



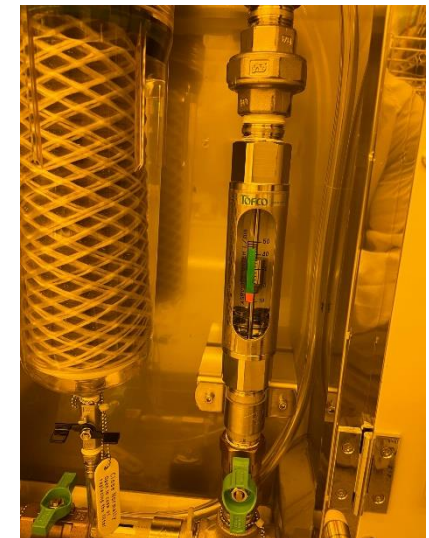
NIKON PRECISION EUROPE GMBH

NSR 84 TFHi14 Finger Print Data AN99018

August 11, 2023

Facilities

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Interferometer receivers

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Receiver	Volts
WXB	1.3
WXM	1.269
WXF	1.357
WYL	1.37
WYR	1.35
RX	1.19
RYL	1.237
RYR	1.28

Illumination Table

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Change Illumination System

Current ID 3 Next ID

ID	L-NA	I-NA	Aperture	Aperture-patt.	value	R-type	R-patt.	comment
1	0.45	0.27	1	Conv.	0.00	Normal	L/S	ID1: 0.45 C0.27
2	0.30	0.12	5	Conv.	0.00	Normal	L/S	ID2: 0.3 C0.12
3	0.30	0.18	3	Conv.	0.00	Normal	L/S	ID3: 0.3 C0.18
4	0.30	0.09	6	Conv.	0.00	Normal	L/S	ID4: 0.3 C0.09
5	0.45	0.30	2	Annular	50.30	Normal	L/S	ID5: 0.45 A50.30
6	0.00	0.00	0	Conv.	0.00	Normal	L/S	
7	0.00	0.00	0	Conv.	0.00	Normal	L/S	
8	0.00	0.00	0	Conv.	0.00	Normal	L/S	
9	0.00	0.00	0	Conv.	0.00	Normal	L/S	
10	0.00	0.00	0	Conv.	0.00	Normal	L/S	
11	0.00	0.00	0	Conv.	0.00	Normal	L/S	
12	0.00	0.00	0	Conv.	0.00	Normal	L/S	

Basic ID number : 1

F13 Quit Do Start

Unit Version			
Unit Version Information (AN99018)			
Software Version MCSV : Ver.3.46F OCSV : Ver.G3.45Q TOOL : Ver.4.18		OS(VMS) Kit Version VMS7.2-1 for DS10 Kit version 1.0 SCSI ROM Version SG-23V5.00	
Base Kit BASE : BASE8_105-1007A WLDR : WLDR8_022-V770A RLDR : RLDR8_011-V540A			
Stage Controller ST-82V6.60 STG82V6.40 WS_80V4.30 WS_80V4.30 RS-8PV1.20 RF-8PV1.60 AF-80V8.80 ZT-81V3.00 BL_FPv6.T0 EP-80V6.20 AD_80V2.30		SP Download Count : 1 Date : Tue Nov 9 14:25:52 2010 File : MCSV\$UNITSOFT:ST-82.H66	FP Download Count : 1 Date : Tue Nov 9 14:29:26 2010 File : MCSV\$UNITSOFT:ST-82.H66
Alignment Controller AL-83V7.20 AL-28VA.60 SG-82V1.90 FL-82V4.90		SP Download Count : 1 Date : Tue Nov 9 14:35:49 2010 File : MCSV\$UNITSOFT:AL-83.H72	FP Download Count : 1 Date : Tue Nov 9 14:39:23 2010 File : MCSV\$UNITSOFT:AL-83.H72
Operation Panel PA-82V6.50 PA-82V6.50		SP Download Count : 1 Date : Tue Nov 9 14:46:23 2010 File : MCSV\$UNITSOFT:PA-82.H65	FP Download Count : 0 Date : File :
Lens Controller LC-85V9.00 LC_82V9.00 IM-X5V4.80		SP Download Count : 3 Date : Thu Nov 25 16:32:44 2010 File : MCSV\$UNITSOFT:LC-85.H90	FP Download Count : 3 Date : Thu Nov 25 16:35:03 2010 File : MCSV\$UNITSOFT:LC-85.H90
Wafer Loader WR-22V7.70 WL-22V7.70 OF-22V5.20 WLY11V1.70 WR-22V7.70 WL-22V7.70 OF-22V5.20 WLY11V1.70		SP Download Count : 5 Date : Wed Nov 16 09:57:57 2011 File : MCSV\$UNITSOFT:WR-22.H77	FP Download Count : 5 Date : Wed Nov 16 09:59:48 2011 File : MCSV\$UNITSOFT:WR-22.H77
Reticle Loader RL-11V5.40 RR-C02V6.1 RL-11V5.40 RR-C02V6.1		SP Download Count : 2 Date : Tue Nov 9 15:35:50 2010 File : MCSV\$UNITSOFT:RL-11.H54	FP Download Count : 0 Date : File :
Cognex us_8p_algfp2_20050523_0016c.out			

2023- 8-11 11:42:21.29

Close

Uniformity ID1

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MCSV : EVALUATE - Lamp Illumination Uniformity

