

V&V Reference Report

L2 ASCDS Version : 7.6.9

Observation 3052 - L2 Version 001
Chandra X-Ray Center

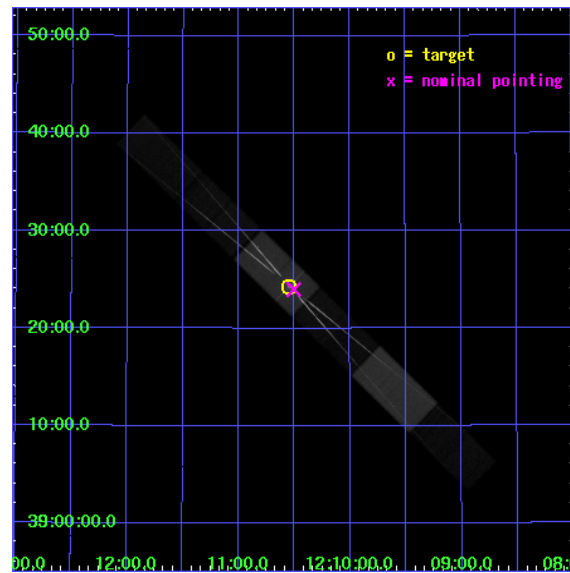
L2 Processing Date : Sep 16 2006

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

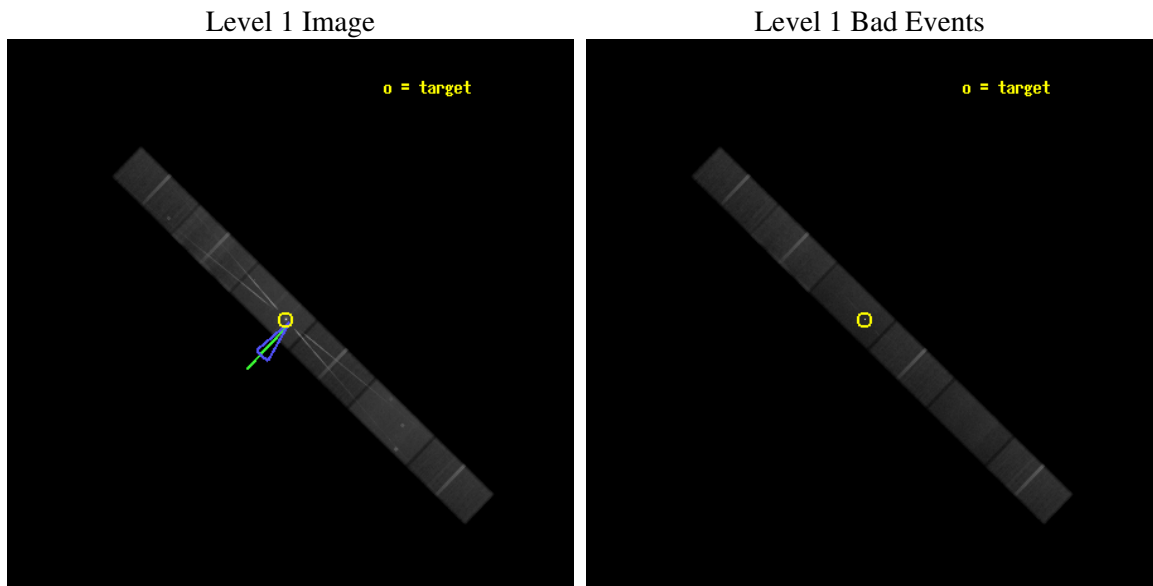
seq_num	700491
obs_id	3052
title	REVEALING THE NATURE OF THE X-RAY ABSORPTION IN NGC 4151
observer	PROF. STEVEN KRAEMER
object	NGC 4151
dtcycle	0
cycle	P
ra_targ	182.63625
dec_targ	39.405444
ra_nom	182.6258390171
dec_nom	39.400019975686
roll_nom	224.16333431761
revision	2
ontime	156603.02689597
livetime	153112.07166208
ontime4	156603.0268262
ontime5	156601.18590587
ontime6	156601.18582606
ontime7	156603.02689597
ontime8	156603.02684614
ontime9	156597.50383589
l2events	1107614



2 OBI

2.1 OBI

2.1.1 Images

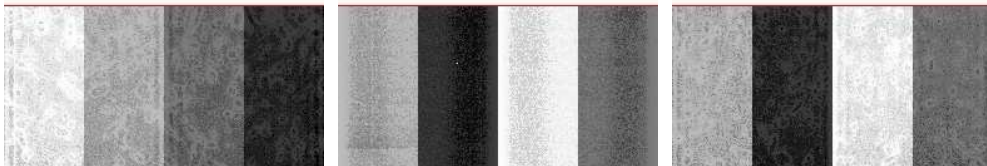


2.1.2 Bias

Chip 4

Chip 5

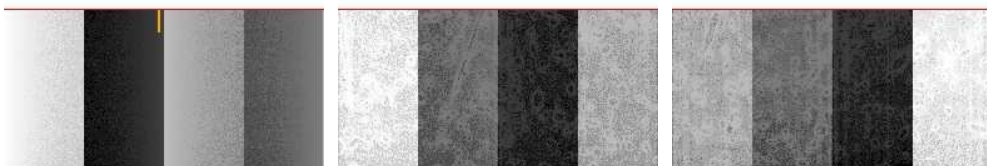
Chip 6



Chip 7

Chip 8

Chip 9



2.1.3 Parameters

obi_num	0
ascdsver	7.6.9
caldsver	3.2.3
date	2006-09-16T15:36:21
revision	2

sched_exp_time	156316.000000
ontime	156694.52841678
ontime4	156694.52832711
ontime5	156692.68742669
ontime6	156692.68732697
ontime7	156694.52841678
ontime8	156694.52834705
ontime9	156689.00533679
l1events	4210734

2.1.4 Events

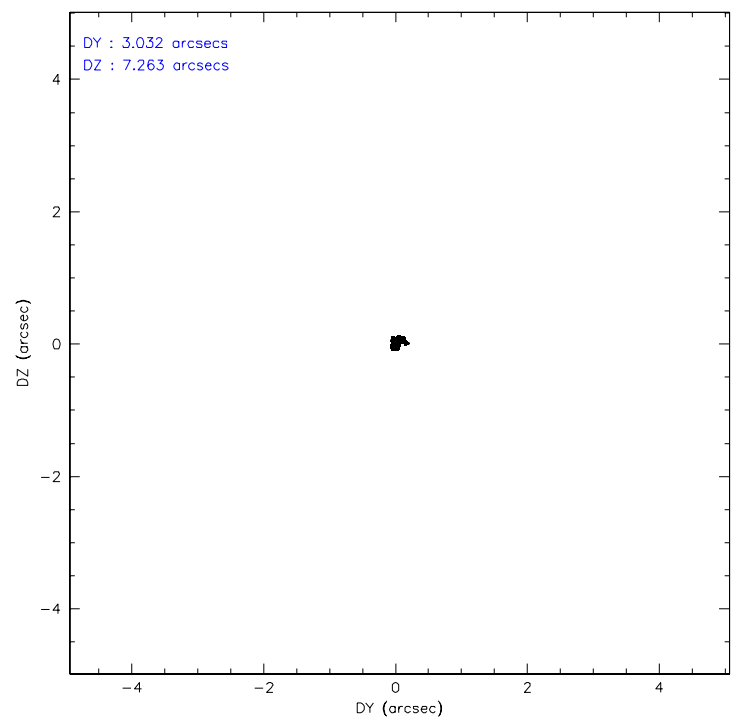
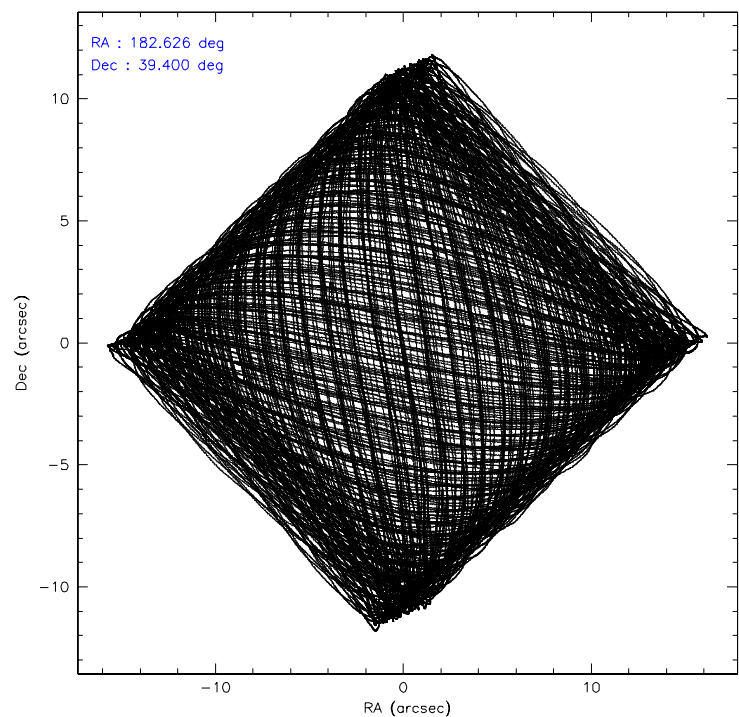
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	608065	742720	646473	918076	737281	558119
rejected events	540376	413950	491038	453798	573460	486906
rejected %	88%	55%	75%	49%	77%	87%

