

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.2

Observation 4584 - L2 Version 001  
Chandra X-Ray Center

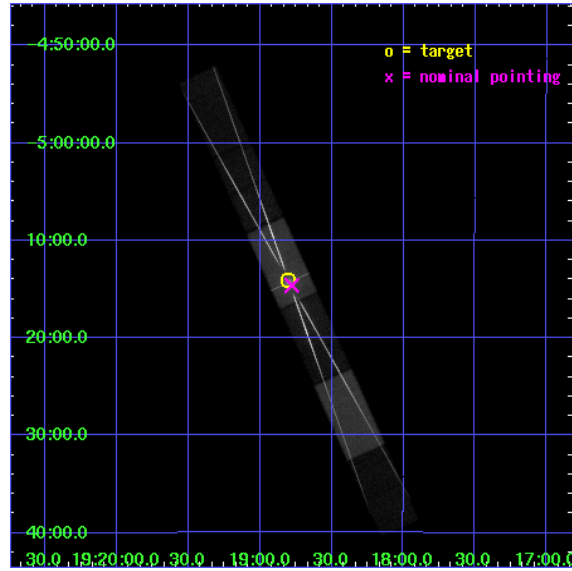
L2 Processing Date : Apr 26 2006

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# 1 Front

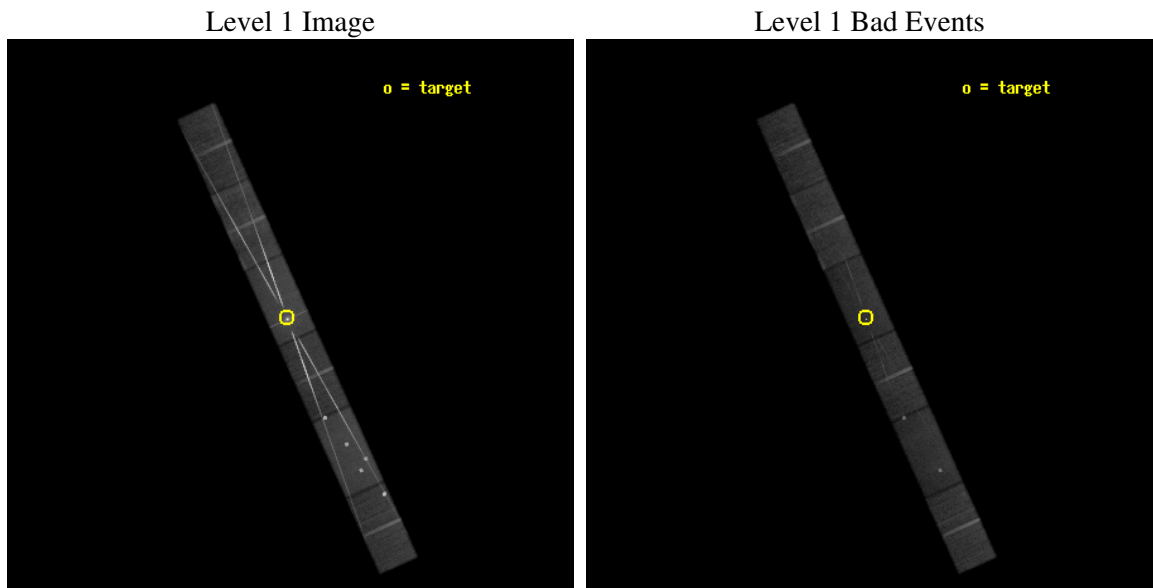
seq_num	400366
obs_id	4584
title	HETGS Spectroscopy of the Ultracompact X-ray Dipper 4U 1916-05
observer	Prof. Deepto Chakrabarty
object	4U 1916-05
dtcycle	0
cycle	P
ra_targ	289.7
dec_targ	-5.235722
ra_nom	289.69450849448
dec_nom	-5.2436700560716
roll_nom	245.62442099062
revision	2
ontime	47174.999669194
livetime	46062.985019086
ontime4	47174.999669194
ontime5	47174.999669194
ontime6	47173.258629173
ontime7	47174.999669194
ontime8	47174.999669194
ontime9	47174.999669194
l2events	905912



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 4

Chip 5

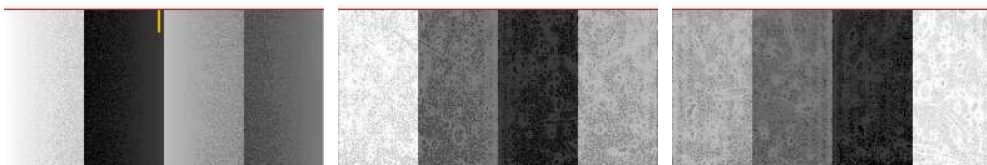
Chip 6



Chip 7

Chip 8

Chip 9



### 2.1.3 Parameters

obi_num	2
ascdsver	7.6.7.2
caldsver	3.2.1
date	2006-04-26T18:06:30
revision	2

sched_exp_time	47000.000000
ontime	47545.639534235
ontime4	47545.639534235
ontime5	47545.639534235
ontime6	47543.898494214
ontime7	47545.639534235
ontime8	47545.639534235
ontime9	47545.639534235
l1events	2026835

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	233631	353264	416441	501179	331683	190637
rejected events	177673	147143	162358	150231	182062	151511
rejected %	76%	41%	38%	29%	54%	79%

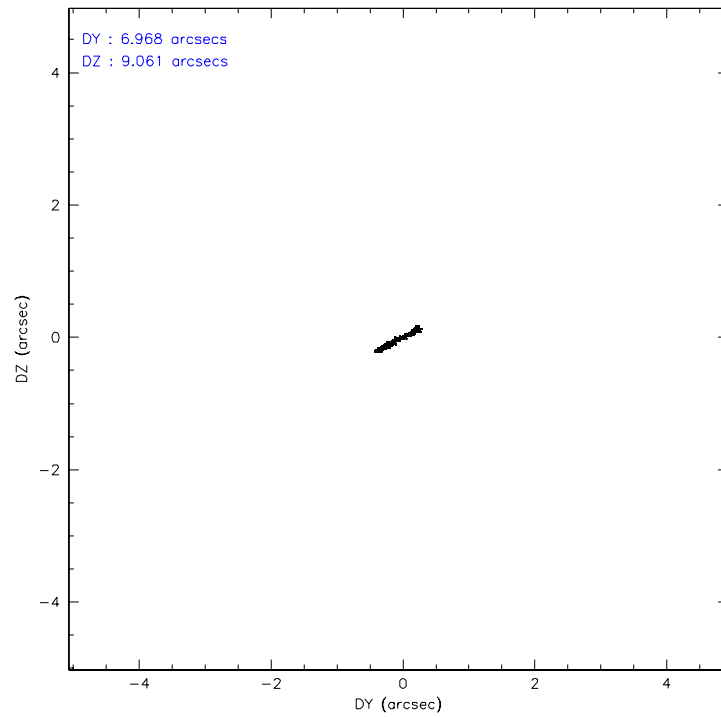
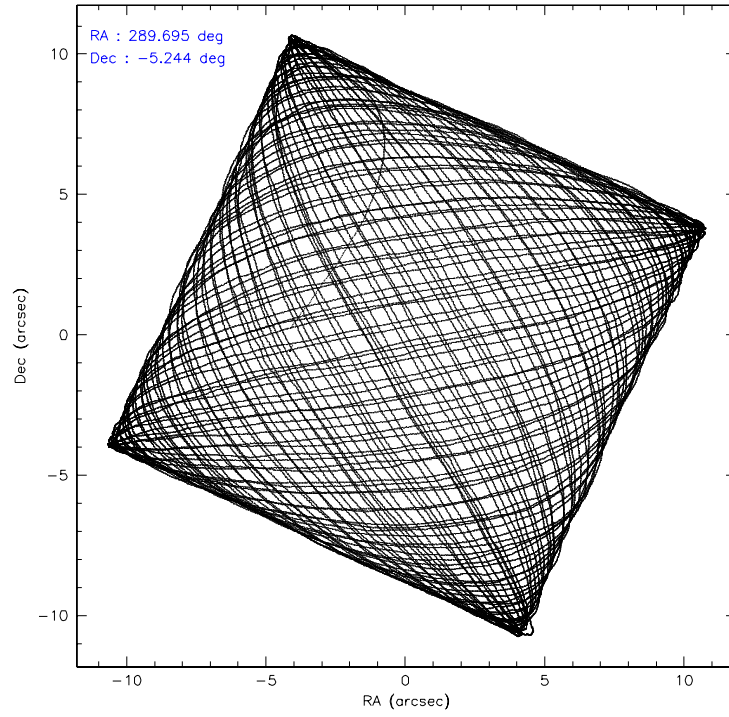
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	41362	58575	186656	57190	97492	22736
	17%	16%	44%	11%	29%	11%
grade 1 events	198	4210	1098	864	435	108
	0%	1%	0%	0%	0%	0%
grade 2 events	5567	52885	32125	90953	20753	5958
	2%	14%	7%	18%	6%	3%
grade 3 events	2921	12217	11428	32993	8865	3104
	1%	3%	2%	6%	2%	1%
grade 4 events	2721	10208	11458	32344	8363	3085
	1%	2%	2%	6%	2%	1%
grade 5 events	6963	15234	8388	21688	9982	7764
	2%	4%	2%	4%	3%	4%
grade 6 events	3785	73428	13345	139366	15103	4508
	1%	20%	3%	27%	4%	2%
grade 7 events	170114	126507	151943	125781	170690	143374
	72%	35%	36%	25%	51%	75%

