1. Record Nr. UNINA9910779882703321

Titolo	The Korepin festschrift : from statistical mechanics to quantum information science : a collection of articles written in honor of the 60th birthday of Vladimir Korepin / / editors, Leong Chuan Kwek, National University of Singapore & Nanyang Technological University, Singapore, Simone Severini, University College London, UK, Haibin Su, Nanyang Technological University, Singapore
Pubbl/distr/stampa	Hackensack, NJ, : World Scientific, c2013 New Jersey : , : World Scientific, , [2013] 2013
ISBN	981-4460-32-X
Descrizione fisica	1 online resource (xx, 217 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	003.54
Soggetti	Information science Quantum computers Quantum theory Statistical mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"On 25-28 May 2011, the Institute of Advanced Studies at the Nanyang Technological University organized the fifth Asia-Pacific Workshop on Quantum Information Science (APWQIS) in conjunction with a Festschriff in honor of Vladimir Korepin's sixieth birthday"--Preface.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Preface; CONTENTS; Organizing Committee; List of Speakers; Photos; Chapter 1: Cancellation of Ultra-Violet Infinities in One Loop Gravity V. E. Korepin; 1. Introduction; 2. Covariant Quantization; 3. Cancellation of Infinities in one Loop Approximation; 4. Finite Part of the Generating Functional of the Scattering Matrix; 5. One Loop Diagram with Two Vertices; References; Chapter 2: Quantum Discord in a Spin System with Symmetry Breaking B. Tomasello, D. Rossini, A. Hamma and L. Amico; 1. Introduction; 2. Quantum, Classical, and Total Correlations; 3. The XY Model in Transverse Field 3.1. The Phase Diagram 4. Classical and Quantum Correlations in the Model; 5. Analysis of Quantum Discord at T = 0; 6. Quantum Discord at

Finite Temperature; 7. Discussions; Acknowledgments; References; Chapter 3: Entanglement from the Dynamics of an Ideal Bose Gas in a Lattice S. Bose; 1. Introduction; Acknowledgment; References; Chapter 4: Aspects of the Riemannian Geometry of Quantum Computation H. E. Brandt; 1. Introduction; 2. Riemannian Geometry of SU(2n); 3. Summary; Acknowledgment; References; Chapter 5: Quantum Mechanics and the Role of Time: Are Quantum Systems Markovian? T. Durt
1. Introduction 2. Do Quantum Dice Remember? - Experimental Tests; 2.1. Bohm-Bub's model and the Papaliolos experiment; 2.2. Buonomano's model and the Summhammer experiment; 2.3. Hidden measurement approach and the Paris-Nord experiment; 2.3.1. The Poissonian paradigm; 2.3.2. Departures from the Poissonian paradigm; 2.3.3. Recent results; 2.4. Shnoll's hypotheses and the Brussels experiment; 3. Sheldrake and Smolin's Models, and a Related Experimental Proposal; 3.1. Sheldrake's model; 3.2. Smolin's model; 3.3. Unfalsifiability of Sheldrake and Smolin's models - New experimental proposals
4. Conclusions Acknowledgments; References; Chapter 6: Explicit Formula of the Separability Criterion for Continuous Variables Systems K. Fujikawa; 1. Introduction and Summary; 2. Details of Analyses; 2.1. Simon's criterion; 2.2. Gaussian states and P-representation; 2.3. Duan-Giedke-Chirac-Zoller criterion; 2.4. Hierarchy of separability criterions; 3. Discussion and Related References; References; Chapter 7: Yang-Baxter Equations in Quantum Information M.-L. Ge and K. Xue; 1. Introduction; 2. Two Types of Braiding Matrices. Yang-Baxter Equation and Temperley-Lieb Algebra
Chapter 8: Nondistillable Entanglement Guarantees Distillable Entanglement L. Chen and M. Hayashi

Sommario/riassunto

This volume mainly summarizes the invited talks presented at the 5th Asia-Pacific Workshop on Quantum Information Science (APWQIS) in conjunction with a Festschrift in honor of Professor Vladimir Korepin's 60th birthday. In this Festschrift, we have assembled a medley of interesting articles from some of his friends, well-wishers and collaborators. Comprising both reviews of the state-of-the-art and the latest results, this book covers various aspects of quantum information science, including topics like quantum discord, quantum computing, quantum entanglement, etc.