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| Altri autori (Persone) | NyborgWesley Le Mars <1917-> WuJunru |
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| Nota di contenuto | Contents ; Contributors ; Preface ; 1. Preamble ; References ; 2. Mechanisms for Bioeffects of Ultrasound Relevant to Therapeutic Applications ; 1 Introduction ; 1.1 General considerations ; 1.2 Traveling plane wave ; 2 Thermal Considerations 2.1 Temperature distributions: One dimension 2.2 Acoustic pressure distributions: Three dimensions ; 2.2.1 Piston in a baffle ; 2.2.2 Small source ; 2.2.3 Acoustic field on the axis of a piston source ; 2.2.4 Other situations ; 2.3 Biological effects of heat: Reaction kinetics 3 Acoustic Radiation Force and Related Topics 3.1 Intensity and power ; 3.2 Radiation force and radiation pressure ; 3.3 Radiation force on small particles ; 4 Acoustic Streaming and Acoustic Radiation Torque ; 4.1 Quartz-wind streaming ; 4.2 Near-boundary |

streaming ; 5 Activation of Gas Bodies
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force on a small gas body in a plane traveling wave
; 5.5 Radiation force on a small gas body in a plane standing wave
5.6 Radiation force between two small gas bodies in a sound field
5.7 Radiation force on a particle near a small gas body
; 5.8 Role of gas bodies in acoustic streaming and microstreaming
; 6 Nonlinearity ; 6.1 Nonlinear propagation and some of
its implications ; 6.2 Nonlinear
activation of gas bodies
inertial cavitation

Sommario/riassunto

With contributions by internationally re-knowned authorities and experts in the field of ultrasonic imaging, this book provides comprehensive reviews on basic physical principles and applications of emerging and rapidly developing therapeutic techniques. In specific, reviews of mechanisms for bioeffects of ultrasound relevant to therapeutic applications, high intensity focused ultrasound and its application in surgery, ultrasound assisted target drug and gene delivery, as well as transdermal drug delivery are discussed. The book will be a useful reference source for graduate students, acade
