

# V&V Reference Report

## L2 ASCDS Version : 10.8.4

Observation 23297 - L2 Version 1  
Chandra X-Ray Center

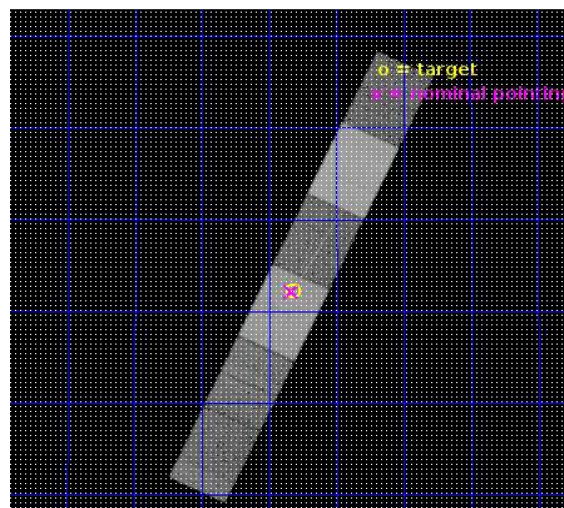
L2 Processing Date : Jul 2 2020

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# 1 Front

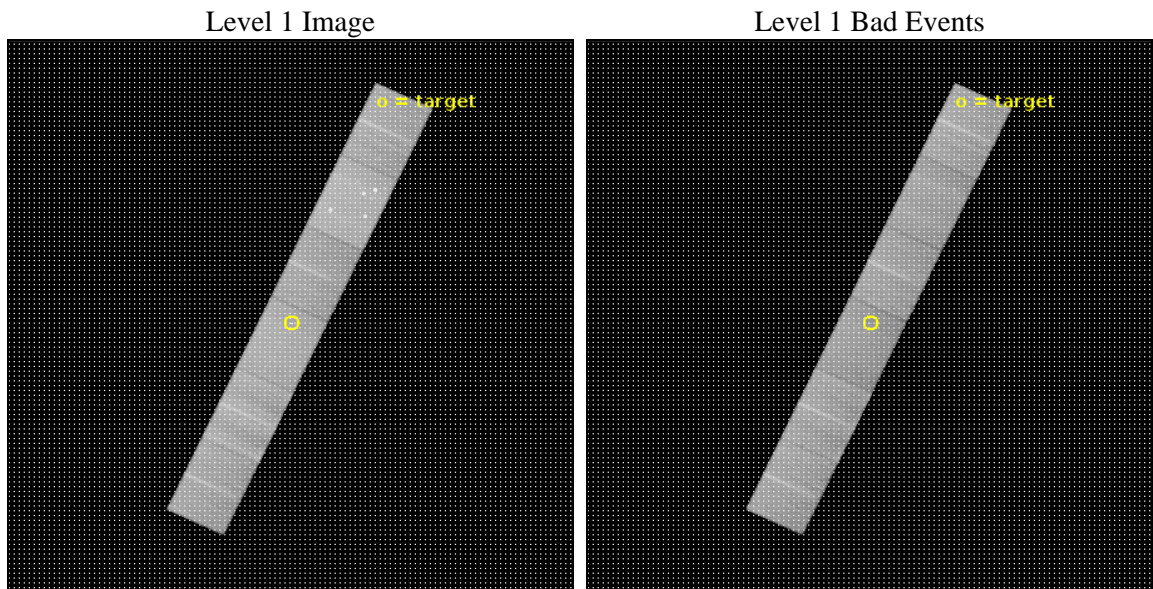
seq_num	704049	Sequence number
obs_id	23297	Observation id
title	INVESTIGATION ON MRK 335 IN AN INTERMEDIATE STATE	Proposal title
observer	Rozenn Boissay-Malaquin	Principal investigator
object	Mrk 335	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	1.581417	Observer's specified target RA [deg]
dec_targ	20.20295	Observer's specified target Dec [deg]
ra_nom	1.58389706269	Nominal RA [deg]
dec_nom	20.2023453446	Nominal Dec [deg]
roll_nom	115.161290987	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30076.502212167	Sum of GTIs [s]
livetime	29590.740614243	Livetime [s]
ontime4	30074.002191663	Sum of GTIs [s]
ontime5	30076.461172104	Sum of GTIs [s]
ontime6	30076.42013216	Sum of GTIs [s]
ontime7	30076.502212167	Sum of GTIs [s]
ontime8	30076.379092097	Sum of GTIs [s]
ontime9	30076.338052154	Sum of GTIs [s]
l2events	317806	Number of level 2 events



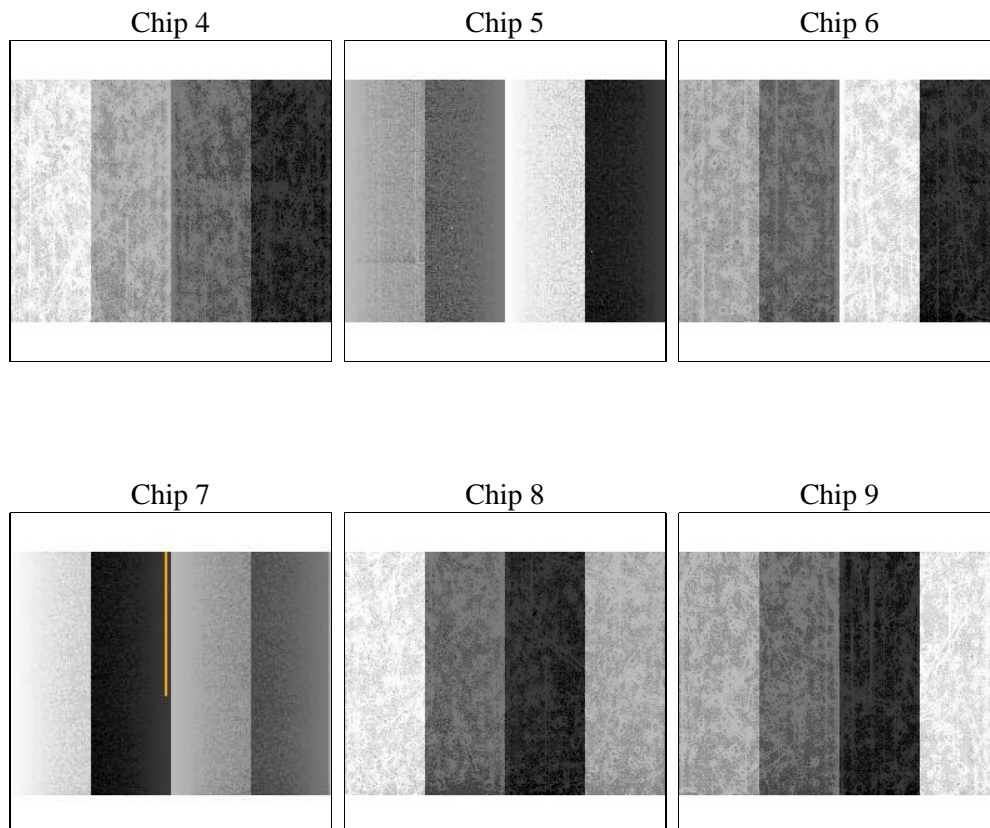
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.8.4	Processing system revision	ontime	30076.502212167	Sum of GTIs [s]
caldbver	4.9.1	&#160	ontime4	30074.002191663	Sum of GTIs [s]
date	2020-07-02T04:59:44	Date and time of file creation	ontime5	30076.461172104	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	30076.42013216	Sum of GTIs [s]
			ontime7	30076.502212167	Sum of GTIs [s]
			ontime8	30076.379092097	Sum of GTIs [s]
			ontime9	30076.338052154	Sum of GTIs [s]
			l1events	1395786	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			z	(4112.87 4101.27)	src1a sky r

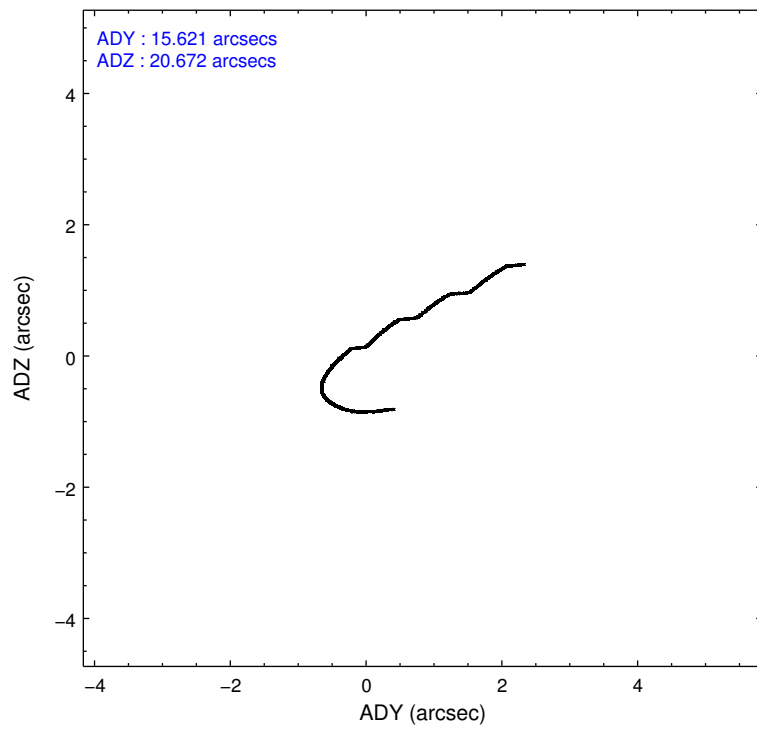
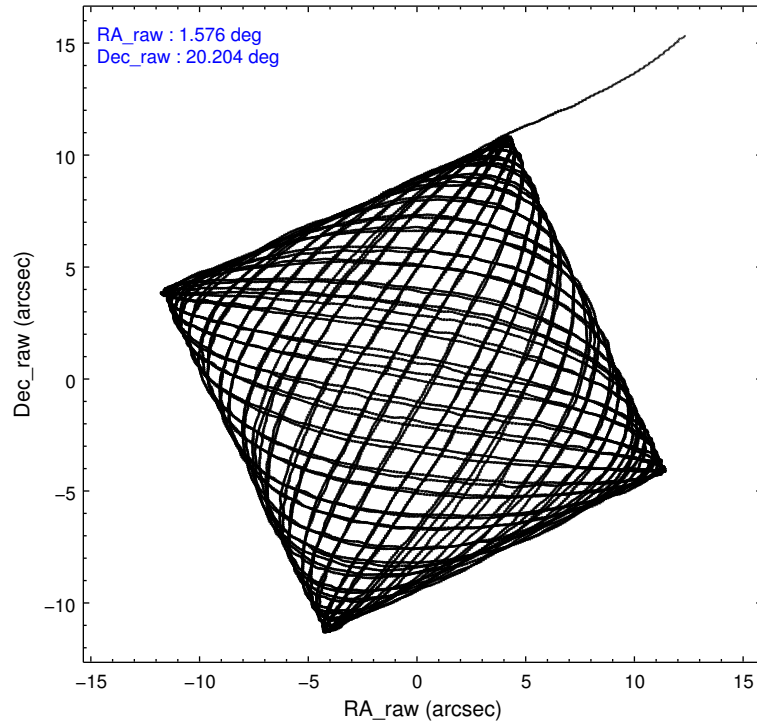
### 2.1.4 Events

