

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 13716 - L2 Version 2
Chandra X-Ray Center

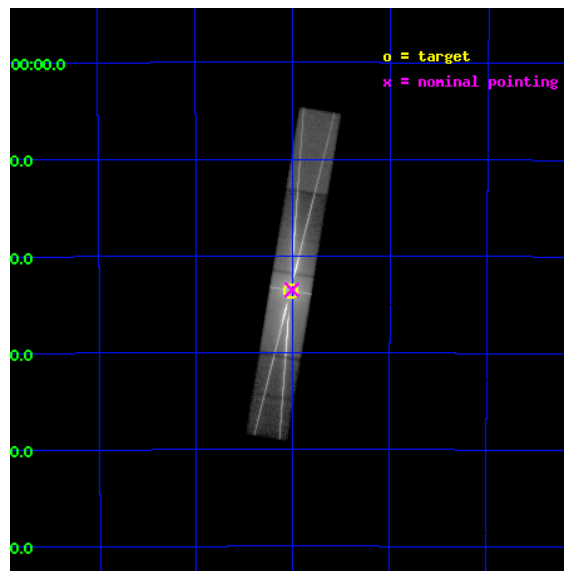
L2 Processing Date : Jan 27 2012

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1 Front

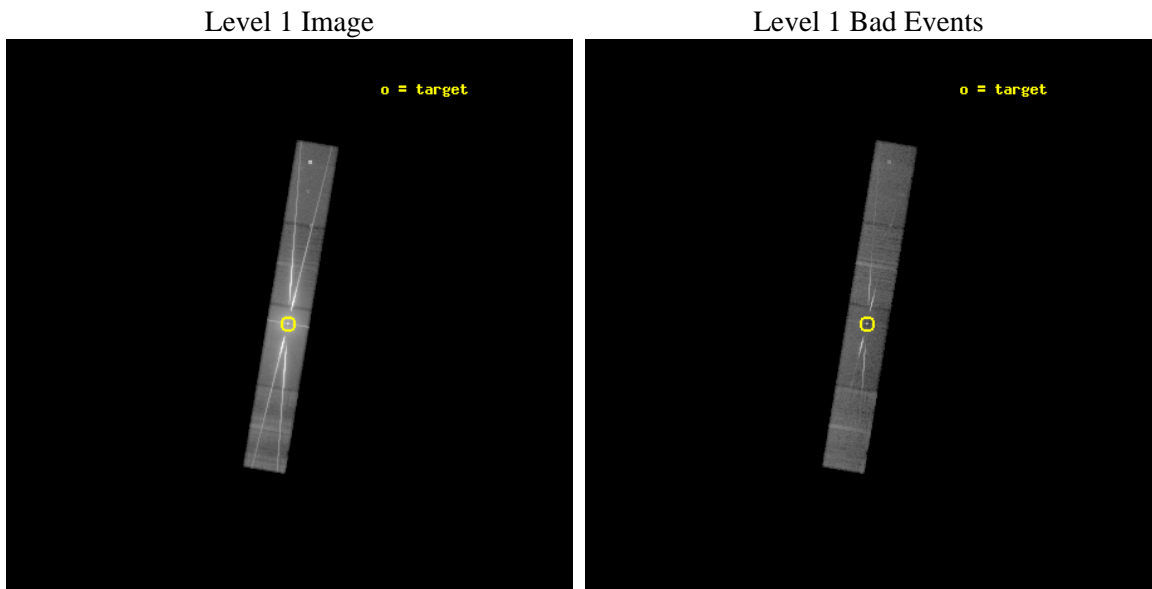
seq_num	401402	Sequence number
obs_id	13716	Observation id
title	Testing the Wind-Jet Connection in a Black Hole Transient	Proposal
observer	Dr Joey Neilsen	Principal investigator
object	4U 1630-47	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	248.506708	Observer's specified target RA [deg]
dec_targ	-47.393	Observer's specified target Dec [deg]
ra_nom	248.50261483348	Nominal RA [deg]
dec_nom	-47.39182222589	Nominal Dec [deg]
roll_nom	99.440385230799	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30028.493954122	Sum of GTIs [s]
livetime	29277.525426922	Livetime [s]
ontime5	30028.452914119	Sum of GTIs [s]
ontime6	30028.411874115	Sum of GTIs [s]
ontime7	30028.493954122	Sum of GTIs [s]
ontime8	30028.370834112	Sum of GTIs [s]
l2events	1835965	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	1	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	30028.493954122	Sum of GTIs [s]
caldbver	4.4.7	 	ontime5	30028.452914119	Sum of GTIs [s]
date	2012-01-27T13:22:55	Date and time of file creation	ontime6	30028.411874115	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	30028.493954122	Sum of GTIs [s]
			ontime8	30028.370834112	Sum of GTIs [s]
			l1events	2356348	Number of level 1 events

2.1.3 Events

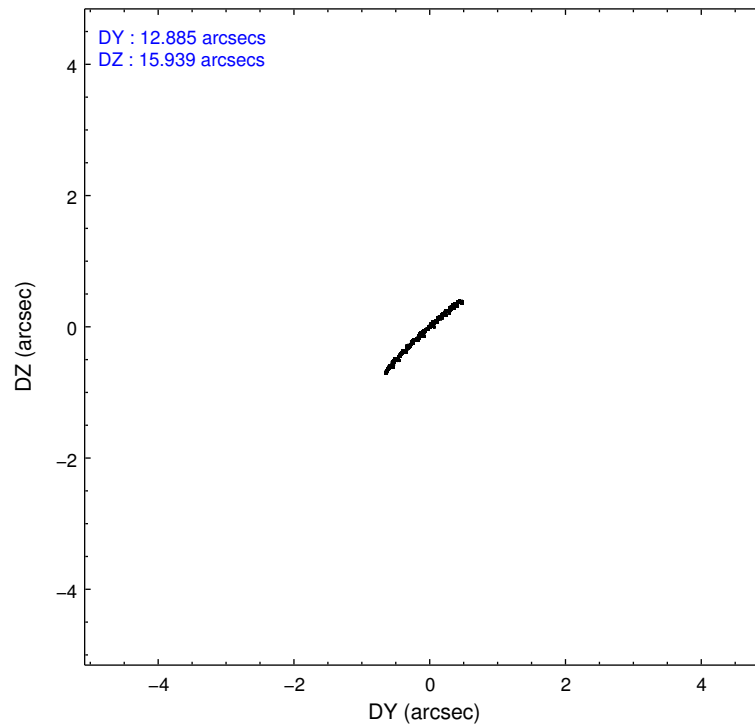
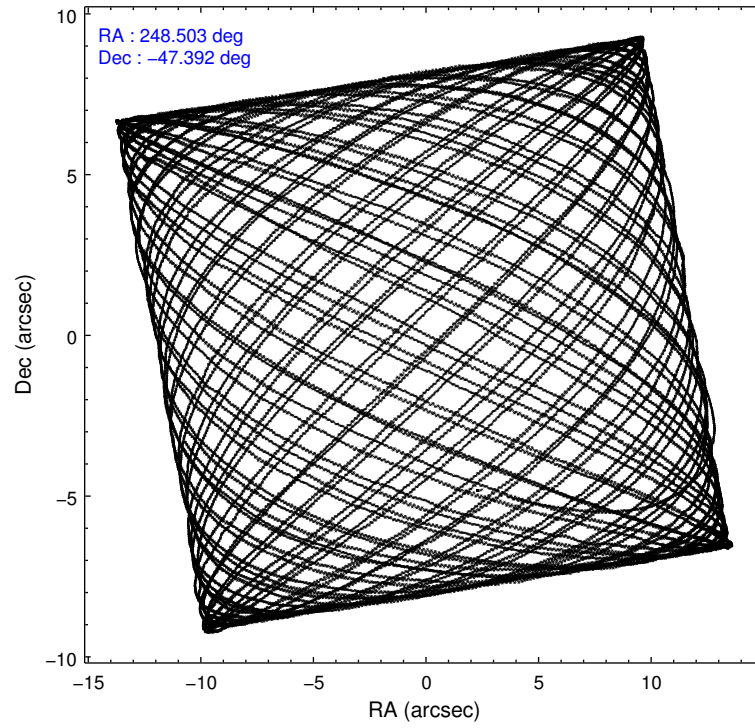
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	202661	764324	1122707	266656
rejected events	78477	107640	108334	102918
rejected %	38%	14%	9%	38%

