

Harvesting entanglement from a quantum field

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The vacuum of a quantum field, while separable with respect to global modes, is in fact entangled with respect to locally defined modes. In a sense, then, entanglement “grows” naturally within a quantum field. Using controlled local interactions, one can swap this entanglement to local quantum systems (detectors), a process now known as “entanglement harvesting.” In this talk I will discuss how the harvested entanglement is affected by properties of the field state, the background spacetime, and the state of motion of the detectors. Due to this dependence, one can use entanglement harvesting to *measure* these features of the field, of the spacetime on which it lives, and of the detector trajectories.

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