

# V&V Reference Report

## L2 ASCDS Version : 10.8.3

Observation 23208 - L2 Version 1  
Chandra X-Ray Center

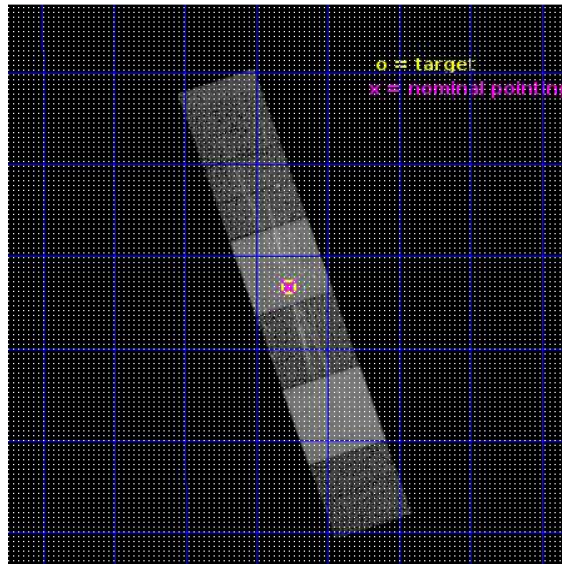
L2 Processing Date : Apr 5 2020

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# 1 Front

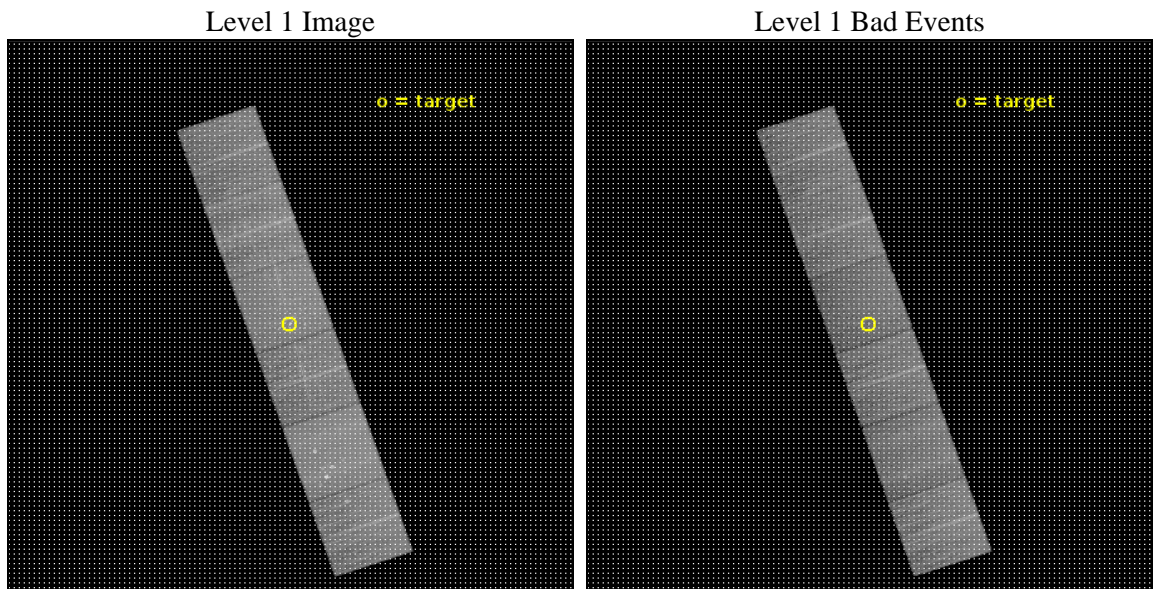
seq_num	201298	Sequence number
obs_id	23208	Observation id
title	THE TRUE NATURE OF X-RAYS FROM THE ORION TRAPEZIUM	Proposal title
observer	Norbert Schulz	Principal investigator
object	Orion Nebula Cluster	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.81875	Observer's specified target RA [deg]
dec_targ	-5.38975	Observer's specified target Dec [deg]
ra_nom	83.8175751794	Nominal RA [deg]
dec_nom	-5.38825150583	Nominal Dec [deg]
roll_nom	251.14998933	Nominal Roll [deg]
revision	1	Processing version of data
ontime	14942.510359645	Sum of GTIs [s]
livetime	14753.299296172	Livetime [s]
ontime4	14939.310389161	Sum of GTIs [s]
ontime5	14942.469319582	Sum of GTIs [s]
ontime6	14942.428279638	Sum of GTIs [s]
ontime7	14942.510359645	Sum of GTIs [s]
ontime8	14942.387239575	Sum of GTIs [s]
ontime9	14942.346199632	Sum of GTIs [s]
l2events	235583	Number of level 2 events



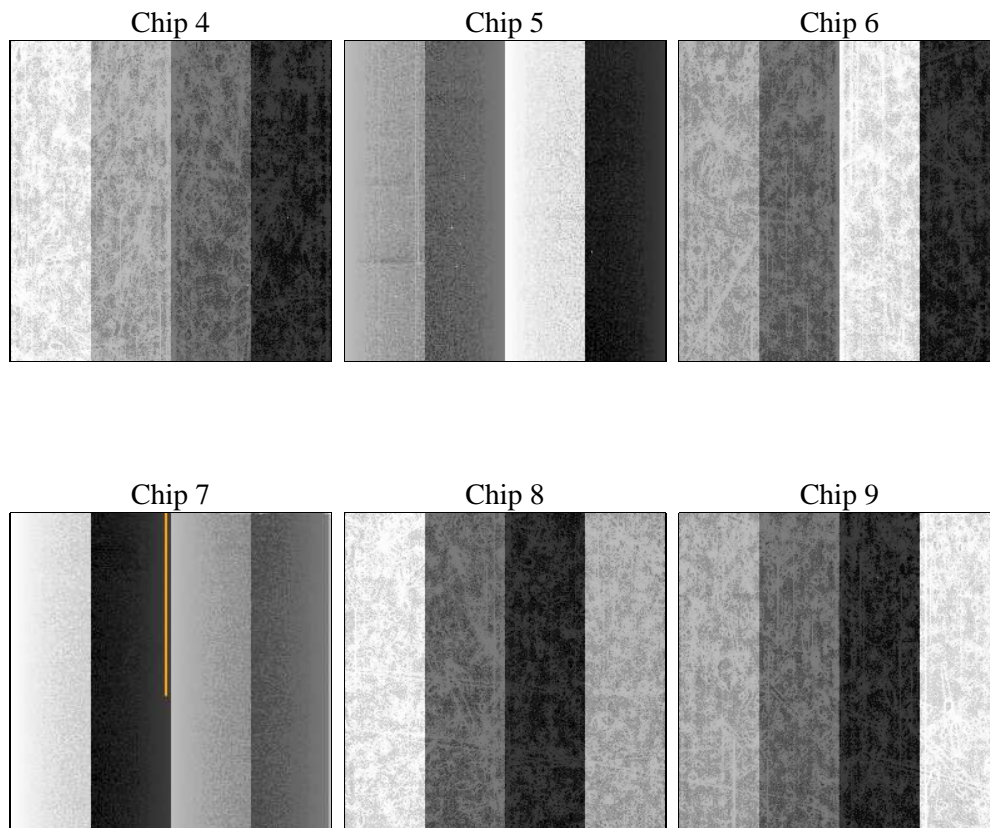
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.8.3	Processing system revision	ontime	14942.510359645	Sum of GTIs [s]
caldbver	4.9.1	&#160	ontime4	14939.310389161	Sum of GTIs [s]
date	2020-04-06T01:13:17	Date and time of file creation	ontime5	14942.469319582	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	14942.428279638	Sum of GTIs [s]
			ontime7	14942.510359645	Sum of GTIs [s]
			ontime8	14942.387239575	Sum of GTIs [s]
			ontime9	14942.346199632	Sum of GTIs [s]
			l1events	935858	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			z0_pos	(4080 10 4084 70)	src1a sky pixel position

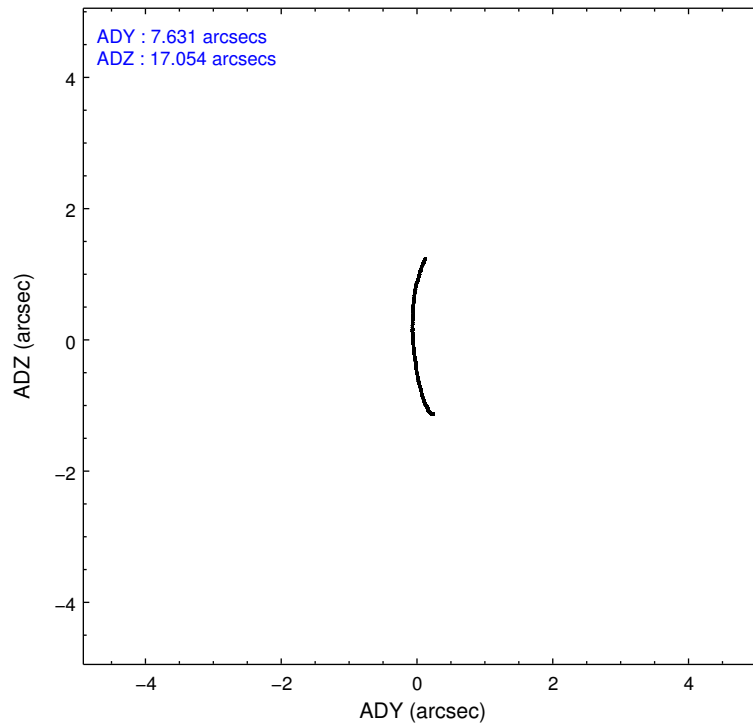
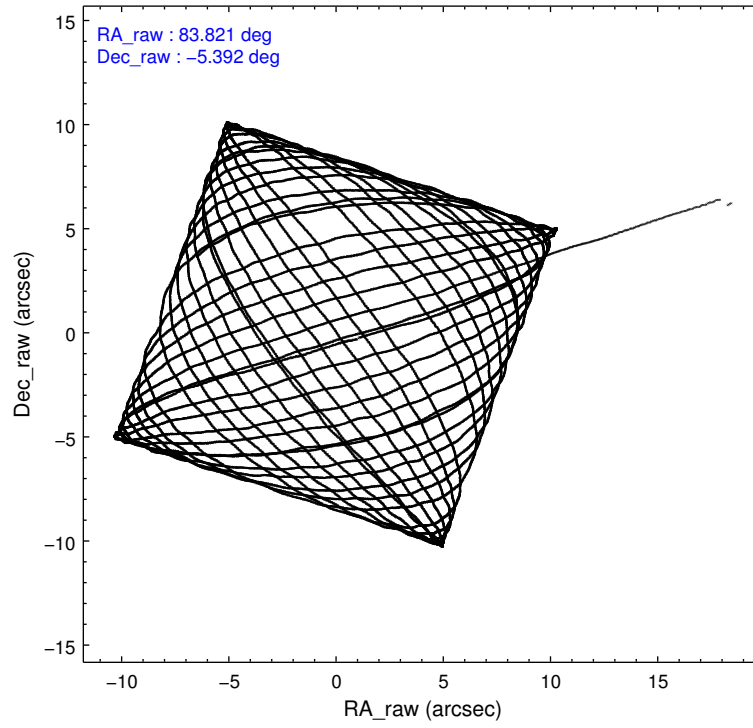
### 2.1.4 Events

