V&V Reference Report
L2 ASCDS Version : 7.6.9

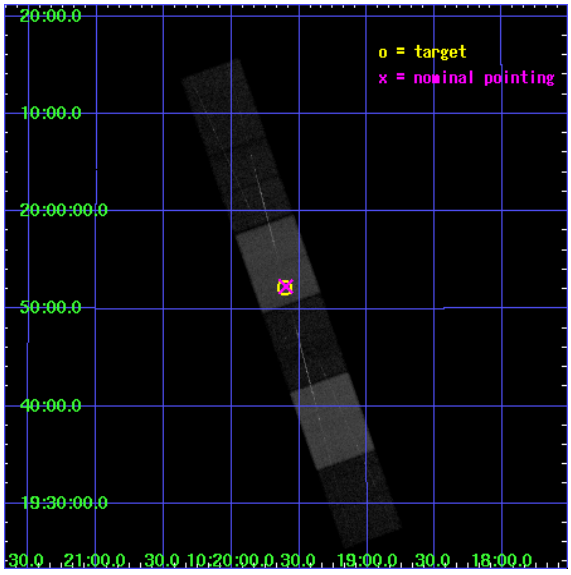
Observation 2570 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Sep 18 2006

Contents

1 Front

seq_num	200178
obs_id	2570
title	CORONAL DYNAMICS AND THE COMPLETE FLARE ENERGY BUDGET FOR THE M DWARF FLARE STAR AD LEO
observer	DR. Alexander Brown
object	AD_LEO
dtycycle	0
cycle	P
ra_targ	154.900917
dec_targ	19.869889
ra_nom	154.89974744832
dec_nom	19.871822005948
roll_nom	250.53653320041
revision	2
ontime	45897.5
livetime	45156.21556528
ontime4	45897.5
ontime5	45897.5
ontime6	45897.5
ontime7	45897.5
ontime8	45894.959009826
ontime9	45894.959009826
l2events	358587

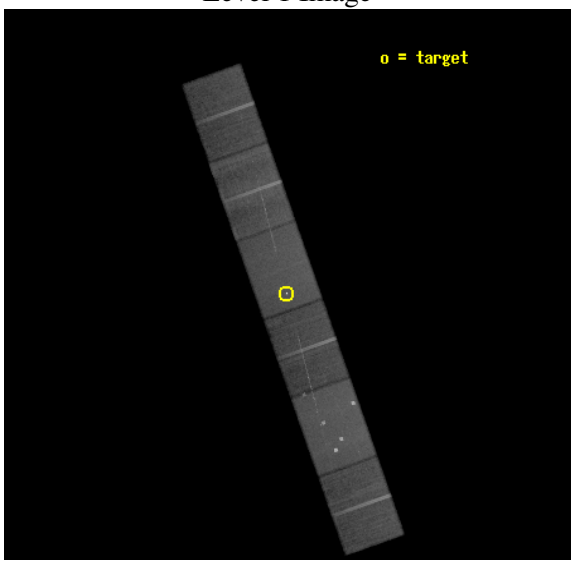


2 OBI

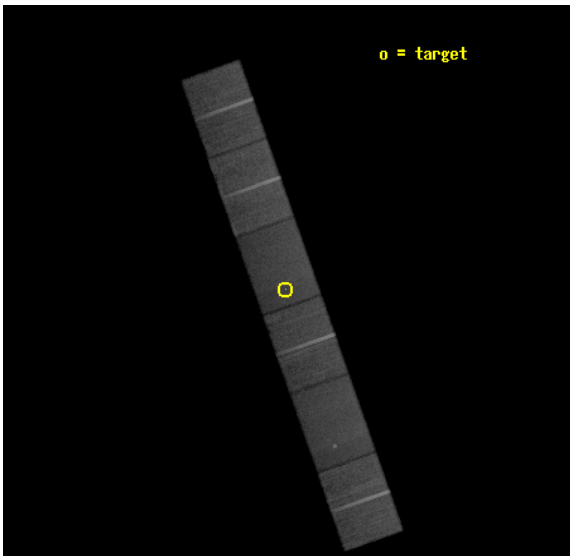
2.1 OBI

2.1.1 Images

Level 1 Image

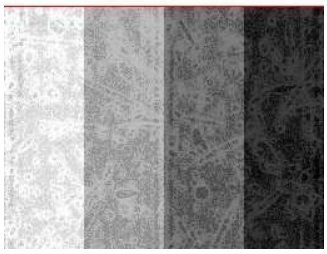


Level 1 Bad Events

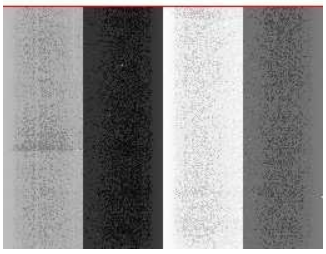


2.1.2 Bias

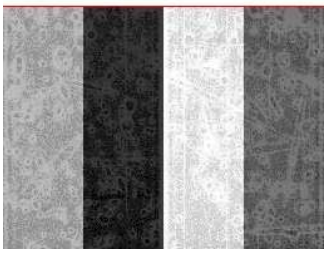
Chip 4



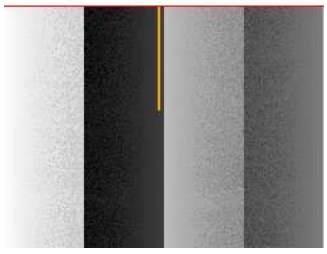
Chip 5



Chip 6



Chip 7



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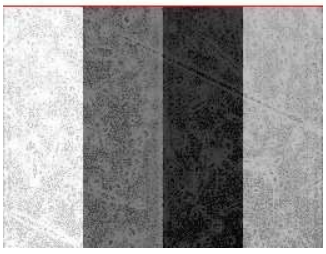
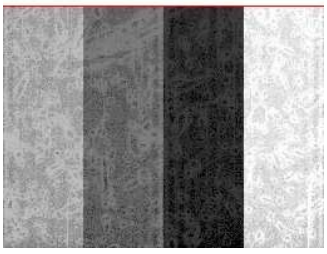


Chip 9



2.1.3 Parameters

obi_num	0
ascdsver	7.6.9
caldbver	3.2.3
date	2006-09-18T03:04:51
revision	2

sched_exp_time	46000.000000
ontime	45903.317854404
ontime4	45903.317824483
ontime5	45903.317824483
ontime6	45903.317824483
ontime7	45903.317854404
ontime8	45900.776834309
ontime9	45900.776834309
l1events	1647751

2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	250202	344865	231960	301795	292961	225968
rejected events	221858	181997	201976	177957	228989	198069
rejected %	88%	52%	87%	58%	78%	87%

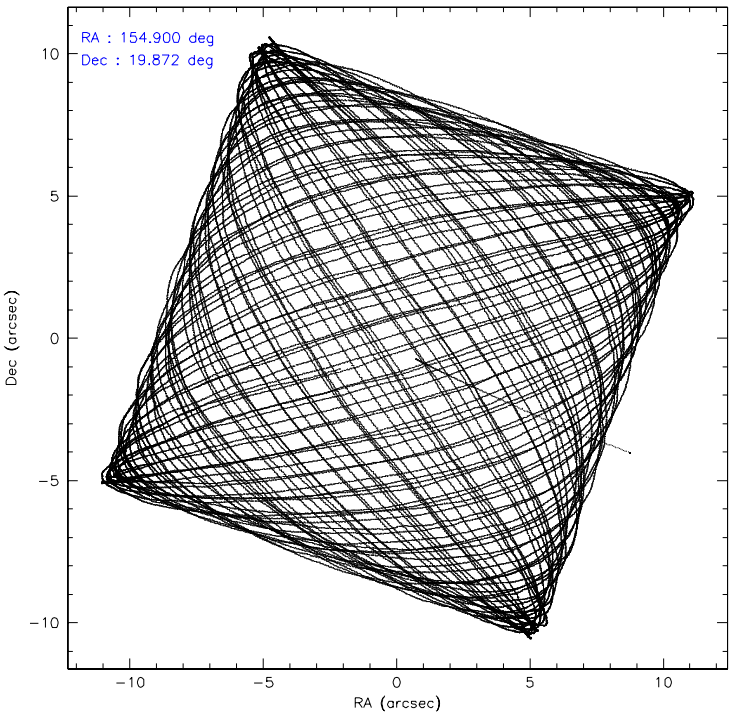
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	11331	29835	13247	9537	21461	11350
	4%	8%	5%	3%	7%	5%
grade 1 events	104	1328	103	330	151	70
	0%	0%	0%	0%	0%	0%
grade 2 events	6637	44326	5650	29771	13369	5553
	2%	12%	2%	9%	4%	2%
grade 3 events	2699	4012	3008	7944	6800	2942
	1%	1%	1%	2%	2%	1%
grade 4 events	2726	3799	2880	7751	6324	2818
	1%	1%	1%	2%	2%	1%
grade 5 events	8435	15899	9685	21491	12271	9809
	3%	4%	4%	7%	4%	4%
grade 6 events	4956	80919	5200	68841	16022	5239
	1%	23%	2%	22%	5%	2%
grade 7 events	213314	164747	192187	156130	216563	188187
	85%	47%	82%	51%	73%	83%

