



Séminaire Régulier

Jeudi 15 décembre 2016, 11h00
Salle Richard Planel, Bâtiment D1

The role of quantum measurement in stochastic thermodynamics

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I will present a new formalism to investigate stochastic thermodynamics in the quantum regime, where stochasticity and irreversibility primarily come from quantum measurement. In the absence of any bath, a purely quantum component to heat exchange, that corresponds to energy fluctuations caused by measurement back-action.

Energetic and entropic signatures of measurement induced irreversibility are then investigated for canonical experiments of quantum optics, and the energetic cost of counter-acting decoherence is characterized on a simple state-stabilizing protocol.

I will finally open on a new kind of genuinely quantum engines, where work is solely extracted from quantum measurement.

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