

# V&V Reference Report

## L2 ASCDS Version : 7.6.7.2

Observation 4589 - L2 Version 3  
Chandra X-Ray Center

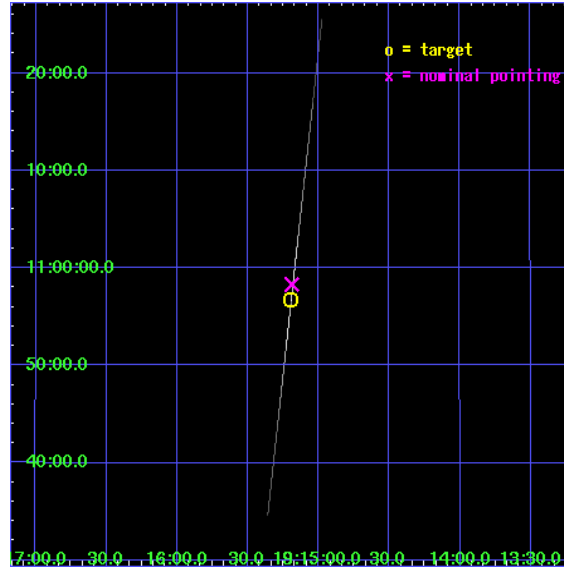
L2 Processing Date : Apr 23 2008

## 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	Parameters . . . . .	4
2.1.3	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

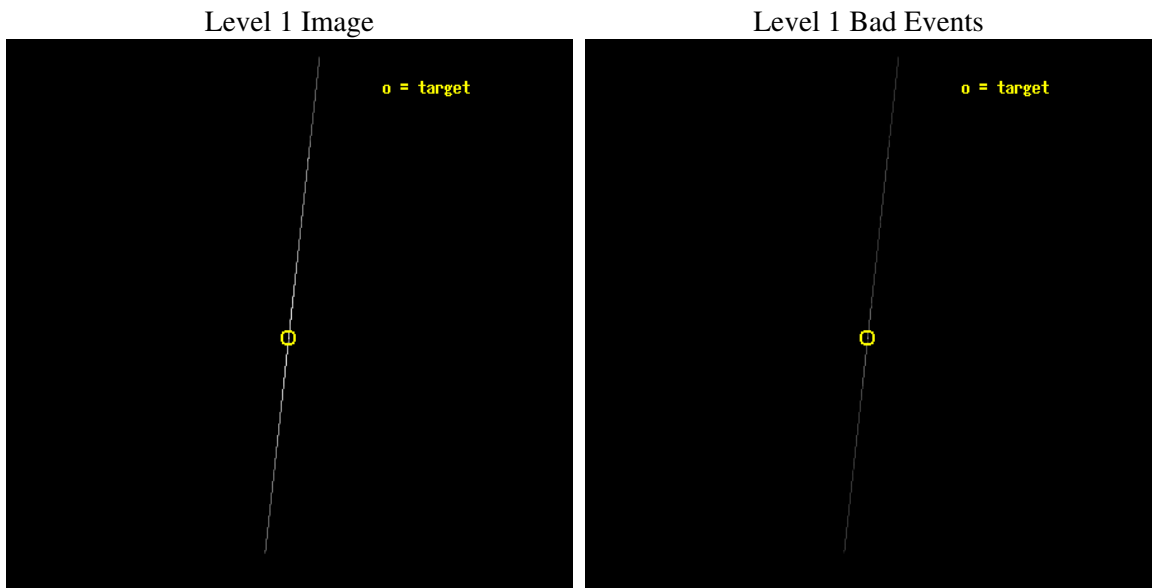
seq_num	400371
obs_id	4589
title	Probe the relativistic Out-flow in the microquasar GRS1915+105 with HETG/Chandra
observer	Dr. Yuxin Feng
object	GRS 1915+105
ra_targ	288.798333
dec_targ	10.945806
ra_nom	288.79715693604
dec_nom	10.971996847023
roll_nom	96.301509786688
revision	3
ontime	30138.25
livetime	30020.522460938
ontime4	30138.25
ontime5	30138.25
ontime6	30138.25
ontime7	30138.25
ontime8	30138.25
ontime9	30138.25
l2events	3692515



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0
ascdsver	7.6.11.6
caldsver	3.4.4
date	2008-04-11T18:06:13
revision	3

sched_exp_time	30000.000000
ontime	30138.25
ontime4	30138.25
ontime5	30138.25
ontime6	30138.25
ontime7	30138.25
ontime8	30138.25
ontime9	30138.25
l1events	4152350

### 2.1.3 Events

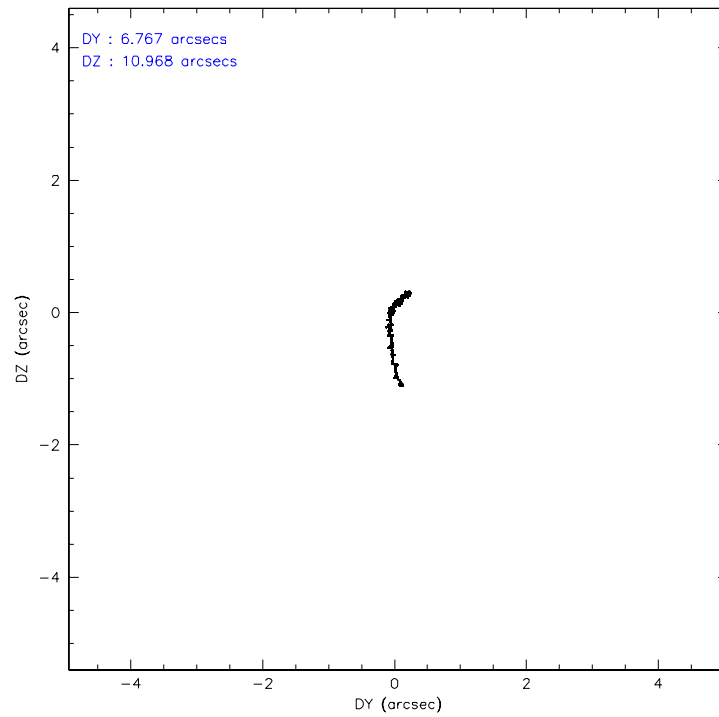
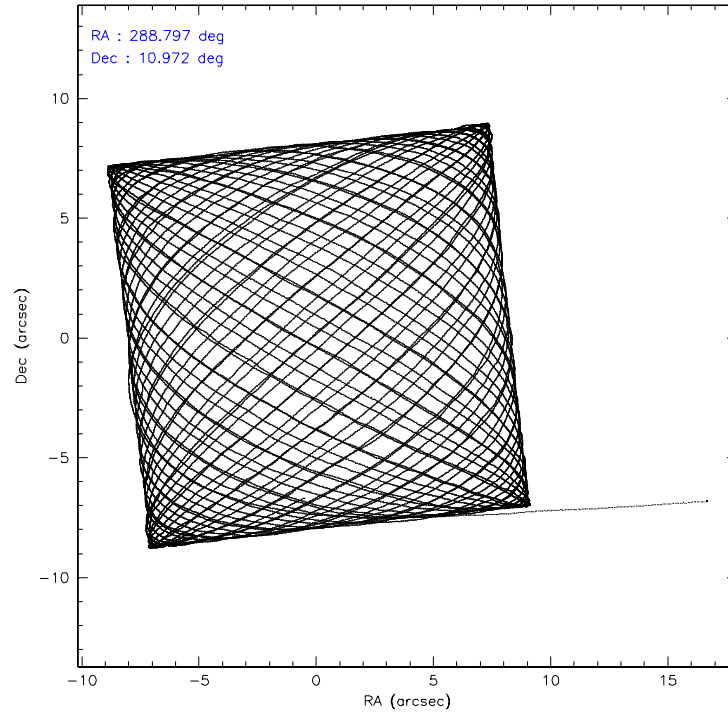
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	84712	293427	870695	2266629	513667	123220
rejected events	21375	34805	30963	85468	30920	23548
rejected %	25%	11%	3%	3%	6%	19%

