

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 6580 - L2 Version 3  
Chandra X-Ray Center

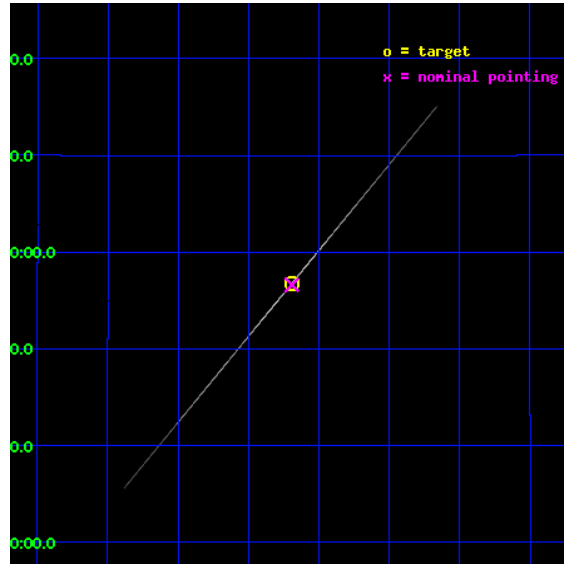
L2 Processing Date : Mar 18 2012

## 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	400485	Sequence number
obs_id	6580	Observation id
title	Relativistic emission-line or warm absorber in GRS 1915+105	Propos
observer	Prof Mariano Mendez	Principal investigator
object	GRS1915+105	Source name
ra_targ	288.798333	Observer's specified target RA [deg]
dec_targ	10.945806	Observer's specified target Dec [deg]
ra_nom	288.79781760689	Nominal RA [deg]
dec_nom	10.943783479464	Nominal Dec [deg]
roll_nom	309.64554681112	Nominal Roll [deg]
revision	3	Processing version of data
ontime	8212.4327964187	Sum of GTIs [s]
livetime	8180.3529808077	Livetime [s]
ontime4	11464.78538242	Sum of GTIs [s]
ontime5	20673.25	Sum of GTIs [s]
ontime6	8322.6996290386	Sum of GTIs [s]
ontime7	8212.4327964187	Sum of GTIs [s]
ontime8	11893.822629124	Sum of GTIs [s]
ontime9	12571.736495256	Sum of GTIs [s]
l2events	3243188	Number of level 2 events

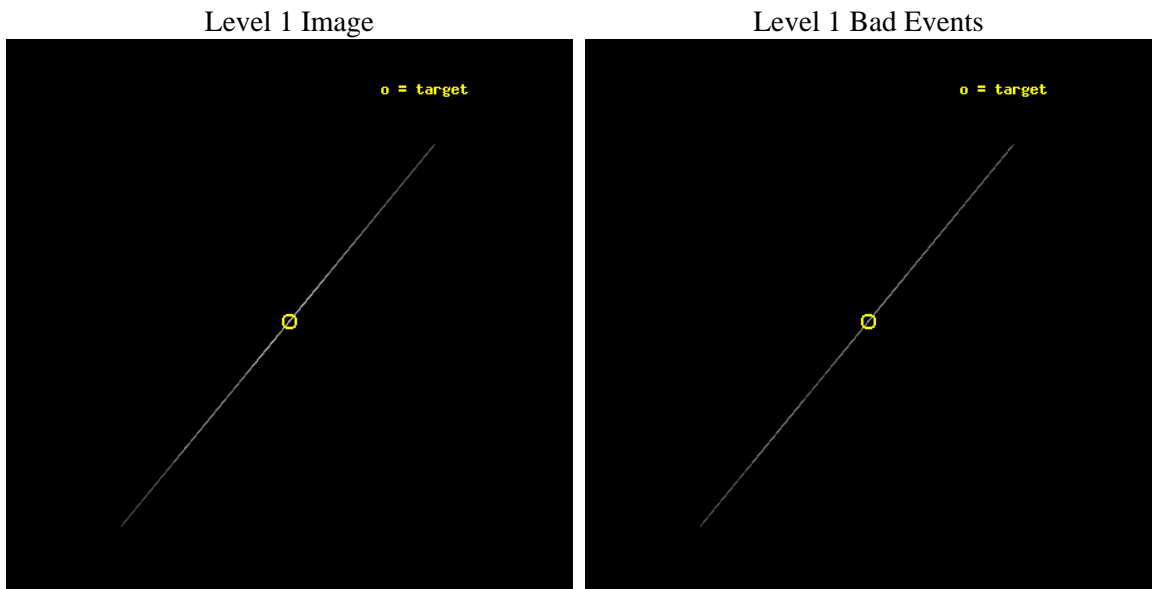




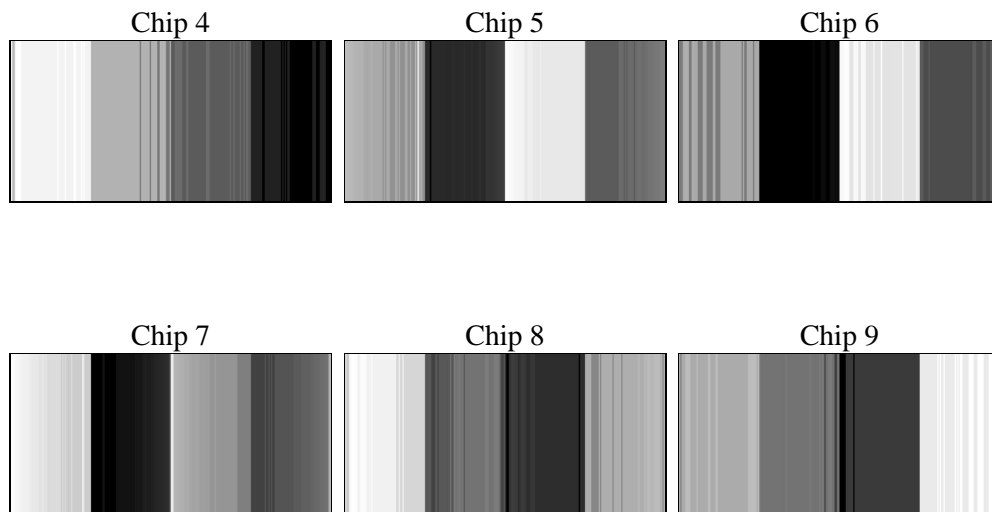
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	8212.4327964187	Sum of GTIs [s]
caldsver	4.4.8	&#160	ontime4	11464.78538242	Sum of GTIs [s]
date	2012-03-18T09:05:14	Date and time of file creation	ontime5	20673.25	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	8322.6996290386	Sum of GTIs [s]
			ontime7	8212.4327964187	Sum of GTIs [s]
			ontime8	11893.822629124	Sum of GTIs [s]
			ontime9	12571.736495256	Sum of GTIs [s]
			l1events	3649767	Number of level 1 events

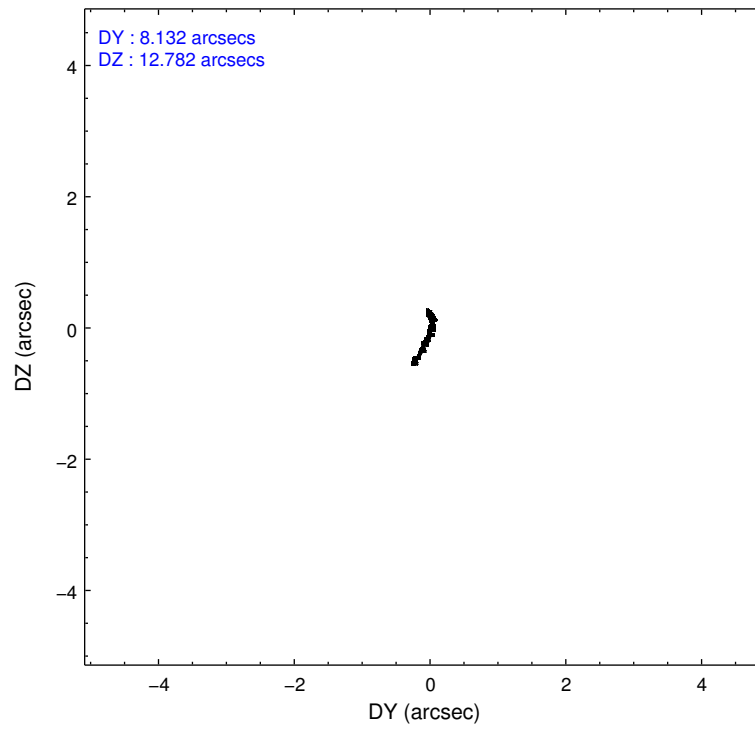
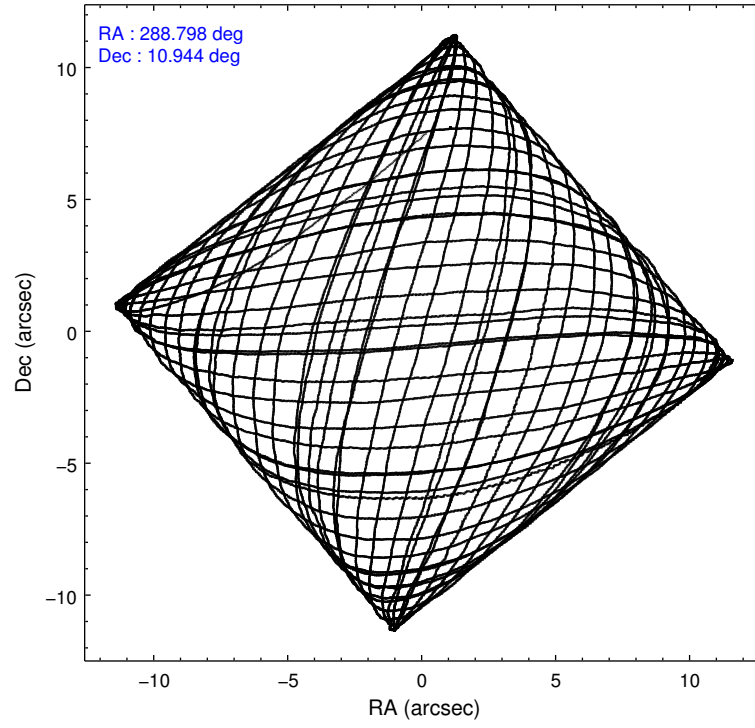
### 2.1.4 Events

