Master's thesis position
in Experimental Ultrafast Microscopy
at Physics Department, LMU

We announce a master's thesis position (Masterarbeit) in the group of Ultrafast X-Ray Physics (Prof. Dr. Ulf Kleineberg) at the chair of Experimental Physics & Laser Physics. Our group is part of the research framework of the Laboratory for Attosecond Physics (LAP) and the Cluster of Excellence "Munich-Centre for Advanced Photonics" (MAP). The earliest starting date of this position is from **April 2013**.

Master's thesis description: We aim at probing and controlling ultrafast dynamics of collective electron motion in plasmonic nanostructures at nanometer spatial and attosecond temporal resolutions using a time-of-flight-photoemission electron microscope (ToF-PEEM). Gaining insight into the nature of these ultrafast dynamics with controlled light fields is crucial in realizing the potential applications of ultrafast and nanoscaled optical and optoelectronic devices.

Master's thesis scope / tasks: This position offers a multidisciplinary and multicultural research environment with a pleasant and excellent working atmosphere. You will have the opportunity to work on both simulation and experiments related to ultrafast nanoplasmonics. You will also have the chance to access and gain experience in state-of-the-art femtosecond and attosecond laser technology, ultrafast plasmonic physics, electron microscopy, ultrahigh vacuum technology, materials science and nanotechnology, and many more!

Qualifications: Students who are highly motivated, enthusiastic, and with a bachelor's degree in physics as well as a good knowledge in solid state physics are very welcome to contact us via telephone or email! Review of applications begins immediately and this position remains open until filled.

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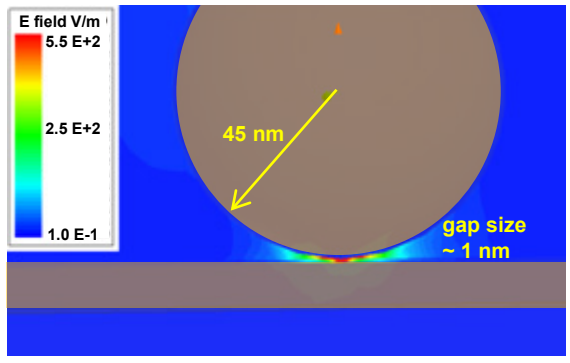
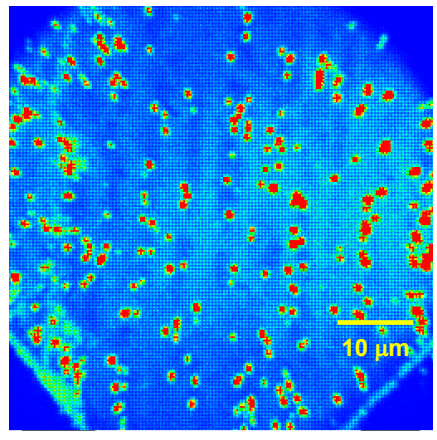


Simulated electric field enhancement in the gap between a gold nanoparticle and a gold film



PEEM image of the gold nanoparticles on gold film. The intense bright spots are the enhanced photoemission due to the very high electric field resulted from surface plasmons in the gap as shown on the left.

Announced on 06.02.2013