

# V&V Reference Report

## L2 ASCDS Version : 7.6.9

Observation 4413 - L2 Version 001  
Chandra X-Ray Center

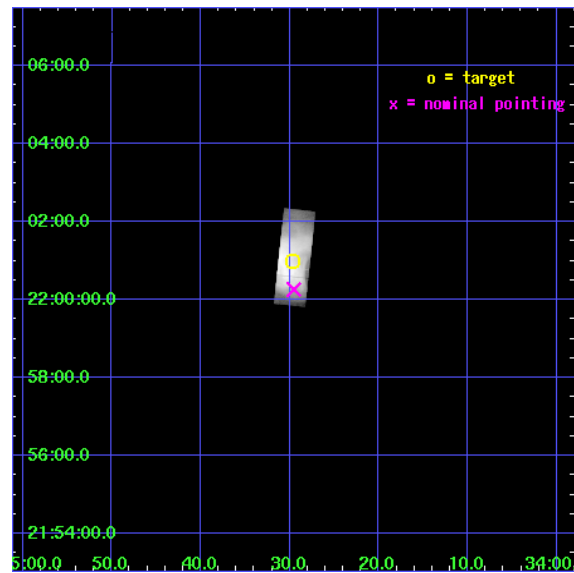
L2 Processing Date : Dec 8 2006

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# 1 Front

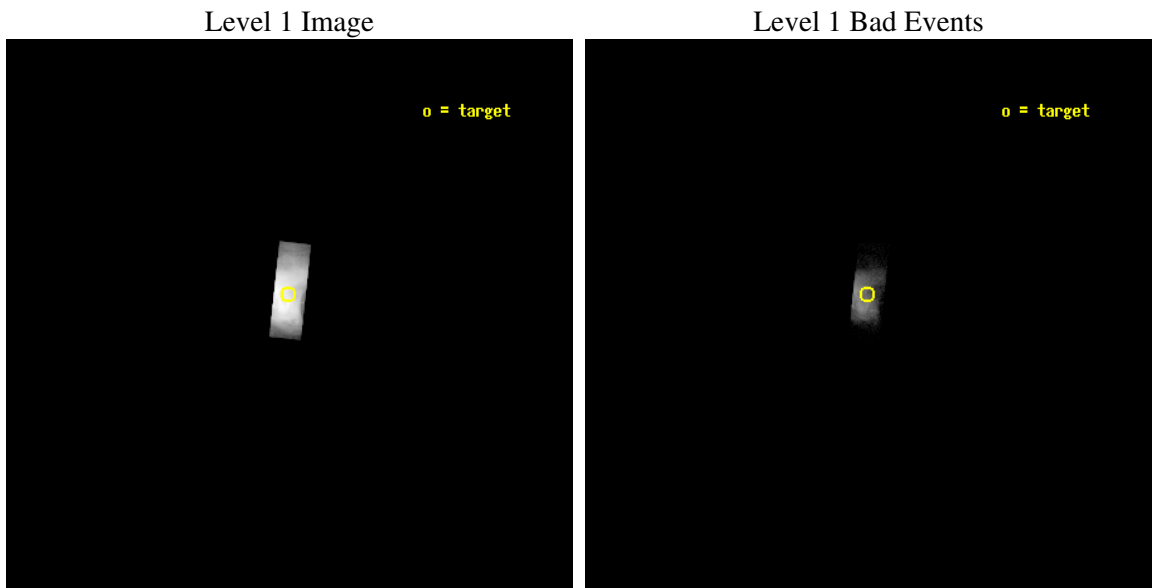
seq_num	100037
obs_id	4413
title	OBSERVATION OF SATURN AND TITAN PASSING IN FRONT OF THE CRAB NEBULA
observer	PROFESSOR HIROSHI TSUNEMI
object	TITAN
dtcycle	0
cycle	P
ra_targ	83.62353
dec_targ	22.01685
ra_nom	83.62314503741
dec_nom	22.004403844913
roll_nom	276.15174816395
revision	2
ontime	10256.100407541
livetime	9021.90394752
ontime7	10256.100407541
l2events	2163610



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	1
ascdsver	7.6.9
caldbver	3.2.3
date	2006-10-18T20:41:07
revision	2

sched_exp_time	10399.000000
ontime	10257.355178833
ontime7	10257.355178833
l1events	2261307

### 2.1.3 Events

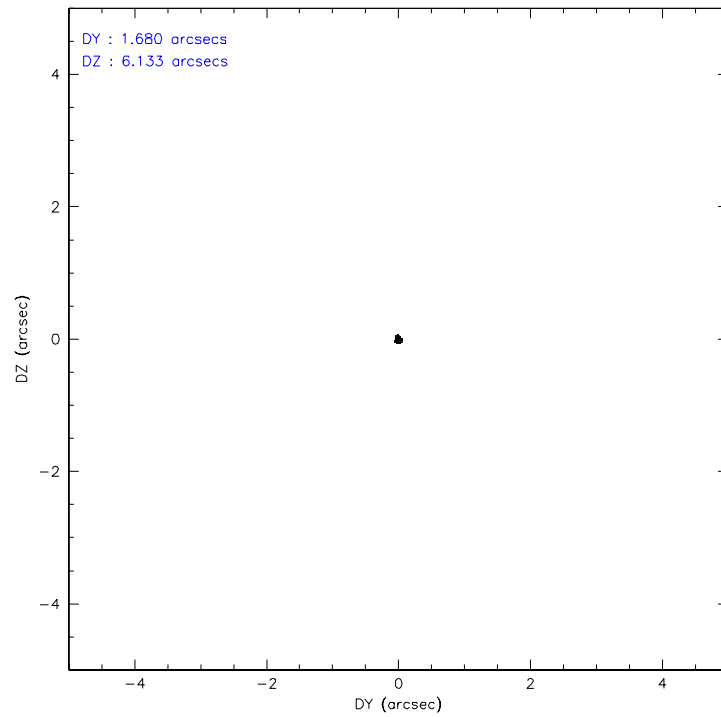
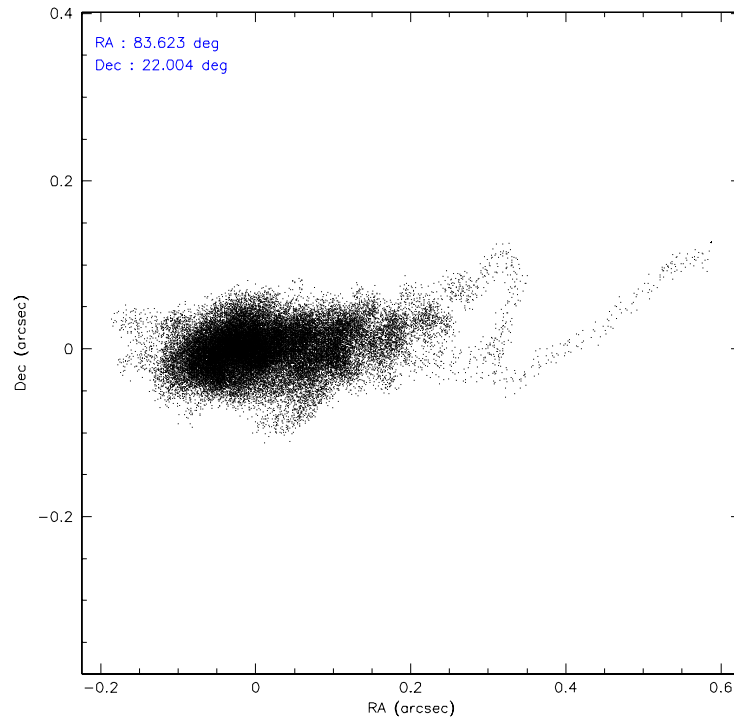
	<b>ccd 7</b>
level 1 events	2261307
rejected events	67774
rejected %	2%

