1.	Record Nr.	UNINA9910300401603321
	Autore	Nilsson Anders
	Titolo	Vibro-Acoustics, Volume 1 [[electronic resource] /] / by Anders Nilsson, Bilong Liu
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2015
	ISBN	3-662-47807-2
	Edizione	[2nd ed. 2015.]
	Descrizione fisica	1 online resource (XVII, 373 p. 175 illus.)
	Disciplina	620.3
	Soggetti	Hearing
		Energy systems
		Noise control
		Vibration
		Dynamical systems
		Dynamics
		Mechanics
		Mechanics, Applied
		Acoustics
		Energy Systems
		Noise Control
		Vibration, Dynamical Systems, Control
		Solid Mechanics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di contenuto	Mechanical Systems with One Degree of Freedom -- Frequency Domain -- Waves in Solids -- Interaction between Longitudinal and Transverse Waves -- Wave Attenuation Due to Losses and Transmission across Junctions -- Longitudinal Vibrations of Finite Beams -- Flexural Vibrations of Finite Beams -- Flexural Vibrations of Finite Plates.
	Sommario/riassunto	This three-volume book gives a thorough and comprehensive presentation of vibration and acoustic theories. Different from traditional textbooks which typically deal with some aspects of either acoustic or vibration problems, it is unique of this book to combine

those two correlated subjects together. Moreover, it provides fundamental analysis and mathematical descriptions for several crucial phenomena of Vibro-Acoustics which are quite useful in noise reduction, including how structures are excited, energy flows from an excitation point to a sound radiating surface, and finally how a structure radiates noise to a surrounding fluid. Many measurement results included in the text make the reading interesting and informative. Problems/questions are listed at the end of each chapter and the solutions are provided. This will help the readers to understand the topics of Vibro-Acoustics more deeply. The book should be of interest to anyone interested in sound and vibration, vehicle acoustics, ship acoustics and interior aircraft noise. This is the first volume, and covers the following topics: Mechanical systems with one degree of freedom, Frequency domain, Waves in solids, Interaction between longitudinal and transverse waves, General wave equation, Wave attenuation due to losses and transmission across junctions, Longitudinal vibrations of finite beams, Flexural vibrations of finite beams, Flexural vibrations of finite plates. .