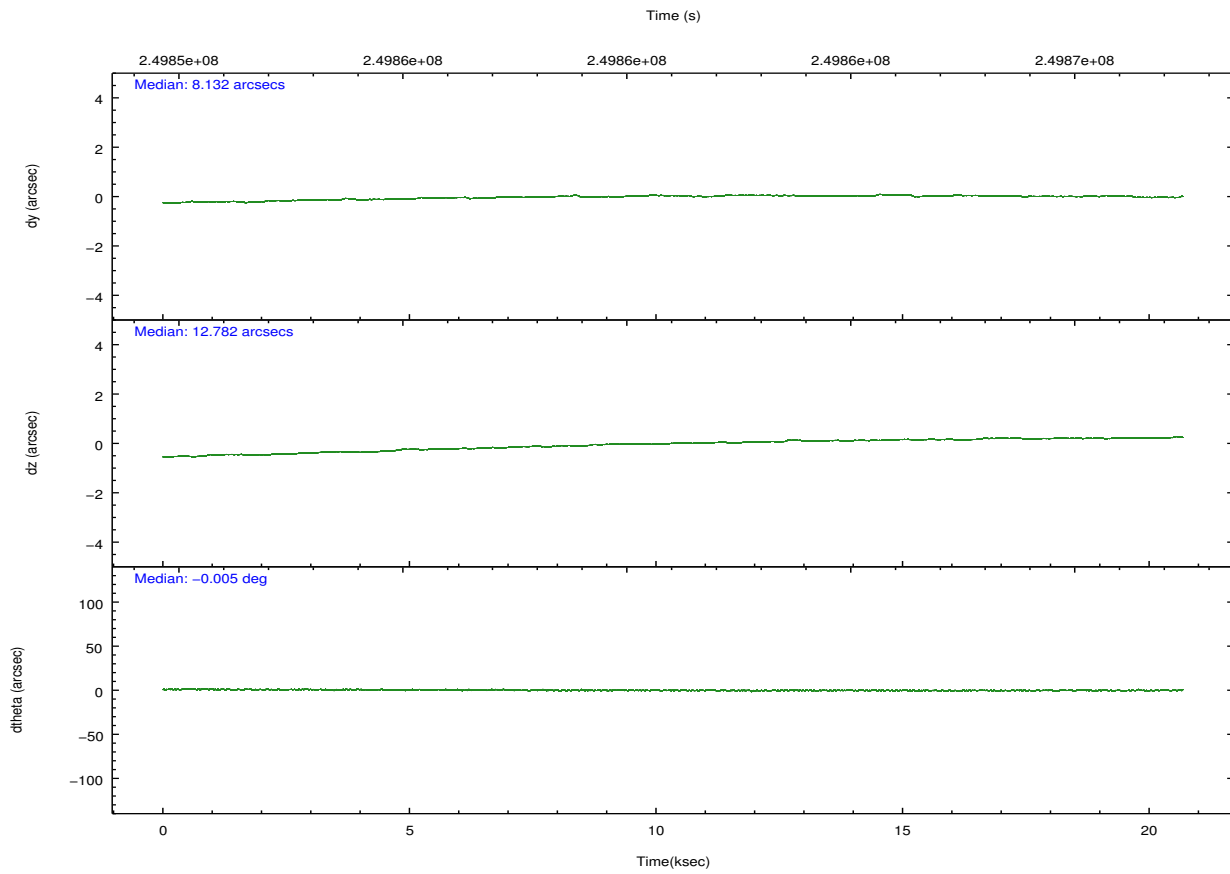
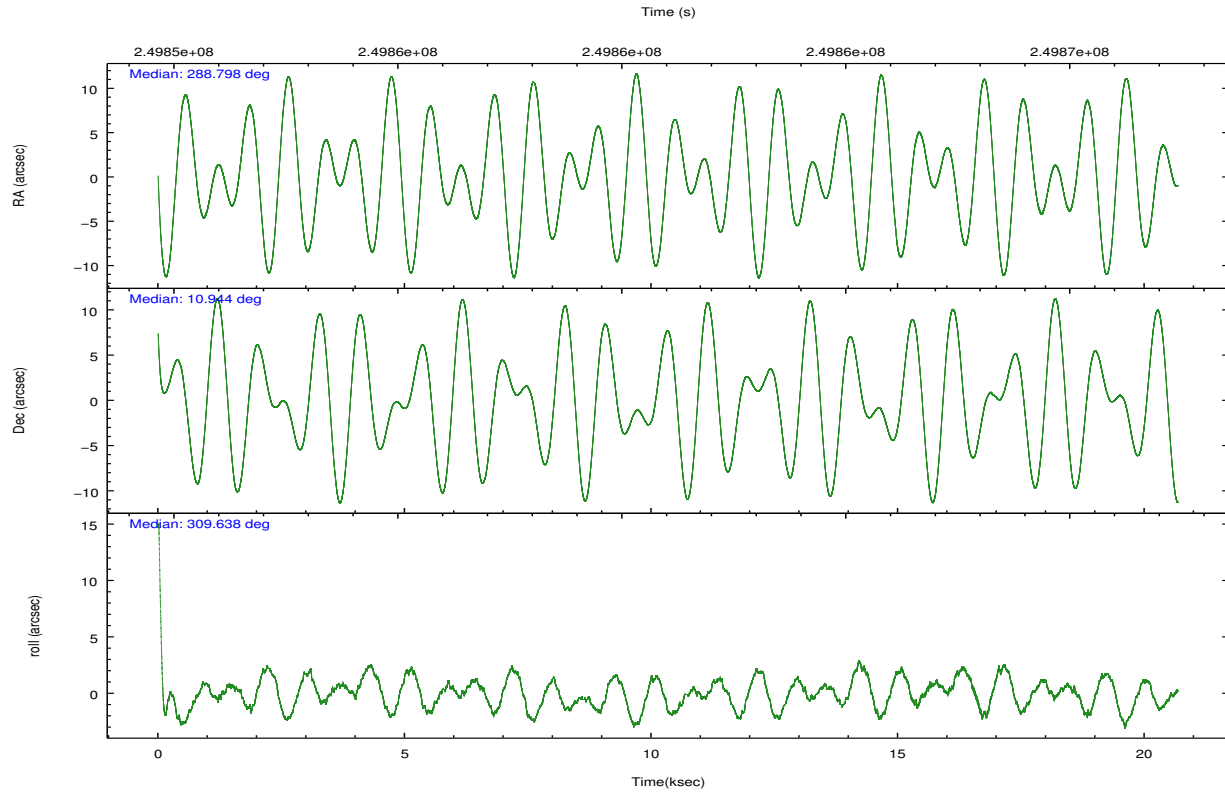
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	55534	379740	916506	1878402	330827	88758	grade 0 events	9473	59981	28342	304790	84578	16653
rejected events	6792	32671	18765	116524	28203	14853		17%	15%	3%	16%	25%	18%
rejected %	12%	8%	2%	6%	8%	16%	grade 1 events	118	286	200	16001	379	136
								0%	0%	0%	0%	0%	0%
							grade 2 events	29706	141786	759522	478513	189412	49660
								53%	37%	82%	25%	57%	55%
							grade 3 events	2929	11512	3335	169545	8519	3274
								5%	3%	0%	9%	2%	3%
							grade 4 events	2979	11026	3244	167902	8358	3574
								5%	2%	0%	8%	2%	4%
							grade 5 events	4217	19559	7985	73880	8034	5388
								7%	5%	0%	3%	2%	6%
							grade 6 events	6112	135590	113878	667771	31547	10073
								11%	35%	12%	35%	9%	11%
							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	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	CC33_FAINT	CC33_FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	288.771701	288.7978176068862	Subarray requested	NONE	NONE
[deg] Pointing Dec	10.952904	10.94378347946388	Alternating exposures requested	N	N
[deg] Pointing Roll	309.493877	309.645546811118	[s] Primary exposure time	0.000000	0
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	249850874.184000	249849234.90761			
Observation start date	2005-12-01T19:00:10	2005-12-01T18:33:54			
[s] Observation end time (MET)	249871374.184000	249872352.75868			
Observation end date	2005-12-02T00:41:50	2005-12-02T00:59:12			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect