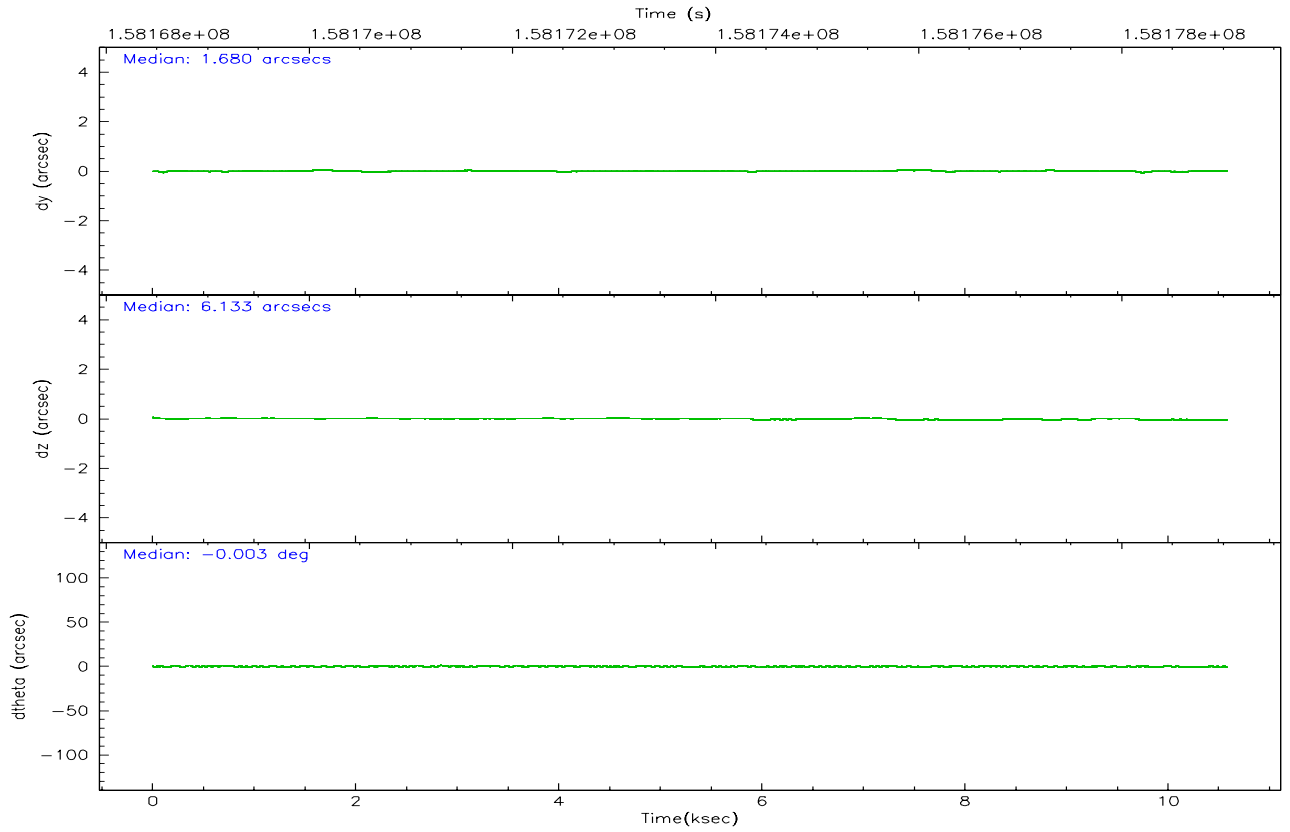
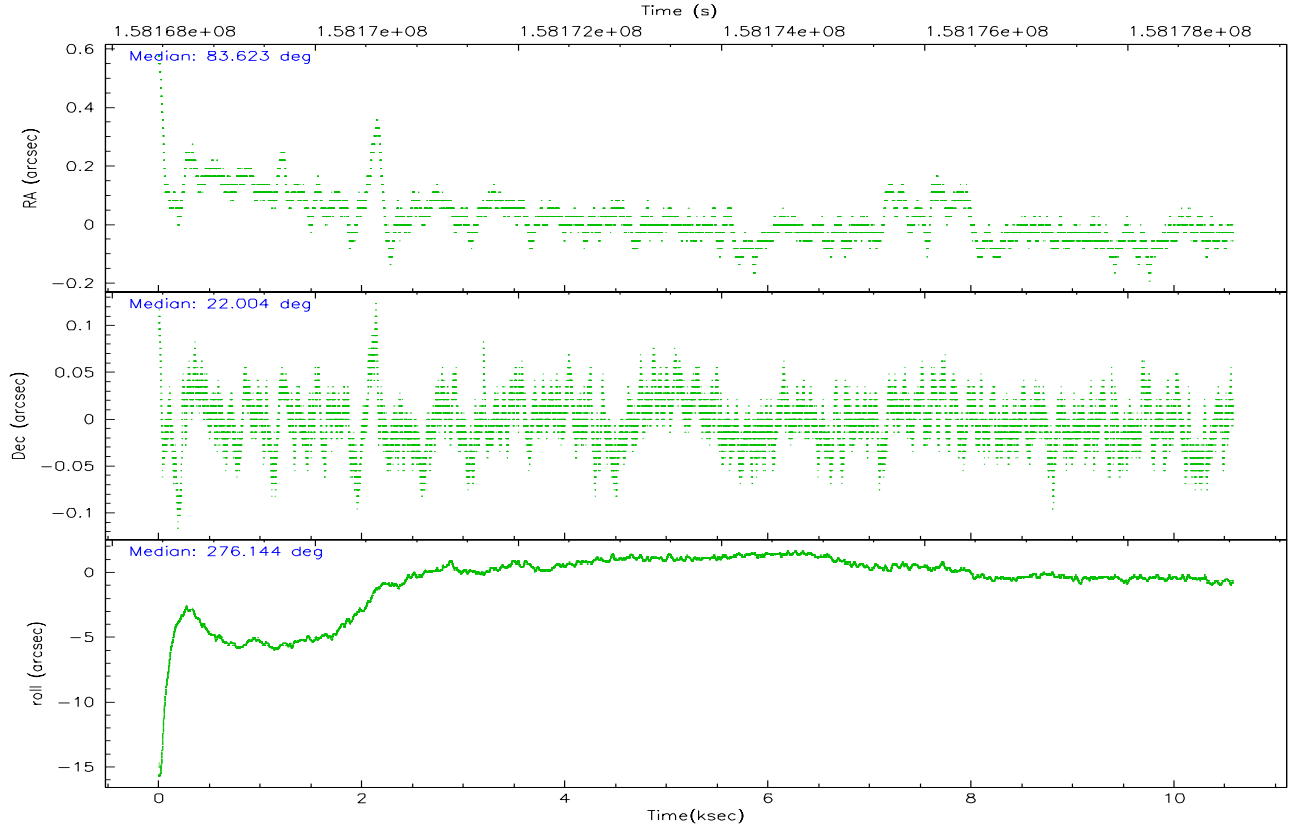
	<b>ccd 7</b>
grade 0 events	450057
	19%
grade 1 events	6946
	0%
grade 2 events	560234
	24%
grade 3 events	252339
	11%
grade 4 events	241878
	10%
grade 5 events	29499
	1%
grade 6 events	689237
	30%
grade 7 events	31117
	1%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-7	ACIS-7	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
Pointing RA	83.605482	83.6231450374099	Subarray requested	CUSTOM	CUSTOM
Pointing Dec	22.026145	22.0044038449129	Subarray start row	127	127
Pointing Roll	276.001740	276.1517481639498	Subarray row count	101	101
Window start time	158144464.184000	158144464.184000	Alternating exposures requested	N	N
Window stop time	158185864.184000	158185864.184000	Primary exposure time	0.000000	0.3
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-182.132523	-182.1344861297048			
SIM translation stage offset (mm)	-8	-7.998036453302973			
Observation start time	158168650.184000	158168273.95908			
Observation start date	2003-01-05T15:43:06	2003-01-05T15:37:53			
Observation end time	158179049.184000	158179565.35955			
Observation end date	2003-01-05T18:36:25	2003-01-05T18:46:05			
Read mode	TIMED	TIMED			

