

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 4771 - L2 Version 3  
Chandra X-Ray Center

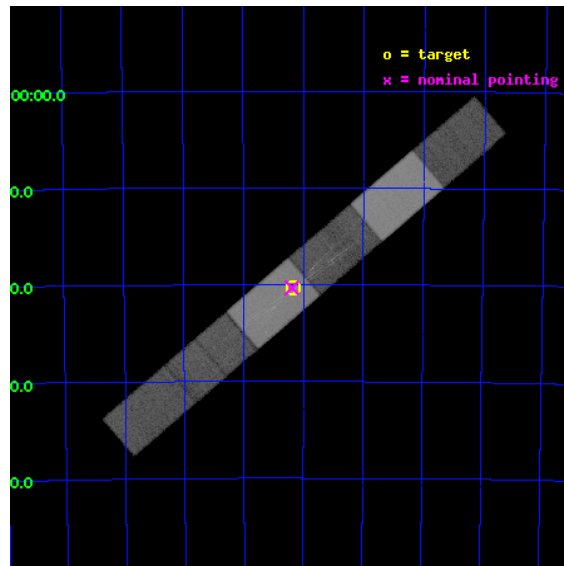
L2 Processing Date : Dec 16 2012

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# 1 Front

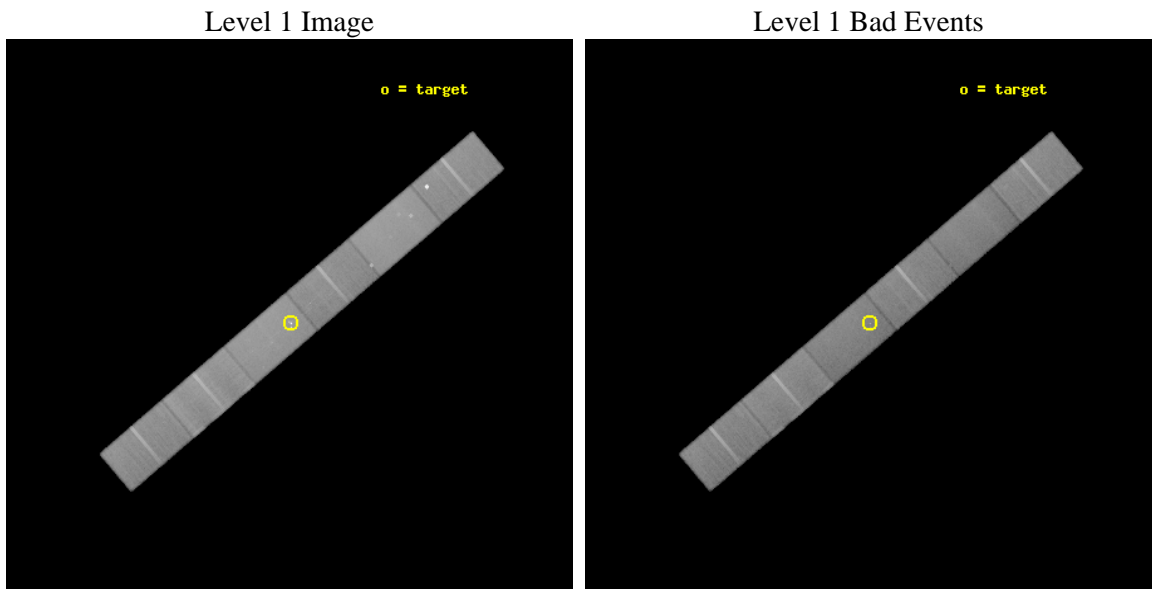
seq_num	700854	Sequence number
obs_id	4771	Observation id
title	The size of the nuclear reflector in the Circinus Galaxy	Proposal
observer	Professor Giorgio Matt	Principal investigator
object	Circinus Galaxy	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	213.2925	Observer's specified target RA [deg]
dec_targ	-65.339111	Observer's specified target Dec [deg]
ra_nom	213.2977676311	Nominal RA [deg]
dec_nom	-65.338800933807	Nominal Dec [deg]
roll_nom	139.41418859357	Nominal Roll [deg]
revision	3	Processing version of data
ontime	60178.0	Sum of GTIs [s]
livetime	58967.977109709	Livetime [s]
ontime4	60178.0	Sum of GTIs [s]
ontime5	60178.0	Sum of GTIs [s]
ontime6	60178.0	Sum of GTIs [s]
ontime7	60178.0	Sum of GTIs [s]
ontime8	60178.0	Sum of GTIs [s]
ontime9	60178.0	Sum of GTIs [s]
l2events	475536	Number of level 2 events



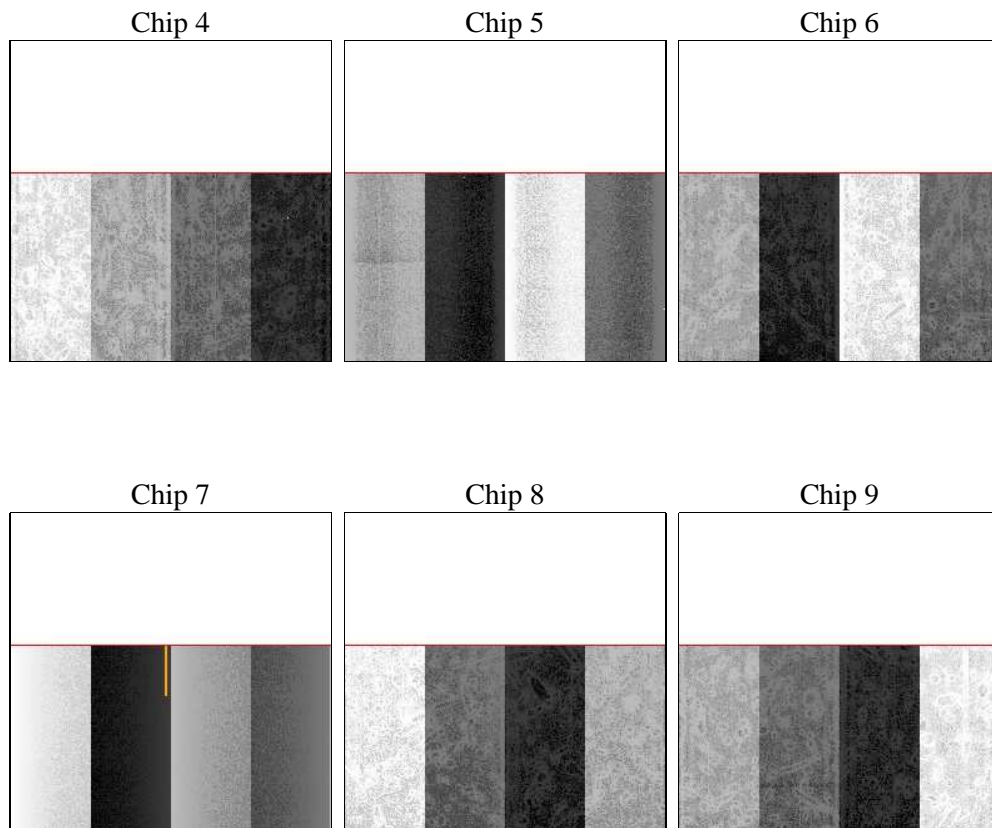
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	60000.000000	[s] Scheduled observation exposure time
ascdsver	8.5	Processing system revision	ontime	60178.0	Sum of GTIs [s]
caldbver	4.5.4	&#160	ontime4	60178.0	Sum of GTIs [s]
date	2012-12-12T04:50:59	Date and time of file creation	ontime5	60178.0	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	60178.0	Sum of GTIs [s]
			ontime7	60178.0	Sum of GTIs [s]
			ontime8	60178.0	Sum of GTIs [s]
			ontime9	60178.0	Sum of GTIs [s]
			l1events	2101202	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	347371	415085	294733	390626	371406	281981	grade 0 events	39925	18980	15694	17125	24316	14175
rejected events	286339	224284	256917	218229	291001	247073		11%	4%	5%	4%	6%	5%
rejected %	82%	54%	87%	55%	78%	87%	grade 1 events	262	794	122	436	203	144
								0%	0%	0%	0%	0%	0%
							grade 2 events	7874	54336	7491	35779	17825	6729
								2%	13%	2%	9%	4%	2%
							grade 3 events	4116	10263	4012	16574	8815	4069
								1%	2%	1%	4%	2%	1%
							grade 4 events	3941	9820	3981	16272	8297	3731
								1%	2%	1%	4%	2%	1%
							grade 5 events	11838	33634	12352	35717	16172	13304
								3%	8%	4%	9%	4%	4%
							grade 6 events	5700	99221	6923	88069	21831	6518
								1%	23%	2%	22%	5%	2%
							grade 7 events	273715	188037	244158	180654	273947	233311
								78%	45%	82%	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	213.362124	213.2977676310995	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-65.343447	-65.33880093380688	Subarray start row	1	1
[deg] Pointing Roll	139.316059	139.4141885935707	Subarray row count	600	600
[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
[mm] SIM translation stage pos	-185.052523	-185.053606194816			
[mm] SIM translation stage offset	-5.08	-5.0789163881918			
[s] Observation start time (MET)	218054861.184000	218053656.58277			
Observation start date	2004-11-28T18:46:37	2004-11-28T18:27:36			
[s] Observation end time (MET)	218114861.184000	218115463.57305			
Observation end date	2004-11-29T11:26:37	2004-11-29T11:37:43			
Read mode	TIMED	TIMED			

