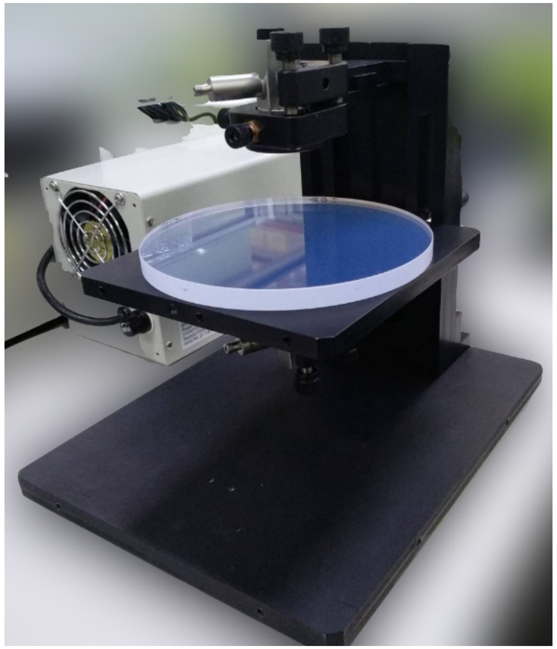
统新自行研发薄膜量测仪
Apogee Measuring System
(AMS)



APOGEE
統新光訊
PTOCOM

ACMS简介

- 膜厚量测(10 nm-25 um)
- 折射率N、吸收系数K量测
- 广波域量测(450-1000 nm,1000-1600 nm)
- 反射率或穿透率光谱量测
- 光谱分辨率~1 nm
- 光谱重复性<0.03%
- 多层膜厚度D量测(厚度误差<2nm，精准度<0.1 nm)
- 折射率误差<0.1
- 有机高分子材料、金属氧化物、氮化物、半导体材料、介电质材料等
- 基板尺寸平台皆可客制 (標準品: 4”)

