

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13222 - L2 Version 2  
Chandra X-Ray Center

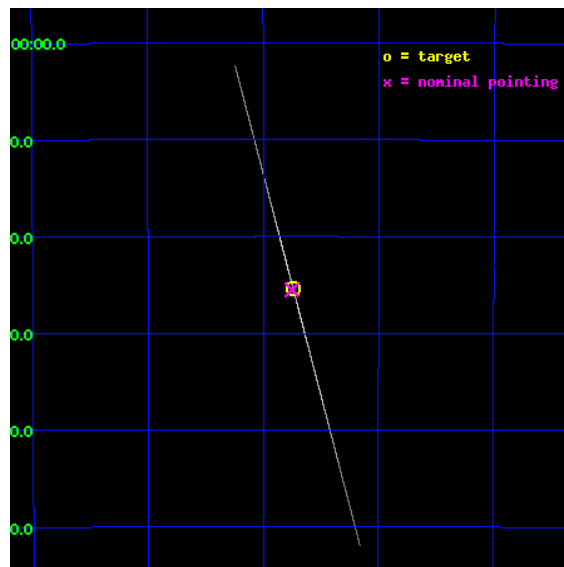
L2 Processing Date : Feb 26 2012

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# 1 Front

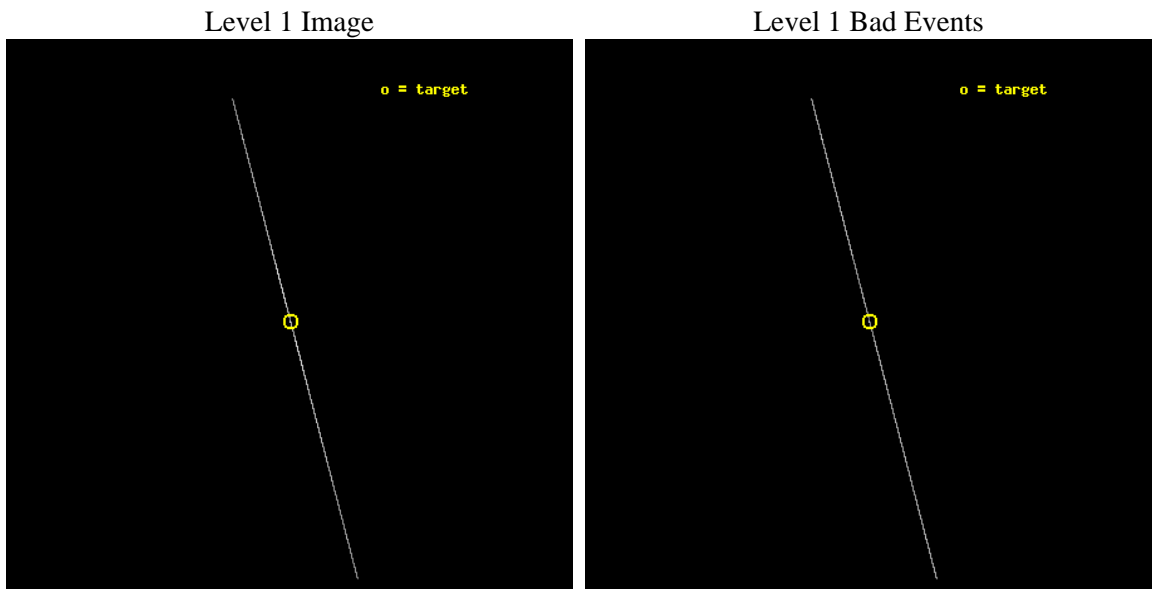
seq_num	900984	Sequence number
obs_id	13222	Observation id
title	ISM Absorption and Broad Line Emission in the Bright Z-Source GX 349+1	Proposal title
observer	Prof. Claude Canizares	Principal investigator
object	GX 349+2	Source name
ra_targ	256.435417	Observer's specified target RA [deg]
dec_targ	-36.423083	Observer's specified target Dec [deg]
ra_nom	256.4379649516	Nominal RA [deg]
dec_nom	-36.425311062195	Nominal Dec [deg]
roll_nom	255.19006985873	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25912.763777792	Sum of GTIs [s]
livetime	25811.542044285	Livetime [s]
ontime4	33315.002322078	Sum of GTIs [s]
ontime5	41074.0	Sum of GTIs [s]
ontime6	26400.060439706	Sum of GTIs [s]
ontime7	25912.763777792	Sum of GTIs [s]
ontime8	34323.192925036	Sum of GTIs [s]
ontime9	34949.201799691	Sum of GTIs [s]
l2events	4895990	Number of level 2 events



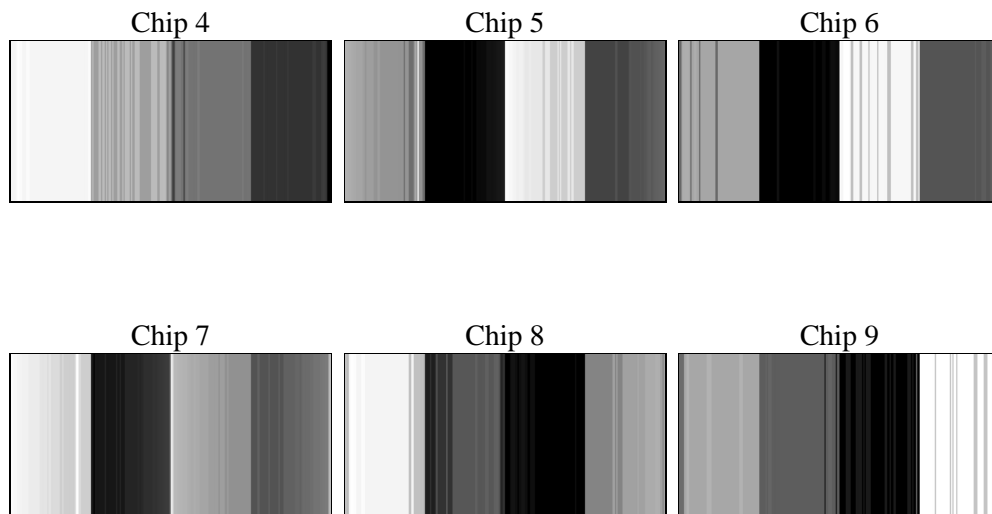
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	41000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	25912.763777792	Sum of GTIs [s]
caldbver	4.4.8	&#160	ontime4	33315.002322078	Sum of GTIs [s]
date	2012-02-25T05:07:03	Date and time of file creation	ontime5	41074.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	26400.060439706	Sum of GTIs [s]
			ontime7	25912.763777792	Sum of GTIs [s]
			ontime8	34323.192925036	Sum of GTIs [s]
			ontime9	34949.201799691	Sum of GTIs [s]
			l1events	6934447	Number of level 1 events

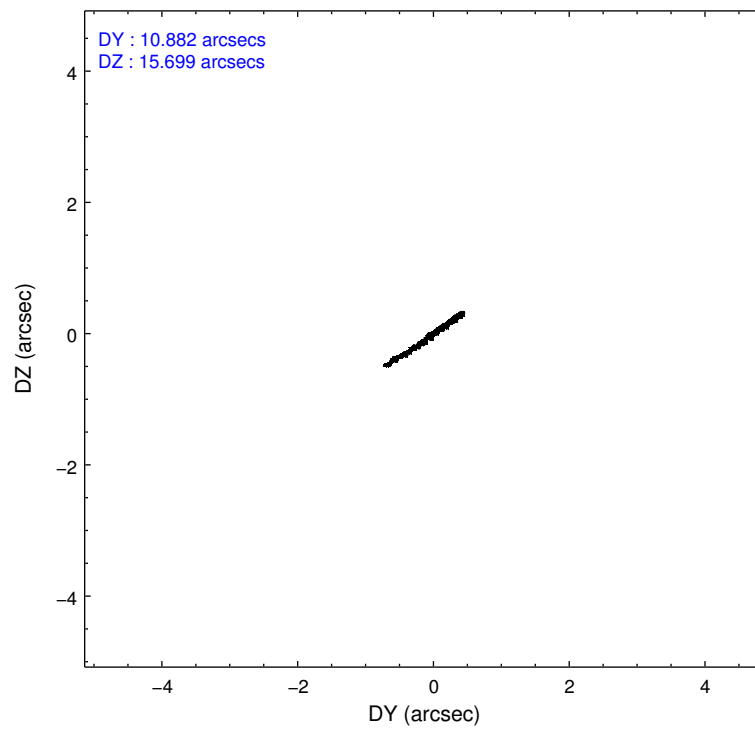
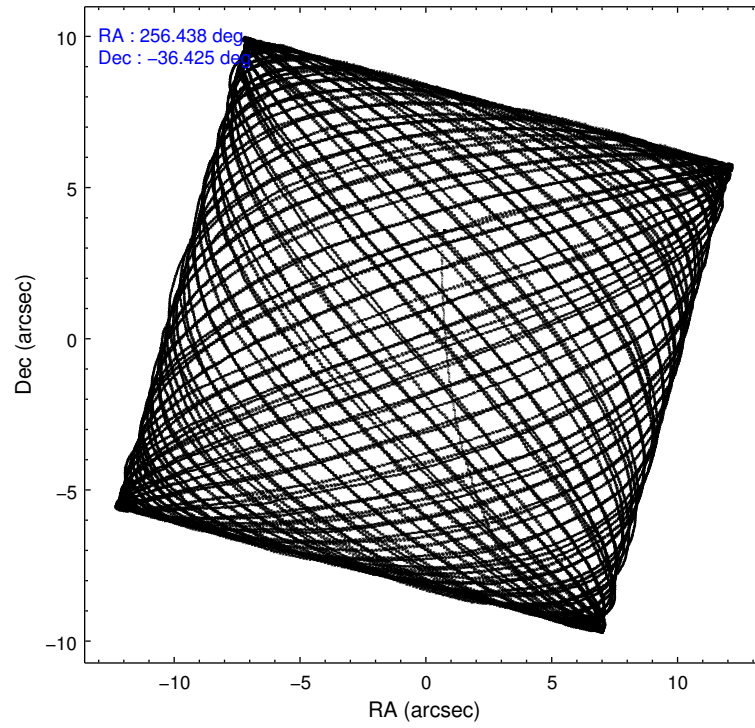
### 2.1.4 Events

