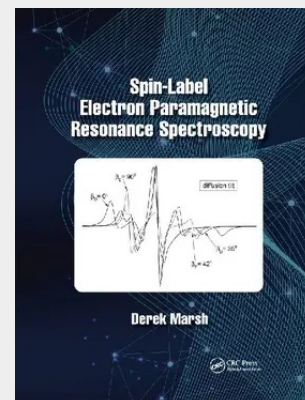


Spin-Label Electron Paramagnetic Resonance Spectroscopy

Spin-label electron paramagnetic resonance (EPR) spectroscopy is a versatile molecular probe method that finds wide application in molecular biophysics and structural biology. This book provides the first comprehensive summary of basic principles, spectroscopic properties, and use for studying biological membranes, protein folding, supramolecular structure, lipid-protein interactions, and dynamics. The contents begin with discussion of fundamental theory and practice, including static spectral parameters and conventional continuous-wave (CW) spectroscopy. The development then progresses, via nonlinear CW-EPR for slower motions, to the more demanding time-resolved pulse EPR, and includes an in-depth treatment of spin relaxation and spectral line shapes. Once the spectroscopic fundamentals are established, the final chapters acquire a more applied character. Extensive appendices at the end of the book provide detailed summaries of key concepts in magnetic resonance and chemical physics for the student reader and experienced practitioner alike. Key Features: - Indispensable reference source for the understanding and interpretation of spin-label spectroscopic data in its different aspects. Tables of fundamental spectral parameters are included throughout. - Forms the basis for an EPR graduate course, extending up to a thorough coverage of advanced topics in Specialist Appendices. Includes all necessary theoretical background. The primary audience is research workers in the fields of molecular biophysics, structural biology, biophysical chemistry, physical biochemistry and molecular biomedicine. Also, physical chemists, polymer physicists, and liquid-crystal researchers will benefit from this book, although illustrative examples used are often taken from the biomolecular field. Readers will be postgraduate researchers and above, but include those from other disciplines who seek to understand the primary spin-label EPR literature.

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