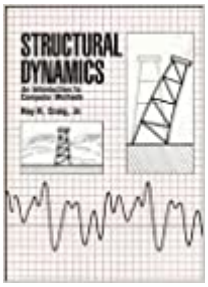
Structural Dynamics: An Introduction To Computer Methods



Synopsis

Provides the basic material needed to use structural dynamics computer programs and to do structural dynamics testing. Introduces the numerical techniques underlying finite element computer codes through use of ``hand'' solutions and the coding of several subroutines in FORTRAN and BASIC. Emphasizes the mathematical modelling of structures and the methods for solving structural dynamics problems with a digital computer. Presents solution techniques applicable to various engineering disciplines.

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While retaining much material covered in classical texts on structural dynamics and vibrations, this text emphasizes the mathematical modelling of structures and the methods for solving structural dynamics problems with a digital computer. Using a systematic approach, it thoroughly reviews the basic principles of structural dynamics, presenting solution techniques that apply to various

engineering disciplines. The book specifically features: An extensive introduction to numerical techniques for computing natural frequencies and mode shapes and for computing transient response A systematic introduction to the use of finite elements in structural dynamics analysis An application of complex frequency response representations for the response of single and multiple-degree-of-freedom systems A complete exposition of both the mode-displacement and mode-acceleration versions of mode-superposition for computing dynamic response An introduction to practical methods of component mode synthesis for dynamic analysis An introduction of an instructional matrix manipulation and finite element computer code, ISMIS (interactive Structures and Matrix Interpretive System) for solving structural dynamics problems. Civil, aerospace and mechanical engineers will find the book amply illustrated with numerous worked-out examples tailored to their specific fields. Upon completion of the book they will be able to read and apply the technical literature on this topic, and use structural dynamics computer programs intelligently.

Classical book on Structural Dynamics despite of your age (1981)

Made the concepts very clear. Learned a lot from this book!!!

Thanks

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