

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12299 - L2 Version 2  
Chandra X-Ray Center

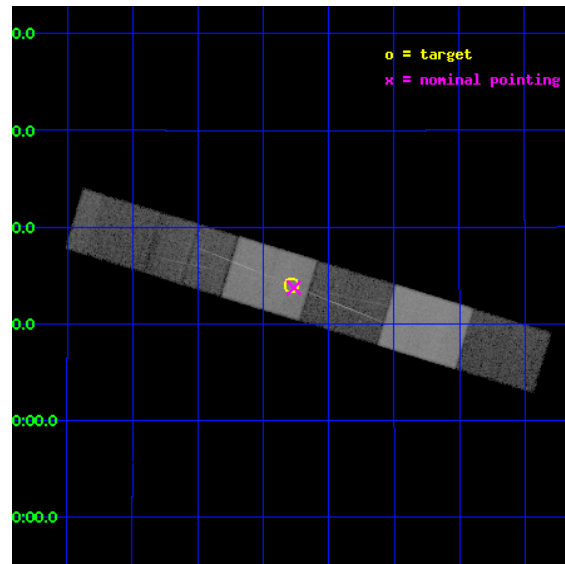
L2 Processing Date : Feb 9 2012

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# 1 Front

seq_num	200661	Sequence number
obs_id	12299	Observation id
title	FK Comae, King of Spin: the Movie	Proposal title
observer	Dr. Thomas Ayres	Principal investigator
object	FK COMAE	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	202.695	Observer's specified target RA [deg]
dec_targ	24.232667	Observer's specified target Dec [deg]
ra_nom	202.69147776498	Nominal RA [deg]
dec_nom	24.229042418527	Nominal Dec [deg]
roll_nom	196.90806524195	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39757.5	Sum of GTIs [s]
livetime	39115.381890879	Livetime [s]
ontime4	39757.5	Sum of GTIs [s]
ontime5	39757.5	Sum of GTIs [s]
ontime6	39757.492800832	Sum of GTIs [s]
ontime7	39757.5	Sum of GTIs [s]
ontime8	39757.451760828	Sum of GTIs [s]
ontime9	39757.410720825	Sum of GTIs [s]
l2events	344876	Number of level 2 events

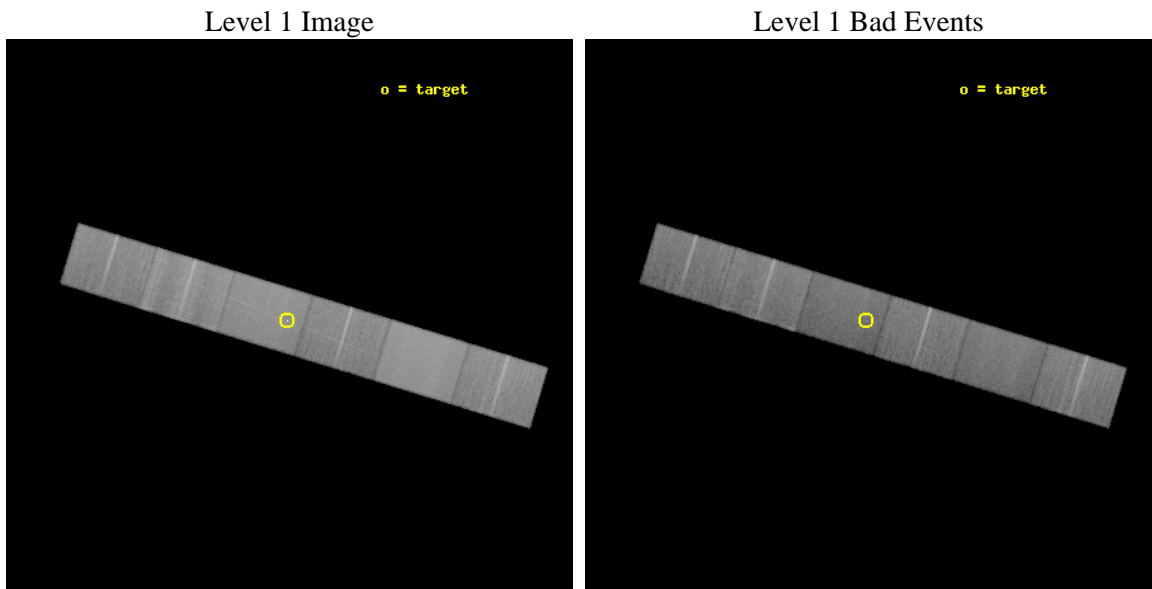




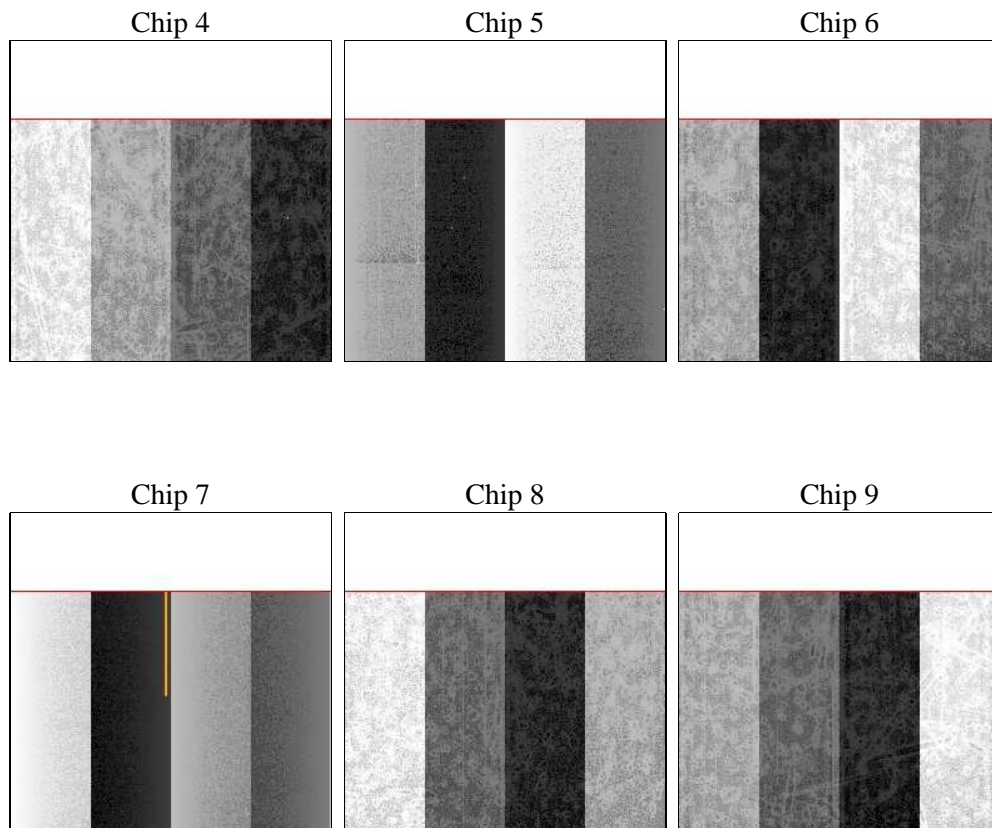
## 2 OBI

### 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	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	39757.5	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime4	39757.5	Sum of GTIs [s]
date	2012-02-09T02:03:39	Date and time of file creation	ontime5	39757.5	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	39757.492800832	Sum of GTIs [s]
			ontime7	39757.5	Sum of GTIs [s]
			ontime8	39757.451760828	Sum of GTIs [s]
			ontime9	39757.410720825	Sum of GTIs [s]
			l1events	1434030	Number of level 1 events

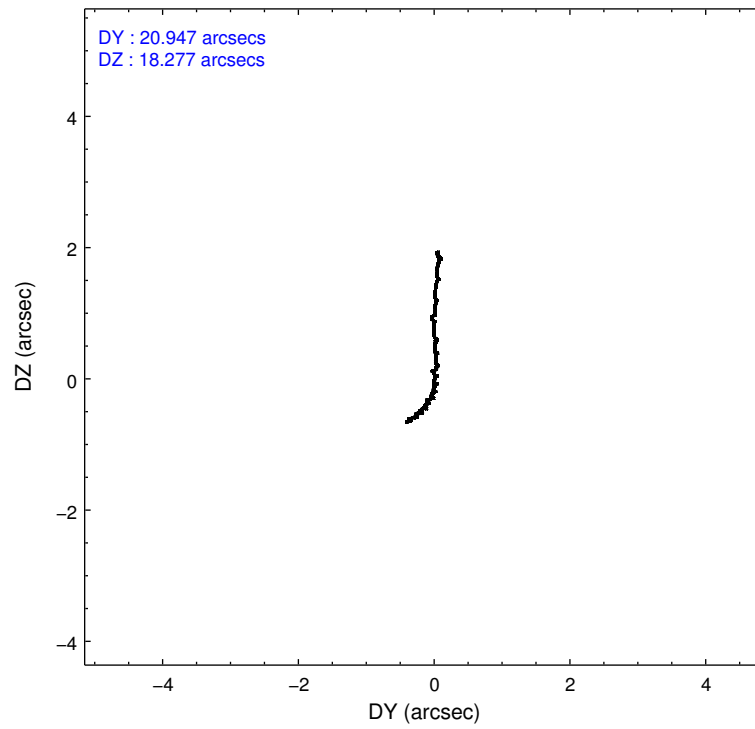
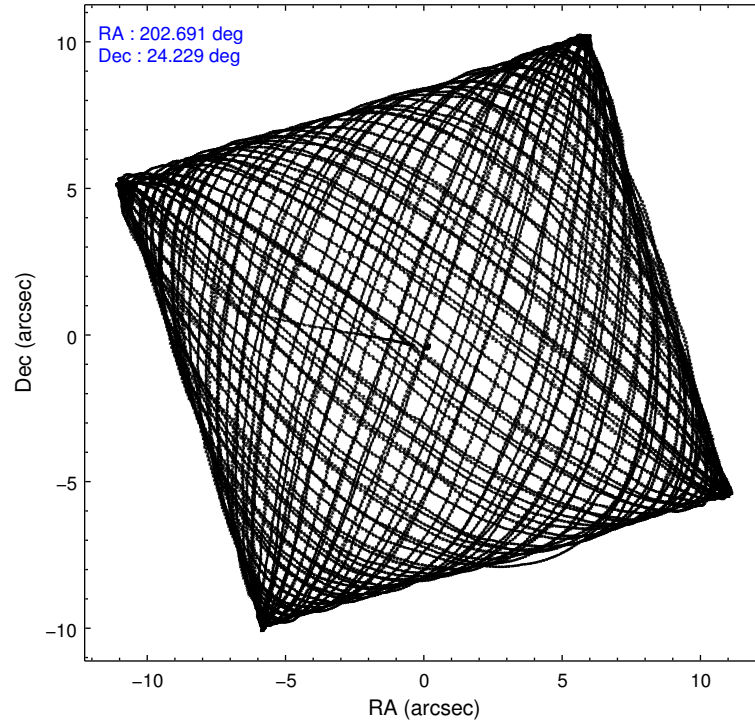
### 2.1.4 Events

