

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 2304 - L2 Version 3  
Chandra X-Ray Center

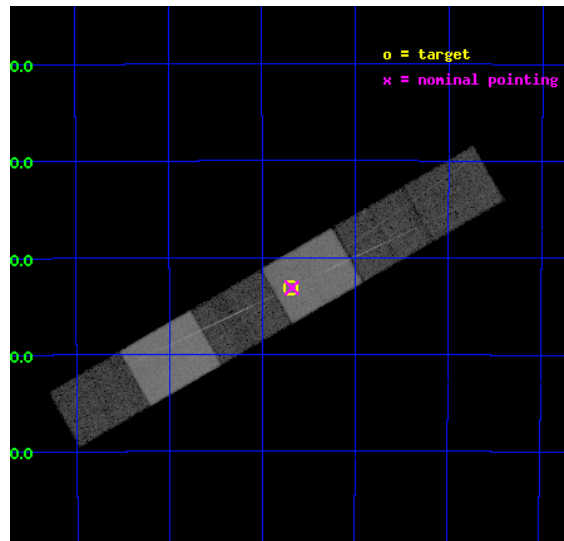
L2 Processing Date : Sep 7 2012

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# 1 Front

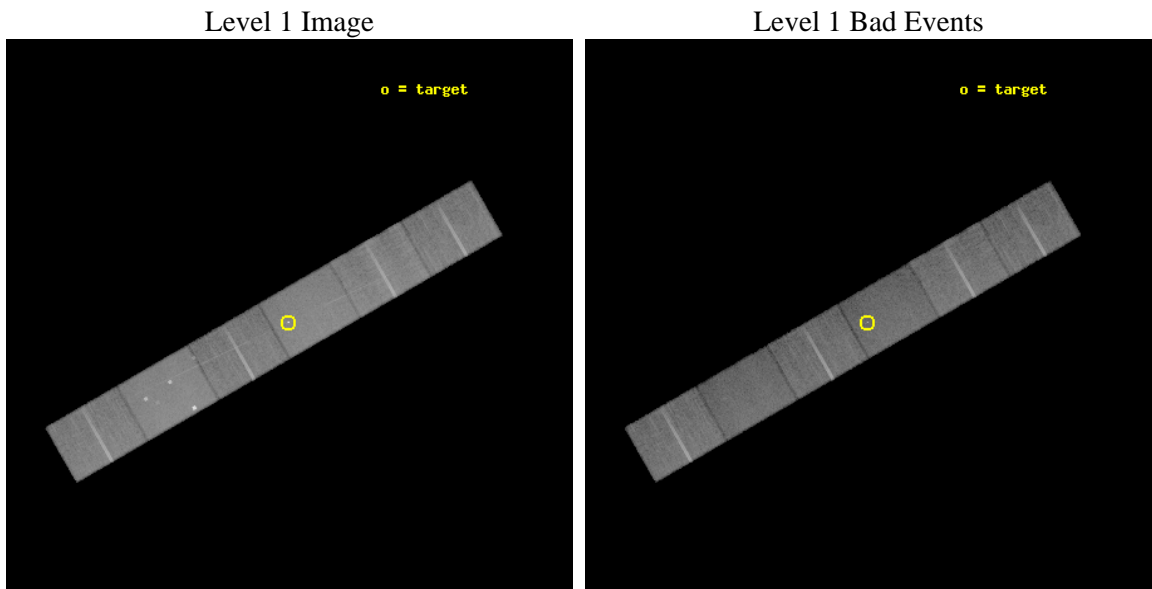
seq_num	700167	Sequence number
obs_id	2304	Observation id
title	HETG OBSERVATIONS OF EXTREME NARROW-LINE SEYFERT 1 GALAXIES	Propos
observer	Dr. Karen Leighly	Principal investigator
object	1H 0707-495	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	107.172917	Observer's specified target RA [deg]
dec_targ	-49.551611	Observer's specified target Dec [deg]
ra_nom	107.16979829654	Nominal RA [deg]
dec_nom	-49.552430232656	Nominal Dec [deg]
roll_nom	330.10116874861	Nominal Roll [deg]
revision	3	Processing version of data
ontime	34672.459039748	Sum of GTIs [s]
livetime	34112.468752703	Livetime [s]
ontime4	34672.459039778	Sum of GTIs [s]
ontime5	34672.459039778	Sum of GTIs [s]
ontime6	34675.0	Sum of GTIs [s]
ontime7	34672.459039748	Sum of GTIs [s]
ontime8	34672.459039778	Sum of GTIs [s]
ontime9	34675.0	Sum of GTIs [s]
l2events	243237	Number of level 2 events



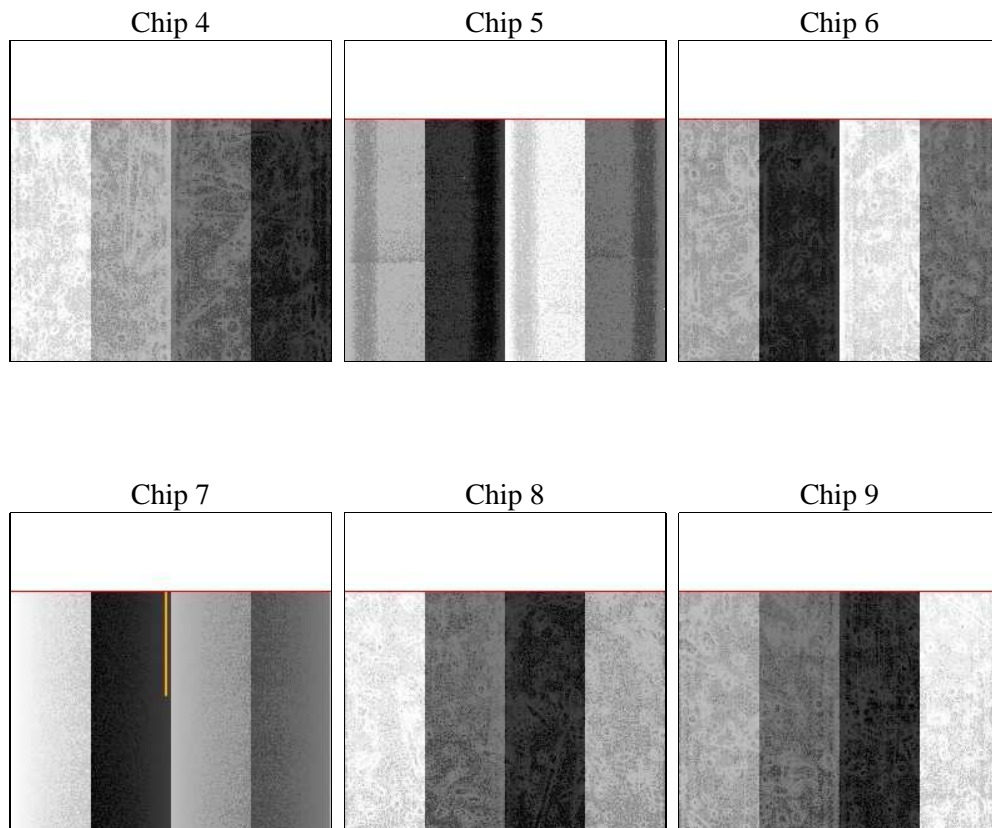
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	34767.013000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	34672.459039748	Sum of GTIs [s]
caldsver	4.5.1.1	&#160	ontime4	34672.459039778	Sum of GTIs [s]
date	2012-09-07T06:46:47	Date and time of file creation	ontime5	34672.459039778	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	34675.0	Sum of GTIs [s]
			ontime7	34672.459039748	Sum of GTIs [s]
			ontime8	34672.459039778	Sum of GTIs [s]
			ontime9	34675.0	Sum of GTIs [s]
			l1events	1126348	Number of level 1 events

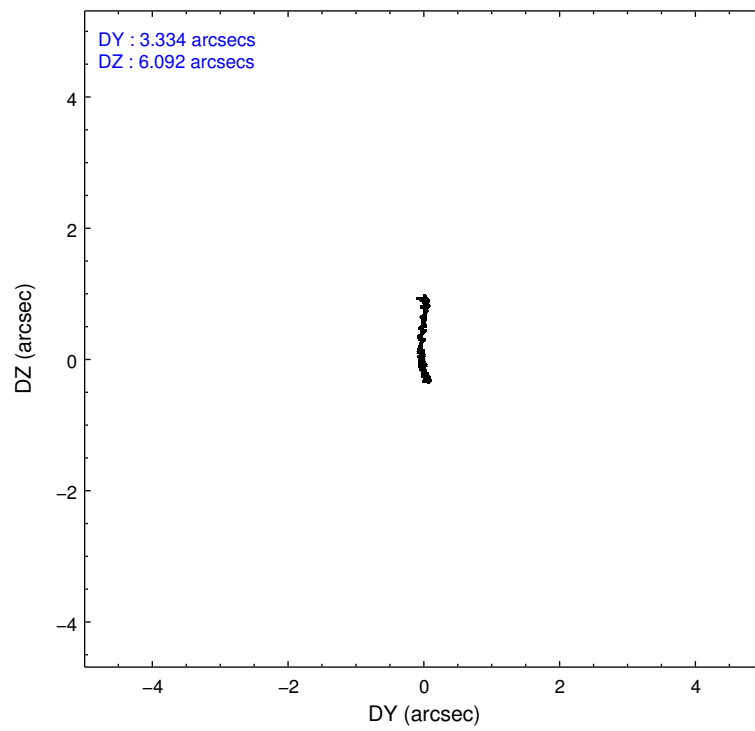
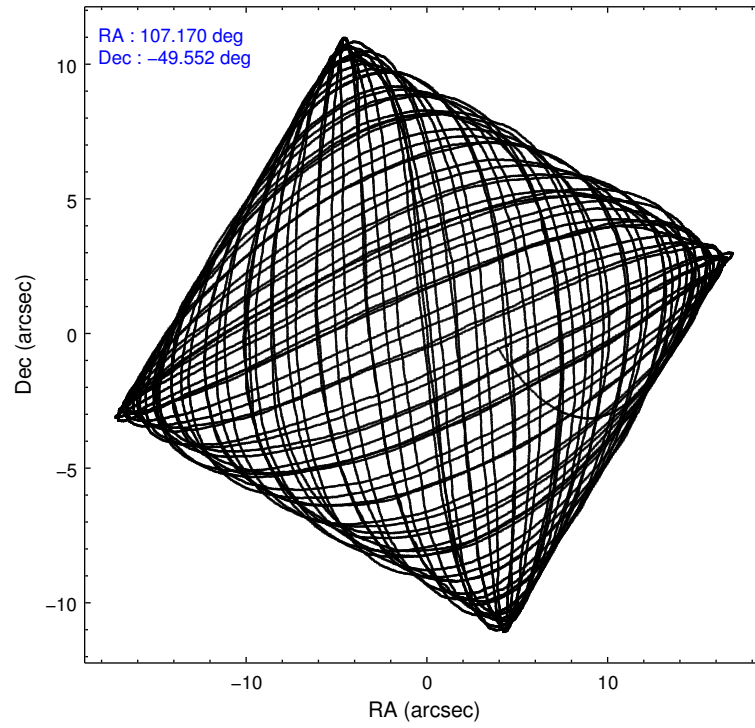
### 2.1.4 Events

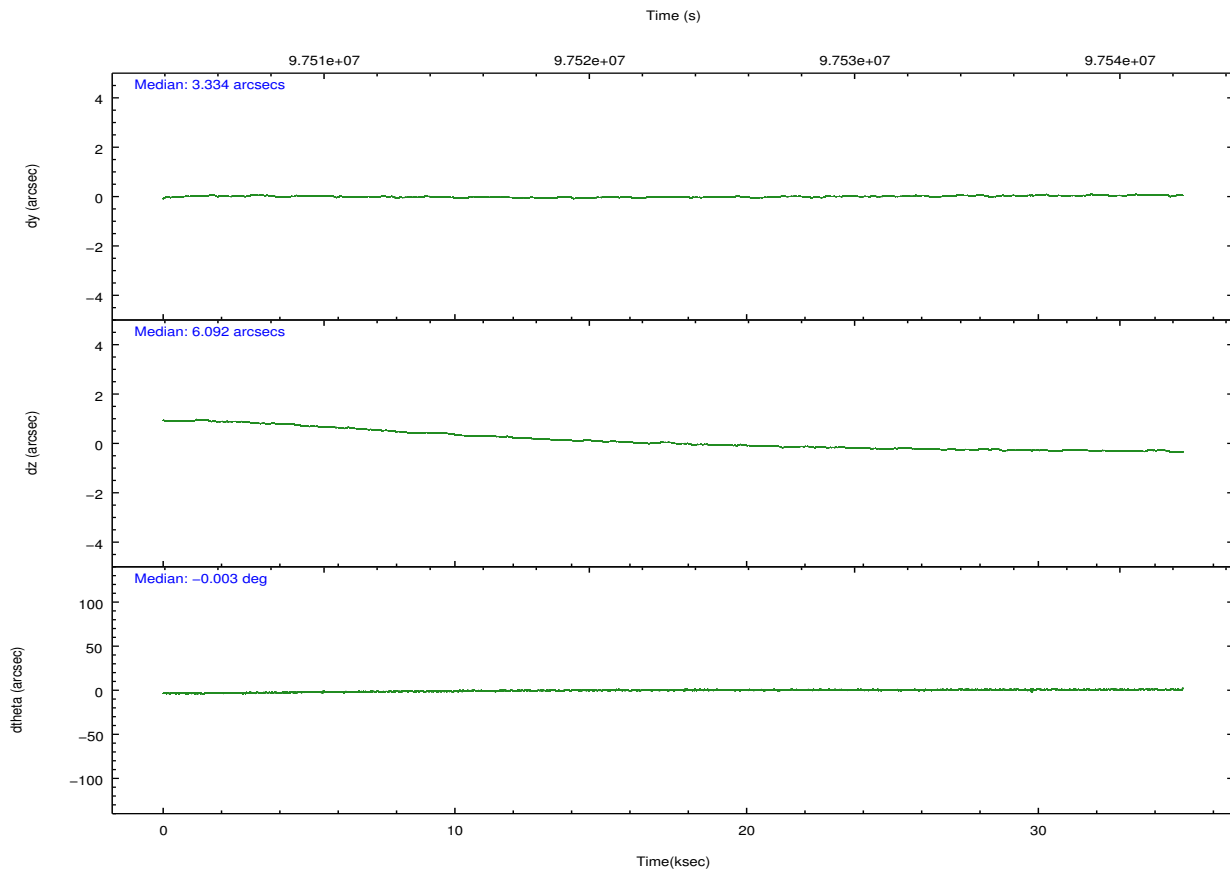
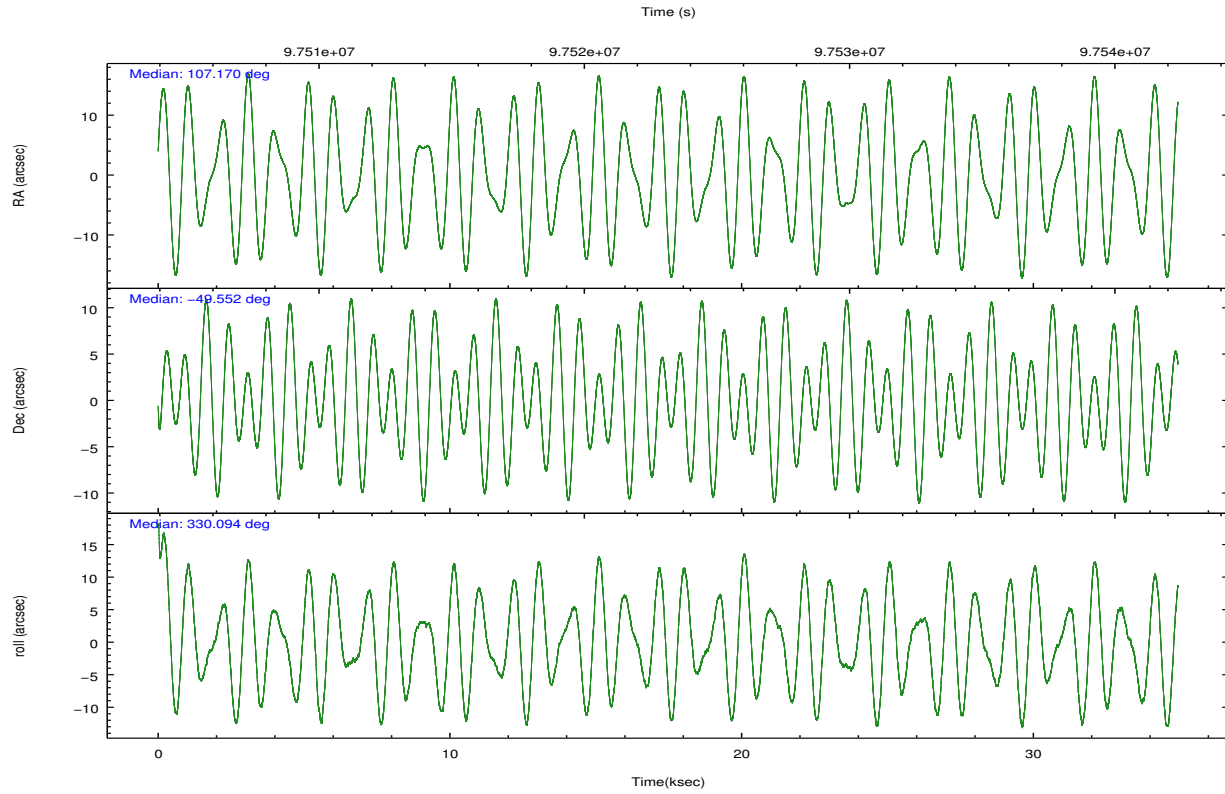
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	178481	228101	160640	202202	200436	156488	grade 0 events	7495	23439	8165	8815	12526	7424
rejected events	159871	116141	141387	115694	161532	137955		4%	10%	5%	4%	6%	4%
rejected %	89%	50%	88%	57%	80%	88%	grade 1 events	79	325	70	225	84	69
								0%	0%	0%	0%	0%	0%
							grade 2 events	4250	27522	3721	17403	8255	3652
								2%	12%	2%	8%	4%	2%
							grade 3 events	1895	5271	1919	8155	4093	1983
								1%	2%	1%	4%	2%	1%
							grade 4 events	1915	5087	2008	8166	3870	1958
								1%	2%	1%	4%	1%	1%
							grade 5 events	5460	17505	6321	19132	8222	6392
								3%	7%	3%	9%	4%	4%
							grade 6 events	3056	50656	3446	43986	10163	3521
								1%	22%	2%	21%	5%	2%
							grade 7 events	154331	98296	134990	96320	153223	131489
								86%	43%	84%	47%	76%	84%

## 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	107.127692	107.1697982965359	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-49.552719	-49.55243023265575	Subarray start row	1	1
[deg] Pointing Roll	329.912492	330.1011687486145	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)	97505869.184000	97504907.78423899			
Observation start date	2001-02-02T12:56:45	2001-02-02T12:41:47			
[s] Observation end time (MET)	97540636.184000	97540950.885628			
Observation end date	2001-02-02T22:36:12	2001-02-02T22:42:30			
Read mode	TIMED	TIMED			

## 2.3 Aspect



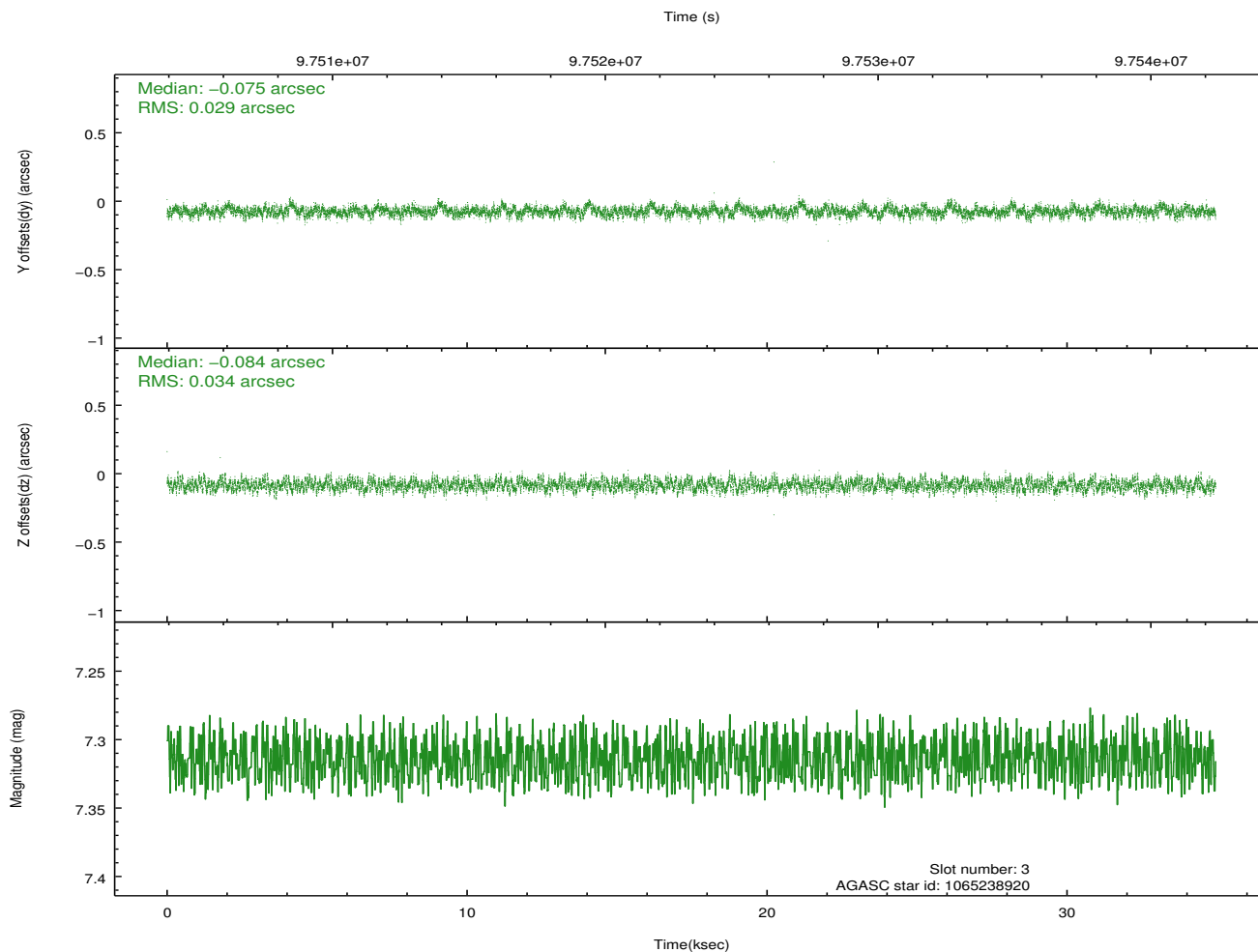
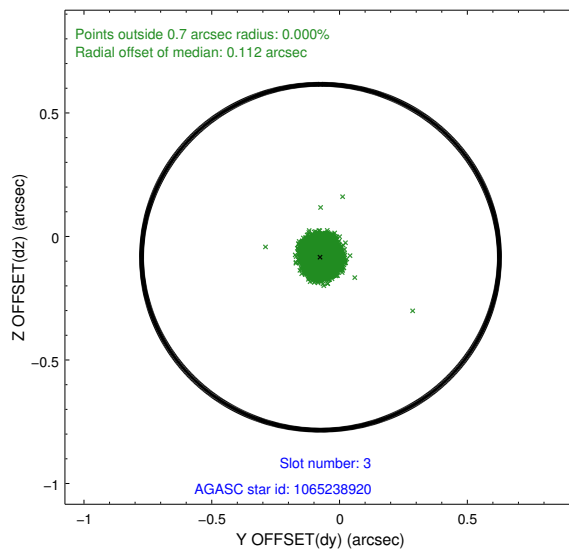
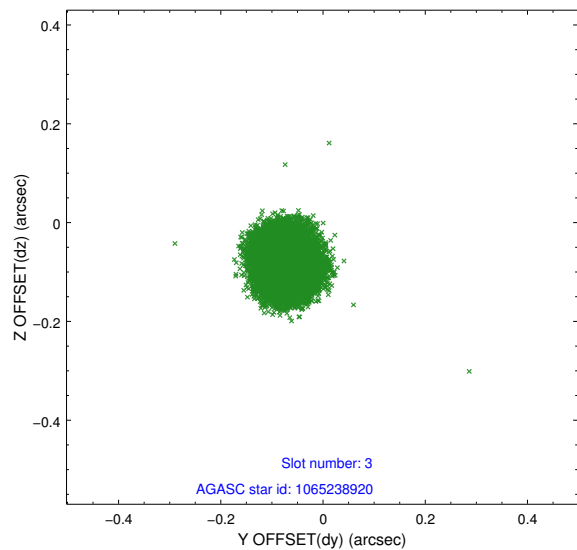


### Slot Statistics

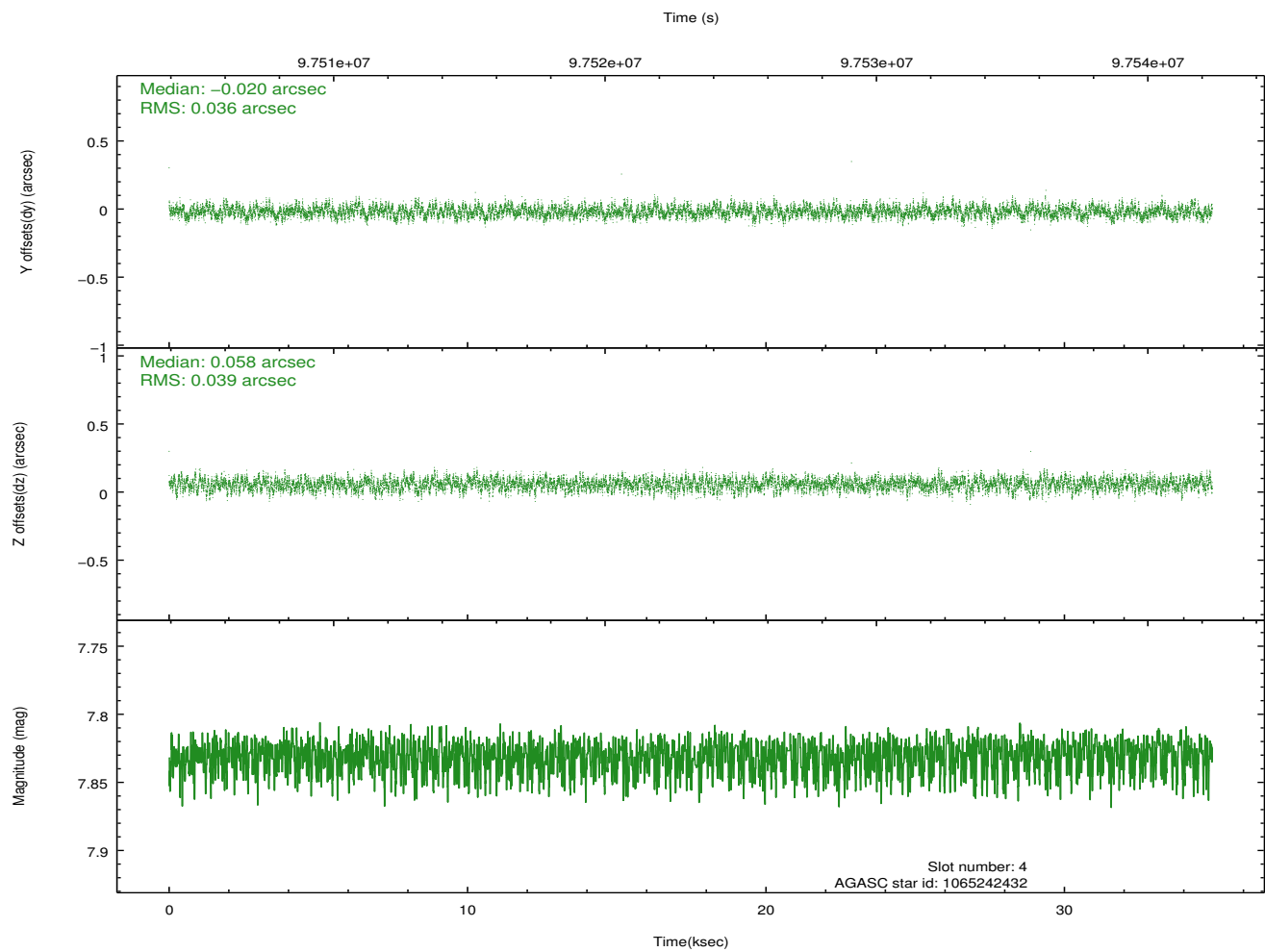
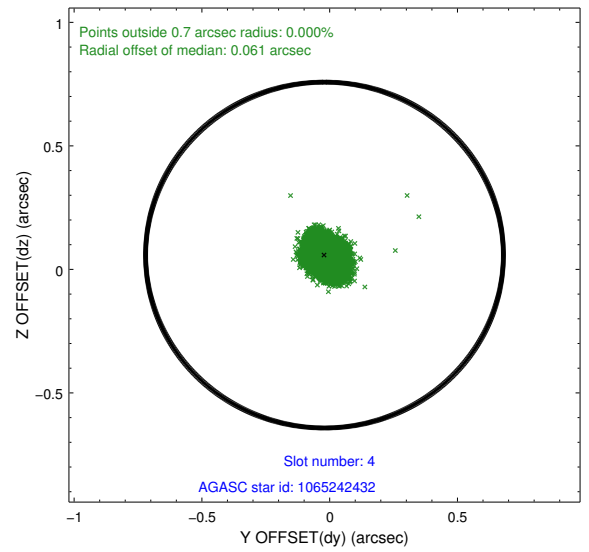
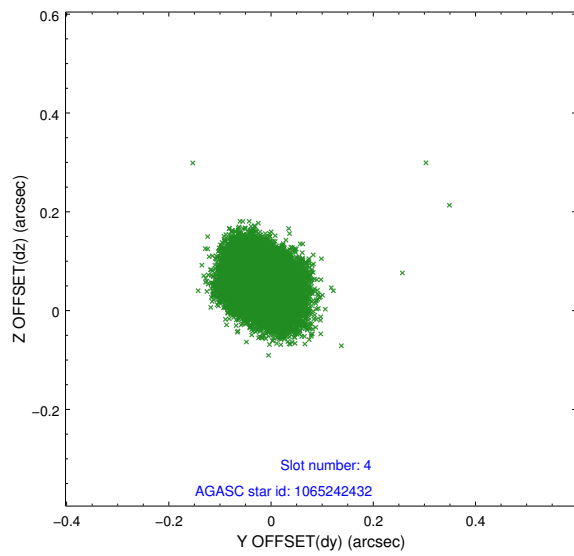
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	8524	-0.019	-0.051	0.010	0.021	0.000000	0.000000	-755.82	-1789.49
1	FID	ACIS-S-4	7.19	8524	-0.012	0.023	0.007	0.011	0.000000	0.000000	2157.47	118.98
2	FID	ACIS-S-5	7.24	8525	0.001	0.037	0.012	0.023	0.000000	0.000000	-1808.57	112.75
3	GUIDE	1065238920	7.31	17051	-0.075	-0.084	0.048	0.076	108.105033	-49.327001	1583.86	1840.11
4	GUIDE	1065242432	7.83	17046	-0.020	0.058	0.056	0.090	107.094192	-50.100313	921.68	-1744.12
5	GUIDE	1065234432	8.04	17040	-0.092	0.047	0.070	0.110	107.563286	-49.938653	1571.30	-698.44
6	GUIDE	1065109712	8.64	17047	0.085	0.005	0.058	0.094	106.590083	-49.796179	-639.03	-1388.51
7	GUIDE	1065237304	8.78	17045	0.107	-0.025	0.074	0.119	106.981941	-48.917125	-1445.52	1806.57

