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摘要: The electric and magnetic resonances of anisotropic broadside-coupled triangular-split-ring resonators are studied for different incident wave excitations. It is shown that the higher order modes exist in both electric and magnetic resonances. It is observed that the incident electric field couples to the magnetic resonance of the designed structure under different excitations. Multiple resonance features due to the anisotropy of the structure are found in the case of different excitations and the nature of these resonances can be regulated as either an electric or a magnetic mode for different frequencies. In this way, a resonant effective permittivity or permeability can be obtained. Hence, controllable properties of the constitutive material parameters (i.e. electric or magnetic resonances, negative values, etc.) can be determined by changing the incident wave excitation.
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