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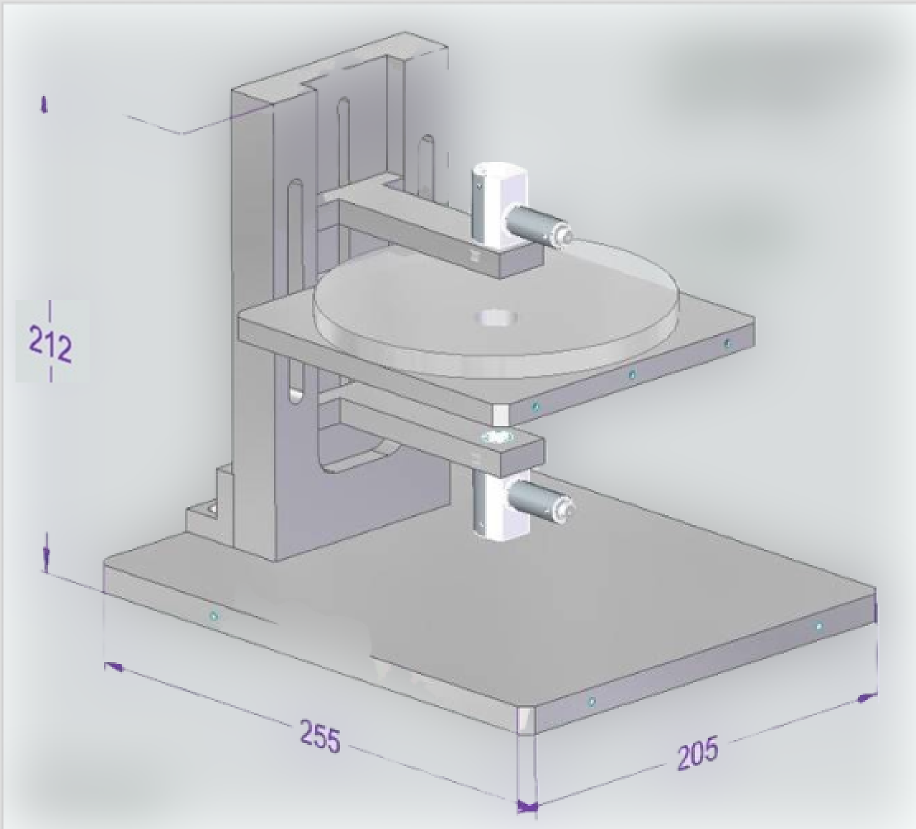
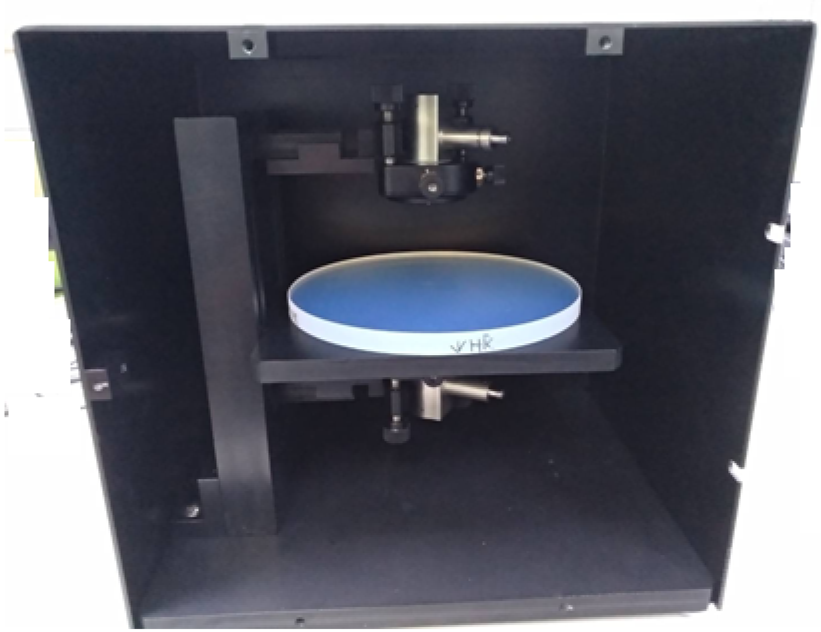
ACMS架构





