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Titolo	Brouwer degree : the core of nonlinear analysis // George Dinca and Jean Mawhin
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Descrizione fisica	1 online resource (XIX, 447 p. 2 illus. in color.)
Collana	Progress in Nonlinear Differential Equations and Their Applications, , 1421-1750 ; ; 95
Disciplina	515.7
Soggetti	Nonlinear functional analysis Nonlinear analysis Anàlisi funcional no lineal Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	The Kronecker Index and the Brouwer Degree -- Continuation, Existence, and Bifurcation -- Infinite-Dimensional Problems -- Difference Equations -- Periodic Solutions of Differential Systems -- Two-Dimensional Problems -- The Degree of Some Classes of Mappings -- History of Brouwer Fixed Point Theorem.
Sommario/riassunto	This monograph explores the concept of the Brouwer degree and its continuing impact on the development of important areas of nonlinear analysis. The authors define the degree using an analytical approach proposed by Heinz in 1959 and further developed by Mawhin in 2004, linking it to the Kronecker index and employing the language of differential forms. The chapters are organized so that they can be approached in various ways depending on the interests of the reader. Unifying this structure is the central role the Brouwer degree plays in nonlinear analysis, which is illustrated with existence, surjectivity, and fixed point theorems for nonlinear mappings. Special attention is paid to the computation of the degree, as well as to the wide array of applications, such as linking, differential and partial differential equations, difference equations, variational and hemivariational

inequalities, game theory, and mechanics. Each chapter features bibliographic and historical notes, and the final chapter examines the full history. Brouwer Degree will serve as an authoritative reference on the topic and will be of interest to professional mathematicians, researchers, and graduate students.
