

# V&V Reference Report

## L2 ASCDS Version : 10.6

Observation 18990 - L2 Version 1  
Chandra X-Ray Center

L2 Processing Date : Jun 17 2017

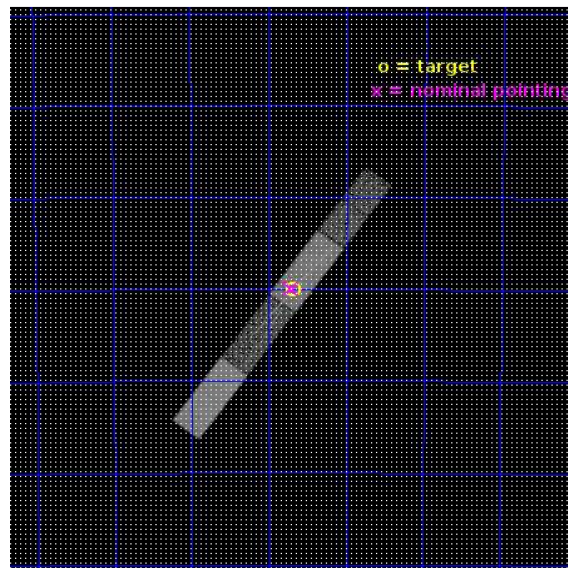
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# 1 Front

seq_num	401858	Sequence number
obs_id	18990	Observation id
title	The Puzzling Nature OF THE YOUNG MICROQUASAR CIR X-1	Proposal titl
observer	Norbert Schulz	Principal investigator
object	Cr X-1	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	230.170833	Observer's specified target RA [deg]
dec_targ	-57.166667	Observer's specified target Dec [deg]
ra_nom	230.17681089394	Nominal RA [deg]
dec_nom	-57.165908506134	Nominal Dec [deg]
roll_nom	306.16169283732	Nominal Roll [deg]
revision	1	Processing version of data
ontime	13623.65581131	Sum of GTIs [s]
livetime	13206.729519405	Livetime [s]
ontime5	13623.614771366	Sum of GTIs [s]
ontime6	13623.573731303	Sum of GTIs [s]
ontime7	13623.65581131	Sum of GTIs [s]
ontime8	13623.53269136	Sum of GTIs [s]
l2events	66259	Number of level 2 events

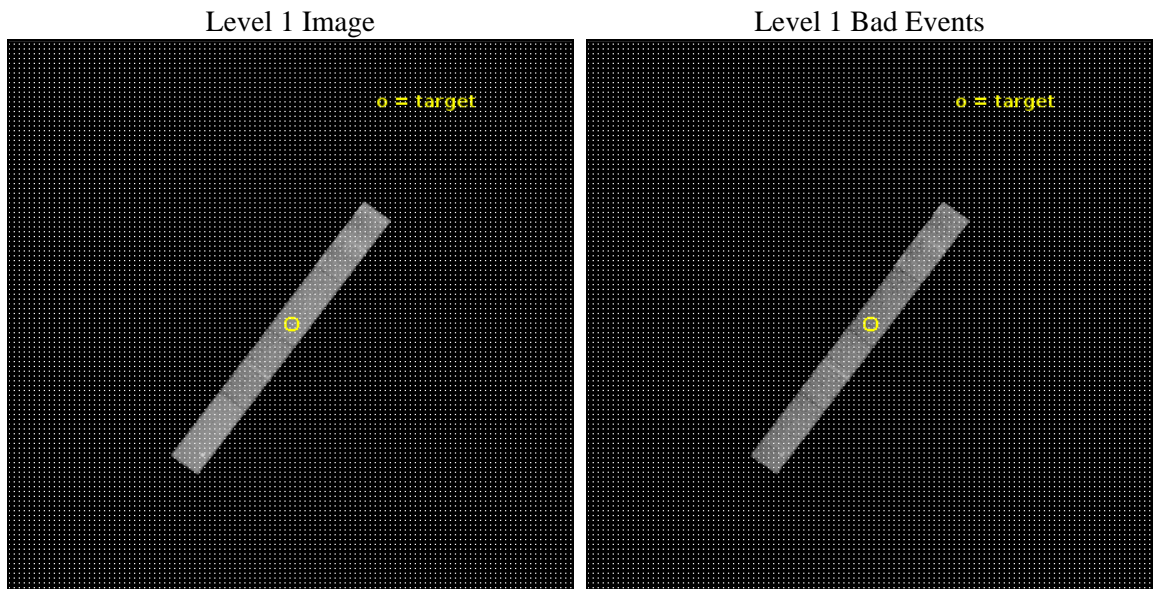




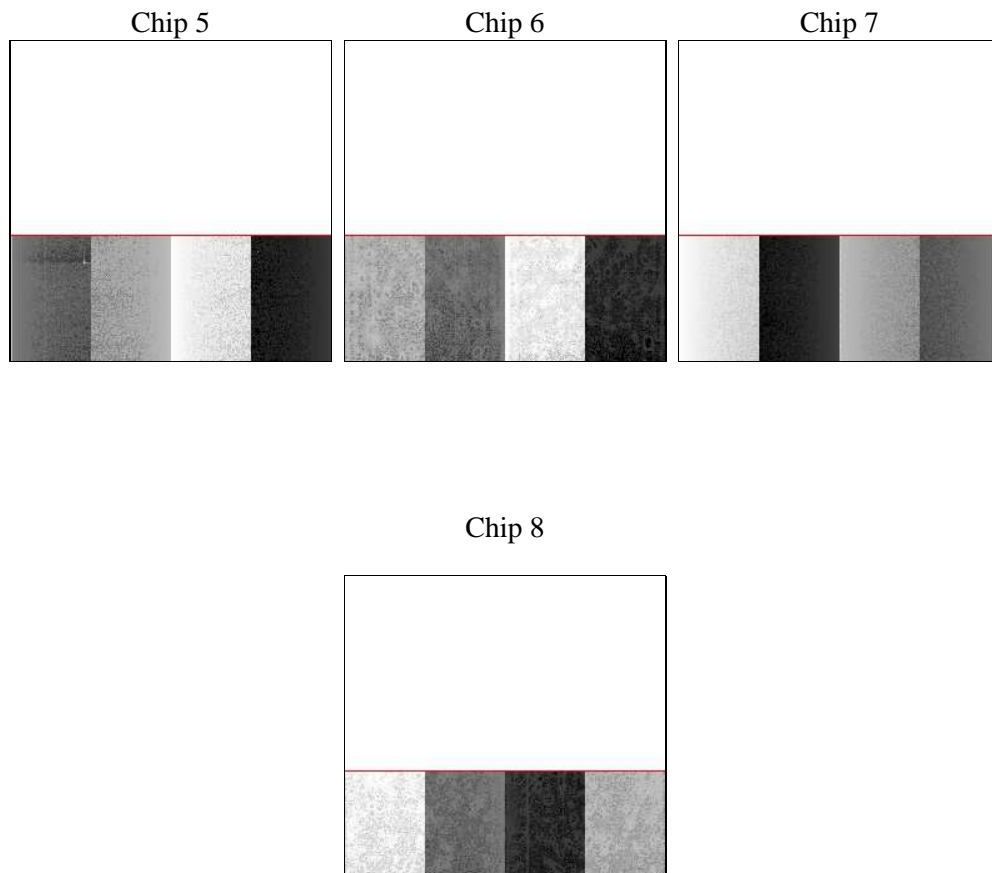
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias





### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	13550.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	13623.65581131	Sum of GTIs [s]
caldsver	4.7.5	&#160	ontime5	13623.614771366	Sum of GTIs [s]
date	2017-06-17T21:38:25	Date and time of file creation	ontime6	13623.573731303	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	13623.65581131	Sum of GTIs [s]
			ontime8	13623.53269136	Sum of GTIs [s]
			l1events	218552	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4121.23, 4089.68)	src1a sky pixel position

### 2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	64161	42876	54235	57280
rejected events	31661	36647	27587	40935
rejected %	49%	85%	50%	71%

	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	2749	2513	2838	4686
	4%	5%	5%	8%
grade 1 events	115	18	79	22
	0%	0%	0%	0%
grade 2 events	10316	1268	5795	3543
	16%	2%	10%	6%
grade 3 events	1997	664	2548	1899
	3%	1%	4%	3%
grade 4 events	1738	687	2513	1834
	2%	1%	4%	3%
grade 5 events	5715	1742	5217	2658
	8%	4%	9%	4%
grade 6 events	15705	1097	12959	4383
	24%	2%	23%	7%
grade 7 events	25826	34887	22286	38255
	40%	81%	41%	66%

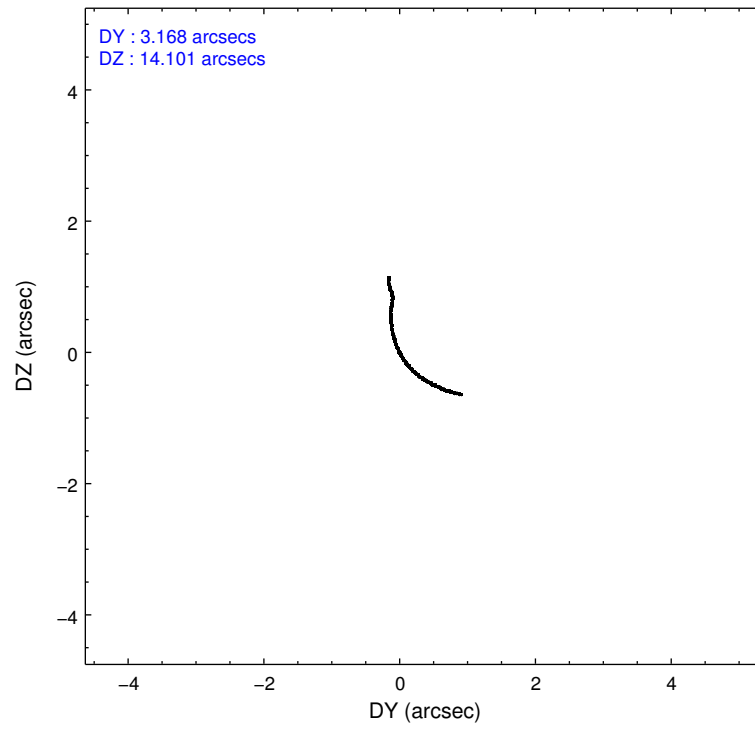
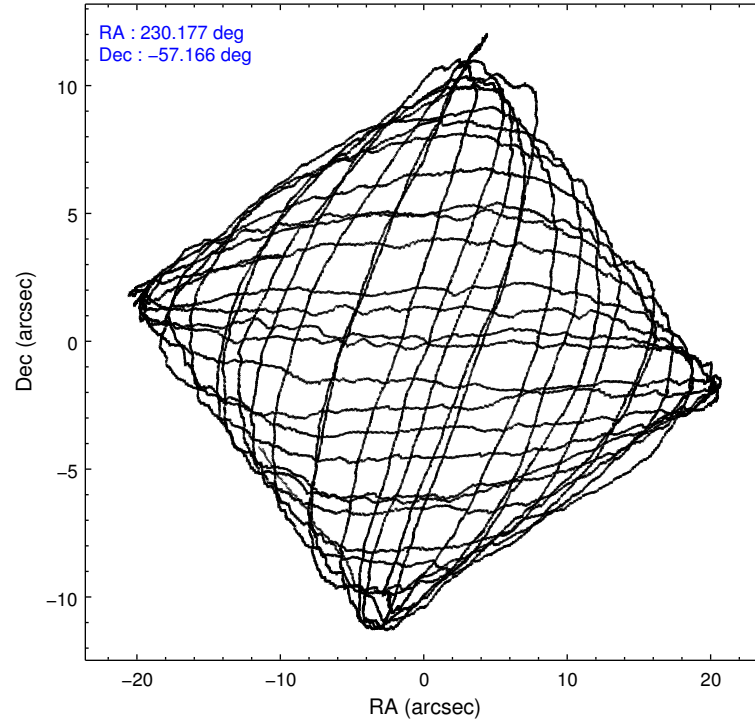