APOGEE
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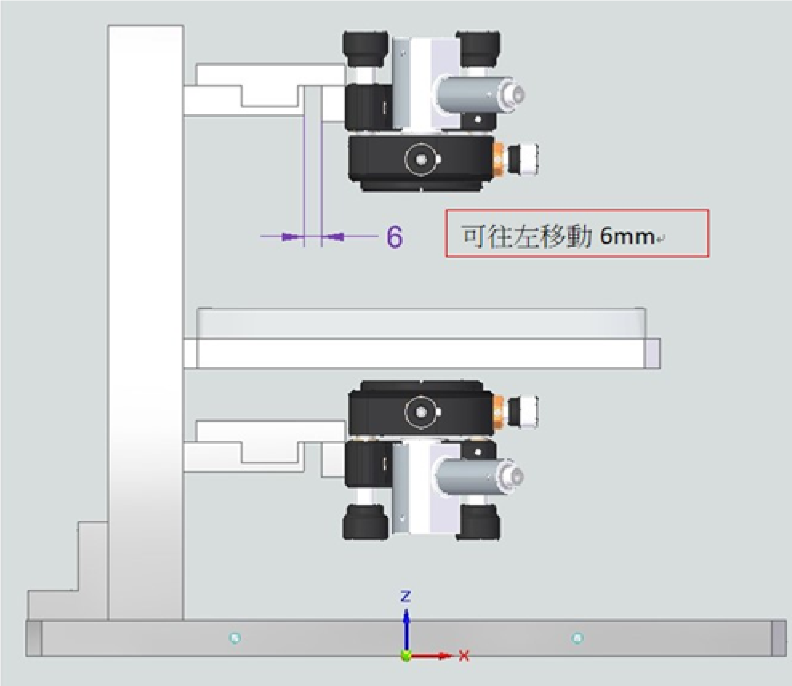
