Manton / Sutcliffe

Topological Solitons

Topological solitons occur in many nonlinear classical field theories. They are stable, particle-like objects, with finite mass and a smooth structure. Examples are monopoles and Skyrmions, Ginzburg-Landau vortices and sigma-model lumps, and Yang-Mills instantons. This book is a comprehensive survey of static topological solitons and their dynamical interactions. Particular emphasis is placed on the solitons which satisfy first-order Bogomolny equations. For these, the soliton dynamics can be investigated by finding the geodesics on the moduli space of static multi-soliton solutions. Remarkable scattering processes can be understood this way. The book starts with an introduction to classical field theory, and a survey of several mathematical techniques useful for understanding many types of topological soliton. Subsequent chapters explore key examples of solitons in one, two, three and four dimensions. The final chapter discusses the unstable sphaleron solutions which exist in several field theories.
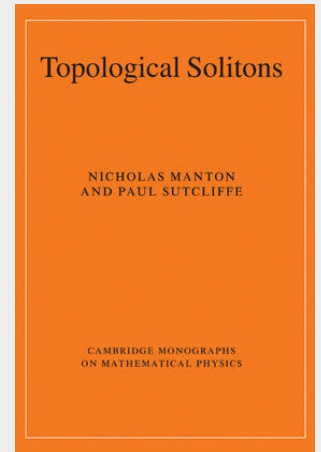
253,00 €
236,45 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780521838368
Medium: Buch
ISBN: 978-0-521-83836-8
Verlag: Cambridge University Press
Erscheinungstermin: 01.11.2010
Sprache(n): Englisch
Auflage: Erscheinungsjahr 2010
Serie: Cambridge Monographs on Mathematical Physics
Produktform: Gebunden
Gewicht: 1139 g
Seiten: 506
Format (B x H): 183 x 260 mm