## 2.3 Aspect





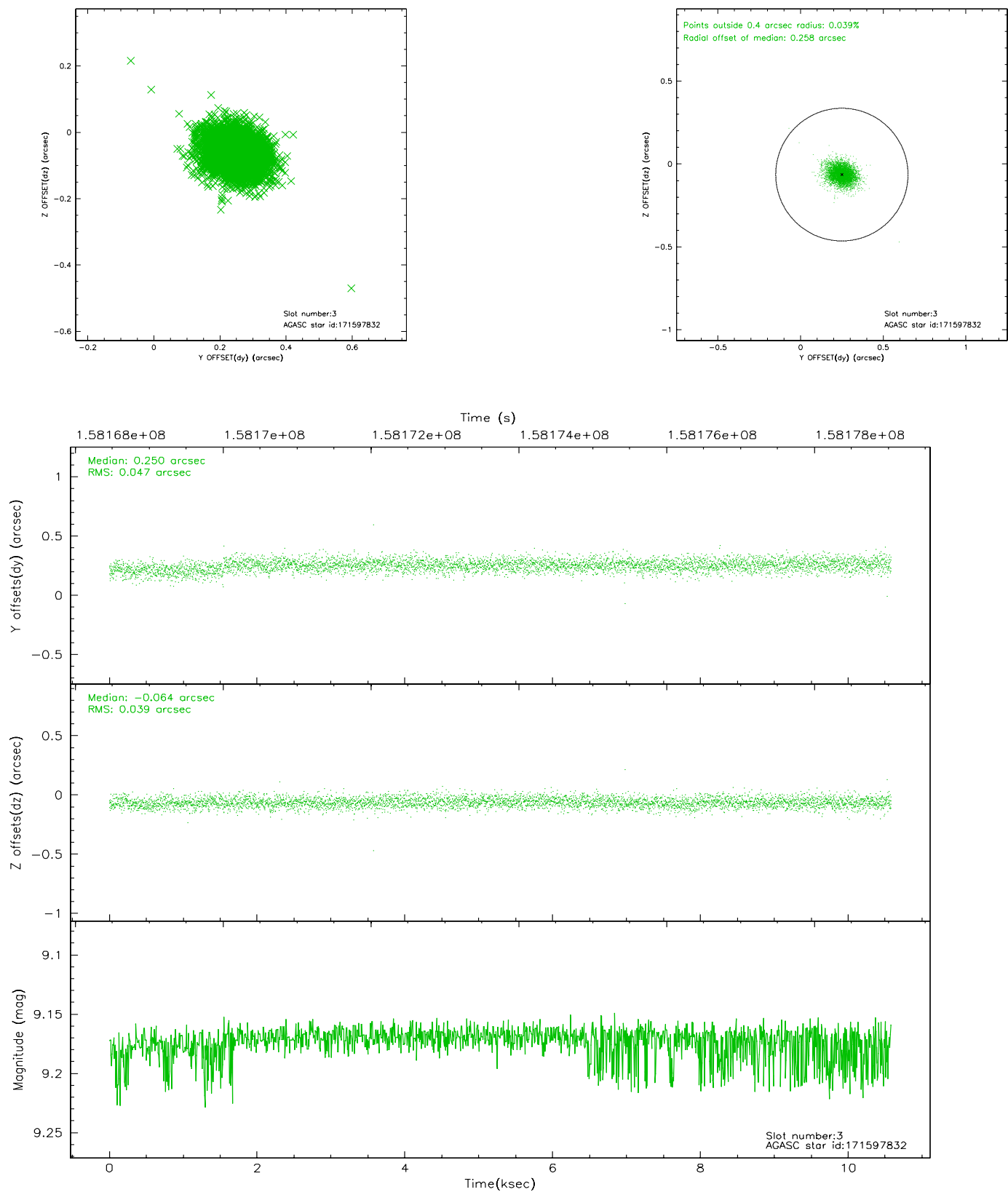
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	2581	-0.055	-0.085	0.006	0.011	0.000000	0.000000	-753.79	-1892.11
1	FID	ACIS-S-4	7.18	2581	0.056	0.049	0.004	0.008	0.000000	0.000000	2159.40	15.89
2	FID	ACIS-S-5	7.23	2581	-0.033	0.044	0.006	0.011	0.000000	0.000000	-1805.95	10.16
3	GUIDE	171597832	9.17	5162	0.250	-0.064	0.063	0.107	83.183230	21.366702	2211.84	-1655.57
4	GUIDE	171600224	9.67	5161	-0.041	-0.121	0.073	0.124	82.941815	21.636094	1160.55	-2355.17
5	GUIDE	171721904	9.22	5159	0.080	0.080	0.055	0.092	84.272676	22.116922	-96.92	2247.41
6	GUIDE	243941560	8.28	5160	-0.189	0.039	0.036	0.058	83.733264	22.568598	-1897.86	627.01
7	GUIDE	171586032	8.99	5162	-0.098	0.064	0.049	0.080	83.950197	22.083225	-85.77	1165.59