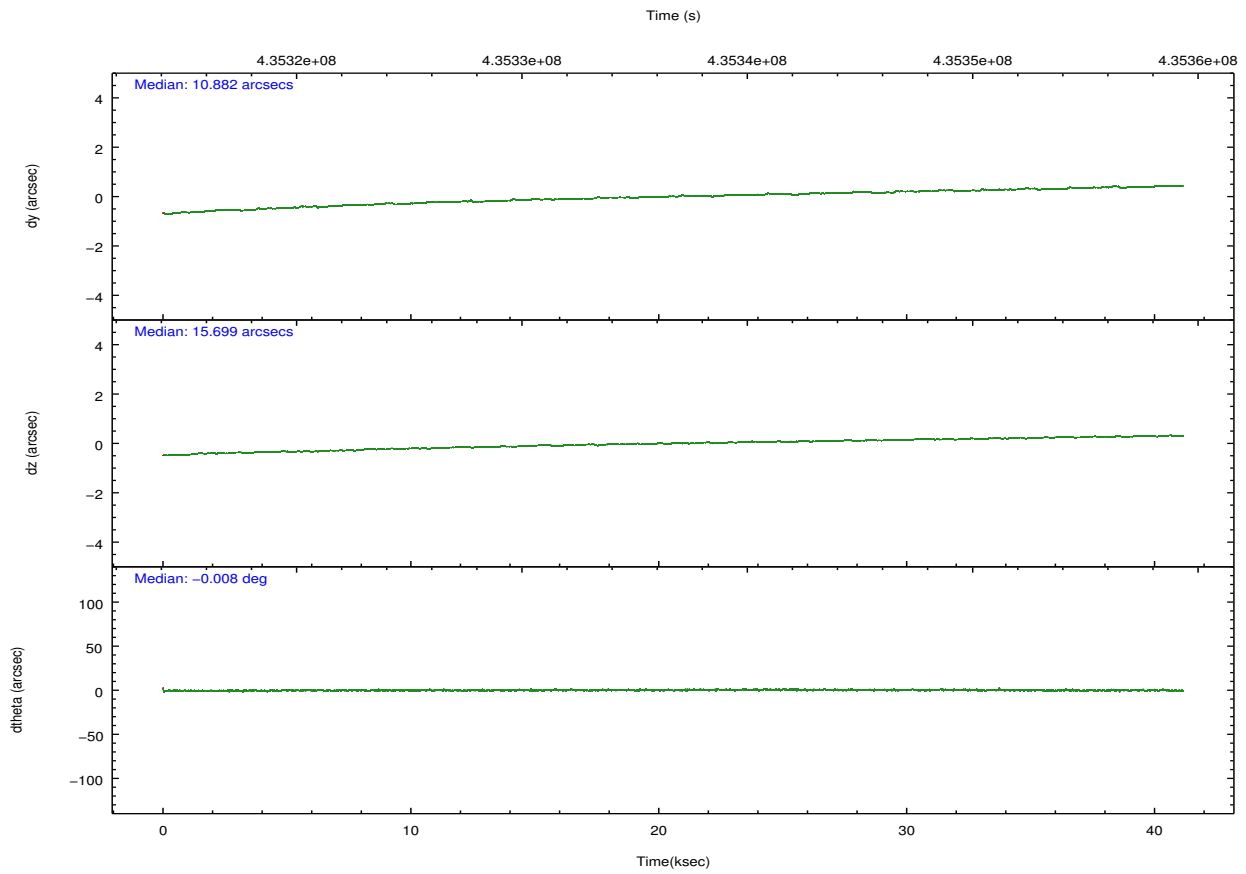
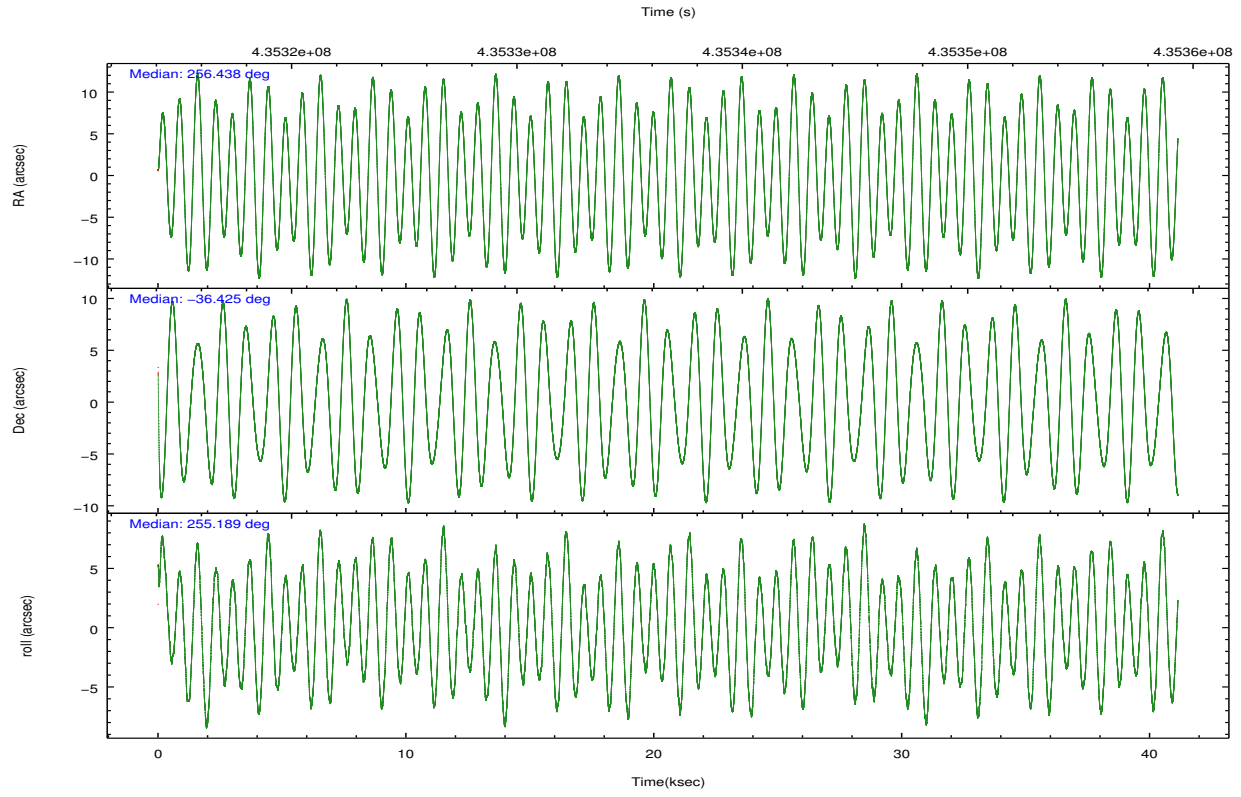
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	396733	816691	1890862	2556444	840027	433690	grade 0 events	5623	96937	861922	413134	256995	22724
rejected events	296576	226573	265224	255246	388016	287337		1%	11%	45%	16%	30%	5%
rejected %	74%	27%	14%	9%	46%	66%	grade 1 events	165	286	3781	6955	870	185
								0%	0%	0%	0%	0%	0%
							grade 2 events	74542	262250	521037	642287	124460	98780
								18%	32%	27%	25%	14%	22%
							grade 3 events	4829	29541	57988	220597	18870	5736
								1%	3%	3%	8%	2%	1%
							grade 4 events	4999	28774	57523	219593	18126	6021
								1%	3%	3%	8%	2%	1%
							grade 5 events	5300	21641	12617	47418	10565	6971
								1%	2%	0%	1%	1%	1%
							grade 6 events	10182	172703	127296	805782	33597	13114
								2%	21%	6%	31%	3%	3%
							grade 7 events	291093	204559	248698	200678	376544	280159
								73%	25%	13%	7%	44%	64%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	CC33_FAINT	CC33_FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	256.428624	256.4379649515959	CCD I2 on	N	N
[deg] Pointing Dec	-36.399018	-36.42531106219532	CCD I3 on	N	N
[deg] Pointing Roll	255.027901	255.1900698587306	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	-178.832523	-178.8382187693597	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-11.3	-11.29430381364813	CCD S4 on	Y	Y
[s] Observation start time (MET)	435316274.184000	435314628.94372	CCD S5 on	Y	Y
Observation start date	2011-10-18T09:10:08	2011-10-18T08:43:48	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	435357274.184000	435357612.32098	On-chip summing requested	N	N
Observation end date	2011-10-18T20:33:28	2011-10-18T20:40:12	Subarray requested	NONE	NONE
Read mode	CONTINUOUS	CONTINUOUS	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0

