

1. Record Nr.	UNINA9910829918403321
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Titolo	Dynamics of the rigid solid with general constraints by a multibody approach // Nicolae Pandrea and Nicolae-Doru Stanescu
Pubbl/distr/stampa	Chichester, [England] : , : Wiley, , 2016 ©2016
ISBN	1-118-95440-8
Descrizione fisica	1 online resource (436 p.)
Disciplina	531/.3
Soggetti	Dynamics, Rigid Multibody systems Constraints (Physics)
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	Title Page; Table of Contents; Preface; 1 Elements of Mathematical Calculation; 1.1 Vectors: Vector Operations; 1.2 Real Rectangular Matrix; 1.3 Square Matrix; 1.4 Skew Matrix of Third Order; Further Reading; 2 Kinematics of the Rigid Solid; 2.1 Finite Displacements of the Points of Rigid Solid; 2.2 Matrix of Rotation: Properties; 2.3 Minimum Displacements: The Chasles Theorem; 2.4 Small Displacements; 2.5 Velocities of the Points of Rigid Solid; 2.6 The Angular Velocity Matrix: Properties; 2.7 Composition of the Angular Velocities; 2.8 Accelerations of the Points of Rigid Solid Further Reading 3 General Theorems in the Dynamics of the Rigid Solid; 3.1 Moments of Inertia; 3.2 Momentum: The Theorem of Momentum; 3.3 Moment of Momentum: The Theorem of Moment of Momentum; 3.4 The Kinetic Energy of the Rigid Solid; Further Reading; 4 Matrix Differential Equations of the Motion of Rigid Solid; 4.1 The Differential Equations Obtained from the General Theorems; 4.2 The Lagrange Equations in the Case of the Holonomic Constraints; 4.3 The Equivalence between the Differential Equations Obtained from the General Theorems and the Lagrange Equations 4.4 The Matrix Differential Equations for the Motion of the Constrained Rigid Solid Further Reading; 5 Generalized Forces: The Equilibrium of the Rigid Solid; 5.1 The Generalized Forces in the Case of a Mechanical

System; 5.2 The General Expressions of the Generalized Forces in the Case of Rigid Solid; 5.3 Conservative Forces; 5.4 The Equilibrium of the Constrained Rigid Solid; 5.5 The Equilibrium of the Heavy Rigid Solid Hanged by Springs; Further Reading; 6 The Motion of the Rigid Solid with Constraints at Given Proper Points; 6.1 General Aspects: Classification

6.2 Mathematical Aspects: Notations 6.3 The Study of the Rigid Solid with a Fixed Point; 6.4 The Rigid Solid with Two Fixed Points (the Rotational Motion of the Rigid Solid); 6.5 The Rigid Solid with a Given Point Situated on a Fixed Surface; 6.6 The Rigid Solid with Several Points Situated on Fixed Surfaces (Curves); 6.7 The Rigid Solid with a Fixed Point and with Another Point Situated on a Fixed Surface; 6.8 The Rigid Solid with Two Given Points Situated on a Fixed Curve; Further Reading; 7 The Motion of the Rigid Solid with Constraints on Given Proper Curves

7.1 General Aspects: Classification 7.2 The Rigid Solid Supported at Fixed Points on Given Proper Curves; 7.3 The Rigid Solid at Which Given Proper Curves Support with Sliding on Fixed Curves; 7.4 Rolling without Sliding of a Curve on a Fixed Curve; 7.5 The Motion of the Rigid Solid at Which the Curves Jointed to It Support with Sliding on Fixed Surfaces; 7.6 The Rolling without Sliding of a Disk Bounded by a Spatial Curve on a Fixed Surface; 7.7 The Rolling without Sliding of a Planar Circle Disk on a Horizontal Plan

7.8 The Rolling without Sliding of a Planar Elliptic Disk on a Horizontal Plan