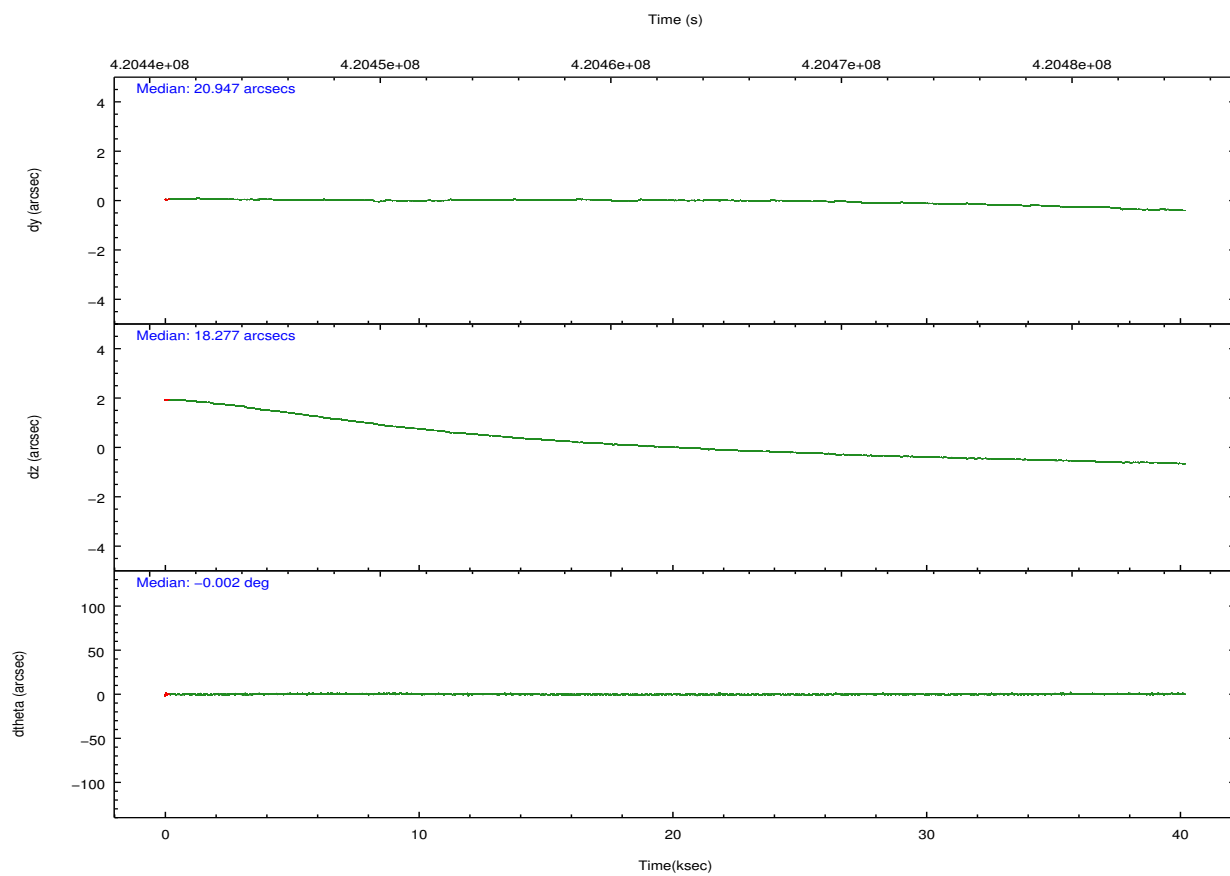
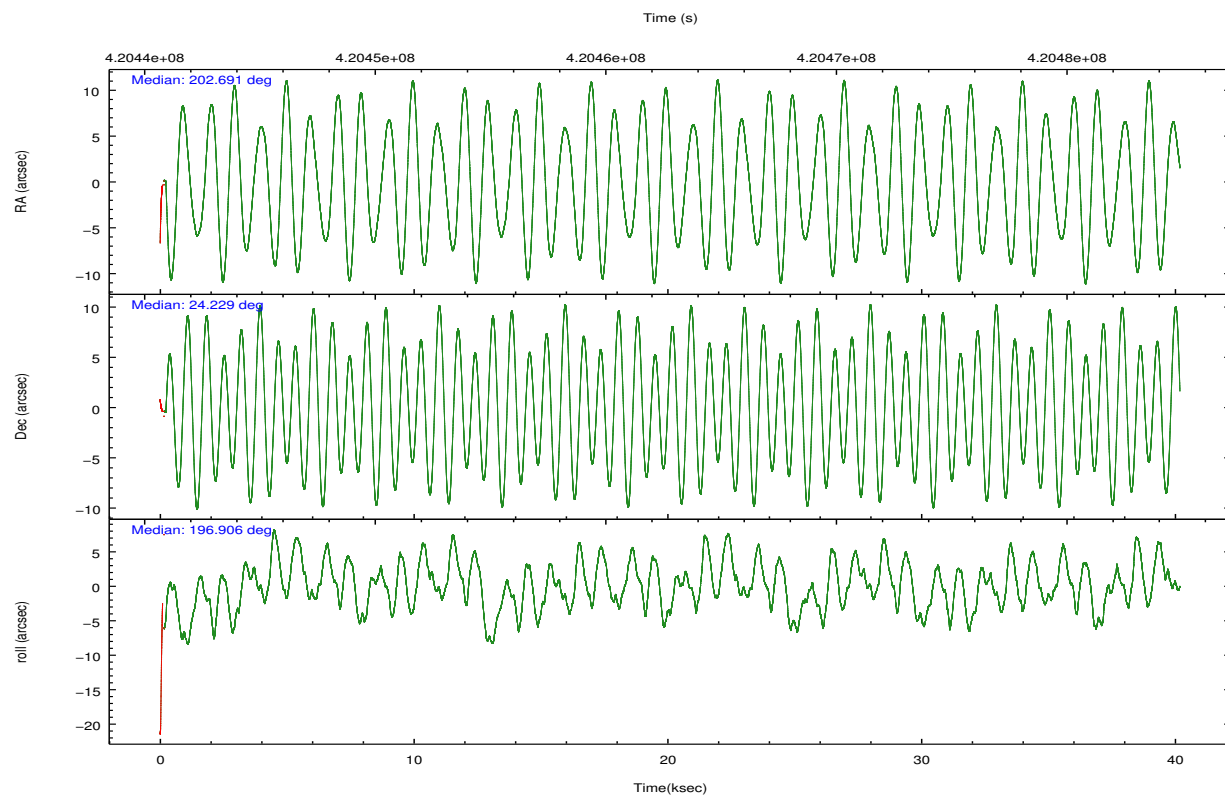
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	222241	300797	199312	253863	262431	195386	grade 0 events	8296	10112	9508	11319	19956	8577
rejected events	198574	153994	173687	135765	192346	171229		3%	3%	4%	4%	7%	4%
rejected %	89%	51%	87%	53%	73%	87%	grade 1 events	135	452	84	306	194	109
								0%	0%	0%	0%	0%	0%
							grade 2 events	6052	43789	5534	24704	16148	5221
								2%	14%	2%	9%	6%	2%
							grade 3 events	2643	7051	2645	11036	7573	2704
								1%	2%	1%	4%	2%	1%
							grade 4 events	2498	6748	2772	10859	6983	2564
								1%	2%	1%	4%	2%	1%
							grade 5 events	8889	24662	9120	26503	13166	10228
								3%	8%	4%	10%	5%	5%
							grade 6 events	4179	79130	5169	60187	19428	5097
								1%	26%	2%	23%	7%	2%
							grade 7 events	189549	128853	164480	108949	178983	160886
								85%	42%	82%	42%	68%	82%

## 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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	202.711669	202.6914777649757	CCD I2 on	N	N
[deg] Pointing Dec	24.249250	24.22904241852715	CCD I3 on	N	N
[deg] Pointing Roll	196.743153	196.9080652419531	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	-187.132523	-187.1228876879999	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.009634895007935	CCD S4 on	Y	Y
[s] Observation start time (MET)	420442864.184000	420441791.41401	CCD S5 on	Y	Y
Observation start date	2011-04-29T05:39:58	2011-04-29T05:23:11	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	420482864.184000	420484056.77871	On-chip summing requested	N	N
Observation end date	2011-04-29T16:46:38	2011-04-29T17:07:36	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