## 2.3 Aspect



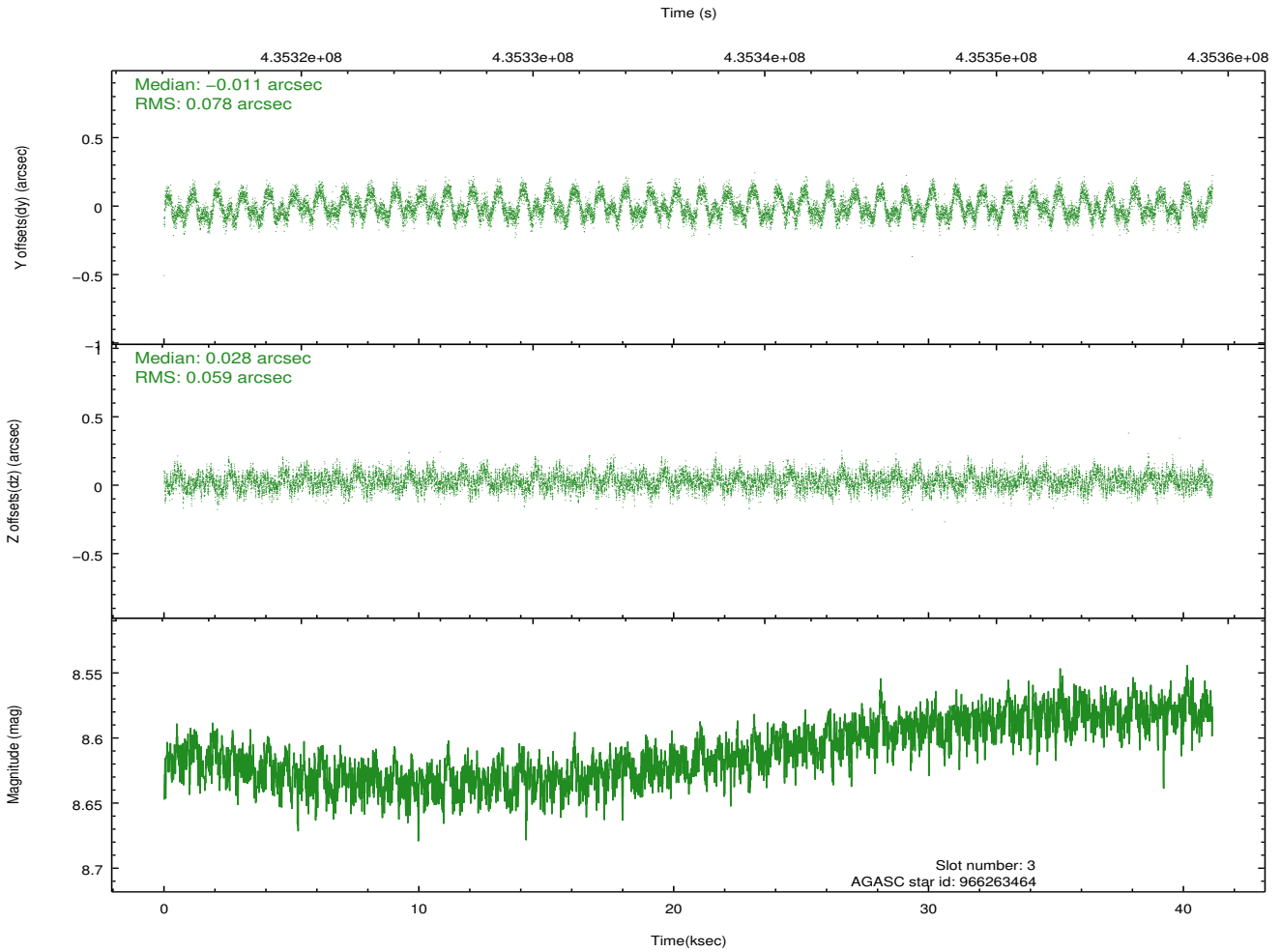
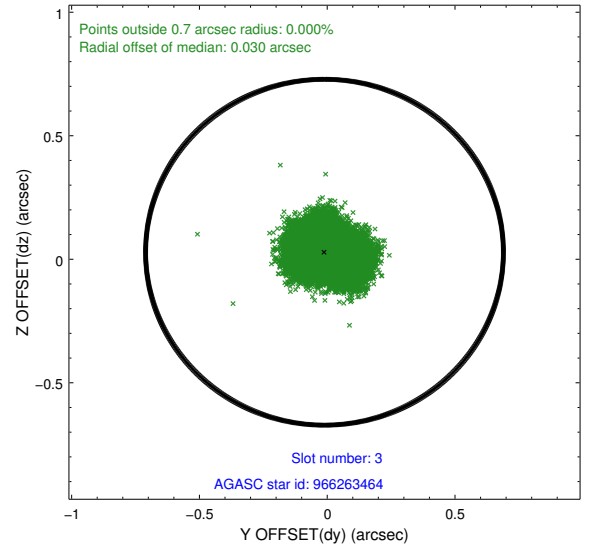
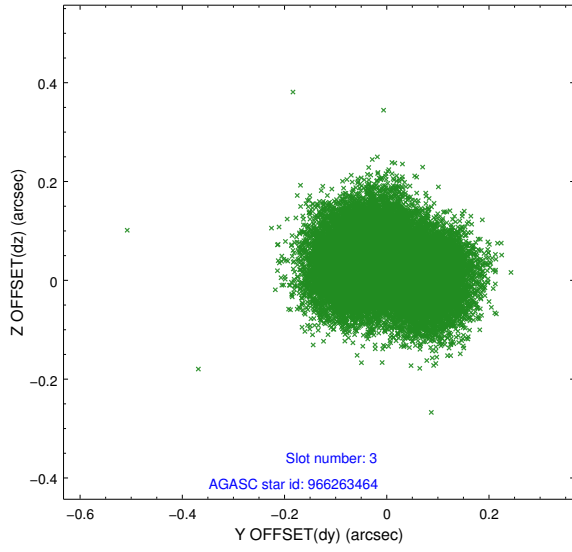


### Slot Statistics

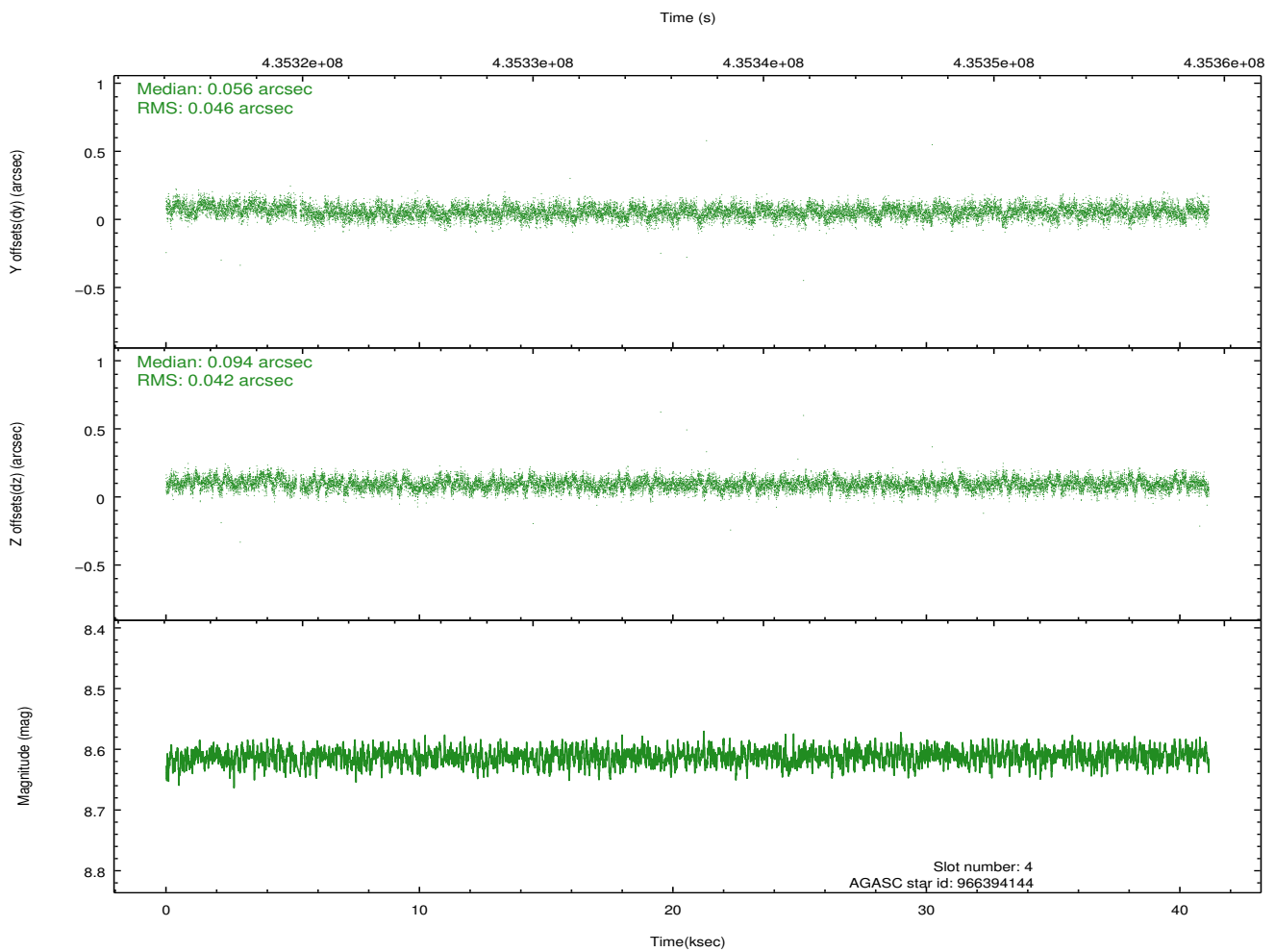
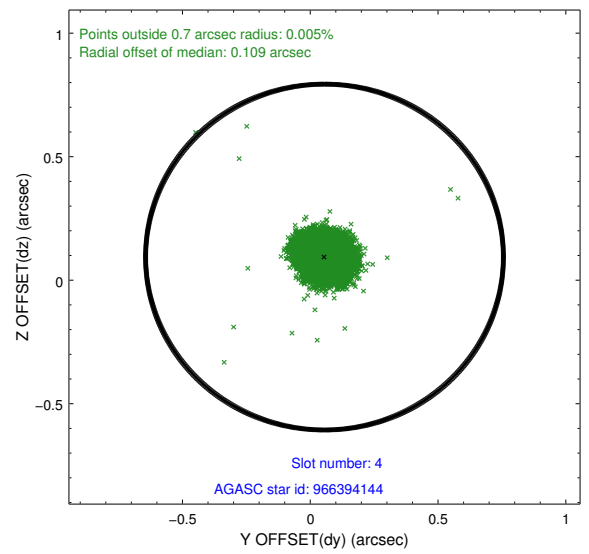
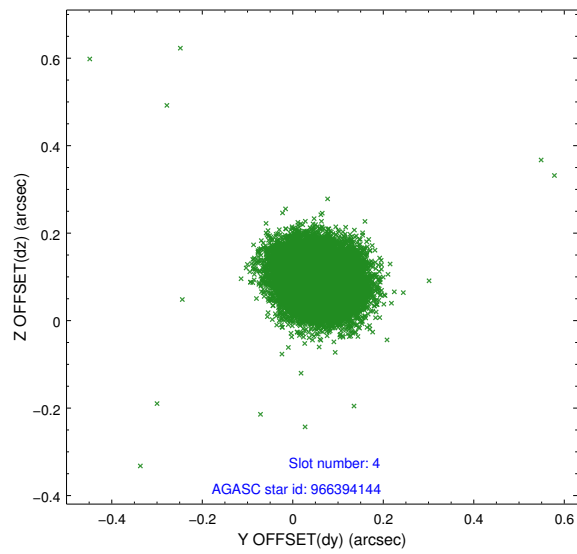
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.96	10034	0.024	0.098	0.010	0.018	0.000000	0.000000	933.30	-1965.06
1	FID	ACIS-S-2	6.86	10034	-0.290	-0.208	0.007	0.012	0.000000	0.000000	-762.91	-1970.04
2	FID	ACIS-S-4	6.93	10034	0.240	0.114	0.007	0.012	0.000000	0.000000	2150.65	-60.88
3	GUIDE	966263464	8.61	20059	-0.011	0.028	0.108	0.161	256.403645	-35.929342	-1614.55	-507.06
4	GUIDE	966394144	8.61	19992	0.056	0.094	0.066	0.106	256.902901	-37.062041	1957.63	1933.68
5	GUIDE	966395984	9.21	20053	0.027	0.102	0.093	0.151	256.535204	-35.907673	-1788.73	-156.43
6	GUIDE	966396120	7.82	20064	0.002	-0.125	0.067	0.107	256.737004	-36.720258	888.77	1158.94
7	GUIDE	966398520	8.30	20062	-0.086	-0.095	0.078	0.123	256.842646	-35.892866	-2069.31	696.82

