1. Record Nr. UNINA9910257415303321

Titolo	New Methods and Results in Non-linear Field Equations [[electronic resource]] : Proceedings of a Conference Held at the University of Bielefeld, Federal Republic of Germany, 7–10 July 1987 / / edited by Philippe Blanchard, Joao-Paulo Dias, Joachim Stubbe
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1989
ISBN	3-540-46868-4
Edizione	[1st ed. 1989.]
Descrizione fisica	1 online resource (VII, 136 p. 2 illus.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 347
Disciplina	530.12
Soggetti	Quantum physics Physics Thermodynamics Statistical physics Dynamical systems Quantum computers Spintronics Quantum Physics Mathematical Methods in Physics Numerical and Computational Physics, Simulation Complex Systems Quantum Information Technology, Spintronics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Some remarks on stochastically perturbed (Hamiltonian) systems -- Stability of ground states for nonlinear classical field theories -- A note on solutions of two-dimensional semilinear elliptic vector-field equations with strong nonlinearity -- Some remarks on the nonlinear Schrödinger equation in the subcritical case -- The Cauchy problem for the Dirac equation with cubic nonlinearity in three space dimensions -- The Cauchy problem for the non-linear Klein-Cordon equation -- Conformal invariance and time decay for nonlinear wave equations --

	Energy forms and white noise analysis -- Principles of solitary wave stability.
Sommario/riassunto	Quantum effects may be modelled by means of stochastic perturbation of non-linear partial differential (field) equations. Contributions to this field of research are collected in this volume. Finite dimensional stochastically perturbed Hamiltonian systems and infinite dimensional white noise analysis are treated. The main part concerns problems encountered in deterministic equations. Papers treat the existence of solutions for given initial data, the existence of non-linear bound states or solitary waves including a thorough discussion of various approaches to stability, and global properties (e.g. time decay properties) for non-linear wave equations. This volume provides a good survey of present-day research in non-linear problems of quantum theory for researchers and graduate students.