

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 1940 - L2 Version 3  
Chandra X-Ray Center

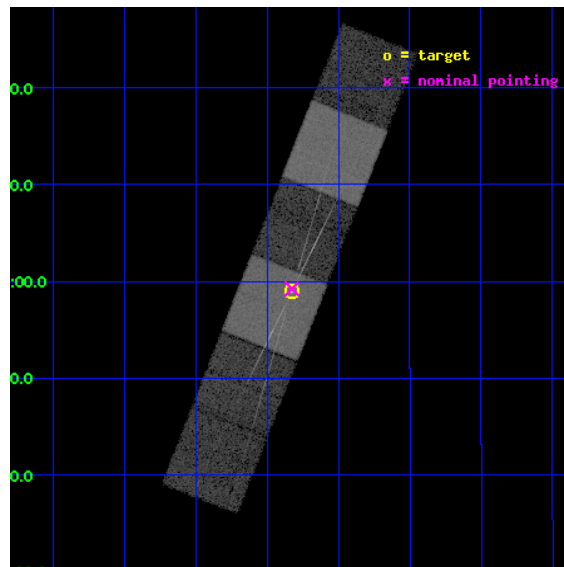
L2 Processing Date : Sep 19 2012

## 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

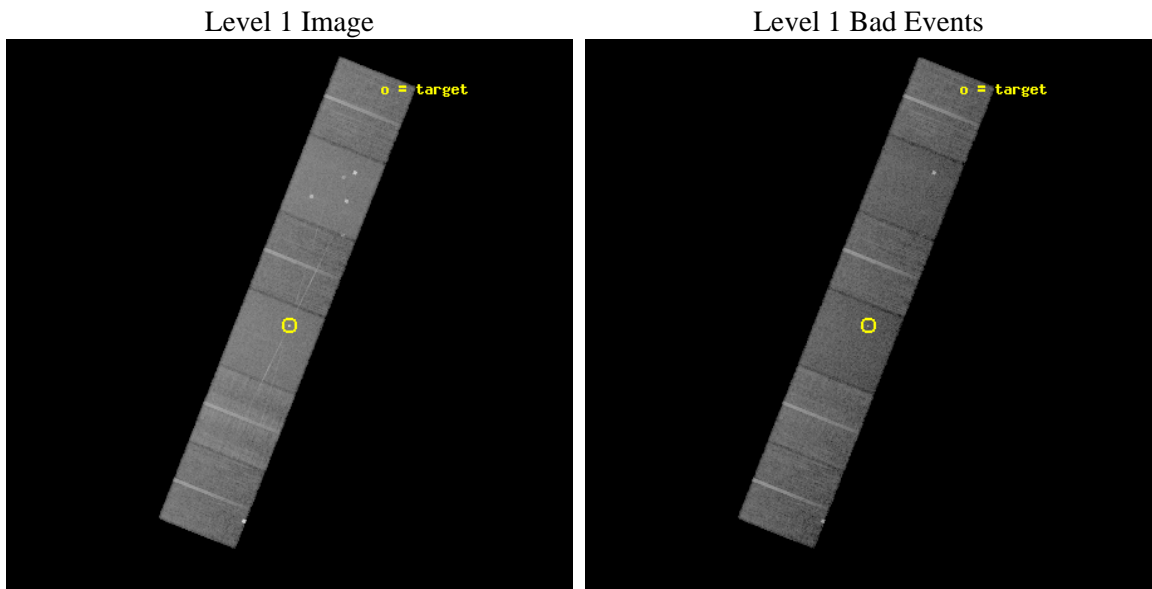
seq_num	400153	Sequence number
obs_id	1940	Observation id
title	MAPPING THE JETS OF SS 433	Proposal title
observer	Dr. masaaki namiki	Principal investigator
object	SS 433	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	287.95625	Observer's specified target RA [deg]
dec_targ	4.982806	Observer's specified target Dec [deg]
ra_nom	287.95635897306	Nominal RA [deg]
dec_nom	4.9872692310816	Nominal Dec [deg]
roll_nom	111.59895937978	Nominal Roll [deg]
revision	3	Processing version of data
ontime	19859.20001848	Sum of GTIs [s]
livetime	19607.730870072	Livetime [s]
ontime4	19859.20001848	Sum of GTIs [s]
ontime5	19859.20001848	Sum of GTIs [s]
ontime6	19859.20001848	Sum of GTIs [s]
ontime7	19859.20001848	Sum of GTIs [s]
ontime8	19859.20001848	Sum of GTIs [s]
ontime9	19859.20001848	Sum of GTIs [s]
l2events	207187	Number of level 2 events



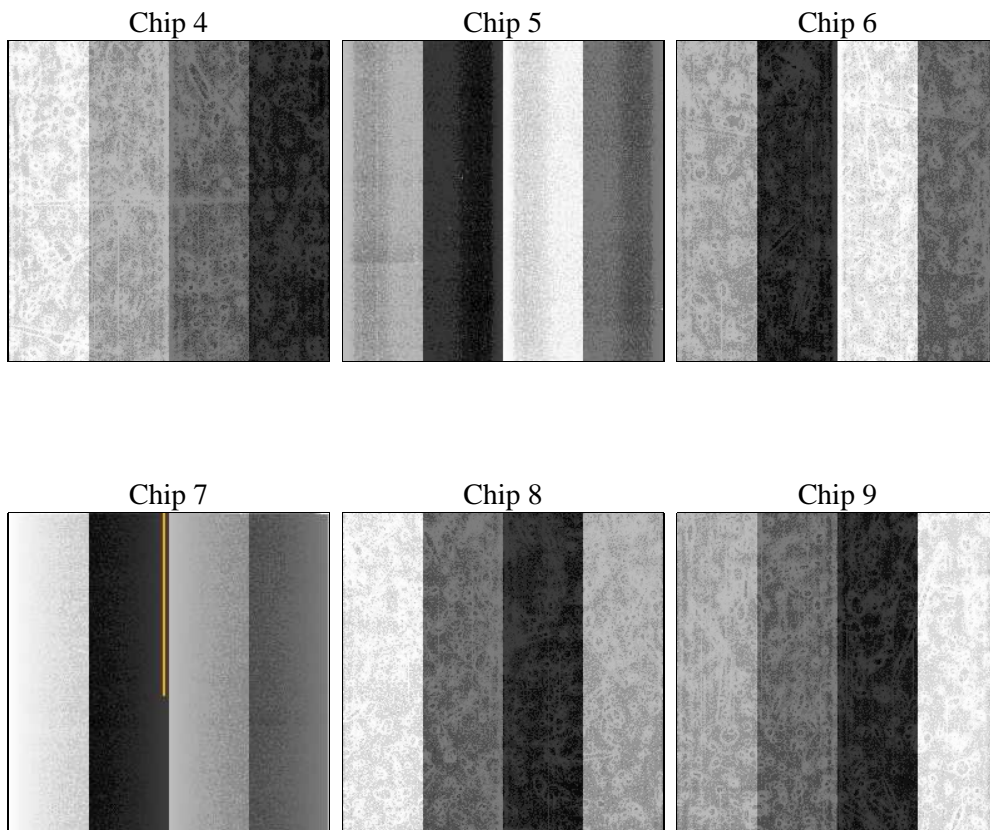
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20100.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	19859.20001848	Sum of GTIs [s]
caldsver	4.5.1.1	&#160	ontime4	19859.20001848	Sum of GTIs [s]
date	2012-09-18T23:04:00	Date and time of file creation	ontime5	19859.20001848	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	19859.20001848	Sum of GTIs [s]
			ontime7	19859.20001848	Sum of GTIs [s]
			ontime8	19859.20001848	Sum of GTIs [s]
			ontime9	19859.20001848	Sum of GTIs [s]
			l1events	964056	Number of level 1 events

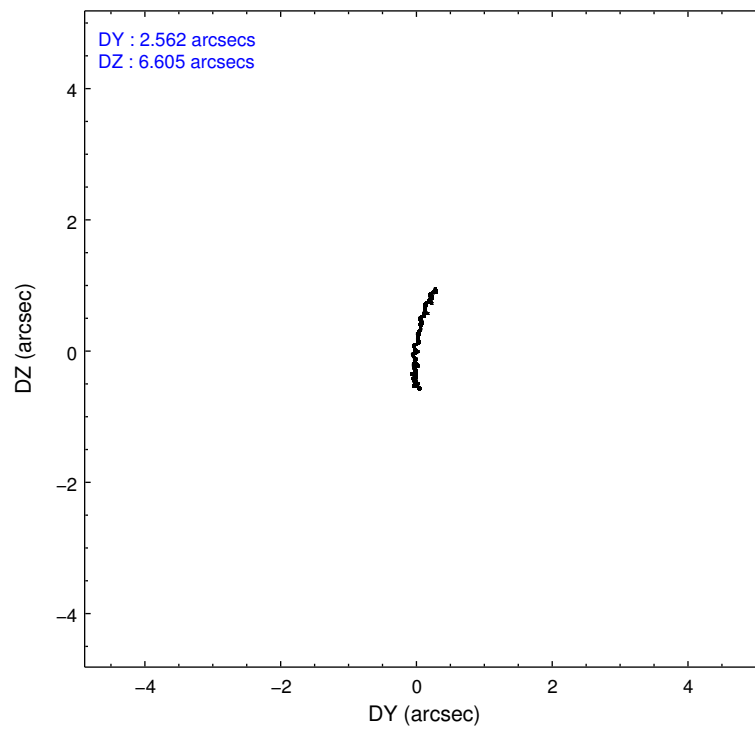
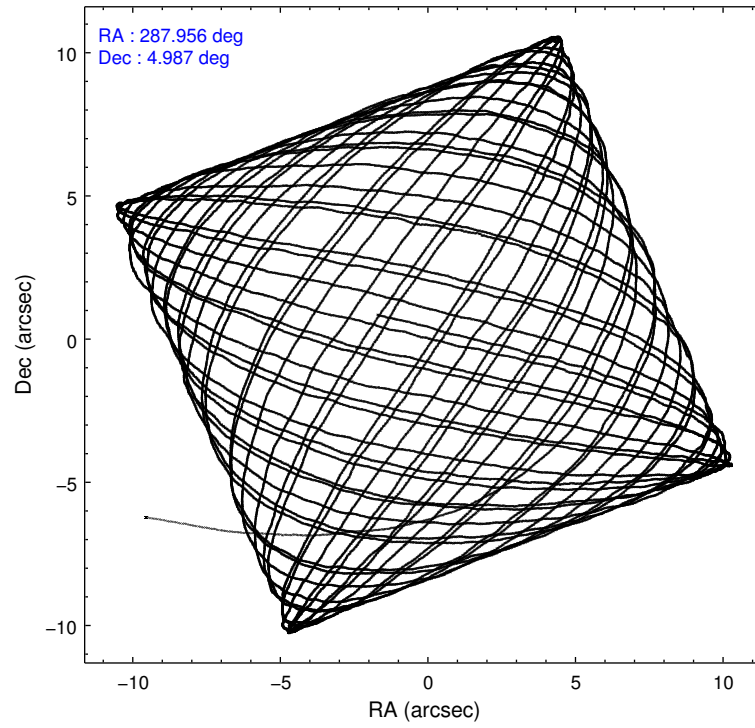
### 2.1.4 Events