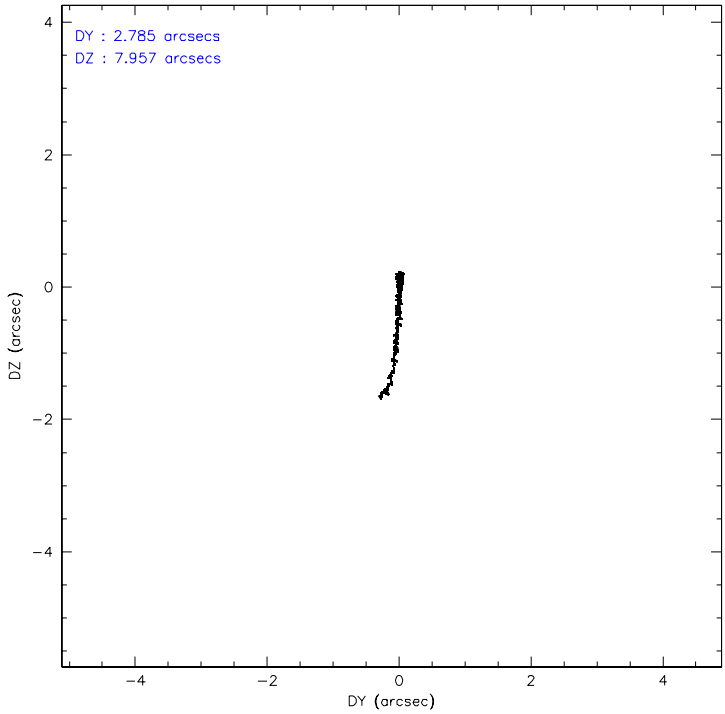
2.2 Compared Parameters

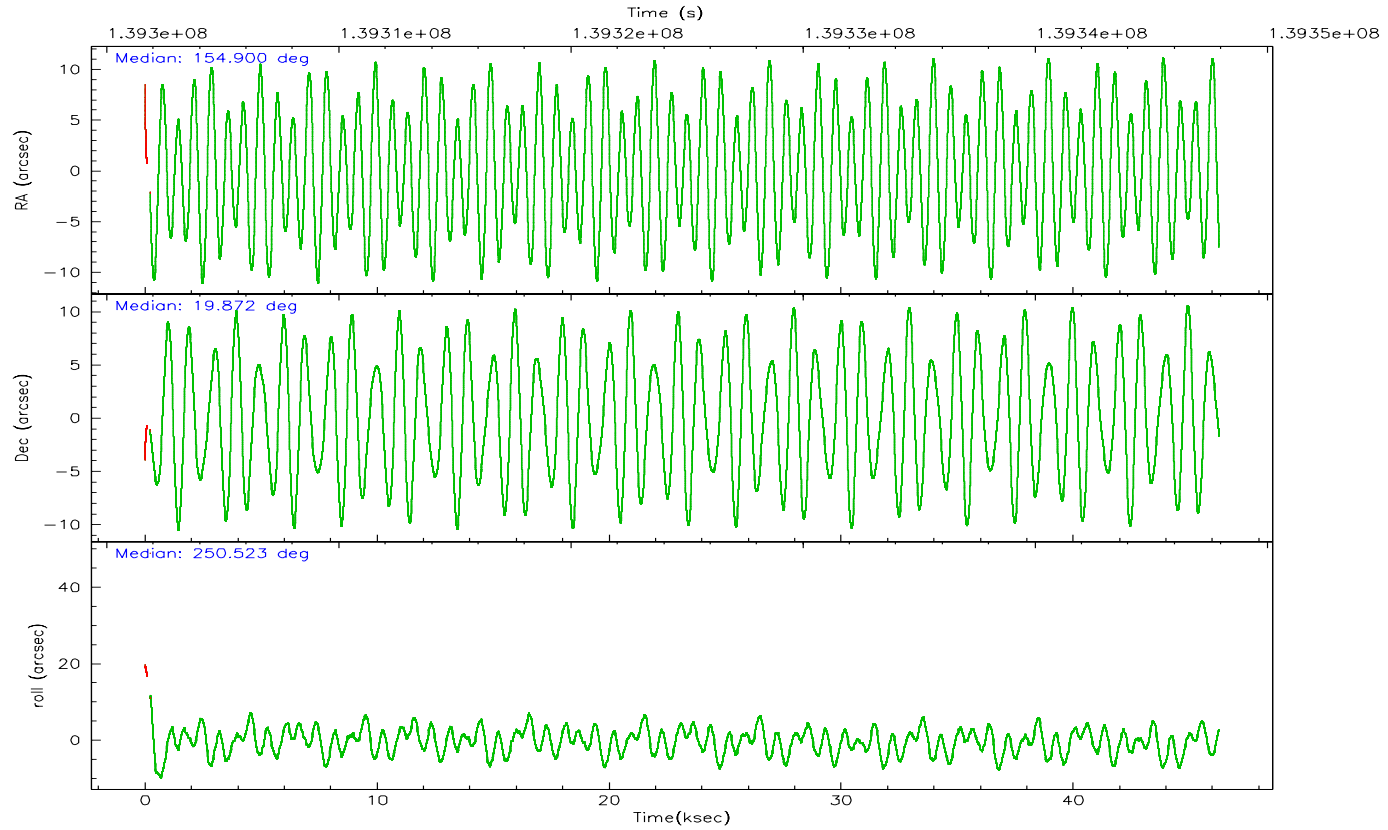
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	154.894086	154.8997474483164
Pointing Dec	19.898541	19.87182200594788
Pointing Roll	250.381828	250.5365332004078
Window start time	138844924.184000	138844924.184000
Window stop time	139449604.184000	139449604.184000
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	139301945.184000	139300918.80388
Observation start date	2002-06-01T06:58:01	2002-06-01T06:41:58
Observation end time	139347945.184000	139348519.29332
Observation end date	2002-06-01T19:44:41	2002-06-01T19:55:19
Read mode	TIMED	TIMED

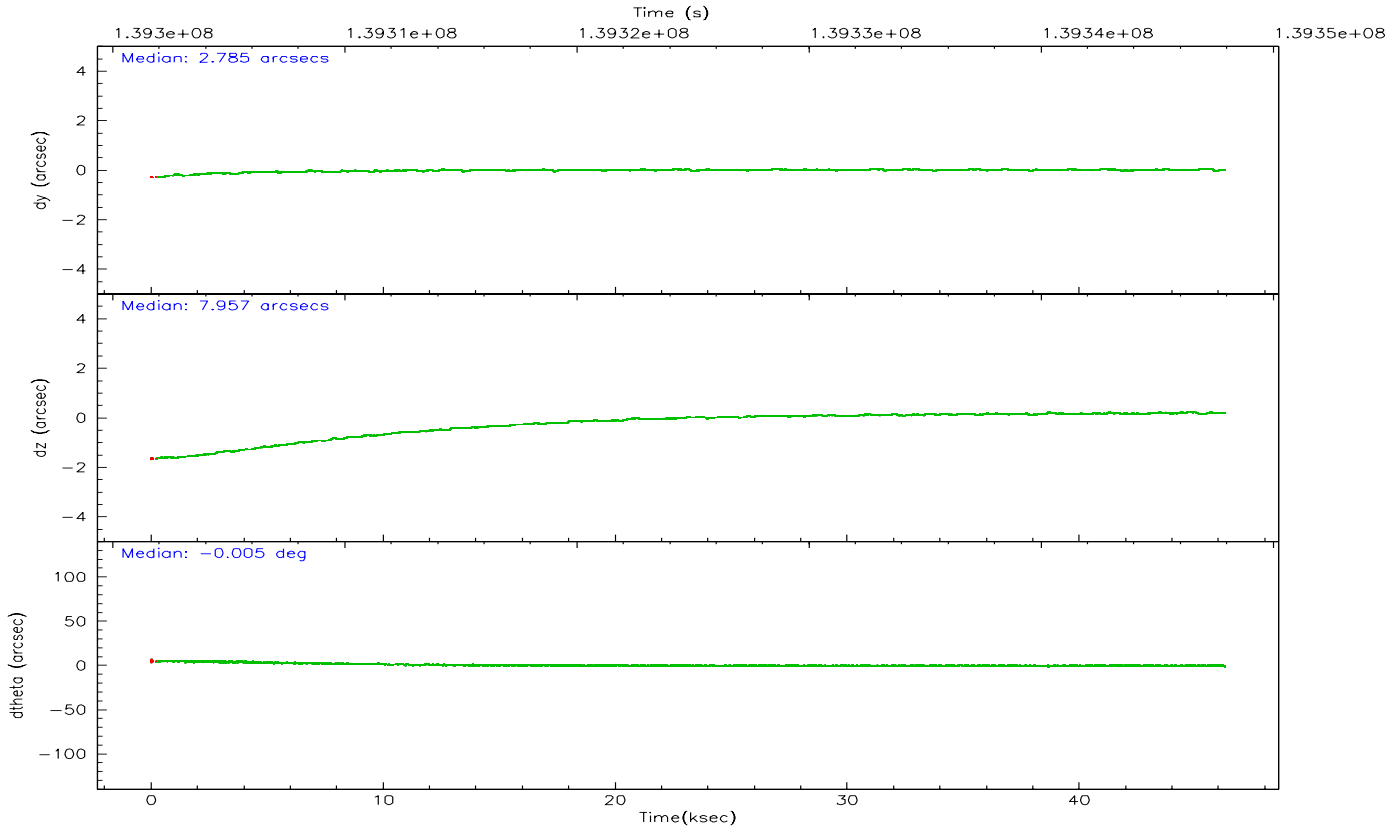
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	1	1
Subarray row count	774	774
Alternating exposures requested	N	N
Primary exposure time	0.000000	2.5

2.3 Aspect


RA : 154.900 deg
Dec : 19.872 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 2.785 arcsecs
DZ : 7.957 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.393e+08
1.3931e+08
1.3932e+08
1.3933e+08
1.3934e+08
1.3935e+08
Median: 154.900 deg
RA (arcsec)
Median: 19.872 deg
Dec (arcsec)
Median: 250.523 deg
roll (arcsec)
Time(ksec)

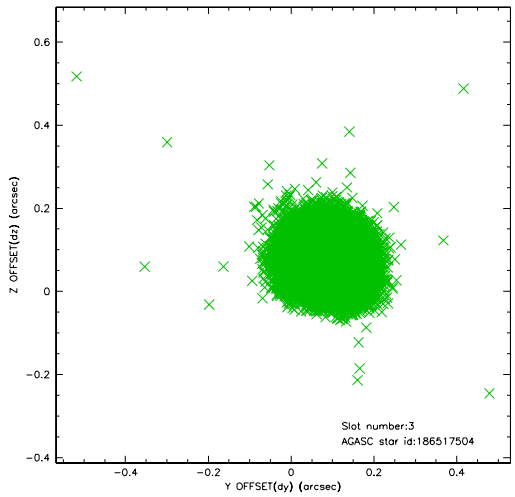

Time (s)
1.393e+08
1.3931e+08
1.3932e+08
1.3933e+08
1.3934e+08
1.3935e+08
Median: 2.785 arcsecs
dy (arcsec)
Median: 7.957 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

