

V&V Reference Report

L2 ASCDS Version : 7.6.10

Observation 863 - L2 Version 5
Chandra X-Ray Center

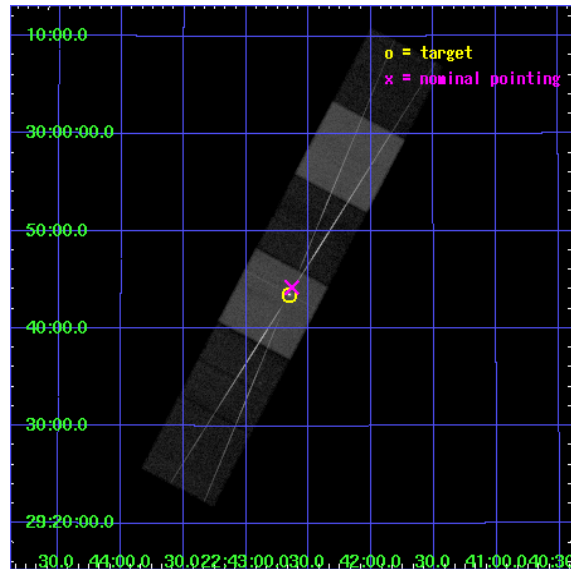
L2 Processing Date : Jul 24 2007

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1 Front

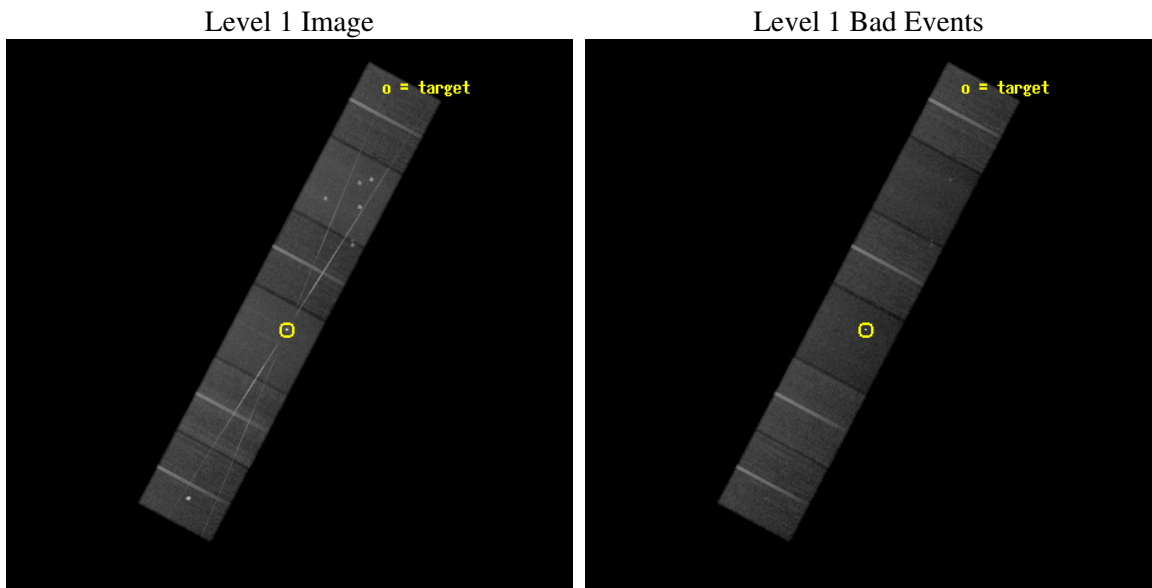
seq_num	700168
obs_id	863
title	HETG OBSERVATION OF AN UNUSUAL SPECTRAL FEATURE IN THE NARROW-LINE SEYFERT 1 GALAXY ARK 564
observer	PROF. KAREN LEIGHLY
object	ARK 564
dtcycle	0
cycle	P
ra_targ	340.66375
dec_targ	29.725278
ra_nom	340.65882156006
dec_nom	29.7373086633
roll_nom	117.88461763366
revision	5
ontime	49347.200045958
livetime	48722.33608566
ontime4	49347.200045958
ontime5	49347.200045958
ontime6	49347.200045958
ontime7	49347.200045958
ontime8	49327.754344419
ontime9	49347.200045958
l2events	564367



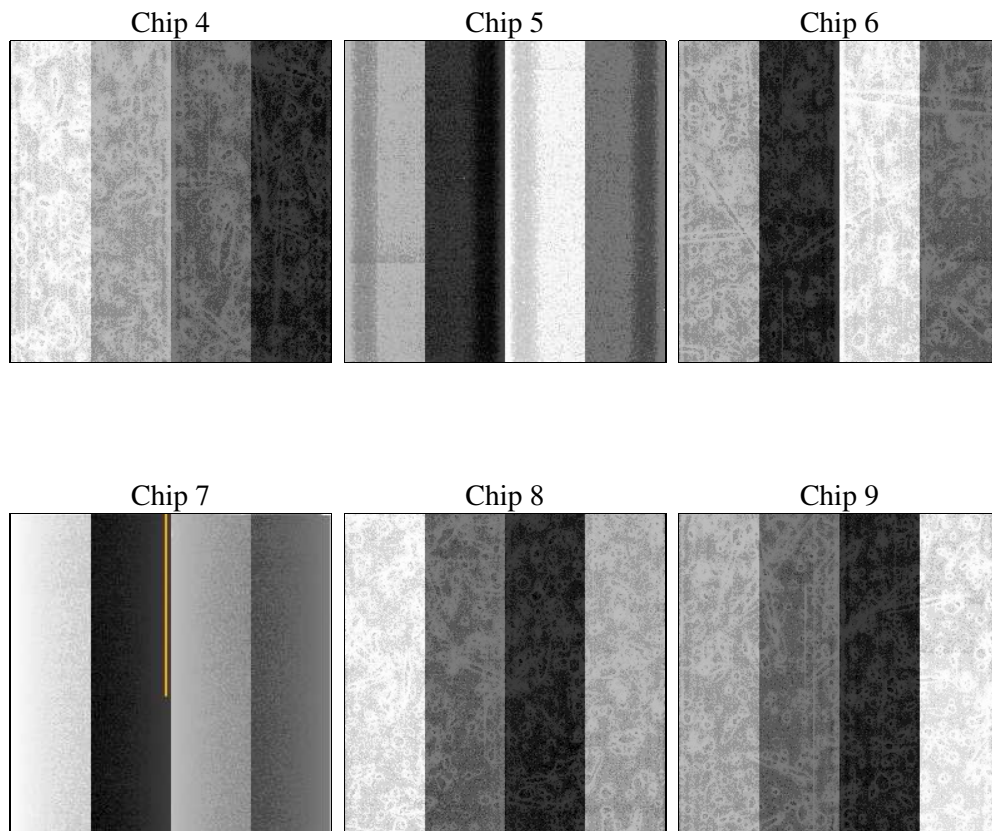
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0
ascdsver	7.6.10
caldsver	3.4.0
date	2007-05-25T18:53:55
revision	4

sched_exp_time	49740.204000
ontime	49347.200045958
ontime4	49347.200045958
ontime5	49347.200045958
ontime6	49347.200045958
ontime7	49347.200045958
ontime8	49327.754344419
ontime9	49347.200045958
l1events	2365308

2.1.4 Events

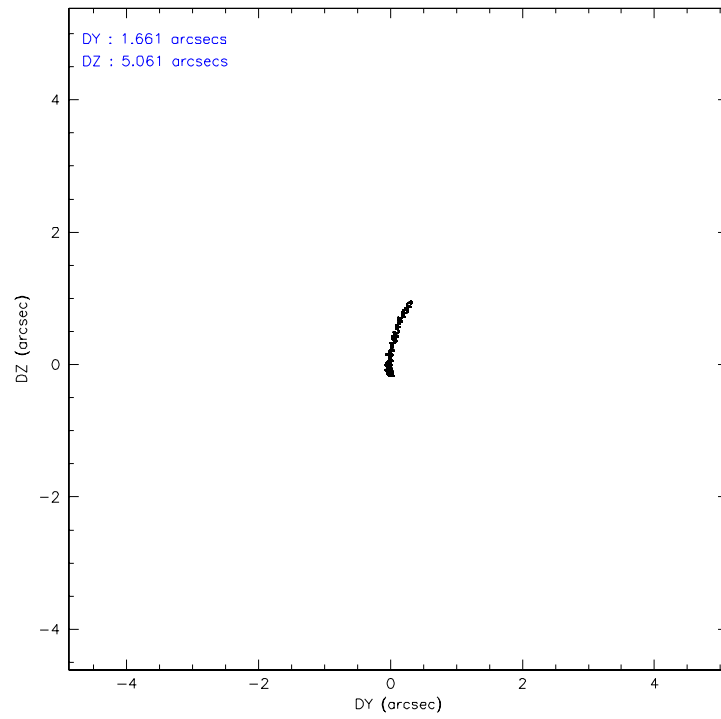
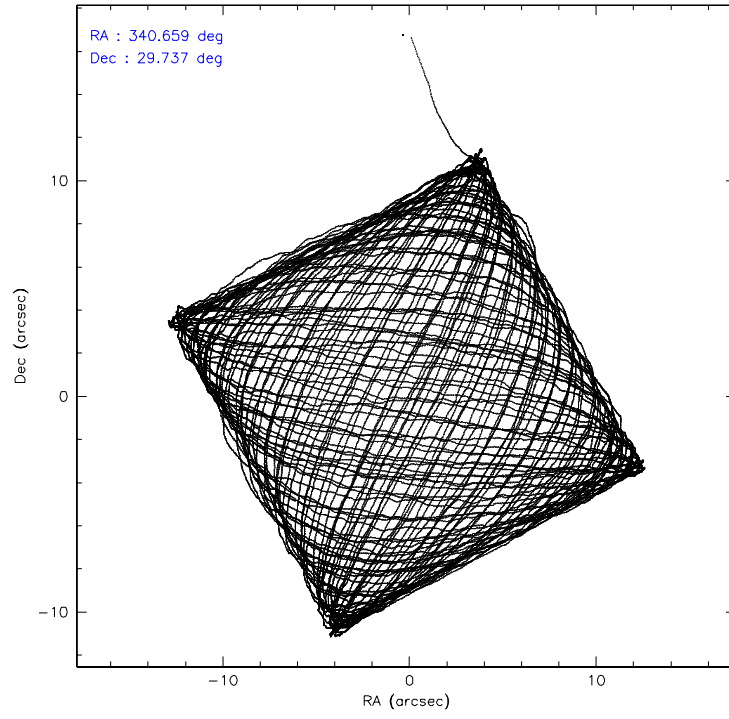
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	361243	441456	361875	416100	445015	339619
rejected events	321243	223157	292179	230221	332657	283495
rejected %	88%	50%	80%	55%	74%	83%

