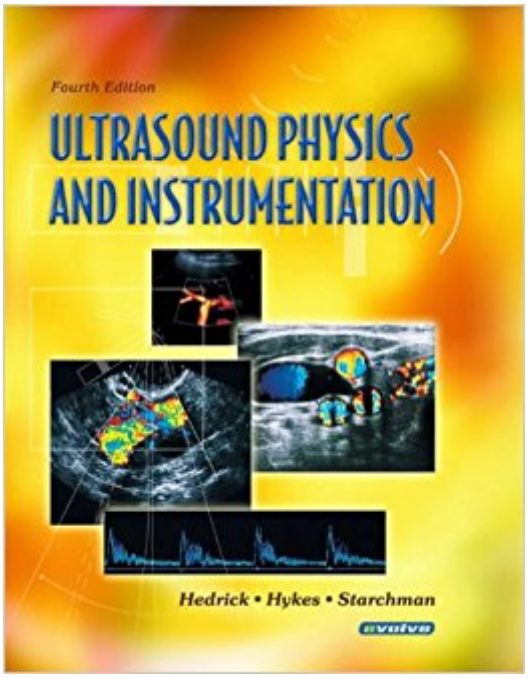
Ultrasound Physics And Instrumentation, 4e



Synopsis

This comprehensive resource provides clear explanations and numerous, simple line drawings that fully explain the "whys" of physics as applied to ultrasound. Updated content includes new material on PACS, contrast agents, power Doppler, harmonic imaging, 3D and 4D technology, 1.5D and 2D transducers, spatial compounding, extended field of view, and composite material transducers. Material is clarified through the use of well-designed analogies, examples of digitally processed images, and learning features such as key terms, clinical examples, end-of-chapter review questions, mock registery exams, a glossary, and a math review appendix. This text also offers excellent preparation for the physics portion of the ARDMS certification exam.Comprehensive coverage thoroughly addresses all physics topics relevant to ultrasound so readers can prepare for the Registry exam with confidence.Extensive examples and sample problems clarify formulas as they are presented, ensuring readers make the connection between theory and practical applications.Accessible, conversational writing style employs real-world analogies to explain physics concepts.Key terms and review questions in each chapter help readers focus on important information and assess their comprehension.Includes updated scanning principles, multi-element array transducers, 1.5D and 2D transducers, beam former, broadband, tissue harmonic imaging, extended field of view, spatial compounding, frequency compounding, coded excitation, 3D ultrasound, 4D ultrasound, and new transducer technology.New clinical examples of Doppler ultrasound have been incorporated in the appropriate instrumentation sections.Biological effects and clinical safety have been updated and divided into separate chapters.A survey of general-purpose ultrasound phantoms addresses the role of phantoms in quality control testing, demonstrated through multiple examples.Shorter, more reader-friendly chapters break down difficult material into learnable segments.Mock registry exams - one exam in the book and one on the Evolve site - provide ample opportunities for practice and preparation for the ARDMS physics exam.Hundreds of new and updated images and illustrations visually show the principles and properties of ultrasound, including more sonograms to illustrate image artifacts.Information on real-time ultrasound has been expanded, with separate chapters on image formation, transducers, instrumentation, and image processing.

Book Information

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Customer Reviews

The book gets the stars because it has good material in it for ultrasound students. HOWEVER, I have nothing to say about this particular purchase. I ordered this book for a class - the 'arrival/due date' changed twice, first, a week out from original due date, then 2 more weeks out from that date. The class started so I had to go elsewhere to purchase the book in order to do the classwork. I ended up never receiving this book. Bummer of an experience.

Beautifull book with very clear explanations. Topics non commonly covered in NDT books are clear exposed.

Book in perfect condition!

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