Plasmonic Hot Electron Doping of 2D Materials

Zheyu FANG
School of Physics, State Key Laboratory for Mesoscopic Physics, Peking University, Beijing 100871 (China)
E-mail: zhyfang@pku.edu.cn

Keywords: Plasmonics, Hot electrons, Nanostructure, Graphene, MoS2

Plasmonics deals with the phenomena of collective vibration of electrons in the interface between metallic and dielectric media. With the advanced nanofabrication techniques, a broad variety of nanostructures can be designed and fabricated for plasmonic investigations at nanoscale. In this presentation, we will demonstrate our latest results of the design of new plasmonic nanostructures and the characterization of plasmonic hot electrons with 2D materials, and discuss some fundamental properties for both localized surface plasmons and surface plasmon polaritons arise a new insight and understanding for the electro-optical devices, such as active plasmonic modulator and plasmonic detectors for energy harvesting.

Reference: