

UCLA Department of Physics & Astronomy

COLLOQUIUM

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Wormholes and entanglement

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Wormholes are spacetime geometries that connect distant regions of spacetime. We will review the simplest such wormhole which results from the analytic extension of the original black hole solution. This is a non-traversable wormhole that can be interpreted as an entangled state of two black holes. We will then discuss the type of traversable wormholes that are allowed by basic physical principles. We will discuss concrete traversable wormhole solutions in four dimensions.