Metamaterials Reconfigurable with Light

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We report recent advances in the development of plasmonic and all-dielectric nano-membrane metamaterials that may be dynamically reconfigured by optical forces, providing extremely large optomechanical nonlinearities at telecommunications wavelengths, operating at intensities of only a few μW per unit cell and modulation frequencies in the hundreds of MHz range, and offering a path to optically bistable functionalities.