

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11815 - L2 Version 3  
Chandra X-Ray Center

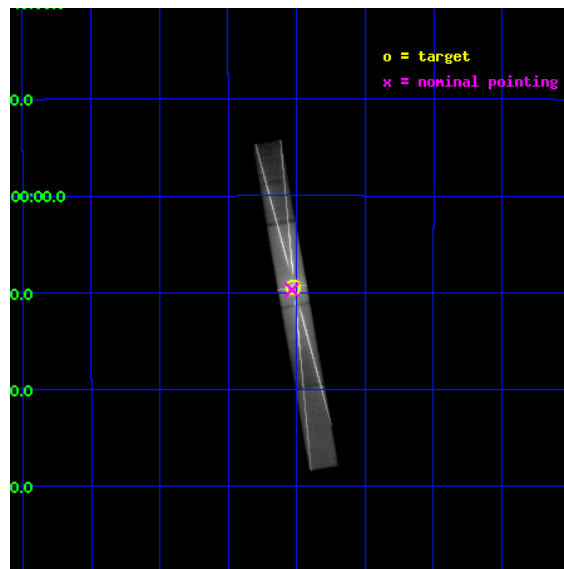
L2 Processing Date : Jul 11 2012

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# 1 Front

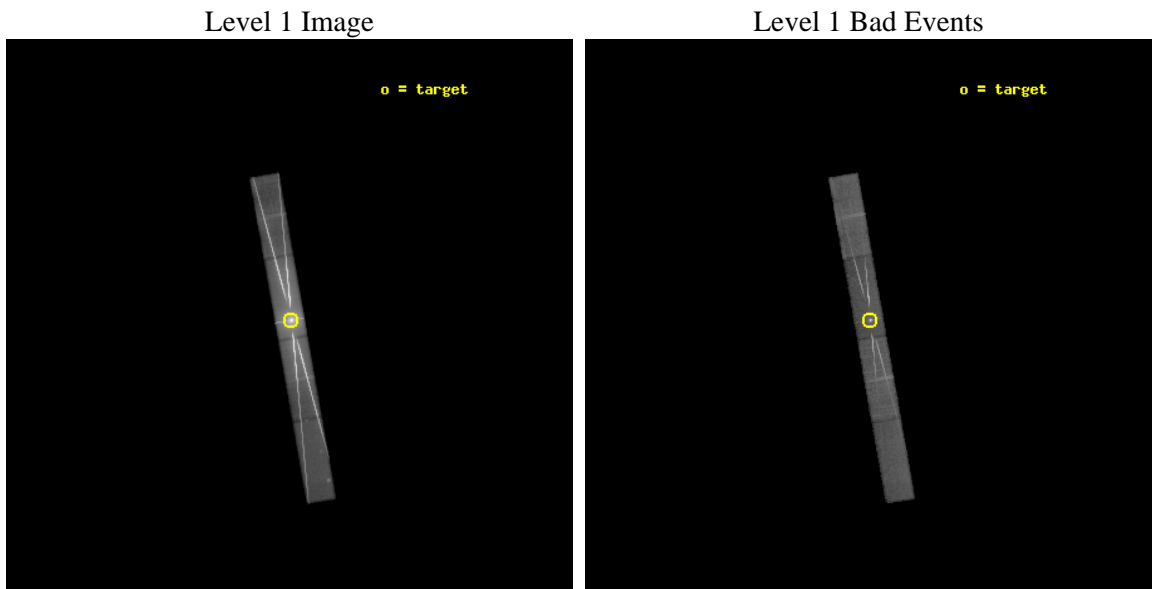
seq_num	401131	Sequence number
obs_id	11815	Observation id
title	Observe Bright Atol Sources at High Mass Accretion Rates	Proposal
observer	Prof Claude Canizares	Principal investigator
object	GX 13+1	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	273.631667	Observer's specified target RA [deg]
dec_targ	-17.157417	Observer's specified target Dec [deg]
ra_nom	273.63355180709	Nominal RA [deg]
dec_nom	-17.161943455855	Nominal Dec [deg]
roll_nom	259.91721296062	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29078.399711192	Sum of GTIs [s]
livetime	28116.804980847	Livetime [s]
ontime5	29078.399711192	Sum of GTIs [s]
ontime6	29078.399711192	Sum of GTIs [s]
ontime7	29078.399711192	Sum of GTIs [s]
ontime8	29078.399711192	Sum of GTIs [s]
l2events	3140209	Number of level 2 events



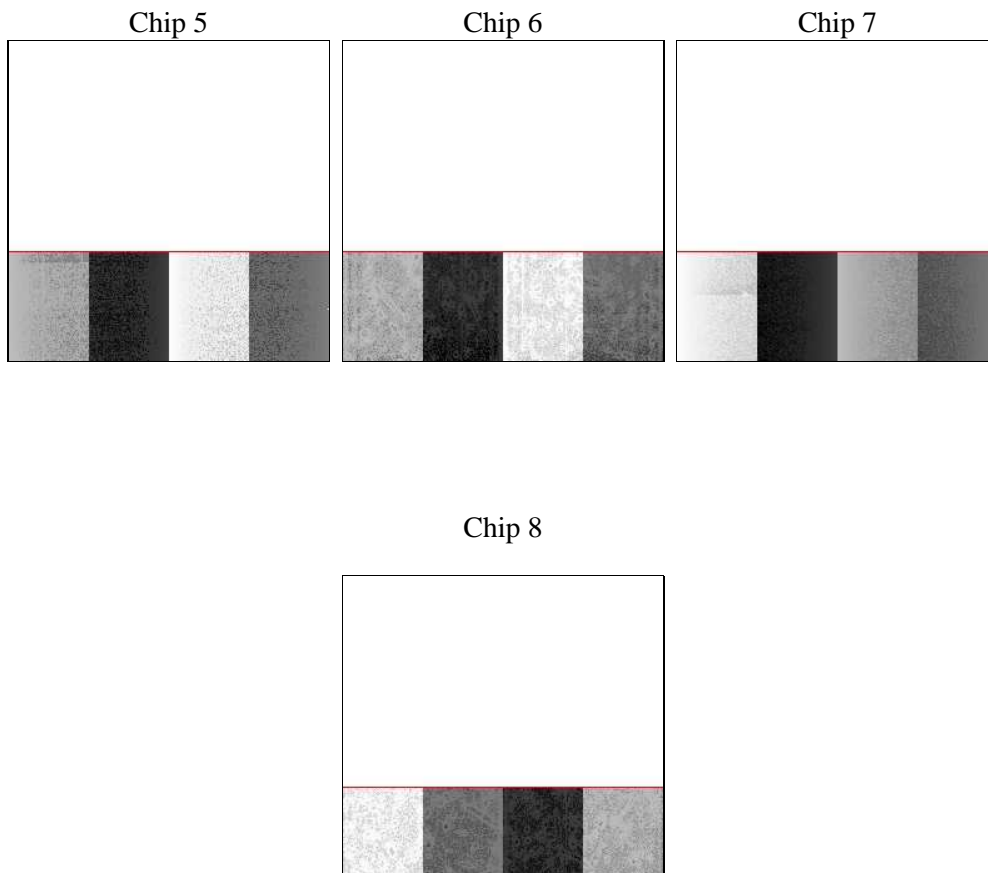
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	29078.399711192	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime5	29078.399711192	Sum of GTIs [s]
date	2012-06-30T15:55:55	Date and time of file creation	ontime6	29078.399711192	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	29078.399711192	Sum of GTIs [s]
			ontime8	29078.399711192	Sum of GTIs [s]
			l1events	3640894	Number of level 1 events

### 2.1.4 Events

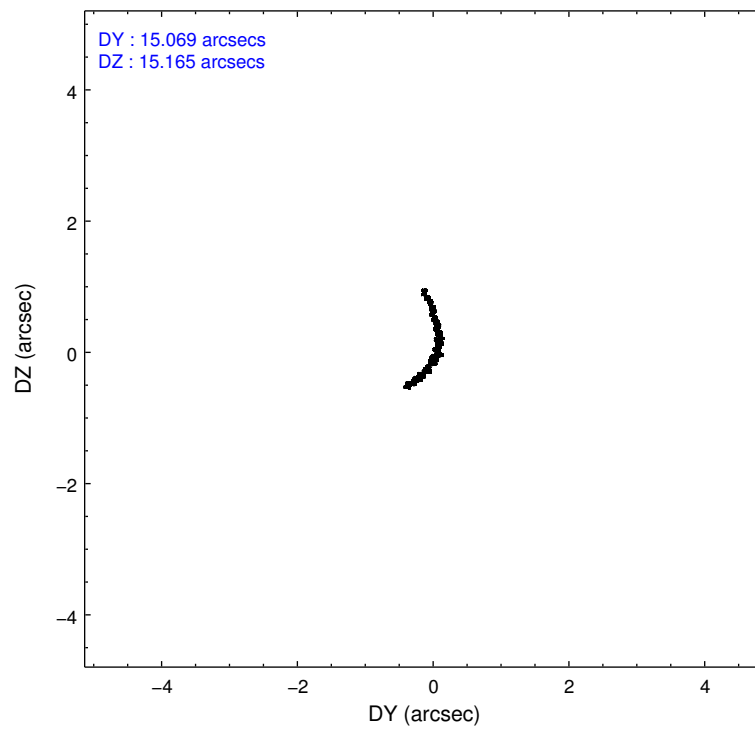
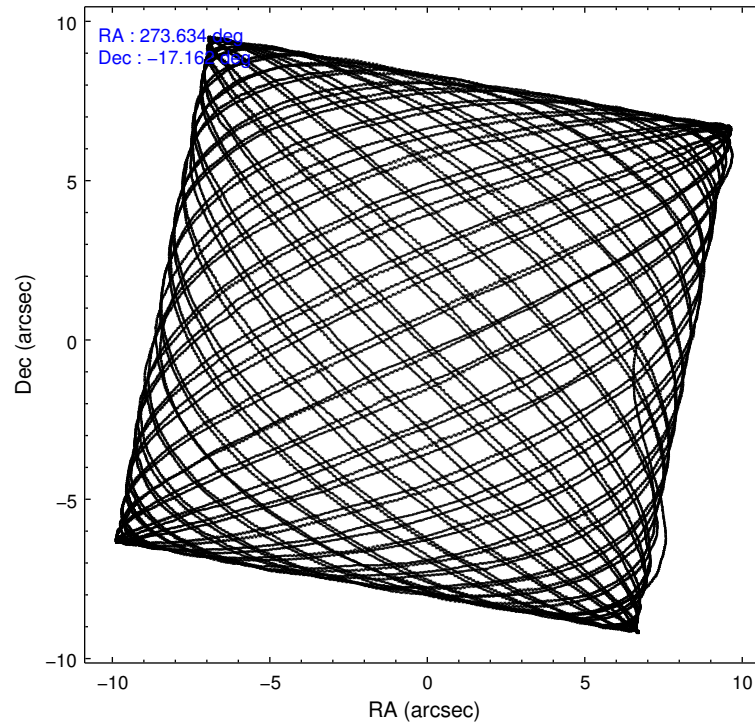
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	201561	1233069	1859195	347069
rejected events	57180	115514	133178	85366
rejected %	28%	9%	7%	24%