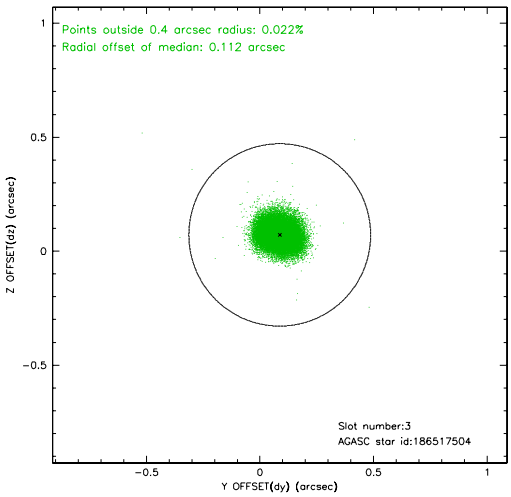
Slot Statistics

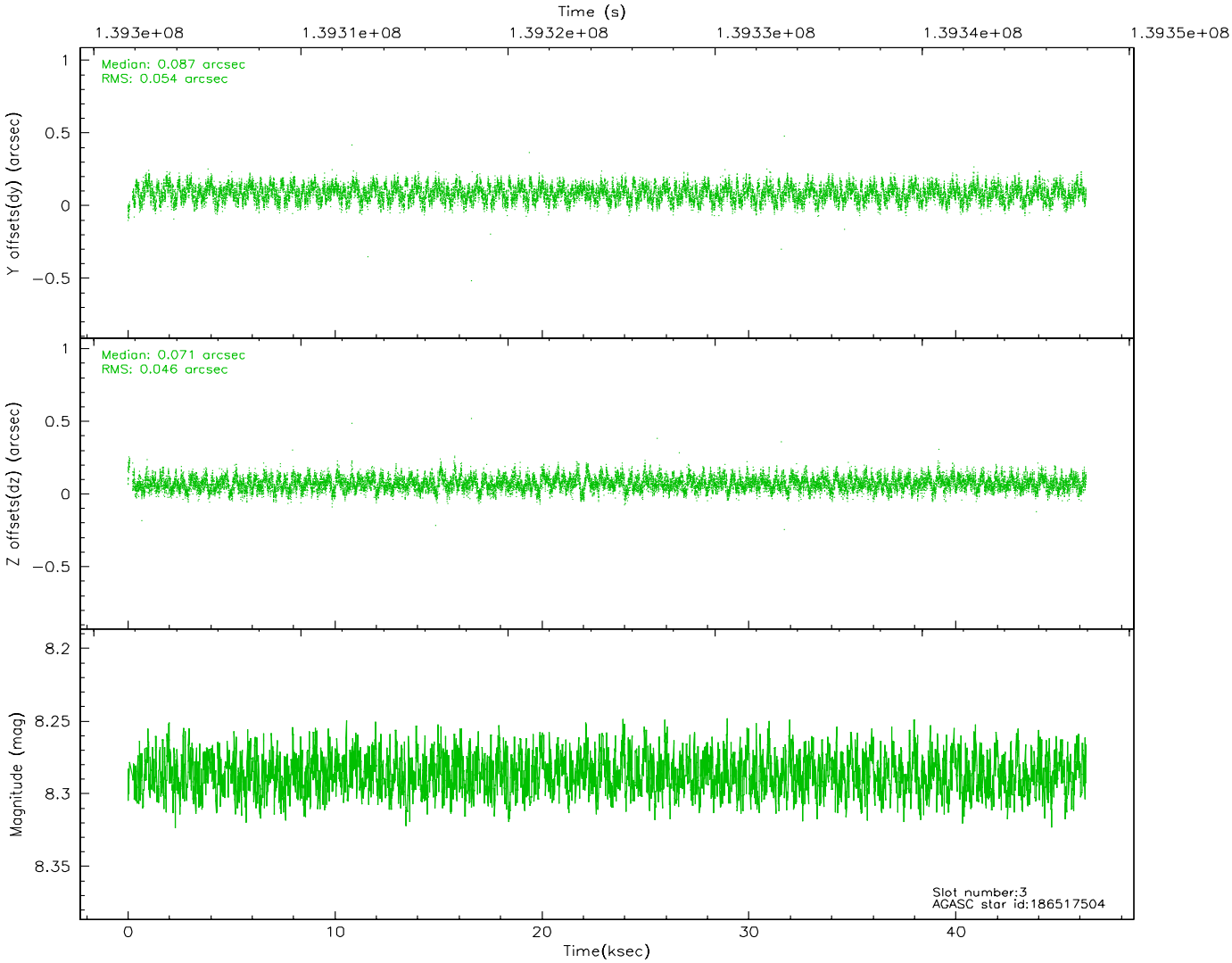
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	11254	-0.042	-0.000	0.010	0.034	0.000000	0.000000	-755.20	-1790.98
1	FID	ACIS-S-4	7.20	11252	-0.043	0.020	0.006	0.014	0.000000	0.000000	2158.04	117.58
2	FID	ACIS-S-5	7.23	11255	0.053	-0.012	0.010	0.032	0.000000	0.000000	-1808.00	111.14
3	GUIDE	186517504	8.29	22508	0.087	0.071	0.077	0.118	155.199091	19.538995	871.74	1408.96
4	GUIDE	186915152	8.63	22506	-0.127	0.010	0.066	0.105	155.481319	20.053598	-1195.33	1681.57
5	GUIDE	186517264	9.02	22504	0.026	0.055	0.093	0.153	155.474034	19.793179	-304.85	1976.37
6	GUIDE	186390704	9.30	22508	0.014	-0.135	0.083	0.133	154.186948	19.891390	824.92	-2248.06
7	MONITOR		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

