Stimulated [Parametric] Emission and Fluorescence Fluctuations as Biophysical Probes

Fluorescently labeled molecules are widely used in biology to allow imaging of specific cellular components. Nonlinear optical techniques may be used to generate ‘fluorescence’ from unlabeled molecules, which could enhance imaging capabilities. It will also be discussed how the dynamics of fluorescence fluctuations can be used to study molecular motions in cells.