

HowTo's and Tutorials

Instrumentation

Fluorometer

- [EasyTau](#)
- [Interfacing a time-resolved spectrometer \(FluoTime 300\) with a microscope \(MicroTime 100\)](#)
- [Measuring the Quantum Yield with the Integrating Sphere Assembly for the FluoTime 300](#)

Microscopy

- [Configuring SymPhoTime64](#)
- [FLIM Measurement Using a Nikon A1 with a FLIM and FCS Upgrade](#)
- [FLIM Measurement Using a Zeiss LSM710/LSM780/LSM880 with a FLIM and FCS Upgrade](#)
- [FLIM Measurements Using an Olympus FV3000 with a PicoQuant FLIM Upgrade](#)
- [FLIM-FRET Measurement Using an Olympus FV1200 with a FLIM and FCS Upgrade](#)
- [How to Avoid the Pile-up Effect in FLIM Measurements](#)
- [How to Check the Overlap of Different Color Confocal Volumes](#)
- [How to exchange the main dichroic of the MicroTime 200](#)
- [How to Measure the Instrument Response Function \(IRF\)](#)
- [How to Perform Antibunching Measurements](#)
- [How-to select the correct pinhole size](#)
- [Image on the beam diagnostics camera during focusing](#)
- [MT200 Daily Alignment](#)
- [MT200 FCS Measurement](#)
- [MT200 Fundamental Alignment](#)
- [Nikon AX: NIS-Elements FLIM Examples](#)
- [Nikon AX: Phasor-Based Structural Separation Using FLIM](#)
- [Performing a FCS measurement with an Olympus FV1200 Upgrade Kit](#)
- [Recording a Fluorescence Lifetime Image \(FLIM\) Stack with a LSM Upgrade Kit on a Nikon A1](#)

SymPhoTime64 / Analysis

The SymPhoTime tutorials rely on the sample workspace downloadable [here](#) (1.5GB).

General

- [Antibunching Analysis](#)
- [Determination of the Focal Width](#)

- [How to create a time-gated Image in SymPhoTime](#)
- [How to Work with Instrument Response Functions \(IRFs\) Measured with a Microscope](#)
- [Intensity Time Trace Analysis](#)
- [Registering New Scripts in the SymPhoTime 64](#)
- [Static Anisotropy Analysis for Images](#)
- [SymPhoTime 64 Analysis Tips and Tricks](#)
- [SymPhoTime Lifetime Fitting](#)

FLIM

- [Lifetime Fitting Using the FLIM Analysis](#)
- [Lifetime-Fitting Using the FLIM Analysis \(updated for SymPhoTime V 2.5 and above\)](#)
- [Lifetime-Fitting Using the Rapid Reconvolution Model](#)
- [Pattern Matching](#)
- [Phasor Analysis](#)
- [ROI Fitting Using the FLIM Analysis](#)
- [ROI Fitting Using the FLIM Analysis \(updated for SymPhoTime v2.5\)](#)
- [Visualizing Dynamics Using the Multi Frame FLIM Analysis](#)
- [Visualizing Dynamics Using the Multi Frame FLIM Analysis \(updated for SymPhoTime v2.5 and above\)](#)

FRET


- [Calculate Ratiometric FRET Images](#)
- [Calculate Ratiometric Single Pair FRET Distributions](#)
- [Calculate Ratiometric Single Pair FRET Distributions Using PIE-FRET](#)
- [FLIM-FRET Calculation for Multi Exponential Donors](#)
- [FLIM-FRET Calculation for Single Exponential Donors](#)

FCS / Correlation

- [Burst duration and FCS diffusion time](#)
- [Calculate and Fit FCS Traces with the FCS Script](#)
- [Calculate FCCS Traces with the Grouped FCS Script](#)
- [Calibrate the Confocal Volume for and with FCS](#)
- [Separation of 2 Species with Different Lifetimes Using FLCS](#)
- [Spectral Crosstalk Removal via FLCCS](#)

EasyTau2 / Analysis

- Measurement results obtained by [FluoTime series spectrometers](#) controlled with [EasyTau 2](#) software are directly stored in a workspace in `.etc` data containers. This is also the case when [TimeHarp260](#), [PicoHarp300](#), [HydraHarp400](#) or [MultiHarp150](#) is controlled via EasyTau 2. Such `.etc` files can be opened

directly, using the  button.

- It is also possible to use the native software of the timing electronics for data acquisition, instead of control via EasyTau 2. Recent versions of `TimeHarp260.exe`, `PicoHarp.exe`, `HydraHarp.exe` and `MultiHarp.exe`, started from Windows Start menu, store the histograms in `.phu` data format. Older software versions of various timing electronics may use other data file formats. Possible file name extensions are `.thd`, `.nhd`, `.phd` and `.hhd` In order to analyze such files, they have to be imported

into an already existing EasyTau2 workspace.

- [Data file import](#)
- [Reconvolution fit](#)

Samples

- [Diamond NV Centers](#)

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