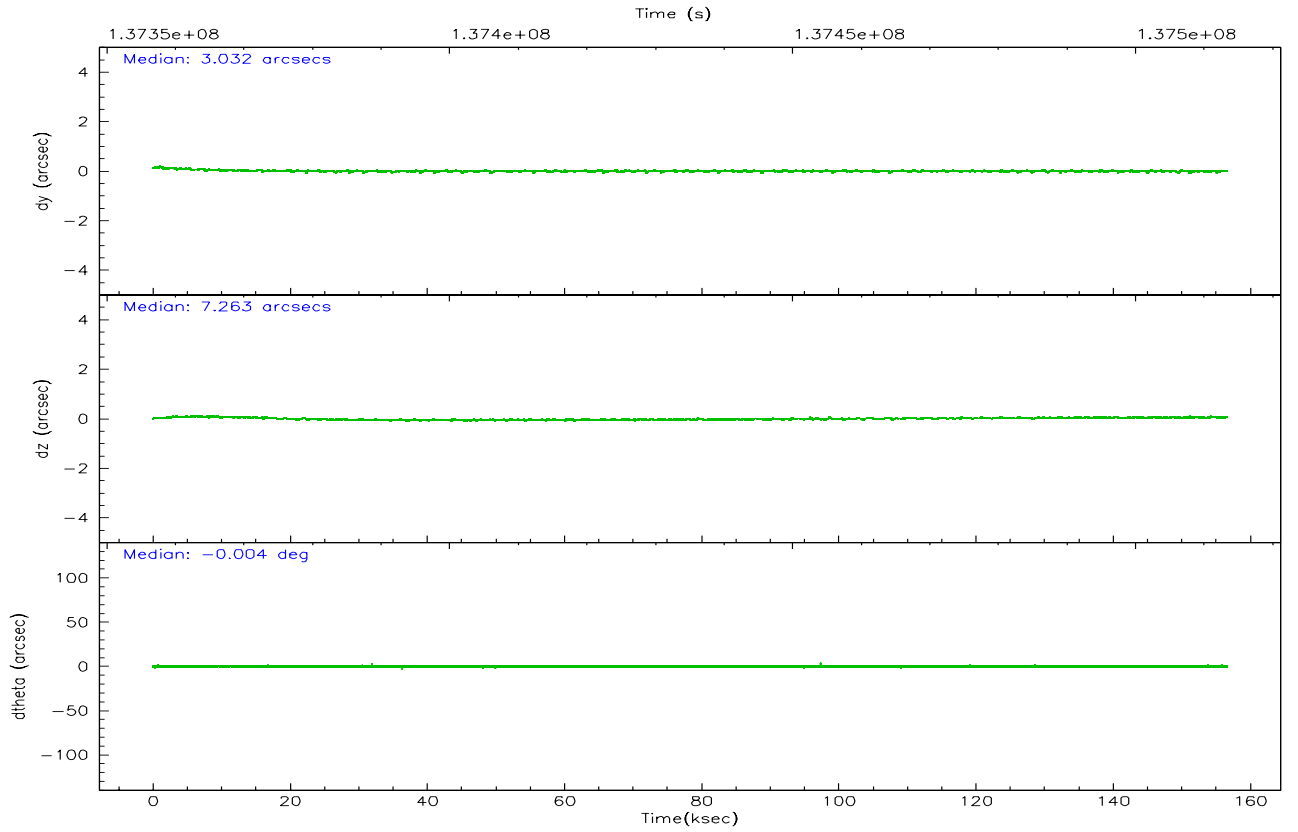
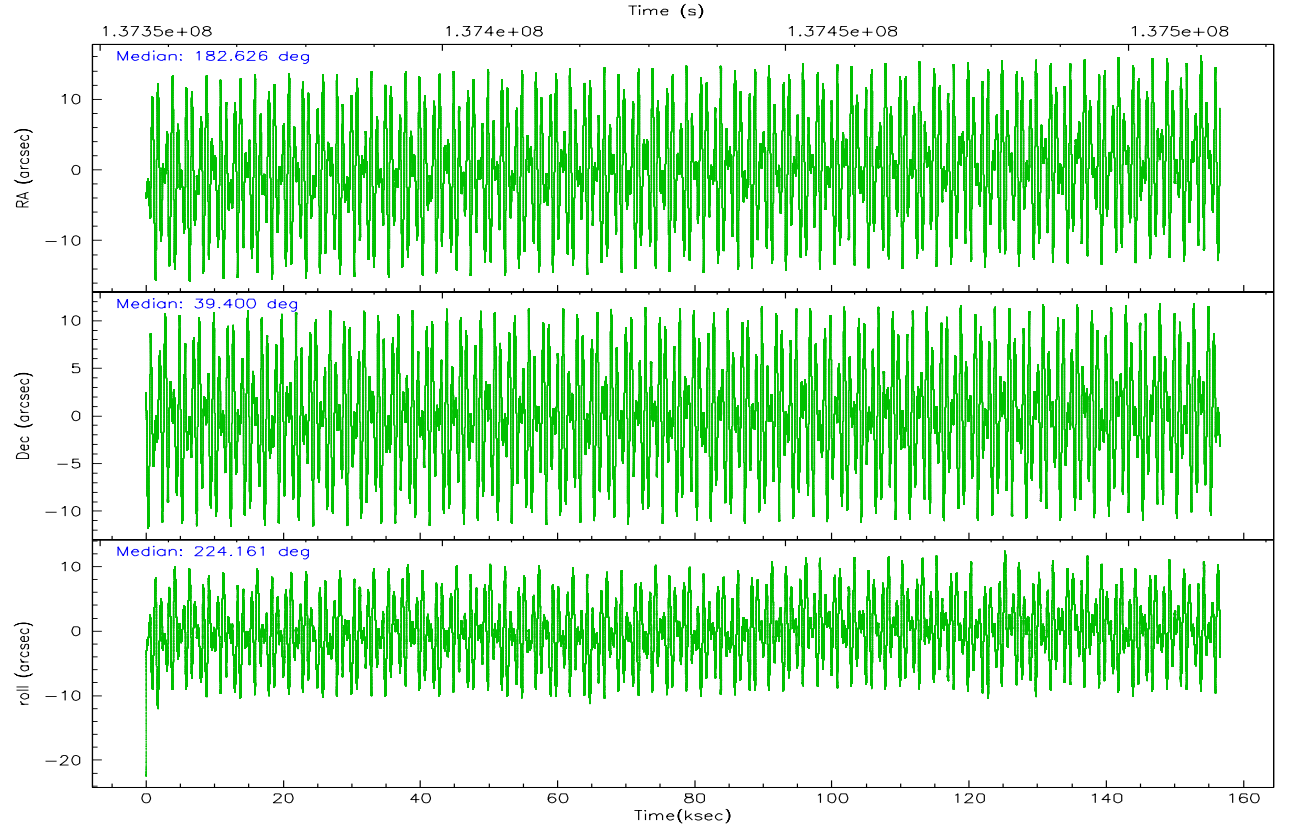
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	26212	23927	91094	49339	62952	30365
	4%	3%	14%	5%	8%	5%
grade 1 events	219	638	404	1946	416	234
	0%	0%	0%	0%	0%	0%
grade 2 events	15503	102497	24080	117545	31870	13237
	2%	13%	3%	12%	4%	2%
grade 3 events	7252	8904	11532	33975	16419	7722
	1%	1%	1%	3%	2%	1%
grade 4 events	7069	8531	11251	32918	15335	7335
	1%	1%	1%	3%	2%	1%
grade 5 events	19264	36601	22674	58886	28657	23150
	3%	4%	3%	6%	3%	4%
grade 6 events	11691	185157	17555	230763	37379	12589
	1%	24%	2%	25%	5%	2%
grade 7 events	520855	376465	467883	392704	544253	463487
	85%	50%	72%	42%	73%	83%

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	182.635042	182.6258390170996	Subarray requested	1/2	1/2
Pointing Dec	39.426331	39.40001997568567	Subarray start row	0	257
Pointing Roll	224.000870	224.1633343176103	Subarray row count	1024	512
Roll angle	220.000000	220.000000	Alternating exposures requested	N	N
Roll tolerance	10.000000	10.000000	Primary exposure time	0.000000	1.8
Roll constraint allows 180D rotation	N	N			
Window start time	137354464.184000	137354464.184000			
Window stop time	137516464.184000	137516464.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.1400660498719			
SIM translation stage offset (mm)	0	0.00754346686406393			
Observation start time	137357045.184000	137356009.41203			
Observation start date	2002-05-09T18:43:01	2002-05-09T18:26:49			
Observation end time	137513361.184000	137513659.03096			
Observation end date	2002-05-11T14:08:17	2002-05-11T14:14:19			
Read mode	TIMED	TIMED			