## 2.4 Star Slots

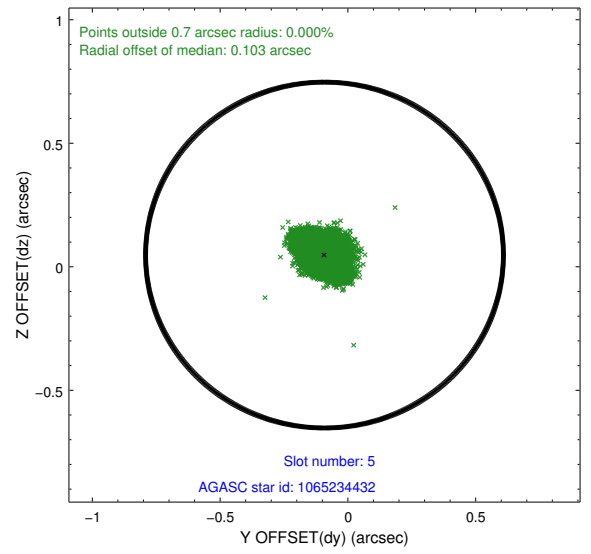
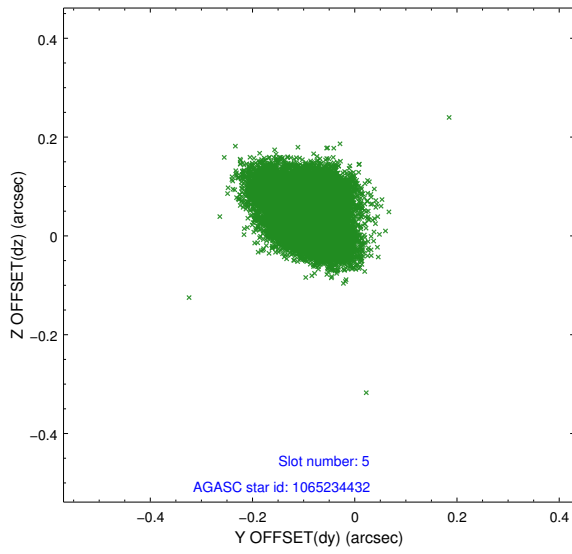
### 2.4.1 Slot 3



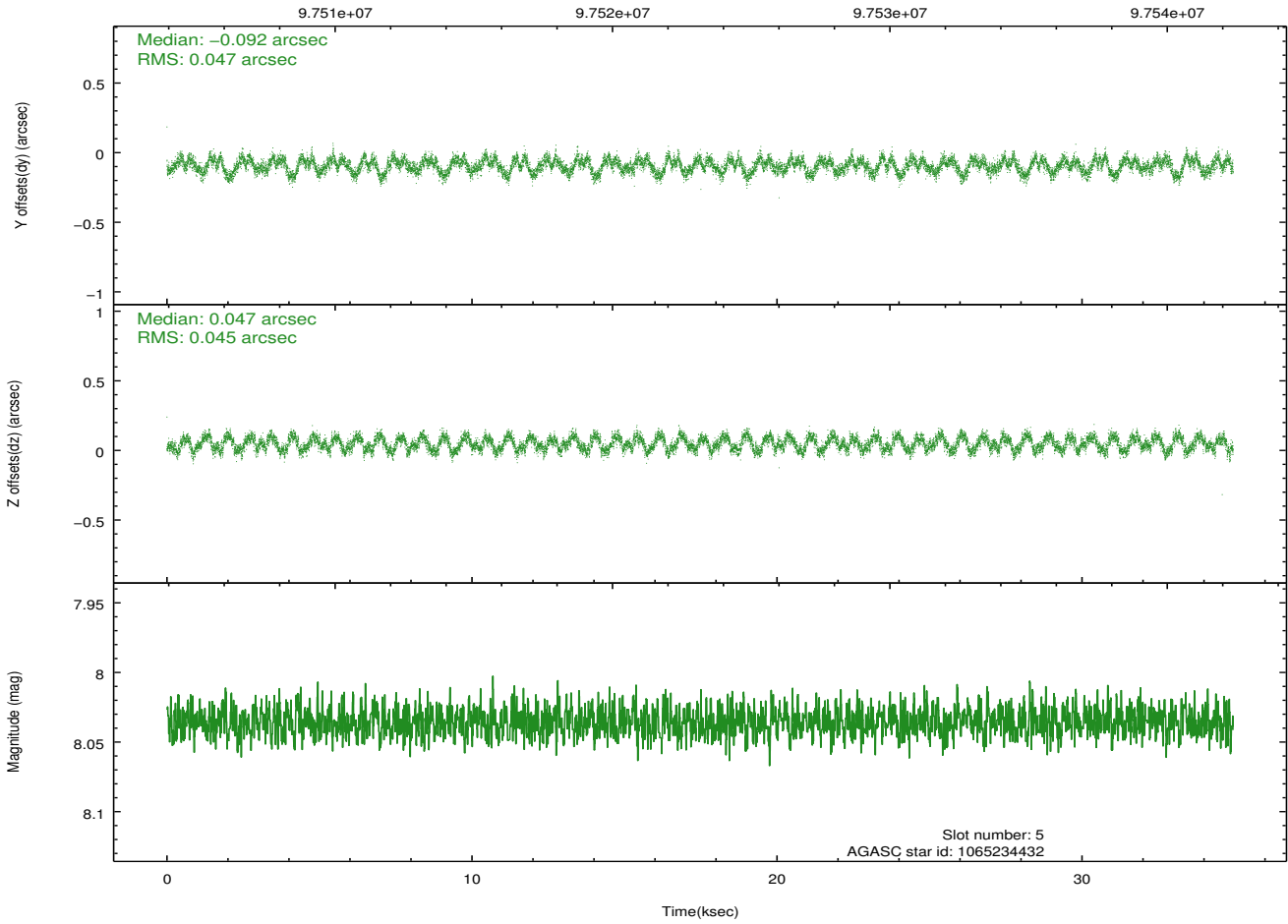
## 2.4.2 Slot 4



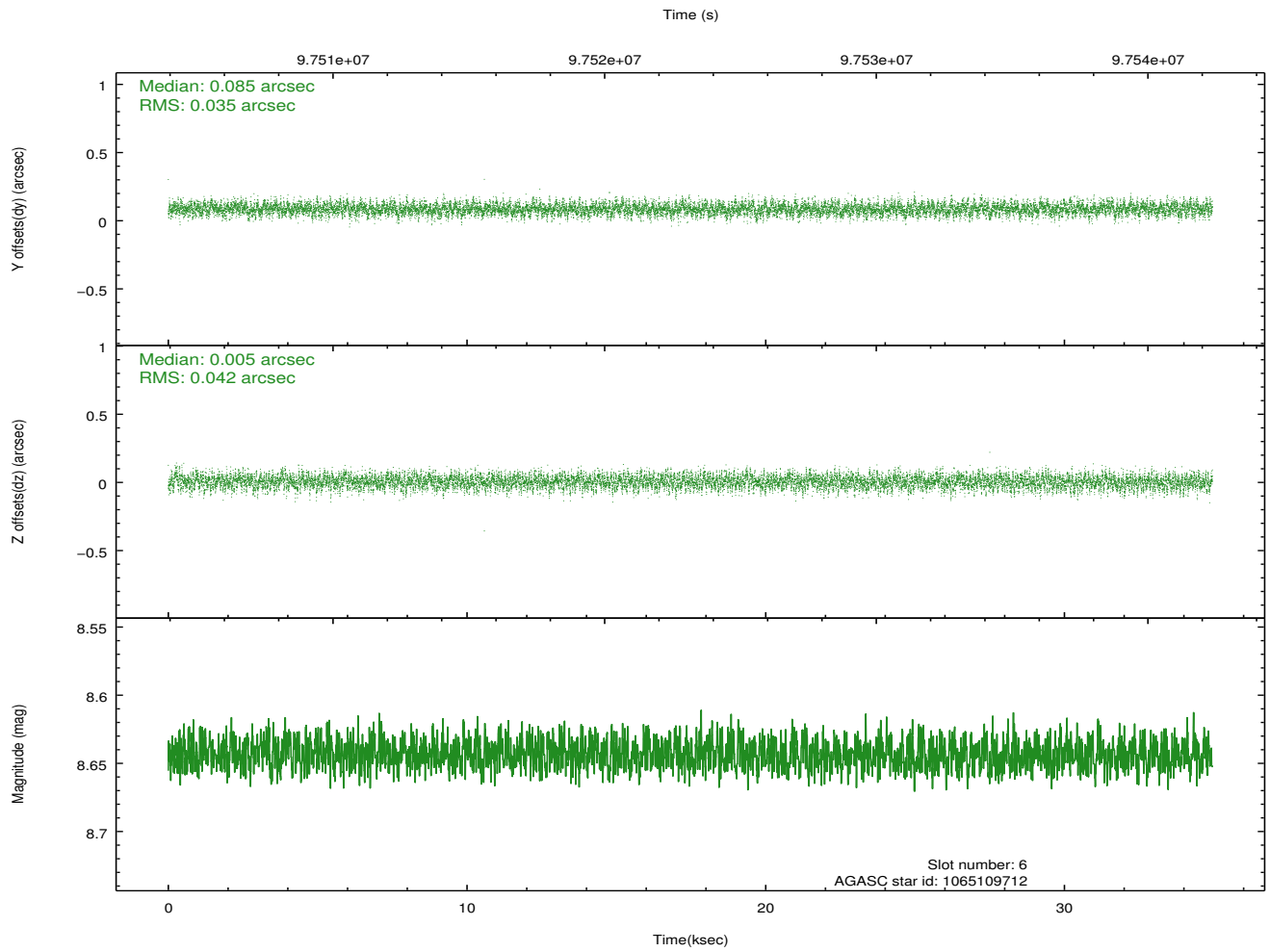
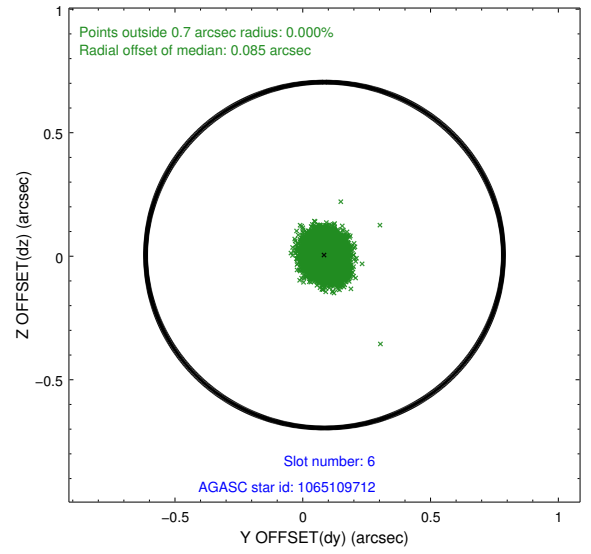
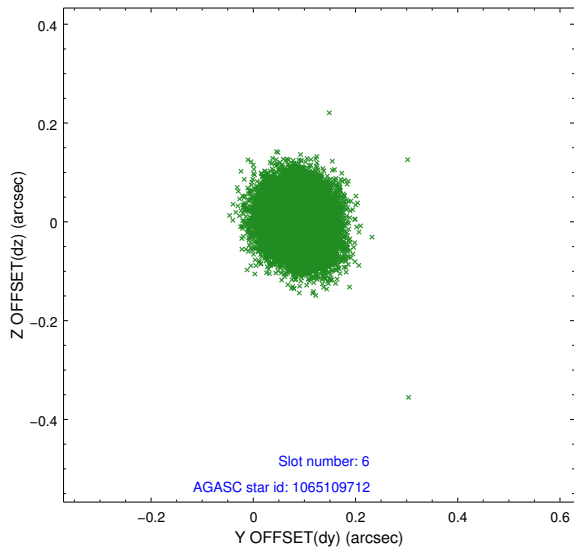
### 2.4.3 Slot 5



