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Solar Neutrino Problem; Generalized Momentum Distribution of Infinite and Finite Nucleon Systems; The Translationally Invariant Coupled Cluster Method with Applications to Nuclear Systems
Mean Field Approach to Quark Matter in the NJL Model Effective Field Theory in Nuclear Many-Body Physics; Hyperspherical Methods for $A > 4$ Systems; Spin Systems; Ab initio Calculations of the Spin-Half XY Model; Quantum Antiferromagnets with Easy-Plane Anisotropy; Quantum Phase Transitions in Spin Systems; Quantum Fluids and Solids; Bose Condensation; Path Integral Monte Carlo Calculations of Symmetry-Breaking in Structural Phase Transitions; The Description of Strongly Interacting Systems Based on Jastrow Correlations and Configuration Interaction
The Many-Boson System in One-Dimension: Application to ^4He The Ground State of Trapped Bosons Beyond the Gross-Pitaevskii Approximation; Pairing of Impurities in Quantum Fluids; Strongly Correlated Electrons; Spin Polarizations of Quantum Hall States; Electronic Molecules in Condensed Matter; The Metal-Insulator Transition in 2D and New Phases of Quantum Localisation; Related Subjects; Information Representation in the Multi-Layer Perceptron; Classical and Quantum Lyapunov Exponents in the Phase-Space Tomographic Approach; Author Index; Subject Index

Sommario/riassunto

In July 2000 a conference was held to honour the 65th birthdays of four of the leading international figures in the field of quantum many-body theory. The joint research careers of John Clark, Alpo Kallio, Manfred Ristig and Sergio Rosati total some 150 years, and this festschrift celebrated their achievements. These cover a remarkably wide spectrum. The topics in this book reflect that diversity, ranging from formal aspects to real systems, including nuclear and subnuclear systems, quantum fluids and solids, quantum spin systems and strongly correlated electron systems. The book collects more