



METADATA

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Abstract

The book deals with problems of non-linear behaviour of structures, and the implications of this behaviour on the indicated methods of structural analysis and the design of these structures. Emphasis is placed on problems of flexible structures, where the main form of nonlinearity is geometric, i.e. due to large displacements. However, reference is also made to problems of material nonlinearity and the interaction of these two types of nonlinearity. The main application is the various types of buckling,

elastic or inelastic, mainly involving steel structures. A balance is sought in the book between developing a theoretical background and practicing applied analysis and designing methods. An analytical approach for simple structures is followed first, aiming at a qualitative understanding of the concepts and problems, and then a numerical approach using the finite element method to address these problems in complex, real-world structures, both from research problems and practical applications.

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