

Novocontrol Technologies presents WinFIT

- Powerful analysis software for impedance and dielectric spectroscopy
- Special application for polymers, glasses, ceramics, semiconductors, liquid crystals, battery and fuel cell research, corrosion analysis, biomedical and biological systems
- nonlinear curve fitting including arbitrary equivalent circuits and arbitrary complex functions
- particular functions like Havriliak-Negami, Williams-Landel-Ferry, Vogel-Fulcher, time domain conversion
- sophisticated data visualisation (2D/3D)
- extensive context-sensitive help function



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WinFIT



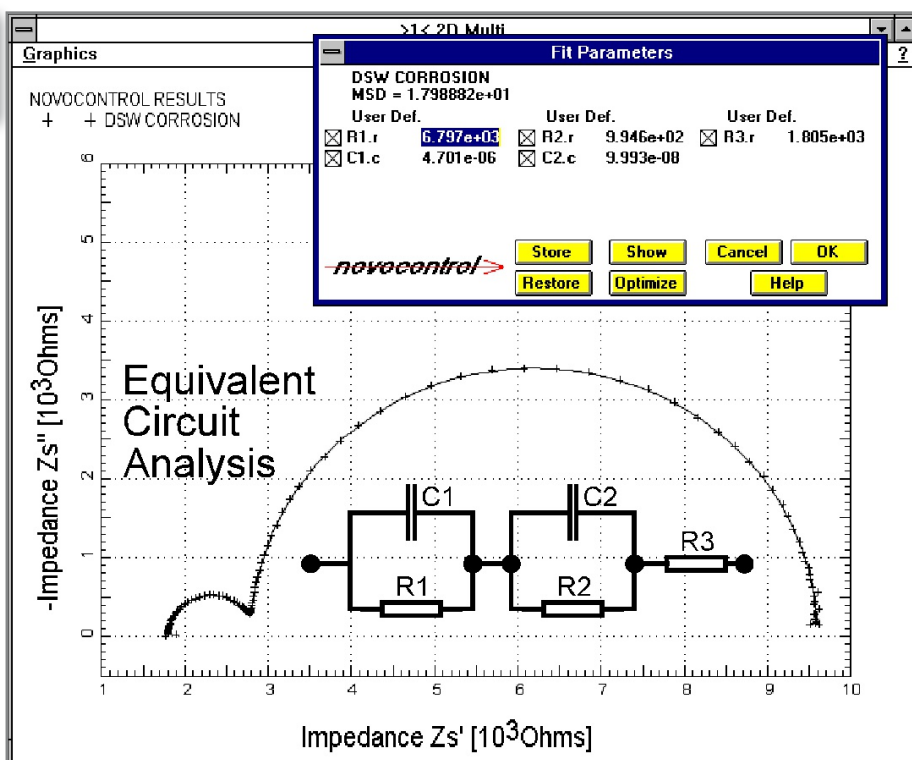
WinFIT Impedance Analysis Software

WinFIT focuses on the analysis of impedance and dielectric spectra. It reads binary data created by our WinDETA/WinIMP programs as well as text files in various selectable formats.

Advanced non-linear curve fitting techniques ensure both accurate and fast determination of key materials parameters.

Equivalent Circuit Analysis of impedance spectra is extended by arbitrary complex functions.

The evaluation of dielectric spectra in polymer research is particularly supported by the Havriliak-Negami and Williams-Landel-Ferry (WLF) functions. WinFIT allows the **scaling** of spectra, their representation in **master plots** and their conversion into the time domain.



Equivalent circuit analysis supports definition of arbitrary RLC networks in combination with any user-defined complex function such as, e.g., $\sin(w \cdot (\text{var1} + j \cdot \text{var2}))$.

Features

Frequency domain

- non-linear curve fitting in the frequency domain
- special fit functions like Havriliak-Negami, Cole-Cole, Cole-Davidson, Debye etc.
- automatic evaluation of a series of spectra taken, e.g., at various temperatures
- separation of relaxation and conductivity contributions
- automatic creation of master plot representations

Temperature domain

- non-linear curve fitting in the temperature domain, including Vogel-Fulcher and Williams Landel Ferry (WLF) fit functions
- relaxation time and maximum relaxation frequency fitting
- easy creation of Arrhenius activation plots
- determination of activation energies and glass temperatures

Time domain

- conversion of dielectric spectra to the time domain by numerical Fourier Transform
- complete dielectric time domain representation including relaxation time distribution, relaxation function, step response function, peak answer function, time dependent dielectric constant and conductivity

Data connection and correction

- easy data manipulation (shift, delete and insert) using simple mouse operations
- easy merging of data sets obtained in different frequency ranges using diverse analyzers

Applications

Impedance analysis and dielectric spectroscopy are prominent characterization tools for ceramics, polymers, glasses, liquid crystals, semiconductors, batteries, fuel cells, corrosion analysis, biomedical and biological systems. Various key aspects of materials properties such as molecular relaxations, conductivity, phase separation, purity, ageing, curing and many others are all accessible using this technique.

Phase transitions, activation energy, glass temperature, rate of blending, etc. are evaluated from temperature dependent spectra.

Operates on Windows 10, 8, 7, Vista, and XP.