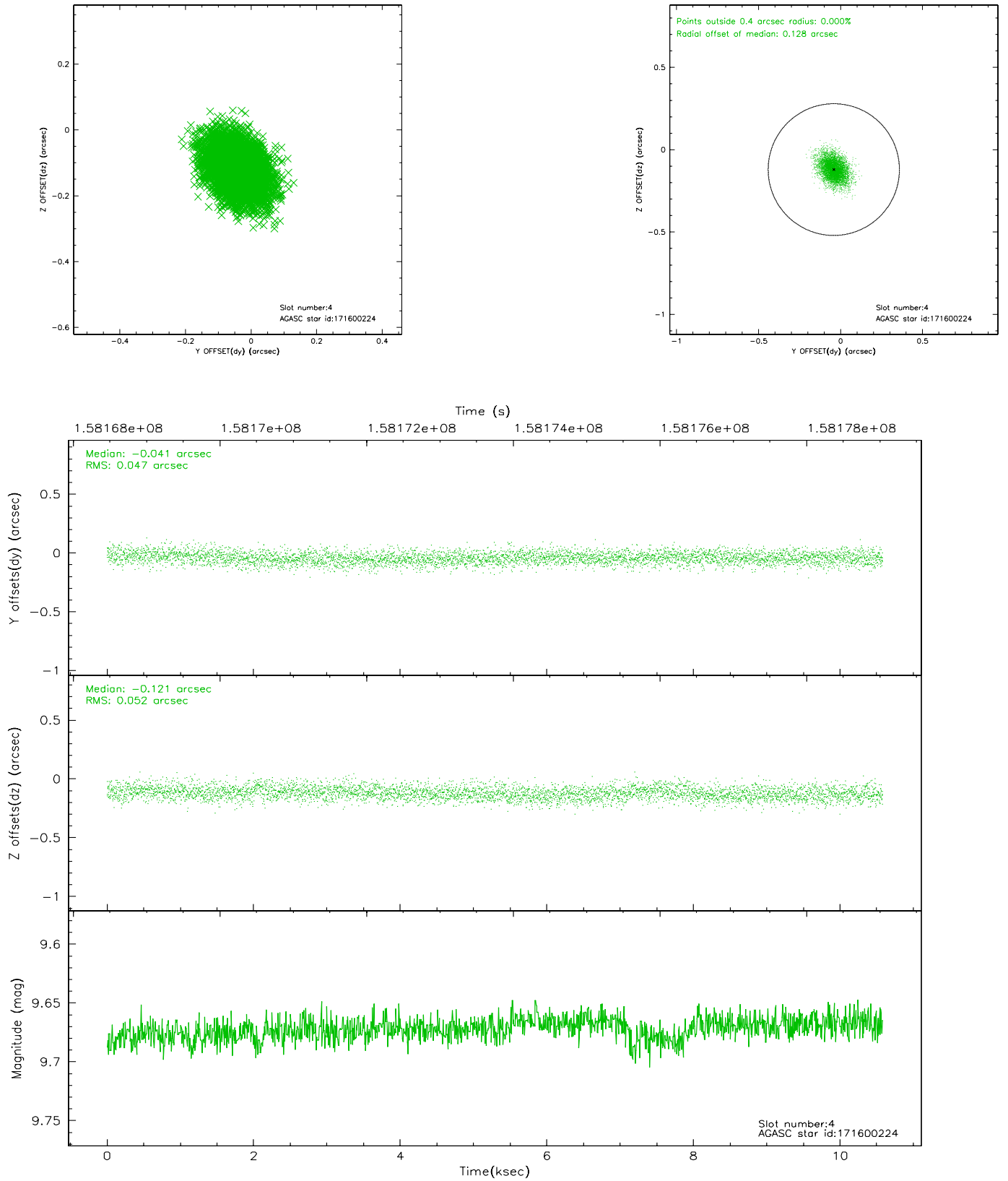


## 2.4 Star Slots

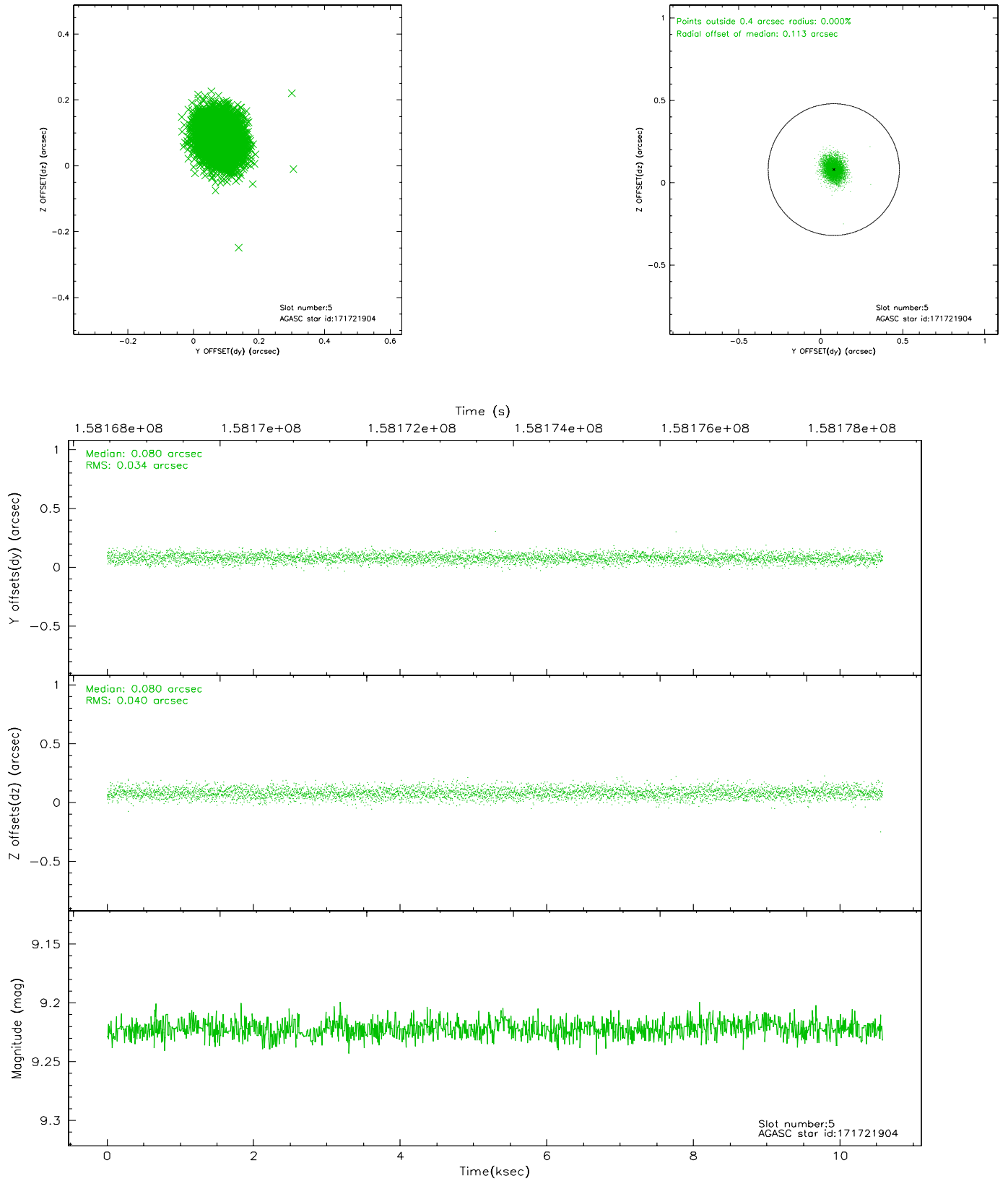
### 2.4.1 Slot 3



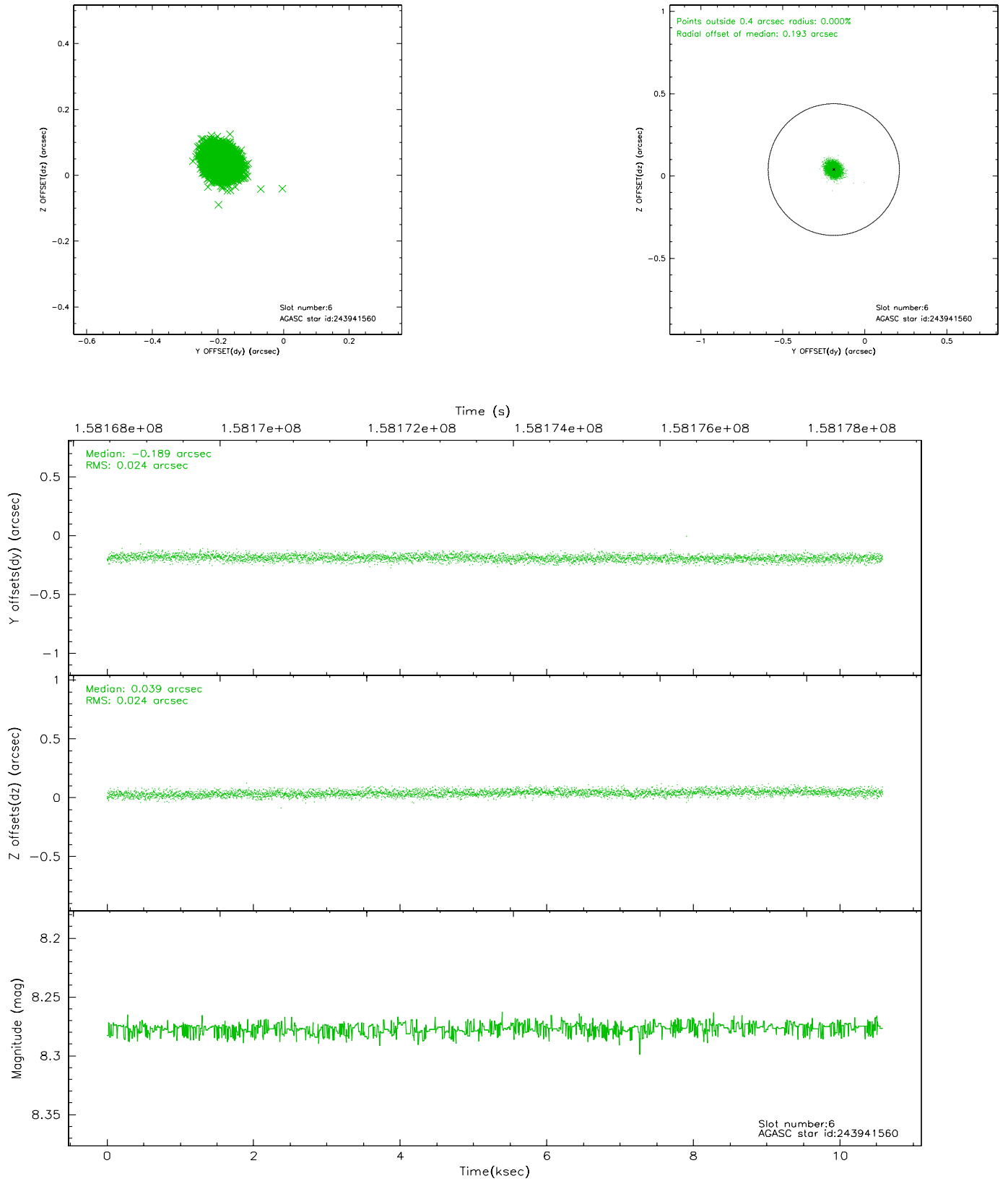
## 2.4.2 Slot 4