2.3 Aspect



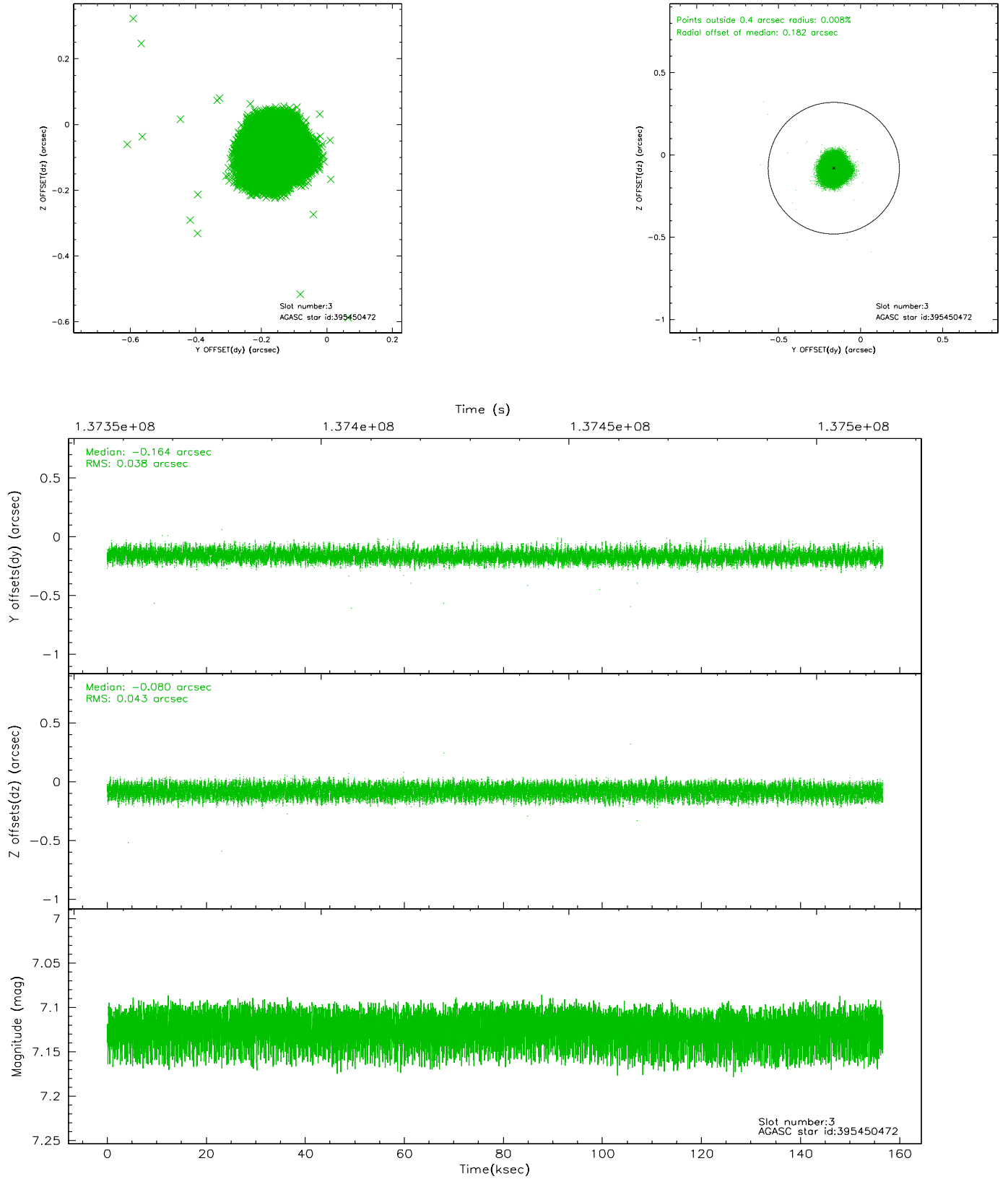


Slot Statistics

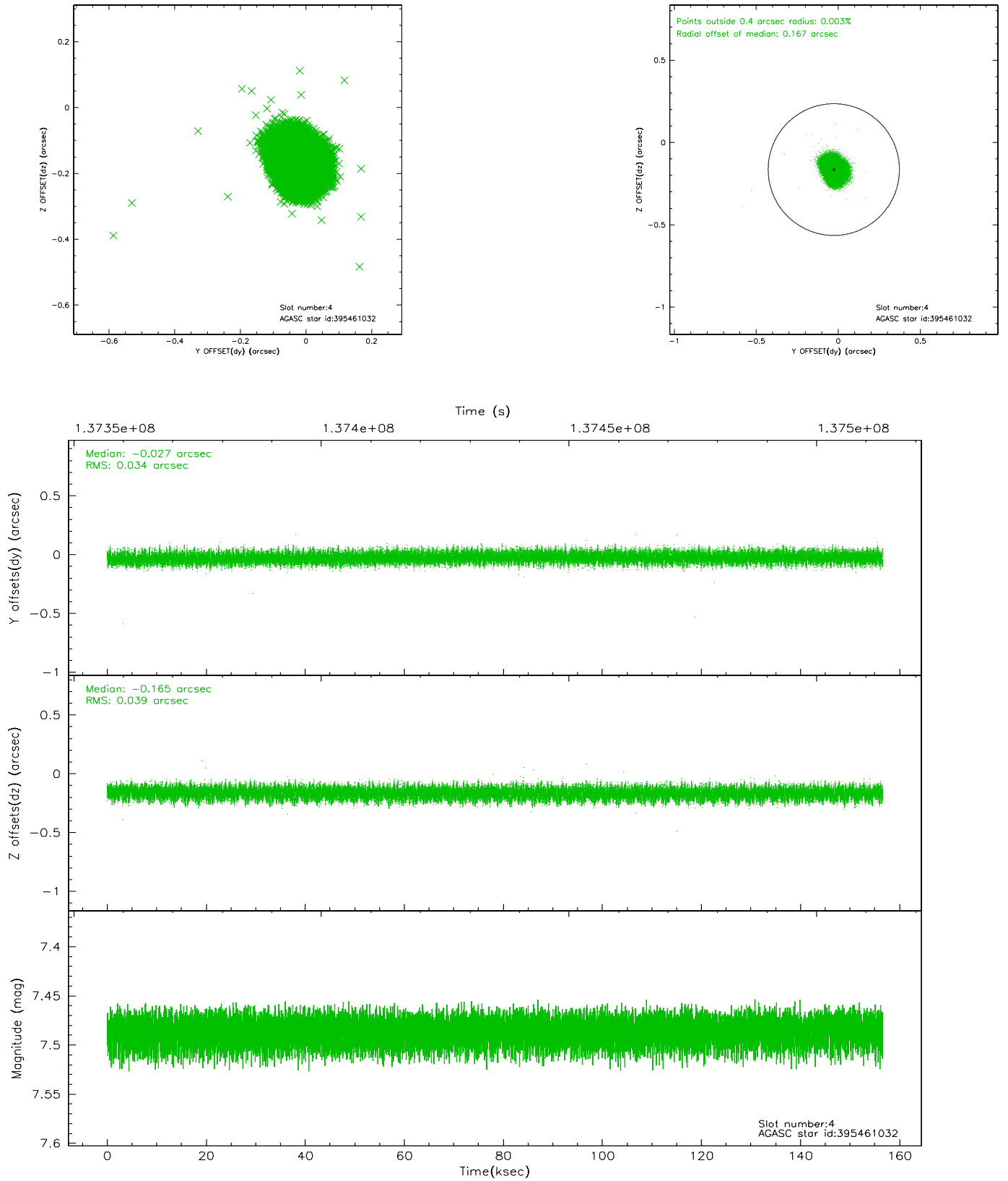
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	38189	0.000	0.026	0.007	0.011	0.000000	0.000000	-755.68	-1728.41
1	FID	ACIS-S-4	7.20	38188	-0.066	-0.007	0.005	0.009	0.000000	0.000000	2157.58	180.16
2	FID	ACIS-S-5	7.24	38189	0.035	-0.010	0.006	0.011	0.000000	0.000000	-1808.63	173.69
3	GUIDE	395450472	7.12	76383	-0.164	-0.080	0.062	0.096	182.697135	39.891512	-1286.93	-1085.37
4	GUIDE	395461032	7.48	76375	-0.027	-0.165	0.056	0.087	182.028999	39.655498	631.40	-1764.39
5	GUIDE	395458176	8.22	76368	0.041	-0.044	0.061	0.097	182.790485	39.130199	427.91	1068.45
6	GUIDE	395460552	8.97	76303	0.001	0.148	0.072	0.115	183.182835	39.403608	-1042.69	1114.52
7	GUIDE	395459952	9.41	76325	0.144	0.147	0.101	0.160	181.854255	39.210518	2100.17	-960.30

