

# V&V Reference Report

## L2 ASCDS Version : 7.6.8.1

Observation 3354 - L2 Version 001  
Chandra X-Ray Center

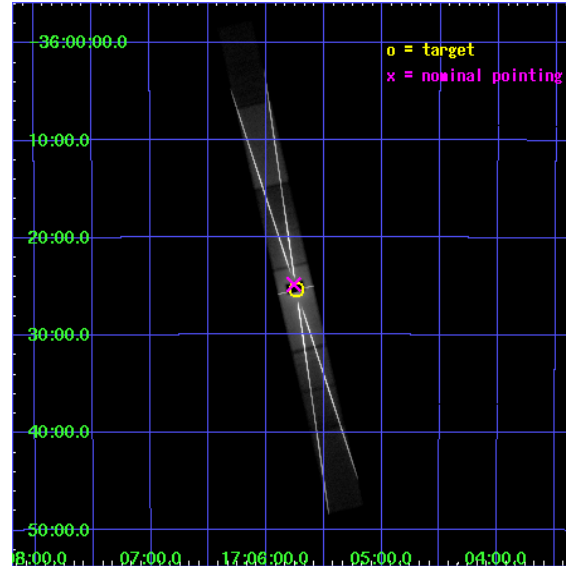
L2 Processing Date : Dec 13 2006

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# 1 Front

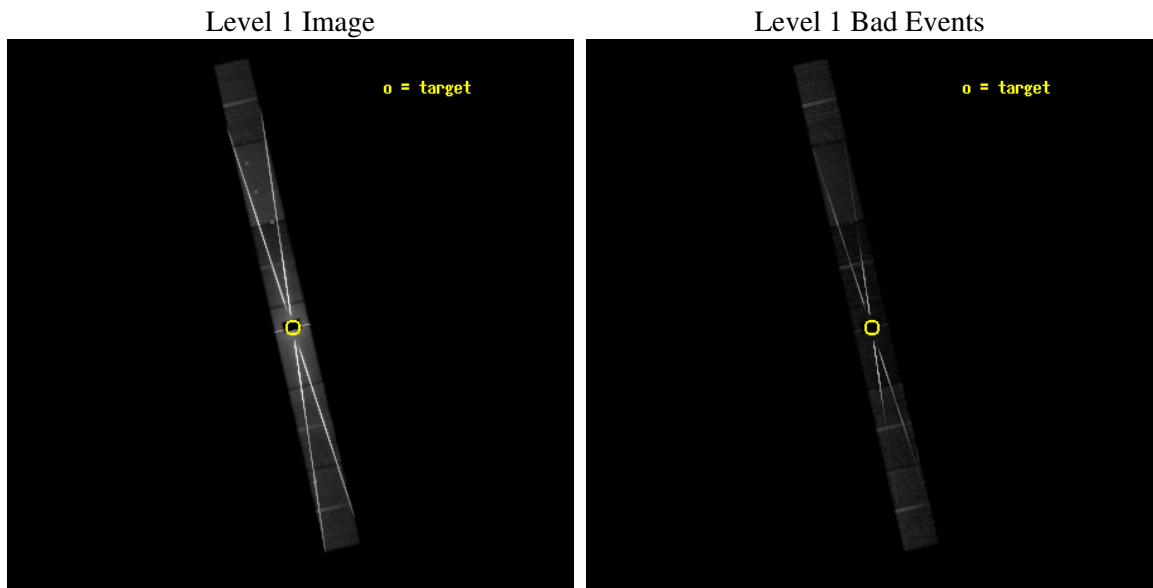
seq_num	900193
obs_id	3354
title	PROBING THE INTERSTELLAR MEDIUM: X-RAY ABSORPTION AT IRON AND OXYGEN WITH GX 349+2
observer	Prof. Claude Canizares
object	GX 349+2
dtcycle	0
cycle	P
ra_targ	256.435417
dec_targ	-36.422778
ra_nom	256.44019210155
dec_nom	-36.413856025788
roll_nom	76.860856825891
revision	3
ontime	17923.8745763
livetime	17446.537315352
ontime4	31171.930384576
ontime5	35214.0
ontime6	15498.294571936
ontime7	17923.8745763
ontime8	24138.762533158
ontime9	34685.433244646
l2events	4899652



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 4

Chip 5

Chip 6



Chip 7

Chip 8

Chip 9



### 2.1.3 Parameters

obi_num	1
ascdsver	7.6.8.1
caldsver	3.2.3
date	2006-09-09T17:47:57
revision	2

sched_exp_time	35000.000000
ontime	17925.325246781
ontime4	31173.381055057
ontime5	35215.450670481
ontime6	15499.745242417
ontime7	17925.325246781
ontime8	24140.213203639
ontime9	34686.883915126
l1events	6015097

### 2.1.4 Events

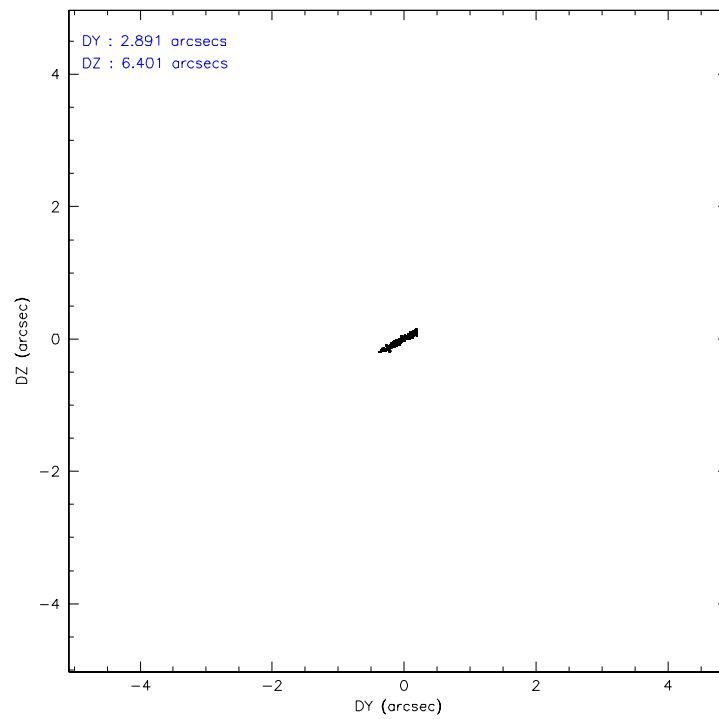
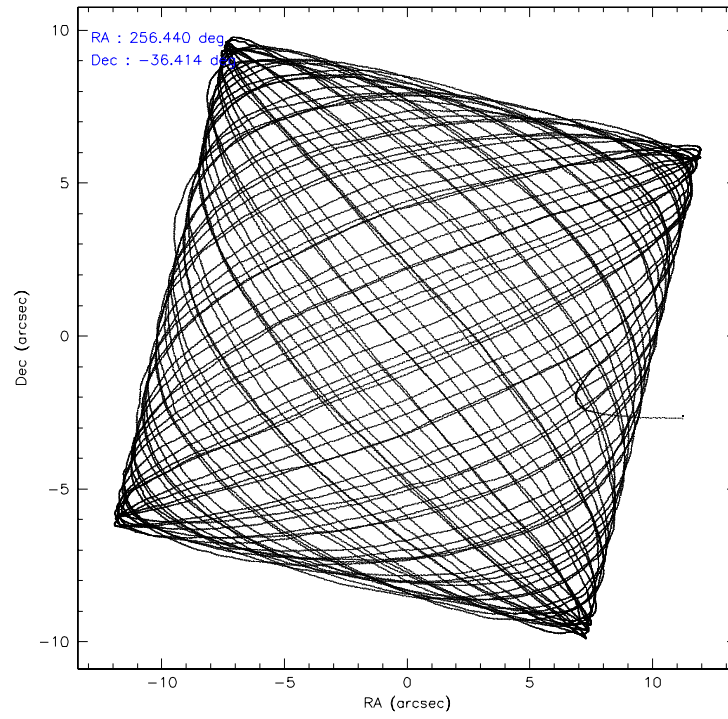
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	140707	747258	1620195	2069266	1112905	324766
rejected events	96578	100033	159860	306636	111854	94808
rejected %	68%	13%	9%	14%	10%	29%

