



The Chemical Bond - Fundamental Aspects of Chemical Bonding

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Condition: New. Publisher/Verlag: Wiley-VCH | The way we envision a chemical bond has been revolutionized by advances in theory over the past few years. This book provides an overview of the approaches to modeling bonds, including molecular-orbital based, valence-bond based, ELF, AIM and density-functional based methods. | This is the perfect complement to "Chemical Bonding - Across the Periodic Table" by the same editors, who are two of the top scientists working on this topic, each with extensive experience and important connections within the community. The resulting book is a unique overview of the different approaches used for describing a chemical bond, including molecular-orbital based, valence-bond based, ELF, AIM and density-functional based methods. It takes into account the many developments that have taken place in the field over the past few decades due to the rapid advances in quantum chemical models and faster computers. | Preface THE PHYSICAL ORIGIN OF COVALENT BONDING The Quest for a Physical Model of Covalent Bonding Rigorous Basis for Conceptual Reasoning Atoms in Molecules The One-Electron Basis of Covalent Binding: H₂+ The Effect of Electronic Interaction in the Covalent Electron Pair Bond: H₂ Covalent Bonding in Molecules with More than Two Electrons: B₂, C₂, N₂, O₂, and F₂ Conclusions BRIDGING CULTURES Introduction A Short History of the...



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