

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 4571 - L2 Version 4  
Chandra X-Ray Center

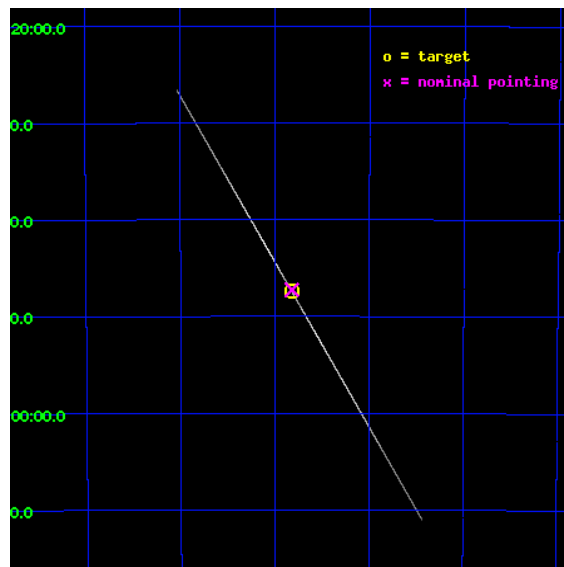
L2 Processing Date : Dec 17 2012

## 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	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

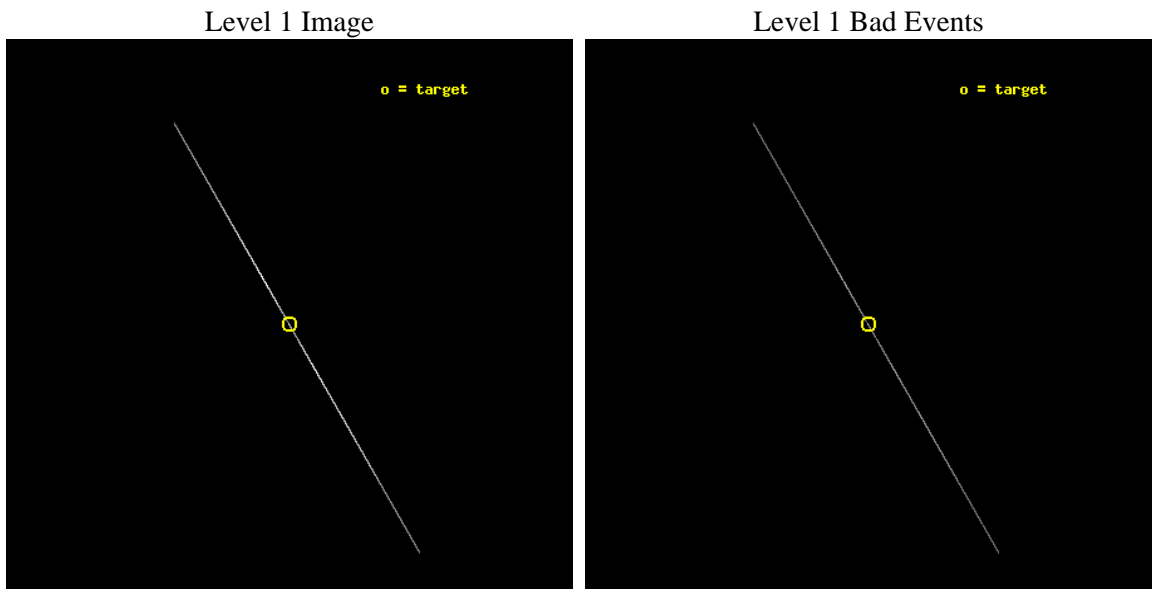
seq_num	400354	Sequence number
obs_id	4571	Observation id
title	Resolving Relativistic Effects and the Accretion Flow Geometry of a Black Hole in Outburst	Proposal title
observer	Dr Jon Miller	Principal investigator
object	GX 339-4	Source name
ra_targ	255.70625	Observer's specified target RA [deg]
dec_targ	-48.789722	Observer's specified target Dec [deg]
ra_nom	255.70518940345	Nominal RA [deg]
dec_nom	-48.787624941357	Nominal Dec [deg]
roll_nom	239.93374755528	Nominal Roll [deg]
revision	4	Processing version of data
ontime	35459.013146132	Sum of GTIs [s]
livetime	35320.50137603	Livetime [s]
ontime4	50037.486988187	Sum of GTIs [s]
ontime5	51167.0	Sum of GTIs [s]
ontime6	30628.374950886	Sum of GTIs [s]
ontime7	35459.013146132	Sum of GTIs [s]
ontime8	42715.394068122	Sum of GTIs [s]
ontime9	51167.0	Sum of GTIs [s]
l2events	17382120	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	51000.000000	[s] Scheduled observation exposure time
ascdsver	8.5	Processing system revision	ontime	35459.013146132	Sum of GTIs [s]
caldbver	4.5.4	&#160	ontime4	50037.486988187	Sum of GTIs [s]
date	2012-12-10T15:21:04	Date and time of file creation	ontime5	51167.0	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	30628.374950886	Sum of GTIs [s]
			ontime7	35459.013146132	Sum of GTIs [s]
			ontime8	42715.394068122	Sum of GTIs [s]
			ontime9	51167.0	Sum of GTIs [s]
			l1events	18988827	Number of level 1 events

### 2.1.3 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	396391	2865996	5395481	6127063	3575621	628275	grade 0 events	18021	578574	2235542	1269340	2439365	66618
rejected events	23172	88945	81235	128021	52960	23134		4%	20%	41%	20%	68%	10%
rejected %	5%	3%	1%	2%	1%	3%	grade 1 events	298	952	8006	7983	7672	432
								0%	0%	0%	0%	0%	0%
							grade 2 events	307719	1208163	2629792	1754604	797201	467563
								77%	42%	48%	28%	22%	74%
							grade 3 events	9611	151980	100033	616876	97825	10558
								2%	5%	1%	10%	2%	1%
							grade 4 events	9890	149210	99229	613333	97310	11217
								2%	5%	1%	10%	2%	1%
							grade 5 events	15453	62287	39092	84336	30926	19370
								3%	2%	0%	1%	0%	3%
							grade 6 events	35399	714830	283787	1780591	105322	52517
								8%	24%	5%	29%	2%	8%
							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_GRADED	CC33_GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	255.704672	255.7051894034472	Subarray requested	NONE	NONE
[deg] Pointing Dec	-48.760379	-48.78762494135651	Alternating exposures requested	N	N
[deg] Pointing Roll	239.776728	239.9337475552763	[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	-182.632523	-182.6398635053184			
[mm] SIM translation stage offset	-7.5	-7.49265907768941			
[s] Observation start time (MET)	215341447.184000	215340225.72353			
Observation start date	2004-10-28T09:03:03	2004-10-28T08:43:45			
[s] Observation end time (MET)	215392447.184000	215393335.58842			
Observation end date	2004-10-28T23:13:03	2004-10-28T23:28:55			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect

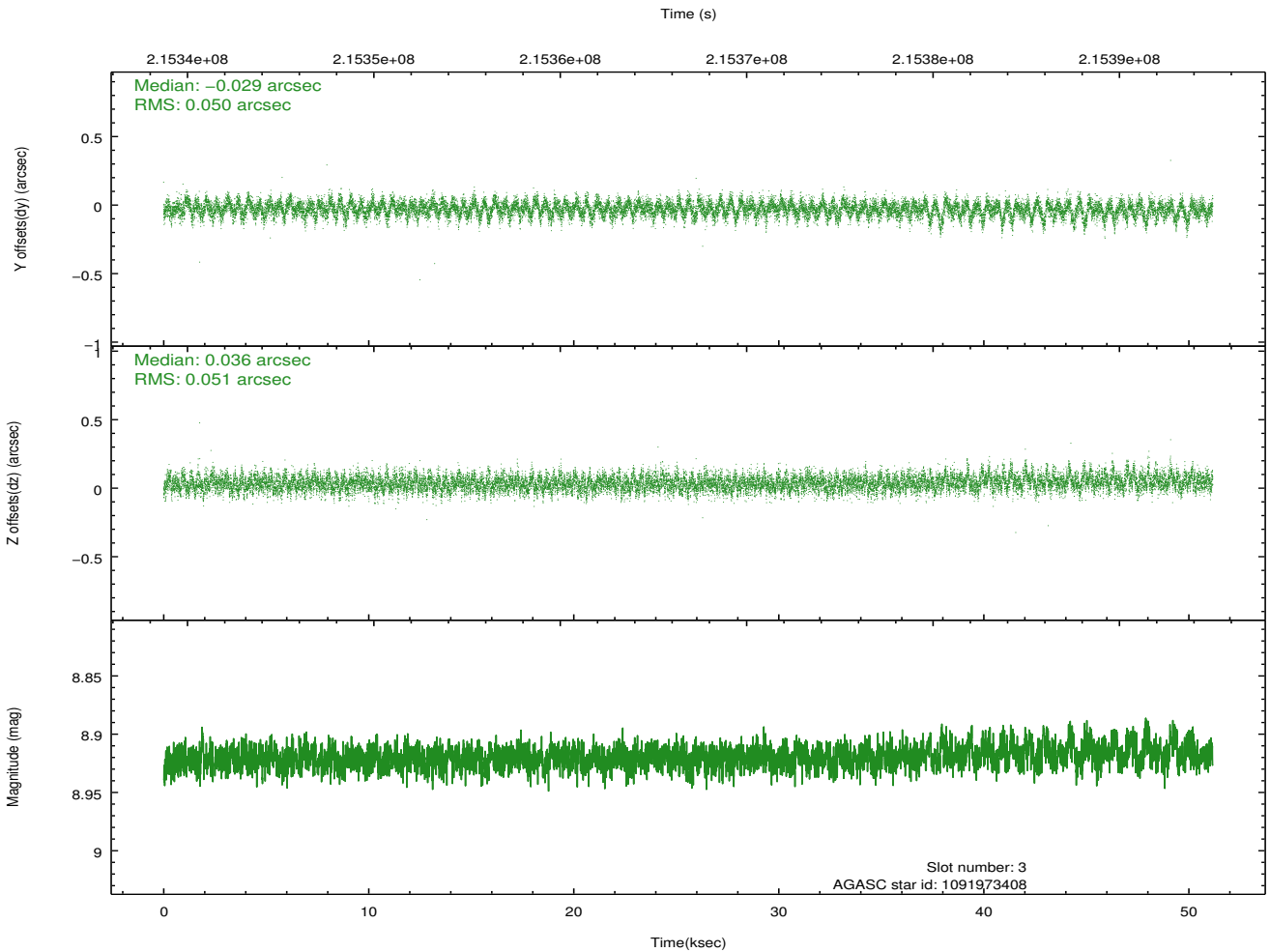
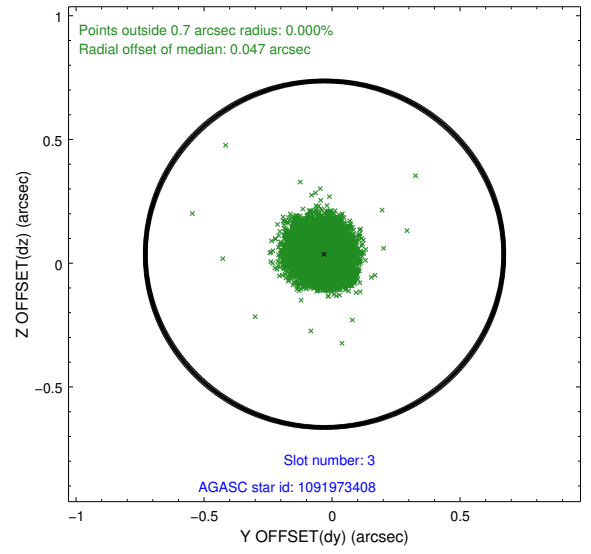
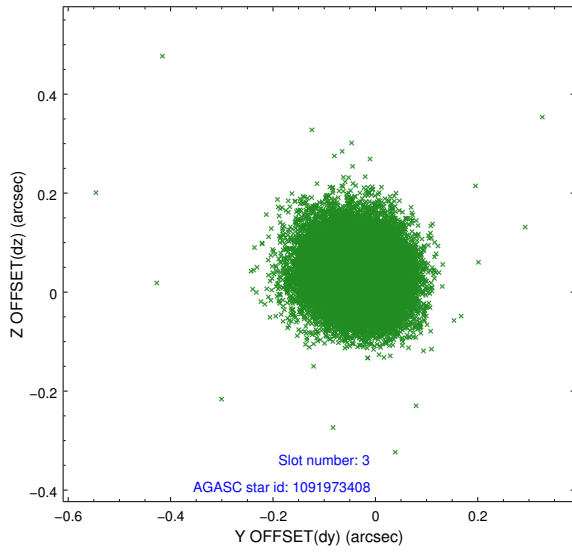