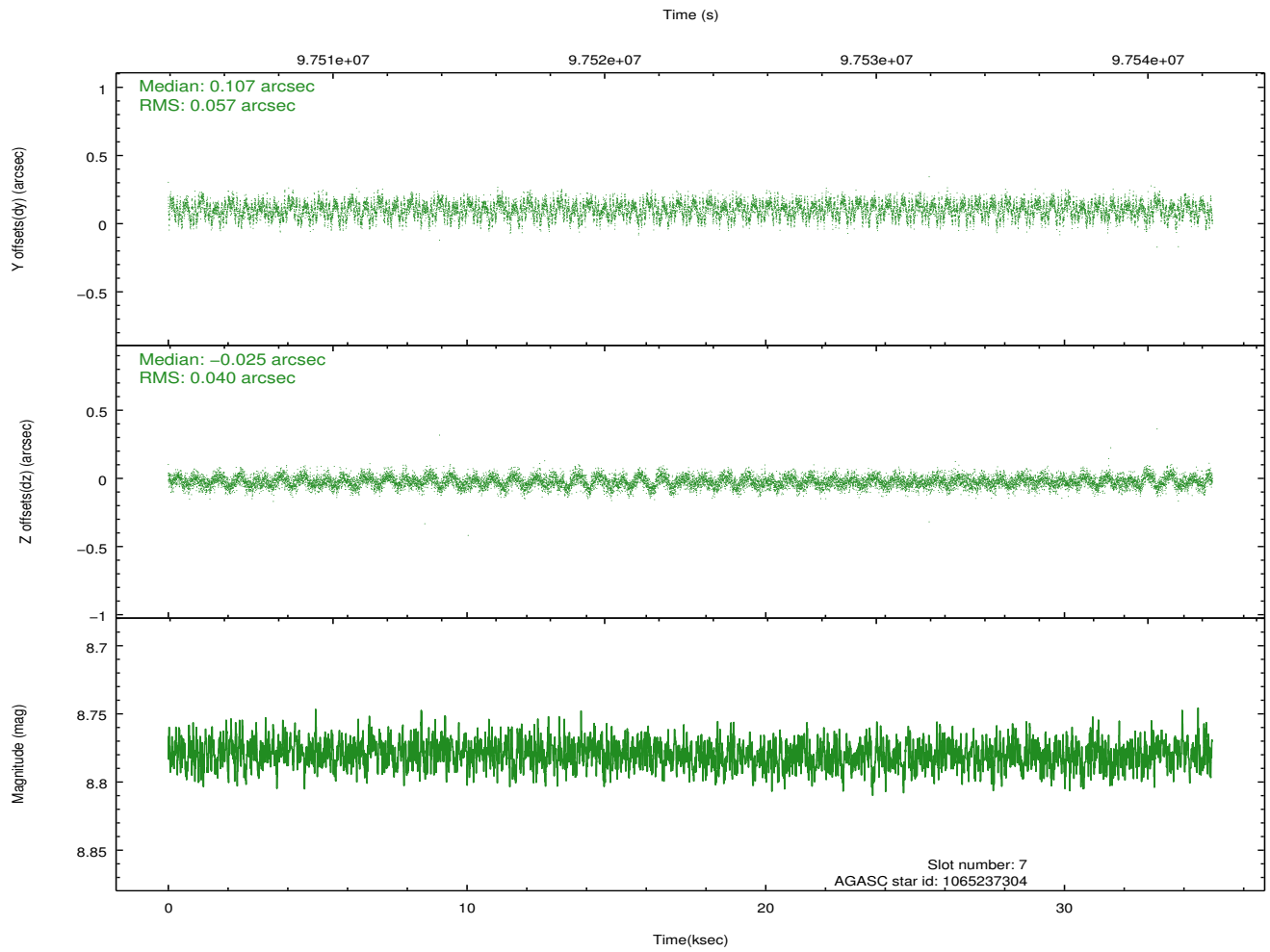
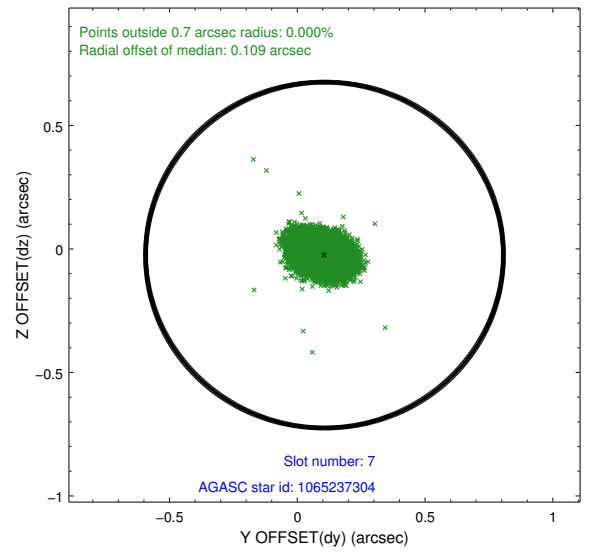
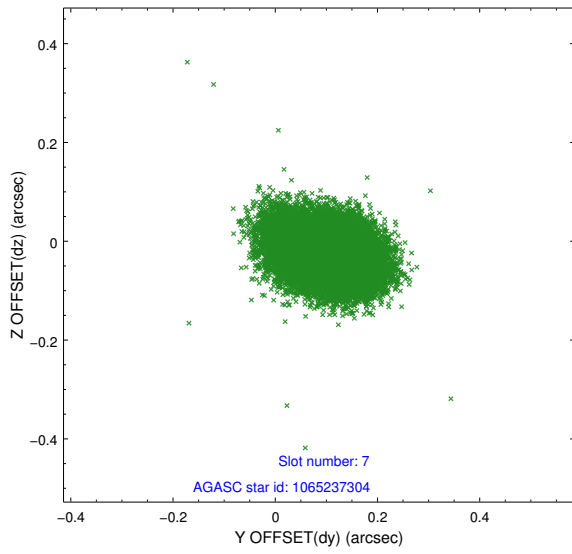
Time (s)



