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COHERENT ENERGY AND CHARGE TRANSPORT IN MOLECULAR SYSTEMS

3. Delayed Decoherence in Semiconducting Polymers and Light-Harvesting Systems

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Abstract:

Based upon the approaches addressed in Lecture 2, a perspective will be given on the recent experimental observation of comparatively long-lived coherences associated with excitation energy transfer (exciton migration) in semiconducting polymers and light-harvesting systems. Special emphasis will be placed on the possible role of correlated environmental fluctuations in preserving excitonic coherence. Further, the transition to an incoherent (“hopping”, or Förster type) transfer regime will be discussed.approaches, illustrating the role of coherence and correlations.