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标题: Adjusting the functionality of terahertz split-ring resonators through geometry

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摘要: We examine planar double split-ring resonators (SRRs) consisting of two concentric rings with either opposite, similar, or asymmetric gap orientation. Depending on the geometry we observe resonance hybridization, metamaterial induced transparency, or the excitation of dark resonances. These properties can be used for SRR based sensing applications, to realize strongly dispersive behavior, or for determining the optical properties of metals. We further find that THz SRRs featuring very narrow gaps on the micro-or nanoscale can provide in-gap enhancement factors of several 10,000, a property particularly useful for the realization of nonlinear THz experiments.

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