

# V&V Reference Report

## L2 ASCDS Version : 7.6.10

Observation 2700 - L2 Version 001  
Chandra X-Ray Center

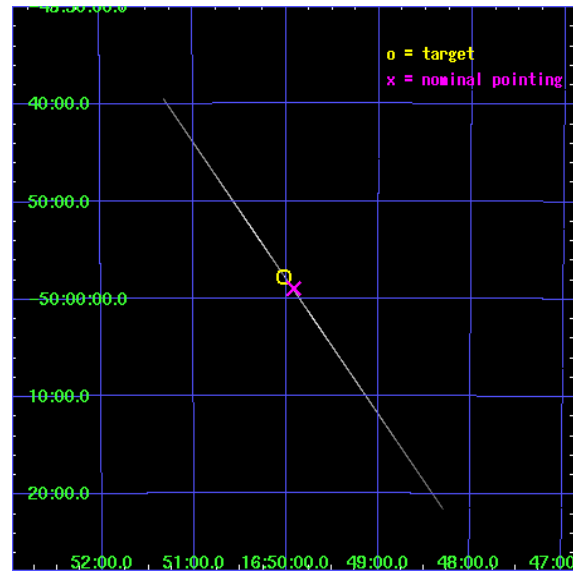
L2 Processing Date : Jan 13 2007

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# 1 Front

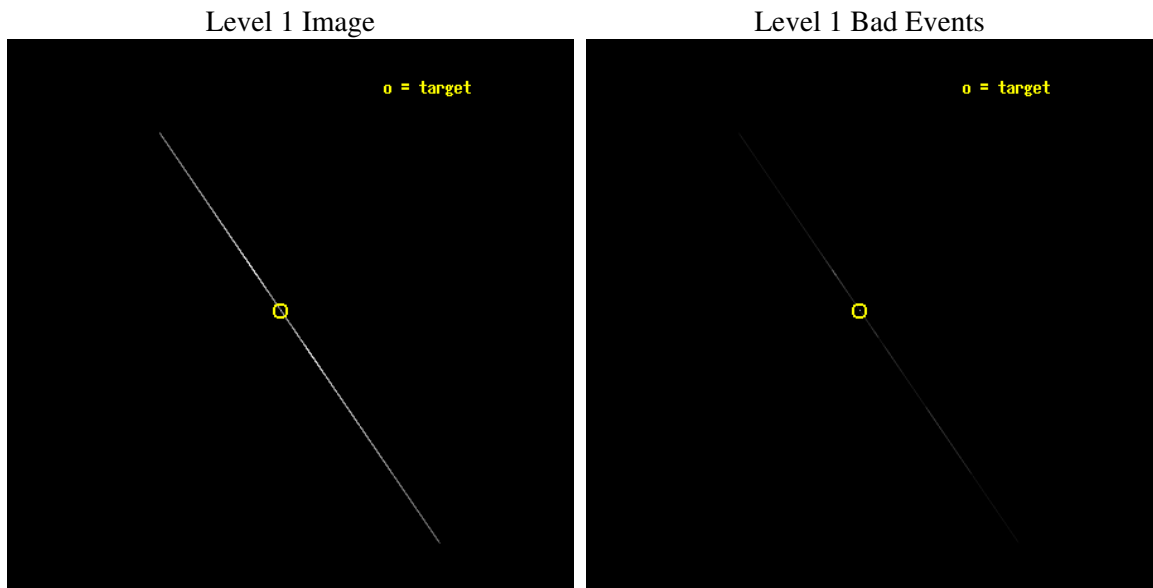
seq_num	400180
obs_id	2700
title	RESOLVING GALACTIC BLACK HOLE ACCRETION GEOMETRY WITH CHANDRA
observer	Prof. Walter Lewin
object	XTE J1650-500
ra_targ	252.504167
dec_targ	-49.9625
ra_nom	252.47865403083
dec_nom	-49.983056795169
roll_nom	235.28155380897
revision	3
ontime	28612.501184314
livetime	28500.733601563
ontime4	28666.5
ontime5	28666.5
ontime6	20850.432094902
ontime7	28612.501184314
ontime8	23316.477104872
ontime9	28646.080386534
l2events	9610986



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0
ascdsver	7.6.10
caldbver	3.3.0
date	2007-01-13T12:03:20
revision	3

sched_exp_time	29000.000000
ontime	28612.501184314
ontime4	28666.5
ontime5	28666.5
ontime6	20850.432094902
ontime7	28612.501184314
ontime8	23316.477104872
ontime9	28646.080386534
l1events	10493128

### 2.1.3 Events

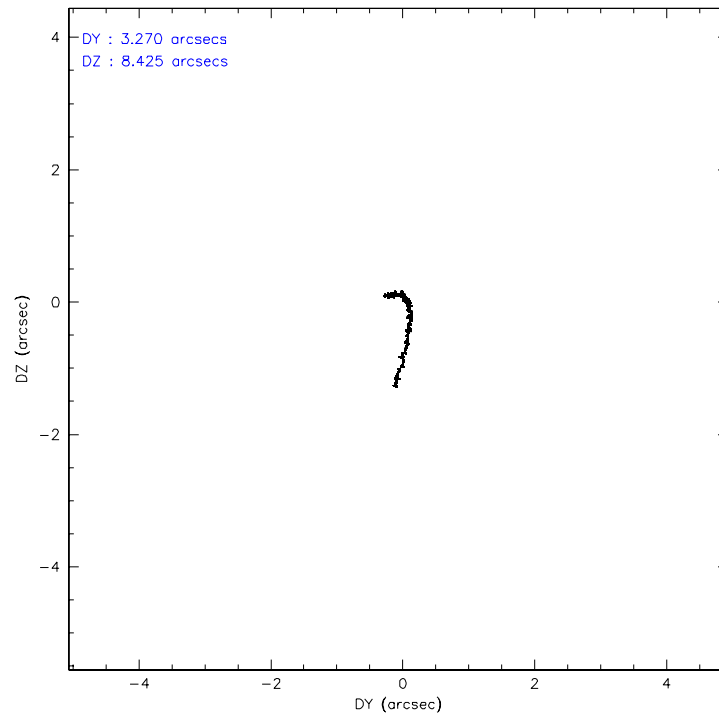
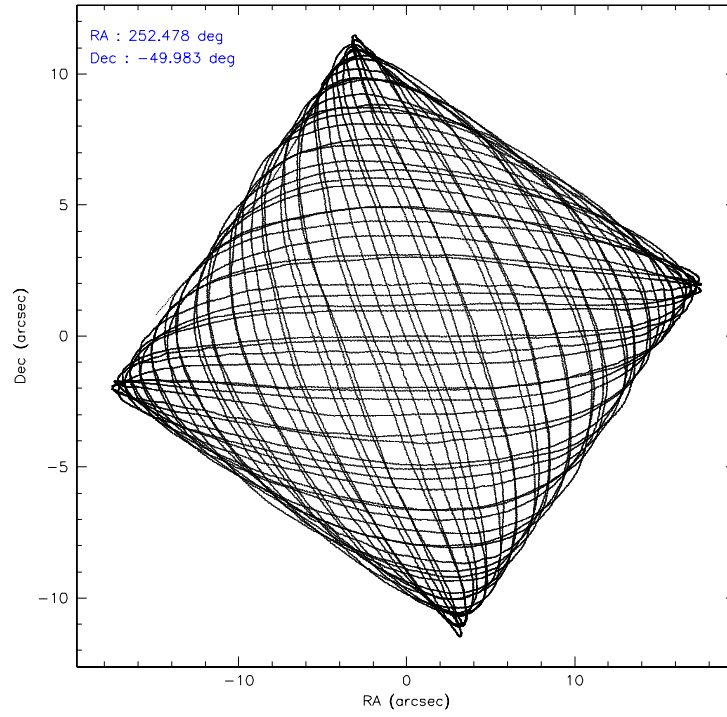
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	325447	1106736	3204722	2188504	3026103	641616
rejected events	7178	29220	17343	77381	19394	9190
rejected %	2%	2%	0%	3%	0%	1%

