FluoFit

Global Fluorescence Decay Data Analysis Software

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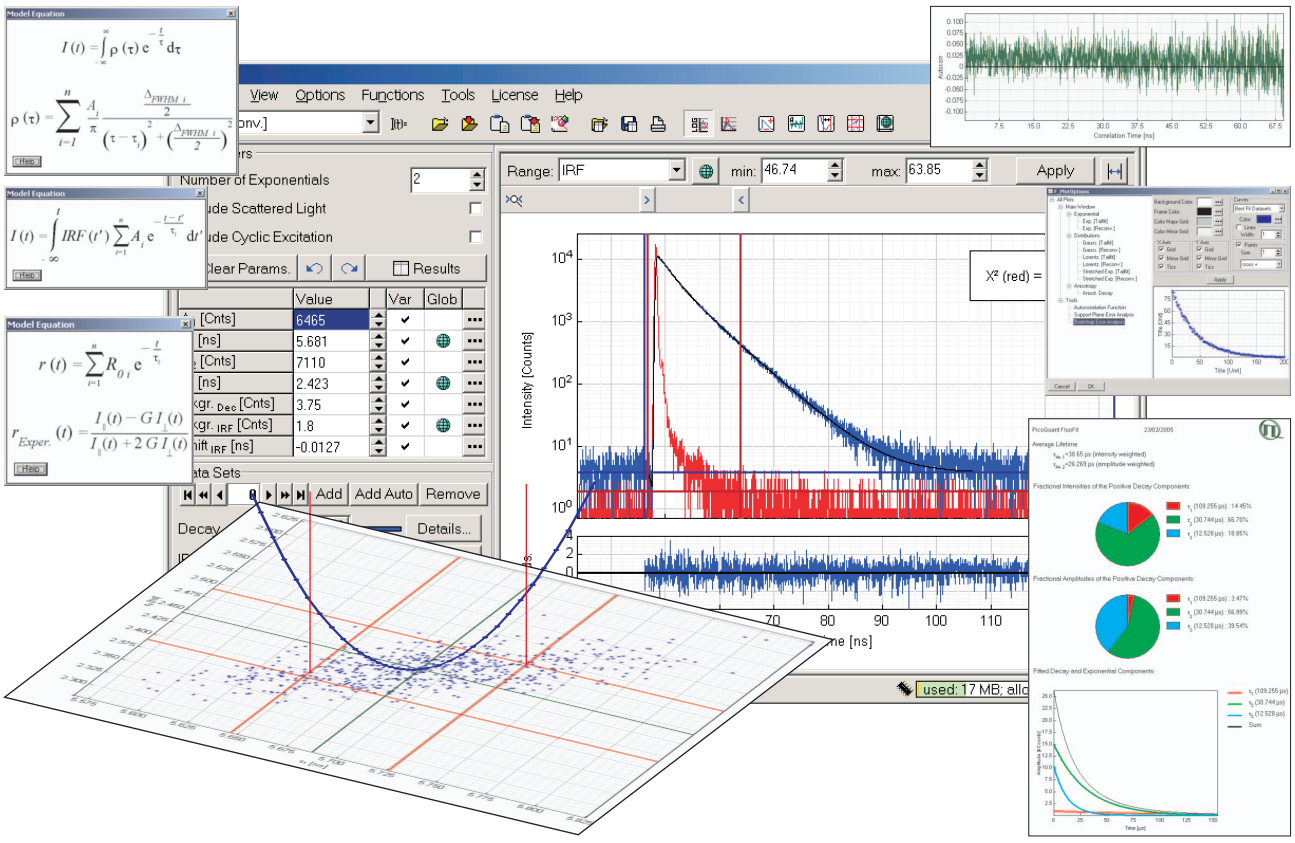
http://www.picoquant.com

- Tail fitting or iterative reconvolution
- Exponential decay models up to 4th order
- Lifetime distribution models (Gaussian, Lorentzian, Stretched Exponentials)
- Anisotropy analysis with an exponential model up to 4th order
- Global analysis and batch fitting for all models
- Rigorous error-analysis with three different methods
- ASCII and direct data import from HydraHarp, PicoHarp, TimeHarp, NanoHarp, SPC and MSA 300 data
- Unlimited number of data points
- Storage of user preferences
- Easy to use graphical interface



