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The Physics of Clinical MR Taught Through Images, Fourth Edition, by Val Runge, Wolfgang Nitz, and Johannes Heverhagen, presents a unique and highly practical approach to understanding the physics of magnetic resonance imaging. Each physics topic is described in user-friendly language and accompanied by high-quality graphics and/or images. The visually rich format provides a readily accessible tool for learning, leveraging, and mastering the powerful diagnostic capabilities of MRI.

Key Features

- More than 700 images, anatomical drawings, clinical tables, charts, and diagrams, including magnetization curves and pulse sequencing, facilitate acquisition of highly technical content.
- Eight systematically organized sections cover core topics: hardware and radiologic safety; basic image physics; basic and advanced image acquisition; flow effects; techniques specific to the brain, heart, liver, breast, and cartilage; management and reduction of artifacts; and improvements in MRI diagnostics and technologies.
- Cutting-edge topics including contrast-enhanced MR angiography, spectroscopy, perfusion, and advanced parallel imaging/data sparsity techniques.
- Discussion of groundbreaking hardware and software innovations, such as MR-PET, 7 T, interventional MR, 4D flow, CAIPIRINHA, radial acquisition, simultaneous multislice, and compressed sensing.
- A handy appendix provides a quick reference of acronyms, which often differ from company to company.
SALES HOOKS

- Dr. Runge is a pioneer and well-known name in the field of MRI
- This book takes a uniquely easy-to-understand approach to an important and difficult topic by anchoring the concepts in images, which makes the topic more approachable for radiologists
- For use in the office or at home, this book reveals how MRI works and how to optimally use it

COMPETITION


CONTENTS

Section I. Hardware
Section II. Basic Imaging Physics
Section III. Basic Image Acquisition
Section IV. Advanced Image Acquisition
Section V. Flow
Section VI. Tissue-Specific Techniques
Section VII. Artifacts, Including Those Due to Motion, and the Reduction Thereof
Section VIII. Further Improving Diagnostic Quality, Technologic Innovation