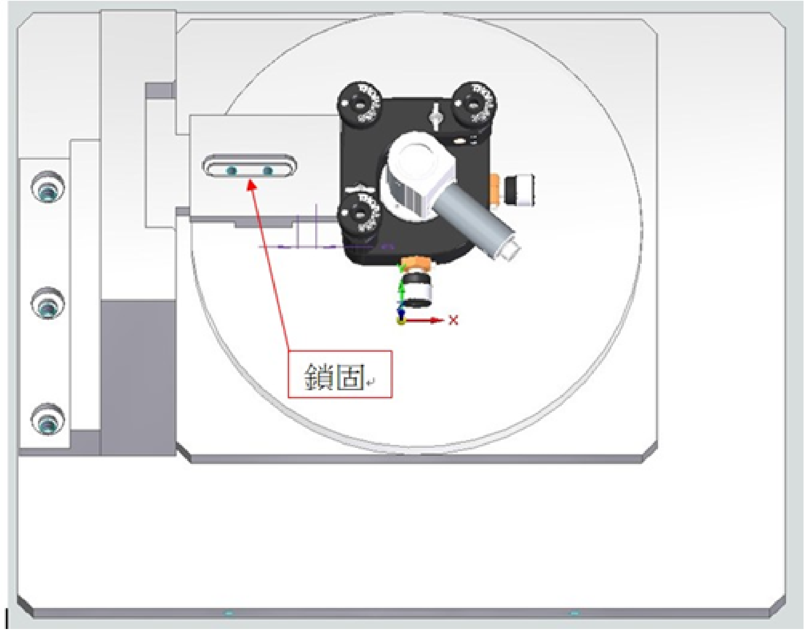
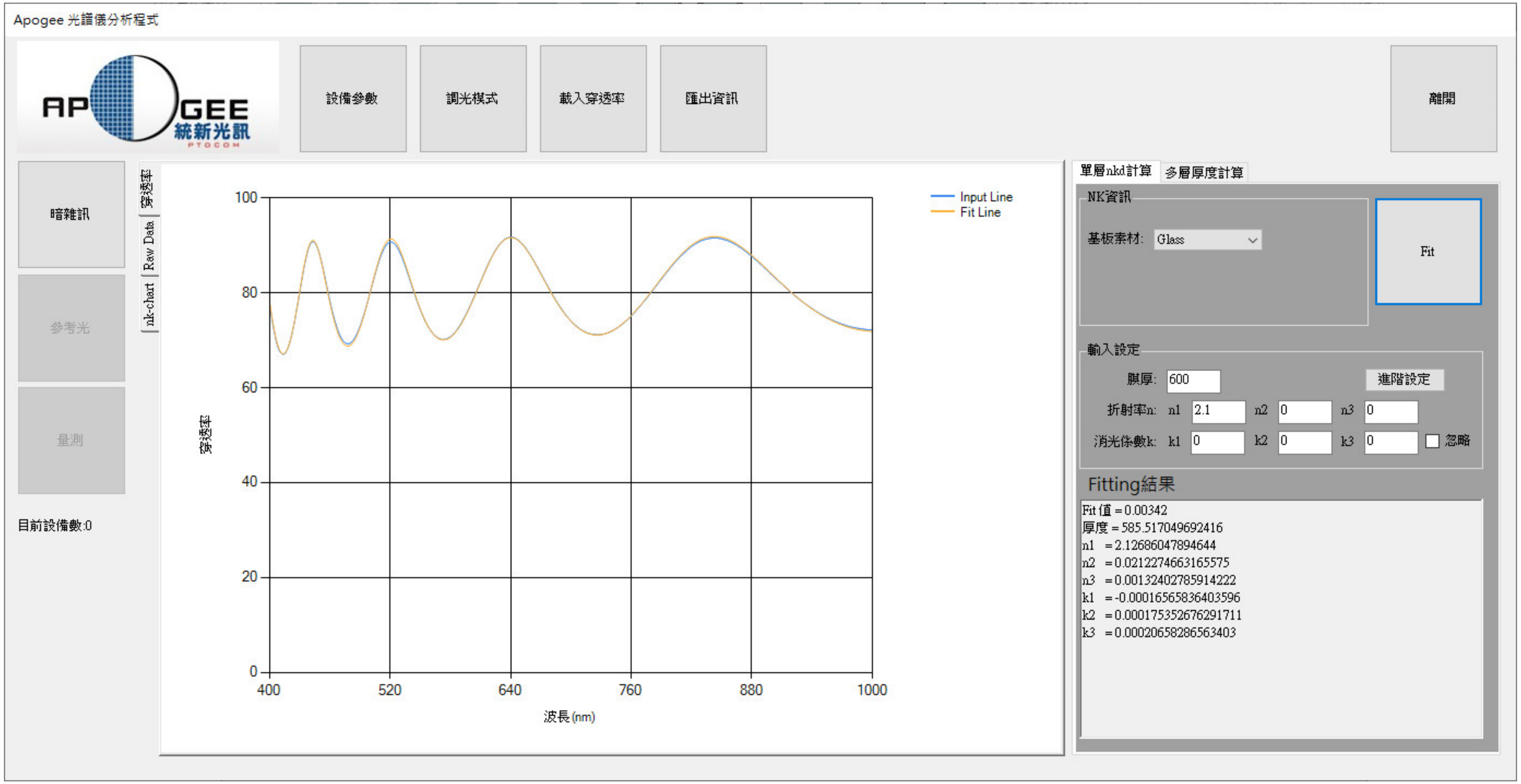
ACMS微调整座





