Abstracts

Negative refractive index metamaterials supporting 2-D waves

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Recent demonstrations of negative refraction utilize three-dimensional collections of discrete periodic scatterers to synthesize artificial dielectrics with simultaneously negative permittivity and permeability. In this paper, it is shown that planar, two-dimensional L-C transmission line networks in a high pass configuration can demonstrate negative refraction as a consequence of the fact that such media support propagating backward waves. Simulations illustrating negative refraction and focusing at 2 GHz are subsequently presented.

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