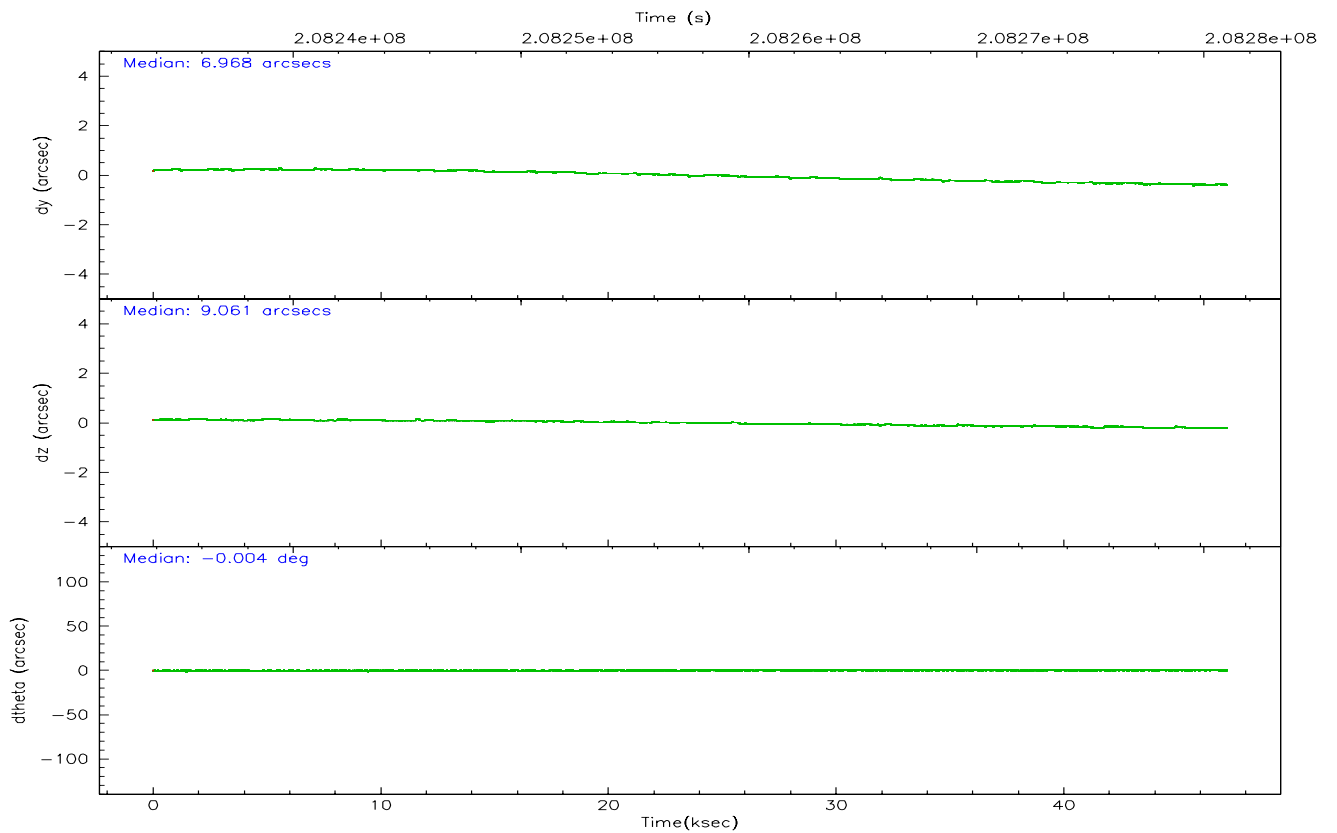
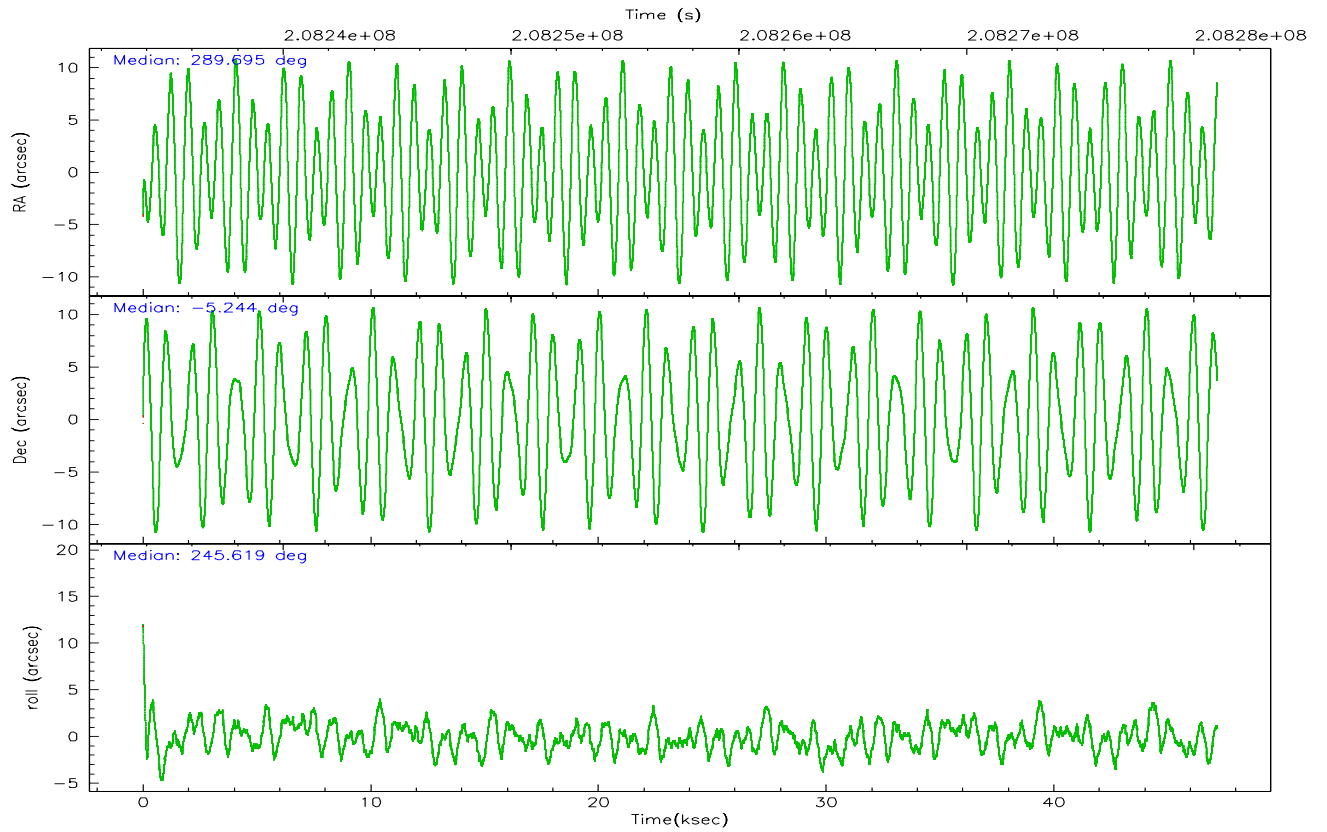


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	On-chip summing requested	N	N
Observation mode	POINTING	POINTING	Subarray requested	CUSTOM	1/2
Pointing RA	289.691455	289.6945084944774	Subarray start row	1	1
Pointing Dec	-5.216635	-5.243670056071648	Subarray row count	512	512
Pointing Roll	245.467513	245.6244209906221	Alternating exposures requested	N	N
SIM focus pos (mm)	-0.684267	-0.6828225247311905	Primary exposure time	0.000000	1.7
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-184.032523	-184.0277655517795			
SIM translation stage offset (mm)	-6.1	-6.104757031228274			
Observation start time	208234016.184000	208232842.6063			
Observation start date	2004-08-07T02:45:52	2004-08-07T02:27:22			
Observation end time	208281016.184000	208282051.83349			
Observation end date	2004-08-07T15:49:12	2004-08-07T16:07:31			
Read mode	TIMED	TIMED			

