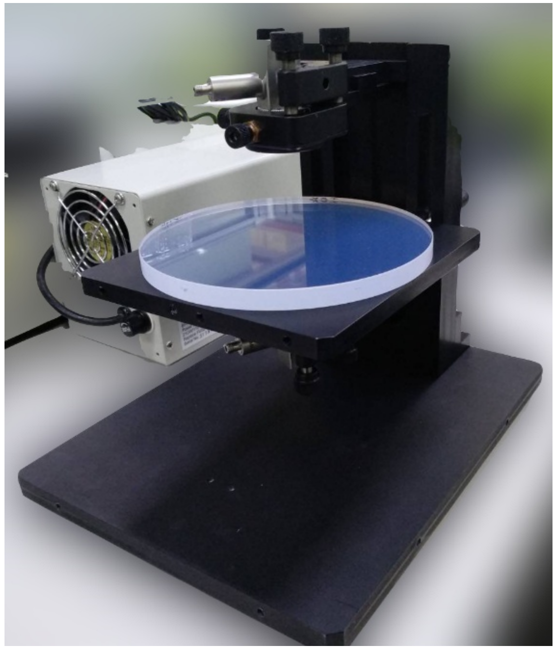
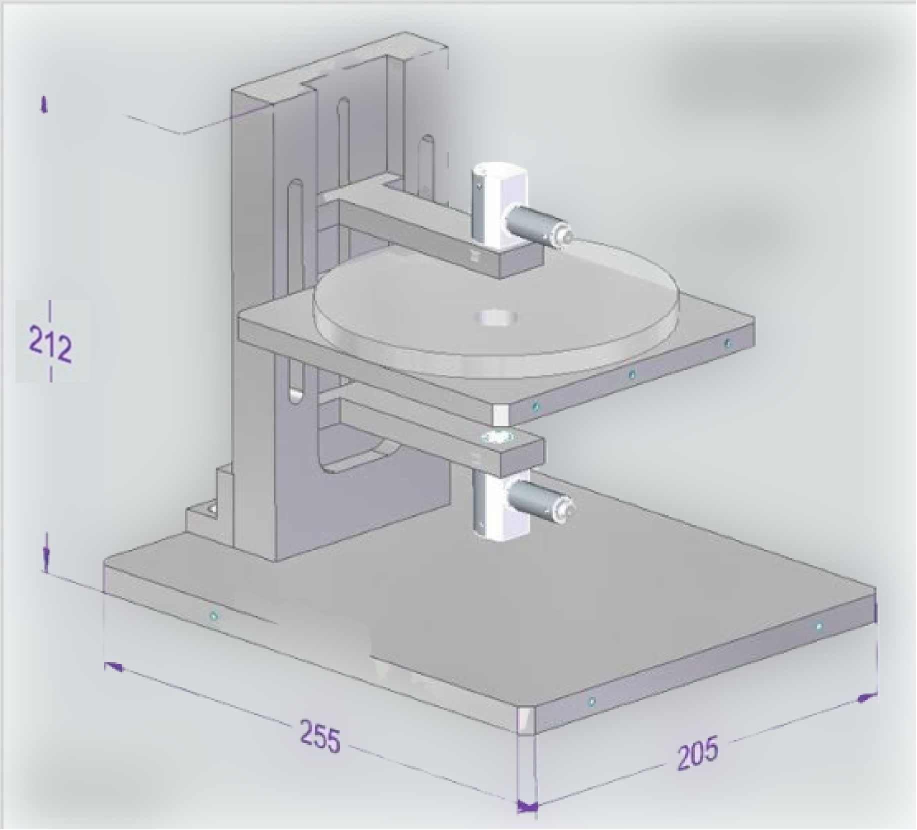
Apogee Measuring System (AMS)

