



METADATA

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Abstract

The book focuses on the numerical simulation of structures using finite element computer software and is aimed at undergraduate students of Civil Engineering Departments in Greece. It includes applications of structural modeling techniques with accompanying examples using the structural analysis software SAP2000. The generic nature of this specific software facilitates its use in academic and research activities in many Civil Engineering Departments in Greece, and elsewhere. It is characterized by significant customization capabilities for the user, facilitating the seamless integration of code provisions and theoretical simulation requirements with the student's process of selecting appropriate

parameters, which is not usually feasible in typical commercial structural analysis software. Additionally, the use of comprehensive examples enhances the student's understanding of various theoretical and code-specific requirements, being much more efficient than a purely theory-based teaching approach. The book's chapters progress from simple to more complex examples, gradually increasing the complexity of both the use of the software and the modeling issues addressed. This approach ensures a smooth and pleasant process of acquiring knowledge related to the numerical simulation and analysis of structures while simultaneously learning how to use a finite element software.

