

Title: Complexity of Counting Schmidt Number in Many-body System

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Schmidt decomposition has many application in quantum information theory. Schmidt number is an important quantity which characterize entanglement in some respect. In this talk, we will discuss the complexity of counting Schmidt number for a tensor product state and ground state of gapped local Hamiltonian. With the tool in quantum algorithm and quantum complexity theory, we establish a relation between counting Schmidt number and complexity class $\#P$.