V&V Reference Report
L2 ASCDS Version : 7.6.7.2

Observation 4512 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : May 30 2006

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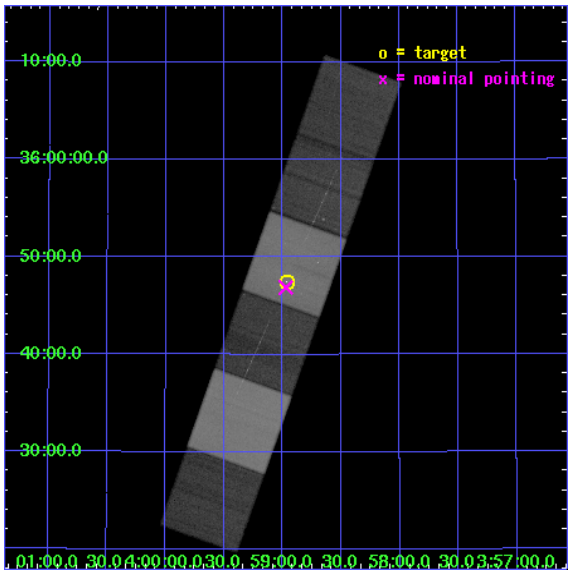
1 Front

seq_num	200281
obs_id	4512
title	THE ENIGMA OF SYMMETRIC X-RAY PROFILES IN O STARS
observer	Dr. Derck Massa
object	Xi Per
dtycycle	0
cycle	P
ra_targ	59.74125
dec_targ	35.791028
ra_nom	59.743203711132
dec_nom	35.781508021468
roll_nom	289.56256977464
revision	2
ontime	160841.59940082
livetime	158804.92622202
ontime4	160835.11745036
ontime5	160841.59940082
ontime6	160838.3584106
ontime7	160841.59940082
ontime8	160838.35843053
ontime9	160838.35843053
l2events	1692492

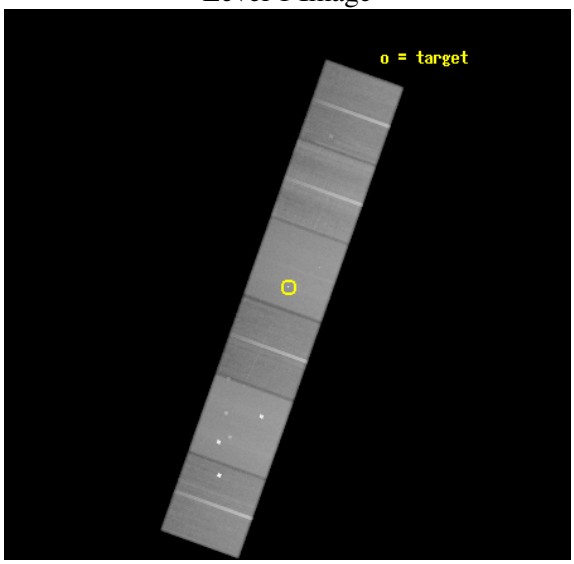


2 OBI

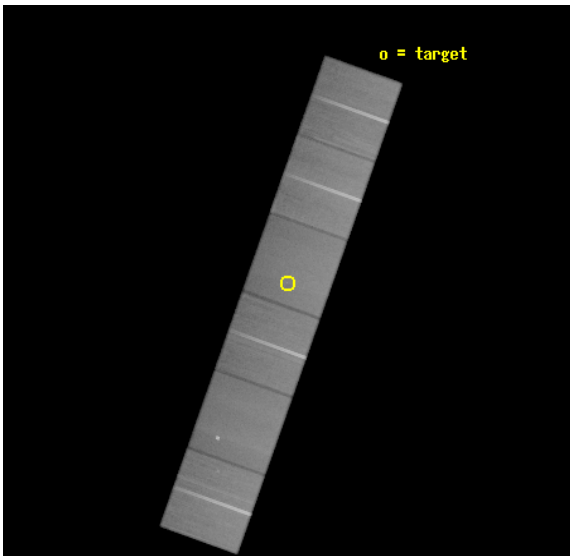
2.1 OBI

2.1.1 Images

Level 1 Image

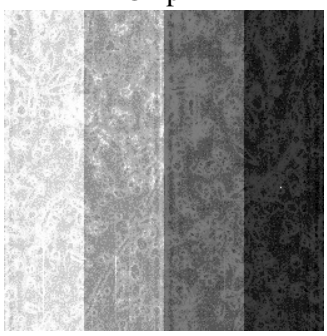


Level 1 Bad Events

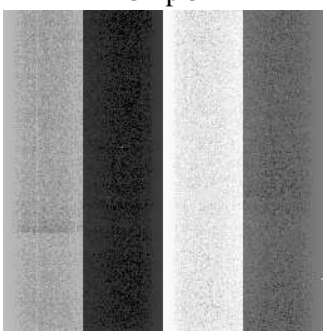


2.1.2 Bias

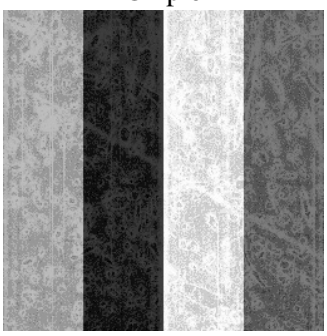
Chip 4



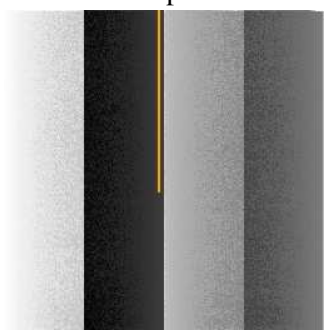
Chip 5



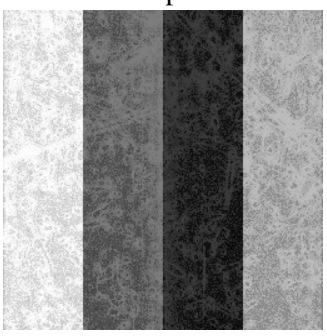
Chip 6



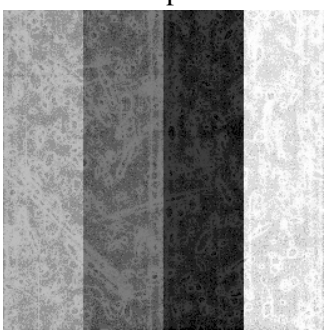
Chip 7



Chip 8



Chip 9



2.1.3 Parameters

obi_num	0
ascdsver	7.6.7.2
caldbver	3.2.2
date	2006-05-29T21:00:52
revision	2

sched_exp_time	161111.111000
ontime	160847.61009705
ontime4	160841.12814659
ontime5	160847.61009705
ontime6	160844.36910683
ontime7	160847.61009705
ontime8	160844.36912677
ontime9	160844.36912677
l1events	7973720

2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	1248946	1653438	1096483	1483297	1389418	1102138
rejected events	1071490	915967	965875	918048	1094037	965731
rejected %	85%	55%	88%	61%	78%	87%

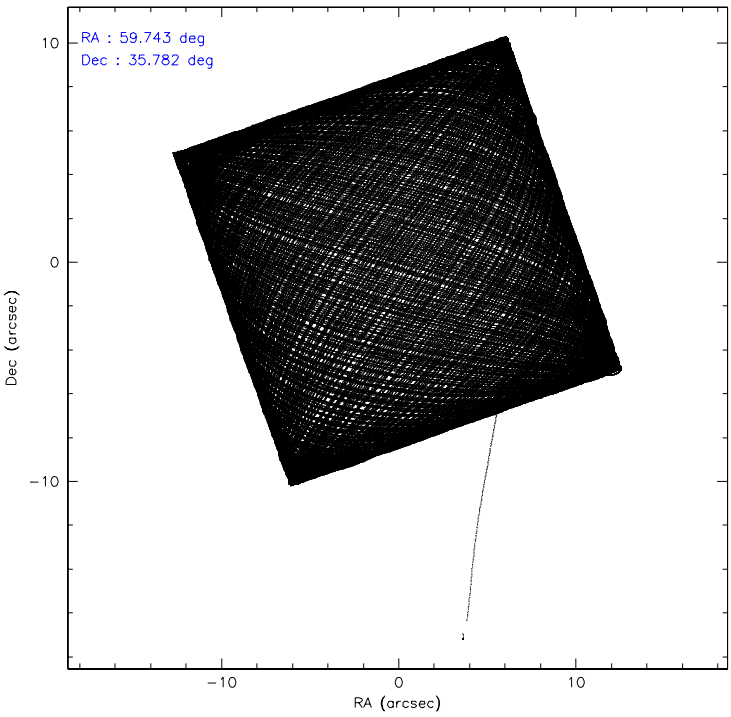
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	99702	74806	50697	31948	93968	56693
	7%	4%	4%	2%	6%	5%
grade 1 events	1263	7745	498	935	923	659
	0%	0%	0%	0%	0%	0%
grade 2 events	28718	224805	27281	139614	64522	26266
	2%	13%	2%	9%	4%	2%
grade 3 events	14051	15094	12952	29032	31025	13644
	1%	0%	1%	1%	2%	1%
grade 4 events	13401	14745	12642	28197	29343	13216
	1%	0%	1%	1%	2%	1%
grade 5 events	48449	78343	51018	100359	67205	53878
	3%	4%	4%	6%	4%	4%
grade 6 events	21593	408058	27045	336476	76530	26596
	1%	24%	2%	22%	5%	2%
grade 7 events	1021769	829842	914350	816736	1025902	91118
	81%	50%	83%	55%	73%	82%

