

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 13714 - L2 Version 2
Chandra X-Ray Center

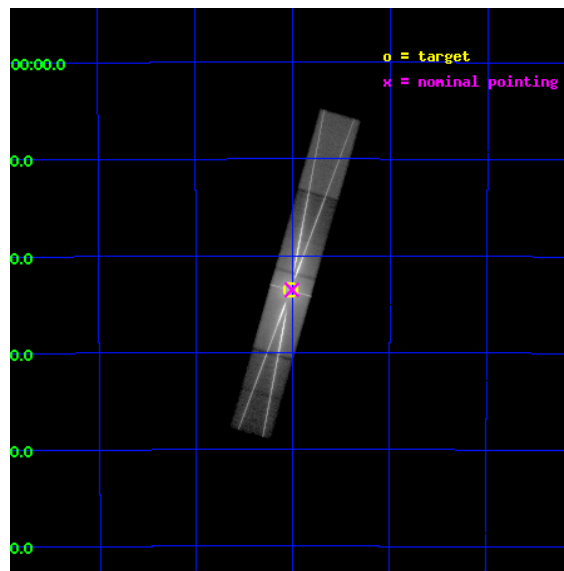
L2 Processing Date : Jan 18 2012

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1 Front

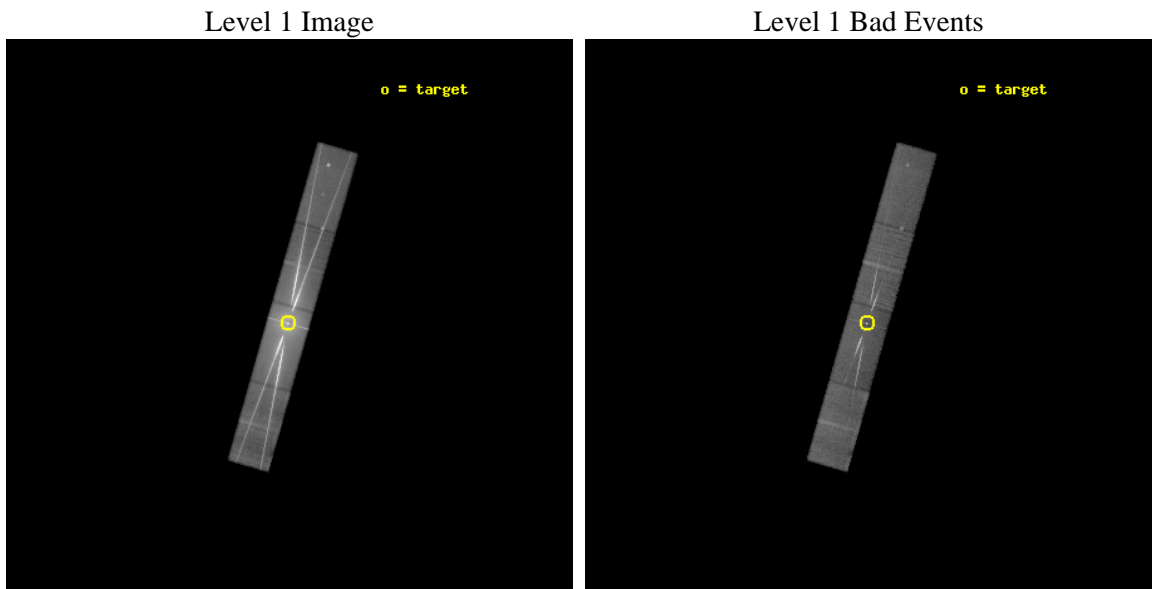
seq_num	401400	Sequence number
obs_id	13714	Observation id
title	Testing the Wind-Jet Connection in a Black Hole Transient	Proposal
observer	Dr Joey Neilsen	Principal investigator
object	4U 1630-47	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	248.506708	Observer's specified target RA [deg]
dec_targ	-47.393	Observer's specified target Dec [deg]
ra_nom	248.50241776944	Nominal RA [deg]
dec_nom	-47.392124612137	Nominal Dec [deg]
roll_nom	105.9846259209	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29665.600442052	Sum of GTIs [s]
livetime	28923.707348561	Livetime [s]
ontime5	29665.600442052	Sum of GTIs [s]
ontime6	29665.600442052	Sum of GTIs [s]
ontime7	29665.600442052	Sum of GTIs [s]
ontime8	29665.597780168	Sum of GTIs [s]
l2events	1933273	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	29637.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	29665.600442052	Sum of GTIs [s]
caldsver	4.4.7	 	ontime5	29665.600442052	Sum of GTIs [s]
date	2012-01-18T04:34:51	Date and time of file creation	ontime6	29665.600442052	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	29665.600442052	Sum of GTIs [s]
			ontime8	29665.597780168	Sum of GTIs [s]
			l1events	2433271	Number of level 1 events

2.1.3 Events

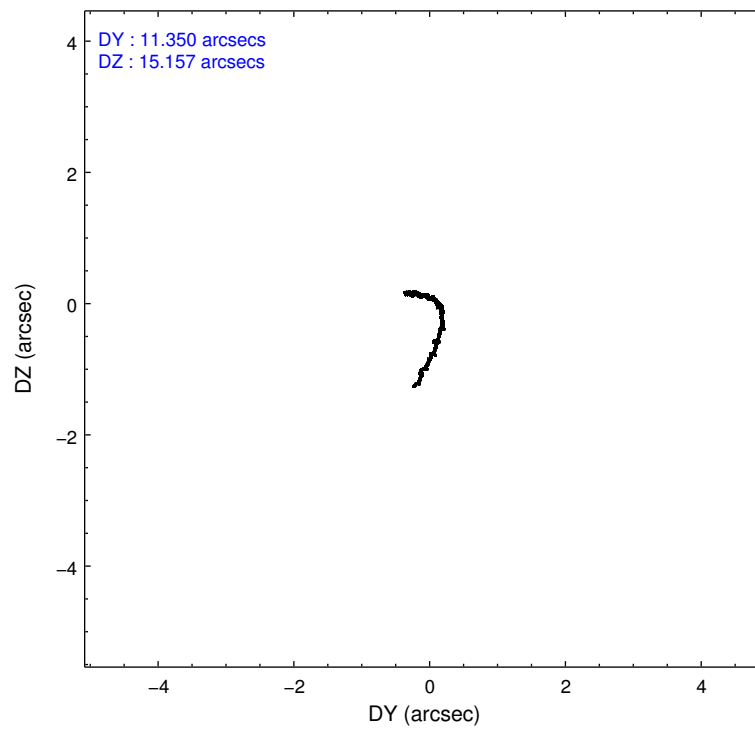
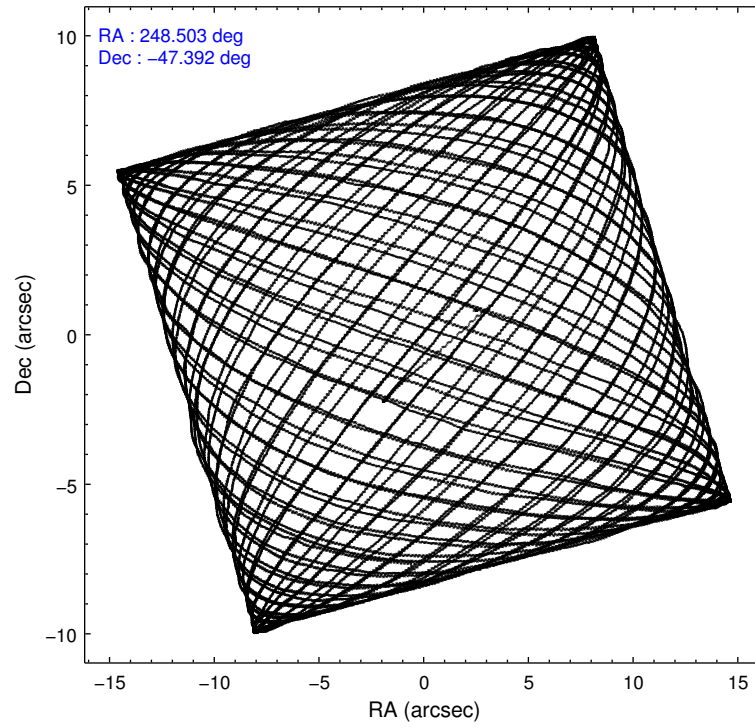
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	204018	802002	1189333	237918
rejected events	82590	114512	117709	100767
rejected %	40%	14%	9%	42%