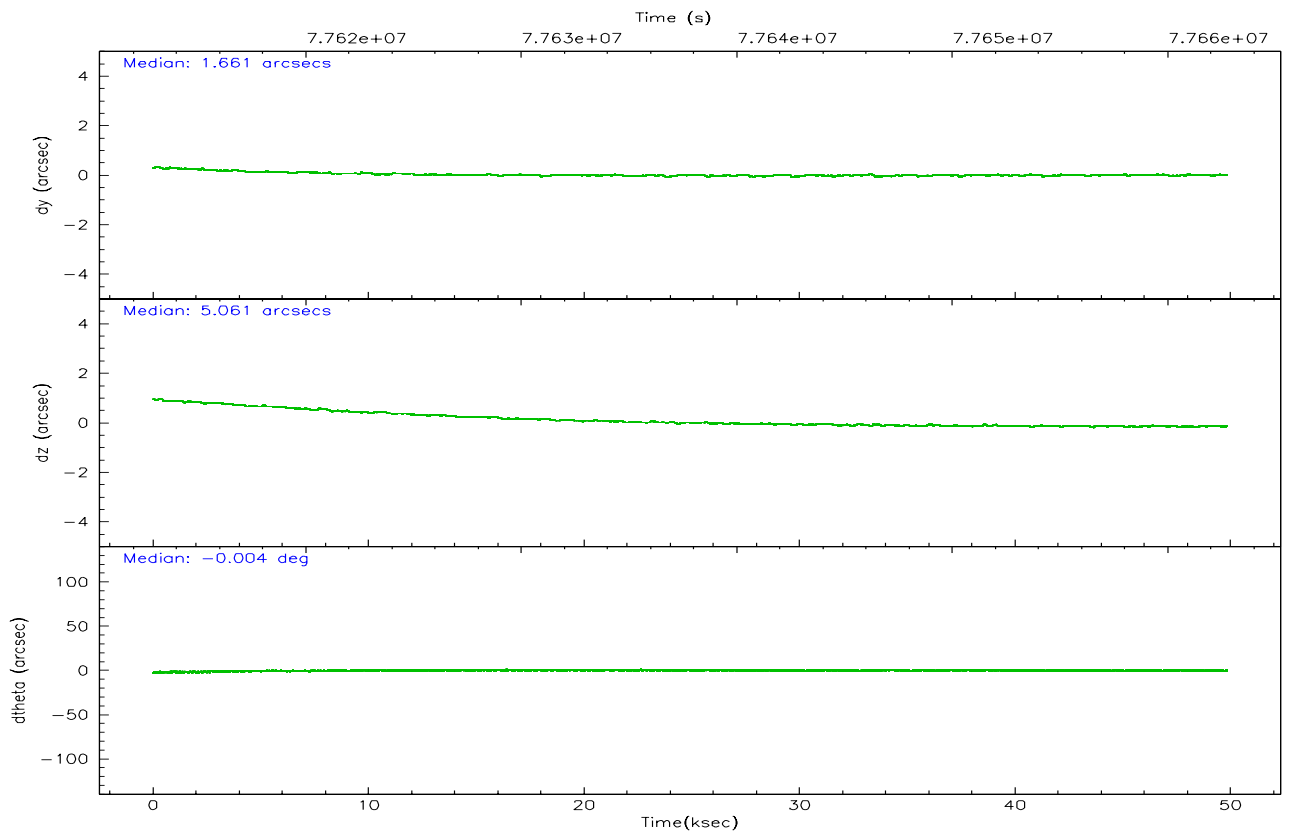
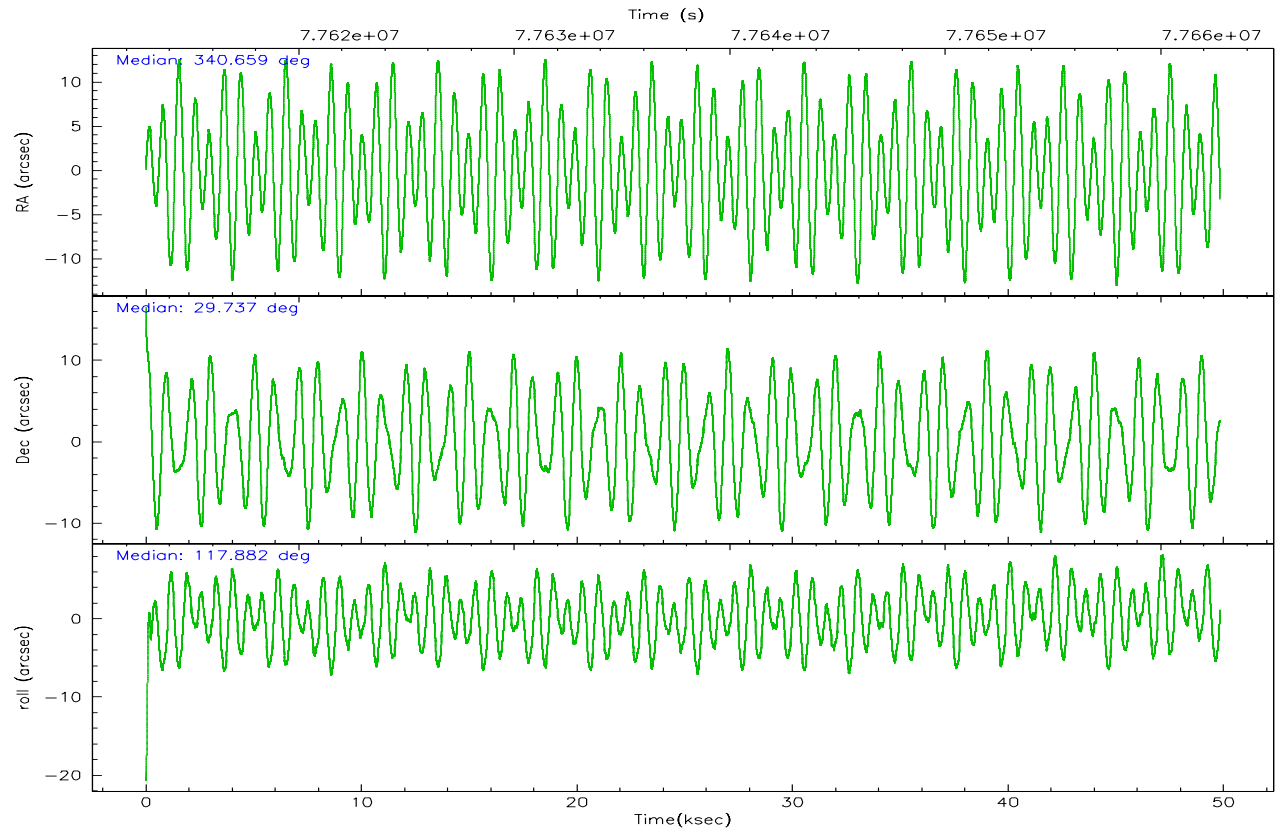
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	18029	38374	42849	20394	49750	19673
	4%	8%	11%	4%	11%	5%
grade 1 events	177	1027	384	727	350	166
	0%	0%	0%	0%	0%	0%
grade 2 events	8962	59271	10167	37634	19765	22194
	2%	13%	2%	9%	4%	6%
grade 3 events	3437	10343	4605	17546	10708	3708
	0%	2%	1%	4%	2%	1%
grade 4 events	3480	10137	4600	17331	9900	3608
	0%	2%	1%	4%	2%	1%
grade 5 events	10236	32084	12207	39089	15680	12512
	2%	7%	3%	9%	3%	3%
grade 6 events	6094	100191	7477	92985	22238	6943
	1%	22%	2%	22%	4%	2%
grade 7 events	310828	190029	279586	190394	316624	270815
	86%	43%	77%	45%	71%	79%

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	340.685608	340.6588215600598	Subarray requested	NONE	NONE
Pointing Dec	29.722829	29.7373086633	Alternating exposures requested	N	N
Pointing Roll	117.714707	117.8846176336566	Primary exposure time	3.200000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-187.132523	-187.1254020033014			
SIM translation stage offset (mm)	-3	-3.007120579706367			
Observation start time	77613018.184000	77611776.73356199			
Observation start date	2000-06-17T07:09:14	2000-06-17T06:49:36			
Observation end time	77662759.184000	77663067.735452			
Observation end date	2000-06-17T20:58:15	2000-06-17T21:04:27			
Read mode	TIMED	TIMED			