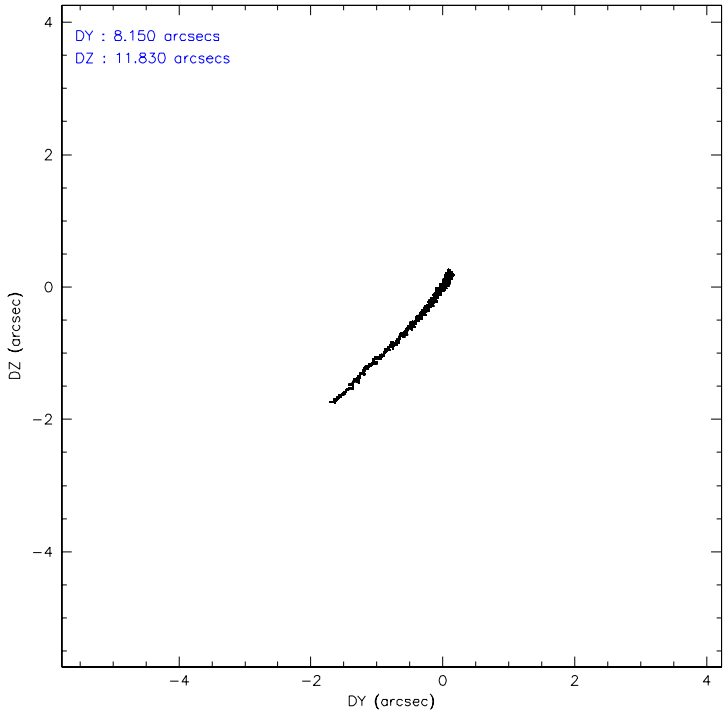
2.2 Compared Parameters

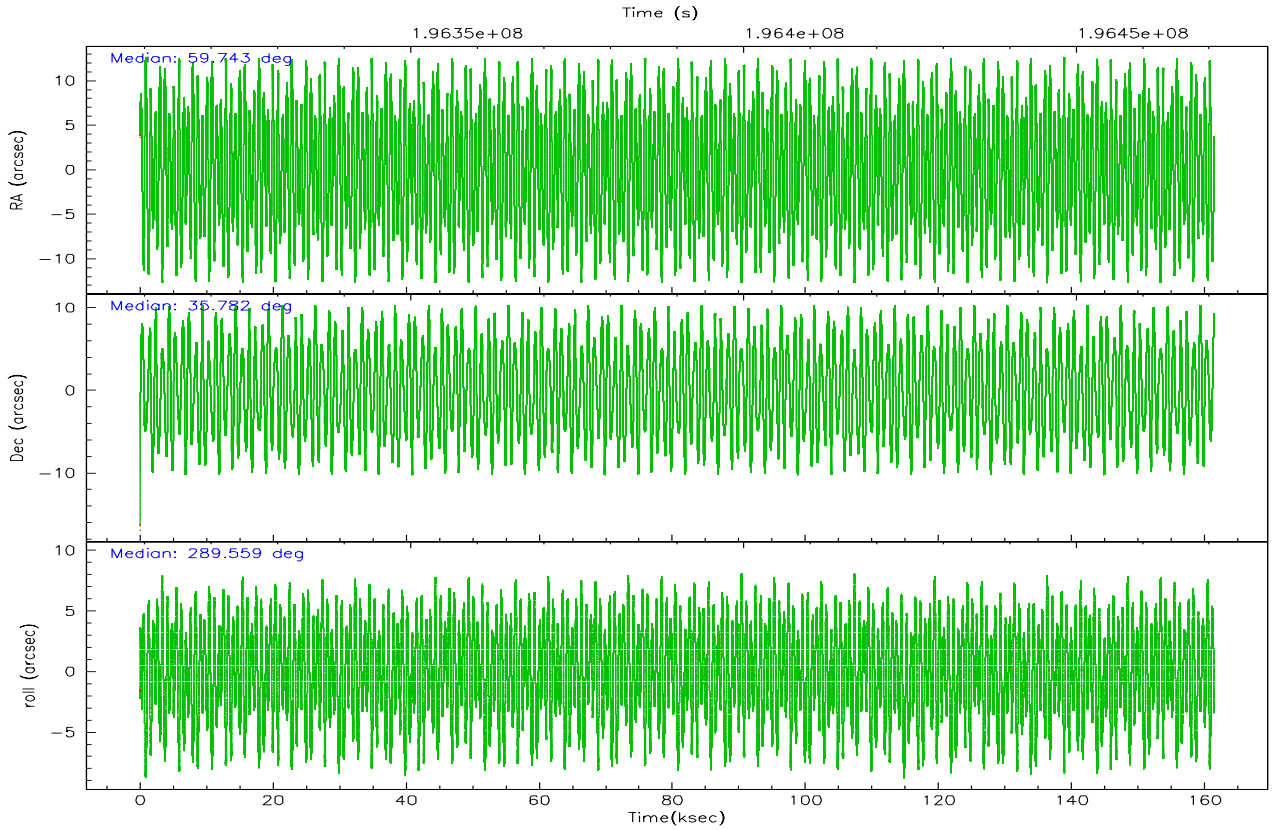
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	59.717364	59.7432037111321
Pointing Dec	35.798870	35.78150802146776
Pointing Roll	289.421055	289.5625697746399
Window start time	188784064.184000	188784064.184000
Window stop time	197424064.184000	197424064.184000
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	196309648.184000	196308613.74176
Observation start date	2004-03-22T02:26:24	2004-03-22T02:10:13
Observation end time	196470759.184000	196471073.6864
Observation end date	2004-03-23T23:11:35	2004-03-23T23:17:53
Read mode	TIMED	TIMED

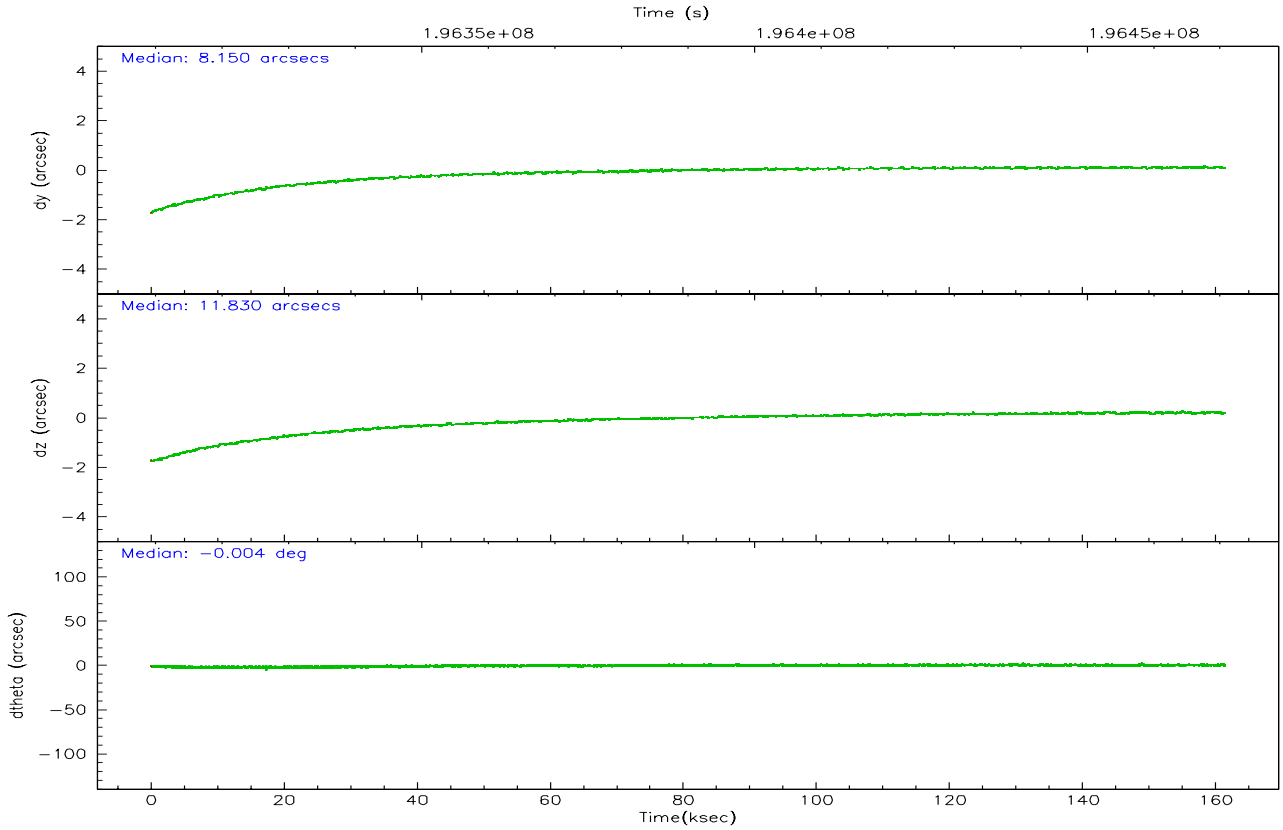
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 59.743 deg
Dec : 35.782 deg
10
0
−10
Dec (arcsec)
−10
0
10
RA (arcsec)


DY : 8.150 arcsecs
DZ : 11.830 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: 59.743 deg
RA (arcsec)
Median: 35.782 deg
Dec (arcsec)
Median: 289.559 deg
roll (arcsec)
Time(ksec)

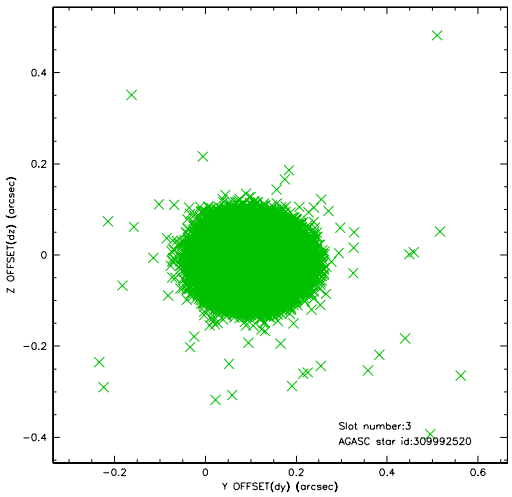

Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: 8.150 arcsecs
dy (arcsec)
Median: 11.830 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

