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Macroscale Transformation Optics Enabled by Photoelectrochemical Etching

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Abstract

Photoelectrochemical etching of silicon can be used to form lateral refractive index gradients for transformation optical devices. This technique allows the fabrication of macroscale devices with large refractive index gradients. Patterned porous layers can also be lifted from the substrate and transferred to other materials, creating more possibilities for novel devices.

Keywords

Author Keywords: gradient index optics; porous silicon; transformation optics; photochemical etching

KeyWords Plus: POROUS SILICON; INVISIBILITY CLOAK; WAVE-GUIDES; LITHOGRAPHY; METAMATERIALS; WAVELENGTHS; FABRICATION; INDEX; GLASS; LENS

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