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Disciplina	515.352
Soggetti	Topology Dynamics Ergodic theory Differential equations Dynamical Systems and Ergodic Theory Ordinary Differential Equations
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	List of Symbols -- Introduction -- Further reading -- 1. Introduction to dynamical systems -- 2. General properties of the Morse-Smale diffeomorphisms -- 3. The topological classification of the gradient-like diffeomorphism on surfaces -- 4. Wild embedding on the separatrices into 3-manifolds and Pixton diffeomorphism -- 5. The classification of the gradient-like diffeomorphisms on 3-manifolds -- 6. Interrelation between the dynamics of Morse-Smale diffeormorphisms and the topology of the ambient 3-manifold -- 7. An energy function for Morse-Smale diffeomorphisms on 3-manifolds -- 8. The properties of nontrivial basic sets of A-diffeomorphisms related to type and dimension -- 9. The classification of nontrivial basic sets of A-diffeomorphisms of surfaces -- 10. Basic topological concepts of dynamical systems -- Index.
Sommario/riassunto	This book provides an introduction to the topological classification of smooth structurally stable diffeomorphisms on closed orientable 2- and 3-manifolds.The topological classification is one of the main

problems of the theory of dynamical systems and the results presented in this book are mostly for dynamical systems satisfying Smale's Axiom A. The main results on the topological classification of discrete dynamical systems are widely scattered among many papers and surveys. This book presents these results fluidly, systematically, and for the first time in one publication. Additionally, this book discusses the recent results on the topological classification of Axiom A diffeomorphisms focusing on the nontrivial effects of the dynamical systems on 2- and 3-manifolds. The classical methods and approaches which are considered to be promising for the further research are also discussed. < The reader needs to be familiar with the basic concepts of the qualitative theory of dynamical systems which are presented in Part 1 for convenience. The book is accessible to ambitious undergraduates, graduates, and researchers in dynamical systems and low dimensional topology. This volume consists of 10 chapters; each chapter contains its own set of references and a section on further reading. Proofs are presented with the exact statements of the results. In Chapter 10 the authors briefly state the necessary definitions and results from algebra, geometry and topology. When stating ancillary results at the beginning of each part, the authors refer to other sources which are readily available.