

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4000 - L2 Version 3  
Chandra X-Ray Center

L2 Processing Date : Nov 5 2012

## Contents

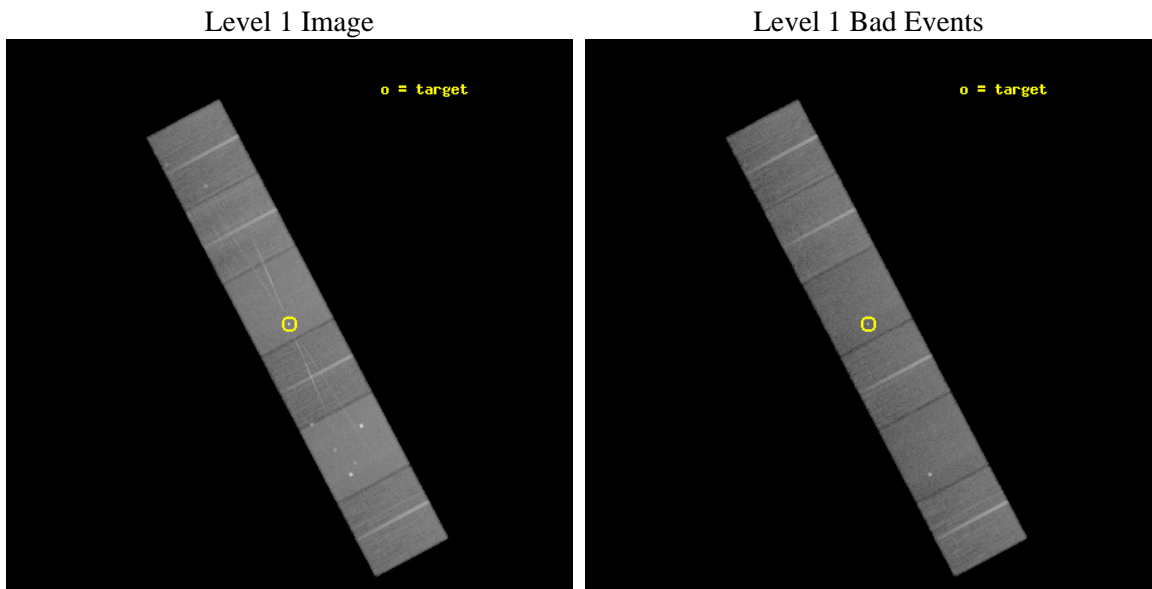
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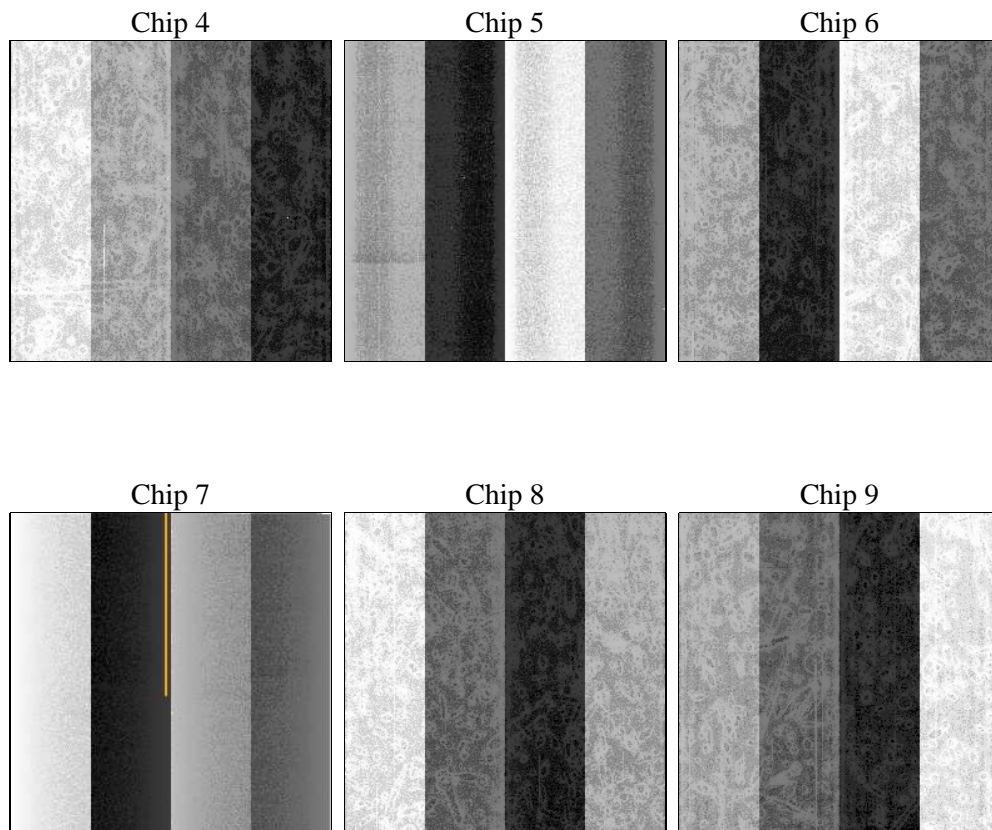
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	37849.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	37657.599859715	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime4	37657.599859715	Sum of GTIs [s]
date	2012-11-05T03:49:47	Date and time of file creation	ontime5	37657.599859715	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	37657.599859715	Sum of GTIs [s]
			ontime7	37657.599859715	Sum of GTIs [s]
			ontime8	37651.117899239	Sum of GTIs [s]
			ontime9	37657.599859715	Sum of GTIs [s]
			l1events	1780079	Number of level 1 events

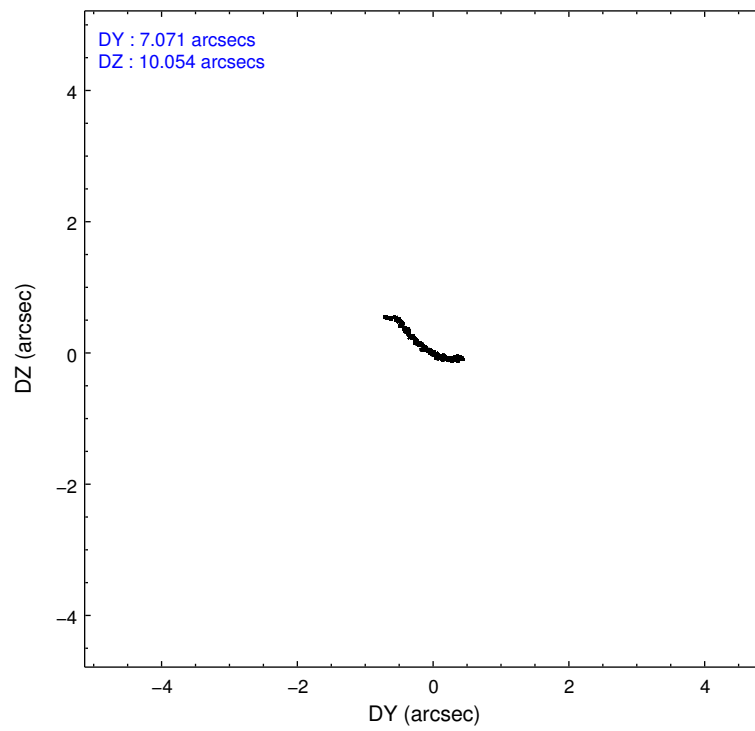
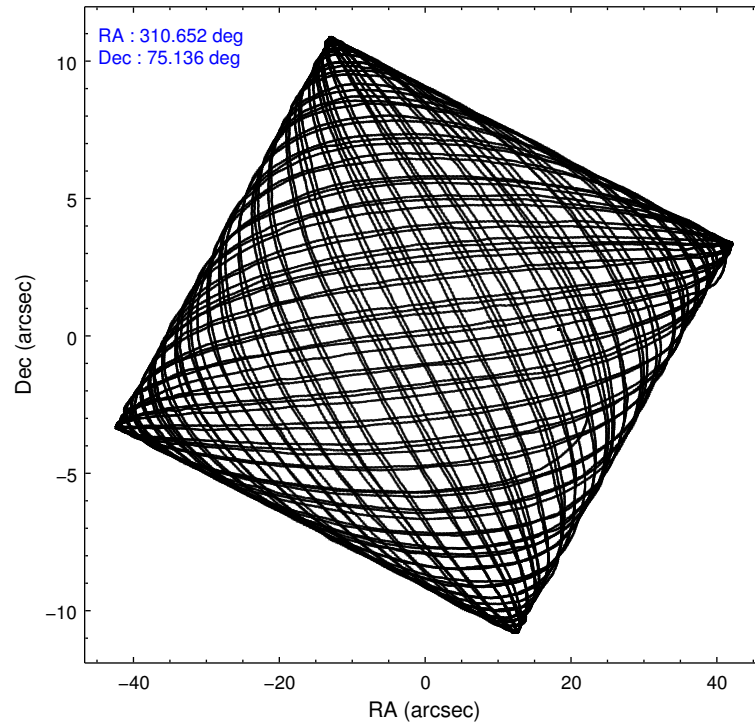
### 2.1.4 Events

