

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 13715 - L2 Version 2
Chandra X-Ray Center

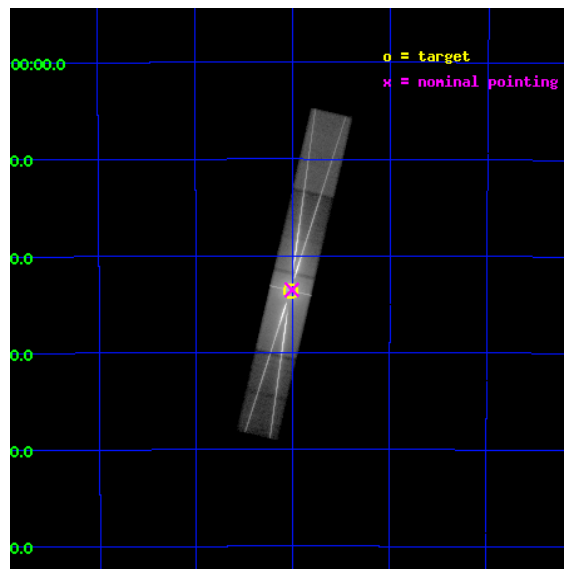
L2 Processing Date : Jan 23 2012

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1 Front

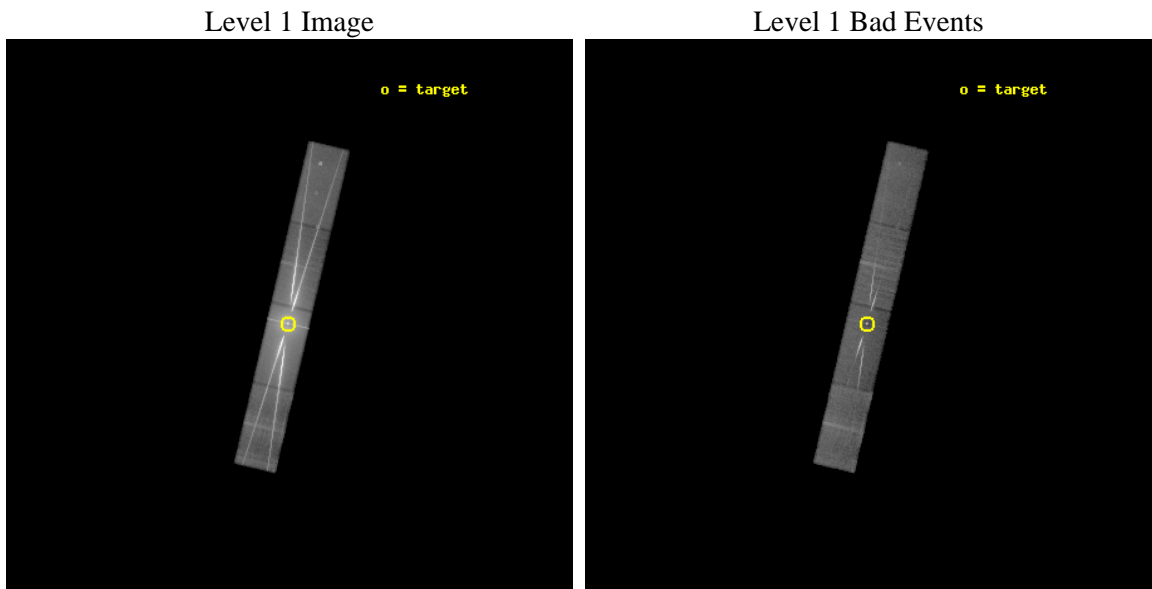
seq_num	401401	Sequence number
obs_id	13715	Observation id
title	Testing the Wind-Jet Connection in a Black Hole Transient	Proposal
observer	Dr Joey Neilsen	Principal investigator
object	4U 1630-47	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	248.506708	Observer's specified target RA [deg]
dec_targ	-47.393	Observer's specified target Dec [deg]
ra_nom	248.50249185259	Nominal RA [deg]
dec_nom	-47.391994865559	Nominal Dec [deg]
roll_nom	103.17123350894	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30030.400447488	Sum of GTIs [s]
livetime	29279.384241689	Livetime [s]
ontime5	30030.400447488	Sum of GTIs [s]
ontime6	30030.400447488	Sum of GTIs [s]
ontime7	30030.400447488	Sum of GTIs [s]
ontime8	30030.400447488	Sum of GTIs [s]
l2events	1927048	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	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	30030.400447488	Sum of GTIs [s]
caldsver	4.4.7	 	ontime5	30030.400447488	Sum of GTIs [s]
date	2012-01-22T06:20:49	Date and time of file creation	ontime6	30030.400447488	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	30030.400447488	Sum of GTIs [s]
			ontime8	30030.400447488	Sum of GTIs [s]
			l1events	2430356	Number of level 1 events

2.1.3 Events

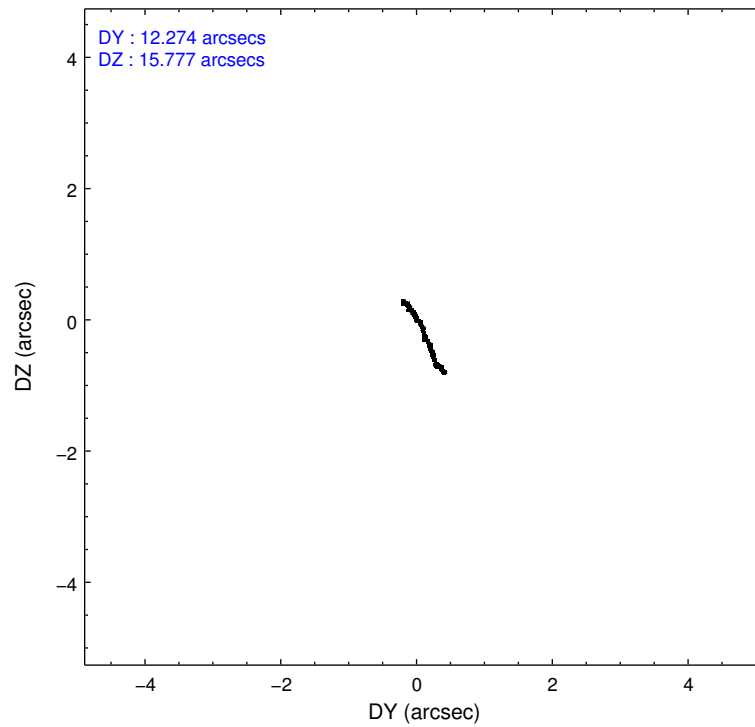
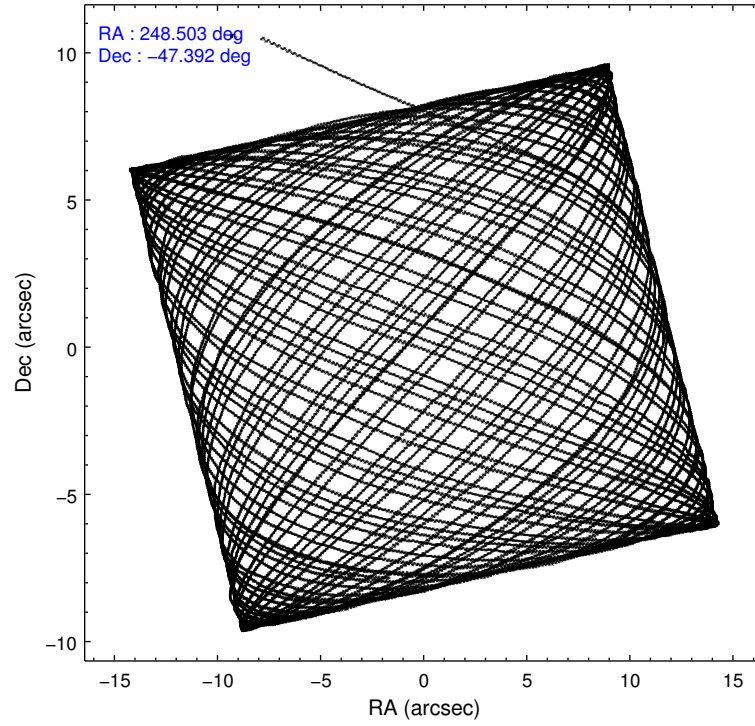
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	201766	803124	1180325	245141
rejected events	82156	115994	115285	103106
rejected %	40%	14%	9%	42%