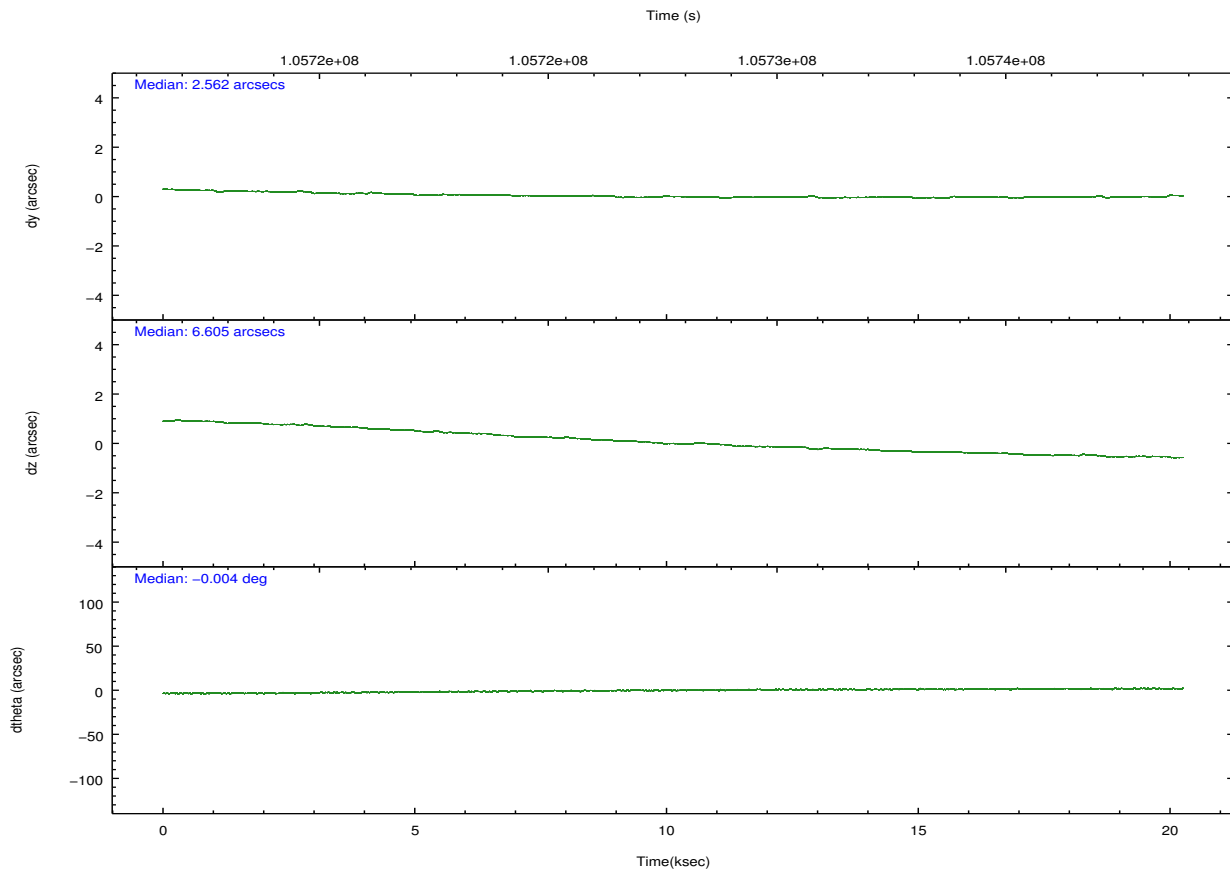
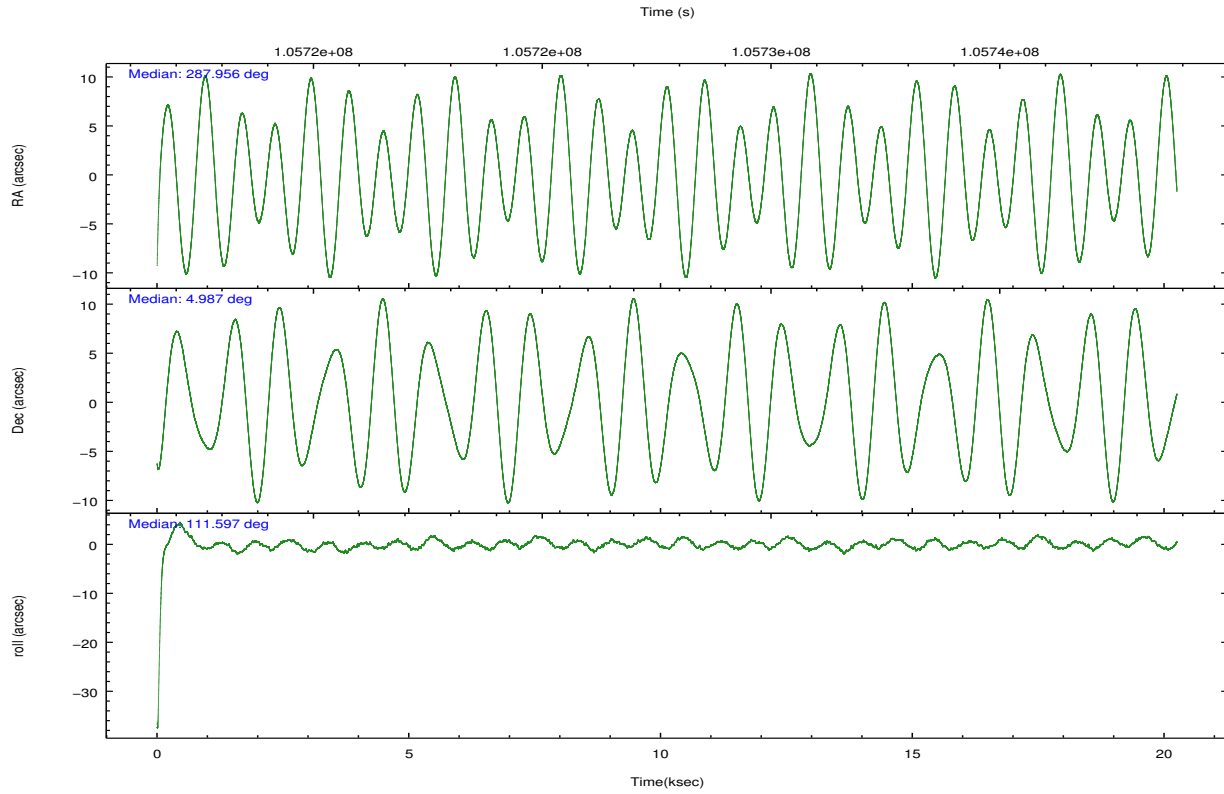
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	147885	184778	137991	171328	187392	134682	grade 0 events	6563	13126	8693	7952	13986	10971
rejected events	131551	98117	119537	95431	138733	114728		4%	7%	6%	4%	7%	8%
rejected %	88%	53%	86%	55%	74%	85%	grade 1 events	73	2008	63	221	108	1093
								0%	1%	0%	0%	0%	0%
							grade 2 events	4266	23939	3697	15269	9932	3225
								2%	12%	2%	8%	5%	2%
							grade 3 events	1448	3795	1538	7163	5864	1470
								0%	2%	1%	4%	3%	1%
							grade 4 events	1307	3706	1524	7060	5357	1421
								0%	2%	1%	4%	2%	1%
							grade 5 events	4533	13740	5454	15869	7245	5420
								3%	7%	3%	9%	3%	4%
							grade 6 events	2751	42105	3006	38466	13536	2868
								1%	22%	2%	22%	7%	2%
							grade 7 events	126944	82359	114016	79328	131364	108214
								85%	44%	82%	46%	70%	80%

## 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	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	287.977984	287.9563589730587	Subarray requested	NONE	NONE
[deg] Pointing Dec	4.970539	4.987269231081634	Alternating exposures requested	N	N
[deg] Pointing Roll	111.440478	111.5989593797824	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	105667264.184000	105667264.184000			
[s] Window stop time (MET)	105753664.184000	105753664.184000			
[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			
Phase constraints	Y	Y			
[d] Phase period	13.082000	13.082000			
[d] Phase epoch (MJD)	46595.700000	46595.700000			
Phase start	0.000000	0.000000			
Phase end	0.050000	0.050000			
Phase start error	0.070000	0.070000			
Phase end error	0.030000	0.030000			
[s] Observation start time (MET)	105717757.184000	105716765.8144			
Observation start date	2001-05-08T14:01:33	2001-05-08T13:46:05			
[s] Observation end time (MET)	105737857.184000	105738481.97774			

