

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12298 - L2 Version 2  
Chandra X-Ray Center

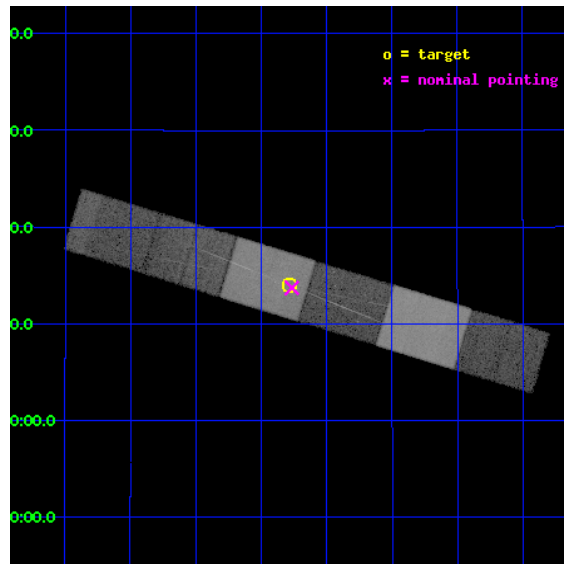
L2 Processing Date : Feb 8 2012

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# 1 Front

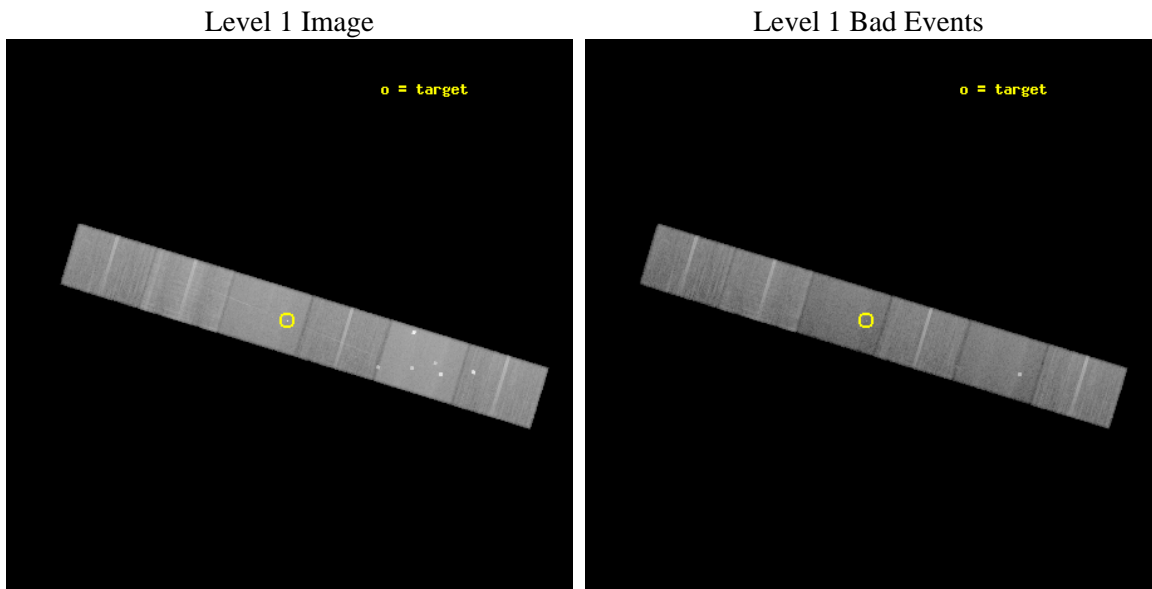
seq_num	200660	Sequence number
obs_id	12298	Observation id
title	FK Comae, King of Spin: the Movie	Proposal title
observer	Dr. Thomas Ayres	Principal investigator
object	FK COMAE	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	202.695	Observer's specified target RA [deg]
dec_targ	24.232667	Observer's specified target Dec [deg]
ra_nom	202.69147733165	Nominal RA [deg]
dec_nom	24.229042304152	Nominal Dec [deg]
roll_nom	196.9080647814	Nominal Roll [deg]
revision	2	Processing version of data
ontime	39721.548121989	Sum of GTIs [s]
livetime	39080.010666881	Livetime [s]
ontime4	39721.589161992	Sum of GTIs [s]
ontime5	39721.507081985	Sum of GTIs [s]
ontime6	39718.92500186	Sum of GTIs [s]
ontime7	39721.548121989	Sum of GTIs [s]
ontime8	39721.425001979	Sum of GTIs [s]
ontime9	39721.383961976	Sum of GTIs [s]
l2events	339315	Number of level 2 events



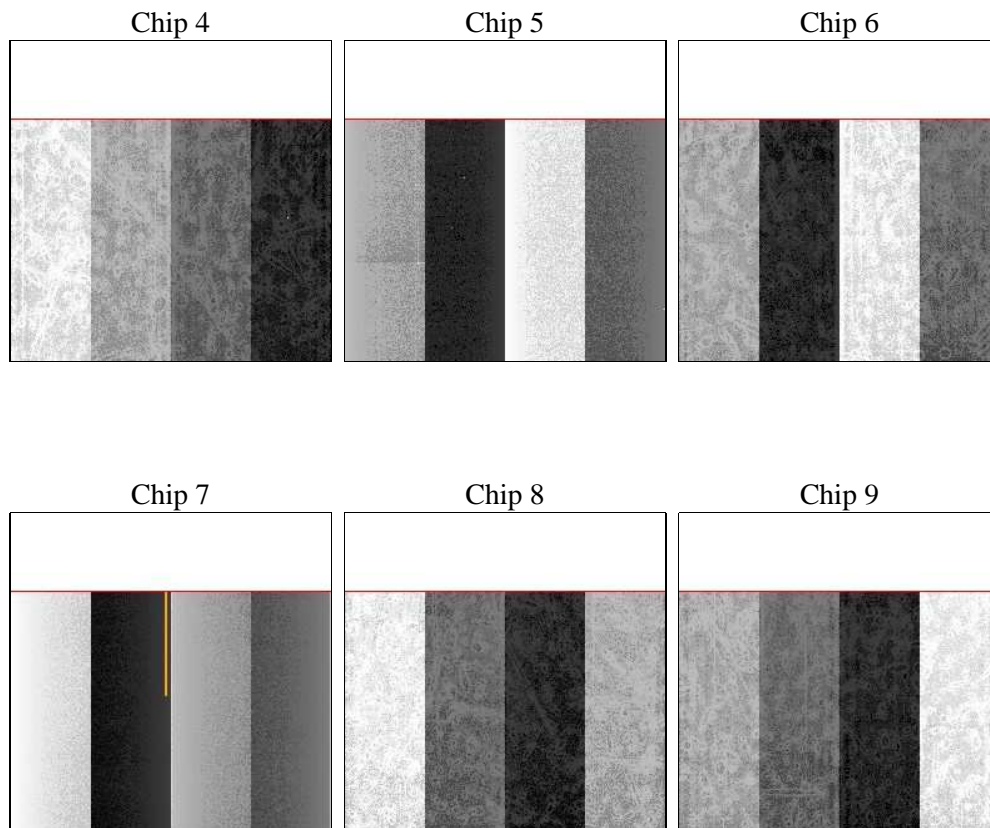
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	39960.663000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	39721.548121989	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime4	39721.589161992	Sum of GTIs [s]
date	2012-02-08T23:37:26	Date and time of file creation	ontime5	39721.507081985	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	39718.92500186	Sum of GTIs [s]
			ontime7	39721.548121989	Sum of GTIs [s]
			ontime8	39721.425001979	Sum of GTIs [s]
			ontime9	39721.383961976	Sum of GTIs [s]
			l1events	1467463	Number of level 1 events

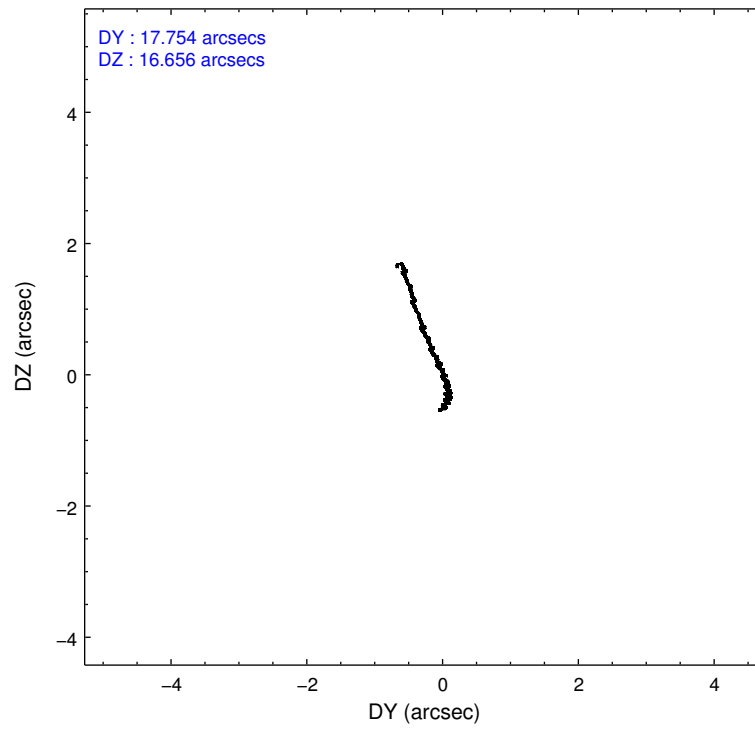
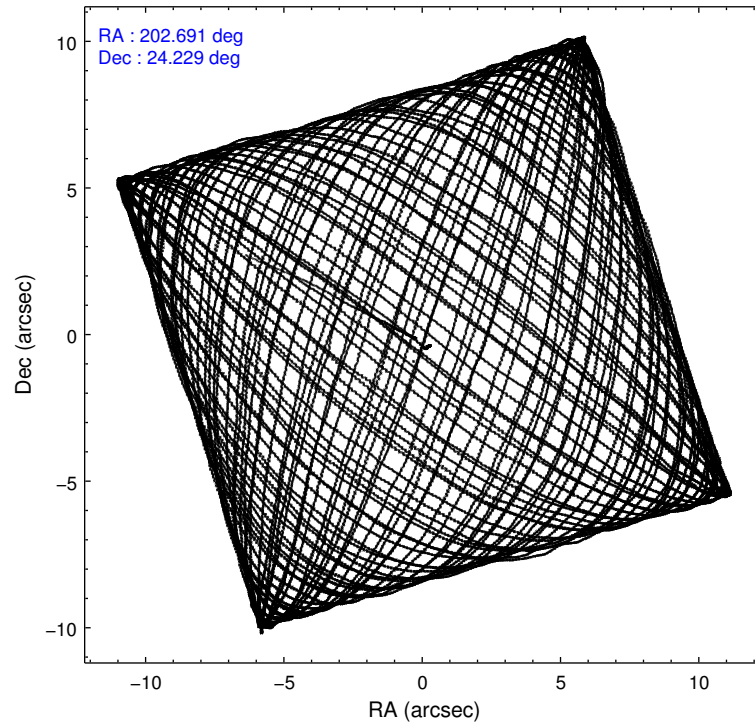
### 2.1.4 Events