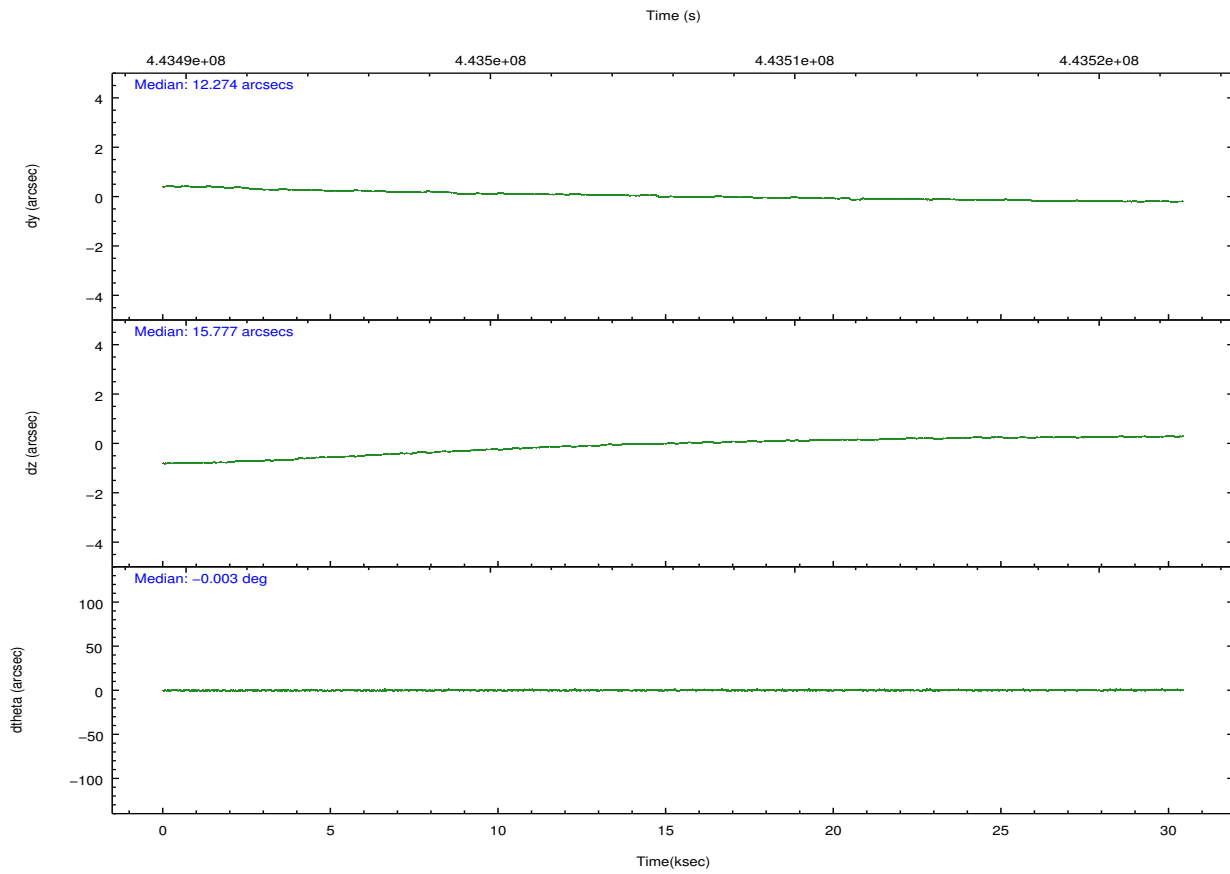
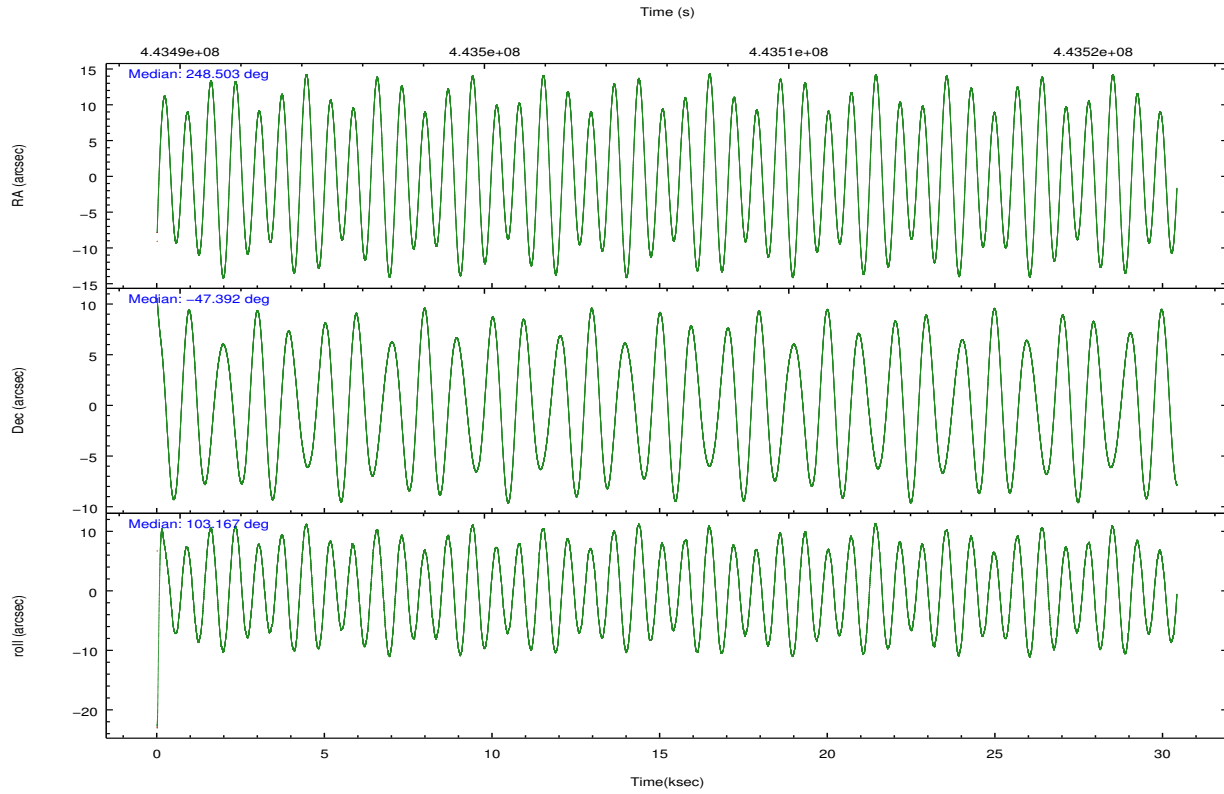
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	14706	458819	158697	83676
	7%	57%	13%	34%
grade 1 events	629	6744	2041	336
	0%	0%	0%	0%
grade 2 events	40203	106896	289304	22622
	19%	13%	24%	9%
grade 3 events	5335	34820	94562	9732
	2%	4%	8%	3%
grade 4 events	5009	34678	93848	9290
	2%	4%	7%	3%
grade 5 events	9633	11598	24658	6647
	4%	1%	2%	2%
grade 6 events	54384	52035	428744	16739
	26%	6%	36%	6%
grade 7 events	71867	97534	88471	96099
	35%	12%	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	248.530533	248.50249185259	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-47.411671	-47.39199486555894	Subarray start row	1	1
[deg] Pointing Roll	103.035263	103.1712335089402	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	-183.985022191653			
[mm] SIM translation stage offset	-6.14	-6.147500391354811			
[s] Observation start time (MET)	443491214.184000	443490297.71211			
Observation start date	2012-01-20T23:59:08	2012-01-20T23:44:57			
[s] Observation end time (MET)	443521214.184000	443522153.68879			
Observation end date	2012-01-21T08:19:08	2012-01-21T08:35:53			
Read mode	TIMED	TIMED			

2.3 Aspect



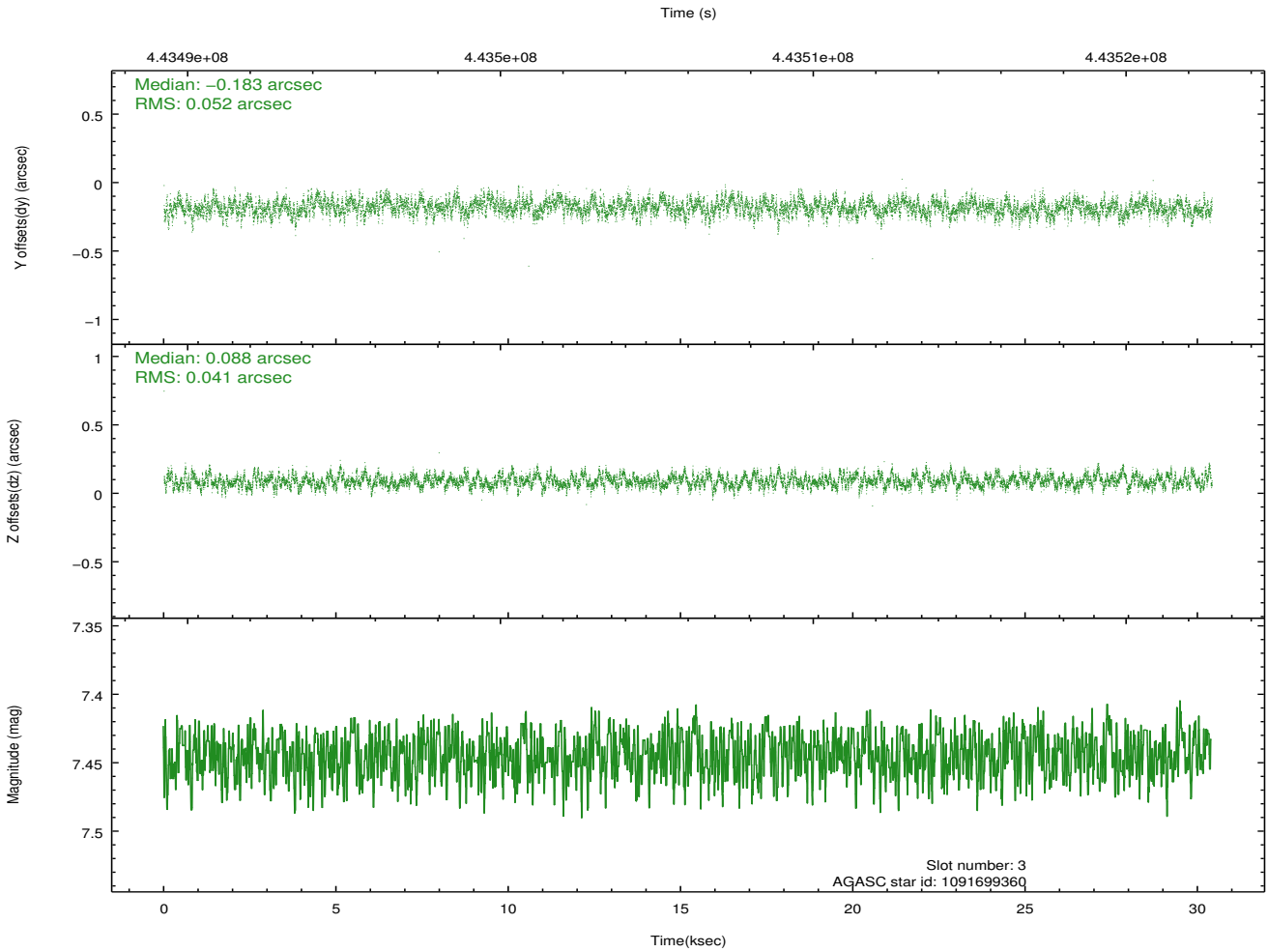
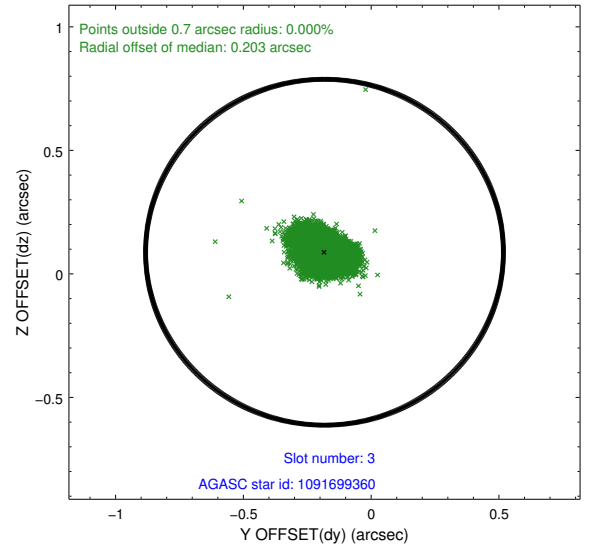
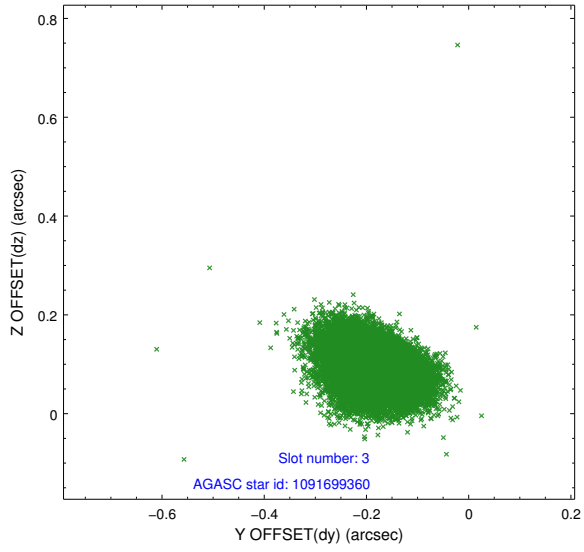


