

New software EP³View V2.3 released

The new modeling software

We are happy to announce the release of a major new software version V2.3 for our EP³. The main change to former versions is the completely new front end for the optical modeling and analysis package. The new modeling provides a wide range of dispersion functions including effective medium models or special cases of optical anisotropy and also allows for VASE (variable angle spectroscopic ellipsometry) modeling. The simulation part now allows to choose every available (reasonable) parameter of the layer structure under investigation as the variable and observe the effect on Delta and Psi. And even better, the new multiple plot feature displays this as a family of curves for discrete values of a second parameter.

Besides the greatly improved optical modeling, V2.3 also comes with a multiple paged graph window, which makes it much easier to switch between graphs of experimental data, fitted data and simulations. The graph window – now resizable - also comes with improved display for the internally generated graph (eg. from the simulation) and offers many new options for the graph script command, eg. titles, line colors, etc.

The mapping window also has been reworked. Error and MSE maps are now generated together with the result maps (thickness, n, etc.) and may be exported. An intelligent “remove unmapped points” function has been added to get rid of spikes especially in 3D plots of maps.

Besides these, several other improvements and bug fixes will make it more fun to work with the EP³.

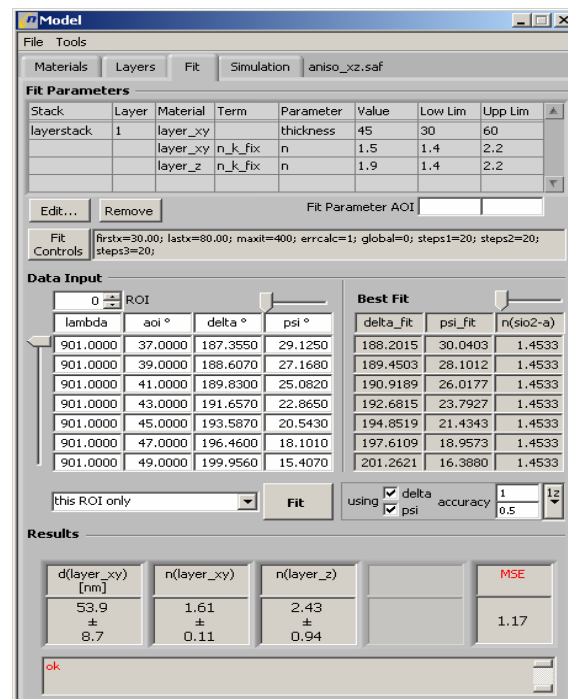
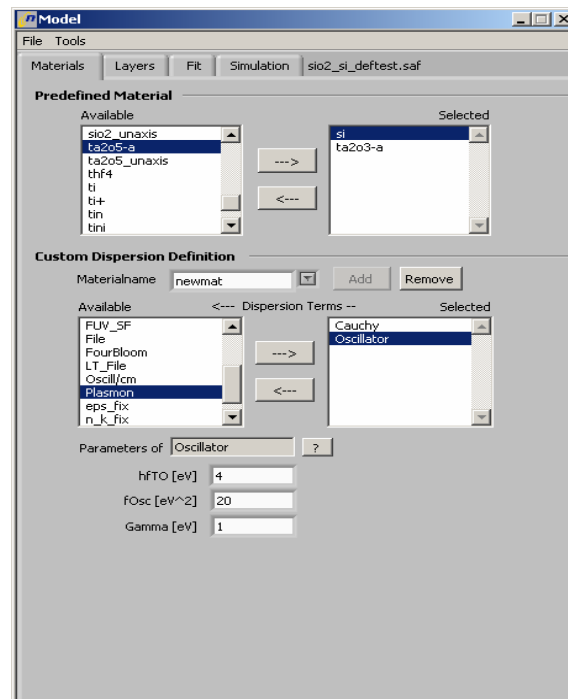


Fig. 1: new optical modeling frontend

Features of the optical model in the EP³view software V2.3

Dispersion functions:

Oscillator, asymmetric Oscillator, Plasmon for free electron gas, FUV-Step (suitable for oxides and nitrides of group-IV elements), FB for amorphous semiconductors, Cauchy for transparent materials, Effective media (linear mixture, Lorentz, Maxwell-Garnett, Brueggemann)

Unlimited number of layers and fit parameters

Anisotropy:

Uniaxially or biaxially anisotropic films on an isotropic substrate in an isotropic ambient can be treated, when the optic axes of the film are perpendicular or parallel to the sample surface. its spectra of angle of incidence, of wavelength, and of variable angle spectroscopic ellipsometry (VASE), and spectra of Delta/Psi-maps.

Simulations:

Delta/Psi vs. all fit-parameters with a second fit-parameter as curve index, Delta/Psi vs. wavelength and angle of incidence, refractive index and extinction of all materials vs. wavelength, parametric plot: Delta on Y-axis, Psi on X-axis, any fit-parameter.

Special function: thick film with incoherent reflections list of dispersion data of frequently used materials the program proposes reasonable default values for fit-parameters.

Local fit: starting from given initial values of optical parameters.

Global fit: scanning a parameter range before starting a local fit

Unit converter: nm – eV – 1/cm

Please note that V2.3 is not a free update of former V2 versions. We think that the major improvements of this release justifies a moderate investment by our customers. Please contact your local Nanofilm representative for a quotation.