2.3 Aspect



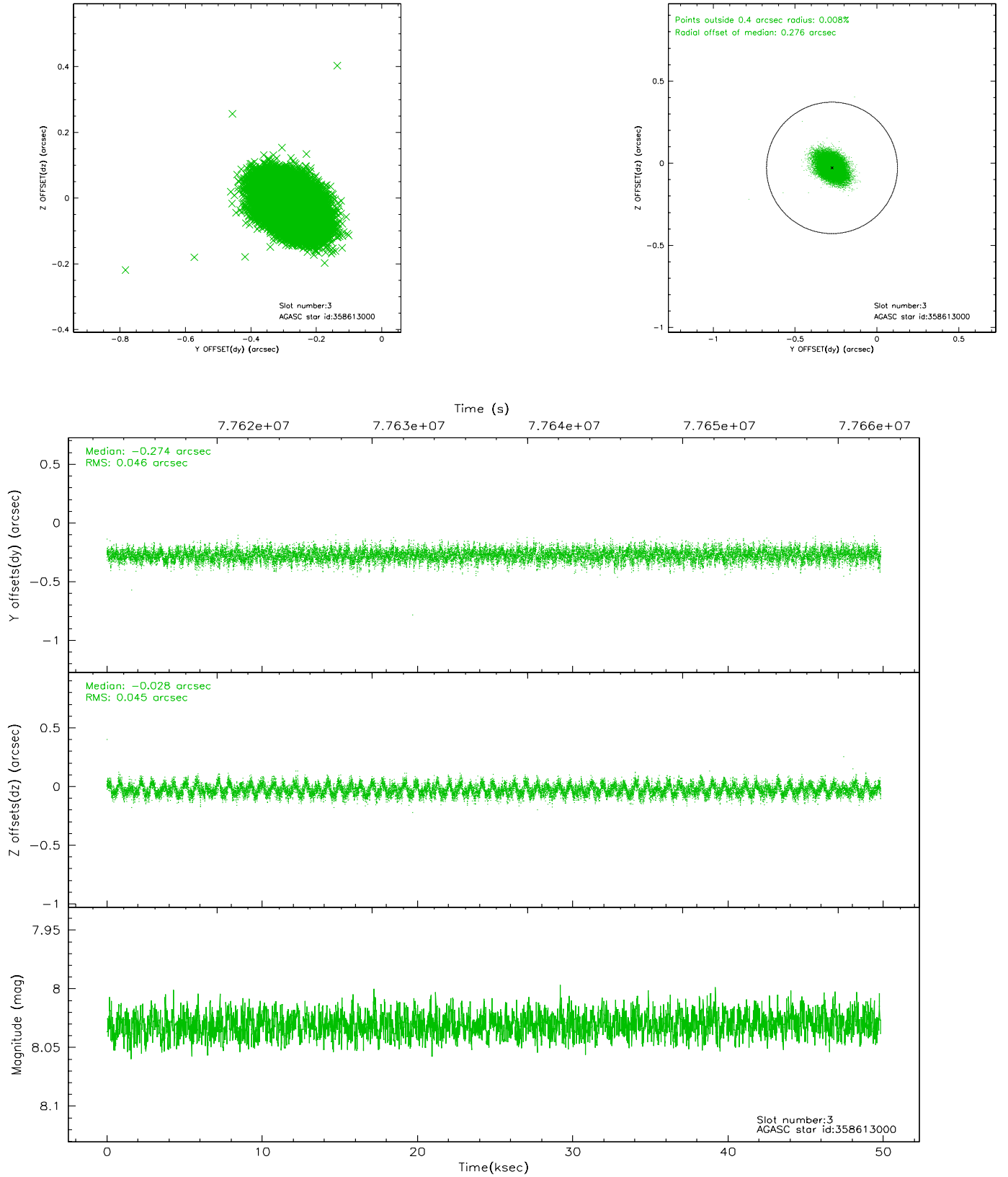


Slot Statistics

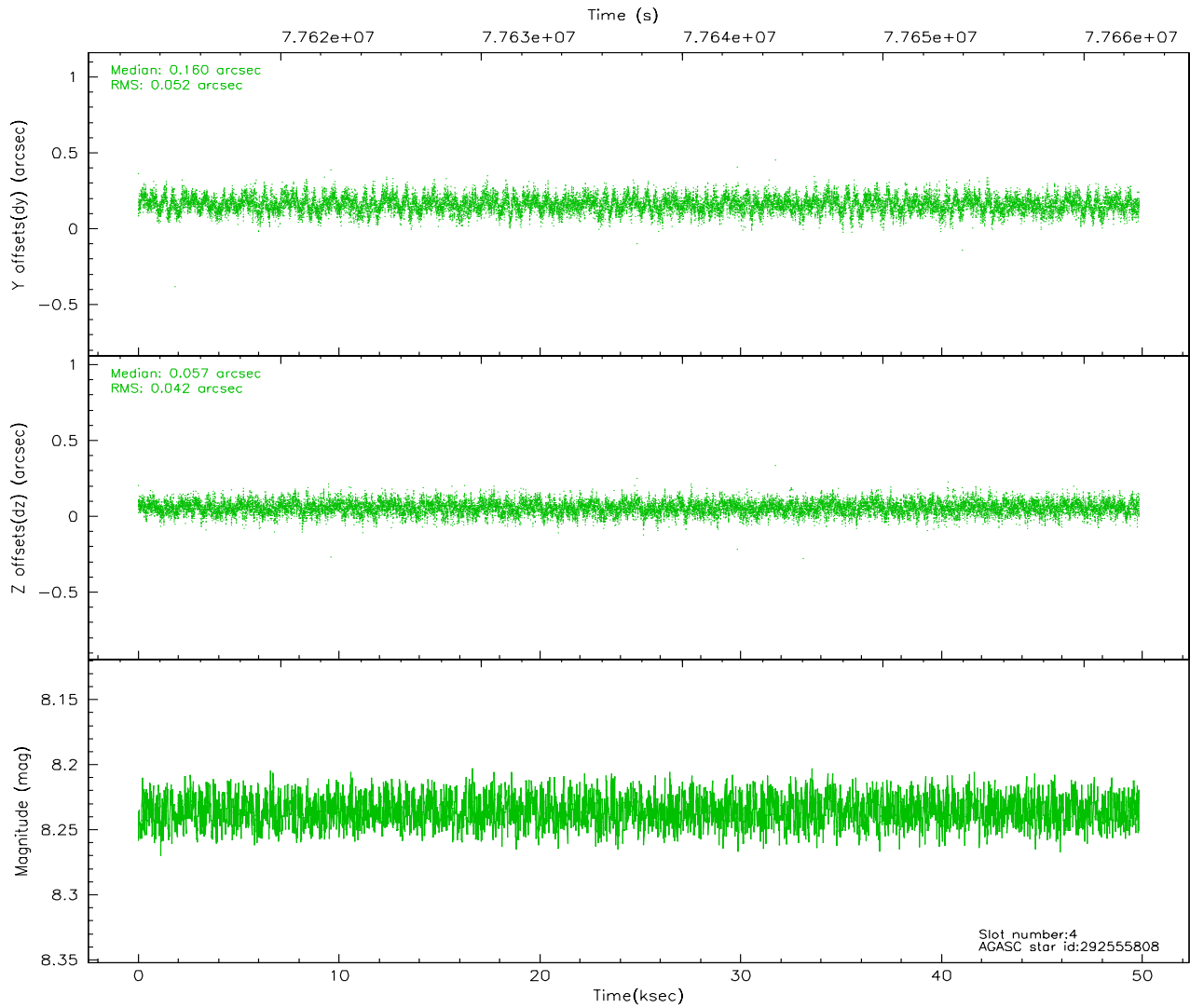
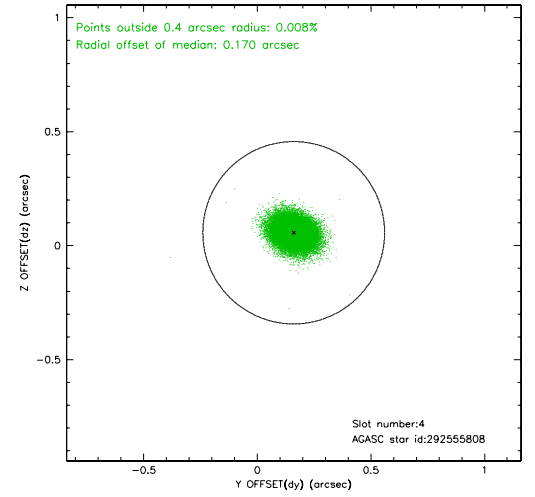
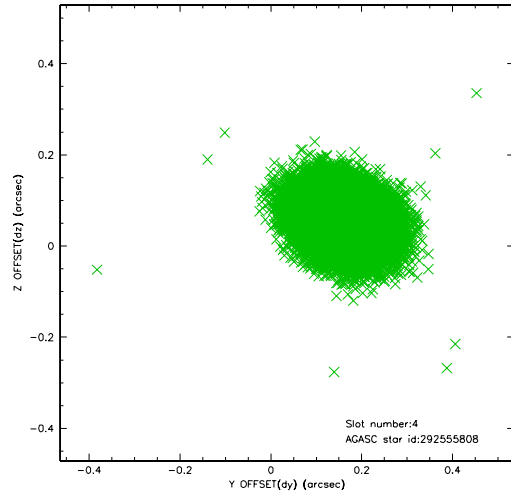
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	12158	-0.011	0.022	0.013	0.038	0.000000	0.000000	941.88	-1784.03
1	FID	ACIS-S-5	7.24	12158	0.037	0.017	0.007	0.011	0.000000	0.000000	-1807.01	113.62
2	FID	ACIS-S-6	7.38	12157	-0.048	-0.027	0.015	0.041	0.000000	0.000000	407.50	757.43
3	GUIDE	358613000	8.03	24312	-0.274	-0.028	0.068	0.112	340.288686	30.160466	1970.47	359.85
4	GUIDE	292555808	8.24	24313	0.160	0.057	0.071	0.116	340.959053	29.587483	-828.79	-531.92
5	GUIDE	292557784	8.87	24311	0.066	-0.197	0.079	0.133	340.318957	29.303917	-798.65	1719.00
6	GUIDE	358614440	9.47	24254	-0.136	-0.029	0.136	0.208	340.334477	30.235044	2141.18	108.37
7	GUIDE	292692896	9.65	24236	0.186	0.201	0.104	0.172	341.615916	29.436180	-2259.85	-2107.84

2.4 Star Slots

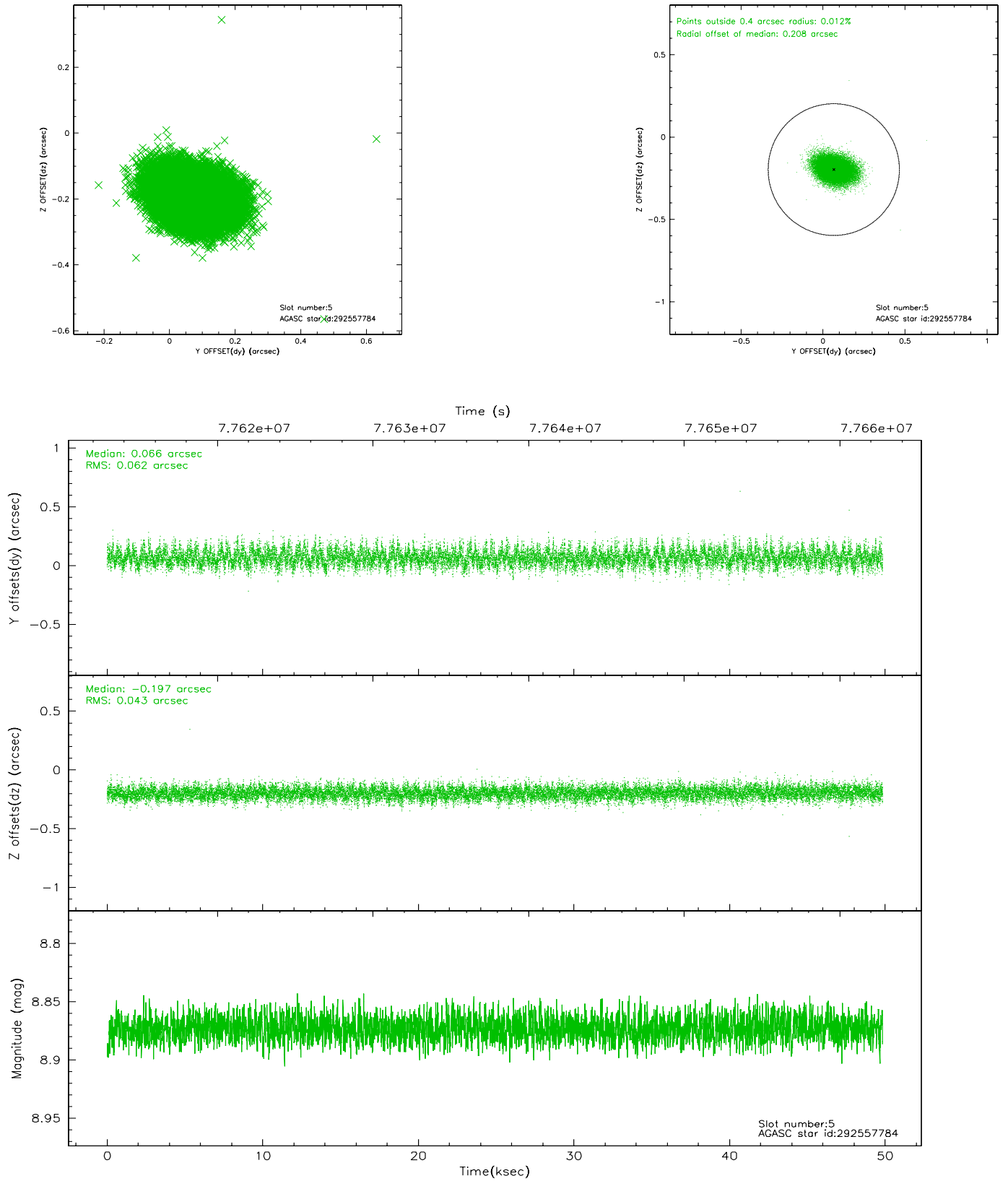
2.4.1 Slot 3



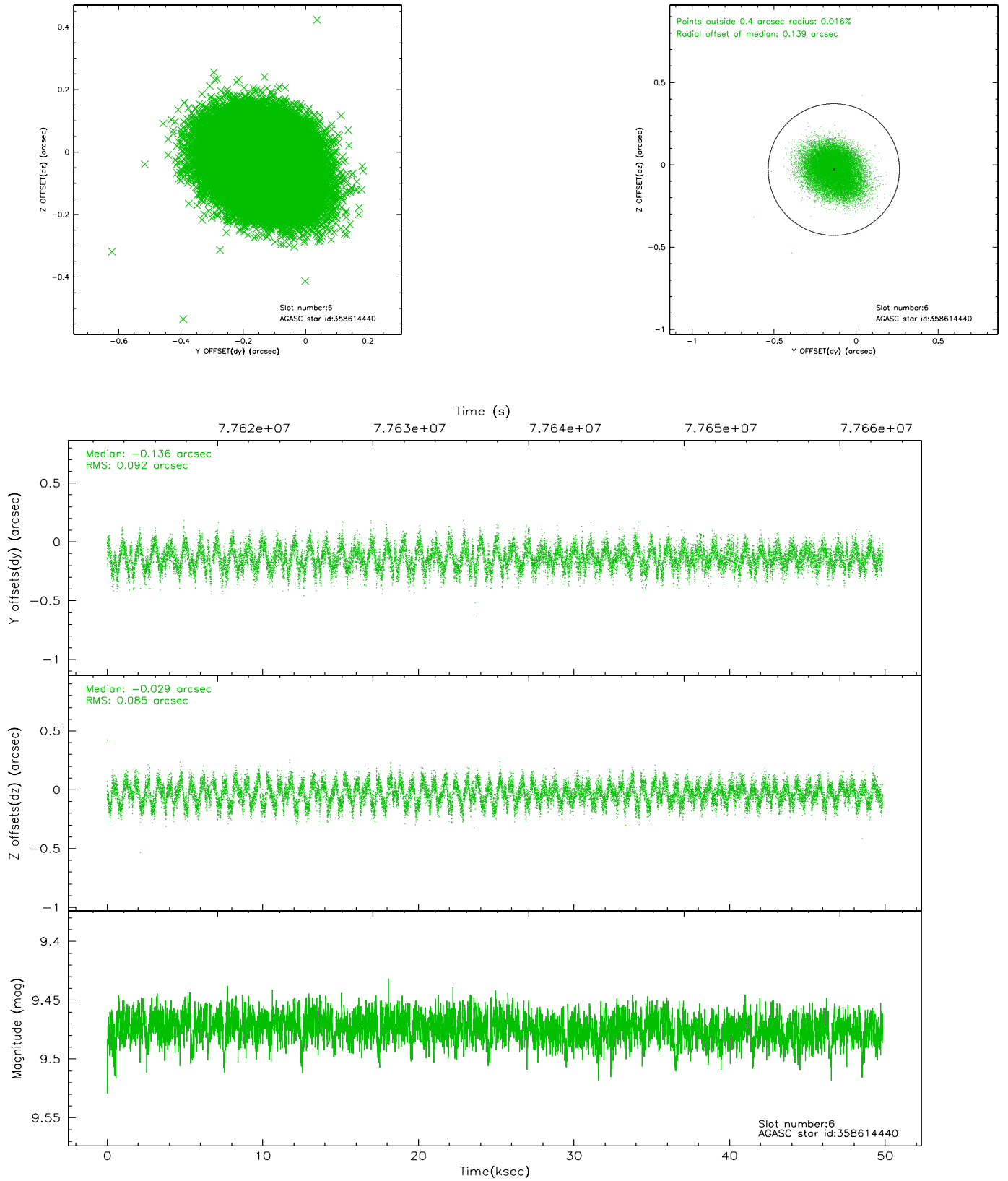
2.4.2 Slot 4



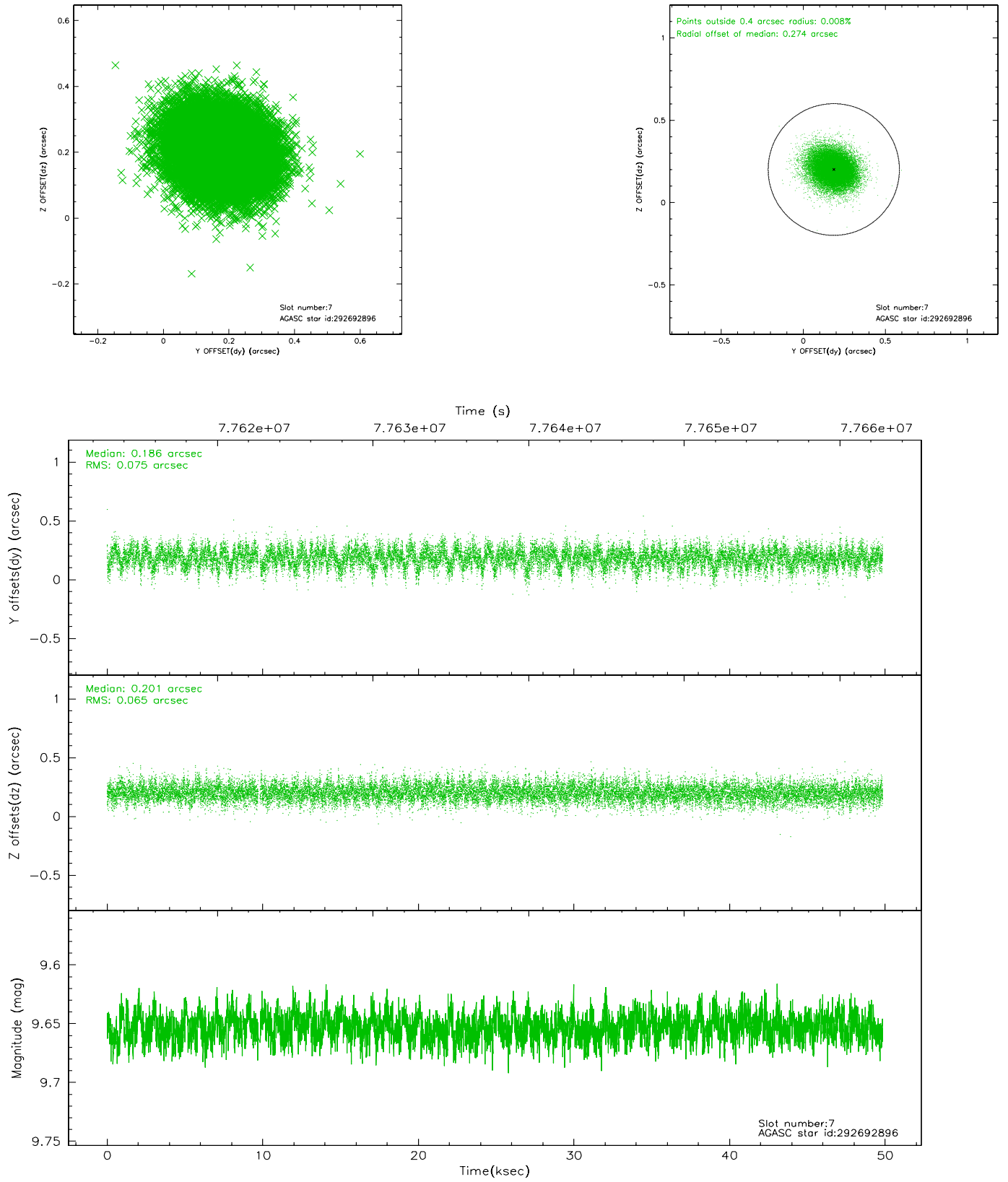
