

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.2

Observation 5170 - L2 Version 001  
Chandra X-Ray Center

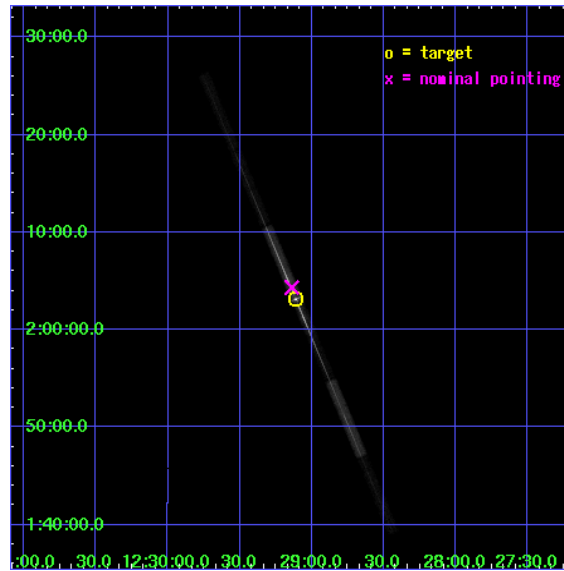
L2 Processing Date : May 23 2006

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# 1 Front

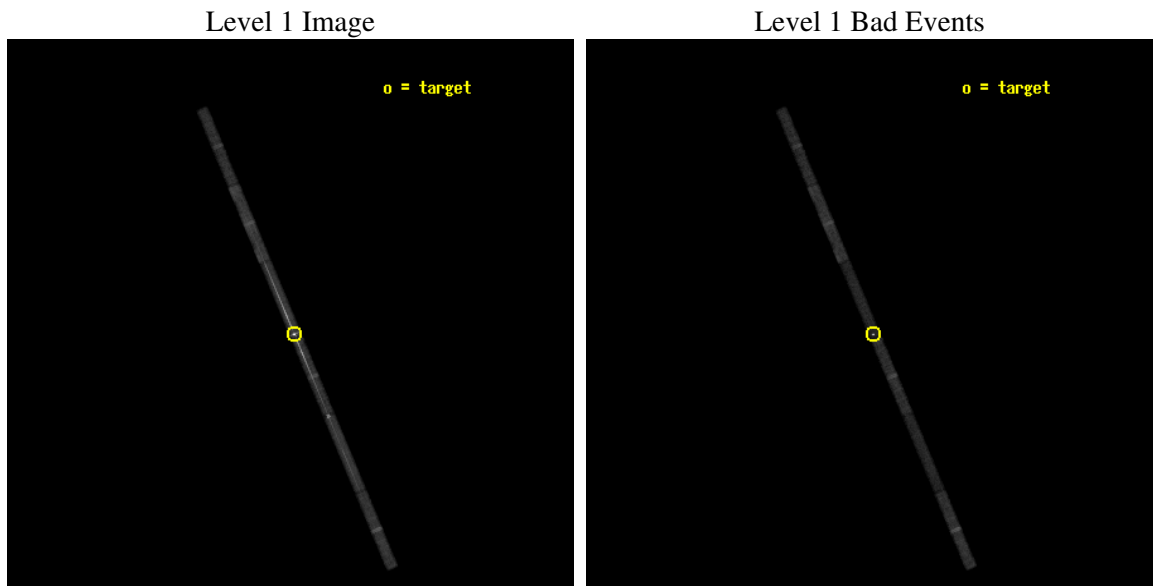
seq_num	790090
obs_id	5170
title	AO5 Calibration Observations of 3C273
observer	Dr. CXC Calibration
object	3C273
dtcycle	0
cycle	P
ra_targ	187.277917
dec_targ	2.052389
ra_nom	187.28459282737
dec_nom	2.0723624915382
roll_nom	247.15644812976
revision	2
ontime	30064.999487996
livetime	28399.950935978
ontime4	30064.999487996
ontime5	30064.999487996
ontime6	30064.999487996
ontime7	30064.999487996
ontime8	30064.999487996
ontime9	30064.980649382
l2events	164596



## 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	1
ascdsver	7.6.7.2
caldbver	3.2.2
date	2006-05-23T17:32:47
revision	2

sched_exp_time	30000.000000
ontime	30065.856992662
ontime4	30065.856992662
ontime5	30065.856992662
ontime6	30066.598002762
ontime7	30065.856992662
ontime8	30066.598032683
ontime9	30066.598002762
l1events	377301

### 2.1.4 Events

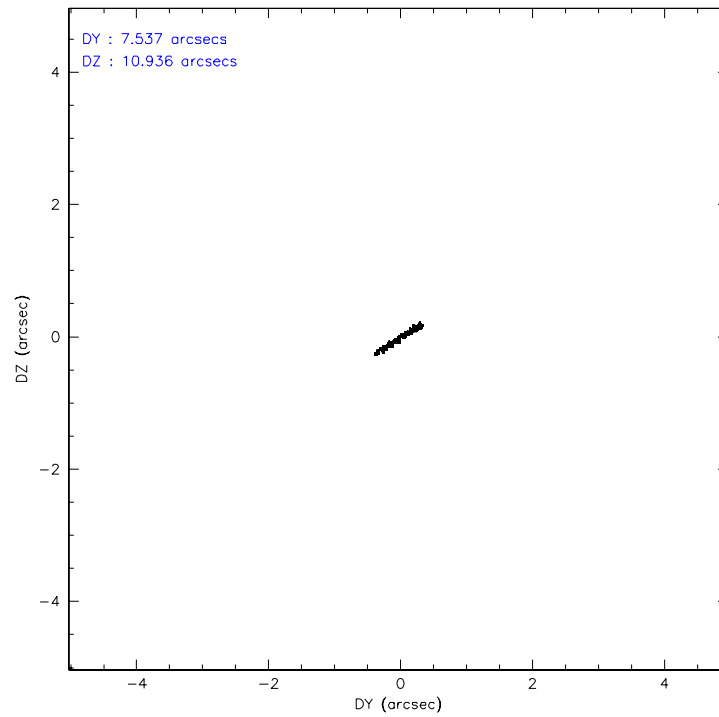
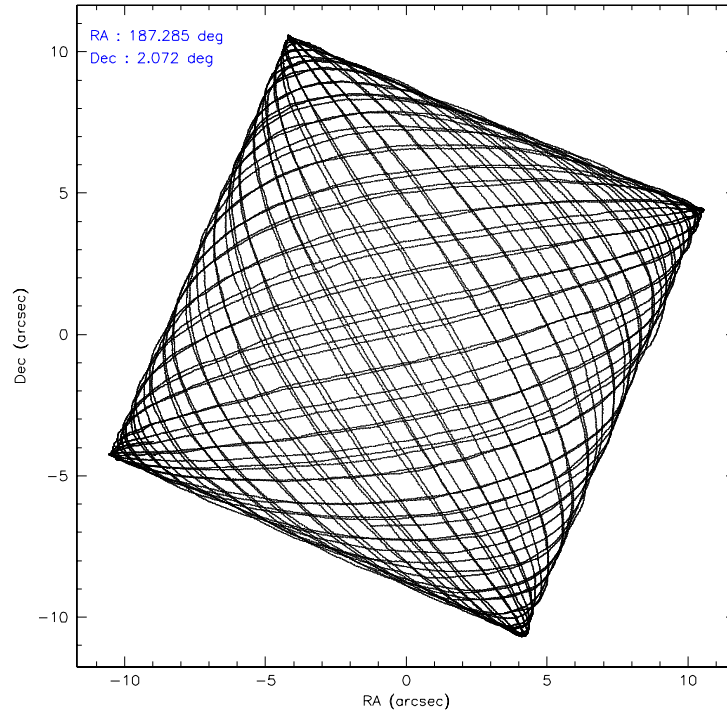
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	42602	51782	69502	125783	53851	33781
rejected events	37394	23300	33886	32066	41900	28887
rejected %	87%	44%	48%	25%	77%	85%