### Slot Statistics

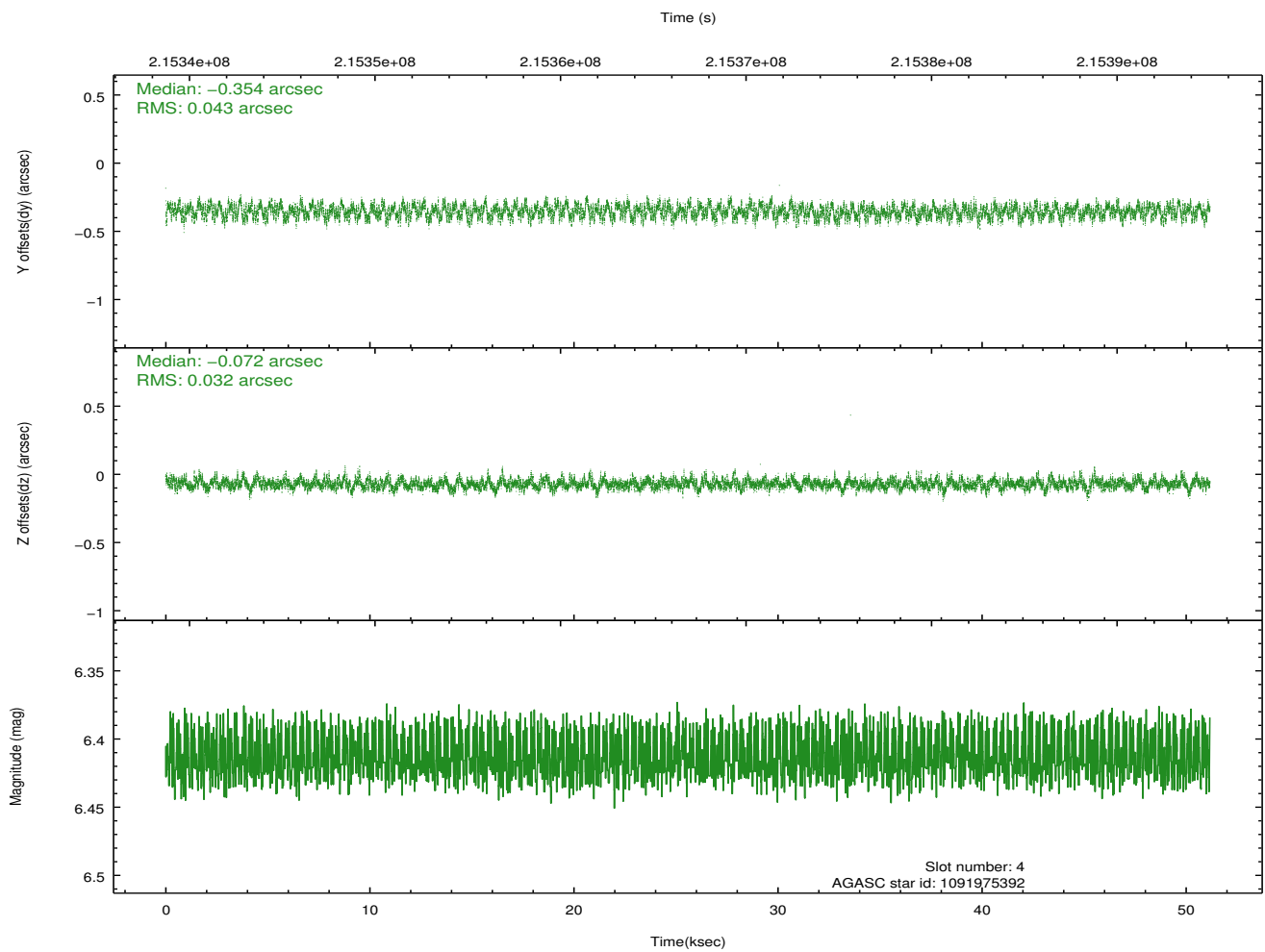
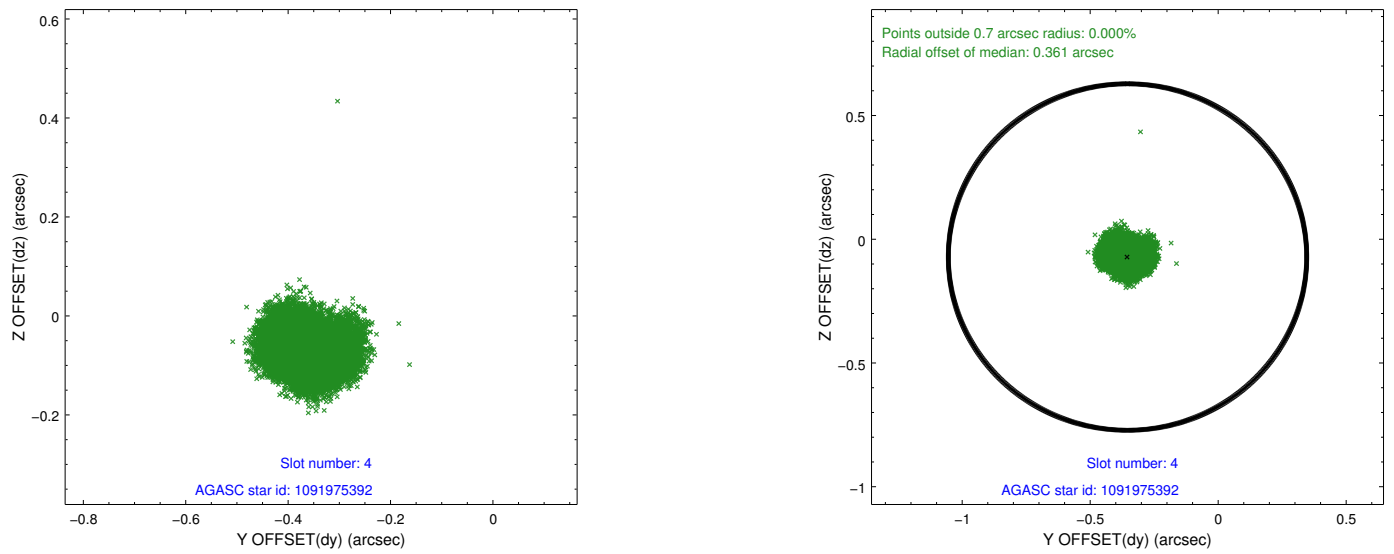
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	12481	-0.116	-0.113	0.011	0.018	0.000000	0.000000	-760.66	-1888.57
1	FID	ACIS-S-4	7.17	12480	0.097	0.048	0.008	0.013	0.000000	0.000000	2152.82	20.09
2	FID	ACIS-S-6	7.39	12481	-0.008	0.072	0.009	0.014	0.000000	0.000000	401.38	657.47
3	GUIDE	1091973408	8.92	24952	-0.029	0.036	0.076	0.125	255.800233	-48.601800	-607.36	-90.59
4	GUIDE	1091975392	6.41	24963	-0.354	-0.072	0.058	0.091	255.805002	-48.336791	-1438.37	-560.09
5	GUIDE	1092111344	9.97	24924	0.075	0.043	0.135	0.228	256.132869	-48.213784	-2214.48	-101.47
6	GUIDE	1092485728	6.91	24957	0.059	0.109	0.071	0.116	254.773222	-48.875124	1479.15	-1690.58
7	GUIDE	1092491384	9.14	24947	0.246	-0.117	0.091	0.147	254.923973	-49.184437	2252.65	-814.06