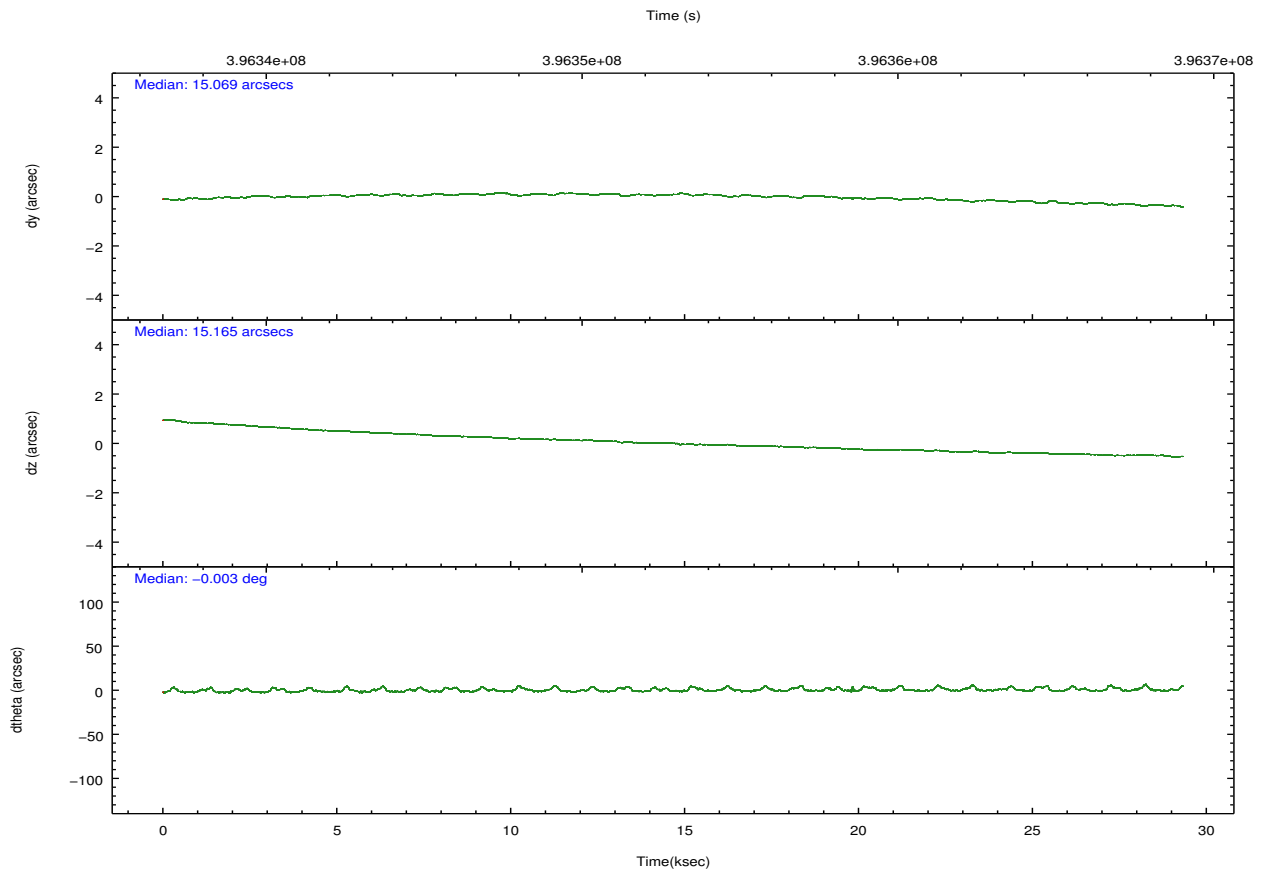
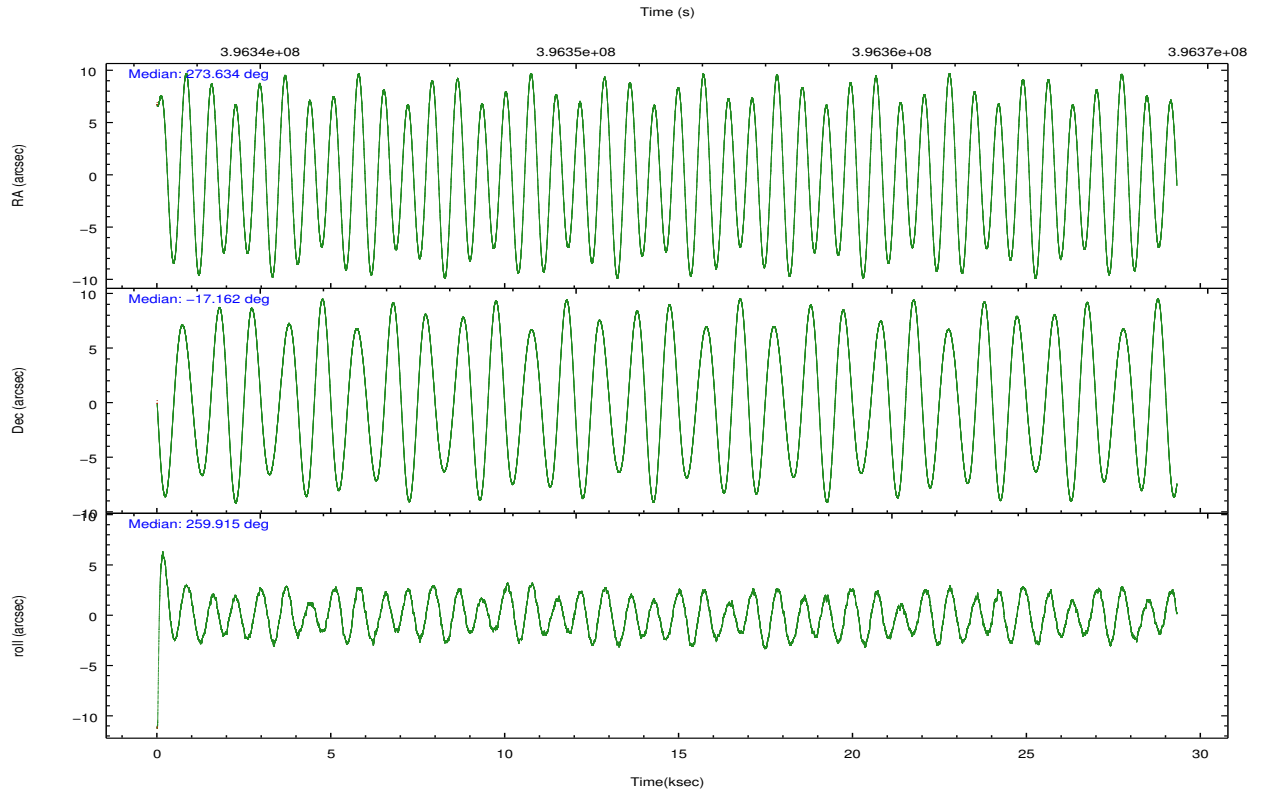
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	32471	789116	317610	188117
	16%	63%	17%	54%
grade 1 events	277	14628	7368	1022
	0%	1%	0%	0%
grade 2 events	41353	152493	416661	33390
	20%	12%	22%	9%
grade 3 events	12515	54379	184590	12426
	6%	4%	9%	3%
grade 4 events	11928	54301	182921	12042
	5%	4%	9%	3%
grade 5 events	10970	16201	42592	5379
	5%	1%	2%	1%
grade 6 events	46124	67362	624381	15749
	22%	5%	33%	4%
grade 7 events	45923	84589	83072	78944
	22%	6%	4%	22%

## 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	273.623418	273.63355180709	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-17.136349	-17.16194345585514	Subarray start row	1	1
[deg] Pointing Roll	259.757602	259.9172129606186	Subarray row count	350	350
[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	1.2
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	396338536.184000	396337652.88368			
Observation start date	2010-07-24T06:01:10	2010-07-24T05:47:32			
[s] Observation end time (MET)	396367536.184000	396367869.37272			
Observation end date	2010-07-24T14:04:30	2010-07-24T14:11:09			
Read mode	TIMED	TIMED			

## 2.3 Aspect



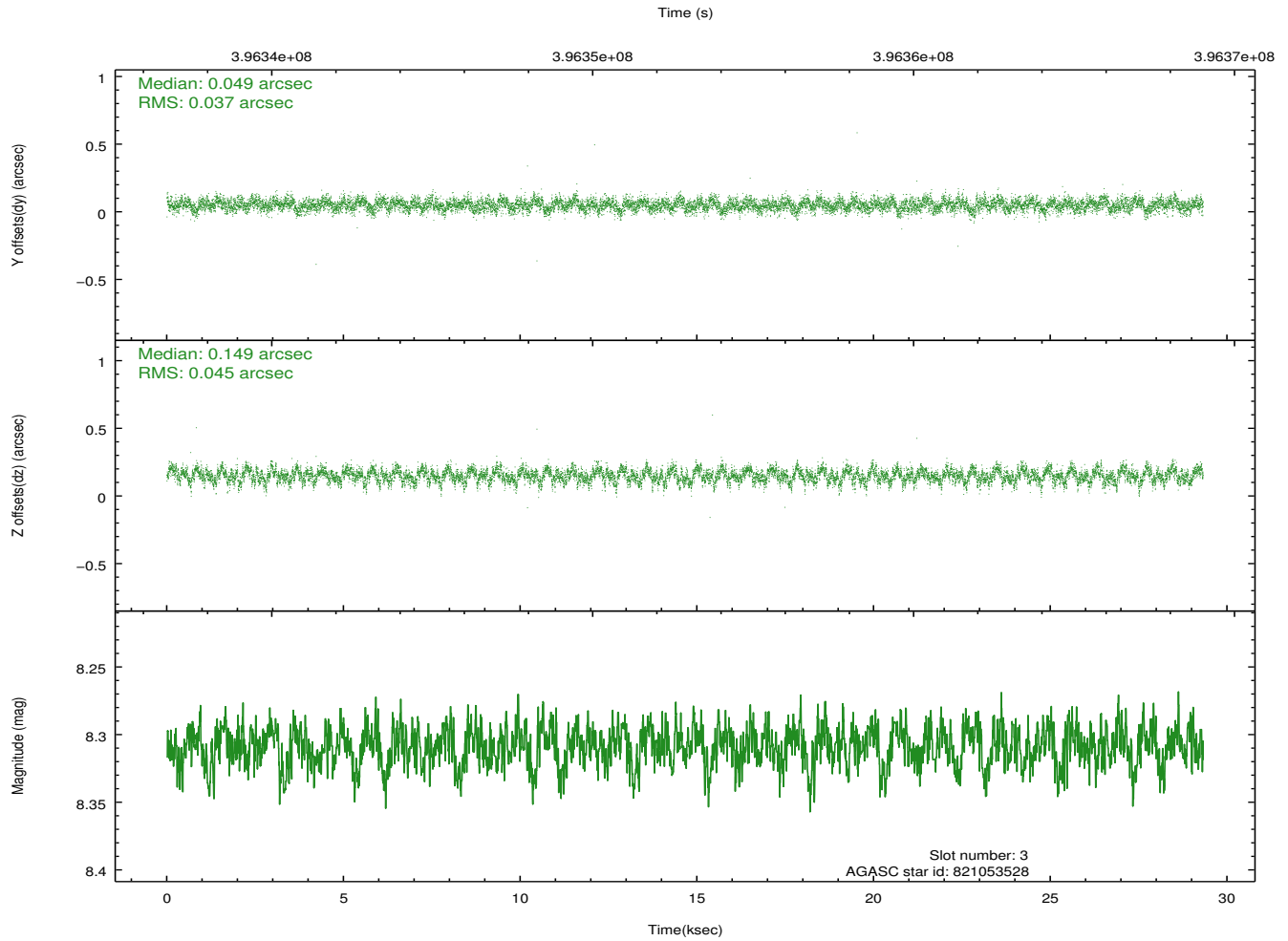
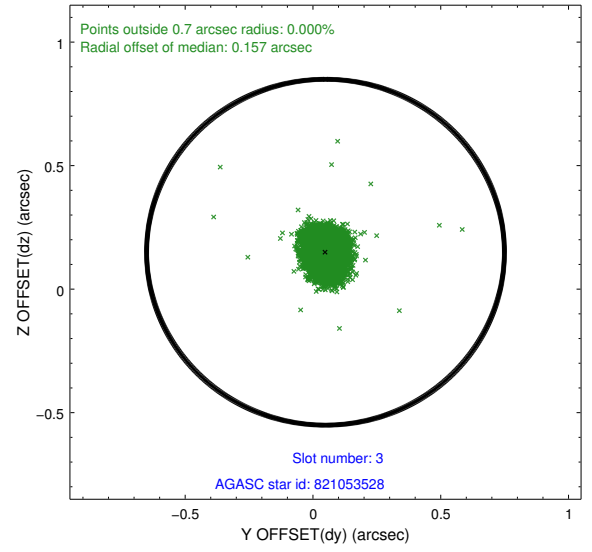
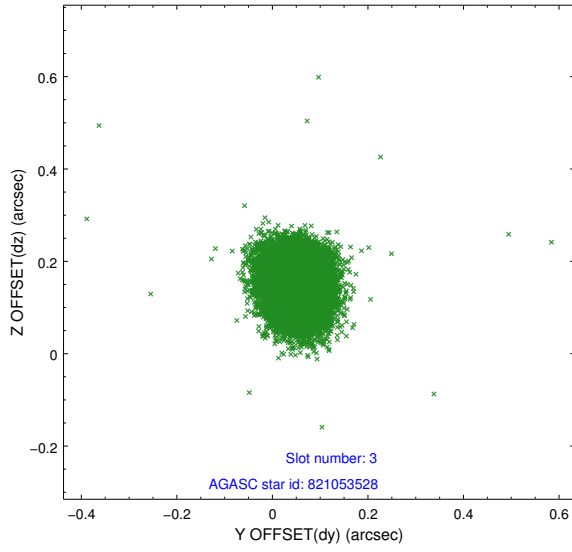


