

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12115 - L2 Version 2  
Chandra X-Ray Center

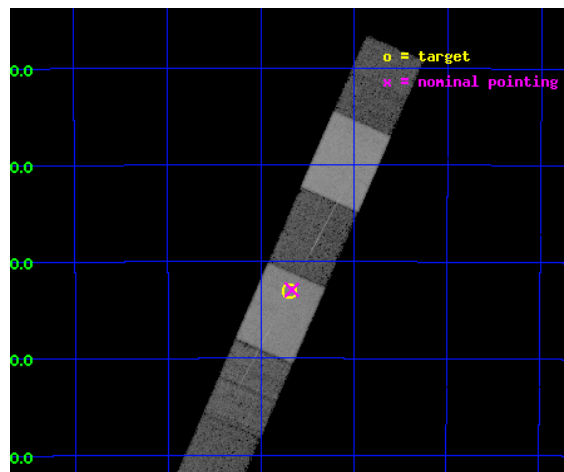
L2 Processing Date : Jul 3 2012

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# 1 Front

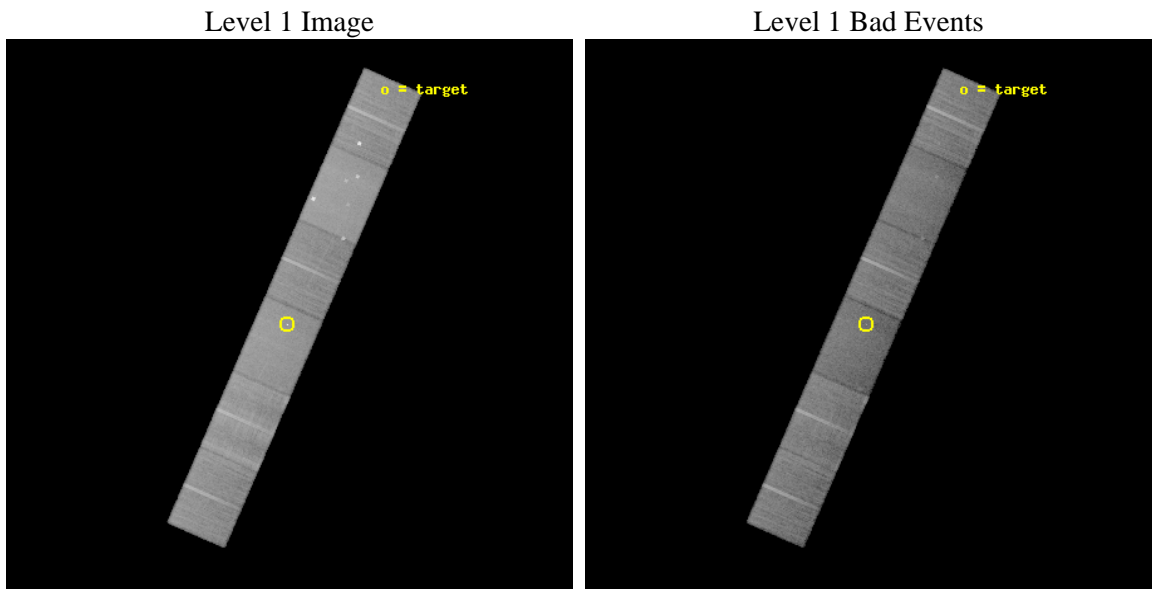
seq_num	702320	Sequence number
obs_id	12115	Observation id
title	The First Test of General Relativity in a Strong Gravitational Field	&#160
observer	Dr. Norbert Schartel	Principal investigator
object	1H0707-495	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	107.172917	Observer's specified target RA [deg]
dec_targ	-49.551611	Observer's specified target Dec [deg]
ra_nom	107.16678030782	Nominal RA [deg]
dec_nom	-49.54885264485	Nominal Dec [deg]
roll_nom	113.62280333509	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30046.720038712	Sum of GTIs [s]
livetime	29561.439448722	Livetime [s]
ontime4	30046.761078715	Sum of GTIs [s]
ontime5	30046.678998709	Sum of GTIs [s]
ontime6	30044.096958458	Sum of GTIs [s]
ontime7	30046.720038712	Sum of GTIs [s]
ontime8	30038.973977745	Sum of GTIs [s]
ontime9	30046.555878699	Sum of GTIs [s]
l2events	287452	Number of level 2 events



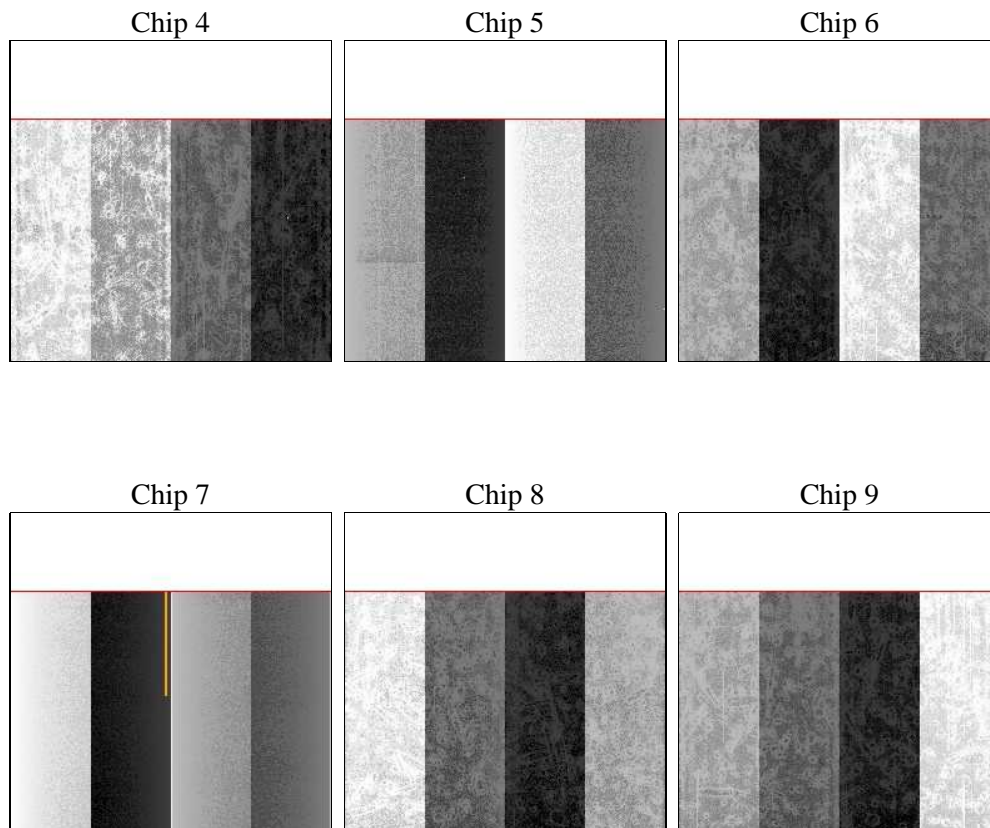
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.669000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30046.720038712	Sum of GTIs [s]
caldsver	4.5.0	&#160	ontime4	30046.761078715	Sum of GTIs [s]
date	2012-07-03T07:54:00	Date and time of file creation	ontime5	30046.678998709	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	30044.096958458	Sum of GTIs [s]
			ontime7	30046.720038712	Sum of GTIs [s]
			ontime8	30038.973977745	Sum of GTIs [s]
			ontime9	30046.555878699	Sum of GTIs [s]
			l1events	1236410	Number of level 1 events

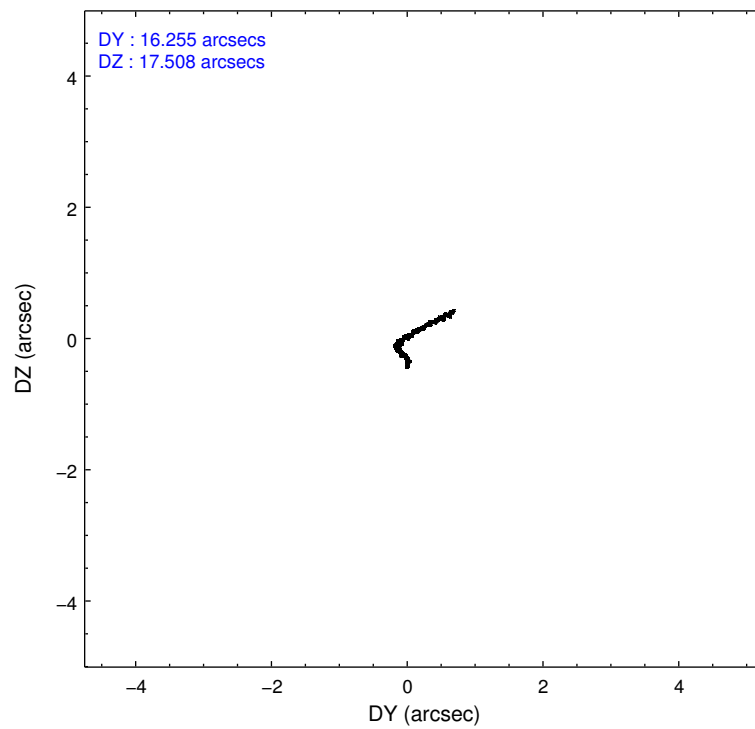
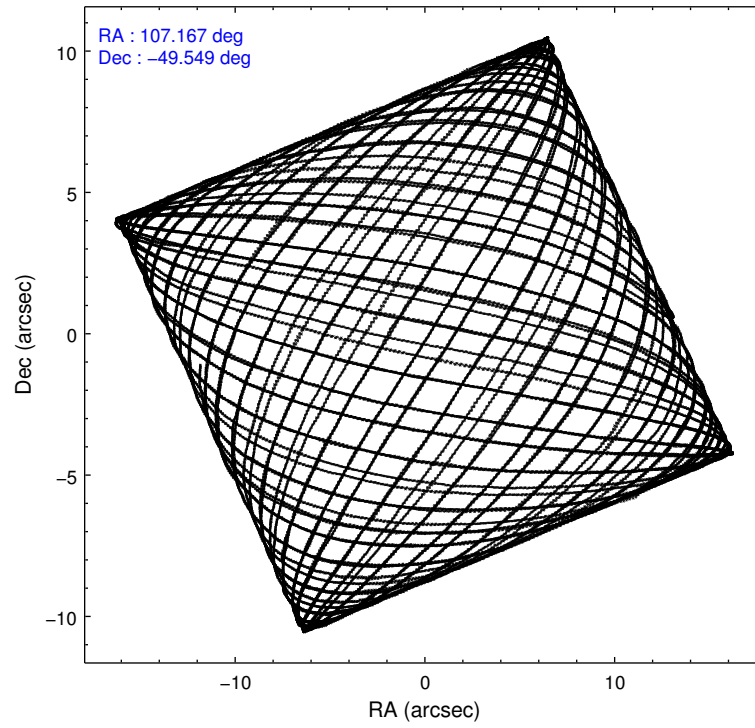
### 2.1.4 Events