Slot Statistics

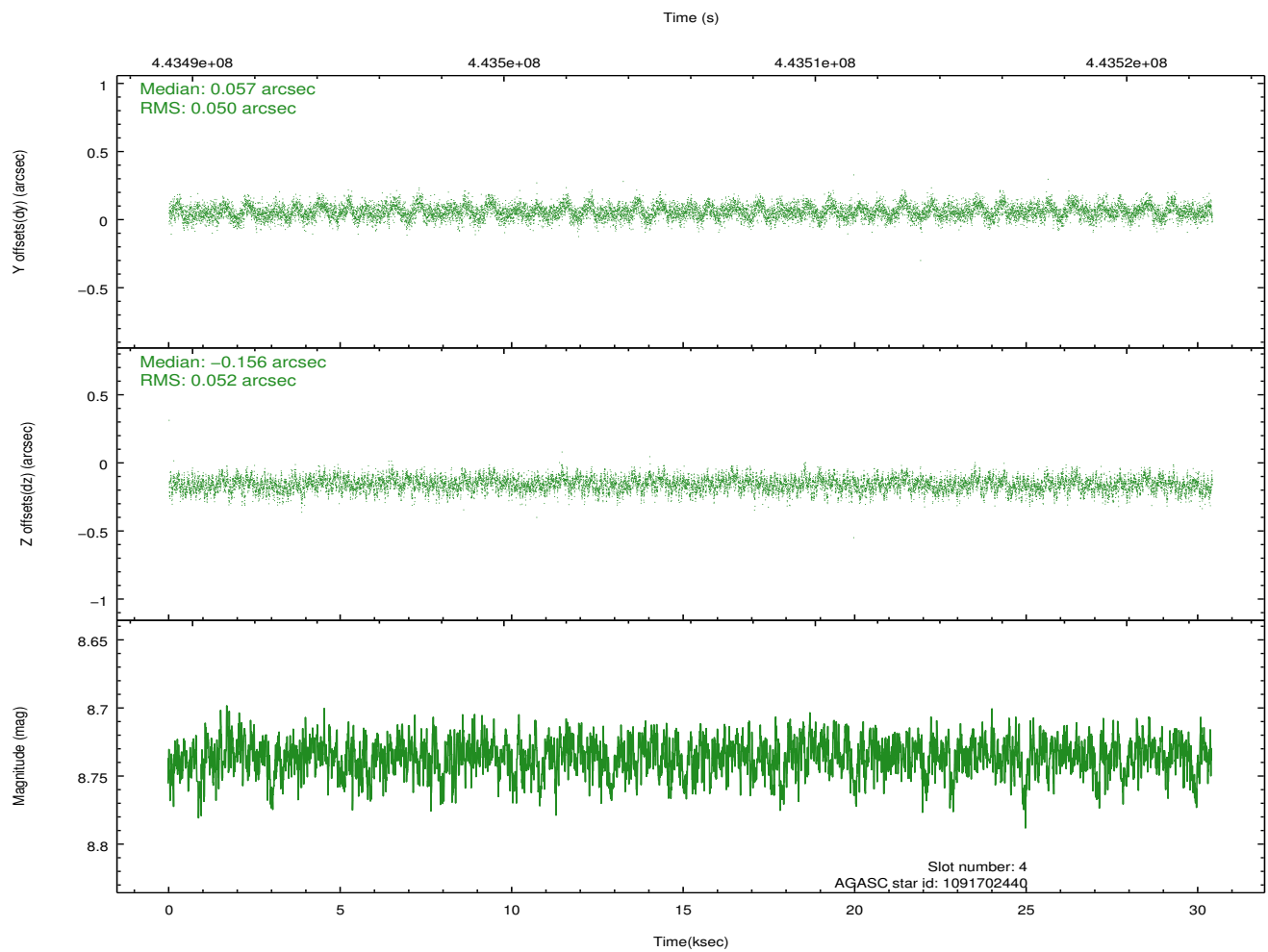
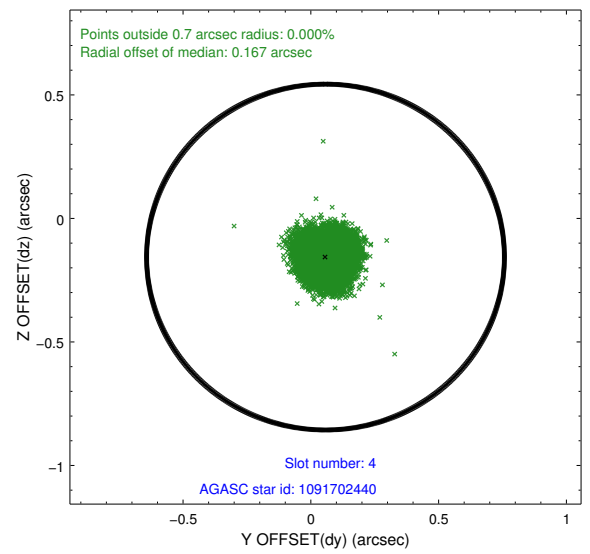
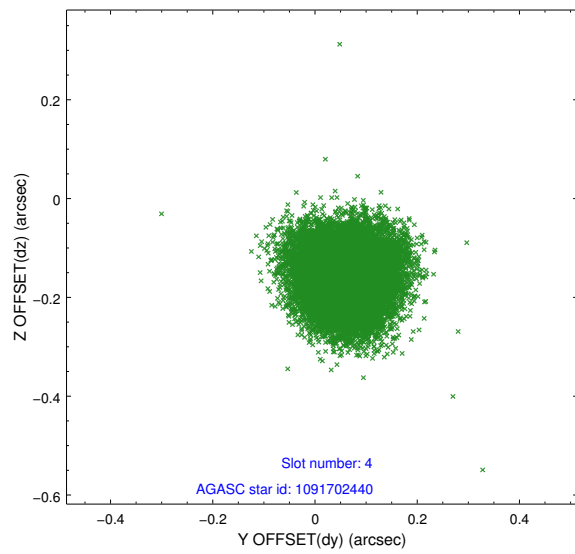
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.87	7419	-0.145	-0.105	0.007	0.014	0.000000	0.000000	-764.97	-1863.86
1	FID	ACIS-S-4	6.94	7419	0.134	0.081	0.009	0.013	0.000000	0.000000	2148.60	44.64
2	FID	ACIS-S-6	7.15	7418	-0.016	0.032	0.011	0.018	0.000000	0.000000	397.29	682.11
3	GUIDE	1091699360	7.44	14836	-0.183	0.088	0.069	0.115	248.660725	-47.004364	1356.27	-641.65
4	GUIDE	1091702440	8.74	14835	0.057	-0.156	0.076	0.124	248.295809	-47.683380	-825.35	775.19
5	GUIDE	1091705224	9.20	14827	0.014	-0.093	0.088	0.141	248.613211	-47.940846	-1900.98	235.66
6	GUIDE	1091709768	7.71	14837	-0.010	0.252	0.058	0.092	249.435228	-47.706899	-1542.31	-1892.20
7	GUIDE	1091698696	8.78	14834	0.123	-0.091	0.070	0.121	248.529134	-48.079711	-2342.28	545.74

2.4 Star Slots

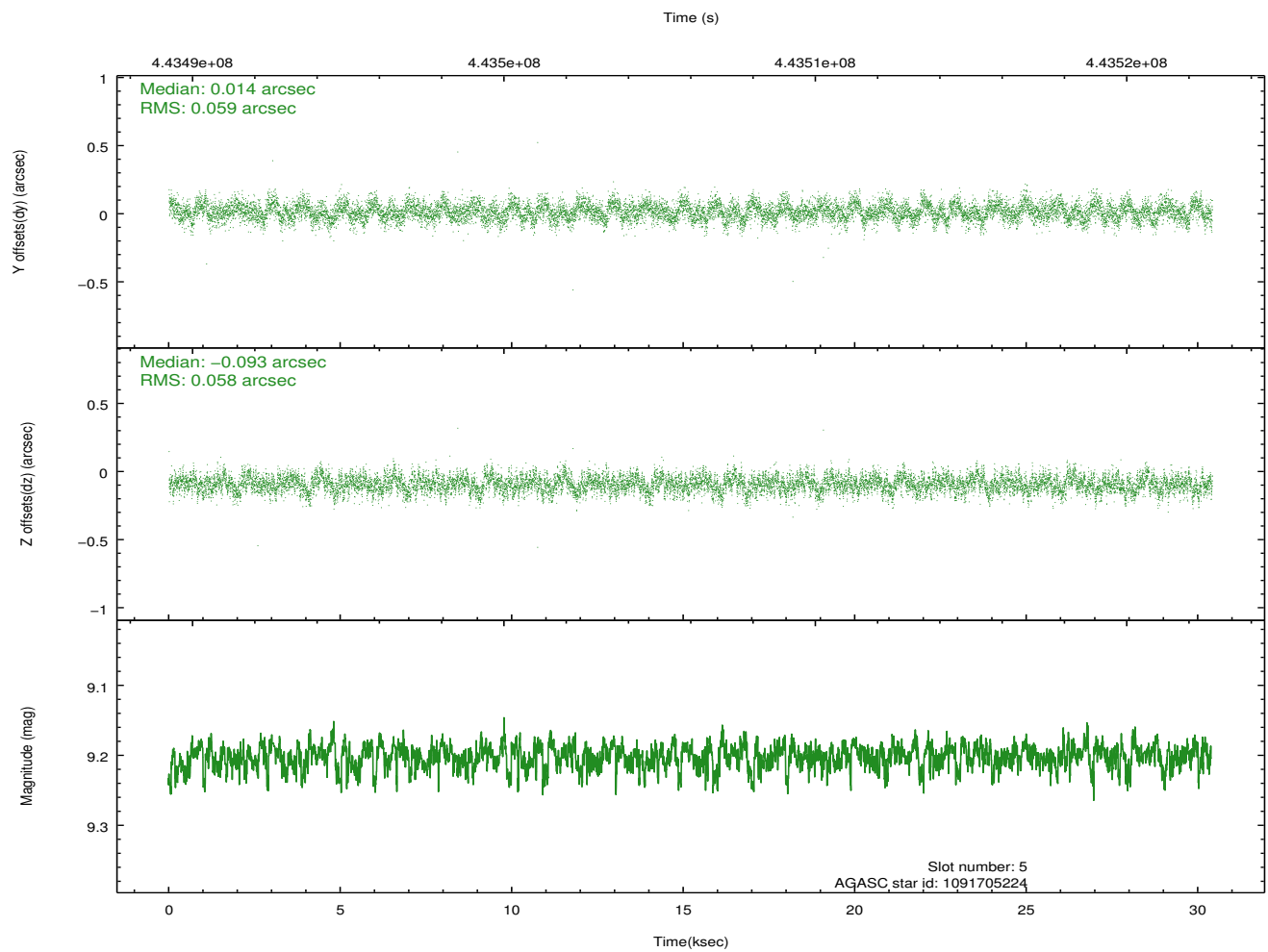
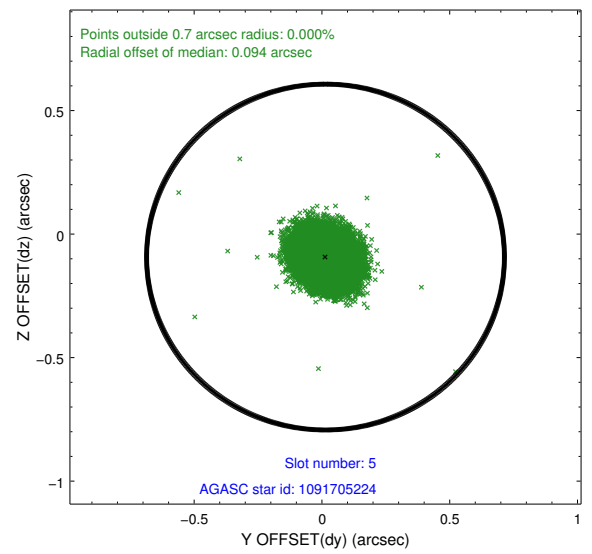
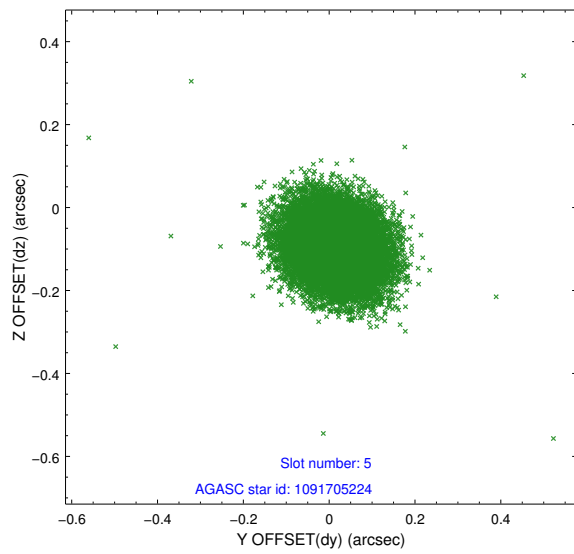
2.4.1 Slot 3