2.4.3 Slot 5



2.4.4 Slot 6

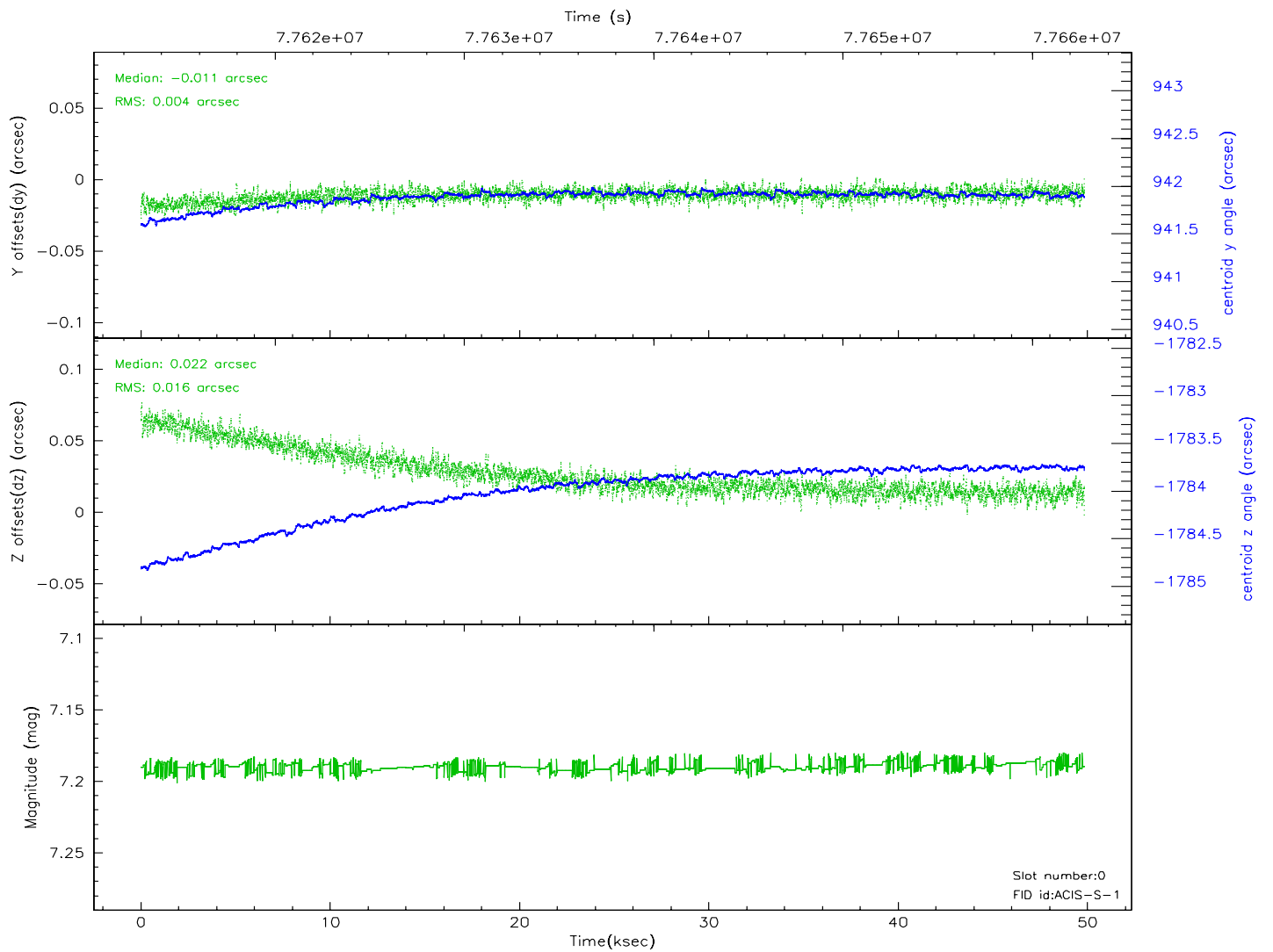
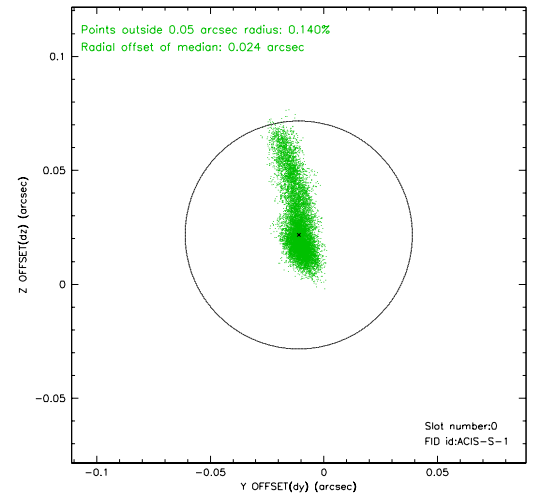
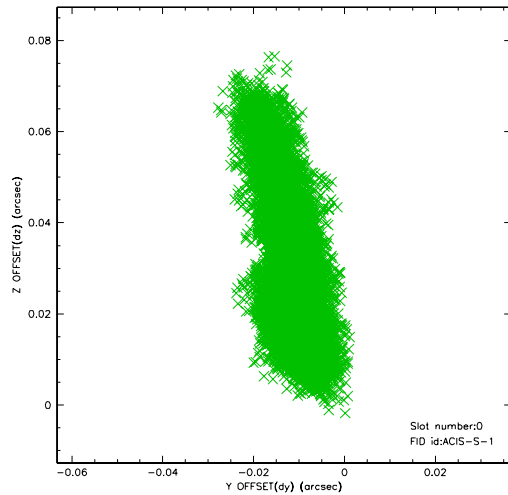