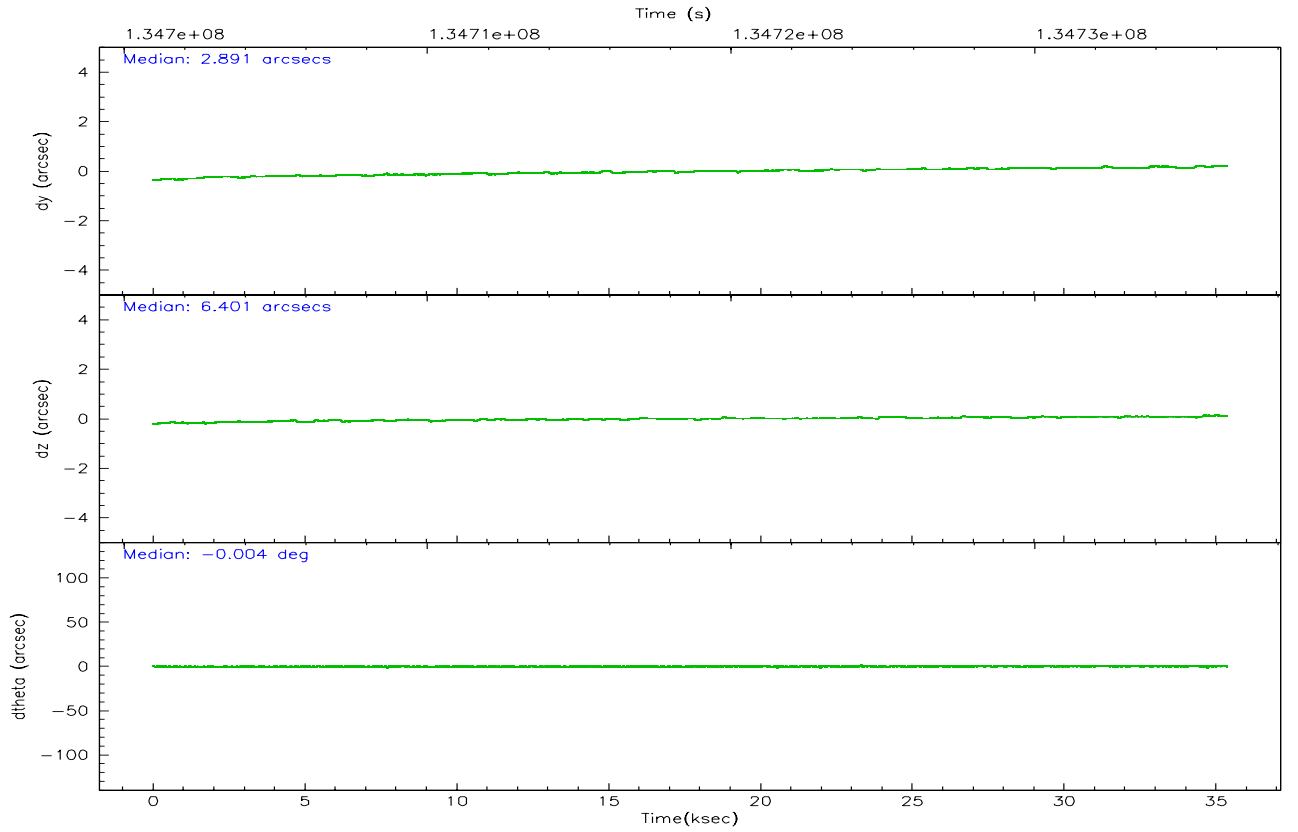
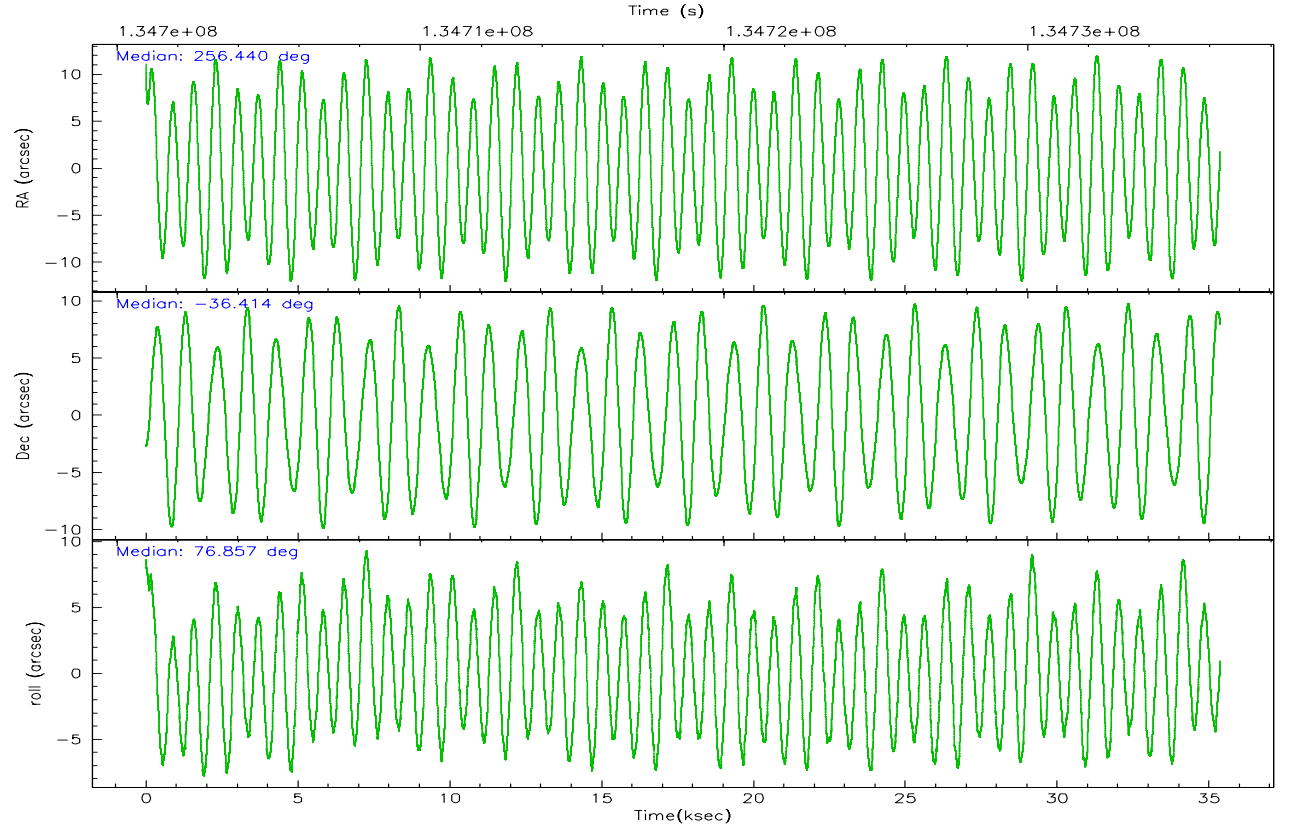
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	29866	175079	1031830	291374	772670	176116
	21%	23%	63%	14%	69%	54%
grade 1 events	148	1454	53970	18598	17175	822
	0%	0%	3%	0%	1%	0%
grade 2 events	6370	216338	197924	441198	114968	27187
	4%	28%	12%	21%	10%	8%
grade 3 events	2571	52912	76843	169729	41004	9222
	1%	7%	4%	8%	3%	2%
grade 4 events	2465	52210	74803	169005	40380	9266
	1%	6%	4%	8%	3%	2%
grade 5 events	3363	16226	40834	91675	12842	4786
	2%	2%	2%	4%	1%	1%
grade 6 events	2857	150714	79057	691454	32095	8183
	2%	20%	4%	33%	2%	2%
grade 7 events	93067	82325	64934	196233	81771	89184
	66%	11%	4%	9%	7%	27%

## 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	FAINT	FAINT	On-chip summing requested	N	N
Observation mode	POINTING	POINTING	Subarray requested	CUSTOM	CUSTOM
Pointing RA	256.450409	256.4401921015474	Subarray start row	1	1
Pointing Dec	-36.439841	-36.4138560257885	Subarray row count	440	440
Pointing Roll	76.710292	76.86085682589064	Alternating exposures requested	N	N
SIM focus pos (mm)	-0.684267	-0.6828225247311905	Primary exposure time	0.000000	1.5
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-183.124523	-183.1251263585195			
SIM translation stage offset (mm)	-7.008	-7.007396224488332			
Observation start time	134701331.184000	134700270.17891			
Observation start date	2002-04-09T01:01:07	2002-04-09T00:44:30			
Observation end time	134736331.184000	134736714.56789			
Observation end date	2002-04-09T10:44:27	2002-04-09T10:51:54			
Read mode	TIMED	TIMED			

## 2.3 Aspect





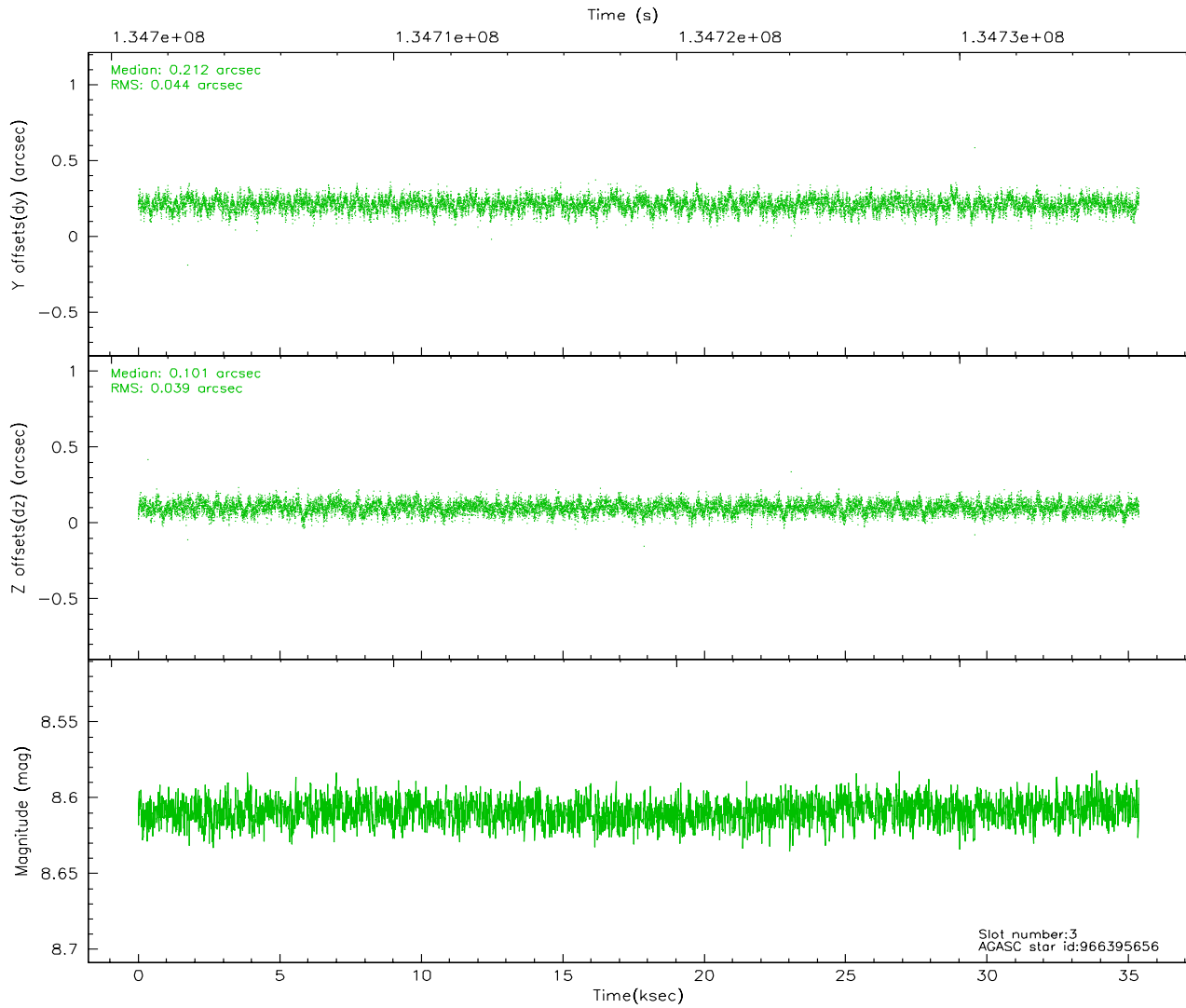
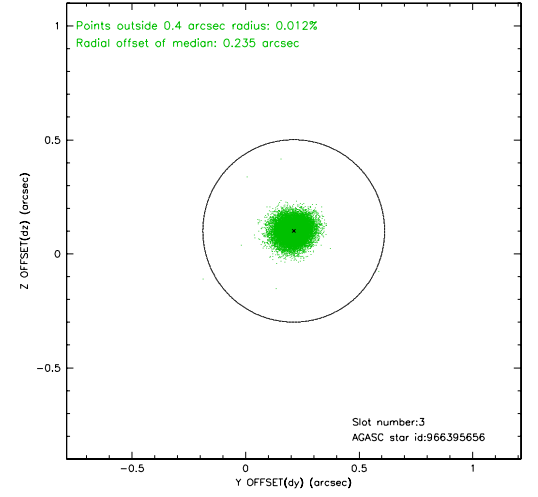
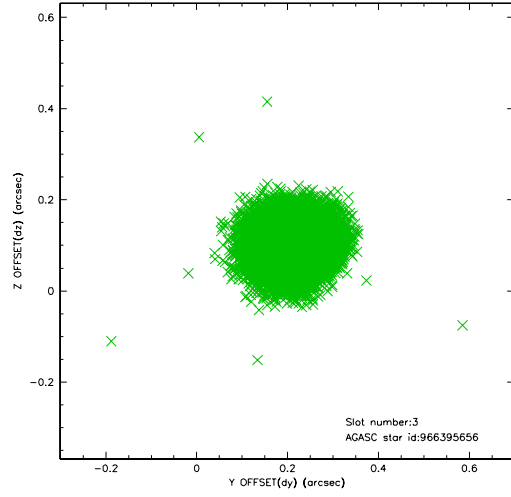
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	8628	-0.035	-0.032	0.008	0.013	0.000000	0.000000	-755.05	-1871.97
1	FID	ACIS-S-4	7.19	8625	-0.042	0.025	0.005	0.010	0.000000	0.000000	2158.21	36.50
2	FID	ACIS-S-5	7.23	8628	0.046	0.015	0.008	0.013	0.000000	0.000000	-1807.75	30.21
3	GUIDE	966395656	8.61	17253	0.212	0.101	0.062	0.101	256.614510	-37.032666	-1968.89	-950.28
4	GUIDE	966398520	8.33	17254	-0.259	0.110	0.067	0.110	256.842646	-35.892866	2176.53	-661.61
5	GUIDE	966394144	8.63	17255	0.115	0.091	0.057	0.091	256.902901	-37.062041	-1884.01	-1781.31
6	GUIDE	966263464	8.66	17251	-0.153	-0.148	0.064	0.106	256.403645	-35.929342	1756.75	554.48
7	GUIDE	966267584	8.86	17243	0.084	-0.155	0.069	0.112	256.057206	-36.642617	-973.84	936.30

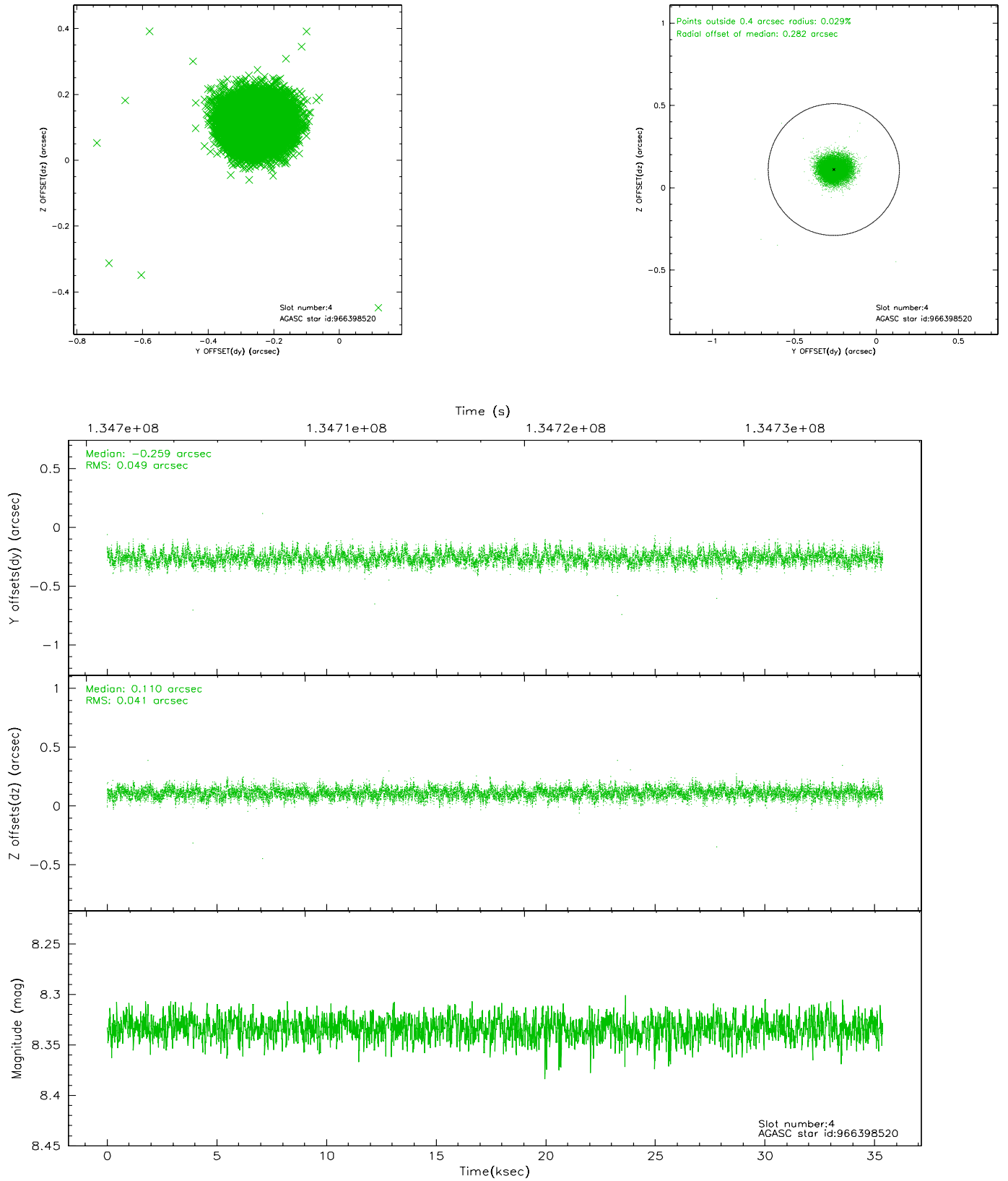


## 2.4 Star Slots

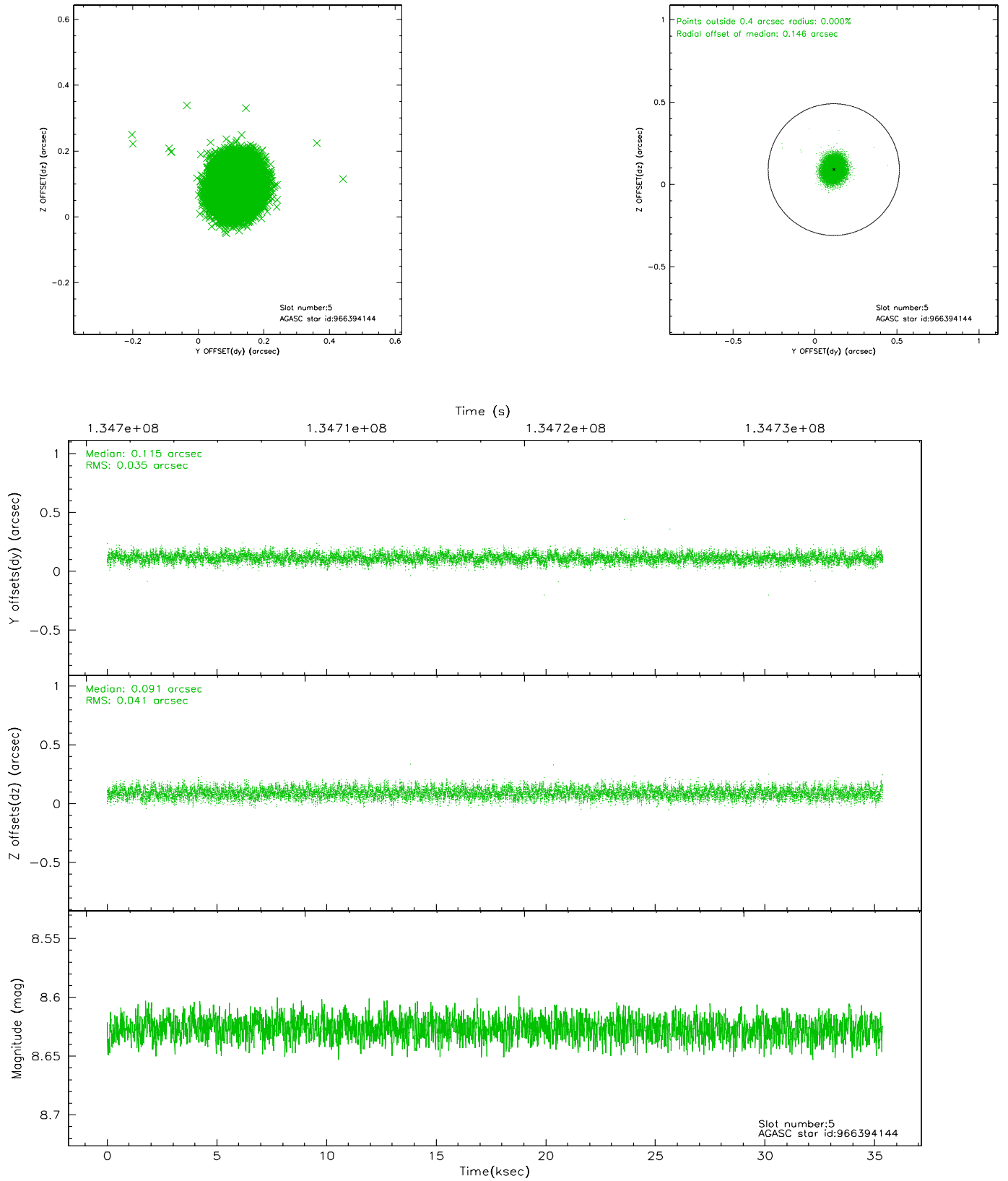
### 2.4.1 Slot 3



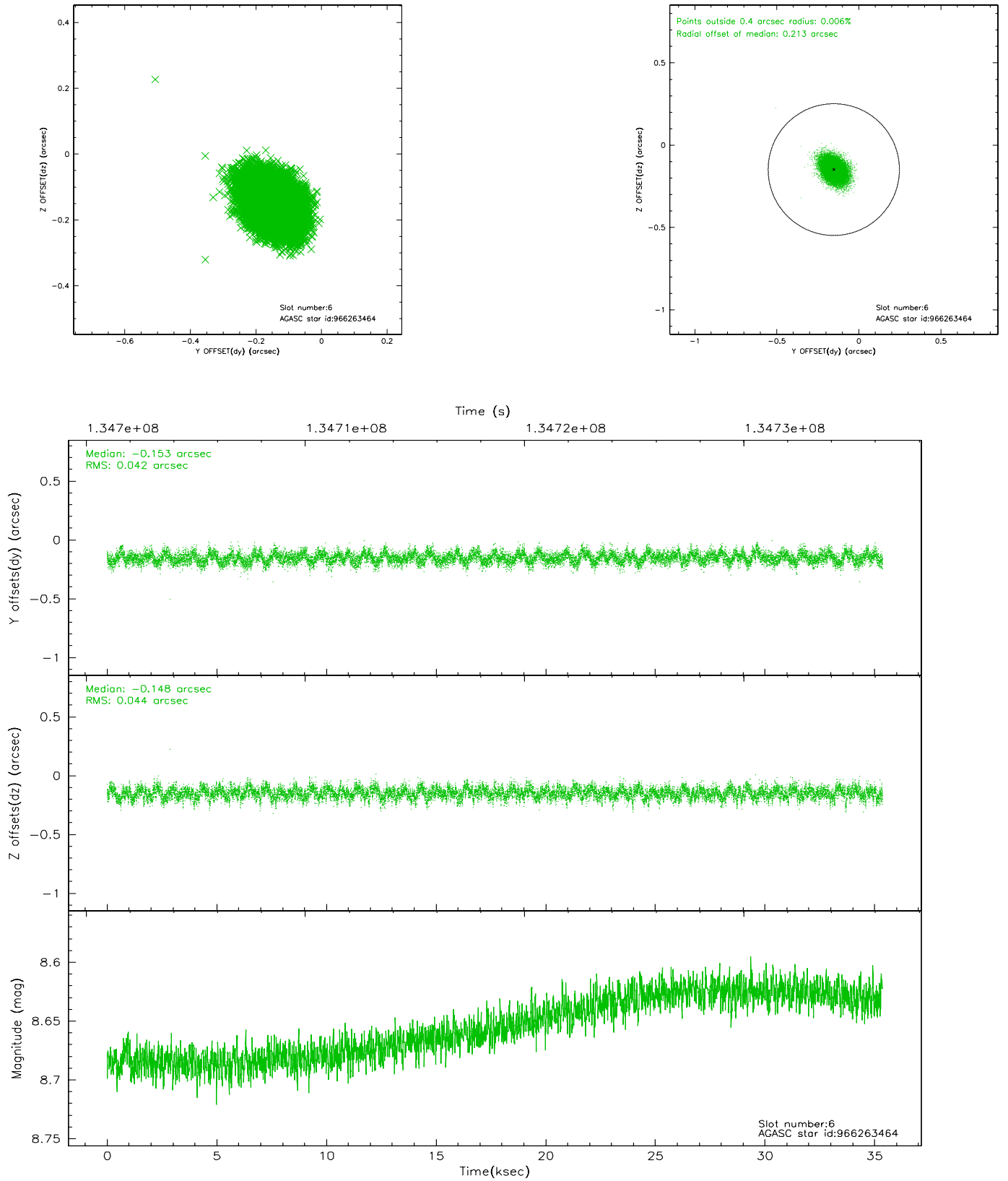