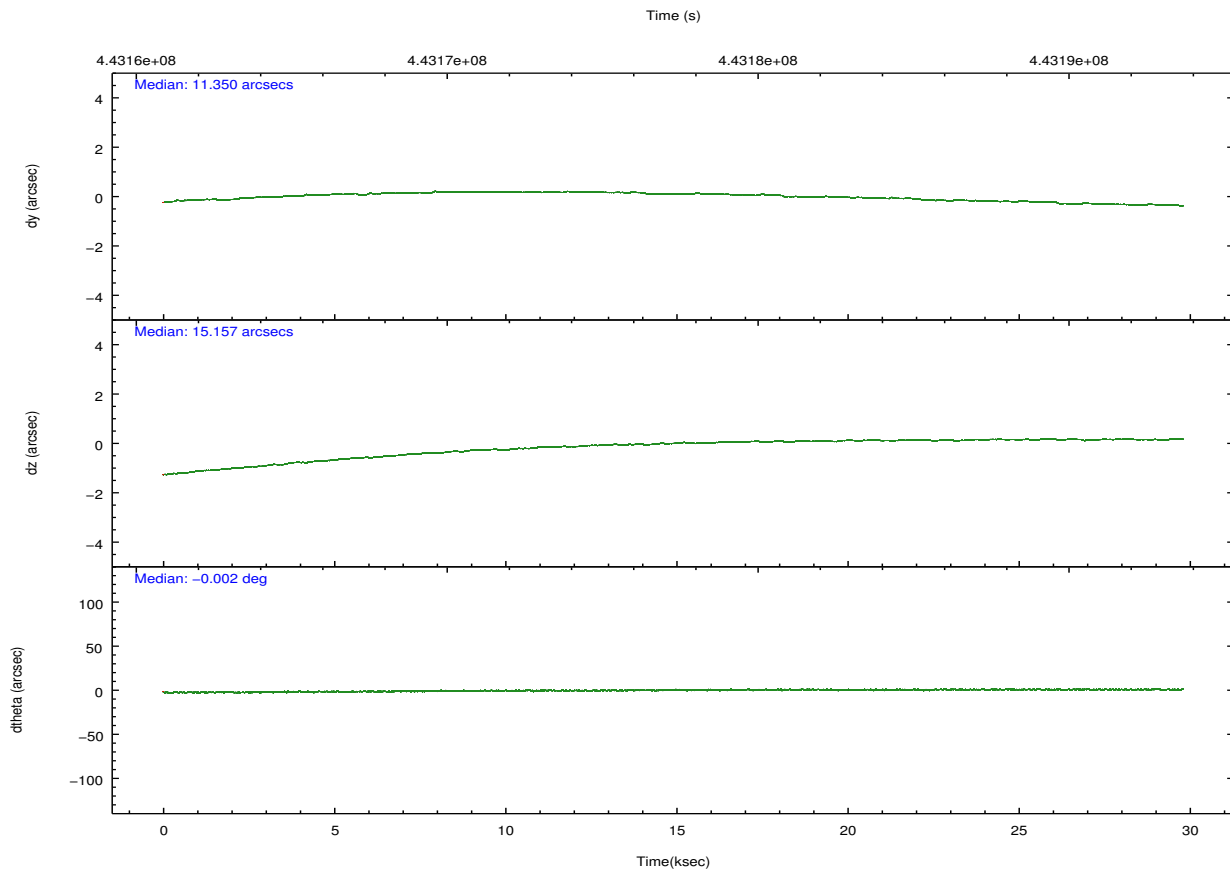
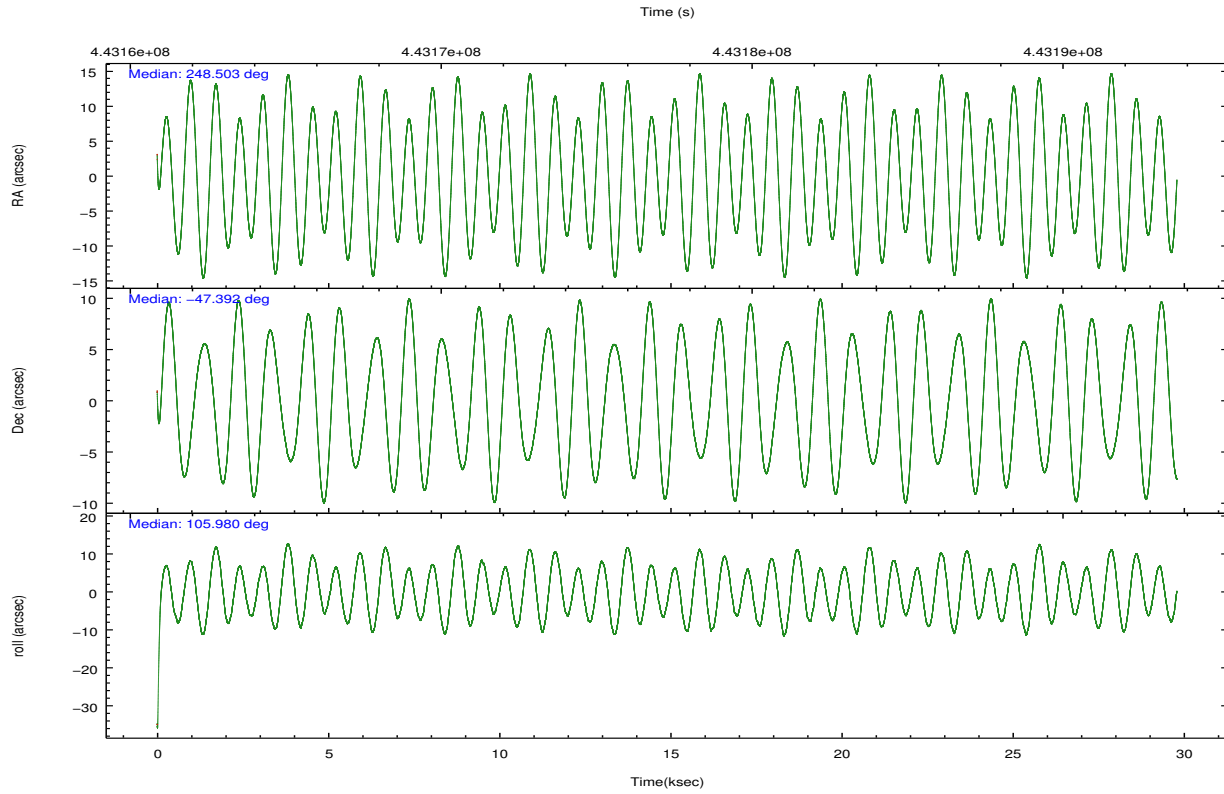
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	16876	455981	157357	82527
	8%	56%	13%	34%
grade 1 events	1599	6913	2095	325
	0%	0%	0%	0%
grade 2 events	40641	108258	292233	22088
	19%	13%	24%	9%
grade 3 events	5057	35204	93796	8462
	2%	4%	7%	3%
grade 4 events	5188	34890	93413	8212
	2%	4%	7%	3%
grade 5 events	9638	11659	25102	6474
	4%	1%	2%	2%
grade 6 events	53672	53198	434890	15868
	26%	6%	36%	6%
grade 7 events	71347	95899	90447	93962
	34%	11%	7%	39%

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	248.531854	248.5024177694439	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-47.410860	-47.39212461213702	Subarray start row	1	1
[deg] Pointing Roll	105.849682	105.984625920896	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)	443162515.184000	443161488.96973			
Observation start date	2012-01-17T04:40:49	2012-01-17T04:24:48			
[s] Observation end time (MET)	443192152.184000	443193115.85891			
Observation end date	2012-01-17T12:54:46	2012-01-17T13:11:55			
Read mode	TIMED	TIMED			

2.3 Aspect



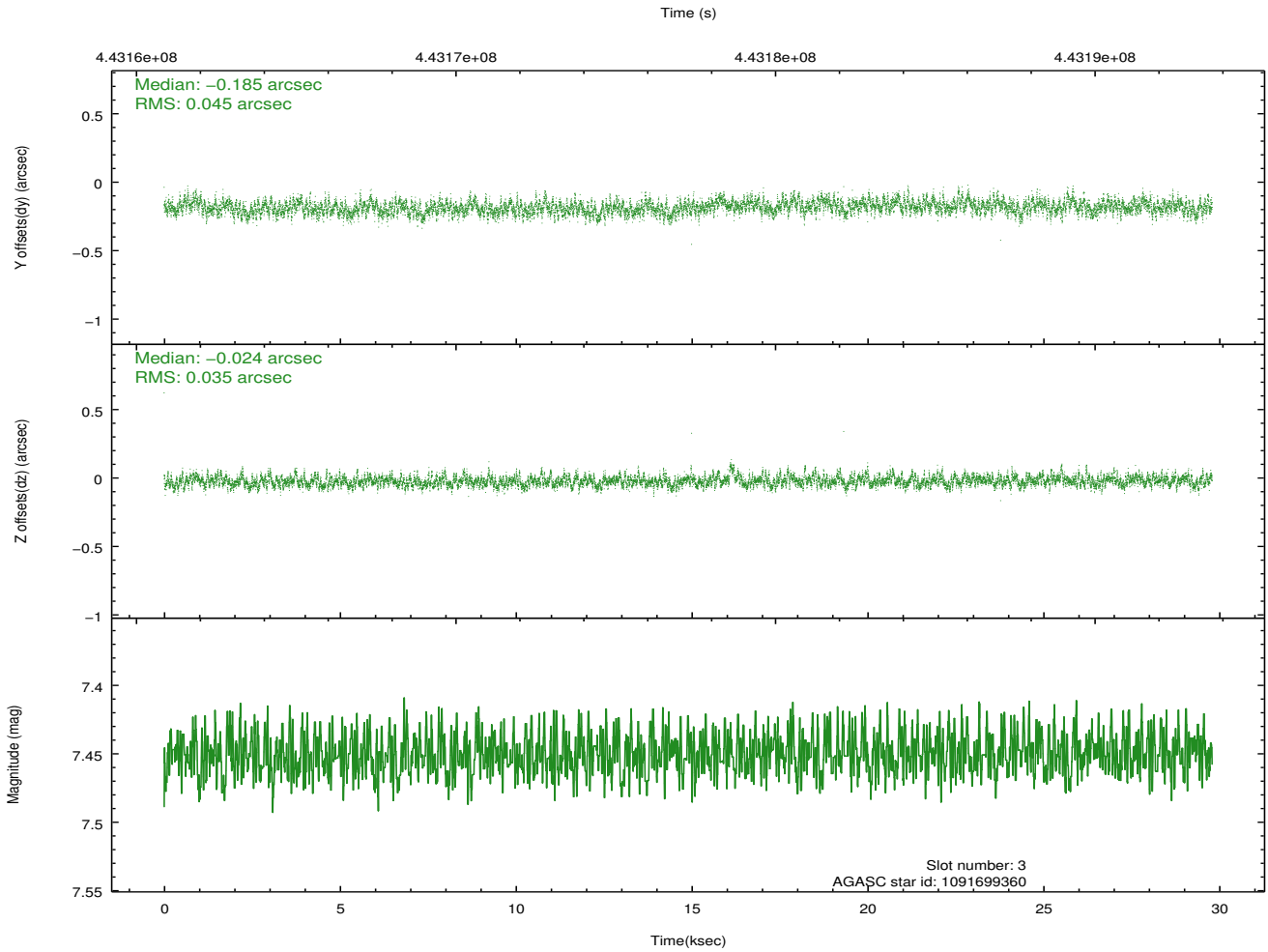
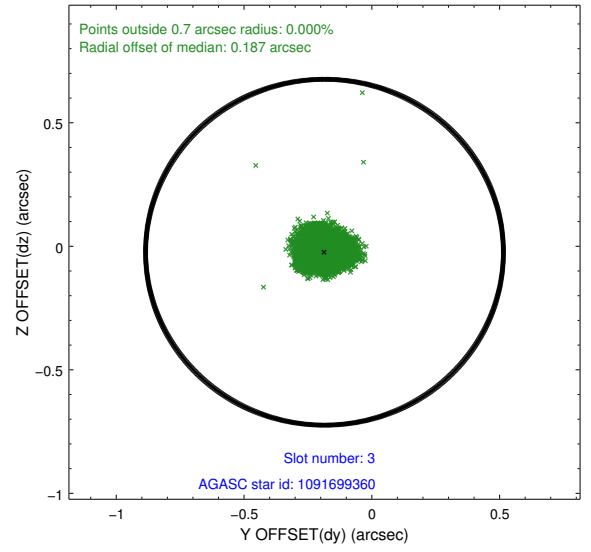
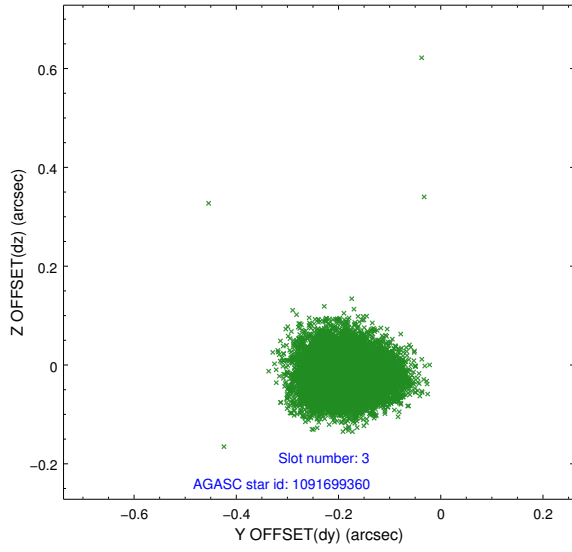


