

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 6088 - L2 Version 4  
Chandra X-Ray Center

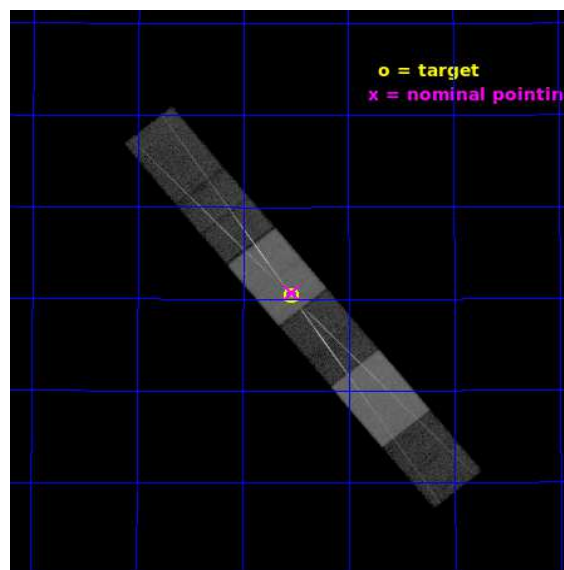
L2 Processing Date : Oct 8 2020

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>3</b>	<b>Gratings</b>	<b>17</b>
3.1	HEG Arm . . . . .	17
3.2	MEG Arm . . . . .	19
<b>A</b>	<b>Summary</b>	<b>21</b>
A.1	Status . . . . .	21
A.2	Comments . . . . .	21

# 1 Front

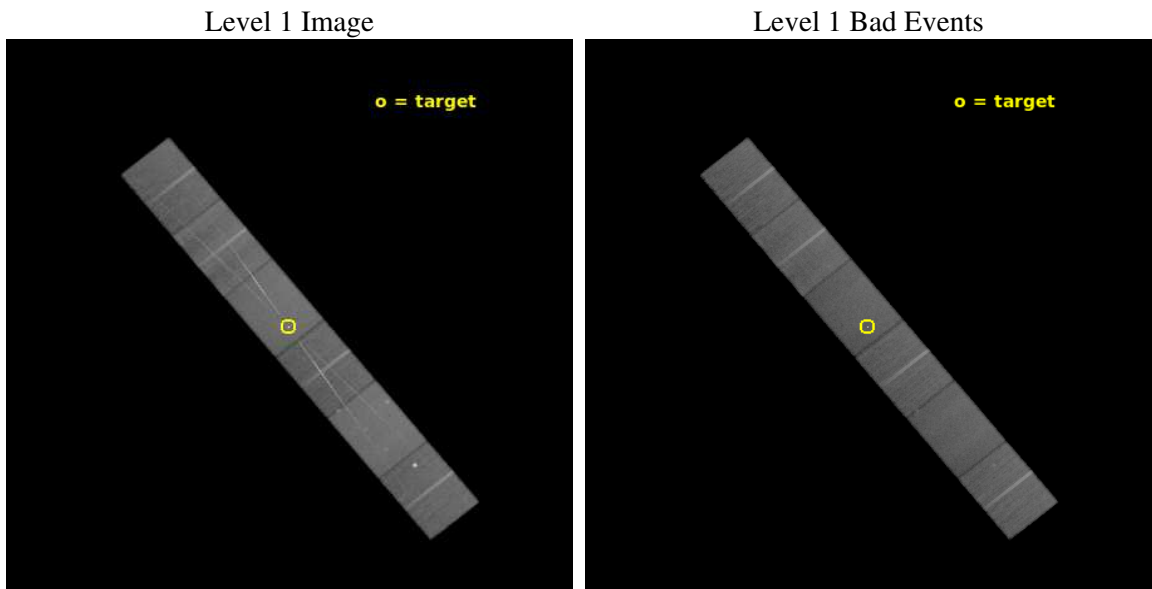
seq_num	790097	Sequence number
obs_id	6088	Observation id
title	AO6 Calibration Observations of 3C273	Proposal title
observer	CXC Calibration	Principal investigator
object	1H1426+428	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	217.135833	Observer's specified target RA [deg]
dec_targ	42.6725	Observer's specified target Dec [deg]
ra_nom	217.13395815874	Nominal RA [deg]
dec_nom	42.678151543266	Nominal Dec [deg]
roll_nom	230.74904181119	Nominal Roll [deg]
revision	4	Processing version of data
ontime	41042.5	Sum of GTIs [s]
liveltime	40379.62802632	Livetime [s]
ontime4	41039.959009826	Sum of GTIs [s]
ontime5	41042.5	Sum of GTIs [s]
ontime6	41042.5	Sum of GTIs [s]
ontime7	41042.5	Sum of GTIs [s]
ontime8	41039.958999813	Sum of GTIs [s]
ontime9	41042.5	Sum of GTIs [s]
l2events	464479	Number of level 2 events



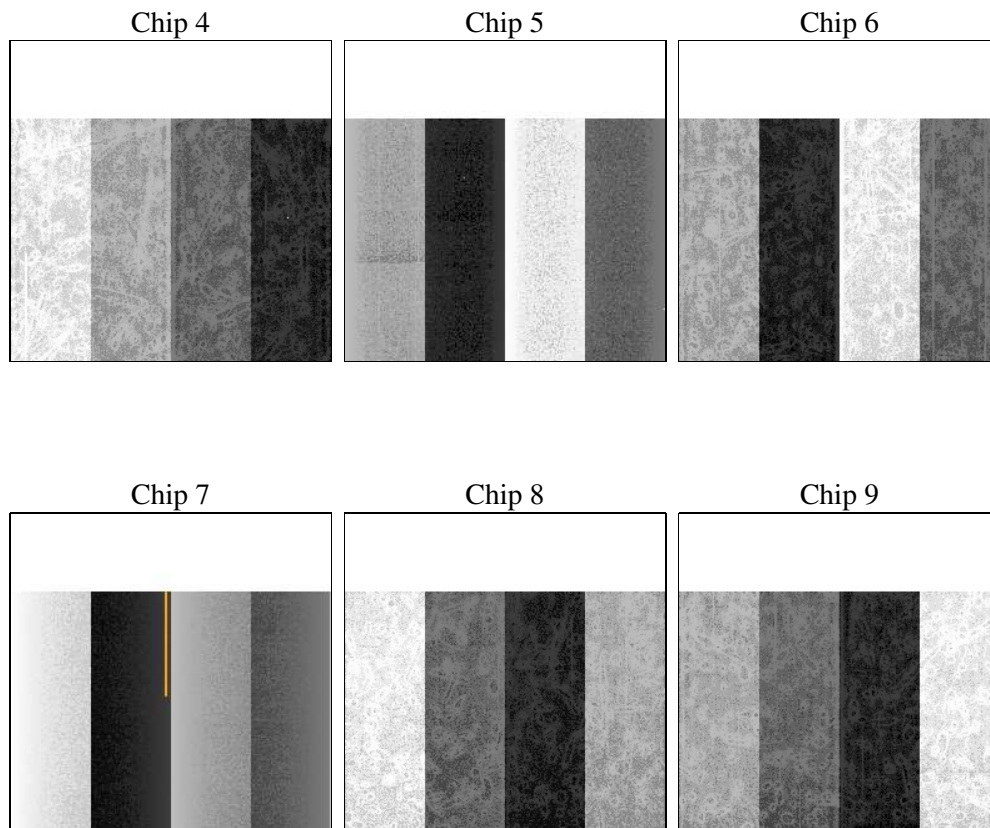
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	41000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	41042.5	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime4	41039.959009826	Sum of GTIs [s]
date	2020-10-09T02:17:01	Date and time of file creation	ontime5	41042.5	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	41042.5	Sum of GTIs [s]
			ontime7	41042.5	Sum of GTIs [s]
			ontime8	41039.958999813	Sum of GTIs [s]
			ontime9	41042.5	Sum of GTIs [s]
			l1events	1831007	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			z0_pos	(4086.20, 4055.20)	src1a sky pixel position

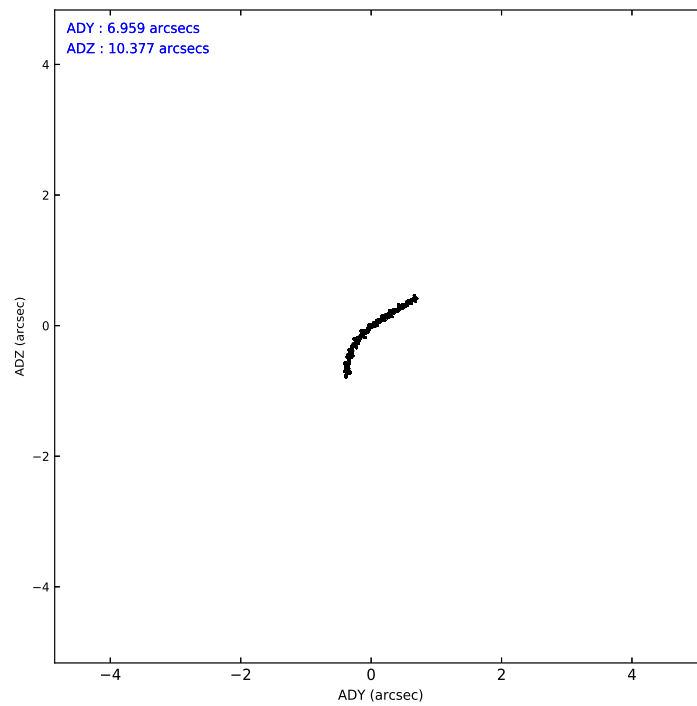
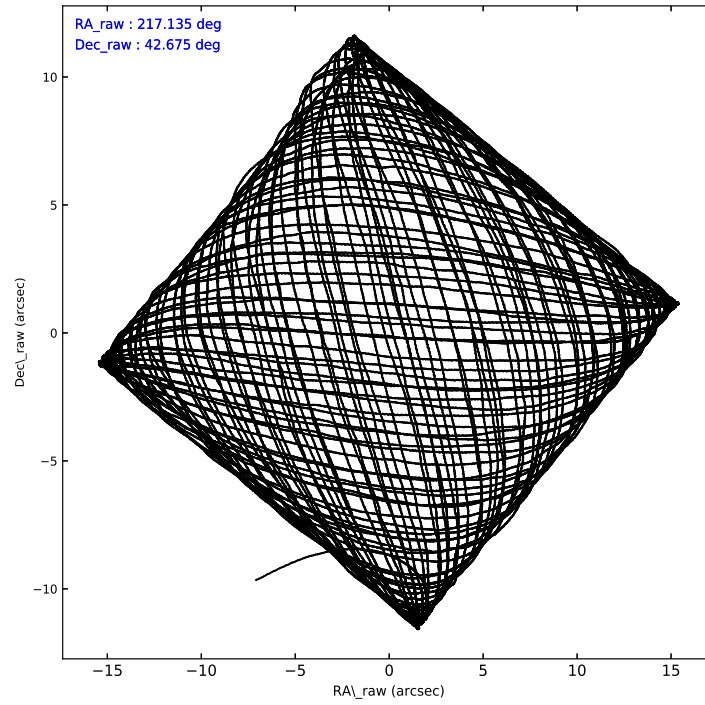
### 2.1.4 Events

