

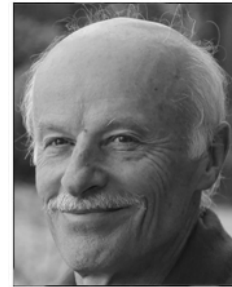


PHYSIKALISCHES KOLLOQUIUM

Referent:

Dr. Fritz Keilmann

Soft Condensed Matter Group,
Faculty of Physics,
Ludwig-Maximilians-Universität,
München



Thema:

Optical near-field nanoscopy

Zeit und Ort:

Dienstag, 04.12.2018, 16:40 Uhr
Recknagel-Bau, Hörsaal REC/C213, Haeckelstr. 3

Leiter:

Prof. Dr. Lukas Eng

Kurzfassung:

Focusing light to a metallic AFM tip enables 20-nm-resolved optical images, simultaneously with AFM topography. Any wavelength from visible to far-infrared and even microwaves can be used, thus enabling contrast from vibration, phonon, plasmon, and magnon resonances, to study chemical composition or electronic conduction, for example, in 20-nm detail.

Biographie:

Fritz Keilmann (born 1942) studied meteorology and physics in München and received a Dr. rer. nat. for research on infrared plasma diagnostics. As postdoc of Ali Javan at MIT he developed antenna-based harmonic mixing and high-power THz lasers. He has been a staff researcher of the Max-Planck Society from 1973 to 2012: Initially at the MPI für Festkörperforschung Stuttgart, he pioneered far-infrared nonlinear optics and spectroscopy of solids, and investigated phonon physics, microwave biological effects, carrier dynamics of semiconductors, far-infrared ellipsometry of superconductors, and cyclotron pumping of quantum-Hall edge states. In 1995 he relocated to the MPI für Biochemie Martinsried where he pioneered infrared scattering near-field microscopy, and also coherent Fourier-transform infrared spectroscopy using frequency-comb beams. From 2007 - 2012 he was with the MPI für Quantenoptik Garching, in the DFG Cluster "Munich-Centre for Advanced Photonics", developing broad-band infrared spectroscopic near-field microscopy. He has been a guest researcher at UC Santa Barbara and UC San Diego. He has been awarded the Kenneth J. Button prize 2009. Besides operating his firm LASNIX, he is presently a Scientific Advisor to Neaspec GmbH, producer of near-field infrared microscopes, and a Guest Researcher at LMU München investigating soft matter and biological nanocomposites.

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