

Attosecond Charge Migration in Organic Molecules: Initiating and Probing Localized Electron Holes

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When forced out of equilibrium, electrons in molecules can respond exceedingly fast, on time scales approaching the attosecond. At this time scale, the dynamics are inherently quantum and the response is driven by intricate multi-electron correlations in what is commonly referred to as charge migration (CM). In this presentation I will discuss recent efforts at LSU for understanding and predicting CM dynamics in organic molecules, with a special focus on the migration dynamics of localized electron holes. I will also discuss avenues for initiating and probing such CM dynamics, as well as the effect of a liquid environment on CM.

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