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| 1. Record Nr. | UNINA9910784900403321 |
| Titolo | Contributions to probability and statistics [[electronic resource]] : applications and challenges : proceedings of the International Statistics Workshop, University of Canberra, 4-5 April 2005 / / Peter Brown, Shuangzhe Liu, Dharmendra Sharma |
| Pubbl/distr/stampa | Singapore ; ; Hackensack, N.J., : World Scientific, c2006 |
| ISBN | 981-4476-47-1 1-281-37305-2 9786611373054 981-277-246-4 |
| Descrizione fisica | 1 online resource (324p.) |
| Altri autori (Persone) | BrownPeter LiuShuangzhe SharmaDharmendra |
| Disciplina | 519.5 |
| Soggetti | Mathematical statistics Probabilities |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Bibliographic Level Mode of Issuance: Monograph |
| Nota di bibliografia | Includes bibliographical references and indexes. |
| Nota di contenuto | Mathematics and Statistics in Society: Two Classification Methods of Individuals for Educational Data and an Application (A Hayashi); Measurement of Skill and Skill Change (R Kelly & P E T Lewis); Applications of Statistics: Estimating the Numbers of SARS Cases in Mainland China in 2002-3 (J Gani); A Fair Tennis Scoring System for Doubles in the Presence of Sun and Wind Effects -- An Application of Probability (G Pollard); Theoretical Issues in Probability and Statistics: Perturbed Markov Chains (J J Hunter); Matrix Tricks for Linear Statistical Models: A Short Review of Our Personal Top Fourteen (J Isotalo et al.); On the Approximate Variance of a Nonlinear Function of Random Variables (H Neudecker & G Trenkler); Probabilistic Models in Economics and Finance: When Large Claims are Extremes (R Gay); Shrinkage Estimation of Gini Index (R Ghori et al.); Numerical Methods: An Approximate Maximum a Posteriori Method with Gaussian Process Priors (M Hegland); Mining Multiple Models (G J Williams); Abstracts |

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| | Without Papers: Properties of Nearest-Neighbour Classifiers (P Hall); Bootstrapping in Clustered Populations (A H Welsh); and other papers. |
| Sommario/riassunto | Features a range of topics in modern statistical theory and methodology, economics and finance, ecology, education, health and sports studies, and computer and IT-data mining. Some of the contributions contain illustrations of the applied methods or photos of historic mathematicians. |

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| 2. Record Nr. | UNINA9910814878703321 |
| Autore | Carrera Erasmo |
| Titolo | Beam structures : classical and advanced theories / / Erasmo Carrera, Gaetano Giunta, Marco Petrolo |
| Pubbl/distr/stampa | Hoboken, N.J., : Wiley, 2011 |
| ISBN | 9786613204554 9781283204552 128320455X 9781119951049 1119951046 9781119978565 1119978564 9781119978572 1119978572 |
| Edizione | [1st ed.] |
| Descrizione fisica | 1 online resource (204 p.) |
| Classificazione | SCI041000 |
| Altri autori (Persone) | GiuntaGaetano PetroloMarco |
| Disciplina | 624.1/7723 |
| Soggetti | Girders |
| 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 and index. |
| Nota di contenuto | Beam Structures; Contents; About the Authors; Preface; Introduction; References; 1 Fundamental equations of continuous deformable bodies; 1.1 Displacement, strain, and stresses; 1.2 Equilibrium equations in terms of stress components and boundary conditions; 1.3 Strain |

displacement relations; 1.4 Constitutive relations: Hooke's law; 1.5 Displacement approach via principle of virtual displacements; References; 2 The Euler-Bernoulli and Timoshenko theories; 2.1 The Euler-Bernoulli model; 2.1.1 Displacement field; 2.1.2 Strains; 2.1.3 Stresses and stress resultants; 2.1.4 Elastica; 2.2 The Timoshenko model 2.2.1 Displacement field; 2.2.2 Strains; 2.2.3 Stresses and stress resultants; 2.2.4 Elastica; 2.3 Bending of a cantilever beam: EBBT and TBT solutions; 2.3.1 EBBT solution; 2.3.2 TBT solution; References; 3 A refined beam theory with in-plane stretching: the complete linear expansion case; 3.1 The CLEC displacement field; 3.2 The importance of linear stretching terms; 3.3 A finite element based on CLEC; Further reading; 4 EBBT, TBT, and CLEC in unified form; 4.1 Unified formulation of CLEC; 4.2 EBBT and TBT as particular cases of CLEC; 4.3 Poisson locking and its correction 4.3.1 Kinematic considerations of strains; 4.3.2 Physical considerations of strains; 4.3.3 First remedy: use of higher-order kinematics; 4.3.4 Second remedy: modification of elastic coefficients; References; 5 Carrera Unified Formulation and refined beam theories; 5.1 Unified formulation; 5.2 Governing equations; 5.2.1 Strong form of the governing equations; 5.2.2 Weak form of the governing equations; References; Further reading; 6 The parabolic, cubic, quartic, and N-order beam theories; 6.1 The second-order beam model, $N = 2$; 6.2 The third-order, $N = 3$, and the fourth-order, $N = 4$, beam models; 6.3 N-order beam models; Further reading; 7 CUF beam FE models: programming and implementation issue guidelines; 7.1 Preprocessing and input descriptions; 7.1.1 General FE inputs; 7.1.2 Specific CUF inputs; 7.2 FEM code; 7.2.1 Stiffness and mass matrix; 7.2.2 Stiffness and mass matrix numerical examples; 7.2.3 Constraints and reduced models; 7.2.4 Load vector; 7.3 Postprocessing; 7.3.1 Stresses and strains; References; 8 Shell capabilities of refined beam theories; 8.1 C-shaped cross-section and bending-torsional loading; 8.2 Thin-walled hollow cylinder 8.2.1 Static analysis: detection of local effects due to a point load; 8.2.2 Free-vibration analysis: detection of shell-like natural modes; 8.3 Static and free-vibration analyses of an airfoil-shaped beam; 8.4 Free vibrations of a bridge-like beam; References; 9 Linearized elastic stability; 9.1 Critical buckling load classic solution; 9.2 Higher-order CUF models; 9.2.1 Governing equations, fundamental nucleus; 9.2.2 Closed form analytical solution; 9.3 Examples; References; 10 Beams made of functionally graded materials; 10.1 Functionally graded materials; 10.2 Material gradation laws

Sommario/riassunto

"Present a new, unified approach to both classical and advanced beam theory that is becoming established and recognised globally as the most important contribution to the field in the last quarter of a century. Beam Structures: Classical and Advanced Theories proposes a new original unified approach to beam theory that includes practically all classical and advanced models for beams and which has become established and recognised globally as the most important contribution to the field in the last quarter of a century. This approach overcomes the problem of classical formulae that require different formulas for tension, bending, shear and torsion; it can be applied to any beam geometries and loading conditions, reaching a high level of accuracy, and can tackle problems that in most cases are solved by employing plate/shell and 3D formulations. Beam Structures: Classical and Advanced Theories presents both the classical and advanced beam theories in a form that is very suitable for computer implementation. It is accompanied by dedicated software MUL2 that is used to obtain the

numerical solutions in the book, allowing the reader to reproduce the examples given in the book as well as to solve other problems of their own. The authors also include a number of static and dynamic problems and solutions that serve to further illustrate the advanced theories presented"--
