

# V&V Reference Report

## L2 ASCDS Version : 7.6.10

Observation 3407 - L2 Version 001  
Chandra X-Ray Center

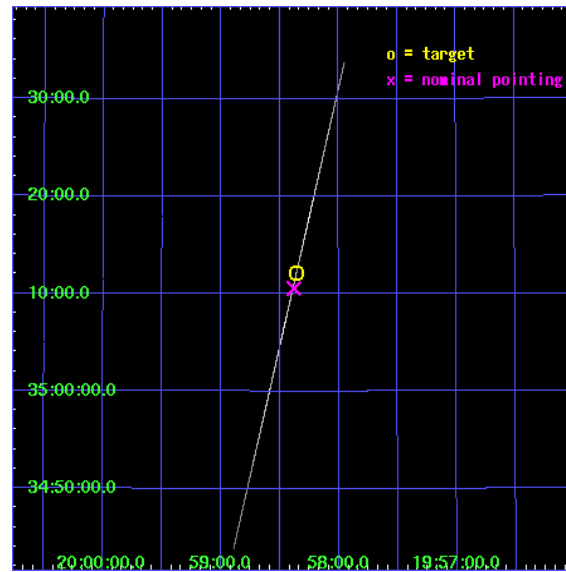
L2 Processing Date : Jan 17 2007

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# 1 Front

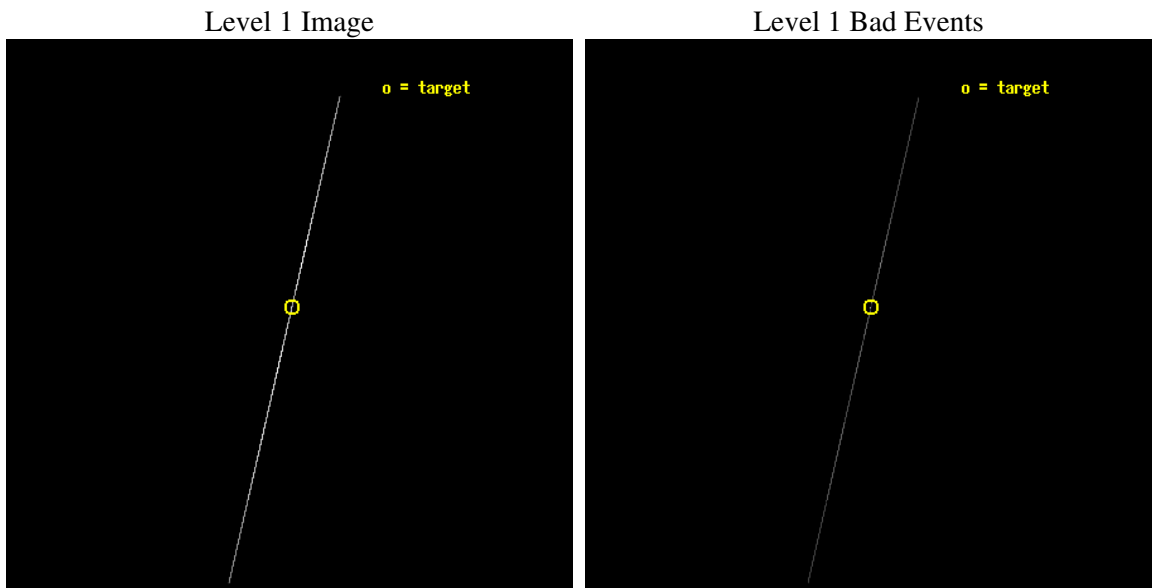
seq_num	400234
obs_id	3407
title	CYGNUS X-1 IN THE HIGH STATE
observer	Dr. Wei Cui
object	CYG X-1
ra_targ	299.59
dec_targ	35.202
ra_nom	299.59512594798
dec_nom	35.176022395162
roll_nom	282.98879502643
revision	3
ontime	16130.800920978
livetime	16067.789979881
ontime4	25425.663995072
ontime5	30076.0
ontime6	12822.810619026
ontime7	16130.800920978
ontime8	14636.4940916
ontime9	25768.571333155
l2events	10405187



## 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	2007-01-13T12:01:07
revision	3

sched_exp_time	30000.000000
ontime	16130.800920978
ontime4	25425.663995072
ontime5	30076.0
ontime6	12822.810619026
ontime7	16130.800920978
ontime8	14636.4940916
ontime9	25768.571333155
l1events	11600827

## 2.1.3 Events

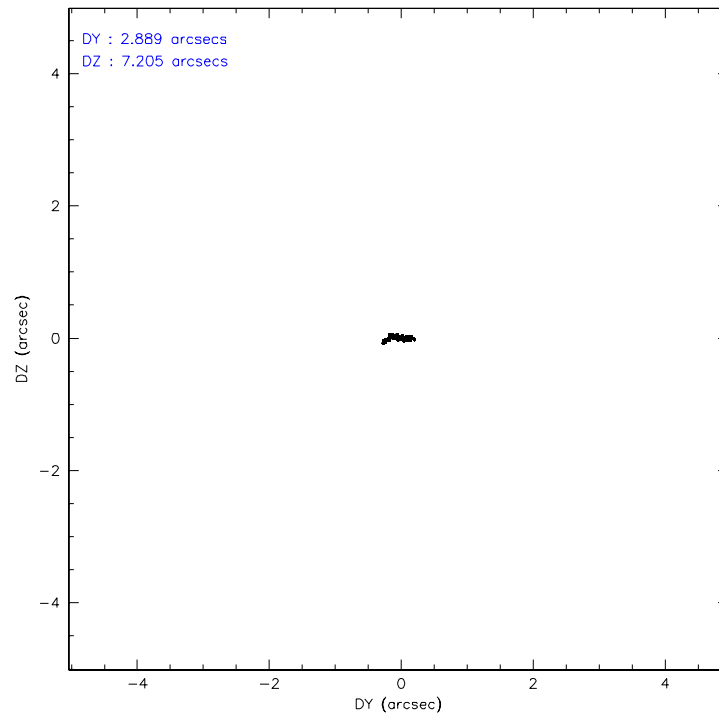
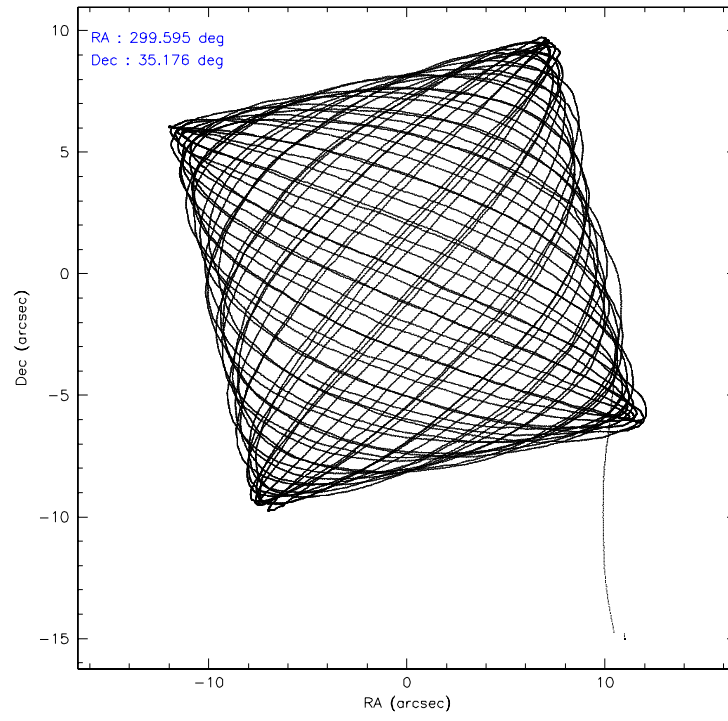
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	477292	1888583	3038496	2346282	2907448	942726
rejected events	42344	86954	77731	115107	77354	49593
rejected %	8%	4%	2%	4%	2%	5%

