Special Issue

Optical Properties of Metals

Message from the Guest Editor

The optical properties of materials are defined as their interaction with electromagnetic radiation in the visible region. Optical materials are substances used to manipulate the flow of light. Optical measurement methods are currently the most effective tools for basic and applied research, as well as the inspection of the distinctive properties of a variety of materials, especially in light of the development of lasers and computers. Numerous optical measurement techniques are employed in optical spectroscopy, such as linear and nonlinear optics, magneto-optics, traditional and surprising optical microscopy, fiber-optics for passive and active devices, optical recording for CD/DVD and MO discs, and various optical sensing techniques. High reflectivity and low transmission are correlated with the optical properties of metals. The optical properties of matter include a refractive index, transmittance and transmission coefficient, absorption, dispersion, scattering, reflectivity, turbidity, fluorescence, photoluminescence, optical activity, and photosensitivity. Refraction, absorption, reflection, and scattering of light are the most important optical properties.

Guest Editor

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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