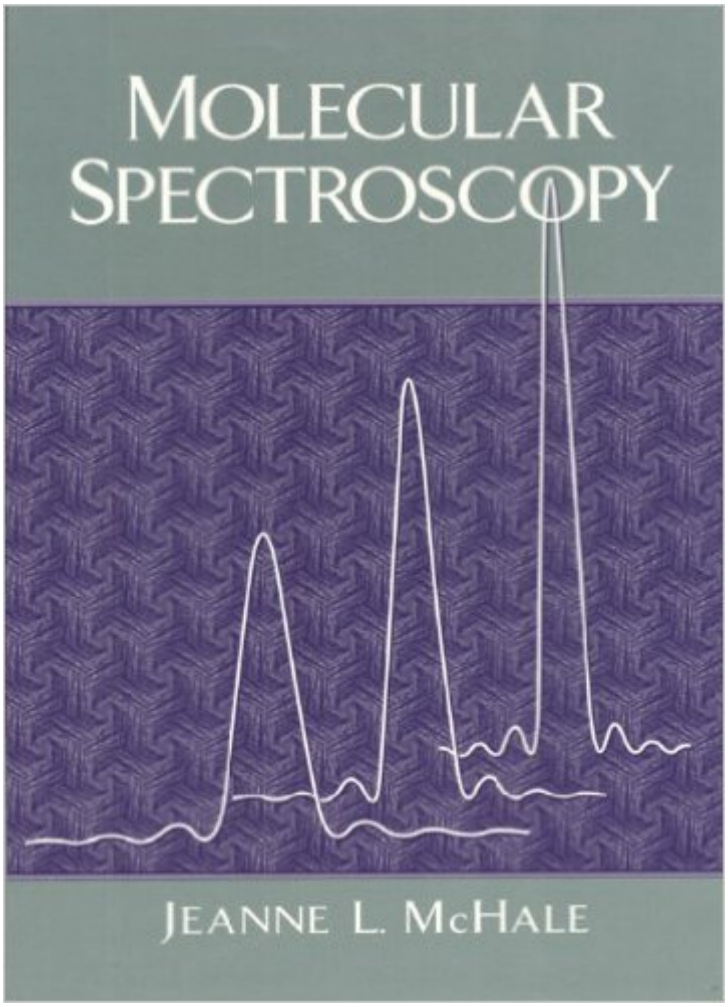
Molecular Spectroscopy



Synopsis

This rigorous and engaging book presents the basic theories underlying spectroscopy while incorporating modern viewpoints of practical utility in spectroscopy research. Written in a clear, jargon-free style, it covers the quantum mechanical theoretical basis of spectroscopy, modern innovations in spectroscopy theory, such as time-dependent theory, and practical applications of spectroscopy research, including the influence of condensed phases. Begins with a brief review of quantum mechanical principles, then moves on to such areas as the properties of light, bulk electric and magnetic properties of matter, fundamental theories of spectroscopic techniques, experimental arrangements, and finally applications of the electromagnetic spectrum. Studies the time-dependent theoretical approach to interpret frequency domain spectra, allowing readers to focus on the dynamic response of the system. Provides consistent and reasonable notation throughout, frequently uses thought experiments to help readers visualize a physical situation. and poses probing questions in order to stimulate independent thinking and prompt readers to consider potentially paradoxical predictions of theory. For spectroscopists, laser technicians, analytical and physical chemists, and physicists.

Book Information

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Customer Reviews

First impression of this book was good, but after closer inspection, I feel like Dr. McHale just gleaned what she felt was important from Herzberg and slapped it in her own book. It is heavily math based with a significant lack of phenomenological descriptions and big picture items, therefore making the content even more difficult to follow. In multiple cases, concepts were briefly mentioned,

but not enough information is given in the text to really understand what she was talking about (satellite transitions/lines for example). Another very bothering issue is the problems at the end of the chapter. The problems are not on the same level of difficulty at the text, making many of them nearly impossible to solve without further explaination which is not contained in the text book. If you are in the market for a low level Spectroscopy book, consider Bernath's, or better yet, just get Herzberg's books, which are the seminal books on this very beautiful portion of Physics and Chemistry.

This book is way overpriced. Yes, the general flow is alright, but I wouldn't pay more than $20 for this book.

It is OK, except that it is not hardcopy, which I knew when I bought it. And I have to protect it very carefully.

I used this text in my graduate-level spectroscopy class and my opinion is that it is completely worthless! It is unreadable and frustratingly lacking in examples and instructive ability. Stay away - you are better off using Harris and Bertolucci.

Applications Student Solution Manual for Quantum Chemistry and Spectroscopy Student Solution Manual for Quantum Chemistry and Spectroscopy 3rd (third) Edition by Engel, Thomas [2012] Quantum Chemistry & Spectroscopy (2nd Edition) Quantum Chemistry & Spectroscopy Plus MasteringChemistry with eText -- Access Card Package (3rd Edition) (Engel Physical Chemistry Series) Modern NMR Spectroscopy: A Guide for Chemists