ACMS操作软件



目前設備數:0

基板素材: Glass

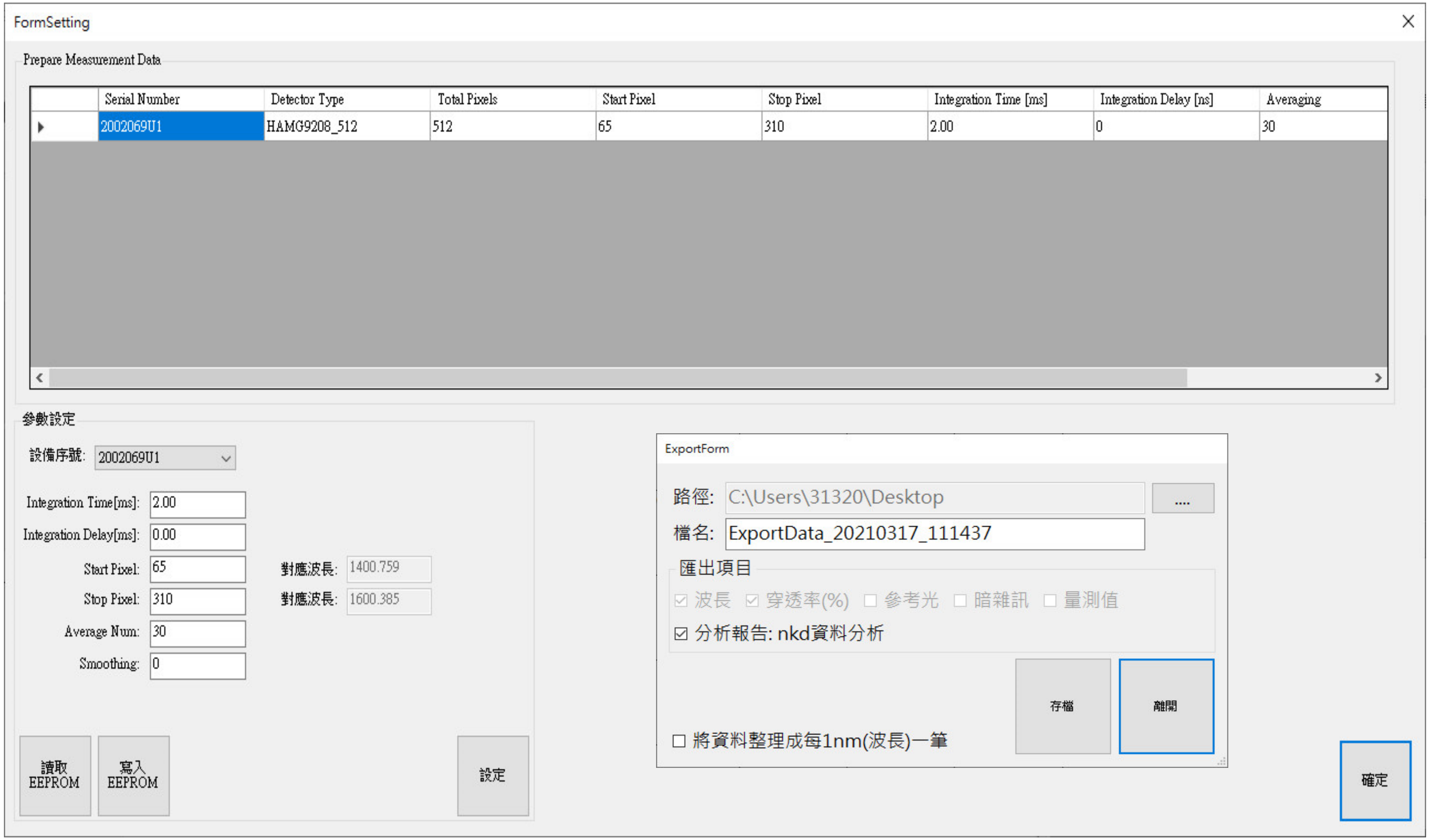
膜厚: 600

折射率n: n1 2.1 n2 0 n3 0

消光係數k: k1 0 k2 0 k3 0

```
Fit 值 = 0.00342
厚度 = 585.517049692416
n1   = 2.12686047894644
n2   = 0.0212274663165575
n3   = 0.00132402785914222
k1   = -0.00016565836403596
k2   = 0.000175352676291711
k3   = 0.00020658286563403
```

ACMS操作软件



Prepare Measurement Data

	Serial Number	Detector Type	Total Pixels	Start Pixel	Stop Pixel	Integration Time [ms]	Integration Delay [ns]	Averaging
▸	2002069U1	HAMG9208_512	512	65	310	2.00	0	30