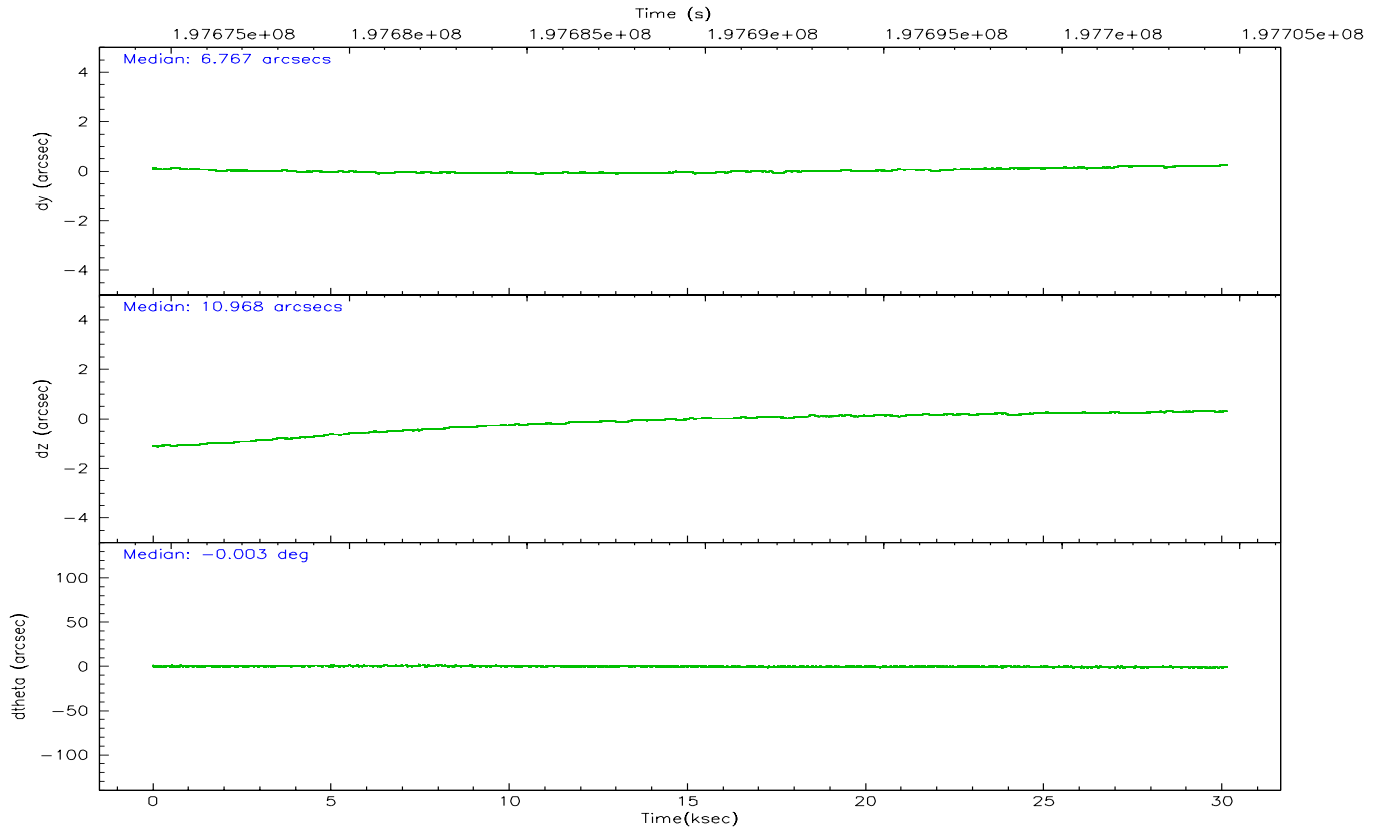
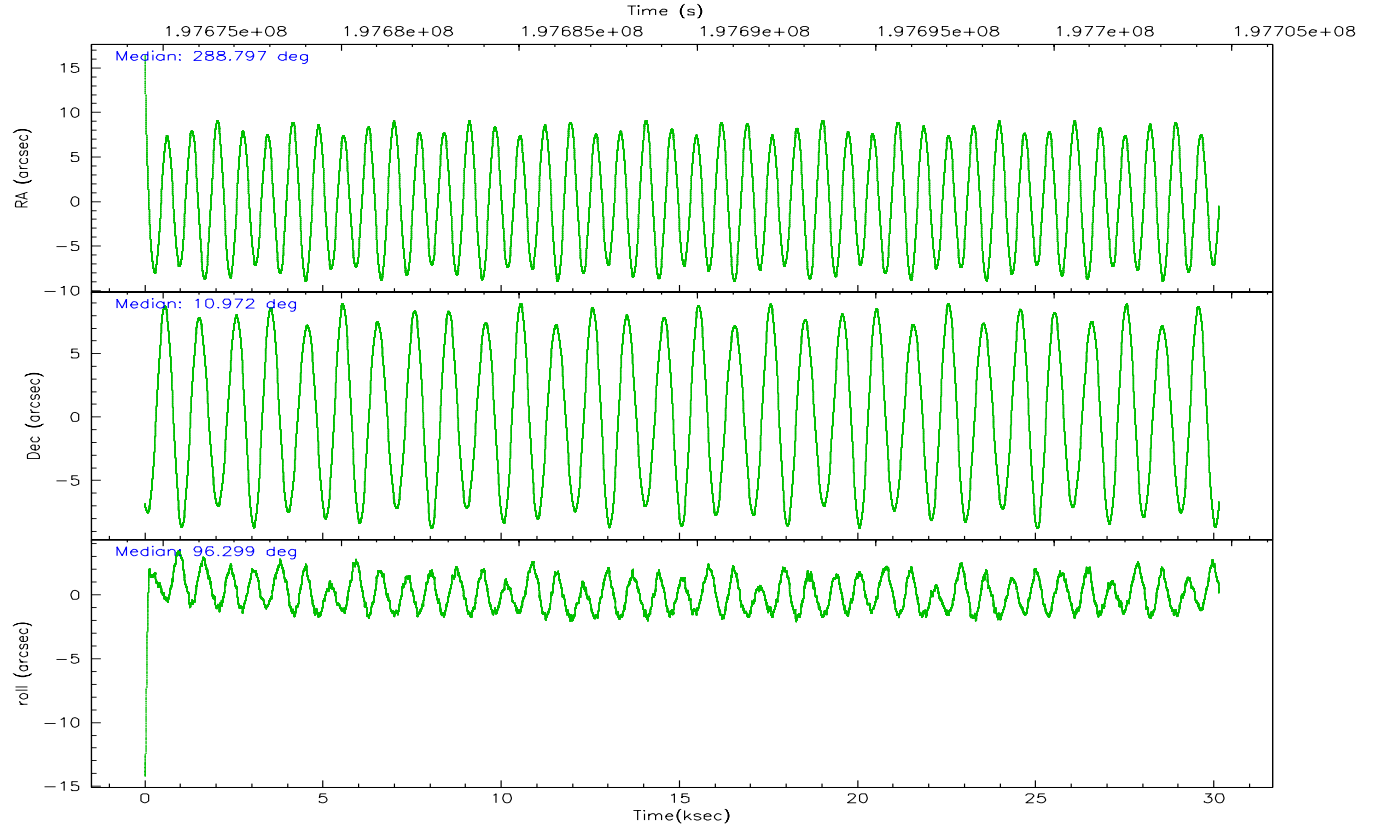
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	5214	40047	12186	151115	26002	7131
	6%	13%	1%	6%	5%	5%
grade 1 events	120	193	139	1433	305	151
	0%	0%	0%	0%	0%	0%
grade 2 events	48152	102096	734929	865483	394741	78122
	56%	34%	84%	38%	76%	63%
grade 3 events	4913	4547	5114	87617	9279	4611
	5%	1%	0%	3%	1%	3%
grade 4 events	5137	4312	4882	86403	8884	5144
	6%	1%	0%	3%	1%	4%
grade 5 events	7830	17298	12462	58246	13455	9480
	9%	5%	1%	2%	2%	7%
grade 6 events	13346	124934	100983	1016332	61001	18581
	15%	42%	11%	44%	11%	15%
grade 7 events	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%

## 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	CC33_GRADED	CC33_GRADED	On-chip summing requested	N	N
Observation mode	POINTING	POINTING	Subarray requested	NONE	NONE
Pointing RA	288.813890	288.7971569360367	Alternating exposures requested	N	N
Pointing Dec	10.950300	10.97199684702334	Primary exposure time	0.000000	0
Pointing Roll	96.141703	96.3015097866875			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-194.132523	-194.1227414875429			
SIM translation stage offset (mm)	4	3.990218904535112			
Observation start time	197674646.184000	197673583.75174			
Observation start date	2004-04-06T21:36:22	2004-04-06T21:19:43			
Observation end time	197704646.184000	197705633.96565			
Observation end date	2004-04-07T05:56:22	2004-04-07T06:13:53			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect





