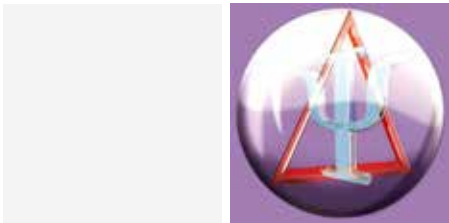


Spectroscopic Ellipsometry

DeltaPsi2: Fully Integrated Spectroscopic Ellipsometry Software Package



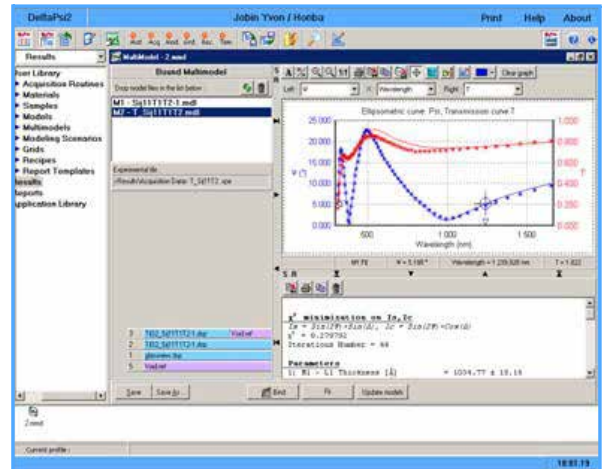
Technical Note
TN 03

The Spectroscopic Ellipsometer range from HORIBA Jobin Yvon is controlled from an integrated software package running under Windows™. DeltaPsi2 is a new generation of software based on a common GUI frame, and has been designed to provide intuitive and comprehensive user interaction with the system. The multitasking software provides the ultimate in versatility for use in ex-situ and in-situ configurations as well as the ability to drive the large range of accessories available.

Key Features

DeltaPsi2 software incorporates the most powerful data acquisition and analysis features for fast and accurate thin film characterization.

- A complete acquisition and analysis package: ellipsometric, kinetic, transmission and reflection, 16-element Mueller Matrix and depolarization data
- Variable angle spectroscopic ellipsometry
- Bibliographic reference database
- Advanced mathematical fitting algorithms
- (n,k) fitting
- Bound multimodel for simultaneous analysis of multiple models
- Bound fit for simultaneous fitting of up to 4 model parameters

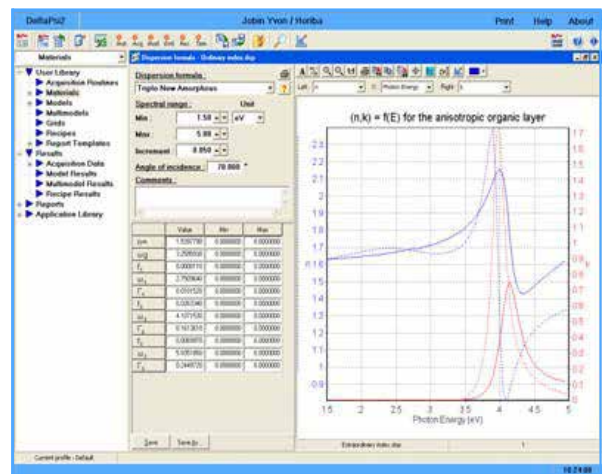


Bound multimodel

The Full Performance of Ellipsometric Analysis

DeltaPsi2 software includes advanced modelling functions to provide the versatility and performance required for a wide range of applications.

