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UNIVERSITÄT LEIPZIG

Fakultät für Physik und Geowissenschaften

Institute für Physik

Physik-Kolloquium

Dienstag, den 27.10.2009, 17:00 Uhr

Prof. Dr. Tobias Kippenberg

Max-Planck-Institut für Quantenoptik, Garching

Cavity Optomechanics: Putting Quantum Into Mechanics

Radiation pressure coupling plays a fundamental role in many areas of science ranging from optical tweezers to modern gravity wave interferometers. The random radiation pressure fluctuations give rise to a fundamental measurement imprecision, the standard quantum limit. In recent years the study of radiation pressure forces on nano- and micromechanical oscillators has gained immense interest and has led to a new research field, cavity optomechanics. In this talk I will describe a series of experiments that have successfully "put quantum into mechanics" by realizing these radiation pressure predictions. They aim at verifying fundamental principles of quantum measurement theory, but equally shed new light on the question of the origin and control of mechanical dissipation.

Ort: Hörsaal für Theoretische Physik, Linnéstraße 5

Alle Teilnehmer sind ab 16:30 Uhr zu Kaffee und Kuchen in die Aula eingeladen.