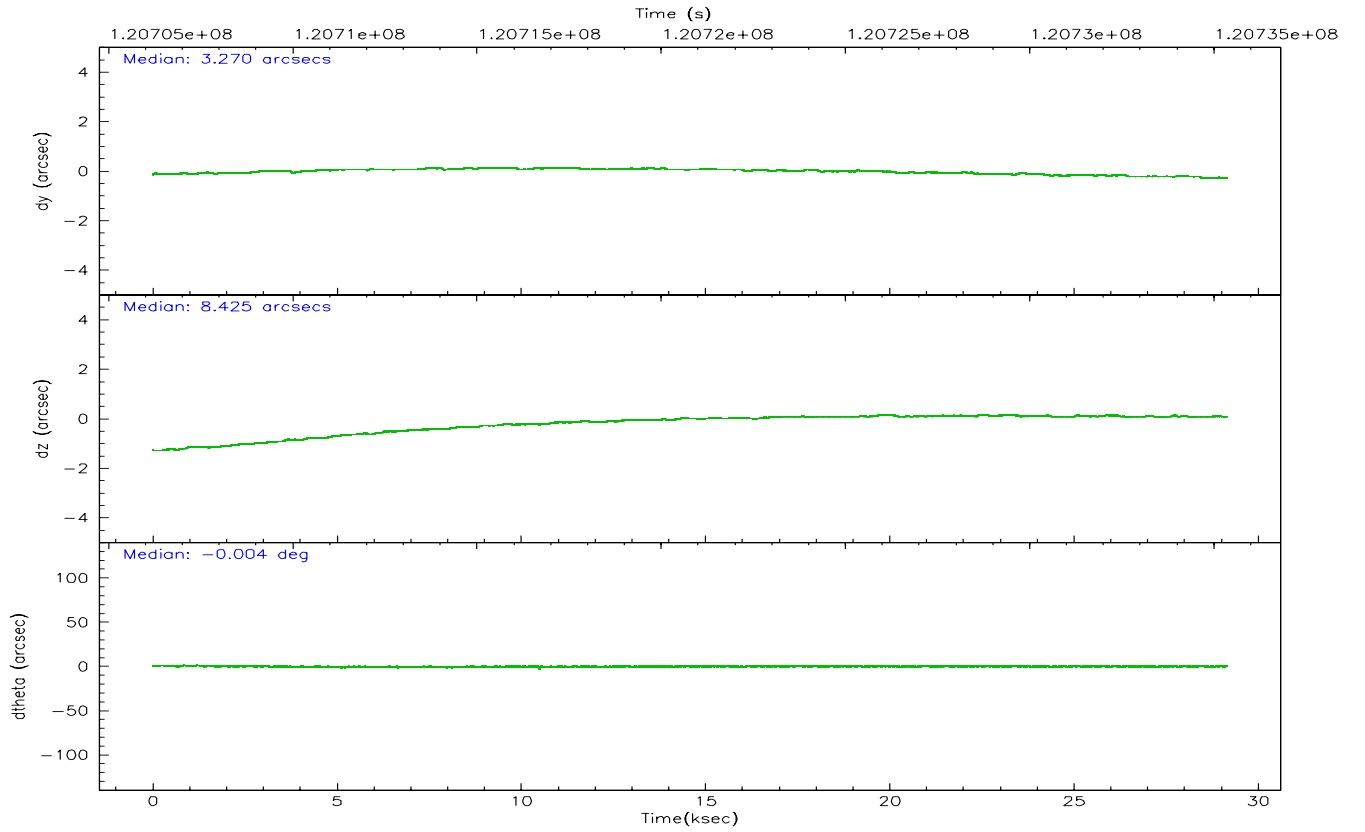
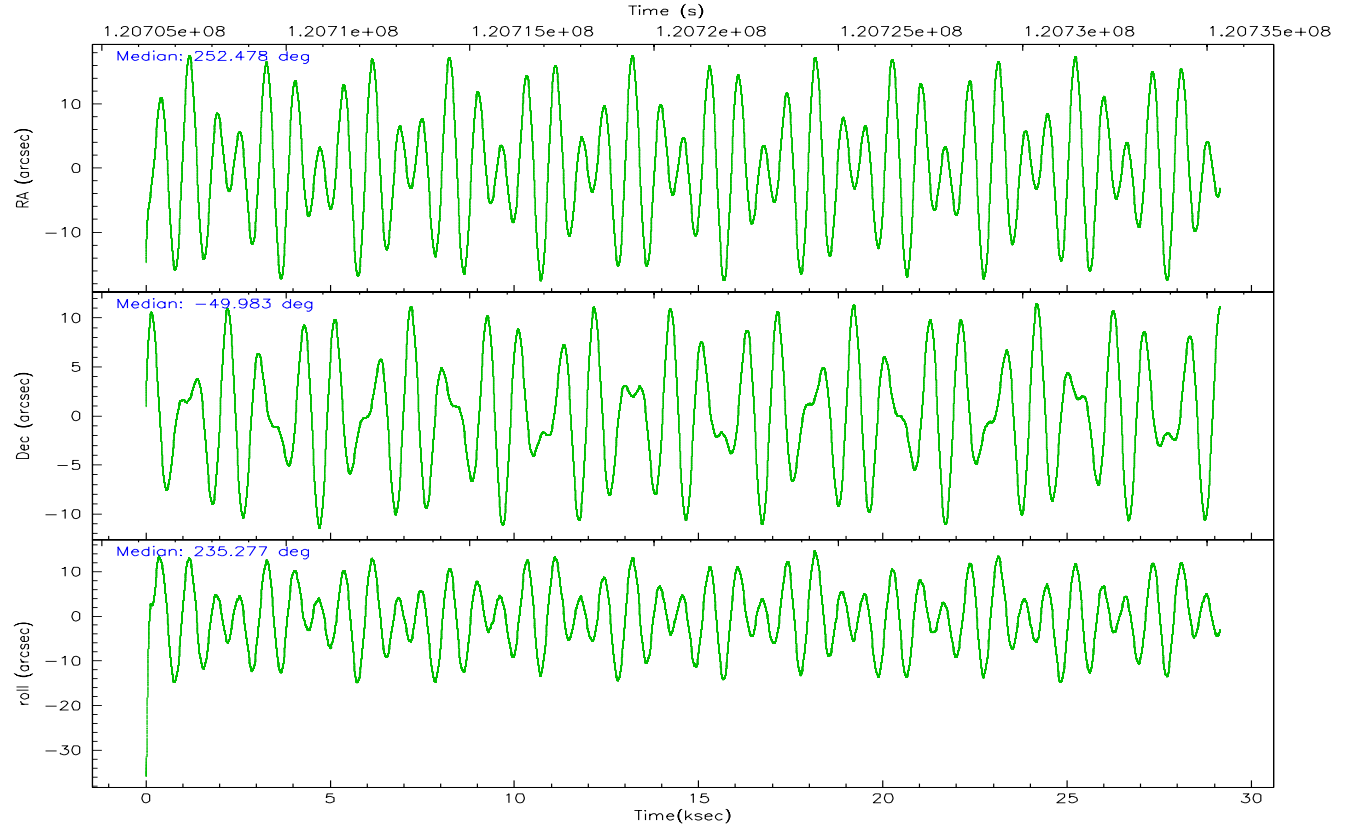
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	6086	110656	19210	221477	55905	19661
	1%	9%	0%	10%	1%	3%
grade 1 events	102	238	120	6033	270	136
	0%	0%	0%	0%	0%	0%
grade 2 events	281790	582430	2940578	774684	2737048	562860
	86%	52%	91%	35%	90%	87%
grade 3 events	4600	32686	3594	125900	12802	4657
	1%	2%	0%	5%	0%	0%
grade 4 events	4652	32451	3521	122856	12276	4834
	1%	2%	0%	5%	0%	0%
grade 5 events	7048	28777	16856	71186	19124	8988
	2%	2%	0%	3%	0%	1%
grade 6 events	21169	319498	220843	866368	188678	40480
	6%	28%	6%	39%	6%	6%
grade 7 events	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	CC33_GRADED	CC33_GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	252.481663	252.4786540308257	Subarray requested	NONE	NONE
Pointing Dec	-49.955874	-49.98305679516911	Alternating exposures requested	N	N
Pointing Roll	235.127243	235.281553808967	Primary exposure time	0.000000	0
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-194.132523	-194.1227414875429			
SIM translation stage offset (mm)	4	3.990218904535112			
Observation start time	120706364.184000	120705107.1909			
Observation start date	2001-10-29T01:31:40	2001-10-29T01:11:47			
Observation end time	120735364.184000	120736186.72964			
Observation end date	2001-10-29T09:35:00	2001-10-29T09:49:46			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect





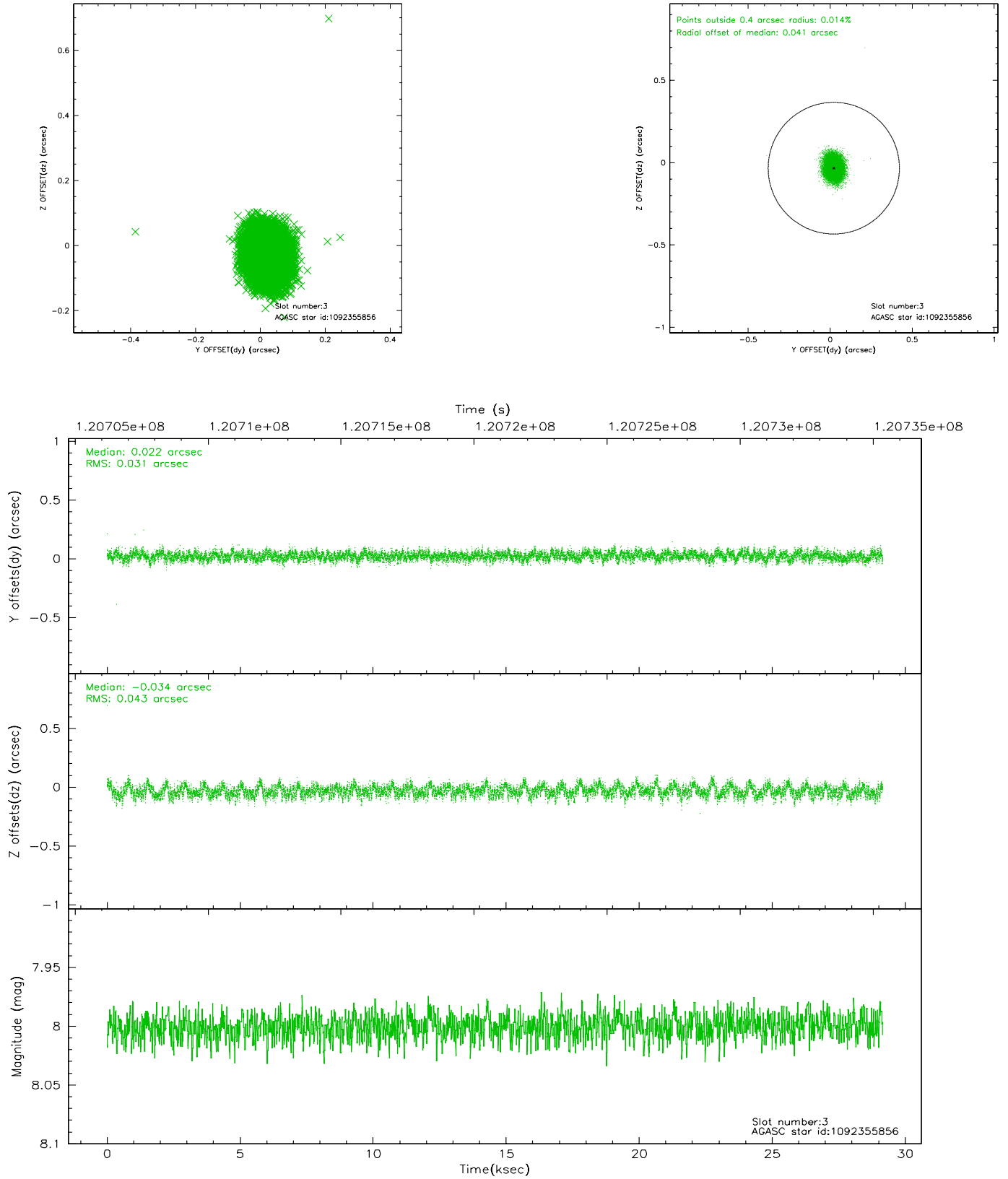
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	7110	-0.012	0.056	0.008	0.013	0.000000	0.000000	-756.16	-1647.26
1	FID	ACIS-S-4	7.20	7111	-0.022	-0.009	0.013	0.021	0.000000	0.000000	2157.06	261.11
2	FID	ACIS-S-5	7.24	7111	0.003	-0.038	0.010	0.017	0.000000	0.000000	-1808.89	254.82
3	GUIDE	1092355856	8.00	14222	0.022	-0.034	0.056	0.090	252.380362	-50.402230	1450.81	728.56
4	GUIDE	1092357952	8.63	14222	-0.091	0.004	0.071	0.115	252.624295	-49.307047	-2107.90	-1060.44
5	GUIDE	1092487776	8.60	14220	-0.005	-0.039	0.082	0.129	253.418062	-50.236939	-392.43	2355.38
6	GUIDE	1092887464	9.13	14219	0.112	0.146	0.074	0.120	252.580430	-50.702145	2074.97	1721.79
7	GUIDE	1092355456	9.91	14138	-0.031	-0.076	0.134	0.224	252.219249	-49.433813	-1190.10	-1577.70

