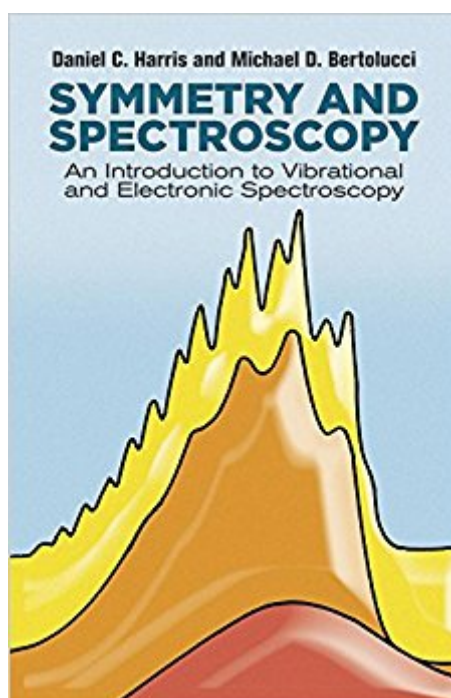


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Symmetry And Spectroscopy: An Introduction To Vibrational And Electronic Spectroscopy (Dover Books On Chemistry)



Synopsis

"The authors use an informal but highly effective writing style to present a uniform and consistent treatment of the subject matter." —Journal of Chemical Education. The primary focus of this text is to introduce students to vibrational and electronic spectroscopy, presenting applications of group theory to the interpretation of UV, visible, and infrared spectra without assuming a high level of background knowledge. The text is divided into five chapters that address the fundamentals of group theory, qualitative aspects of quantum mechanics, vibrational spectroscopy, molecular orbital theory, and electronic spectroscopy. To make the exposition clear and meaningful, each new concept is applied or illustrated with experimental results as quickly as possible. In addition, each chapter features a large number of relevant problems through which students can test their understanding of text material. These problems are an integral part of the text and sometimes introduce new material. Solutions to the problems (often accompanied by detailed explanations) can be found in an appendix. Carefully written to provide a solid foundation in spectroscopic analysis, the book devotes significant attention to the interpretation and significance of vibrational and electronic spectra, including good introductory material on Raman and photo-electron spectroscopy, vibronic analysis, and transition metal complexes. Moreover, many of the concepts presented clearly here can be easily extended to studies in other fields of chemistry. Also included are numerous helpful figures and line drawings illustrating important concepts.

Book Information

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Customer Reviews

Filled with fun little quips, the book starts a little heavy (it definitely helps if you already have a basic symmetry background) but eases up as you go. I recommend a supplemental symmetry book just for extra practice. All answers to the questions are in the back of the book (which I love) but there are very few practice problems throughout the book which is what I generally thrive on so if you don't understand how they got the answer you're a bit out of luck. With all that being said, I really do love Dan Harris' books. For under \$20, you can't beat this!

Although I am an undergraduate physics student but this is one of the best book on the vibrational spectroscopy, I used it to understand the application of the group theory and molecular vibrations. Harris and Bertolucci wrote the text in a clear way with examples. I am only half way through the book but the way the text is presented, its evident how the rest of the book will be, Clear and to the point. Only minus point is that the character tables are not derived and are given in appendix and it also lacks the representation theory but after all it is a book on Spectroscopy and not on Group theory so I may not complain. In my openion, this book can be compared with Cotton and Bishop and if I have to understand the application of group theory and molecular vibrations I will certainly pick up Harris & Bertolucci.

good

Good book to use for spectroscopy class notes.

Received as advertised. Excellent subject coverage.

It's an excellent textbook to group theory in chemistry and its application to spectroscopy, which will be very helpful to comprehend deeply about the physical background of spectra.

Got this book to study for a Spectroscopy of Optical Materials course and it was wonderfull. Easy to follow and complete.

Excellent book, even for microwave/rotational spectroscopy.

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