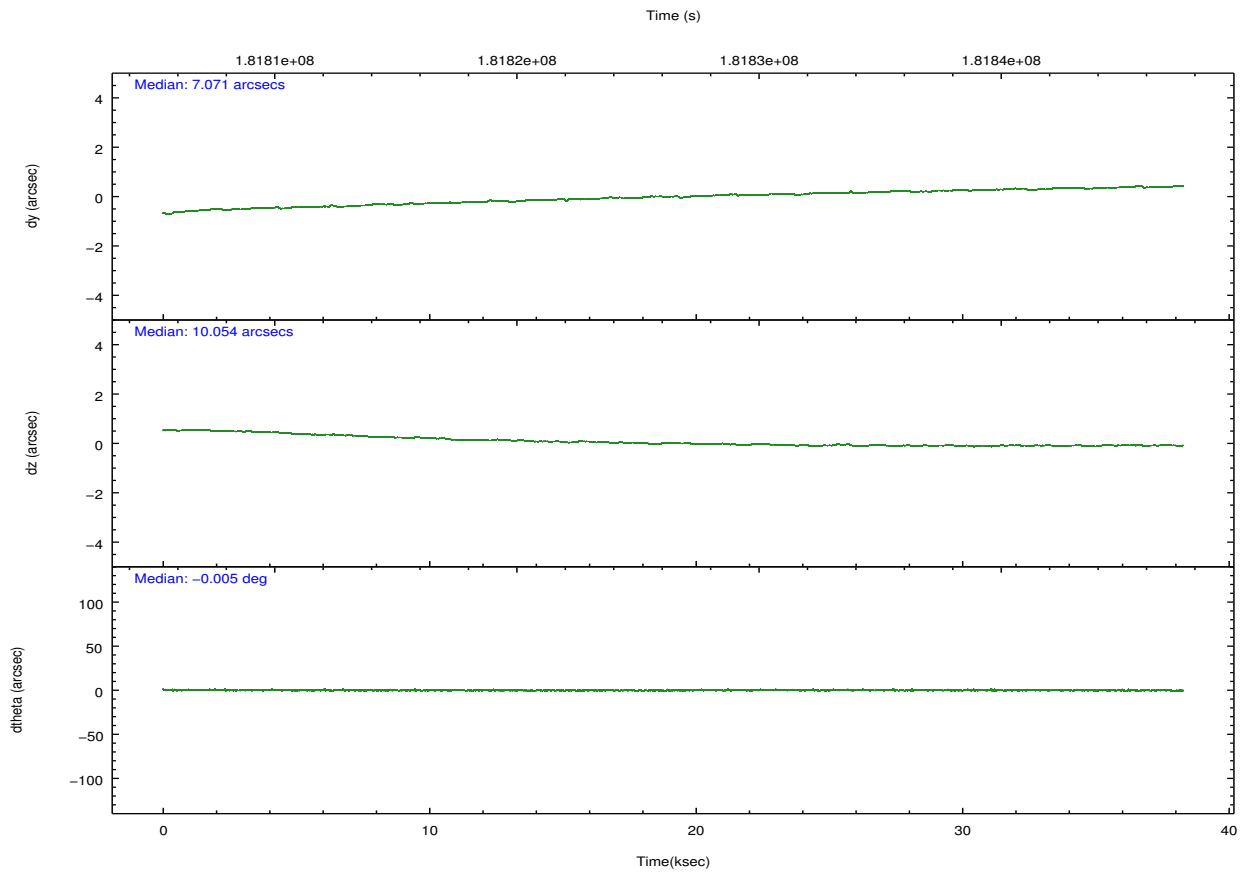
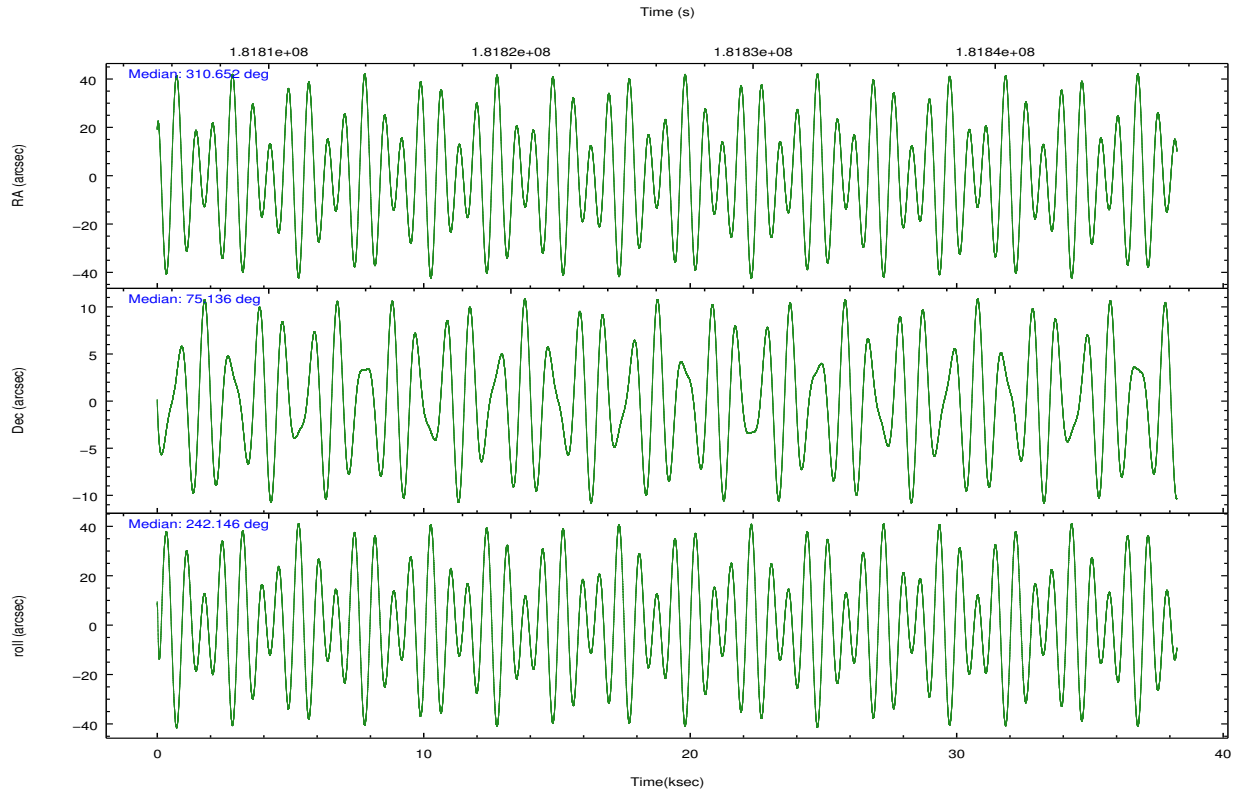
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	268140	364035	253704	340235	310545	243420	grade 0 events	12752	23767	17265	14679	21930	13011
rejected events	238878	195087	217625	192341	244272	213157		4%	6%	6%	4%	7%	5%
rejected %	89%	53%	85%	56%	78%	87%	grade 1 events	225	2544	130	428	205	178
								0%	0%	0%	0%	0%	0%
							grade 2 events	6003	46840	6819	29689	14576	5589
								2%	12%	2%	8%	4%	2%
							grade 3 events	2865	6707	3161	13433	6515	3004
								1%	1%	1%	3%	2%	1%
							grade 4 events	3072	6328	2956	13299	6255	2850
								1%	1%	1%	3%	2%	1%
							grade 5 events	10442	26807	11331	31993	14553	11758
								3%	7%	4%	9%	4%	4%
							grade 6 events	4574	85342	5885	76828	17015	5813
								1%	23%	2%	22%	5%	2%
							grade 7 events	228207	165700	206157	159886	229496	201217
								85%	45%	81%	46%	73%	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	310.646505	310.65194187049	Subarray requested	NONE	NONE
[deg] Pointing Dec	75.163322	75.13609589038235	Alternating exposures requested	N	N
[deg] Pointing Roll	242.008214	242.1595939205789	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	181807727.184000	181806650.71109			
Observation start date	2003-10-06T06:07:43	2003-10-06T05:50:50			
[s] Observation end time (MET)	181845576.184000	181845891.30027			
Observation end date	2003-10-06T16:38:32	2003-10-06T16:44:51			
Read mode	TIMED	TIMED			

## 2.3 Aspect



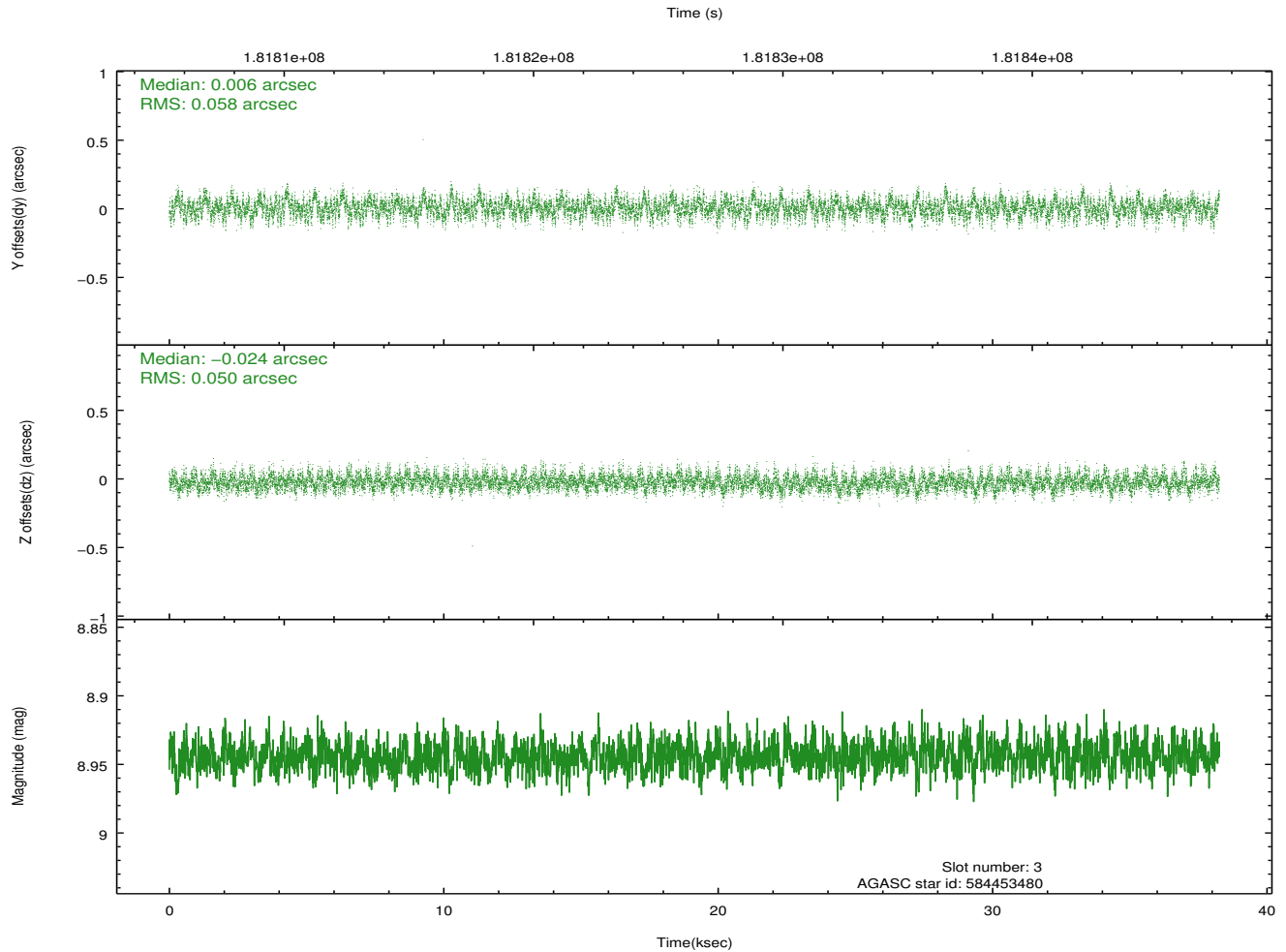
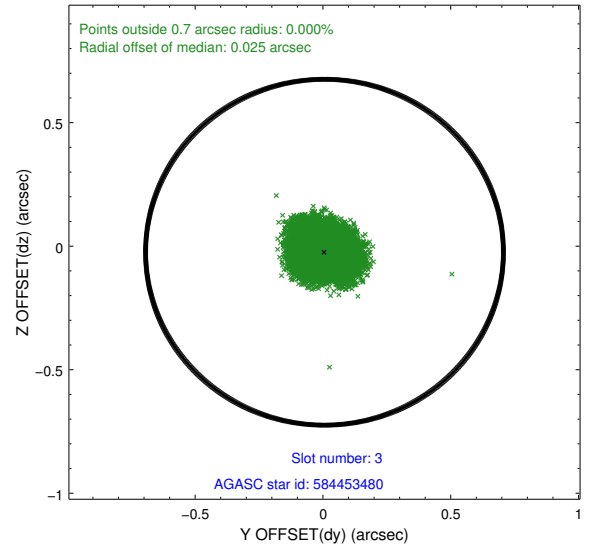
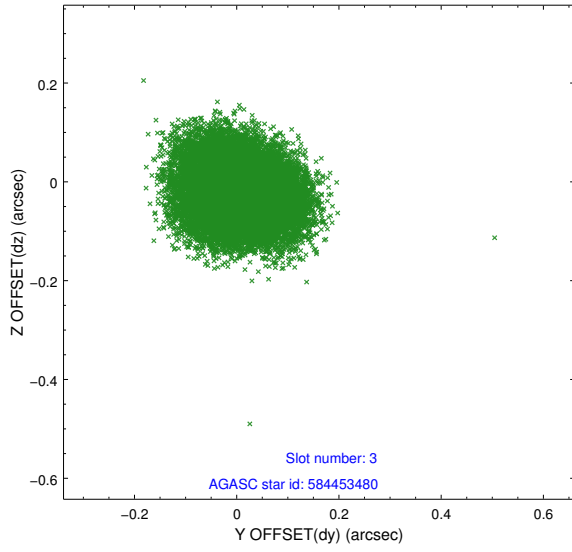


