

The LT challenge in optomechanics

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Optomechanics, the coupling between laser light and a moving mirror, enforces quantum limits to position measurements of macroscopic mechanical resonators but also yields efficient laser-cooling mechanisms for such resonators, possibly down to their quantum ground state, with the ability to shed new light on the quantum/classical border. Reducing the environment temperature of the mechanical resonator is mandatory to enter deeply into the quantum regime, but optomechanical systems impose new rules to design suitable fridges. I will describe some recent optomechanics experiments and current effort to operate such systems in cryogenic environments.

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