

V&V Reference Report

L2 ASCDS Version : 8.1.2

Observation 459 - L2 Version 4
Chandra X-Ray Center

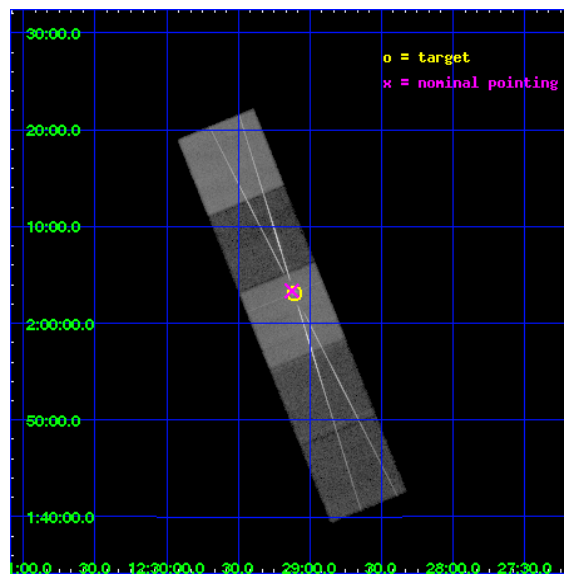
L2 Processing Date : Dec 2 2009

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1 Front

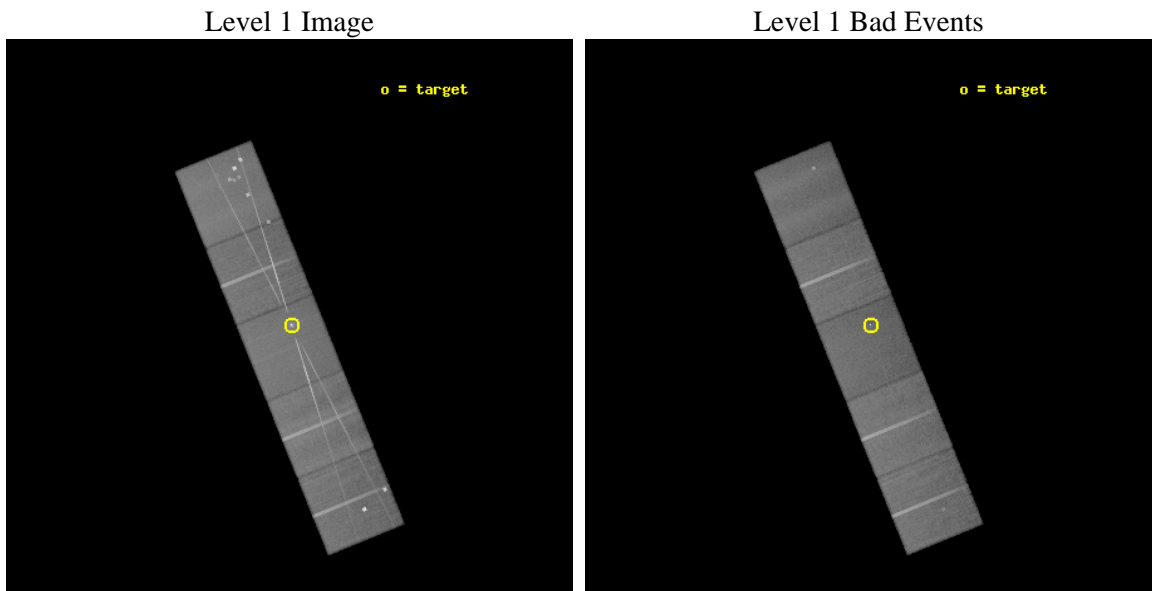
seq_num	790020	Sequence number
obs_id	459	Observation id
title	IN FLIGHT CALIBRATION OF THE HETGS EFFECTIVE AREA AND CROSS DISPERSION PROFILE	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	3C 273	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.277917	Observer's specified target RA
dec_targ	2.052389	Observer's specified target Dec
ra_nom	187.28134601656	Nominal RA
dec_nom	2.0558342486175	Nominal Dec
roll_nom	67.922736662649	Nominal Roll
revision	4	Processing version of data
ontime	39161.346688531	Sum of GTIs [s]
livetime	38665.462136629	Livetime [s]
ontime5	39164.546608746	Sum of GTIs [s]
ontime6	39158.023648322	Sum of GTIs [s]
ontime7	39161.346688531	Sum of GTIs [s]
ontime8	39157.982578397	Sum of GTIs [s]
ontime9	39154.700618118	Sum of GTIs [s]
l2events	539380	Number of level 2 events



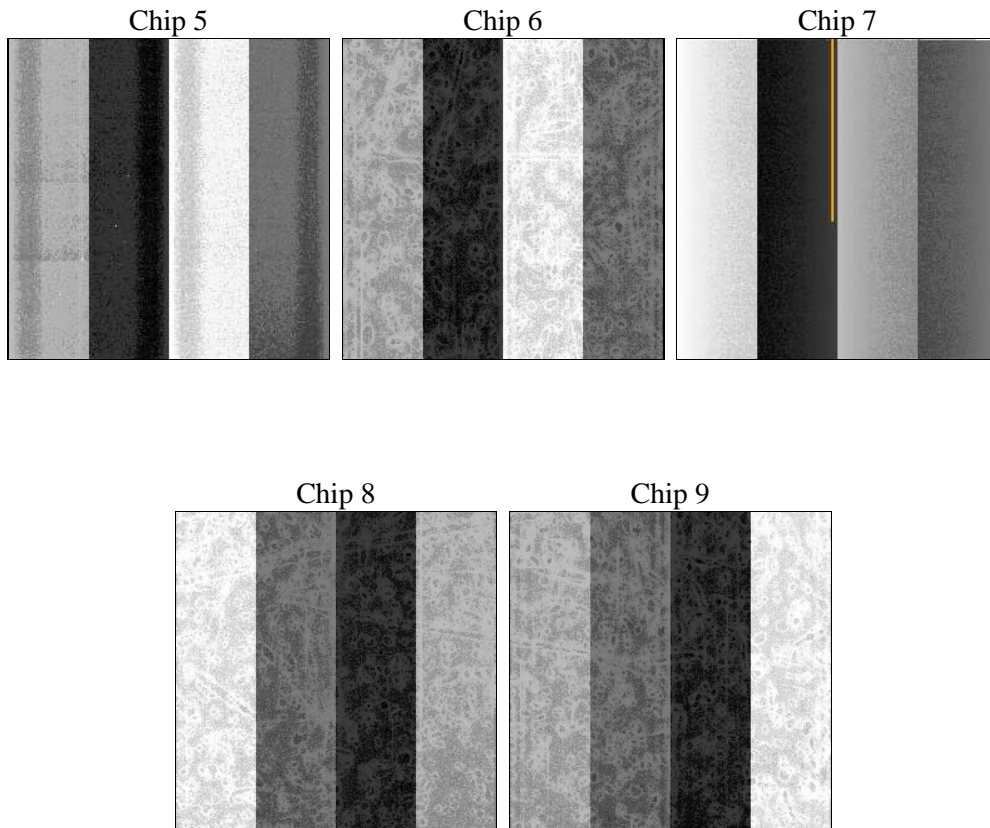
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	Scheduled observation exposure time
ascdsver	8.1.2	ASCDS version number	ontime	39161.346688531	Sum of GTIs [s]
caldbver	4.1.4	 	ontime5	39164.546608746	Sum of GTIs [s]
date	2009-12-02T09:04:57	Date and time of file creation	ontime6	39158.023648322	Sum of GTIs [s]
revision	3	Processing version of data	ontime7	39161.346688531	Sum of GTIs [s]
			ontime8	39157.982578397	Sum of GTIs [s]
			ontime9	39154.700618118	Sum of GTIs [s]
			l1events	2080671	Number of level 1 events

2.1.4 Events

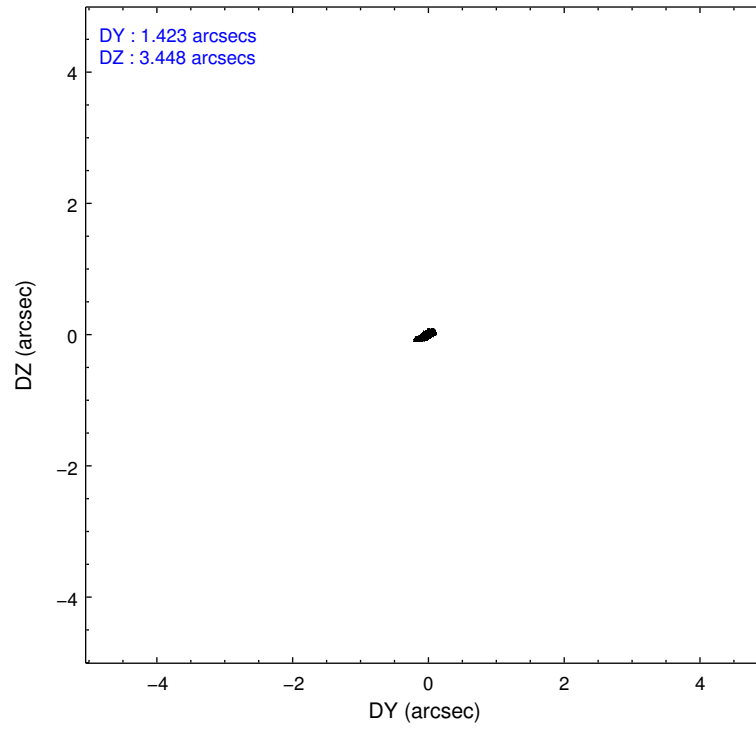
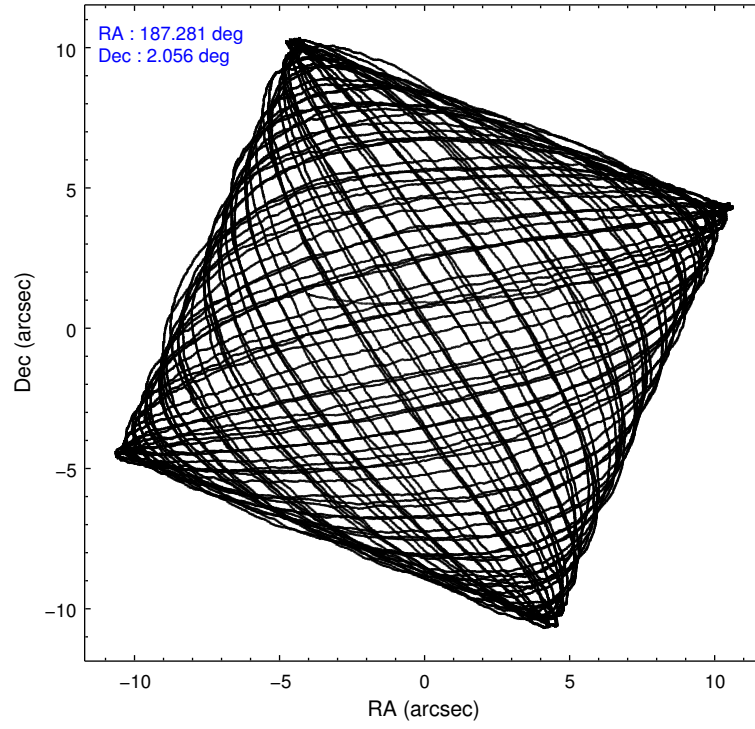
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	457119	395287	413682	447949	366634
rejected events	238264	309275	225160	331443	293529
rejected %	52%	78%	54%	73%	80%

