Record Nr. UNINA9910830163403321 Autore Morris A. J. **Titolo** A practical guide to reliable finite element modelling / / Alan Morris; with contributions from Ahmed Rahman Pubbl/distr/stampa Chichester, England:,: Wiley,, 2008 ©2008 **ISBN** 1-281-84036-X 9786611840365 0-470-51211-3 0-470-51210-5 Descrizione fisica 1 online resource (386 p.) Disciplina 620.001 620.00151825 Finite element method Soggetti Error analysis (Mathematics) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references at the end of each chapters and index. Nota di contenuto A Practical Guide to Reliable Finite Element Modelling; Contents; Preface: 1 Introduction: 2 Overview of Static Finite Element Analysis: 3 Overview of Dynamic Analysis; 4 What's Energy Got to Do with It?; 5 Preliminary Review of Errors and Error Control; 6 Discretisation: Elements and Meshes or Some Ways to Avoid Generated Error\*; 7 Idealisation Error Types and Sources; 8 Error Control; 9 Error-Controlled Analyses; 10 FEMEC Walkthrough Example; Index Sommario/riassunto Many books have been written about the finite element method: little however has been written about procedures that assist a practicing engineer in undertaking an analysis in such a way that errors and uncertainties can be controlled. In A Practical Guide to Reliable Finite Element Modelling, Morris addresses this important area. His book begins by introducing the reader to finite element analysis (FEA), covering the fundamental principles of the method, whilst also outlining the potential problems involved. He then establishes

consistent methods for carrying out analyses and obtaining accurat