Lamp Illumination Uniformity

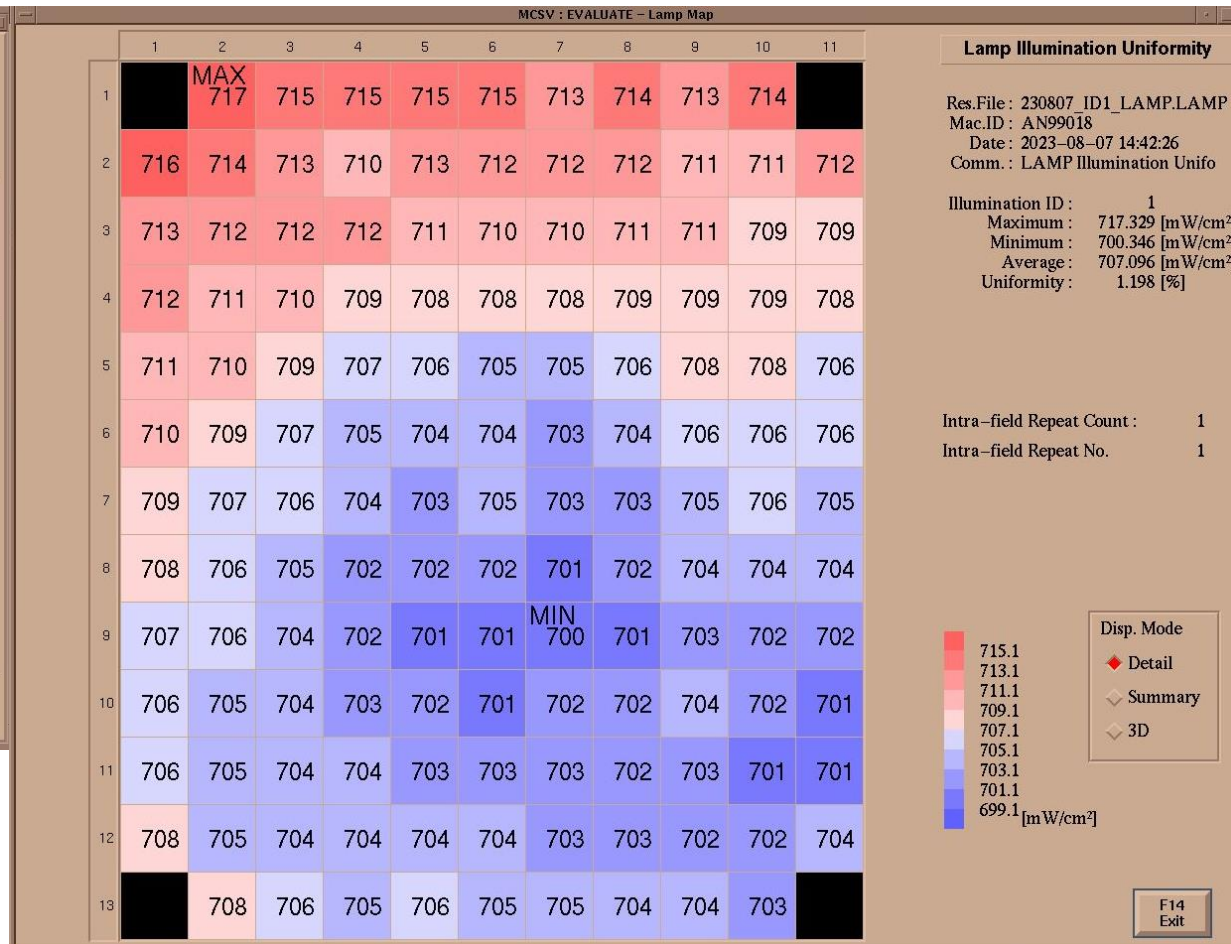
Condition File : 22LAMP.LMCP
Result File : 230807_ID1_LAMP.LAMP
Machine ID : AN99018
Date : 2023-08-07 14:42:26
Comment : LAMP Illumination Uniformity (11*13)

Measurement Condition		Measurement Result Summary	
Illumination ID :	1	Maximum :	717.329 [mW/cm ²]
Intra-field Repeat Count :	1	Minimum :	700.346 [mW/cm ²]
Map Layout		Average :	707.096 [mW/cm ²]
X :	11	Uniformity :	1.198 [%]
Y :	13		
Diameter :	31.11 [mm]		
Measurement Limits			
-X :	-11000.00 [μm]		
+X :	11000.00 [μm]		
-Y :	-12700.00 [μm]		
+Y :	12500.00 [μm]		
Power Trans. Rate :	1.09		
Sensor Position			
X :	-84353.59 [μm]		
Y :	107146.04 [μm]		
Average Number :	3		
Step Mode :	Normal		
Dummy Shot			
Blind Setting :	Pinhole		
Frequency :	10		
Time :	100 [msec]		
Wait Time :	100 [msec]		

Intra-field Repeat No. 1

Prev Next

F6 Param. F10 Map F14 Exit



Uniformity ID2

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MCSV : EVALUATE - Lamp Illumination Uniformity

Lamp Illumination Uniformity

Condition File : 22LAMP.LMCP
Result File : 230807_ID2_LAMP.LAMP
Machine ID : AN99018
Date : 2023-08-07 15:06:52
Comment : LAMP Illumination Uniformity (11*13)

Measurement Condition

Illumination ID : 2
Intra-field Repeat Count : 1
Map Layout
X : 11
Y : 13
Diameter : 31.11 [mm]

Measurement Limits

-X : -11000.00 [um]
+X : 11000.00 [um]
-Y : -12700.00 [um]
+Y : 12500.00 [um]
Power Trans. Rate : 1.09

Sensor Position

X : -84353.59 [um]
Y : 107146.04 [um]

Average Number : 3
Step Mode : Normal

Dummy Shot

Blind Setting : Pinhole
Frequency : 10
Time : 100 [msec]
Wait Time : 100 [msec]