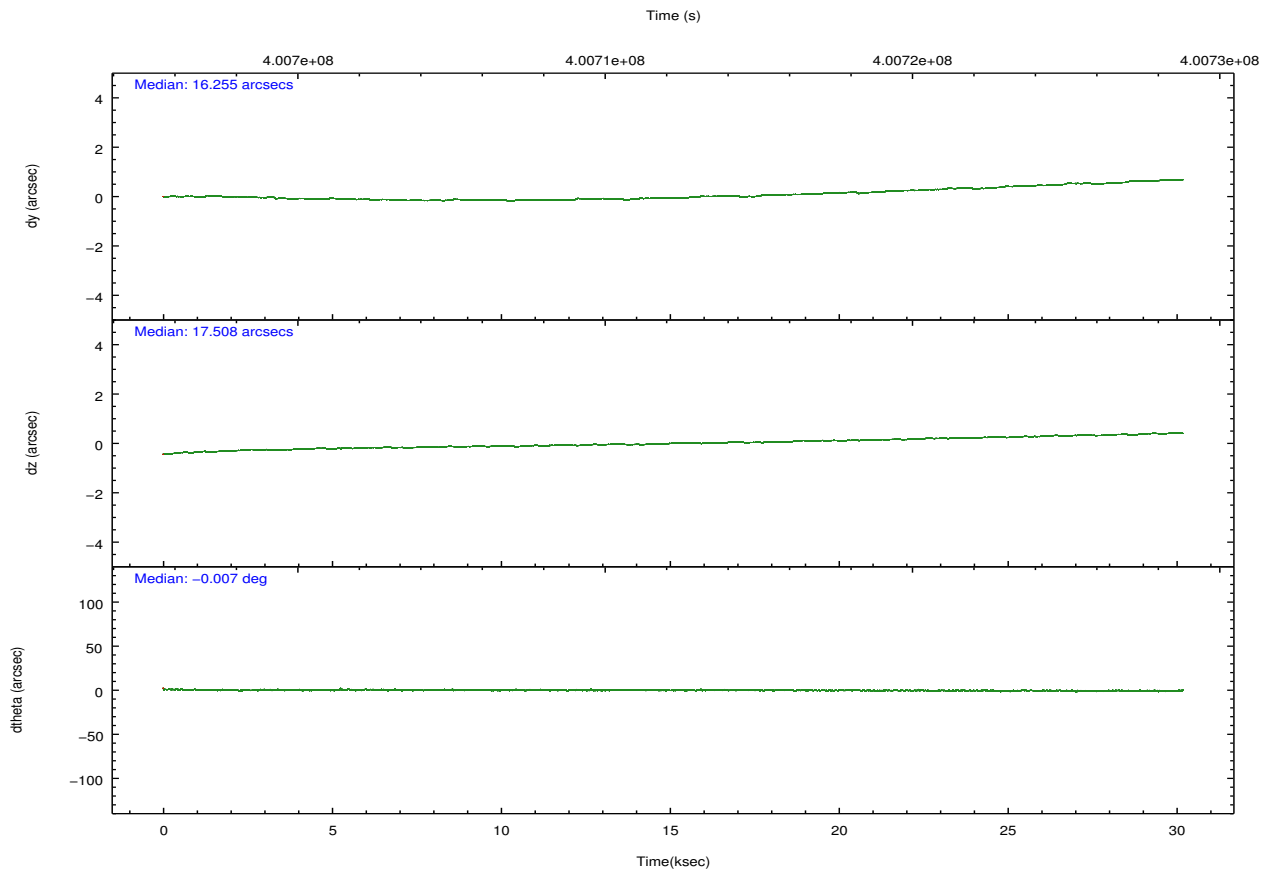
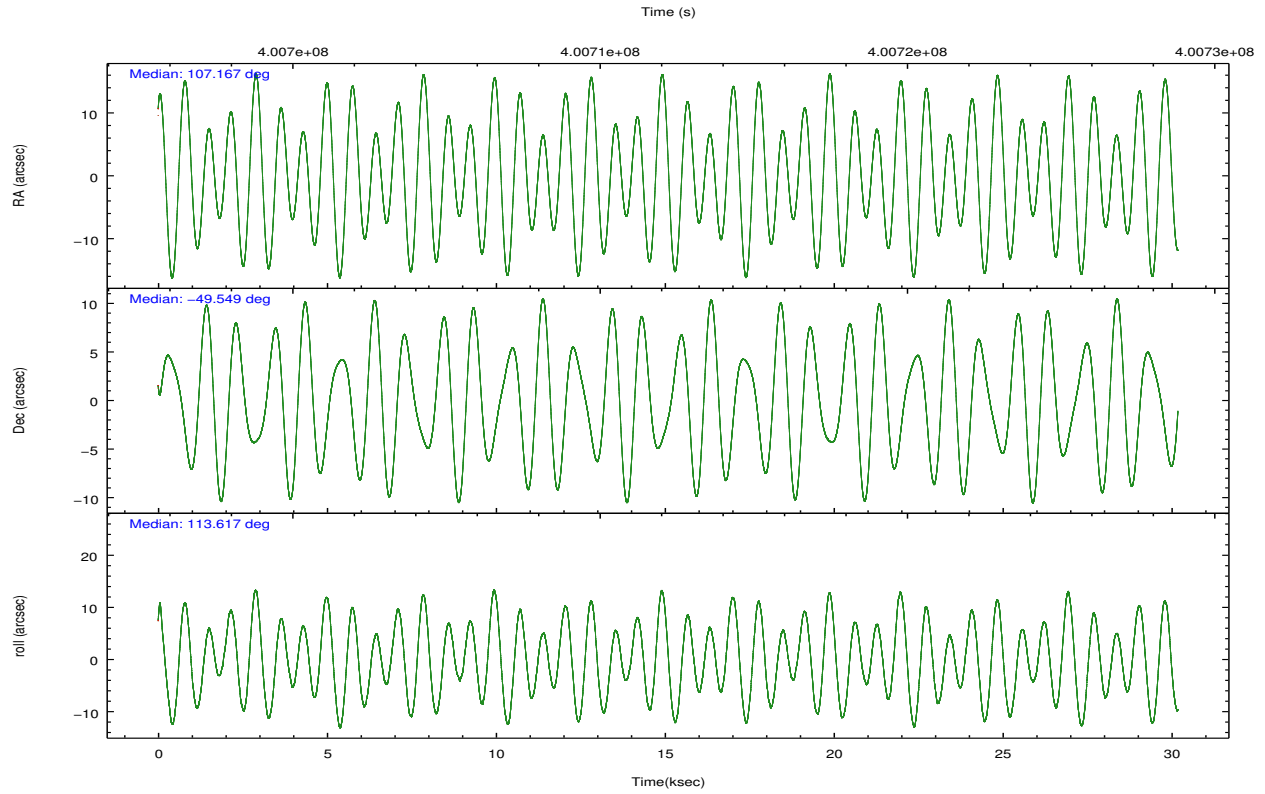
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	200325	263332	170191	208318	224454	169790	grade 0 events	16009	19569	7246	9281	18157	7239
rejected events	171277	128231	150305	111675	164007	149383		7%	7%	4%	4%	8%	4%
rejected %	85%	48%	88%	53%	73%	87%	grade 1 events	183	648	89	275	170	89
								0%	0%	0%	0%	0%	0%
							grade 2 events	5130	38133	4334	20025	13908	4588
								2%	14%	2%	9%	6%	2%
							grade 3 events	2197	5862	2185	9171	6269	2272
								1%	2%	1%	4%	2%	1%
							grade 4 events	2136	5636	2056	9179	5877	2146
								1%	2%	1%	4%	2%	1%
							grade 5 events	7110	20547	7455	21562	11037	8260
								3%	7%	4%	10%	4%	4%
							grade 6 events	3578	65914	4067	48992	16241	4165
								1%	25%	2%	23%	7%	2%
							grade 7 events	163982	107023	142759	89833	152795	141031
								81%	40%	83%	43%	68%	83%

## 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	107.201051	107.1667803078232	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-49.564766	-49.54885264485032	Subarray start row	1	1
[deg] Pointing Roll	113.492260	113.622803335095	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)	400697291.184000	400696216.53191			
Observation start date	2010-09-12T16:47:05	2010-09-12T16:30:16			
[s] Observation end time (MET)	400727292.184000	400727516.95851			
Observation end date	2010-09-13T01:07:06	2010-09-13T01:11:56			
Read mode	TIMED	TIMED			

## 2.3 Aspect



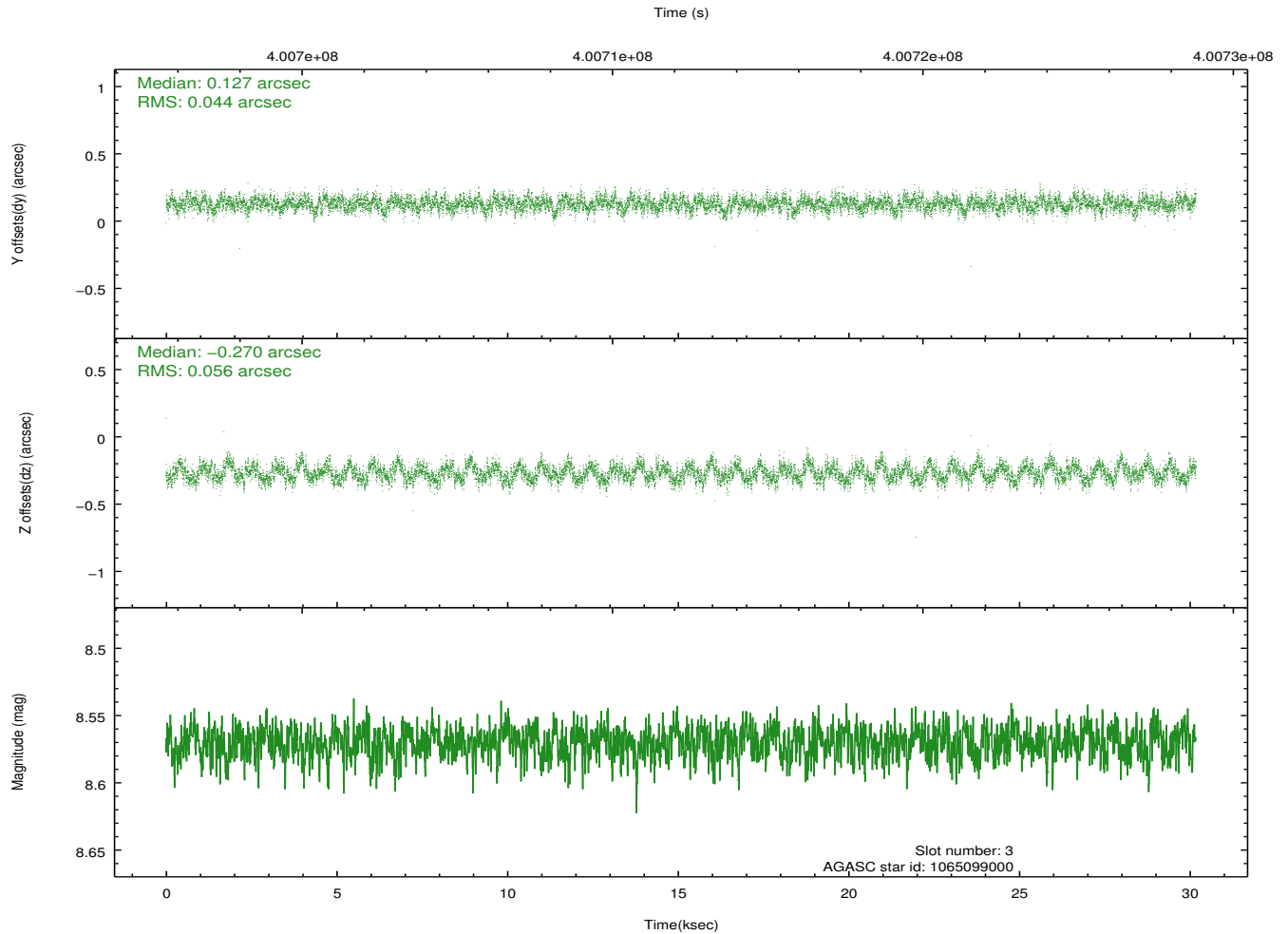
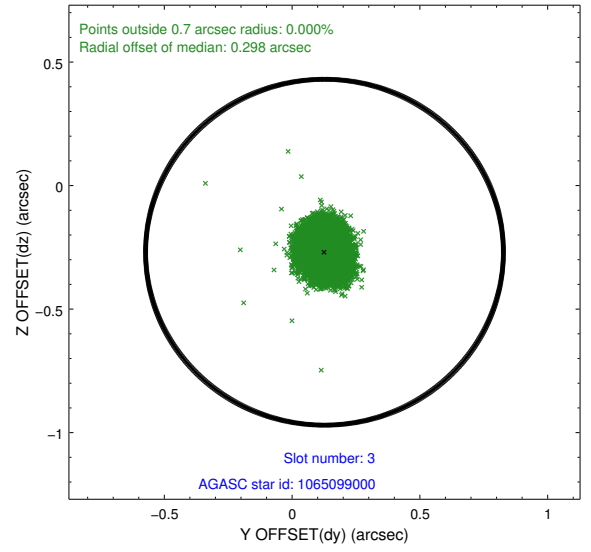
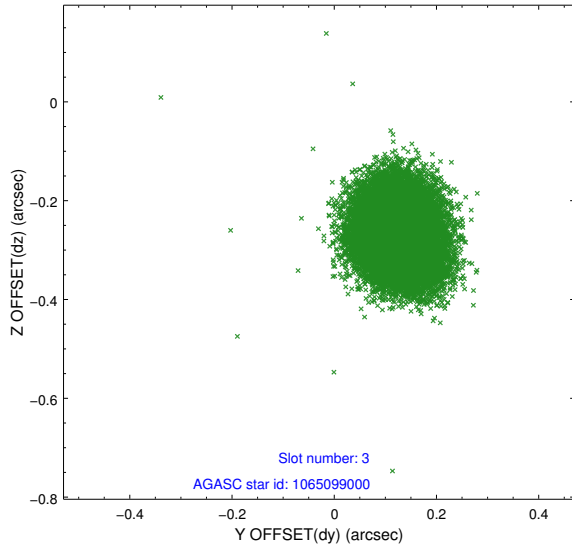