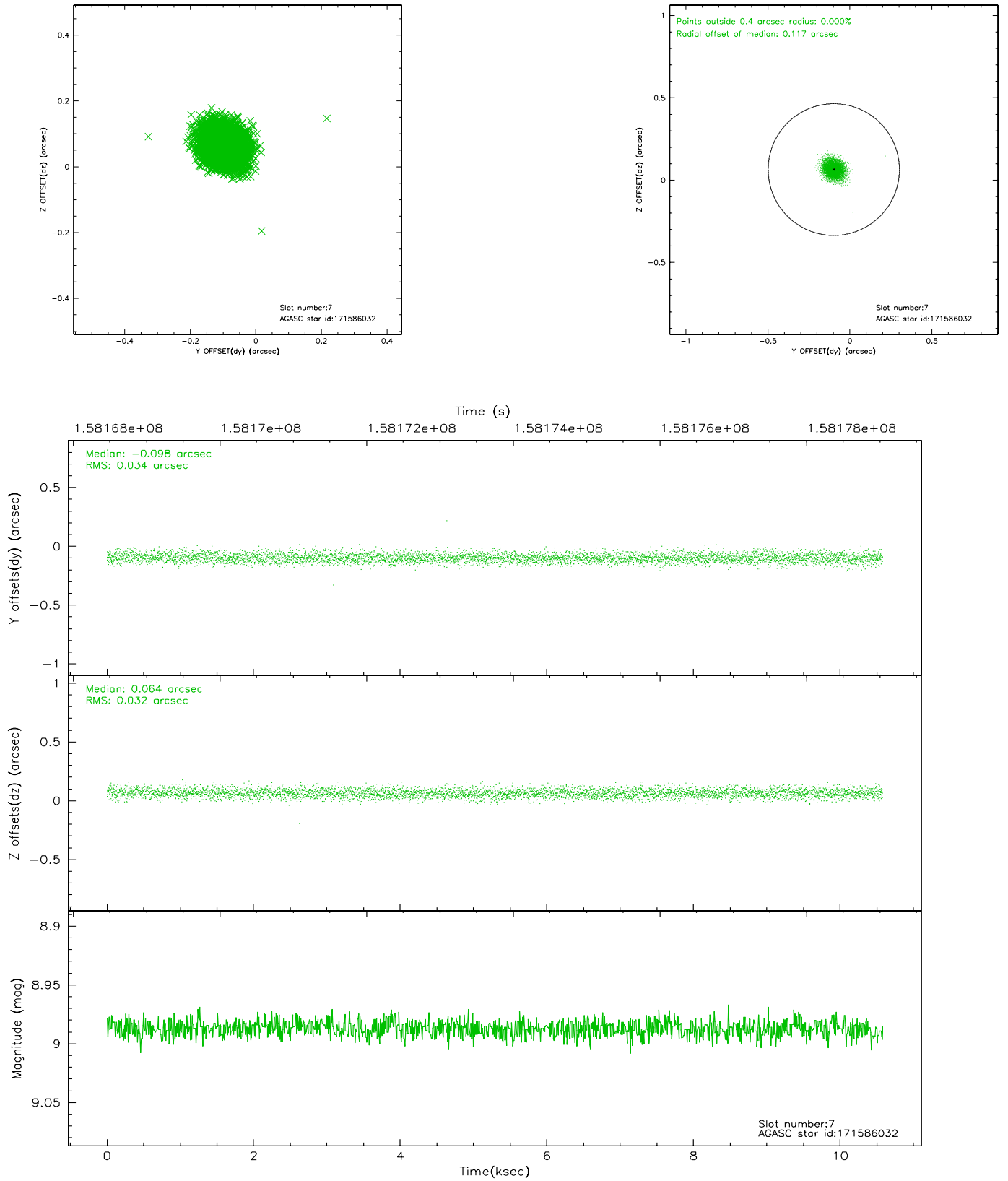
### 2.4.3 Slot 5



## 2.4.4 Slot 6

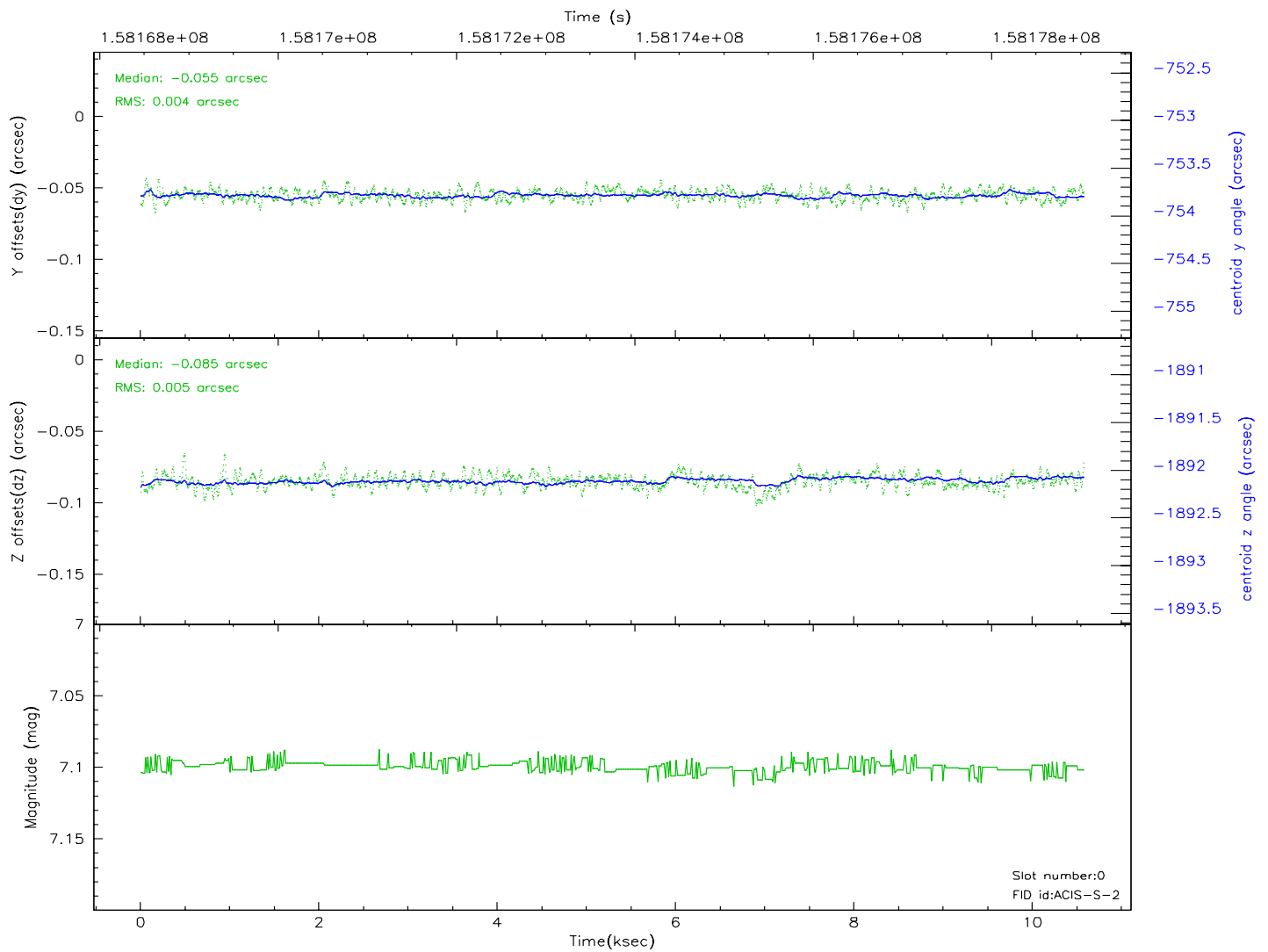
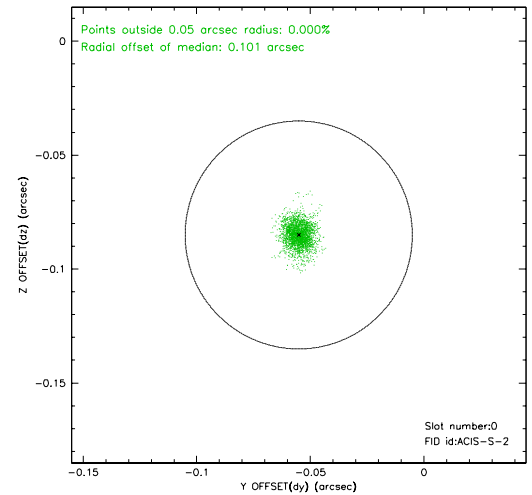
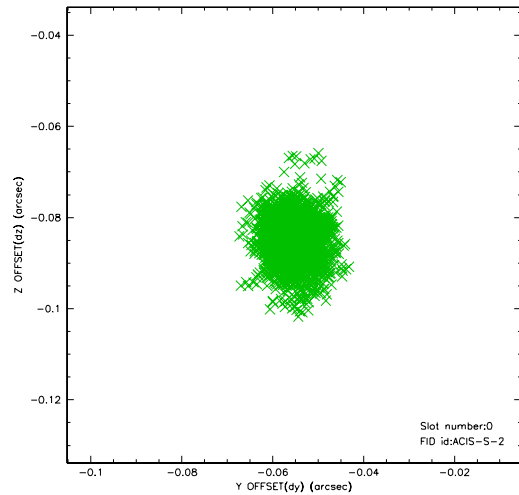