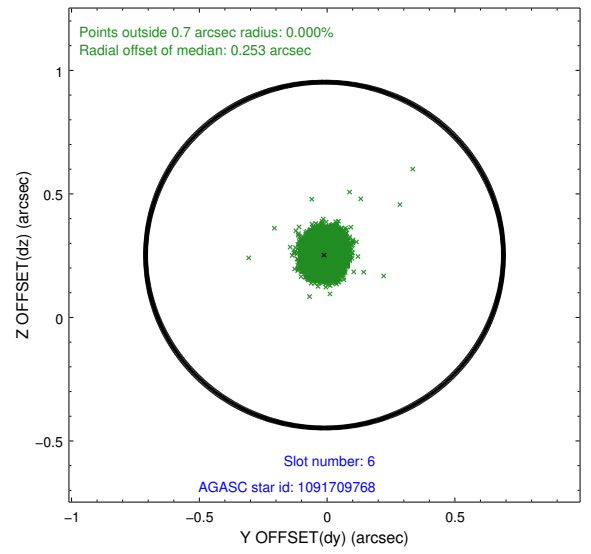
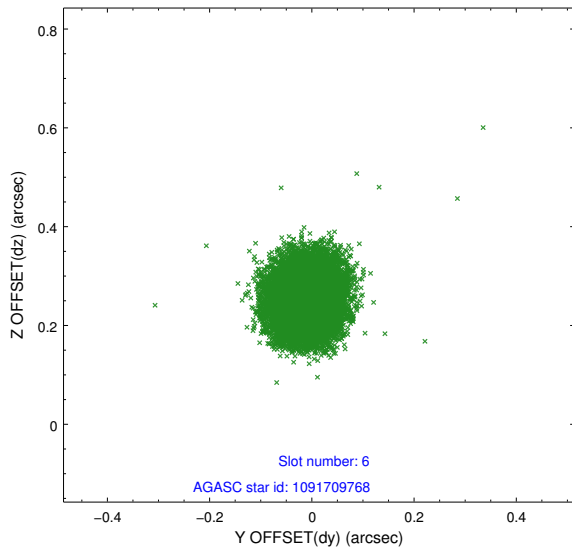
2.4.2 Slot 4



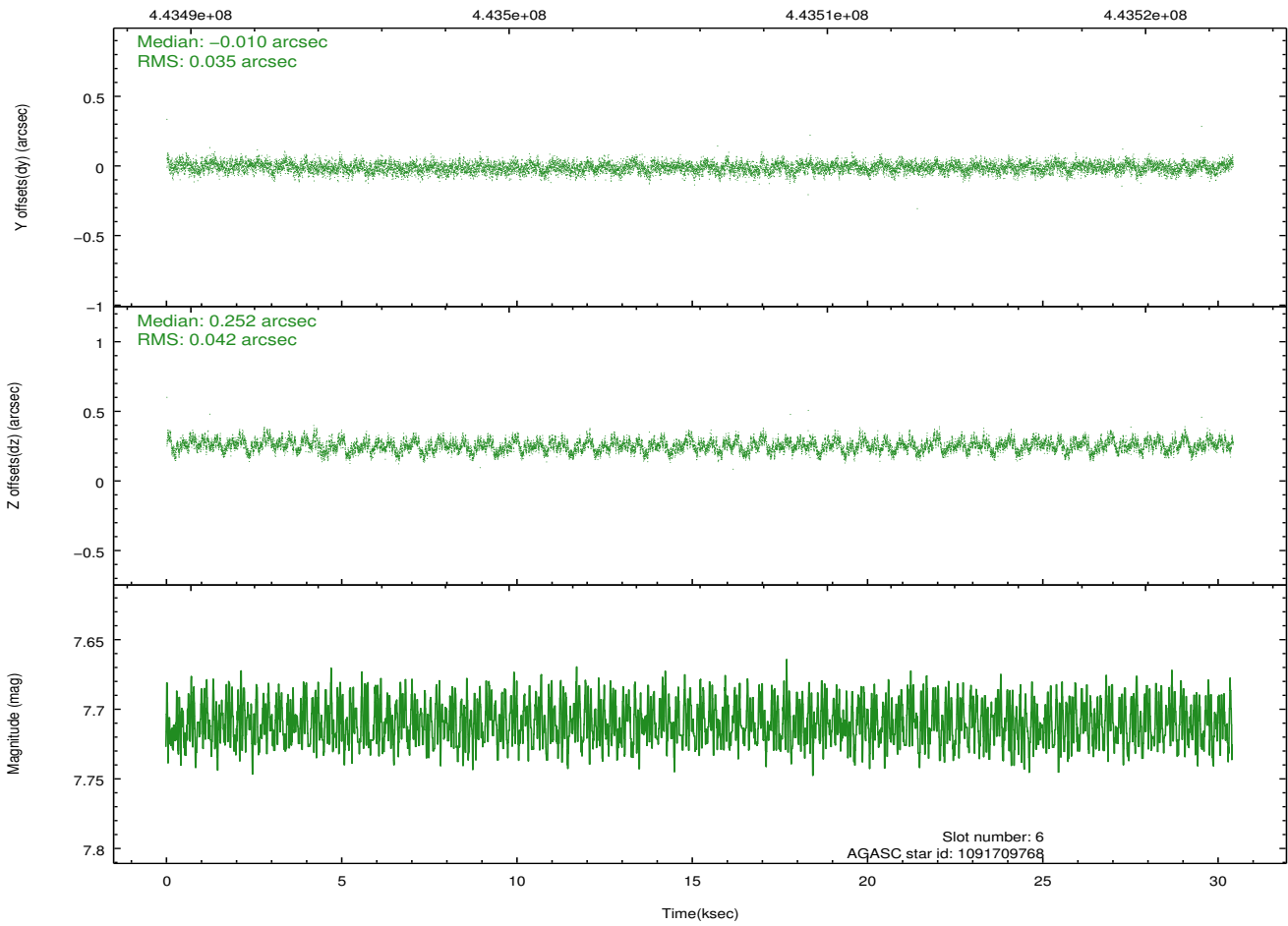
2.4.3 Slot 5



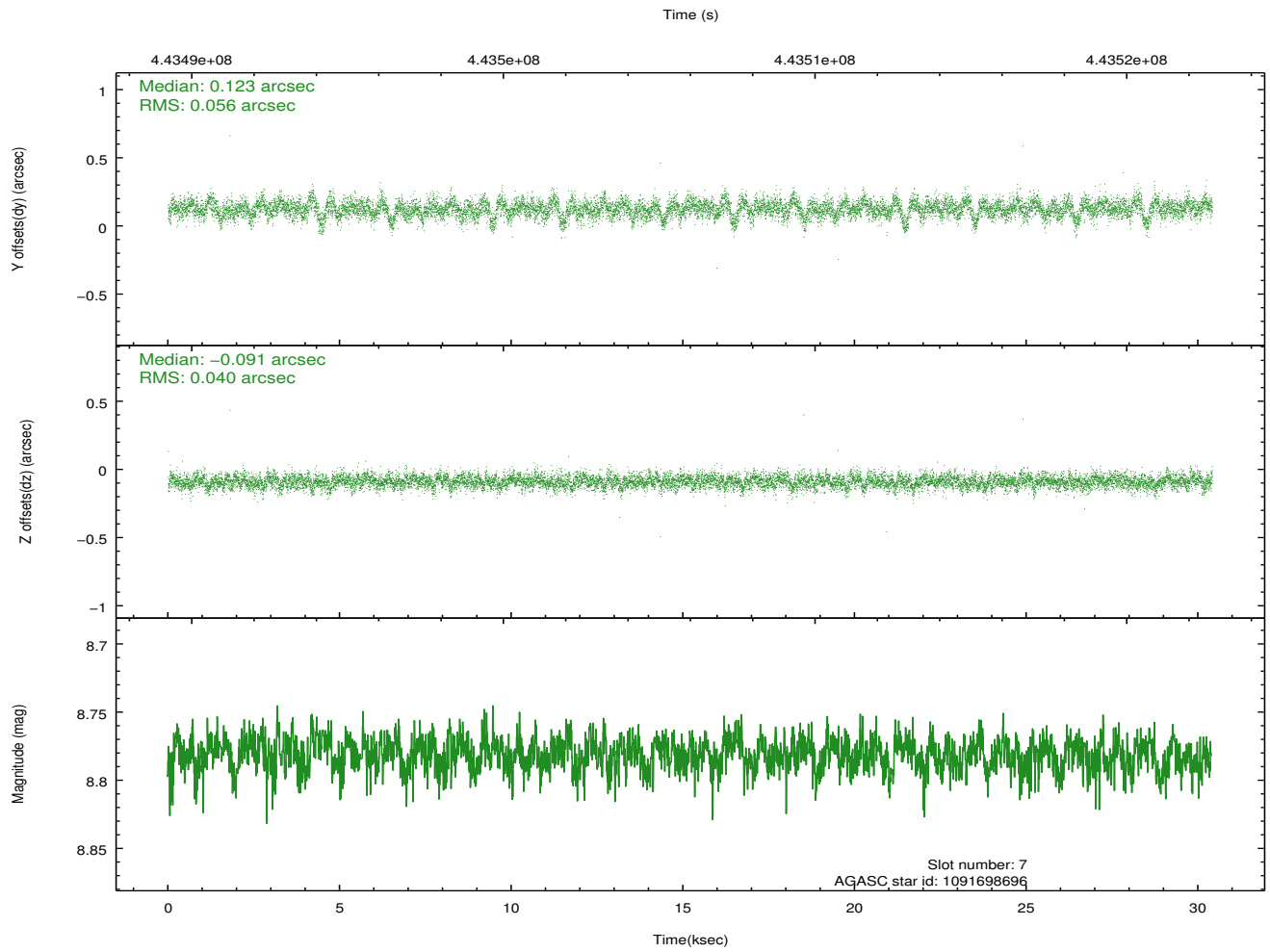
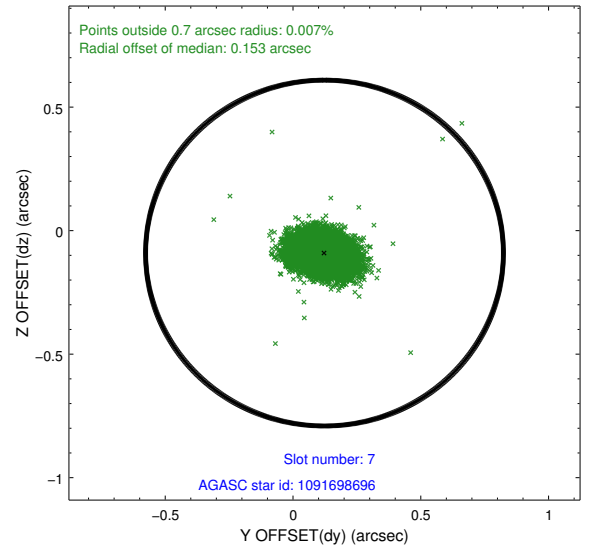
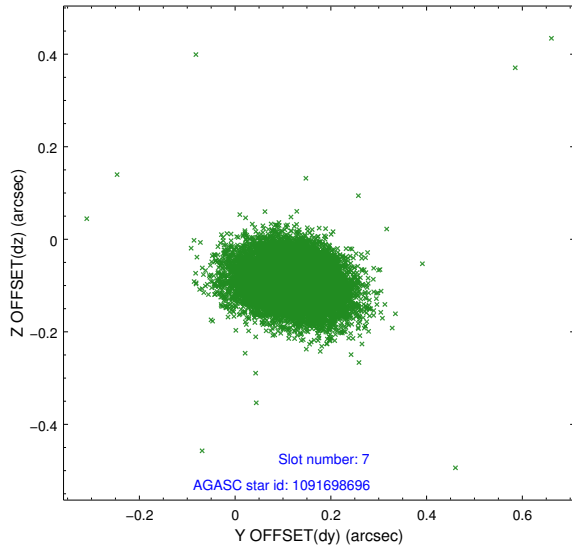
2.4.4 Slot 6



