

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12116 - L2 Version 2  
Chandra X-Ray Center

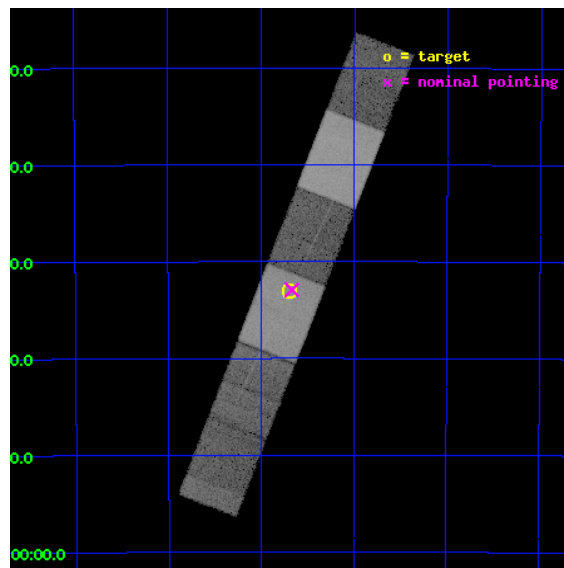
L2 Processing Date : Jul 3 2012

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# 1 Front

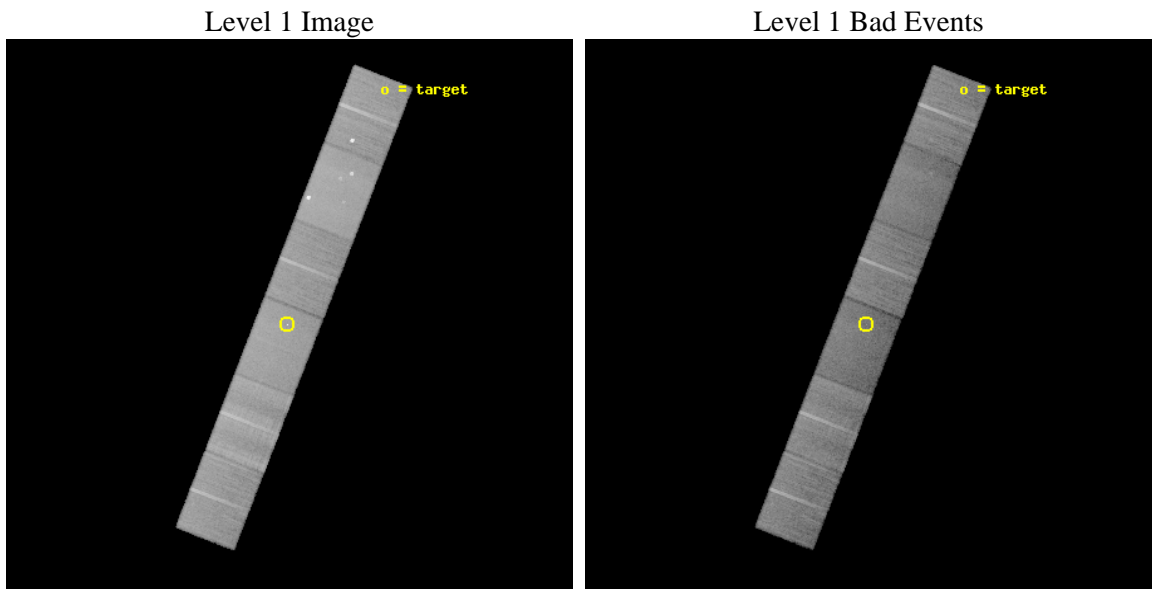
seq_num	702321	Sequence number
obs_id	12116	Observation id
title	The First Test of General Relativity in a Strong Gravitational Field	&#160
observer	Dr. Norbert Schartel	Principal investigator
object	1H0707-495	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	107.172917	Observer's specified target RA [deg]
dec_targ	-49.551611	Observer's specified target Dec [deg]
ra_nom	107.16695790331	Nominal RA [deg]
dec_nom	-49.548684015211	Nominal Dec [deg]
roll_nom	111.28970888829	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30044.962206066	Sum of GTIs [s]
livetime	29559.710006597	Livetime [s]
ontime4	30045.0	Sum of GTIs [s]
ontime5	30044.921166062	Sum of GTIs [s]
ontime6	30044.880126059	Sum of GTIs [s]
ontime7	30044.962206066	Sum of GTIs [s]
ontime8	30044.839086056	Sum of GTIs [s]
ontime9	30044.798046052	Sum of GTIs [s]
l2events	280061	Number of level 2 events



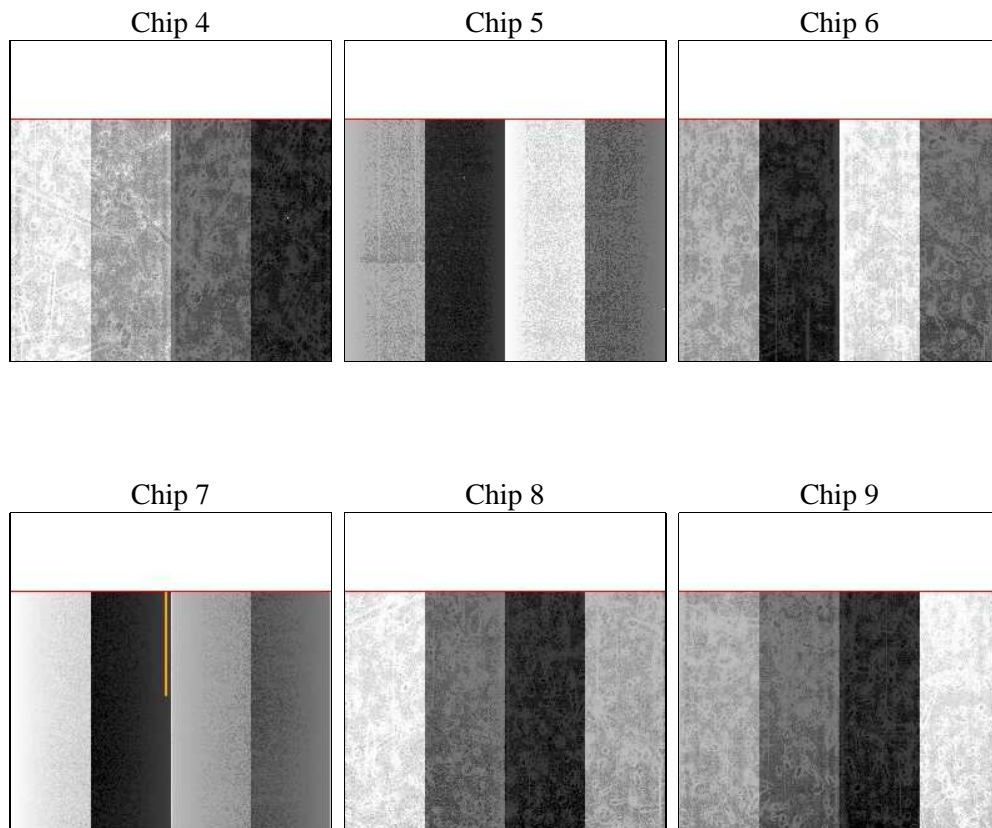
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30044.962206066	Sum of GTIs [s]
caldsver	4.5.0	&#160	ontime4	30045.0	Sum of GTIs [s]
date	2012-07-03T08:27:47	Date and time of file creation	ontime5	30044.921166062	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	30044.880126059	Sum of GTIs [s]
			ontime7	30044.962206066	Sum of GTIs [s]
			ontime8	30044.839086056	Sum of GTIs [s]
			ontime9	30044.798046052	Sum of GTIs [s]
			l1events	1219652	Number of level 1 events

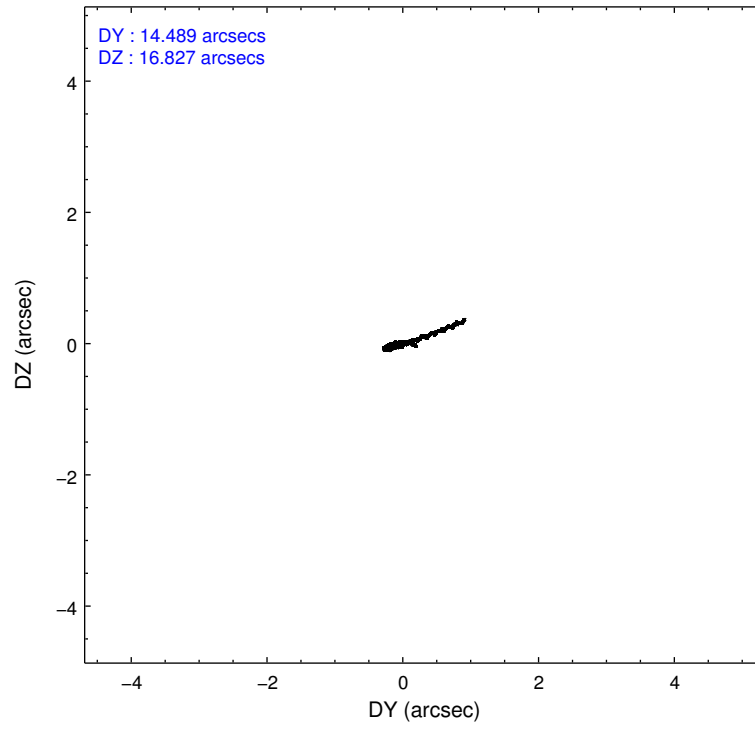
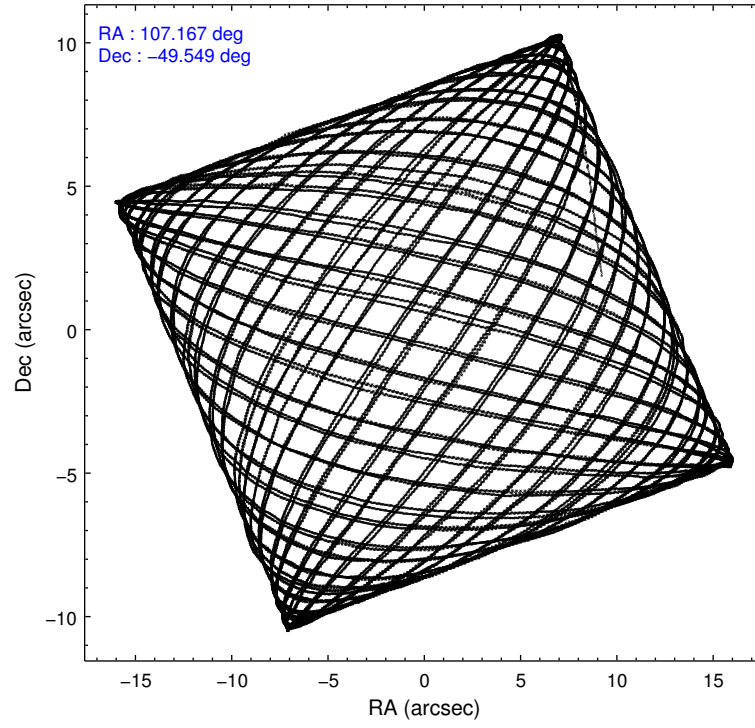
### 2.1.4 Events