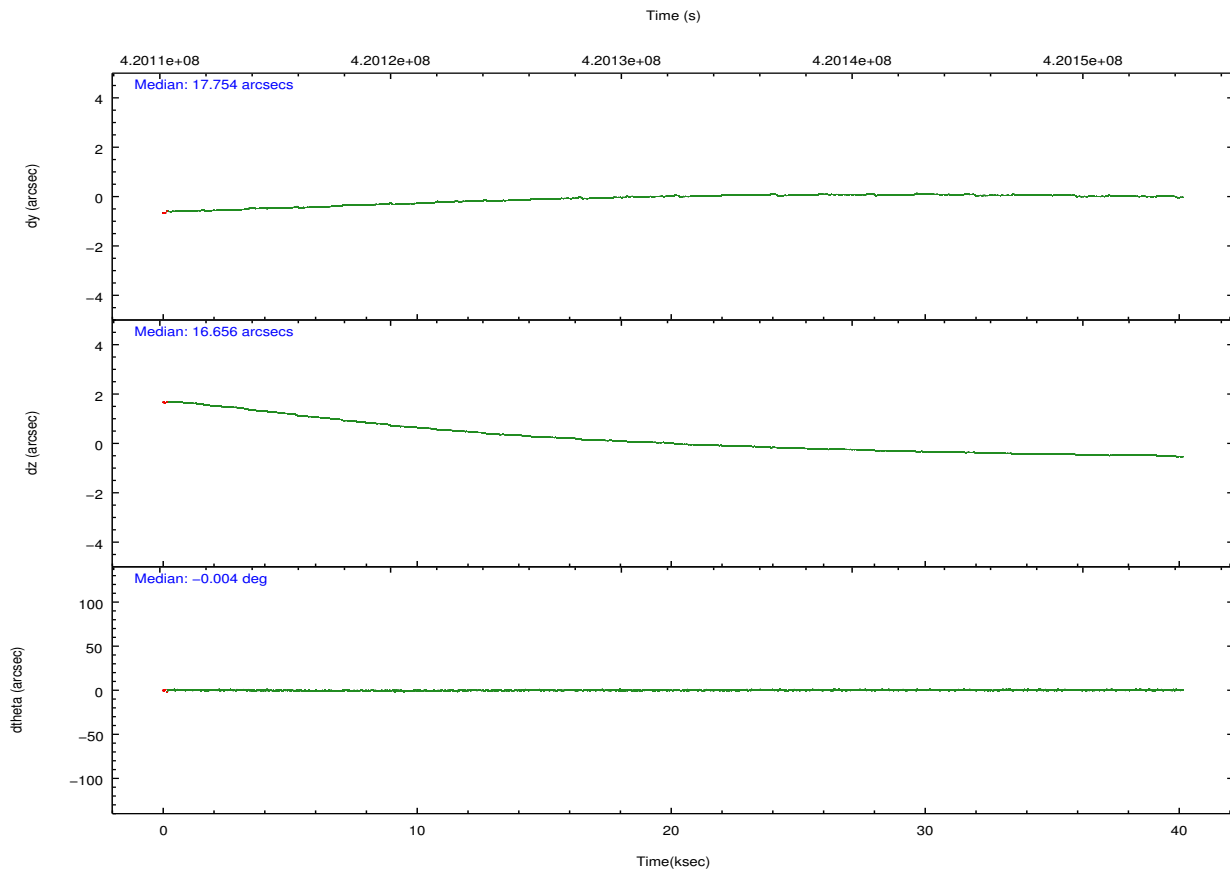
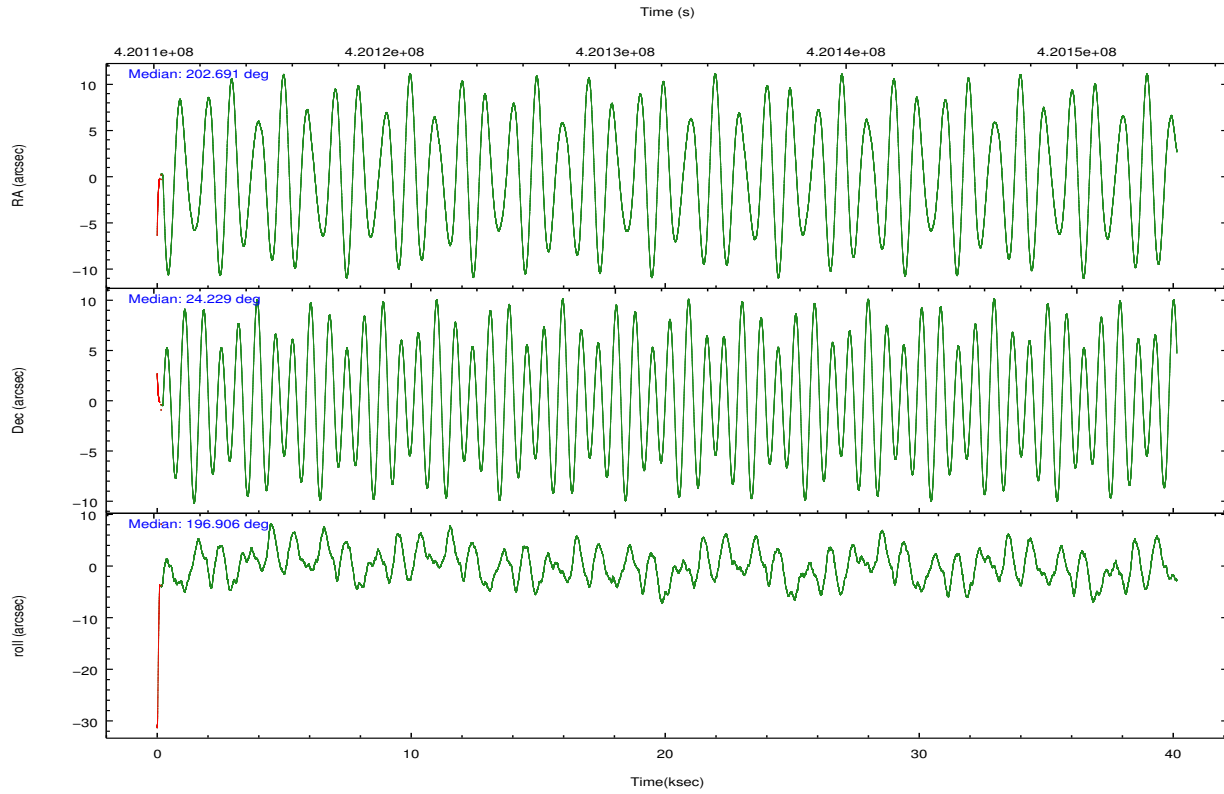
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	230079	332143	200401	250424	264772	189644	grade 0 events	17637	34508	9025	11075	19850	8573
rejected events	196934	158578	175824	135046	194957	165601		7%	10%	4%	4%	7%	4%
rejected %	85%	47%	87%	53%	73%	87%	grade 1 events	191	558	94	292	175	110
								0%	0%	0%	0%	0%	0%
							grade 2 events	5935	47086	5346	23930	16009	5157
								2%	14%	2%	9%	6%	2%
							grade 3 events	2646	6833	2541	10562	7672	2764
								1%	2%	1%	4%	2%	1%
							grade 4 events	2639	6363	2603	10715	7085	2565
								1%	1%	1%	4%	2%	1%
							grade 5 events	9109	24753	9072	25997	13153	10206
								3%	7%	4%	10%	4%	5%
							grade 6 events	4293	78791	5064	59116	19220	4986
								1%	23%	2%	23%	7%	2%
							grade 7 events	187629	133251	166656	108737	181608	155283
								81%	40%	83%	43%	68%	81%

## 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	202.6914773316484	CCD I2 on	N	N
[deg] Pointing Dec	24.249250	24.22904230415174	CCD I3 on	N	N
[deg] Pointing Roll	196.743153	196.9080647814046	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	-187.1254020033014	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.007120579706367	CCD S4 on	Y	Y
[s] Observation start time (MET)	420112345.184000	420111272.45935	CCD S5 on	Y	Y
Observation start date	2011-04-25T09:51:19	2011-04-25T09:34:32	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	420152306.184000	420152530.76149	On-chip summing requested	N	N
Observation end date	2011-04-25T20:57:20	2011-04-25T21:02:10	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