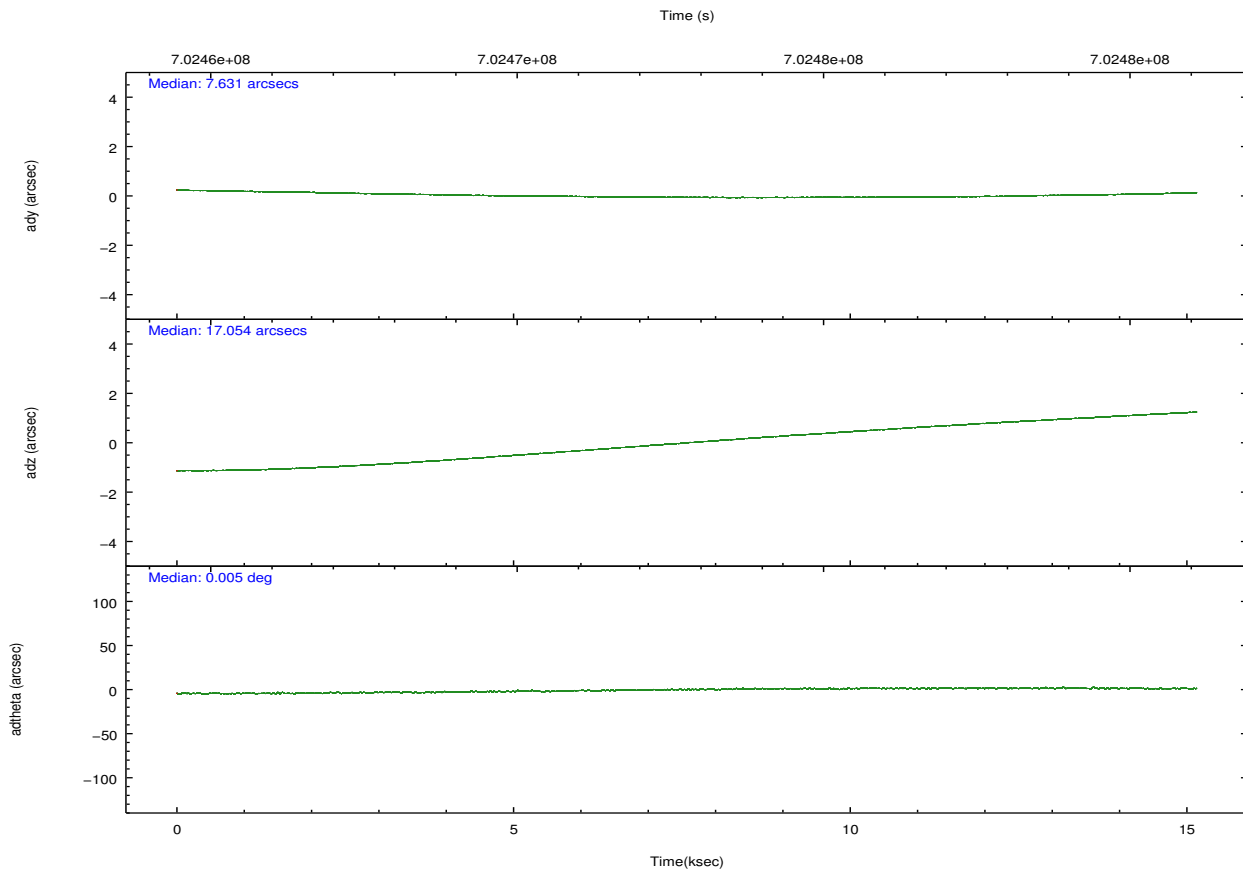
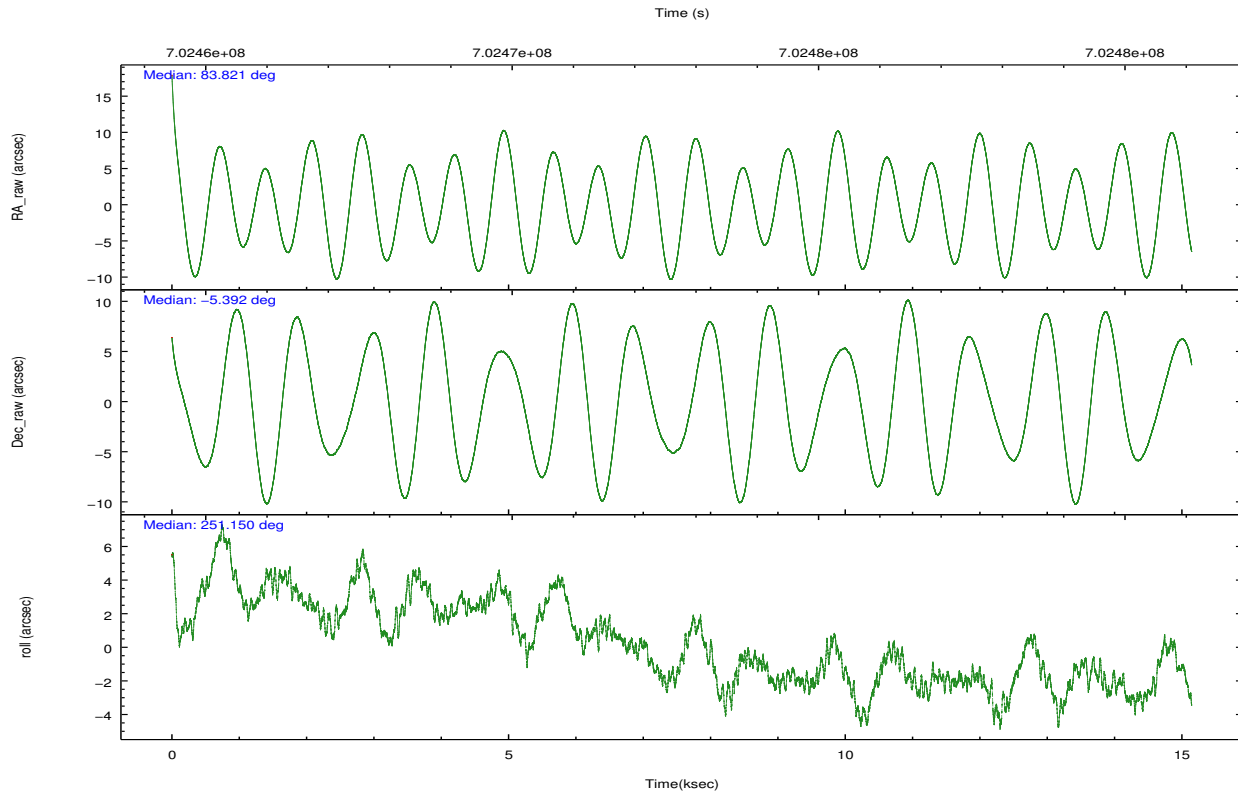
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	145260	201365	132805	173473	158982	123973	grade 0 events	6486	11545	10597	9953	15416	5651
rejected events	130374	101729	109726	86882	113979	108225		4%	5%	7%	5%	9%	4%
rejected %	89%	50%	82%	50%	71%	87%	grade 1 events	149	814	95	288	120	69
								0%	0%	0%	0%	0%	0%
							grade 2 events	3150	31336	5789	19076	10474	3966
								2%	15%	4%	10%	6%	3%
							grade 3 events	1401	2833	1323	7335	4043	1304
								0%	1%	0%	4%	2%	1%
							grade 4 events	1413	2702	1343	7216	3855	1224
								0%	1%	1%	4%	2%	0%
							grade 5 events	5423	11775	4741	14474	7601	5524
								3%	5%	3%	8%	4%	4%
							grade 6 events	2440	51268	4040	43050	11247	3611
								1%	25%	3%	24%	7%	2%
							grade 7 events	124798	89092	104877	72081	106226	102624
								85%	44%	78%	41%	66%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.815827	83.8175751794	CCD I2 on	N	N
[deg] Pointing Dec	-5.365102	-5.38825150583	CCD I3 on	N	N
[deg] Pointing Roll	250.999725	251.14998933	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	702465333.184000	702464139.54202	CCD S5 on	O2	Y
Observation start date	2020-04-05T09:14:24	2020-04-05T08:55:39	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	702480333.184000	702481519.95557	On-chip summing requested	N	N
Observation end date	2020-04-05T13:24:24	2020-04-05T13:45:19	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect





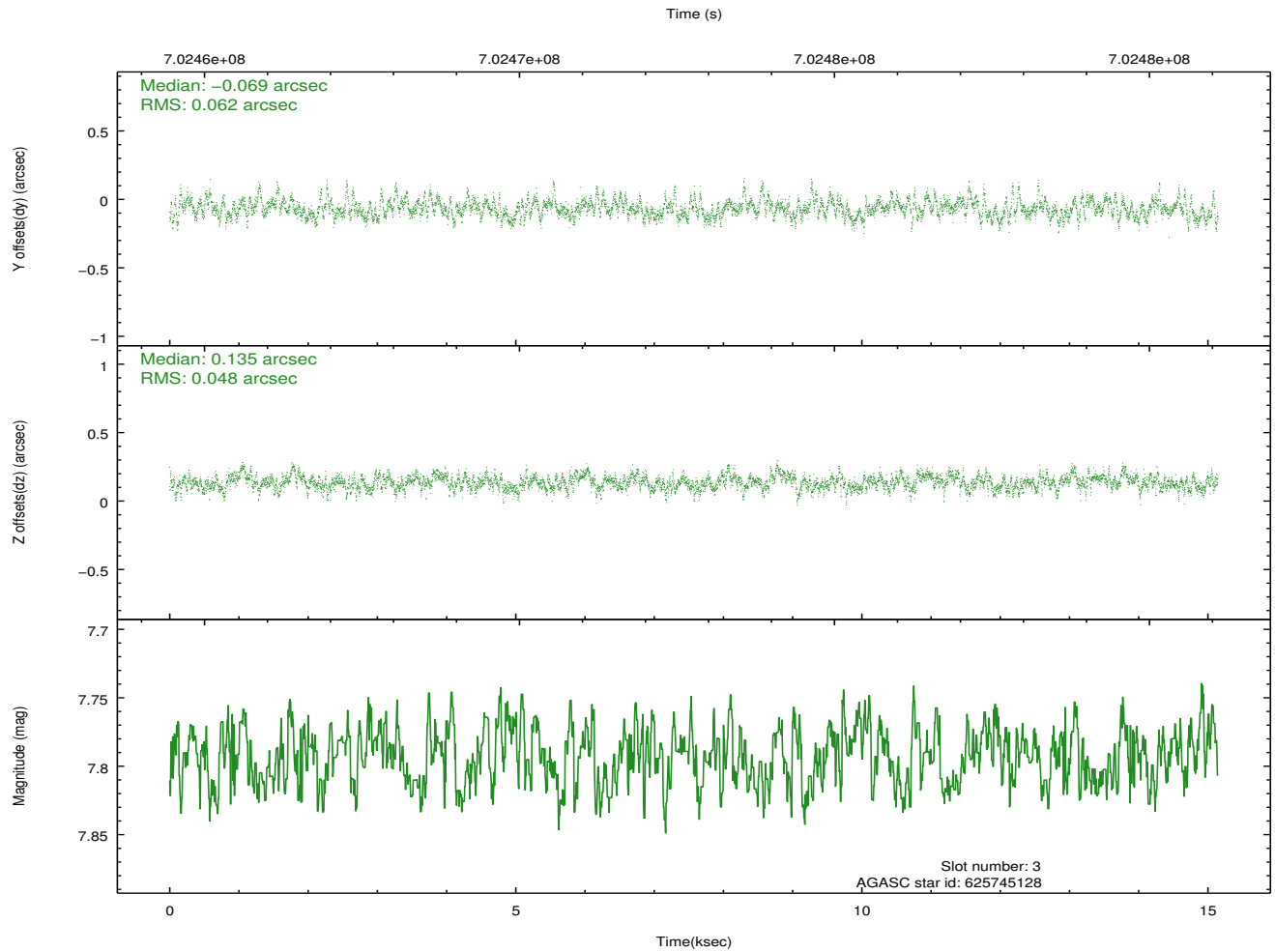
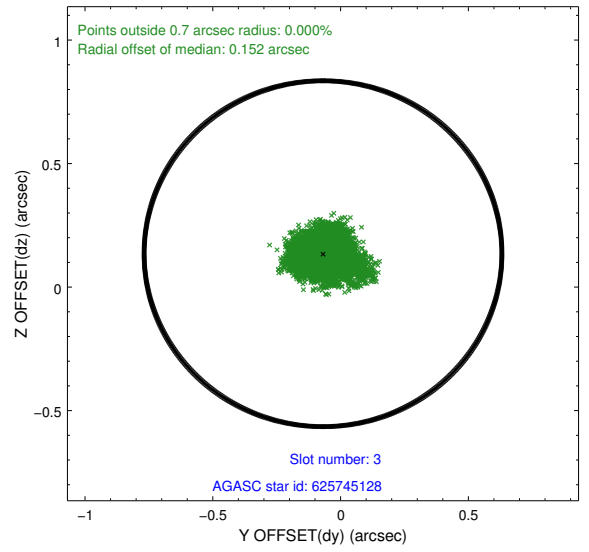
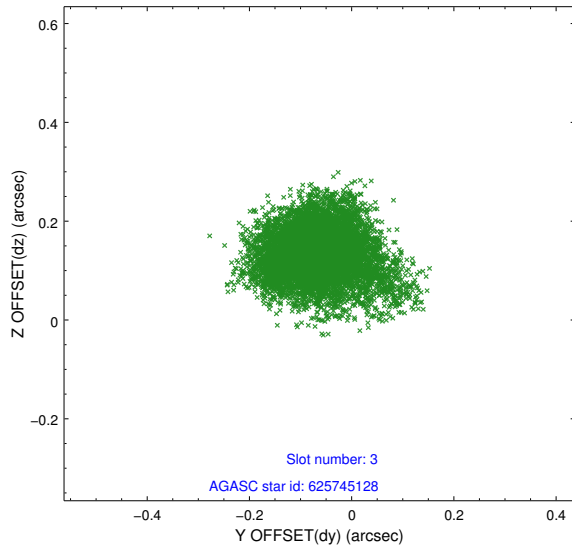
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-3	7.42	3695	1.000	0.118	-0.210	0.020	0.028	0.000000	0.000000	52.60	-1867
1	FID		ACIS-S-4	7.30	3695	1.000	0.117	0.041	0.020	0.031	0.000000	0.000000	2153.07	169
2	FID		ACIS-S-5	7.27	3694	1.000	-0.265	0.178	0.007	0.012	0.000000	0.000000	-1813.13	164
3	GUIDE	used	625745128	7.79	7388	1.000	-0.069	0.135	0.082	0.137	83.769930	-4.731835	-2101.77	-897
4	GUIDE	used	625745136	7.20	7387	1.000	0.022	-0.174	0.106	0.176	83.600341	-4.804339	-1657.21	-1388
5	GUIDE	used	625874672	7.65	7388	1.000	-0.389	0.090	0.109	0.186	84.403143	-4.934124	-2152.39	1487
6	GUIDE	used	626272880	7.69	7387	1.000	0.196	-0.020	0.085	0.145	83.815609	-6.032748	2272.93	782
7	GUIDE	used	626272976	7.95	7381	1.000	0.229	-0.031	0.098	0.154	83.795875	-5.926912	1936.32	591

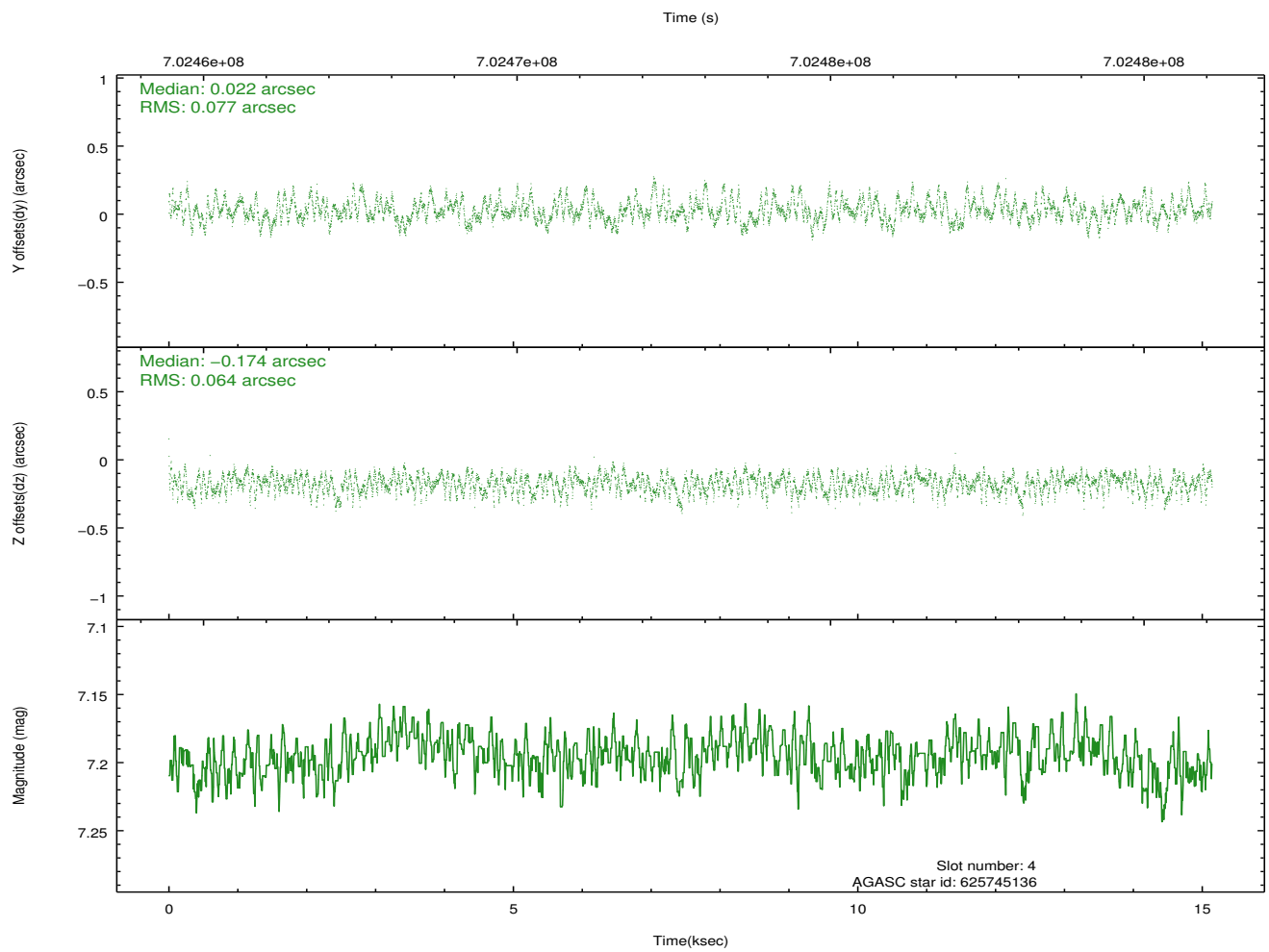
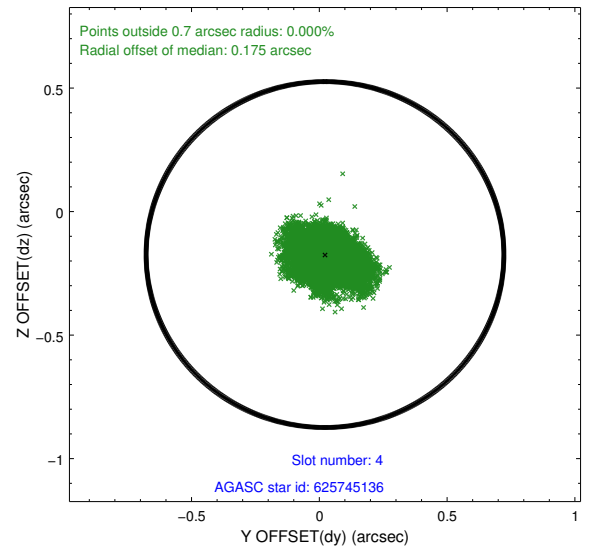
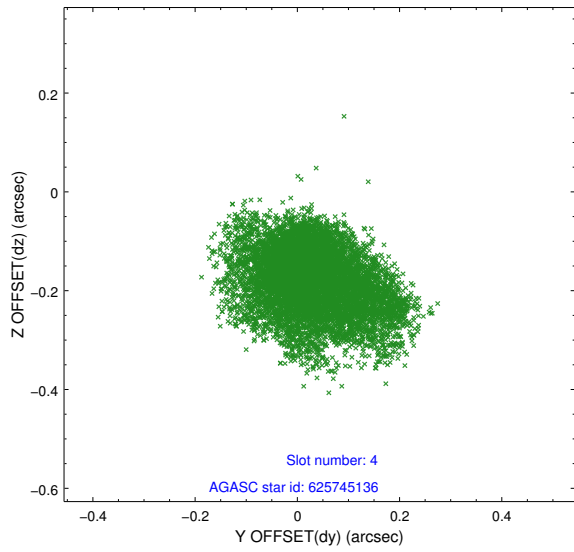
∞

