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Nota di contenuto	1. Introduction -- 2. Mathematical Modeling of Nonlinear Dynamics of Continuous Mechanical Structures with Account of Internal and External Temperature Fields -- 3. Nonclassical Models and Stability of Multi-Layer Orthotropic Thermoplastic Shells within Timoshenko Modified Hypotheses -- 4. General Problems of Diffraction in Theory of Design - Nonlinear Shells and Plates Locally Interacting with Temperature Fields -- 5. Stability of Flexible Shallow Shells Subjected to Transversal Load and Heat Flow -- 6. Mathematical Models of Multi-Layer Flexible Orthotropic Shells Under Temperature Field -- 7. Chaotic Dynamics of Closed Cylindrical Shells Under Local Transversal Load and Temperature Field (First Order Kirschhof–Love Approximation Model) -- Index.
Sommario/riassunto	This book offers a valuable methodological approach to the state-of-the-art of the classical plate/shell mathematical models, exemplifying the vast range of mathematical models of nonlinear dynamics and statics of continuous mechanical structural members. The main

objective highlights the need for further study of the classical problem of shell dynamics consisting of mathematical modeling, derivation of nonlinear PDEs, and of finding their solutions based on the development of new and effective numerical techniques. The book is designed for a broad readership of graduate students in mechanical and civil engineering, applied mathematics, and physics, as well as to researchers and professionals interested in a rigorous and comprehensive study of modeling non-linear phenomena governed by PDEs.

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