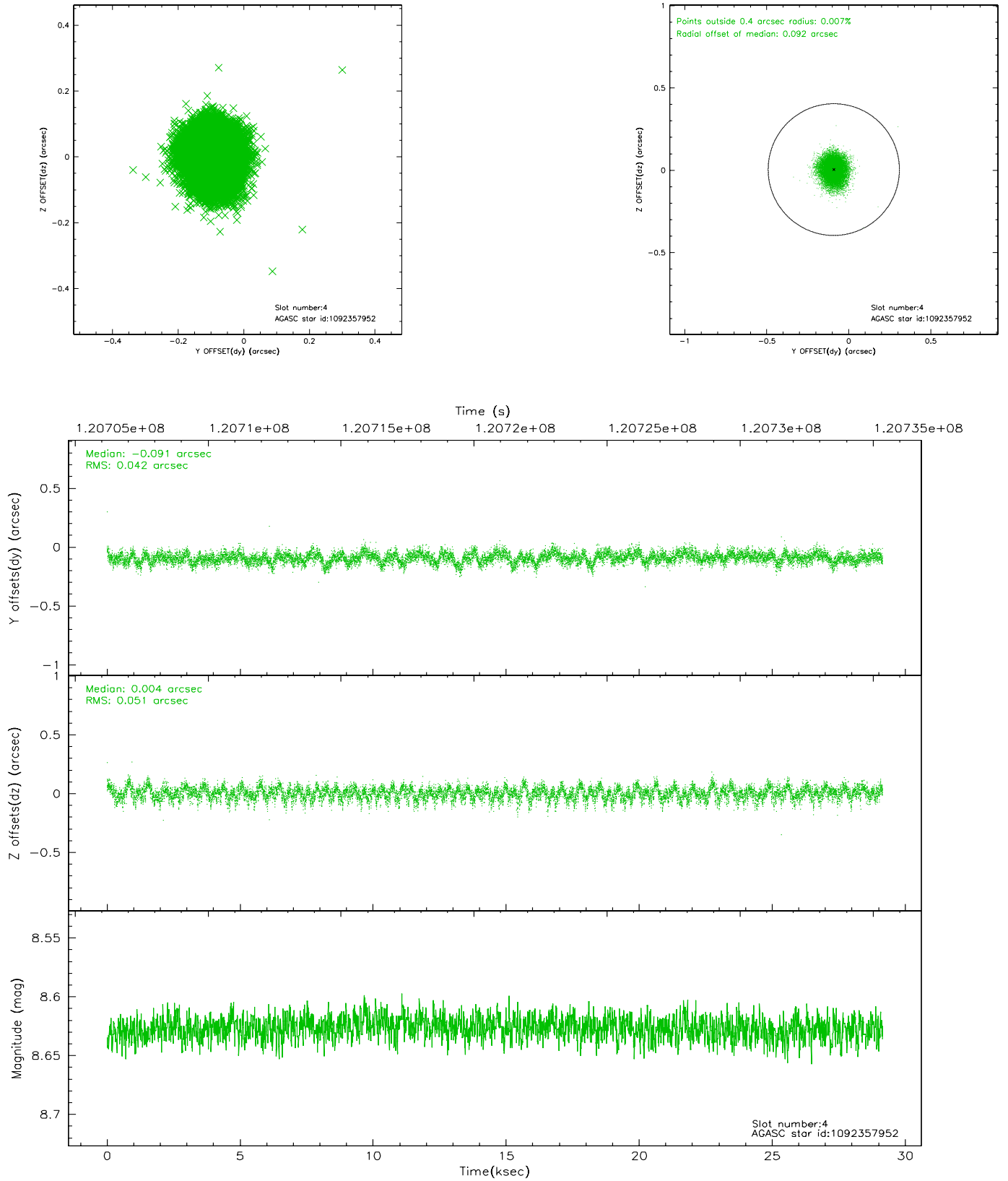


## 2.4 Star Slots

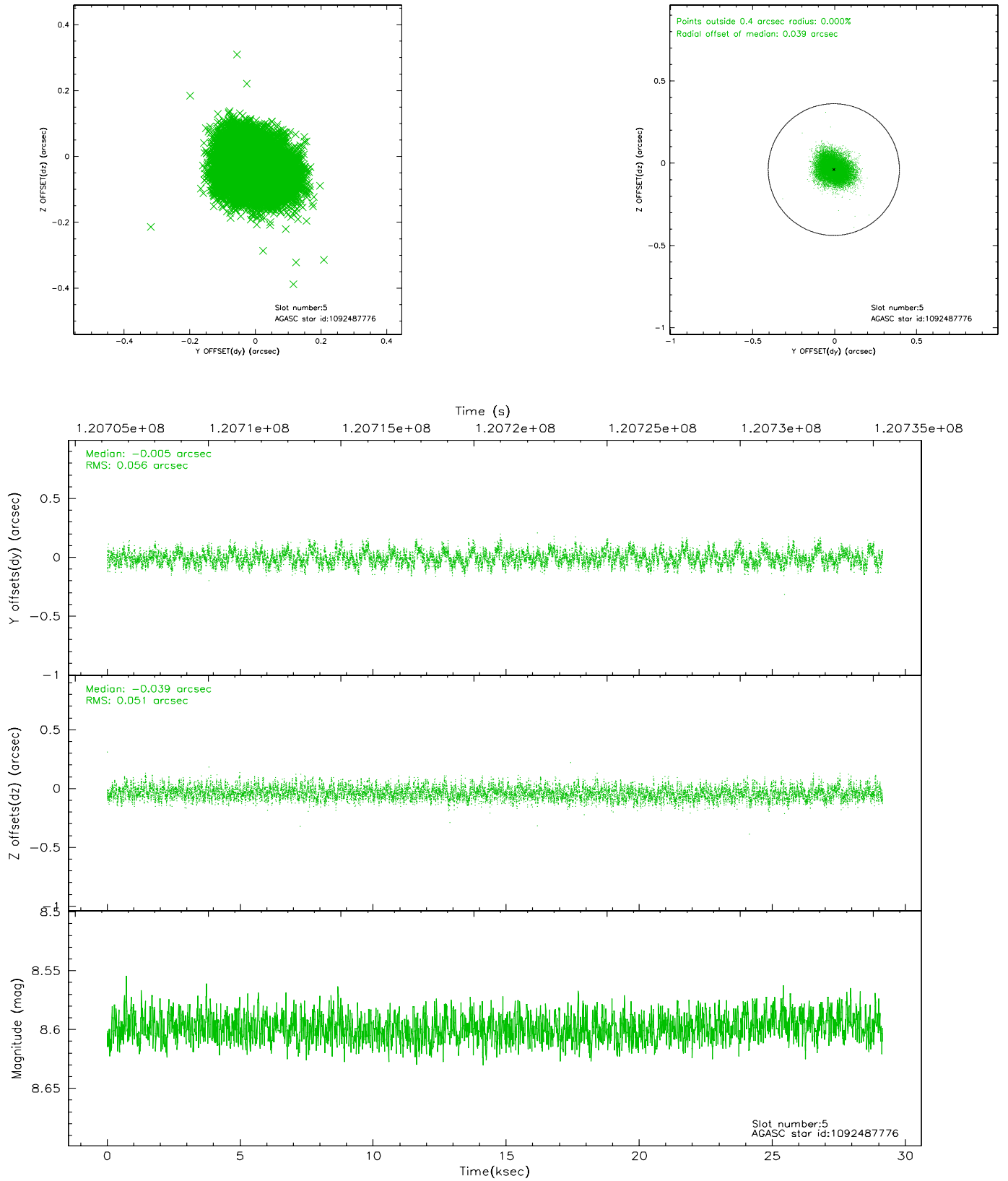
### 2.4.1 Slot 3



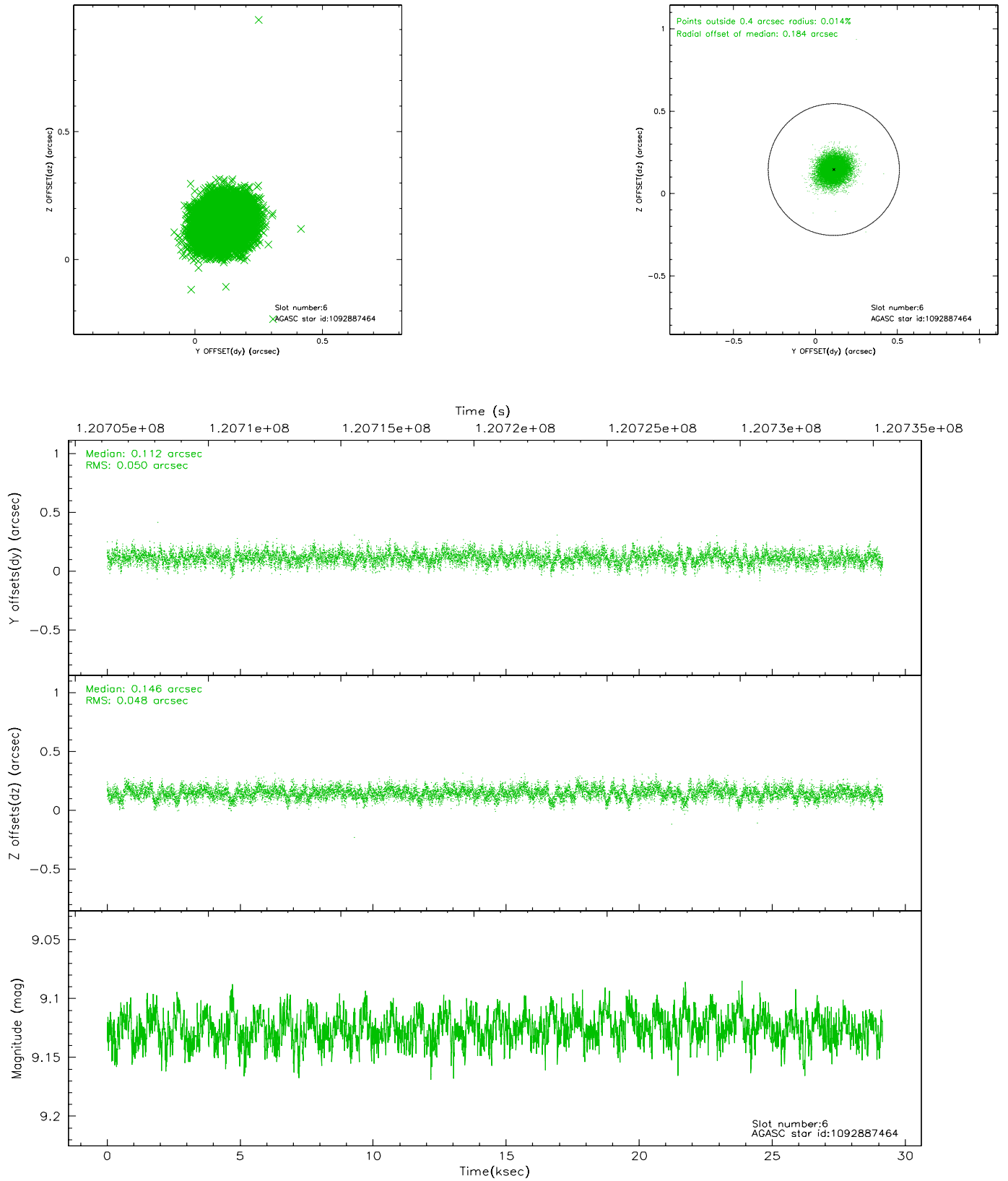
## 2.4.2 Slot 4



