

# V&V Reference Report

## L2 ASCDS Version : 7.6.11.1

Observation 2093 - L2 Version 4  
Chandra X-Ray Center

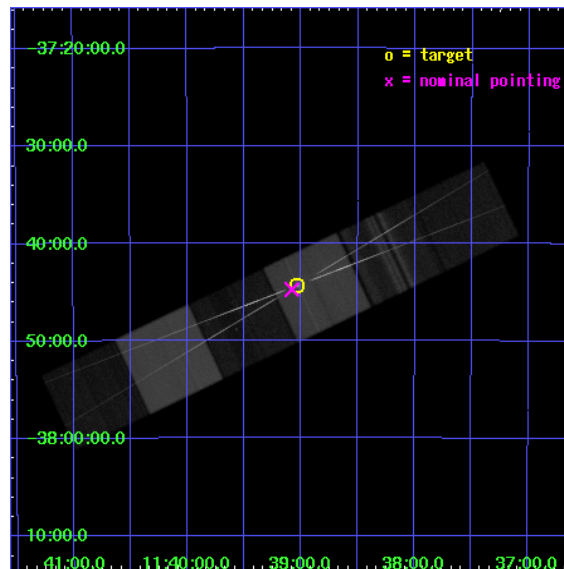
L2 Processing Date : Oct 25 2007

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>3</b>	<b>Gratings</b>	<b>17</b>
3.1	HEG Arm . . . . .	17
3.2	MEG Arm . . . . .	19
<b>A</b>	<b>Summary</b>	<b>21</b>
A.1	Status . . . . .	21
A.2	Comments . . . . .	21

# 1 Front

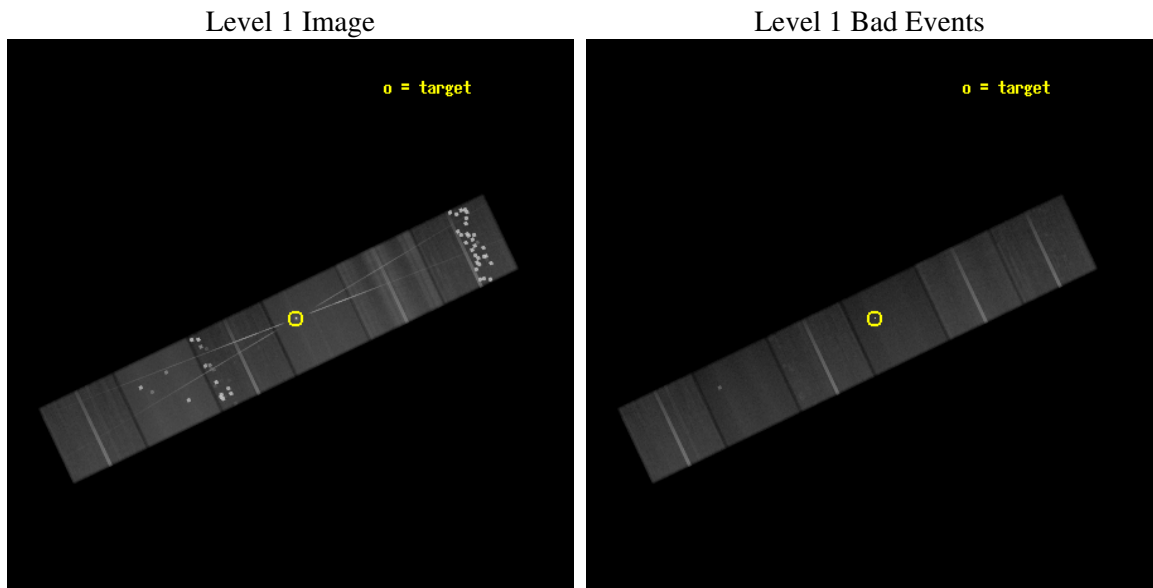
seq_num	700283
obs_id	2093
title	DETERMINING THE NATURE OF THE VARIABLE ABSORPTION IN NGC 3783 WITH CHANDRA/HST
observer	Dr. Ian George
object	NGC 3783
dtcycle	0
cycle	P
ra_targ	174.76
dec_targ	-37.74
ra_nom	174.77005450435
dec_nom	-37.745734551352
roll_nom	334.49562161003
revision	4
ontime	168252.8001567
livetime	166122.28189144
ontime4	168249.55918644
ontime5	168252.8001567
ontime6	168252.8001567
ontime7	168252.8001567
ontime8	168249.55929606
ontime9	168249.55915652
l2events	2037495



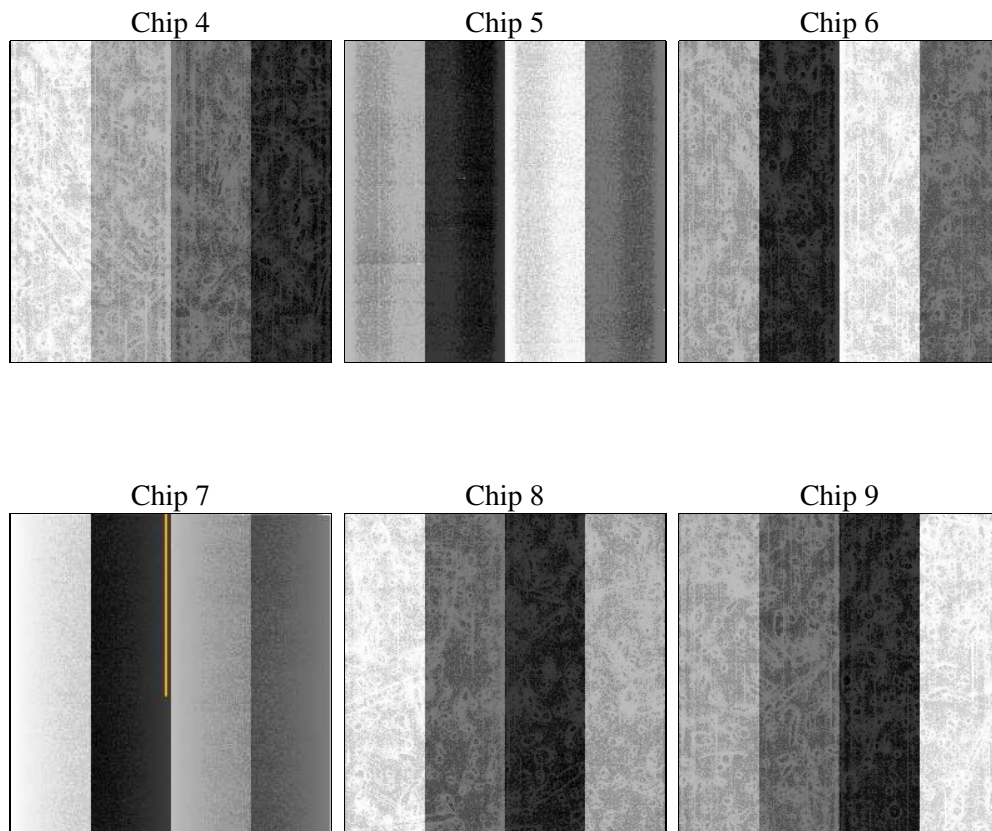
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0
ascdsver	7.6.11.1
caldbver	3.4.1
date	2007-10-11T19:58:21
revision	3

sched_exp_time	168097.626000
ontime	168252.8001567
ontime4	168249.55918644
ontime5	168252.8001567
ontime6	168252.8001567
ontime7	168252.8001567
ontime8	168249.55929606
ontime9	168249.55915652
l1events	10175862

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	1234723	1537118	1695908	1479158	1691373	2537582
rejected events	1073907	790457	974755	795716	1112273	968372
rejected %	86%	51%	57%	53%	65%	38%

