

Light driven molecular motion

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Absorption of light can cause large changes in molecular structure. This is important for biological function, for example in the first steps in vision. These processes happen on very fast time scales, and only recent experiments have been able to observe them in detail. Manmade molecules can use similar principles to function as ultrafast photo switches. This project aims at developing new theory to model motion in a molecule after light absorption. Detailed models of the interaction of an electronic state with a complex quantum mechanical environment will be made and their predictions will be compared with experiments. The project combines fundamental theory development in open quantum systems dynamics with practical applications.