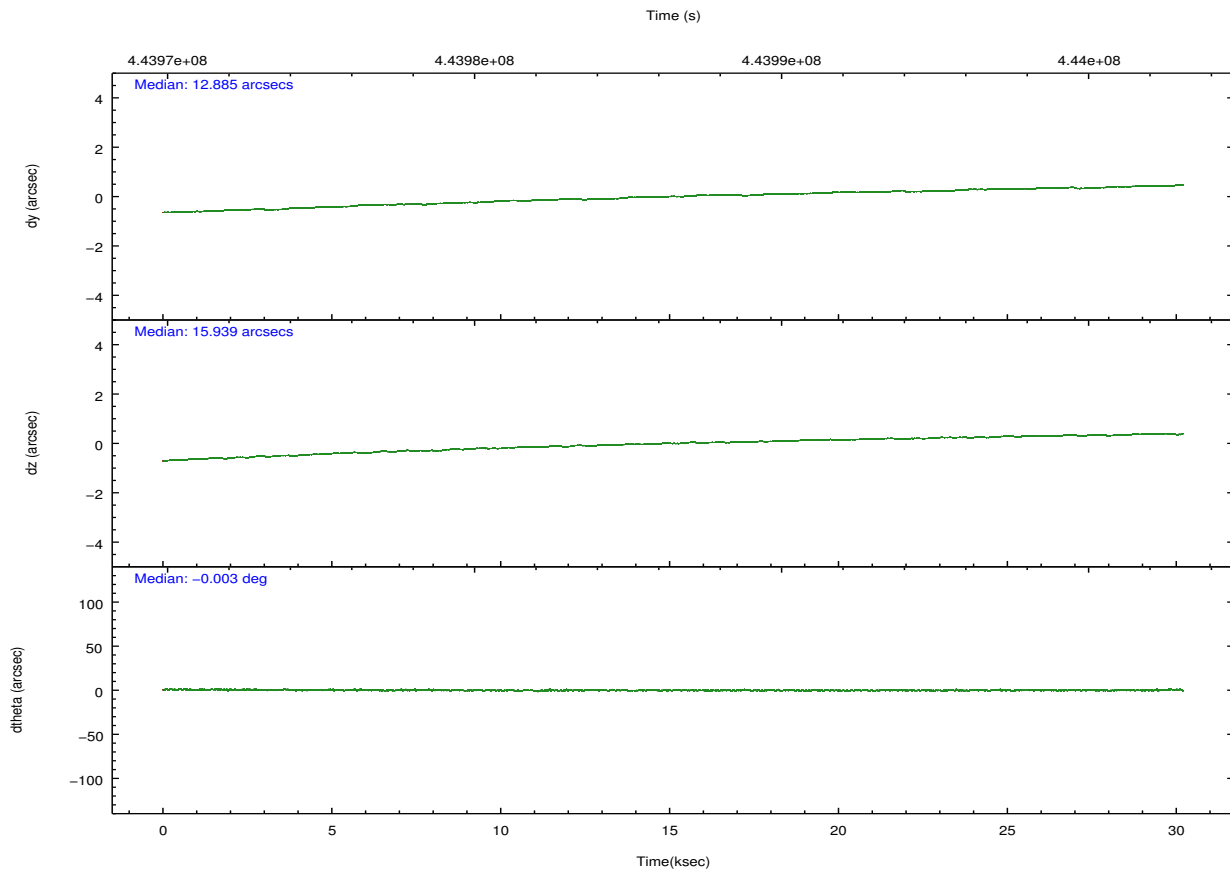
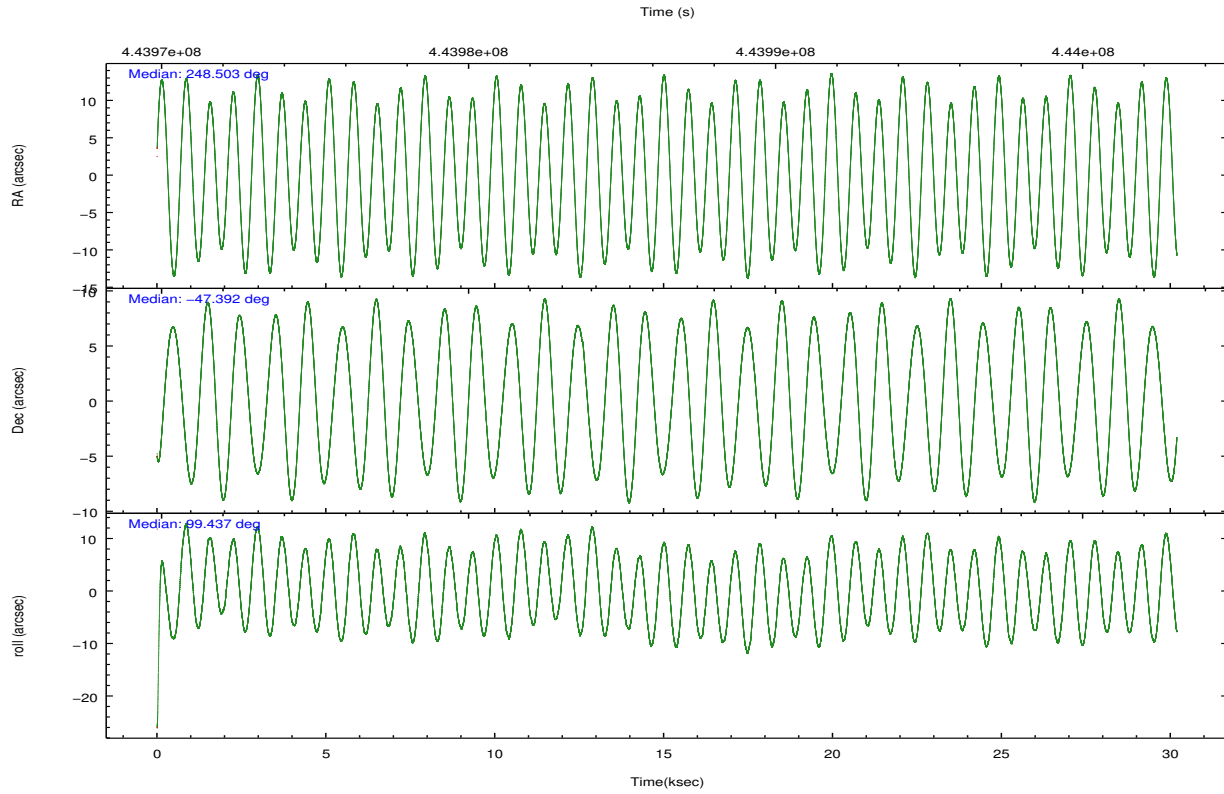
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	19044	437795	151001	85885
	9%	57%	13%	32%
grade 1 events	1321	6131	1786	357
	0%	0%	0%	0%
grade 2 events	45106	102265	275613	25471
	22%	13%	24%	9%
grade 3 events	4966	33893	90073	14949
	2%	4%	8%	5%
grade 4 events	4717	33394	89738	13683
	2%	4%	7%	5%
grade 5 events	8872	10625	23080	6532
	4%	1%	2%	2%
grade 6 events	50357	49422	408006	23760
	24%	6%	36%	8%
grade 7 events	68278	90799	83410	96019
	33%	11%	7%	36%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	248.528687	248.5026148334793	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-47.412689	-47.39182222588979	Subarray start row	1	1
[deg] Pointing Roll	99.302960	99.44038523079871	Subarray row count	512	512
[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	1.6
[mm] SIM translation stage pos	-183.992523	-183.9875365069546			
[mm] SIM translation stage offset	-6.14	-6.144986076053243			
[s] Observation start time (MET)	443971557.184000	443970101.26249			
Observation start date	2012-01-26T13:24:51	2012-01-26T13:01:41			
[s] Observation end time (MET)	444001557.184000	444002497.9267			
Observation end date	2012-01-26T21:44:51	2012-01-26T22:01:37			
Read mode	TIMED	TIMED			

2.3 Aspect



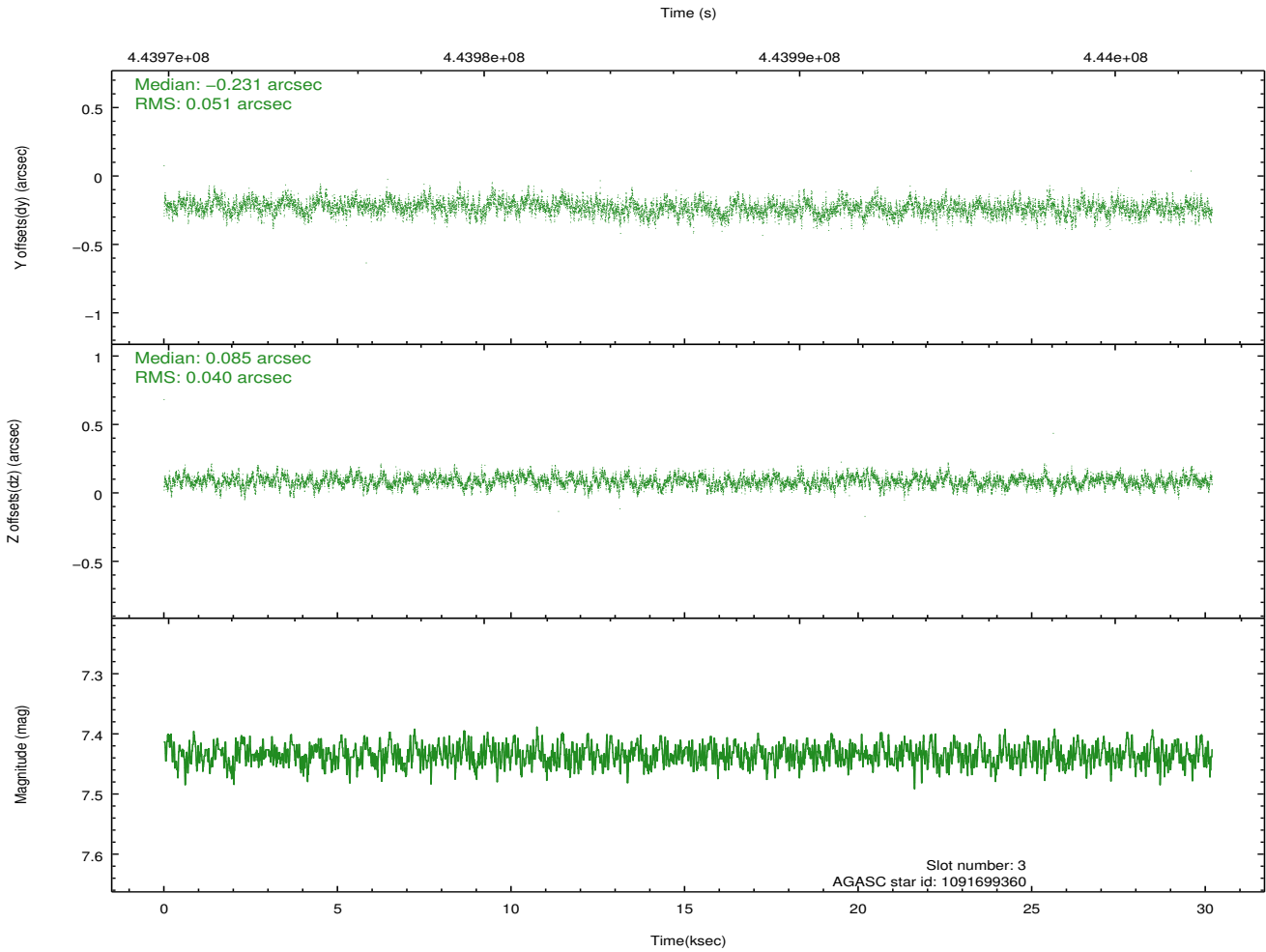
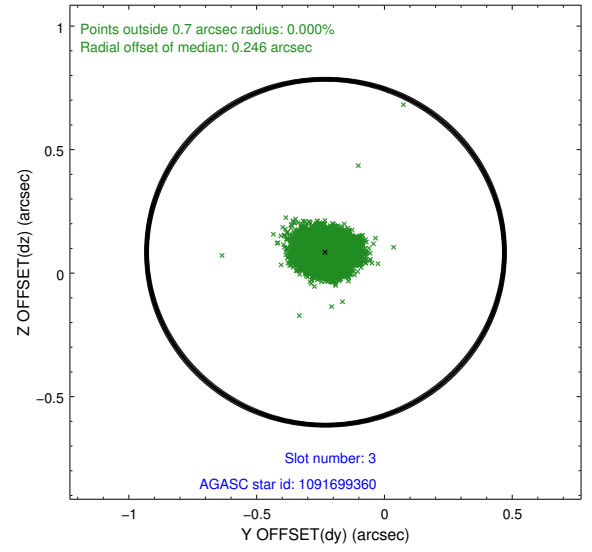
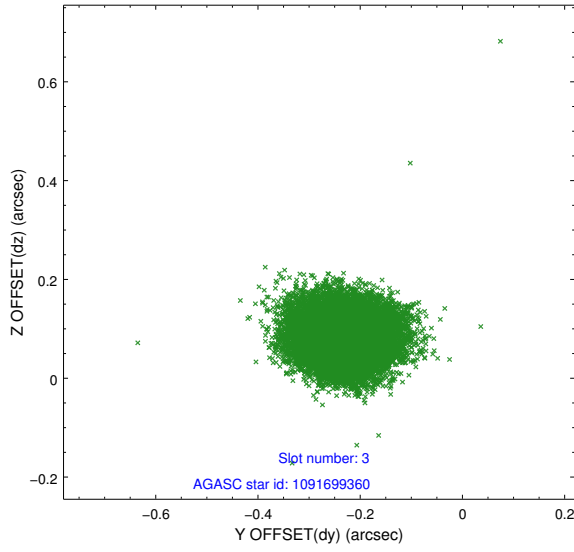