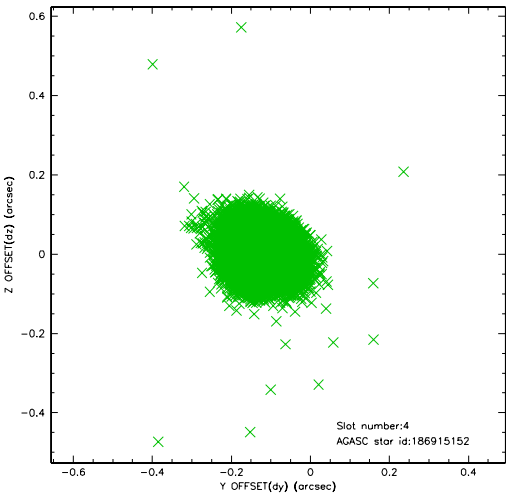
2.4.1 Slot 3

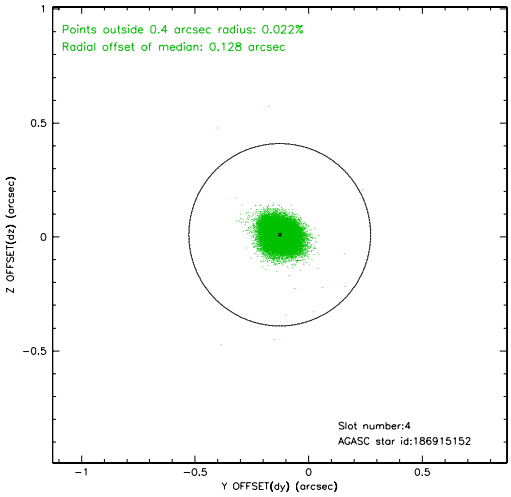


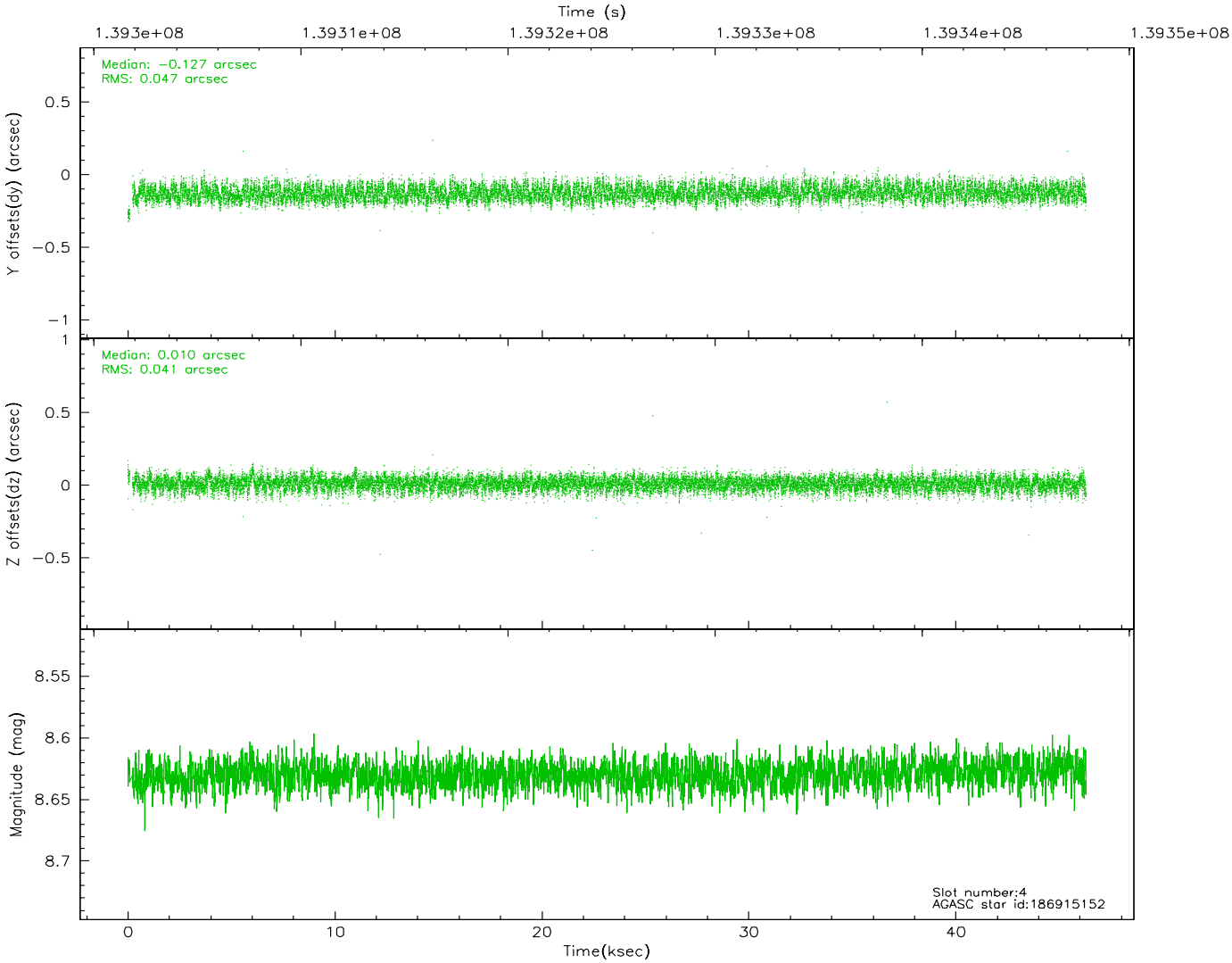




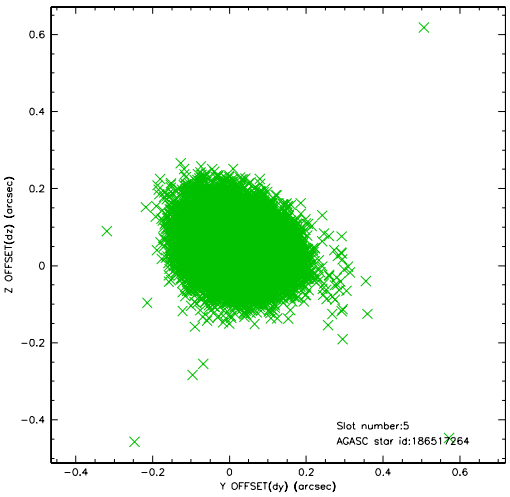
2.4.2 Slot 4

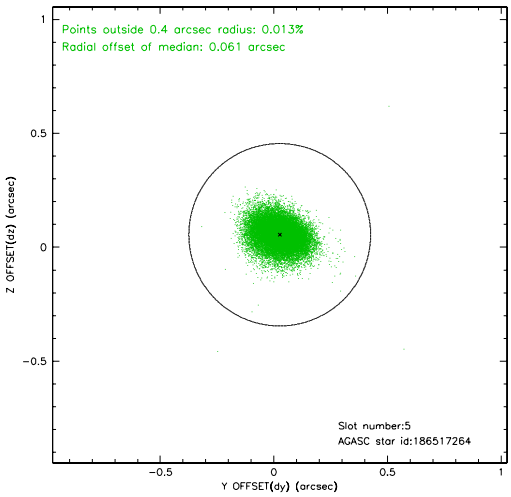

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:186915152

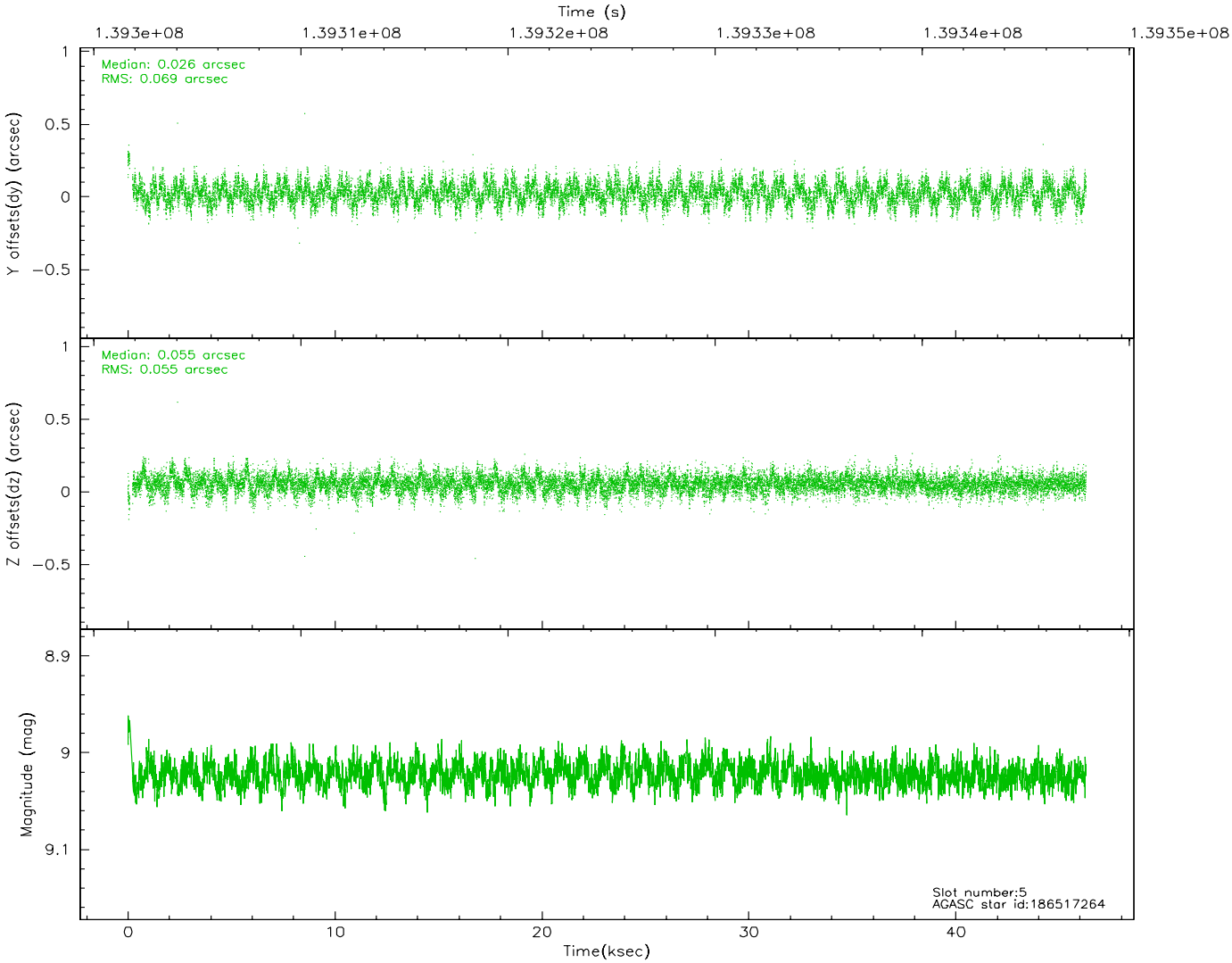

Points outside 0.4 arcsec radius: 0.022%
Radial offset of median: 0.128 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:186915152


Time (s)
Median: −0.127 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: 0.010 arcsec
RMS: 0.041 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:186915152
Time(ksec)

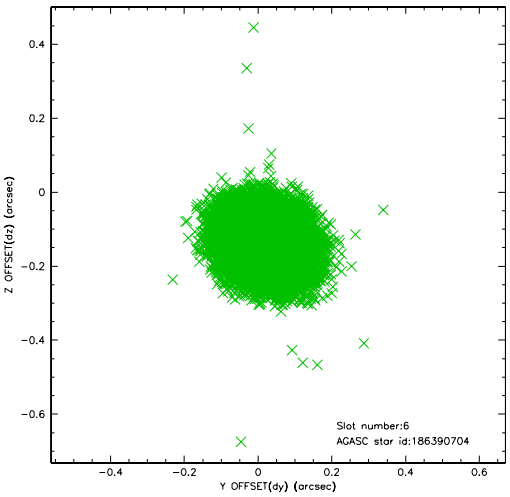
2.4.3 Slot 5

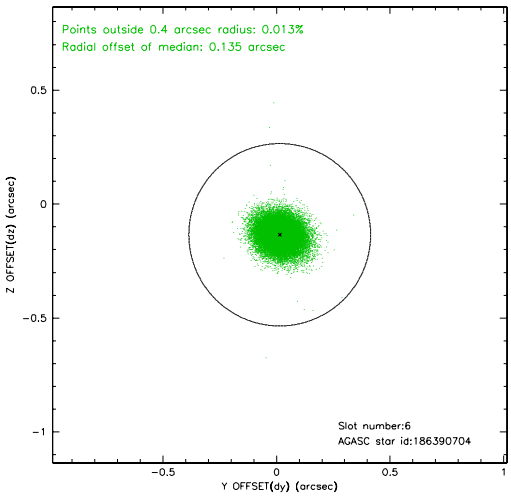

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:186517264

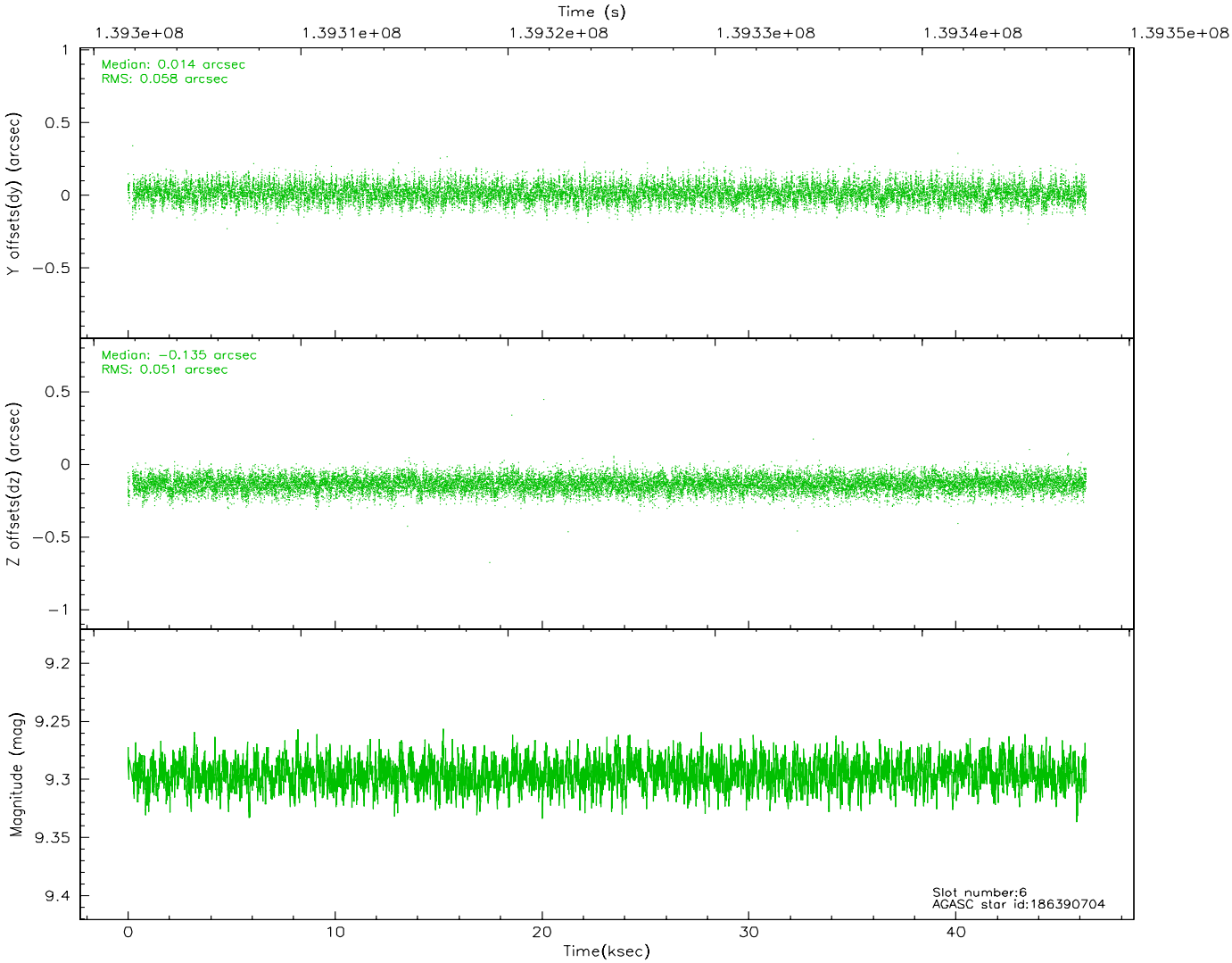

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.061 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:186517264