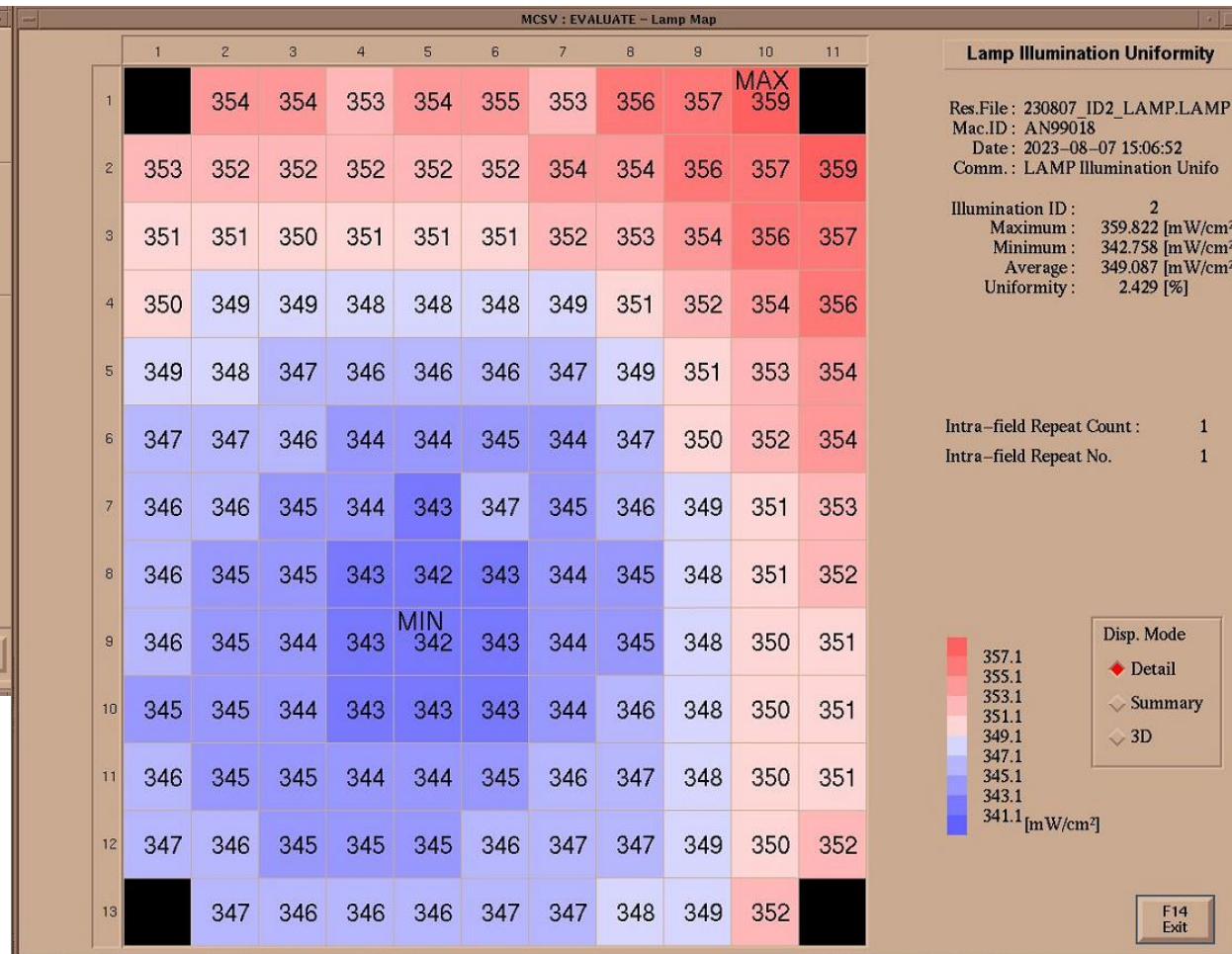
Measurement Result Summary

Maximum : 359.822 [mW/cm²]
Minimum : 342.758 [mW/cm²]
Average : 349.087 [mW/cm²]
Uniformity : 2.429 [%]

