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Non-linear Topological Photonics

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Message from the Guest Editor

This Special Issue, “Non-Linear Topological Photonics”, will focus on the nonlinear optical processes in natural and artificial materials that reflect the topological characteristics of these materials. As the principal role for topological insulators and topological photonic crystals is surface states, the focus will be on the electromagnetic phenomena at the interface between the topological and convenient nonlinear optical dielectrics, nonlinear edges modes and surface solitons. The theory of topological polaritons can be generalized in the case of non-bosonic quasiparticles. For example, resonant atoms and resonant photonic crystals may be considered. Studies directed at the development of optical diagnostics of topological materials, and the discovery of the new phenomena due to topological characteristics of matter, will be of interest.



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Special Issue



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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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