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Nota di contenuto	Preface to the Second Edition -- Preface -- 1. Approximate Evaluation Of Eigenfrequencies -- 2. Variable Elasticity Effects in Rotating Machinery -- 3. Mathematical Models for Rotor Dynamic Analysis -- 4. Flow-Induced Vibration of Rotating Shafts -- 5. Heat-Flow-Induced Vibration of Rotating Shafts - The Newkirk Effect -- 6. Dynamics of Cracked Shafts -- 7. Identification of Cracks in Rotors and other Structures by Vibration Analysis -- 8. Thermal Effects Due to Vibration of Shafts -- 9. Variational Formulation of Consistent – Continuous Cracked Structural Members -- 10. The Variational Formulation of a Rod in Torsional Vibration for Crack Identification -- Subject Index.
Sommario/riassunto	The design and construction of rotating machinery operating at supercritical speeds was, in the 1920s, an event of revolutionary importance for the then new branch of dynamics known as rotor

dynamics. In the 1960s, another revolution occurred: In less than a decade, imposed by operational and economic needs, an increase in the power of turbomachinery by one order of magnitude took place. Dynamic analysis of complex rotor forms became a necessity, while the importance of approximate methods for dynamic analysis was stressed. Finally, the emergence of fracture mechanics, as a new branch of applied mechanics, provided analytical tools to investigate crack influence on the dynamic behavior of rotors. The scope of this book is based on all these developments. No topics related to the well-known classical problems are included, rather the book deals exclusively with modern high-power turbomachinery.

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