Slot Statistics

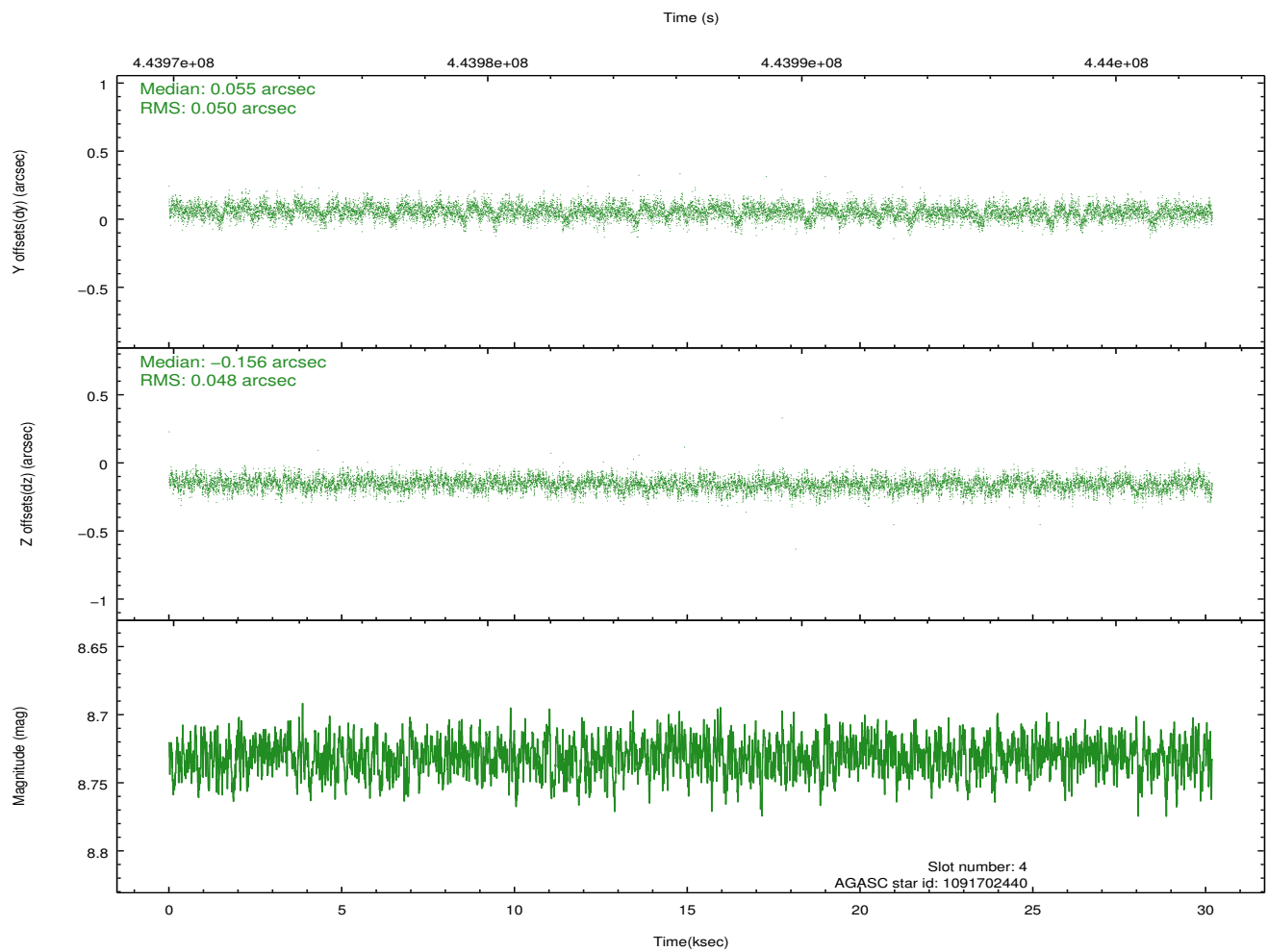
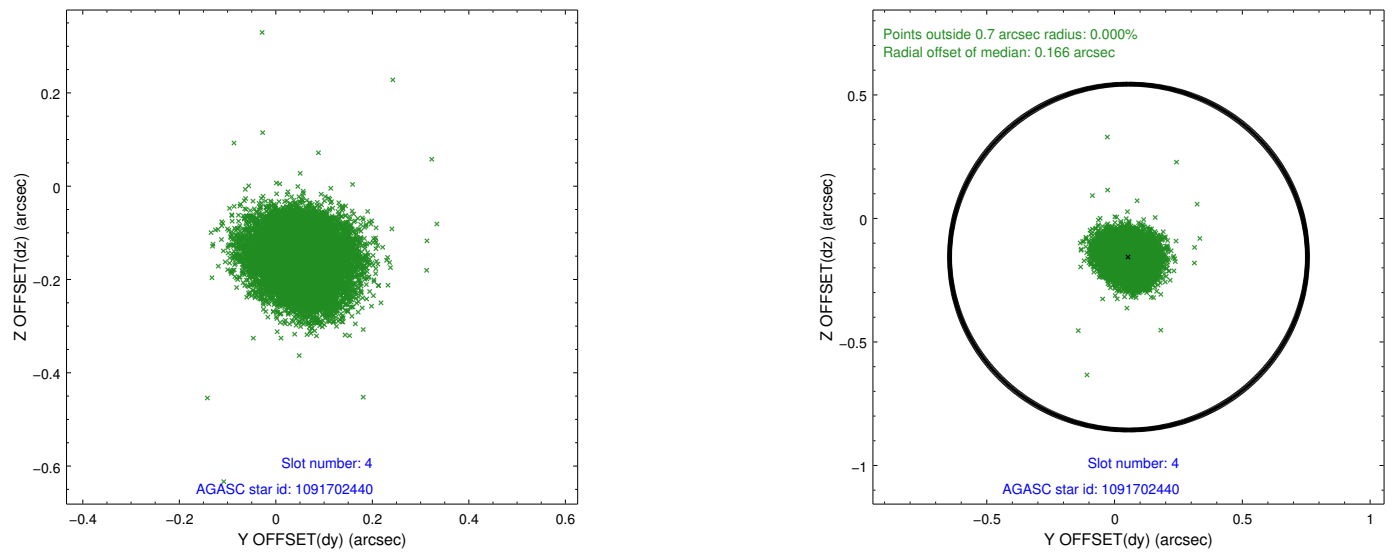
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.84	7364	-0.123	-0.080	0.012	0.020	0.000000	0.000000	-765.49	-1864.01
1	FID	ACIS-S-4	6.91	7364	0.113	0.071	0.009	0.014	0.000000	0.000000	2148.03	44.46
2	FID	ACIS-S-6	7.13	7364	-0.017	0.016	0.013	0.020	0.000000	0.000000	396.75	681.92
3	GUIDE	1091699360	7.44	14726	-0.231	0.085	0.069	0.111	248.660725	-47.004364	1397.97	-557.05
4	GUIDE	1091702440	8.73	14722	0.055	-0.156	0.073	0.120	248.295809	-47.683380	-871.16	714.86
5	GUIDE	1091705224	9.19	14720	0.111	-0.104	0.105	0.168	248.613211	-47.940846	-1909.32	106.48
6	GUIDE	1091709768	7.70	14728	-0.036	0.270	0.055	0.087	249.435228	-47.706899	-1413.08	-1993.49
7	GUIDE	1091698696	8.78	14718	0.102	-0.088	0.080	0.133	248.529134	-48.079711	-2369.96	387.20

2.4 Star Slots

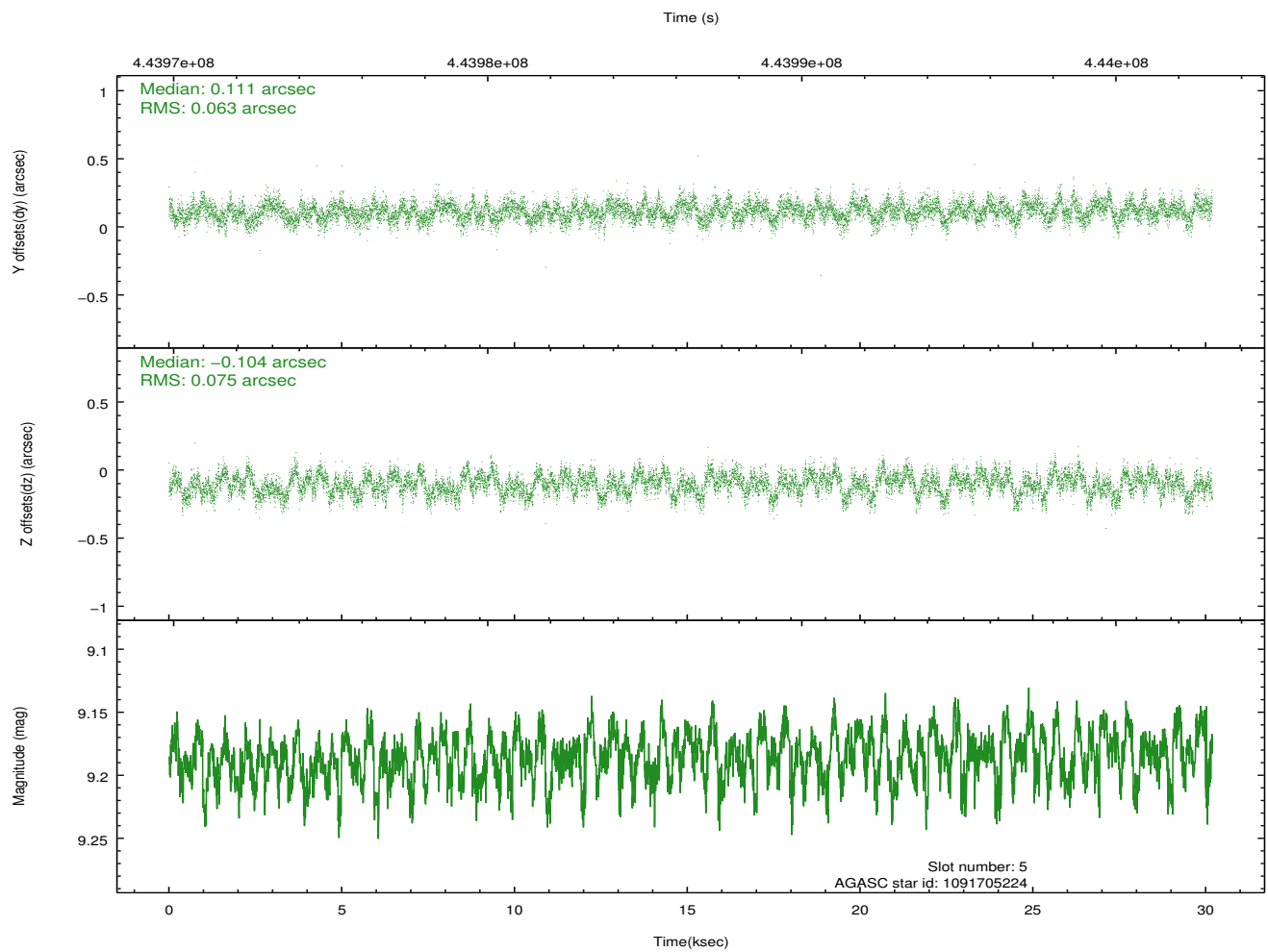
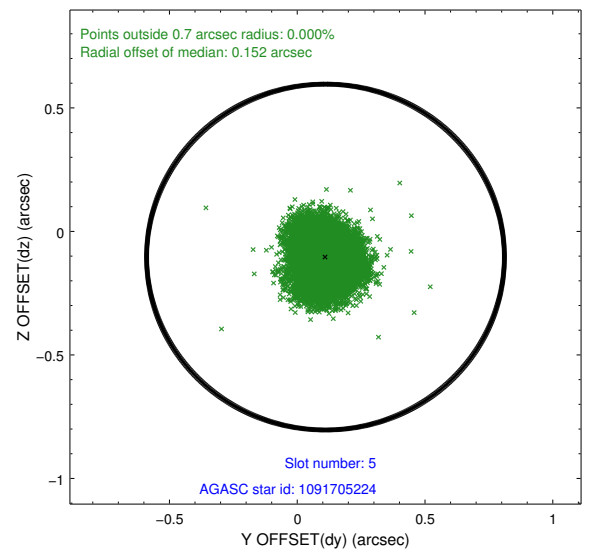
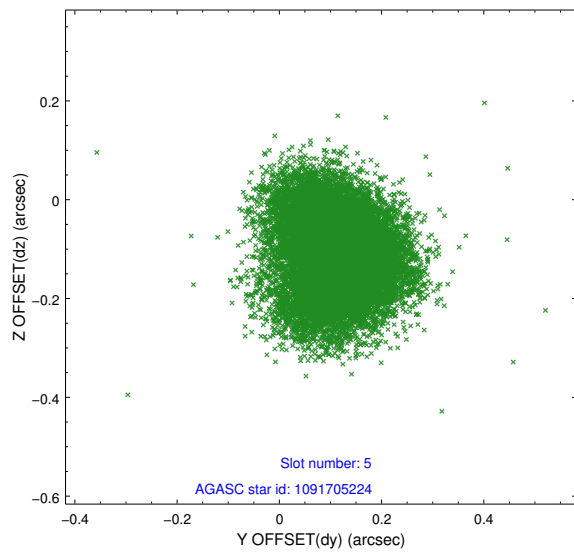
2.4.1 Slot 3