## 2.4 Star Slots

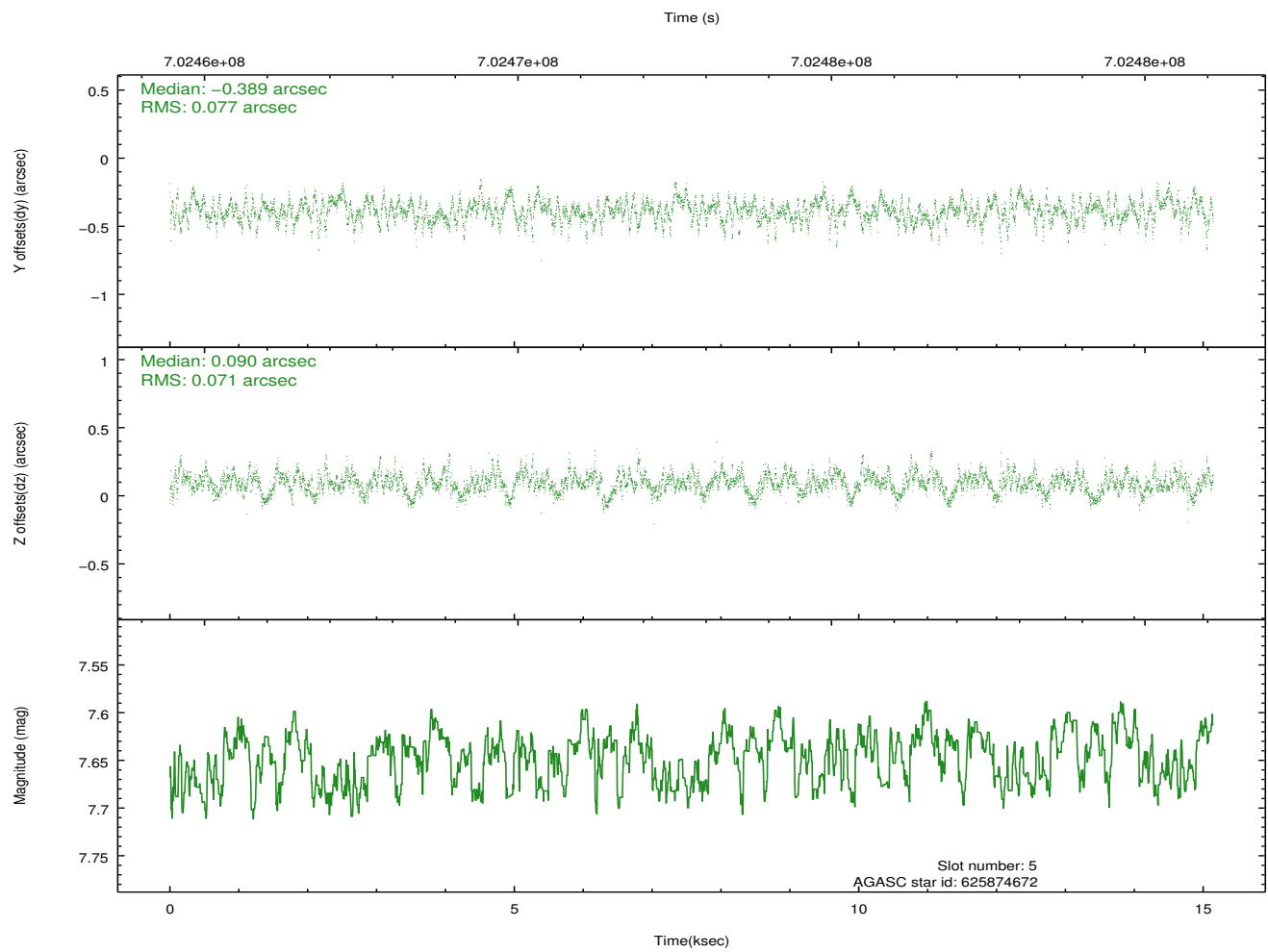
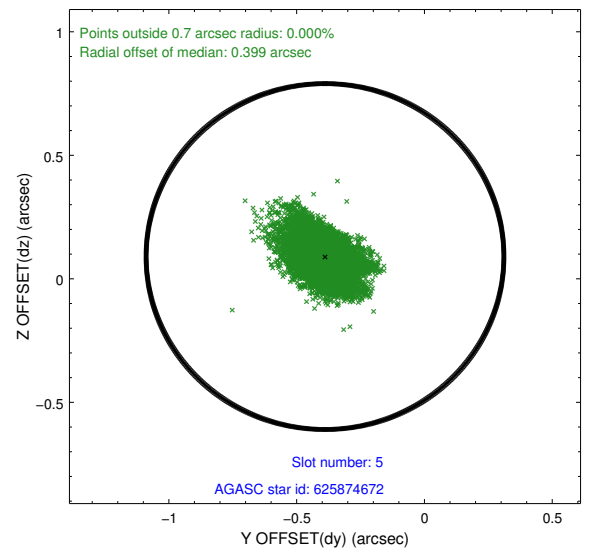
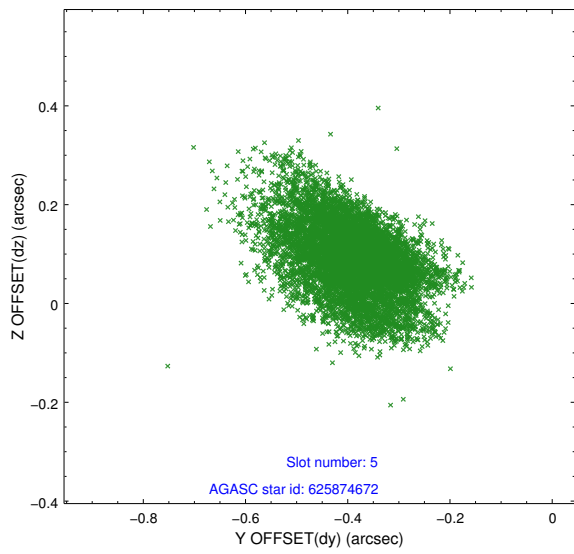
### 2.4.1 Slot 3



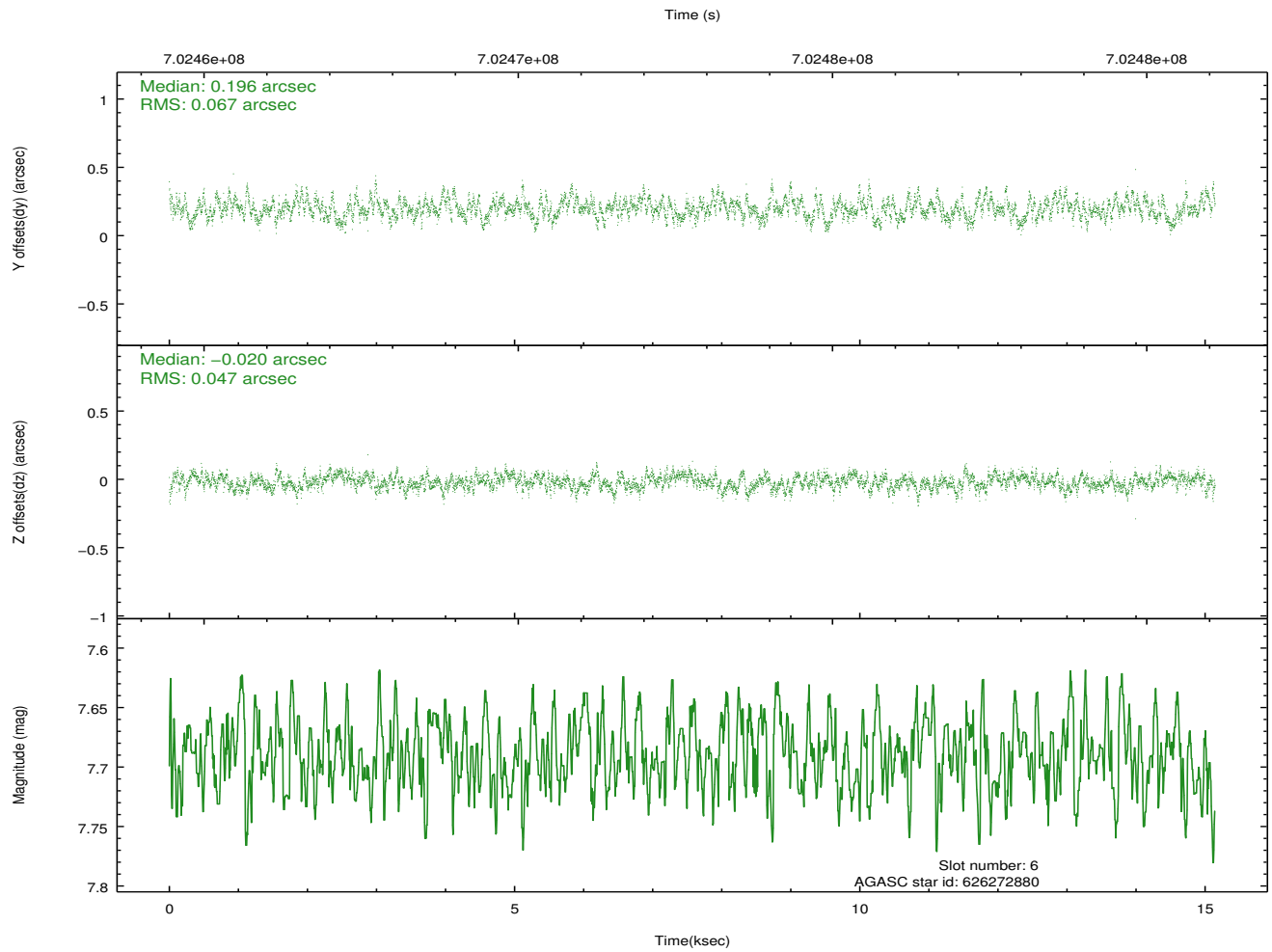
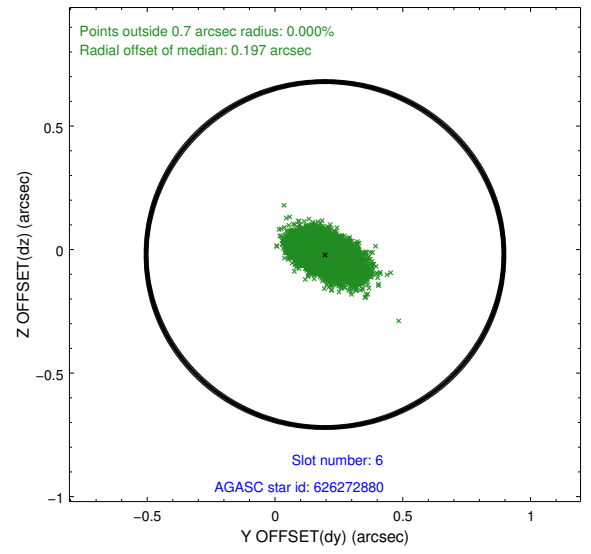
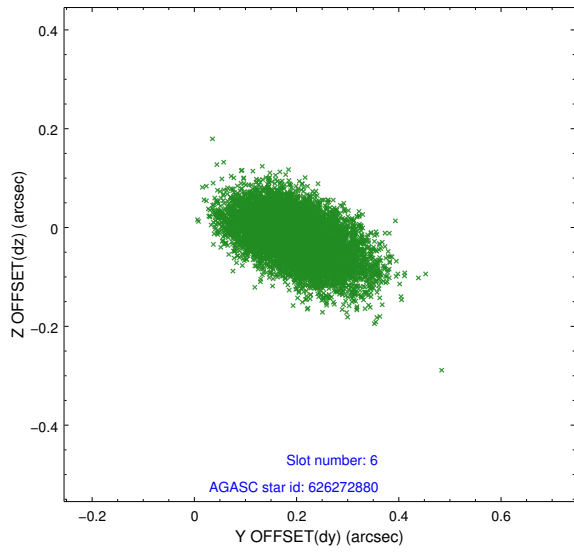
## 2.4.2 Slot 4



