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Title

Broadband Terahertz Left-Hand Material With Negative Permeability for Magnetic Response Source

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Abstract

In this paper, the electromagnetic response of a planar array of electric ring resonators combining with a cross structure on a substrate is investigated. The retrieved effective dielectric parameters from scattering data demonstrate a negative magnetic permeability as well as a negative electric permittivity in wide frequency range of 0.65-1.0 THz. It is proven that, artificial metamaterials using special electric and magnetic response structure, the material behaves as an effective medium with real negative parameters in wide frequency range.