### Slot Statistics

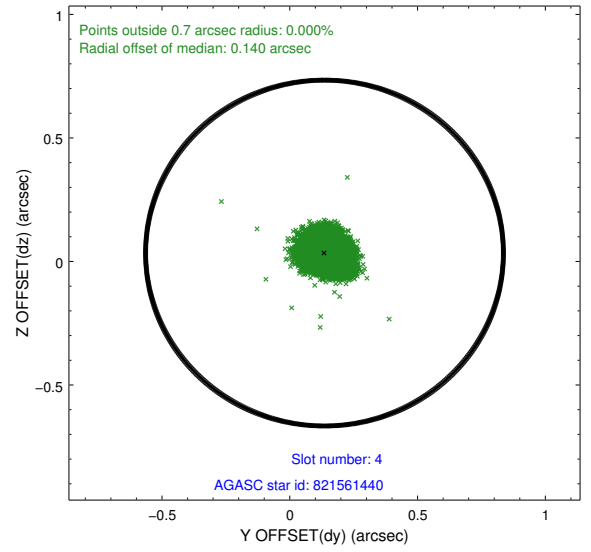
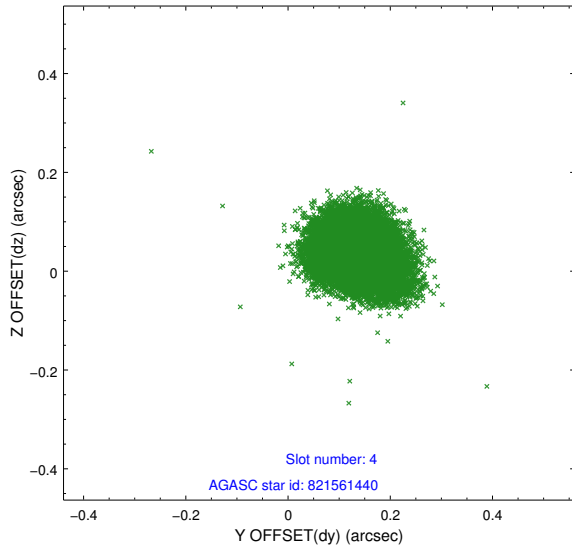
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.99	7152	0.089	0.145	0.014	0.031	0.000000	0.000000	928.63	-1896.83
1	FID	ACIS-S-2	6.91	7152	-0.232	-0.148	0.016	0.037	0.000000	0.000000	-767.56	-1901.72
2	FID	ACIS-S-4	6.96	7152	0.116	0.004	0.016	0.052	0.000000	0.000000	2145.94	7.02
3	GUIDE	821053528	8.31	14299	0.049	0.149	0.060	0.098	273.625019	-16.498449	-2260.41	-402.95
4	GUIDE	821561440	7.93	14303	0.136	0.034	0.065	0.104	273.991252	-17.607934	1447.52	1544.25
5	GUIDE	821707704	8.96	14294	-0.073	-0.209	0.079	0.129	274.330077	-16.988328	-952.59	2300.12
6	GUIDE	821052312	7.83	14299	-0.080	-0.042	0.072	0.113	273.114947	-16.380684	-2362.53	-2211.62
7	GUIDE	821579296	8.56	14297	-0.032	0.071	0.059	0.096	273.605242	-17.813626	2410.38	372.27

## 2.4 Star Slots

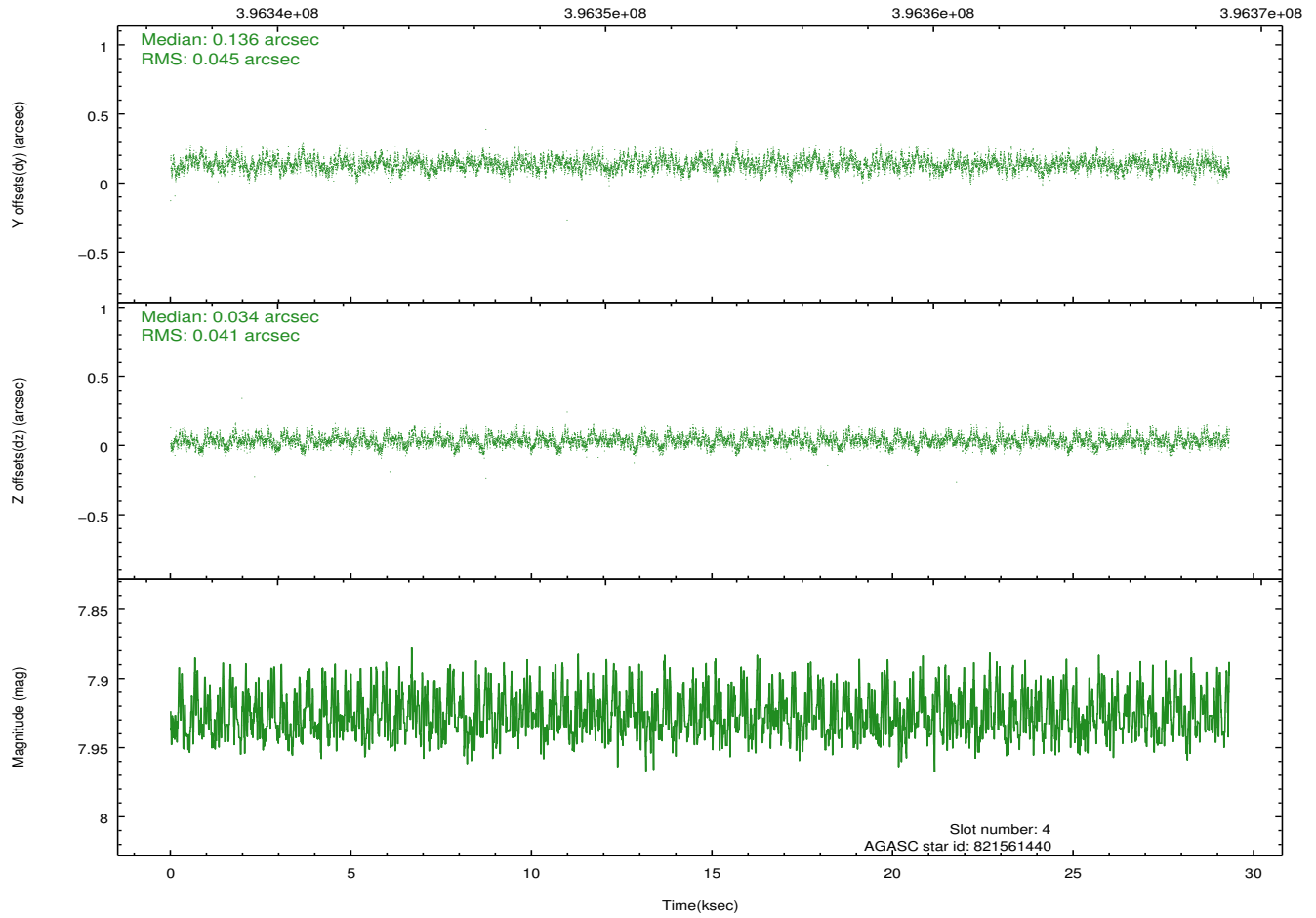
### 2.4.1 Slot 3



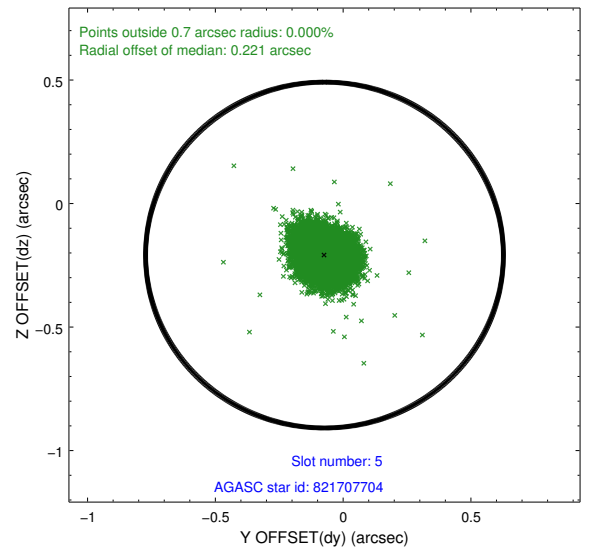
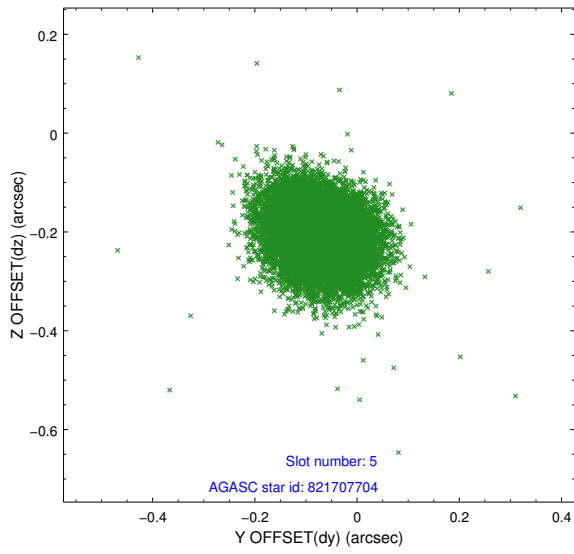
## 2.4.2 Slot 4