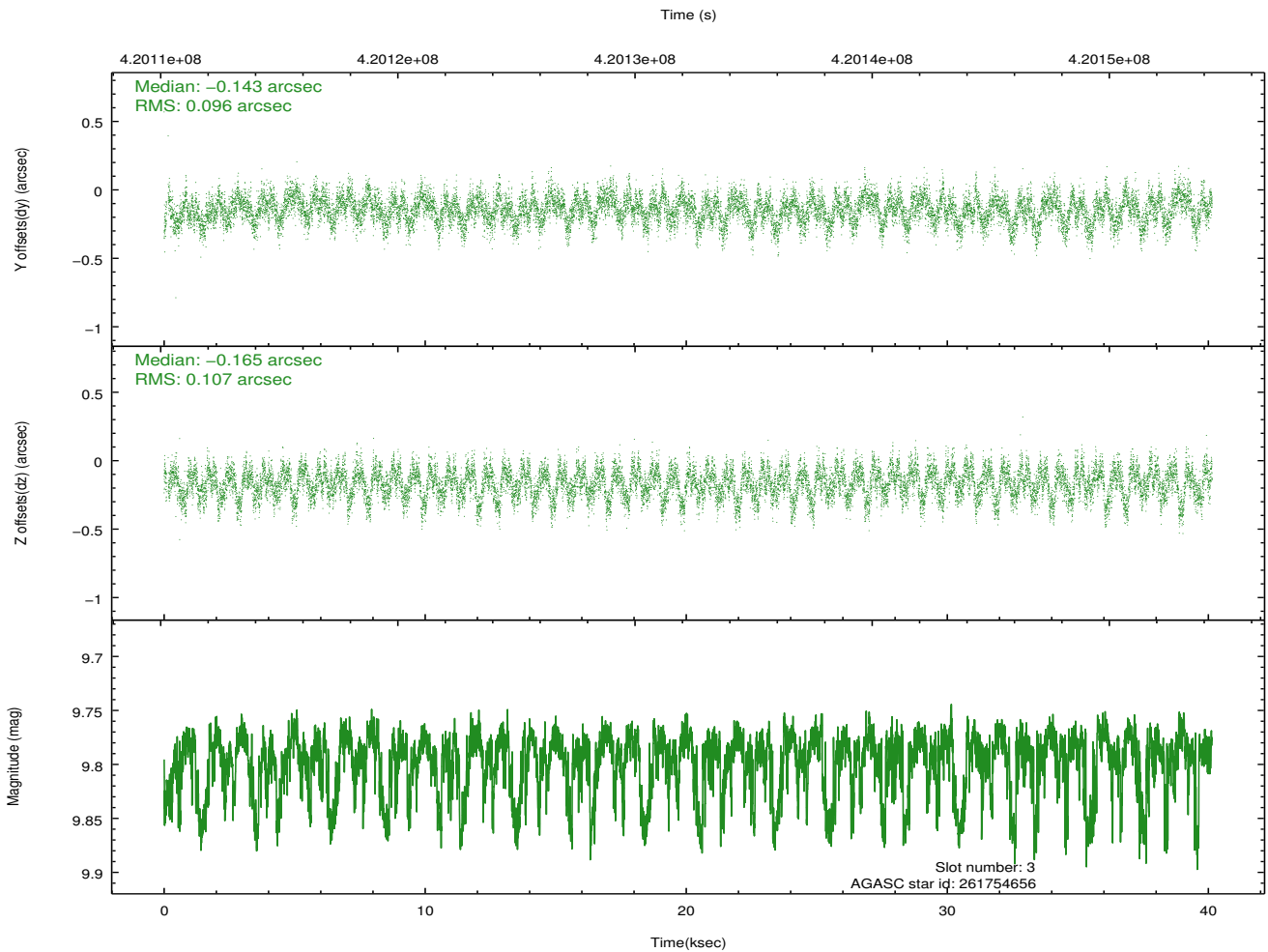
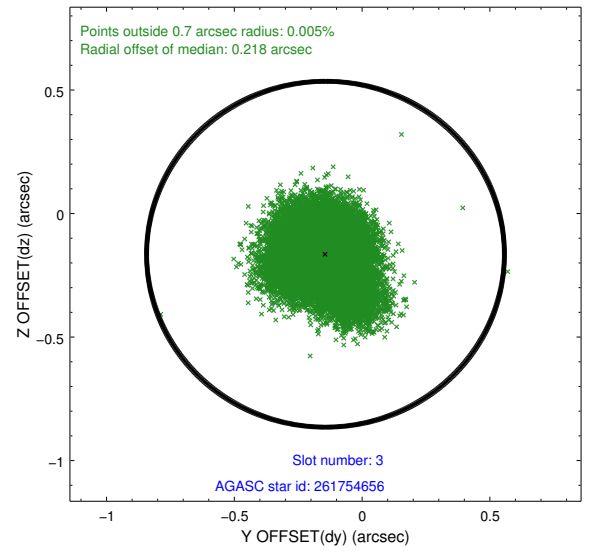
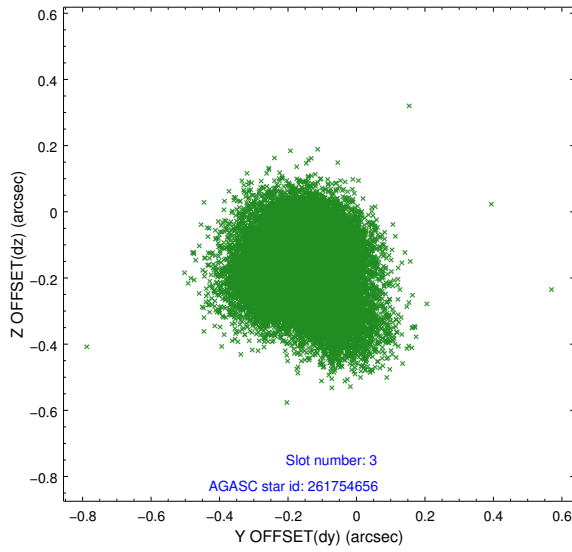
### Slot Statistics

	status	id	mag	n_pts	med_dy	med_dz	dr1
	FID	ACIS-S-2	6.94	9778	-0.131	-0.073	0.008
	FID	ACIS-S-4	7.03	9779	0.141	0.078	0.009
	FID	ACIS-S-6	7.20	9778	-0.037	0.002	0.008
	GUIDE	261754656	9.79	19531	-0.143	-0.165	0.154
	GUIDE	261754936	8.88	19548	-0.011	0.049	0.185
	GUIDE	261756656	9.53	19461	0.376	0.015	0.109
	GUIDE	261755088	10.30	19522	-0.211	0.131	0.187
0.000	0.000	0.000	0.000000	0.000000	0.00	0.00	

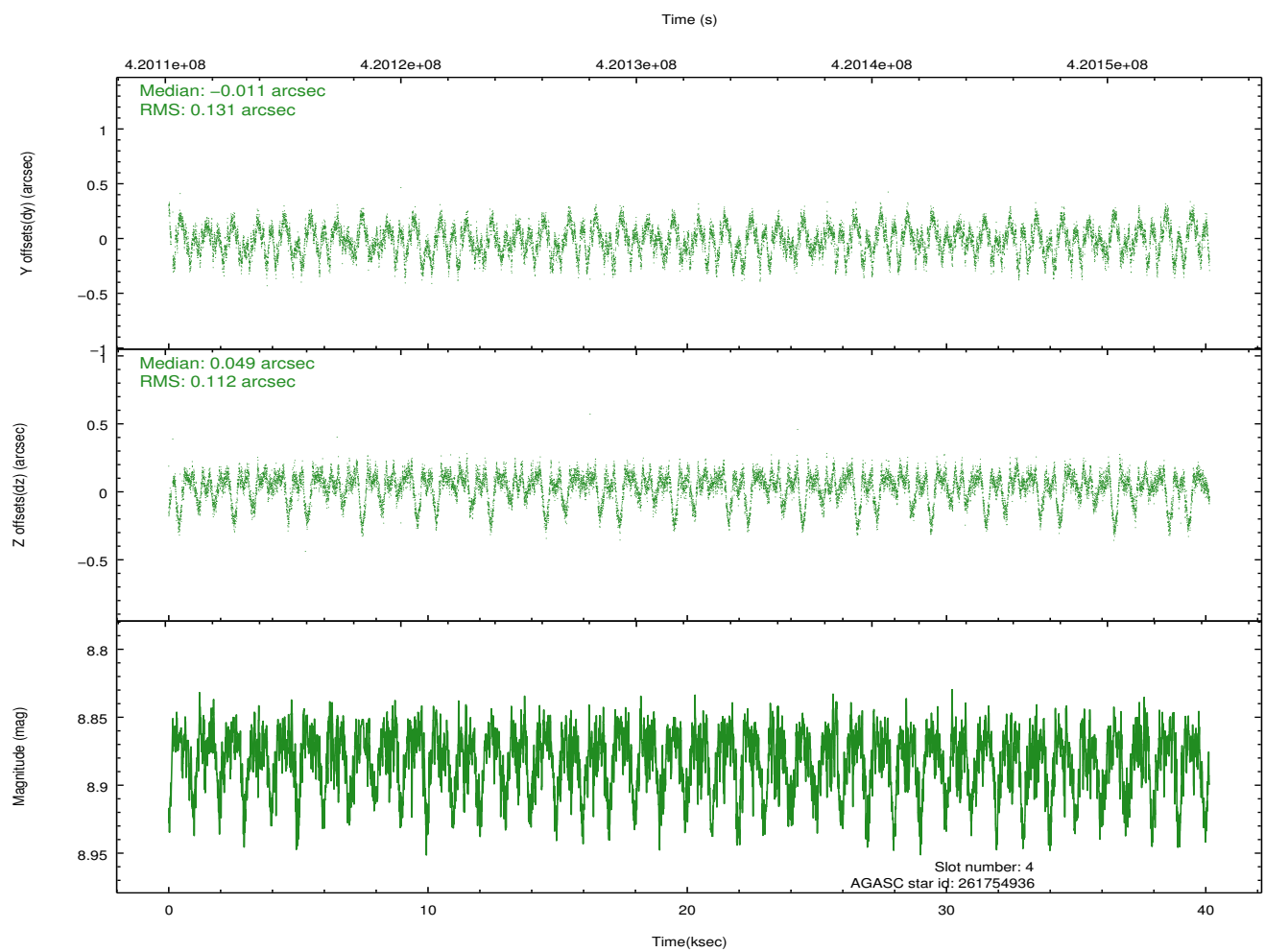
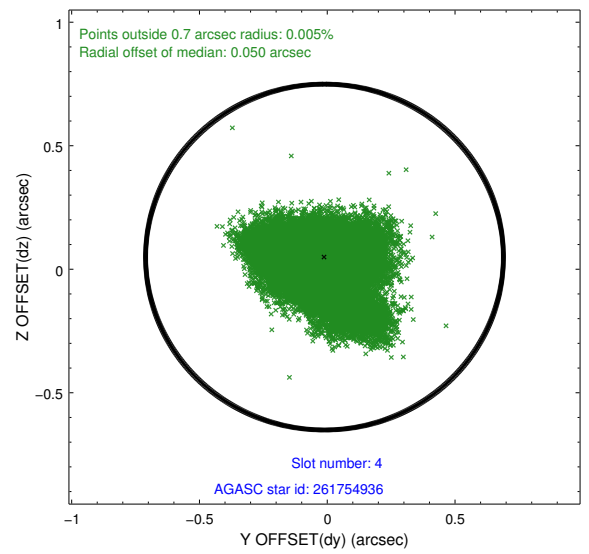
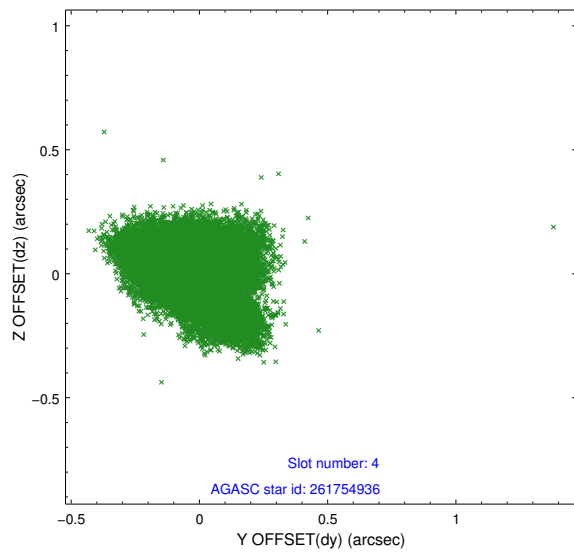
∞