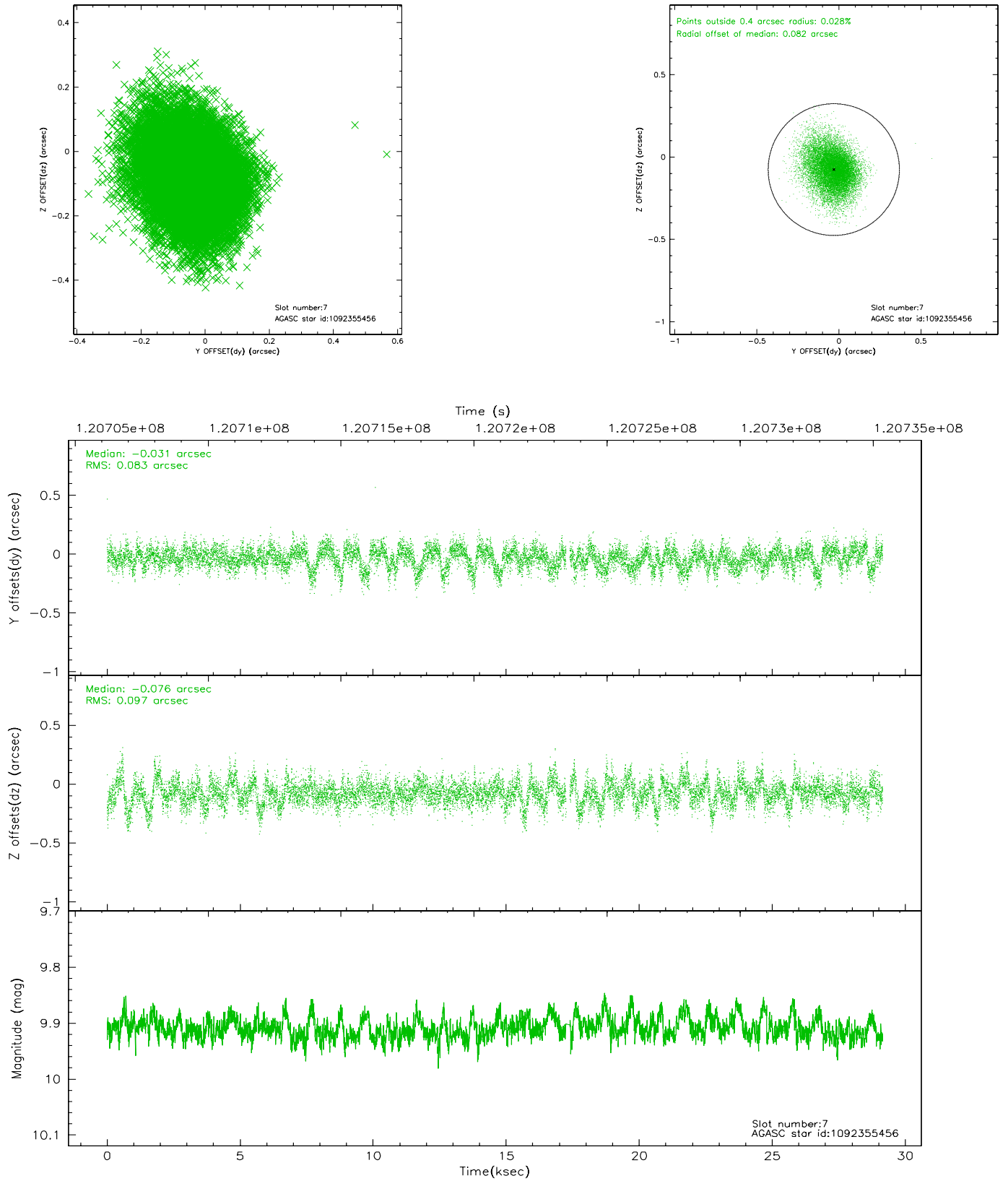
### 2.4.3 Slot 5



## 2.4.4 Slot 6

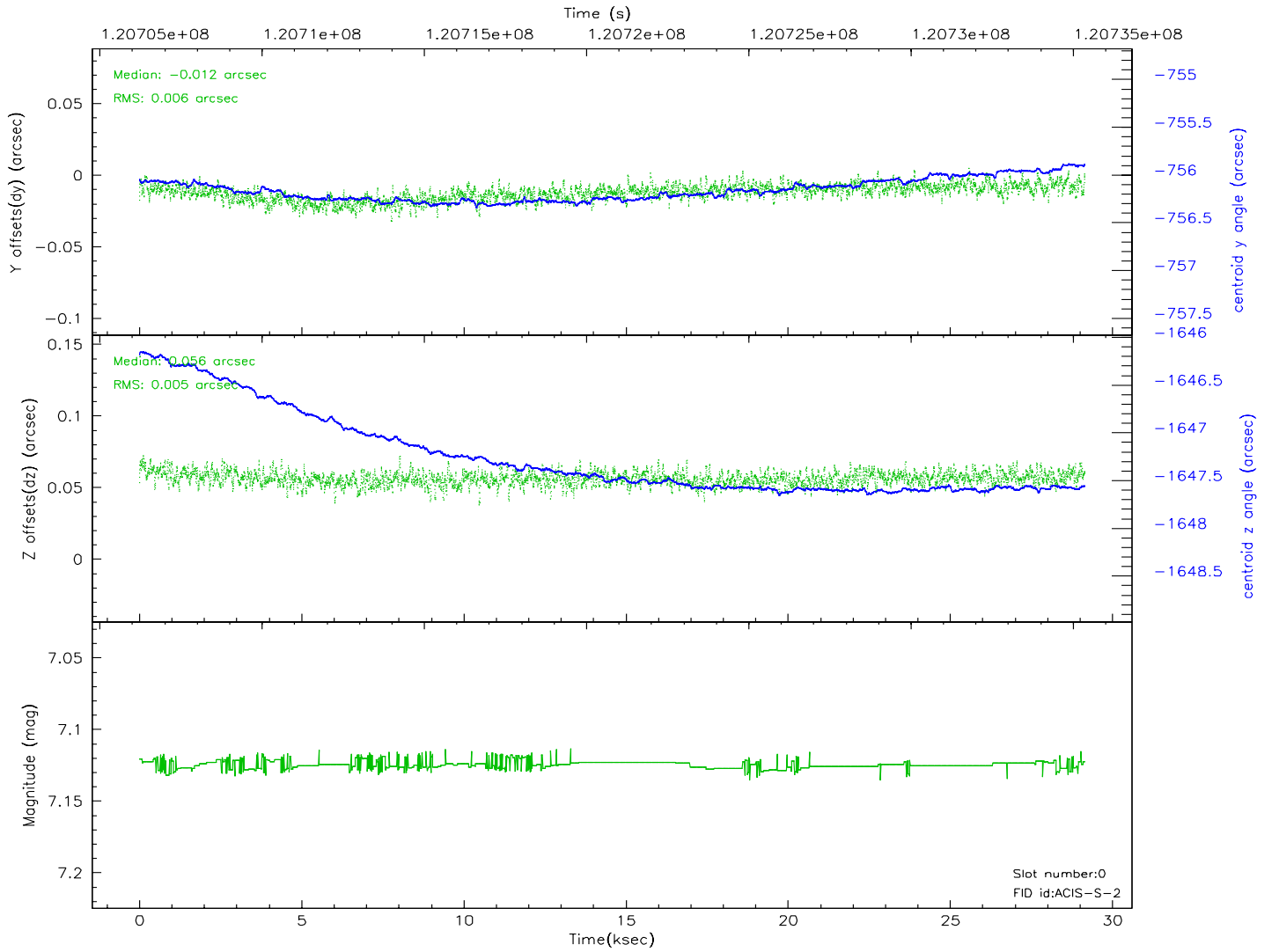
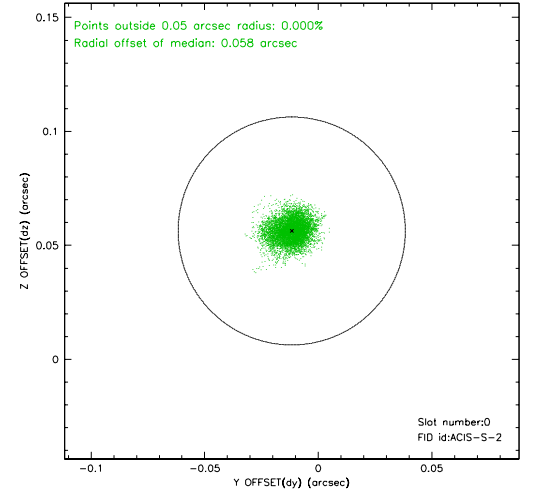
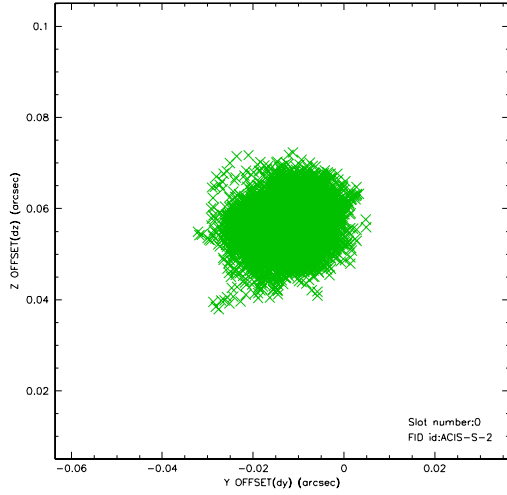