## 2.4 Star Slots

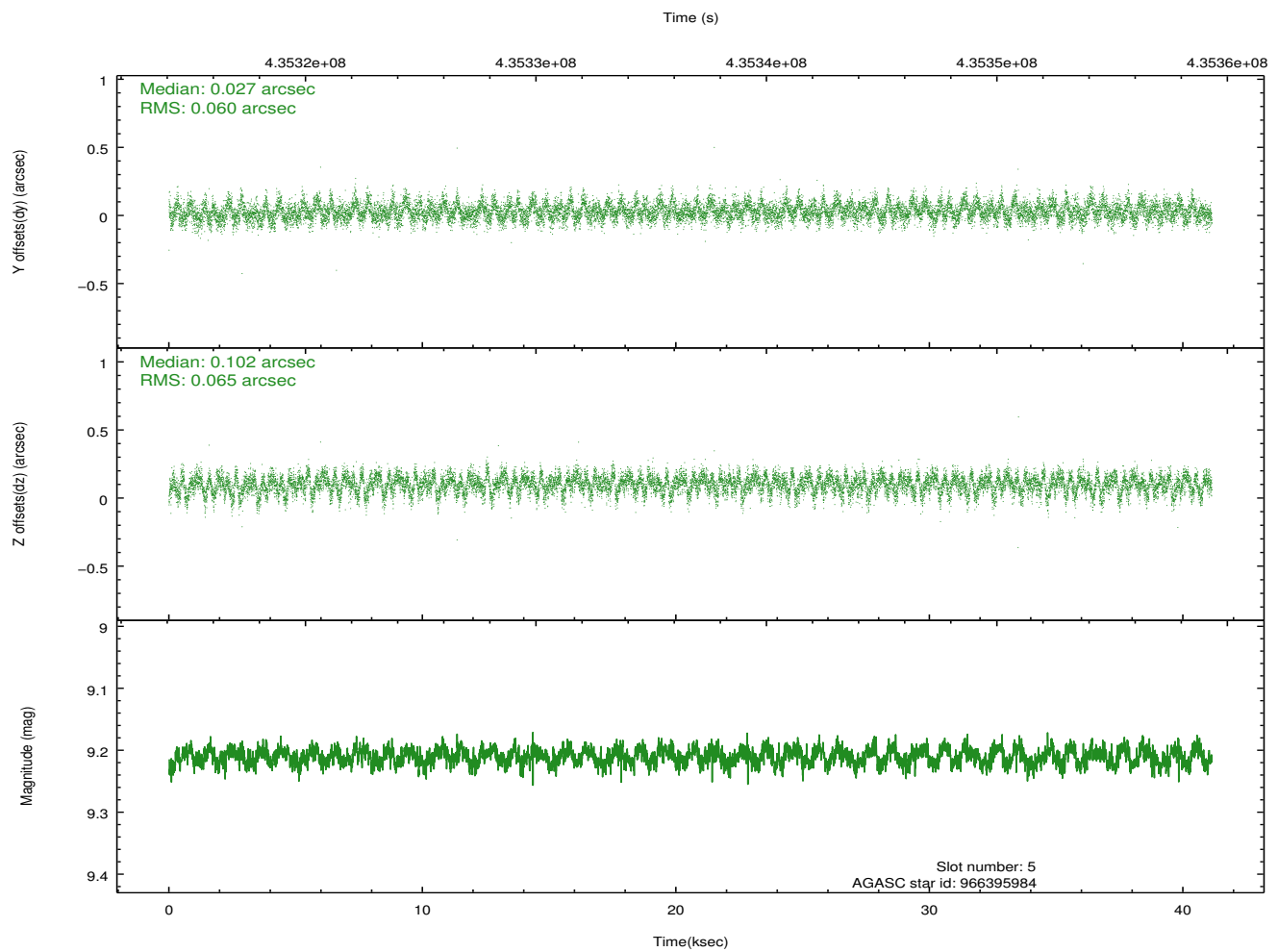
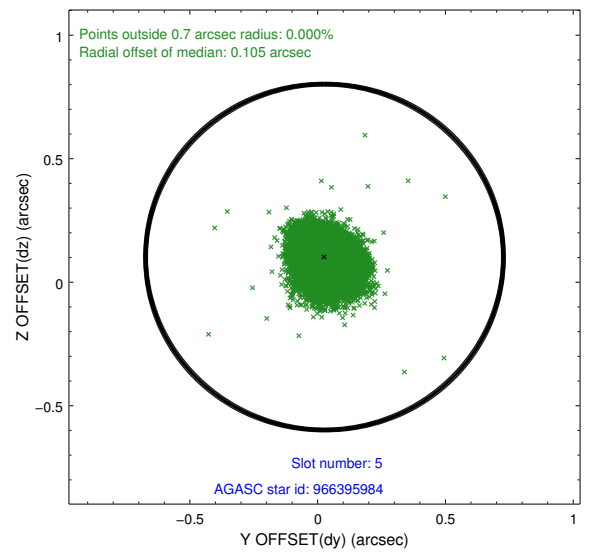
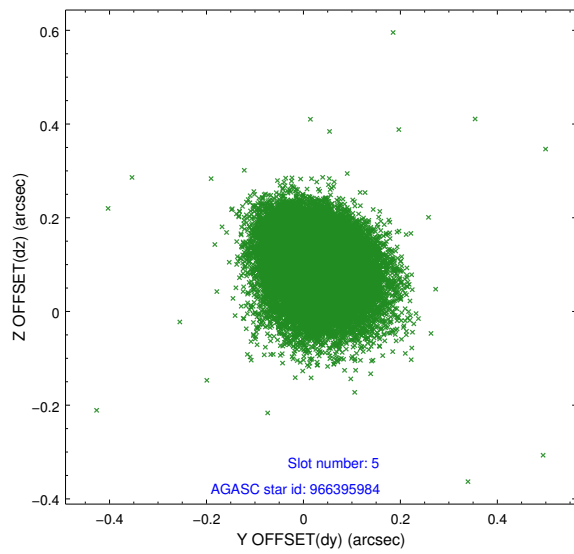
### 2.4.1 Slot 3



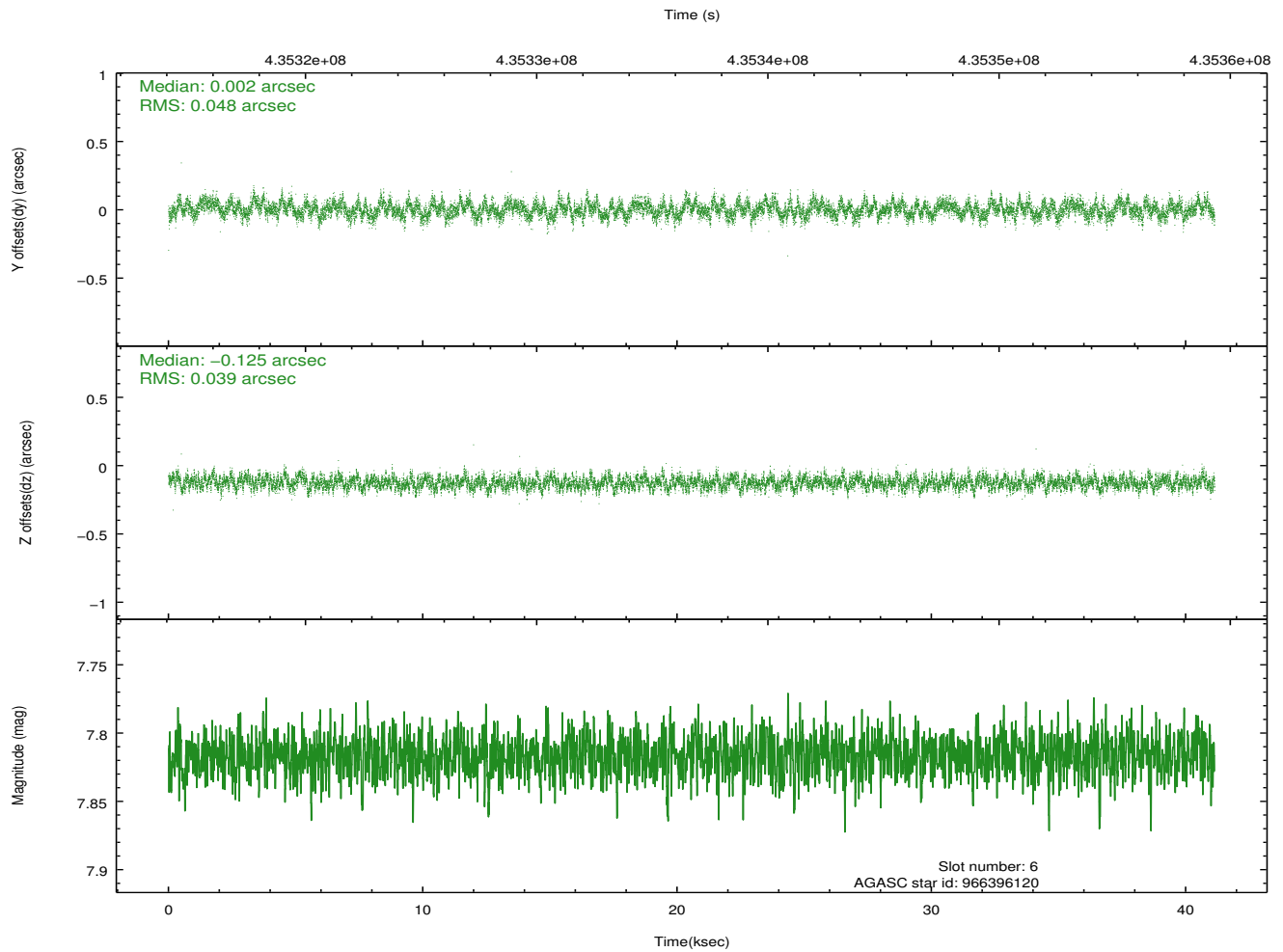
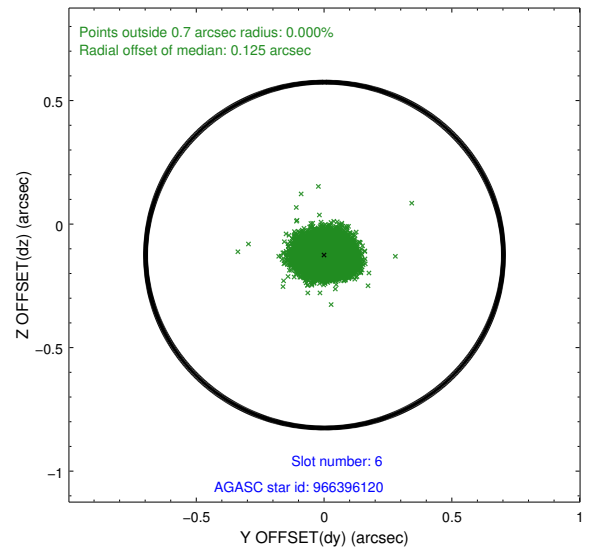
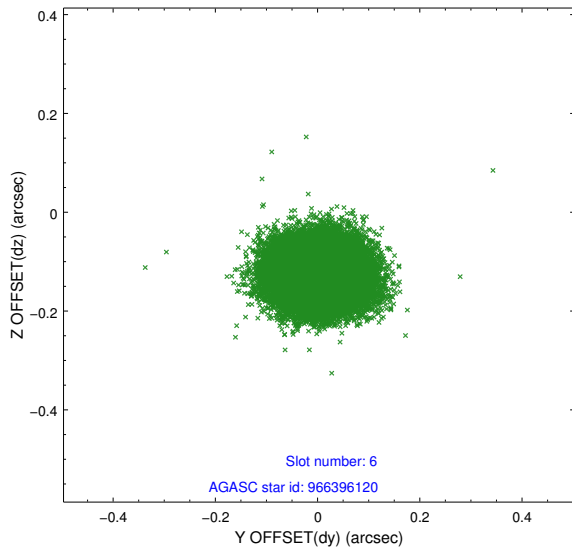
## 2.4.2 Slot 4