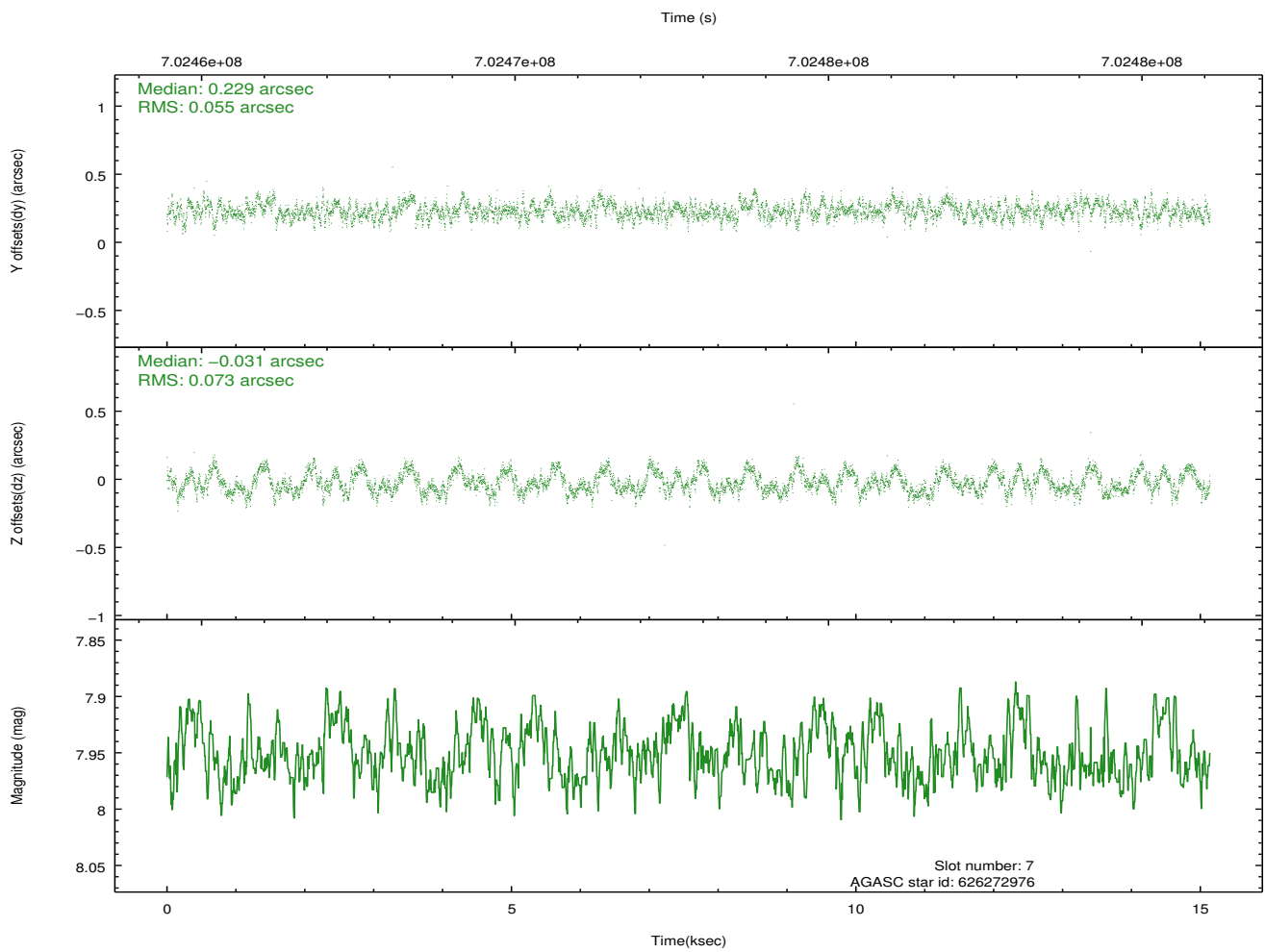
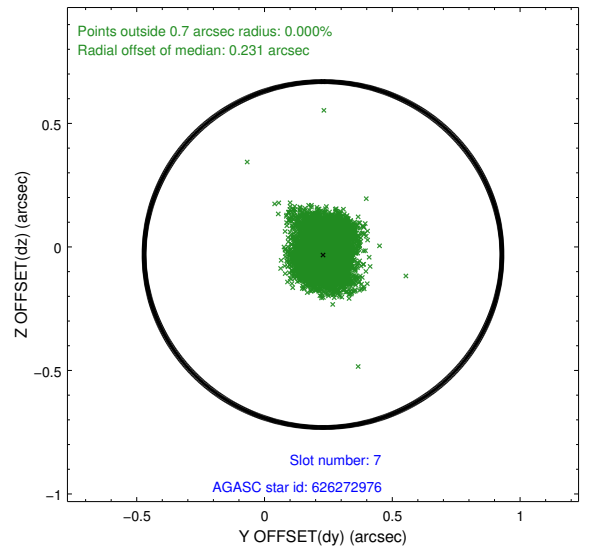
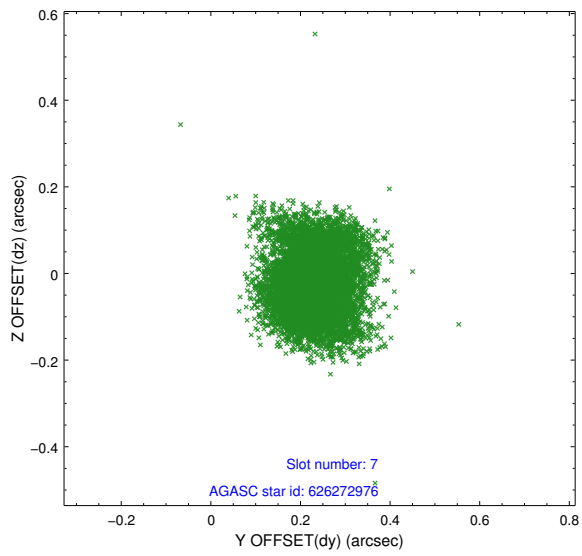
### 2.4.3 Slot 5



## 2.4.4 Slot 6

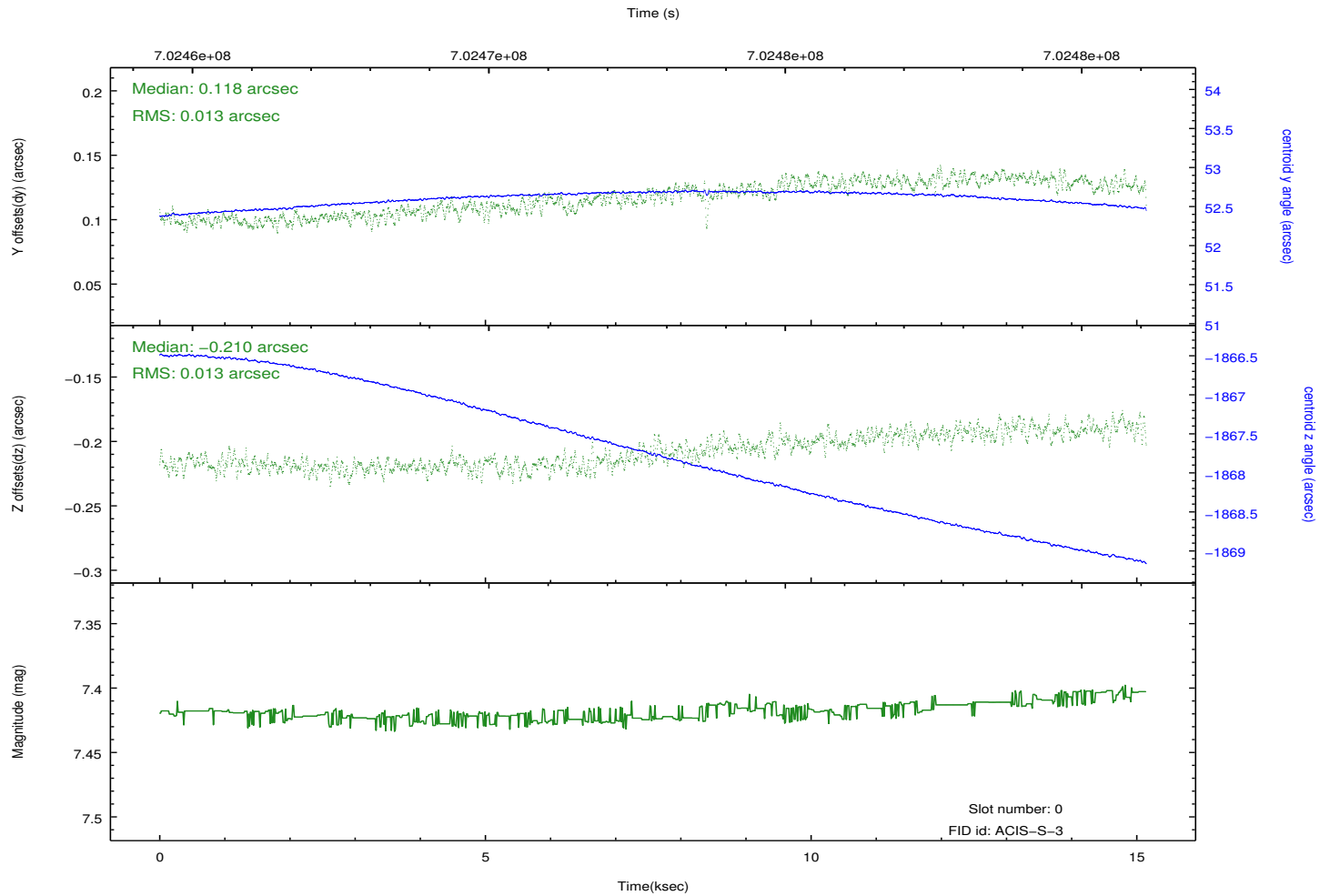
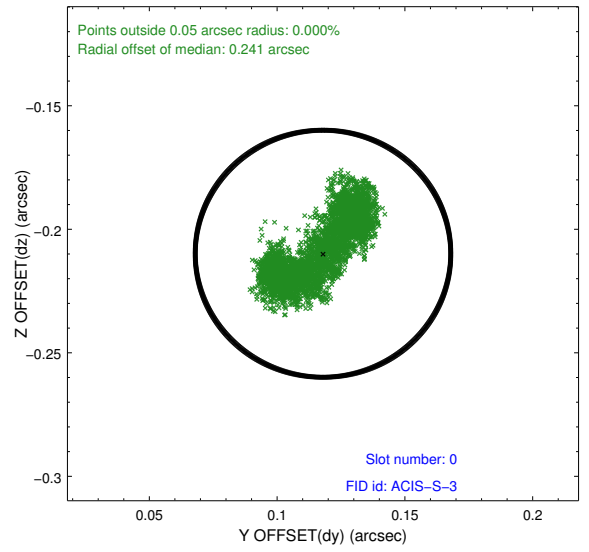
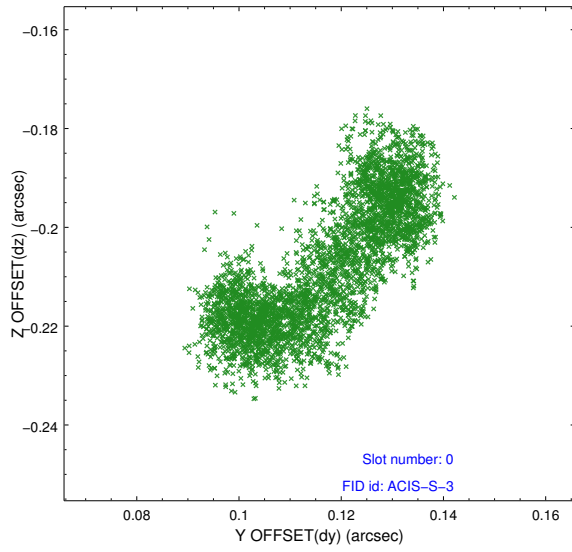