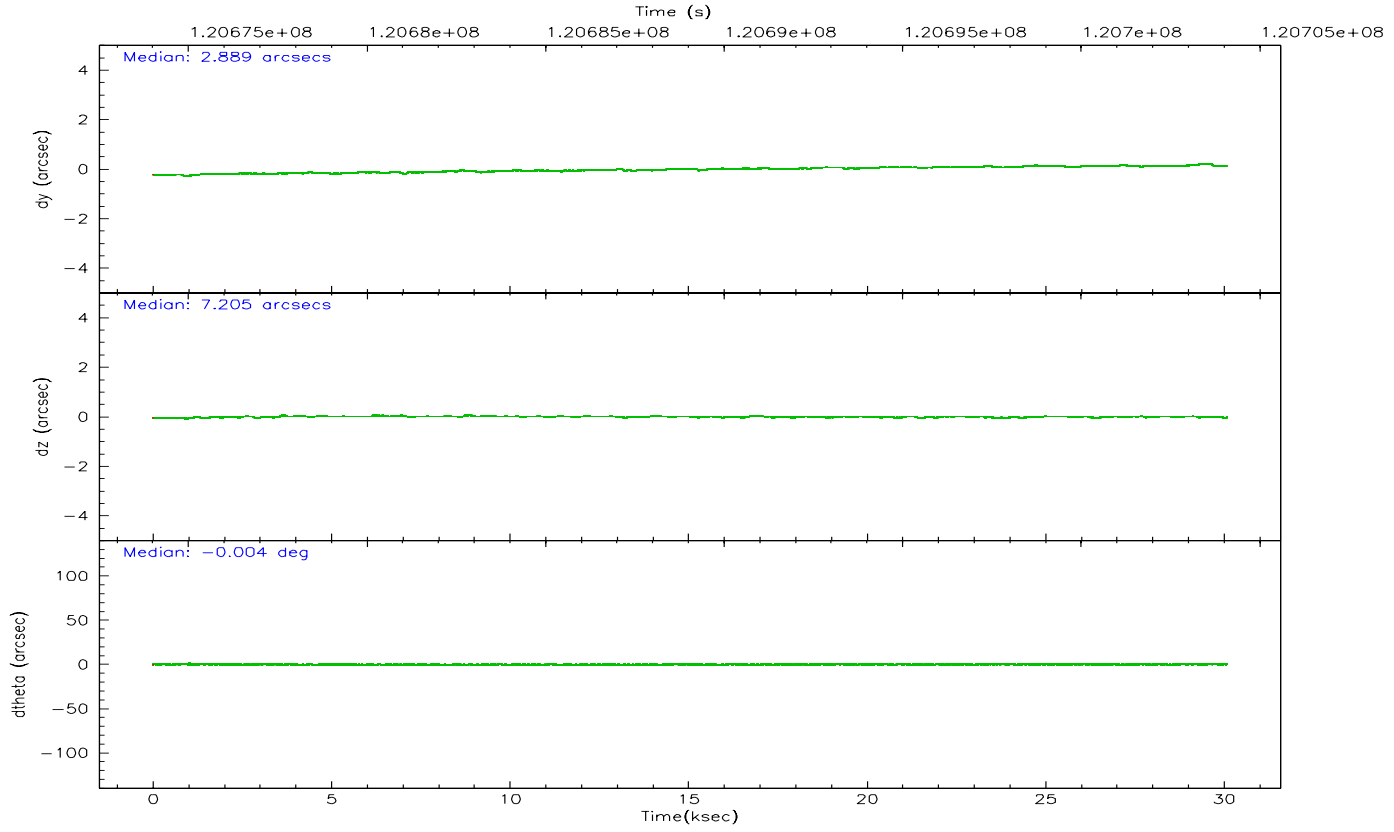
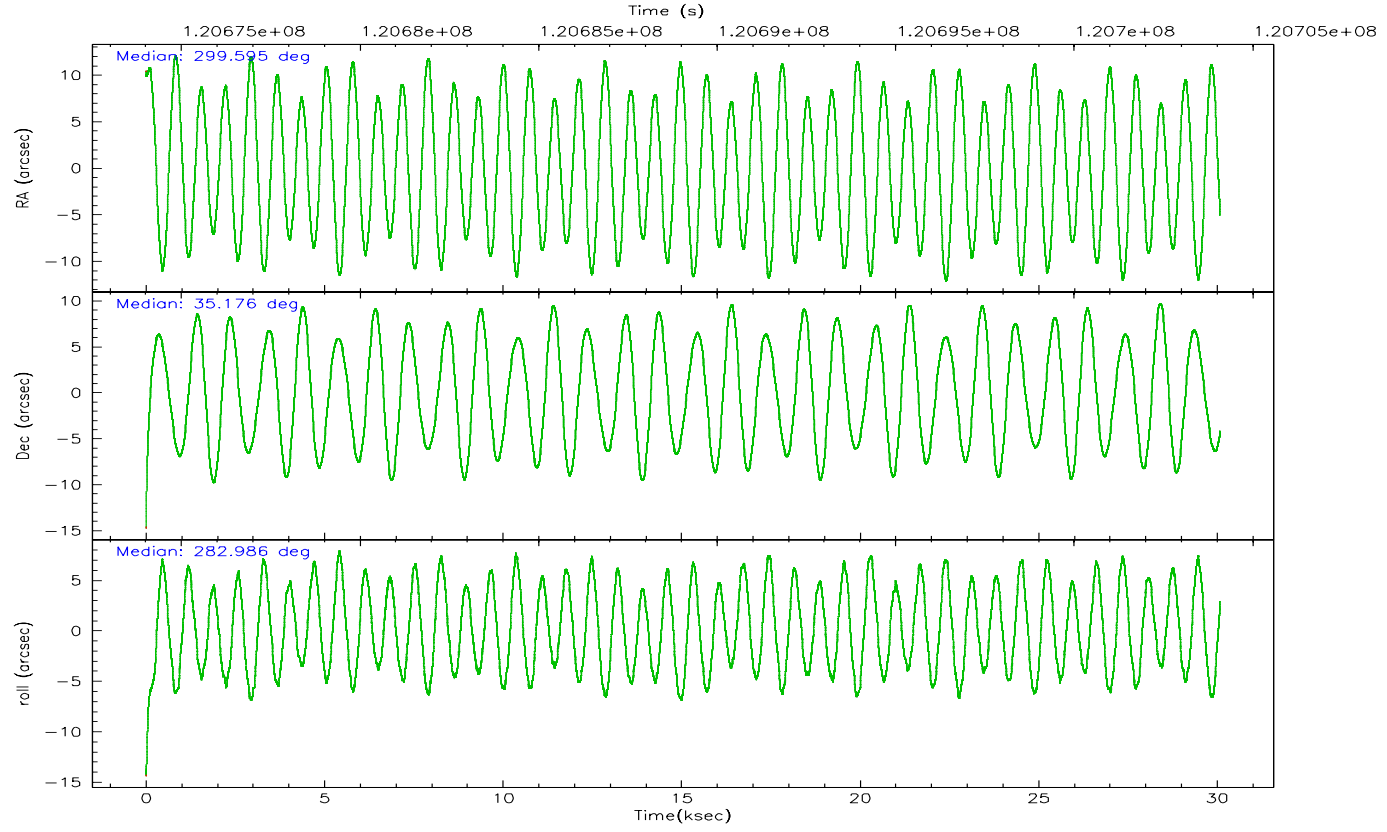
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	7979	209648	17252	258501	51152	29564
	1%	11%	0%	11%	1%	3%
grade 1 events	117	408	103	3448	311	142
	0%	0%	0%	0%	0%	0%
grade 2 events	420275	1008270	2782334	851694	2639933	833440
	88%	53%	91%	36%	90%	88%
grade 3 events	4405	59043	2826	135574	10756	4928
	0%	3%	0%	5%	0%	0%
grade 4 events	4507	57894	2735	133388	10135	5032
	0%	3%	0%	5%	0%	0%
grade 5 events	7294	41892	15826	55528	16838	9681
	1%	2%	0%	2%	0%	1%
grade 6 events	32715	511428	217420	908149	178323	59939
	6%	27%	7%	38%	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	299.572083	299.5951259479848	Subarray requested	NONE	NONE
Pointing Dec	35.195754	35.1760223951616	Alternating exposures requested	N	N
Pointing Roll	282.845449	282.9887950264312	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	120674092.184000	120672896.56462			
Observation start date	2001-10-28T16:33:48	2001-10-28T16:14:56			
Observation end time	120704092.184000	120705107.1909			
Observation end date	2001-10-29T00:53:48	2001-10-29T01:11:47			
Read mode	CONTINUOUS	CONTINUOUS			