參數設定

設備序號: 2002069U1

Integration Time[ms]: 2.00

Integration Delay[ms]: 0.00

Start Pixel: 65 對應波長: 1400.759

Stop Pixel: 310 對應波長: 1600.385

Average Num: 30

Smoothing: 0

ExportForm

路徑: C:\Users\31320\Desktop

檔名: ExportData_20210317_111437

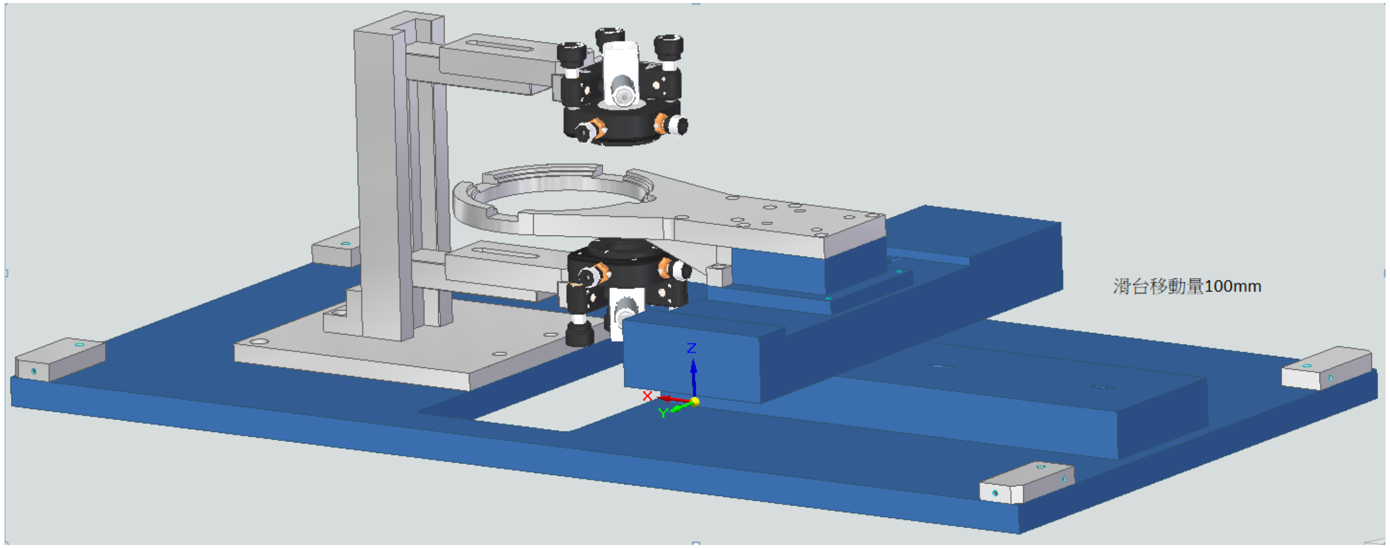
匯出項目

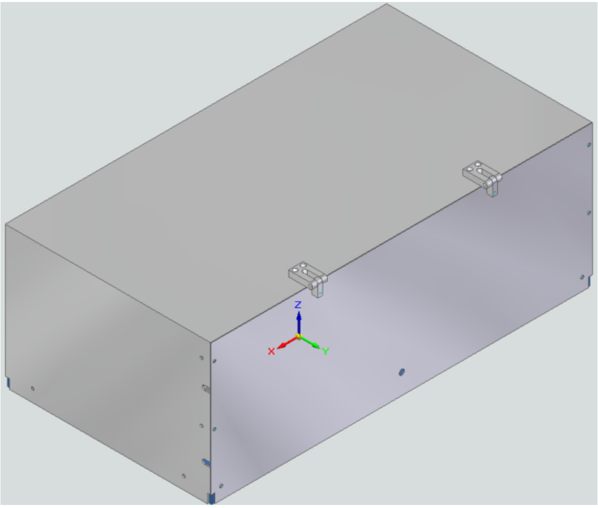
☑ 波長 ☑ 穿透率(%) ☐ 參考光 ☐ 暗雜訊 ☐ 量測值

