Contemporary Quantum Mechanics in Practice

This helpful and pedagogical book offers problems and solutions in quantum mechanics from areas of current research rarely addressed in introductory courses or textbooks. It is based on the authors' own experience of teaching undergraduate and graduate courses in quantum mechanics and adapts problems from contemporary research publications to be accessible to students. Each section introduces key quantum mechanical concepts, which are followed by exercises that grow progressively more challenging throughout the chapter. The step-by-step solutions provide detailed mathematical derivations and explore their application to wider research topics. This is an indispensable resource for undergraduate and graduate students alike, expanding the range of topics usually covered in the classroom, as well as for instructors and early-career researchers in quantum mechanics, quantum computation and communication, and quantum information.

Lilia M. Woods is Professor at the Department of Physics, University of South Florida, where she has taught many courses in the past two decades. An academician with a stellar publication record, her research focus is on several aspects of quantum mechanics, nanomaterials, and device-modeling.

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Problems and Solutions

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