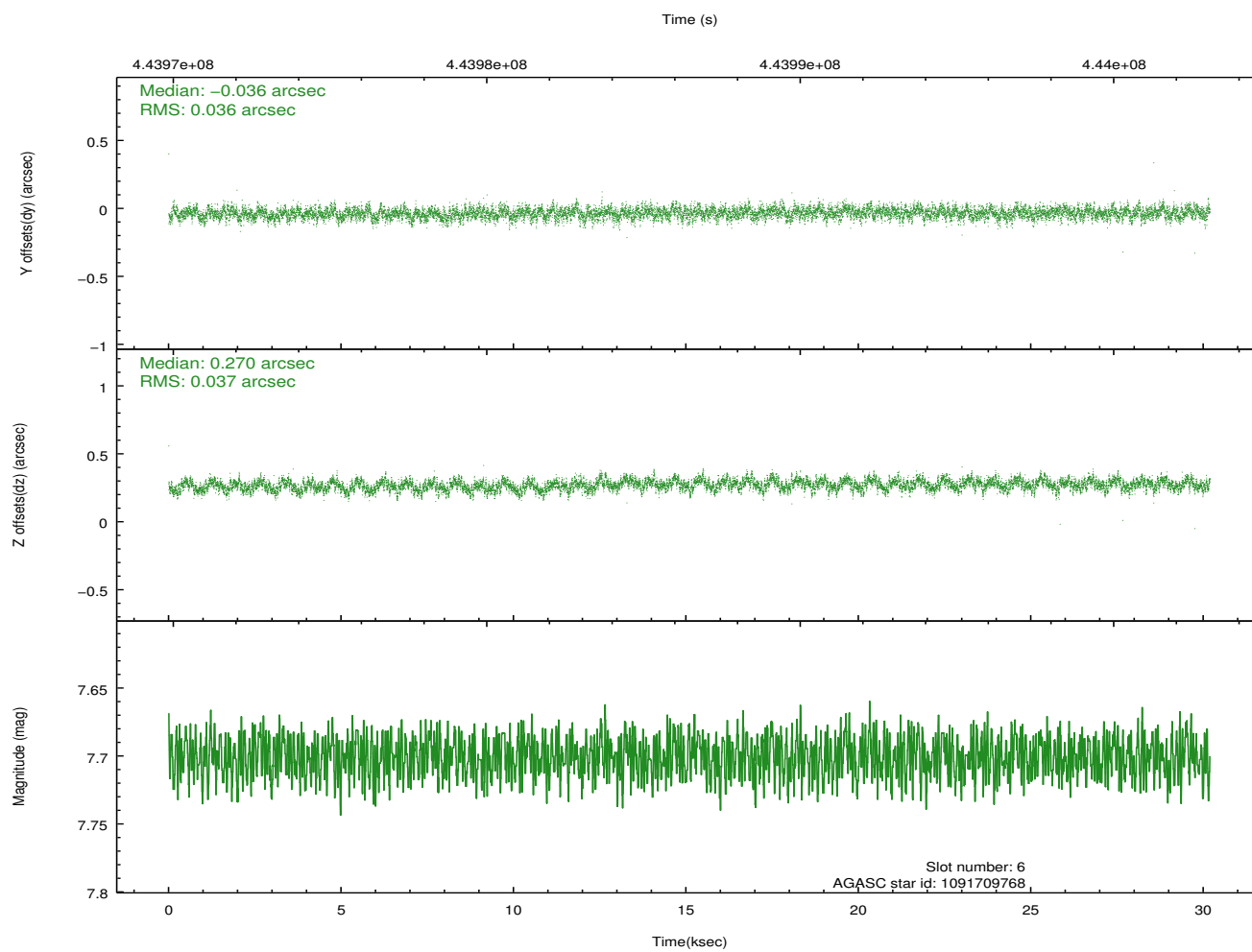
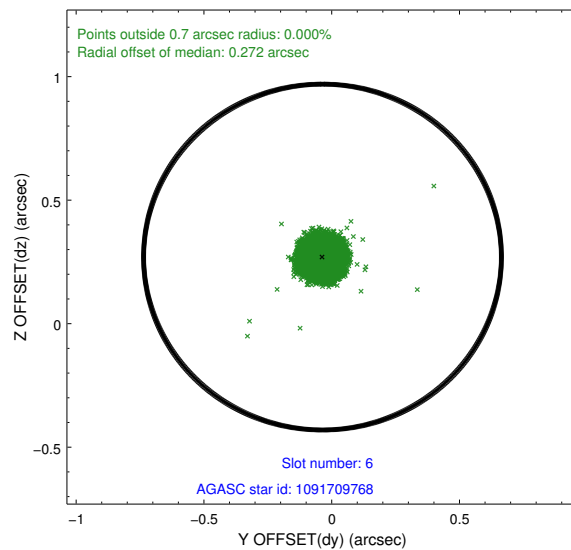
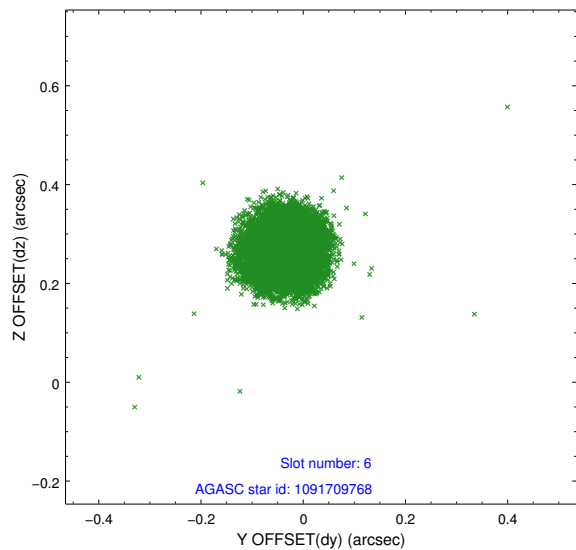
2.4.2 Slot 4



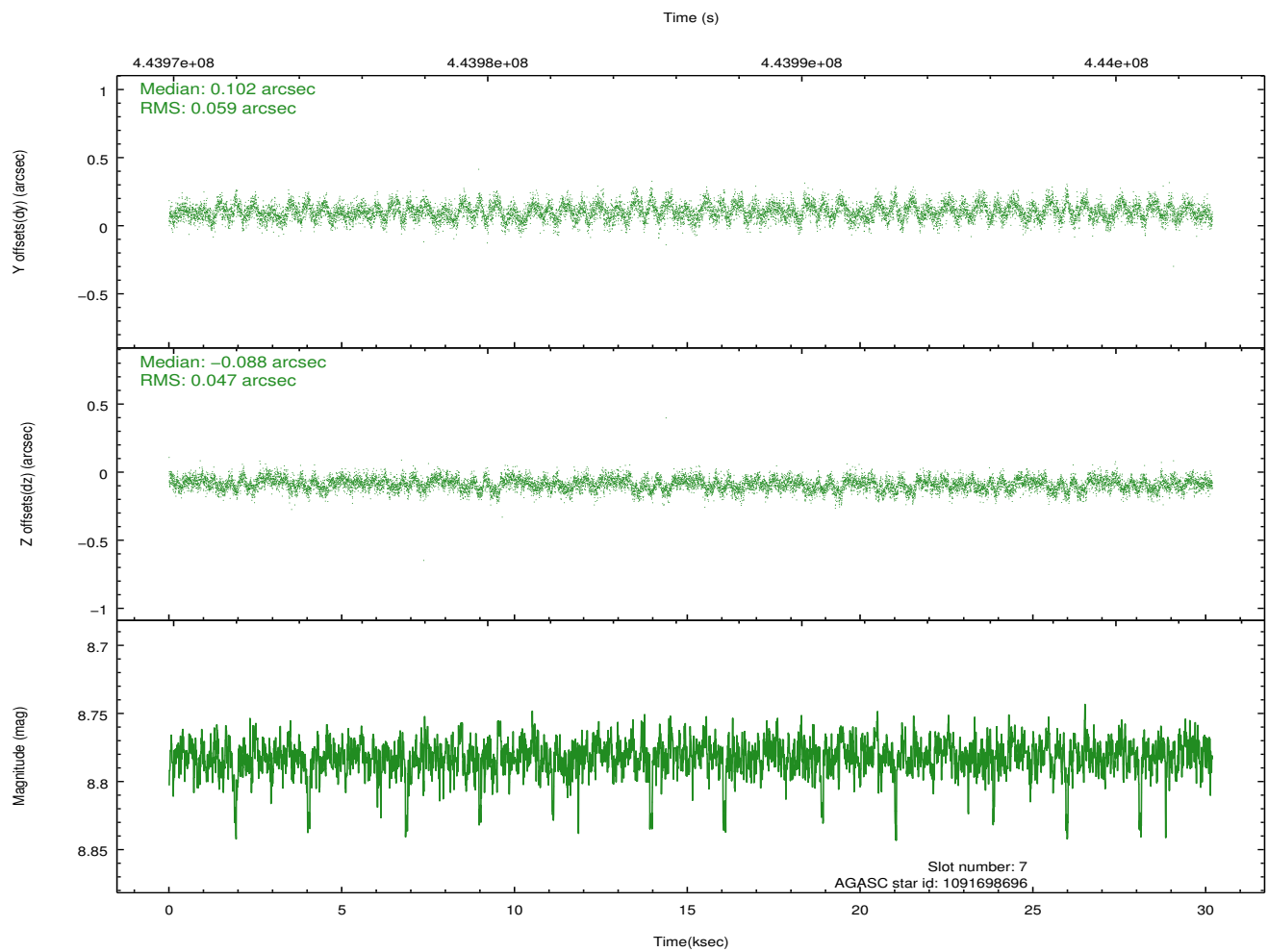
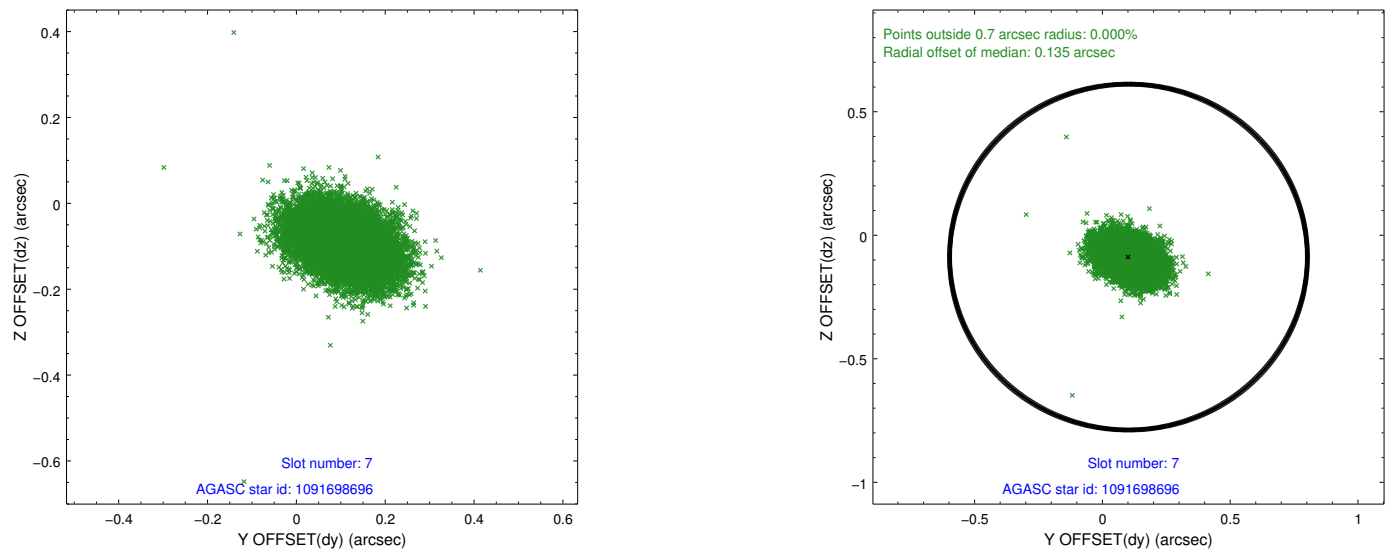
2.4.3 Slot 5