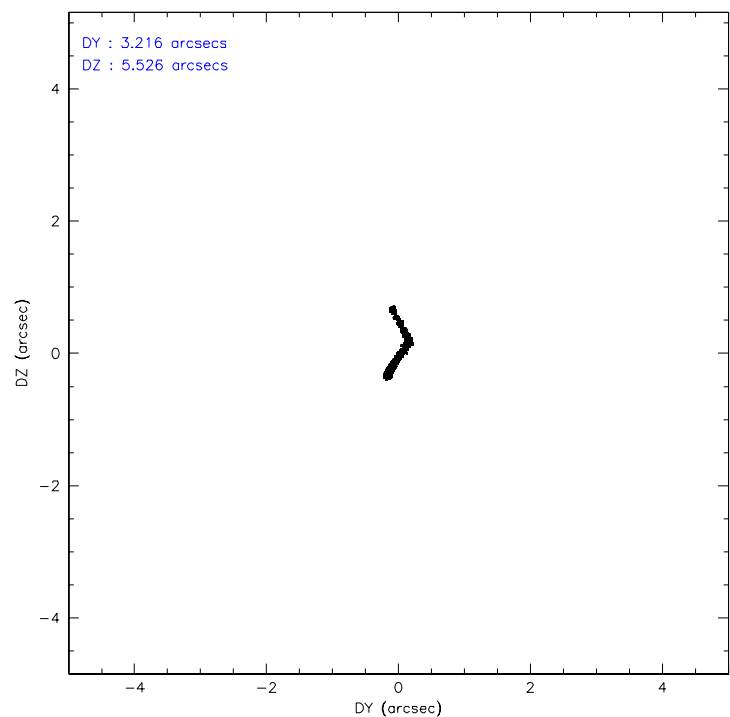
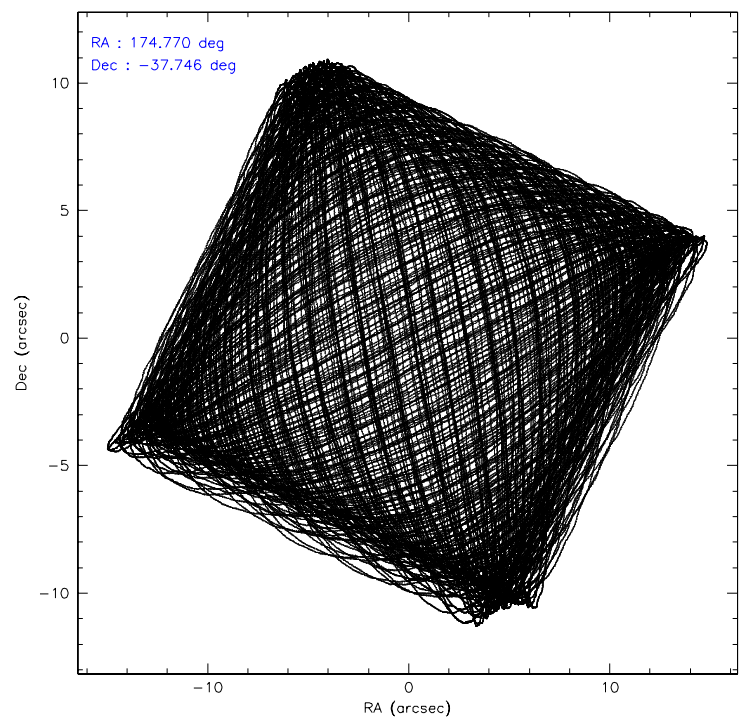
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	68394	141763	616668	78701	221972	148842
	5%	9%	36%	5%	13%	58%
grade 1 events	681	6287	1295	2551	1616	1345
	0%	0%	0%	0%	0%	0%
grade 2 events	42610	201806	43724	141746	93769	33818
	3%	13%	2%	9%	5%	1%
grade 3 events	12204	33432	16371	64183	84131	12914
	0%	2%	0%	4%	4%	0%
grade 4 events	12237	32423	16189	63830	75820	12511
	0%	2%	0%	4%	4%	0%
grade 5 events	37073	110145	43670	131845	57579	44360
	3%	7%	2%	8%	3%	1%
grade 6 events	27544	341645	32197	338341	118455	29673
	2%	22%	1%	22%	7%	1%
grade 7 events	1033980	669617	925794	657961	1038031	914532
	83%	43%	54%	44%	61%	36%

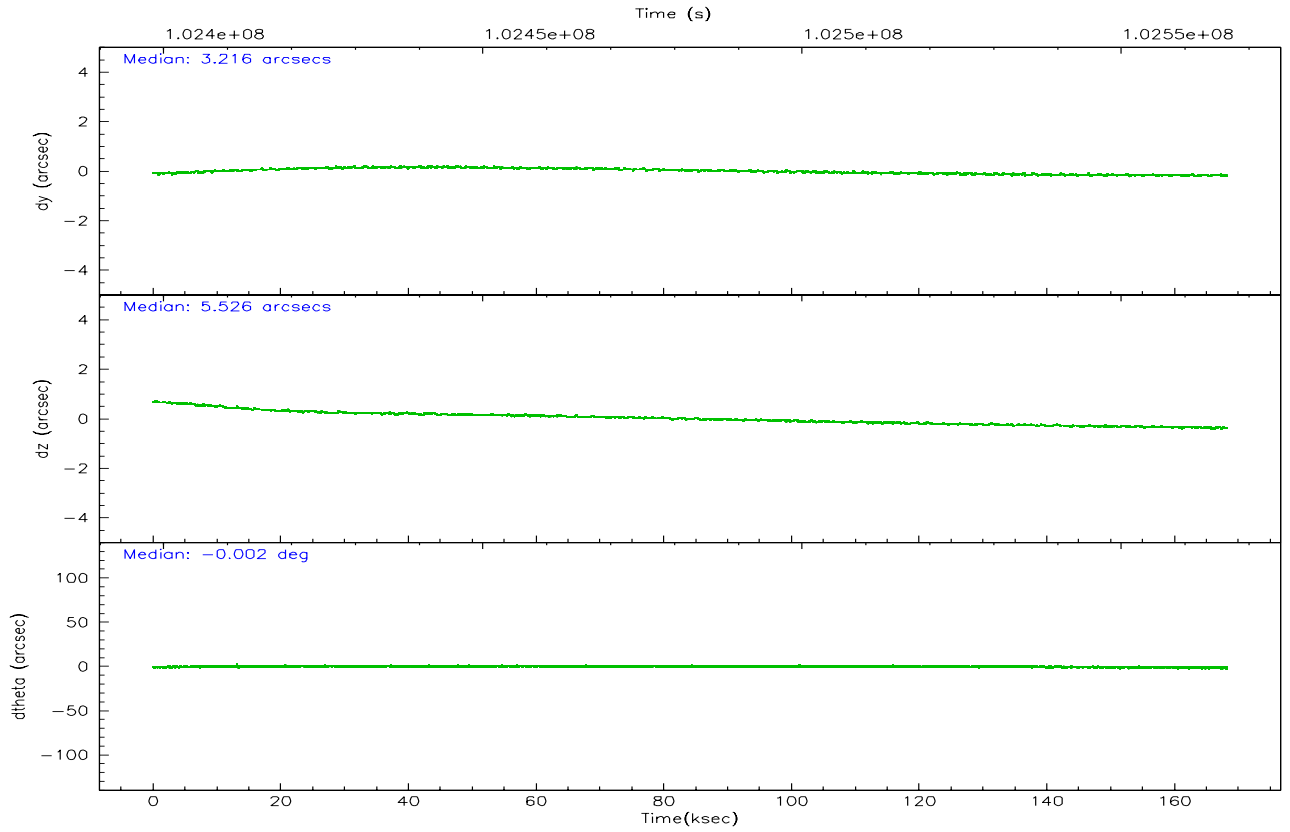
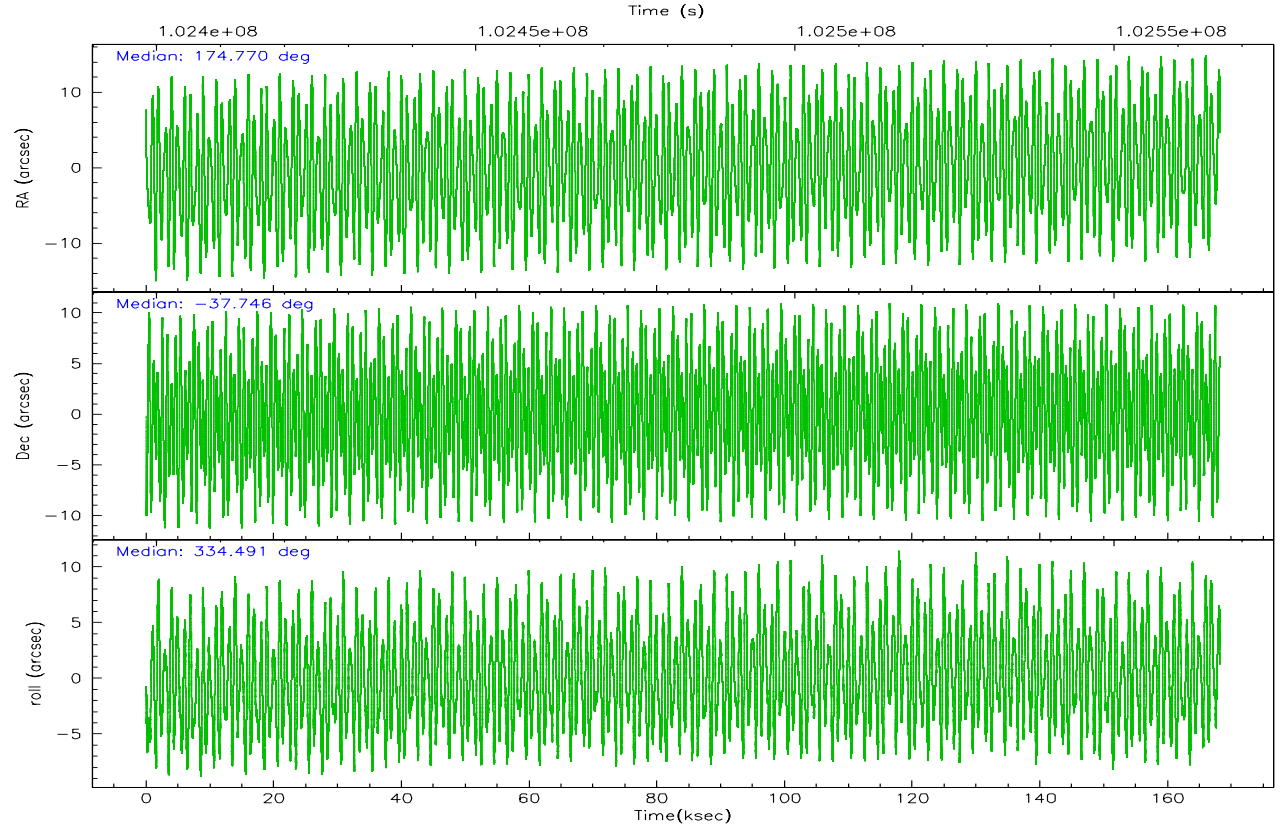


## 2.2 Compared Parameters

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	174.735645	174.7700545043492	Subarray requested	NONE	NONE
Pointing Dec	-37.748128	-37.74573455135249	Alternating exposures requested	N	N
Pointing Roll	334.317931	334.4956216100273	Primary exposure time	0.000000	3.2
Window start time	102255269.184000	102255269.184000			
Window stop time	102564495.184000	102564495.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-187.132523	-187.1228876879999			
SIM translation stage offset (mm)	-3	-3.009634895007935			
Observation start time	102398475.184000	102396987.99817			
Observation start date	2001-03-31T04:00:11	2001-03-31T03:36:27			
Observation end time	102566573.184000	102566887.90475			
Observation end date	2001-04-02T02:41:49	2001-04-02T02:48:07			
Read mode	TIMED	TIMED			