### Slot Statistics

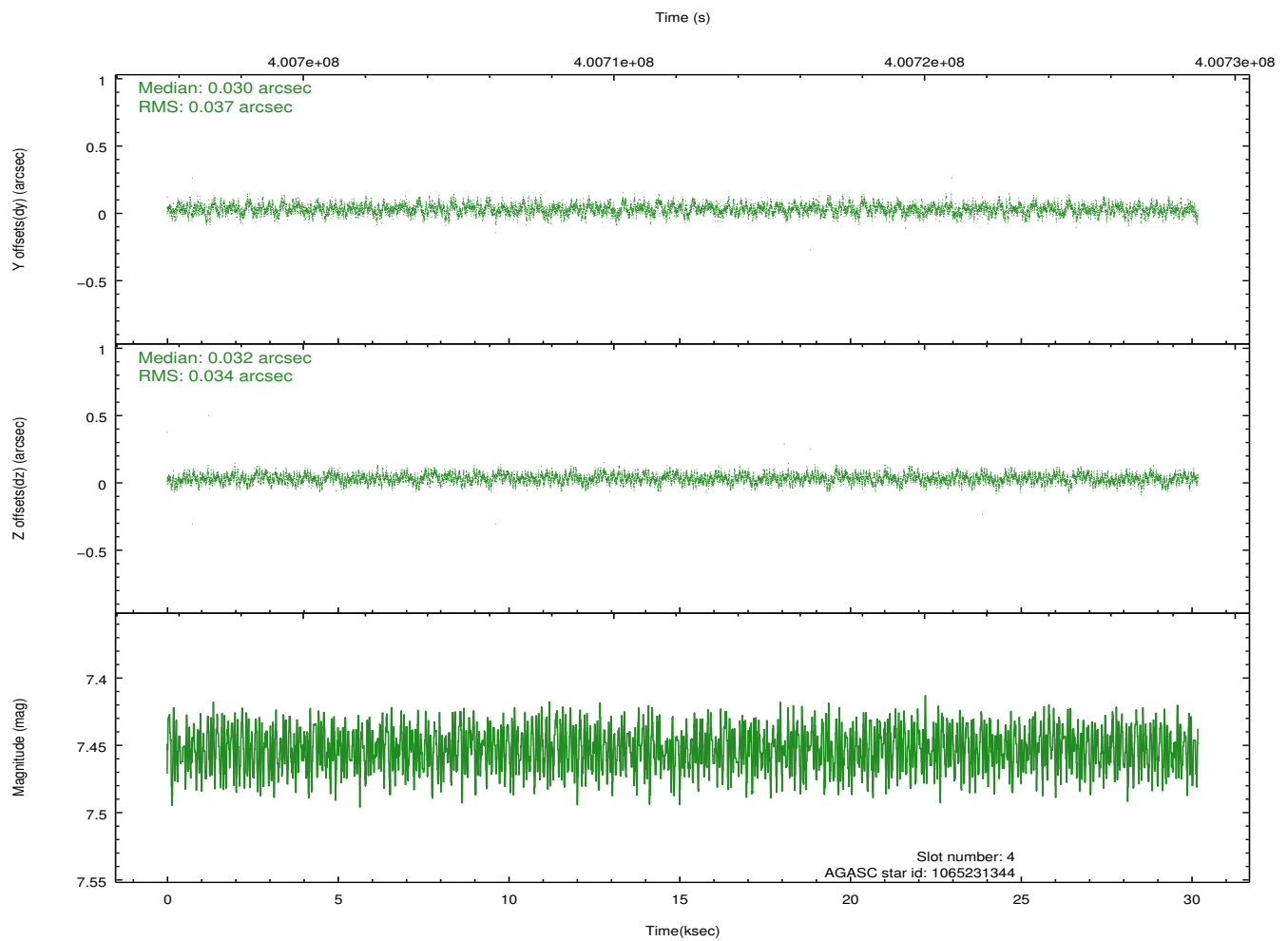
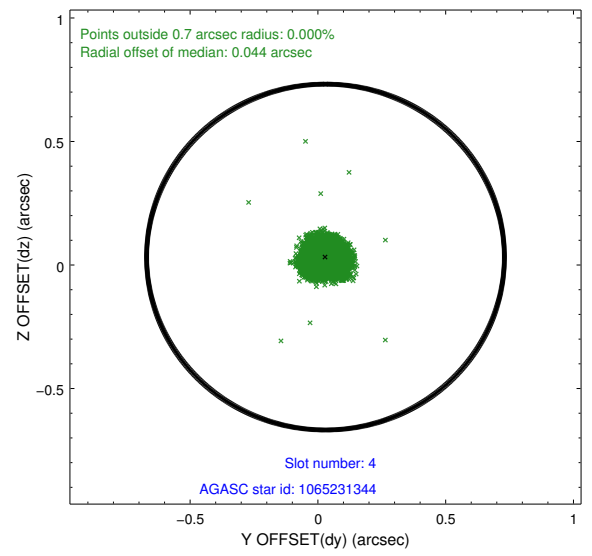
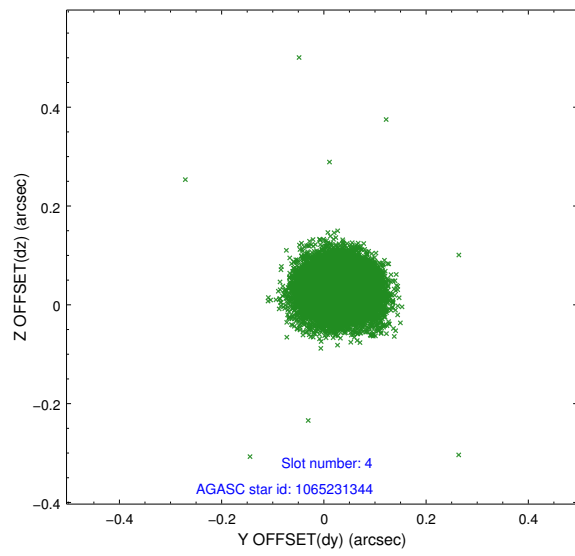
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.97	7362	-0.010	0.007	0.015	0.029	0.000000	0.000000	926.91	-1796.66
1	FID	ACIS-S-4	6.99	7362	0.143	0.005	0.009	0.014	0.000000	0.000000	2144.46	107.44
2	FID	ACIS-S-5	7.02	7362	-0.160	0.000	0.010	0.020	0.000000	0.000000	-1822.06	101.01
3	GUIDE	1065099000	8.57	14716	0.127	-0.270	0.076	0.119	106.544961	-49.960566	-707.15	1964.05
4	GUIDE	1065231344	7.45	14723	0.030	0.032	0.053	0.085	108.108874	-49.825503	-1712.74	-1554.12
5	GUIDE	1065242432	7.83	14724	0.019	-0.087	0.068	0.116	107.094192	-50.100313	-1670.43	994.85
6	GUIDE	1065237304	8.80	14717	0.004	0.127	0.084	0.136	106.981941	-48.917125	2344.35	-453.05
7	GUIDE	1065224224	8.26	14720	-0.186	0.199	0.073	0.116	108.067921	-49.186083	426.78	-2408.95

## 2.4 Star Slots

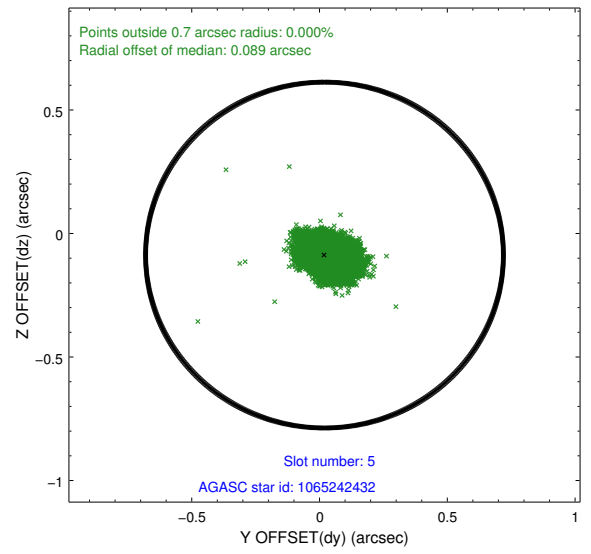
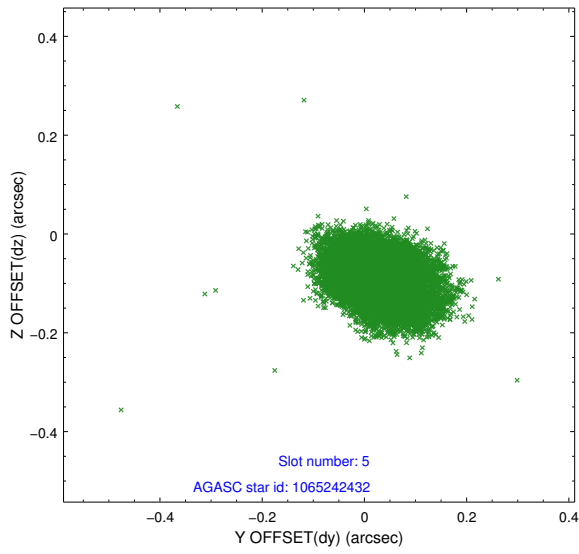
### 2.4.1 Slot 3