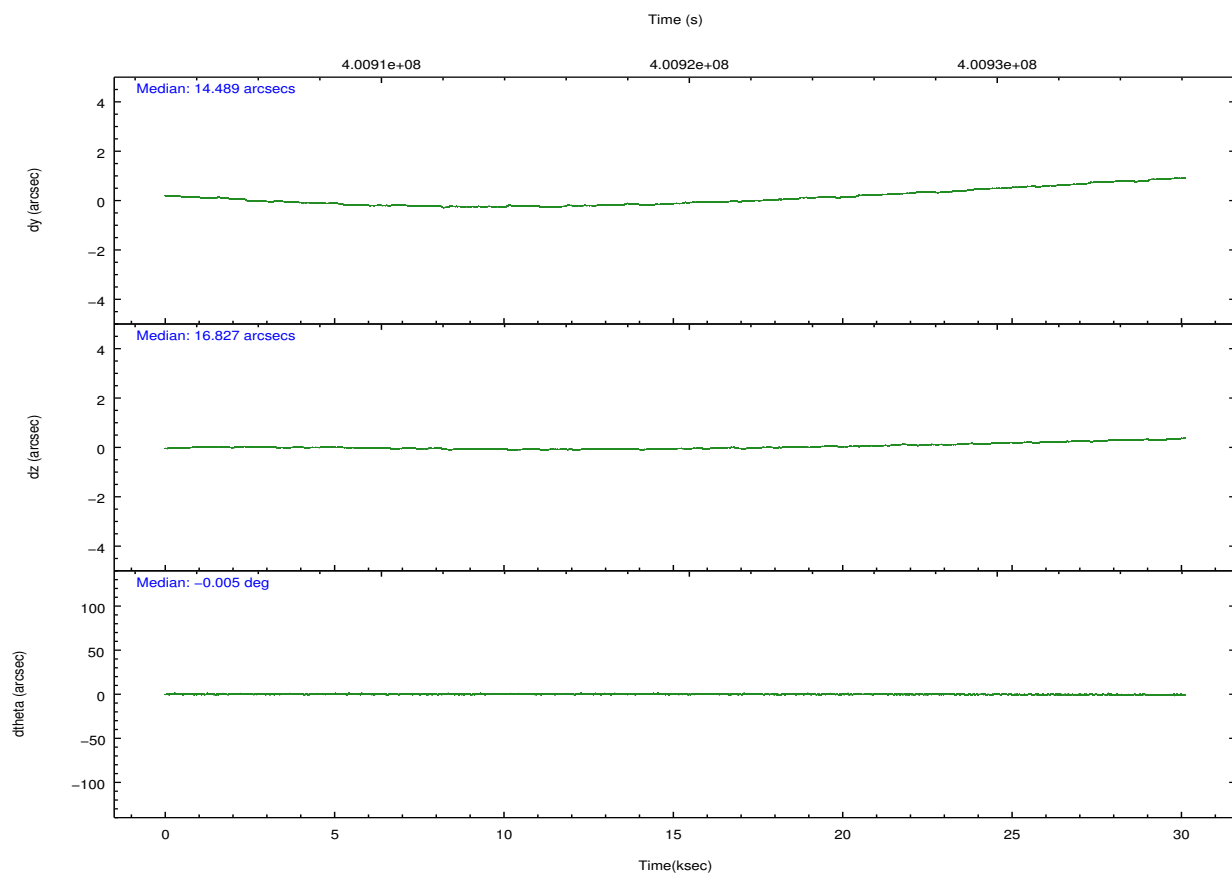
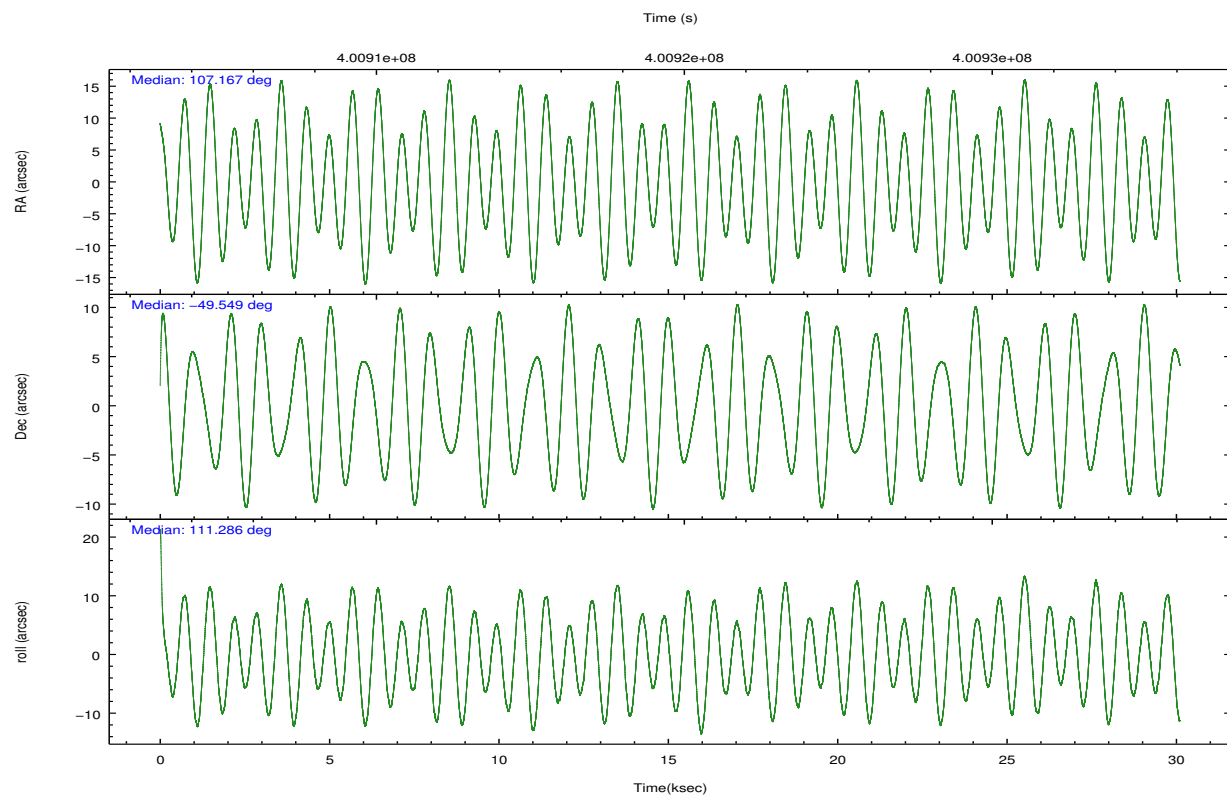
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	199652	259687	168693	200683	225102	165835	grade 0 events	15660	21740	6758	8732	17434	7096
rejected events	171124	125248	149459	107781	164657	145688		7%	8%	4%	4%	7%	4%
rejected %	85%	48%	88%	53%	73%	87%	grade 1 events	186	594	91	250	177	87
								0%	0%	0%	0%	0%	0%
							grade 2 events	5056	36457	4247	19000	14092	4398
								2%	14%	2%	9%	6%	2%
							grade 3 events	2201	5912	2159	8600	6446	2211
								1%	2%	1%	4%	2%	1%
							grade 4 events	2168	5588	2048	8482	5877	2206
								1%	2%	1%	4%	2%	1%
							grade 5 events	7210	20240	7399	20803	10767	8119
								3%	7%	4%	10%	4%	4%
							grade 6 events	3452	64763	4027	48097	16597	4240
								1%	24%	2%	23%	7%	2%
							grade 7 events	163719	104393	141964	86719	153712	137478
								82%	40%	84%	43%	68%	82%

## 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	107.200213	107.1669579033087	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-49.565489	-49.54868401521082	Subarray start row	1	1
[deg] Pointing Roll	111.158386	111.2897088882884	Subarray row count	774	774
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	2.5
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	400904584.184000	400903092.29252			
Observation start date	2010-09-15T02:21:58	2010-09-15T01:58:12			
[s] Observation end time (MET)	400934584.184000	400935480.75668			
Observation end date	2010-09-15T10:41:58	2010-09-15T10:58:00			
Read mode	TIMED	TIMED			

