1. Record Nr. UNINA9910457738703321

| | |
|---|---|
| Autore | Manton Nicholas <1952-> |
| Titolo | Topological solitons / / Nicholas Manton, Paul Sutcliffe [[electronic resource]] |
| Pubbl/distr/stampa | Cambridge : , : Cambridge University Press, , 2004 |
| ISBN | 1-107-15061-2<br>1-280-54099-0<br>9786610540990<br>0-511-21499-5<br>0-511-21678-5<br>0-511-21141-4<br>0-511-33150-9<br>0-511-61703-8<br>0-511-21318-2 |
| Descrizione fisica | 1 online resource (xi, 493 pages) : digital, PDF file(s) |
| Collana | Cambridge monographs on mathematical physics |
| Disciplina | 530.14 |
| Soggetti | Solitons |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Title from publisher's bibliographic system (viewed on 05 Oct 2015). |
| Nota di bibliografia | Includes bibliographical references (p. 467-490) and index. |
| Nota di contenuto | Cover; Half-title; Series-title; Title; Copyright; Contents; Preface; 1 Introduction; 1.1 Solitons as particles; 1.2 A brief history of topological solitons; 1.3 Bogomolny equations and moduli spaces; 1.4 Soliton dynamics; 1.5 Solitons and integrable systems; 1.6 Solitons - experimental status; 1.7 Outline of this book; 2 Lagrangians and fields; 2.1 Finite-dimensional systems; 2.2 Symmetries and conservation laws; 2.3 Field theory; 2.4 Noether's theorem in field theory; 2.5 Vacua and spontaneous symmetry breaking; 2.6 Gauge theory; 2.7 The Higgs mechanism; 2.8 Gradient flow in field theory<br>3 Topology in field theory3.1 Homotopy theory; 3.2 Topological degree; 3.3 Gauge fields as differential forms; 3.4 Chern numbers of abelian gauge .elds; 3.5 Chern numbers for non-abelian gauge fields; 3.6 Chern-Simons forms; 4 Solitons - general theory; 4.1 Topology and solitons; 4.2 Scaling arguments; 4.3 Symmetry and reduction of dimension; 4.4 Principle of symmetric criticality; 4.5 Moduli spaces and |

soliton dynamics; 5 Kinks; 5.1 Bogomolny bounds and vacuum structure; 5.2 Phi4 kinks; 5.3 Sine-Gordon kinks; 5.4 Generalizations; 6 Lumps and rational maps; 6.1 Lumps in the O(3) sigma model
6.2 Lumps on a sphere and symmetric maps6.3 Stabilizing the lump; 7 Vortices; 7.1 Ginzburg-Landau energy functions; 7.2 Topology in the global theory; 7.3 Topology in the gauged theory; 7.4 Vortex solutions; 7.5 Forces between gauged vortices; 7.6 Forces between vortices at large separation; 7.7 Dynamics of gauged vortices; 7.8 Vortices at critical coupling; 7.9 Moduli space dynamics; 7.10 The metric on MN; 7.11 Two-vortex scattering; 7.12 First order dynamics near critical coupling; 7.13 Global vortex dynamics; 7.14 Varying the geometry; 7.15 Statistical mechanics of vortices; 8 Monopoles
8.1 Dirac monopoles8.2 Monopoles as solitons; 8.3 Bogomolny-Prasad-Sommerfield monopoles; 8.4 Dyons; 8.5 The Nahm transform; 8.6 Construction of monopoles from Nahm data; 8.7 Spectral curves; 8.8 Rational maps and monopoles; 8.9 Alternative monopole methods; 8.10 Monopole dynamics; 8.11 Moduli spaces and geodesic motion; 8.12 Well separated monopoles; 8.13 SU(m) monopoles; 8.14 Hyperbolic monopoles; 9 Skyrmions; 9.1 The Skyrme model; 9.2 Hedgehogs; 9.3 Asymptotic interactions; 9.4 Low charge Skyrmions; 9.5 The rational map ansatz; 9.6 Higher charge Skyrmions; 9.7 Lattices, crystals and shells
9.8 Skyrmion dynamics9.9 Generalizations of the Skyrme model; 9.10 Quantization of Skyrmions; 9.11 The Skyrme-Faddeev model; 10 Instantons; 10.1 Self-dual Yang-Mills fields; 10.2 The ADHM construction; 10.3 Symmetric instantons; 10.4 Skyrme fields from instantons; 10.5 Monopoles as self-dual gauge fields; 10.6 Higher rank gauge groups; 11 Saddle points - sphalerons; 11.1 Mountain passes; 11.2 Sphalerons on a circle; 11.3 The gauged kink; 11.4 Monopole-antimonopole dipole; 11.5 The electroweak sphaleron; 11.6 Unstable solutions in other theories; References; Index

Sommario/riassunto

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.

2. Record Nr. UNINA9910461695503321

| | |
|---|---|
| Autore | Cooper Valerie C. <1961-> |
| Titolo | Word, like fire [[electronic resource] ] : Maria Stewart, the Bible, and the rights of African Americans / / Valerie C. Cooper |
| Pubbl/distr/stampa | Charlottesville, : University of Virginia Press, 2011 |
| ISBN | 1-280-49032-2<br>9786613585554<br>0-8139-3207-6 |
| Descrizione fisica | 1 online resource (224 p.) |
| Collana | Carter G. Woodson Institute series |
| Disciplina | 230.089/96073 |
| Soggetti | Electronic books. |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references (p. 183-192) and indexes. |
| Nota di contenuto | "Religion and the pure principles of morality" -- Maria Stewart's approach to Scripture -- Maria Stewart's defenses of women -- Maria Stewart's attitudes toward race and nation. |