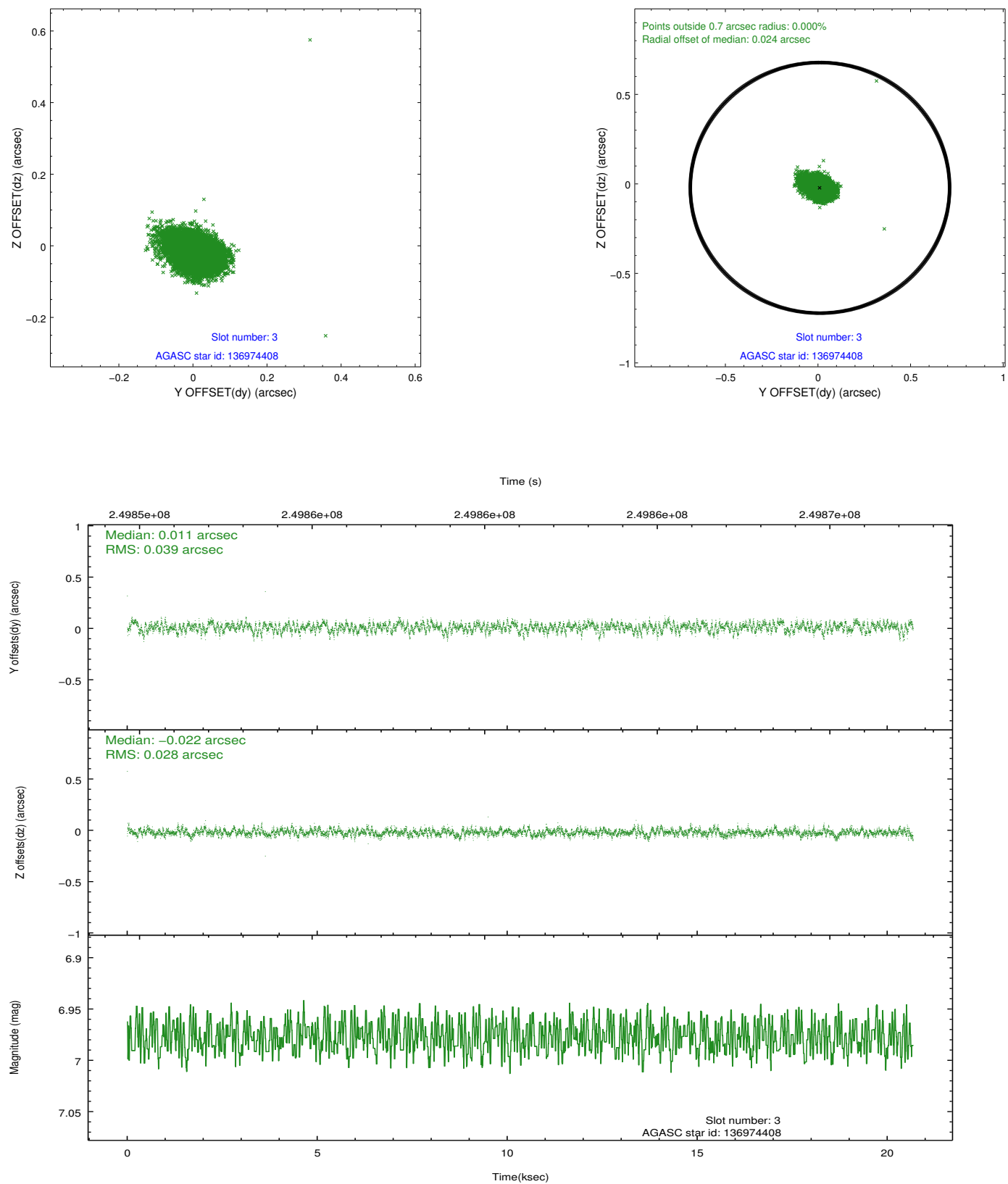


### Slot Statistics

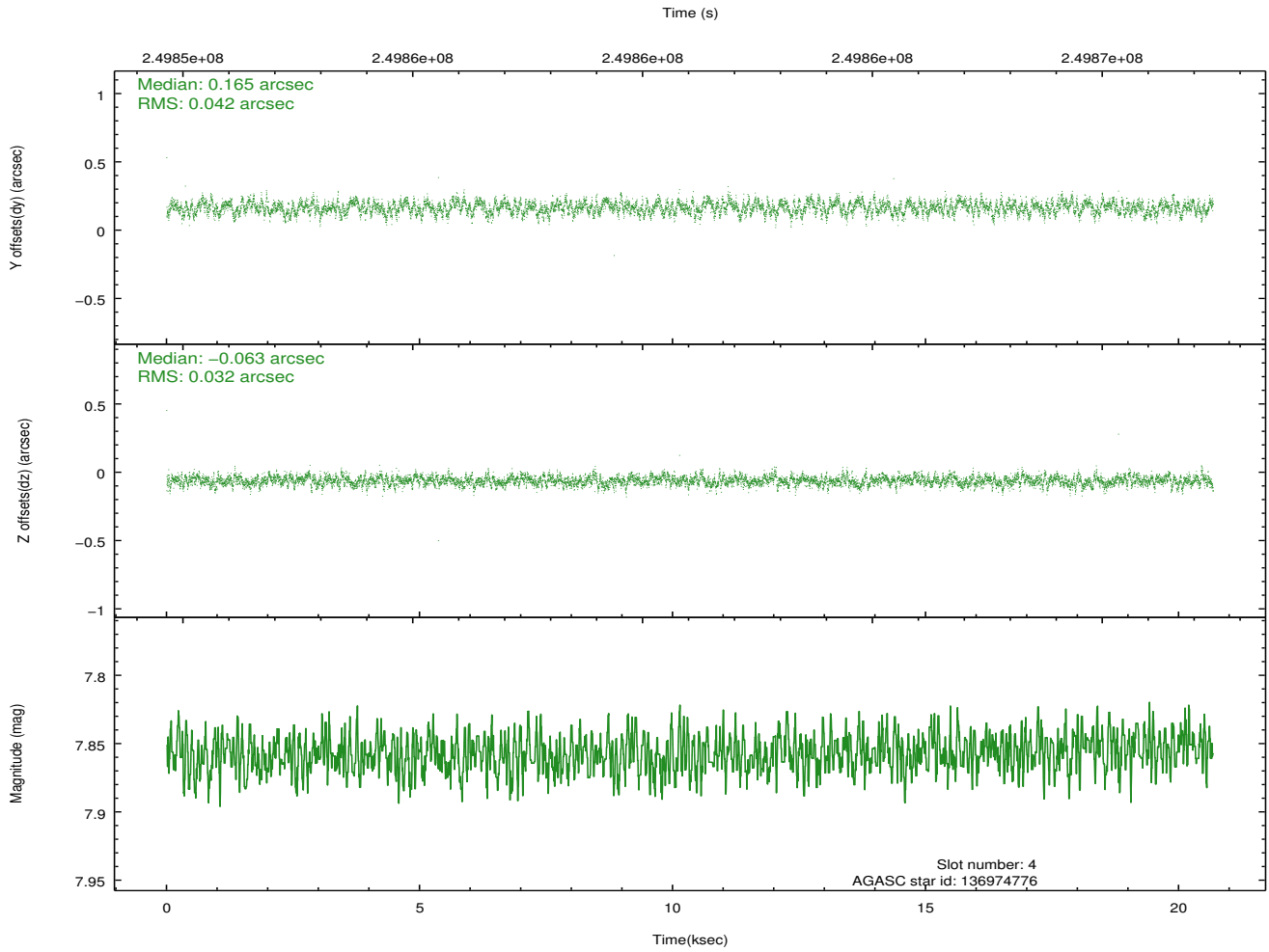
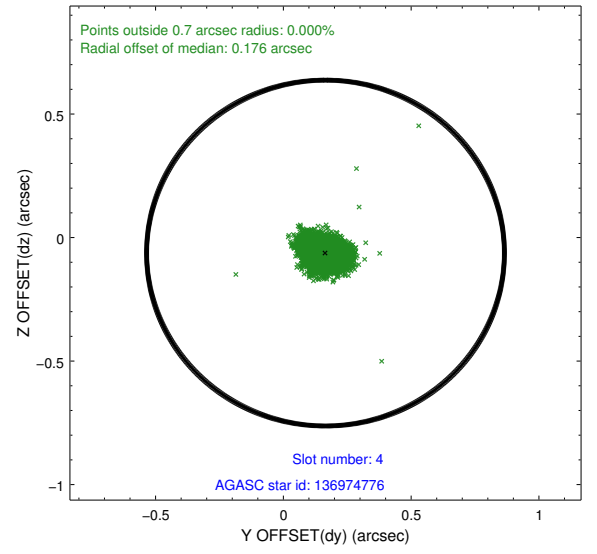
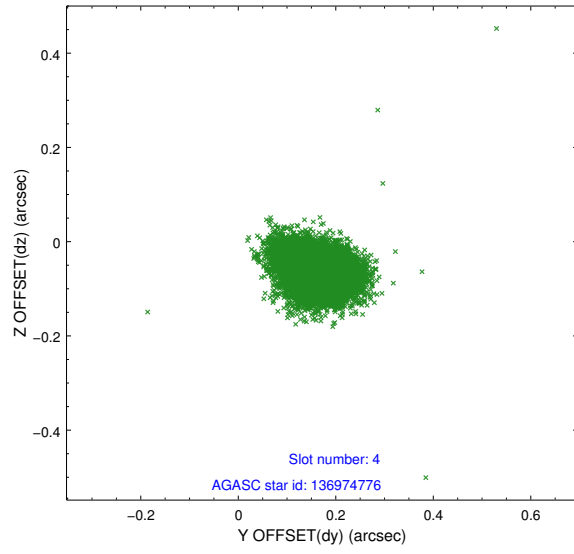
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5044	-0.071	-0.061	0.008	0.014	0.000000	0.000000	-760.71	-1796.20
1	FID	ACIS-S-4	7.20	5044	0.134	0.051	0.006	0.011	0.000000	0.000000	2152.66	112.25
2	FID	ACIS-S-5	7.23	5043	-0.094	0.019	0.008	0.013	0.000000	0.000000	-1813.38	106.01
3	GUIDE	136974408	6.98	10089	0.011	-0.022	0.049	0.083	288.806802	10.212409	2136.90	-1598.99
4	GUIDE	136974776	7.86	10087	0.165	-0.063	0.055	0.091	288.742109	10.409402	1444.21	-1325.04
5	GUIDE	136977584	8.42	10082	0.087	-0.013	0.058	0.094	288.635599	10.555283	798.99	-1281.82
6	GUIDE	137497048	7.97	10087	-0.045	-0.031	0.054	0.089	288.896055	11.554718	-1391.38	1716.57
7	GUIDE	137498872	7.06	10088	-0.218	0.129	0.072	0.110	288.350862	11.344926	-2034.38	-247.82

