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Effective properties of multiphase composites made of elastic materials with hierarchical structure. (English) [Zbl 1371.74237](#)
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Summary: In this paper, the analytical solution of the multi-step homogenization problem for multi-rank composites with generalized periodicity made of elastic materials is presented. The proposed homogenization scheme may be combined with computational homogenization for solving more complex microstructures. Three numerical examples are presented, concerning locally periodic stratified materials, matrices with wavy layers and wavy fiber-reinforced composites.

MSC:

[74Q15](#) Effective constitutive equations in solid mechanics
[74E30](#) Composite and mixture properties

Cited in 1 Document

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[micromechanics](#); [generalized periodicity](#); [multi-step homogenization](#); [elasticity](#); [analytical solution](#)

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