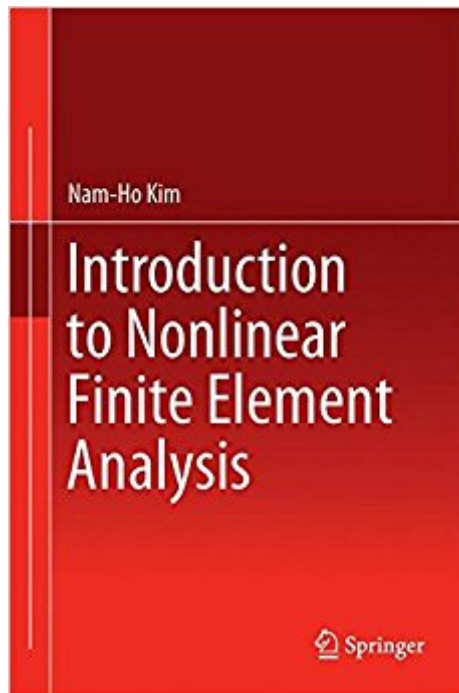The book was found

Introduction To Nonlinear Finite Element Analysis

Nam-Ho Kim

Introduction to Nonlinear Finite Element Analysis

Springer

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Synopsis

This book introduces the key concepts of nonlinear finite element analysis procedures. The book explains the fundamental theories of the field and provides instructions on how to apply the concepts to solving practical engineering problems. Instead of covering many nonlinear problems, the book focuses on three representative problems: nonlinear elasticity, elastoplasticity, and contact problems. The book is written independent of any particular software, but tutorials and examples using four commercial programs are included as appendices: ANSYS, NASTRAN, ABAQUS, and MATLAB. In particular, the MATLAB program includes all source codes so that students can develop their own material models, or different algorithms. Please visit the author's website for supplemental material, including PowerPoint presentations and MATLAB codes, at http://www2.mae.ufl.edu/nkim/INFEM/

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This book introduces the key concepts of nonlinear finite element analysis procedures. The book explains the fundamental theories of the field and provides instructions on how to apply the concepts to solving practical engineering problems. Instead of covering many nonlinear problems, the book focuses on three representative problems: nonlinear elasticity, elastoplasticity, and contact problems. The book is written independent of any particular software, but tutorials and examples using four commercial programs are included as appendices: ANSYS, NASTRAN, ABAQUS, and MATLAB. In particular, the MATLAB program includes all source codes so that students can

develop their own material models, or different algorithms.This book also:Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Presents clear explanations of nonlinear finite element analysis for elasticity, elastoplasticity, and contact problemsÃ Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Includes many informative examples of nonlinear analyses so that students can clearly understand the nonlinear theory Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Ã Â Offers practical applications of FEM to engineering analysis, providing a balance between theory and practice

Great resource to learn in-depth concepts of non-linear analysis in a finite element approach. It covers basic numerical methods used as a backbone for any nonlinear analysis within commercial softwares available in the market. The inclusion of Matlab codes gives the user a better understanding of the approach. Understanding of various constitutive models, hyperelasticity, hypoelasticity, contact problem analysis are the highlights of this book.In a nutshell, a great book to learn nonlinear fem in an interactive and easy way.

I would strongly encourage this book for Nonlinear FEA. It covers exhaustive solving techniques for non linear problems. The book includes more than enough problems for even the most avid student.The book also includes matlab codes for various material models and use of commercial softwares for solving nonlinear problems.

This book is really useful and it provides a good foundation for understanding the theory behind advanced concepts and its implementation in code. It is illustrated with numerous examples and exercise problems. Additionally the MATLAB code for the example problems are posted online. I have been using this book for a graduate level class and i find it relatively easier to follow. Overall i would recommend this text book for anyone who wishes to understand advanced concepts in Non Linear FEA.

The book covers wide range of topics in nonlinear FEA for materials having different behavior. Each and every concept is explained explicitly with adequate equations and explanations with example. Its well structured topics and ample number of computation programs codes makes it easier for the readers to assimilate recondite areas of nonlinear finite element. The book is close to being an impeccable one with addition of few example problems in each concept.

I really enjoyed and learned a lot from this book. It's got a lot of examples (including code) which is extremely helpful when trying to put the concepts into practice. I thought it did a great job of making that tricky transition that I haven't found elsewhere.

Great resource for both beginners as well as researchers in nonlinear finite element analysis area. Covers fundamental concepts in clear details, and a wide range of kinematic and kinetic non-linearity for different materials and load cases. Programs in Matlab and commercial software further enhance the value of this book.

This book is including both the deep understanding in terms of the nonlinear finite element analysis and the practical way to get results obtained by Matlab codes. I really like and strongly recommend to the student who wishes to learn the nonlinear analysis.

This book helps in understanding the nonlinear finite element analysis both in theory and using MATLAB codes. I would strongly recommend this book, as I was able to grasp the content in this book with ease.

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