## 2.3 Aspect

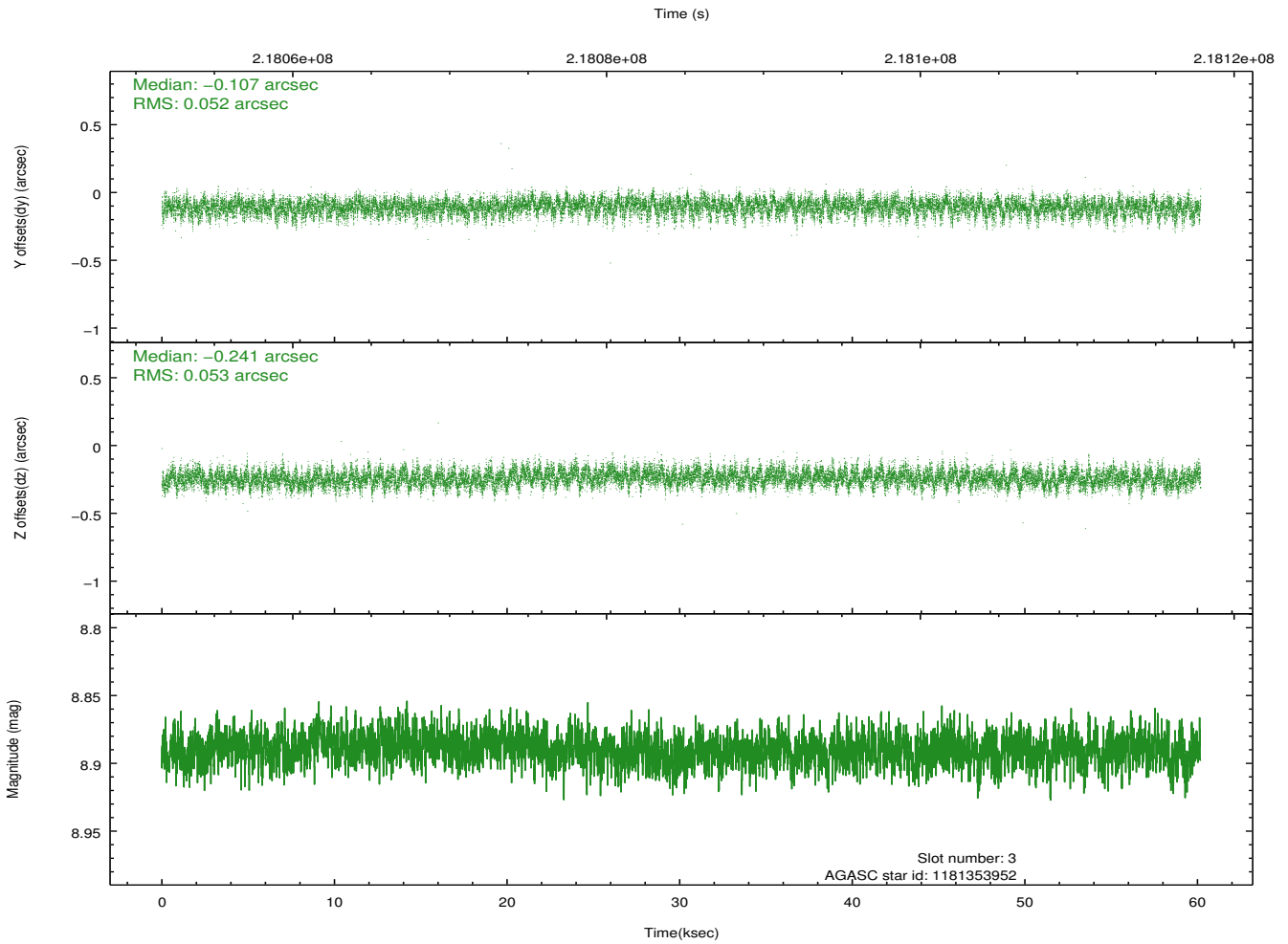
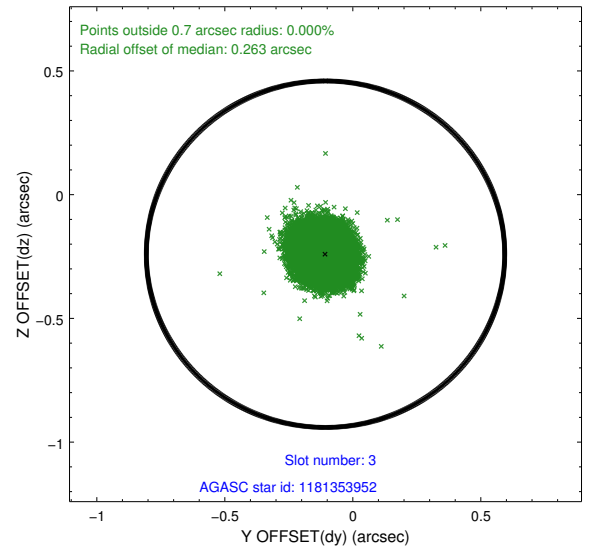
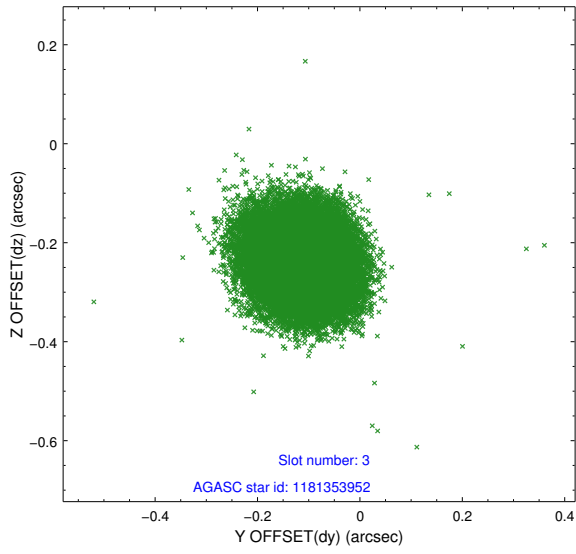


### Slot Statistics

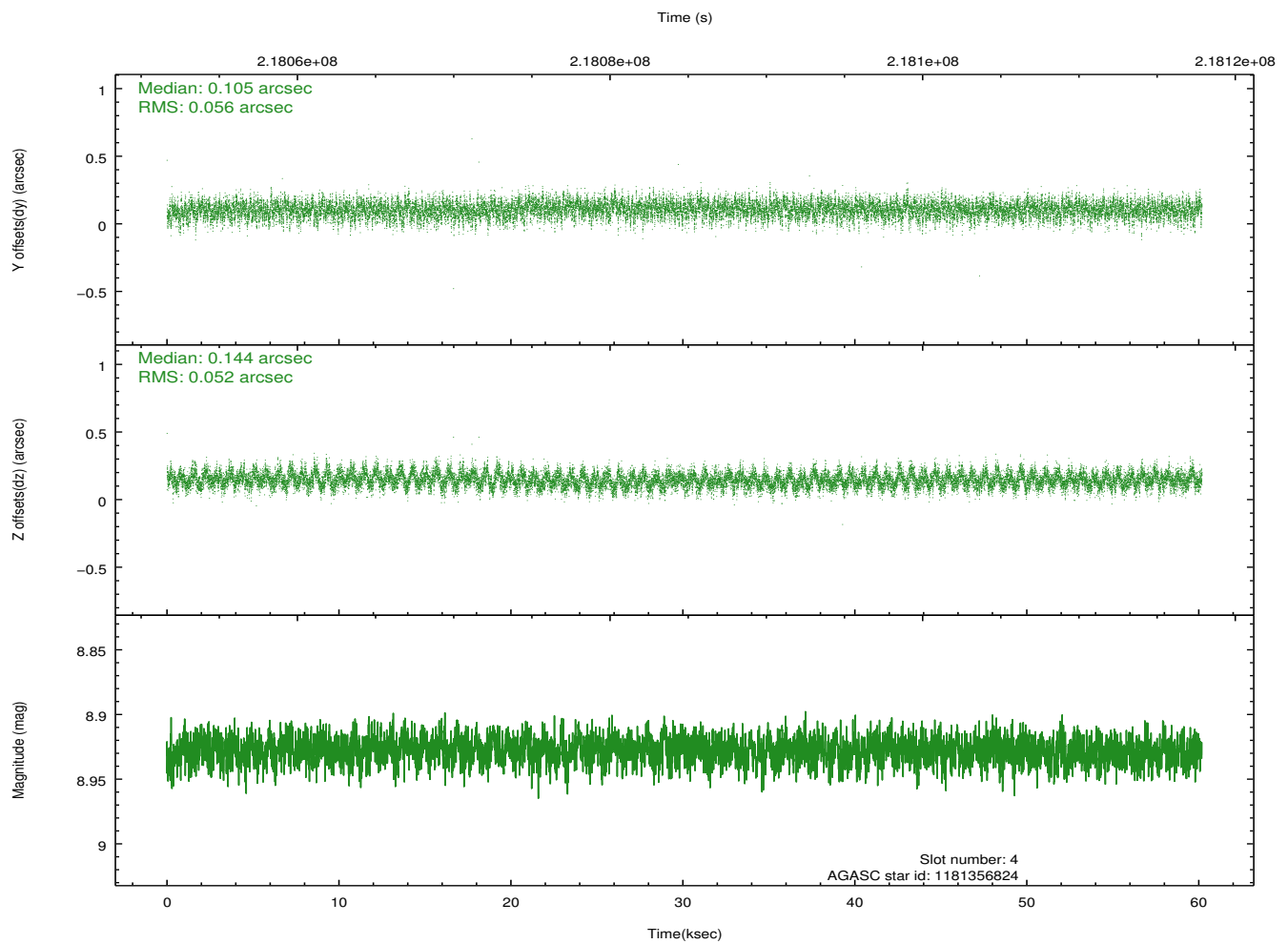
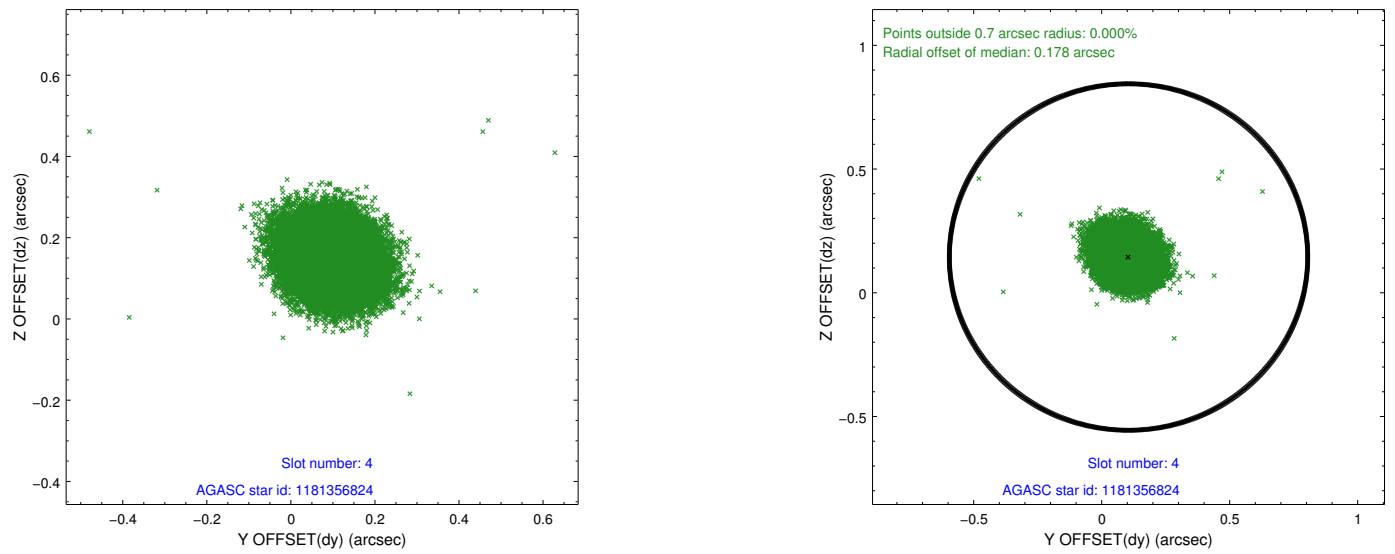
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	14679	0.051	0.079	0.014	0.037	0.000000	0.000000	935.87	-1833.43
1	FID	ACIS-S-2	7.09	14679	-0.116	-0.084	0.014	0.035	0.000000	0.000000	-760.22	-1838.11
2	FID	ACIS-S-6	7.37	14678	0.047	0.009	0.014	0.026	0.000000	0.000000	401.52	707.86
3	GUIDE	1181353952	8.89	29337	-0.107	-0.241	0.079	0.126	211.658427	-65.506998	1521.64	2130.36
4	GUIDE	1181356824	8.93	29345	0.105	0.144	0.082	0.132	213.100076	-64.682630	1856.76	-1539.53
5	GUIDE	1181492072	9.21	29305	0.055	0.059	0.078	0.127	214.479575	-65.592809	-1854.94	-391.46
6	GUIDE	1181490256	9.46	29328	-0.080	0.167	0.124	0.195	215.201445	-65.114639	-1601.89	-2409.64
7	GUIDE	1181880992	9.07	29334	0.028	-0.129	0.097	0.158	213.720648	-66.170562	-2337.57	1919.33