Global Fluorescence Decay Data Analysis Software

The FluoFit software package is a powerful analysis software for fluorescence decay and anisotropy measurements. Tail fitting as well as a numerical reconvolution algorithm to account for the finite Instrument Response Function (IRF) can be applied. The decay data can be fitted to exponential decay models up to 4th order or alternatively to different lifetime distribution models (Gaussian, Lorentzian and Stretched Exponential). Global fitting as well as batch mode fitting is supported for all models. The software allows to freely vary the number of fit parameters, including IRF and signal background as well as time shift. Start parameters for the fitting algorithm can be determined automatically or entered manually. The fitting limits are easily adjusted with graphical sliders. Reduced chi-square, weighted residual and autocorrelation trace are shown for assessment of the goodness of fit. An advanced error analysis using different methods is also possible. User preferences are widely adjustable and can be automatically stored and retrieved. The 32-bit software is available for Windows™ 2000/XP/Vista and features a modern and easy to use graphical user interface. Results can be printed, saved and exported for later reference. The program supports data files from the HydraHarp, PicoHarp, TimeHarp, NanoHarp, SPC and MSA TCSPC systems as well as ASCII data files. Instrument response and fluorescence decay may be loaded from different sources. A comprehensive help file is provided for ease of use.

To meet different needs, the FluoFit software is available in two versions. The table shows the main features.

FluoFit Basic:
Ideal for standard decay analysis

FluoFit Professional:
Optimal for advanced applications

	FluoFit Basic	FluoFit Professional
Data import from HydraHarp,PicoHarp, TimeHarp,NanoHarp, SPC, MSA, ASCII	✓	✓
Exponential decay models	✓	✓
Lifetime distributions models		✓
Anisotropy analysis		✓
Global analysis and batch fitting		✓
Goodness of fit assessment	✓	✓
Error analysis		✓
Export of analysis results	✓	✓
Storage of user preferences	✓	✓

Specifications

Decay Models and Parameters

Exponential decay models . . . . . Up to 4th order
Lifetime distributions** . . . . . Gaussian, Lorentzian, stretched exponential (up to 4 peaks)
Anisotropy** . . . . . Up to 4th order exponential decay model, tail fit of the anisotropy decay, anisotropy reconvolution
Decay parameters . . . . . Amplitudes, lifetimes, distribution width, background
Anisotropy parameters** . . . . . G-factor, amplitude, background, time shift between polarized decays
Reconvolution parameters . . . . . Background, time shift, scattered light contribution, pulse repetition rate

User Interface

Graphical user interface . . . . . Windows™ GUI, menu or mouse driven
Display . . . . . Linear, logarithmic scale, zoomable
Data import . . . . . File or clipboard
Preferences . . . . . Windows™ registry

Algorithms

Nonlinear fitting, Maximum likelihood estimation . . . . . Marquardt-Levenberg, Monte Carlo, manual
Correction for finite IRF . . . . . Iterative reconvolution
Error test / assessment . . . . . χ^2, distribution and autocorrelation of weighted residuals
Error analysis** . . . . . Asymptotic Standard Errors (ASE), Support Plane Analysis and Bootstrap
Global analysis / batch mode fitting** . . . . . For all fitting models, number of data sets only memory limited

Data Formats

Number of channels . . . . . Unlimited
Channel width . . . . . Unlimited
Supported formats . . . . . HydraHarp, PicoHarp, TimeHarp, NanoHarp (binary or clipboard), SPC, MSA, ASCII

Operation

PC requirements . . . . . 400 MHz min. CPU clock, 256 MB memory (for global fitting >= 512 MB recommended)
Disk space . . . . . 10 MB (except data storage)
Operation system . . . . . Windows™ 2000/XP/Vista
Protection module . . . . . USB, parallel or network hardlock available upon request
Printer . . . . . Any Windows™ supported printer

***only available in FluoFit Professional*

Further available are Fluorescence Lifetime Spectrometer; Time-resolved Fluorescence Microscopes; Upgrade Kit for Laser Scanning Microscopes; Picosecond / Nanosecond Pulsed, Modulated and Fast Swichted Diode Lasers; Modules for TCSPC. Please call for detailed information and data sheets. **Please check our website for latest changes of specs.**

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