

Three-dimensional photonic metamaterials

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Abstract: We review our experimental work fabricating and characterizing three-dimensional (3D) metamaterials at optical or visible wavelengths. This comprises different types of helical metamaterials as well as 3D visible-frequency carpet invisibility cloaks. The latter have become possible by virtue of 3D stimulated-emission-depletion (STED) direct-laser-writing (DLW) optical laser lithography.