2.4 Star Slots

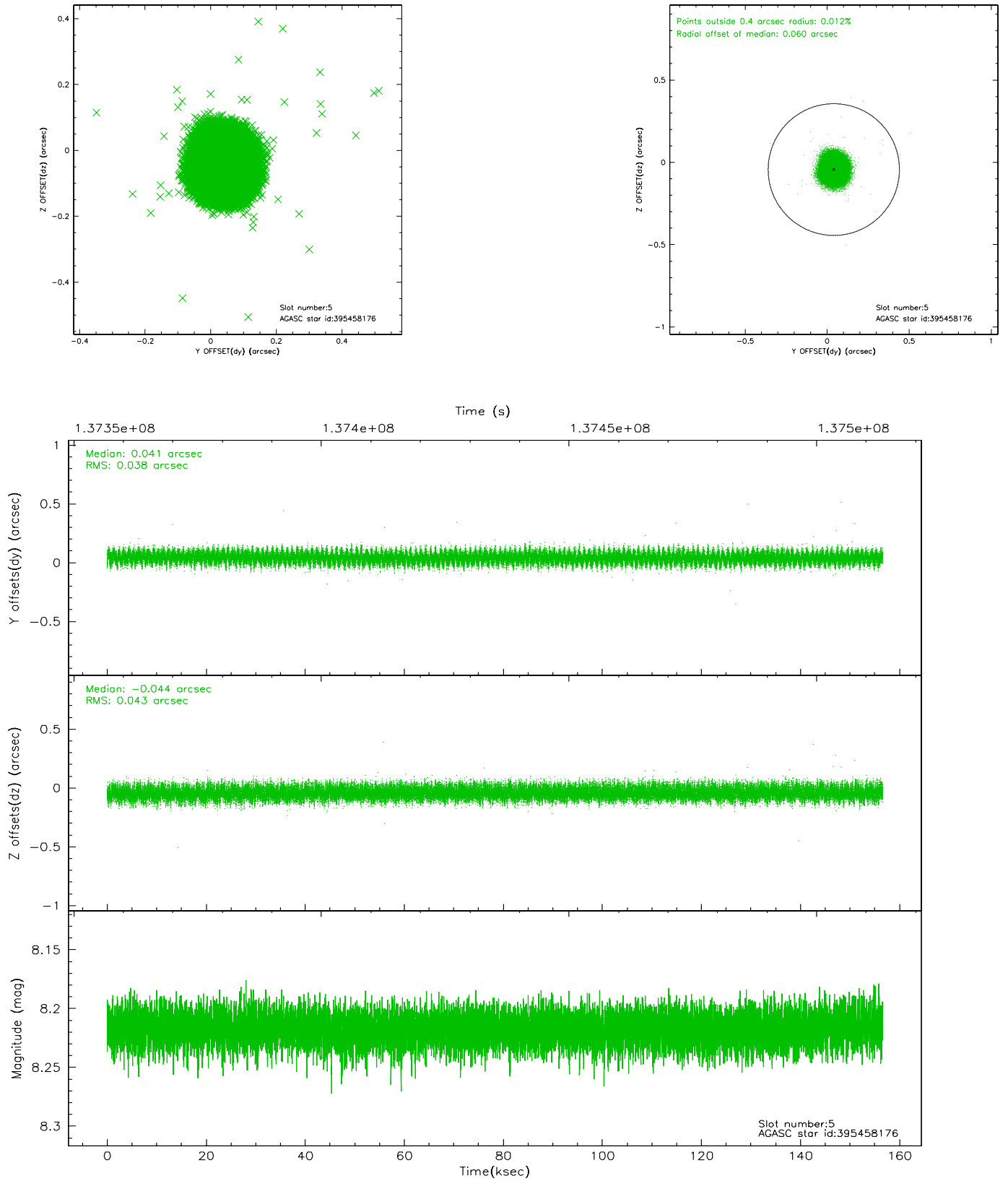
2.4.1 Slot 3



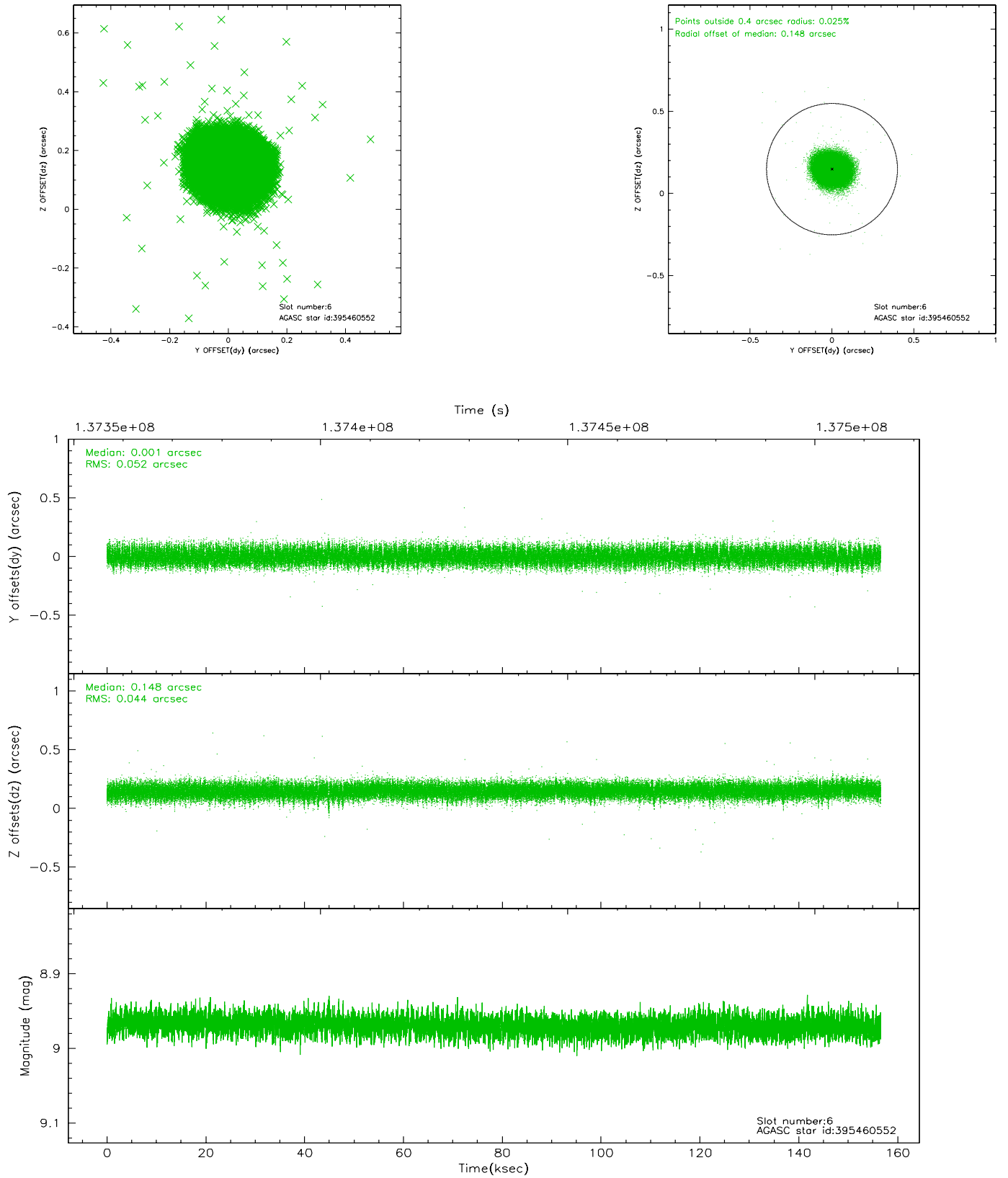
2.4.2 Slot 4



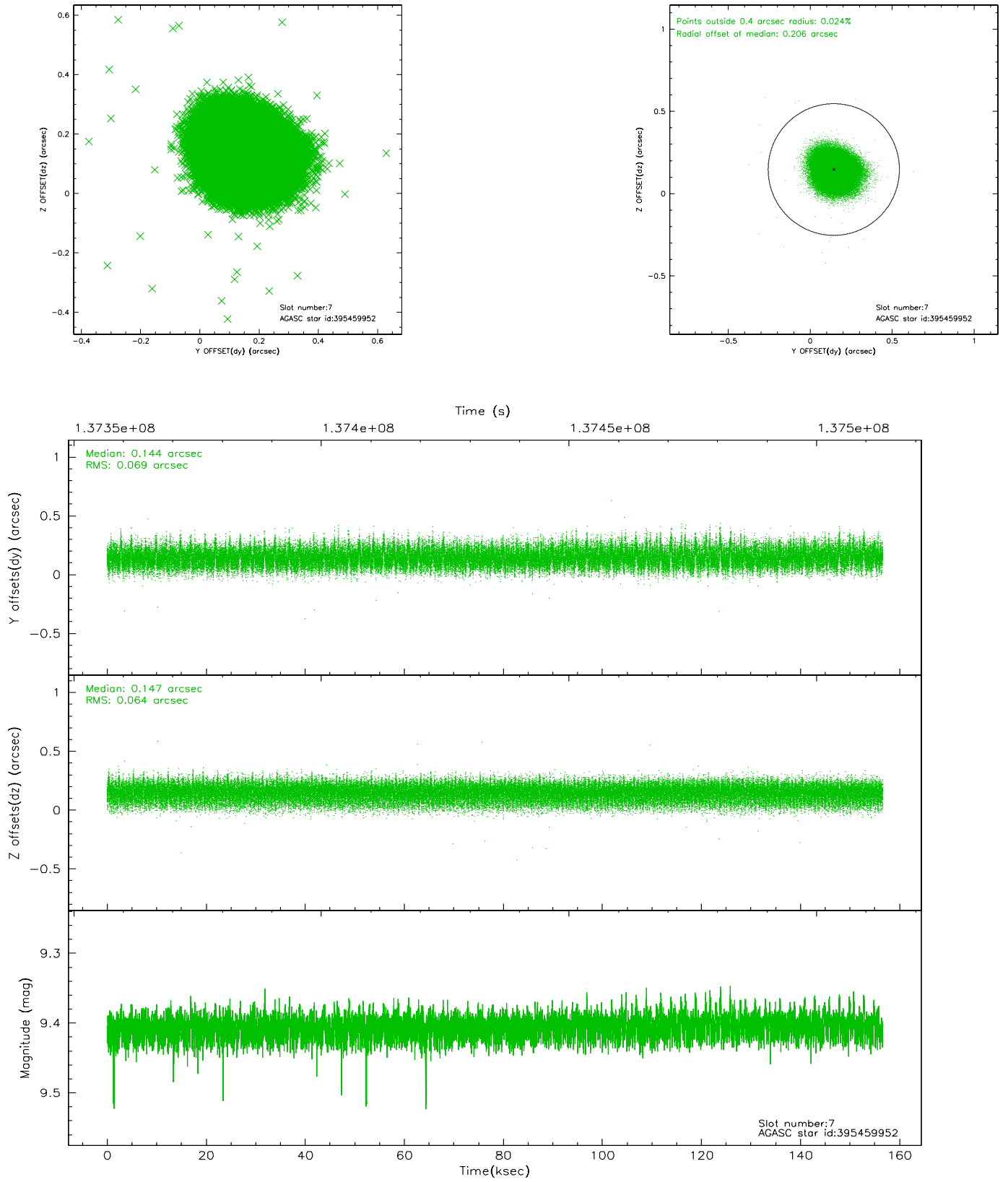