## 2.4 Star Slots

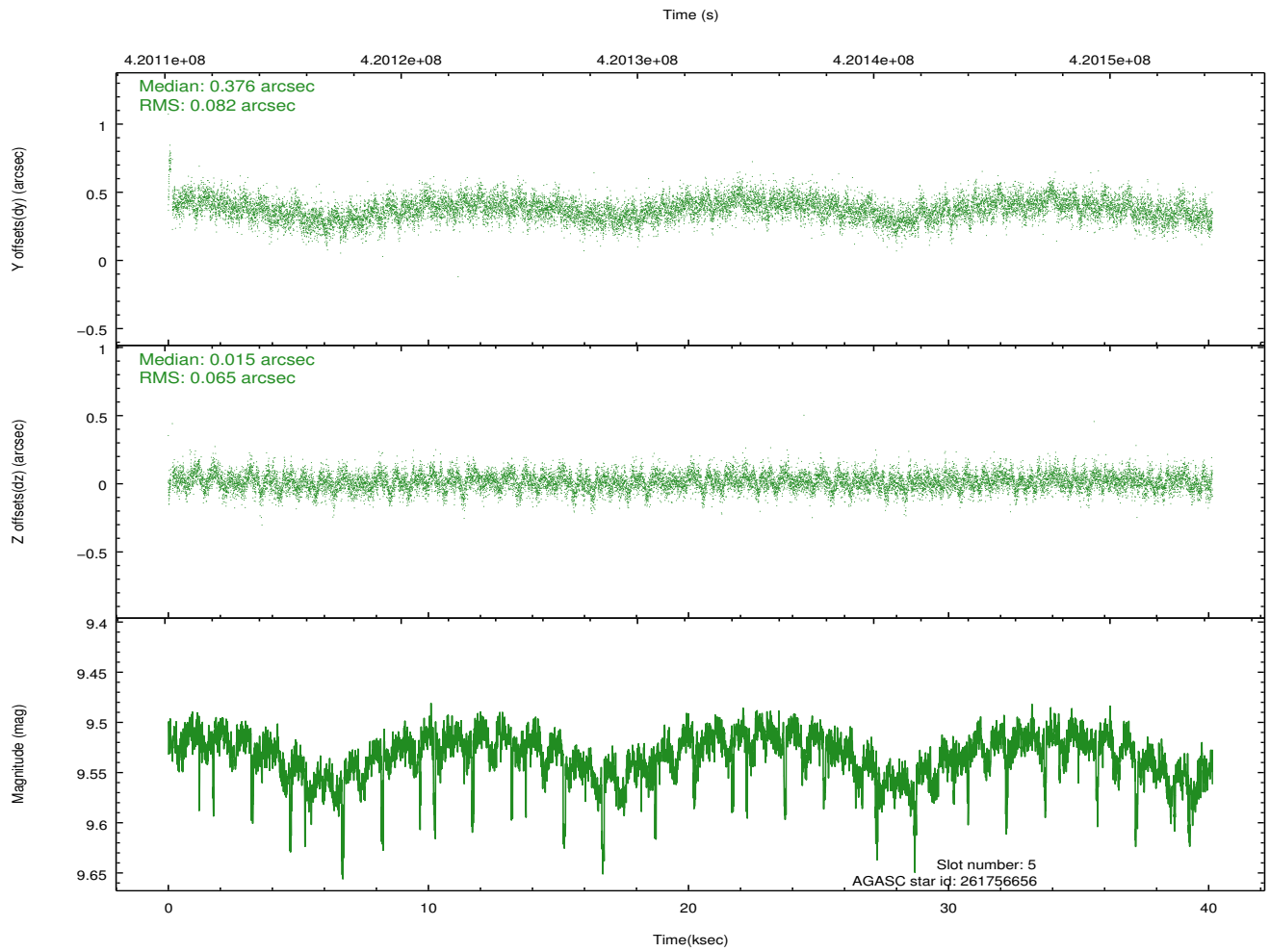
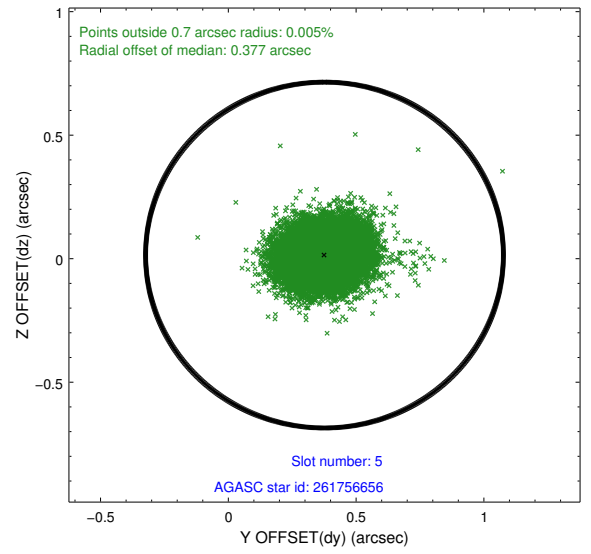
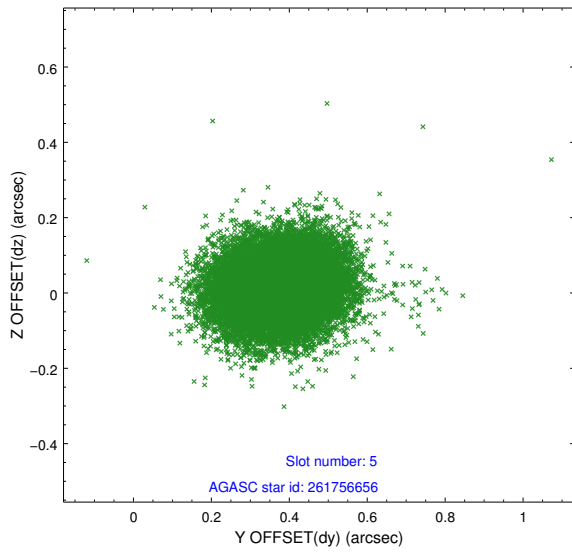
### 2.4.1 Slot 3



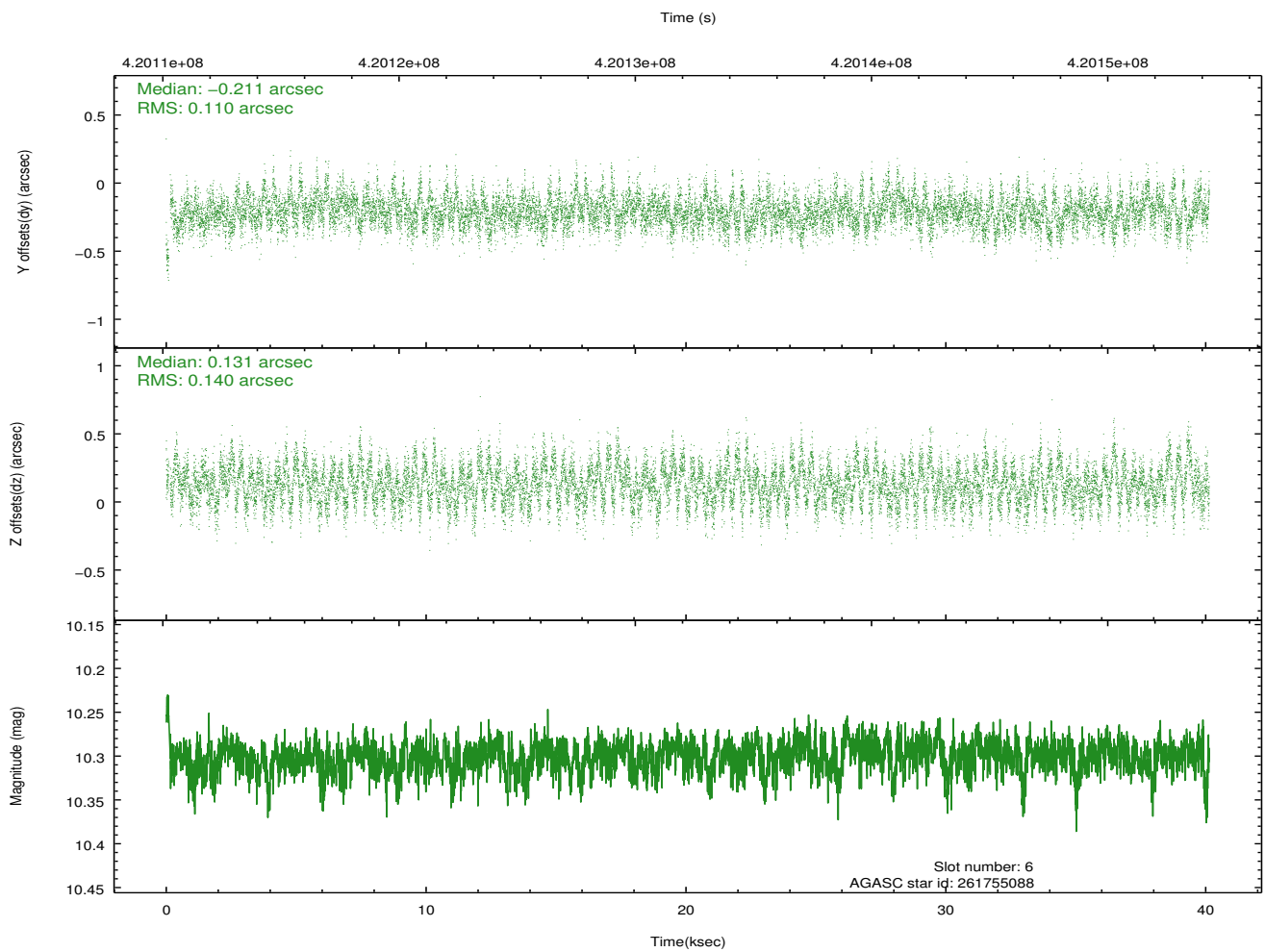
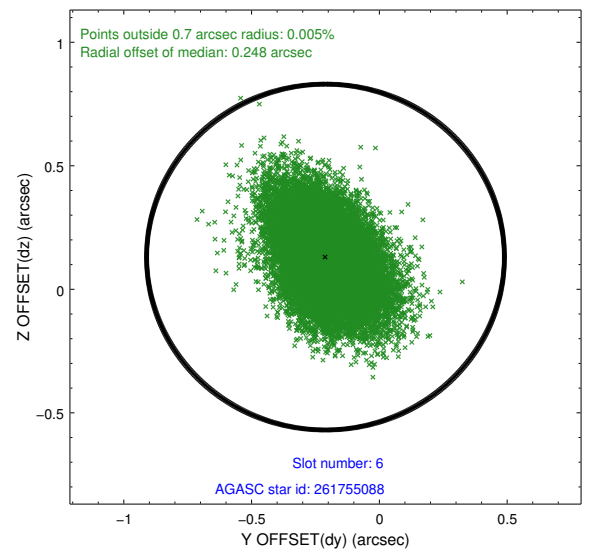
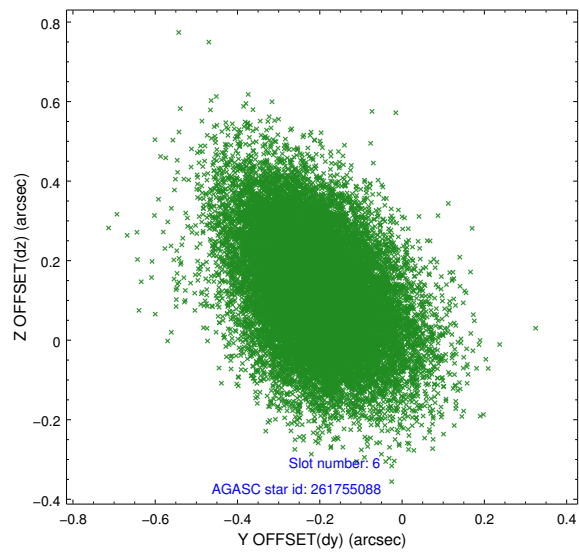
## 2.4.2 Slot 4



