Topology optimization problems for reflection and dissipation of elastic waves - DTU Orbit (15/10/2019)

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This paper is devoted to topology optimization problems for elastic wave propagation. The objective of the study is to maximize the reflection or the dissipation in a finite slab of material for pressure and shear waves in a range of frequencies. The optimized designs consist of two or three material phases: a host material and scattering and/or absorbing inclusions. The capabilities of the optimization algorithm are demonstrated with two numerical examples in which the reflection and dissipation of ground-borne wave pulses are maximized.

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