## 2.4 Star Slots

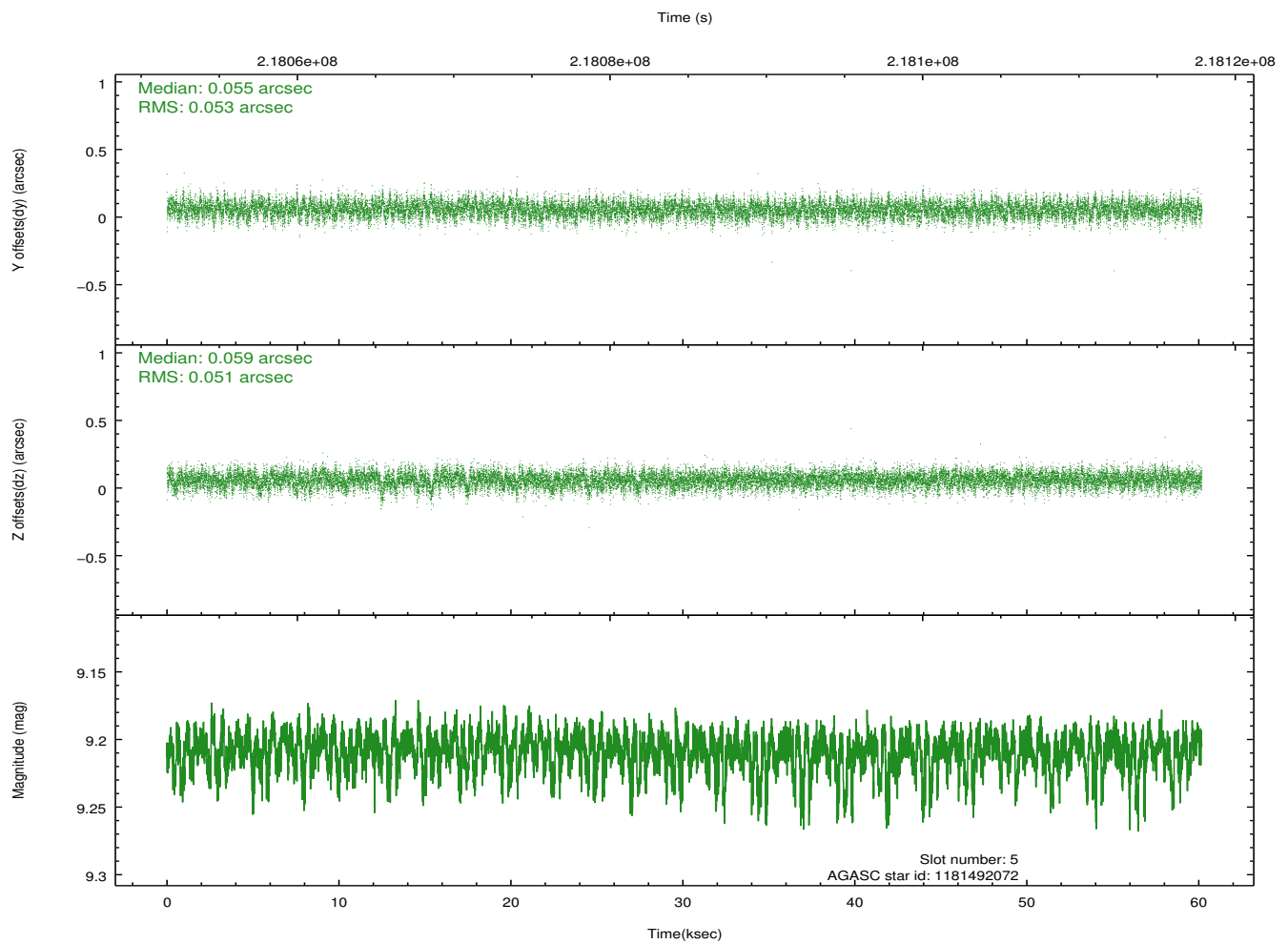
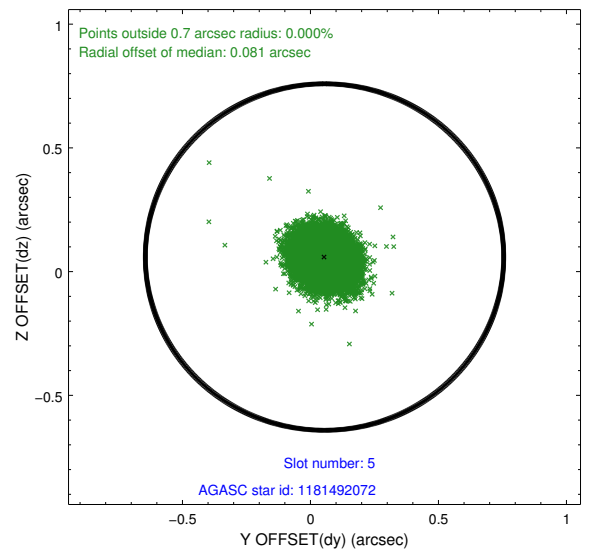
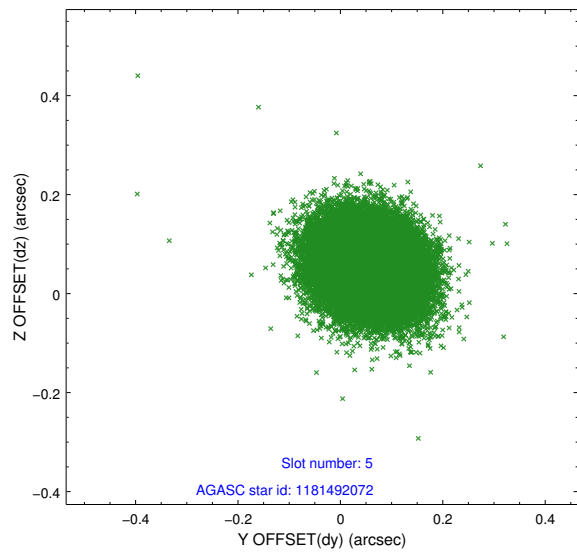
### 2.4.1 Slot 3