Intra-field Repeat No. 1

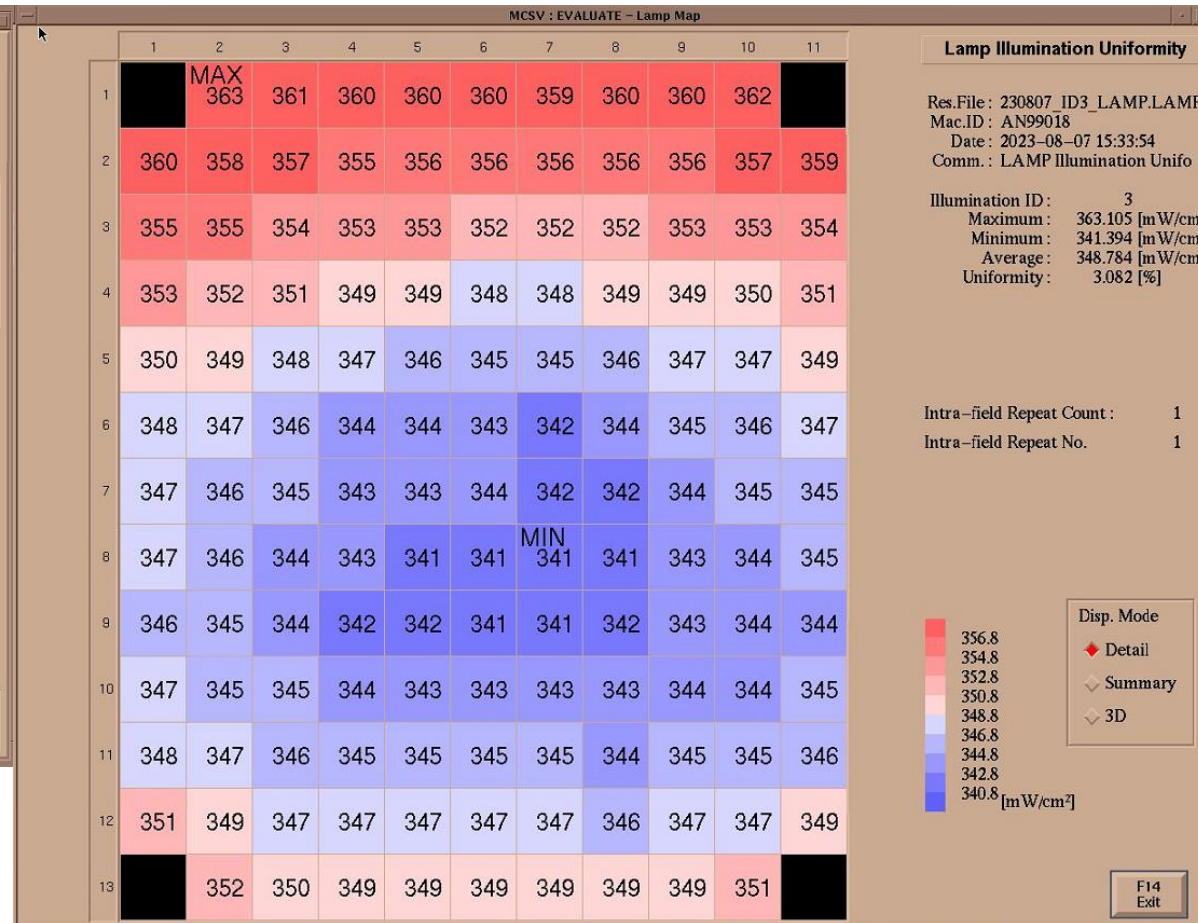
Prev Next

F6 Param. F10 Map F14 Exit





CSV : EVALUATE - Lamp Illumination Uniformity			
Lamp Illumination Uniformity			
Condition File :	22\LAMP.LMCP		
Result File :	230807 ID3_LAMP.LAMP		
Machine ID :	AN99018		
Date :	2023-08-07 15:33:54		
Comment :	LAMP Illumination Uniformity (11*13)		
Measurement Condition		Measurement Result Summary	
Illumination ID :	3	Maximum :	363.105 [mW/cm²]
Intra-field Repeat Count :	1	Minimum :	341.394 [mW/cm²]
Map Layout		Average :	348.784 [mW/cm²]
X :	11	Uniformity :	3.082 [%]
Y :	13		
Diameter :	31.11 [mm]		
Measurement Limits			
-X :	-11000.00 [μm]		
+X :	11000.00 [μm]		
-Y :	-12700.00 [μm]		
+Y :	12500.00 [μm]		
Power Trans. Rate :	1.09		
Sensor Position			
X :	-84353.59 [μm]		
Y :	107146.04 [μm]		
Average Number :	3		
Step Mode :	Normal		
Dummy Shot			
Blind Setting :	Pinhole		
Frequency :	10		
Time :	100 [msec]		
Wait Time :	100 [msec]		
		Intra-field Repeat No. 1 1 <!-- Progress bar visualization -->	
		Prev Next	
F6 Param.		F10 Map	
		F14 Exit	



Wafer Flatness

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FC2 Repeatability

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Sensor Result

File

TTLFC2 Result

Average	[um]	0.952
Repeatability(3sigma n-1)	[um]	0.096

Measure Mode : Repeatability

Averaging Count : 1

Repeat Count : 20

Select Result File : RESULT:DEFAULT_REP.SENSOR_FC2

File Create Date : 8-AUG-2023 14:08:52

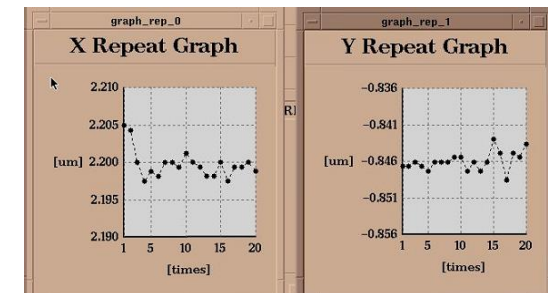
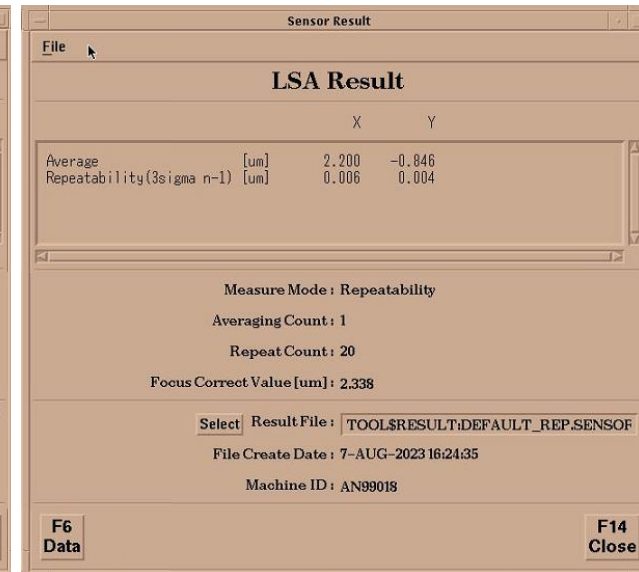
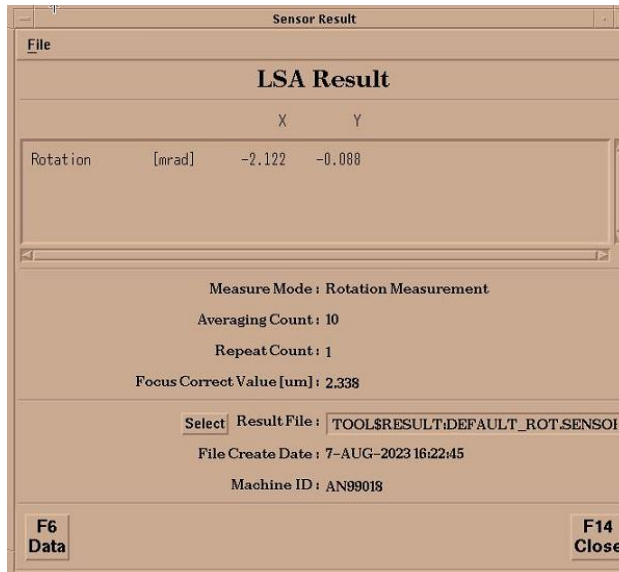
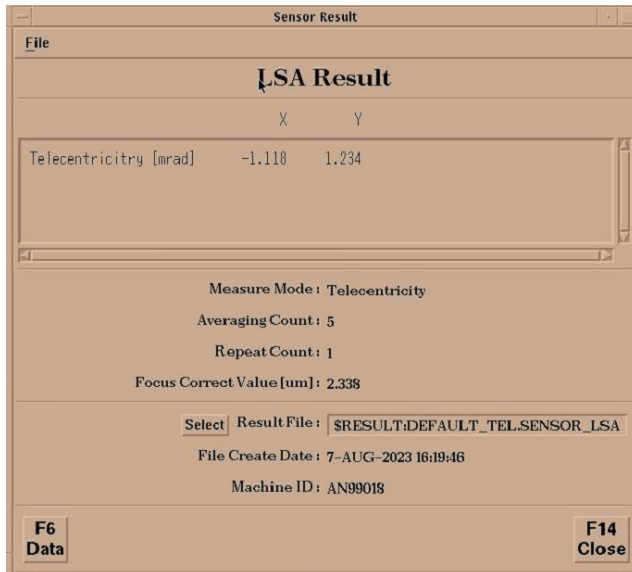
Machine ID : AN99018

F6
Data

F14
Close

LSA results

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Wafer Loader Repeatability (R8 Wafer)