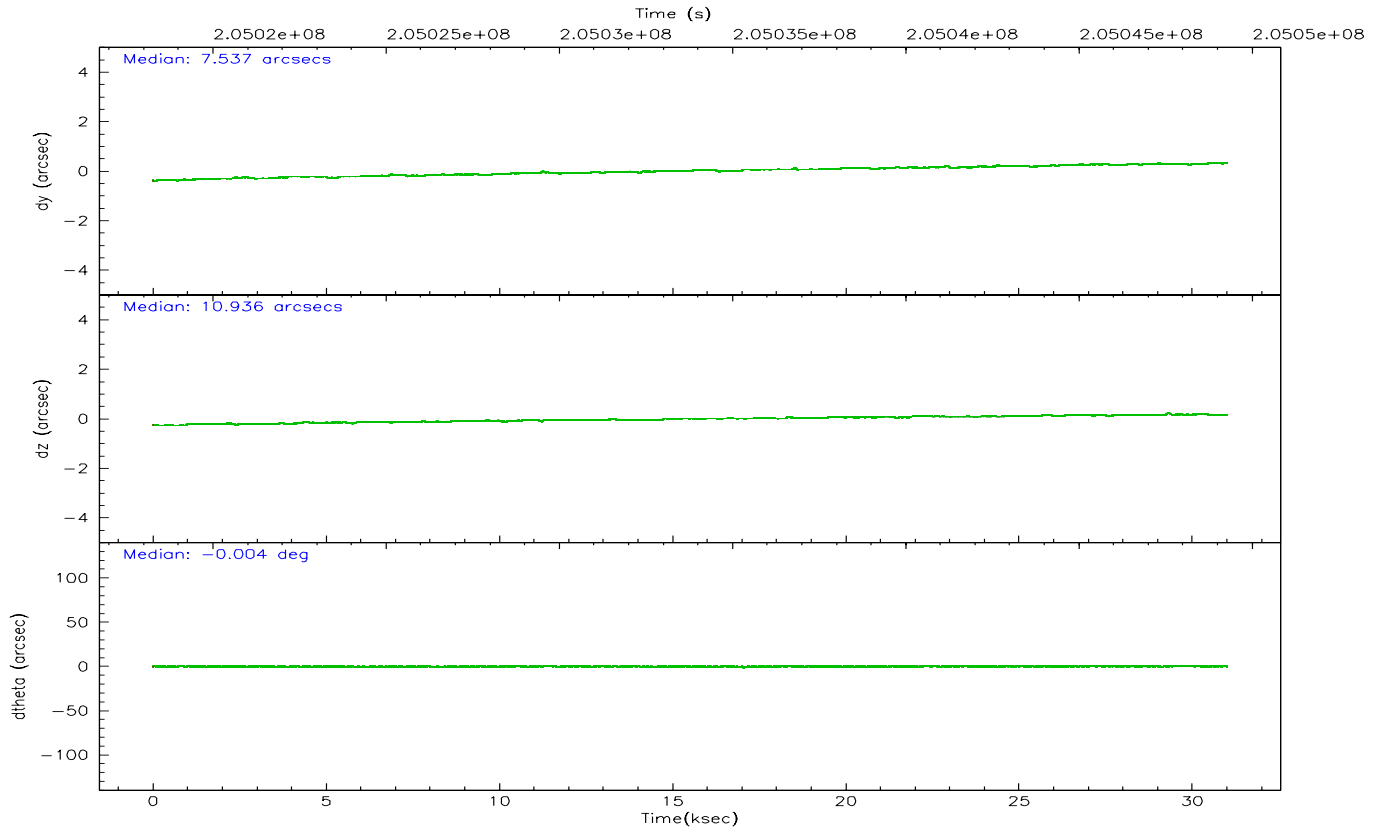
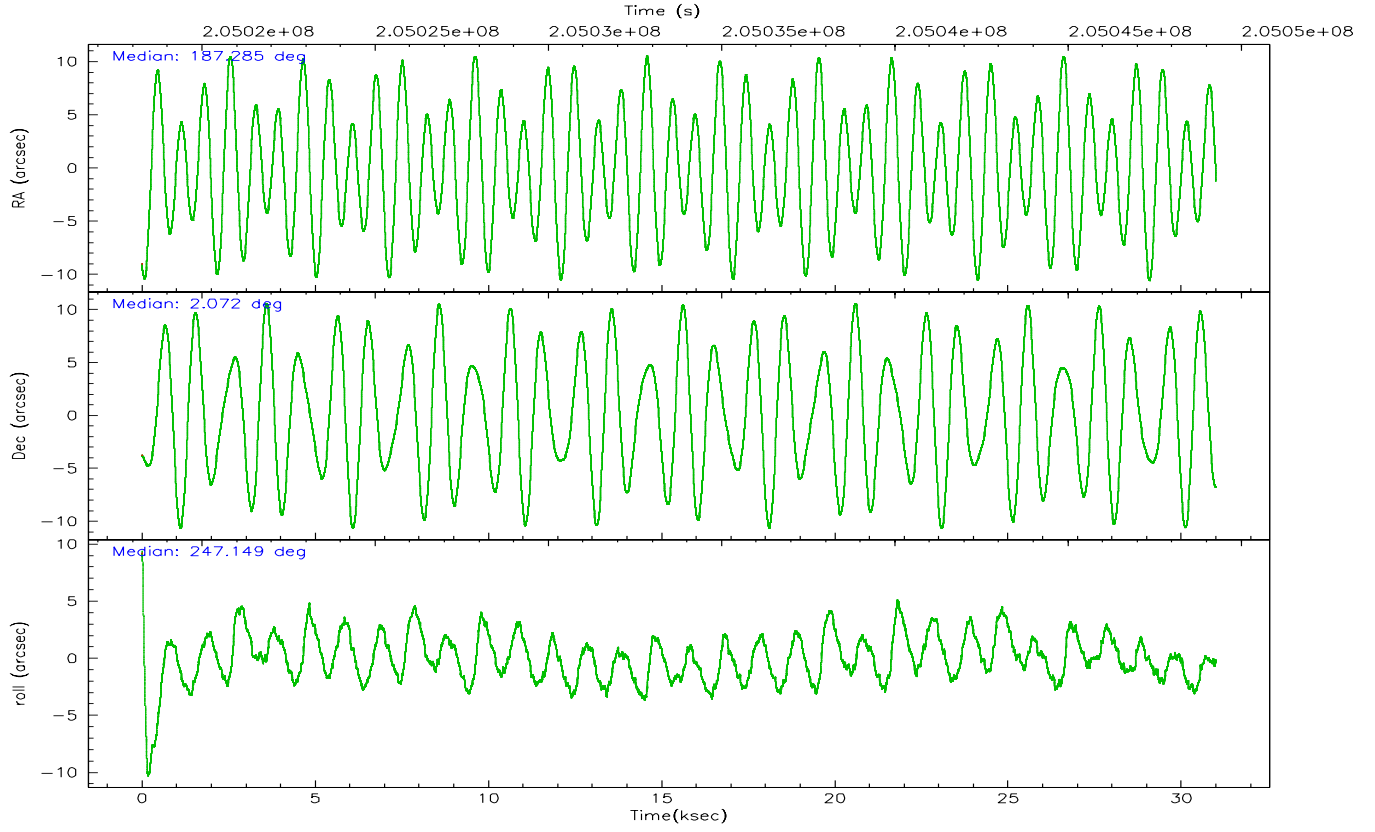
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2182	7580	26503	19398	4455	2072
	5%	14%	38%	15%	8%	6%
grade 1 events	4	160	56	669	19	13
	0%	0%	0%	0%	0%	0%
grade 2 events	982	6656	4033	23440	2068	727
	2%	12%	5%	18%	3%	2%
grade 3 events	711	1815	1751	9948	1208	707
	1%	3%	2%	7%	2%	2%
grade 4 events	665	1623	1723	9914	1184	682
	1%	3%	2%	7%	2%	2%
grade 5 events	1181	2705	1197	6316	1642	1192
	2%	5%	1%	5%	3%	3%
grade 6 events	669	10808	1606	31017	3036	708
	1%	20%	2%	24%	5%	2%
grade 7 events	36208	20435	32633	25081	40239	27680
	84%	39%	46%	19%	74%	81%

