

## Thin Film Measurement Software TF ProVis *lite* V2.00

The *TF ProVis lite* is an easy-to-use software application to determine fast and precisely the optical thickness of thin transparent layers for Windows 2000 and XP.

The software uses an improved Fast-Fourier Transformation (FFT) algorithm to determine the film thickness from white-light interference spectra created by thin transparent layers. Layer thickness from below 1 $\mu\text{m}$  up to nearly 200 $\mu\text{m}$  can be determined in conjunction with tec5 *MultiSpec* spectrometer systems. The film thickness is computed in real-time and is displayed in various on-line charts. The results are logged to a ASCII file during the measurement. Single as well as double layer structures can be examined.

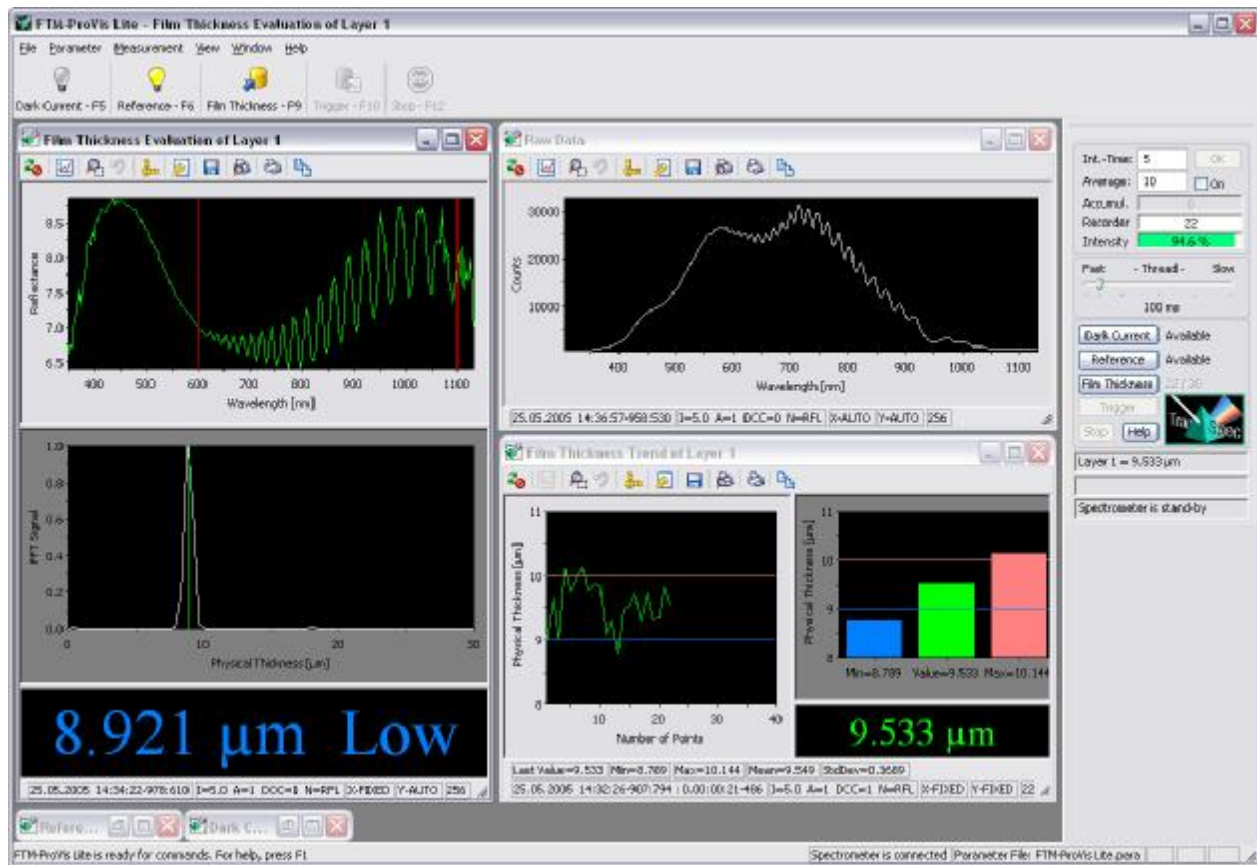


Fig. 1: Screenshot TFProVis lite

This software has been created by a partner company with long-time expertise in thin film analysis. It is compatible to tec5 *MultiSpec* desktop USB spectrometer systems as well as OEM USB operating electronics.

## Features and Specifications

### Film Thickness Determination Features

- § Range: approx. 1 to 150 $\mu$ m optical thickness - depends on used spectrometer module respectively the useful spectral range and the optical resolution
- § Evaluation of interference spectra by Fast-Fourier Transformation (FFT)
- § Analysis of spectral data between 200 and 1100nm possible
- § Run-time-optimized algorithm, evaluation time less than 1ms
- § Special algorithm for highly accurate sub-pixel determination of FFT peak position
- § Selectable spectral range for interference spectrum evaluation
- § Consideration of refractive index and its dispersion (Cauchy dispersion function)
- § Selectable film thickness evaluation range within the FFT spectrum for fully automatic determination of double layers

### Options for Measurement and Visualization

- § Manually or timer triggered spectral data acquisition and film thickness determination
- § Real-time representation of interference and FFT spectrum during measurement
- § Real-time representation of the film thickness results as trend graphics and bar charts
- § Film thickness results are logged to read-shared text files, accessible by third-party software during measurement
- § Measured spectra are logged to 'Spectra-Recorder', permits a subsequent off-line film thickness re-evaluation with changed evaluation parameters
- § Saves all parameter settings to individual parameter files
- § Password protection of parameter setups and special user access rights for each document individually
- § Quick access to last used parameters and 'Spectra-Recorder' files

### Software Features

- § Multi-threaded and Multiple Document Interface handling
- § Shell registration for drag-and-drop operation of the document files
- § Minimal requirements for resources and memory
- § Programmed in Visual C++ by use of the Microsoft Foundation Classes (MFC)
- § Consideration of the Microsoft Application Design Guide: menu toolbar, status bar, tool tips, HTML on-line help
- § fully supported Windows XP Themes and multi-monitor use
- § Software documentation as detailed user User's Manual and Quick Reference Guide

### Minimum Hardware and Software Requirements

- § PC with at least Pentium 3 processor (Pentium 4 with 1.8GHz or higher recommended)
- § Windows 2000 or Windows XP operating system (NT not supported)
- § 128 MB RAM, 256 MB or more recommended
- § Hard disk drive with at least 100 MB available memory
- § CD ROM drive for installation
- § Graphics adapter with 1024 x 768 pixels (1280 x 1024 recommended)