- Complete materials library based on dispersion relations
- Roughness or interface
- Composition / crystallinity
- Periodic structure
- Graded optical constants
- Anisotropic structures, uniaxial and biaxial films
- Correlated layers
- Automatic backside correction
- Degree of polarization
- Spectral Resolution
- Multiguess, multistart



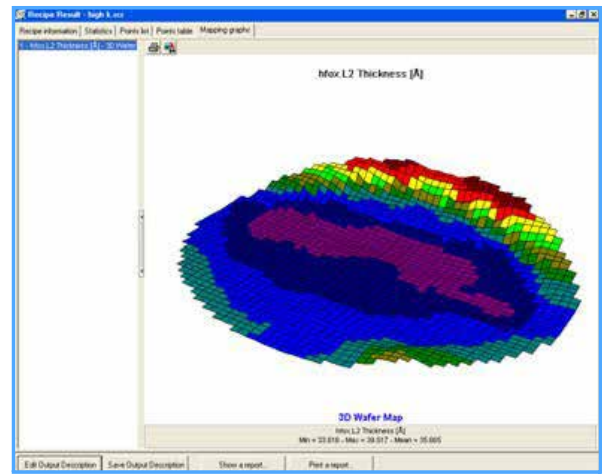
Anisotropic layer optical constants

Simple Automatic Operation to Meet Production Needs

A simple user interface has been designed to perform routine tasks very easily. A recipe procedure automates data acquisition, analysis and mapping.

The design of the software allows the user to define several acquisition routines and models in a single recipe as well as several groups of points in a single grid.

- Recipe and fitting procedures to prearrange a series of acquisition and analysis steps
- Acceptance criteria for integrated quality control
- Easy access to recipe steps and original files for processing / reprocessing
- Integrated database for intelligent data storage
- View results with comprehensive reports, statistics, 2-D and 3-D graphical displays
- Autofocus and pattern recognition functions



3D sample view

Designed for Simple Control of the Ellipsometer

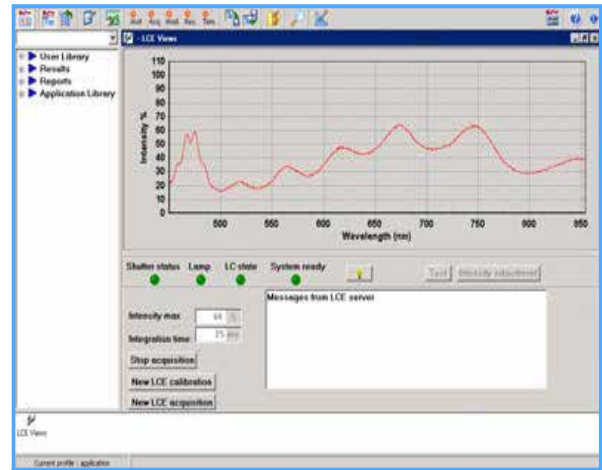
DeltaPsi2 software includes enhancements that provide easier quality control of your ellipsometer.

Push-button calibration makes the system easy to set up and operate. The software includes diagnostic indicators to inform the user if the system is working optimally or if it is out of tolerance.

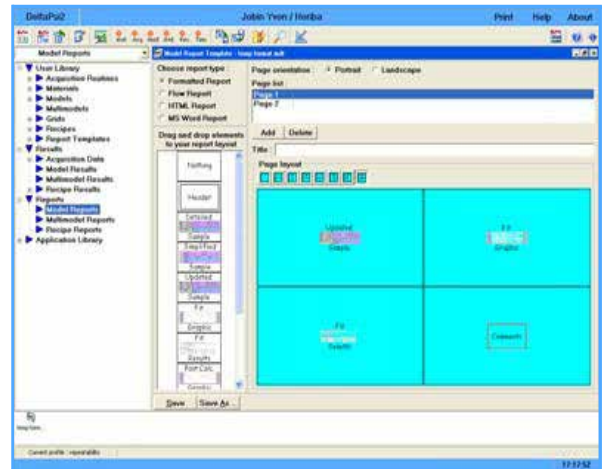
Unsurpassed Flexibility and Functionality

DeltaPsi2 software provides advanced features to process data simply and reliably. It combines simple functionality with a powerful set of complementary tools to deliver a complete, integrated solution from the measurement to the final analysis report.

- Customizable interface
- Data manipulation - arithmetic, scientific, smoothing, interpolation operations
- Advanced features for graphic manipulation screen
- Standard Windows™ clipboard transfer
- Import/export package function
- Automatic reporting
- Output description for automatic calculation of specific values after modelling
- Online Help function



Simple ellipsometer control



Automatic reporting