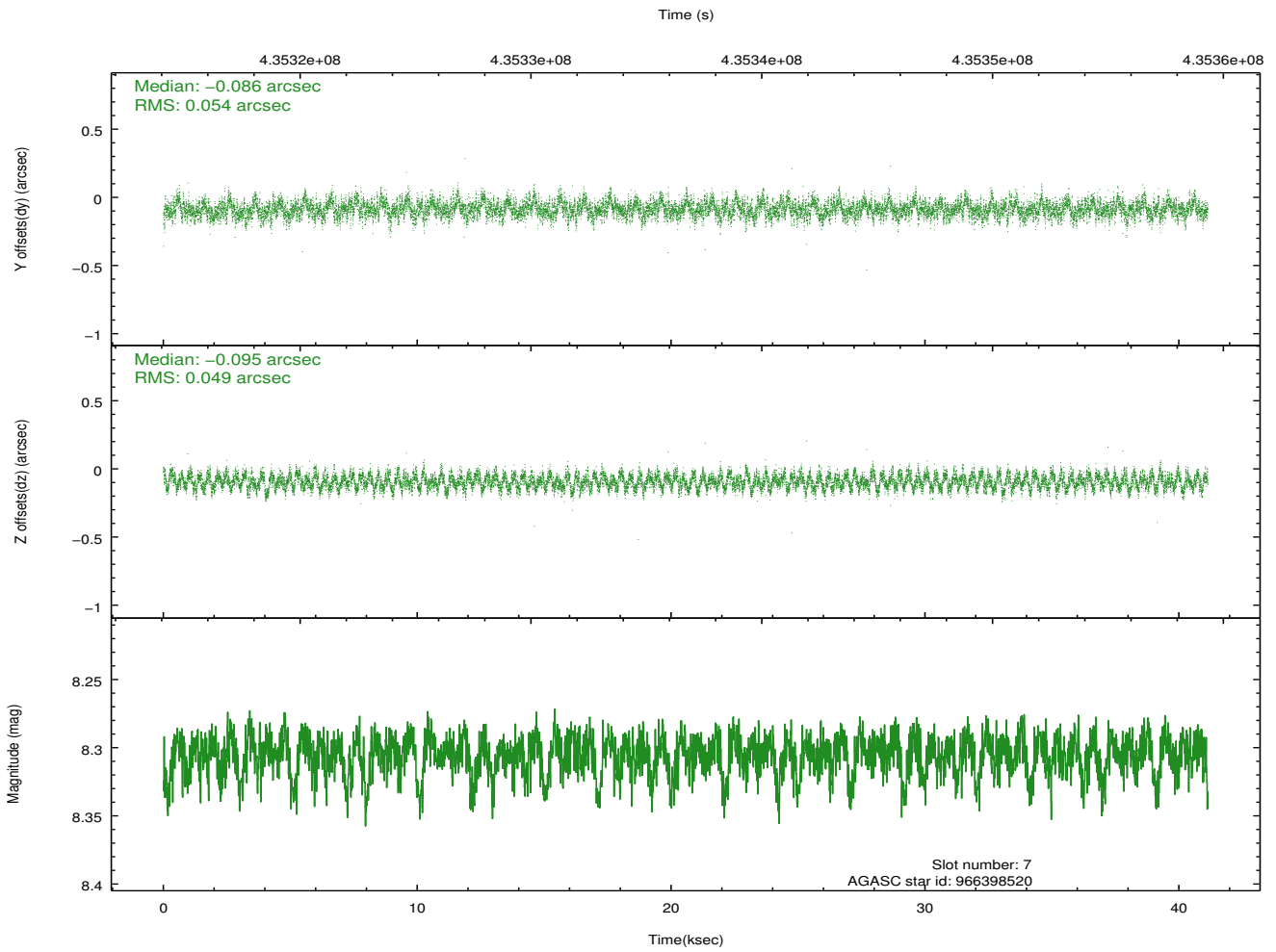
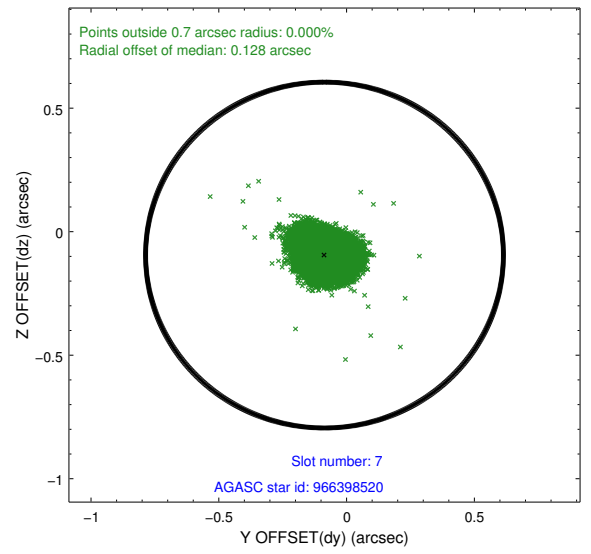
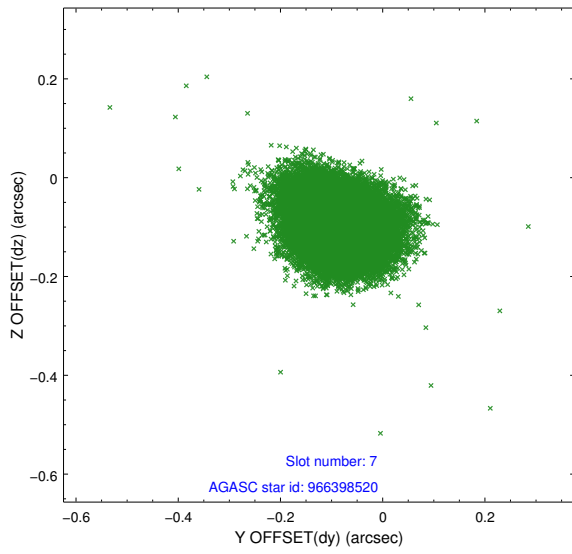
### 2.4.3 Slot 5