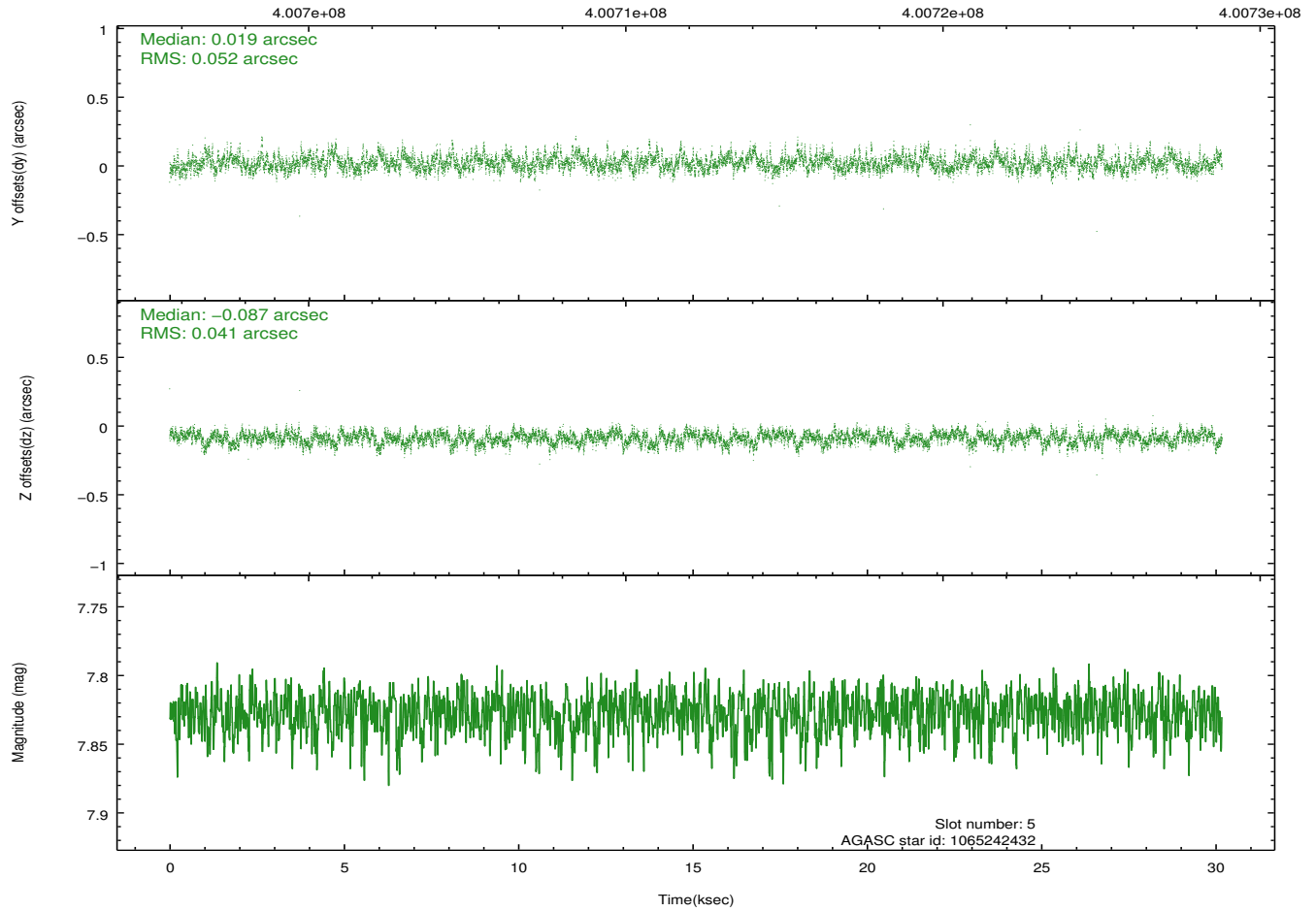
## 2.4.2 Slot 4



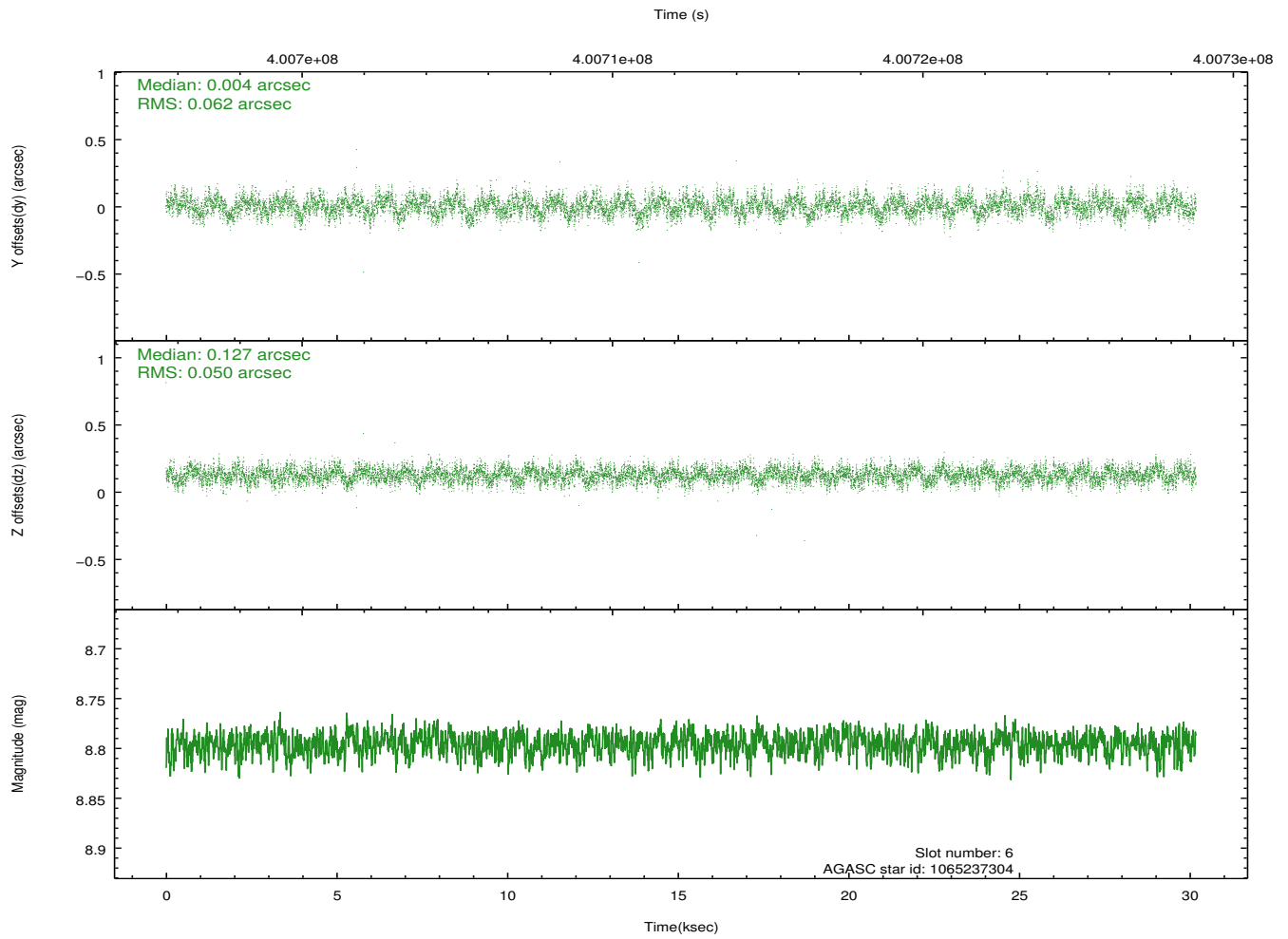
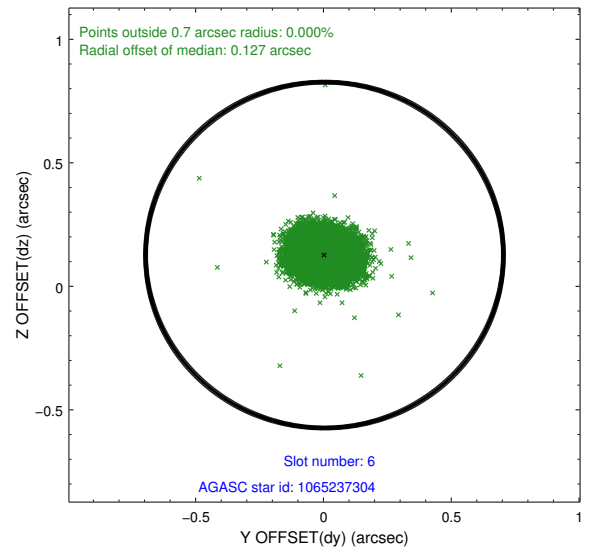
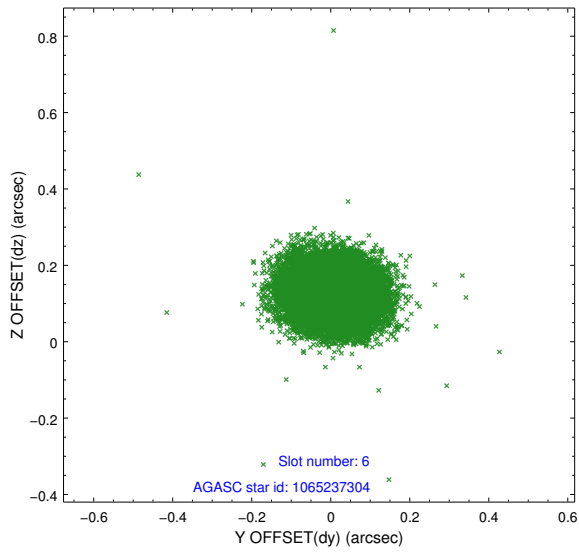
### 2.4.3 Slot 5