## 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	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	On-chip summing requested	N	N
Observation mode	POINTING	POINTING	Subarray requested	CUSTOM	1/8
Pointing RA	187.280818	187.284592827367	Subarray start row	113	113
Pointing Dec	2.099316	2.072362491538215	Subarray row count	128	128
Pointing Roll	246.999958	247.1564481297556	Alternating exposures requested	N	N
Window start time	202435264.184000	202435264.184000	Primary exposure time	0.000000	0.7
Window stop time	207619264.184000	207619264.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-182.132523	-182.1370004450064			
SIM translation stage offset (mm)	-8	-7.995522138001405			
Observation start time	205019282.184000	205018257.45105			
Observation start date	2004-06-30T21:46:58	2004-06-30T21:30:57			
Observation end time	205049282.184000	205050091.38996			
Observation end date	2004-07-01T06:06:58	2004-07-01T06:21:31			
Read mode	TIMED	TIMED			

## 2.3 Aspect





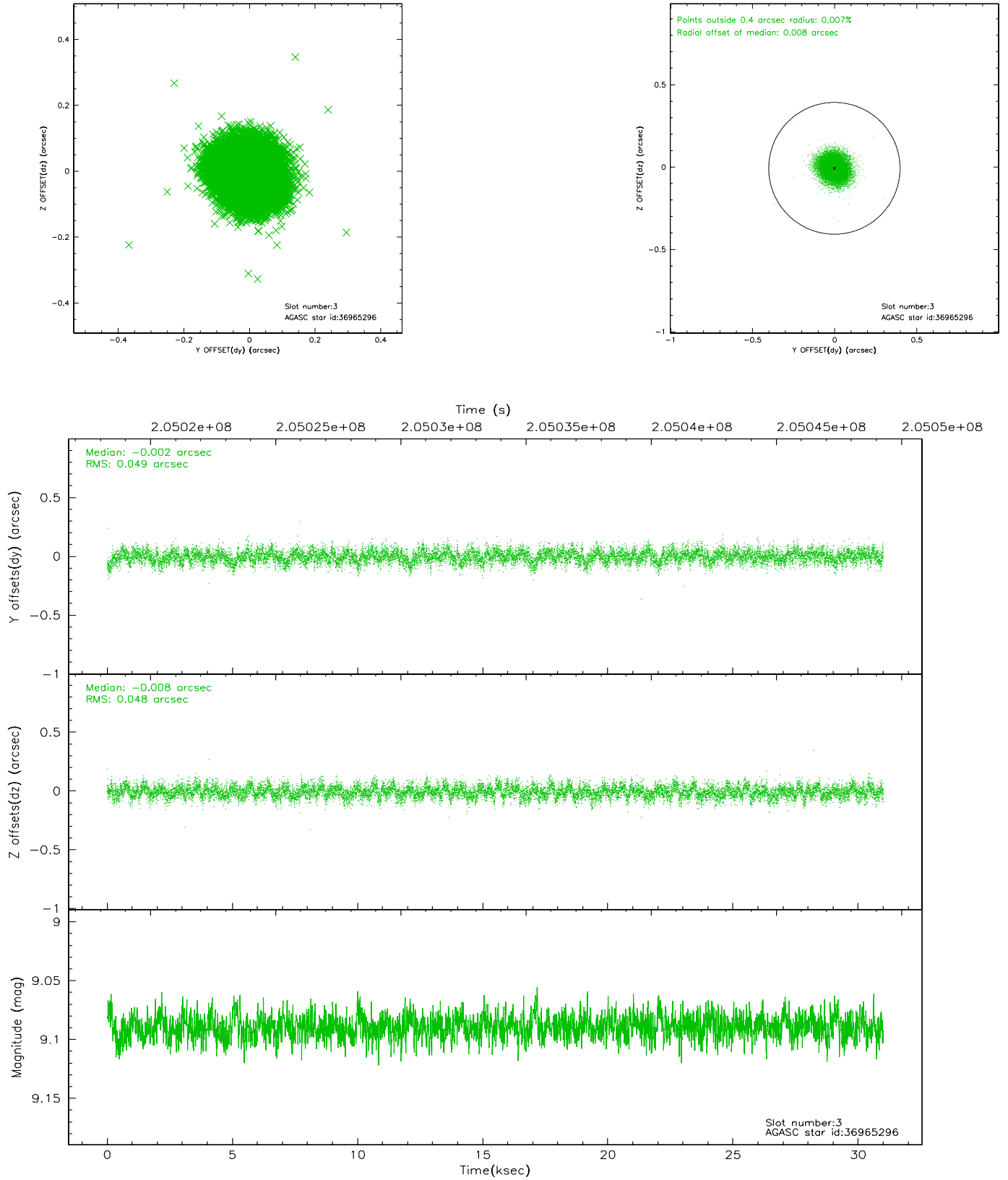
### Slot Statistics

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	7563	-0.050	-0.090	0.011	0.019	0.000000	0.000000	-759.78	-1897.00
1	FID	ACIS-S-4	7.17	7562	0.052	0.048	0.005	0.009	0.000000	0.000000	2153.57	11.52
2	FID	ACIS-S-5	7.22	7562	-0.032	0.050	0.011	0.018	0.000000	0.000000	-1812.52	5.27
3	GUIDE	36965296	9.09	15121	-0.002	-0.008	0.073	0.117	186.926292	1.837429	1366.52	-805.77
4	GUIDE	36965816	9.26	15114	0.021	-0.026	0.076	0.123	186.823353	1.771455	1729.97	-1053.93
5	GUIDE	36965896	9.72	15104	0.063	-0.076	0.113	0.180	187.153754	1.617178	1776.77	257.47
6	GUIDE	37356352	7.67	15126	-0.409	-0.172	0.068	0.104	187.433784	2.618460	-1935.33	-224.22
7	GUIDE	37883040	9.99	15106	0.331	0.285	0.158	0.258	187.575516	1.280402	2299.56	2129.00