## 2.3 Aspect





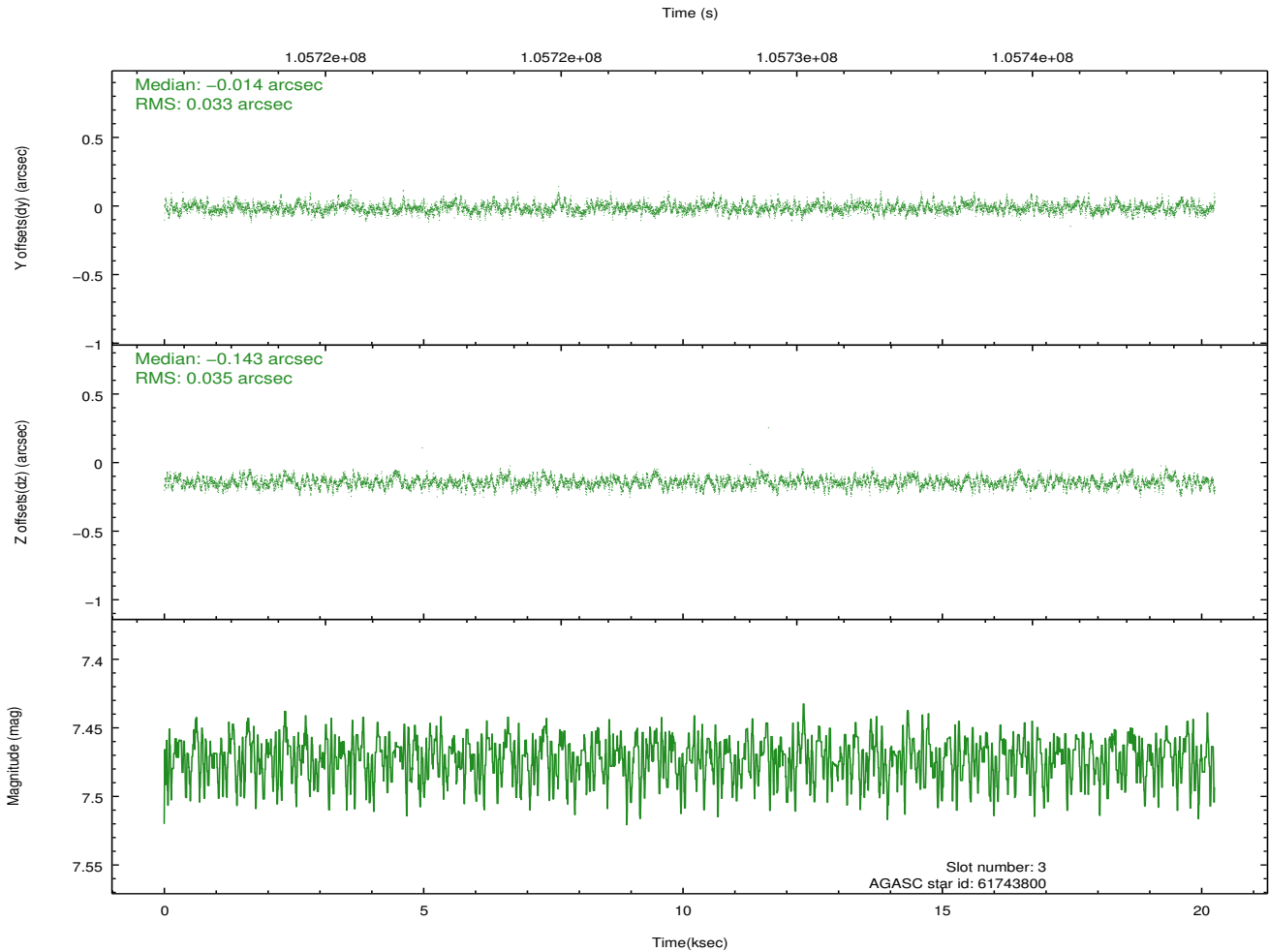
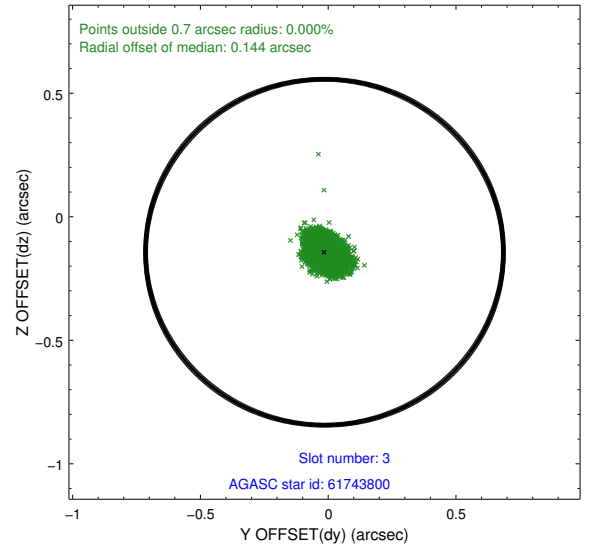
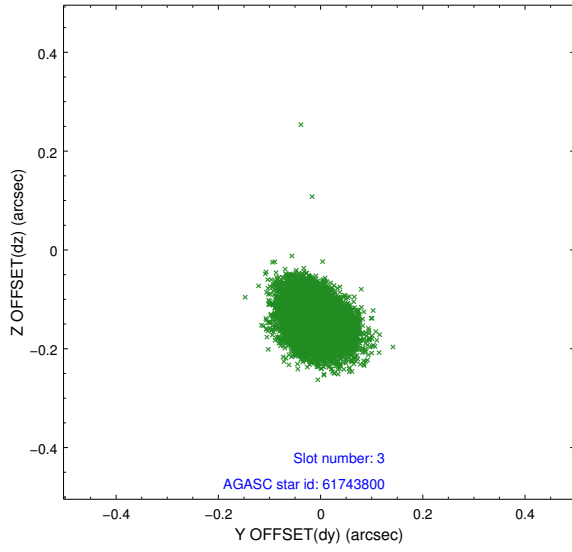
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	4940	-0.036	-0.056	0.014	0.025	0.000000	0.000000	-755.06	-1789.99
1	FID	ACIS-S-4	7.19	4940	-0.008	0.032	0.008	0.018	0.000000	0.000000	2158.16	118.38
2	FID	ACIS-S-5	7.23	4939	0.012	0.033	0.014	0.023	0.000000	0.000000	-1807.62	112.25
3	GUIDE	61743800	7.47	9879	-0.014	-0.143	0.051	0.084	287.776811	5.274666	1282.49	270.90
4	GUIDE	61738240	7.41	9880	0.135	-0.074	0.046	0.078	287.996556	4.354861	-2087.48	748.04
5	GUIDE	61745024	7.60	9880	-0.023	0.074	0.048	0.077	288.156168	5.297362	861.27	-1024.46
6	GUIDE	61741304	7.64	9881	-0.139	0.097	0.042	0.069	287.957418	5.377327	1389.72	-466.69
7	GUIDE	61735664	7.80	9880	0.042	0.047	0.065	0.101	288.278990	4.935643	-511.44	-959.09

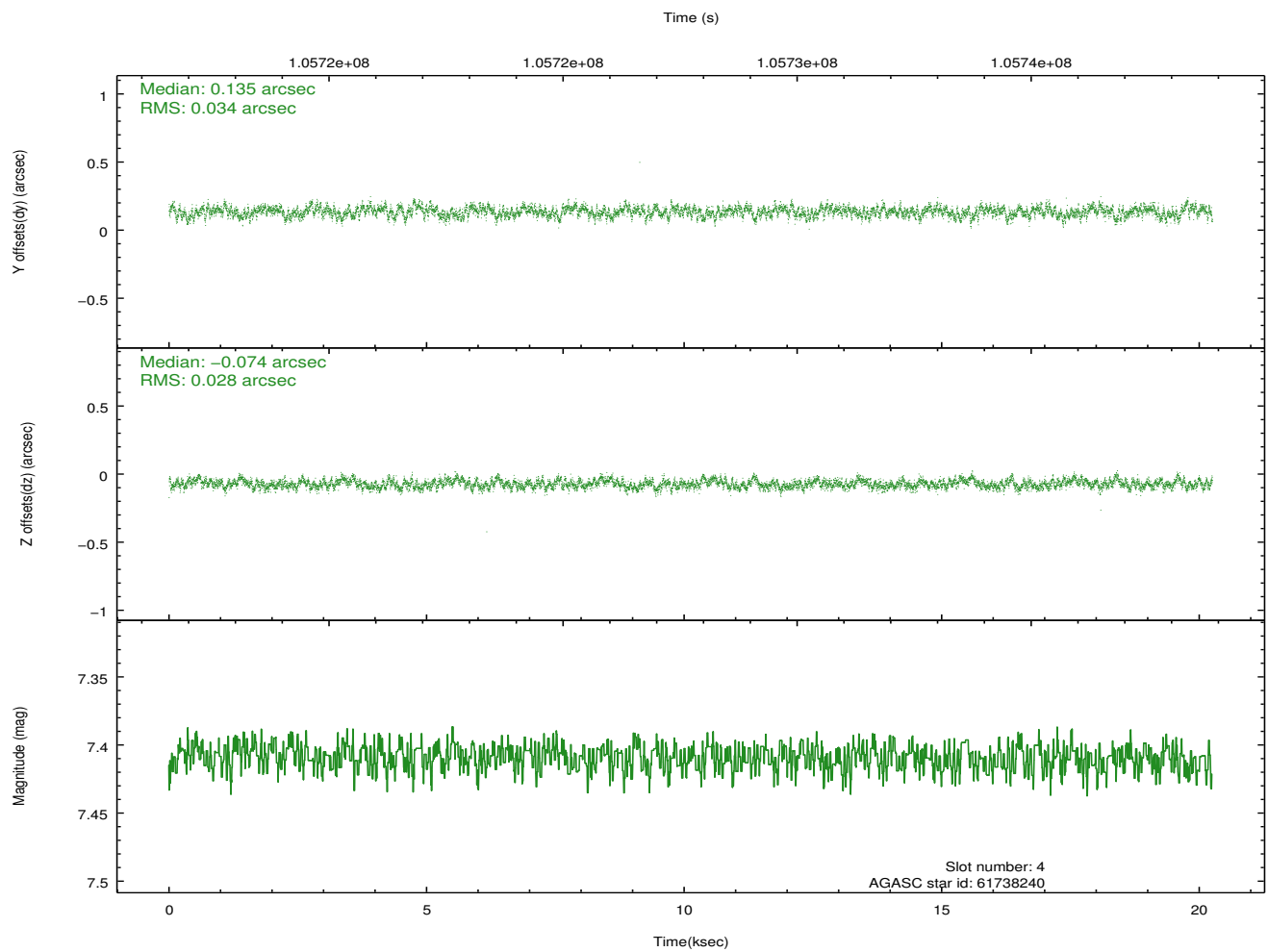
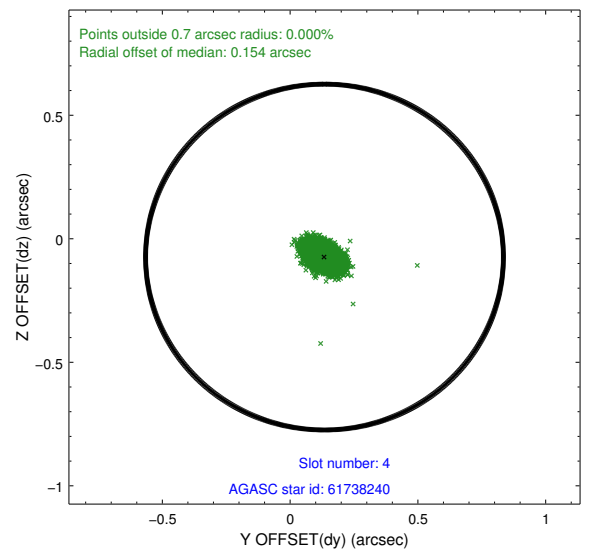
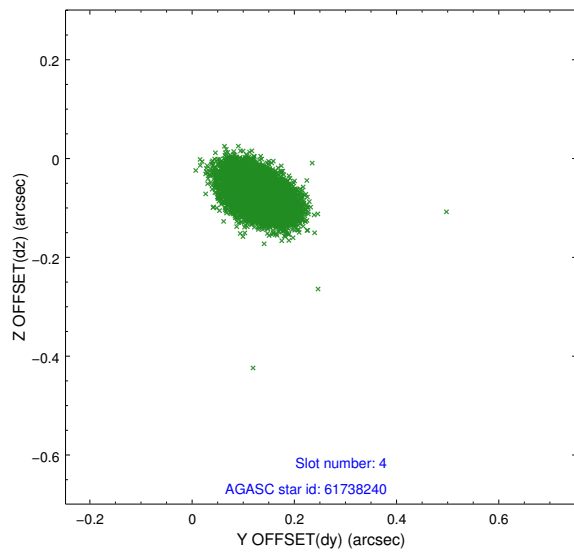
∞

