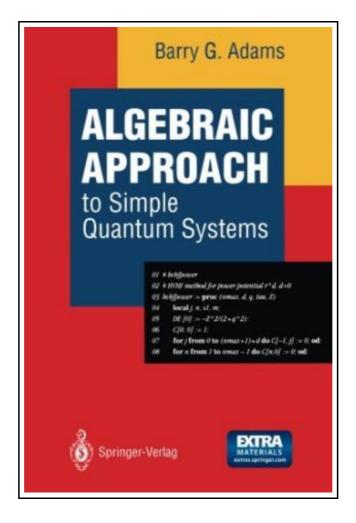
### Algebraic Approach to Simple Quantum Systems



Filesize: 5.8 MB

### **Reviews**

An exceptional book as well as the font applied was fascinating to learn. It is loaded with knowledge and wisdom I am just easily can get a pleasure of studying a created book.

(Dr. Benjamin Lakin)

### ALGEBRAIC APPROACH TO SIMPLE QUANTUM SYSTEMS



Book Condition: New. Publisher/Verlag: Springer, Berlin | With Applications to Perturbation Theory | This book provides an introduction to the use of algebraic methods and sym bolic 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 nonrelativistic 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. | 1 General Discussion of Lie Algebras.- 2 Commutator Gymnastics.- 3 Angular Momentum Theory and so(3).- 4 Representations and Realizations of so(2,1).- 5 Representations and Realizations of so(4).- 6 Scaled Hydrogenic Realization of so(4,2).- 7 Lie Algebraic Perturbation Theory.- 8 Symbolic Calculation of the Stark Effect.- 9 Symbolic Calculation of the Zeeman Effect.- 10 Spherically Symmetric Systems.- A The Levi-Civita Symbol.- B Lie Groups and Lie Algebras.- C The Tilting Transformation.- D Perturbation Matrix Elements.- E Tables of Stark Effect Energy Corrections.- F Tables of Zeeman Effect Energy Corrections.- G Tables of Charmonium Energy Corrections.- H Tables of Harmonium Energy Corrections.- I Tables of Screened Coulomb Energy Corrections.- J Solutions to Exercises.- Index of Symbols Used. | Format: Paperback | Language/Sprache: english | 726 gr...



Read Algebraic Approach to Simple Quantum Systems Online Download PDF Algebraic Approach to Simple Quantum Systems

### You May Also Like



#### Would It Kill You to Stop Doing That?

Book Condition: New. Publisher/Verlag: Little, Brown Book Group | A Modern Guide to Manners | A laugh-out-loud guide to modern manners by acclaimed humorist, author, and Vanity Fair columnist Henry Alford. | A few years...

Read eBook »



#### Violet Rose and the Surprise Party

Book Condition: New. Publisher/Verlag: Nosy Crow | With activities, 3D press-out models and over 175 stickers! Plus free games and printables online! | When busy rabbit, Violet Rose, discovers that her friend Lily has a...

Read eBook »



#### Magnificat in D Major, Bwv 243 Study Score Latin Edition

Petrucci Library Press. Paperback. Book Condition: New. Paperback. 70 pages. Dimensions: 9.8in. x 7.2in. x 0.3in.Bach composed the first version of this piece in 1723 using the key of E-flat major for the Christmas Vespers...

Read eBook »



#### Read Write Inc. Phonics: Orange Set 4 Storybook 7 Come on, Margo!

Oxford University Press, United Kingdom, 2016. Paperback. Book Condition: New. Tim Archbold (illustrator). 180 x 100 mm. Language: N/A. Brand New Book. These engaging Storybooks provide structured practice for children learning to read the Read...

Read eBook »



TJ new concept of the Preschool Quality Education Engineering the daily learning book of: new happy learning young children (2-4 years old) in small classes (3)(Chinese Edition)

paperback. Book Condition: New. Ship out in 2 business day, And Fast shipping, Free Tracking number will be provided after the shipment. Paperback. Pub Date :2005-09-01 Publisher: Chinese children before making Reading: All books are the...

Read eBook »



# Oxford Reading Tree Read with Biff, Chip, and Kipper: Phonics: Level 4: Quick! Quick! (Hardback)

Oxford University Press, United Kingdom, 2011. Hardback. Book Condition: New. 172 x 142 mm. Language: English . Brand New Book. Read With Biff, Chip and Kipper is the UK s best-selling home reading series. It

Download Book »



#### Scherzo Capriccioso, Op.66 / B.131: Study Score

Petrucci Library Press, United States, 2015. Paperback. Book Condition: New. 244 x 170 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. The Scherzo capriccioso was composed in the same period (1883-84) as

Download Book »



# Oxford Reading Tree Read with Biff, Chip, and Kipper: Phonics: Level 4: The Moon Jet (Hardback)

Oxford University Press, United Kingdom, 2011. Hardback. Book Condition: New. 172 x 142 mm. Language: English . Brand New Book. Read With Biff, Chip and Kipper is the UK s best-selling home reading series. It

Download Book »



# Oxford Reading Tree Read with Biff, Chip, and Kipper: Phonics: Level 2: The Fizz-buzz (Hardback)

Oxford University Press, United Kingdom, 2011. Hardback. Book Condition: New. 174  $\times$  142 mm. Language: English . Brand New Book. Read With Biff, Chip and Kipper is the UK s best-selling home reading series. It

Download Book »



# Oxford Reading Tree Read with Biff, Chip, and Kipper: Phonics: Level 2: The Red Hen (Hardback)

Oxford University Press, United Kingdom, 2011. Hardback. Book Condition: New. 176  $\times$  152 mm. Language: English . Brand New Book. Read With Biff, Chip and Kipper is the UK s best-selling home reading series. It

Download Book »