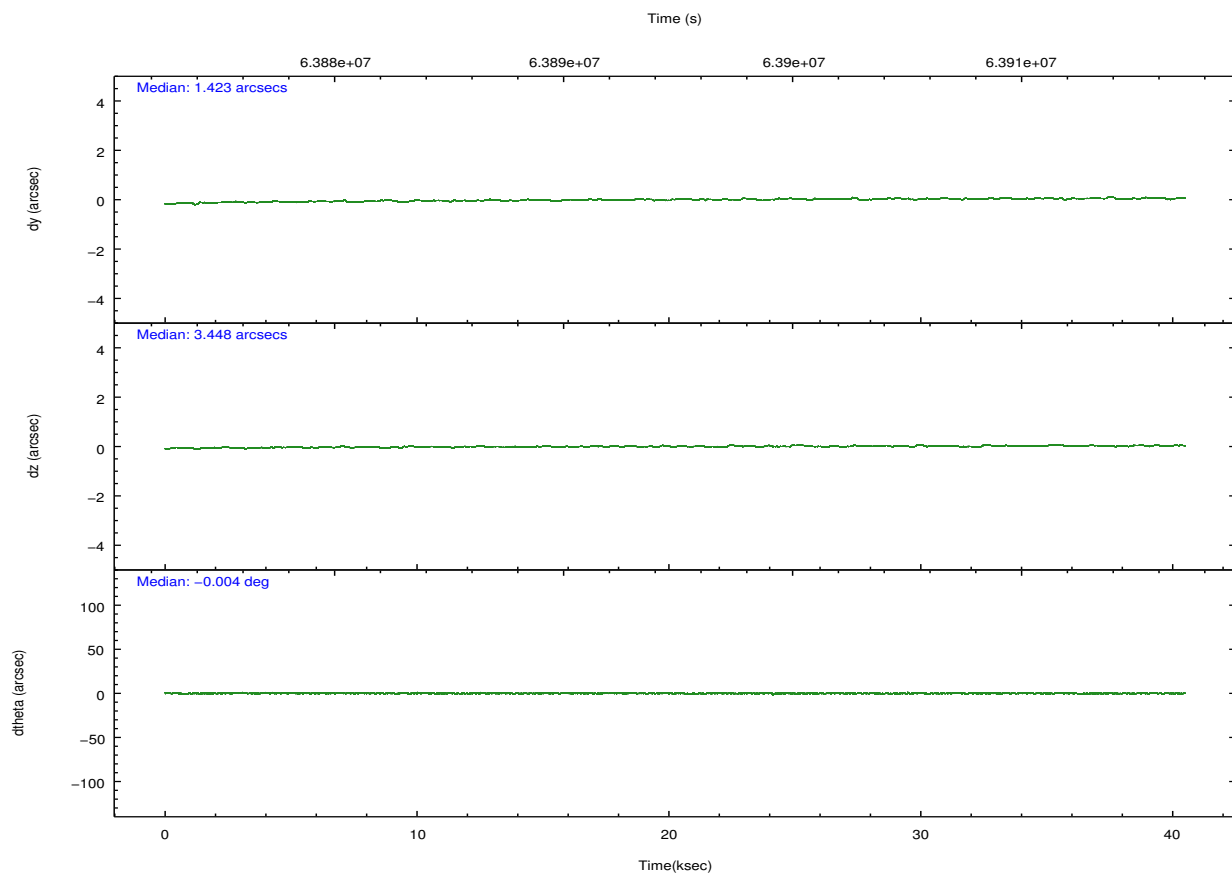
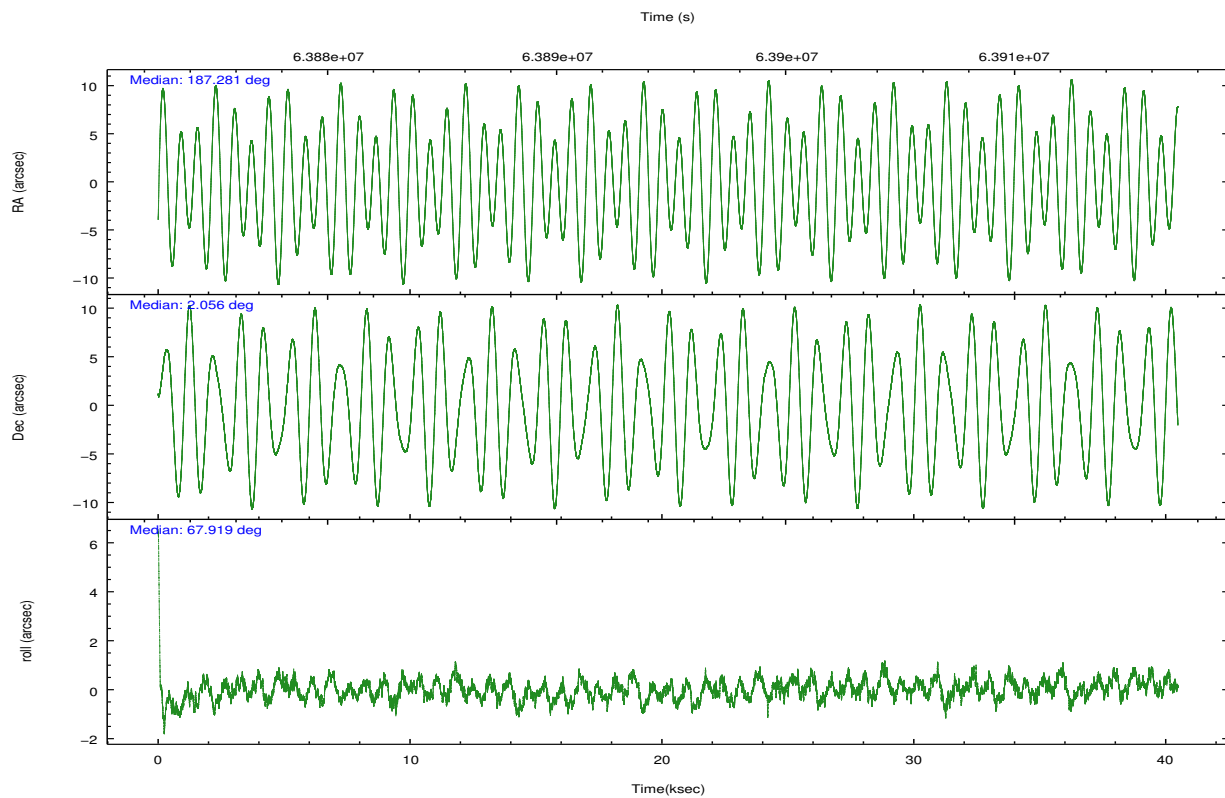
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	47588	42734	18026	47886	21139
	10%	10%	4%	10%	5%
grade 1 events	1870	215	394	265	101
	0%	0%	0%	0%	0%
grade 2 events	49234	24580	42837	27980	37885
	10%	6%	10%	6%	10%
grade 3 events	7737	3689	13666	9413	2245
	1%	0%	3%	2%	0%
grade 4 events	7389	3544	12500	8692	2156
	1%	0%	3%	1%	0%
grade 5 events	16087	7324	22886	9864	7181
	3%	1%	5%	2%	1%
grade 6 events	106952	11486	101530	22572	9691
	23%	2%	24%	5%	2%
grade 7 events	220262	301715	201843	321277	286236
	48%	76%	48%	71%	78%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-56789	ACIS-56789	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
Pointing RA	187.285110	187.2813460165555	Subarray requested	NONE	NONE
Pointing Dec	2.028564	2.055834248617497	Alternating exposures requested	N	N
Pointing Roll	67.765969	67.92273666264862	Primary exposure time	0.000000	3.2
Window start time	63072064.184000	63072064.184000			
Window stop time	64368004.184000	64368004.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-187.132523	-187.1228876879999			
SIM translation stage offset (mm)	-3	-3.009634895007935			
Observation start time	63875111.184000	63874035.326983			
Observation start date	2000-01-10T07:04:07	2000-01-10T06:47:15			
Observation end time	63915111.184000	63915789.216			
Observation end date	2000-01-10T18:10:47	2000-01-10T18:23:09			
Read mode	TIMED	TIMED			

