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Autore	Zhu Hanhua
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Soggetti	Mechanics Mechanics, Applied Buildings—Design and construction Building Construction Engineering, Architectural Vibration Dynamics Solid Mechanics Classical Mechanics Building Construction and Design Vibration, Dynamical Systems, Control
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Nota di contenuto	Method of deformation compatibility control for engineering structures -- Adaptability of engineering structure system and mechanical analysis -- Three findings on the safety of engineering structure -- Two understandings on the mechanical principles in the engineering structure -- Concentration of damages at the weak location of structures due to the incompatible deformation -- Comprehensive control on the deformation of structure -- Applications of deformation compatibility control methods in traffic structure engineering -- Optimized transmission or transfer of force in structural system related with the deformation compatibility control -- Applications in bridge

structure -- Applications in tunnel engineering -- Applications in the solution to “vehicle jumping on bridge ends” -- Comments of Jun Sun (Academician of China Engineering Academic).

Sommario/riassunto

This book presents essential methods of deformation compatibility control, and explicitly addresses the implied conditions on the methods’ deformation compatibility. Consequently, these conditions can be considered in engineering structure design, while the conditions on stable equilibrium can be taken into account in the design method. Thus, the designed deformation and the actual deformation of the respective structure are approximately identical, guaranteeing both the flexibility of the construction material in force transmission and the equilibrium of force in the structure. Though equilibrium theory in engineering structures has been extensively studied, there has been comparatively little research on compatibility. In the limited researches available, the topics are primarily the theories and assumptions on the deformation compatibility, while few systematic works focus on the mechanical theoretical principles and methods of deformation compatibility control. As such, the flexibility of the construction material in force transmission and the stable equilibrium of the structure as a whole cannot be guaranteed based on these research results. Successfully addressing this important gap in the literature, the book is intended for researchers and postgraduates in engineering mechanics, civil engineering and related areas.