## 2.4.5 Slot 7

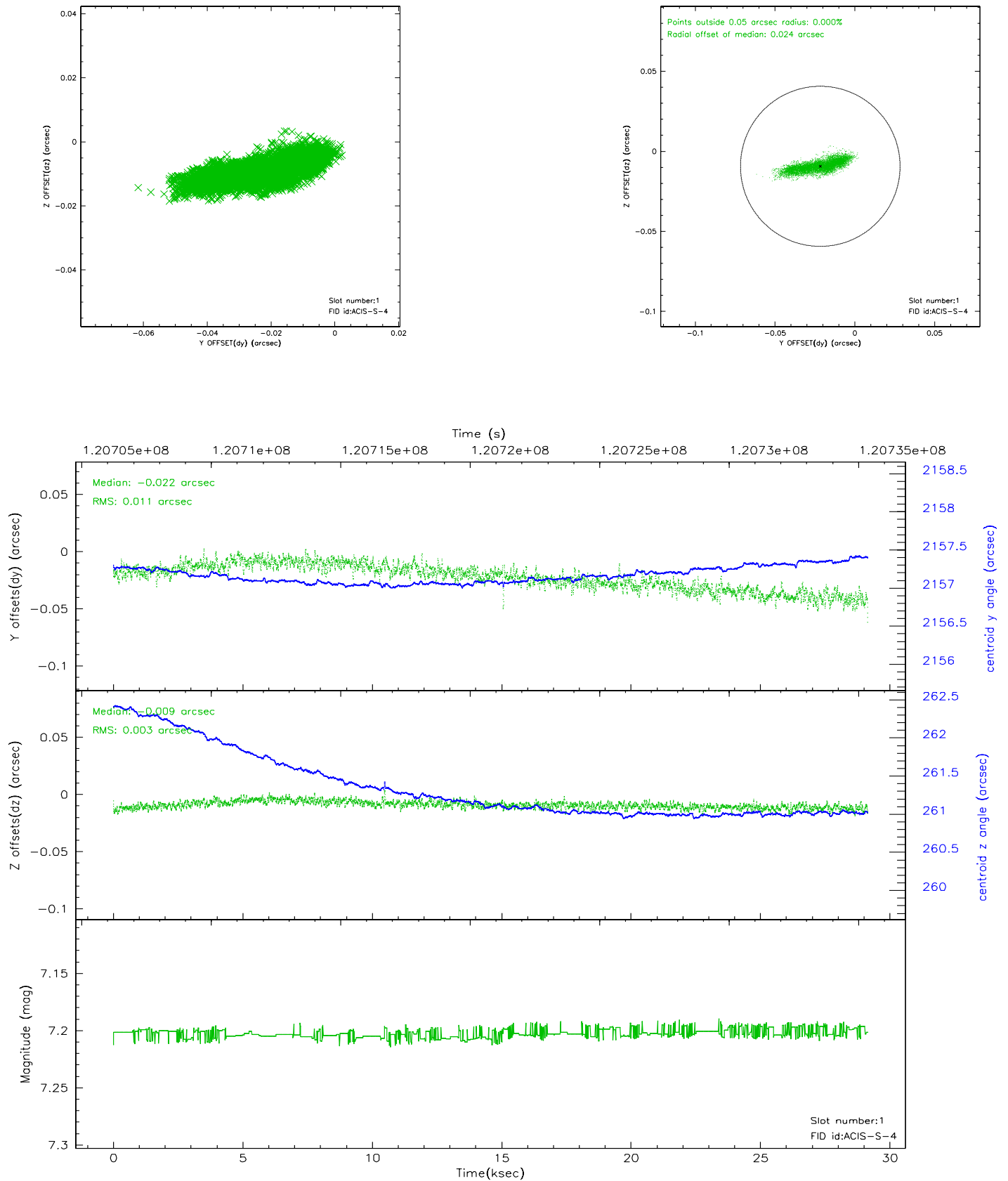


## 2.5 FID Slots

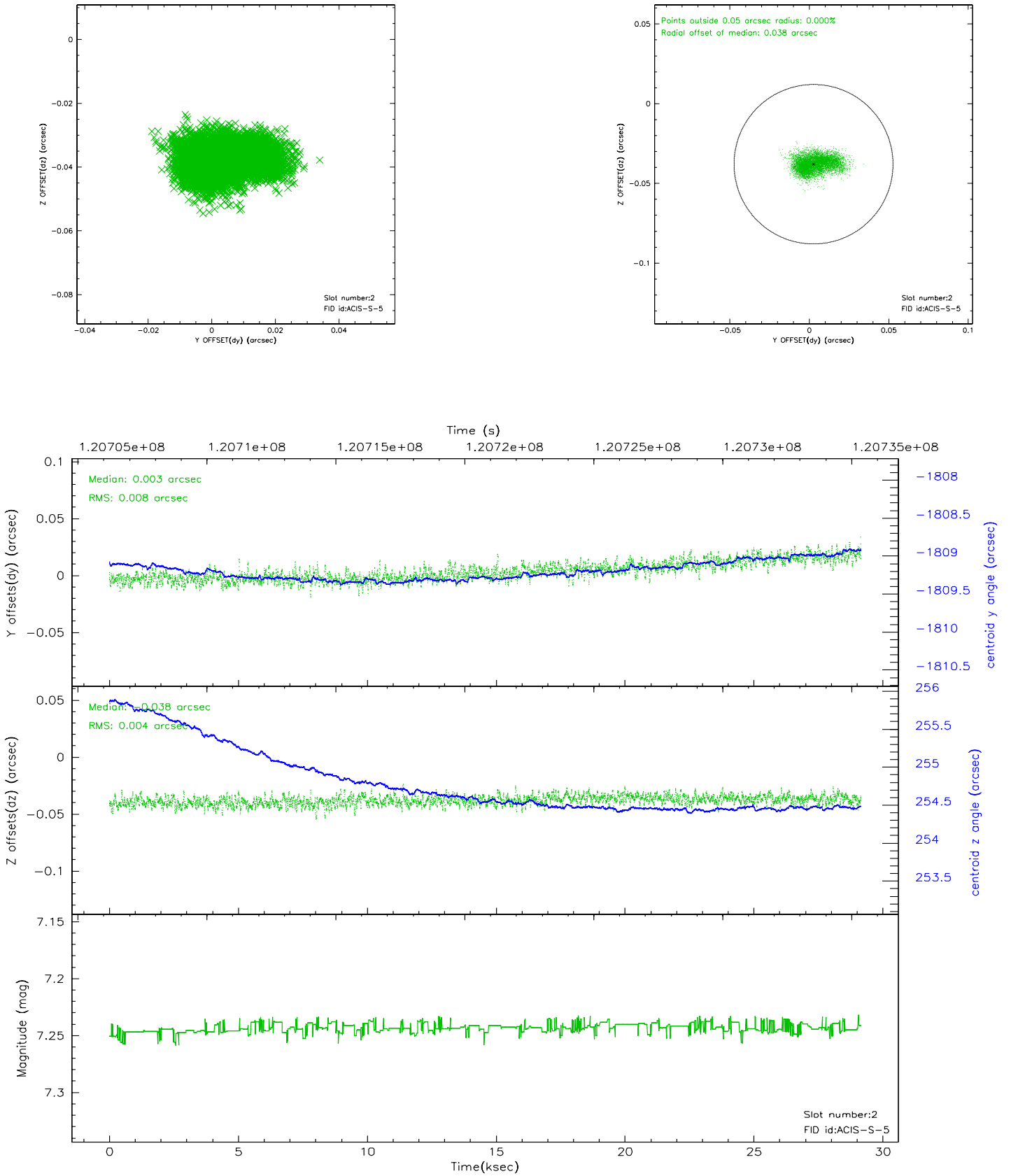
### 2.5.1 Slot 0



## 2.5.2 Slot 1



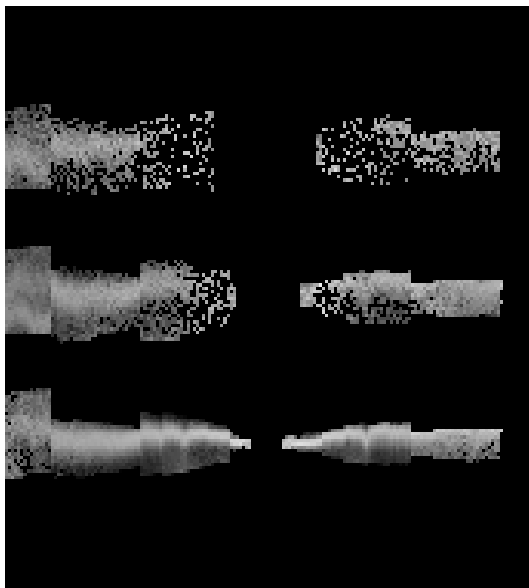
### 2.5.3 Slot 2



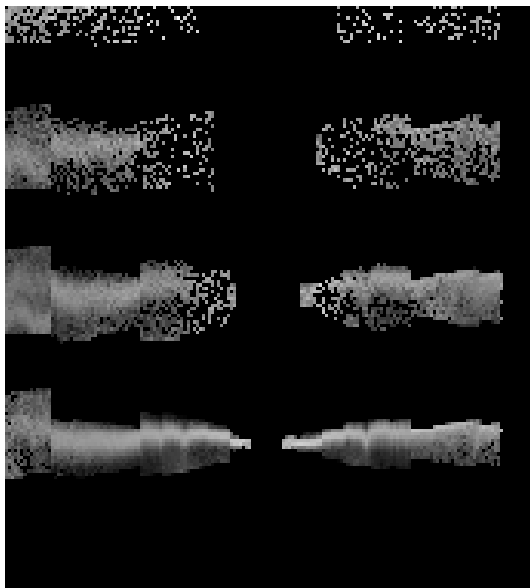


# 3 Gratings

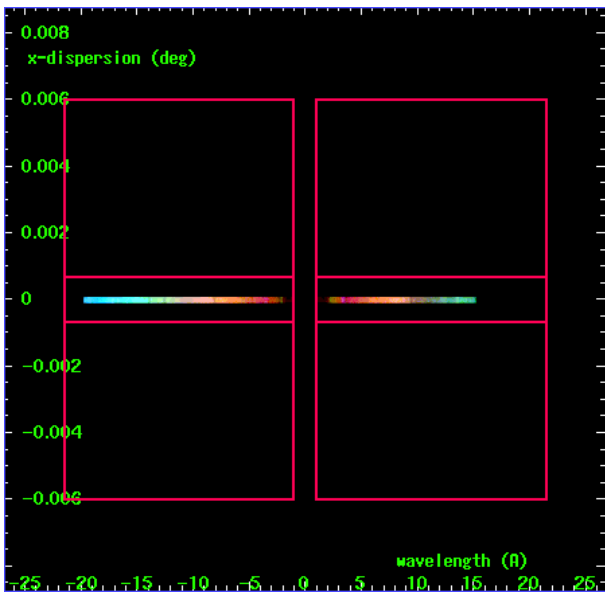
