Linear Analysis of Skeletal Structures

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About the Book

Linear Analysis of Skeletal Structures meets the demands of a typical prominent structural engineering educator who aims to: "teach students how to model, how to use computer packages in real contexts, to validate models, verify results and carry out parameter studies. Hand analysis is now only for very simple problems and for back-of-envelope checks".

The checks referred to are usually statically based and it is therefore presumed that the reader has a firm background in statics. This unique book principally:

- tackles statically indeterminate structures
- replaces traditional hand analysis teaching of indeterminate structures by a workbook format approach based on qualitative and quantitative (computer analysis) studies
- provides comprehensive coverage of the behavior of skeletal structures - beams, plane trusses arches, plane frames, space trusses, grids and space frames
- uses case studies to provide experience of, using computer packages in real contexts; worksheets to develop qualitative understanding; and computer based problems to carry out parameter studies
- emphasises computer modeling and the validation of computer models and solutions.

A workbook approach is used with individual chapters covering fundamentals, beams, plane trusses, arches, plane frames, space trusses, grids, and space frames. Each chapter describes the fundamental behavior of a particular structural form, which is supplemented by qualitative examples and problems.

The book will make essential reading for all levels of structural, civil, mechanical and aerospace engineers. The book will be an invaluable aid for all students of structural and civil engineering, from the later years of an undergraduate course through to postgraduate work and the early stages of graduate training within the field.

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