## 2.4 Star Slots

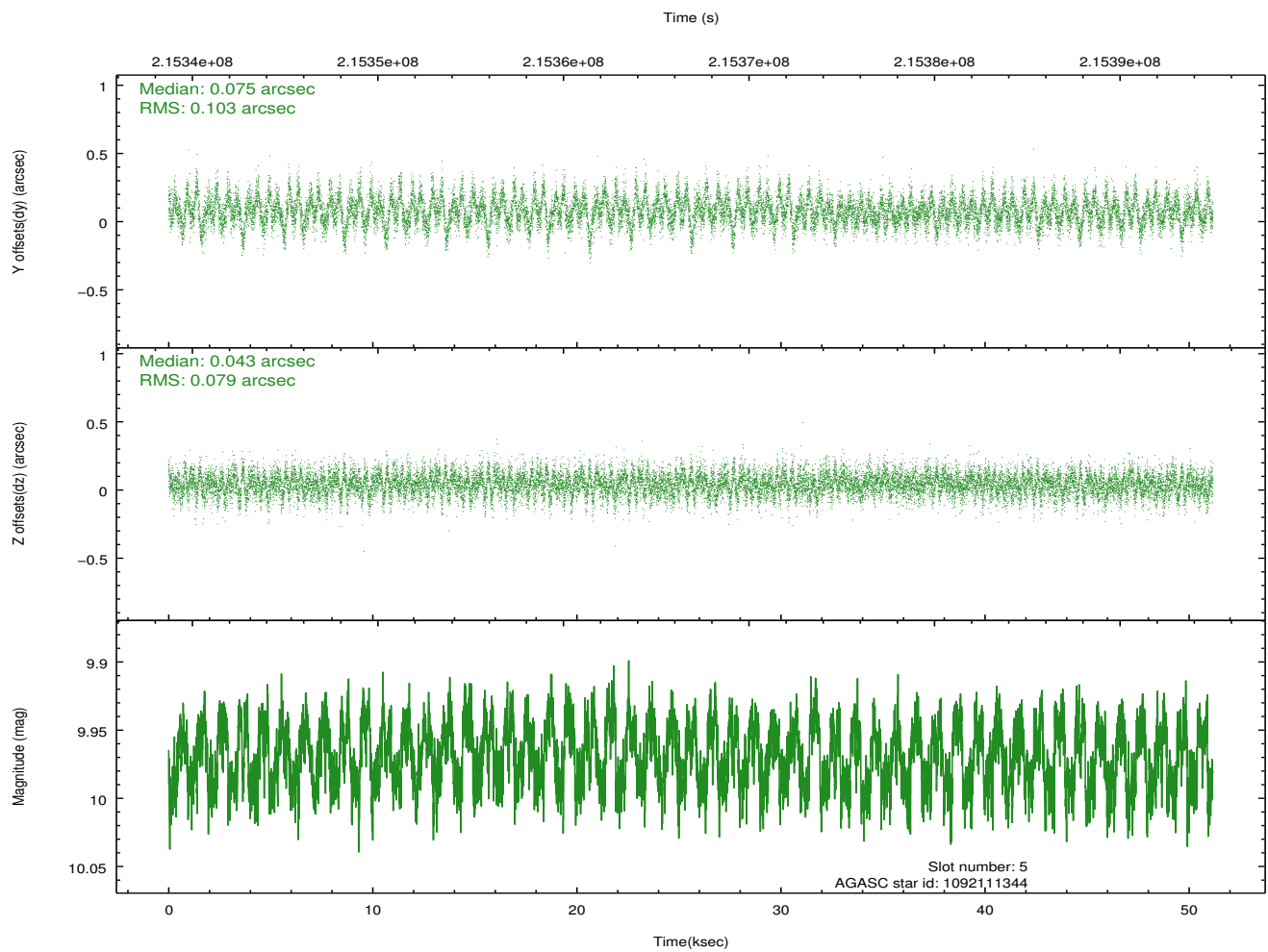
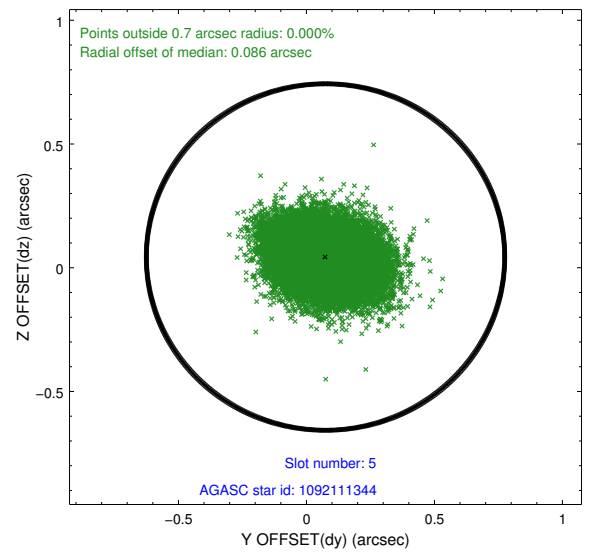
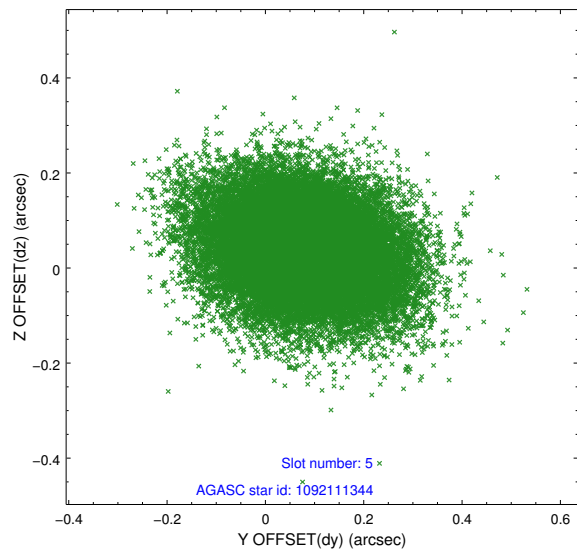
### 2.4.1 Slot 3



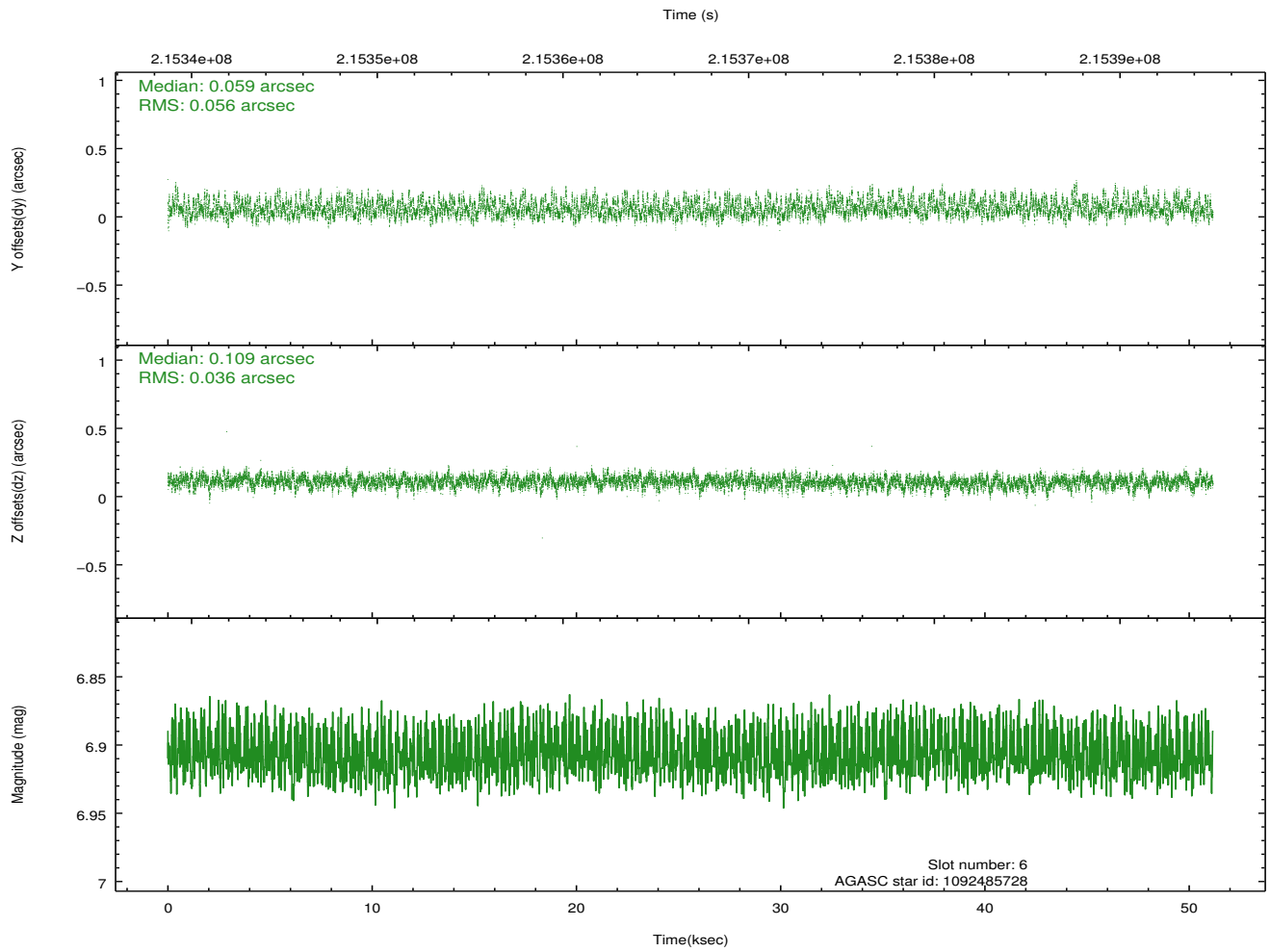
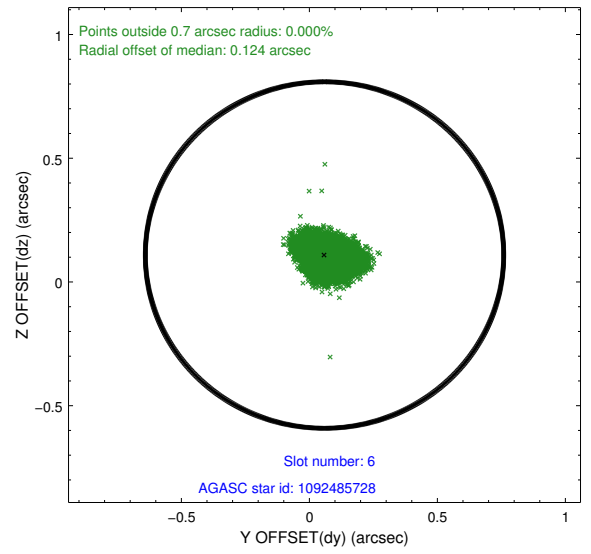
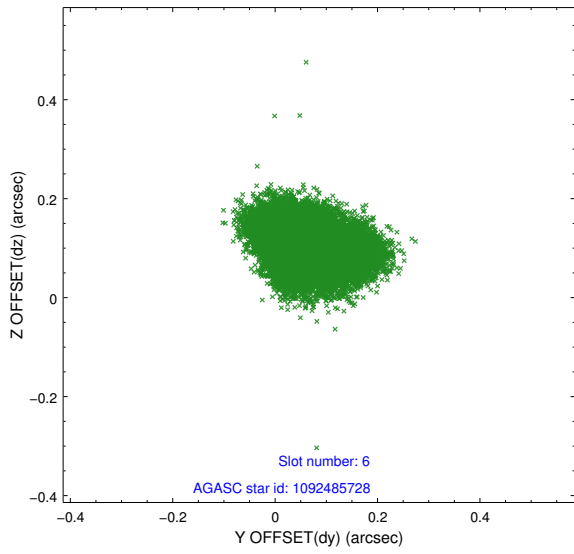
## 2.4.2 Slot 4