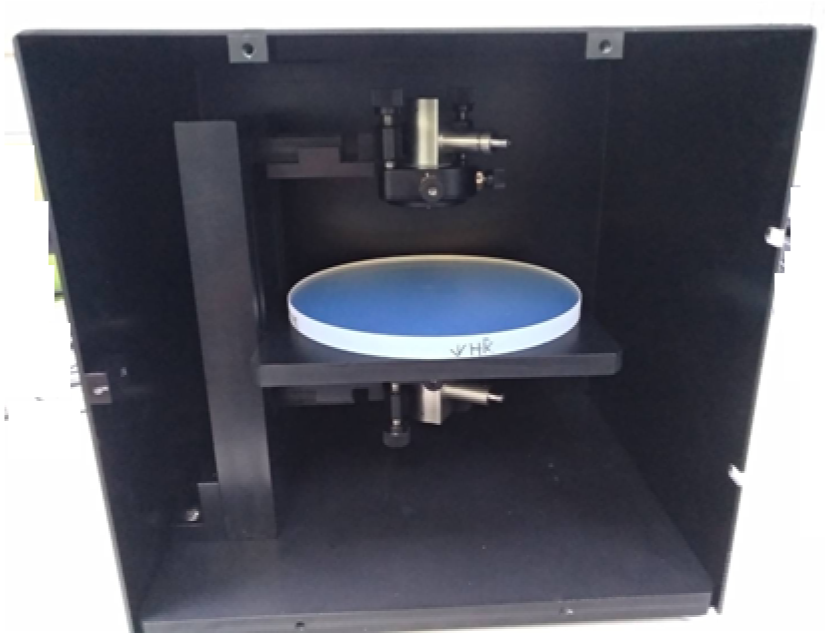


ACMS Introduction

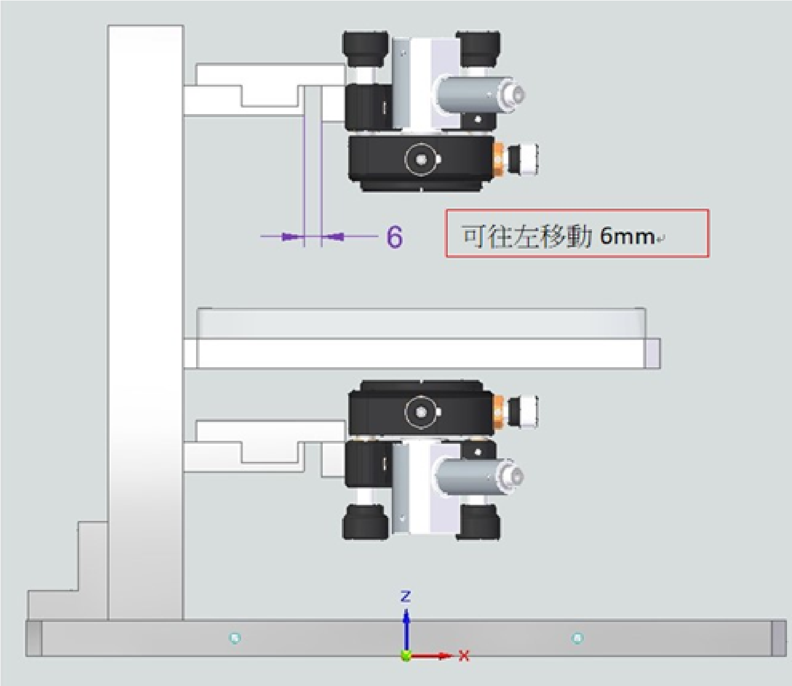
- Reflectance or transmittance measurements
- Refractive index N、Extinction Coefficient K
- Multilayer thickness D measurements(Error<2nm, Precision<0.1 nm)
- Spectrum range: 450-1000 nm,1000-1600 nm
- Available thickness range: (10 nm-25 um)
- Spectrum resolution~1 nm
- Spectrum repeatability<0.03%
- Refractive index error<0.1
- Suitable for any coating of low absorption (dielectric, organic..)
- Customized plates for various substrate sizes (default: 4”)