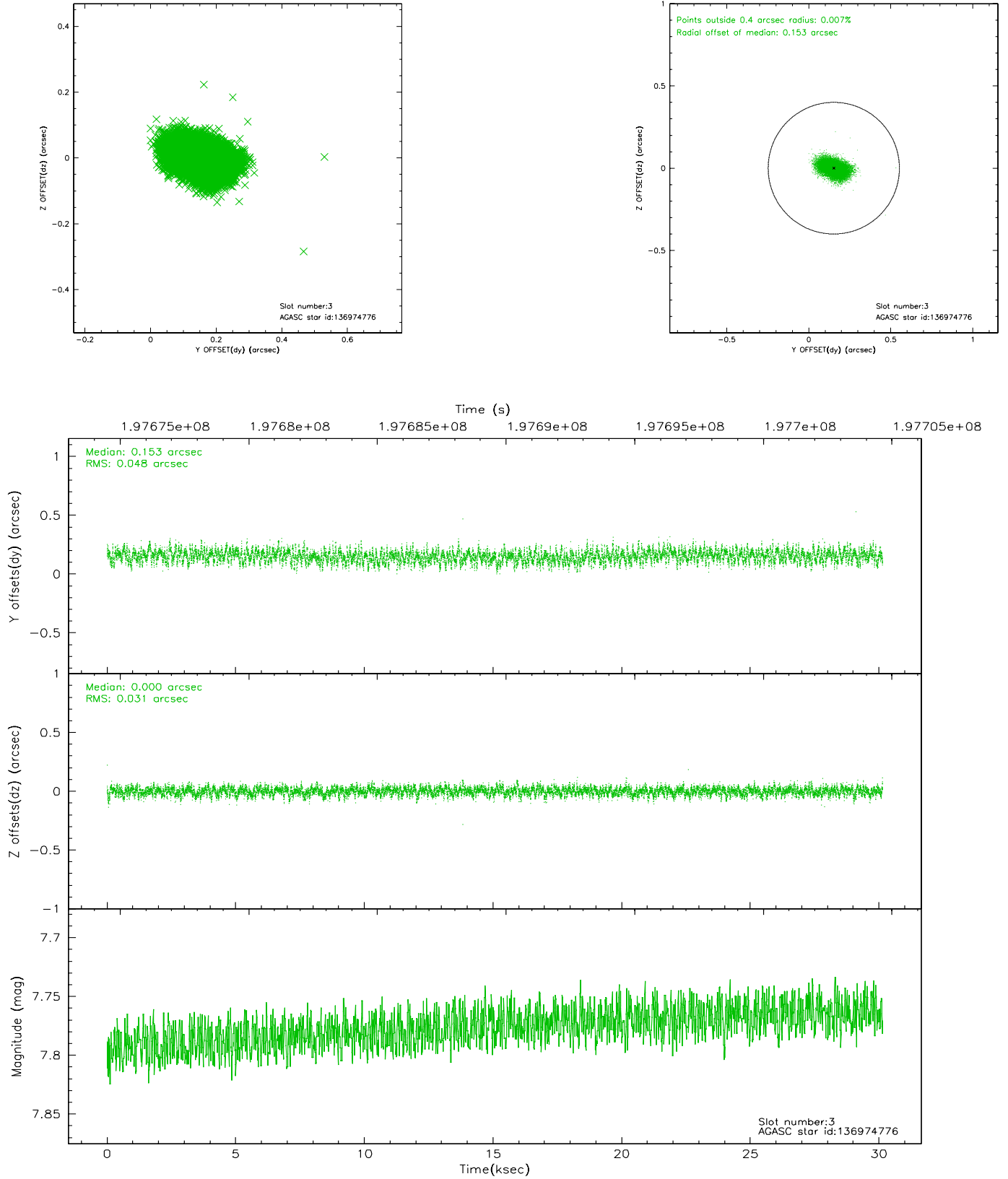
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	7353	0.022	0.050	0.015	0.025	0.000000	0.000000	-759.81	-1649.92
1	FID	ACIS-S-4	7.20	7352	0.021	-0.016	0.014	0.021	0.000000	0.000000	2153.48	258.39
2	FID	ACIS-S-6	7.32	7353	-0.069	-0.025	0.009	0.015	0.000000	0.000000	402.23	895.89
3	GUIDE	136974776	7.78	14706	0.153	0.000	0.060	0.099	288.742109	10.409402	-1908.48	461.13
4	GUIDE	136977584	8.42	14705	0.221	-0.041	0.063	0.103	288.635599	10.555283	-1345.93	779.61
5	GUIDE	137102976	8.53	14702	0.089	0.137	0.063	0.104	289.193436	10.979652	-37.32	-1344.69
6	GUIDE	137497048	7.99	14706	-0.260	0.102	0.064	0.099	288.896055	11.554718	2131.63	-521.37
7	GUIDE	137498872	7.05	14705	-0.204	-0.196	0.047	0.078	288.350862	11.344926	1588.63	1472.84