## 2.3 Aspect





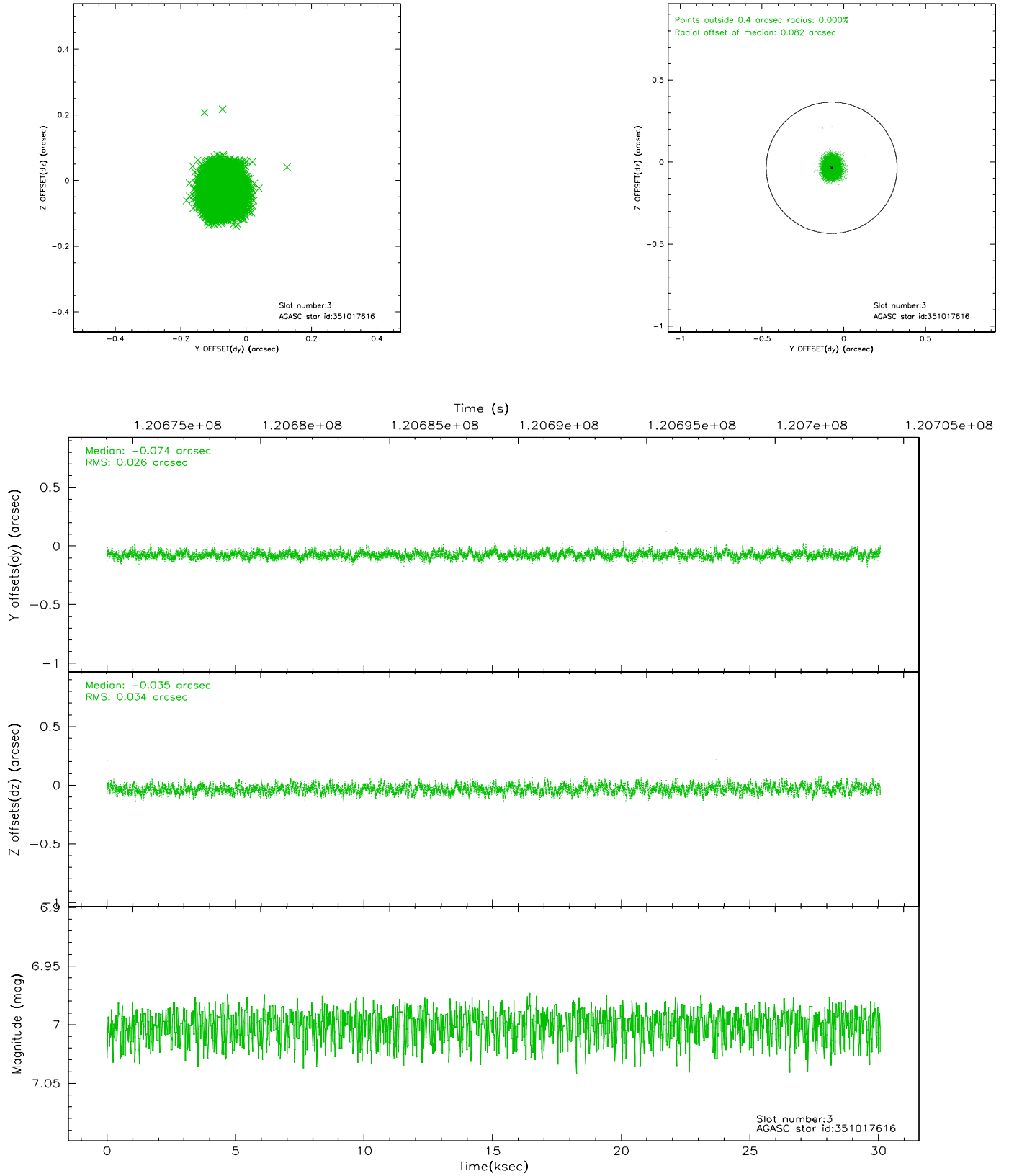
### Slot Statistics

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	7339	-0.007	0.066	0.007	0.012	0.000000	0.000000	-755.76	-1646.22
1	FID	ACIS-S-4	7.20	7339	-0.032	-0.014	0.008	0.018	0.000000	0.000000	2157.44	262.14
2	FID	ACIS-S-5	7.24	7339	0.008	-0.042	0.009	0.015	0.000000	0.000000	-1808.51	255.85
3	GUIDE	351017616	7.00	14676	-0.074	-0.035	0.046	0.074	300.079295	35.358356	-243.07	1582.35
4	GUIDE	351018080	8.33	14671	0.032	0.011	0.059	0.096	299.327312	34.581247	1995.25	-1199.26
5	GUIDE	351016136	8.58	14677	0.082	0.009	0.054	0.089	300.302636	34.786391	1909.94	1779.64
6	GUIDE	351406096	8.88	14672	-0.025	-0.035	0.069	0.113	299.076637	35.711249	-2134.26	-999.15
7	GUIDE	351406432	8.84	14670	-0.013	0.046	0.059	0.095	299.163921	35.698316	-2031.30	-761.31