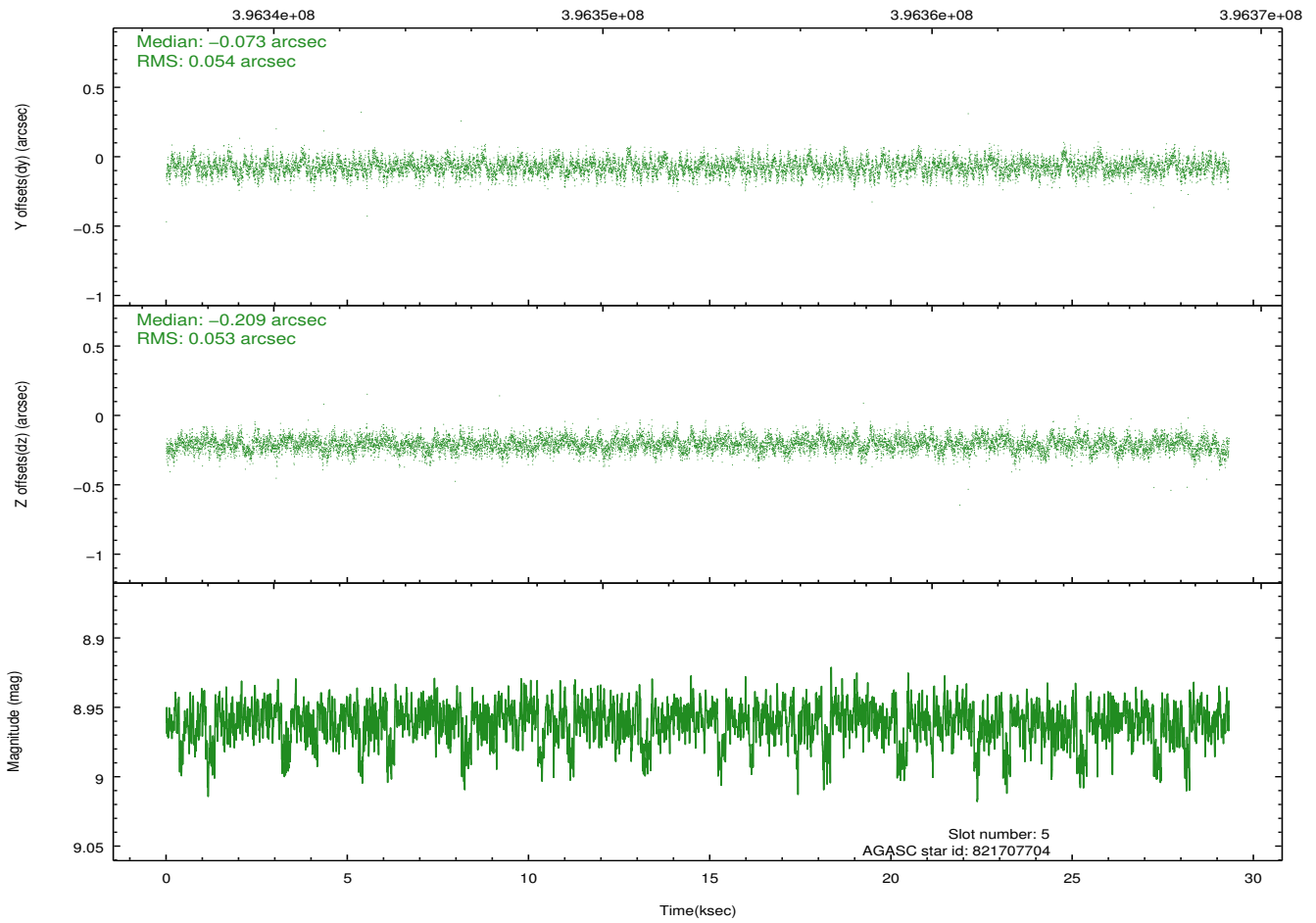
Time (s)



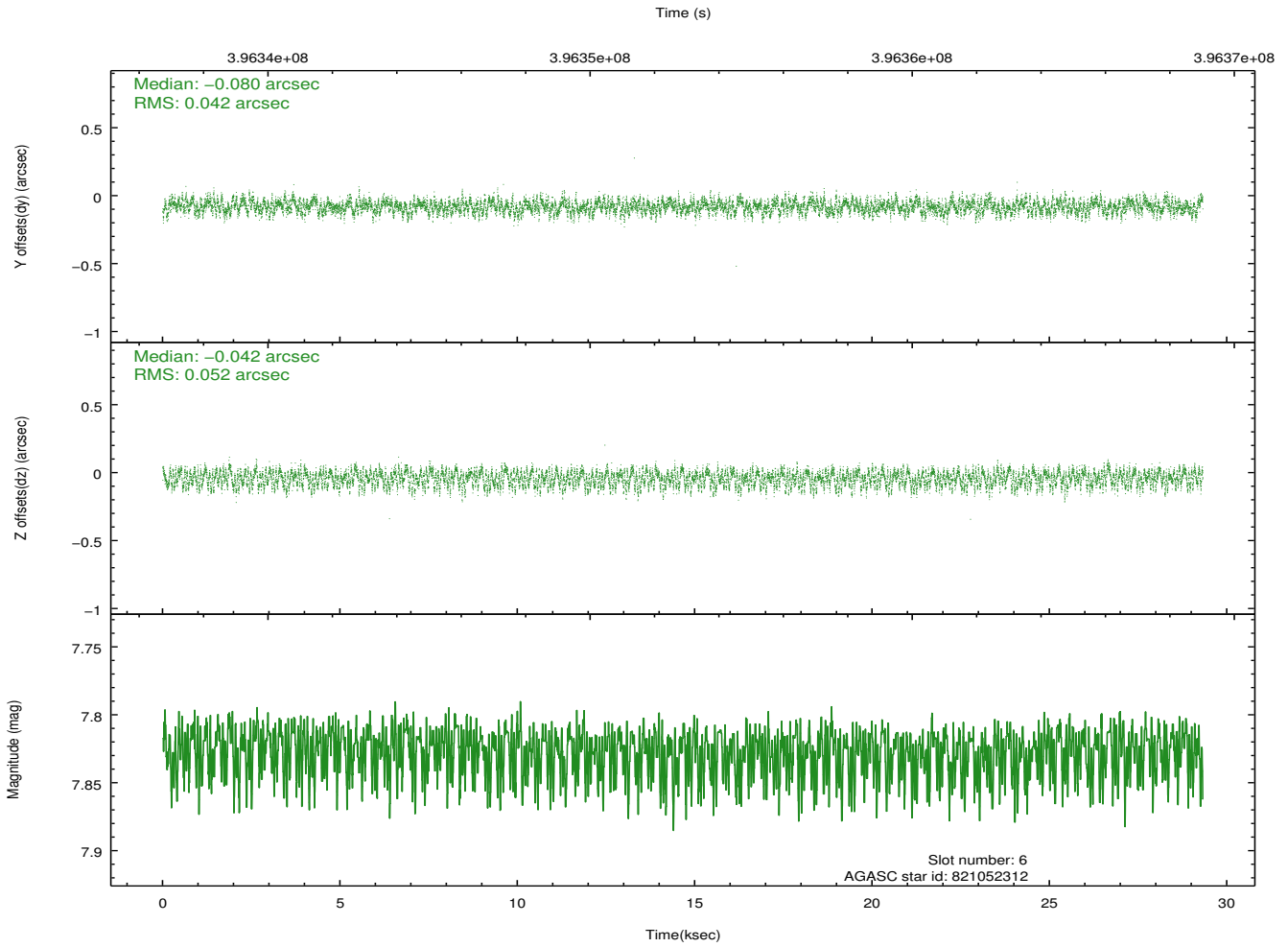
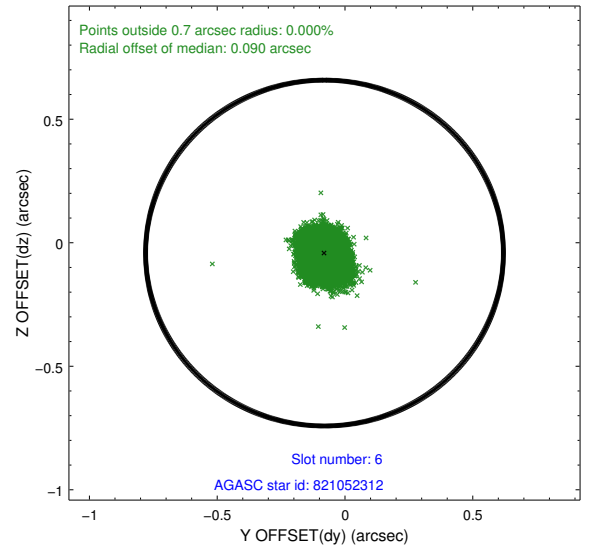
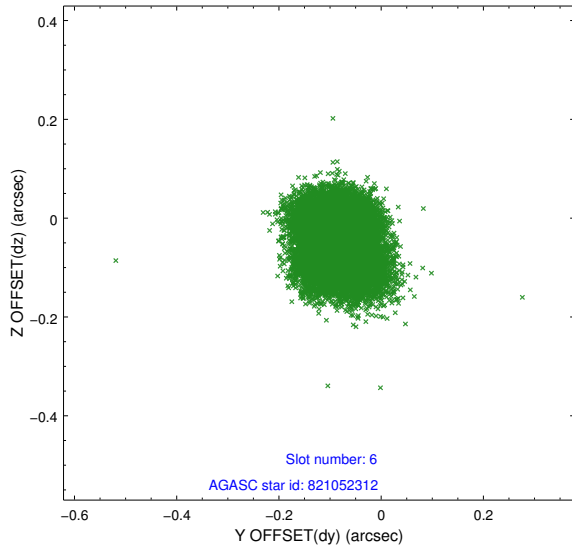
### 2.4.3 Slot 5



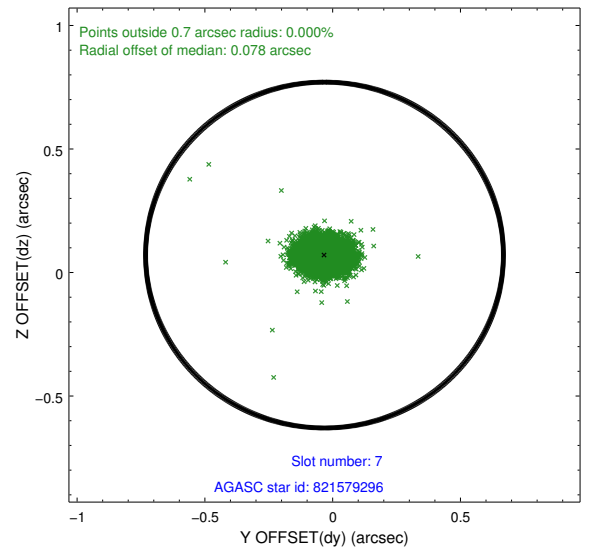
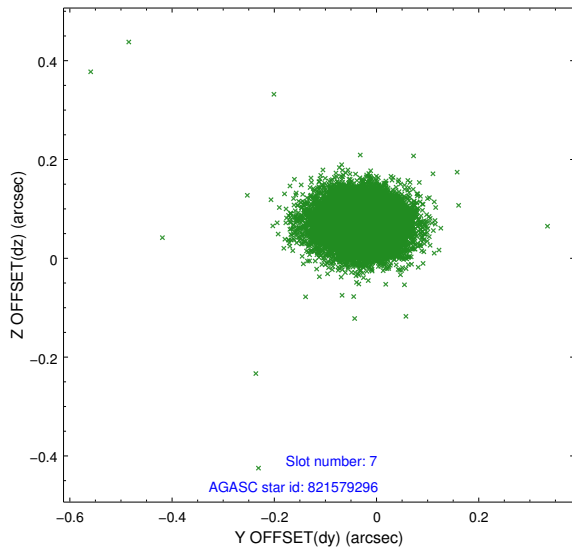
Time (s)