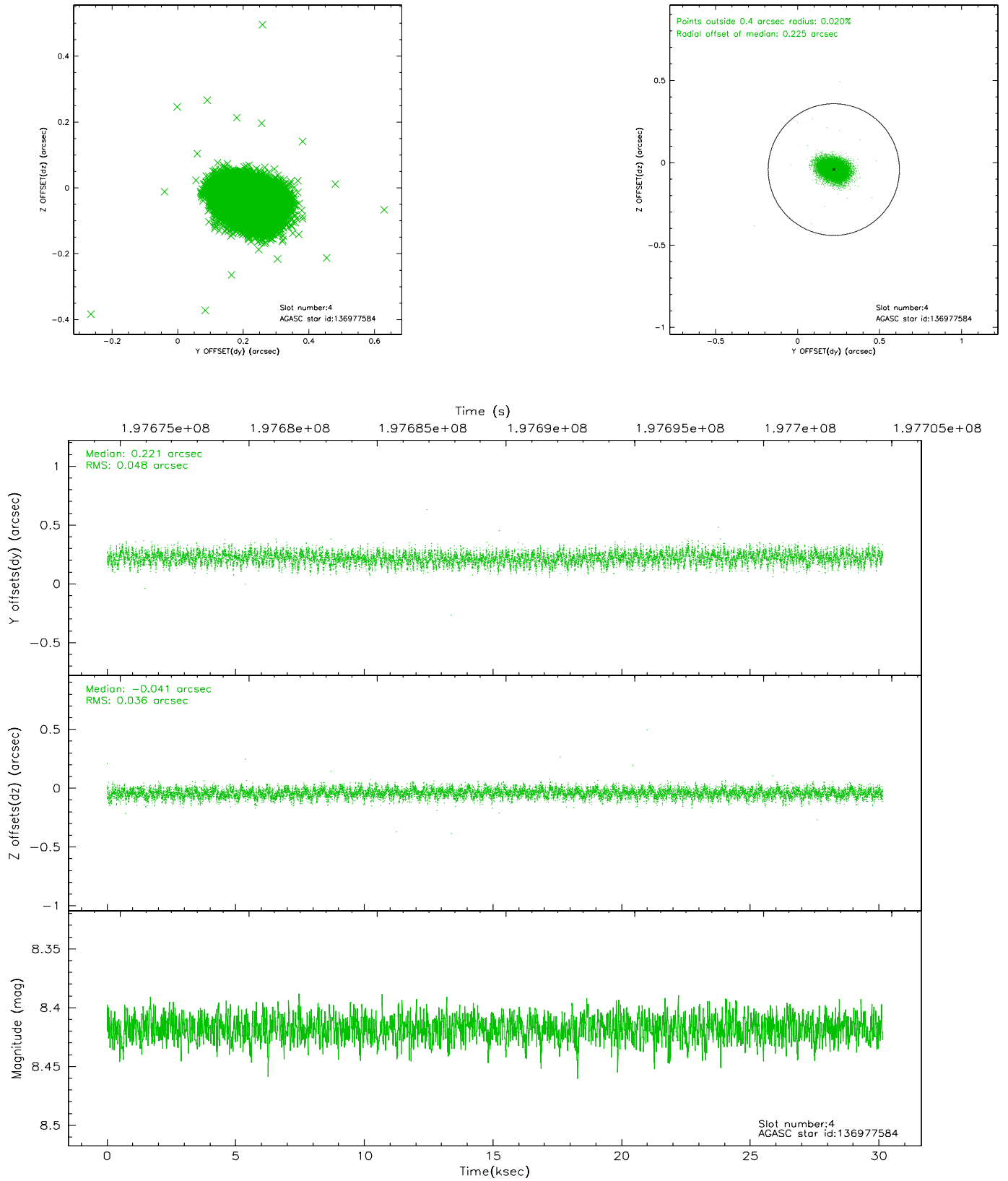


## 2.4 Star Slots

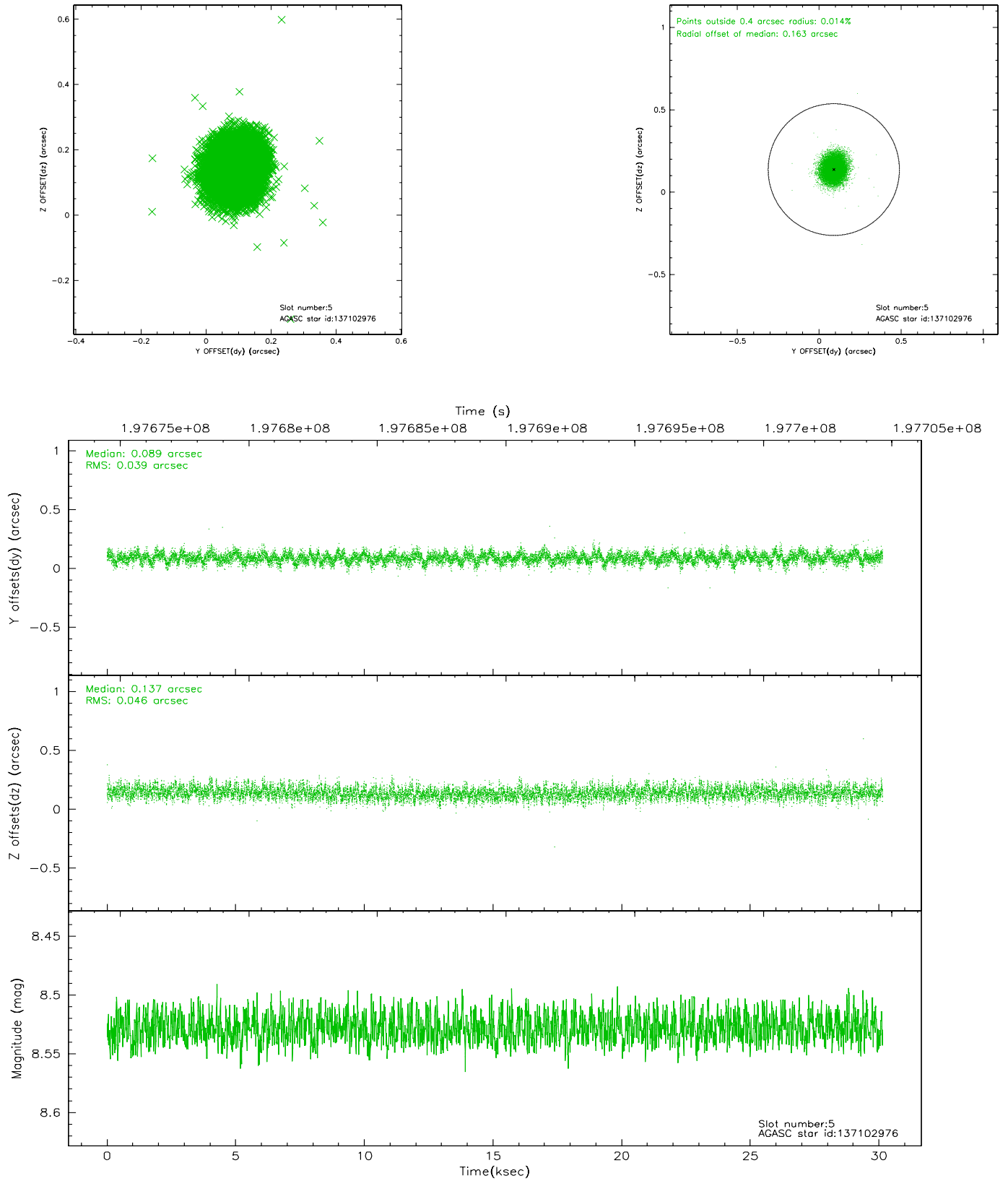
### 2.4.1 Slot 3



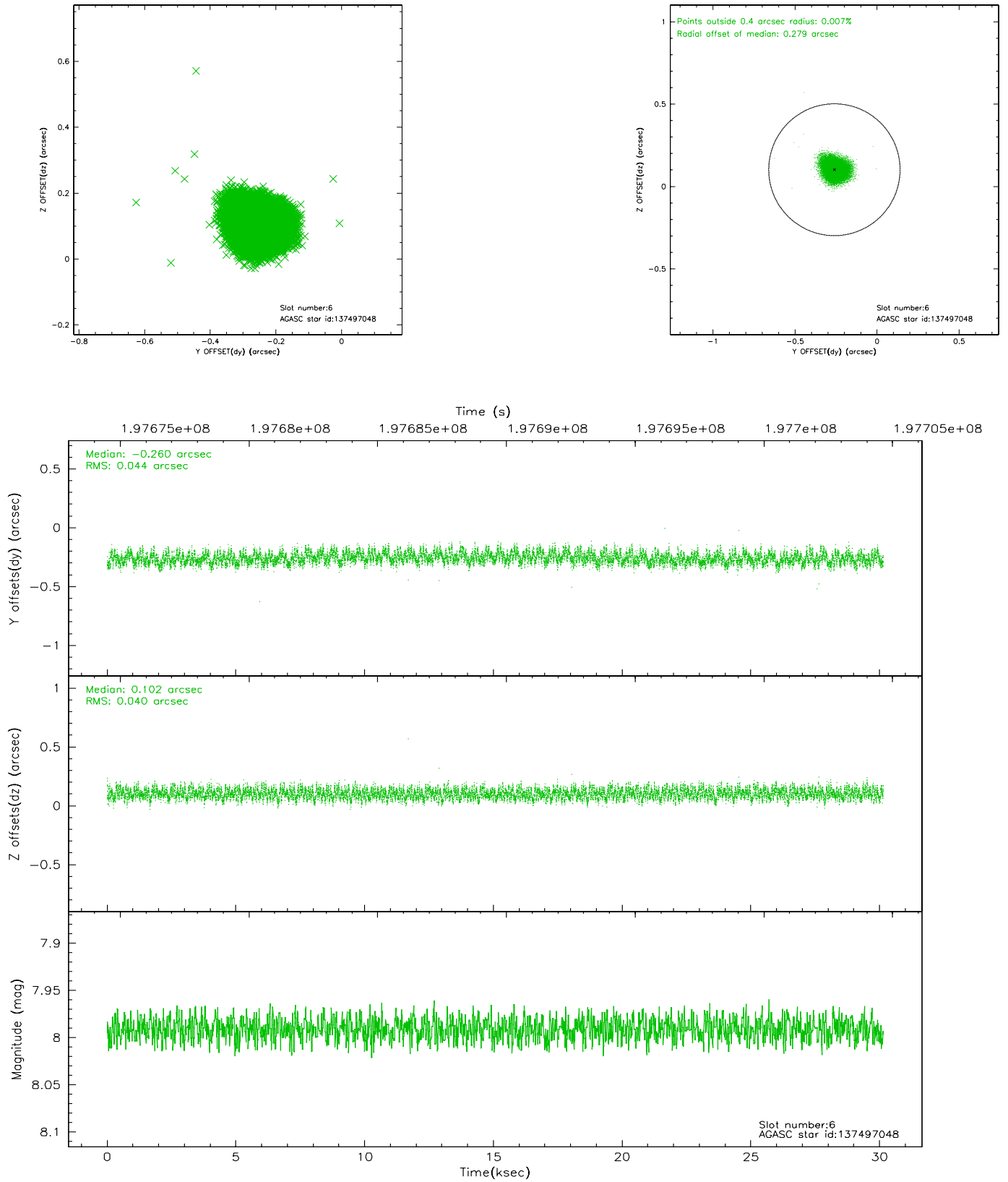
## 2.4.2 Slot 4



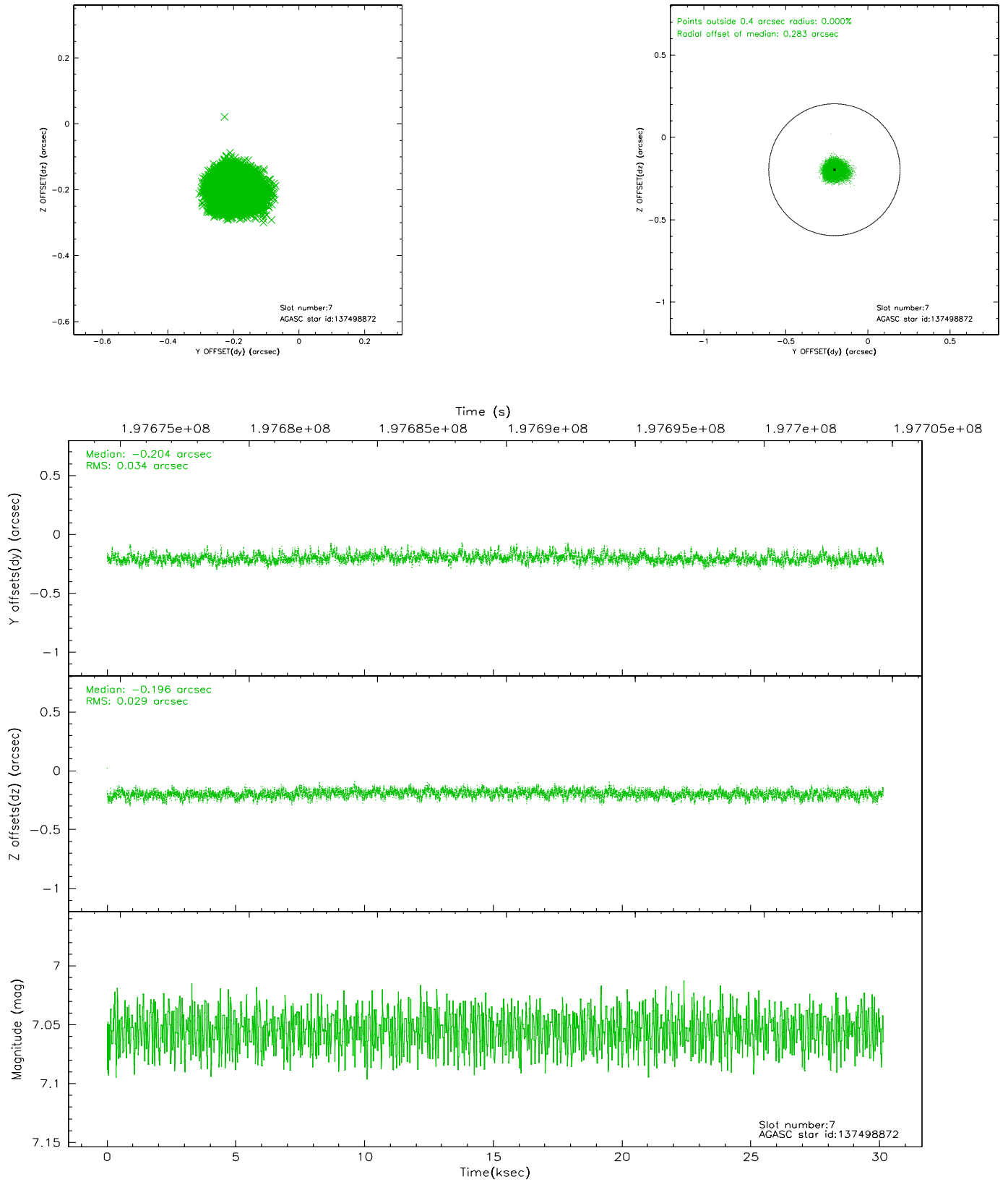