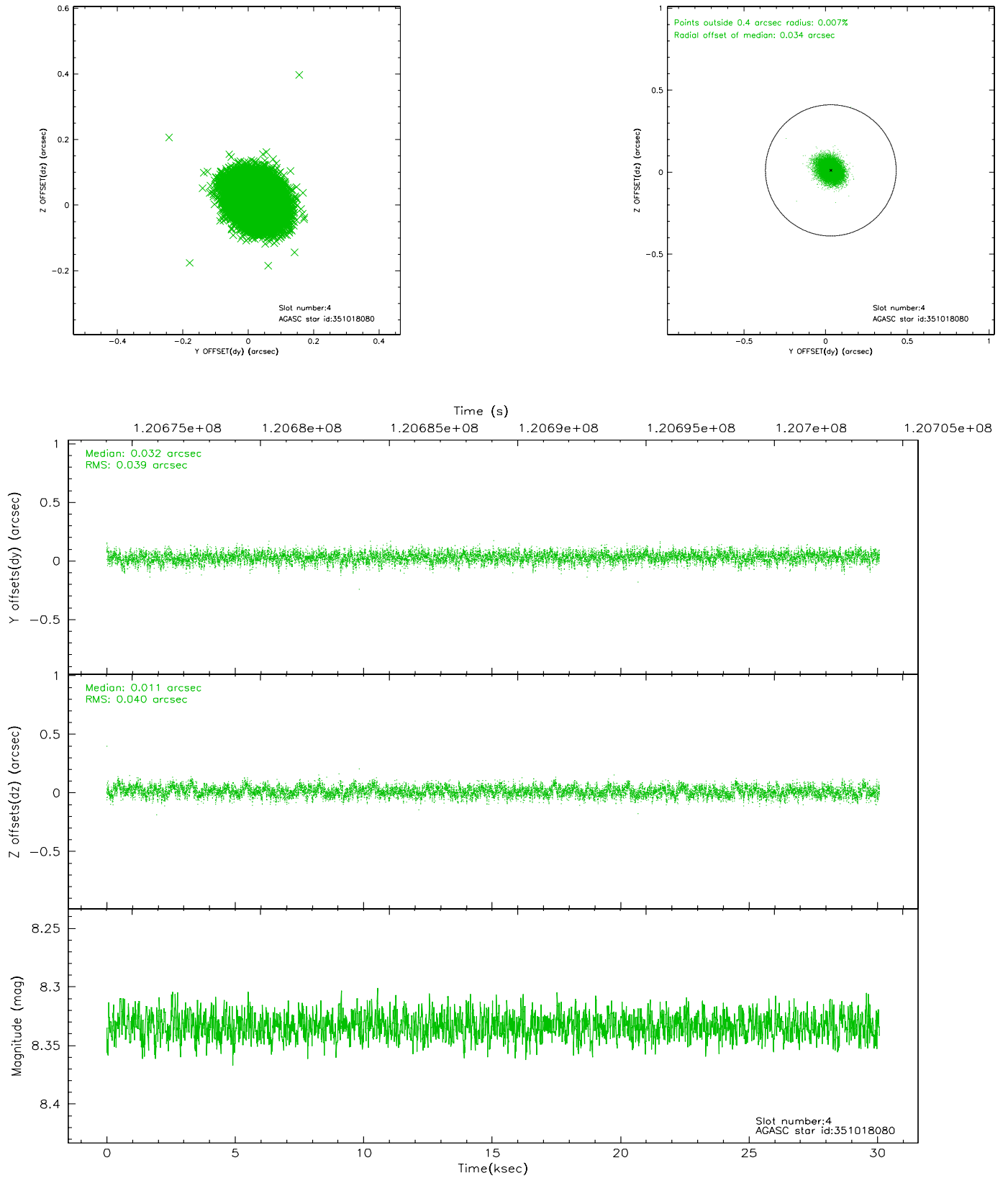


## 2.4 Star Slots

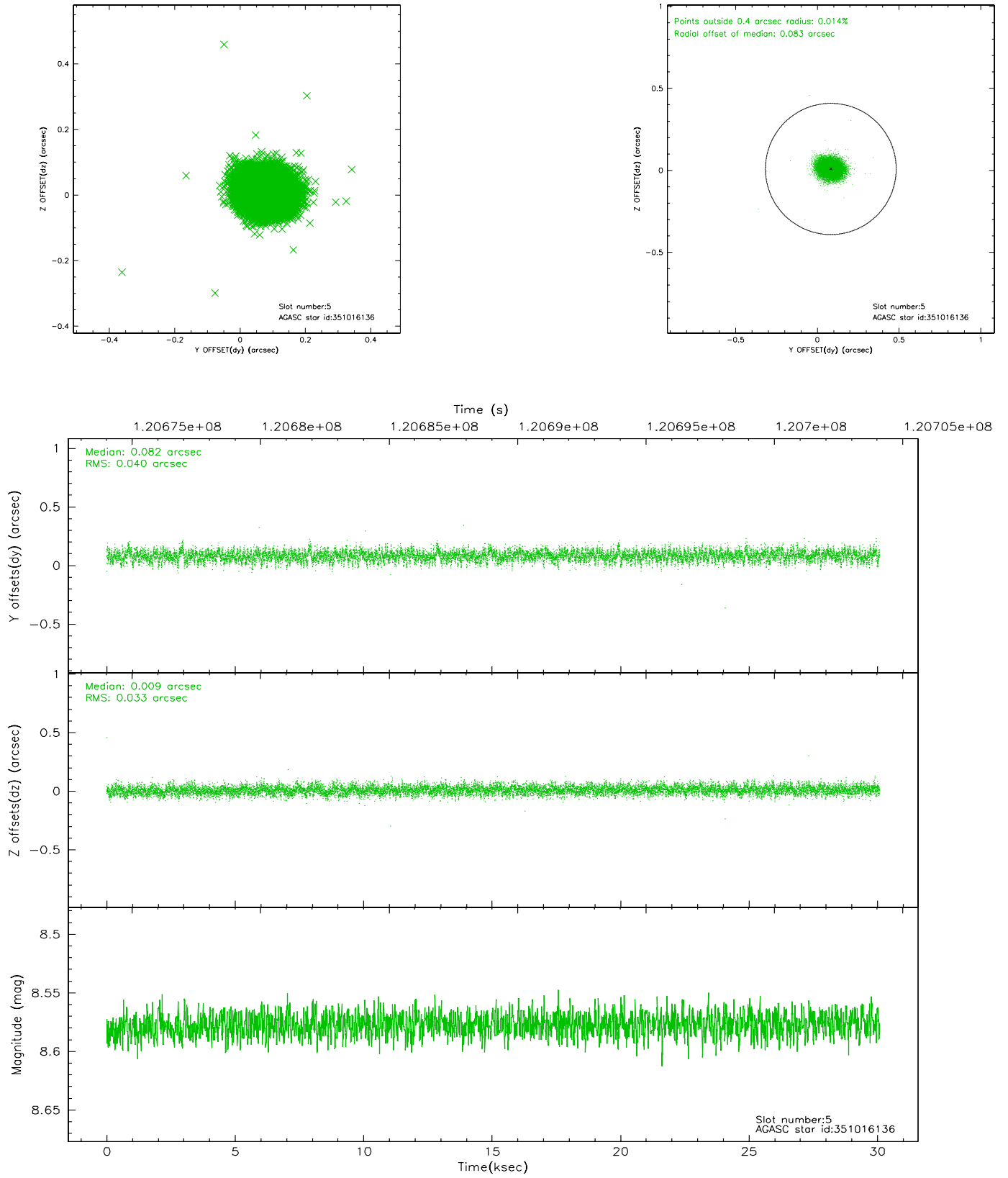
### 2.4.1 Slot 3



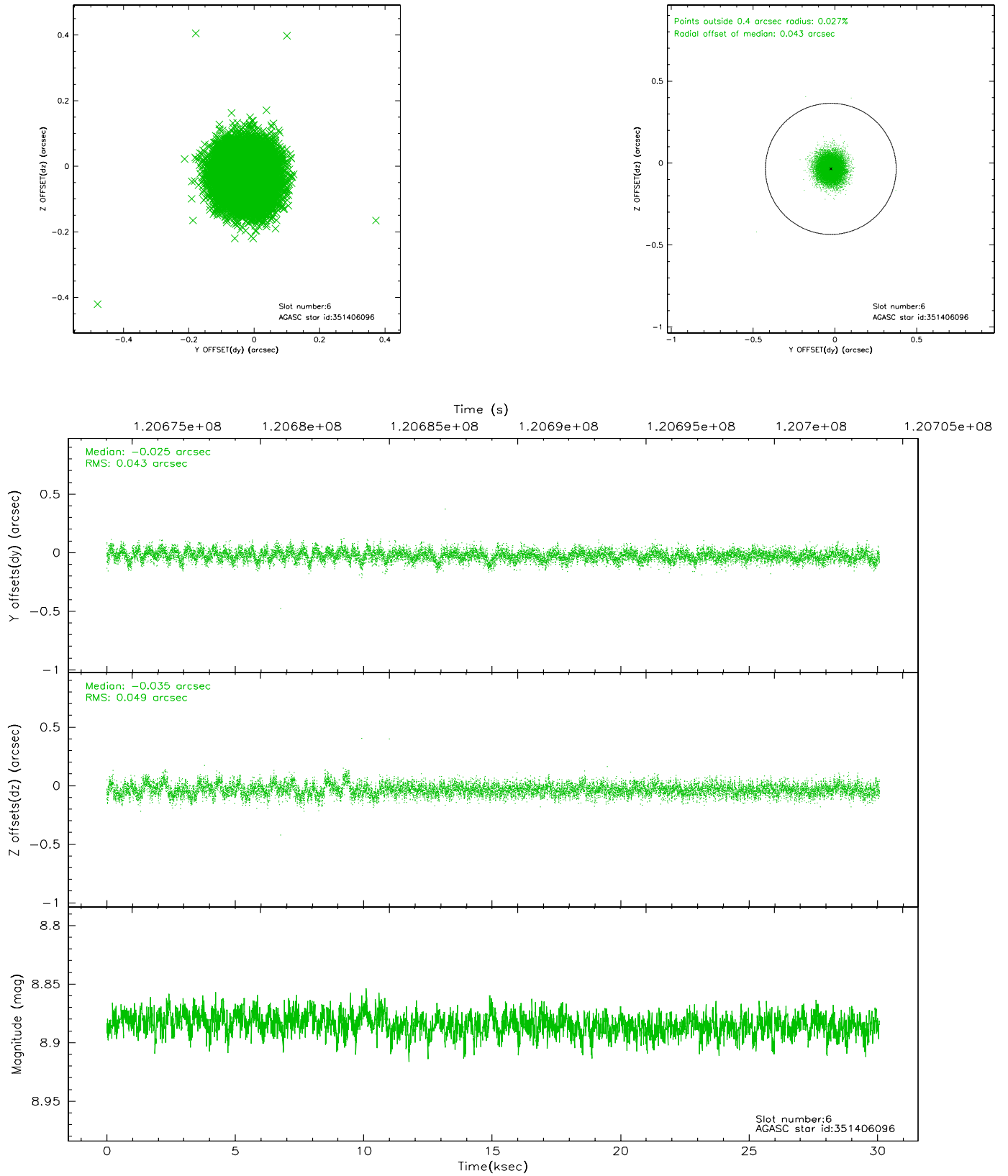
## 2.4.2 Slot 4



