EINLADUNG
ZUM LASER- UND QUANTENOPTIKSEMINAR

Am Freitag, 25.05.2012, um 10:00 Uhr
Raum 46/387-388

Es spricht: Dr. Dries van Oosten
Universität Utrecht

Thema:
"Light-matter interaction at the nano-scale"

In nanophotonics, dielectric and metallic structures with length scales on the order of the wavelength of light are used to control the flow of light. When light is confined in such structures, the electro-magnetic field can be strongly enhanced. This can be exploited to enhance non-linear optical processes, but, as I will discuss, could also be used to create a novel kind of optical trap for neutral atoms [1].

Beside enhancing the light-matter interaction, nanoscale objects can also interact with light in ways that we do not normally consider. As an example of this, I will discuss our recent observation of the interaction between a metal coated near-field probe and the magnetic field component of light trapped inside a photonic crystal nanocavity [2,3].

Finally, I will talk about ultrafast laser ablation, which is considered as a promising rapid prototyping technique for nanophotonic structures. When using single femtosecond laser pulses, material can be very gently ablated, in a process referred to as cold-ablation. Surprisingly, we found that the depth of the ablated holes shows a saturation as a function of the pulse fluence that is used [4].


Der Gast wird betreut von Prof. Dr. A. Widera
GÄSTE SIND HERZLICH WILLKOMMEN!