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	Descrizione fisica	1 online resource (286 pages)
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	Disciplina	531
	Soggetti	Plasma waves
		Mechanics, Applied
		Engineering mathematics
		Microtechnology
		Microelectromechanical systems
		System theory
		Nonlinear optics
		Waves, instabilities and nonlinear plasma dynamics
		Engineering Mechanics
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		Microsystems and MEMS
		Complex Systems
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	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Emergence and Approximation of Tori -- Quasiperiodic Birhythmicity in a Multicycle van der Pol Oscillator -- Incremental Harmonic Balance with Two Time Scales for a Nonlinear Quasi-periodic Mathieu -- Effect of Vibrations with Frequency Modulation on Convective Instability in Porous Media -- Widening of Anti-resonances by Increasing the Amplitude of Parametric Excitation -- A Study of Mathematical Model of AFM with Casimir Force by Means of Averaging Method -- On Dynamical Behavior of Atomic Force Microscopy: a Short Review -- Methodological Description of Obtaining and Stabilizing solitons in

Macromechanical Damped Resonators Subjected to a Base Acceleration.

Sommario/riassunto	This book highlights recent advances in nonlinear dynamics and control with applications in mechanics and physics. The book includes selected articles from the 5th Conference on Structural Nonlinear Dynamics and Diagnosis (CSNDD 2023) and presents recent theoretical, experimental and numerical findings covering various topics in nonlinear structural dynamics and diagnosis. The main topics includes multiple scales dynamics, energy harvesting, dynamics of MEMS, NEMS and AFM, systems with time delay, quasi-periodic oscillations and synchronization, stochastic dynamics, analytical and semi-analytical methods, time series analysis, control and analysis of switching systems, structural health monitoring, nonlinear vibrations of structures, nonsmouth dynamics, nonlinear phenomena in discrete and continuum systems, dynamic modeling and fault diagnosis, constrained multi-catenary systems, conservative chaotic system, hysteretic structures, and nonlinear PDEs and their dynamics.