## 2.3 Aspect



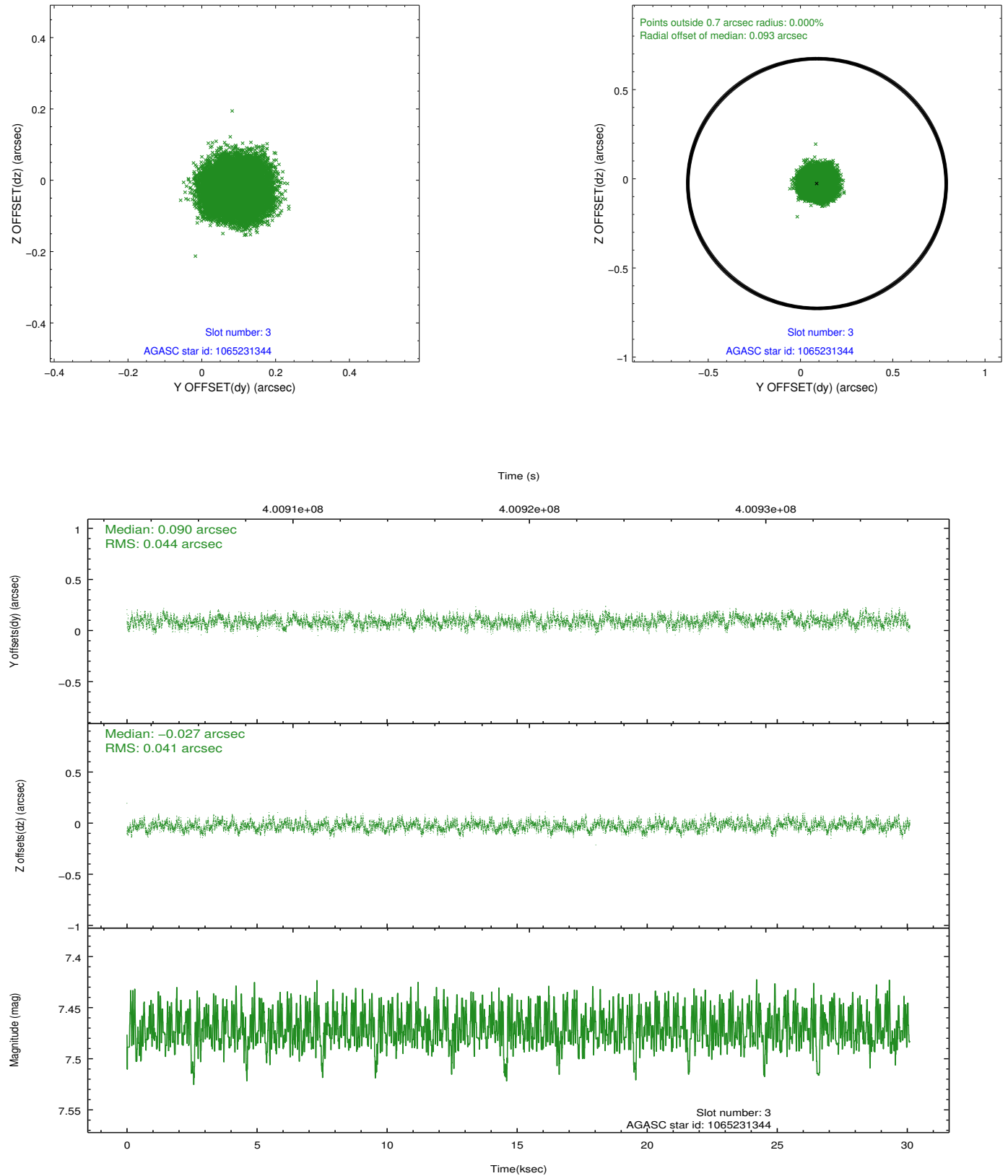


### Slot Statistics

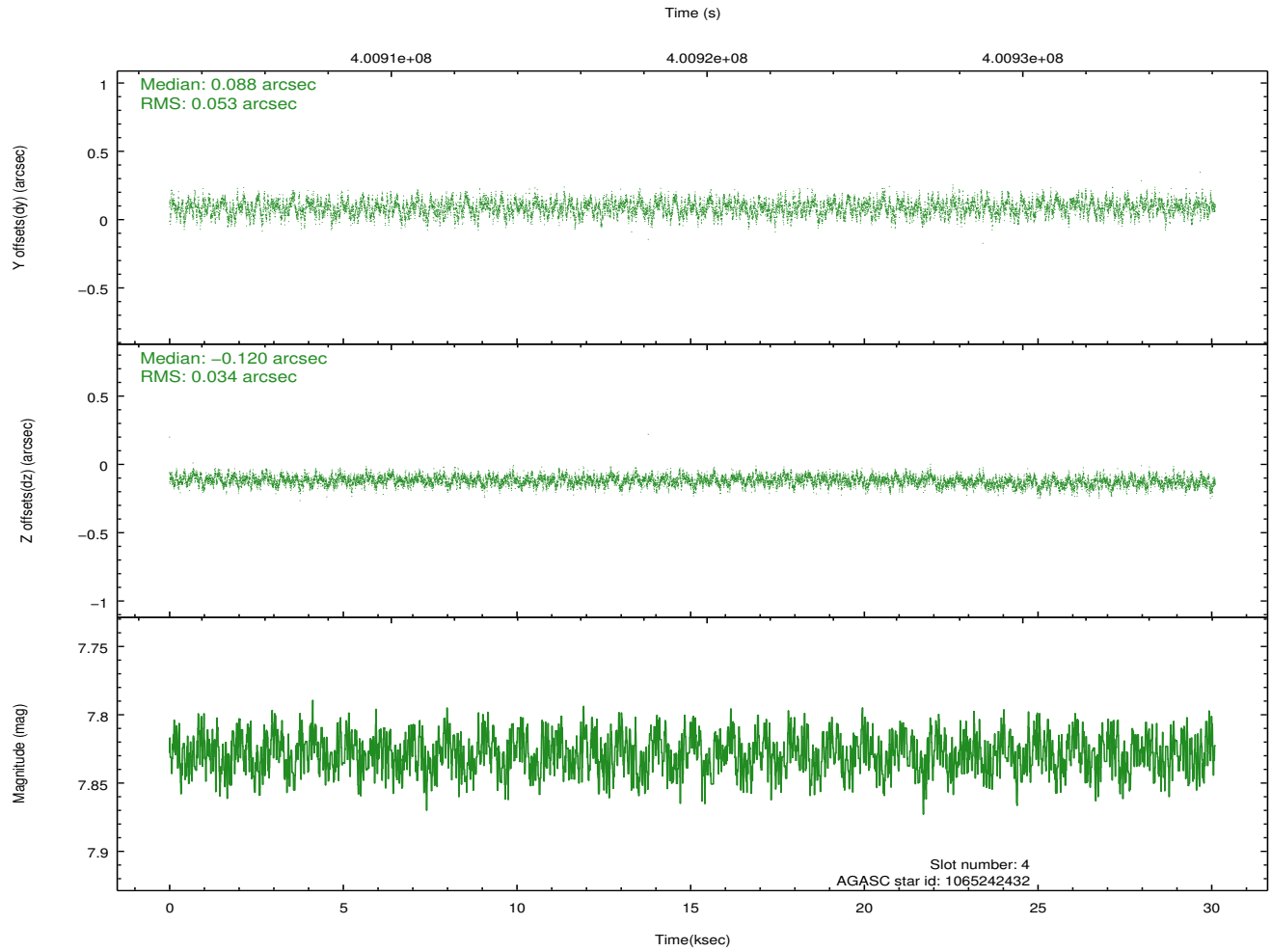
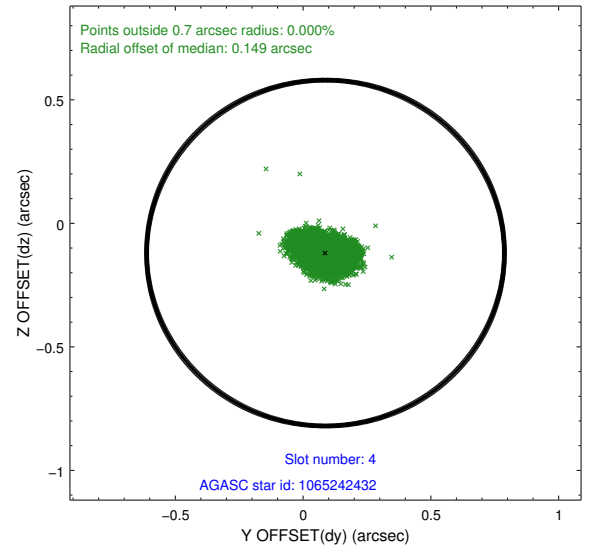
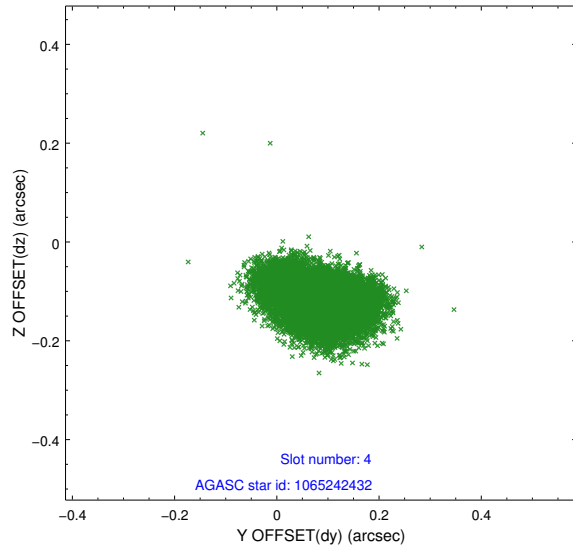
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.90	7343	-0.129	-0.075	0.011	0.019	0.000000	0.000000	-767.47	-1800.47
1	FID	ACIS-S-4	6.97	7341	0.243	0.082	0.008	0.015	0.000000	0.000000	2146.13	108.11
2	FID	ACIS-S-5	7.01	7344	-0.148	0.002	0.011	0.026	0.000000	0.000000	-1820.25	101.74
3	GUIDE	1065231344	7.47	14684	0.090	-0.027	0.066	0.101	108.108874	-49.825503	-1646.24	-1625.53
4	GUIDE	1065242432	7.83	14685	0.088	-0.120	0.067	0.110	107.094192	-50.100313	-1707.71	923.21
5	GUIDE	1065105600	7.56	14681	-0.126	-0.111	0.060	0.094	106.289320	-49.073997	2413.20	1369.67
6	GUIDE	1065224224	8.26	14684	-0.057	0.174	0.074	0.118	108.067921	-49.186083	526.31	-2392.34
7	GUIDE	1065231152	6.96	14680	0.007	0.083	0.058	0.088	108.467342	-49.936613	-2328.56	-2246.99

