

Special Issue

Plasmon Modes in Graphene-Based Materials

Message from the Guest Editors

Being intrinsically two-dimensional (2D), graphene may be a suitable material for studying 2D plasmon modes. However, pristine graphene does not support rich plasmon spectra; the intraband plasmon modes do not exist, and the interband modes are relatively broad. To change this, graphene needs to be doped, electrostatically or chemically. This leads to two-layer 2D metallic systems that support a variety of strong plasmon modes, both intraband and interband. Additionally, graphene, or a system consisting of graphene and a metallic layer, can be arranged into multiple layers and nanoribbons, or combined with other 2D materials, such as TMD or HbN, which influence the plasmons resonances, potentially leading to optically active modes, plasmon–phonon or plasmon–photon interactions, plasmon damping mechanisms, etc. This Special Issue is inviting contributions considering plasmon modes of various graphene-based systems that are designed to achieve unique plasmon spectra and enable a deeper understanding, as well as manipulation, of these modes, in order to make such systems applicable in the above-mentioned areas.

Guest Editors

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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