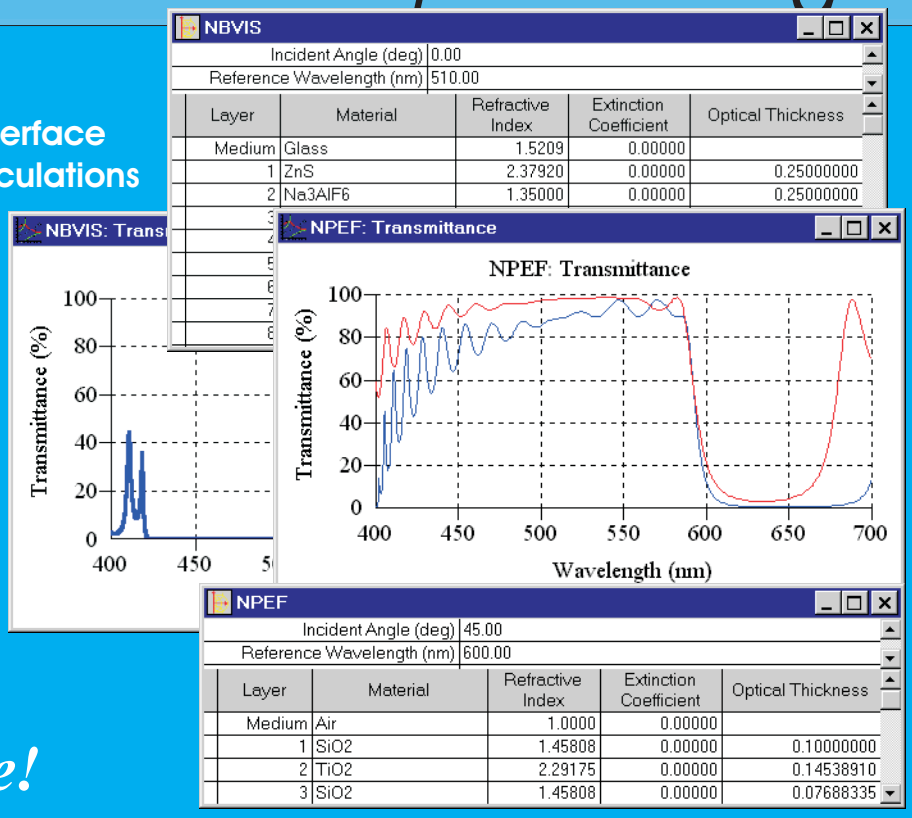
The Concise Macleod

Thin Film Design and Analysis Package

Including

- ✓ Easy to use, familiar Windows™ interface
- ✓ Comprehensive Performance Calculations
- ✓ User Defined Units
- ✓ Design Refinement
- ✓ Index Refinement
- ✓ Color Calculations
- ✓ Materials Management
- ✓ Ultrafast Parameters
- ✓ Adaptive Plotting
- ✓ Tolerancing
- ✓ Design & Analysis Tools
- ✓ Admittance Diagrams
- ✓ HTML Manual
- ✓ Export Designs to ZEMAX™
- ✓ Full Support Service

… and much more!



The Concise Macleod runs under any Microsoft Windows operating system and has a true Multiple Document Interface. It provides all that is essential for the performance calculation of an optical coating on a single surface, handling a wide range of performance parameters from ultrafast to color. It can refine designs using the Simplex method, investigate errors and produce admittance diagrams to improve understanding.

Material behavior is not always ideal, even depending on the particular coating machine. Many different databases of material optical constants can therefore be maintained. Further, in each layer of a design, packing density can be specified as different from unity. In the Simplex refinement technique, packing density may even be treated as a variable, useful for reverse engineering or simply for refinement in terms of refractive index.

Easy intuitive editing of designs, plots, tables, and materials, is provided. Data export and import is easy because full use is made of the clipboard. Units can often be a problem for users but not in the Concise Macleod where virtually any consistent set of units for the independent variables may be used. Electron volts or gigaherz or wavenumbers for frequency, or ångströms or nanometres or microns, even microinches, for wavelength, are all possible. Changing from one system to another is simple.

The Concise Macleod is completely compatible with its extensive sister program, the Essential Macleod. Designs,

Thin Film Center offers unbeatable customer support backed by over 35 years experience in the Optical Thin Film

From Thin Film Center

Performance Calculations

The Concise Macleod provides a comprehensive set of performance calculations. In addition to Reflectance and Transmittance calculations, the package includes Density, Absorptance, Ellipsometric parameters, Ultrafast parameters (Group Delay, Group Delay Dispersion, Third Order Dispersion). Color calculations are available. Tolerancing calculations yield the sensitivity of a design to minor thickness changes. Packing density of individual layers can be altered. Admittance diagrams can be generated.

User Defined Units

Units can often be a problem for users, but not in the Concise Macleod where virtually any consistent set of units for the independent variables may be used. Electron-volts or Gigahertz or wavenumbers for frequency and Angstroms or nanometres or microns or even micro-inches for wavelength are possible. Changing from one unit system to another is simple.

Refinement

The fast and stable Nonlinear Simplex refinement technique is supplied. Layers may be locked so that they are not changed during refinement. Linking causes thickness changes to occur in step. Refinement targets may be defined in terms of any of the calculated performance parameters including color. Target linking allows more complex merit functions. Special features that help in reverse engineering include refinement in terms of packing

Color Calculations

Color calculations are provided for the most popular color spaces:

- ✓ tristimulus
- ✓ chromaticity
- ✓ CIE L*a*b*
- ✓ CIE L*u*v*
- ✓ Hunter Lab

A selection of pre-defined sources is provided, and you may define others as necessary. CIE 1931 and 1964 color matching functions are included. Again, you may define any others you may require. As well as calculations of the transmitted and reflected color,

Materials Management

Real materials exhibit dispersion of their optical constants, that is the optical constants vary with wavelength. Realistic calculations of properties must include such variations. Each material is stored as a table of values of refractive index and extinction coefficient as a function of wavelength. This permits any dispersion to be modeled. Powerful editing tools including spline interpolation are provided together with import/export facilities that are easy to use.

Adaptive Plotting

The Concise Macleod features adaptive plotting for performance calculations. This automatically adjusts the plotting interval so that fringes are faithfully

Tolerancing

The Concise Macleod's tolerancing capability allows you to investigate the sensitivity of a design to manufacturing errors. Alternative designs may be compared and the best design selected.

Admittance Diagrams

Admittance diagrams help you to understand how a design works. They can be looked on as a complete visual record of the way in which the various layers build the performance of a coating by transforming the admittance, or the complex amplitude coefficient, from the rear through to the front of the system.

Exporting Designs to ZEMAX™

The Concise Macleod includes facilities for editing and exporting coating designs to the powerful ZEMAX™ lens design package (Focus Software Inc, PO Box 18228, Tucson, AZ 85731, USA, Fax: +1 520 733 0135).

Support Service

The support offered by Thin Film Center Inc is quite simply the best in the business. Technical support backed by over 35 years' experience is provided without further charge.
Thin Film Center Inc also provides regular courses both on general design and manufacture of thin film coatings as well as making the most of the Concise Macleod. These courses run in Europe and also the U.S. Call or fax for more details and for a current course

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