MProbe Vis

Thin Film Measurement System

It is easy to be an expert with MProbe

Majority of translucent or lightly absorbing films can be measured quickly and reliably:Oxides,Nitrides, Photoresists, Polymers, Semiconductors (Si, aSi, polySi), Hard coatings (SiC, DLC), Polymer coatings (Paralene, PMMA, Polyamides), thin metal films and many more.

Thickness Range: 10 nm - 75 μm
Wavelength Range: 400nm -1000 nm

LCD, FPD application: ITO, Cell Gaps, Polyamides. Optical Coatings: dielectric filters, hardness coating, anti-reflection coating Semiconductor and dielectics: Oxides, Nitrides, OLED stack

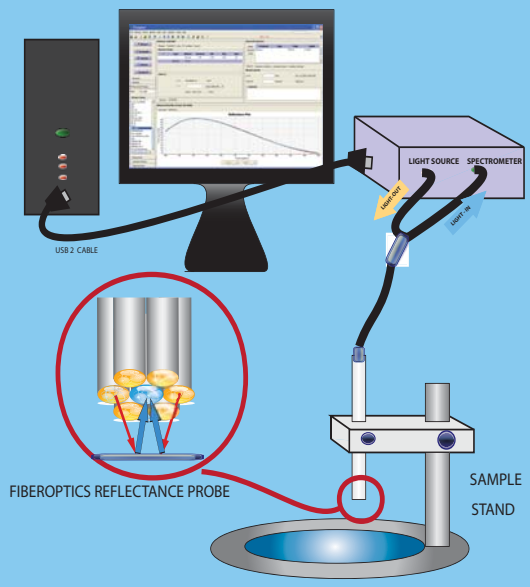
Real time measurement and analysis. Multi-layer, thin,thick, freestanding and nonuniform layers.

Extensive materials library (500+ materials) - new materials easily added. Support of parameterized materials: Cauchy, Tauc-Lorentz, Cody-Lorentz, EMA
and many more....

Flexible: Desktop or in-situ, R&D on inline. Easy integration with external system using TCP Modbus interface

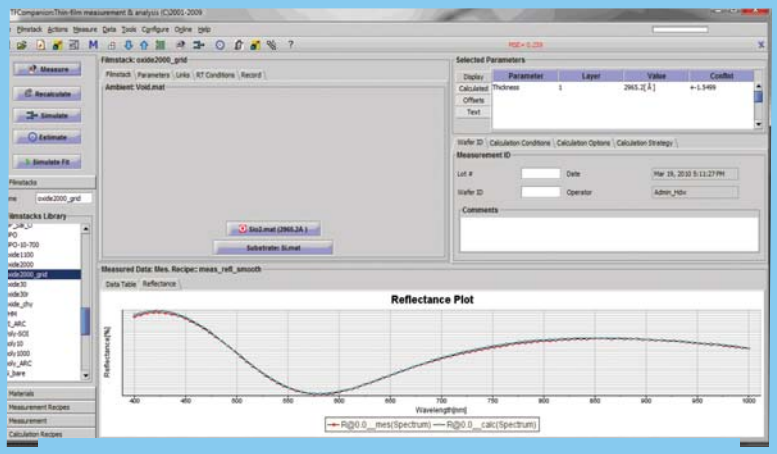
Measurement: thickness, optical constants, surface roughness

User friedly and powerful: One-click measurement and analysis. Powerful tools: simulation & sensitivity, background and scaling correction,linked layers and materials, multisample measurements, dynamic measurement and production batch processing.

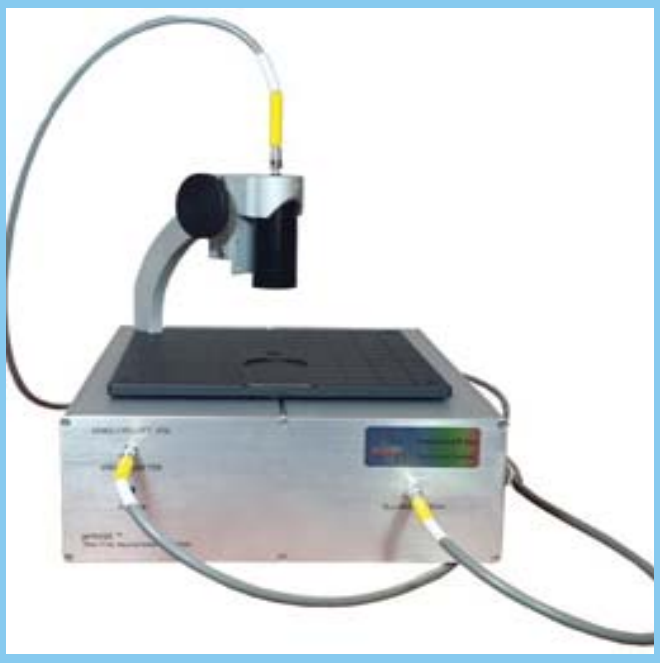


MProbe system diagram

Precision	0.01nm or 0.01%
Accuracy	0.2% or 1 nm
Stability	0.02nm or 0.03%
Spot Size	2 mm standard, down to 3 μm(MSP)
Sample Size	from 5 mm

