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quantum Hall effect"; ""4 Topological phases and quantum computation"; ""4.1 Introduction: The quest for protected qubits""
""4.2 Topological phenomena in 1D: Boundary modes in the Majorana chain""
""4.3 The two-dimensional toric code"; ""4.4 Abelian anyons and quasiparticle statistics"; ""4.5 The honeycomb lattice model"; ""References"; ""5 Four lectures on computational statistical physics"; ""5.1 Sampling"; ""5.2 Classical hard-sphere systems"; ""5.3 Quantum Monte Carlo simulations"; ""5.4 Spin systems: Samples and exact solutions"; ""References"; ""6 Loop models"; ""6.1 Historical perspective"; ""6.2 Brief summary of renormalization theory"; ""6.3 Loop models"; ""6.4 The Coulomb gas""
""6.5 Summary and perspective""""References"; ""7 Lectures on the integrability of the six-vertex model"; ""7.1 Introduction"; ""7.2 Classical integrable spin chains"; ""7.3 Quantization of local integrable spin chains"; ""7.4 The spectrum of transfer matrices"; ""7.5 The thermodynamic limit"; ""7.6 The six-vertex model"; ""7.7 The six-vertex model on a torus in the thermodynamic limit"; ""7.8 The six-vertex model at the free-fermionic point"; ""7.9 The free energy of the six-vertex model"; ""7.10 Some asymptotics of the free energy""
""7.11 The Legendre transform of the free energy""""7.12 The limit shape phenomenon"; ""7.13 Semiclassical limits"; ""7.14 The free-fermionic point and dimer models"; ""7.A Appendix"; ""References"; ""8 Mathematical aspects of 2D phase transitions"; ""PART II: SHORT LECTURES"; ""9 Numerical simulations of quantum statistical mechanical models"; ""9.1 Introduction"; ""9.2 A rapid survey of methods"; ""9.3 Path integral and related methods"; ""9.4 Classical worm algorithm"; ""9.5 Projection methods"; ""9.6 Valence bond projection method"; ""References""
""10 Rapidly rotating atomic Bose gases""