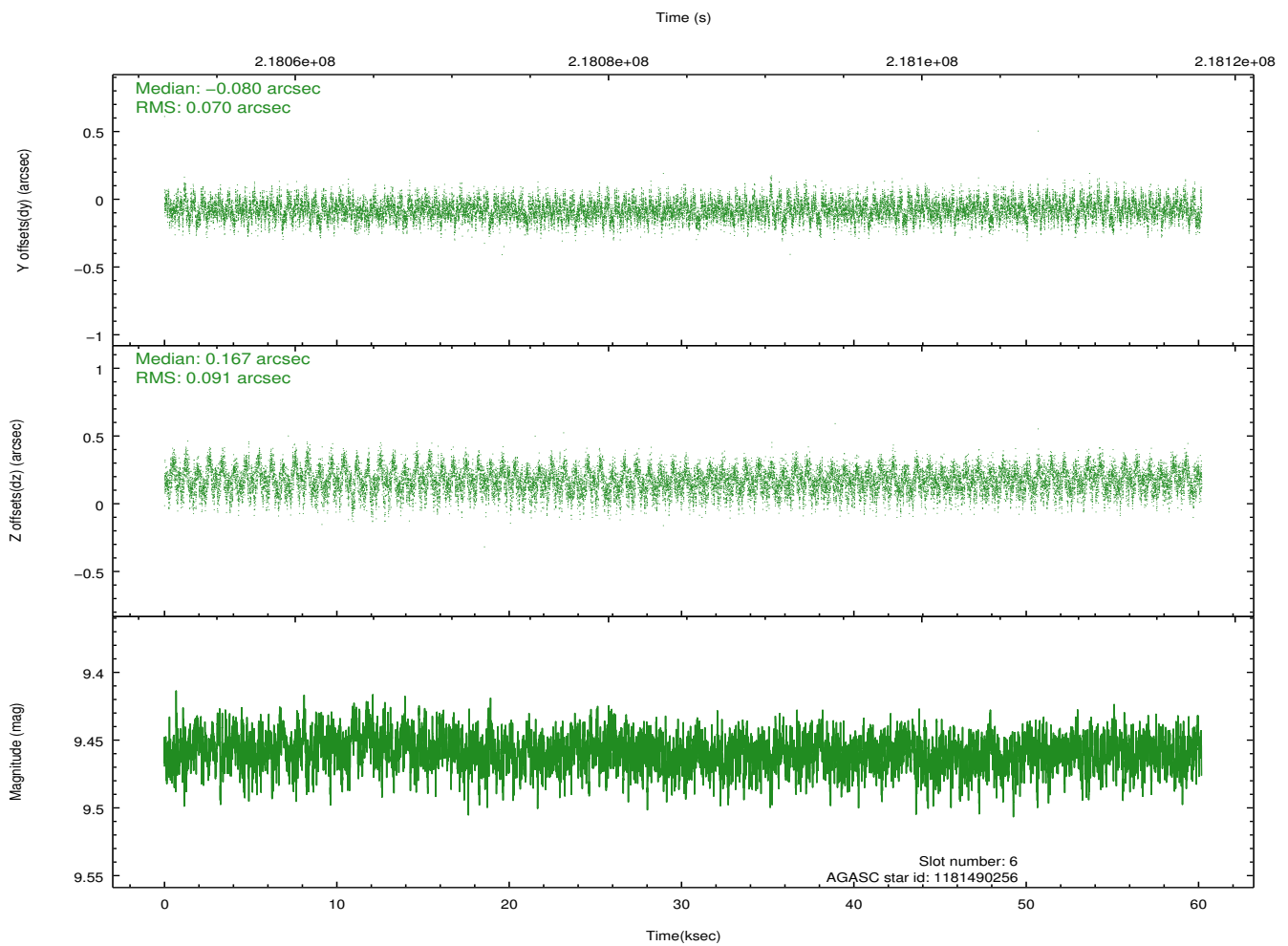
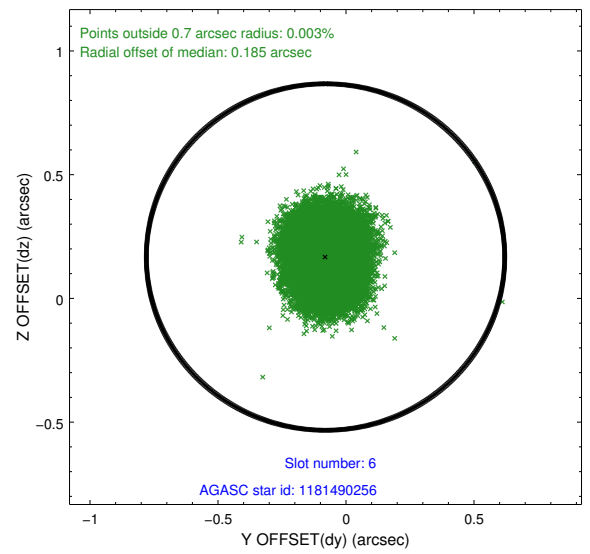
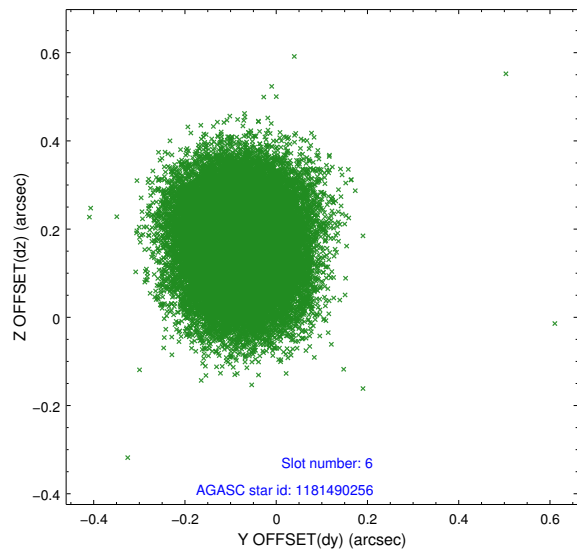
## 2.4.2 Slot 4



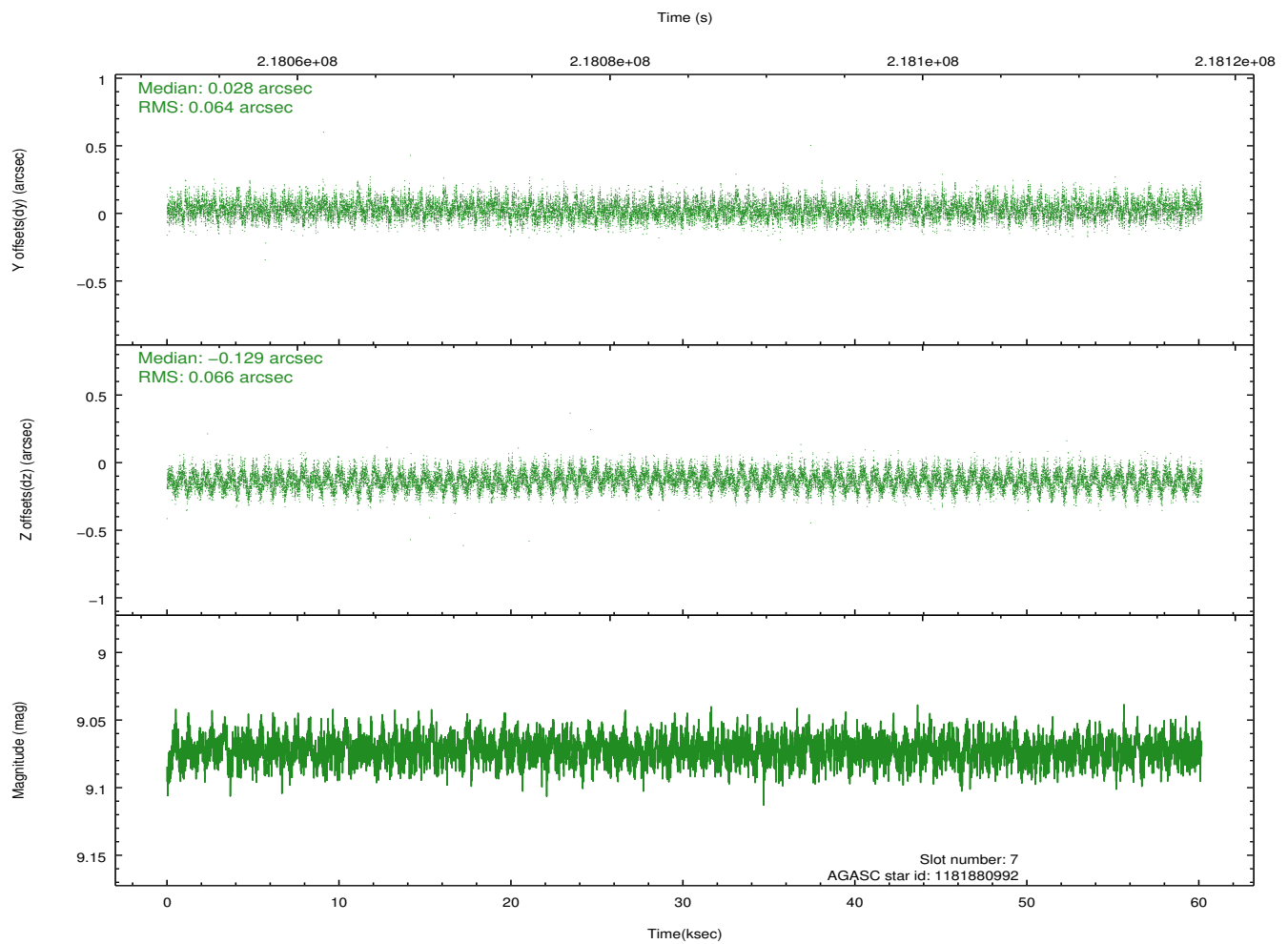
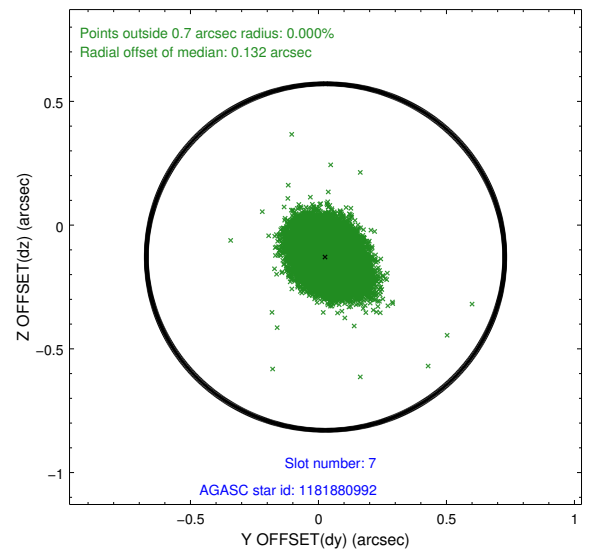
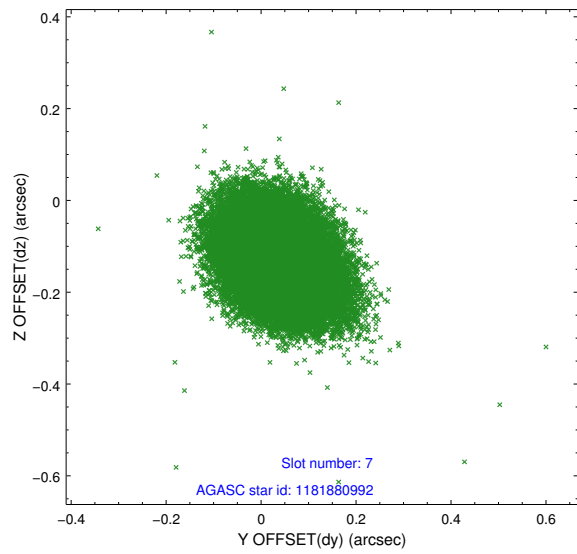
### 2.4.3 Slot 5