## 3.1 HEG Arm



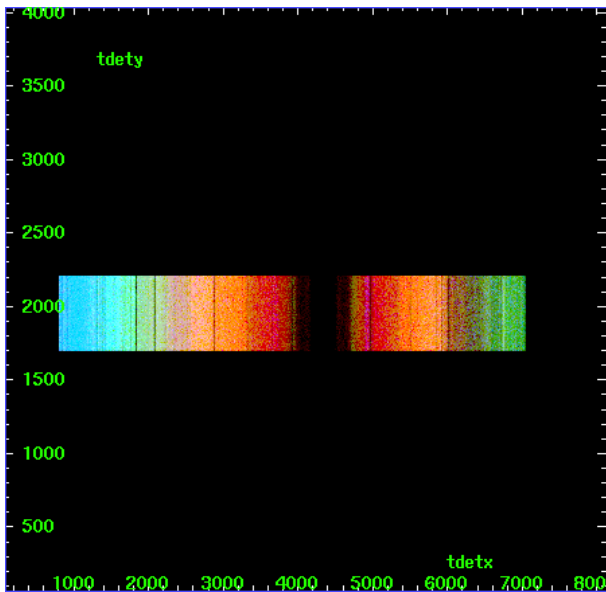
HEG Order Sort 123



HEG Order Sort ALL

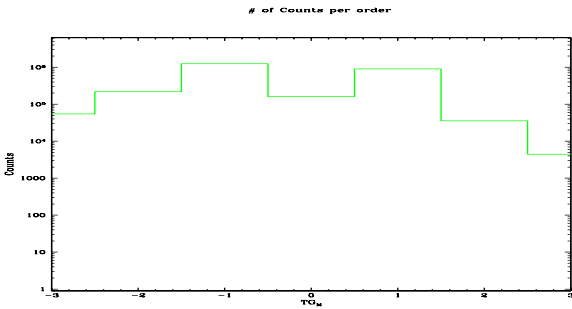


Spot Image HEG

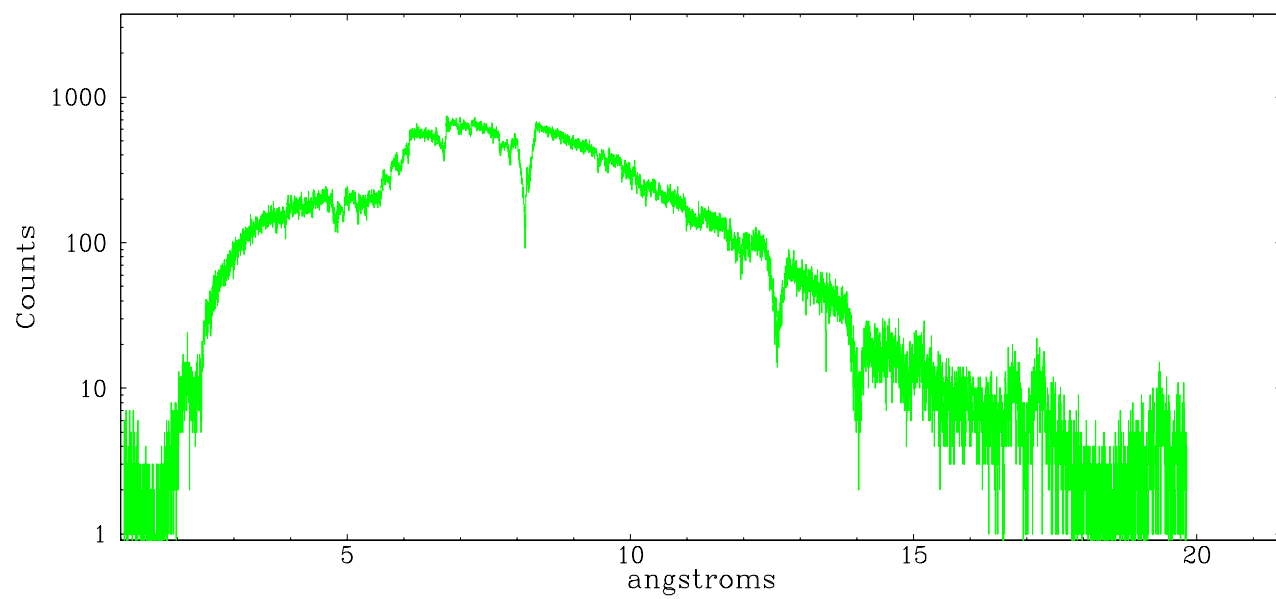


Full Detector HEG

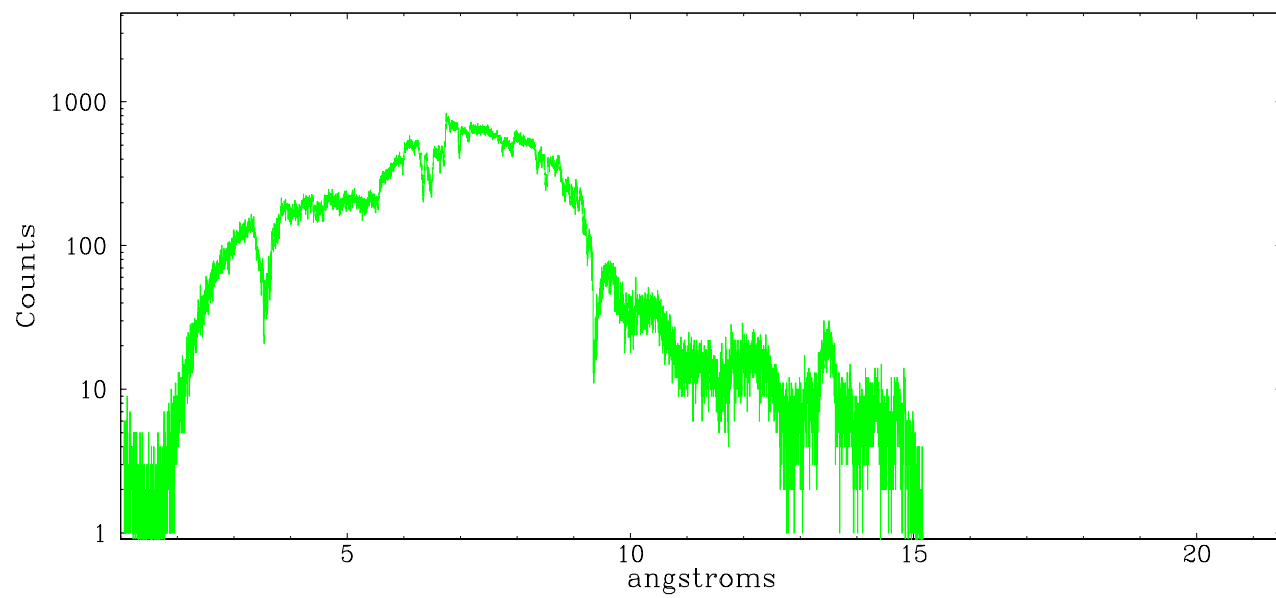
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	54424	218201	1244216	160968	898584	35468	4434