Slot Statistics

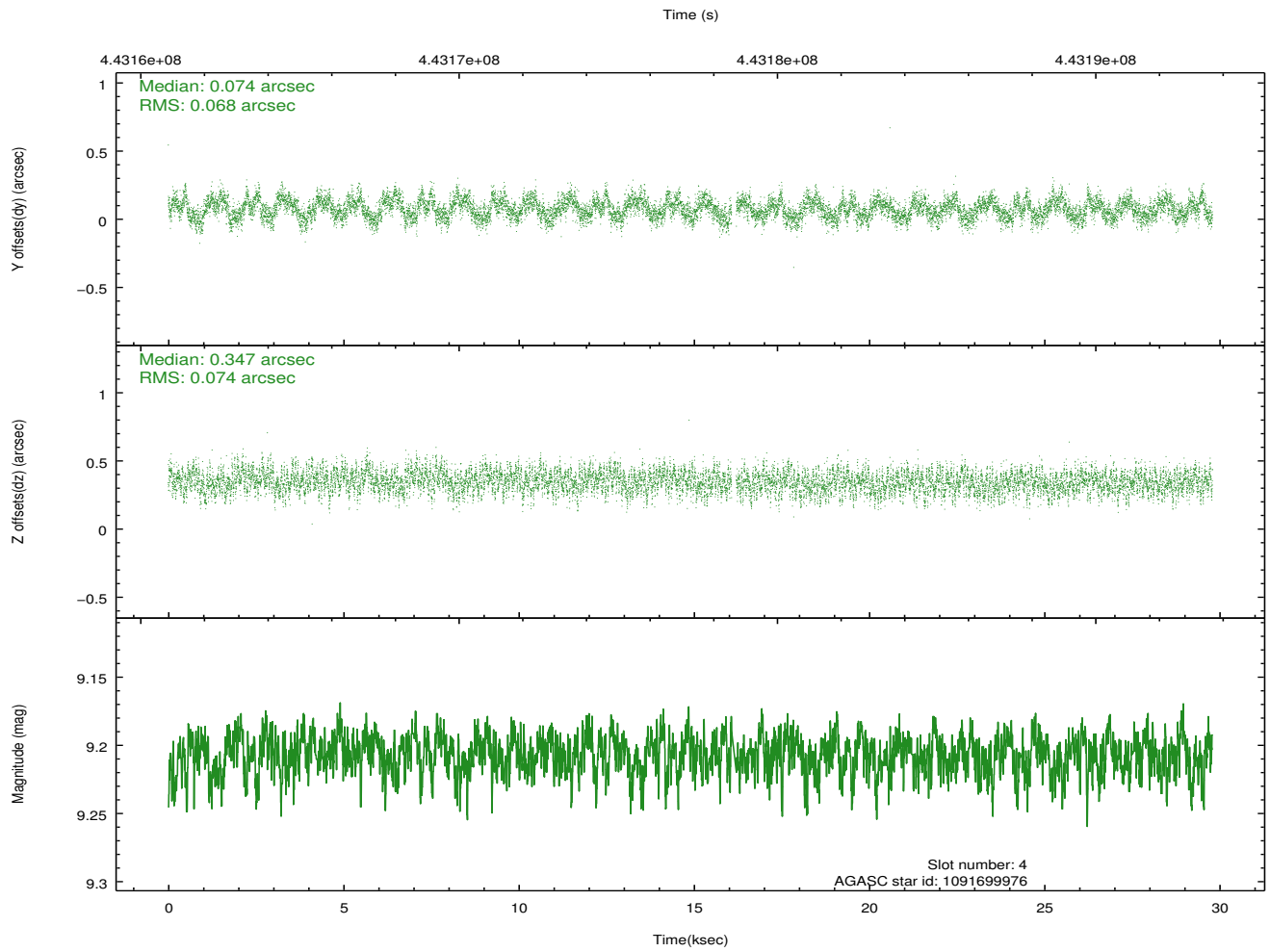
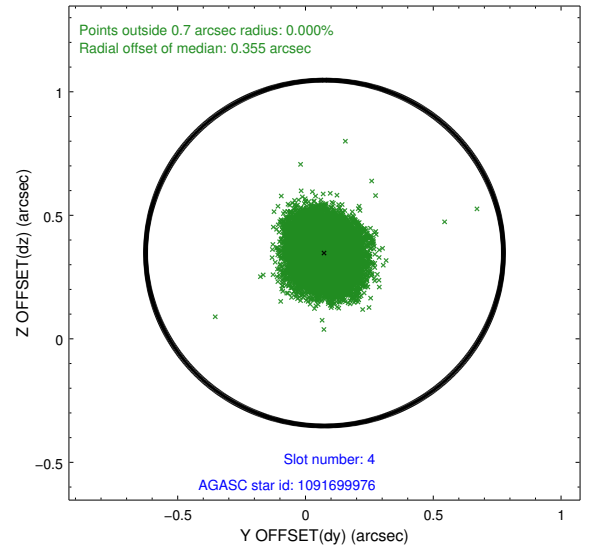
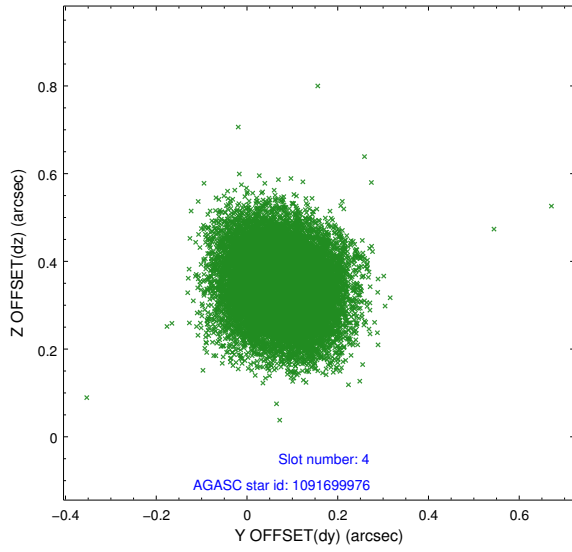
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.91	7268	-0.103	-0.129	0.017	0.045	0.000000	0.000000	-763.93	-1863.10
1	FID	ACIS-S-4	7.00	7268	0.185	0.083	0.016	0.024	0.000000	0.000000	2149.66	45.39
2	FID	ACIS-S-5	7.06	7268	-0.113	0.054	0.021	0.042	0.000000	0.000000	-1816.63	39.24
3	GUIDE	1091699360	7.45	14532	-0.185	-0.024	0.060	0.099	248.660725	-47.004364	1321.15	-703.56
4	GUIDE	1091699976	9.21	14459	0.074	0.347	0.108	0.171	249.617486	-47.776281	-2000.02	-2161.84
5	GUIDE	1091705224	9.20	14516	0.015	-0.208	0.089	0.143	248.613211	-47.940846	-1889.20	332.35
6	GUIDE	1091709768	7.70	14533	0.005	0.126	0.055	0.089	249.435228	-47.706899	-1635.29	-1810.36
7	GUIDE	1091698696	8.79	14527	0.092	-0.239	0.069	0.116	248.529134	-48.079711	-2314.70	663.89

2.4 Star Slots

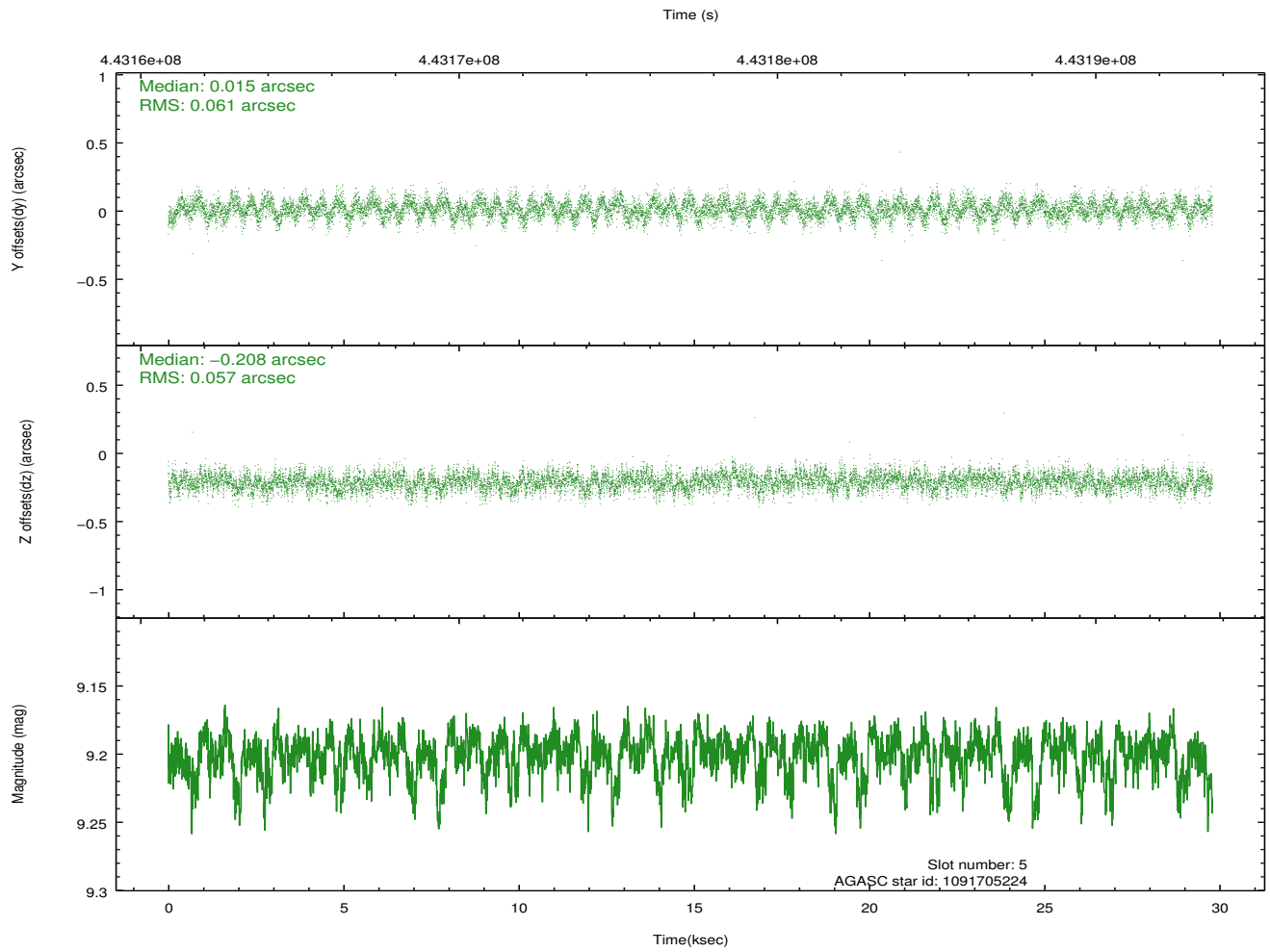
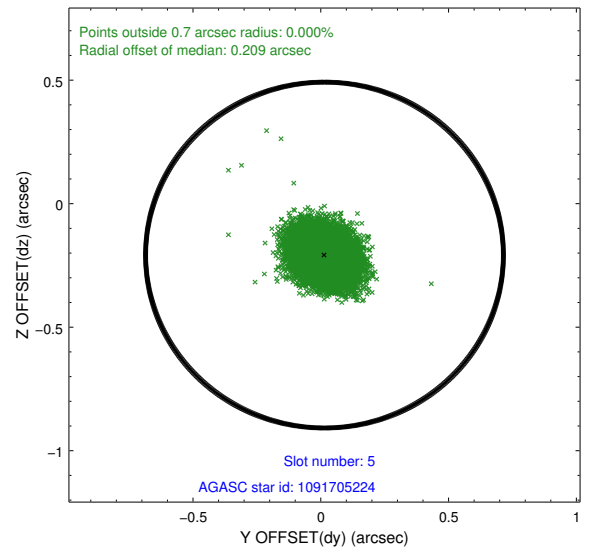
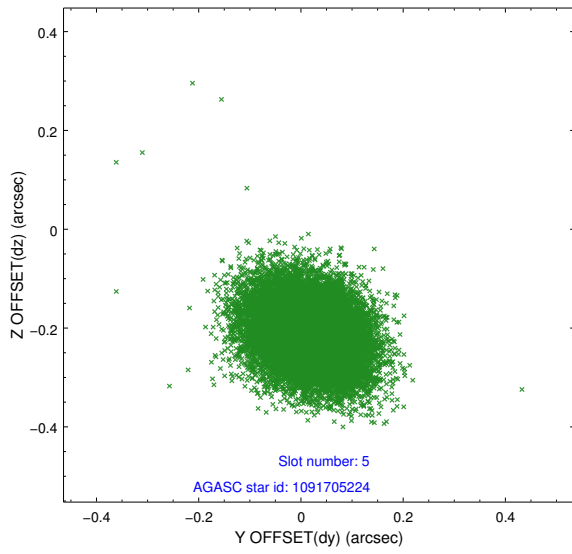
2.4.1 Slot 3