2.4.4 Slot 6

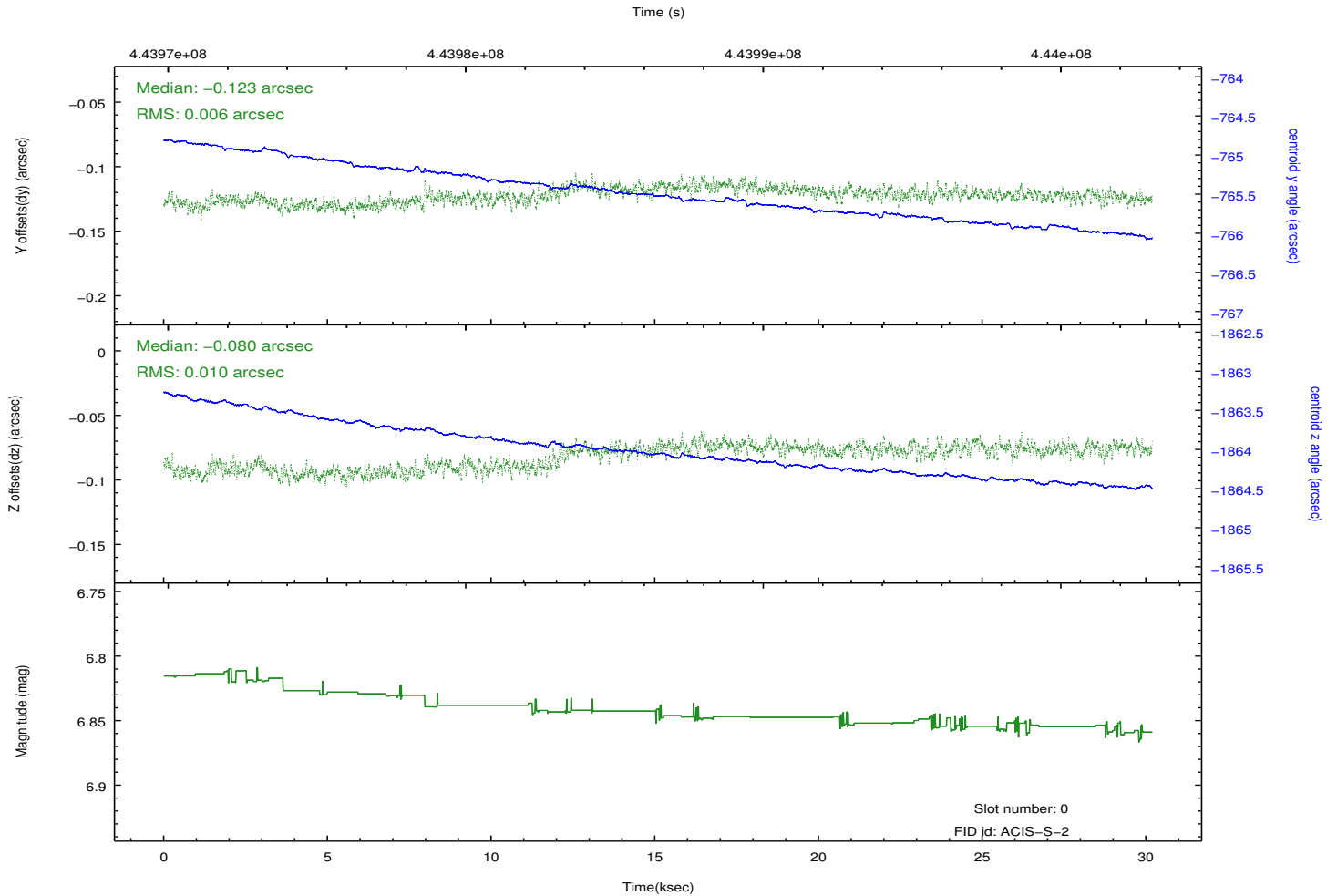
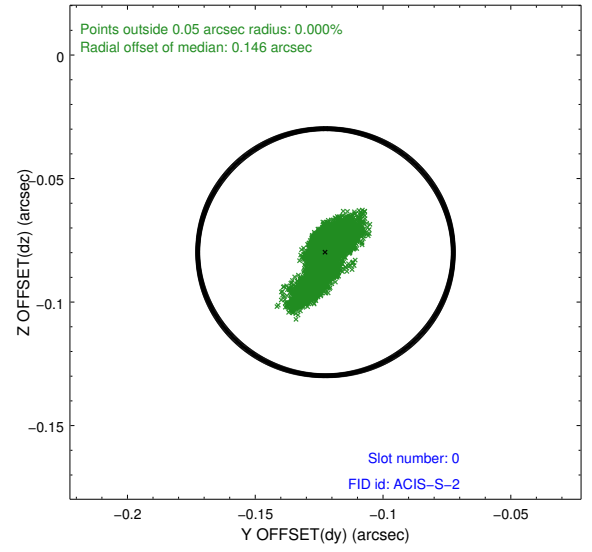
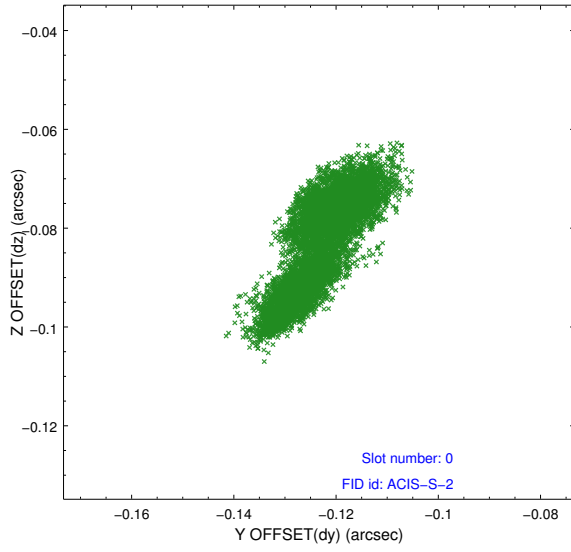