### Slot Statistics

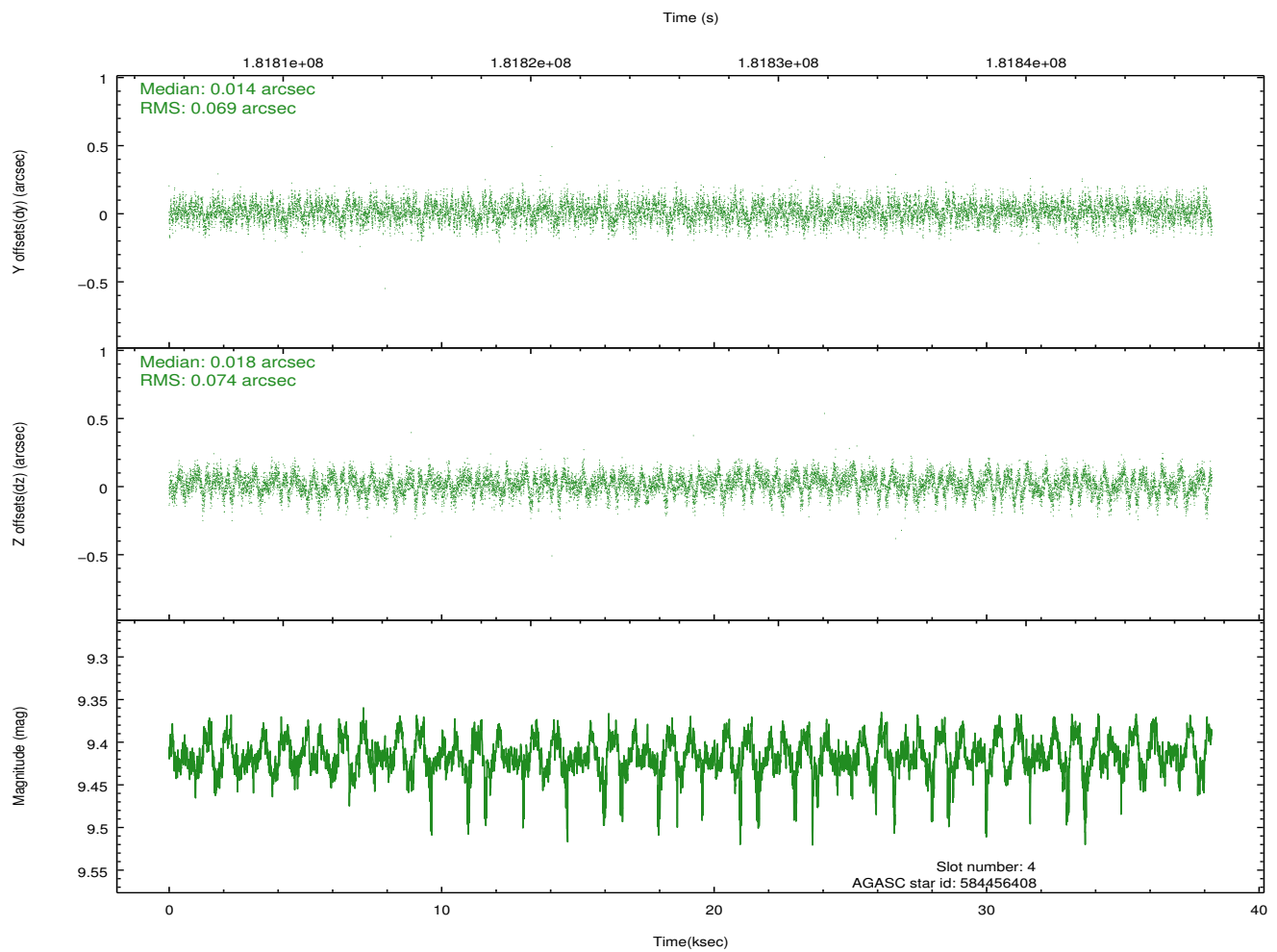
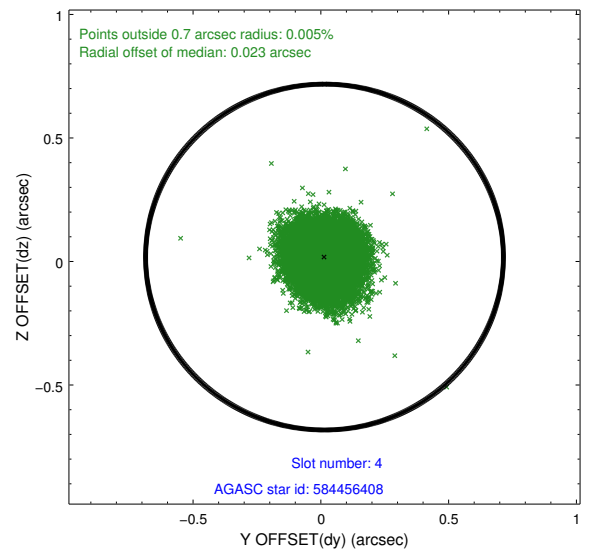
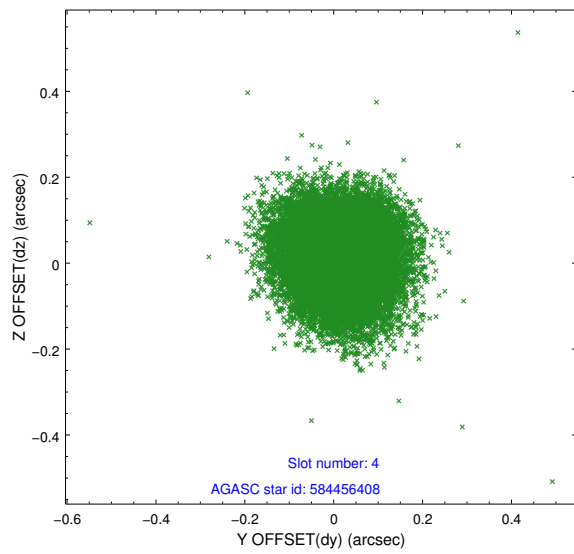
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	9334	-0.048	-0.015	0.012	0.017	0.000000	0.000000	-759.80	-1731.37
1	FID	ACIS-S-4	7.20	9334	0.067	0.028	0.010	0.018	0.000000	0.000000	2153.55	177.19
2	FID	ACIS-S-5	7.23	9334	-0.050	-0.003	0.011	0.018	0.000000	0.000000	-1812.65	170.78
3	GUIDE	584453480	8.94	18660	0.006	-0.024	0.082	0.132	311.245727	74.720187	1139.24	1249.47
4	GUIDE	584456408	9.42	18642	0.014	0.018	0.108	0.171	307.720285	74.988328	1777.59	-2143.94
5	GUIDE	600992280	9.20	18654	-0.057	0.073	0.102	0.164	307.494541	75.010644	1794.17	-2368.75
6	GUIDE	601098528	9.11	18650	0.084	0.130	0.071	0.114	310.058226	75.008164	748.40	-222.85
7	GUIDE	586155048	7.94	18668	-0.051	-0.195	0.062	0.099	312.135794	74.489876	1451.57	2395.31

## 2.4 Star Slots

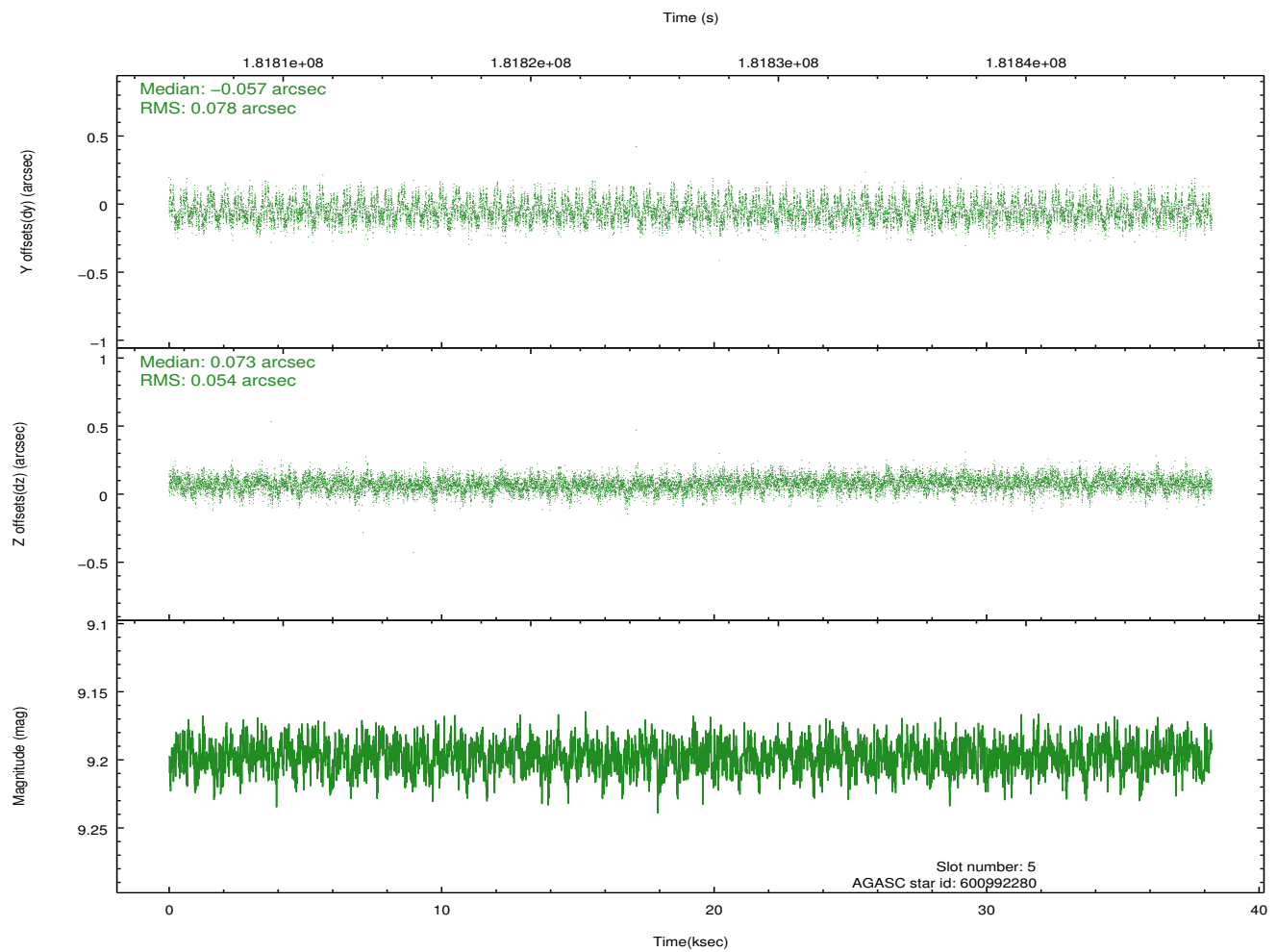
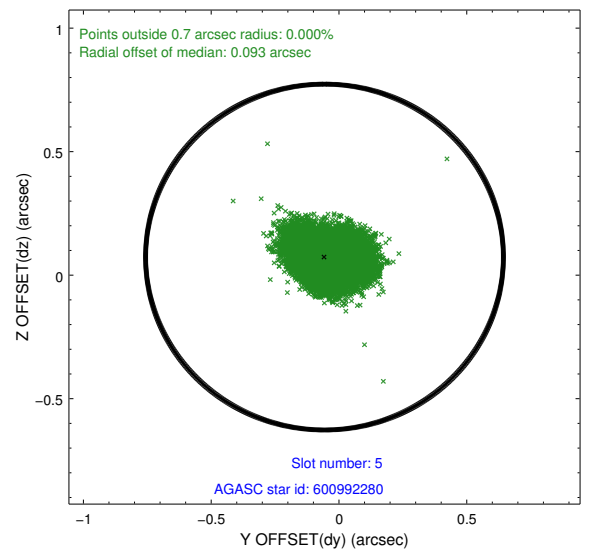
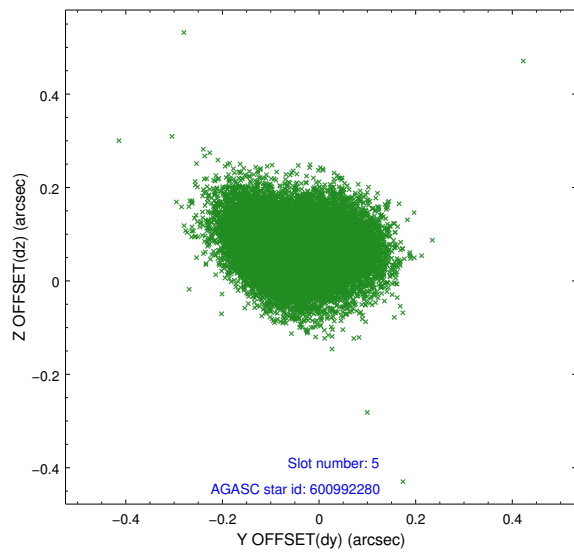
### 2.4.1 Slot 3



