

Semiconsoft, Inc

Measurement Solutions

MProbe Thin Film Measurement Systems

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), Compound Semiconductors (AlGaAs, InGaAs, CdTe, CIGS), Hard coatings (SiC, DLC), Polymer coatings (Paralene, PMMA, Polyamides), thin metal films and many more.

Thickness Range: 1 nm - 1 mm

Wavelength Range: 200nm - 8000nm

Spot size: 2mm to 3 μm

Thin Solar Cells applications: aSi, TCO, CIGS, CdS, CdTe - full solar stack measurement. LCD, FPD application: ITO, Cell Gaps, Polyamides. Optical Coatings: dielectric filters, hardness coating, anti-reflection coating. Semiconductor and dielectrics: Oxides, Nitrides, OLED stack

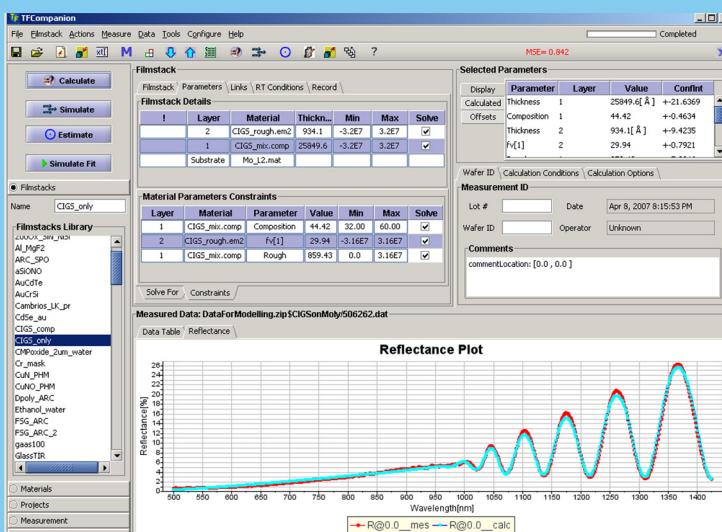
Real time measurement and analysis. Multi-layer, thin, thick, freestanding and nonuniform layers.

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 or inline. Easy integration with external system using TCP or Modbus interface

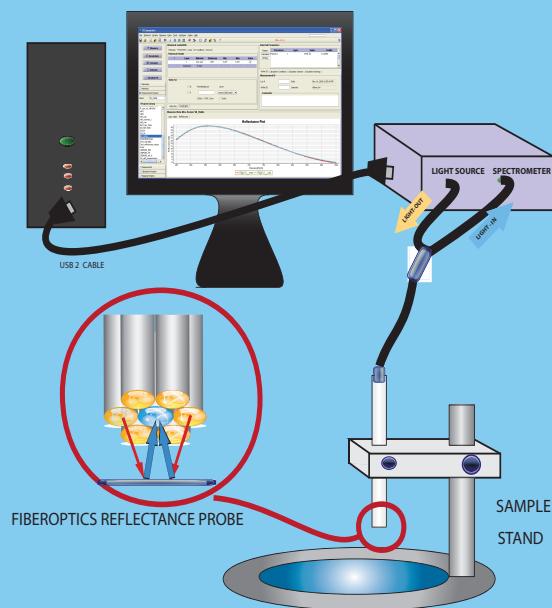
Measurement: thickness, optical constants, surface roughness

User friendly 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.



CdS/CIGS stack results

Fit measured vs. generated data



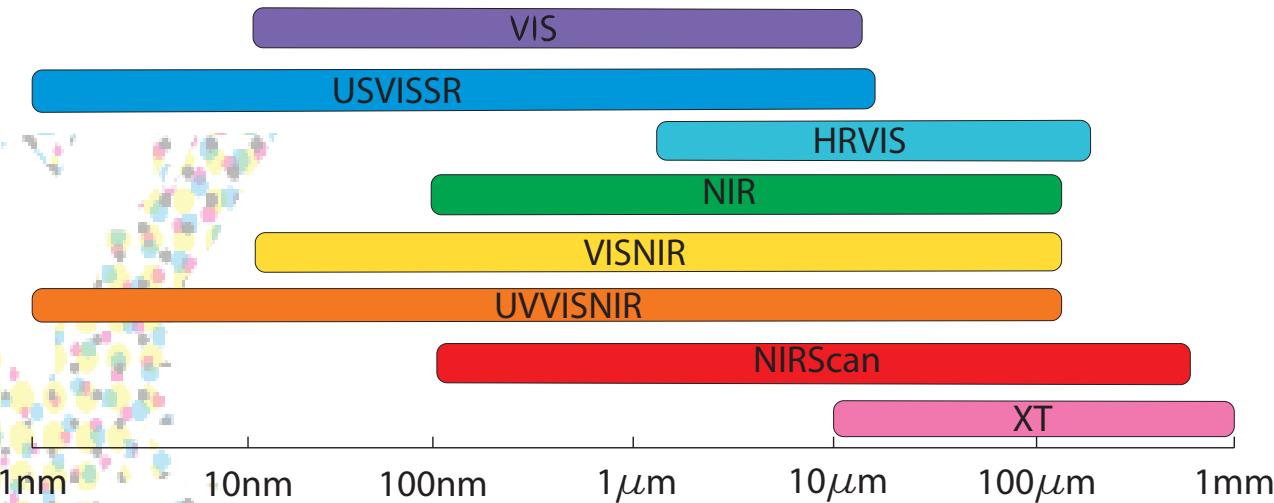
MProbe system diagram

Precision	<0.01nm or 0.01%
Accuracy	<0.2% or 1 nm
Stability	<0.02nm or 0.03%
Spot Size	3 mm standard, down to 3 μm
Sample Size	from 1 mm



MProbe system (desktop configuration)

Basic Specification



Model	Wavelength range	Spectrometer/Detector/Light source	Thickness range*
VIS	400-1100 nm	Spectrometer F4/Si 3600 pixels/ Tungsten - Halogen light source	15 nm to 20 μm (option:up to 50 μm)
UVVisSR	200-1000 nm	Spectrometer F4/ Si CCD 3600 pixels/ Deuterium & Tungsten-Halogen light source	1 nm to 20 μm (option:up to 50 μm)
HRVIS	700-1000 nm	HR Spectrometer F4/Si 3600 pixels/ Tungsten - Halogen light source	1 μm to 400 μm
NIR	900-1700nm	Transmission Spectrometer (TVG) F2/512 InGaAs/Tungsten-Halogen light source	100 nm-200 μm
VISNIR	400-1700 nm	Spectrometer F4 Si CCD 3600 pixels(Vis channel);Transmission Spectrometer (TVG)F2/512 InGaAs PDA(NIR channel) Tungsten-Halogen light source	15 nm to 200 μm
UVVIS-NIR	200 -1700 nm	Spectrometer F4 Si CCD 3600 pixels(Vis channel);Transmission (TVG) F2/512 InGaA (NIR channel) Deuterium & Tungsten-Halogen light source	1 nm -300 μm
NIRScan	2000nm -6000nm (option: up to 8000nm)	FTIR spectrometer with MCT detector (scan time from 4 sec), low CCT light source	100 nm -800 μm
XT	1590nm -1650nm	Transmission Spectrometer (TVG) F2/512 InGaAs/Tungsten-Halogen light source	10 μm- 1 mm

* T, n & k measurement in 25nm - 5μm thickness range

Other configuration are available. OEM inquiries and custom development projects are welcome.

One year limited warranty on labor and materials for all system.

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