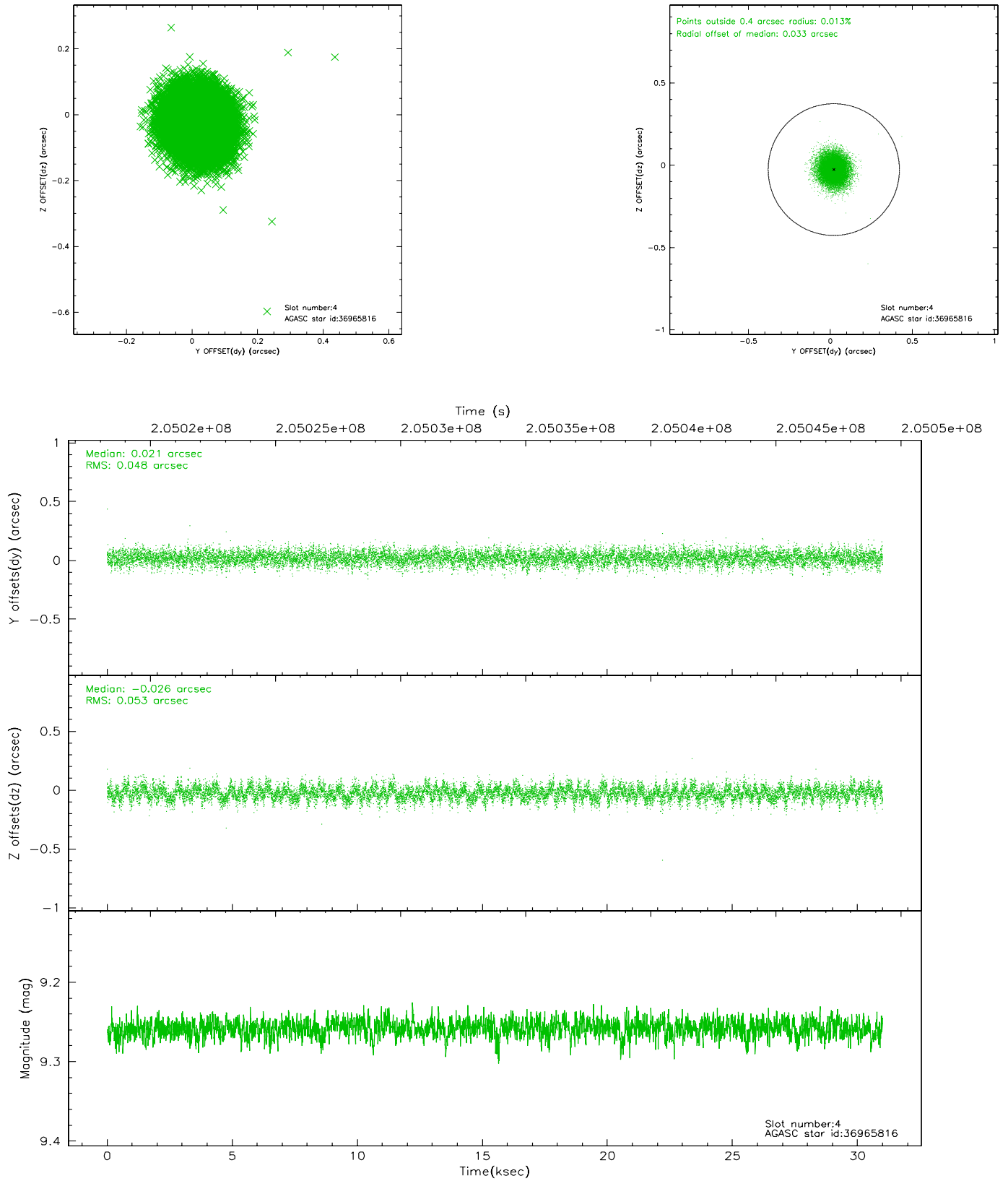


## 2.4 Star Slots

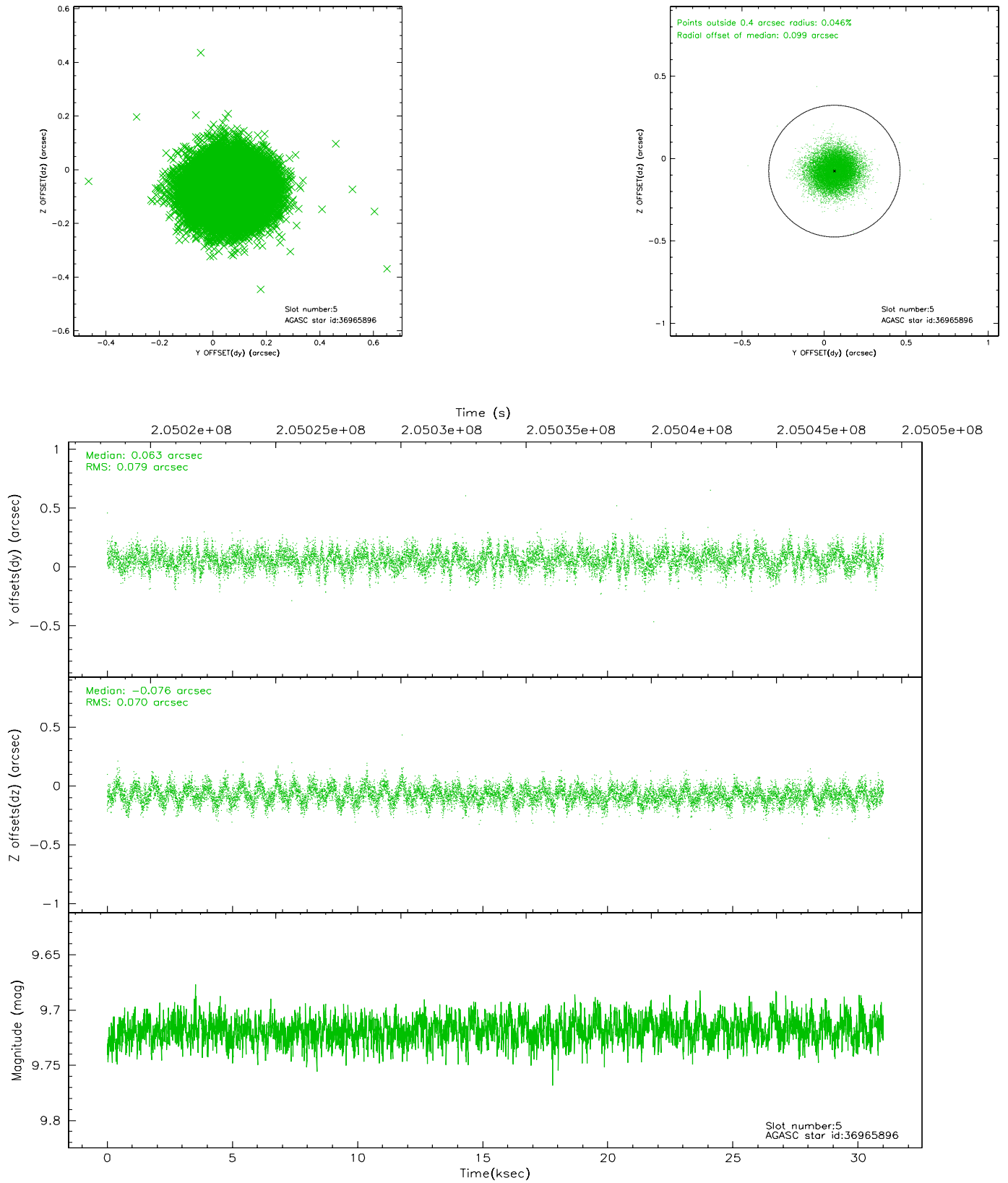
### 2.4.1 Slot 3



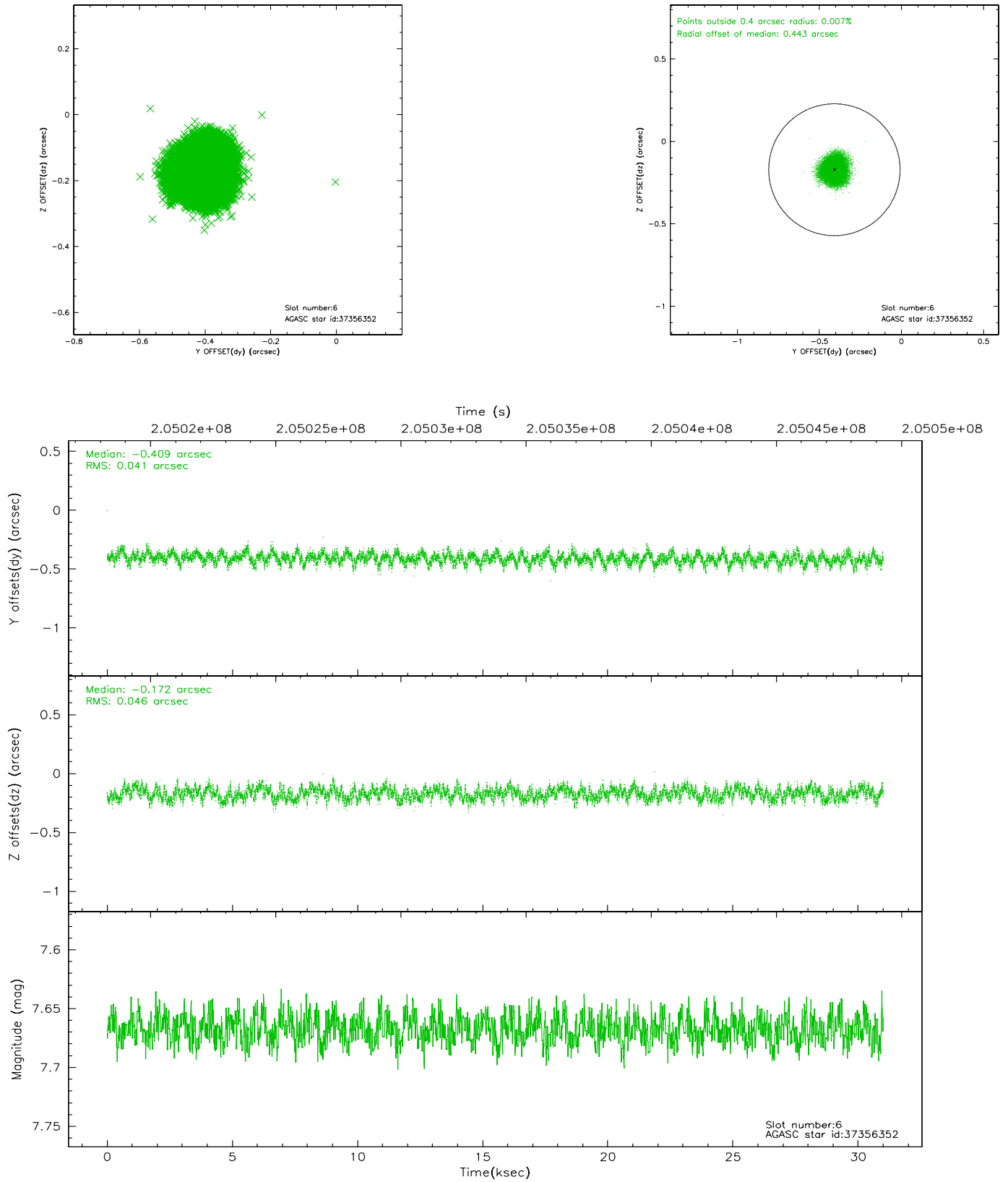
## 2.4.2 Slot 4



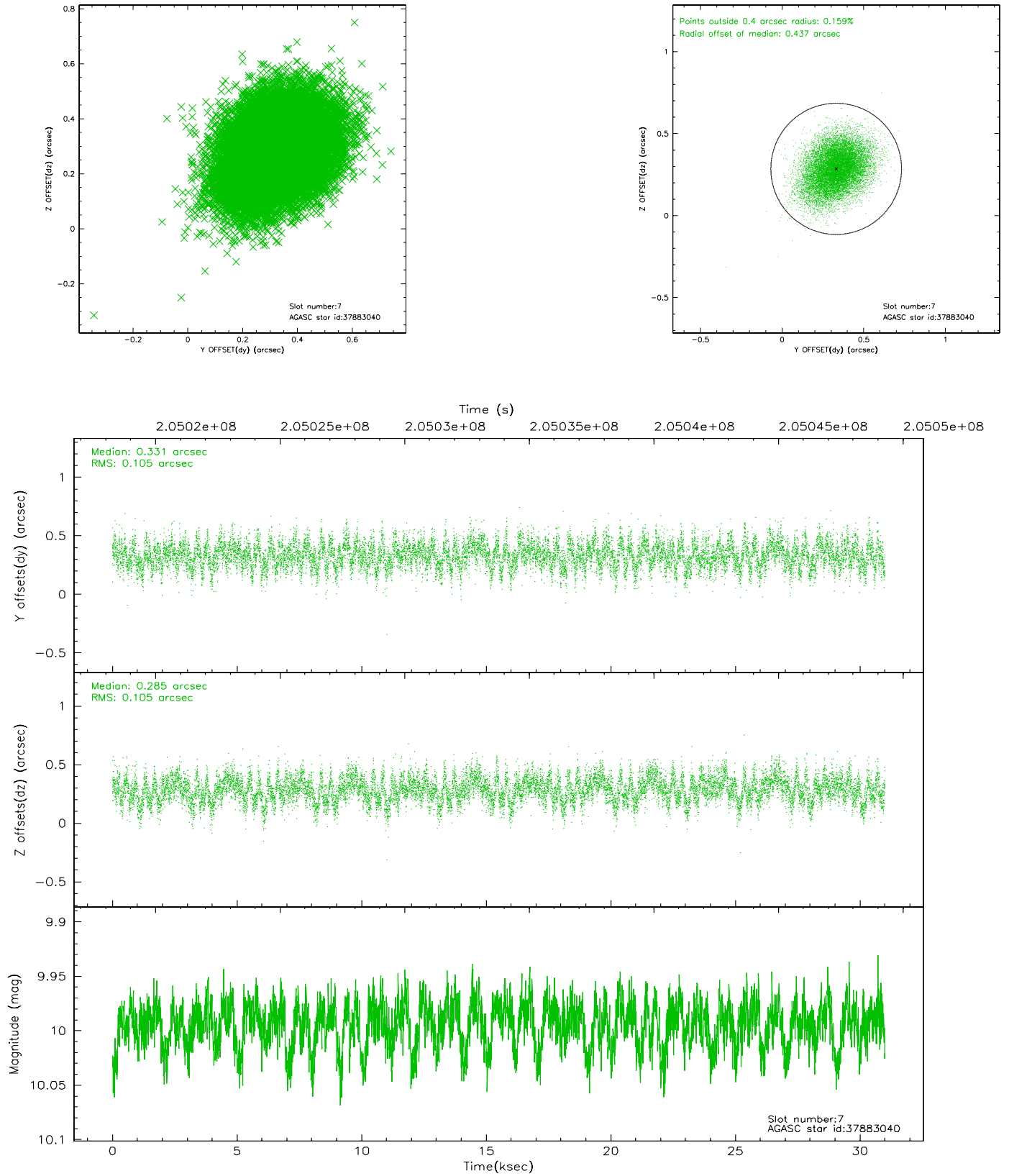