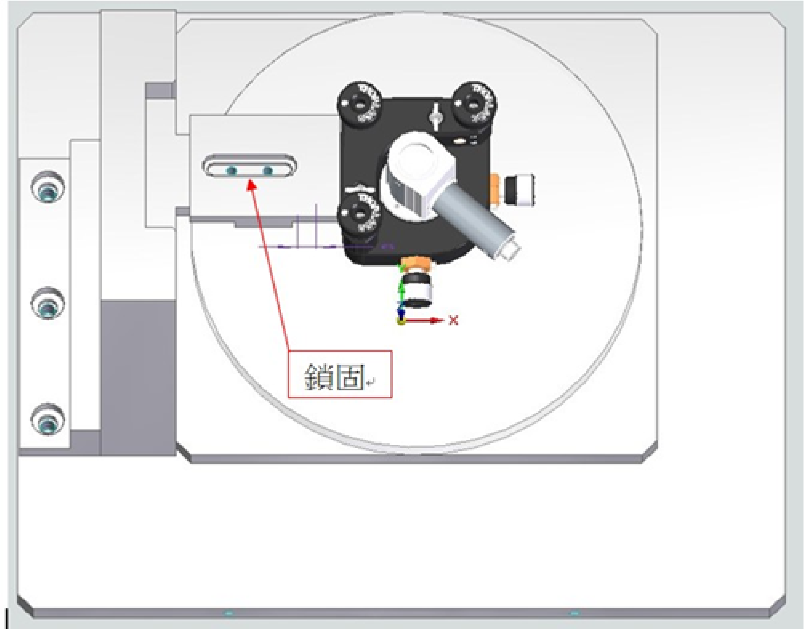
ACMS Layout



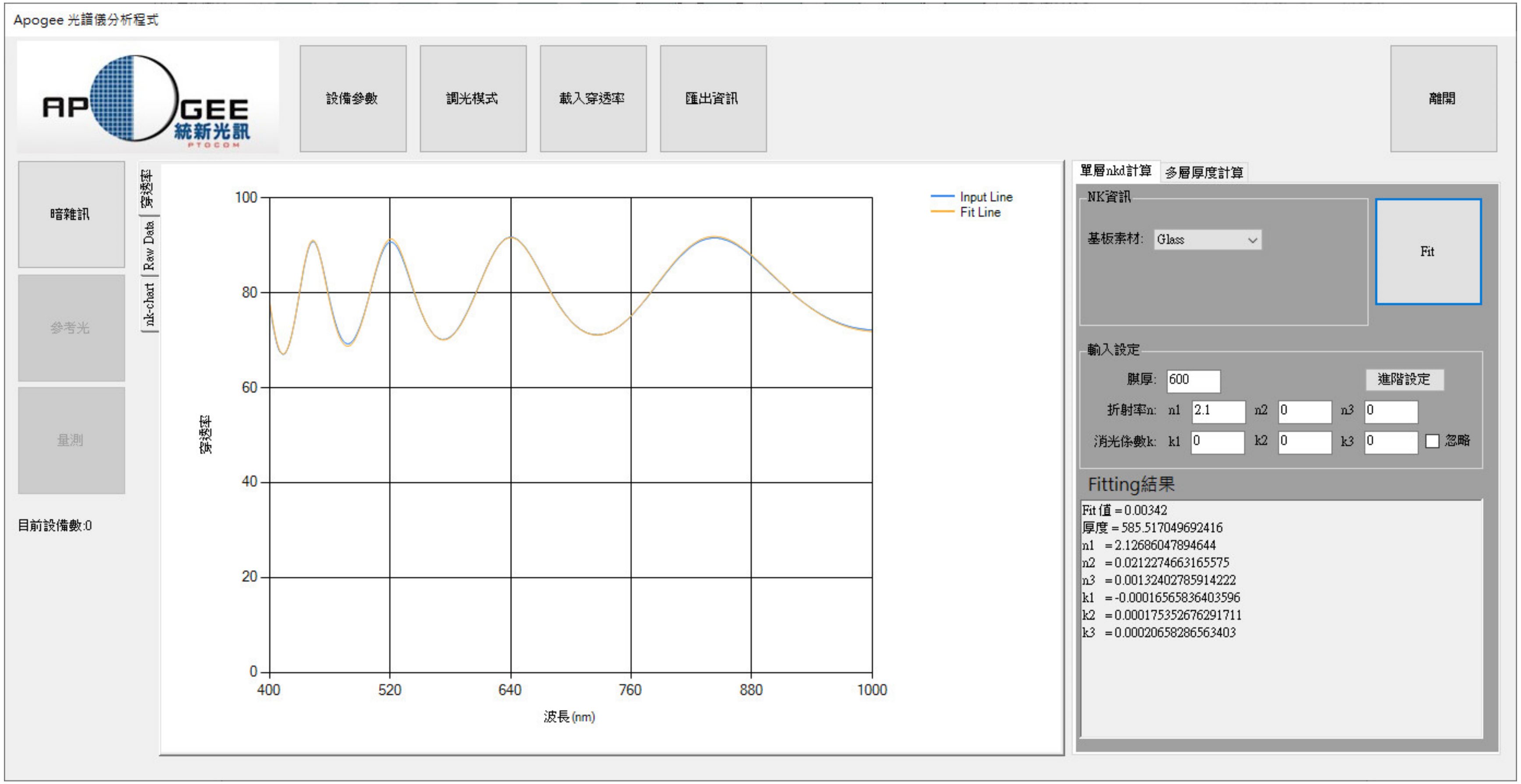


ACMS Adjustable Stage





ACMS Software



目前設備數:0

基板素材: Glass

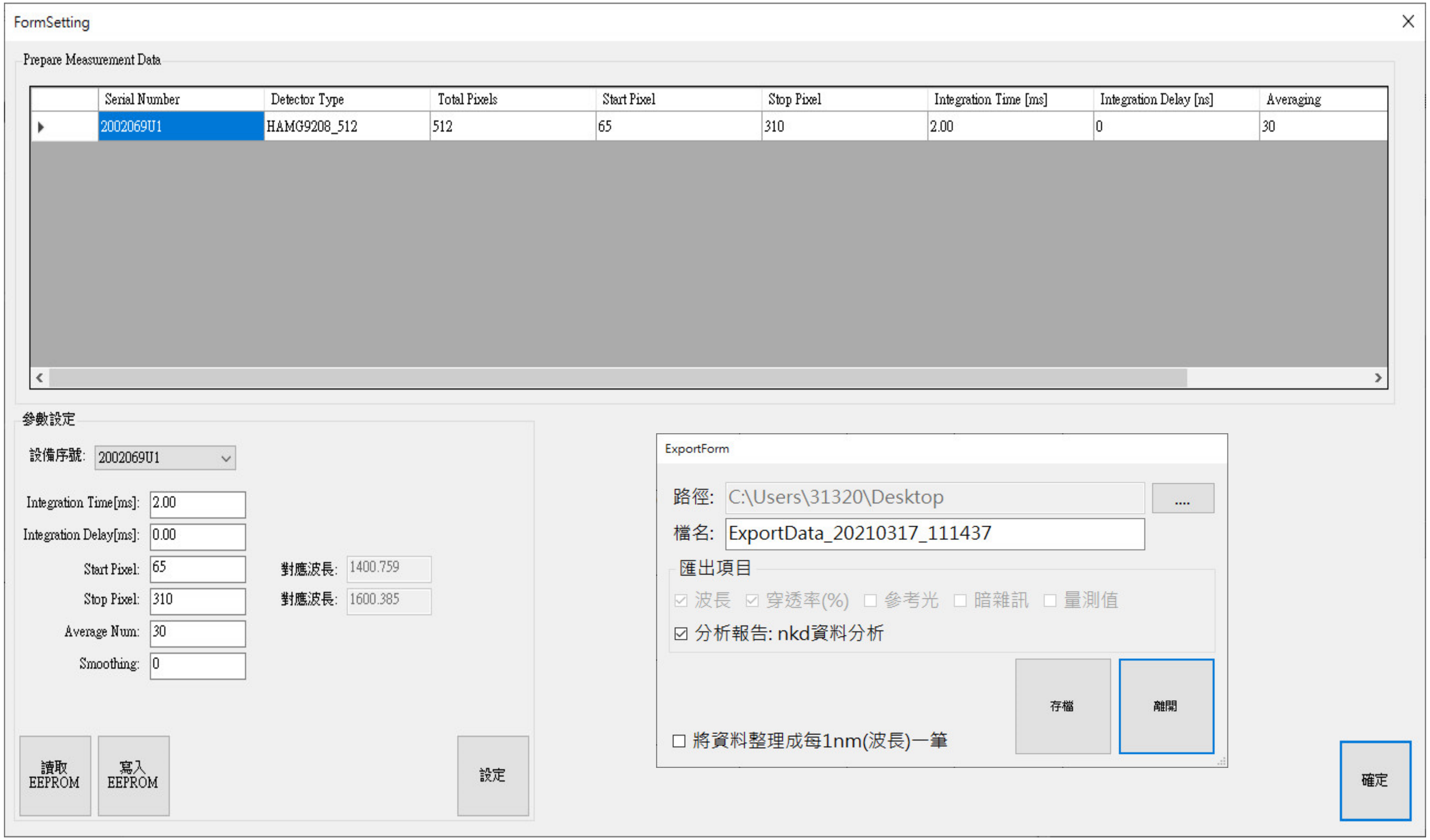
