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Nota di contenuto	Introduction; Preface; Historical Introduction J. Michl; CONTENTS; 1. Born-Oppenheimer Approximation and Beyond L.S. Cederbaum; 2. Conical Intersections: Their Description and Consequences D.R. Yarkony; 3. Determination of Potential Energy Surface Intersections and Derivative Couplings in the Adiabatic Representation D.R. Yarkony; 4. Diabatic Representation: Methods for the Construction of Diabatic Electronic States H. Koppel; 5. Modeling and Interpolation of Global Multi-Sheeted Potential Energy Surfaces A.J.C. Varandas 6. Conical Intersections and Organic Reaction Mechanisms A. Migani and M. Olivucci 7. The Multi-Mode Vibronic-Coupling Approach H. Koppel, W. Domcke and L.S. Cederbaum; 8. Model Studies of the Dynamics at Conical Intersections A. Lami and G. Villani; 9. Generic Aspects of the Dynamics at Conical Intersections: Internal Conversion, Vibrational Relaxation and Photoisomerization W. Domcke; 10. Jahn-Teller and Pseudo-Jahn-Teller Intersections: Spectroscopy and Vibronic Dynamics H. Koppel

11. Quantum Mechanical Studies of Photodissociation Dynamics Using Accurate Global Potential Energy Surfaces R. Schinke; 12. Geometric Phase Effects in Chemical Reaction Dynamics B.K. Kendrick; 13. Quantum Reaction Dynamics on Coupled Multi-Sheeted Potential Energy Surfaces S. Mahapatra; 14. Multidimensional Dynamics Involving a Conical Intersection: Wavepacket Calculations Using the MCTDH Method G.A. Worth, H.-D. Meyer and L.S. Cederbaum; 15. Mixed Quantum-Classical Description of the Dynamics at Conical Intersections G. Stock and M. Thoss; 16. Absorption, Emission, and Photoelectron Continuous-Wave Spectra A. Lami, C. Petrongolo and F. Santoro; 17. Femtosecond Time-Resolved Spectroscopy of the Dynamics at Conical Intersections G. Stock and W. Domcke; 18. Nonadiabatic Quantum Dynamics and Control Strategies R. de Vivie-Riedle and A. Hofmann; Index

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Sommario/riassunto

It is widely recognized nowadays that conical intersections of molecular potential-energy surfaces play a key mechanistic role in the spectroscopy of polyatomic molecules, photochemistry and chemical kinetics. This invaluable book presents a systematic exposition of the current state of knowledge about conical intersections, which has been elaborated in research papers scattered throughout the chemical physics literature.

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