

Abstract Submitted
for the OSS05 Meeting of
The American Physical Society

A UV-Visible-NIR, Time-Resolved Spectrofluorimeter for High-Pressure Biophysical Studies JACOB AJIMO, PEDRO CALDERON, JONATHAN DUDLEY, BILL SCHNEIDER, KATHERINE BINZEL, PAUL URAYAMA, Miami University, Department of Physics — We present a newly developed UV-visible-NIR, time-resolved spectrofluorimeter for probing biological samples at high pressures. The system is capable of simultaneously collecting emission spectrum and time-resolved emission intensity for both spectral and excited-state lifetime determination. The system uses a sub-nanosecond pulsed, nitrogen-pumped dye laser for excitation between 337 – 1000 nm wavelenth. Spectral information is collected using a nanosecond-gated, intensified CCD. Time-resolved intensity information is collected using a GHz-bandwidth avalanche photodiode. The high-pressure chamber is a thick-walled quartz capillary capable of holding 800 atm pressures. Implementation of the system as a high-pressure, high-numerical aperture fluorescence microscope imaging system is also described.

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Date submitted: 18 Mar 2005

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