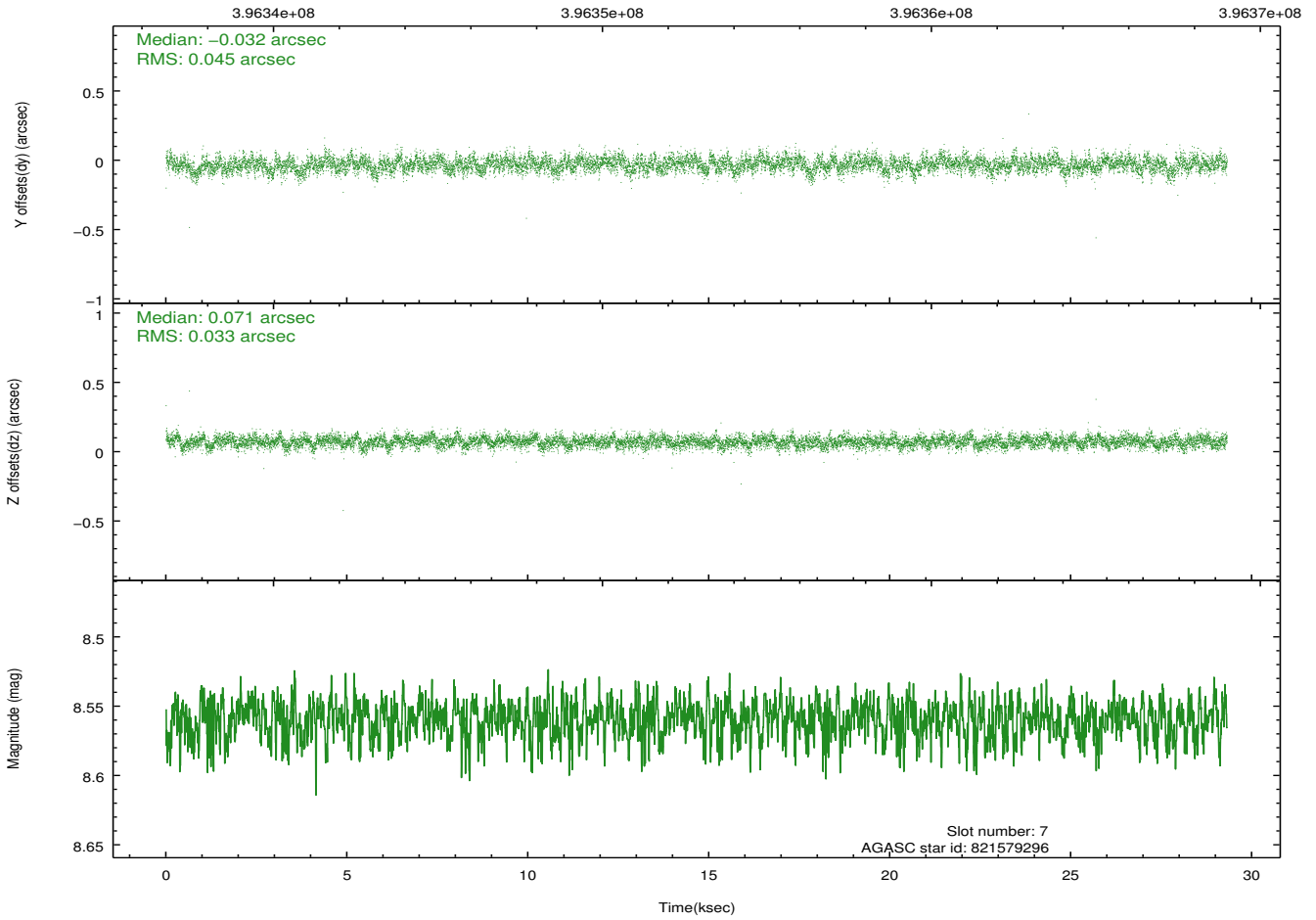
### 2.4.4 Slot 6



### 2.4.5 Slot 7

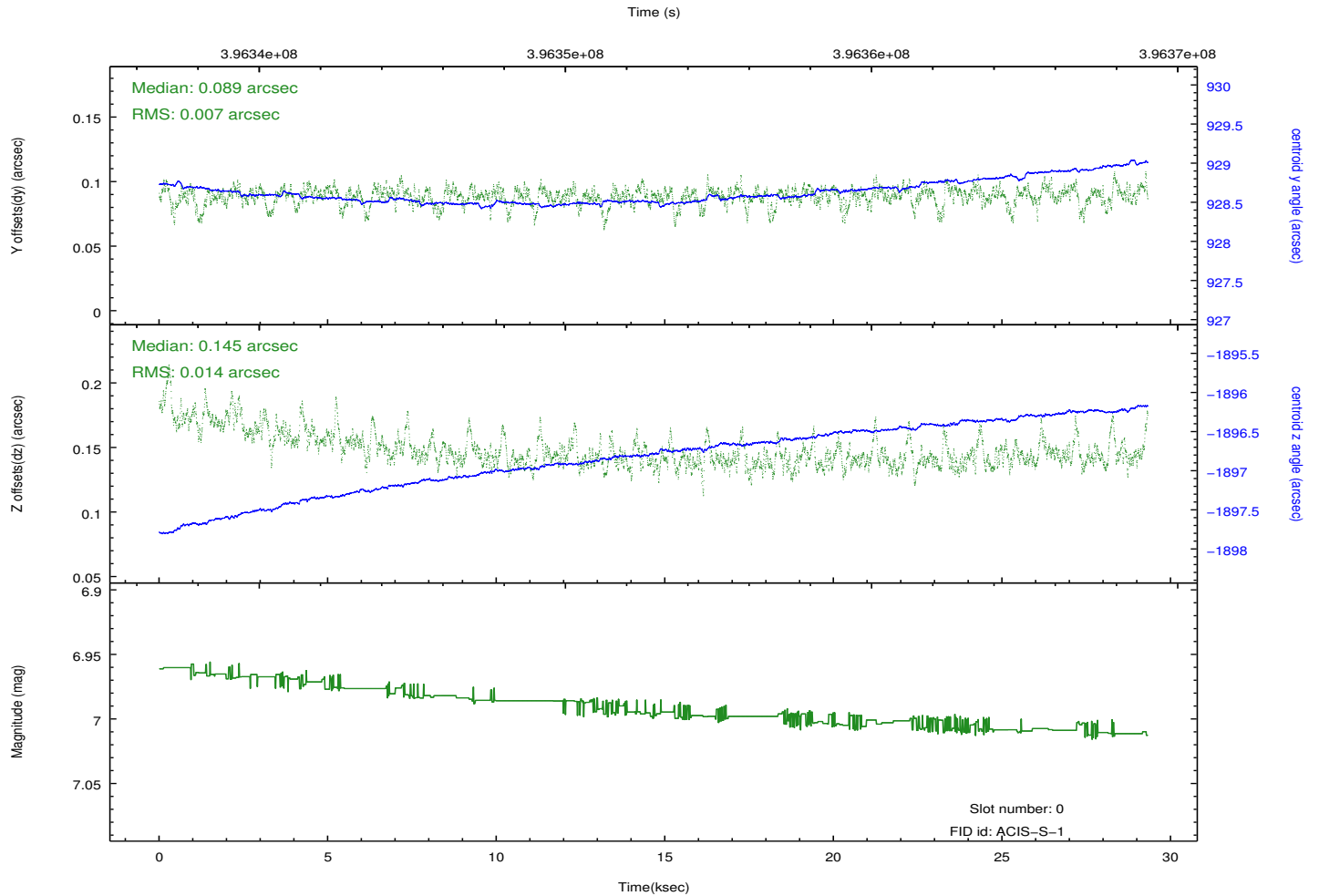
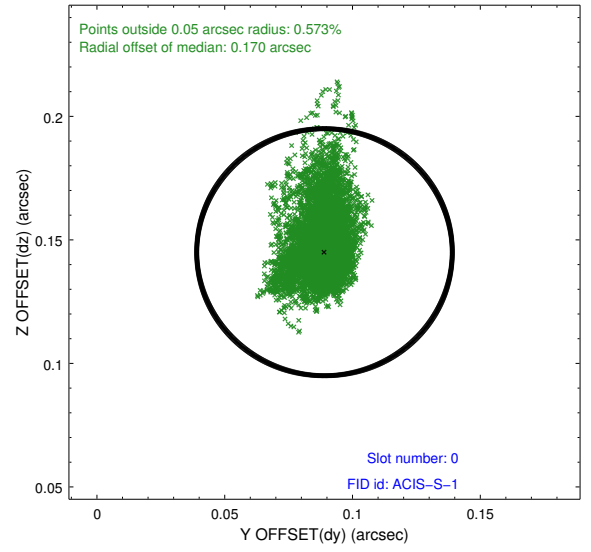
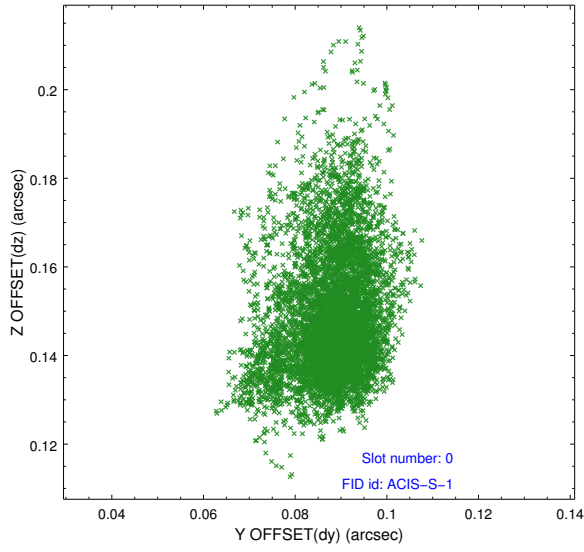


Time (s)