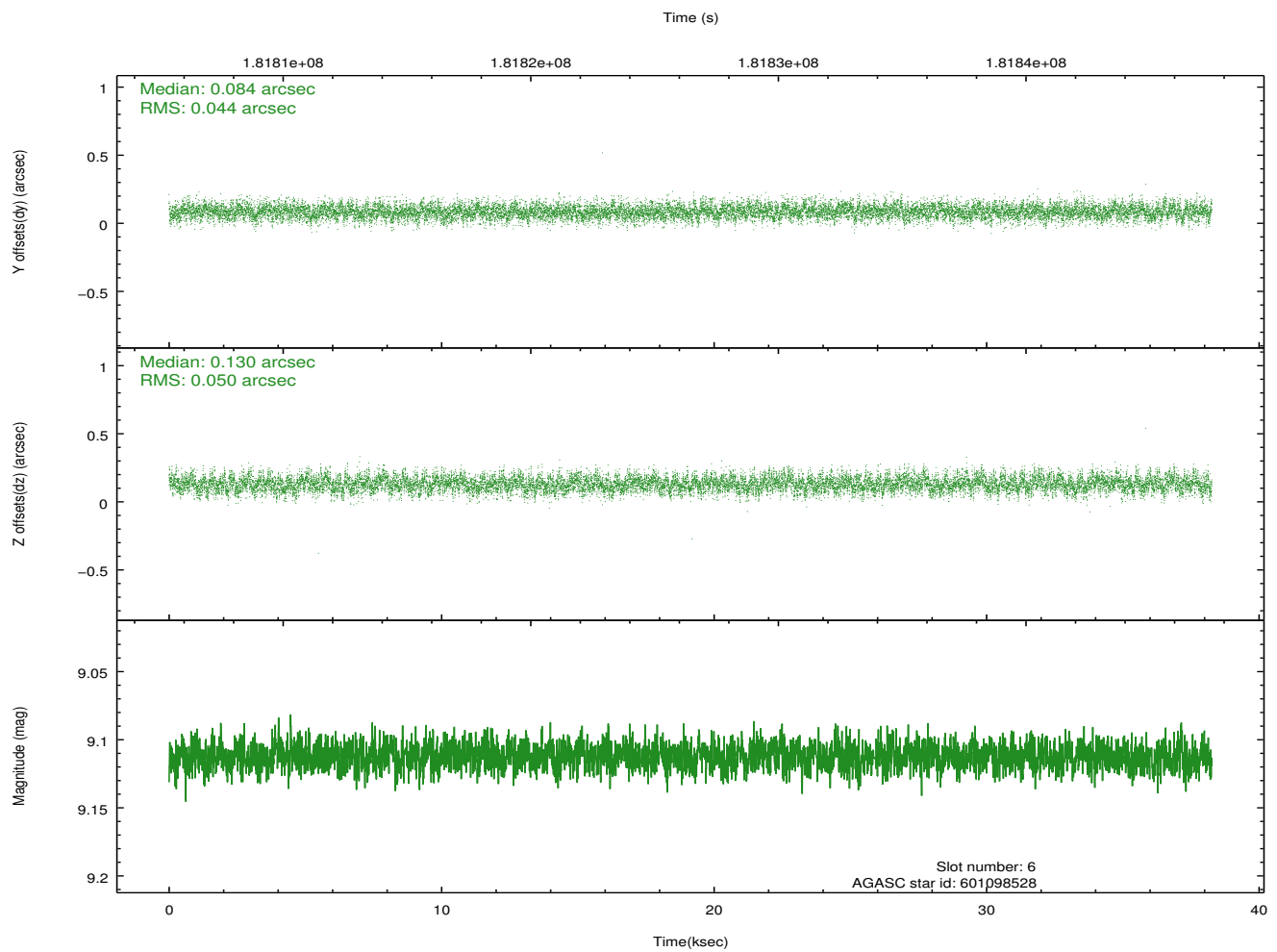
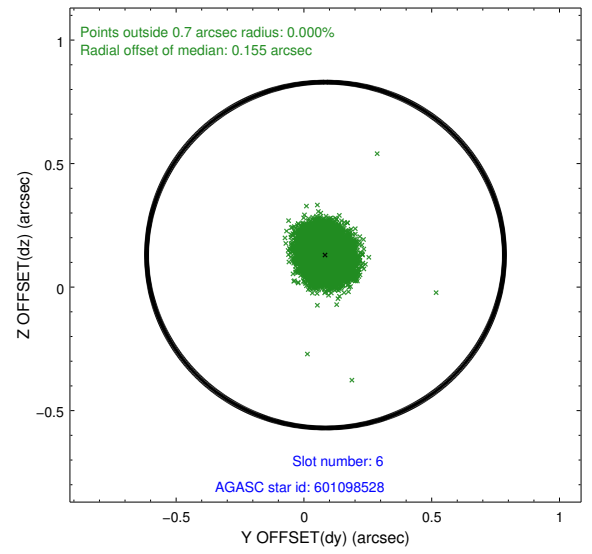
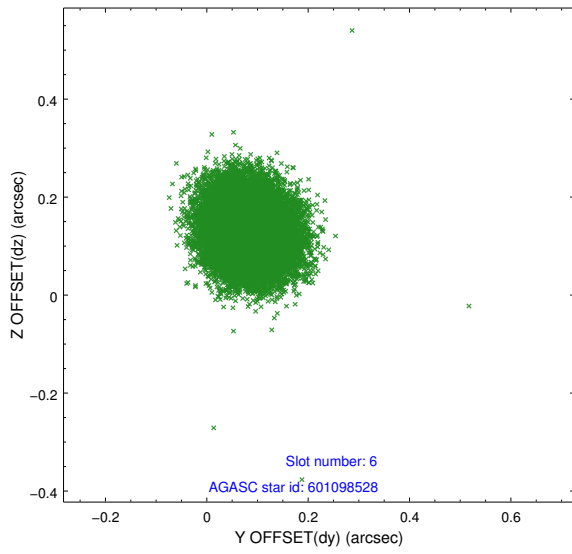
## 2.4.2 Slot 4