2.4.5 Slot 7

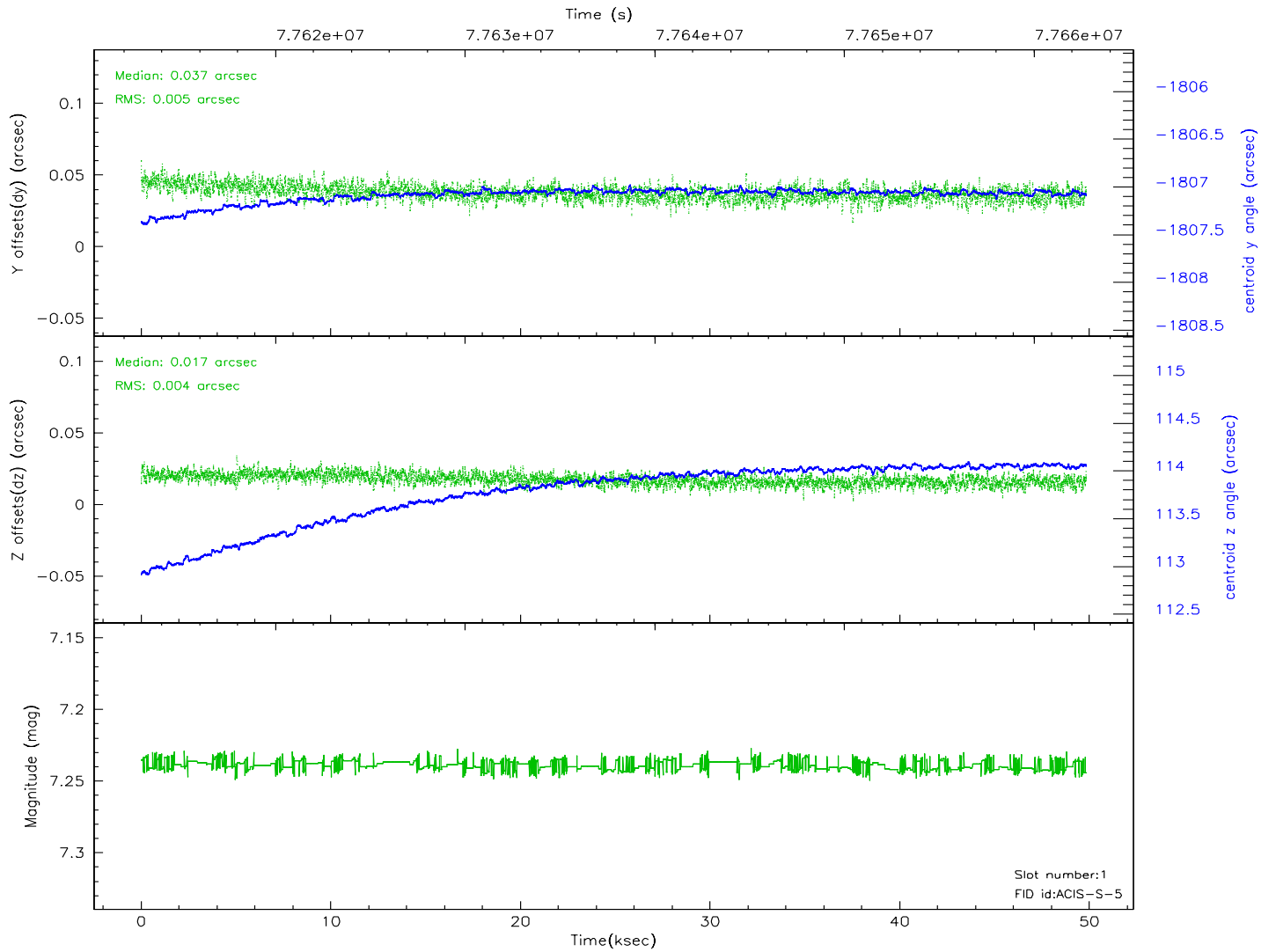
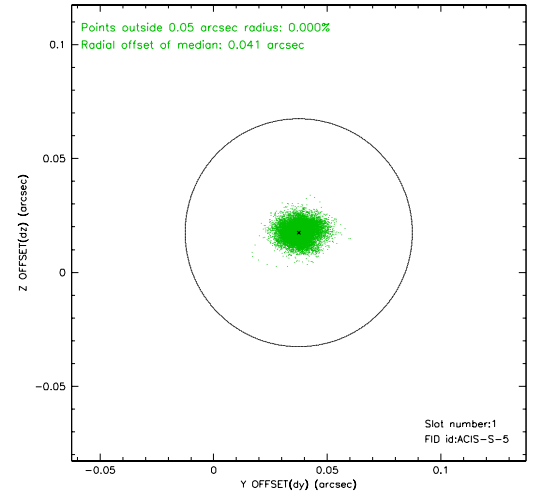
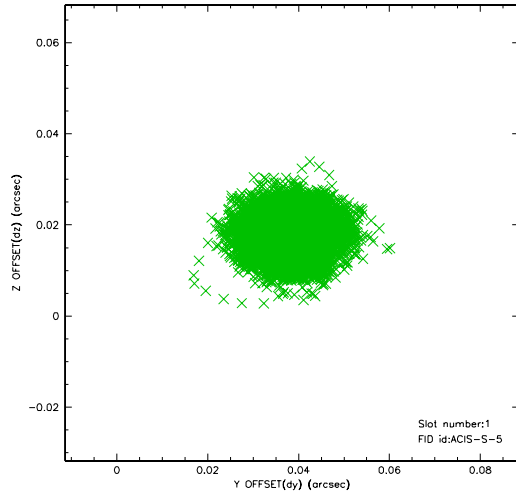


2.5 FID Slots

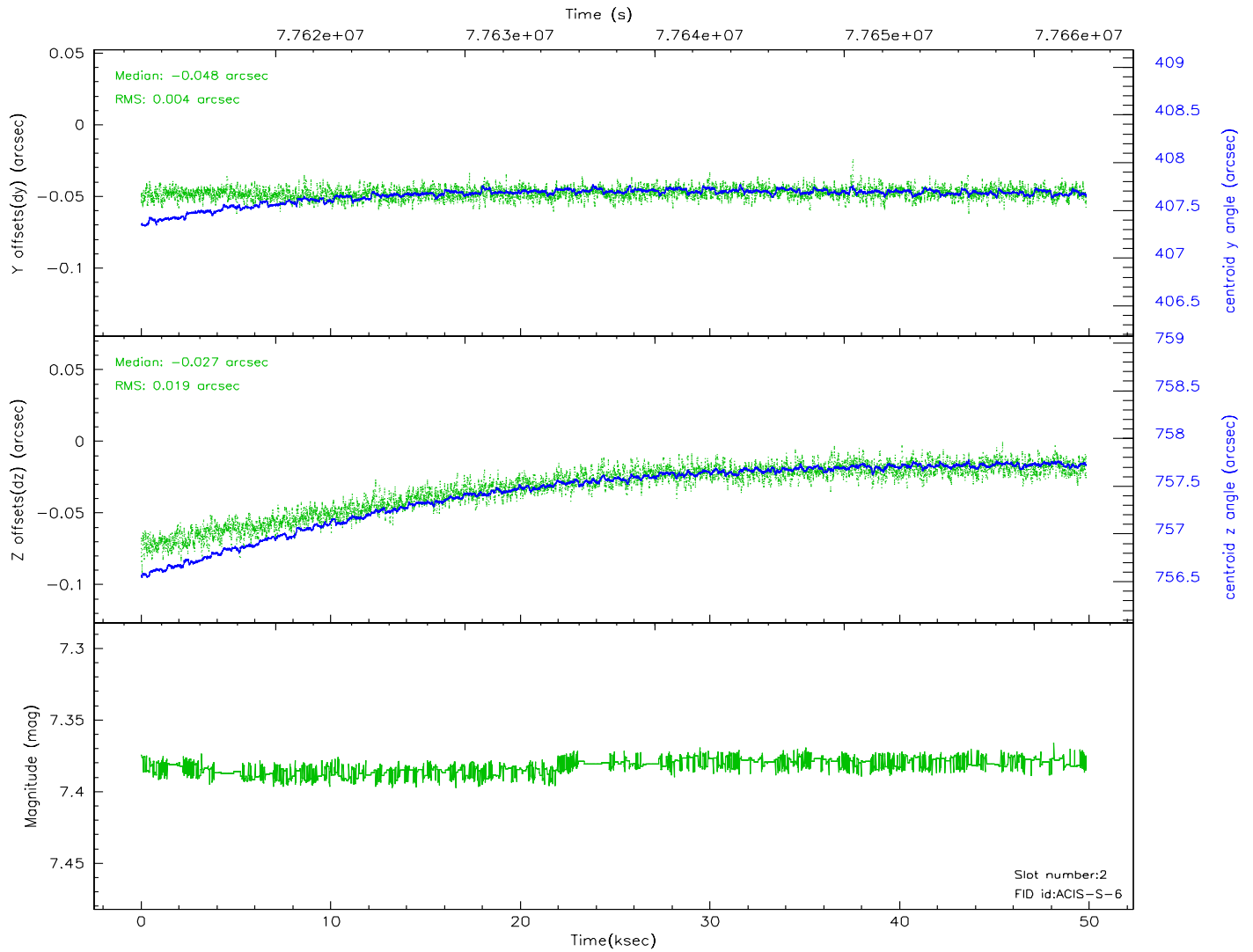
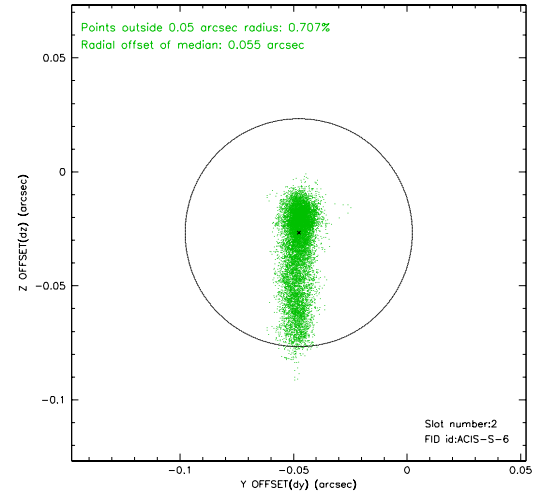
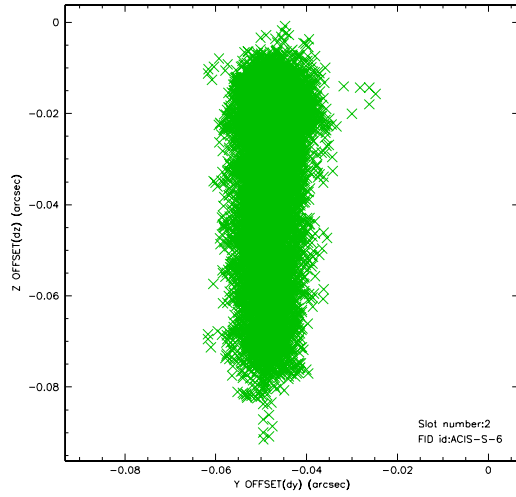
2.5.1 Slot 0