## 2.3 Aspect



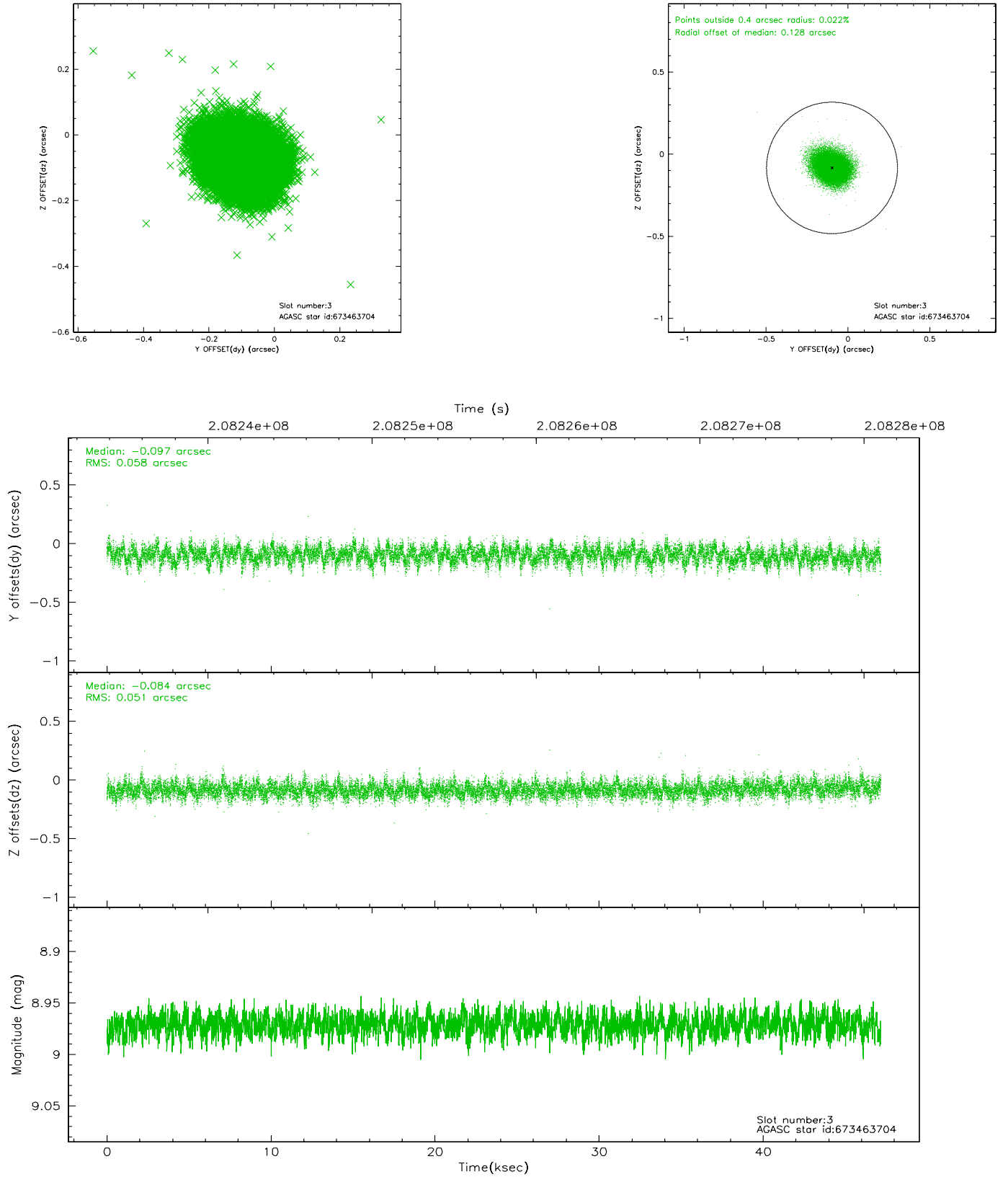


# Slot Statistics

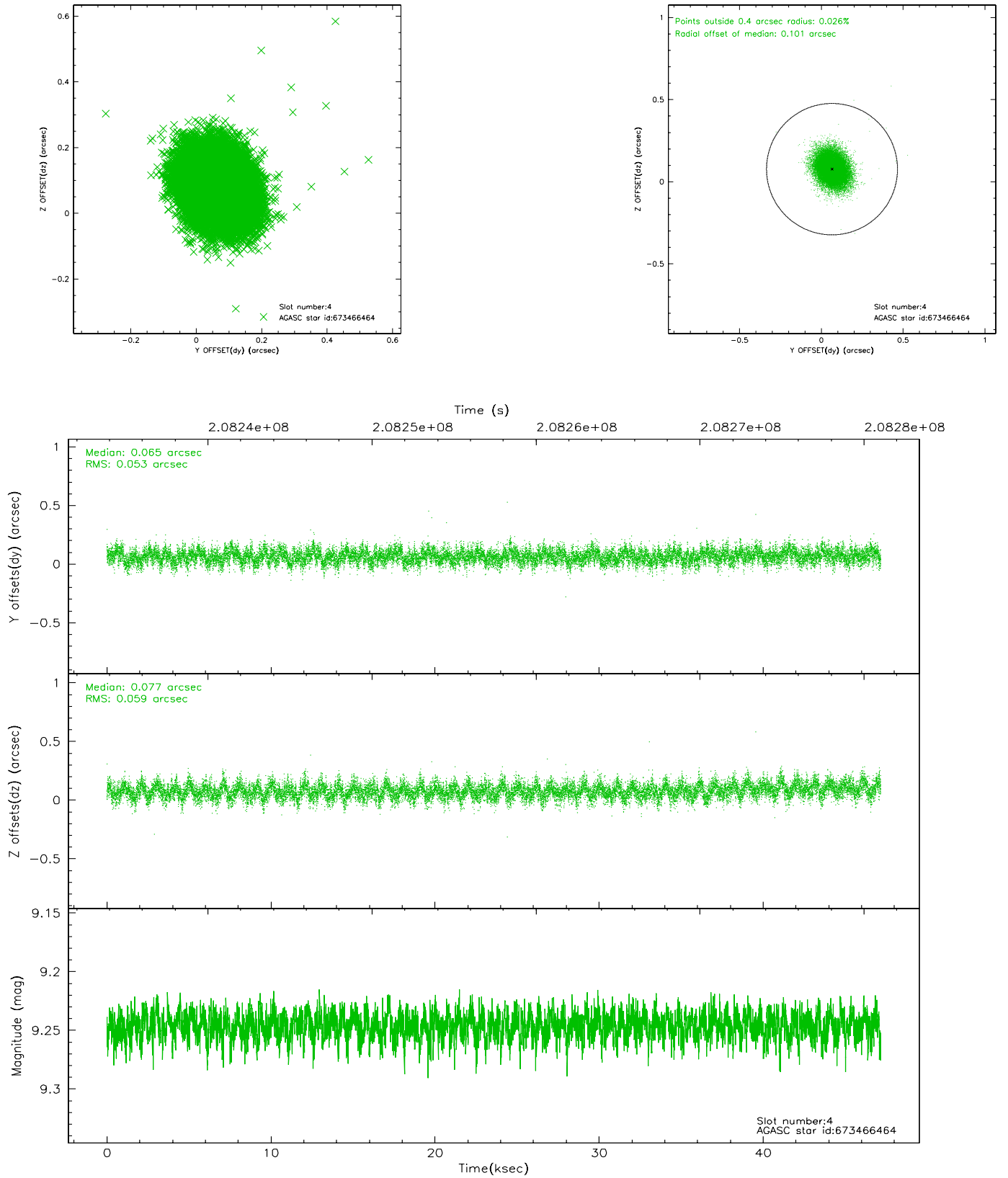
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	11505	-0.073	-0.039	0.010	0.026	0.000000	0.000000	-759.32	-1856.15
1	FID	ACIS-S-4	7.19	11506	0.072	0.045	0.008	0.036	0.000000	0.000000	2154.10	52.44
2	FID	ACIS-S-5	7.22	11507	-0.031	0.003	0.009	0.022	0.000000	0.000000	-1812.15	46.02
3	GUIDE	673463704	8.97	22995	-0.097	-0.084	0.082	0.134	289.894494	-4.869892	-1437.42	144.42
4	GUIDE	673466464	9.25	23004	0.065	0.077	0.083	0.137	289.850458	-5.613937	1065.08	1112.64
5	GUIDE	673466472	9.61	22860	0.021	-0.022	0.137	0.216	288.954848	-5.311739	1410.08	-2258.87
6	GUIDE	673461944	9.78	22885	0.102	-0.047	0.130	0.214	288.963170	-5.480160	1949.03	-1979.50
7	GUIDE	673455744	9.60	22993	-0.094	0.072	0.104	0.169	289.673010	-4.488976	-2355.02	-1147.79