膜厚: 600

折射率n: n1 2.1 n2 0 n3 0

消光係數k: k1 0 k2 0 k3 0 ☐ 忽略

```
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 Software



FormSetting

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

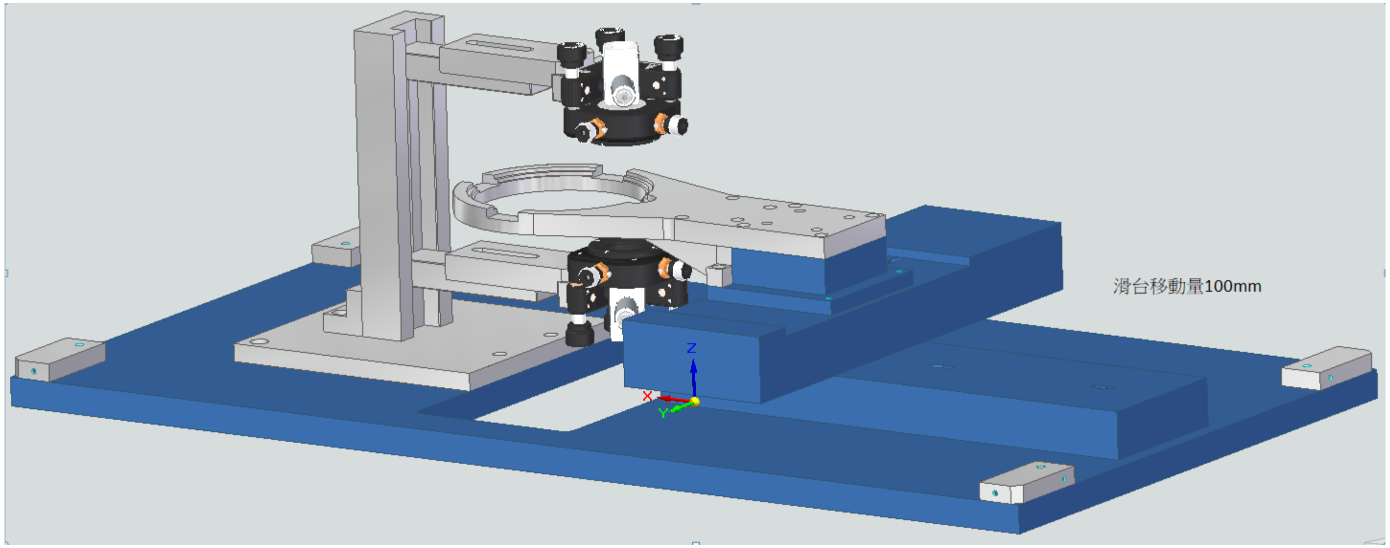
匯出項目

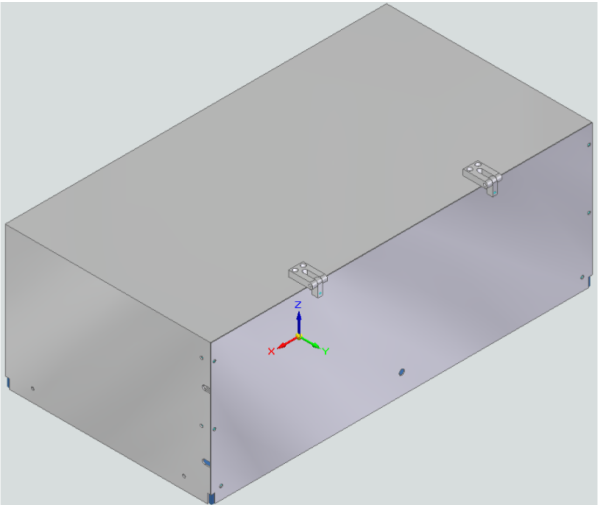
☑ 波長 ☑ 穿透率(%) □ 參考光 □ 暗雜訊 □ 量測值

☑ 分析報告: nkd資料分析

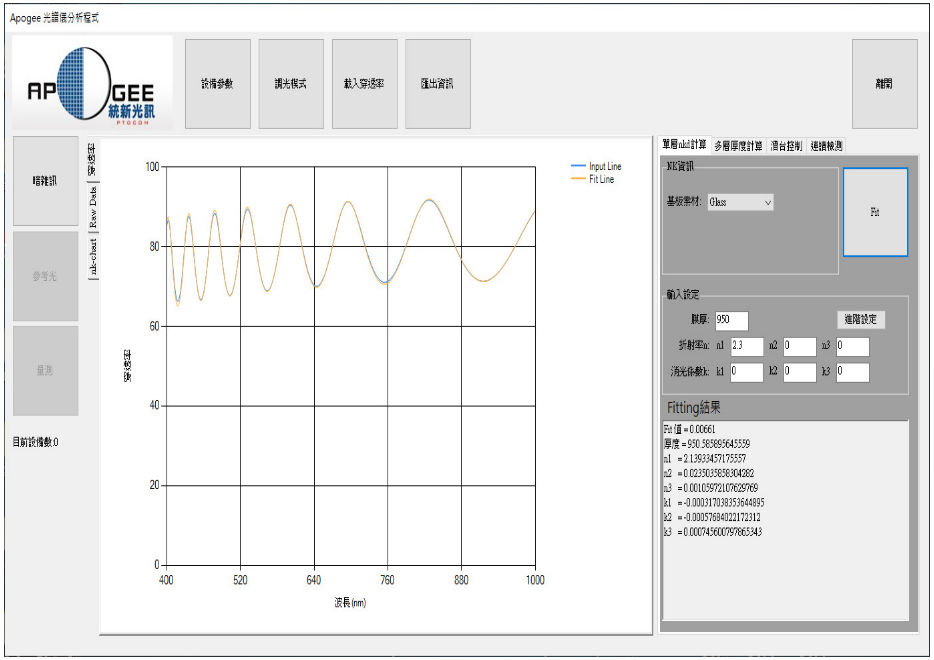
