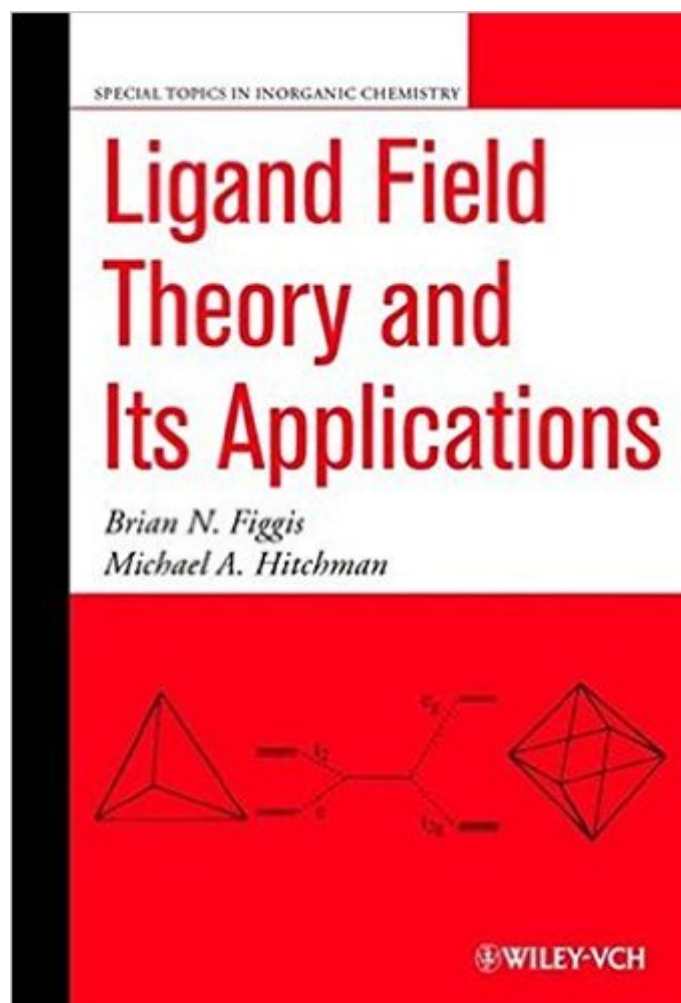


The book was found

Ligand Field Theory And Its Applications



Synopsis

A complete, up-to-date treatment of ligand field theory and its applications *Ligand Field Theory and Its Applications* presents an up-to-date account of ligand field theory, the model currently used to describe the metal-ligand interactions in transition metal compounds, and the way it is used to interpret the physical properties of the complexes. It examines the traditional electrostatic crystal field model, still widely used by physicists, as well as covalent approaches such as the angular overlap model, which interprets the metal ligand interactions using parameters relating directly to chemical behavior. Written by internationally recognized experts in the field, this book provides a comparison between ligand field theory and more sophisticated treatments as well as an account of the methods used to calculate the energy levels in compounds of the transition metals. It also covers physical properties such as stereochemistry, light absorption, and magnetic behavior. An emphasis on the interpretation of experimental results broadens the book's field of interest beyond transition metal chemistry into the many other areas where these metal ions play an important role. As clear and accessible as Brian Figgis's 1966 classic *Introduction to Ligand Fields*, this new book provides inorganic and bioinorganic chemists as well as physical chemists, chemical physicists, and spectroscopists with a much-needed overview of the many significant changes that have taken place in ligand field theory over the past 30 years.

Book Information

Hardcover: 376 pages

Publisher: Wiley-VCH; 1 edition (December 28, 1999)

Language: English

ISBN-10: 0471317764

ISBN-13: 978-0471317760

Product Dimensions: 6.3 x 0.9 x 9.5 inches

Shipping Weight: 3.6 pounds (View shipping rates and policies)

Average Customer Review: 5.0 out of 5 stars See all reviews (1 customer review)

Best Sellers Rank: #899,365 in Books (See Top 100 in Books) #13 in Books > Science & Math > Chemistry > Organic > Organometallic Compounds #173 in Books > Science & Math > Chemistry > Inorganic #605 in Books > Science & Math > Chemistry > Physical & Theoretical

Customer Reviews

According to the preface, the book of Figgis & Hitchman is a revised and extended version of Figgis' *Introduction to Ligand Fields* published in 1966. The book offers a modern approach to ligand field

theory (LFT) which is an extension of crystal field theory (CFT) developed in the 1930s by two giants, Bethe and Van Vleck. While CFT is concerned with the study of energy levels of single metal ions surrounded by a symmetric (octahedral, tetrahedral, etc.) arrangement of point charges, LFT includes additional effects that account for the covalent character of metal-ligand bonds. The objects of study of LFT are the coordination complexes of transition metals which are commonly investigated in inorganic and coordination chemistry. Although nowadays it is possible to perform accurate quantum mechanical calculations on such metal complexes, LFT is still important a tool for the possibility it offers to interpret both experimental and computational results. Two books that are historically important and still useful to the inorganic chemist are Ballhausen's Introduction to Ligand Field Theory (1962) and Griffith's The Theory of Transition-Metal Ions.

[Download to continue reading...](#)

Ligand Field Theory and Its Applications The Immunoassay Handbook, Fourth Edition: Theory and Applications of Ligand Binding, ELISA and Related Techniques The Chemistry of Macrocyclic Ligand Complexes (Cambridge Texts in Chemistry and Biochemistry) Metal-Ligand Multiple Bonds: The Chemistry of Transition Metal Complexes Containing Oxo, Nitrido, Imido, Alkylidene, or Alkylidyne Ligands The City in History: Its Origins, Its Transformations, and Its Prospects Electrodynamics: The Field-Free Approach: Electrostatics, Magnetism, Induction, Relativity and Field Theory (Undergraduate Lecture Notes in Physics) Molybdenum and Its Compounds: Applications, Electrochemical Properties and Geological Implications (Chemistry Research and Applications) Microwave Field-effect Transistors: Theory, Design and Applications (Electronic & Electrical Engineering Research Studies) Structural Analysis: With Applications to Aerospace Structures (Solid Mechanics and Its Applications) Peridynamic Theory and Its Applications Topological Fixed Point Principles for Boundary Value Problems (Topological Fixed Point Theory and Its Applications) Symmetry: An Introduction to Group Theory and Its Applications (Dover Books on Physics) Fluid Flow in the Subsurface: History, Generalization and Applications of Physical Laws (Theory and Applications of Transport in Porous Media) Ergonomics: Foundational Principles, Applications, and Technologies (Ergonomics Design & Management Theory & Applications) Stochastic Integration in Banach Spaces: Theory and Applications (Probability Theory and Stochastic Modelling) Customary International Law: A New Theory with Practical Applications (ASIL Studies in International Legal Theory) The Ferns of Florida: A Reference and Field Guide (Reference and Field Guides) Field Guide to the Amphibians and Reptiles of Britain and Europe (Helm Field Guides) Warman's U.S. Coins & Currency Field Guide (Warman's U S Coins and Currency Field Guide) Hot Wheels Field Guide: Values and Identification (Warman's Field Guides

Hot Wheels: Values & Identification)

[Dmca](#)