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passP Wafer Loader Data							
No.	Y	THETA	Y-THETA	X	PRE-X	PRE-Y	PRE-ROT
1 - 1	39.260	-4.588	43.847	1.181	111.600	-257.167	-3147.989
1 - 2	35.987	0.113	35.874	1.188	66.473	-319.621	-1539.536
1 - 3	37.925	-3.988	41.914	2.694	142.920	-353.631	-3102.685
1 - 4	36.235	0.075	36.160	1.174	77.678	-320.132	-1264.615
1 - 5	37.076	-3.823	40.899	1.111	151.107	-319.107	-2918.632
1 - 6	41.128	-3.823	44.951	0.881	76.231	-314.412	-3451.793
1 - 7	38.520	-1.142	39.662	2.119	60.596	-337.942	2711.580
1 - 8	38.187	-2.145	40.332	1.947	96.862	-313.021	-2327.925
1 - 9	36.616	-3.169	39.785	0.909	80.824	-369.913	-3838.382
1 - 10	38.194	-3.005	41.199	1.534	75.227	-336.441	1816.153

3Sgm(n-1)	4.646	5.116	8.667	1.786	94.626	89.845	6754.648
Average	37.913	-2.550	40.462	1.474	93.952	-324.139	-1706.382
Max - Min	5.141	4.700	9.076	1.813	90.511	112.746	6549.962

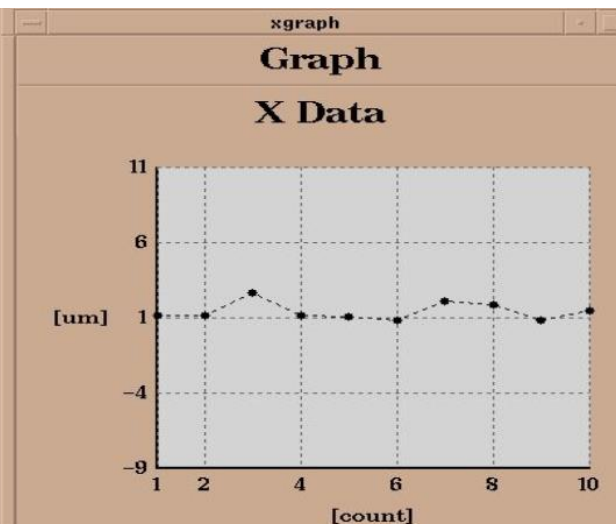
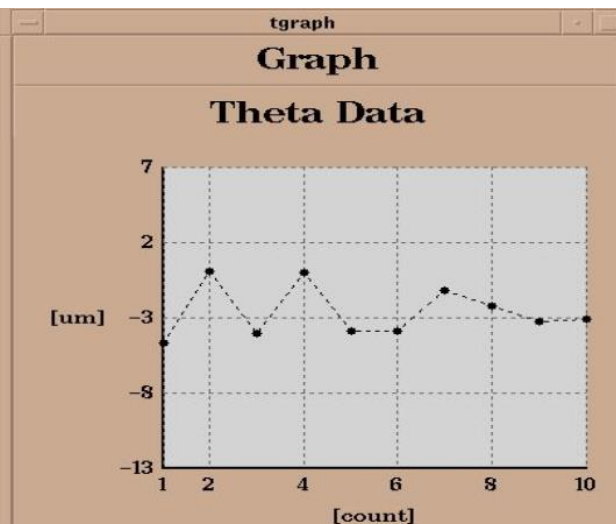
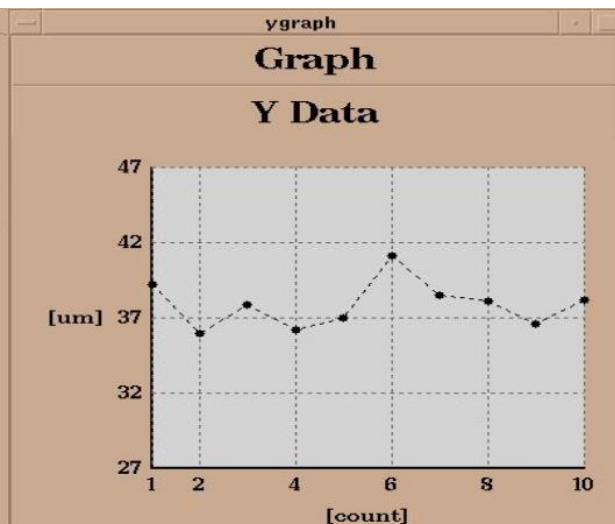
Abort

result Wafer Loader Measurement Result							
Measure Program TPDPM:OVL_STG_MATCH_STST							
Date 10-AUG-2023 11:14:05							
Machine ID AN99018							
Mode Normal							
Wafer Count 1							
Measure Count 10							

	Y	THETA	Y-THETA	X	PRE-X	PRE-Y	PRE-ROT
	[um]	[um]	[um]	[um]	[um]	[um]	[urad]
3Sgm(n-1)	4.646	5.116	8.667	1.786	94.626	89.845	6754.648
Average	37.913	-2.550	40.462	1.474	93.952	-324.139	-1706.382
Max - Min	5.141	4.700	9.076	1.813	90.511	112.746	6549.962