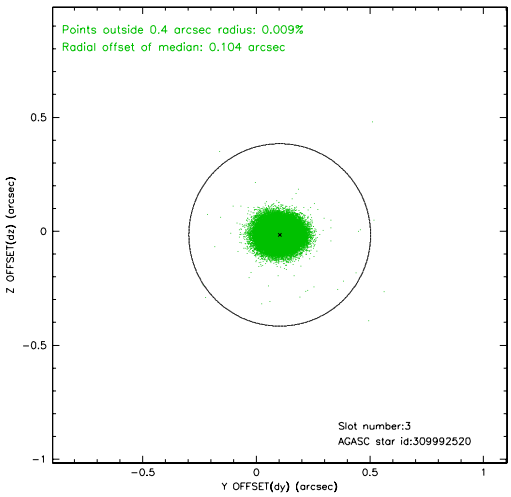
Slot Statistics

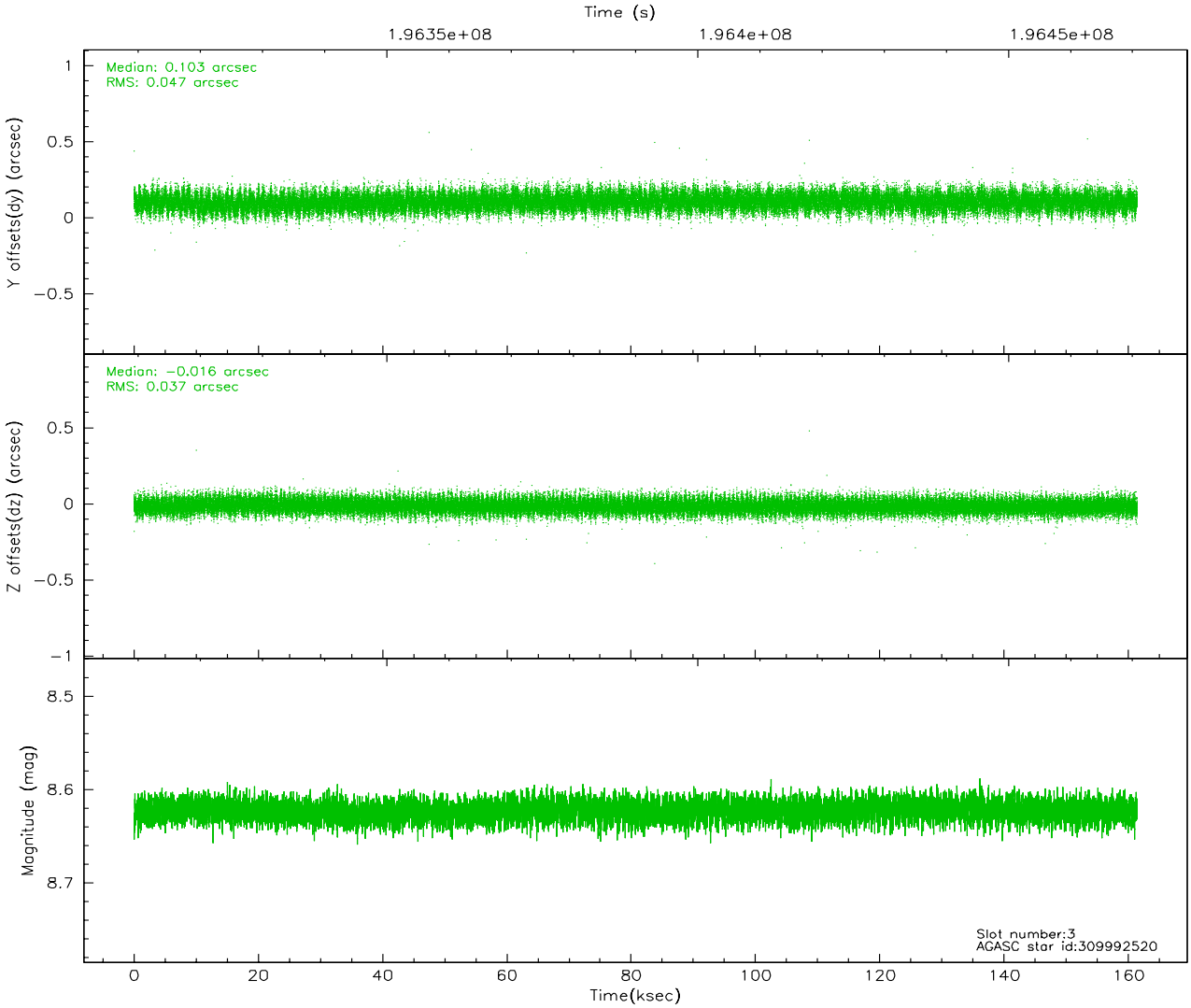
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	39375	-0.008	0.006	0.006	0.026	0.000000	0.000000	-760.75	-1732.94
1	FID	ACIS-S-4	7.20	39375	0.028	-0.007	0.007	0.019	0.000000	0.000000	2152.60	175.66
2	FID	ACIS-S-6	7.34	39374	-0.048	0.007	0.008	0.020	0.000000	0.000000	401.03	812.93
3	GUIDE	309992520	8.62	78718	0.103	-0.016	0.063	0.103	59.814565	35.233248	2015.64	-407.27
4	GUIDE	309992952	8.91	78724	0.141	0.075	0.066	0.107	60.485956	35.378155	2170.50	1627.39
5	GUIDE	310513664	8.42	78734	-0.135	-0.178	0.075	0.120	59.187870	36.002534	-1207.65	-1208.85
6	GUIDE	310516320	7.83	78678	-0.198	0.061	0.061	0.096	59.865123	36.318485	-1622.02	1026.29
7	GUIDE	310522352	8.73	78654	0.087	0.063	0.073	0.118	59.970095	36.015926	-492.89	954.34

