

The benefits of 5th order 2D electronic spectroscopy

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2D electronic spectroscopy (2DES) is a well-established and highly insightful ultrafast technique. As a 3rd order method, 2DES probes the same molecular response as transient absorption. Therefore, effects such as exciton-exciton annihilation (EEA) can be addressed only indirectly, most commonly via deviations from linearity in intensity dependent experiments. 5th order spectroscopy offers an interesting alternative, as EEA and the associated decay times can be probed directly and at low excitation energies. In this talk, I will give an overview about the benefits and drawbacks of 5th order 2DES on paradigmatic solvated molecules.