2.3 Aspect



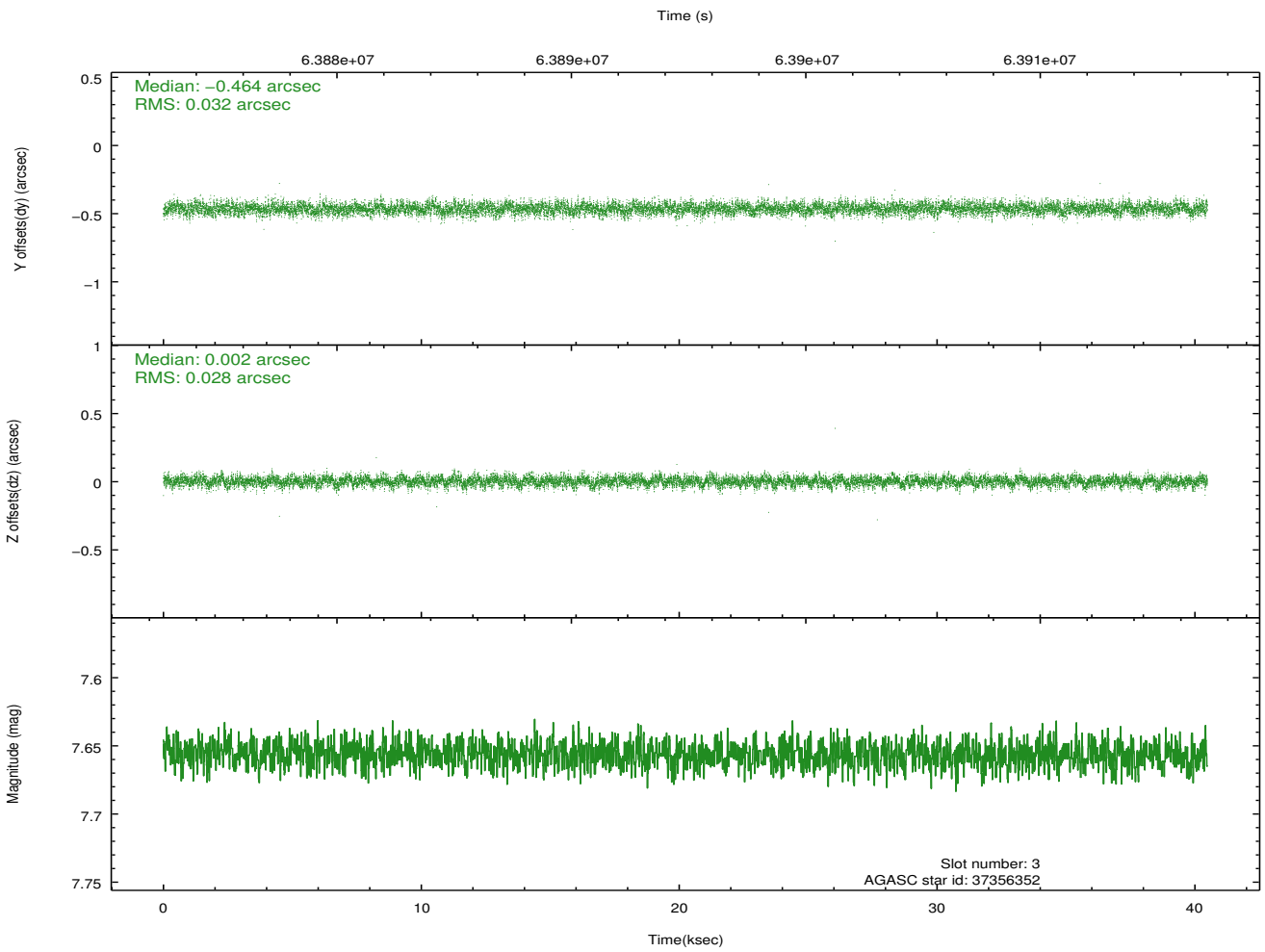
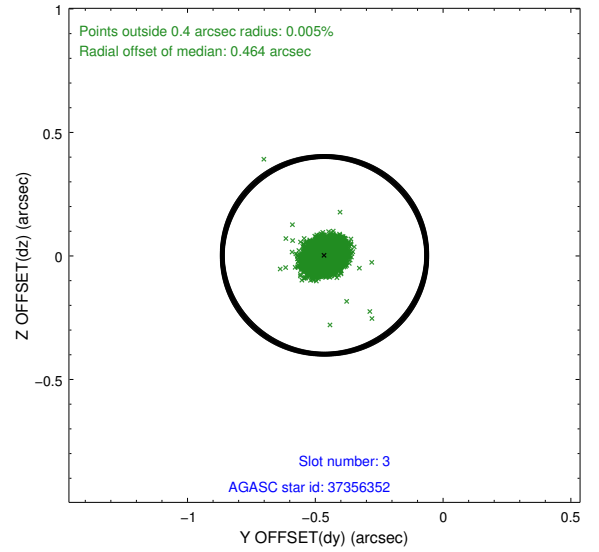
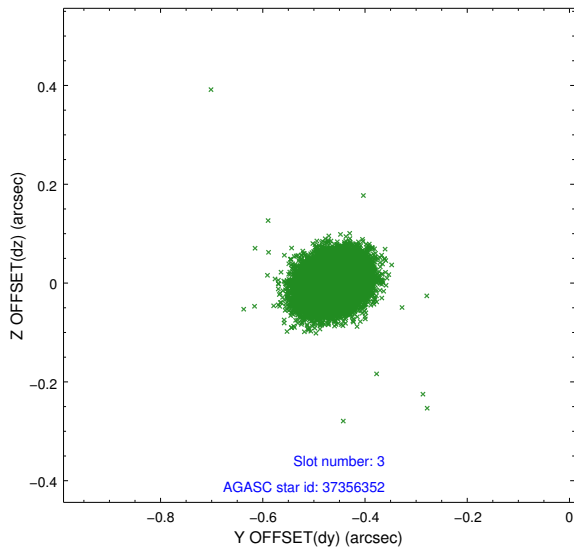


Slot Statistics

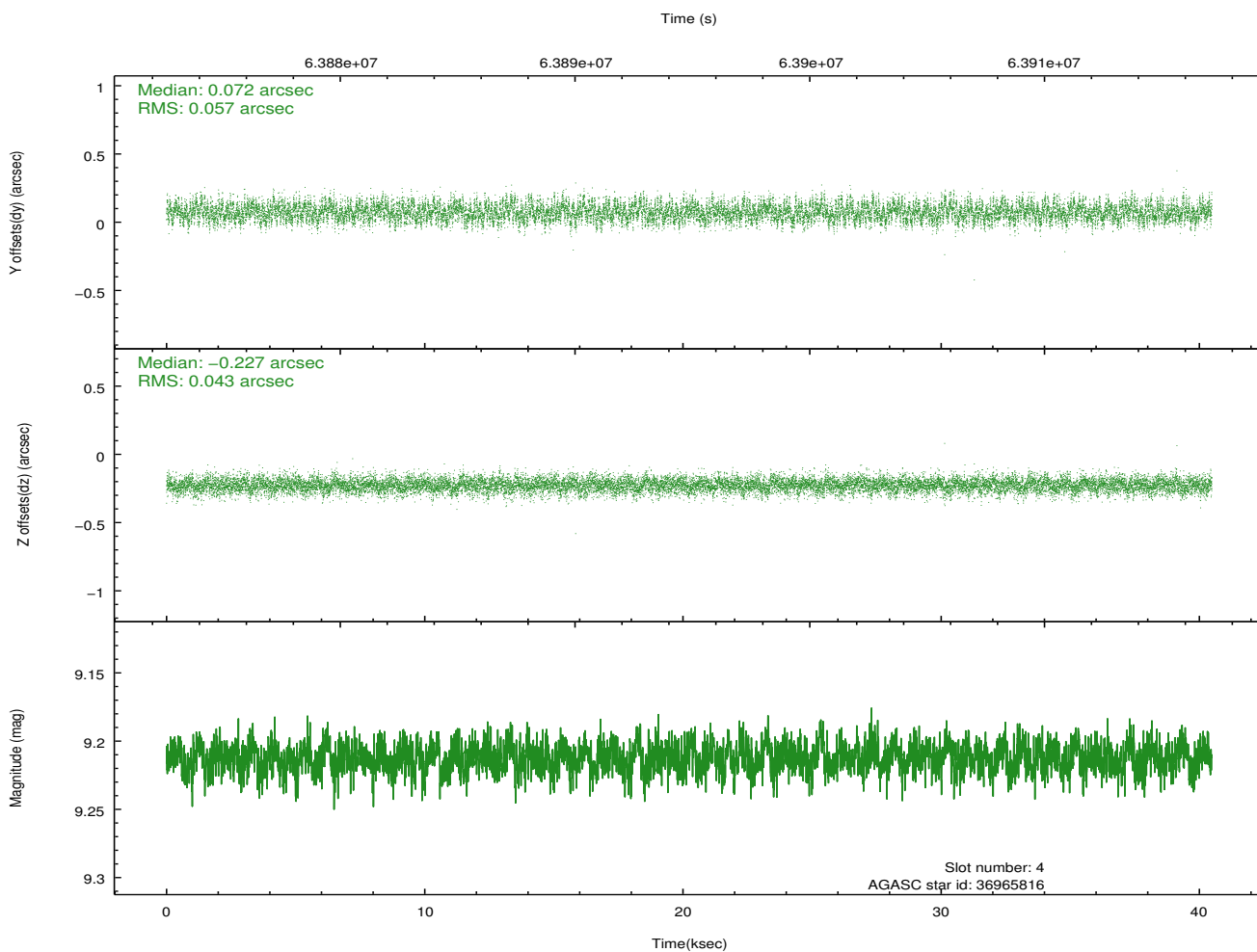
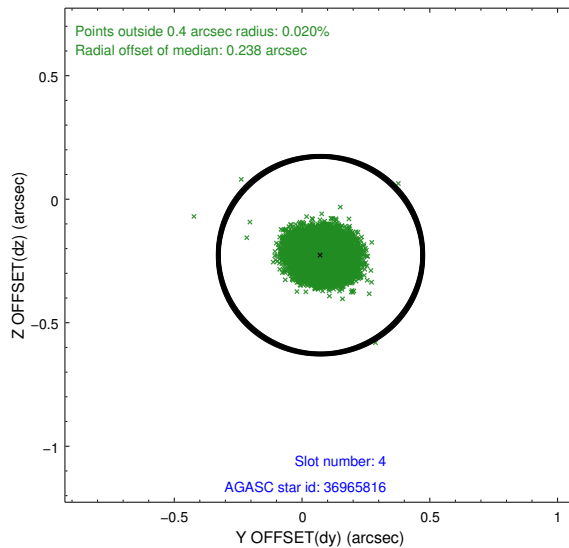
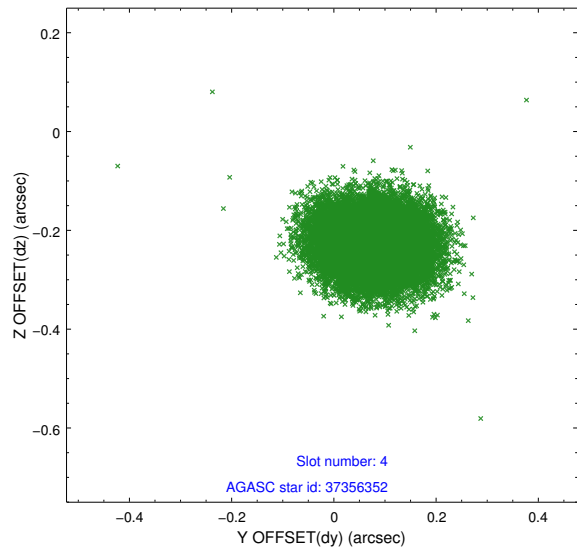
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	9869	-0.061	-0.028	0.006	0.010	0.000000	0.000000	-753.87	-1786.68
1	FID	ACIS-S-4	7.20	9866	0.031	0.037	0.006	0.011	0.000000	0.000000	2159.50	121.84
2	FID	ACIS-S-5	7.24	9870	-0.001	-0.000	0.006	0.011	0.000000	0.000000	-1806.63	115.50
3	GUIDE	37356352	7.66	19740	-0.464	0.002	0.045	0.072	187.433784	2.618460	2167.41	309.14
4	GUIDE	36965816	9.21	19734	0.072	-0.227	0.077	0.123	186.823353	1.771455	-1485.35	1187.93
5	GUIDE	36965296	9.09	19720	0.079	-0.117	0.073	0.121	186.926292	1.837429	-1125.56	935.02
6	GUIDE	37883040	10.03	19712	0.100	0.266	0.108	0.174	187.575516	1.280402	-2097.63	-1986.15
7	GUIDE	36965896	9.72	19720	0.209	0.076	0.082	0.136	187.153754	1.617178	-1549.79	-122.59