## 2.4.4 Slot 6

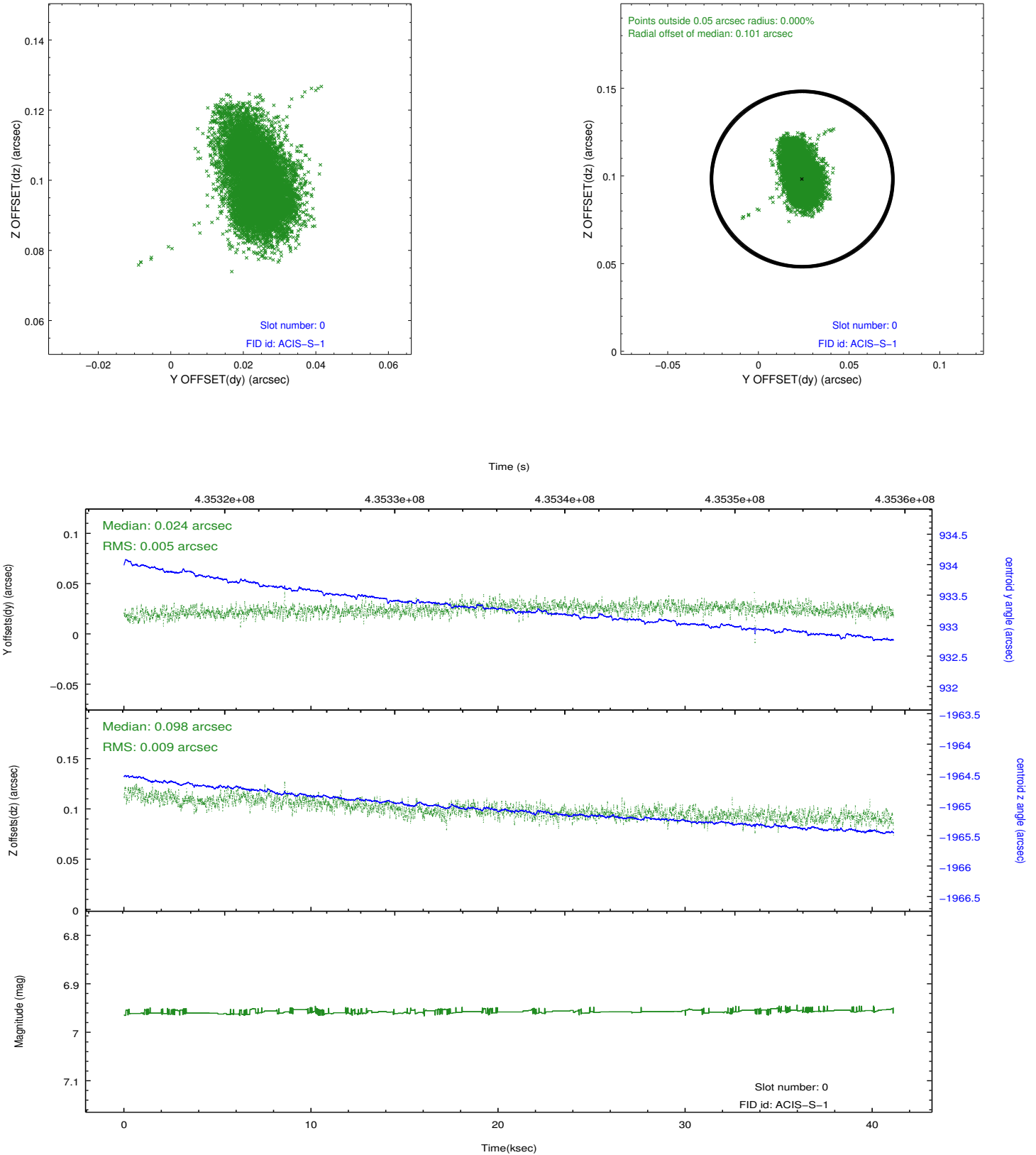


## 2.4.5 Slot 7

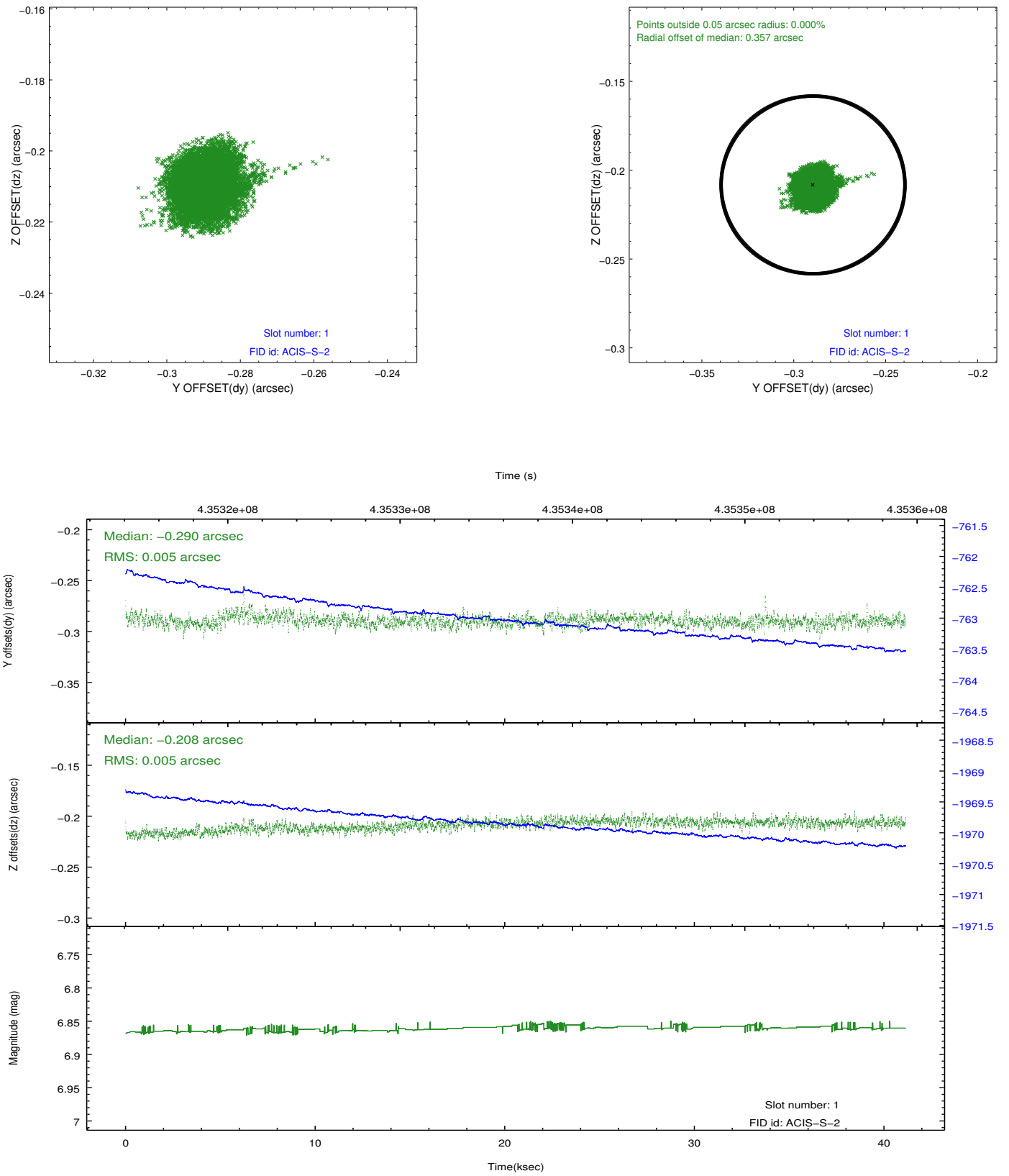


## 2.5 FID Slots

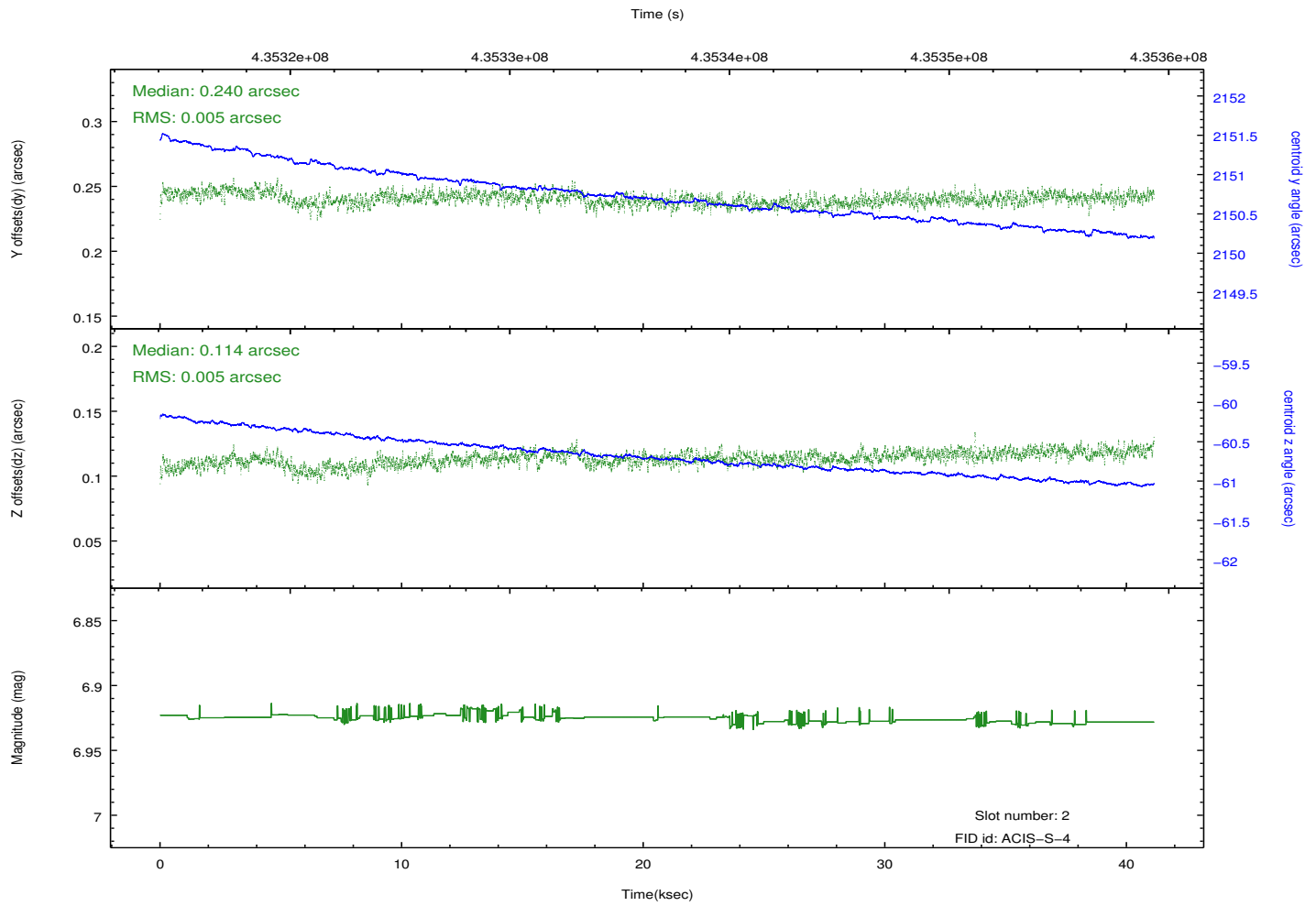
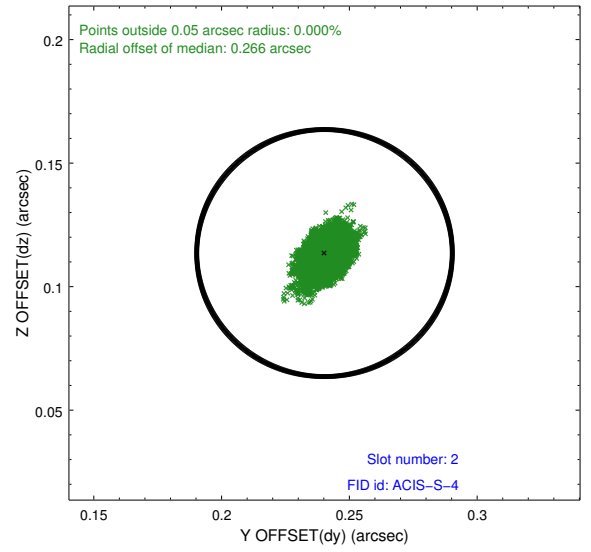
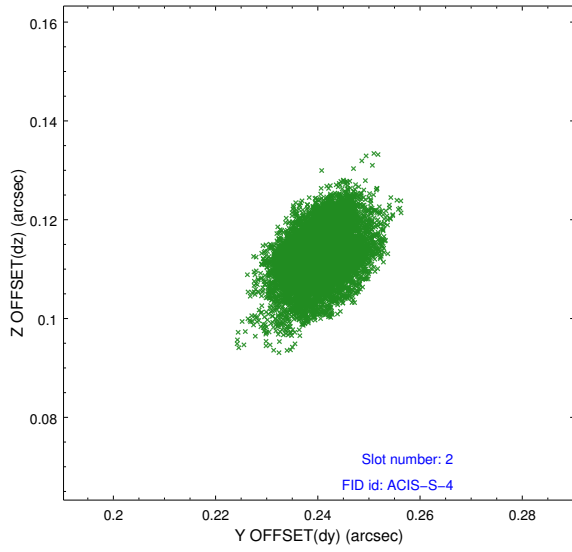
### 2.5.1 Slot 0