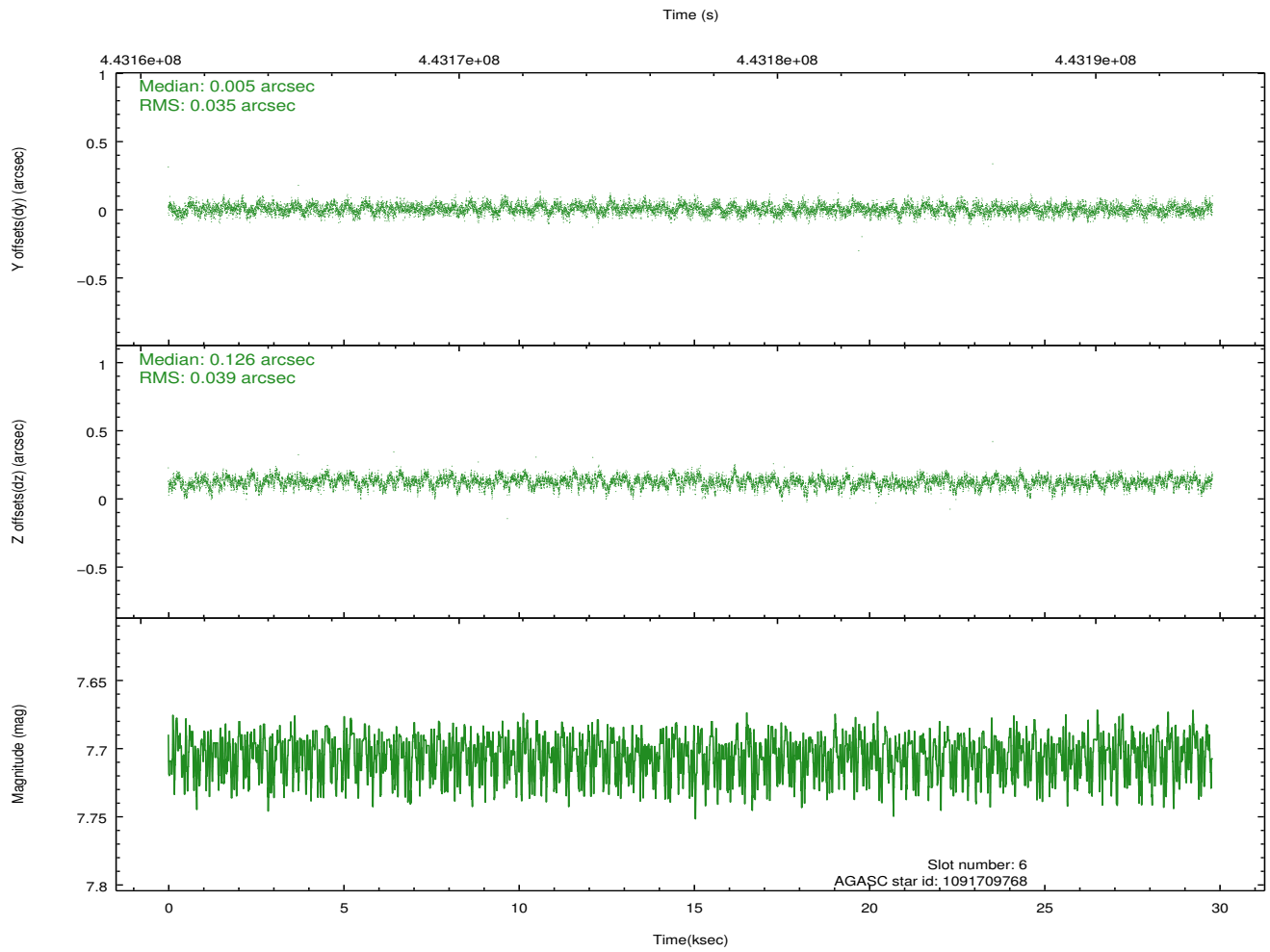
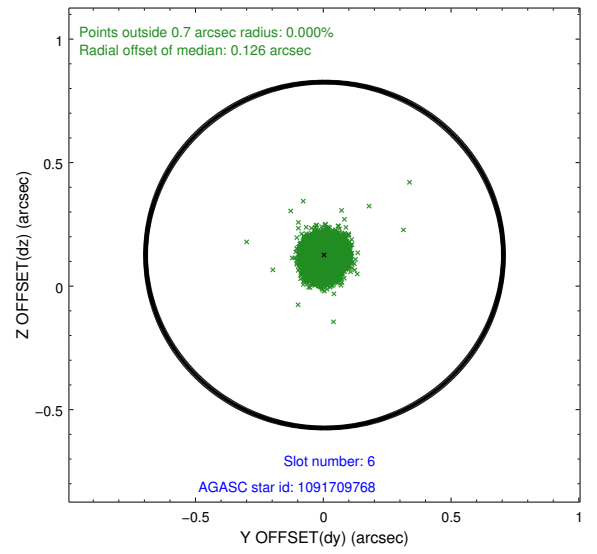
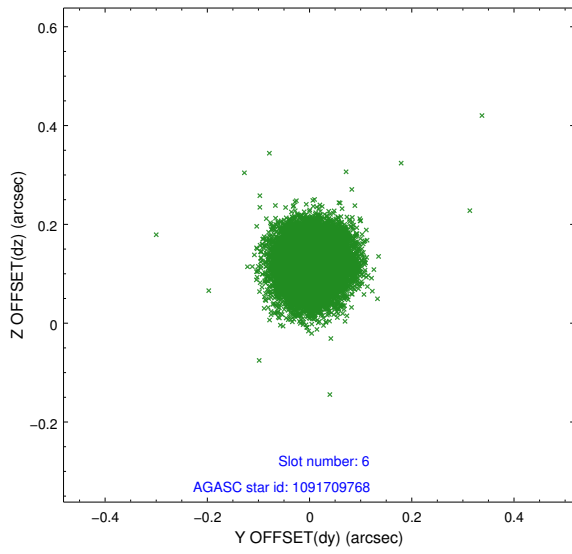
2.4.2 Slot 4



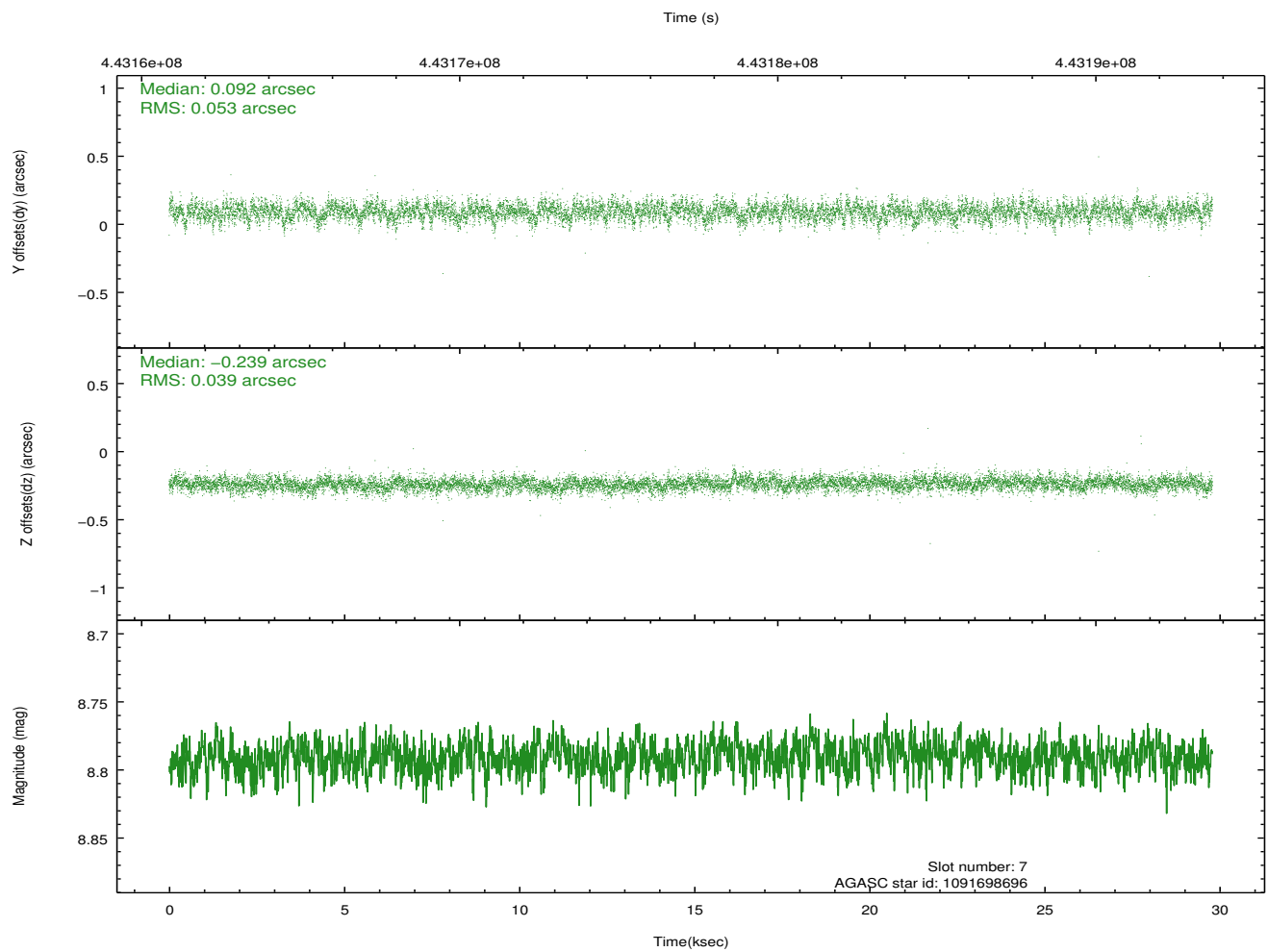
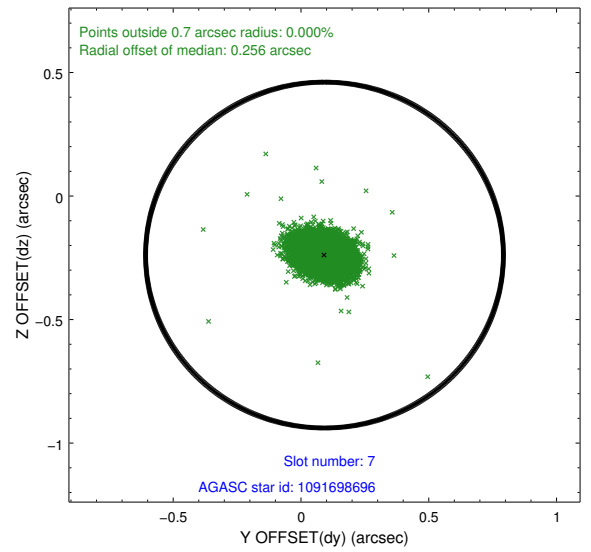
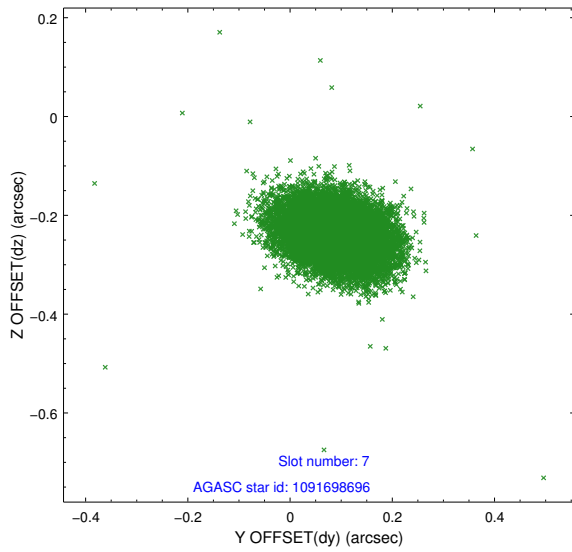
2.4.3 Slot 5