2.5.2 Slot 1

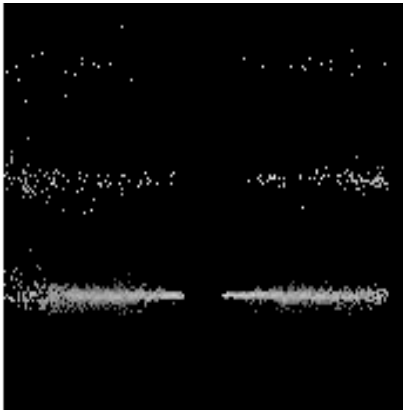


2.5.3 Slot 2

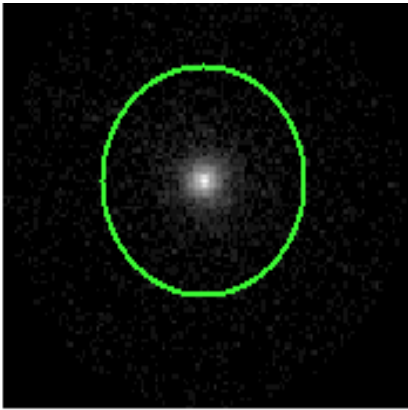


3 Gratings

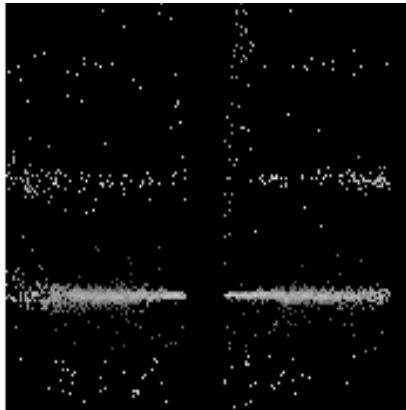
3.1 HEG Arm



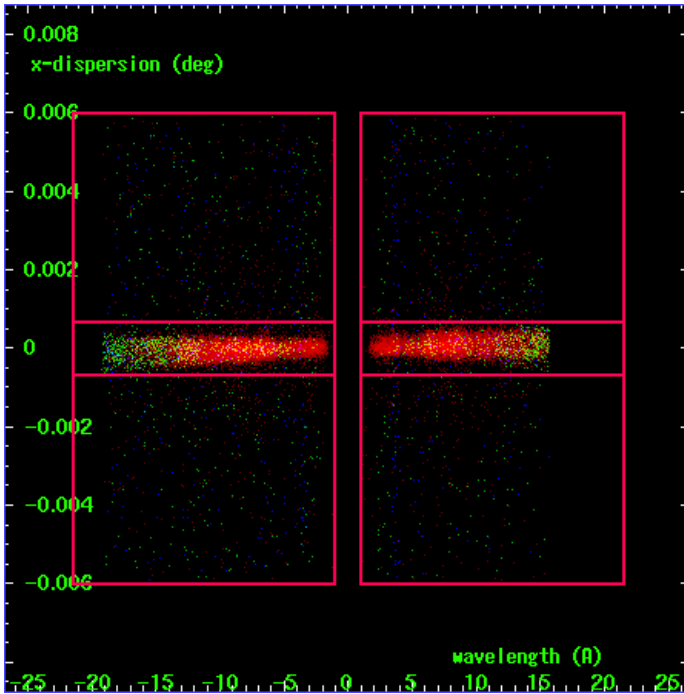
HEG Order Sort 123



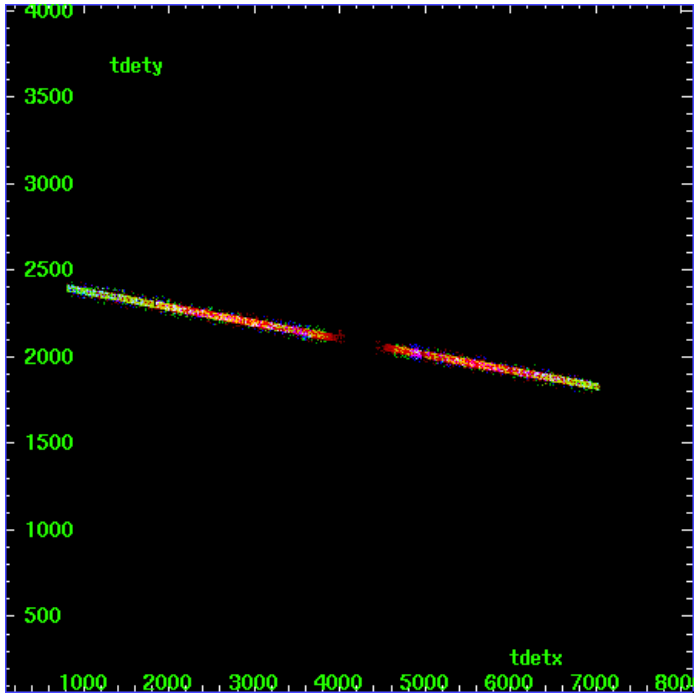
HEG Zero Order



HEG Order Sort ALL

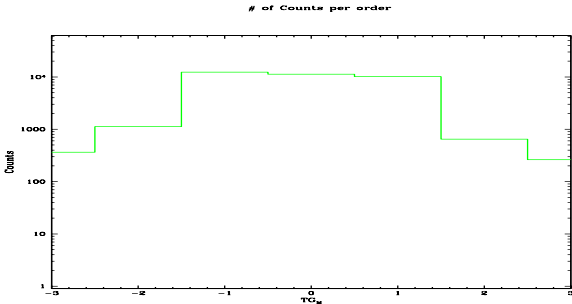


Spot Image HEG

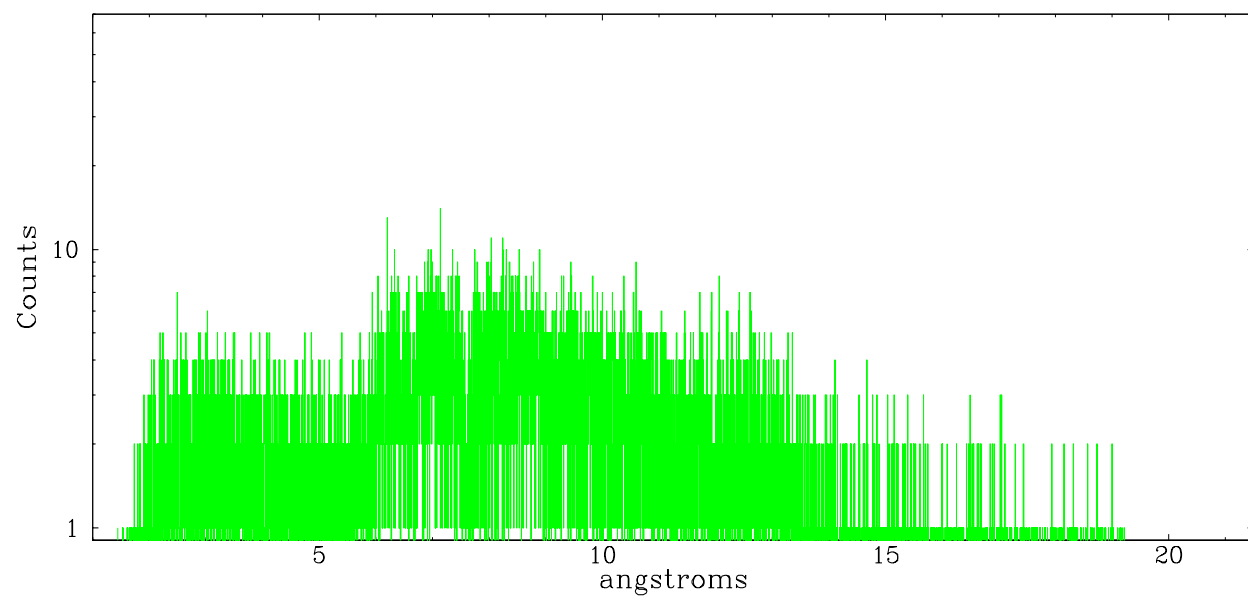


Full Detector HEG

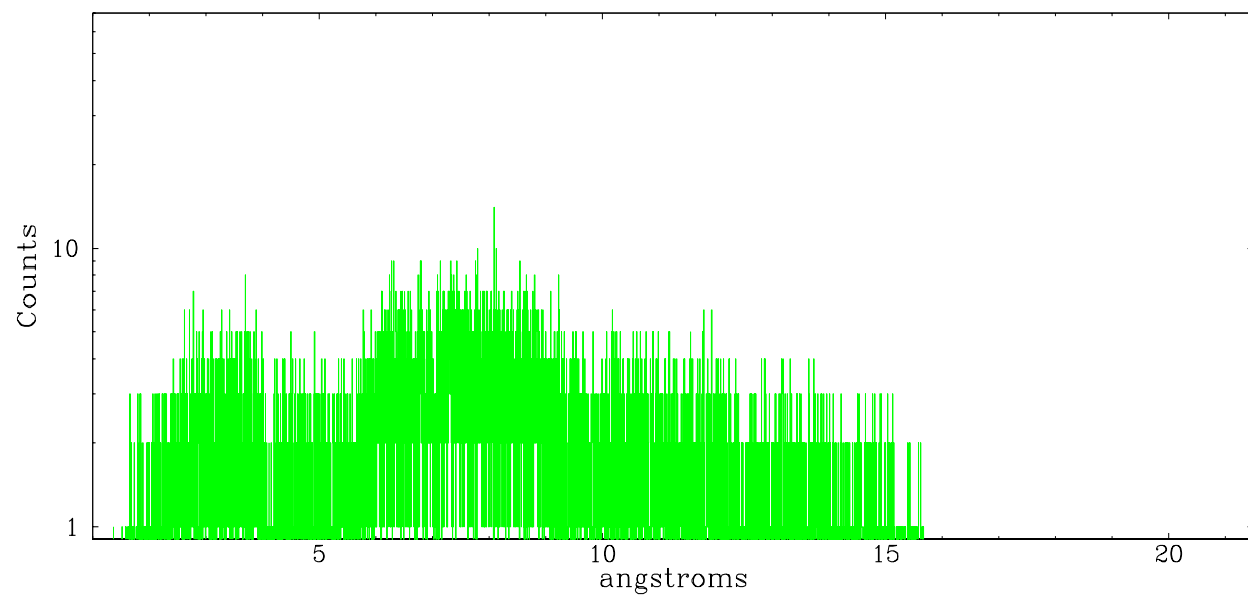
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	365	1122	12314	11300	10118	645	263