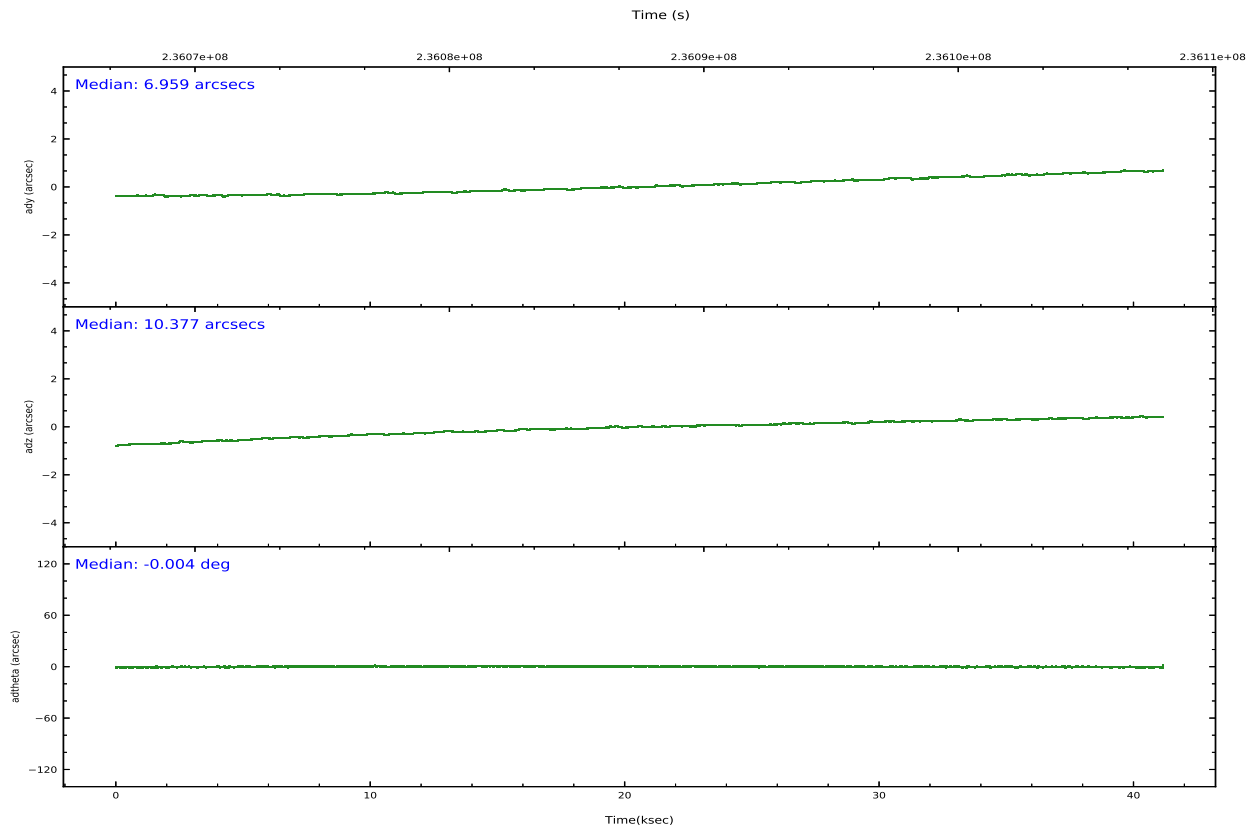
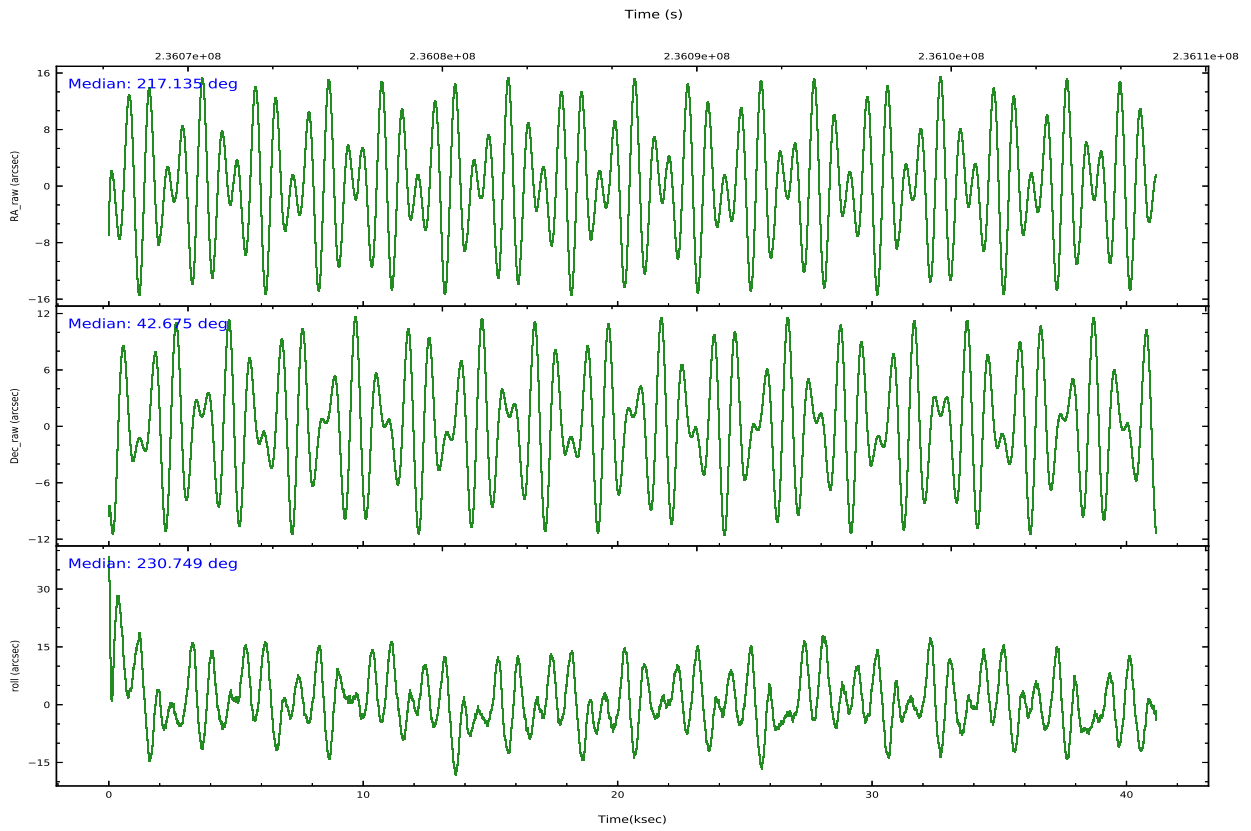
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	283680	362289	266285	362549	314575	241629	grade 0 events	29507	16963	30478	18736	30232	14313
rejected events	236431	193608	213340	195280	237779	209060		10%	4%	11%	5%	9%	5%
rejected %	83%	53%	80%	53%	75%	86%	grade 1 events	361	679	175	608	209	108
								0%	0%	0%	0%	0%	0%
							grade 2 events	6597	50006	8514	34629	15656	6064
								2%	13%	3%	9%	4%	2%
							grade 3 events	3344	7959	3798	15661	6871	3236
								1%	2%	1%	4%	2%	1%
							grade 4 events	3038	7649	3722	15580	6505	3115
								1%	2%	1%	4%	2%	1%
							grade 5 events	10258	27022	11042	32602	14352	11565
								3%	7%	4%	8%	4%	4%
							grade 6 events	4768	86125	6440	82681	17537	5842
								1%	23%	2%	22%	5%	2%
							grade 7 events	225807	165886	202116	162052	223213	197386
								79%	45%	75%	44%	70%	81%

## 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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	217.140811	217.13395815874	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	42.701628	42.678151543266	Subarray start row	1	1
[deg] Pointing Roll	230.590318	230.74904181119	Subarray row count	774	774
[s] Window start time (MET)	233971264.184000	233971264.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	241833664.184000	241833664.184000	[s] Primary exposure time	0.000000	2.5
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	236067053.184000	236066085.41174			
Observation start date	2005-06-25T06:09:49	2005-06-25T05:54:45			
[s] Observation end time (MET)	236108053.184000	236108761.28869			
Observation end date	2005-06-25T17:33:09	2005-06-25T17:46:01			
Read mode	TIMED	TIMED			