## 2.4.5 Slot 7

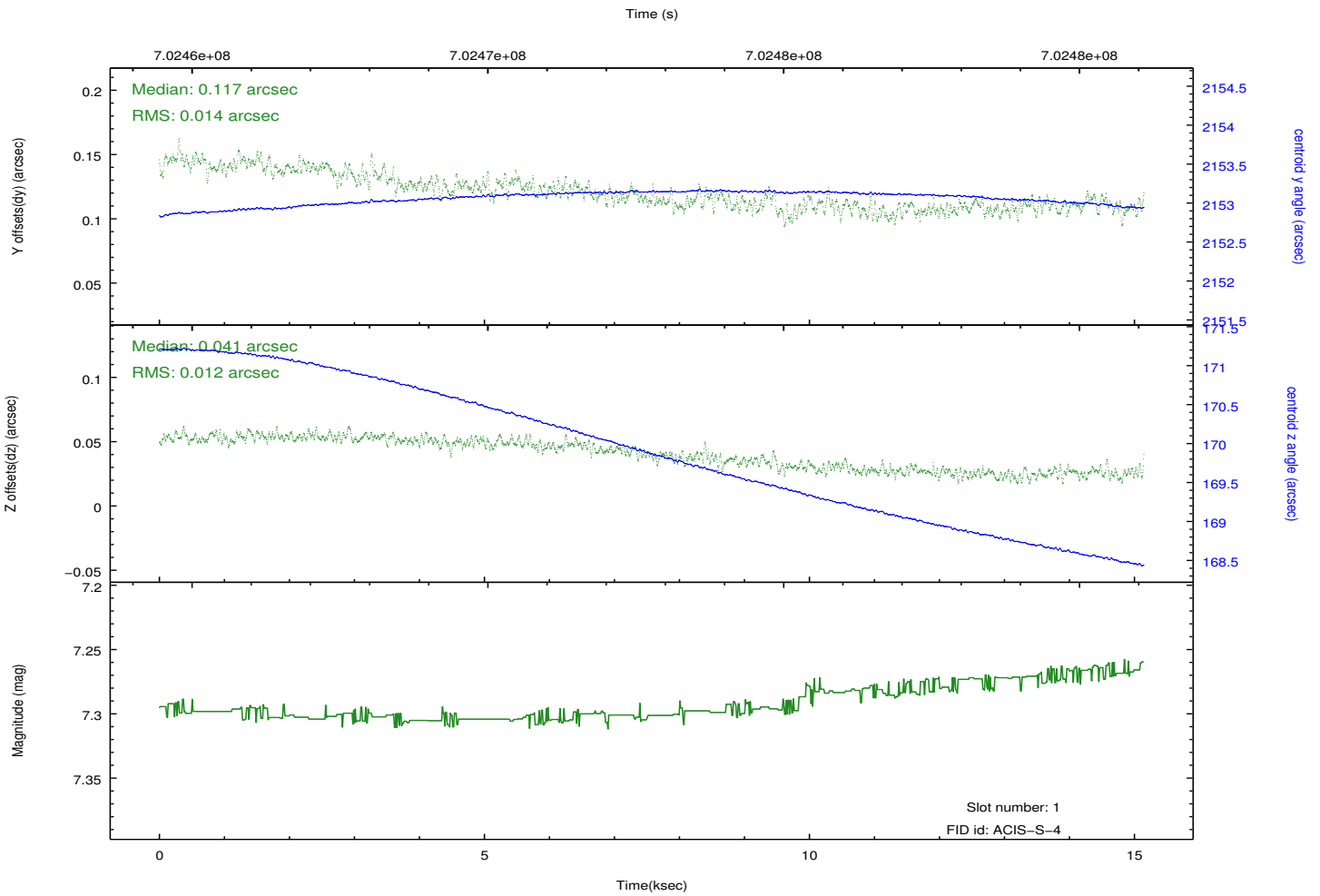
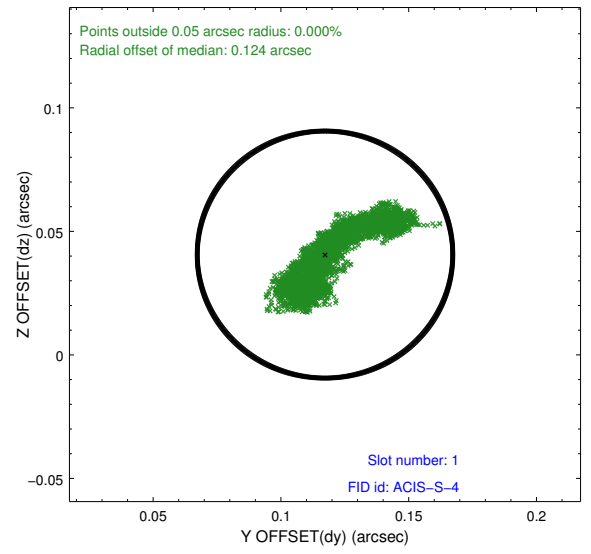
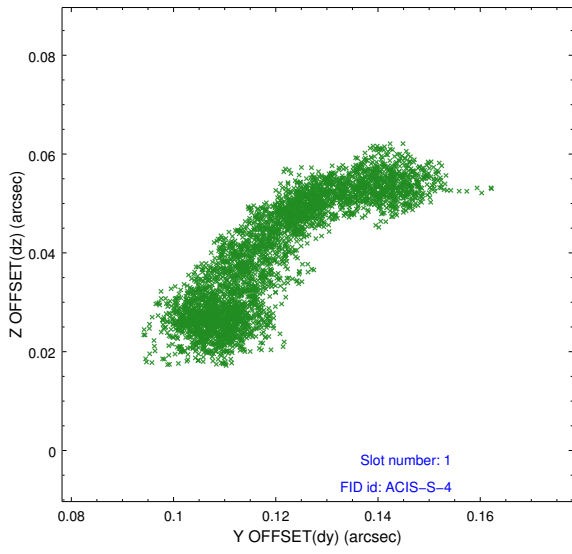


## 2.5 FID Slots

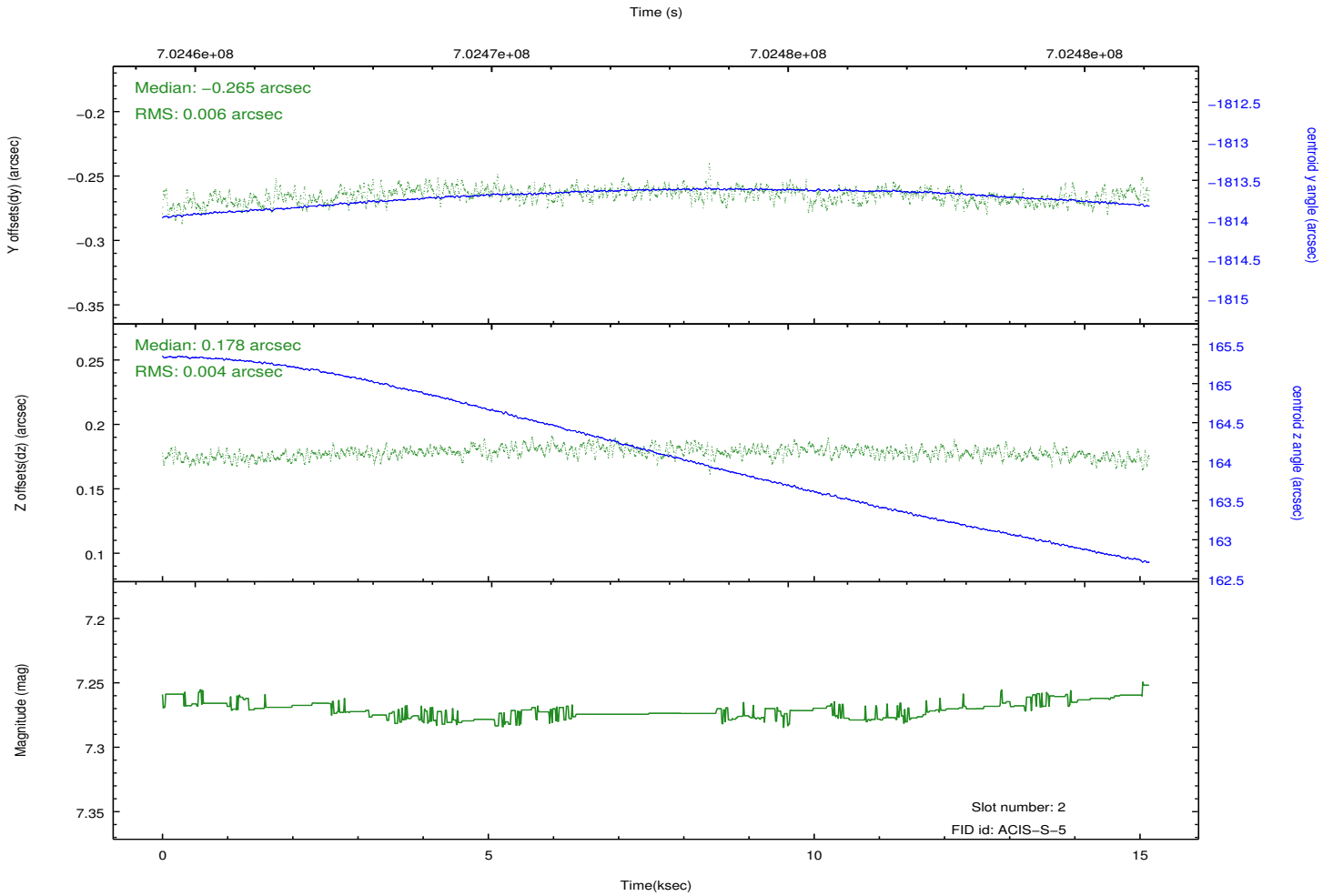
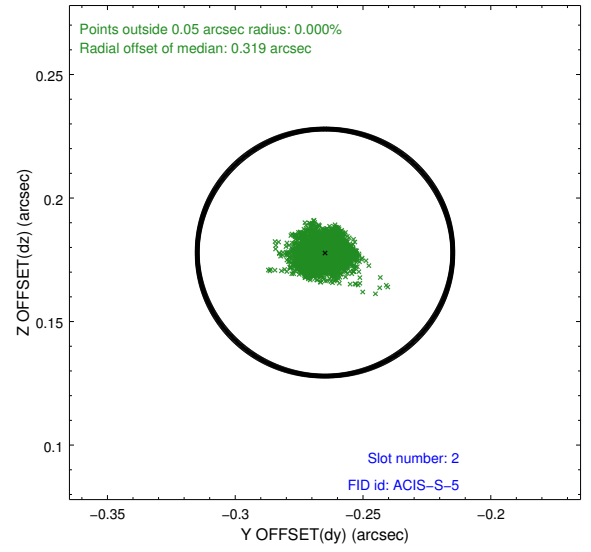
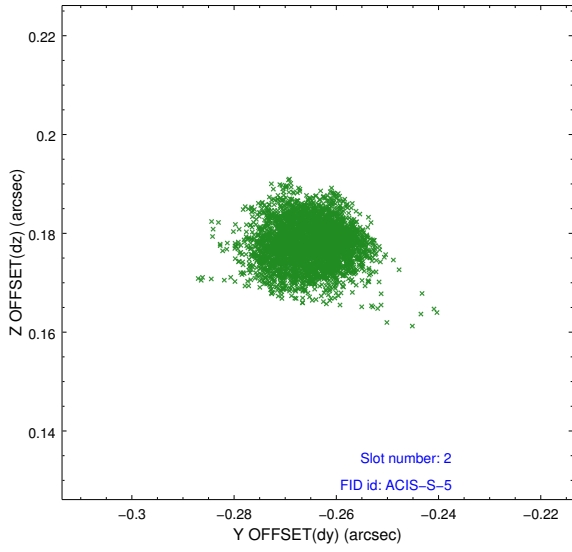
### 2.5.1 Slot 0