### 2.4.3 Slot 5



## 2.4.4 Slot 6

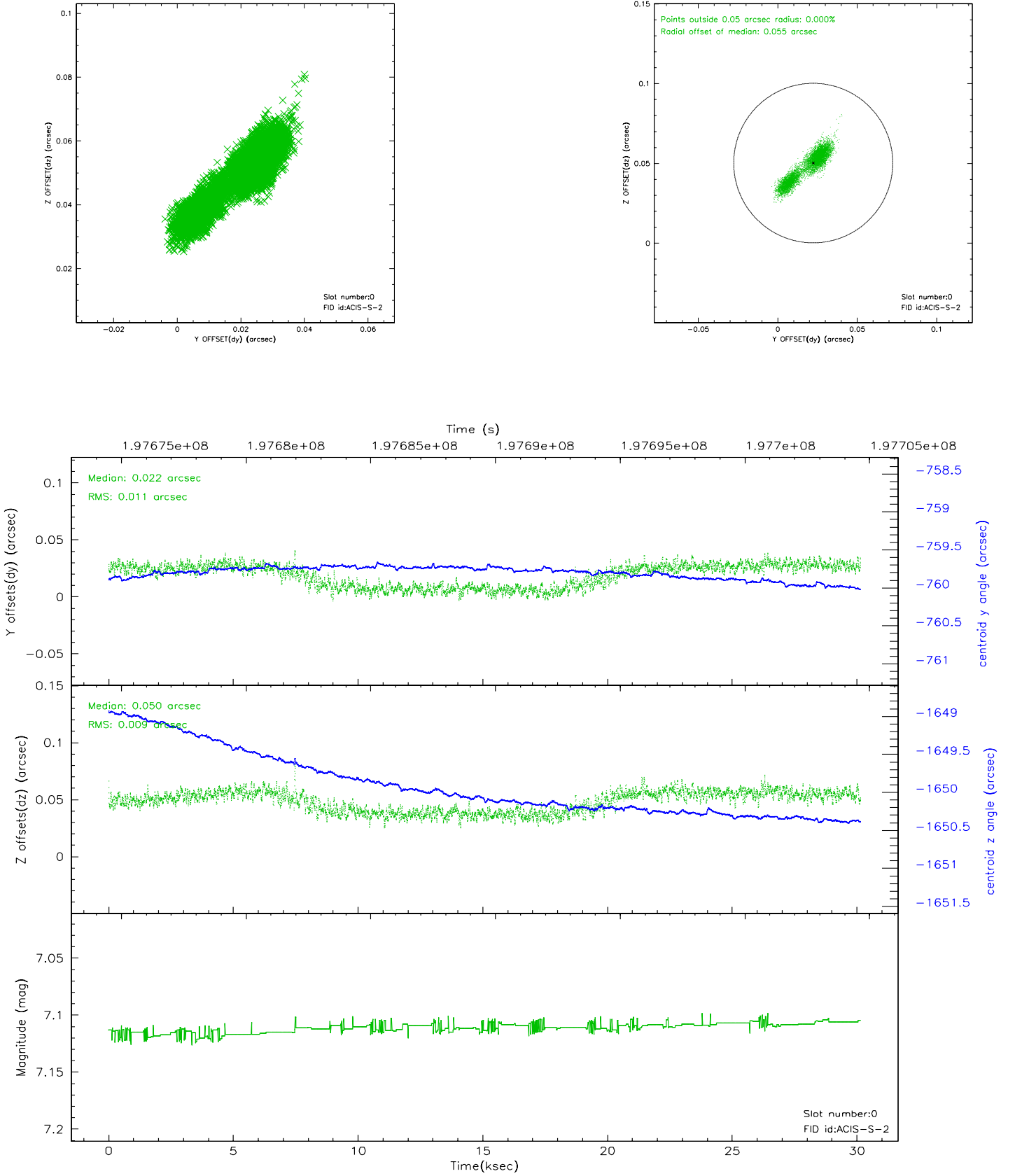


## 2.4.5 Slot 7

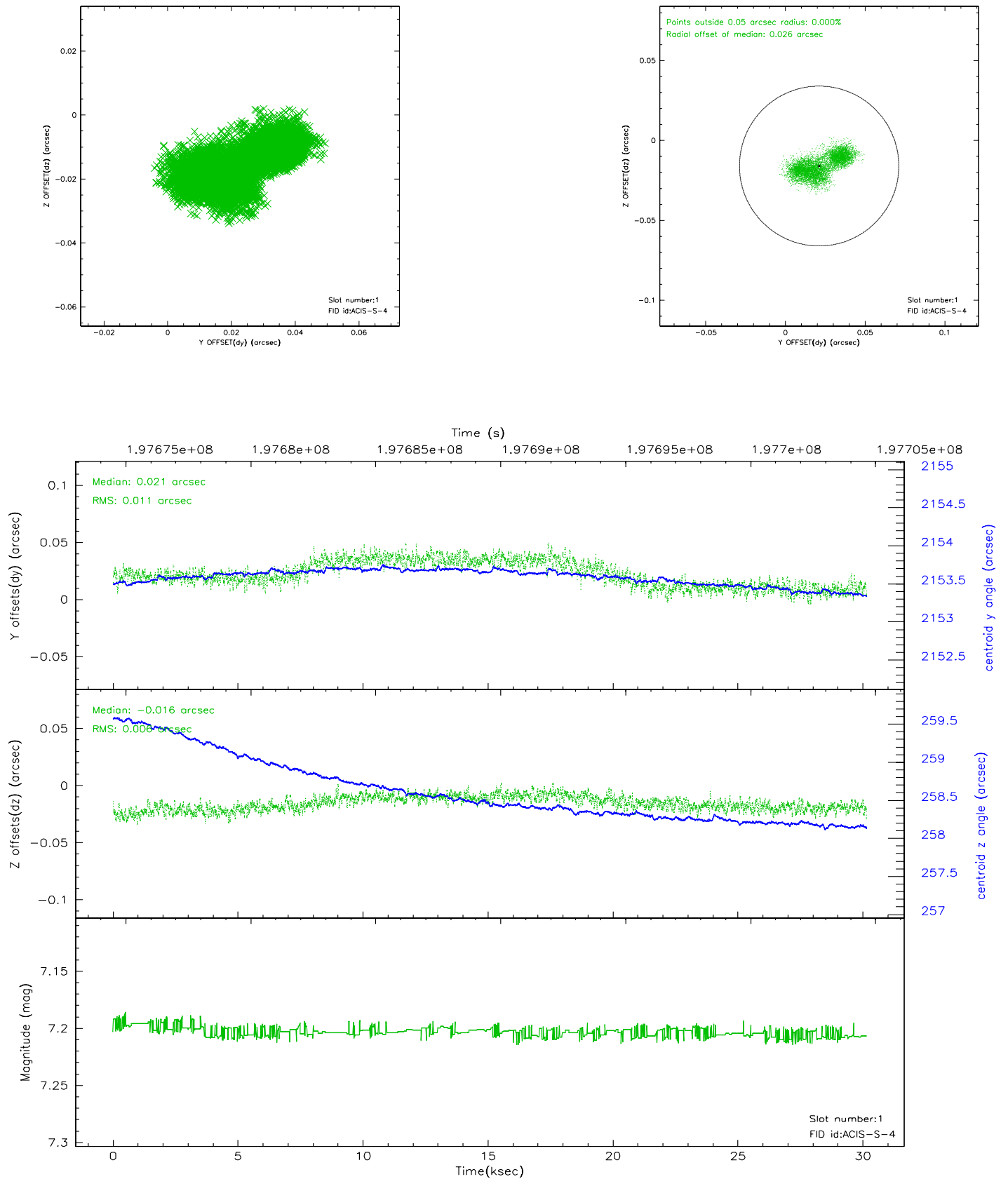


## 2.5 FID Slots

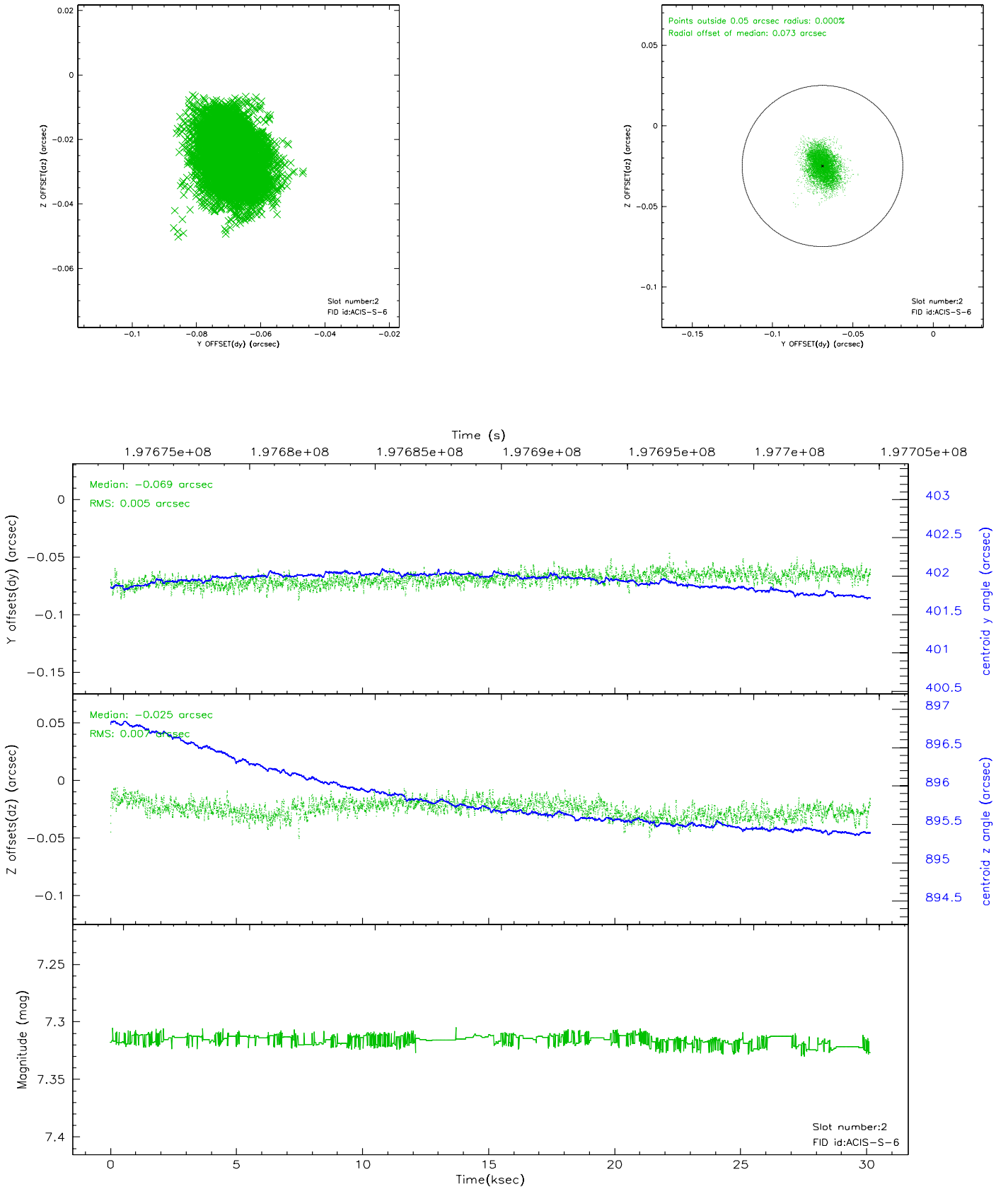
### 2.5.1 Slot 0



## 2.5.2 Slot 1



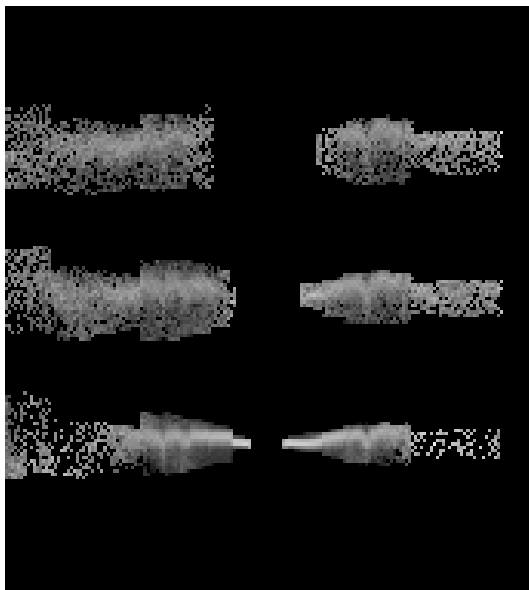
