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response functions of an SDoF system; 4.2 Graphical display of a frequency response function; 4.3 Properties of the FRF of an SDoF system; Chapter 5. Modal analysis of an undamped MDoF system; 5.1 Normal modes and orthogonality of an undamped MDoF system; 5.2 Frequency response functions of an undamped MDoF system; 5.3 Mass-normalized modes and modal model of an undamped MDoF system
5.4 Frequency response functions and the modal model 5.5 Asymptote properties of FRFs of an undamped MDoF system; 5.6 Other forms of orthogonality properties of an undamped MDoF system; 5.7 Harmonic response of an undamped MDoF system using FRFs; 5.8 Anti-resonances and minima of an FRF; Chapter 6. Modal analysis of a damped MDoF system; 6.1 Proportional damping models; 6.2 Non-proportional viscous damping model; 6.3 Non-proportional structural damping model; 6.4 Mass-normalized modes of a damped MDoF system; 6.5 Frequency response functions of a damped MDoF system
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8.3 Derivation of modal data from FRF data - SDoF methods

Sommario/riassunto

This book provides a detailed overview of the theory of analytical and experimental modal analysis and its applications. Modal Analysis is the processes of determining the inherent dynamic characteristics of any system and using them to formulate a mathematical model of the dynamic behavior of the system. In the past two decades it has become a major technological tool in the quest for determining, improving and optimizing dynamic characteristics of engineering structures. Its main application is in mechanical and aeronautical engineering, but it is also gaining widespread use in civi