## 2.2 Compared Parameters

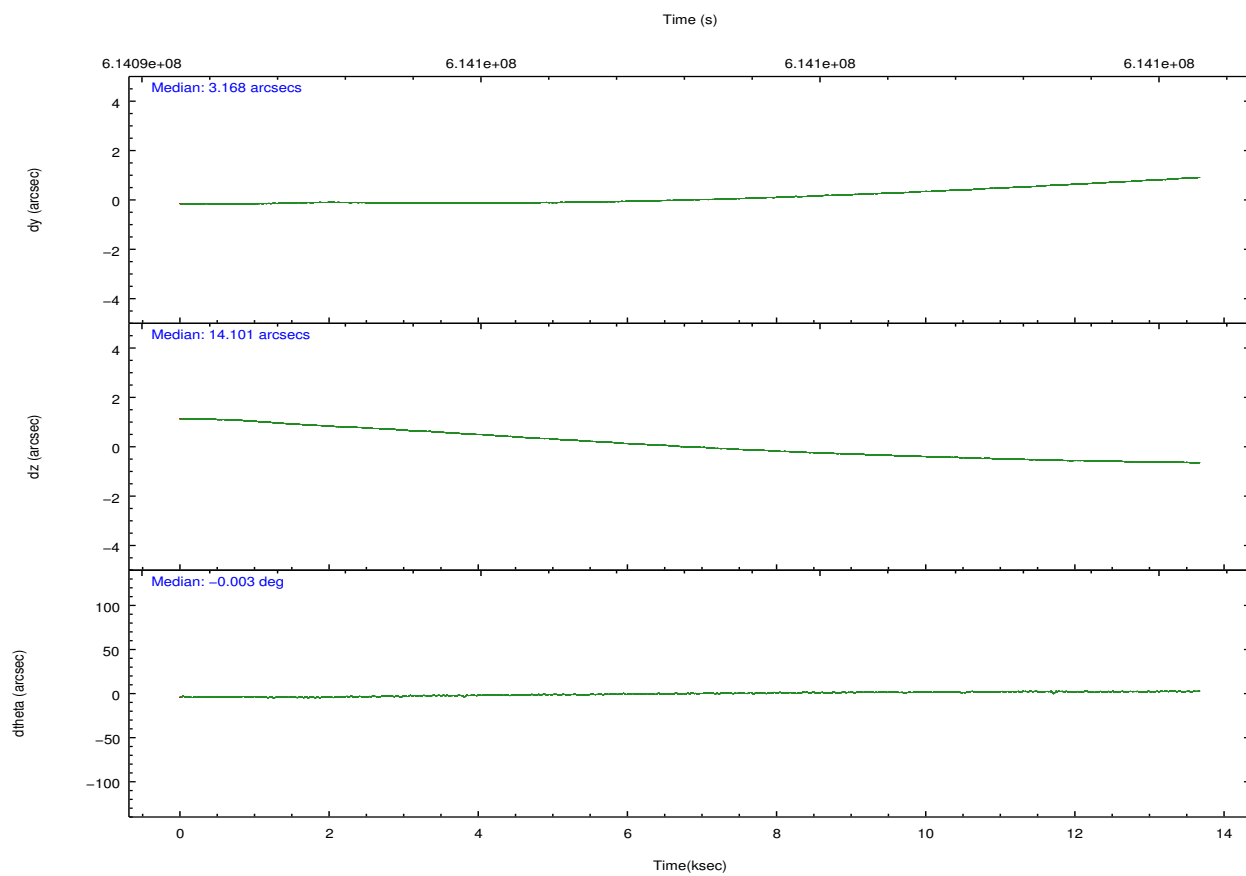
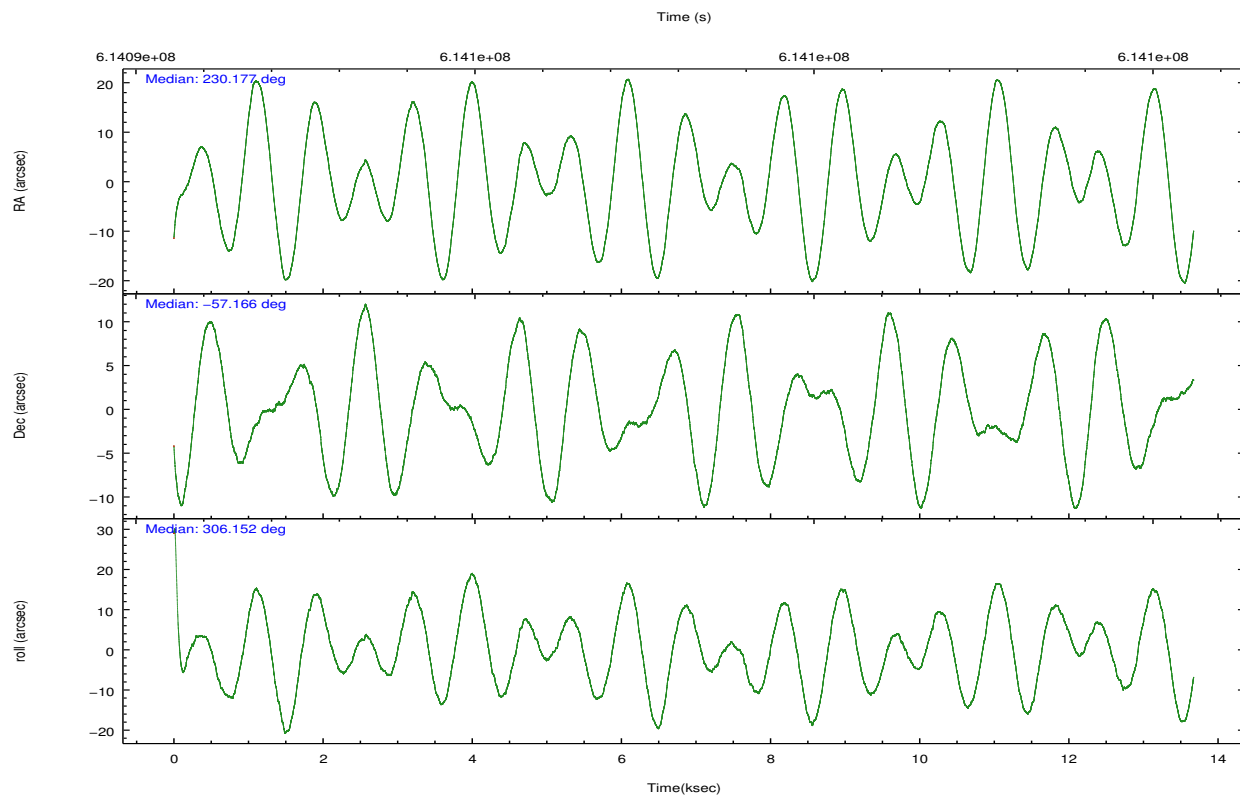
Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	230.130297	230.1768108939386	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-57.155131	-57.16590850613379	Subarray start row	1	1
[deg] Pointing Roll	305.965944	306.1616928373215	Subarray row count	400	400
[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	1.3
[mm] SIM translation stage pos	-182.642523	-182.6398635053184			
[mm] SIM translation stage offset	-7.49	-7.49265907768941			
Phase constraints	Y	Y			
[d] Phase period	16.540100	16.540100			
[d] Phase epoch (MJD)	55325.568980	55325.568980			
Phase start	0.960000	0.960000			
Phase end	0.040000	0.040000			
Phase start error	0.010000	0.010000			
Phase end error	0.010000	0.010000			
[s] Observation start time (MET)	614091346.184000	614090190.15345			
Observation start date	2017-06-17T12:54:37	2017-06-17T12:36:30			
[s] Observation end time (MET)	614104896.184000	614105516.97934			
Observation end date	2017-06-17T16:40:27	2017-06-17T16:51:56			
Read mode	TIMED	TIMED			