## 2.4.4 Slot 6

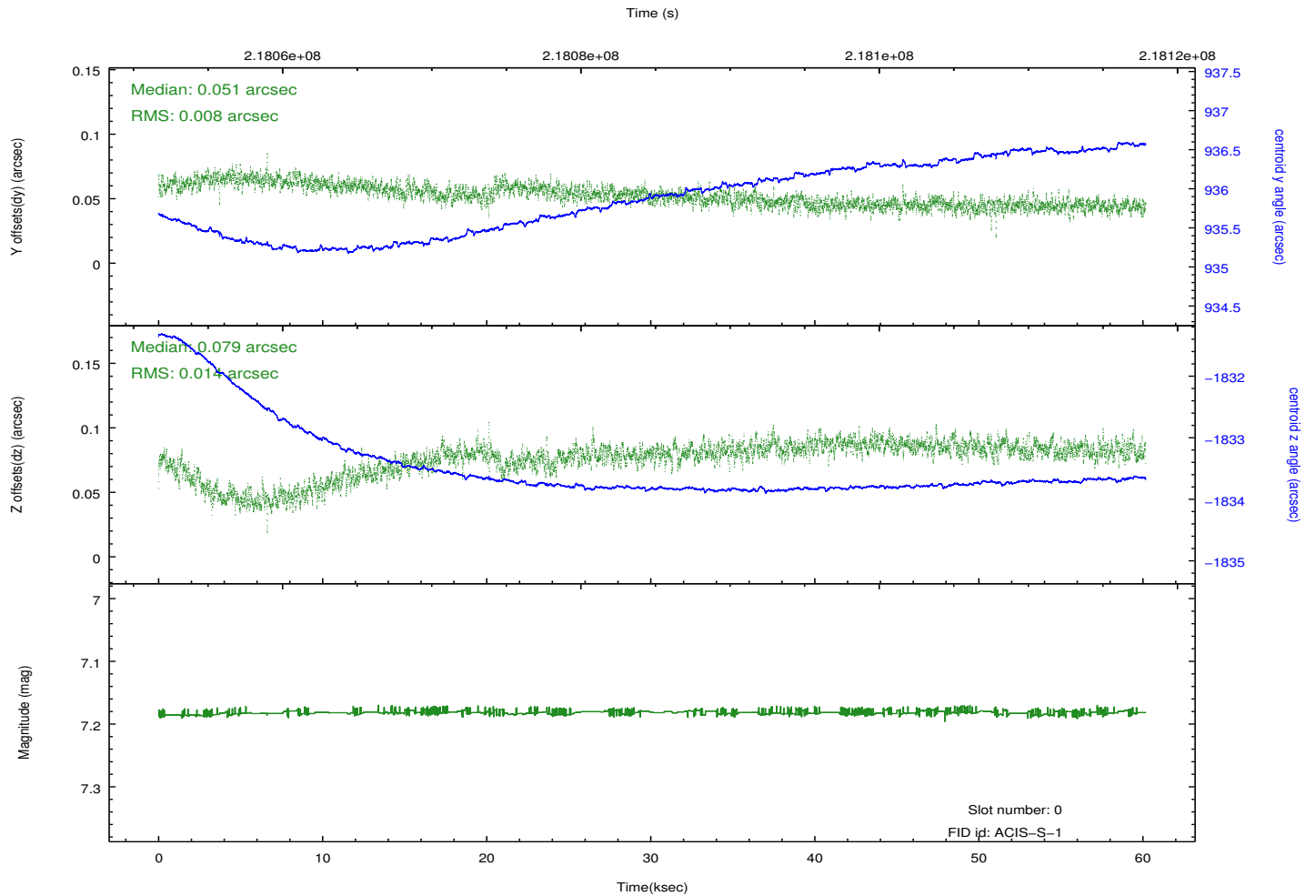
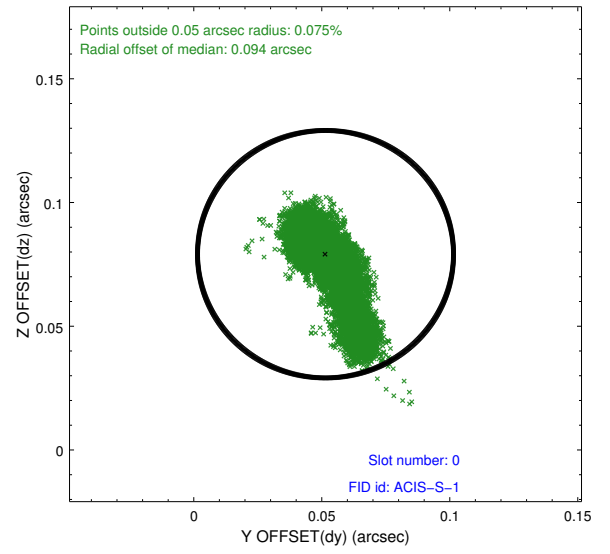
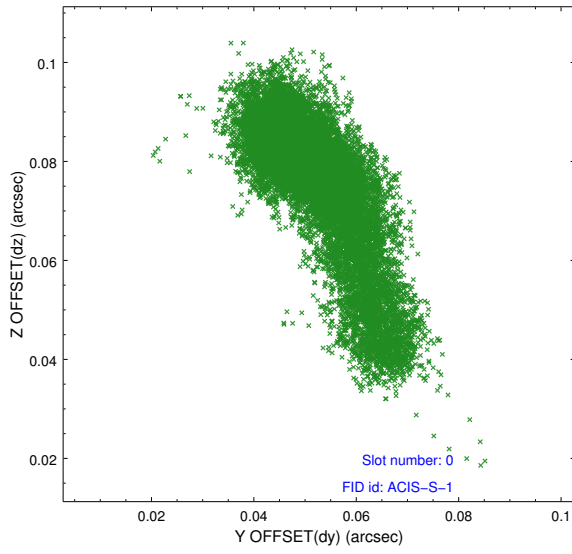


## 2.4.5 Slot 7

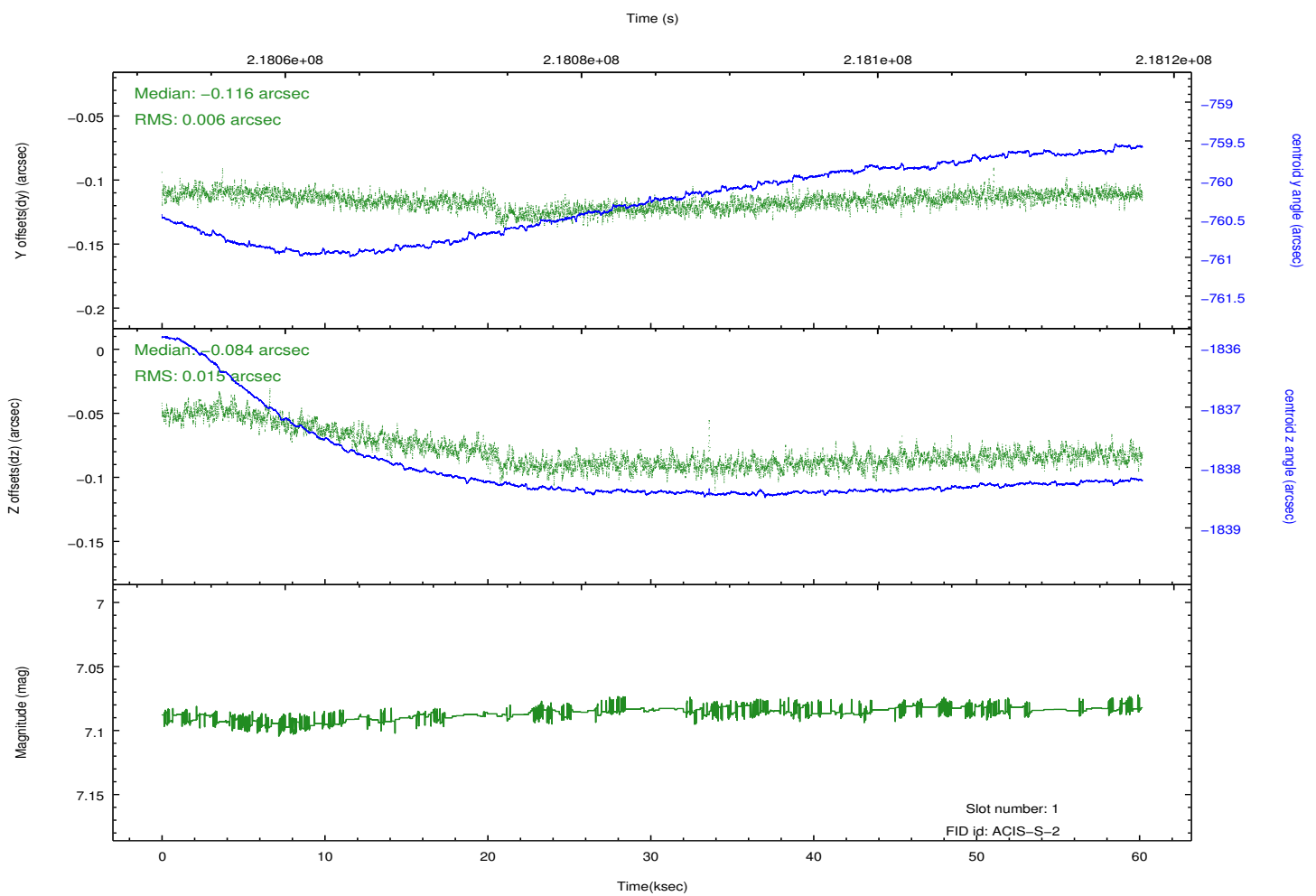
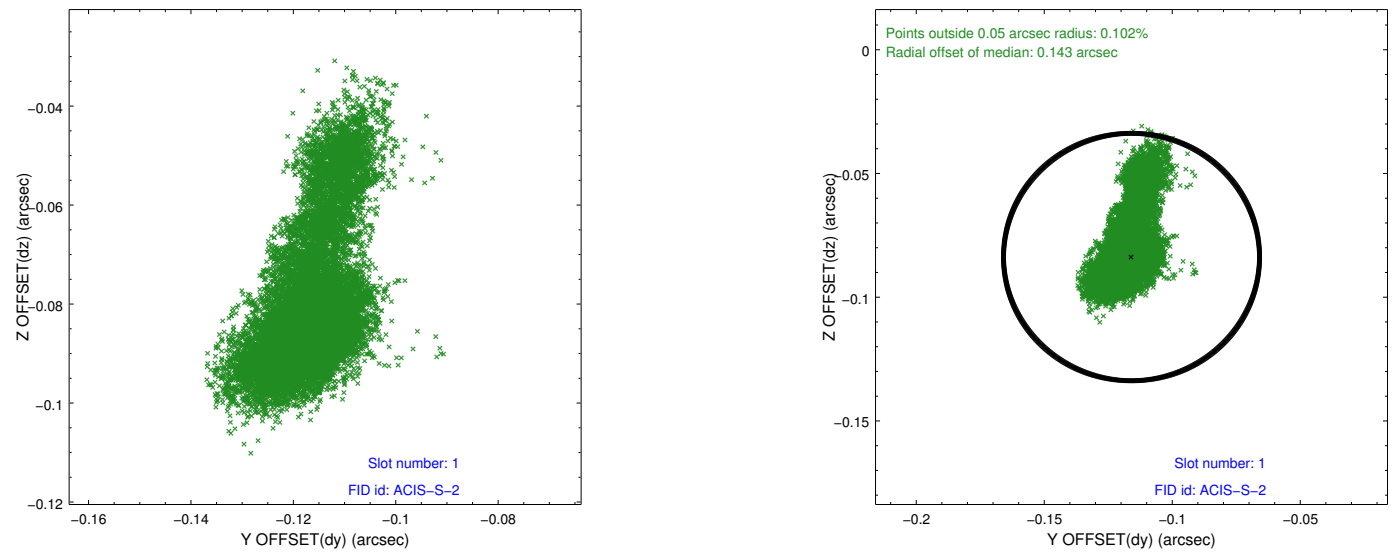