2.4 Star Slots

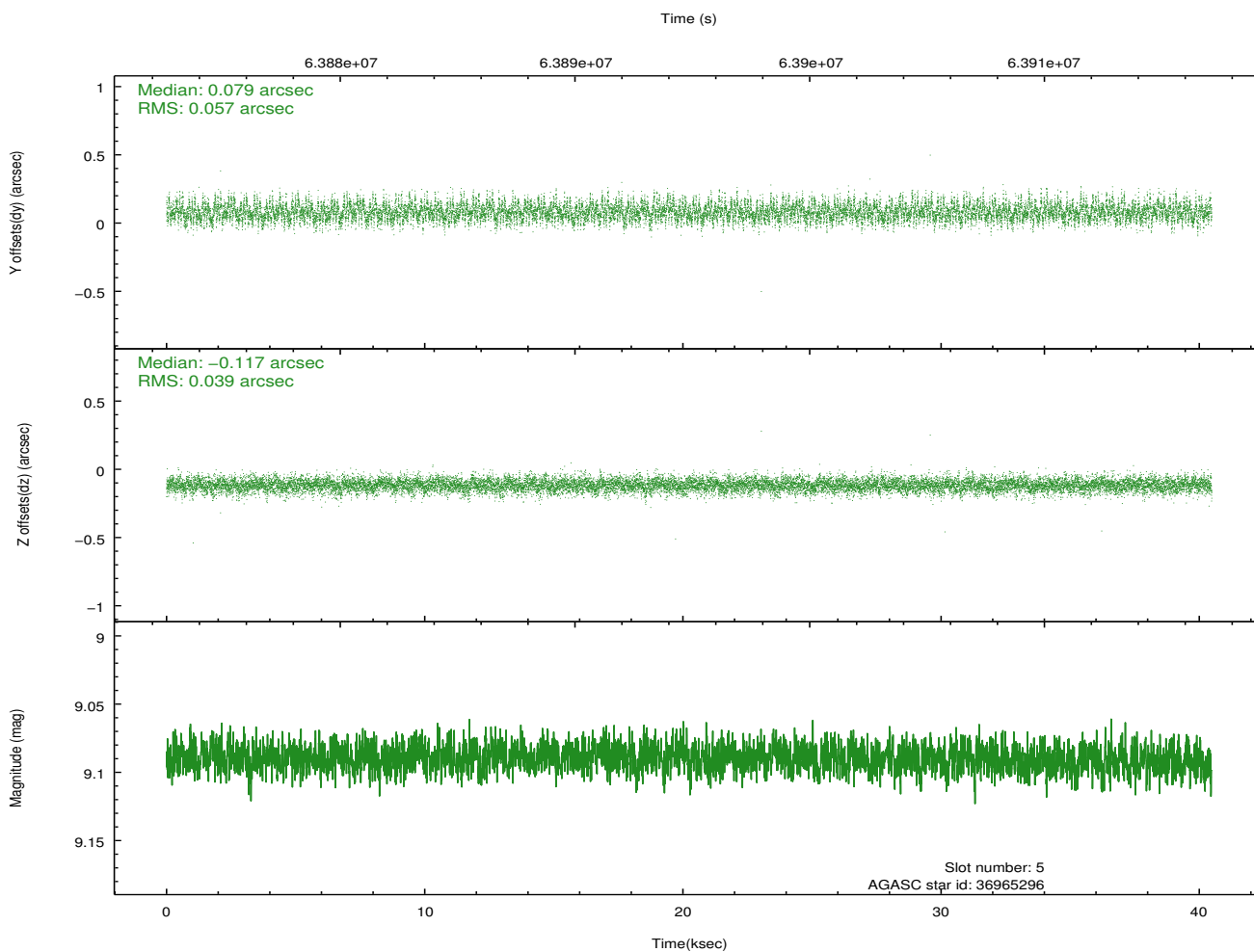
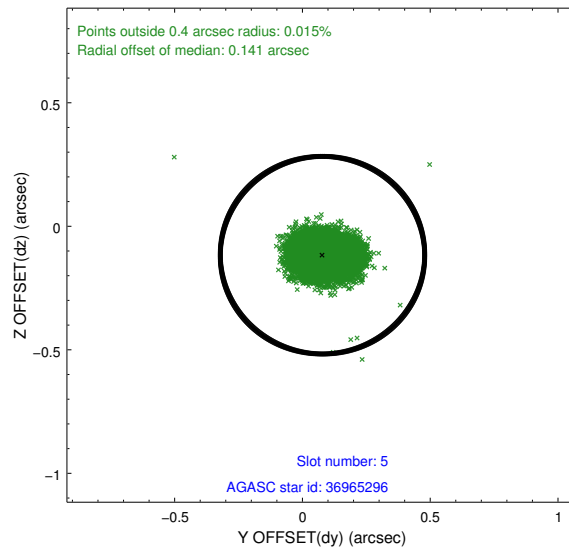
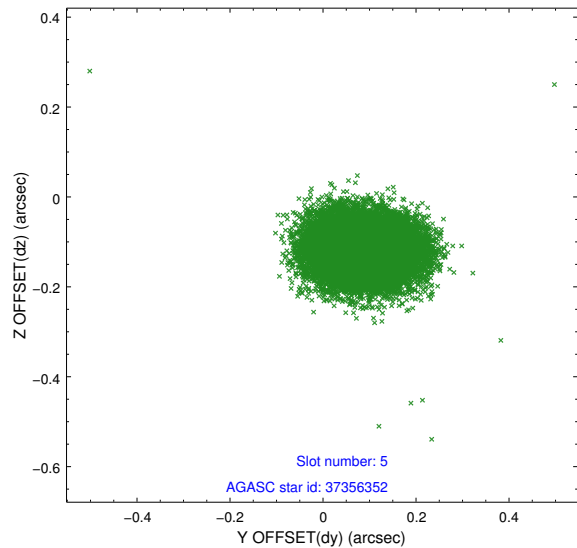
2.4.1 Slot 3



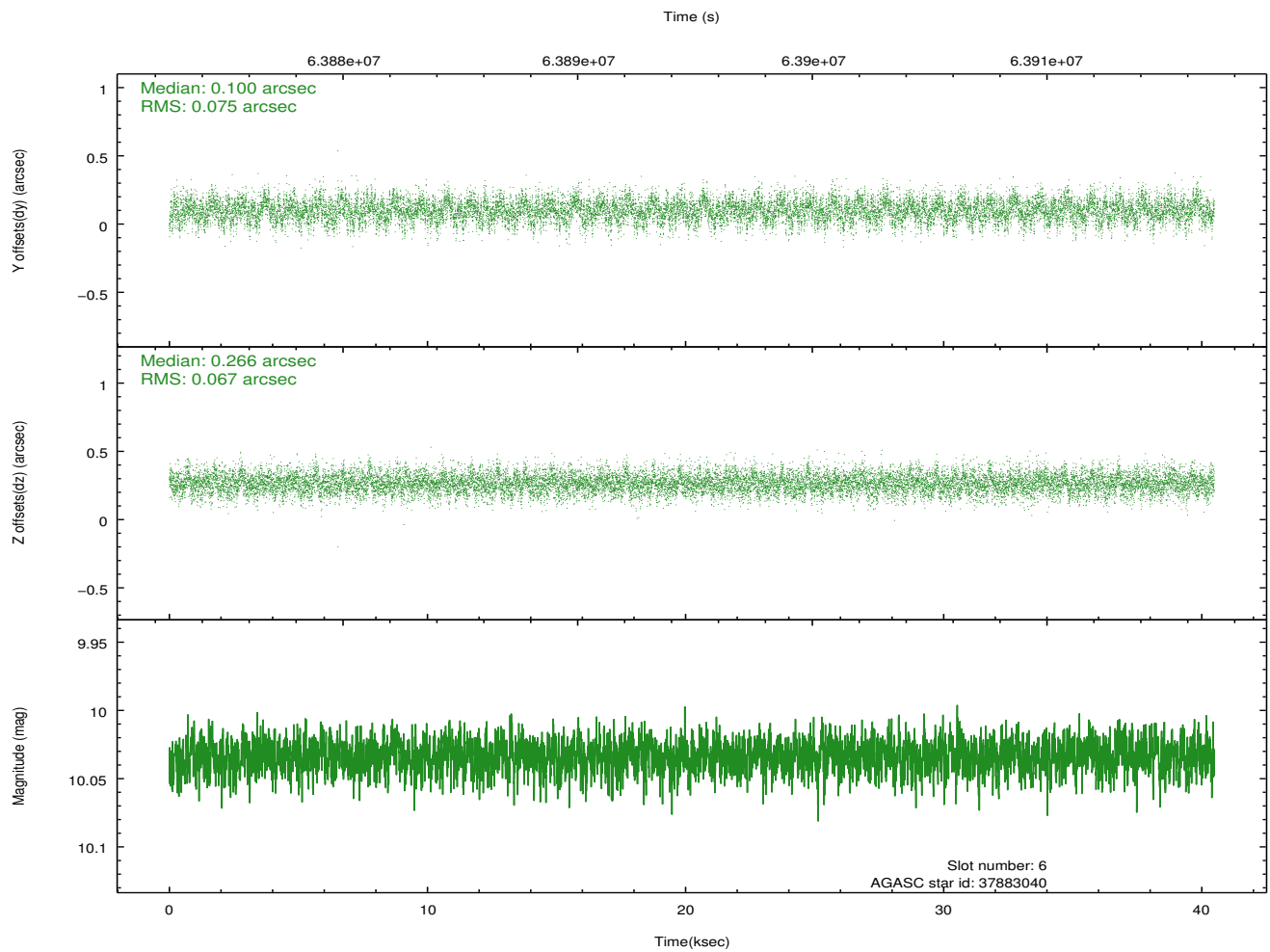
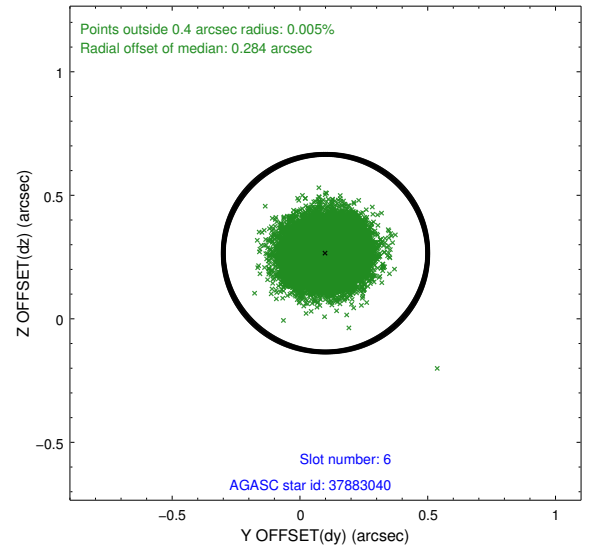
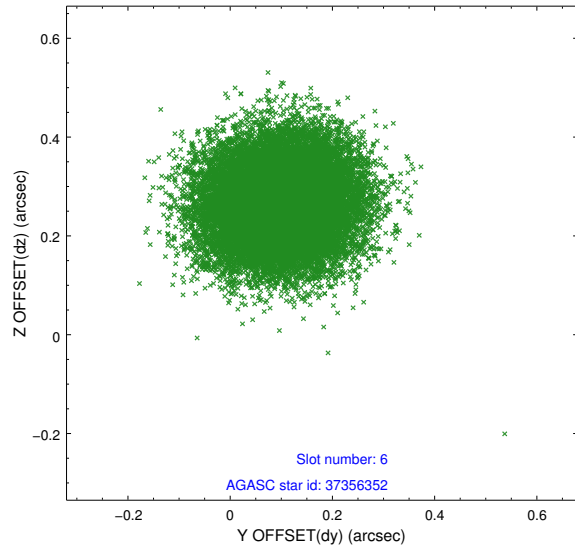
2.4.2 Slot 4