## 2.3 Aspect









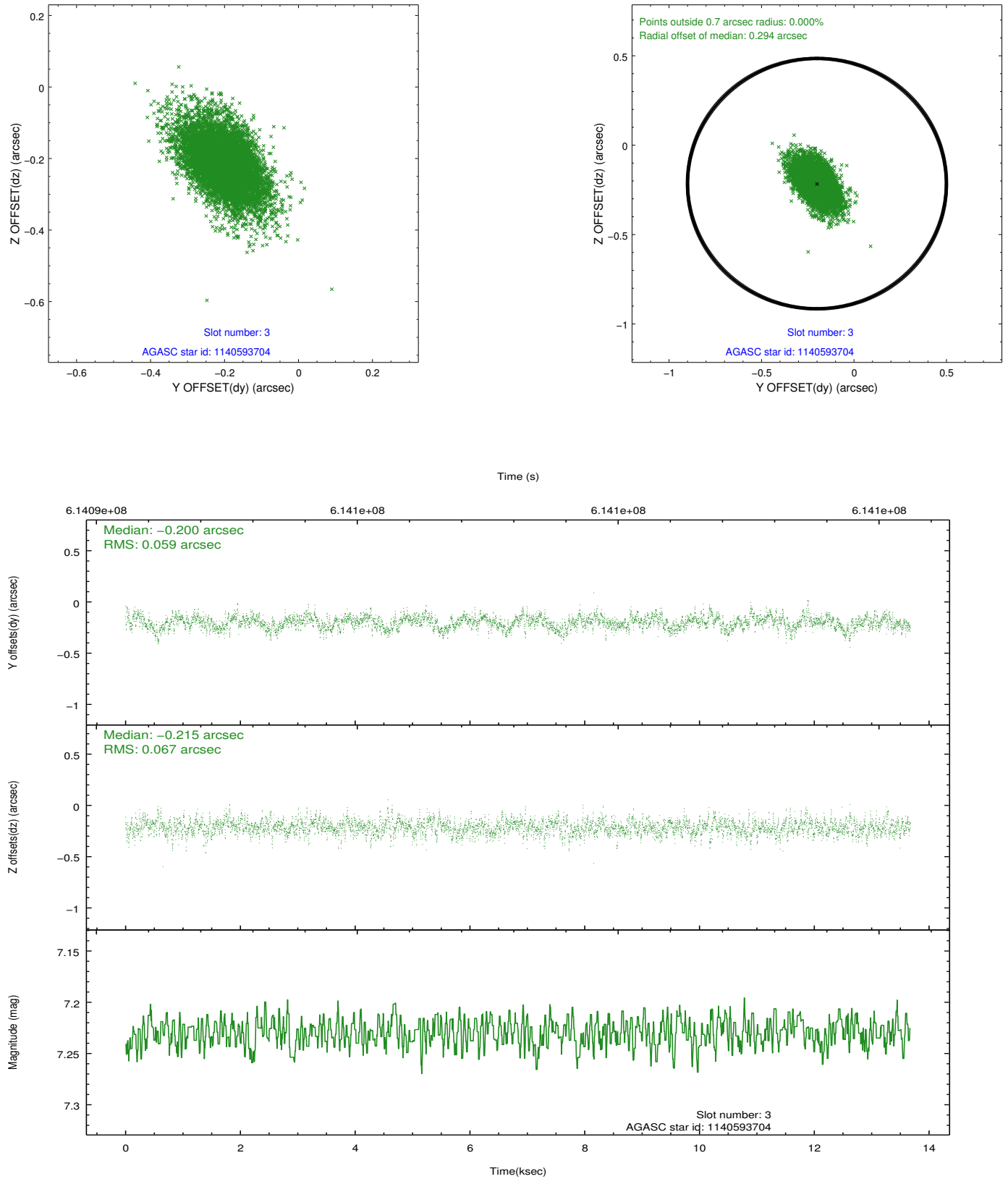
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.94	3336	-0.106	-0.111	0.030	0.037	0.000000	0.000000	-755.58	-1890.03
1	FID		ACIS-S-4	7.03	3336	0.291	0.080	0.010	0.021	0.000000	0.000000	2157.98	18.16
2	FID		ACIS-S-5	7.06	3335	-0.214	0.040	0.028	0.036	0.000000	0.000000	-1808.04	12.28
3	GUIDE	used	1140593704	7.23	6671	-0.200	-0.215	0.090	0.163	229.741417	-57.540991	685.16	-1425.08
4	GUIDE	used	1140594560	8.47	6669	0.103	0.189	0.091	0.164	229.144979	-57.397081	-405.39	-2066.38
5	GUIDE	used	1140591736	8.59	6669	0.218	0.325	0.125	0.208	228.676984	-57.228571	-1423.84	-2464.96
6	GUIDE	used	1140726312	8.86	6669	-0.020	-0.177	0.108	0.189	231.010622	-56.676215	-363.99	2413.69
7	GUIDE	used	1140726128	7.81	6668	-0.100	-0.119	0.094	0.168	231.437568	-57.014209	1113.88	2357.57



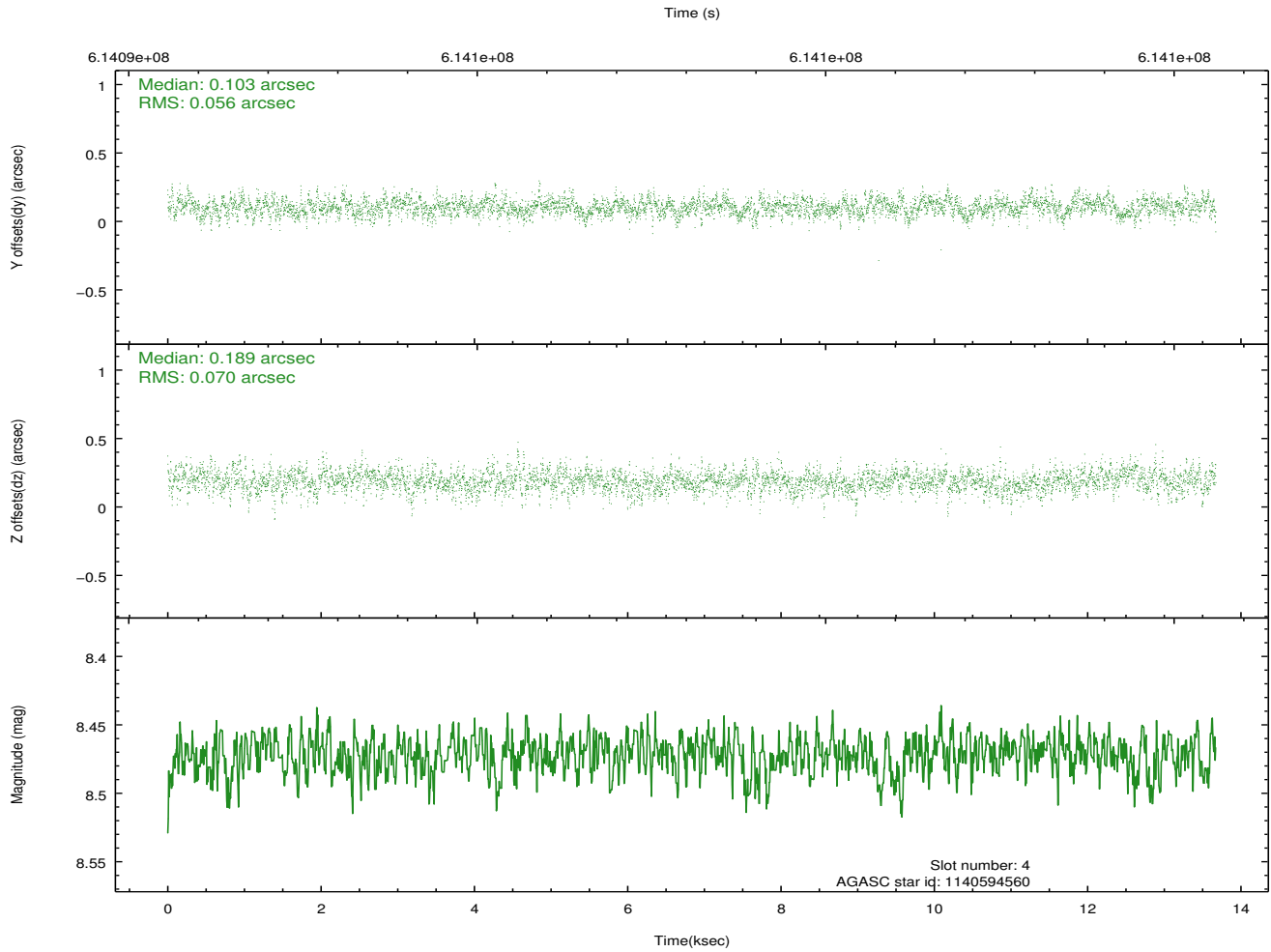
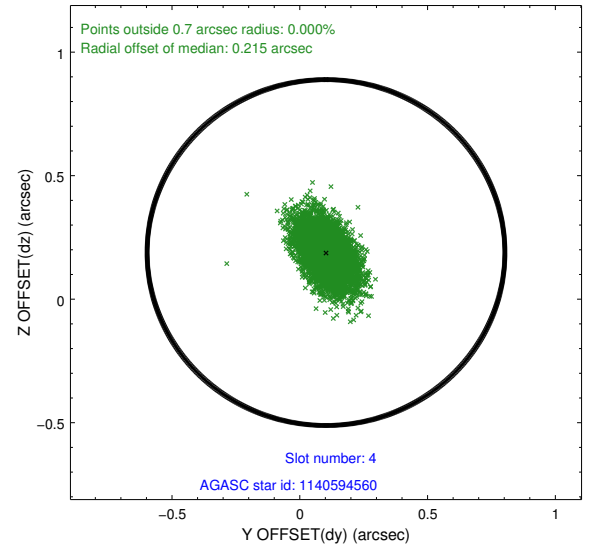
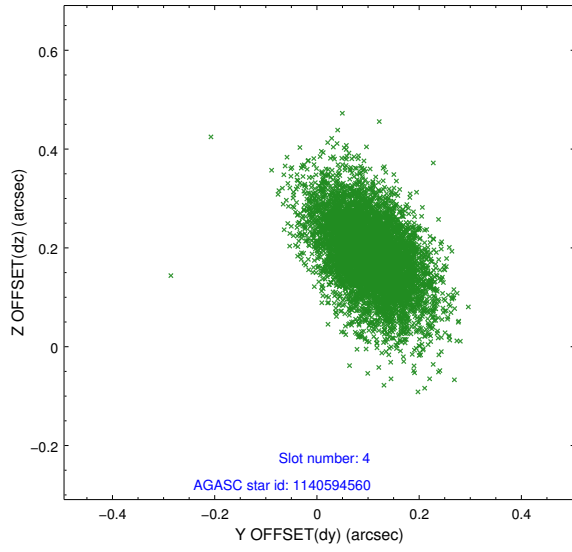
## 2.4 Star Slots