## 2.4 Star Slots

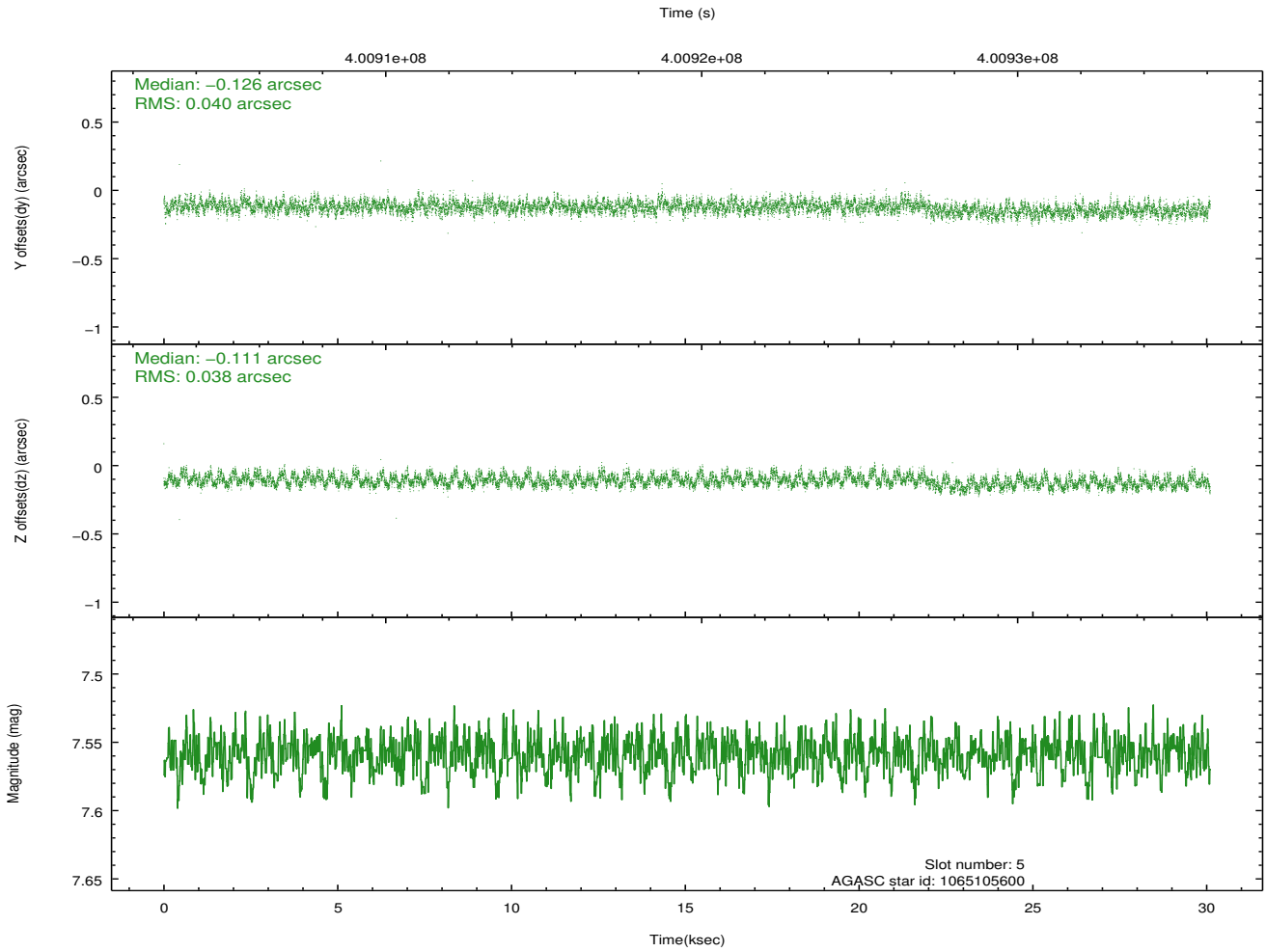
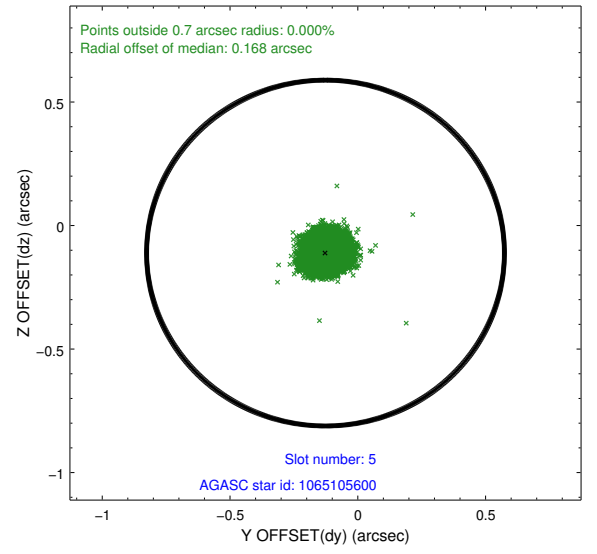
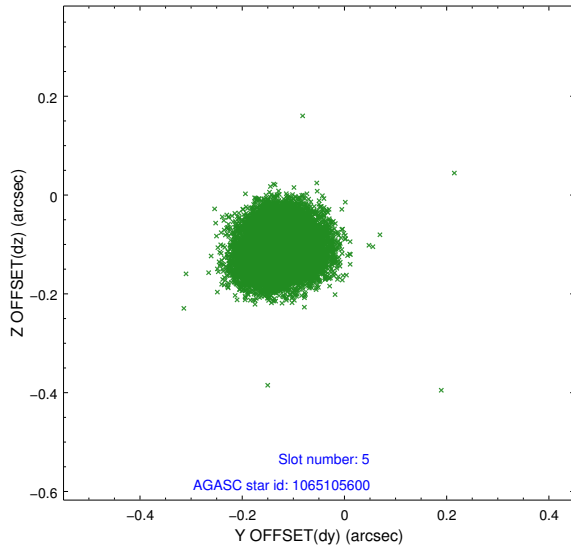
### 2.4.1 Slot 3



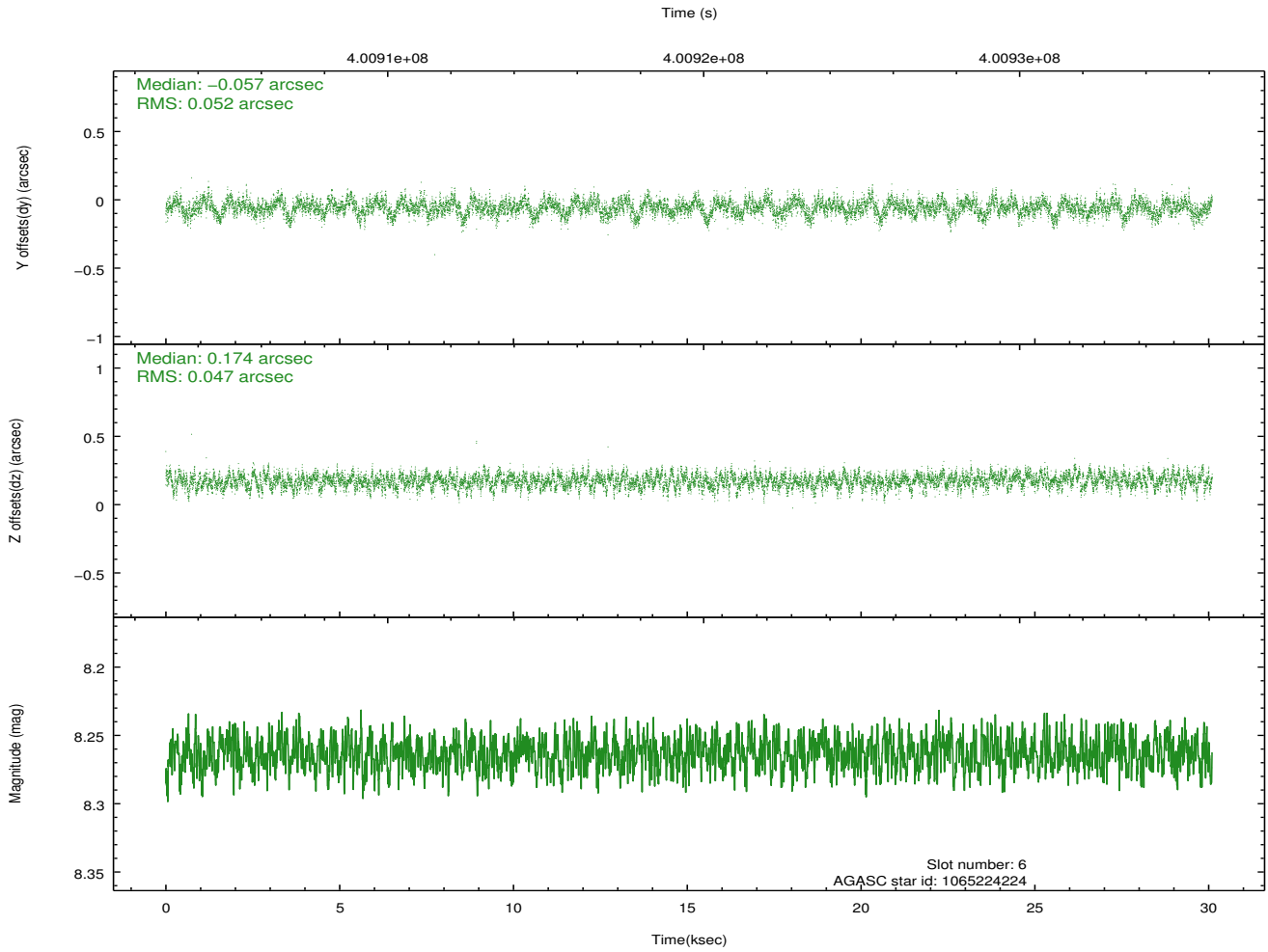
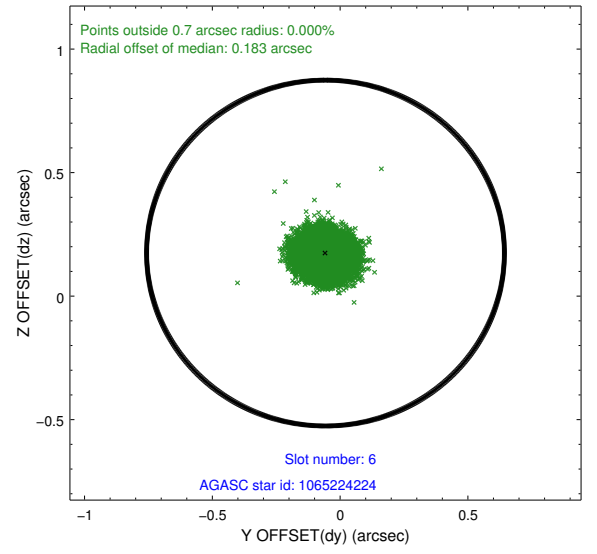
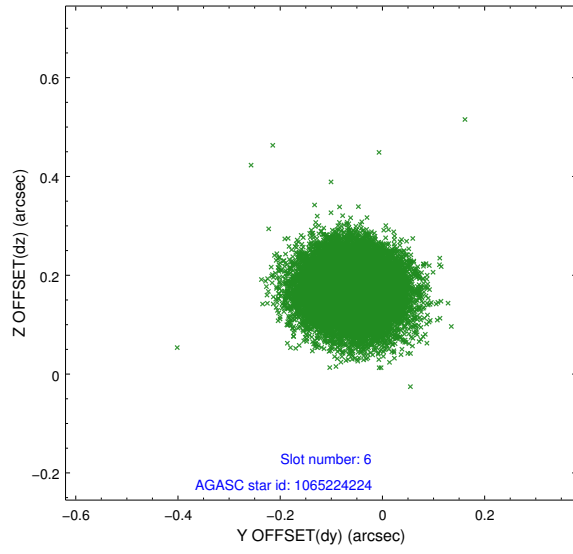
## 2.4.2 Slot 4