## 2.3 Aspect





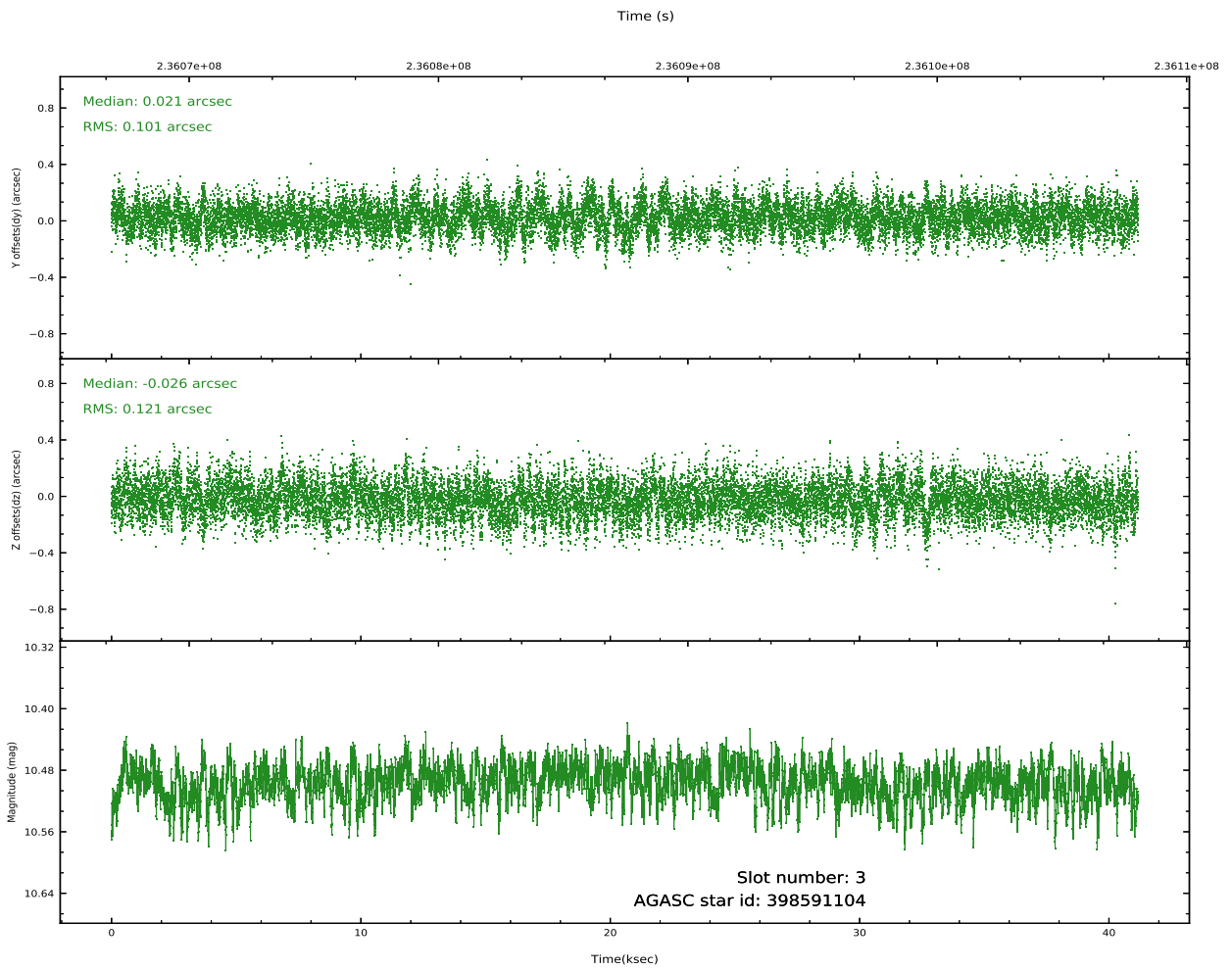
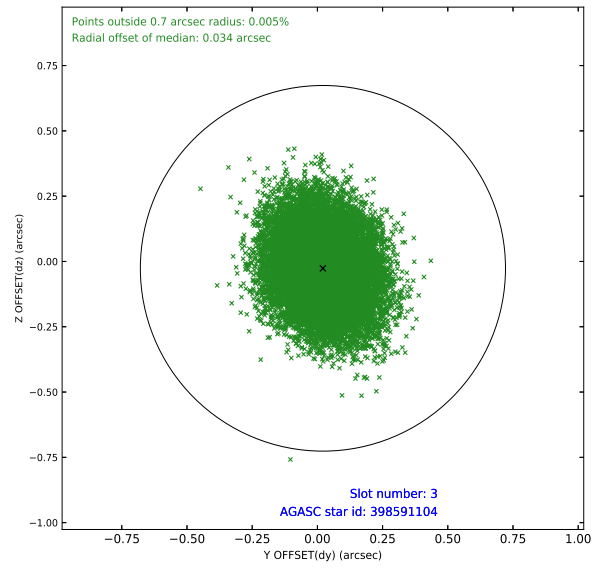
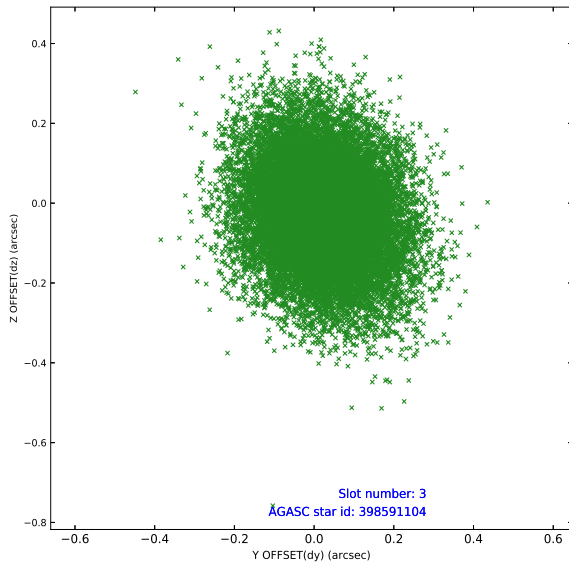
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.09	10041	1.000	-0.084	-0.134	0.014	0.025	0.000000	0.000000	-759.64	-1793
1	FID		ACIS-S-4	7.19	10041	1.000	0.170	0.076	0.008	0.014	0.000000	0.000000	2153.89	114
2	FID		ACIS-S-5	7.23	10040	1.000	-0.117	0.067	0.012	0.025	0.000000	0.000000	-1812.50	108
3	GUIDE	used	398591104	10.50	20050	1.000	0.021	-0.026	0.167	0.277	216.266610	42.893718	920.77	-2227
4	GUIDE	used	398592080	8.21	20079	1.000	0.127	-0.014	0.078	0.129	216.056075	42.661607	1920.82	-2138
5	GUIDE	used	398592952	10.09	19595	1.000	-0.113	-0.056	0.182	0.314	216.343106	43.029643	413.06	-2378
6	GUIDE	used	398723464	9.05	20069	1.000	0.051	-0.028	0.093	0.145	217.255519	42.514001	329.07	663
7	GUIDE	used	398725424	8.79	20072	1.000	-0.085	0.126	0.085	0.137	217.673023	42.542871	-458.10	1451

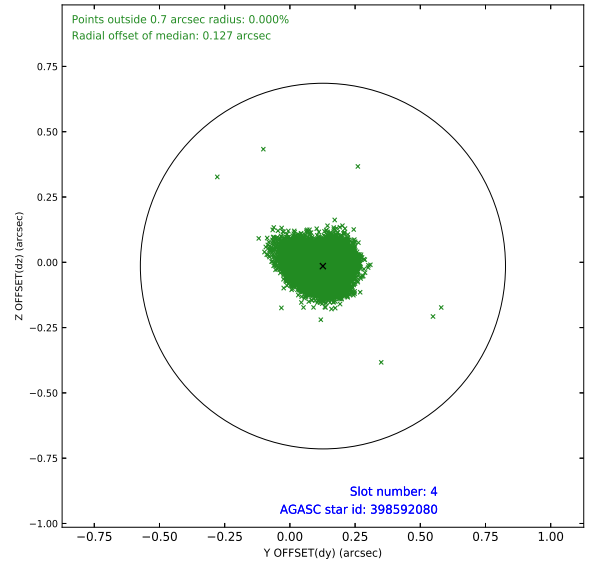
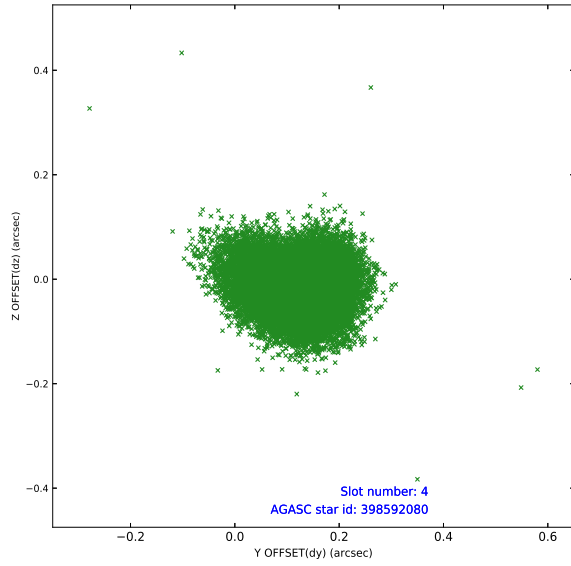
∞

## 2.4 Star Slots

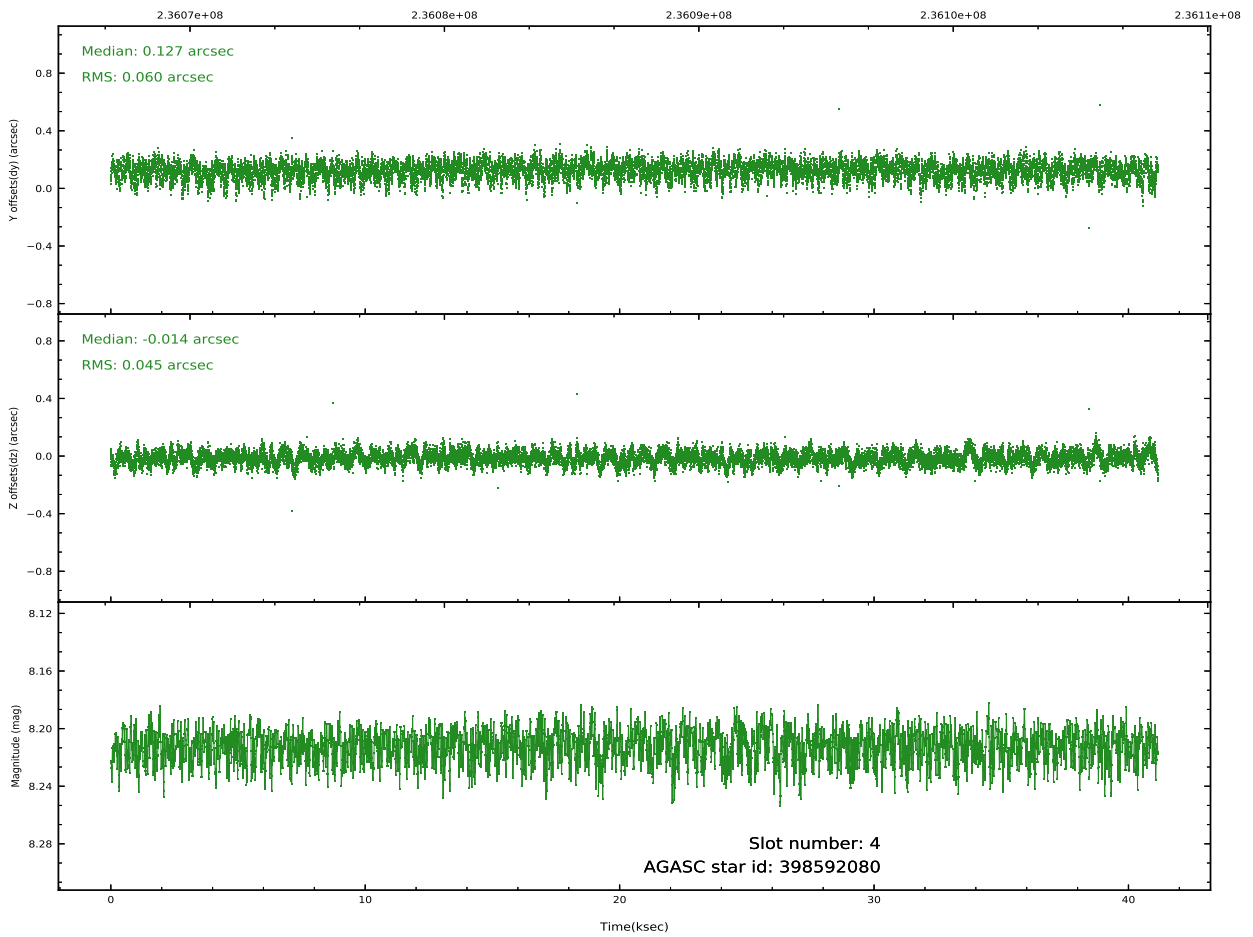
### 2.4.1 Slot 3



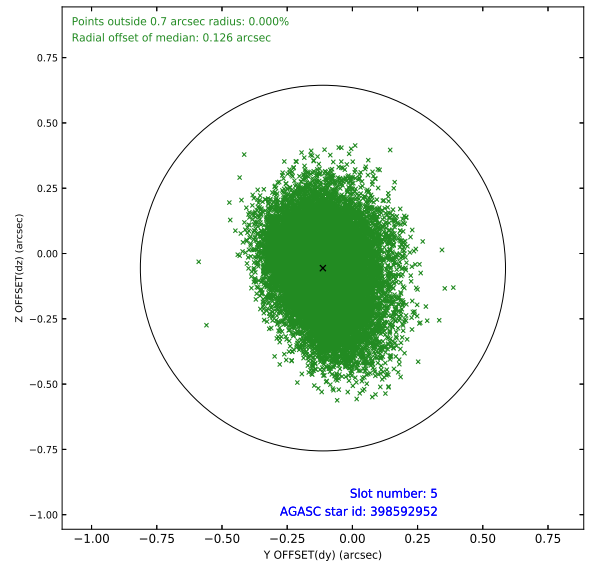
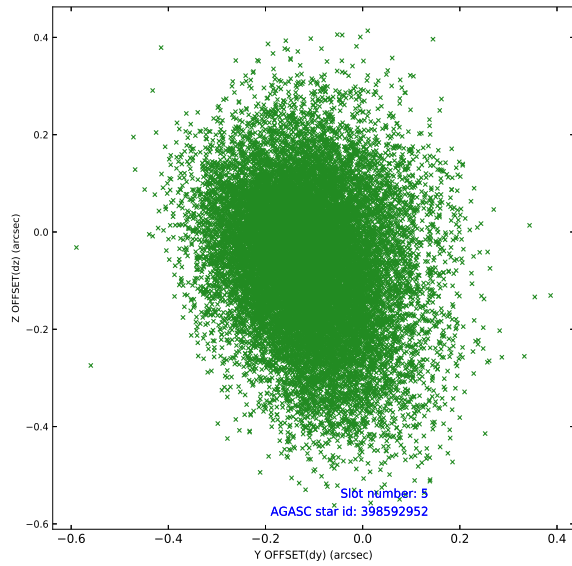
## 2.4.2 Slot 4