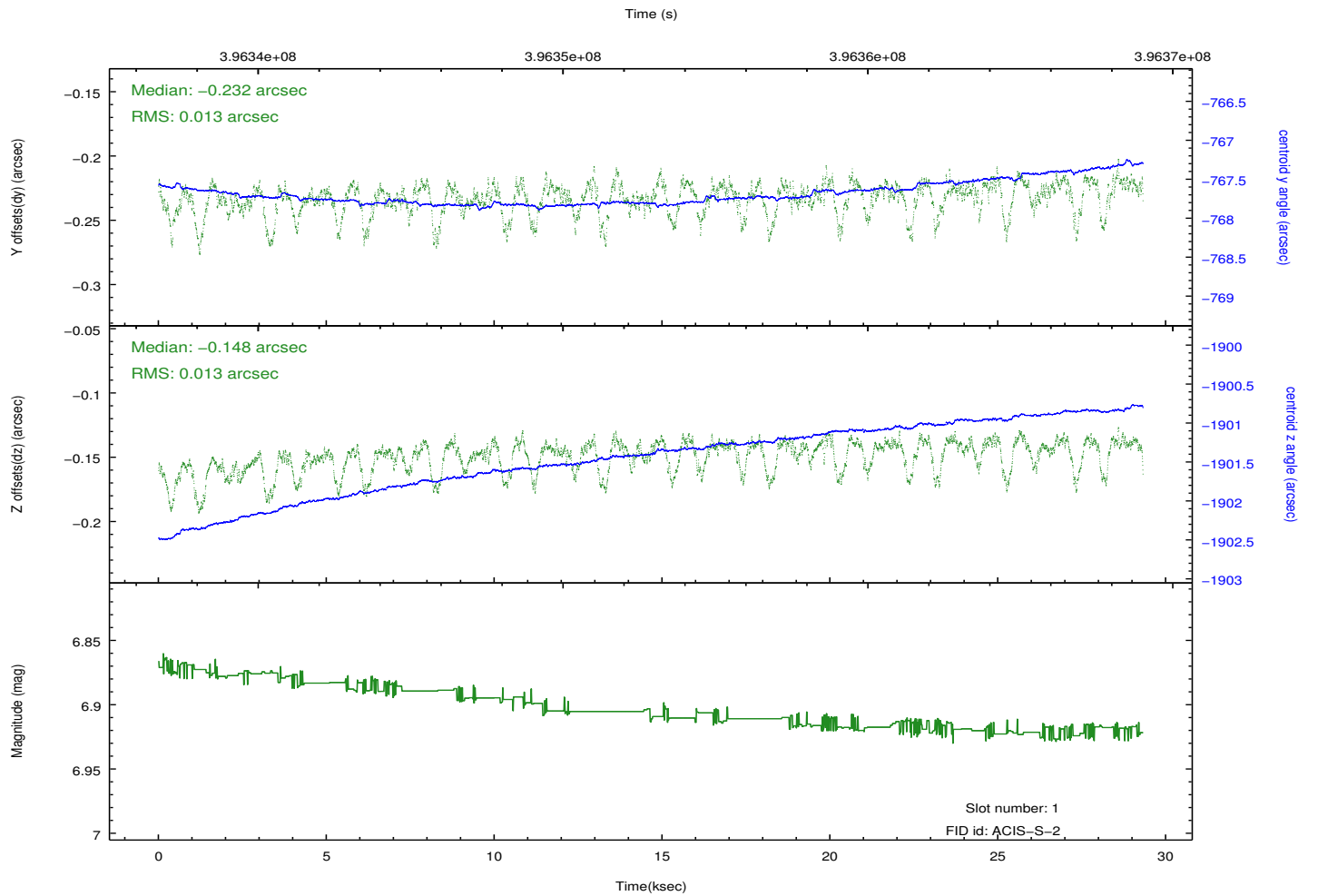
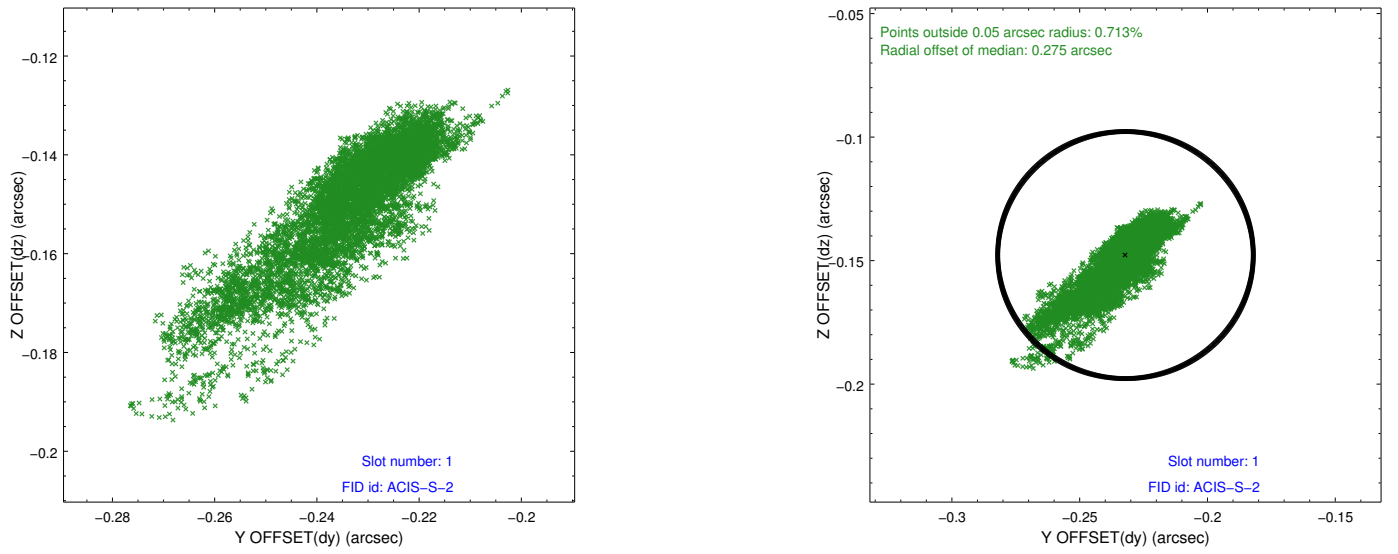


## 2.5 FID Slots

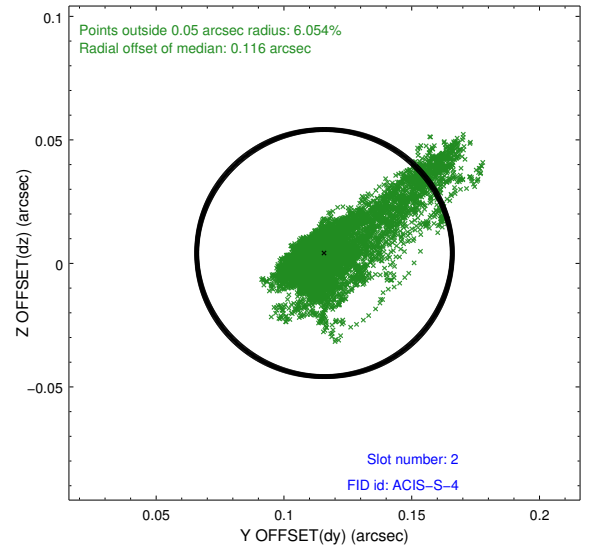
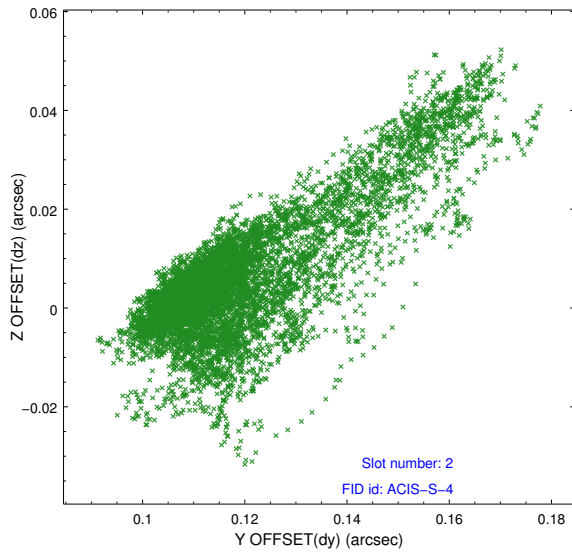
### 2.5.1 Slot 0



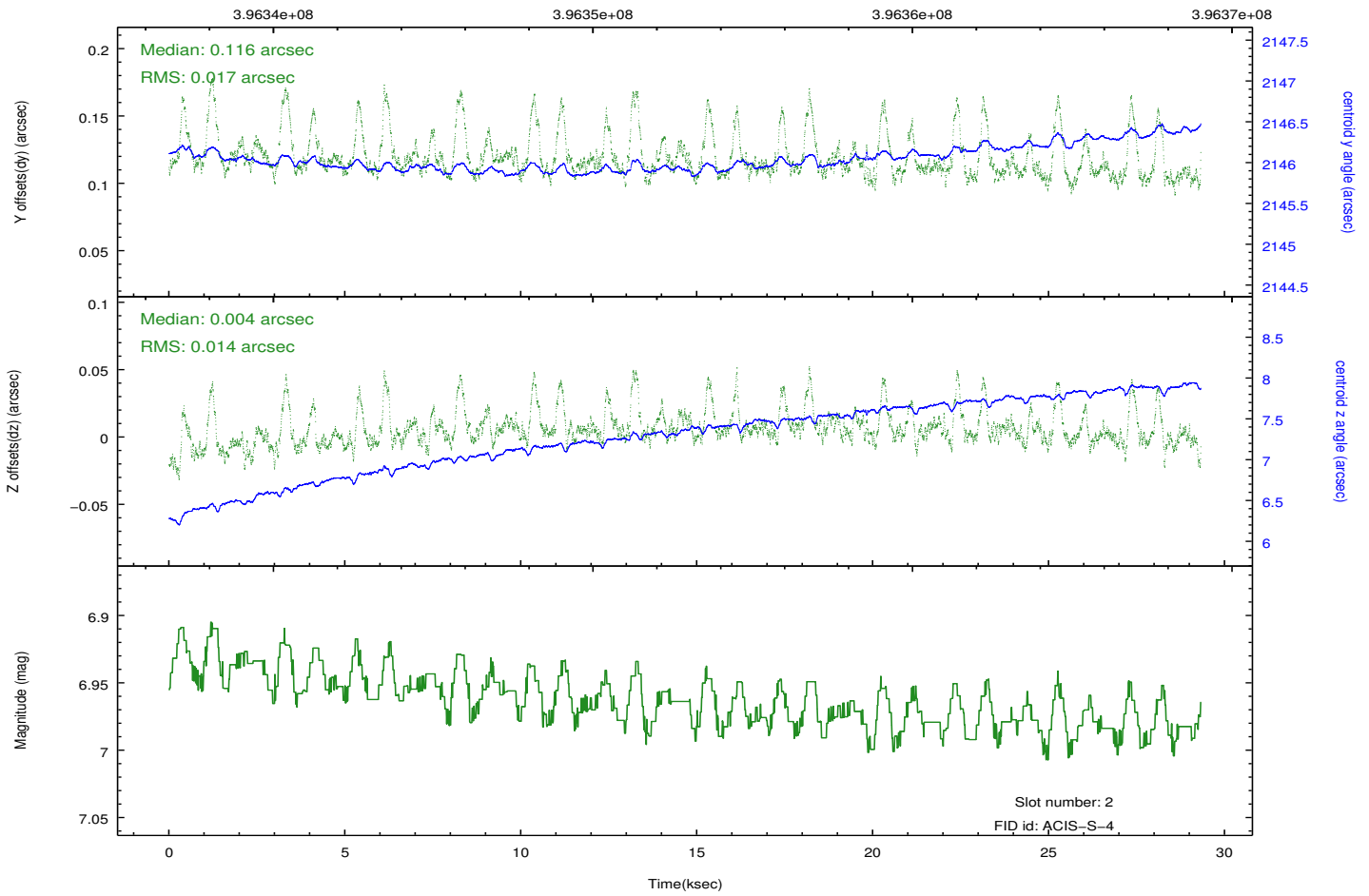
## 2.5.2 Slot 1



### 2.5.3 Slot 2

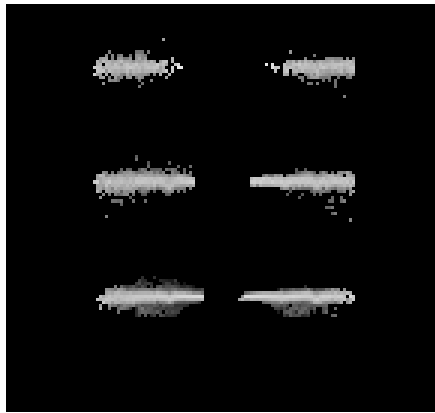


Time (s)

