Special Issue

Micro-nano Optical Structure Materials and Their Applications

Message from the Guest Editor

Micro-nano optical structures—which rely on local resonance, electromagnetic field enhancement, the slow-light effect, and so on—could effectively manipulate the interaction characteristics between light and matter. This concept finds extensive applications in photon integration, sensitive signal detection and recognition, biochemical sensing, super-resolution microscopic imaging, efficient solar cell and light-emitting device development, advancements in disease diagnosis and treatment, environmental monitoring practices, and many other crucial domains. As an underlying component in solar cells or other optoelectronic devices, micro-nano structural materials give these devices unique optical, electrical, and mechanical properties, and provide a way to develop new and functional flexible photonic and electronic devices. This way of optimizing the structure of photoelectric devices can result in a change in the refractive index gradient at their window layer, which can effectively inhibit reflection and generate surface plasmon resonance near the metal structure.

Guest Editor

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