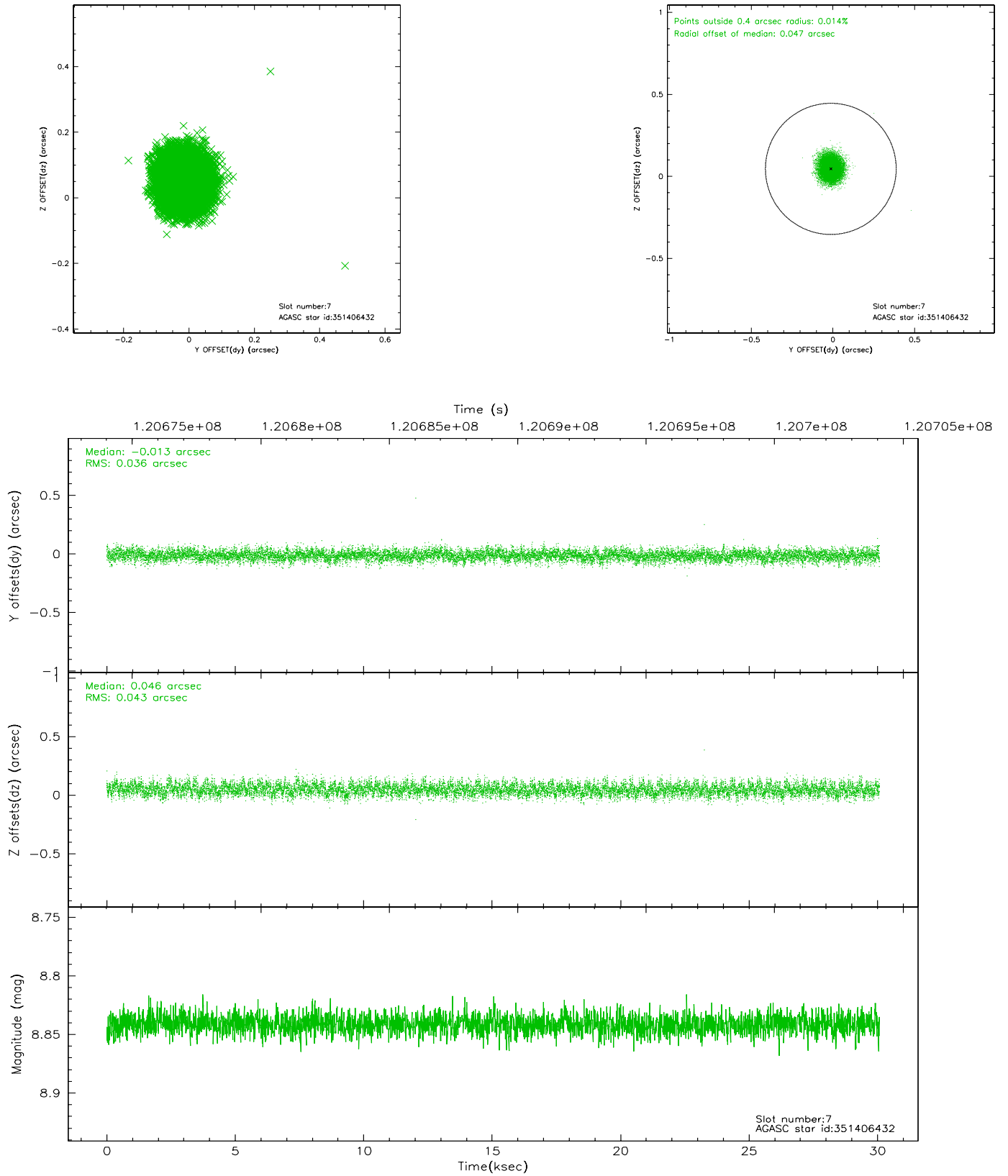
### 2.4.3 Slot 5



## 2.4.4 Slot 6

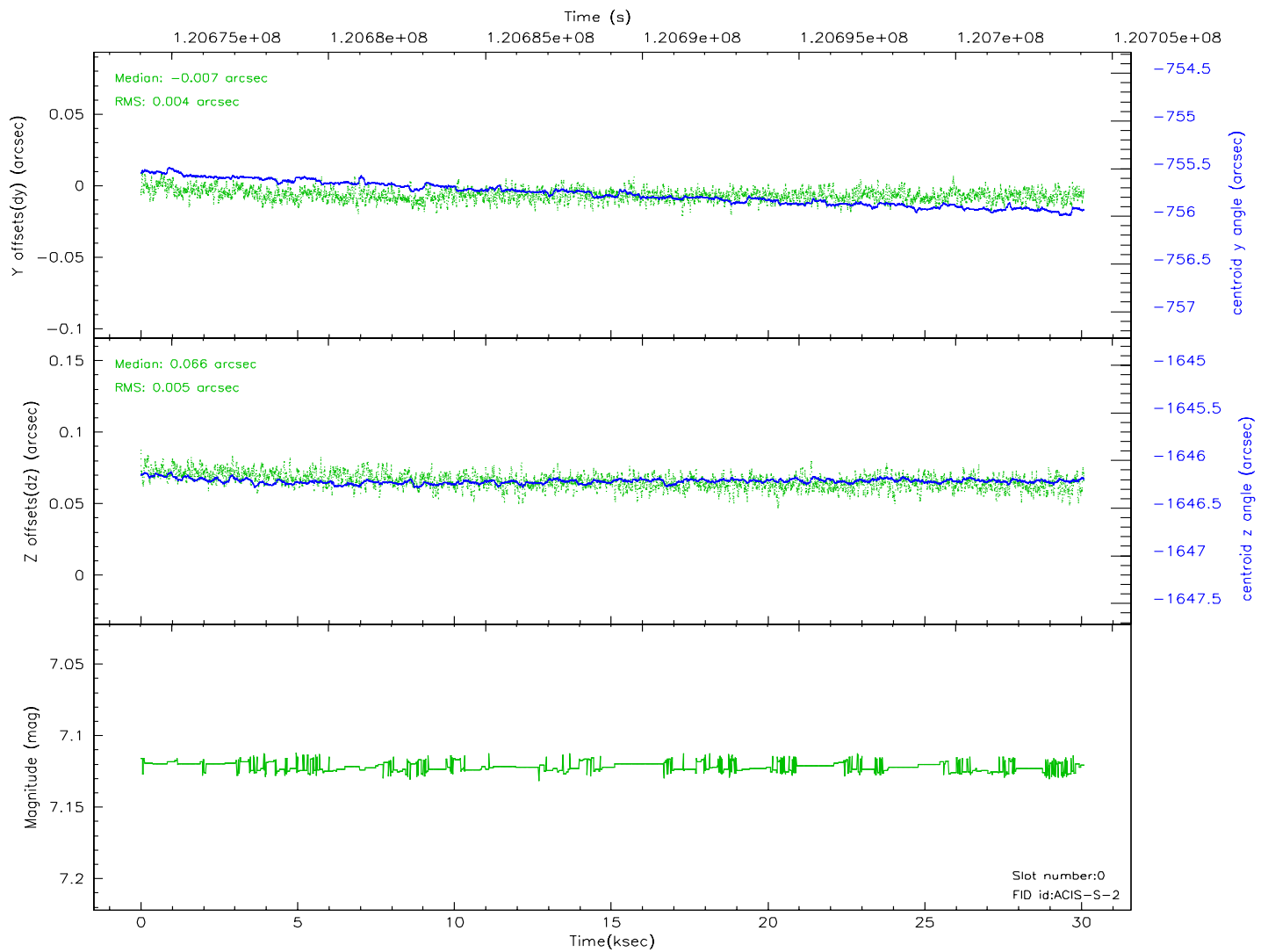
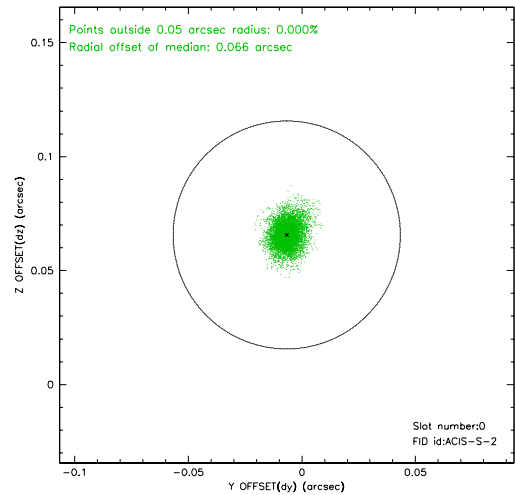
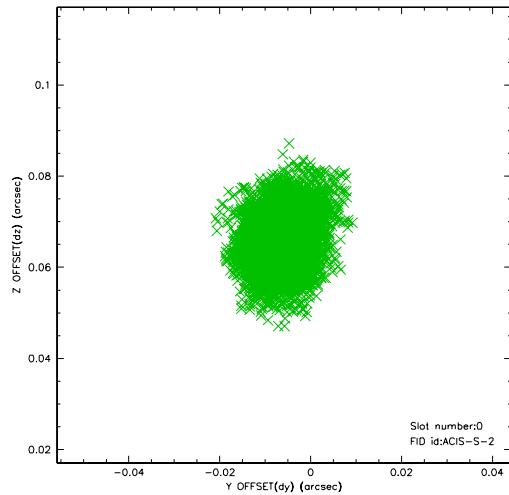