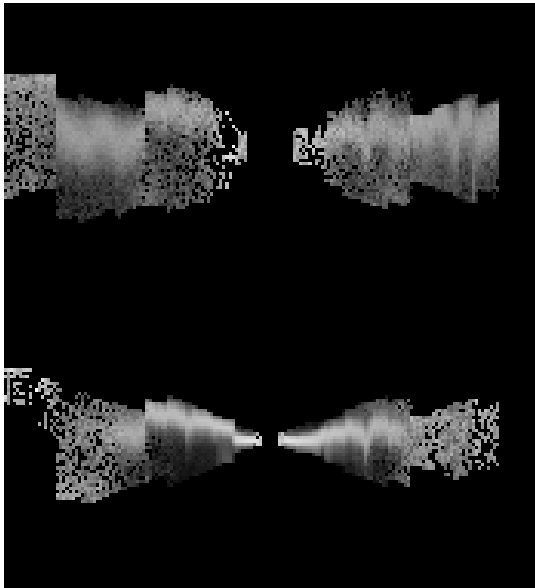
heg order -1



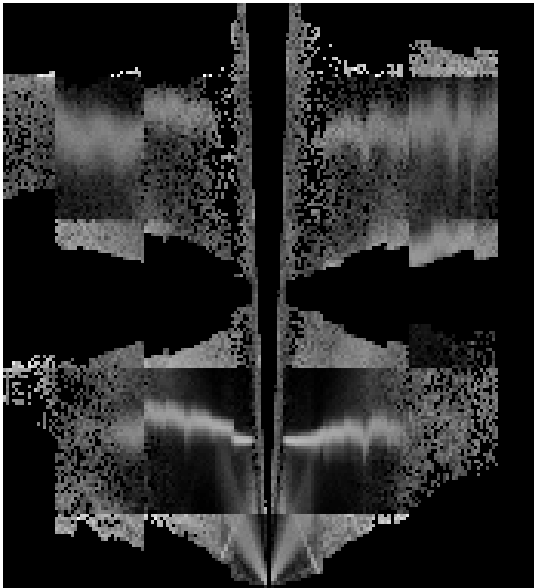
heg order +1



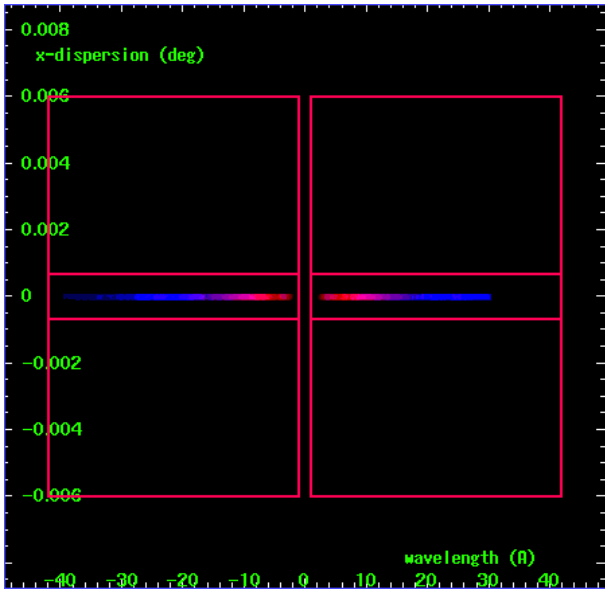
### 3.2 MEG Arm



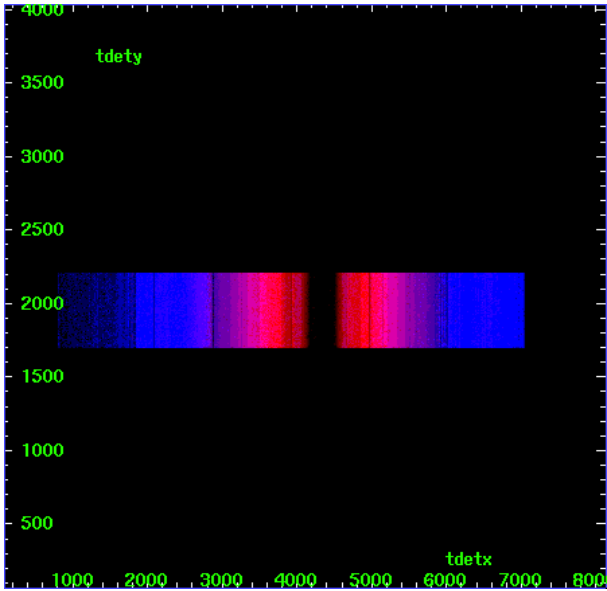
MEG Order Sort 123



MEG Order Sort ALL

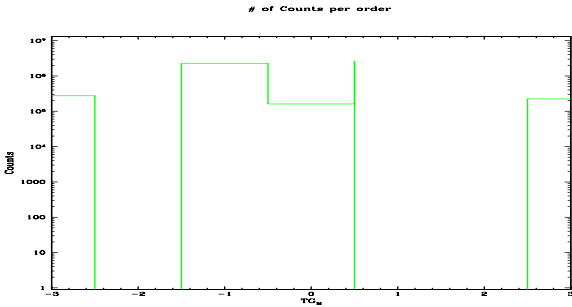


Spot Image MEG

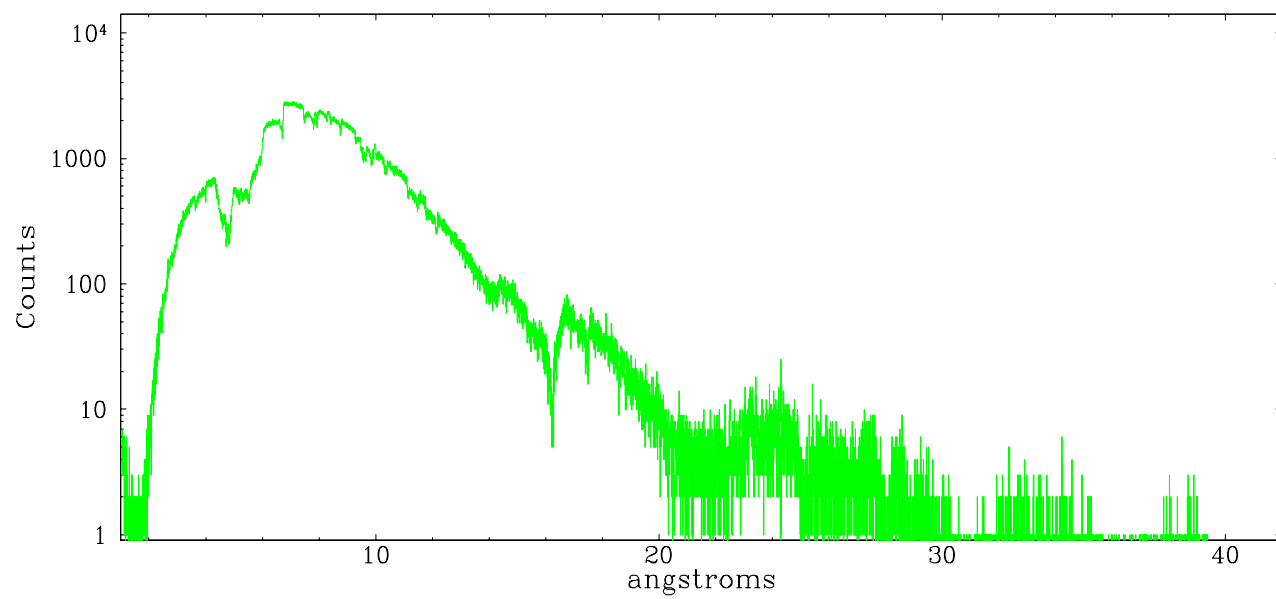


Full Detector MEG

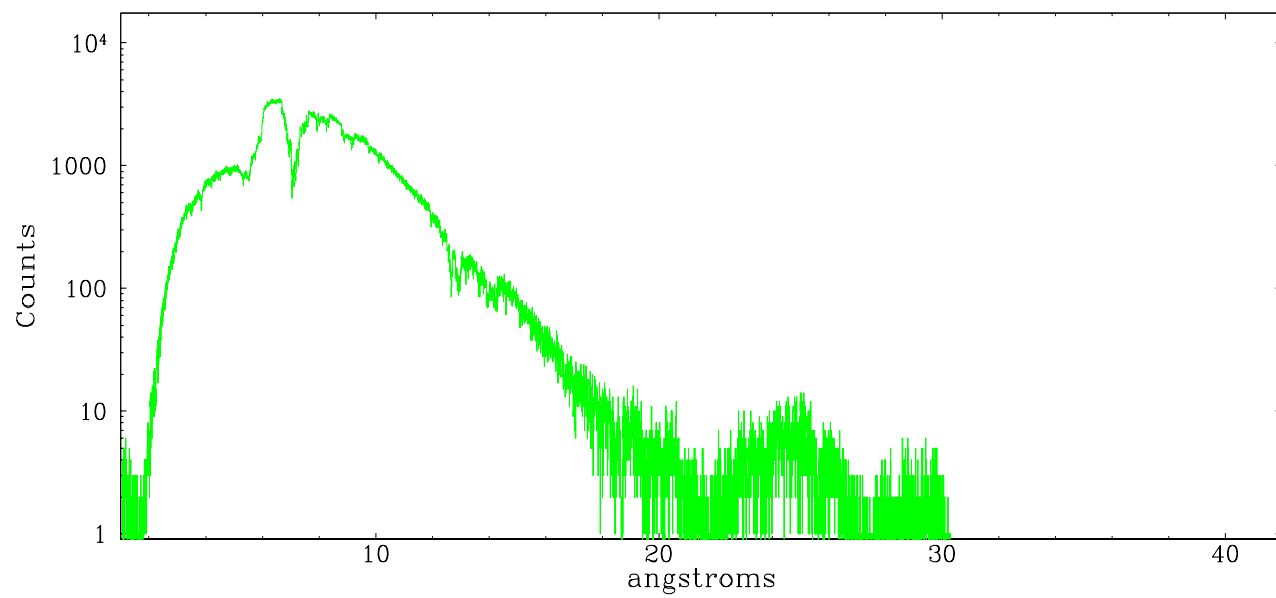
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	277141	0	2299642	160968	2632132	0	225333



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.01.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.617

## A.2 Comments

Chips 6 and 8 have significantly lower ontime values due to telemetry saturation.

For ACIS/CC-mode w/ HETG, there are no MEG even order counts. MEG even orders overlap with HEG orders in energy, but MEG even order efficiencies are very low. Since HEG and MEG cannot be spatially separated, events are preferentially assigned to HEG. (MEG odd orders can be resolved.)