2.4.4 Slot 6

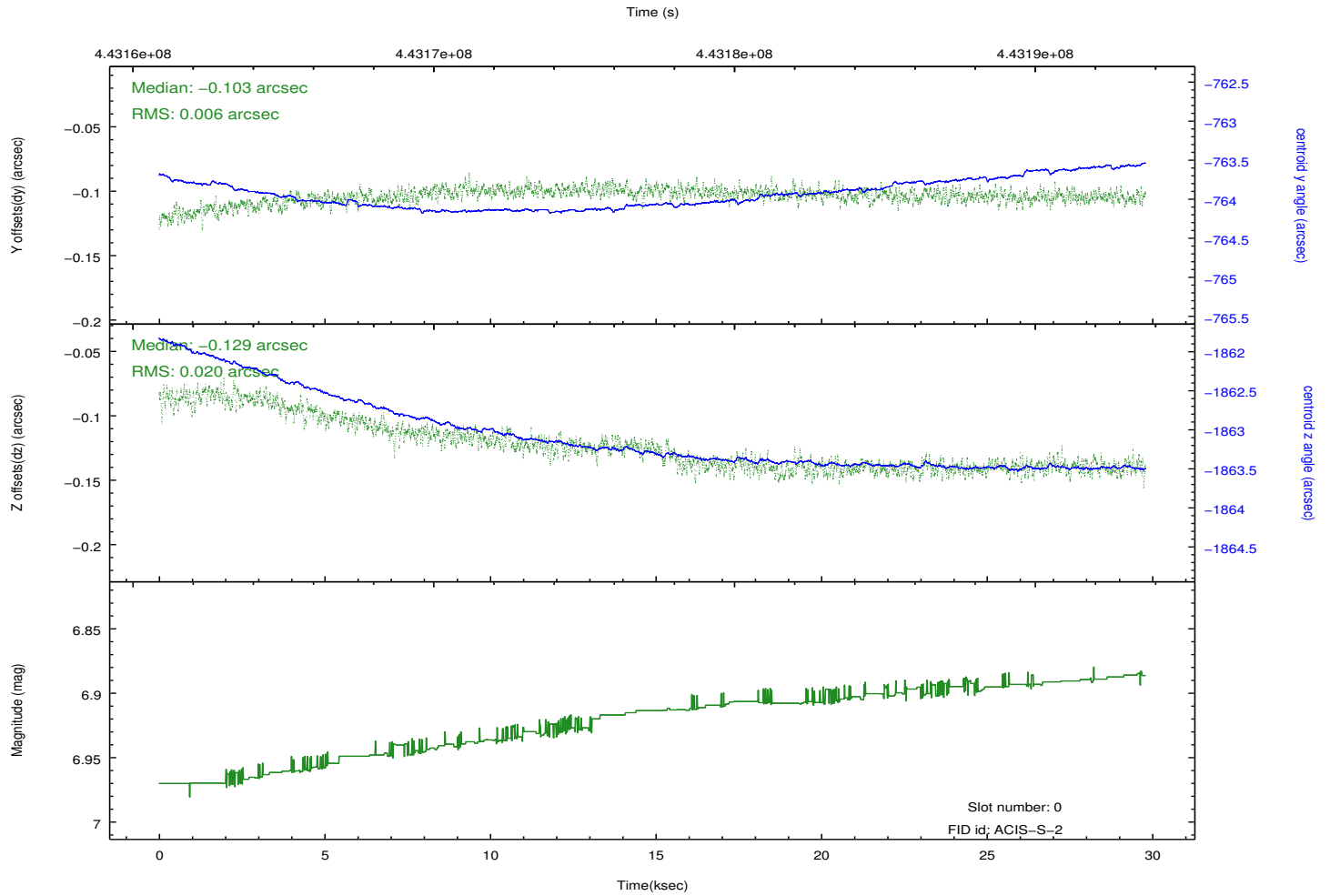
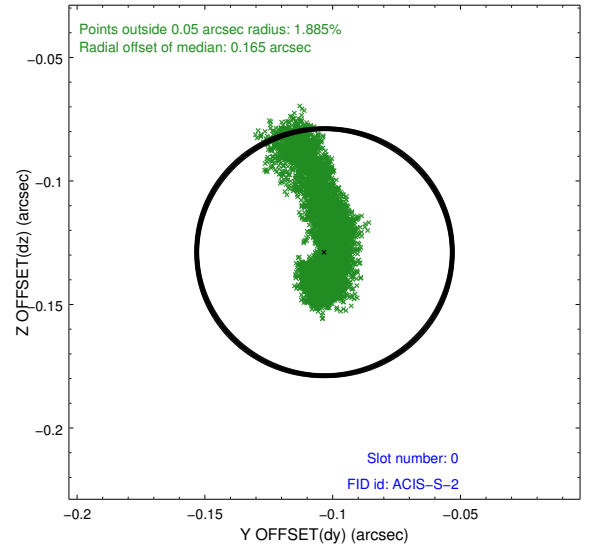
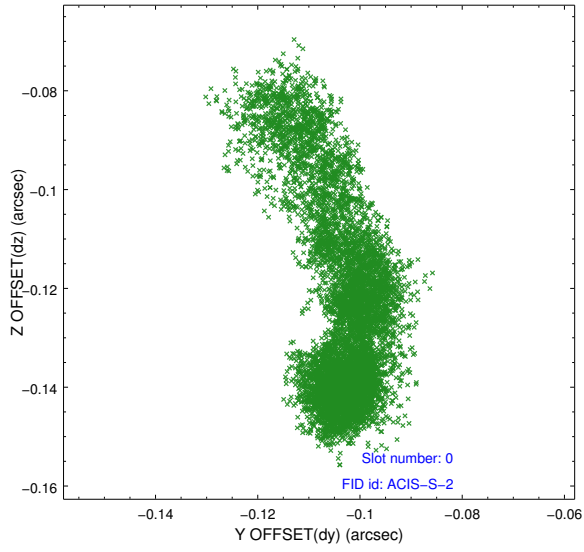


2.4.5 Slot 7

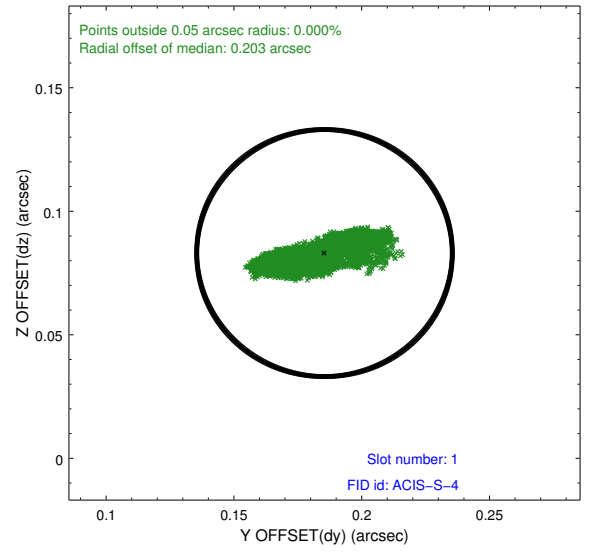
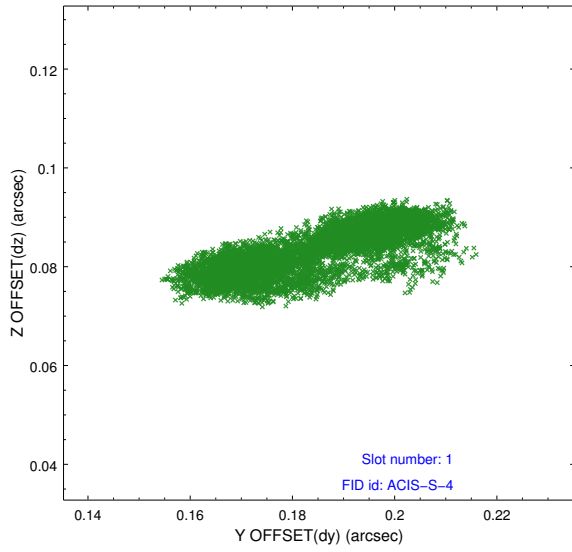


