

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 13220 - L2 Version 3
Chandra X-Ray Center

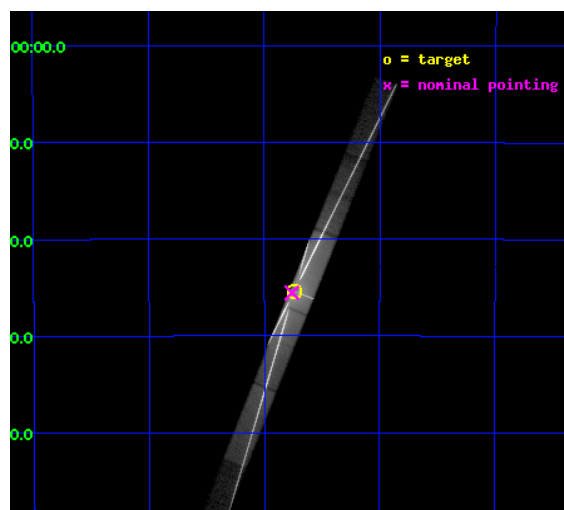
L2 Processing Date : Mar 21 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Parameters	4
2.1.3	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

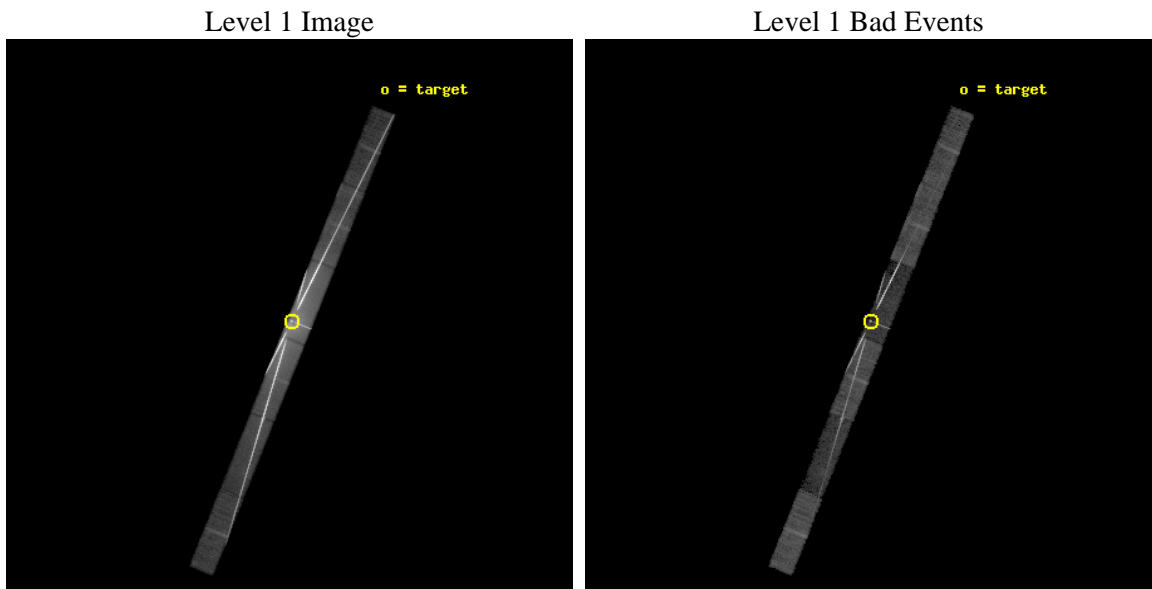
seq_num	900982	Sequence number
obs_id	13220	Observation id
title	ISM Absorption and Broad Line Emission in the Bright Z-Source GX 349+1	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	GX 349+2	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	256.435417	Observer's specified target RA [deg]
dec_targ	-36.423083	Observer's specified target Dec [deg]
ra_nom	256.44025240914	Nominal RA [deg]
dec_nom	-36.425966475648	Nominal Dec [deg]
roll_nom	291.85345513871	Nominal Roll [deg]
revision	3	Processing version of data
ontime	19571.200424194	Sum of GTIs [s]
livetime	18867.279382505	Livetime [s]
ontime4	19571.200424194	Sum of GTIs [s]
ontime5	19571.200424194	Sum of GTIs [s]
ontime6	19571.200424194	Sum of GTIs [s]
ontime7	19571.200424194	Sum of GTIs [s]
ontime8	19571.200424194	Sum of GTIs [s]
ontime9	19571.200424194	Sum of GTIs [s]
l2events	2804935	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	19500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	19571.200424194	Sum of GTIs [s]
caldsver	4.4.8	 	ontime4	19571.200424194	Sum of GTIs [s]
date	2012-03-18T20:13:24	Date and time of file creation	ontime5	19571.200424194	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	19571.200424194	Sum of GTIs [s]
			ontime7	19571.200424194	Sum of GTIs [s]
			ontime8	19571.200424194	Sum of GTIs [s]
			ontime9	19571.200424194	Sum of GTIs [s]
			l1events	3246282	Number of level 1 events

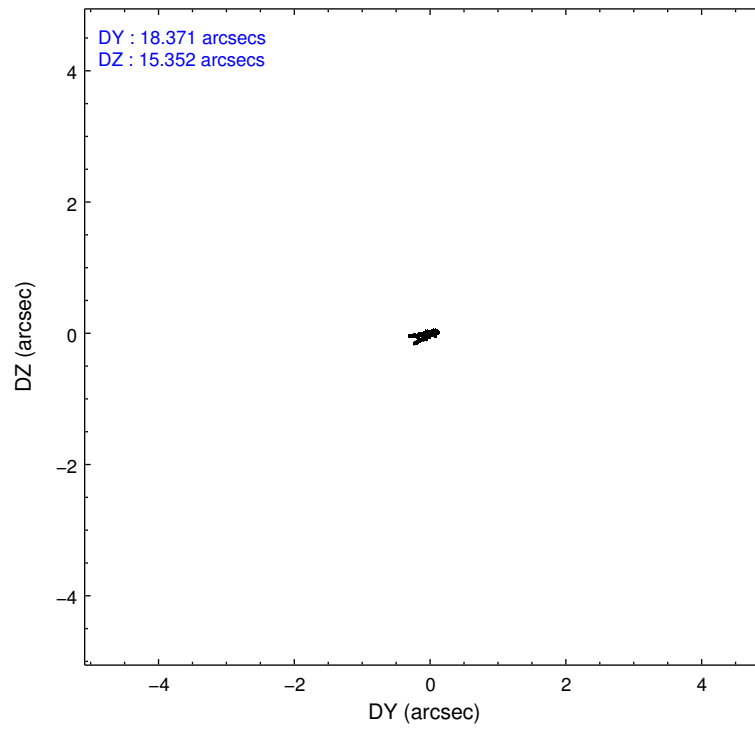
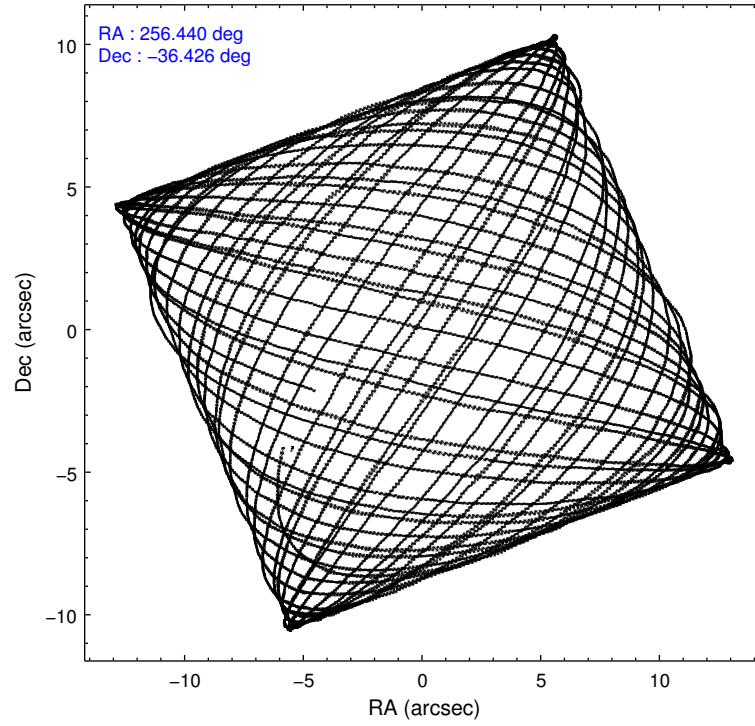
2.1.3 Events