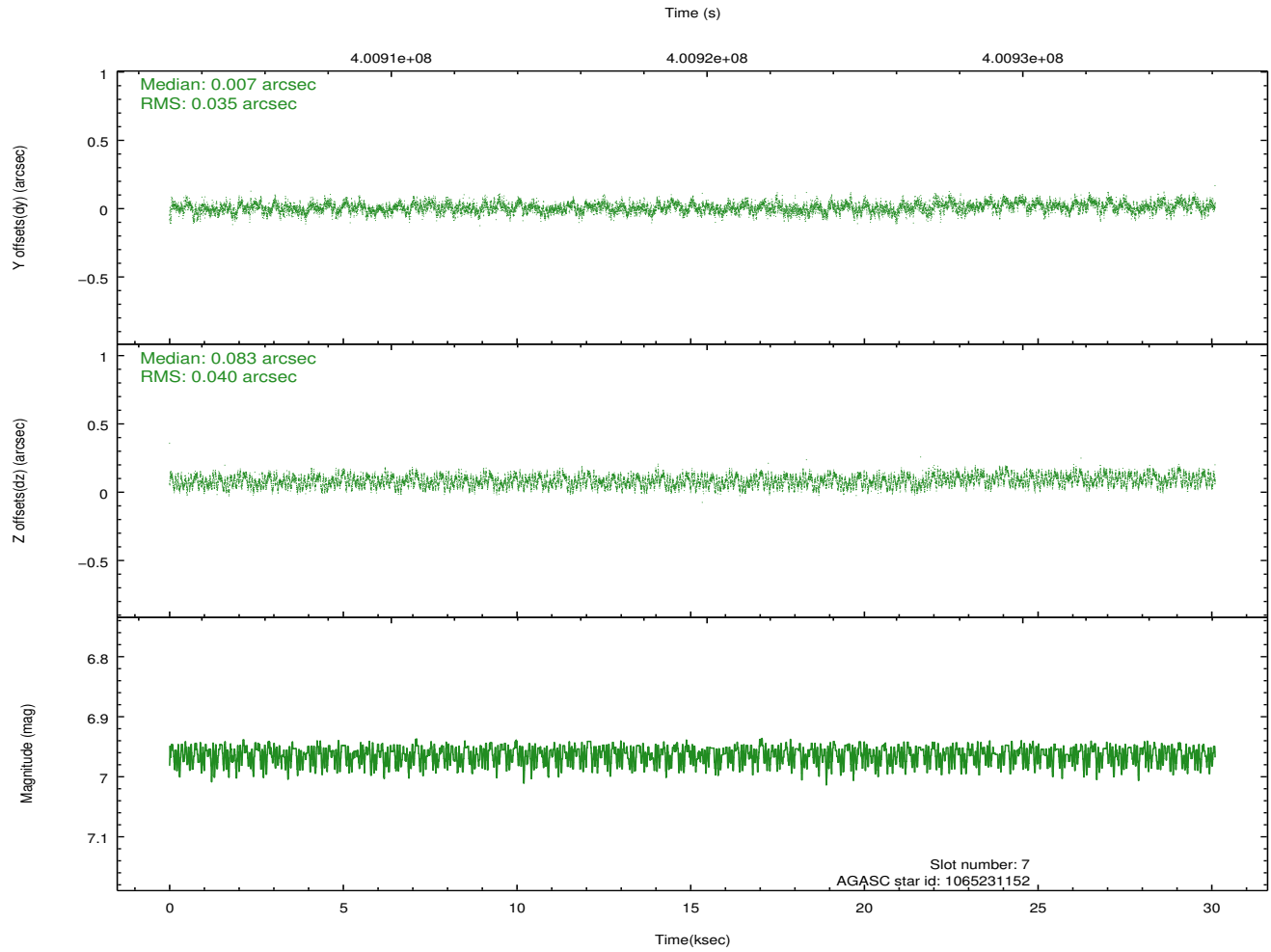
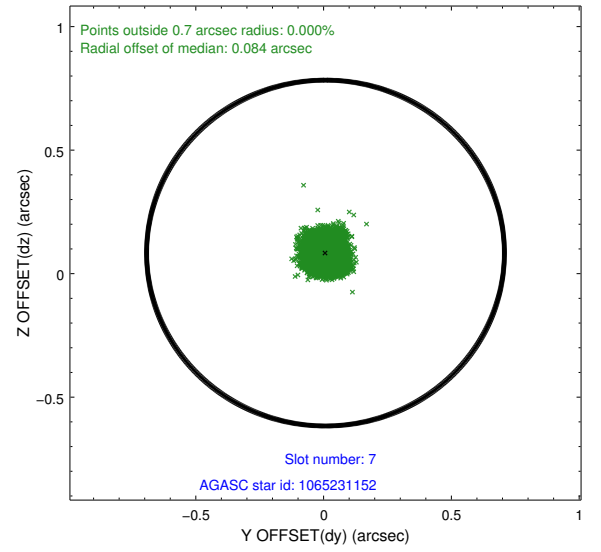
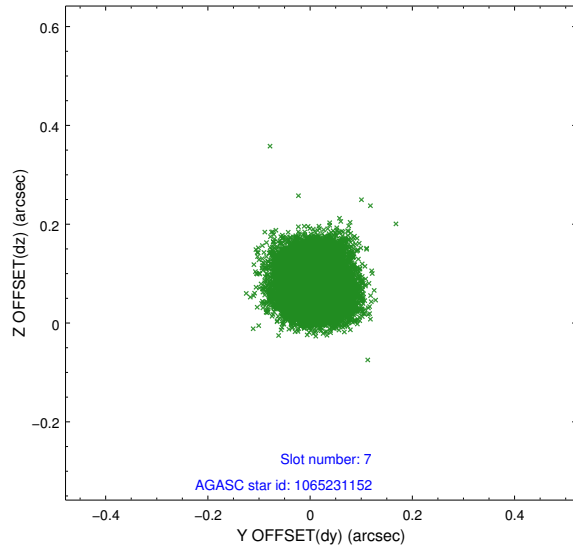
### 2.4.3 Slot 5



