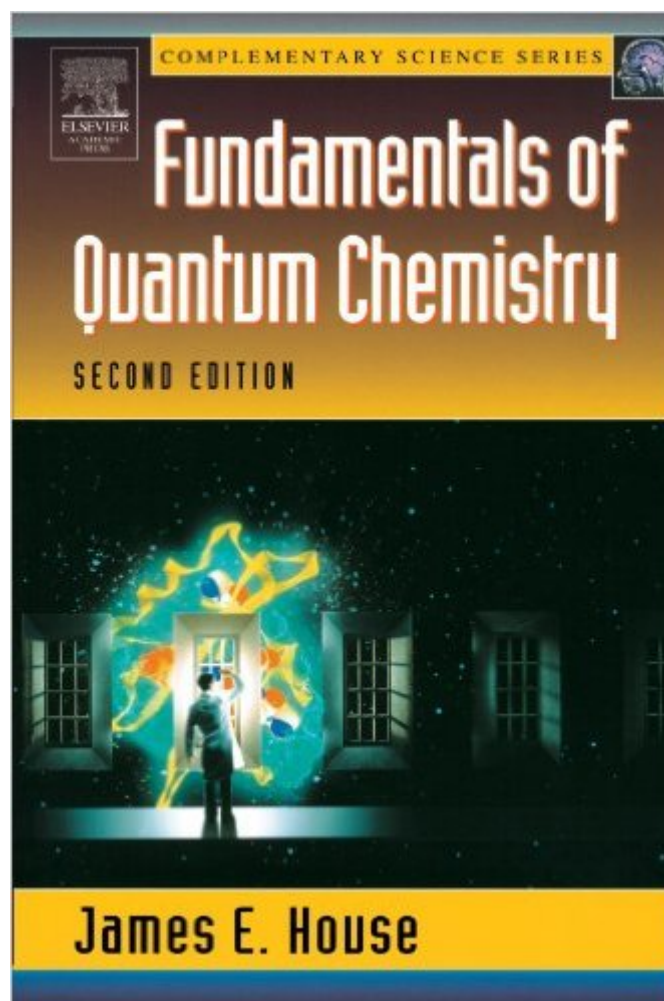


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Fundamentals Of Quantum Chemistry, Second Edition (Complimentary Science Series)



Synopsis

An introduction to the principles of quantum mechanics needed in physical chemistry. Mathematical tools are presented and developed as needed and only basic calculus, chemistry, and physics is assumed. Applications include atomic and molecular structure, spectroscopy, alpha decay, tunneling, and superconductivity. New edition includes sections on perturbation theory, orbital symmetry of diatomic molecules, the Huckel MO method and Woodward/Hoffman rules as well as a new chapter on SCF and Hartree-Fock methods. * This revised text clearly presents basic quantum mechanics for students in chemistry* Separate sections treat needed mathematical techniques. Presents complete mathematical details of derivations.* Contains applications of quantum mechanics to a broad range of problems in spectroscopy and molecular structureNew in this Edition:* A new chapter on molecular orbital calculations (extended Hückel and self-consistent field) * A significant number of additional figures and improvements to existing figures* New exercises, plus answers for selected problems * Now includes the photoelectric effect, the perturbation treatment of the helium atom, orbital symmetry and chemical reactions, and molecular term symbols * Careful and extensive edits throughout the text improve clarity and correct minor errors

Book Information

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Customer Reviews

Well, almost! The second edition of this outstanding little self study text "nearly" gets us to a real

QUANTITATIVE intro to QM without differential equations or linear algebra. The author says all you need is two semesters of calculus-- and true to his word, he very carefully explains the narrow little area of LA he does bring in (determinants) and on the few occasions where ODE's are a MUST, he steps through them at an AP High School/ Undergrad level. PDE's are limited to "well, you DO have to hold this variable constant to solve for the other" (ok, that's "of the essence" of QM)-- again, explained in painstaking detail so we don't get lost. If you're one of those folks like me that snoops out previous editions, makes sure there aren't too many changes, then buys them for a penny from /Goodwill-- the two "other" criteria are-- is there missing media, and how different IS the new update vs. the old price? In this case, I can't find the original website, but this edition added answers to selected problems at the end, making it much better for self study than the previous edition. The other criteria for prior editions is you have to be sure they haven't skyrocketed due to scarcity or as a collector's item, and indeed House's first has in a few cases (it actually has a different title): Fundamentals of Quantum Mechanics (Complementary Science). At this writing a few are selling for over \$200 and a few are still out there used for \$20, however, realize the answers to the questions are in THIS edition!! So how do you simply change a title from Mechanics to Chemistry? Is there a difference?

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