## 2.5.2 Slot 1

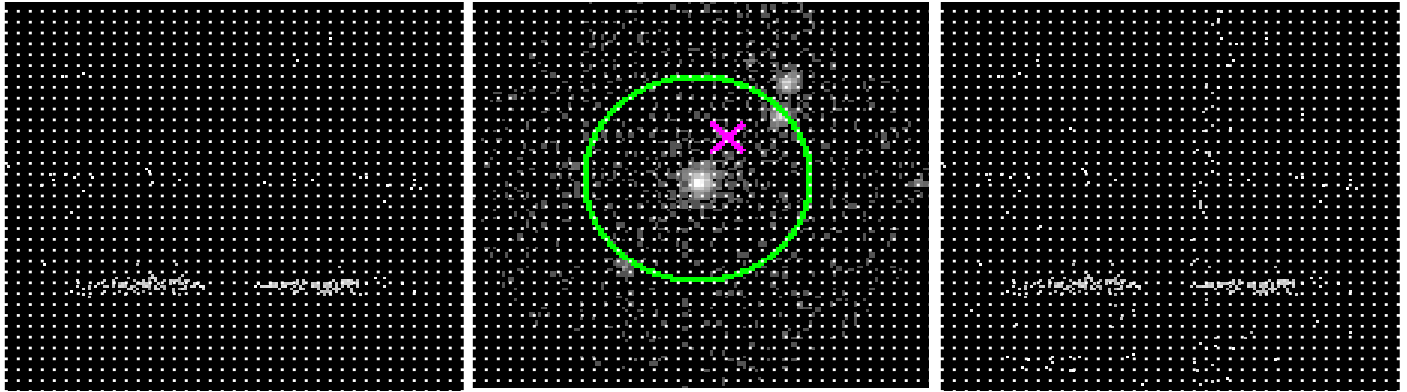


### 2.5.3 Slot 2



# 3 Gratings

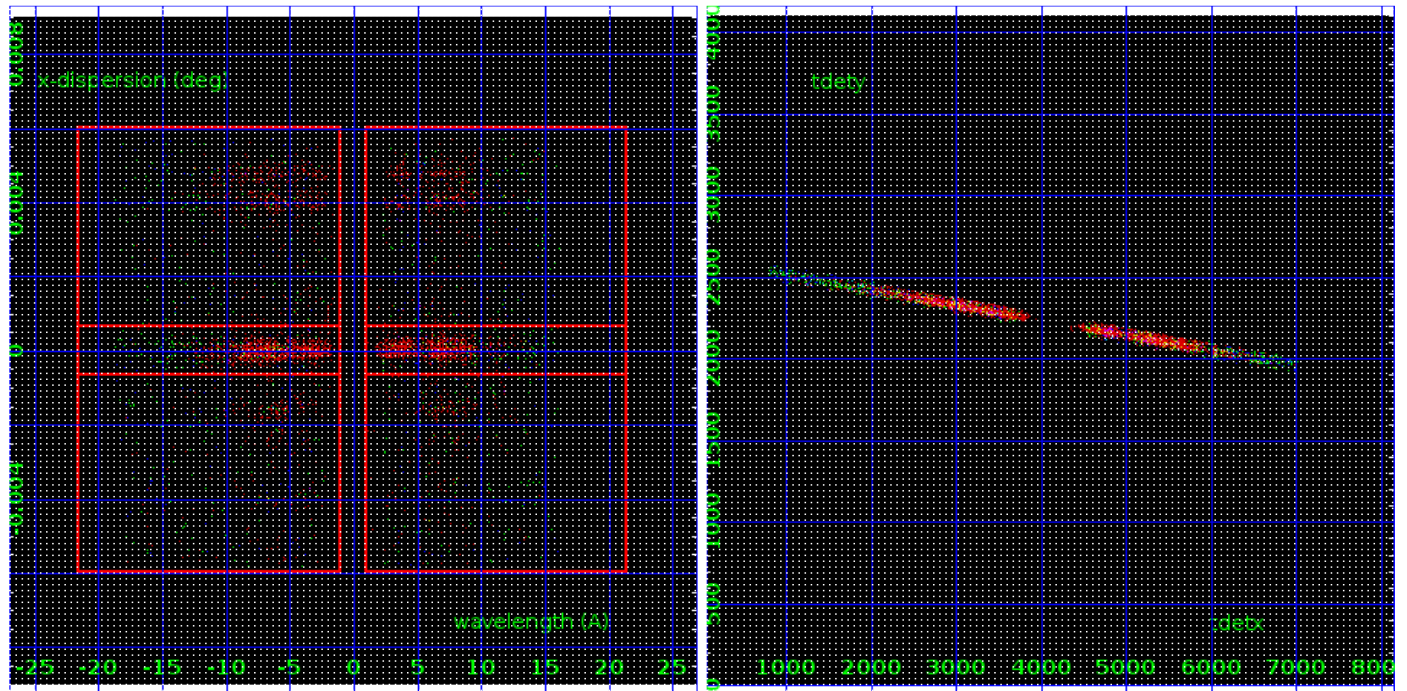
## 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

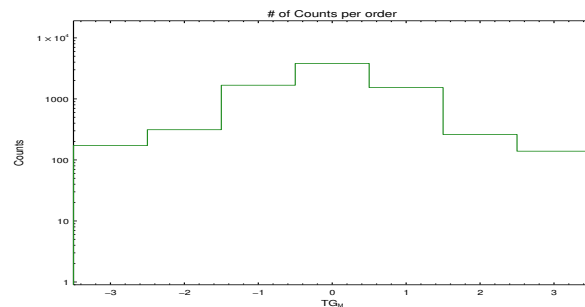
HEG Order Sort ALL

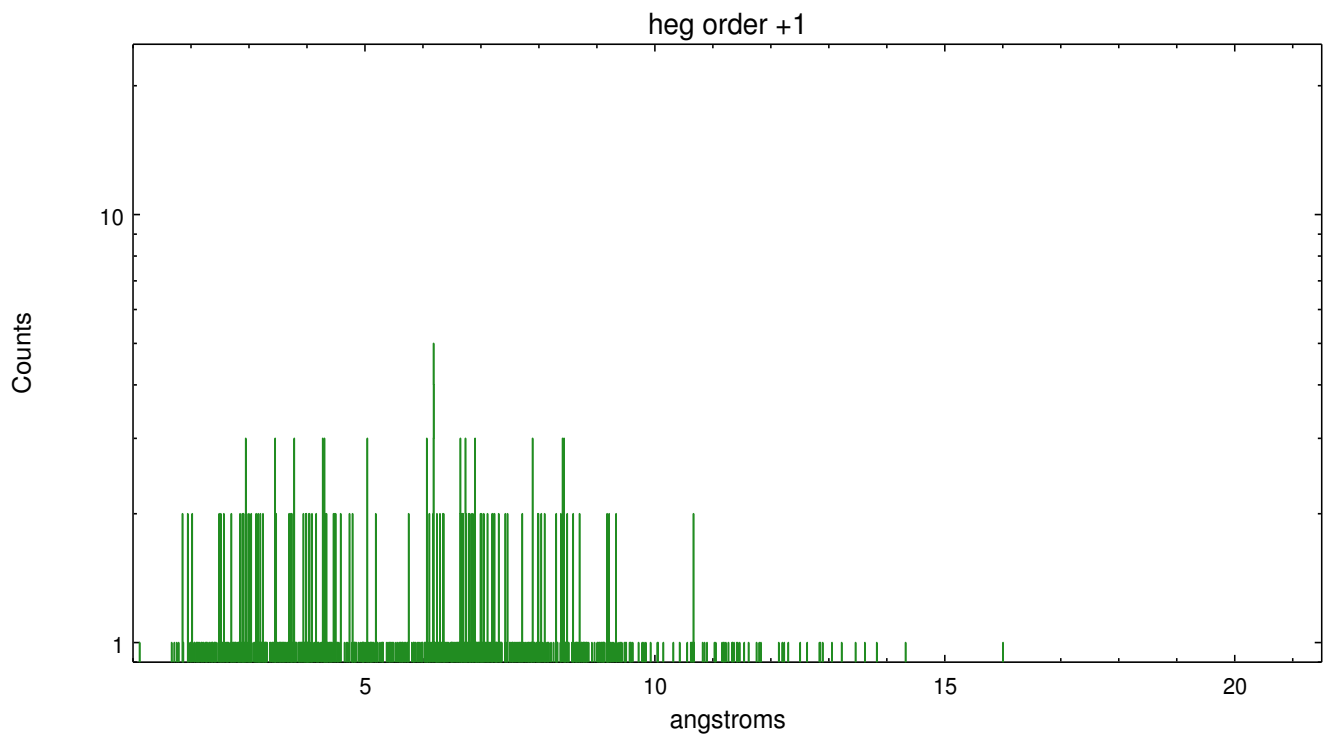
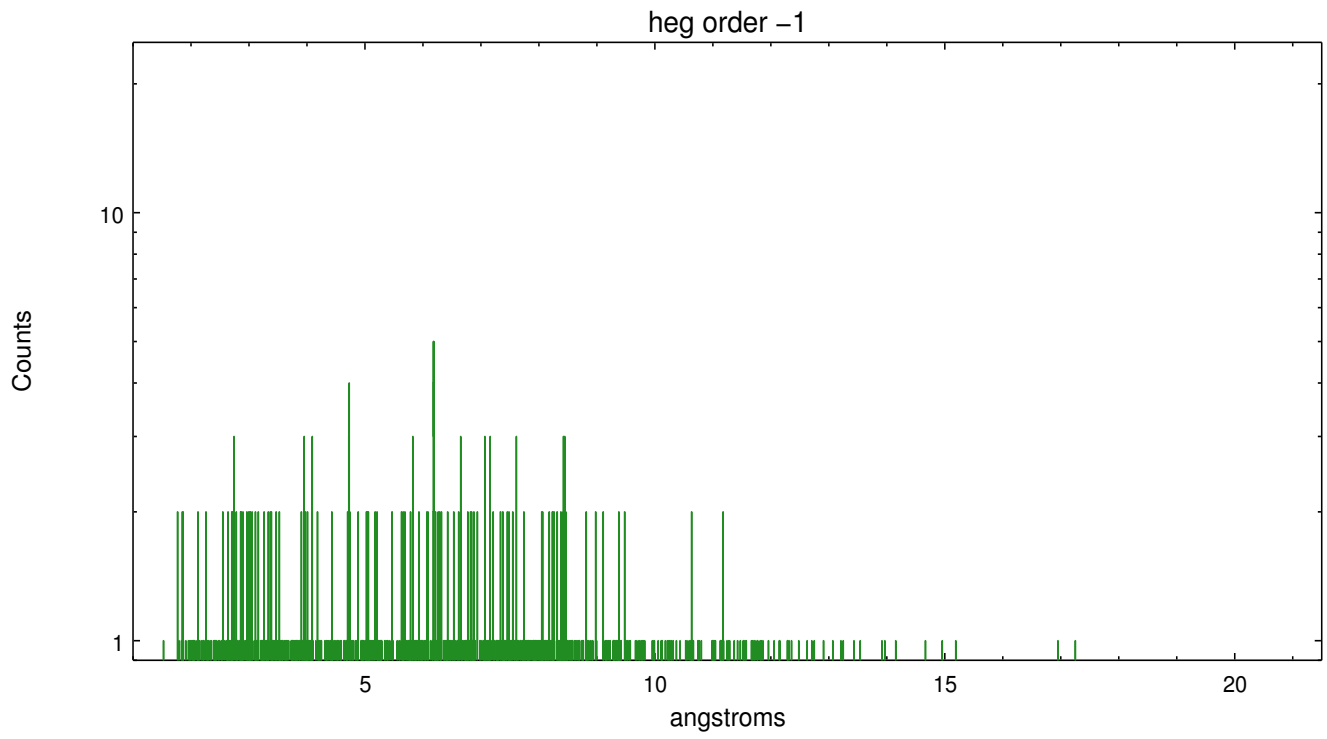