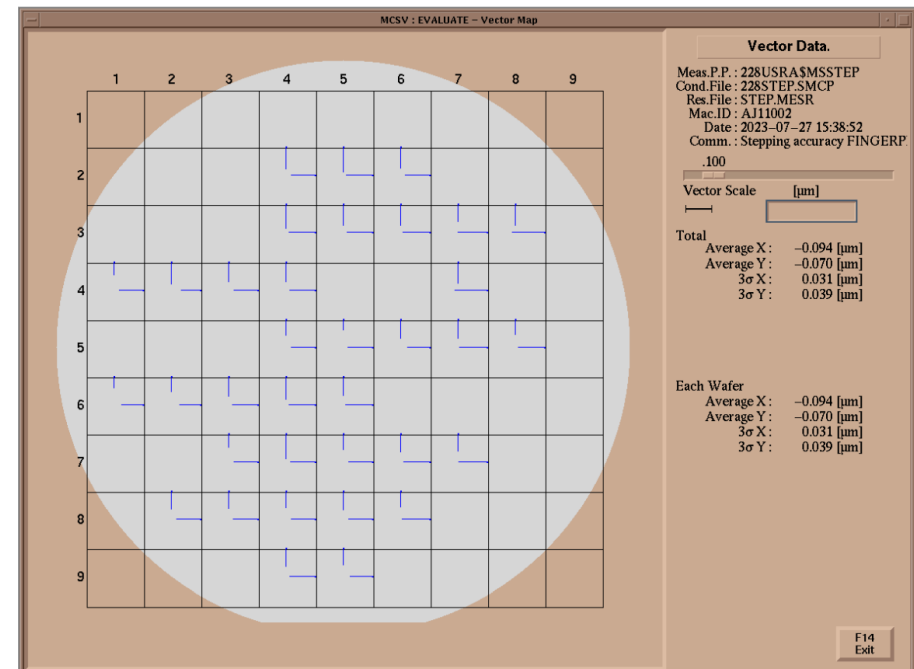
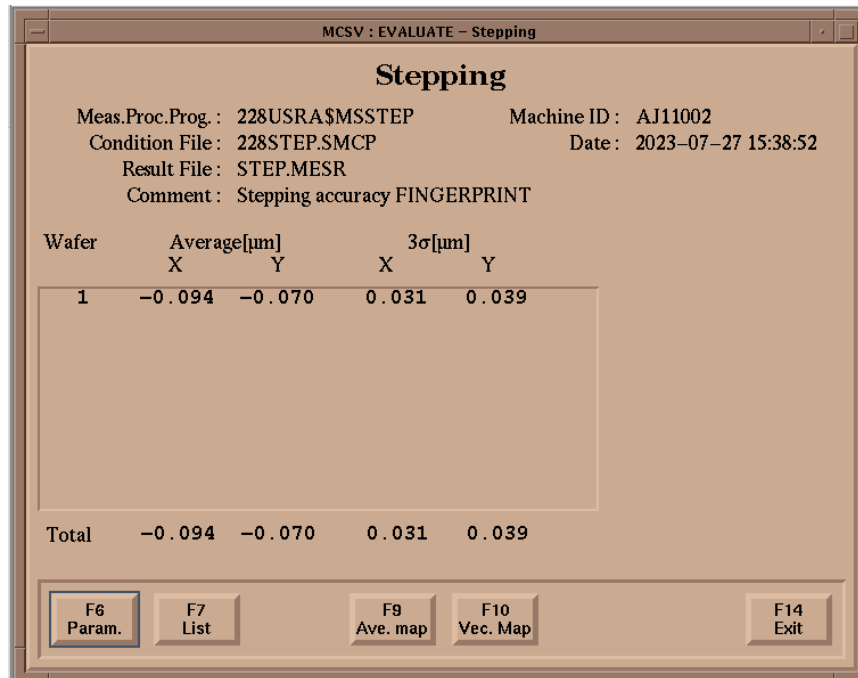
Rotation 216.249 [urad]							

F7 Write F14 Close



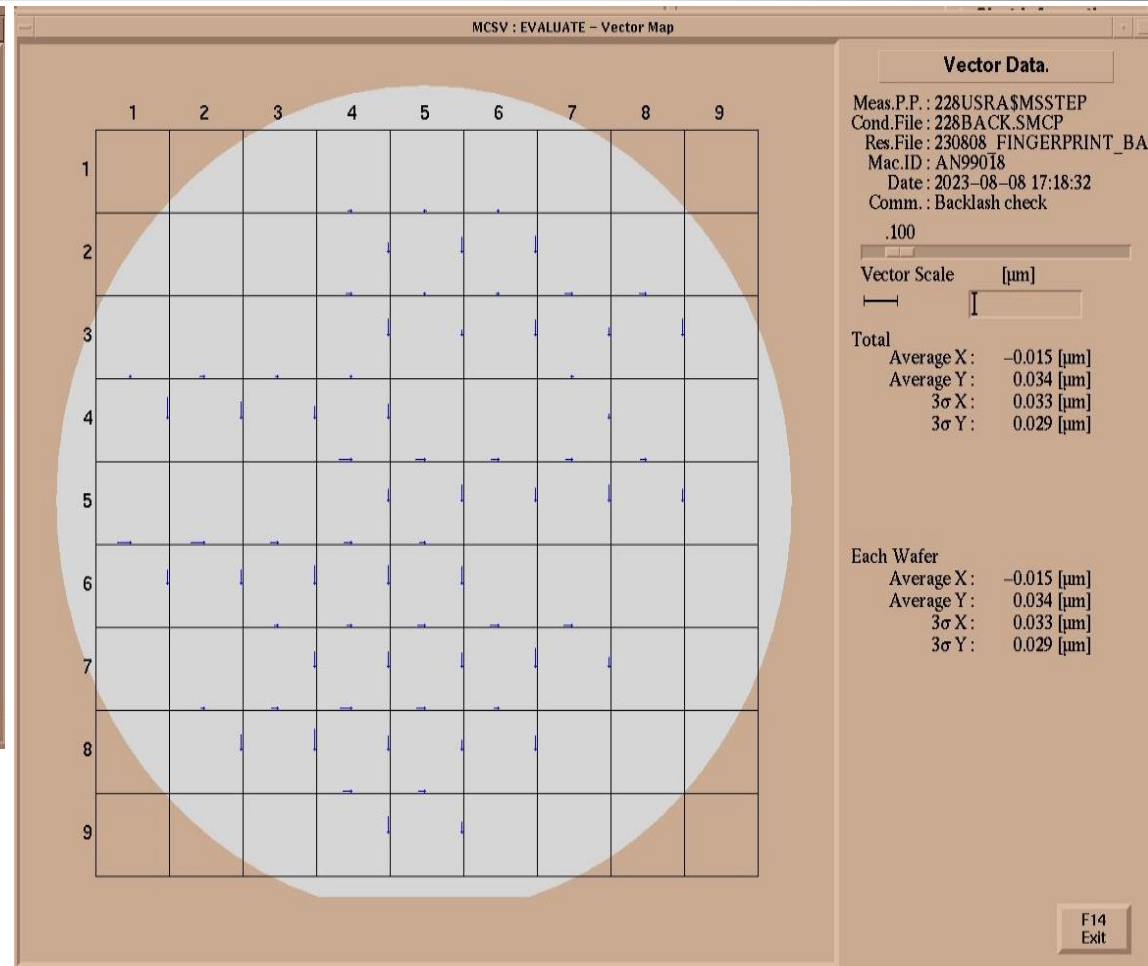
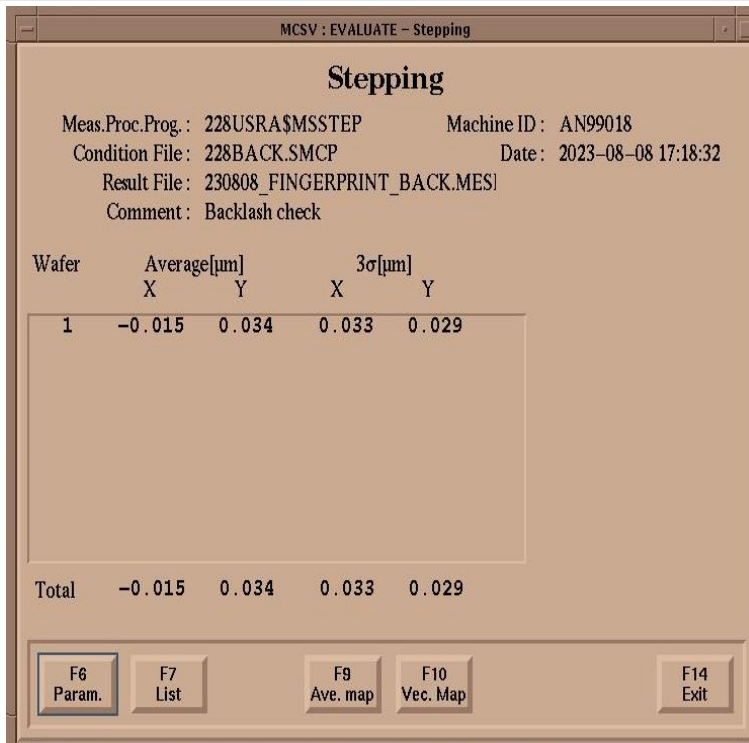
Stepping