Time (s)
1.393e+08
1.3931e+08
1.3932e+08
1.3933e+08
1.3934e+08
1.3935e+08
Median: 0.026 arcsec
RMS: 0.069 arcsec
Y offsets(dy) (arcsec)
Median: 0.055 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:186517264
Time(ksec)

2.4.4 Slot 6

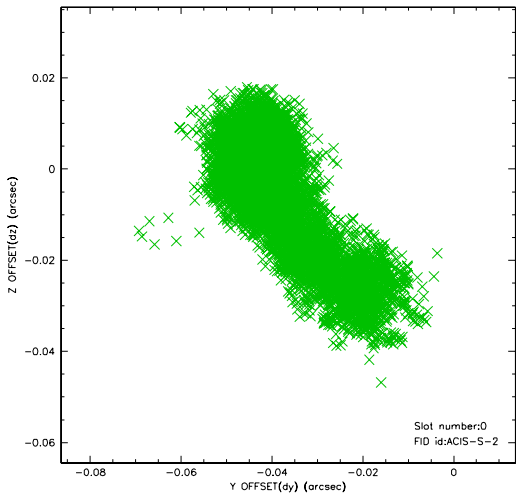

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:186390704

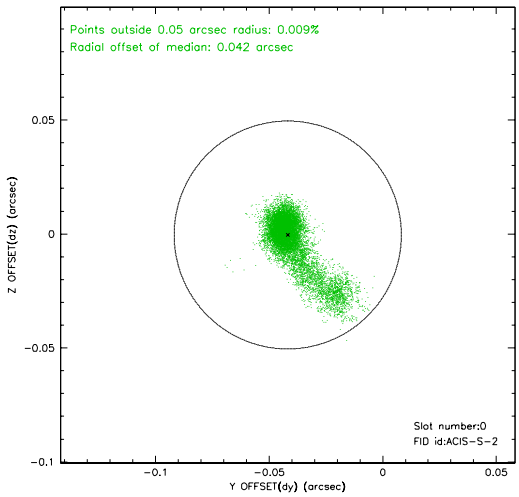

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.135 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:186390704

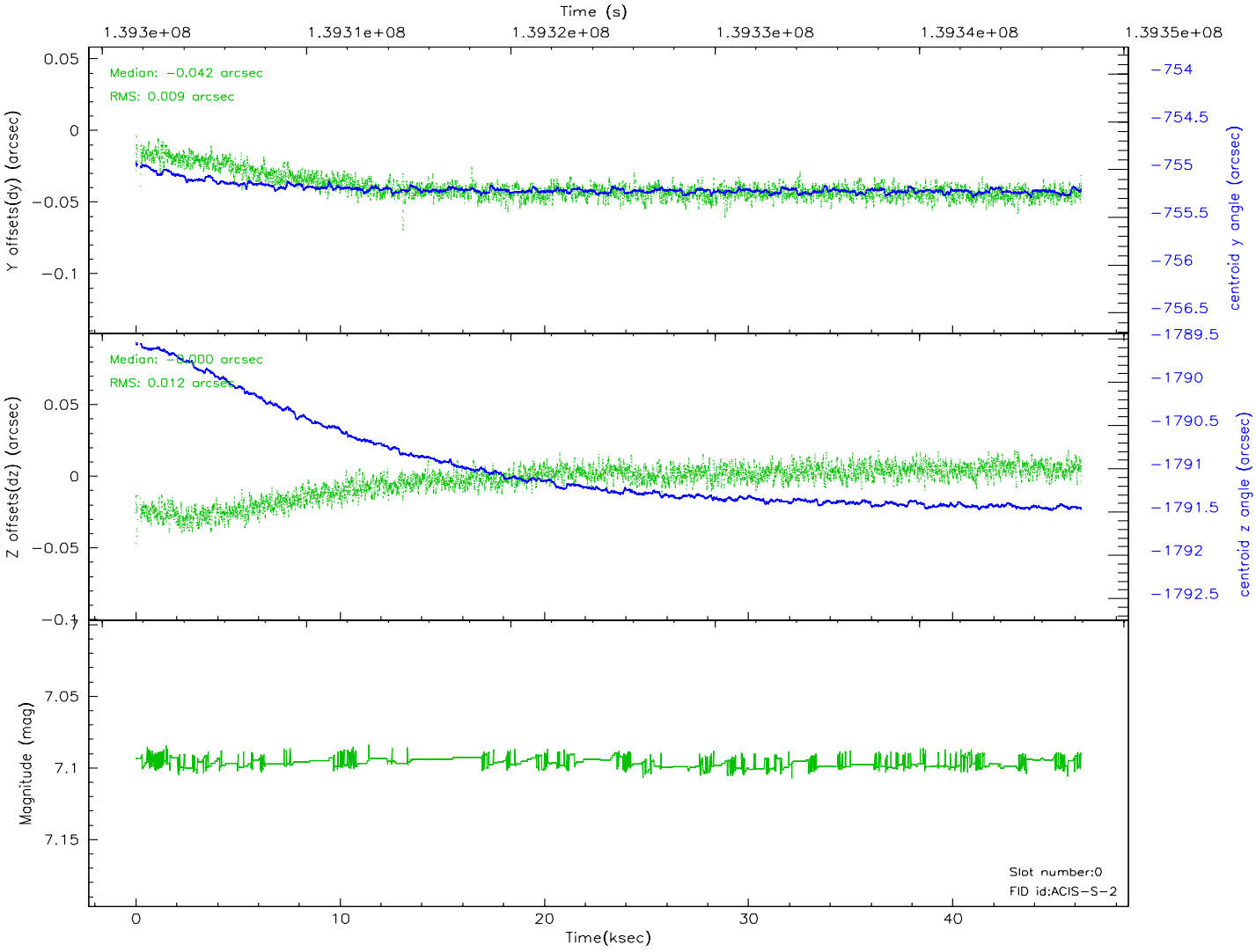

Time (s)
1.393e+08
1.3931e+08
1.3932e+08
1.3933e+08
1.3934e+08
1.3935e+08
Median: 0.014 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: −0.135 arcsec
RMS: 0.051 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:186390704
Time(ksec)

