

1. Record Nr.	UNISA996466870203316
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Titolo	From Hahn-Banach to Monotonicity [[electronic resource] /] / by Stephen Simons
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2008
ISBN	1-4020-6919-7
Edizione	[2nd ed. 2008.]
Descrizione fisica	1 online resource (XIV, 248 p.)
Collana	Lecture Notes in Mathematics, , 0075-8434
Disciplina	515.7248
Soggetti	Functional analysis Calculus of variations Operator theory Functional Analysis Calculus of Variations and Optimal Control; Optimization Operator Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Original edition published as: Minimax and monotonicity.
Nota di bibliografia	Includes bibliographical references (pages [233]-238) and index.
Nota di contenuto	The Hahn-Banach-Lagrange theorem and some consequences -- Fenchel duality -- Multifunctions, SSD spaces, monotonicity and Fitzpatrick functions -- Monotone multifunctions on general Banach spaces -- Monotone multifunctions on reflexive Banach spaces -- Special maximally monotone multifunctions -- The sum problem for general Banach spaces -- Open problems -- Glossary of classes of multifunctions -- A selection of results.
Sommario/riassunto	In this new edition of LNM 1693 the essential idea is to reduce questions on monotone multifunctions to questions on convex functions. However, rather than using a "big convexification" of the graph of the multifunction and the "minimax technique" for proving the existence of linear functionals satisfying certain conditions, the Fitzpatrick function is used. The journey begins with a generalization of the Hahn-Banach theorem uniting classical functional analysis, minimax theory, Lagrange multiplier theory and convex analysis and culminates in a survey of current results on monotone multifunctions on a Banach space. The first two chapters are aimed at students interested in the development of the basic theorems of functional

analysis, which leads painlessly to the theory of minimax theorems, convex Lagrange multiplier theory and convex analysis. The remaining five chapters are useful for those who wish to learn about the current research on monotone multifunctions on (possibly non reflexive) Banach space.
