1. Record Nr. UNINA9910965694303321

Autore	Shabana Ahmed A. <1951->
Titolo	Computational dynamics / / Ahmed A. Shabana
Pubbl/distr/stampa	New York, : Wiley, c2001
ISBN	9786610341245 9781280341243 1280341246 9780471053262 0471053260
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (521 p.)
Disciplina	531/.11
Soggetti	Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"A Wiley-Interscience publication."
Nota di bibliografia	Includes bibliographical references (p. 493-495) and index.
Nota di contenuto	COMPUTATIONAL DYNAMICS; CONTENTS; 1 INTRODUCTION; 1.1 Computational Dynamics; 1.2 Motion and Constraints; 1.3 Degrees of Freedom; 1.4 Kinematic Analysis; 1.5 Force Analysis; 1.6 Dynamic Equations and Their Different Forms; 1.7 Forward and Inverse Dynamics; 1.8 Planar and Spatial Dynamics; 1.9 Computer and Numerical Methods; 1.10 Organization, Scope, and Notations of the Book; 2 LINEAR ALGEBRA; 2.1 Matrices; 2.2 Matrix Operations; 2.3 Vectors; 2.4 Three-Dimensional Vectors; 2.5 Solution of Algebraic Equations; 2.6 Triangular Factorization; 2.7 QR Decomposition; 2.8 Singular Value Decomposition Problems3 KINEMATICS; 3.1 Mechanical Joints; 3.2 Coordinate Transformation; 3.3 Position, Velocity, and Acceleration Equations; 3.4 Kinematics of a Point Moving on a Rigid Body; 3.5 Constrained Kinematics; 3.6 Formulation of the Joint Constraints; 3.7 Computational Methods in Kinematics; 3.8 Computer Implementation; 3.9 Kinematic Modeling and Analysis; 3.10 Concluding Remarks; Problems; 4 FORMS OF THE DYNAMIC EQUATIONS; 4.1 D'Alembert's Principle; 4.2 Constrained Dynamics; 4.3 Augmented Formulation; 4.4 Elimination of the Dependent Accelerations; 4.5 Embedding Technique 4.6 Amalgamated Formulation4.7 Open and Closed Chains; 4.8

Concluding Remarks; Problems; 5 VIRTUAL WORK AND LAGRANGIAN DYNAMICS; 5.1 Virtual Displacements; 5.2 Kinematic Constraints and Coordinate Partitioning; 5.3 Virtual Work; 5.4 Examples of Force Elements; 5.5 Workless Constraints; 5.6 Principle of Virtual Work in Statics; 5.7 Principle of Virtual Work in Dynamics; 5.8 Lagrange's Equation; 5.9 Gibbs-Appel Equation; 5.10 Hamiltonian Formulation; 5.11 Relationship between Virtual Work and Gaussian Elimination; Problems; 6 CONSTRAINED DYNAMICS; 6.1 Generalized Inertia 6.2 Mass Matrix and Centrifugal Forces6.3 Equations of Motion; 6.4 System of Rigid Bodies; 6.5 Elimination of the Constraint Forces; 6.6 Lagrange Multipliers; 6.7 Constrained Dynamic Equations; 6.8 Joint Reaction Forces; 6.9 Elimination of Lagrange Multipliers; 6.10 State Space Representation; 6.11 Numerical Integration; 6.12 Differential and Algebraic Equations; 6.13 Inverse Dynamics; 6.14 Static Analysis; Problems; 7 SPATIAL DYNAMICS; 7.1 General Displacement; 7.2 Finite Rotations; 7.3 Euler Angles; 7.4 Velocity and Acceleration; 7.5 Generalized Coordinates; 7.6 Generalized Inertia Forces 7.7 Generalized Applied Forces7.8 Dynamic Equations of Motion; 7.9 Constrained Dynamics; 7.10 Formulation of the Joint Constraints; 7.11 Newton-Euler Equations; 7.12 Linear and Angular Momentum; 7.13 Recursive Methods; Problems; 8 OTHER TOPICS IN SPATIAL DYNAMICS; 8.1 Gyroscopes and Euler Angles; 8.2 Rodriguez Formula; 8.3 Euler Parameters; 8.4 Rodriguez Parameters; 8.5 Quaternions; 8.6 Rigid Body Contact; Problems; REFERENCES; INDEX

Sommario/riassunto

A practical approach to the computational methods used to solve real-world dynamics problems Computational dynamics has grown rapidly in recent years with the advent of high-speed digital computers and the need to develop simulation and analysis computational capabilities for mechanical and aerospace systems that consist of interconnected bodies. Computational Dynamics, Second Edition offers a full introduction to the concepts, definitions, and techniques used in multibody dynamics and presents essential topics concerning kinematics and dynamics of motion in two and th

2. Record Nr. UNISA996695612303316

Autore	Hall
Titolo	Vnion Of The Two Noble And Illustre Famelies Of Lancastre [and] Yorke, Beyng Long In Continuall Discension For The Croune Of This Noble Realme : With Al The Actes Done In Both The Tymes Of The Princes, Both Of The One Linage [and] Of The Other, Beginnyng At The Tyme Of Kyng Henry The Fowerth, The First Aucthor Of This Deuision, And So Successiuely Proceadi[n]g To Ye Reigne Of The High And Prudent Prince Kyng Henry The Eyght, The Indubitate Flower And Very Heire Of Both The Saied Linages. Whereunto Is Added To Euery Kyng A Seuerall Table
Pubbl/distr/stampa	ProQuest, UMI, 1550
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia