

# V&V Reference Report

## L2 ASCDS Version : 7.6.10

Observation 701 - L2 Version 4  
Chandra X-Ray Center

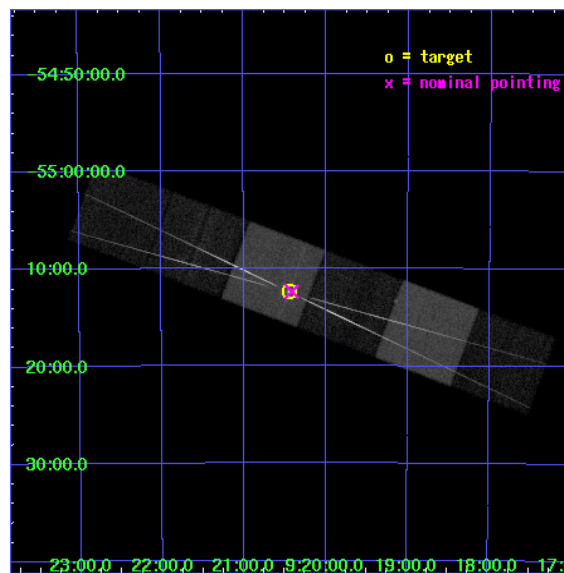
L2 Processing Date : Jul 27 2007

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# 1 Front

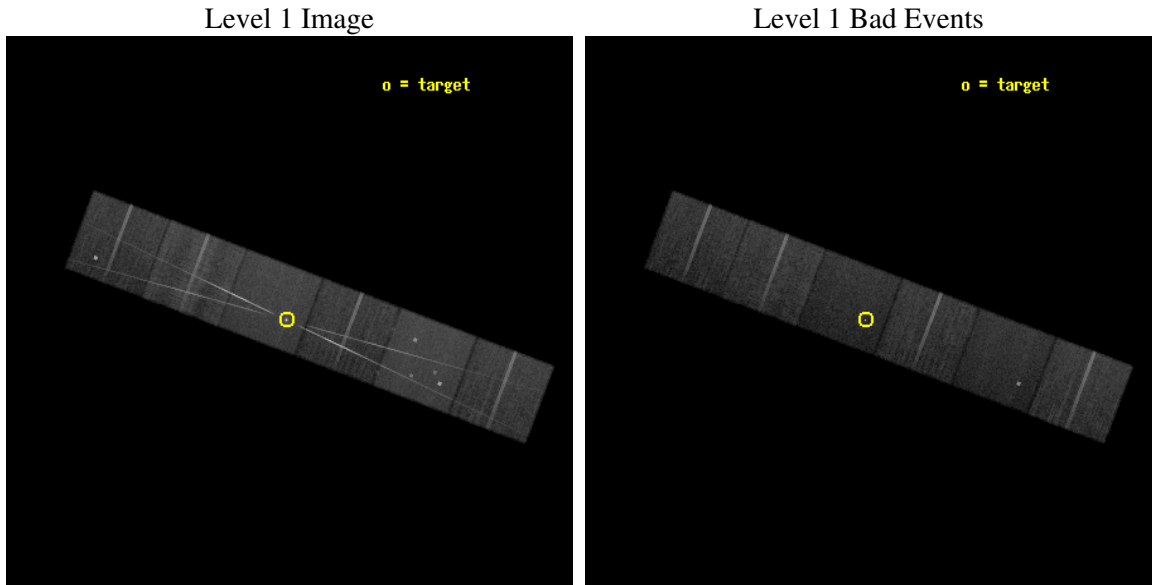
seq_num	400068
obs_id	701
title	RESOLVING LOW ENERGY LINES FROM LMXRB
observer	Dr Lorella Angelini
object	X0918-54
dtcycle	0
cycle	P
ra_targ	140.11125
dec_targ	-55.206389
ra_nom	140.10314357785
dec_nom	-55.206202430167
roll_nom	200.61498854369
revision	4
ontime	28848.000026867
livetime	28482.709280346
ontime4	28848.000026867
ontime5	28848.000026867
ontime6	28848.000026867
ontime7	28848.000026867
ontime8	28848.000026867
ontime9	28844.759066626
l2events	386313



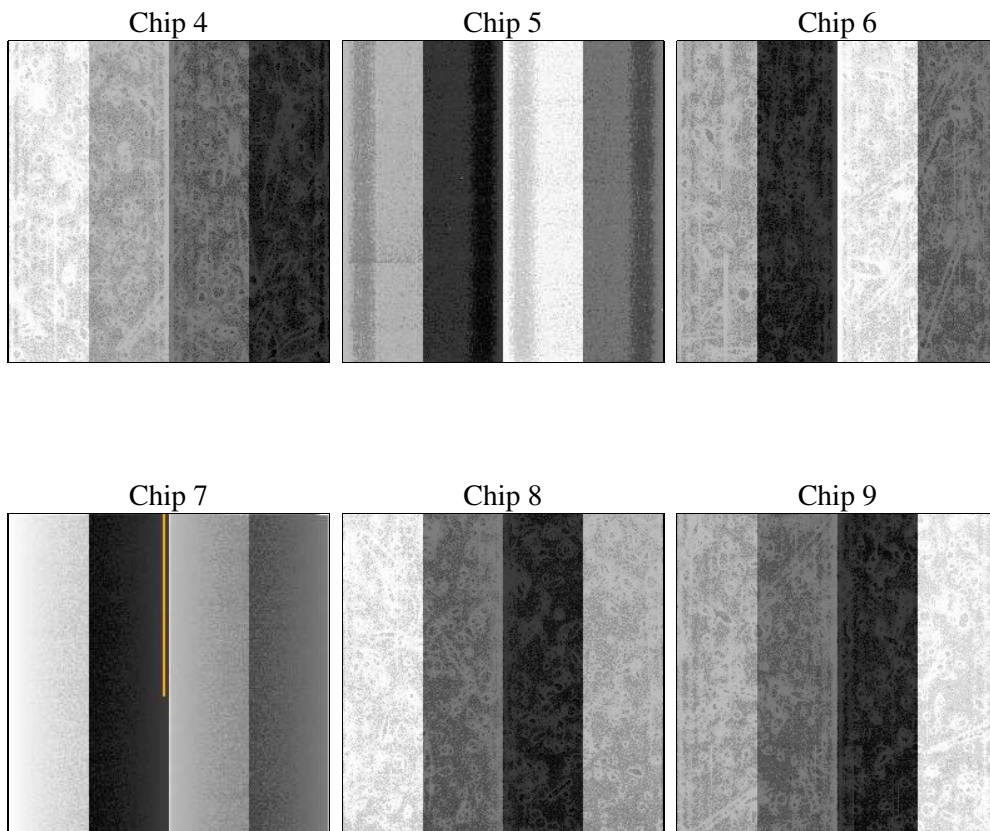
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	3
ascdsver	7.6.10
caldbver	3.4.0
date	2007-05-31T17:45:57
revision	3

sched_exp_time	28895.000000
ontime	28848.000026867
ontime4	28848.000026867
ontime5	28848.000026867
ontime6	28848.000026867
ontime7	28848.000026867
ontime8	28848.000026867
ontime9	28844.759066626
l1events	1303763

### 2.1.4 Events

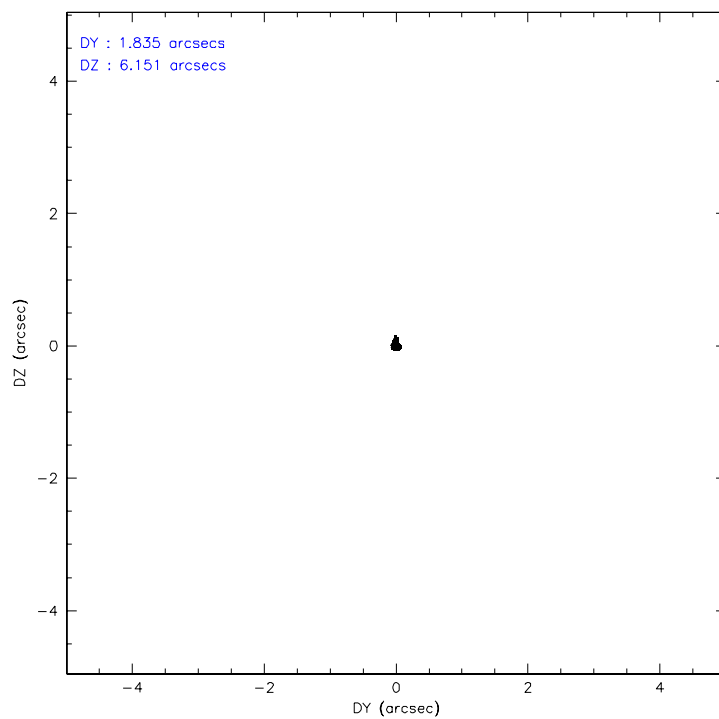
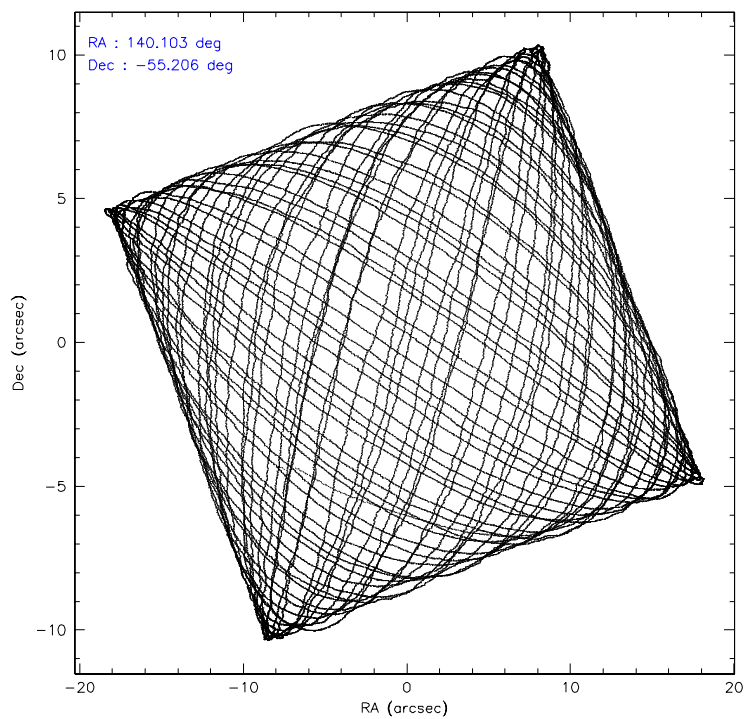
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	188241	237355	210303	246207	248174	173483
rejected events	162123	114417	146696	116258	163190	141739
rejected %	86%	48%	69%	47%	65%	81%

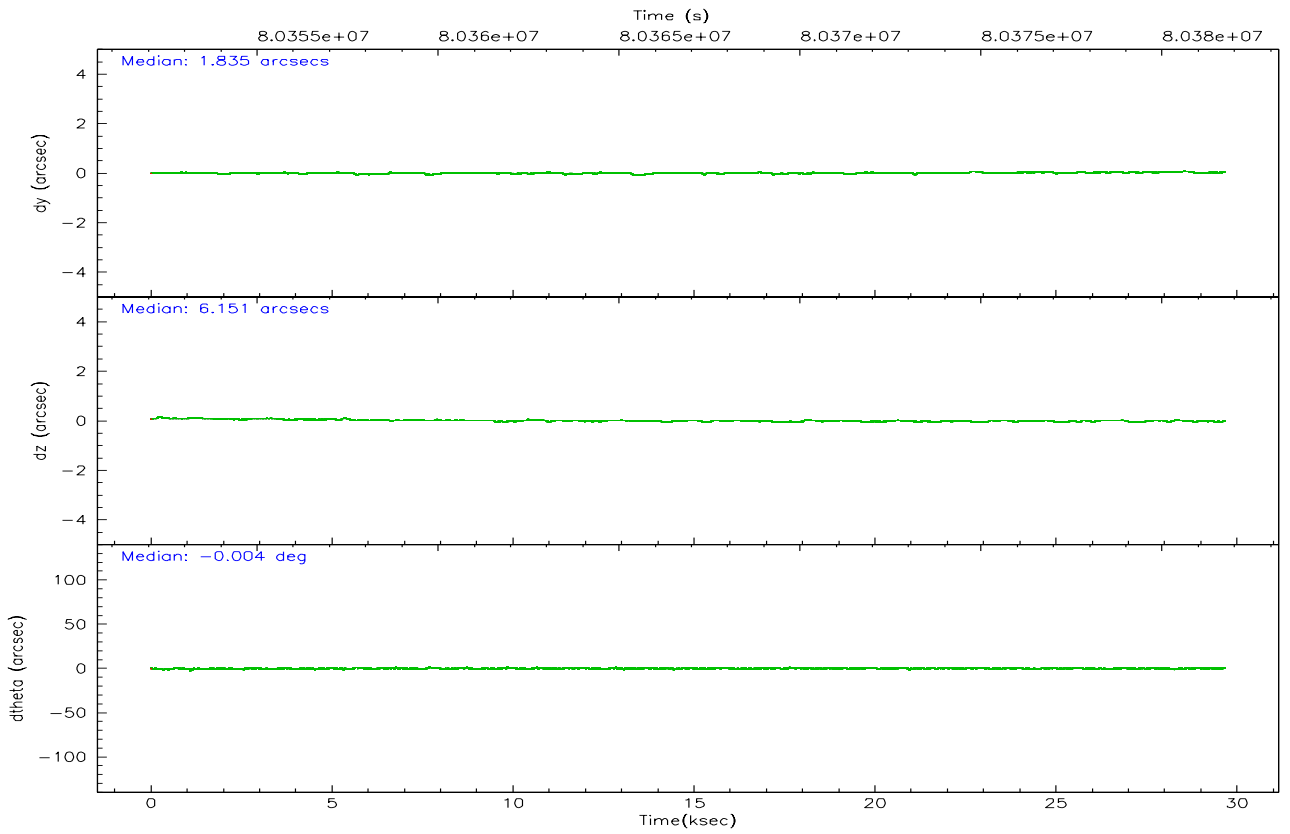
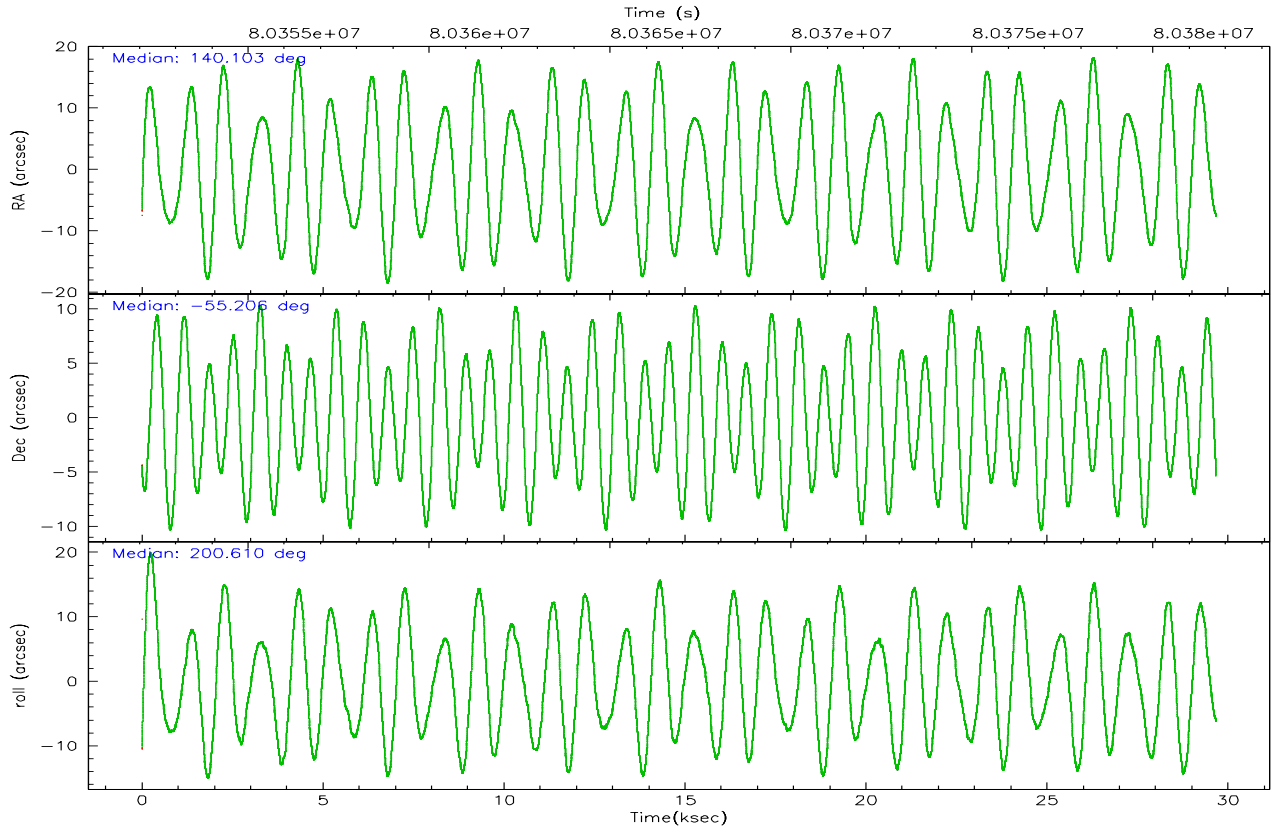
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	12663	20740	42840	18444	39300	18677
	6%	8%	20%	7%	15%	10%
grade 1 events	107	2841	221	374	233	114
	0%	1%	0%	0%	0%	0%
grade 2 events	5799	34914	8917	27817	13810	4692
	3%	14%	4%	11%	5%	2%
grade 3 events	1922	6330	3368	12833	8484	2137
	1%	2%	1%	5%	3%	1%
grade 4 events	2030	6462	3356	12826	7695	2073
	1%	2%	1%	5%	3%	1%
grade 5 events	5332	16473	6352	19568	8430	6267
	2%	6%	3%	7%	3%	3%
grade 6 events	3705	54511	5135	58038	15704	4169
	1%	22%	2%	23%	6%	2%
grade 7 events	156683	95084	140114	96307	154518	135354
	83%	40%	66%	39%	62%	78%

## 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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	140.133380	140.1031435778494	Subarray requested	NONE	NONE
Pointing Dec	-55.184949	-55.20620243016686	Alternating exposures requested	N	N
Pointing Roll	200.483190	200.6149885436942	Primary exposure time	0.000000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-187.132523	-187.1228876879999			
SIM translation stage offset (mm)	-3	-3.009634895007935			
Observation start time	80352852.184000	80351510.60962901			
Observation start date	2000-07-19T00:13:08	2000-07-18T23:51:50			
Observation end time	80381747.184000	80382277.01077101			
Observation end date	2000-07-19T08:14:43	2000-07-19T08:24:37			
Read mode	TIMED	TIMED			

## 2.3 Aspect



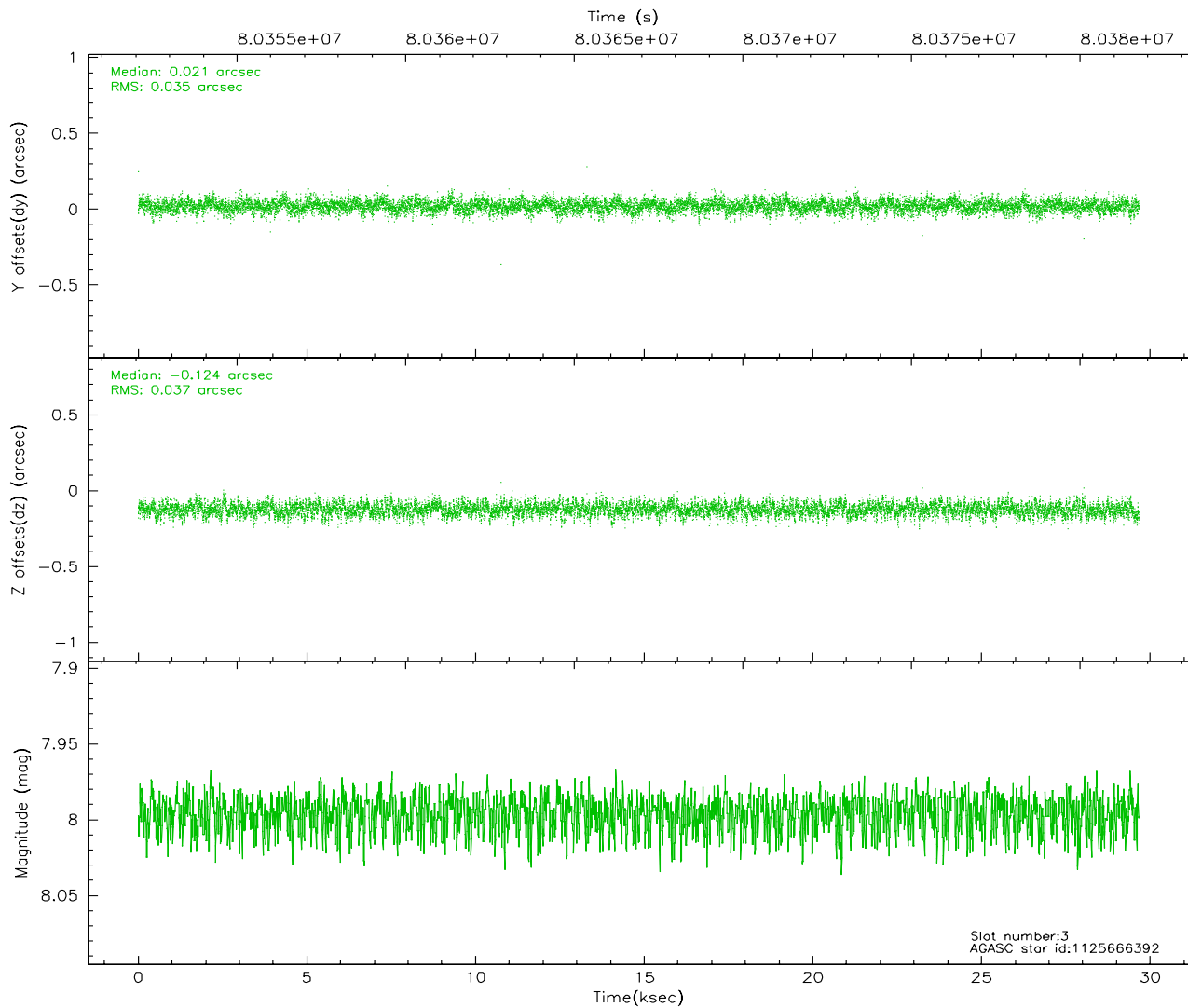
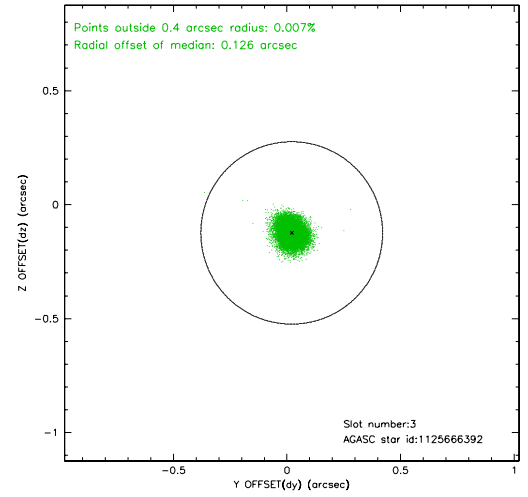
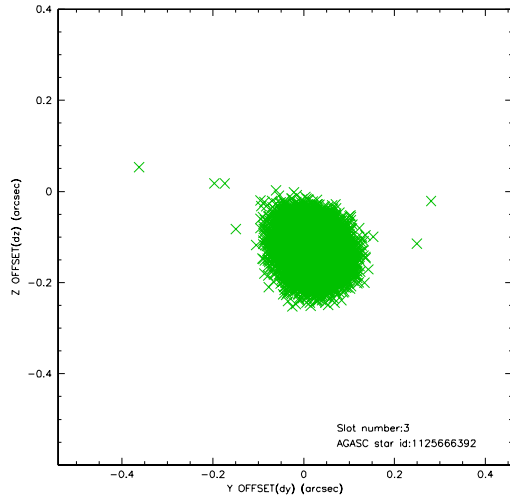


### Slot Statistics

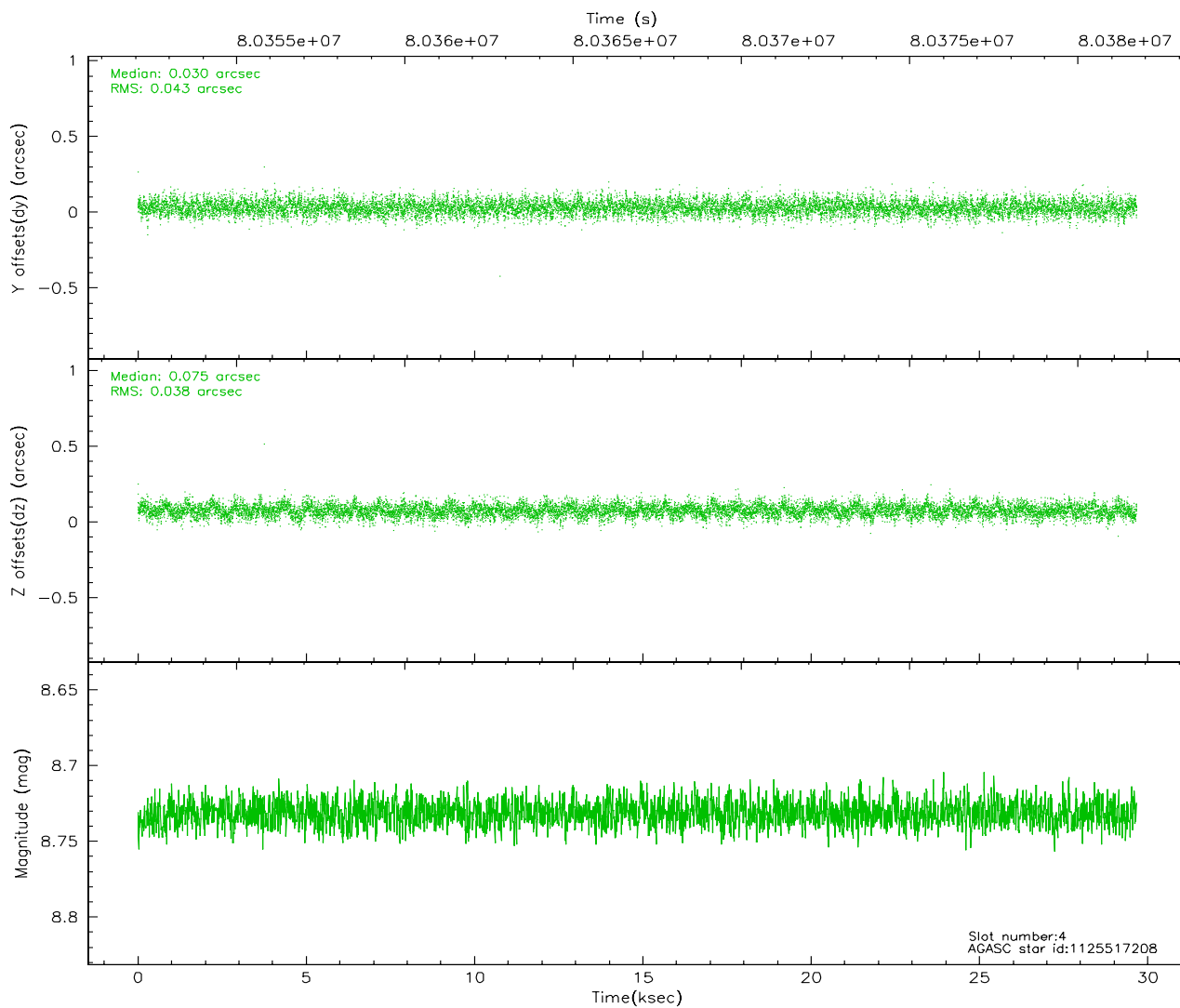
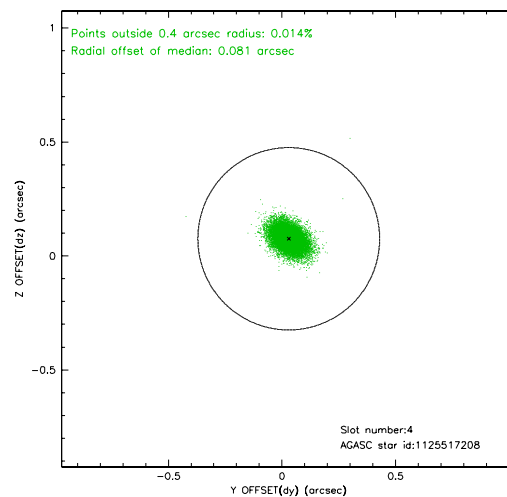
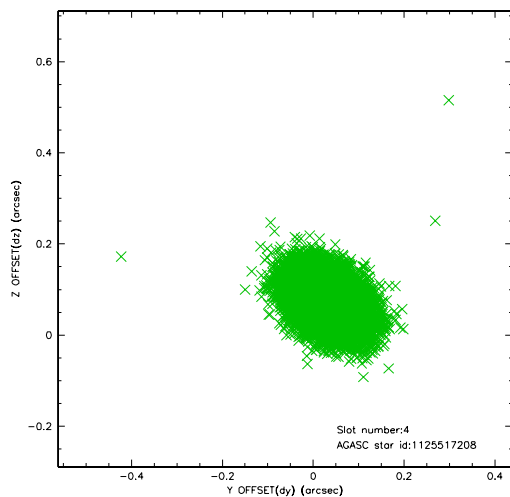
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	7238	-0.023	0.071	0.007	0.012	0.000000	0.000000	941.73	-1785.02
1	FID	ACIS-S-5	7.24	7237	0.045	0.016	0.006	0.010	0.000000	0.000000	-1807.11	112.45
2	FID	ACIS-S-6	7.38	7237	-0.043	-0.076	0.007	0.012	0.000000	0.000000	407.25	756.36
3	GUIDE	1125666392	8.00	14469	0.021	-0.124	0.053	0.087	140.024785	-55.253220	295.60	152.45
4	GUIDE	1125517208	8.73	14473	0.030	0.075	0.060	0.101	139.179347	-55.224403	1890.30	-539.52
5	GUIDE	1125653928	9.15	14470	-0.039	-0.017	0.078	0.127	140.835906	-55.611798	-797.16	1946.11
6	GUIDE	1125536552	9.27	14468	0.014	-0.038	0.082	0.135	139.938527	-54.750752	-166.65	-1605.21
7	GUIDE	1125662336	9.20	14471	-0.029	0.103	0.071	0.116	140.980431	-54.839939	-2075.08	-539.14

## 2.4 Star Slots

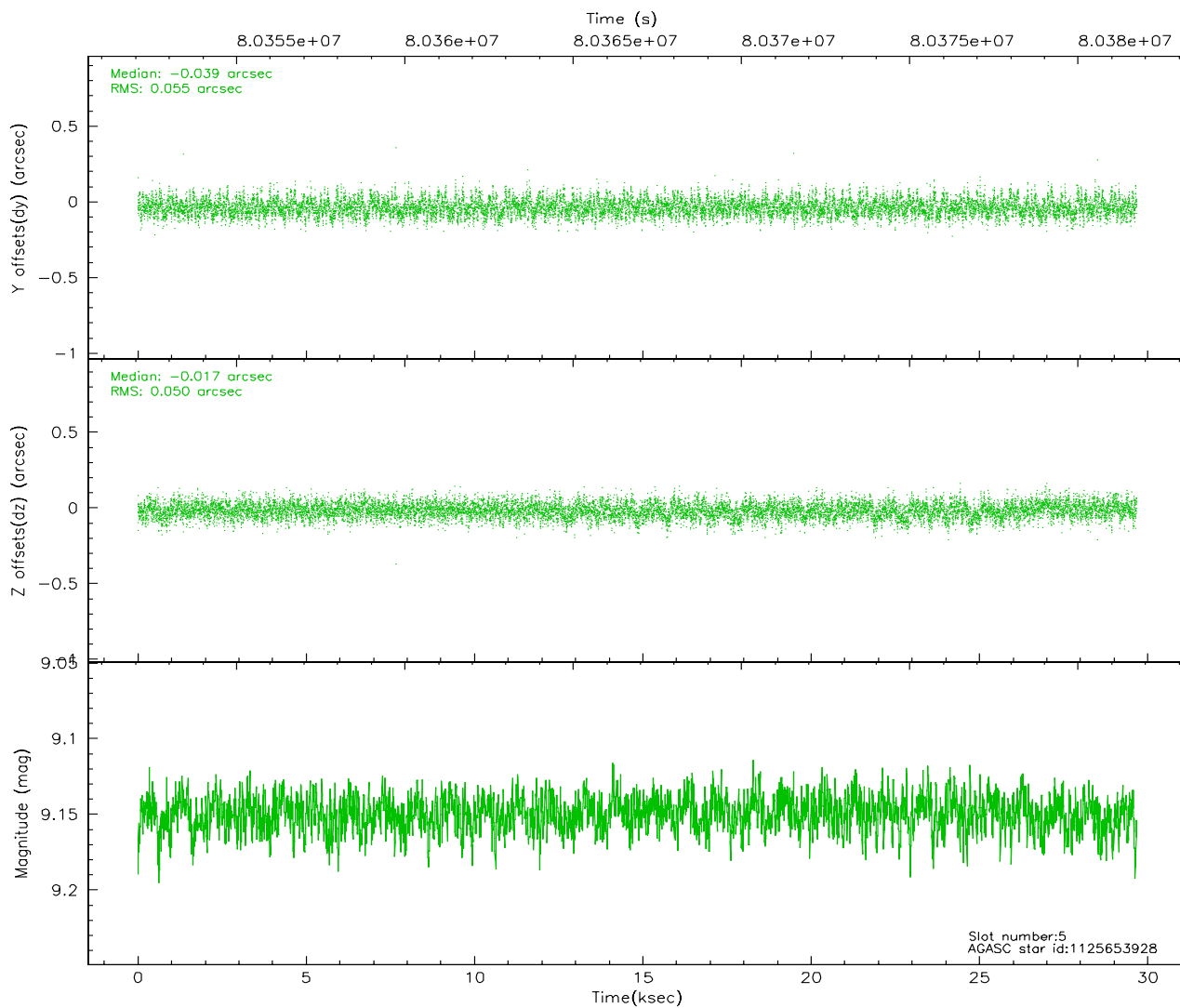
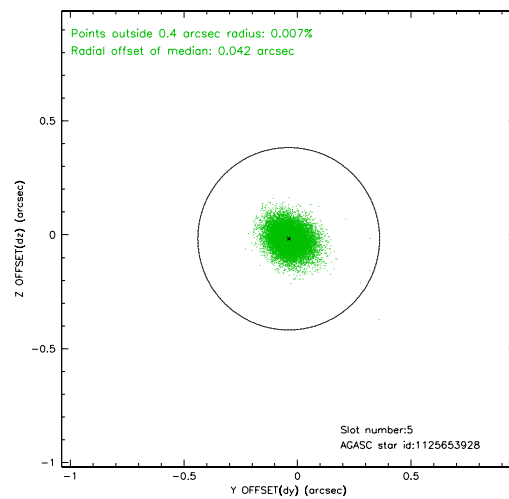
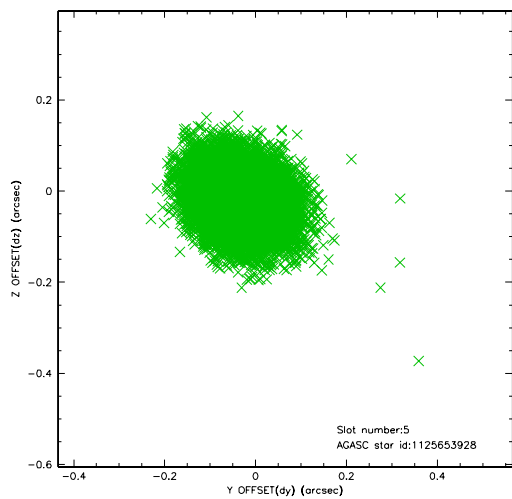
### 2.4.1 Slot 3



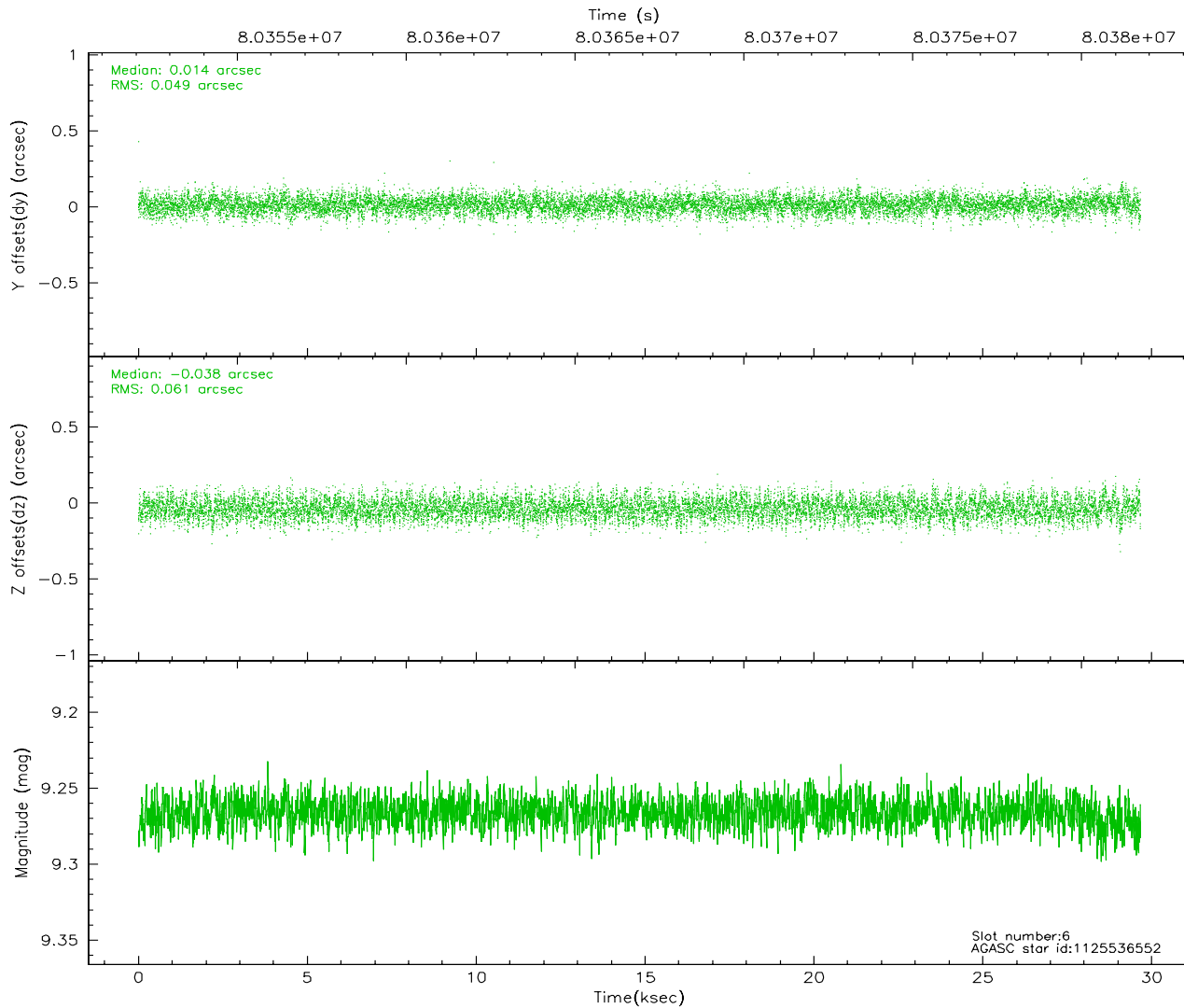
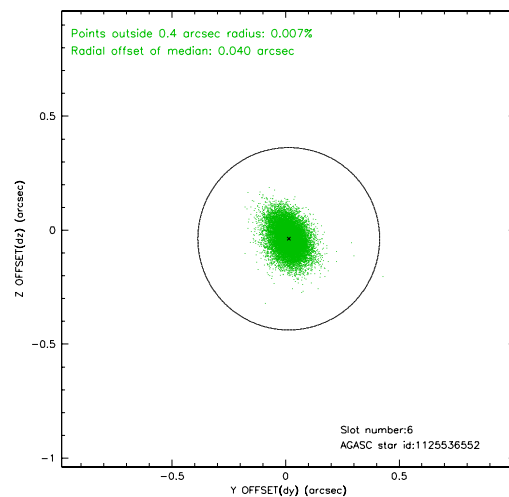
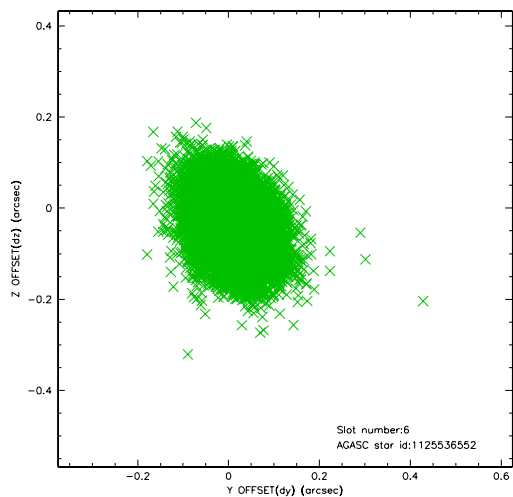
## 2.4.2 Slot 4



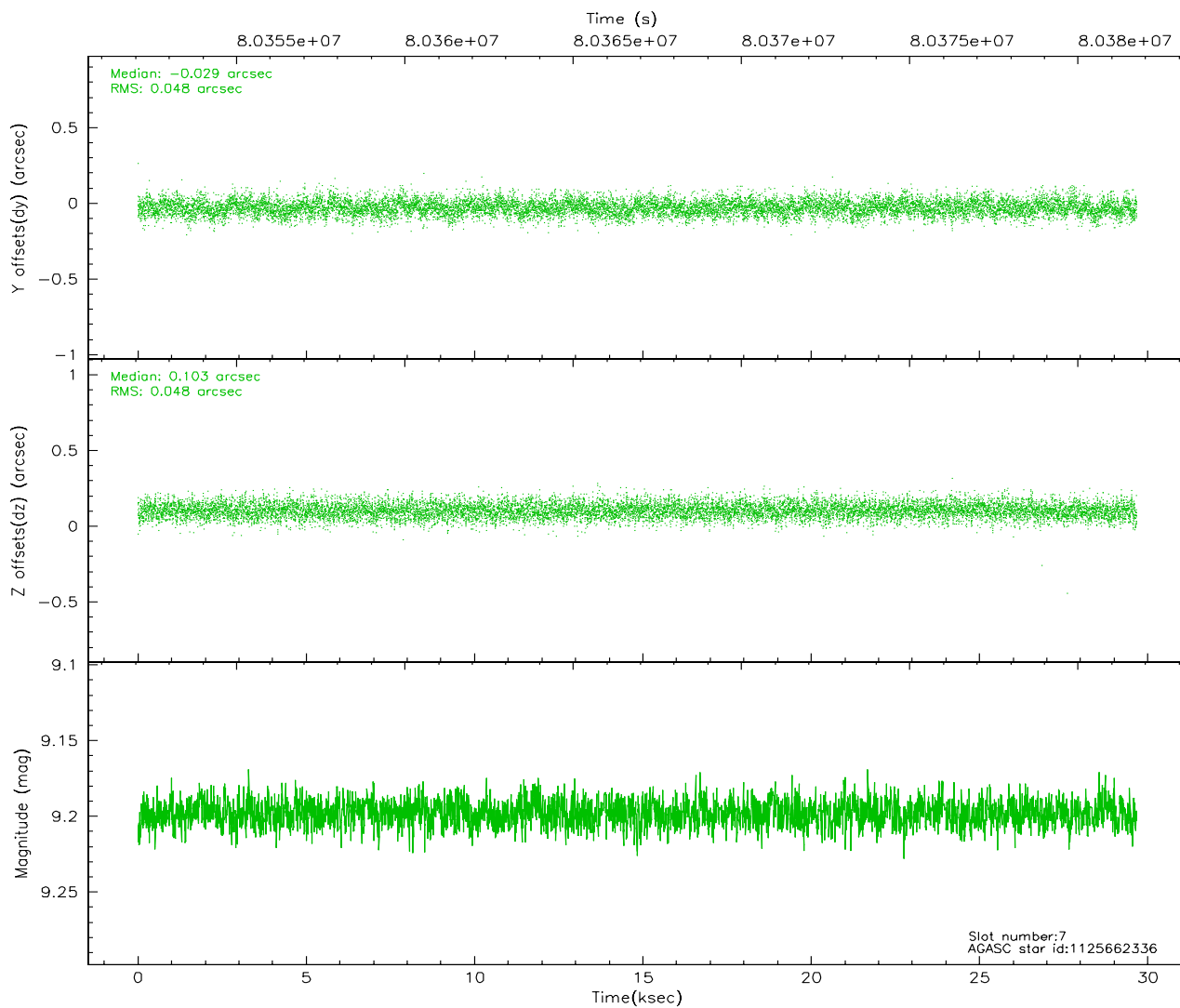
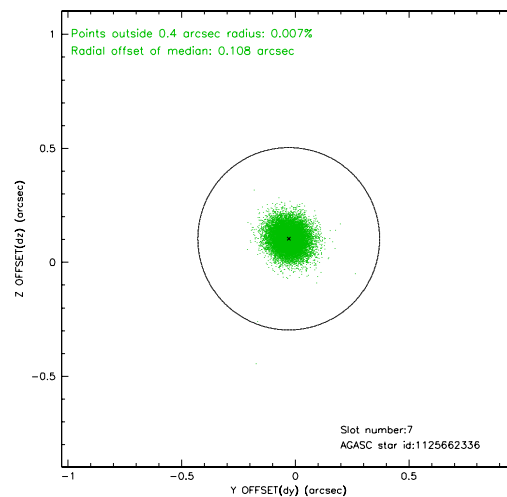
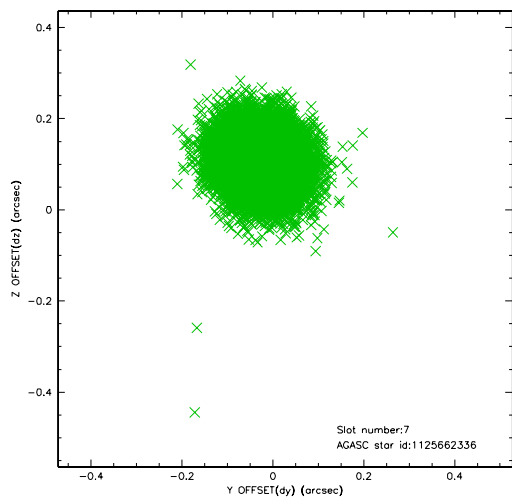
### 2.4.3 Slot 5



## 2.4.4 Slot 6

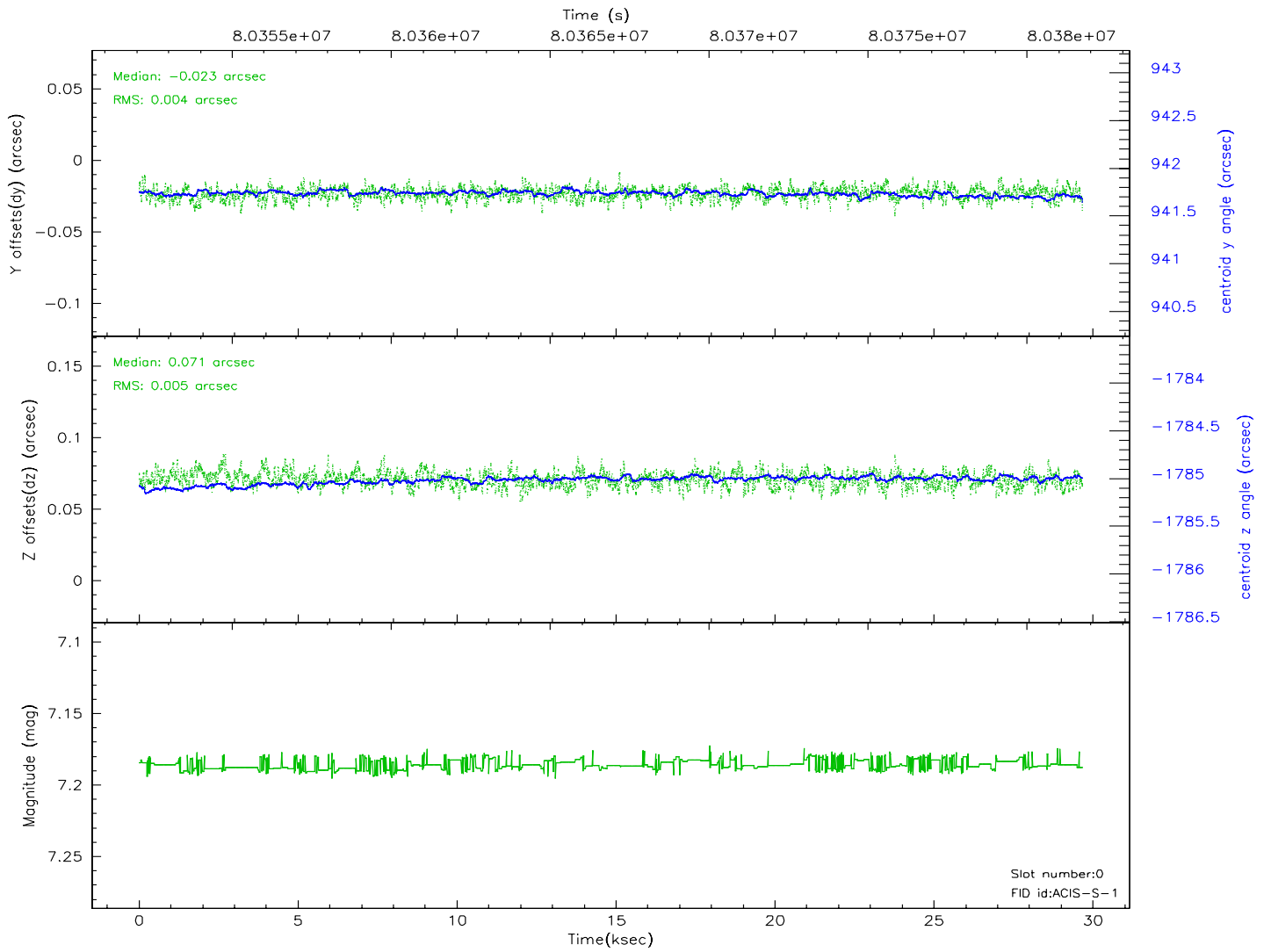
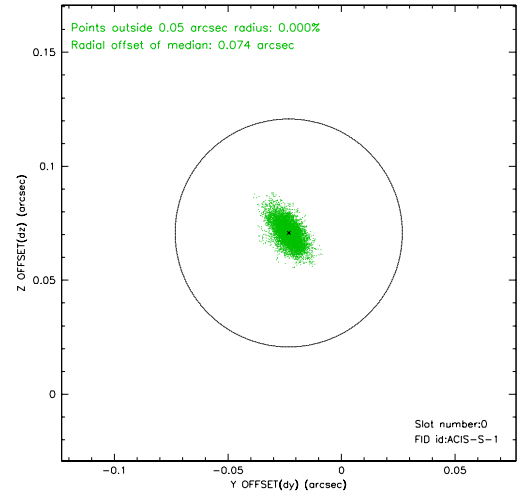
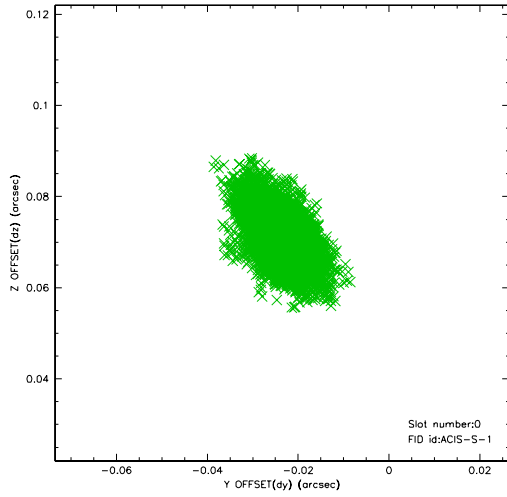


## 2.4.5 Slot 7

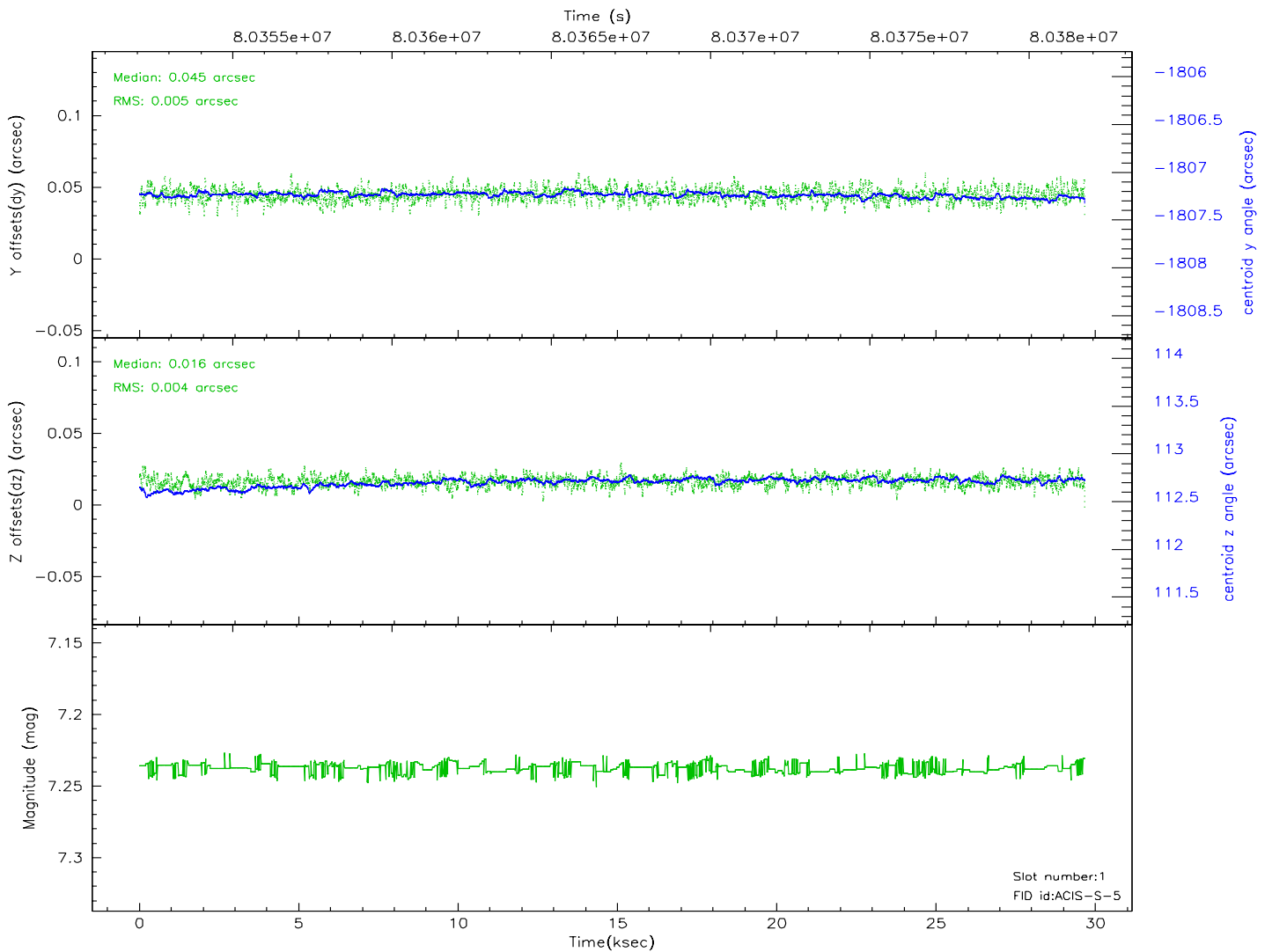
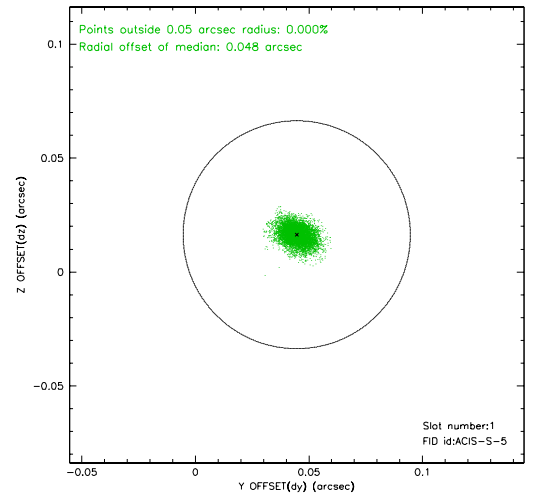
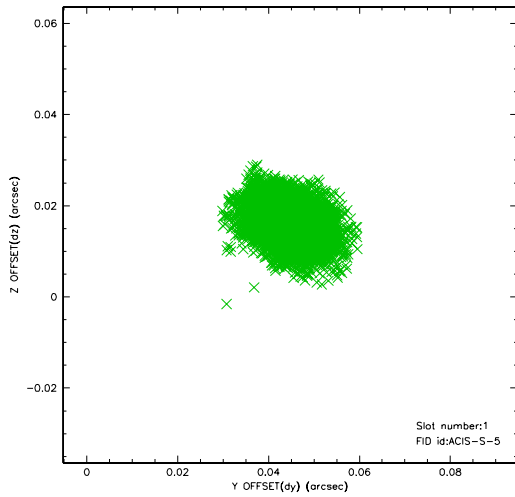


## 2.5 FID Slots

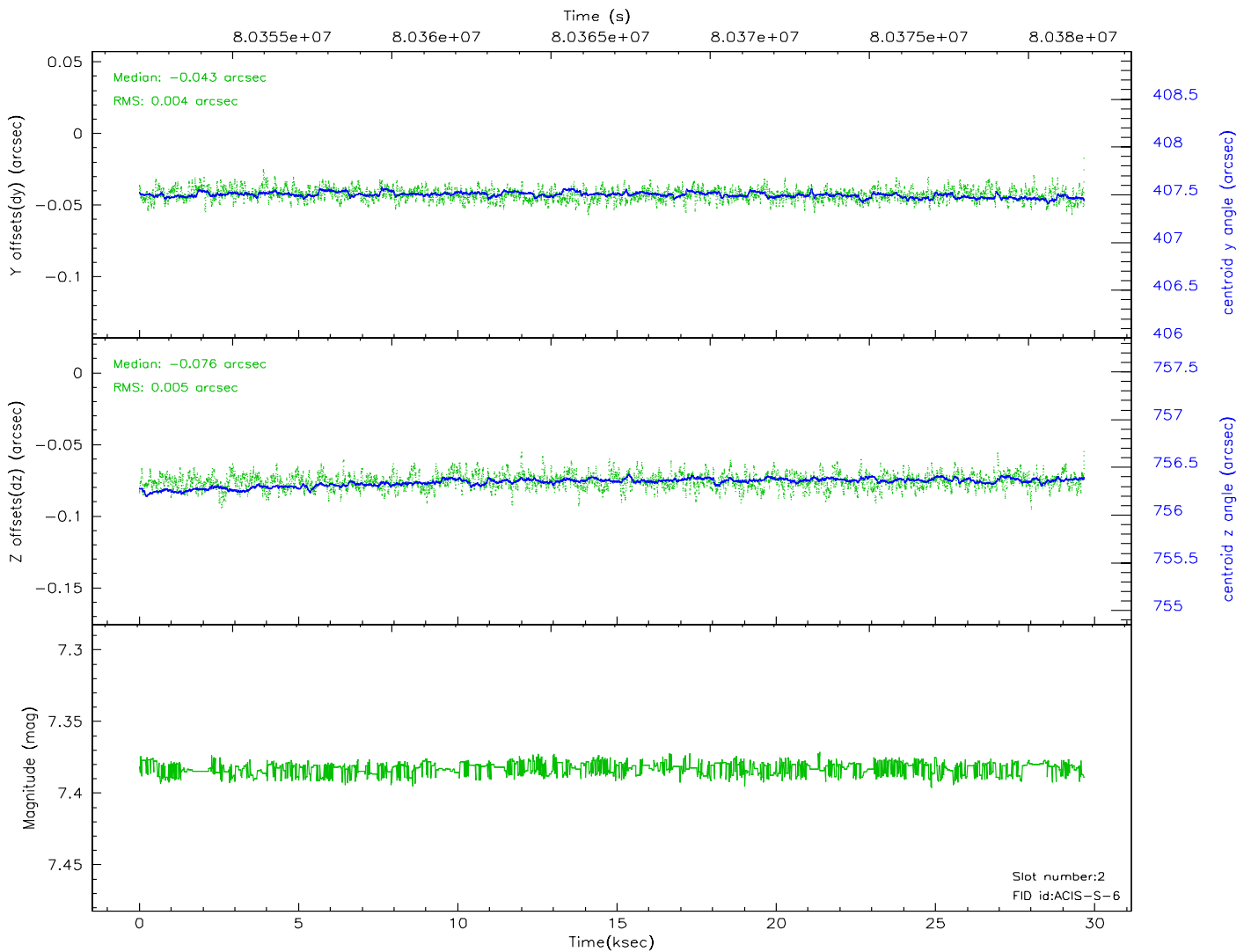
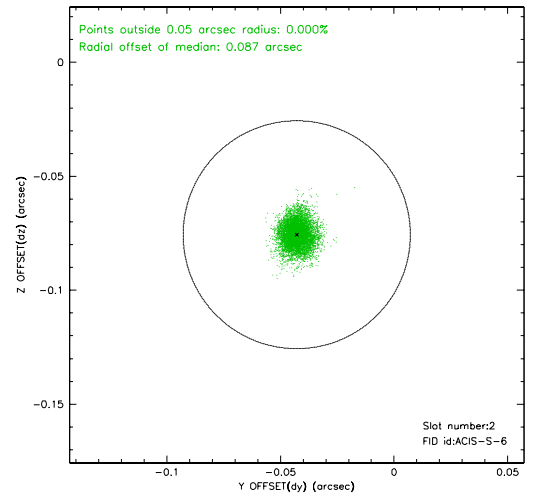
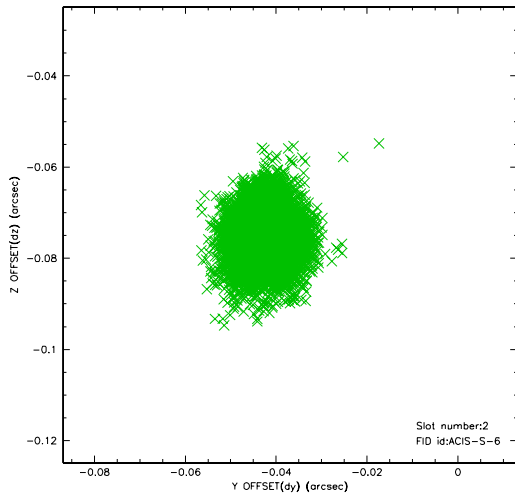
### 2.5.1 Slot 0



## 2.5.2 Slot 1

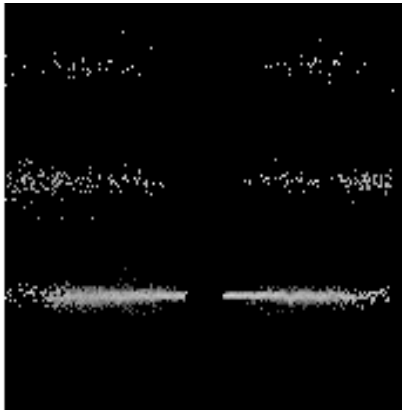


### 2.5.3 Slot 2

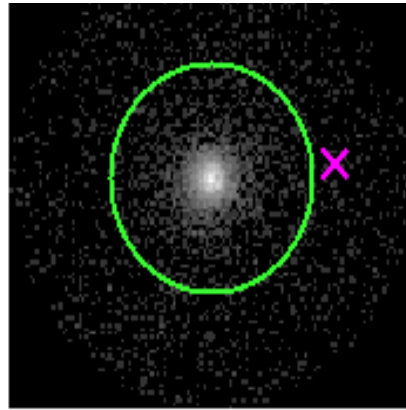


# 3 Gratings

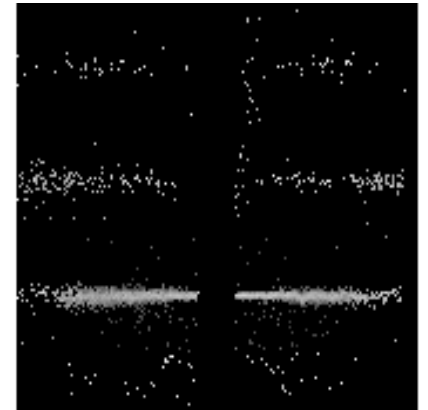
## 3.1 HEG Arm



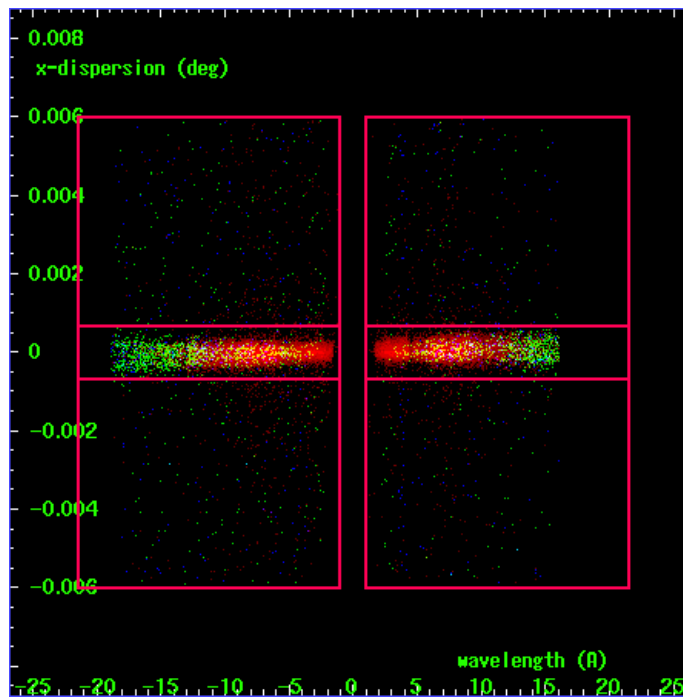
HEG Order Sort 123



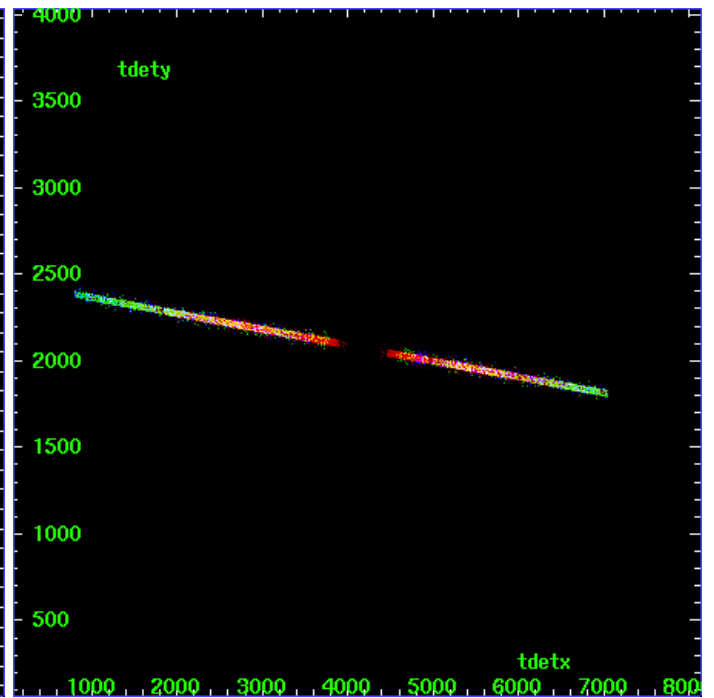
HEG Zero Order



HEG Order Sort ALL

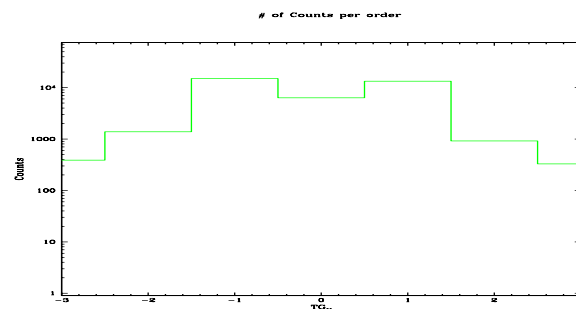


Spot Image HEG

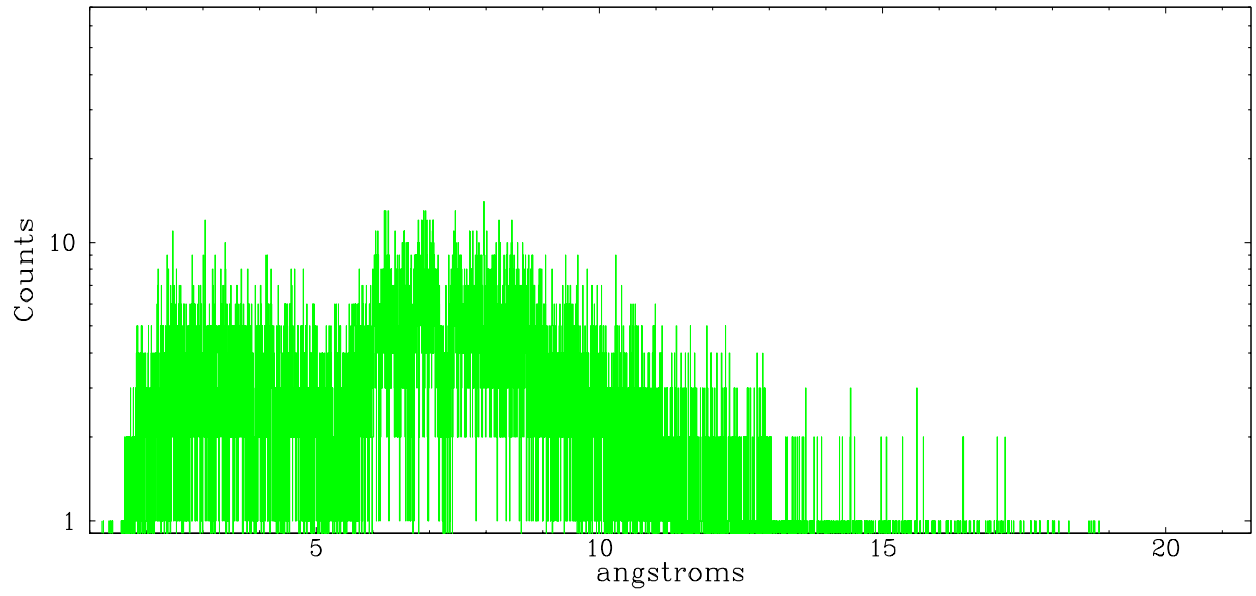


Full Detector HEG

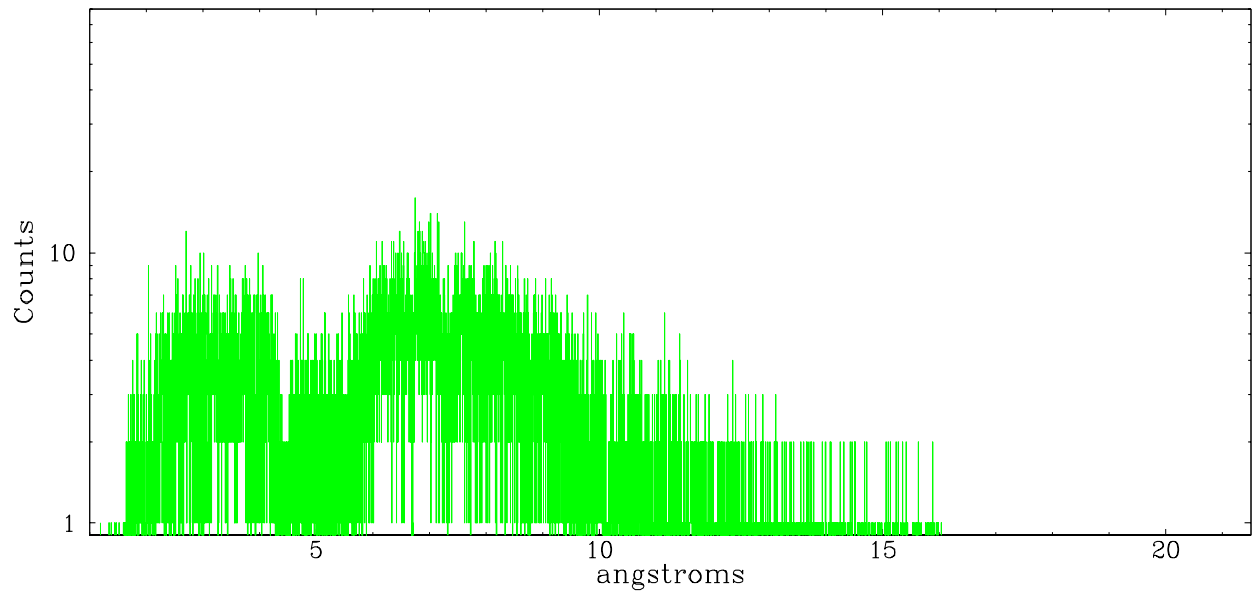
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	389	1383	14988	6338	13303	918	329