## 2.4.5 Slot 7

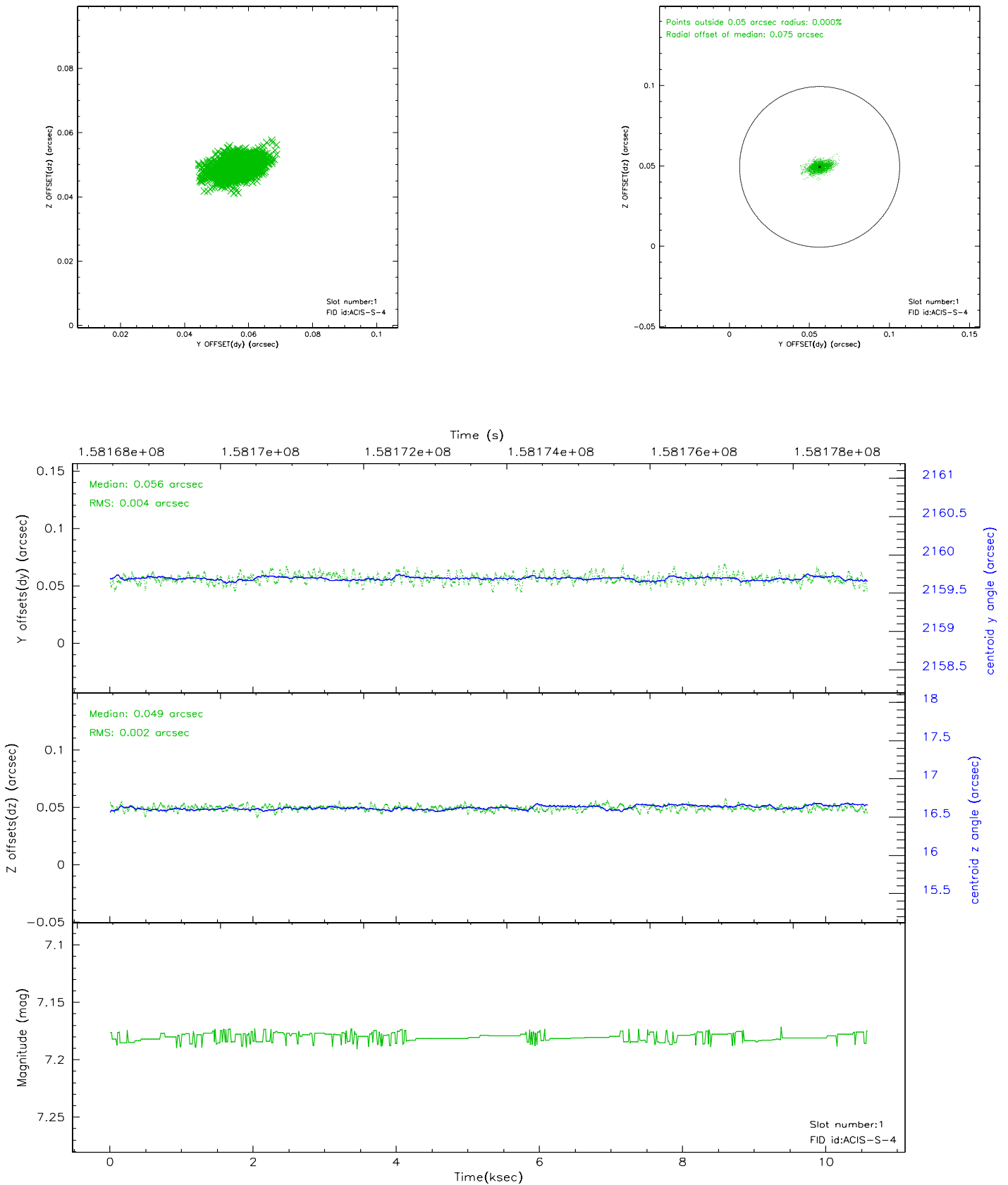


## 2.5 FID Slots

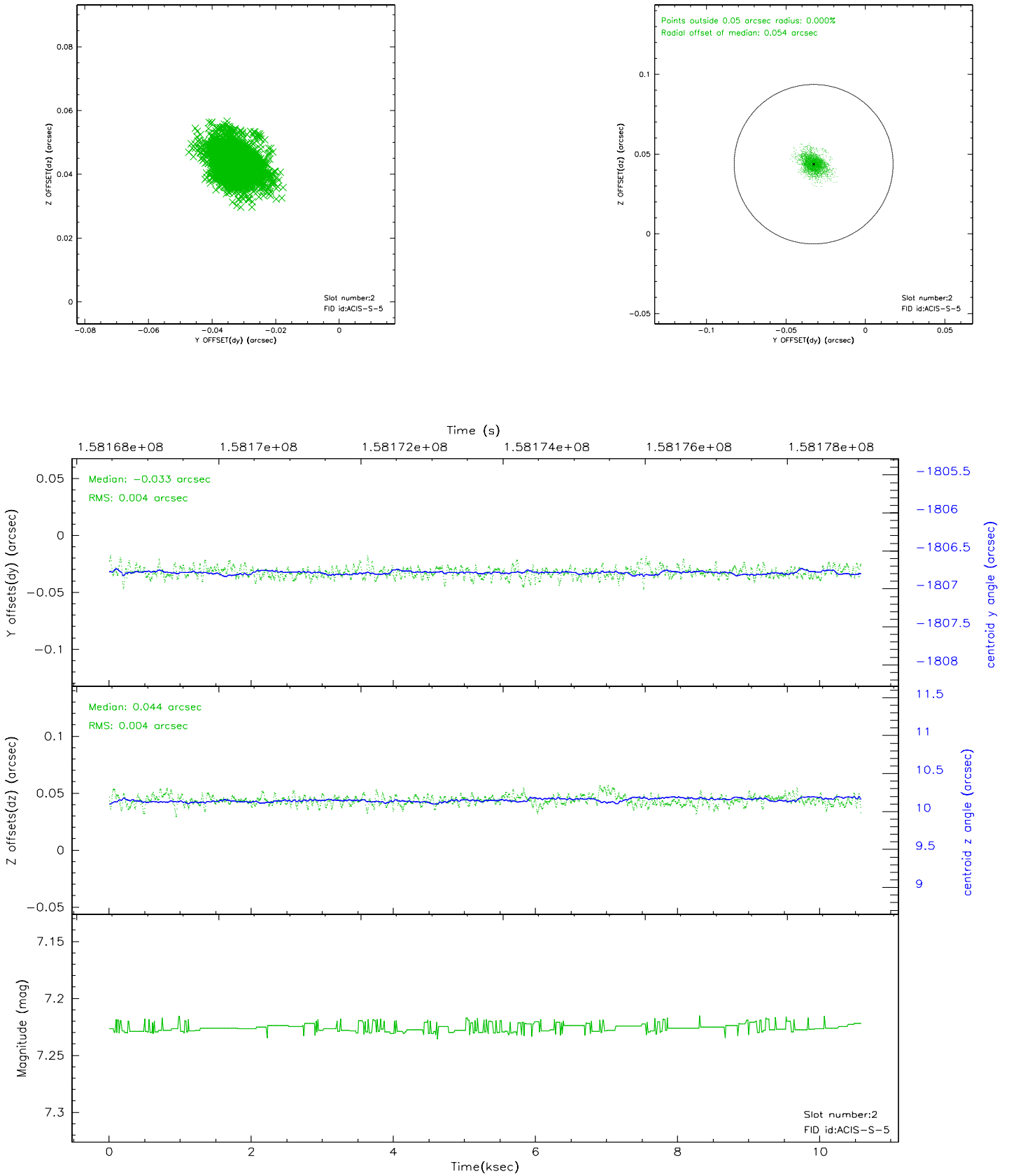
### 2.5.1 Slot 0



## 2.5.2 Slot 1



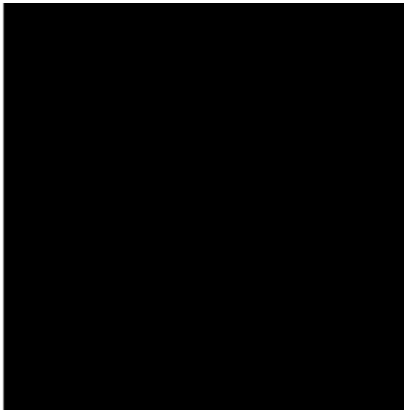
### 2.5.3 Slot 2



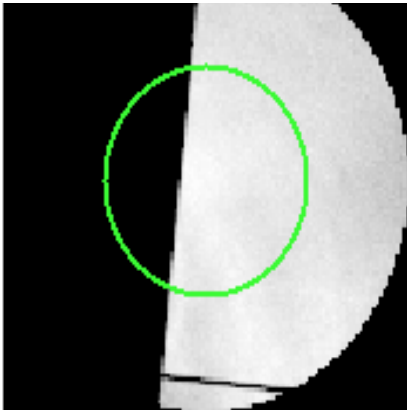


# 3 Gratings

## 3.1 HEG Arm



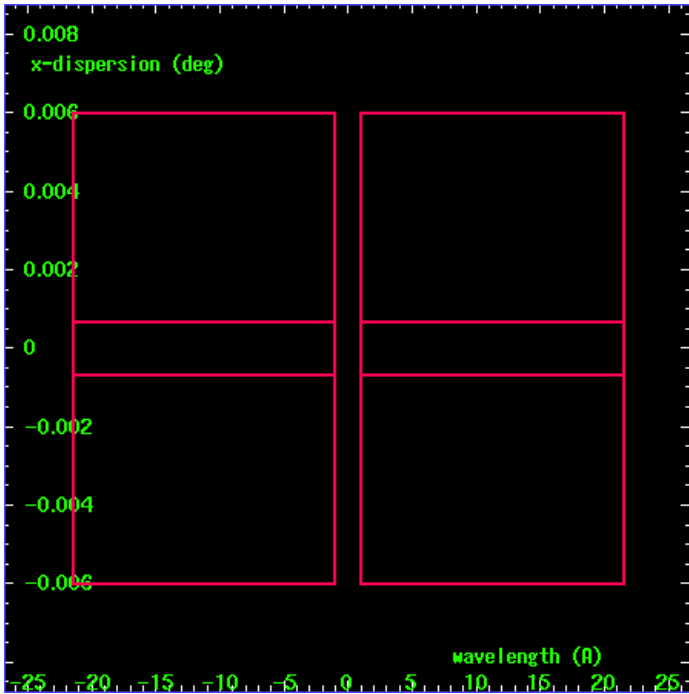