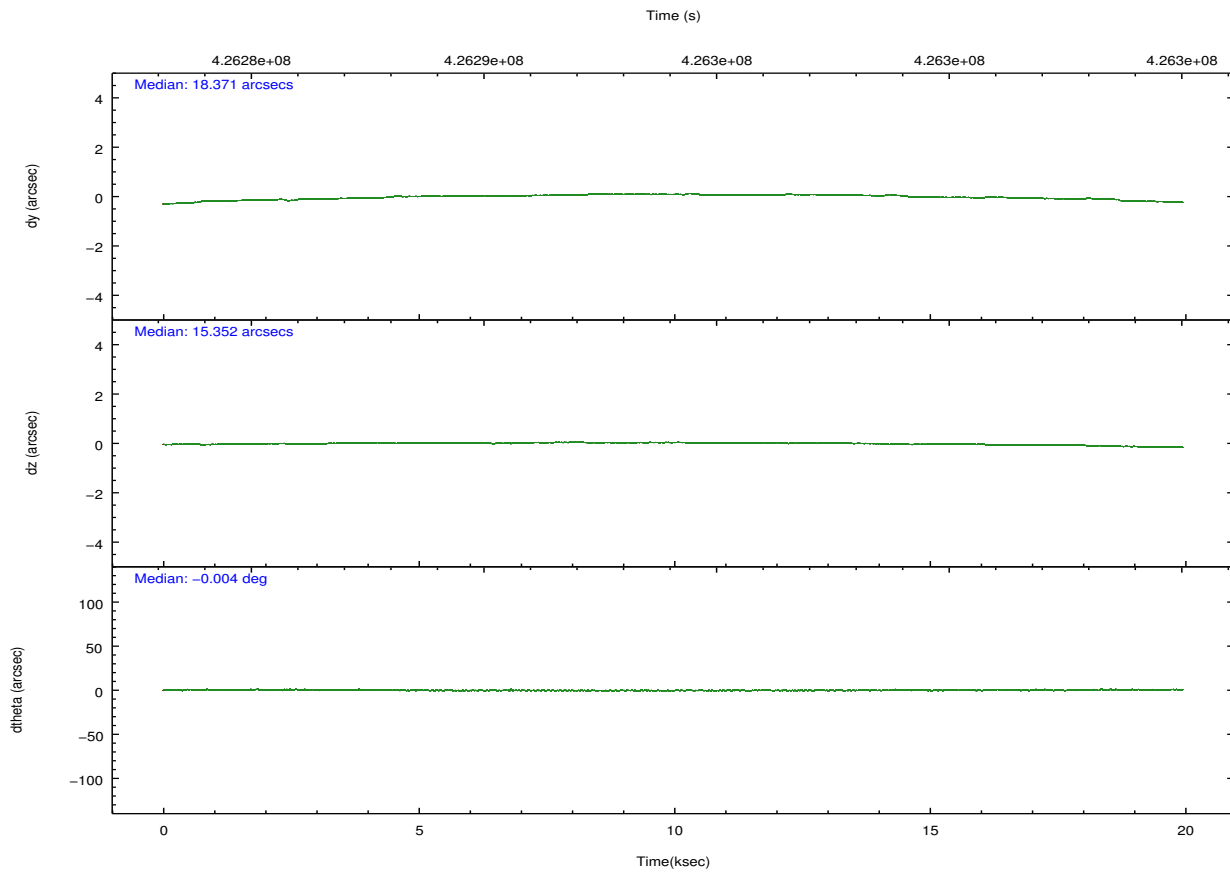
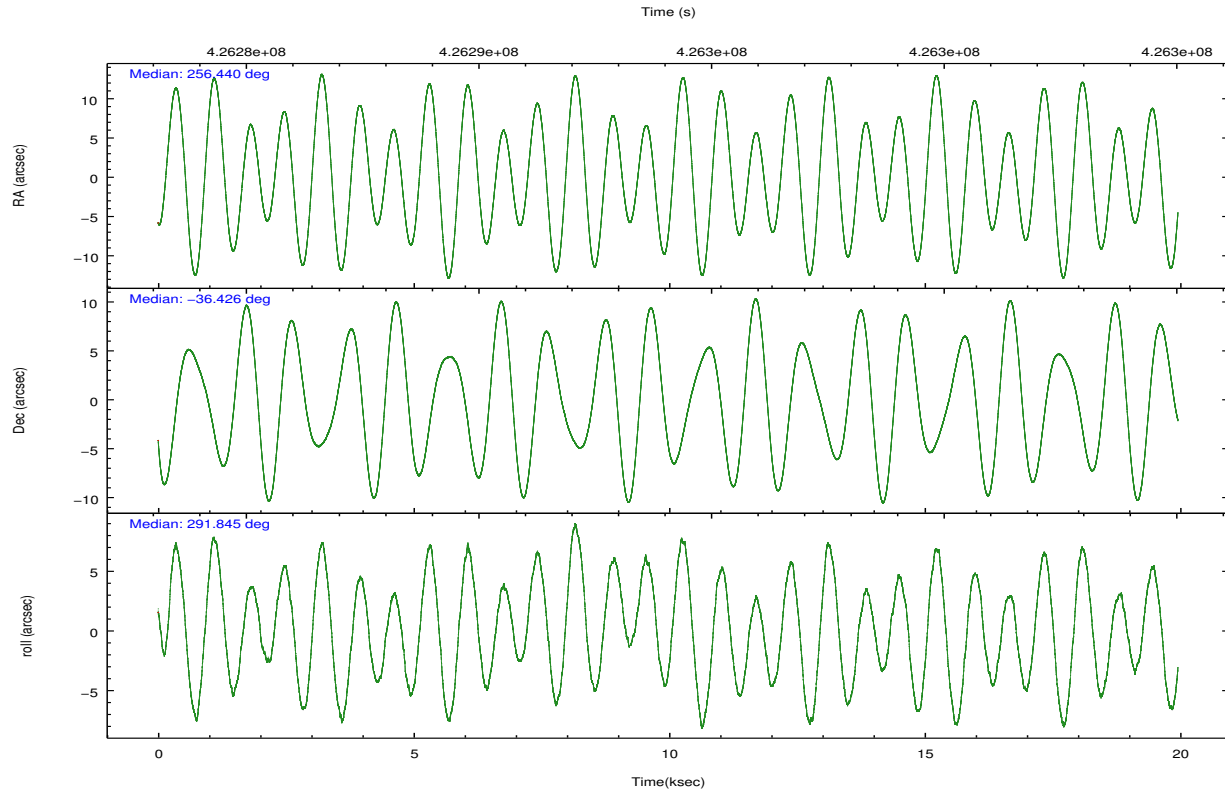
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	62075	235420	1145289	1479188	231966	92344	grade 0 events	18096	58940	734583	233749	151978	48835
rejected events	36188	20462	83259	135866	35307	28165		29%	25%	64%	15%	65%	52%
rejected %	58%	8%	7%	9%	15%	30%	grade 1 events	57	679	22134	9659	1305	134
								0%	0%	1%	0%	0%	0%
							grade 2 events	3868	73873	148092	337583	22075	7812
								6%	31%	12%	22%	9%	8%
							grade 3 events	1377	17799	55106	136693	7518	2732
								2%	7%	4%	9%	3%	2%
							grade 4 events	1323	17644	53274	136276	7457	2650
								2%	7%	4%	9%	3%	2%
							grade 5 events	702	5268	18298	47515	1890	820
								1%	2%	1%	3%	0%	0%
							grade 6 events	1225	46736	71144	499203	7664	2157
								1%	19%	6%	33%	3%	2%
							grade 7 events	35427	14481	42658	78510	32079	27204
								57%	6%	3%	5%	13%	29%

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	GRADED	GRADED	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	256.413253	256.4402524091402	CCD I2 on	N	N
[deg] Pointing Dec	-36.409369	-36.42596647564754	CCD I3 on	N	N
[deg] Pointing Roll	291.680801	291.8534551387145	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	-178.832523	-178.8407330846613	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-11.3	-11.29178949834656	CCD S4 on	Y	Y
[s] Observation start time (MET)	426284539.184000	426283541.93024	CCD S5 on	Y	Y
Observation start date	2011-07-05T20:21:13	2011-07-05T20:05:41	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	426304039.184000	426304687.68134	On-chip summing requested	N	N
Observation end date	2011-07-06T01:46:13	2011-07-06T01:58:07	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	300	300
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

2.3 Aspect



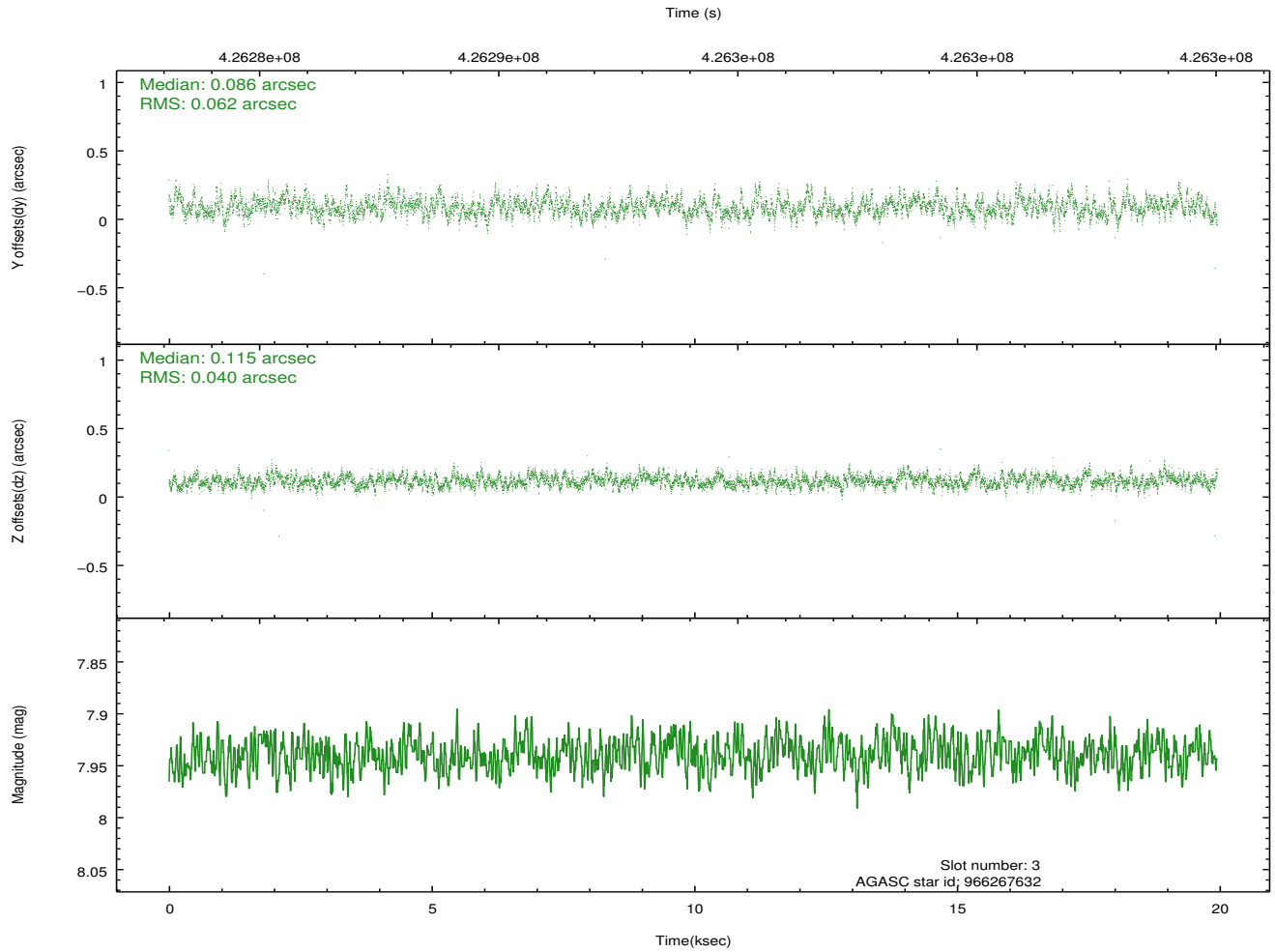
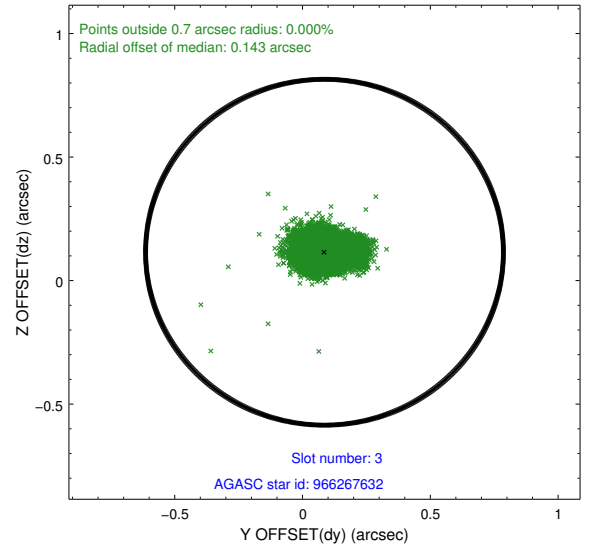
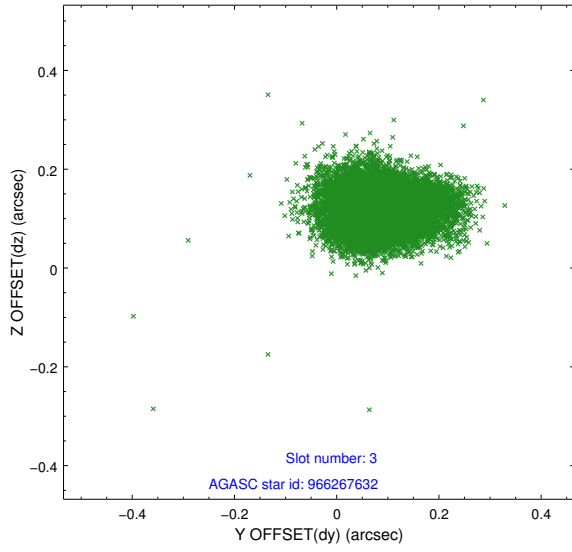