## 2.3 Aspect



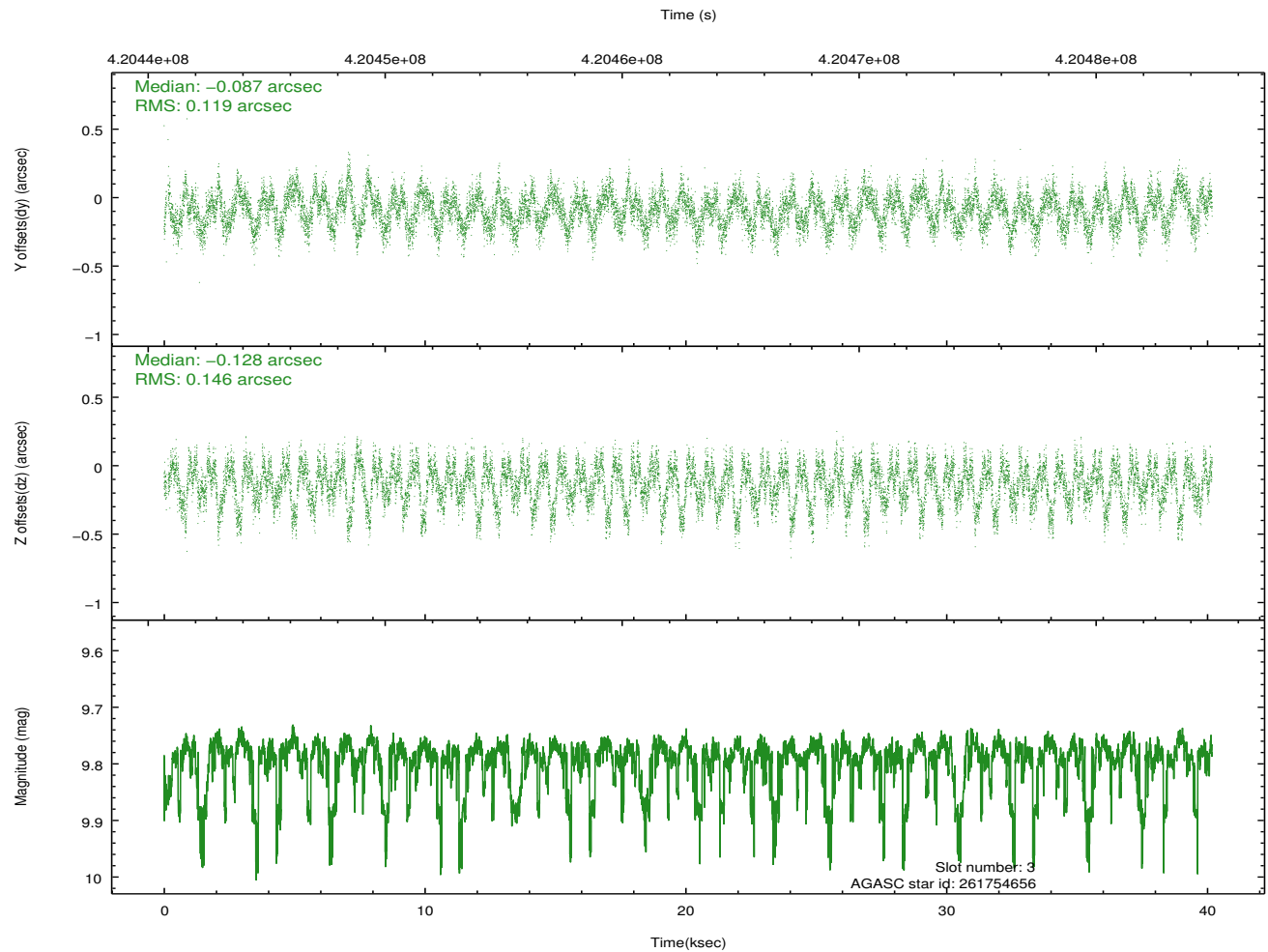
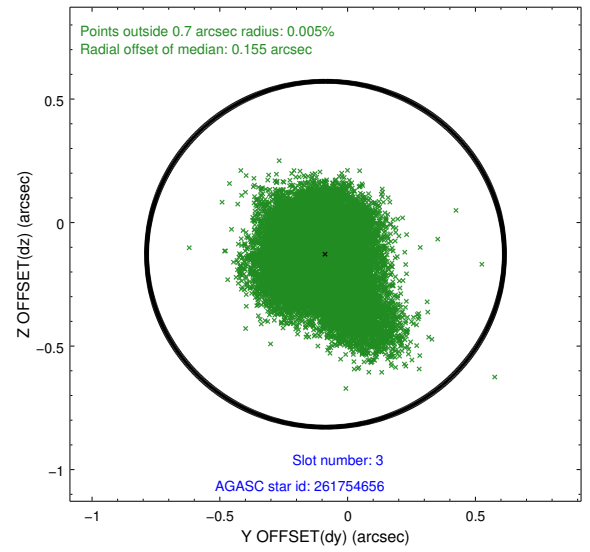
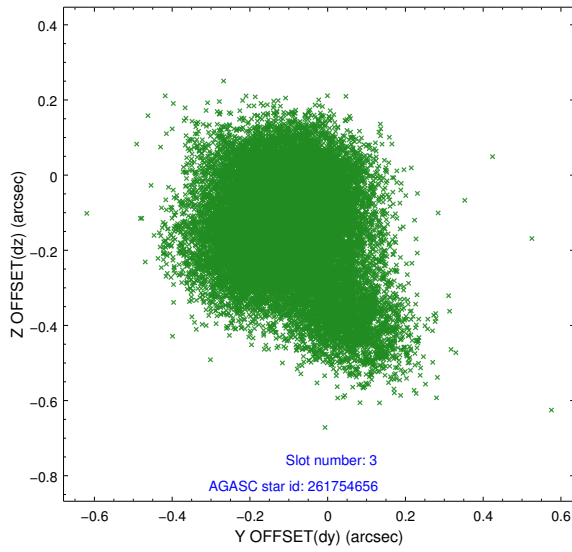


Slot Statistics

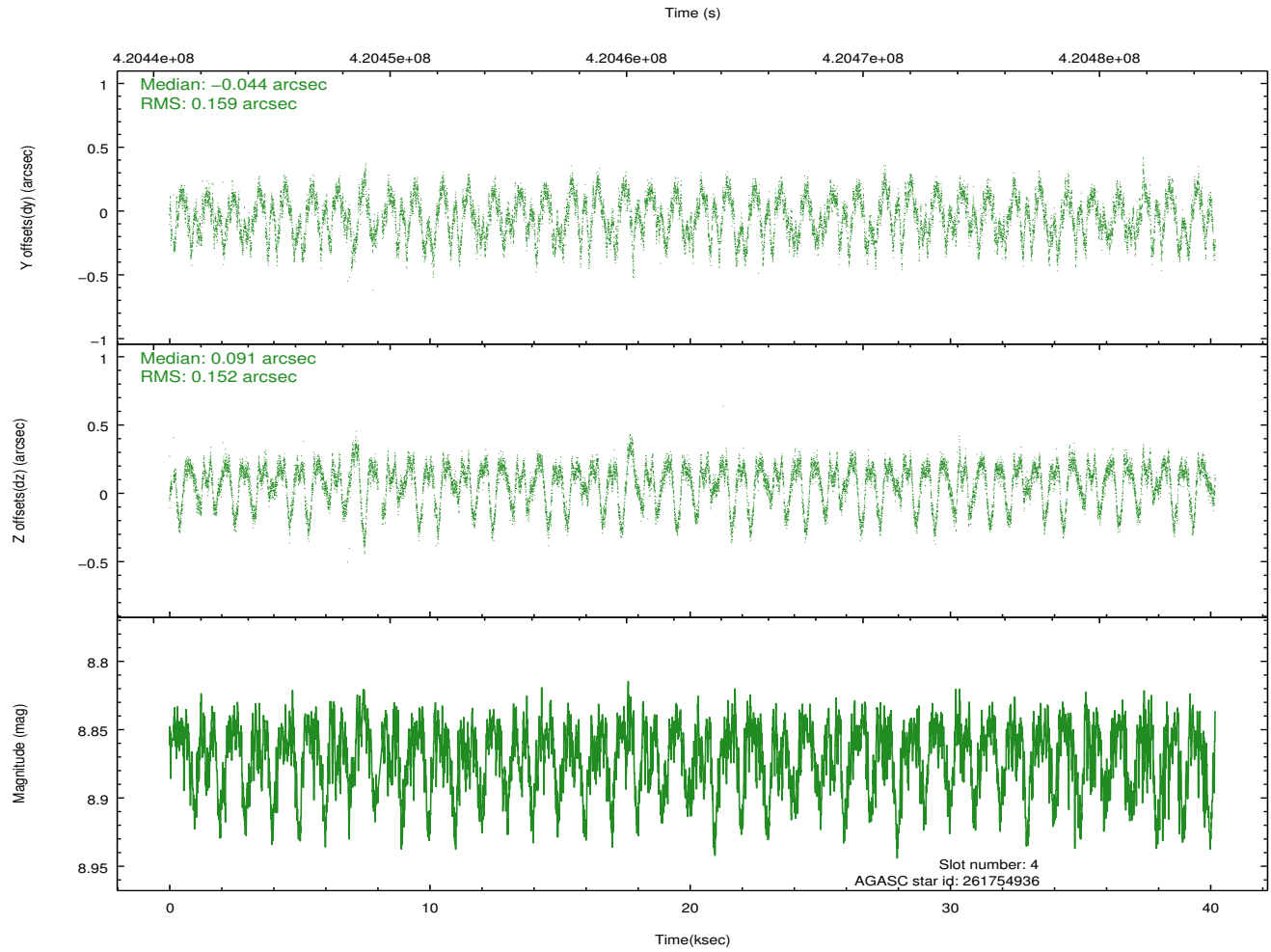
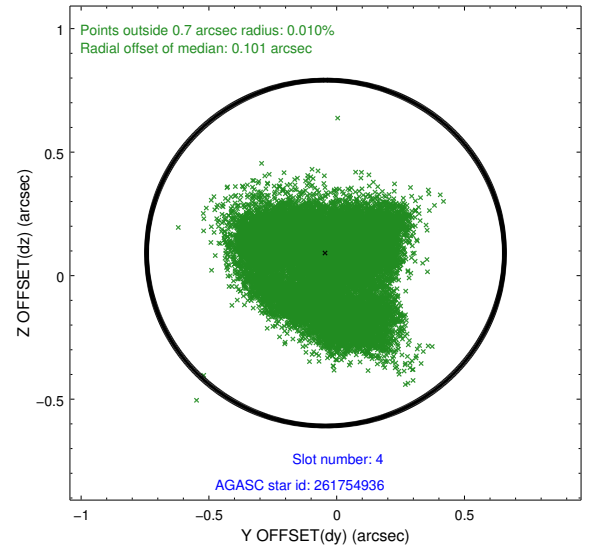
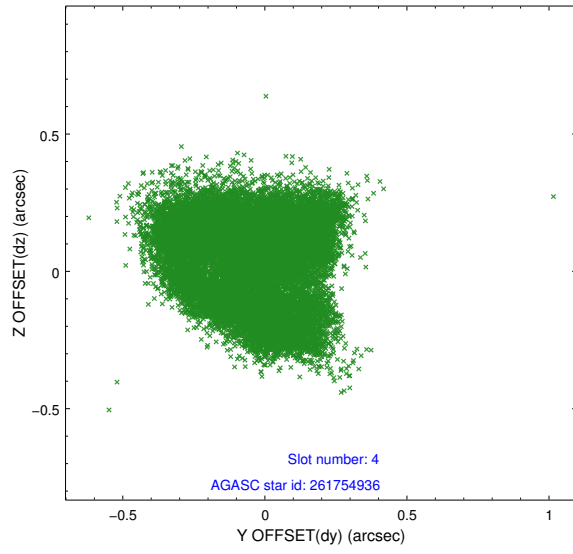
	status	id	mag	n_pts	med_dy	med_dz	drl
	FID	ACIS-S-2	6.92	9789	-0.158	-0.099	0.010
	FID	ACIS-S-4	7.00	9787	0.151	0.097	0.012
	FID	ACIS-S-6	7.19	9789	-0.020	0.008	0.019
	GUIDE	261754656	9.79	19462	-0.087	-0.128	0.198
	GUIDE	261754936	8.87	19498	-0.044	0.091	0.244
	GUIDE	261756656	9.53	19470	0.345	-0.006	0.125
	GUIDE	261755088	10.29	19468	-0.206	0.098	0.188
0.0000.0000.0000.0000000.00000000.000.00							

