Title
NEW APPLICATIONS AND ADVANTAGES OF DETECTOR ARRAYS IN MULTIFREQUENCY PHASE AND MODULATION FLUOROMETRY

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Abstract

Array detectors enable rapid wavelength-resolved accumulation of steady-state and time-resolved fluorescence/ phosphorescence emission data. An initial report by Gratton et al. on the technique applied to multi-frequency phase and modulation fluorometry appeared in SPIE 1204, 21-25 (1990). For various instrument implementations we will present the characteristics of most interest to-the spectroscopist like attainable frequency-range, signal-to-noise ratio,detection limits and the reduction in measurement time as compared to standard scanning emission monochromator techniques, optical coupling efficiencies and remote sensing. We will show time-, wavelength-, and phase and modulation resolved spectra of some standard fluorophores and several biological samples.