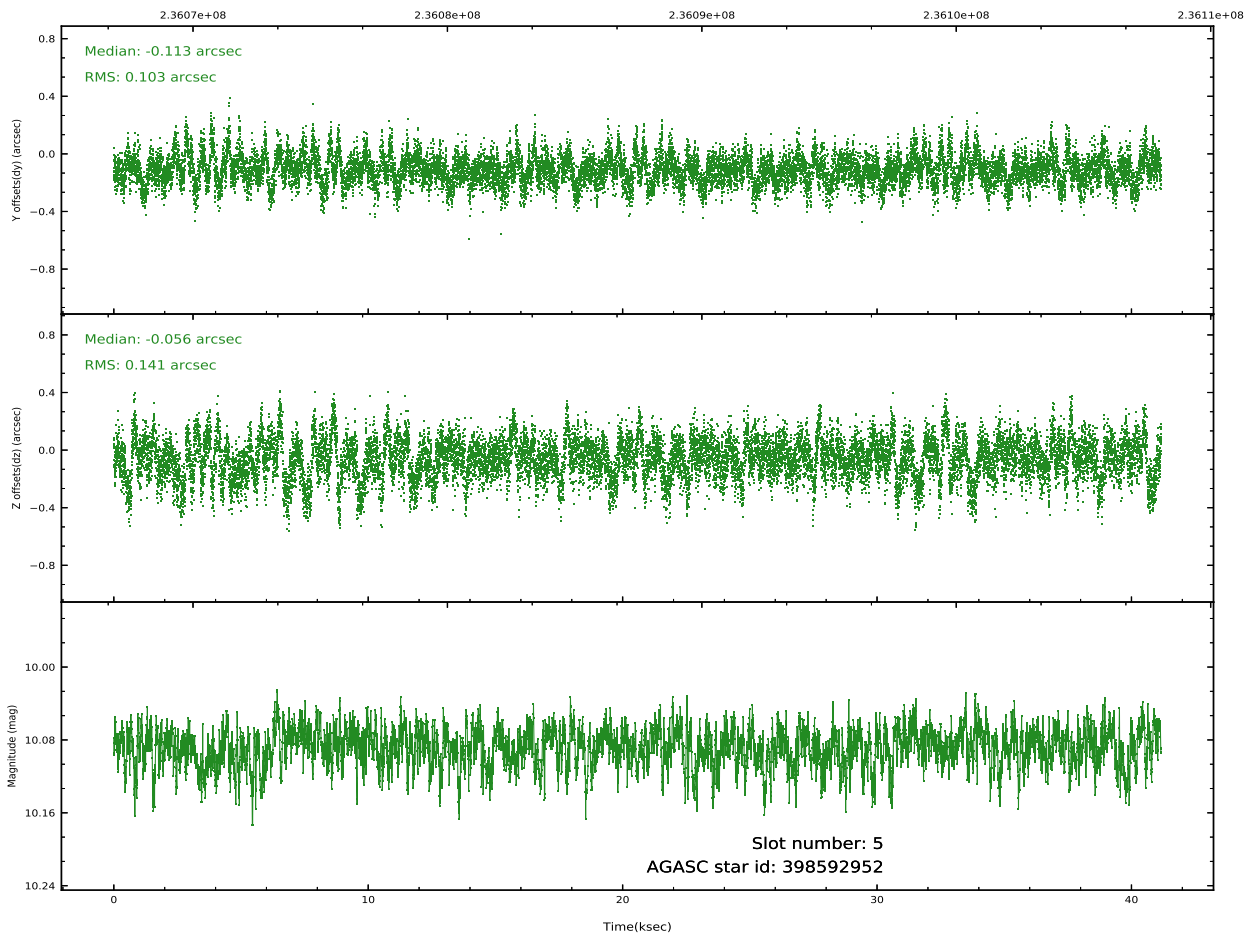
Time (s)



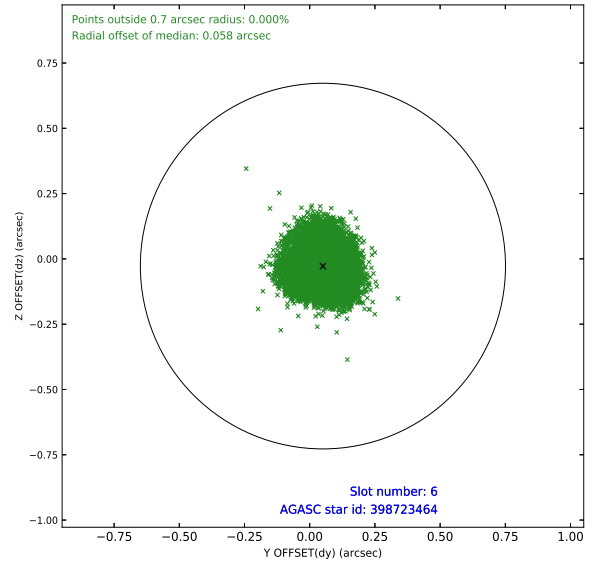
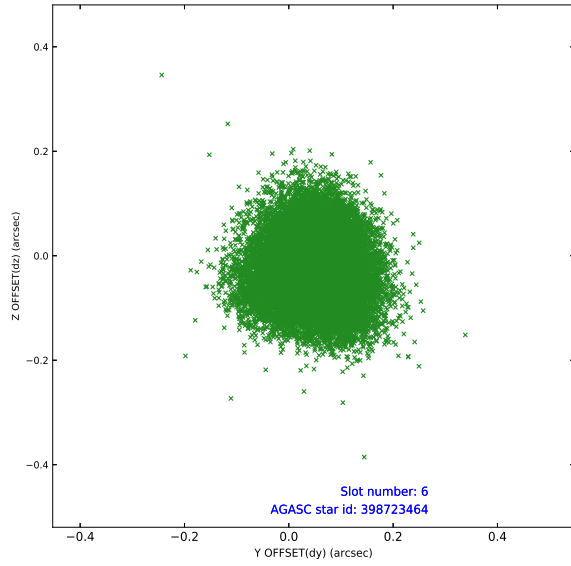
### 2.4.3 Slot 5



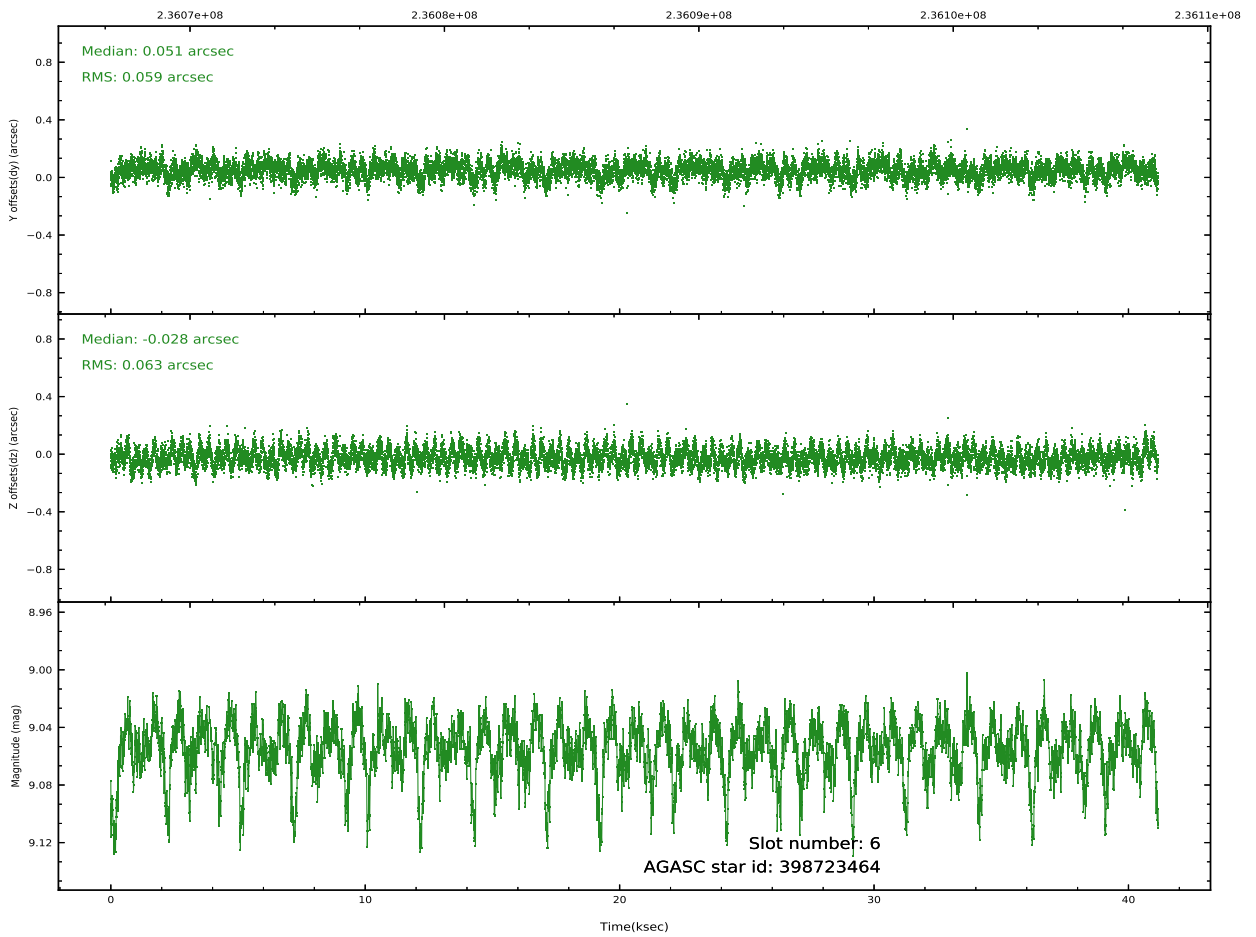
Time (s)



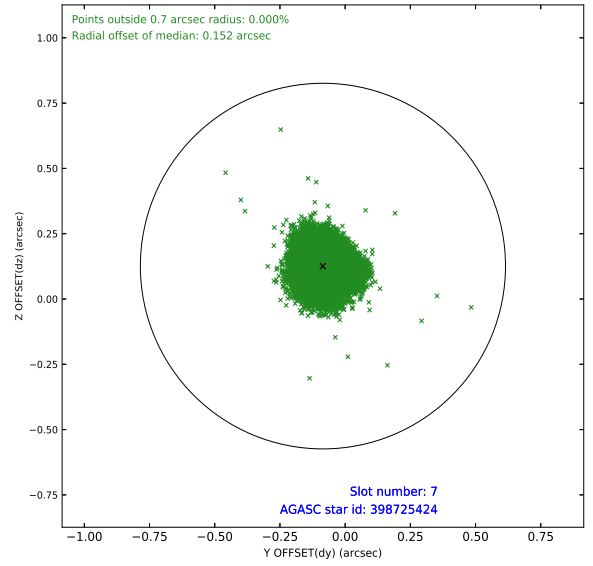
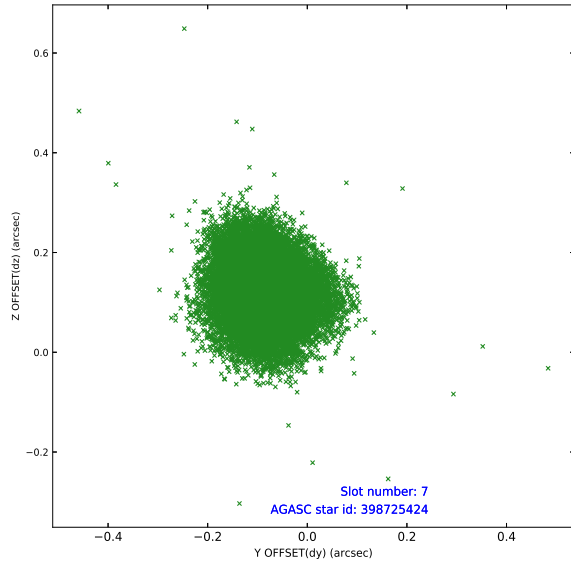
## 2.4.4 Slot 6