## 2.3 Aspect



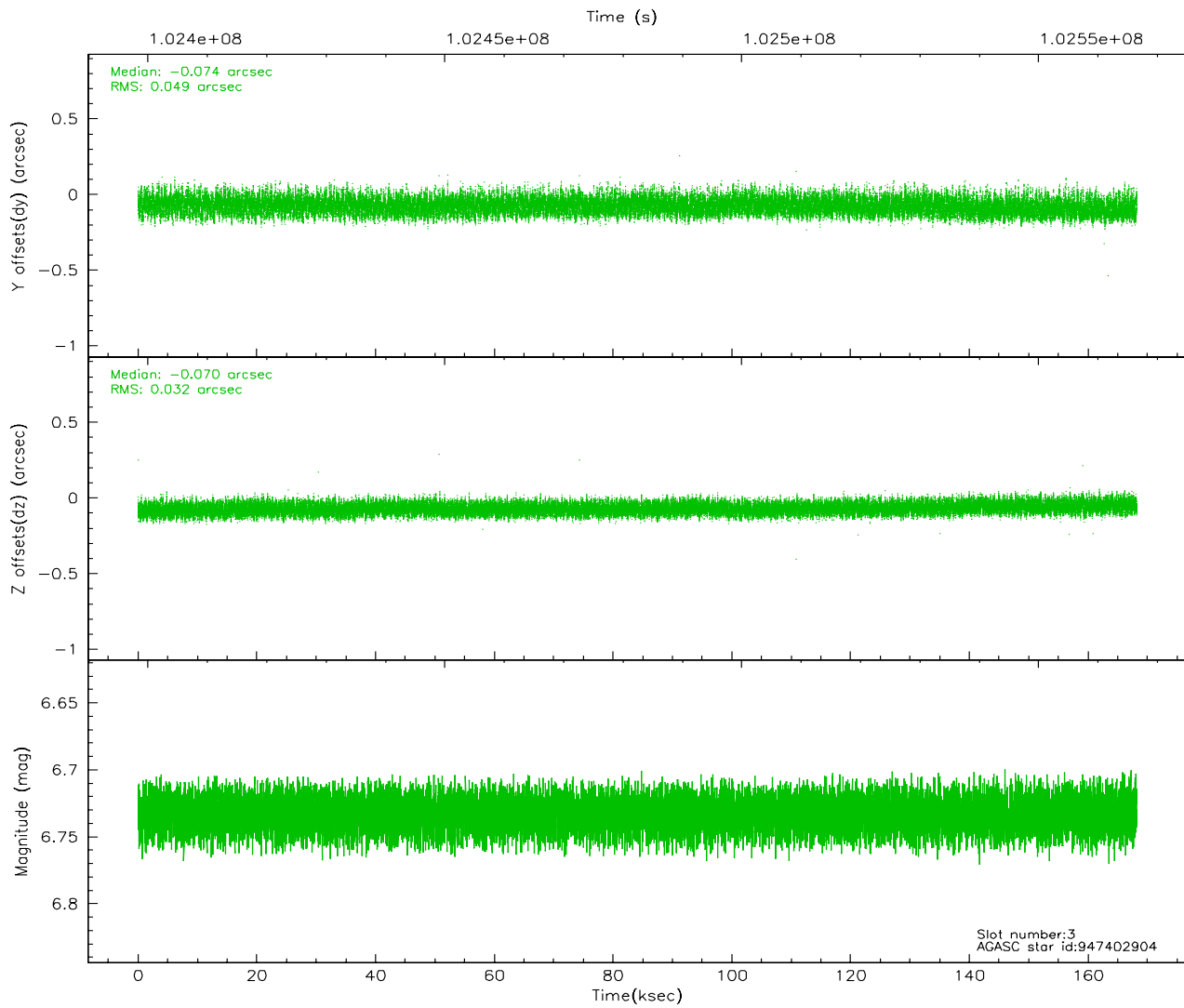
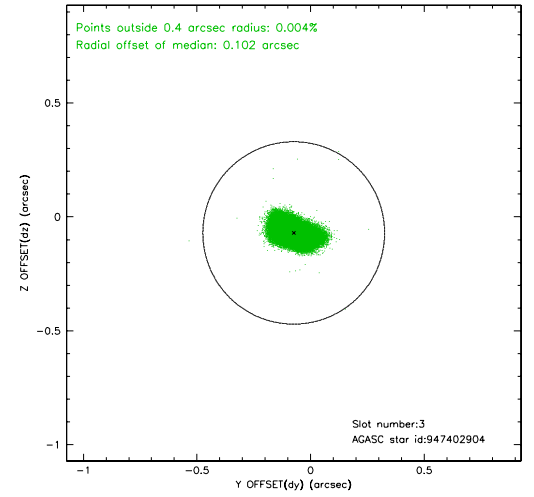
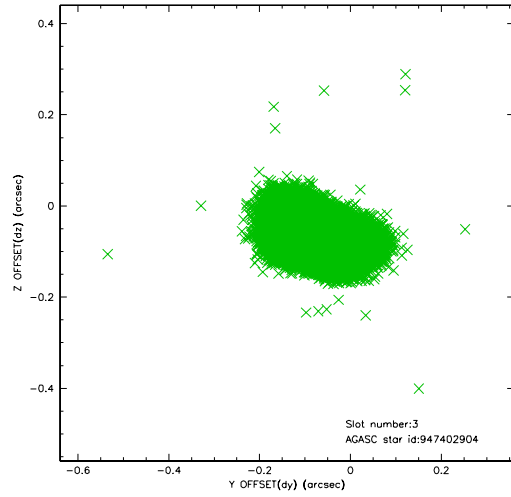


### Slot Statistics

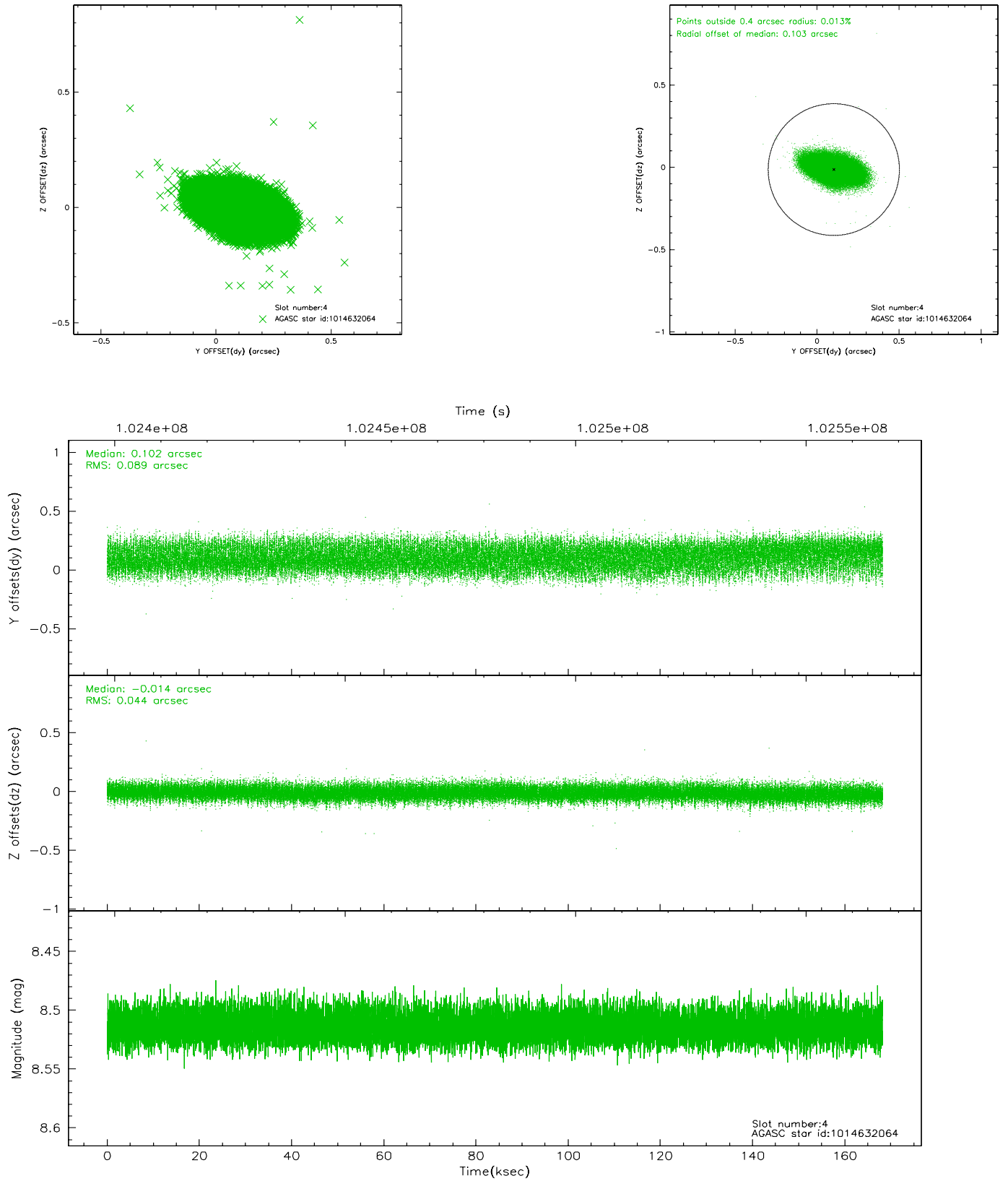
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-3	7.36	41039	-0.071	-0.013	0.017	0.037	0.000000	0.000000	57.41	-1917.89
1	FID	ACIS-S-4	7.20	41038	-0.026	0.044	0.012	0.028	0.000000	0.000000	2157.67	119.76
2	FID	ACIS-S-5	7.24	41037	0.068	-0.020	0.012	0.021	0.000000	0.000000	-1808.58	113.37
3	GUIDE	947402904	6.73	82066	-0.074	-0.070	0.062	0.102	174.169681	-37.237184	-2256.62	949.75
4	GUIDE	1014632064	8.52	82060	0.102	-0.014	0.105	0.173	175.171132	-38.575856	2398.05	-2157.10
5	GUIDE	1014503144	9.40	82038	-0.137	0.107	0.095	0.152	173.784068	-38.105393	-1865.45	-2340.14
6	GUIDE	947520080	9.02	82051	-0.015	-0.044	0.085	0.135	175.691602	-37.398197	1924.28	2307.44
7	GUIDE	1014497968	10.01	82013	0.128	0.020	0.115	0.192	174.377296	-37.990619	-536.39	-1229.42

