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


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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