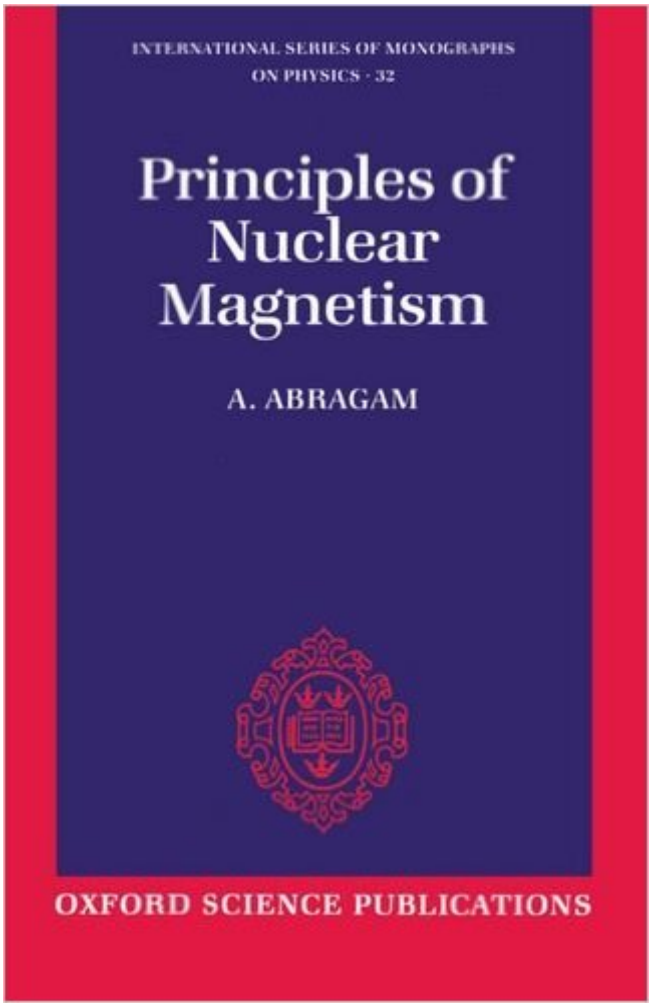
Principles Of Nuclear Magnetism (International Series Of Monographs On Physics)



Synopsis

The Principles of Nuclear Magnetism

Book Information

Series: International Series of Monographs on Physics (Book 32)

Paperback: 614 pages

Publisher: Clarendon Press (October 27, 1983)

Language: English

ISBN-10: 019852014X

ISBN-13: 978-0198520146

Product Dimensions: 9.2 x 1.3 x 6.1 inches

Shipping Weight: 2.5 pounds (View shipping rates and policies)

Average Customer Review: 4.5 out of 5 starsÂ Â See all reviewsÂ (2 customer reviews)

Best Sellers Rank: #703,690 in Books (See Top 100 in Books) #72 inÂ Books > Science & Math > Physics > Electromagnetism > Magnetism #210 inÂ Books > Science & Math > Physics > Solid-State Physics #376 inÂ Books > Science & Math > Physics > Nuclear Physics

Customer Reviews

Given the time at which it was written, this book is still unsurpassed in its quality, conciseness, and clarity of style in the field of NMR. It was written by a physicist, contrary to Ernst's book, which is also excellent but focuses more on the interpretation of spectra rather than spin physics. (This was of course Ernst's intent anyways, there already was an excellent textbook on NMR by Abragam; he saw no need to reinvent the wheel.) While Abragam's book is quite a joy to read, it is also rather outdated. Nearly half the topics dealt with are no longer in use today. It needs to be supplemented by Ernst's book, as well as Callaghan's book. I also recommend Abragam & Goldman's book "Order and disorder" for a treatment of more modern NMR physics, if like me, you like eclectic topics. Abragam uses a purely quantum approach, and does not treat feynman path integral approach to relaxation. The chapter on relaxation is excellent, and has been praised by many, but he does not really explain much of the theory of random processes, so you'll need to learn this stuff elsewhere if you've never been exposed to stochastic processes before (well, Abragam makes very simple markov approximations, which is easy to understand as is- without too much extra background). Definitely the chapter on dipolar line width is worth mentioning.

Referenced in countless professional journal articles, this 1961 classic is one of the seminal

treatises on the subject of Nuclear Magnetism. Topics addressed are: motion of free spins, basic resonant and non-resonant methods, macroscopic aspects of nuclear magnetism (Bloch equations, transient methods, detection methods), Dipolar line width in a rigid lattice, spin temperature, electron-nuclear interactions, quadrupole effects (fine structure), thermal relaxation, line width theory, multiplet structure in liquids, and effects of strong RF fields.All of these topics are covered in consise, easy-to-understand language, and the treatment of the material is classic and elegant. A necessary part of any complete solid-state or NMR library.

Abragam, A.'s Principles of Nuclear Magnetism (International Series of Monographs on Physics) by Abragam, A. published by Oxford University Press, USA [Paperback] (1983) Principles of Nuclear Magnetism (International Series of Monographs on Physics) Physics for Scientists and Engineers, Volume 2: Electricity, Magnetism, Light, and Elementary Modern Physics Nuclear Strategy in the Modern Era: Regional Powers and International Conflict (Princeton Studies in International History and Politics) FlipItPhysics for University Physics: Electricity and Magnetism (Volume Two) Electricity and Magnetism (Berkeley Physics Course, Vol. 2) Understanding Physics: Volume 2: Light, Magnetism and Electricity Understanding Physics (Motion, Sound, and Heat / Light, Magnetism, and Electricity / The Electron, Proton, and Neutron) Physics for Scientists and Engineers with Modern Physics: Volume II (3rd Edition) (Physics for Scientists & Engineers) Head First Physics: A learner's companion to mechanics and practical physics (AP Physics B - Advanced Placement) Atoms in Molecules: A Quantum Theory (International Series of Monographs on Chemistry) Equivariant Cohomology and Localization of Path Integrals (Lecture Notes in Physics Monographs) Acoustic Microscopy (Monographs on the Physics and Chemistry of Materials) Physics of Amphiphiles: Micelles, Vesicles and Microemulsions : Proceedings of the International School of Physics, Enrico Fermi, Course Xc Fundamentals of Nuclear Reactor Physics Introductory Nuclear Physics Russian-English Dictionary of Nuclear Physics and Engineering Introduction to Nuclear and Particle Physics Group Theory in Particle, Nuclear, and Hadron Physics An Introduction to Nuclear Physics