Quantum Physics

Homogeneous MERA states: an information theoretical analysis

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Homogeneous Multi-scale Entanglement Renormalization Ansazt (MERA) state have been recently introduced to describe quantum critical systems. Here we present an extensive analysis of the properties of such states by clarifying the definition of their transfer super-operator whose structure is studied within a informational theoretical approach. Explicit expressions for computing the expectation values of symmetric observables are given both in the case of finite size systems and in the thermodynamic limit of infinitely many particles.

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