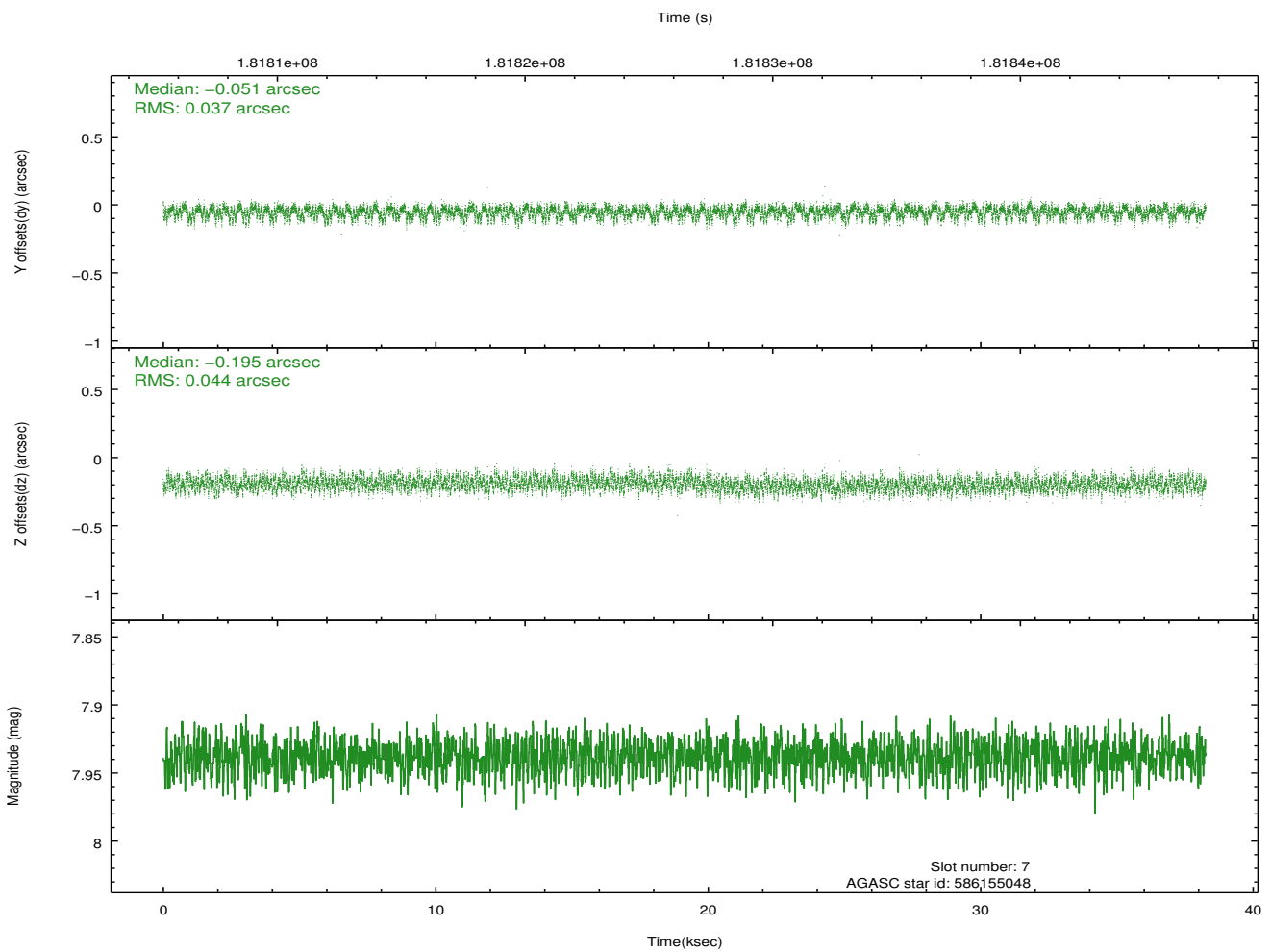
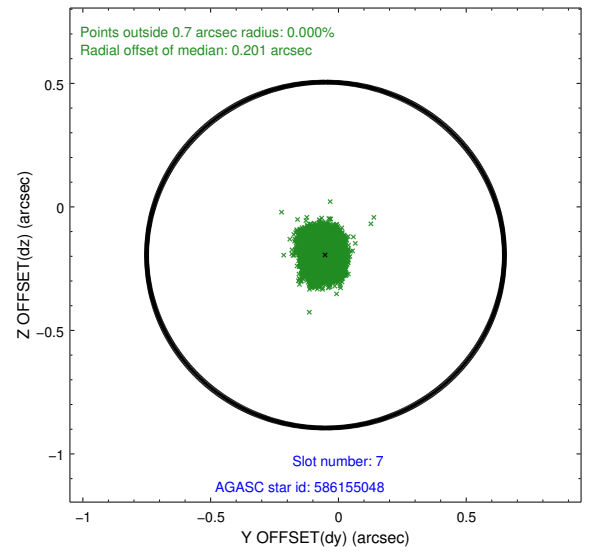
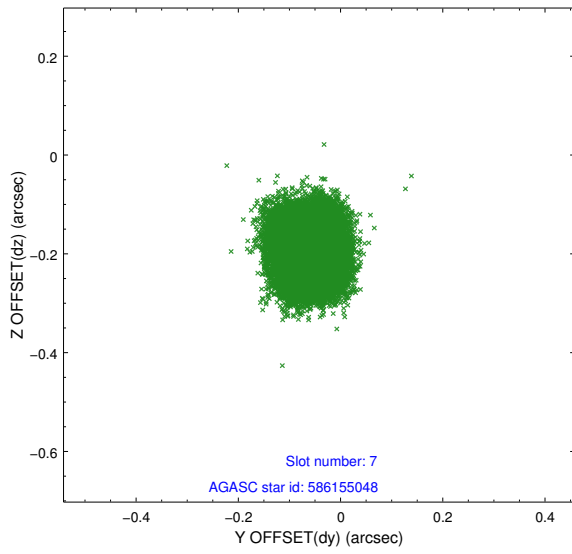
### 2.4.3 Slot 5



### 2.4.4 Slot 6

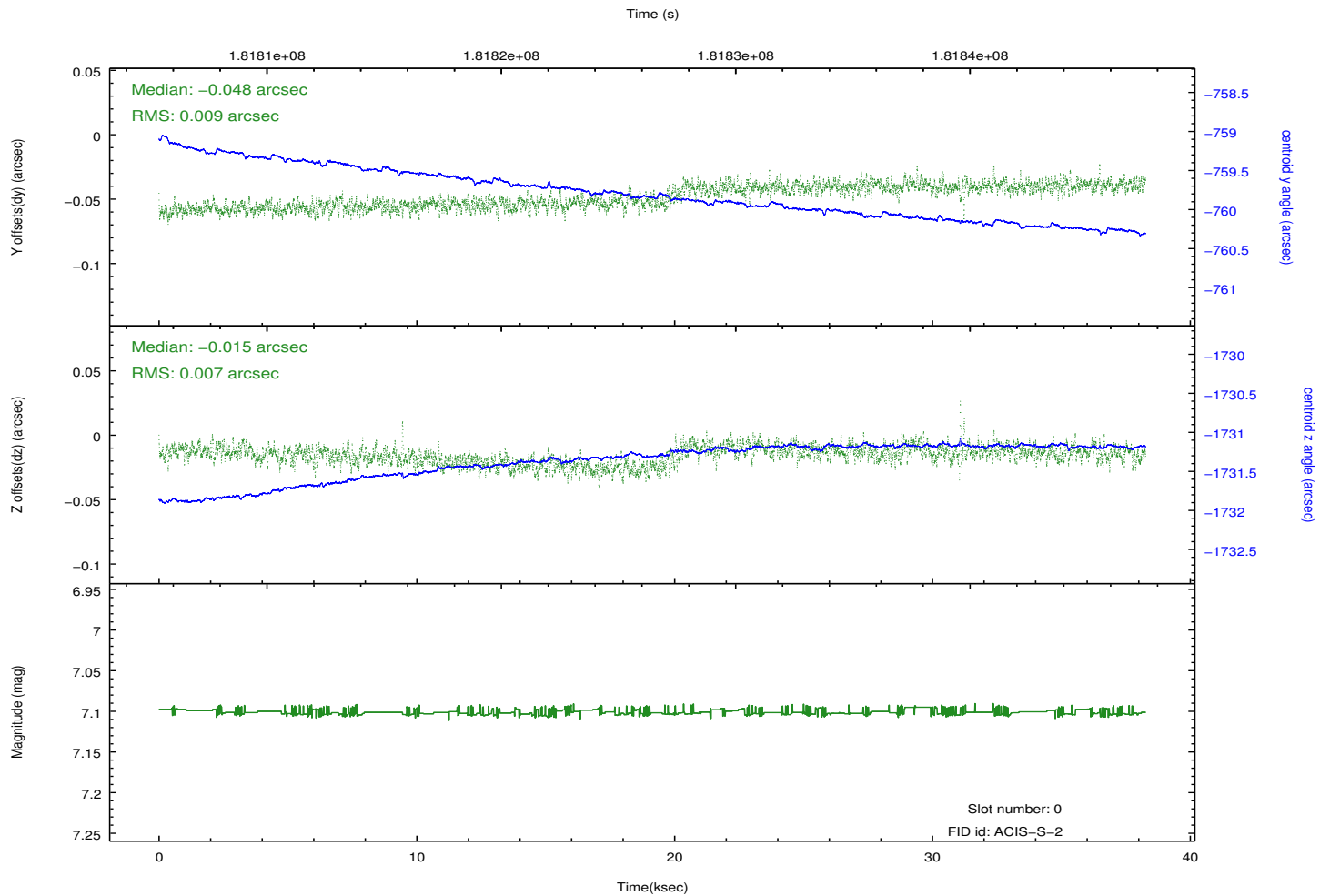
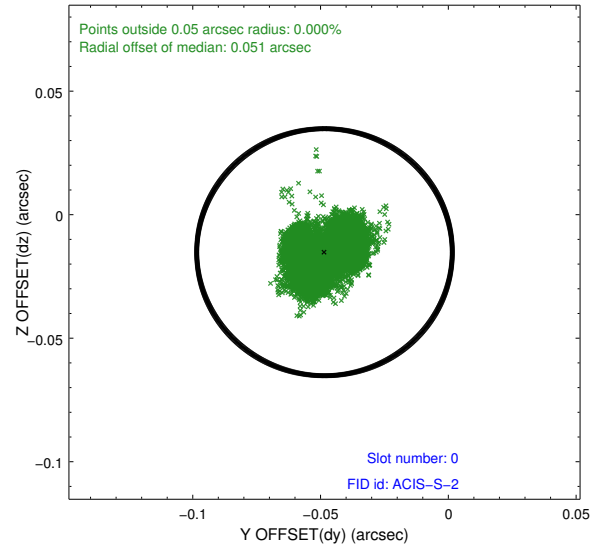
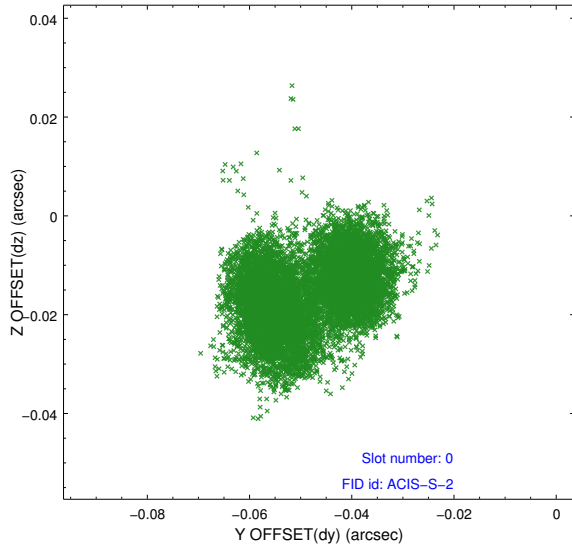


