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S E M I N A R
aus
Halbleiterphysik und Nanotechnologie

Do, 25.7.2019, 11:15 Uhr, Seminarraum für Physik

Recent Developments in optics

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Due to weak light-matter interaction, conventional optical components rely on light propagation over distances much larger than the wavelength to shape wavefronts. This talk is dedicated to recent developments of flat, ultrathin optical components capable to shape phase, amplitude and polarization over the scale of the free-space wavelength. Such systems called meta-surfaces are generally created by assembling arrays of nano-meter scale light resonators. Their special distribution and dimensions are much smaller than the wavelength. By applying Huygens principle researchers acquire flexibility and opportunity to design and manufacture devices with properties that are not possible to attain by a “traditional” way. Technological implications are illustrated.