## 2.5.2 Slot 1

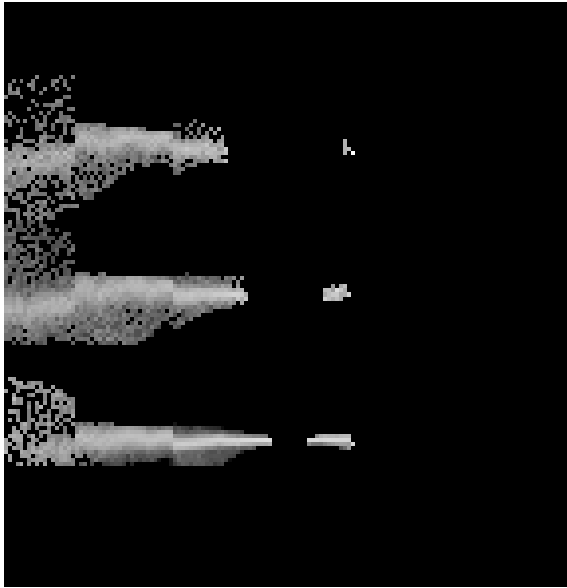


### 2.5.3 Slot 2

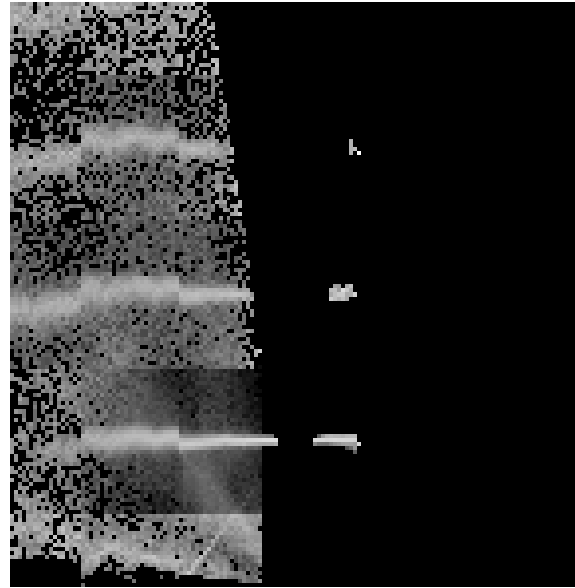


# 3 Gratings

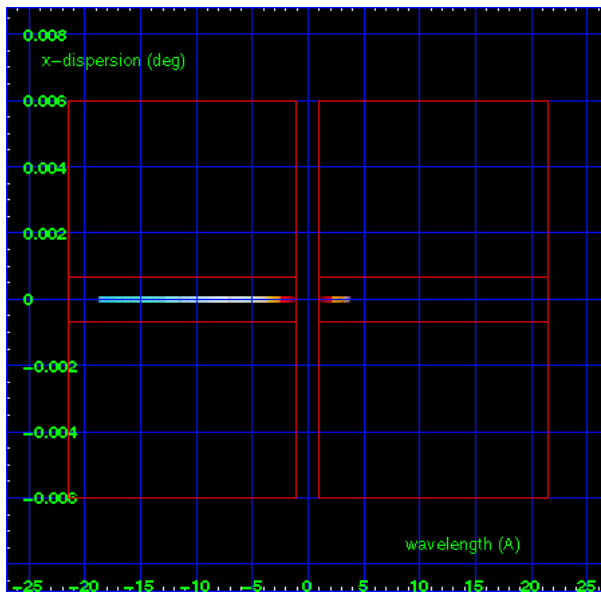
## 3.1 HEG Arm



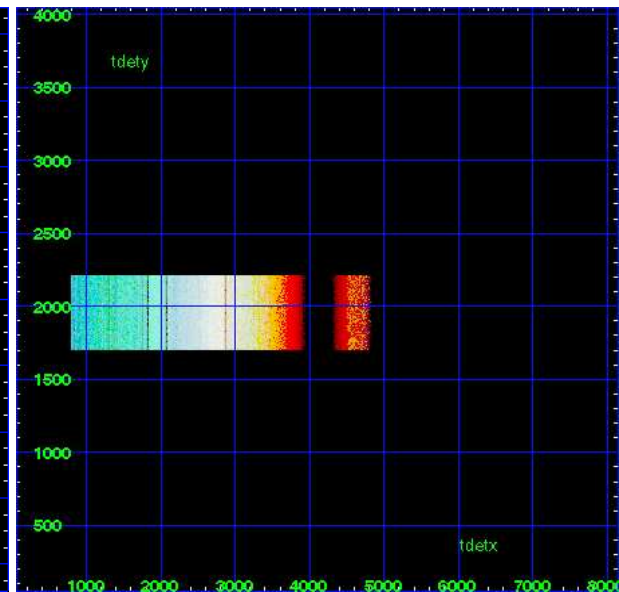
HEG Order Sort 123



HEG Order Sort ALL

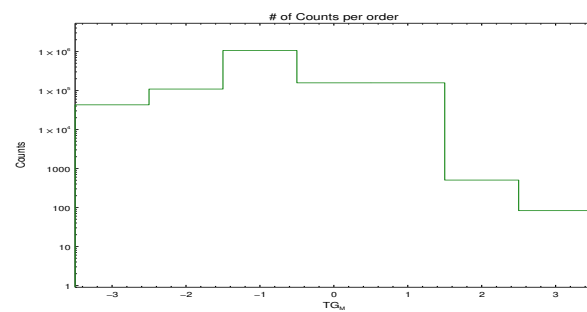


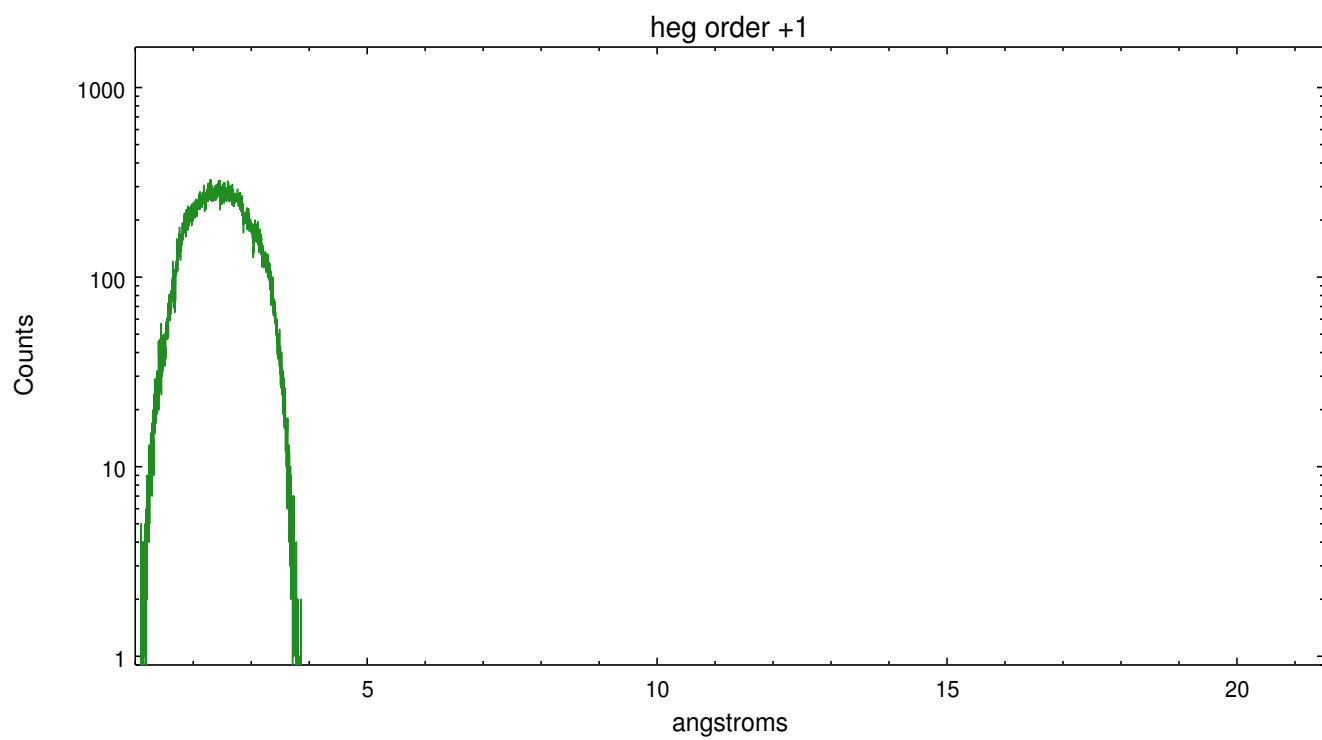
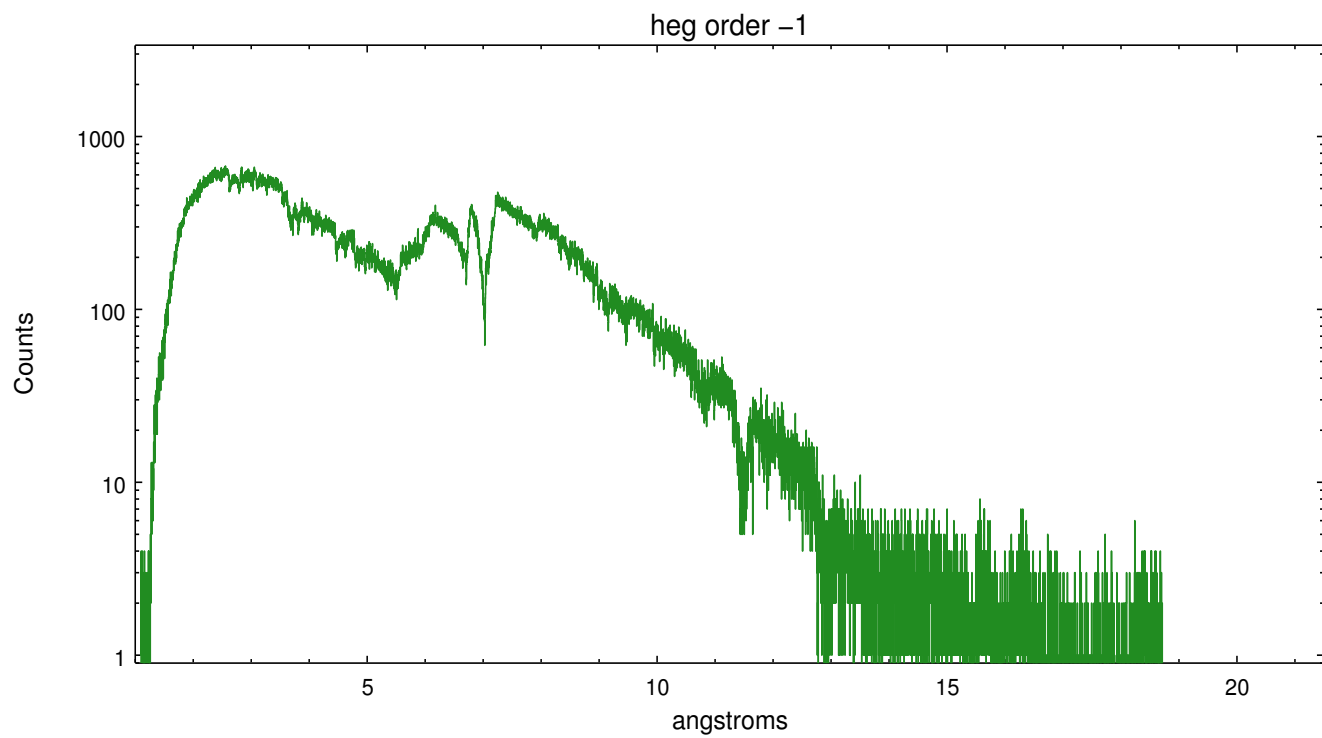
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	42893	108800	1060319	157102	157170	504	83

