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Autore	Hirsch Morris W. <1933->
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New Norms for Old; 3. Exponentials of Operators; 4. Homogeneous Linear Systems; 5. A Nonhomogeneous Equation; 6. Higher Order Systems; Notes; CHAPTER 6. LINEAR SYSTEMS AND CANONICAL FORMS OF OPERATORS
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4. The Poincare-Bendixson Theorem5. Applications of the Poincare-Bendixson Theorem; Notes; CHAPTER 12. ECOLOGY; 1. One Species; 2. Predator and Prey; 3. Competing Species; Notes; CHAPTER 13. PERIODIC ATTRACTORS; 1. Asymptotic Stability of Closed Orbits; 2. Discrete Dynamical Systems; 3. Stability and Closed Orbits; CHAPTER 14. CLASSICAL MECHANICS; 1. The n-Body Problem; 2. Hamiltonian Mechanics; Notes; CHAPTER 15. NONAUTONOMOUS EQUATIONS AND DIFFERENTIABILITY OF FLOWS; 1. Existence, Uniqueness, and Continuity for Nonautonomous Differential Equations
2. Differentiability of the Flow of Autonomous Equations

Sommario/riassunto

This book is about dynamical aspects of ordinary differential equations and the relations between dynamical systems and certain fields outside pure mathematics. A prominent role is played by the structure theory of linear operators on finite-dimensional vector spaces; the authors have included a self-contained treatment of that subject.