

Springer Series in Chemical Physics 93

Irene Burghardt
Volkhard May
David A. Micha
Eric R. Bittner
Editors

Energy Transfer Dynamics in Biomaterial Systems

This book presents a collection of 14 review articles that cover the key topics addressed in the workshop *Energy Flow Dynamics in Biomaterial Systems* which was held in October 2007 in Paris. These reviews illustrate the many facets of today's theoretical picture of electronic and vibronic dynamics and transport phenomena in biological, biomimetic, and molecular electronic systems. Part I focuses on excitation energy transfer in photosynthetic reaction centers and other multichromophoric systems, part II gives a tour d'horizon of DNA research, and part III addresses molecular electronics and quantum transport in organic materials. Finally, parts IV and V cover recent methodological developments in open system dynamics and hybrid quantum-classical methods. The scope of the book is deliberately broad in terms of physical systems studied and yet unified in the use of quantum dynamical methods to describe transient and often ultrafast energy and charge transfer events in complex systems.

ISBN 978-3-642-02305-7



> springer.com

Burghardt · May · Micha
Bittner
Eds.



Energy Transfer Dynamics in Biomaterial Systems

Irene Burghardt
Volkhard May
David A. Micha
Eric R. Bittner
Editors

SPRINGER SERIES IN CHEMICAL PHYSICS 93

Energy Transfer Dynamics in Biomaterial Systems

 Springer