2.4.3 Slot 5



2.4.4 Slot 6

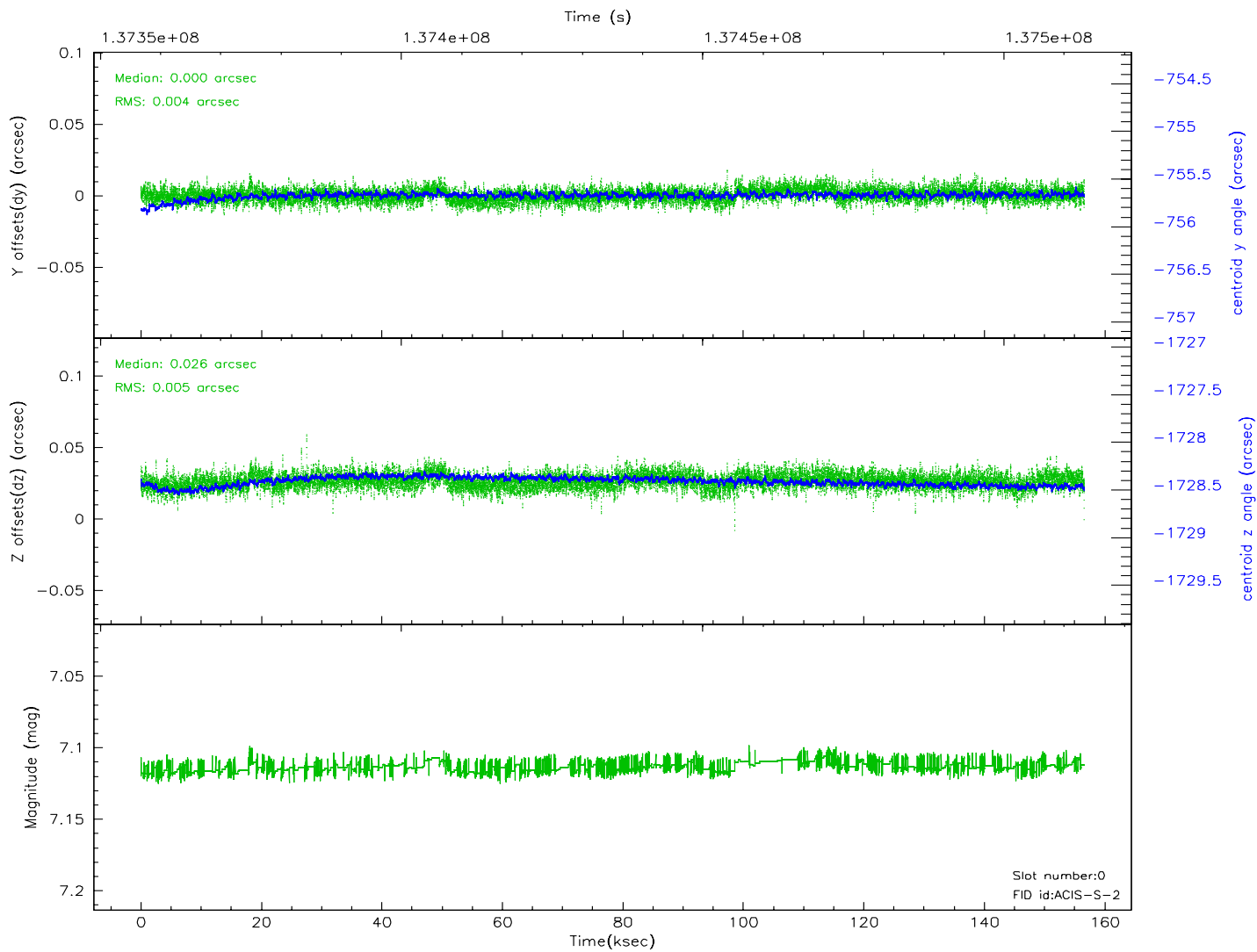
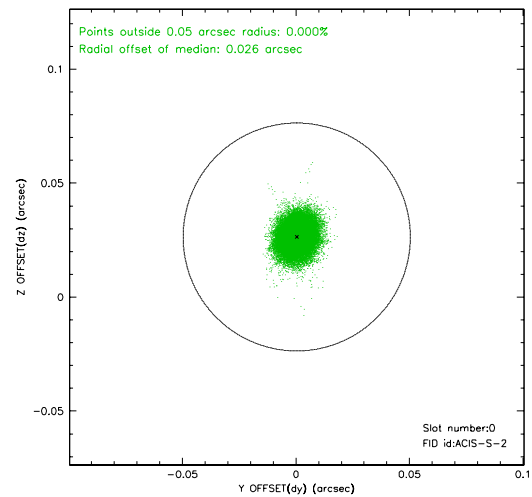
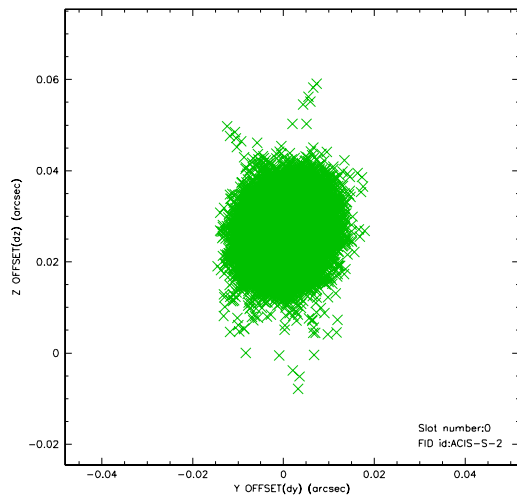


