

1.	Record Nr.	UNISALENTO991003186159707536
	Autore	Moleta, Vincent
	Titolo	Guittone cortese / Vincent Moleta
	Pubbl/distr/stampa	Napoli : Liguori, 1987
	Descrizione fisica	178 p. ; 21 cm.
	Collana	Nuovo Medioevo ; 16 / Collana diretta da Massimo Oldoni
	Soggetti	Guittone : d'Arezzo
	Lingua di pubblicazione	Italiano
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
2.	Record Nr.	UNINA9910337872303321
	Autore	Holm Sverre
	Titolo	Waves with Power-Law Attenuation / / by Sverre Holm
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
	ISBN	3-030-14927-7
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (336 pages)
	Disciplina	534 534.2
	Soggetti	Sound Multibody systems Vibration Mechanics, Applied Mathematical physics Ultrasonics Acoustical engineering Geophysics Acoustics Multibody Systems and Mechanical Vibrations Mathematical Physics Engineering Acoustics

Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- Acknowledgements -- About the Author -- List of Symbols -- List of Figures -- List of Tables -- 1 Introduction -- Part I Acoustics and Linear Viscoelasticity -- 2 Classical Wave Equations -- 3 Models of Linear Viscoelasticity -- 4 Absorption Mechanisms and Physical Constraints -- Part II Modeling of Power-Law Media -- 5 Power-Law Wave Equations from Constitutive Equations -- 6 Phenomenological Power-Law Wave Equations -- 7 Justification for Power Laws and Fractional Models -- 8 Power Laws and Porous Media -- 9 Power Laws and Fractal Scattering Media -- Appendix A Mathematical Background -- Appendix B Wave and Heat Equations -- Index.
Sommario/riassunto	This book integrates concepts from physical acoustics with those from linear viscoelasticity and fractional linear viscoelasticity. Compressional waves and shear waves in applications such as medical ultrasound, elastography, and sediment acoustics often follow power law attenuation and dispersion laws that cannot be described with classical viscous and relaxation models. This is accompanied by temporal power laws rather than the temporal exponential responses of classical models. The book starts by reformulating the classical models of acoustics in terms of standard models from linear elasticity. Then, non-classical loss models that follow power laws and which are expressed via convolution models and fractional derivatives are covered in depth. In addition, parallels are drawn to electromagnetic waves in complex dielectric media. The book also contains historical vignettes and important side notes about the validity of central questions. While addressed primarily to physicists and engineers working in the field of acoustics, this expert monograph will also be of interest to mathematicians, mathematical physicists, and geophysicists. Couples fractional derivatives and power laws and gives their multiple relaxation process interpretation Investigates causes of power law attenuation and dispersion such as interaction with hierarchical models of polymer chains and non-Newtonian viscosity Shows how fractional and multiple relaxation models are inherent in the grain shearing and extended Biot descriptions of sediment acoustics Contains historical vignettes and side notes about the formulation of some of the concepts discussed.