## 2.4 Star Slots

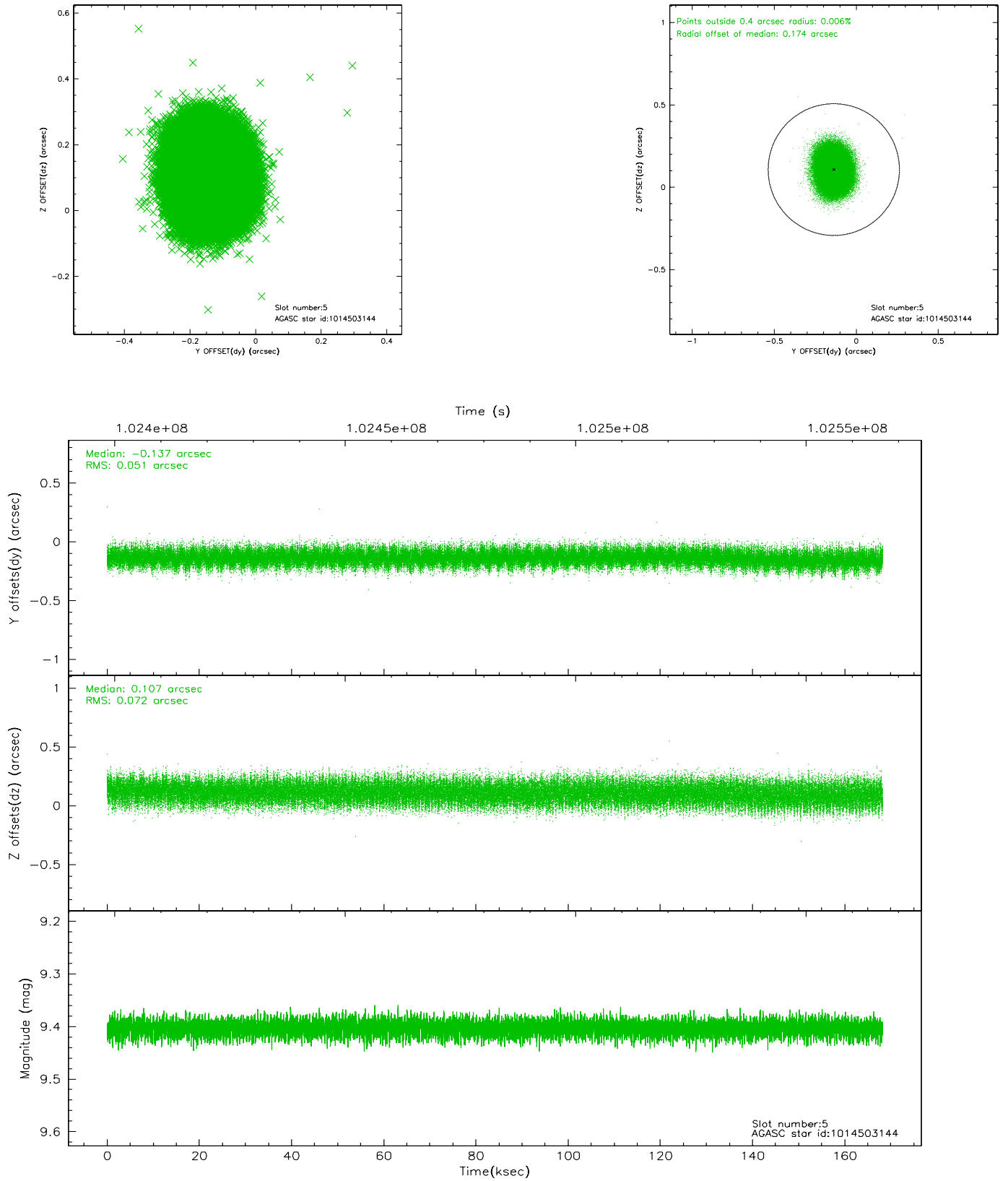
### 2.4.1 Slot 3



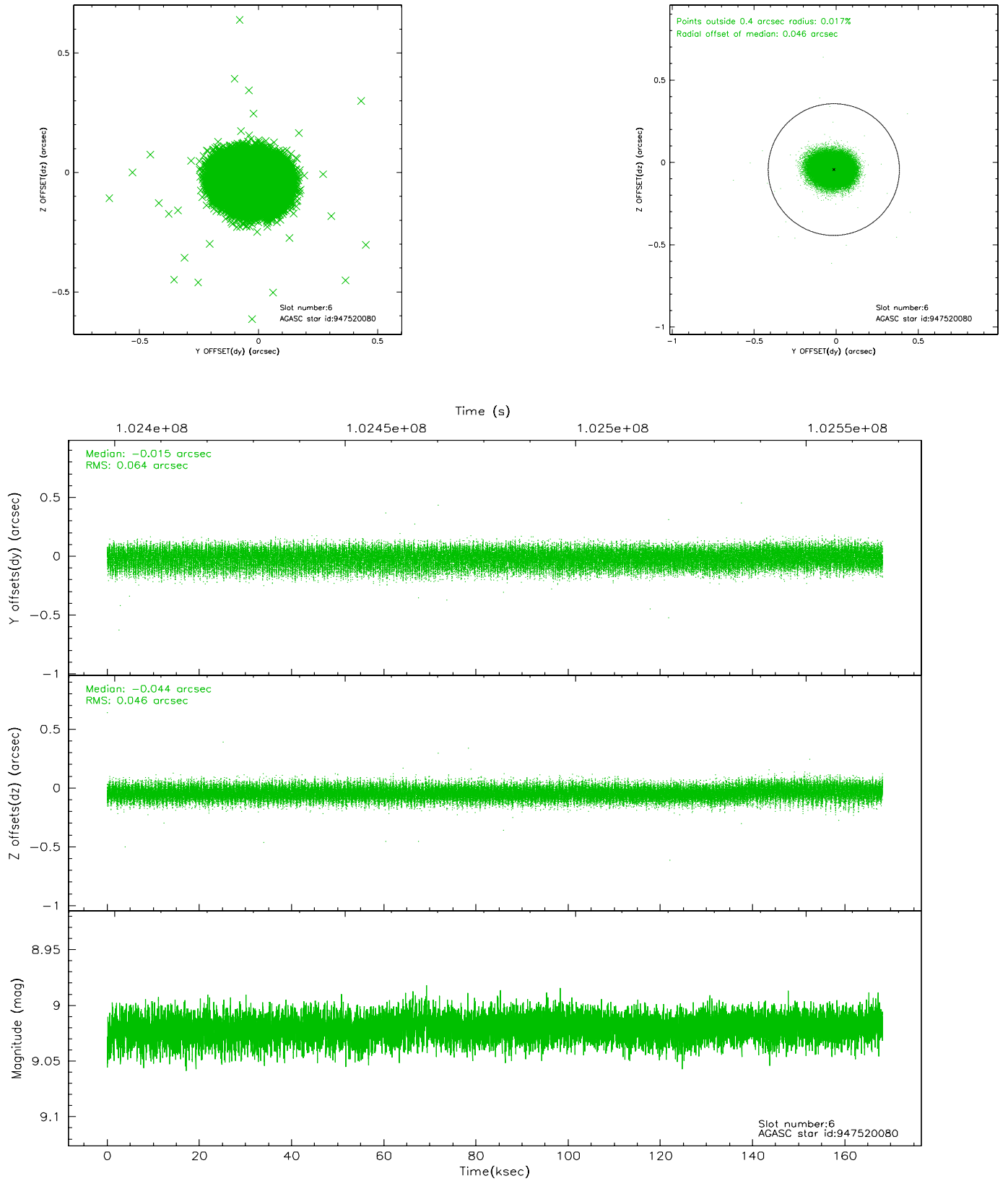
## 2.4.2 Slot 4



### 2.4.3 Slot 5