2.5 FID Slots

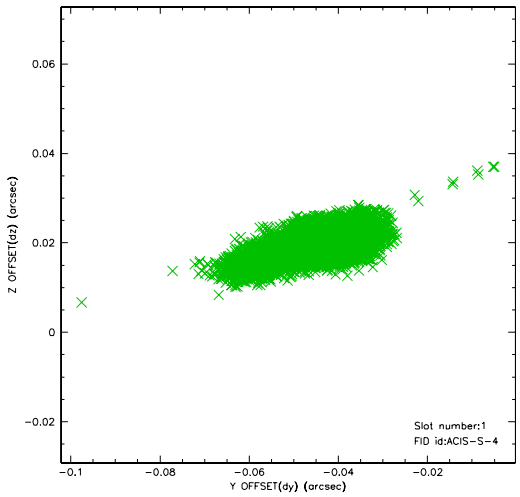
2.5.1 Slot 0

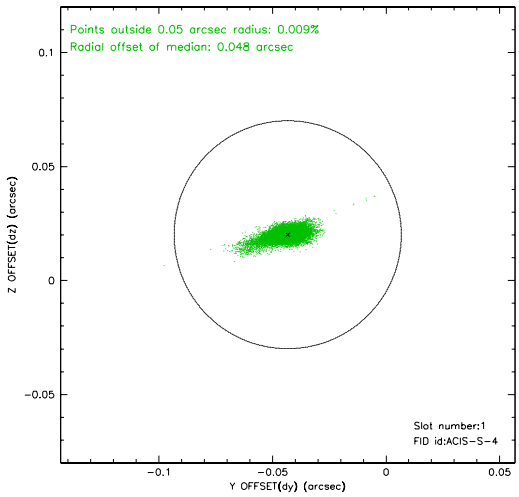


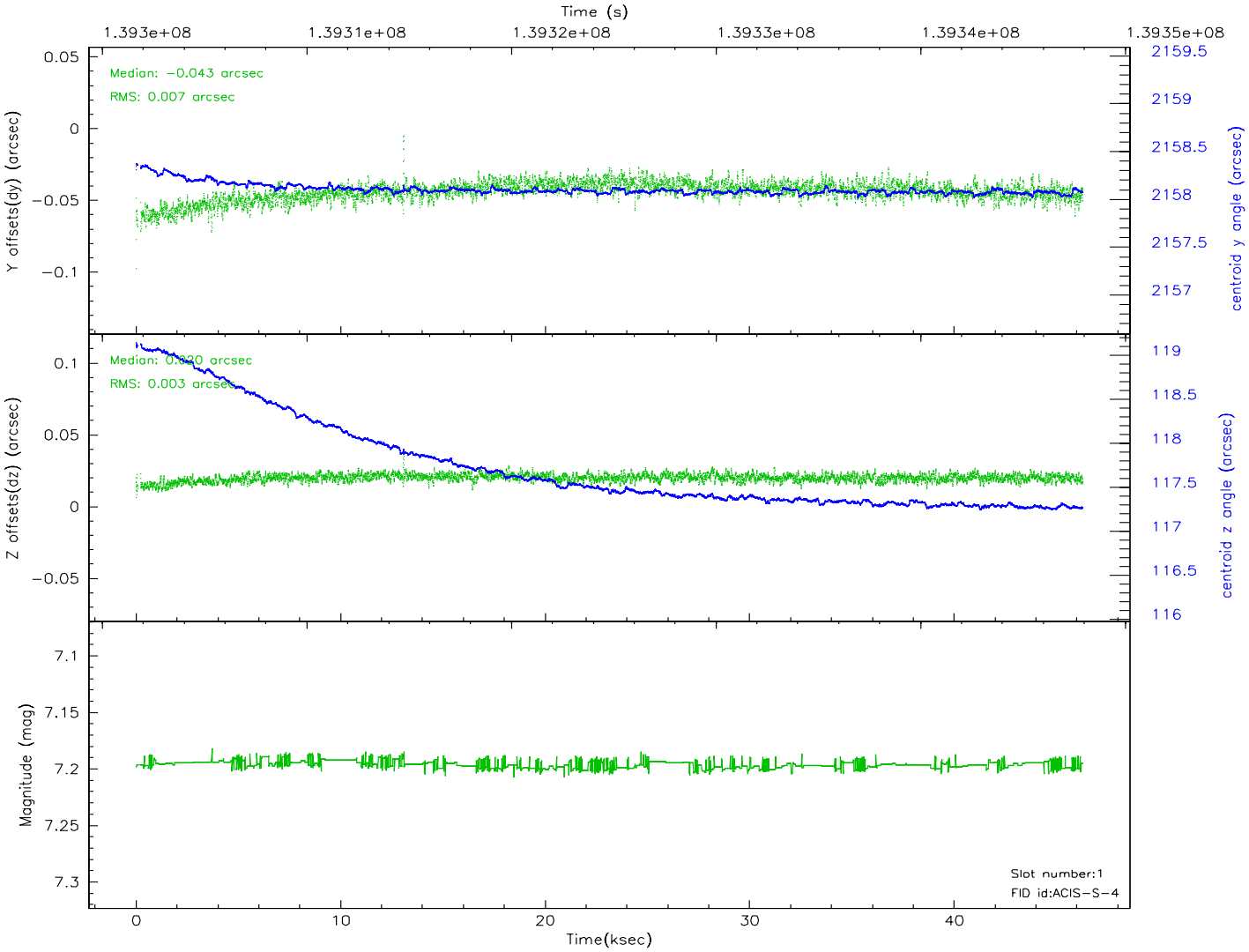




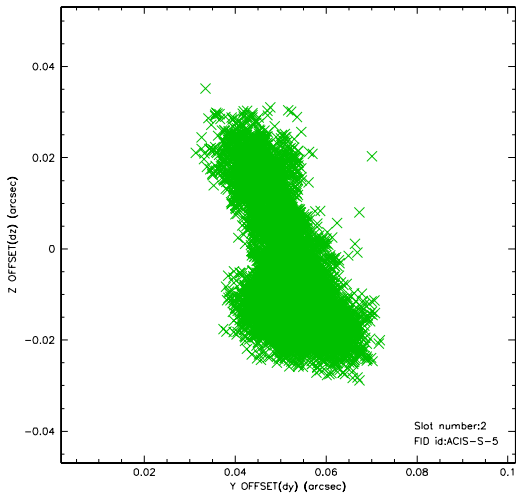
2.5.2 Slot 1

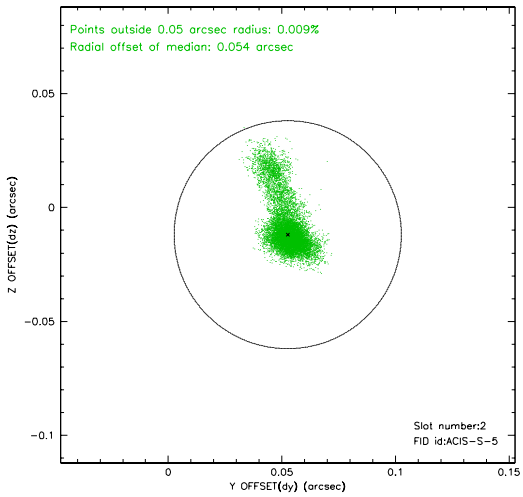

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

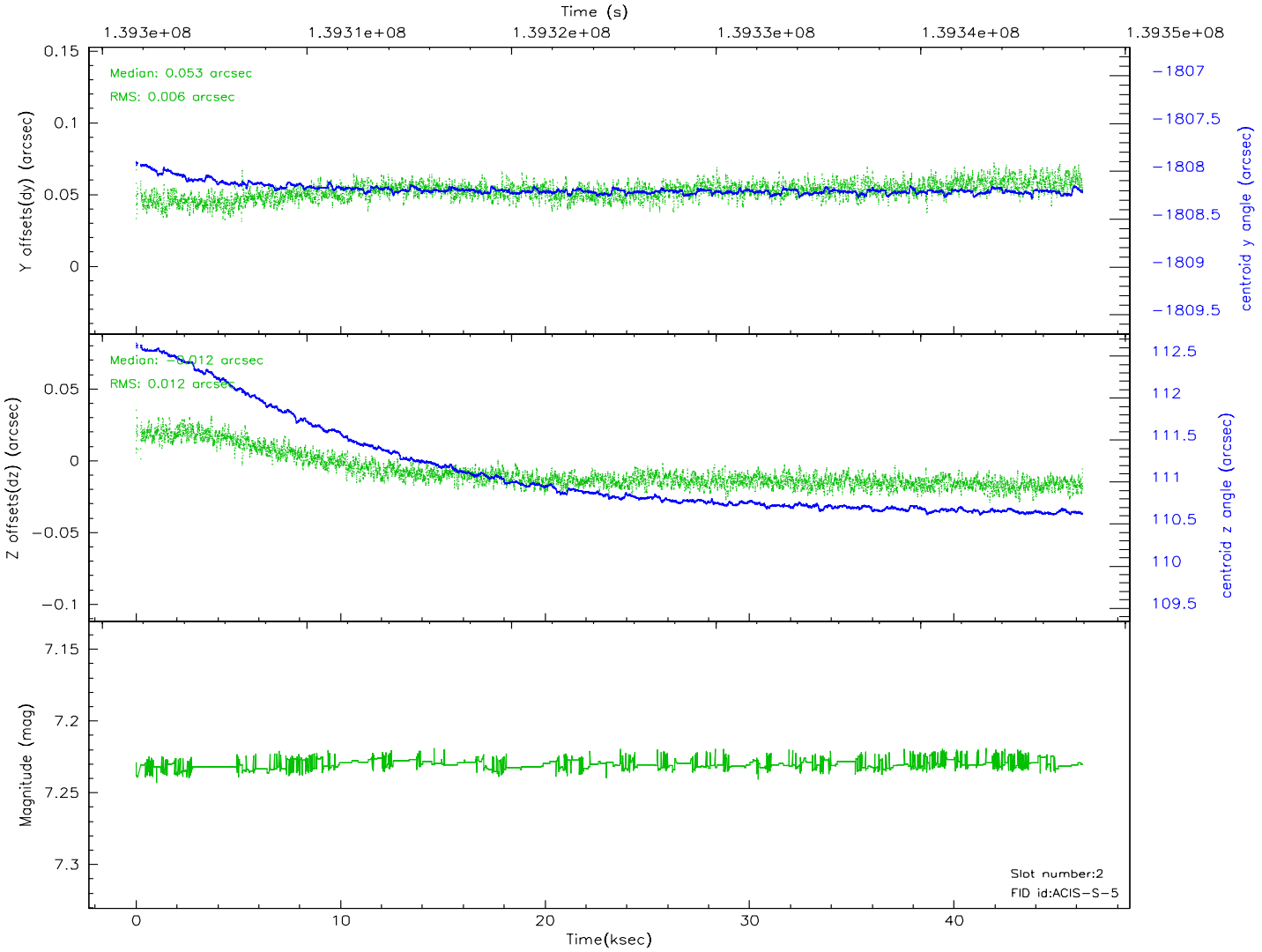

Points outside 0.05 arcsec radius: 0.009%
Radial offset of median: 0.048 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
Median: −0.043 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
Median: 0.020 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid y angle (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-S-4
Time(ksec)

2.5.3 Slot 2

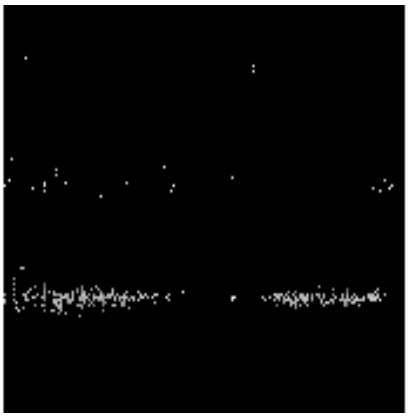

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5


Points outside 0.05 arcsec radius: 0.009%
Radial offset of median: 0.054 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5

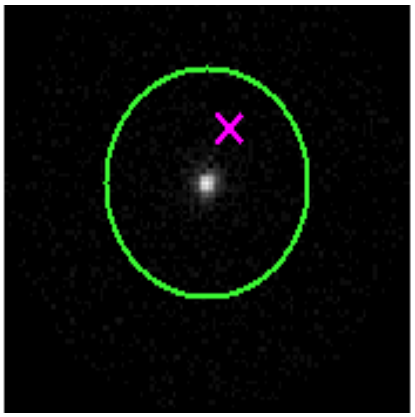

Time (s)
Median: 0.053 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.012 arcsec
RMS: 0.012 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-5
Time(ksec)