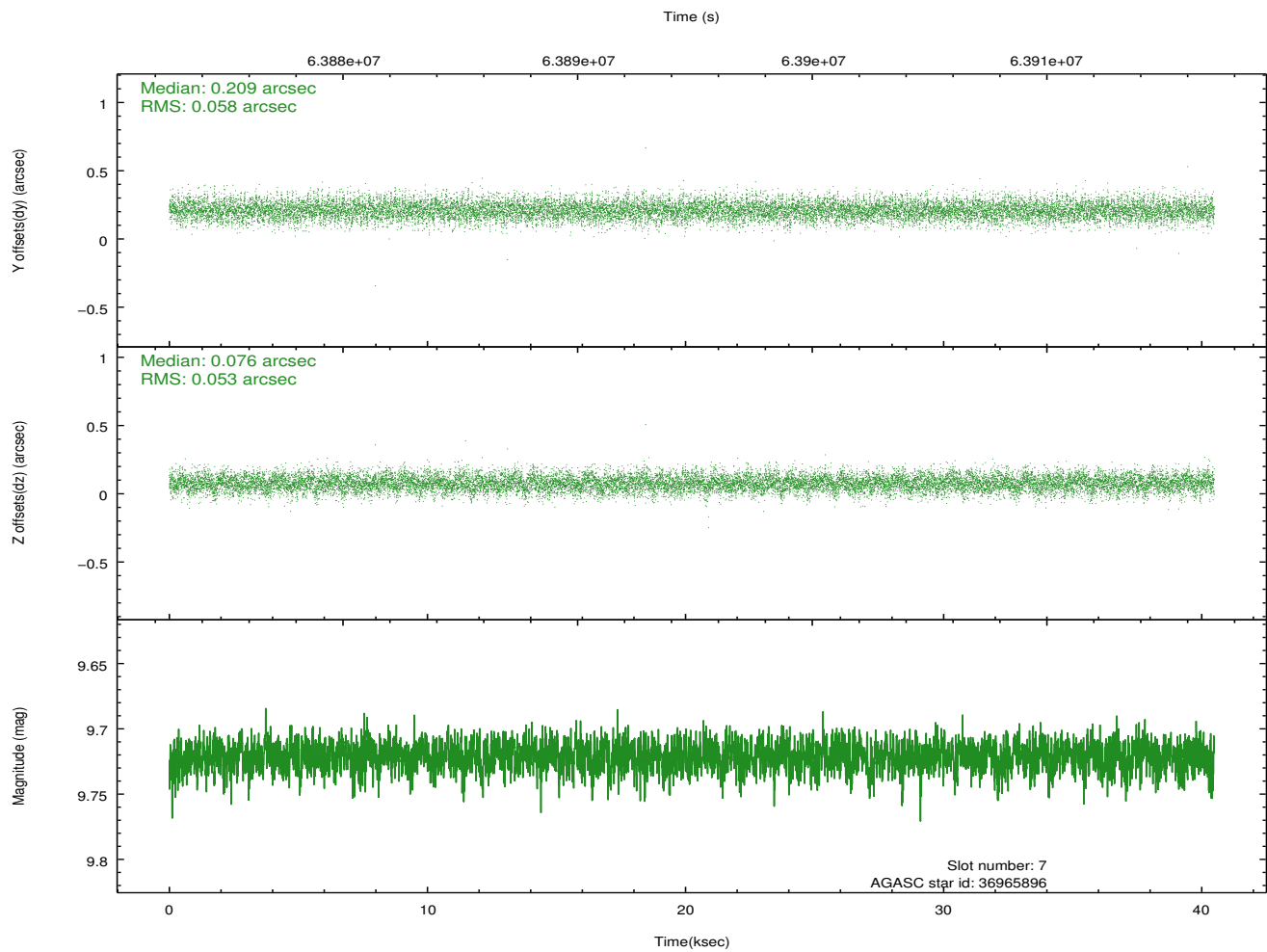
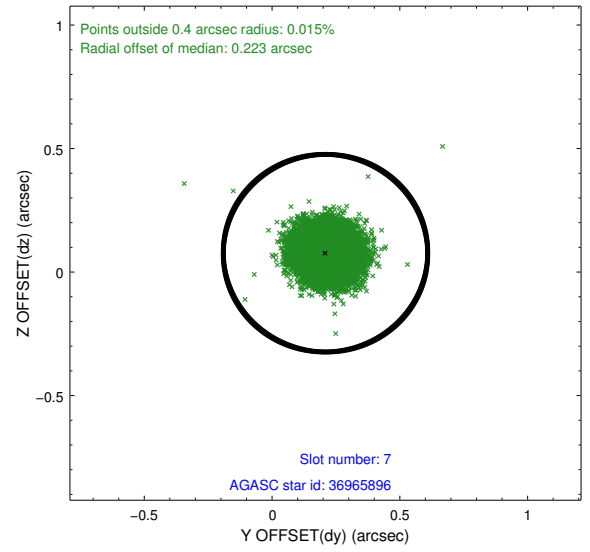
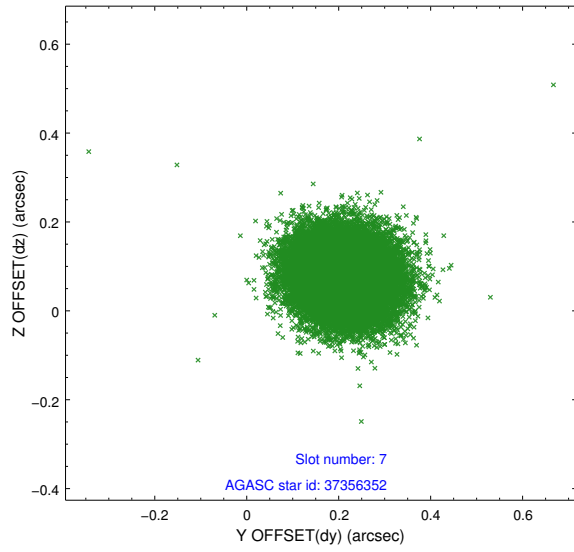
2.4.3 Slot 5



