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## Topological optimization of thermoelastic composites with maximized stiffness and heat transfer

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**Abstract.** The topological optimization of composite structures is widely used while tailoring materials to achieve the required engineering physical properties. In this paper, the problem of topological optimization of the microstructure of a composite aimed at the construction of a material with most effective values of the bulk modulus of elasticity and thermal conductivity taking into account competing mechanical and thermal properties of the materials included in the composite is defined and solved. A two-phase composite consists of two base materials, one of which has a higher Young

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