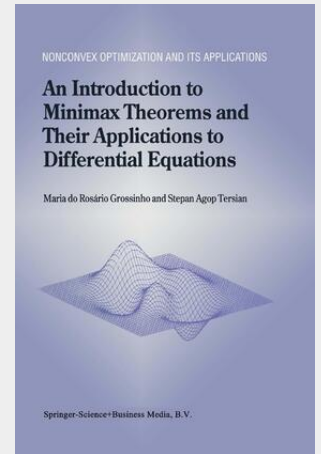


## An Introduction to Minimax Theorems and Their Applications to Differential Equations

This text is meant to be an introduction to critical point theory and its applications to differential equations. It is designed for graduate and postgraduate students as well as for specialists in the fields of differential equations, variational methods and optimization. Although related material can be found in other books, the treatment here has the following main purposes:

- To present a survey on existing minimax theorems,
- To give applications to elliptic differential equations in bounded domains and periodic second-order ordinary differential equations,
- To consider the dual variational method for problems with continuous and discontinuous nonlinearities,
- To present some elements of critical point theory for locally Lipschitz functionals and to give applications to fourth-order differential equations with discontinuous nonlinearities,
- To study homoclinic solutions of differential equations via the variational method.

The Contents of the book consist of seven chapters, each one divided into several sections. A bibliography is attached to the end of each chapter. In Chapter I, we present minimization theorems and the mountain-pass theorem of Ambrosetti-Rabinowitz and some of its extensions. The concept of differentiability of mappings in Banach spaces, the Fréchet's and Gateaux derivatives, second-order derivatives and general minimization theorems, variational principles of Ekeland [Ek] and Borwein & Preiss [BP] are proved and relations to the minimization problem are given. Deformation lemmata, Palais-Smale conditions and mountain-pass theorems are considered.



**106,99 €**  
99,99 € (zzgl. MwSt.)

*Lieferfrist: bis zu 10 Tage*

**Artikelnummer:** 9780792368328  
**Medium:** Buch  
**ISBN:** 978-0-7923-6832-8  
**Verlag:** Springer Nature Singapore  
**Erscheinungstermin:** 28.02.2001  
**Sprache(n):** Englisch  
**Auflage:** 2001. Auflage 2001  
**Serie:** Nonconvex Optimization and Its Applications  
**Produktform:** Gebunden  
**Gewicht:** 1280 g  
**Seiten:** 274  
**Format (B x H):** 156 x 234 mm