## 2.4.4 Slot 6

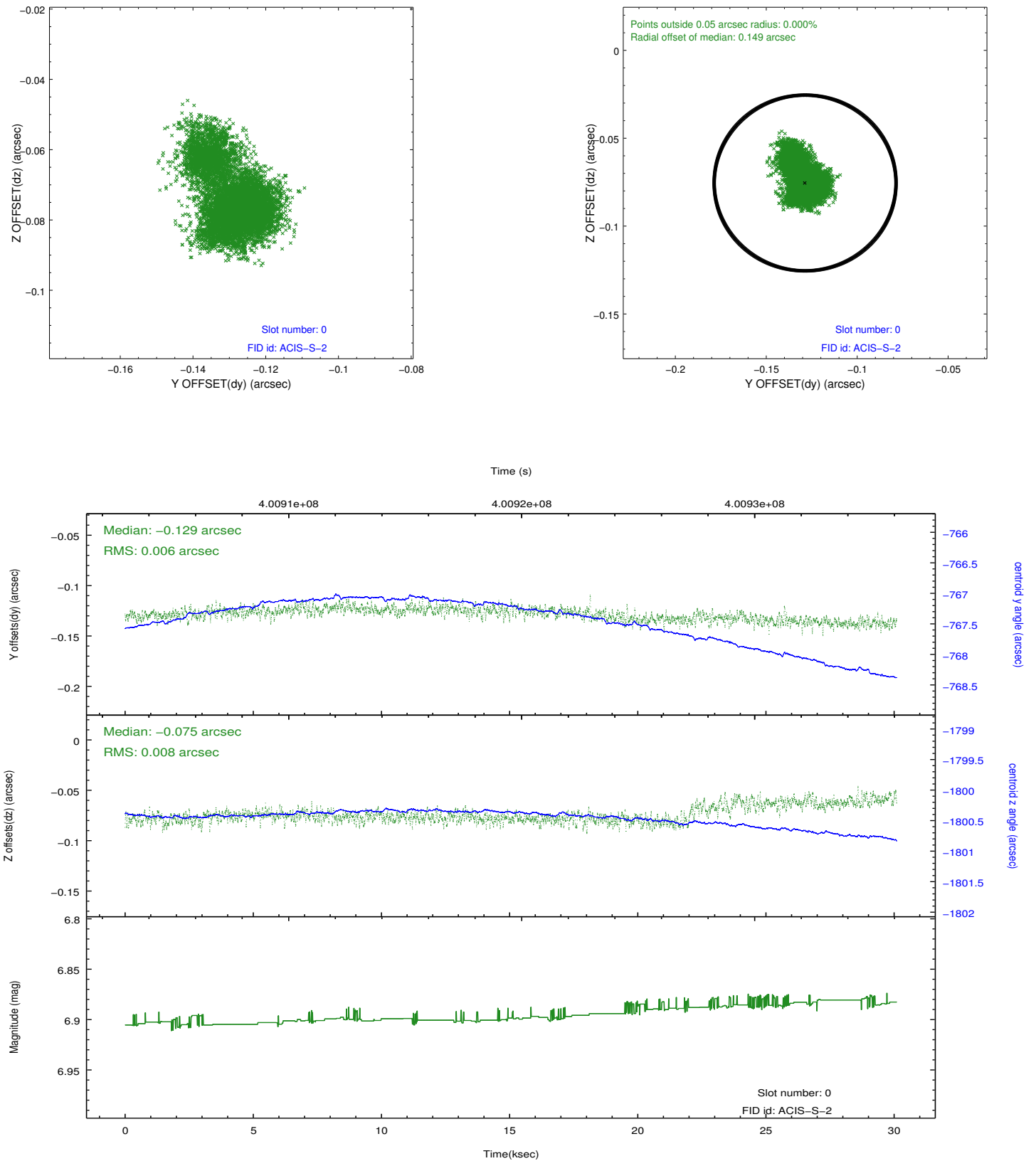


## 2.4.5 Slot 7

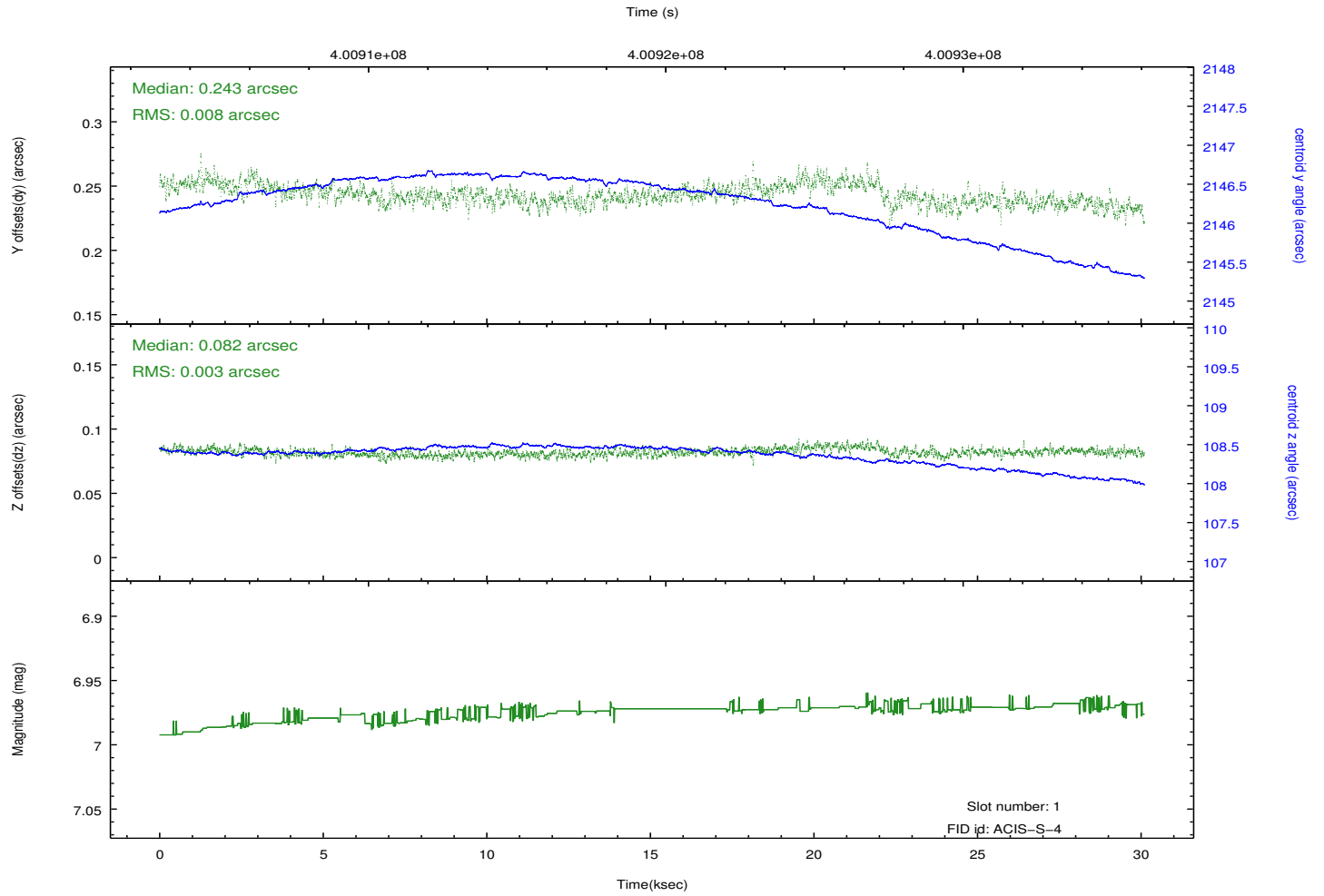
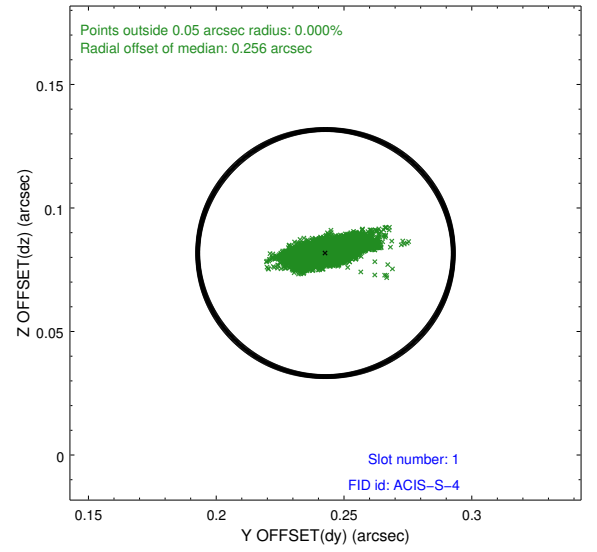
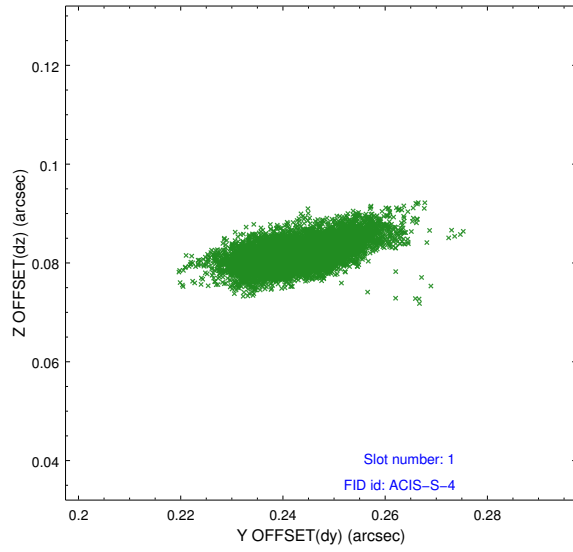