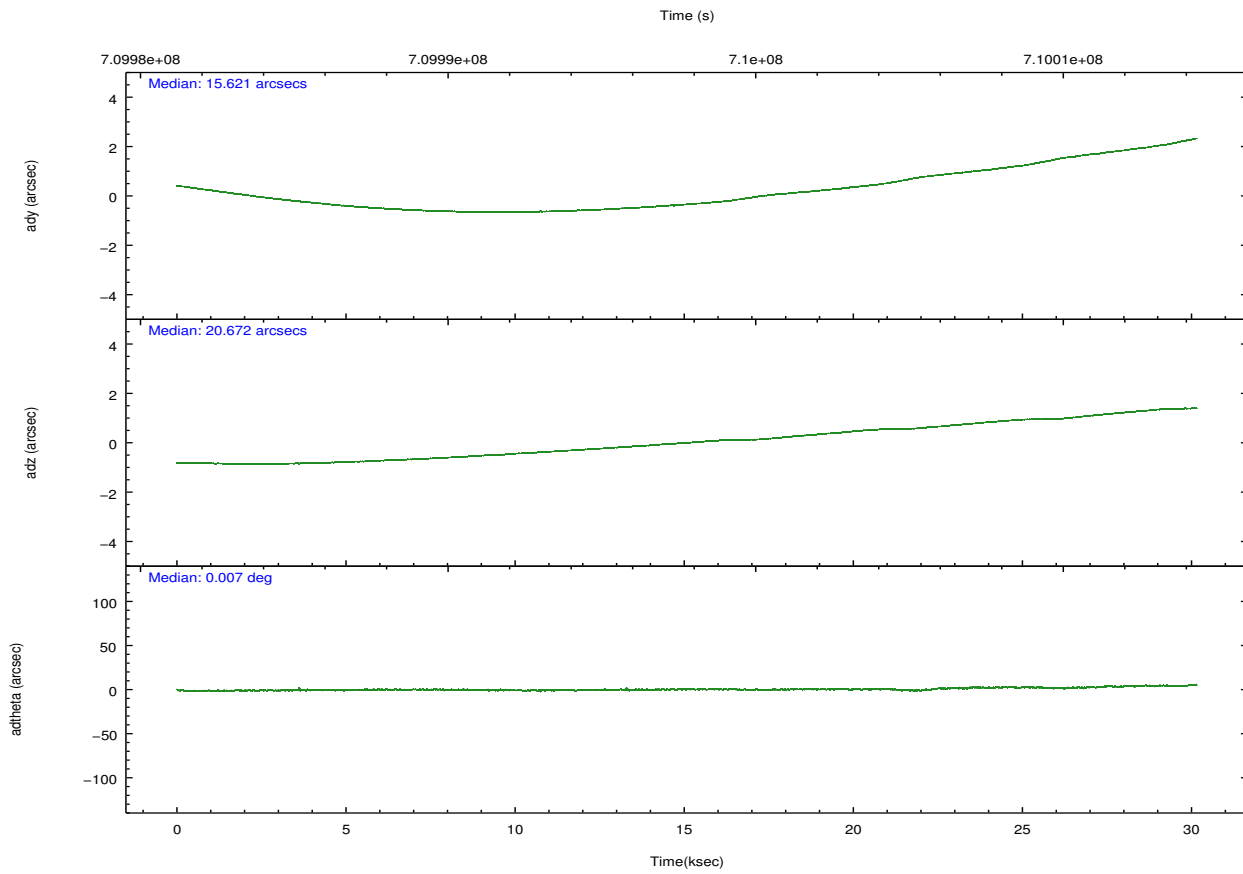
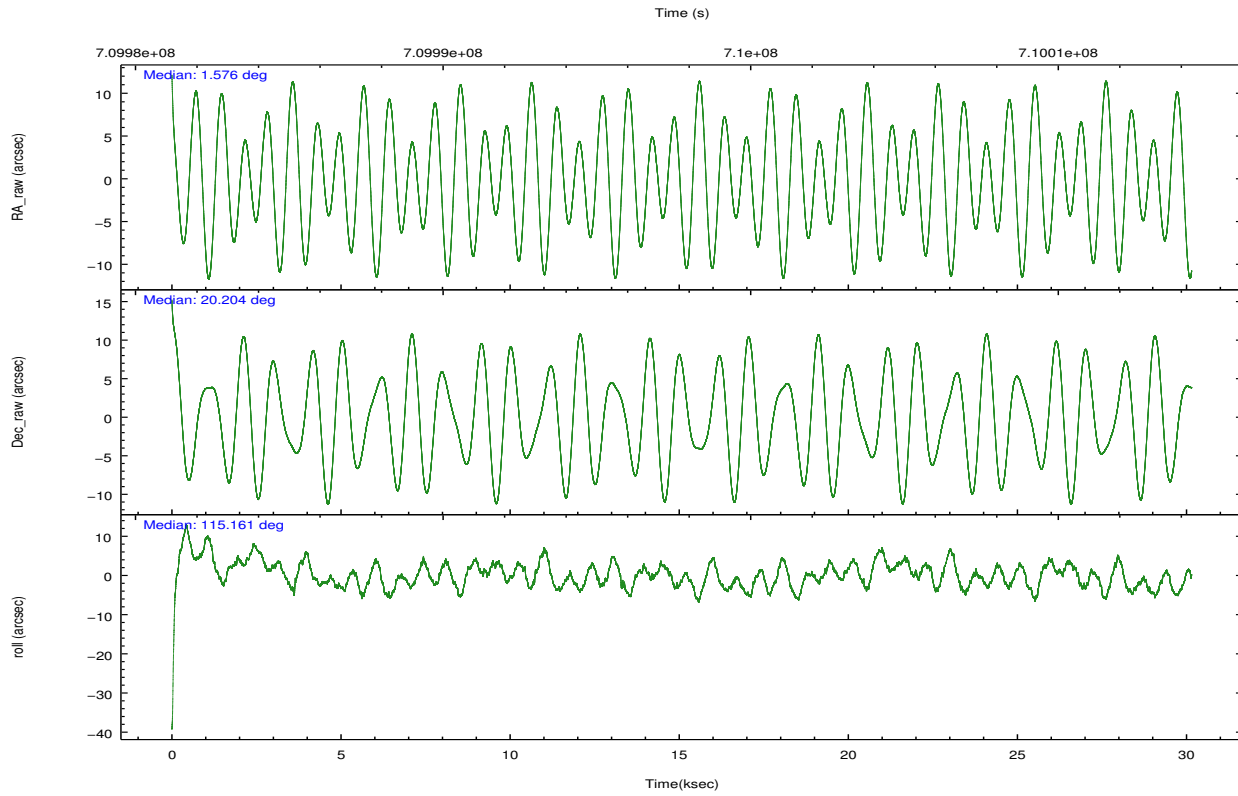
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	214542	312818	191077	240536	243697	193116	grade 0 events	8266	21948	6971	9534	18033	7424
rejected events	192497	154020	169322	133967	178956	170710		3%	7%	3%	3%	7%	3%
rejected %	89%	49%	88%	55%	73%	88%	grade 1 events	172	1190	68	360	200	86
								0%	0%	0%	0%	0%	0%
							grade 2 events	5268	48650	5362	22771	15780	5265
								2%	15%	2%	9%	6%	2%
							grade 3 events	2430	5292	2034	8789	6642	2346
								1%	1%	1%	3%	2%	1%
							grade 4 events	2272	4619	2032	8775	6127	2236
								1%	1%	1%	3%	2%	1%
							grade 5 events	8842	19500	7947	23210	12811	9418
								4%	6%	4%	9%	5%	4%
							grade 6 events	3814	78309	5360	56721	18193	5139
								1%	25%	2%	23%	7%	2%
							grade 7 events	183478	133310	161303	110376	165911	161202
								85%	42%	84%	45%	68%	83%

## 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	1.600056	1.58389706269	CCD I2 on	N	N
[deg] Pointing Dec	20.188649	20.2023453446	CCD I3 on	N	N
[deg] Pointing Roll	114.993564	115.161290987	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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	709982821.184000	709981718.85899	CCD S5 on	O2	Y
Observation start date	2020-07-01T09:25:52	2020-07-01T09:08:38	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	710012821.184000	710013681.43594	On-chip summing requested	N	N
Observation end date	2020-07-01T17:45:52	2020-07-01T18:01:21	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	125	125
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

## 2.3 Aspect





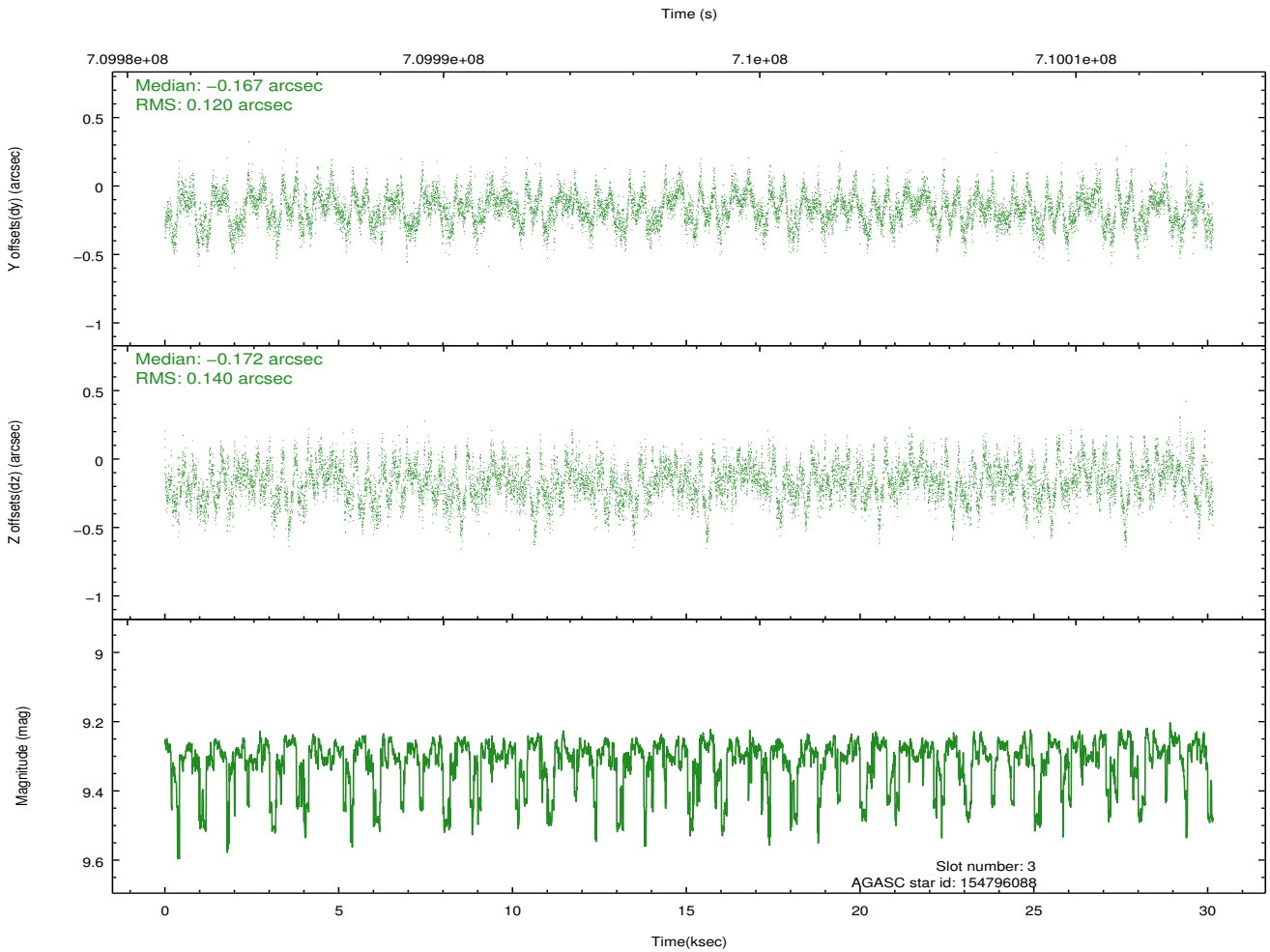
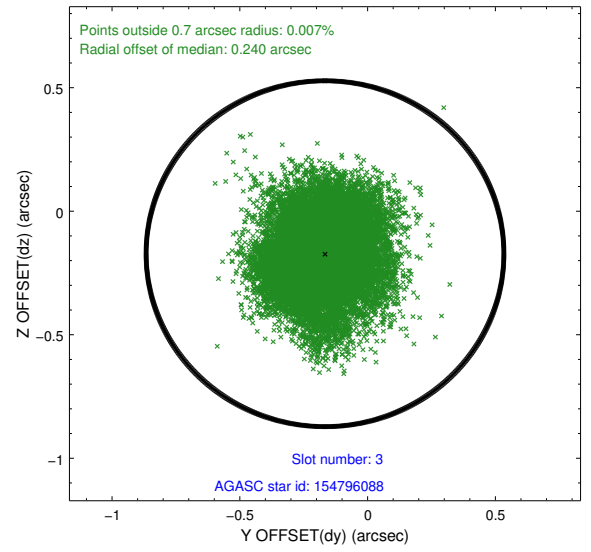
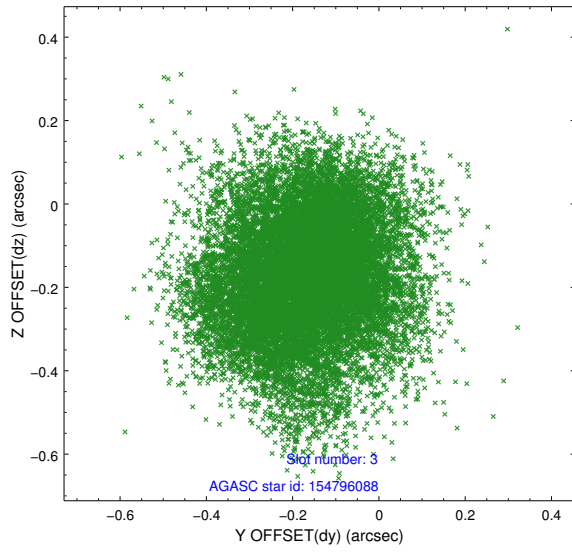
### Slot Statistics

