Title:	Emphasizing On Excitation: Theoretical Estimation of Optimal Parameters for Maximum Fluorescence & Ultrafast Pulse Shaping and Characterization
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Keywords:	Optimal Parameters Theoretical Estimation Experimental FROG trace
Issue Date:	7-Sep-2018
Publisher:	IISERM
Abstract:	We have conducted two studies with a common theme, giving focus on the excitation processes. In the initial part of the work, using a comprehensive theoretical model, we have shown the optimum excitation parameters required for a specific system to produce maximum fluorescence. We conclude that depending upon the excitation intensity the excitation parameters will vary. This approach can be extended to more complex models without much difficulty. In the second part of our work, we have implemented an ultrafast pulse shaping and pulse characterization setup. The shaping is done by the commercially available AOPDF (Dazzler®) pulse shaper and the characterization is carried out using autocorrelation and SHG-FROG setups. These setups can be used to carryout shaped pump–probe quantum control experiments and multidimensional spectroscopy in the near future.
URI:	http://hdl.handle.net/123456789/1029 (http://hdl.handle.net/123456789/1029)
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