☑ 分析報告: nkd資料分析

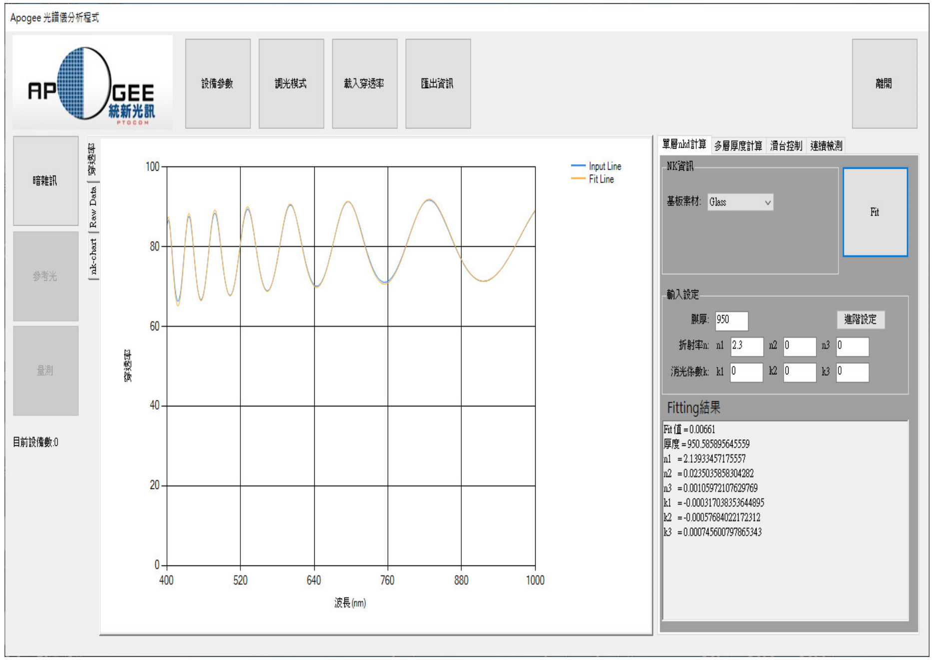
☐ 將資料整理成每1nm(波長)一筆

自动量测点位加装





量测试验



基板素材: Glass

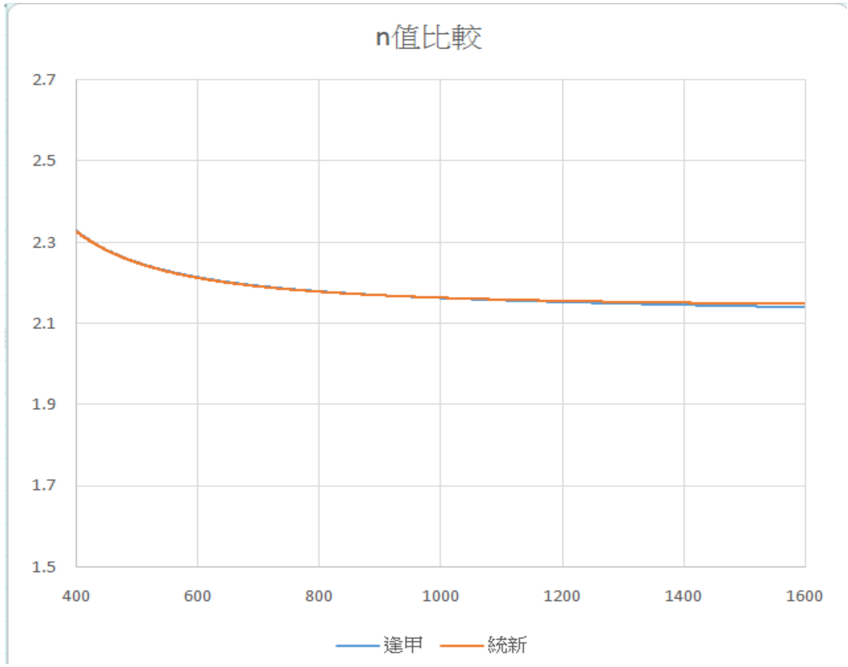
膜厚: 950

折射率n: n1 2.3 n2 0 n3 0

消光係數k: k1 0 k2 0 k3 0

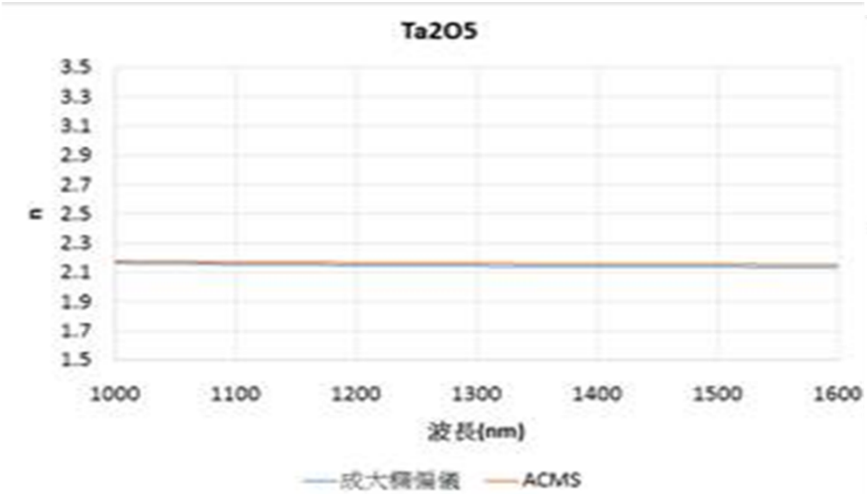
Fitting結果

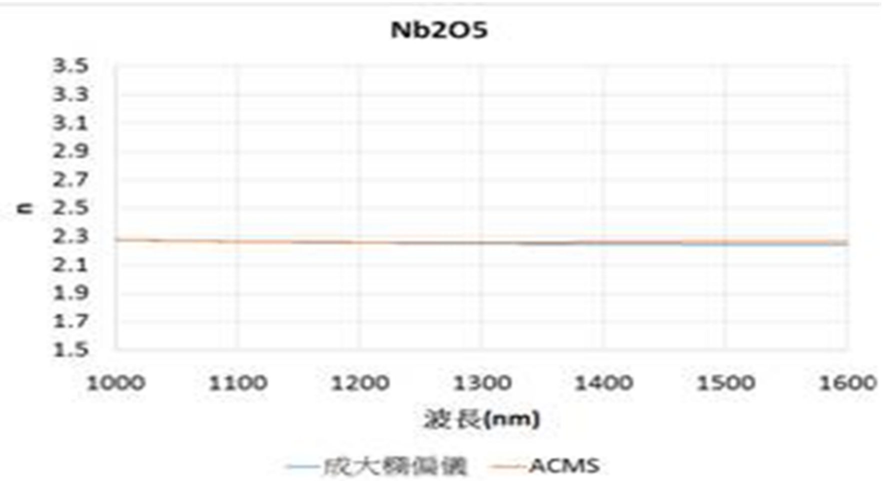
```
Fit 值 = 0.00661
厚度 = 950.585895645559