### 2.4.3 Slot 5

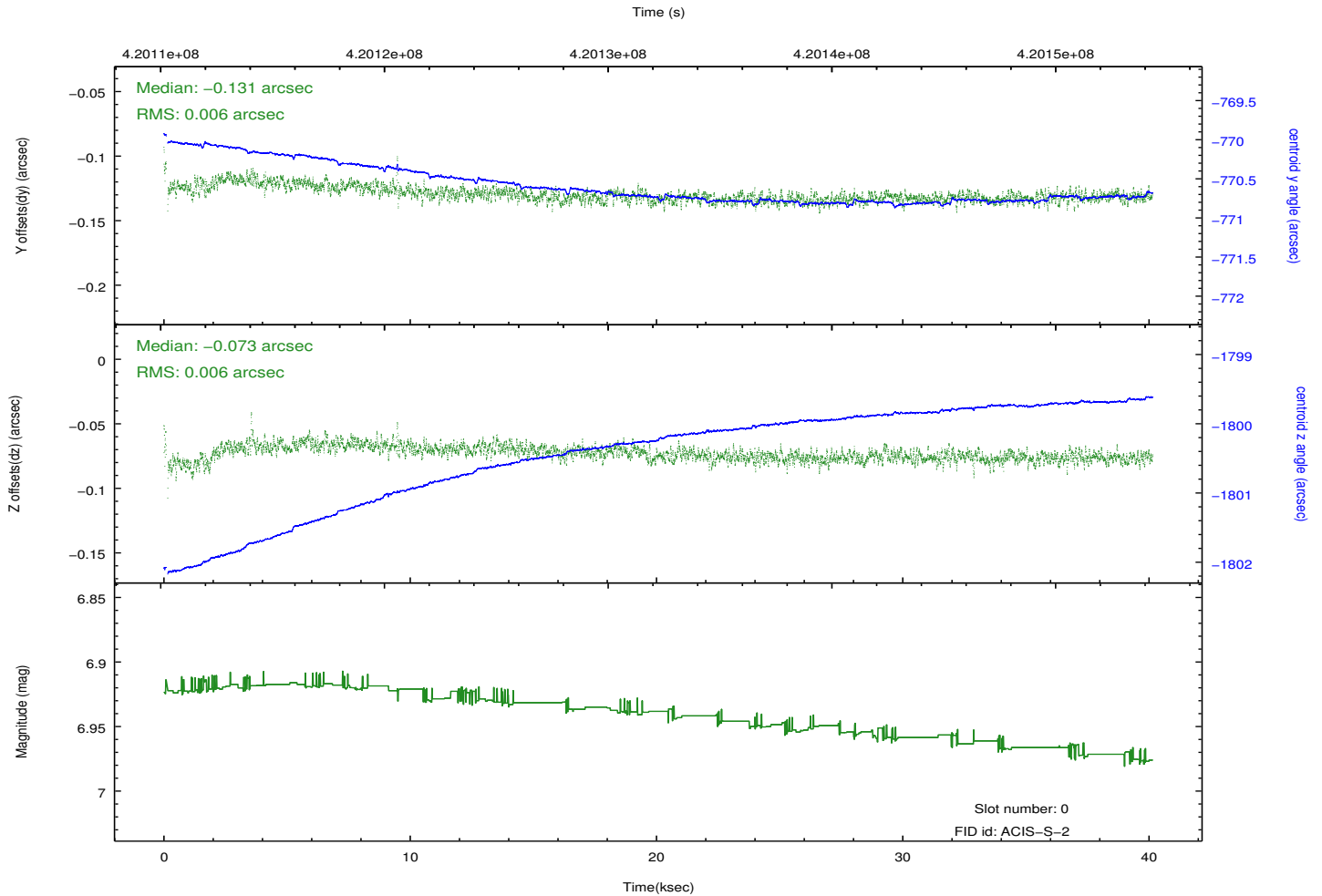
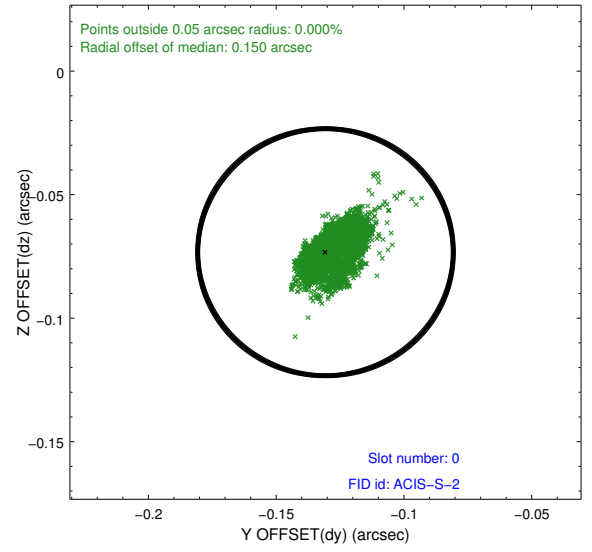
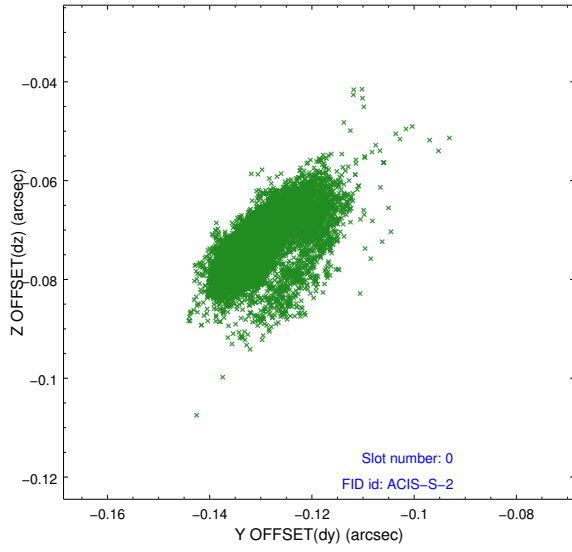


