



PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 22.06.2016, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1



Prof. Dr. Harald Giessen

4. Physikalisches Institut, Universität Stuttgart

"Merging micro- and nano-optics: new directions in photonics"

Microoptics has a plethora of applications, ranging from miniature endoscopes in hospitals to beam shaping or imaging. 3D printing with a femtosecond laser and two-photon polymerization allows for manufacturing optical elements directly after their design with an optical CAD program on a computer, with a resolution better than 100 nm and a high accuracy and reproducibility.

The talk is showing first experimental results and discusses the different possibilities and perspectives. Triplett microscope objectives of only 100 μm diameter with excellent imaging properties, fitting into the inside of a syringe, are becoming available with this technology and can be useful for medical applications as well as for novel sensors or inspection methods.

We are going to show how these concepts can be combined with plasmonic nanoantennas and ultrathin metal films for generation of deep subwavelength nanofoci down to 60 nm.

Die Dozenten der Physik

local host: Prof. Horst Schmidt-Böcking, hsb@atom.uni-frankfurt.de