

Abstract Submitted
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Optically-Nonactive Assorted Helices Array with Interchangeable Magnetic/Electric Resonance¹ MU WANG, XIANG XIONG, RU-WEN PENG, XIAO-CHUN CHEN, DAJUN SHU, Department of Physics, Nanjing University, CHENG SUN, Department of Mechanical Engineering, Northwestern University — We report here the designing of optically-nonactive metamaterial by assembling metallic helices with different chirality. With linearly polarized incident light, pure electric or magnetic resonance can be selectively realized, which leads to negative permittivity or negative permeability accordingly. Further, we show that pure electric or magnetic resonance can be interchanged at the same frequency band by merely changing the polarization of incident light for 90 degrees. This design demonstrates a unique approach to construct metamaterial.

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