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	7355	1.000	0.176	-0.085	0.031	0.098	0.000000	0.000000	-769.01	-1742
1	FID		ACIS-S-4	7.22	7354	1.000	0.138	-0.062	0.025	0.071	0.000000	0.000000	2144.53	165
2	FID		ACIS-S-5	7.19	7355	1.000	-0.348	0.155	0.028	0.082	0.000000	0.000000	-1821.94	160
3	GUIDE	used	154796088	9.30	14683	1.000	-0.167	-0.172	0.199	0.314	1.327954	19.982770	-282.01	1147
4	GUIDE	used	154802256	7.30	14704	1.000	0.090	0.185	0.120	0.187	2.267963	19.924686	-1811.44	-1648
5	GUIDE	used	155193224	9.06	14697	1.000	0.239	0.188	0.159	0.282	2.130274	20.267286	-497.44	-1742
6	GUIDE	used	155194232	8.10	14701	1.000	-0.065	-0.086	0.110	0.179	1.710987	20.559760	1053.68	-903
7	GUIDE	used	155196784	7.53	14706	1.000	-0.093	-0.122	0.106	0.174	1.810289	20.555714	899.16	-1200

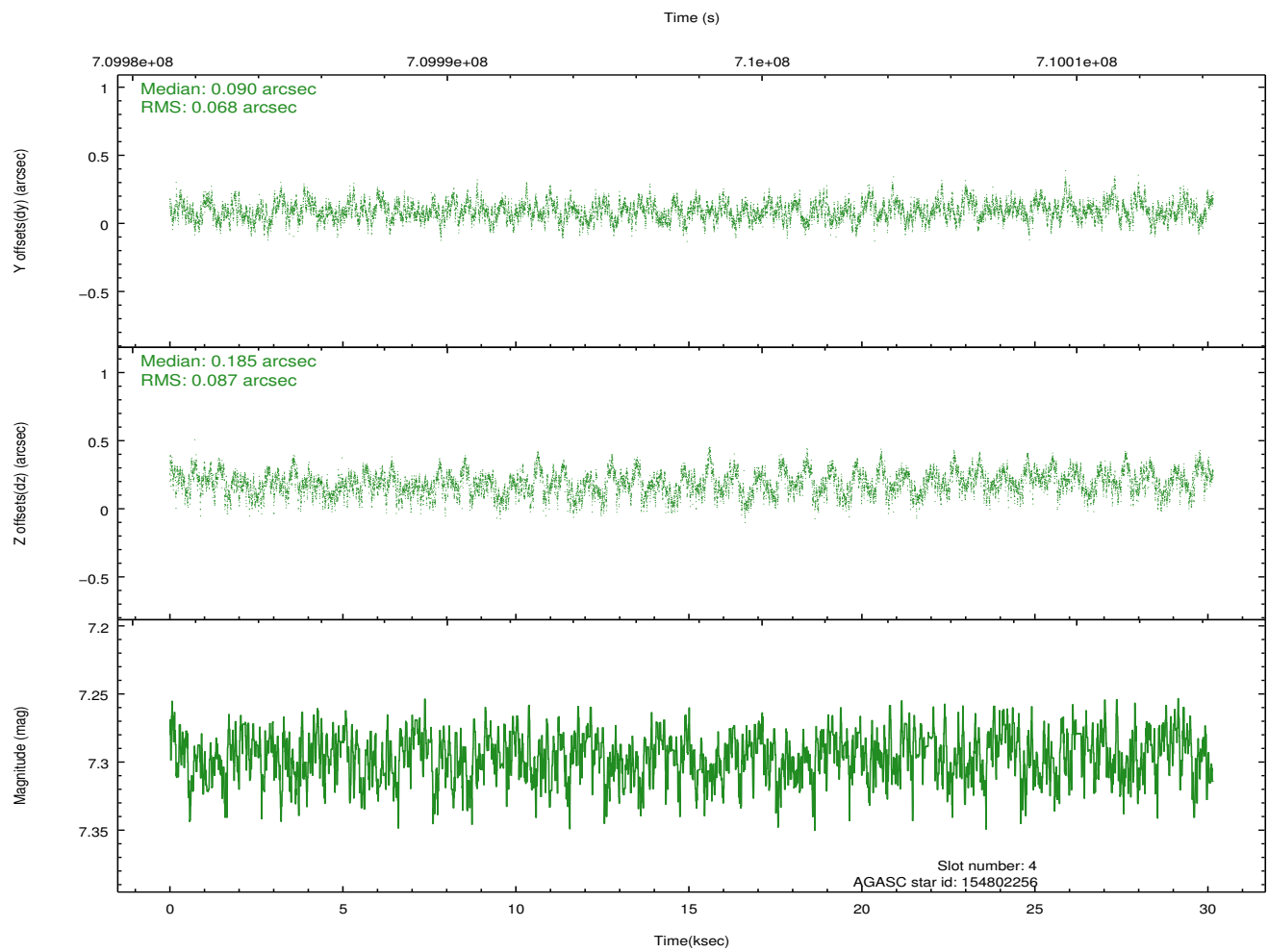
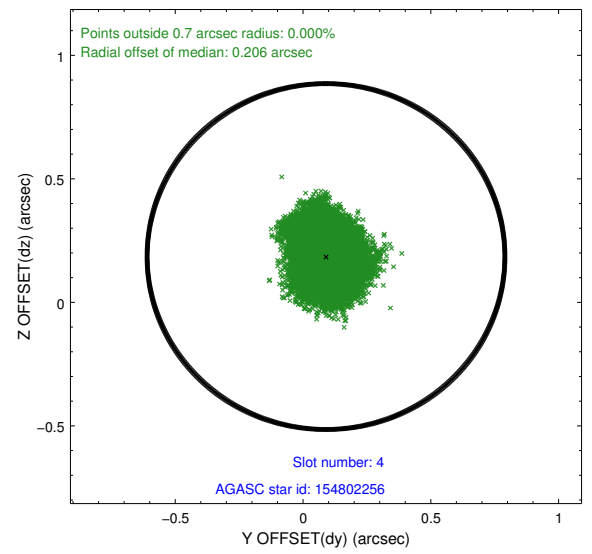
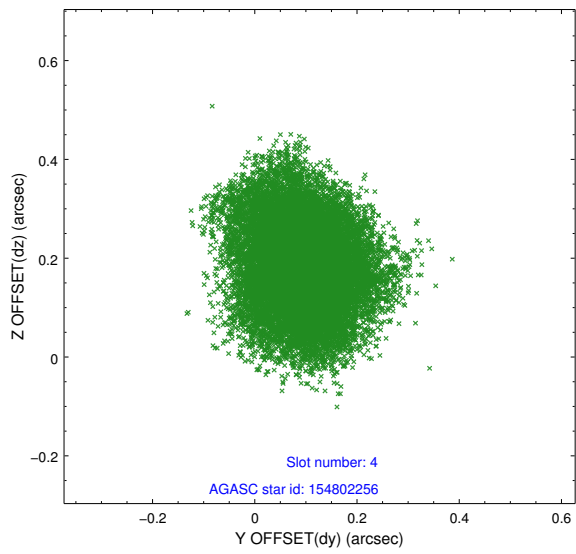
∞

