

# The Estimates of the Effective Thermal Conductivity of the Composite Graphene Inclusions

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*At present a huge number of works is devoted to the study of graphene. This interest is justified, since the graphene is an object that has unique physical characteristics: high thermal and electrical conductivity, mechanical strength, sensitivity to a variety of electronic characteristics and the number of adsorbed molecules, etc. Based on the mathematical model of heat transfer in a composite with anisotropic ellipsoidal inclusions the settlement ratios of the effective thermal conductivity tensor components of the composite with the same orientation of graphene inclusions has been obtained. The settlement formula for effective coefficient of thermal conductivity of a composite with chaotic spatial orientation of graphene inclusions is received. The results presented here can be used to predict the effective thermal conductivity coefficients of the composites modified by high-thermal-conducting graphene inclusions.*

**Keywords:** *composite, graphene, effective thermal conductivity.*

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