2.4.4 Slot 6

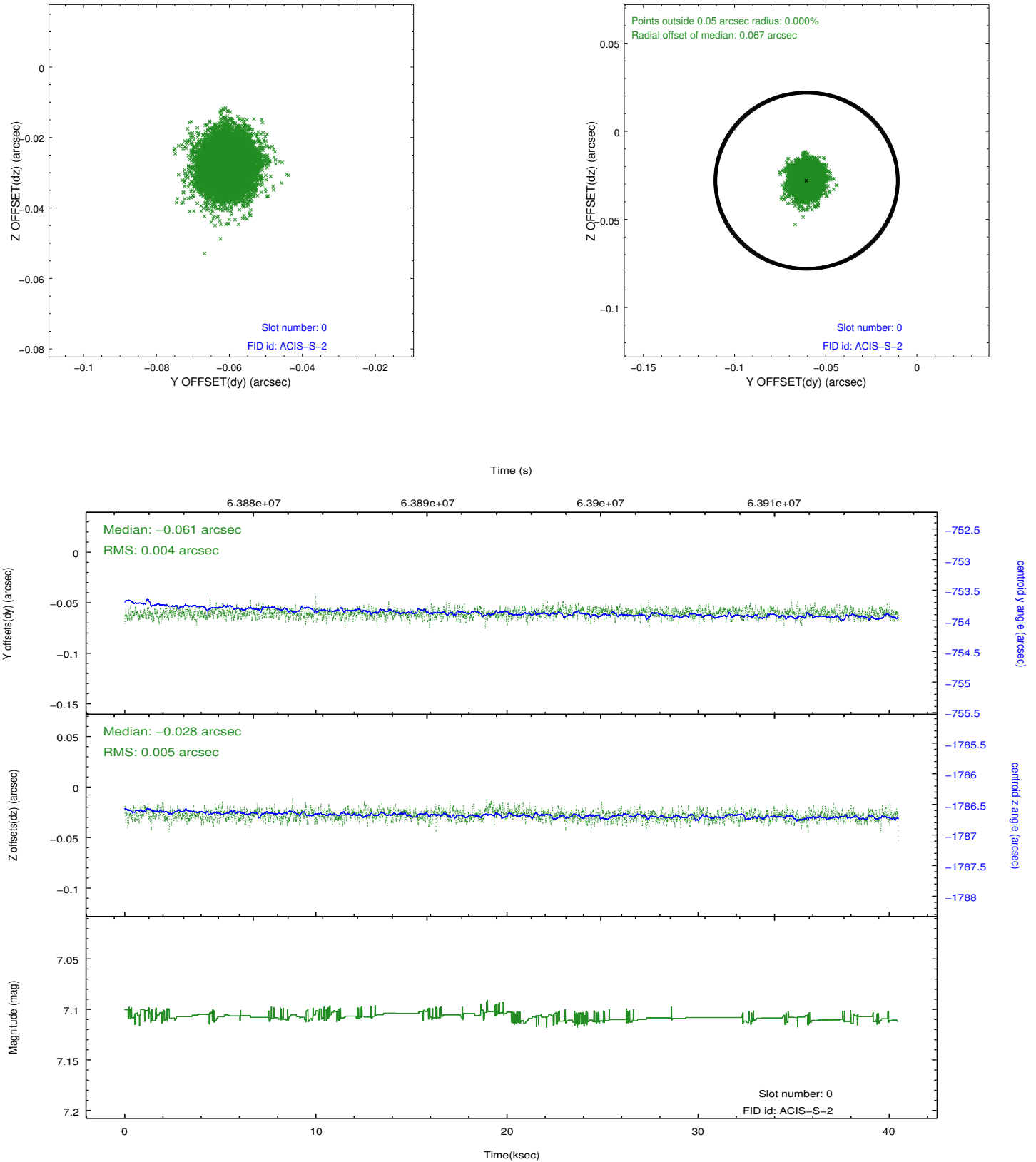


2.4.5 Slot 7

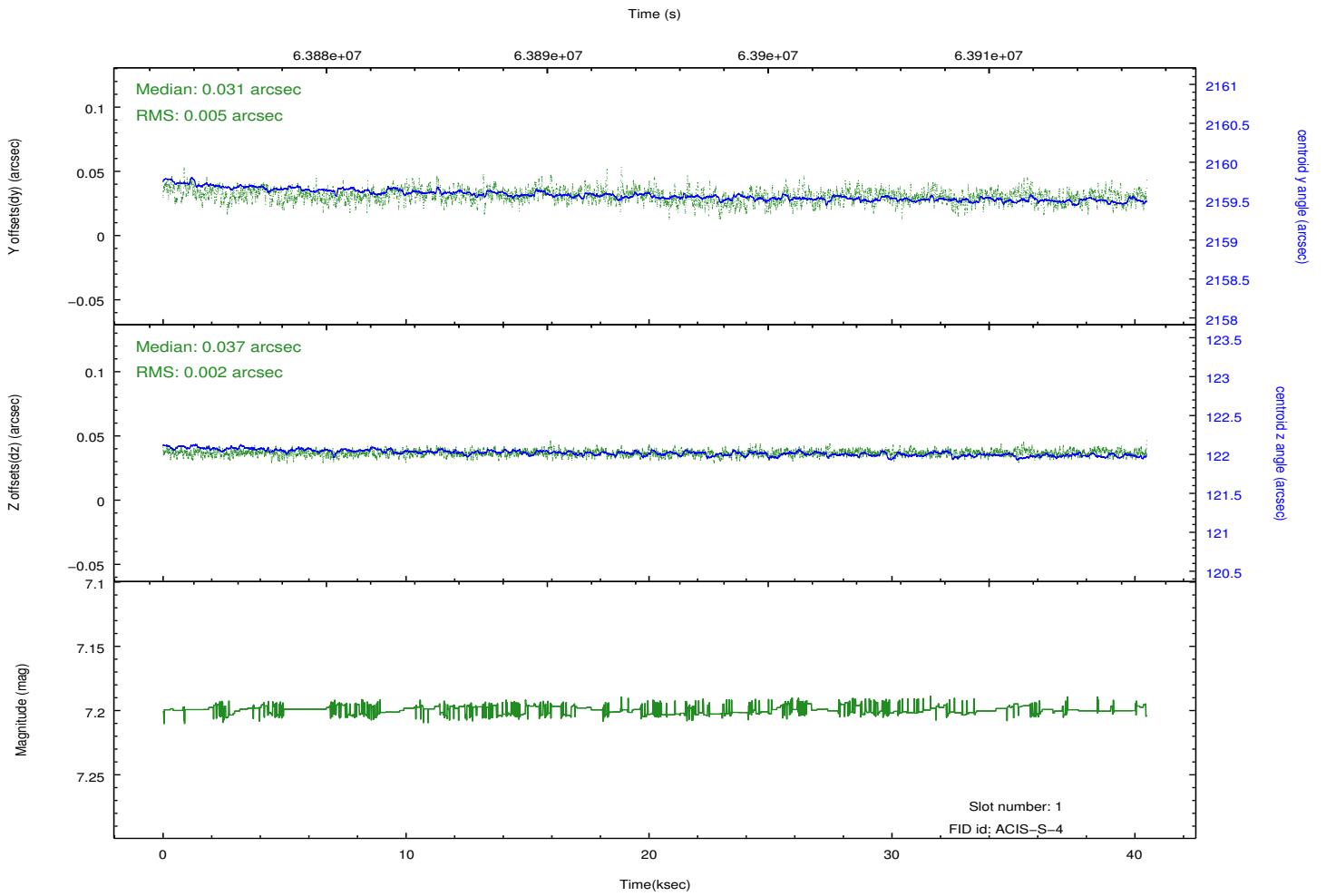
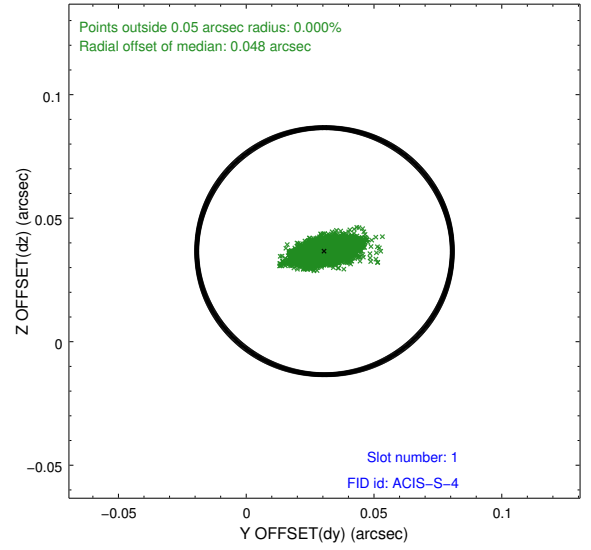
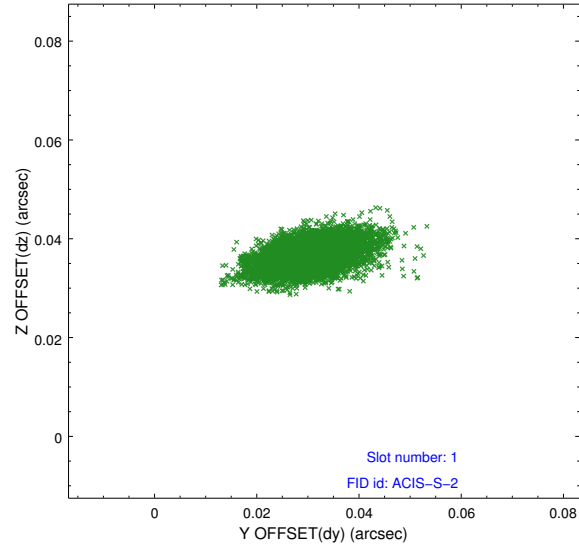


2.5 FID Slots

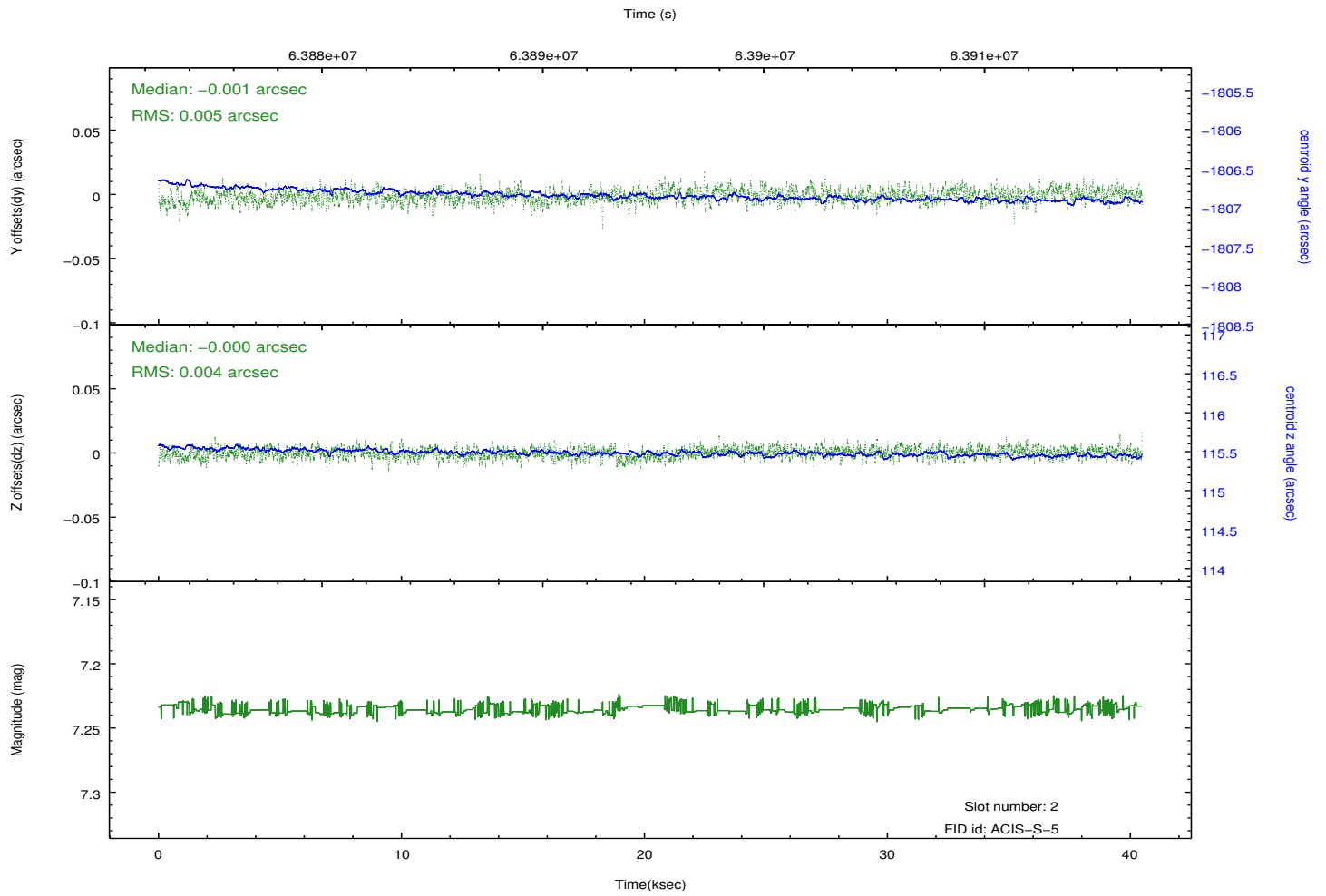
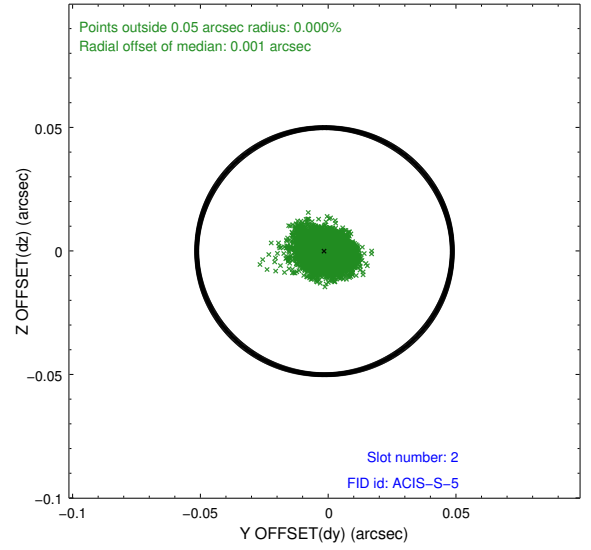
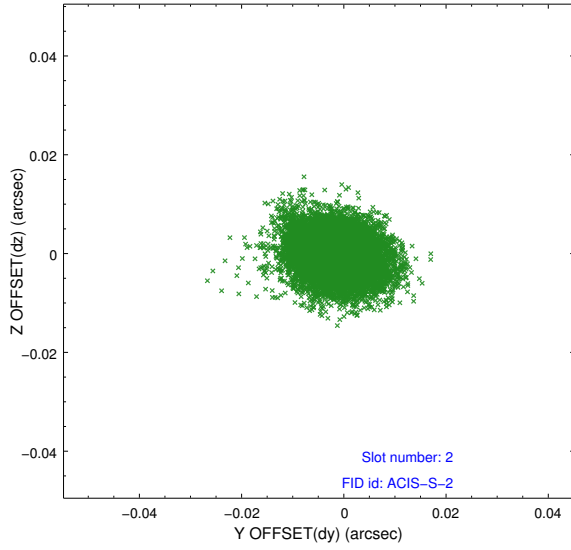
2.5.1 Slot 0