## 2.4 Star Slots

### 2.4.1 Slot 3

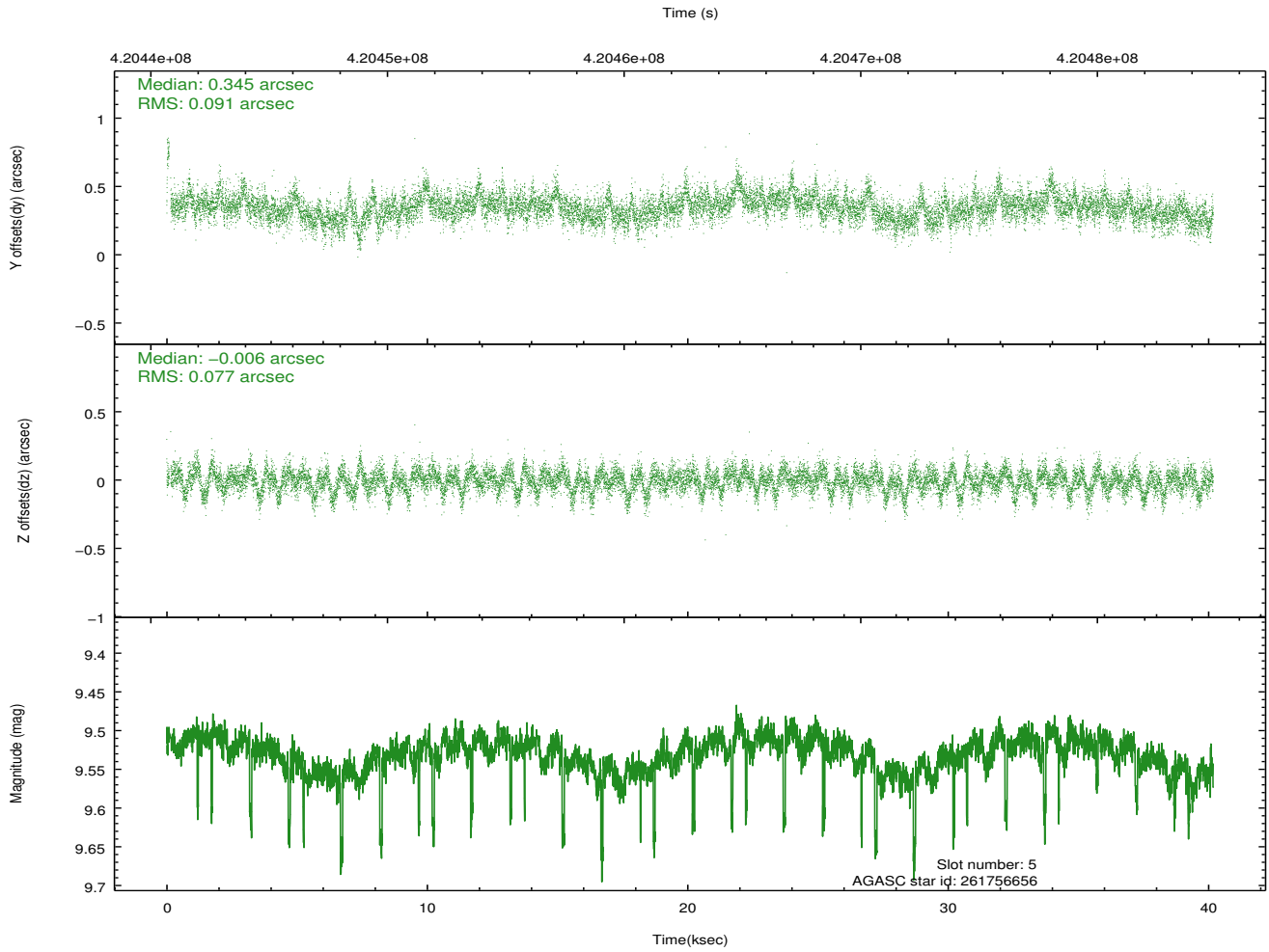
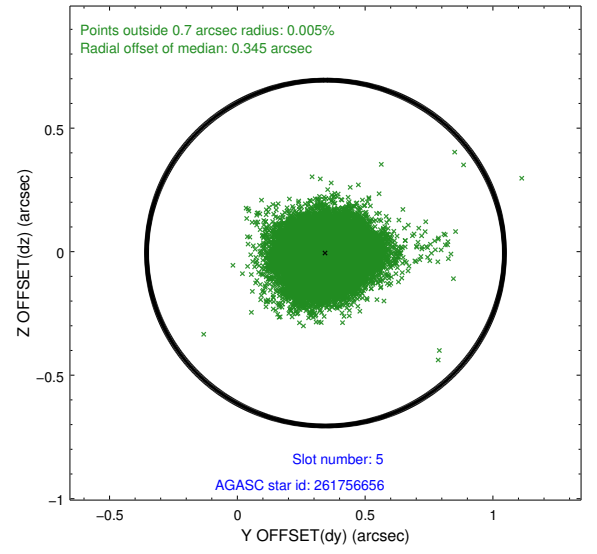
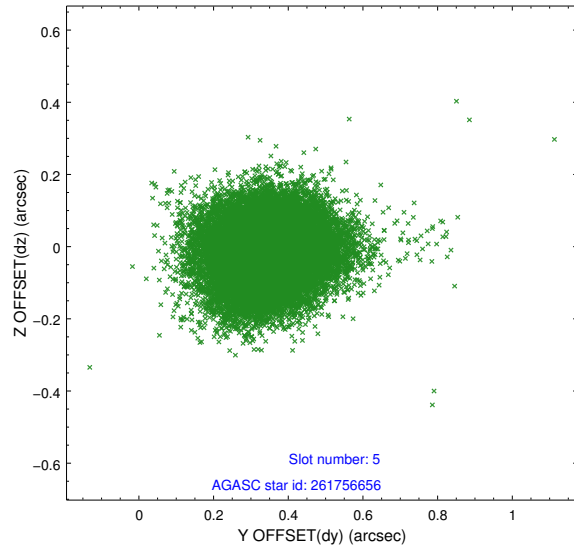


