ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 11 February 2016
17:00 -18:00
3rd Floor Seminar Room

"Autonomous quantum thermal machines"

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Abstract

Small autonomous quantum thermal machines function without any external source of coherence or control, but using only incoherent interactions with thermal baths. We discuss the role of quantum coherence and entanglement in such machines. First, entanglement is shown to enhance cooling and energy transport in a small quantum refrigerator. Second, we present a simple autonomous machine for generating steady-state entanglement, with possible applications in superconducting qubits and quantum dots.