## 2.4 Star Slots

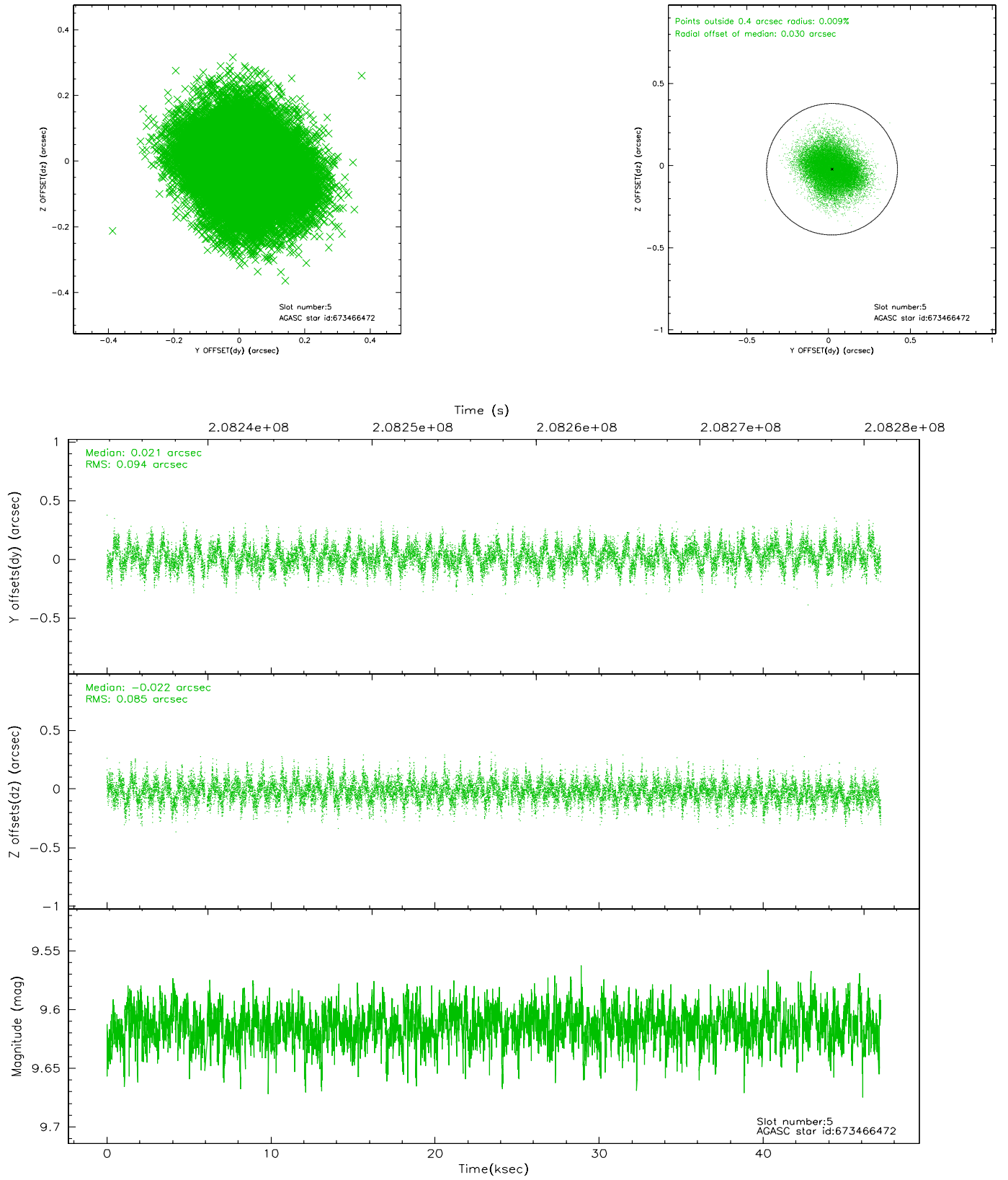
### 2.4.1 Slot 3



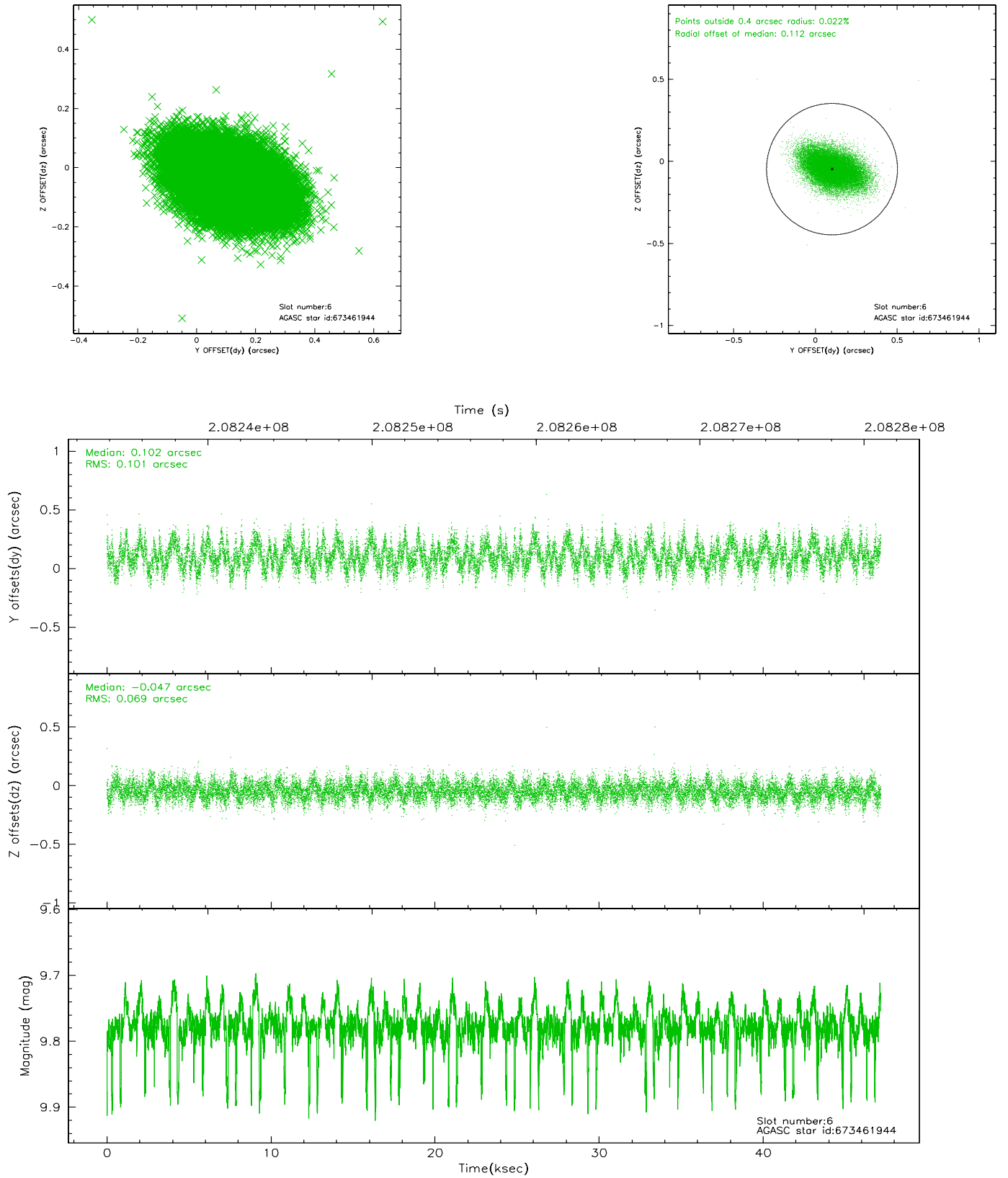
## 2.4.2 Slot 4



### 2.4.3 Slot 5