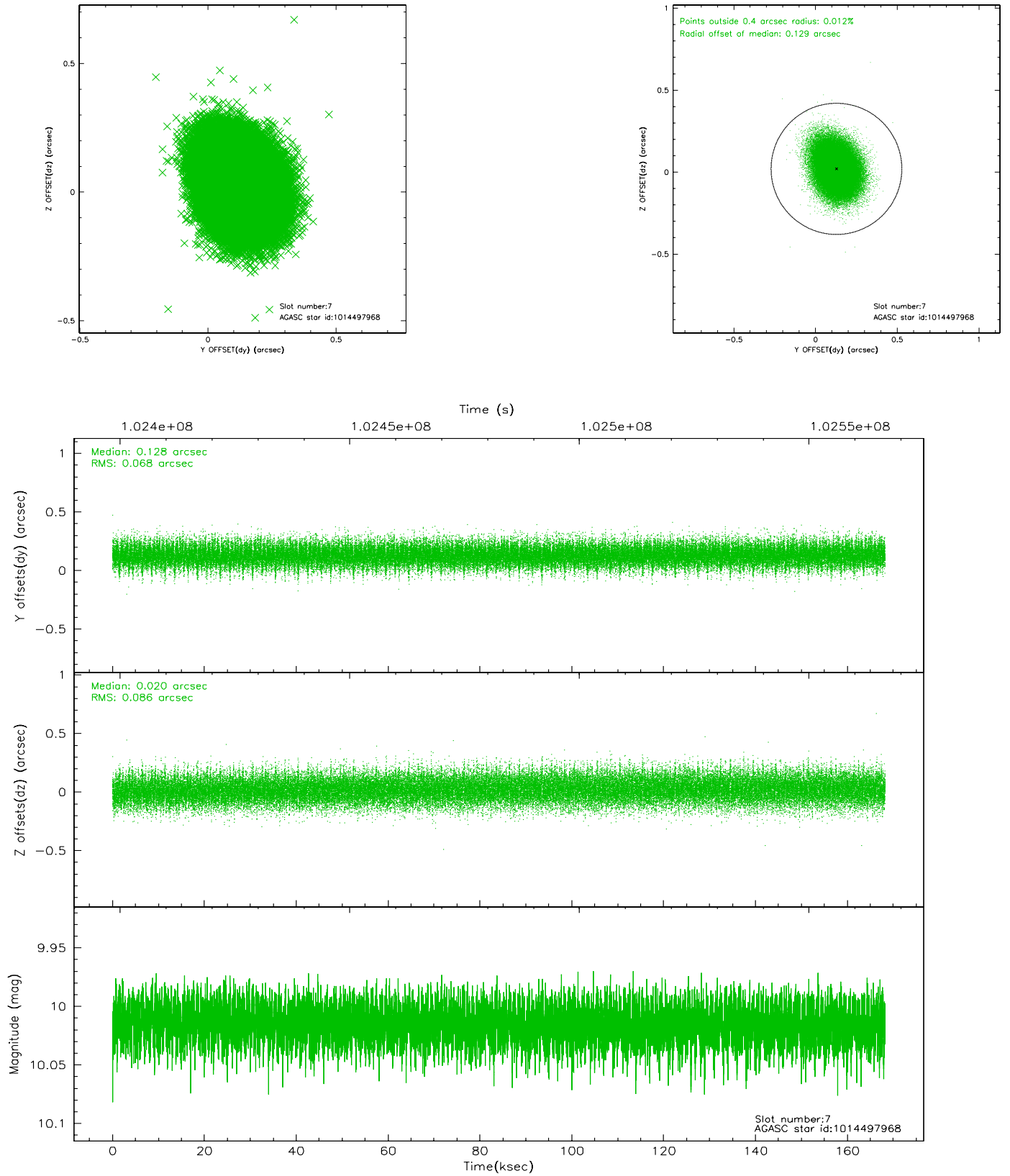


## 2.4.4 Slot 6



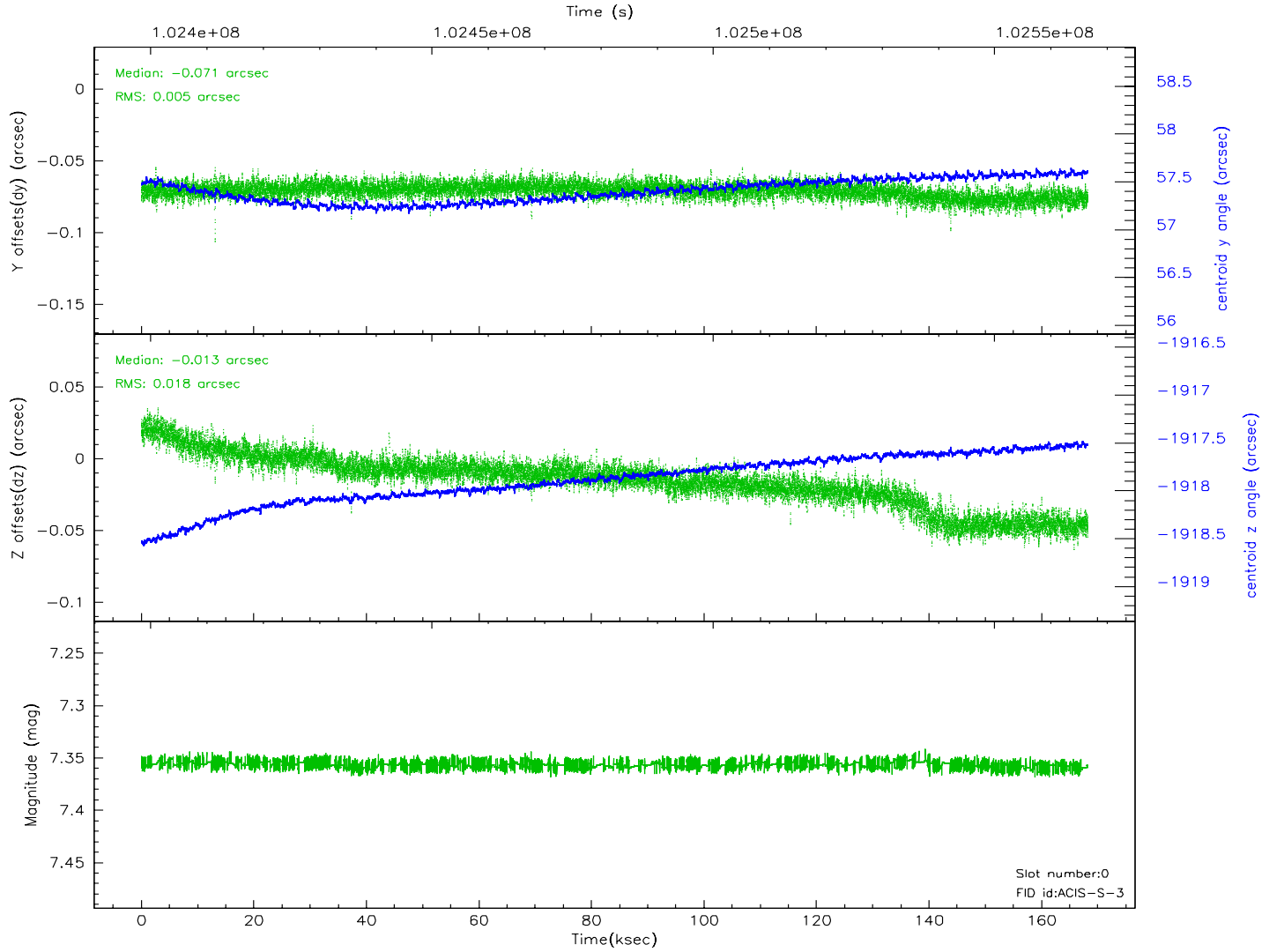
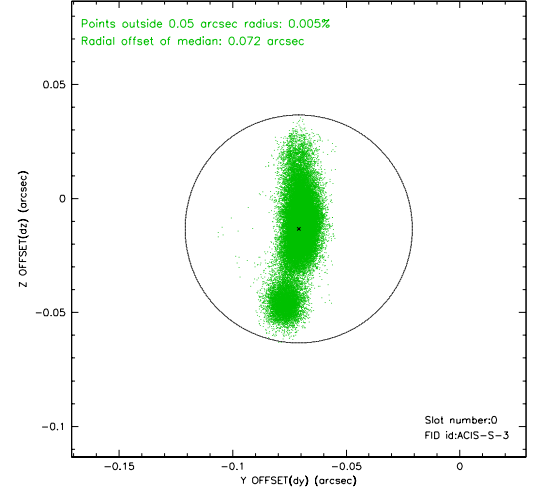
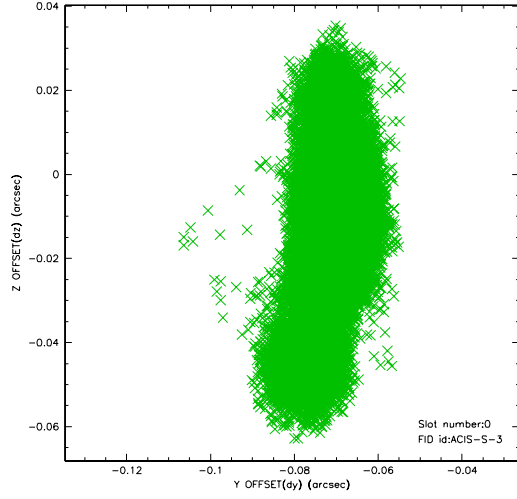


