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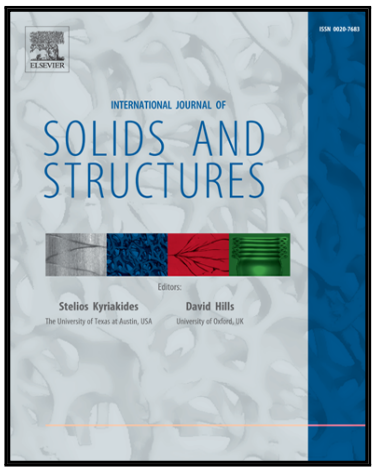

Hashin's bounds for elastic properties of particle-reinforced composites with graded interphase

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PII: S0020-7683(18)30016-7
DOI: 10.1016/j.ijsolstr.2018.01.015
Reference: SAS 9864

To appear in: *International Journal of Solids and Structures*

Received date: 8 September 2017
Revised date: 15 December 2017
Accepted date: 10 January 2018

Please cite this article as: Roberta Sburlati, Roberto Cianci, Maria Kashtalyan, Hashin's bounds for elastic properties of particle-reinforced composites with graded interphase, *International Journal of Solids and Structures* (2018), doi: 10.1016/j.ijsolstr.2018.01.015

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Hashin's bounds for elastic properties of particle-reinforced composites with graded interphase

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January 11, 2018

Abstract

The paper is focused on analytical prediction of the effective bulk and shear modulus for particulate composites reinforced with solid spherical particles surrounded by graded interphase zone. A three-dimensional elasticity problem for a single inclusion embedded in a finite matrix is studied. The graded interphase zone around the inclusion is assumed to have power law variation of the shear modulus with radial co-ordinate, with Poisson's

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