Angstrom Advanced

PhE102-VASE

PHE102 Variable Angle Spectroscopic Ellipsometer

Angstrom Advanced

Instruments for Thin Film and Semiconductor Applications

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Angstrom Advanced Inc.

VARIABLE ANGLE SPECTROSCOPIC ELLIPSOMETERS

PhE102-VASE is the most powerful and versatile ellipsometer for research on a wide range of materials: dielectrics, polymers, semiconductors, metals, multilayers, etc. It covers the widest spectral range with the highest spectral resolution. This system is controlled by a remote computer located in the system control module. This instrument is affordable, high quality, and used widely in both academia and industry.

Nondestructive Characterize of Thin Films and Bulk Materials

- *Film Thickness and Optical Constants*
- *Broad Range of Film Thickness (sub-nm to 30 μm)*
- *A Variety of Substrates: Metals, Semiconductors, Glass, etc.*
- *Multilayer Structures*
- *Surface and Interfacial Roughness*
- *Bandgap and Electronic Transitions*
- *Composition*
- *Crystallinity*

Accessorial Options

- *Micro Spot Focus Optics*
- *Automated Sample Translation*
- *Hardware and software for In-situ mounting*
- *Sample Heater*
- *Liquid/Electrochemical Cells*
- *Mapping*

Instruments for Thin Film and Semiconductor Applications: 50 Braintree Hill Park, Suite 201, Braintree, MA, 02184
Tel: 781-519-4765 Fax: 781-519-4766

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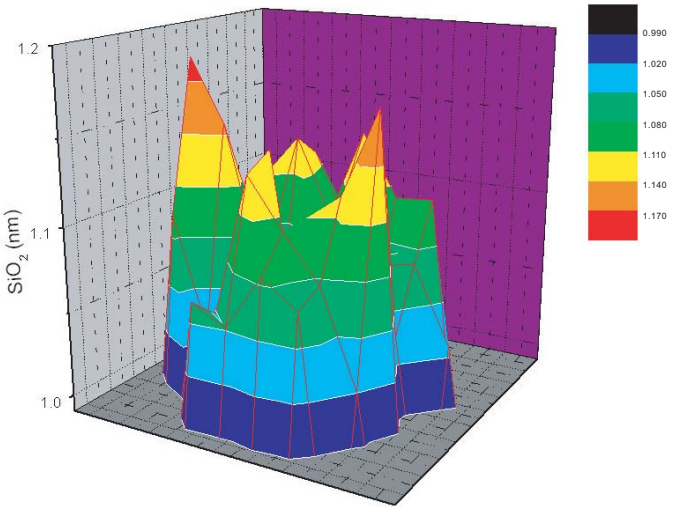
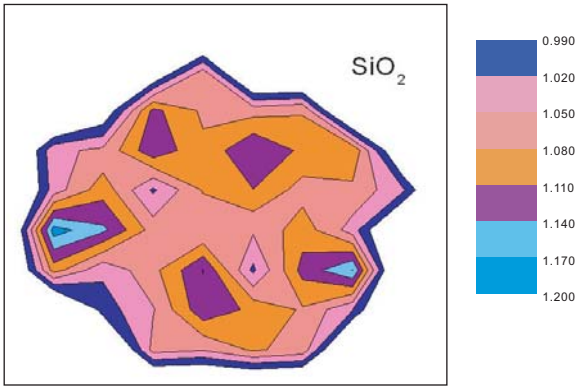
3D Mapping and Contour





phE-102 Horizontal VASE

PhE-102 is the most versatile and powerful Spectroscopic Ellipsometer. It features a horizontal mounting stage to handle large sample sizes and can incorporate sample mapping.

Rotating polarizer for any polarization state (ψ:0° to 90°, Δ: 0° to 360°), the highest accuracy for any sample;

Large angle of incidence range from 20° to 90°;

Easy sample alignment with vertical laser technology;

Accurate wavelength selection and wide spectral range (up 2500 wavelengths);

Fast operation for multi-angle measurements;

Versatile Integration for in-site, fixed angle, multi-angle or automated angle.

Available Sub-Models

S: 350 nm to 850 nm (1000 wavelengths)	N: 350 nm to 1700 nm (1800 wavelengths)
U: 250 nm to 1100 nm (1500 wavelengths)	V: 250 nm to 1700 nm (1900 wavelengths)
E: 250 nm to 2300 nm (2300 wavelengths)	D: 193 nm to 1100 nm (1600 wavelengths)
G: 193 nm to 1700 nm (2000 wavelengths)	F: 193 nm to 2300 nm (2500 wavelengths)