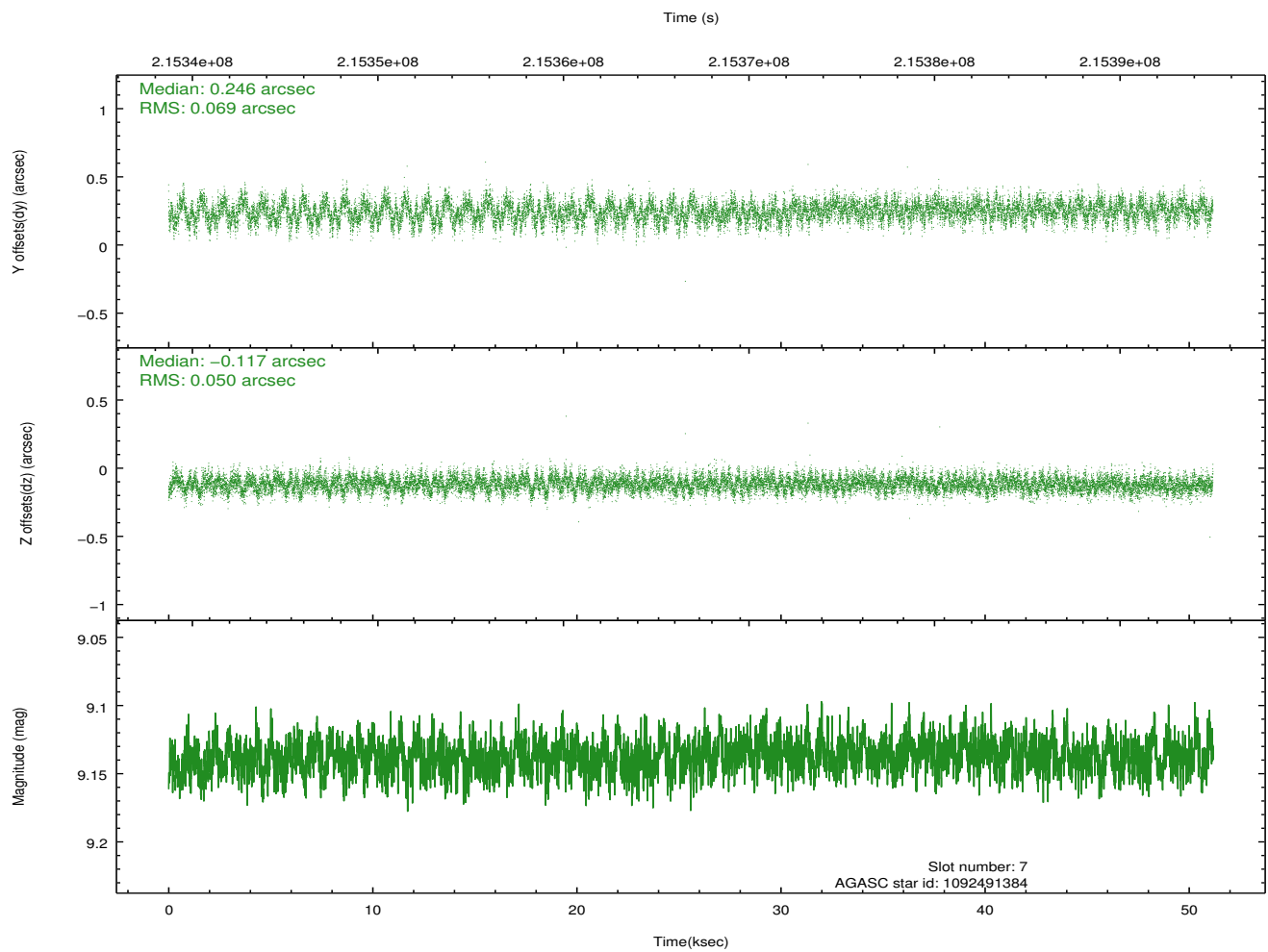
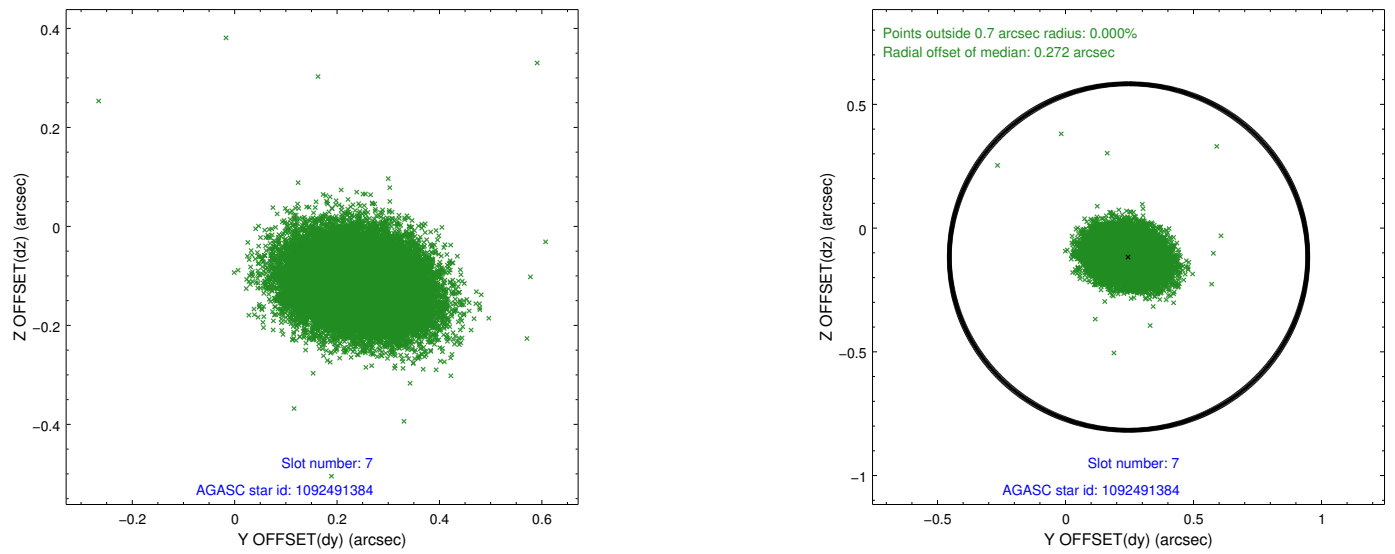
### 2.4.3 Slot 5