### 2.5.3 Slot 2



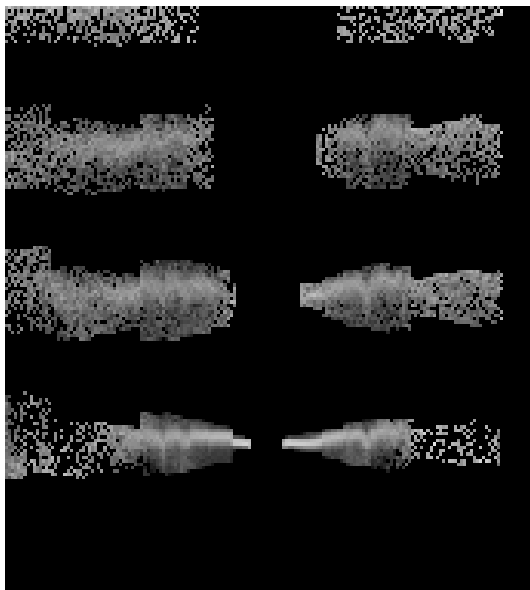


# 3 Gratings

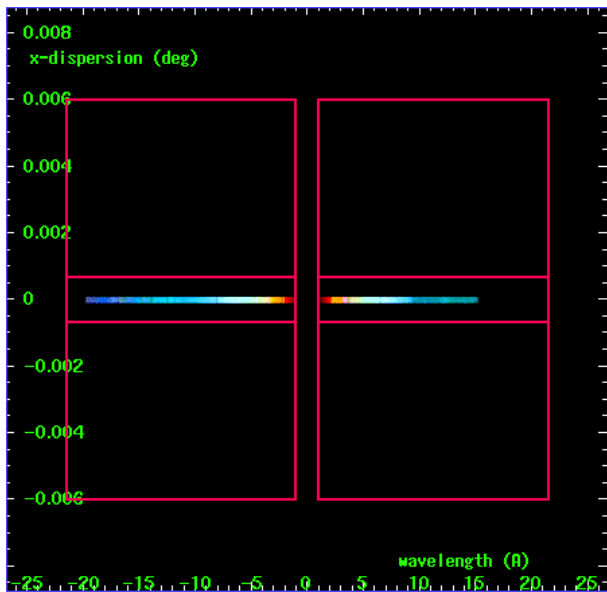
## 3.1 HEG Arm



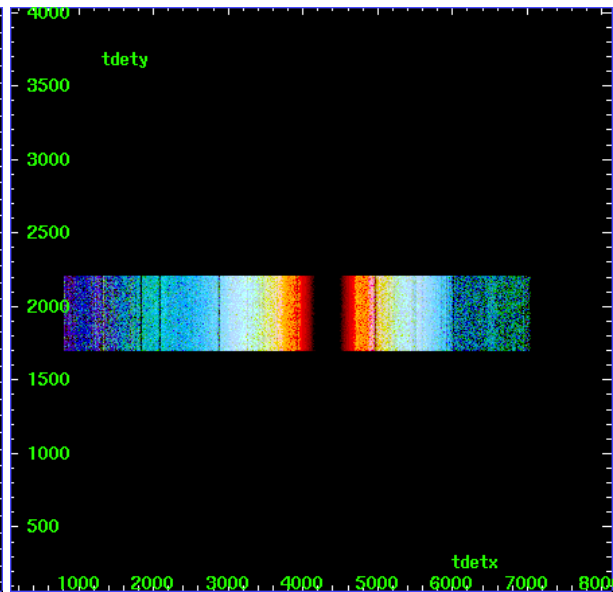
HEG Order Sort 123



HEG Order Sort ALL

