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| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Cover; Contents; Preface; Table of Boxes; Chapter 1 The Electronic Structure of Organic Semiconductors; 1.1 Introduction; 1.1.1 What Are ""Organic Semiconductors""?; 1.1.2 Historical Context; 1.2 Different Organic Semiconductor Materials; 1.2.1 Molecular Crystals; 1.2.2 Amorphous Molecular Films; 1.2.3 Polymer Films; 1.2.4 Further Related Compounds; 1.2.5 A Comment on Synthetic Approaches; 1.3 Electronic States of a Molecule; 1.3.1 Atomic Orbitals in Carbon; 1.3.2 From Atomic Orbitals to Molecular Orbitals; 1.3.3 From Orbitals to States; 1.3.4 Singlet and Triplet States<br>1.4 Transitions between Molecular States1.4.1 The Potential Energy Curve; 1.4.2 Radiative Transitions: Absorption and Emission; 1.4.2.1 The Electronic Factor; 1.4.2.2 The Vibrational Factor; 1.4.2.3 The Spin Factor; 1.4.3 A Classical Picture of Light Absorption; 1.4.3.1 The Lorentz Oscillator Model and the Complex Refractive Index; 1.4.3.2 Relating Experimental and Quantum Mechanical Quantities: The Einstein Coefficients, the Strickler-Berg Expression, and the Oscillator Strength; 1.4.4 Non-Radiative Transitions: Internal Conversion and Intersystem Crossing<br>1.4.4.1 The Franck-Condon Factor F and the Energy Gap Law1.4.4.2 |

Sommario/riassunto

Anna Koehler has been Professor and Chair of Experimental Physics II at the University of Bayreuth since 2007. After completing her PhD 1996 with Sir Richard Friend at the University of Cambridge, UK, she held Research Fellowships by Peterhouse, Cambridge, and by the Royal Society, UK. She was appointed Professor at the University of Potsdam, Germany, in 2003. Her research centres on the photophysical properties of organic semiconductors, with a focus on energy and charge transfer processes in singlet and triplet excited states.  Heinz Baessler is retired Professor at the Bayreuth Institute of

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| Sommario/riassunto | The last two decades have witnessed a rapid development of microelectromechanical systems (MEMS) involving gas microflows in various technical fields. Gas microflows can, for example, be observed in microheat exchangers designed for chemical applications or for cooling of electronic components, in fluidic microactuators developed for active flow control purposes, in micronozzles used for the micropropulsion of nano and picosats, in microgas chromatographs, analyzers or separators, in vacuum generators and in Knudsen micropumps, as well as in some organs-on-a-chip, such as artificial lungs. These flows are rarefied due to the small MEMS dimensions, and the rarefaction can be increased by low-pressure conditions. The flows relate to the slip flow, transition or free molecular regimes and can involve monatomic or polyatomic gases and gas mixtures. Hydrodynamics and heat and mass transfer are strongly impacted by rarefaction effects, and temperature-driven microflows offer new opportunities for designing original MEMS for gas pumping or separation. Accordingly, this Special Issue seeks to showcase research papers, short communications, and review articles that focus on novel theoretical and numerical models or data, as well as on new experimental results and technics, for improving knowledge on heat and mass transfer in gas microflows. Papers dealing with the |

development of original gas MEMS are also welcome.