## 2.4.5 Slot 7

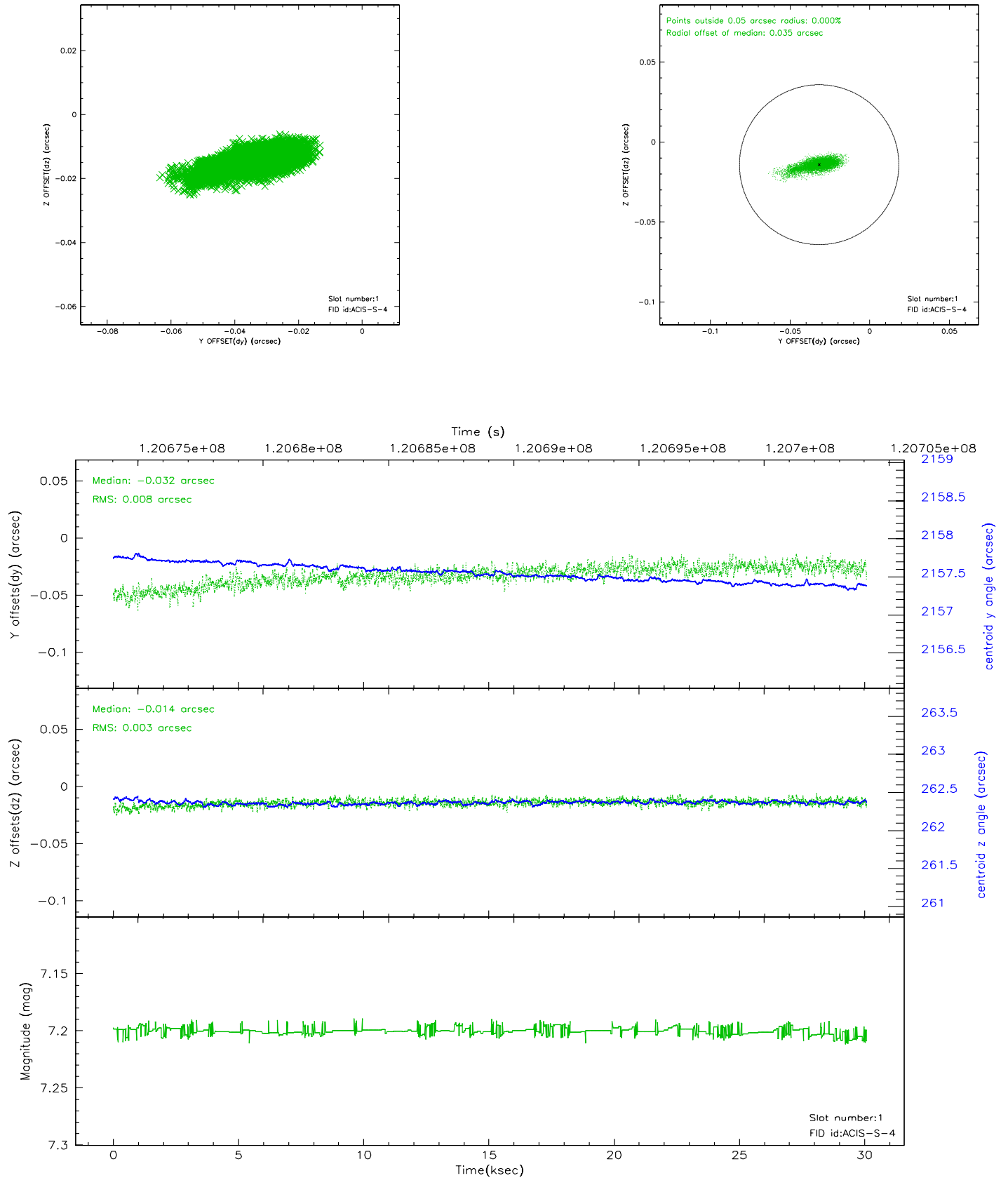


## 2.5 FID Slots

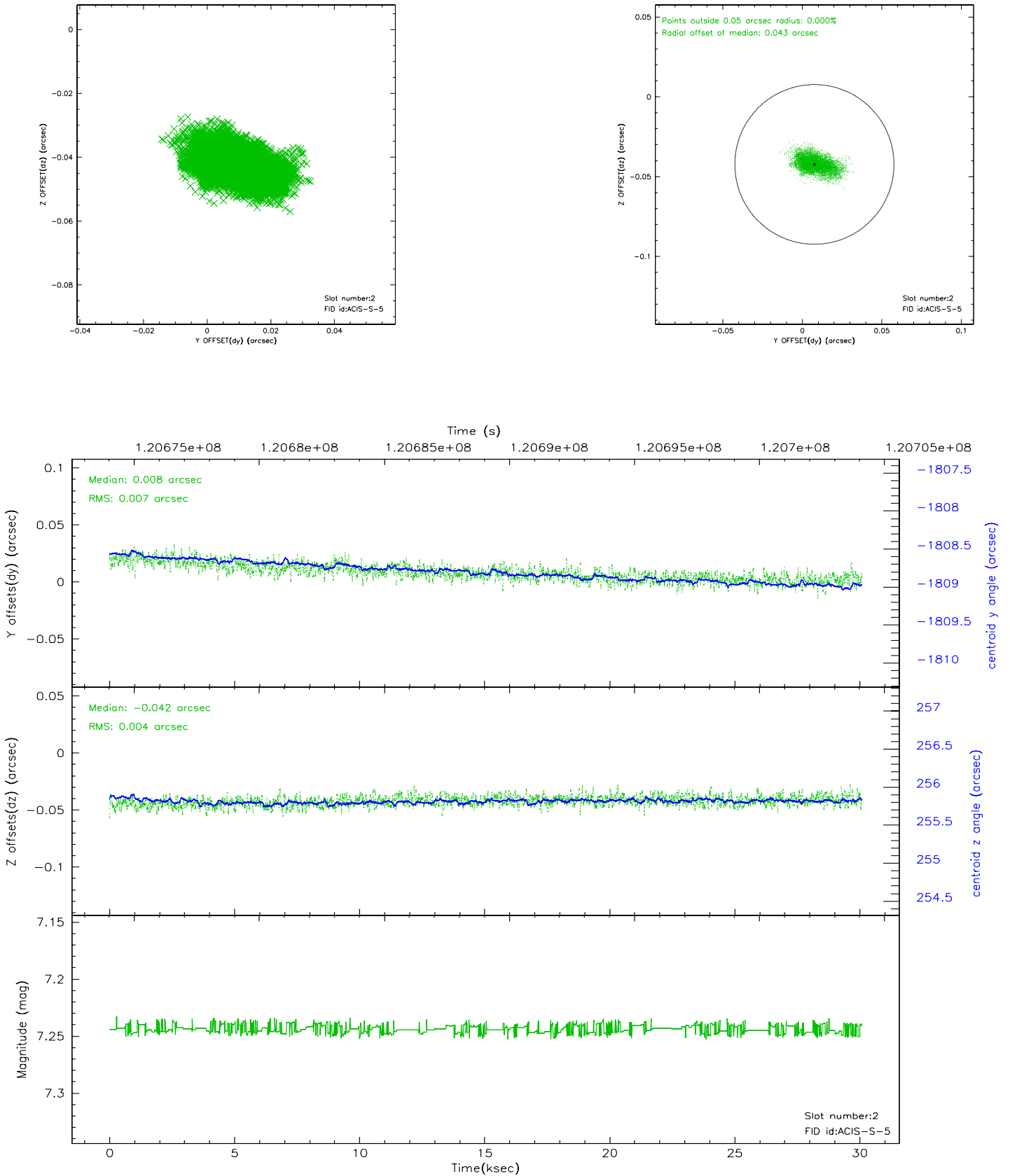
### 2.5.1 Slot 0



## 2.5.2 Slot 1



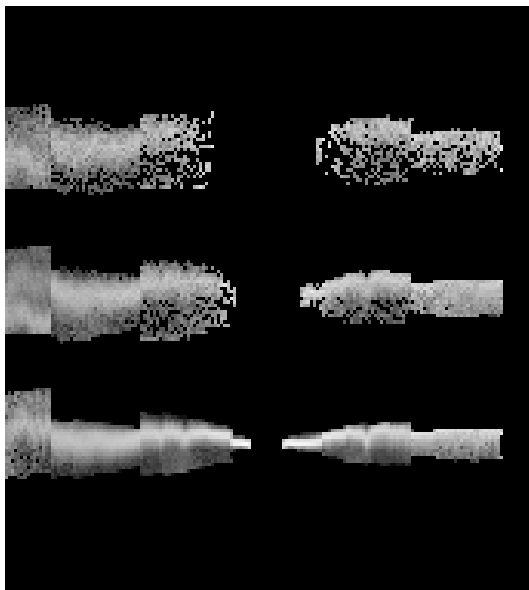
### 2.5.3 Slot 2



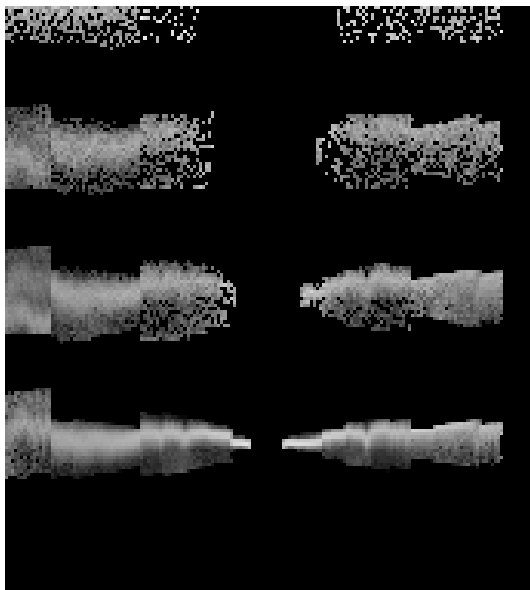


# 3 Gratings

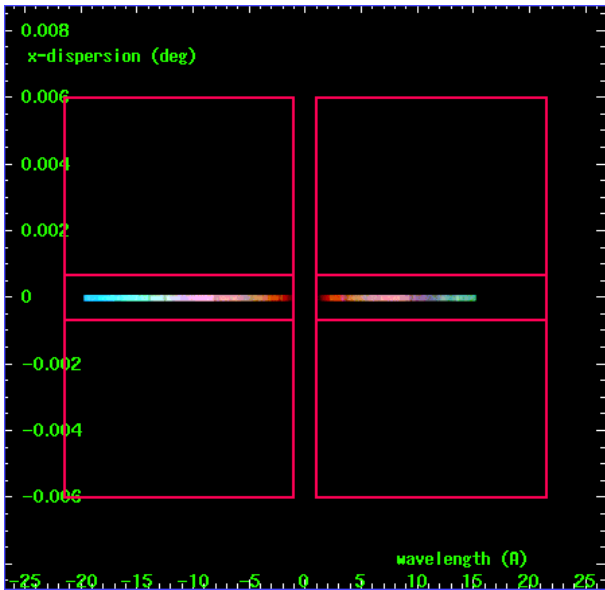