2.4 Star Slots

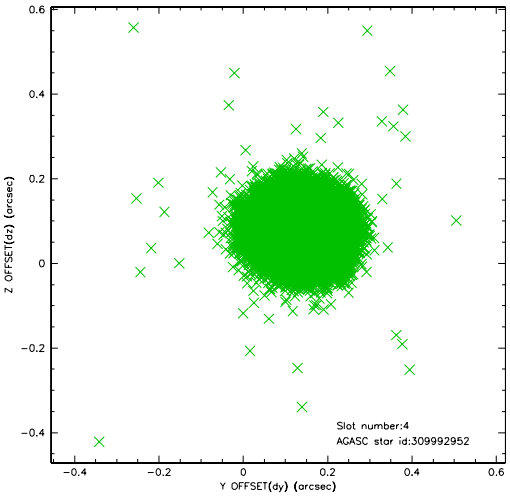
2.4.1 Slot 3

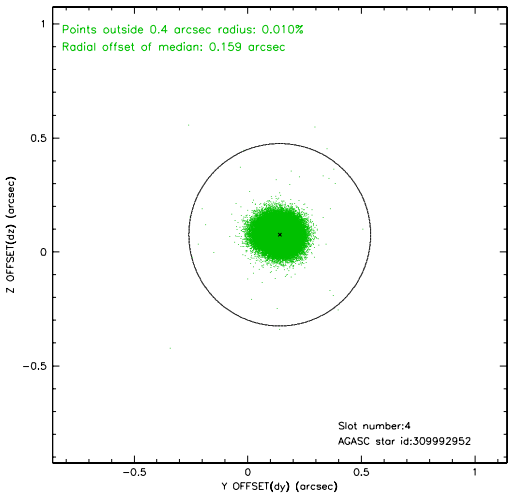


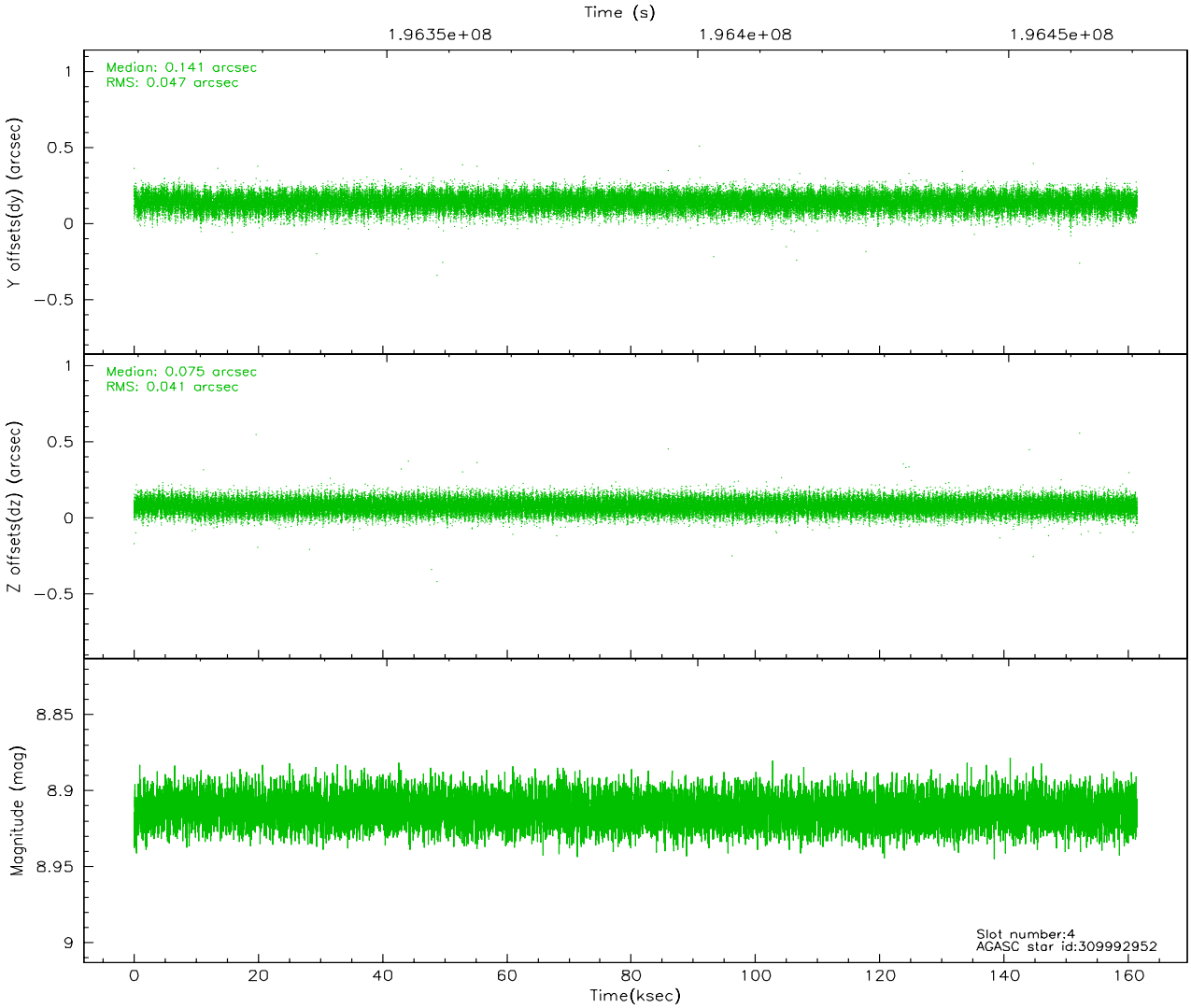




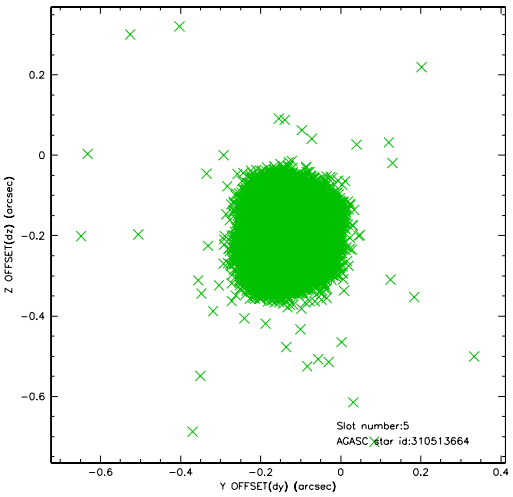
2.4.2 Slot 4

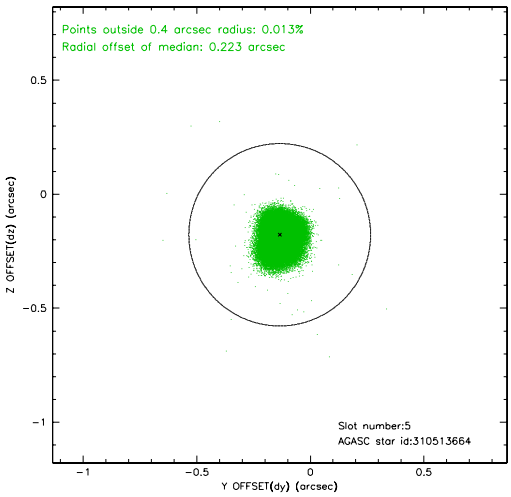

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:309992952

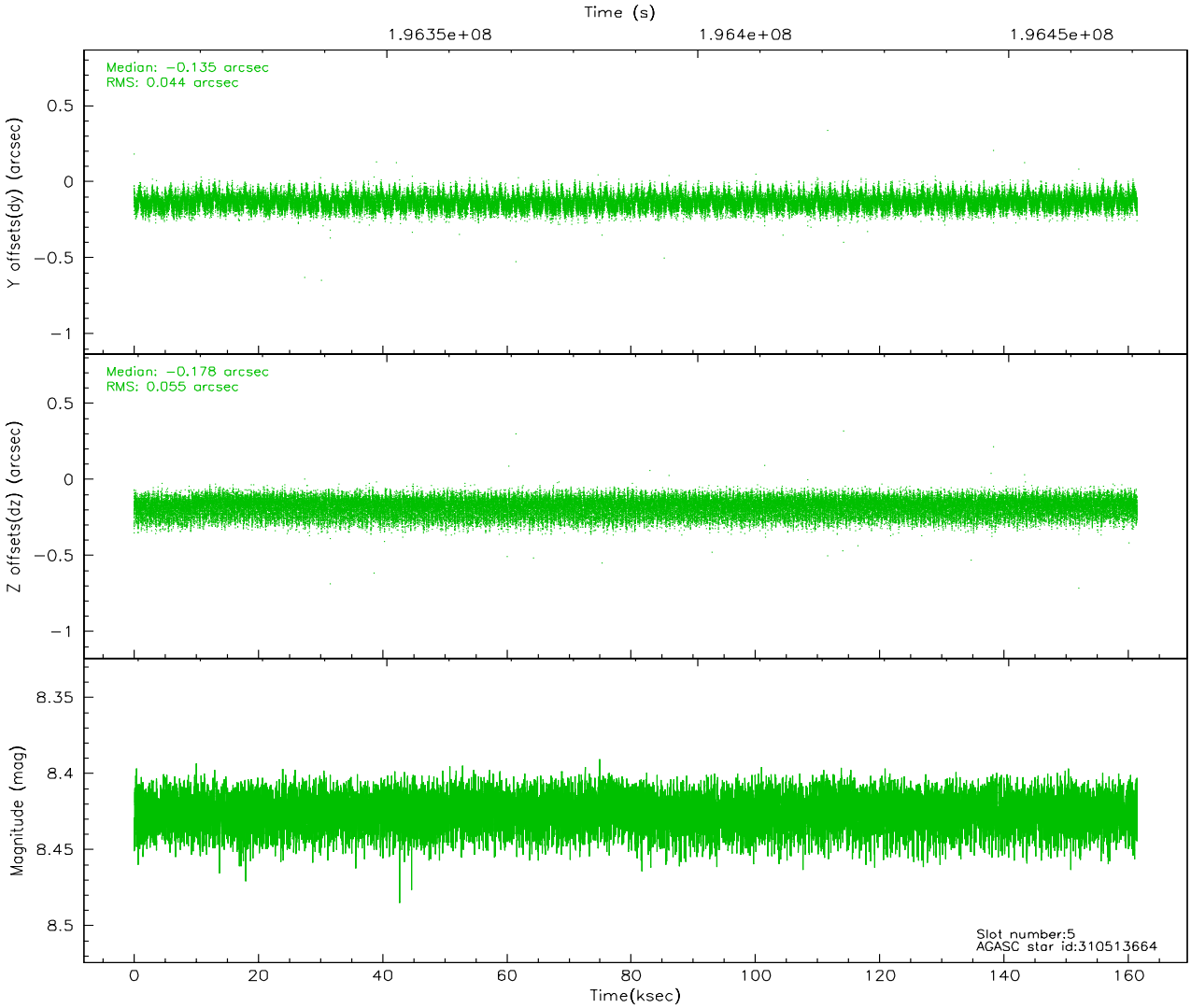

Points outside 0.4 arcsec radius: 0.010%
Radial offset of median: 0.159 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:309992952


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: 0.141 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: 0.075 arcsec
RMS: 0.041 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:309992952
Time(ksec)

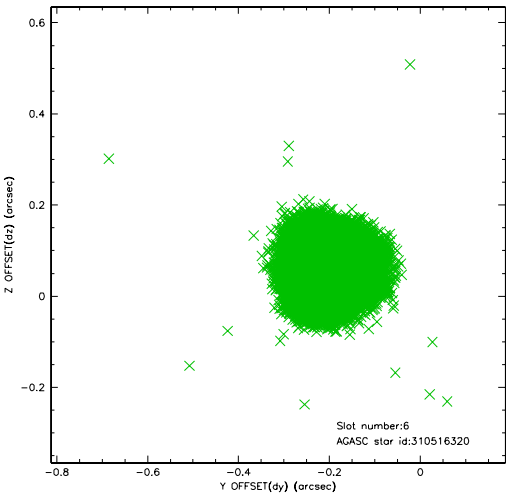
2.4.3 Slot 5

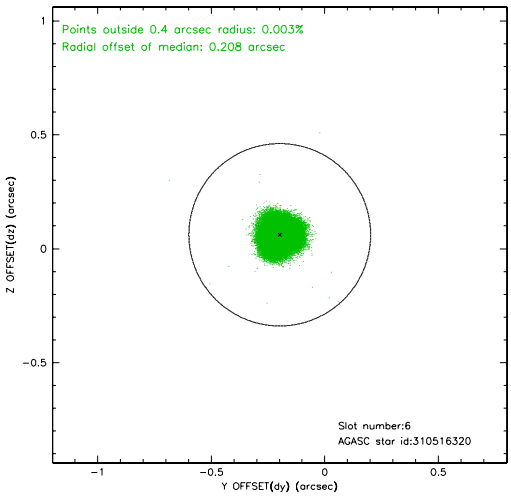

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:310513664

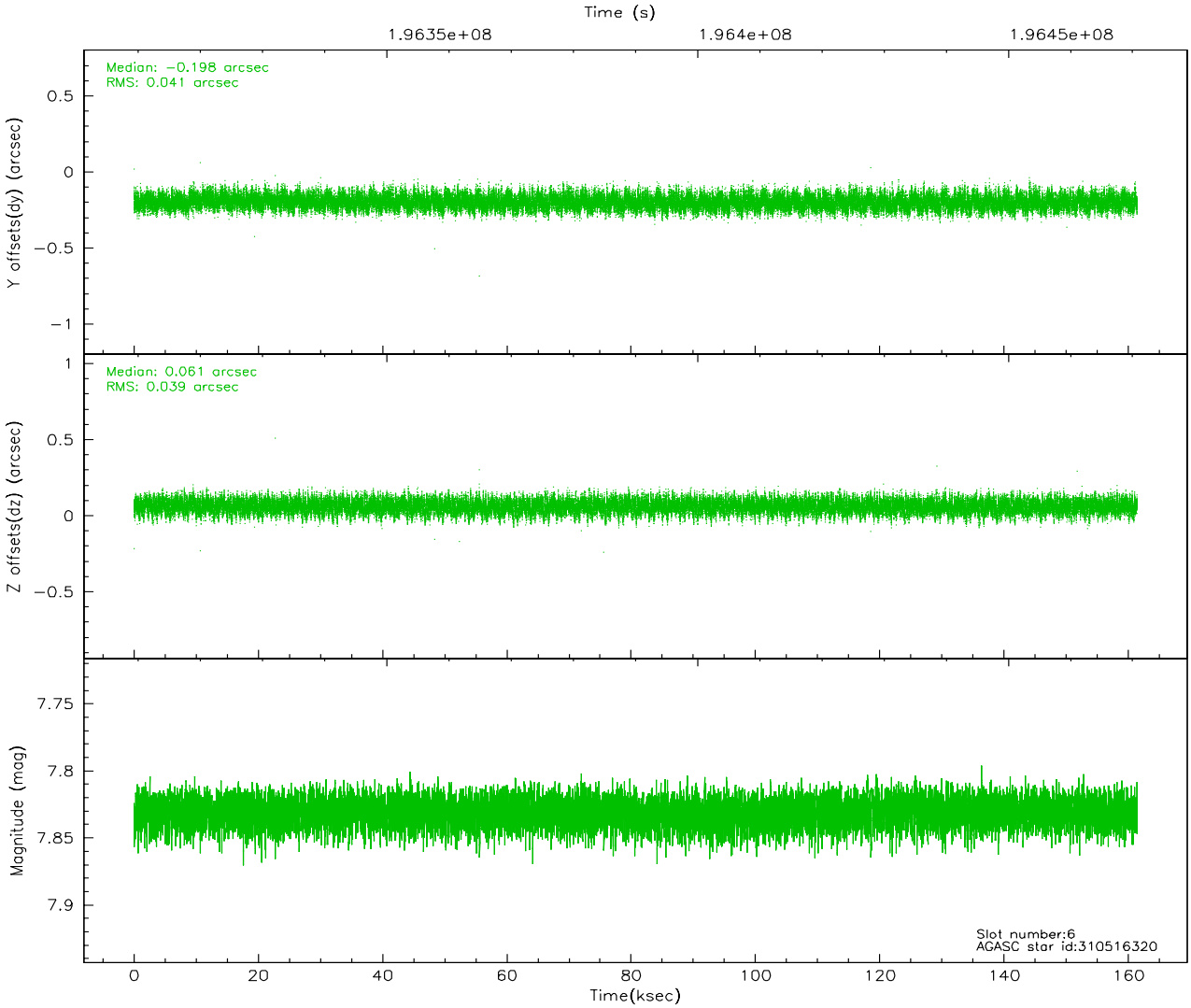

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.223 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:310513664


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: −0.135 arcsec
RMS: 0.044 arcsec
Y offsets(dy) (arcsec)
Median: −0.178 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:310513664
Time(ksec)