## 2.4 Star Slots

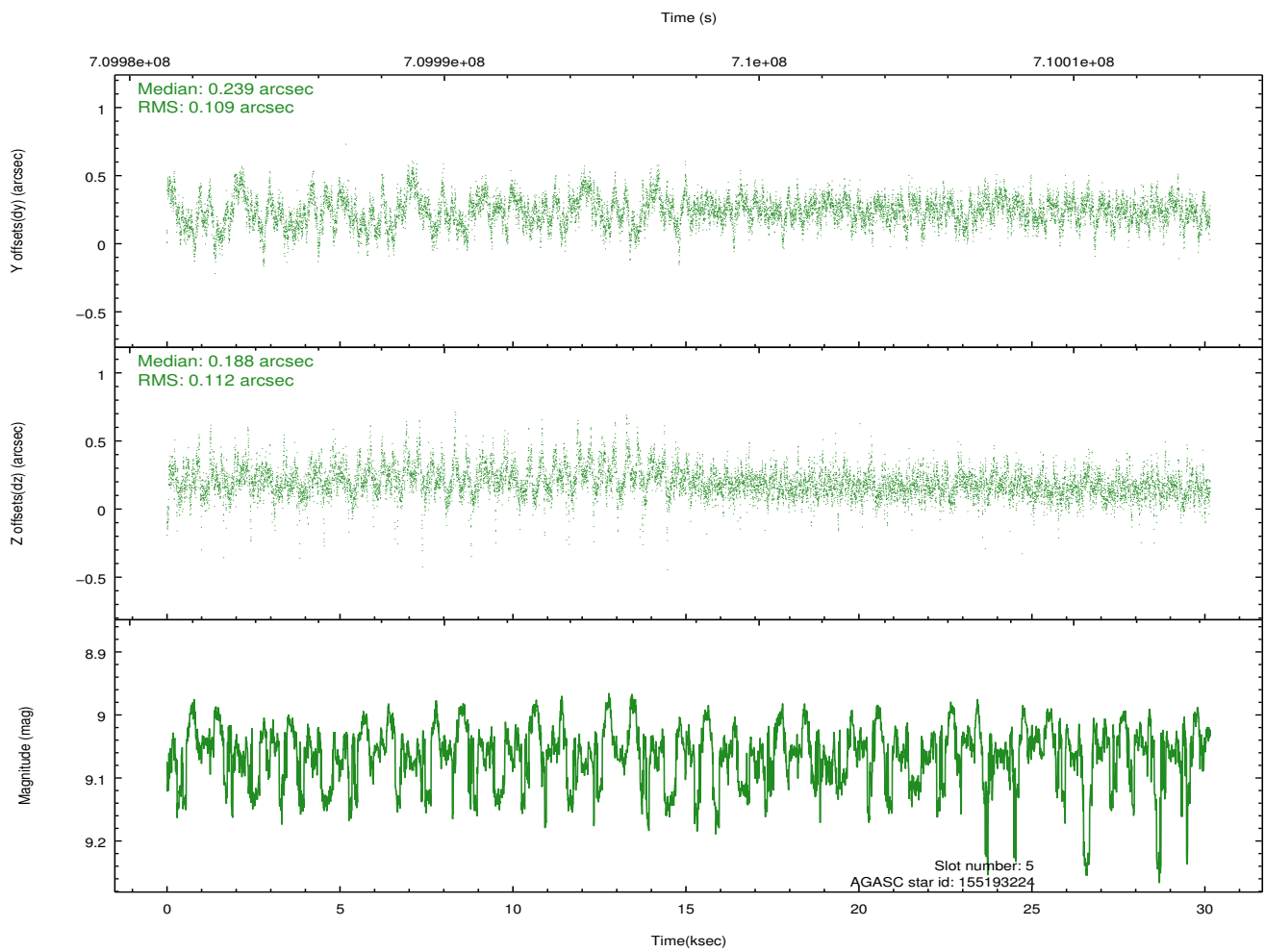
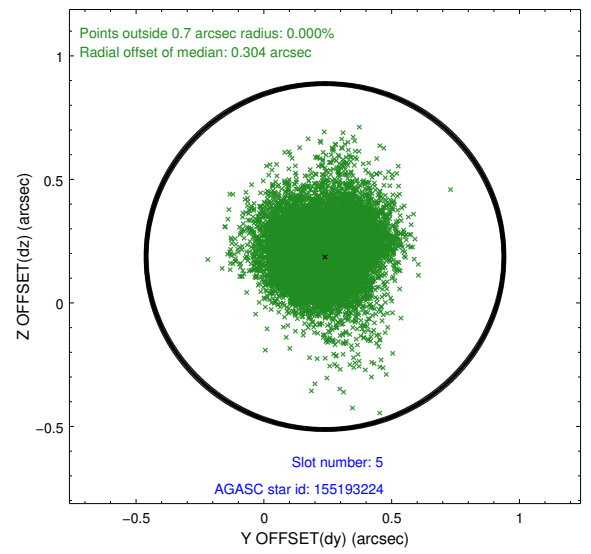
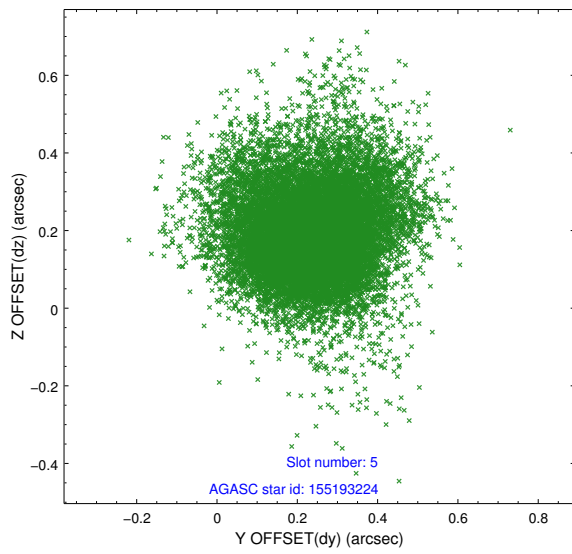
### 2.4.1 Slot 3



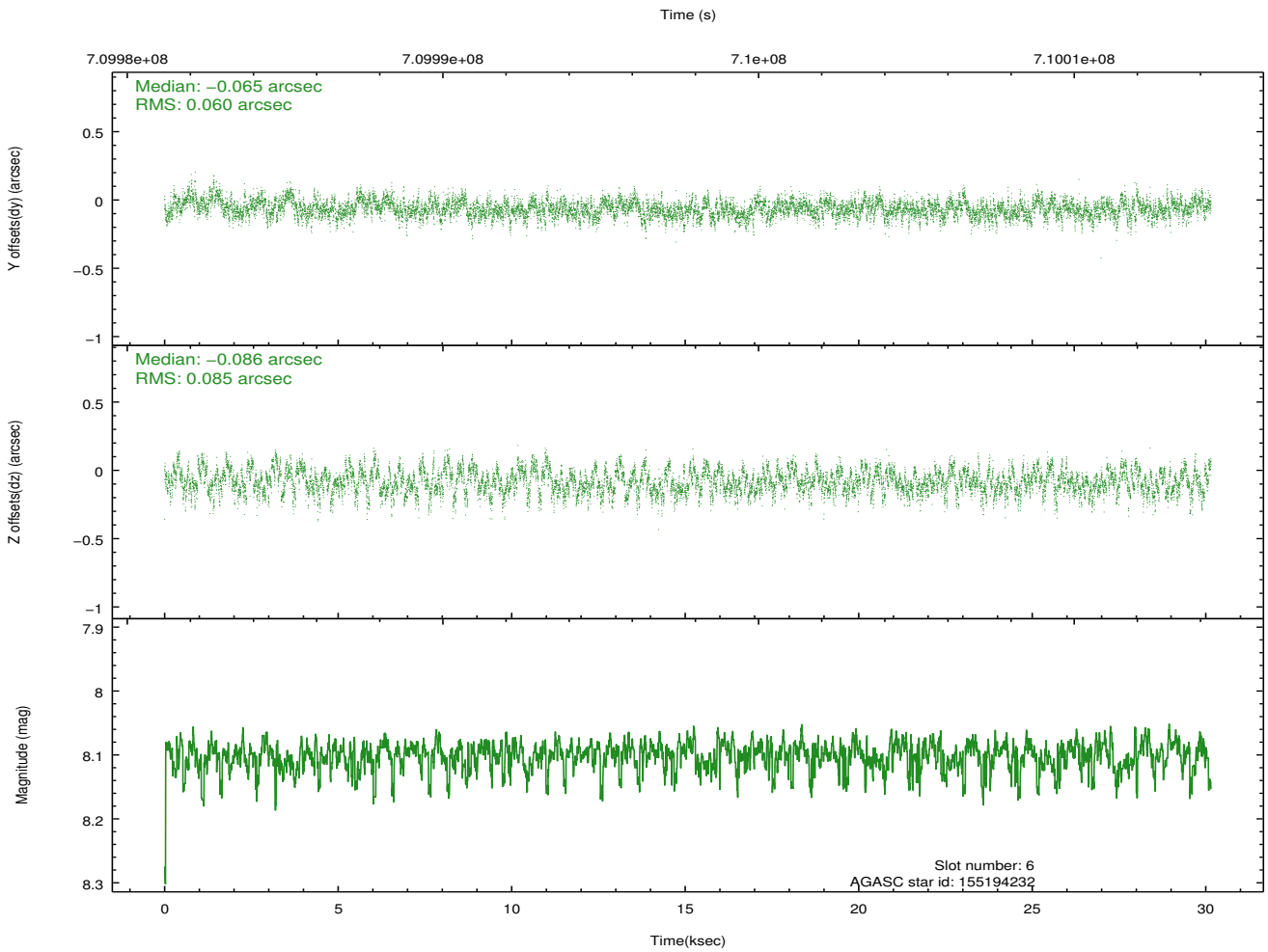
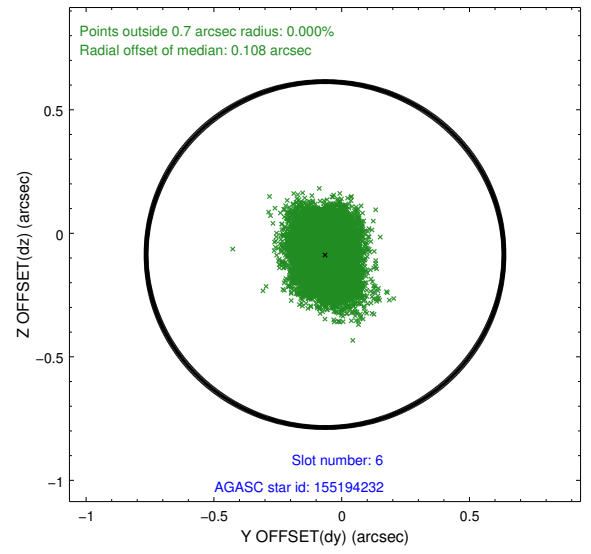
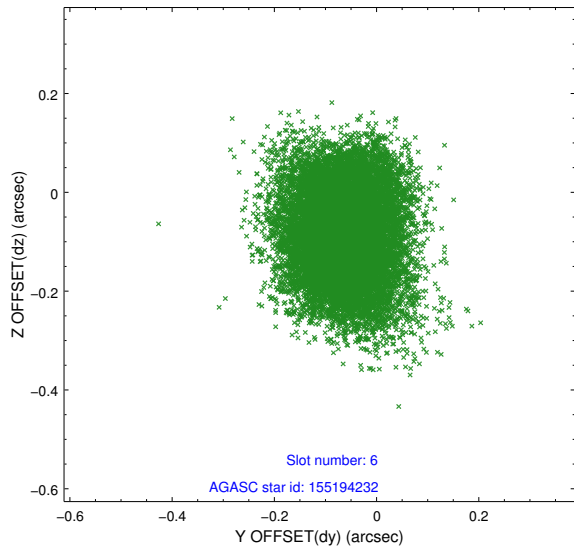
## 2.4.2 Slot 4