2.5 FID Slots

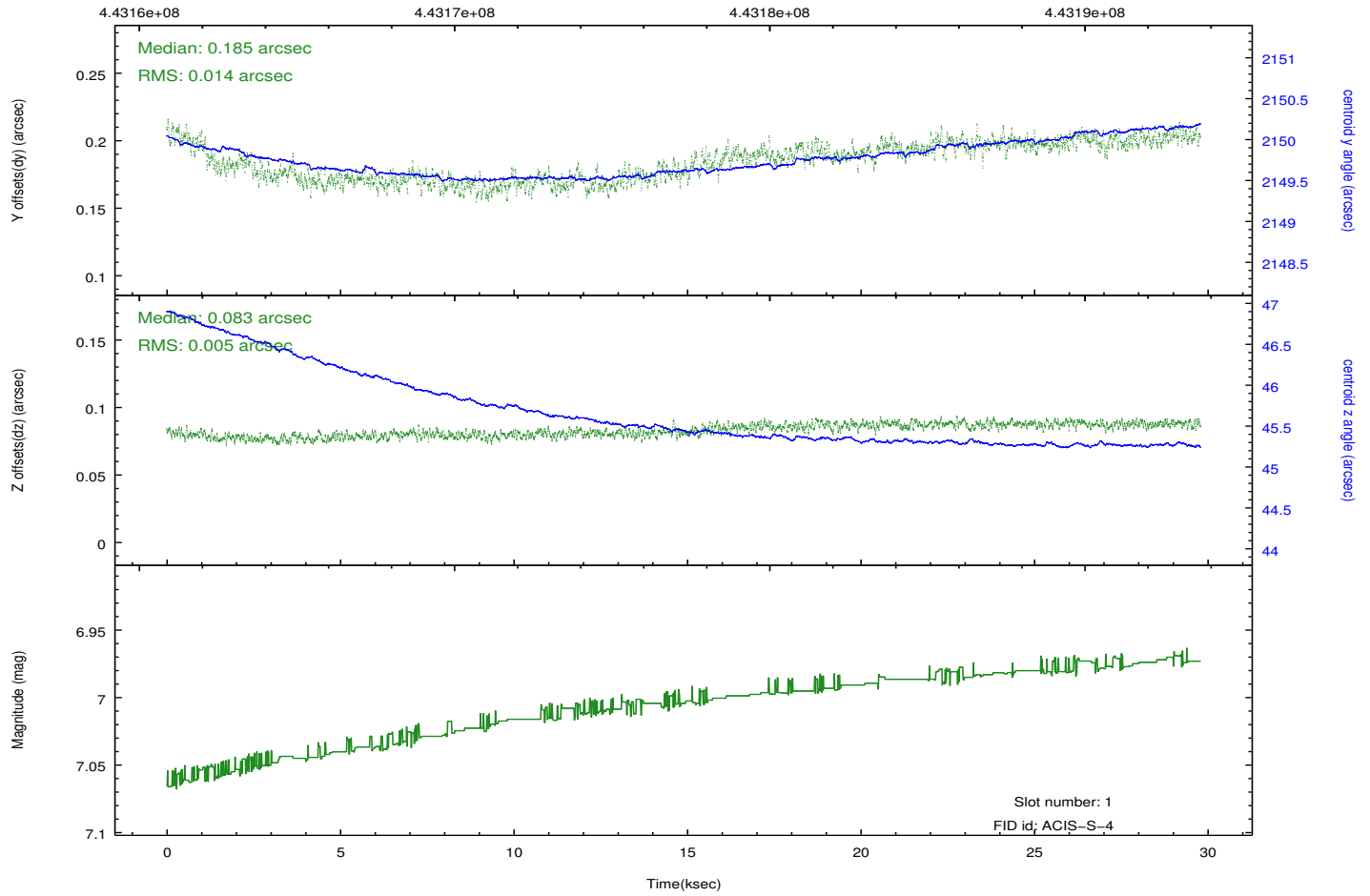
2.5.1 Slot 0



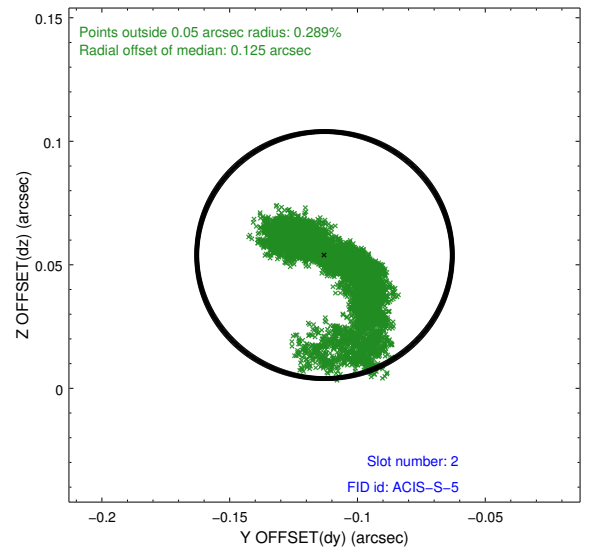
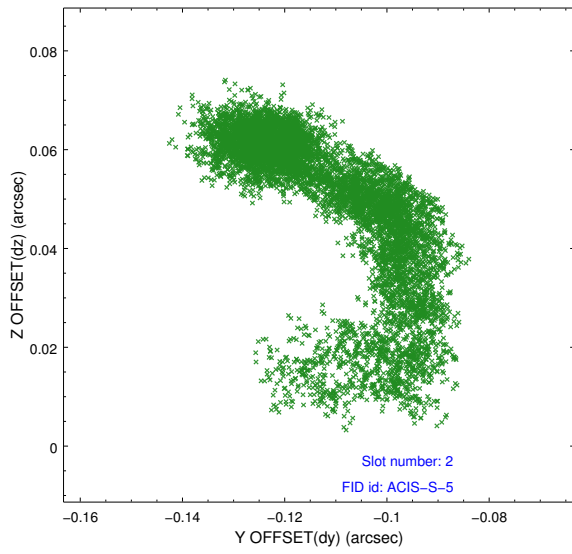
2.5.2 Slot 1



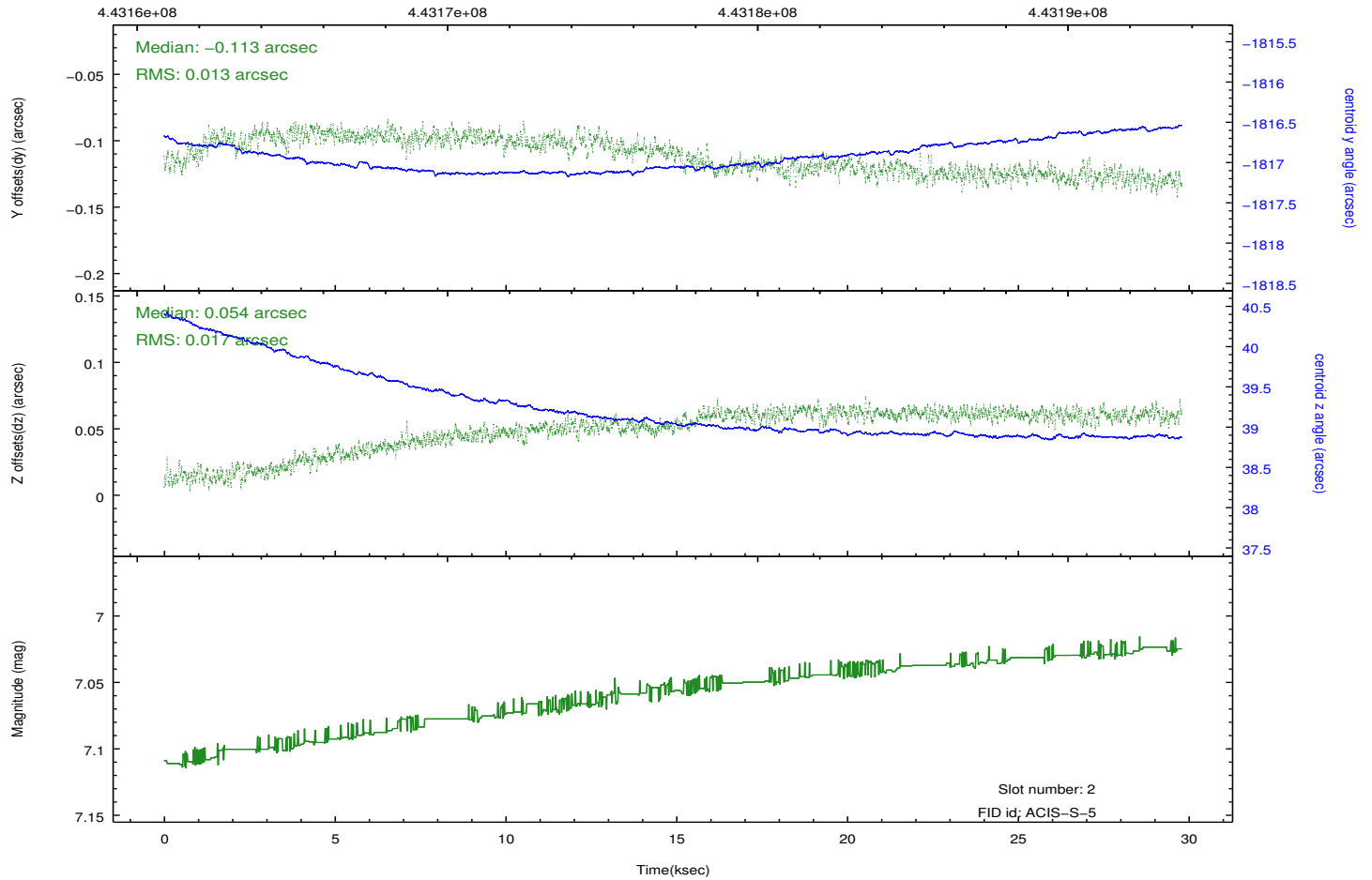
Time (s)



2.5.3 Slot 2

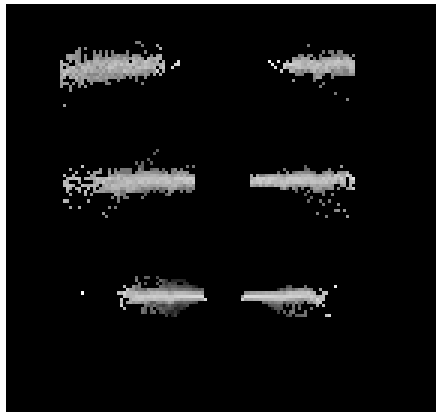


Time (s)

