

Abstract Submitted
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A Dynamical Effective Medium Theory for Meta-materials YING WU, JENSEN LI, ZHAO-QING ZHANG, C.T. CHAN, Department of Physics, The Hong Kong University of Science and Technology — We present a new dynamical effective medium theory in the framework of two-parameter coherent potential approximation. While conventional homogenization theories will fail near resonances, our theory gives simultaneously accurate effective permittivity and permeability near resonant frequencies. The theory can also describe the absorption. Our assertions are supported by the band structure and transmission calculations of periodic composites in both two and three dimensions.

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