### 2.4.1 Slot 3



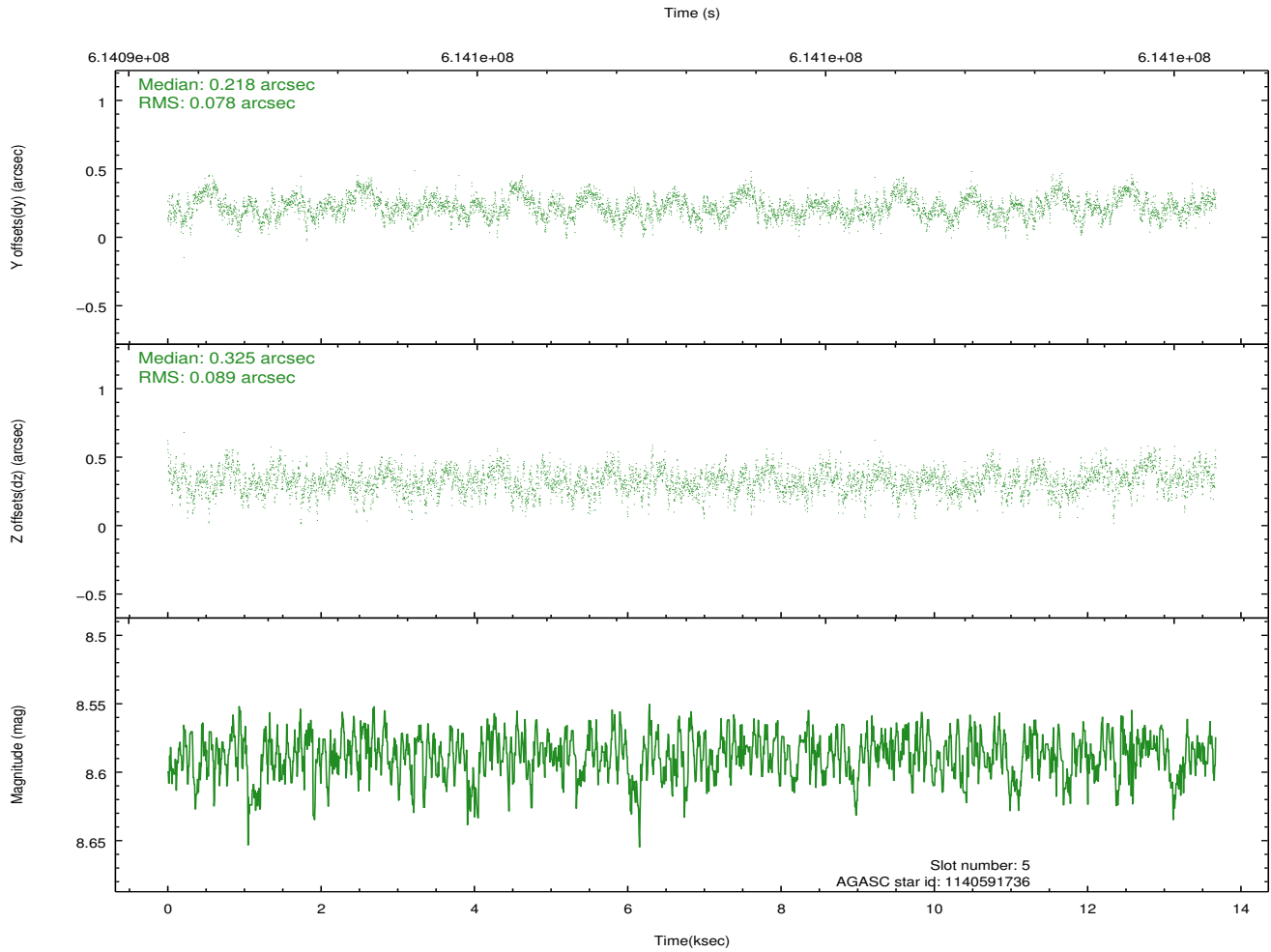
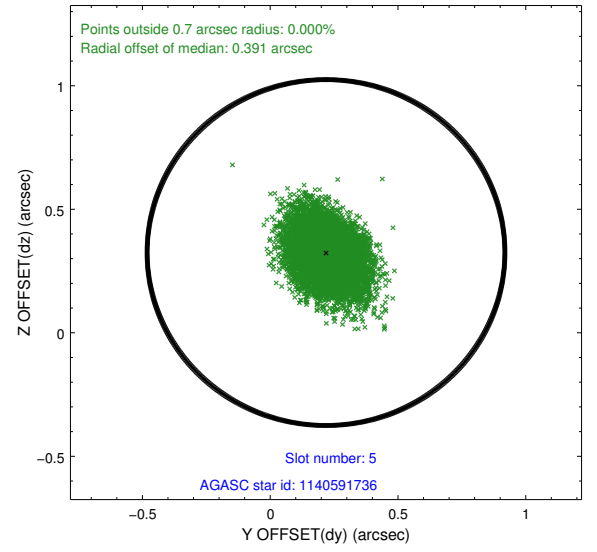
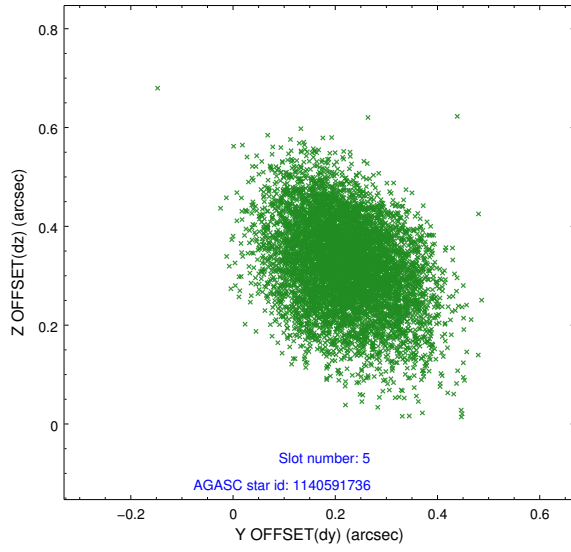


## 2.4.2 Slot 4



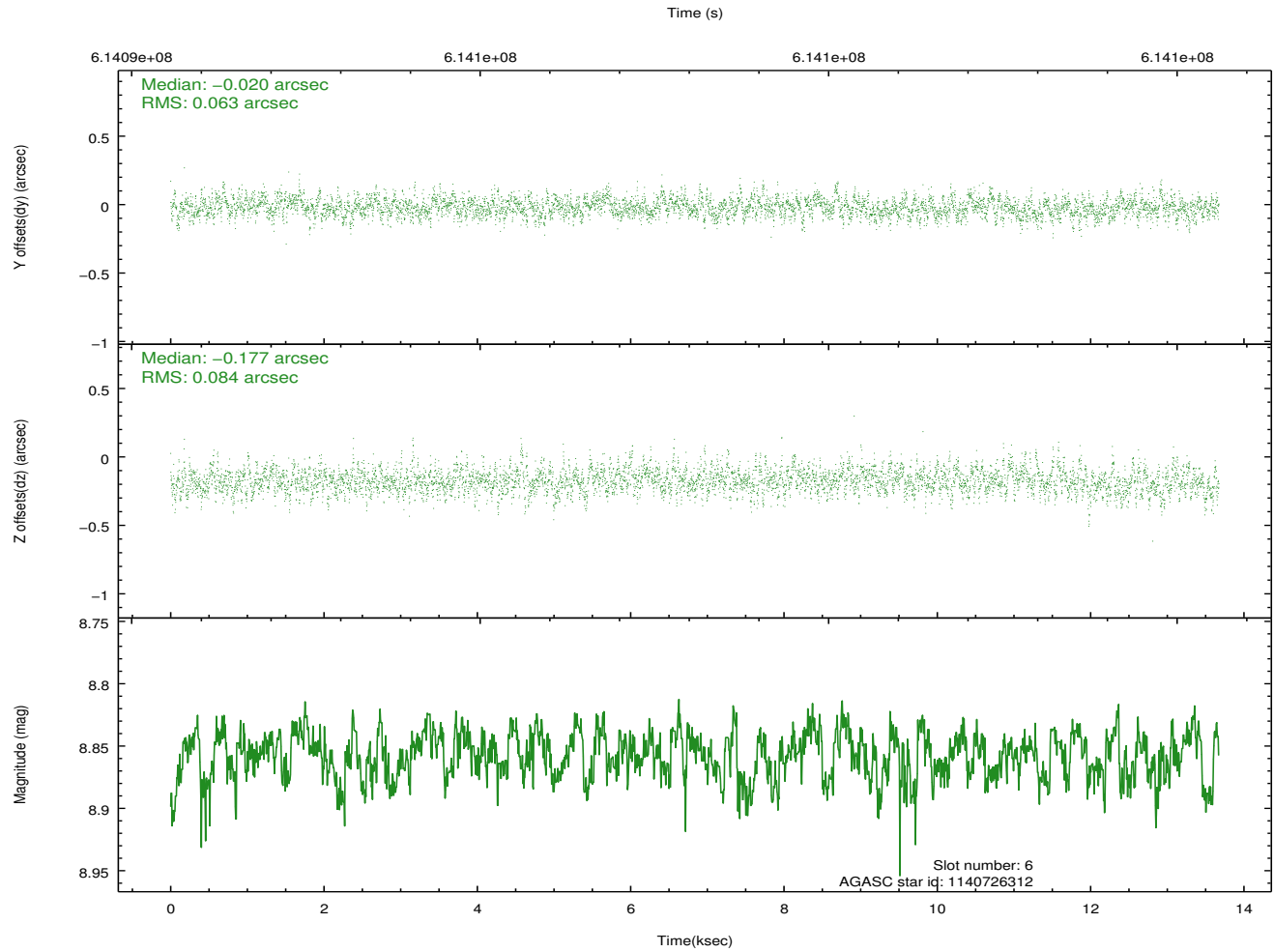
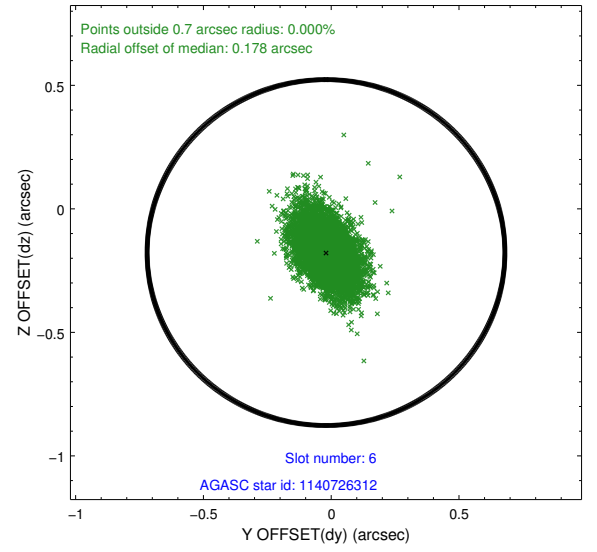
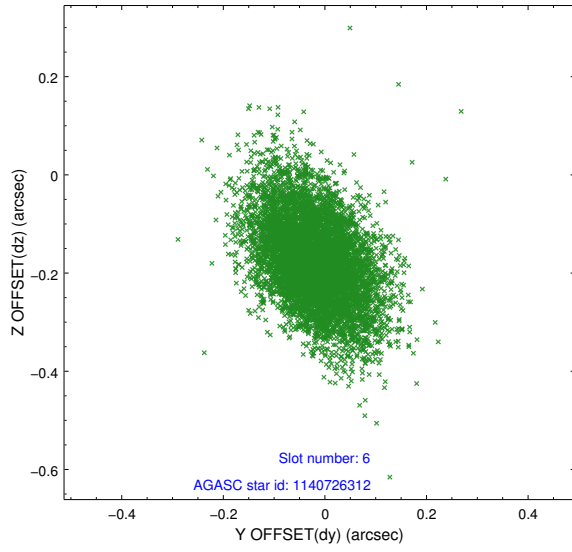


