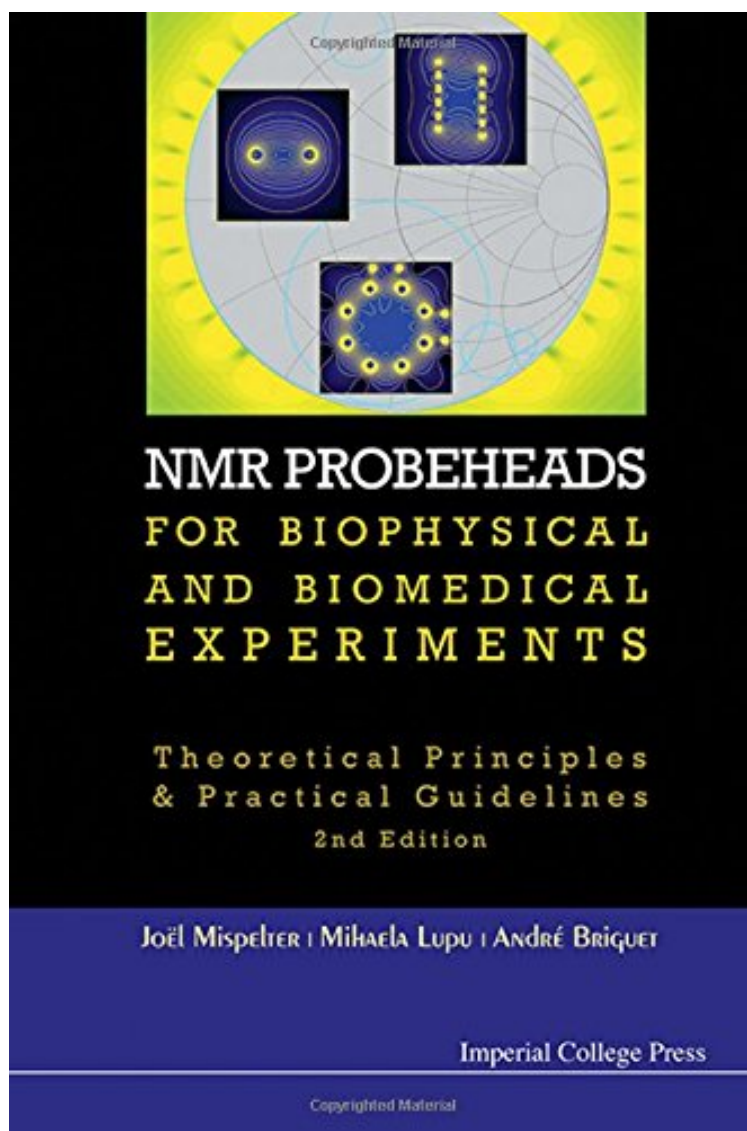


(Mobile ebook) NMR Probeheads for Biophysical and Biomedical Experiments: Theoretical Principles and Practical Guidelines

NMR Probeheads for Biophysical and Biomedical Experiments: Theoretical Principles and Practical Guidelines

Joel Mispelter, Mihaela Lupu, Andre Briguet
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Joel Mispelter, Mihaela Lupu, Andre Briguet : NMR Probeheads for Biophysical and Biomedical Experiments: Theoretical Principles and Practical Guidelines before purchasing it in order to gage whether or not it would be worth my time, and all praised NMR Probeheads for Biophysical and Biomedical Experiments: Theoretical Principles

and Practical Guidelines:

NMR Probeheads for Biophysical and Biomedical Experiments 2nd Edition is essential reading for anyone in the field of NMR or MRI, from students to medical or biological scientists performing experiments under certain physical and/or geometrical conditions, unattainable by conventional or available probes. The material guides the reader through the most basic and comprehensive stages in accomplishing a correct probe design, from a very basic oscillating circuit to much more elaborate designs. This new edition has been revised and updated to include a chapter dedicated to RF components, which are commonly used for probes realization and their frequency-dependent characteristics. Another completely revised chapter concerns the multiple coil systems and discusses arrays coils, different decoupling methods, and some principles for interfacing coils with low-noise preamplifiers. The principles of linear circuit analysis are presented in a dedicated chapter. Last but not least, accompanying files containing updated software for probe design have been made available from the publisher's website. Readership: Bioengineers, biomedical researchers and non-experts in RF technology willing to acquire basic knowledge on RF sensors design; inquisitive user of an NMR spectrometer could be interested in some "knowing-how" about this "black box".

From the Inside Flap This book is intended to provide the basis of knowledge to design and build NMR probeheads specific for a given experiment like in vivo magnetic resonance spectroscopy or imaging. Since the book is intended for practical use, each step leading to the realization of the probe is detailed. The covered subjects include the principles of operation of NMR probes, and guidelines for choosing a specific configuration, as well as the electrical and mechanical details to construct the resonator. Examples of NMR probes, already built and working, are given and commented in detail. A set of tools (formulae and numerical calculations) useful for designing, evaluating and debugging the probes are given.