Slot Statistics

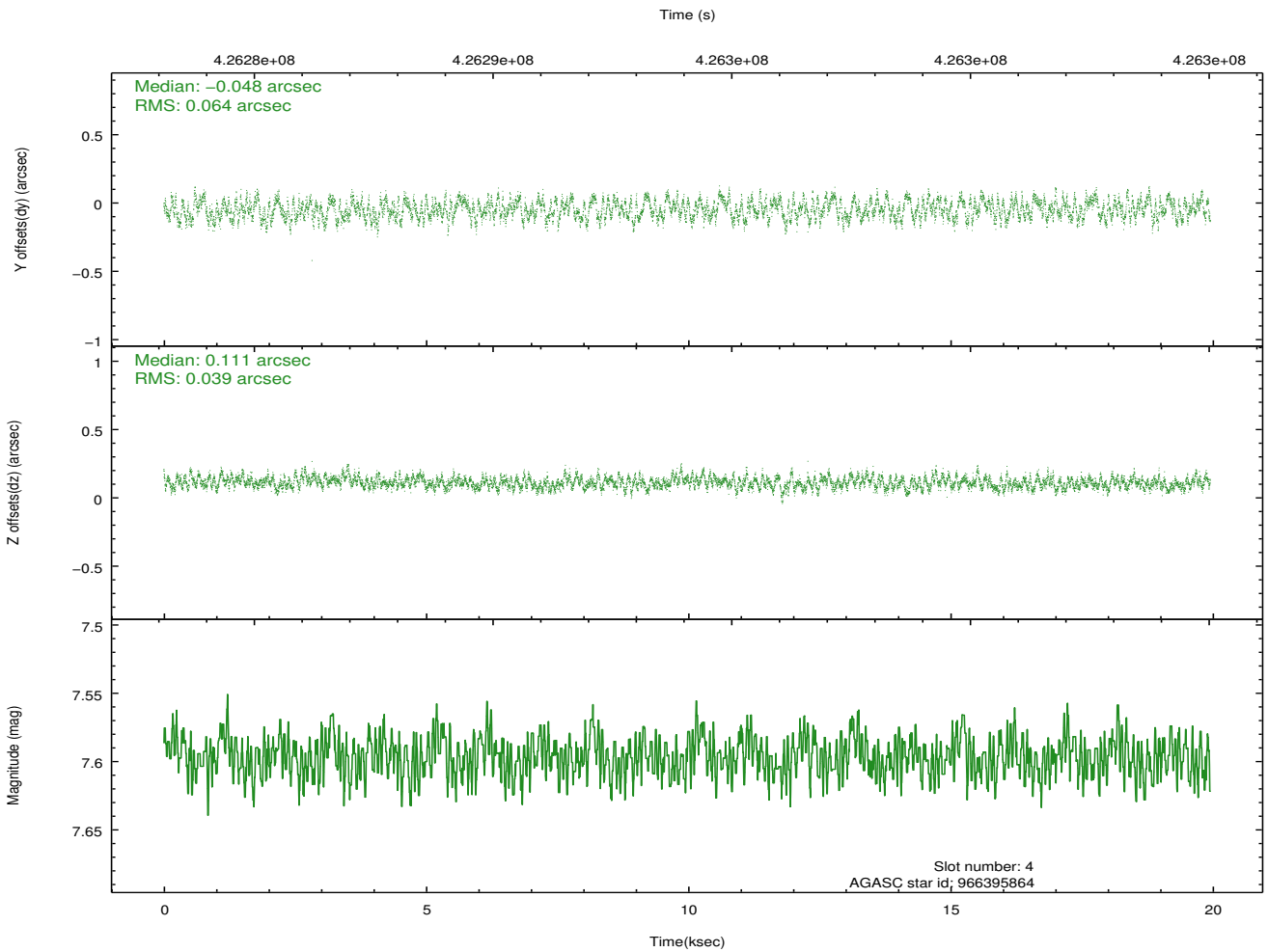
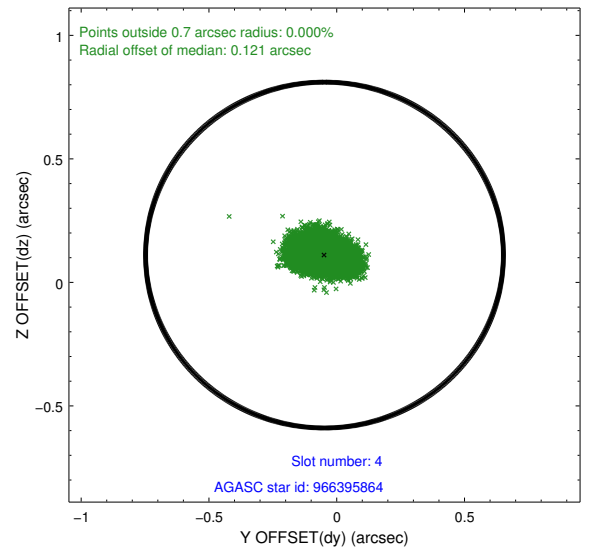
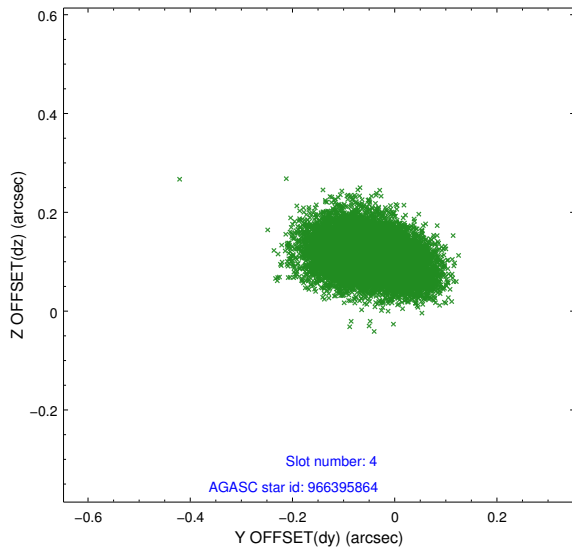
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.92	4867	-0.128	-0.408	0.010	0.016	0.000000	0.000000	-770.68	-1969.59
1	FID	ACIS-S-4	7.01	4867	0.224	0.170	0.008	0.015	0.000000	0.000000	2142.85	-60.78
2	FID	ACIS-S-5	7.09	4867	-0.128	0.246	0.008	0.014	0.000000	0.000000	-1823.30	-66.84
3	GUIDE	966267632	7.94	9733	0.086	0.115	0.076	0.129	256.428991	-36.740525	1125.07	-397.76
4	GUIDE	966395864	7.60	9733	-0.048	0.111	0.082	0.127	256.670769	-36.077904	-830.91	1136.88
5	GUIDE	966396120	7.84	9663	-0.121	-0.240	0.056	0.091	256.737004	-36.720258	1386.82	454.44
6	GUIDE	966401448	7.88	9732	-0.055	0.076	0.073	0.128	256.771484	-35.758991	-1787.21	1836.87
7	GUIDE	966268912	8.83	9726	0.127	-0.066	0.099	0.164	255.909665	-37.161225	1985.66	-2343.41

2.4 Star Slots

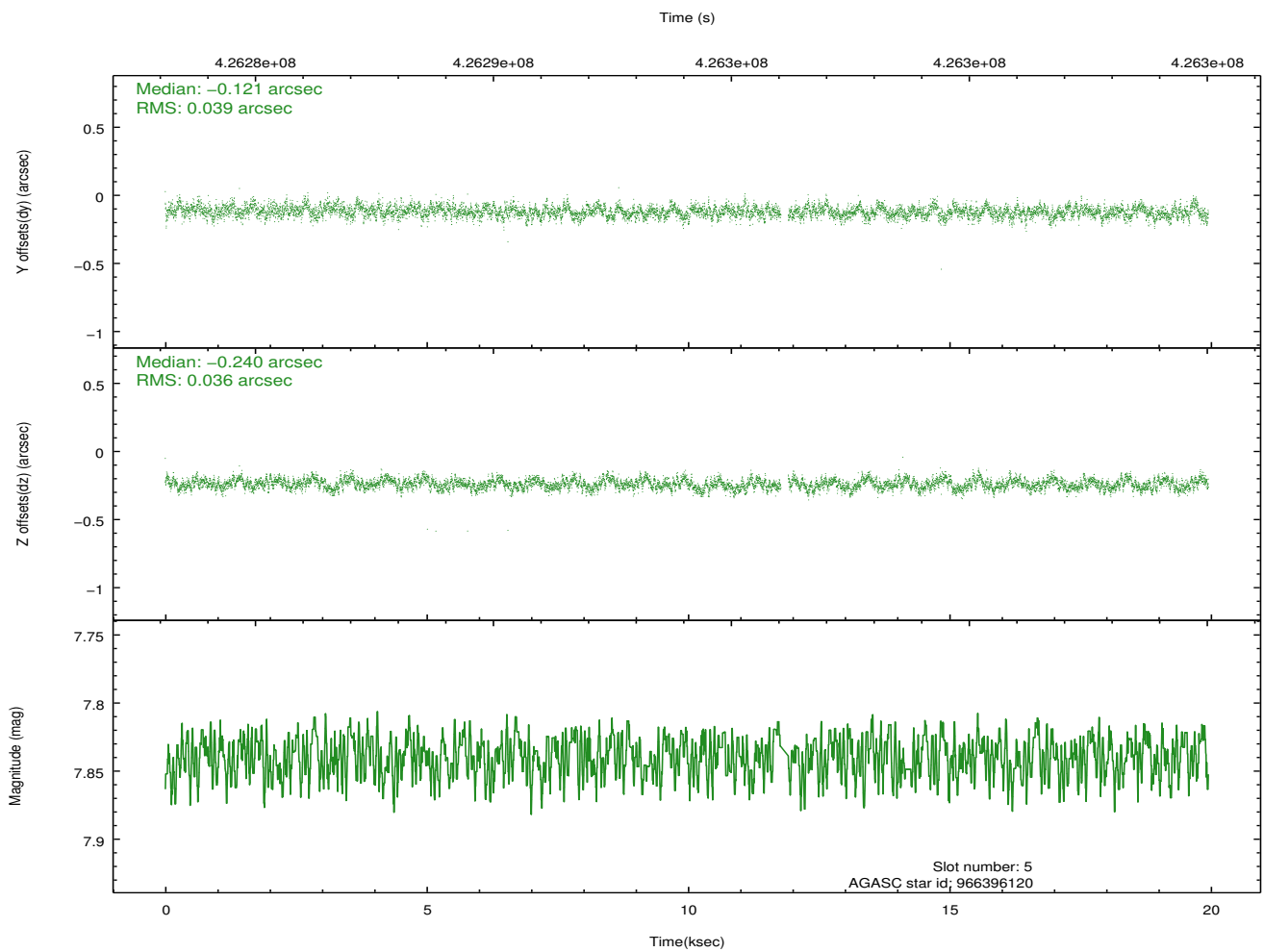
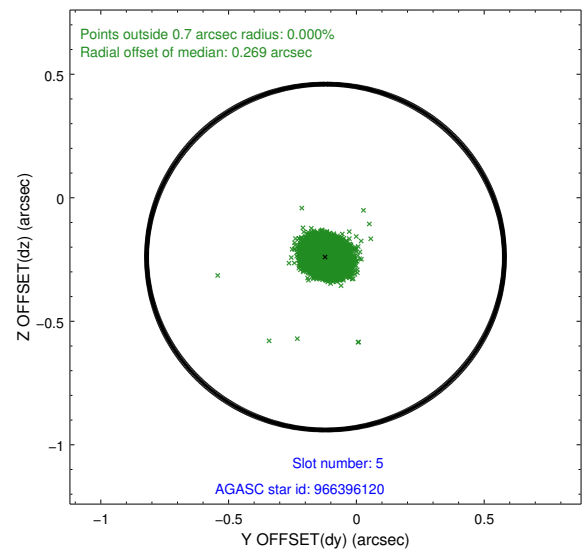
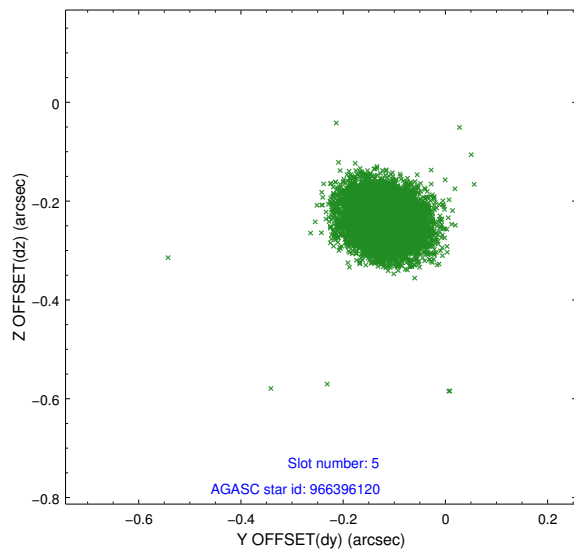
2.4.1 Slot 3