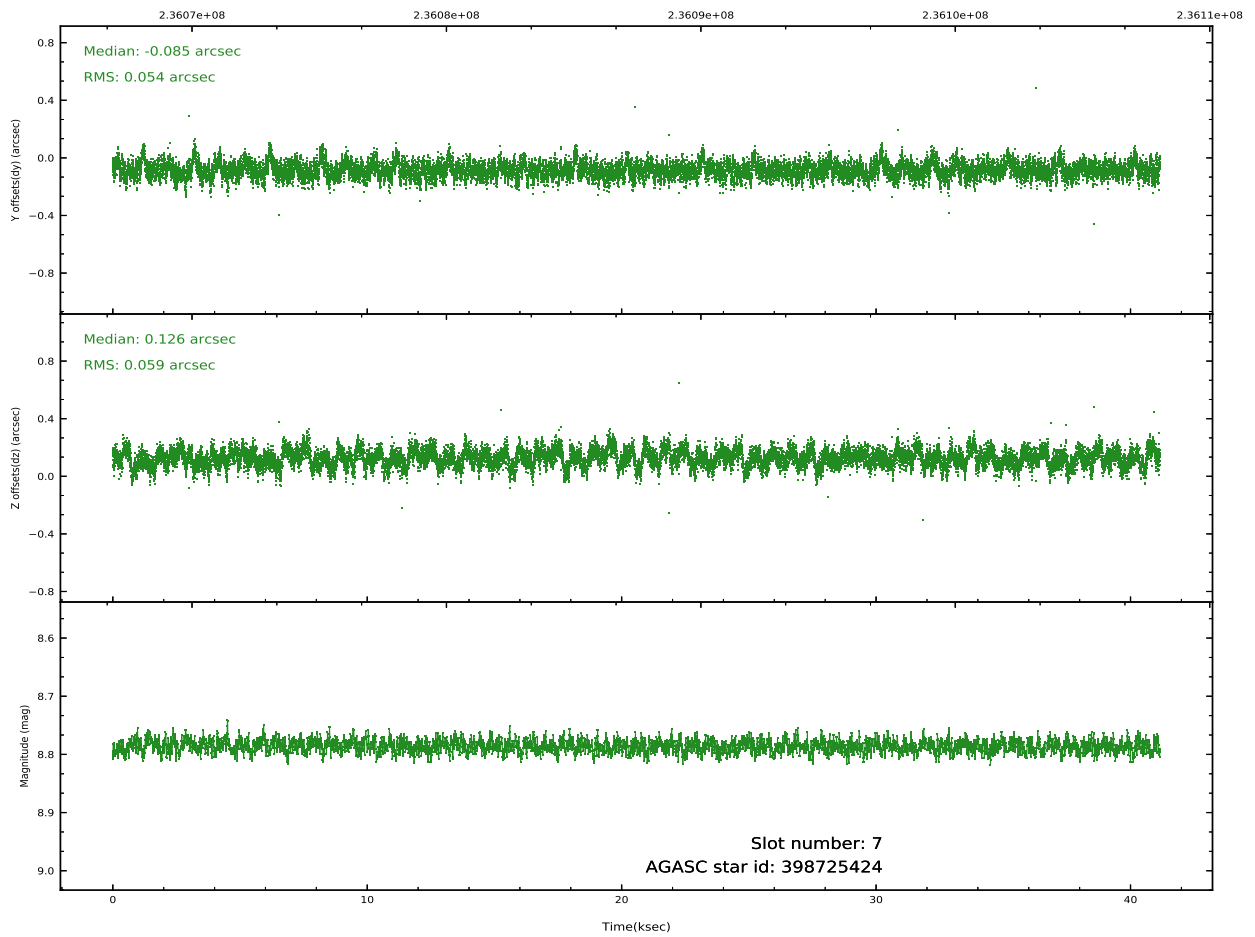
Time (s)



## 2.4.5 Slot 7

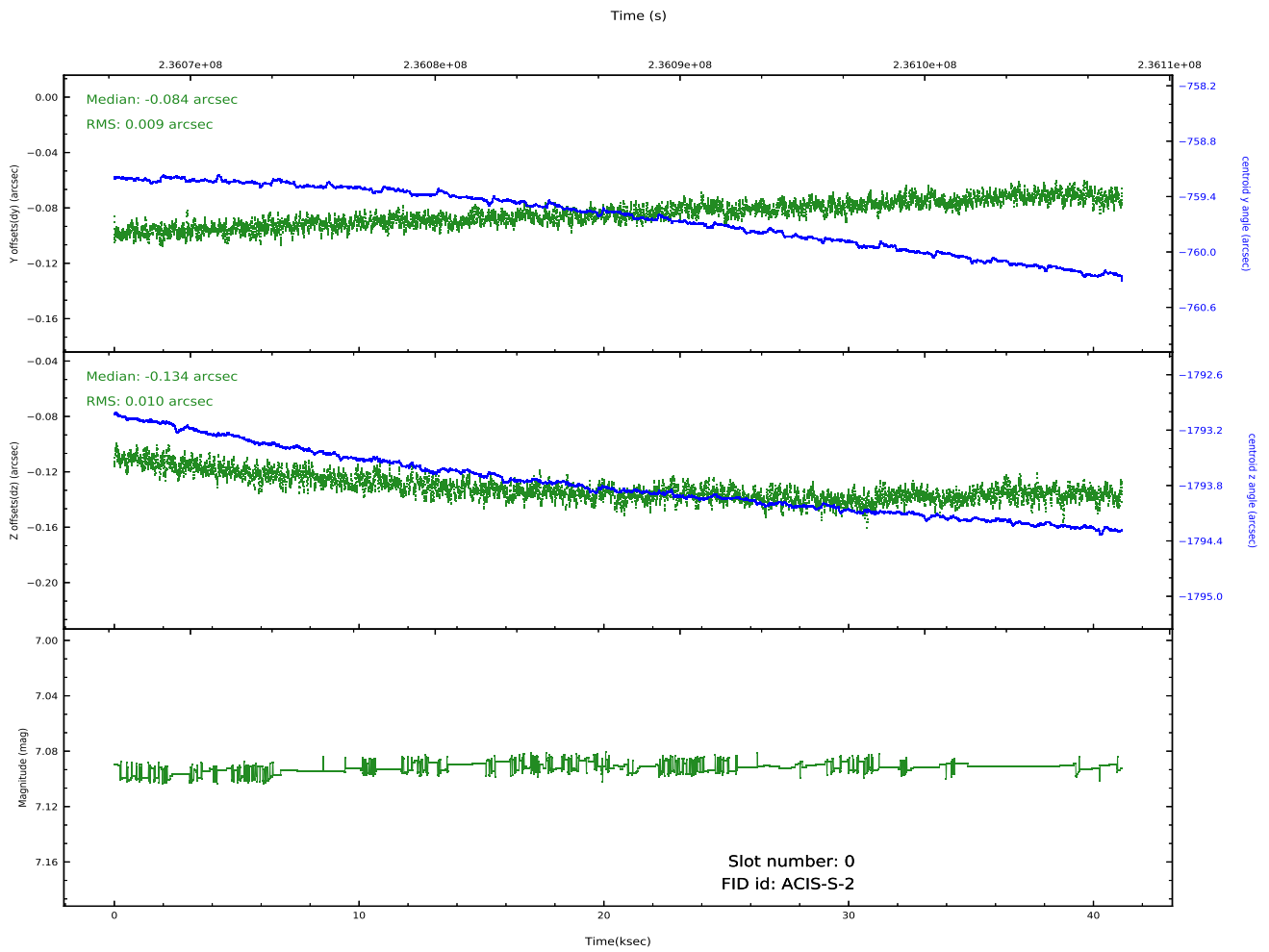
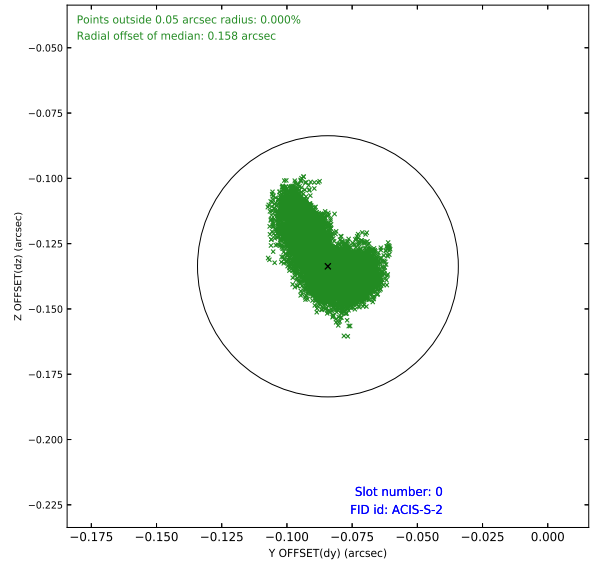
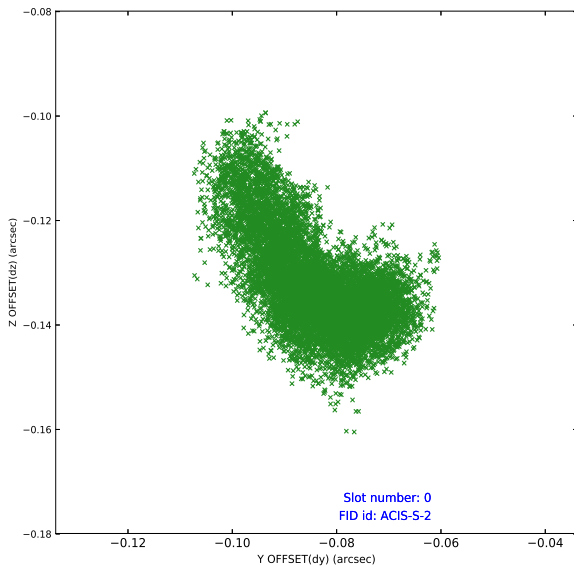


Time (s)