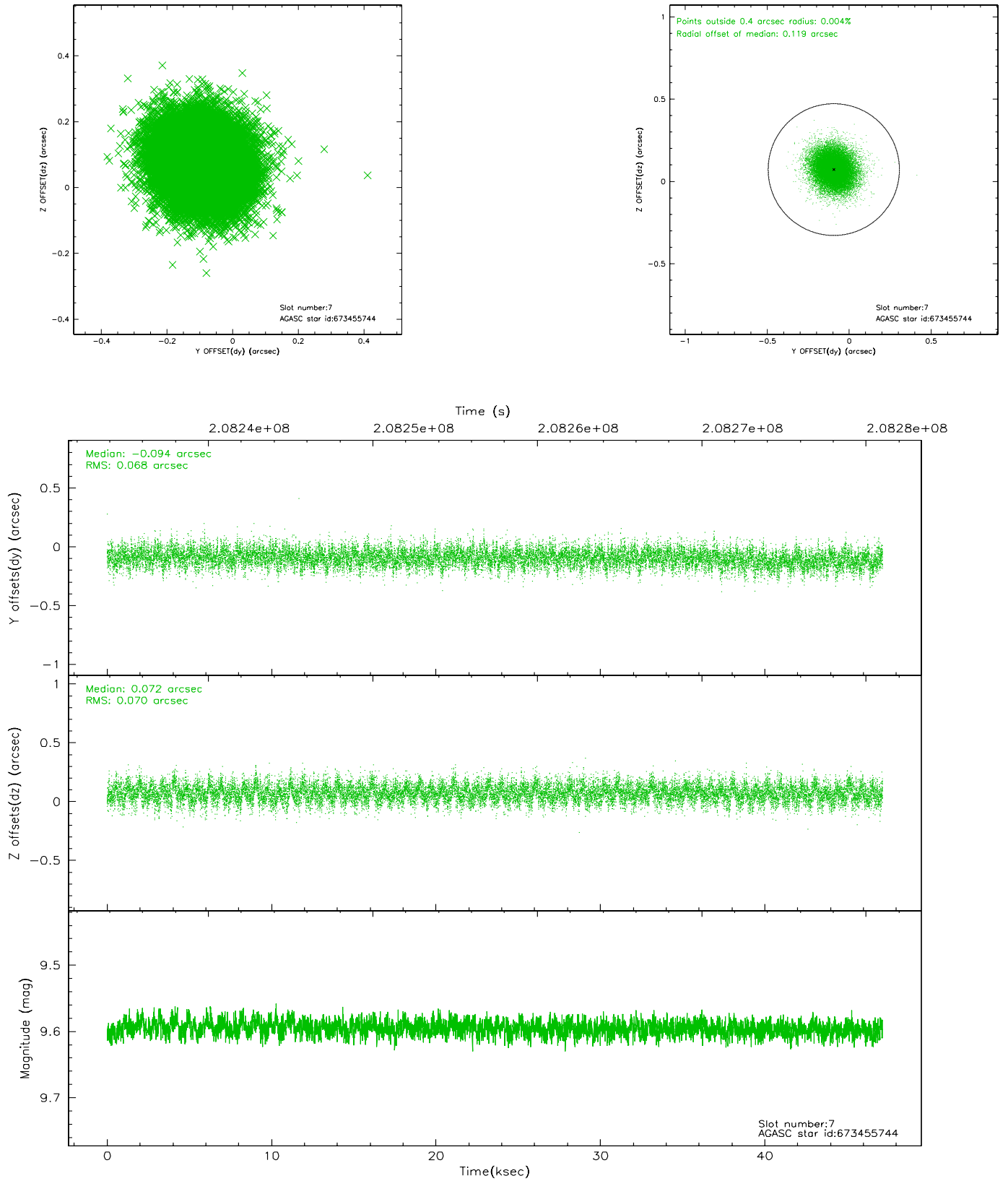


### 2.4.4 Slot 6



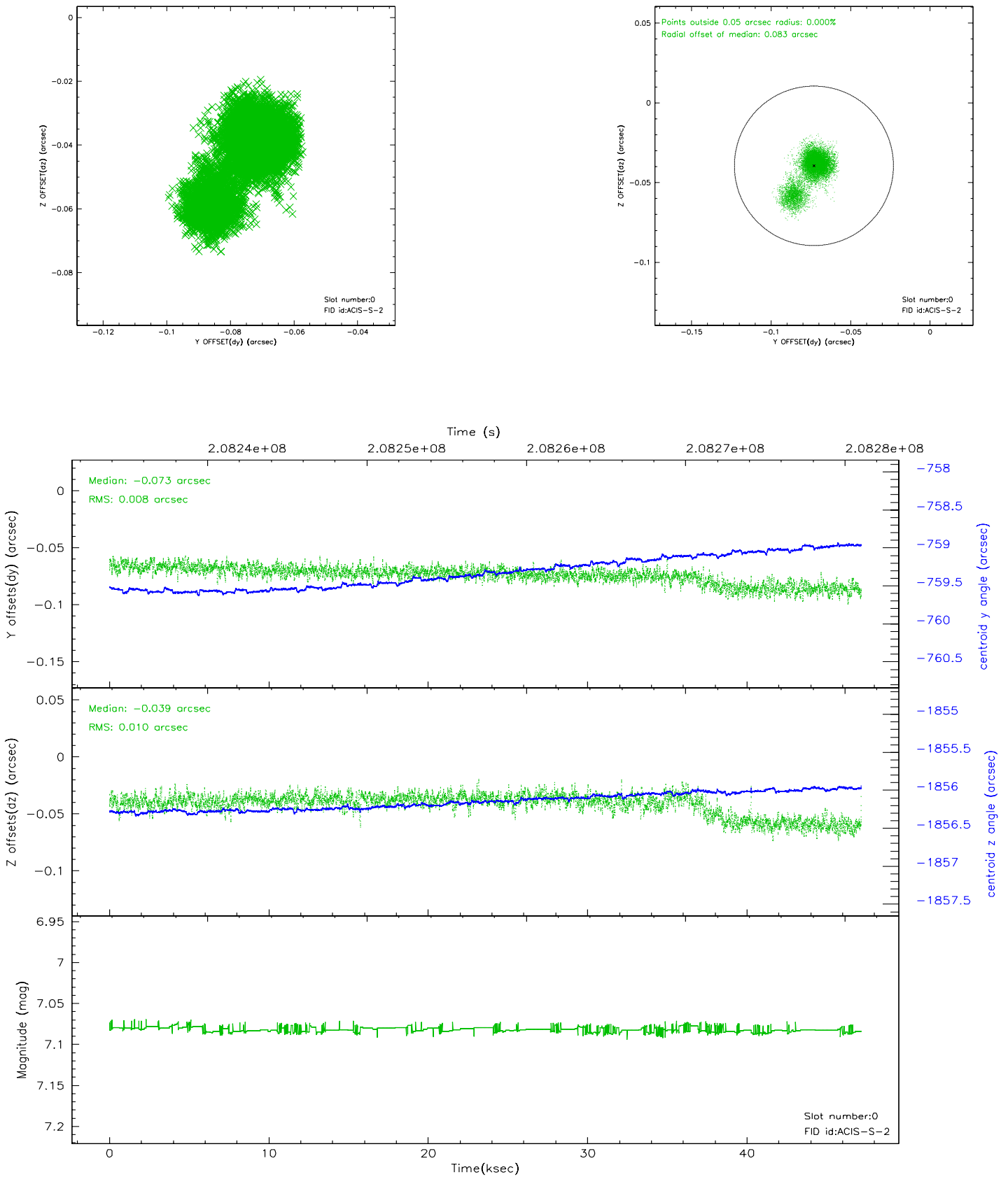


## 2.4.5 Slot 7

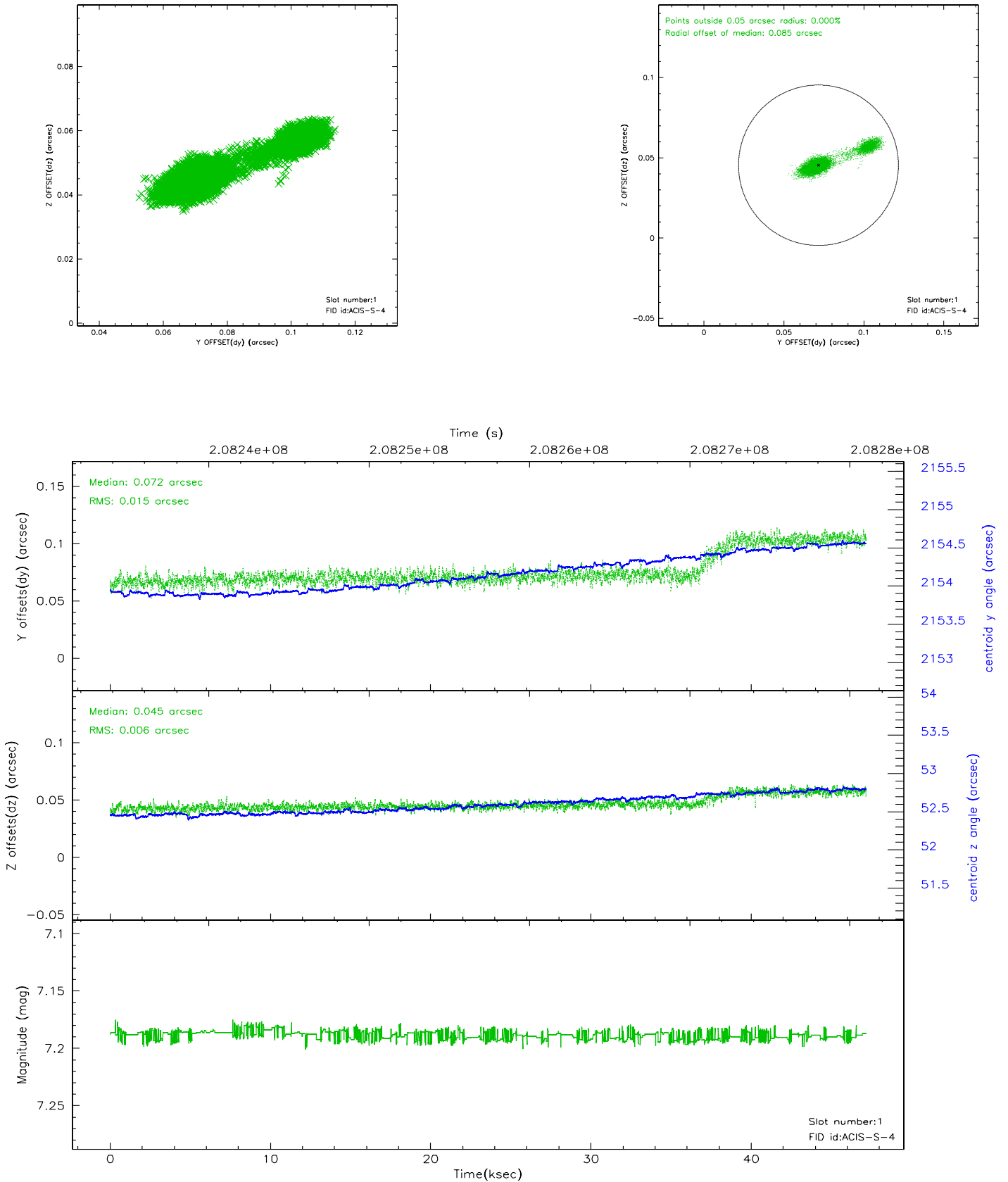


