

On quantum-mechanical origin of statistical mechanics

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Abstract

© Published under licence by IOP Publishing Ltd. The problem of deriving statistical mechanics from the stationary Schrödinger equation is discussed. The interaction Hamiltonian, which dynamically induces entanglement of the specific type, is constructed in a unified way based on the gauge principle. It is shown how microcanonical ensembles in both Bose-Einstein and Fermi-Dirac statistics emerge in the vanishing-interaction limit.

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