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Einladung zum Physikalischen Kolloquium

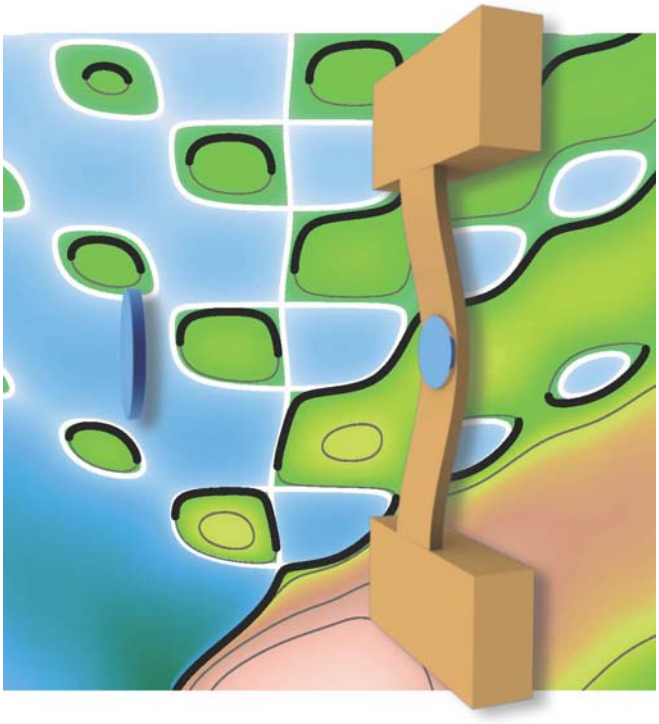
Montag, 23.01.2012
16:15 Uhr in N24/H13

Professor Dr. Florian Marquardt

Institut für Theoretische Physik II, Universität Erlangen

Optomechanics -- interaction between light and nanomechanical motion

Light can give rise to mechanical motion via radiation forces. While this principle has been applied for some time now in trapping and cooling the motion of atoms, it is only during the past few years that it has been used to manipulate the motion of micro- and nanomechanical systems. By coupling these systems to the light circulating inside a laser-driven optical cavity, a true interplay between light and mechanical motion is generated, with the motion acting back on the dynamics of the light field. Recent years have seen a strong growth of interest in this topic, with a large number of groups worldwide implementing these ideas in a variety of setups. The goals range from fundamental tests of quantum physics to applications like ultrasensitive detection, classical signal processing, and hybrid systems for quantum information processing.



In this talk I will first give an overview of the most important physical effects in optomechanical systems and discuss the recent progress. I will then present some of our theoretical work in this area.

Ab 15.45 Uhr Kaffee, Tee und Kekse vor dem Hörsaal H13

Organisation: **Prof. Marti, Tel.: 23011**
Dr. Retzker, Tel.: 22902
Host: **Prof. Ankerhold Tel.: 22913**