

Metastructure for efficient Broadband Absorption of Flexural Waves for transmission matrix measurements

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Abstract

In this work we designed an experimental perfectly matched layer (PML) based on an absorbing metamaterial structure. This structure was applied on the boundaries of a two-dimensional waveguide for the purpose of measuring the transmission matrix in disordered system. We characterized the PML by measuring the out of plane displacement field and analyzed the spatial and temporal Fourier transform of the modes propagating in the direction of the waveguide. We observe a broadband attenuation of the modes parallel to the direction of propagation.