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Title

Asymmetric single-particle triple-resonant metamaterial in terahertz band

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Abstract

This paper presents the design, simulation, and measurement of an asymmetric triple-band metamaterial composed of single geometry electric field coupled resonators in the terahertz region. Theoretical and experimental results show that the structure has three distinct and strong absorption frequency peaks near 0.38, 0.58, and 0.74 THz, all of which are related to the inductance-capacitance resonance of the metamaterial. Due to the well-separating of different resonances in the particle, this metamaterial shows potentially application promises in the design of multiband terahertz devices. (14 References).