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1.7 Can One Hear the Shape of a Drum?1.8 Does Diffusion Determine the Domain?; References; 2 Solutions of Systems of Linear Ordinary Differential Equations; 2.1 Introduction; 2.2 The Exponential Ansatz of Magnus; 2.3 The Feynman-Dyson Series, and More General Perturbation Techniques; 2.4 Power Series Methods; 2.4.1 Regular Points; 2.4.2 Singularities of the First Kind; 2.4.3 Singularities of Second Kind; 2.5 Multi-Summability of Formal Power Series; 2.5.1 Asymptotic Power Series Expansions; 2.5.2 Gevrey Asymptotics; 2.5.3 Asymptotic Existence Theorems; 2.5.4 k-Summability
2.5.5 Multi-Summability

Sommario/riassunto

Mathematical Analysis of Evolution, Information, and Complexity deals with the analysis of evolution, information and complexity. The time evolution of systems or processes is a central question in science, this text covers a broad range of problems including diffusion processes, neuronal networks, quantum theory and cosmology. Bringing together a wide collection of research in mathematics, information theory, physics and other scientific and technical areas, this new title offers elementary and thus easily accessible introductions to the various fields of research addressed in the book.