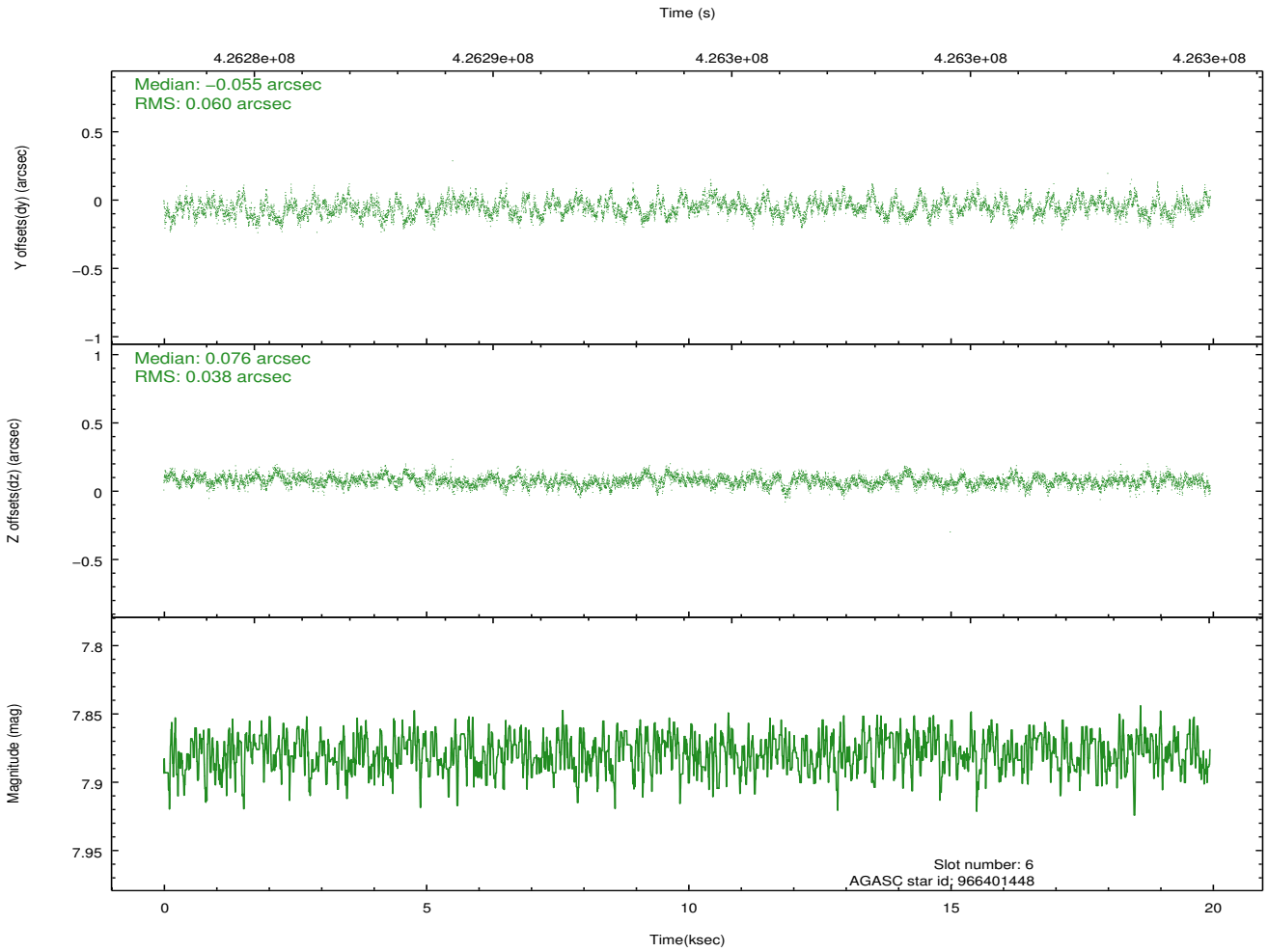
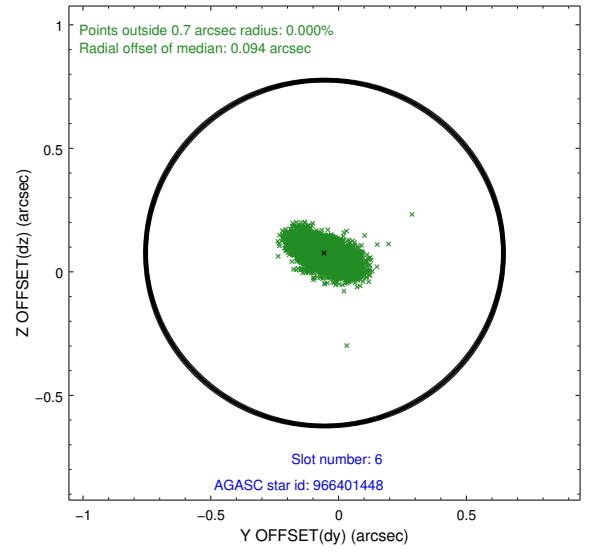
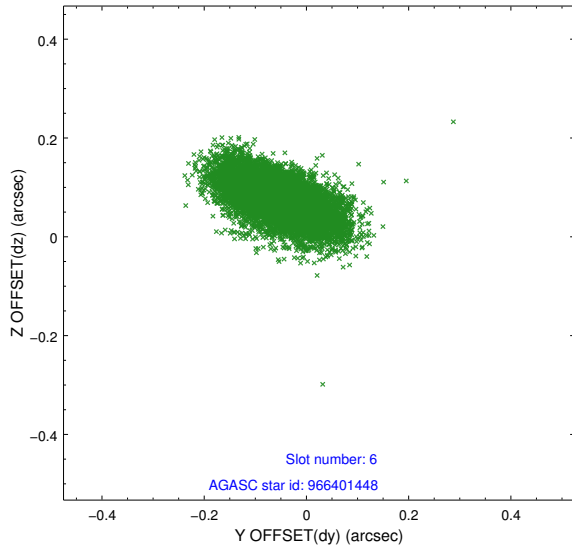
2.4.2 Slot 4



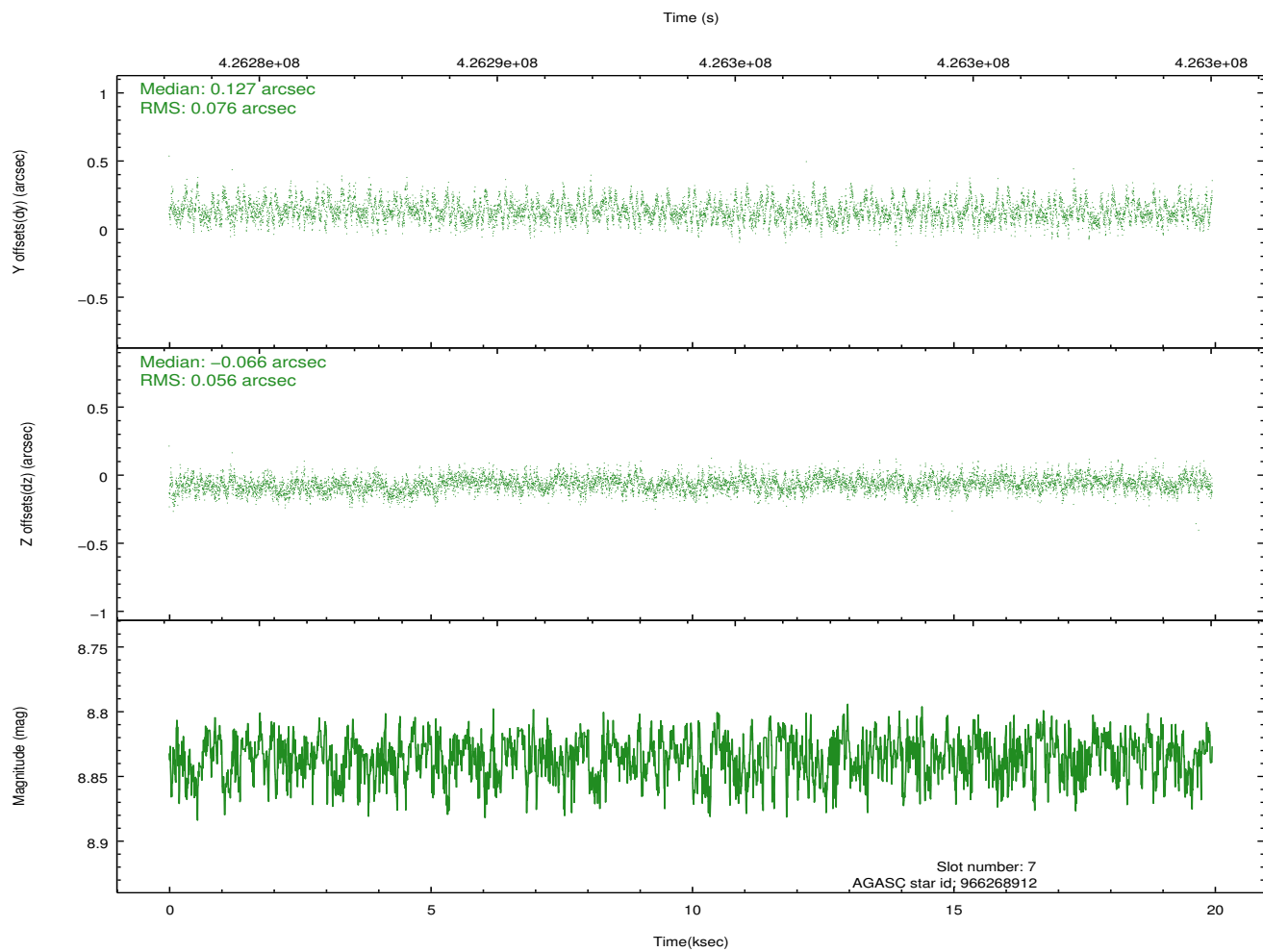
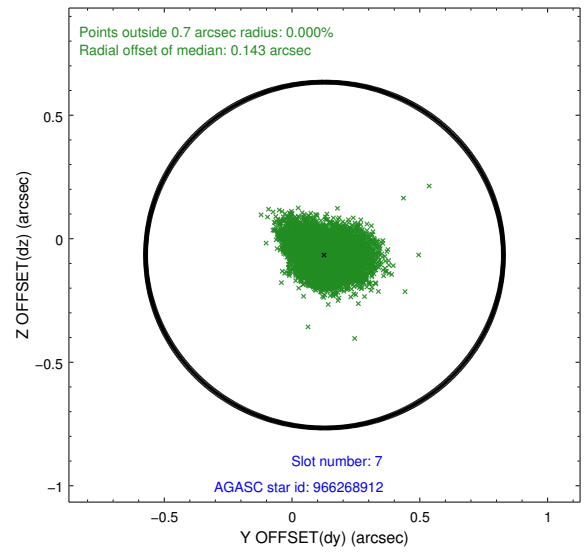
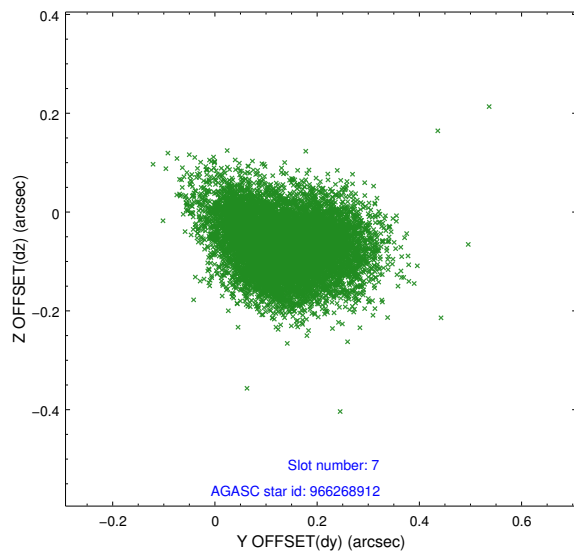
2.4.3 Slot 5