## 2.4.4 Slot 6

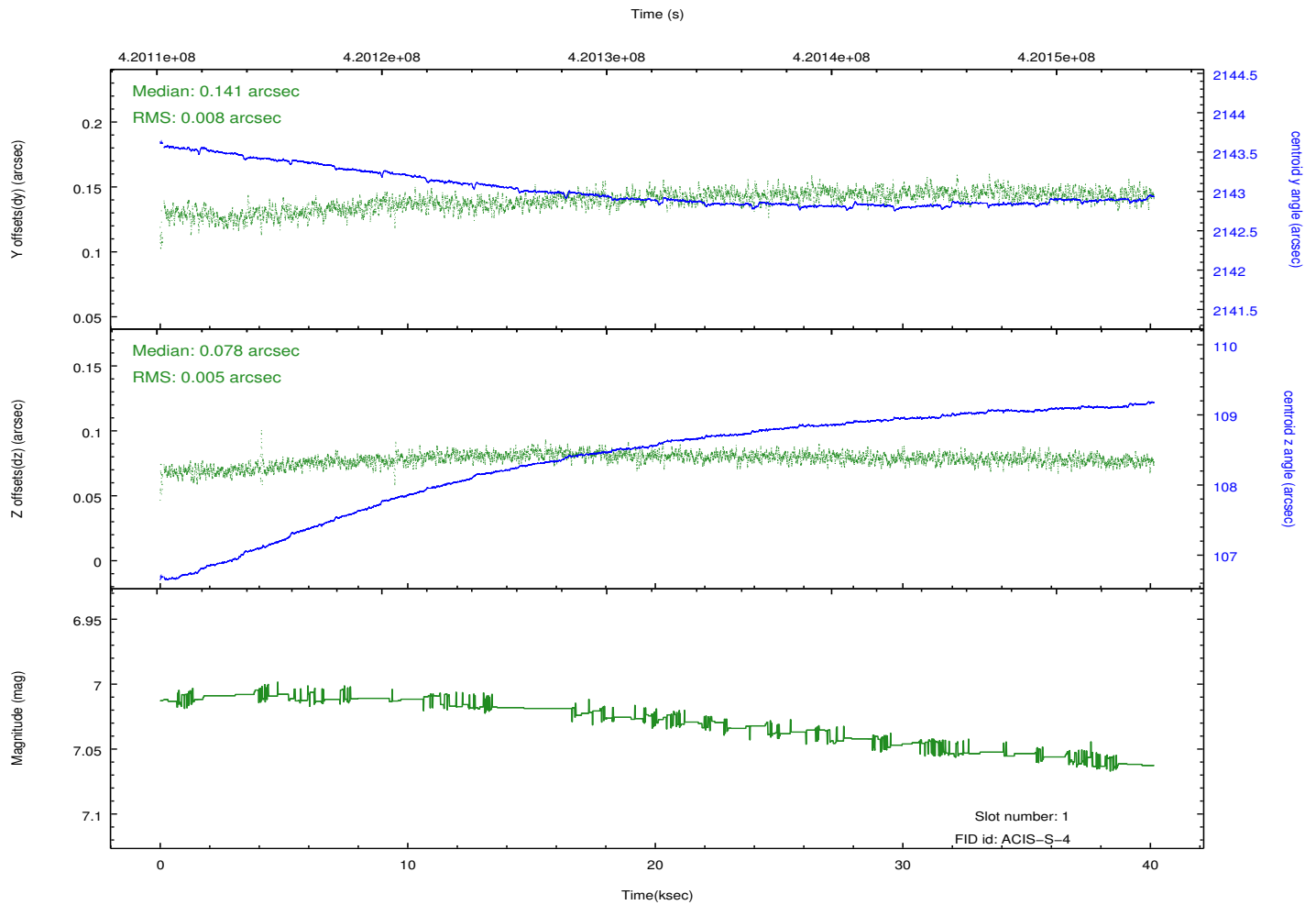
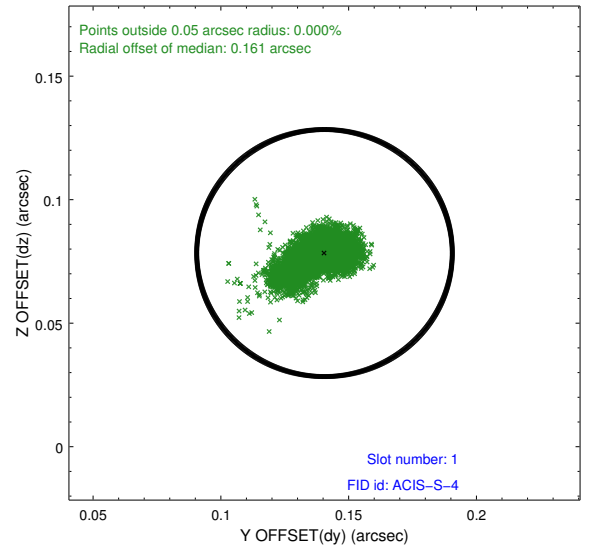
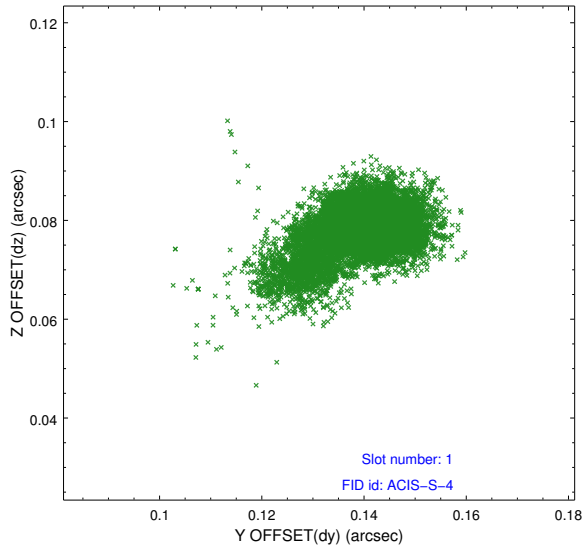


## 2.5 FID Slots

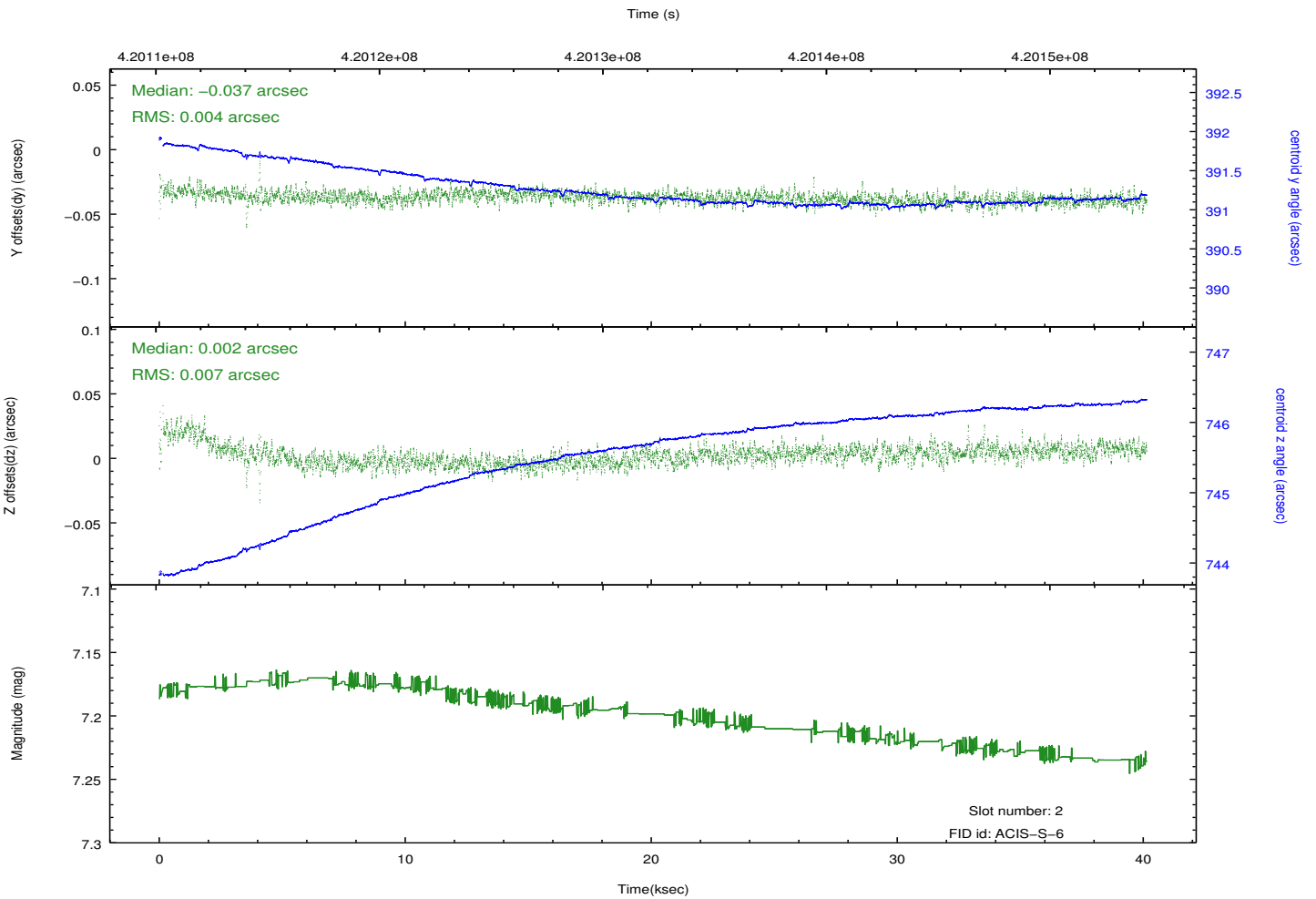
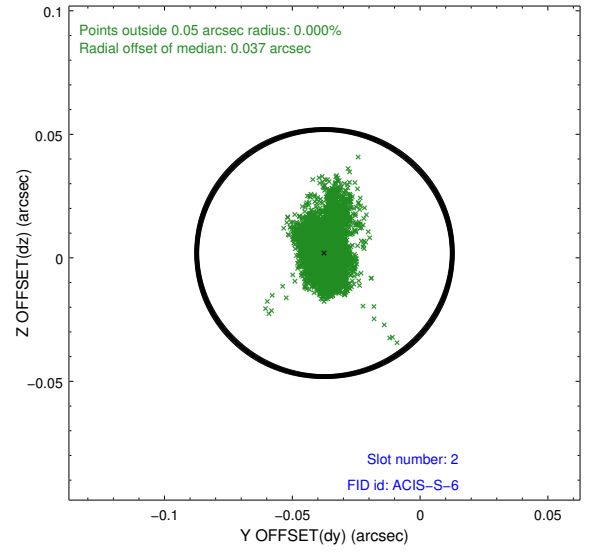
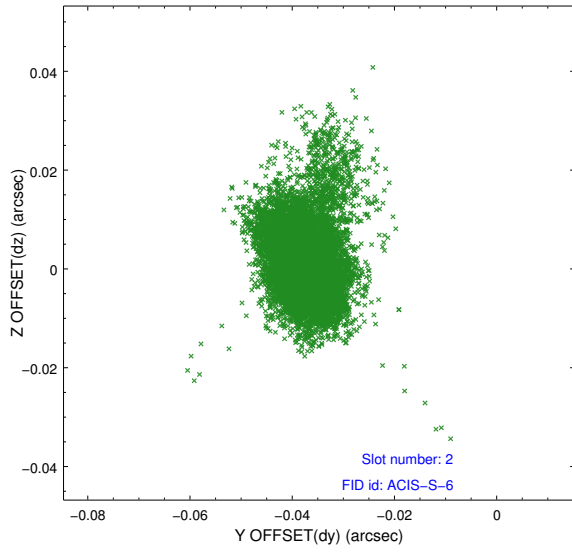
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