### 2.4.3 Slot 5



## 2.4.4 Slot 6

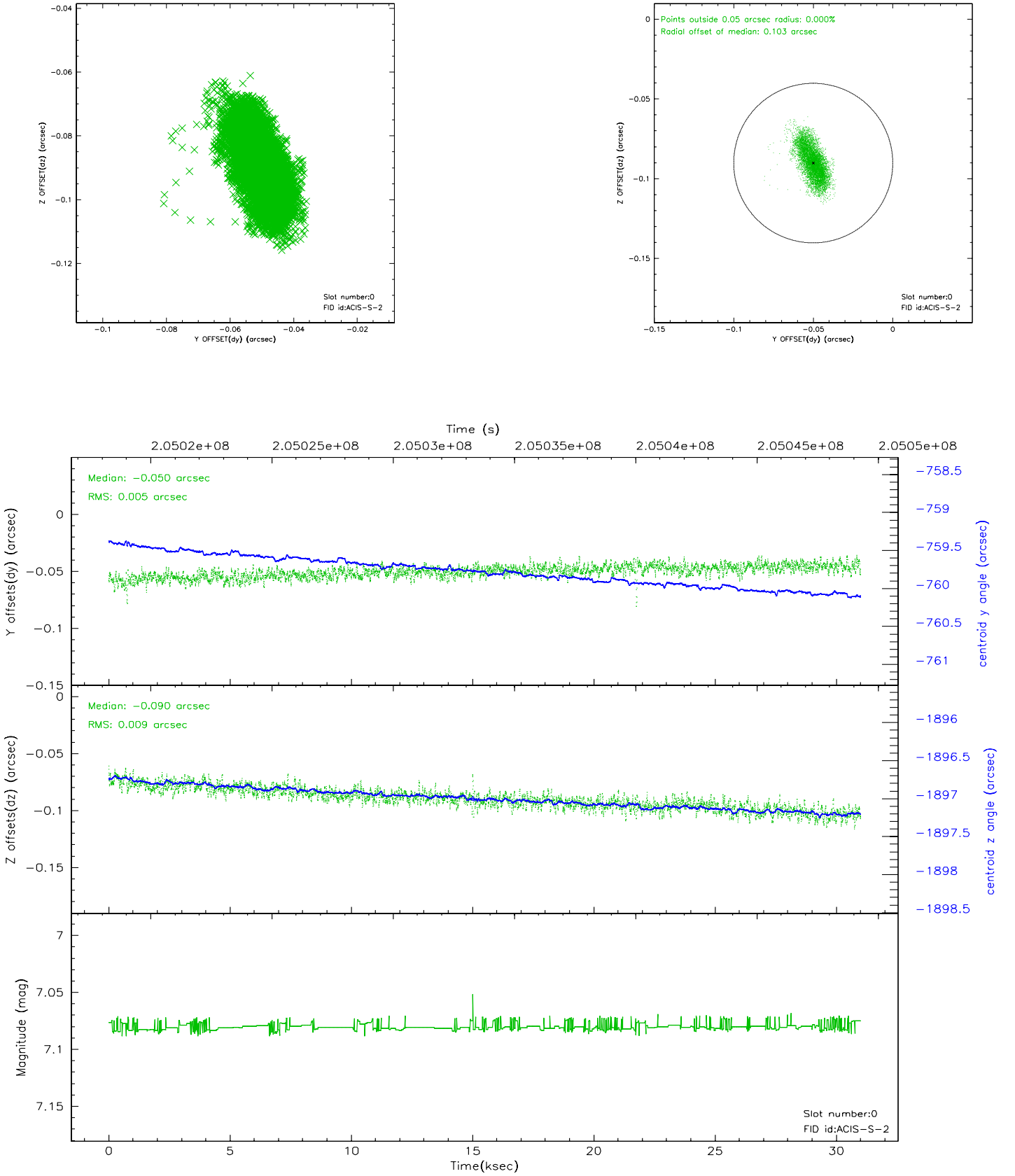


## 2.4.5 Slot 7

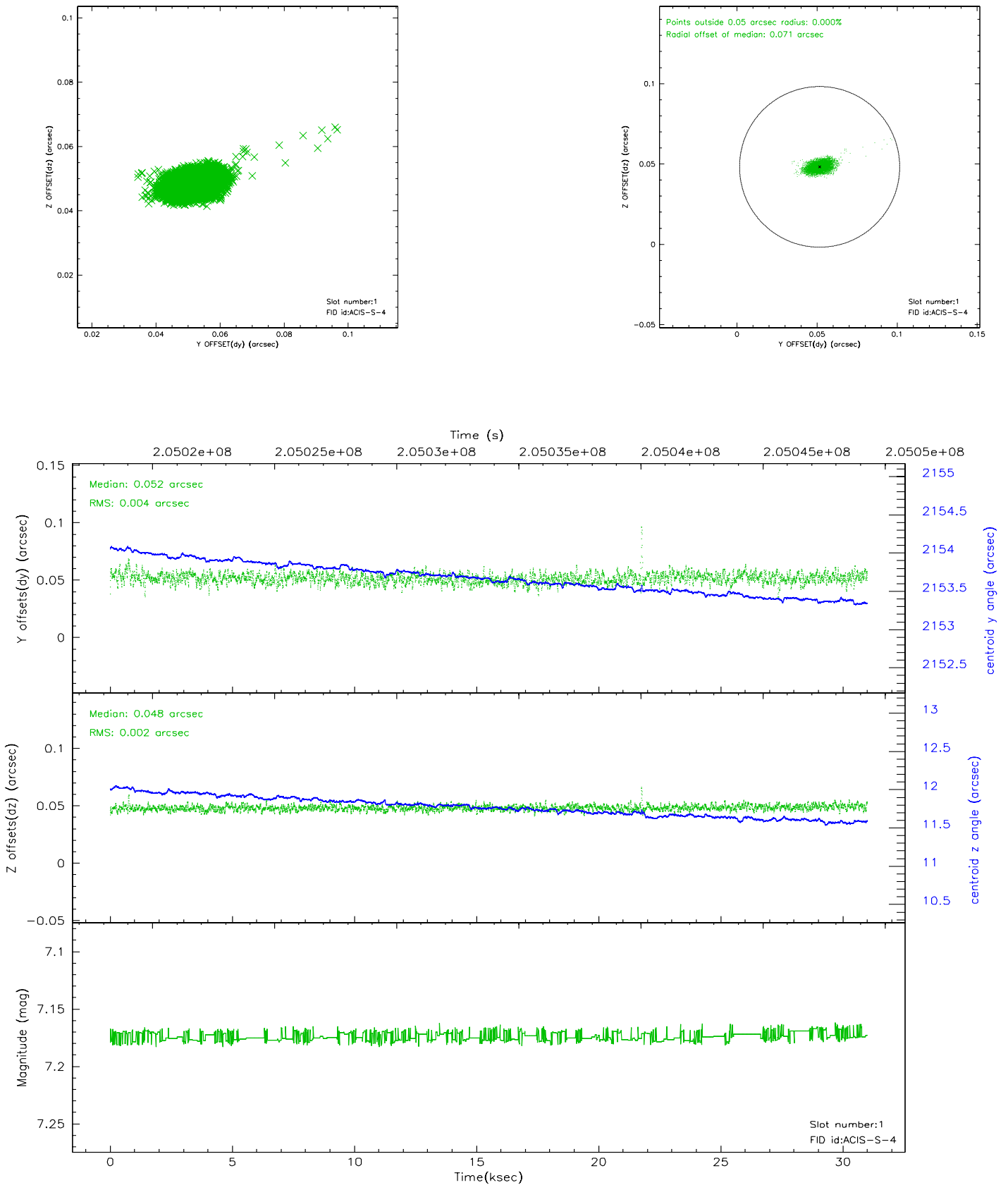


## 2.5 FID Slots

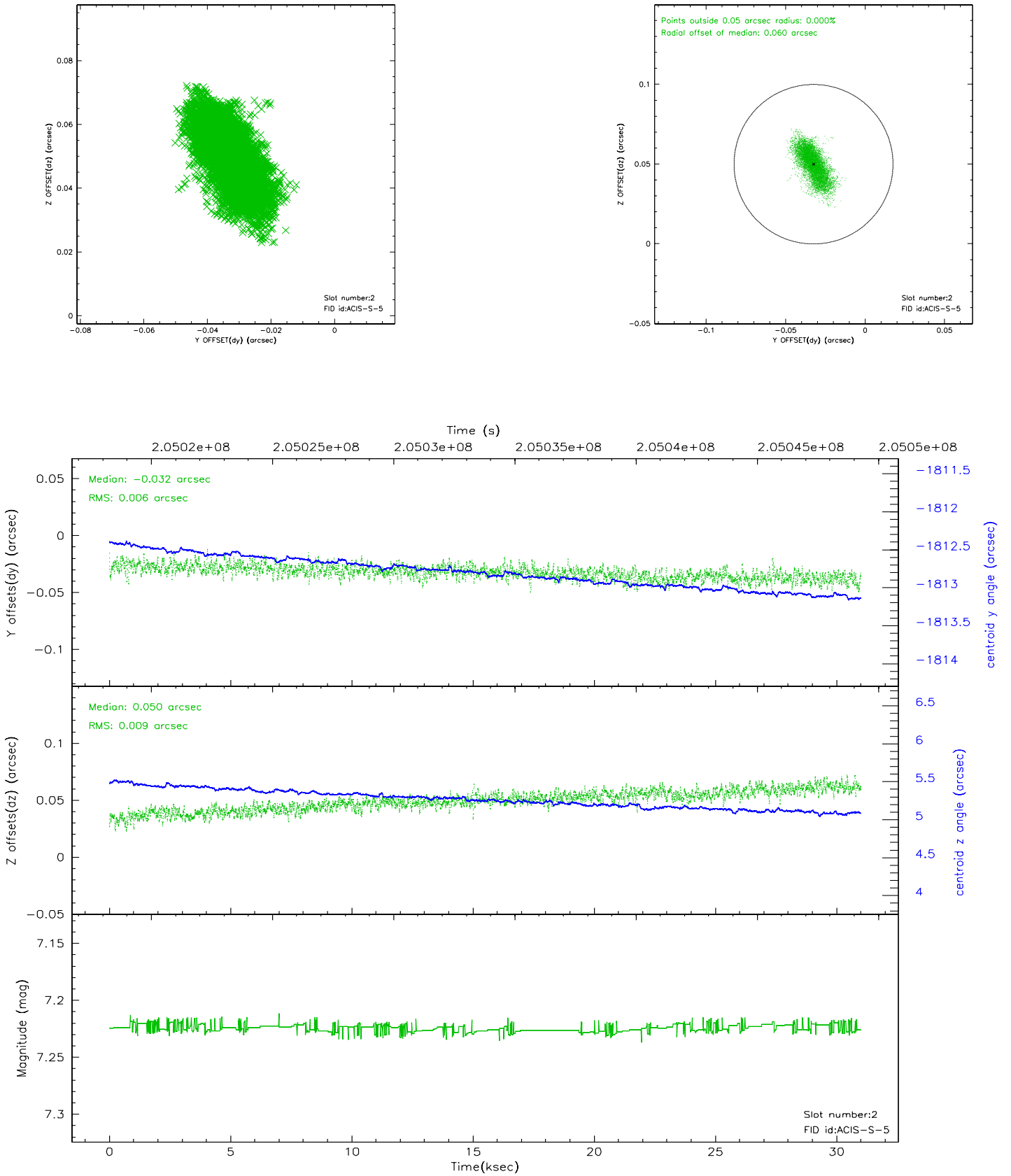
### 2.5.1 Slot 0



## 2.5.2 Slot 1



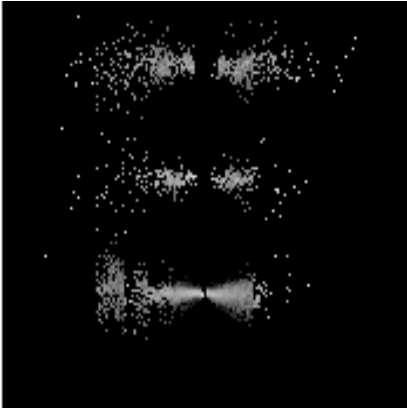