### 2.4.4 Slot 6

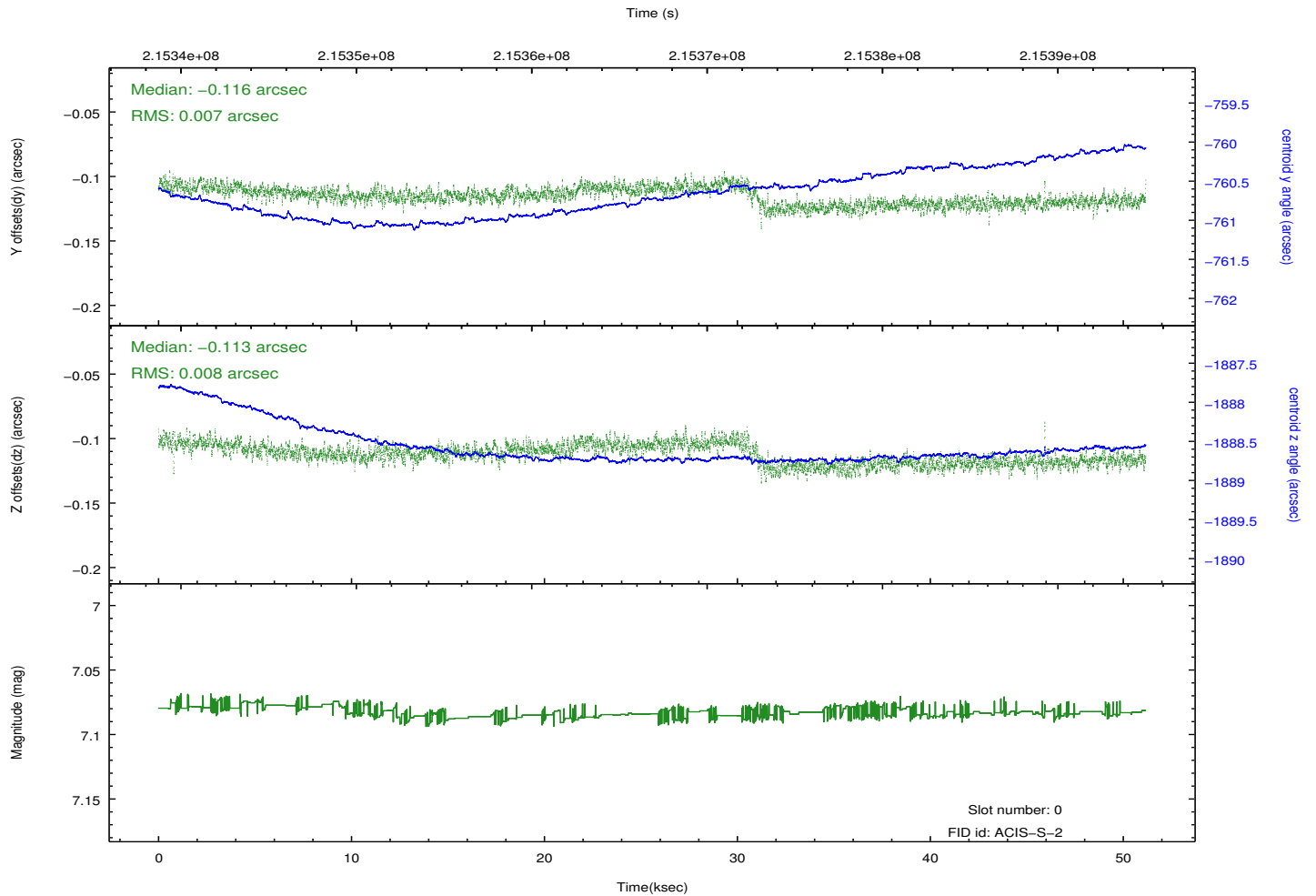
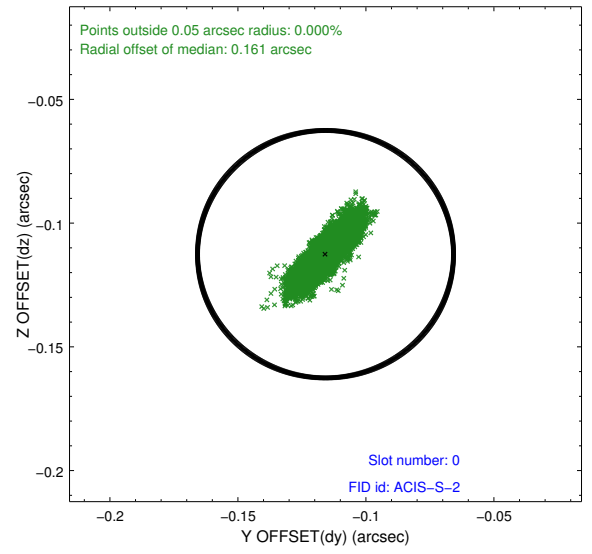
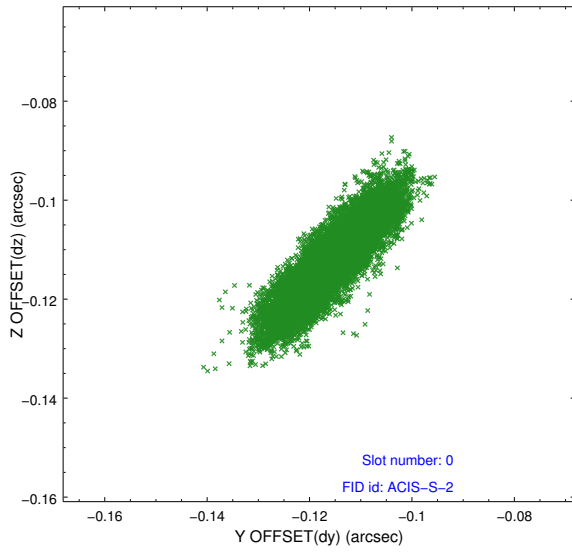


## 2.4.5 Slot 7

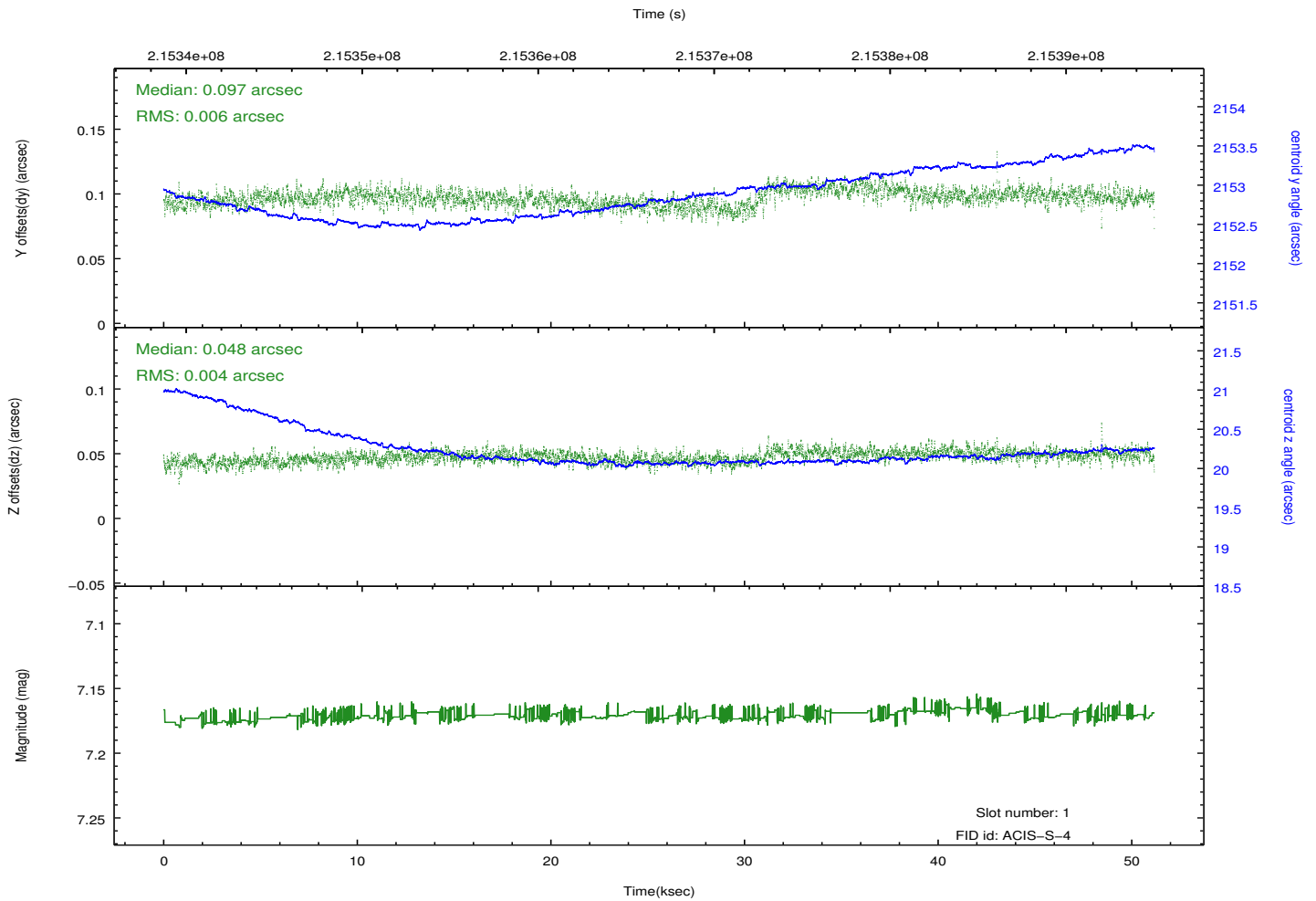
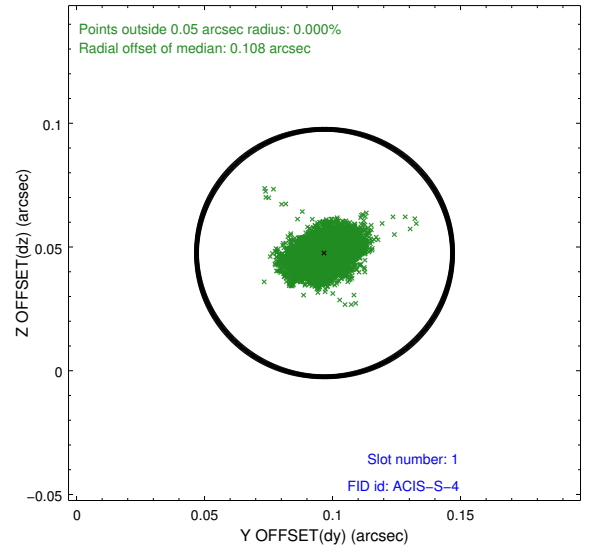
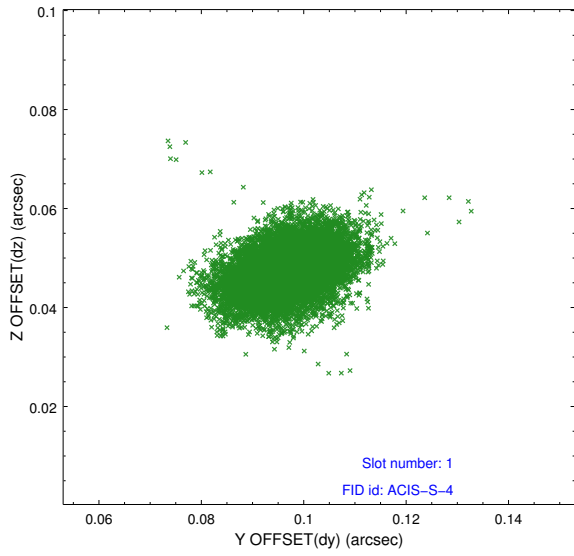