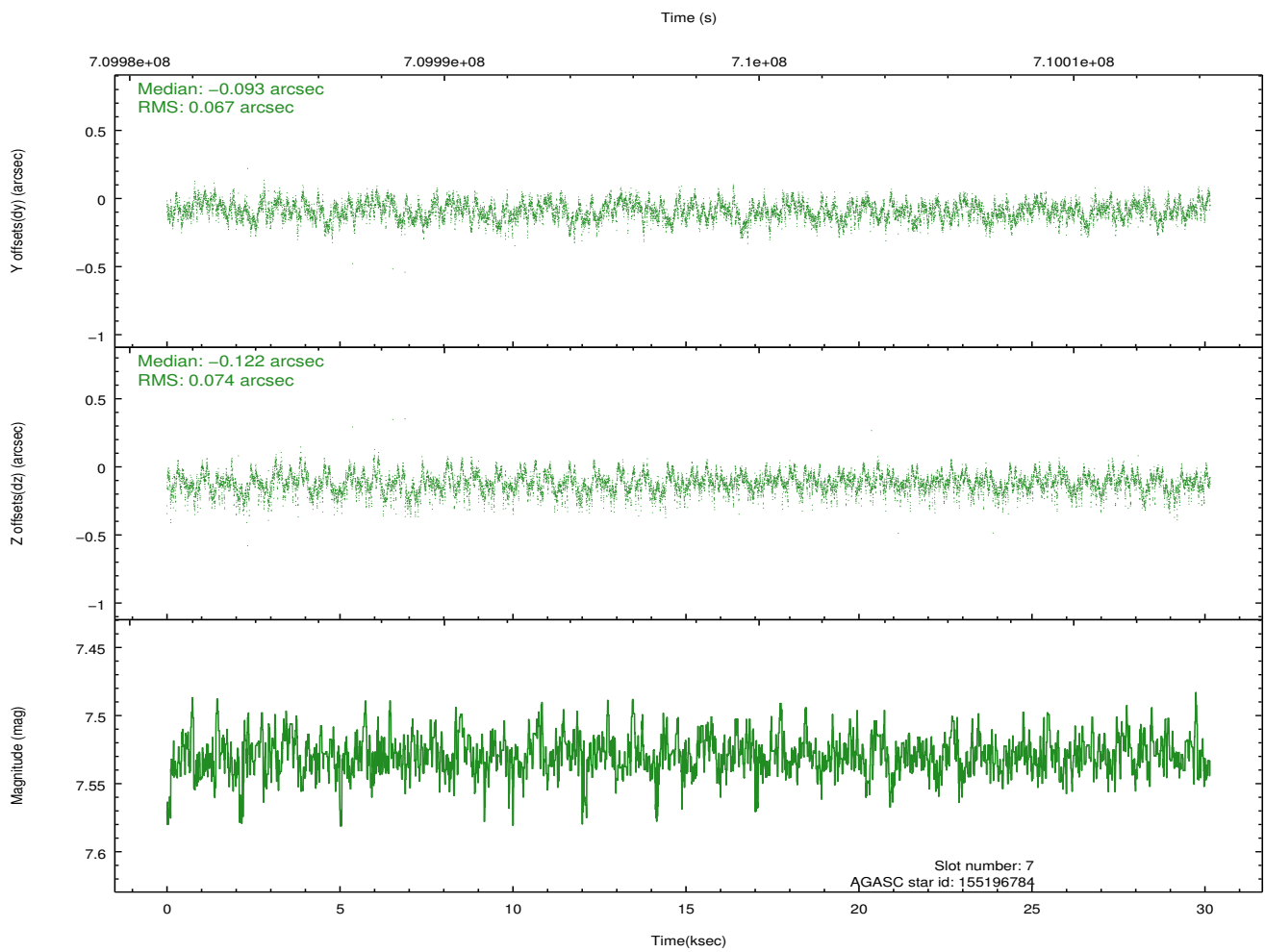
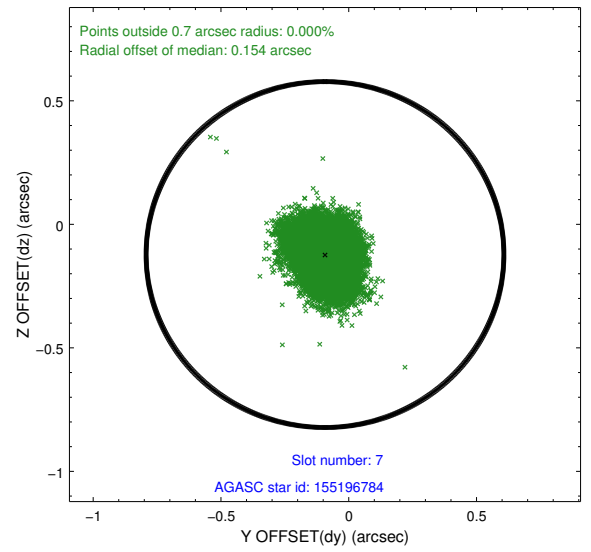
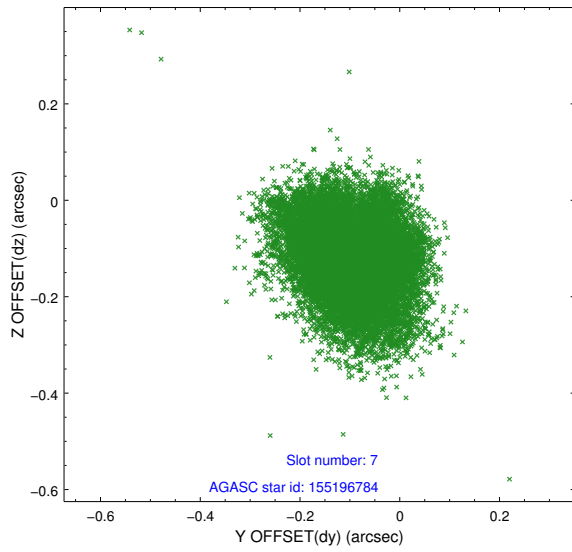
### 2.4.3 Slot 5



### 2.4.4 Slot 6

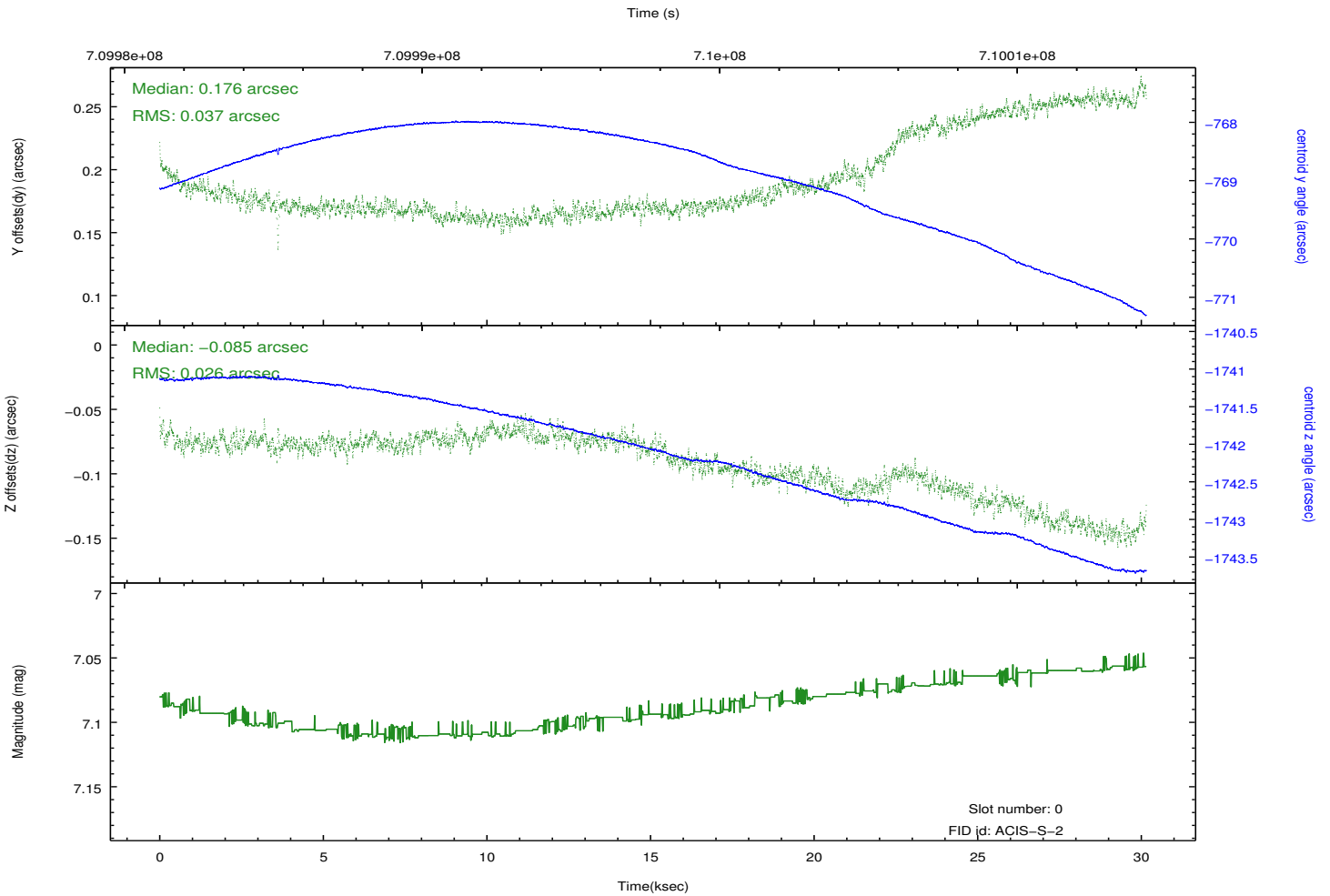
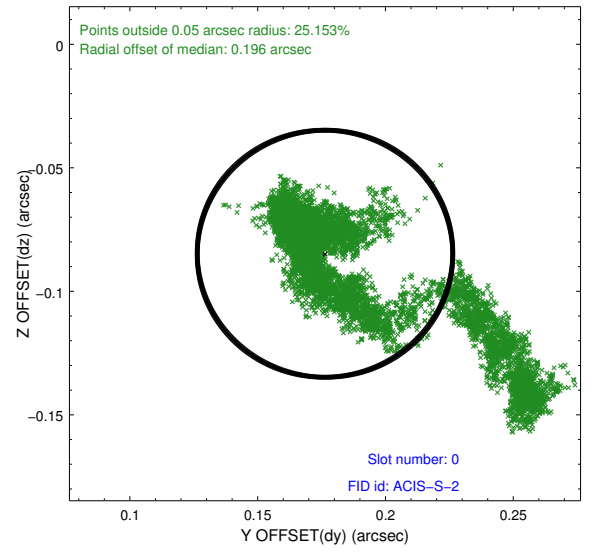
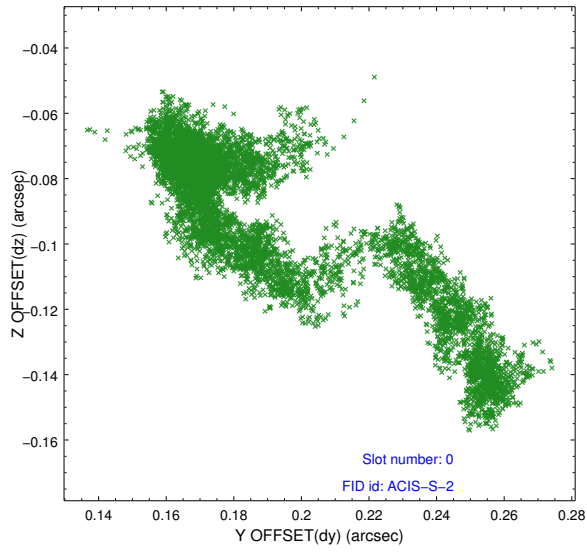