2.4.5 Slot 7

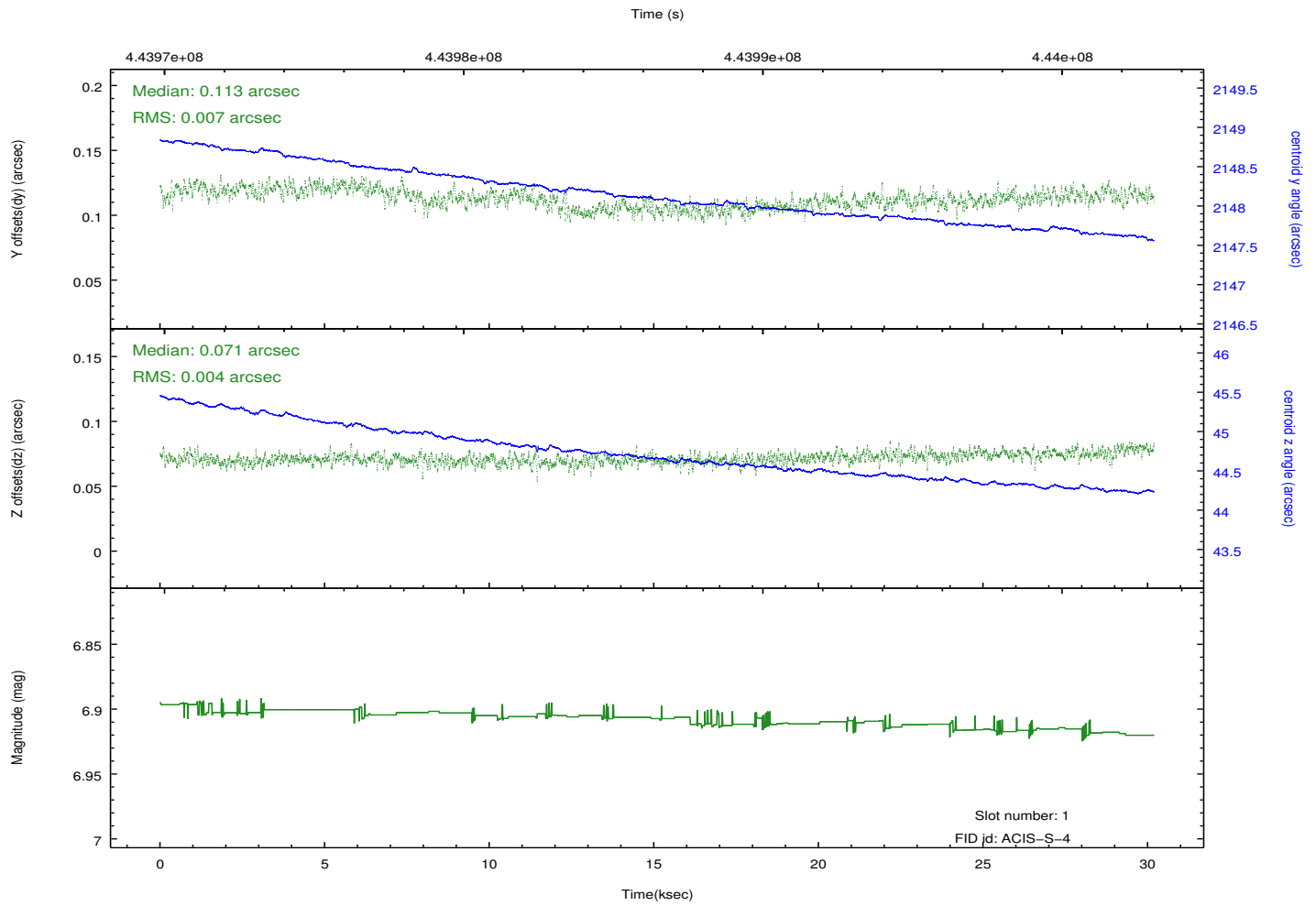
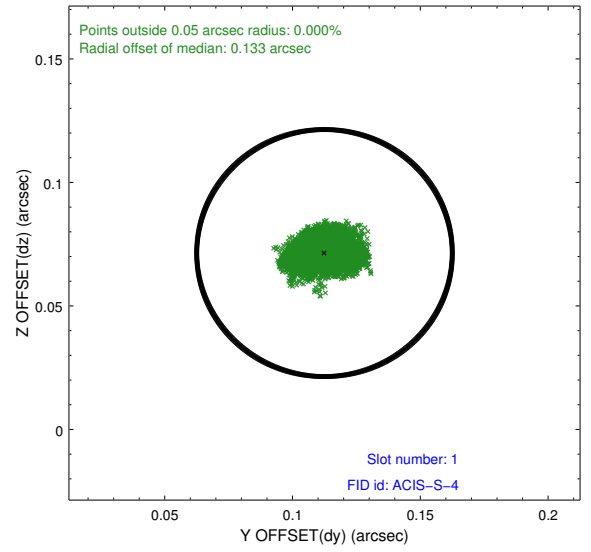
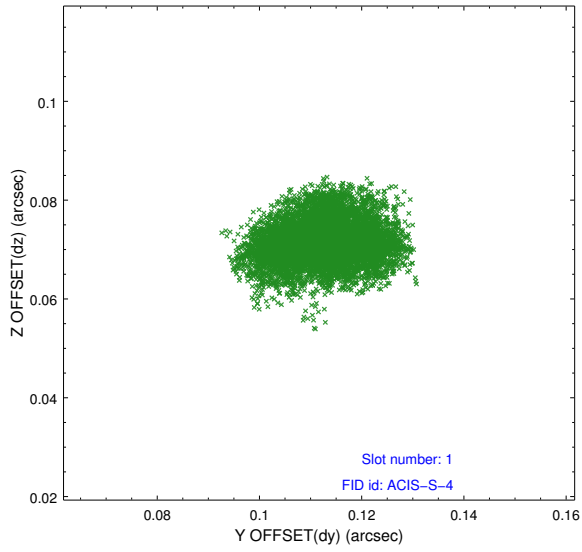


2.5 FID Slots

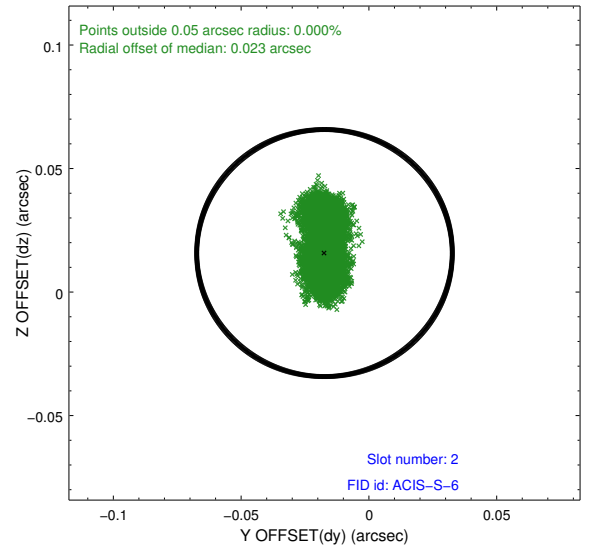
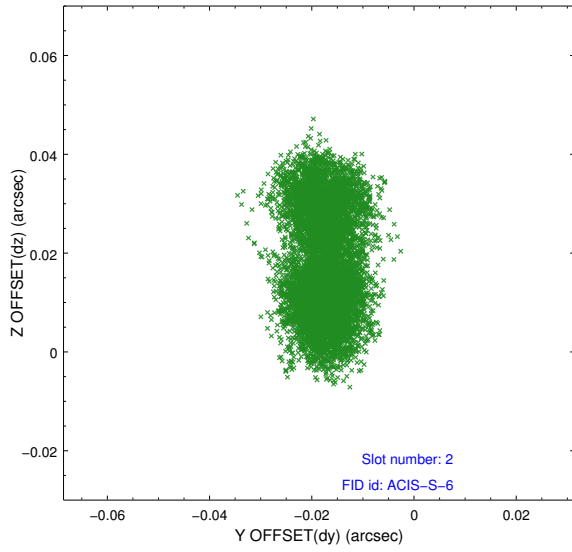
2.5.1 Slot 0



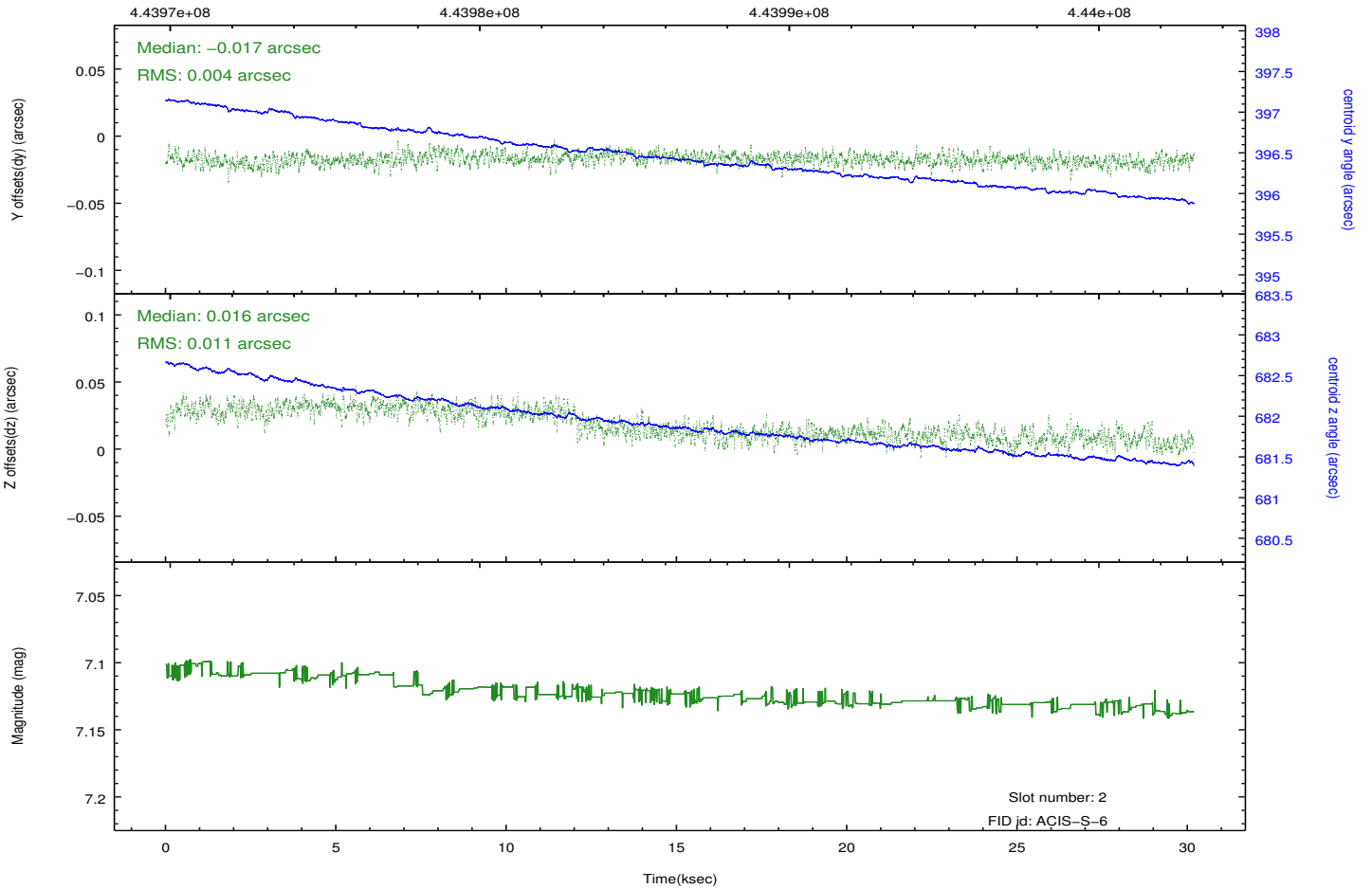
2.5.2 Slot 1



2.5.3 Slot 2

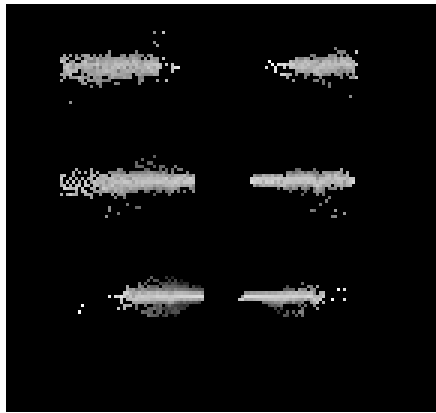


Time (s)