## 2.5 FID Slots

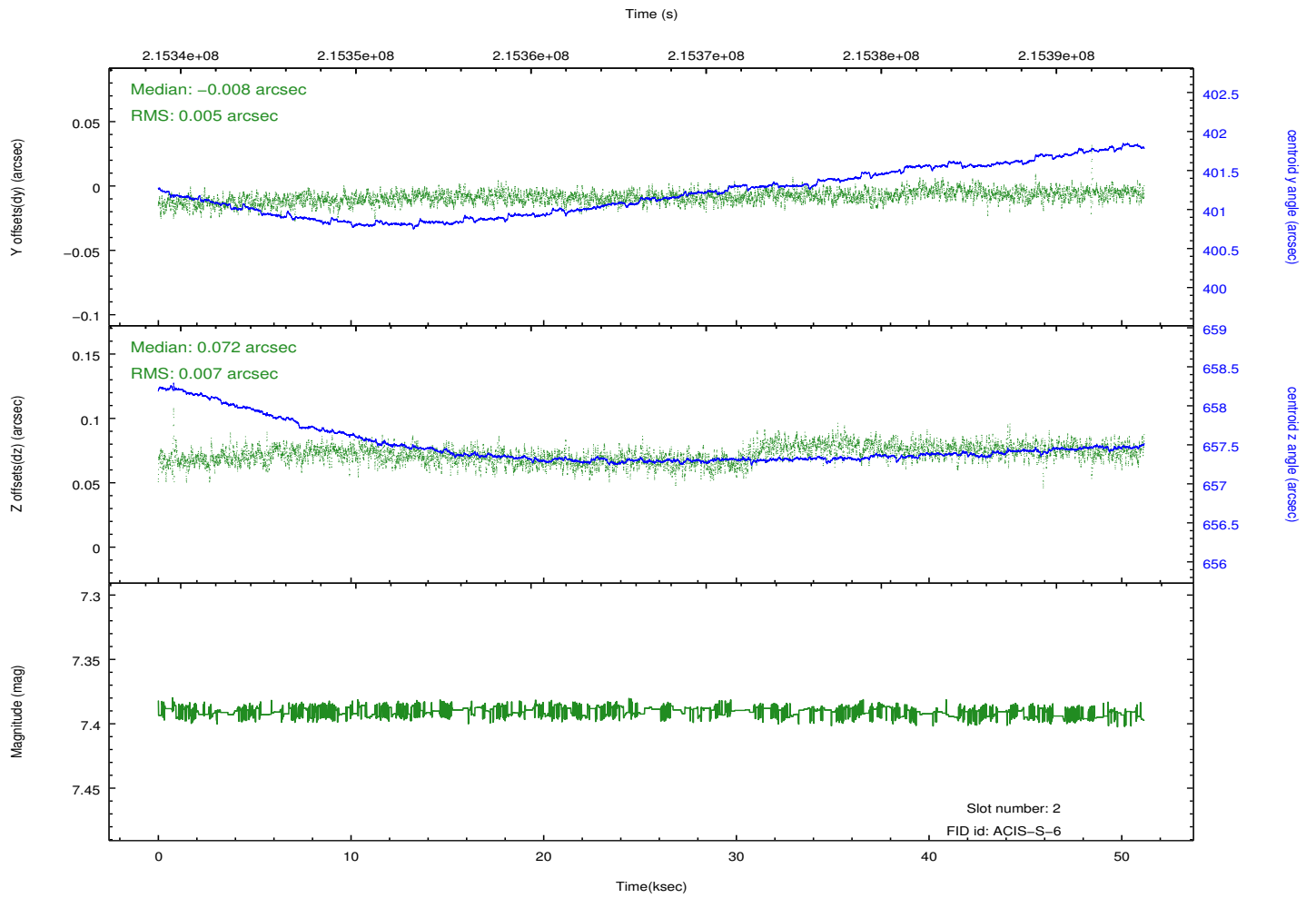
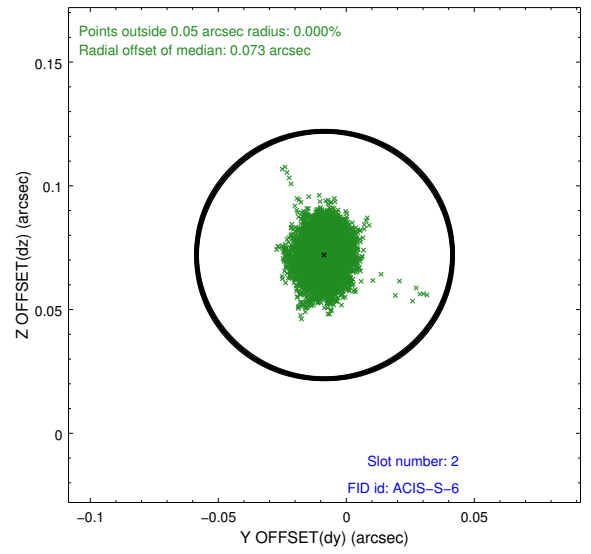
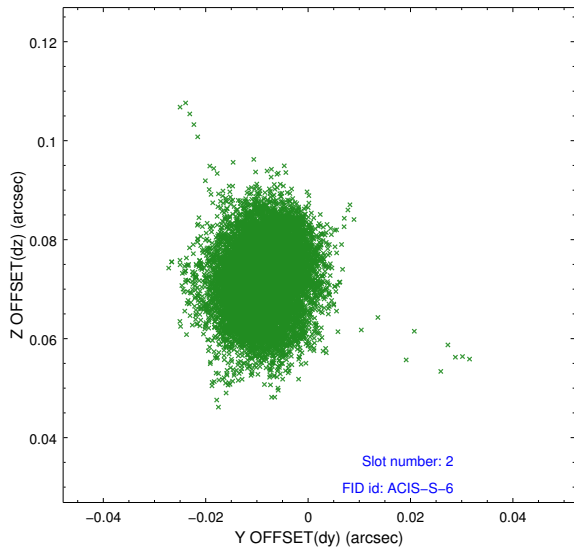
### 2.5.1 Slot 0