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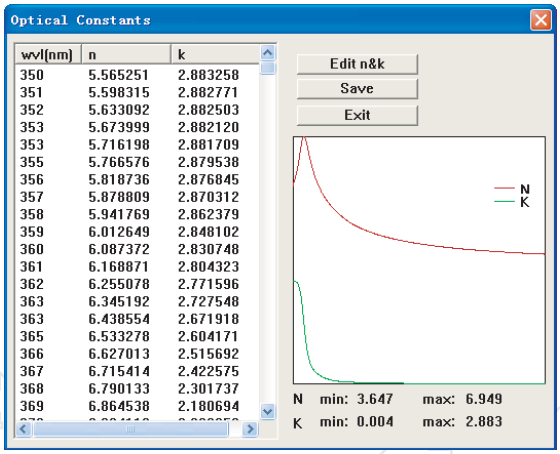
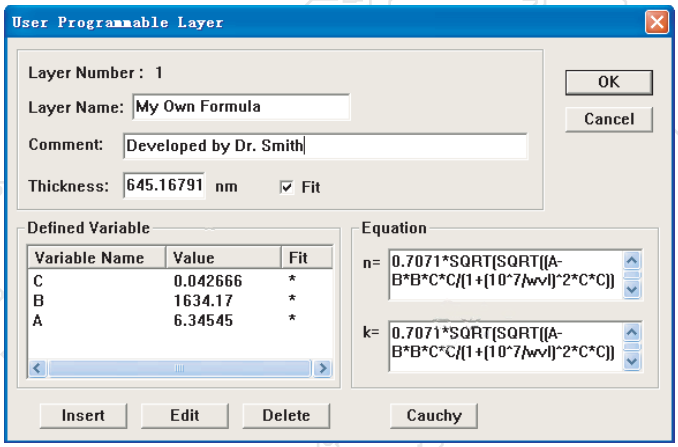
PhE Acquisition and Analysis Software

PhE is a very comprehensive program for data acquisition and analysis. It utilizes sophisticated mathematical fitting algorithms for accurate and fast data analysis of both simple and complex structures.

- *Own large tabulated optical constant database (materials library);*
- *Push-button procedure for measurement of routine samples;*
- *Versatile recipes for data acquisition, data analysis and mapping;*
- *Integrate normal dispersion models to describe material optical constants;*
- *Automatic backside correction/correlated layers;*
- *Include surface and interfacial roughness analysis*
- *Build user-defined models and database*
- *Generate Psi and Delta with any sample structures*
- *Give reliability analysis of the fitting parameters*





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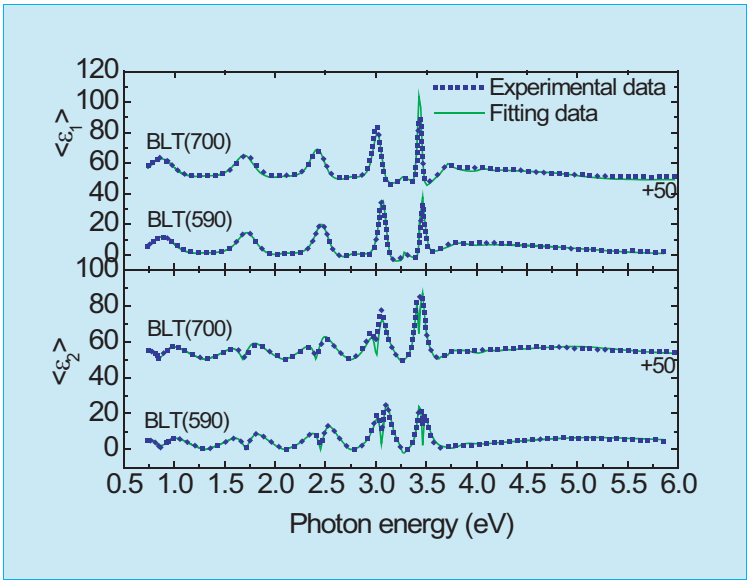
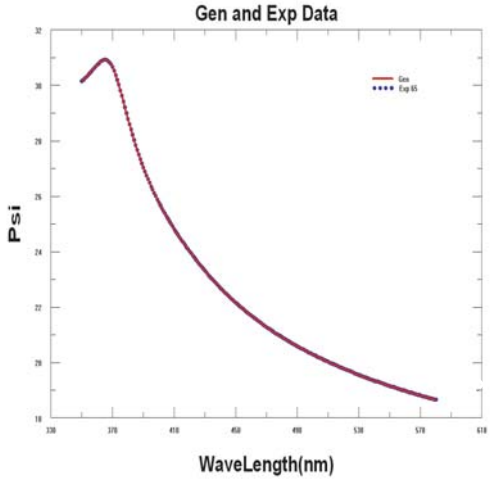
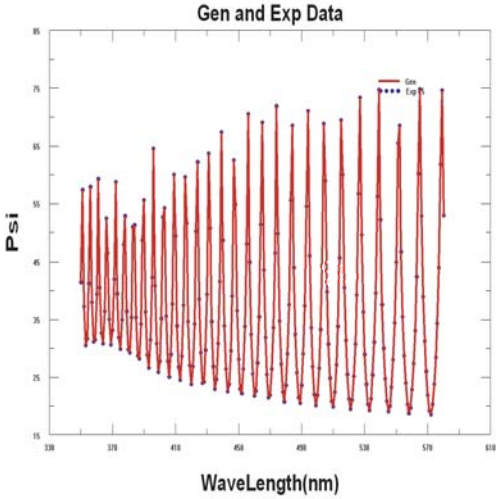
Example: Multilayer Structure

3 Surface Rough Layer	11.6 nm
2 BLT Films	321.4 nm
1 SiO2	21.5 nm
0 Si	1 mm



Example: Thick Film Structure		Example: Thin Film Structure	
1 SiO2	10.0 mm	1 Au	1.0 nm
0 Si	1 mm	0 Si	1 mm





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