Time (s)

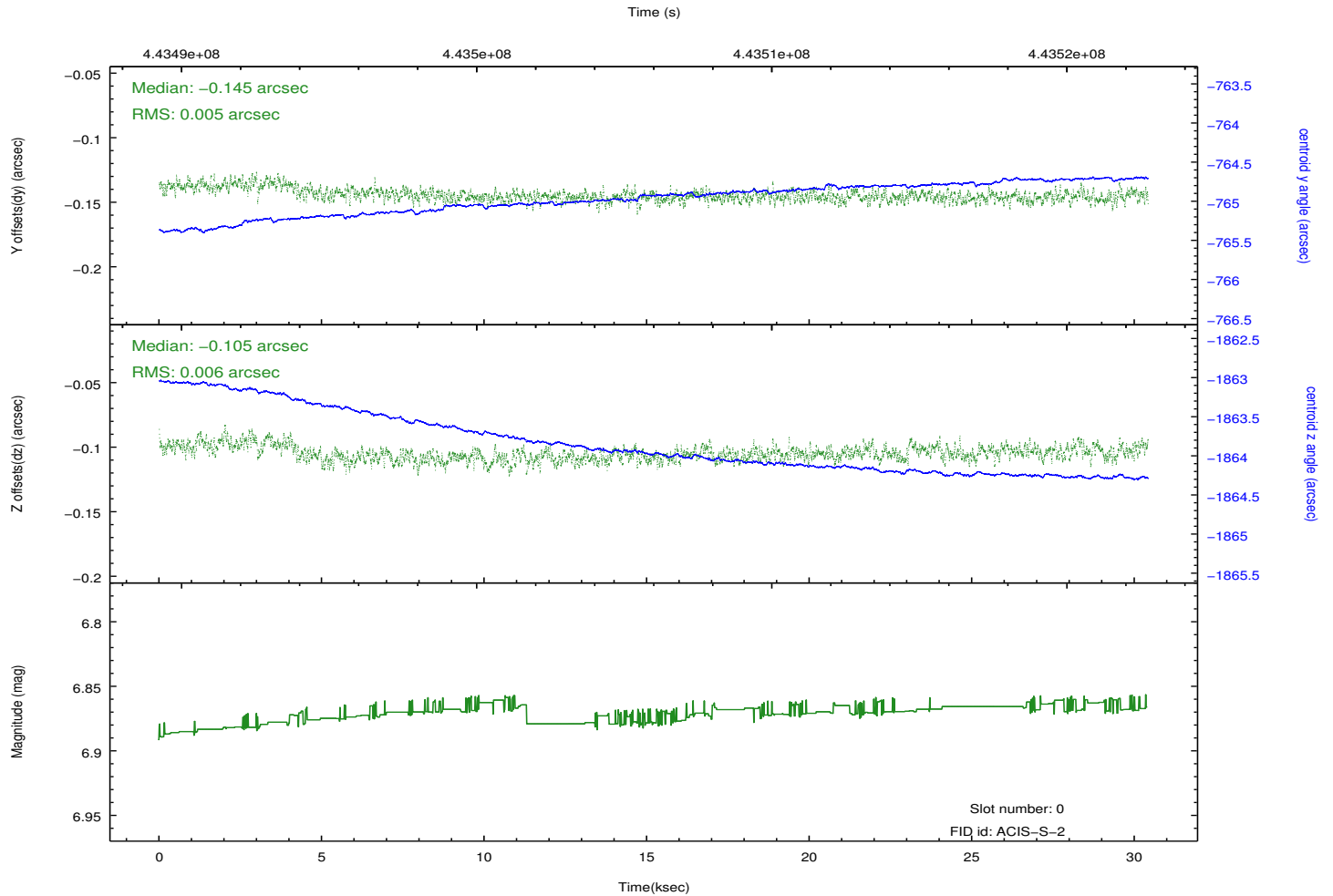
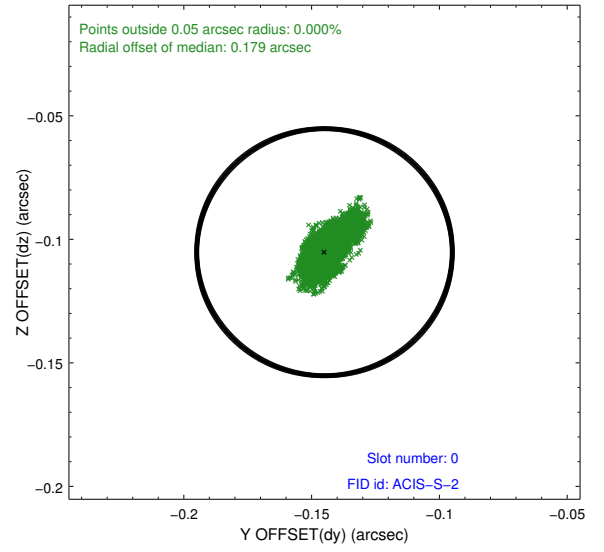
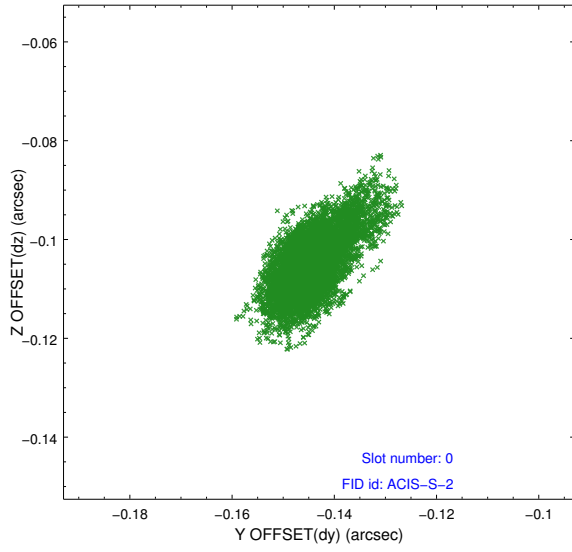