## 2.4.2 Slot 4

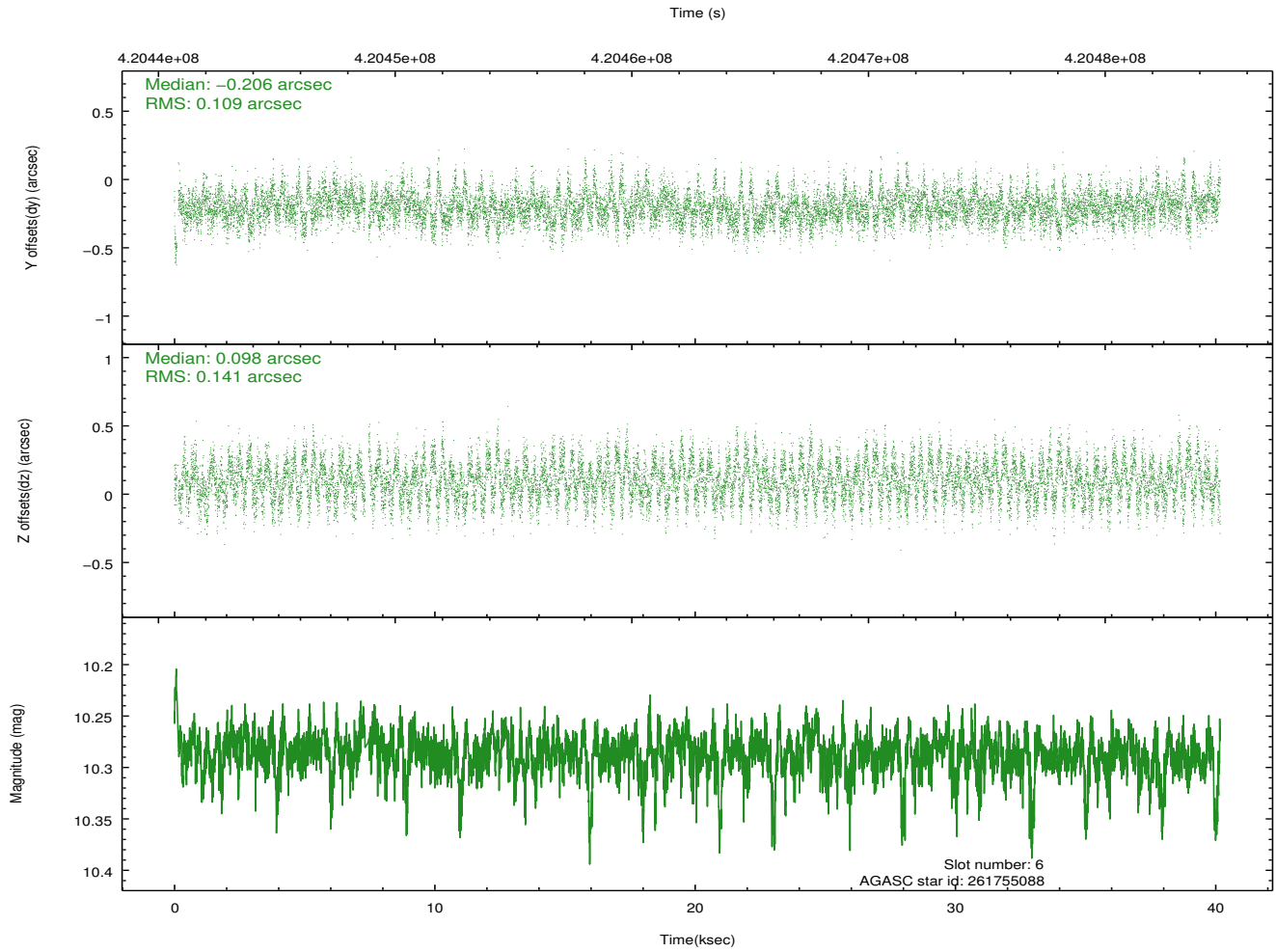
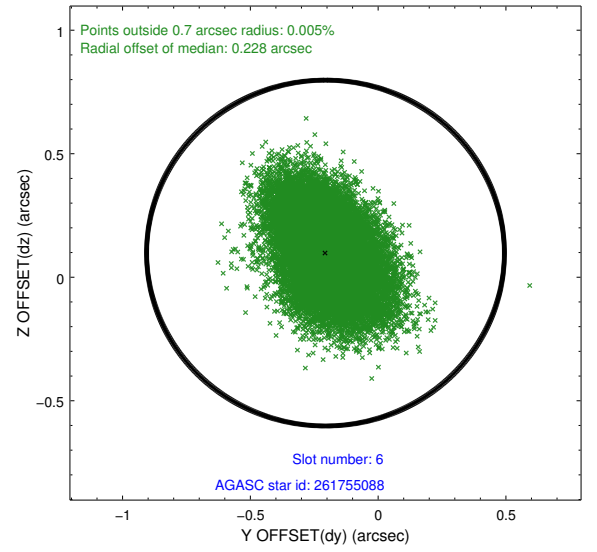
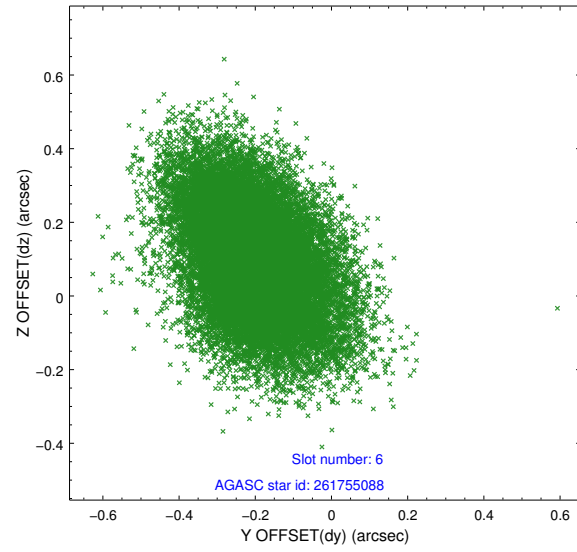