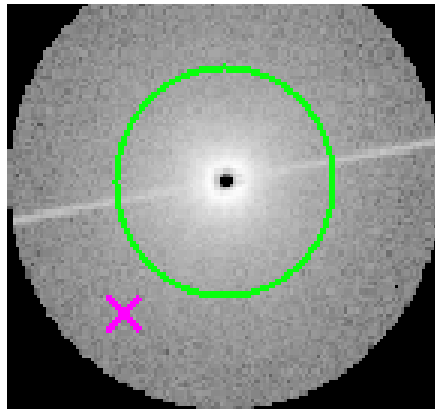


# 3 Gratings

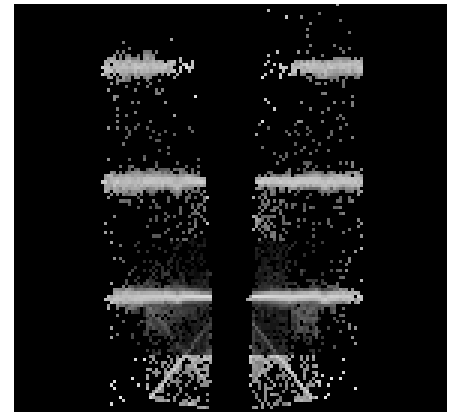
## 3.1 HEG Arm



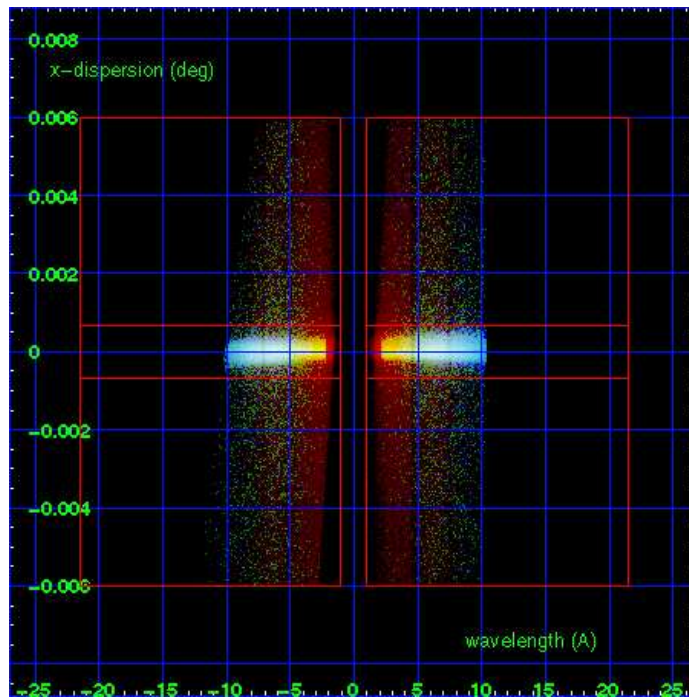
HEG Order Sort 123



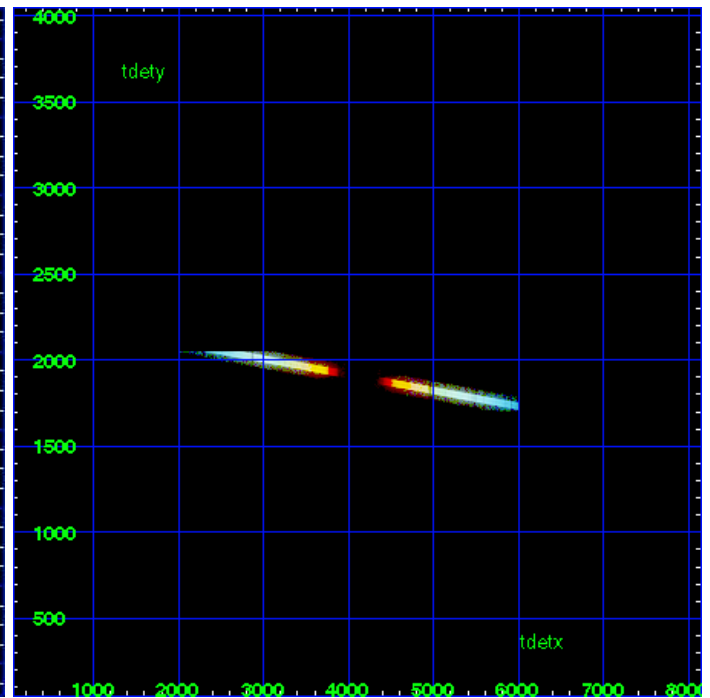
HEG Zero Order



HEG Order Sort ALL

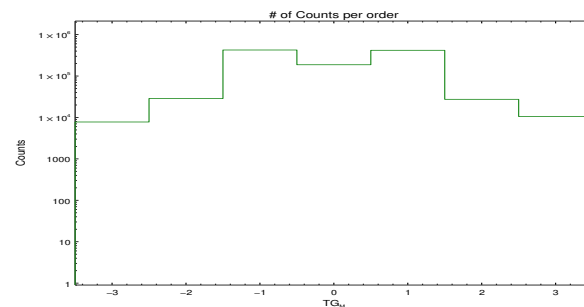


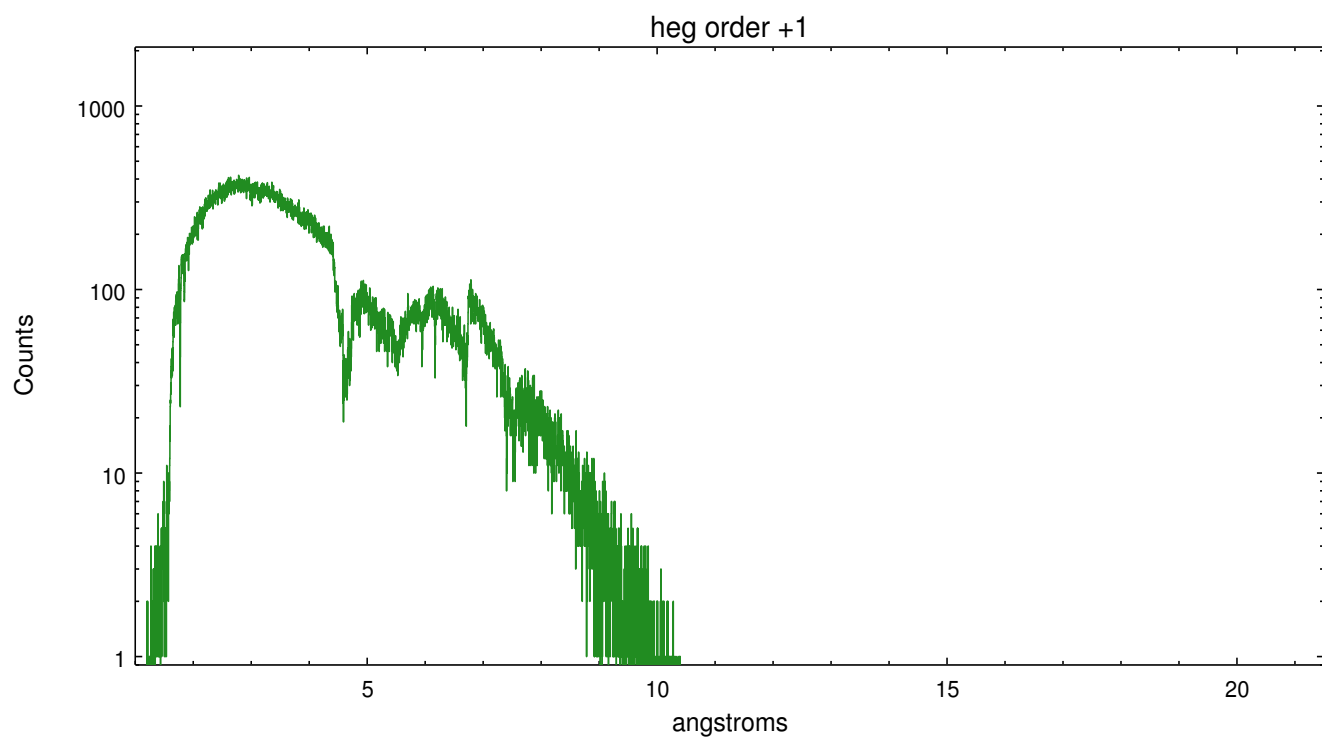
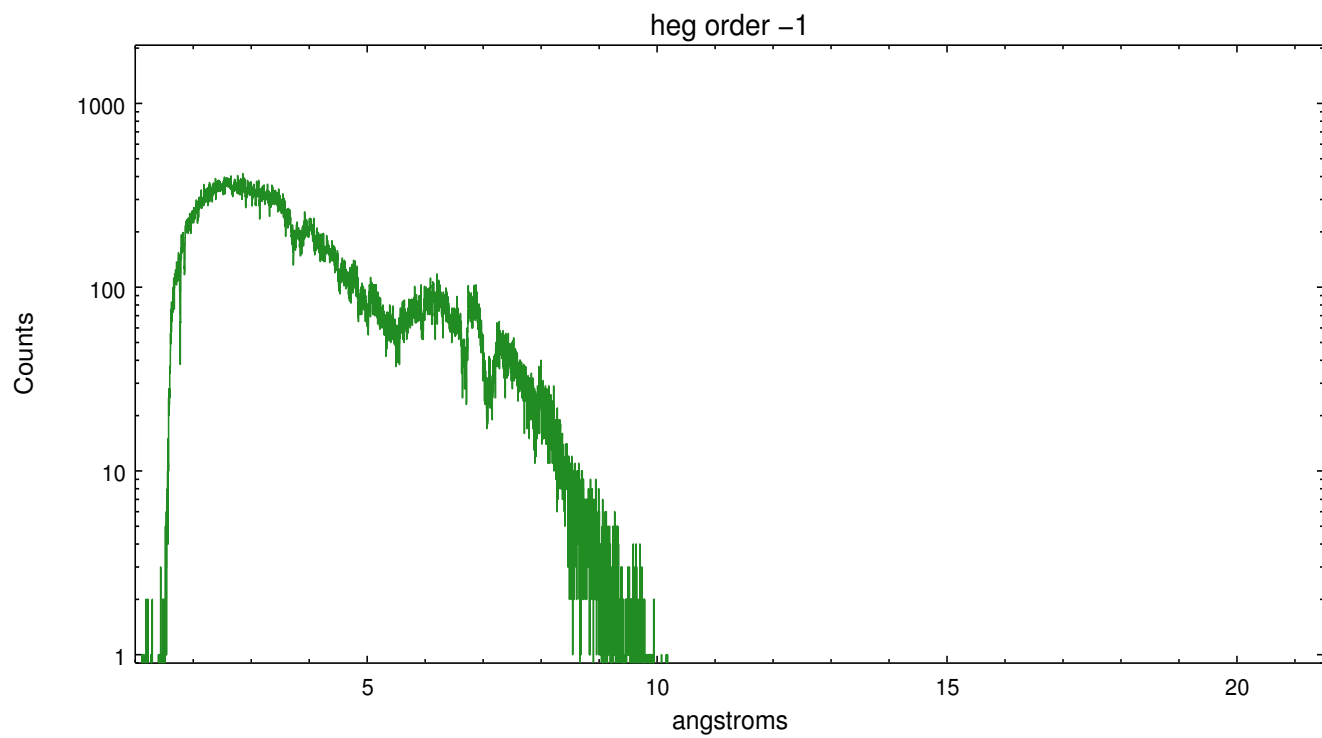
Spot Image HEG



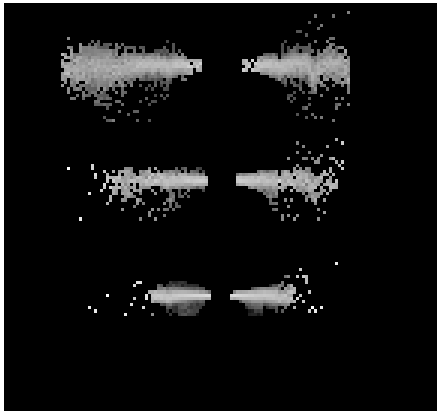
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	7772	28663	425207	187489	417765	27379	10546

