1. Record Nr. UNINA9910460446003321

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Titolo	Introduction to computational contact mechanics : a geometrical approach / / Alexander Konyukhov, Ridvan Izi
Pubbl/distr/stampa	Chichester, England : , : Wiley, , 2015 ©2015
ISBN	1-118-77064-1 1-118-77063-3
Descrizione fisica	1 online resource (305 p.)
Collana	Wiley Series in Computational Mechanics
Disciplina	620.1/05
Soggetti	Contact mechanics Mechanics, Applied Electronic books.
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	Cover; Title Page; Copyright; Contents; Series Preface; Preface; Acknowledgments; Part I Theory; Chapter 1 Introduction with a Spring-Mass Frictionless Contact System; 1.1 Structural Part-Deflection of Spring-Mass System; 1.2 Contact Part-Non-Penetration into Rigid Plane; 1.3 Contact Formulations; 1.3.1 Lagrange Multiplier Method; 1.3.2 Penalty Method; 1.3.3 Augmented Lagrangian Method; Chapter 2 General Formulation of a Contact Problem; 2.1 Structural Part-Formulation of a Problem in Linear Elasticity; 2.1.1 Strong Formulation of Equilibrium; 2.1.2 Weak Formulation of Equilibrium 2.2 Formulation of the Contact Part (Signorini's problem)Chapter 3 Differential Geometry; 3.1 Curve and its Properties; 3.1.1 Example: Circle and its Properties; 3.2 Frenet Formulas in 2D; 3.3 Description of Surfaces by Gauss Coordinates; 3.3.1 Tangent and Normal Vectors: Surface Coordinate System; 3.3.2 Basis Vectors: Metric Tensor and its Applications; 3.3.3 Relationships between Co- and Contravariant Basis Vectors; 3.3.4 Co- and Contravariant Representation of a Vector on a Surface; 3.3.5 Curvature Tensor and Structure of the Surface; 3.4 Differential Properties of Surfaces 3.4.1 The Weingarten Formula3.4.2 The Gauss-Codazzi Formula; 3.4.3

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Introduction to Computational Contact Mechanics: A Geometrical Approach covers the fundamentals of computational contact mechanics and focuses on its practical implementation. Part one of this textbook focuses on the underlying theory and covers essential information about differential geometry and mathematical methods which are necessary to build the computational algorithm independently from other courses in mechanics. The geometrically exact theory for the computational contact mechanics is described in step-by-step manner, using examples of strict derivation from a mathematical point of vi