2.5.2 Slot 1

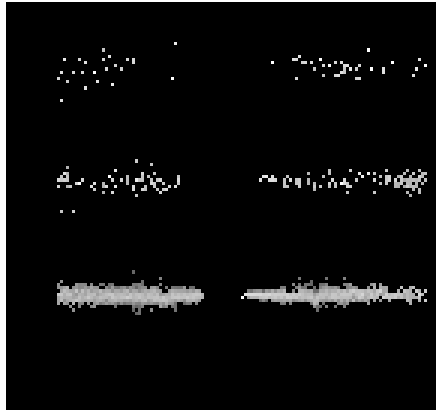


2.5.3 Slot 2

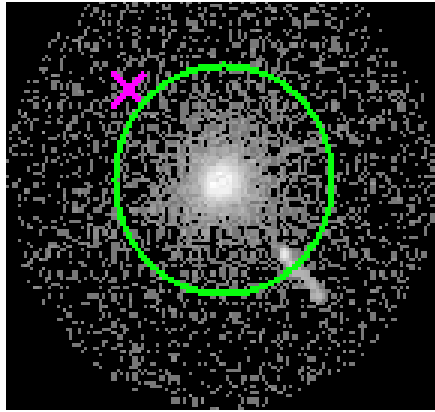


3 Gratings

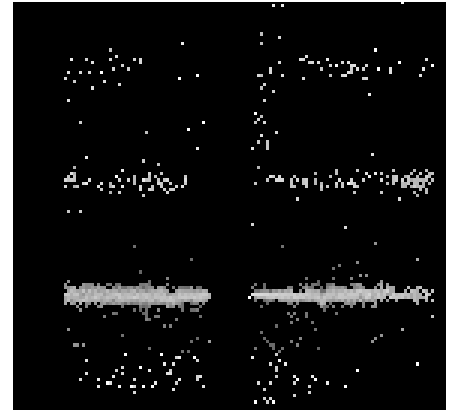
3.1 HEG Arm



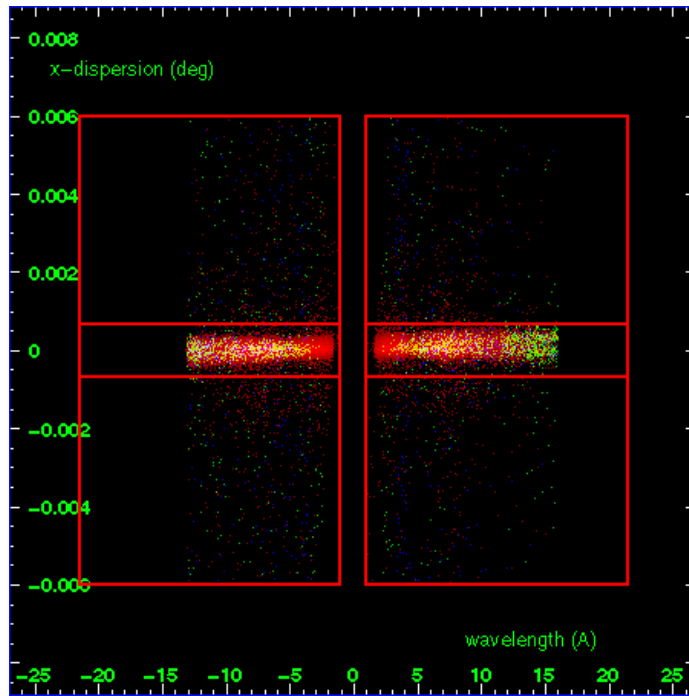
HEG Order Sort 123



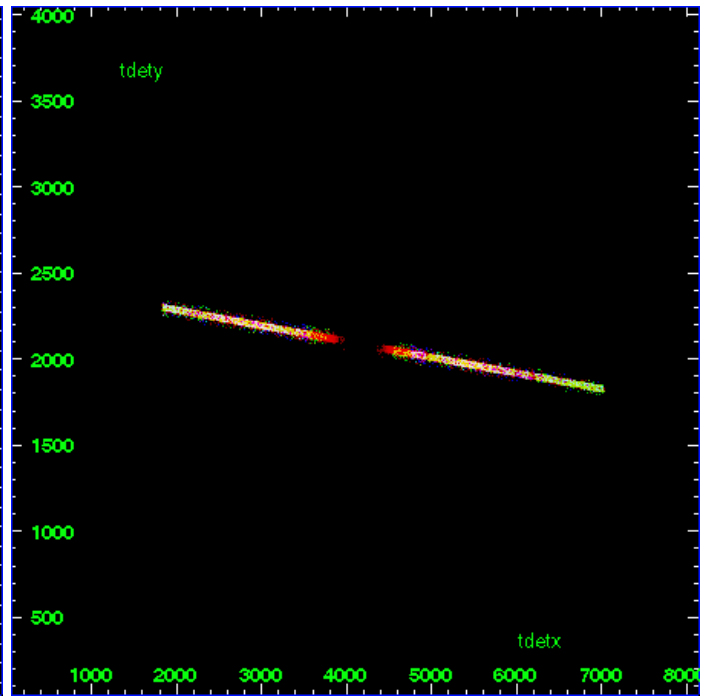
HEG Zero Order



HEG Order Sort ALL

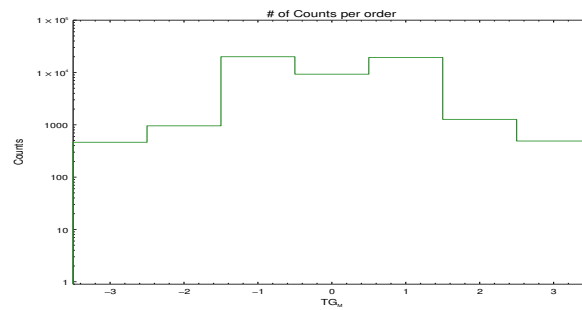


Spot Image HEG

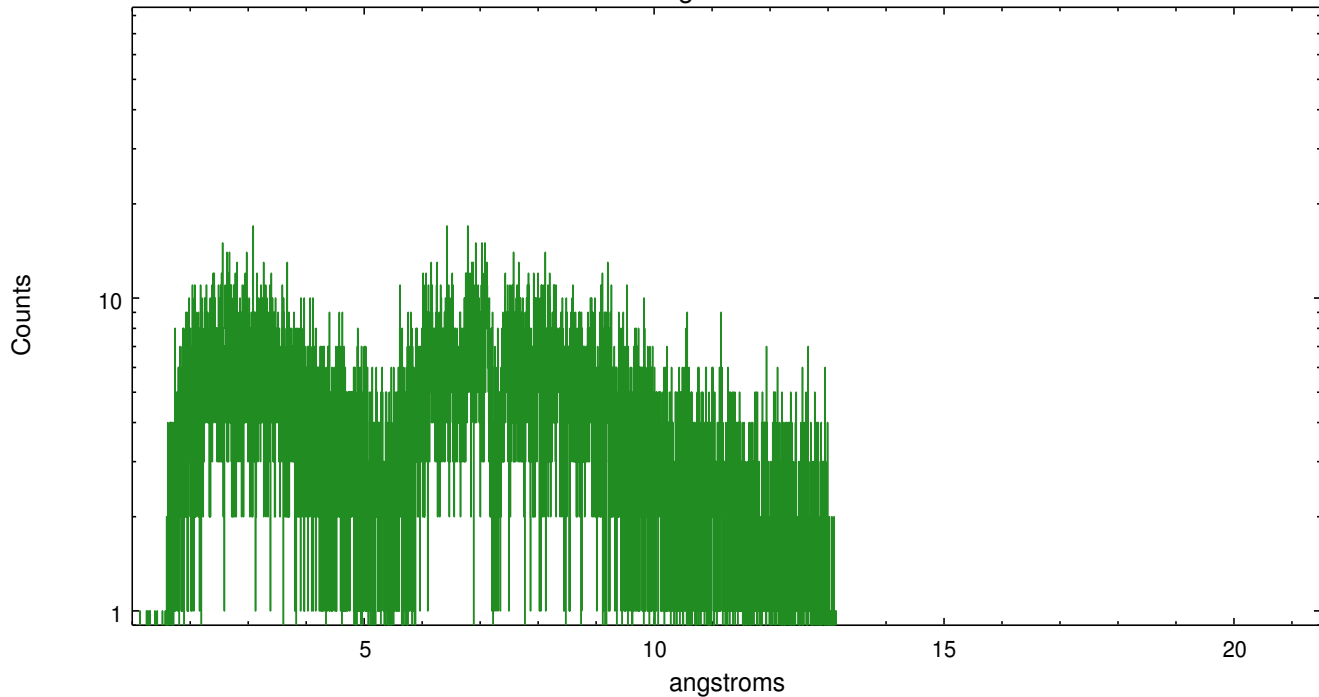


Full Detector HEG

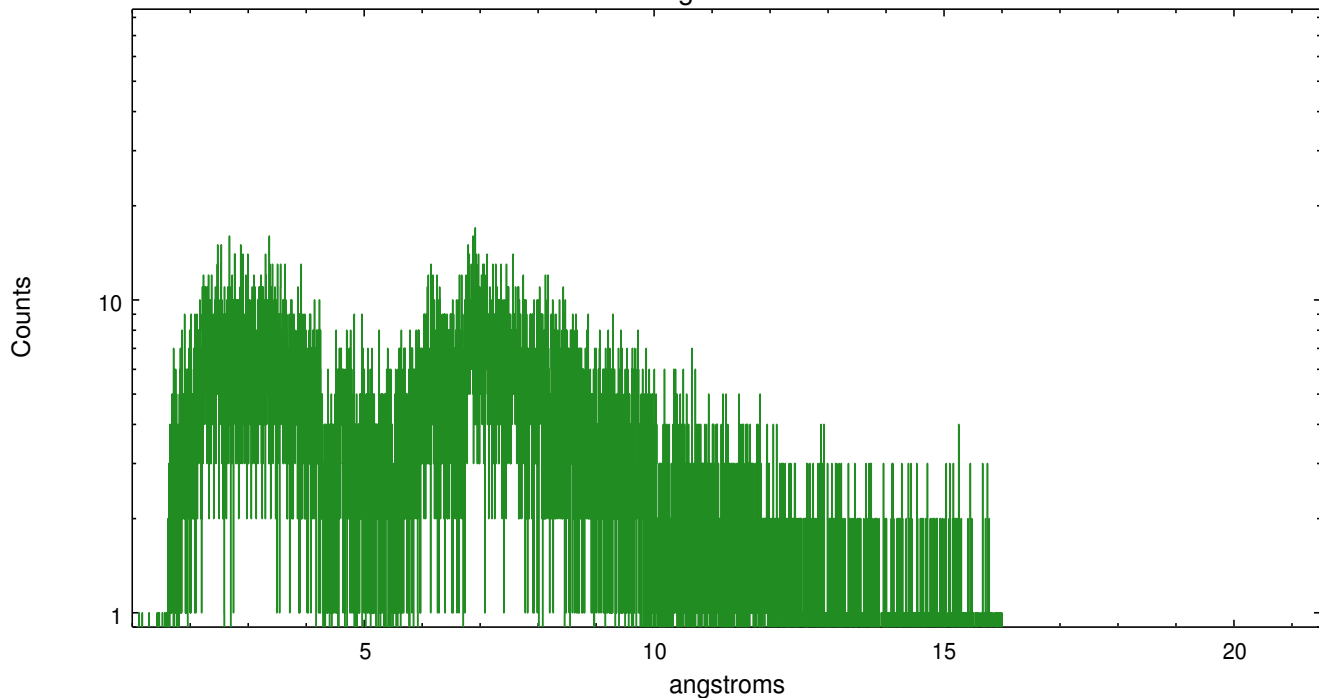
	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	464	956	20005	9284	19319	1271	490



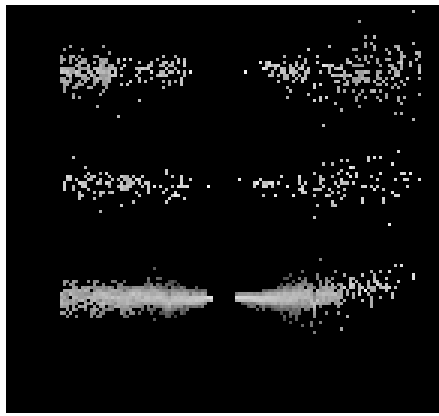
heg order -1



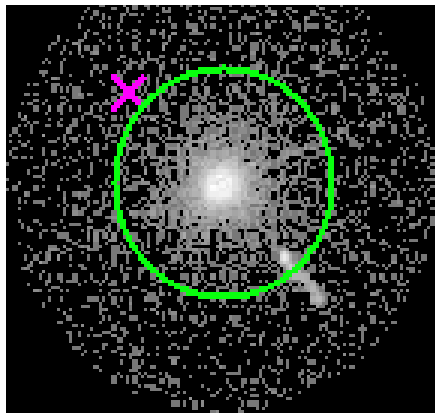
heg order +1



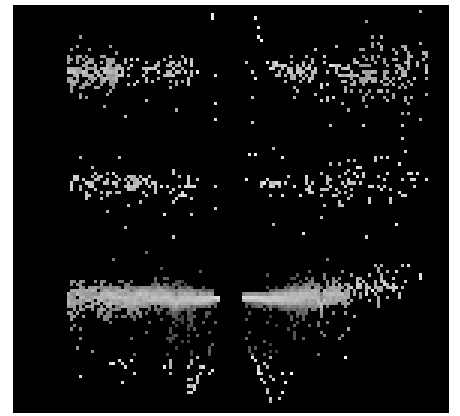
3.2 MEG Arm



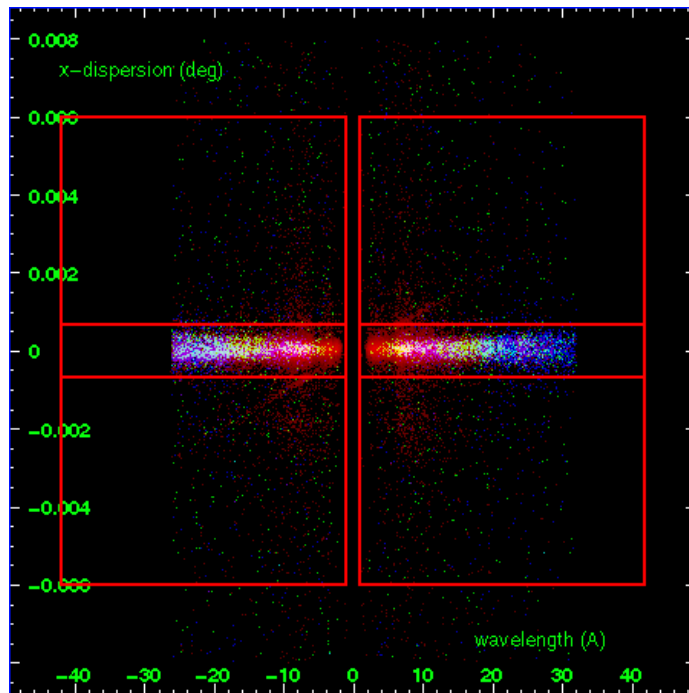
MEG Order Sort 123



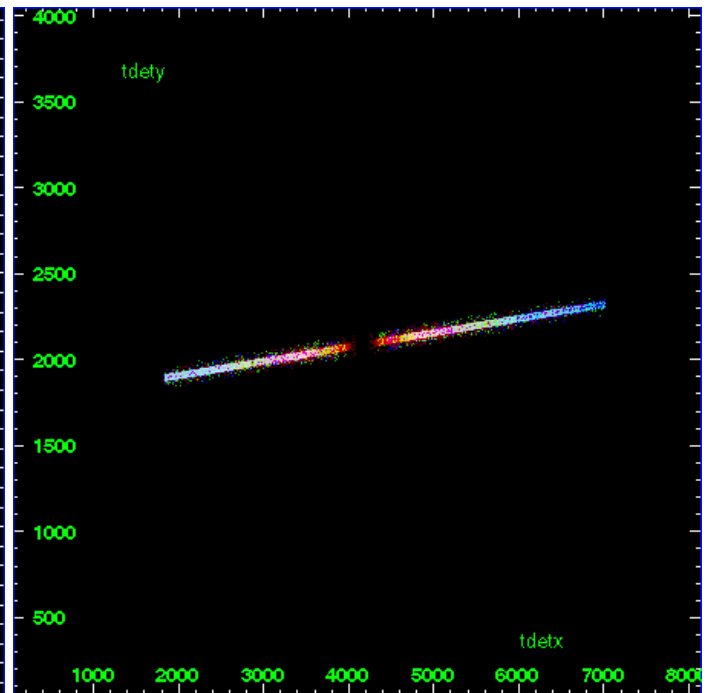
MEG Zero Order



MEG Order Sort ALL

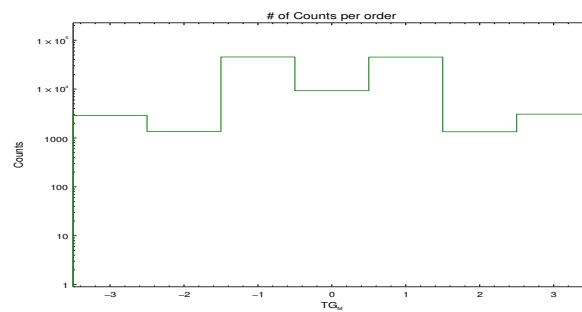


Spot Image MEG

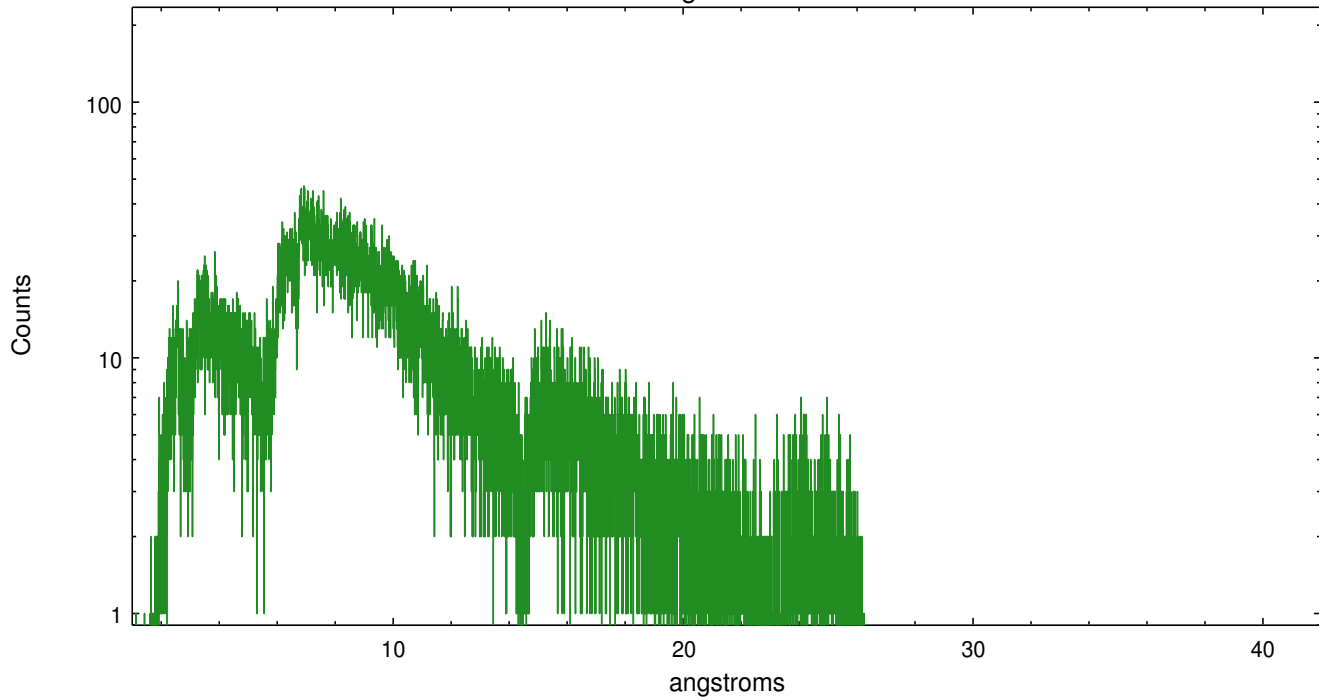


Full Detector MEG

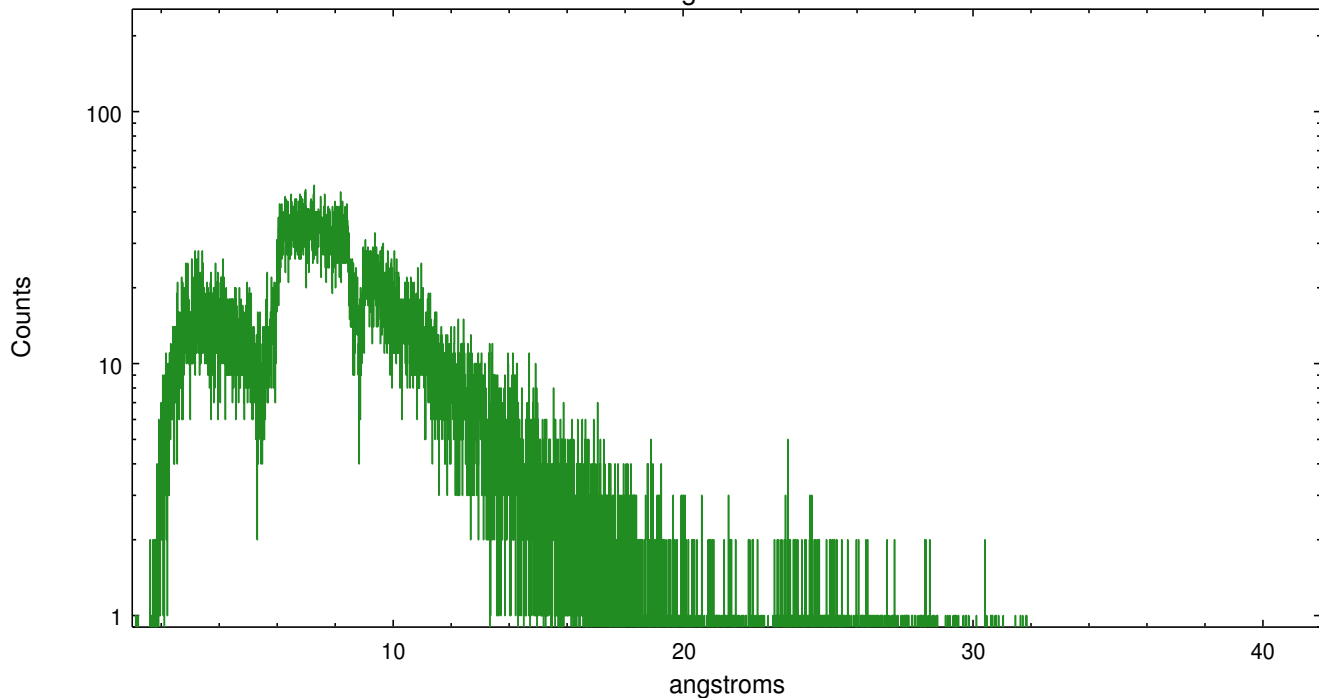
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2883	1362	45429	9284	45140	1341	3067



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2009.12.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.059

A.2 Comments