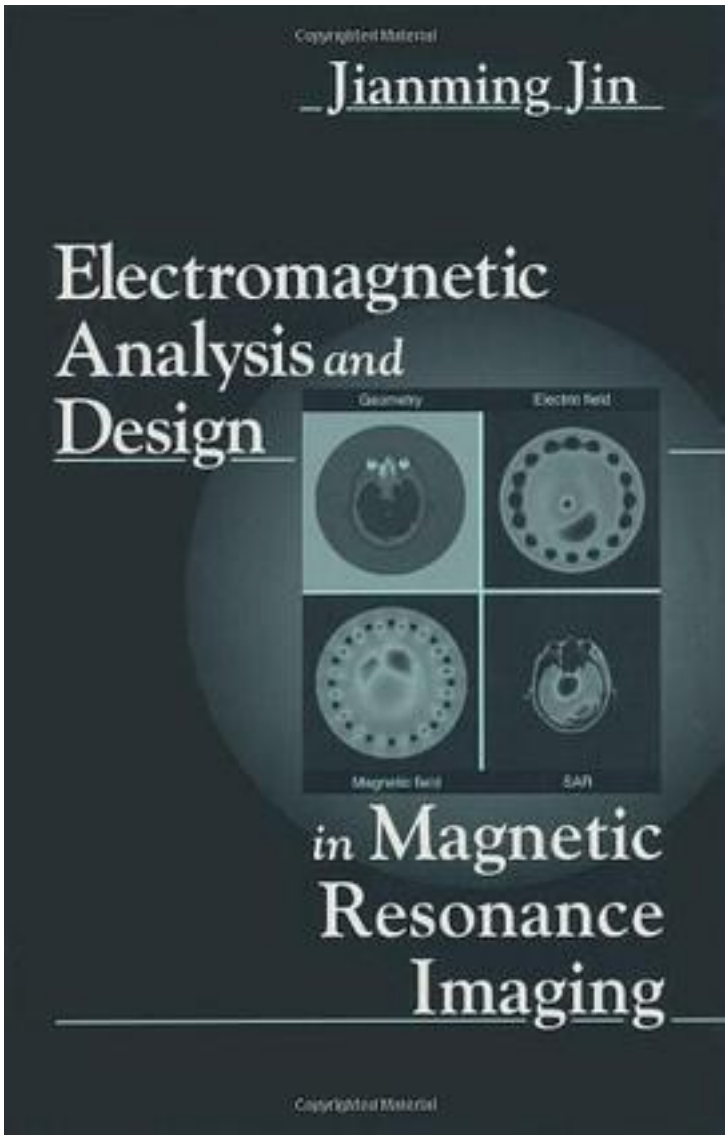
# Electromagnetic Analysis and Design in Magnetic Resonance Imaging

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This book presents a comprehensive treatment of electromagnetic analysis and design of three critical devices for an MRI system - the magnet, gradient coils, and radiofrequency (RF) coils. "Electromagnetic Analysis and Design in Magnetic Resonance Imaging" is unique in its detailed examination of the analysis and design of the hardware for an MRI system. It takes an engineering perspective to serve the many scientists and engineers in this rapidly expanding field.The chapters present: an introduction to MRI basic concepts of electromagnetics, including Helmholtz and Maxwell coils, inductance calculation, and magnetic fields produced by special cylindrical and spherical surface currents principles for the analysis and design of gradient coils, including discrete wires and the target field method analysis of RF coils based on the equivalent lumped-circuit model as well as an analysis based on the integral equation formulation survey of special purpose RF coils analytical and numerical methods for the analysis of electromagnetic fields in biological objects.With the continued, active development of MRI instrumentation, "Electromagnetic Analysis and Design in Magnetic Resonance Imaging" presents an excellent, logically organized text - an indispensable resource for engineers, physicists, and graduate students working in the field of MRI.

作者介绍:

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## 标签

RF

MRI,

MRI

## 评论

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## 书评

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