2.4.5 Slot 7

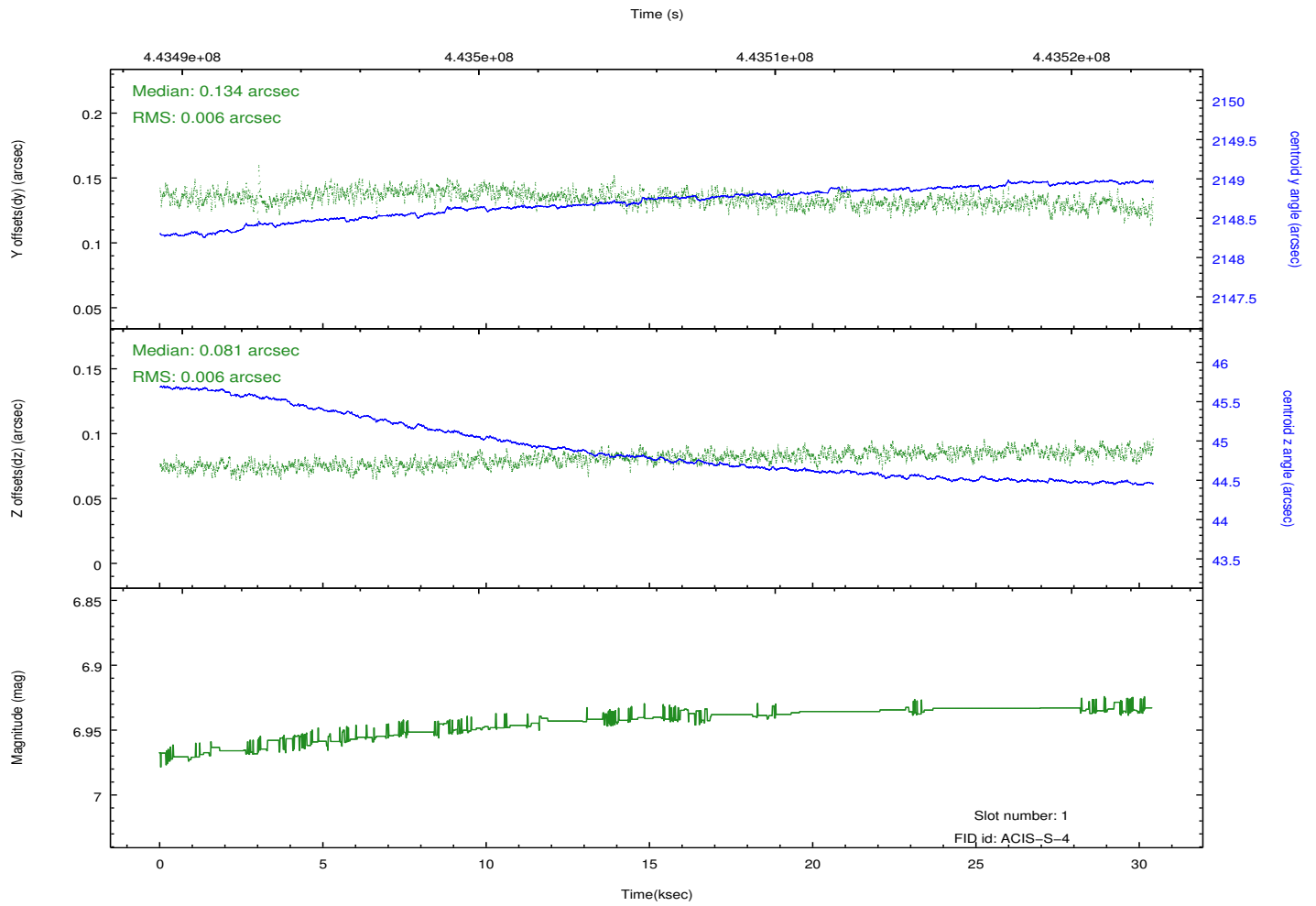
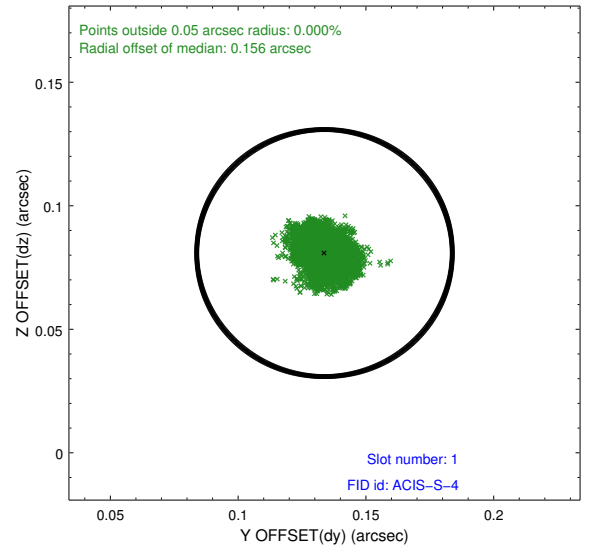
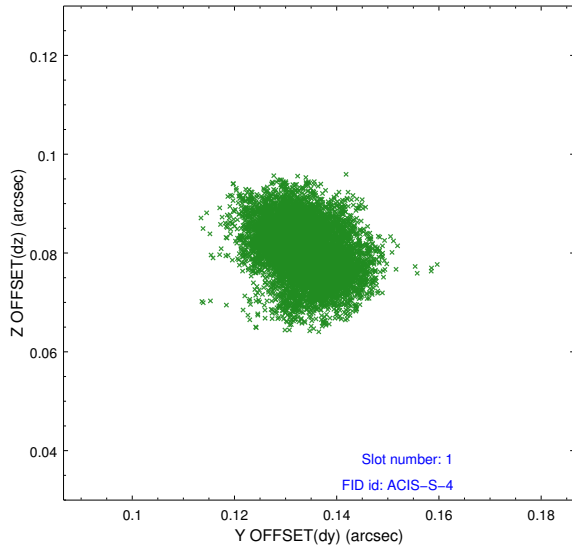


2.5 FID Slots

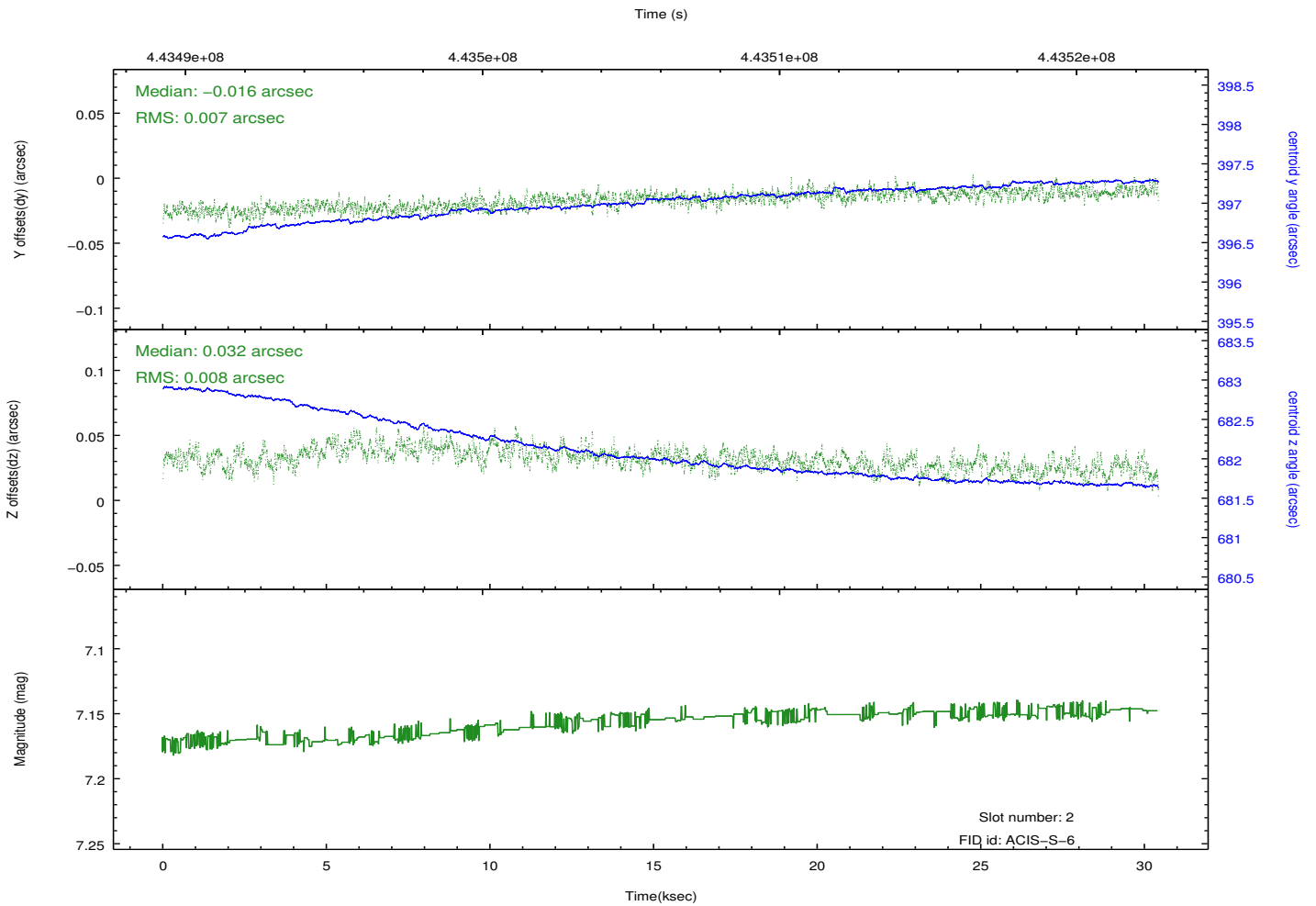
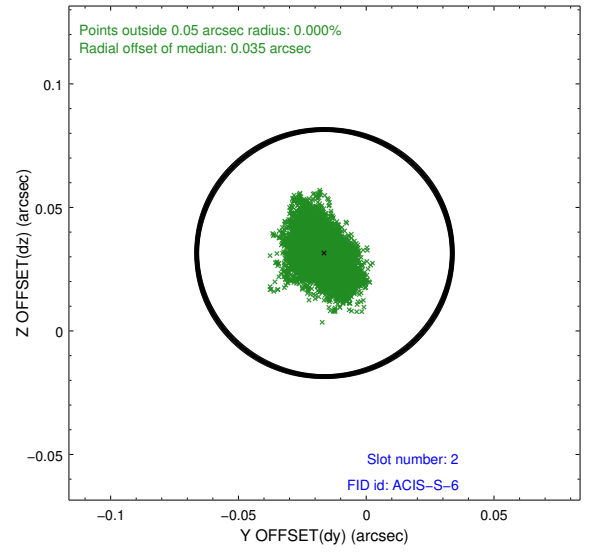
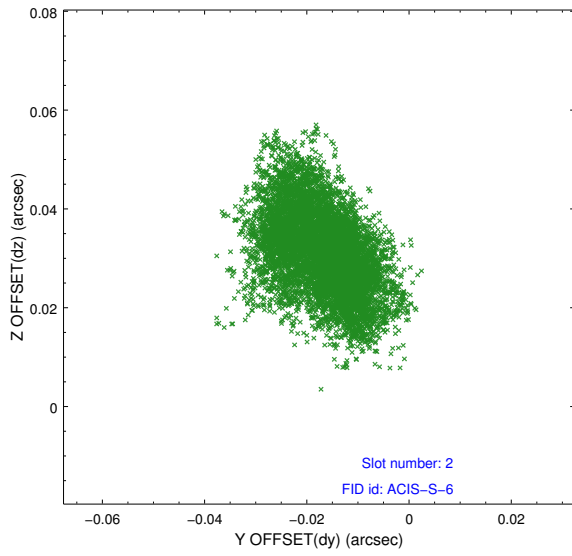
2.5.1 Slot 0