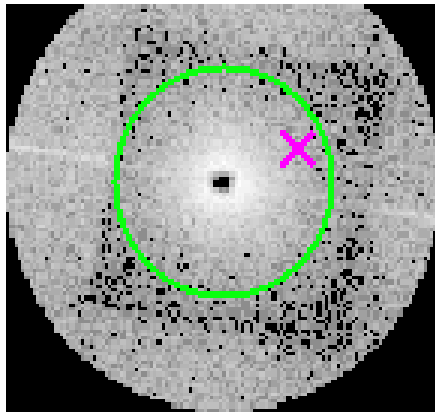


3 Gratings

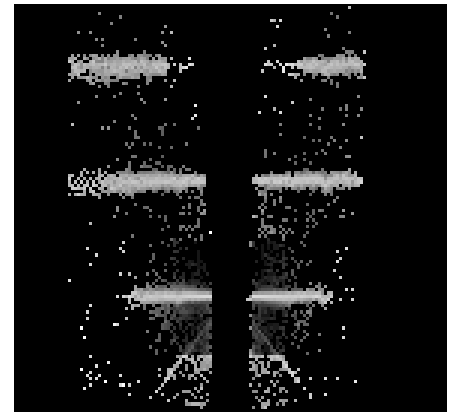
3.1 HEG Arm



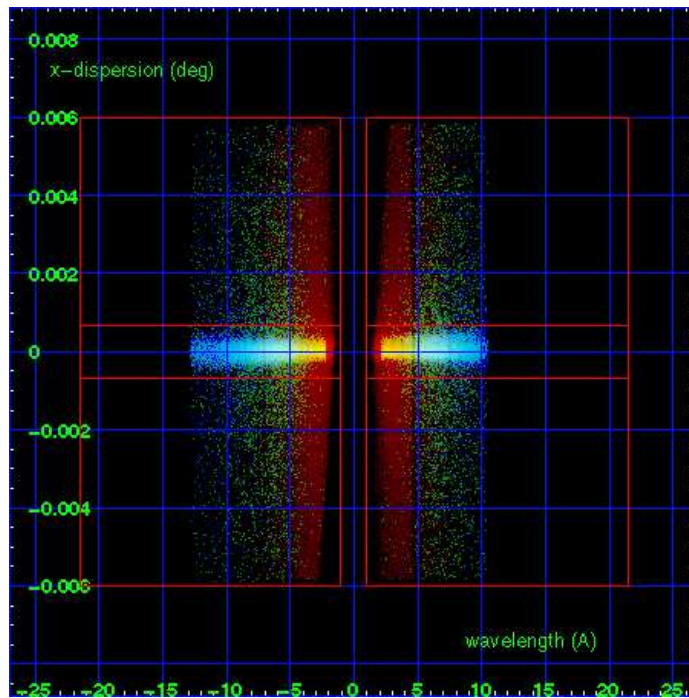
HEG Order Sort 123



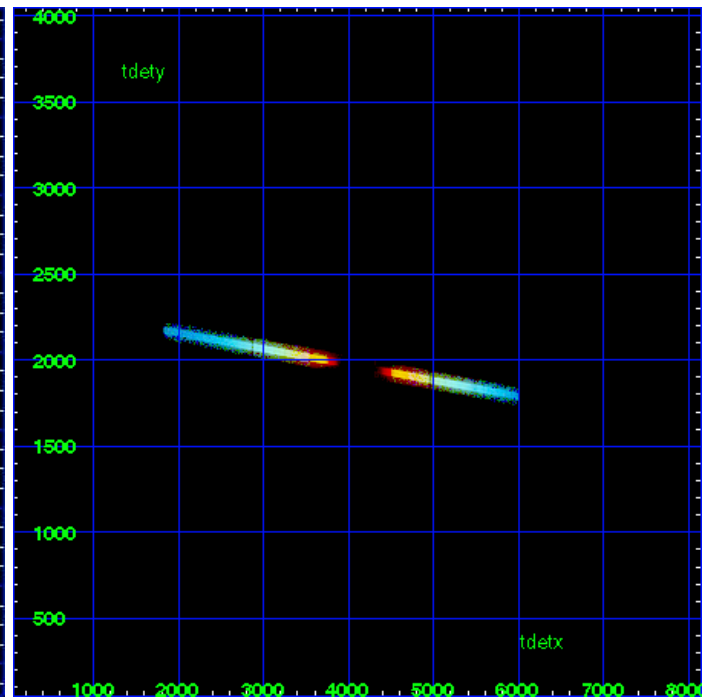
HEG Zero Order



HEG Order Sort ALL

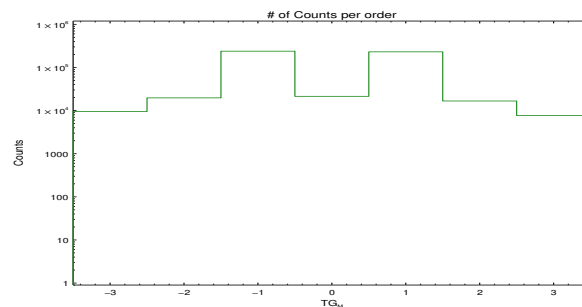


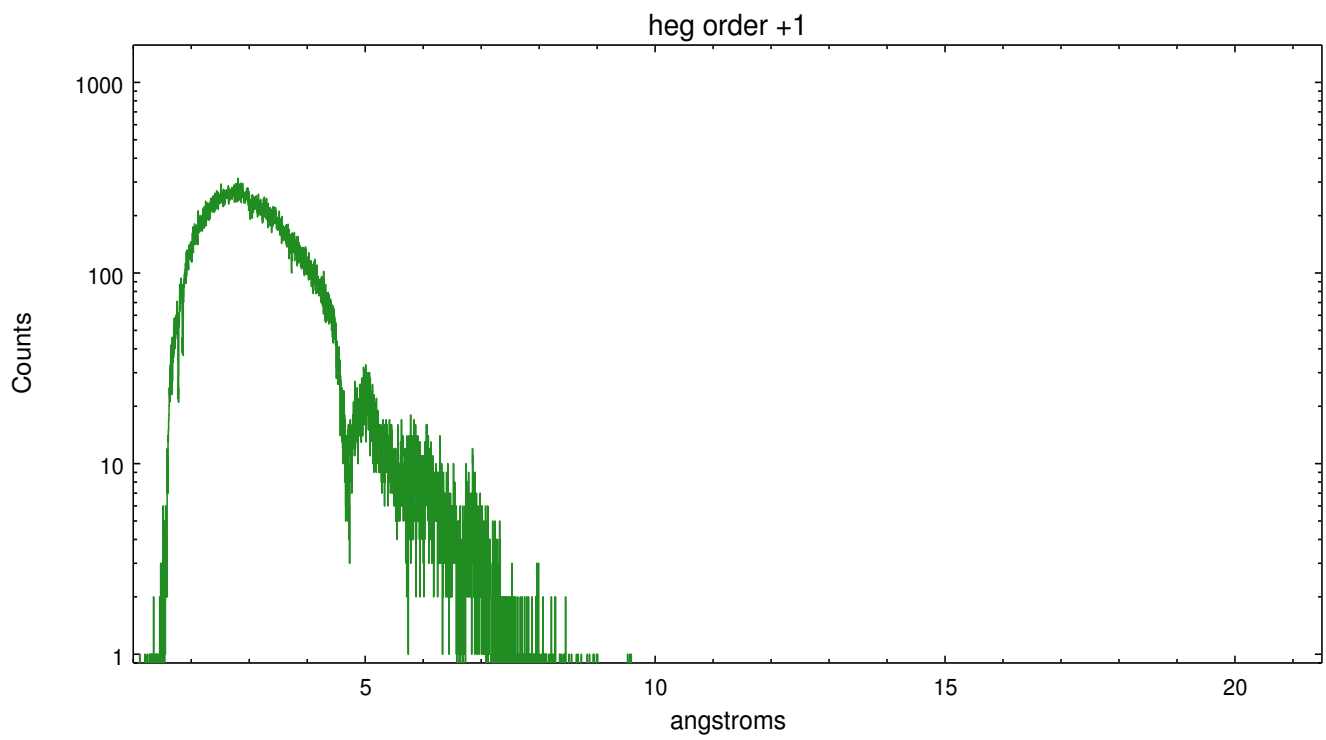
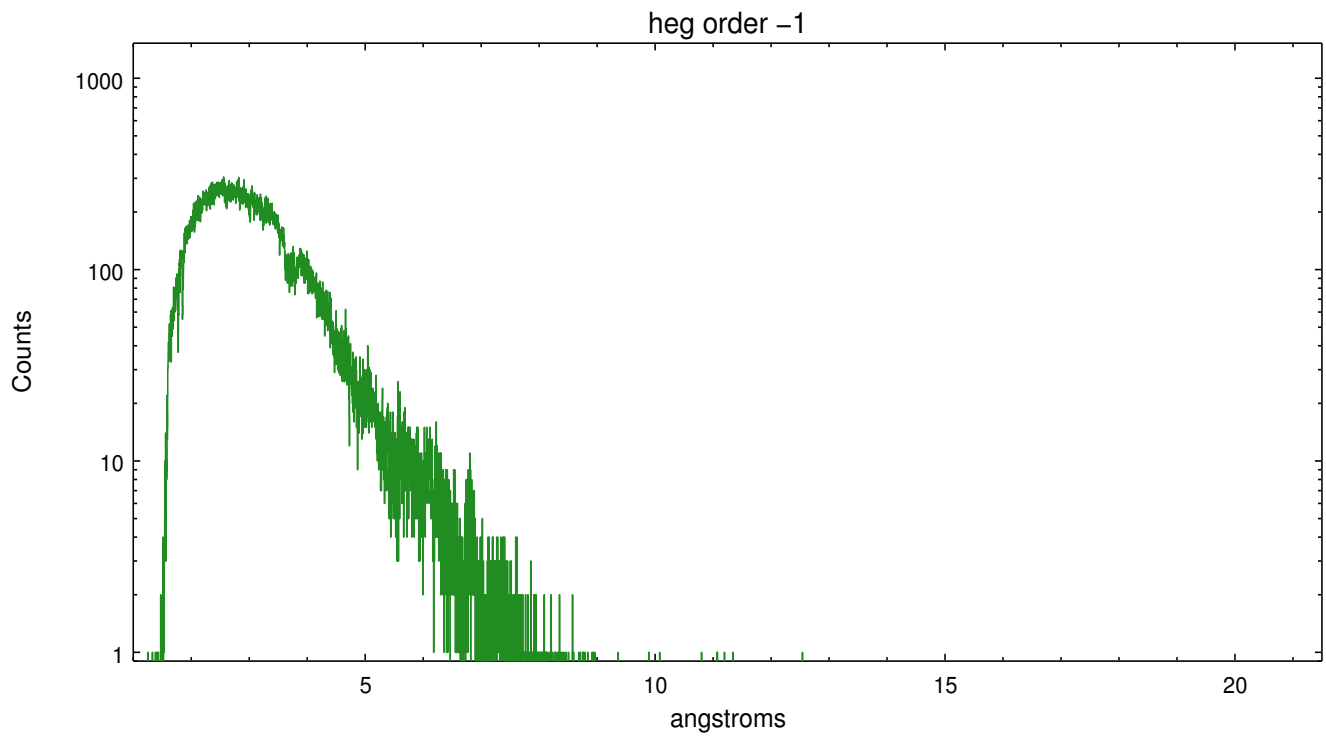
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	9529	19724	238416	21391	230301	16681	7685