□ 將資料整理成每1nm(波長)一筆

Automatic positioning Measurement (Optional)





Test Results



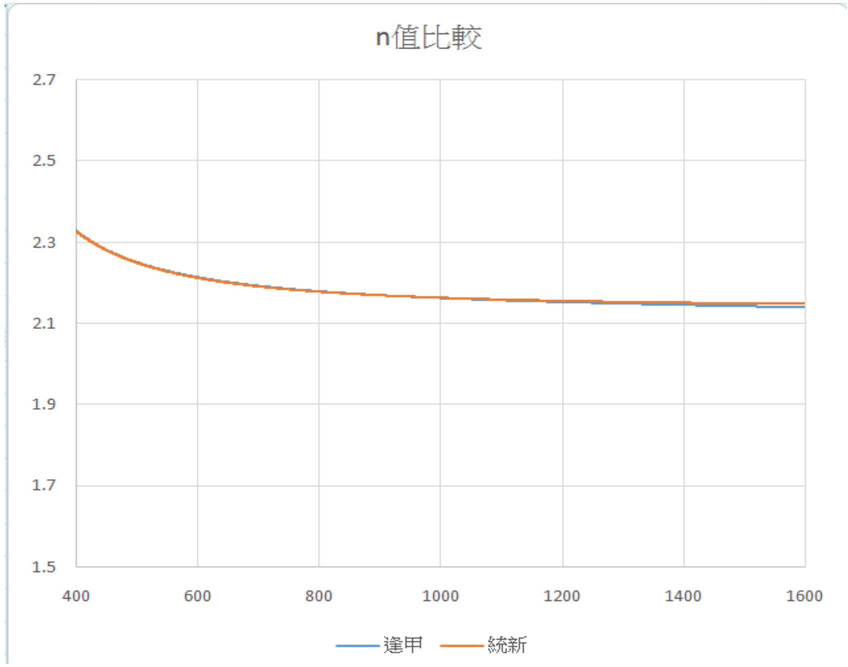
基板素材: Glass

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