## 2.4.5 Slot 7

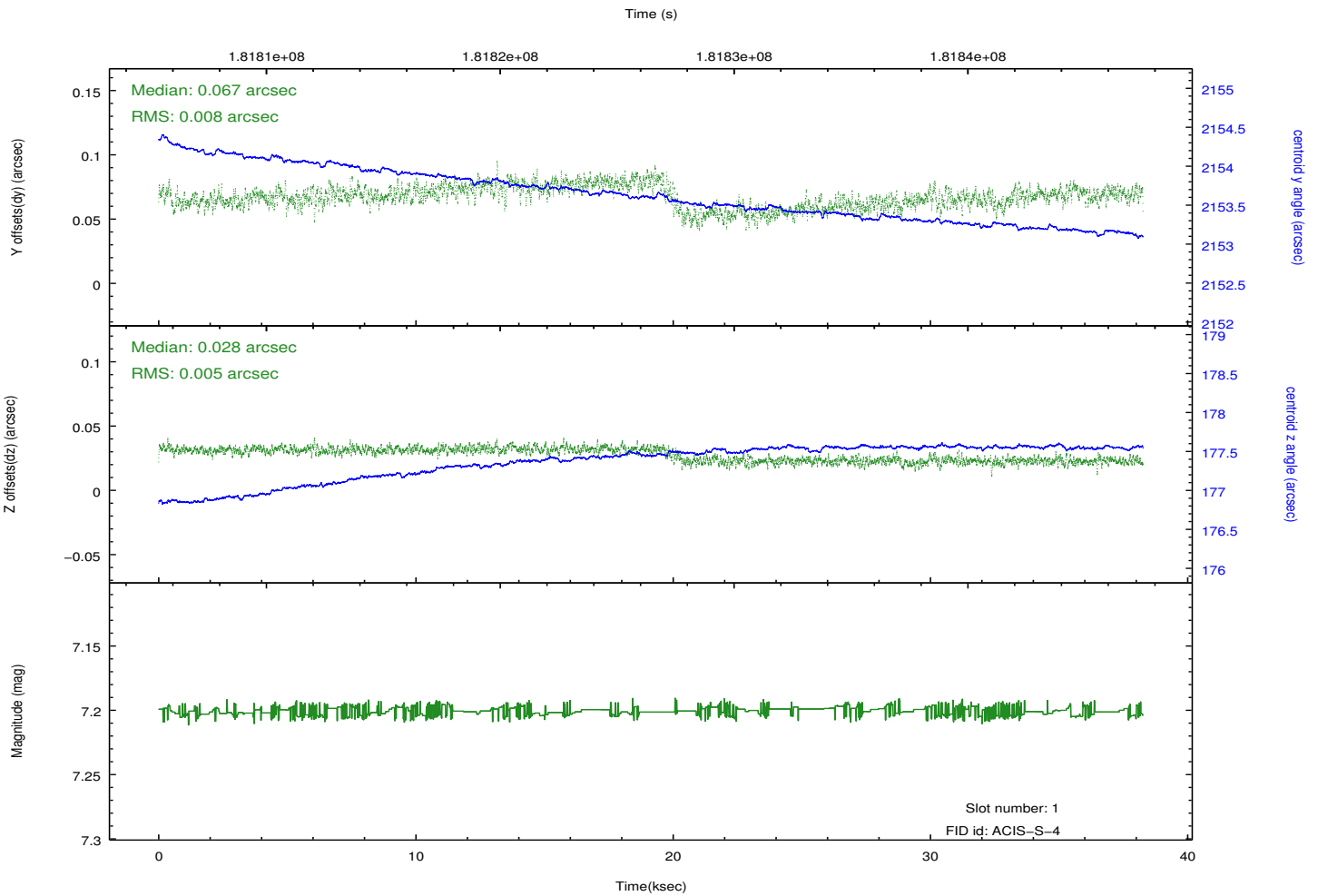
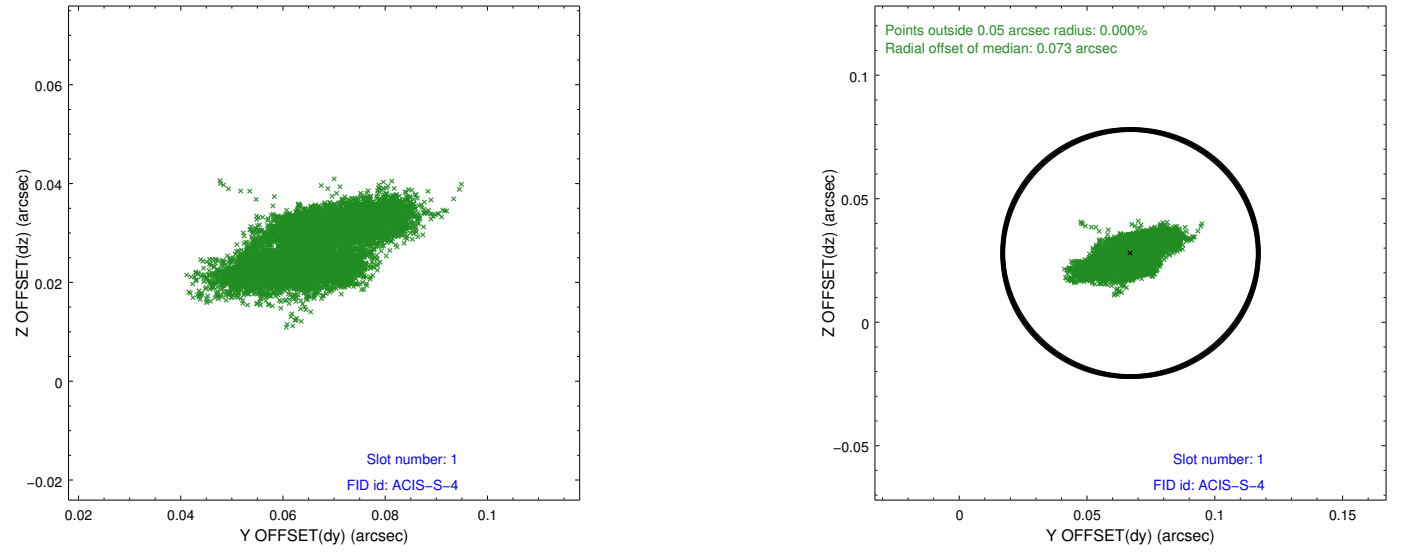


## 2.5 FID Slots

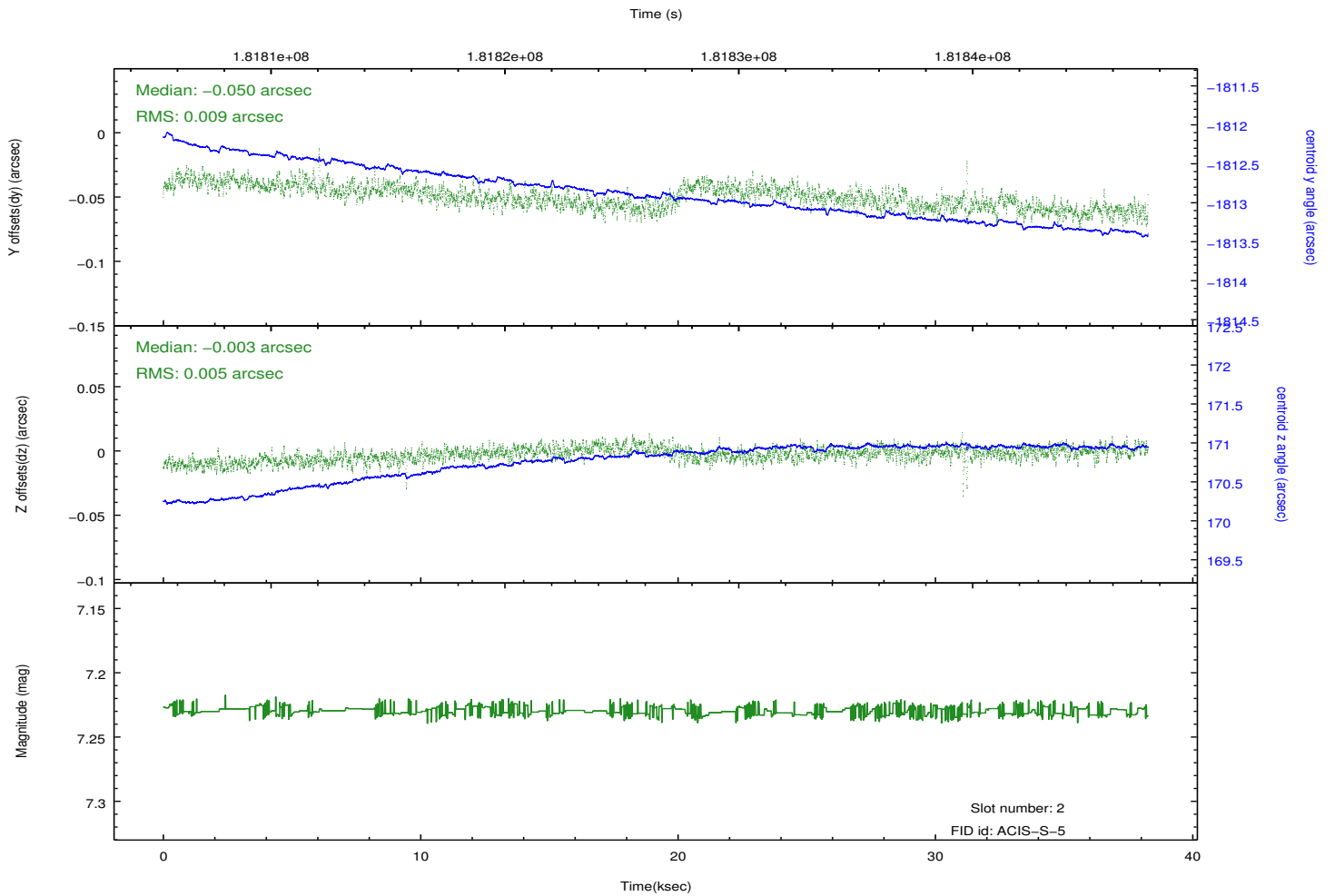
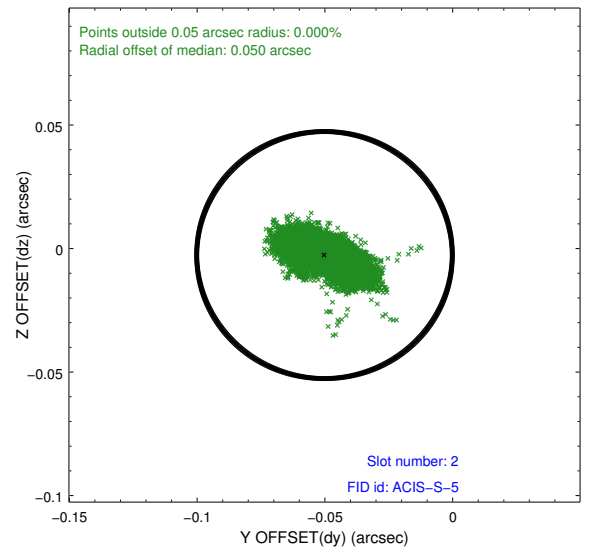
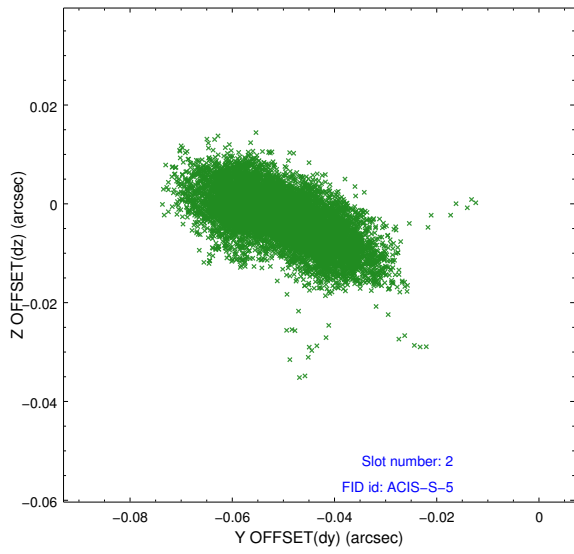
### 2.5.1 Slot 0