## 2.4.5 Slot 7

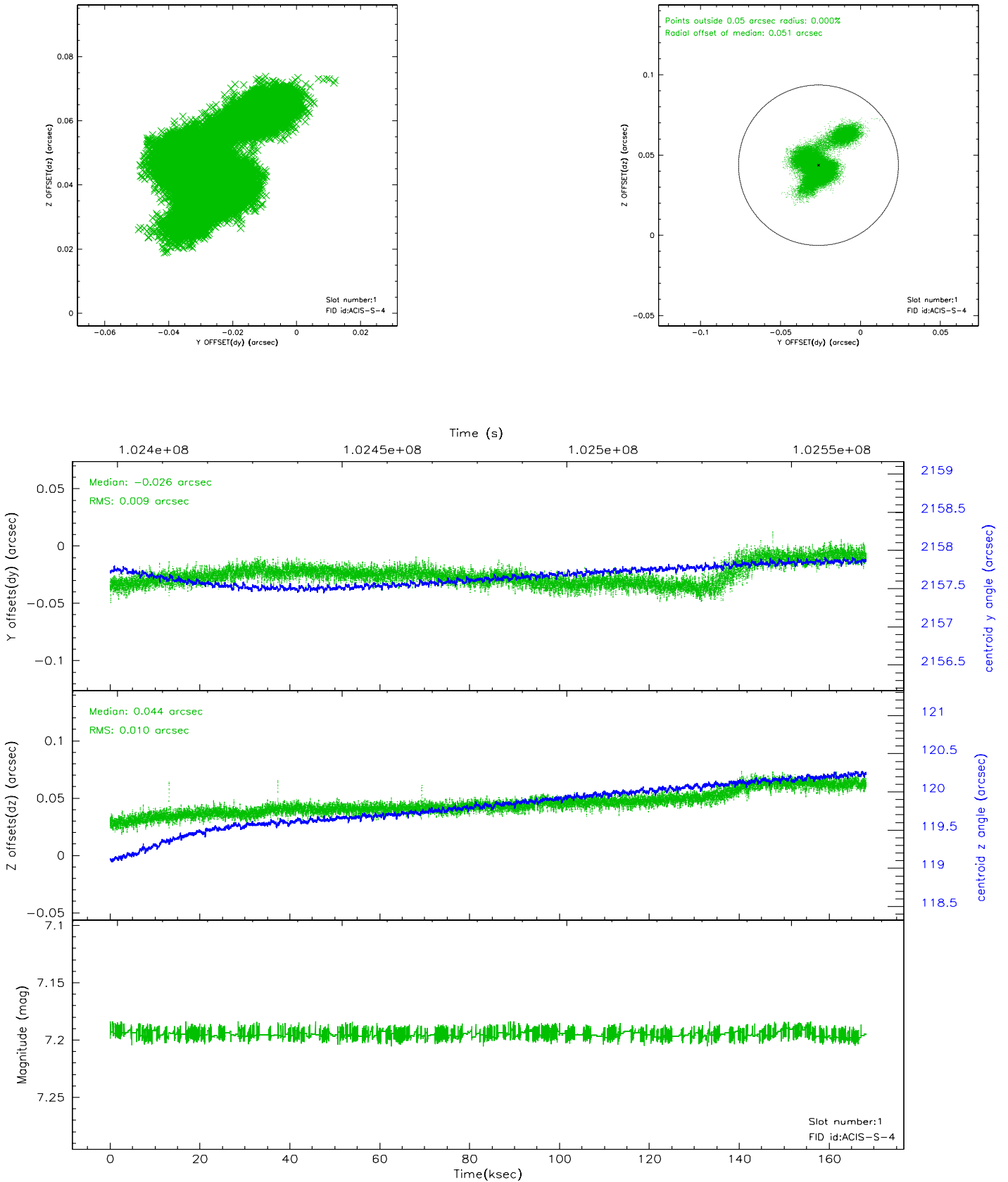


## 2.5 FID Slots

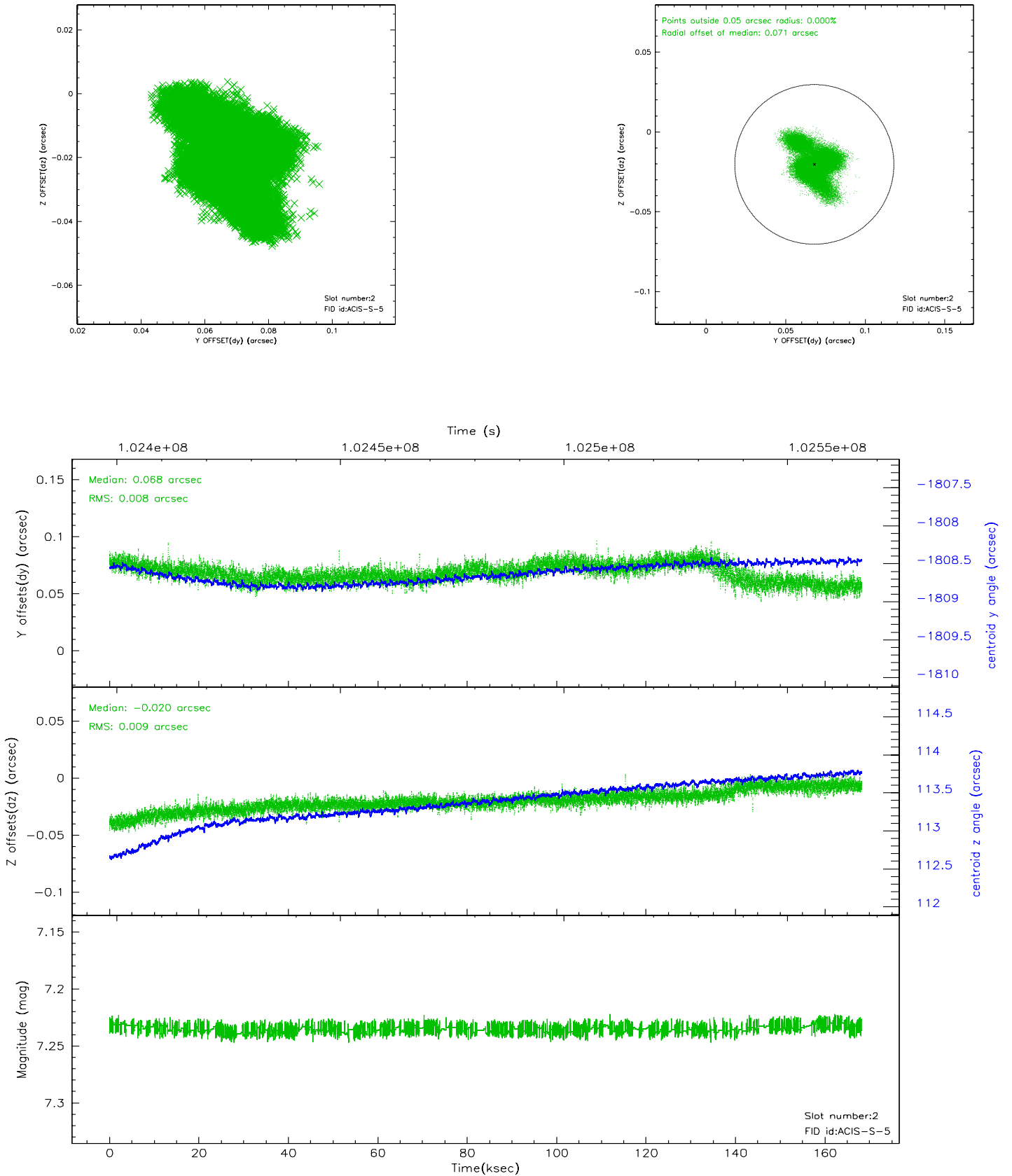
### 2.5.1 Slot 0



## 2.5.2 Slot 1

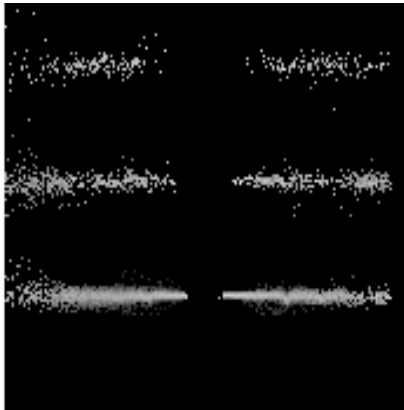


### 2.5.3 Slot 2

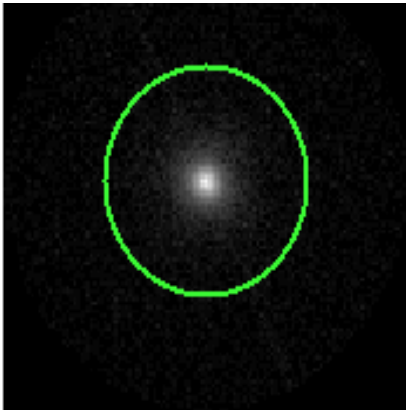


# 3 Gratings

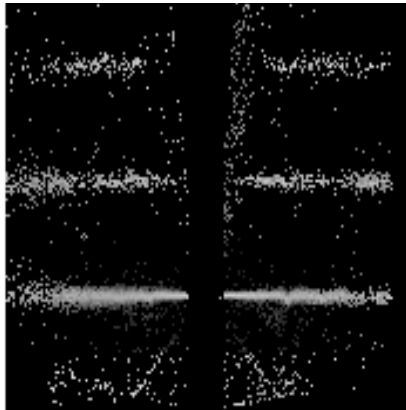
## 3.1 HEG Arm



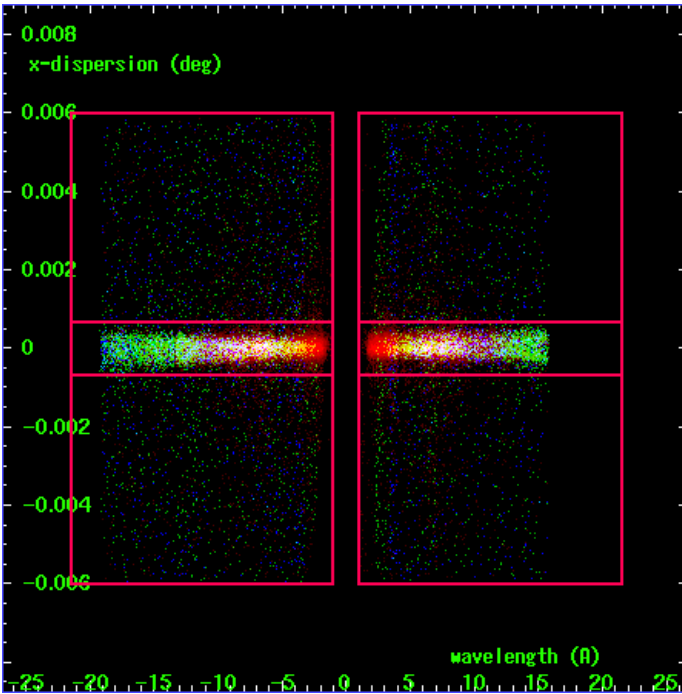