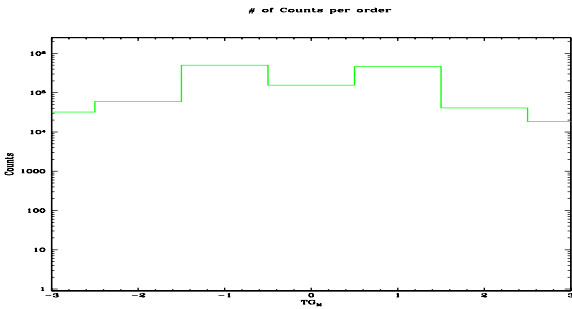


Spot Image HEG

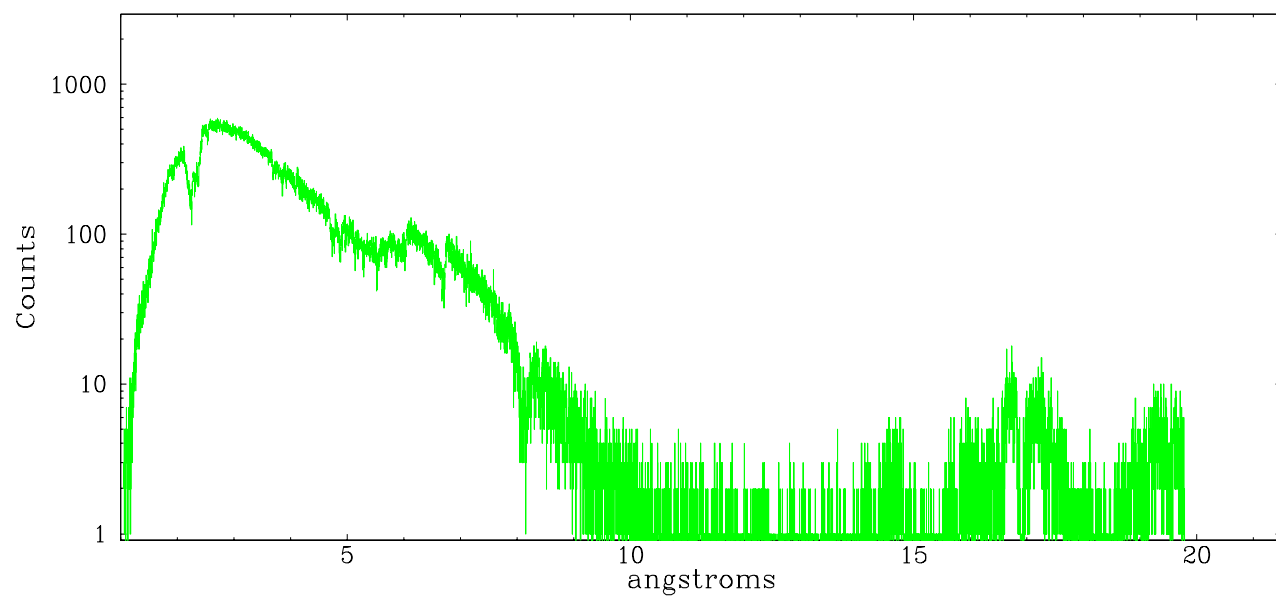


Full Detector HEG

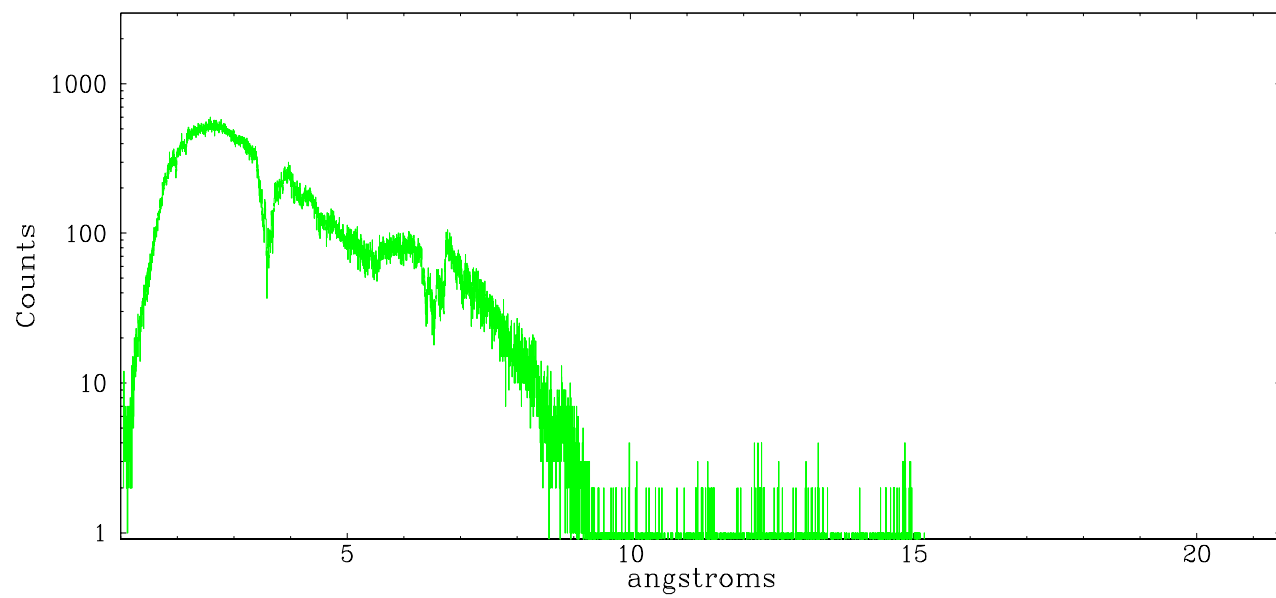
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	32058	59233	499126	156383	466361	40963	18361