## 2.5 FID Slots

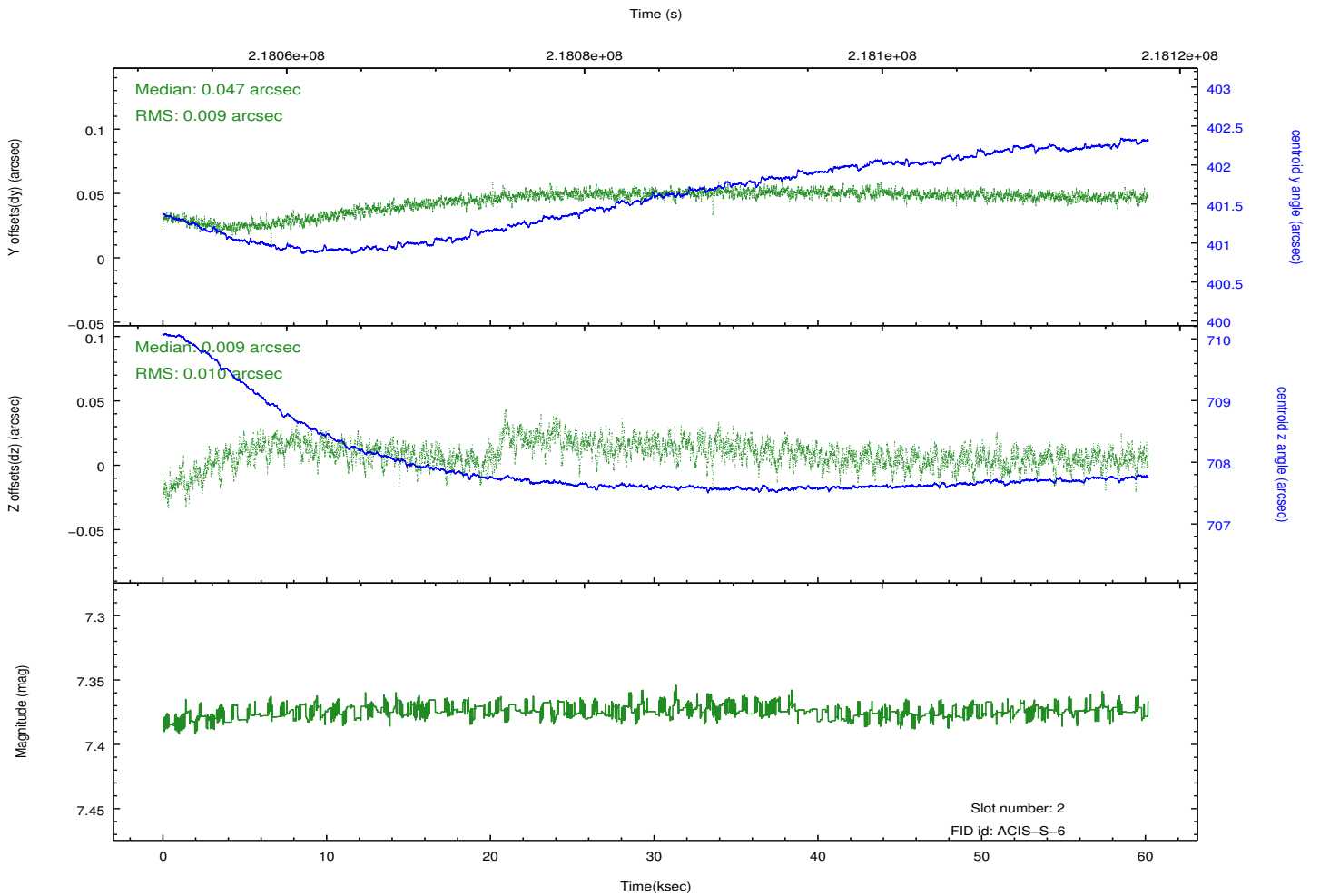
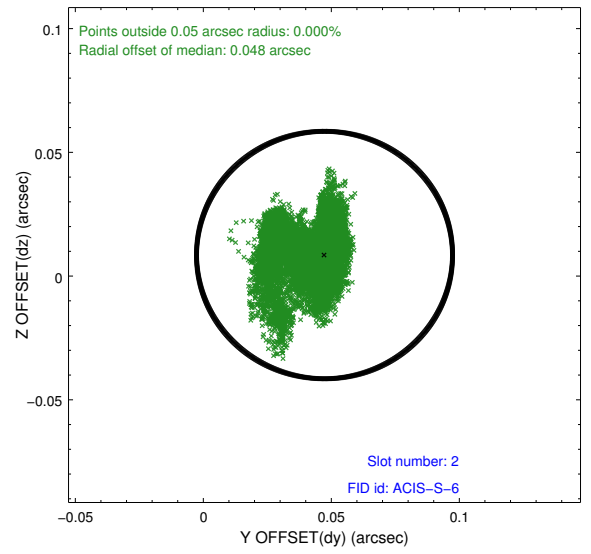
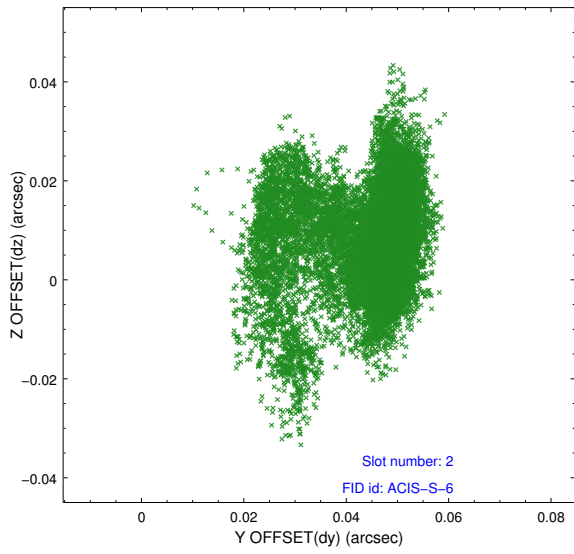
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