## 2.5.2 Slot 1

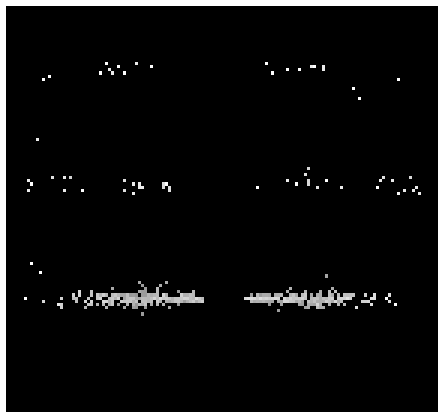


### 2.5.3 Slot 2

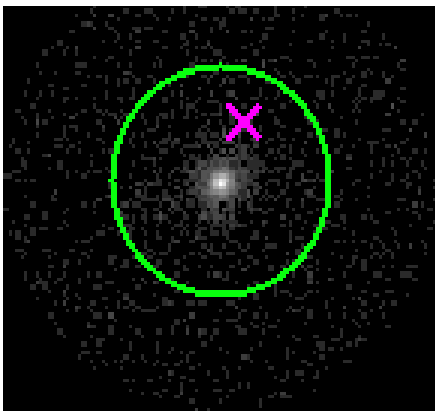


### 3 Gratings

#### 3.1 HEG Arm



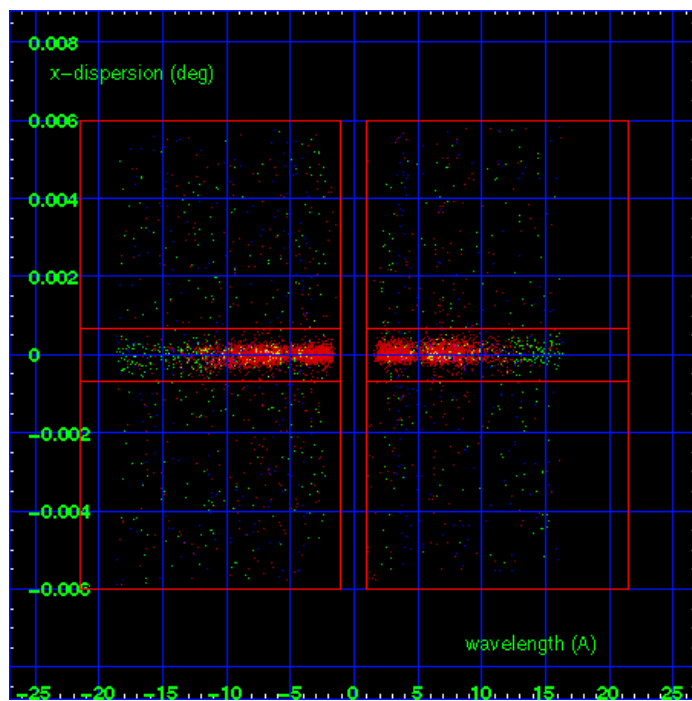
HEG Order Sort 123



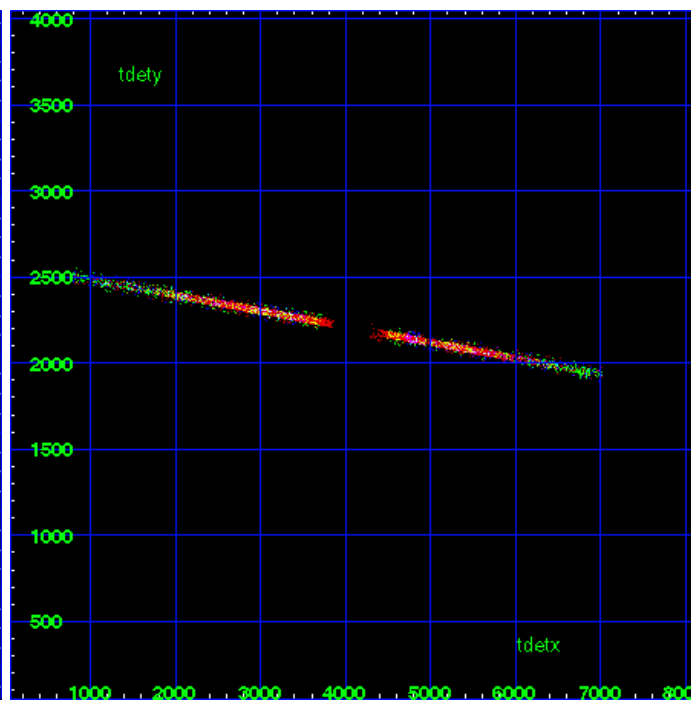
HEG Zero Order



HEG Order Sort ALL

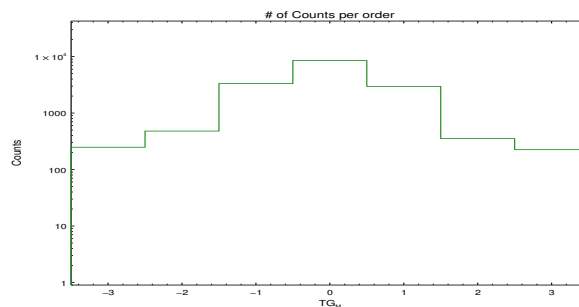


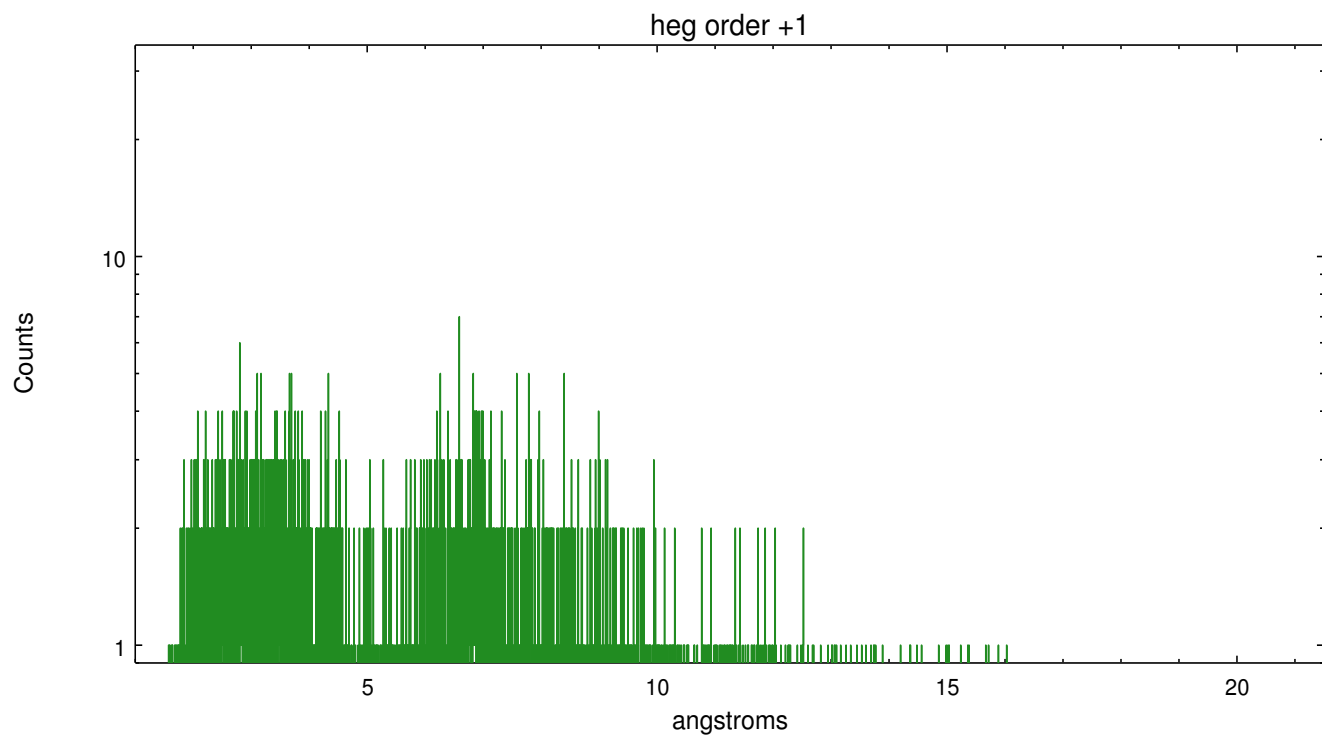
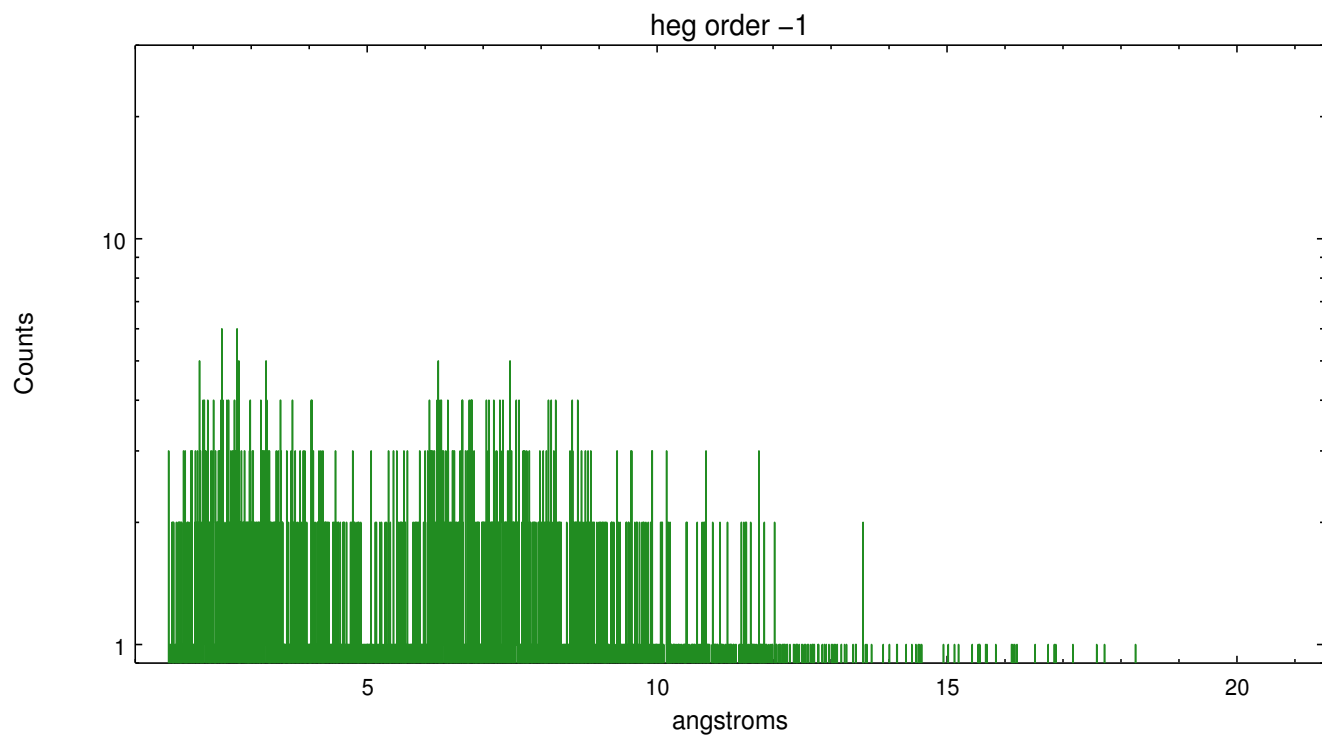
Spot Image HEG



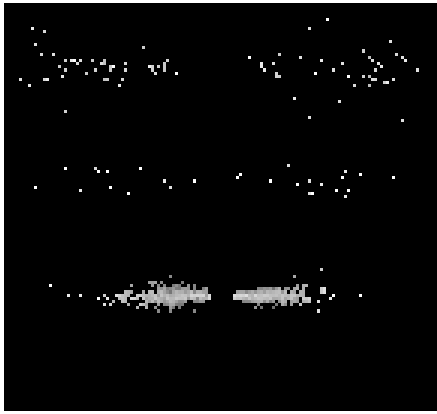
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	248	480	3332	8530	2971	354	225

