

Lecture: Entanglement beyond qubits

Monday, 28 June 2021 14:00 (1h 30m)

Entanglement can be considered the key resource behind many applications of quantum information processing, as well as critical for the foundation of thermodynamics and the emergence of a classical world. While the simplest applications can be sufficiently addressed with the, now relatively well understood, entanglement of two qubits, more complex notions of entanglement hold huge potential for improving those simple protocols and are required for an understanding of complex phenomena in many-body physics.

In this talk I will give a general overview of entanglement beyond the simple two qubit case, from multipartite to multi-dimensional entanglement and showcase a couple of recent applications for higher-dimensional encoding of quantum information in photonic protocols.

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Session Classification: Monday Afternoon