### 2.4.3 Slot 5

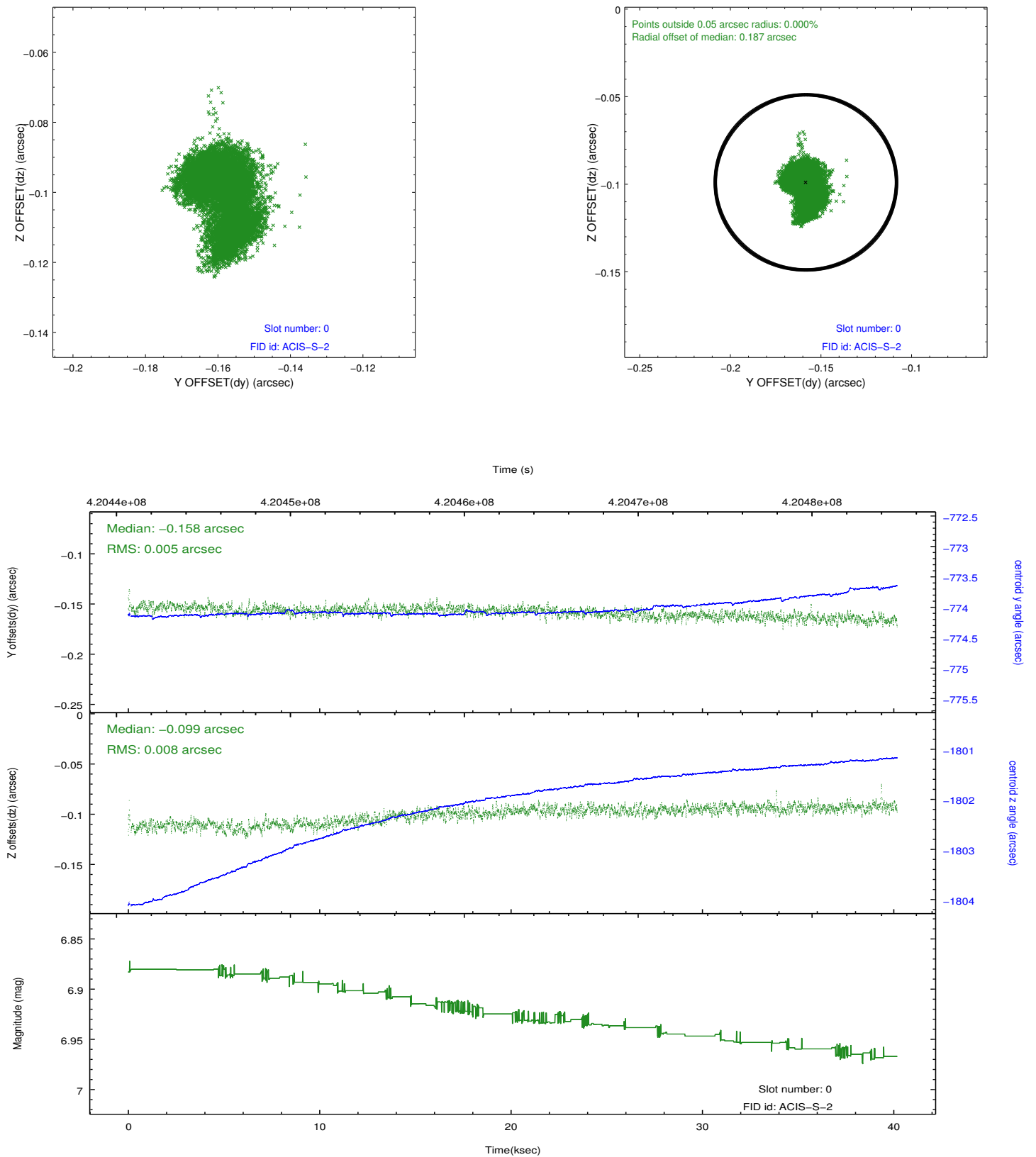


## 2.4.4 Slot 6

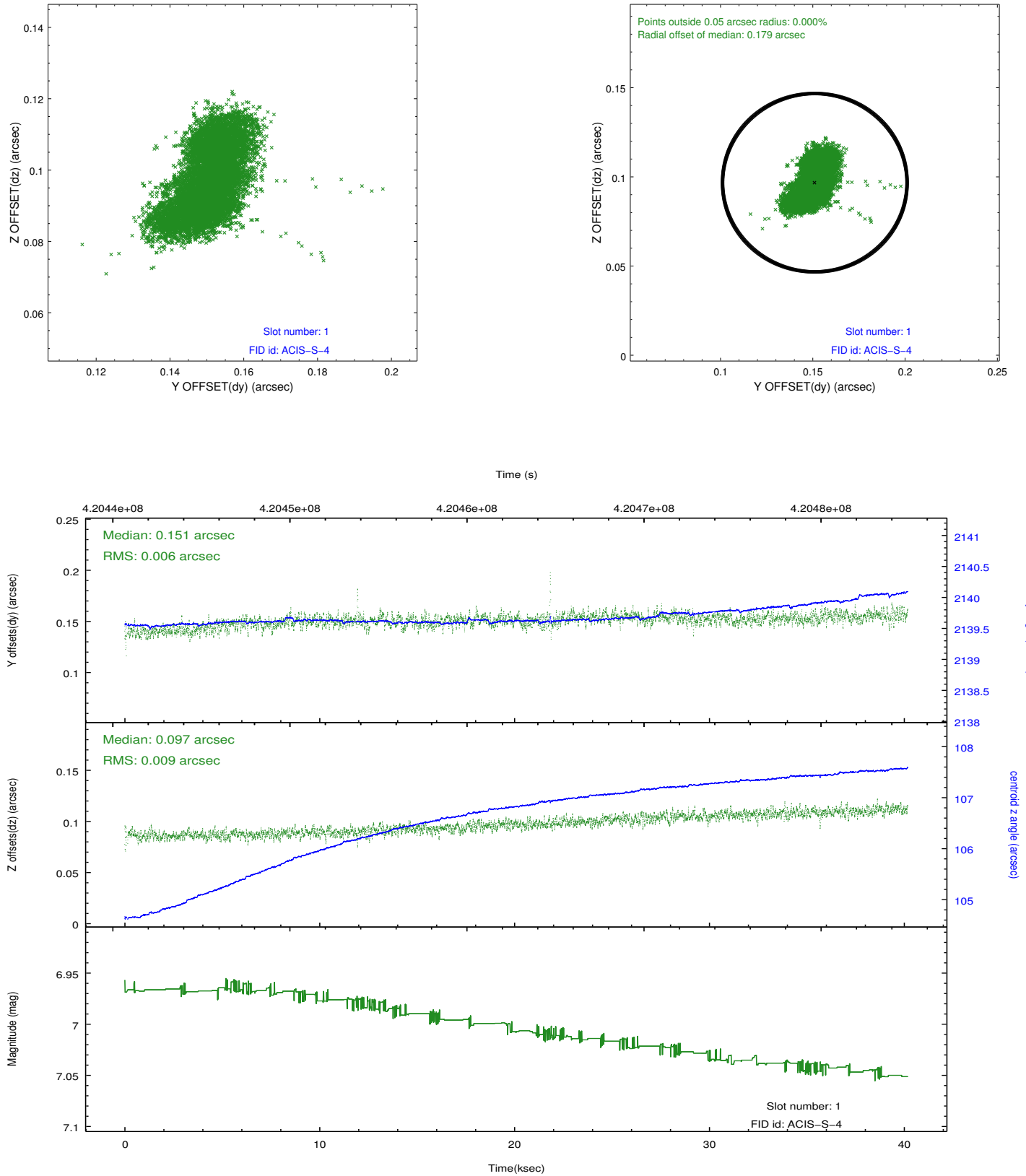


## 2.5 FID Slots

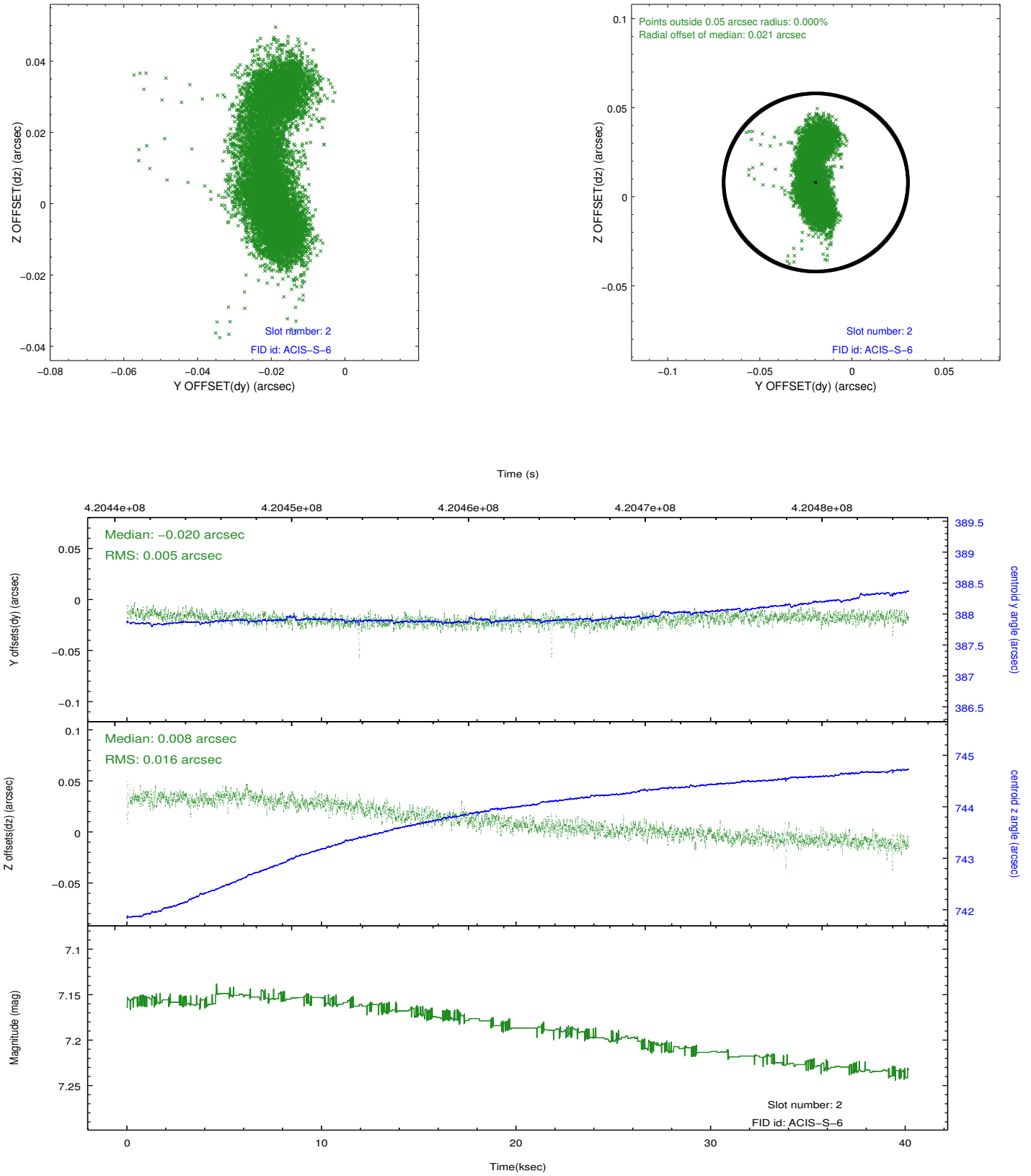
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