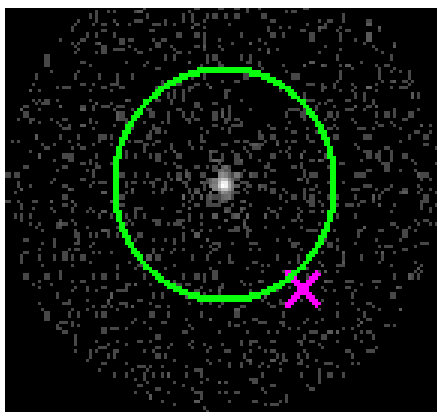


### 3 Gratings

#### 3.1 HEG Arm



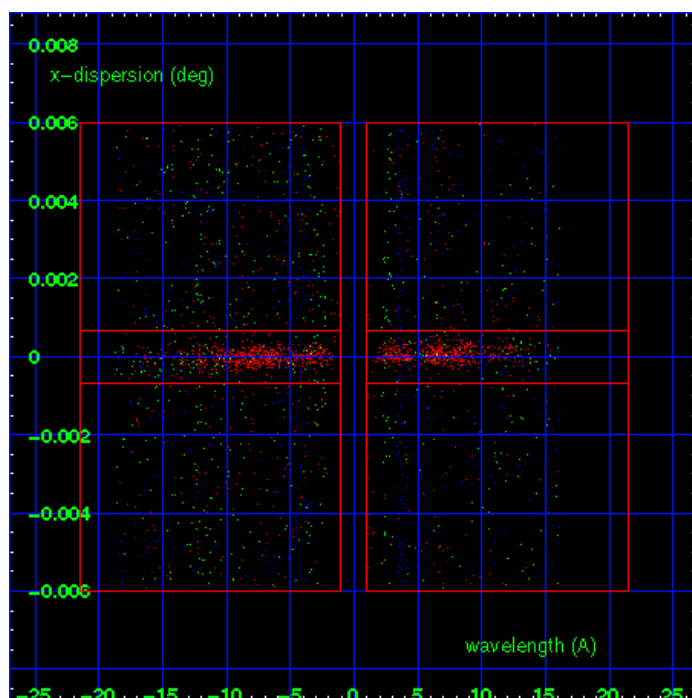
HEG Order Sort 123



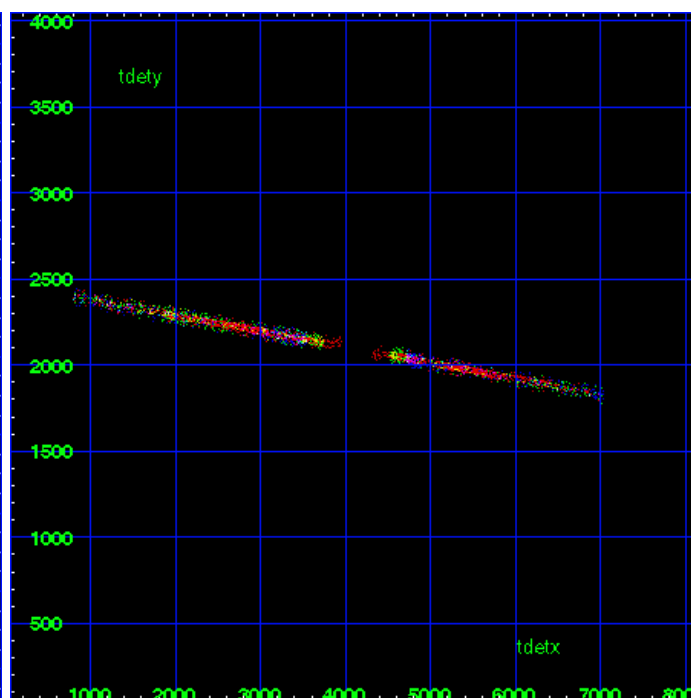
HEG Zero Order



HEG Order Sort ALL

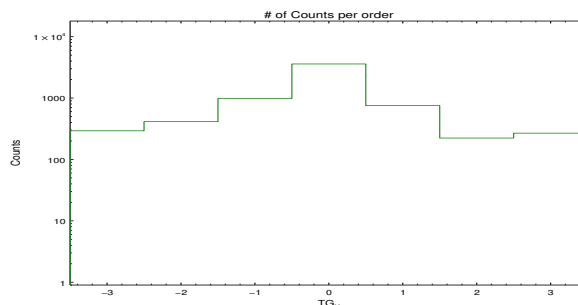


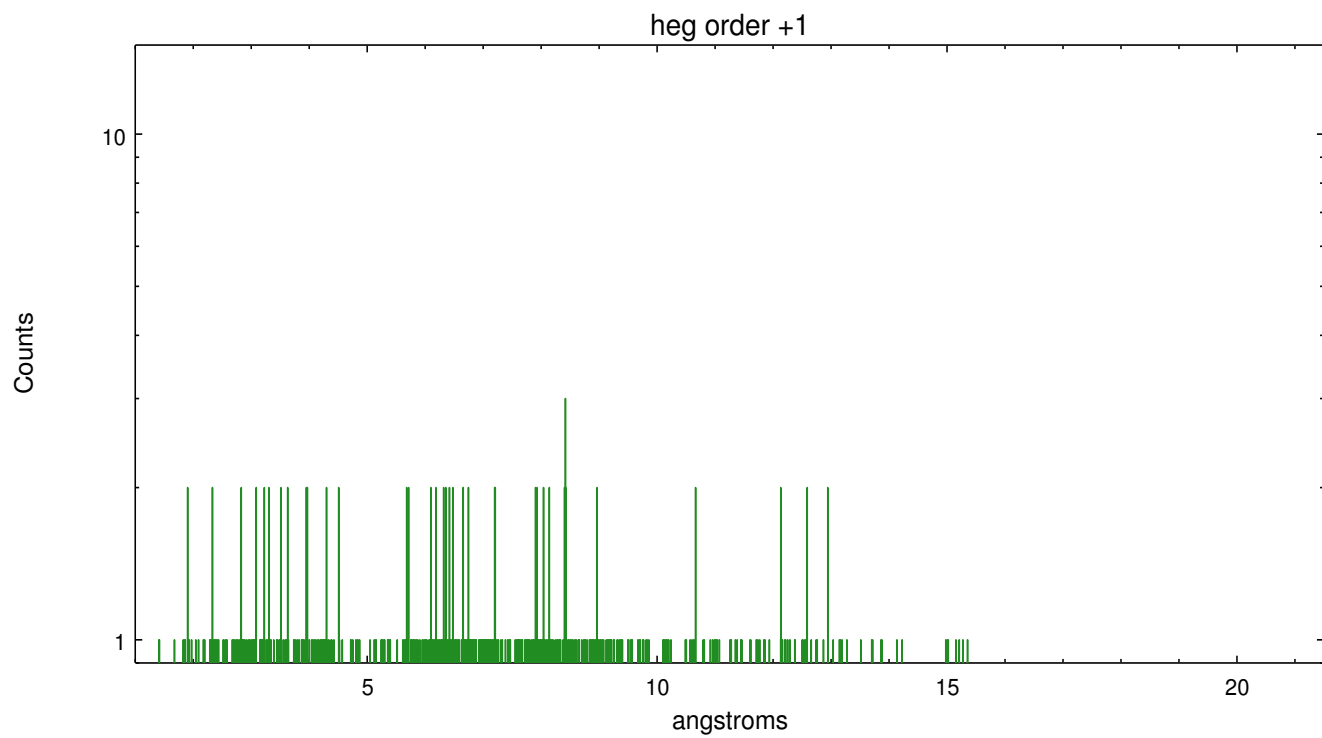
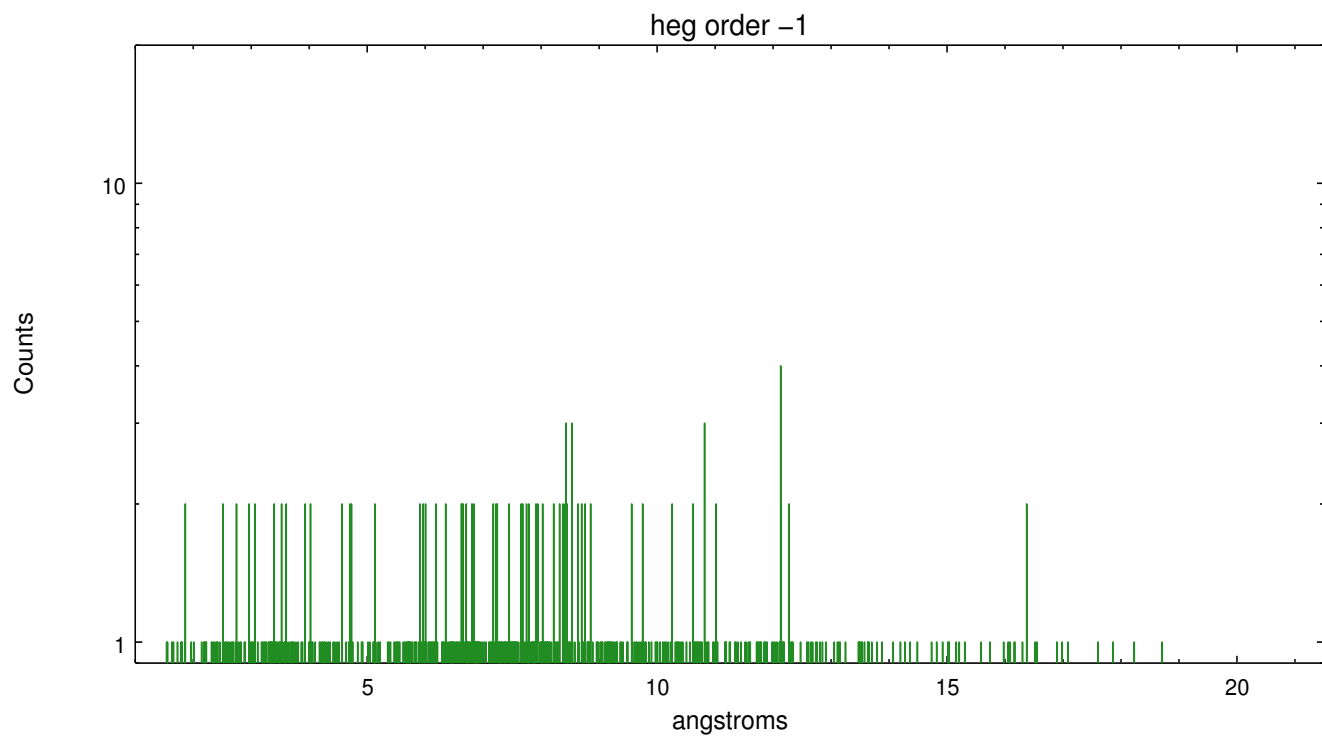
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	293	413	988	3592	753	223	268