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Backstep

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Inclination (TFD) ID1

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MCSV : EVALUATE - Field Inclination

Field Inclination

No.	Locate [μm]			Best Focus [μm]			Max Length [μm]		Inc. [μm]
	X	Y	V	H	V,H Ave.	V-H	X	Y	
1	-10701.00	-10701.00	-0.425				7.350	5.183	0.187
2	-10700.00	0.00	-1.029	-0.704	-0.867	-0.325	5.516	5.151	0.068
3	-10701.00	10701.00	-1.051	-0.896	-0.974	-0.155	5.135	5.124	-0.050
4	0.00	-12000.00	-0.563	-0.972	-0.768	0.409	5.568	6.244	0.133
5	0.00	0.00	0.233	0.098	0.165	0.135	4.389	4.581	0.000
6	0.00	12000.00	-0.619	-1.095	-0.857	0.476	5.002	5.657	-0.133
7	10701.00	-10701.00	-0.759	-0.927	-0.843	0.168	5.229	5.289	0.050
8	10700.00	0.00	-0.977	-0.758	-0.868	-0.219	5.550	5.264	-0.068
9	10701.00	10701.00	-1.017	-1.068	-1.043	0.051	5.096	5.265	-0.187

Meas.Proc.Prog.: 22MF097\$MSINC09
Condition File: 22INCA09H7_2.SMCP
Result File: 230809_FINGERPRINT
Machine ID: AN99018
Date: 2023-08-10 16:08:58
Comment: INC 9 (0.5mic HV) [R22
Reject Limit (Upper): 12.000 [μm]
Reject Limit (Range): 1.000 [μm]
Approximate Reject Limit: 1.000 [μm]
Focus Center on Exposure: 0.000 [μm]
Focus Step on Exposure: 0.300 [μm]
Focus Slice Level: 1.000 [μm]
Weight Dumping Rate: 1.000
Angle adjustment Value X: ----- [μrad]
Y: ----- [μrad]
Angle X: -6.393 [μrad]
Angle Y: -11.056 [μrad]
Angle R: -3.997 [μrad]
Angle P: -12.507 [μrad]
Max-Min: 1.328 [μm]
Curvature: -0.987 [μm]
UR-LL: -0.618 [μm]
UL-LR: -0.131 [μm]

Object Wafer

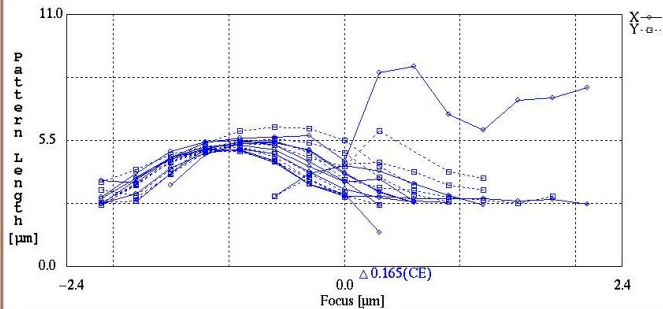
◇ Total ☒ Each Wafer

1

Wafer No.

Prev

Next



F6
Param.

F7
List

F8
Summary

F9
Display

F10
Map

F14
Exit

MCSV : EVALUATE - Focus Map

Inclination

Image Field / Ast.

Meas.P.P.: 22MF097\$MSINC09
Con.File: 22INCA09H7_2.SMCP
Res.File: 230809_FINGERPRINT_I
Mac.ID: AN99018
Date: 2023-08-10 16:08:58
Comm.: INC 9 (0.5mic HV) [R2205
Reject Limit (Upper): 12.000 [μm]
Reject Limit (Range): 1.000 [μm]
Approximate Reject Limit: 1.000 [μm]
Focus Center on Exposure: 0.000 [μm]
Focus Step on Exposure: 0.300 [μm]
Focus Slice Level: 1.000 [μm]
Weight Dumping Rate: 1.000
Angle adjustment Value X: ----- [μrad]
Y: ----- [μrad]
Angle X: -6.393 [μrad]
Angle Y: -11.056 [μrad]
Angle R: -3.997 [μrad]
Angle P: -12.507 [μrad]
Max.-Min.: 1.328 [μm]
Curvature: -0.987 [μm]
UR-LL: -0.618 [μm]
UL-LR: -0.131 [μm]

Line1: Ave.
Line2: Ast.
[μm]

Page No.

