Record Nr. UNINA9910145741203321 Solid-state NMR spectroscopy: principles and applications / / edited by **Titolo** Melinda J. Duer Pubbl/distr/stampa Oxford:,: Blackwell Science,, [2002] **ISBN** 1-281-31276-2 9786611312763 0-470-99939-X 0-470-99938-1 Descrizione fisica 1 online resource (562 pages) Altri autori (Persone) DuerMelinda J Disciplina 543.0877 543/.0877 Soggetti Nuclear magnetic resonance spectroscopy Solid state chemistry Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Solid-State NMR Spectroscopy Principles and Applications; List of Contributors; Contents; Index; Preface; Acknowledgements; Part I The Theory of Solid-State NMR and its Experiments; 1 The Basics of Solid-State NMR; 1.1 The vector model of pulsed NMR; 1.1.1 Nuclei in a static, uniform magnetic field; 1.1.2 The effect of rf pulses; 1.2 The quantum mechanical picture: hamiltonians and the Schrodinger equation; Box 1.1 Quantum mechanics and NMR; 1.2.1 Nuclei in a static, uniform field; 1.2.2 The effect of rf pulses; Box 1.2 Exponential operators, rotation operators and rotations 1.3 The density matrix representation and coherences 1.3.1 Coherences and populations; 1.3.2 The density operator at thermal equilibrium; 1.3.3 Time evolution of the density matrix; 1.4 Nuclear spin interactions; 1.4.1 The chemical shift and chemical shift anisotropy; 1.4.2 Dipole-dipole coupling; Box 1.3 Basis sets for multispin systems; 1.4.3 Quadrupolar coupling; 1.5 Calculating NMR powder patterns; 1.6 General features of NMR experiments; 1.6.1 Multidimensional NMR;

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Sommario/riassunto

This book is for those familiar with solution-state NMR who are encountering solid-state NMR for the first time. It presents the current understanding and applications of solid-state NMR with a rigorous but readable approach, making it easy for someone who merely wishes to gain an overall impression of the subject without details. This dual requirement is met through careful construction of the material within each chapter. The book is divided into two parts: ""Fundamentals"" and ""Further Applications."" The section on Fundamentals contains relatively long chapters that deal with the bas