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Sommario/riassunto	Helmholtz's seminal paper on vortex motion (1858) marks the beginning of what is now called topological fluid mechanics.After 150

years of work, the field has grown considerably. In the last several decades unexpected developments have given topological fluid mechanics new impetus, benefiting from the impressive progress in knot theory and geometric topology on the one hand, and in mathematical and computational fluid dynamics on the other. This volume contains a wide-ranging collection of up-to-date, valuable research papers written by some of the most eminent experts in the field. Topics range from fundamental aspects of mathematical fluid mechanics, including topological vortex dynamics and magnetohydrodynamics, integrability issues, Hamiltonian structures and singularity formation, to DNA tangles and knotted DNAs in sedimentation. A substantial introductory chapter on knots and links, covering elements of modern braid theory and knot polynomials, as well as more advanced topics in knot classification, provides an invaluable addition to this material.