



Thin Film Measurement solution
Software, sensors, custom development
and integration

SiCN Measurement

Samples of SiCN deposited on Si were measured with MProbe UVVisSR system (200-1000nm wavelength range) to determine thickness, optical dispersion and bandgap of the SiCN material.

SiCN dispersion was represented using Tauc-Lorentz approximation that includes a bandgap fitting parameter (E_g).

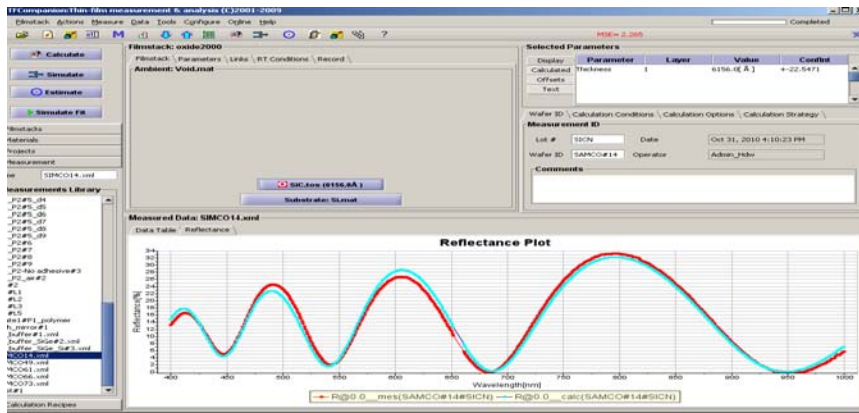


Fig. 1 Fit of the model to measured data. Thickness (615.6nm) and dispersion are determined from the fit.

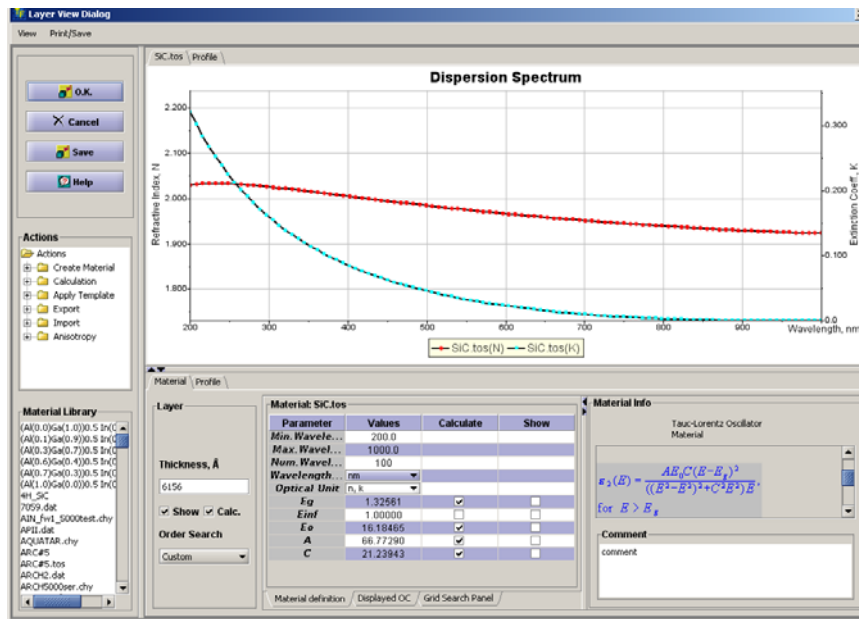
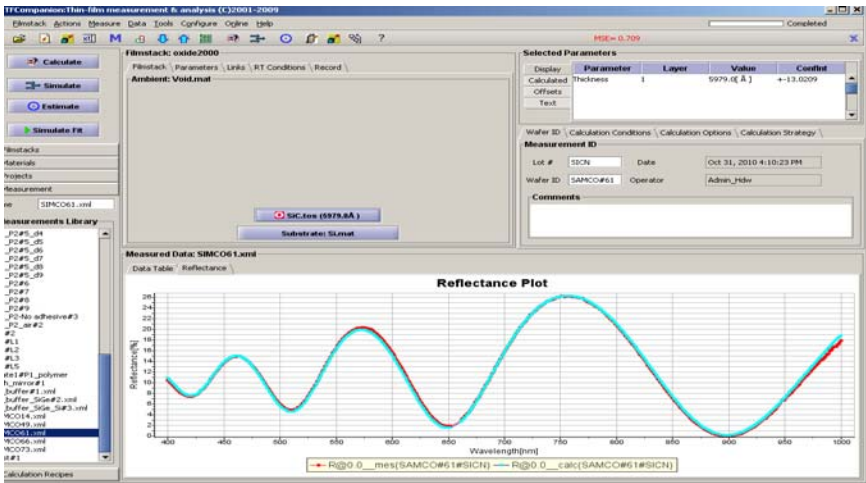
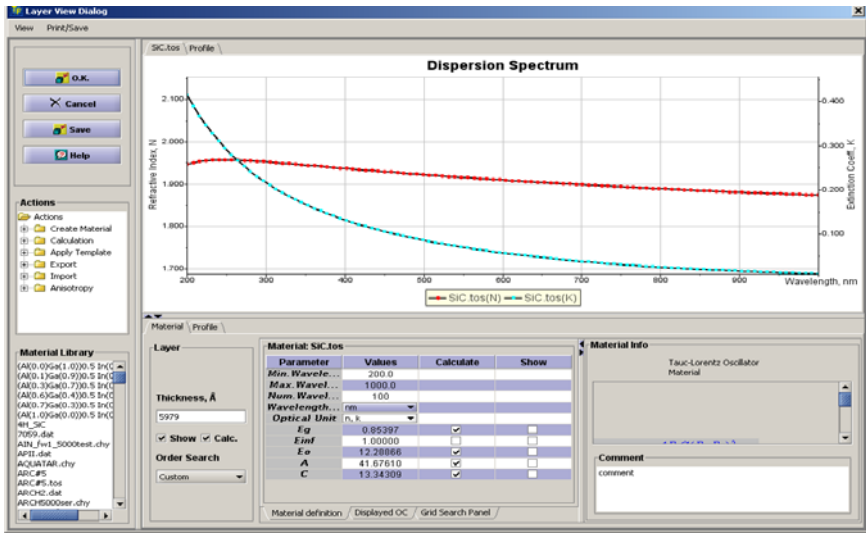


Fig. 2 Dispersion of the sample determined from the measurement. Bandgap is 1.32 eV



**Fig. 3 Sample#2 Fit of the model to the measured data.
Thickness 598 nm**



**Fig. 4 Sample # 2 Optical dispersion is determined from the measurement.
Bandgap=0.854 eV**