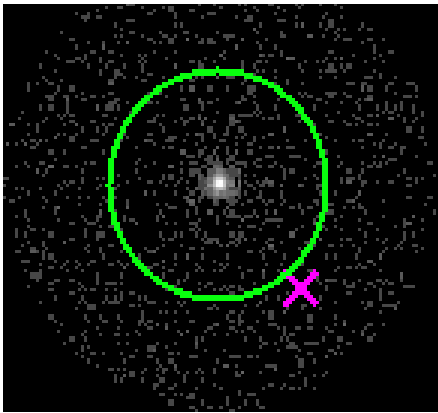


# 3 Gratings

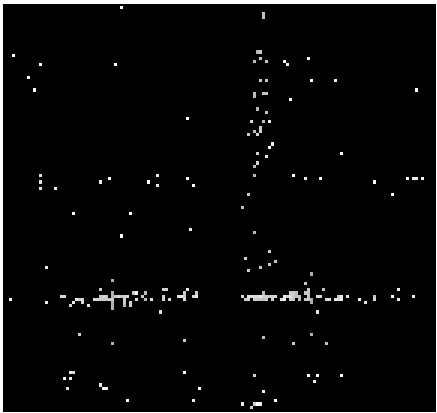
## 3.1 HEG Arm



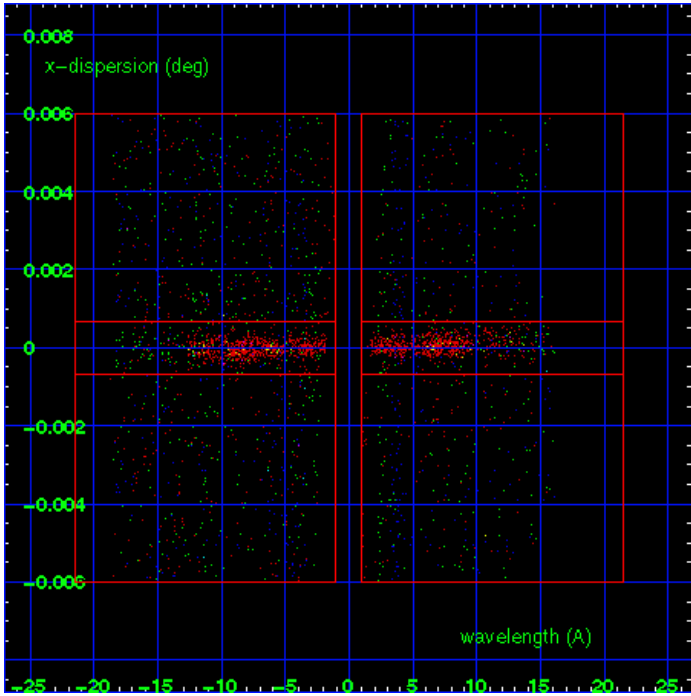
HEG Order Sort 123



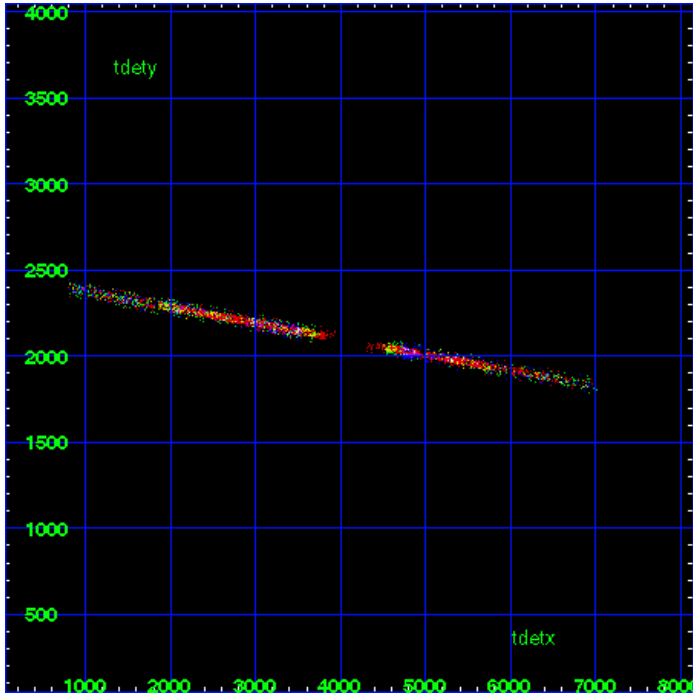
HEG Zero Order



HEG Order Sort ALL

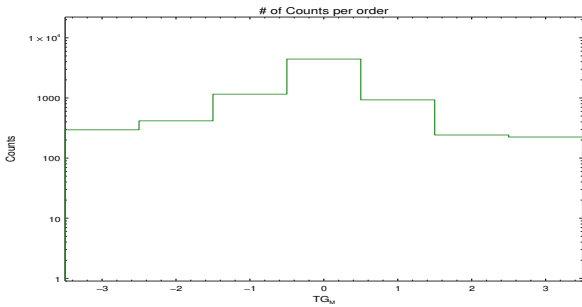


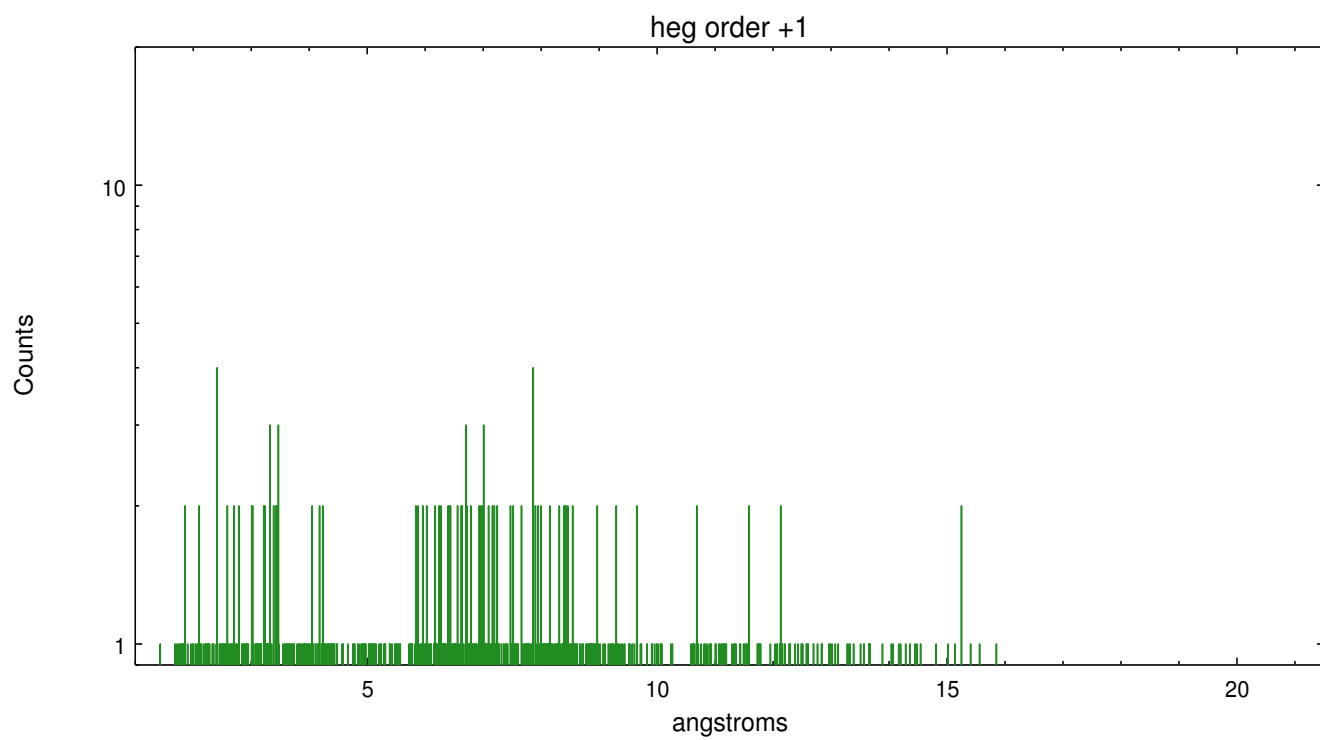
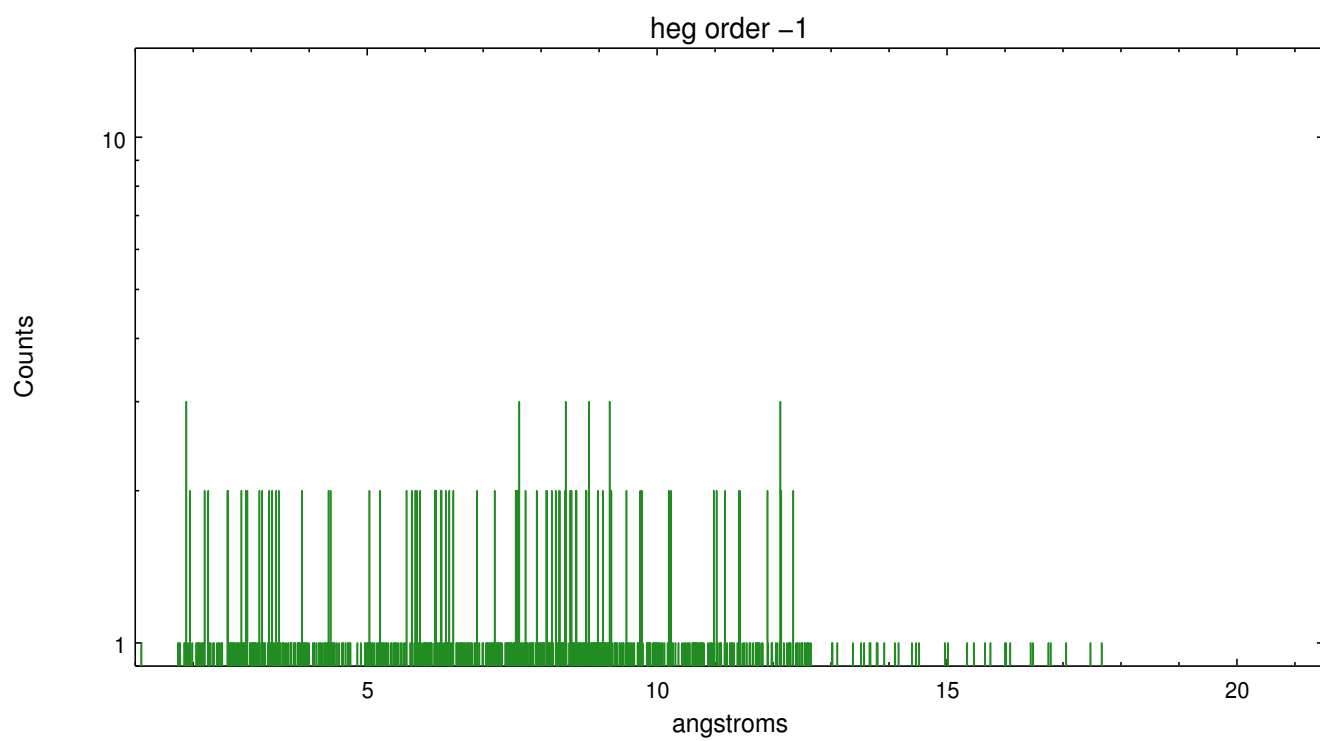
Spot Image HEG



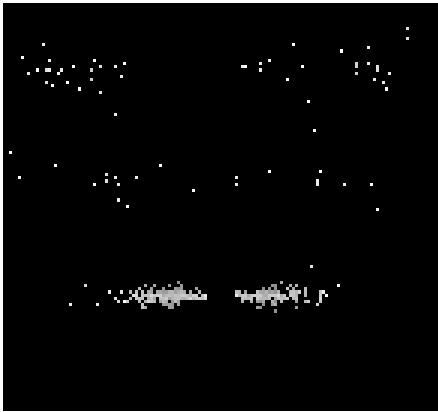
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	295	416	1157	4436	929	242	224