HEG Order Sort 123



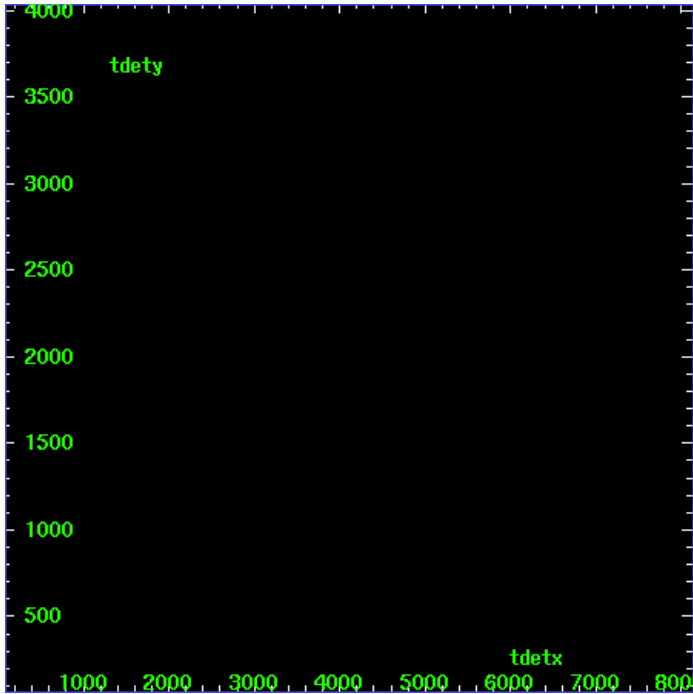
HEG Zero Order



HEG Order Sort ALL

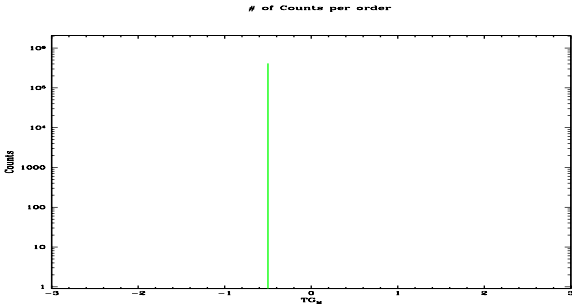


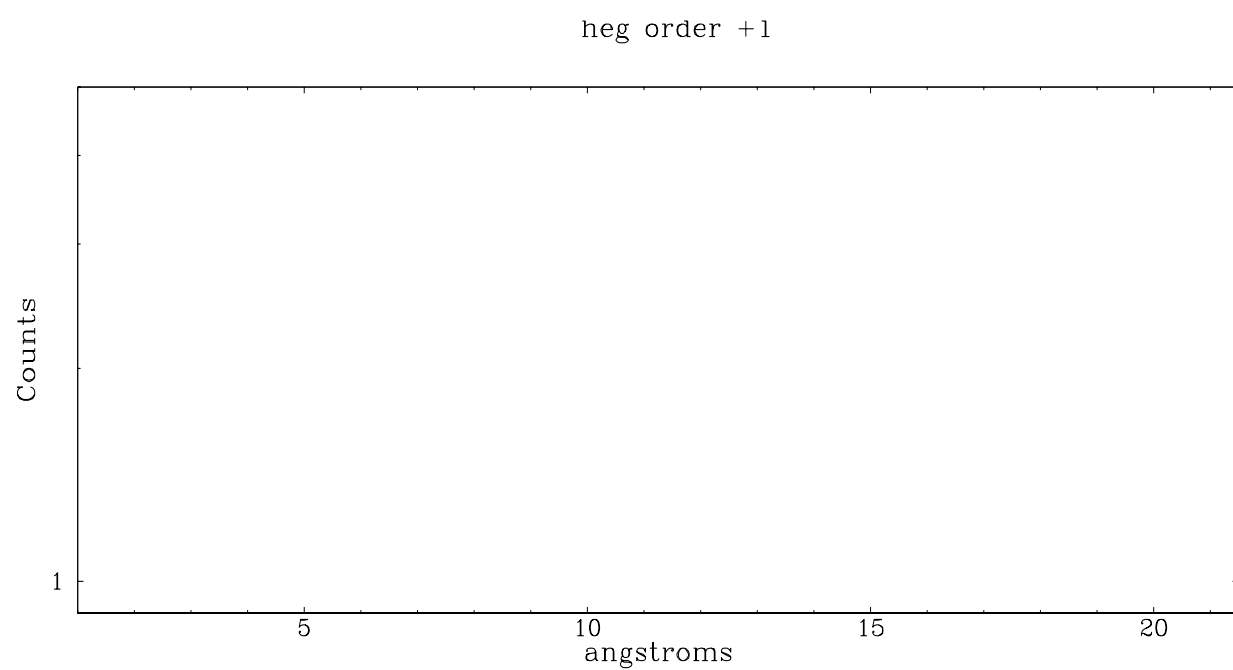
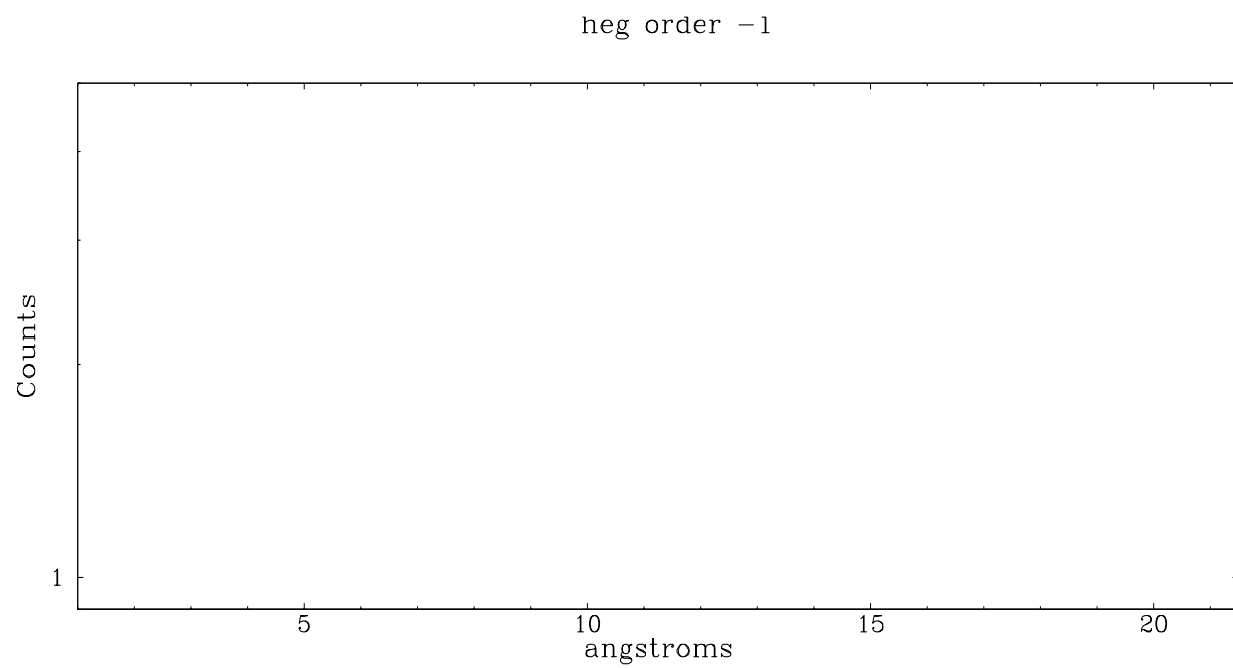
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	410602	0	0	0