## 2.5 FID Slots

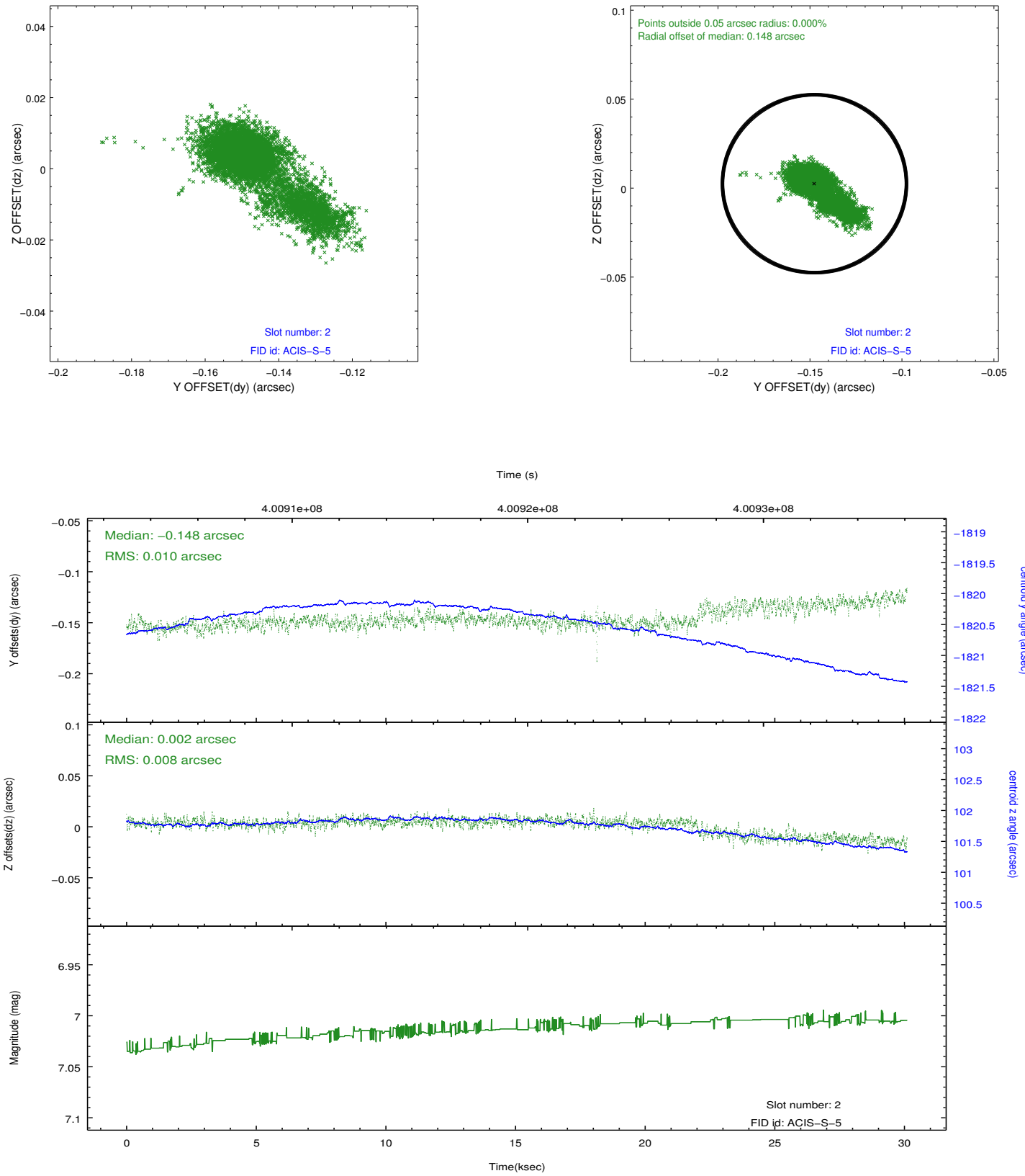
### 2.5.1 Slot 0



## 2.5.2 Slot 1

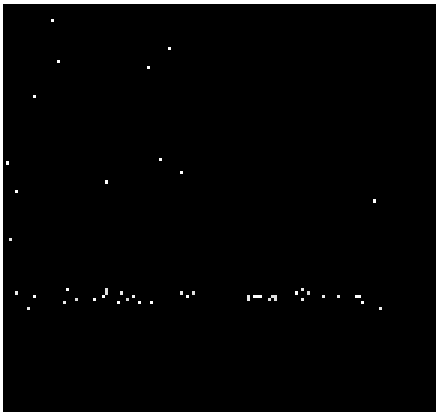


### 2.5.3 Slot 2

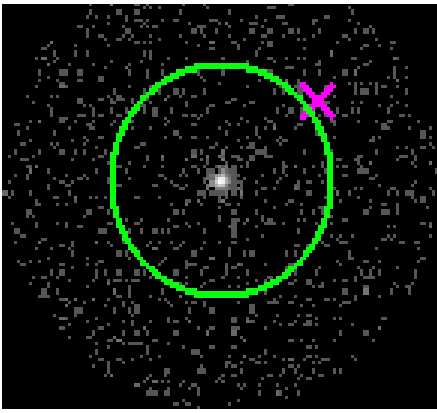


# 3 Gratings

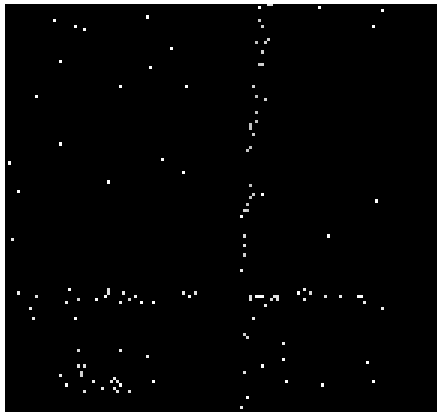
## 3.1 HEG Arm



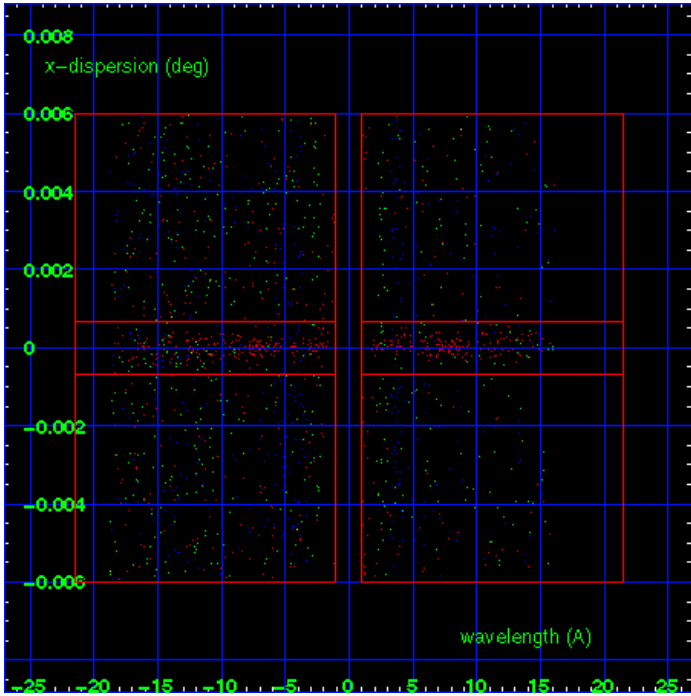
HEG Order Sort 123



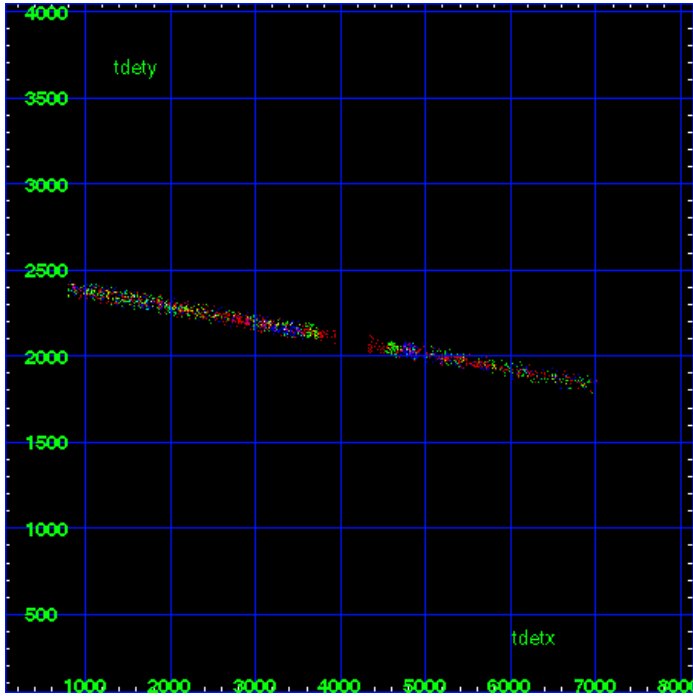
HEG Zero Order



HEG Order Sort ALL

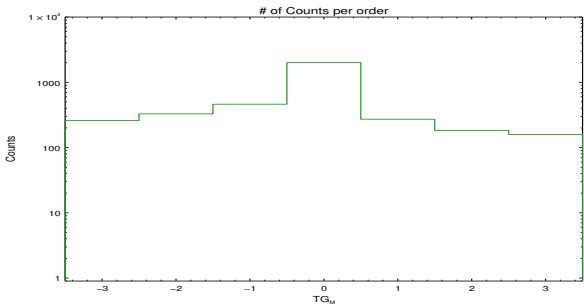


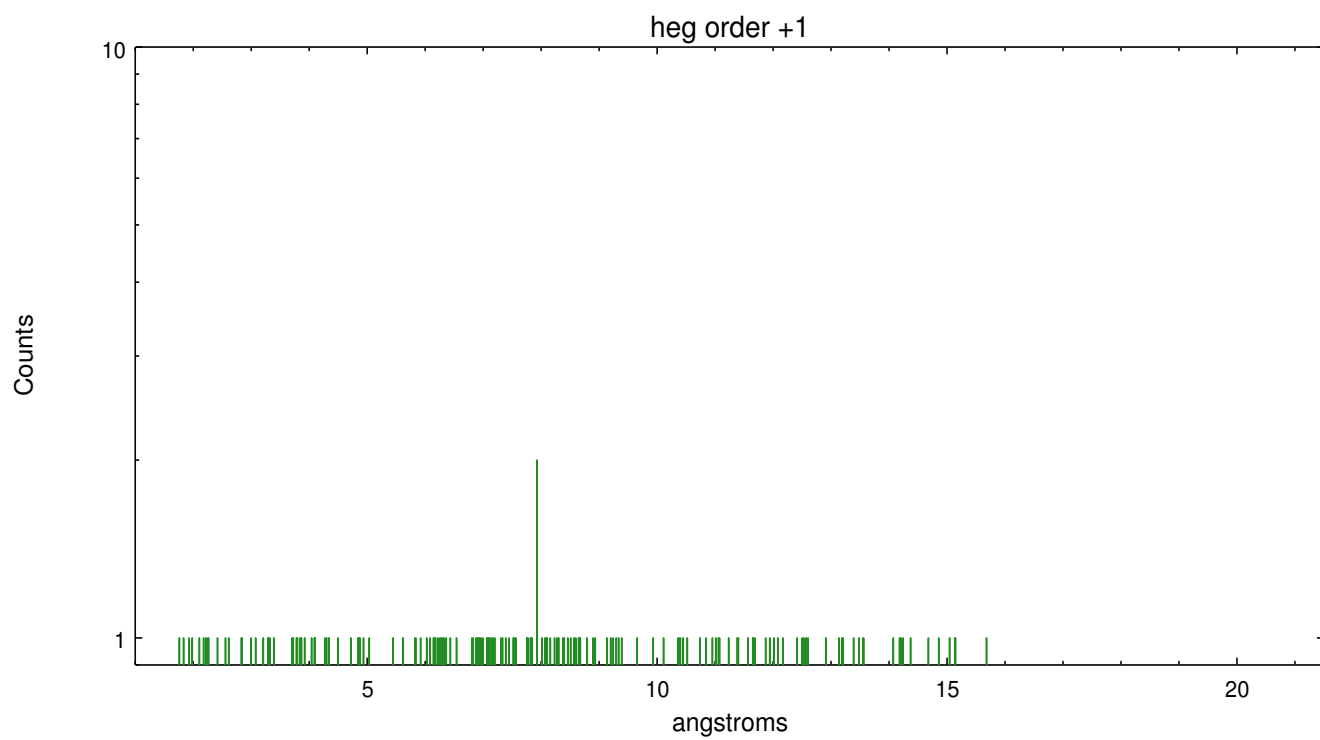
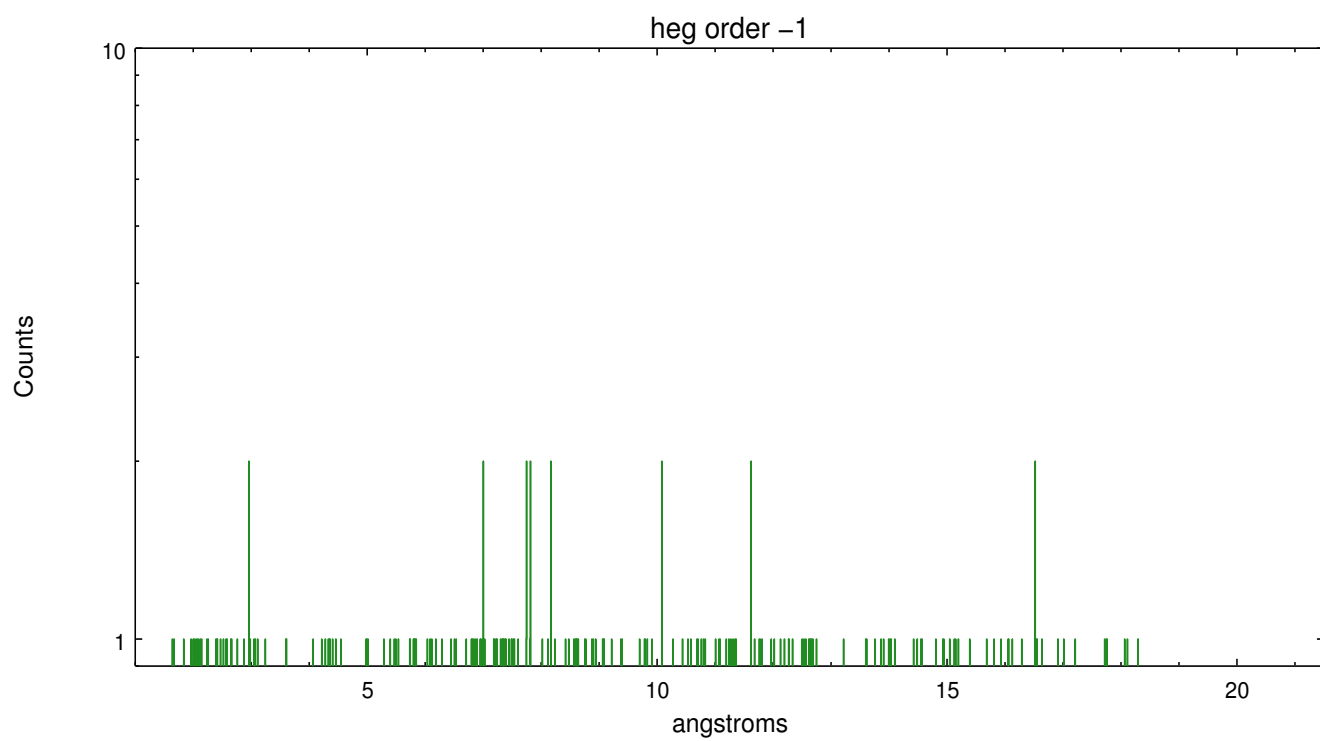
Spot Image HEG



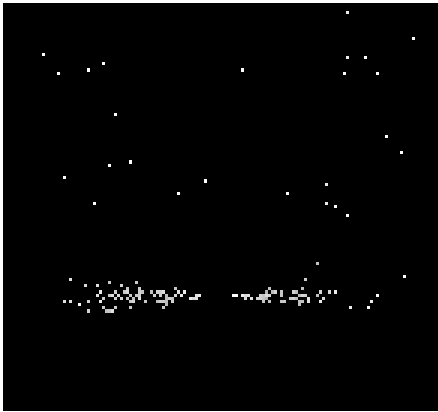
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	261	328	462	2002	272	182	159