### 2.4.3 Slot 5



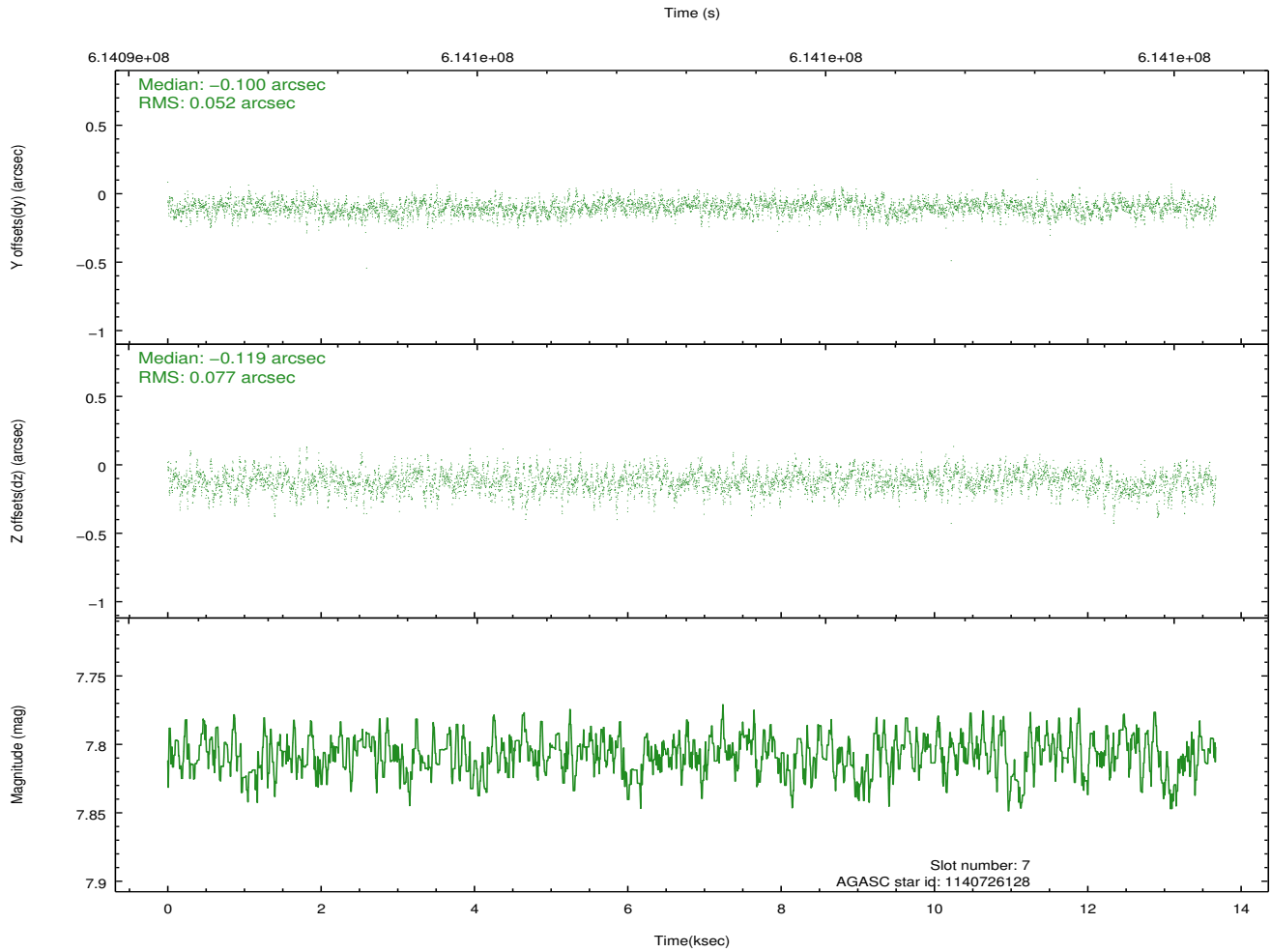
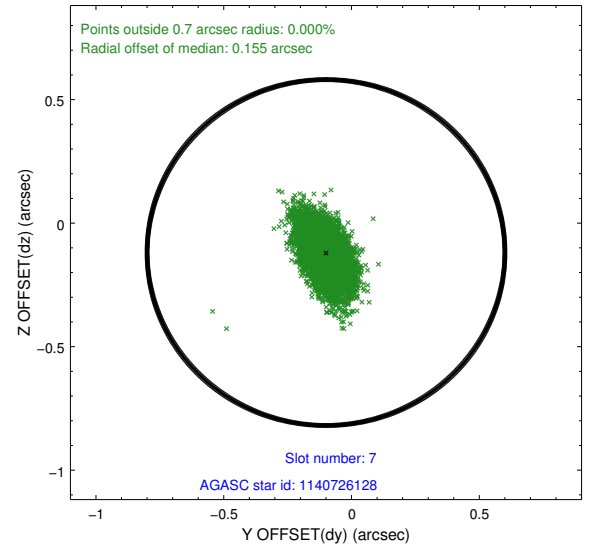
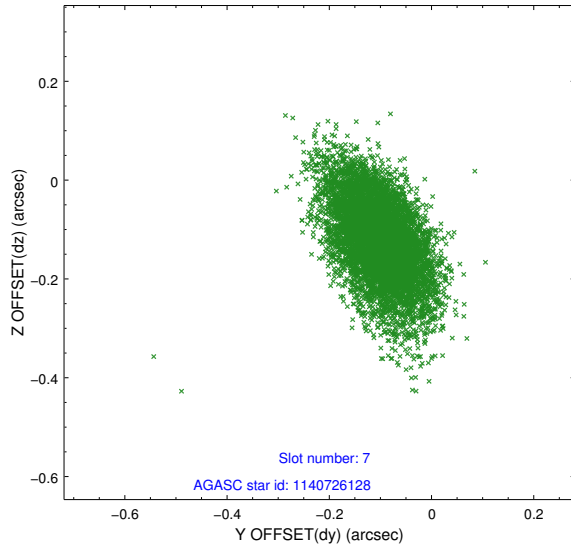