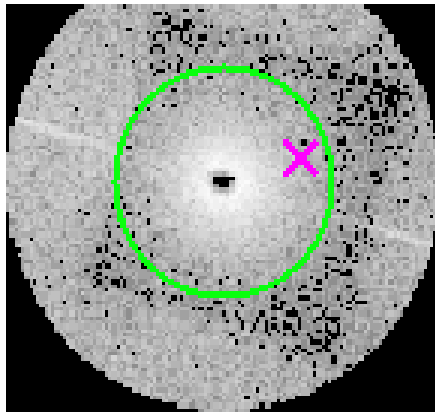


3 Gratings

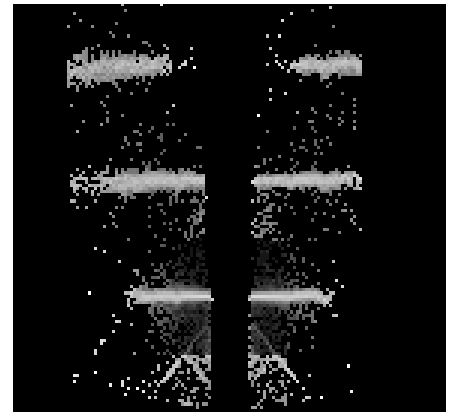
3.1 HEG Arm



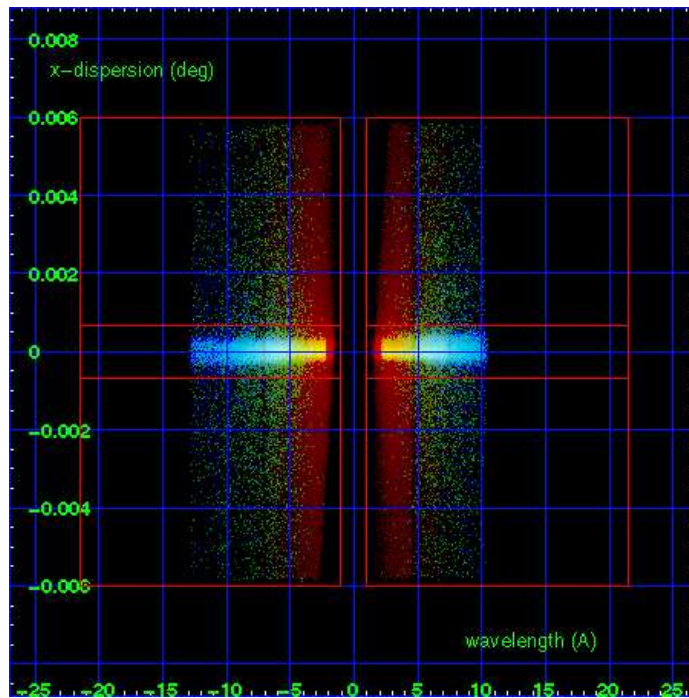
HEG Order Sort 123



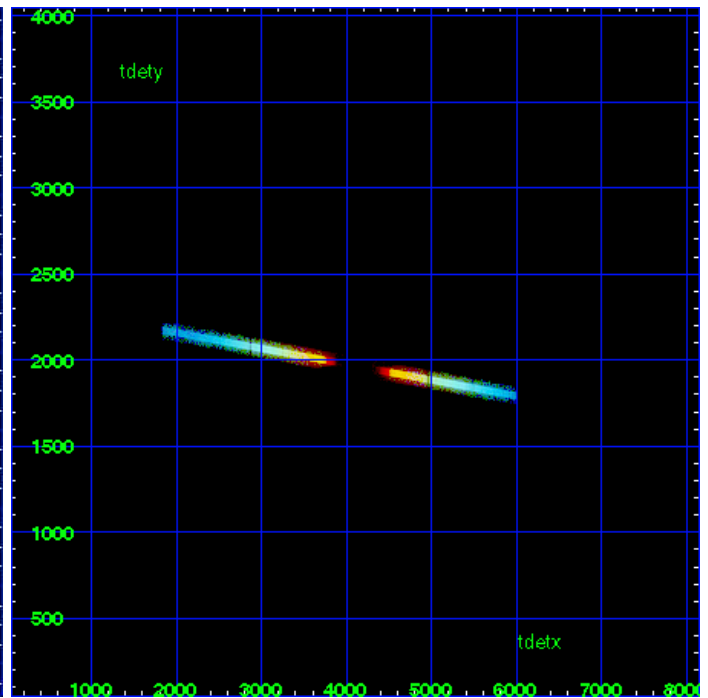
HEG Zero Order



HEG Order Sort ALL

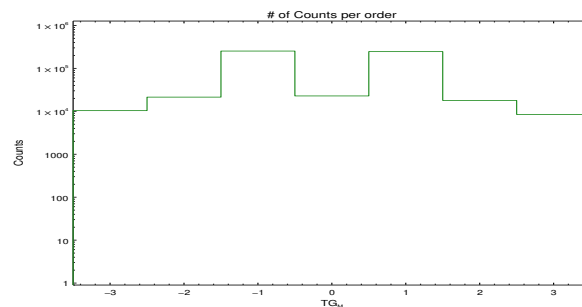


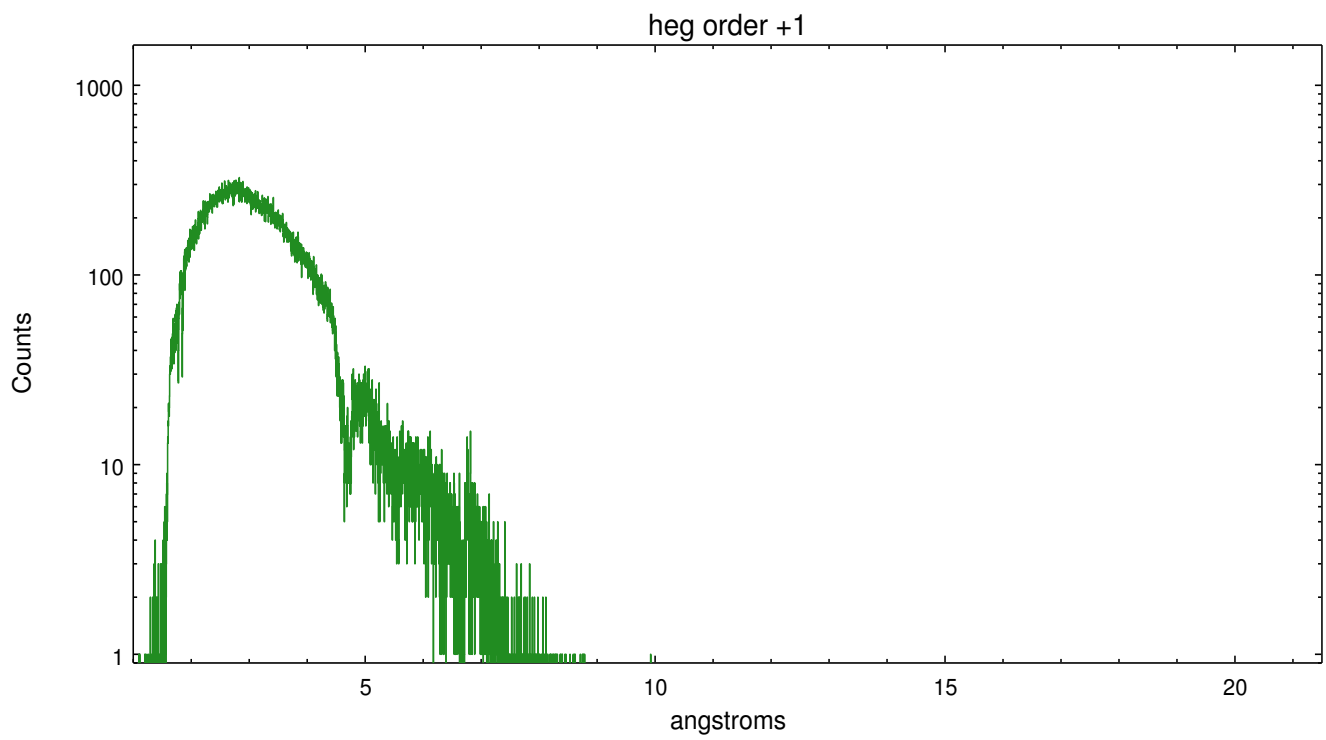
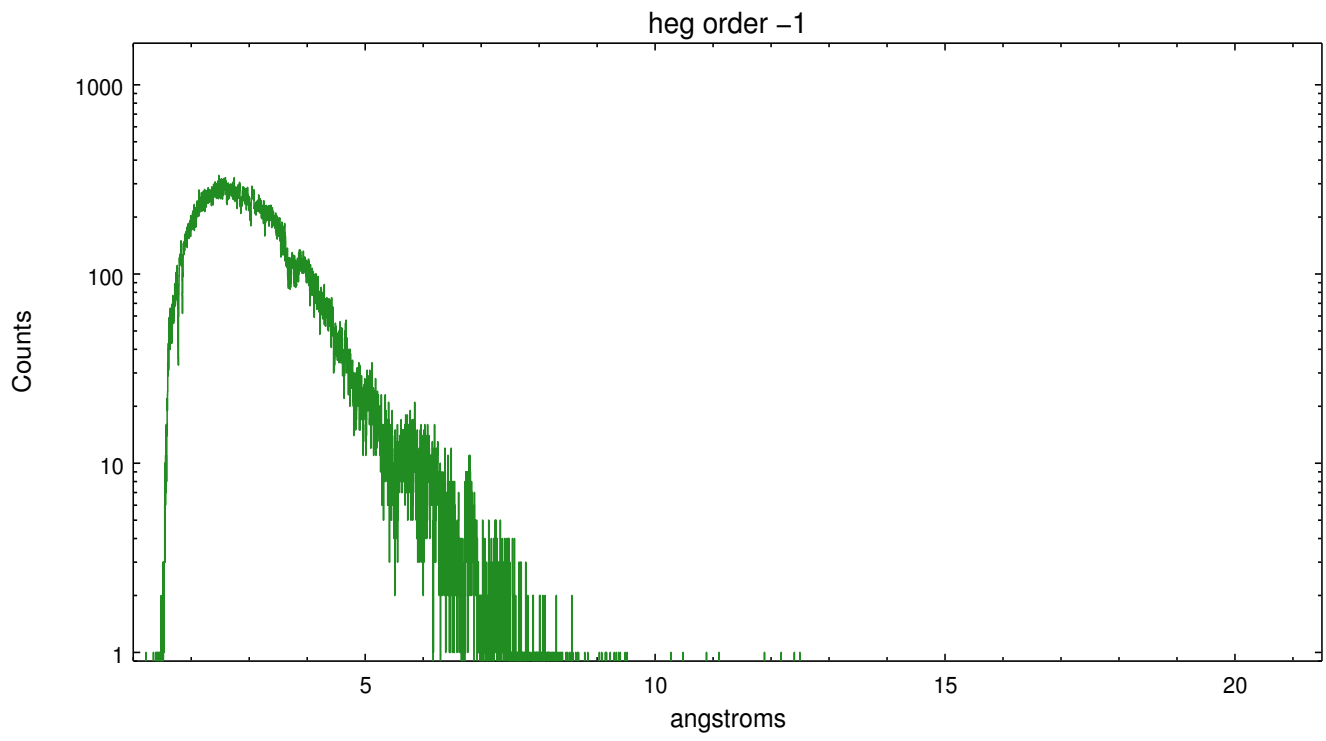
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	10376	21381	252790	22802	245526	17911	8448

