

Webinar

Hidden symmetry and long-range entanglement in a lossy quantum system

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Environmental coupling typically drives a quantum system to a unique steady state with little quantum coherence, which is a major obstacle for quantum information processing. I will talk about a simple experimental setting of an array of two-level systems with localised environmental noise that has multiple highly coherent steady states, including maximally-entangled states of nonlocal (Bell) pairs. Such states originate from a hidden symmetry that conserves these pairs over long distances, leading to controllable long-range entanglement. I will discuss how to selectively prepare and observe these states in present-day atomic/photonic setups.

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04:00 PM