### 2.4.4 Slot 6

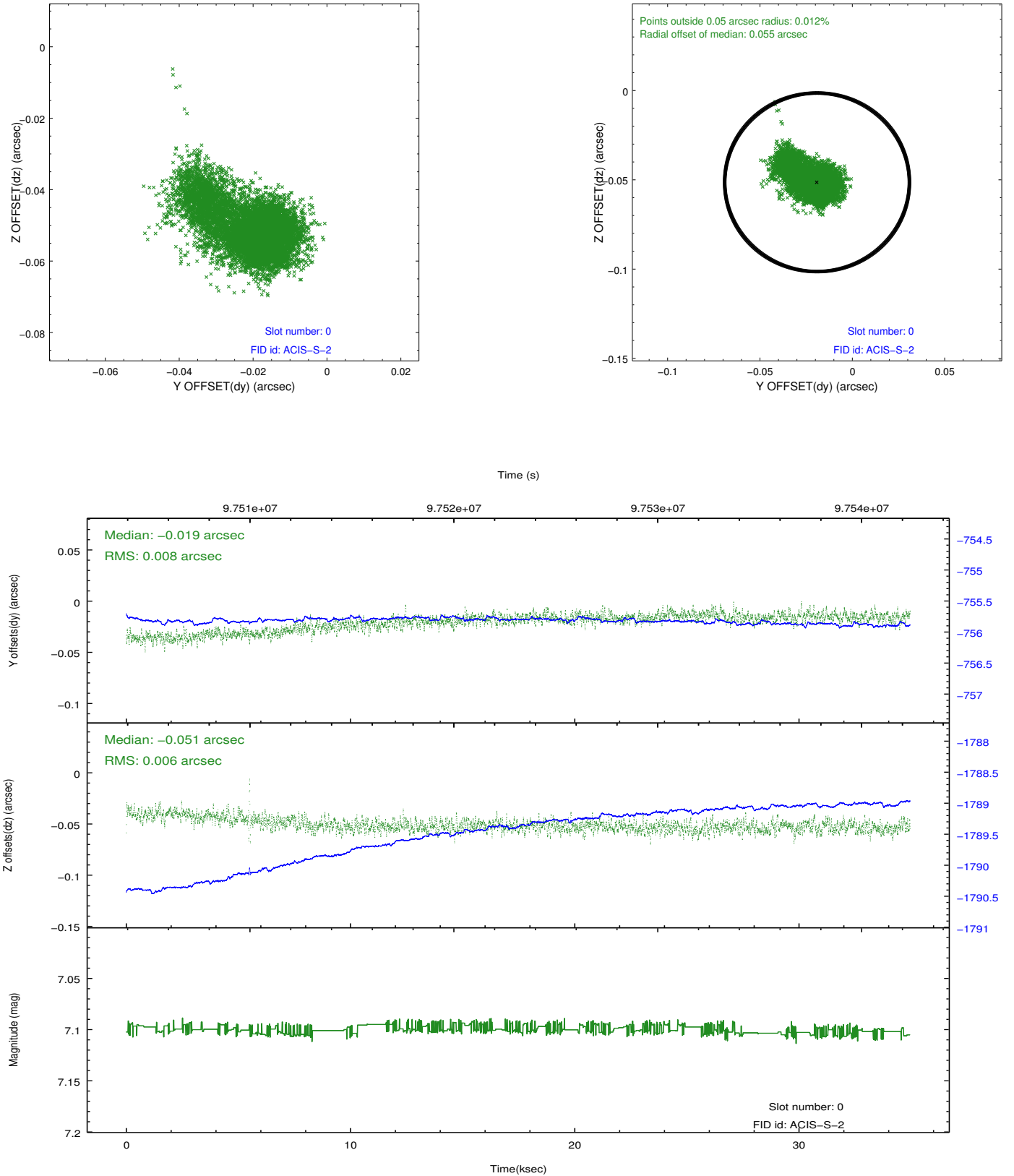


## 2.4.5 Slot 7

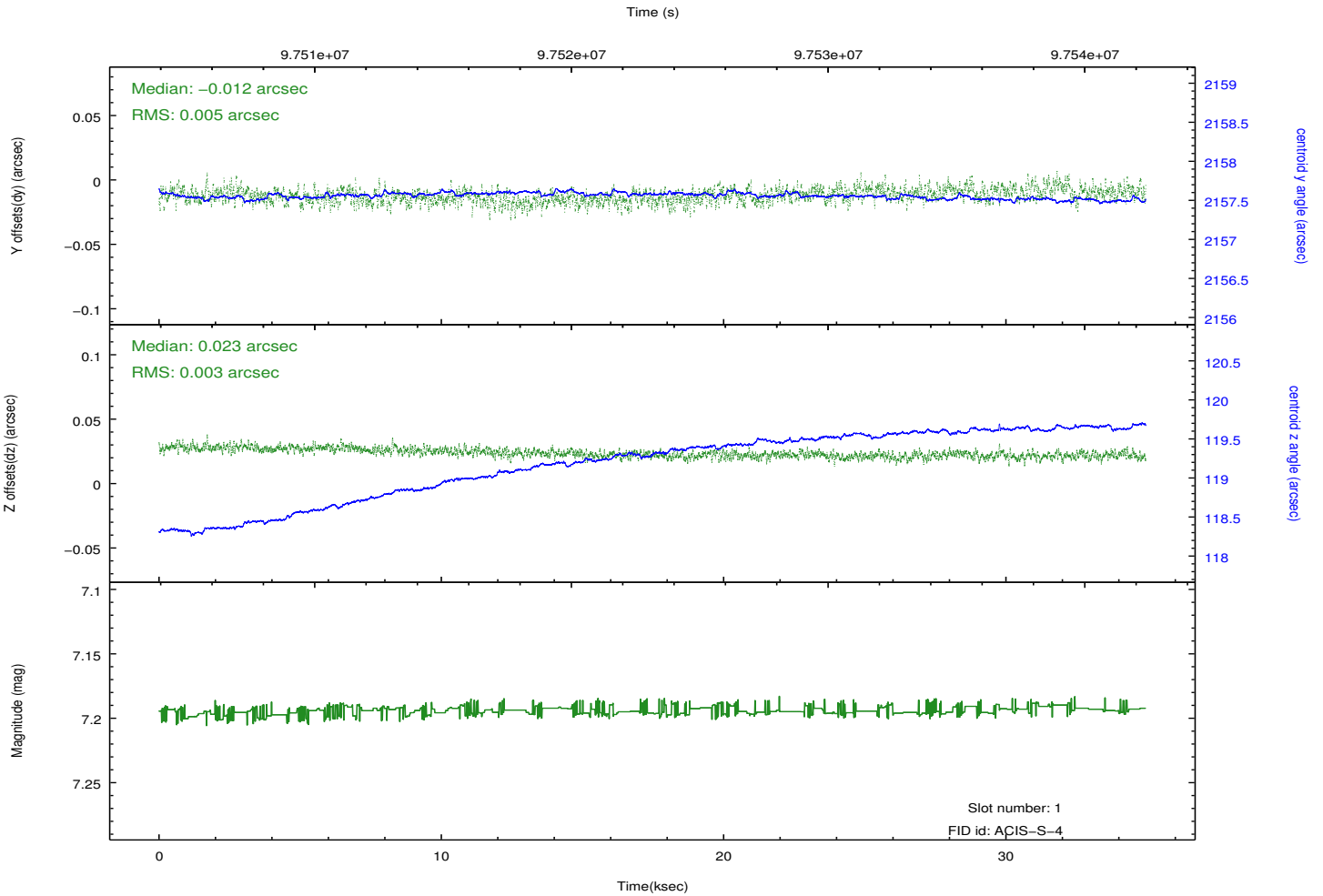
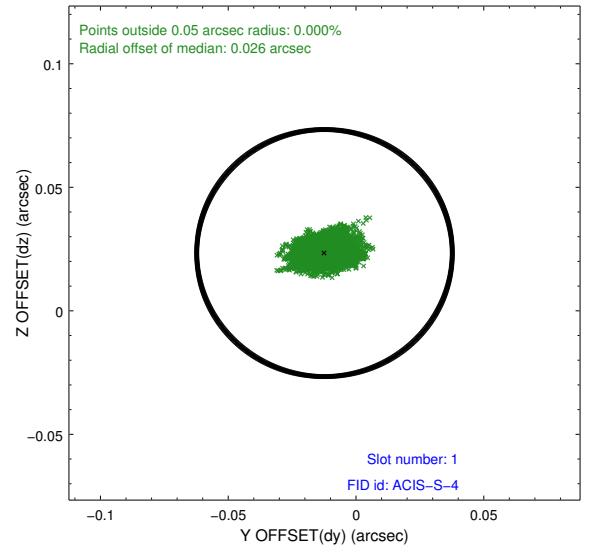
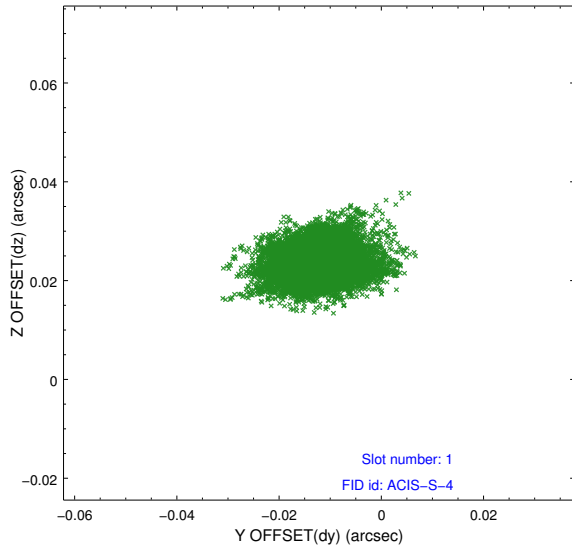


## 2.5 FID Slots

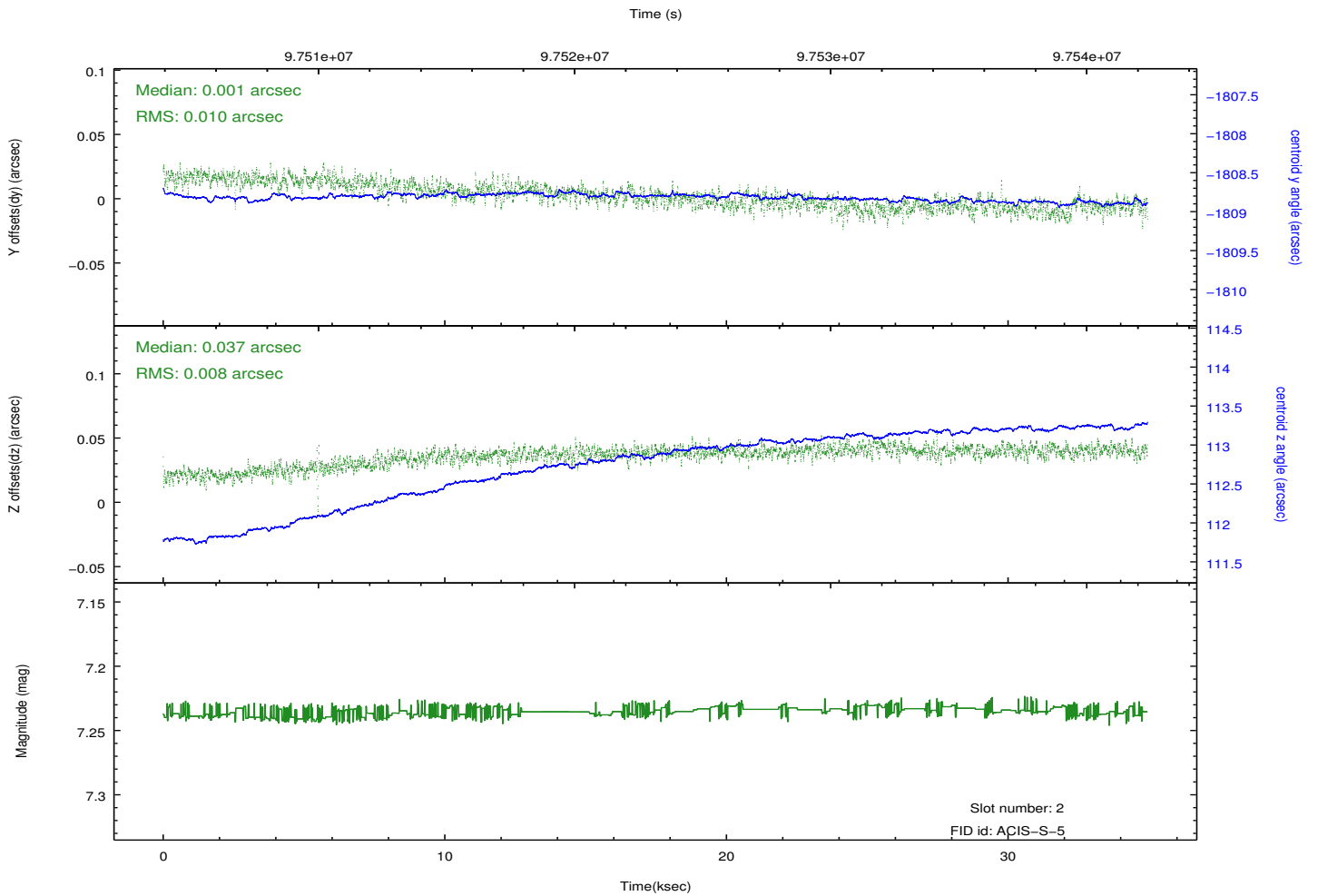
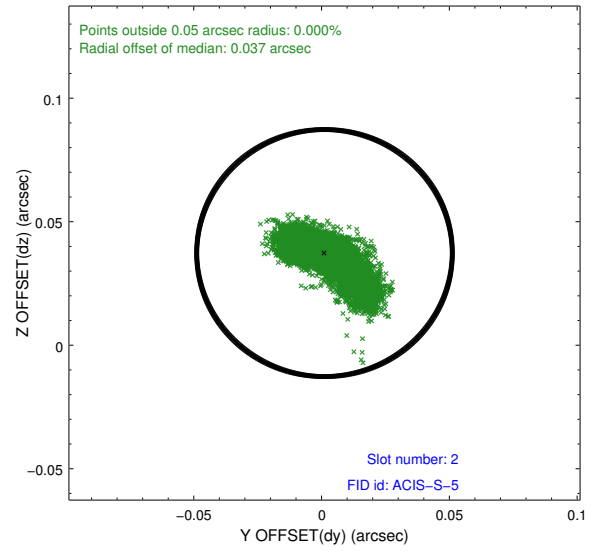
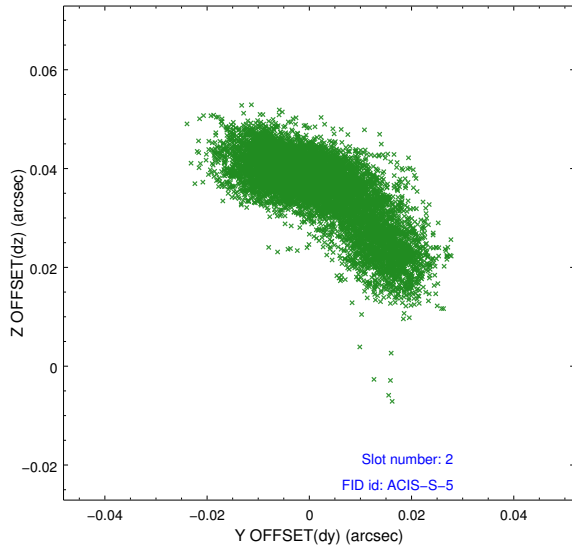
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