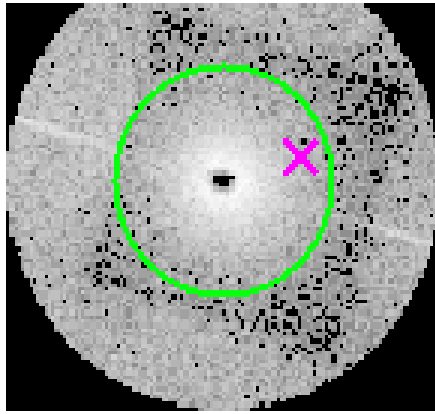




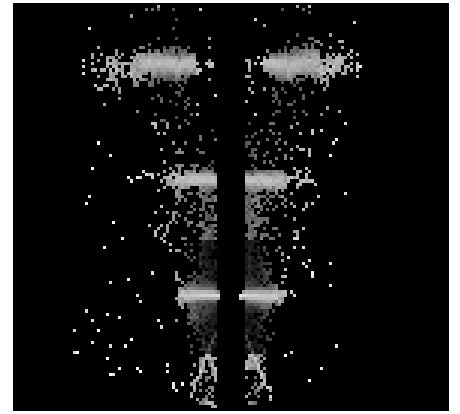
3.2 MEG Arm



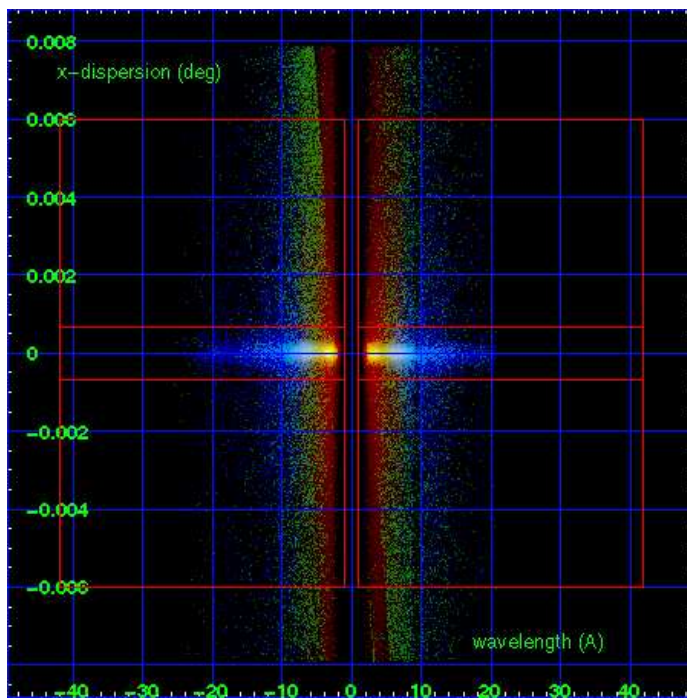
MEG Order Sort 123



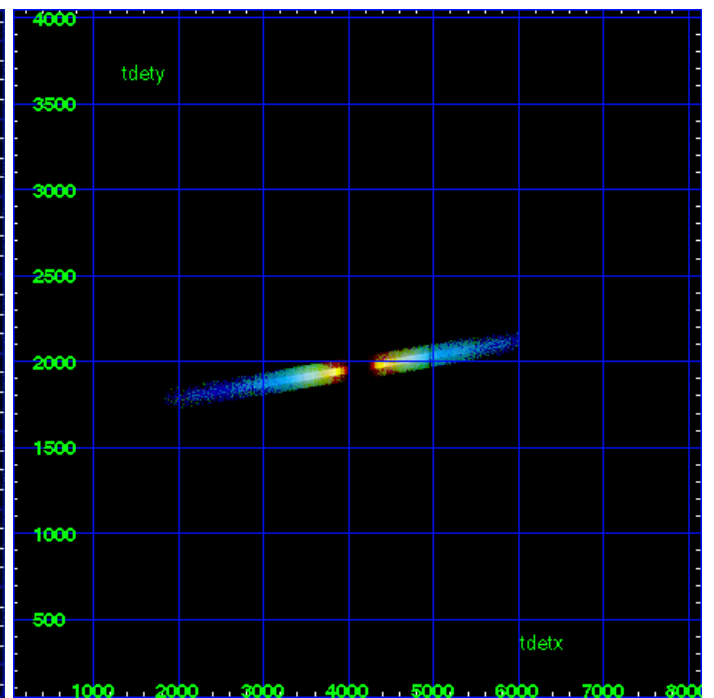
MEG Zero Order



MEG Order Sort ALL

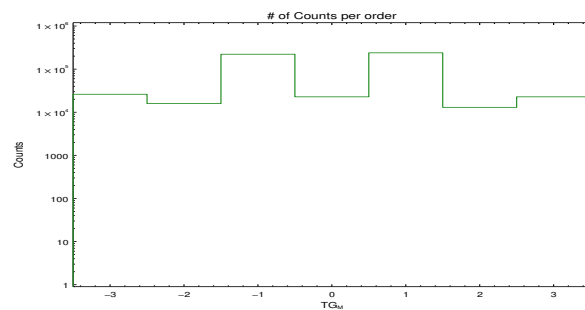


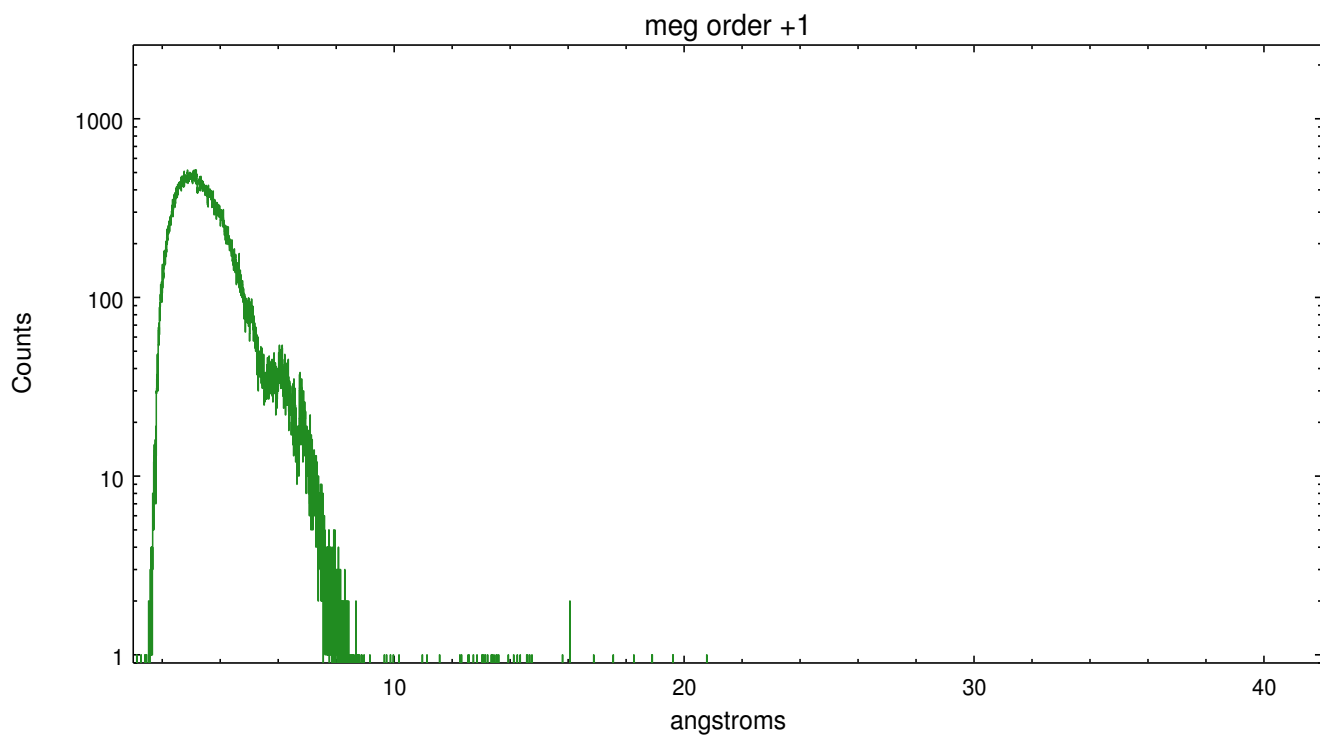
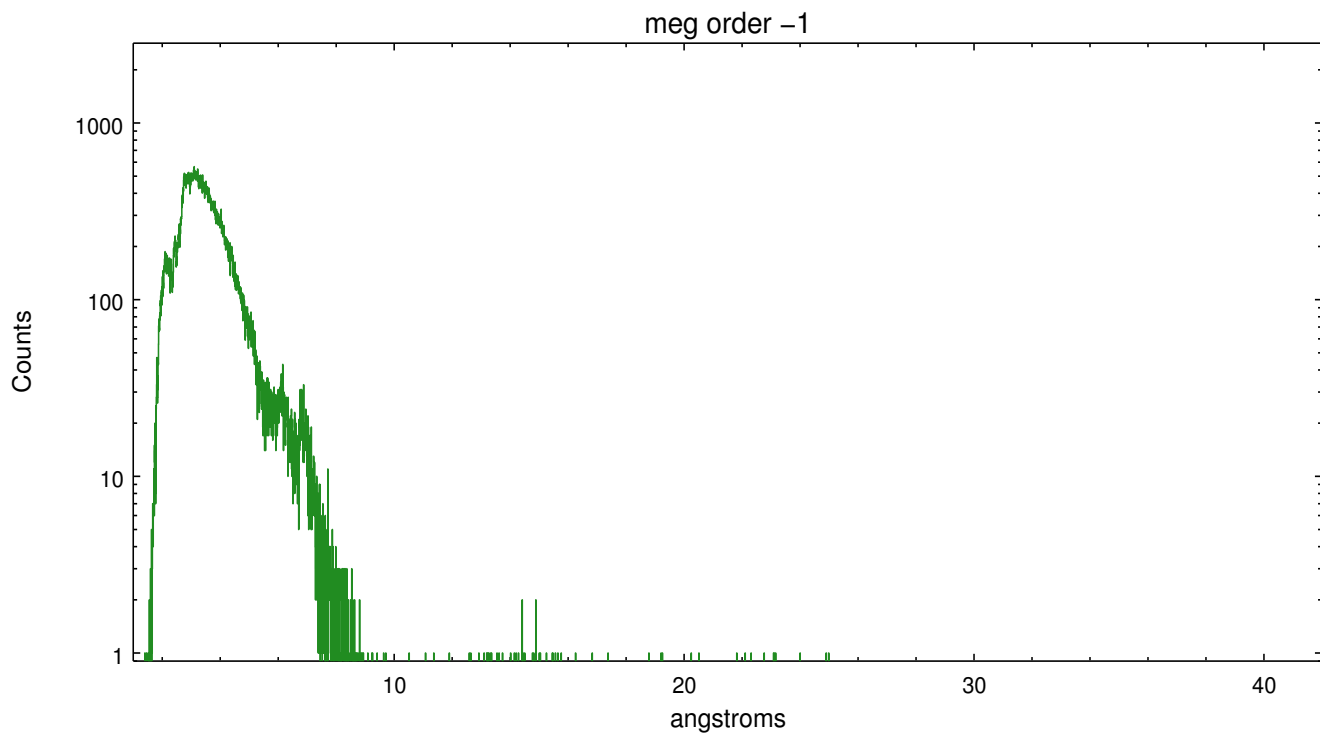
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	26130	15884	221754	22802	239104	12985	22818





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.01.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.665600442052

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=4076.1, y=4090.03) 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.

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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.