## 2.4 Star Slots

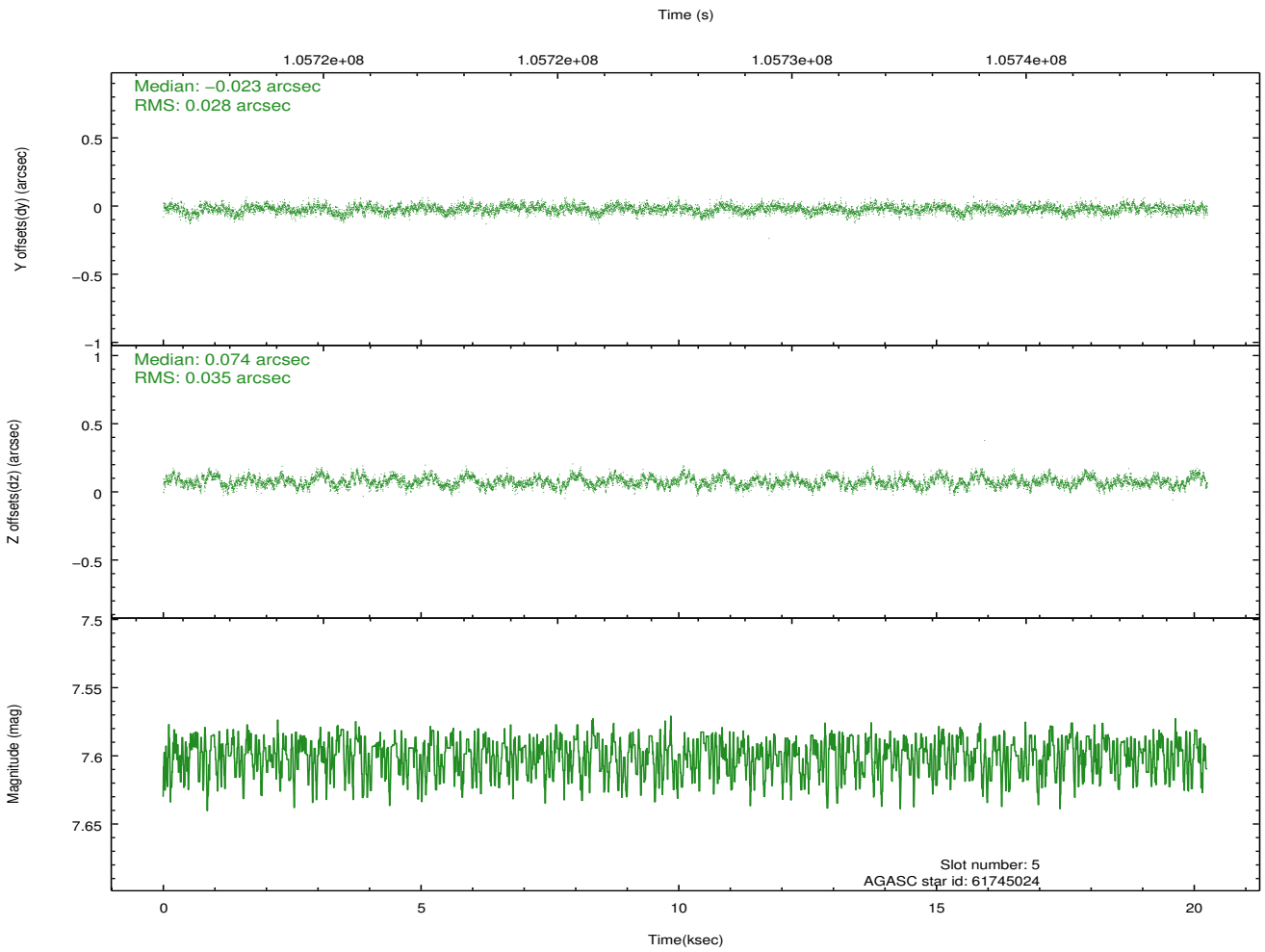
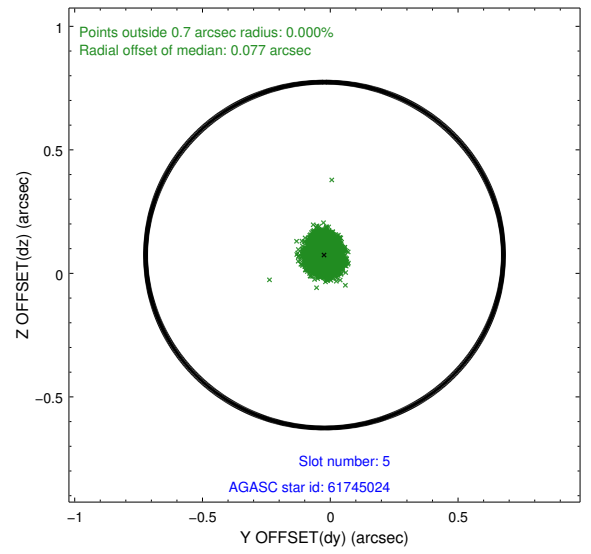
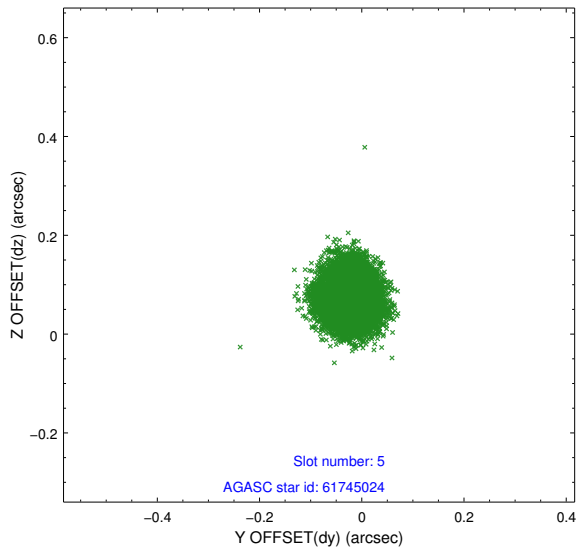
### 2.4.1 Slot 3



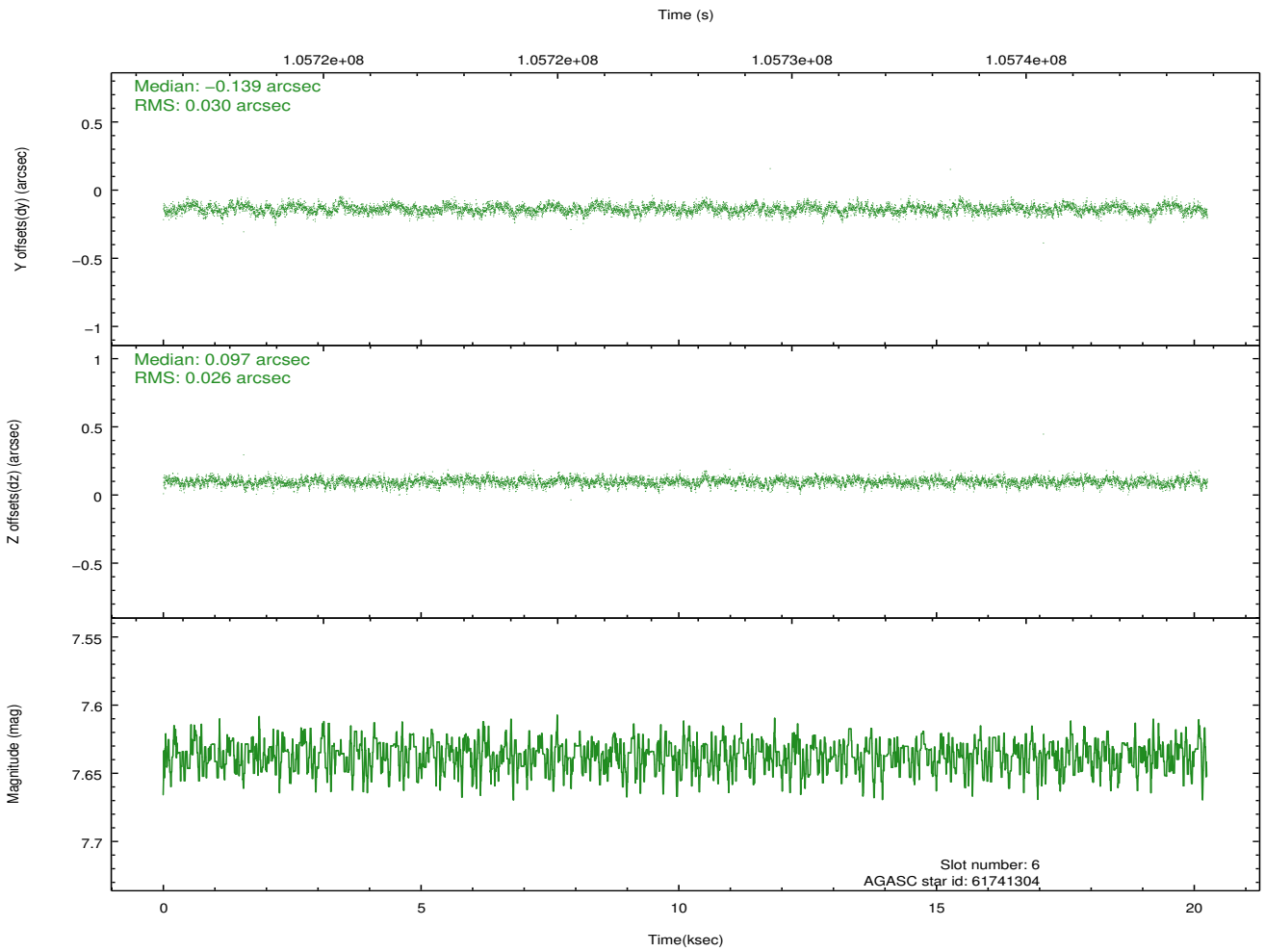
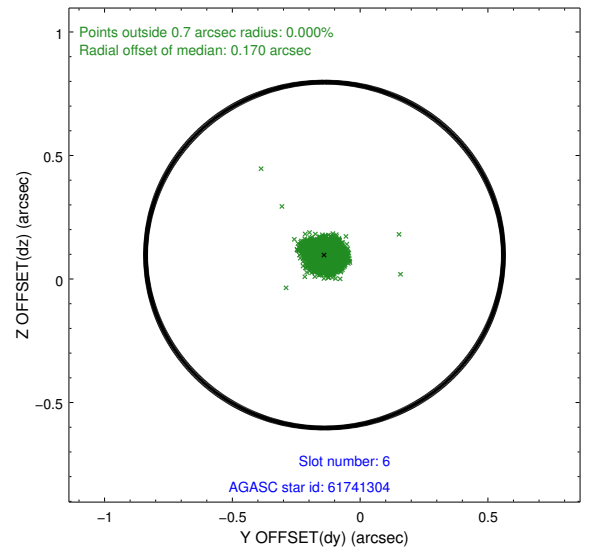
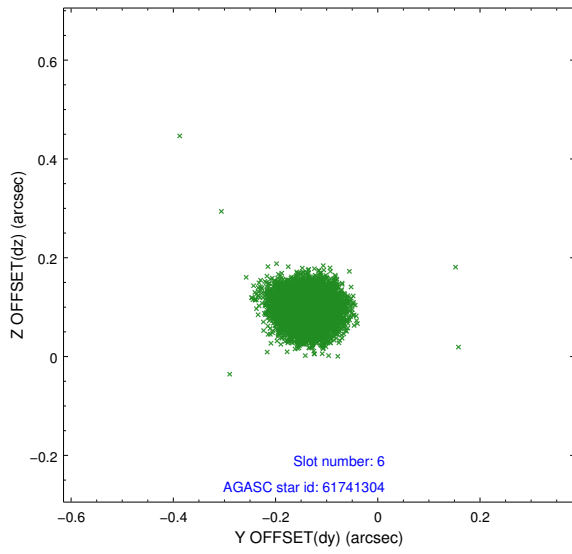
## 2.4.2 Slot 4



