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Creation of Superposition of Unknown Quantum States

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Abstract

Superposition is one of the most important features of quantum mechanics. In this talk I will talk about limitations that quantum mechanics imposes on generation of superposition. First I will discuss about a no-go theorem that forbids existence of a universal machine producing superposition of two unknown state and then I will present a probabilistic protocol for generating superposition of two unknown state each having a fixed overlap with a known referential pure state.