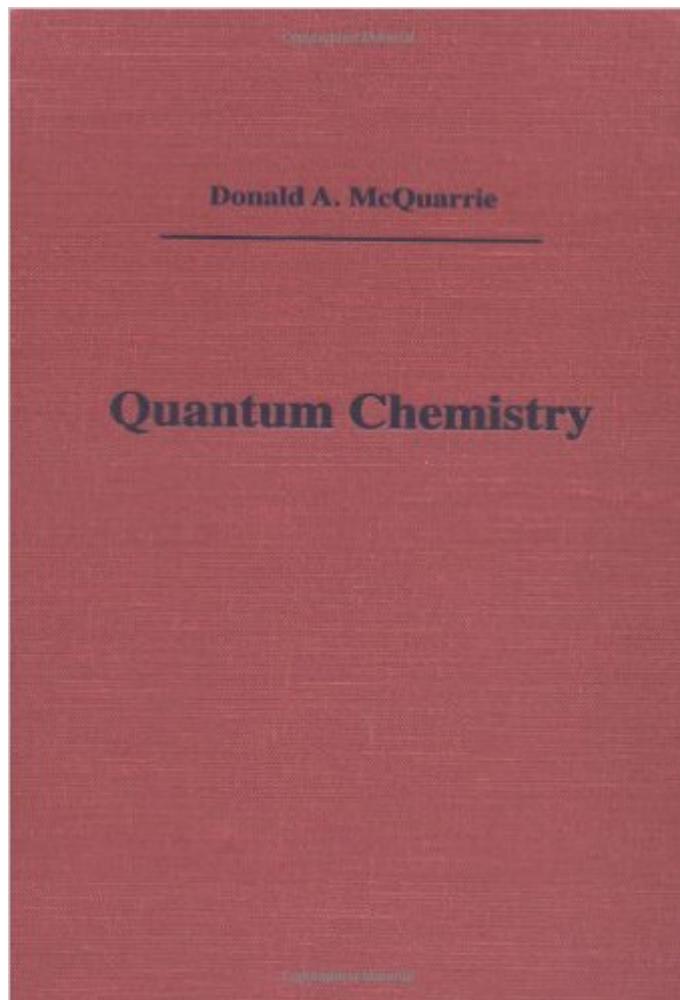


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Quantum Chemistry (Physical Chemistry Series)



Synopsis

"This text is a bargain in more ways than one." Journal of American Chemical Society Supplement: Solutions Manual

Book Information

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Customer Reviews

I'd say this book is an excellent book at both the graduate and undergraduate level. Contrary to one of the reviewers. It's very straightforward, and written with the less gifted 'physics' student in mind. It's not the only book you'll need, but it certainly helps understand all the rest of them. Meaning that derivations are crystal clear, and difficult math is actually worked out on almost every occasion. It's got really nice coverage of the basics, which leads up to the H atom, multielectron atoms and the variety of computational methods for use with them, and the same level of coverage with molecules. And there is a chapter on time dependent solutions, which I haven't yet read. It's even got pictures of studly physicists in it. I'd totally recommend this out of all the other quantum books I've encountered. Though you will need to supplement it with other books if you go deep into quantum. And there's some development of spin, but not the full deal. Angular momentum could have been treated a bit more thoroughly as well, for a graduate class. I think there is a snippet or two about bra-ket notation. But that's best learned from a nice quantum mechanics book really, none of the chemistry oriented books cover that aspect well, because it's really rooted more in the 'physics' interpretation of quantum. I'd also point out that the books I've seen that cover the theory exhaustively are pretty short on well worked out example problems, and are kind of hard to

understand sometimes. Not the case with this book. Anyways, I wouldn't have taken the time to write this if I didn't think it was money well spent. My advisor even likes it, and he got his PhD in Feynman diagrams.

Unlike Atkins, this text does not oversimplify things, and unlike Levine it doesn't make them heavy going. Rather this work is probably the best introduction to Quantum Chemistry that any undergraduate can ever have. The historical background of the discoveries, the eloquent description of the methods employed, the necessary justifications to help you understand the subject and the often annoying presence of Dirac's vector notation being omitted whenever possible all contributes to boost your interest in the subject. This is the perfect launch pad for the early classics such as Pauling's 'Introduction to Quantum Mechanics with Applications to Chemistry' or Murrell, Tedder and Kettle's 'Valence Theory'...

The best part of this book is that it is easy to understand. McQuarrie goes through every single math step and you are never too lost. Everybody I know who used this book liked this book. There is also a solution manual for ALL of the problems, I don't see it listed on . The only drawback of this book is that some of it is too easy: for instance it skips bra and ket notation entirely. So it's not really appropriate for physicists or theoretical chemists. I definitely recommend this book, and get the solution manual with it too if you can. END

I'm not going to repeat what other reviewers have said other than to note that this book covers the mathematics of quantum in sufficient detail so that you're never lost. Quantum is hard enough as it is without authors skimping on explicitness. Other books for undergrad quantum chem: Quantum Chemistry (5th Edition) by Ira N. Levine. 6th edition coming soon. This book is also strong. Molecular Quantum Mechanics by Atkins, Friedman. I used an earlier version of this book and found it very confusing. Skips lots of steps in the math and writing as not as clear as it should be. But you should get the dictionary by Atkins entitled "Quanta: A Handbook of Concepts". very helpful. Can also try the classic "Introduction to Quantum Mechanics with Applications to Chemistry" by Linus Pauling, E. Bright Wilson, Jr. First published in 1935 but still viable after 70 years! If you want to start with some simpler books look at: Introduction to Quantum Mechanics (2nd Edition) by David J. Griffiths (ISBN 0131118927) first and then you may want to pick-up: Quantum Mechanics for Chemists (Tutorial Chemistry Texts, 14) by David O. Hayward, ISBN: 0854046070 Quantum Mechanics 1: Foundations (Oxford Chemistry Primers, 48) by N.J.B. Green Quantum Mechanics 2: The Toolkit (Oxford

Chemistry Primers, 65) by N.J.B. GreenLook at my other reviews for other chemistry books.

In a World Gone Mad One Quantum Book Stands Above The Rest!When I took QM I suffered through other books before finding this one after the course was over. It was my first McQuarrie book but not my last as I went on to use and enjoy his Statistical Mechanics book and wish I had read his Physical Chemistry instead of the Telephone Book Atkins has become.

Granted this book is geared toward chemists, but the quantum principles described in the book apply to everyone. The author is very clear, thorough, and easy to follow. Highly recommended for physicists, chemists, and materials engineers alike.

This is my first time writing a review and I hope a rookie like me can appropriately describe this book's excellence. It's a very suitable textbook for chemistry students as it takes in account the math background of a normal chemistry student and developed the math derivation based upon this background. As quantum mechanics is in nature mathematics (this was said by Linus Pauling in his book on "introduction to quantum mechanics and its application on chemistry"), math is something that we cannot avoid to understand quantum mechanics itself. Donald's book excels in very clear math derivation which helps to unveil the myth of quantum mechanics as well as interpreting the physical meaning of math derivation which is directly related to practical applications. In that sense, this book is also good for students who have other majors but want to study quantum chemistry as the book is faithful to the idea of applying quantum mechanics to chemistry problems.

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