2.4.4 Slot 6

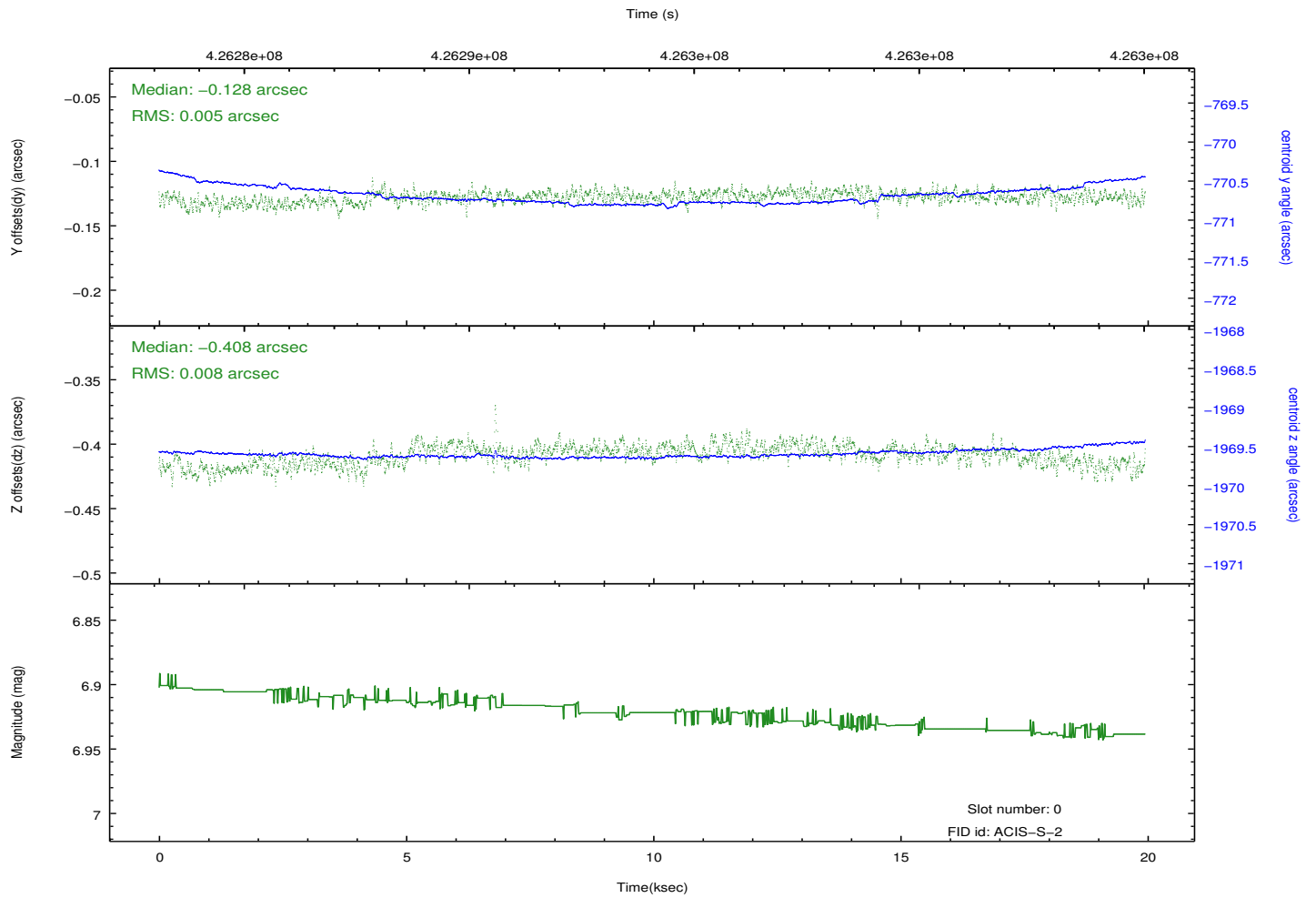
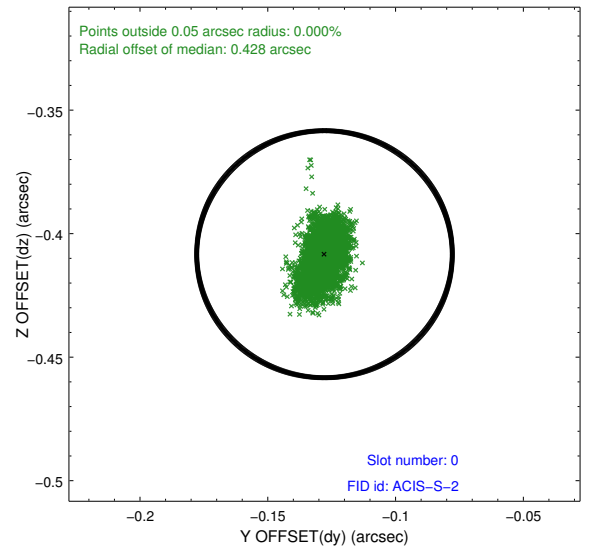
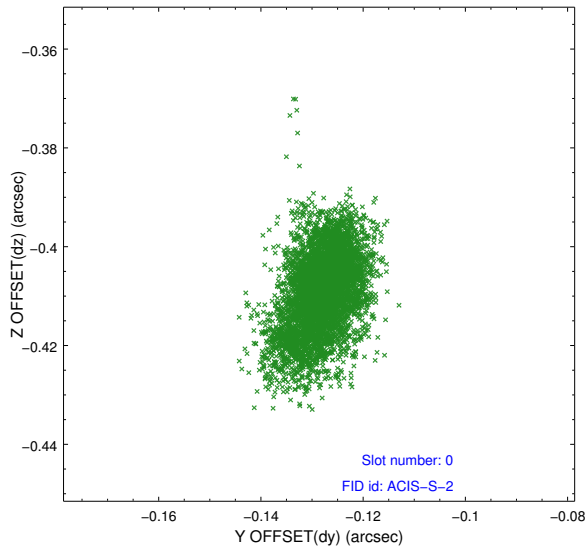