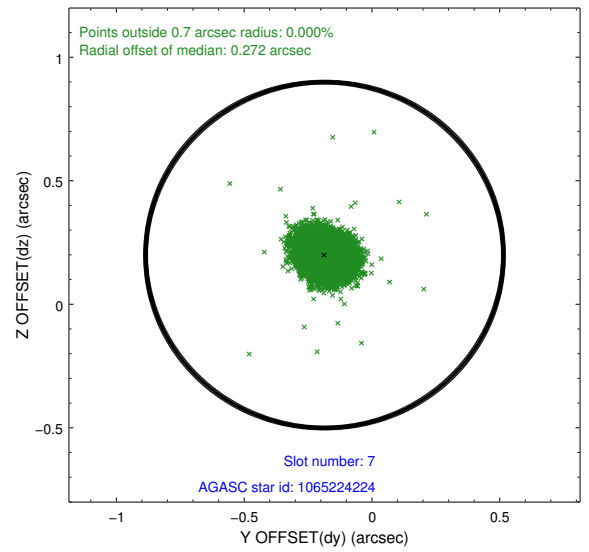
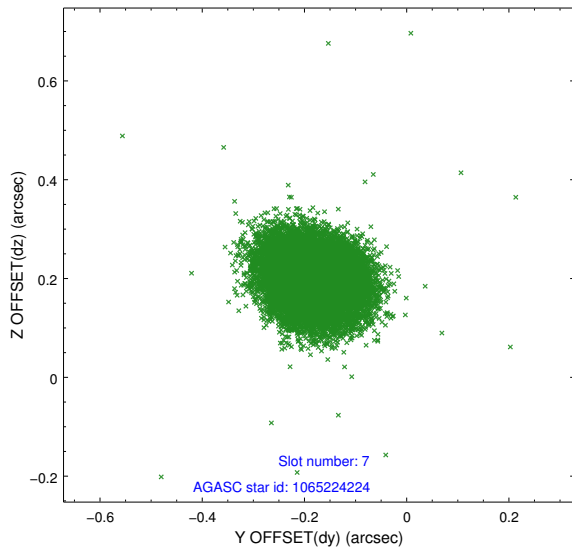
Time (s)



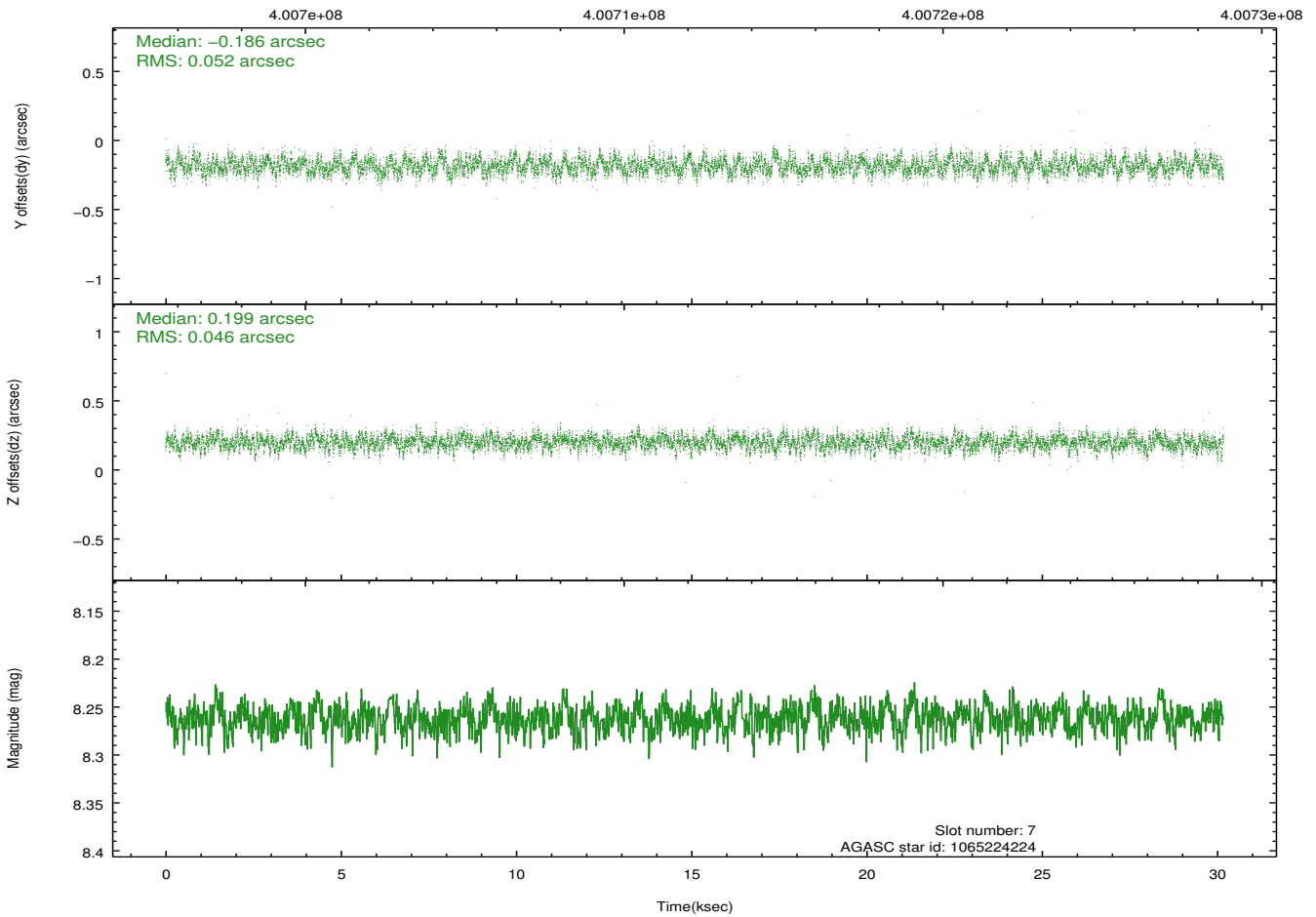
### 2.4.4 Slot 6



## 2.4.5 Slot 7

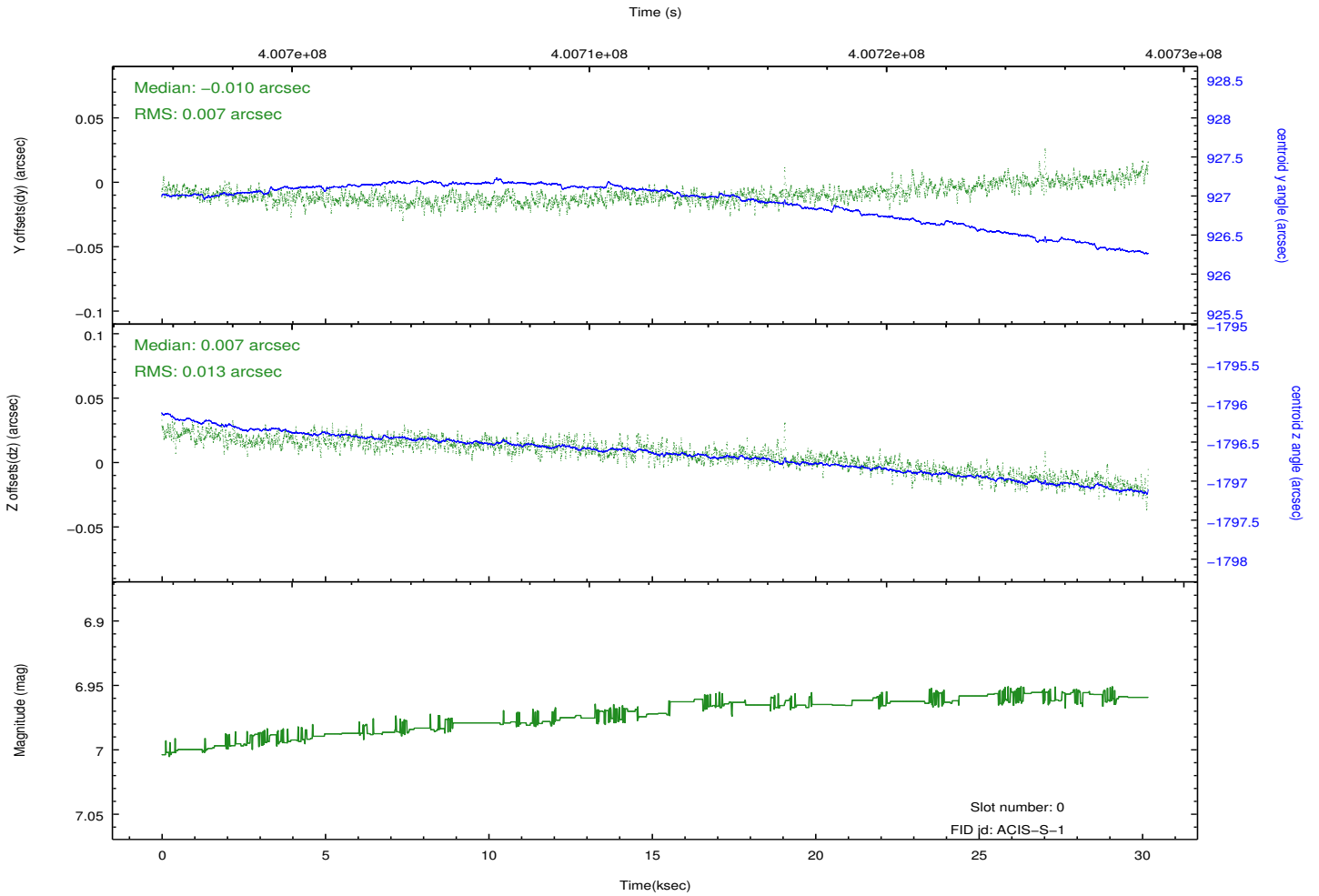
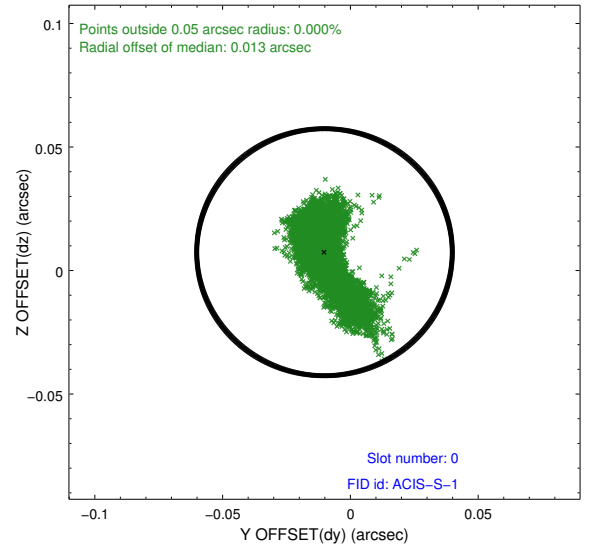
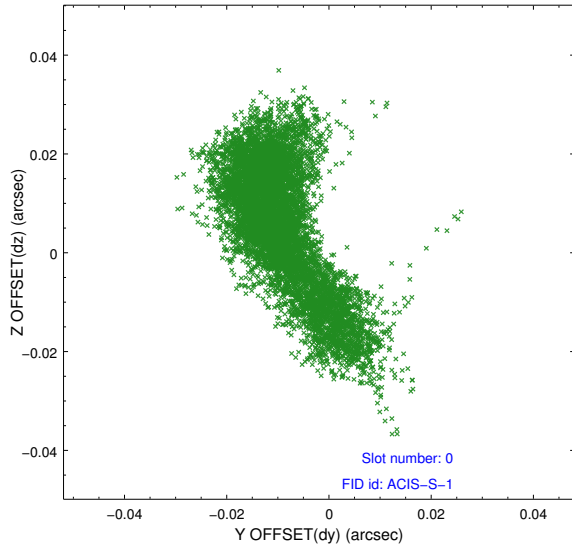


Time (s)

