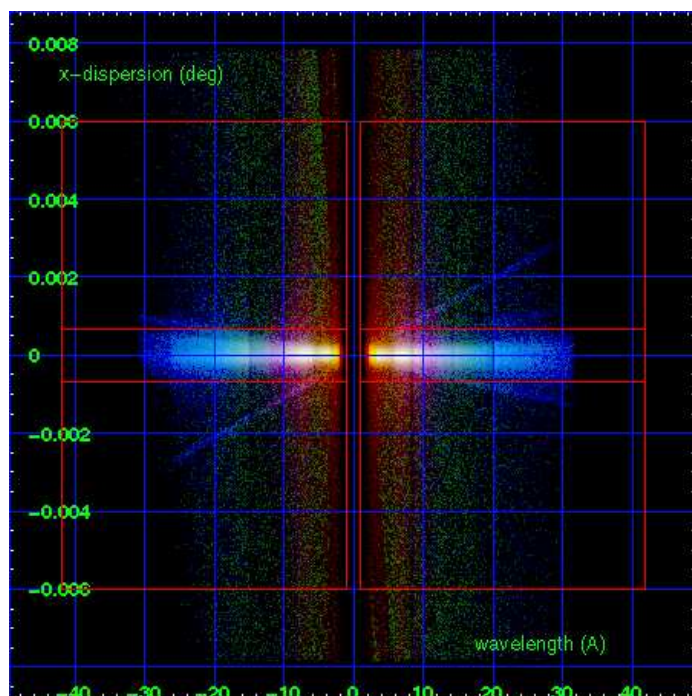
MEG Order Sort 123



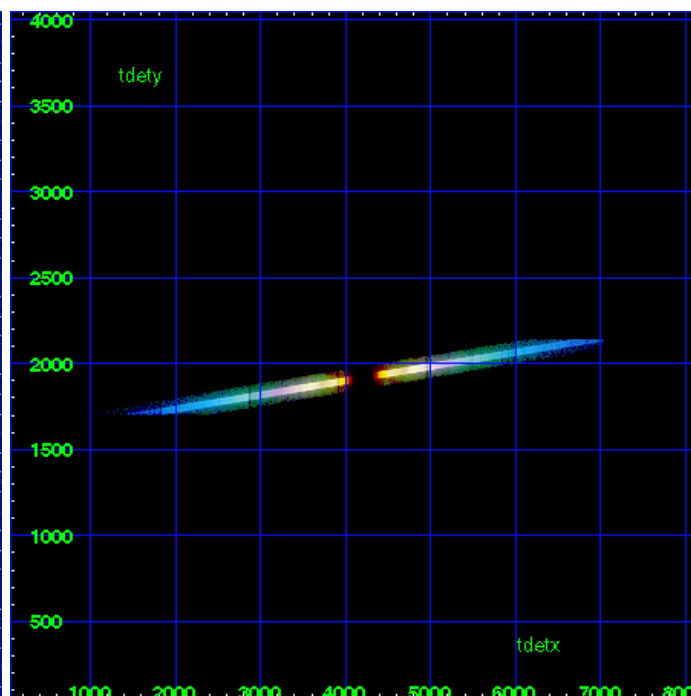
MEG Zero Order



MEG Order Sort ALL

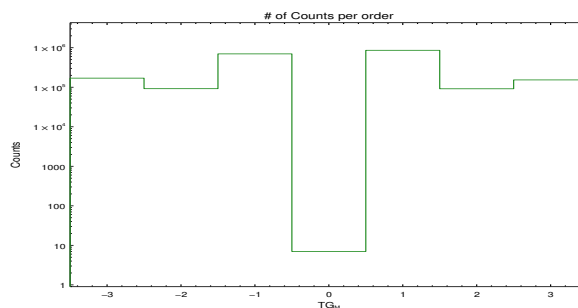


Spot Image MEG

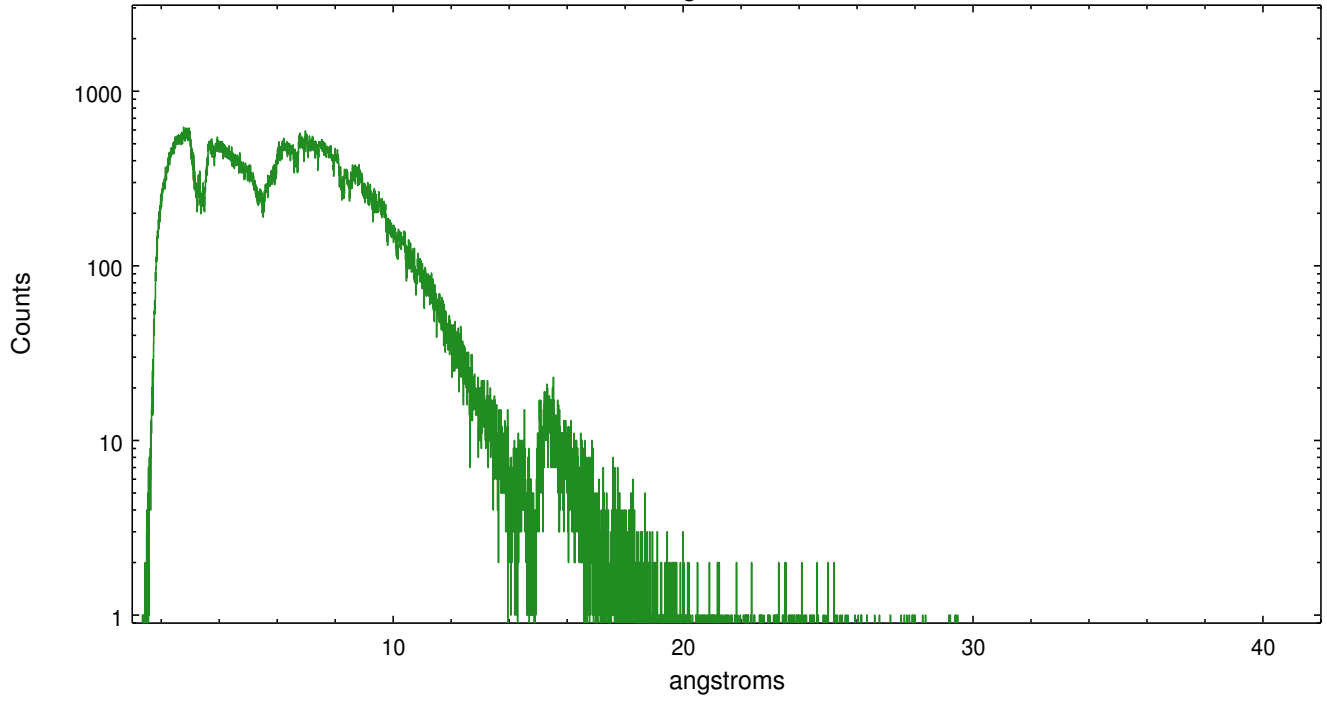


Full Detector MEG

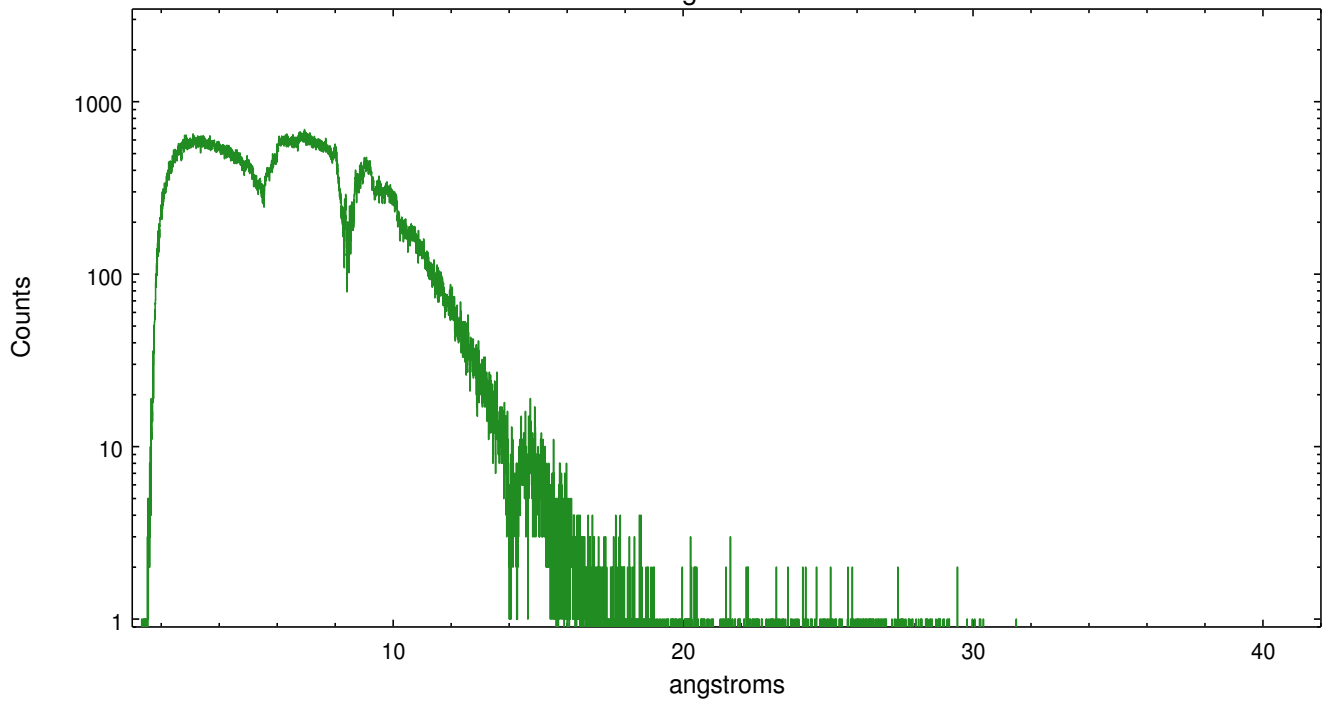
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	169773	92039	698462	7	859241	91470	153247



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.214

A.2 Comments

Zeroth order events are not available because a spatial exclusion window was used to block them. Standard data processing software did not correctly locate the zeroth order for this reason. Manual intervention was used to input the correct sky coordinates (x=4124.64, y=4029.03) 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 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 *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.

===

Faint grating spectra can be seen in an image of bad events. This is probably due to pileup in the spectrum, causing migration to bad grades. This should be considered in analysis.

===

Charge time for this ObsId remains at original value of 35.214 ksec.

===

The charge time is based on CCD_ID=5 (S1), which had no dropped frames and does reflect the requested exposure. Other chips have dropped frames due to telemetry saturation by the zeroth order (no mitigating zero order sample-cycle or exclusion region was requested), and their effective exposures range from 15.5-34.7ks.