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Linear Systems; 5. A Nonhomogeneous Equation; 6. Higher Order Systems; Notes; CHAPTER 6. LINEAR SYSTEMS AND CANONICAL FORMS OF OPERATORS

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5. On Extending Solutions 6. Global Solutions; 7. The Flow of a Differential Equation; Notes; CHAPTER 9. STABILITY OF EQUILIBRIA; 1. Nonlinear Sinks; 2. Stability; 3. Liapunov Functions; 4. Gradient Systems; 5. Gradients and Inner Products; Notes; CHAPTER 10. DIFFERENTIAL EQUATIONS FOR ELECTRICAL CIRCUITS; 1. An RLC Circuit; 2. Analysis of the Circuit Equations; 3. Van der Pol's Equation; 4. Hopf Bifurcation; 5. More General Circuit Equations; Notes; CHAPTER 11. THE POINCARÉ-BENDIXSON THEOREM; 1. Limit Sets; 2. Local Sections and Flow Boxes; 3. Monotone Sequences in Planar Dynamical Systems

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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.