## 2.4 Star Slots

### 2.4.1 Slot 3

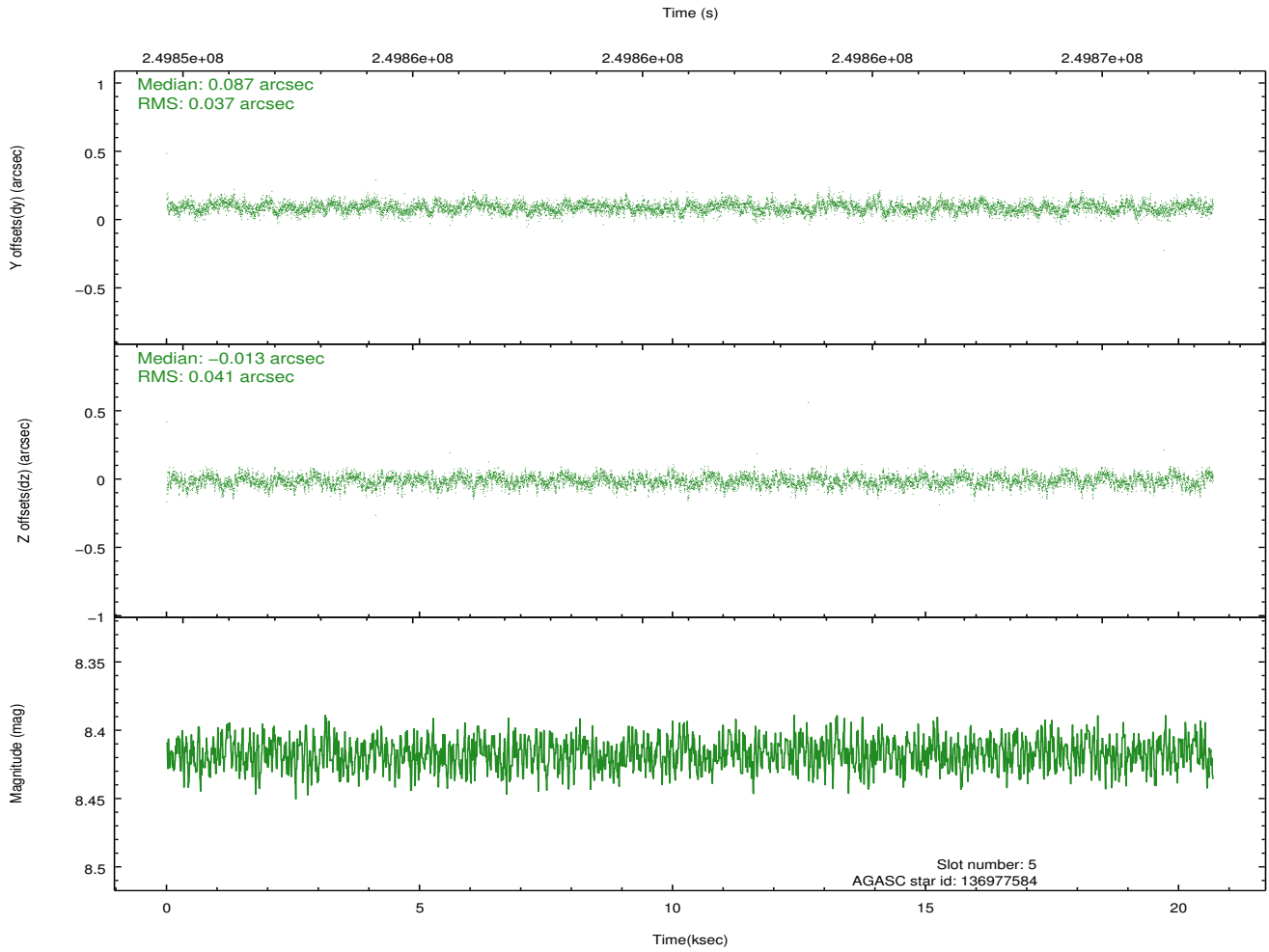
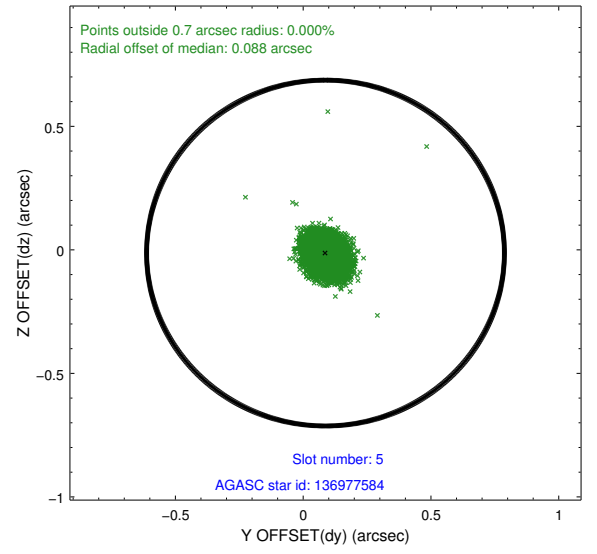
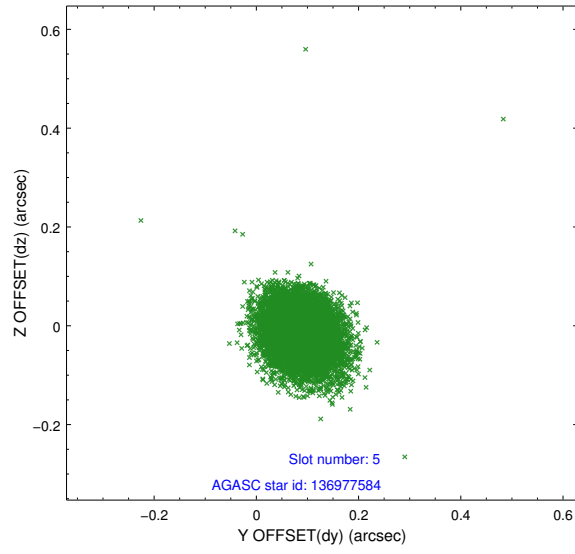


## 2.4.2 Slot 4

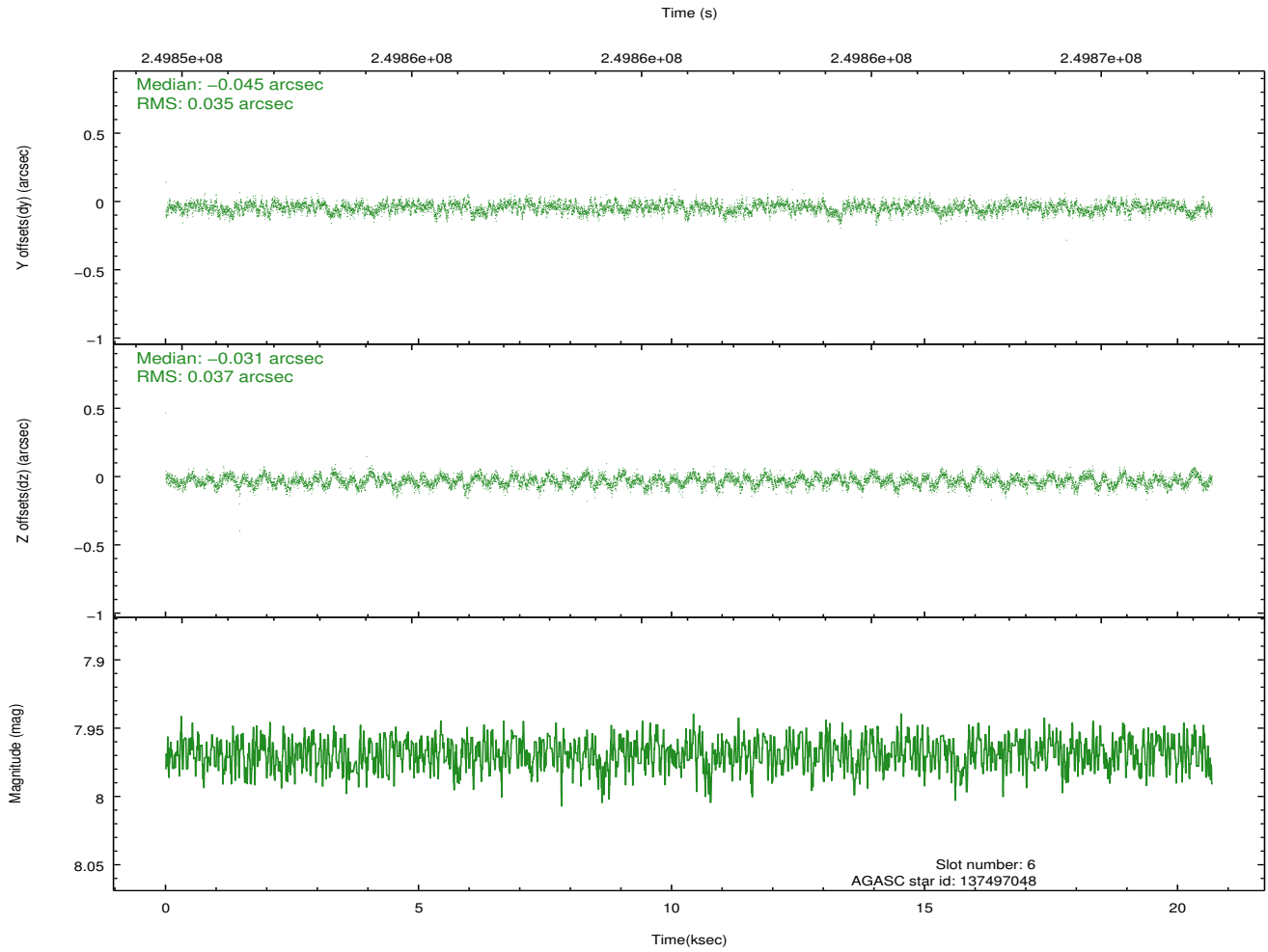
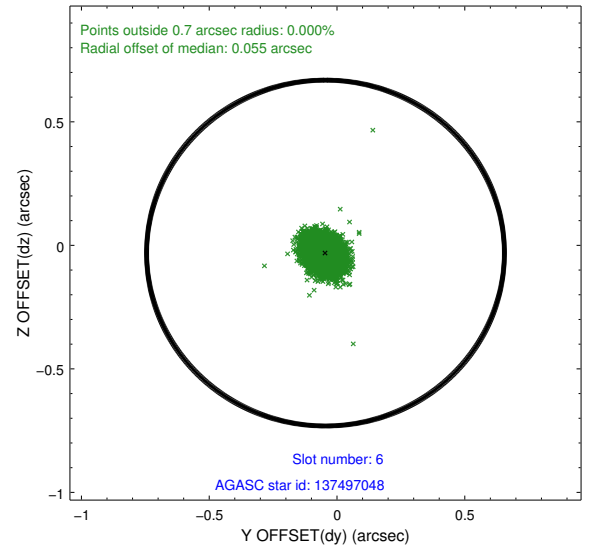
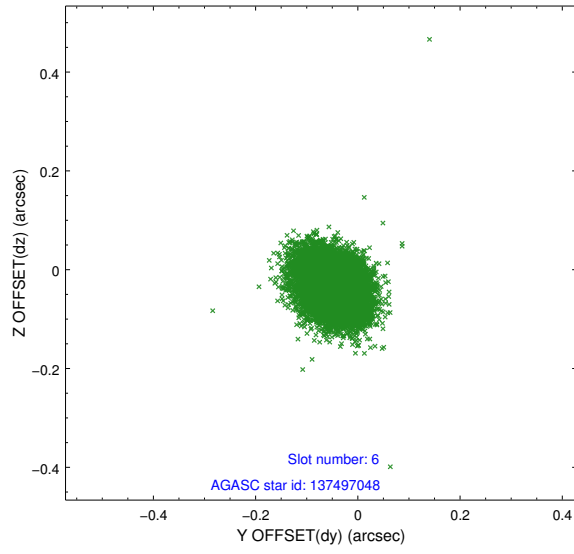




