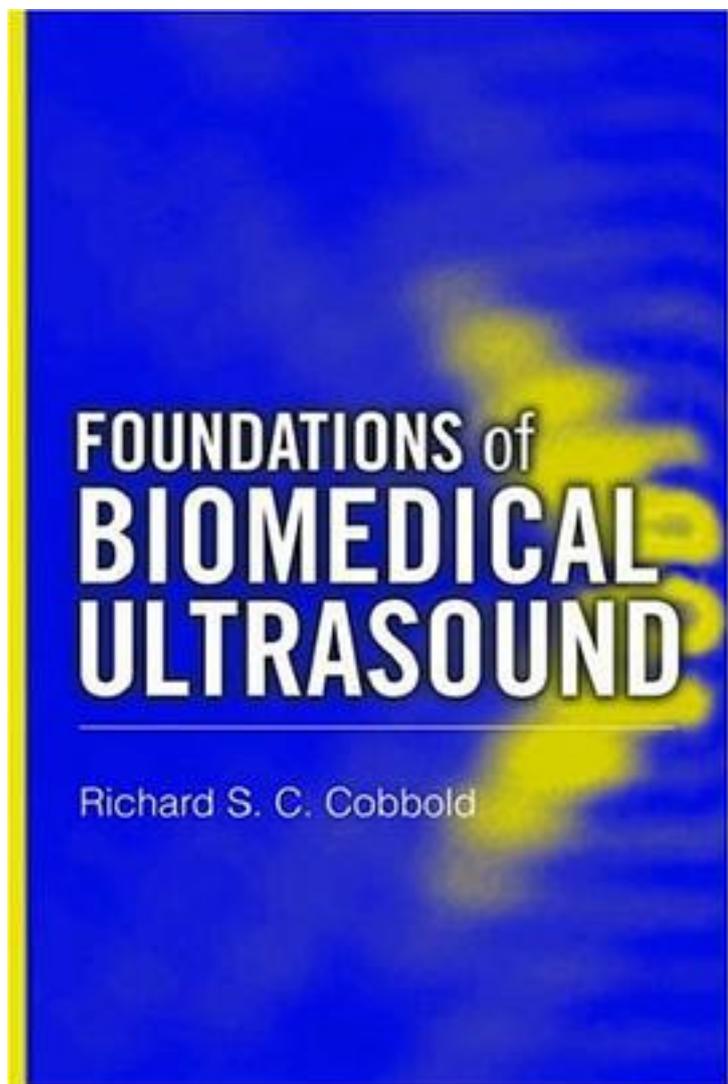


# Foundations of Biomedical Ultrasound (Biomedical Engineering Series (Oxford University Press).)



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Biomedical ultrasonics is inherently interdisciplinary, involving mechanics, electrical engineering, physics, biology, and medicine. As such, it can be an extraordinarily difficult subject to cover in one book. Drawn from years of class notes, student interaction and personal experience, "Foundations of Biomedical Ultrasound" does just that. It covers the fundamental engineering behind ultrasound equipment, properties of acoustic wave motion, the behaviour of waves in various media, non-linear waves and the creation of images. The most comprehensive book on the subject, "Foundations of Biomedical Ultrasound" is an indispensable reference for any medical professional working with ultrasound imaging, and a comprehensive introduction to the subject for students. The book consists of ten chapters that bridge the spectrum from the fundamental properties of wave propagation through to clinical systems. The first four chapters describe linear and nonlinear propagation, and methods for calculating the field produced by transducers of various designs. A number of problems designed to test the reader's understanding, well-suited for formal class assignments, accompany these chapters. The topics of ultrasound scattering, and transducer design are addressed in chapters 5 and 6. The final four chapters address methods of imaging and flow measurement. Some 350 drawings, graphs, sketches and colour images have been used. These, together with many tables, have been used to illustrate the various topics covered; a substantial portion of which are appearing for the first time in print.

作者介绍:

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