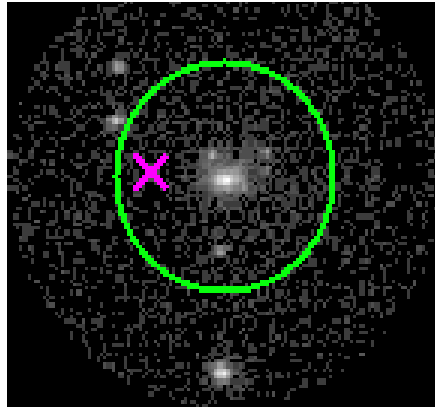


# 3 Gratings

## 3.1 HEG Arm



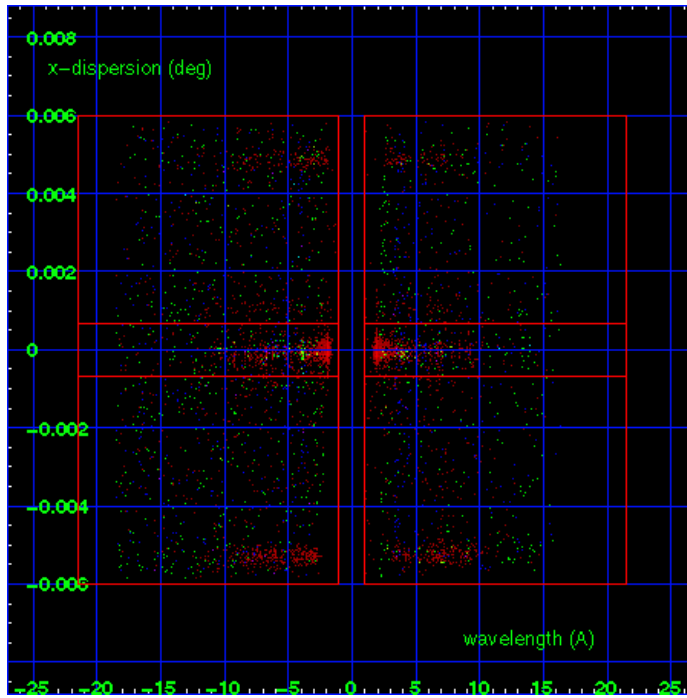
HEG Order Sort 123



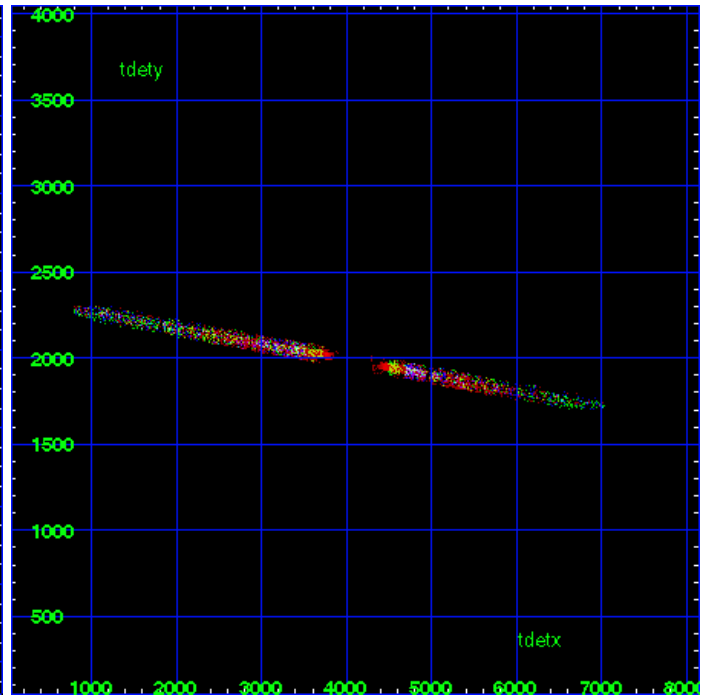
HEG Zero Order



HEG Order Sort ALL

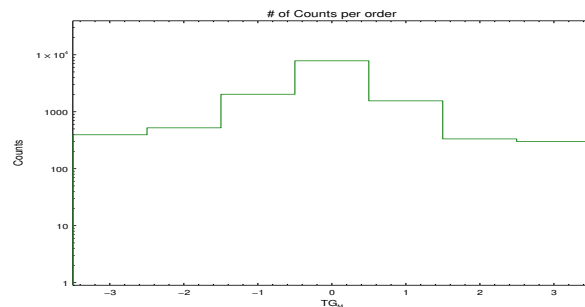


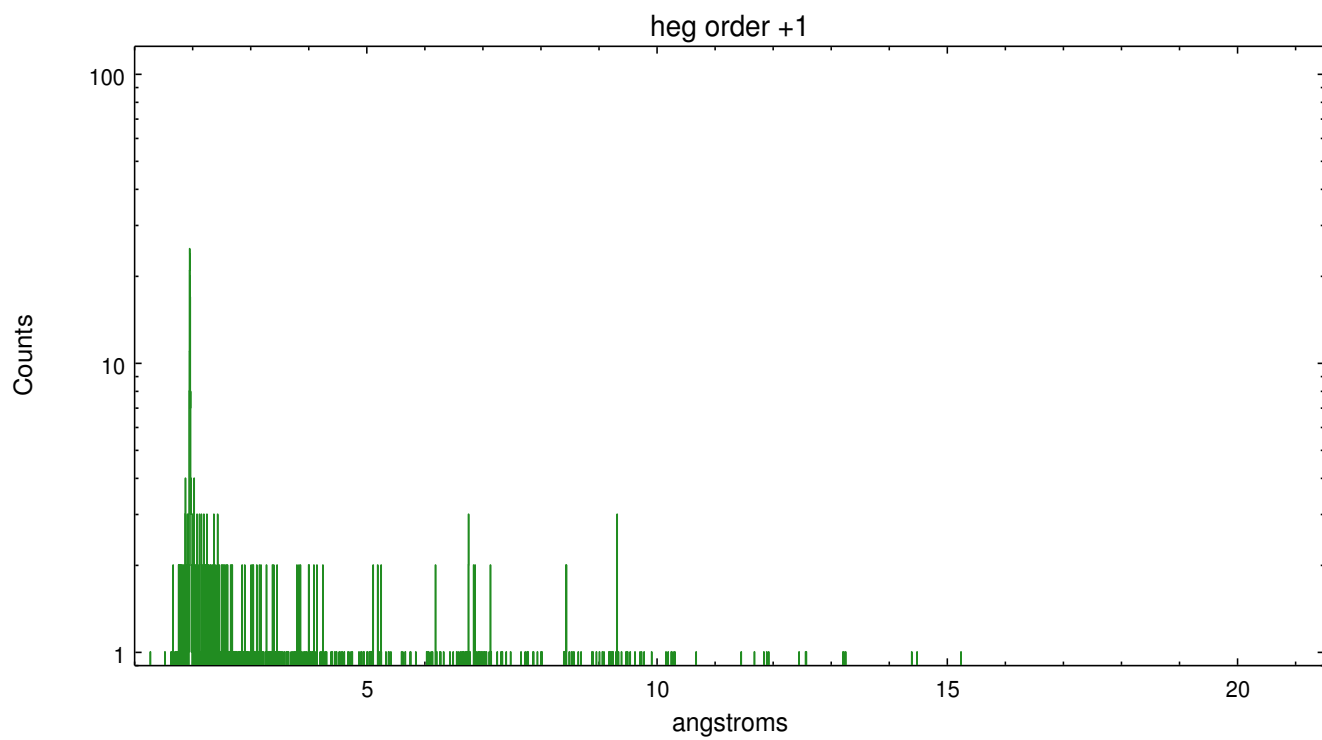
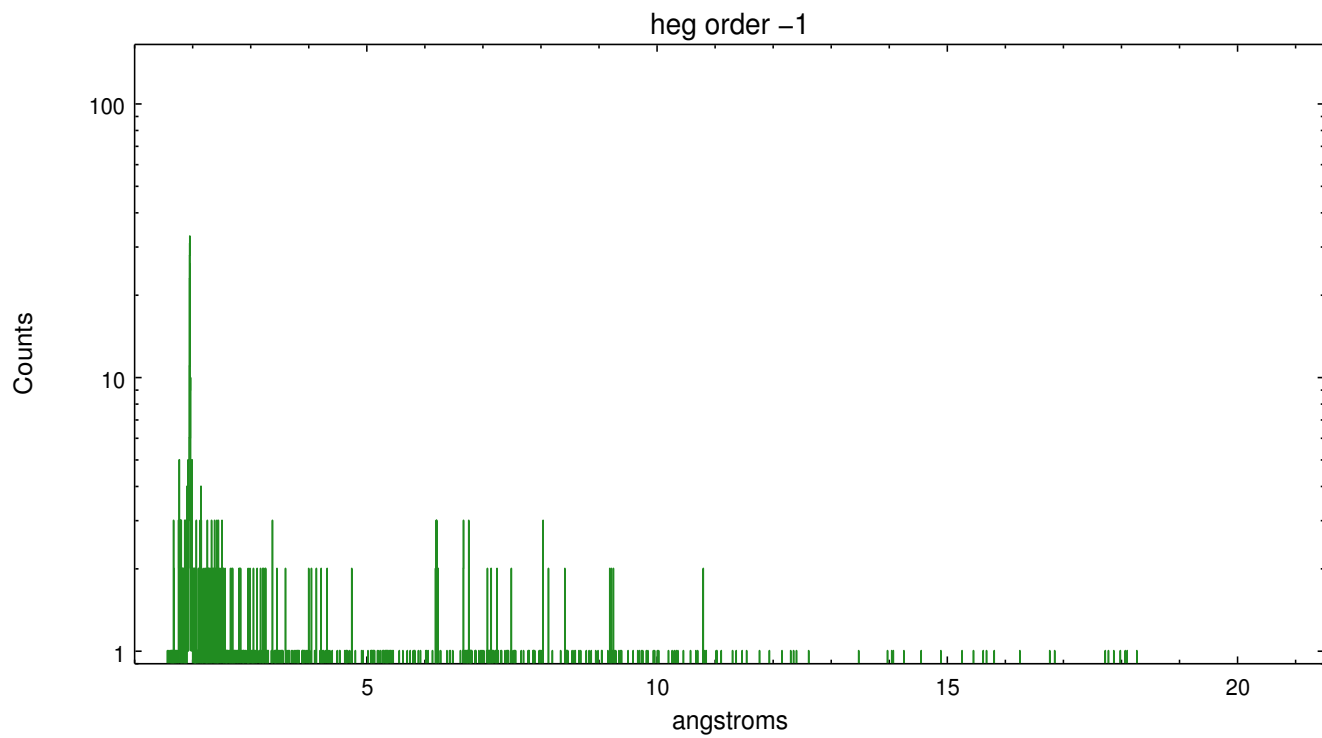
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	395	523	2034	7886	1559	334	301

