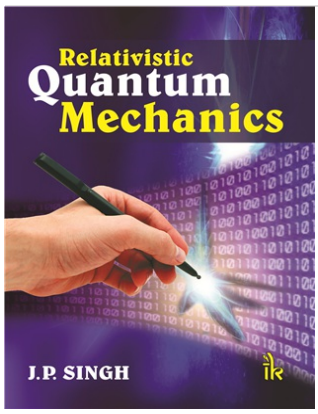
Book Information Sheet



Relativistic Quantum Mechanics, 1/e

J P Singh

2013 | 496 pp | Hardback | ISBN: 9789382332633 | Price: 1,595.00

About the Book

This book covers in detail the topics that are usually not treated traditional coverage. It provides valuable insights into the underlying physics. This book aims at addressing this gap by providing a lucid description of single particle relativistic dynamics at the quantum scale adapting, in a sense, the Schrodinger wave equations. It gives a thorough analysis of the Klein-Gordon and Dirac equations highlighting their properties. Dynamics of physical systems are represented by differential equations. A study of the symmetry groups of such equations provides valuable insights into the system dynamics. The Lorentz and Poincare groups constitute the underlying symmetry groups of special relativity and, thus, of the relativistic wave equations. The book also includes a few innovations despite being a conventional textbook.

The main objective of this book is to address the needs of postgraduate students and research scholars about the intricacies of relativistic quantum mechanics.

Salient Features

- Addresses the gap between relativistic treatment of the quantum mechanics of particles using field theory and single particle relativistic dynamics using conventional wave equations.
- Contains a thorough analysis of the Klein-Gordon and Dirac equations highlighting their properties.
- Contains specific chapters on symmetry in relativistic quantum mechanics and Lorentz and Poincare groups.
- Provides extended derivations of all relevant physical results without missing any intermediate steps.

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