216. Title: A two-dimensional broad pass-band left-handed metamaterial based on single-sided metallic structure

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Abstract: Through connecting magnetic resonators and coplanar short metallic wires together, a two dimensional left-handed metamaterial based on single sided metallic structure was proposed. Theoretical analysis and simulated results indicated that this construction exhibited negative effective permittivity and permeability simultaneously in a certain frequency range. Its relative negative refraction pass-band reached 36%. Meanwhile, this construction guaranteed relatively stable tolerance of errors. The resonant frequency and the width of the pass band are insensitive to the change in the width of the short metallic wires, which facilitates its fabrication and is of meaning for designing left-handed metamaterial in infrared or terahertz range.