1. Record Nr. UNINA9910784545403321 Autore Bernstein Matt A Titolo Handbook of MRI pulse sequences [[electronic resource] /] / Matt A. Bernstein, Kevin F. King, Ziaohong Joe Zhou Amsterdam: Boston: Academic Press, c2004 Pubbl/distr/stampa **ISBN** 1-281-03813-X 9786611038137 0-08-053312-4 Descrizione fisica 1 online resource (1041 p.) Altri autori (Persone) KingKevin Franklin ZhouXiaohong Joe 616.07/548 Disciplina Soggetti Magnetic resonance imaging Magnetic resonance imaging - Mathematical models 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 Front Cover: Handbook of MRI Pulse Sequences: Copyright Page: Contents; Forewords; Preface; PART I: Background; Introduction; Chapter 1. Tools; 1.1 Fourier Transforms; 1.2 Rotating Reference Frame; PART II: Radiofrequency Pulses; Introduction; Chapter 2. Radiofrequency Pulse Shapes; 2.1 Rectangular Pulses; 2.2 SINC Pulses; 2.3 SLR Pulses; 2.4 Variable-Rate Pulses; Chapter 3. Basic Radiofrequency Pulse Functions; 3.1 Excitation Pulses; 3.2 Inversion Pulses; 3.3 Refocusing Pulses; Chapter 4. Spectral Radiofrequency Pulses; 4.1 Composite Radiofrequency Pulses; 4.2 Magnetization Transfer Pulses 4.3 Spectrally Selective PulsesChapter 5. Spatical Radiofrequency Pulses; 5.1 Multidimensional Pulses; 5.2 Ramp (TONE) Pulses; 5.3 Spatial Saturation Pulses; 5.4 Spatial-Spectral Pulses; 5.5 Tagging Pulses; Chapter 6. Adiabatic Radiofrequency Pulses; 6.1 Adiabatic Excitation Pulses; 6.2 Adiabatic Inversion Pulses; 6.3 Adiabatic Refocusing Pulses; PART III: Gradients; Introduction; Chapter 7. Gradient Lobe Shapes; 7.1 Simple Gradient Lobes; 7.2 Bridged Gradient

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Sommario/riassunto

Magnetic Resonance Imaging (MRI) is among the most important medical imaging techniques available today. There is an installed base of approximately 15,000 MRI scanners worldwide. Each of these scanners is capable of running many different ""pulse sequences"", which are governed by physics and engineering principles, and implemented by software programs that control the MRI hardware. To utilize an MRI scanner to the fullest extent, a conceptual understanding of its pulse sequences is crucial. This book offers a complete guide that can help the scientists, engineers, clinicians, and technologis