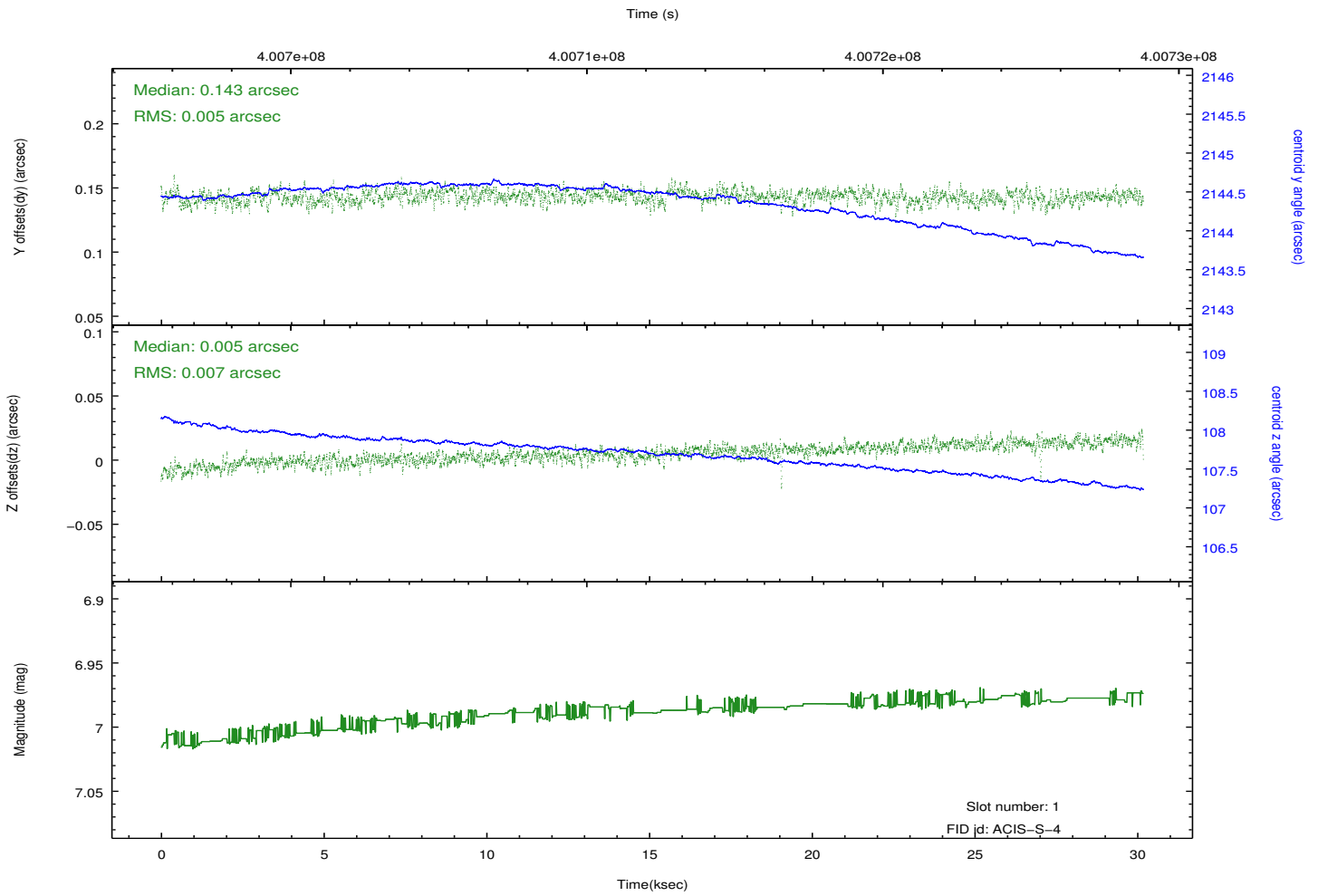
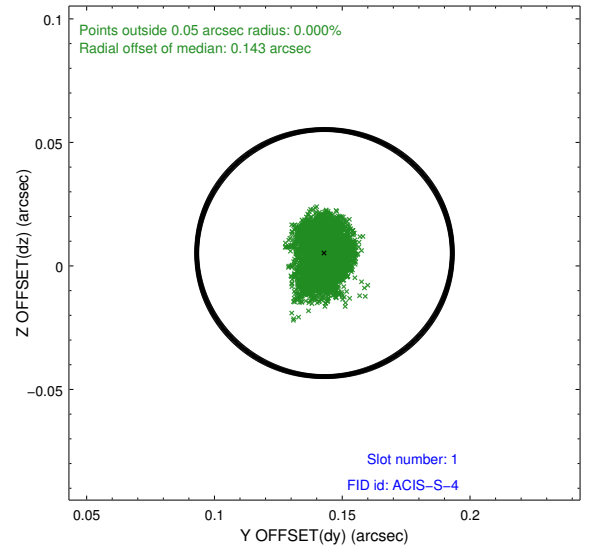
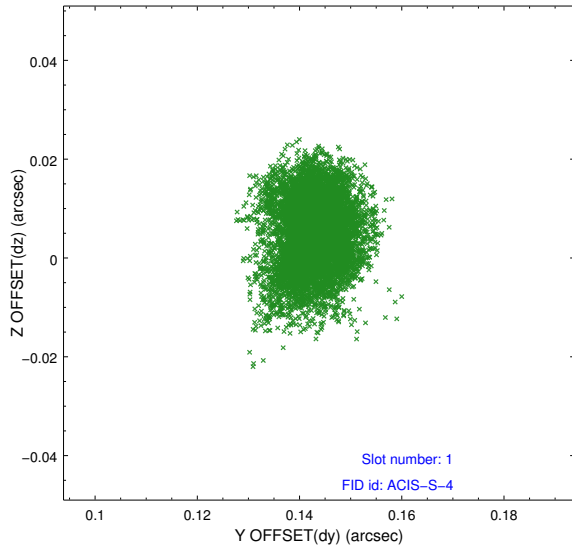


## 2.5 FID Slots

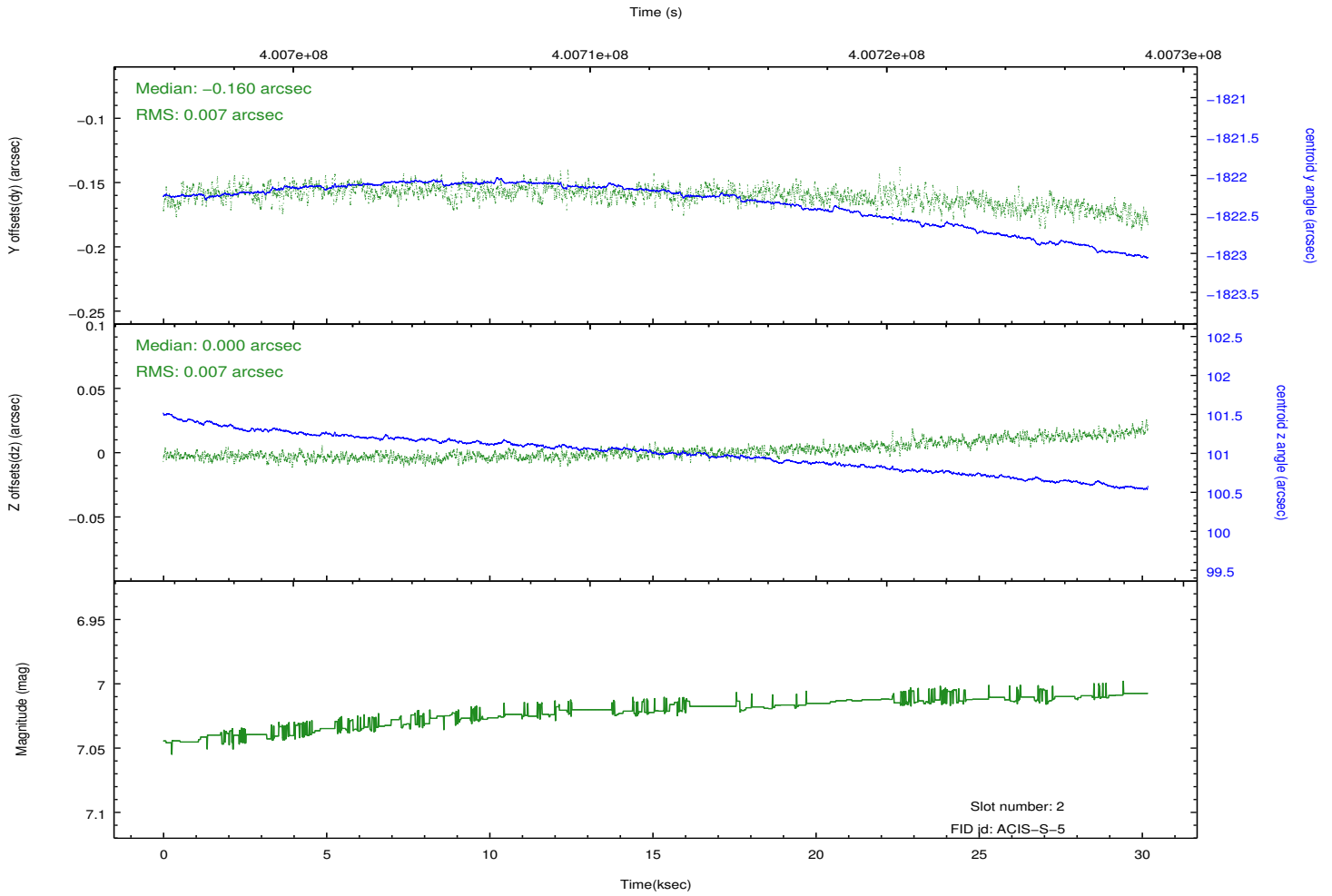
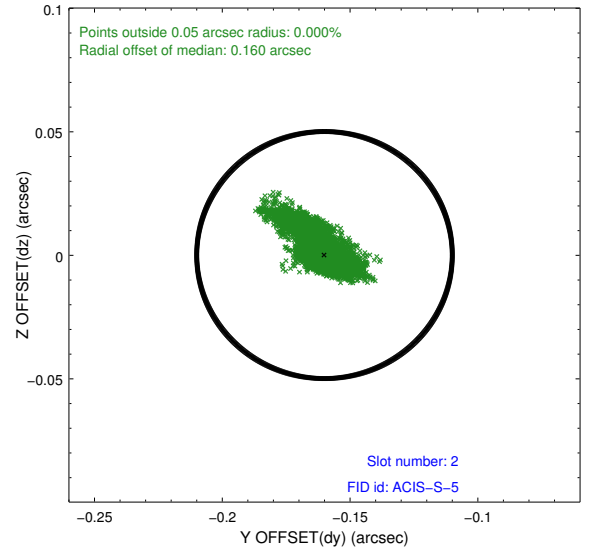
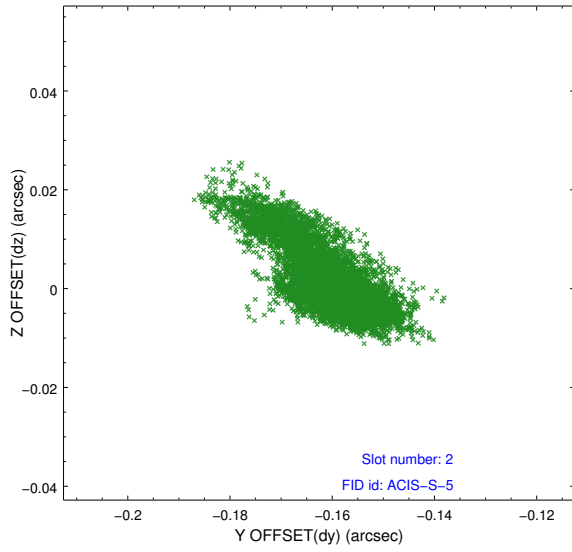
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

