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Titolo	Acoustic Levitation : From Physics to Applications / / edited by Duyang Zang
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ISBN	981-329-065-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (185 pages)
Disciplina	620.2
Soggetti	Fluid mechanics Acoustics Chemical engineering Physics Radiology Fluids Engineering Fluid Dynamics Industrial Chemistry/Chemical Engineering Applied and Technical Physics Ultrasound Fluid- and Aerodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Acoustic radiation force (Prof Wenjun Xie, China) -- Acoustic Levitation technique (Prof Zhenyu Hong, China) -- Lattice Boltzmann method for acoustic levitation (Prof Xiaopeng Chen, China) -- Measurements of sound field (Prof Marco A. B. Andrade, Brazil) -- Drop evaporation under acoustic levitation (Prof Saptarshi Basu, India) -- Dynamics of acoustically levitated drops (Duyang Zang, China) -- Crystallization in acoustic levitated drops (Prof Dachuan Yin, China) -- Recent advances of near field acoustic levitation (Prof Zhenyu Hong, China) -- Bio/chemical analysis based on acoustic levitation (Prof Alexander Scheeline, USA).
Sommario/riassunto	This book systematically introduces readers to the fundamental physics and a broad range of applications of acoustic levitation, one of the

most promising techniques for the container-free handling of small solid particles and liquid droplets. As it does away with the need for solid walls and can easily be incorporated into analysis instruments, acoustic levitation has attracted considerable research interest in many fields, from fluid physics to material science. The book offers a comprehensive overview of acoustic levitation, including the history of acoustic radiation force; the design and development of acoustic levitators; the technology's applications, ranging from drop dynamics studies to bio/chemical analysis; and the insightful perspectives that the technique provides. It also discusses the latest advances in the field, from experiments to numerical simulations. As such, the book provides readers with a clearer understanding of acoustic levitation, while also stimulating new research areas for scientists and engineers in physics, chemistry, biology, medicine and other related fields.
