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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
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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-Gordon equation -- Conformal invariance and time decay for nonlinear wave equations --

Energy forms and white noise analysis -- Principles of solitary wave stability.

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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.

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