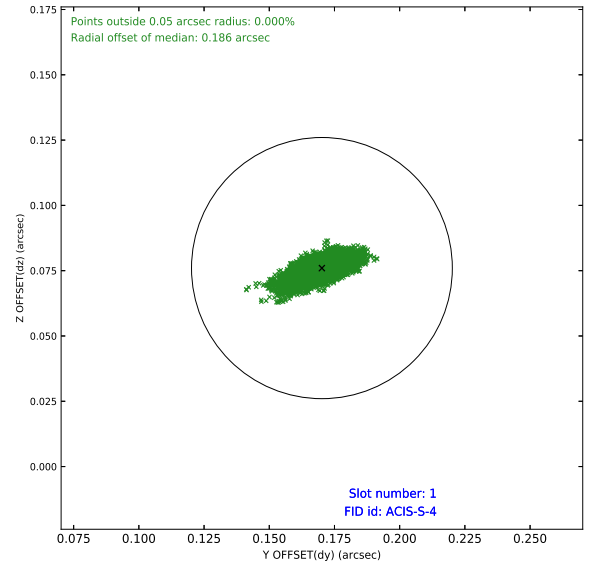
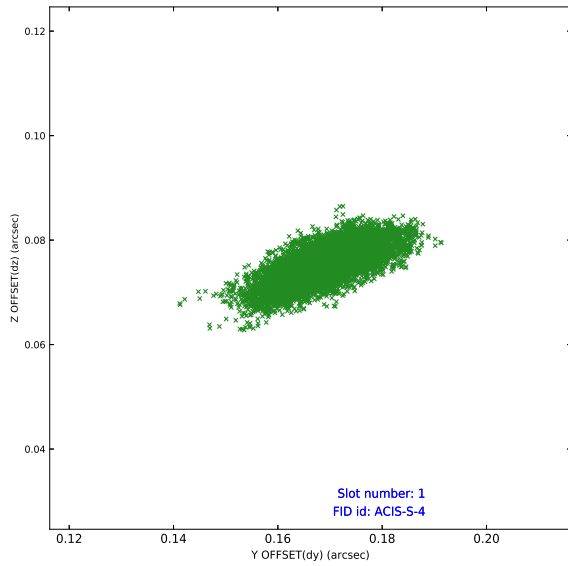


## 2.5 FID Slots

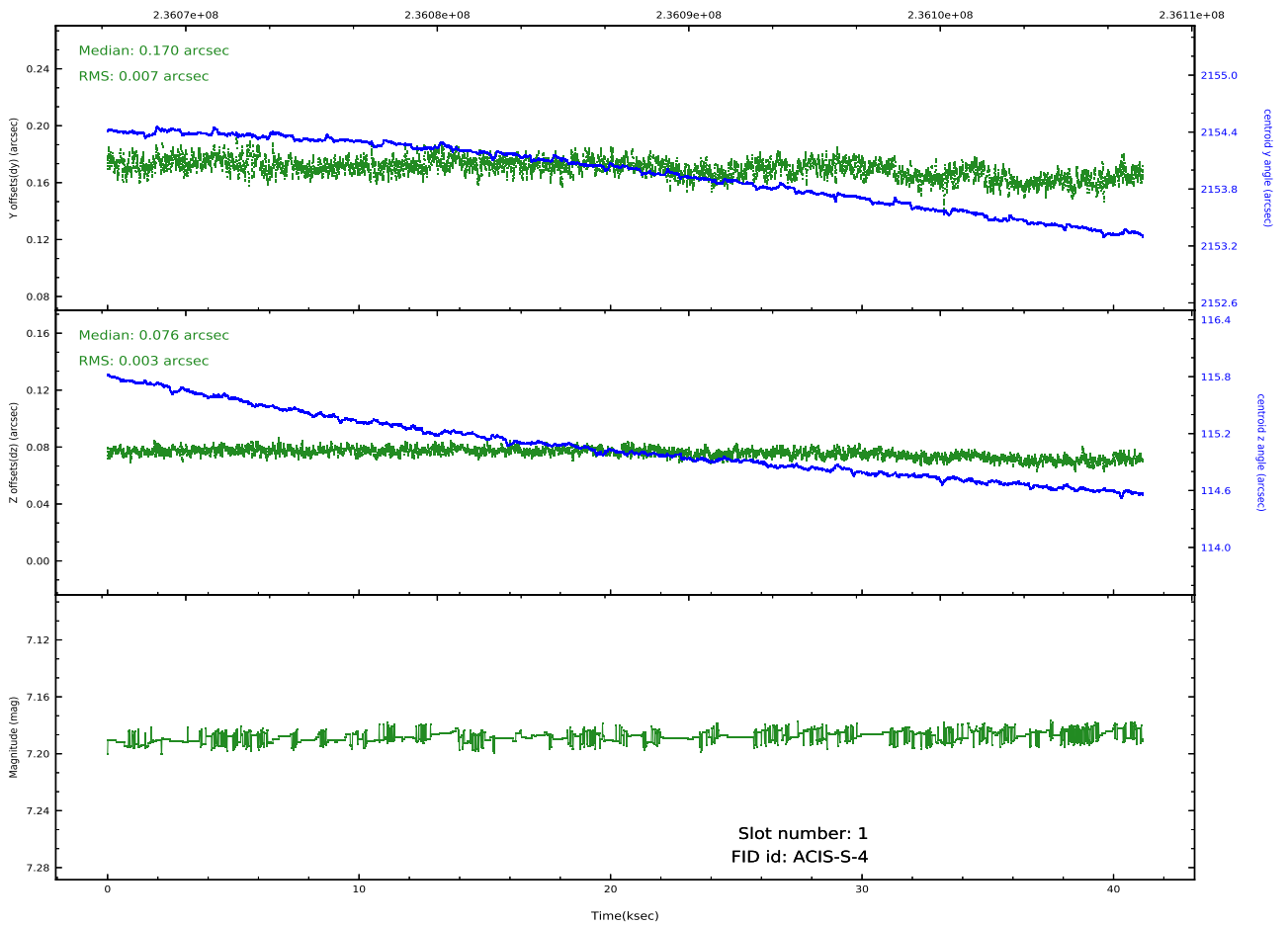
### 2.5.1 Slot 0



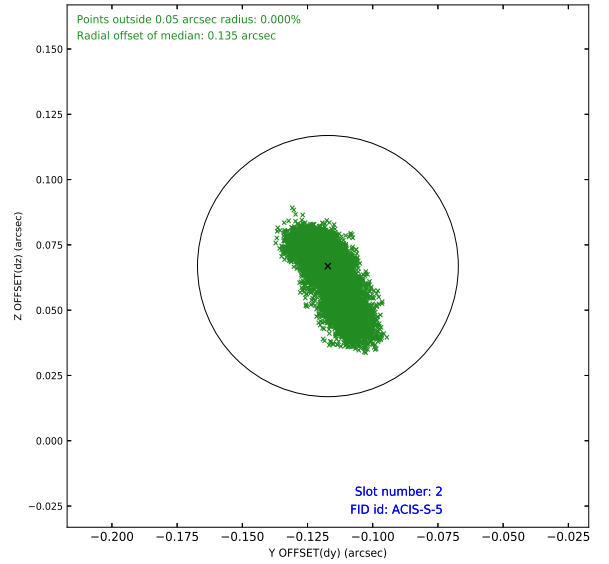
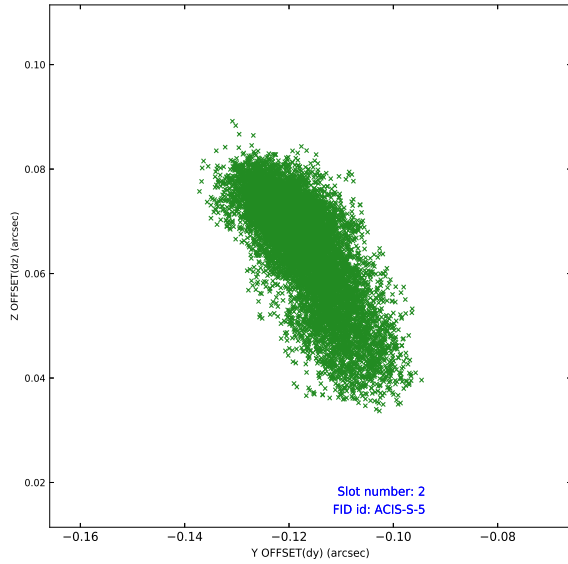
## 2.5.2 Slot 1



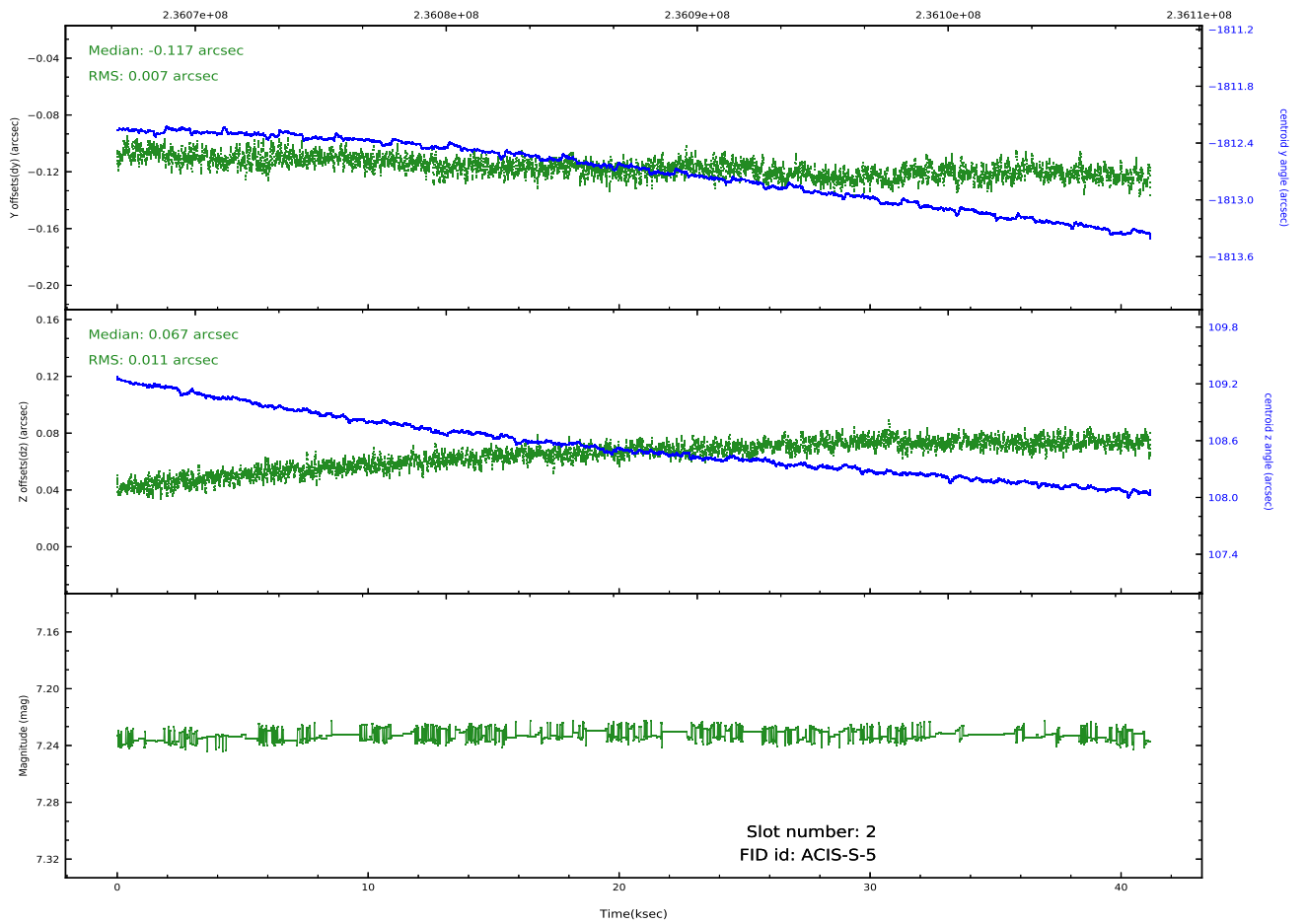
Time (s)