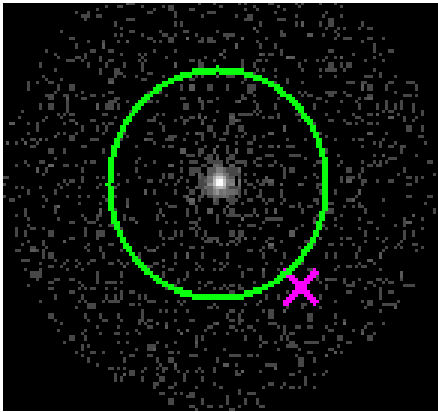




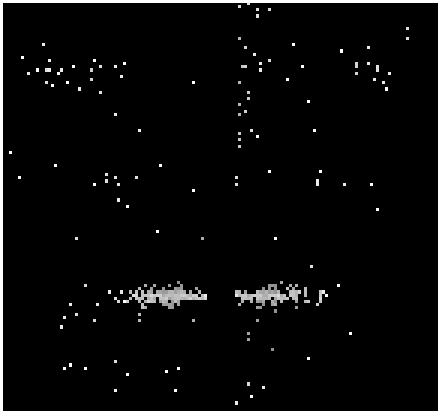
3.2 MEG Arm



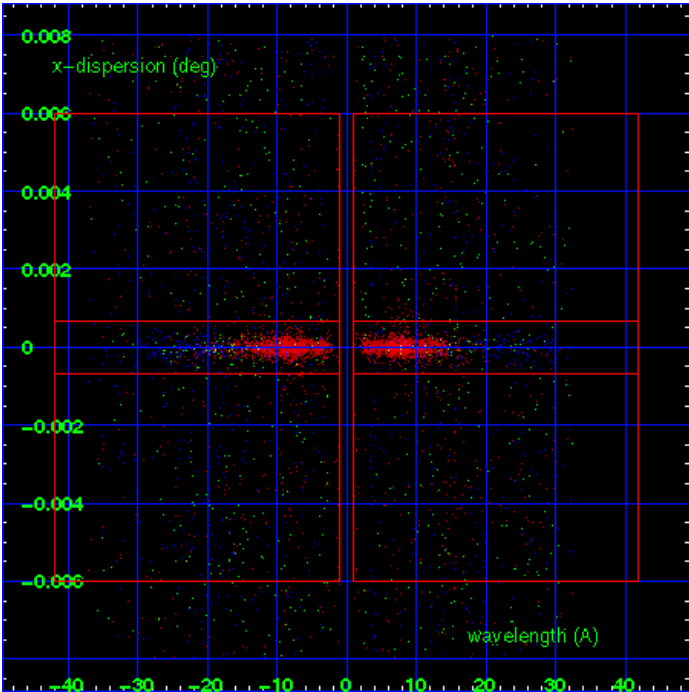
MEG Order Sort 123



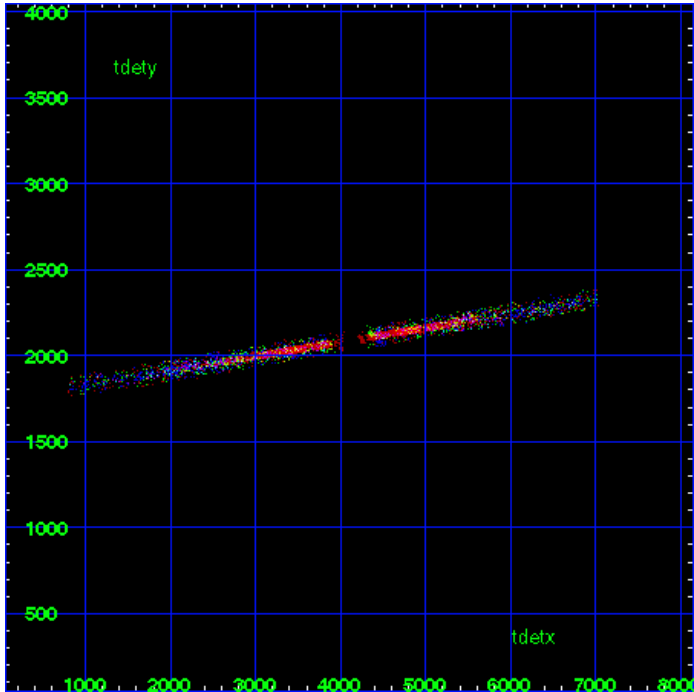
MEG Zero Order



MEG Order Sort ALL

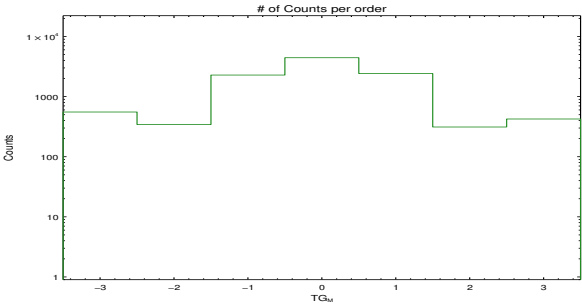


Spot Image MEG

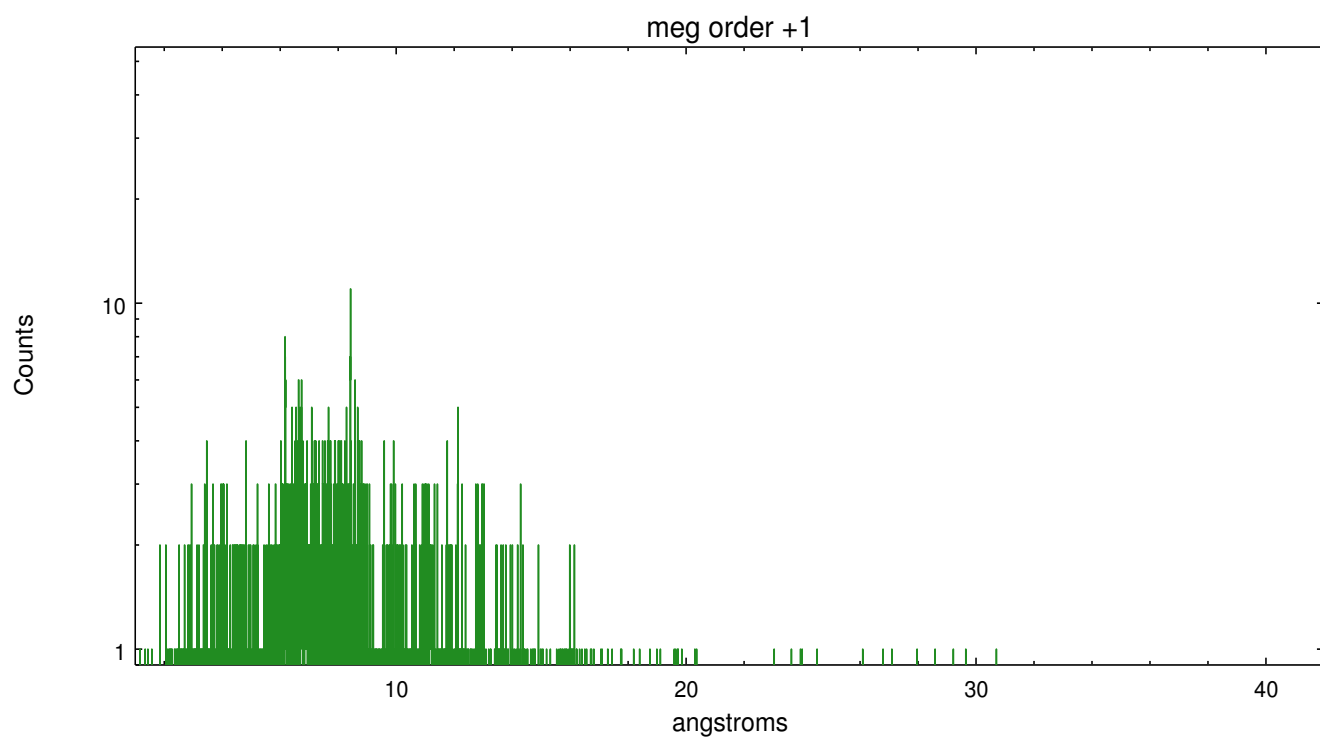
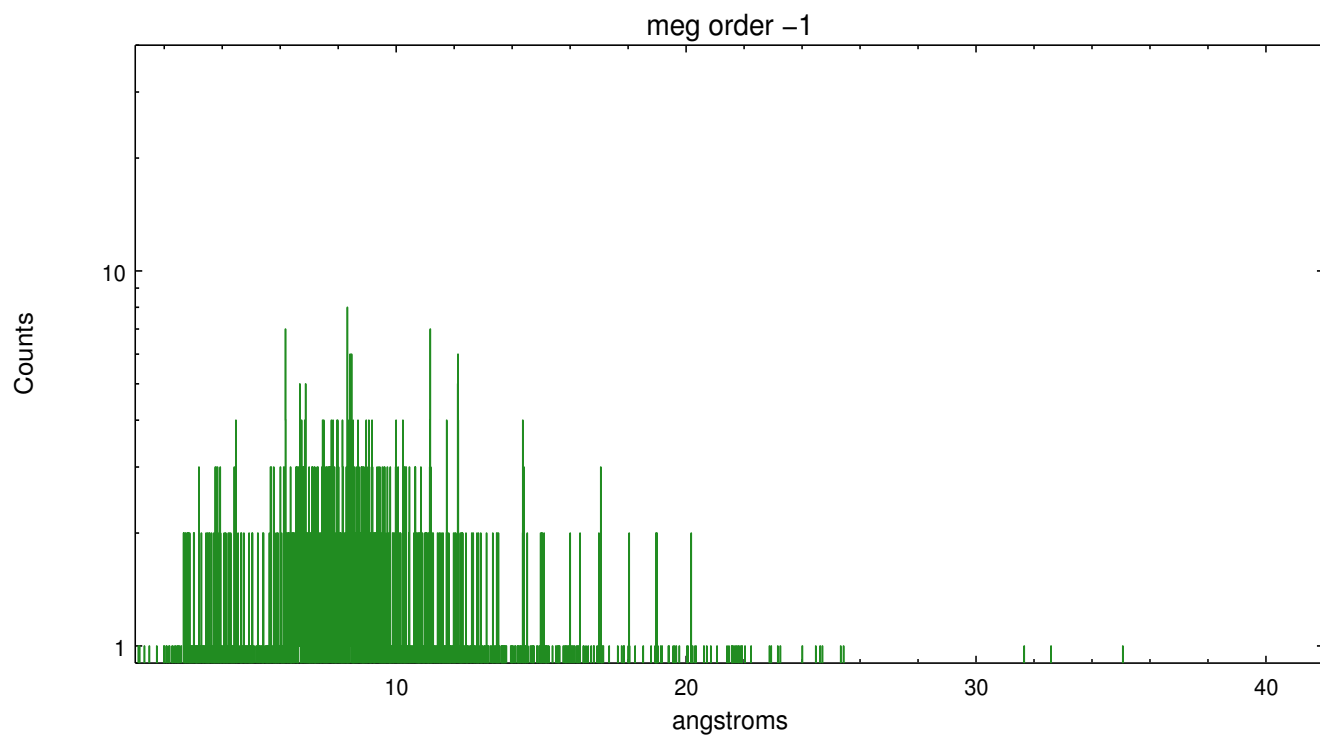


Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	554	343	2282	4436	2419	312	424







# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.02.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	39.7575

## A.2 Comments

The guide star slot 7 was used for optical monitoring of the target.

===

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.