HEG Order Sort 123



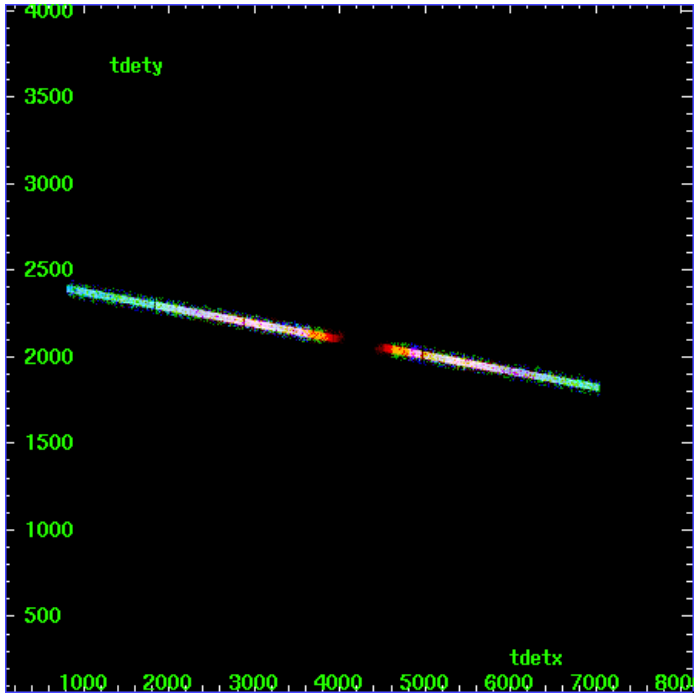
HEG Zero Order



HEG Order Sort ALL

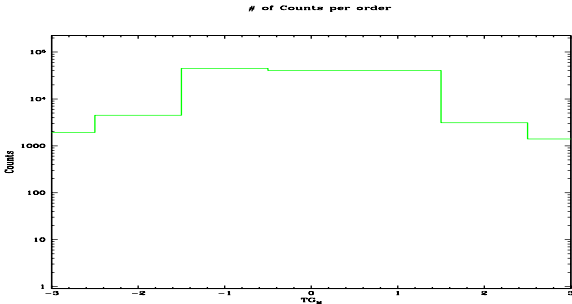


Spot Image HEG

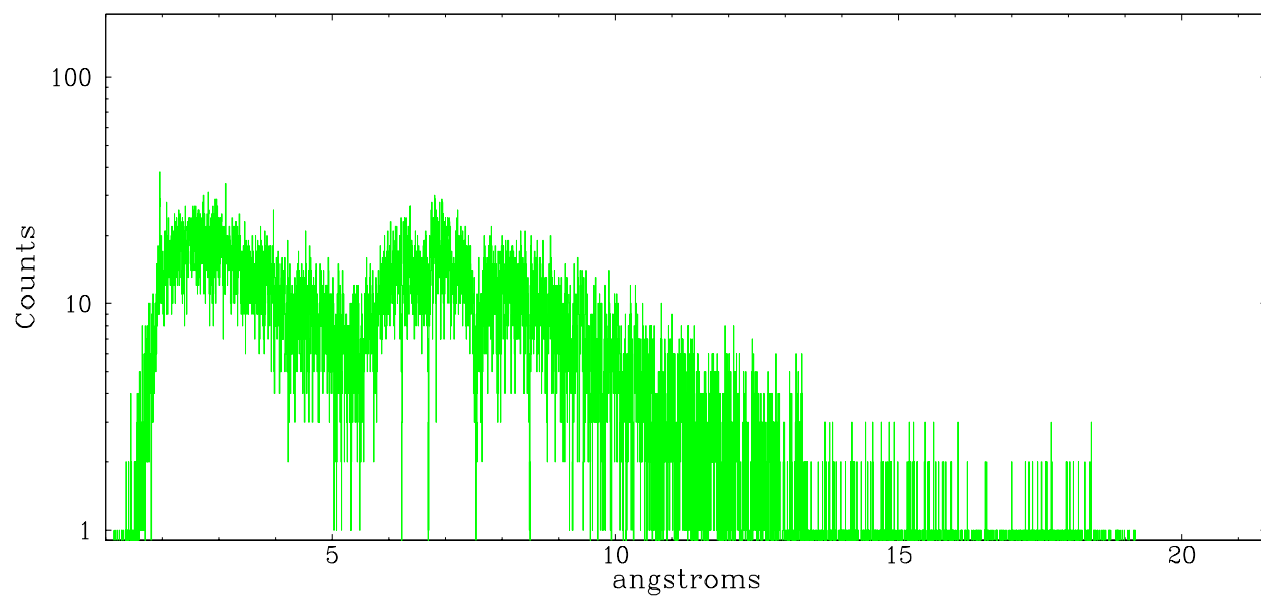


Full Detector HEG

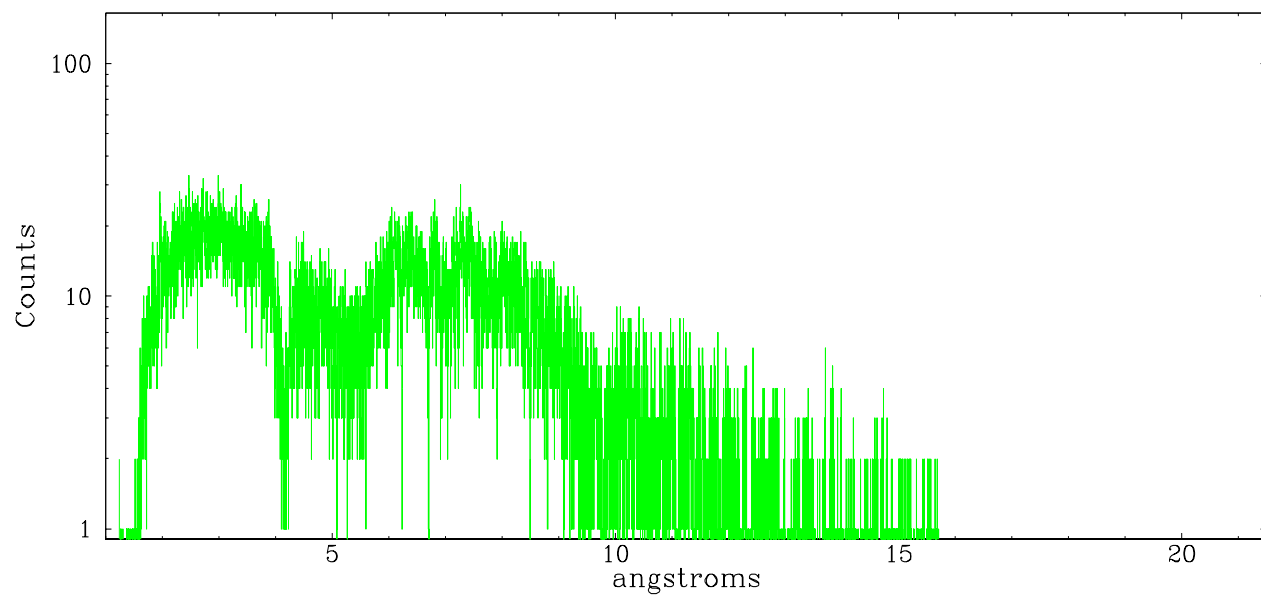
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1925	4502	44786	40492	40391	3098	1394