## 2.4.5 Slot 7

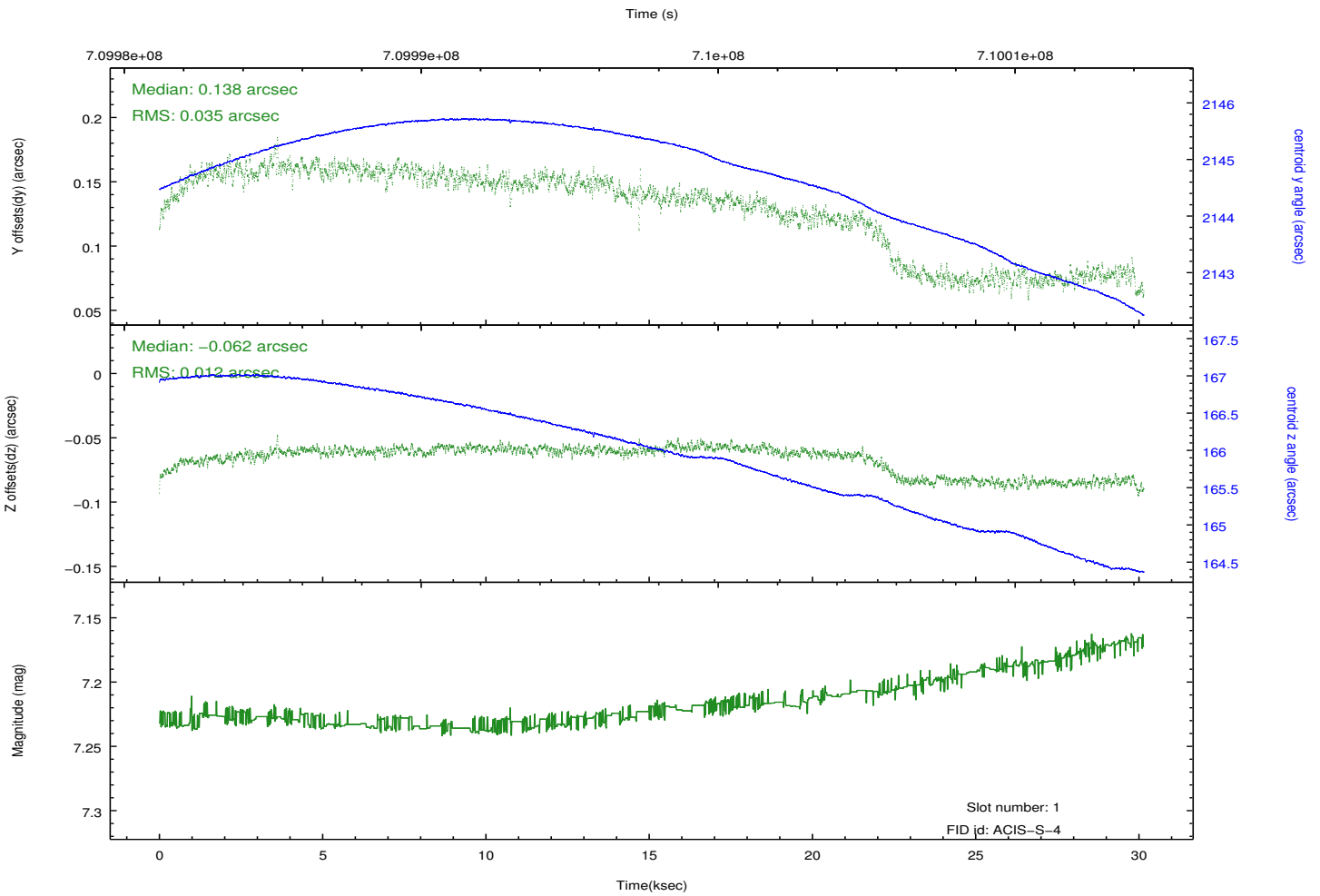
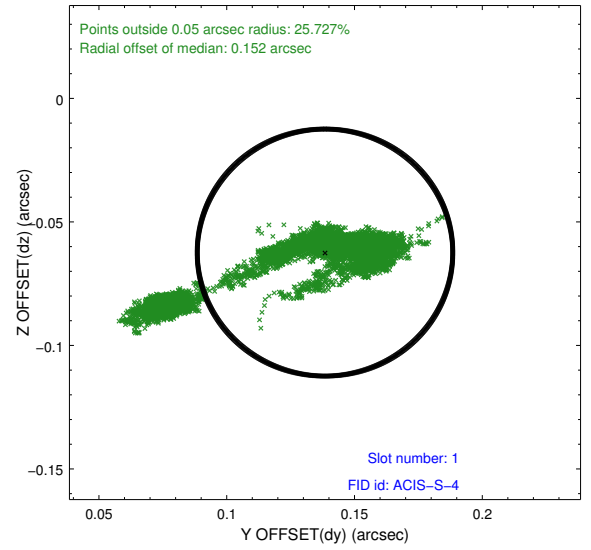
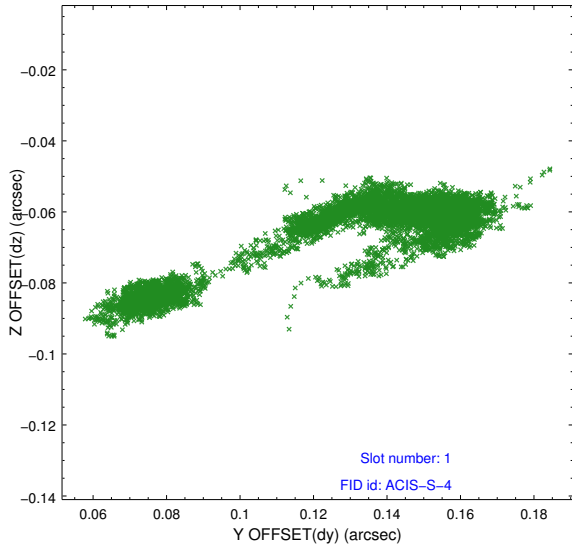


## 2.5 FID Slots

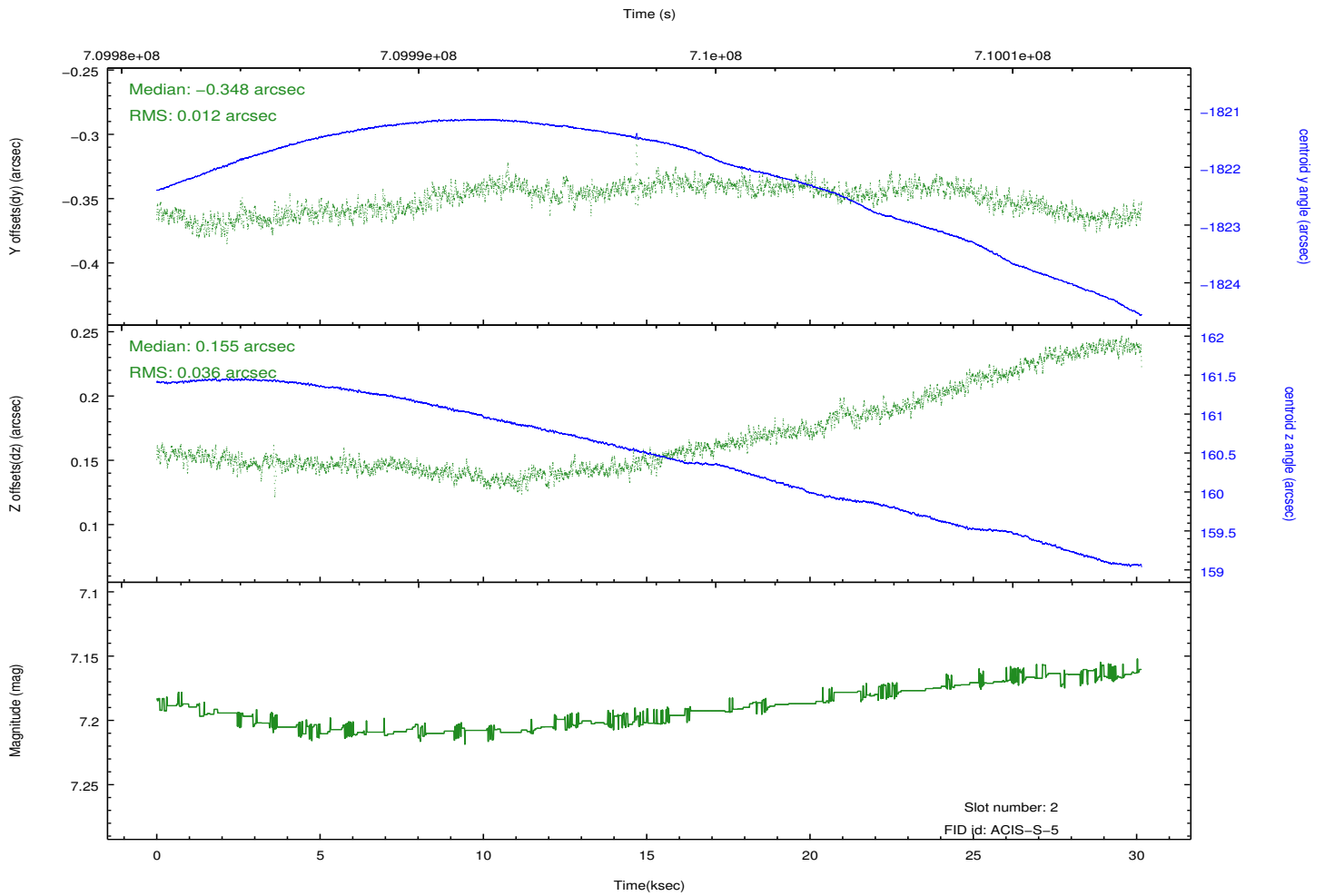
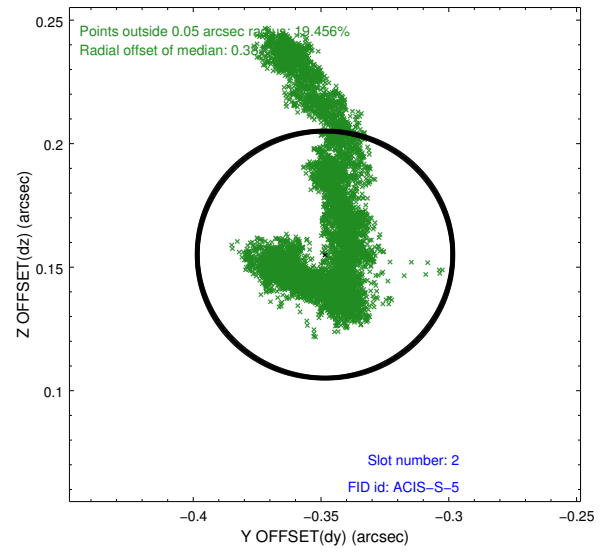
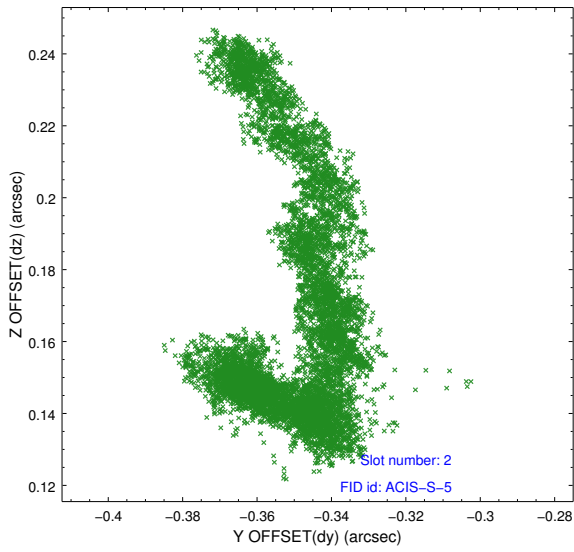
### 2.5.1 Slot 0