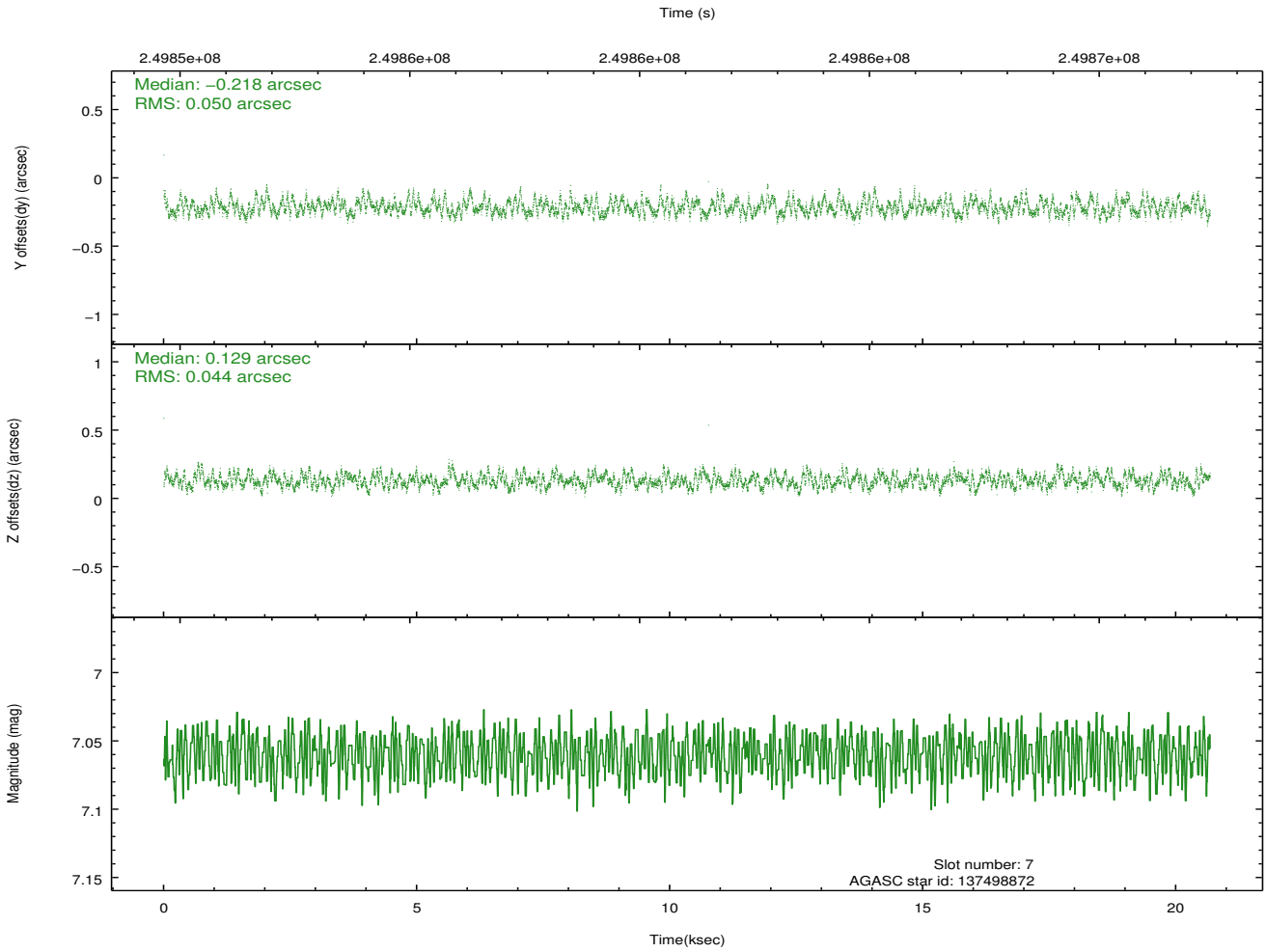
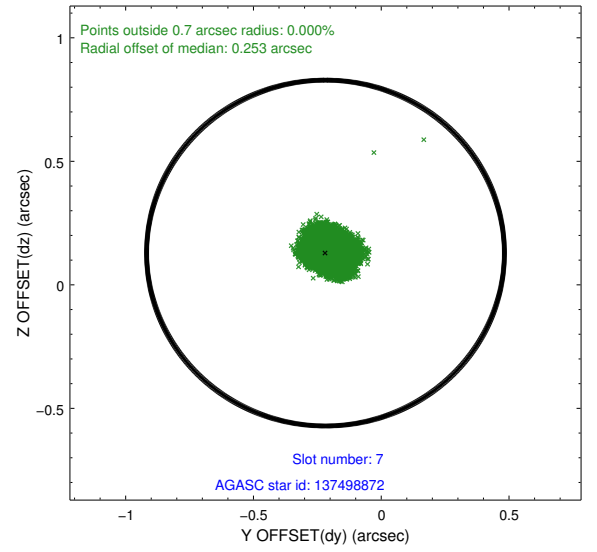
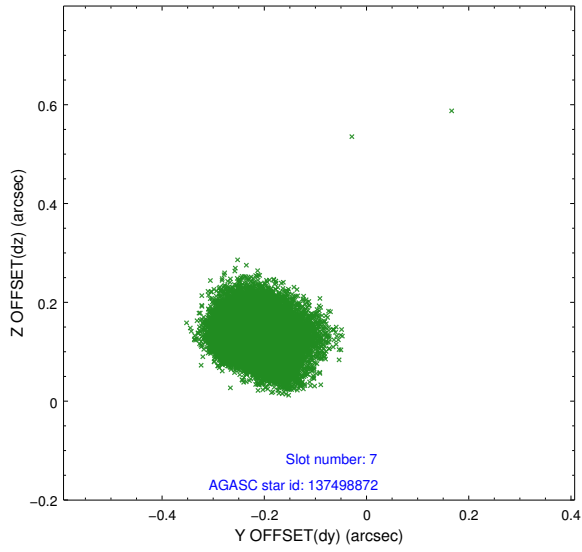
### 2.4.3 Slot 5