## 2.4.4 Slot 6





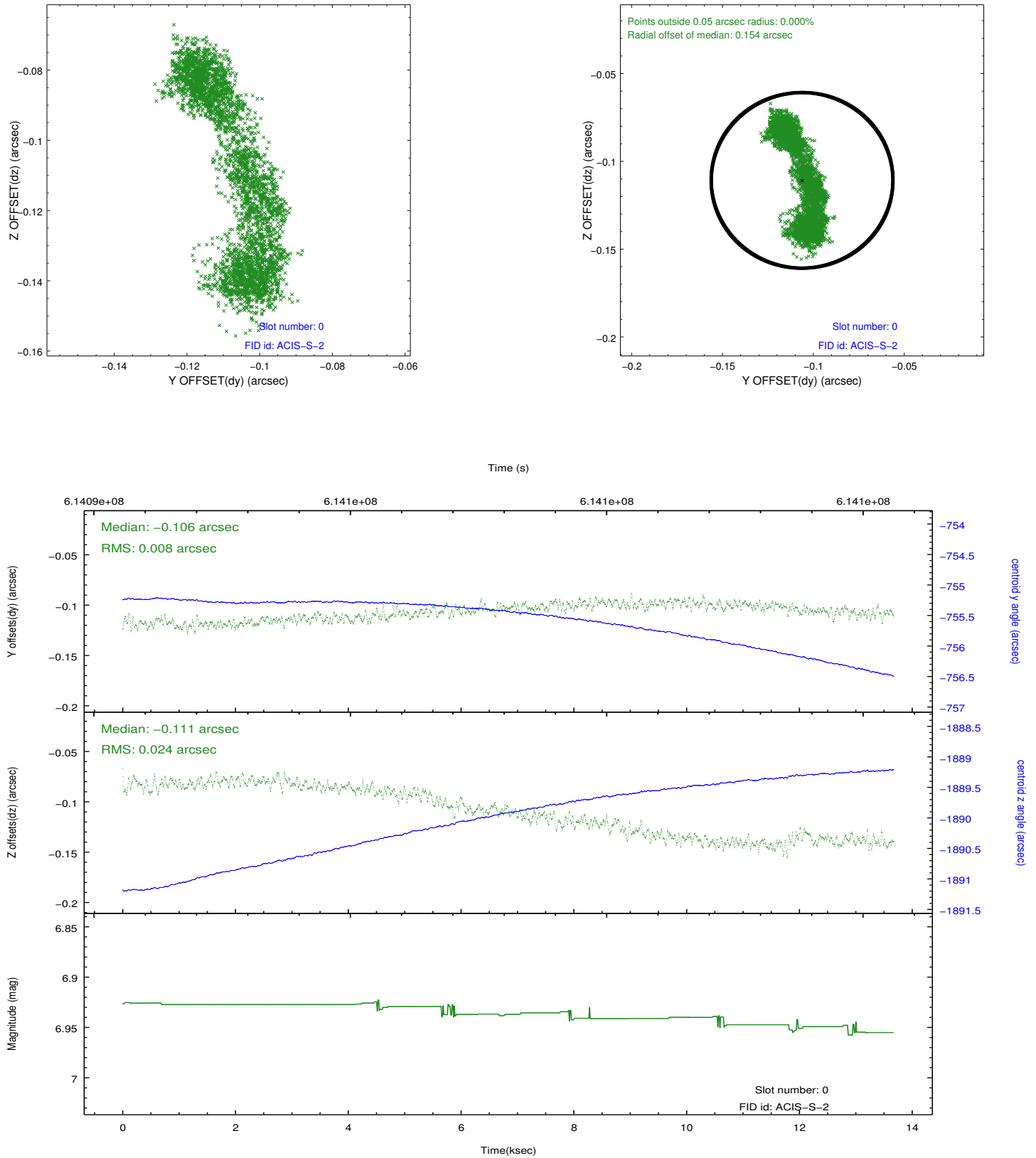
## 2.4.5 Slot 7





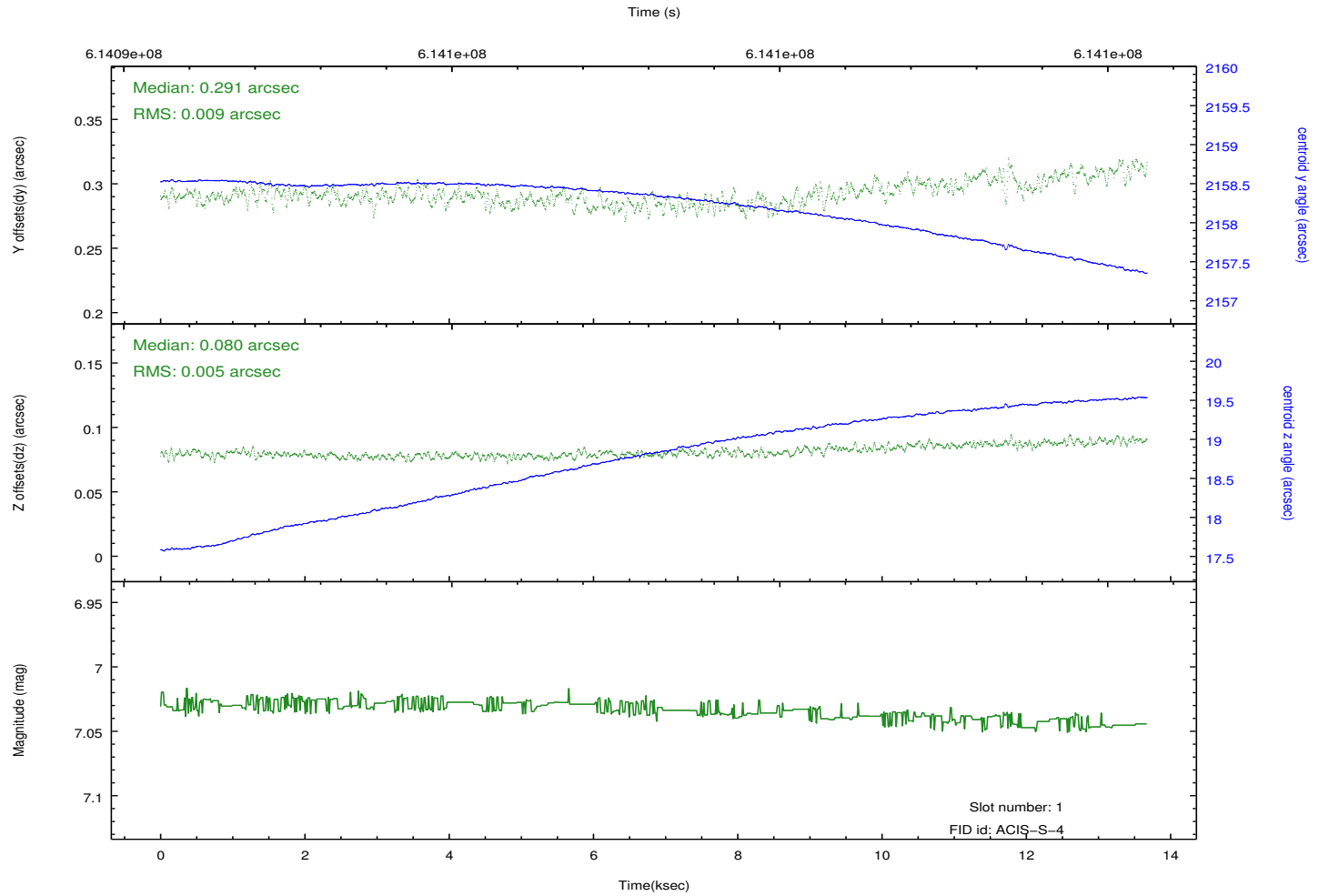
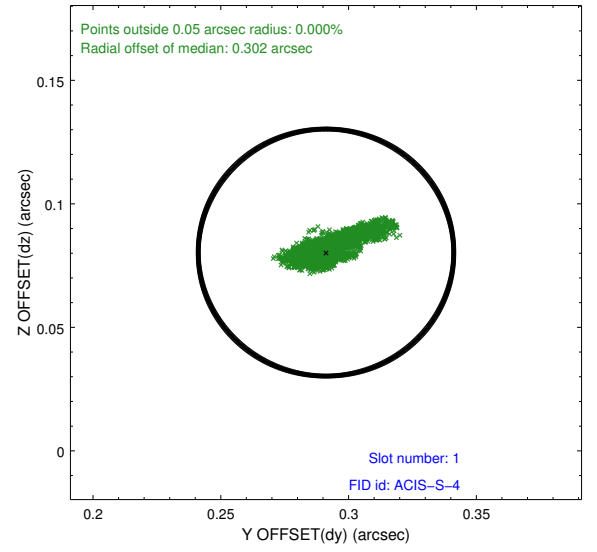
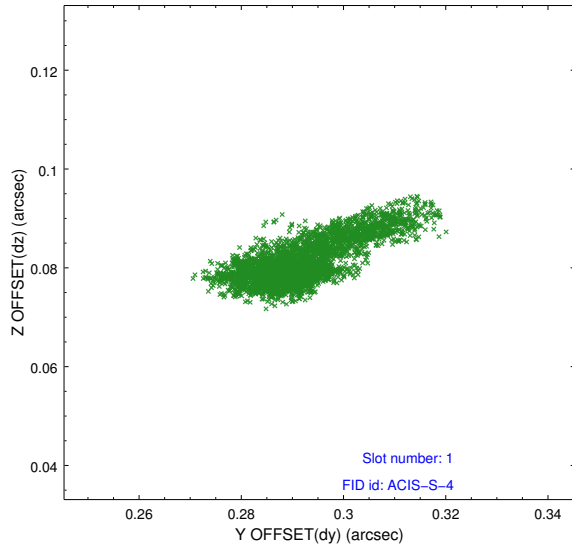
## 2.5 FID Slots