n1   = 2.13933457175557
n2   = 0.0235035858304282
n3   = 0.00105972107629769
k1   = -0.000317038353644895
k2   = -0.00057684022172312
k3   = 0.000745600797865343
```

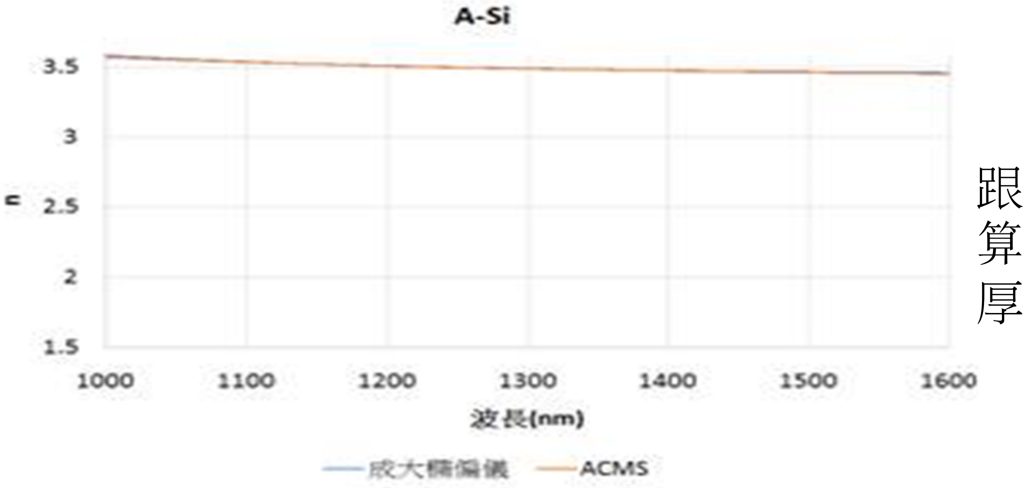


Ta2O5单层膜光谱量测和Angilent Cary7000一致
跟J. A Woollam m-2000椭偏仪相较计算折射率差异<0.1
厚度差异<2nm

量测试验II







跟J. A Woollam m-2000椭偏仪相较计算折射率差异<0.1

厚度差异<2nm