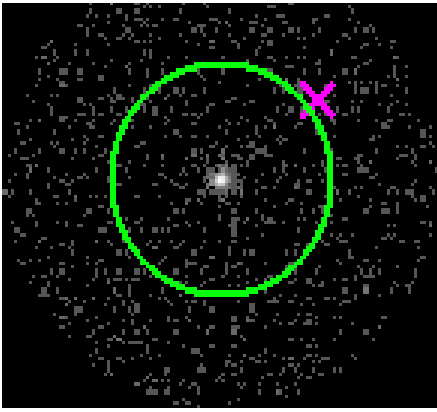




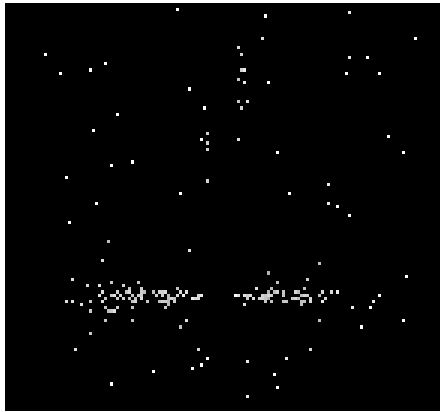
3.2 MEG Arm



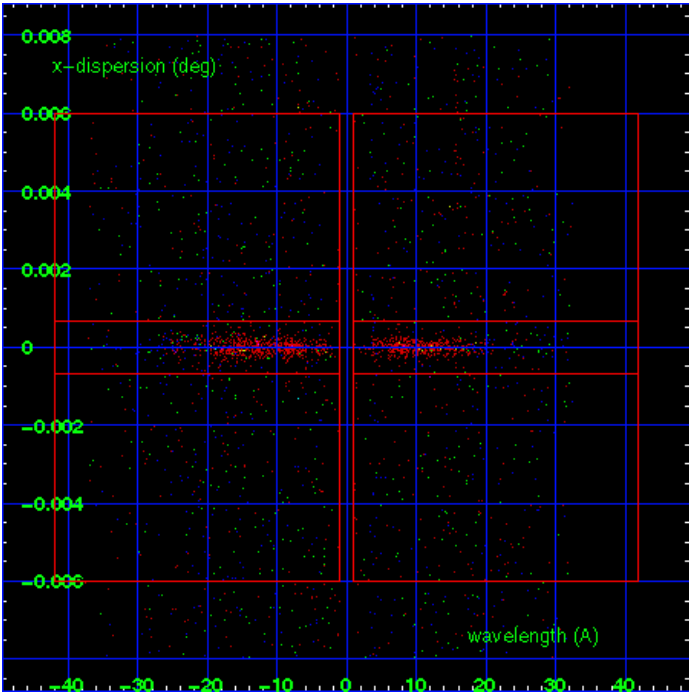
MEG Order Sort 123



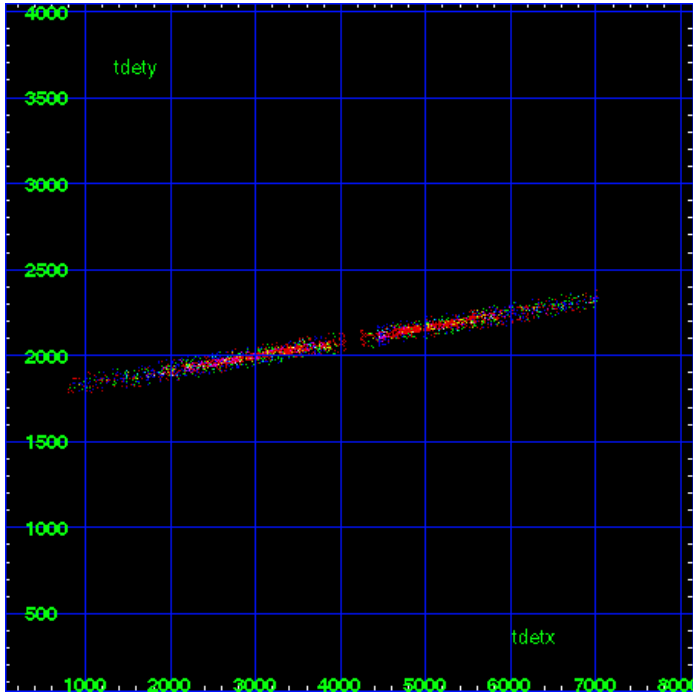
MEG Zero Order



MEG Order Sort ALL

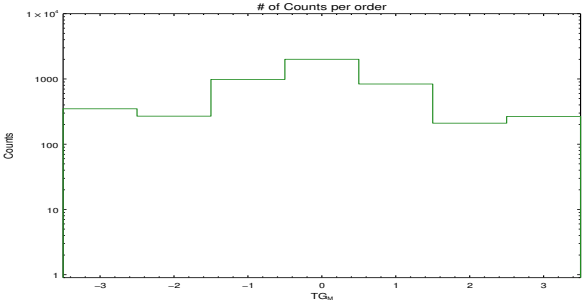


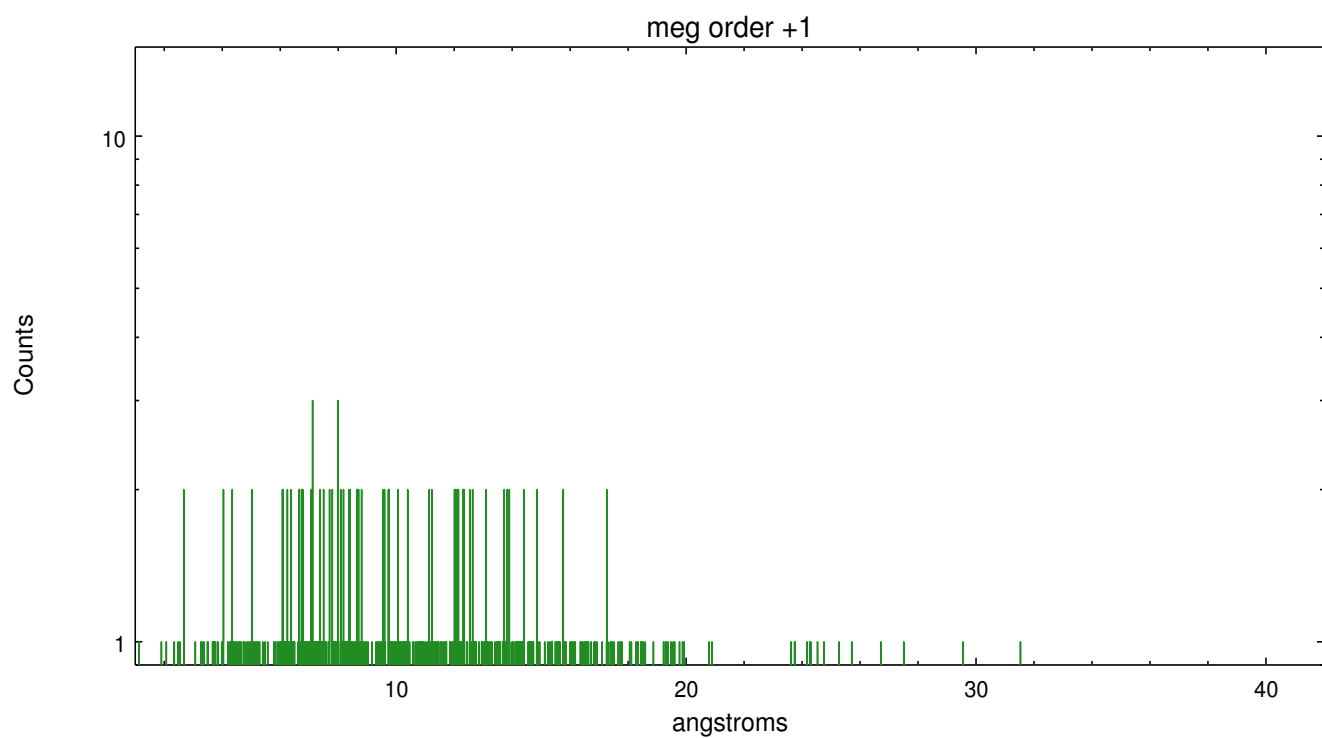
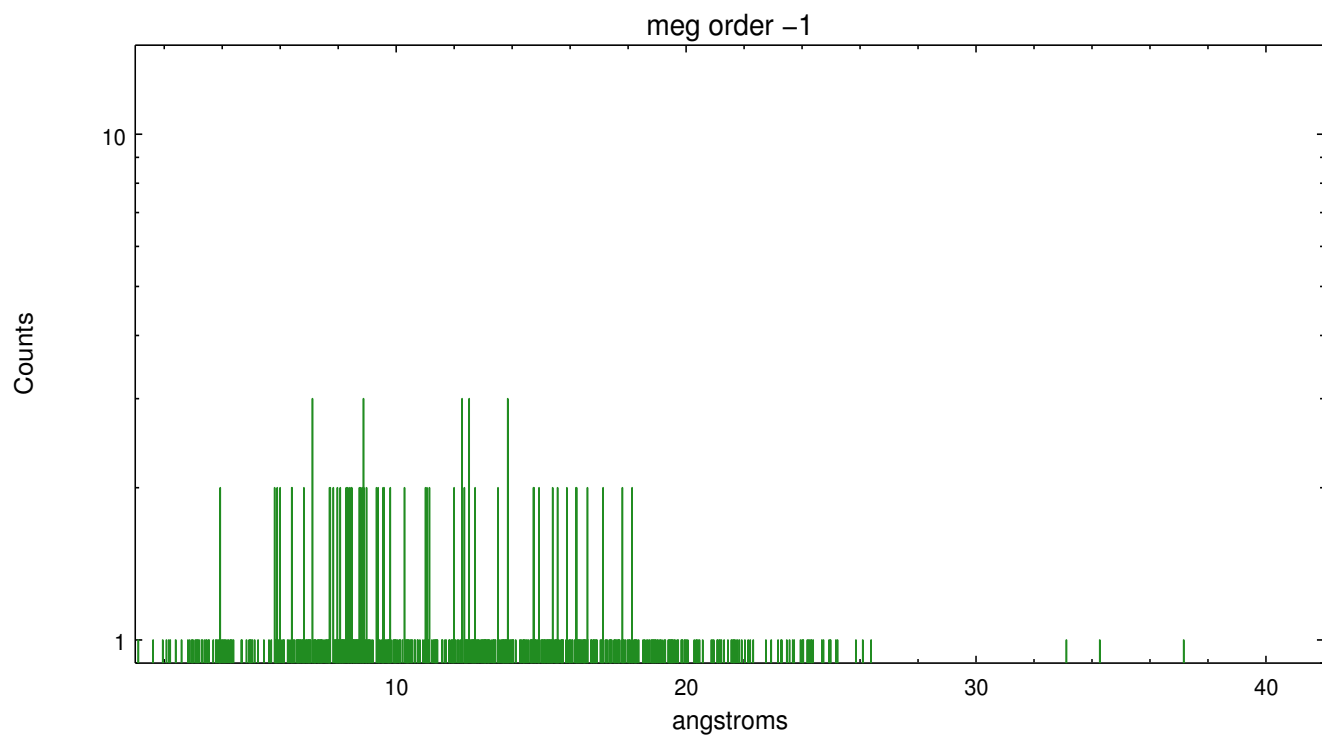
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	349	269	984	2002	837	210	266





## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.07.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.04496220988

### A.2 Comments