## 2.4.2 Slot 4



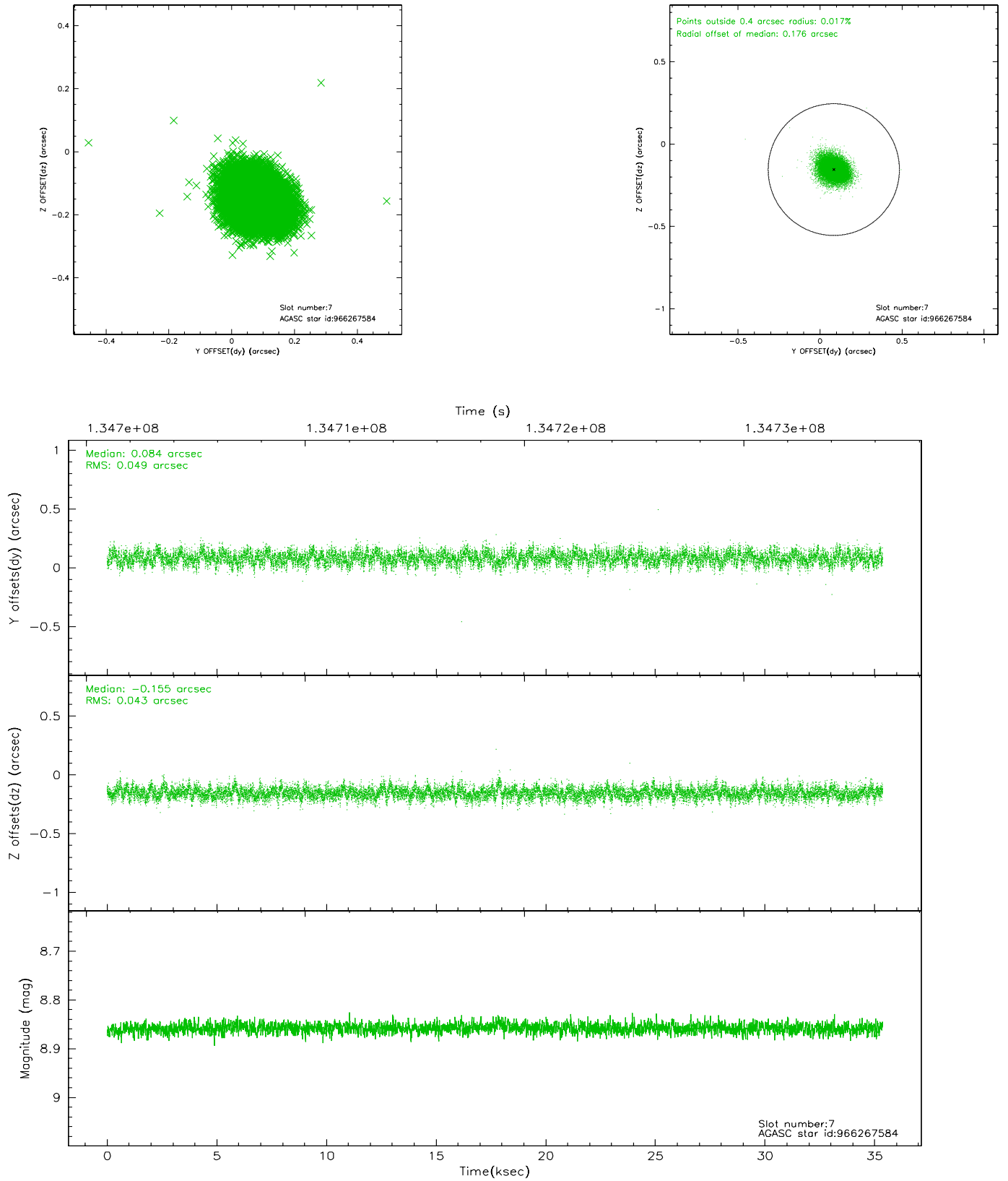
### 2.4.3 Slot 5



## 2.4.4 Slot 6

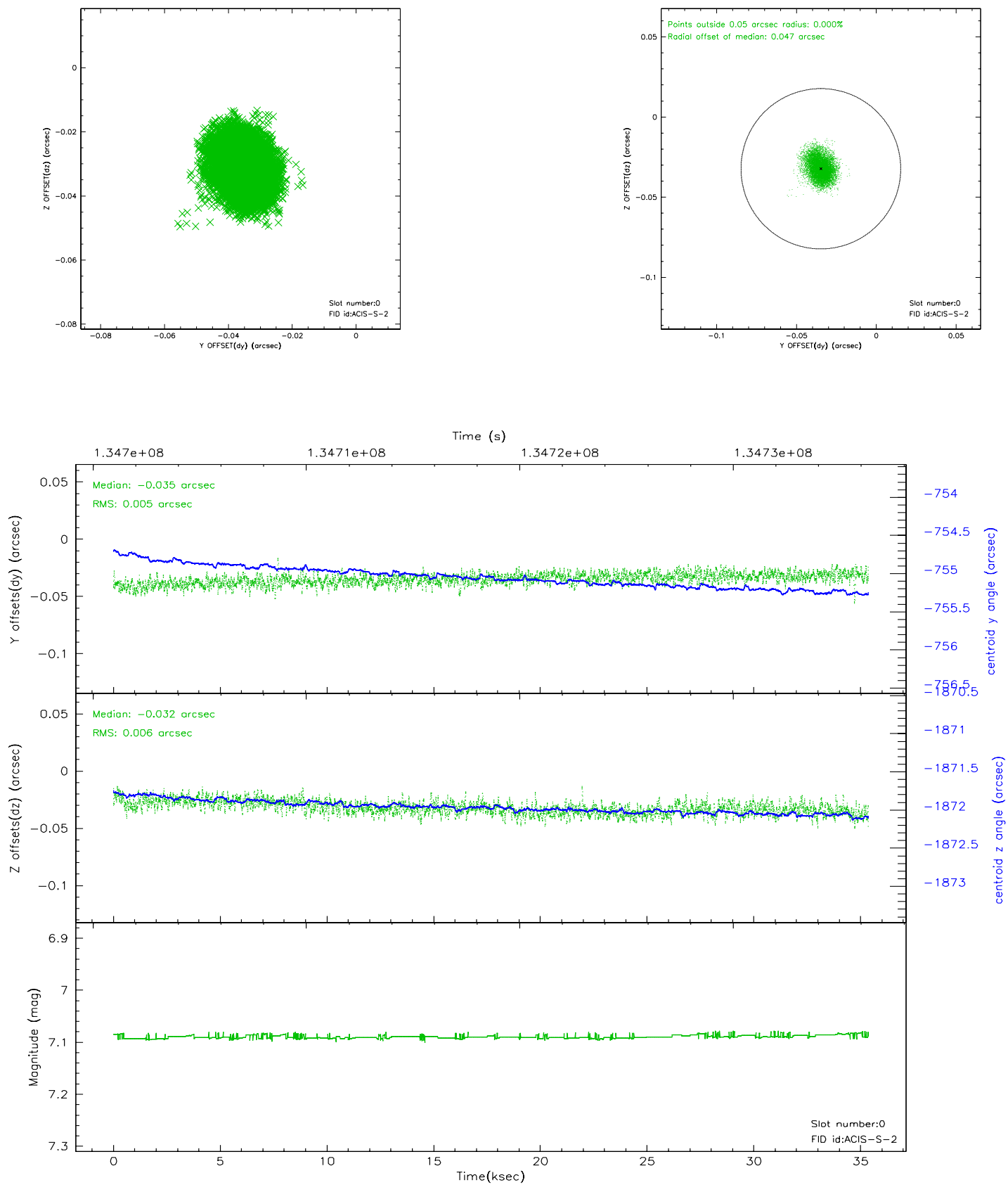


## 2.4.5 Slot 7

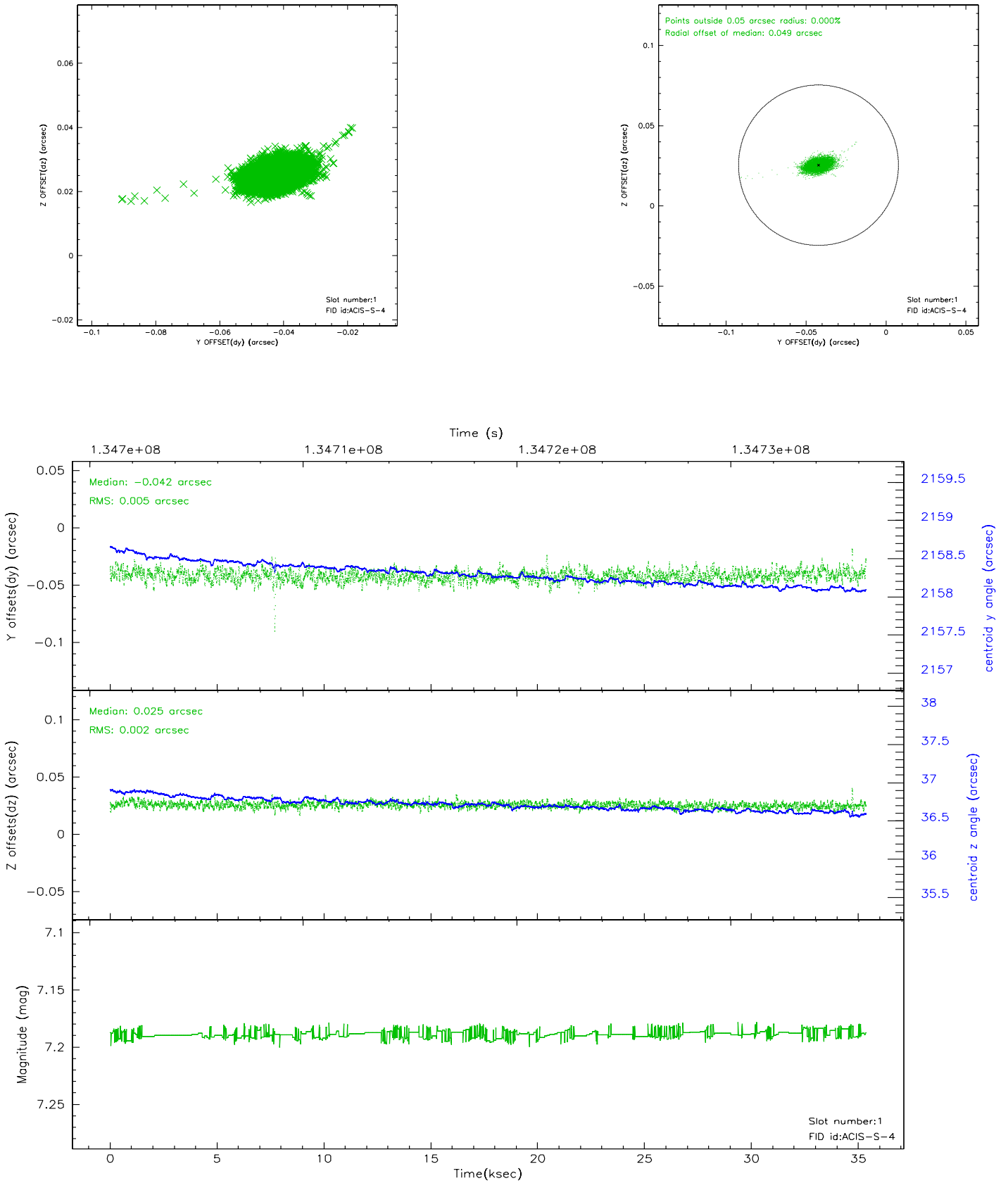


## 2.5 FID Slots

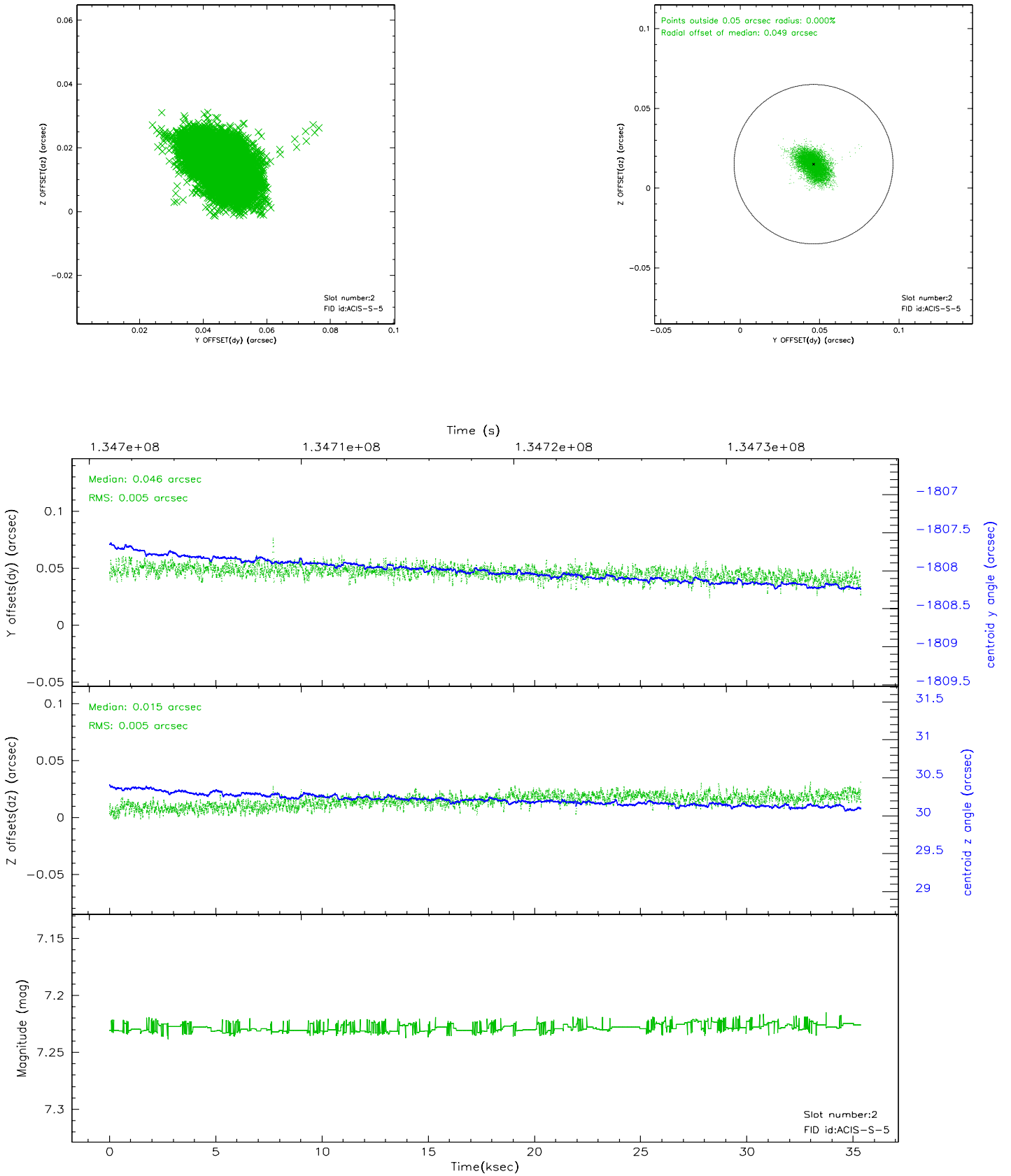
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



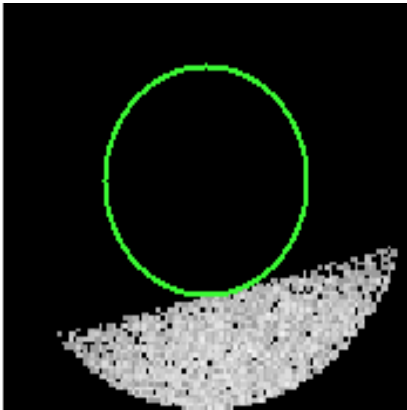


# 3 Gratings

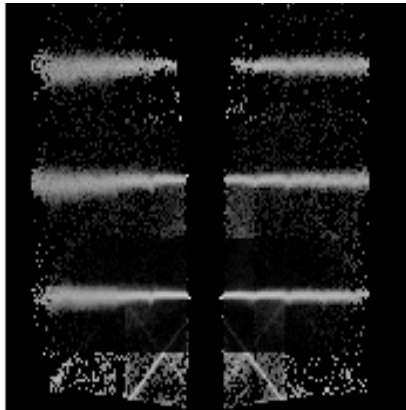
## 3.1 HEG Arm



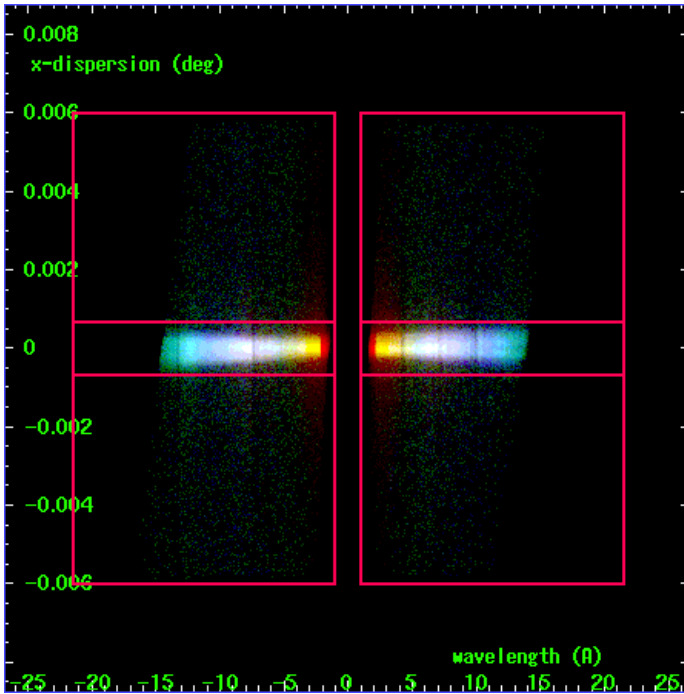
HEG Order Sort 123



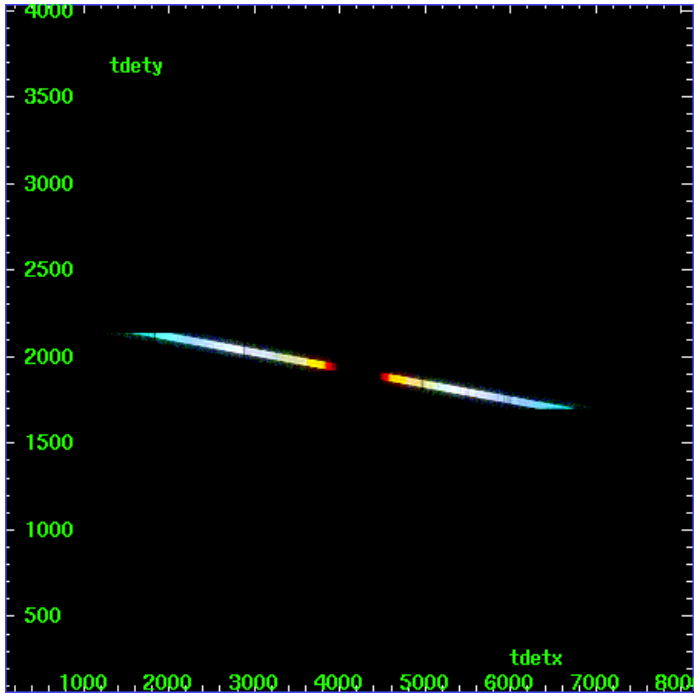
HEG Zero Order



HEG Order Sort ALL

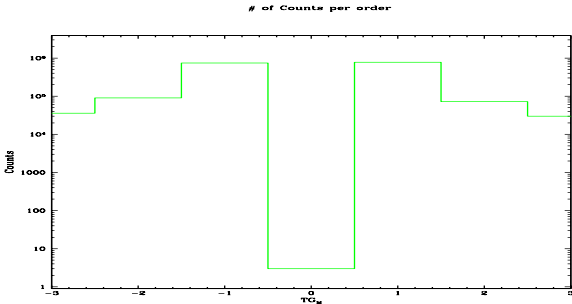


Spot Image HEG

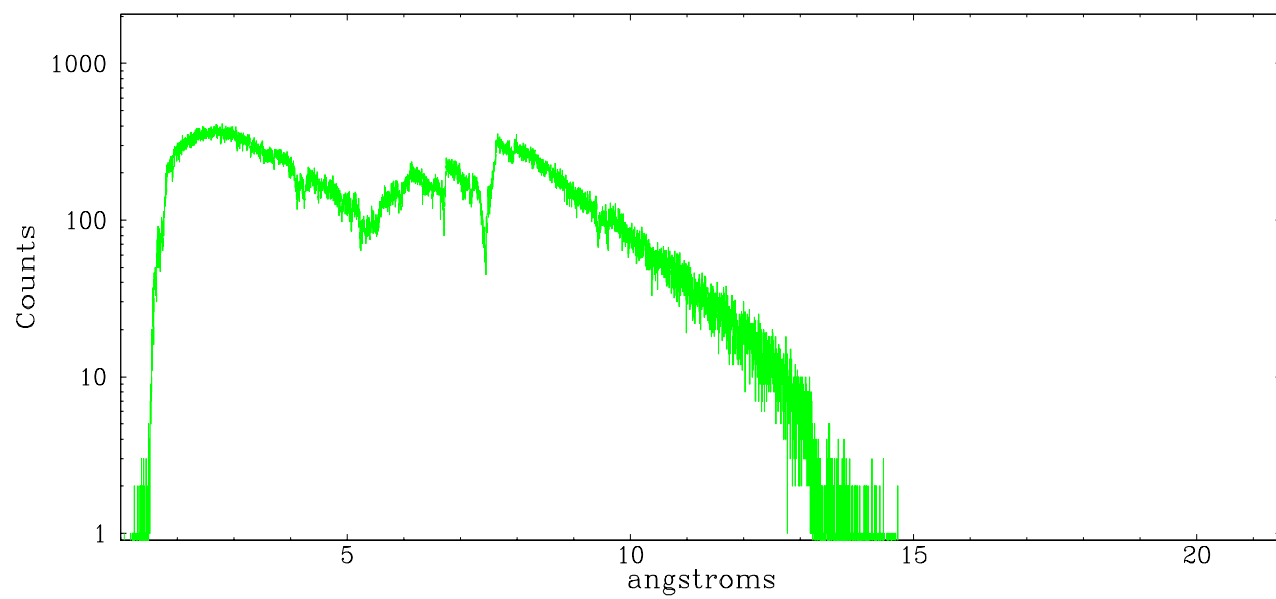


Full Detector HEG

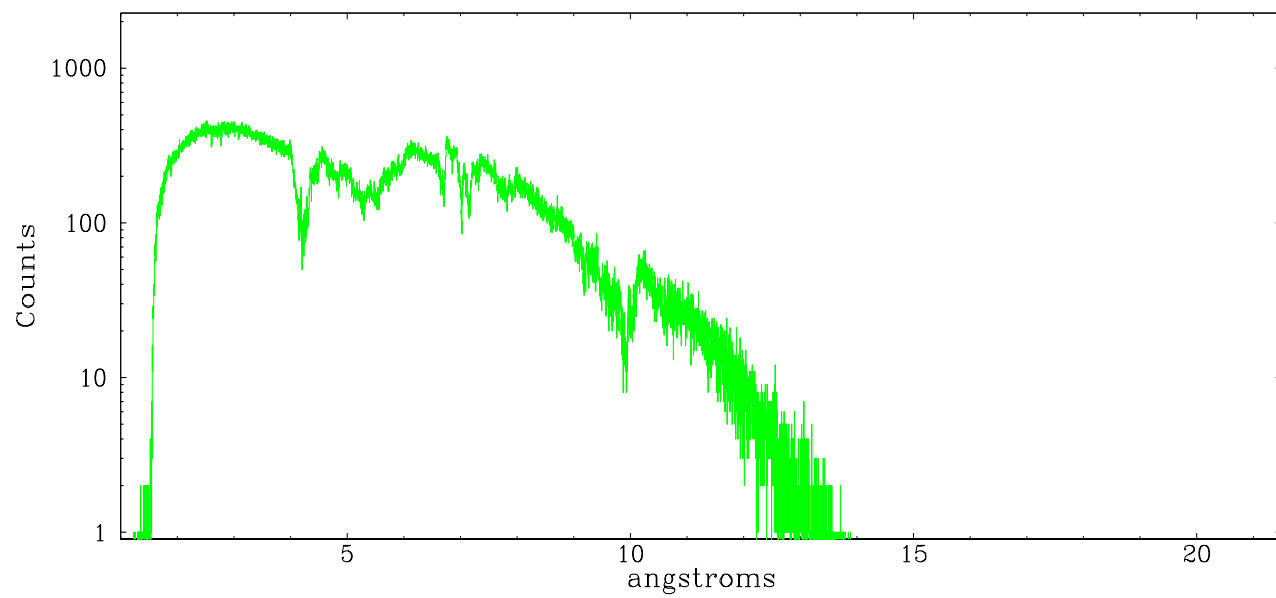
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	35900	89998	739588	3	774089	71670	30016



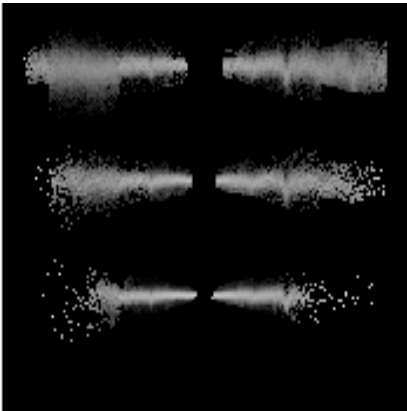
heg order -1



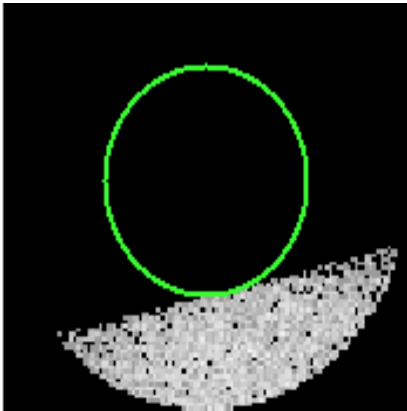
heg order +1



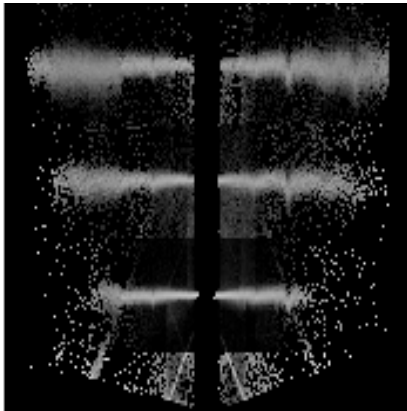
3.2 MEG Arm



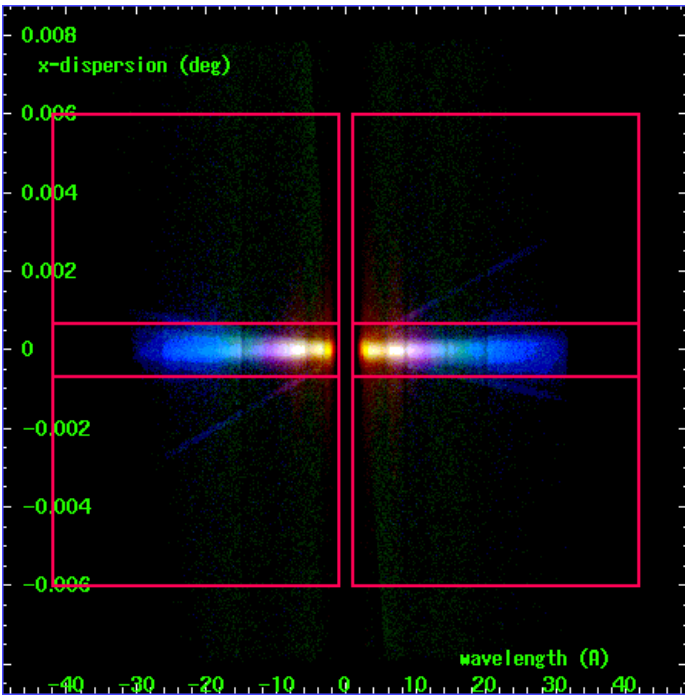
MEG Order Sort 123



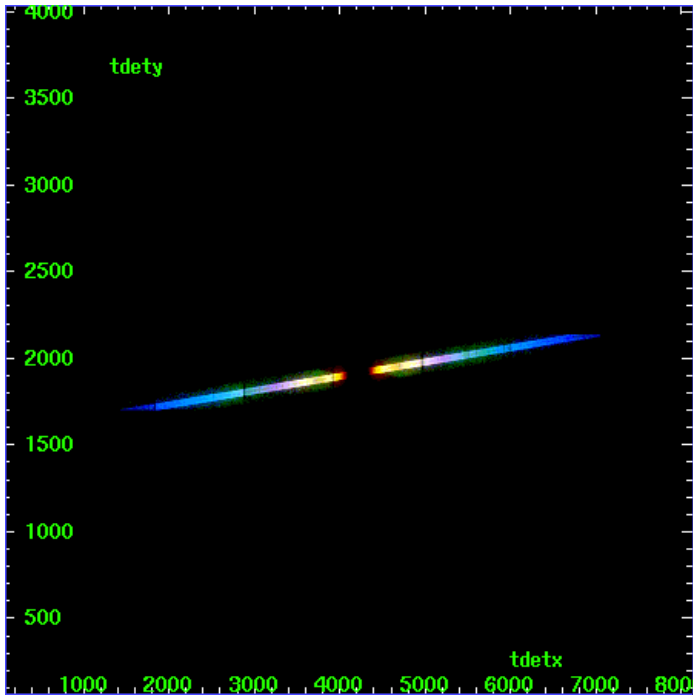
MEG Zero Order



MEG Order Sort ALL

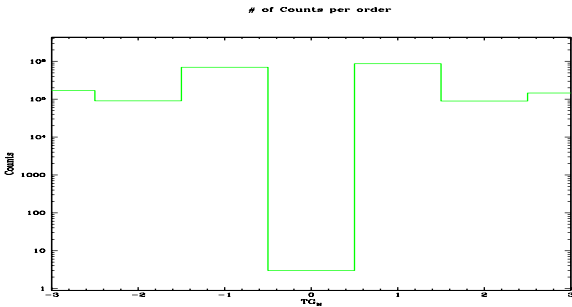


Spot Image MEG

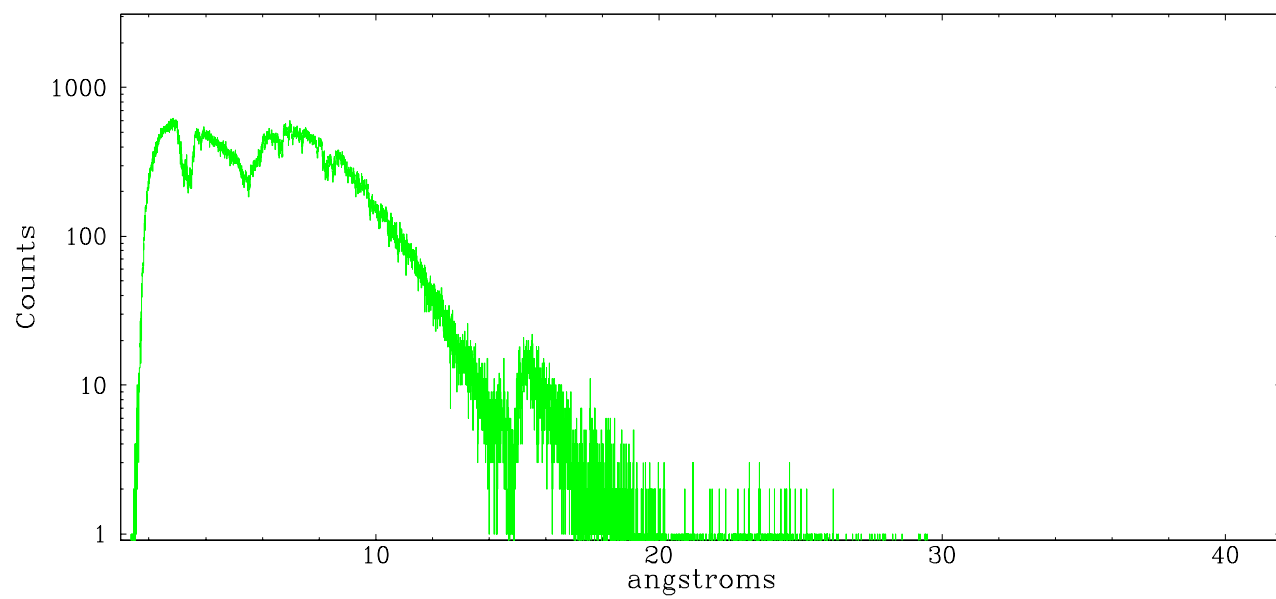


Full Detector MEG

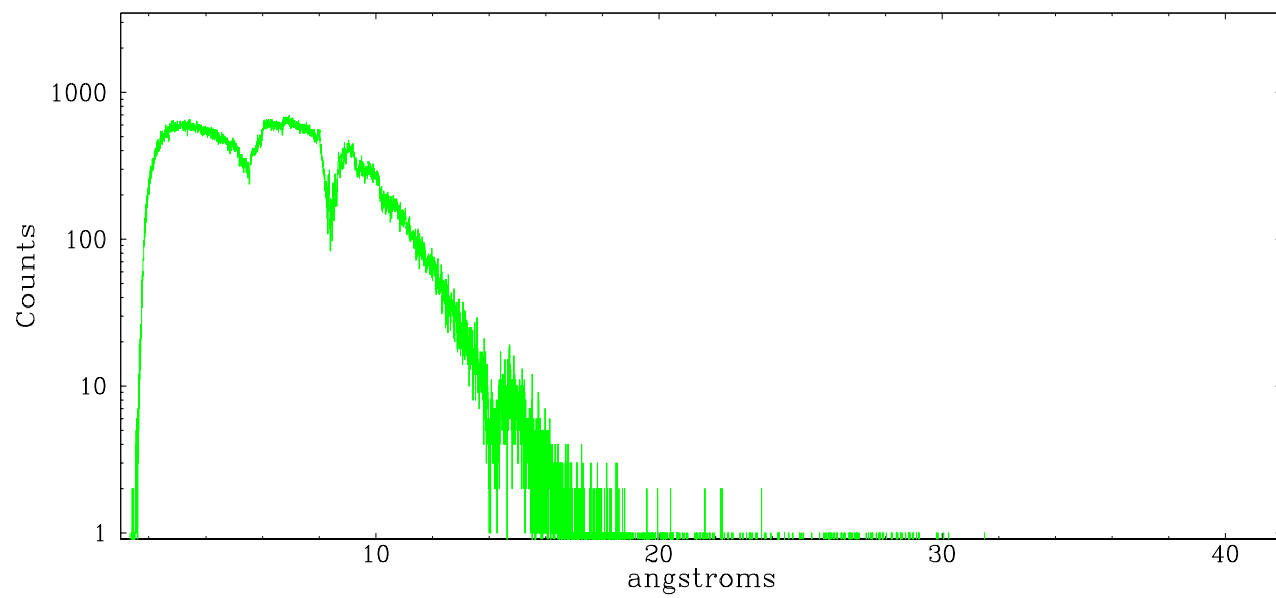
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	169076	90953	697599	3	865511	89942	145305



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.214

## A.2 Comments

Charge time for this ObsId remains at original value of 35.214 ks, although with the current processing the charge time would have been 17.92 ksec.

Zeroth order blocked by ACIS exclusion window. Standard data processing software did not correctly locate the zeroth order due to a window. Manual intervention was used to input the correct sky coordinates (x=4124.72; y=4029.00) into the \*src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO. The tool calculates the point of intersection of the readout streak and the meg arm (preferred position), or the readout streak and the heg arm. The zeroth order source position determined by the standard pipeline processing using the tool tgdetect was not used in this processing. The \*evt1a.fits file has the corrected coordinates, which were used to produce the extracted spectral data. Note that these corrected coordinates of the zeroth order cannot be reproduced by running tgdetect on the data.