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| Nota di contenuto | Preface -- Introduction -- Sobolev Spaces -- Nonlinear Operators -- Nonsmooth Analysis -- Degree Theory -- Variational Principles and Critical Point Theory -- Morse Theory -- Bifurcation Theory -- Regularity Theorems and Maximum Principles -- Spectrum of Differential Operators -- Ordinary Differential Equations -- Nonlinear Elliptic Equations with Dirichlet Boundary Conditions -- Nonlinear Elliptic Equations with Neumann Boundary Conditions -- List of Symbols -- References.- Index . |
| Sommario/riassunto | This book focuses on nonlinear boundary value problems and the aspects of nonlinear analysis which are necessary to their study. The authors first give a comprehensive introduction to the many different classical methods from nonlinear analysis, variational principles, and Morse theory. They then provide a rigorous and detailed treatment of the relevant areas of nonlinear analysis with new applications to nonlinear boundary value problems for both ordinary and partial differential equations. Recent results on the existence and multiplicity of critical points for both smooth and nonsmooth functional, developments on the degree theory of monotone type operators, nonlinear maximum and comparison principles for p-Laplacian type operators, and new developments on nonlinear Neumann problems involving non-homogeneous differential operator appears for the first time in book form. The presentation is systematic, and an extensive |

bibliography and a remarks section at the end of each chapter highlight the text. This work will serve as an invaluable reference for researchers working in nonlinear analysis and partial differential equations as well as a useful tool for all those interested in the topics presented.