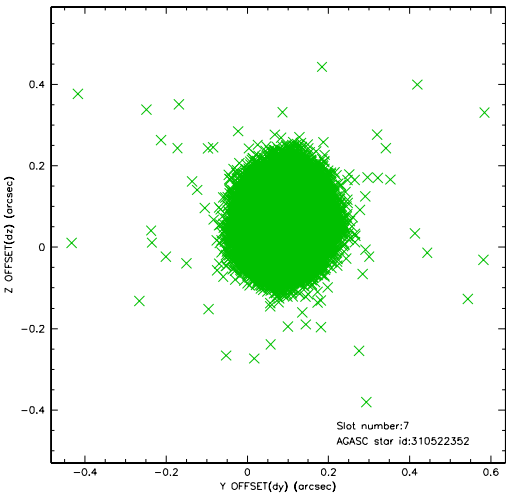
2.4.4 Slot 6

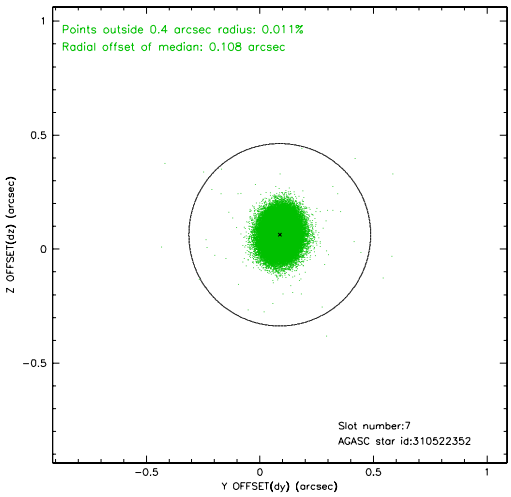

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:310516320

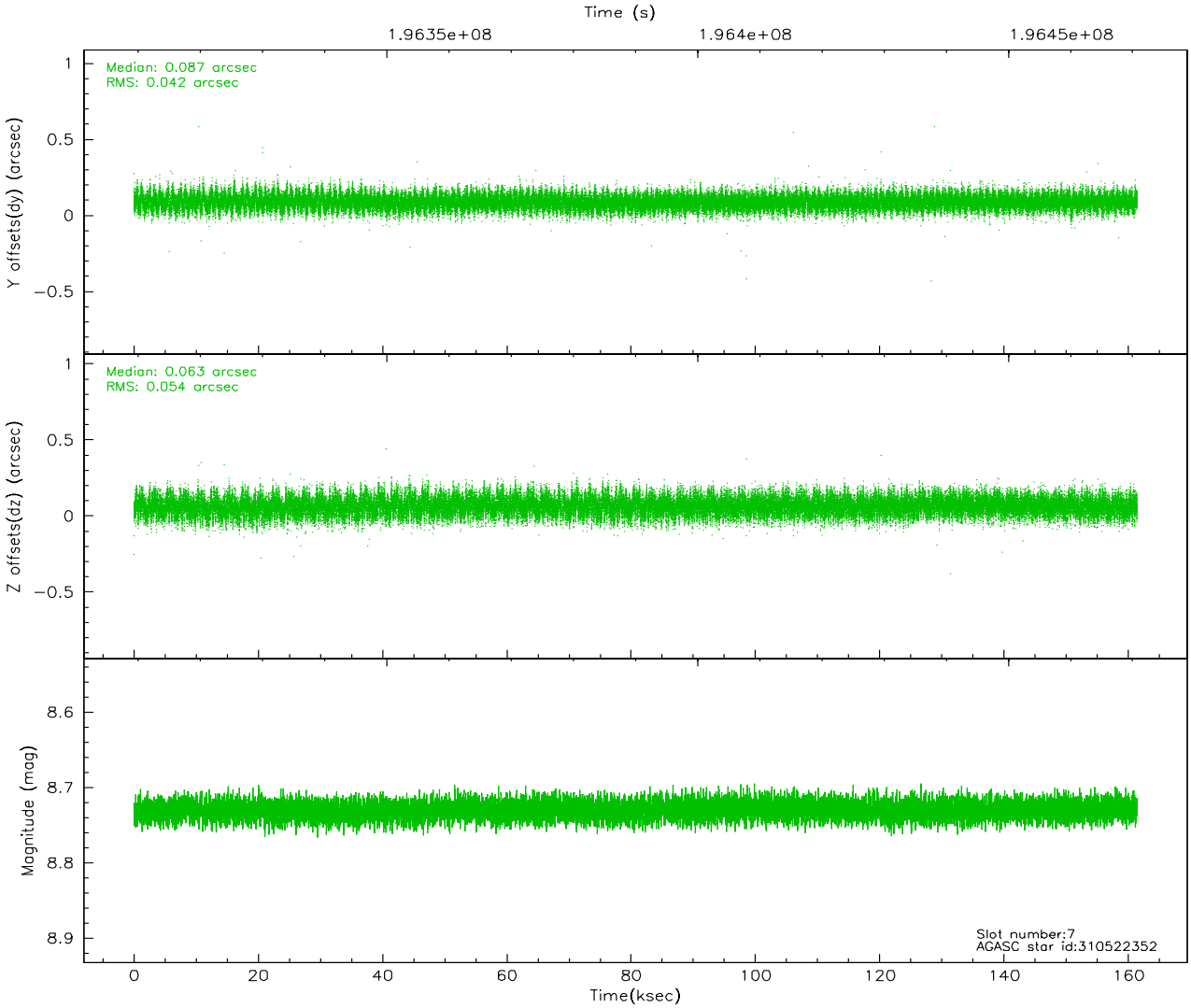

Points outside 0.4 arcsec radius: 0.003%
Radial offset of median: 0.208 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:310516320


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: −0.198 arcsec
RMS: 0.041 arcsec
Y offsets(dy) (arcsec)
Median: 0.061 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:310516320
Time(ksec)

2.4.5 Slot 7

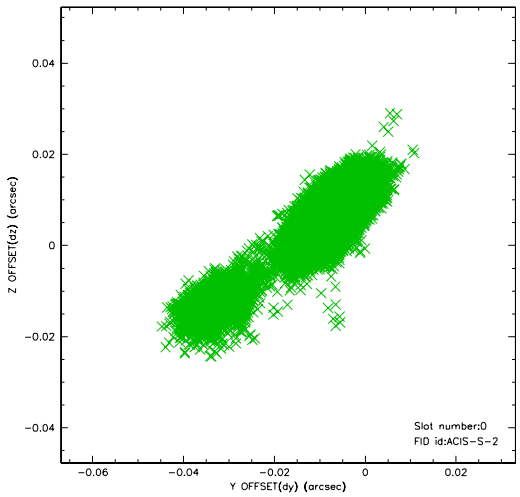

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:310522352

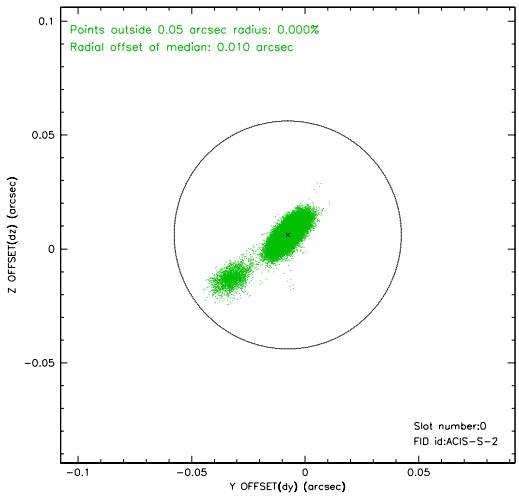

Points outside 0.4 arcsec radius: 0.011%
Radial offset of median: 0.108 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:310522352

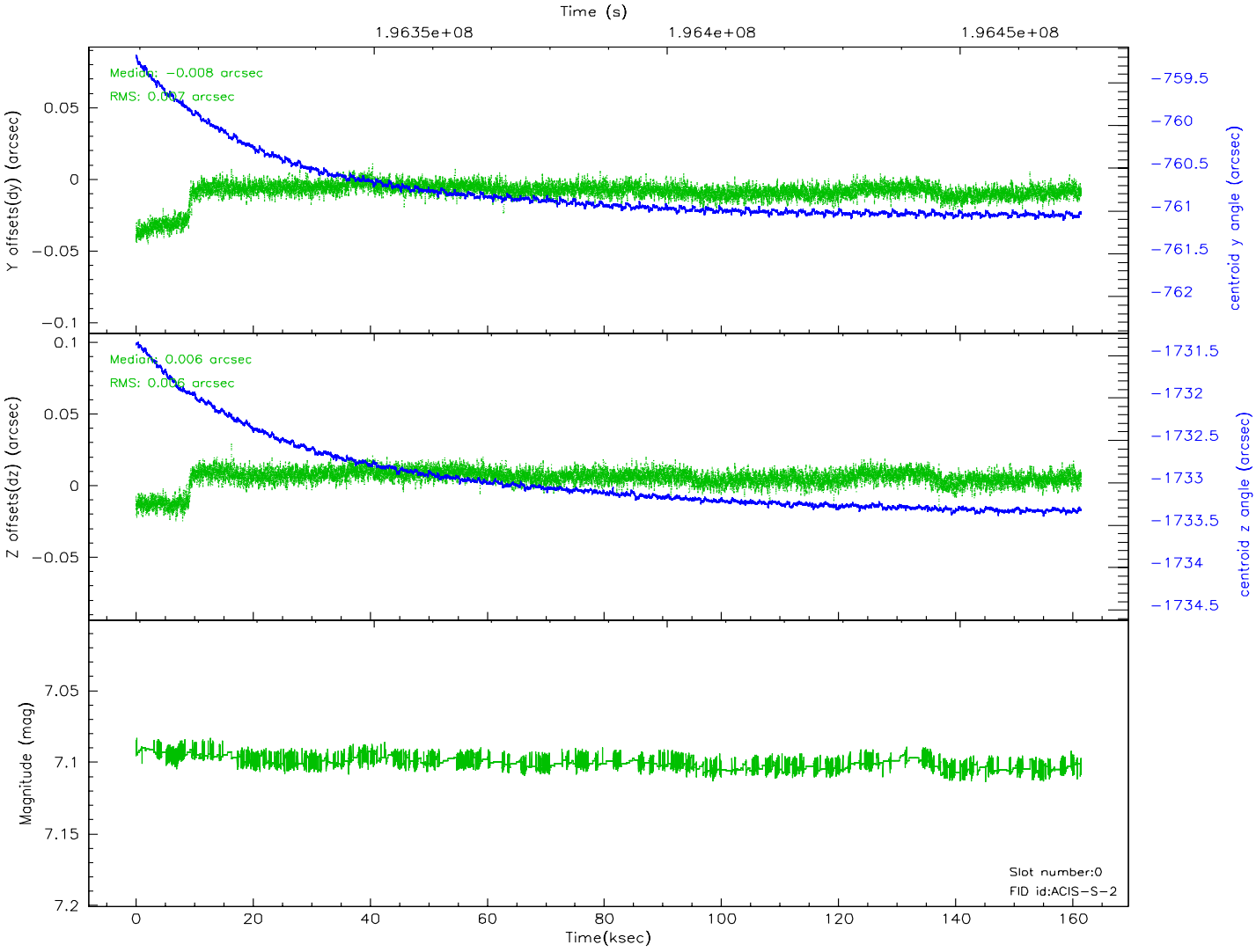

Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: 0.087 arcsec
RMS: 0.042 arcsec
Y offsets(dy) (arcsec)
Median: 0.063 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:310522352
Time(ksec)