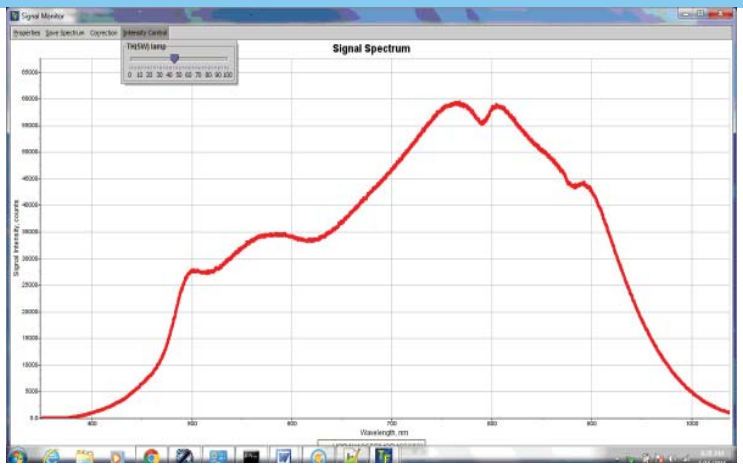


Measurement of 300nm Si oxide film.
Measurement vs. model data fit.



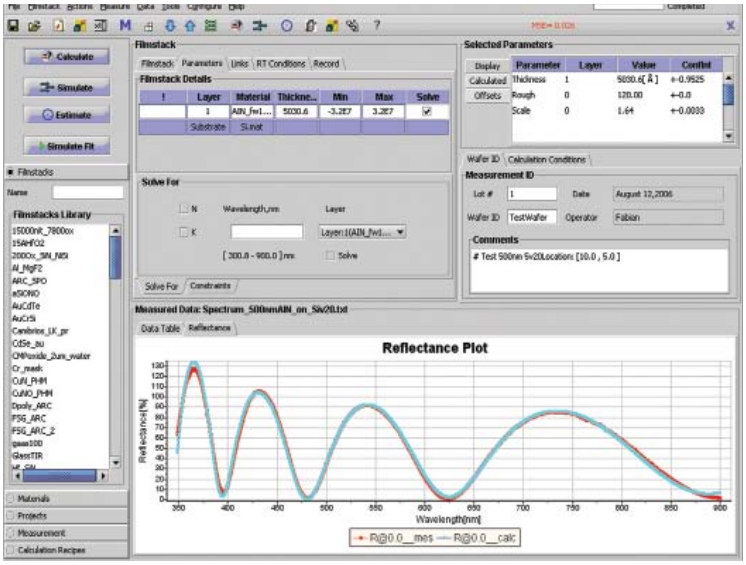
MProbe system (desktop configuration)

Specification



Raw reflectance from Si wafer. Signal maximum (16 bit). Integration time: 10ms. Regulation of lamp intensity controlled from software.

Spectral range (nm)	400-1000
Spectrometer/detector	F4 spectrometer, 3600 pixels Si CCD, 16 bit ADC, 360-1100 nm range
Spectral resolution	<2 nm (standard) <1 nm (option)
Light source	5 W Tungsten-halogen lamp (Xe filled), CT 2800º Lifetime: 10000 hrs
Reflectance probe	Fiberoptics (7 fibers assembly), 400µm fiber core
Precision	<0.01 nm or 0.01%
Accuracy	<1nm or 0.2%
Weight (main unit)	4 kg
Size (main unit)	8”x 10” x 4” (WxDxH)
Power	100-250VAC, 50/60 Hz 20W



Measurement of 500nm AlN. Measured parameters: Thickness and surface roughness. Scaling factor used to correct distance change in configuration.

Hardware options	
-FLVis	Vis achromatic focusing lens. WD:35mm. Spot size: <0.5mm.
-LP500	long-pass filter, limits wavelength below 500nm. Used for photoresist measurement.(other filters avaialble)
-FDHolder	Face-down sample holder.For measurement of transparent and flexible samples
-TO	Transmittance option
- 2oW	Change to 20W (CT 3100º, lifetime 2000hrs) tungsten-halogen lamp.
-HR	upgrade spectrometer for <1nm resolution

Software options	
-MOD	remote control (TCP) based on Modbus protocol
- CM	continuos measurement with specified number of measurement and/or delay between them

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