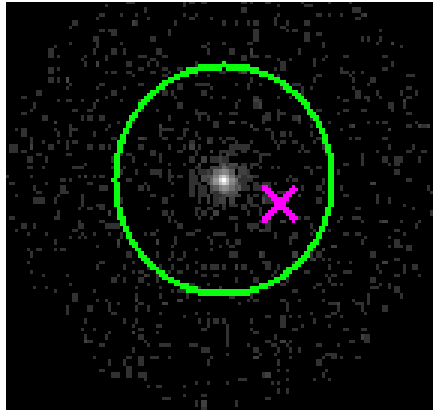


# 3 Gratings

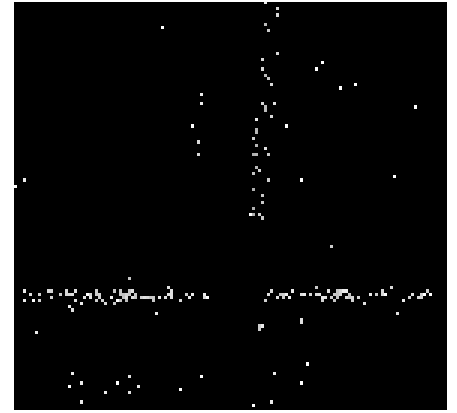
## 3.1 HEG Arm



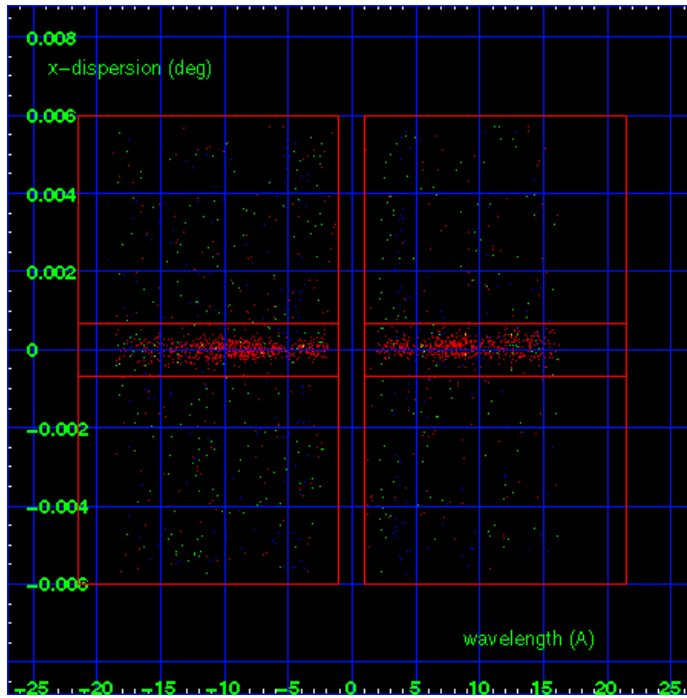
HEG Order Sort 123



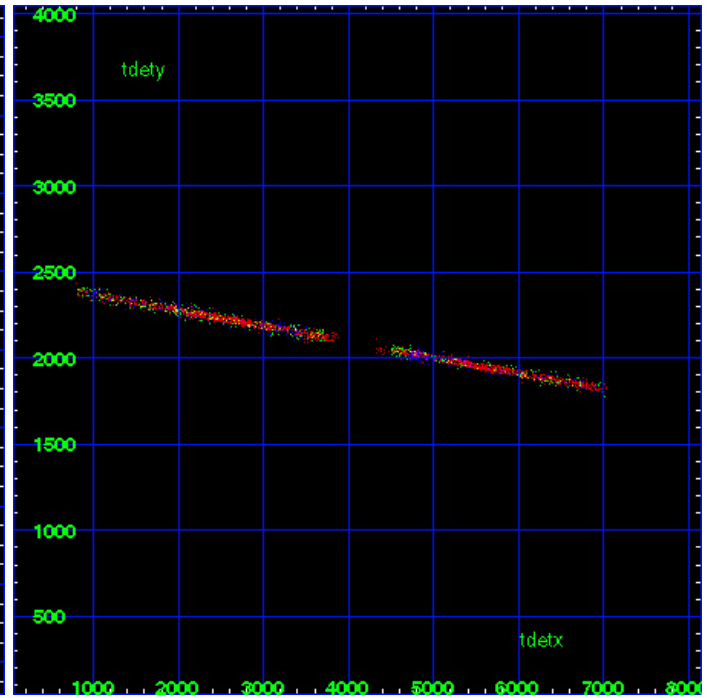
HEG Zero Order



HEG Order Sort ALL

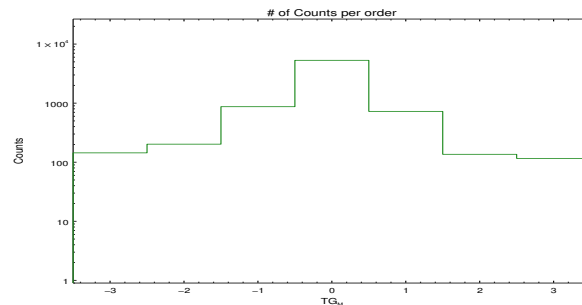


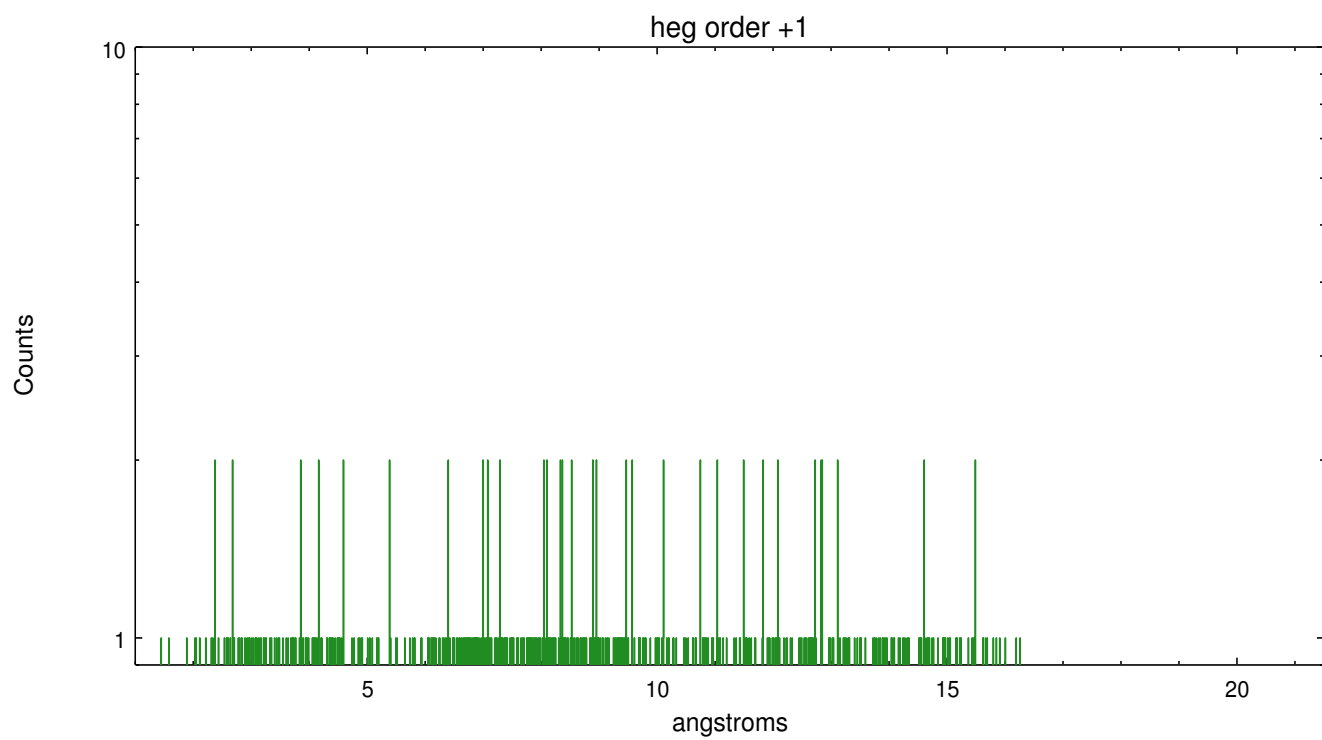
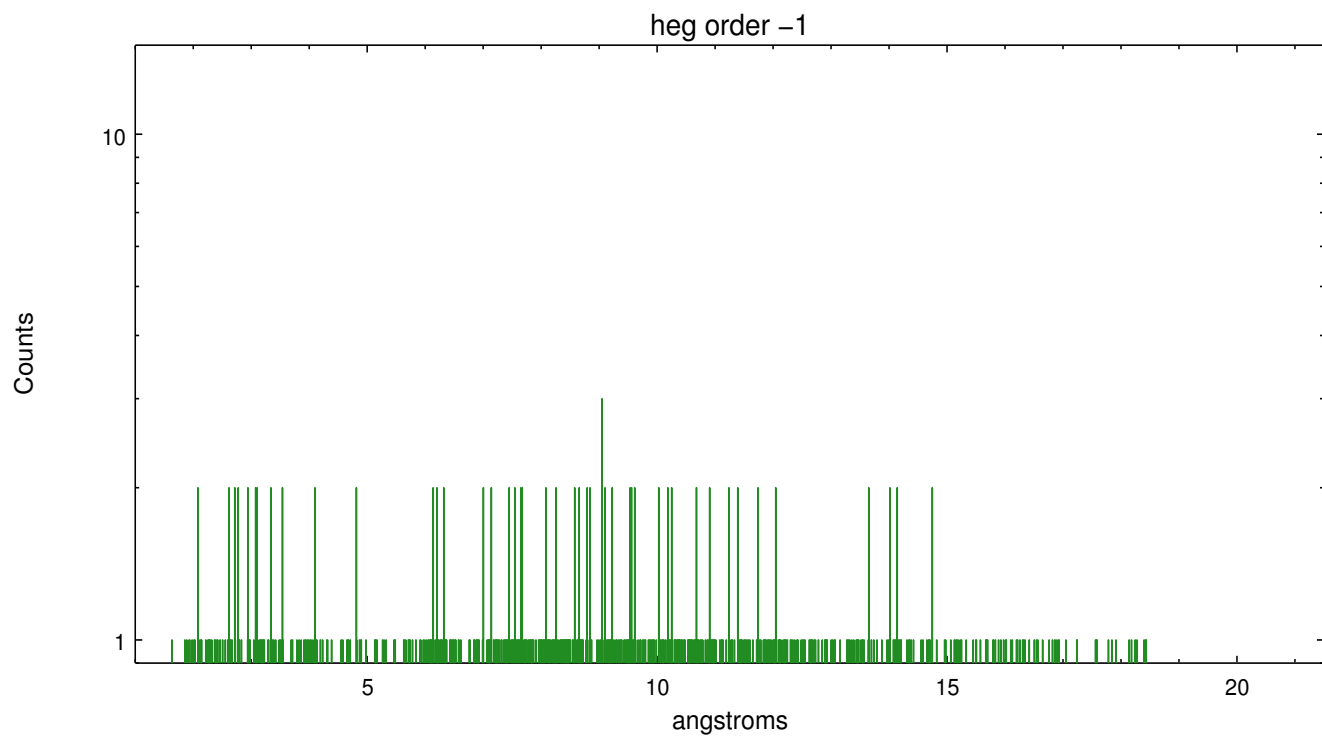
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	144	202	871	5306	725	136	116

