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Nota di contenuto	Preface; CONTENTS; Chapter 1 On the Theory of Solid Knots Otto Krotenheerdt and Sigrid Veit (translated by Ted Ashton); Chapter 2 A Tutorial on Knot Energies E. J. Janse van Rensburg; Chapter 3 Universal Energy Spectrum of Tight Knots and Links in Physics Roman V. Buniy and Thomas W. Kephart; Chapter 4 Knot Dynamics in a Driven Hanging Chain: Experimental Results Andrew Belmonte; Chapter 5 Biarcs, Global Radius of Curvature, and the Computation of Ideal Knot Shapes (4 color plates) M. Carlen, B. Laurie, J. H. Maddocks and J. Smutny Chapter 6 Knotted Umbilical Cords (2 color plates) Alain Goriely Chapter 7 Modelling DNA as a Flexible Thick Polymer: DNA Elasticity and Packaging Thermodynamics Cristian Micheletti and Davide Marenduzzo; Chapter 8 Monte-Carlo Simulations of Gel-Electrophoresis of DNA Knots C. Weber, M. Fleurant, P. De Los Rios and G. Dietler; Chapter 9 Atomic Force Microscopy of Complex DNA Knots F. Valle, M. Favre, J . Roca and G. Dietler; Chapter 10 Protein Folds, Knots and Tangles William R. Taylor Chapter 11 Tying Down Open Knots: A Statistical Method for Identifying Open Knots with Applications to Proteins (7 color plates) Kenneth C. Millett and Benjamin M. Sheldon Chapter 12 Scaling of the Average Crossing Number in Equilateral Random Walks, Knots and Proteins Akos Dobay, Jacques Dubochet, Andrzej Stasiak and Yuanan Diao; Chapter 13 Folding Complexity in a Random-Walk Copolymer Model

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Chapter 24 Minimal Flat Knotted Ribbons Louis H. Kauffman

Sommario/riassunto

The physical properties of knotted and linked configurations in space have long been of interest to mathematicians. More recently, these properties have become significant to biologists, physicists, and engineers among others. Their depth of importance and breadth of application are now widely appreciated and valuable progress continues to be made each year. This volume presents several contributions from researchers using computers to study problems that would otherwise be intractable. While computations have long been used to analyze problems, formulate conjectures, and search for special
