NARLabs 國家實驗研究院		文件編號 DOCUMENT NO.	S3-NL05	
國家奈米元件實驗室		總頁數 TOTAL PAGE	共 10 頁	
文件名稱	貨	義器設備作業標準(CF-M23 N&K	1500 薄膜厚度	量測系統)
TITLE				
機台名	名稱:	度量測系統		
機台絲	扁號:	CF-M23		
制訂音	邓門:	微影光罩約	且	

文件制修訂記錄

制訂日期:

2021/09/08

NO	發行日期	修訂申請書編號	制修訂內容	修訂頁次	版本
01	2013/11/01	102-DC21	制定初版		01
02	2021/11/01		制定 1.1 版		1.1
03					
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05					
06					
07					
08					

核准	審查	制 訂

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一、 目 的: 定義 N&K1500 薄膜厚度量測系統操作規範,以確保操作品質。

二、範 圍:適用於 N&K1500 薄膜厚度量測系統

三、權 責:

1. 組織權責:工程師負責制定及修改規範。

2. 執行人員資格:經過 N&K1500 薄膜厚度量測系統考核通過之人員。

四、 名詞定義: 無

五、 相關文件:無

六、標準作業程序:

1.進入 MES 刷開機台。

2.將 8 吋 Baseline wafer 放入 stage





3.打開 vaccum.



4. 到 Library 中將 Size 選為 8inch(載台尺吋),再按 associate.

Copyright 1992-2006	THIN FILM CHARACTERIZATION	NNDL v6.7.1
<u>Eile Edit R&D T</u> ask Library Instrument <u>S</u> tage <u>H</u> elp		System Status Instrument
🖆 🕼 Default Film Structure		
10 Group Name	Film Structure Name	
Si and related films Carbon on Mag disk. NNDL Elionik amyliu zzzero P_pink mel ENJOY TF Group SiGe	Very Si-rich Silicon Nitride/Si Si-rich Silicon Nitride/Si Normal Silicon Nitride/Si (U-Yrans. Silicon Nitride/Si SiO2/Si_&_6in5p-375 map SiO4/Si_&_6in5p-375 map SiO4/Si_&_6in5p-375 map SiO4/Si_&_6in5p-35.map SiO4/Si_Si a-Si/100 A Oxide/Si_&_1pt1.map Poly-Si(550 C)/1000 A Oxide/Si_&_1pt1.map Poly-Si(555 C)/1000 A Oxide/Si_&_6in-9points.map SiC/1001 A Oxide/Si Poly-Si(555 C)/1000 A Oxide/Si_&_6in-9points.map SiC/1001 A Oxide/Si SIO SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_6in-5p-45.map SiO2/Si_&_1pt1.map AMM-SiSUA/Si AMM-SiSUA/Si	Add Group Add Eile Copy File Bename Delete
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5.再到 mapping 選項中確認 8" 是否勾選



6.執行 Baseline.



	一 园宏审股和次位	DOCUMENT NO. :		TI	TLE:
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7.Baseline Total value 必須小於等於 0.20%才算合格.



8. 將 Baseline wafer 移出,放入待测物



	一 园宏审股和次位	DOCUMENT NO. :		TI	TLE:
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9.使用 mapping 點選所要量測的地方.



10.進入 Film structure 使用 RD 法或 Library 中內建程式即可.

w Copyright 1332-2005	THIN FILM C	HARACTERIZATION		NND
itk Film Analysis				
Film Structures				
Film side - focused o	on film Number of layers Sample(s)	1 💌 1 (R. T or R&T) 💌		
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Layer (nak rable)	Bampie i	This	menace rouginess	
	Inconess	Thickness		Spec
				Correction
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1st SiO2.nk 💌 ?	20 Å Vary V			QK
Sub Sink 🔫	1.000 mm Fixed	1.000 mm Ford V		
Sub Sink 💌	1.000 mm Fixed V	1.010 mm Food V		EZ Setup
Sub Sink 🔽 🔽	1.000 mm Fixed V	Looo mm Food V	sis Ronge	EZ Setup
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Sub Sink Comb Comb Desing Esint Spectral Band Unknown Material	1.000 mm Fixed	Linno mm Ford Analy Analy Analy Analy Fitting Control Fitting Control Gatino anaroy thickn	rsis Range alibration Mode Combining n&k	EZ Setup
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Sub Sink Comb Combi Eventing Foint Spectral Band Unknown Material Starting Point previous result Library: Starting Pt	1.000 mm Fixed ining Spectra fwidth Display Options Over n&k paramete Advanced	I LOTO INTA FOOD V Analy all Roughness Homogeneity C Fitting Control Getting approx thickn Searching (+/) 1000 A Thickness Minimum Using WL From 4	ess by 10000 A 100 To 800 nm Help	EZ Setup
Sub Sink Comb Combine Point Unknown Material Starting Point previous result Library: Starting Pt.	1.000 mm Fix All	Analy Analy all Roughness Homogeneity C Fitting Control Getting approx. thickn Searching (+) 1000 / Thickness Minimum Using WL From 4 Fitting data in Energy	sis Range alibration Mode Combining n&k ess by 100000 A 1000 To 800 nm y space	EZ Setup
Sub Sink Comb Comb Devense Foint Spectral Band Unknown Material Starting Point previous result Library: Starting Pt A red-colored tab indicates the	1.000 mm Fixed ining Spectra dwidth Display Options Overe	I 000 mm Food Analy all Roughness Homogeneity C Fitting Control Getting approx.thickn Searching (+/) 1000 4 Thickness Mineman Using WL From Fitting data in Energ ind.	ess Bange tailbration Mode Combining n&k ess by 10000 100 To 800 nm y space	EZ Setup
Sub Sink Comb Comb Vinknown Material Starting Point previous result Library: Starting Pt.	1.000 mm Fixed ining Spectra iming Spectra iwidth Display Options Overe insk paramete Advanced Fix All int non-default values are being use Wavelength (nm)	I 000 mm Food Analy all Roughness Homogeneity C Fitting Control Getting approx.thickn Searching (+) 1000 Thickness Minimum Using WL From 4 Fitting data in Energy rd.	reis Range Halibration Mode Combining n&k ess by 10000 A 100 To 800 nm Help y space	EZ Setup

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11. Data Collection and Analysis



12. 選擇 Single Measurement or Multiple Point Measurement 再按 START.



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13. Key 完 data information, click" ok"

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2 1.50- 1.25- 1.00- 0.75- 0.50- 0.25- 0.00- 190 250 300 350 400 450 500 550 600 650 3 Wavelength (nm)	Cancel	Film thickness : 0.00 Å Eg : 0.00 e∨ n @ 633 nm : 0.0000 k @ 633 nm : 0.0000 Goodness of fit : 0.0000
A contract Marculation Maker 2005 - Date		2:10 PM
Stort		2119 M

14. 不需存檔,點選 NO



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15. 量測完 Goodness of fit 至少大於 0.98 以上,量測資料才有準確性.



16. 假設量測多點,點選統計圖示



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17.即可確認多點資料.



七、應用表單及附件:

- 1. 設備考核表 S4-NL01A
- 2. 設備點檢表 S4-NL01B
- 3. 設備使用記錄表 S4-NL01C
- 4. 異常及矯正預防處理單 S4-NL02A
- 5. 儀器設備管理卡 S4-NL04B