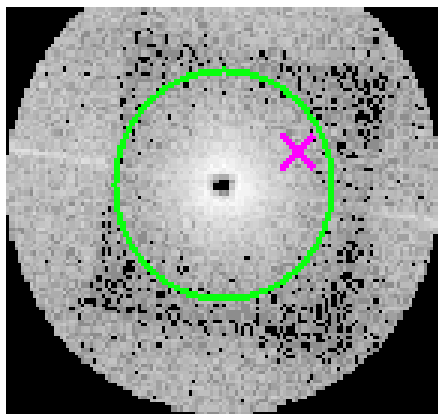




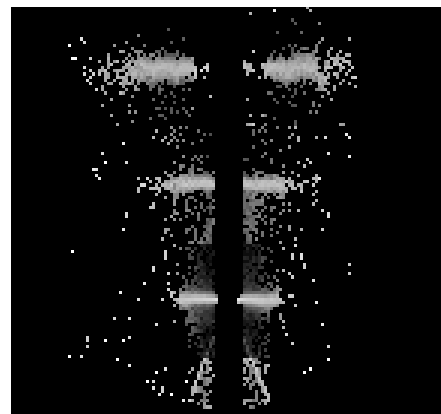
3.2 MEG Arm



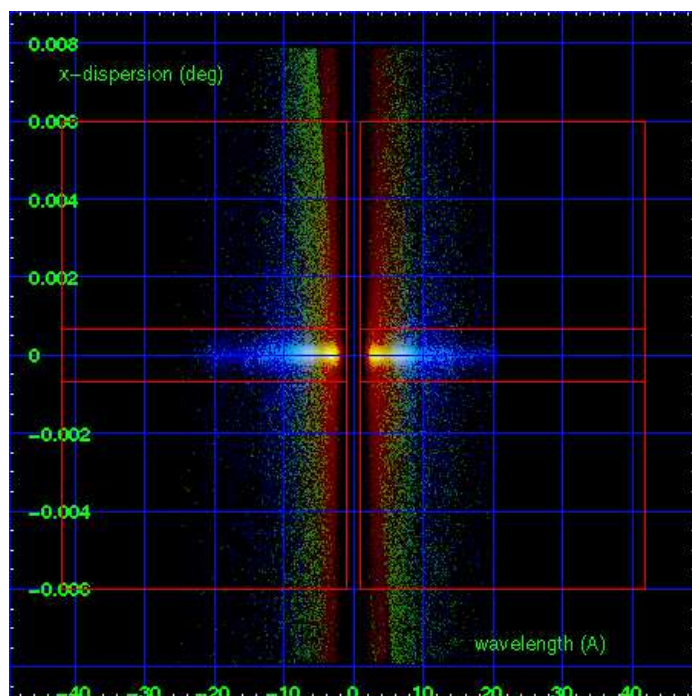
MEG Order Sort 123



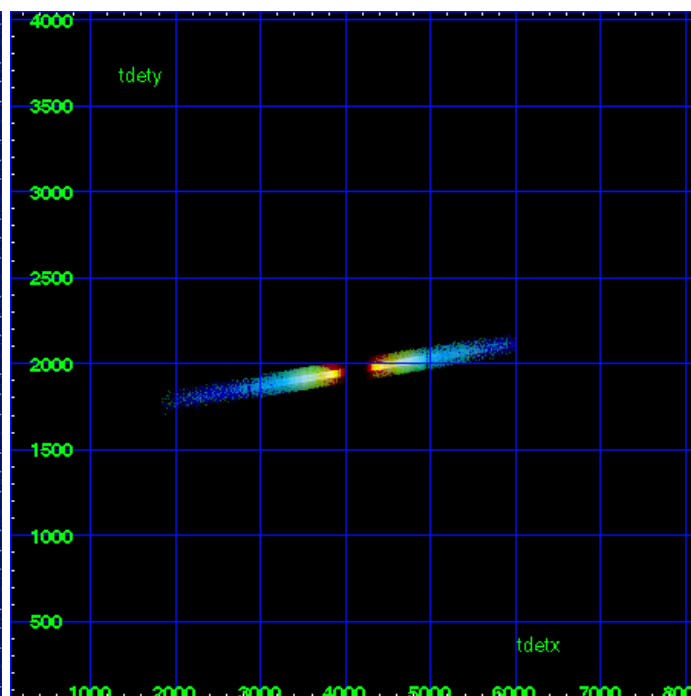
MEG Zero Order



MEG Order Sort ALL

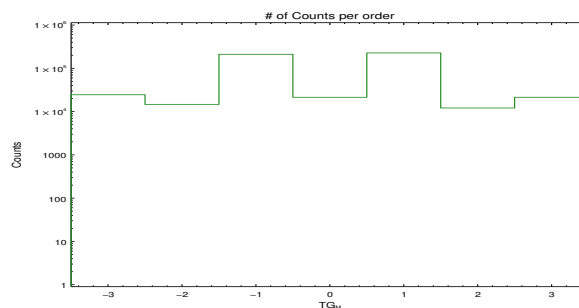


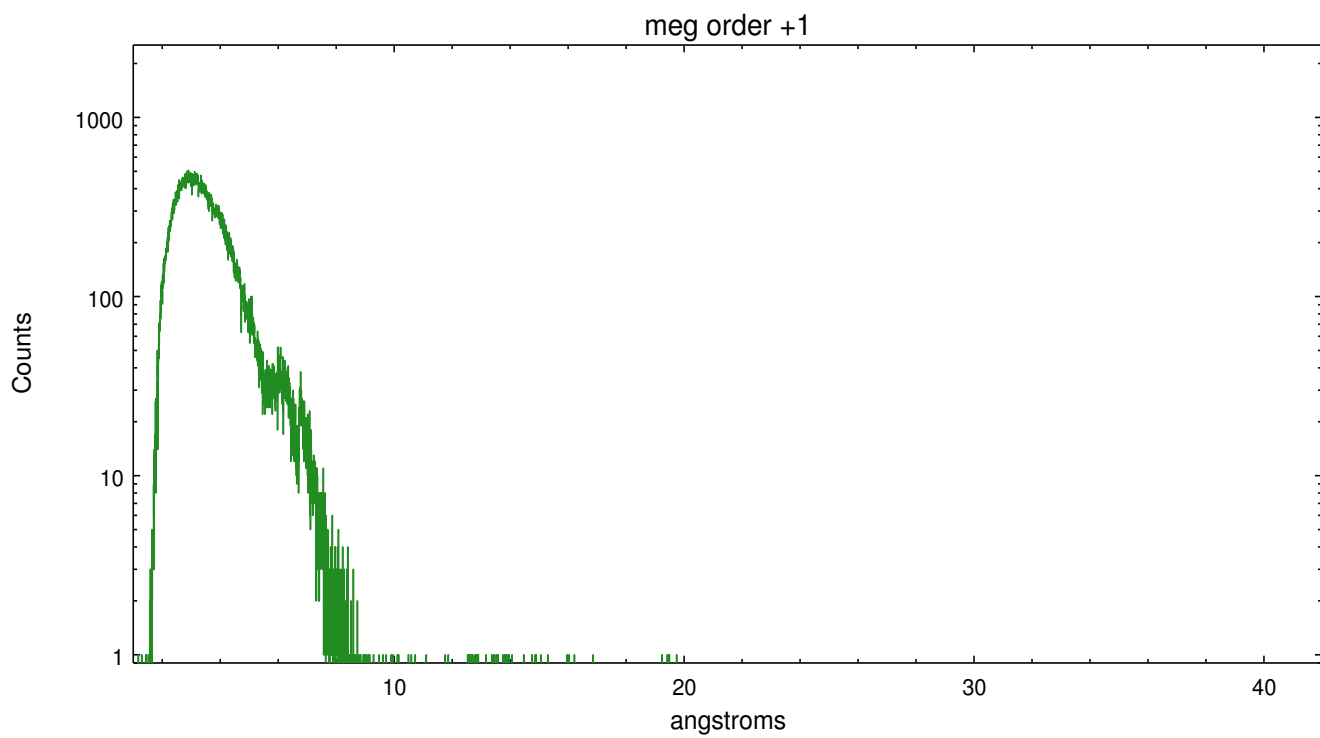
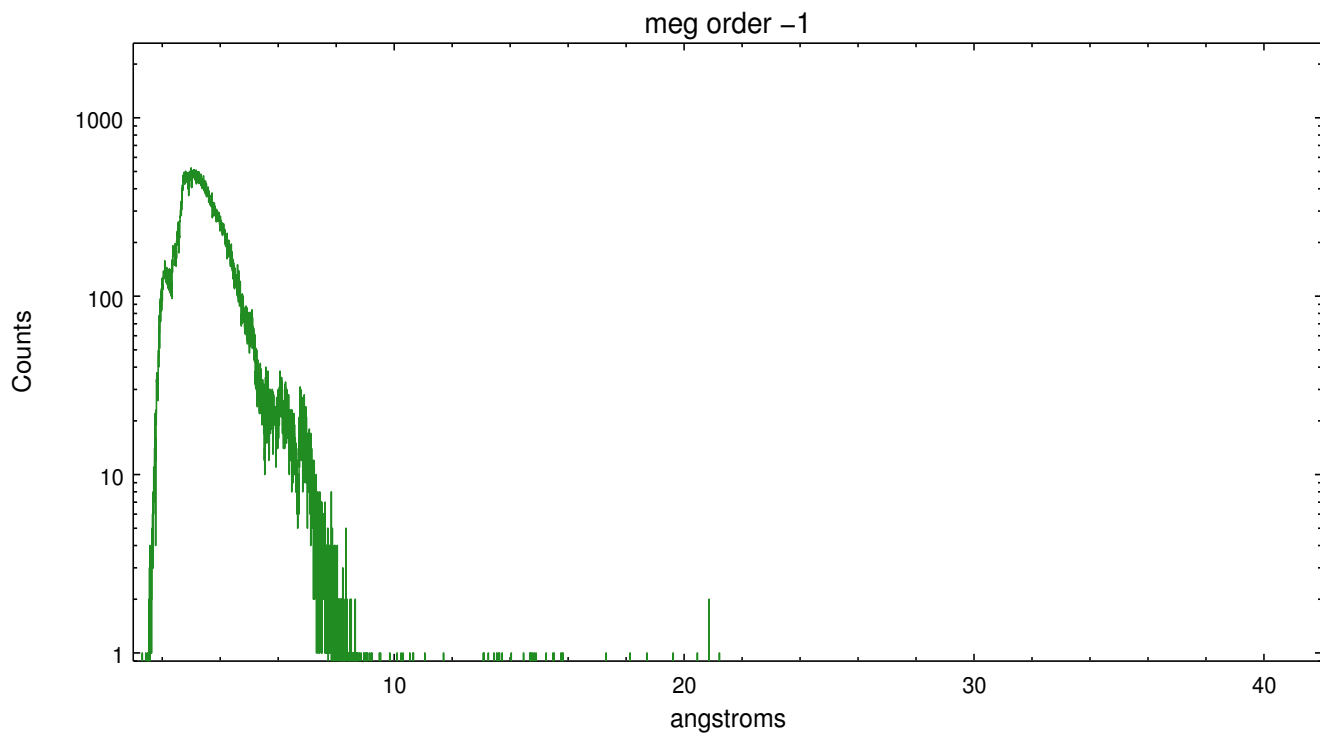
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	24507	14686	210912	21391	226705	12125	21429





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.01.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.028493954122

A.2 Comments

Standard data processing software did not correctly locate the zeroth order because a spatial exclusion window was used to limit the zeroth order image to 1 in 10 events. Manual intervention was used to input the correct sky coordinates (x=4076.83, y=4087.95) 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. === 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.