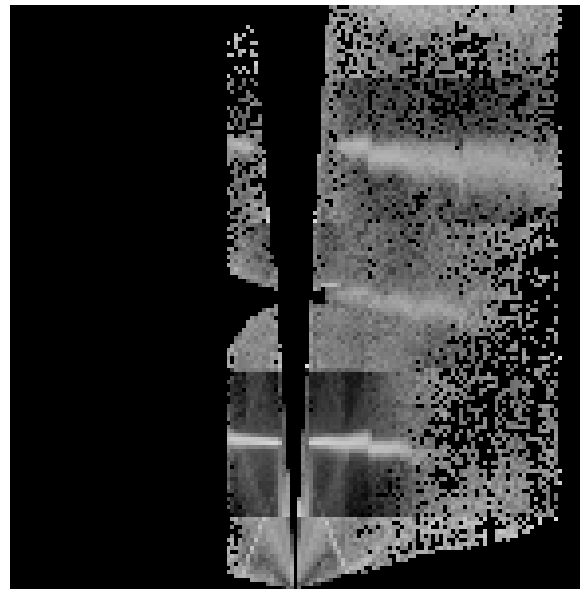




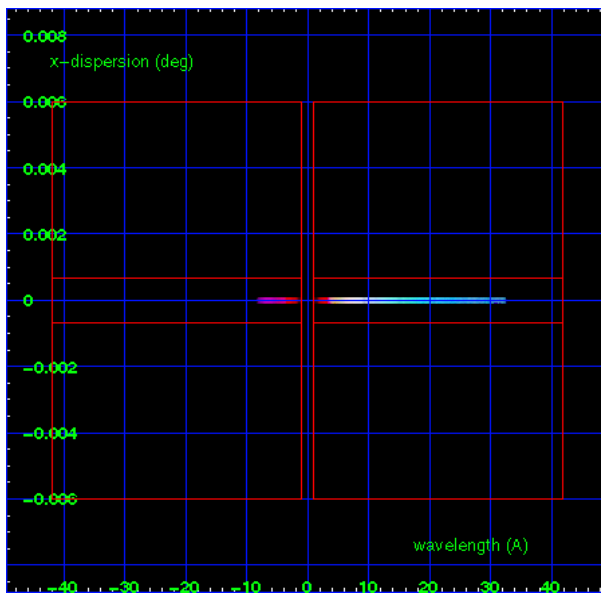
### 3.2 MEG Arm



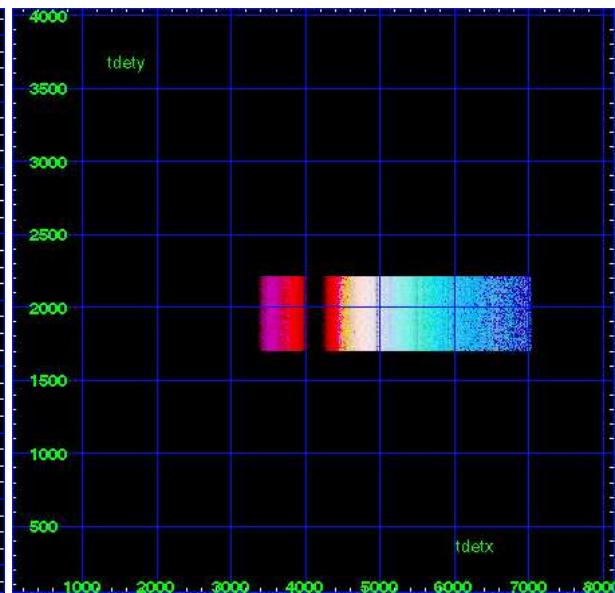
MEG Order Sort 123



MEG Order Sort ALL

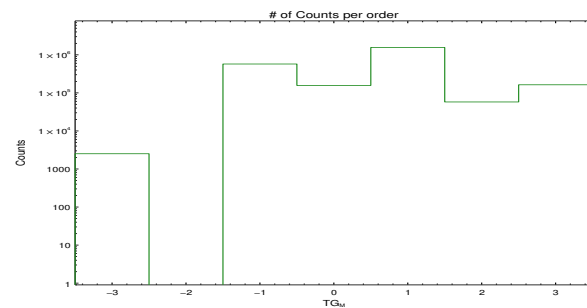


Spot Image MEG

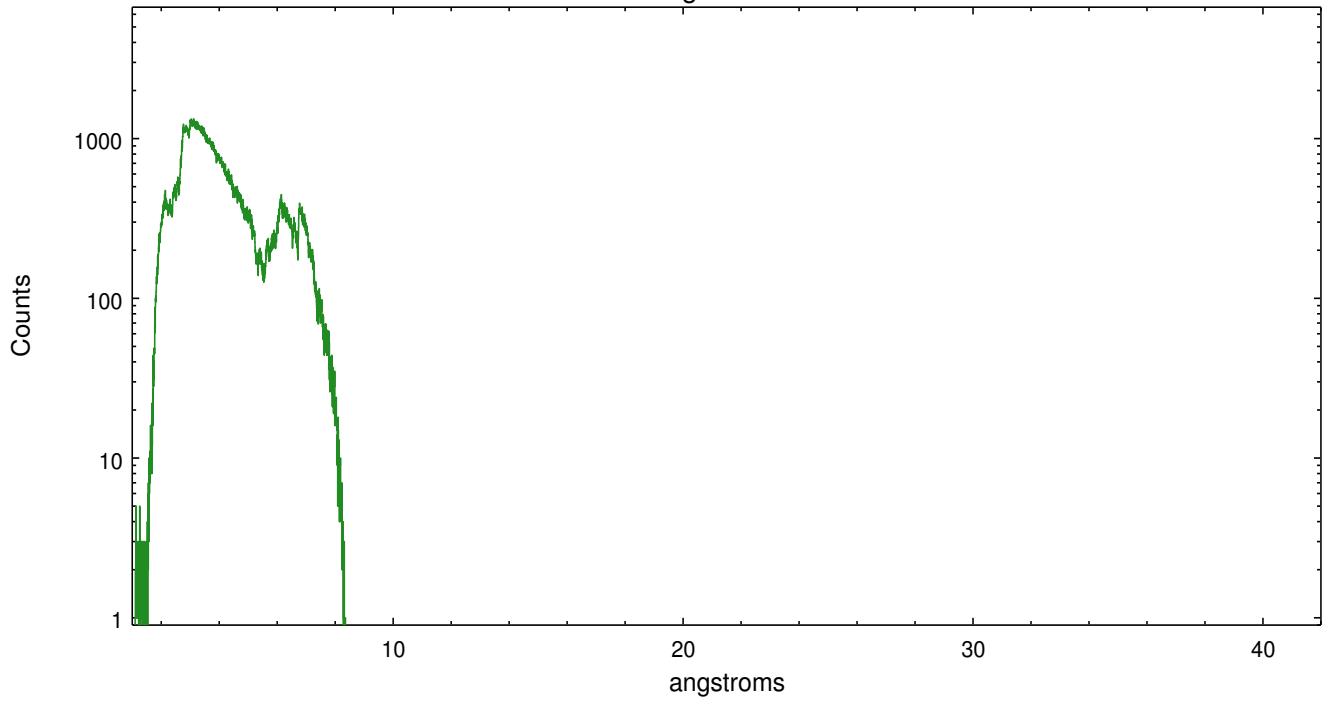


Full Detector MEG

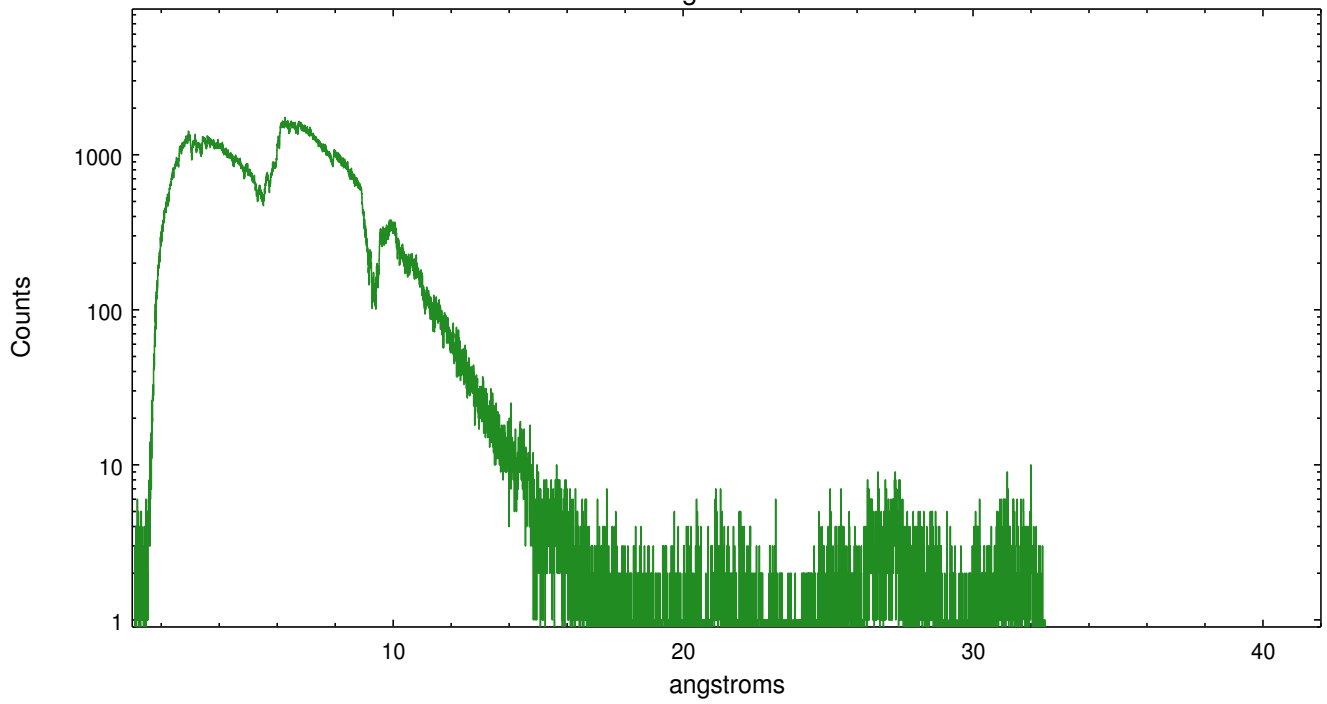
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2518	0	574109	157102	1560222	57771	163347



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.03.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	41.074

## A.2 Comments

Variation in exposure time per chip is due to telemetry saturation by the high flux. The duration is as-requested.

For ACIS/CC-mode w/ HETG observations with a SIM-Z offset, MEG negative and HEG positive orders will be missing (off the array), and remove some of the ambiguity.