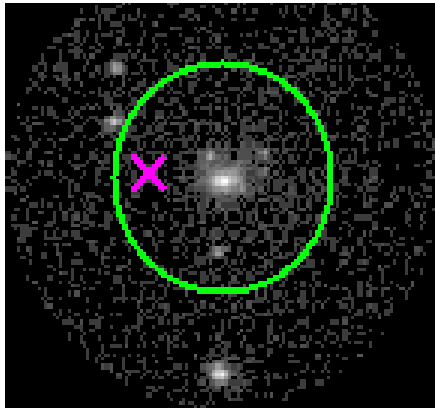




### 3.2 MEG Arm



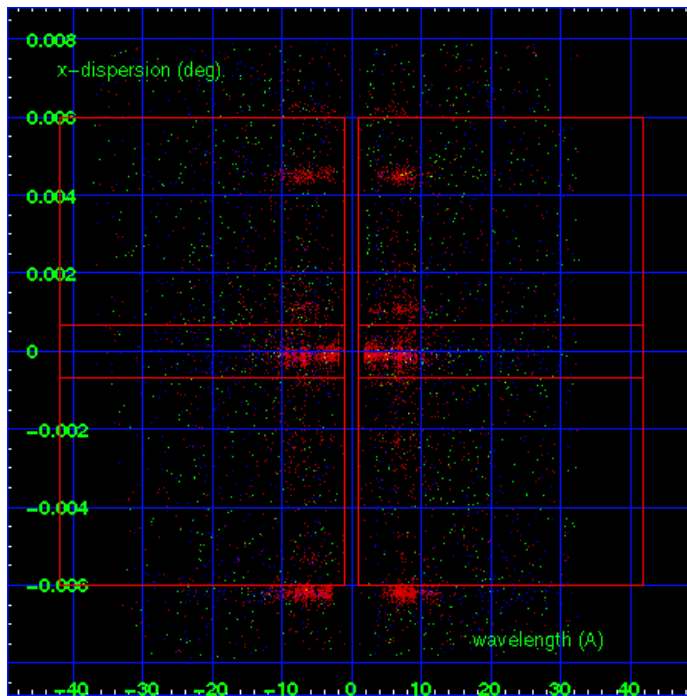
MEG Order Sort 123



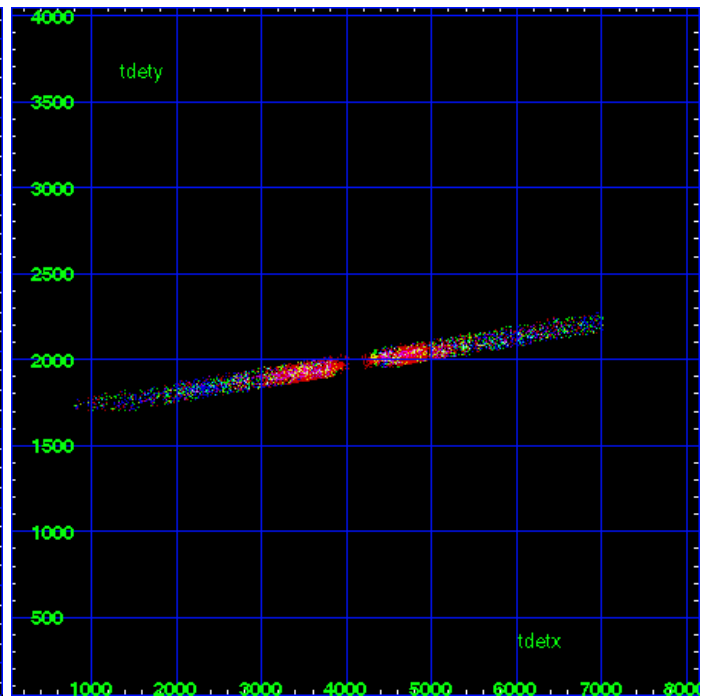
MEG Zero Order



MEG Order Sort ALL

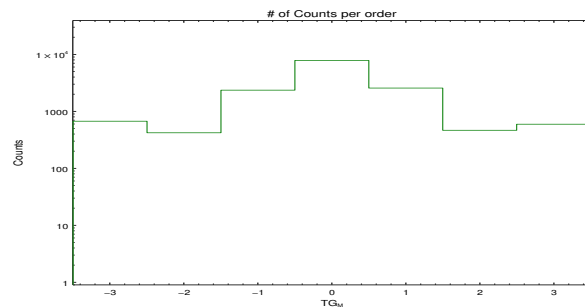


Spot Image MEG

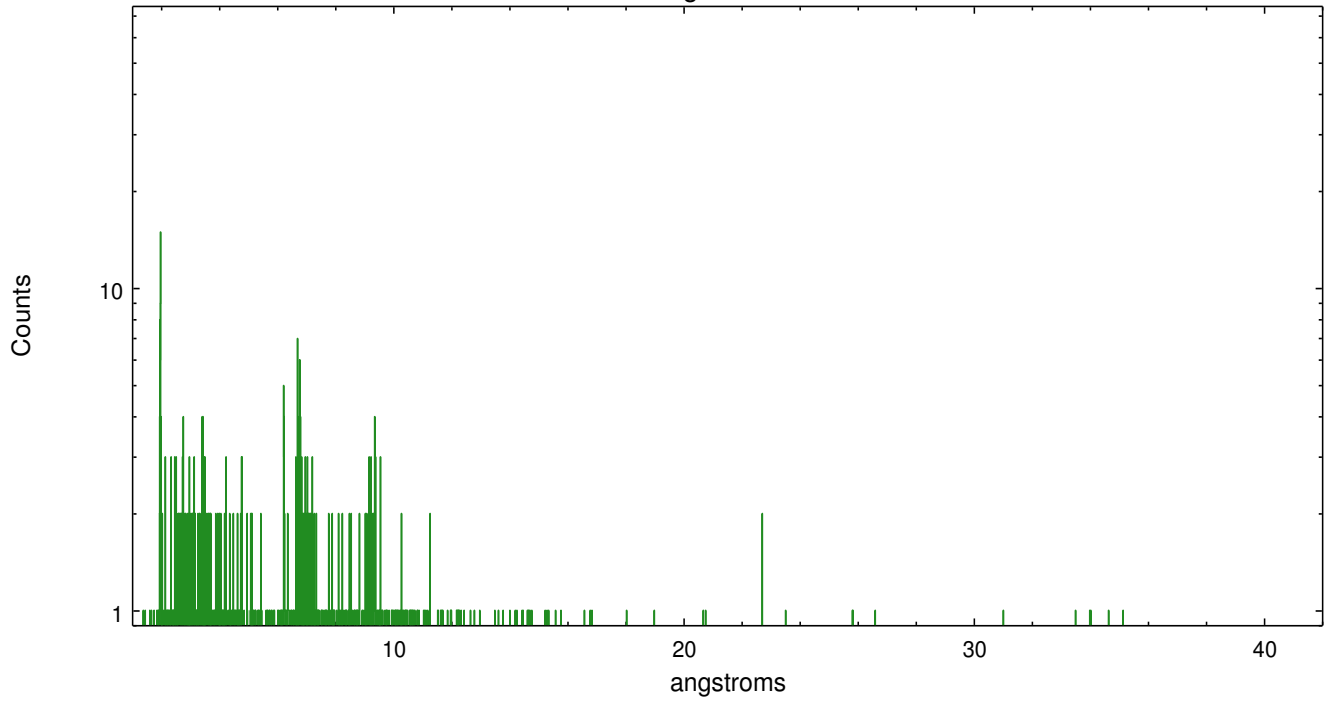


Full Detector MEG

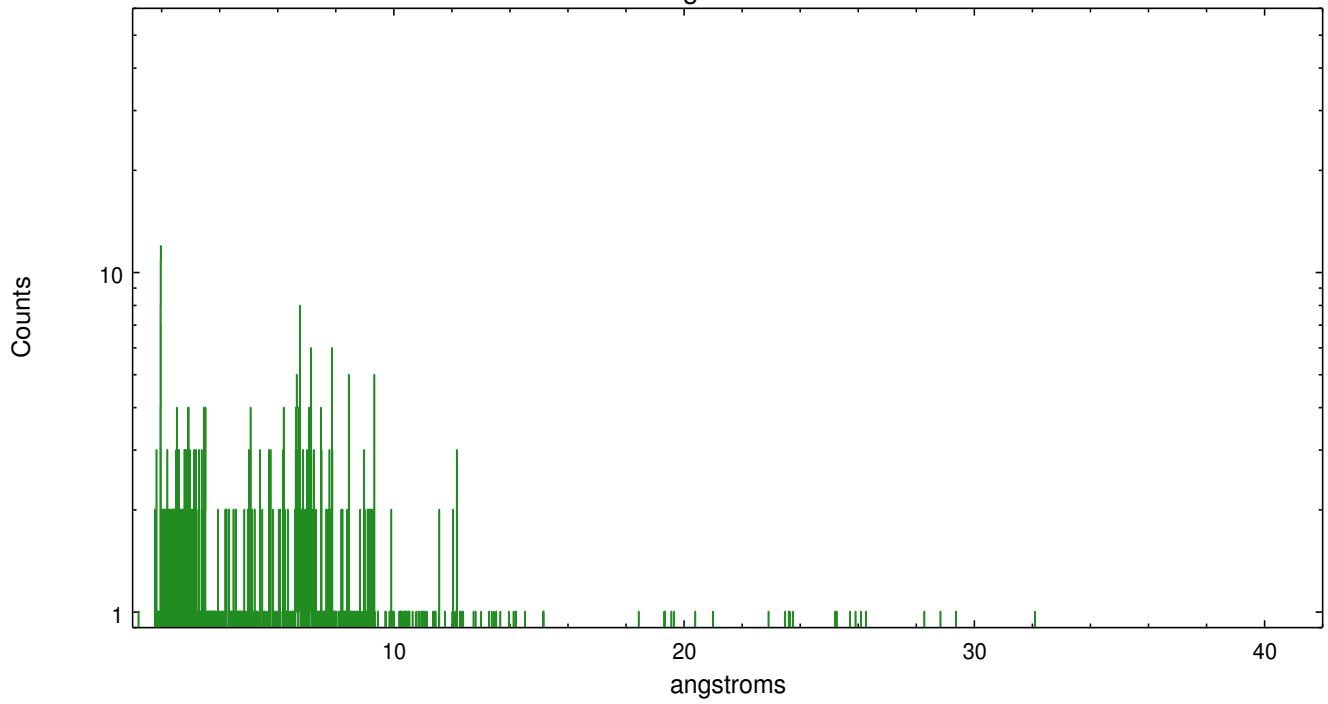
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	673	422	2366	7886	2577	466	596



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	60.178

## A.2 Comments

The spectral extraction in this processing is of The Circinus Galaxy nucleus. Multiple sources, some with visible grating traces, are nearby and may contaminate the dispersed spectrum and/or the background for the spectrum. May require reprocessing by user to obtain only the spectral data of interest and a clean background; will require manual processing to extract additional spectra.