

Plasmonic vibrational spectroscopy

By

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Venue: MAS Executive Classroom 1 (SPMS-MAS-03-06)
Host: Asst. Prof. Cesare Soci

Abstract

Plasmonic nanoantennas confine electromagnetic fields at infrared wavelengths to volumes of only a few cubic nanometers, resulting in huge local fields in the vicinity of the resonantly excited metal particles. We exploited these fields to enhance the infrared vibrational bands of molecular monolayers with ultra-high sensitivity.

Short Biography



Harald Giessen (*1966) graduated from Kaiserslautern University with a diploma in Physics and obtained his M.S. and Ph.D. in Optical Sciences from the University of Arizona in 1995. After a postdoc at the Max-Planck-Institute for Solid State Research in Stuttgart he moved to Marburg as Assistant Professor. From 2001-2004, he was associate professor at the University of Bonn. Since 2005, he holds the Chair for Ultrafast Nanooptics in the Department of Physics at the University of Stuttgart.

He was guest researcher at the University of Cambridge, and guest professor at the University of Innsbruck and the University of Sydney, at A*Star, Singapore, as well as at Beijing University of Technology. He is associated researcher at the Center for Disruptive Photonic Technologies at Nanyang Technological University, Singapore. He received an ERC Advanced Grant in 2012 for his work on complex nanoplasmonics. He is on the advisory board of the journals "Advanced Optical Materials" and "Nanophotonics: The Journal". He is a Fellow of the Optical Society of America.