## 3.1 HEG Arm



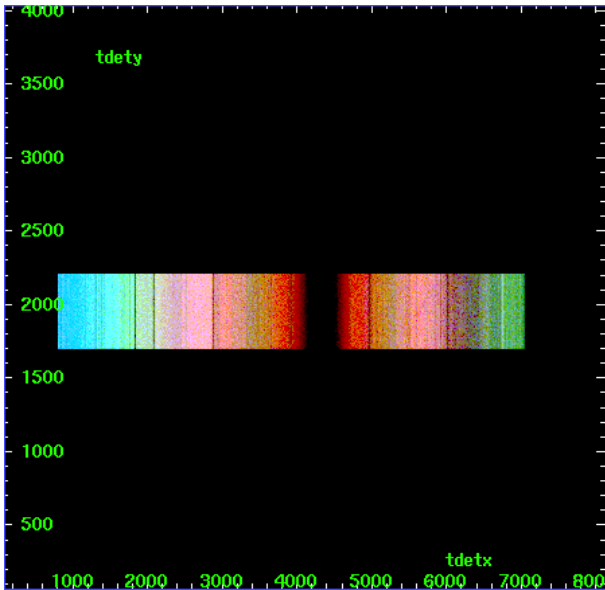
HEG Order Sort 123



HEG Order Sort ALL

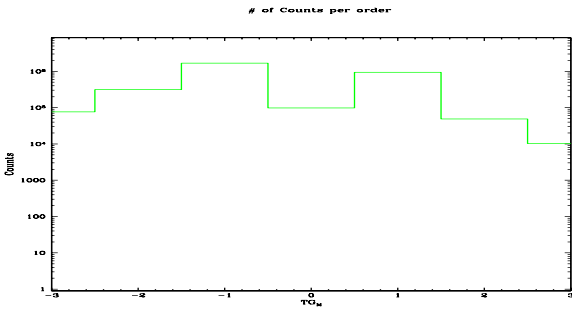


Spot Image HEG

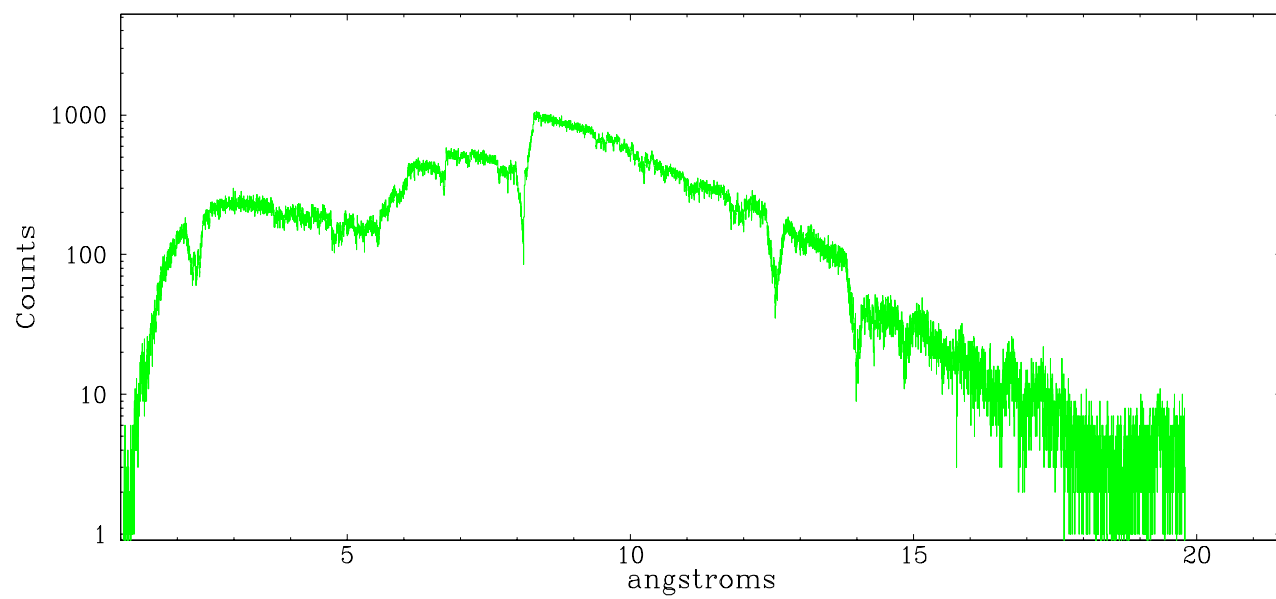


Full Detector HEG

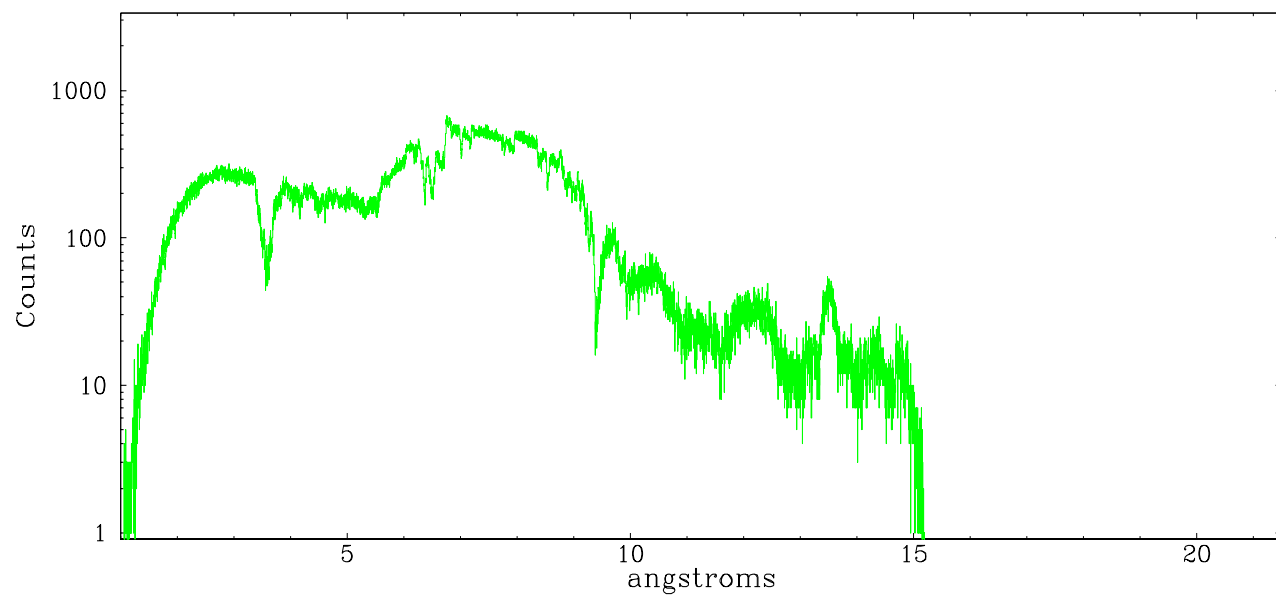
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	76427	314439	1670322	97974	935737	48475	10224