2.4.5 Slot 7

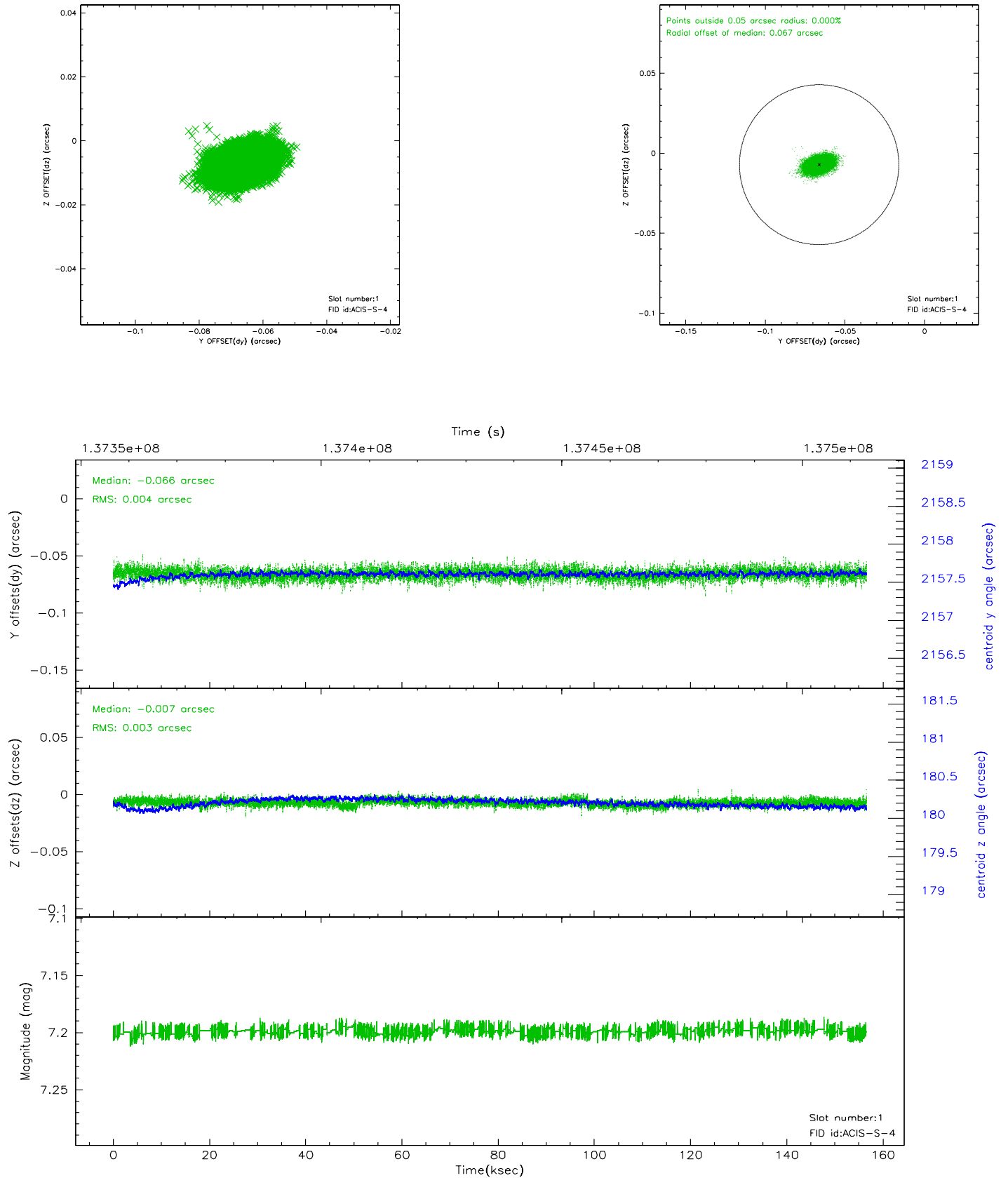


2.5 FID Slots

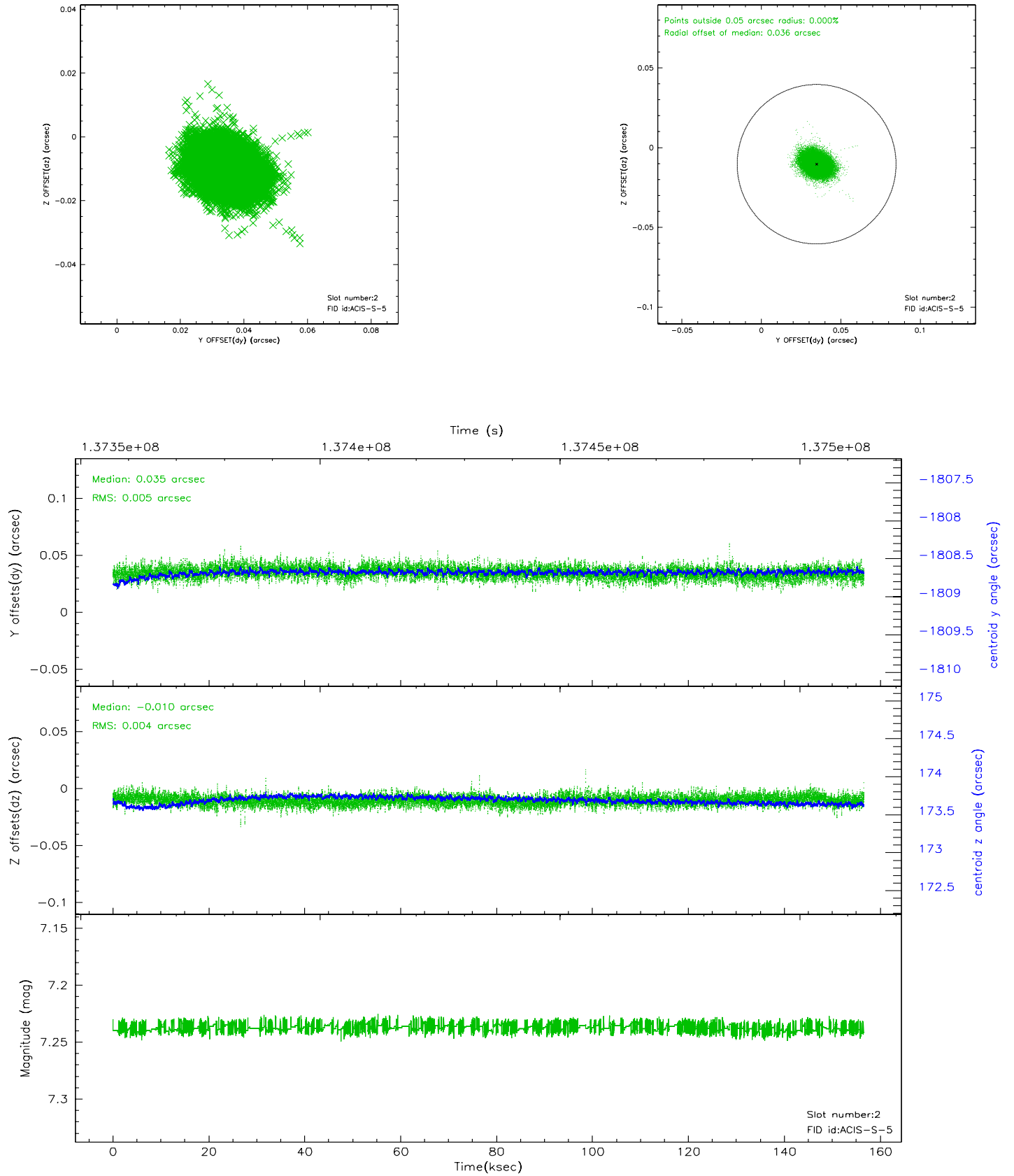
2.5.1 Slot 0



2.5.2 Slot 1

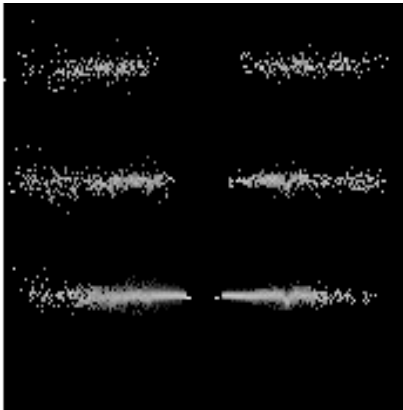


2.5.3 Slot 2

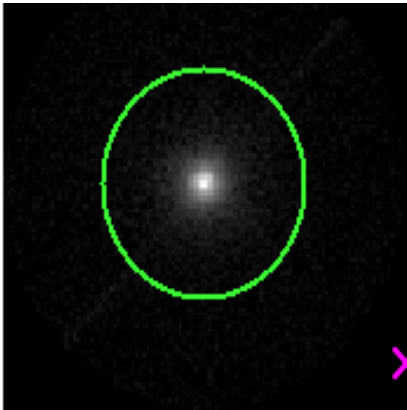


3 Gratings

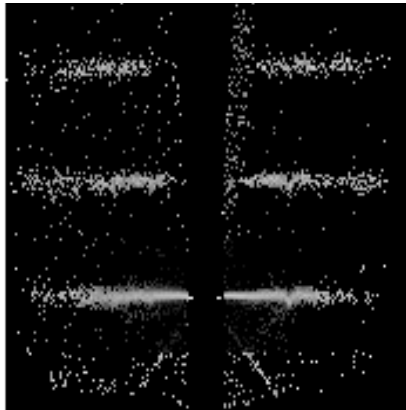
3.1 HEG Arm



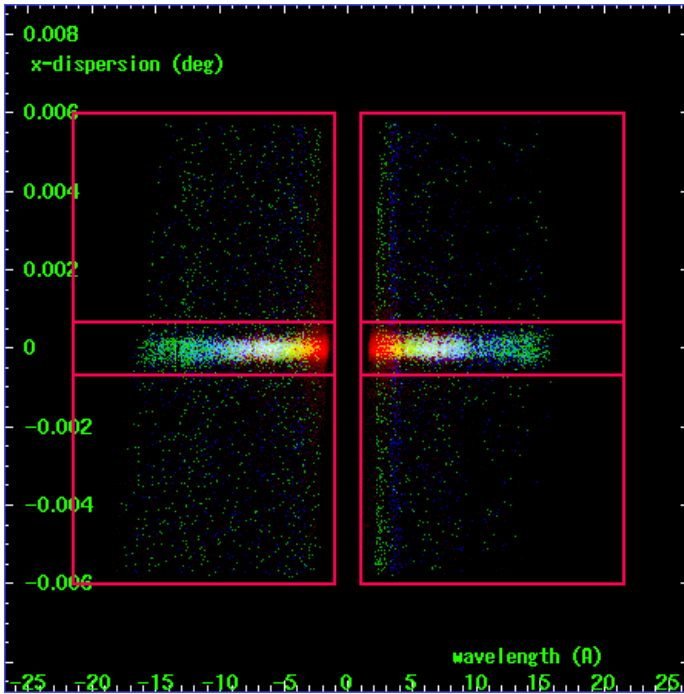