```
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
```



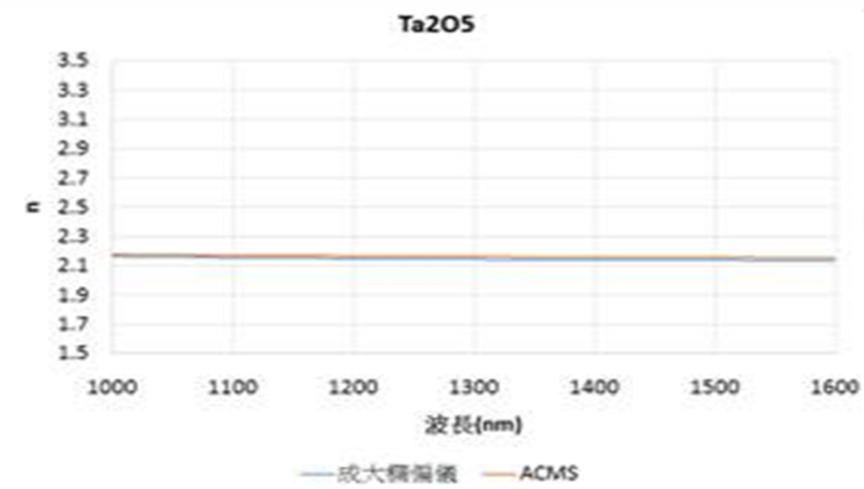
Ta2O5 Single layer spectrum matches with Angilent Cary7000 result <0.1%

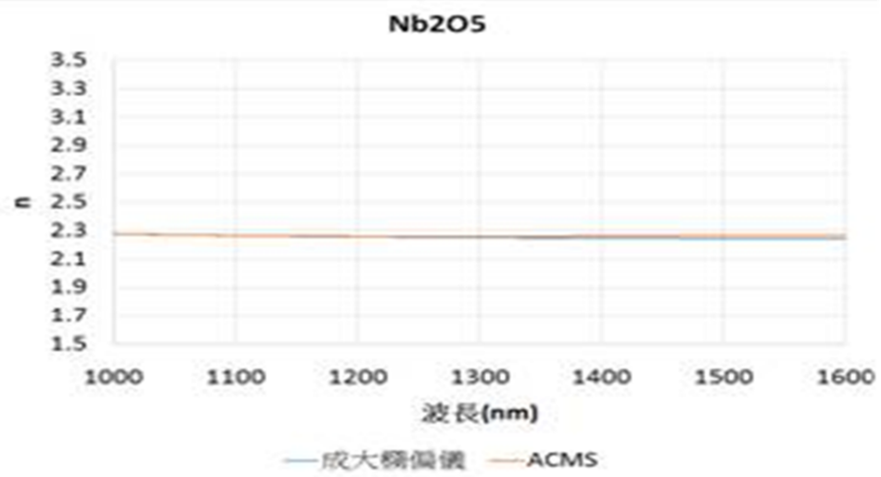
Comparison w/ J. A Woollam m-2000

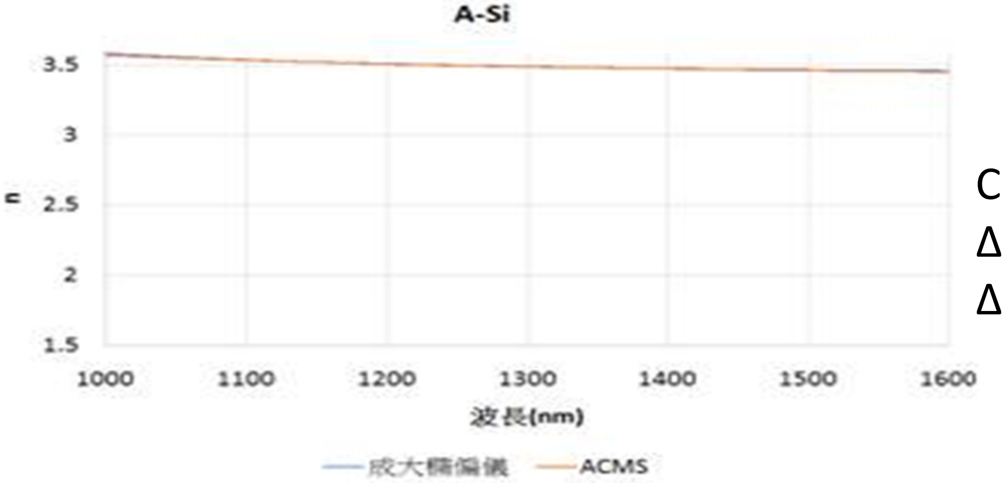
Δ Refractive index < 0.1

Δ Thickness <2 nm

Test Results







Comparison w/ J. A Woollam m-2000

Δ Refractive index < 0.1

Δ Thickness <2 nm