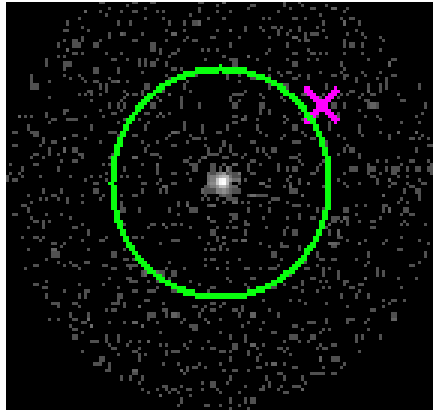


# 3 Gratings

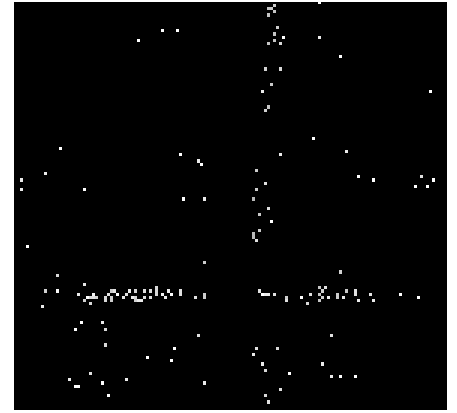
## 3.1 HEG Arm



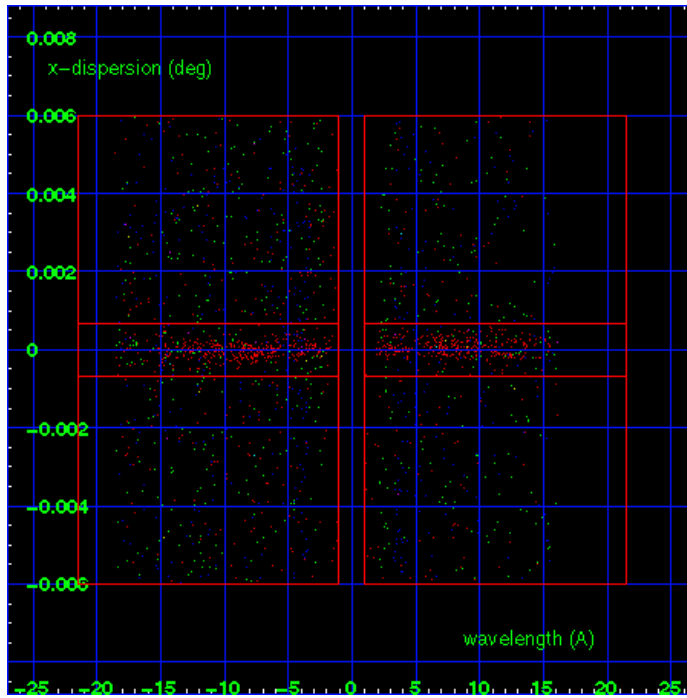
HEG Order Sort 123



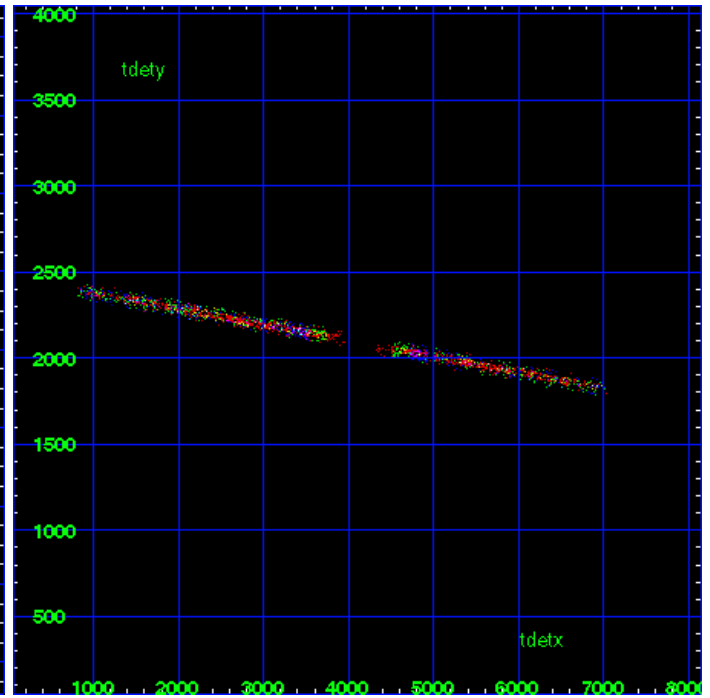
HEG Zero Order



HEG Order Sort ALL

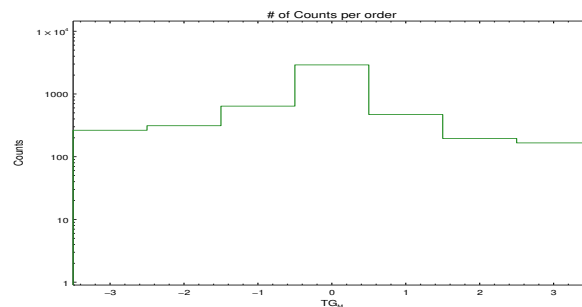


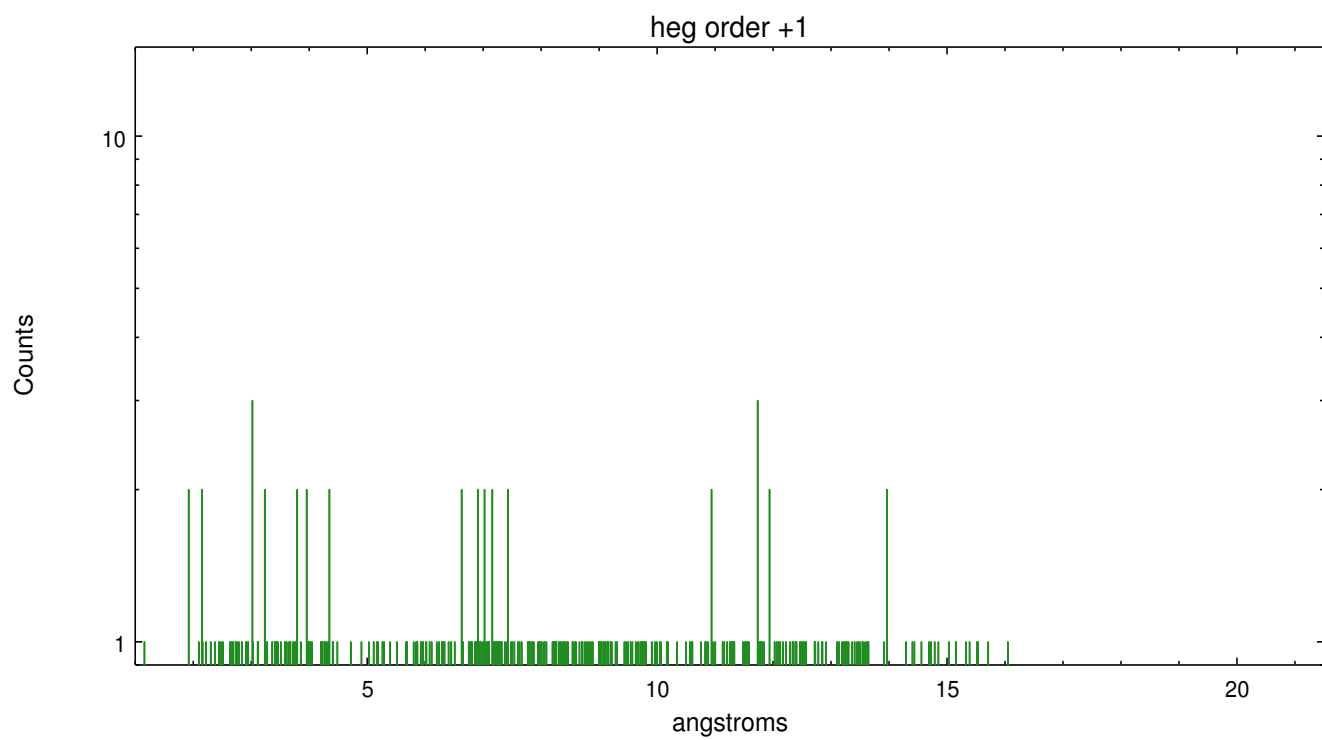
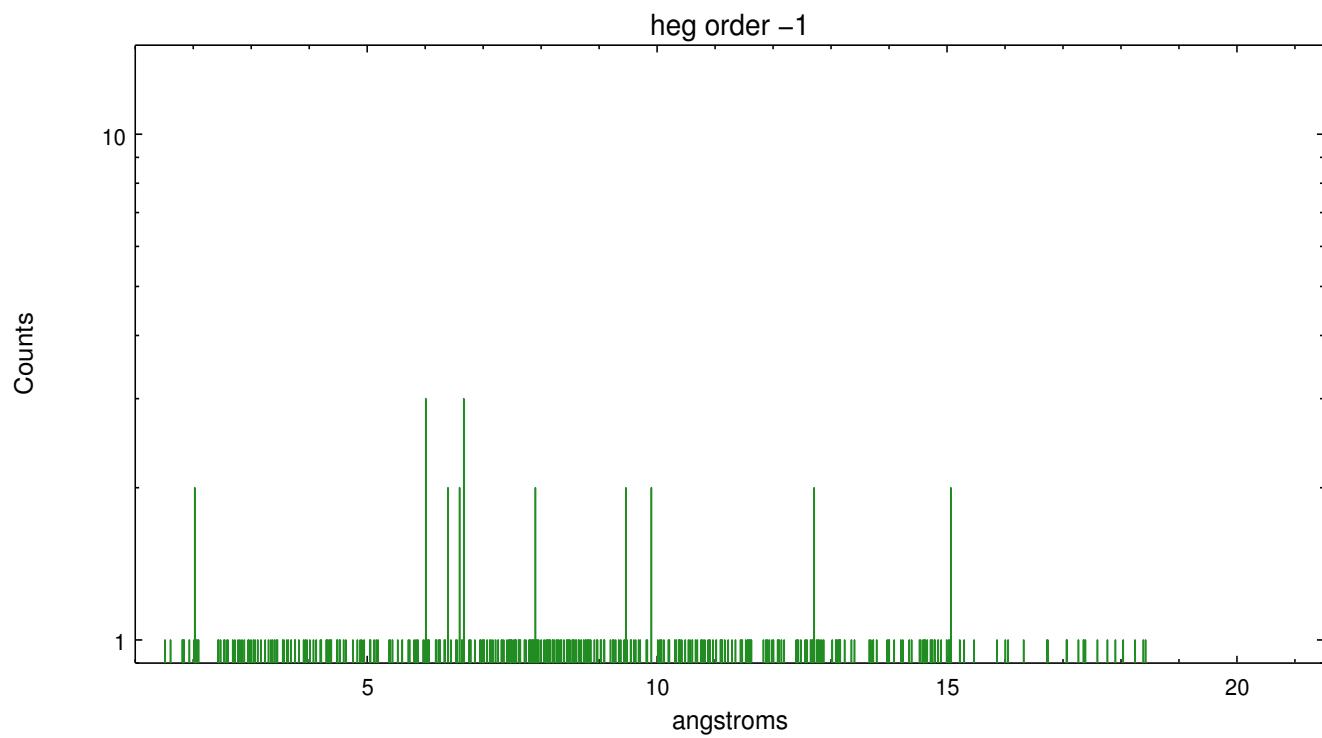
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	264	312	640	2908	470	195	166

