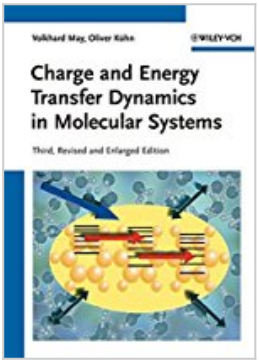

Charge and Energy Transfer Dynamics in Molecular Systems

By Volkhard May, Oliver K?hn

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This 3rd edition has been expanded and updated to account for recent developments, while new illustrative examples as well as an enlarged reference list have also been added. It naturally retains the successful concept of its predecessors in presenting a unified perspective on molecular charge and energy transfer processes, thus bridging the regimes of coherent and dissipative dynamics, and establishing a connection between classic rate theories and modern treatments of ultrafast phenomena.

Among the new topics are:
- Time-dependent density functional theory
- Heterogeneous electron transfer, e.g. between molecules and metal or semiconductor surfaces
- Current flows through a single molecule.

While serving as an introduction for graduate students and researchers, this is equally must-have reading for theoreticians and experimentalists, as well as an aid to interpreting experimental data and accessing the original literature.

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Editorial Review

Review

"A few months after the first edition of May and Kuehn's book was released, I met a Danish colleague at a conference in Montreux (on Lake Geneva). He had spent the weekend reading the book in his hotel room, despite the beautiful weather and nice sightseeing! This anecdote illustrates the sucess met by the first edition, and if you liked it, then you will like the second edition even more! ... the book provides a didactic and pedagogic presentation of molecular processes."

Prof. Majed Chergui, Laboratory of Ultrafast Spectroscopy, Ecole Polytechnique F?d?rale de Lausanne, ChemPhysChem, 4/2005

From the Back Cover
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From the contents:

- Electronic and Vibrational Molecular States.
- Dynamics and Isolated and Open Quantum Systems
- Interaction of Molecular Systems with Radiation Fields.
- Vibrational Dynamics: Energy Redistribution, Relaxation, and Dephasing.
- Intramolecular Electronic Transitions
- Electron Transfer
- Proton Transfer
- Excitation Energy Transfer

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Volkhard May studied physics at Humboldt University, Berlin, and received his Ph.D. in Theoretical Physics in 1981, and his Habilitation at the College of Education, G?strow, in 1987. He worked in the Department of Biophysics at the Institute of Molecular Biology in Berlin from 1987 to 1991, and has been a senior researcher at the Instiute of Physics, Humboldt University, since 1992. His current research activities focus on the theory of transfer phenomena in molecular nanostructures.

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