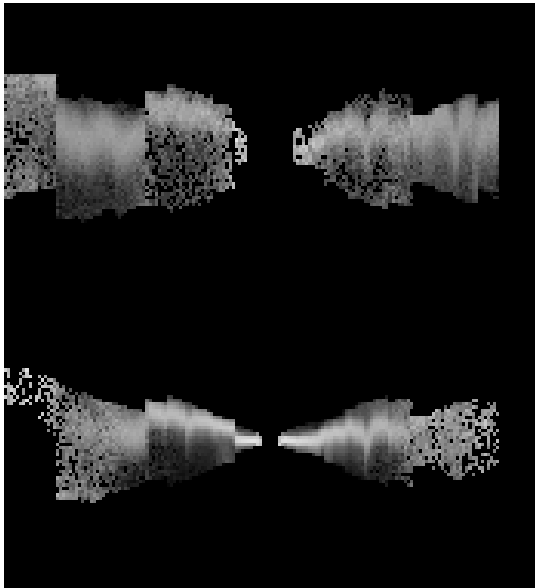
heg order -1



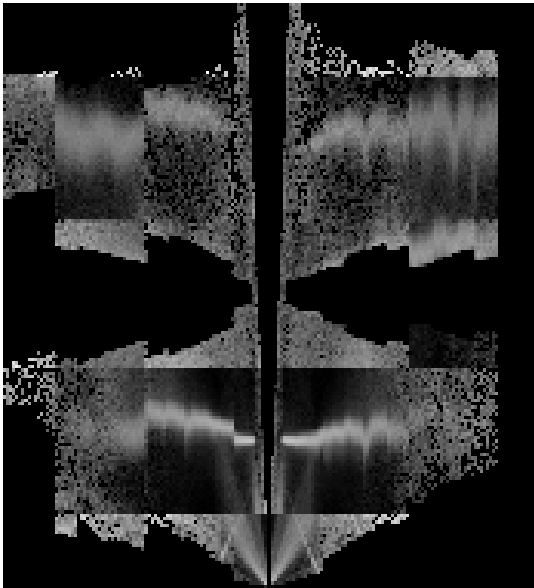
heg order +1



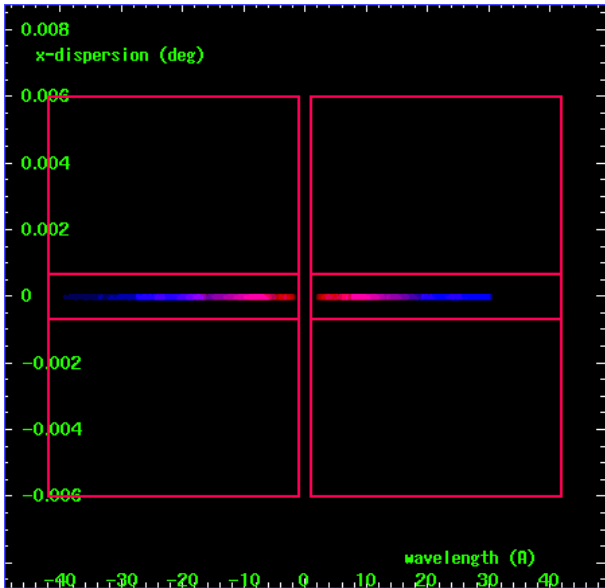
3.2 MEG Arm



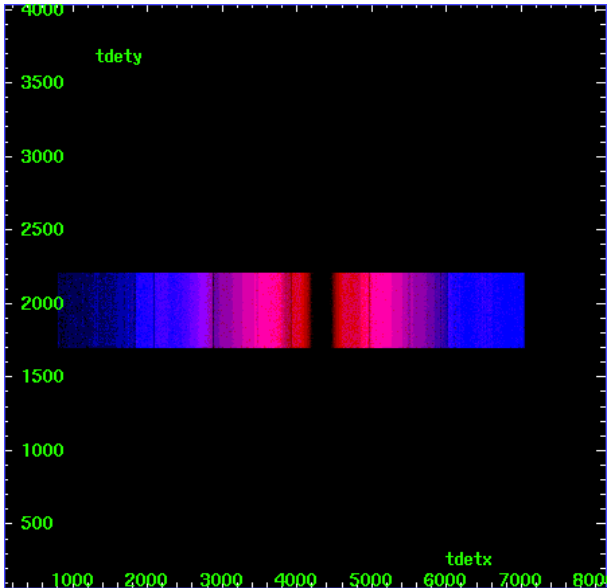
MEG Order Sort 123



MEG Order Sort ALL

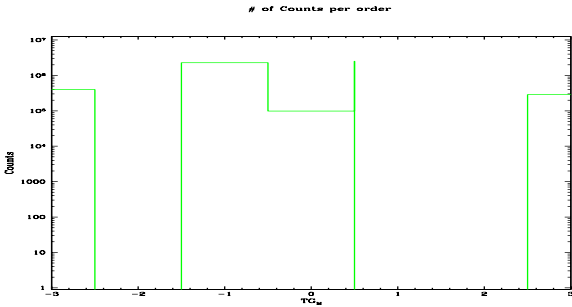


Spot Image MEG

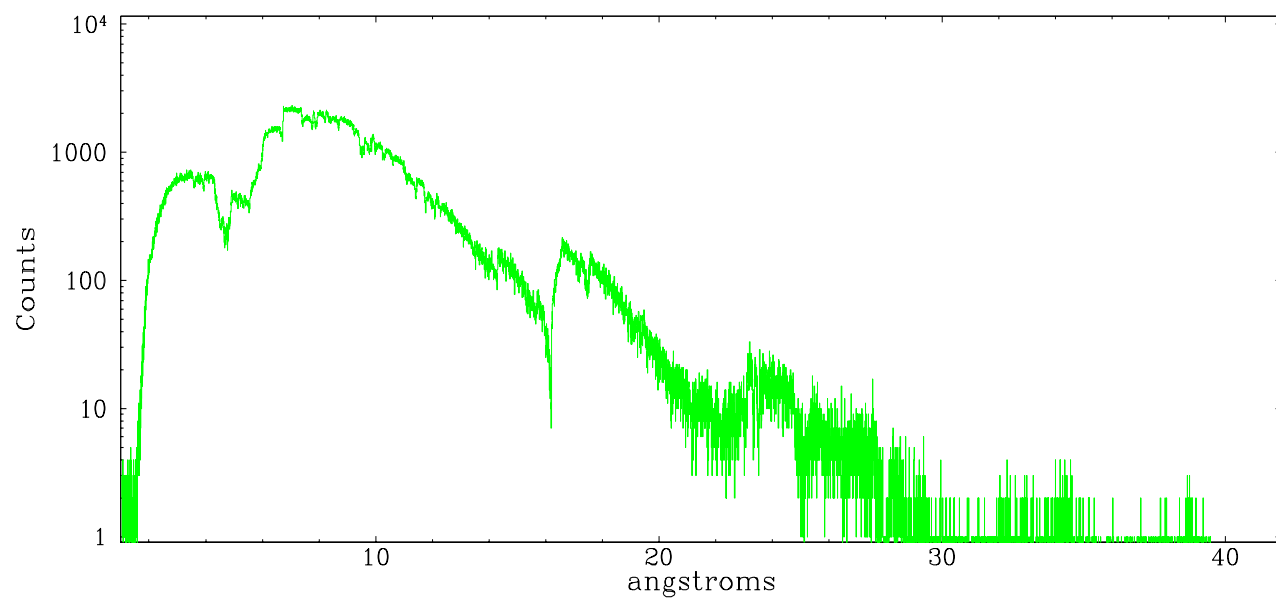


Full Detector MEG

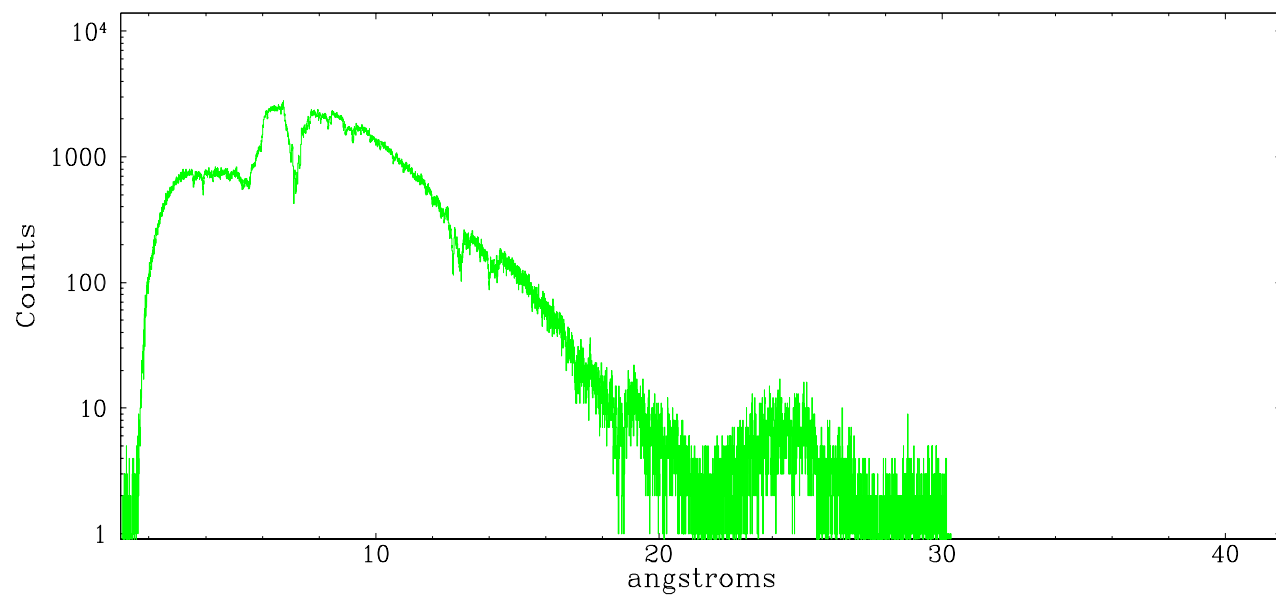
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	398698	0	2268833	97974	2513187	0	285138



meg order -1



meg order +1



## A Summary

### A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2007.01.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30

### A.2 Comments

Charge time: based on largest among chips. Due to saturation, some are much lower than the elapsed time.