## 2.5.2 Slot 1

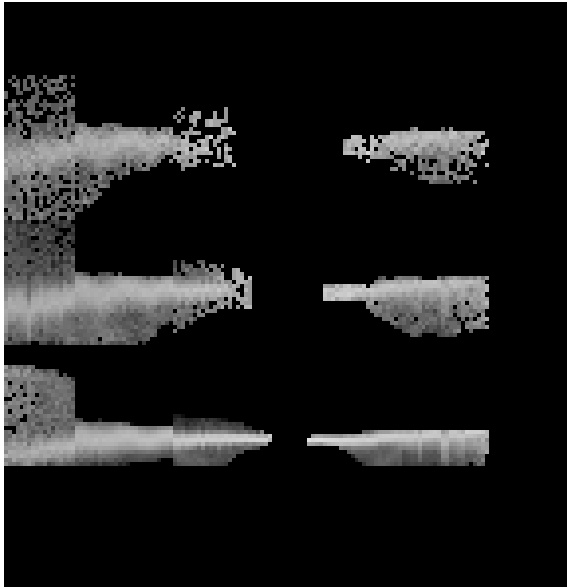


### 2.5.3 Slot 2

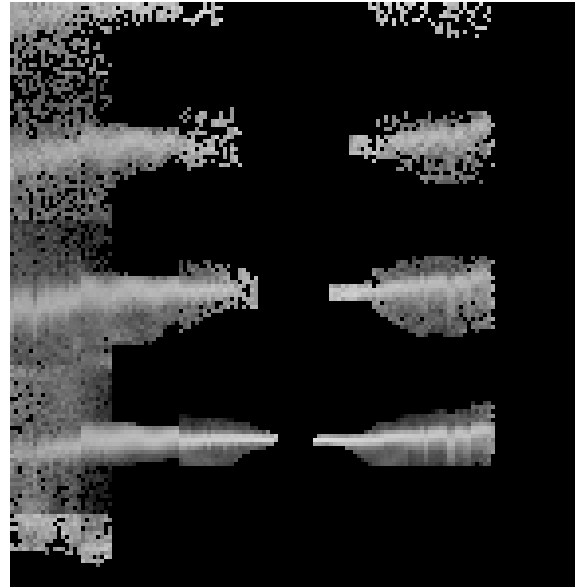


# 3 Gratings

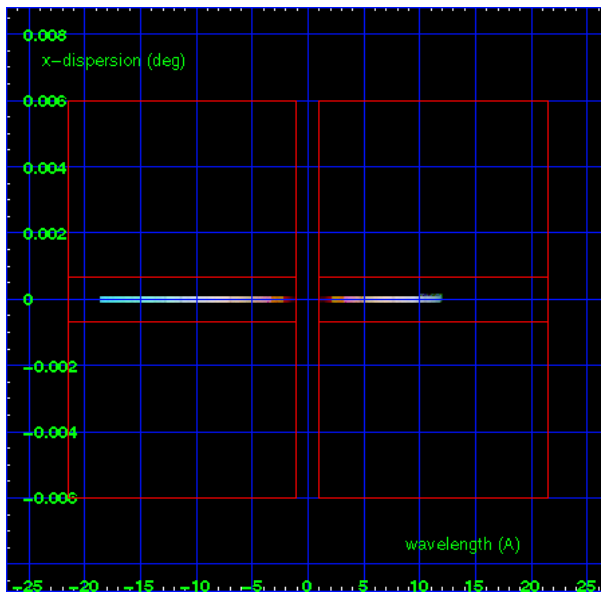
## 3.1 HEG Arm



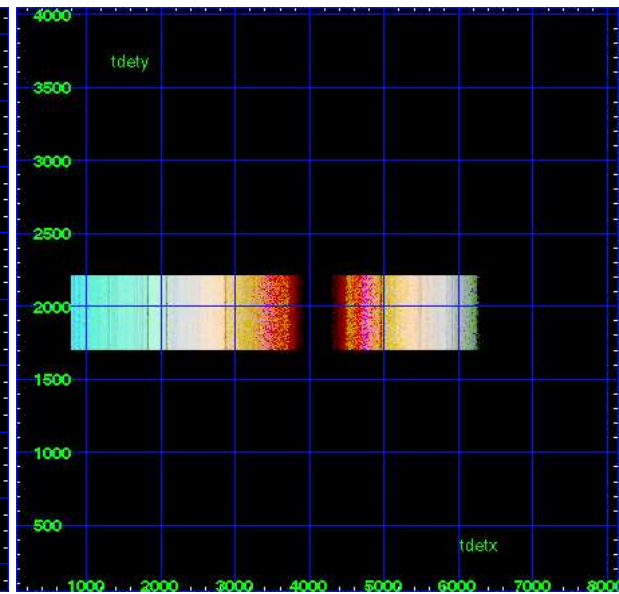
HEG Order Sort 123



HEG Order Sort ALL

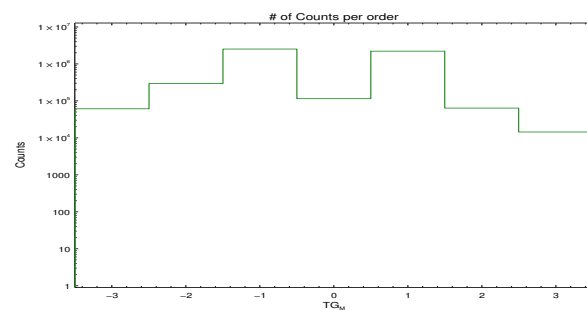


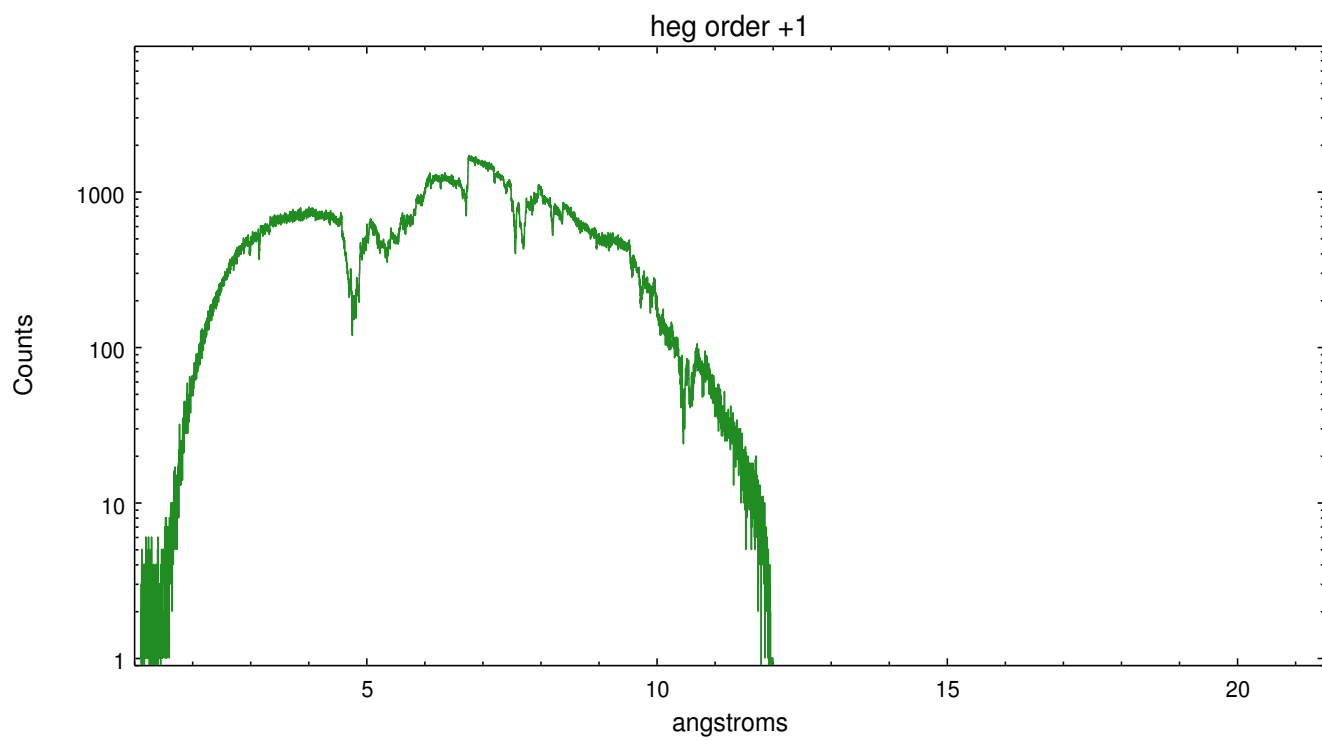
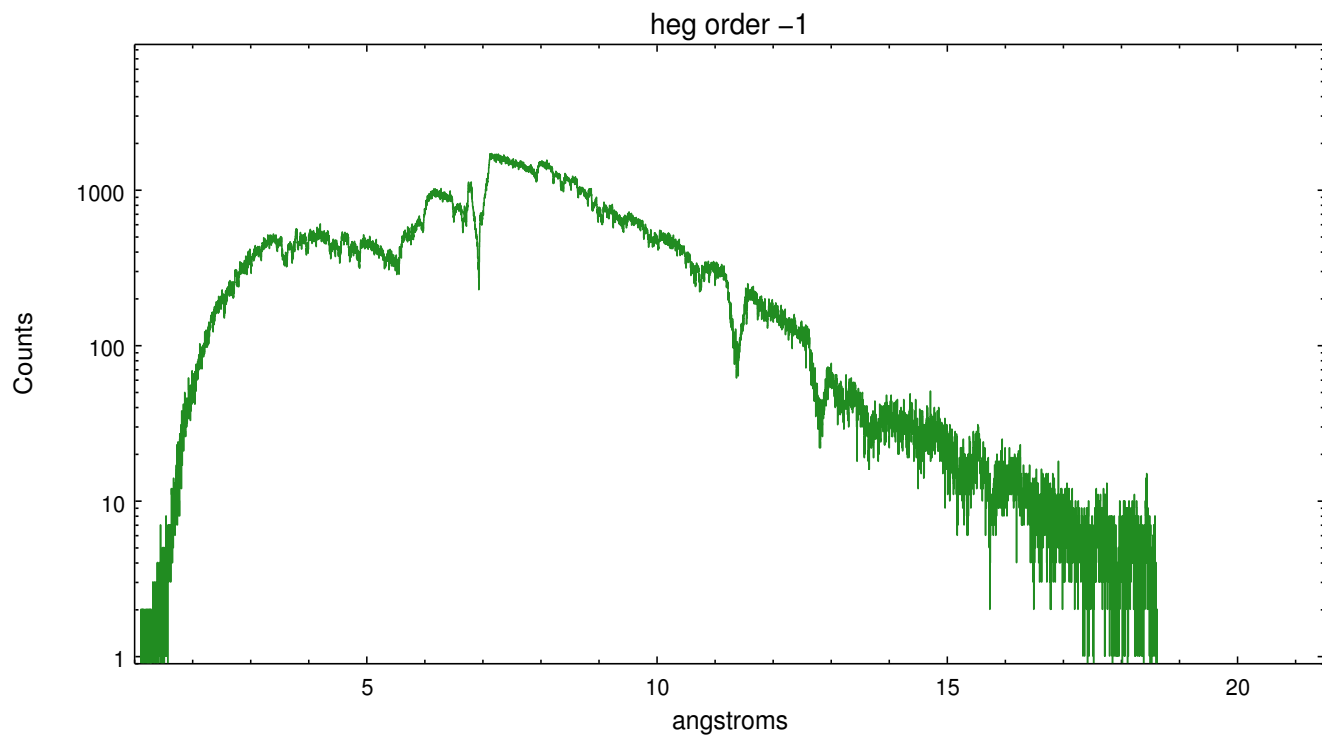
Spot Image HEG



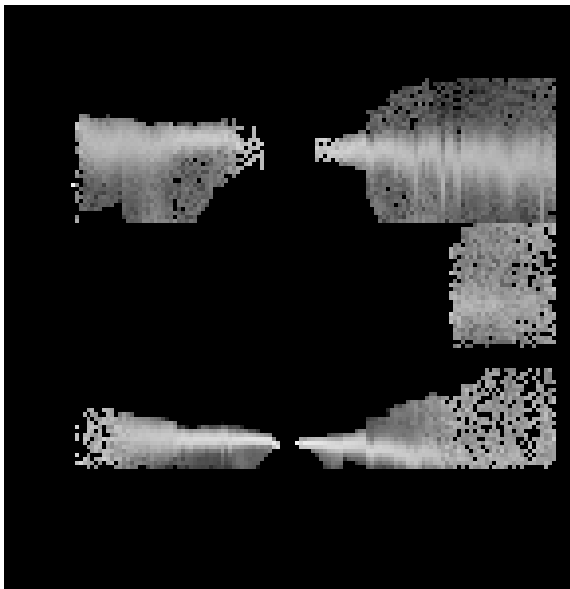
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	61514	297091	2552693	115622	2236821	64160	14463

