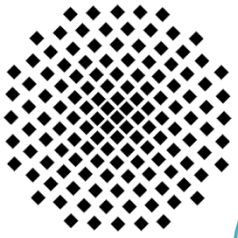
Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

Ansprechpartner: Prof. Harald Giessen
E-Mail: giessen@physik.uni-stuttgart.de
Telefon: 0711 - 685-65111



Dienstag, 14. Mai 2013	17:15 Uhr	Hörsaal V 57.01

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Martin Dressel, Universität Stuttgart, Telefon: 0711 - 685-64946

Infrared Near-field Spectroscopy - From Nanoscale Chemical Identification of Polymers to Real-space Imaging of Graphene Plasmons

Rainer Hillenbrand
CIC nanoGUNE San Sebastián

Abstract

With the development of scattering-type scanning near-field optical microscopy (s-SNOM), the analytical power of visible, infrared and THz imaging has been brought to the nanometer scale. The spatial resolution of about 10 - 20 nm opens a new era for modern nano-analytical applications such as chemical identification, free-carrier profiling and plasmonic vector near-field mapping. After a brief overview of fundamentals and applications of s-SNOM, recent achievements such as broadband infrared-spectroscopic mapping of polymers and proteins will be presented, as well as the launching and mapping of propagating and localized plasmons in graphene nanostructures.