## 2.5 FID Slots

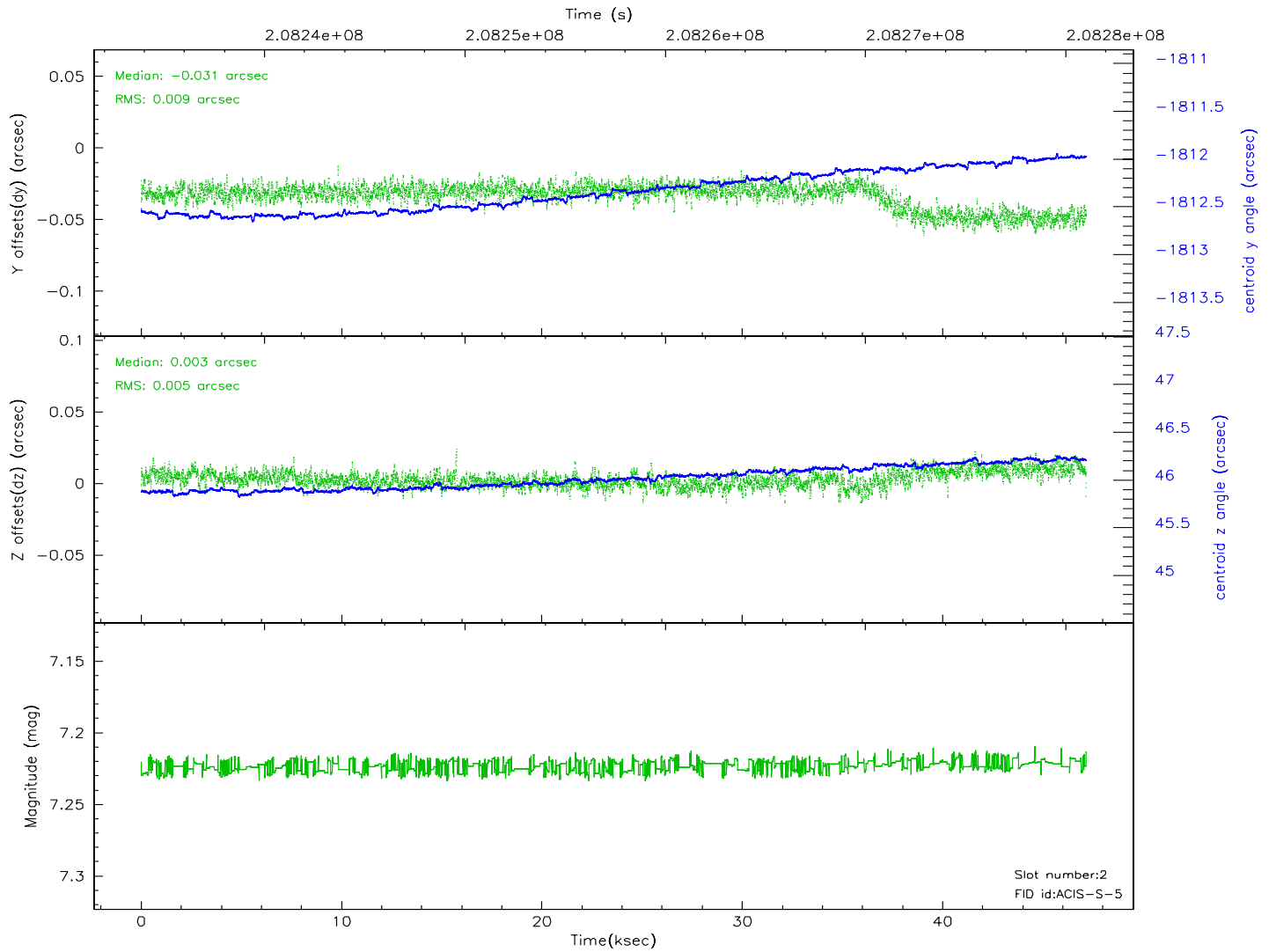
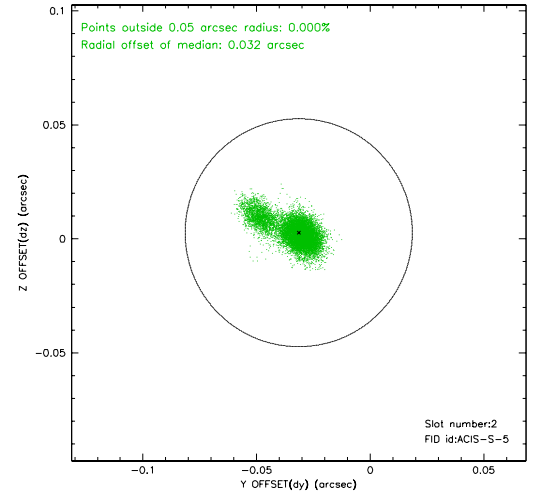
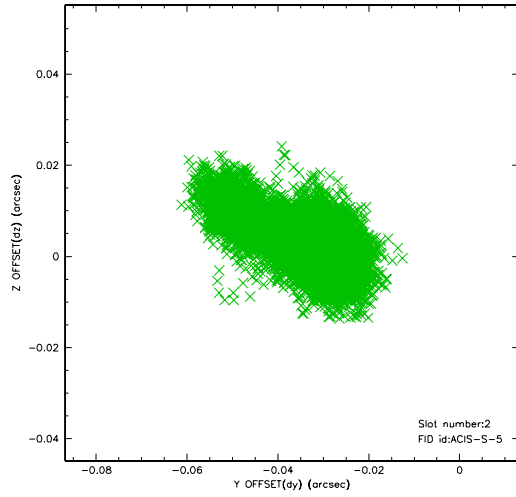
### 2.5.1 Slot 0