## 2.5.2 Slot 1

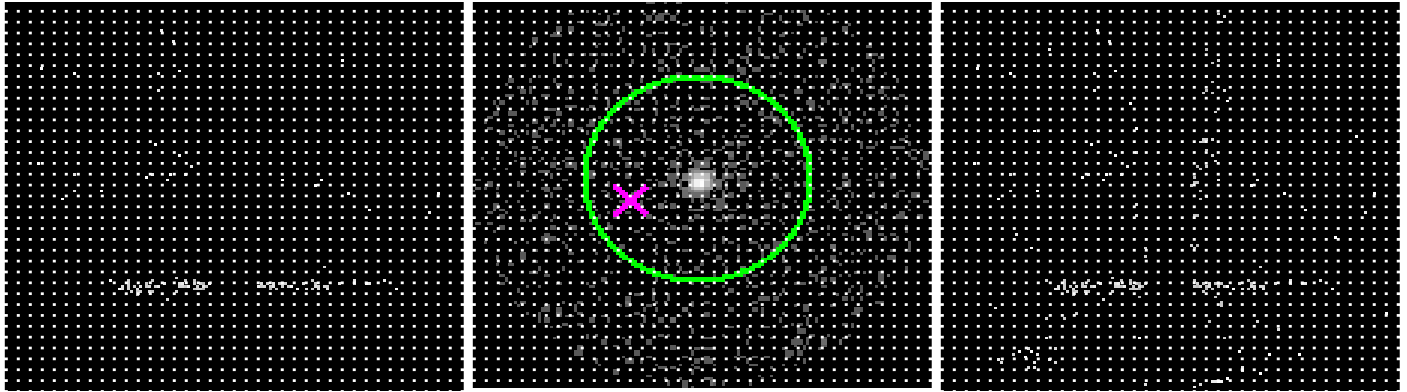


### 2.5.3 Slot 2



# 3 Gratings

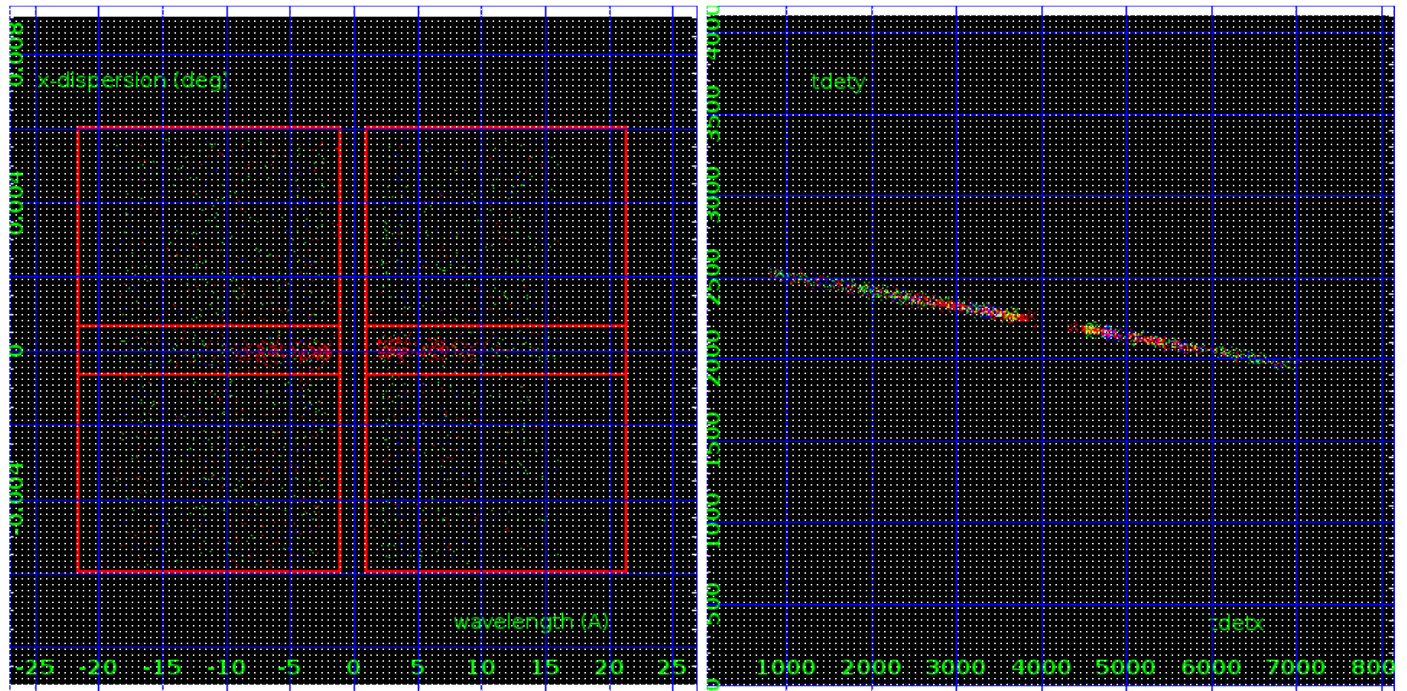
## 3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

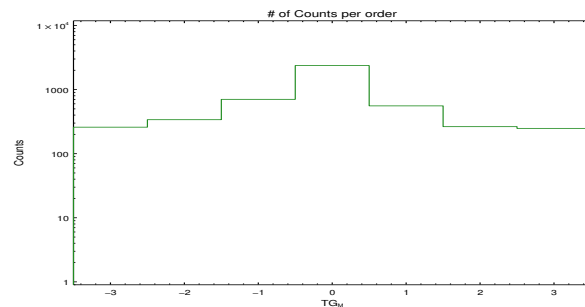
HEG Order Sort ALL

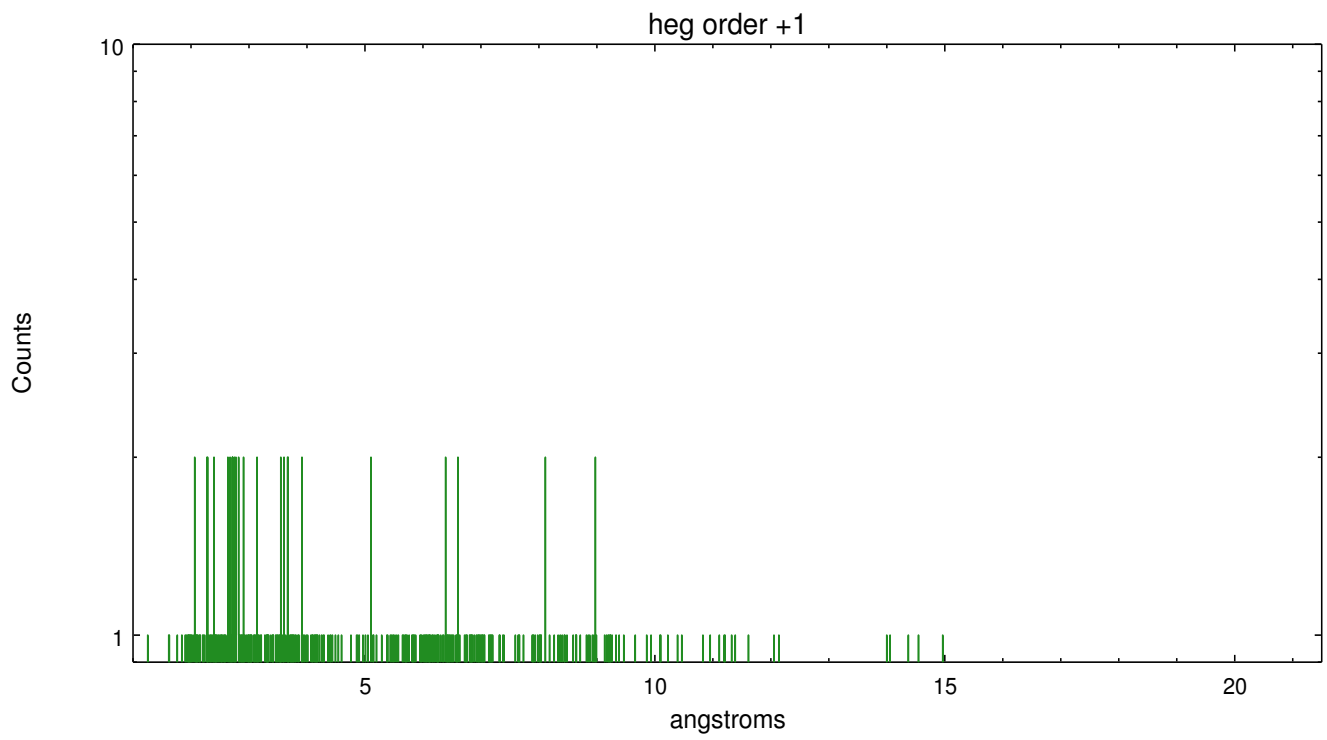
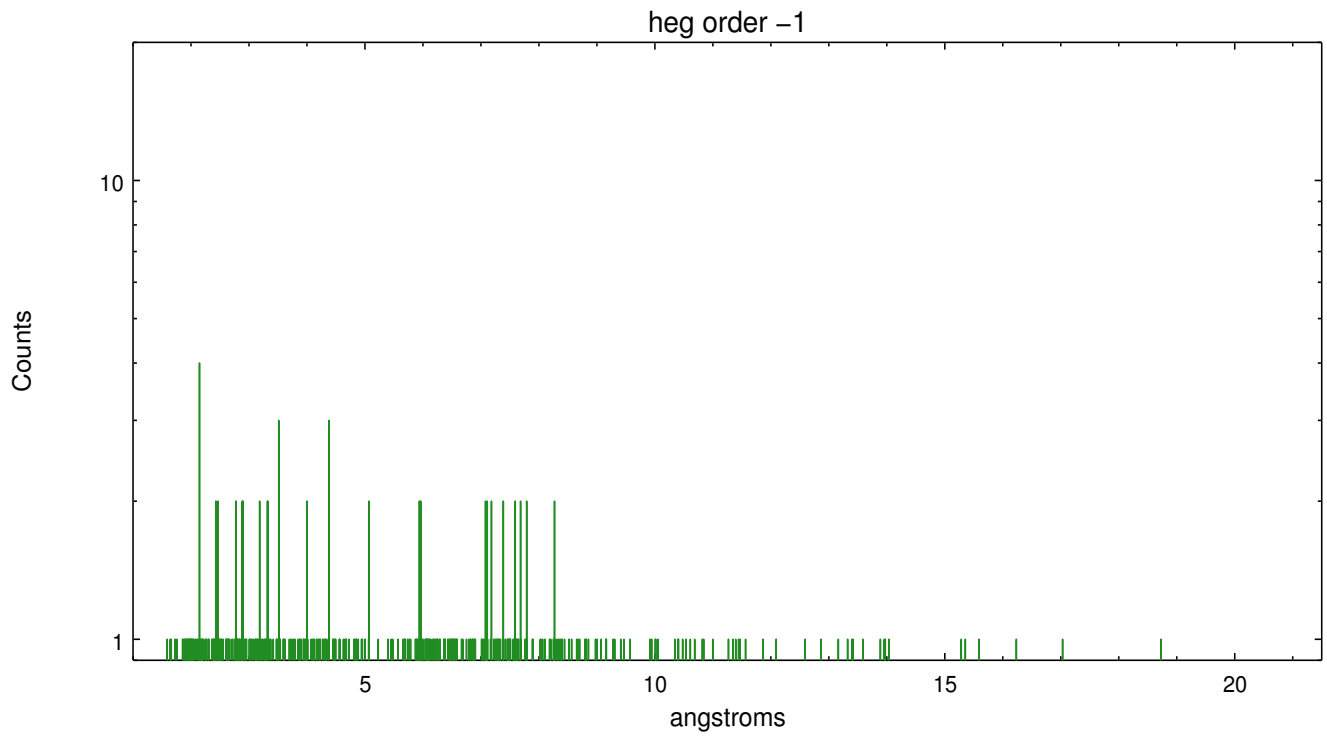


