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Special Issue Reprint

Infrared Nanophotonics

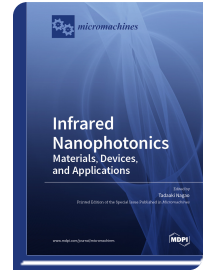
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Infrared light radiates from almost all the matter on earth, and its strategic use will be an important issue for the enhancement of human life and the sustainable development of modern industry. Since its frequency is in the same region as phonons or molecular vibrations of materials, measuring its emission or absorption spectra helps us in characterizing and identifying materials in a non-destructive manner. Meanwhile, if we can spectroscopically design infrared emission by tuning chemical composition or artificially controlling nano- to mesoscale structures, this will have a great impact on industrial applications, such as thermophotovoltaics, energy-saving drying furnaces, spectroscopic infrared light sources, and various types of infrared sensors. In this Special Issue, we encourage submissions from researchers who are working on infrared nanophotonics based on MEMS/NEMS, and nanomaterials science, ranging from materials synthesis, to device fabrications, electromagnetic simulations, and thermal managements. Important topics of growing interest are wavelength-selective infrared emitters and detectors, where we can see rapid development in the fields of nano-plasmonics and metamaterials, and we invite such topics for inclusion in this Special Issue. We also encourage submissions on nano-materials science such as on graphene-based infrared detectors/emitters, and nanostructured narrow-band gap semiconductors.



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