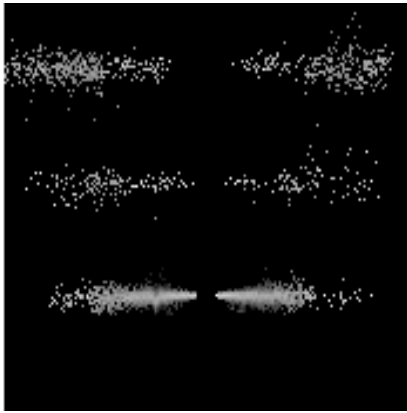
heg order -1



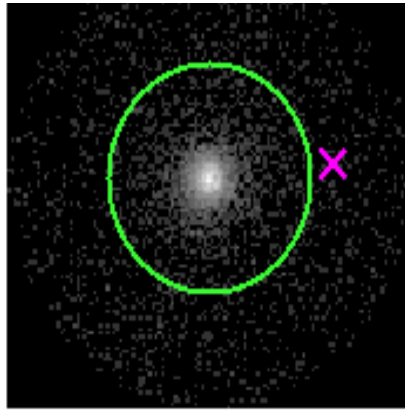
heg order +1



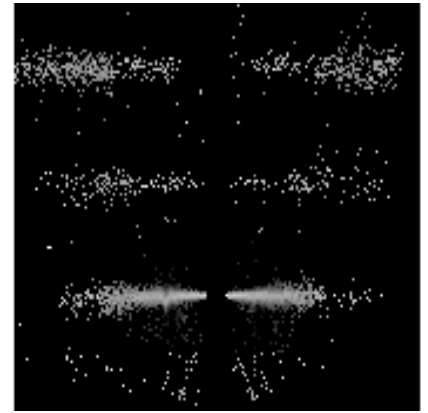
### 3.2 MEG Arm



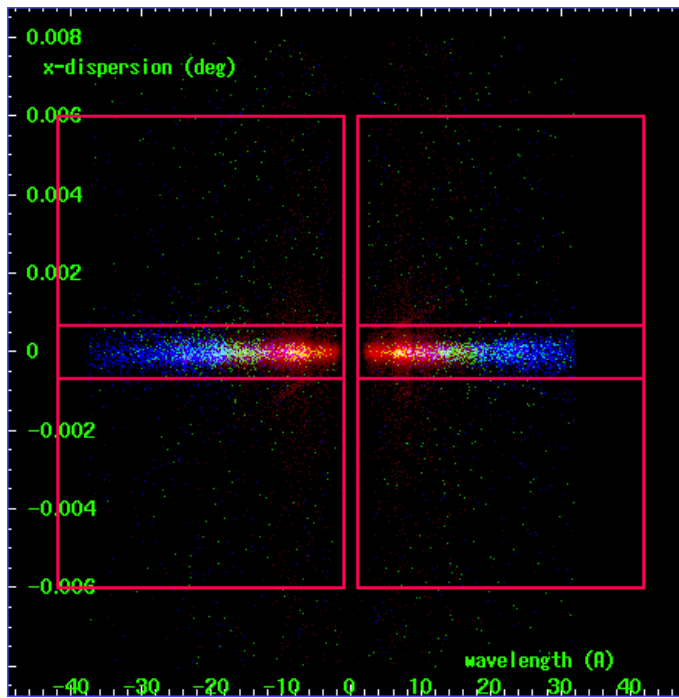
MEG Order Sort 123



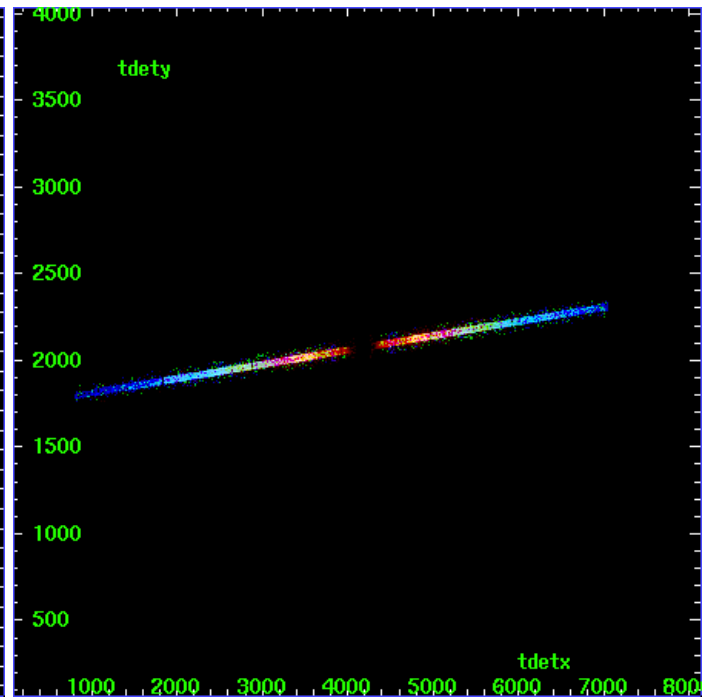
MEG Zero Order



MEG Order Sort ALL

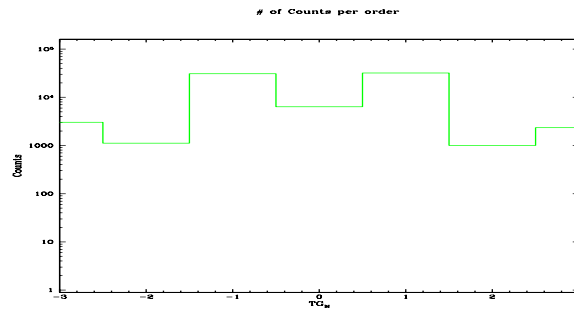


Spot Image MEG

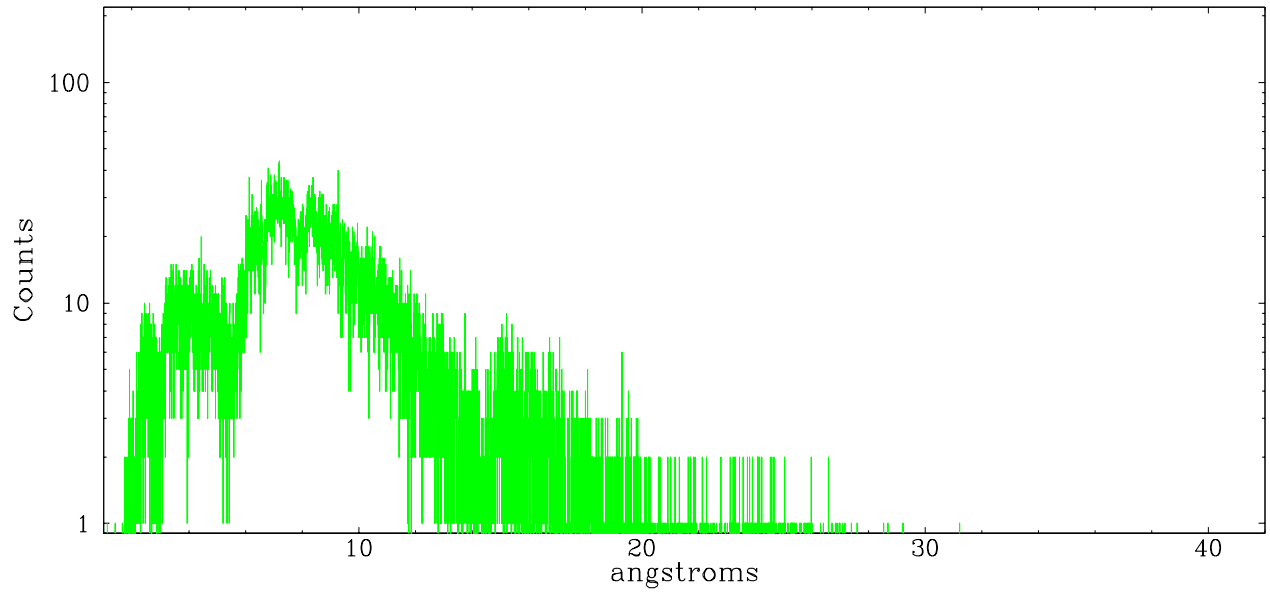


Full Detector MEG

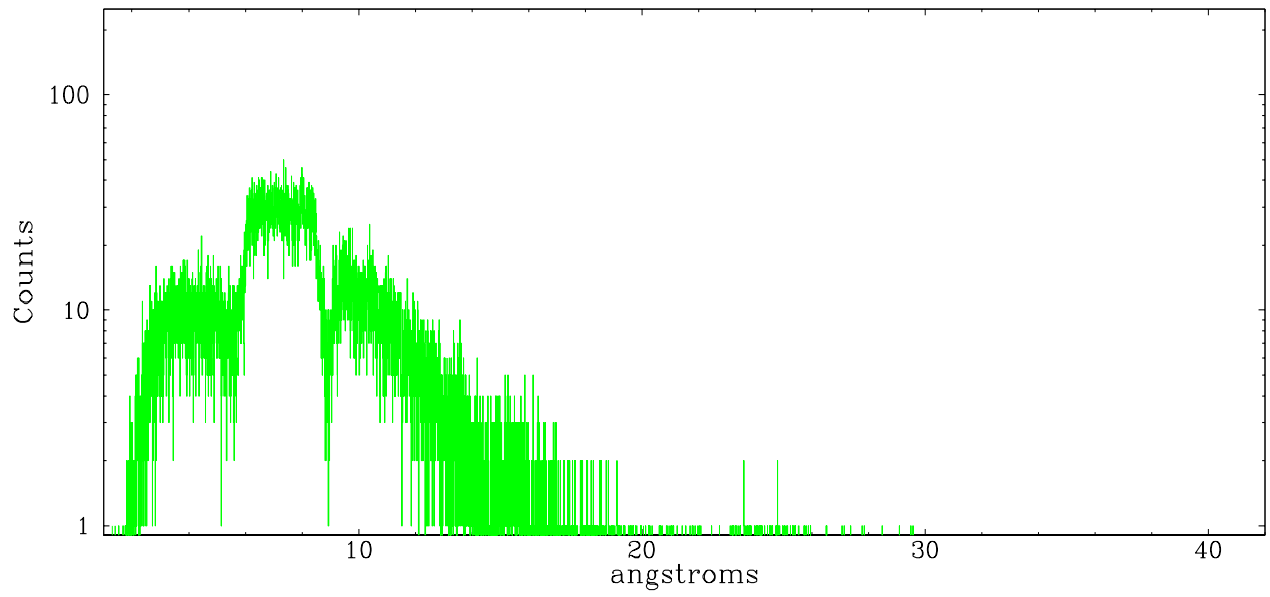
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3044	1120	30897	6338	31993	1007	2343



meg order -1



meg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.08.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.848

## A.2 Comments

Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates (x=4058.19; y=4091.53) 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 (currently in ISIS). 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 newly determined zeroth order coordinates have been placed in the \*src1a.fits file, replacing the coordinates determined by tgdetect. Note that these corrected coordinates of the zeroth order cannot be reproduced by running tgdetect on the data.