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Nota di contenuto	Preface -- General Description -- Transport Theory -- Ballistic Transport -- Inelastic Transport -- Electronic Structure Calcuations in Molecules -- Nanoelectronic Applications of Molecular Junctions -- Conclusion -- Appendix -- Bibliography -- Index.
Sommario/riassunto	A comprehensive overview of the physical mechanisms that control electron transport and the characteristics of metal-molecule-metal (MMM) junctions is presented. As far as possible, methods and formalisms presented elsewhere to analyze electron transport through molecules are avoided. This title introduces basic concepts—a description of the electron transport through molecular junctions—and briefly describes relevant experimental methods. Theoretical methods commonly used to analyze the electron transport through molecules are presented. Various effects that manifest in the electron transport through MMMs, as well as the basics of density-functional theory and its applications to electronic structure calculations in molecules are presented. Nanoelectronic applications of molecular junctions and similar systems are discussed as well. Molecular electronics is a diverse and rapidly growing field. Transport Properties of Molecular Junctions

presents an up-to-date survey of the field suitable for researchers and professionals.