### 2.5.3 Slot 2



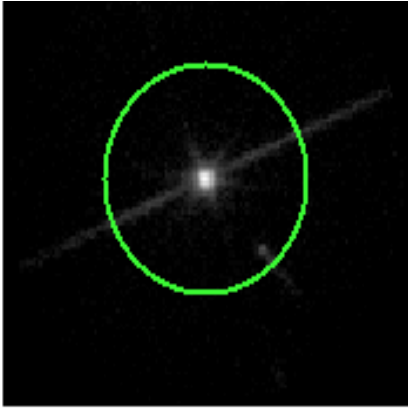


# 3 Gratings

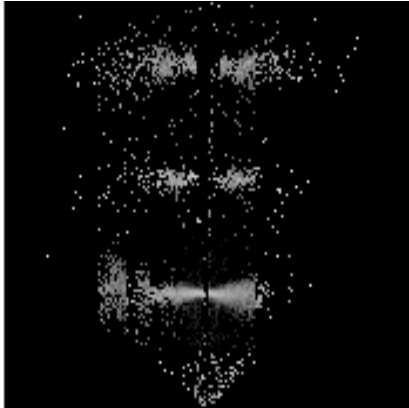
## 3.1 LETG Arm



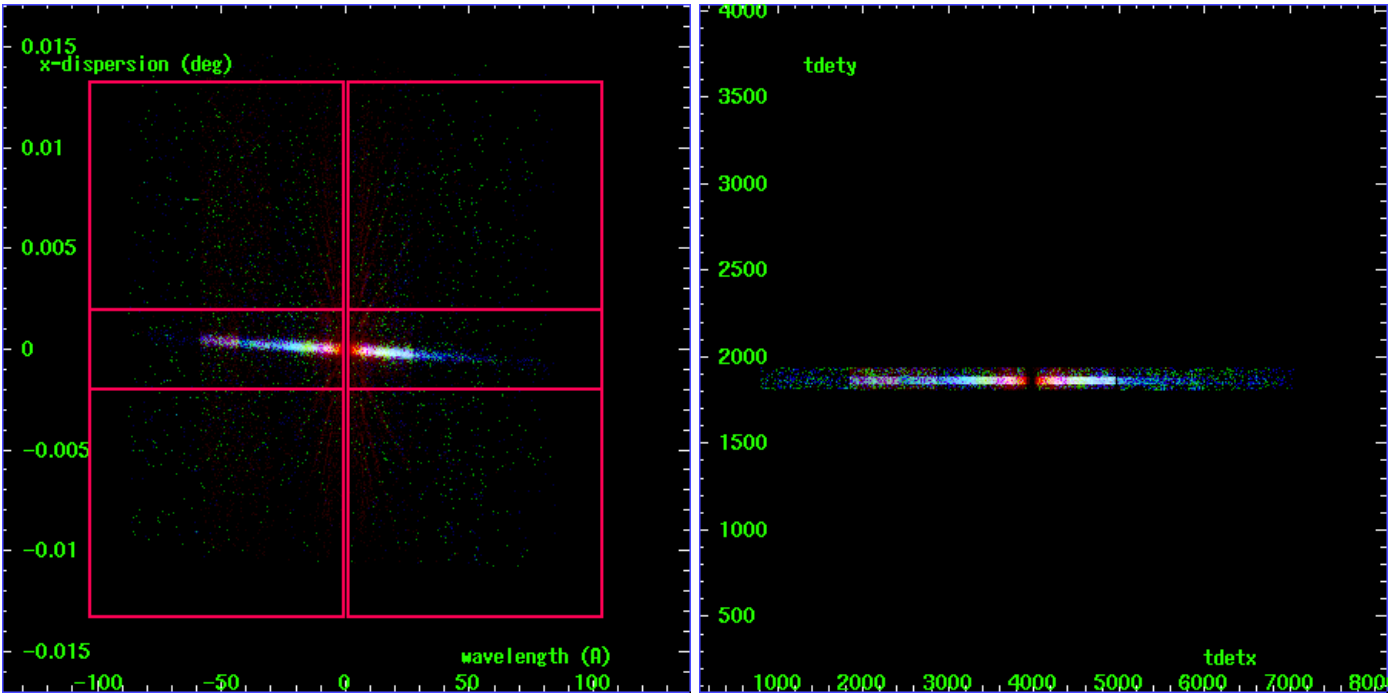
LETG Order Sort 123



LETG Zero Order



