Record Nr. UNINA9910816856503321 Autore Aliabadi M. H. **Titolo** Boundary element methods in engineering and sciences [[electronic resource] /] / M.H. Aliabadi, P.H. Wen London, : Imperial College Press, 2011 Pubbl/distr/stampa **ISBN** 1-283-14342-9 9786613143426 1-84816-580-3 Descrizione fisica 1 online resource (450 p.) Collana Computational and experimental methods in structures; ; v. 4 WenP. H Altri autori (Persone) Disciplina 620.00151535 Soggetti Boundary element methods **Engineering 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. Nota di contenuto PREFACE; CONTENTS; Chapter 1 THE BOUNDARY ELEMENT METHOD FOR GEOMETRICALLY NON-LINEAR ANALYSES OF PLATES AND SHELLS; Chapter 2 TIME-DOMAIN BEM TECHNIQUES; Chapter 3 THE BOUNDARY ELEMENT METHOD FOR THE FRACTURE ANALYSIS OF THE GENERAL PIEZOELECTRIC SOLIDS; Chapter 4 BOUNDARY INTEGRAL ANALYSIS FOR THREE-DIMENSIONAL EXPONENTIALLY GRADED ELASTICITY: Chapter 5 FAST HIERARCHICAL BOUNDARY ELEMENT METHOD FOR LARGE-SCALE 3-D ELASTIC PROBLEMS: Chapter 6 MODELLING OF PLATES AND SHALLOW SHELLS BY MESHLESS LOCAL INTEGRAL EQUATION METHOD Chapter 7 BOUNDARY ELEMENT TECHNIQUE FOR SLOW VISCOUS FLOWS ABOUT PARTICLES Chapter 8 BIT FOR FREE SURFACE FLOWS; Chapter 9 SIMULATION OF CAVITATING AND FREE SURFACE FLOWS USING BEM: Chapter 10 CONDITION NUMBERS AND LOCAL ERRORS IN THE **BOUNDARY ELEMENT METHOD** Sommario/riassunto The boundary element method (BEM), also known as the boundary integral equation method (BIEM), is a modern numerical technique which has enjoyed increasing popularity over the past two decades. It is now an established alternative to traditional computational methods of engineering analysis. The main advantage of the BEM is its unique

ability to provide a complete solution in terms of boundary values only.

with substantial savings in modeling effort. This book is designed to provide readers with a comprehensive and up-to-date account of the method and its application to problems in engineering