HEG Order Sort 123



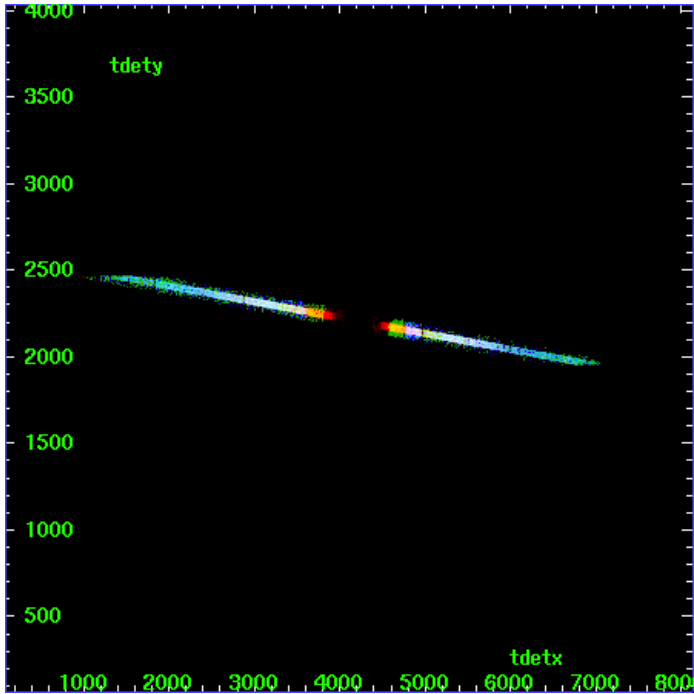
HEG Zero Order



HEG Order Sort ALL

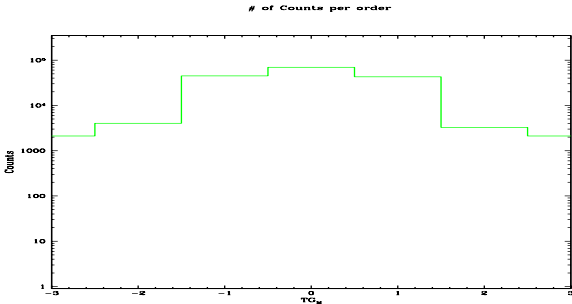


Spot Image HEG

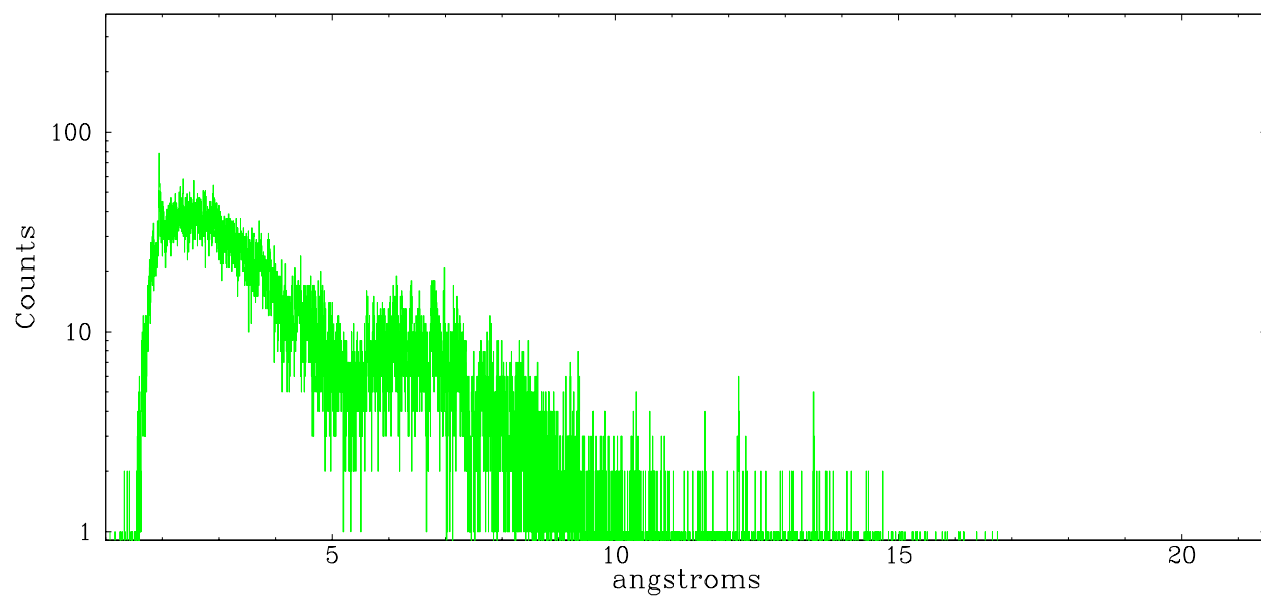


Full Detector HEG

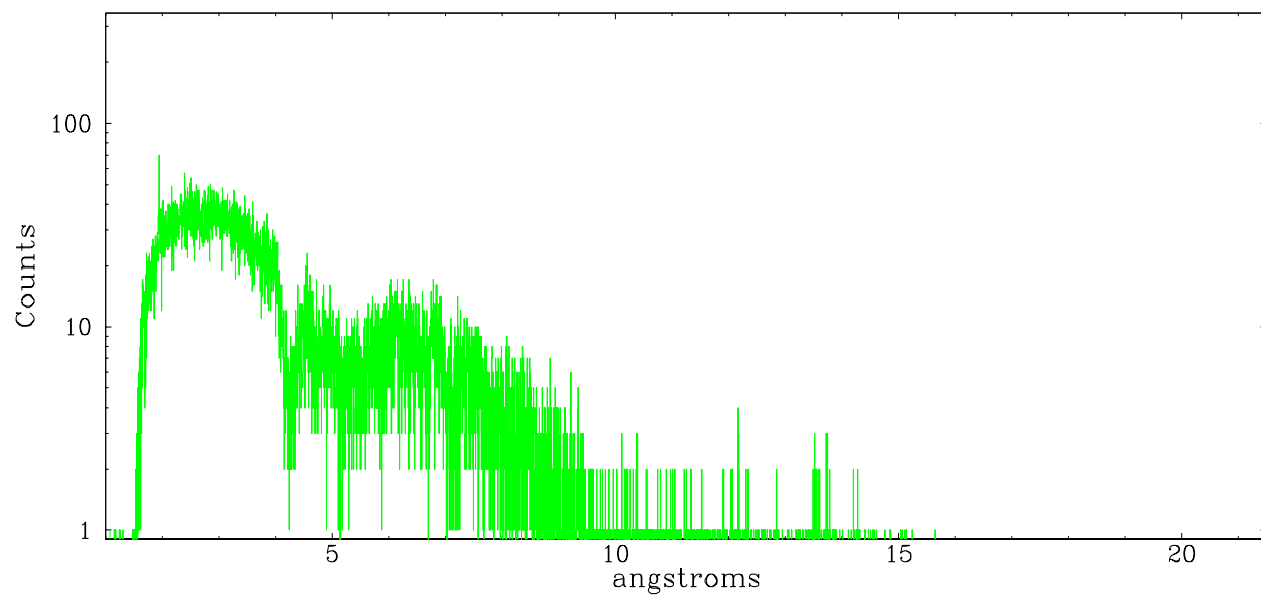
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2114	4033	44780	69401	42683	3270	2105



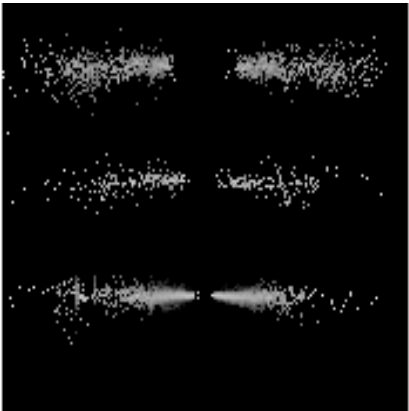
heg order -1



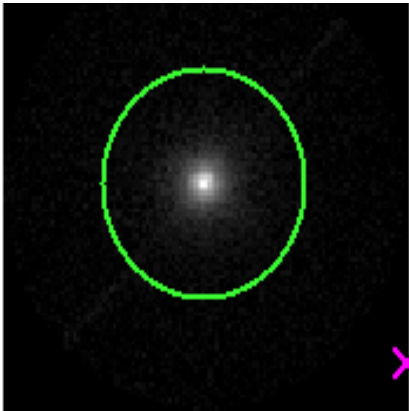
heg order +1



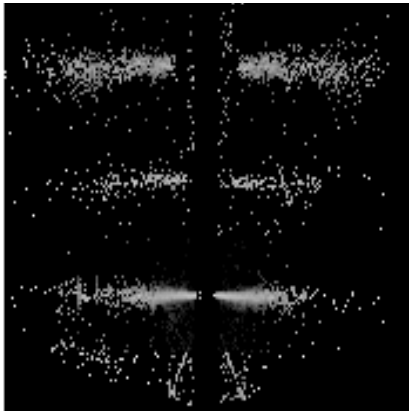
3.2 MEG Arm



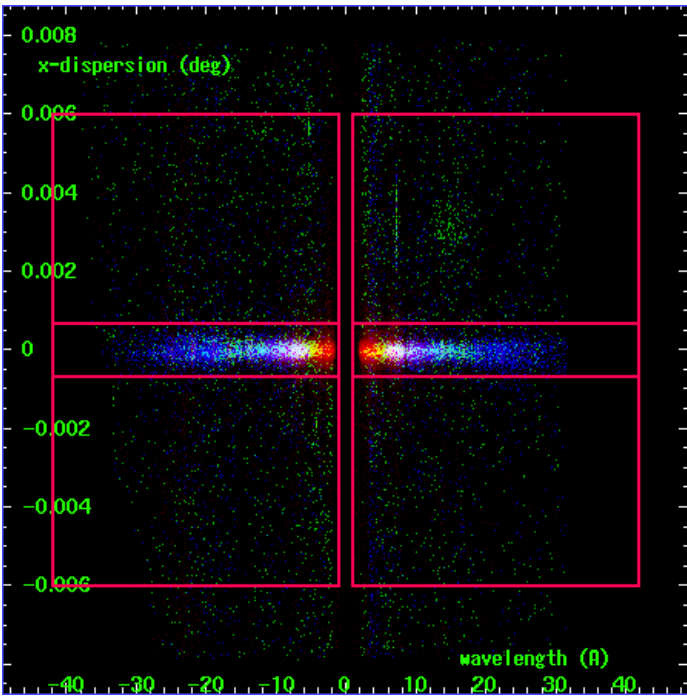
MEG Order Sort 123



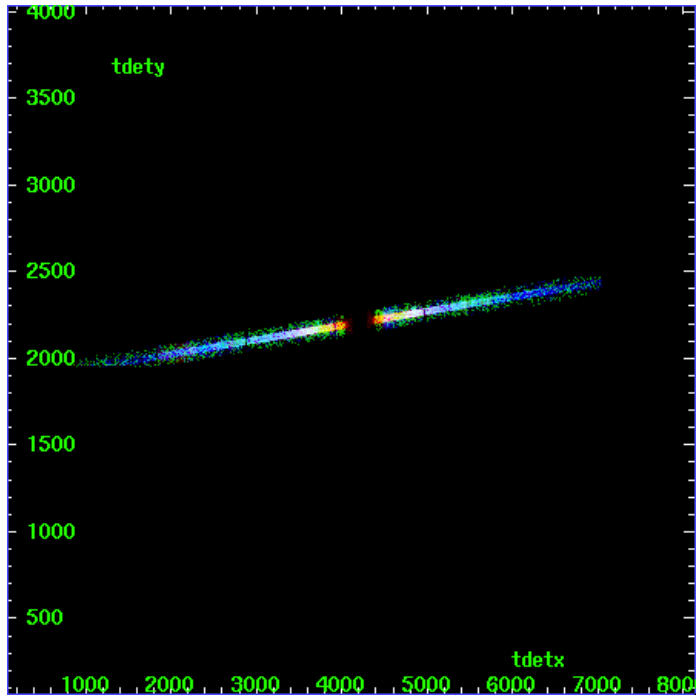
MEG Zero Order



MEG Order Sort ALL

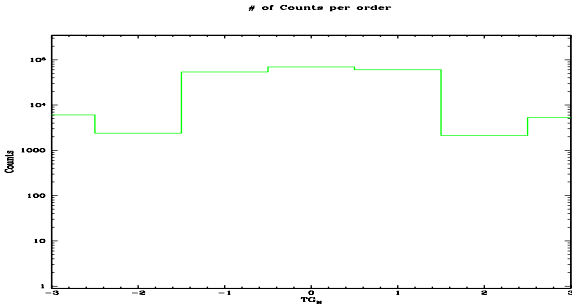


Spot Image MEG

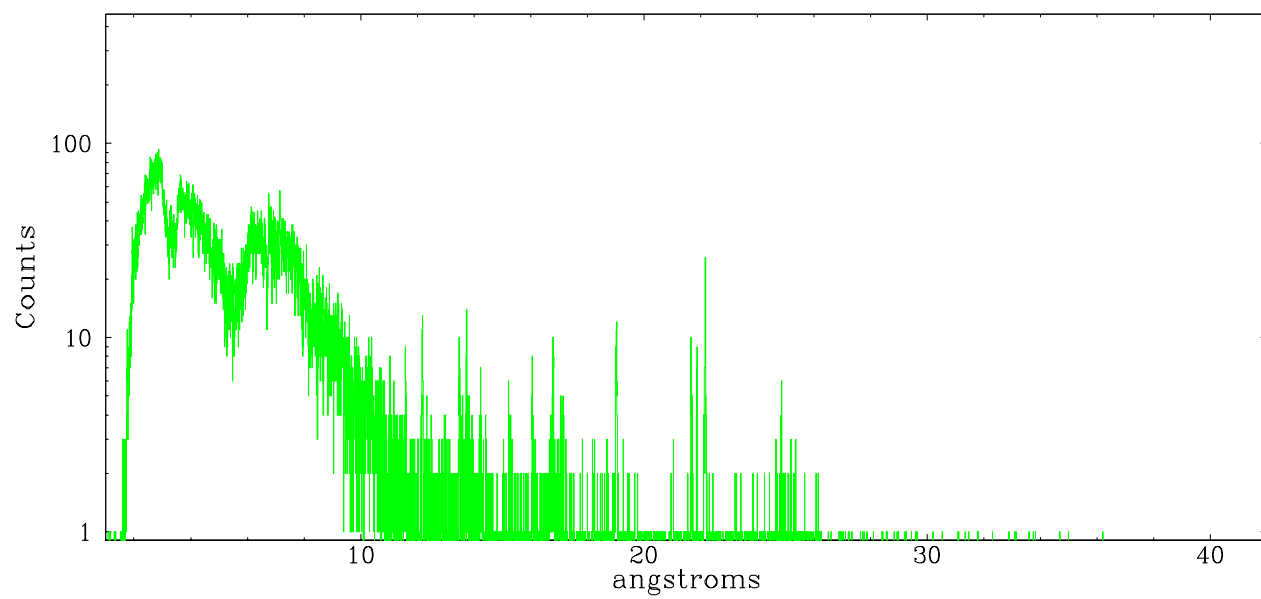


Full Detector MEG

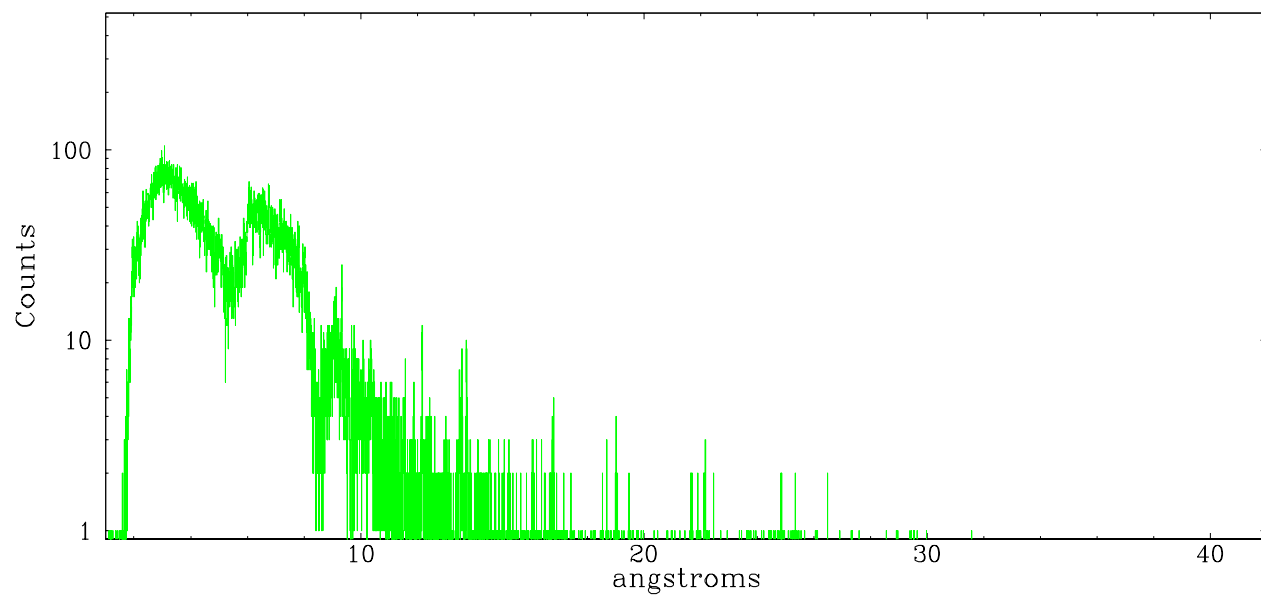
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	6042	2382	53622	69401	60332	2129	5310



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2006.09.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	156.603

A.2 Comments

Roll constraint specified by PI met. However, the dispersed HETG spectral arms are oriented NE/SW, rather than NW/SE as discussed in the comments by the PI. Therefore, the dispersed spectra are parallel to, rather than perpendicular to, the extended NLR of the source.

Coordinated with HST.