3 Gratings

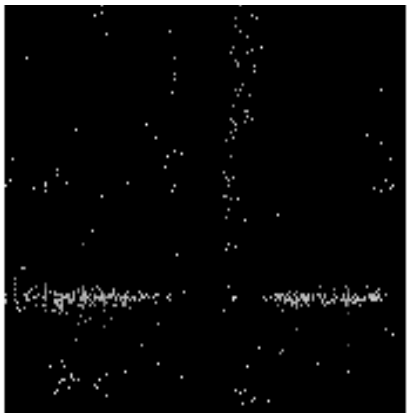
3.1 HEG Arm



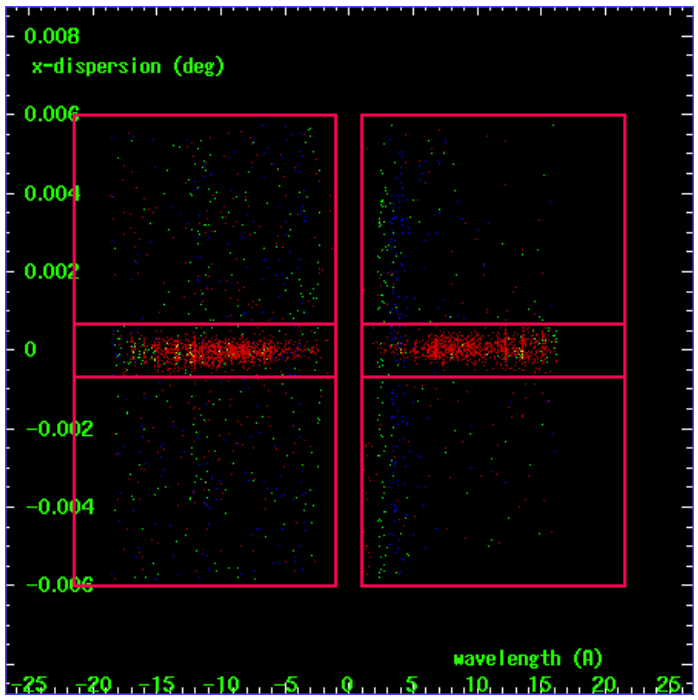
HEG Order Sort 123



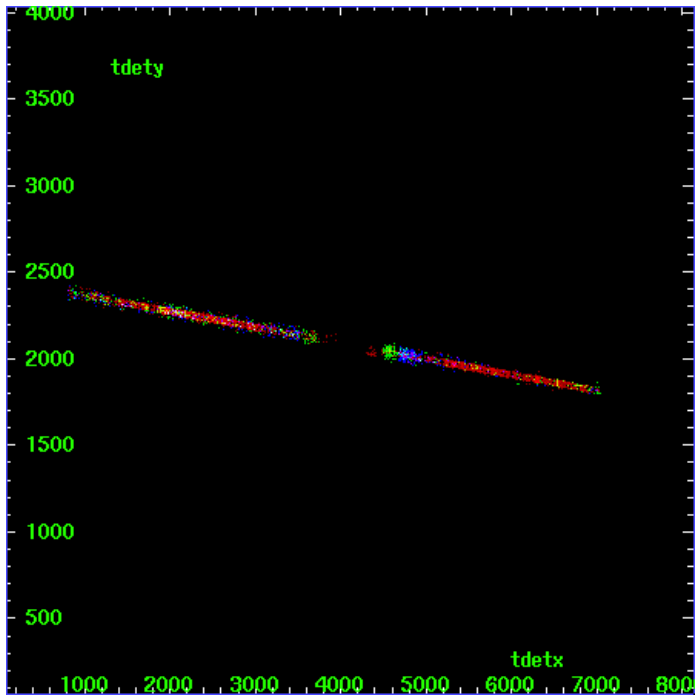
HEG Zero Order



HEG Order Sort ALL

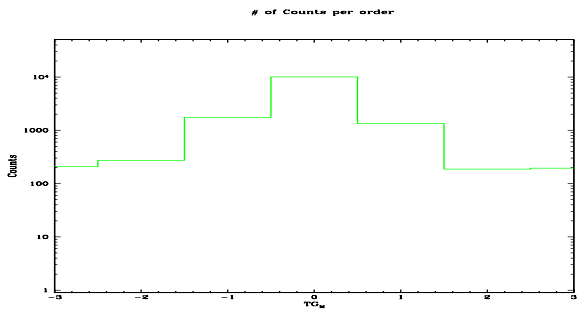


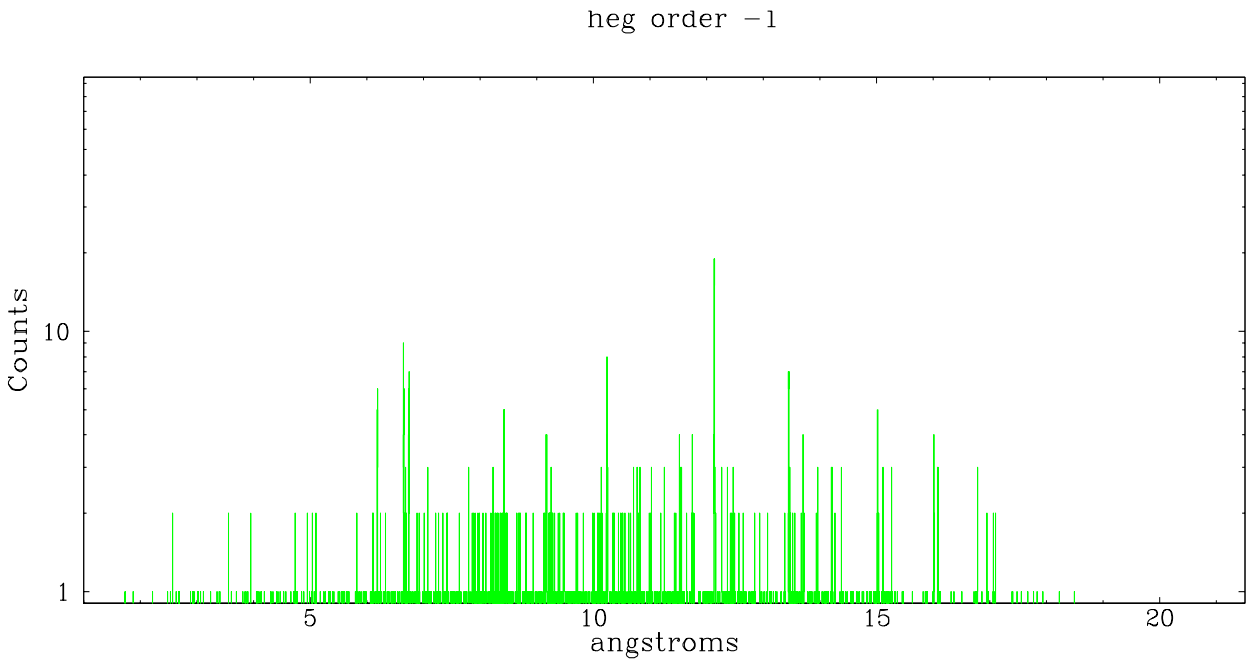
Spot Image HEG

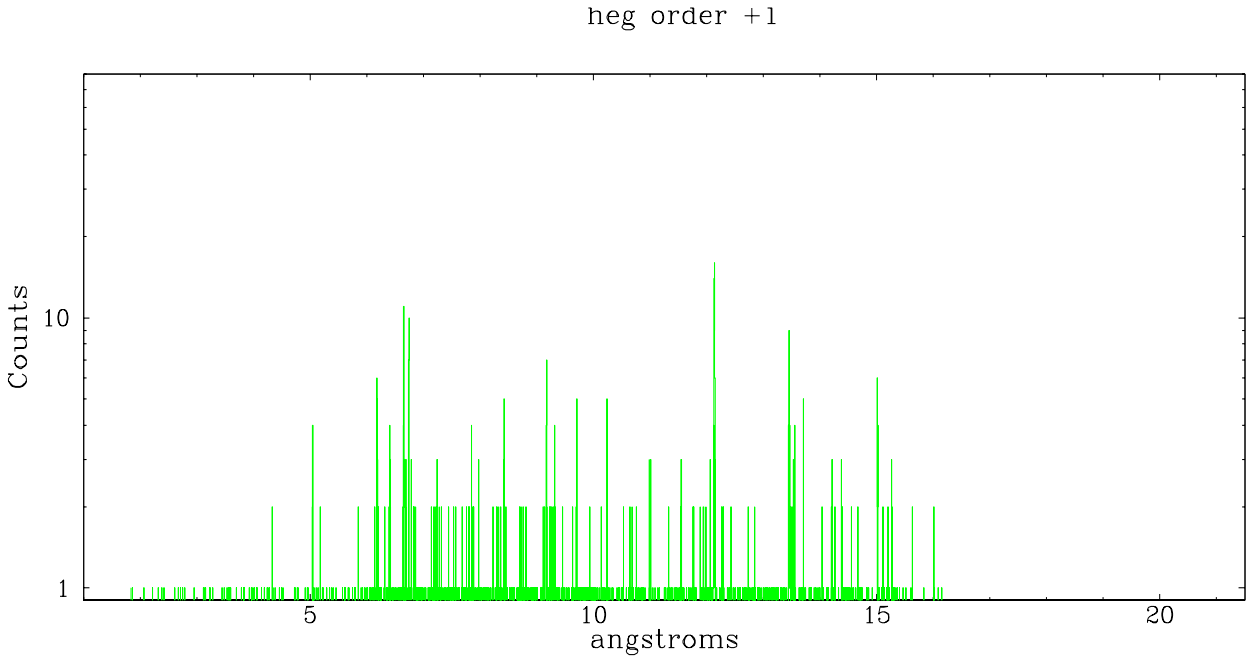


Full Detector HEG

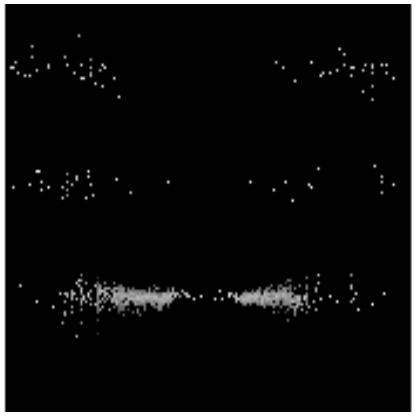
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	208	274	1749	10039	1342	187	194



