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Title

Recent trends in micro- and nanophotonics: A personal selection

Source

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Abstract

I give a brief overview of some recent results in micro- and nanophotonics. Due to the vast amount of research activity in these exploding areas I only concentrate on selected recent advances in (a) silicon photonics, (b) spatial and spatiotemporal optical solitons (alias light bullets) in microwaveguide arrays and in arrays of evanescently-coupled silicon-on-insulator nanowires, (c) spatial solitons in photorefractive materials, (d) nanoplasmonics, (e) photonic crystals, (f) metamaterials for micro- and nanophotonics including optical materials with negative refractive indices, (g) terahertz radiation and its applications, and (h) solid-state single photon sources and nanometric size optical cavities for quantum information processing.