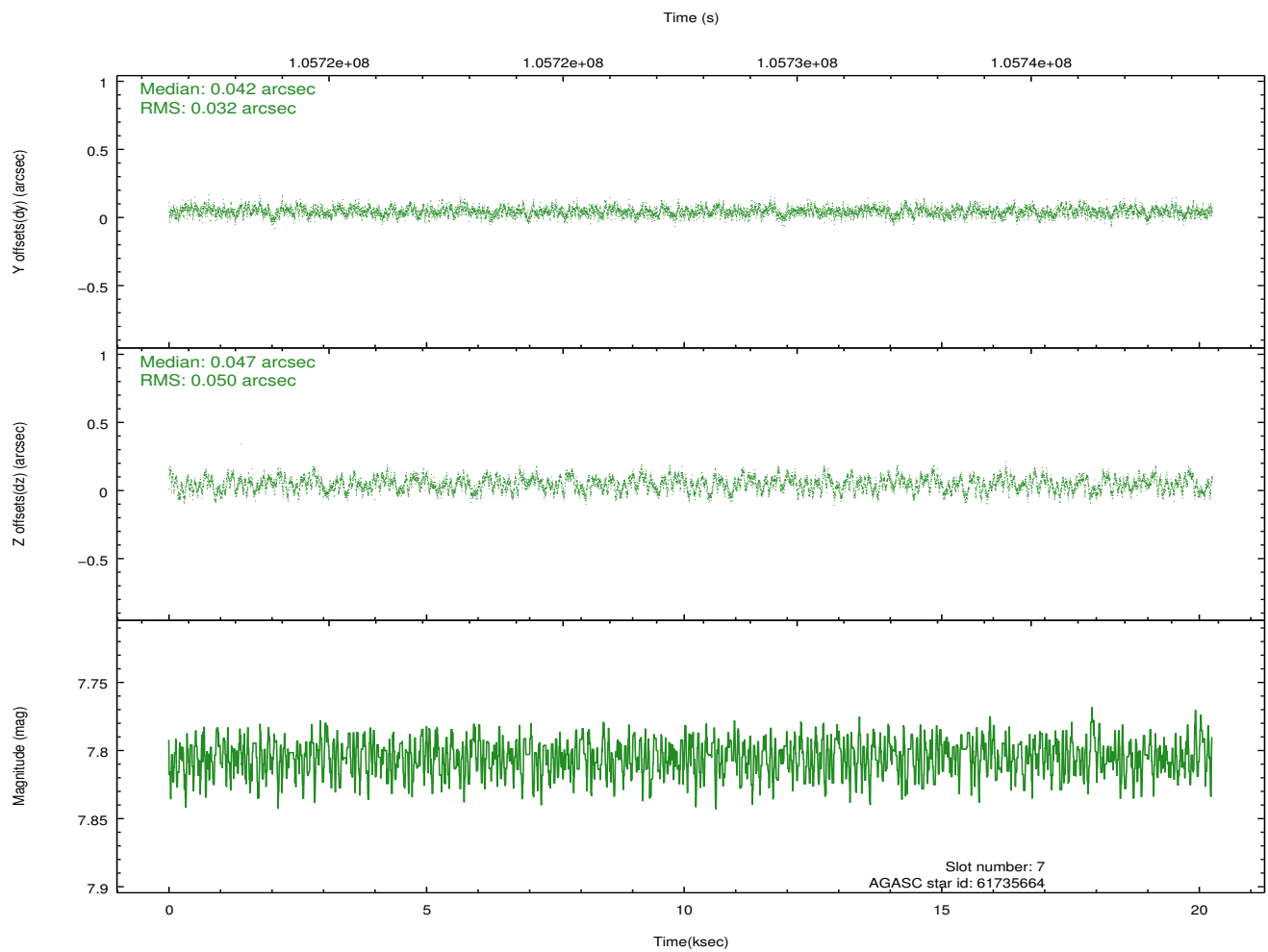
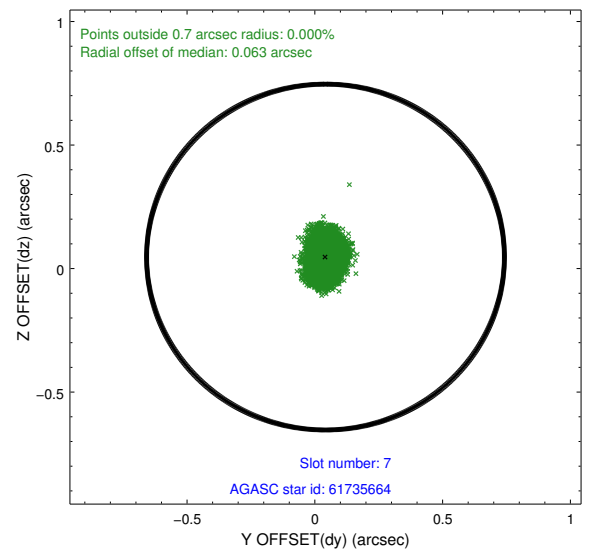
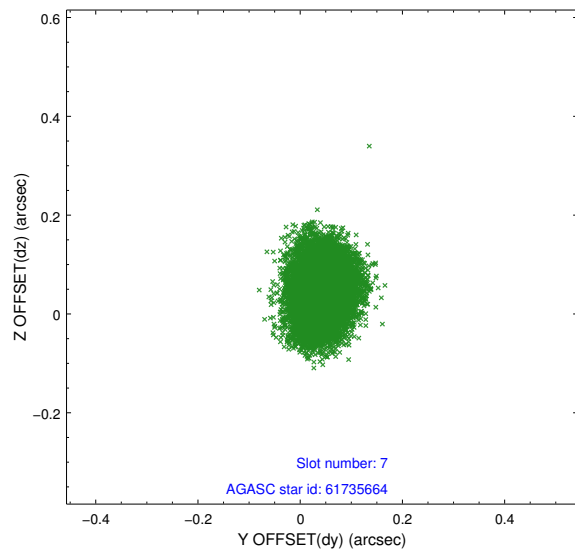
### 2.4.3 Slot 5