Prev

Next

F14
Exit

-1.139
-0.155

-1.023
0.476

-1.208
0.051

-1.032
-0.325

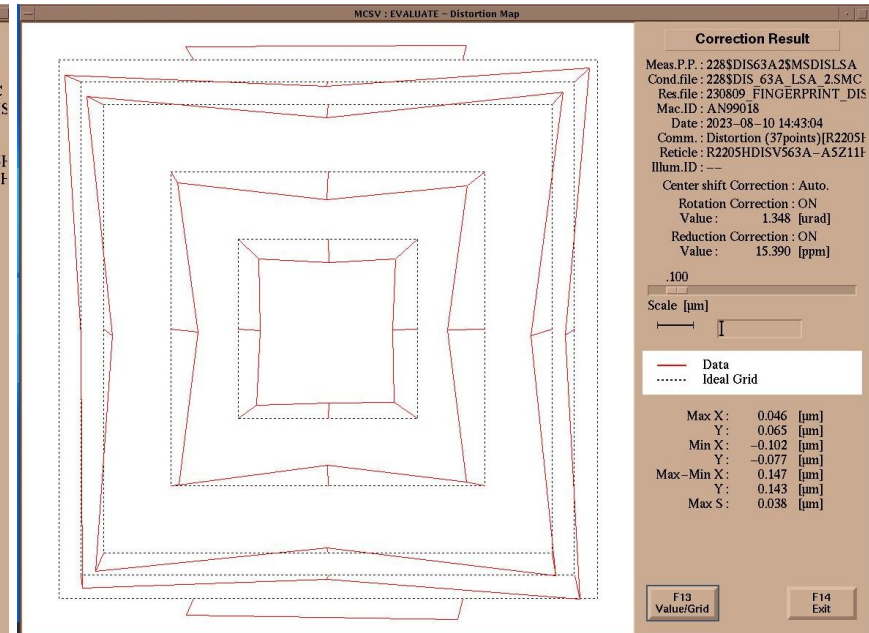
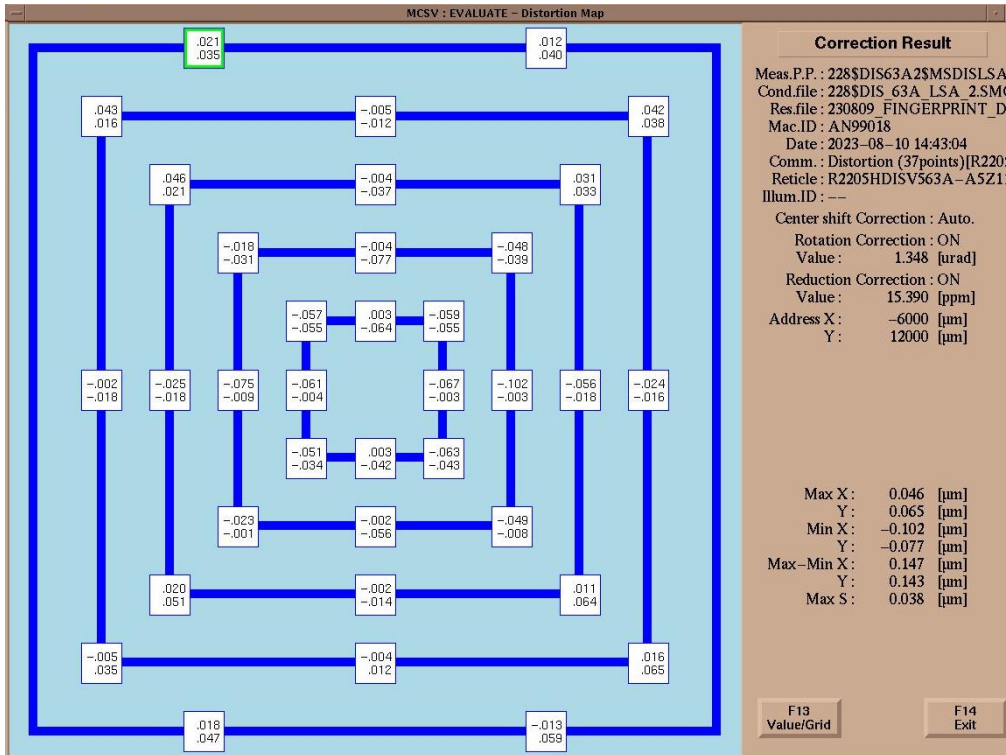
0.000
0.135

-1.033
-0.219

-0.933
0.409

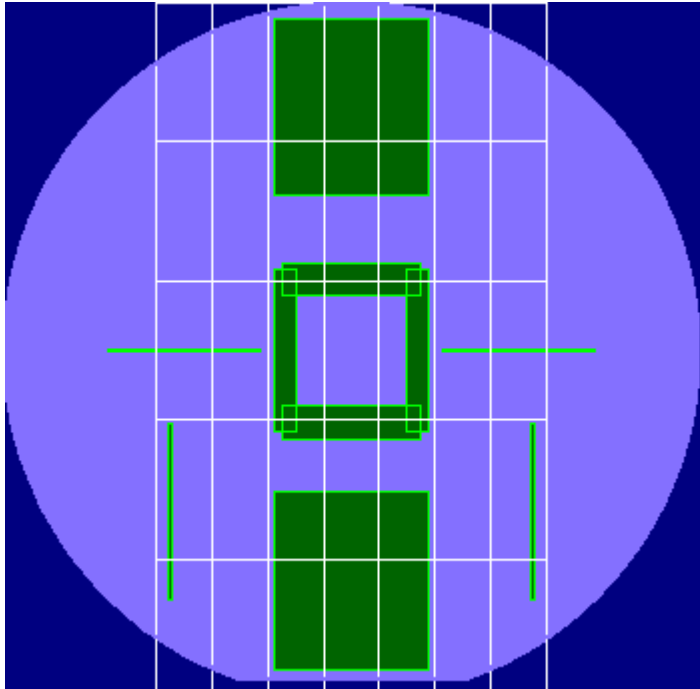
-1.009
0.168

MAG AND ROTATION CORRECTION



Reticle blinds (read by eye)

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