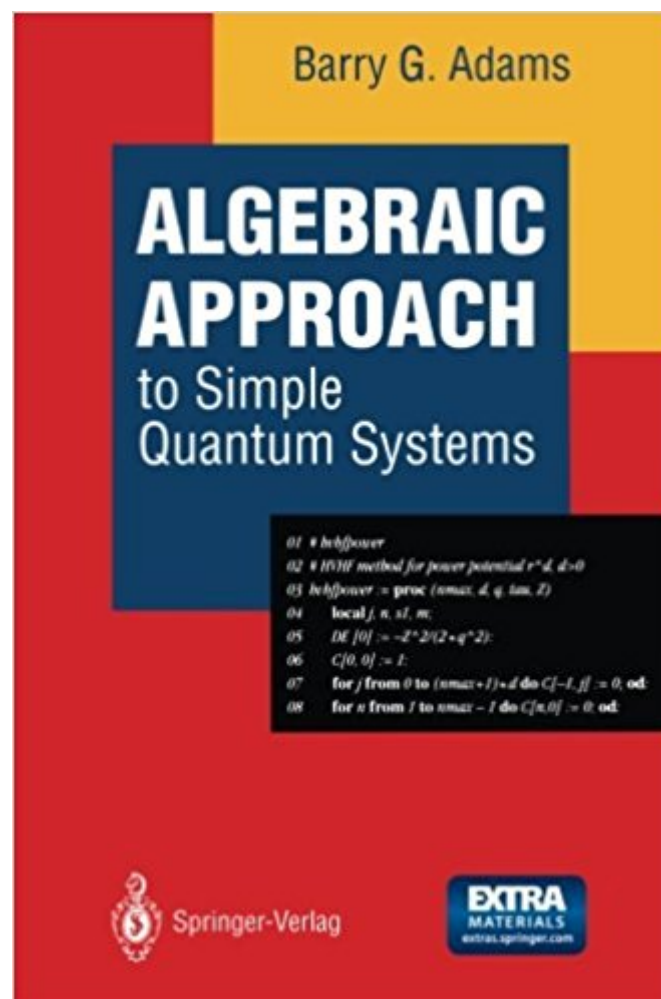




The book was found

Algebraic Approach To Simple Quantum Systems: With Applications To Perturbation Theory



Synopsis

This book provides an introduction to the use of algebraic methods and symbolic computation for simple quantum systems with applications to large order perturbation theory. It is the first book to integrate Lie algebras, algebraic perturbation theory and symbolic computation in a form suitable for students and researchers in theoretical and computational chemistry and is conveniently divided into two parts. The first part, Chapters 1 to 6, provides a pedagogical introduction to the important Lie algebras $so(3)$, $so(2,1)$, $so(4)$ and $so(4,2)$ needed for the study of simple quantum systems such as the D-dimensional hydrogen atom and harmonic oscillator. This material is suitable for advanced undergraduate and beginning graduate students. Of particular importance is the use of $so(2,1)$ in Chapter 4 as a spectrum generating algebra for several important systems such as the non-relativistic hydrogen atom and the relativistic Klein-Gordon and Dirac equations. This approach provides an interesting and important alternative to the usual textbook approach using series solutions of differential equations.

Book Information

Paperback: 451 pages

Publisher: Springer; Softcover reprint of the original 1st ed. 1994 edition (June 24, 1994)

Language: English

ISBN-10: 3540578013

ISBN-13: 978-3540578017

Product Dimensions: 6.1 x 1.1 x 9.2 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,380,721 in Books (See Top 100 in Books) #67 in Books > Science & Math > Chemistry > Physical & Theoretical > Quantum Chemistry #1196 in Books > Science & Math > Physics > Quantum Theory #3758 in Books > Science & Math > Chemistry > General & Reference

[Download to continue reading...](#)

Algebraic Approach to Simple Quantum Systems: With Applications to Perturbation Theory

Advanced Molecular Quantum Mechanics: An Introduction to Relativistic Quantum Mechanics and

the Quantum Theory of Radiation (Studies in Chemical Physics) Recent Advances in the Theory of

Chemical and Physical Systems: Proceedings of the 9th European Workshop on Quantum Systems

in Chemistry and Physics ... in Theoretical Chemistry and Physics) Quantum Thermodynamics:

Emergence of Thermodynamic Behavior Within Composite Quantum Systems (Lecture Notes in Physics) Covariant Loop Quantum Gravity: An Elementary Introduction to Quantum Gravity and Spinfoam Theory (Cambridge Monographs on Mathematical Physics) The Quantum Mechanics Solver: How to Apply Quantum Theory to Modern Physics Laboratory Applications in Microbiology: A Case Study Approach: Laboratory Applications in Microbiology: A Case Study Approach Microbiology: A Systems Approach: Microbiology: A Systems Approach The Quantum Theory of Fields, Vol. 2: Modern Applications Computational Chemistry: Introduction to the Theory and Applications of Molecular and Quantum Mechanics Non-covalent Interactions in Quantum Chemistry and Physics: Theory and Applications Quantum Field Theory in Strongly Correlated Electronic Systems (Theoretical and Mathematical Physics) Quantum Theory of Many-Particle Systems (Dover Books on Physics) Algebraic Graph Theory (Graduate Texts in Mathematics) Algebraic Geometry and Statistical Learning Theory (Cambridge Monographs on Applied and Computational Mathematics) Information Dynamics and Open Systems: Classical and Quantum Approach (Fundamental Theories of Physics) Algebraic Geometry: A Problem Solving Approach (Student Mathematical Library) Algebraic Topology: An Intuitive Approach (Translations of Mathematical Monographs, Vol. 183) Quantum Ontology: A Guide to the Metaphysics of Quantum Mechanics Quantum Nanoelectronics: An introduction to electronic nanotechnology and quantum computing

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)