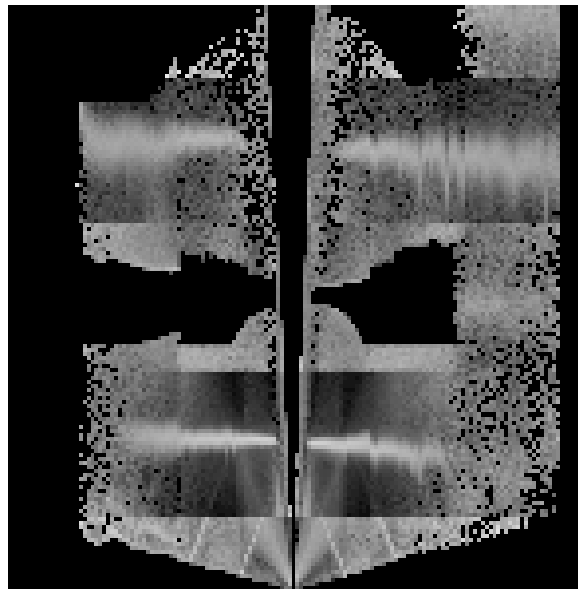




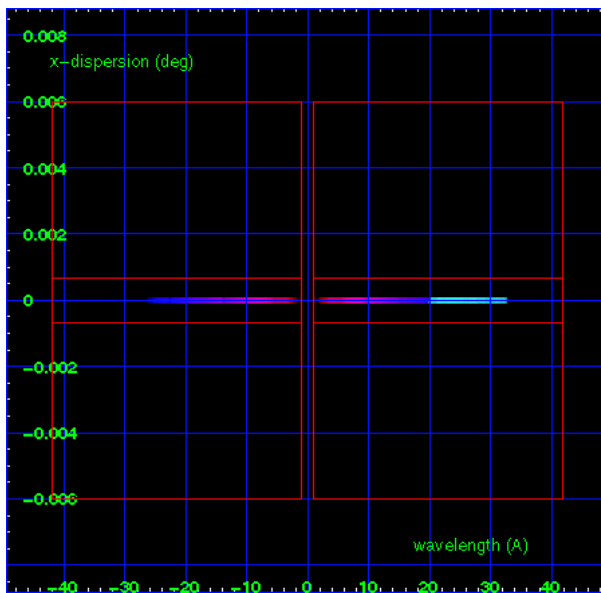
### 3.2 MEG Arm



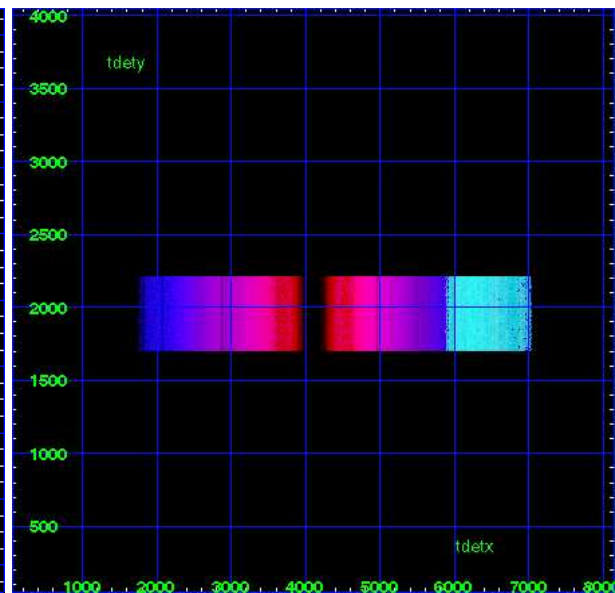
MEG Order Sort 123



MEG Order Sort ALL

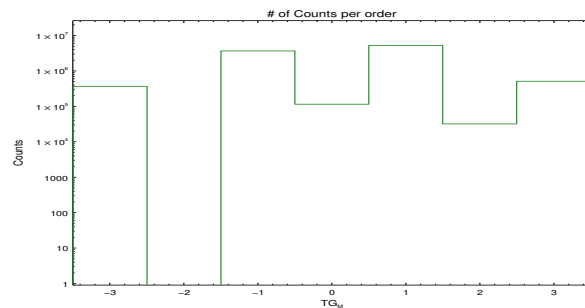


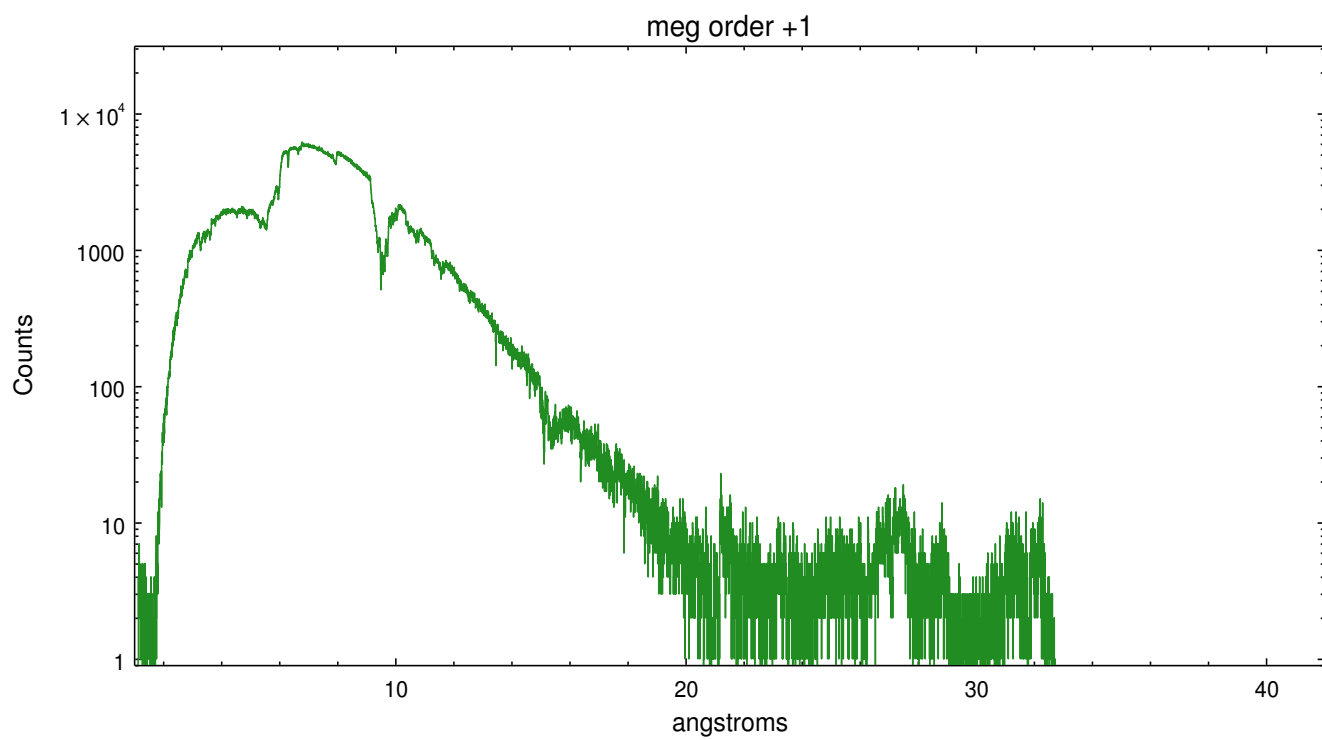
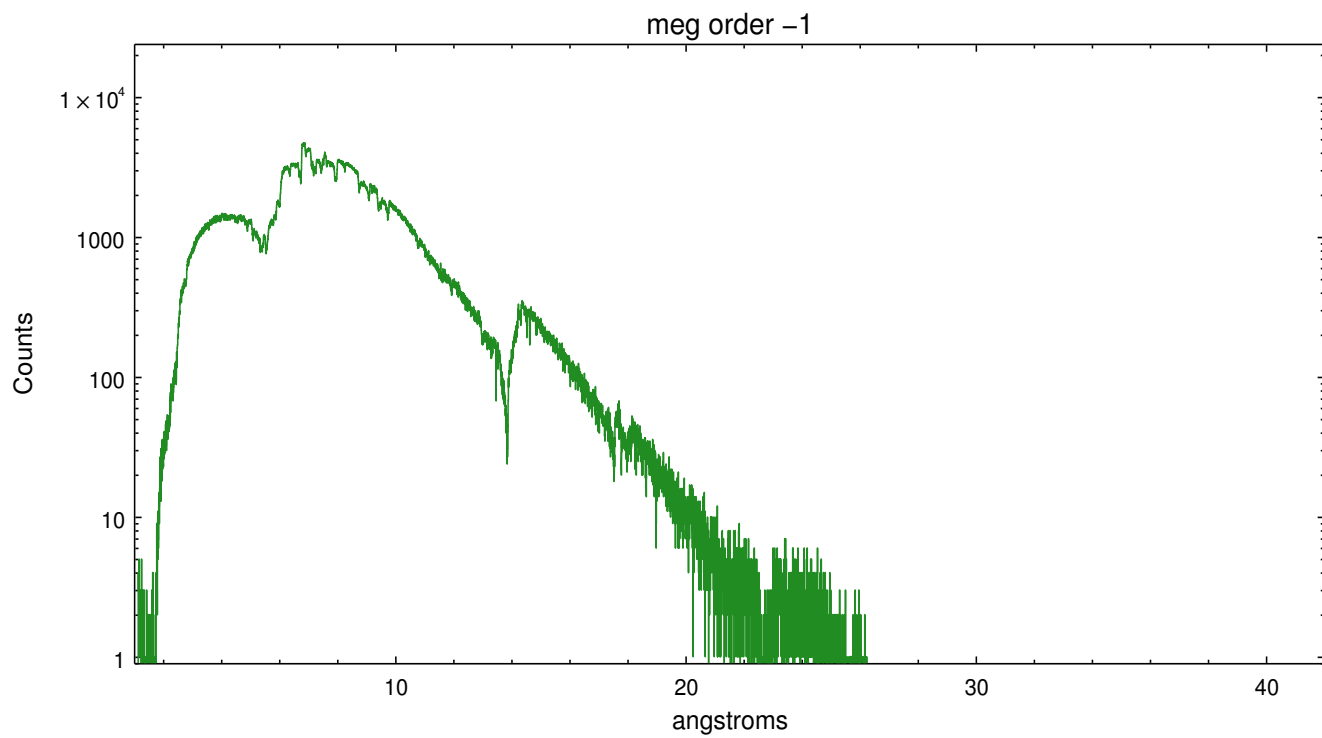
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	369550	0	3714816	115622	5253782	32069	516105





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2013.01.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	51.167

## A.2 Comments