## 2.4.4 Slot 6

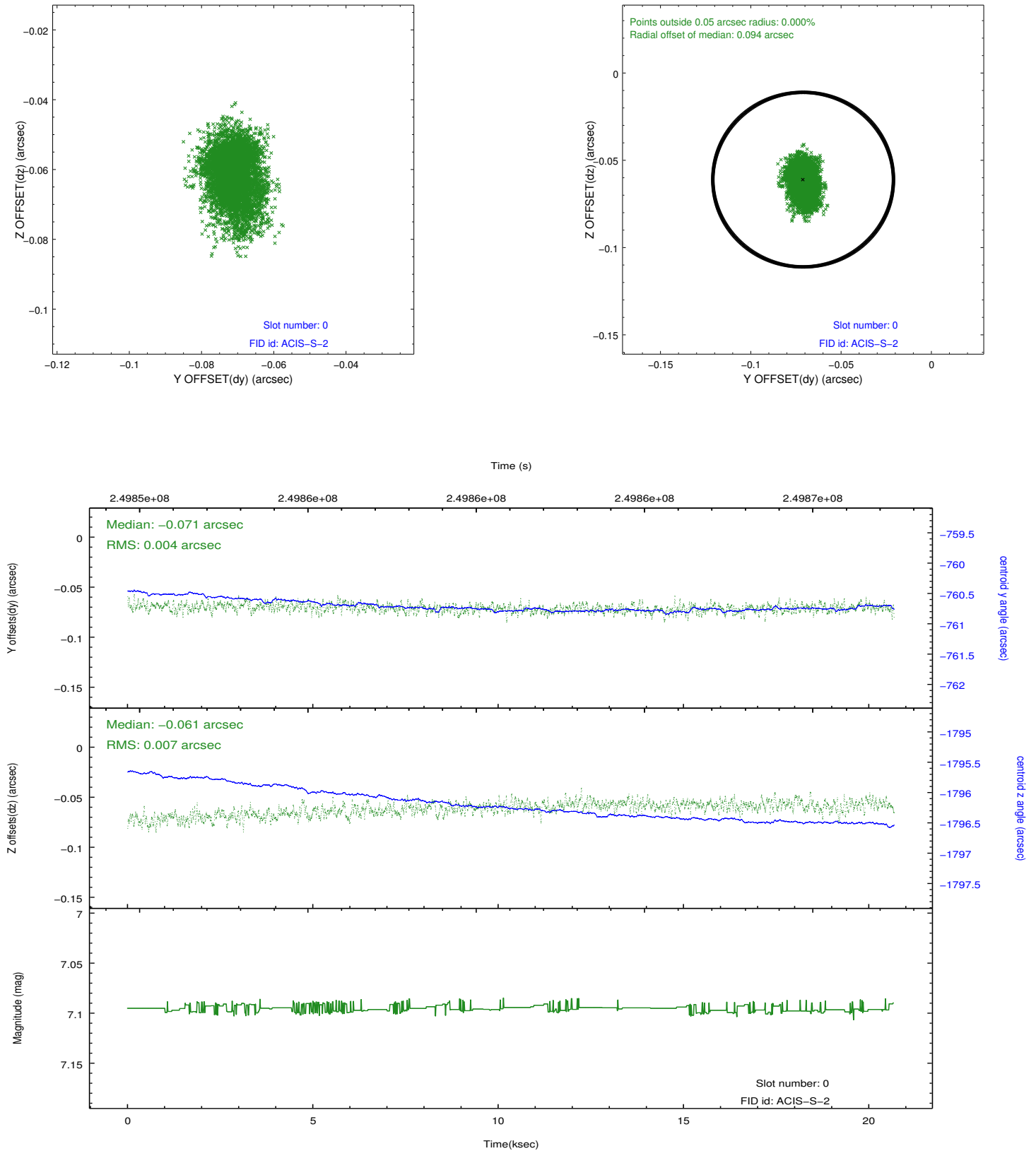


## 2.4.5 Slot 7

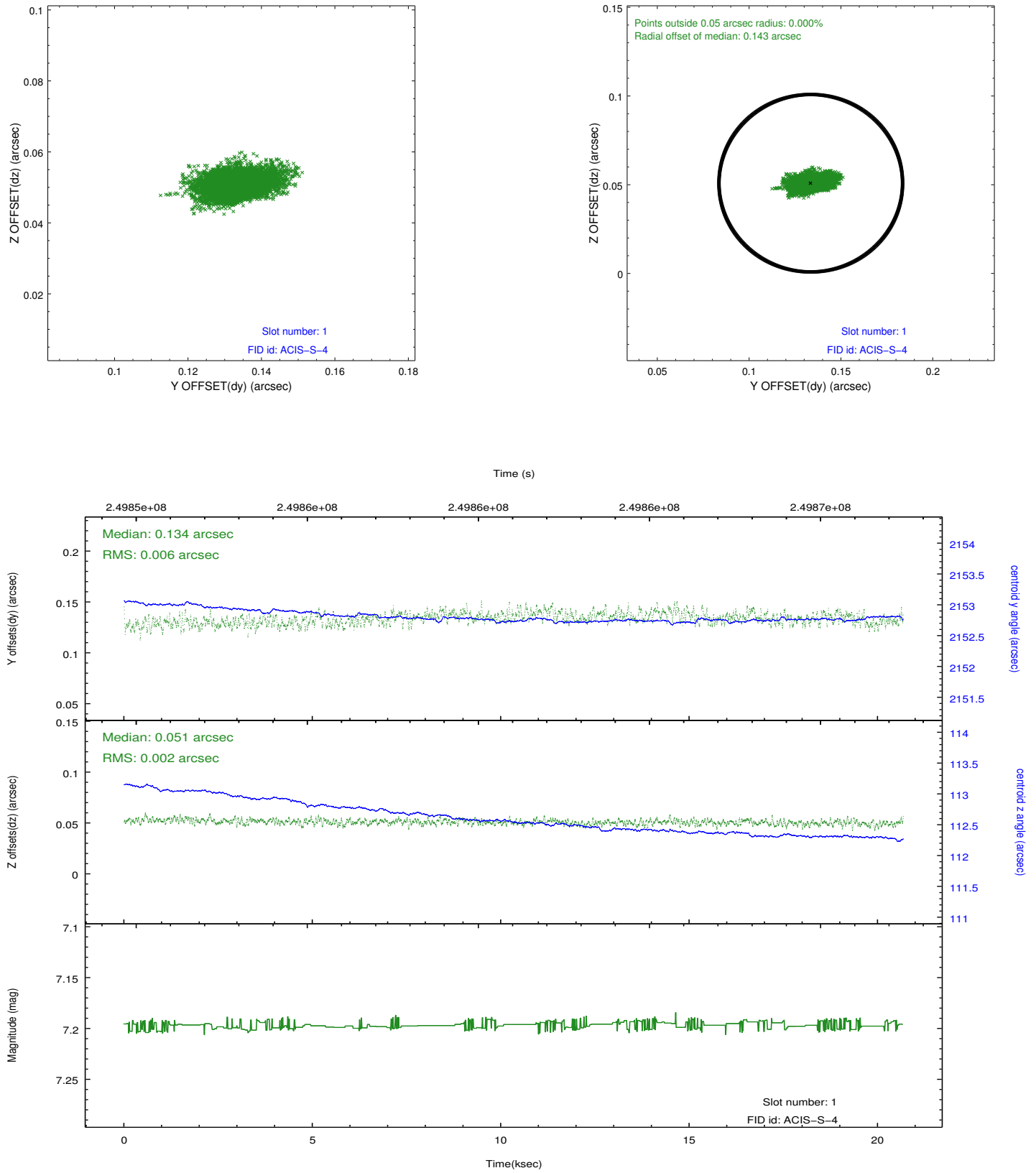


## 2.5 FID Slots

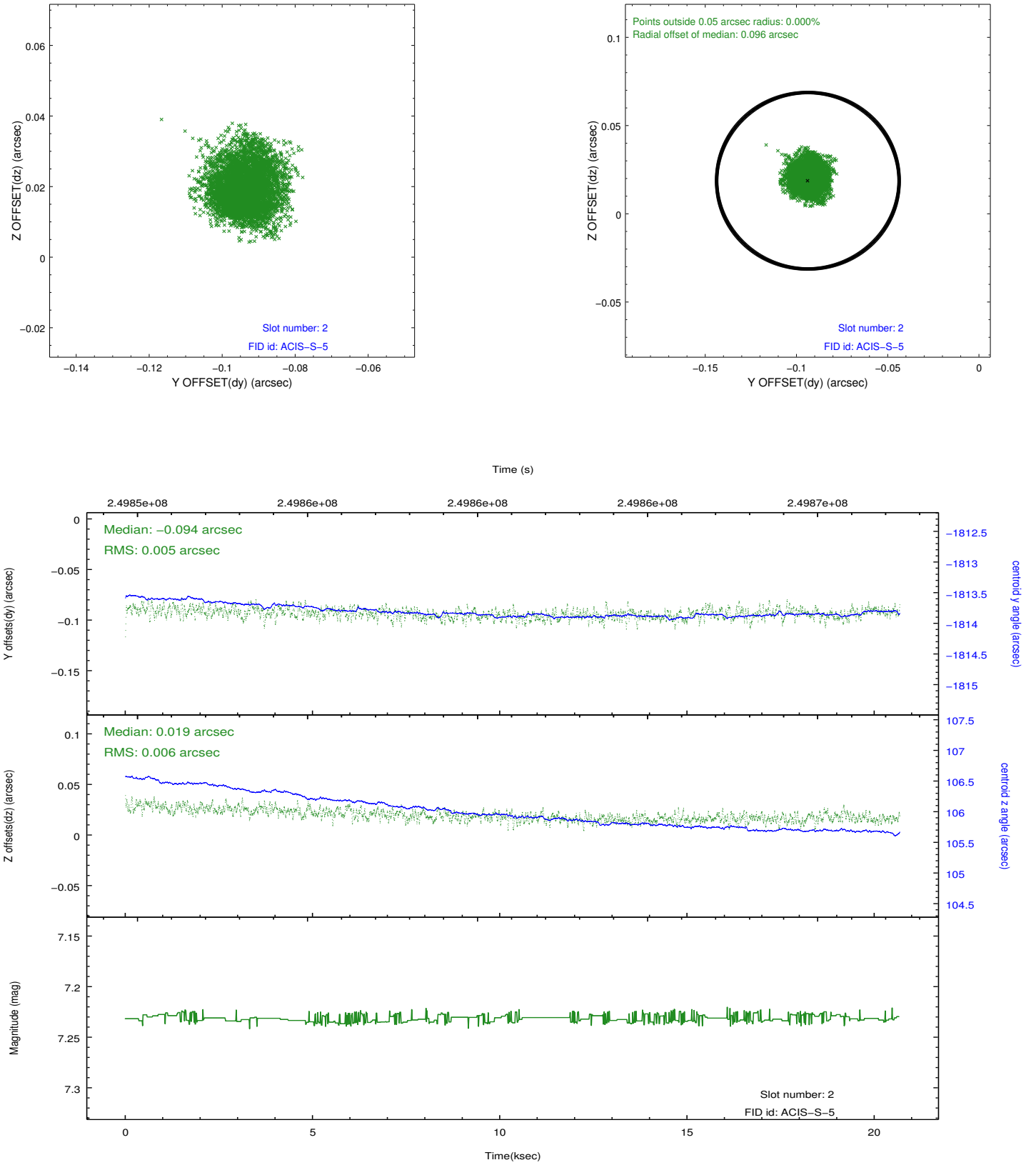
### 2.5.1 Slot 0



## 2.5.2 Slot 1

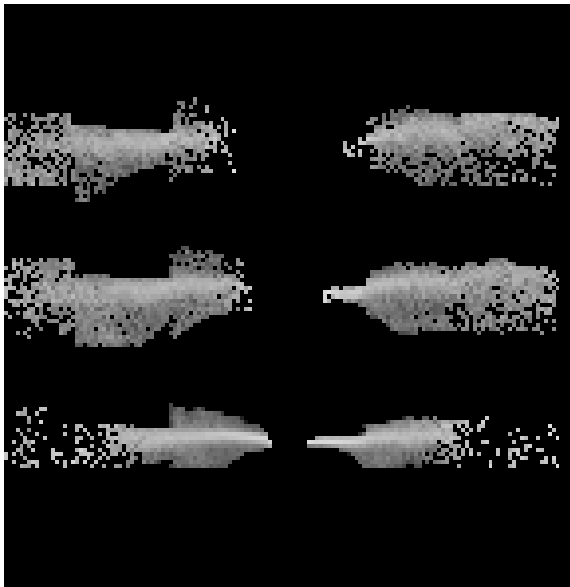


### 2.5.3 Slot 2

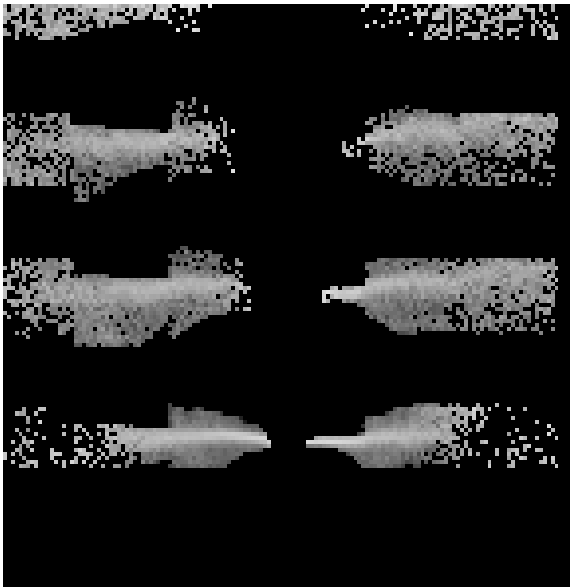


# 3 Gratings

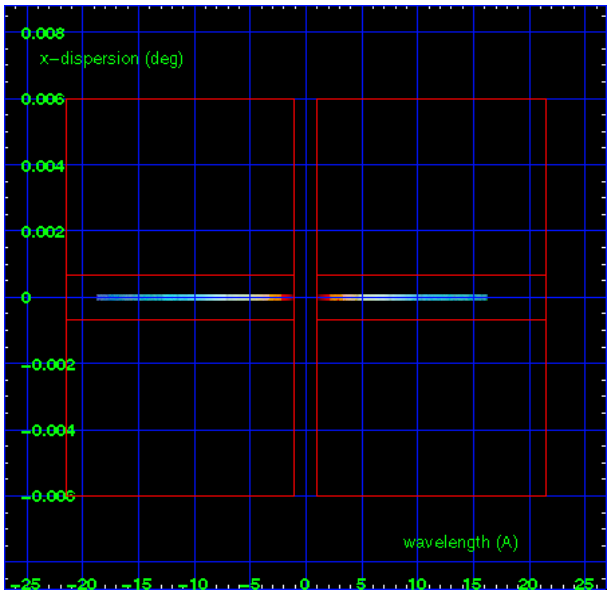
