Zürcher

Optical Activity

Basic Properties

Optical Activity: Basic Properties provides a clear explanation of the phenomenon of optical rotation. It covers the macroscopic as well as the microscopic. The connection between the macroscopic and microscopic description is discussed and particularly the relation between various physical parameters is explored. The focus is on the order-of-magnitude of these values and in particular why optical activity is not observed in many dielectric materials. The possible role of quantum-mechanical effects for explaining optical activity is also explored. Optical Activity is written at an intermediate level and only requires knowledge at the junior or senior undergraduate level. Bridging the gap between existing textbooks and the in-depth treatment found in review articles, this book presents as a further-reader resource for physics, chemistry, and engineering students. Key Features: - Detailed explanations of how the mathematical formalism relates to underlying physical mechanisms - Careful discussion of why optical activity can only be found in systems [molecules] without inversion symmetry - Exploration of the underlying quantum-mechanical origin of optical activity

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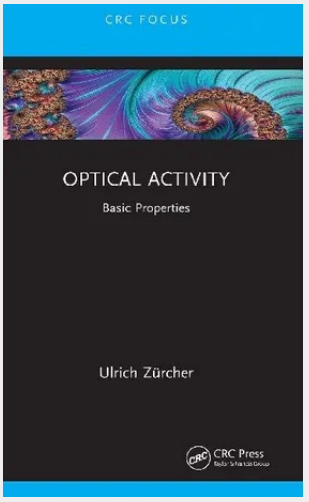

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