As recognized, adventure as well as experience more or less lesson, amusement, as capably as conformity can be gotten by just checking out a ebook. As recognized, adventure as well as experience more or less lesson, amusement, as capably as conformity can be gotten by just checking out a ebook. As recognized, adventure as well as experience more or less lesson, amusement, as capably as conformity can be gotten by just checking out a ebook.

Differential Equations and Control Theory

Differential Equations and Control Theory

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

The book covers both the local and global theory of one-parameter bifurcations for operators acting in infinite-dimensional Banach spaces, and shows how to apply the theory to problems associated with half-linear equations, but the book also contains a treatment of related topics like PDE’s with p-Laplacian, half-linear difference equations and

Differential Equations and Control Theory

As recognized, adventure as well as experience more or less lesson, amusement, as capably as conformity can be gotten by just checking out a ebook.
Nonautonomous Linear Hamiltonian Systems: Oscillation, Spectral Theory, and Control - Russell Johnson 2016-03-25 This monograph contains an in-depth analysis of the dynamics given by a linear Hamiltonian system of general dimension with nonautonomous bounded and uniformly continuous coefficients, without other initial assumptions on time-recurrence. Particular attention is given to the oscillation properties of the solutions as well as to a spectral theory appropriate for such systems. The book concludes with some open problems which are well known when the coefficients are autonomous or periodic, as well as in the nonautonomous two-dimensional case. However, a substantial part of the theory presented here is new even to these much simpler situations. The authors make systematic use of basic facts concerning Lyapunov (strong and asymptotic) stability, and apply some fundamental methods of topological dynamics and ergodic theory. Among the tools used in the analysis, which include Lyapunov exponents, Weyl matrices, exponential dichotomy, and weak disconjugacy, a fundamental role is played by the rotation number for linear Hamiltonian systems of general dimension. The properties of all these objects form the basis for the study of several themes concerning linear-quadratic control problems, including the linear regulator problem, the Kalman-Bucy filter, the infinite-horizon optimization problem, the nonautonomous version of the Yakubovich Frequency Theorem, and dissipativity in the Willems sense. The book will be of interest to graduate students and researchers interested in nonautonomous differential equations; dynamical systems and ergodic theory; spectral theory of differential operators; and control theory.

Differential Models of Hysteresis - Augusto Visintin 2013-06-29 Hysteresis effects occur in science and engineering: plasticity, ferromagnetism, ferroelectricity are well-known examples. This volume provides a self-contained and comprehensive introduction to the analysis of hysteresis models, and illustrates several new results in this field.

Linear Turning Point Theory - Wolfgang Wasow 2012-12-06 My book "Asymptotic Expansions for Ordinary Differential Equations" published in 1965 is out of print. In the almost 20 years since then, the subject has grown so much in breadth and in depth that an account of the present state of knowledge of all the topics discussed there could not be written in one volume without recording an excessive heavy style of writing. Instead of undertaking such a task, I have concentrated, in this exposition, on the aspects of the asymptotic theory with which I have been particularly concerned during these 20 years, which is the nature and structure of turning points. As a Chapter IX of my previous book, only linear analytic differential equations are considered, for the evaluation of important new ideas and results, as well as the development of the new non-autonomous material, have made this an exposition of book length. The formal theory of linear analytic differential equations without a parameter has equilibria without respect to the independent variable t, and recent years, linear ordinary differential systems of this form (or ones that are easily reducible to such a form), and the unique continuous determination of the behaviour of the solutions, give rise to a topological approach, and had a substantial part of the theory presented here is new even to these much simpler situations. However, the authors make systematic use of basic facts regarding Lyapunov stability, and apply some fundamental methods of topological dynamics and ergodic theory. Among the tools used in the analysis, which include Lyapunov exponents, Weyl matrices, exponential dichotomy, and weak disconjugacy, a fundamental role is played by the rotation number for linear Hamiltonian systems of general dimension. The properties of all these objects form the basis for the study of several themes concerning linear-quadratic control problems, including the linear regulator problem, the Kalman-Bucy filter, the infinite-horizon optimization problem, the nonautonomous version of the Yakubovich Frequency Theorem, and dissipativity in the Willems sense. The book will be of interest to graduate students and researchers interested in nonautonomous differential equations; dynamical systems and ergodic theory; spectral theory of differential operators; and control theory.

Symmetries and Differential Equations - George W. Bluman 2013-03-14 A major portion of this book concentrates on work which has appeared since the publication of the book Similarity Methods for Differential Equations, Springer-Verlag, 1974, by the first author and J.D. Cole. The present book also includes a thorough and complete treatment of the Lie methods for ordinary and partial differential equations. In addition, there are more recent developments on the use of Lie groups in finance. Emphasis is placed on explicit computational algorithms to discover symmetries admitted by differential equations and to construct solutions from these symmetries. The book should be particularly valuable for physicists, applied mathematicians and engineers. Almost all of the examples are taken from physical and engineering problems including those concerned with fluid conduction, wave propagation, and fluid flows. A preliminary version was used as lecture notes for a two-semester course taught by the first author at the University of British Columbia in 1987-88 to graduate and senior undergraduate students in applied mathematics and physics. Chapters 1 to 4 encompass basic material. More specialized topics are covered in Chapters 5 to 7.