## 3.1 HEG Arm



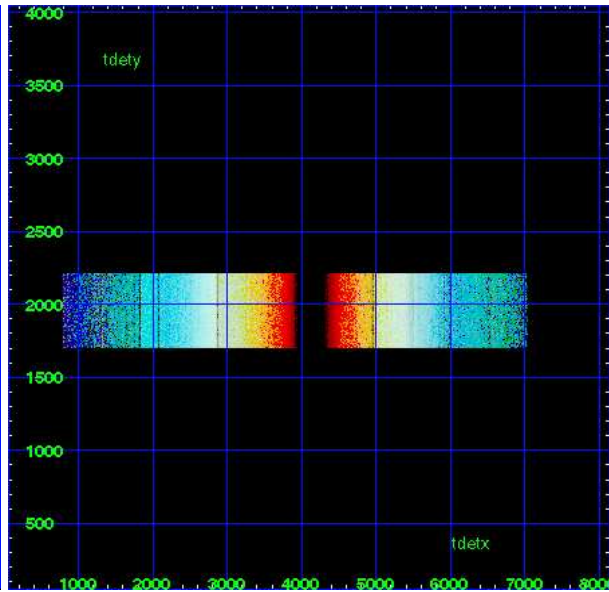
HEG Order Sort 123



HEG Order Sort ALL

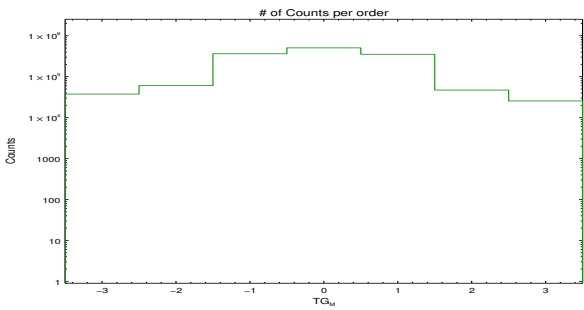


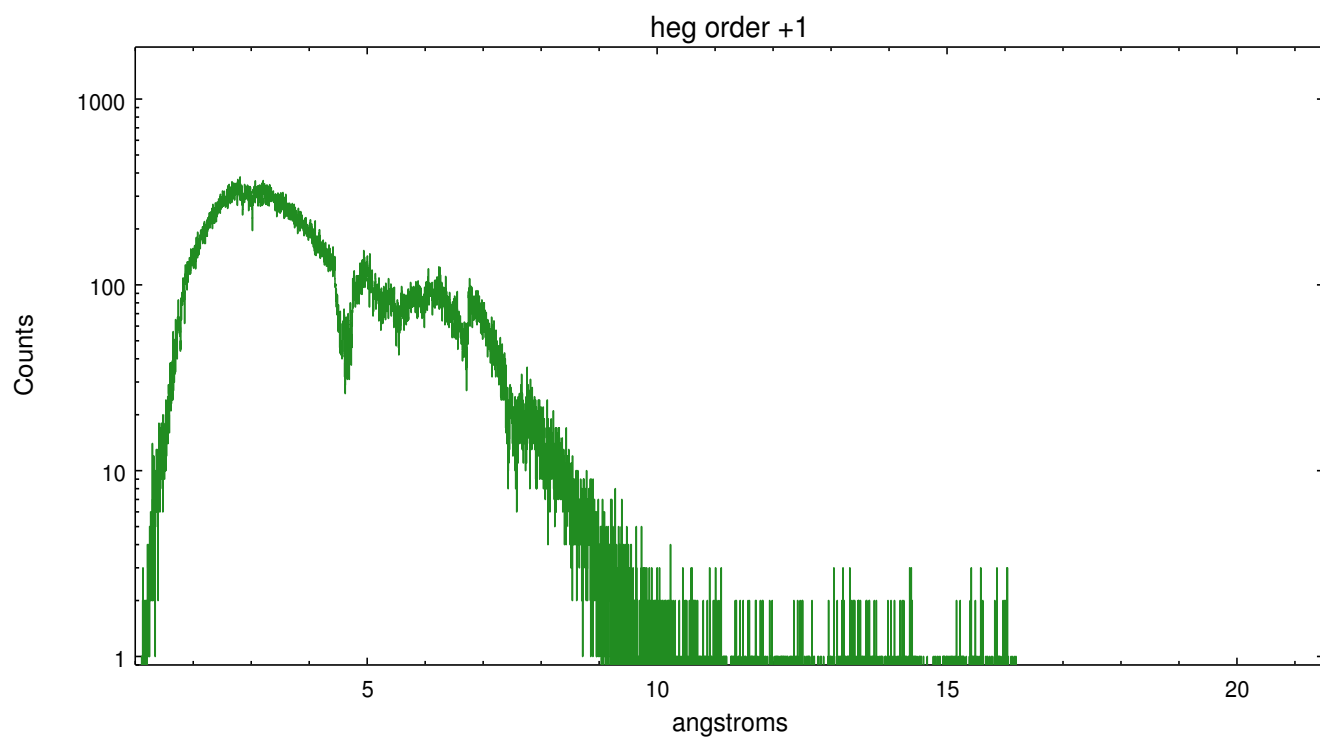
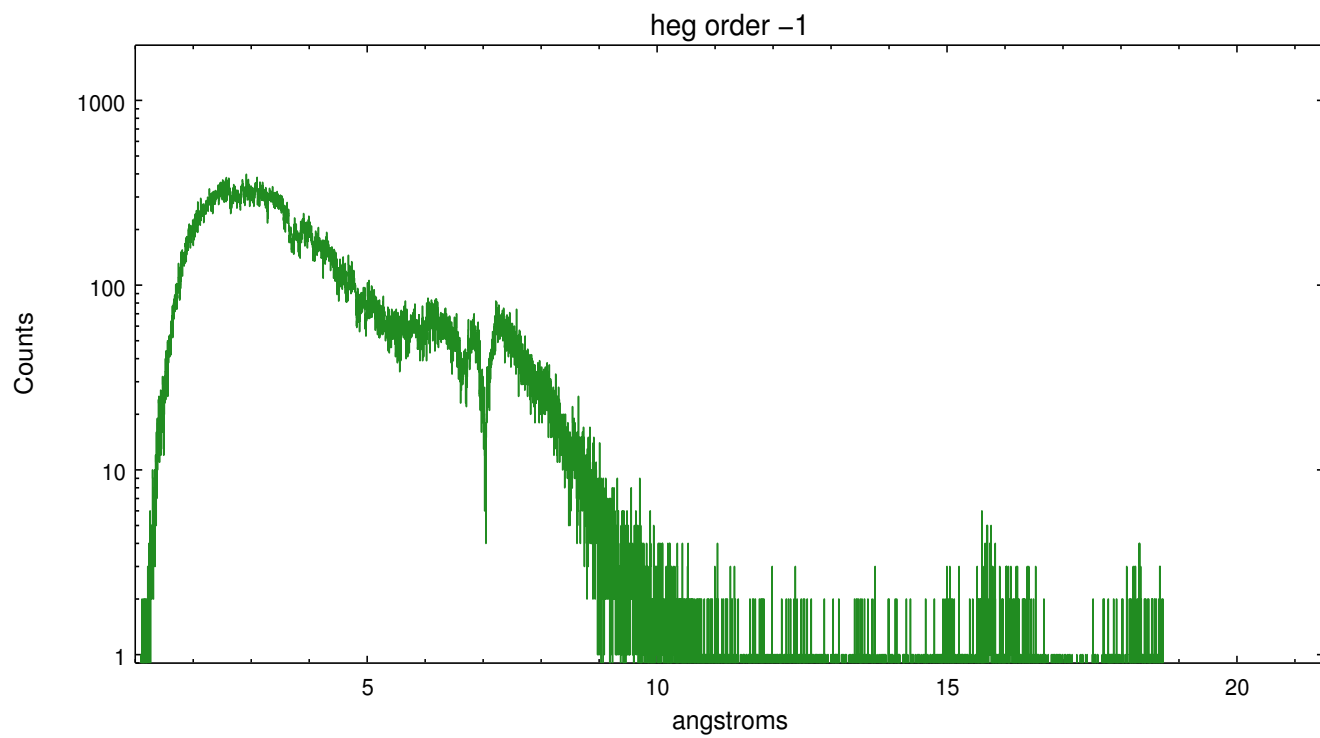
Spot Image HEG



Full Detector HEG

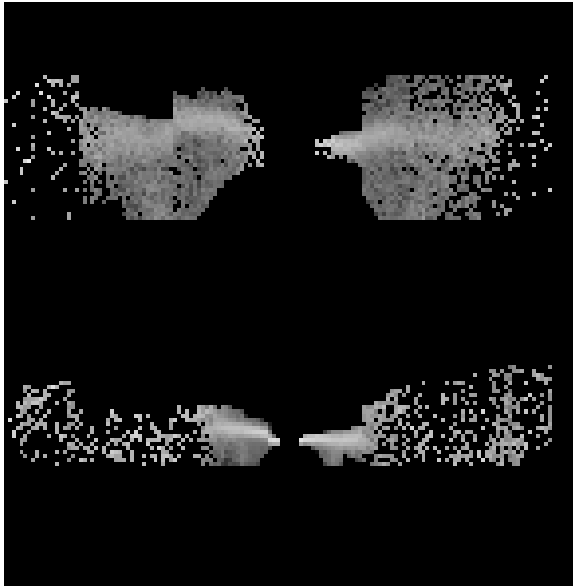
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	37657	61230	363734	506572	352584	47153	25567







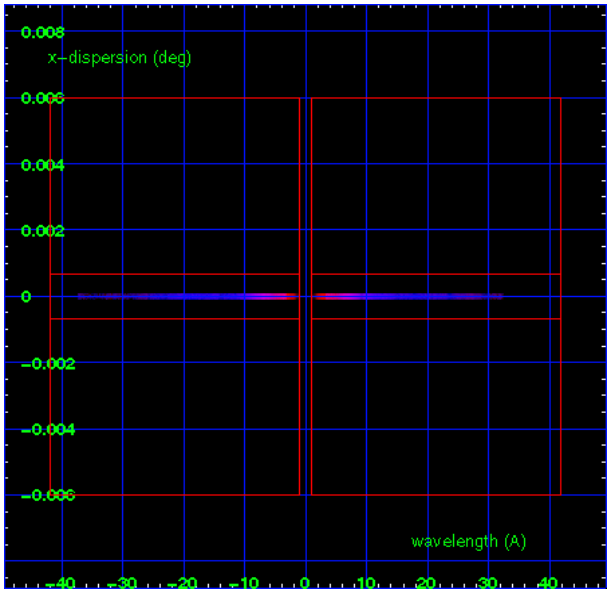
3.2 MEG Arm



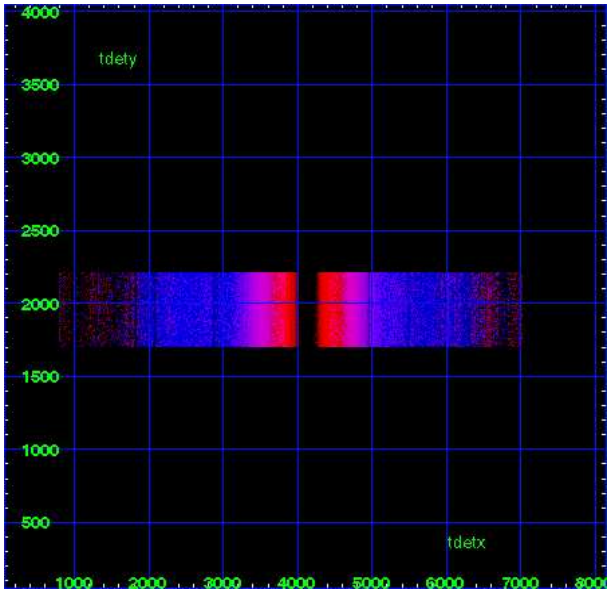
MEG Order Sort 123



MEG Order Sort ALL

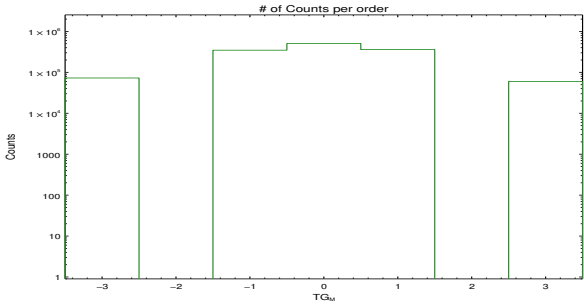


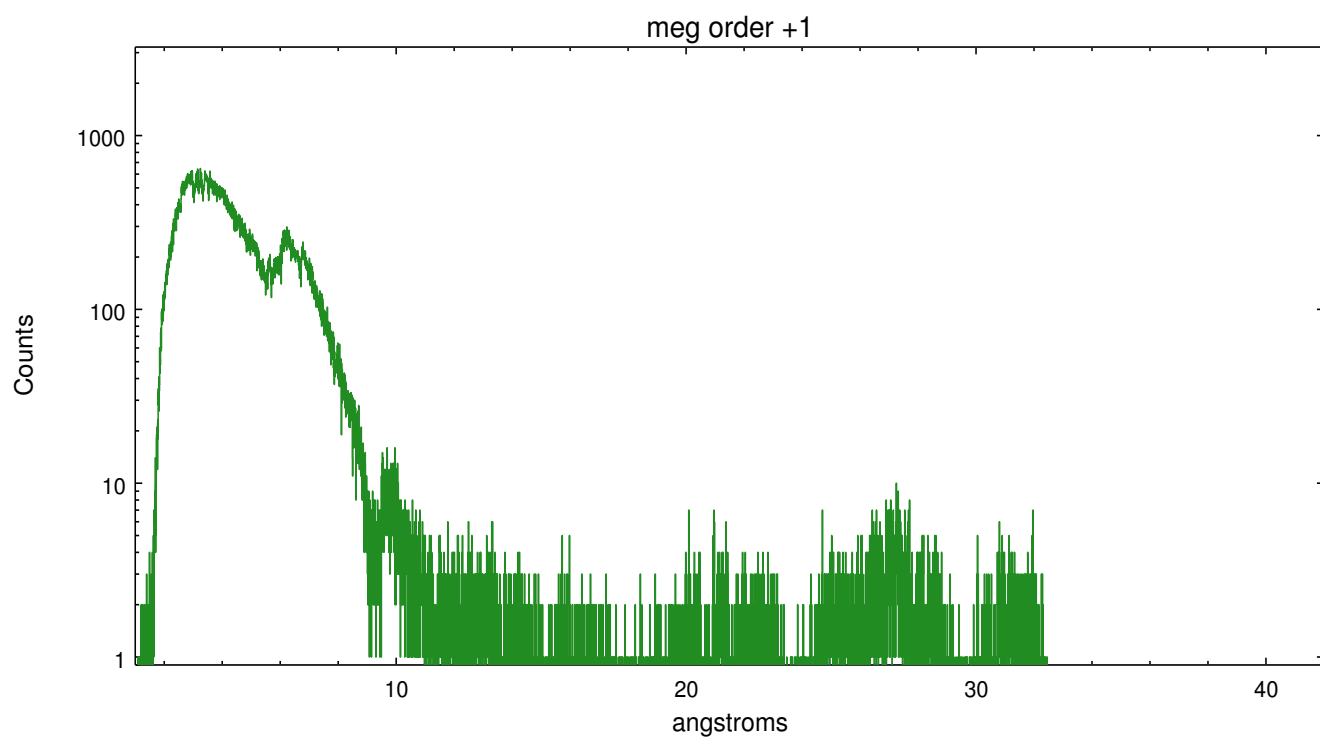
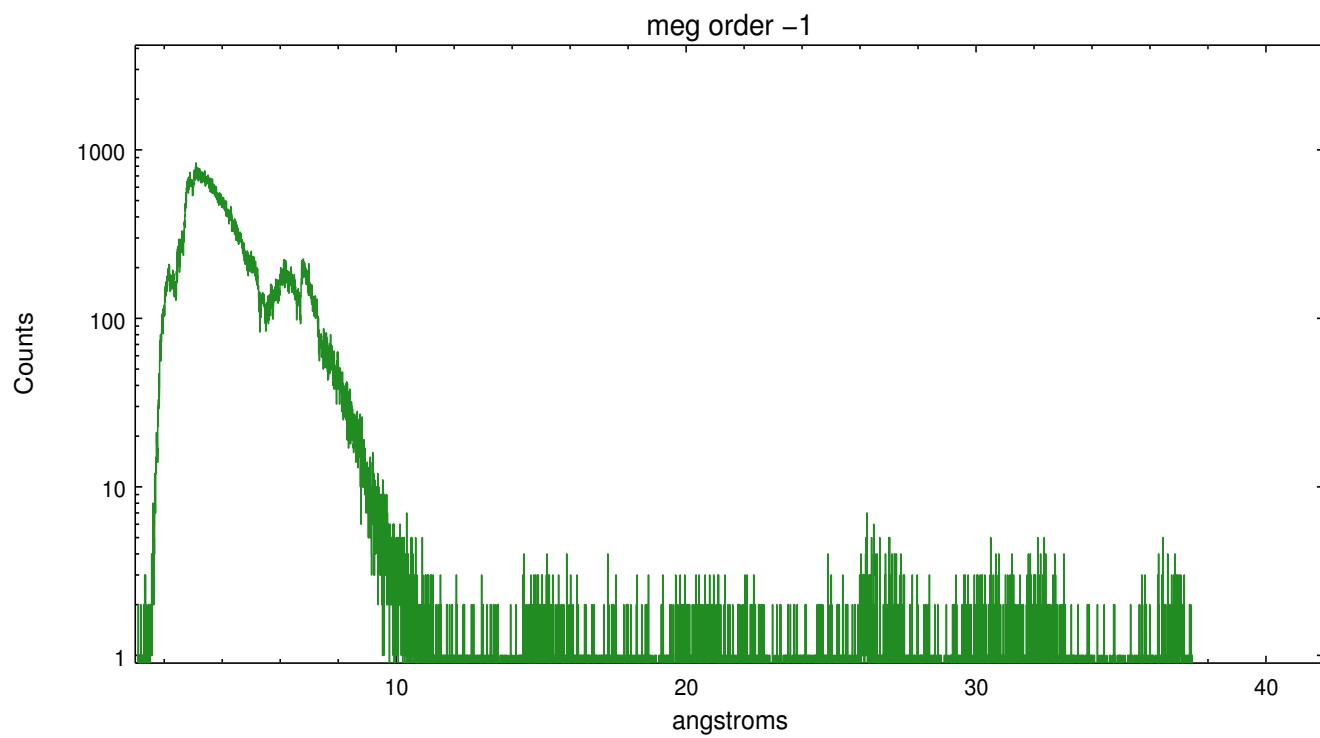
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	72838	0	347447	506572	360289	0	59915





## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.03.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.67

### A.2 Comments

Telemetry saturation reduces the effective exposure for some CCDs. The duration was as planned (20ks).