### 2.5.3 Slot 2

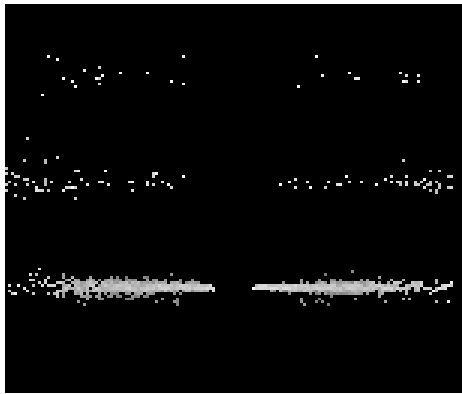


Time (s)

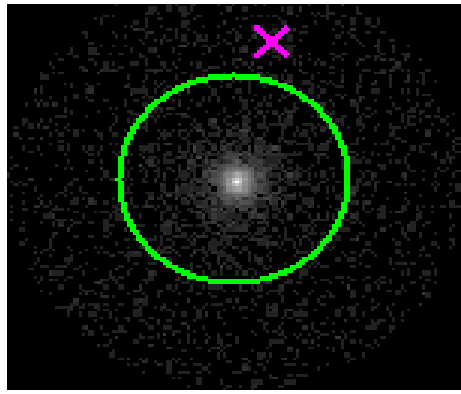


### 3 Gratings

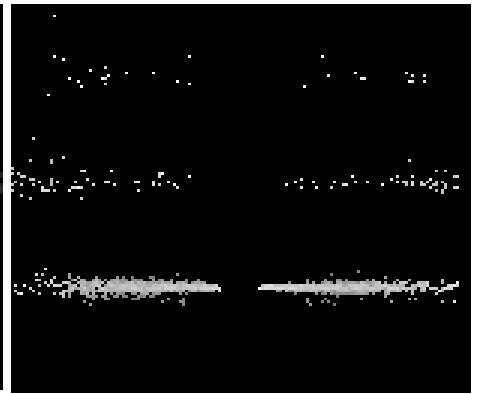
#### 3.1 HEG Arm



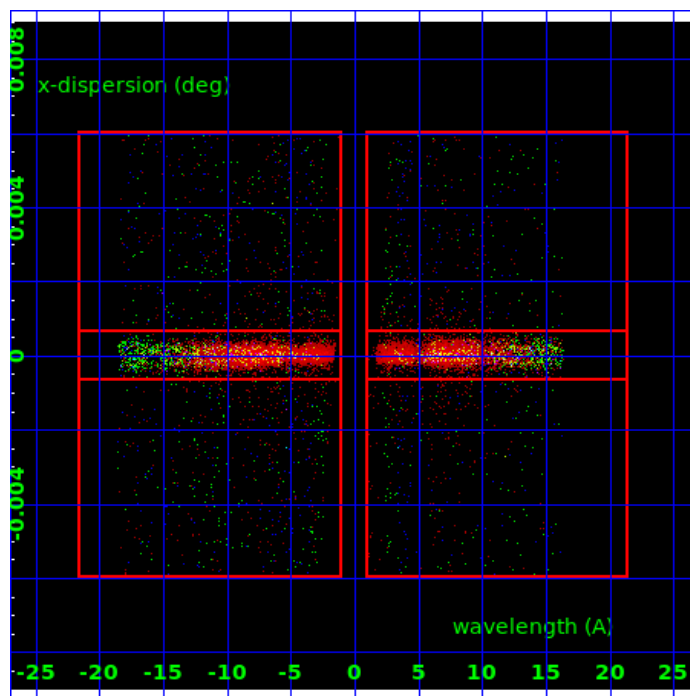
HEG Order Sort 123



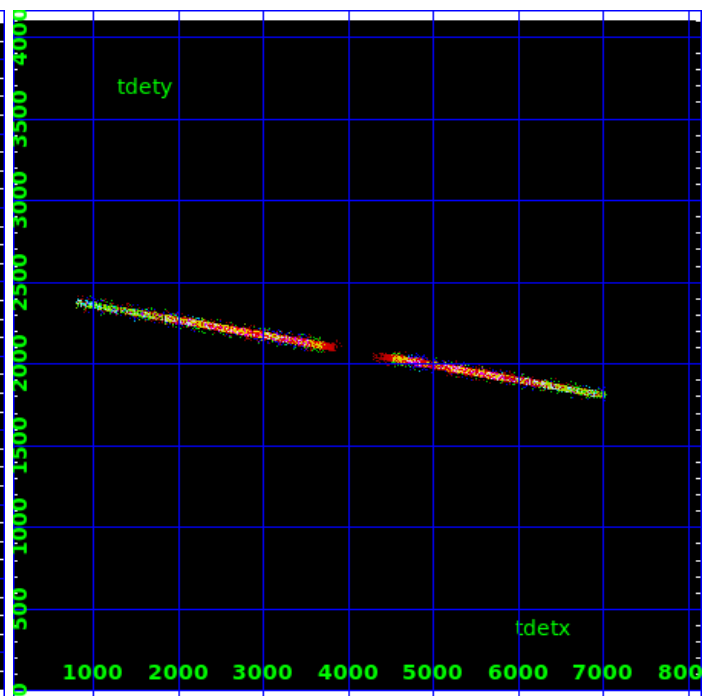
HEG Zero Order



HEG Order Sort ALL

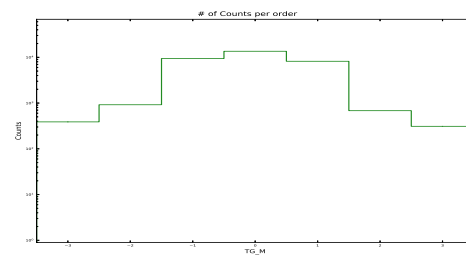


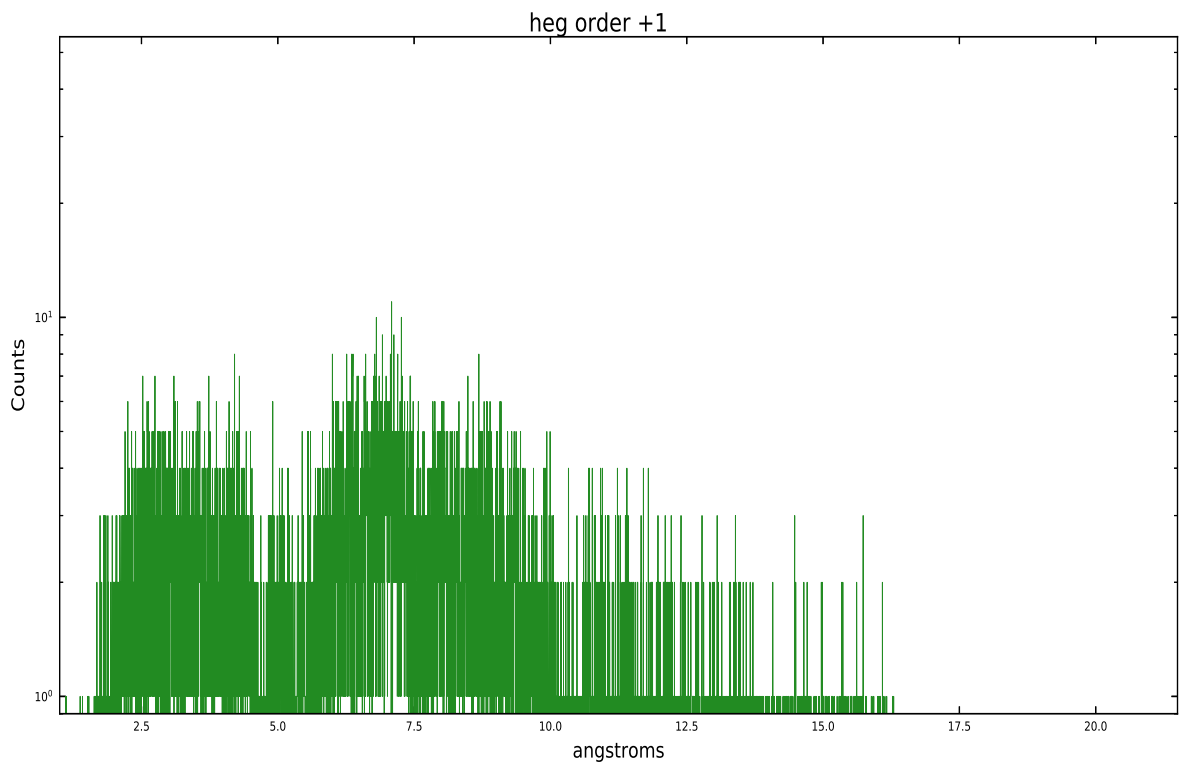
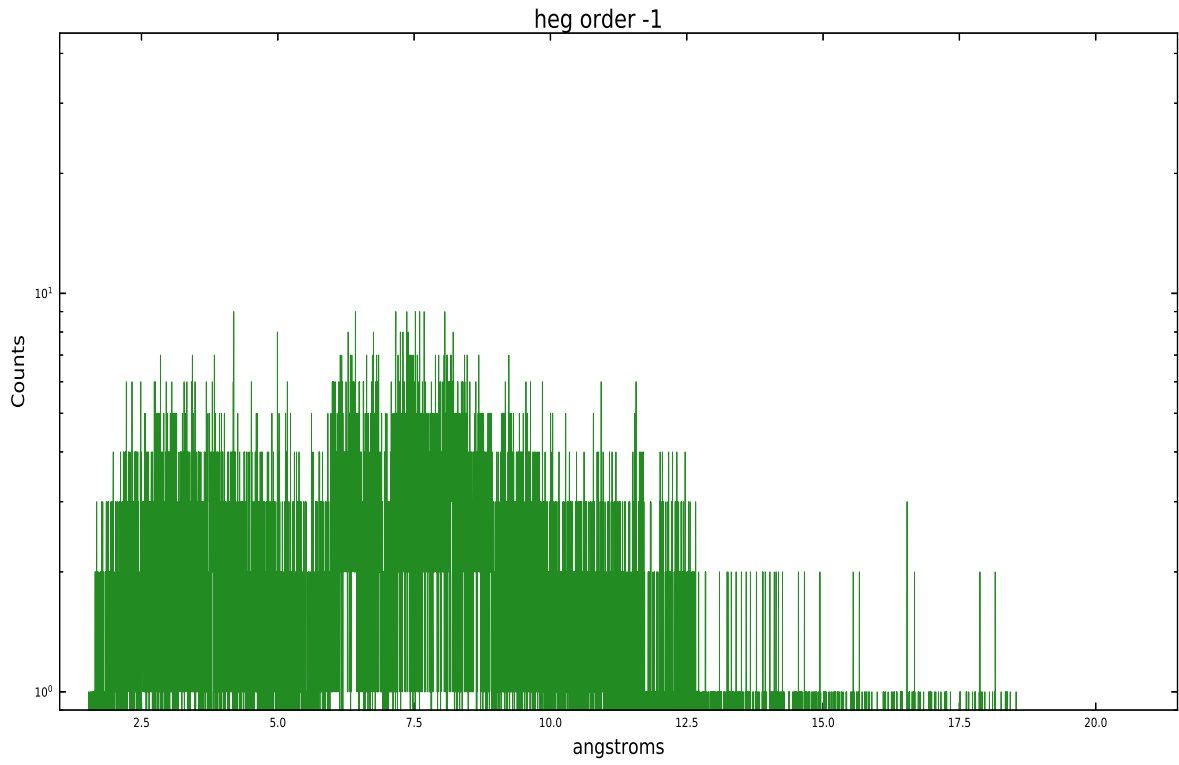
Spot Image HEG



