

chronosBH



ChronosBH—ISS technology combined with Becker & Hickl electronics for precise TCSPC measurements using laser diodes and LEDs.

ChronosBH is a time-domain fluorometer with picosecond resolution. Its optical design and automatic instrument control are state-of-the-art for time-resolved fluorometers.

Designed for Steady-State & Time-Resolved Applications

Steady-State Measurements

- Intensity measurements at fixed wavelengths
- Polarization (anisotropy) measurements at fixed wavelengths

Time-Resolved Measurements

- Single- and multi-exponential decays
- Anisotropy decays
- Time-resolved kinetics
- Time-resolved spectra
- FRET

User-Friendly Software

ChronosBH includes *Vinci- Multidimensional Fluorescence Spectroscopy*, a powerful software package that provides several ready-to-use routines for reliable, user-friendly acquisition of complex fluorescence data:

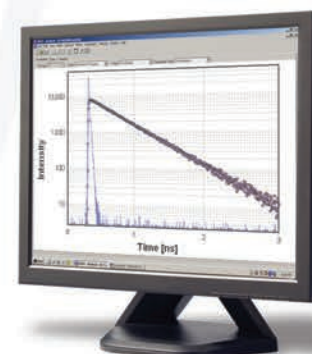
- Spectra (excitation, emission, synchronous, time-resolved and polarization)
- Measurements at fixed wavelengths (intensity and polarization)
- Measurement of kinetics data
- Time-resolved measurements (lifetimes and rotational correlation times)

Key Features

- Time-domain lifetime measurements with picosecond resolution
- Lifetime measurement range from milliseconds to picoseconds
- Flexible instrument configuration with a variety of light sources
- T-format and parallel beam optical design for fast and precise polarization measurements
- Full automation of instrument components including: cuvette holder, polarizers, shutters, filterwheel, monochromators and stirrers
- PC-controlled integration of temperature bath, titrator, stopped-flow apparatus and pressure pump
- Powered by Vinci - Multidimensional Fluorescence Spectroscopy.

Vinci, the Complete Software Solution for Steady-State and Time-Resolved Applications

A powerful and flexible multidimensional fluorescence spectroscopy software with ready-to-use routines for data acquisition and analysis.



Software Specifications

Instrument Automation

ChronosBH is the instrument of choice for reliable-time resolved data acquisition using laser diodes and LEDs. All hardware components, including external devices, are automated and PC-controlled.

User-friendly Acquisition

A sequence of measurements is acquired through a one-time setup of the experiment file, allowing for the automatic acquisition of multiple data sets.

Personalized Login

With its unique system memory design, Vinci allows user-specific access. In multi-user environments each user may perform measurements with a personalized instrument configuration.

Data Analysis

Decay Times

Decay time analysis is performed on multiple data sets using various models including multi-exponential, non-exponential and lifetime distributions.

Rotational Correlation Times

Anisotropy decay data analysis of up to three species using models for isotropic, anisotropic and hindered rotators.

Phasor (polar) plot analysis

A powerful graphical approach to fluorescence decay data analysis used to quantify individual components of a mixture, FRET processes and excited states reactions.

Data Display & Export

- 2D and 3D display with user-defined colors and fonts
- 3D surface rotation and in/out zooming
- 3D display of user-defined functions
- Cursor identification of XY spectra coordinates
- Time-resolved spectra display as 3D and center of gravity plots
- Export to gif, png, jpeg, bitmap and metafile formats
- Data are generated and exported in ASCII format

Instrument Specifications

Light Sources: Laser diodes (405, 436, 473, 635, 690, 780 and 830 nm), Ti:Sapphire, super continuum and other pulsed lasers.

Focusing & Collection Geometry: Parallel beam design for precise polarization measurements

Polarizers: UV grade Glan-Thompson with L/A=2.0

Detectors: PMTs, MCPs, APDs

Wavelength Range: 160 – 850 nm (MCP), 185 – 850 (PMT)

TCSPC Modules:

- Electrical Time Resolution down to 8 ps FWHM/5 ps rms
- Minimum Time Channel Width 820 fs
- Total useful count rate up to 4 MHz
- Measurement times down to 1 ms

Lifetime Measurement Range: 10^{-11} to 10^{-2} sec

OS Requirements: Windows 7

Power Requirements: Universal power input of 110-240 V, 50/60 Hz, 400 VAC

Dimensions: 540 mm (L) x 400 mm (W) x 330 mm (H)

Weight: 26 kg

For more information about ChronosBH, including a complete list of accessories, call (217) 359-8681 or visit www.iss.com.

Information & specifications are subject to change without notice.