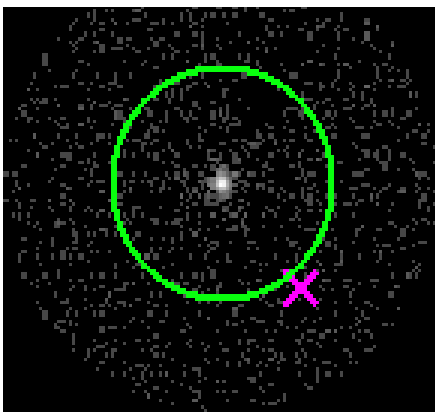




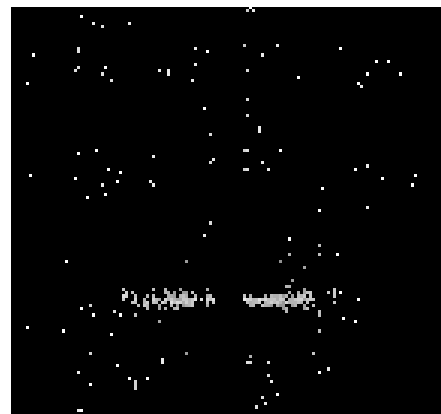
### 3.2 MEG Arm



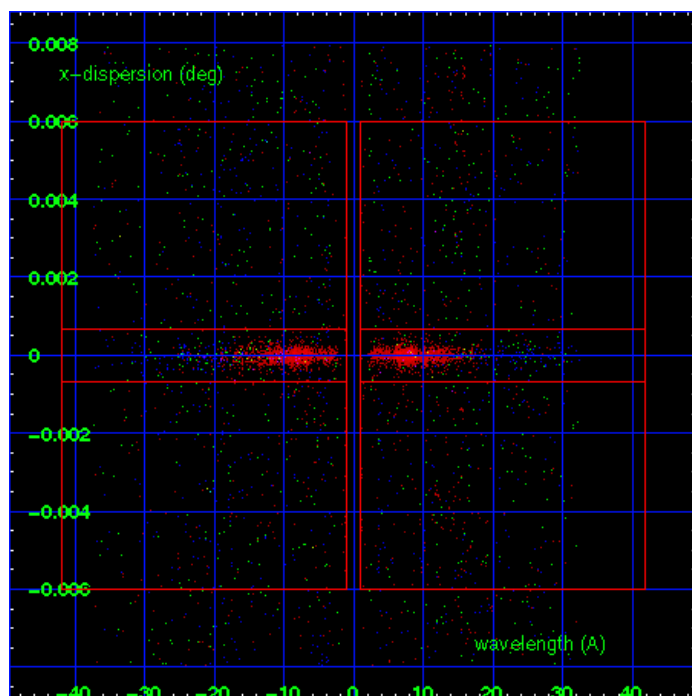
MEG Order Sort 123



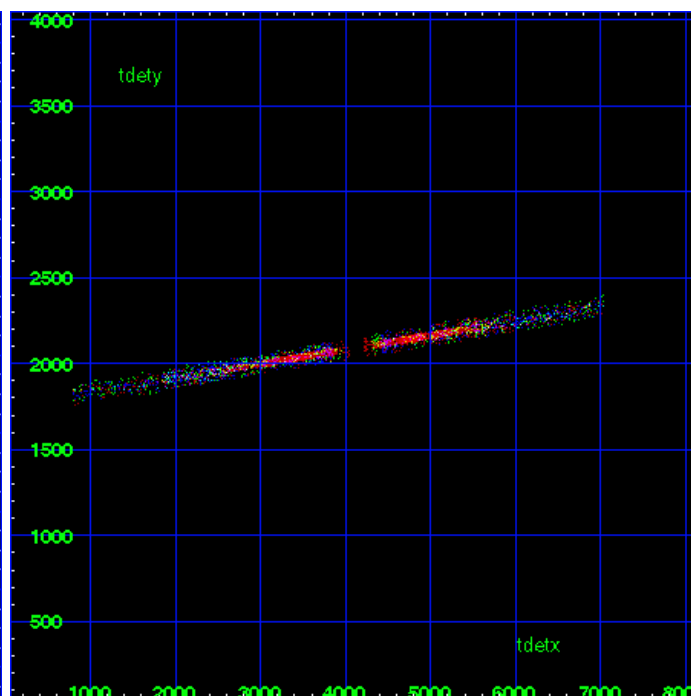
MEG Zero Order



MEG Order Sort ALL

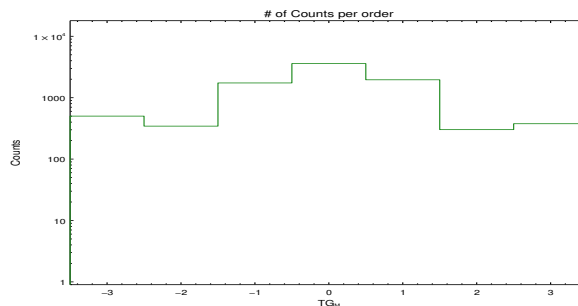


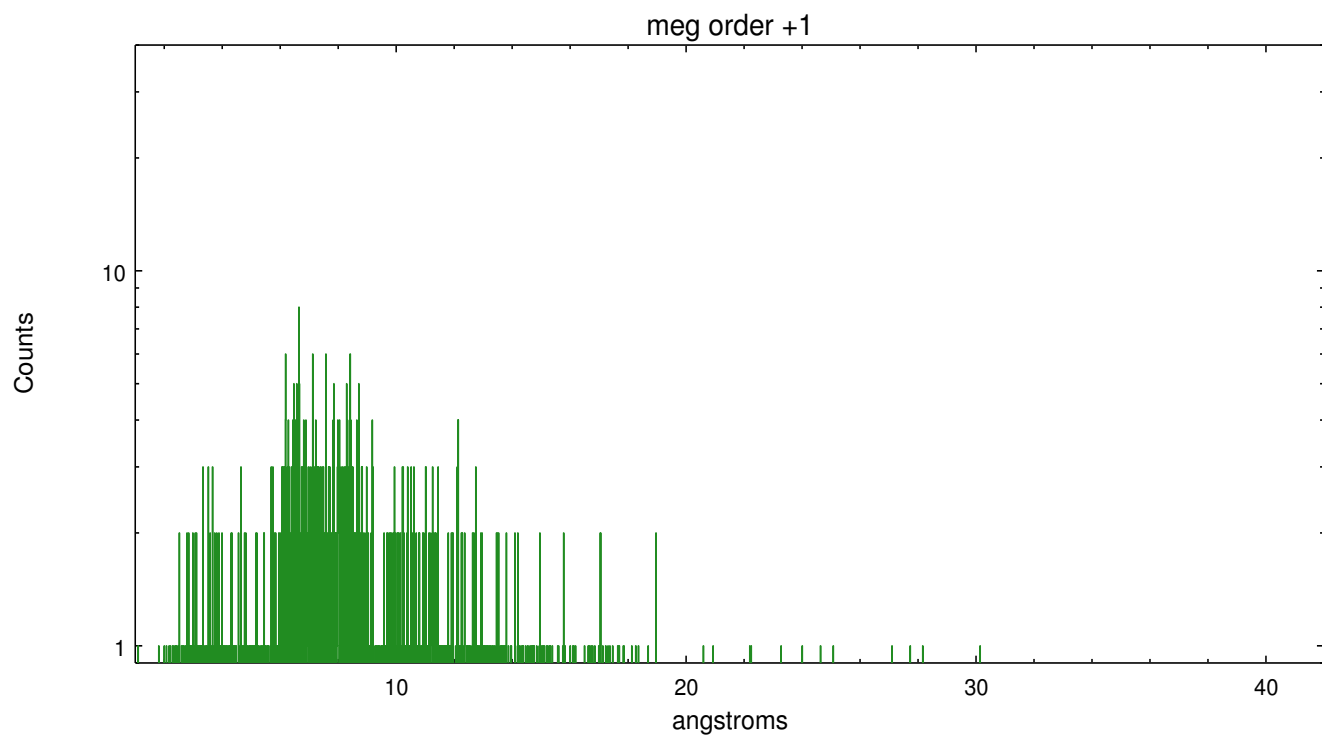
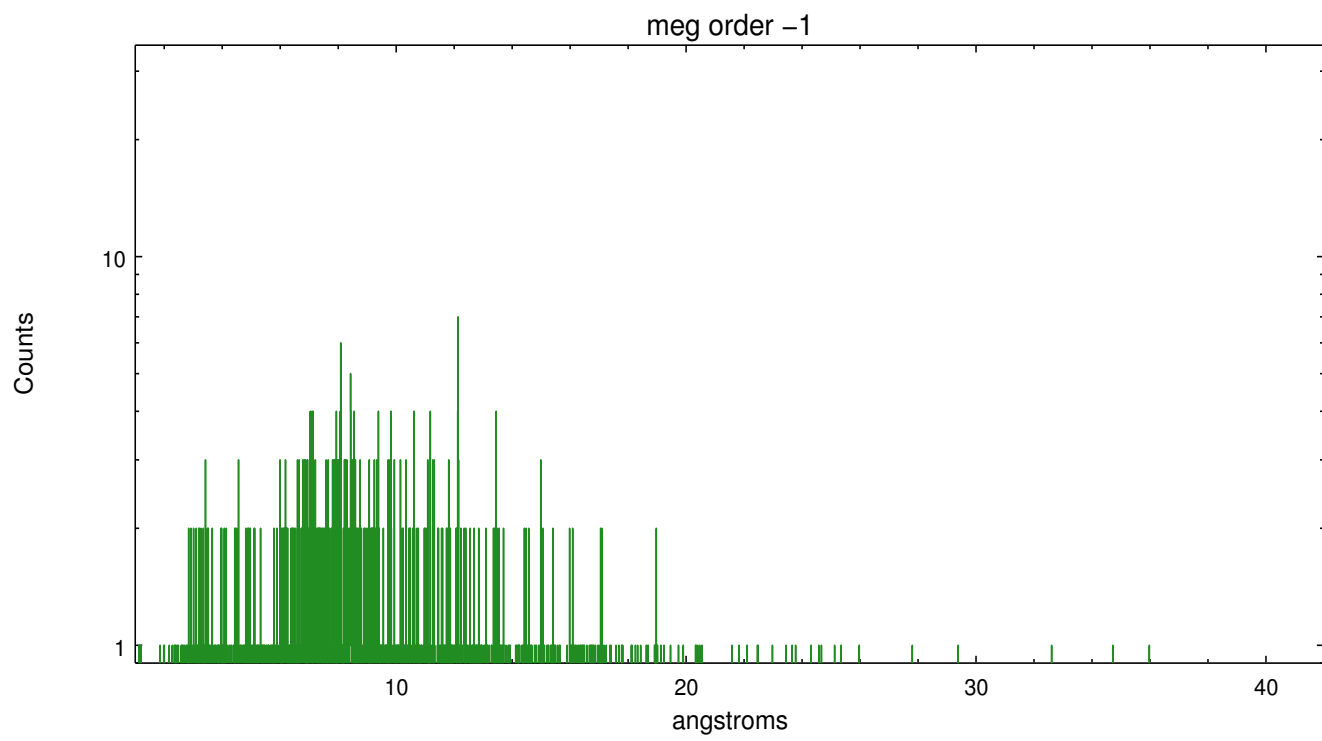
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	501	344	1739	3592	1958	302	377





# 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	39.721548119426

## A.2 Comments

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

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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.