Spot Image HEG

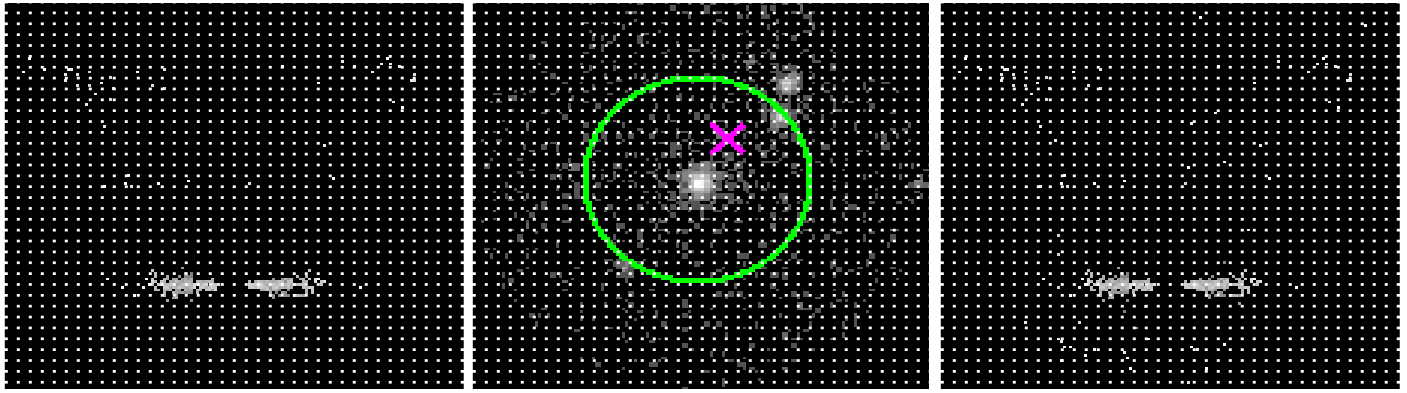
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	172	313	1675	3811	1533	261	139





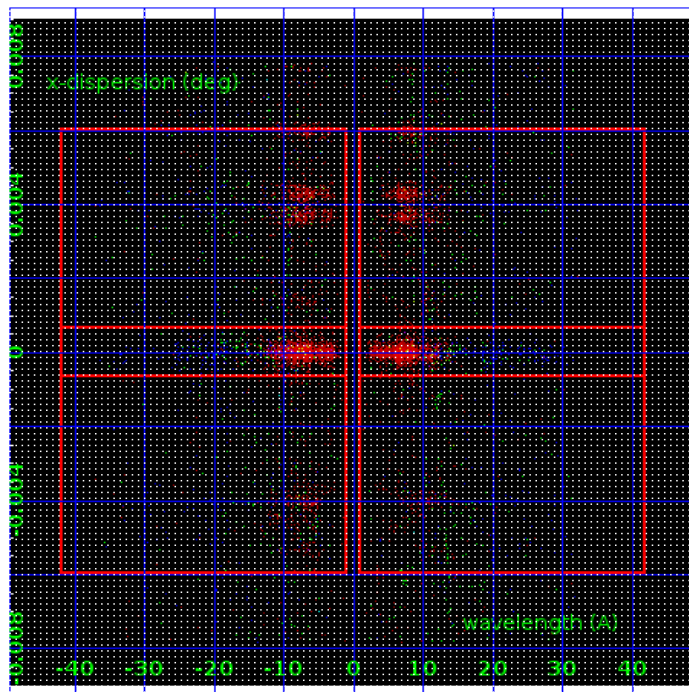
### 3.2 MEG Arm



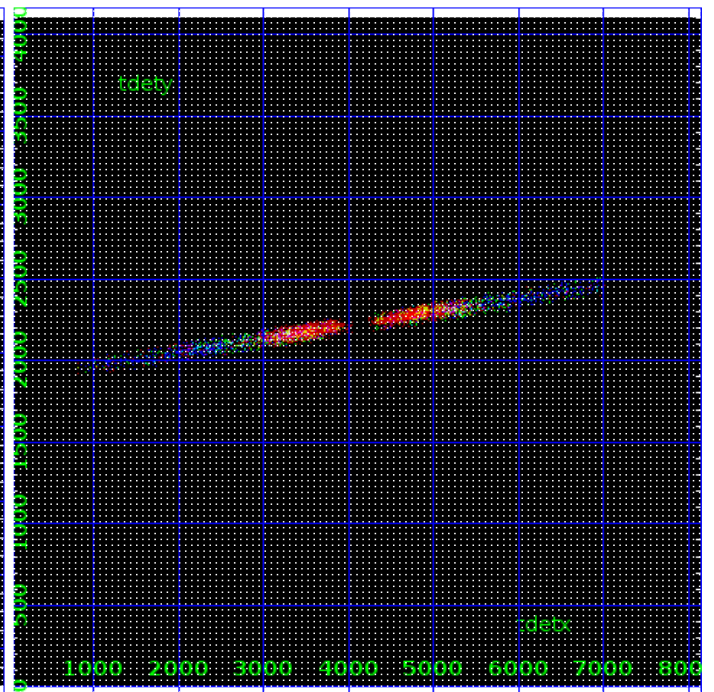
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

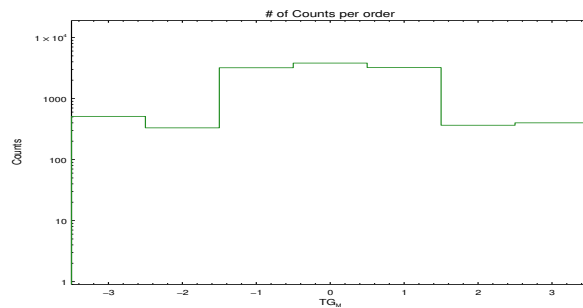


Spot Image MEG

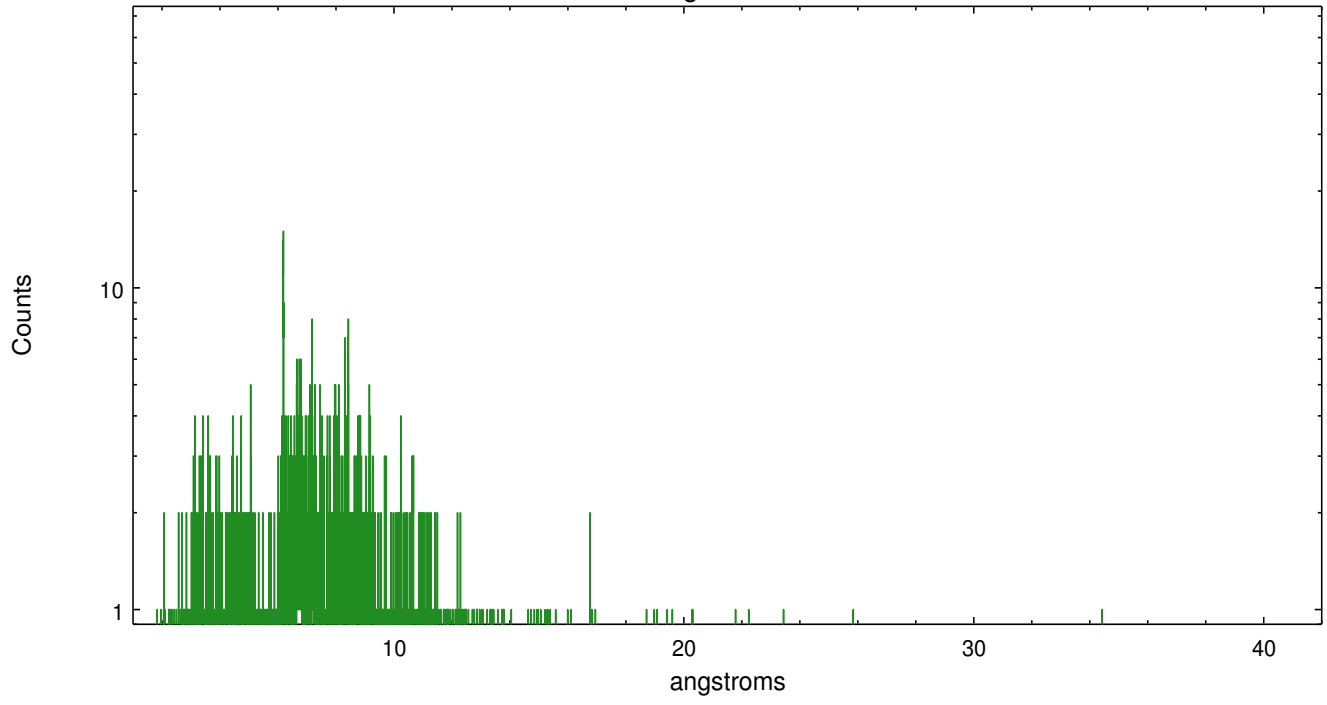


Full Detector MEG

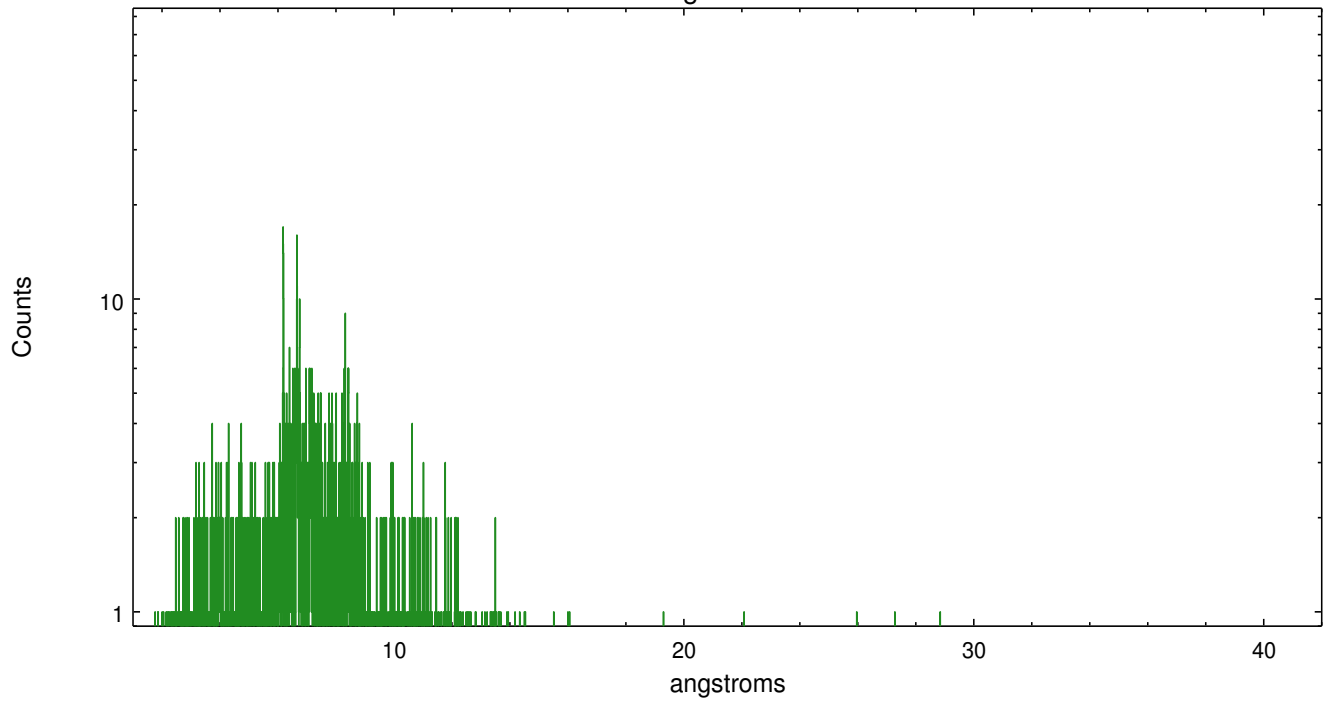
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	510	331	3196	3811	3214	365	400



meg order -1



meg order +1



## A Summary

### A.1 Status

V&V Scientist	Melania Nynka
V&V Date (YYYY-MM-DD)	2020.04.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.942510359645

### A.2 Comments