2.5 FID Slots

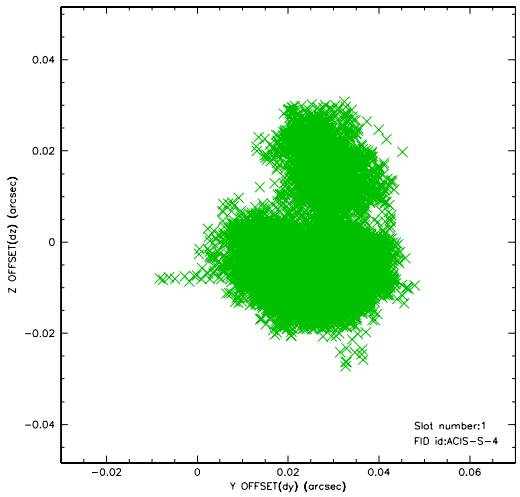
2.5.1 Slot 0

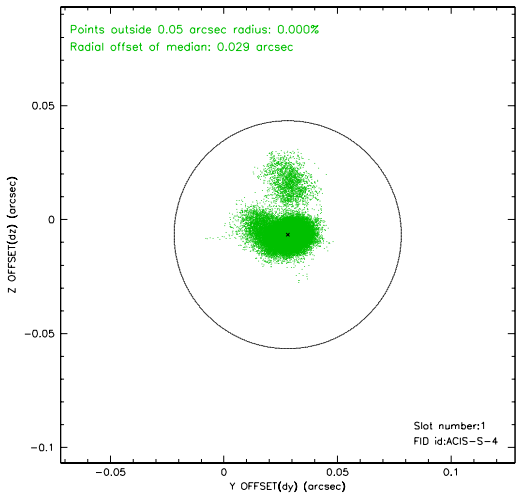


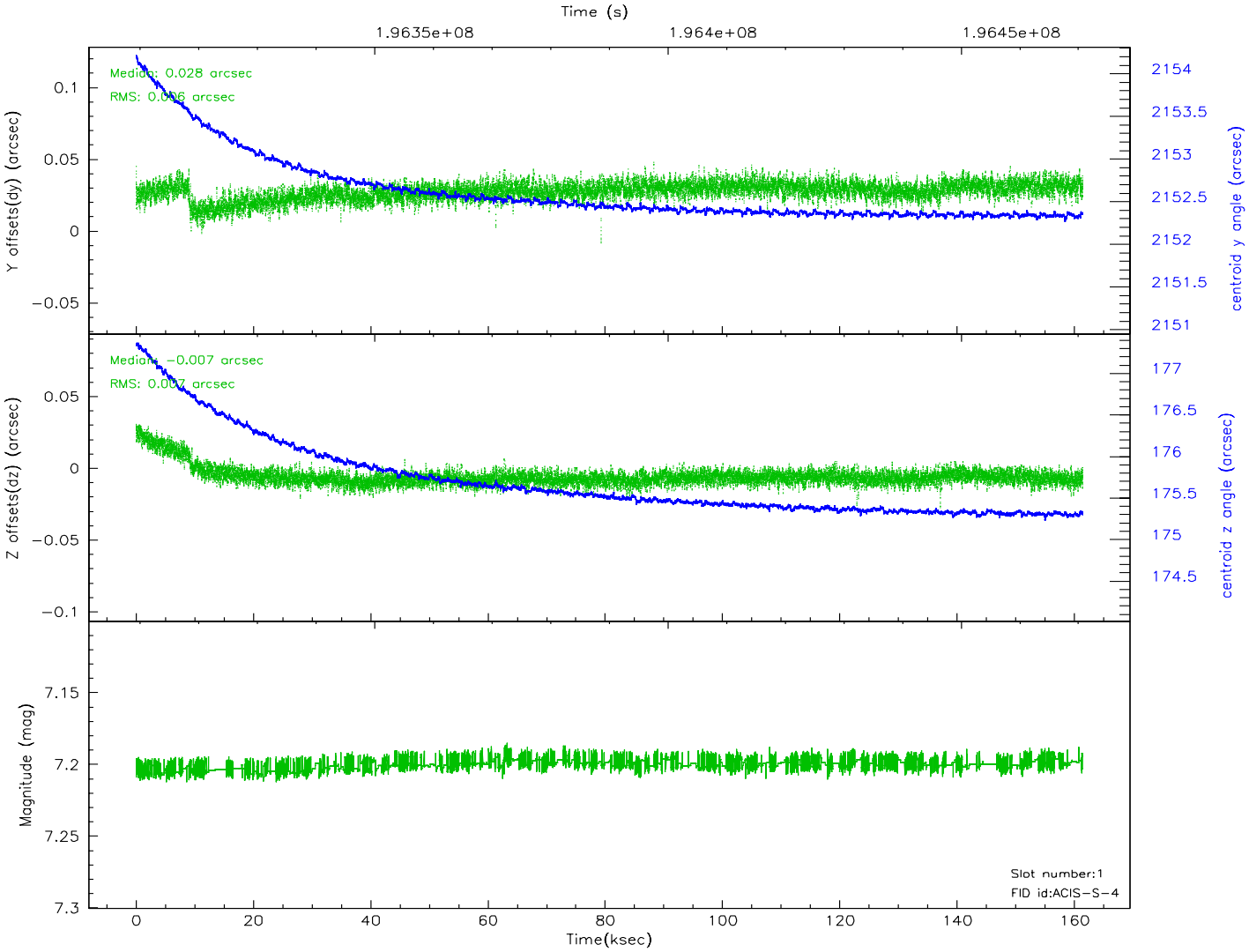




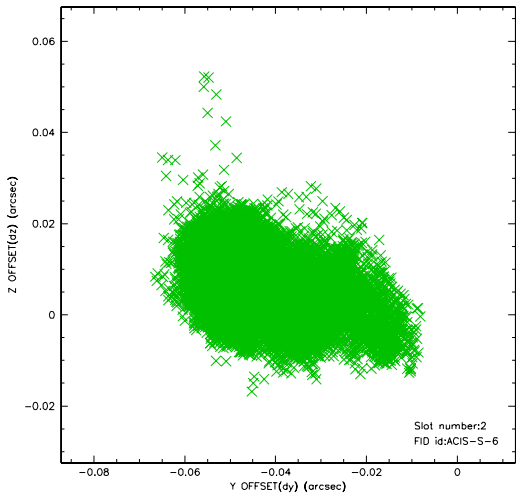
2.5.2 Slot 1

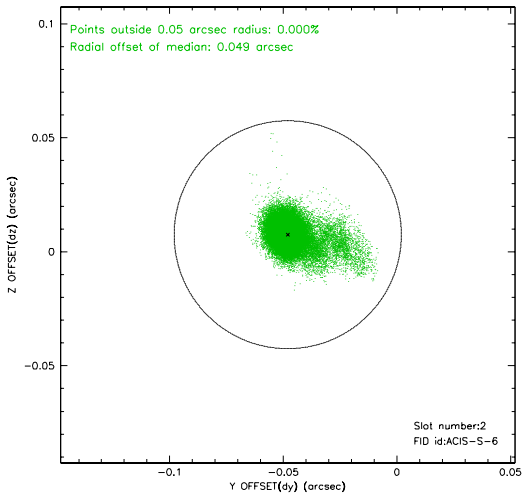

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

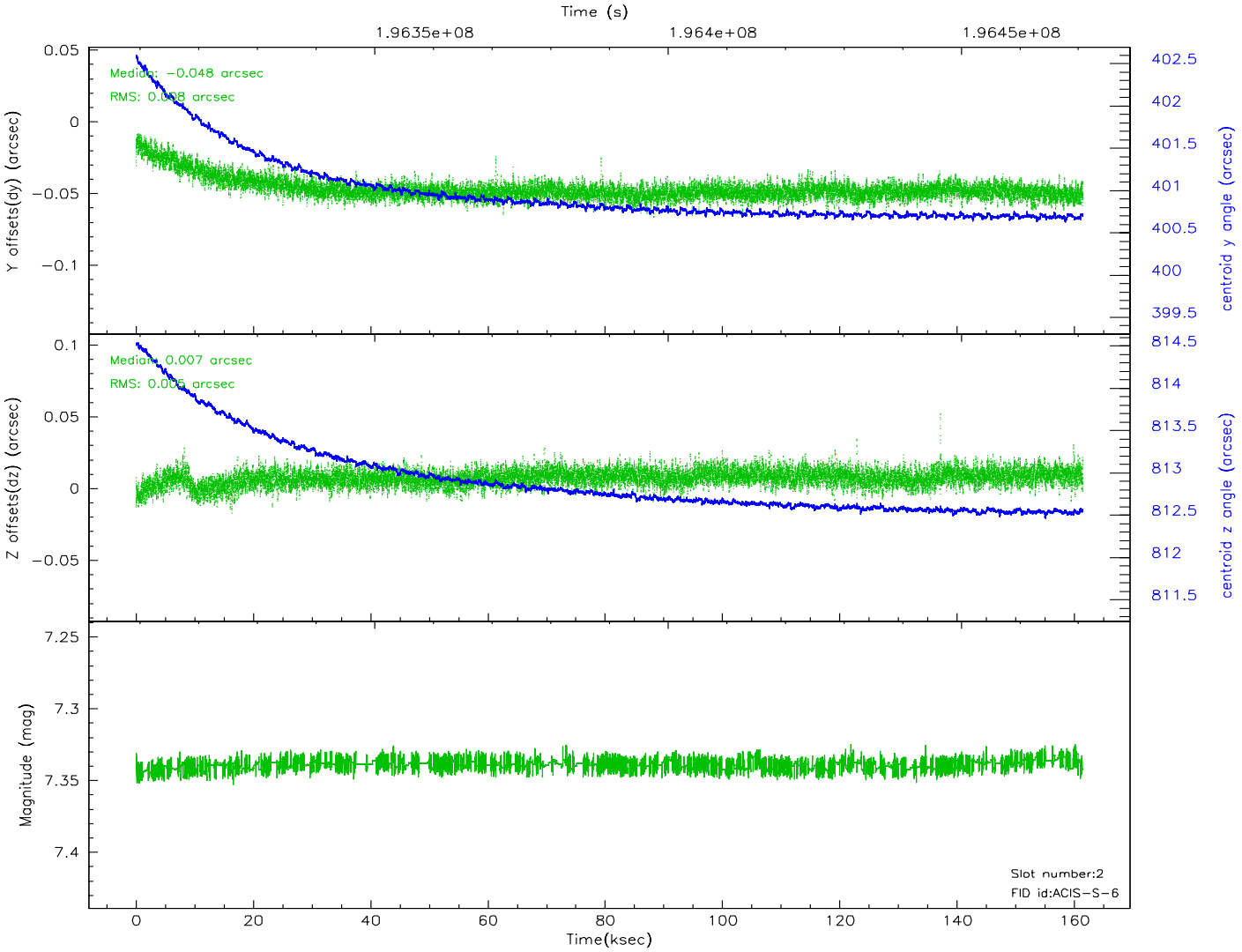

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.029 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: 0.028 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.007 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (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-6