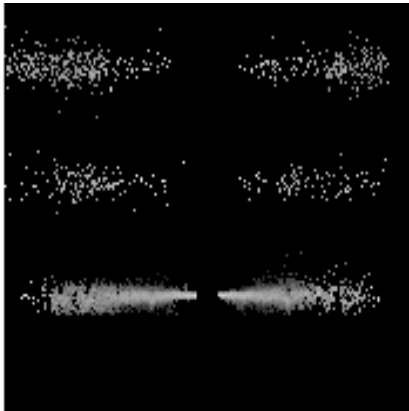
heg order -1



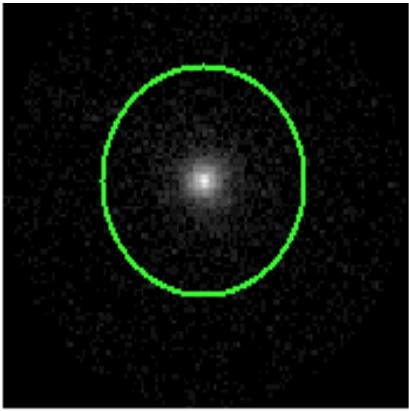
heg order +1



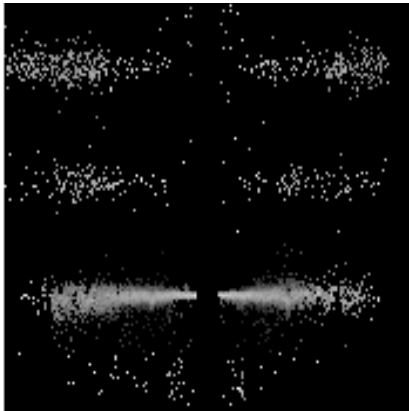
3.2 MEG Arm



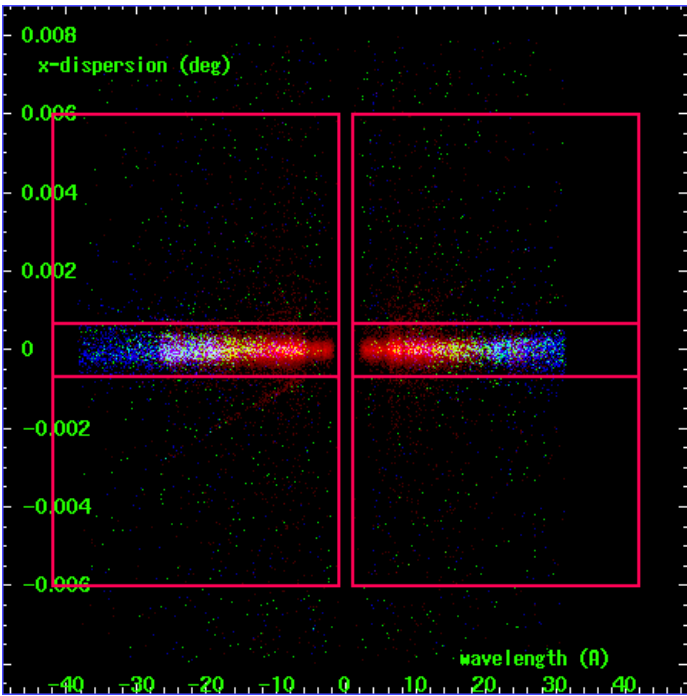
MEG Order Sort 123



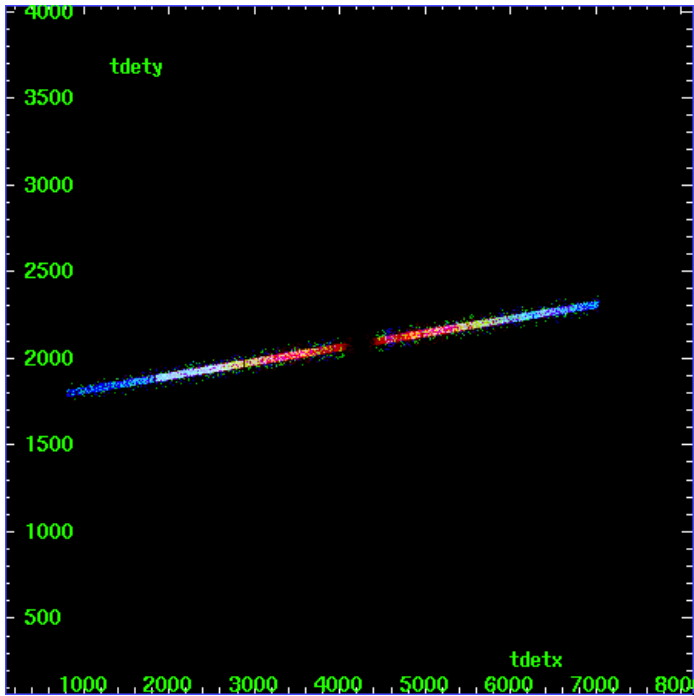
MEG Zero Order



MEG Order Sort ALL

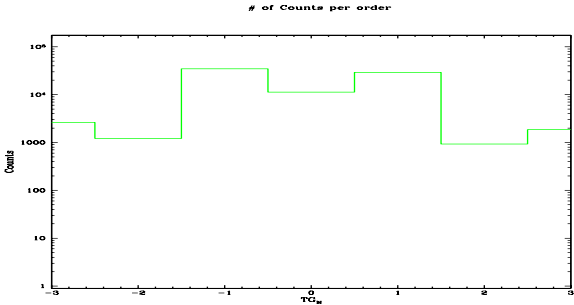


Spot Image MEG

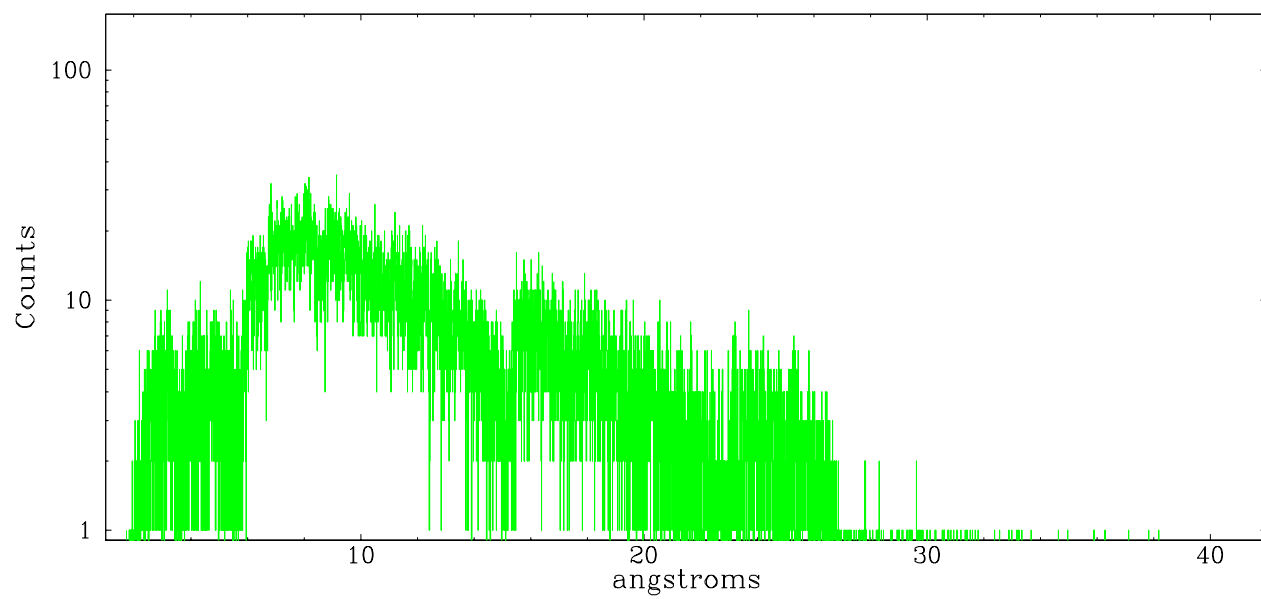


Full Detector MEG

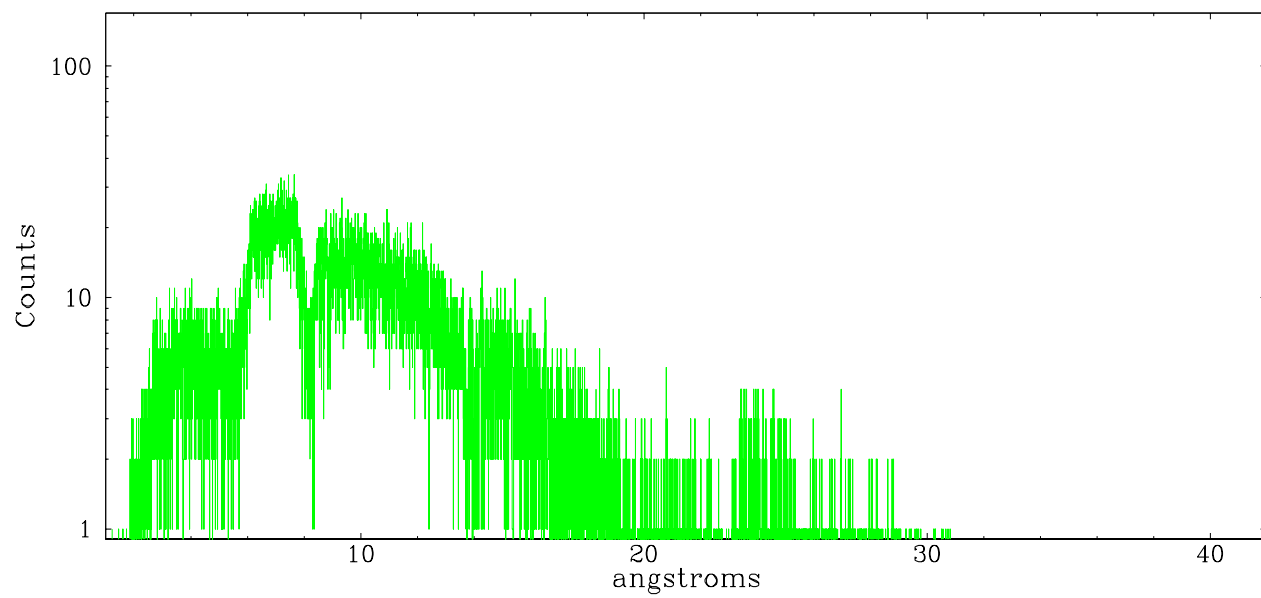
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2635	1215	34749	11300	29182	928	1862



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	49.347

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=4064.51, y=4009.09) 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.