2.4.5 Slot 7

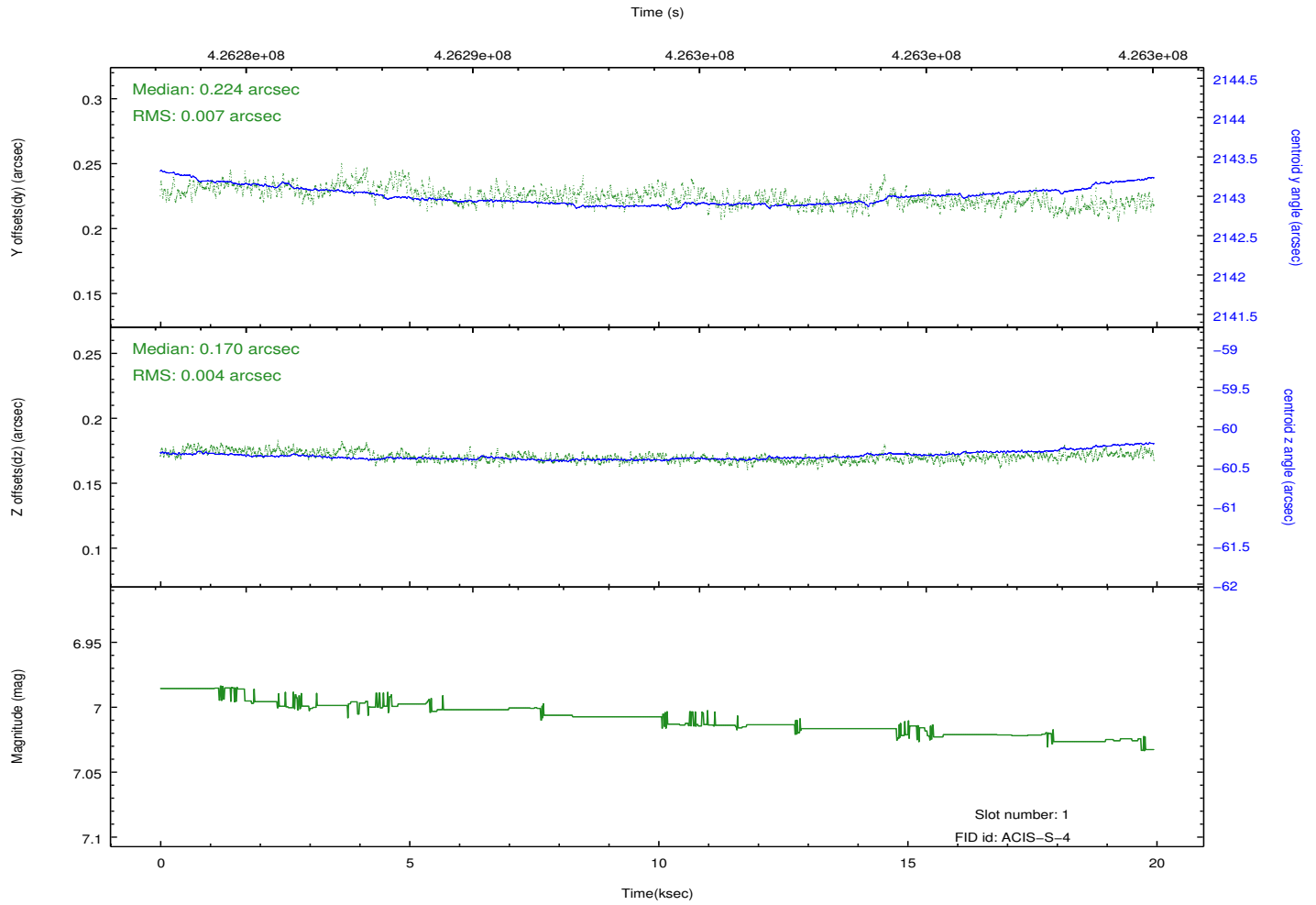
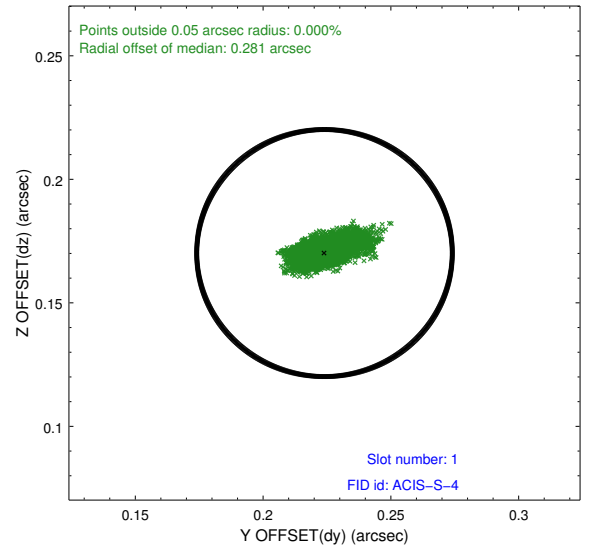
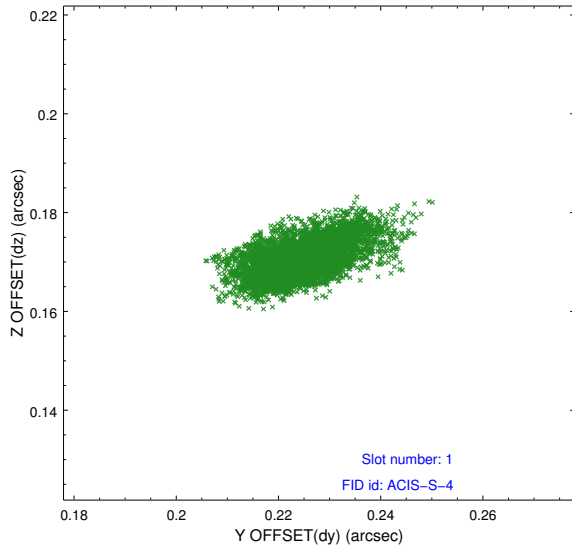


2.5 FID Slots

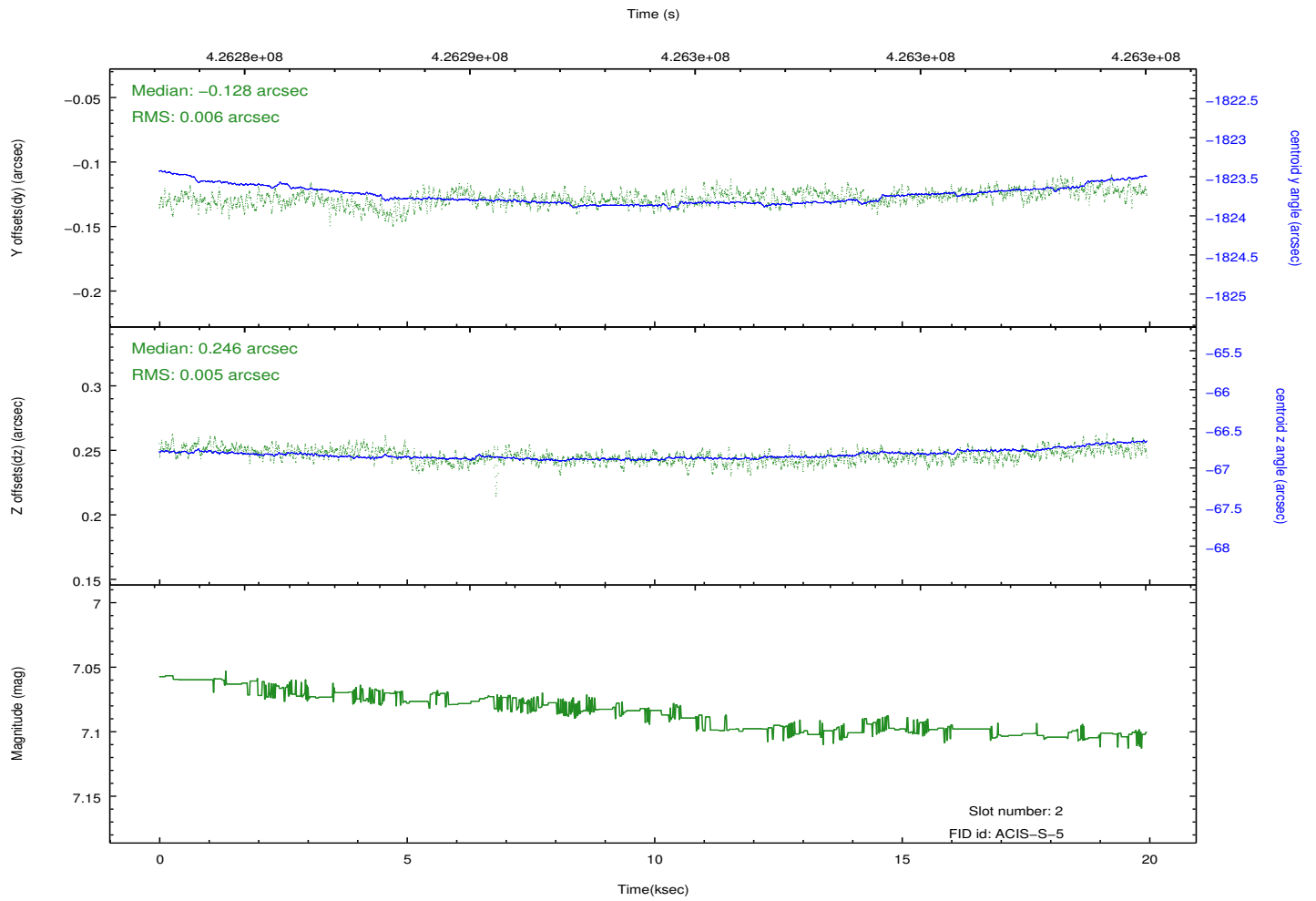
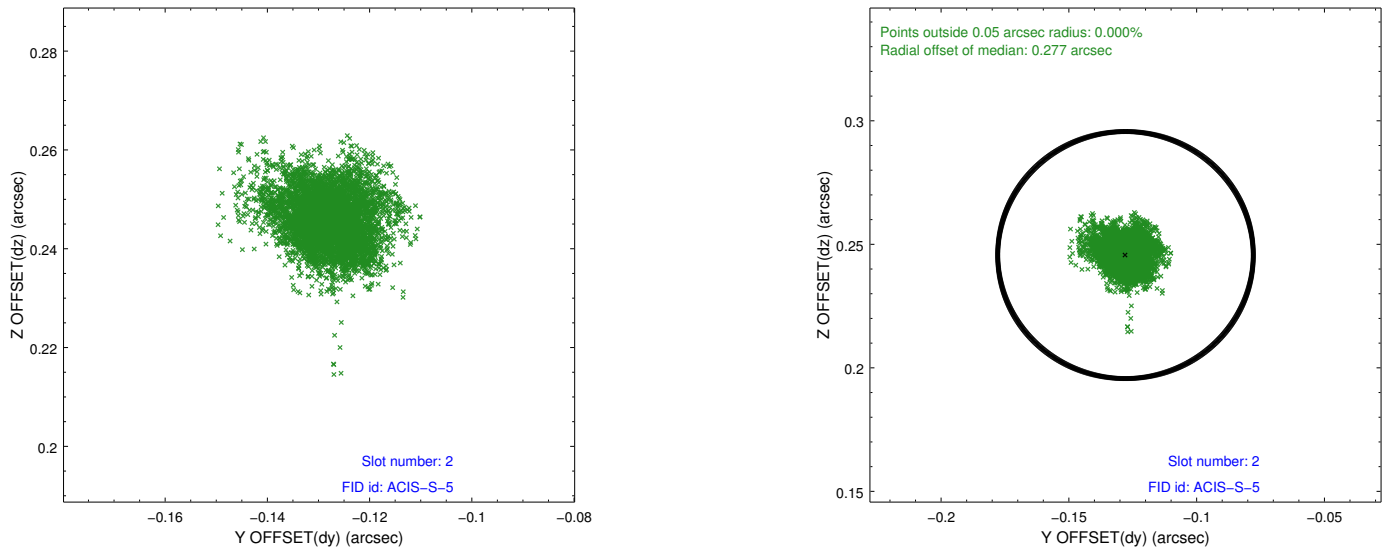
2.5.1 Slot 0



