Theory of quantum and classical connections in modeling atomic, molecular and electrodynamic systems / Alexandu Popa

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Abstrak

Quantum and classical connections in modeling atomic, molecular and electrodynamic systems is intended for scientists and graduate students interested in the foundations of quantum mechanics and applied scientists interested in accurate atomic and molecular models. This is a reference to those working in the new field of relativistic optics, in topics related to relativistic interactions between very intense laser beams and particles, and is based on 30 years of research. The novelty of this work consists of accurate connections between the properties of quantum equations and corresponding classical equations used to calculate the energetic values and the symmetry properties of atomic, molecular and electrodynamical systems, as well as offering applications using methods for calculating the symmetry properties and the energetic values of systems and the calculation of properties of high harmonics in interactions between very intense electromagnetic fields and electrons.