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标题: An approach for mechanically tunable, dynamic terahertz bandstop filters

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摘要: Theoretical and experimental work was carried out on a terahertz metamaterial bandstop filter comprising an array of identical subwavelength resonators, each formed by fusing a pair of printable metallic U-shapes that have their openings pointing in opposite directions. Linear frequency tunability of the stopband electromagnetic response can be achieved by altering the overlap distance between the two fused shapes. Tuning does not significantly affect the strength or quality factor of the resonance. An approach to create mechanically tunable, dynamic terahertz filters is thereby suggested, with several functional advantages. Meanwhile, an effective equivalent circuit model based on self-inductance, mutual inductance, and capacitance has been proposed.

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