2.5.2 Slot 1

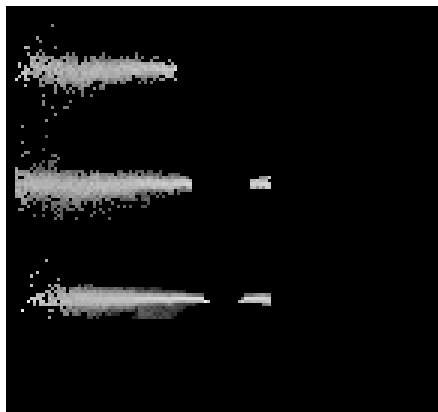


2.5.3 Slot 2

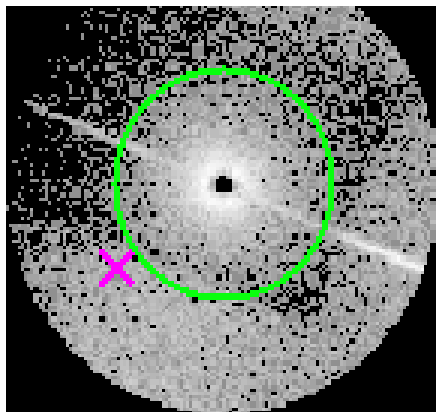


3 Gratings

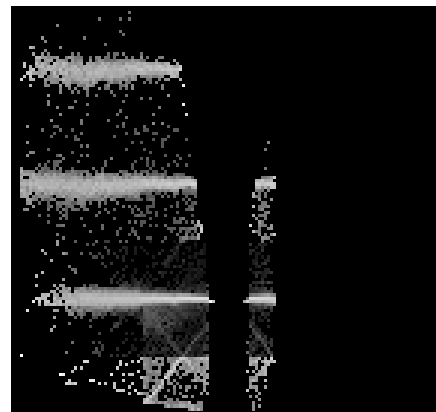
3.1 HEG Arm



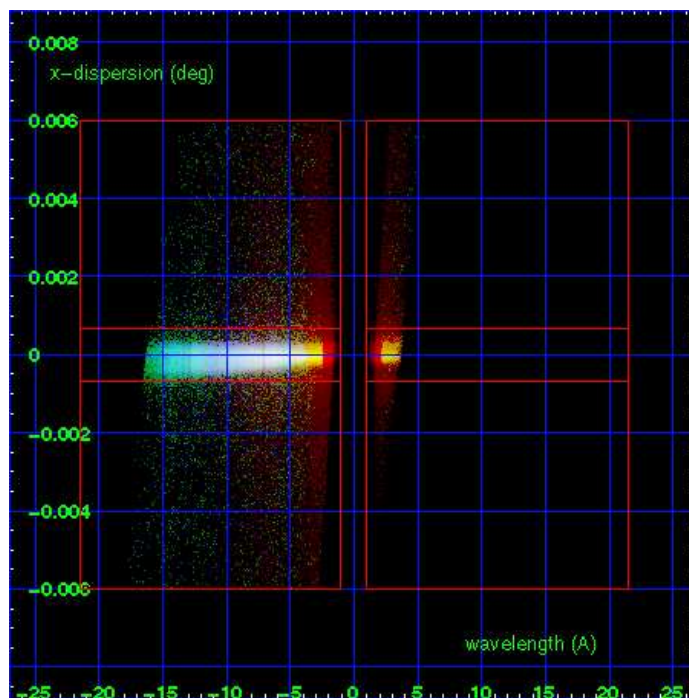
HEG Order Sort 123



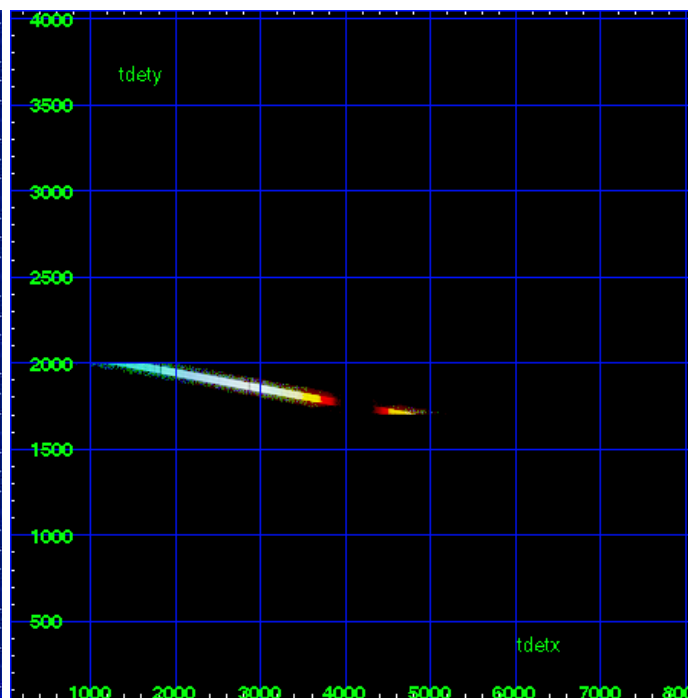
HEG Zero Order



HEG Order Sort ALL

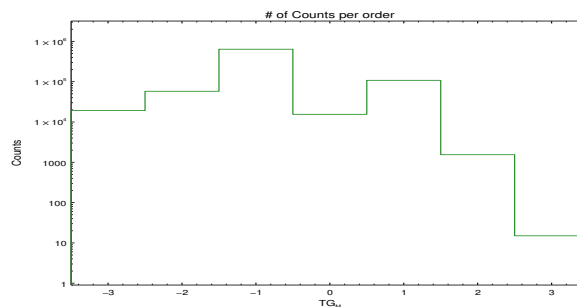


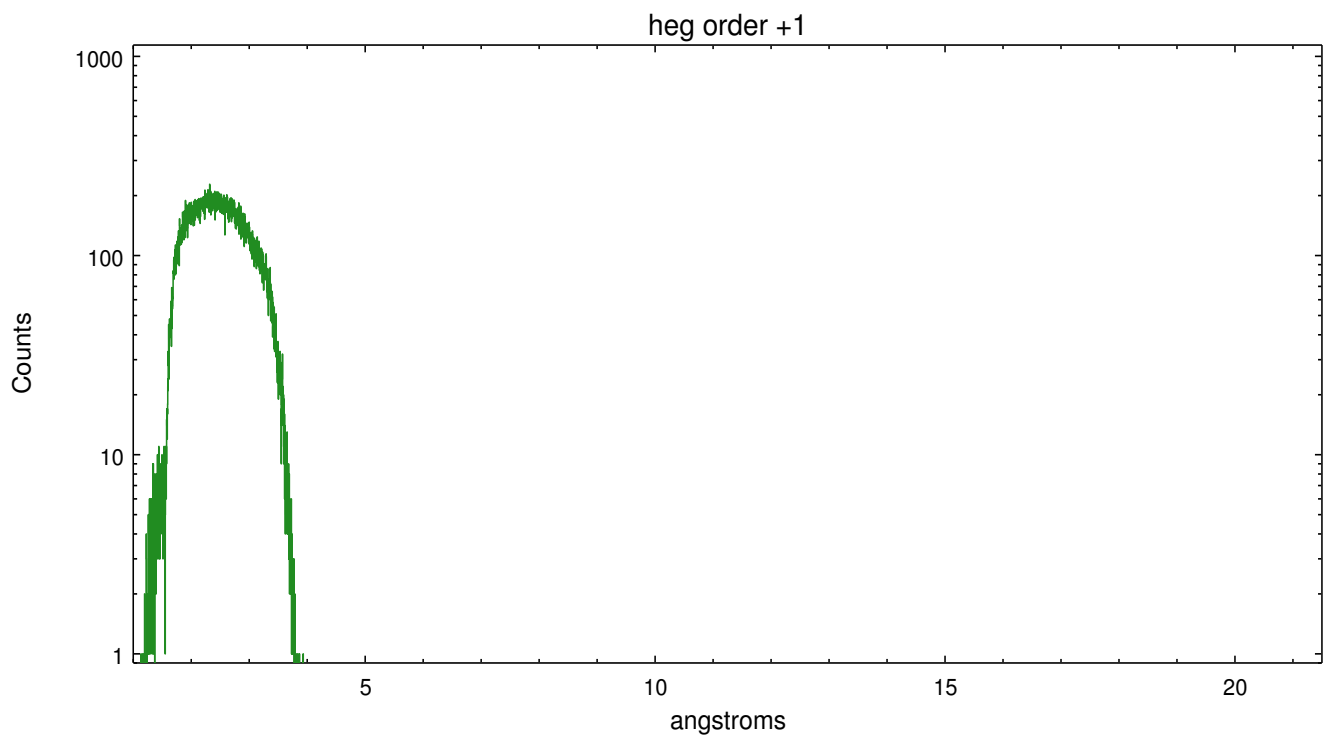
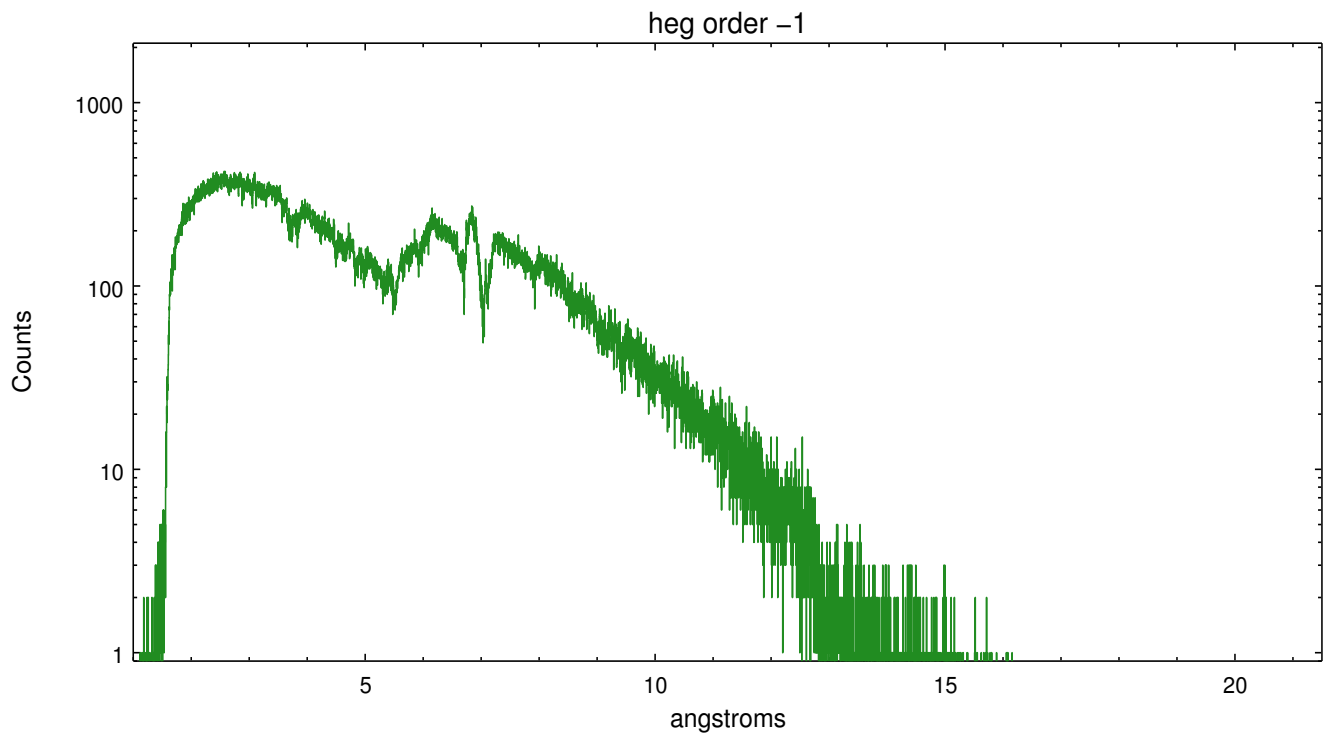
Spot Image HEG



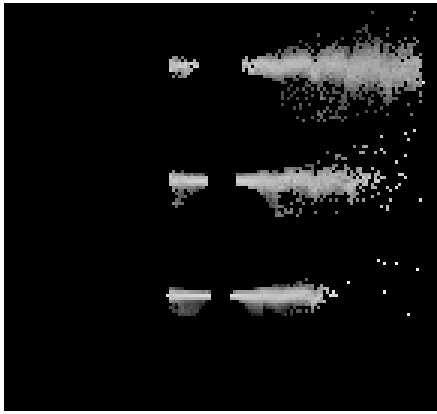
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	19192	57830	639308	15495	108102	1543	15