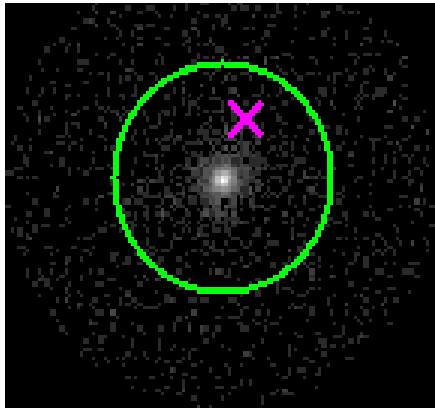




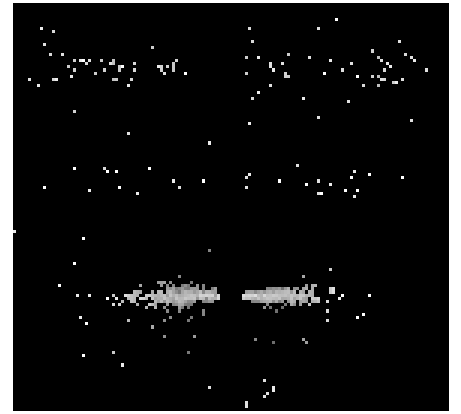
### 3.2 MEG Arm



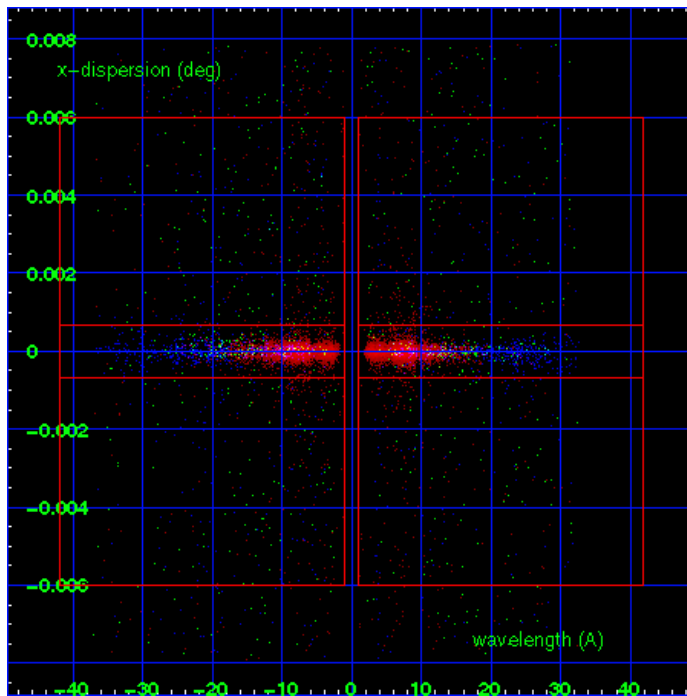
MEG Order Sort 123



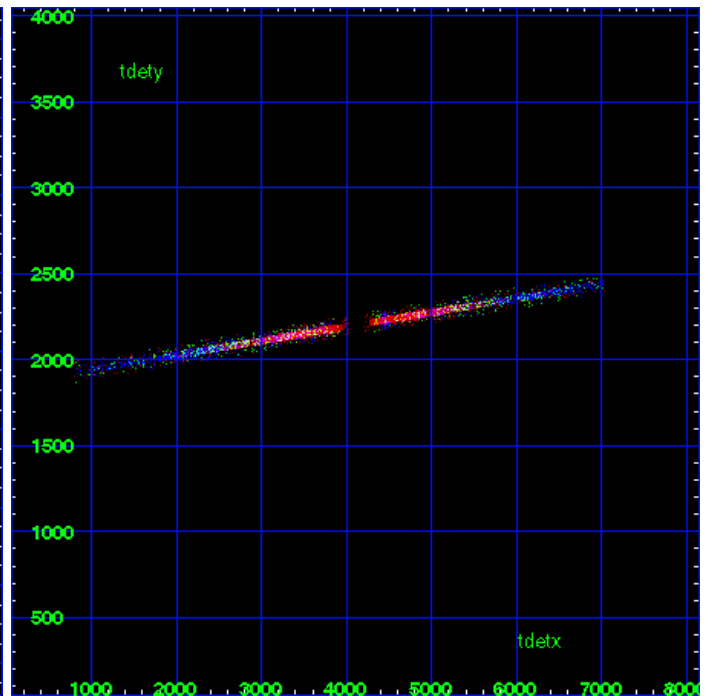
MEG Zero Order



MEG Order Sort ALL

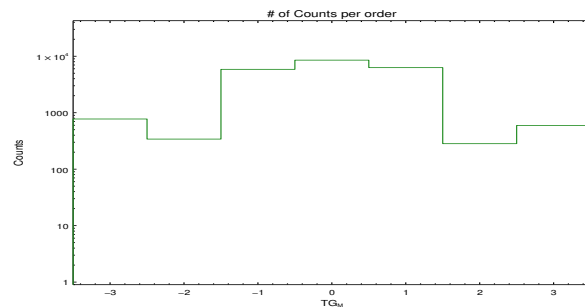


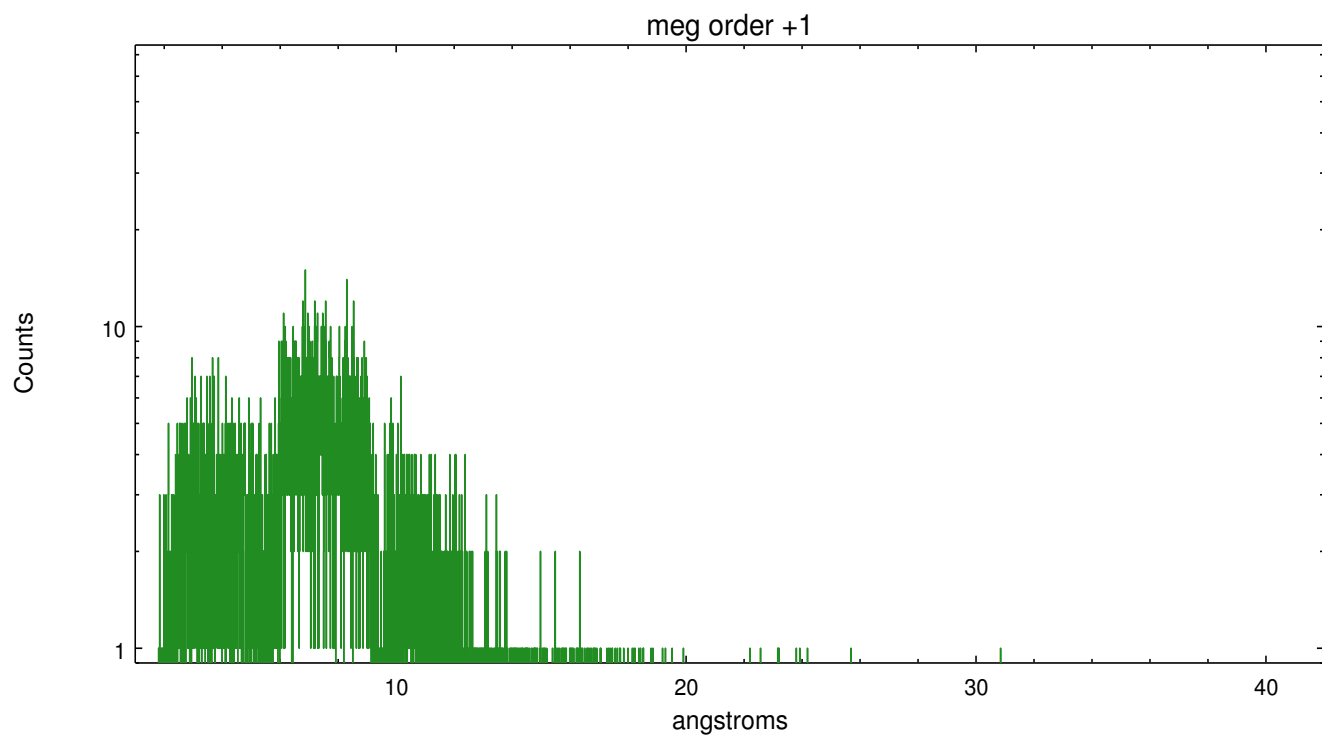
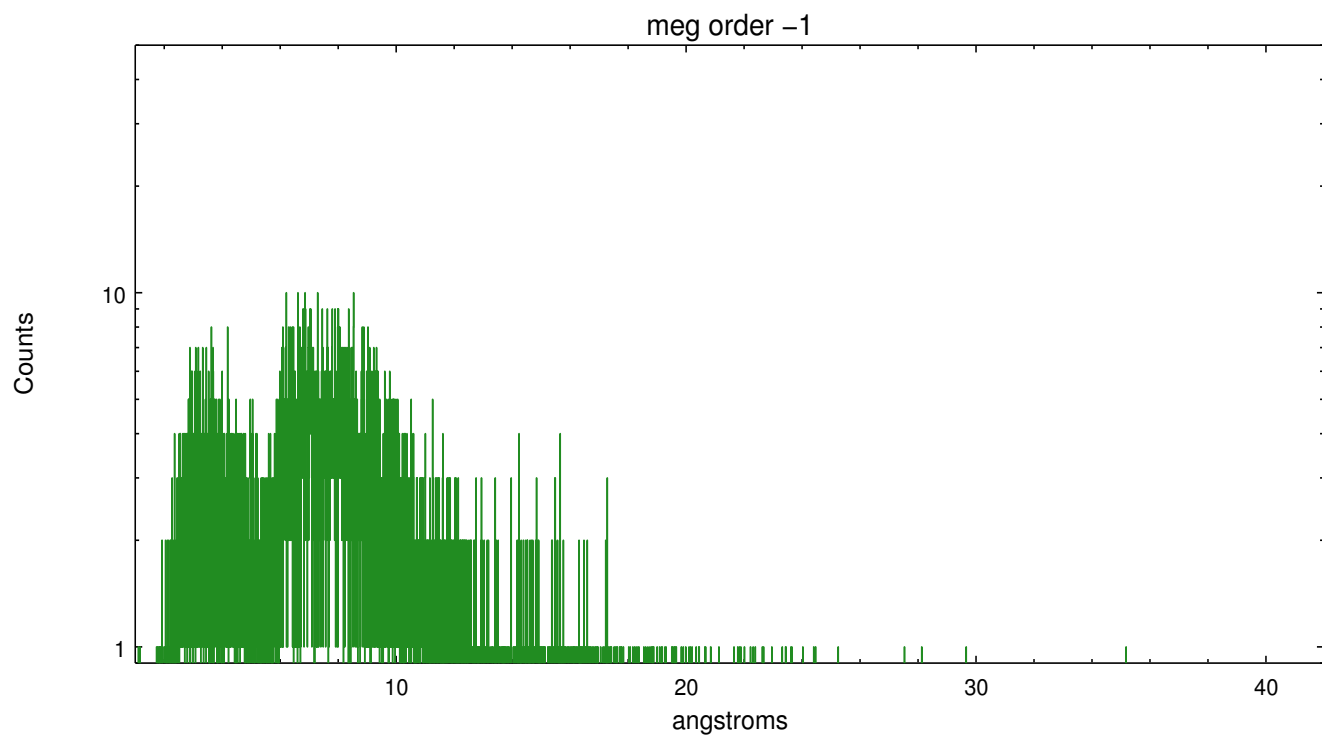
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	774	341	5862	8530	6289	283	595





## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.12.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	37.66

### A.2 Comments