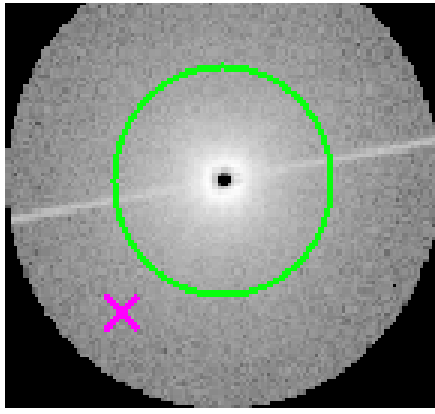




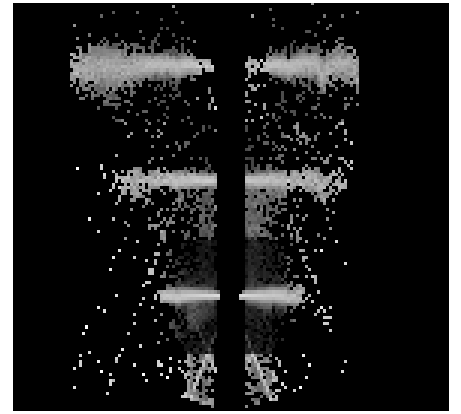
### 3.2 MEG Arm



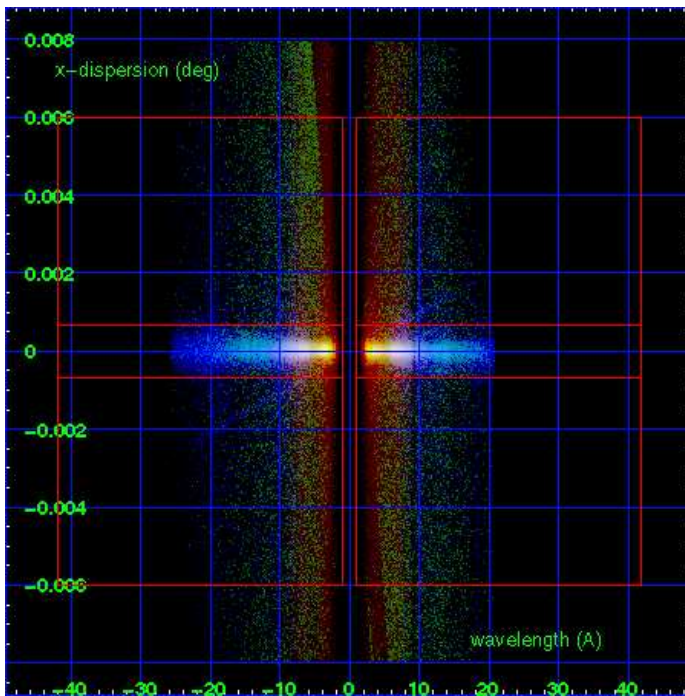
MEG Order Sort 123



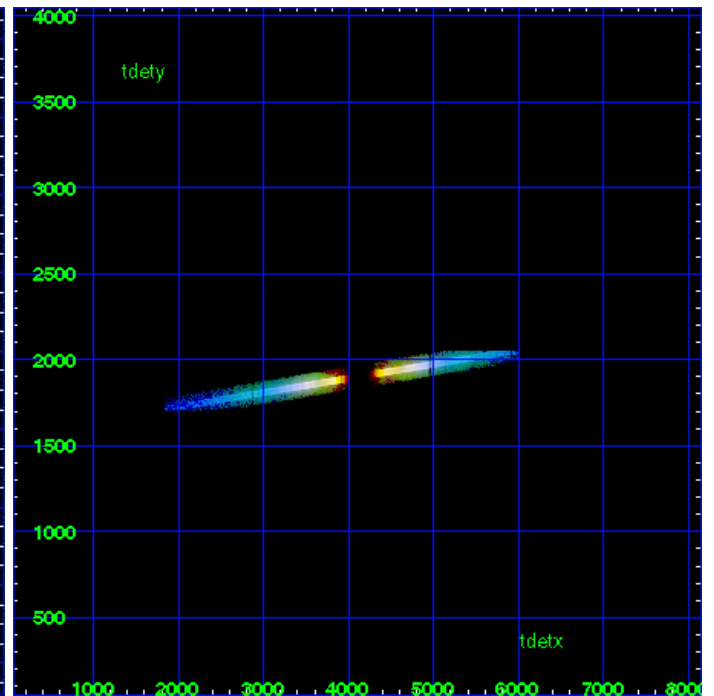
MEG Zero Order



MEG Order Sort ALL

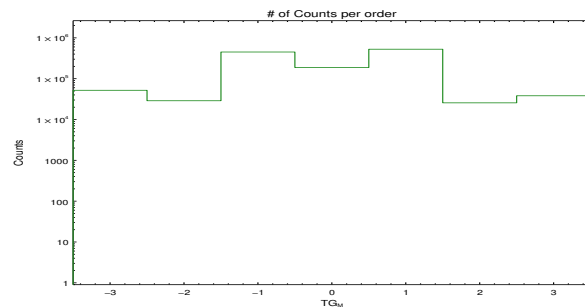


Spot Image MEG

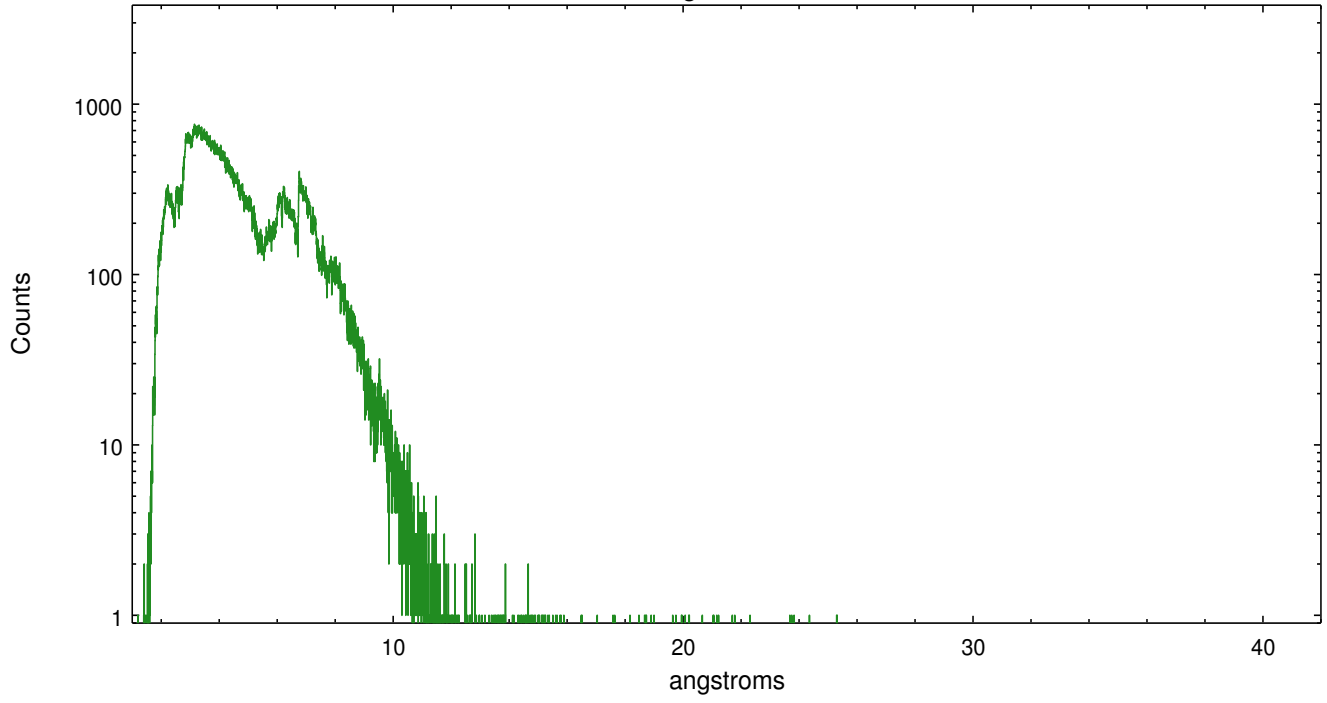


Full Detector MEG

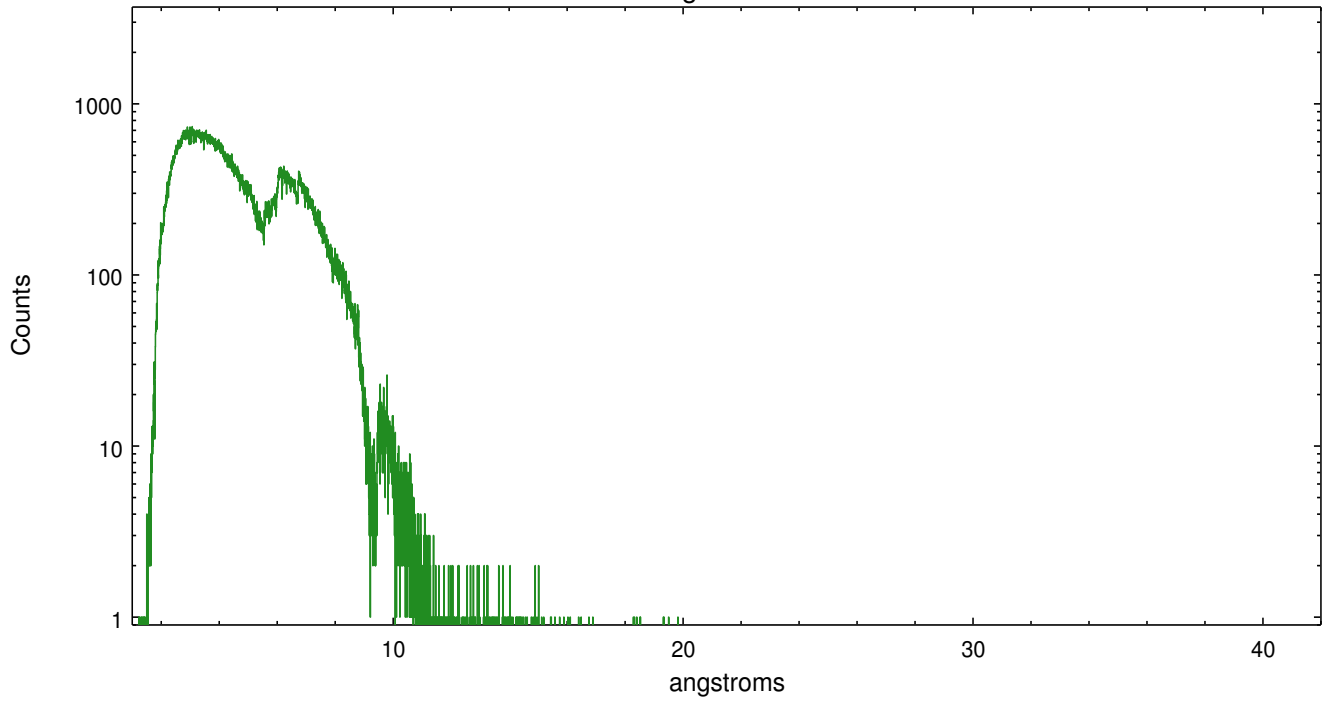
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	51911	28829	449985	187489	526465	25601	38160



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.07.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.078399711192

## A.2 Comments

WARNING: grating spectra are visible in the 'level 1 bad-events' image, meaning that the grating spectra may have CCD pileup (and unreliable fluxes).