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Nota di contenuto	Preface -- Introduction -- Linear Oscillator and a Non-Ideal Energy Source -- Nonlinear One-Degree-of-Freedom Oscillator Interacting with a Non-Ideal Energy Source -- Non-Ideal Vibrating Systems with Dampers -- Two-Degree-of-Freedom Oscillator Interacting with a Non-Ideal Energy Source -- Vibration of a Non-Ideal Rotor System -- Portal Frame Supporting Non-Ideal Energy Sources -- Application of Non-Ideal Systems in Energy Harvesting.
Sommario/riassunto	In this book the dynamics of the non-ideal oscillatory system, in which

the excitation is influenced by the response of the oscillator, is presented. Linear and nonlinear oscillators with one or more degrees of freedom interacting with one or more energy sources are treated. This concerns for example oscillating systems excited by a deformed elastic connection, systems excited by an unbalanced rotating mass, systems of parametrically excited oscillator and an energy source, frictionally self-excited oscillator and an energy source, energy harvesting system, portal frame – non-ideal source system, non-ideal rotor system, planar mechanism – non-ideal source interaction. For the systems the regular and irregular motions are tested. The effect of self-synchronization, chaos and methods for suppressing chaos in non-ideal systems are considered. In the book various types of motion control are suggested. The most important property of the non-ideal system connected with the jump-like transition from a resonant state to a non-resonant one is discussed. The so called ‘Sommerfeld effect’, resonant unstable state and jumping of the system into a new stable state of motion above the resonant region is explained. A mathematical model of the system is solved analytically and numerically. Approximate analytical solving procedures are developed. Besides, simulation of the motion of the non-ideal system is presented. The obtained results are compared with those for the ideal case. A significant difference is evident. The book aims to present the established results and to expand the literature in non-ideal vibrating systems. A further intention of the book is to give predictions of the effects for a system where the interaction between an oscillator and the energy source exist. The book is targeted at engineers and technicians dealing with the problem of source-machine system, but is also written for PhD students and researchers interested in non-linear and non-ideal problems. .