2.5.2 Slot 1

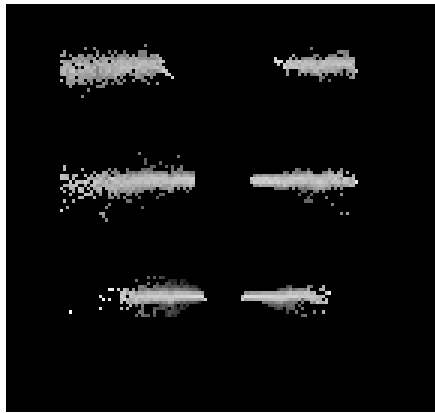


2.5.3 Slot 2

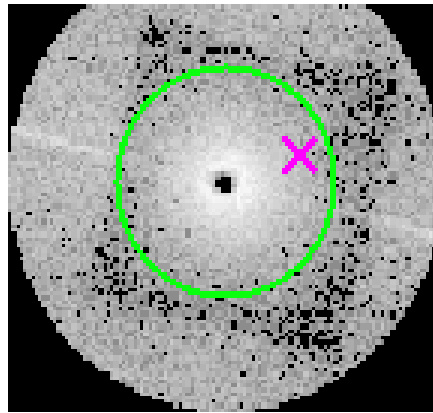


3 Gratings

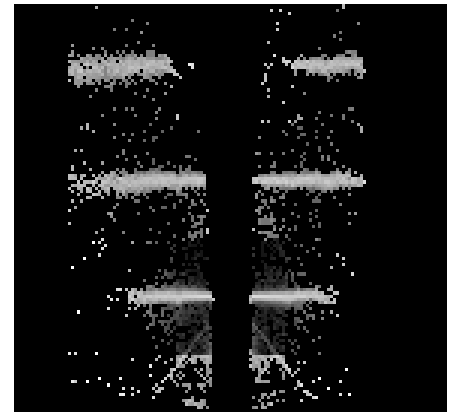
3.1 HEG Arm



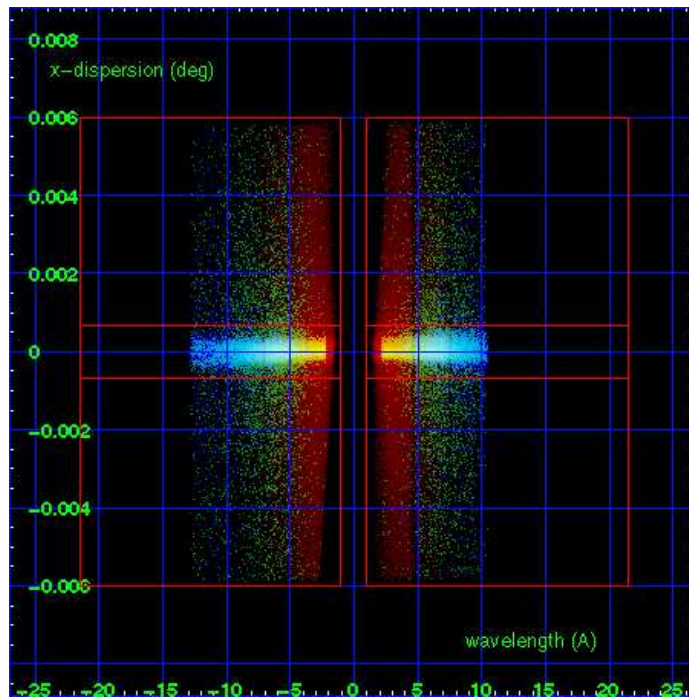
HEG Order Sort 123



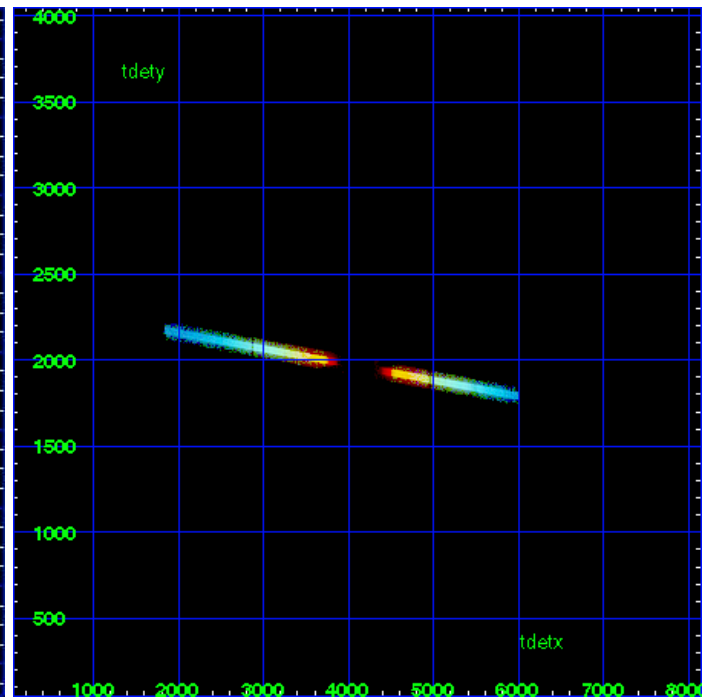
HEG Zero Order



HEG Order Sort ALL

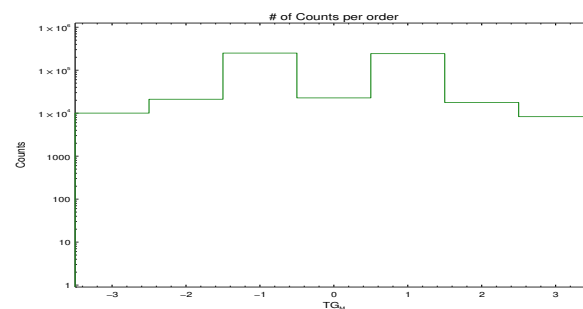


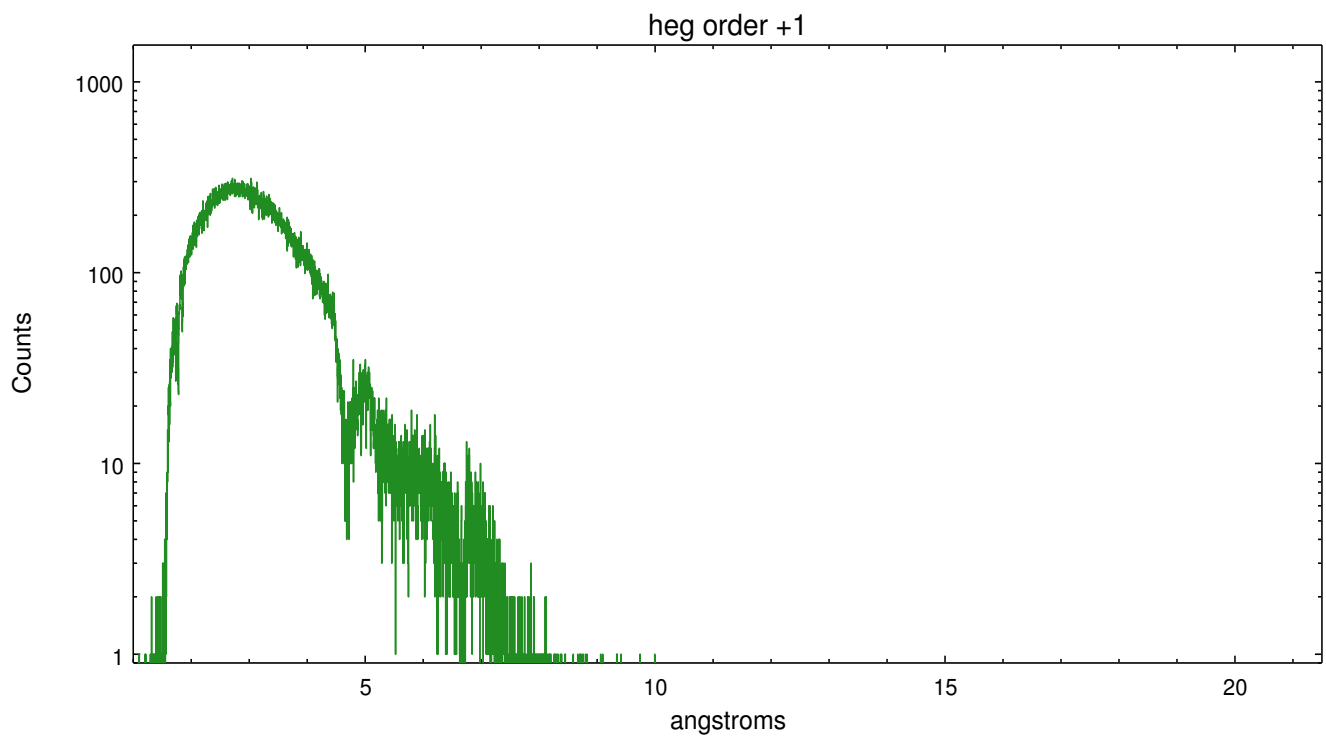
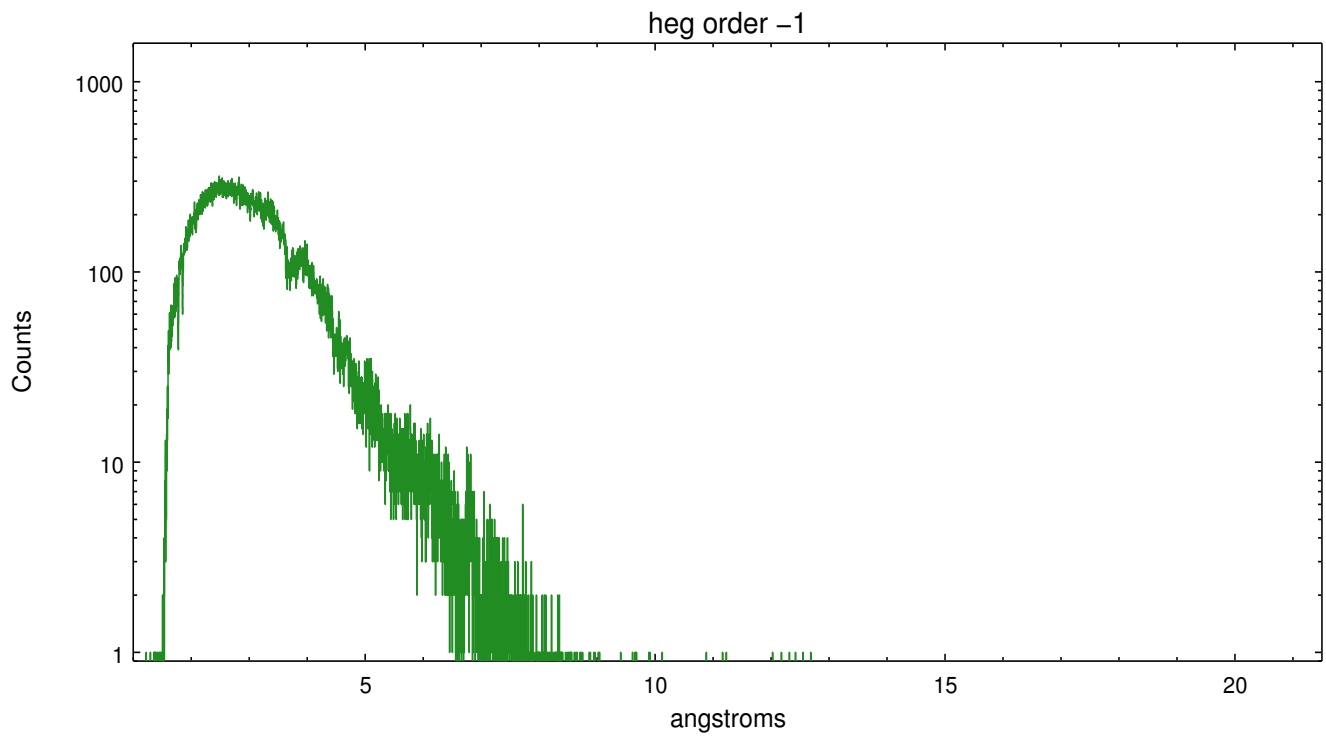
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	10029	21072	250069	22665	242790	17702	8300