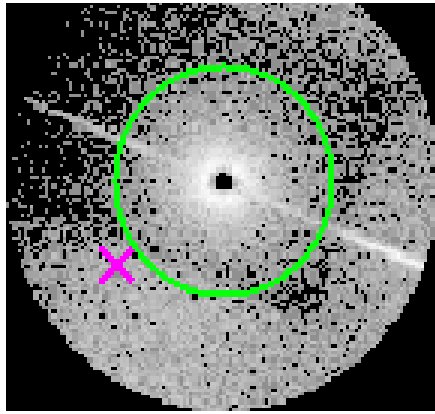




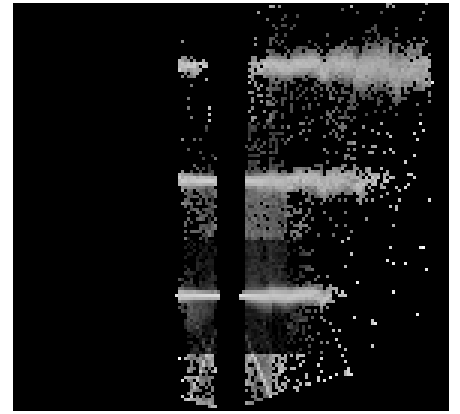
3.2 MEG Arm



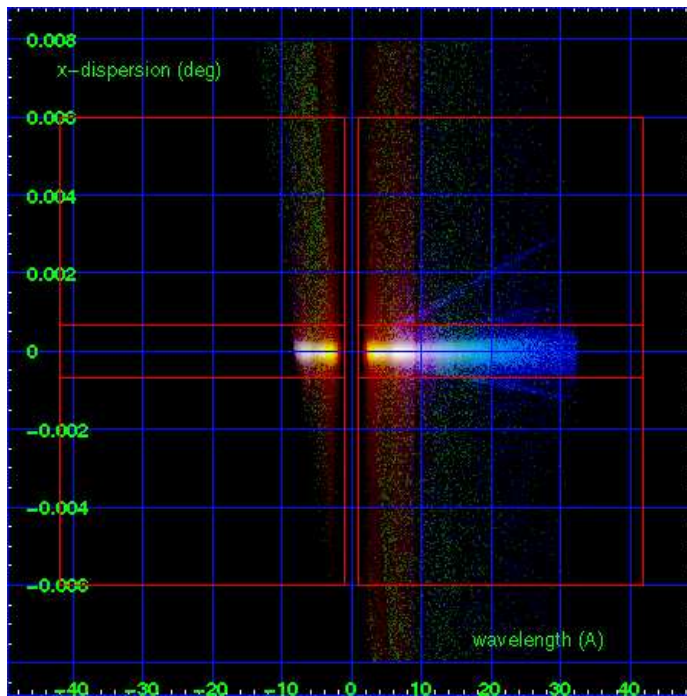
MEG Order Sort 123



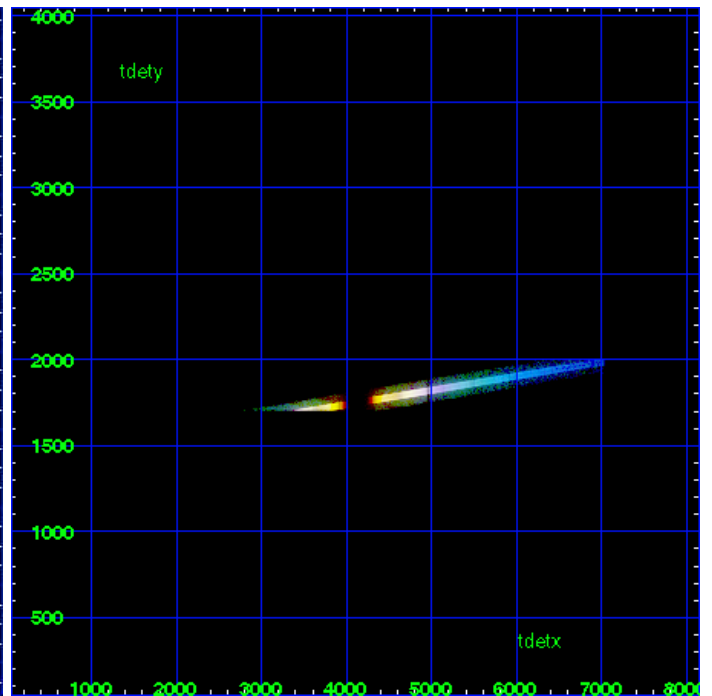
MEG Zero Order



MEG Order Sort ALL

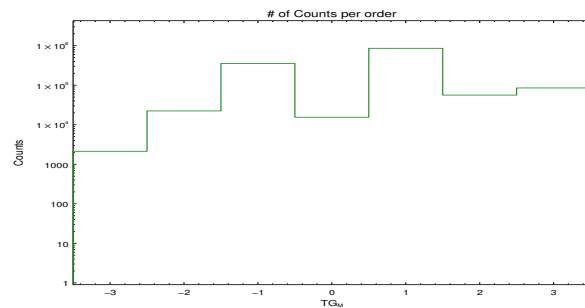


Spot Image MEG

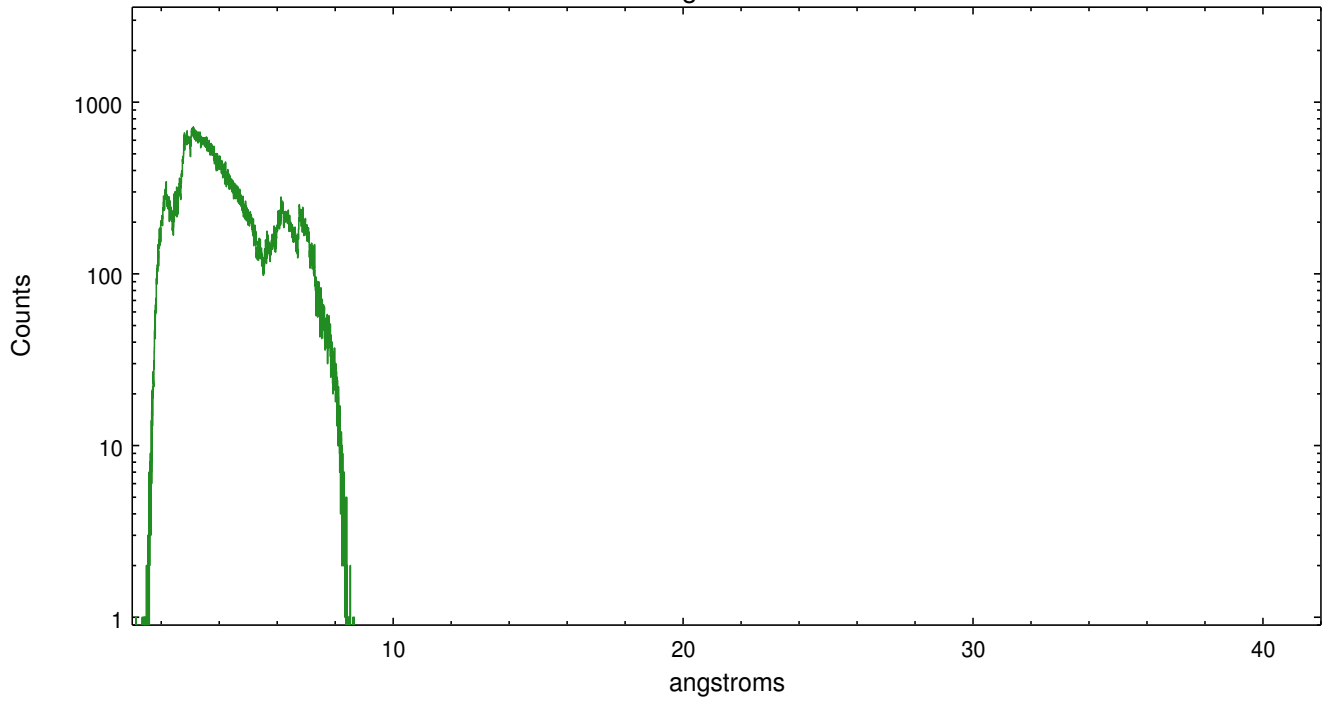


Full Detector MEG

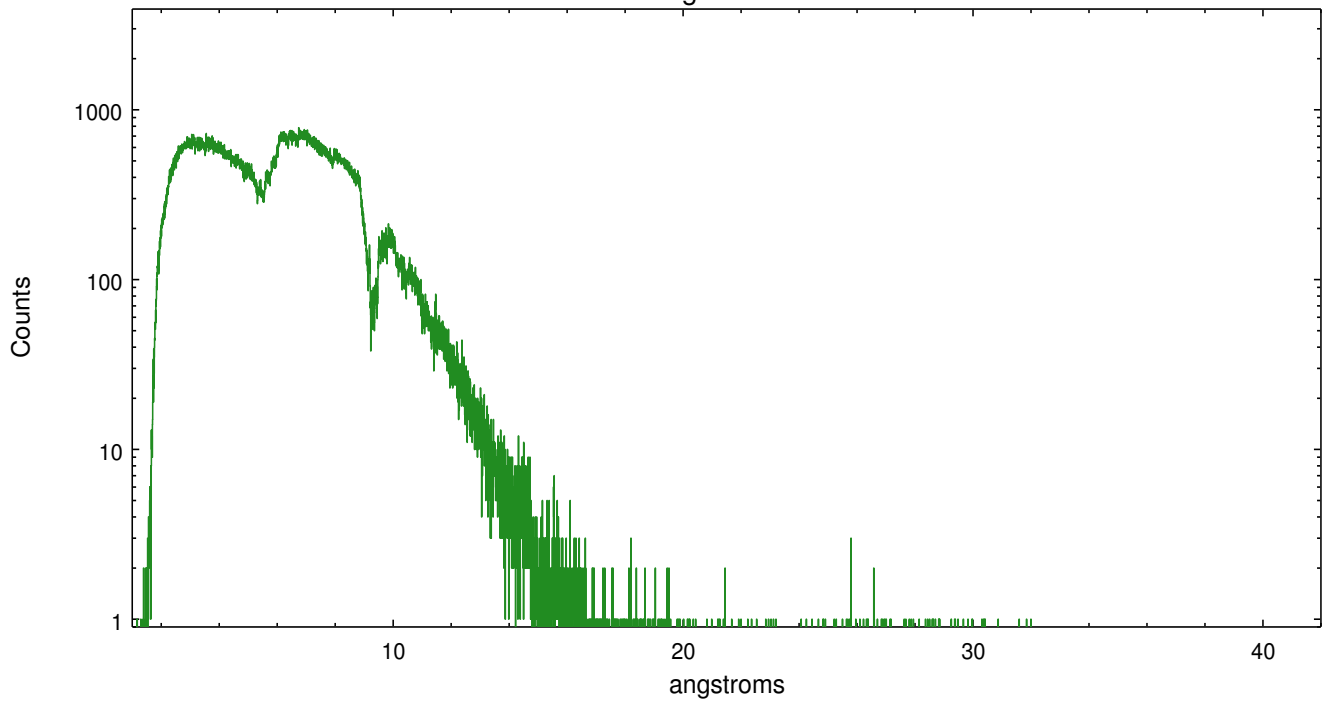
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2129	22363	355553	15495	857372	56270	85275



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.03.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.571200424194

A.2 Comments

Exclusion window for zeroth order excludes 9 out of every 10 events to reduce pileup. However, the spectra appear strongly in the Level 1 Bad Events image, and so may have significant pileup.

=====

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=4125.57, y=4118.33) 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 (currently in ISIS). The tool calculates the point of intersection of the readout streak and the meg arm (preferred position), or the readout streak and the heg 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.

====

The requested large SIM motion resulted in a large offset in the position of the fid light in slot 0.

Comments for Obi 0

Fid in slot 0 radial offset > 0.400000 arcsec