

Topological Nanophotonic Metasurfaces

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Abstract

Recently discovered topological phases of light provide a novel platform for photonic devices immune to scattering losses and disorder. Motivated by optical on-chip applications, there have been special efforts towards bringing topological photonics to the nanoscale. Nanostructures made of high-index dielectric materials, with rationally designed resonant elements and lattice arrangements, show a special promise for practical implementations of the topological order for light. This talk will review the recent advances in the design of nanophotonic topological cavities and metasurfaces with applications to robust photonic circuitry, nanoscale light sources and nanolasing.