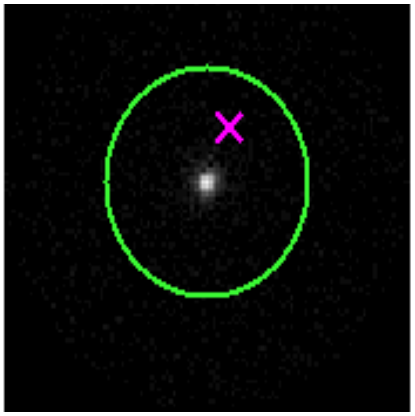

heg order −1
Counts
10
1
5
10
15
20
angstroms


heg order +1
Counts
10
1
5
10
15
20
angstroms

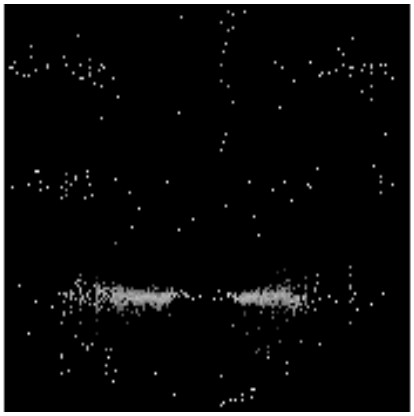
3.2 MEG Arm



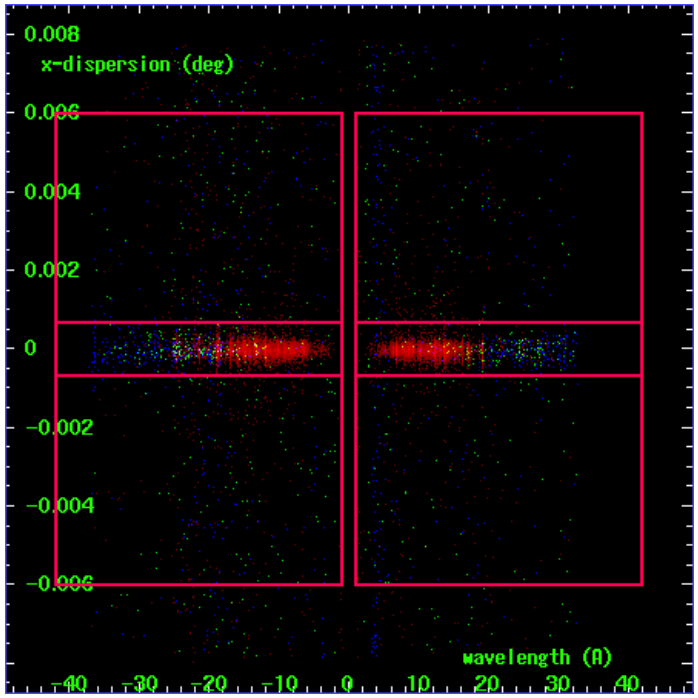
MEG Order Sort 123



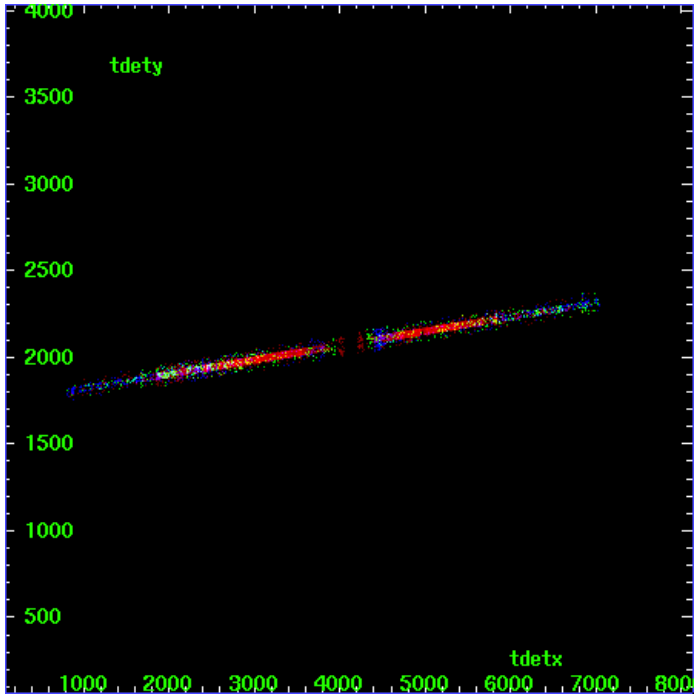
MEG Zero Order



MEG Order Sort ALL

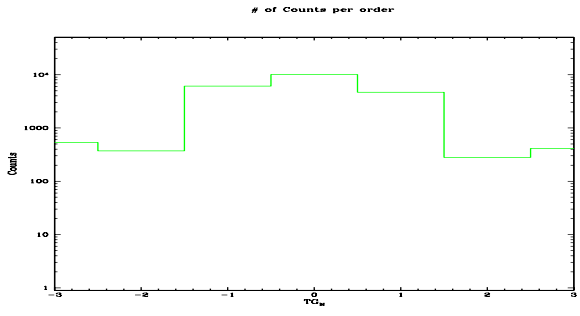


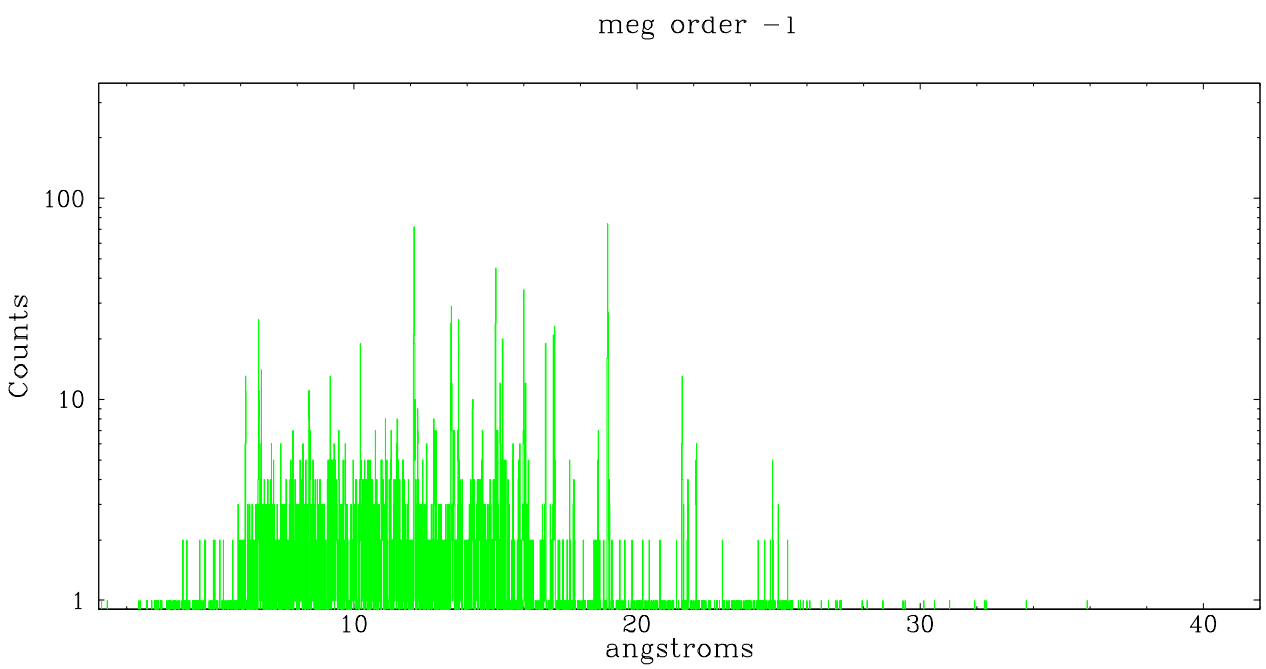
Spot Image MEG

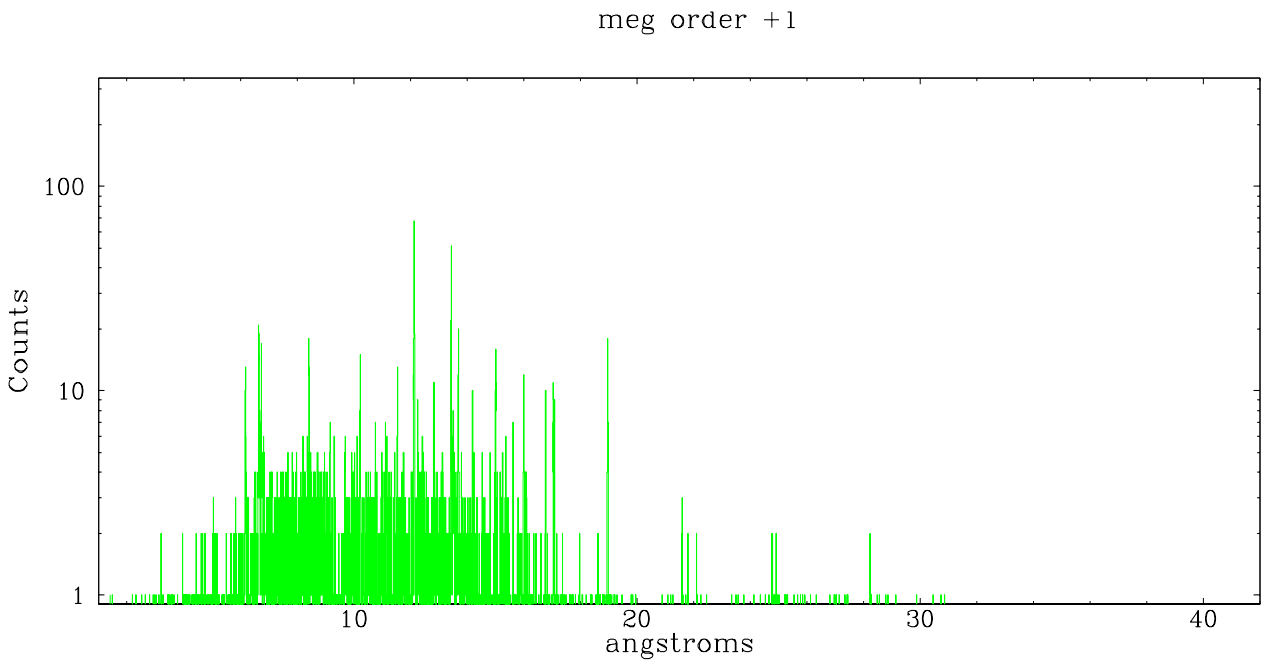


Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	534	372	6113	10039	4684	280	413




meg order −1
Counts
100
10
1
10
20
30
40
angstroms


meg order +1
Counts
100
10
1
10
20
30
40
angstroms

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	45.9

A.2 Comments

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Time constraint met.

Coordinated with HST and FUSE.
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