## 2.5.2 Slot 1

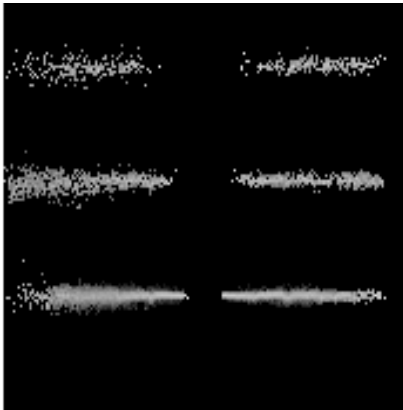


### 2.5.3 Slot 2

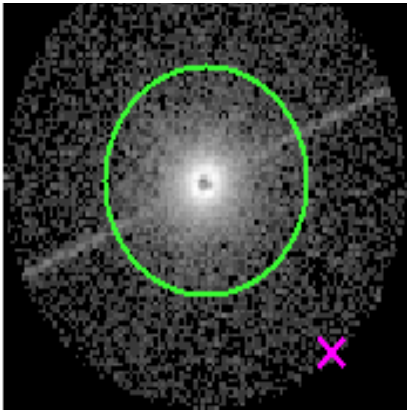


# 3 Gratings

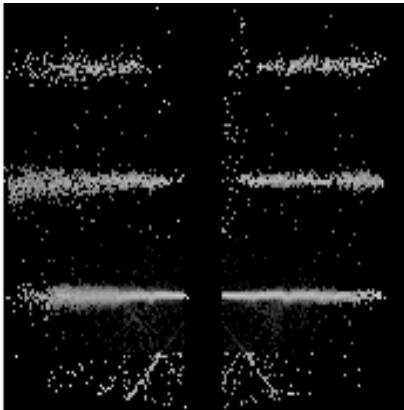
## 3.1 HEG Arm



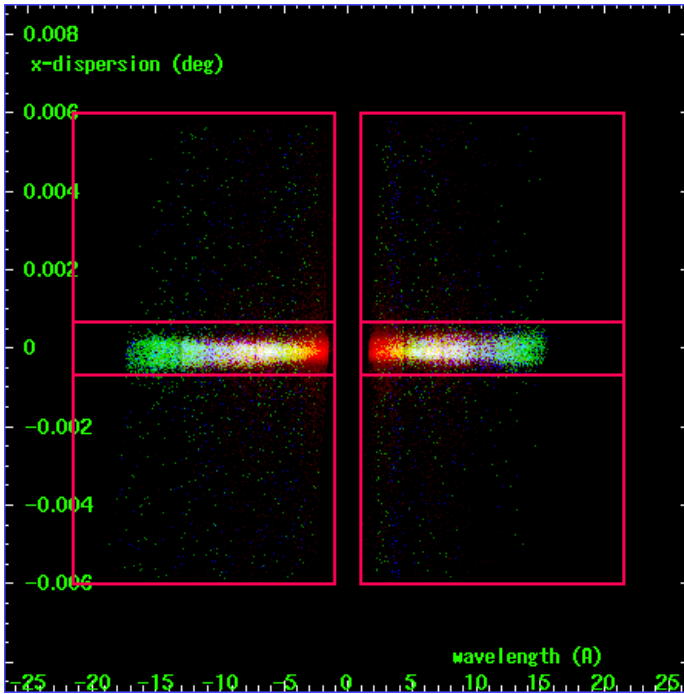
HEG Order Sort 123



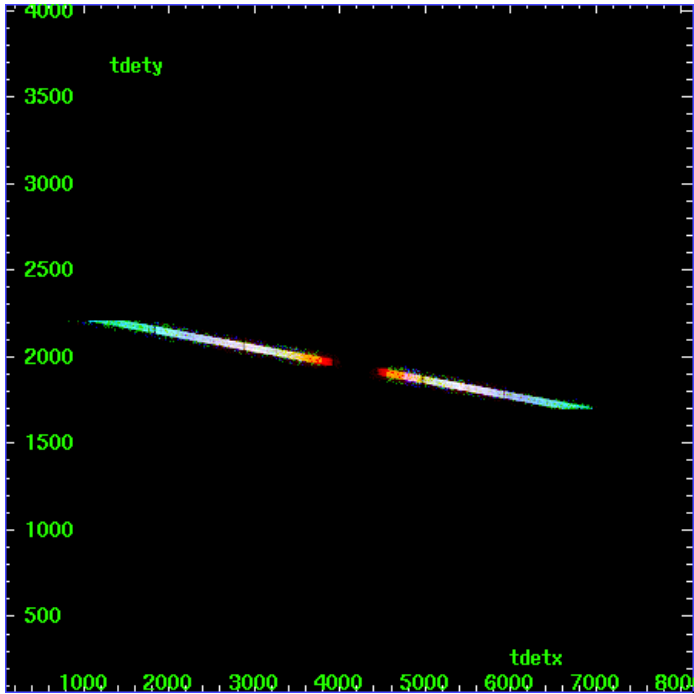
HEG Zero Order



HEG Order Sort ALL

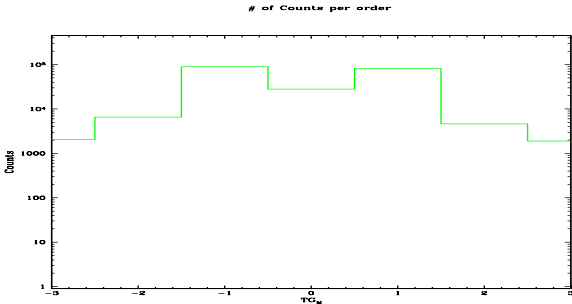


Spot Image HEG

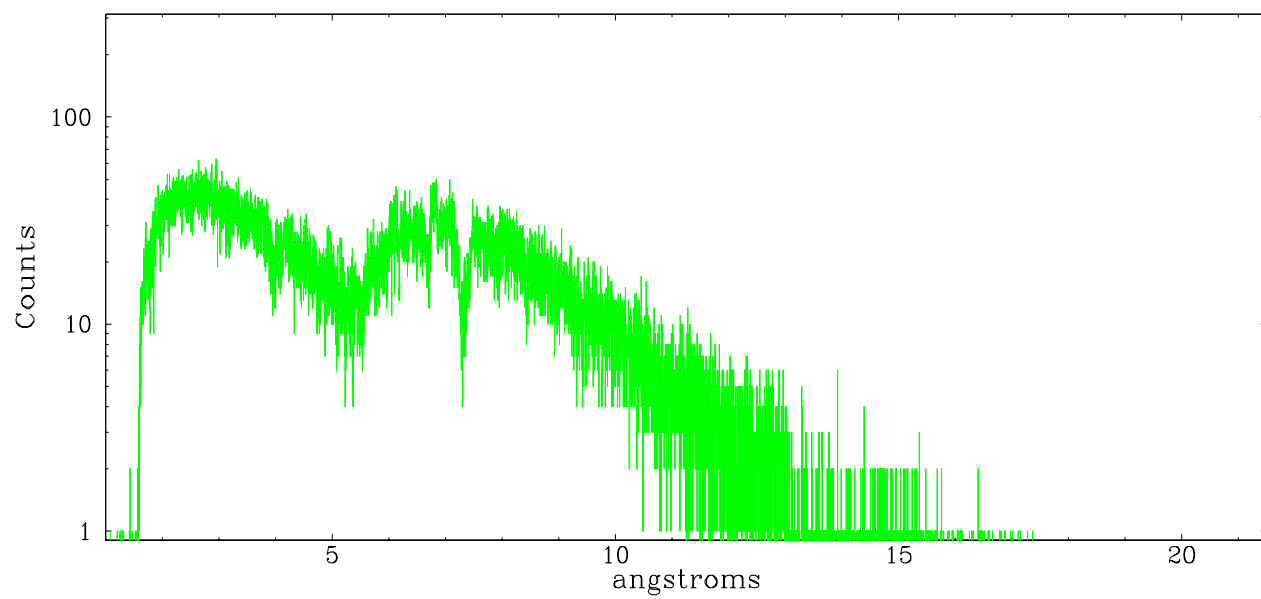


Full Detector HEG

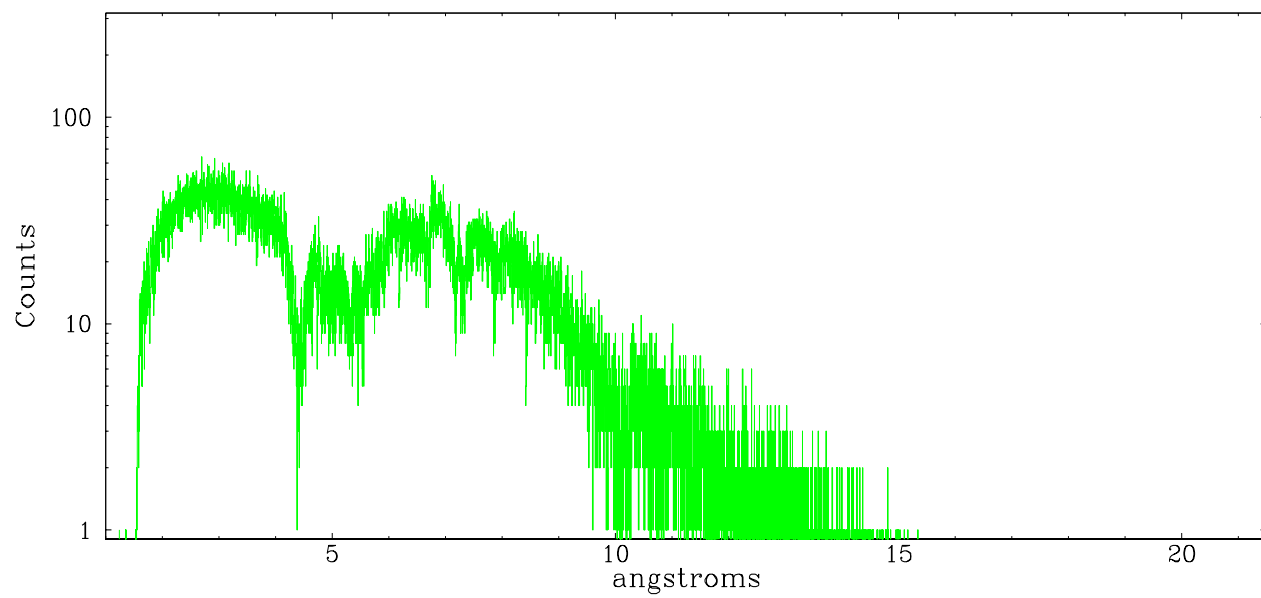
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2055	6559	89742	27895	82317	4650	1899