### 2.5.1 Slot 0



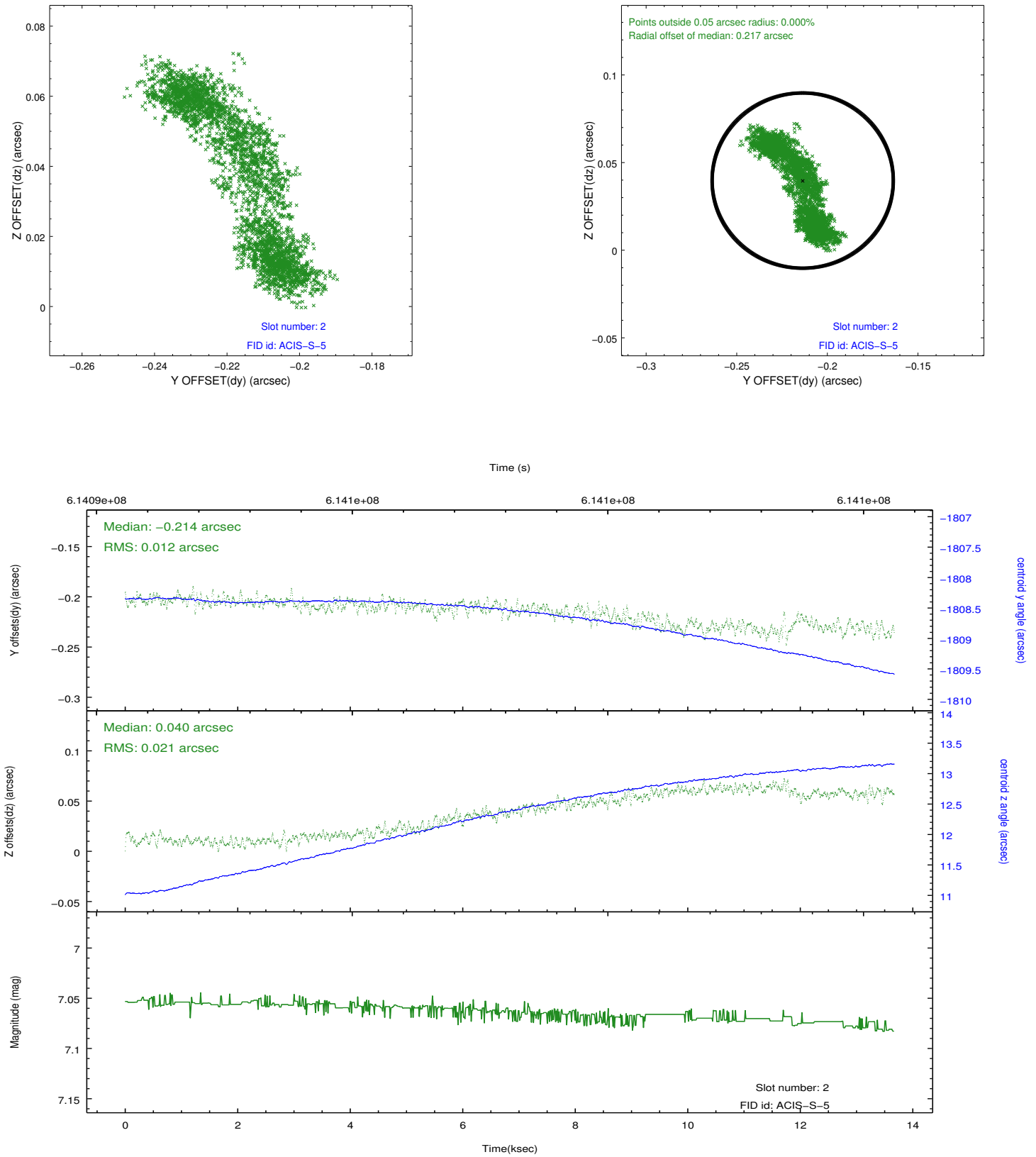


## 2.5.2 Slot 1





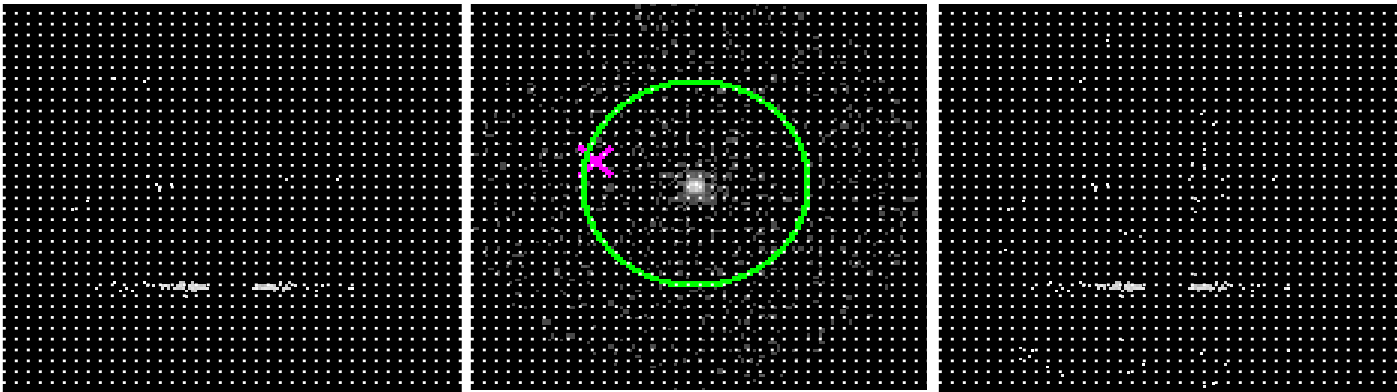
### 2.5.3 Slot 2





# 3 Gratings

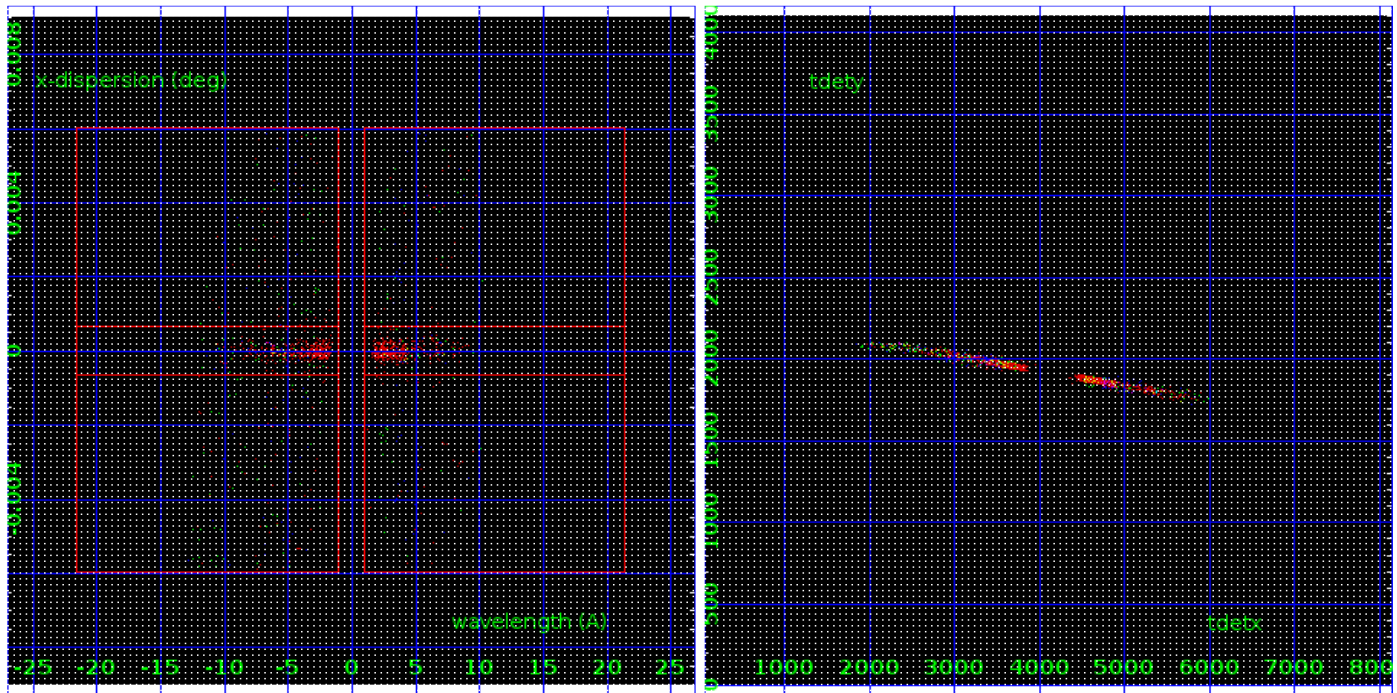
## 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

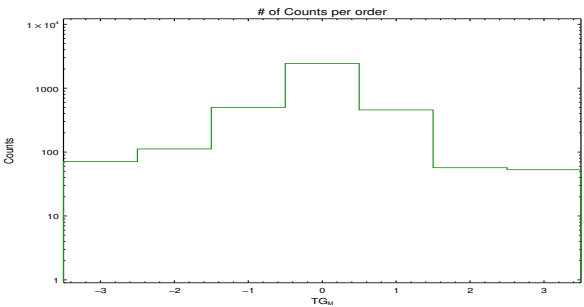
HEG Order Sort ALL



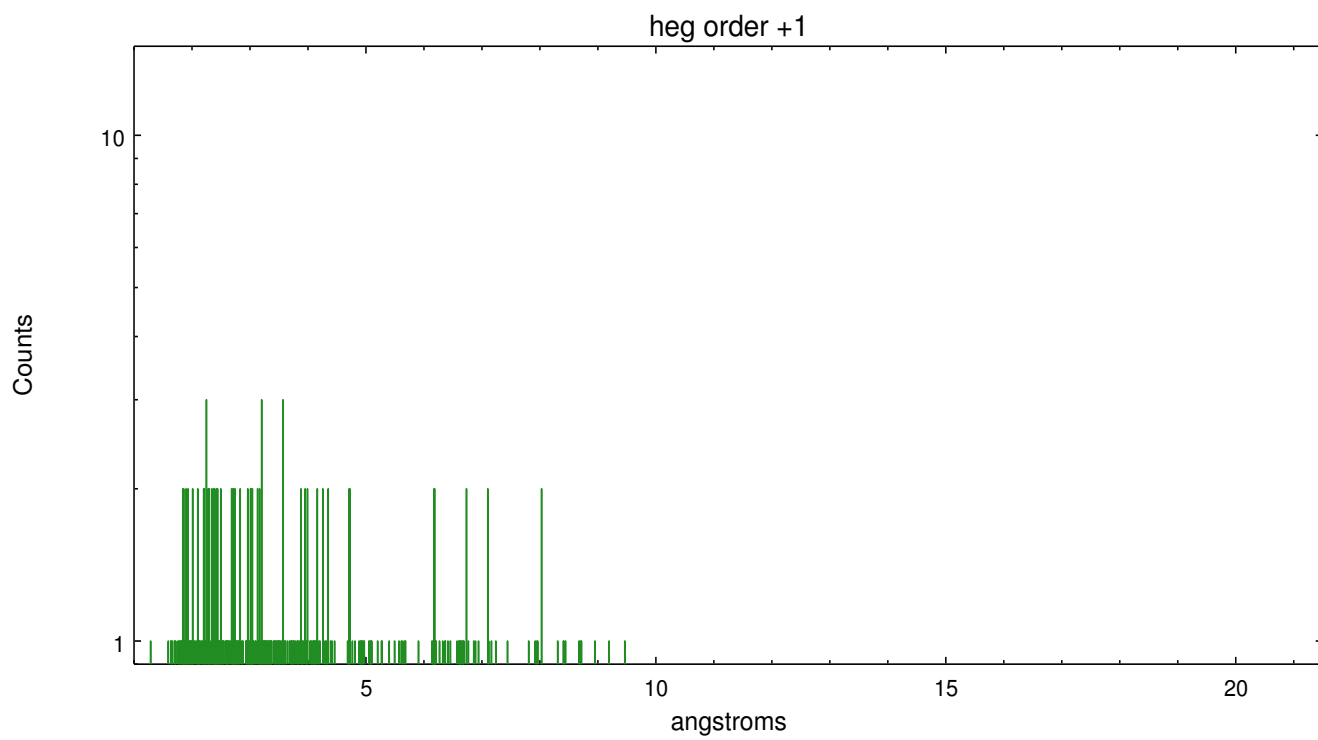
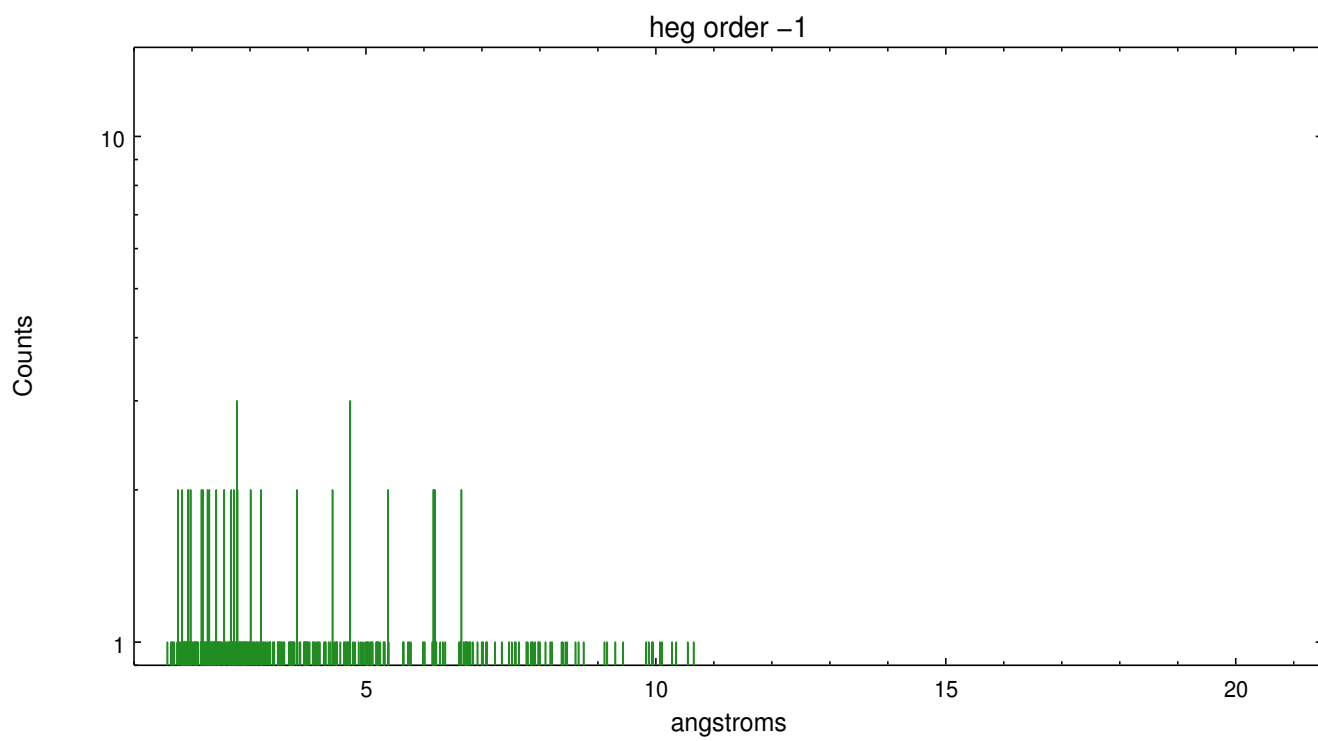
Spot Image HEG

Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	71	112	500	2440	457	57	53

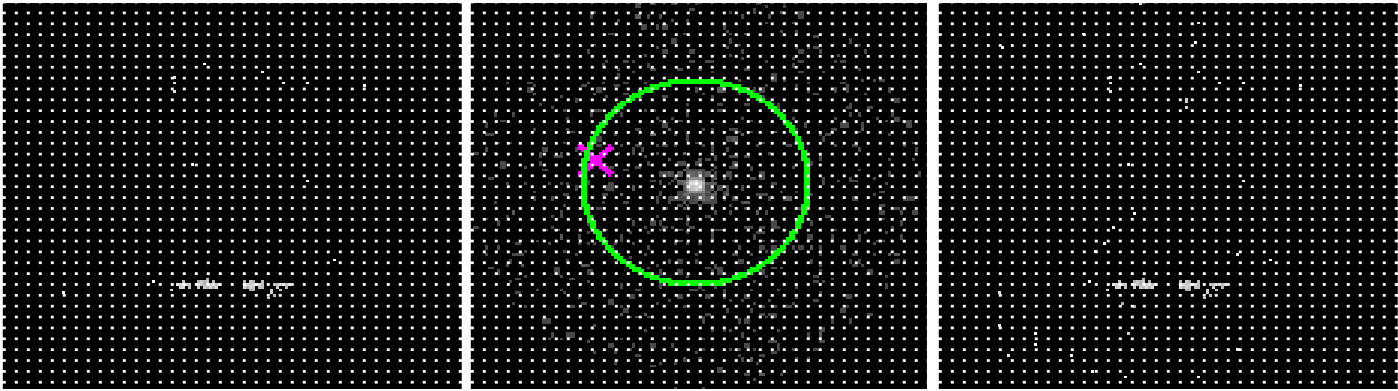








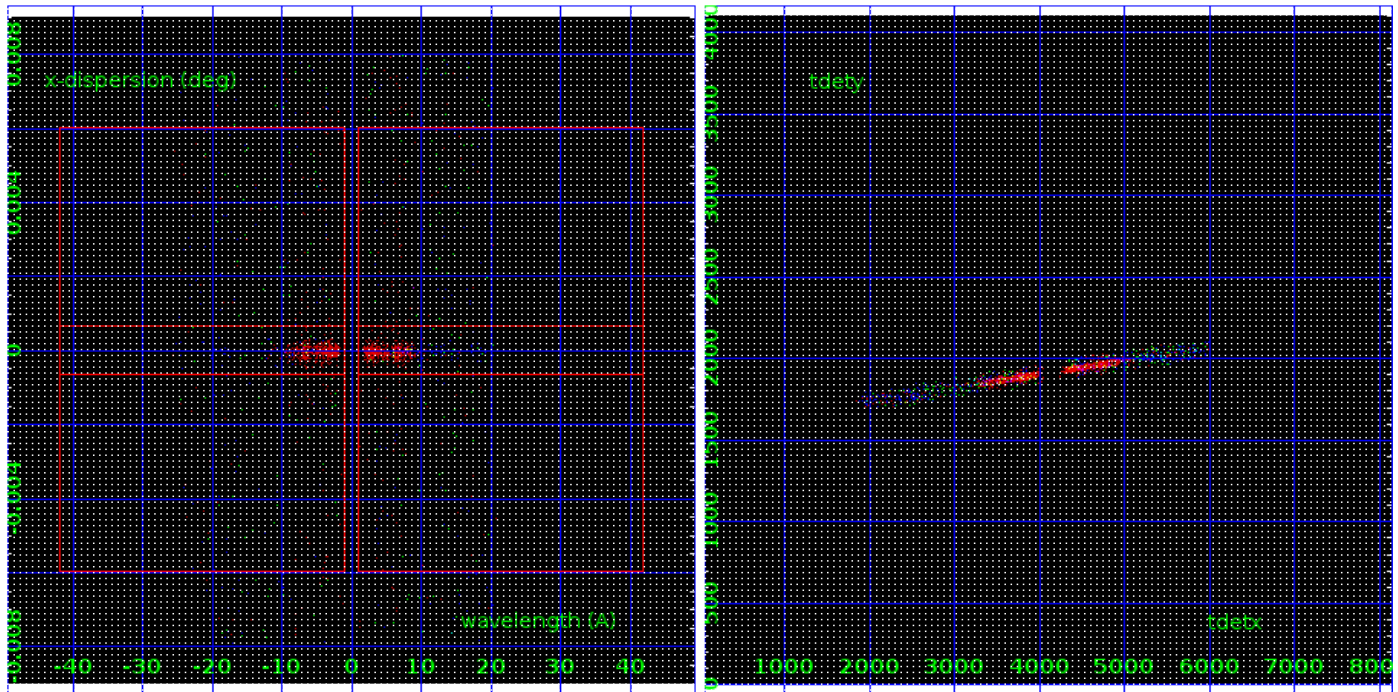
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

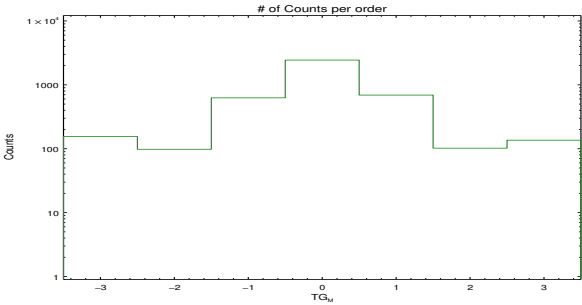
MEG Order Sort ALL



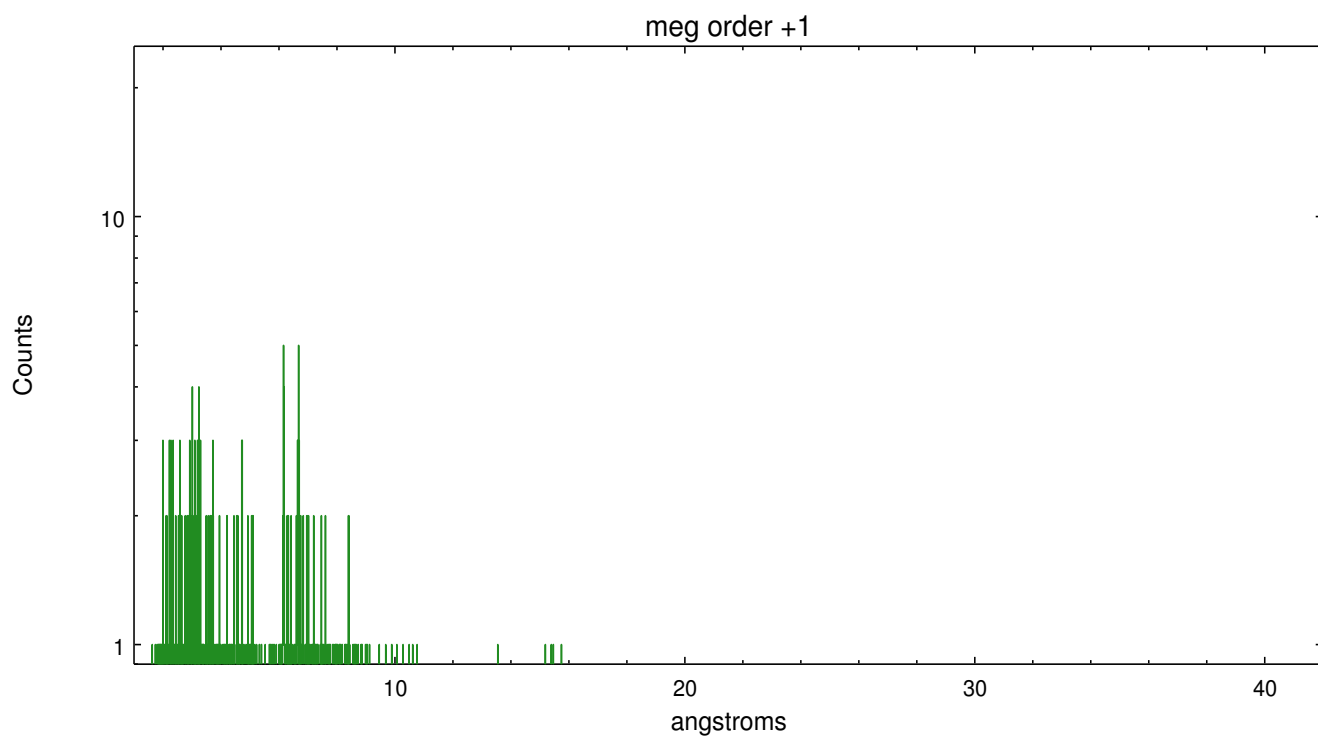
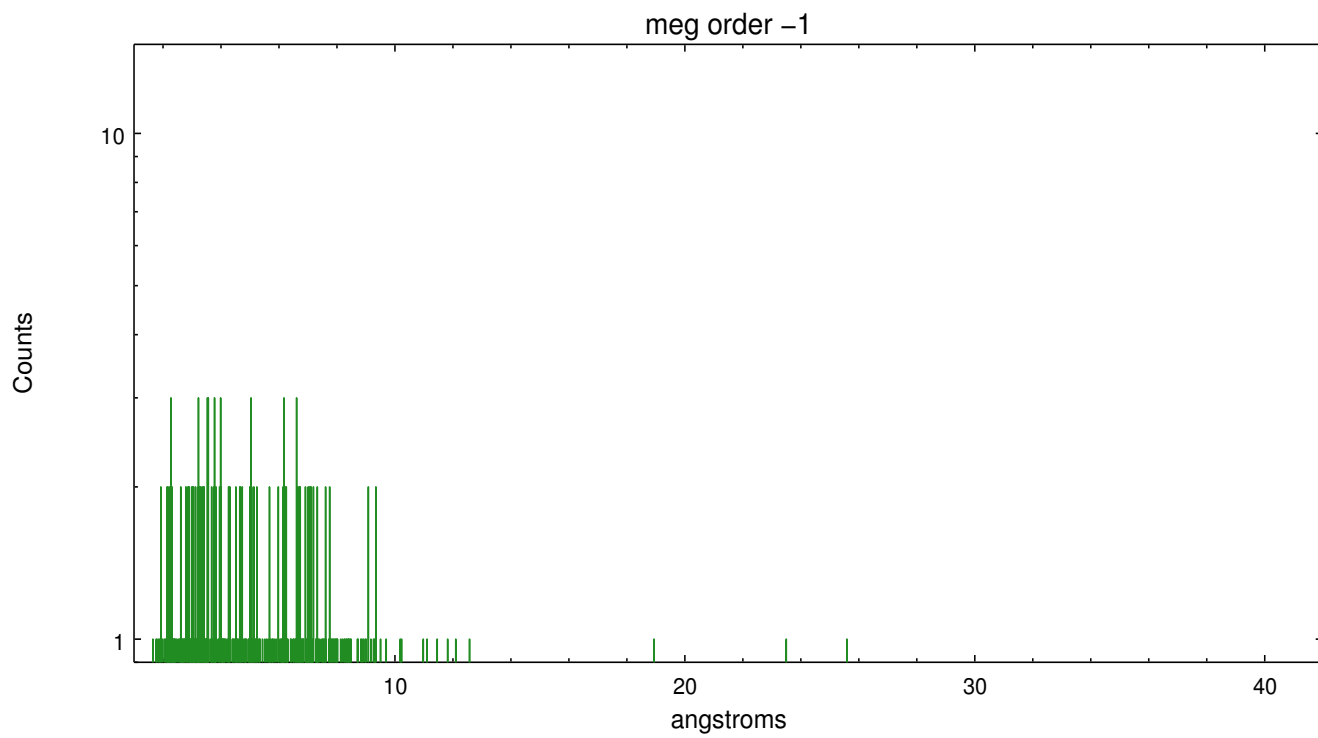
Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	155	98	626	2440	691	102	136









## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.06.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	13.62365581131

### A.2 Comments