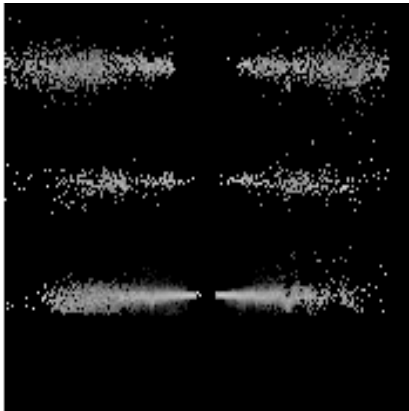
heg order -1



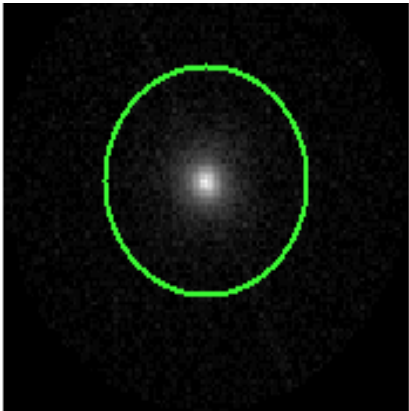
heg order +1



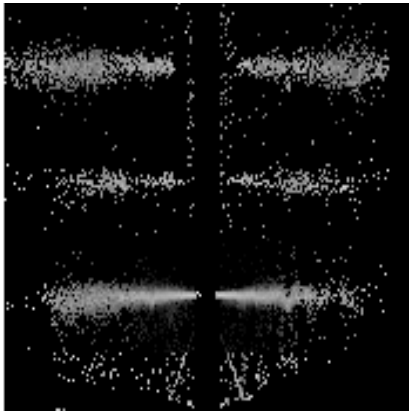
### 3.2 MEG Arm



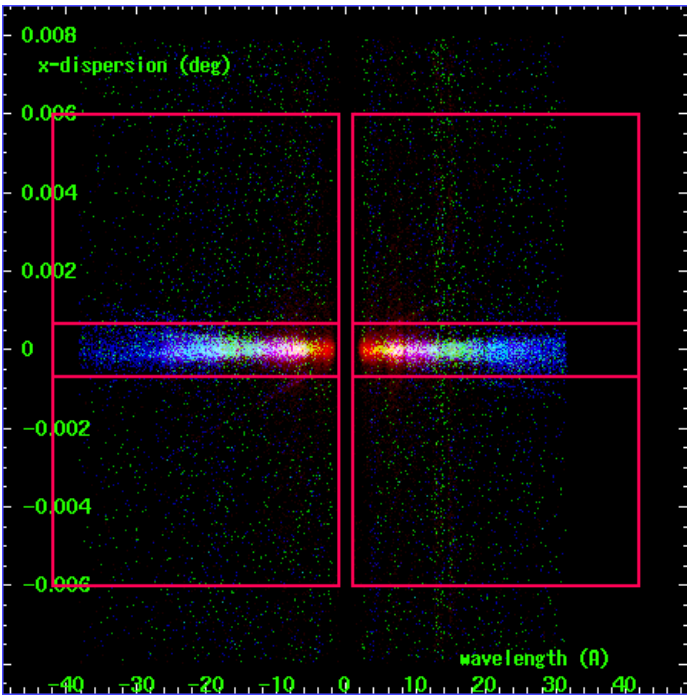
MEG Order Sort 123



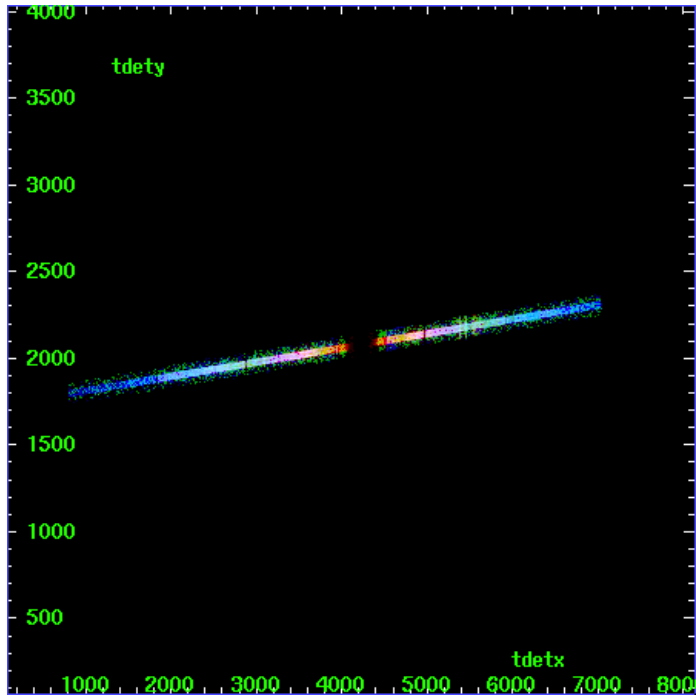
MEG Zero Order



MEG Order Sort ALL

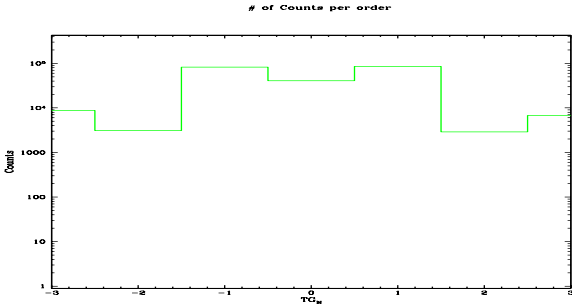


Spot Image MEG

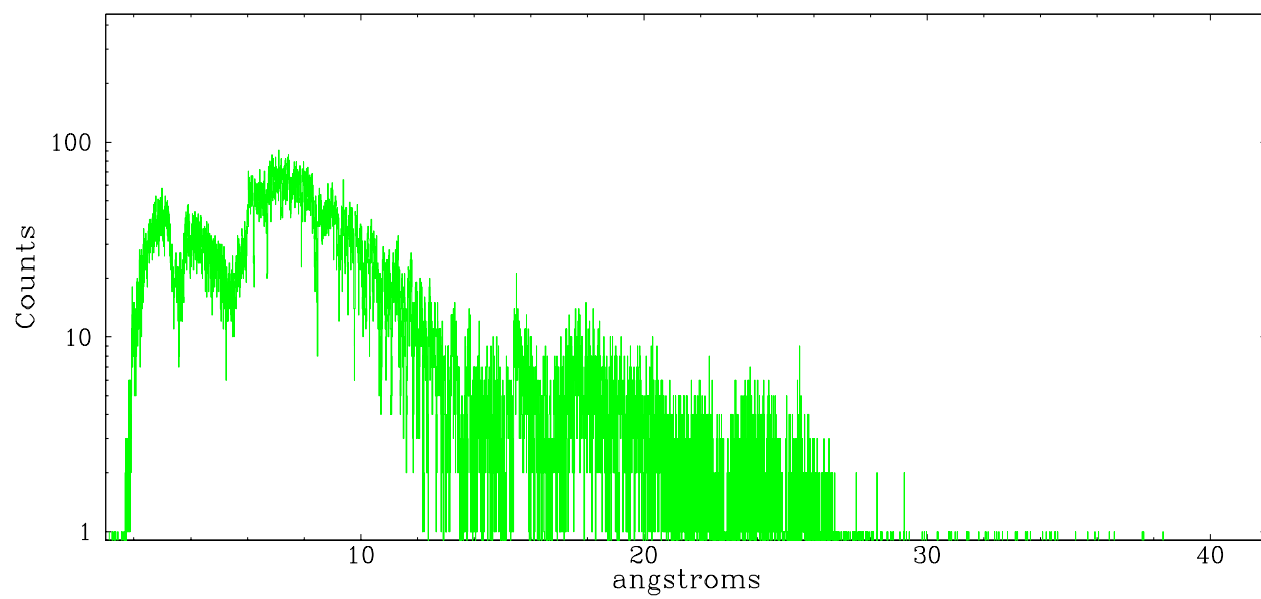


Full Detector MEG

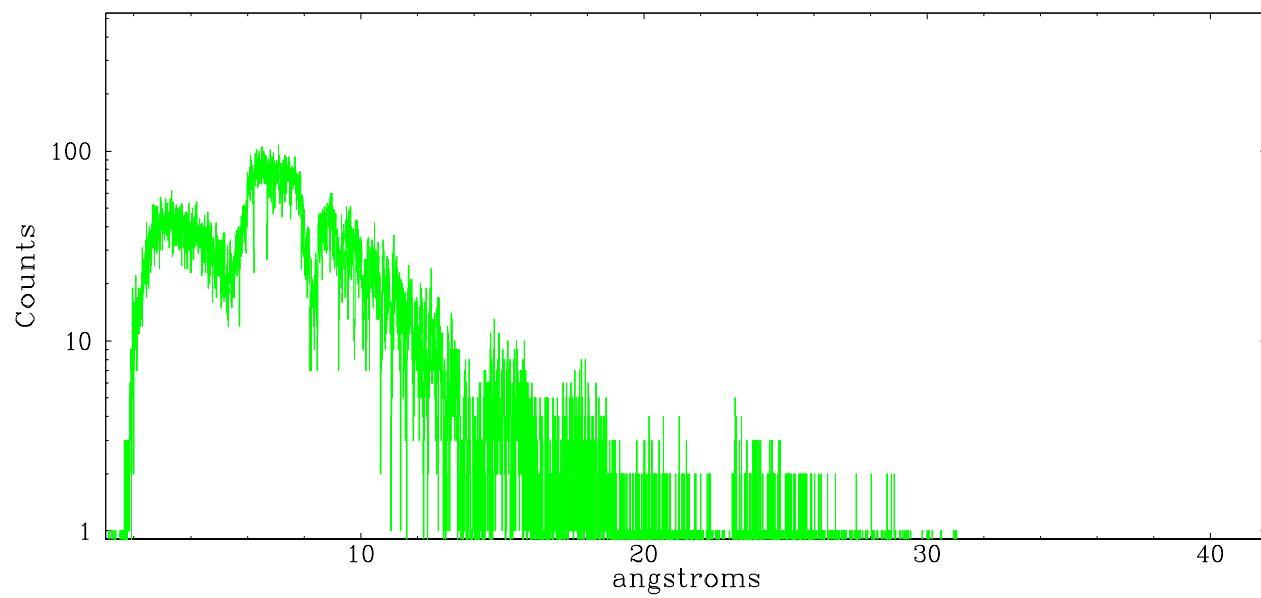
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	8810	3107	82194	40492	85087	2884	6788



meg order -1



meg order +1





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2007.11.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	168.2

## A.2 Comments

Bias values of limited regions appear to be anomalously low for a some nodes of two chips, S2 and S5. In the final data products they result in higher brightness regions or de-dithered hot pixels. The cause of this anomaly seems to be due to cosmic ray blooms which affect many pixels. The spurious events all have low pulse height and do not affect the grating spectrum, since there are both strong spatial and energy discriminants in the grating processing.

Reprocessed with the findzo-determined zero order coordinate of (X = 4171.42, Y=4148.87), since the zero order image is slightly extended and significantly piled.

Time window constraint:

Requested:

Mar 29 2001 12:13PM Apr 2 2001 2:07AM

Actual: 2001-03-31T03:36:27 2001-04-02T02:48:07

which slightly exceeds the requested stop time.