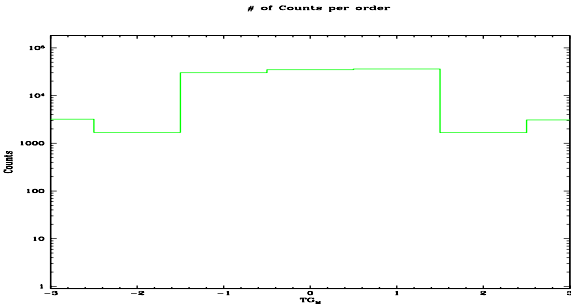
LETG Order Sort ALL



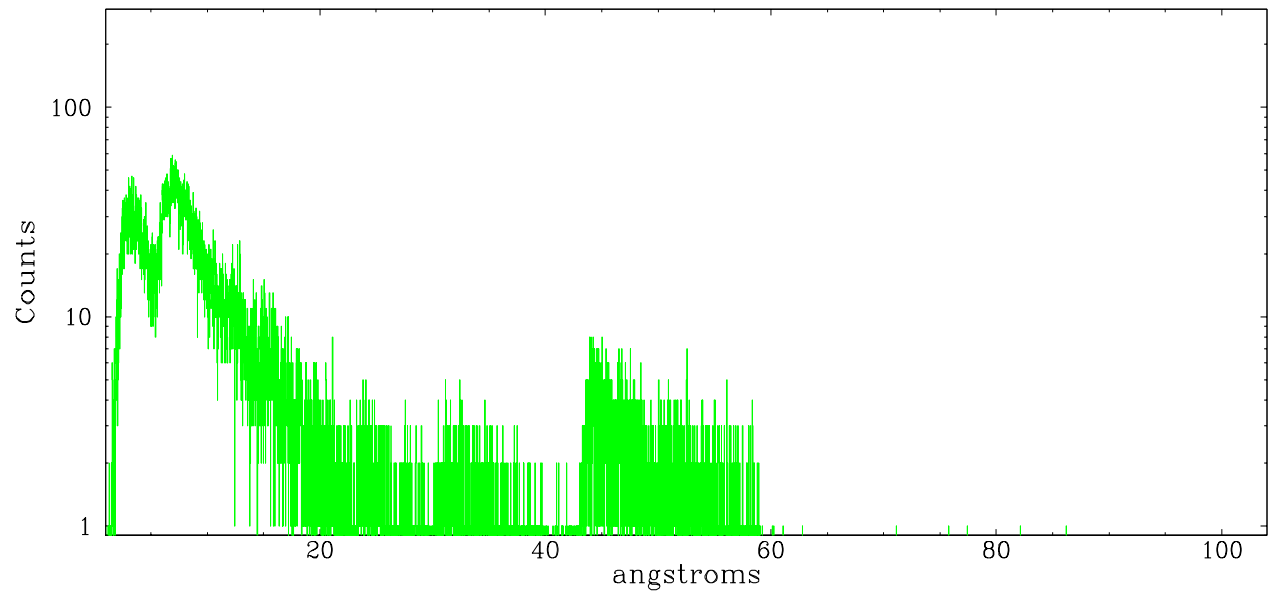
Spot Image LETG

Full Detector LETG

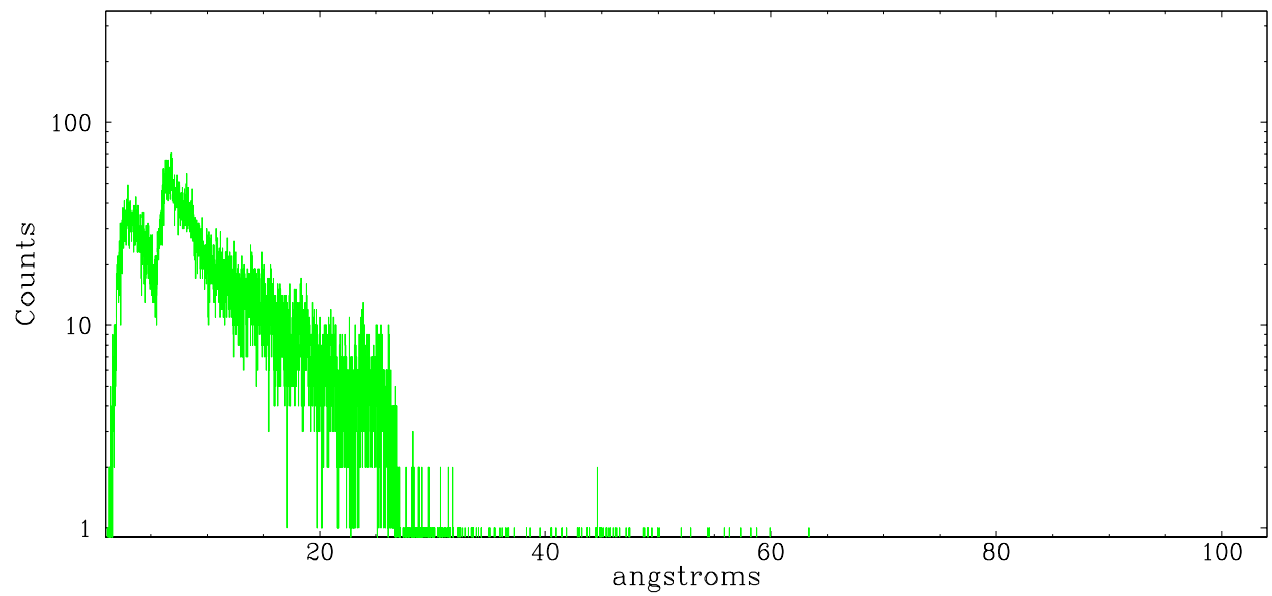
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3195	1689	30035	34637	35965	1665	3069



leg order  $-1$



leg order  $+1$



## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.05.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.064

### A.2 Comments

Window constraint met.