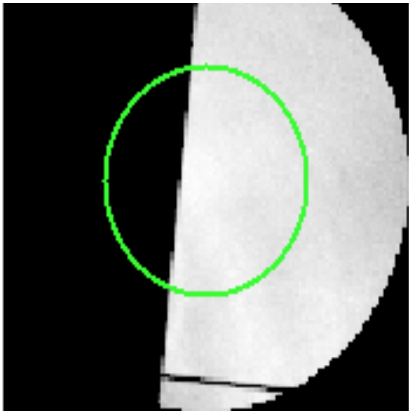




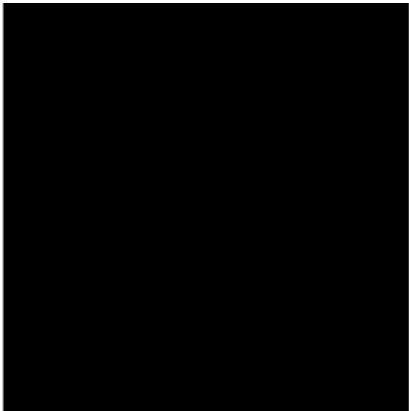
3.2 MEG Arm



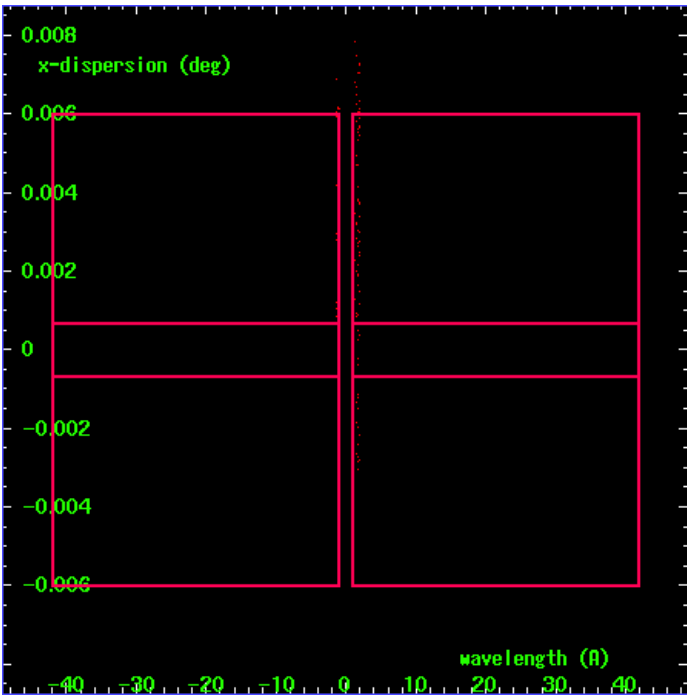
MEG Order Sort 123



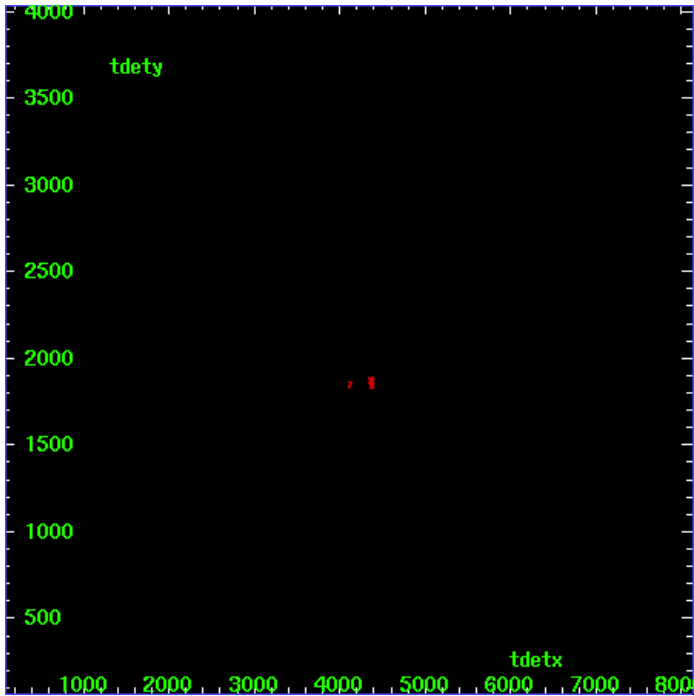
MEG Zero Order



MEG Order Sort ALL

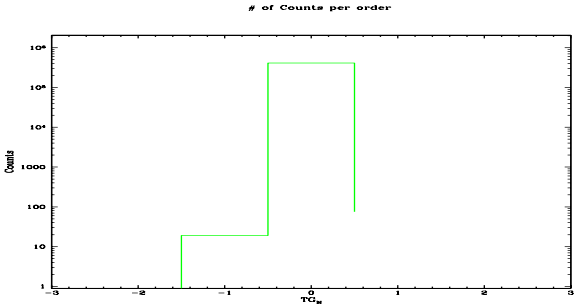


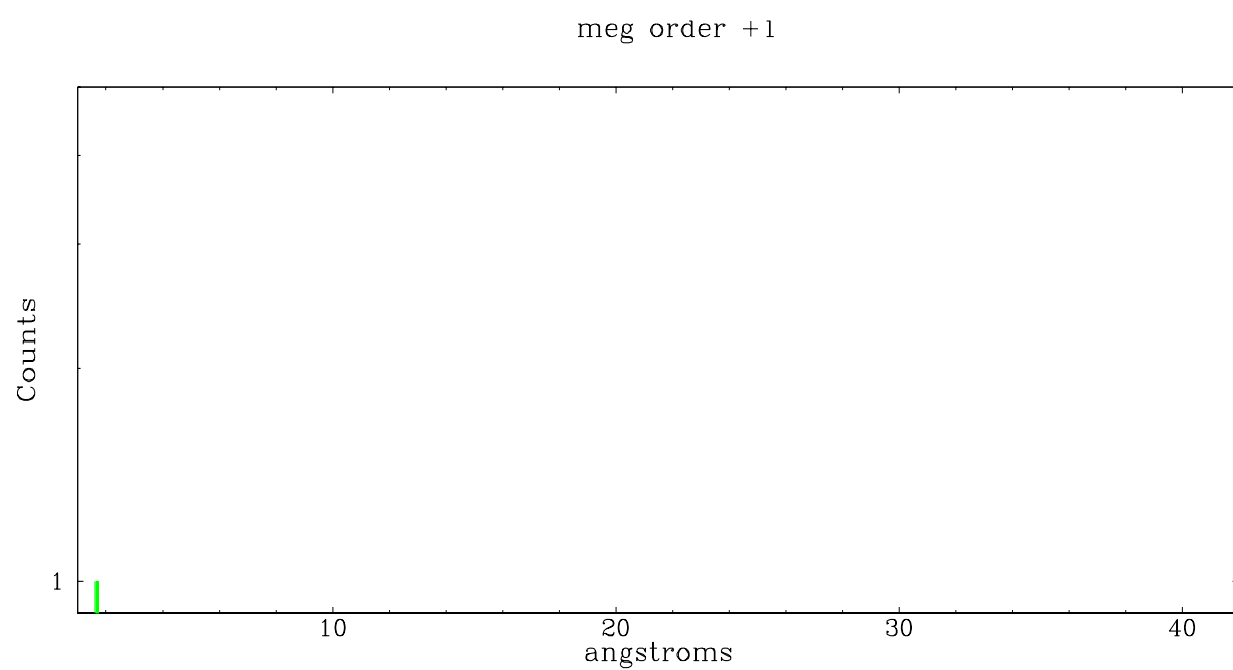
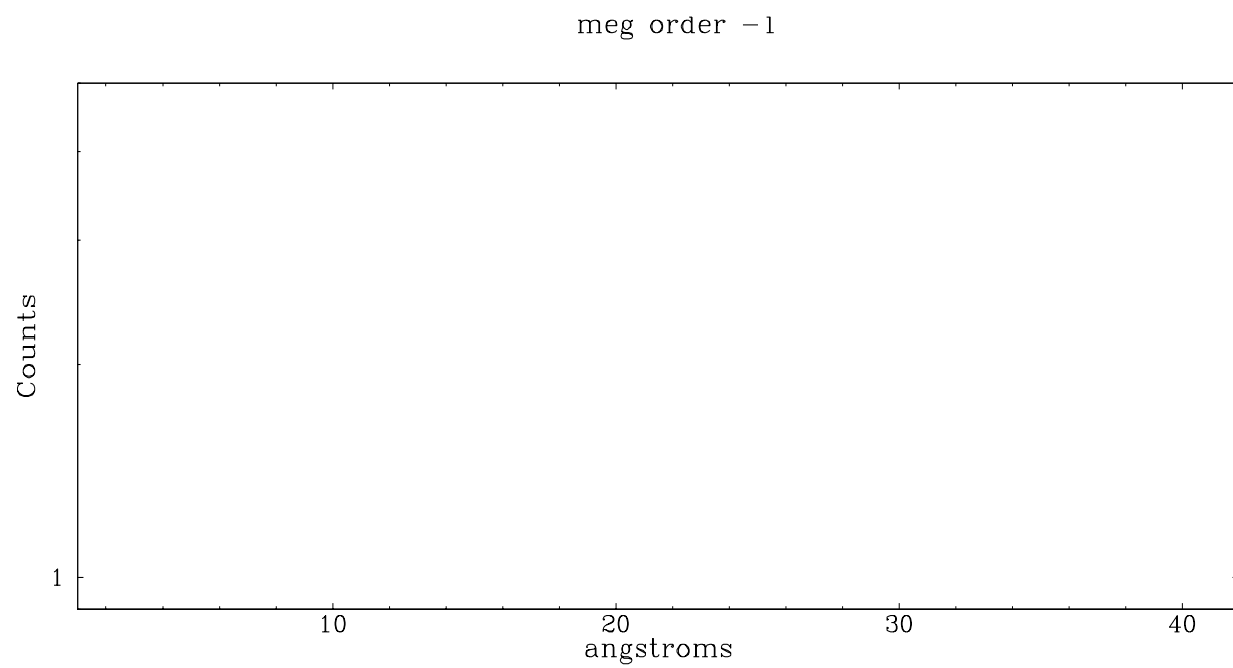
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	19	410602	75	0	0





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2006.12.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.256

## A.2 Comments

time constraint: OK  
request: Jan 5 2003 9:00AM Jan 5 2003 8:30PM  
actual: 2003-01-05T15:37:53 2003-01-05T18:46:05

Note: HETG used as count-rate suppression filter.  
No useful HETG spectral products. Only  
zero-order imaging or ccd-spectral data are of interest.