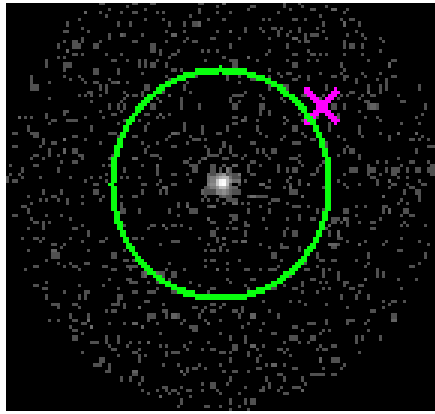




### 3.2 MEG Arm



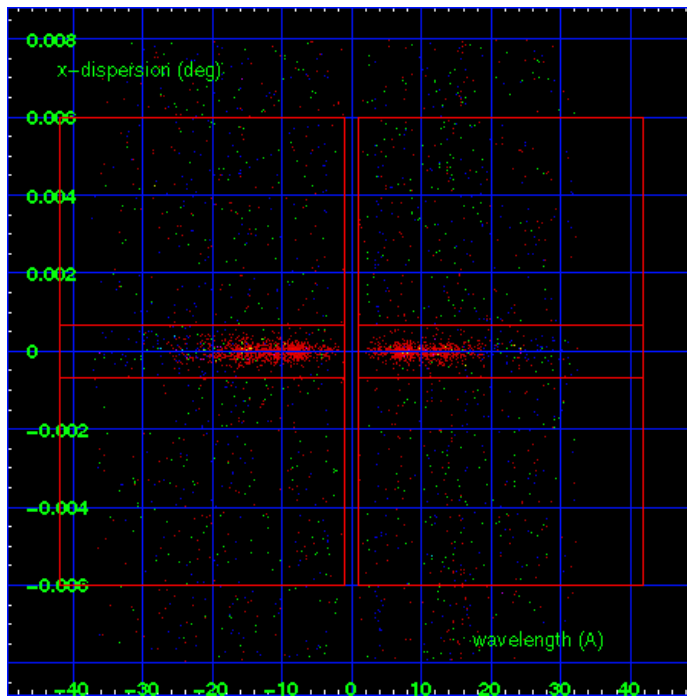
MEG Order Sort 123



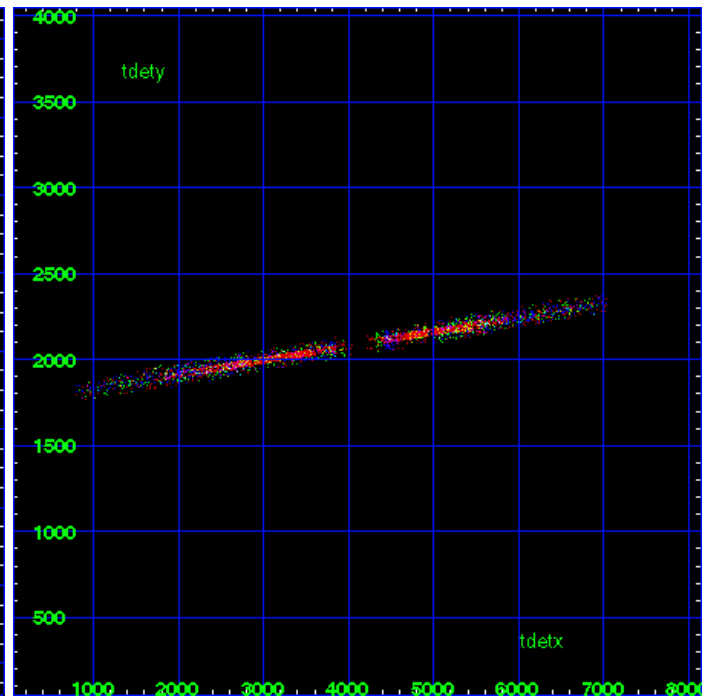
MEG Zero Order



MEG Order Sort ALL

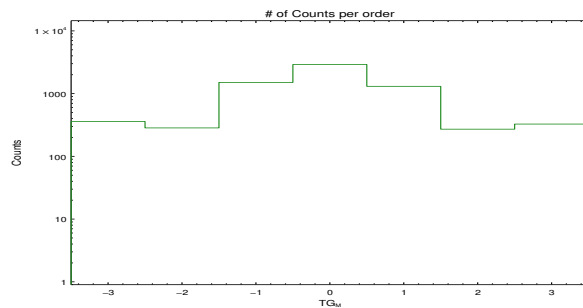


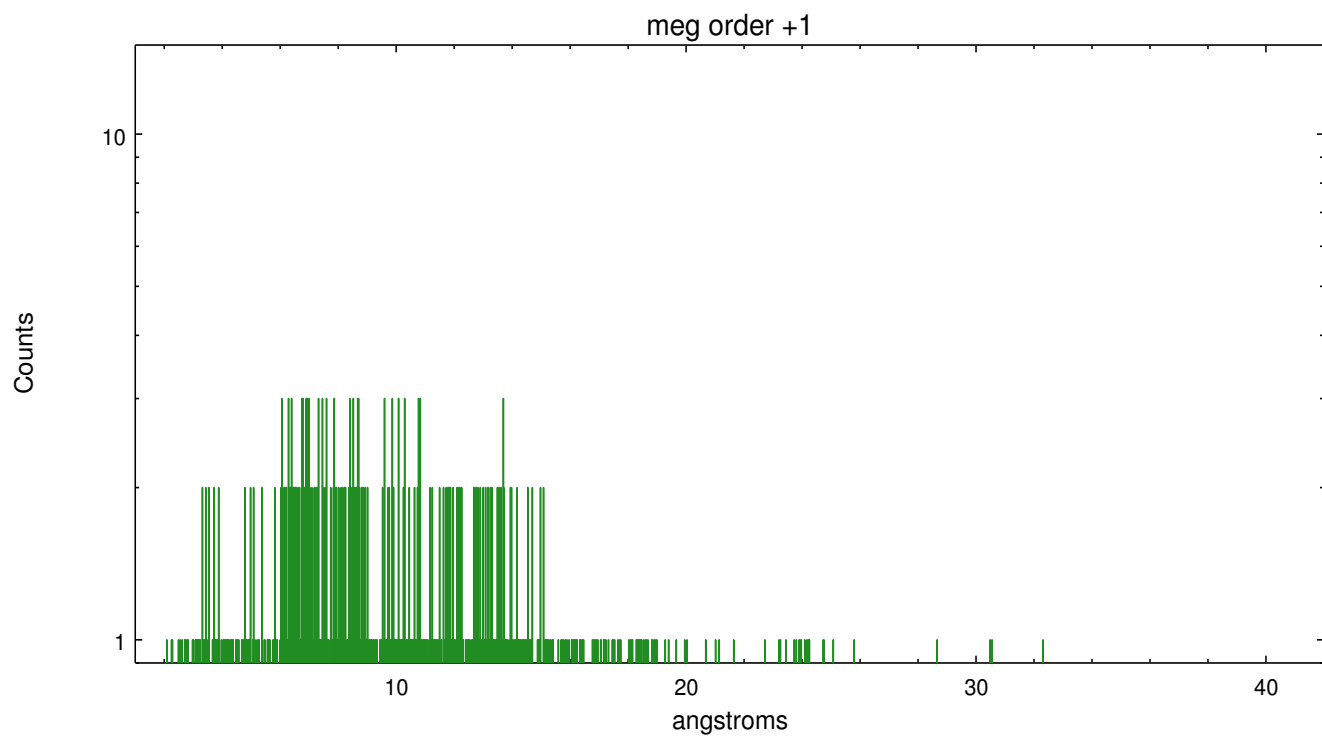
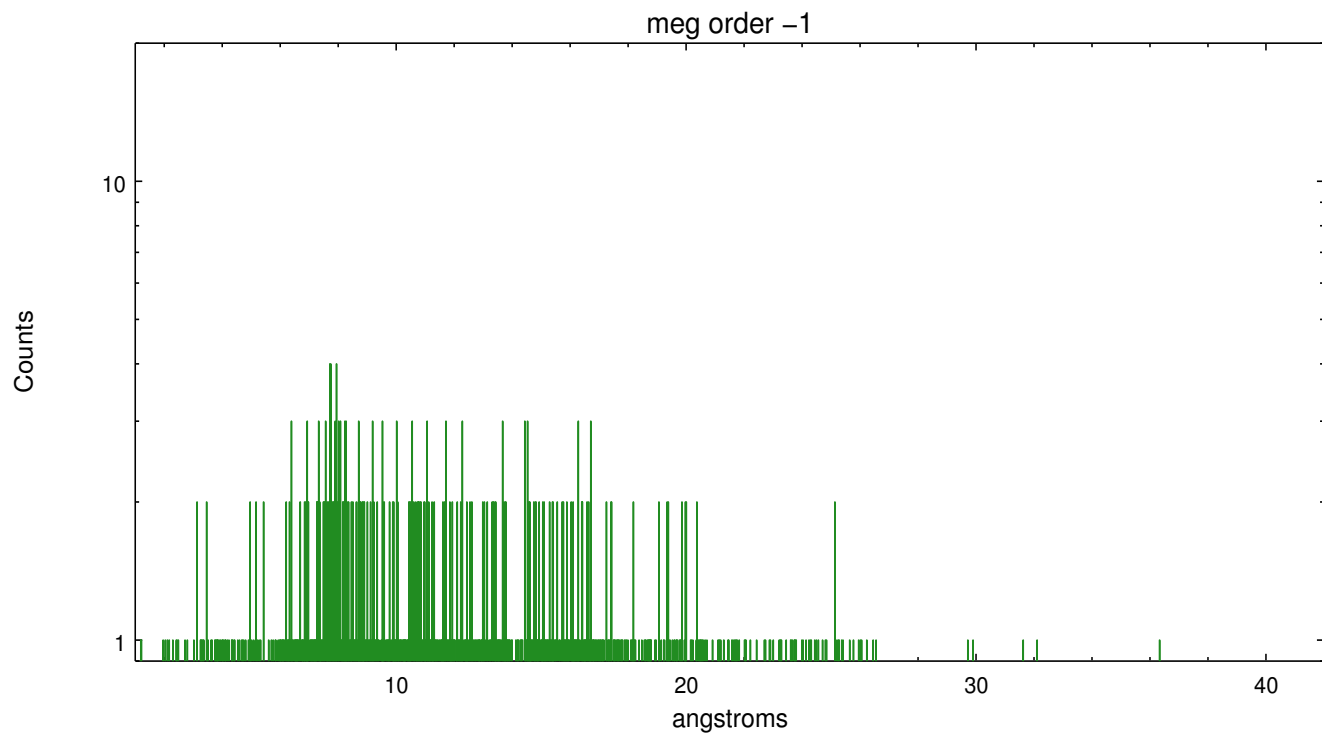
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	359	284	1509	2908	1306	271	327





# 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	30.046720035195

## A.2 Comments

Joint proposal with XMM.