## 2.4.4 Slot 6

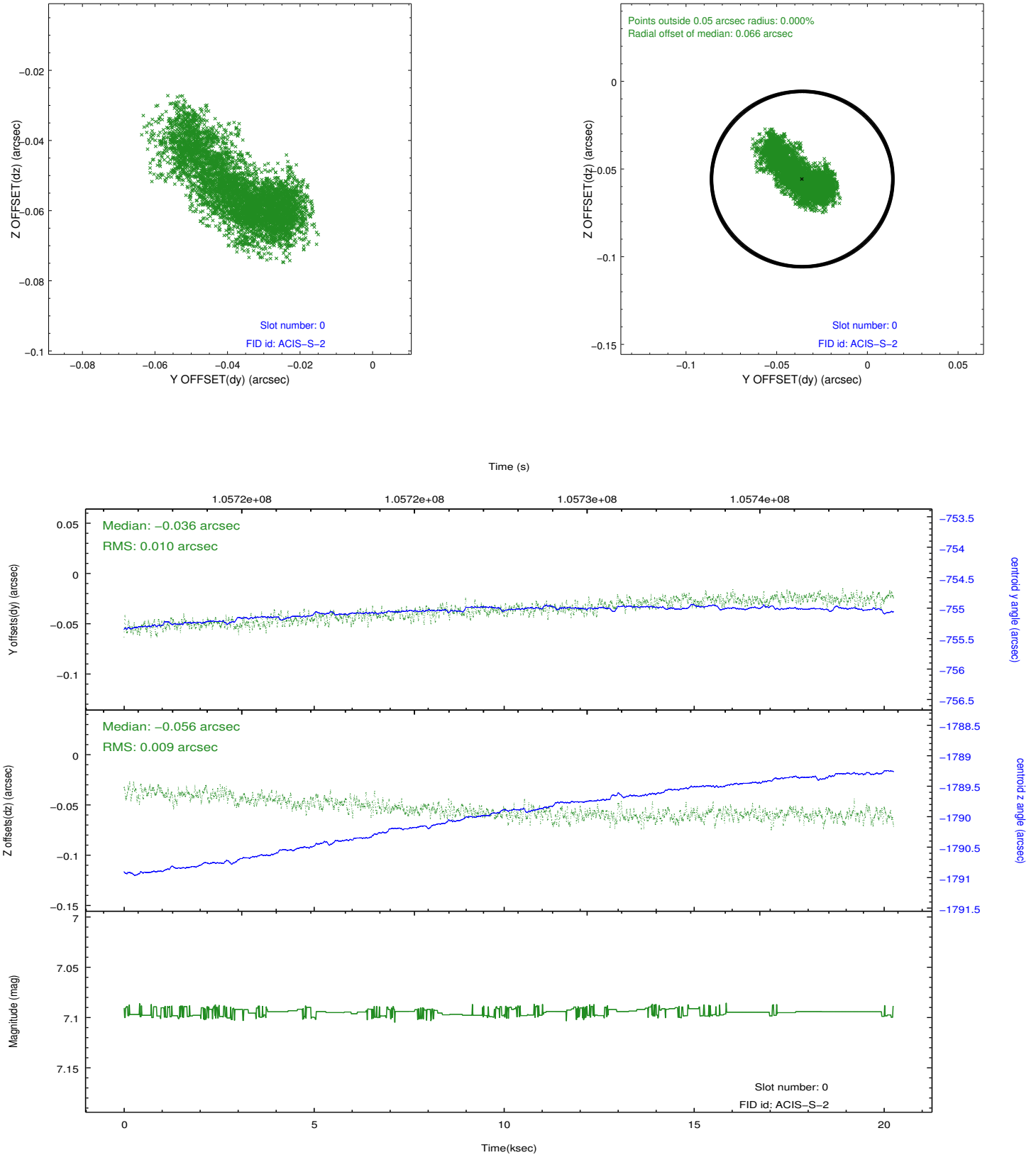


## 2.4.5 Slot 7

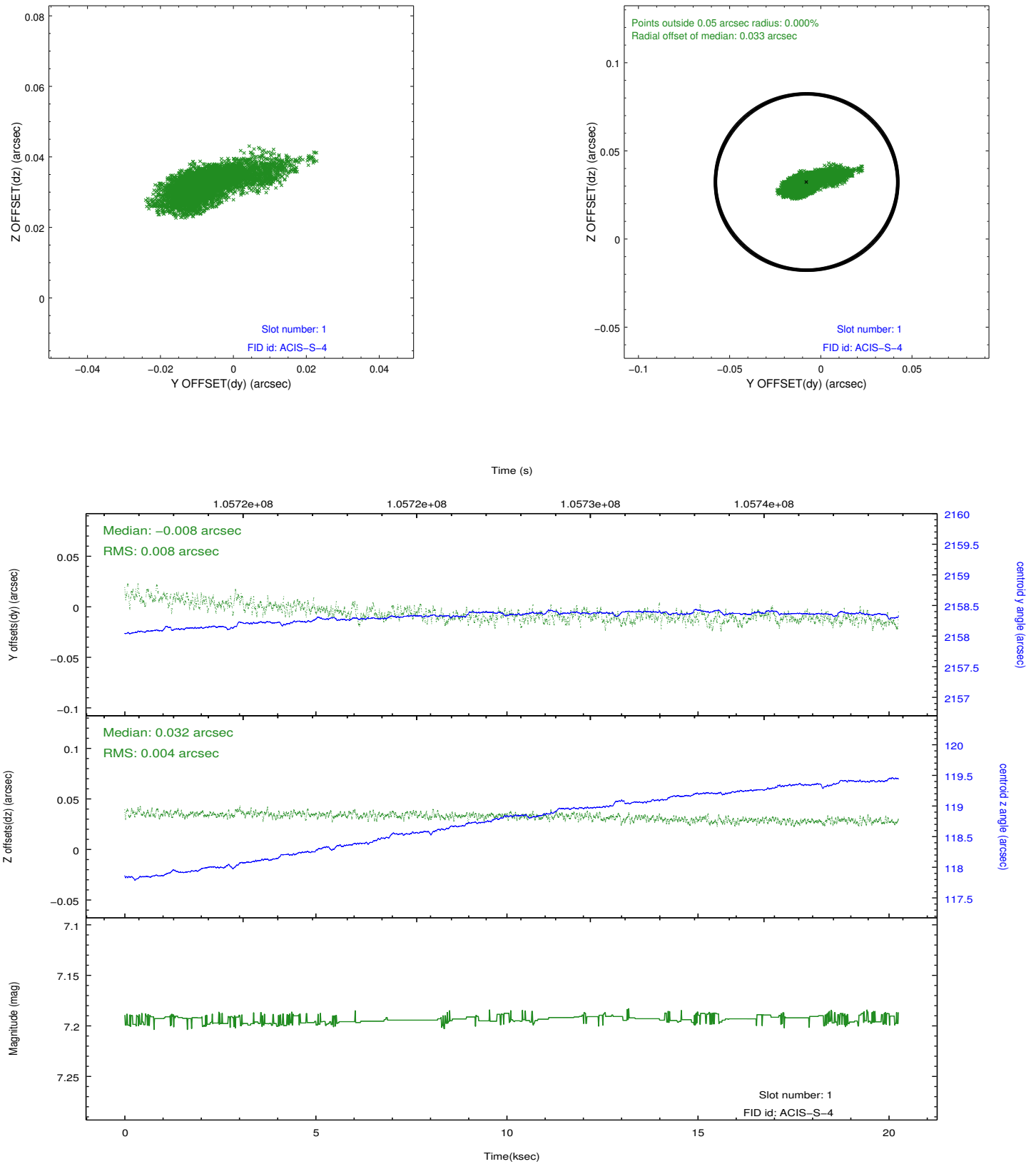


## 2.5 FID Slots

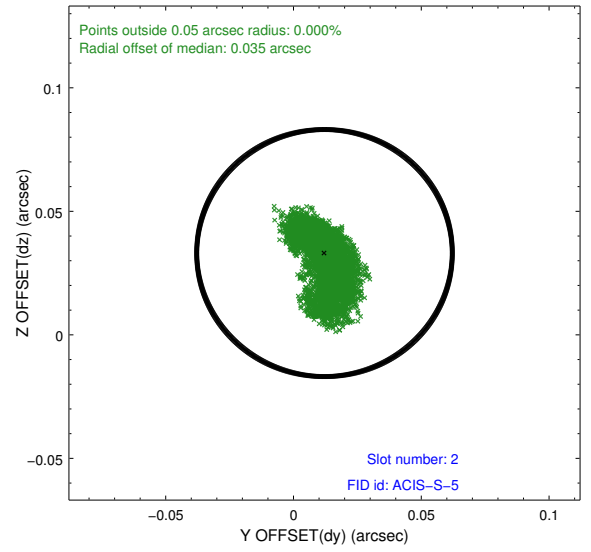
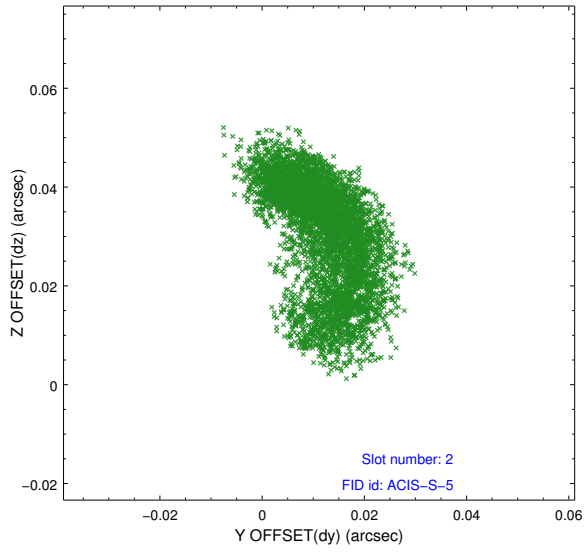
### 2.5.1 Slot 0



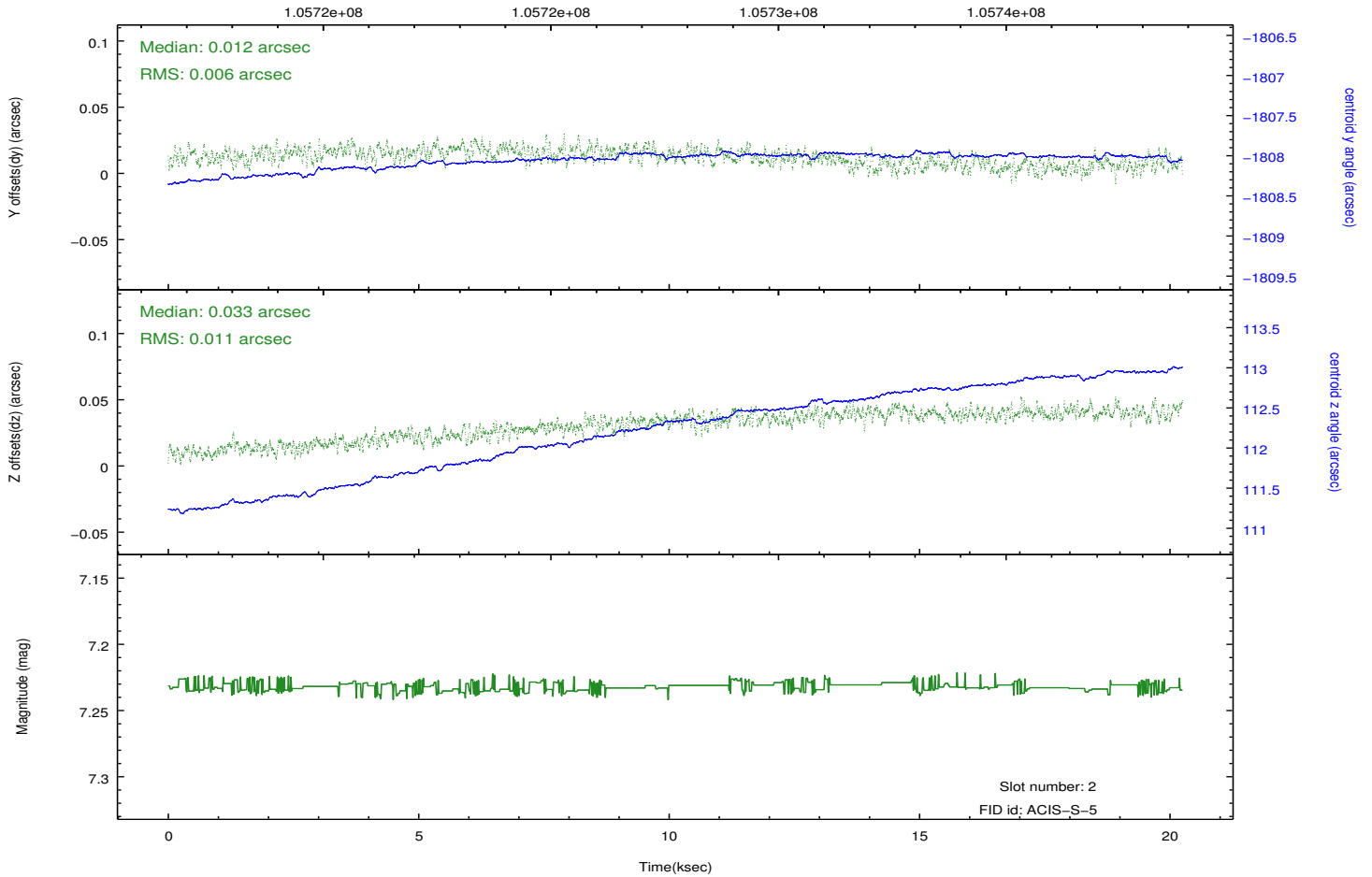
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)

