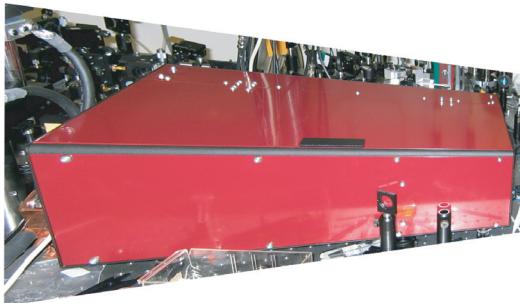


Beacon Femtosecond Upconversion Spectrometer

Del Mar Photonics Beacon up-conversion spectrometer, has been specially designed for measuring fluorescence lifetimes in the 400-1500 nm spectral range. Beacon can work with either a mode locked Ti-sapphire oscillator or with a regeneratively amplified Ti-sapphire laser. After ultrafast excitation of the sample, the emitted light is collected and focused onto a non-linear crystal where it is mixed with a second pulse, the gate pulse, to generate sum frequency radiation. The change of temporal delay between pump and gate pulse is realized with a variable delay-stage. The sum frequency signal is collected by an arrangement comprising reflectors, filters, a monochromator and a PMT.

Applications



- Time-resolved emission of biological macromolecules
- Intra- and intermolecular dynamics in liquids
 - vibrational cooling
 - solvation dynamics
- Ultrafast carrier dynamics in quantum dots
- Fluorescence anisotropy

Standard

Optional

Spectral Coverage	400-1500 nm	
Time scale	1600 ps	3200 ps
Step size	6.7 fs	13.4 fs
Temporal resolution	<140 fs (for 100 fs pulse)	
Repetition rate	1 KHZ - 100 MHz	
Minimum power	600 mW (for Ti:Sapphire oscillators)	
Software	LabVIEW based software Beacon 6.5	
Output data format	2D (time, emission intensity, or wavelengths, emission intensity)	
	3D (wavelengths, time, emission intensity)	
	ASCII data table file format that can be viewed and analyzed by standard scientific graphing and analysis software packages (Sigma Plot, Origin, etc.), or custom-made LabVIEW software	
Footprint	W24" x L36" x H10"	

Optional: Polarization optics can be installed for polarization-dependent fluorescence measurements unit.

Optional: Frequency doubler for femtosecond Ti:sapphire laser can be installed inside the optical unit.

Beacon spectrometer comes with magnetic drive stirring system, sample holder, magnetic stir bars and a 2 mm thickness sample cell.

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