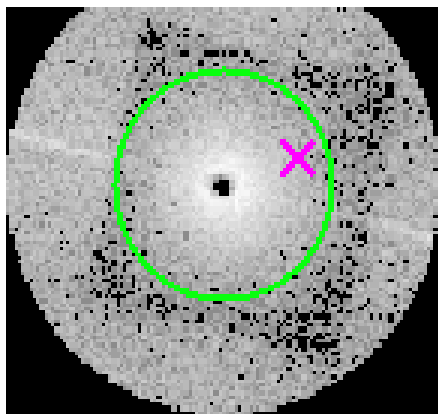




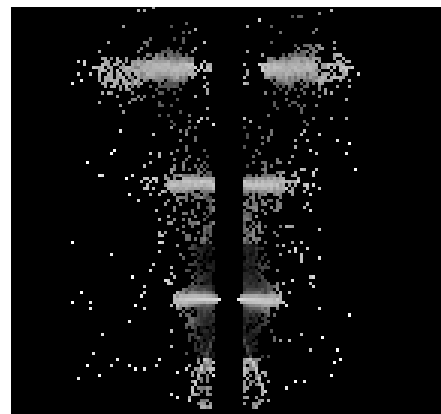
3.2 MEG Arm



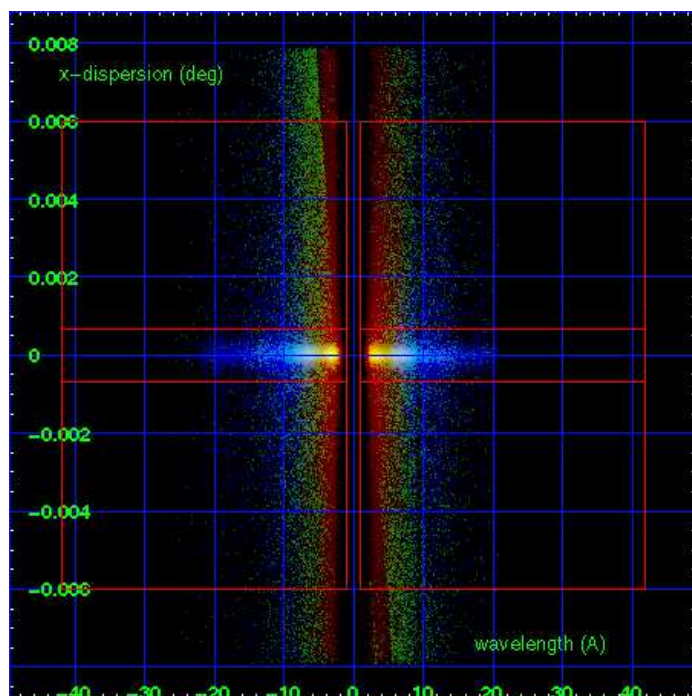
MEG Order Sort 123



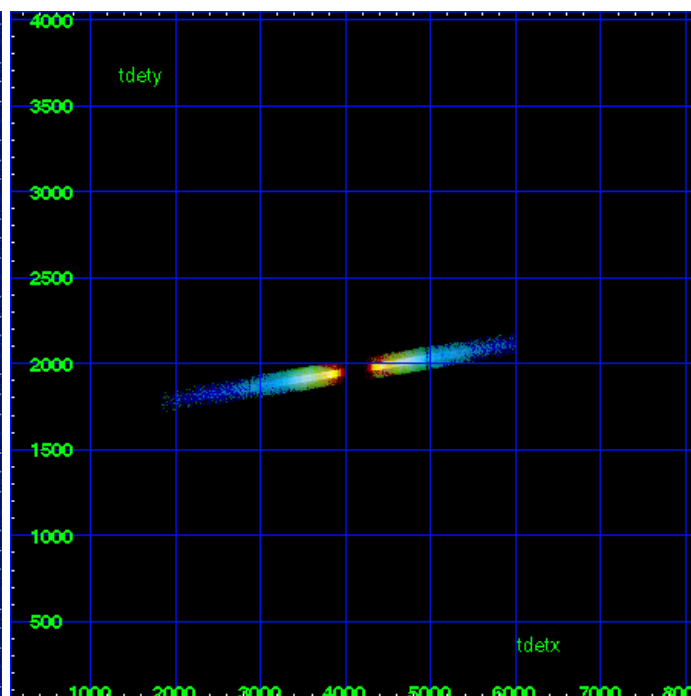
MEG Zero Order



MEG Order Sort ALL

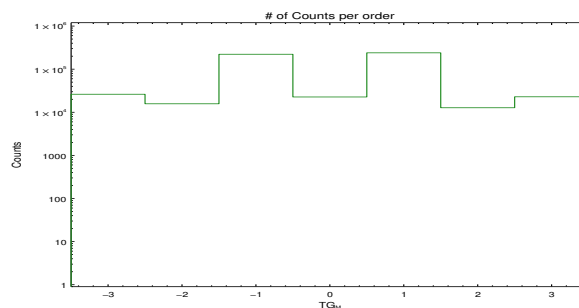


Spot Image MEG

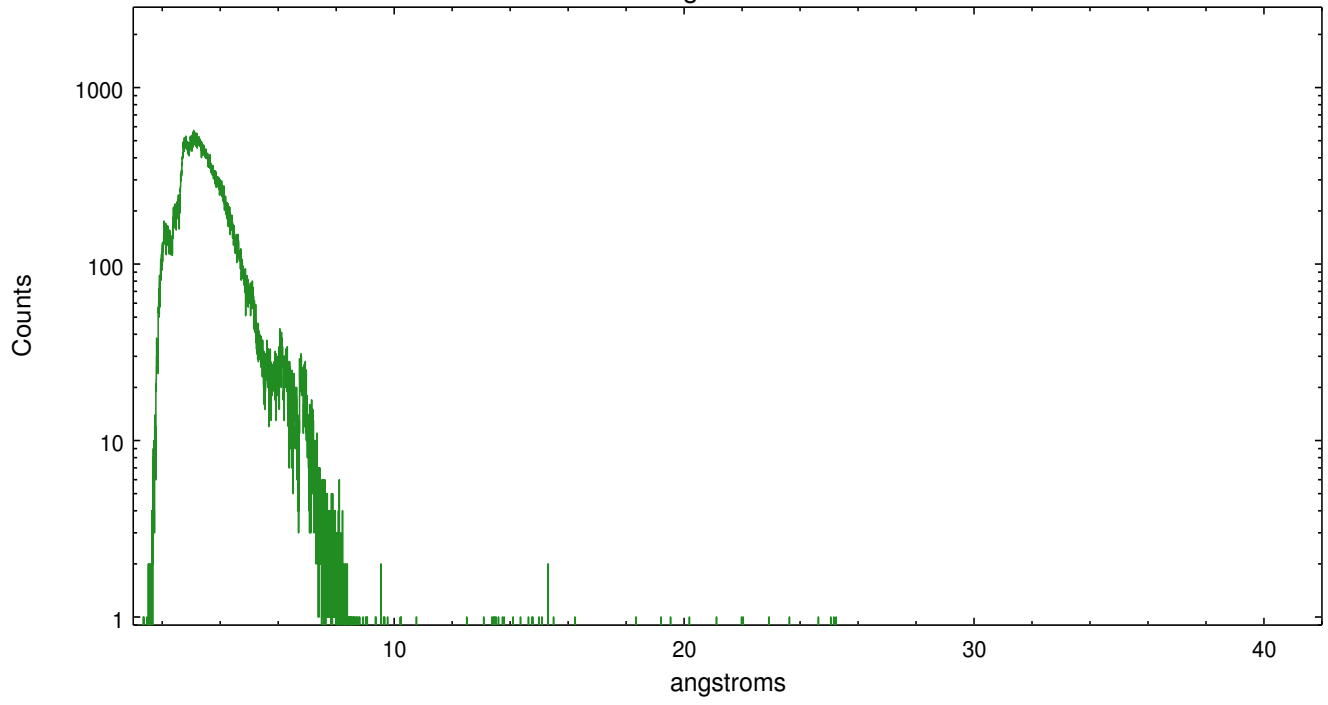


Full Detector MEG

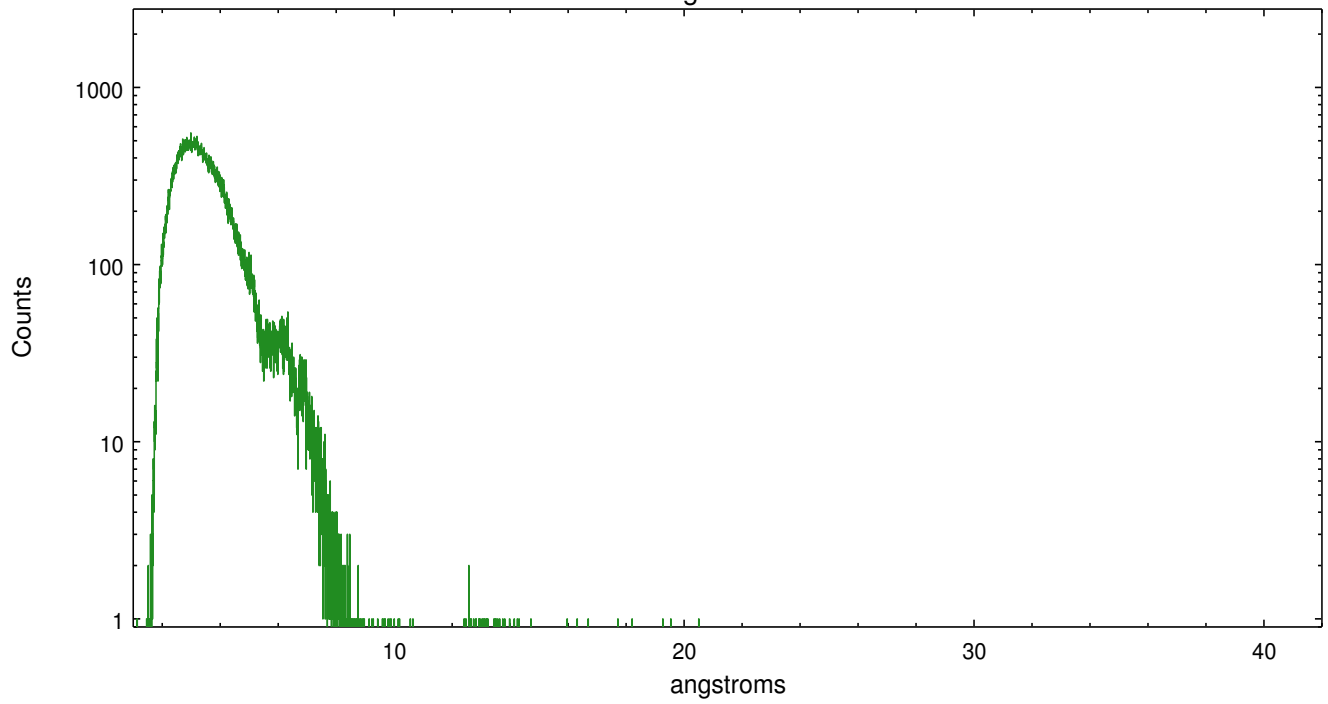
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	26200	15759	221806	22665	239715	12752	22898



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.01.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.030400447488

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=4076.42,y=4089.08) 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.