350. Title:Polarization insensitive terahertz metamaterial absorber
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Abstract:We present the simulation, implementation, and measurement of a polarization insensitive resonant metamaterial absorber in the terahertz region. The device consists of a metal/dielectric-spacer/metal structure allowing us to maximize absorption by varying the dielectric material and thickness and, hence, the effective electrical permittivity and magnetic permeability. Experimental absorption of 77% and 65% at 2:12 THz (in the operating frequency range of terahertz quantum cascade lasers) is observed for a spacer of polyimide or silicon dioxide respectively. These metamaterials are promising candidates as absorbing elements for thermally based terahertz imaging.