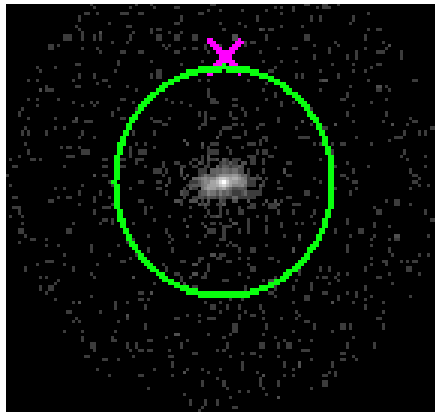


### 3 Gratings

#### 3.1 HEG Arm



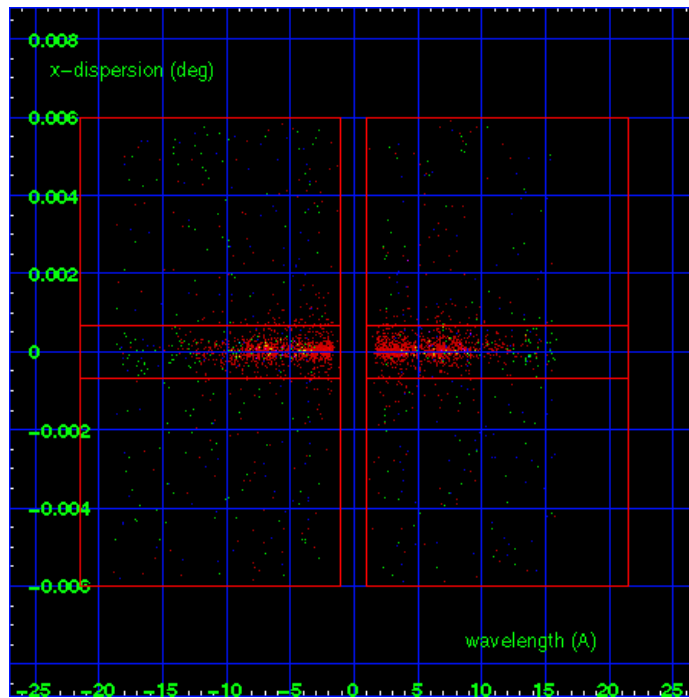
HEG Order Sort 123



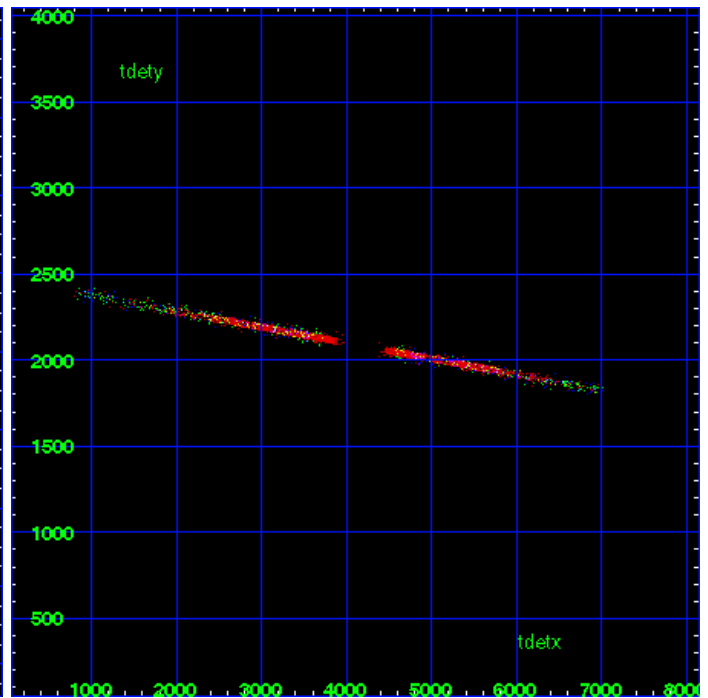
HEG Zero Order



HEG Order Sort ALL

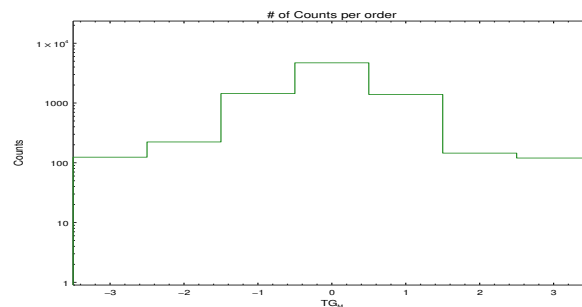


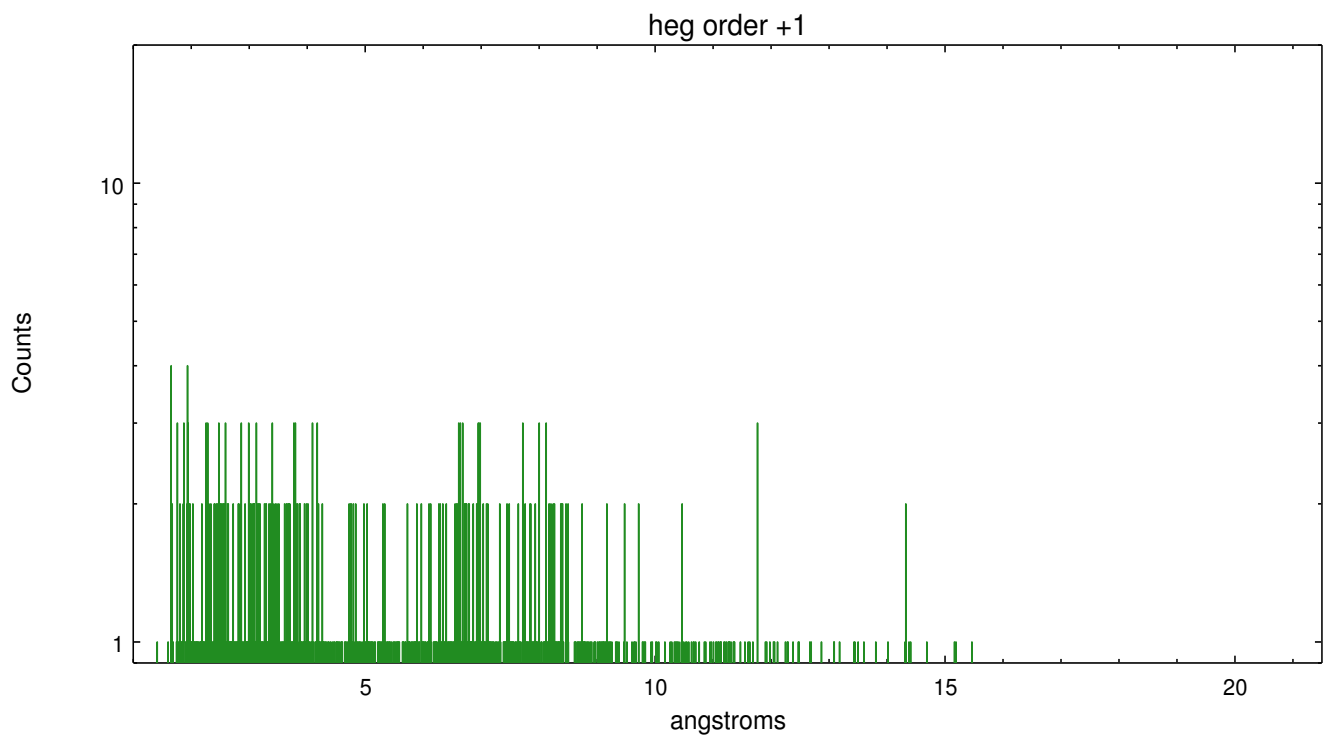
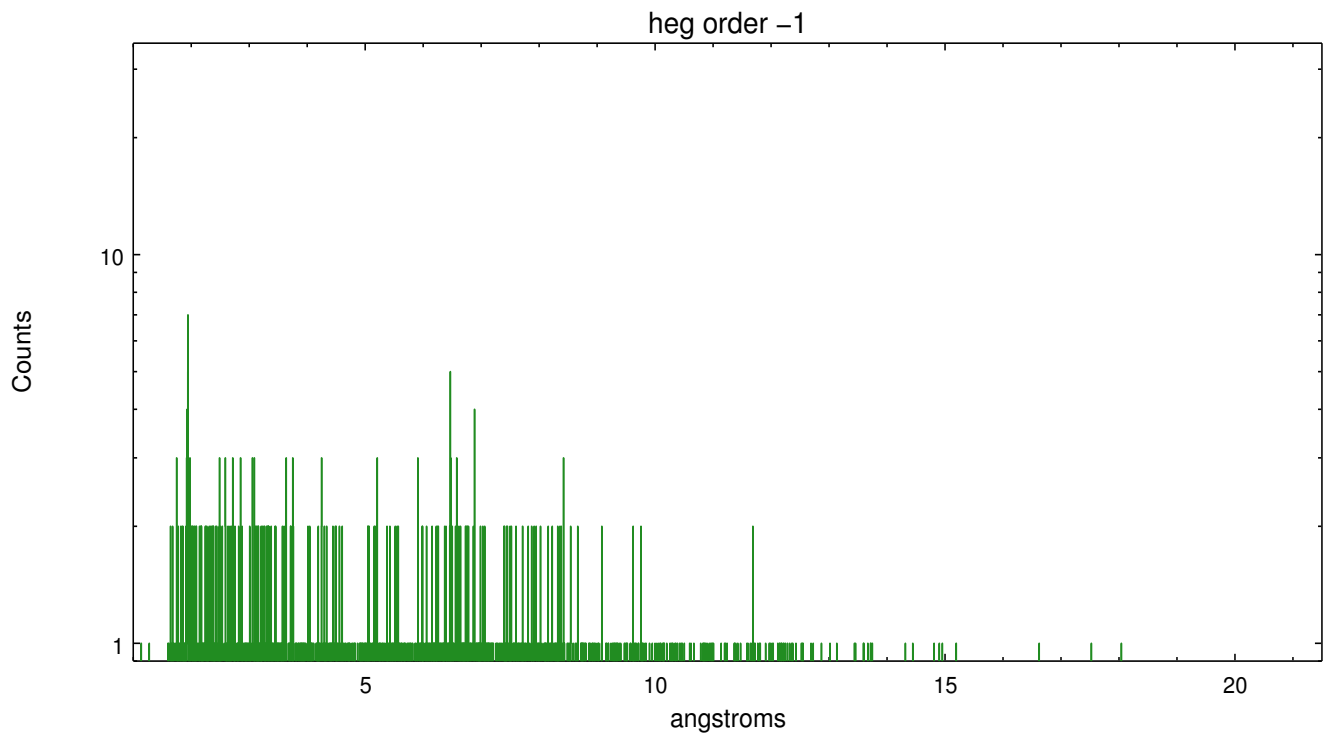
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	124	223	1437	4702	1389	145	120

