

Einladung zum Physikalischen Kolloquium

Montag, 11.05.2015
16:15 Uhr in N24/H13



Prof. Dr. Lukas Novotny
ETH Zürich
Department Informationstechnologie +
Elektrotechnik – Photonics Laboratory

Cooling and Amplification of a Vacuum-Trapped Nanoparticle

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We optically trap a single nanoparticle in high vacuum and cool its three spatial degrees of freedom by means of active parametric feedback. The small size and mass of the nanoparticle yield high resonance frequencies and high Q-factors along with low recoil heating, which are essential conditions for ground state cooling and for low decoherence. The vacuum-trapped nanoparticle forms an ideal model system for studying non-equilibrium processes, nonlinear interactions, and ultras-small forces.

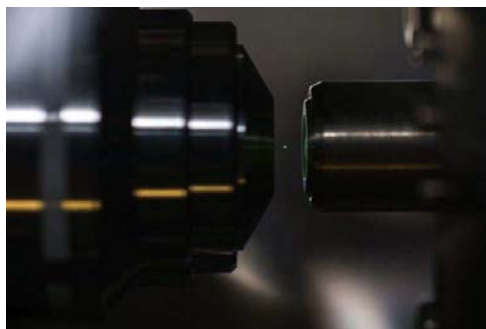


Figure 1: (top) Photograph of light scattered from a laser-trapped diamond nanoparticle.

Ab 15.45 Kaffee, Tee und Kekse vor dem Hörsaal H13

Organisation: Prof. Dr. F. Jelezko, Tel. 23750

Host: Dr. M. Gonçalves, Tel. 23022, off.: 23010