1. Record Nr. UNINA9910298589103321

Autore	Yasui Kyuichi
Titolo	Acoustic Cavitation and Bubble Dynamics / / by Kyuichi Yasui
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-68237-7
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (VIII, 124 p. 84 illus.)
Collana	Ultrasound and Sonochemistry, , 2511-123X
Disciplina	530.4275
Soggetti	Chemometrics Chemistry, Physical and theoretical Acoustics Fluid mechanics Math. Applications in Chemistry Theoretical and Computational Chemistry Engineering Fluid Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Acoustic Cavitation -- Bubble Dynamics -- Unsolved Problems.
Sommario/riassunto	This brief explains in detail fundamental concepts in acoustic cavitation and bubble dynamics, and describes derivations of the fundamental equations of bubble dynamics in order to support those readers just beginning research in this field. Further, it provides an in-depth understanding of the physical basis of the phenomena. With regard to sonochemistry, the brief presents the results of numerical simulations of chemical reactions inside a bubble under ultrasound, especially for a single-bubble system and including unsolved problems. Written so as to be accessible both with and without prior knowledge of fundamental fluid dynamics, the brief offers a valuable resource for students and researchers alike, especially those who are unfamiliar with this field. A grasp of fundamental undergraduate mathematics such as partial derivative and fundamental integration is advantageous; however, even without any background in mathematics, readers can skip the equations and still understand the fundamental physics of the phenomena using the book’s wealth of illustrations and figures. As

such, it is also suitable as an introduction to the field. .