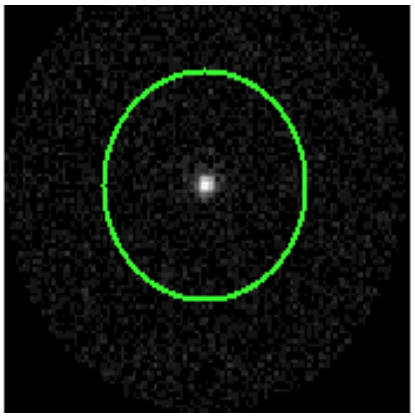

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.049 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-6


Time (s)
1.9635e+08
1.964e+08
1.9645e+08
Median: −0.048 arcsec
RMS: 0.008 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.007 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-6
Time(ksec)

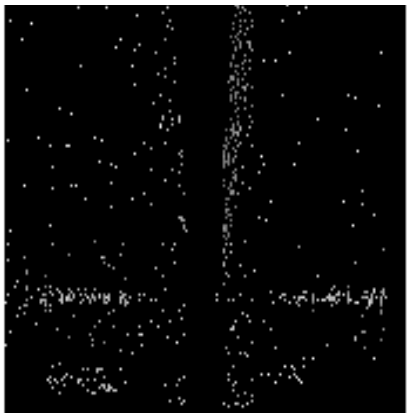
3 Gratings

3.1 HEG Arm

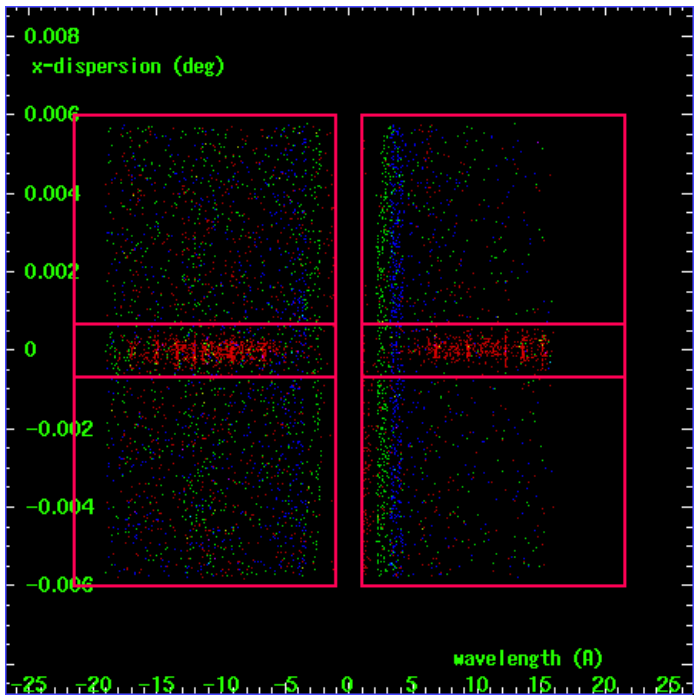
HEG Order Sort 123



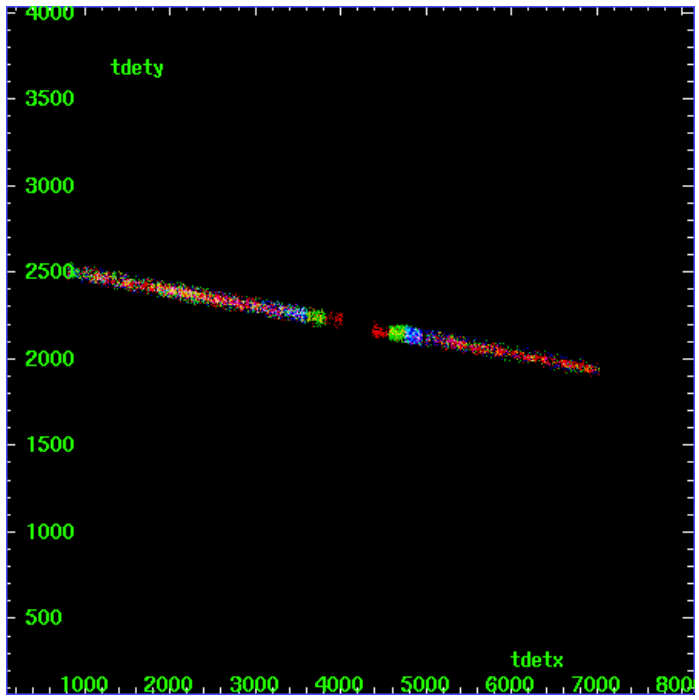
HEG Zero Order



HEG Order Sort ALL

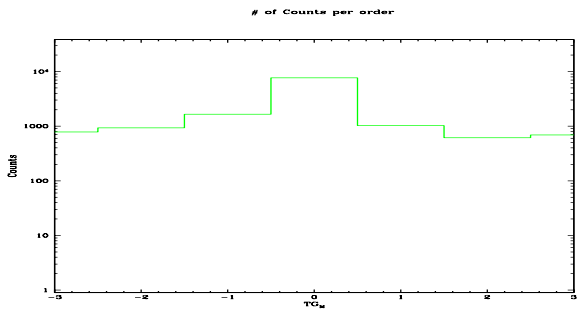


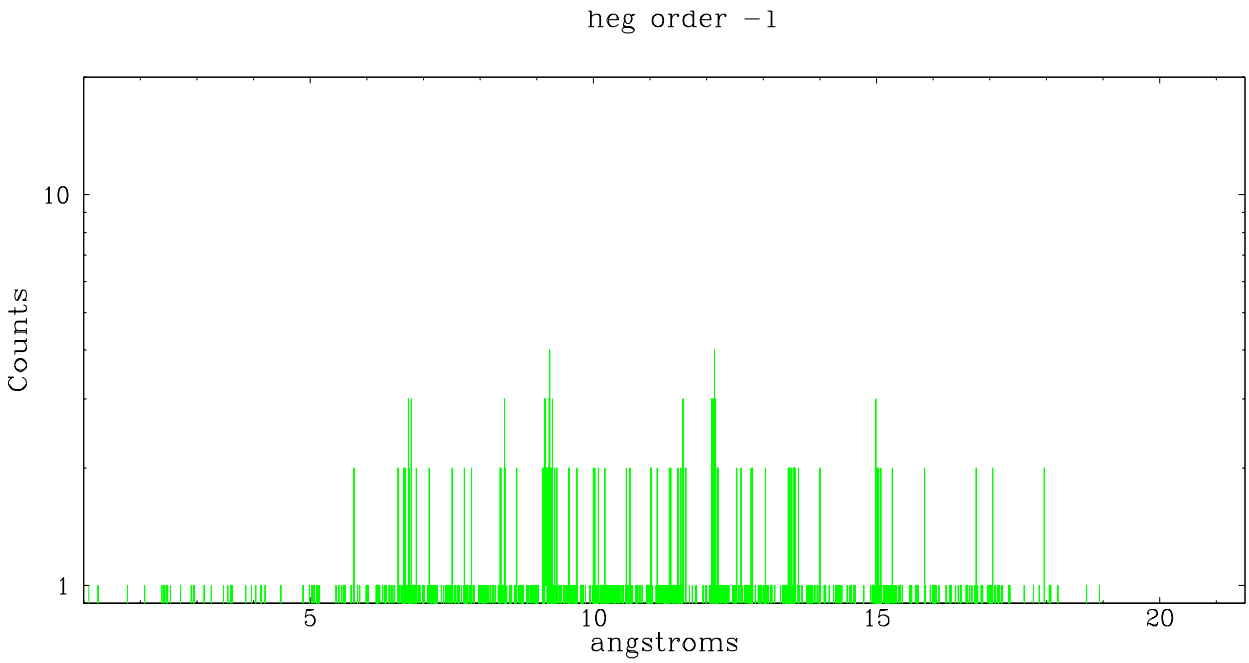
Spot Image HEG

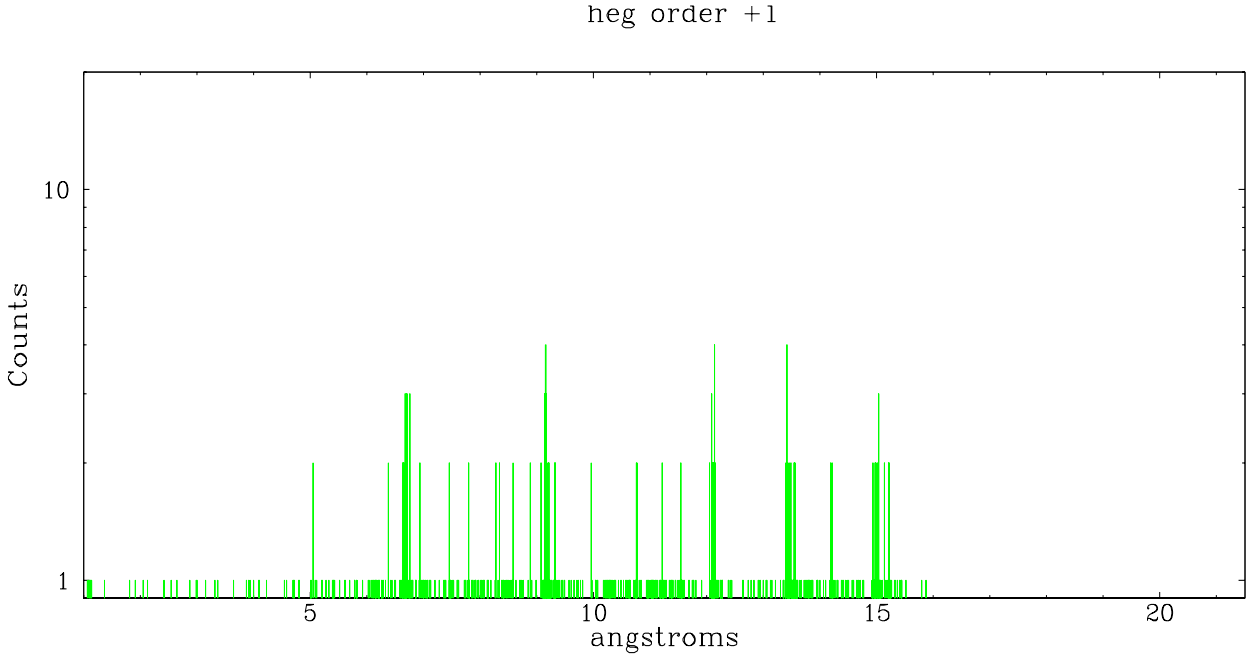


Full Detector HEG

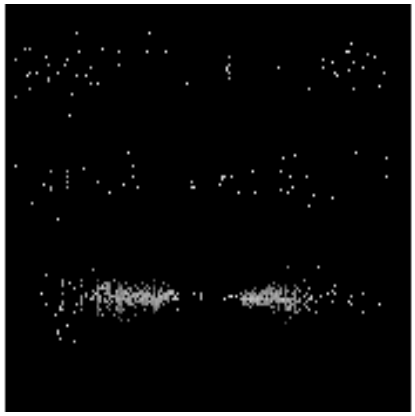
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	784	930	1652	7657	1022	615	691