Spot Image HEG

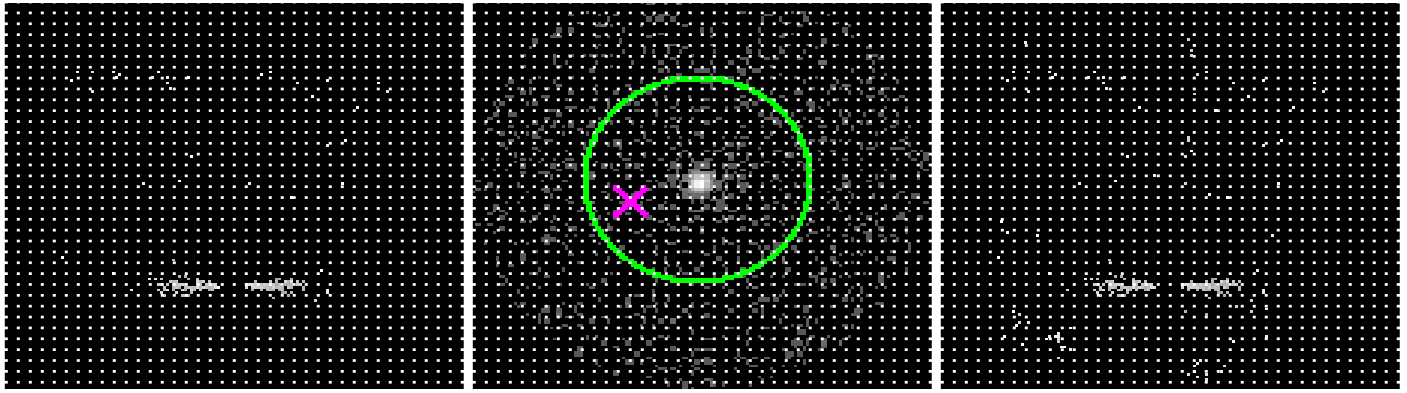
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	259	339	704	2368	557	264	248





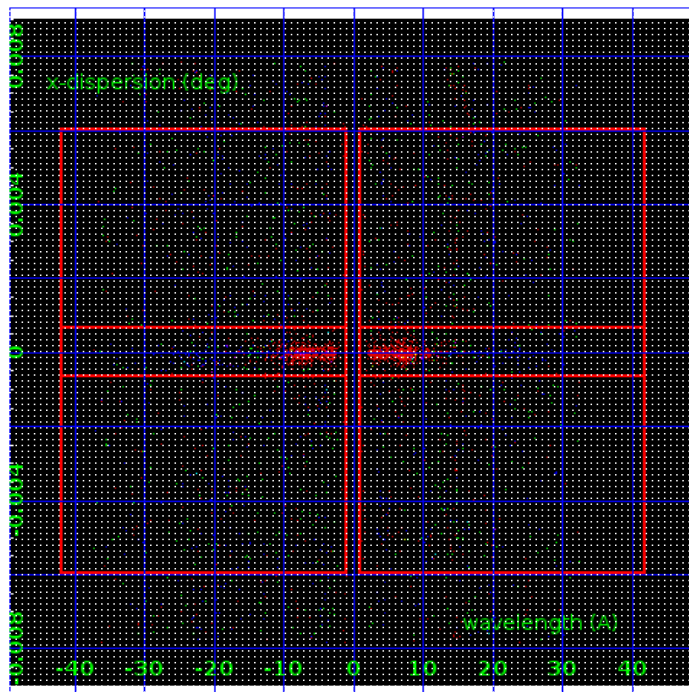
### 3.2 MEG Arm



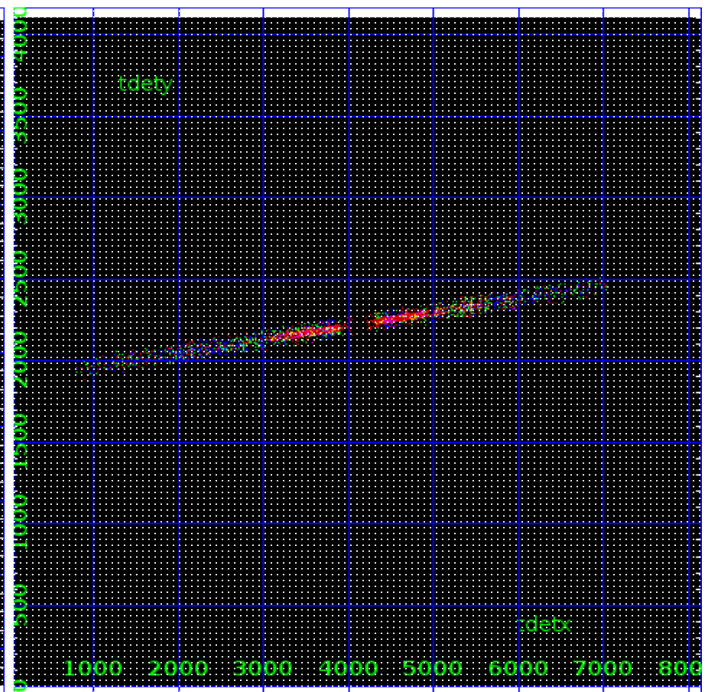
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

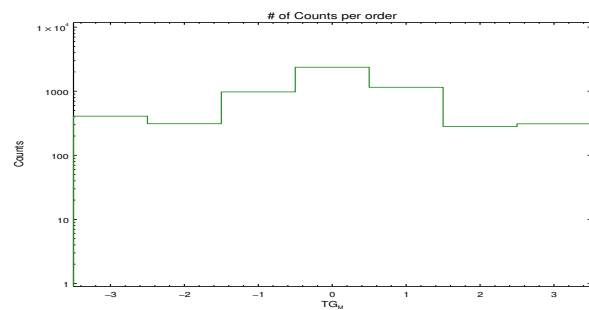


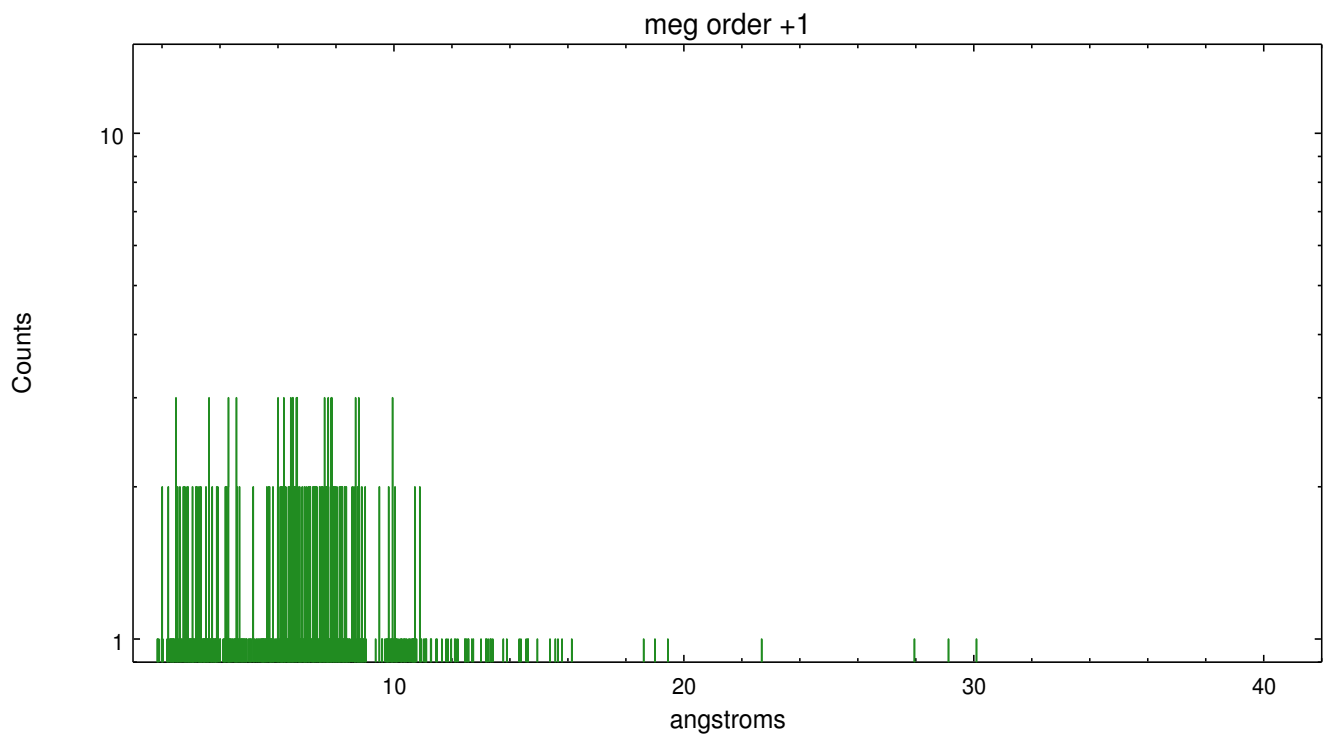
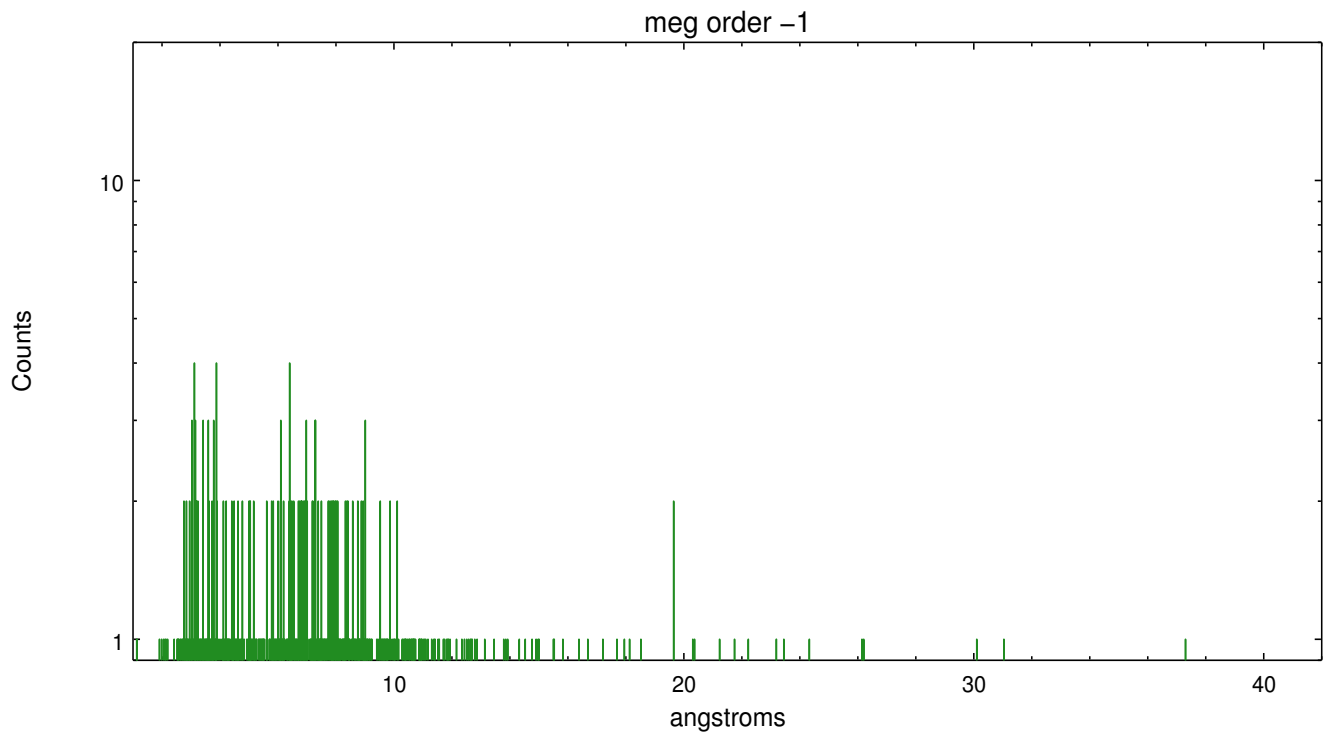
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	408	311	975	2368	1151	281	310





## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.07.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.076502212167

### A.2 Comments