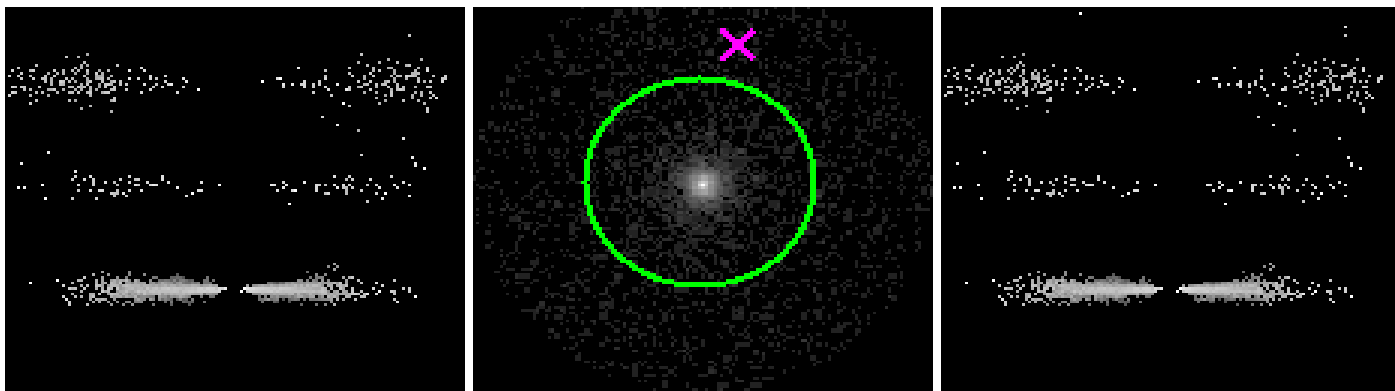
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	388	919	9406	13559	8189	682	310





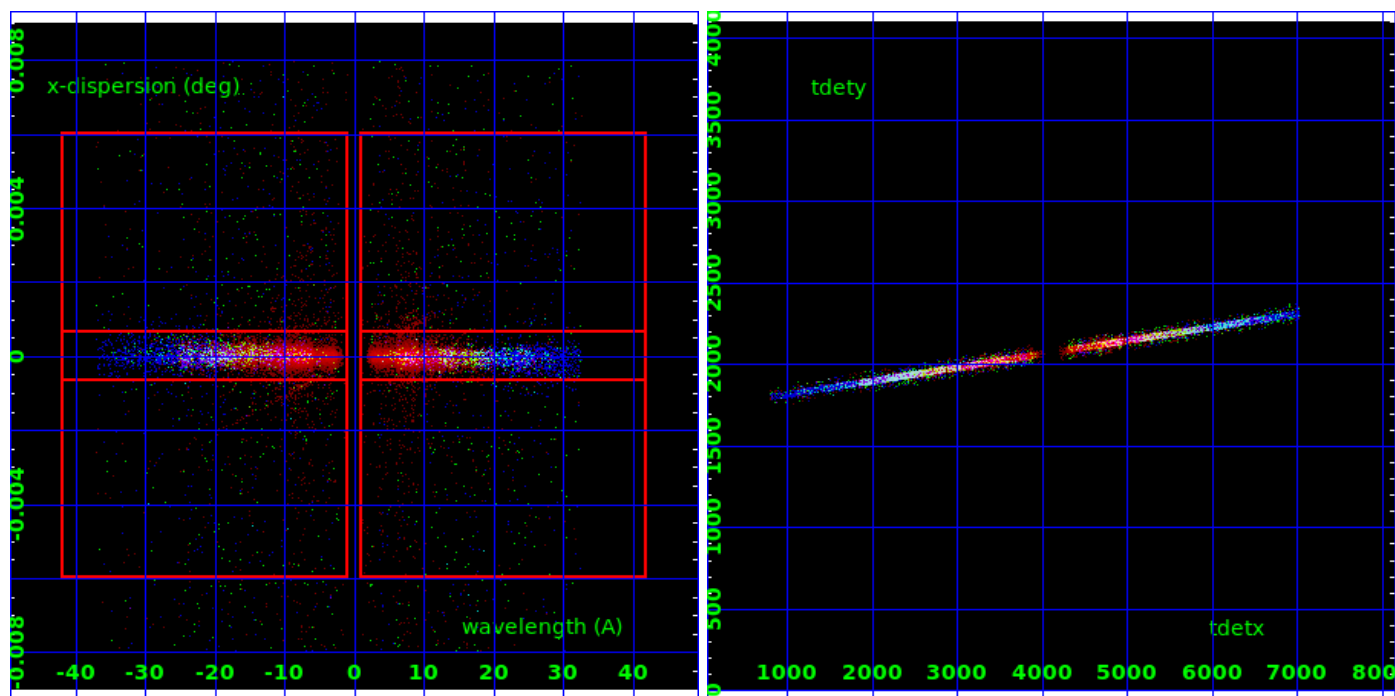
### 3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

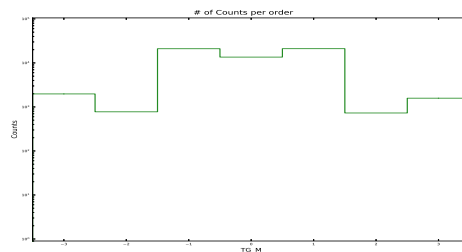
MEG Order Sort ALL

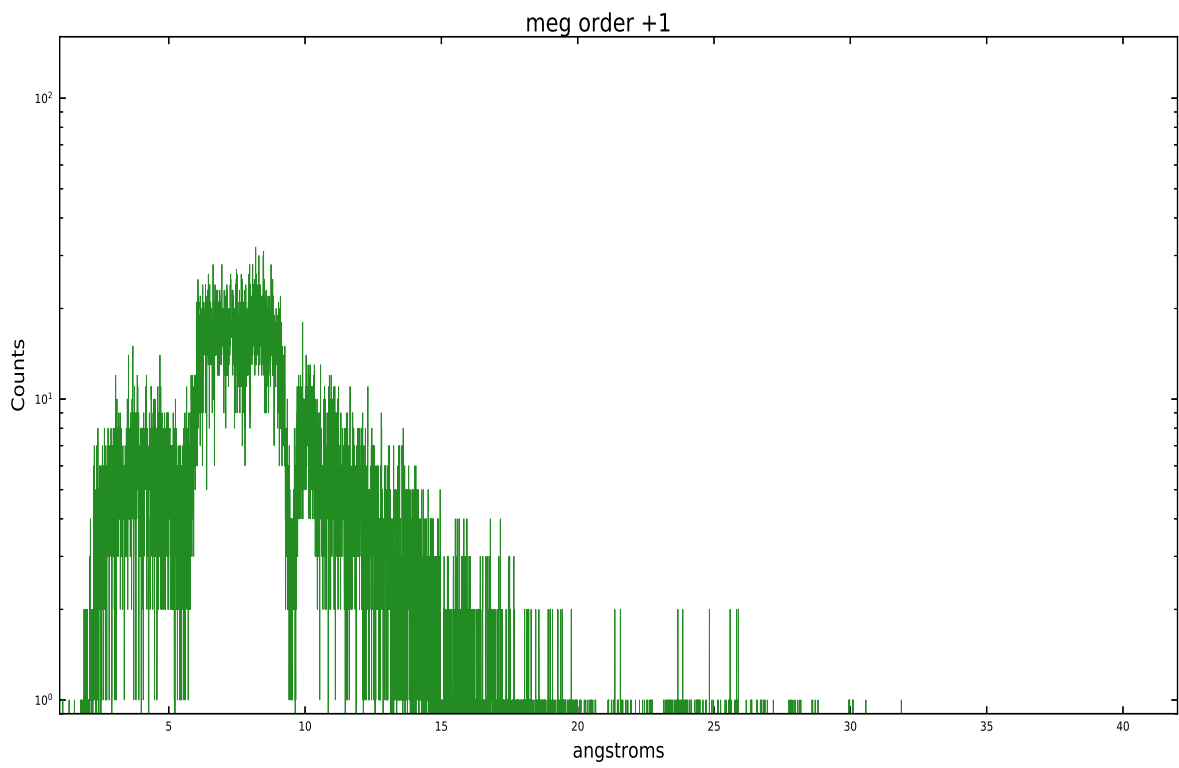
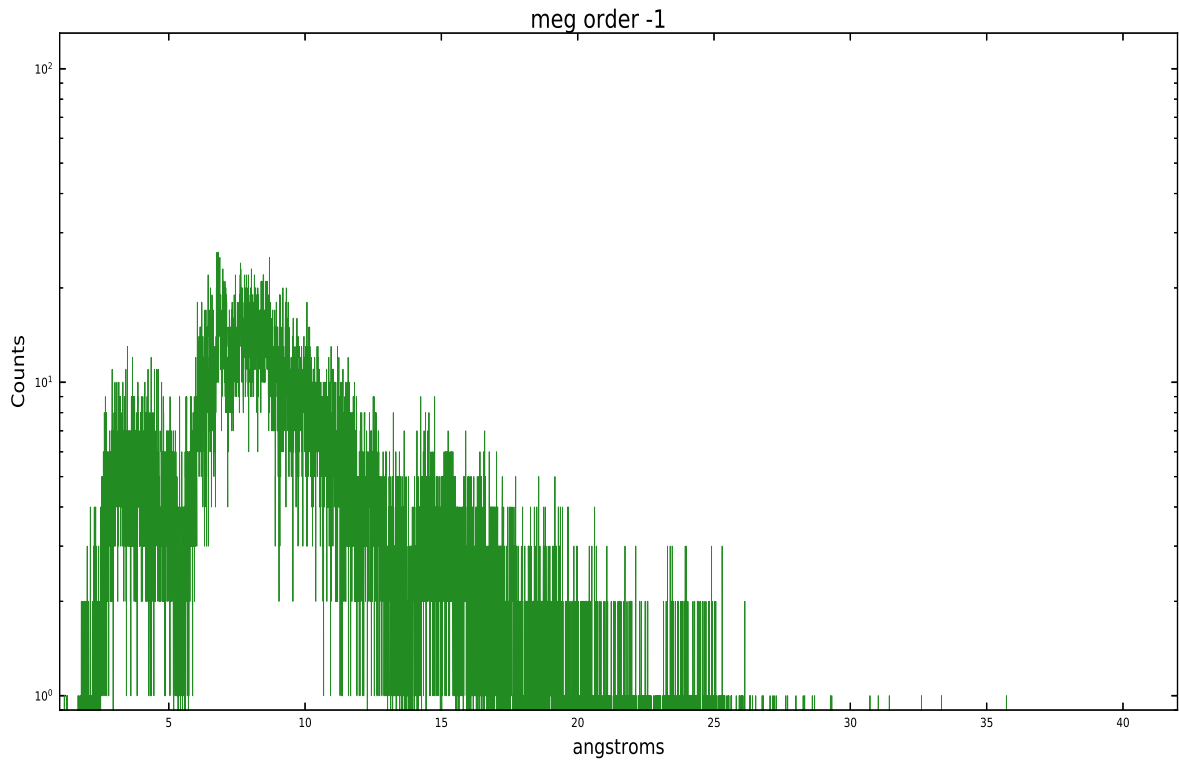


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	1976	775	21021	13559	21076	729	1581





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.10.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	41.0425

## A.2 Comments