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Titolo	Geometric Properties of Banach Spaces and Nonlinear Iterations [[electronic resource] /] / by Charles Chidume	
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Nota di contenuto	Some Geometric Properties of Banach Spaces -- Smooth Spaces -- Duality Maps in Banach Spaces -- Inequalities in Uniformly Convex Spaces -- Inequalities in Uniformly Smooth Spaces -- Iterative Method for Fixed Points of Nonexpansive Mappings -- Hybrid Steepest Descent Method for Variational Inequalities -- Iterative Methods for Zeros of ? – Accretive-Type Operators -- Iteration Processes for Zeros of	

Generalized ? —Accretive Mappings -- An Example; Mann Iteration for Strictly Pseudo-contractive Mappings -- Approximation of Fixed Points of Lipschitz Pseudo-contractive Mappings -- Generalized Lipschitz Accretive and Pseudo-contractive Mappings -- Applications to Hammerstein Integral Equations -- Iterative Methods for Some Generalizations of Nonexpansive Maps -- Common Fixed Points for Finite Families of Nonexpansive Mappings -- Common Fixed Points for Countable Families of Nonexpansive Mappings -- Common Fixed Points for Families of Commuting Nonexpansive Mappings -- Finite Families of Lipschitz Pseudo-contractive and Accretive Mappings -- Generalized Lipschitz Pseudo-contractive and Accretive Mappings -- Finite Families of Non-self Asymptotically Nonexpansive Mappings -- Families of Total Asymptotically Nonexpansive Maps -- Common Fixed Points for One-parameter Nonexpansive Semigroup -- Single-valued Accretive Operators; Applications; Some Open Questions.

Sommario/riassunto	Nonlinear functional analysis and applications is an area of study that has provided fascination for many mathematicians across the world. This monograph delves specifically into the topic of the geometric properties of Banach spaces and nonlinear iterations, a subject of extensive research over the past thirty years. Chapters 1 to 5 develop materials on convexity and smoothness of Banach spaces, associated moduli and connections with duality maps. Key results obtained are summarized at the end of each chapter for easy reference. Chapters 6 to 23 deal with an in-depth, comprehensive and up-to-date coverage of the main ideas, concepts and results on iterative algorithms for the approximation of fixed points of nonlinear nonexpansive and pseudo-contractive-type mappings. This includes detailed workings on solutions of variational inequality problems, solutions of Hammerstein integral equations, and common fixed points (and common zeros) of families of nonlinear mappings. Carefully referenced and full of recent, incisive findings and interesting open-questions, this volume will prove useful for graduate students of mathematical analysis and will be a key-read for mathematicians with an interest in applications of geometric properties of Banach spaces, as well as specialists in nonlinear operator theory.