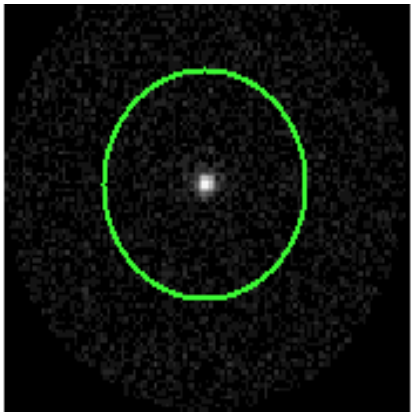

heg order −1
10
1
Counts
5
10
15
20
angstroms


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

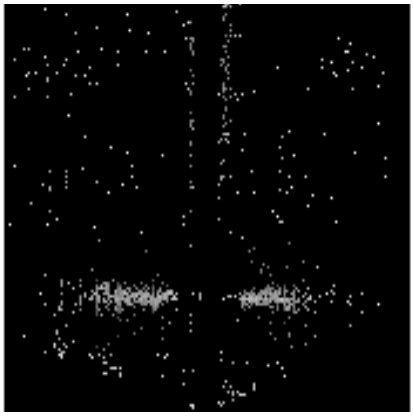
3.2 MEG Arm



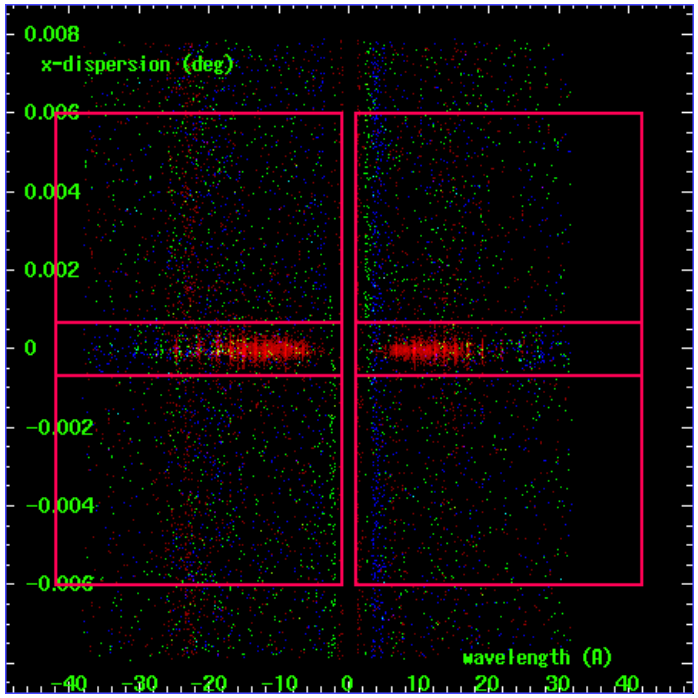
MEG Order Sort 123



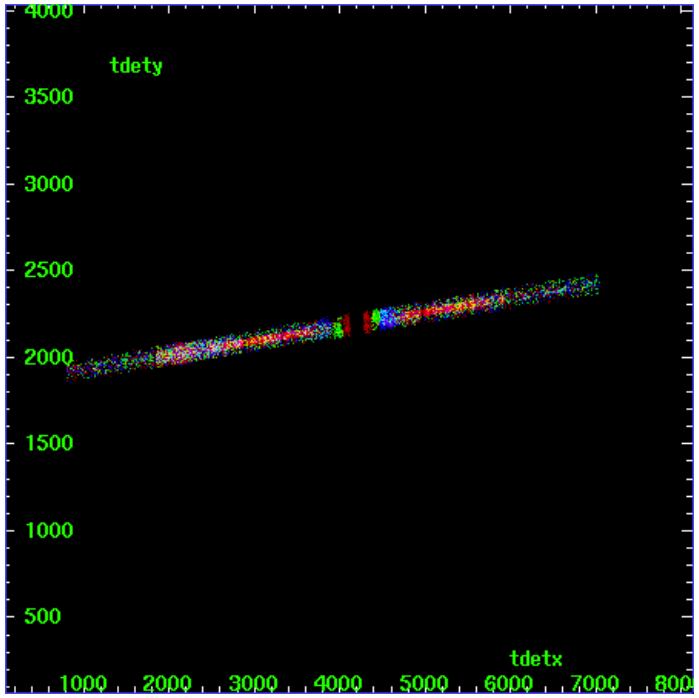
MEG Zero Order



MEG Order Sort ALL

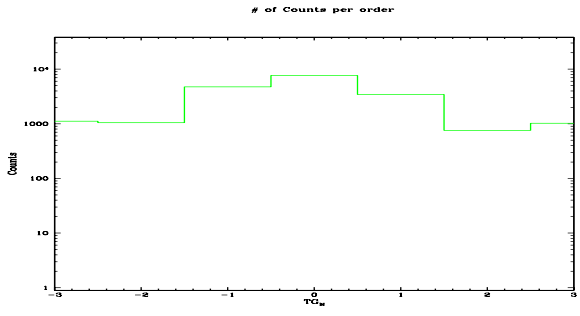


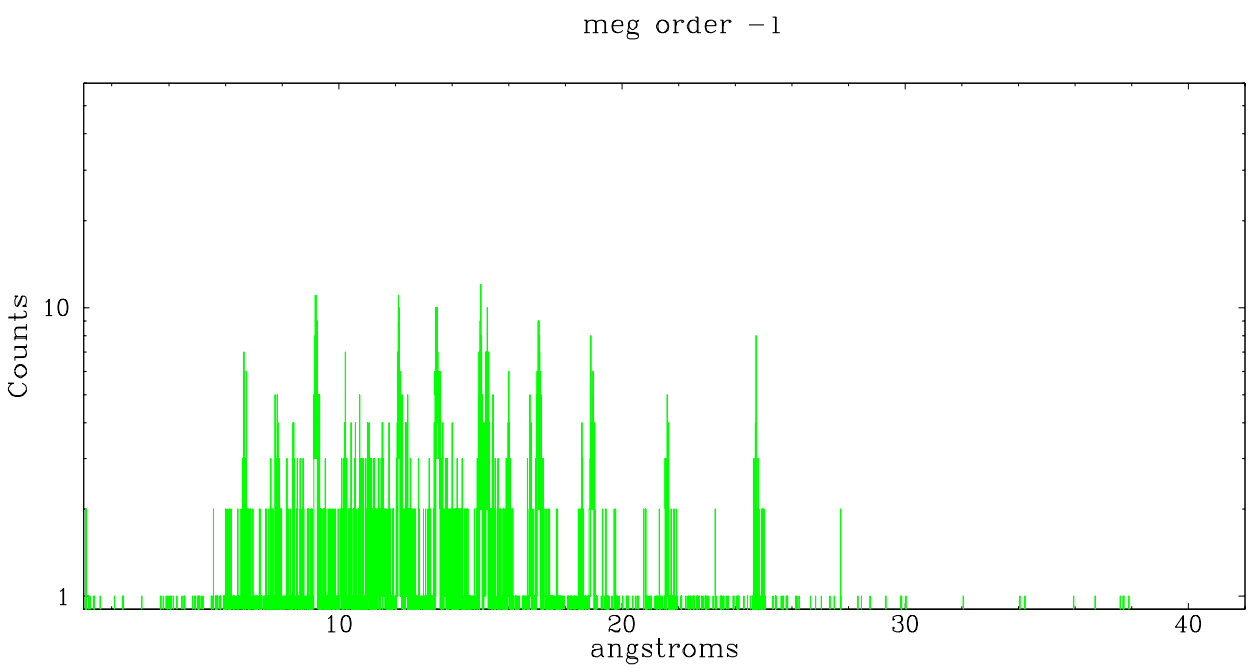
Spot Image MEG

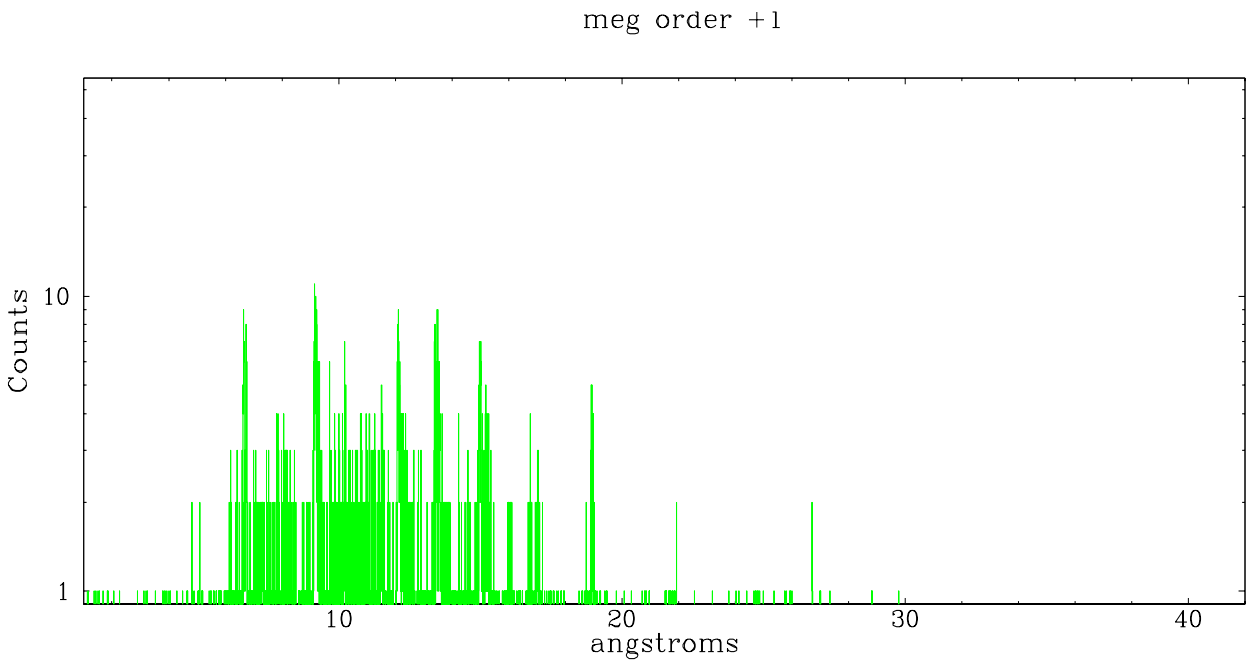


Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1114	1051	4735	7657	3438	759	1020




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


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

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2006.05.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	160.844

A.2 Comments

```
Window constraint satisfied.
```