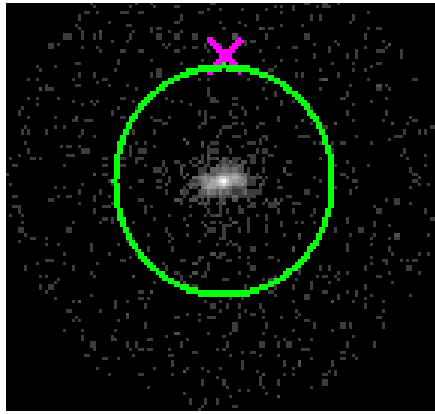




### 3.2 MEG Arm



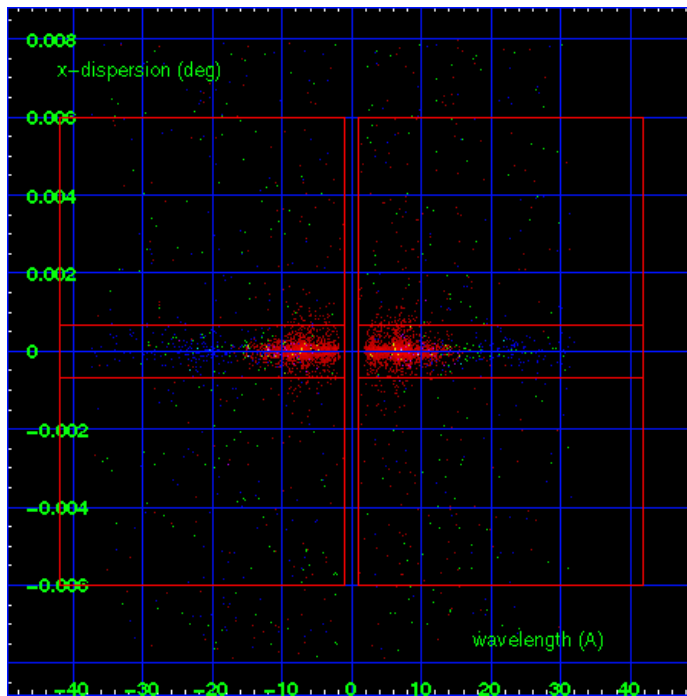
MEG Order Sort 123



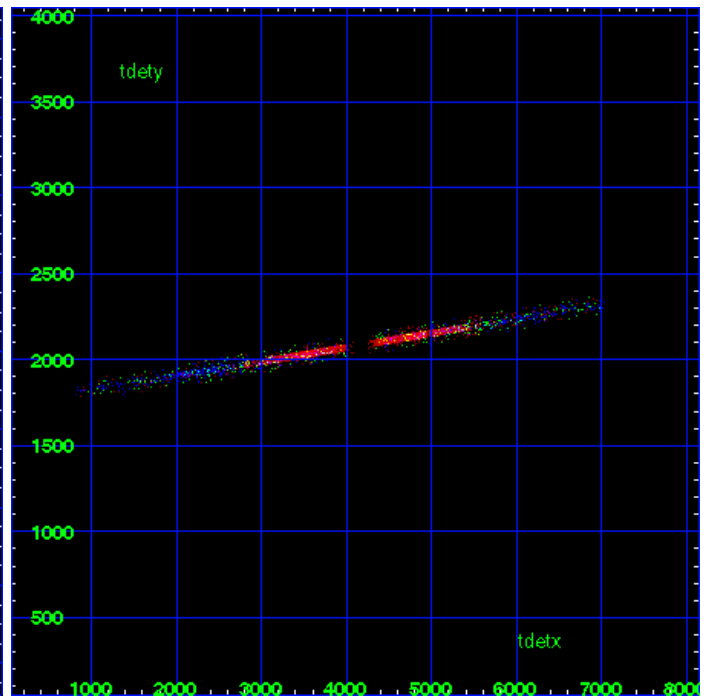
MEG Zero Order



MEG Order Sort ALL

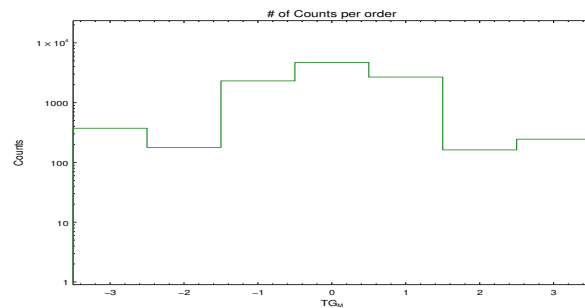


Spot Image MEG

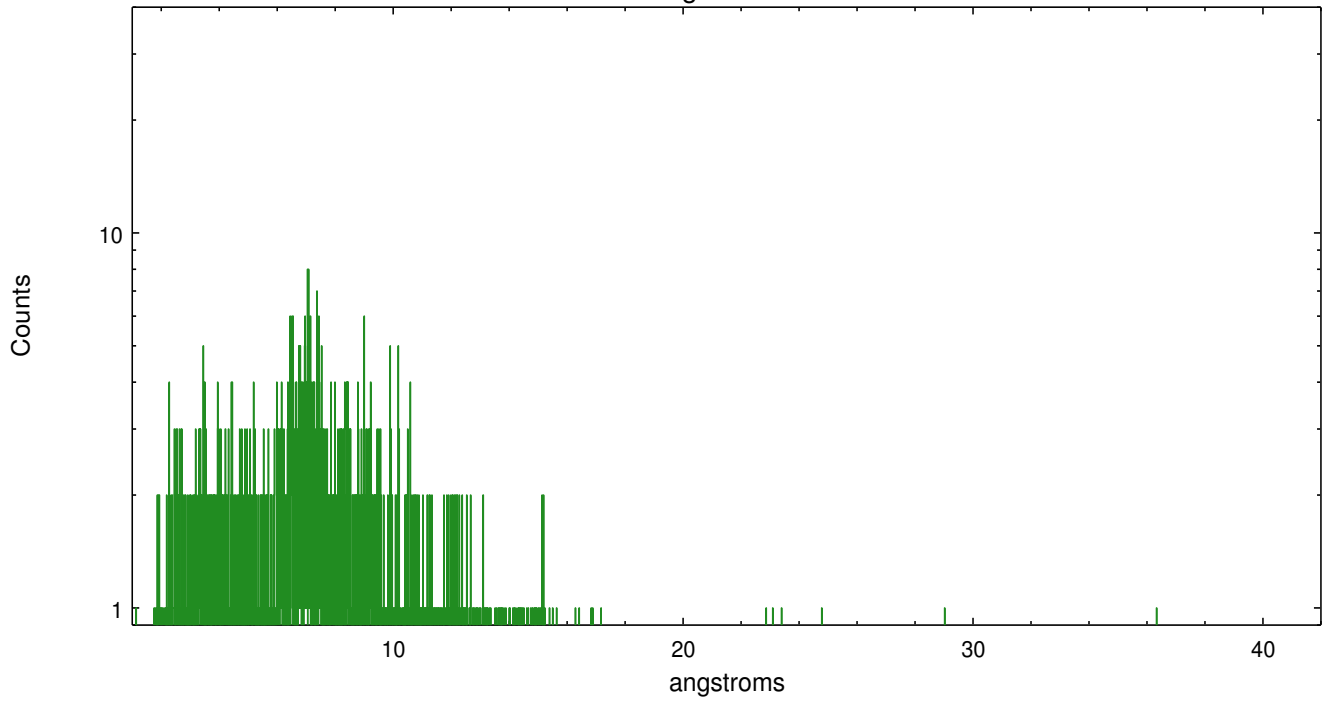


Full Detector MEG

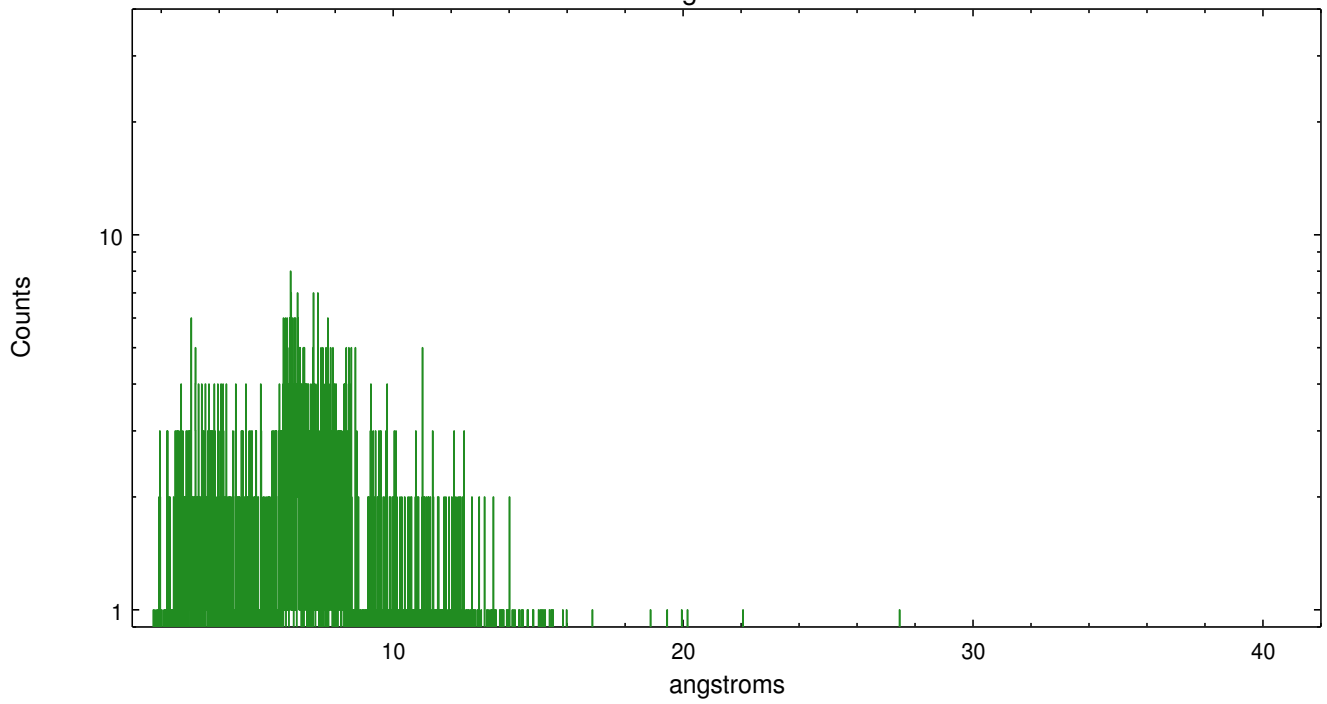
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	373	178	2312	4702	2677	162	245



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.9

## A.2 Comments

Charge time for this ObsId remains at previous value of 19.9 ks, although with the current processing the charge time would have been 19.859 ks.

Source is extended. Zeroth order position used in these data products was calculated from the position of the brightest X-ray emission.