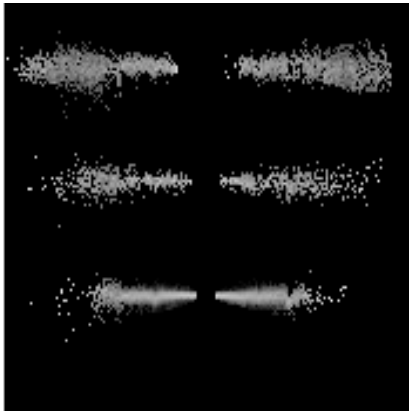
heg order -1



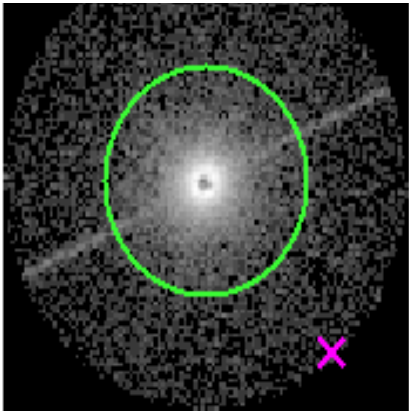
heg order +1



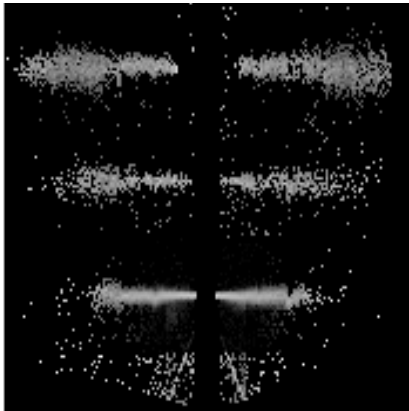
3.2 MEG Arm



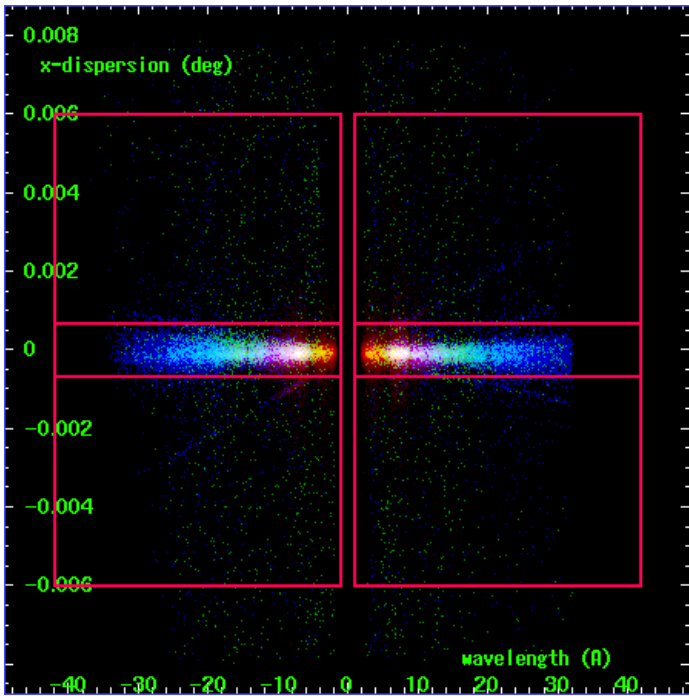
MEG Order Sort 123



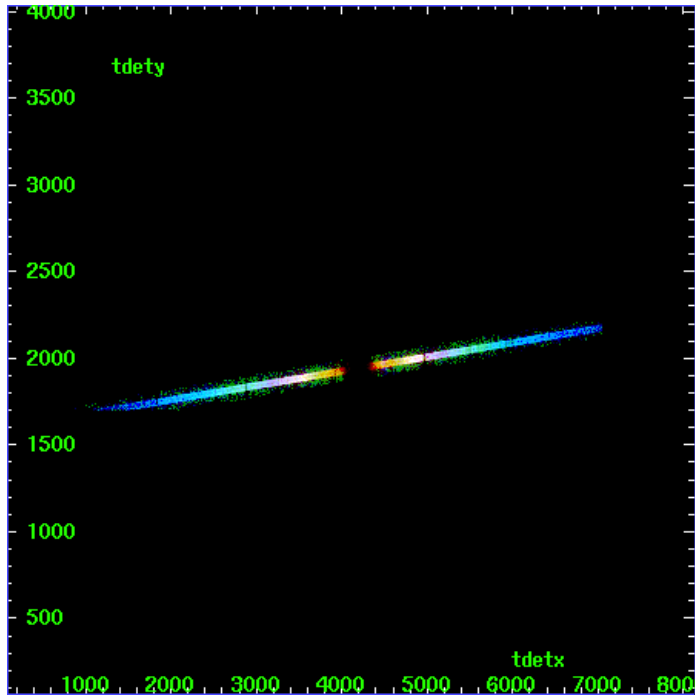
MEG Zero Order



MEG Order Sort ALL

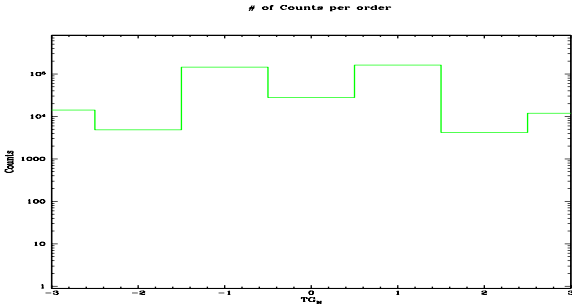


Spot Image MEG

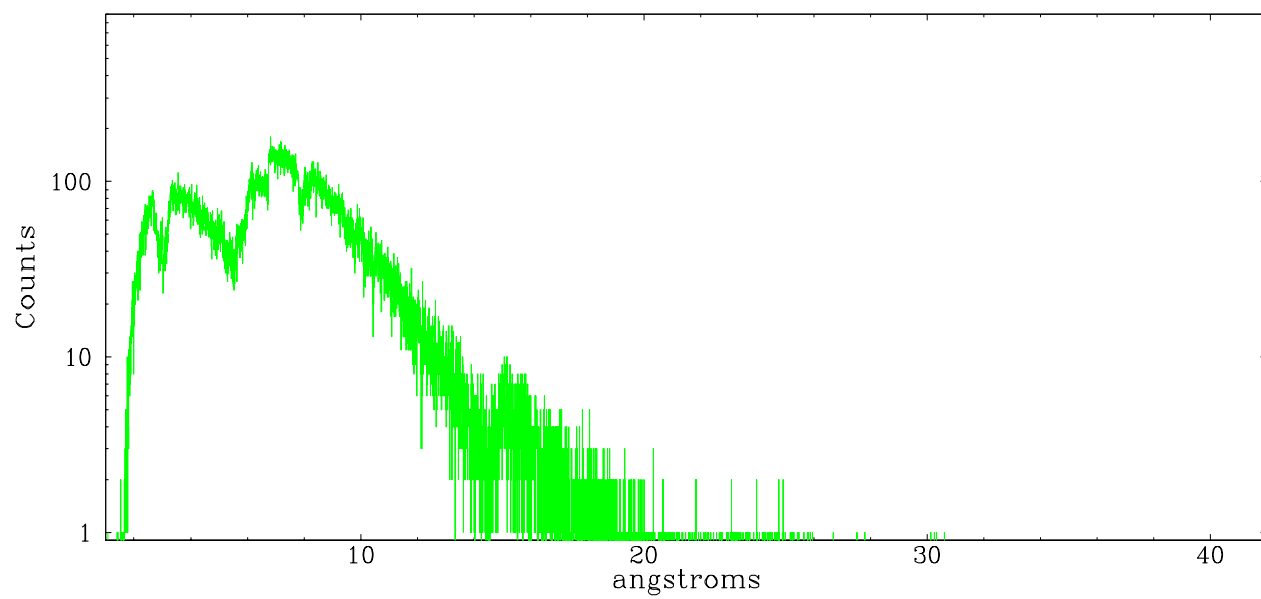


Full Detector MEG

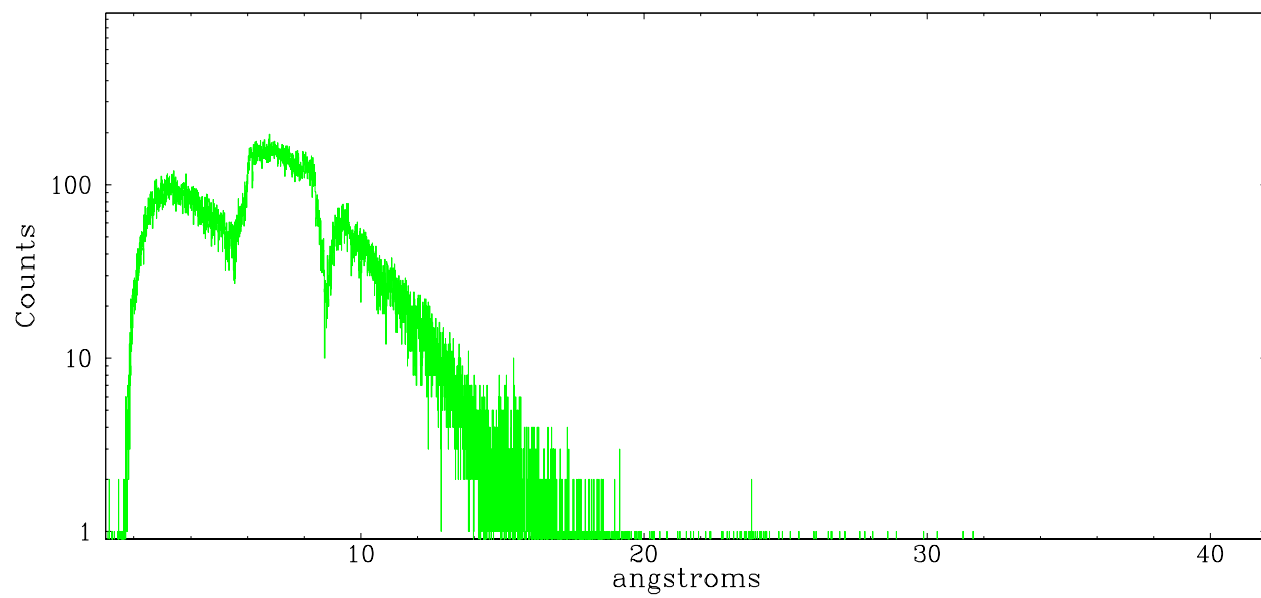
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	14165	4841	144504	27895	162489	4189	11852



meg order -1



meg order +1





## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2006.04.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	47.174

### A.2 Comments