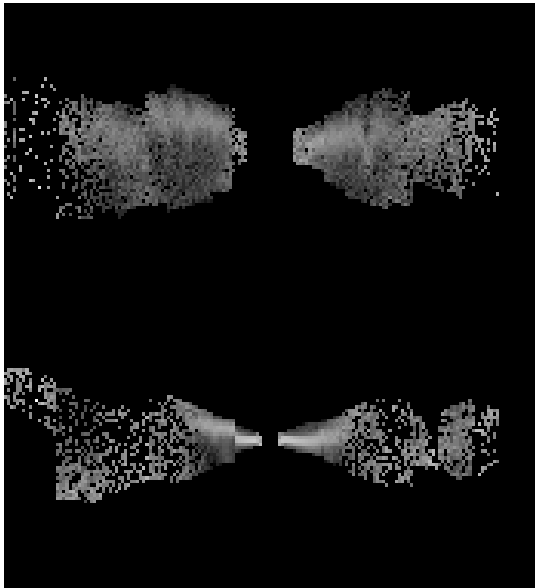
heg order -1



heg order +1



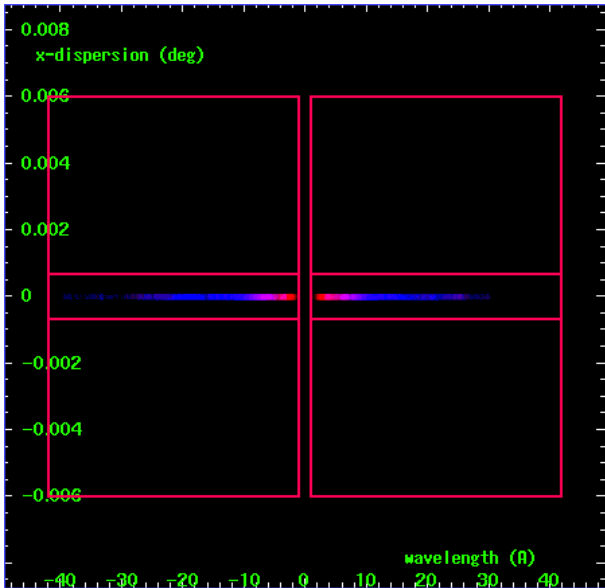
3.2 MEG Arm



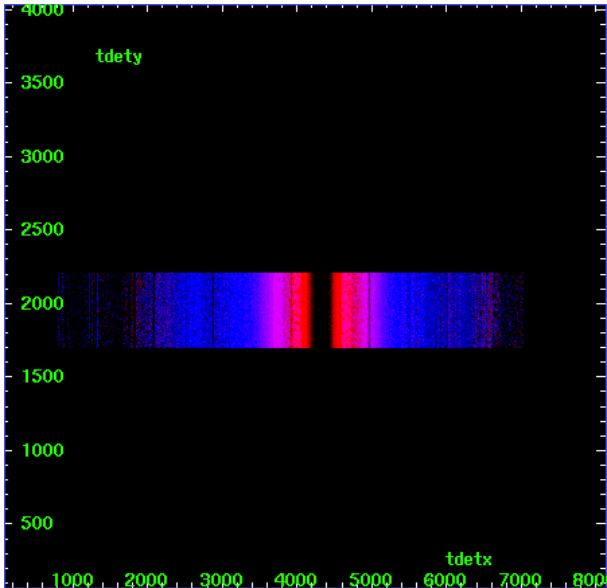
MEG Order Sort 123



MEG Order Sort ALL

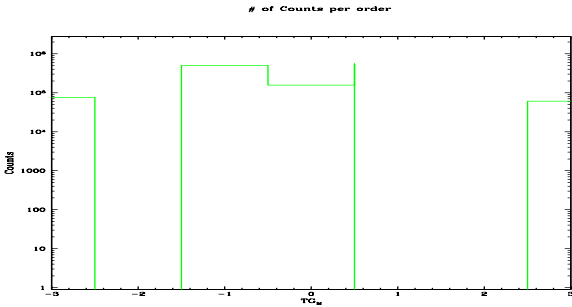


Spot Image MEG

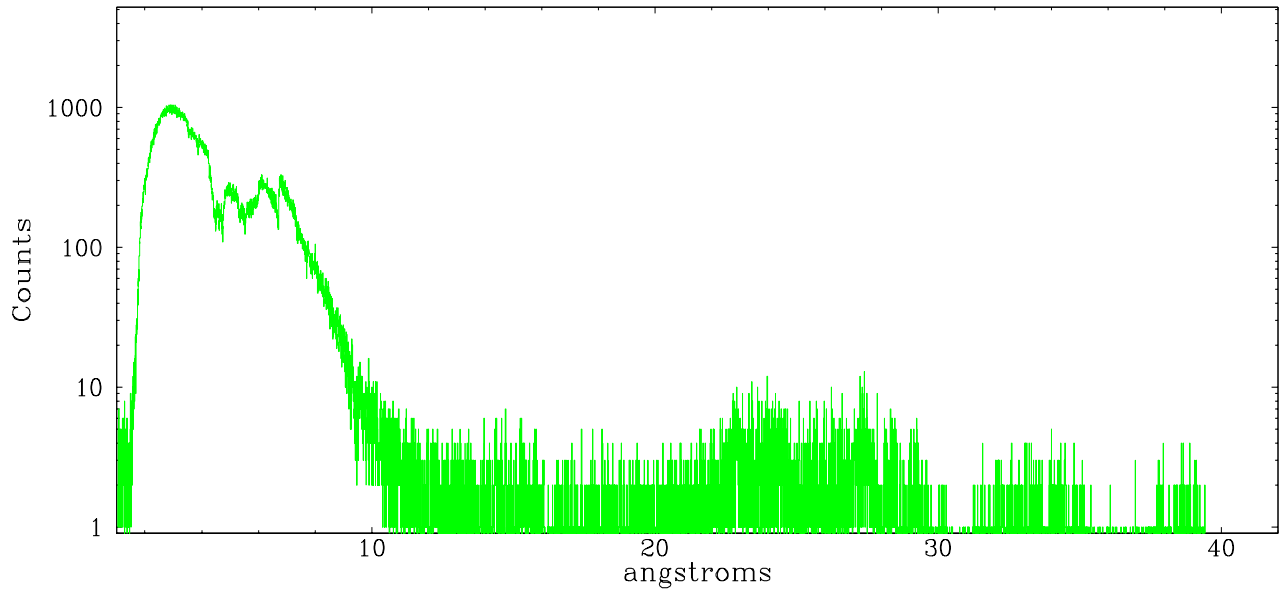


Full Detector MEG

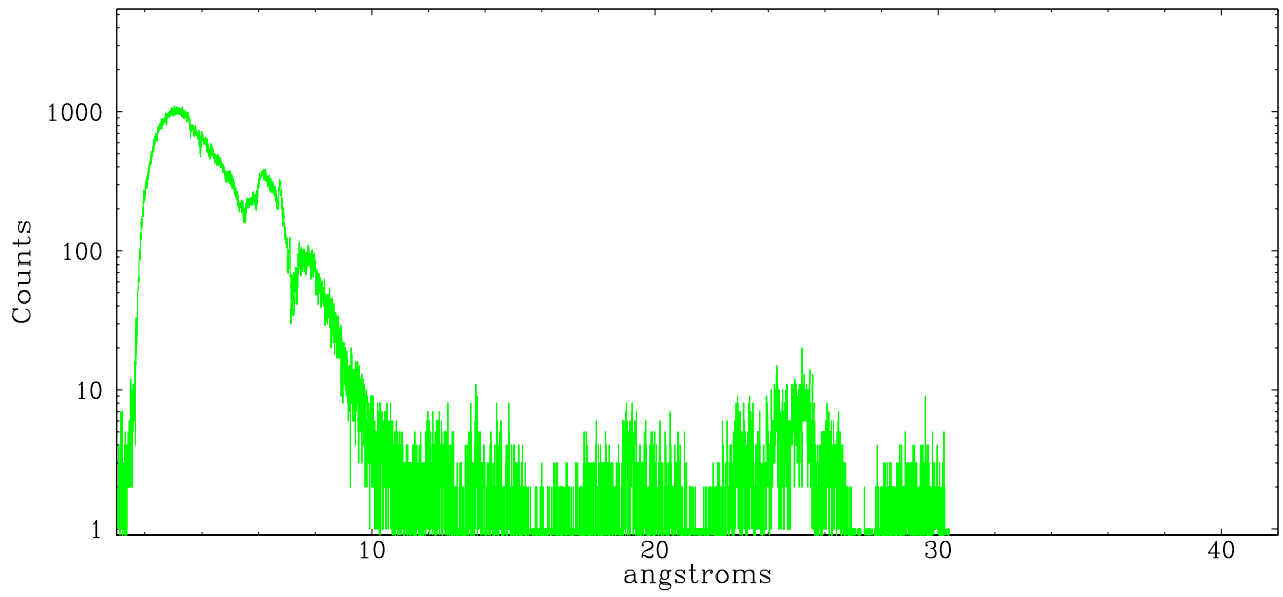
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	75530	0	501678	156383	552956	0	60419



meg order -1



meg order +1



## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2008.04.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.142

### A.2 Comments