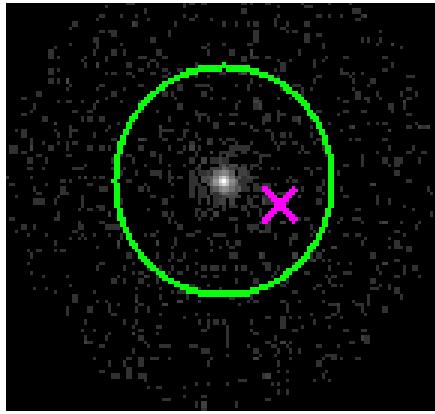




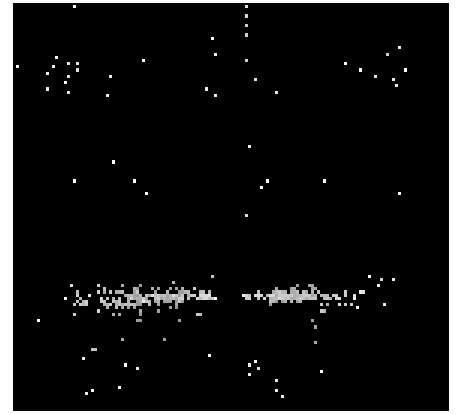
### 3.2 MEG Arm



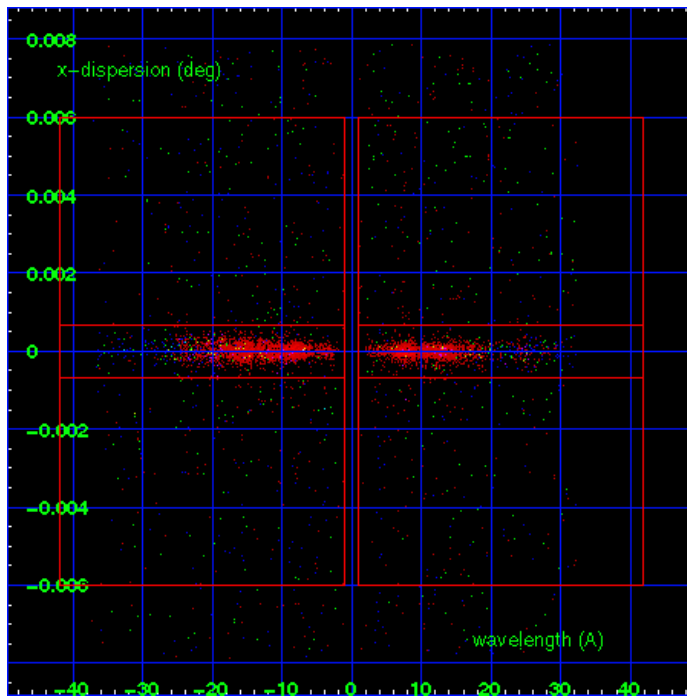
MEG Order Sort 123



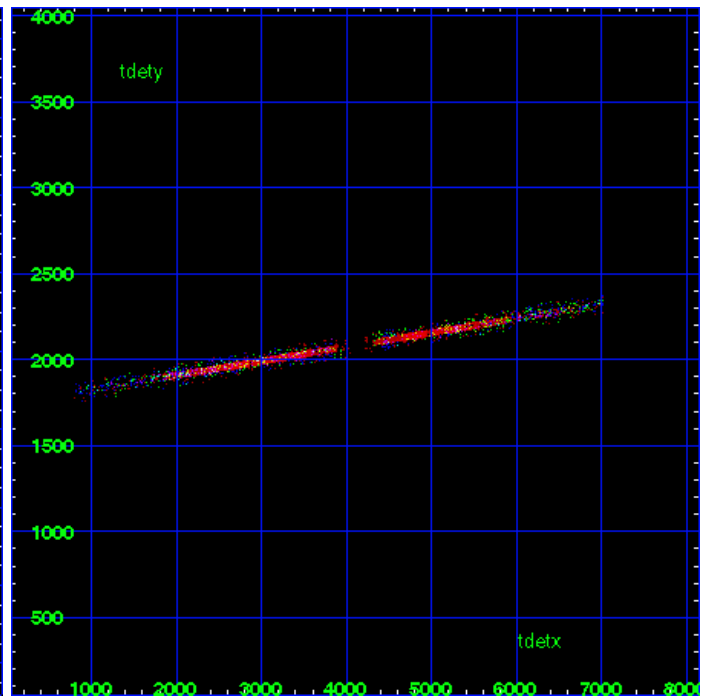
MEG Zero Order



MEG Order Sort ALL

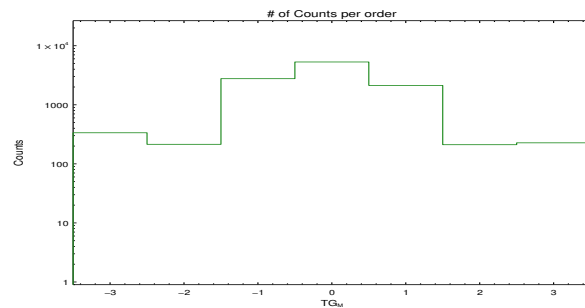


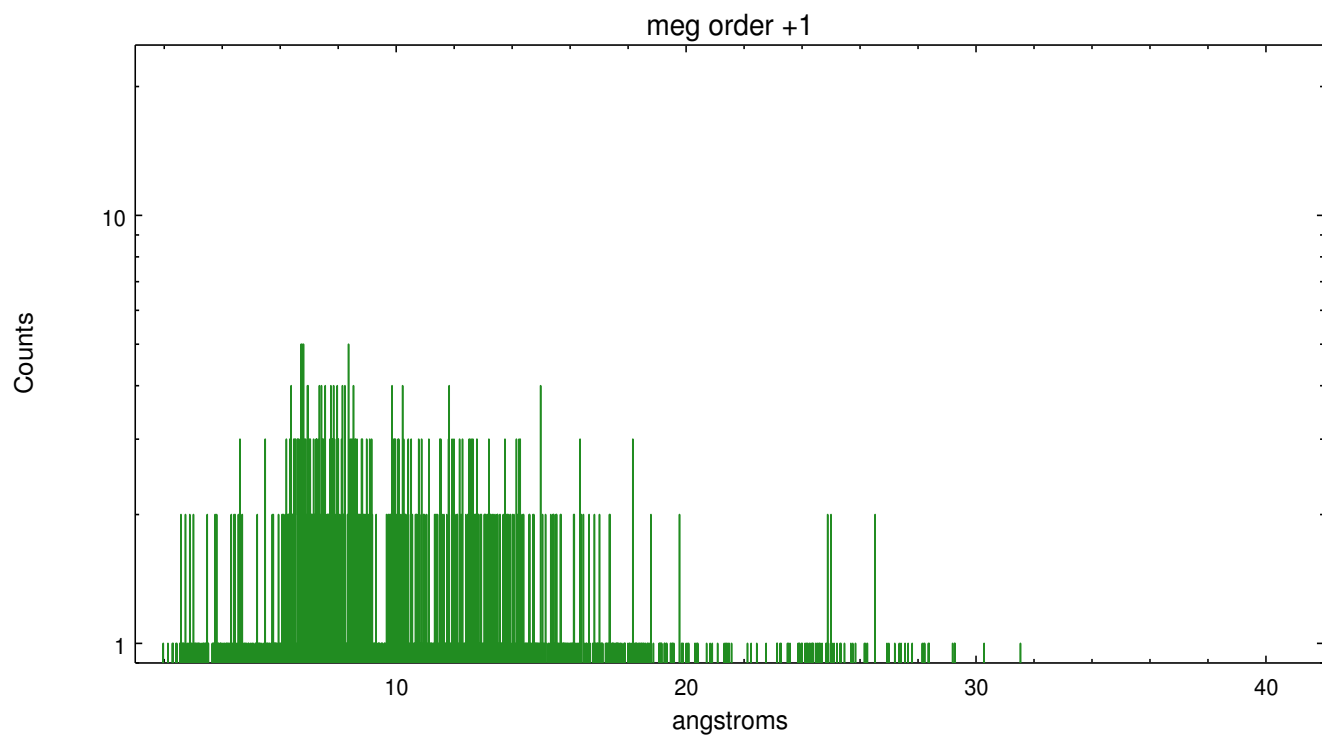
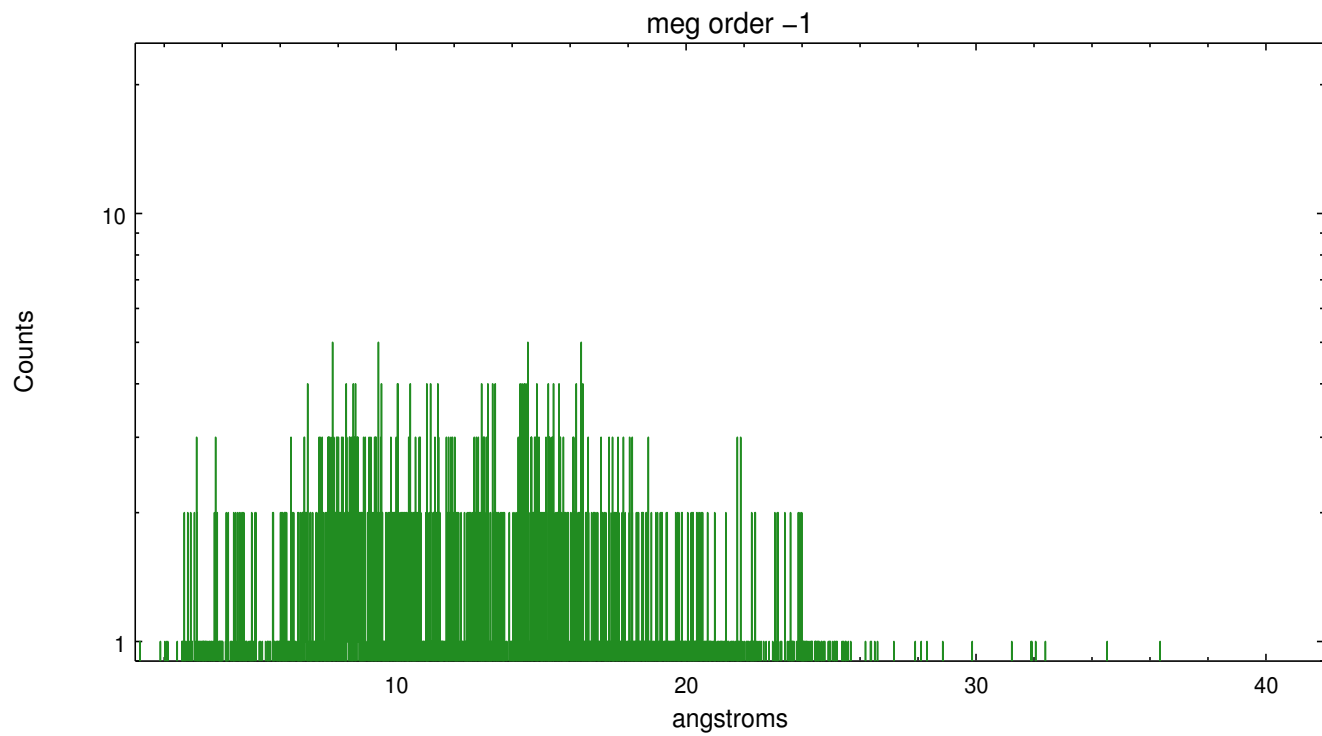
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	336	214	2768	5306	2127	211	227





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	34.675

## A.2 Comments