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Descrizione fisica	1 online resource (IX, 153 p. 40 illus., 24 illus. in color.)
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Soggetti	Classical and Continuum Physics Complexity Mechanical engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	Includes index.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Single degree of freedom (SDOF) systems -- Chapter 3. Eigenvalue problem -- Chapter 4. Multi-degree of freedom (MDOF) systems -- Chapter 5. Continuous systems.
Sommario/riassunto	This textbook provides a concise, clear, and rigorous presentation of the dynamics of linear systems that delivers the necessary tools for the analysis and design of mechanical/ structural systems, regardless of their complexity. The book is written for senior undergraduate and first year graduate students as well as engineers working on the design of mechanical/structural systems subjected to dynamic actions, such as wind/earthquake engineers and mechanical engineers working on wind turbines. Professor Grigoriu's lucid presentation maximizes student understanding of the formulation and the solution of linear systems subjected to dynamic actions, and provides a clear distinction between problems of practical interest and their special cases. Based on the author's lecture notes from courses taught at Cornell University, the material is class-tested over many years and ideal as a core text for a range of classes in mechanical, civil, and geotechnical engineering, as well as for self-directed learning by practitioners in the field. Follows a coherent introduction of topics from the physics, constitutive equations, and general formulations and solutions of problems of practical interest through special cases of these problems obtained by

specializing general results Adopts a top-down approach enabling a compact book that covers all relevant topics on the dynamics of linear systems, where special cases of problems of practical interest cannot be interpreted as new problems which require different solutions Reinforces readers' grasp of theoretical considerations with numerical illustrations Includes less familiar mathematical tools used in some derivations in appendices Treats solution of finite dimensional/continuous systems as elements of the vector spaces spanned by the eigenvectors/eigenfunctions corresponding to the system mechanical properties.

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